SEMS Doc ID 100010101

August 14, 2018

Peter Britz
Coakley Project Coordinator
1 Junkins Avenue
Portsmouth, New Hampshire 03801

RE: Results of Storm Water Sampling at the Coakley Landfill - North Hampton, New Hampshire

Dear Mr. Britz:

As requested by the Coakley Landfill Group (CLG), CES, Inc. (CES) has prepared this letter to describe actions completed to date regarding the interaction between Site stormwater management components (i.e. stormwater retention ponds, pond outfall pipes, perimeter drainage ditches, and sand drainage layer discharge (underdrain discharge)) relative to seepage discharging on an embankment adjacent to seep sampling location L-1. A Site Plan is included as **Figure 1**.

BACKGROUND

As part of Site remedy design and construction activities implemented in the mid to late 1990s, stormwater runoff from the landfill surface is conveyed to two unlined stormwater retention ponds (northwest and northeast ponds) via a series of perimeter drainage ditches and rip rap let-down structures on the landfill. Stormwater retained in the ponds is subsequently discharged to adjacent wetland areas via an outlet structure in the ponds and associated corrugated metal piping (outfall pipe).

In addition to direct surface stormwater runoff, precipitation falling on the landfill surface infiltrates through the upper part of the landfill's cover system above the liner (discussed below). The cover system is composed of a vegetative layer, cover soil, and sand drainage layer placed immediately above an impermeable, polyethylene geomembrane liner. Water that infiltrates through the vegetative layer and cover soil enters the sand drainage layer above the liner and is then collected and conveyed via perforated piping (underdrain) to three discharge locations; one at each retention pond and a third at a rip rap outlet near the northwestern toe of the landfill slope.

Following remedy construction, a seepage area was noted on an embankment adjacent to the northwest pond outfall pipe discharge. This seepage was previously interpreted to be shallow groundwater discharging to the ground surface at or near the head of a wetland complex west of the landfill. The seepage location became a sampling point in the Site monitoring network in 2001 and is designated as location L-1 on site plans and in annual monitoring reports. Analytical results for samples collected at L-1 have been reported in monitoring reports since 2001. Some historic reports have referred to L-1 and a "leachate" sampling location but more recent review by CES,

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including developing the cross sections discussed below, indicates it is most accurately referred to simply as a “seep”.

During a review of 2017 analytical data for the L-1 location, it was noted that concentrations of per and polyfluoro alkyl substances (PFAS) in the L-1 sample were significantly higher in the Spring event when discharge was observed from the adjacent pond outfall pipe, as compared to the Fall event when little or no discharge was observed in the pond outfall pipe. These results seemed contrary to an assumption that a potentially larger stormwater component would result in a lower PFAS concentration in the L-1 sample since stormwater runoff has no direct contact with landfill waste.

Following discussions with CLG, CES was proactively authorized to prepare a workplan and further investigate the relationship between stormwater and seepage observed at the L-1 sampling location. The initial workplan was submitted to the agencies on December 22, 2017 and sampling was performed in conjunction with the 2018 Spring semiannual sampling event.

INVESTIGATION

As a first step, CES conducted a site visit on December 7, 2017 to observe conditions at the L-1 location and adjacent pond outfall pipe. During the Site visit, iron stained soil on the embankment adjacent to the corrugated steel outfall pipe from the landfill stormwater retention pond was noted. Soil staining appeared to extend to (or above) the bottom elevation (invert) of the stormwater outfall pipe, although the inside of the stormwater outfall pipe did not show evidence of iron staining or iron precipitates. The heaviest staining and actual water seepage was observed to be in a ponded area (head of wetland) approximately 10-20 feet downslope and slightly lower in elevation than the bottom of the outfall pipe. The extent of staining is interpreted to represent an approximation of shallow (or seasonal high) groundwater levels adjacent to the wetland complex.

Based on the results of this Site visit and a review of available site information (i.e. well logs, cover system design, topography), a cross section was created depicting the relationships between the structures and features discussed above. The location of the cross section can be found on **Figure 1** with the cross section illustrated as **Figure 2**.

As shown on the cross section, elevations of shallow groundwater and the bottom of the retention pond do not indicate a direct hydraulic connection between shallow groundwater and the northwest retention pond. However, during high recharge/groundwater level periods, seepage along the embankment may be close to the pond outfall pipe invert elevation.

To better understand local conditions, water samples were collected from the stormwater management system during the Spring 2018 sampling event to further investigate stormwater quality for comparison to L-1 sample results. Note that the Spring 2018 sampling event occurred from April 24 through May 2, 2018 with stormwater samples collected within 24-hours following a large rain event on April 25, 2018.

CES collected samples of stormwater runoff from a landfill perimeter ditch, a sand drainage layer underdrain outlet that discharges to a rip-rap lined drainage sump west of the landfill, and the outfall pipe from the northwest pond on April 26, 2018. Samples were sent to Eastern Analytical Inc. (EAI) in Concord, New Hampshire with PFAS analysis performed by Vista Analytical (Vista) (via subcontract to EAI). Samples were analyzed for 1,4-dioxane and six PFAS compounds in accordance with the EPA approved Sampling and Analytical Plan (SAP).

Laboratory results are enclosed as **Attachment 1** with a summary of analytical results from samples collected as part of this stormwater investigation presented in **Table 1**. Results for the seep (L-1) sample collected during the Spring 2018 sampling event in addition to the two sampling events performed in 2017 were added to the table for comparison.

As shown on Table 1, 1,4-dioxane was not detected in any of the stormwater samples collected. 1,4-dioxane was reported in the L-1 seep sample at concentrations of 4.9 and 4.1 ug/L (2018 original and duplicate samples, respectively).

Concentrations of PFOA ranged from 532 (B) nanograms per liter (ng/L) (northwest pond Outfall piping) to 1,480 (B) ng/L (underdrain discharge at rip rap sump). The B qualifier indicates that PFOA was also detected in the method blank at a very low concentration. PFOA was reported in the L-1 seep at concentrations of 532 and 492 ng/L.

Concentrations of PFOS ranged from 1,230 (northwest pond Outfall piping duplicate sample) to 3,060 (D) ng/L (underdrain discharge at rip rap sump). The D qualifier indicated that the sample was diluted at the lab before analysis due to high concentration. PFOS was reported in the L-1 seep sample at concentrations of 567 and 571 ng/L.

The combined concentrations of PFOA and PFOS ranged from 1,831 (Perimeter ditch) to 4,540 ng/L (underdrain discharge at rip rap sump). The combined concentrations of PFOA and PFOS were reported in the L-1 seep and L-1 seep duplicate at concentrations of 1,099 and 1,063 ng/L, respectively.

The higher PFAS concentration in the underdrain sample is likely due to a longer residence (contact) time for water infiltrating and traveling through cover materials and conveyance piping, as compared to the perimeter ditch sample which reflects the more short-term runoff from the rain event.

CONCLUSIONS

Concentrations of 1,4-dioxane were not reported in any of the stormwater samples collected. 1,4-dioxane has been detected in many of the groundwater monitoring wells, as well as in the L-1 sample and is a Contaminant of Concern (CoC) at the Coakley Site. The absence of 1,4-dioxane suggests that the stormwater samples are not interacting with shallow groundwater, landfill waste, or leachate.

All three stormwater samples reported concentrations of PFOA/PFOS at higher concentrations than those reported in the L-1 seep sample. These data suggest that stormwater is coming into contact with PFAS-containing materials and subsequently being conveyed to the wetland complex west of the landfill.

RECOMMENDATIONS

The sampling results represent one limited data set focused on stormwater runoff samples. Data suggest that stormwater is coming into contact with PFAS-containing materials, but the currently available information is insufficient to identify variability of results or a direct source of PFAS. Stormwater comes in contact with one or more of the following:

- Vegetative (topsoil) layer
- Cover soil (frost protection barrier for the liner)
- Sand drainage layer
- The linear low-density polyethylene (LDPE) liner, and
- High density polyethylene (HDPE) underdrain piping

In order to address these data gaps, we recommend the following actions:

1) Collect a second set of stormwater samples from the same locations as the original samples and analyze for the six PFAS compounds in the original samples (**Table 1**). Samples will need to be collected following a rain event when surface runoff is present and be representative of the conditions under which the original samples were obtained.

2) Expand the sampling to include the northeast pond outfall and underdrain discharge to both retention ponds and complete the same analysis as noted above.

3) Collect representative samples (minimum of three) from each of the earthen materials used in the cover system – vegetative layer, cover soil and sand drainage layer and analyze for the six PFAS compounds listed above.

4) Investigate the use of PFAS in polyethylene liner and piping manufacturing in the 1990s.

If you have any questions concerning this letter, please contact either of the undersigned at (207) 795-6009.

Sincerely,
CES, Inc.

Suzanne Yerina, P.G.
Project Geologist

Michael A. Deyling, P.G.
Senior Project Geologist

SLY/MAD/jna

Enclosures

Sensible Solutions.

TABLE

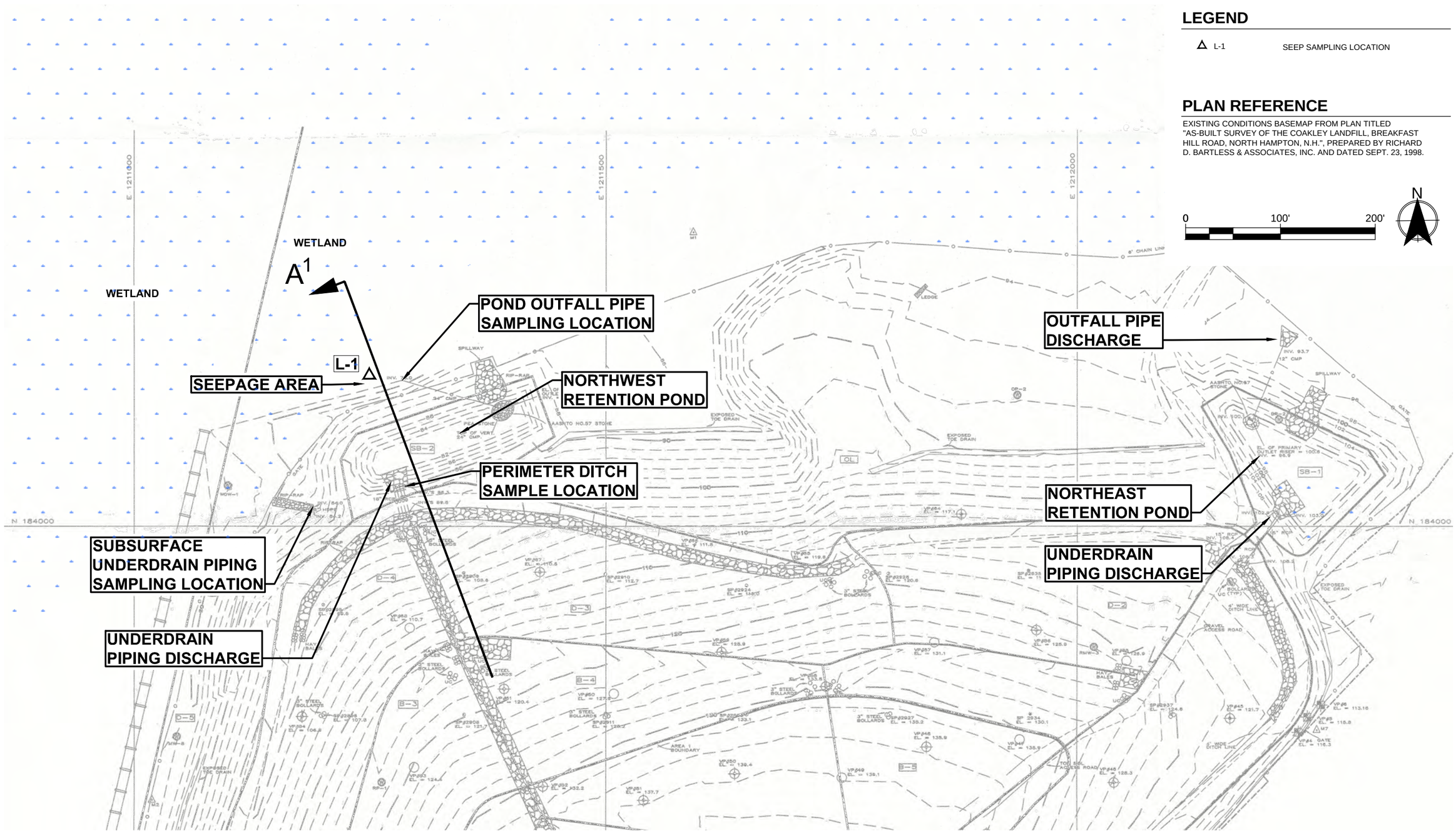
TABLE
Summary of Stormwater Analytical Data for Spring 2018
Coakley Landfill Superfund Site - North Hampton Greenland, New Hampshire

SAMPLE IDENTIFICATION	Perimeter Ditch	Northwest Outfall Pipe	Northwest Outfall Pipe Dup	Subsurface Underdrain Piping	L-1	L-1 Dup	L-1	L-1 Dup	L-1	L-1 Dup				
DATE SAMPLED	4/26/2018	4/26/2018	4/26/2018	4/26/2018	4/28/17	4/28/17	9/21/17	9/21/17	4/30/2018	4/30/2018	EPA Screening Levels		EPA Screening Levels	
1,4-Dioxane by 8260B SIM ug/L											Adult	Child	Adult	Child
1,4-Dioxane	0.25U	0.25U	0.25U	0.25U	1.5	1.3	17	18	4.9	4.1	Recreator	Recreator	Recreator	Recreator
PERFLUORINATED CHEMICALS BY MODIFIED 537 - (ng/L)											EF = 45 Days		EF = 120 Days	
Perfluorobutanesulfonic acid (PFBS)	2.58U	2.29U	2.19U	3.62J	2.09U	2.13U	4.85J	5.50J	2.72J	2.99J	18,300,000	2,030,000	6,850,000	760,000
Perfluoroheptanoic acid (PFHpA)	217	223	223	531	175	170	111	109	208	196	---	---	---	---
Perfluorohexanesulfonic acid (PFHxS)	6.68U	7.77J	8.22J	19.6J	9.12J	9.39J	19.0J	19.4J	12.0J	11.6J	---	---	---	---
Perfluorooctanoic acid (PFOA)	591B	532B	631B	1480B	656	736	319	310	532	492	18,300	2,030	6,850	760
Perfluorononanoic acid (PFNA)	268	307	299	770	308	310	70.3	75.6	207	193	---	---	---	---
Perfluorooctanesulfonic (PFOS)	1240	1440	1230	3060D	1930D	1560J	164J	150	567	571	18,300	2,030	6,850	760
Combination of PFOA and PFOS	1831	1972	1861	4540	2586	2296	483	460	1099	1063	---	---	---	---

NOTES:

1. J = Amount detected is below the reporting limit/Limits of Quantitation
2. B = Compound detected in the method blank
3. D = Dilution
4. U = Not detected above the detection limit
5. Shaded values denote EPA Screening Level Child Recreator Exceedances, EF = 120 days
6. Shaded values denote EPA Screening Level Child Recreator Exceedances, EF = 45 days

FIGURES



LEGEND

△ L-1 SEEP SAMPLING LOCATION

PLAN REFERENCE

EXISTING CONDITIONS BASEMAP FROM PLAN TITLED "AS-BUILT SURVEY OF THE COAKLEY LANDFILL, BREAKFAST HILL ROAD, NORTH HAMPTON, N.H.", PREPARED BY RICHARD D. BARTLESS & ASSOCIATES, INC. AND DATED SEPT. 23, 1998.

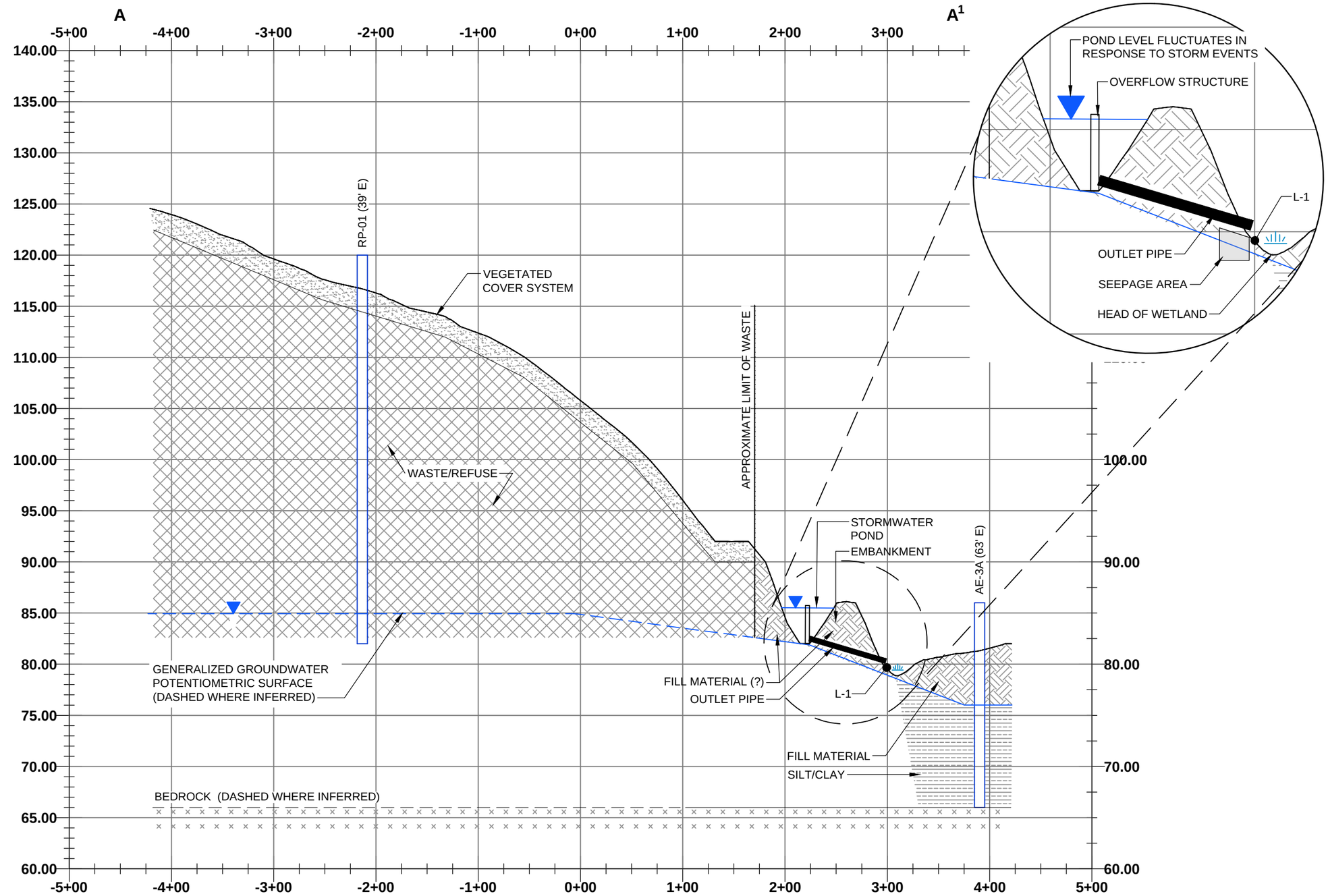
PROJECT TITLE: COAKLEY LANDFILL SUPERFUND SITE NORTH HAMPTON & GREENLAND, NEW HAMPSHIRE	DWG: FIGURE 1	BY: BLQ	REV:	DESCRIPTION: FOR REVIEW	CES INC Engineers • Environmental Scientists • Surveyors
		DATE: 2018-08-08	REV DATE:		
SHEET TITLE: STORM WATER SAMPLING PLAN	JN: 10424.019	APPROVED BY: MD	ISSUE:	DESCRIPTION: NOT FOR CONSTRUCTION	
	SCALE: 1"=100'	CHECKED BY: SY	ISSUE DATE:		

LEGEND

- FILL MATERIAL
- LANDFILL REFUSE
- MARINE DEPOSITS: Medium dense, gray clay and silt to soft gray silt and clay, locally stratified with fine sand.
- BEDROCK (DASHED WHERE INFERRED)
- WETLAND
- WATER ELEVATION (DASHED WHERE INFERRED)

NOTE:

CROSS SECTIONS BASED ON ORIGINAL SOIL BORING LOGS AND WELL INSTALLATION INFORMATION PROVIDED IN THE SEPTEMBER 2017 SAMPLING AND ANALYSIS PLAN (SAP). EXISTING GRADE AND LOCATION OF L-1 BASED UPON 2011 COASTAL NEW HAMPSHIRE LIDAR, WITH A VERTICAL ACCURACY OF 15 CM.



PROJECT TITLE: COAKLEY LANDFILL SUPERFUND SITE NORTH HAMPTON & GREENLAND, NEW HAMPSHIRE	DWG: FIGURE 2	BY: BLQ	REV:	DESCRIPTION: FOR REVIEW	CES INC Engineers • Environmental Scientists • Surveyors
		DATE: 2018-08-08	REV DATE:		
SHEET TITLE: CROSS SECTION A-A1	JN: 10424.002	APPROVED BY: MD	ISSUE:	DESCRIPTION: NOT FOR CONSTRUCTION	
	SCALE: AS SHOWN	CHECKED BY: DC	ISSUE DATE:		

P:\10424-Coakley Landfill Group\002-General Tech.Assistance Services\02-Cad Drawings\Civil\dsgn dwgs\10424.002-SECTION RP-1.dwg

ATTACHMENT 1

LABORATORY ANALYTICAL DATA

Eastern Analytical, Inc.

professional laboratory and drilling services

Michael A. Deyling
CES, Inc. (Lewiston)
640 Main Street
Lewiston , ME 04240

Subject: Laboratory Report

Eastern Analytical, Inc. ID:	181195
Client Identification:	Coakley Landfill Storm Water | 10424.019
Date Received:	4/27/2018

Dear Mr. Deyling :

Enclosed please find the report of analysis for the above identified project.
As discussed, analyses were subcontracted and are listed as follows:

Analysis:	Subcontract - PFCs/PFAS EPA Method 537mod
Subcontractor Lab:	Vista Analytical Laboratory

A complete copy of the report is attached. This report may not be reproduced except in full, without the written approval of the laboratory.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw	6-5-18	235
Lorraine Olashaw, Lab Director	Date	# of pages (excluding cover letter)

May 30, 2018

Vista Work Order No. 1800843

Ms. Jennifer Laramie
Eastern Analytical, Inc.
25 Chennell Drive
Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 01, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '181195 NH 2433'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Martha Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1800843
Case Narrative

Sample Condition on Receipt:

Four aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method

The samples contained particulate and were centrifuged prior to extraction.

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method (Modified EPA Method 537).

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 the LOQ. The OPR recoveries were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "STM-Outfall Pipe". The MS/MSD recoveries and/or RPDs were out of the acceptance criteria for PFHpA, PFOA, PFOS and PFNA.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

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Initial Calibration..... 115

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800843-01	STM-Outfall Pipe	MS/MSD26-Apr-18 09:30	01-May-18 11:01	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800843-02	STM-Outfall Pipe Dup	26-Apr-18 09:30	01-May-18 11:01	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800843-03	STM-Perimeter Ditches	26-Apr-18 10:30	01-May-18 11:01	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800843-04	STM-Subsurface Piping	26-Apr-18 10:20	01-May-18 11:01	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Eastern Analytical, Inc.
Project: 181195 NH 2433
Matrix: Aqueous

Laboratory Data

Lab Sample: B8E0065-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00212	0.0150	0.0200		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
PFHpA	375-85-9	ND	0.00250	0.0150	0.0200		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
PFHxS	355-46-4	ND	0.00113	0.0150	0.0200		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
PFOA	335-67-1	0.00129	0.00111	0.0150	0.0200	J	B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
PFOS	1763-23-1	ND	0.00101	0.0150	0.0200		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
PFNA	375-95-1	ND	0.00202	0.0150	0.0200		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	80.1	50 - 150		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
13C4-PFHpA	IS	74.1	50 - 150		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
18O2-PFHxS	IS	94.1	50 - 150		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
13C2-PFOA	IS	84.2	50 - 150		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
13C8-PFOS	IS	78.8	50 - 150		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1
13C5-PFNA	IS	66.7	50 - 150		B8E0065	10-May-18	0.125 L	23-May-18 18:20	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data

Name: Eastern Analytical, Inc.
Project: 181195 NH 2433
Matrix: Aqueous

Laboratory Data

Lab Sample: B8E0065-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ug/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0632	0.0800	78.9	60-130		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
PFHpA	375-85-9	0.0749	0.0800	93.6	60-130		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
PFHxS	355-46-4	0.0717	0.0800	89.6	60-130		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
PFOA	335-67-1	0.0742	0.0800	92.8	60-130	B	B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
PFOS	1763-23-1	0.0707	0.0800	88.4	60-130		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
PFNA	375-95-1	0.0643	0.0800	80.4	60-130		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	98.5	50- 150		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
13C4-PFHpA	IS	79.3	50- 150		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
18O2-PFHxS	IS	97.3	50- 150		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
13C2-PFOA	IS	81.9	50- 150		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
13C8-PFOS	IS	84.4	50- 150		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1
13C5-PFNA	IS	80.0	50- 150		B8E0065	10-May-18	0.125 L	24-May-18 15:52	1

Sample ID: STM-Outfall Pipe

PFAS Isotope Dilution Method

Client Data

Name: Eastern Analytical, Inc.
Project: 181195 NH 2433
Matrix: Aqueous
Date Collected: 26-Apr-18 09:30

Laboratory Data

Lab Sample: 1800843-01
Date Received: 01-May-18 11:01
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00229	0.0162	0.0216		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
PFHpA	375-85-9	0.223	0.00270	0.0162	0.0216		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
PFHxS	355-46-4	0.00777	0.00122	0.0162	0.0216	J	B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
PFOA	335-67-1	0.532	0.00120	0.0162	0.0216	B	B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
PFOS	1763-23-1	1.44	0.00109	0.0162	0.0216		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
PFNA	375-95-1	0.307	0.00218	0.0162	0.0216		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	76.9	50 - 150		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
13C4-PFHpA	IS	81.0	50 - 150		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
18O2-PFHxS	IS	85.0	50 - 150		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
13C2-PFOA	IS	68.5	50 - 150		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
13C8-PFOS	IS	73.5	50 - 150		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1
13C5-PFNA	IS	62.7	50 - 150		B8E0065	10-May-18	0.116 L	23-May-18 18:33	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: STM-Outfall Pipe

PFAS Isotope Dilution Method

Name:	Eastern Analytical, Inc.	Lab Sample:	B8E0065-MS1/B8E0065-MSD1	Source Lab Sample:	1800843-01
Project:	181195 NH 2433	QC Batch:	B8E0065	Date Extracted:	10-May-18
Matrix:	Aqueous	Samp Size:	0.120/0.121 L	Column:	BEH C18

Analyte	CAS Number	Sample (ug/L)	MS (ug/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (ug/L)	MSD Spike Amt	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
PFBS	375-73-5	ND	0.0799	0.0833	93.9		0.0841	0.0829	99.4	5.69		60-130	20	23-May-18 17:55	1	23-May-18 18:07	1
PFHpA	375-85-9	0.223	0.251	0.0833	33.6	H	0.282	0.0829	71.5	72.1	H	60-130	20	23-May-18 17:55	1	23-May-18 18:07	1
PFHxS	355-46-4	0.00777	0.0737	0.0833	79.2		0.0787	0.0829	85.5	7.65		60-130	20	23-May-18 17:55	1	23-May-18 18:07	1
PFOA	335-67-1	0.532	0.521	0.0833	-13.2	B, H	0.527	0.0829	-5.99	75.1	B, H	60-130	20	23-May-18 17:55	1	23-May-18 18:07	1
PFOS	1763-23-1	1.44	1.11	0.0833	-395	H	1.14	0.0829	-358	9.83	H	60-130	20	23-May-18 17:55	1	23-May-18 18:07	1
PFNA	375-95-1	0.307	0.290	0.0833	-19.7	H	0.328	0.0829	25.2	1630	H	60-130	20	23-May-18 17:55	1	23-May-18 18:07	1

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
13C3-PFBS	IS	88.4		93.0		50-150	23-May-18 17:55	1	23-May-18 18:07	1
13C4-PFHpA	IS	93.1		84.4		50-150	23-May-18 17:55	1	23-May-18 18:07	1
18O2-PFHxS	IS	98.3		95.4		50-150	23-May-18 17:55	1	23-May-18 18:07	1
13C2-PFOA	IS	80.7		80.2		50-150	23-May-18 17:55	1	23-May-18 18:07	1
13C8-PFOS	IS	83.7		78.9		50-150	23-May-18 17:55	1	23-May-18 18:07	1
13C5-PFNA	IS	78.1		70.3		50-150	23-May-18 17:55	1	23-May-18 18:07	1

Sample ID: STM-Outfall Pipe Dup

PFAS Isotope Dilution Method

Client Data

Name: Eastern Analytical, Inc.
Project: 181195 NH 2433
Matrix: Aqueous
Date Collected: 26-Apr-18 09:30

Laboratory Data

Lab Sample: 1800843-02
Date Received: 01-May-18 11:01
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00219	0.0155	0.0207		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
PFHpA	375-85-9	0.223	0.00259	0.0155	0.0207		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
PFHxS	355-46-4	0.00822	0.00117	0.0155	0.0207	J	B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
PFOA	335-67-1	0.631	0.00115	0.0155	0.0207	B	B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
PFOS	1763-23-1	1.23	0.00105	0.0155	0.0207		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
PFNA	375-95-1	0.299	0.00209	0.0155	0.0207		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	76.5	50 - 150		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
13C4-PFHpA	IS	81.5	50 - 150		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
18O2-PFHxS	IS	88.7	50 - 150		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
13C2-PFOA	IS	66.3	50 - 150		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
13C8-PFOS	IS	84.9	50 - 150		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1
13C5-PFNA	IS	63.9	50 - 150		B8E0065	10-May-18	0.121 L	23-May-18 18:46	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: STM-Perimeter Ditches

PFAS Isotope Dilution Method

Client Data

Name: Eastern Analytical, Inc.
Project: 181195 NH 2433
Matrix: Aqueous
Date Collected: 26-Apr-18 10:30

Laboratory Data

Lab Sample: 1800843-03
Date Received: 01-May-18 11:01
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00258	0.0182	0.0243		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
PFHpA	375-85-9	0.217	0.00304	0.0182	0.0243		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
PFHxS	355-46-4	0.00668	0.00138	0.0182	0.0243	J	B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
PFOA	335-67-1	0.591	0.00135	0.0182	0.0243	B	B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
PFOS	1763-23-1	1.24	0.00123	0.0182	0.0243		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
PFNA	375-95-1	0.268	0.00246	0.0182	0.0243		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	74.4	50 - 150		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
13C4-PFHpA	IS	78.9	50 - 150		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
18O2-PFHxS	IS	84.8	50 - 150		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
13C2-PFOA	IS	61.1	50 - 150		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
13C8-PFOS	IS	79.4	50 - 150		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1
13C5-PFNA	IS	60.1	50 - 150		B8E0065	10-May-18	0.103 L	23-May-18 18:59	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: STM-Subsurface Piping

PFAS Isotope Dilution Method

Client Data

Name: Eastern Analytical, Inc.
Project: 181195 NH 2433
Matrix: Aqueous
Date Collected: 26-Apr-18 10:20

Laboratory Data

Lab Sample: 1800843-04
Date Received: 01-May-18 11:01
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00362	0.00220	0.0156	0.0208	J	B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
PFHpA	375-85-9	0.531	0.00260	0.0156	0.0208		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
PFHxS	355-46-4	0.0196	0.00117	0.0156	0.0208	J	B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
PFOA	335-67-1	1.48	0.00115	0.0156	0.0208	B	B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
PFOS	1763-23-1	3.06	0.00525	0.0781	0.104	D	B8E0065	10-May-18	0.120 L	25-May-18 13:53	5
PFNA	375-95-1	0.770	0.00210	0.0156	0.0208		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	71.9	50 - 150		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
13C4-PFHpA	IS	65.8	50 - 150		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
18O2-PFHxS	IS	82.4	50 - 150		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
13C2-PFOA	IS	67.1	50 - 150		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1
13C8-PFOS	IS	65.3	50 - 150	D	B8E0065	10-May-18	0.120 L	23-May-18 19:12	5
13C5-PFNA	IS	59.9	50 - 150		B8E0065	10-May-18	0.120 L	23-May-18 19:12	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank**
Conc.	**Concentration**
D	**Dilution**
DL	**Detection limit**
E	**The associated compound concentration exceeded the calibration range of the instrument**
H	**Recovery and/or RPD was outside laboratory acceptance limits**
I	**Chemical Interference**
J	**The amount detected is below the Reporting Limit/LOQ**
LOD	**Limits of Detection**
LOQ	**Limits of Quantitation**
M	**Estimated Maximum Possible Concentration (CA Region 2 projects only)**
NA	**Not applicable**
ND	**Not Detected**
Q	**Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)**
TEQ	**Toxic Equivalency**
U	**Not Detected (specific projects only)**
*****	**See Cover Letter**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

CHAIN-OF-CUSTODY RECORD

Eastern Analytical, Inc.
professional laboratory and drilling services

EAI ID# 181195

1800843 0.1°C / 2.0°C

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
STM-Outfall Pipe	4/26/2018 9:30	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537	MS/MSD
STM-Outfall Pipe Dup	4/26/2018 9:30	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537	
STM-Perimeter Ditches	4/26/2018 10:30	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537	
STM-Subsurface Piping	4/26/2018 10:20	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537	

EAI ID# 181195 Project State: NH

Project ID: 2433

Company Vista Analytical Laboratory

Address 1104 Windfield Way

Address El Dorado Hills, CA 95762

Account #

Phone # (916) 673-1520

Results Needed: Preferred Date: Standard

RUSH Due Date: _____

QC Deliverables

☐ A ☐ A+ ☐ B ☐ B+ ☒ C ☐ PC

Notes about project:

Email login confirmation, pdf of results and invoice to customerservice@easternanalytical.com.

6 Compound PFAS List

PO #:47944 EAI ID# 181195

If RUSH charges will be applied, please call prior to analyzing.

Samples Collected by: _____

Relinquished by	Date/Time	Received by
	4/30/18 1530	UPS
UPS	05/01/18 1101	[illegible] 05/01/18 1121

Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 customerservice@easternanalytical.com

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you, as a subcontract lab, your officers, agents or employees

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1800843 **TAT** Std

Samples Arrival:	**Date/Time** 05/01/18 1101	**Initials:** MWS	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 05/02/18 1531	**Initials:** KE BJB	**Location:** WR-2 **Shelf/Rack:** A5

Delivered By:	FedEx	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	Ice		Blue Ice		Dry Ice		None

Temp °C: 2.1 (uncorrected)	**Time:** 1102	**Thermometer ID:** IR-4
Temp °C: 2.0 (corrected)	**Probe used:** Yes☐ No☒	

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 1Z X46 599 01 9775 1092	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?				✓
Chain of Custody / Sample Documentation Present?	MWS 05/01/18	✓		✓
COC Anomaly/Sample Acceptance Form completed?			✓	✓

If Chlorinated or Drinking Water Samples, Acceptable Preservation?						✓
Preservation Documented:	$Na_2S_2O_3$	Trizma	None	Yes	No	NA
Shipping Container	Vista	Client	Retain	Return	Dispose	

MWS 05/01/18

Comments: Sample label ID STM-Perimeter ~~Ditche~~ Ditch 5/4/18 BJB COC ID STM-Perimeter Ditches

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1800843 **TAT** Std

Samples Arrival:	**Date/Time** 05/01/18 1101	**Initials:** MMS	**Location:** WR-2 **Shelf/Rack:** N/a
Logged In:	**Date/Time** 05/02/18 1531	**Initials:** JBB KE	**Location:** WR-2 **Shelf/Rack:** A5

Delivered By:	FedEx	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	Ice		Blue Ice		Dry Ice		None

Temp °C: 0.2 (uncorrected)	**Time:** 1111	**Thermometer ID:** IR-4
Temp °C: 0.1 (corrected)	**Probe used:** Yes☐ No☑	

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 1Z X46 599 01 9800 7484	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?				✓
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓
Preservation Documented:	$Na_2S_2O_3$ Trizma None	Yes	No	NA
Shipping Container	Vista Client Retain Return		Dispose	

Comments:

EXTRACTION INFORMATION

Process Sheet

Workorder: 1800843

Prep Expiration: 2018-May-10

Client: Eastern Analytical, Inc.

Workorder Due: 22-May-18 00:00

TAT: 21

Method: **537M PFAS DOD (LOQ as mRL)**

Matrix: **Aqueous**

Prep Batch: B8E0065

Prep Data Entered: DF 5/14/18
Date and Initials

Version: UCMR 3 (6 Analyte)

Initial Sequence: _____

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1800843-01	A	☑	☐	STM-Outfall Pipe	**MS/MSD**	WR-2 A-5	HDPE Bottle, 125 mL
1800843-02		☑	☐	STM-Outfall Pipe Dup		WR-2 A-5	HDPE Bottle, 125 mL
1800843-03		☑	☐	STM-Perimeter Ditches		WR-2 A-5	HDPE Bottle, 125 mL
1800843-04		☑	☐	STM-Subsurface Piping		WR-2 A-5	HDPE Bottle, 125 mL

Pre-Prep Check Out: DF 5/9/18

Pre-Prep Check In: DF 5/9/18

Prep Check Out: KC 5/10/18

Prep Check In: NA

Prep Reconciled Initals/Date: DF 5/9/18

Spike Reconciled Initals/Date: JR 5-10-18

VialBoxID: Shrinking Shack

Process Sheet

Workorder: 1800843

Prep Expiration: 2018-May-10
Client: Eastern Analytical, Inc.

Workorder Due: 22-May-18 00:00

TAT: 21

Method: **537M PFAS**
Matrix: **Aqueous**

List of 6

Prep Batch: B8E0065

Prep Data Entered: DF 5/14/18
Date and Initials

Initial Sequence: S8E0054

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1800843-01	A	☑	☐	STM-Outall Pipe	"STM-Outfall Pipe" **MS/MSD** Ⓐ	WR-2 A-5	HDPE Bottle, 125 mL
1800843-02	A	☑	☐	STM-Outall Pipe Dup	"STM Outfall Pipe Dup" ↓	WR-2 A-5	HDPE Bottle, 125 mL
1800843-03	A	☐	☐	STM-Perimeter Ditches	"~~STM~~ STM - Perimeter Ditch" ✓	WR-2 A-5	HDPE Bottle, 125 mL
1800843-04	A	☑	☑	STM-Subsurface Piping		WR-2 A-5	HDPE Bottle, 125 mL

Ⓐ Sample control was notified of the irregularity in sample IDs. They determined it was a mistake while inputting the information and the samples are correct. JR 5.10.18

Note: See corrected Process Sheet DF 5/14/18

Pre-Prep Check Out: DF 5/9/18
Pre-Prep Check In: DF 5/9/18

Prep Check Out: KC 5/10/18
Prep Check In: NA

Prep Reconciled Initals/Date: DF 5/9/18
Spike Reconciled Initals/Date: JR 5.10.18
VialBoxID: Shrieking Shack

Page 1 of 3

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

B8E0065

Chemist: 7R

Prep Date/Time: ~~08-May-18 14:37~~ 7R 5-10-18 5-10-18 15:55

Prepared using: LCMS - SPE Extraction-LCMS

Date/Initals: DF 5/9/18 BalanceID: HRMS-8

Cen	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☐	B8E0065-BLK1	5	2	0	2	NA	NA	(0.125) ✓	7R JR 5.10.18	7R 5.10.18	7R KL 5.10.18
☐	B8E0065-BS1	5	2	0	2	↓	↓	(0.125) ✓	↓	↓	↓
☑	B8E0065-MS1 1800843-01	5	2	0	2	147.26	27.14	0.12012 ✓	↓	↓	↓
☑	B8E0065-MSD1 1800843-01	5	2	0	2	147.62	27.06	0.12054 ✓	↓	↓	↓
☑	1800843-01	5	2	0	2	142.98	27.03	0.11595 ✓	↓	↓	↓
☑	1800843-02	5	2	0	2	147.67	26.95	0.12074 ✓	↓	↓	↓
☑	1800843-03	5	2	0	2	129.71	27.04	0.10267 ✓	↓	↓	↓
☑	1800843-04	6	2	0	2	147.52	27.18	0.12034 ✓	↓	↓	↓
☑	1800877-01	5	2	0	2	148.67	26.96	0.12171	↓	↓	↓
☑	1800877-02	6	2	0	2	138.26	27.03	0.11123	↓	↓	↓
☑	1800877-03	7	2	0	3	145.10	27.04	0.11906	↓	↓	↓
☑	1800878-01	7	2	0	3	147.85	~~26~~ 26.88	0.12097	↓	↓	↓
☑	1800878-02	6	2	0	2	141.50	26.74	0.11476	↓	↓	↓
☑	1800878-03	7	2	0	2	134.85	26.73	0.10812	↓	↓	↓
☑	1800878-04	7	2	0	3	140.67	26.73	0.11394	↓	↓	↓
☑	1800878-05	7	2	0	2	142.97	26.81	0.11616	↓	↓	↓

IS: 18D2004, 10µL (V8)

IS SUP: NA

NS: 18C1302, 10µL (V4)

RS: 18D2005, 10µL (V8)

SPE Chem: Strata X-AW 33µm 200mg/6mL

Ele SOLV: MeOH/0.5% NH4OH in MeOH

Final Volume(s) 1mL

Notes:

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

B8E0065

Chemist: 7R

Prep Date/Time: ~~08-May-18 14:37~~ 7R 5-10-18 5-10-18 15:55

Prepared using: LCMS - SPE Extraction-LCMS

Date/Initals: DF 5/9/18 BalanceID: HRMS-8

Cen	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☑	1800878-06	5	2	0	2	134.30	26.76	0.10754	7R JR 5-10-18	7R 5-10-18	7R VC 5-10-18
☑	1800878-07	5	2	0	2	146.64	26.75	0.11989	↓	↓	↓
☑	1800878-08	5	2	0	2	139.76	26.81	0.11295	↓	↓	↓
☑	1800878-09	5	2	0	2	143.76	26.83	0.11493	↓	↓	↓

IS: 18D2004, 10µL (V8)	SPE Chem: Strata X-AW 33µm 200 mg / 6mL	Notes:
IS SUP: NA	Ele SOLV: MeOH/0.5% NH_4OH in MeOH	
NS: 18C1302, 10µL (V4)	Final Volume(s) 1mL	
RS: 18D2005, 10µL (V8)		

Comments: Assume 1 g = 1 mL
Cen = Centrifuged

Batch: B8E0065

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1800843-01	0.11595	NA	NA	1000	10-May-18 15:55	FBR			Aqueous	537M PFAS DOD (LOQ as
1800843-01RE2	0.11595			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800843-02	0.12074			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS DOD (LOQ as
1800843-03	0.10267			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS DOD (LOQ as
1800843-04	0.12034			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800877-01	0.12171			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800877-02	0.11123			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800877-03	0.11906			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-01	0.12097			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-02	0.11476			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-03	0.10812			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-04	0.11394			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-05	0.11616			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-06	0.10754			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-07	0.11989			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-08	0.11295			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
1800878-09	0.11693			1000	10-May-18 15:55	FBR			Aqueous	537M PFAS
B8E0065-BLK1	0.125			1000	10-May-18 15:55	FBR				QC
B8E0065-BS1	0.125			1000	10-May-18 15:55	FBR	18C1302	10		QC
B8E0065-MS1	0.12012			1000	10-May-18 15:55	FBR	18C1302	10		QC
B8E0065-MSD1	0.12056			1000	10-May-18 15:55	FBR	18C1302	10		QC

DF 5/14/18

Printed: 5/14/2018 11:15:59AM

Sample Data – PFAS Isotope Dilution Method

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-27.qld

Last Altered: Friday, May 25, 2018 11:27:20 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:34:31 Pacific Daylight Time

Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-27, Date: 23-May-2018, Time: 18:20:52, ID: B8E0065-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	4.43e1	1.98e4	0.12500		1.93	1.93	0.0280		
2	2	PFPeA	262.7 > 218.9		1.53e4	0.12500		2.81				
3	3	PFBS	298.7>80		3.89e3	0.12500		3.04				
4	4	PFHxA	312.7 > 268.8		7.31e3	0.12500		3.40				
5	5	PFHpA	362.8 > 318.9		1.62e4	0.12500		3.91				
6	6	PFHxS	398.8 > 80.1	1.35e1	3.48e3	0.12500		4.03	4.03	0.0484	0.133	
7	7	L-PFOA	412.8 > 368.9	2.03e2	1.30e4	0.12500		4.33	4.33	0.196	1.29	
8	9	PFNA	462.8 > 418.9		4.36e3	0.12500		4.69				
9	10	PFOS	498.8 > 80		4.41e2	0.12500		4.75				
10	11	13C3-PFBA	215.8 > 171.9	1.98e4	2.14e4	0.12500	1.006	1.93	1.93	11.6	91.9	91.9
11	12	13C3-PFBS	301.8 > 99	3.89e3	2.27e4	0.12500	0.213	2.84	3.04	2.14	80.1	80.1
12	13	13C3-PFPeA	265.7 > 222	1.53e4	2.27e4	0.12500	0.793	2.82	2.81	8.43	85.1	85.1
13	14	13C2-PFHxA	314.8 > 270	7.31e3	2.27e4	0.12500	0.989	3.09	3.40	4.02	32.5	81.3
14	15	13C4-PFHpA	366.7 > 322	1.62e4	2.27e4	0.12500	0.959	3.90	3.91	8.89	74.1	74.1
15	16	18O2-PFHxS	402.8 > 103	3.48e3	8.08e3	0.12500	0.458	3.72	4.03	5.39	94.1	94.1
16	17	13C2-PFOA	414.8 > 369.9	1.30e4	1.56e4	0.12500	0.991	4.33	4.33	10.4	84.2	84.2
17	18	13C5-PFNA	467.8 > 422.9	4.36e3	7.17e3	0.12500	0.912	4.69	4.69	7.60	66.7	66.7
18	19	13C8-PFOS	506.8 > 80	4.41e2	6.42e2	0.12500	0.873	4.55	4.75	8.60	78.8	78.8
19	20	13C4-PFBA	216.7 > 171.9	2.14e4	2.14e4	0.12500	1.000	1.72	1.93	12.5	100	100.0
20	21	13C5-PFHxA	317.8>273	2.27e4	2.27e4	0.12500	1.000	3.66	3.40	12.5	100	100.0
21	22	13C3-PFHxS	401.7 > 80.0	8.08e3	8.08e3	0.12500	1.000	4.29	4.03	12.5	100	100.0
22	23	13C8-PFOA	420.8 > 375.9	1.56e4	1.56e4	0.12500	1.000	4.53	4.33	12.5	100	100.0
23	24	13C9-PFNA	471.5 > 426.80	7.17e3	7.17e3	0.12500	1.000	4.93	4.69	12.5	100	100.0
24	25	13C4-PFOS	502.70 > 80.1	6.42e2	6.42e2	0.12500	1.000	4.98	4.75	12.5	100	100.0
25	26	Total PFHxS	398.8 > 80.1	1.35e1	3.48e3	0.12500		4.30		0.0484	0.133	
26	27	Total PFOA	412.8 > 368.9	2.03e2	1.30e4	0.12500		4.53		0.196	1.29	
27	28	Total PFOS	498.8 > 80	0.00e0	4.41e2	0.12500		4.73		0.000		

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Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-27.qld

Last Altered: Friday, May 25, 2018 11:27:20 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:34:31 Pacific Daylight Time

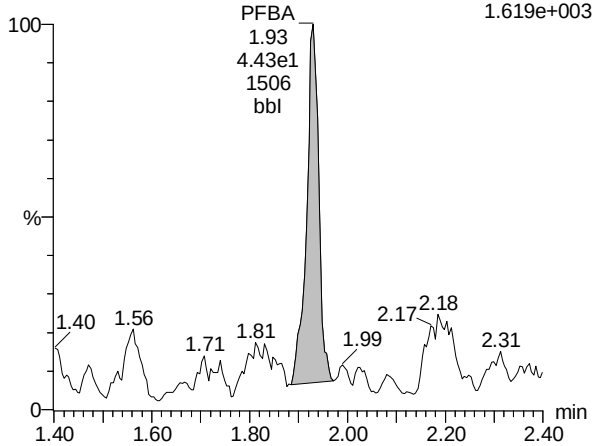
Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-27, Date: 23-May-2018, Time: 18:20:52, ID: B8E0065-BLK1 Method Blank 0.125, Description: Method Blank

PFBA

180523G2-27 Smooth(Mn,1x2) F2:MRM of 3 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 212.7 > 168.9
1.619e+003



PFPeA

180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
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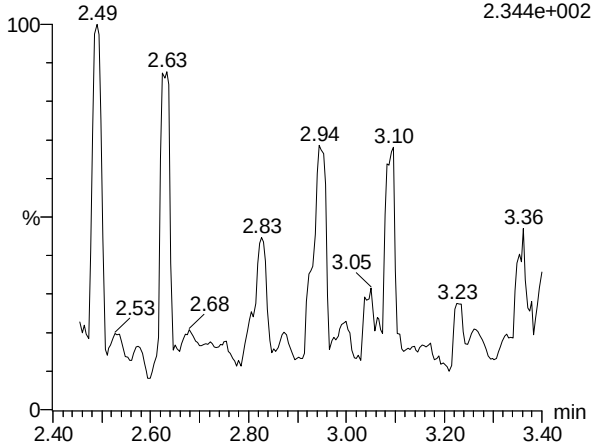
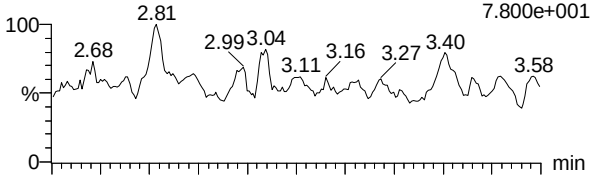
2.344e+002

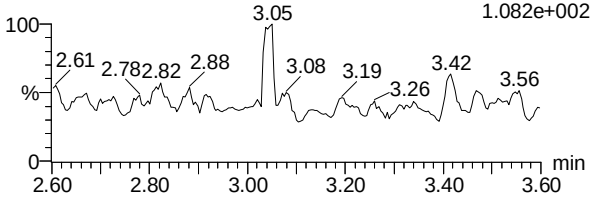


PFBS

180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 298.7 > 80
7.800e+001

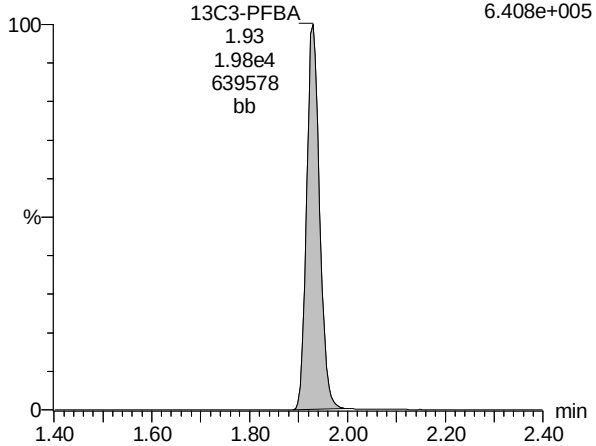


180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 298.7 > 99
1.082e+002



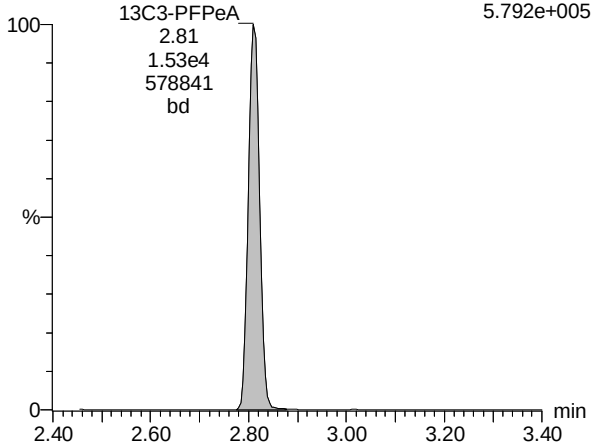
13C3-PFBA

180523G2-27 Smooth(Mn,1x2) F2:MRM of 3 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 215.8 > 171.9
6.408e+005



13C3-PFPeA

180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 265.7 > 222
5.792e+005



13C3-PFBS

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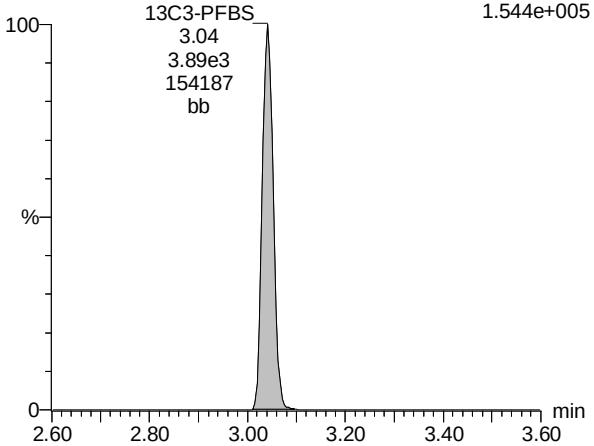
1.544e+005



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Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-27.qld

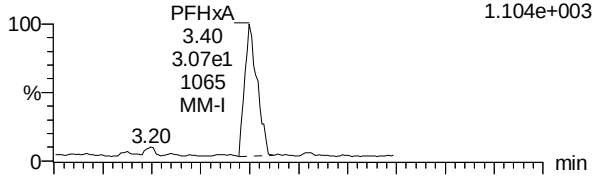
Last Altered: Friday, May 25, 2018 11:27:20 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:34:31 Pacific Daylight Time

Rev'd: MM 5/25/2018

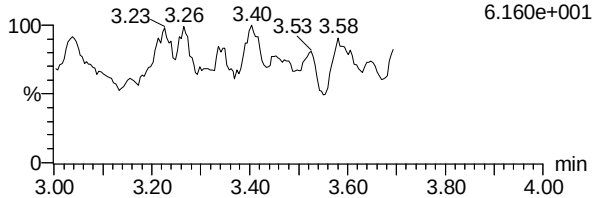
Name: 180523G2-27, Date: 23-May-2018, Time: 18:20:52, ID: B8E0065-BLK1 Method Blank 0.125, Description: Method Blank

PFHxA

180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 312.7 > 268.8
1.104e+003

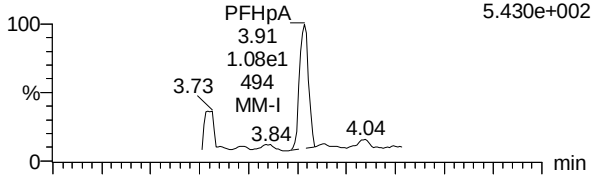


180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 312.7 > 119
6.160e+001

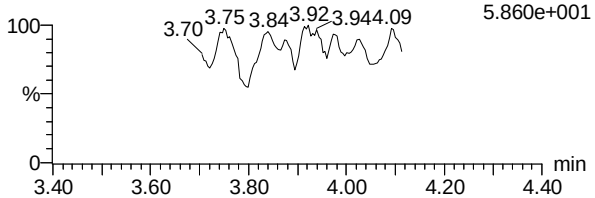


PFHpA

180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 362.8 > 318.9
5.430e+002



180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 362.8 > 168.9
5.860e+001



Total PFHxS

180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
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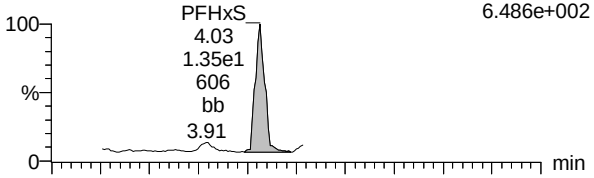
6.486e+002



180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
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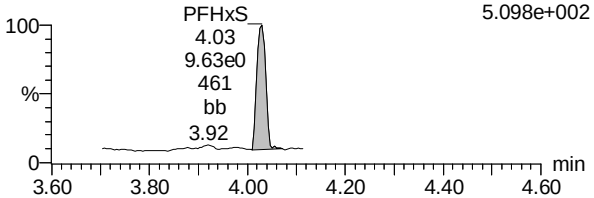
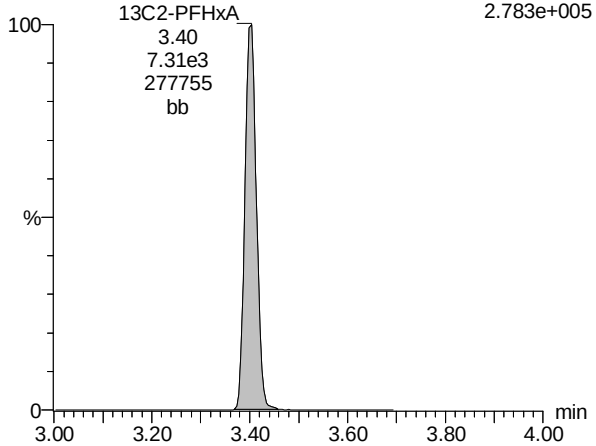
5.098e+002



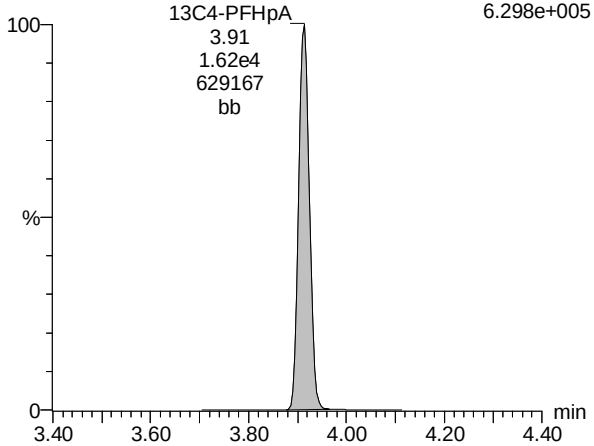
13C2-PFHxA

180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 314.8 > 270
2.783e+005



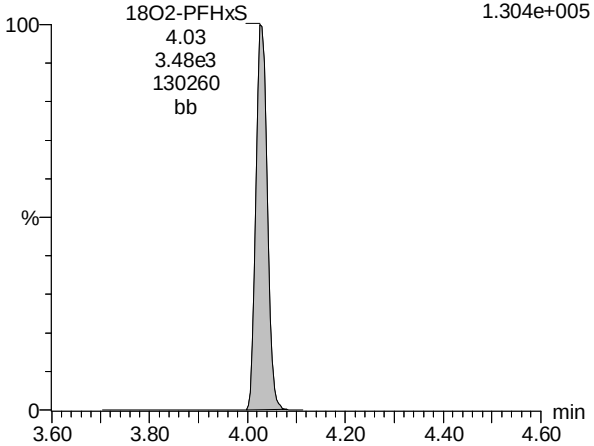
13C4-PFHpA

180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 366.7 > 322
6.298e+005



18O2-PFHxS

180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 402.8 > 103
1.304e+005



AD 5/25/2018

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Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-27.qld

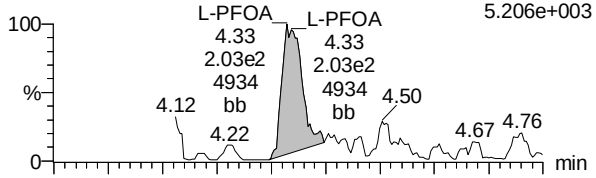
Last Altered: Friday, May 25, 2018 11:27:20 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:34:31 Pacific Daylight Time

Rev'd: MM 5/25/2018

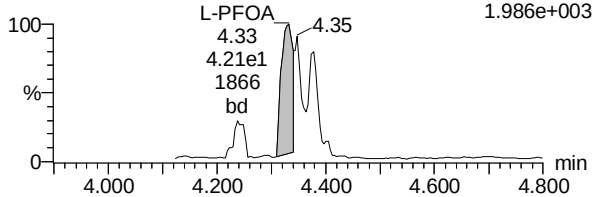
Name: 180523G2-27, Date: 23-May-2018, Time: 18:20:52, ID: B8E0065-BLK1 Method Blank 0.125, Description: Method Blank

Total PFOA

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 412.8 > 368.9
5.206e+003

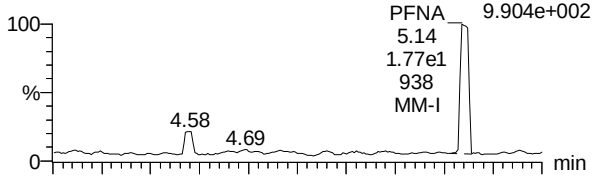


180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 412.8 > 168.9
1.986e+003

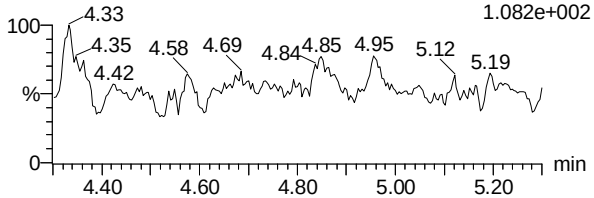


PFNA

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 462.8 > 418.9
9.904e+002

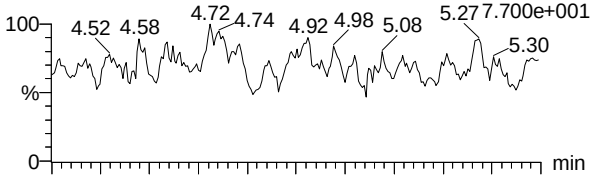


180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 462.8 > 168.9
1.082e+002



Total PFOS

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 498.8 > 80
7.700e+001



180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
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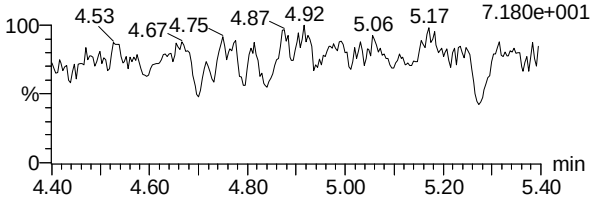
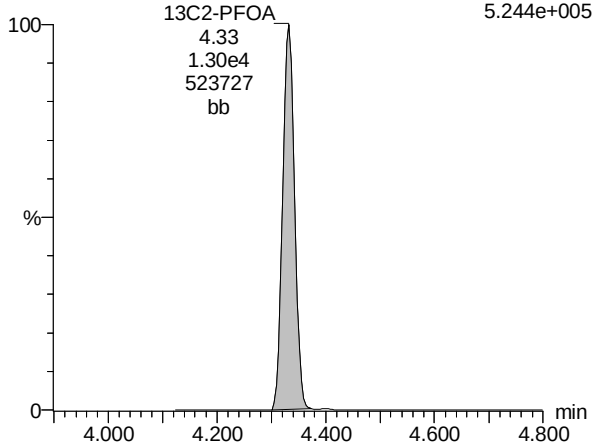
7.180e+001



13C2-PFOA

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 414.8 > 369.9
5.244e+005



13C5-PFNA

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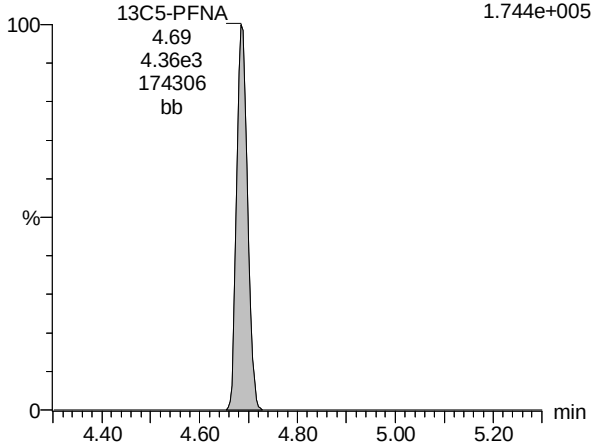
Method Blank B8E0065-BLK1 Method Blank 0.125 467.8 > 422.9
1.744e+005



13C8-PFOS

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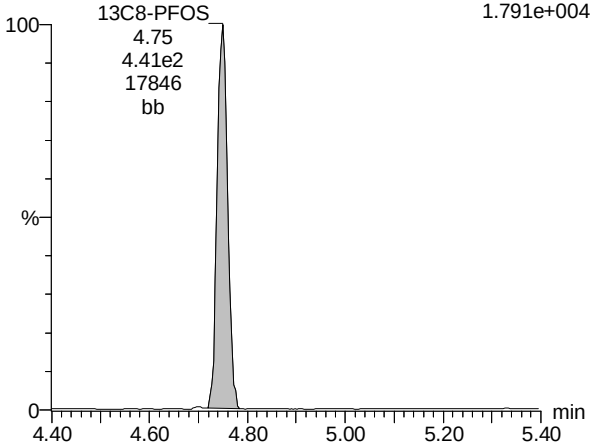
1.791e+004



AD 5/25/2018

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Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-27.qld

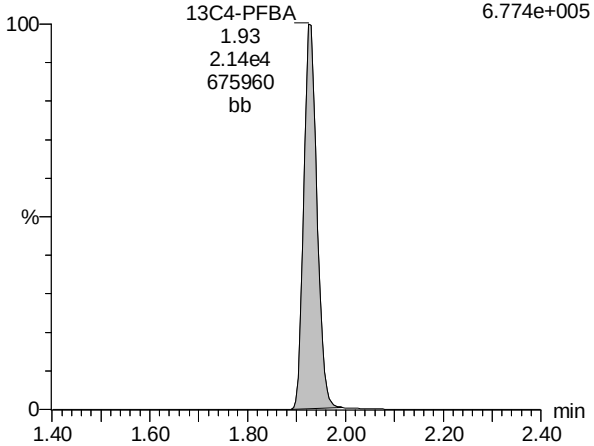
Last Altered: Friday, May 25, 2018 11:27:20 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:34:31 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-27, Date: 23-May-2018, Time: 18:20:52, ID: B8E0065-BLK1 Method Blank 0.125, Description: Method Blank

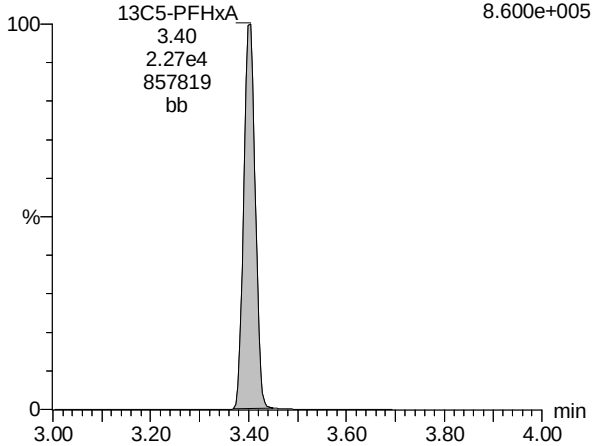
13C4-PFBA

180523G2-27 Smooth(Mn,1x2) F2:MRM of 3 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 216.7 > 171.9
6.774e+005



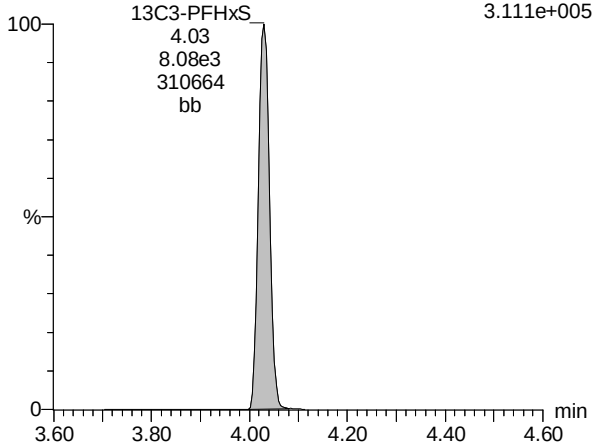
13C5-PFHxA

180523G2-27 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 317.8 > 273
8.600e+005



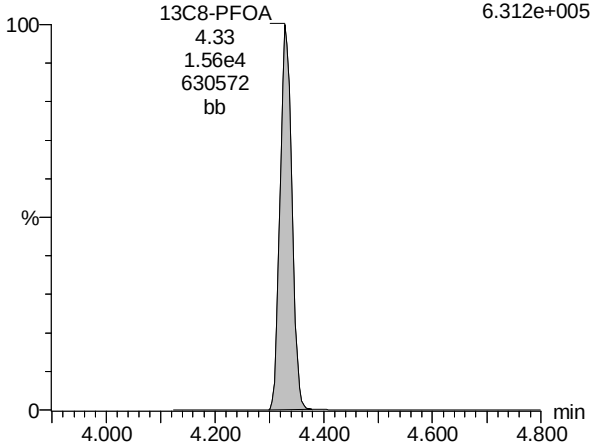
13C3-PFHxS

180523G2-27 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 401.7 > 80.0
3.111e+005



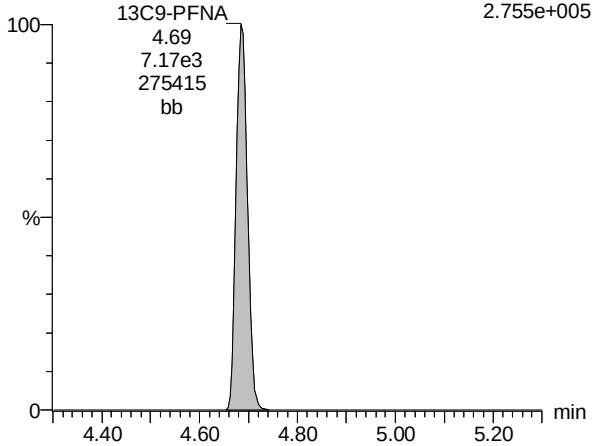
13C8-PFOA

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 420.8 > 375.9
6.312e+005



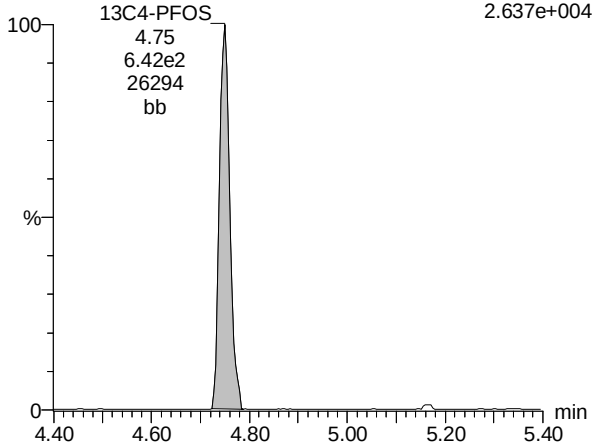
13C9-PFNA

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
471.5 > 426.80
2.755e+005



13C4-PFOS

180523G2-27 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Method Blank B8E0065-BLK1 Method Blank 0.125 502.70 > 80.1
2.637e+004



AD 5/25/2018

Vista Analytical Laboratory

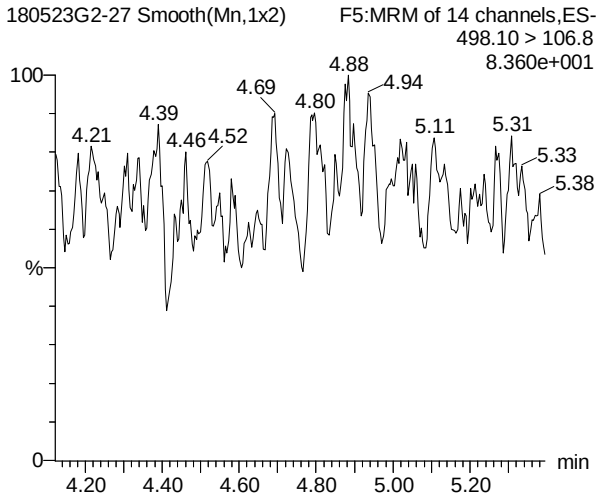
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-27.qld

Last Altered: Friday, May 25, 2018 11:27:20 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:34:31 Pacific Daylight Time

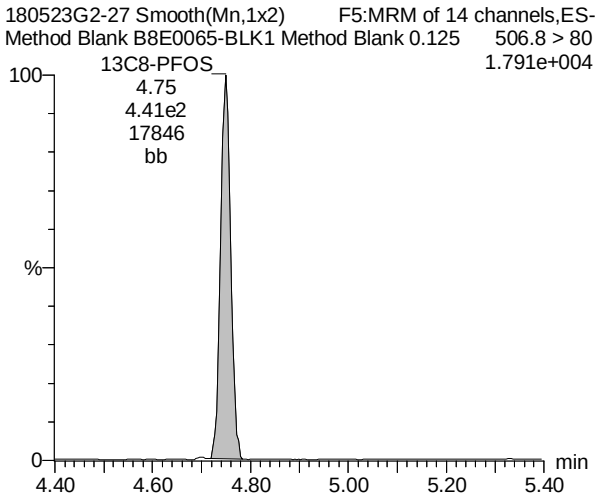
Rev'd: MM 5/25/2018

Name: 180523G2-27, Date: 23-May-2018, Time: 18:20:52, ID: B8E0065-BLK1 Method Blank 0.125, Description: Method Blank

TCDA



13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-16.qld

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Printed: Friday, May 25, 2018 11:53:42 Pacific Daylight Time

Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-16, Date: 24-May-2018, Time: 15:52:51, ID: B8E0065-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.11e4	1.88e4	0.12500		1.93	1.93	7.38	66.5	83.1
2	2	PFPeA	262.7 > 218.9	7.61e3	1.49e4	0.12500		2.81	2.81	6.37	73.6	92.0
3	3	PFBS	298.7>80	6.26e3	3.85e3	0.12500		3.05	3.05	20.3	63.2	78.9
4	4	PFHxA	312.7 > 268.8	8.30e3	7.17e3	0.12500		3.41	3.41	5.79	71.8	89.8
5	5	PFHpA	362.8 > 318.9	1.04e4	1.66e4	0.12500		3.91	3.92	7.80	74.9	93.6
6	6	PFHxS	398.8 > 80.1	4.71e3	3.63e3	0.12500		4.03	4.03	16.2	71.7	89.6
7	7	L-PFOA	412.8 > 368.9	9.32e3	1.44e4	0.12500		4.34	4.34	8.08	74.2	92.8
8	9	PFNA	462.8 > 418.9	5.35e3	8.49e3	0.12500		4.69	4.69	7.87	64.3	80.4
9	10	PFOS	498.8 > 80	1.44e3	1.74e3	0.12500		4.75	4.75	10.4	70.7	88.4
10	11	13C3-PFBA	215.8 > 171.9	1.88e4	2.11e4	0.12500	0.957	1.93	1.93	11.1	93.2	93.2
11	12	13C3-PFBS	301.8 > 99	3.85e3	2.02e4	0.12500	0.194	2.85	3.05	2.38	98.5	98.5
12	13	13C3-PFPeA	265.7 > 222	1.49e4	2.02e4	0.12500	0.807	2.82	2.81	9.26	91.8	91.8
13	14	13C2-PFHxA	314.8 > 270	7.17e3	2.02e4	0.12500	1.014	3.41	3.41	4.45	35.1	87.7
14	15	13C4-PFHpA	366.7 > 322	1.66e4	2.02e4	0.12500	1.039	3.90	3.91	10.3	79.3	79.3
15	16	18O2-PFHxS	402.8 > 103	3.63e3	7.19e3	0.12500	0.519	3.72	4.03	6.31	97.3	97.3
16	17	13C2-PFOA	414.8 > 369.9	1.44e4	1.74e4	0.12500	1.010	4.34	4.34	10.3	81.9	81.9
17	18	13C5-PFNA	467.8 > 422.9	8.49e3	1.13e4	0.12500	0.936	4.69	4.69	9.36	80.0	80.0
18	19	13C8-PFOS	506.8 > 80	1.74e3	2.39e3	0.12500	0.865	4.55	4.75	9.13	84.4	84.4
19	20	13C4-PFBA	216.7 > 171.9	2.11e4	2.11e4	0.12500	1.000	1.72	1.93	12.5	100	100.0
20	21	13C5-PFHxA	317.8>273	2.02e4	2.02e4	0.12500	1.000	3.66	3.41	12.5	100	100.0
21	22	13C3-PFHxS	401.7 > 80.0	7.19e3	7.19e3	0.12500	1.000	4.29	4.03	12.5	100	100.0
22	23	13C8-PFOA	420.8 > 375.9	1.74e4	1.74e4	0.12500	1.000	4.53	4.34	12.5	100	100.0
23	24	13C9-PFNA	471.5 > 426.80	1.13e4	1.13e4	0.12500	1.000	4.93	4.69	12.5	100	100.0
24	25	13C4-PFOS	502.70 > 80.1	2.39e3	2.39e3	0.12500	1.000	4.98	4.75	12.5	100	100.0
25	26	Total PFHxS	398.8 > 80.1	4.71e3	3.63e3	0.12500		4.30		16.2	71.7	
26	27	Total PFOA	412.8 > 368.9	9.32e3	1.44e4	0.12500		4.53		8.08	74.2	
27	28	Total PFOS	498.8 > 80	1.44e3	1.74e3	0.12500		4.73		10.4	70.7	

AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-16.qld

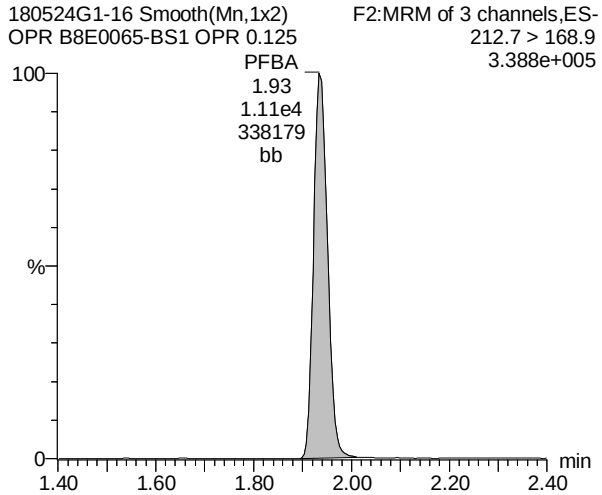
Last Altered: Friday, May 25, 2018 11:52:30 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:53:42 Pacific Daylight Time

Rev'd: MM 5/25/2018

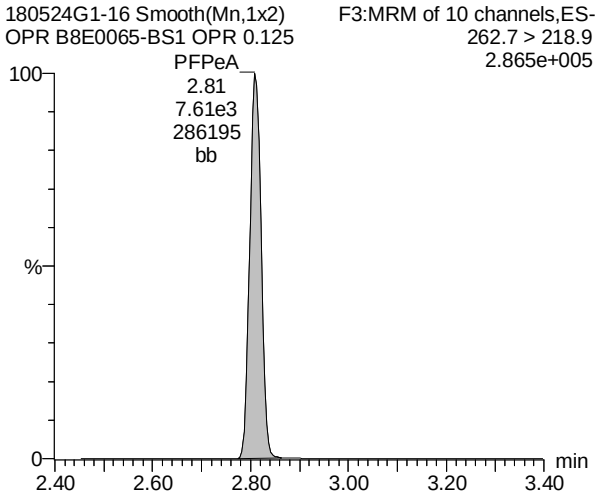
Method: Y:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-16, Date: 24-May-2018, Time: 15:52:51, ID: B8E0065-BS1 OPR 0.125, Description: OPR

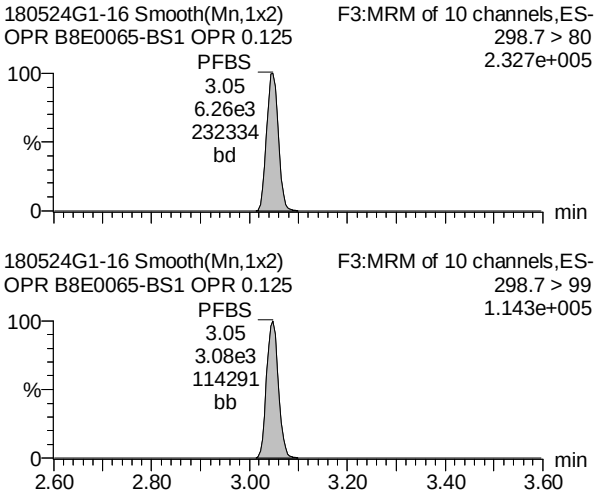
PFBA



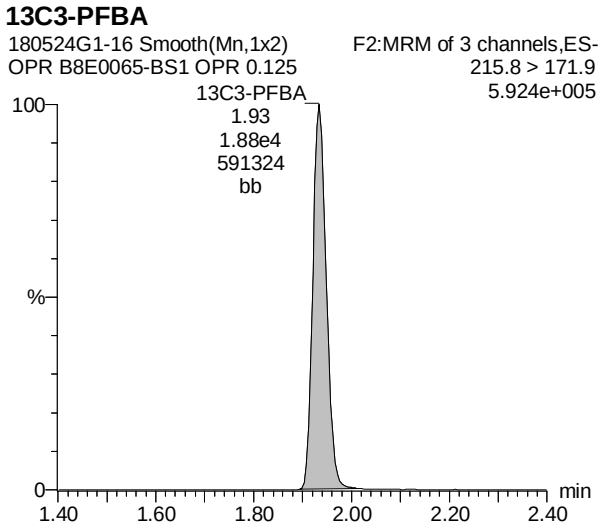
PFPeA



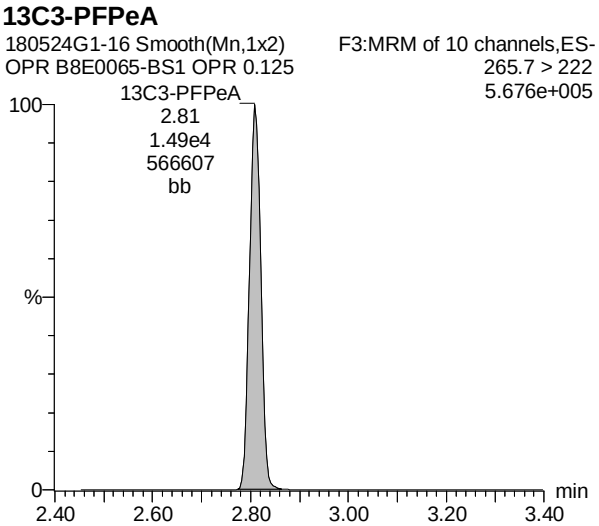
PFBS



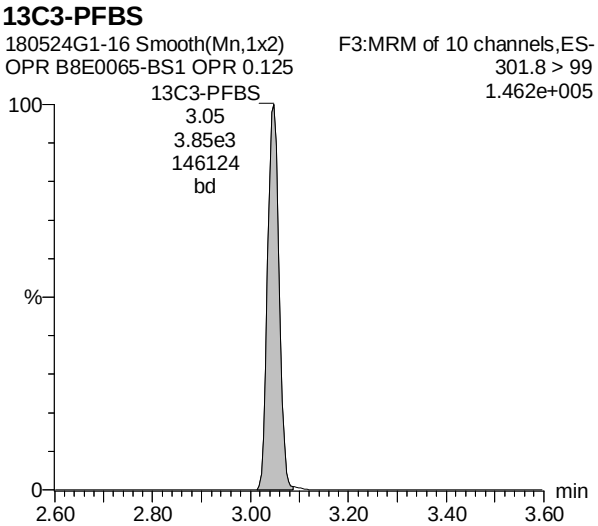
13C3-PFBA



13C3-PFPeA



13C3-PFBS



AD 5/25/2018

Vista Analytical Laboratory

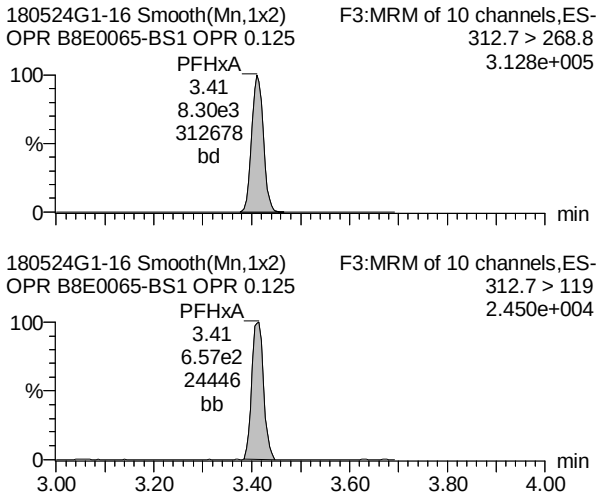
Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-16.qld

Last Altered: Friday, May 25, 2018 11:52:30 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:53:42 Pacific Daylight Time

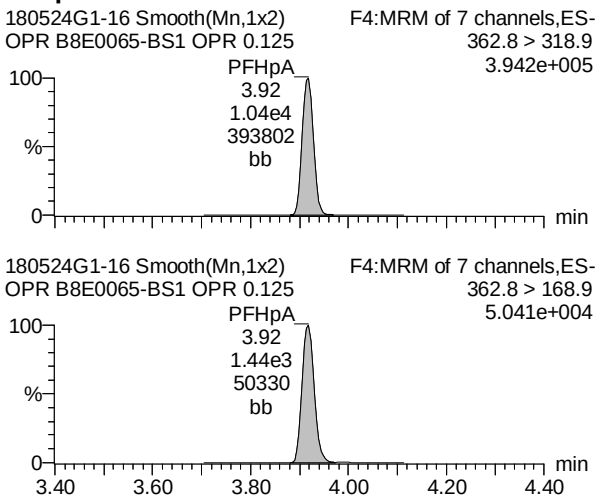
Rev'd: MM 5/25/2018

Name: 180524G1-16, Date: 24-May-2018, Time: 15:52:51, ID: B8E0065-BS1 OPR 0.125, Description: OPR

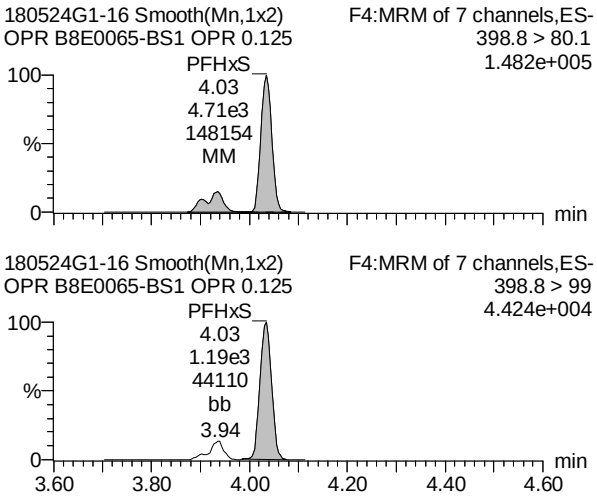
PFHxA



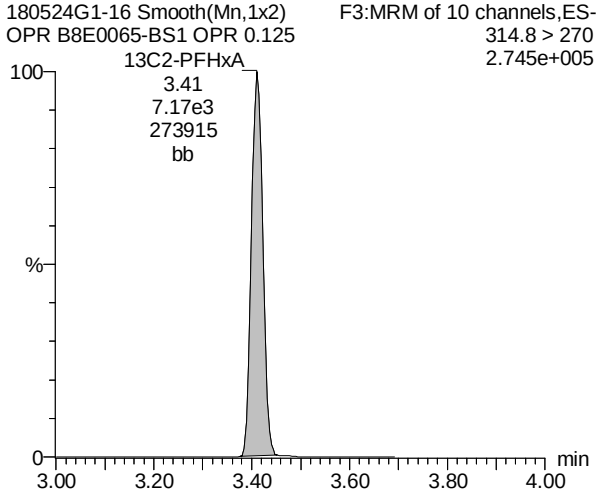
PFHpA



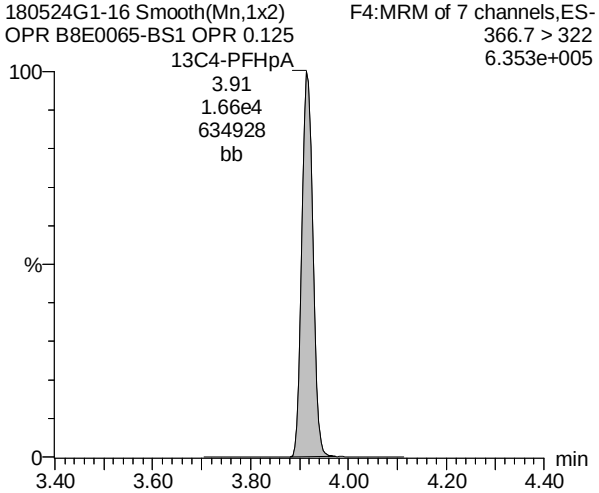
Total PFHxS



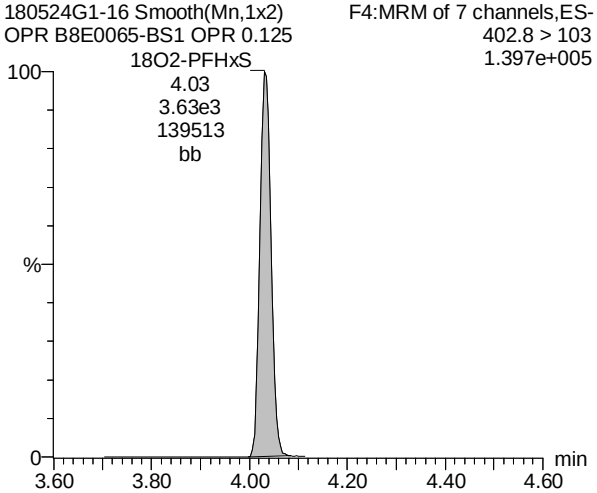
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



AD 5/25/2018

Vista Analytical Laboratory

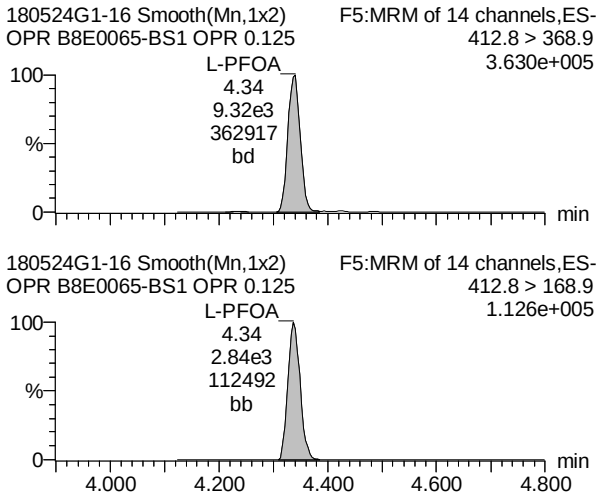
Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-16.qld

Last Altered: Friday, May 25, 2018 11:52:30 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:53:42 Pacific Daylight Time

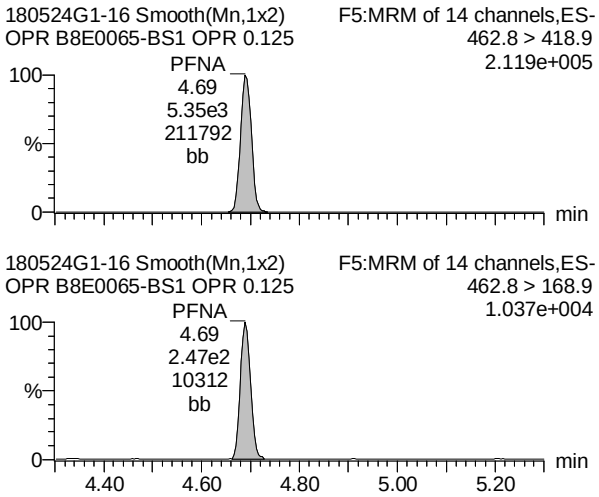
Rev'd: MM 5/25/2018

Name: 180524G1-16, Date: 24-May-2018, Time: 15:52:51, ID: B8E0065-BS1 OPR 0.125, Description: OPR

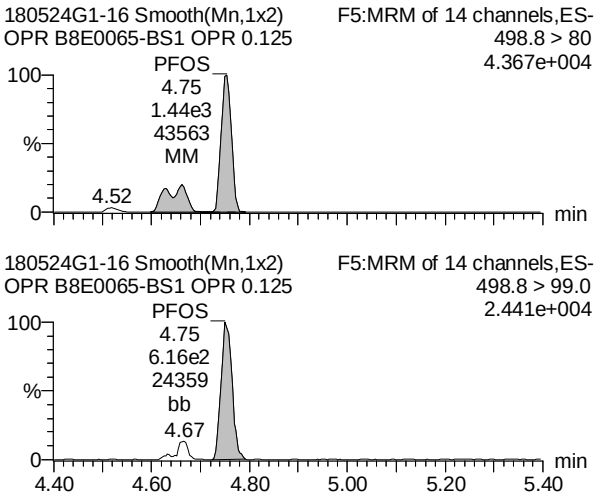
Total PFOA



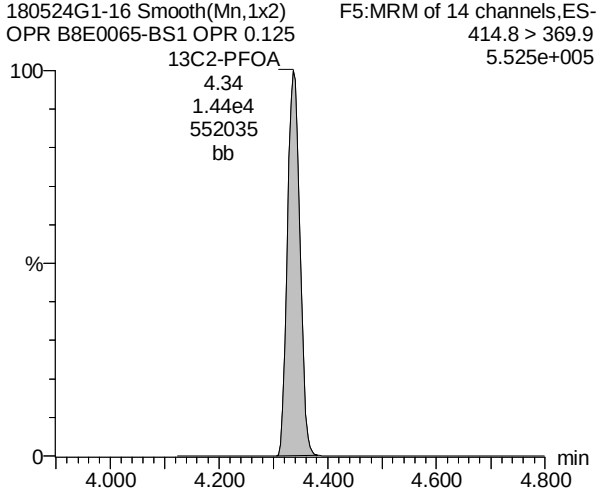
PFNA



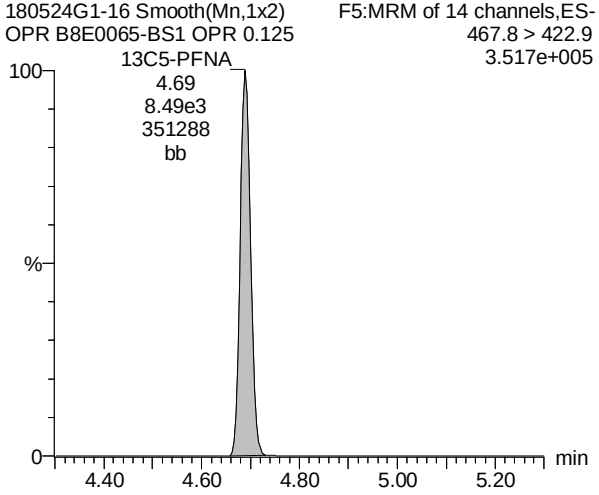
Total PFOS



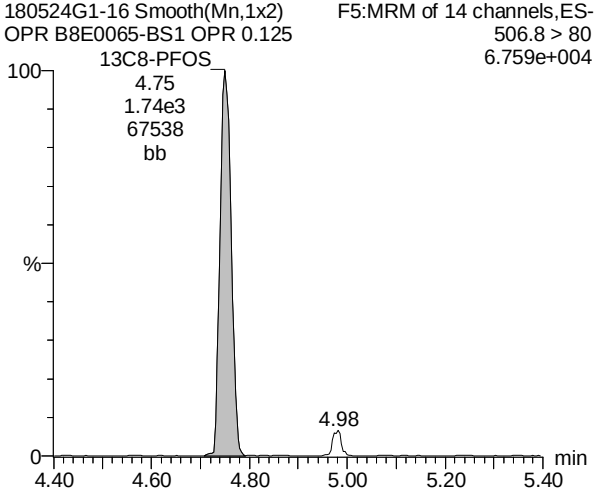
13C2-PFOA



13C5-PFNA



13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-16.qld

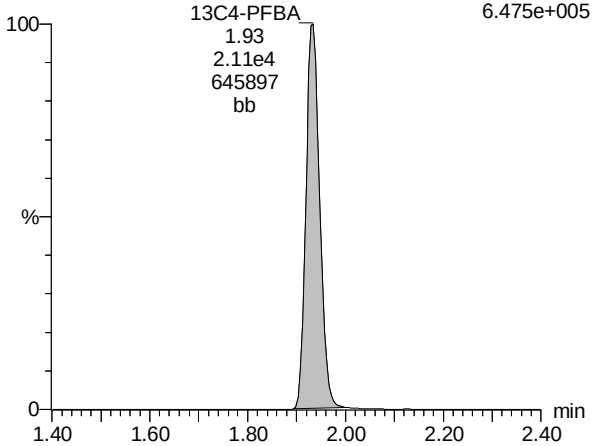
Last Altered: Friday, May 25, 2018 11:52:30 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:53:42 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180524G1-16, Date: 24-May-2018, Time: 15:52:51, ID: B8E0065-BS1 OPR 0.125, Description: OPR

13C4-PFBA

180524G1-16 Smooth(Mn,1x2) F2:MRM of 3 channels,ES-
OPR B8E0065-BS1 OPR 0.125 216.7 > 171.9
6.475e+005



13C5-PFHxA

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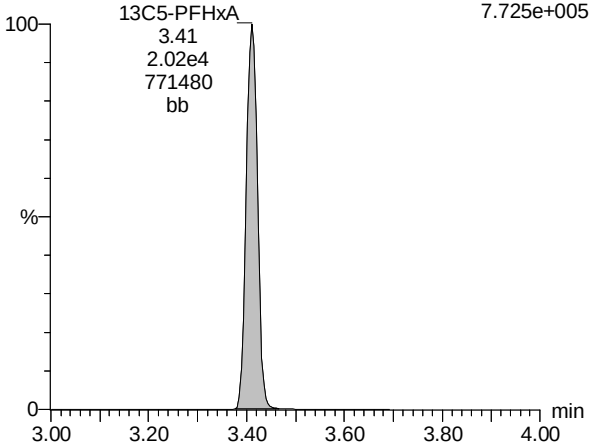
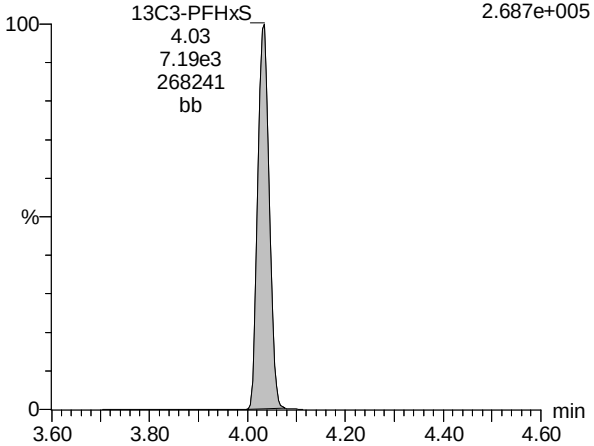
OPR B8E0065-BS1 OPR 0.125 317.8 > 273
7.725e+005



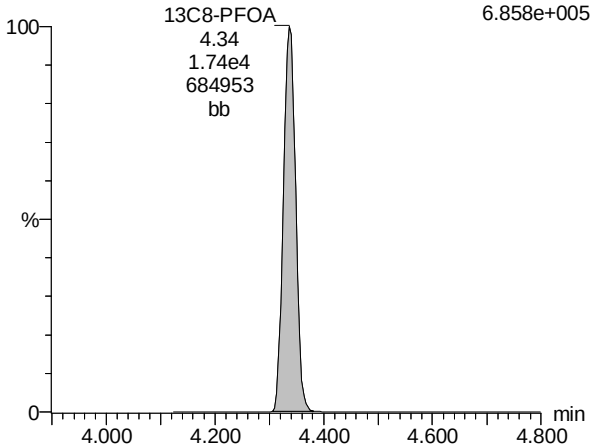
13C3-PFHxS

180524G1-16 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
OPR B8E0065-BS1 OPR 0.125 401.7 > 80.0
2.687e+005



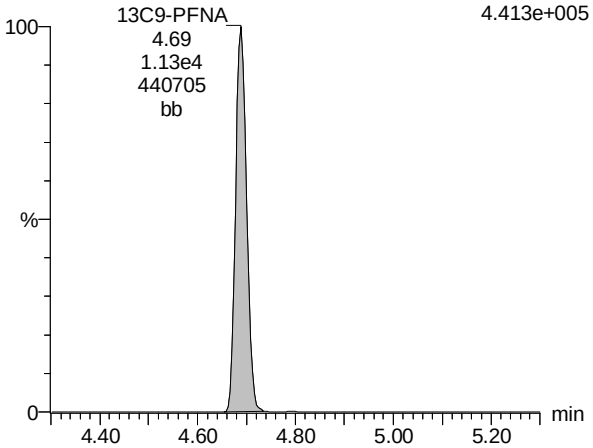
13C8-PFOA

180524G1-16 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
OPR B8E0065-BS1 OPR 0.125 420.8 > 375.9
6.858e+005



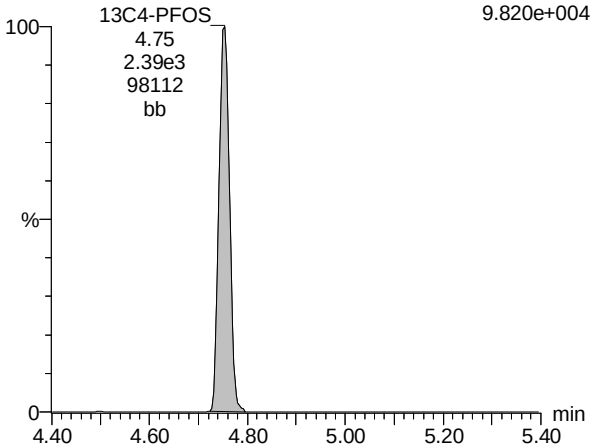
13C9-PFNA

180524G1-16 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
OPR B8E0065-BS1 OPR 0.125 471.5 > 426.80
4.413e+005



13C4-PFOS

180524G1-16 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
OPR B8E0065-BS1 OPR 0.125 502.70 > 80.1
9.820e+004



AD 5/25/2018

Vista Analytical Laboratory

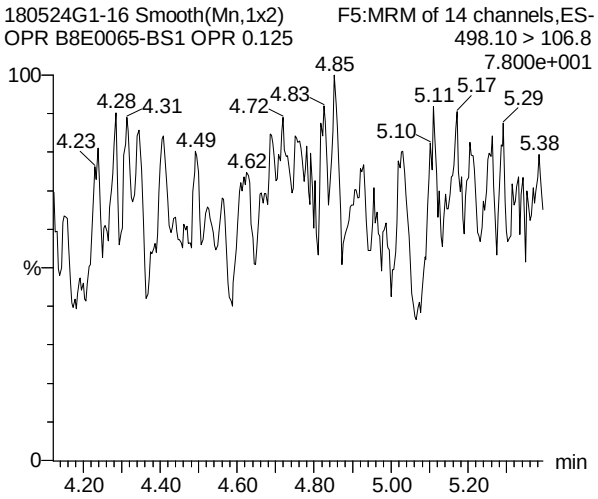
Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-16.qld

Last Altered: Friday, May 25, 2018 11:52:30 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:53:42 Pacific Daylight Time

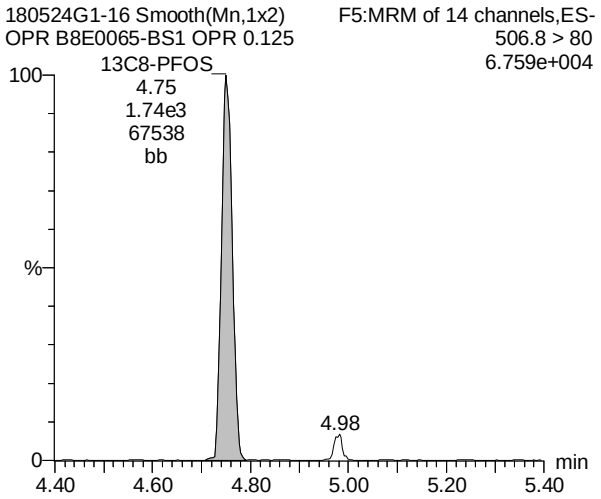
Rev'd: MM 5/25/2018

Name: 180524G1-16, Date: 24-May-2018, Time: 15:52:51, ID: B8E0065-BS1 OPR 0.125, Description: OPR

TCDA



13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-28.qld

Last Altered: Friday, May 25, 2018 11:37:17 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:45:44 Pacific Daylight Time

Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-28, Date: 23-May-2018, Time: 18:33:50, ID: 1800843-01 STM-Outfall Pipe 0.11595, Description: STM-Outfall Pipe

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	298.7>80	7.33e1	3.62e3	0.1160		3.04	3.04	0.253	1.68	
2	5	PFHpA	362.8 > 318.9	2.98e4	1.72e4	0.1160		3.91	3.91	21.7	223	
3	6	PFHxS	398.8 > 80.1	6.43e2	4.34e3	0.1160		4.03	4.03	1.85	7.77	
4	7	L-PFOA	412.8 > 368.9	7.08e4	1.51e4	0.1160		4.33	4.33	58.7	519	
5	9	PFNA	462.8 > 418.9	3.34e4	1.11e4	0.1160		4.69	4.69	37.7	307	
6	10	PFOS	498.8 > 80	7.64e4	5.31e3	0.1160		4.75	4.75	180	1440	
7	12	13C3-PFBS	301.8 > 99	3.62e3	2.21e4	0.1160	0.213	2.84	3.04	2.05	82.9	76.9
8	13	13C3-PFPeA	265.7 > 222	1.25e4	2.21e4	0.1160	0.793	2.81	2.81	7.05	76.7	71.2
9	14	13C2-PFHxA	314.8 > 270	7.30e3	2.21e4	0.1160	0.989	3.09	3.40	4.14	36.1	83.7
10	15	13C4-PFHpA	366.7 > 322	1.72e4	2.21e4	0.1160	0.959	3.89	3.91	9.71	87.3	81.0
11	16	18O2-PFHxS	402.8 > 103	4.34e3	1.11e4	0.1160	0.458	3.72	4.03	4.86	91.6	85.0
12	17	13C2-PFOA	414.8 > 369.9	1.51e4	2.22e4	0.1160	0.991	4.33	4.33	8.48	73.8	68.5
13	18	13C5-PFNA	467.8 > 422.9	1.11e4	1.94e4	0.1160	0.912	4.69	4.69	7.14	67.6	62.7
14	19	13C8-PFOS	506.8 > 80	5.31e3	8.27e3	0.1160	0.873	4.55	4.75	8.02	79.2	73.5
15	20	13C4-PFBA	216.7 > 171.9	2.10e4	2.10e4	0.1160	1.000	1.72	1.93	12.5	108	100.0
16	21	13C5-PFHxA	317.8>273	2.21e4	2.21e4	0.1160	1.000	3.66	3.40	12.5	108	100.0
17	22	13C3-PFHxS	401.7 > 80.0	1.11e4	1.11e4	0.1160	1.000	4.29	4.03	12.5	108	100.0
18	23	13C8-PFOA	420.8 > 375.9	2.22e4	2.22e4	0.1160	1.000	4.53	4.33	12.5	108	100.0
19	24	13C9-PFNA	471.5 > 426.80	1.94e4	1.94e4	0.1160	1.000	4.93	4.69	12.5	108	100.0
20	25	13C4-PFOS	502.70 > 80.1	8.27e3	8.27e3	0.1160	1.000	4.98	4.75	12.5	108	100.0
21	26	Total PFHxS	398.8 > 80.1	6.43e2	4.34e3	0.1160		4.30		1.85	7.77	
22	27	Total PFOA	412.8 > 368.9	7.26e4	1.51e4	0.1160		4.53		60.2	532	
23	28	Total PFOS	498.8 > 80	7.64e4	5.31e3	0.1160		4.73		180	1440	

AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-28.qld

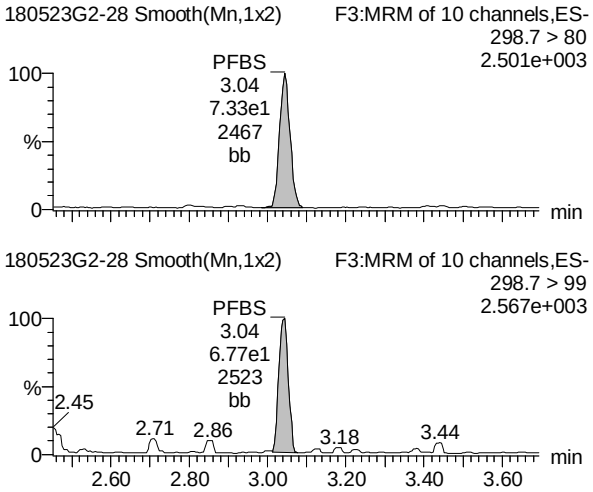
Last Altered: Friday, May 25, 2018 11:37:17 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:45:44 Pacific Daylight Time

Rev'd: MM 5/25/2018

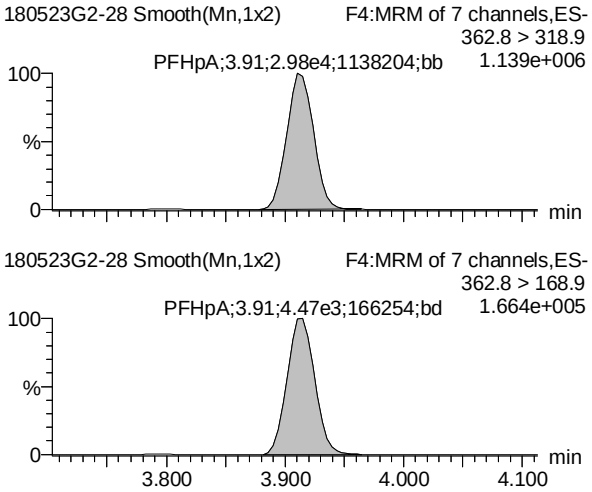
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-28, Date: 23-May-2018, Time: 18:33:50, ID: 1800843-01 STM-Outfall Pipe 0.11595, Description: STM-Outfall Pipe

PFBS



PFHpA



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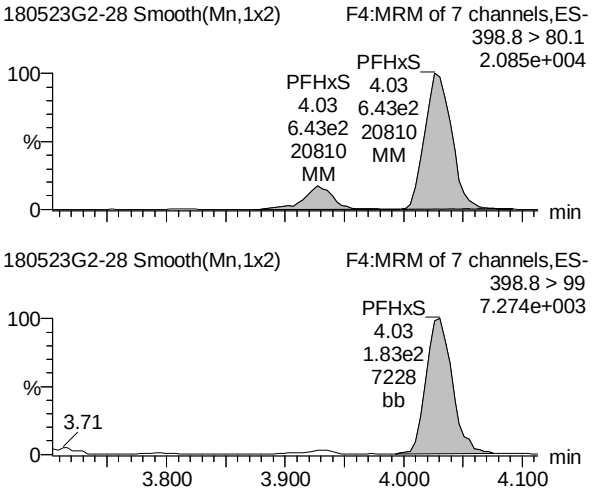
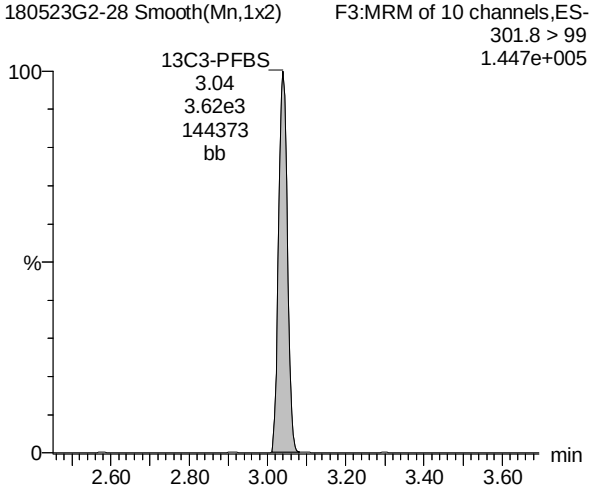


13C3-PFBS



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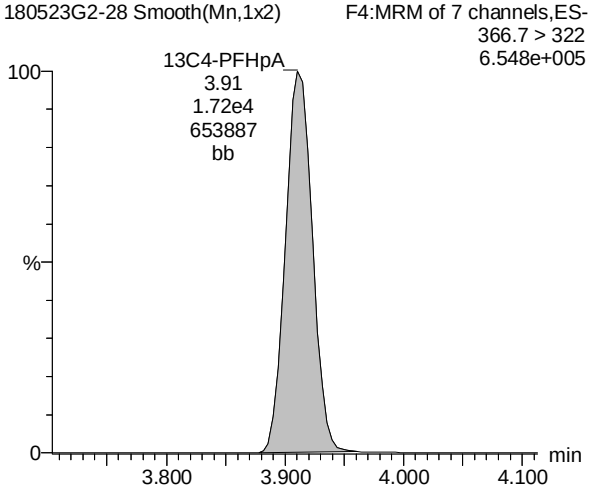
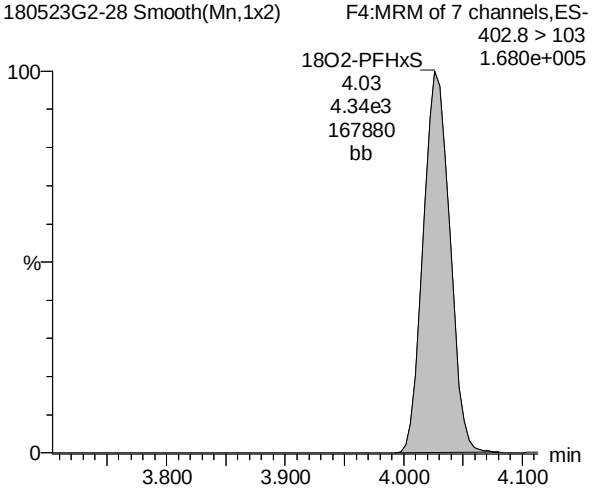


18O2-PFHxS



AD 5/25/2018

Vista Analytical Laboratory

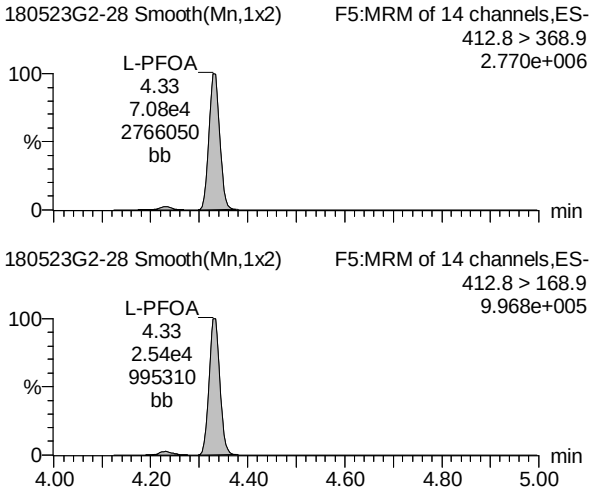
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-28.qld

Last Altered: Friday, May 25, 2018 11:37:17 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:45:44 Pacific Daylight Time

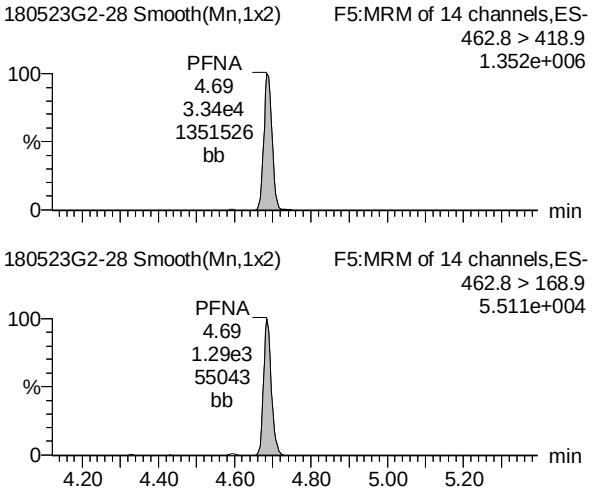
Rev'd: MM 5/25/2018

Name: 180523G2-28, Date: 23-May-2018, Time: 18:33:50, ID: 1800843-01 STM-Outfall Pipe 0.11595, Description: STM-Outfall Pipe

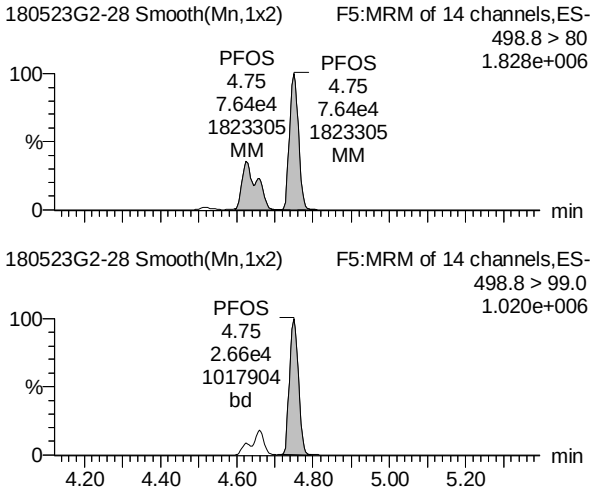
Total PFOA



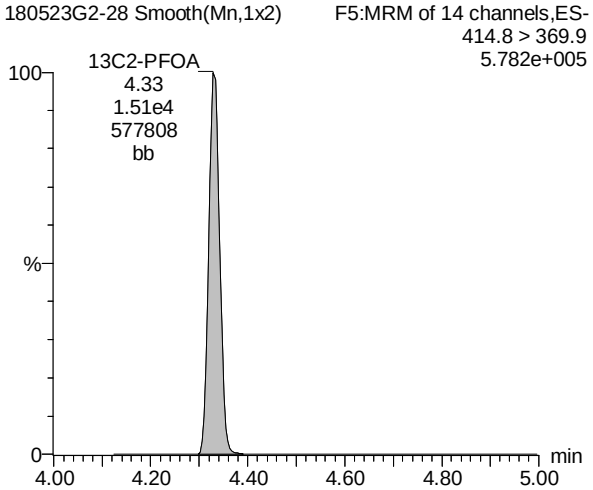
PFNA



Total PFOS



13C2-PFOA



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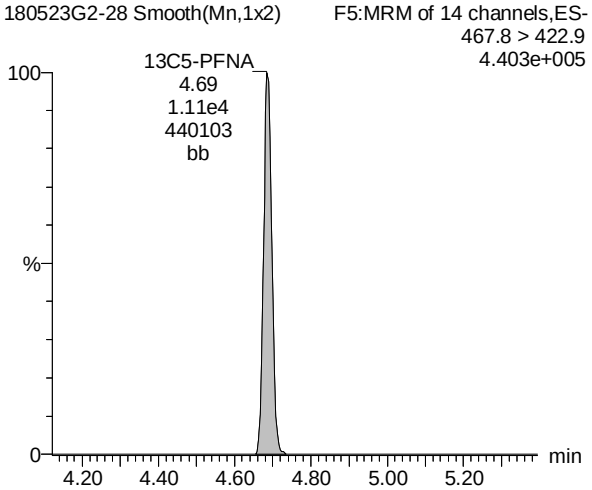
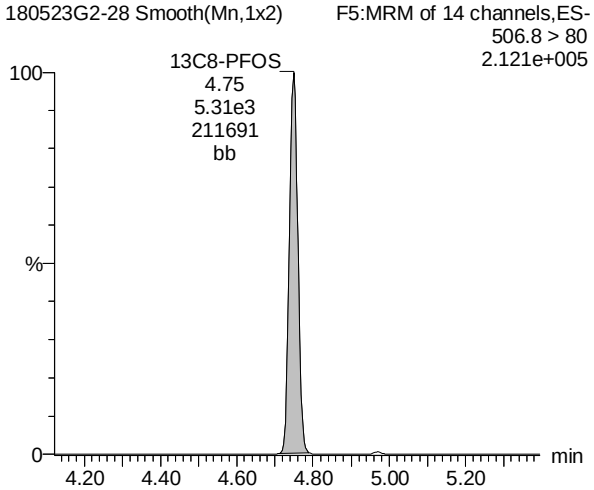


13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

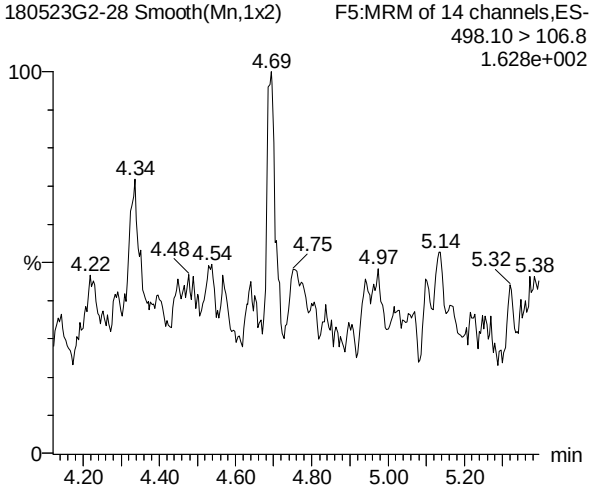
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-28.qld

Last Altered: Friday, May 25, 2018 11:37:17 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:45:44 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-28, Date: 23-May-2018, Time: 18:33:50, ID: 1800843-01 STM-Outfall Pipe 0.11595, Description: STM-Outfall Pipe

TCDA



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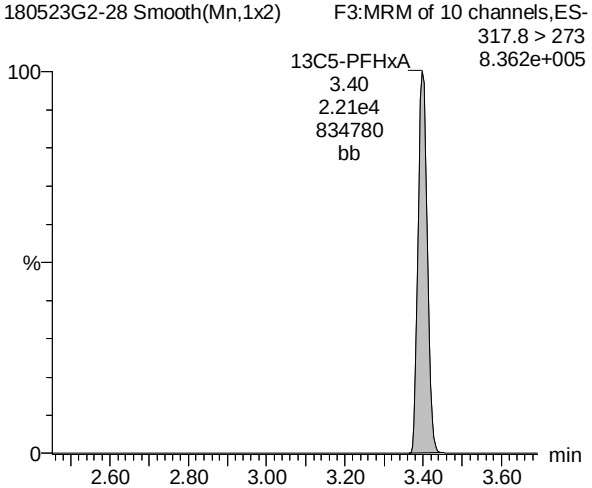
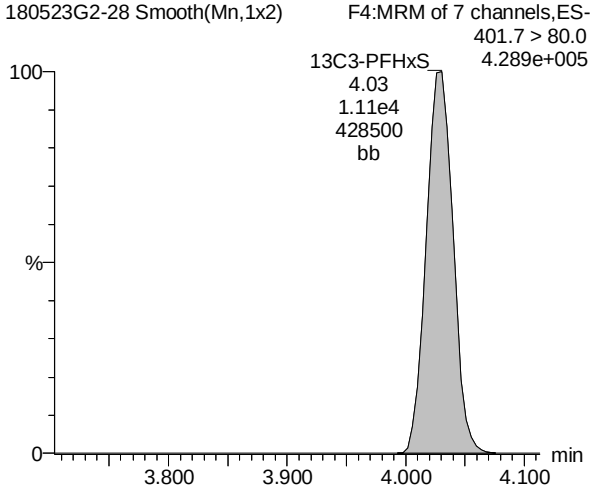
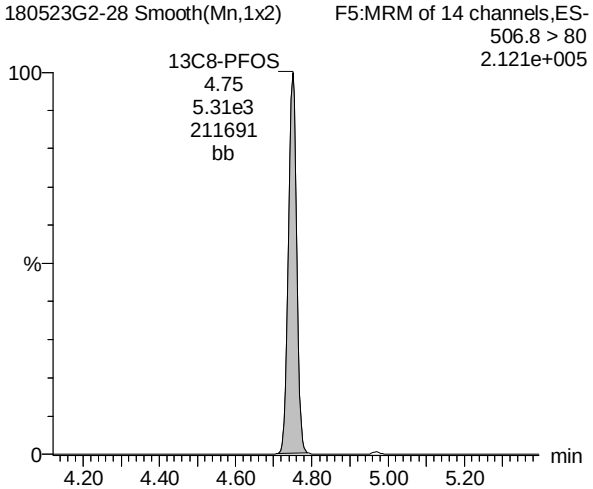


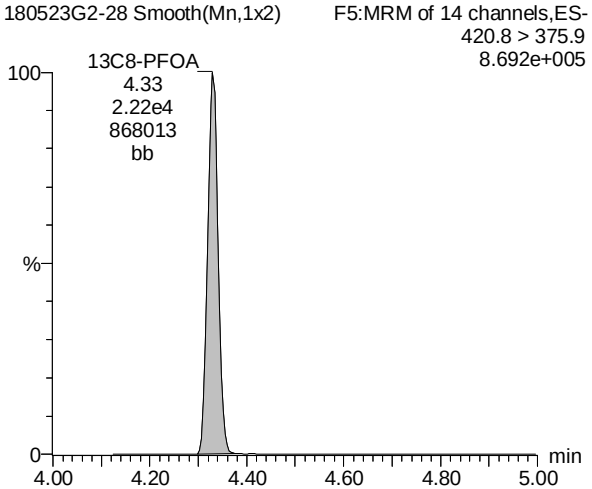
13C3-PFHxS



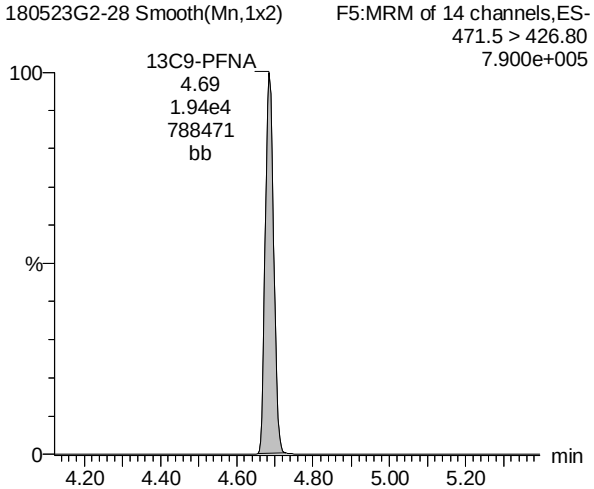
13C8-PFOS



13C8-PFOA



13C9-PFNA



AD 5/25/2018

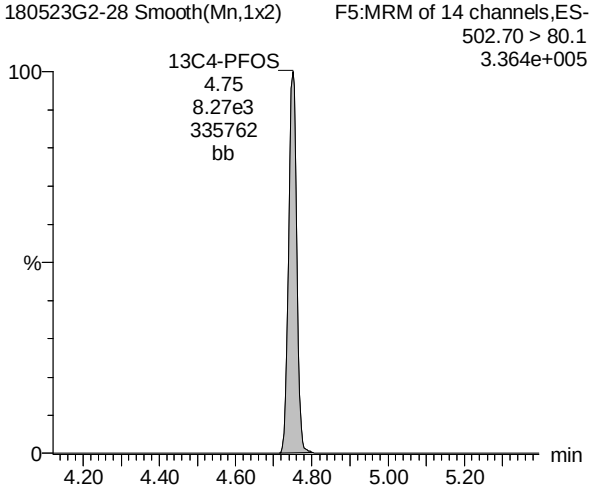
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-28.qld

Last Altered: Friday, May 25, 2018 11:37:17 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:45:44 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-28, Date: 23-May-2018, Time: 18:33:50, ID: 1800843-01 STM-Outfall Pipe 0.11595, Description: STM-Outfall Pipe

13C4-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-25.qld

Last Altered: Friday, May 25, 2018 11:32:24 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:02:30 Pacific Daylight Time

Rev'd: MM 5/29/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-25, Date: 23-May-2018, Time: 17:55:02, ID: B8E0065-MS1 Matrix Spike 0.12012, Description: Matrix Spike

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	298.7>80	7.46e3	4.08e3	0.1201		3.04	3.04	22.9	79.9	
2	5	PFHpA	362.8 > 318.9	3.91e4	1.93e4	0.1201		3.91	3.91	25.3	251	
3	6	PFHxS	398.8 > 80.1	6.91e3	4.79e3	0.1201		4.03	4.03	18.0	73.7	
4	7	L-PFOA	412.8 > 368.9	7.13e4	1.50e4	0.1201		4.33	4.33	59.6	509	
5	9	PFNA	462.8 > 418.9	3.33e4	1.13e4	0.1201		4.69	4.69	37.0	290	
6	10	PFOS	498.8 > 80	7.20e4	6.39e3	0.1201		4.75	4.75	141	1110	
7	12	13C3-PFBS	301.8 > 99	4.08e3	2.16e4	0.1201	0.213	2.84	3.04	2.36	92.0	88.4
8	13	13C3-PFPeA	265.7 > 222	1.42e4	2.16e4	0.1201	0.793	2.81	2.81	8.20	86.1	82.7
9	14	13C2-PFHxA	314.8 > 270	7.97e3	2.16e4	0.1201	0.989	3.09	3.40	4.61	38.8	93.2
10	15	13C4-PFHpA	366.7 > 322	1.93e4	2.16e4	0.1201	0.959	3.89	3.91	11.2	96.9	93.1
11	16	18O2-PFHxS	402.8 > 103	4.79e3	1.07e4	0.1201	0.458	3.72	4.03	5.62	102	98.3
12	17	13C2-PFOA	414.8 > 369.9	1.50e4	1.87e4	0.1201	0.991	4.33	4.33	10.0	84.0	80.7
13	18	13C5-PFNA	467.8 > 422.9	1.13e4	1.58e4	0.1201	0.912	4.69	4.69	8.90	81.2	78.1
14	19	13C8-PFOS	506.8 > 80	6.39e3	8.74e3	0.1201	0.873	4.55	4.75	9.14	87.1	83.7
15	20	13C4-PFBA	216.7 > 171.9	2.09e4	2.09e4	0.1201	1.000	1.72	1.92	12.5	104	100.0
16	21	13C5-PFHxA	317.8>273	2.16e4	2.16e4	0.1201	1.000	3.66	3.40	12.5	104	100.0
17	22	13C3-PFHxS	401.7 > 80.0	1.07e4	1.07e4	0.1201	1.000	4.29	4.03	12.5	104	100.0
18	23	13C8-PFOA	420.8 > 375.9	1.87e4	1.87e4	0.1201	1.000	4.53	4.33	12.5	104	100.0
19	24	13C9-PFNA	471.5 > 426.80	1.58e4	1.58e4	0.1201	1.000	4.93	4.69	12.5	104	100.0
20	25	13C4-PFOS	502.70 > 80.1	8.74e3	8.74e3	0.1201	1.000	4.98	4.75	12.5	104	100.0
21	26	Total PFHxS	398.8 > 80.1	6.91e3	4.79e3	0.1201		4.30		18.0	73.7	
22	27	Total PFOA	412.8 > 368.9	7.30e4	1.50e4	0.1201		4.53		61.0	521	
23	28	Total PFOS	498.8 > 80	7.20e4	6.39e3	0.1201		4.73		141	1110	

AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-25.qld

Last Altered: Friday, May 25, 2018 11:32:24 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:02:30 Pacific Daylight Time

Rev'd: MM 5/29/2018

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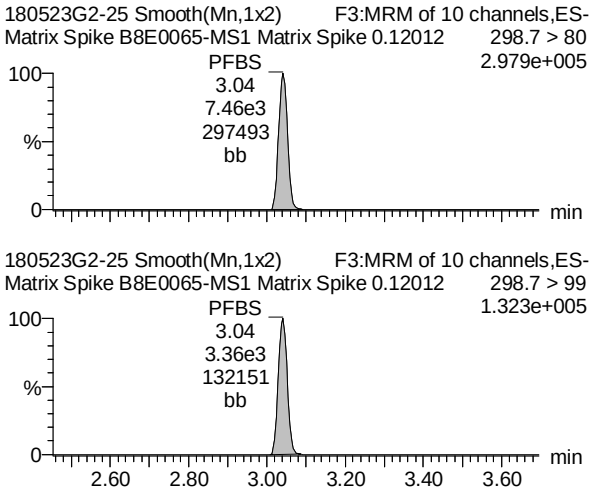
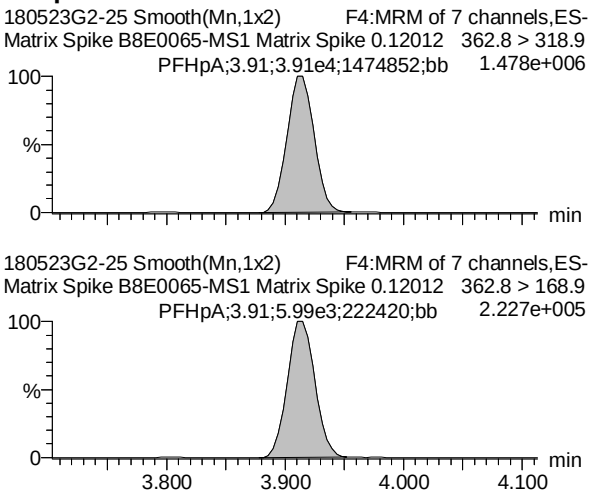
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-25, Date: 23-May-2018, Time: 17:55:02, ID: B8E0065-MS1 Matrix Spike 0.12012, Description: Matrix Spike

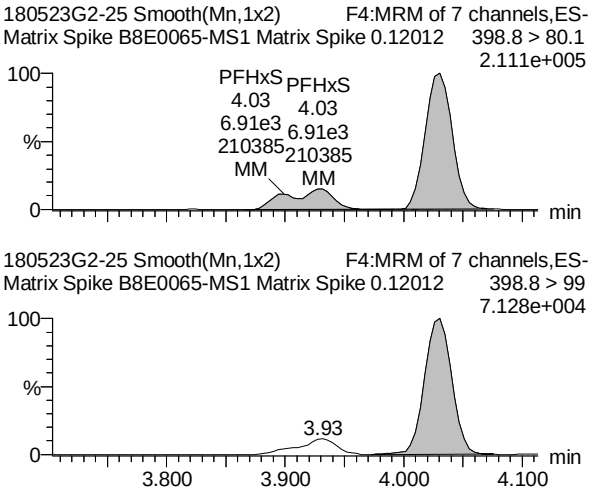
PFBS



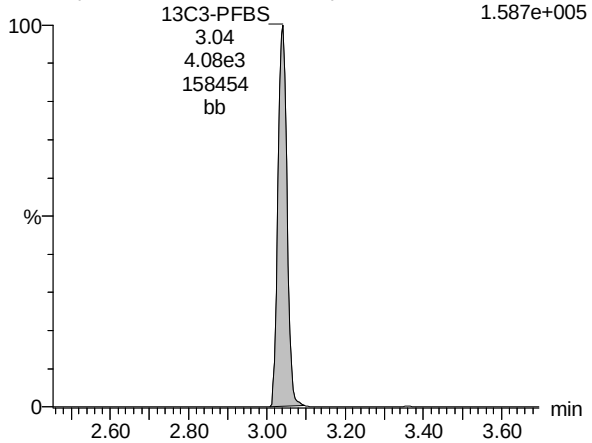
PFHpA



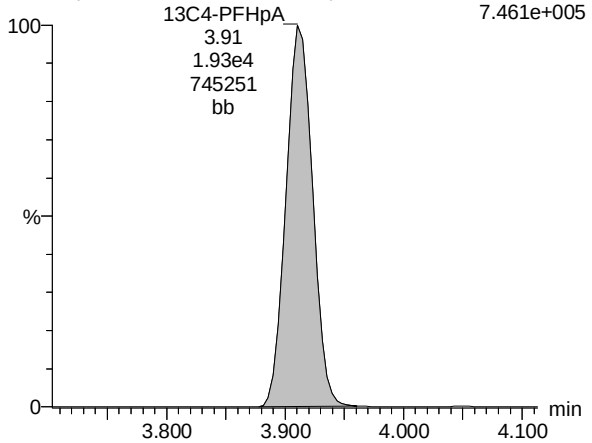
Total PFHxS



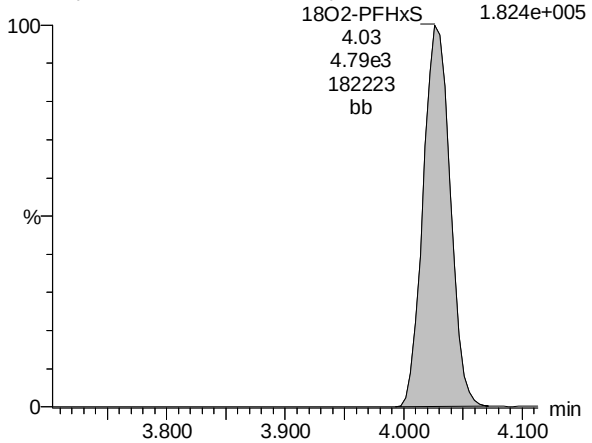
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-25.qld

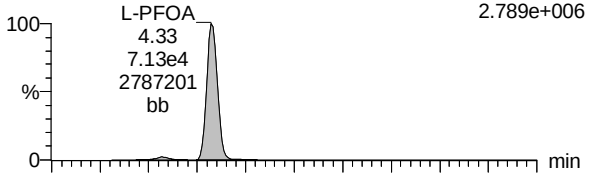
Last Altered: Friday, May 25, 2018 11:32:24 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:02:30 Pacific Daylight Time

Rev'd: MM 5/29/2018

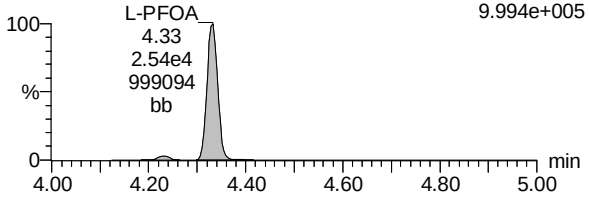
Name: 180523G2-25, Date: 23-May-2018, Time: 17:55:02, ID: B8E0065-MS1 Matrix Spike 0.12012, Description: Matrix Spike

Total PFOA

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 412.8 > 368.9
2.789e+006

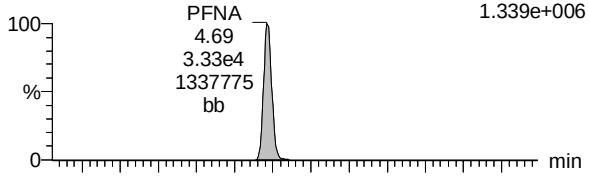


180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 412.8 > 168.9
9.994e+005

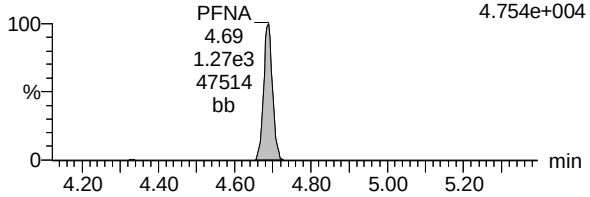


PFNA

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 462.8 > 418.9
1.339e+006

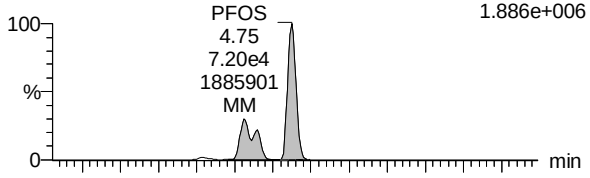


180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 462.8 > 168.9
4.754e+004

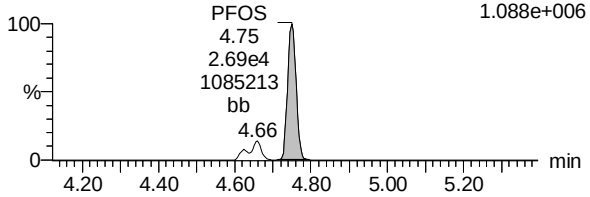


Total PFOS

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 498.8 > 80
1.886e+006

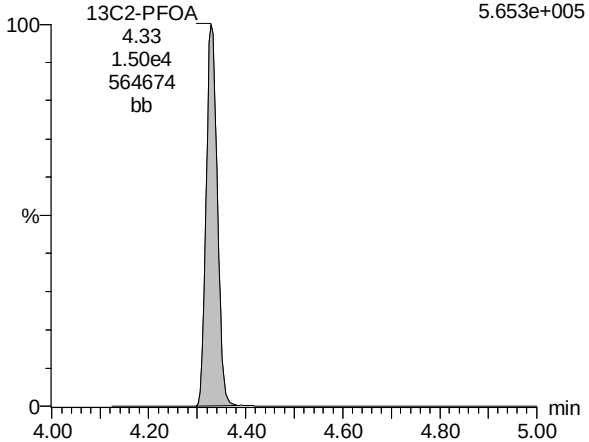


180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 498.8 > 99.0
1.088e+006



13C2-PFOA

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 414.8 > 369.9
5.653e+005



13C5-PFNA

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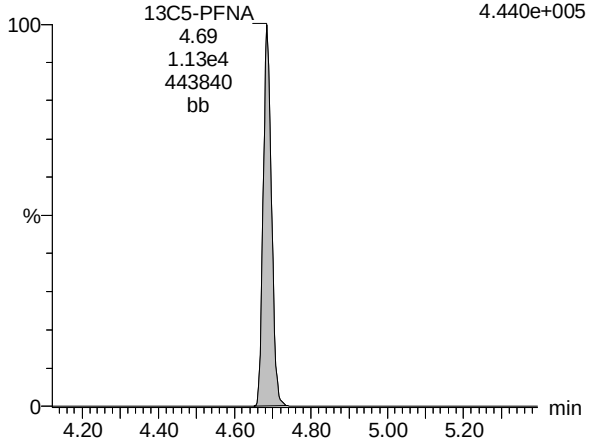
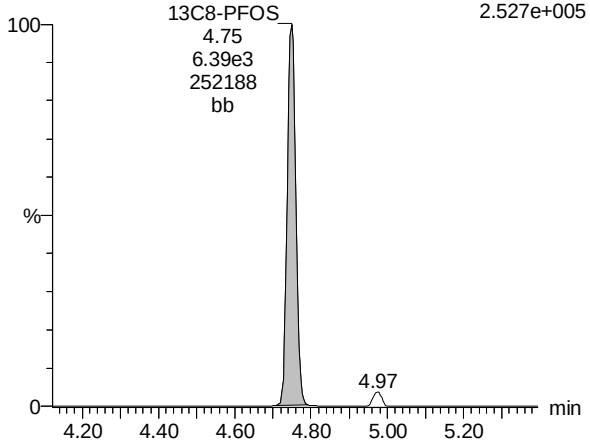
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 467.8 > 422.9
4.440e+005



13C8-PFOS

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 506.8 > 80
2.527e+005



AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-25.qld

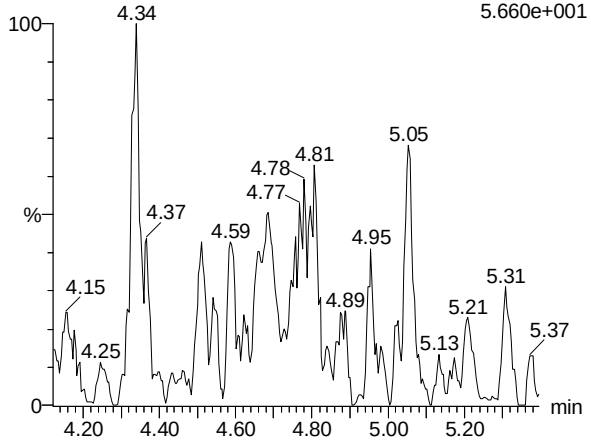
Last Altered: Friday, May 25, 2018 11:32:24 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:02:30 Pacific Daylight Time

Rev'd: MM 5/29/2018

Name: 180523G2-25, Date: 23-May-2018, Time: 17:55:02, ID: B8E0065-MS1 Matrix Spike 0.12012, Description: Matrix Spike

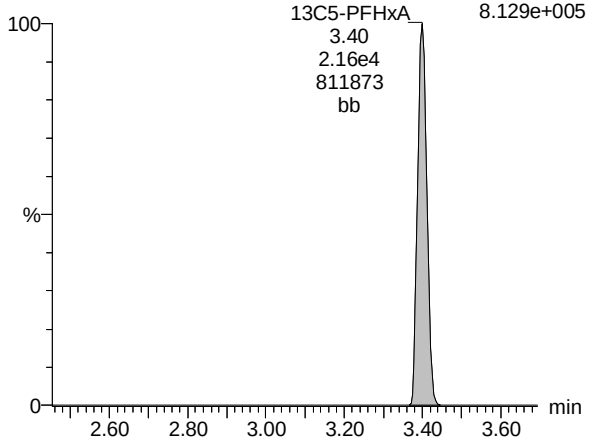
TCDA

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 498.10 > 106.8
5.660e+001



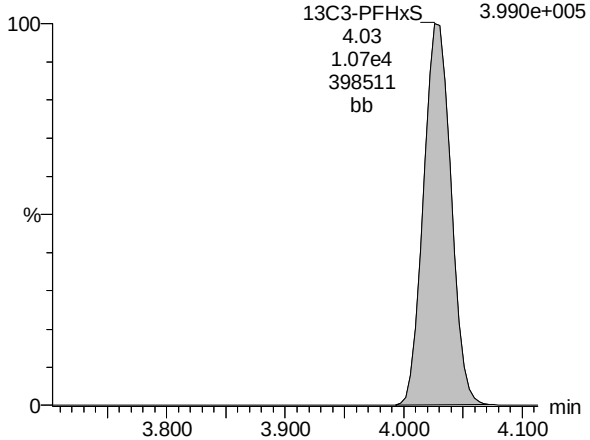
13C5-PFHxA

180523G2-25 Smooth(Mn,1x2) F3:MRM of 10 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 317.8 > 273
8.129e+005



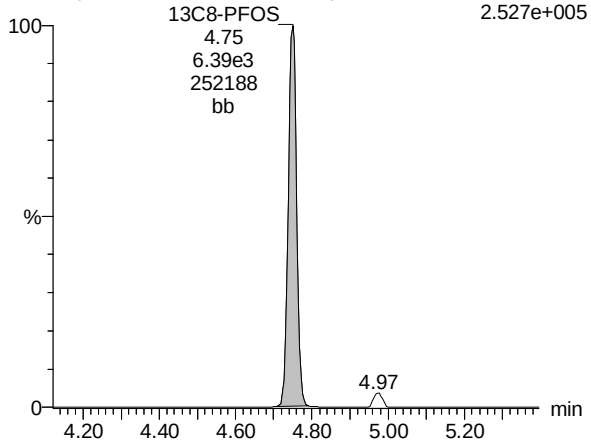
13C3-PFHxS

180523G2-25 Smooth(Mn,1x2) F4:MRM of 7 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 401.7 > 80.0
3.990e+005



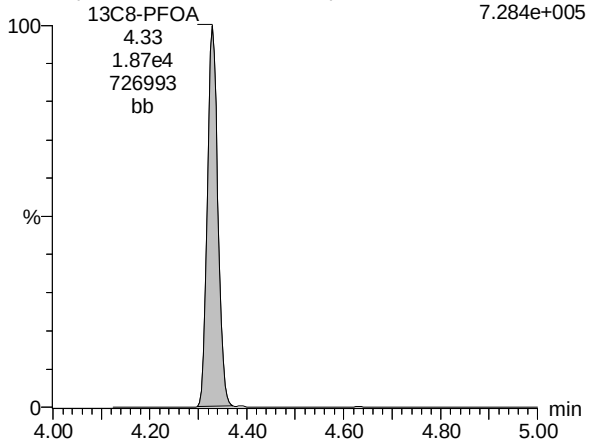
13C8-PFOS

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 506.8 > 80
2.527e+005



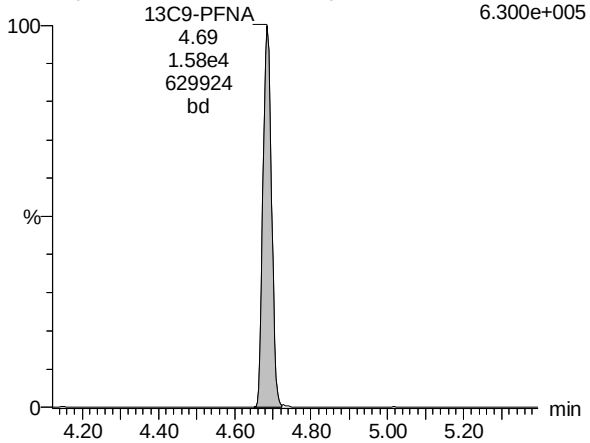
13C8-PFOA

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 420.8 > 375.9
7.284e+005



13C9-PFNA

180523G2-25 Smooth(Mn,1x2) F5:MRM of 14 channels,ES-
Matrix Spike B8E0065-MS1 Matrix Spike 0.12012 471.5 > 426.80
6.300e+005



AD 5/29/2018

Vista Analytical Laboratory

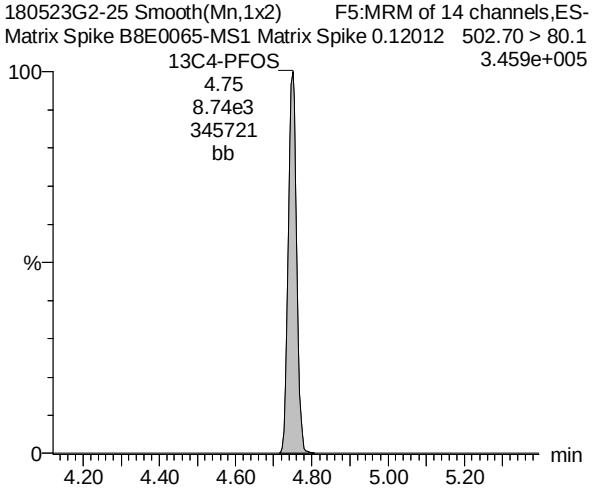
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-25.qld

Last Altered: Friday, May 25, 2018 11:32:24 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:02:30 Pacific Daylight Time

Rev'd: MM 5/29/2018

Name: 180523G2-25, Date: 23-May-2018, Time: 17:55:02, ID: B8E0065-MS1 Matrix Spike 0.12012, Description: Matrix Spike

13C4-PFOS



AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-26.qld

Last Altered: Friday, May 25, 2018 11:35:35 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:03:29 Pacific Daylight Time

Rev'd: MM 5/29/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-26, Date: 23-May-2018, Time: 18:07:55, ID: B8E0065-MSD1 Matrix Spike Dup 0.12056, Description: Matrix Spike Dup

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	298.7>80	8.36e3	4.33e3	0.1206		3.04	3.04	24.2	84.1	
2	5	PFHpA	362.8 > 318.9	4.03e4	1.76e4	0.1206		3.91	3.91	28.5	282	
3	6	PFHxS	398.8 > 80.1	7.34e3	4.76e3	0.1206		4.03	4.03	19.3	78.7	
4	7	L-PFOA	412.8 > 368.9	7.71e4	1.60e4	0.1206		4.33	4.33	60.4	515	
5	9	PFNA	462.8 > 418.9	4.13e4	1.24e4	0.1206		4.69	4.69	41.7	328	
6	10	PFOS	498.8 > 80	7.81e4	6.69e3	0.1206		4.75	4.75	146	1140	
7	12	13C3-PFBS	301.8 > 99	4.33e3	2.18e4	0.1206	0.213	2.84	3.04	2.48	96.4	93.0
8	13	13C3-PFPeA	265.7 > 222	1.38e4	2.18e4	0.1206	0.793	2.81	2.81	7.92	82.8	79.9
9	14	13C2-PFHxA	314.8 > 270	7.33e3	2.18e4	0.1206	0.989	3.09	3.40	4.21	35.3	85.1
10	15	13C4-PFHpA	366.7 > 322	1.76e4	2.18e4	0.1206	0.959	3.89	3.91	10.1	87.5	84.4
11	16	18O2-PFHxS	402.8 > 103	4.76e3	1.09e4	0.1206	0.458	3.72	4.03	5.46	98.9	95.4
12	17	13C2-PFOA	414.8 > 369.9	1.60e4	2.01e4	0.1206	0.991	4.33	4.33	9.93	83.1	80.2
13	18	13C5-PFNA	467.8 > 422.9	1.24e4	1.93e4	0.1206	0.912	4.69	4.69	8.01	72.9	70.3
14	19	13C8-PFOS	506.8 > 80	6.69e3	9.71e3	0.1206	0.873	4.55	4.75	8.61	81.8	78.9
15	20	13C4-PFBA	216.7 > 171.9	2.15e4	2.15e4	0.1206	1.000	1.72	1.93	12.5	104	100.0
16	21	13C5-PFHxA	317.8>273	2.18e4	2.18e4	0.1206	1.000	3.66	3.40	12.5	104	100.0
17	22	13C3-PFHxS	401.7 > 80.0	1.09e4	1.09e4	0.1206	1.000	4.29	4.03	12.5	104	100.0
18	23	13C8-PFOA	420.8 > 375.9	2.01e4	2.01e4	0.1206	1.000	4.53	4.33	12.5	104	100.0
19	24	13C9-PFNA	471.5 > 426.80	1.93e4	1.93e4	0.1206	1.000	4.93	4.69	12.5	104	100.0
20	25	13C4-PFOS	502.70 > 80.1	9.71e3	9.71e3	0.1206	1.000	4.98	4.75	12.5	104	100.0
21	26	Total PFHxS	398.8 > 80.1	7.34e3	4.76e3	0.1206		4.30		19.3	78.7	
22	27	Total PFOA	412.8 > 368.9	7.90e4	1.60e4	0.1206		4.53		61.9	527	
23	28	Total PFOS	498.8 > 80	7.81e4	6.69e3	0.1206		4.73		146	1140	

AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-26.qld

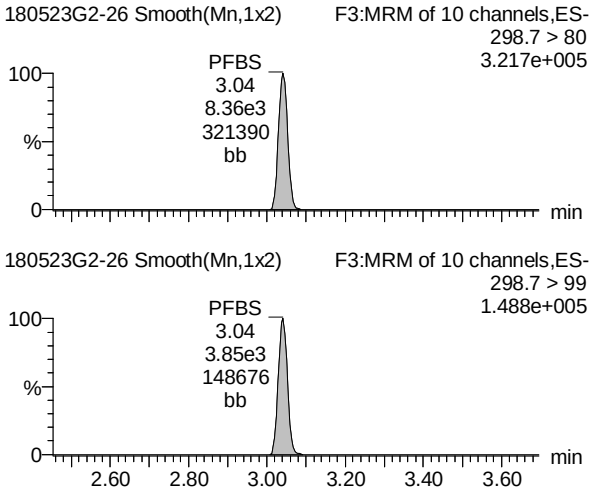
Last Altered: Friday, May 25, 2018 11:35:35 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:03:29 Pacific Daylight Time

Rev'd: MM 5/29/2018

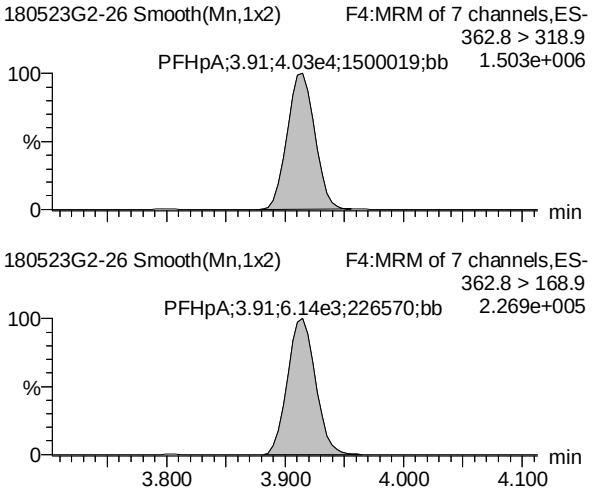
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-26, Date: 23-May-2018, Time: 18:07:55, ID: B8E0065-MSD1 Matrix Spike Dup 0.12056, Description: Matrix Spike Dup

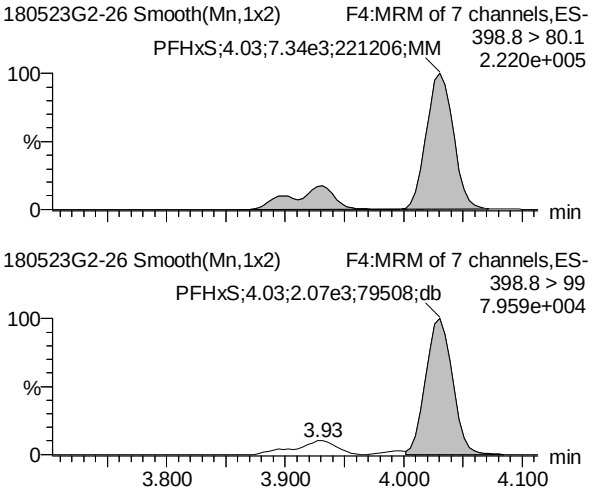
PFBS



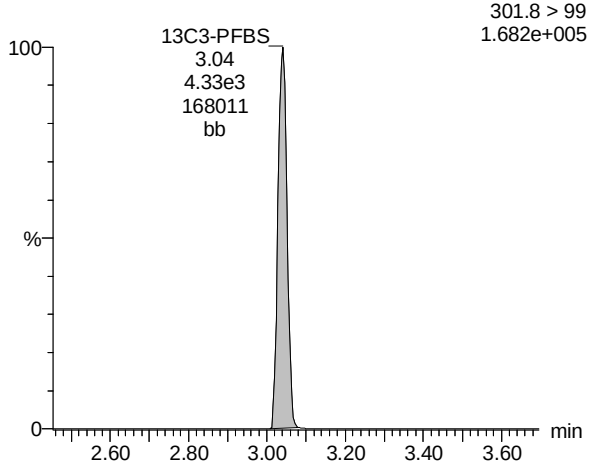
PFHpA



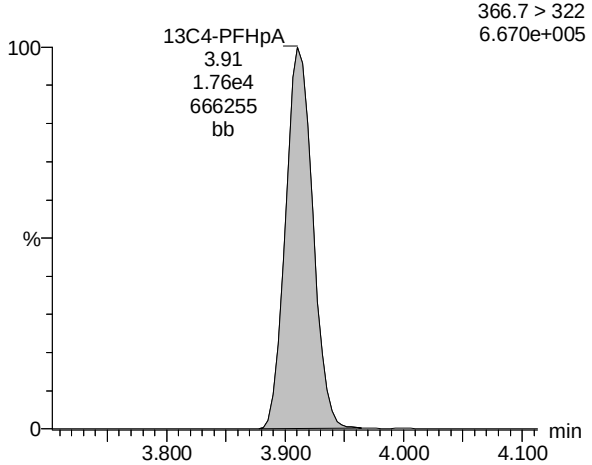
Total PFHxS



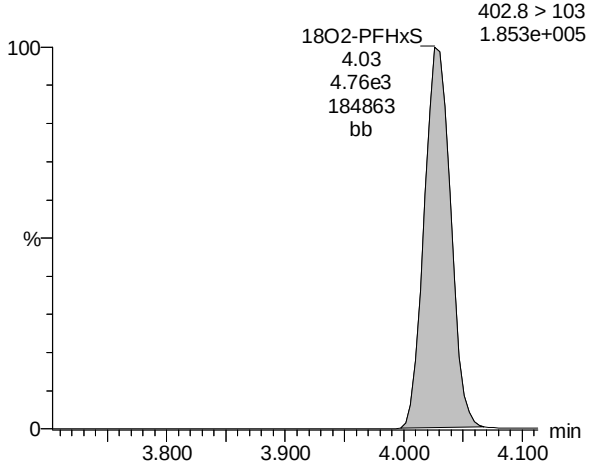
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



AD 5/29/2018

Vista Analytical Laboratory

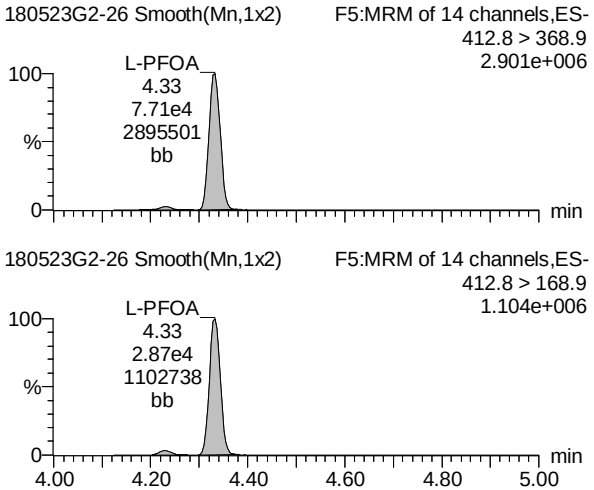
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-26.qld

Last Altered: Friday, May 25, 2018 11:35:35 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:03:29 Pacific Daylight Time

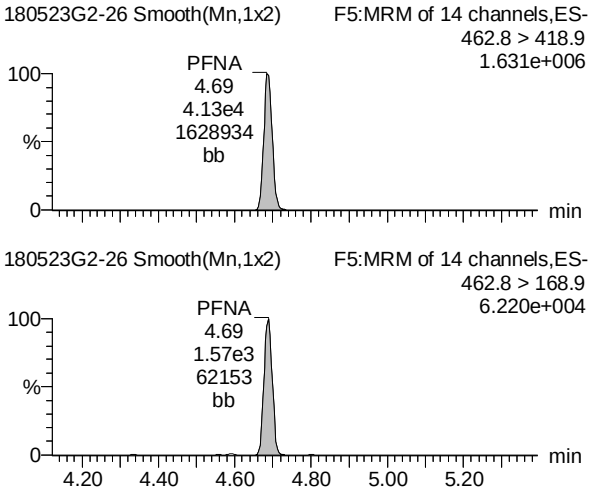
Rev'd: MM 5/29/2018

Name: 180523G2-26, Date: 23-May-2018, Time: 18:07:55, ID: B8E0065-MSD1 Matrix Spike Dup 0.12056, Description: Matrix Spike Dup

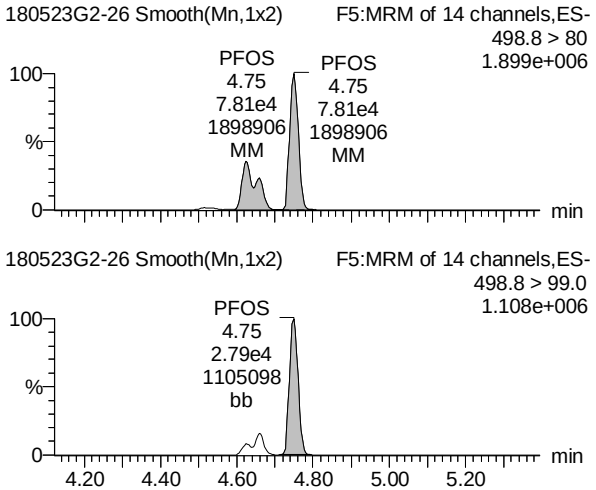
Total PFOA



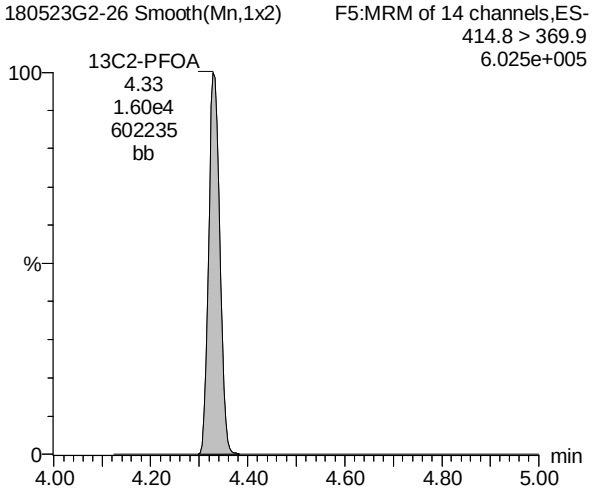
PFNA



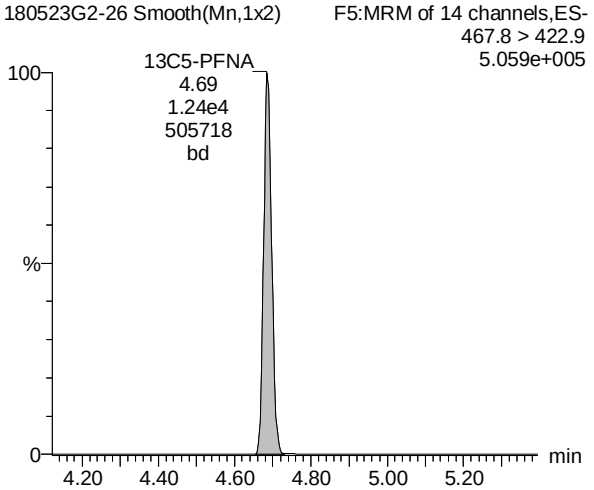
Total PFOS



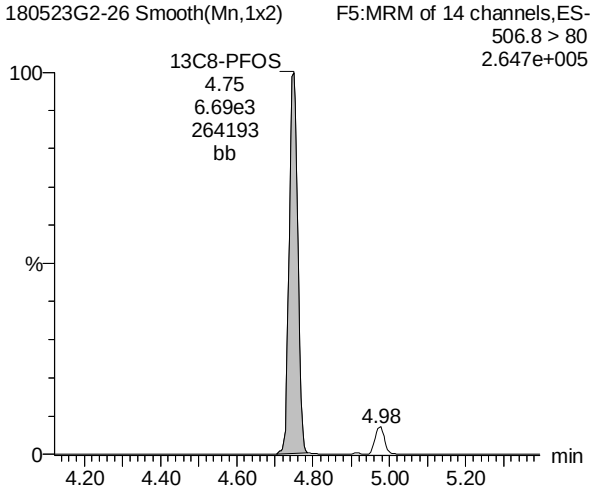
13C2-PFOA



13C5-PFNA



13C8-PFOS



AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-26.qld

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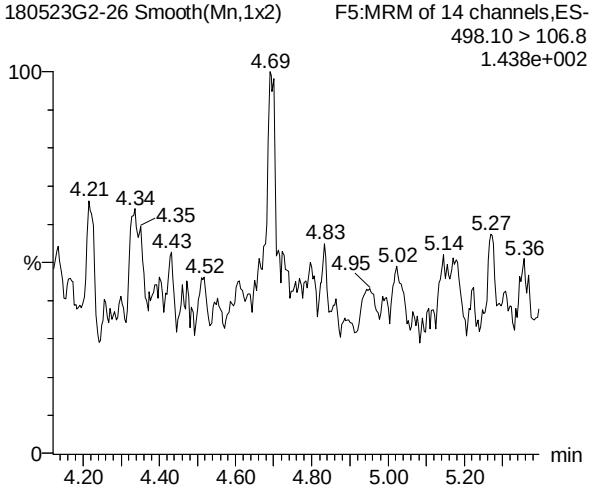
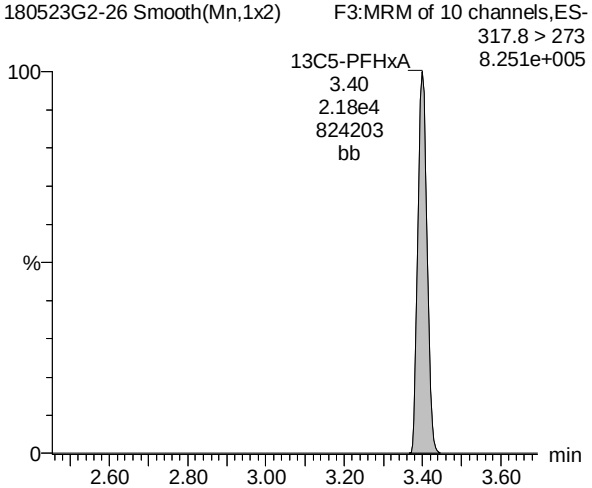
Rev'd: MM 5/29/2018

Name: 180523G2-26, Date: 23-May-2018, Time: 18:07:55, ID: B8E0065-MSD1 Matrix Spike Dup 0.12056, Description: Matrix Spike Dup

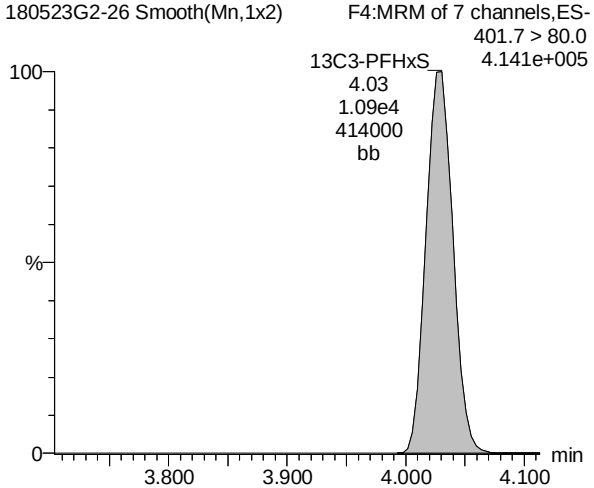
TCDA



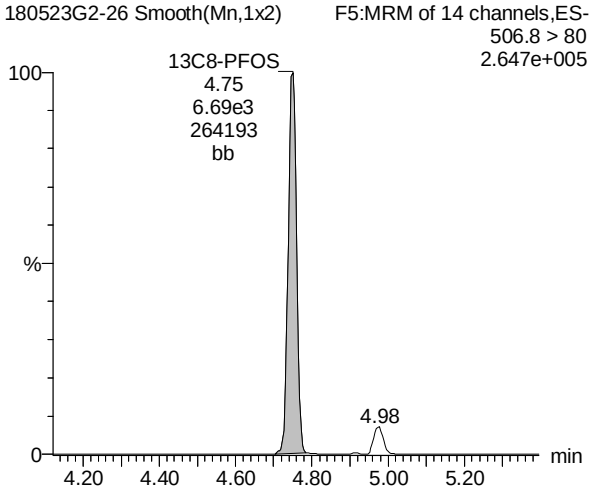
13C5-PFHxA



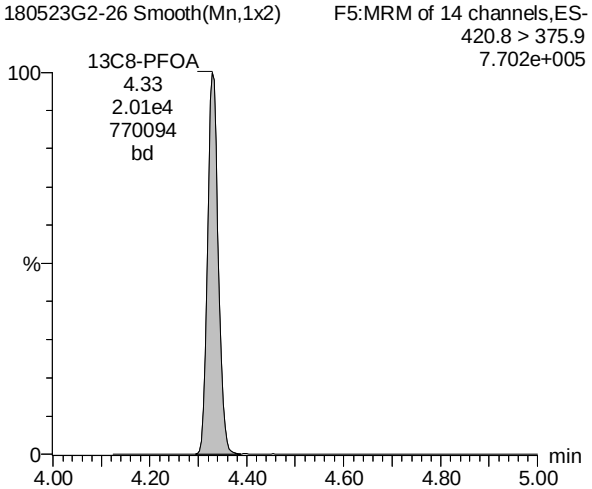
13C3-PFHxS



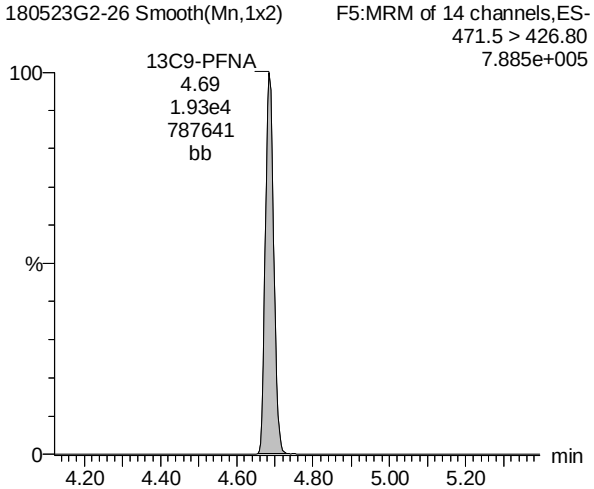
13C8-PFOS



13C8-PFOA



13C9-PFNA



AD 5/29/2018

Vista Analytical Laboratory

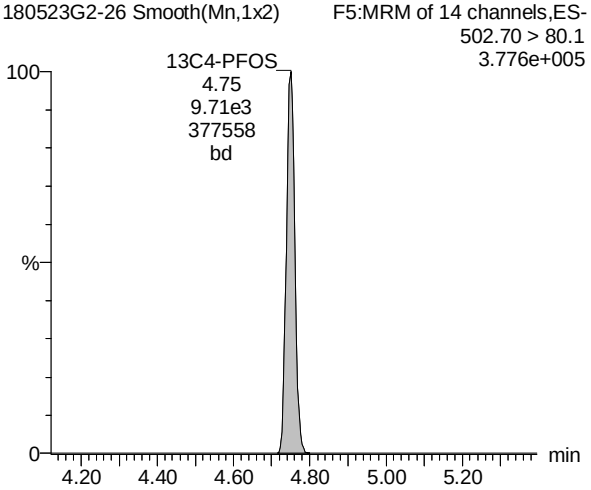
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-26.qld

Last Altered: Friday, May 25, 2018 11:35:35 Pacific Daylight Time
Printed: Tuesday, May 29, 2018 14:03:29 Pacific Daylight Time

Rev'd: MM 5/29/2018

Name: 180523G2-26, Date: 23-May-2018, Time: 18:07:55, ID: B8E0065-MSD1 Matrix Spike Dup 0.12056, Description: Matrix Spike Dup

13C4-PFOS



AD 5/29/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-29.qld

Last Altered: Friday, May 25, 2018 11:47:29 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:48:02 Pacific Daylight Time

Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-29, Date: 23-May-2018, Time: 18:46:48, ID: 1800843-02 STM-Outfall Pipe Dup 0.12074, Description: STM-Outfall Pipe Dup

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	298.7>80	7.46e1	3.95e3	0.1207		3.04	3.04	0.236	1.55	
2	5	PFHpA	362.8 > 318.9	3.41e4	1.89e4	0.1207		3.91	3.91	22.5	223	
3	6	PFHxS	398.8 > 80.1	7.97e2	4.89e3	0.1207		4.03	4.03	2.04	8.22	
4	7	L-PFOA	412.8 > 368.9	8.78e4	1.53e4	0.1207		4.33	4.33	71.5	616	
5	9	PFNA	462.8 > 418.9	4.05e4	1.33e4	0.1207		4.69	4.69	38.2	299	
6	10	PFOS	498.8 > 80	1.00e5	7.91e3	0.1207		4.75	4.75	158	1230	
7	12	13C3-PFBS	301.8 > 99	3.95e3	2.42e4	0.1207	0.213	2.84	3.04	2.04	79.2	76.5
8	13	13C3-PFPeA	265.7 > 222	1.43e4	2.42e4	0.1207	0.793	2.81	2.81	7.38	77.1	74.5
9	14	13C2-PFHxA	314.8 > 270	7.02e3	2.42e4	0.1207	0.989	3.09	3.40	3.62	30.3	73.2
10	15	13C4-PFHpA	366.7 > 322	1.89e4	2.42e4	0.1207	0.959	3.89	3.91	9.77	84.4	81.5
11	16	18O2-PFHxS	402.8 > 103	4.89e3	1.20e4	0.1207	0.458	3.72	4.03	5.08	91.9	88.7
12	17	13C2-PFOA	414.8 > 369.9	1.53e4	2.33e4	0.1207	0.991	4.33	4.33	8.21	68.6	66.3
13	18	13C5-PFNA	467.8 > 422.9	1.33e4	2.28e4	0.1207	0.912	4.69	4.69	7.28	66.1	63.9
14	19	13C8-PFOS	506.8 > 80	7.91e3	1.07e4	0.1207	0.873	4.55	4.75	9.27	87.9	84.9
15	20	13C4-PFBA	216.7 > 171.9	2.23e4	2.23e4	0.1207	1.000	1.72	1.92	12.5	104	100.0
16	21	13C5-PFHxA	317.8>273	2.42e4	2.42e4	0.1207	1.000	3.66	3.40	12.5	104	100.0
17	22	13C3-PFHxS	401.7 > 80.0	1.20e4	1.20e4	0.1207	1.000	4.29	4.03	12.5	104	100.0
18	23	13C8-PFOA	420.8 > 375.9	2.33e4	2.33e4	0.1207	1.000	4.53	4.33	12.5	104	100.0
19	24	13C9-PFNA	471.5 > 426.80	2.28e4	2.28e4	0.1207	1.000	4.93	4.69	12.5	104	100.0
20	25	13C4-PFOS	502.70 > 80.1	1.07e4	1.07e4	0.1207	1.000	4.98	4.75	12.5	104	100.0
21	26	Total PFHxS	398.8 > 80.1	7.97e2	4.89e3	0.1207		4.30		2.04	8.22	
22	27	Total PFOA	412.8 > 368.9	9.02e4	1.53e4	0.1207		4.53		73.5	631	
23	28	Total PFOS	498.8 > 80	1.00e5	7.91e3	0.1207		4.73		158	1230	

AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-29.qld

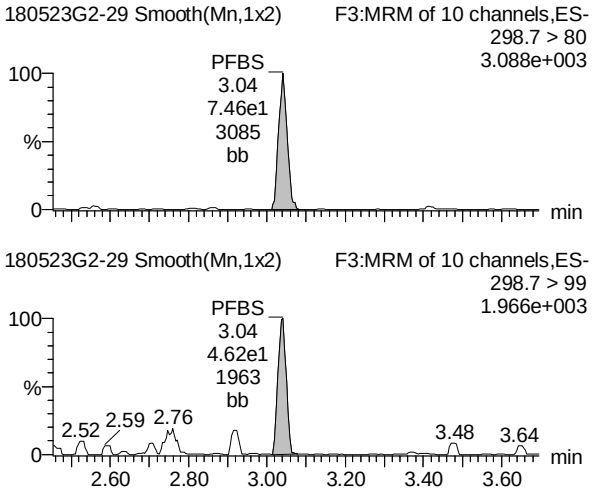
Last Altered: Friday, May 25, 2018 11:47:29 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:48:02 Pacific Daylight Time

Rev'd: MM 5/25/2018

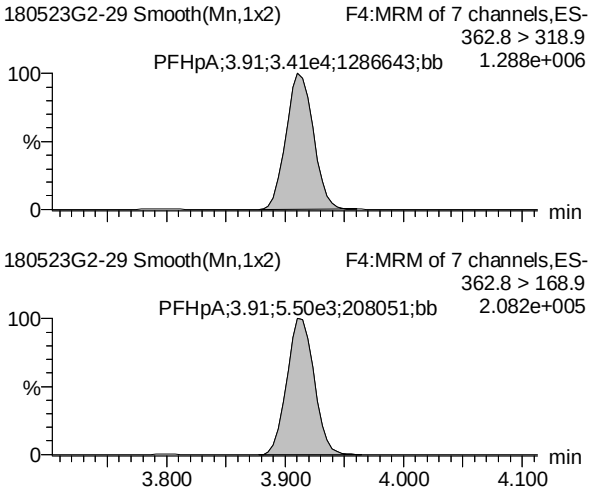
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-29, Date: 23-May-2018, Time: 18:46:48, ID: 1800843-02 STM-Outfall Pipe Dup 0.12074, Description: STM-Outfall Pipe Dup

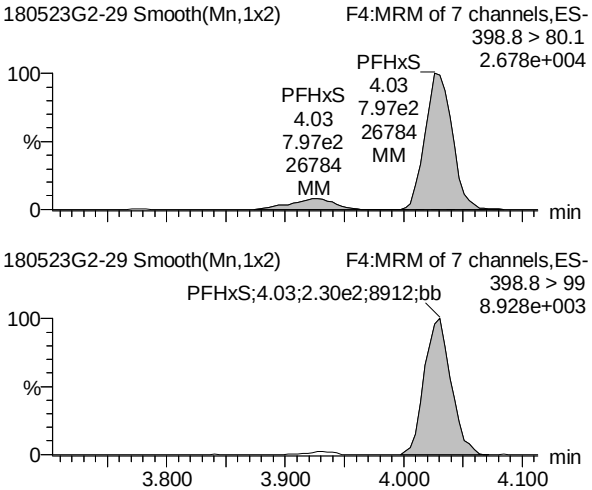
PFBS



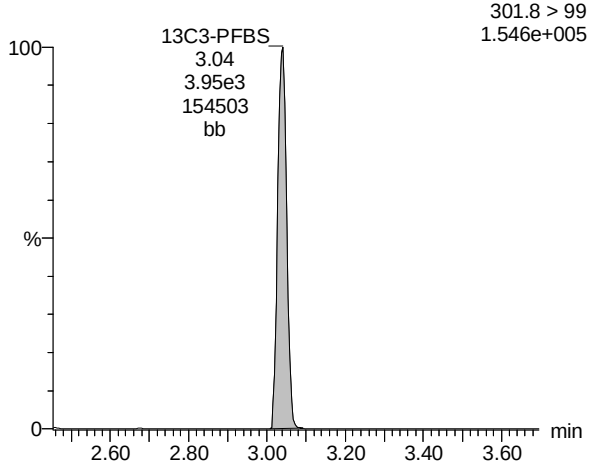
PFHpA



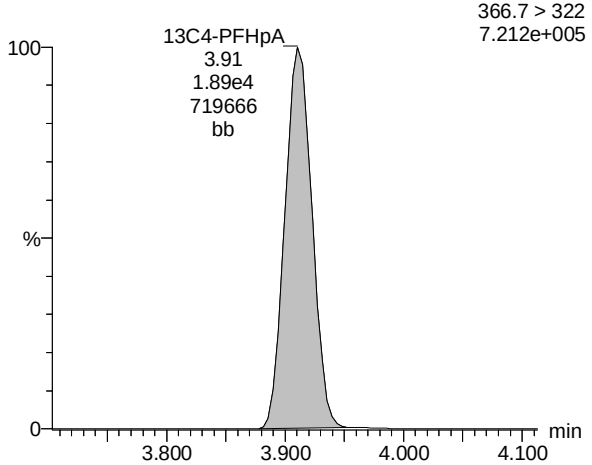
Total PFHxS



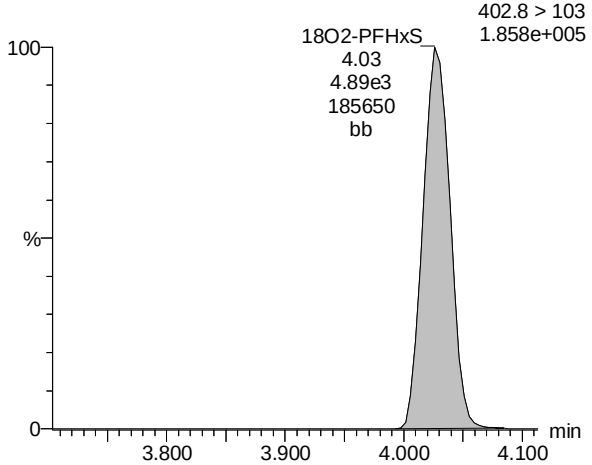
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



AD 5/25/2018

Vista Analytical Laboratory

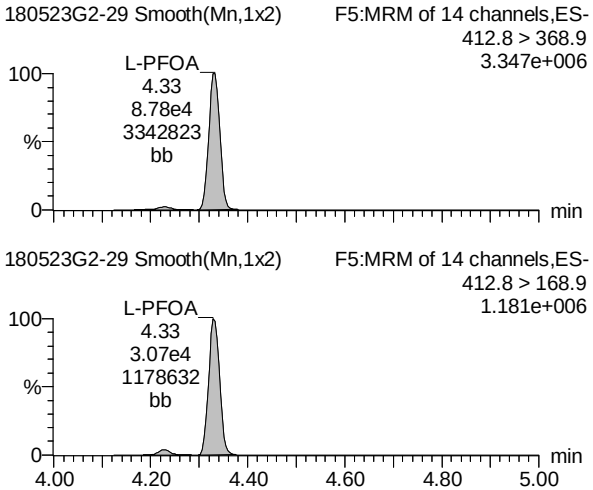
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-29.qld

Last Altered: Friday, May 25, 2018 11:47:29 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:48:02 Pacific Daylight Time

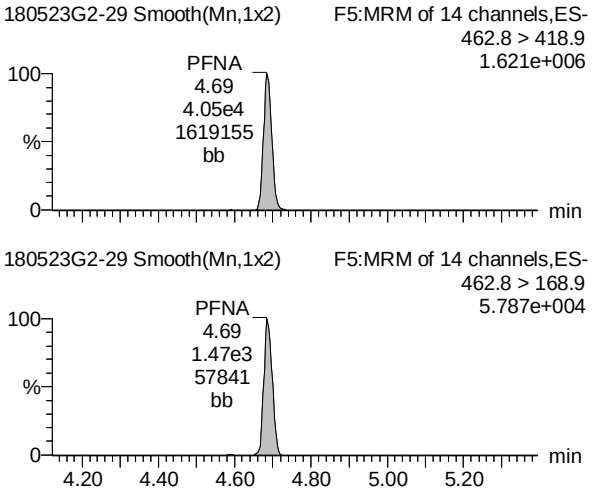
Rev'd: MM 5/25/2018

Name: 180523G2-29, Date: 23-May-2018, Time: 18:46:48, ID: 1800843-02 STM-Outfall Pipe Dup 0.12074, Description: STM-Outfall Pipe Dup

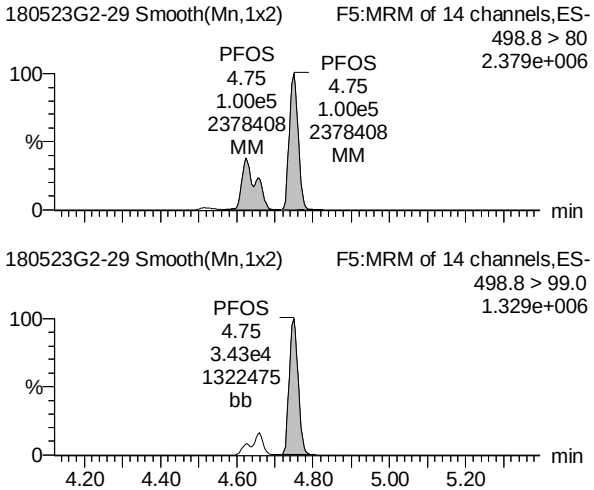
Total PFOA



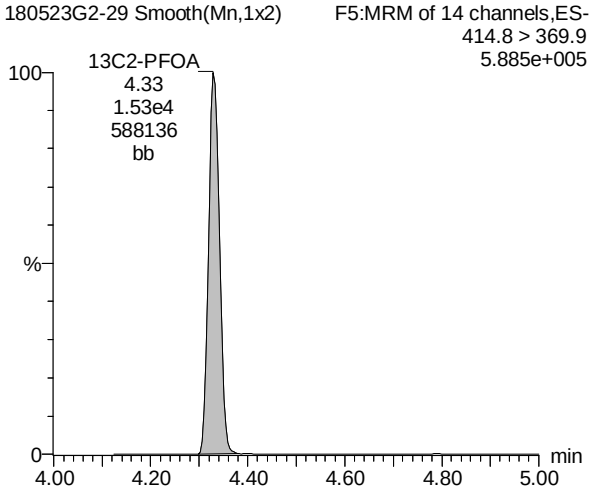
PFNA



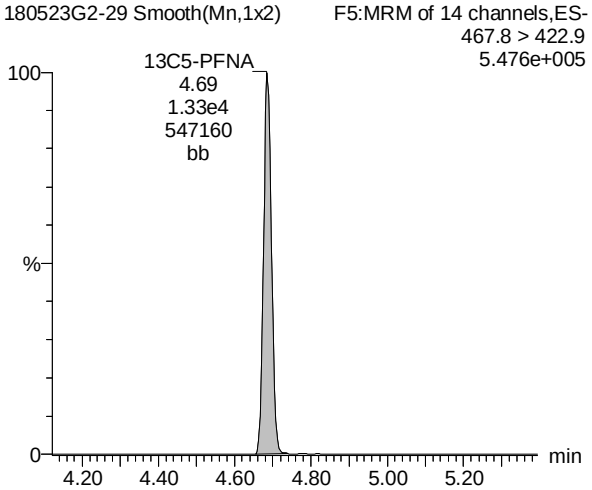
Total PFOS



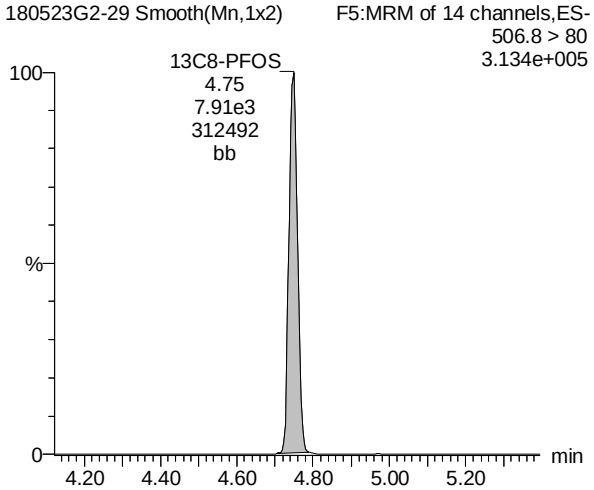
13C2-PFOA



13C5-PFNA



13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

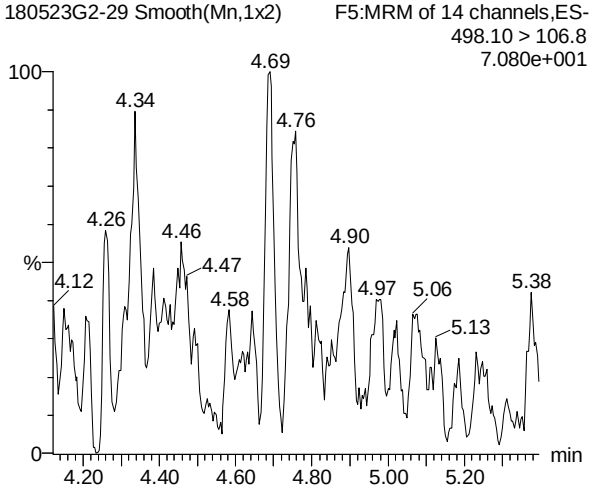
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-29.qld

Last Altered: Friday, May 25, 2018 11:47:29 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:48:02 Pacific Daylight Time

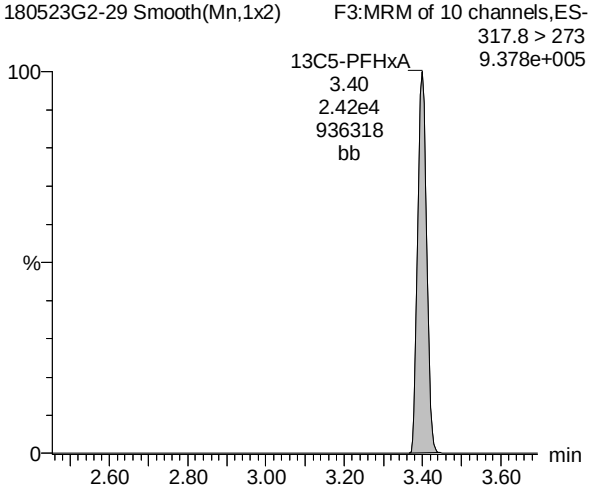
Rev'd: MM 5/25/2018

Name: 180523G2-29, Date: 23-May-2018, Time: 18:46:48, ID: 1800843-02 STM-Outfall Pipe Dup 0.12074, Description: STM-Outfall Pipe Dup

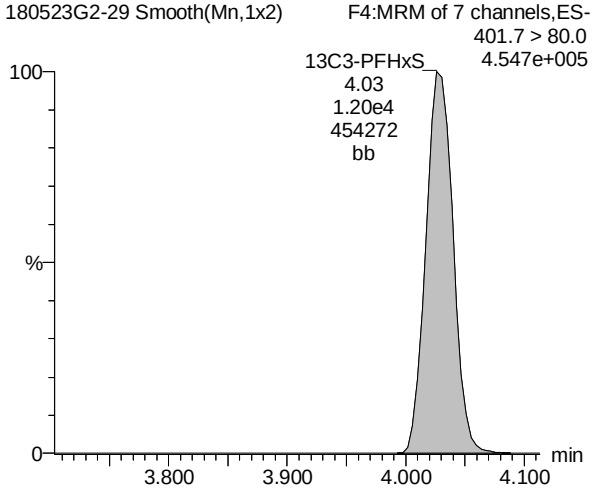
TCDA



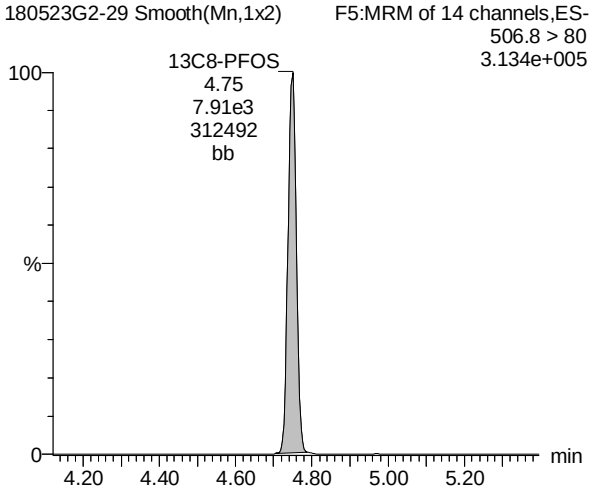
13C5-PFHxA



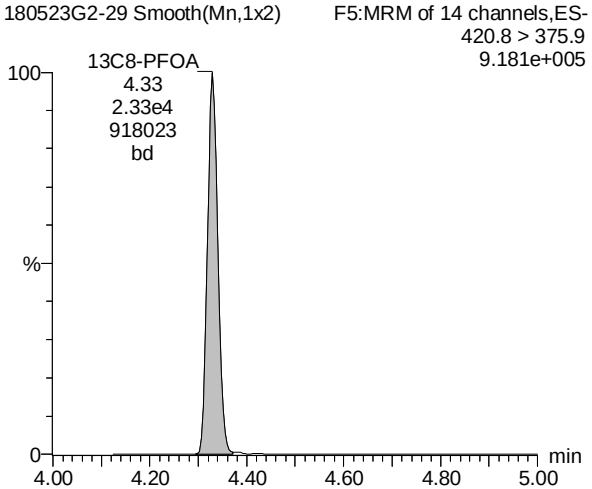
13C3-PFHxS



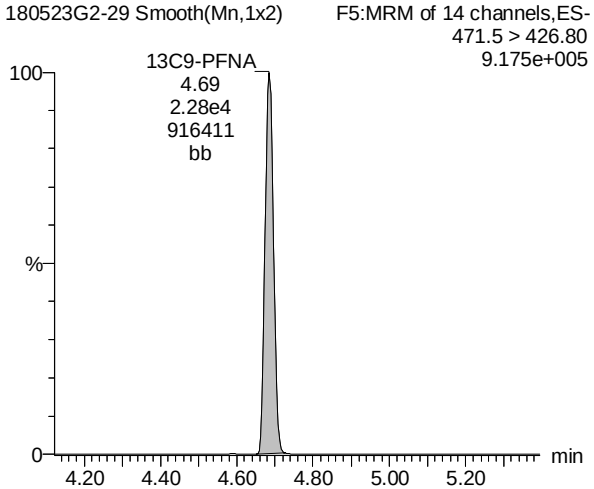
13C8-PFOS



13C8-PFOA



13C9-PFNA



AD 5/25/2018

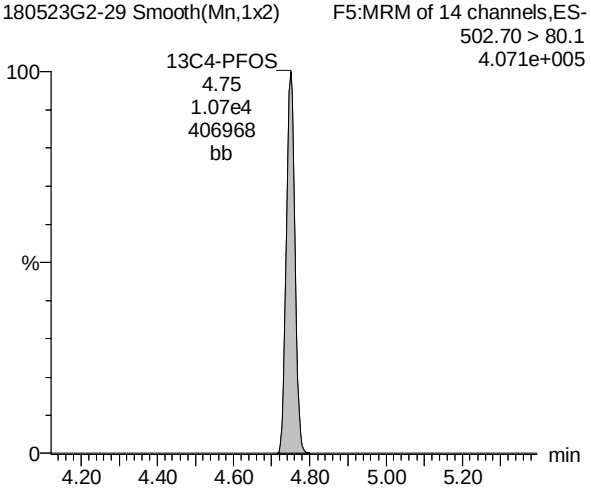
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-29.qld

Last Altered: Friday, May 25, 2018 11:47:29 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:48:02 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-29, Date: 23-May-2018, Time: 18:46:48, ID: 1800843-02 STM-Outfall Pipe Dup 0.12074, Description: STM-Outfall Pipe Dup

13C4-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-30.qld

Last Altered: Friday, May 25, 2018 11:49:10 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:49:38 Pacific Daylight Time

Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-30, Date: 23-May-2018, Time: 18:59:45, ID: 1800843-03 STM-Perimeter Ditches 0.10267, Description: STM-Perimeter Ditches

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	298.7>80	8.06e1	3.70e3	0.1027		3.04	3.04	0.272	1.97	
2	5	PFHpA	362.8 > 318.9	2.64e4	1.76e4	0.1027		3.91	3.91	18.7	217	
3	6	PFHxS	398.8 > 80.1	5.00e2	4.43e3	0.1027		4.03	4.03	1.41	6.68	
4	7	L-PFOA	412.8 > 368.9	6.07e4	1.31e4	0.1027		4.33	4.33	57.9	578	
5	9	PFNA	462.8 > 418.9	2.48e4	1.06e4	0.1027		4.69	4.69	29.3	268	
6	10	PFOS	498.8 > 80	6.05e4	5.67e3	0.1027		4.75	4.75	133	1240	
7	12	13C3-PFBS	301.8 > 99	3.70e3	2.33e4	0.1027	0.213	2.84	3.04	1.98	90.6	74.4
8	13	13C3-PFPeA	265.7 > 222	1.31e4	2.33e4	0.1027	0.793	2.81	2.81	7.02	86.3	70.9
9	14	13C2-PFHxA	314.8 > 270	7.46e3	2.33e4	0.1027	0.989	3.09	3.40	4.00	39.4	80.9
10	15	13C4-PFHpA	366.7 > 322	1.76e4	2.33e4	0.1027	0.959	3.89	3.91	9.46	96.1	78.9
11	16	18O2-PFHxS	402.8 > 103	4.43e3	1.14e4	0.1027	0.458	3.72	4.03	4.85	103	84.8
12	17	13C2-PFOA	414.8 > 369.9	1.31e4	2.17e4	0.1027	0.991	4.33	4.33	7.57	74.4	61.1
13	18	13C5-PFNA	467.8 > 422.9	1.06e4	1.93e4	0.1027	0.912	4.69	4.69	6.85	73.2	60.1
14	19	13C8-PFOS	506.8 > 80	5.67e3	8.18e3	0.1027	0.873	4.55	4.75	8.67	96.7	79.4
15	20	13C4-PFBA	216.7 > 171.9	2.17e4	2.17e4	0.1027	1.000	1.72	1.93	12.5	122	100.0
16	21	13C5-PFHxA	317.8>273	2.33e4	2.33e4	0.1027	1.000	3.66	3.40	12.5	122	100.0
17	22	13C3-PFHxS	401.7 > 80.0	1.14e4	1.14e4	0.1027	1.000	4.29	4.03	12.5	122	100.0
18	23	13C8-PFOA	420.8 > 375.9	2.17e4	2.17e4	0.1027	1.000	4.53	4.33	12.5	122	100.0
19	24	13C9-PFNA	471.5 > 426.80	1.93e4	1.93e4	0.1027	1.000	4.93	4.69	12.5	122	100.0
20	25	13C4-PFOS	502.70 > 80.1	8.18e3	8.18e3	0.1027	1.000	4.98	4.75	12.5	122	100.0
21	26	Total PFHxS	398.8 > 80.1	5.00e2	4.43e3	0.1027		4.30		1.41	6.68	
22	27	Total PFOA	412.8 > 368.9	6.23e4	1.31e4	0.1027		4.53		59.3	591	
23	28	Total PFOS	498.8 > 80	6.05e4	5.67e3	0.1027		4.73		133	1240	

AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-30.qld

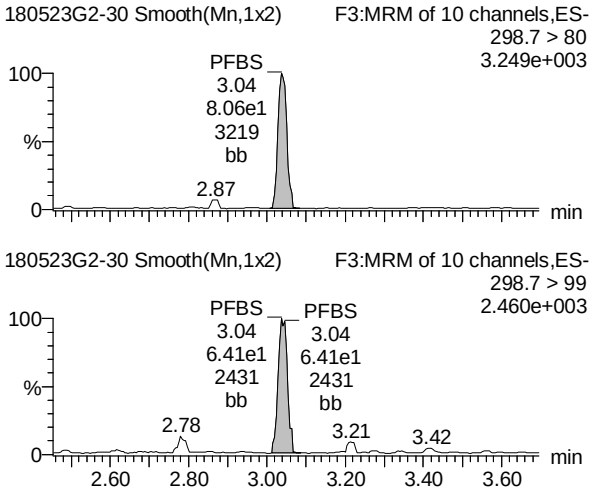
Last Altered: Friday, May 25, 2018 11:49:10 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:49:38 Pacific Daylight Time

Rev'd: MM 5/25/2018

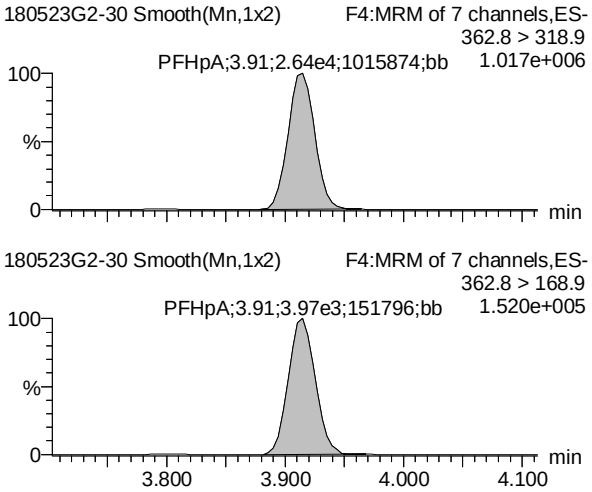
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-30, Date: 23-May-2018, Time: 18:59:45, ID: 1800843-03 STM-Perimeter Ditches 0.10267, Description: STM-Perimeter Ditches

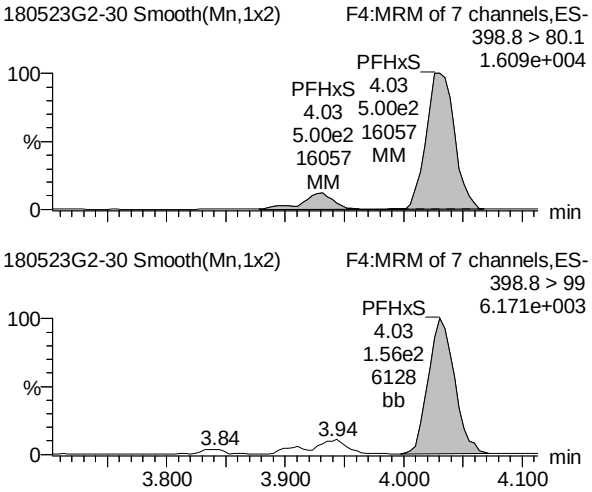
PFBS



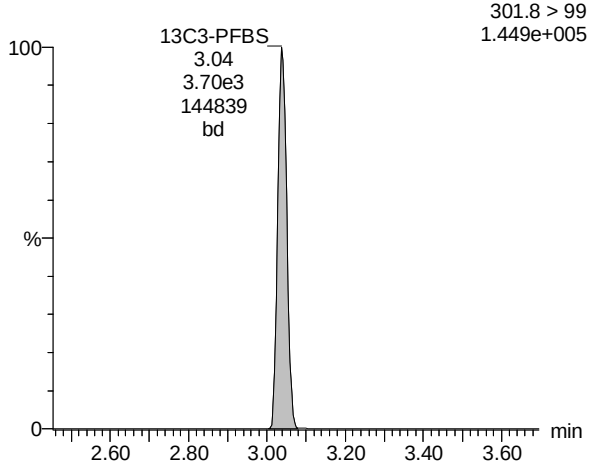
PFHpA



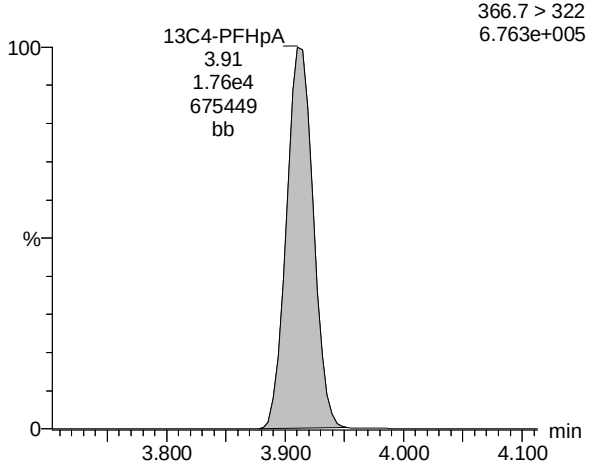
Total PFHxS



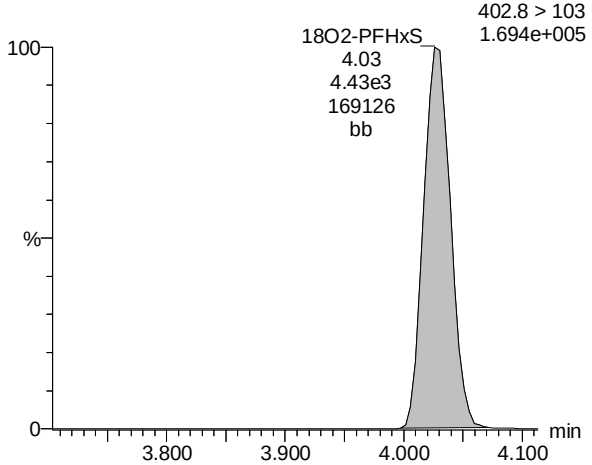
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



AD 5/25/2018

Vista Analytical Laboratory

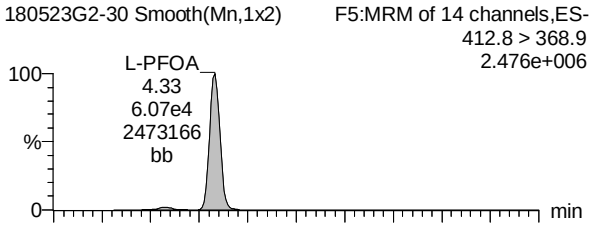
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-30.qld

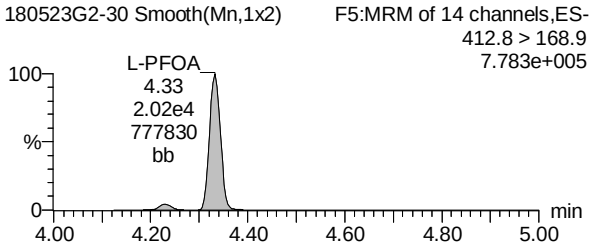
Last Altered: Friday, May 25, 2018 11:49:10 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:49:38 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-30, Date: 23-May-2018, Time: 18:59:45, ID: 1800843-03 STM-Perimeter Ditches 0.10267, Description: STM-Perimeter Ditches

Total PFOA





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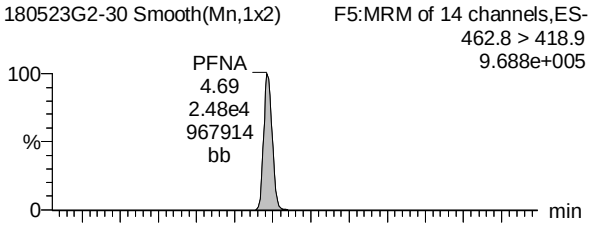
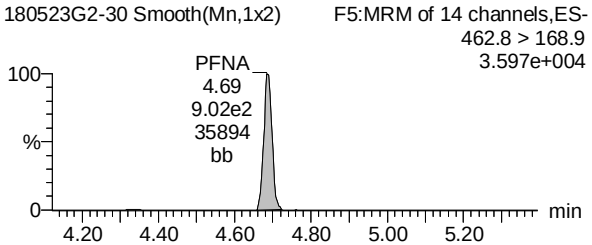
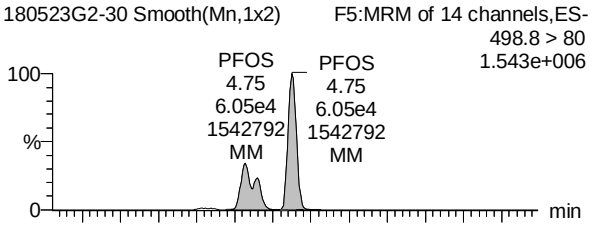
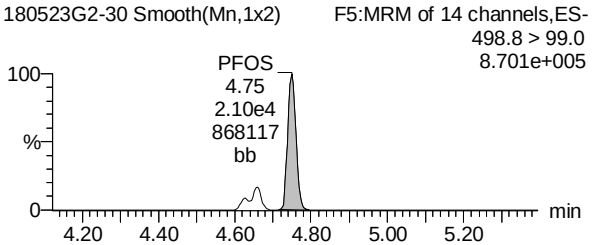


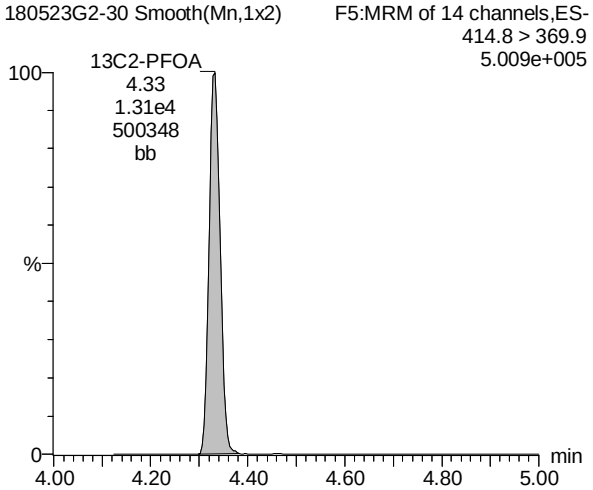


Total PFOS

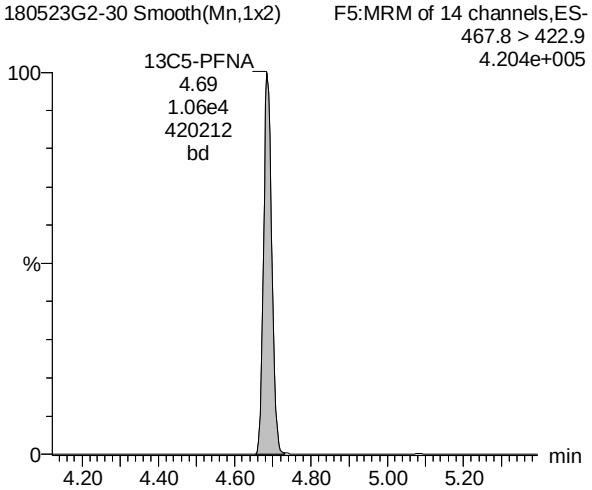




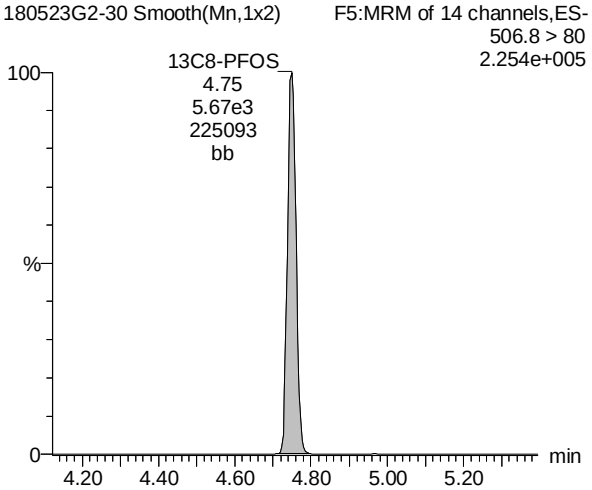
13C2-PFOA



13C5-PFNA



13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-30.qld

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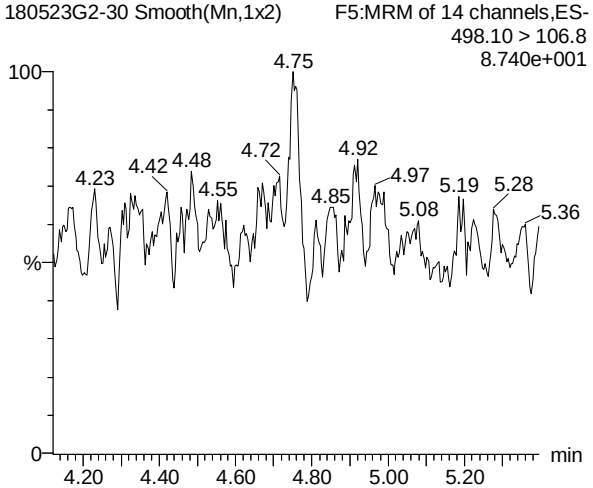
Printed: Friday, May 25, 2018 11:49:38 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-30, Date: 23-May-2018, Time: 18:59:45, ID: 1800843-03 STM-Perimeter Ditches 0.10267, Description: STM-Perimeter Ditches

TCDA



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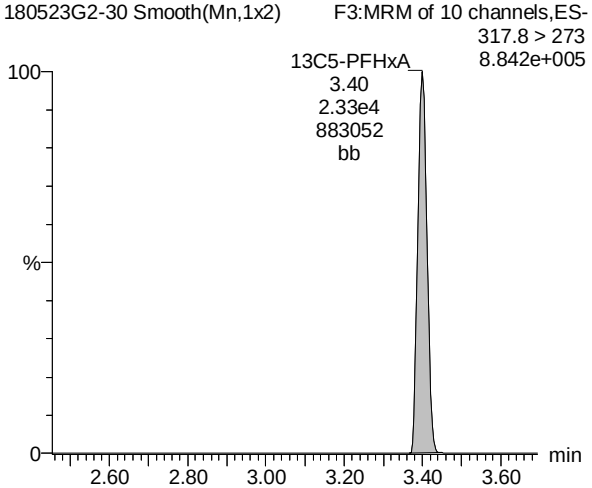
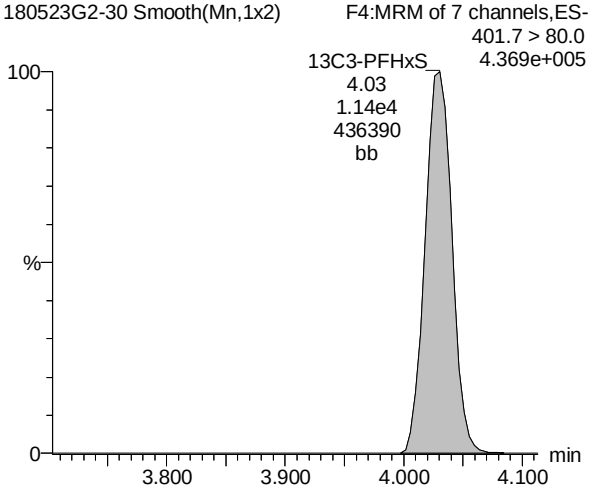
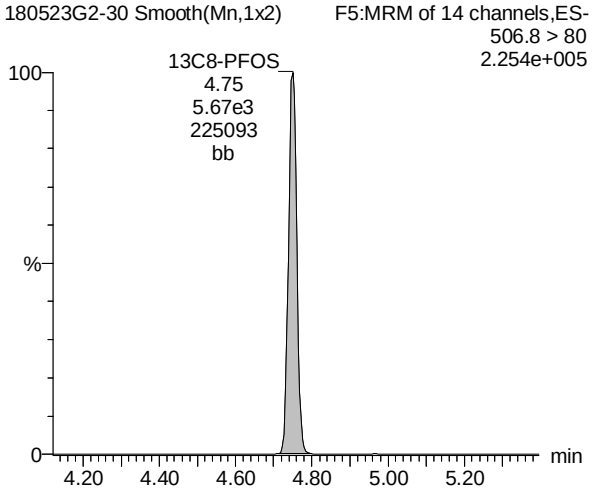


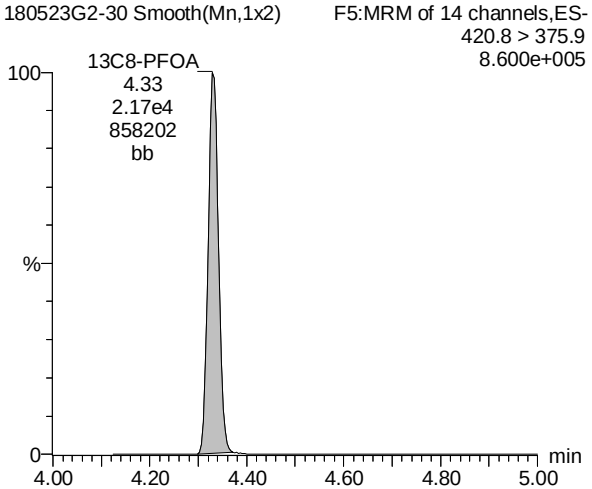
13C3-PFHxS



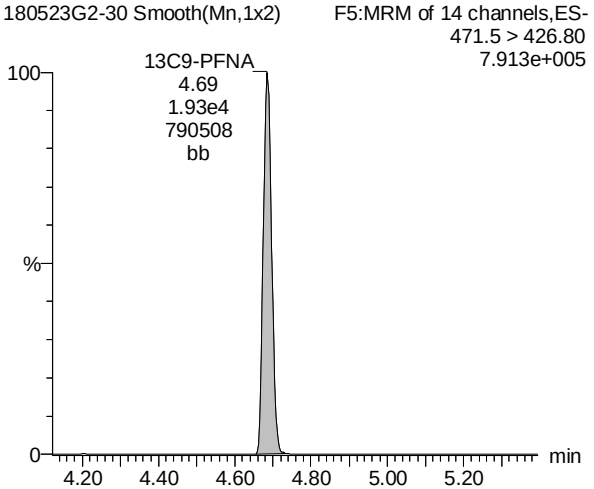
13C8-PFOS



13C8-PFOA



13C9-PFNA



AD 5/25/2018

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-30.qld

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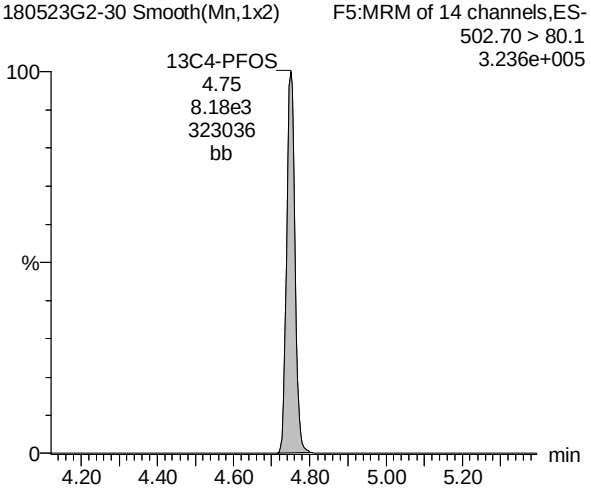
Printed: Friday, May 25, 2018 11:49:38 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-30, Date: 23-May-2018, Time: 18:59:45, ID: 1800843-03 STM-Perimeter Ditches 0.10267, Description: STM-Perimeter Ditches

13C4-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-31.qld

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Printed: Friday, May 25, 2018 11:51:13 Pacific Daylight Time

Rev'd: MM 5/25/2018

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-31, Date: 23-May-2018, Time: 19:12:43, ID: 1800843-04 STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	298.7>80	2.59e2	3.89e3	0.1203		3.04	3.04	0.832	3.62	
2	5	PFHpA	362.8 > 318.9	6.83e4	1.60e4	0.1203		3.91	3.91	53.4	531	
3	6	PFHxS	398.8 > 80.1	1.76e3	4.55e3	0.1203		4.03	4.03	4.83	19.6	
4	7	L-PFOA	412.8 > 368.9	1.49e5	1.23e4	0.1203		4.33	4.33	151	1430	
5	9	PFNA	462.8 > 418.9	7.50e4	1.00e4	0.1203		4.69	4.69	93.7	770	
6	10	PFOS	498.8 > 80	1.46e5	4.54e3	0.1203		4.75	4.75	402	2810	
7	12	13C3-PFBS	301.8 > 99	3.89e3	2.53e4	0.1203	0.213	2.84	3.04	1.92	74.7	71.9
8	13	13C3-PFPeA	265.7 > 222	1.31e4	2.53e4	0.1203	0.793	2.81	2.81	6.47	67.8	65.3
9	14	13C2-PFHxA	314.8 > 270	6.63e3	2.53e4	0.1203	0.989	3.09	3.40	3.27	27.5	66.1
10	15	13C4-PFHpA	366.7 > 322	1.60e4	2.53e4	0.1203	0.959	3.89	3.91	7.89	68.4	65.8
11	16	18O2-PFHxS	402.8 > 103	4.55e3	1.21e4	0.1203	0.458	3.72	4.03	4.72	85.6	82.4
12	17	13C2-PFOA	414.8 > 369.9	1.23e4	1.85e4	0.1203	0.991	4.33	4.33	8.31	69.7	67.1
13	18	13C5-PFNA	467.8 > 422.9	1.00e4	1.83e4	0.1203	0.912	4.69	4.69	6.83	62.2	59.9
14	19	13C8-PFOS	506.8 > 80	4.54e3	7.97e3	0.1203	0.873	4.55	4.75	7.12	67.8	65.3
15	20	13C4-PFBA	216.7 > 171.9	2.31e4	2.31e4	0.1203	1.000	1.72	1.93	12.5	104	100.0
16	21	13C5-PFHxA	317.8>273	2.53e4	2.53e4	0.1203	1.000	3.66	3.40	12.5	104	100.0
17	22	13C3-PFHxS	401.7 > 80.0	1.21e4	1.21e4	0.1203	1.000	4.29	4.03	12.5	104	100.0
18	23	13C8-PFOA	420.8 > 375.9	1.85e4	1.85e4	0.1203	1.000	4.53	4.33	12.5	104	100.0
19	24	13C9-PFNA	471.5 > 426.80	1.83e4	1.83e4	0.1203	1.000	4.93	4.69	12.5	104	100.0
20	25	13C4-PFOS	502.70 > 80.1	7.97e3	7.97e3	0.1203	1.000	4.98	4.75	12.5	104	100.0
21	26	Total PFHxS	398.8 > 80.1	1.76e3	4.55e3	0.1203		4.30		4.83	19.6	
22	27	Total PFOA	412.8 > 368.9	1.54e5	1.23e4	0.1203		4.53		157	1480	
23	28	Total PFOS	498.8 > 80	1.46e5	4.54e3	0.1203		4.73		402	2810	

AD 5/25/2018

Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-31.qld

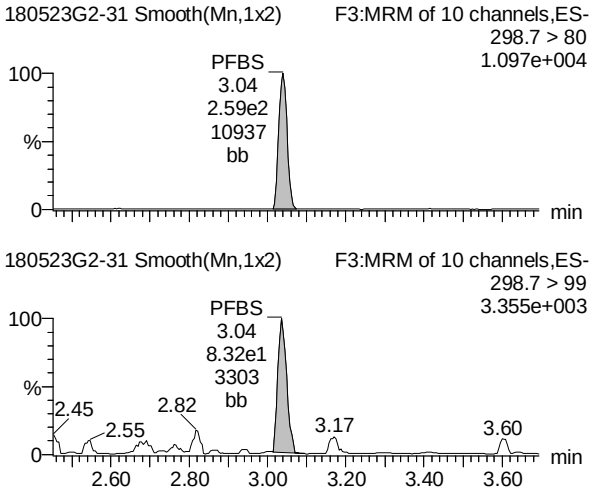
Last Altered: Friday, May 25, 2018 11:50:43 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:51:13 Pacific Daylight Time

Rev'd: MM 5/25/2018

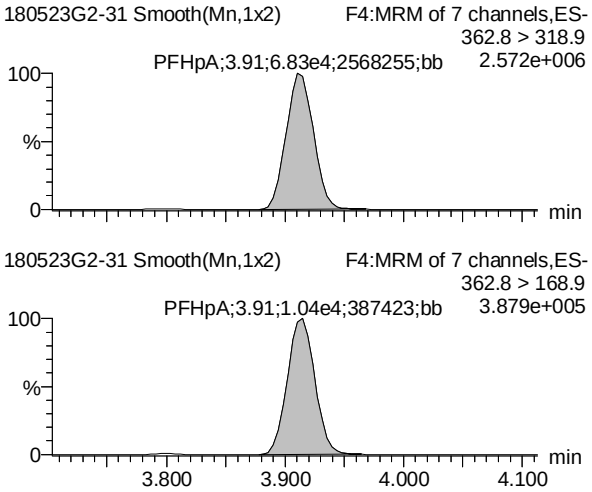
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-31, Date: 23-May-2018, Time: 19:12:43, ID: 1800843-04 STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

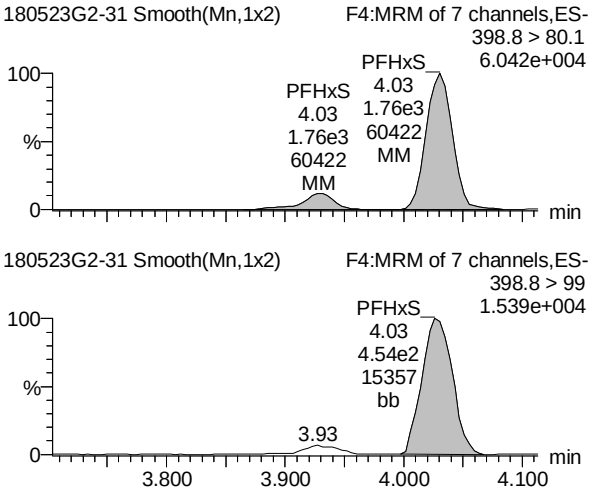
PFBS



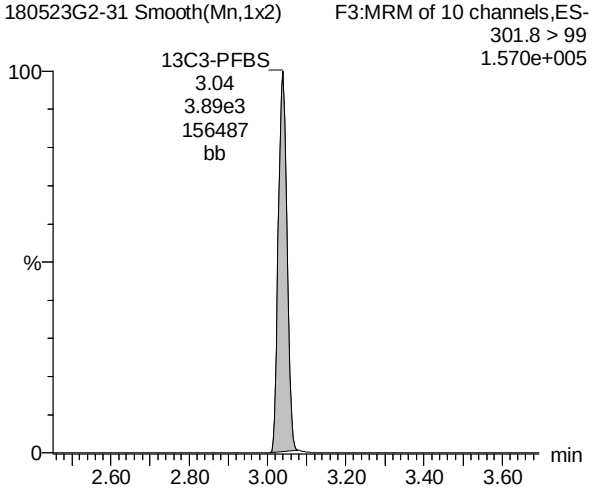
PFHpA



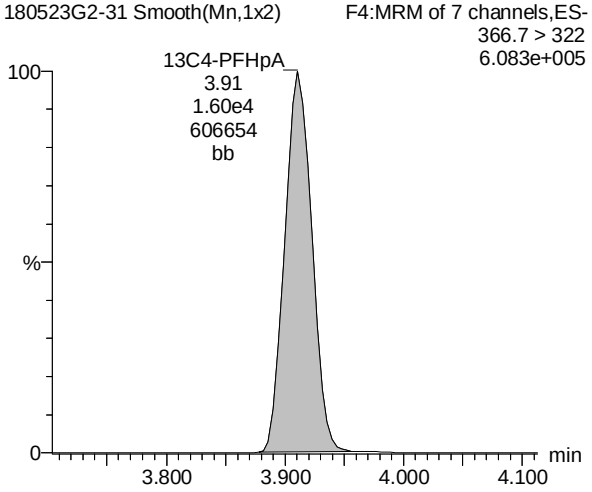
Total PFHxS



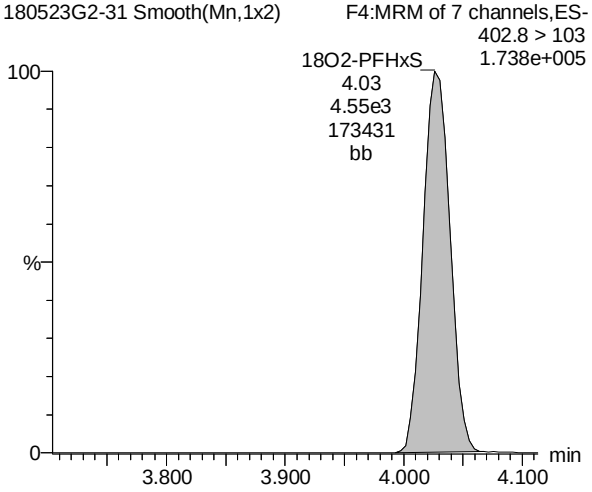
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



AD 5/25/2018

Vista Analytical Laboratory

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Last Altered: Friday, May 25, 2018 11:50:43 Pacific Daylight Time
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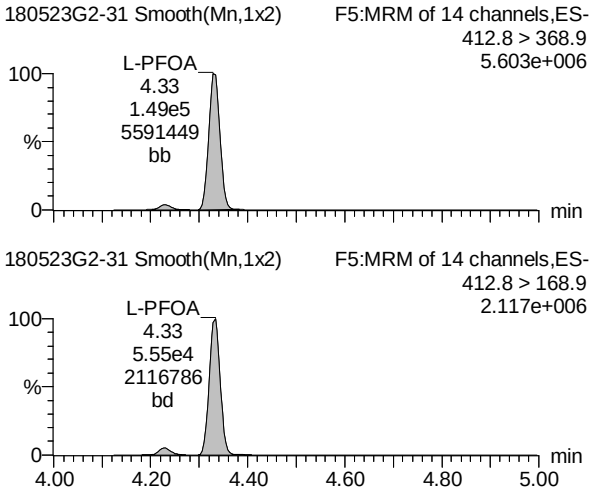
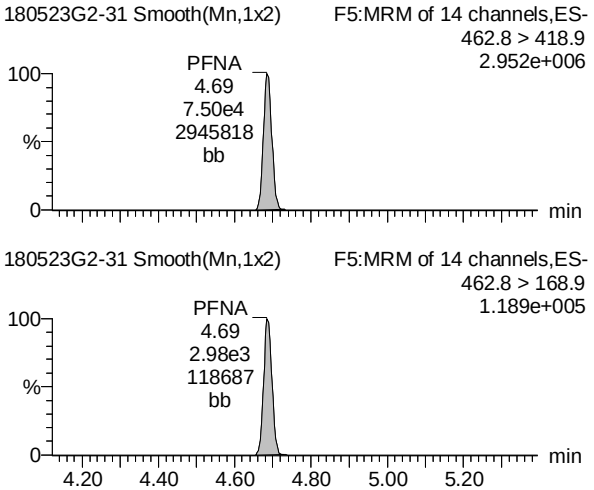
Rev'd: MM 5/25/2018

Name: 180523G2-31, Date: 23-May-2018, Time: 19:12:43, ID: 1800843-04 STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

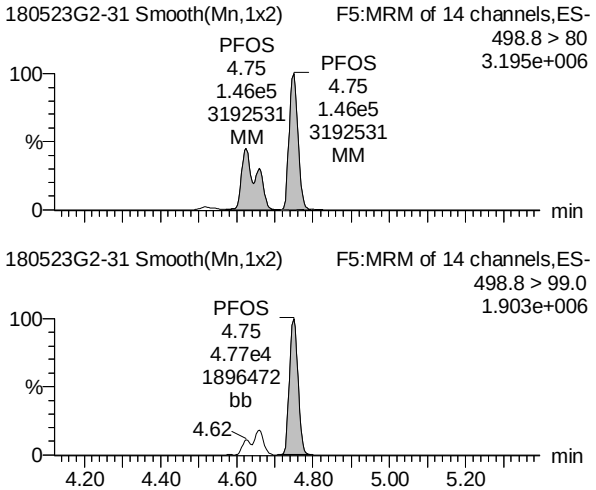
Total PFOA



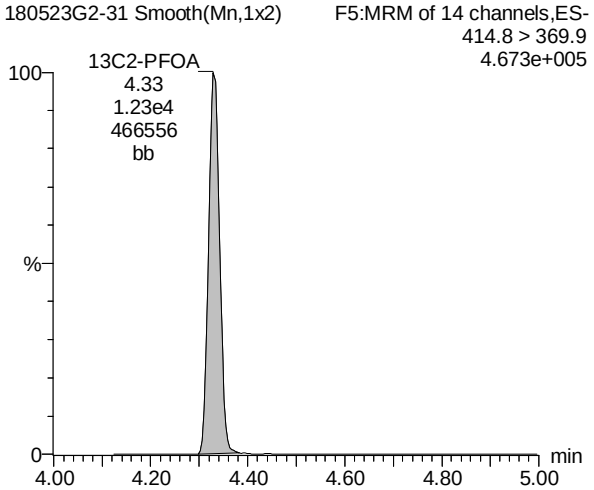
PFNA



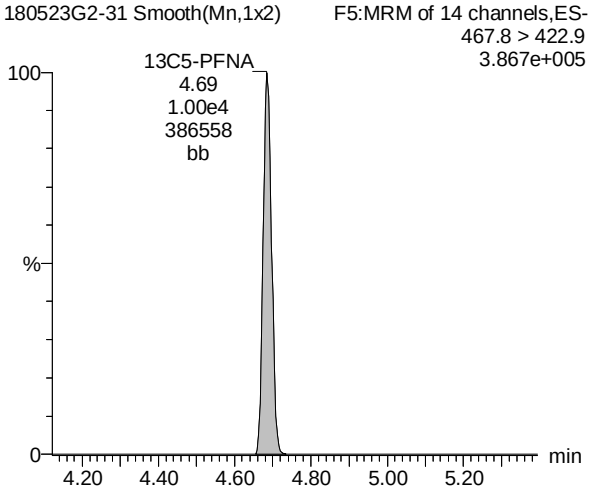
Total PFOS



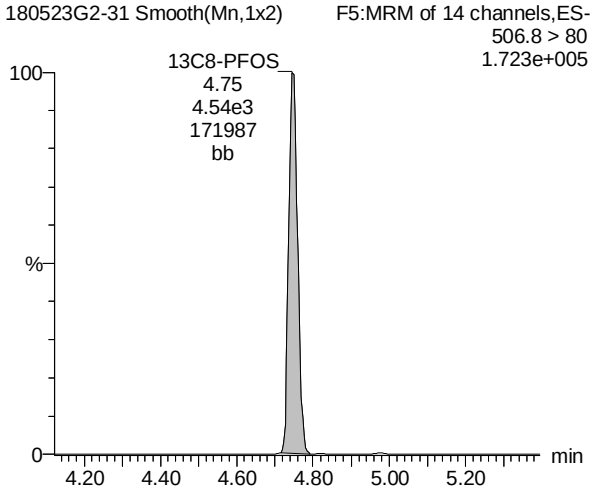
13C2-PFOA



13C5-PFNA



13C8-PFOS



AD 5/25/2018

Vista Analytical Laboratory

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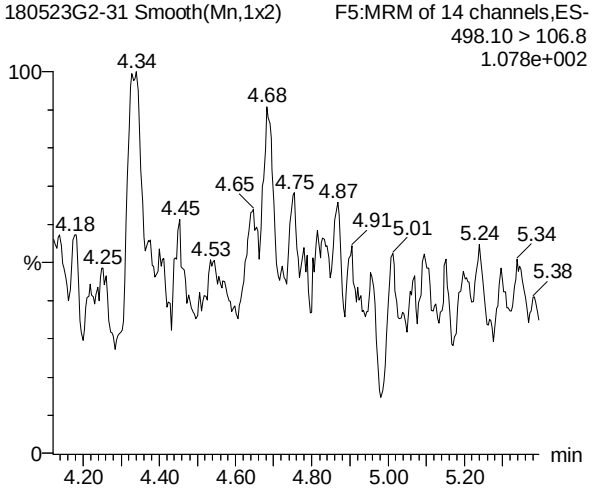
Rev'd: MM 5/25/2018

Name: 180523G2-31, Date: 23-May-2018, Time: 19:12:43, ID: 1800843-04 STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

TCDA



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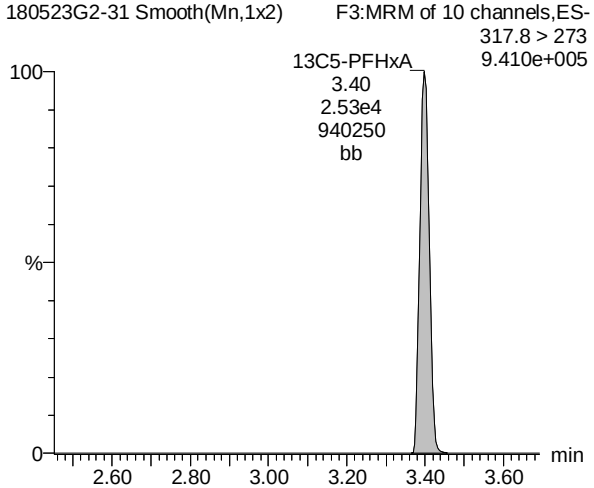

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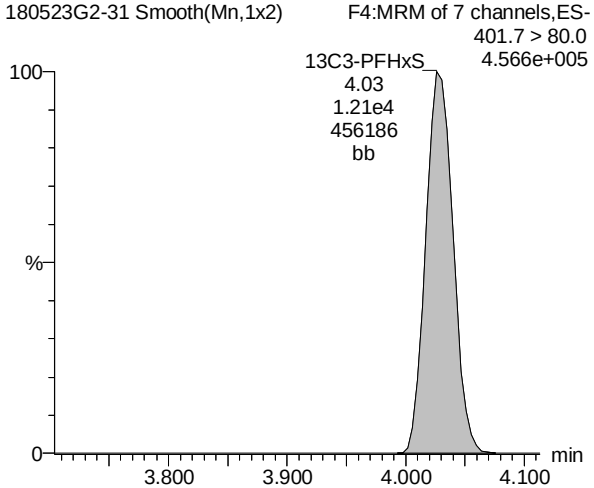
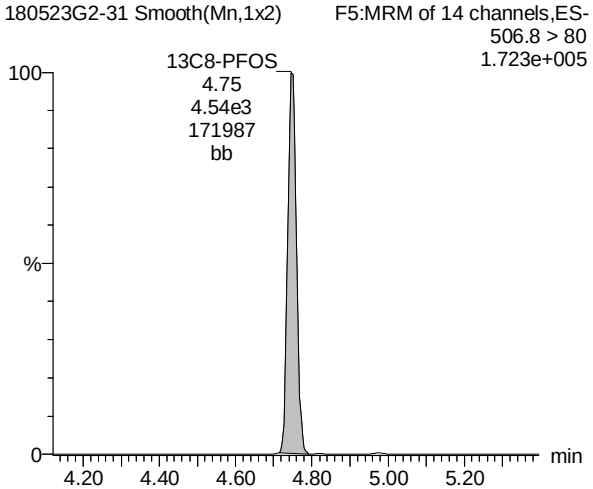
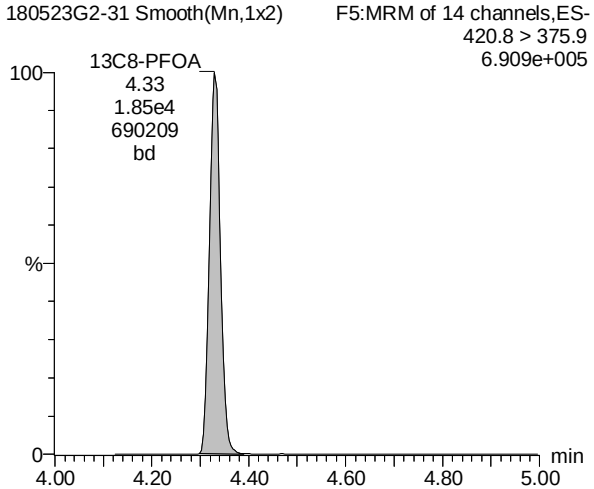


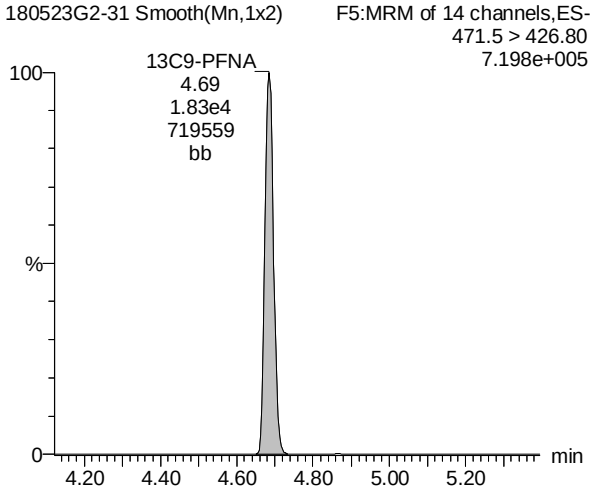
13C8-PFOS



13C8-PFOA



13C9-PFNA



AD 5/25/2018

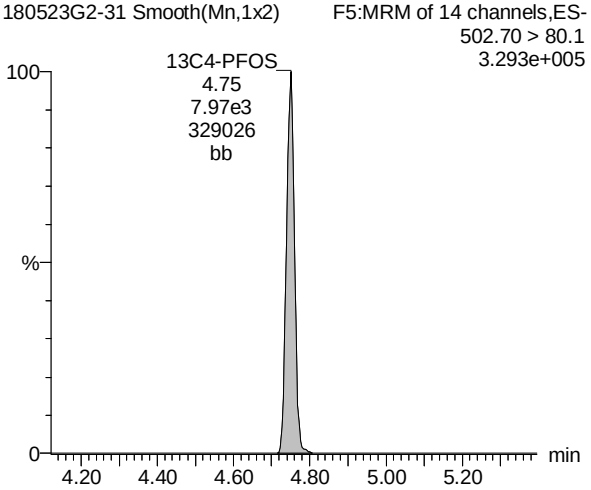
Dataset: Y:\G1.PRO\Results\2018\180523G2\180523G2-31.qld

Last Altered: Friday, May 25, 2018 11:50:43 Pacific Daylight Time
Printed: Friday, May 25, 2018 11:51:13 Pacific Daylight Time

Rev'd: MM 5/25/2018

Name: 180523G2-31, Date: 23-May-2018, Time: 19:12:43, ID: 1800843-04 STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

13C4-PFOS



AD 5/25/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-22.qld

Last Altered: Friday, May 25, 2018 16:41:22 Pacific Daylight Time
Printed: Friday, May 25, 2018 16:45:19 Pacific Daylight Time

Rev'd: MM 5/26/2018

Method: X:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180525G1-22, Date: 25-May-2018, Time: 13:53:31, ID: 1800843-04@5X STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	10	PFOS	498.8 > 80	3.32e4	1.01e3	0.1203		4.74	4.74	413	3060		
2	19	13C8-PFOS	506.8 > 80	1.01e3	1.73e3	0.1203	0.865	4.54	4.74	7.26	69.7	67.1	H
3	25	13C4-PFOS	502.70 > 80.1	1.73e3	1.73e3	0.1203	1.000	4.98	4.74	12.5	104	100.0	
4	28	Total PFOS	498.8 > 80	3.32e4	1.01e3	0.1203		4.73		413	3060		

MJT 5/25/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-22.qld

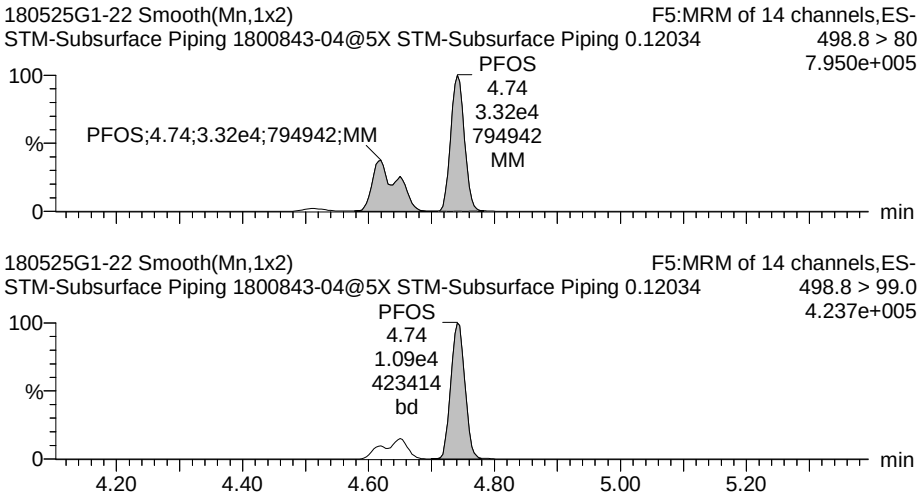
Last Altered: Friday, May 25, 2018 16:41:22 Pacific Daylight Time
Printed: Friday, May 25, 2018 16:45:19 Pacific Daylight Time

Rev'd: MM 5/26/2018

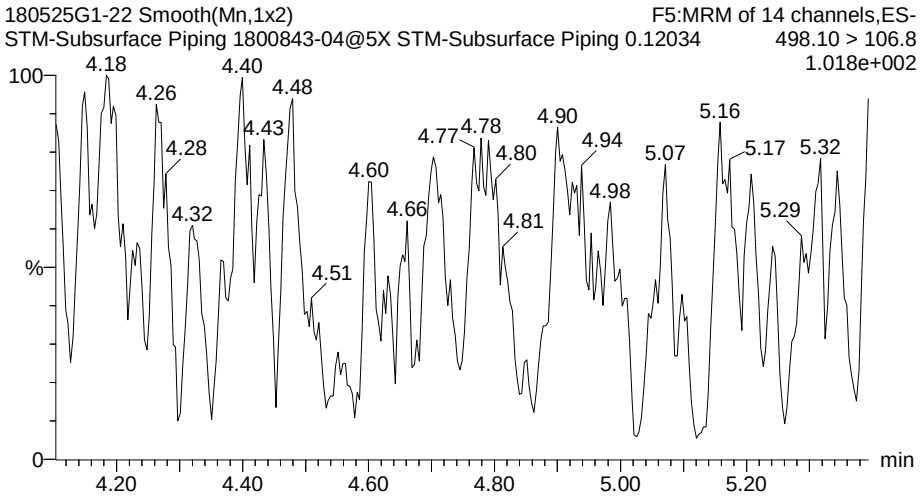
Method: X:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180525G1-22, Date: 25-May-2018, Time: 13:53:31, ID: 1800843-04@5X STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

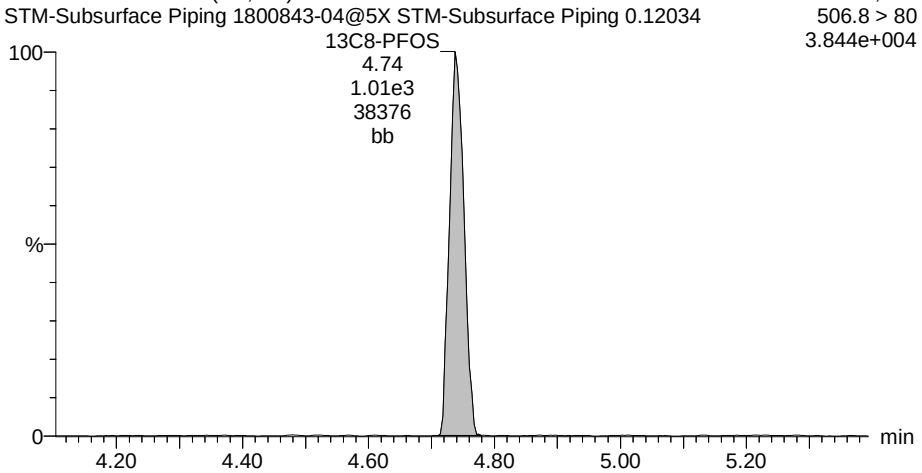
Total PFOS



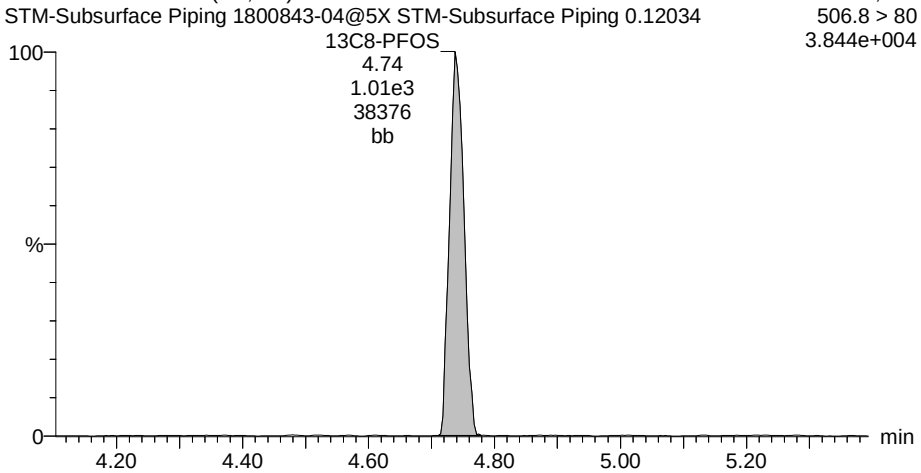
TCDA



13C8-PFOS



13C8-PFOS



MJT 5/25/2018

Vista Analytical Laboratory

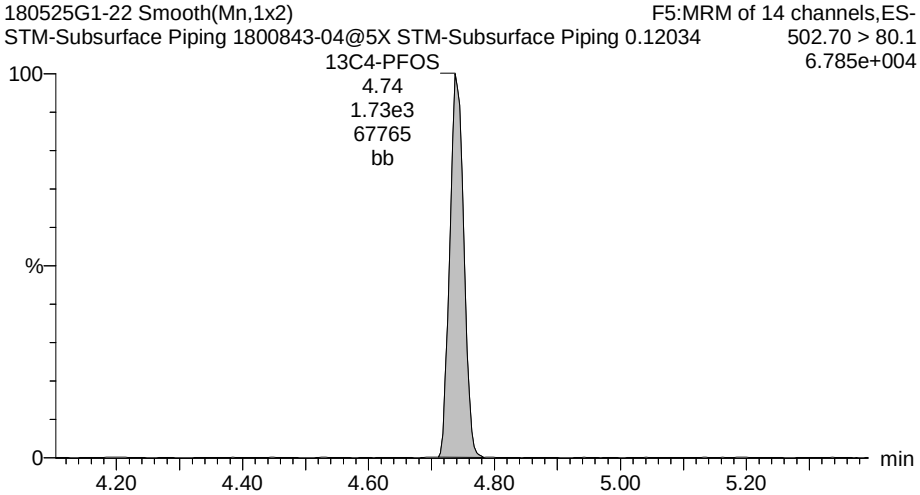
Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-22.qld

Last Altered: Friday, May 25, 2018 16:41:22 Pacific Daylight Time
Printed: Friday, May 25, 2018 16:45:19 Pacific Daylight Time

Rev'd: MM 5/26/2018

Name: 180525G1-22, Date: 25-May-2018, Time: 13:53:31, ID: 1800843-04@5X STM-Subsurface Piping 0.12034, Description: STM-Subsurface Piping

13C4-PFOS



MJT 5/25/2018

CONTINUING CALIBRATION

LC Calibration Standards Review Checklist Q1

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID: ST1805 23G2-1	(L) M H	NA ☐	☑	☑	☑	☑	☑	☐
Calibration ID: —2	L (M) H	☐	☑	☑	☑	☑	☑	☐
Calibration ID: —3	L (M) H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 5.14.18

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

IIS Area Saved ☐ NA non

Reviewed By: AD 5/24/18
Initials/Date

Comments:

Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-3.qld

Last Altered: Wednesday, May 23, 2018 13:05:50 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:30:01 Pacific Daylight Time

√AD 5/24/18

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-3, Date: 23-May-2018, Time: 12:46:36, ID: ST180523G2-1 PFC CS0 18E1404, Description: PFC CS0 18E1404

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.85e3	2.24e4	1.00000		1.94	1.94	1.03	1.13	113.2
2	2	PFPeA	262.7 > 218.9	1.23e3	1.90e4	1.00000		2.79	2.79	0.811	1.10	109.8
3	3	PFBS	298.7>80	1.15e3	5.26e3	1.00000		3.02	3.02	2.74	1.23	123.0
4	4	PFHxA	312.7 > 268.8	1.22e3	9.73e3	1.00000		3.40	3.40	0.625	0.901	90.1
5	5	PFHpA	362.8 > 318.9	2.24e3	2.68e4	1.00000		3.92	3.92	1.04	1.12	112.2
6	6	PFHxS	398.8 > 80.1	1.08e3	6.54e3	1.00000		4.03	4.03	2.06	1.00	100.4
7	7	L-PFOA	412.8 > 368.9	2.34e3	2.81e4	1.00000		4.34	4.34	1.04	0.982	98.2
8	9	PFNA	462.8 > 418.9	2.03e3	2.31e4	1.00000		4.69	4.69	1.10	0.996	99.6
9	10	PFOS	498.8 > 80	1.01e3	1.22e4	1.00000		4.75	4.75	1.04	1.08	107.6
10	11	13C3-PFBA	215.8 > 171.9	2.24e4	2.45e4	1.00000	1.006	1.94	1.94	11.4	11.4	90.9
11	12	13C3-PFBS	301.8 > 99	5.26e3	2.44e4	1.00000	0.213	2.84	3.02	2.70	12.6	101.1
12	13	13C3-PFPeA	265.7 > 222	1.90e4	2.44e4	1.00000	0.793	2.82	2.79	9.72	12.3	98.1
13	14	13C2-PFHxA	314.8 > 270	9.73e3	2.44e4	1.00000	0.989	3.09	3.40	4.99	5.05	101.0
14	15	13C4-PFHpA	366.7 > 322	2.68e4	2.44e4	1.00000	0.959	3.90	3.92	13.7	14.3	114.5
15	16	18O2-PFHxS	402.8 > 103	6.54e3	1.24e4	1.00000	0.458	3.72	4.03	6.62	14.5	115.6
16	17	13C2-PFOA	414.8 > 369.9	2.81e4	2.81e4	1.00000	0.991	4.34	4.34	12.5	12.6	101.0
17	18	13C5-PFNA	467.8 > 422.9	2.31e4	2.61e4	1.00000	0.912	4.69	4.69	11.0	12.1	96.9
18	19	13C8-PFOS	506.8 > 80	1.22e4	1.26e4	1.00000	0.873	4.55	4.75	12.1	13.8	110.5
19	20	13C4-PFBA	216.7 > 171.9	2.45e4	2.45e4	1.00000	1.000	1.72	1.94	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	2.44e4	2.44e4	1.00000	1.000	3.66	3.40	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	1.24e4	1.24e4	1.00000	1.000	4.29	4.03	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	2.81e4	2.81e4	1.00000	1.000	4.53	4.34	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	2.61e4	2.61e4	1.00000	1.000	4.93	4.69	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.26e4	1.26e4	1.00000	1.000	4.98	4.75	12.5	12.5	100.0

MJT 5/24/18

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 09:32:27 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:33:10 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	180523G2-1	WINDOW TEST	23-May-18	12:13:33
2	2	180523G2-2	IPA	23-May-18	12:25:44
3	3	180523G2-3	ST180523G2-1 PFC CS0 18E1404	23-May-18	12:46:36
4	4	180523G2-4	IPA	23-May-18	12:58:50
5	5	180523G2-5	B8E0066-BS1 OPR 0.125	23-May-18	13:27:44
6	6	180523G2-6	B8E0066-BLK1 Method Blank 0.125	23-May-18	13:39:56
7	7	180523G2-7	1800881-01 Well 5 0.1093	23-May-18	13:52:57
8	8	180523G2-8	B8E0066-BS1 OPR 0.125	23-May-18	14:07:36
9	9	180523G2-9	1800879-01 MW-1 0.12462	23-May-18	14:27:02
10	10	180523G2-10	1800879-02 MW-3 0.1263	23-May-18	14:39:15
11	11	180523G2-11	1800879-03 MW-3D 0.12143	23-May-18	14:52:12
12	12	180523G2-12	1800879-04 MW-5 0.12092	23-May-18	15:05:10
13	13	180523G2-13	1800879-05 MW-6 0.12182	23-May-18	15:18:07
14	14	180523G2-14	1800879-06 MW-101 0.11675	23-May-18	15:31:05
15	15	180523G2-15	1800879-07 MW-102 0.11857	23-May-18	15:44:05
16	16	180523G2-16	1800879-08 TW 15-74 0.10557	23-May-18	15:57:04
17	17	180523G2-17	1800880-01 MW-1 0.11698	23-May-18	16:10:01
18	18	180523G2-18	IPA	23-May-18	16:22:59
19	19	180523G2-19	ST180523G2-2 PFC CS3 18E1407	23-May-18	16:37:58
20	20	180523G2-20	IPA	23-May-18	16:50:12
21	21	180523G2-21	1800880-02 MW-3 0.11936	23-May-18	17:03:18
22	22	180523G2-22	1800880-03 MW-6 0.11541	23-May-18	17:16:10
23	23	180523G2-23	1800880-04 MW-101r 0.11204	23-May-18	17:29:07
24	24	180523G2-24	B8E0065-BS1 OPR 0.125	23-May-18	17:42:04
25	25	180523G2-25	B8E0065-MS1 Matrix Spike 0.12012	23-May-18	17:55:02
26	26	180523G2-26	B8E0065-MSD1 Matrix Spike Dup 0.12...	23-May-18	18:07:55
27	27	180523G2-27	B8E0065-BLK1 Method Blank 0.125	23-May-18	18:20:52
28	28	180523G2-28	1800843-01 STM-Outfall Pipe 0.11595	23-May-18	18:33:50
29	29	180523G2-29	1800843-02 STM-Outfall Pipe Dup 0.12...	23-May-18	18:46:48
30	30	180523G2-30	1800843-03 STM-Perimeter Ditches 0.1...	23-May-18	18:59:45
31	31	180523G2-31	1800843-04 STM-Subsurface Piping 0....	23-May-18	19:12:43
32	32	180523G2-32	1800877-01 MW-1 0.12171	23-May-18	19:25:42

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 09:32:27 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:33:10 Pacific Daylight Time

Compound name: PFBA

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33	33	180523G2-33	1800877-02 MW-2 0.11123	23-May-18	19:38:46
34	34	180523G2-34	IPA	23-May-18	19:51:39
35	35	180523G2-35	ST180523G2-3 PFC CS3 18E1407	23-May-18	20:04:40
36	36	180523G2-36	IPA	23-May-18	20:17:44
37	37	180523G2-37	1800877-03 MW-3 0.11906	23-May-18	20:30:42
38	38	180523G2-38	1800878-01 MW-1 0.12097	23-May-18	20:43:36
39	39	180523G2-39	1800878-02 MW-2 0.11476	23-May-18	20:56:33
40	40	180523G2-40	1800878-03 MW-3 0.10812	23-May-18	21:09:31
41	41	180523G2-41	1800878-04 MW-7 0.11394	23-May-18	21:22:28
42	42	180523G2-42	1800878-05 MW-9 0.11616	23-May-18	21:35:25
43	43	180523G2-43	1800878-06 W-1 0.10754	23-May-18	21:48:23
44	44	180523G2-44	1800878-07 W-5 0.11989	23-May-18	22:01:21
45	45	180523G2-45	1800878-08 W-6R 0.11295	23-May-18	22:14:14
46	46	180523G2-46	1800878-09 W-7 0.11693	23-May-18	22:27:13
47	47	180523G2-47	IPA	23-May-18	22:40:10
48	48	180523G2-48	ST180523G2-4 PFC CS0 18E1404	23-May-18	22:53:10
49	49	180523G2-49	IPA	23-May-18	23:06:09
50	50	180523G2-50	1800842-01 Dug 0.12025	23-May-18	23:19:12
51	51	180523G2-51	1800842-02 B-3 0.11618	23-May-18	23:32:06
52	52	180523G2-52	1800842-03 B-5 0.11864	23-May-18	23:45:04
53	53	180523G2-53	1800842-04 B-103S 0.11892	23-May-18	23:58:01
54	54	180523G2-54	1800842-05 B-103D 0.12101	24-May-18	00:10:59
55	55	180523G2-55	1800842-06 B-405S 0.12331	24-May-18	00:23:57
56	56	180523G2-56	1800842-07 B-405D 0.11828	24-May-18	00:36:50
57	57	180523G2-57	1800842-08 Field Blank 0.11699	24-May-18	00:49:48
58	58	180523G2-58	IPA	24-May-18	01:02:45
59	59	180523G2-59	ST180523G2-5 PFC CS3 18E1407	24-May-18	01:15:45
60	60	180523G2-60	IPA	24-May-18	01:28:40

CO

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-3.qld

Last Altered: Wednesday, May 23, 2018 13:05:50 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:30:01 Pacific Daylight Time

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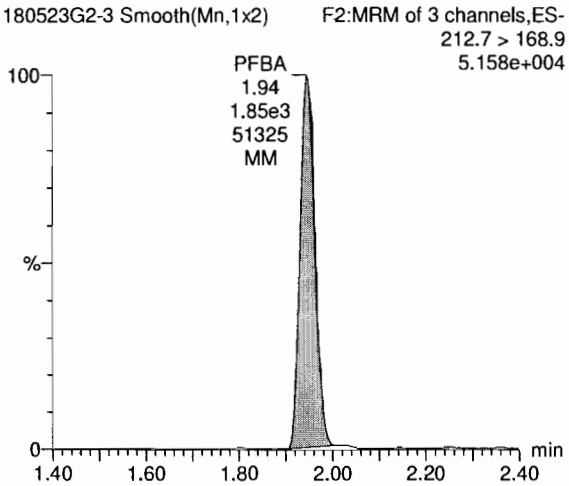
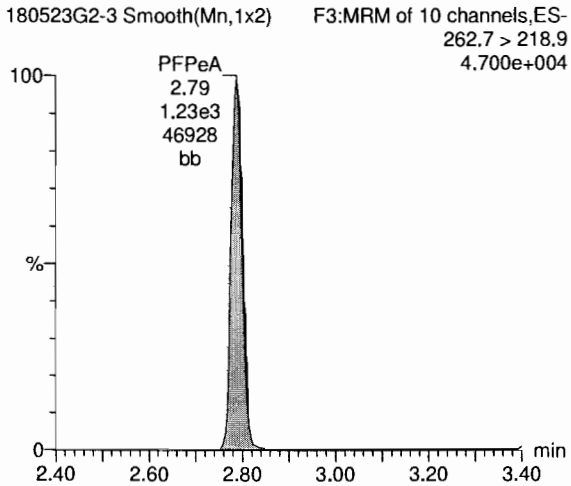
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-3, Date: 23-May-2018, Time: 12:46:36, ID: ST180523G2-1 PFC CS0 18E1404, Description: PFC CS0 18E1404

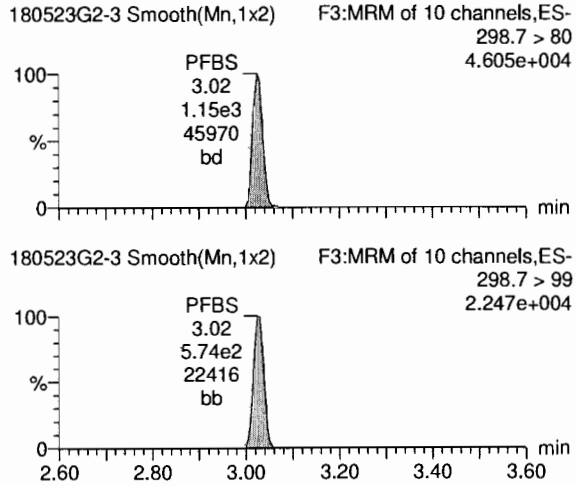
PFBA



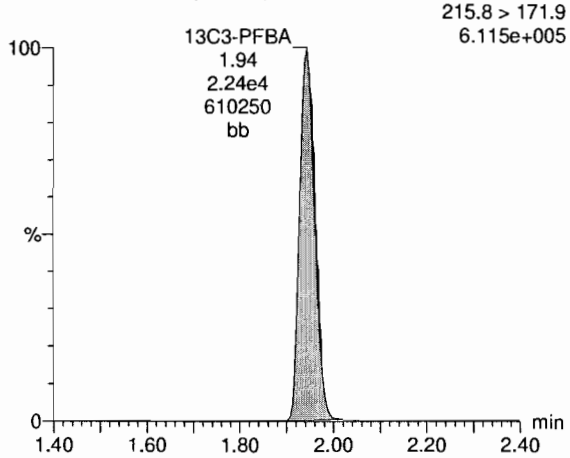
PFPeA



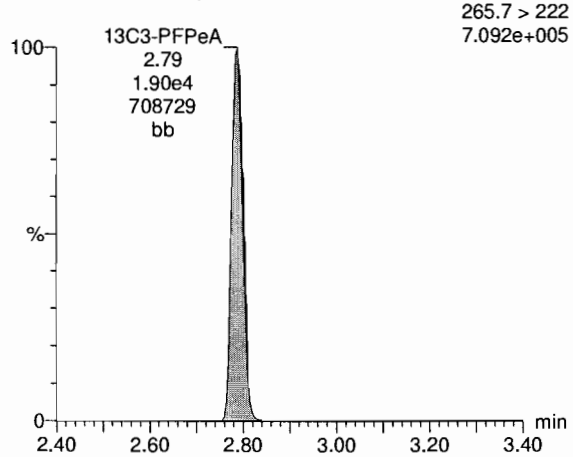
PFBS



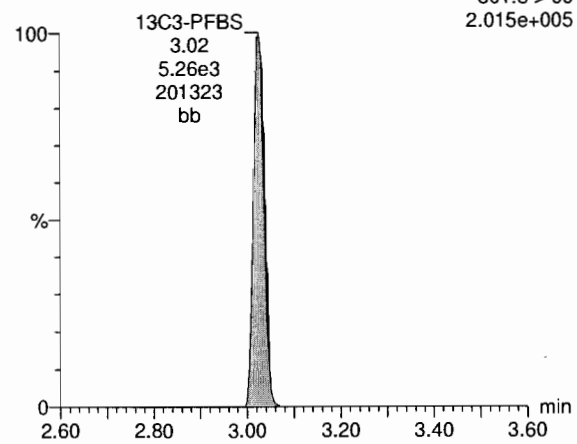
13C3-PFBA



13C3-PFPeA



13C3-PFBS



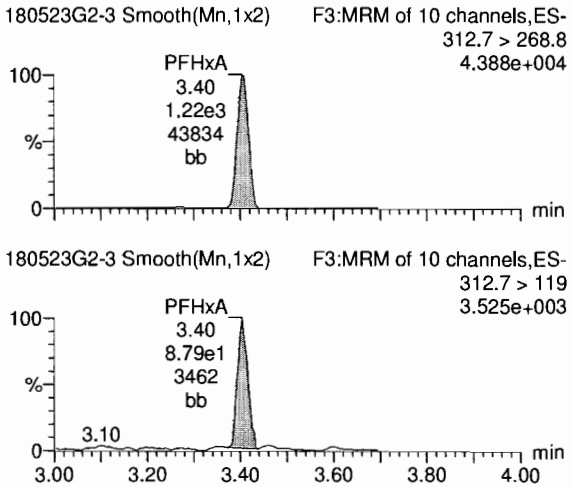
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-3.qld

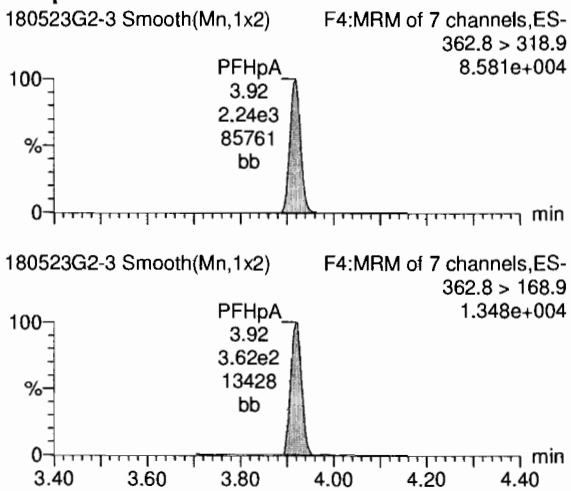
Last Altered: Wednesday, May 23, 2018 13:05:50 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:30:01 Pacific Daylight Time

Name: 180523G2-3, Date: 23-May-2018, Time: 12:46:36, ID: ST180523G2-1 PFC CS0 18E1404, Description: PFC CS0 18E1404

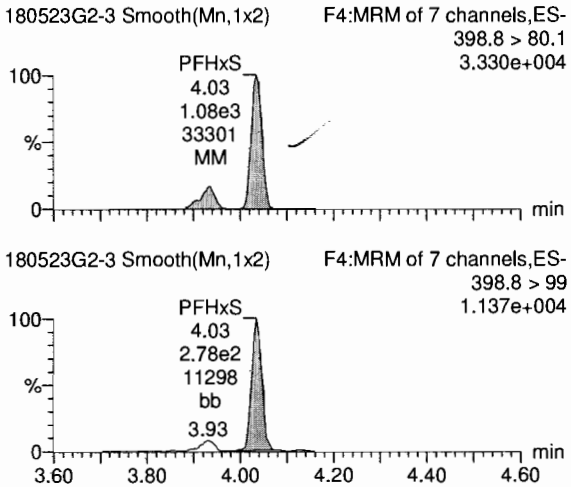
PFHxA



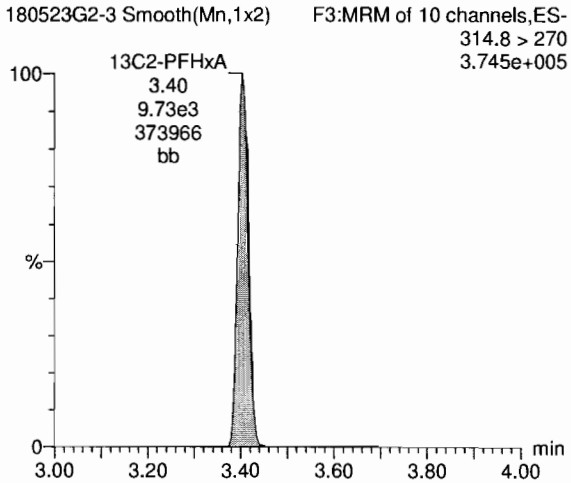
PFHpA



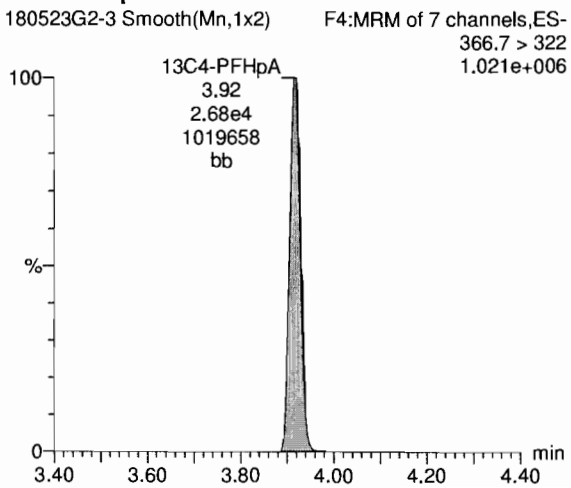
Total PFHxS



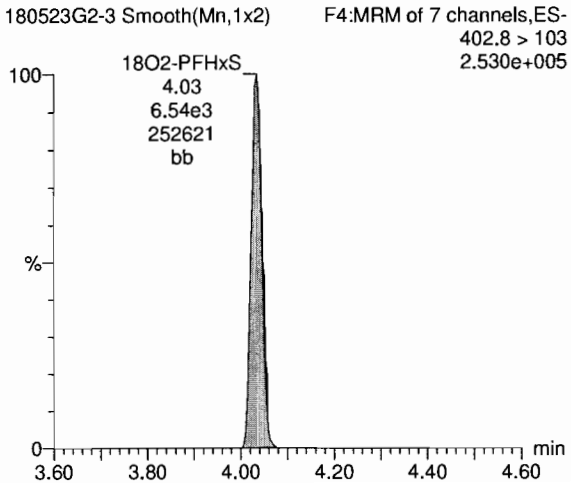
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

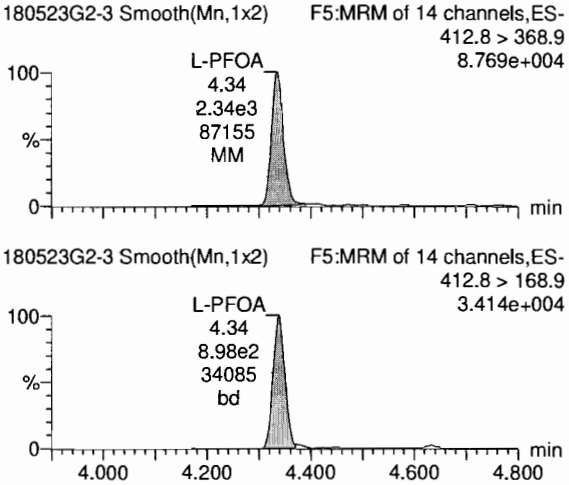


Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-3.qld

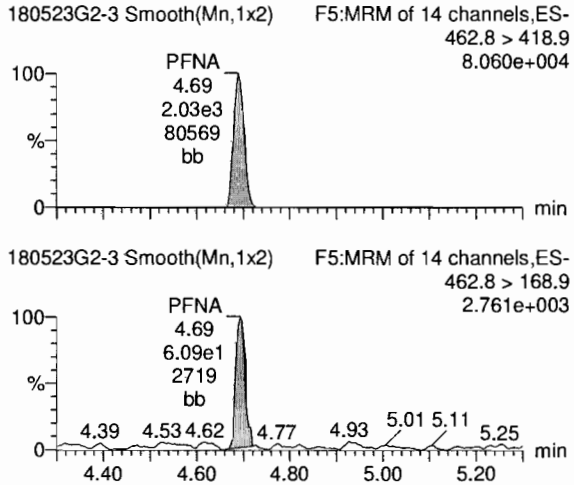
Last Altered: Wednesday, May 23, 2018 13:05:50 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:30:01 Pacific Daylight Time

Name: 180523G2-3, Date: 23-May-2018, Time: 12:46:36, ID: ST180523G2-1 PFC CS0 18E1404, Description: PFC CS0 18E1404

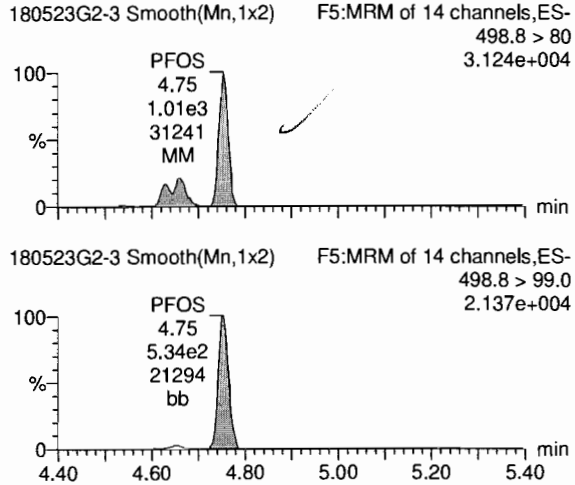
Total PFOA



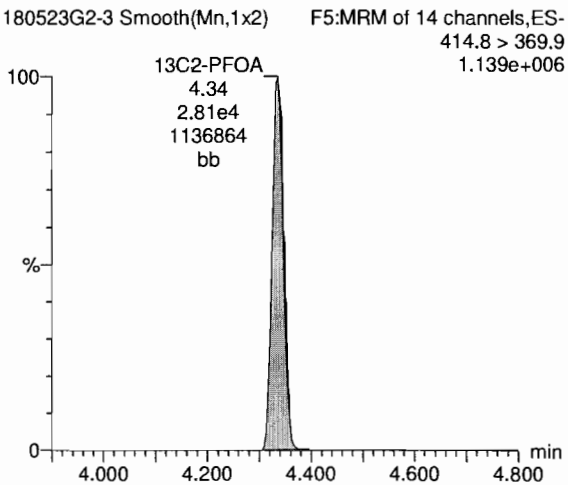
PFNA



Total PFOS



13C2-PFOA



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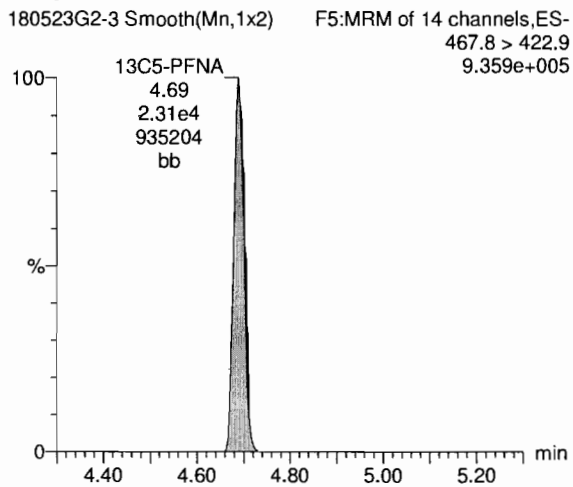
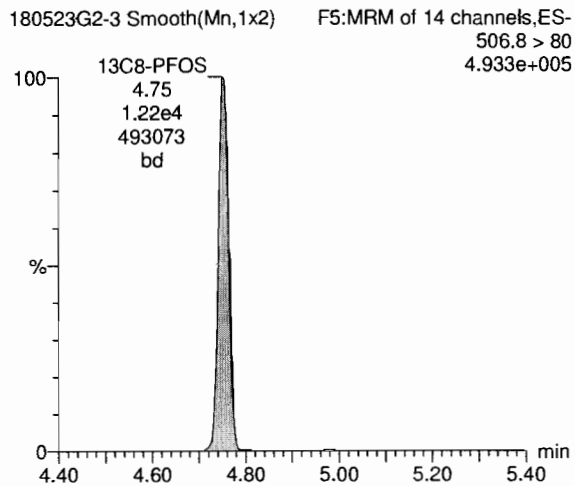


13C8-PFOS



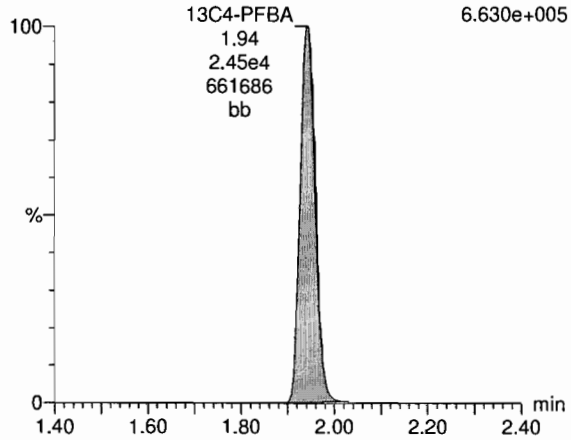
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-3.qld

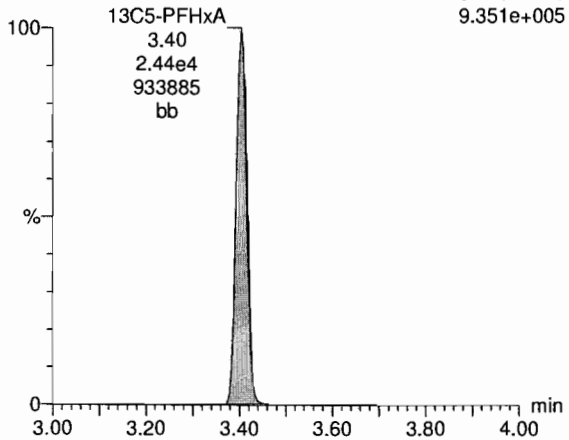
Last Altered: Wednesday, May 23, 2018 13:05:50 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:30:01 Pacific Daylight Time

Name: 180523G2-3, Date: 23-May-2018, Time: 12:46:36, ID: ST180523G2-1 PFC CS0 18E1404, Description: PFC CS0 18E1404

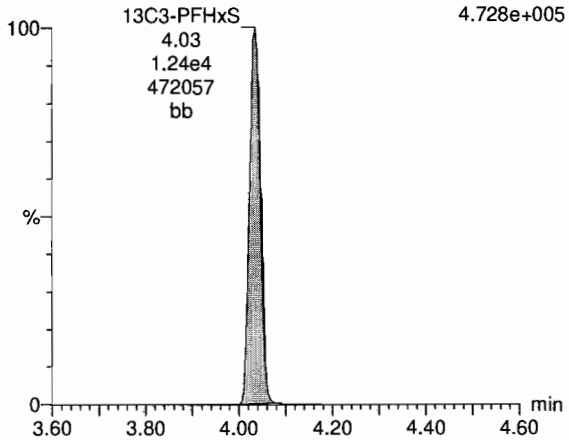
13C4-PFBA



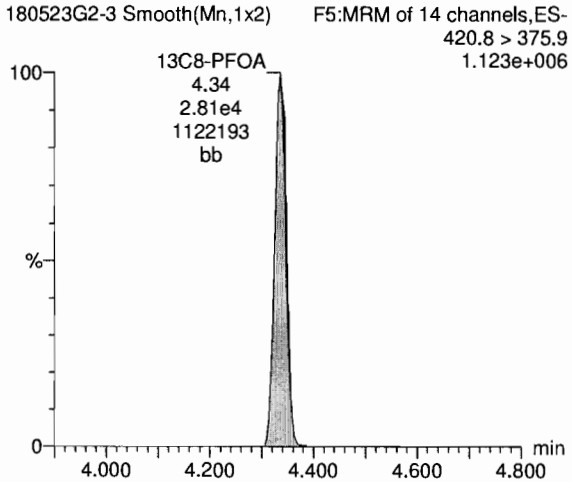
13C5-PFHxA



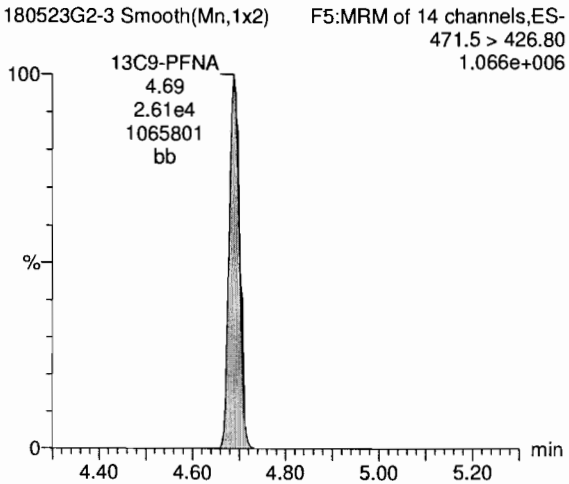
13C3-PFHxS



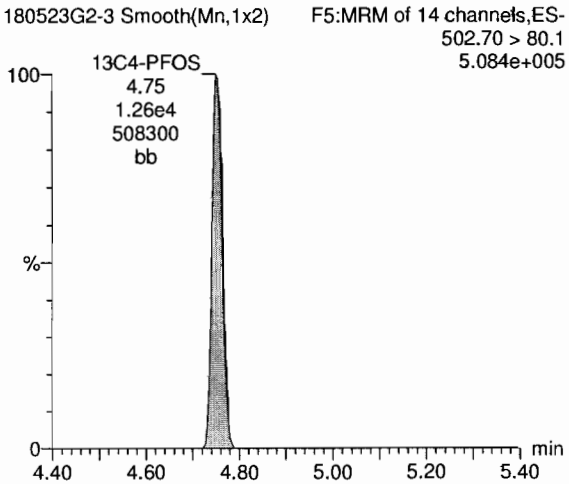
13C8-PFOA



13C9-PFNA



13C4-PFOS

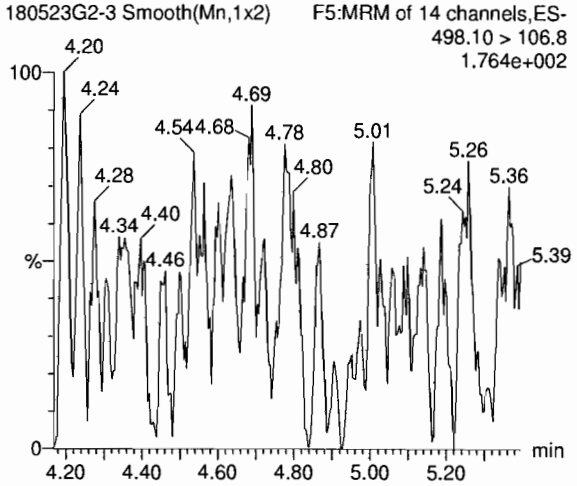


Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-3.qld

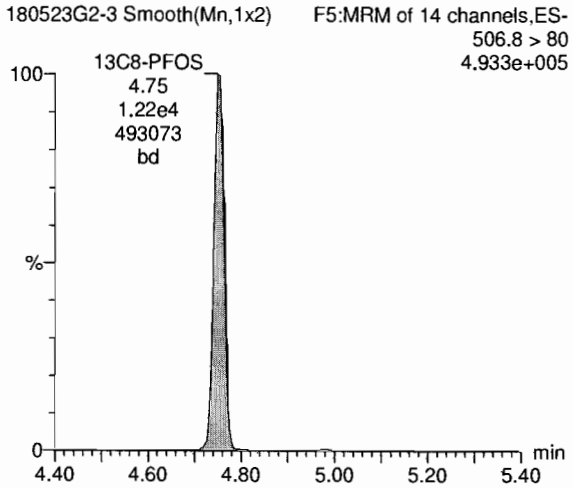
Last Altered: Wednesday, May 23, 2018 13:05:50 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:30:01 Pacific Daylight Time

Name: 180523G2-3, Date: 23-May-2018, Time: 12:46:36, ID: ST180523G2-1 PFC CS0 18E1404, Description: PFC CS0 18E1404

TCDA



13C8-PFOS



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-19.qld

Last Altered: Wednesday, May 23, 2018 16:56:34 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:03:09 Pacific Daylight Time

√AD 5/24/18

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

MJT 5/24/18

Name: 180523G2-19, Date: 23-May-2018, Time: 16:37:58, ID: ST180523G2-2 PFC CS3 18E1407, Description: PFC CS3 18E1407

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.60e4	2.37e4	1.00000		1.95	1.95	8.43	10.0	100.5
2	2	PFPeA	262.7 > 218.9	1.04e4	1.79e4	1.00000		2.81	2.81	7.26	10.3	102.8
3	3	PFBS	298.7>80	1.01e4	4.62e3	1.00000		3.03	3.03	27.2	11.4	114.1
4	4	PFHxA	312.7 > 268.8	1.34e4	9.46e3	1.00000		3.40	3.40	7.06	10.7	106.5
5	5	PFHpA	362.8 > 318.9	1.90e4	2.52e4	1.00000		3.91	3.91	9.44	11.2	111.8
6	6	PFHxS	398.8 > 80.1	9.22e3	6.07e3	1.00000		4.03	4.03	19.0	9.33	93.3
7	7	L-PFOA	412.8 > 368.9	2.08e4	2.82e4	1.00000		4.34	4.33	9.21	9.00	90.0
8	9	PFNA	462.8 > 418.9	2.00e4	2.48e4	1.00000		4.69	4.69	10.1	9.32	93.2
9	10	PFOS	498.8 > 80	1.14e4	1.35e4	1.00000		4.75	4.75	10.5	10.8	107.6
10	11	13C3-PFBA	215.8 > 171.9	2.37e4	2.32e4	1.00000	1.006	1.94	1.95	12.8	12.7	101.9
11	12	13C3-PFBS	301.8 > 99	4.62e3	2.39e4	1.00000	0.213	2.84	3.03	2.42	11.3	90.5
12	13	13C3-PFPeA	265.7 > 222	1.79e4	2.39e4	1.00000	0.793	2.81	2.81	9.36	11.8	94.5
13	14	13C2-PFHxA	314.8 > 270	9.46e3	2.39e4	1.00000	0.989	3.09	3.40	4.95	5.00	100.1
14	15	13C4-PFHpA	366.7 > 322	2.52e4	2.39e4	1.00000	0.959	3.89	3.91	13.2	13.7	109.9
15	16	18O2-PFHxS	402.8 > 103	6.07e3	1.16e4	1.00000	0.458	3.72	4.03	6.53	14.3	114.2
16	17	13C2-PFOA	414.8 > 369.9	2.82e4	2.76e4	1.00000	0.991	4.33	4.34	12.8	12.9	103.0
17	18	13C5-PFNA	467.8 > 422.9	2.48e4	2.45e4	1.00000	0.912	4.69	4.69	12.6	13.8	110.8
18	19	13C8-PFOS	506.8 > 80	1.35e4	1.59e4	1.00000	0.873	4.55	4.75	10.7	12.2	97.8
19	20	13C4-PFBA	216.7 > 171.9	2.32e4	2.32e4	1.00000	1.000	1.72	1.94	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	2.39e4	2.39e4	1.00000	1.000	3.66	3.40	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	1.16e4	1.16e4	1.00000	1.000	4.29	4.03	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	2.76e4	2.76e4	1.00000	1.000	4.53	4.33	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	2.45e4	2.45e4	1.00000	1.000	4.93	4.69	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.59e4	1.59e4	1.00000	1.000	4.98	4.75	12.5	12.5	100.0

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 09:32:27 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:33:10 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	180523G2-1	WINDOW TEST	23-May-18	12:13:33
2	2	180523G2-2	IPA	23-May-18	12:25:44
3	3	180523G2-3	ST180523G2-1 PFC CS0 18E1404	23-May-18	12:46:36
4	4	180523G2-4	IPA	23-May-18	12:58:50
5	5	180523G2-5	B8E0066-BS1 OPR 0.125	23-May-18	13:27:44
6	6	180523G2-6	B8E0066-BLK1 Method Blank 0.125	23-May-18	13:39:56
7	7	180523G2-7	1800881-01 Well 5 0.1093	23-May-18	13:52:57
8	8	180523G2-8	B8E0066-BS1 OPR 0.125	23-May-18	14:07:36
9	9	180523G2-9	1800879-01 MW-1 0.12462	23-May-18	14:27:02
10	10	180523G2-10	1800879-02 MW-3 0.1263	23-May-18	14:39:15
11	11	180523G2-11	1800879-03 MW-3D 0.12143	23-May-18	14:52:12
12	12	180523G2-12	1800879-04 MW-5 0.12092	23-May-18	15:05:10
13	13	180523G2-13	1800879-05 MW-6 0.12182	23-May-18	15:18:07
14	14	180523G2-14	1800879-06 MW-101 0.11675	23-May-18	15:31:05
15	15	180523G2-15	1800879-07 MW-102 0.11857	23-May-18	15:44:05
16	16	180523G2-16	1800879-08 TW 15-74 0.10557	23-May-18	15:57:04
17	17	180523G2-17	1800880-01 MW-1 0.11698	23-May-18	16:10:01
18	18	180523G2-18	IPA	23-May-18	16:22:59
19	19	180523G2-19	ST180523G2-2 PFC CS3 18E1407	23-May-18	16:37:58
20	20	180523G2-20	IPA	23-May-18	16:50:12
21	21	180523G2-21	1800880-02 MW-3 0.11936	23-May-18	17:03:18
22	22	180523G2-22	1800880-03 MW-6 0.11541	23-May-18	17:16:10
23	23	180523G2-23	1800880-04 MW-101r 0.11204	23-May-18	17:29:07
24	24	180523G2-24	B8E0065-BS1 OPR 0.125	23-May-18	17:42:04
25	25	180523G2-25	B8E0065-MS1 Matrix Spike 0.12012	23-May-18	17:55:02
26	26	180523G2-26	B8E0065-MSD1 Matrix Spike Dup 0.12...	23-May-18	18:07:55
27	27	180523G2-27	B8E0065-BLK1 Method Blank 0.125	23-May-18	18:20:52
28	28	180523G2-28	1800843-01 STM-Outfall Pipe 0.11595	23-May-18	18:33:50
29	29	180523G2-29	1800843-02 STM-Outfall Pipe Dup 0.12...	23-May-18	18:46:48
30	30	180523G2-30	1800843-03 STM-Perimeter Ditches 0.1...	23-May-18	18:59:45
31	31	180523G2-31	1800843-04 STM-Subsurface Piping 0....	23-May-18	19:12:43
32	32	180523G2-32	1800877-01 MW-1 0.12171	23-May-18	19:25:42

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 09:32:27 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:33:10 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	180523G2-33	1800877-02 MW-2 0.11123	23-May-18	19:38:46
34	34	180523G2-34	IPA	23-May-18	19:51:39
35	35	180523G2-35	ST180523G2-3 PFC CS3 18E1407	23-May-18	20:04:40
36	36	180523G2-36	IPA	23-May-18	20:17:44
37	37	180523G2-37	1800877-03 MW-3 0.11906	23-May-18	20:30:42
38	38	180523G2-38	1800878-01 MW-1 0.12097	23-May-18	20:43:36
39	39	180523G2-39	1800878-02 MW-2 0.11476	23-May-18	20:56:33
40	40	180523G2-40	1800878-03 MW-3 0.10812	23-May-18	21:09:31
41	41	180523G2-41	1800878-04 MW-7 0.11394	23-May-18	21:22:28
42	42	180523G2-42	1800878-05 MW-9 0.11616	23-May-18	21:35:25
43	43	180523G2-43	1800878-06 W-1 0.10754	23-May-18	21:48:23
44	44	180523G2-44	1800878-07 W-5 0.11989	23-May-18	22:01:21
45	45	180523G2-45	1800878-08 W-6R 0.11295	23-May-18	22:14:14
46	46	180523G2-46	1800878-09 W-7 0.11693	23-May-18	22:27:13
47	47	180523G2-47	IPA	23-May-18	22:40:10
48	48	180523G2-48	ST180523G2-4 PFC CS0 18E1404	23-May-18	22:53:10
49	49	180523G2-49	IPA	23-May-18	23:06:09
50	50	180523G2-50	1800842-01 Dug 0.12025	23-May-18	23:19:12
51	51	180523G2-51	1800842-02 B-3 0.11618	23-May-18	23:32:06
52	52	180523G2-52	1800842-03 B-5 0.11864	23-May-18	23:45:04
53	53	180523G2-53	1800842-04 B-103S 0.11892	23-May-18	23:58:01
54	54	180523G2-54	1800842-05 B-103D 0.12101	24-May-18	00:10:59
55	55	180523G2-55	1800842-06 B-405S 0.12331	24-May-18	00:23:57
56	56	180523G2-56	1800842-07 B-405D 0.11828	24-May-18	00:36:50
57	57	180523G2-57	1800842-08 Field Blank 0.11699	24-May-18	00:49:48
58	58	180523G2-58	IPA	24-May-18	01:02:45
59	59	180523G2-59	ST180523G2-5 PFC CS3 18E1407	24-May-18	01:15:45
60	60	180523G2-60	IPA	24-May-18	01:28:40

CO

Vista Analytical Laboratory

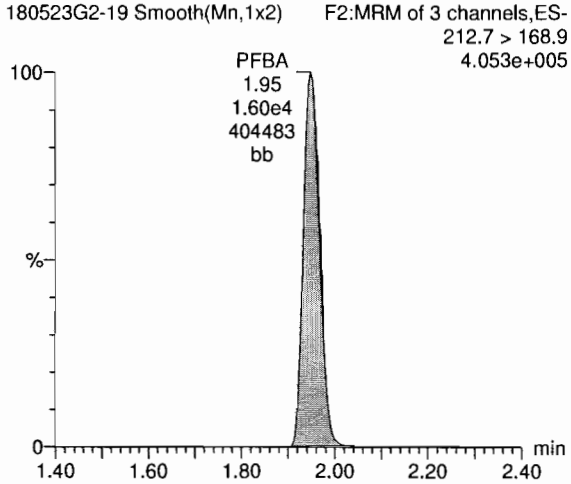
Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-19.qld

Last Altered: Wednesday, May 23, 2018 16:56:34 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:03:09 Pacific Daylight Time

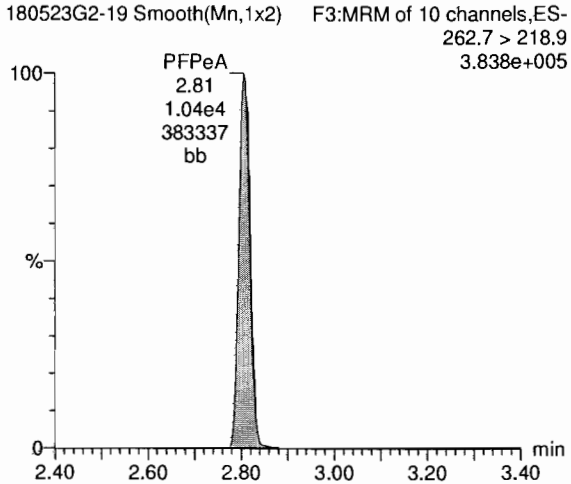
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-19, Date: 23-May-2018, Time: 16:37:58, ID: ST180523G2-2 PFC CS3 18E1407, Description: PFC CS3 18E1407

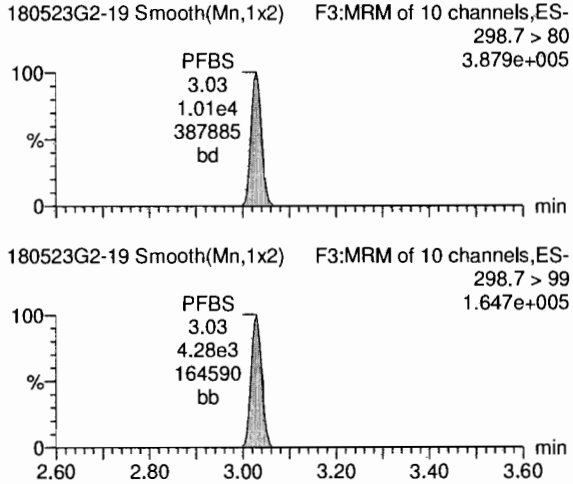
PFBA



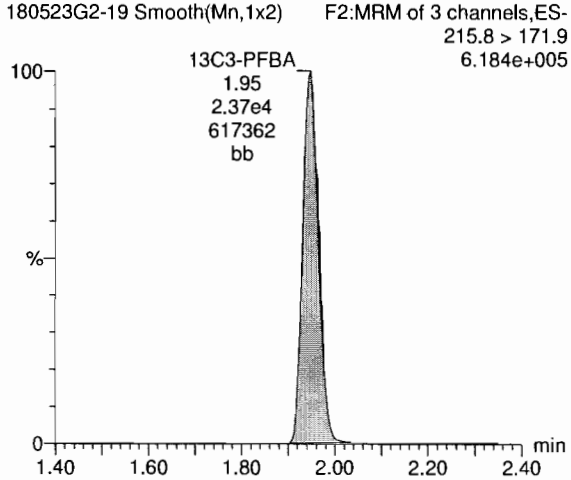
PFPeA



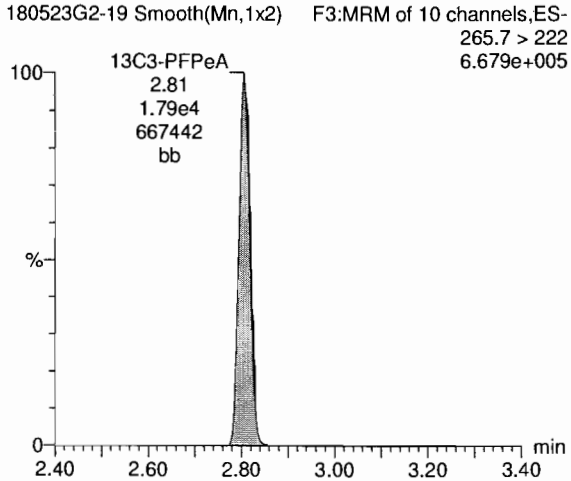
PFBS



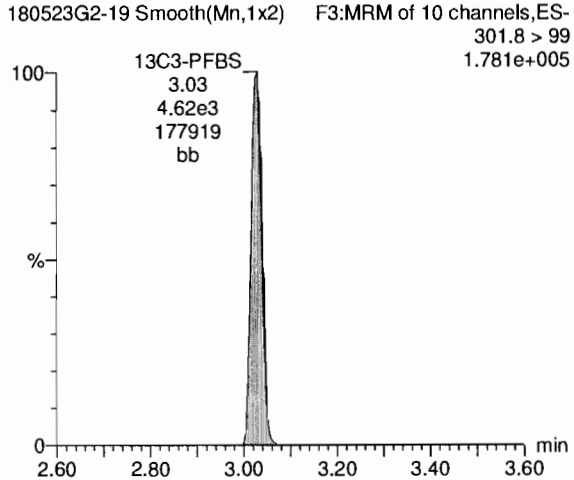
13C3-PFBA



13C3-PFPeA



13C3-PFBS

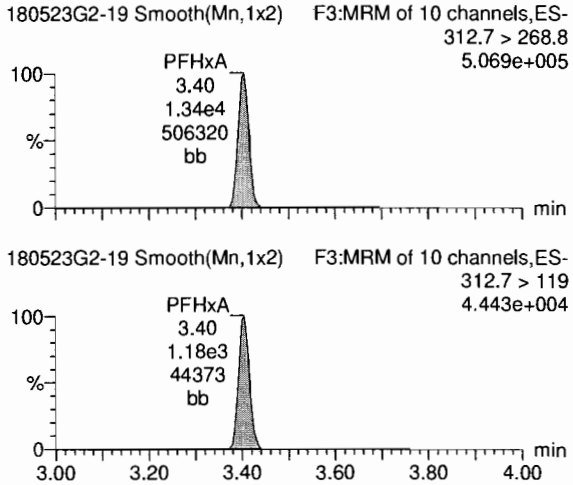


Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-19.qld

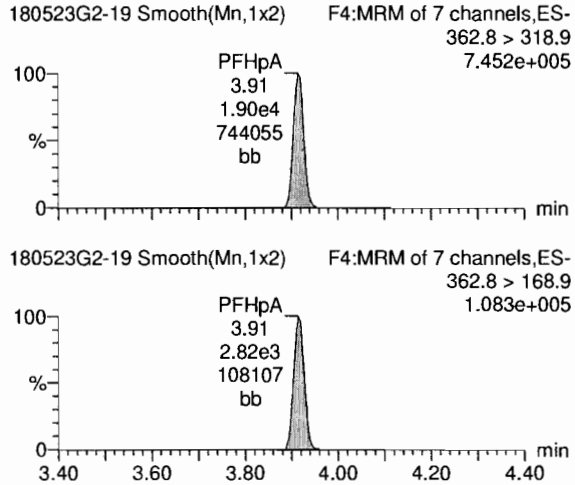
Last Altered: Wednesday, May 23, 2018 16:56:34 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:03:09 Pacific Daylight Time

Name: 180523G2-19, Date: 23-May-2018, Time: 16:37:58, ID: ST180523G2-2 PFC CS3 18E1407, Description: PFC CS3 18E1407

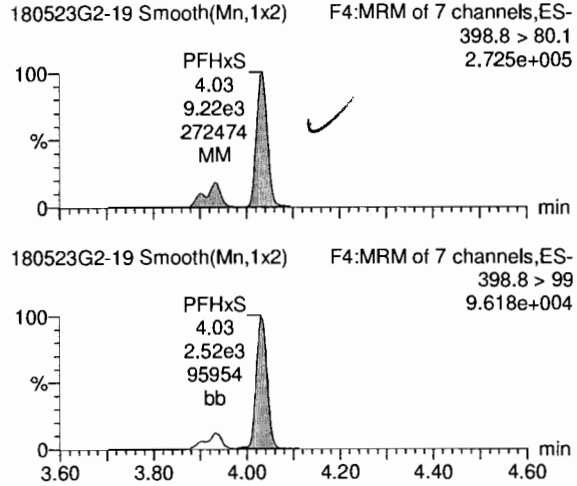
PFHxA



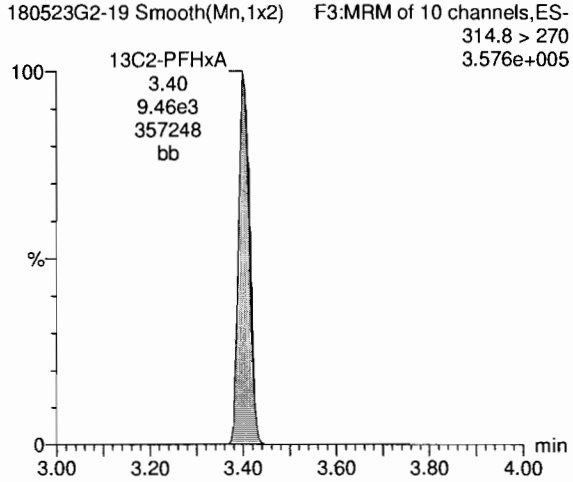
PFHpA



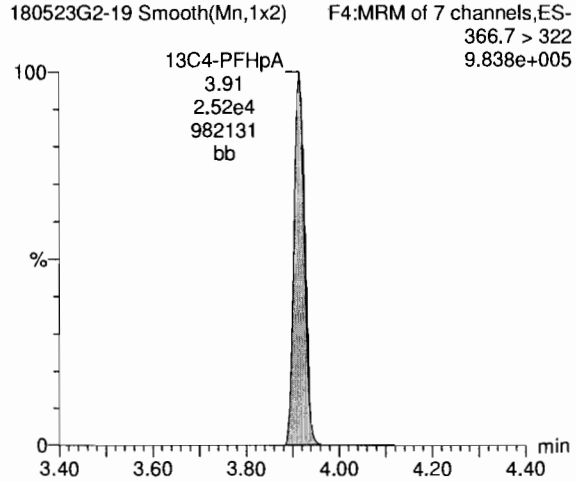
Total PFHxS



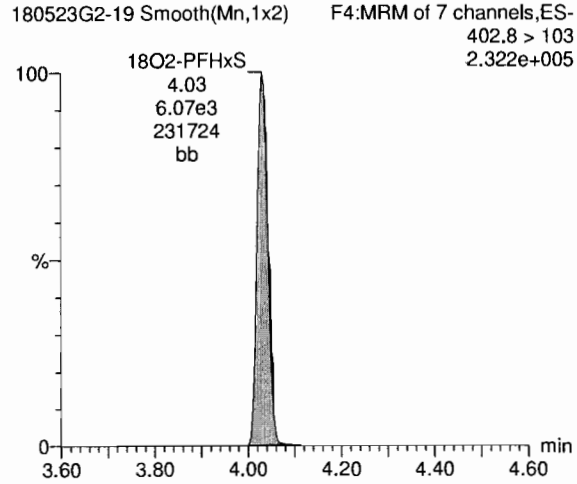
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



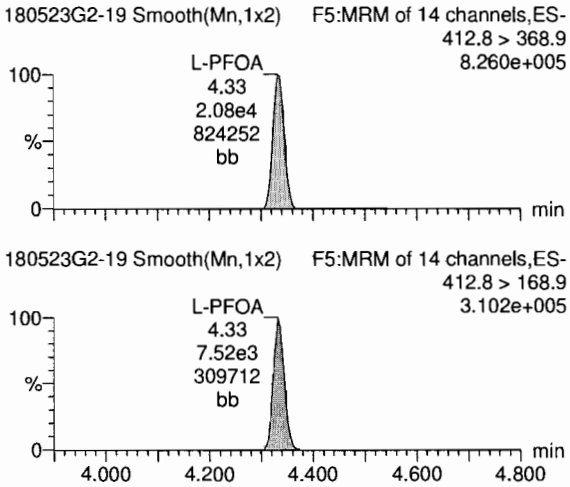
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-19.qld

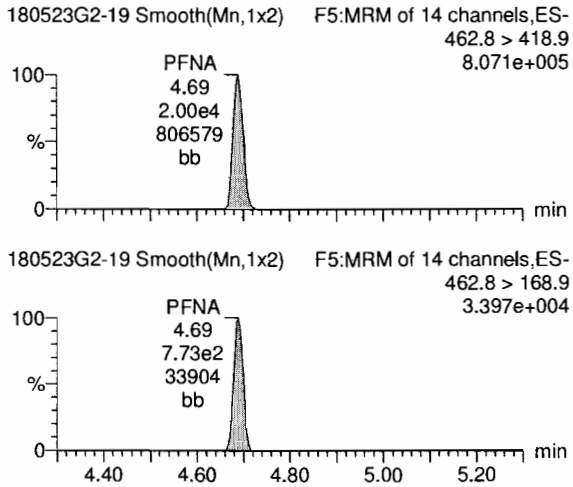
Last Altered: Wednesday, May 23, 2018 16:56:34 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:03:09 Pacific Daylight Time

Name: 180523G2-19, Date: 23-May-2018, Time: 16:37:58, ID: ST180523G2-2 PFC CS3 18E1407, Description: PFC CS3 18E1407

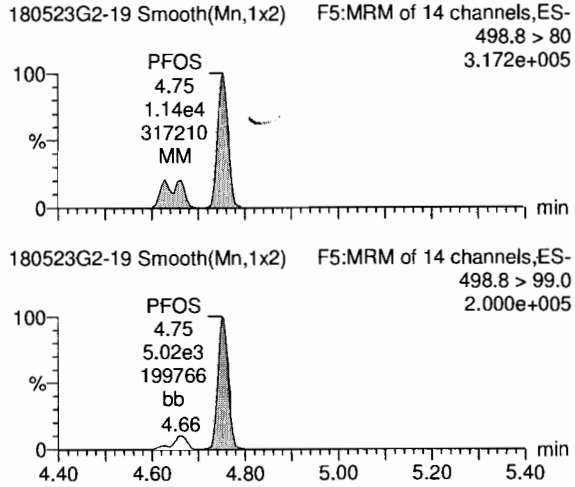
Total PFOA



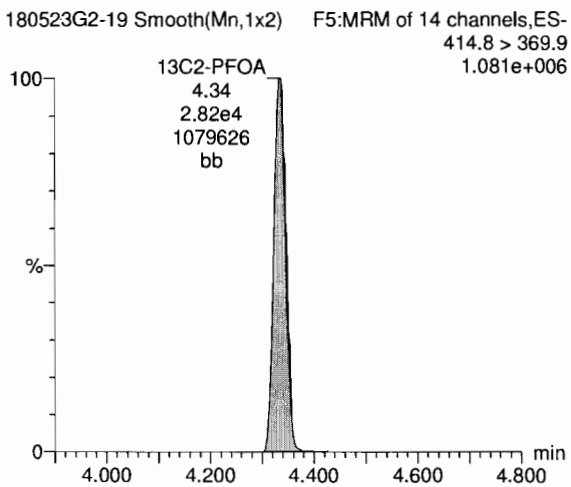
PFNA



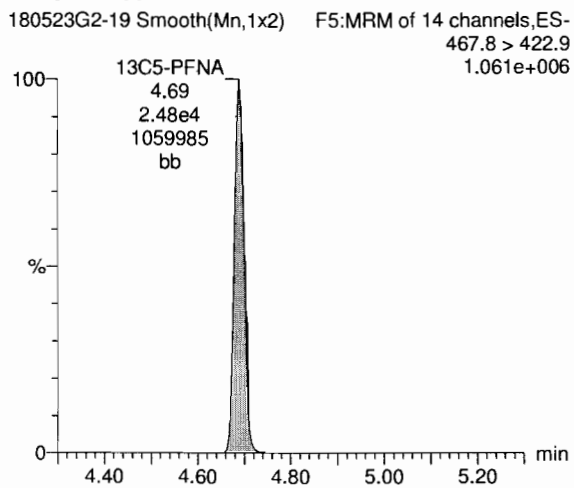
Total PFOS



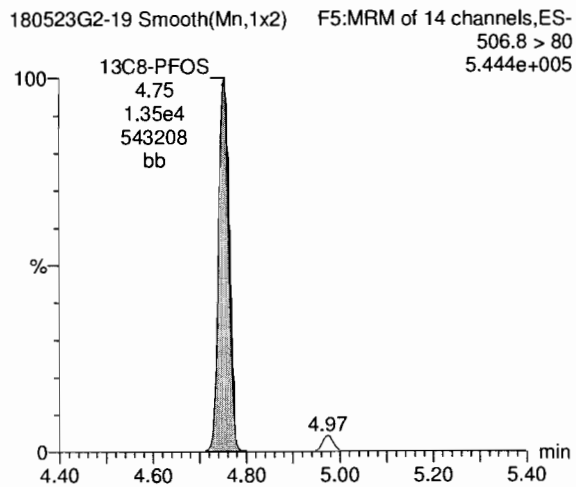
13C2-PFOA



13C5-PFNA



13C8-PFOS

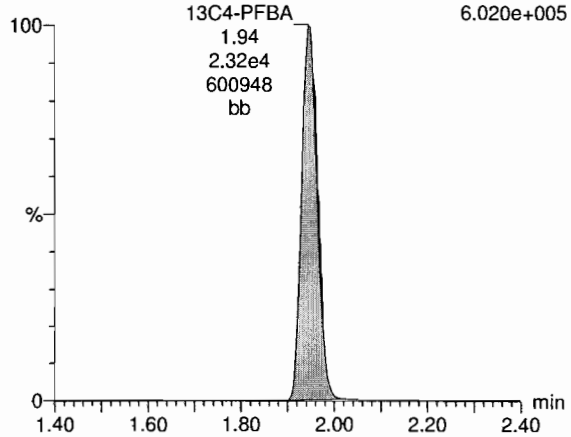


Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-19.qld

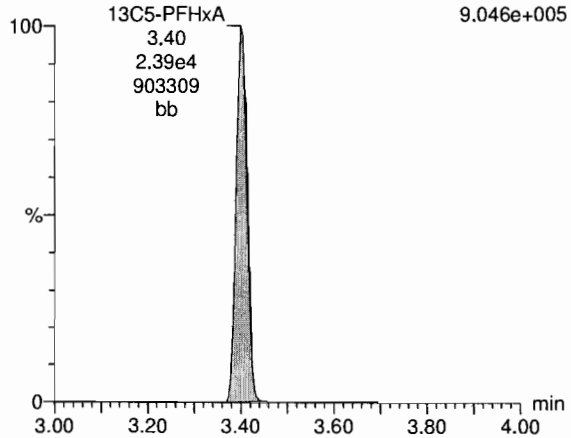
Last Altered: Wednesday, May 23, 2018 16:56:34 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:03:09 Pacific Daylight Time

Name: 180523G2-19, Date: 23-May-2018, Time: 16:37:58, ID: ST180523G2-2 PFC CS3 18E1407, Description: PFC CS3 18E1407

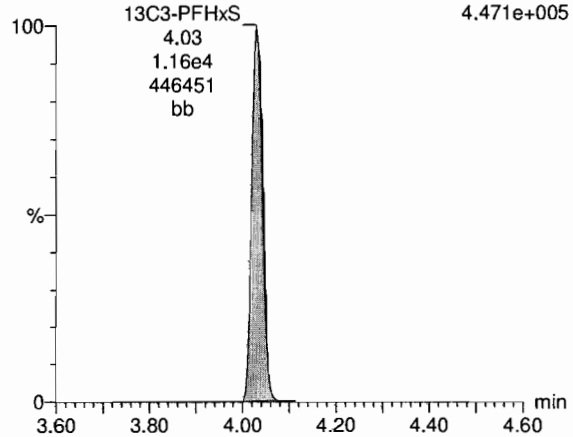
13C4-PFBA



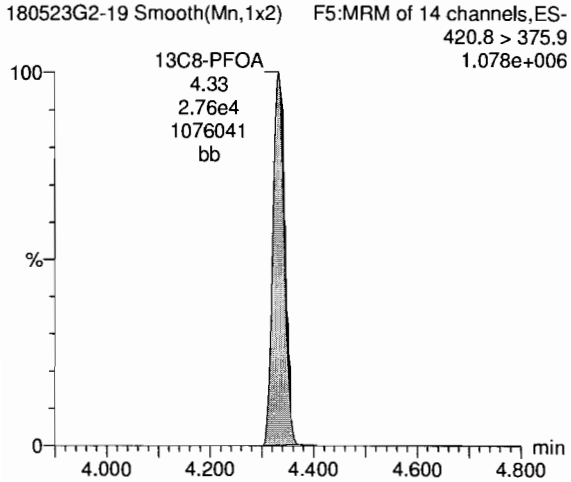
13C5-PFHxA



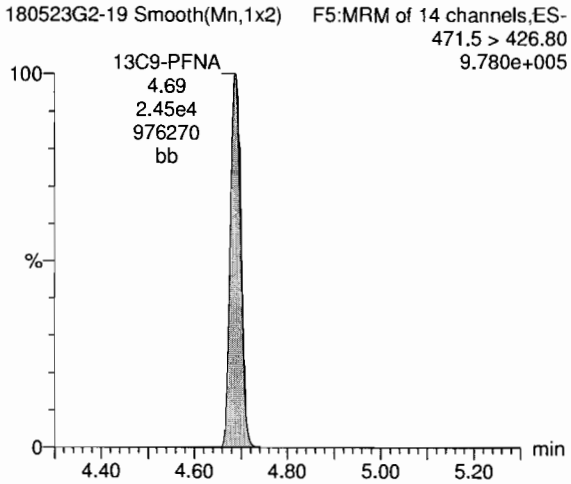
13C3-PFHxS



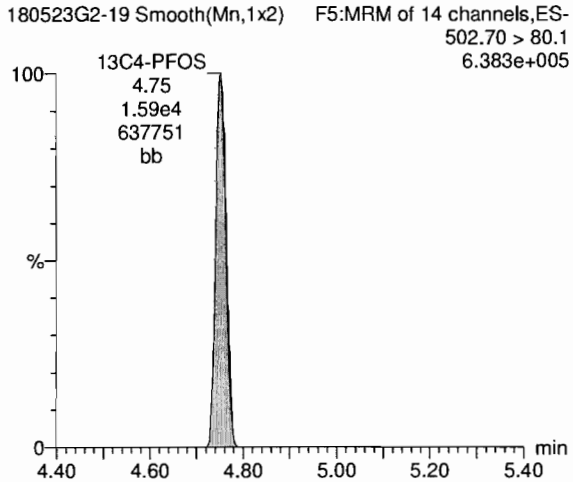
13C8-PFOA



13C9-PFNA



13C4-PFOS

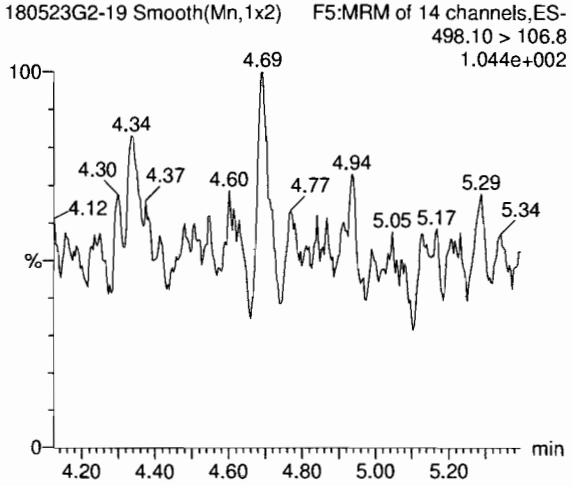


Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-19.qld

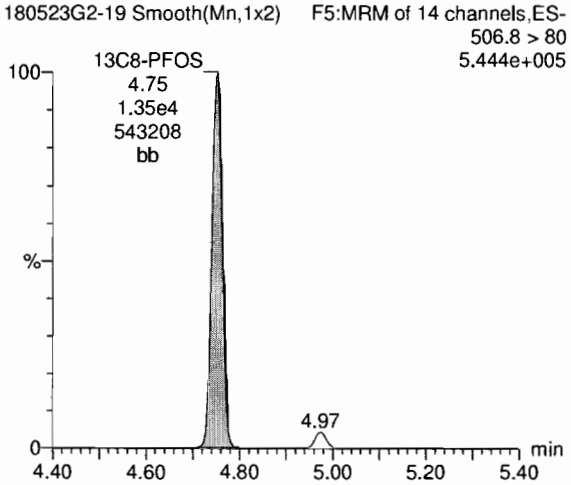
Last Altered: Wednesday, May 23, 2018 16:56:34 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:03:09 Pacific Daylight Time

Name: 180523G2-19, Date: 23-May-2018, Time: 16:37:58, ID: ST180523G2-2 PFC CS3 18E1407, Description: PFC CS3 18E1407

TCDA



13C8-PFOS



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-35.qld

Last Altered: Thursday, May 24, 2018 09:23:40 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:24:09 Pacific Daylight Time

√AD 5/24/18

MJT 5/24/18

Method: X:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-35, Date: 23-May-2018, Time: 20:04:40, ID: ST180523G2-3 PFC CS3 18E1407, Description: PFC CS3 18E1407

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.56e4	2.56e4	1.00000		1.93	1.93	7.60	9.05	90.5
2	2	PFPeA	262.7 > 218.9	1.00e4	1.81e4	1.00000		2.81	2.81	6.92	9.79	97.9
3	3	PFBS	298.7>80	1.02e4	4.59e3	1.00000		3.04	3.04	27.8	11.7	116.7
4	4	PFHxA	312.7 > 268.8	1.27e4	9.99e3	1.00000		3.40	3.40	6.35	9.58	95.8
5	5	PFHpA	362.8 > 318.9	2.00e4	2.56e4	1.00000		3.91	3.91	9.77	11.6	115.8
6	6	PFHxS	398.8 > 80.1	9.80e3	5.77e3	1.00000		4.03	4.03	21.2	10.4	104.5
7	7	L-PFOA	412.8 > 368.9	1.95e4	2.74e4	1.00000		4.33	4.33	8.91	8.70	87.0
8	9	PFNA	462.8 > 418.9	1.99e4	2.32e4	1.00000		4.69	4.69	10.7	9.87	98.7
9	10	PFOS	498.8 > 80	1.33e4	1.35e4	1.00000		4.75	4.75	12.3	12.6	126.5
10	11	13C3-PFBA	215.8 > 171.9	2.56e4	2.24e4	1.00000	1.006	1.93	1.93	14.3	14.2	113.6
11	12	13C3-PFBS	301.8 > 99	4.59e3	2.33e4	1.00000	0.213	2.84	3.04	2.46	11.5	92.1
12	13	13C3-PFPeA	265.7 > 222	1.81e4	2.33e4	1.00000	0.793	2.81	2.81	9.71	12.2	97.9
13	14	13C2-PFHxA	314.8 > 270	9.99e3	2.33e4	1.00000	0.989	3.09	3.40	5.35	5.41	108.2
14	15	13C4-PFHpA	366.7 > 322	2.56e4	2.33e4	1.00000	0.959	3.89	3.91	13.7	14.3	114.1
15	16	18O2-PFHxS	402.8 > 103	5.77e3	1.18e4	1.00000	0.458	3.72	4.03	6.10	13.3	106.6
16	17	13C2-PFOA	414.8 > 369.9	2.74e4	2.72e4	1.00000	0.991	4.33	4.33	12.6	12.7	101.7
17	18	13C5-PFNA	467.8 > 422.9	2.32e4	2.67e4	1.00000	0.912	4.69	4.69	10.9	11.9	95.5
18	19	13C8-PFOS	506.8 > 80	1.35e4	1.66e4	1.00000	0.873	4.55	4.75	10.1	11.6	92.6
19	20	13C4-PFBA	216.7 > 171.9	2.24e4	2.24e4	1.00000	1.000	1.72	1.93	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	2.33e4	2.33e4	1.00000	1.000	3.66	3.40	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	1.18e4	1.18e4	1.00000	1.000	4.29	4.03	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	2.72e4	2.72e4	1.00000	1.000	4.53	4.33	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	2.67e4	2.67e4	1.00000	1.000	4.93	4.69	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.66e4	1.66e4	1.00000	1.000	4.98	4.75	12.5	12.5	100.0

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 09:32:27 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:33:10 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	180523G2-1	WINDOW TEST	23-May-18	12:13:33
2	2	180523G2-2	IPA	23-May-18	12:25:44
3	3	180523G2-3	ST180523G2-1 PFC CS0 18E1404	23-May-18	12:46:36
4	4	180523G2-4	IPA	23-May-18	12:58:50
5	5	180523G2-5	B8E0066-BS1 OPR 0.125	23-May-18	13:27:44
6	6	180523G2-6	B8E0066-BLK1 Method Blank 0.125	23-May-18	13:39:56
7	7	180523G2-7	1800881-01 Well 5 0.1093	23-May-18	13:52:57
8	8	180523G2-8	B8E0066-BS1 OPR 0.125	23-May-18	14:07:36
9	9	180523G2-9	1800879-01 MW-1 0.12462	23-May-18	14:27:02
10	10	180523G2-10	1800879-02 MW-3 0.1263	23-May-18	14:39:15
11	11	180523G2-11	1800879-03 MW-3D 0.12143	23-May-18	14:52:12
12	12	180523G2-12	1800879-04 MW-5 0.12092	23-May-18	15:05:10
13	13	180523G2-13	1800879-05 MW-6 0.12182	23-May-18	15:18:07
14	14	180523G2-14	1800879-06 MW-101 0.11675	23-May-18	15:31:05
15	15	180523G2-15	1800879-07 MW-102 0.11857	23-May-18	15:44:05
16	16	180523G2-16	1800879-08 TW 15-74 0.10557	23-May-18	15:57:04
17	17	180523G2-17	1800880-01 MW-1 0.11698	23-May-18	16:10:01
18	18	180523G2-18	IPA	23-May-18	16:22:59
19	19	180523G2-19	ST180523G2-2 PFC CS3 18E1407	23-May-18	16:37:58
20	20	180523G2-20	IPA	23-May-18	16:50:12
21	21	180523G2-21	1800880-02 MW-3 0.11936	23-May-18	17:03:18
22	22	180523G2-22	1800880-03 MW-6 0.11541	23-May-18	17:16:10
23	23	180523G2-23	1800880-04 MW-101r 0.11204	23-May-18	17:29:07
24	24	180523G2-24	B8E0065-BS1 OPR 0.125	23-May-18	17:42:04
25	25	180523G2-25	B8E0065-MS1 Matrix Spike 0.12012	23-May-18	17:55:02
26	26	180523G2-26	B8E0065-MSD1 Matrix Spike Dup 0.12...	23-May-18	18:07:55
27	27	180523G2-27	B8E0065-BLK1 Method Blank 0.125	23-May-18	18:20:52
28	28	180523G2-28	1800843-01 STM-Outfall Pipe 0.11595	23-May-18	18:33:50
29	29	180523G2-29	1800843-02 STM-Outfall Pipe Dup 0.12...	23-May-18	18:46:48
30	30	180523G2-30	1800843-03 STM-Perimeter Ditches 0.1...	23-May-18	18:59:45
31	31	180523G2-31	1800843-04 STM-Subsurface Piping 0....	23-May-18	19:12:43
32	32	180523G2-32	1800877-01 MW-1 0.12171	23-May-18	19:25:42

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 09:32:27 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:33:10 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	180523G2-33	1800877-02 MW-2 0.11123	23-May-18	19:38:46
34	34	180523G2-34	IPA	23-May-18	19:51:39
35	35	180523G2-35	ST180523G2-3 PFC CS3 18E1407	23-May-18	20:04:40
36	36	180523G2-36	IPA	23-May-18	20:17:44
37	37	180523G2-37	1800877-03 MW-3 0.11906	23-May-18	20:30:42
38	38	180523G2-38	1800878-01 MW-1 0.12097	23-May-18	20:43:36
39	39	180523G2-39	1800878-02 MW-2 0.11476	23-May-18	20:56:33
40	40	180523G2-40	1800878-03 MW-3 0.10812	23-May-18	21:09:31
41	41	180523G2-41	1800878-04 MW-7 0.11394	23-May-18	21:22:28
42	42	180523G2-42	1800878-05 MW-9 0.11616	23-May-18	21:35:25
43	43	180523G2-43	1800878-06 W-1 0.10754	23-May-18	21:48:23
44	44	180523G2-44	1800878-07 W-5 0.11989	23-May-18	22:01:21
45	45	180523G2-45	1800878-08 W-6R 0.11295	23-May-18	22:14:14
46	46	180523G2-46	1800878-09 W-7 0.11693	23-May-18	22:27:13
47	47	180523G2-47	IPA	23-May-18	22:40:10
48	48	180523G2-48	ST180523G2-4 PFC CS0 18E1404	23-May-18	22:53:10
49	49	180523G2-49	IPA	23-May-18	23:06:09
50	50	180523G2-50	1800842-01 Dug 0.12025	23-May-18	23:19:12
51	51	180523G2-51	1800842-02 B-3 0.11618	23-May-18	23:32:06
52	52	180523G2-52	1800842-03 B-5 0.11864	23-May-18	23:45:04
53	53	180523G2-53	1800842-04 B-103S 0.11892	23-May-18	23:58:01
54	54	180523G2-54	1800842-05 B-103D 0.12101	24-May-18	00:10:59
55	55	180523G2-55	1800842-06 B-405S 0.12331	24-May-18	00:23:57
56	56	180523G2-56	1800842-07 B-405D 0.11828	24-May-18	00:36:50
57	57	180523G2-57	1800842-08 Field Blank 0.11699	24-May-18	00:49:48
58	58	180523G2-58	IPA	24-May-18	01:02:45
59	59	180523G2-59	ST180523G2-5 PFC CS3 18E1407	24-May-18	01:15:45
60	60	180523G2-60	IPA	24-May-18	01:28:40

CO

Vista Analytical Laboratory

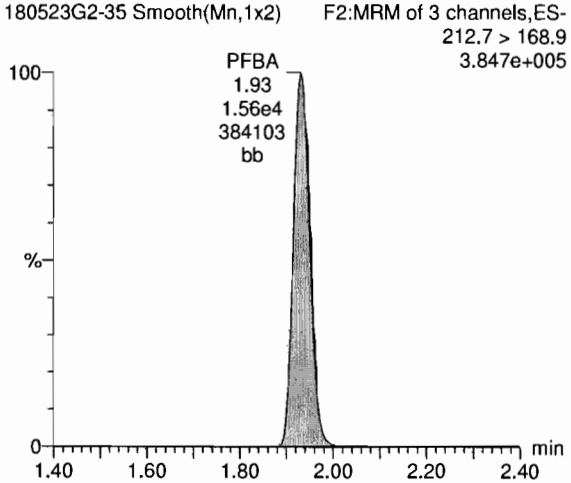
Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-35.qld

Last Altered: Thursday, May 24, 2018 09:23:40 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:24:09 Pacific Daylight Time

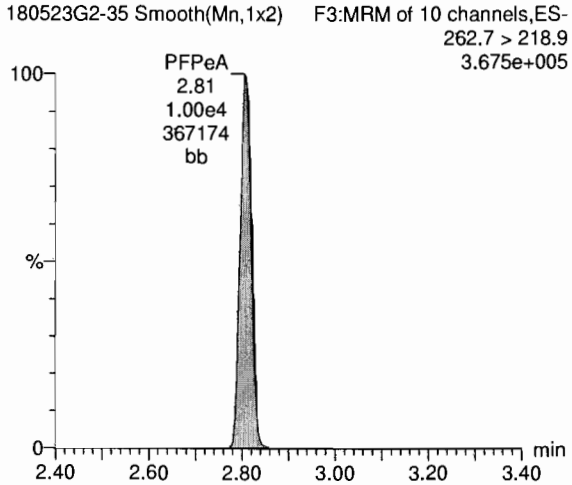
Method: X:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180523G2-35, Date: 23-May-2018, Time: 20:04:40, ID: ST180523G2-3 PFC CS3 18E1407, Description: PFC CS3 18E1407

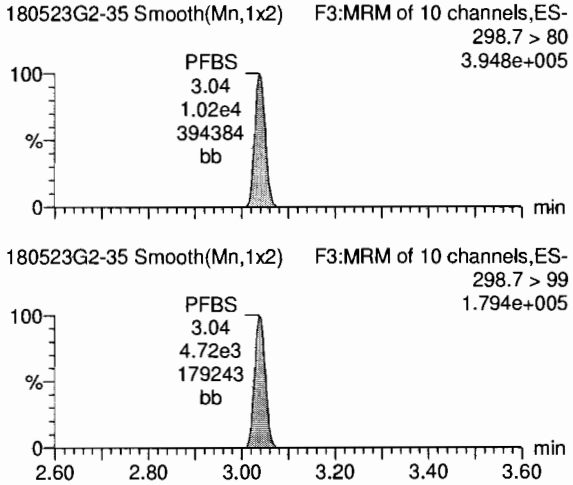
PFBA



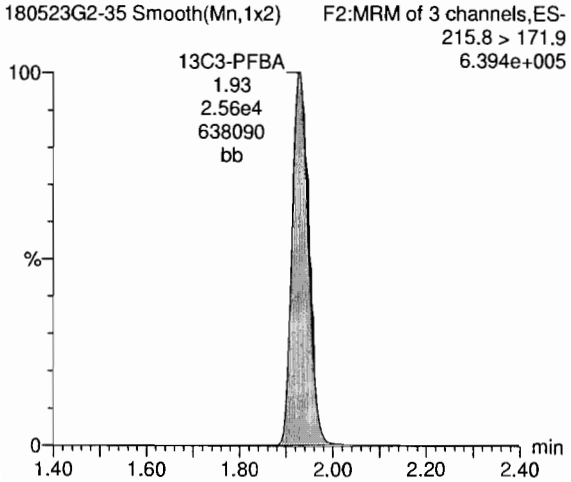
PFPeA



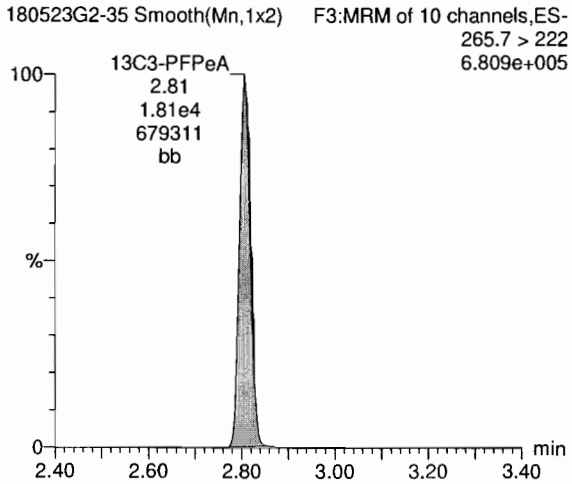
PFBS



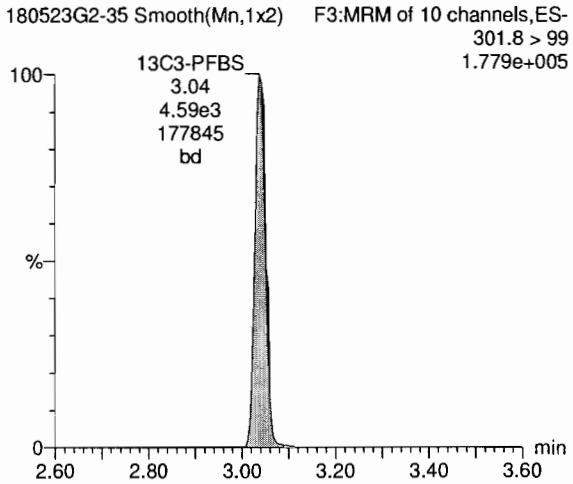
13C3-PFBA



13C3-PFPeA



13C3-PFBS



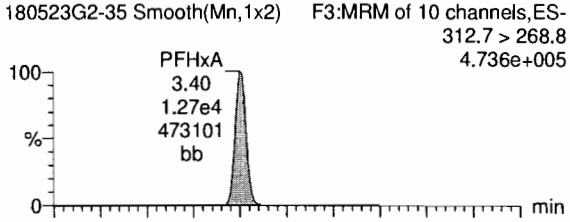
Vista Analytical Laboratory

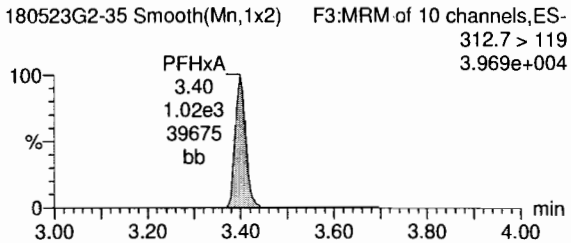
Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-35.qld

Last Altered: Thursday, May 24, 2018 09:23:40 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:24:09 Pacific Daylight Time

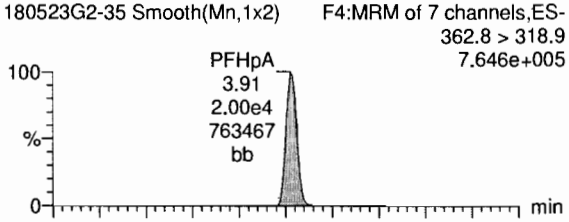
Name: 180523G2-35, Date: 23-May-2018, Time: 20:04:40, ID: ST180523G2-3 PFC CS3 18E1407, Description: PFC CS3 18E1407

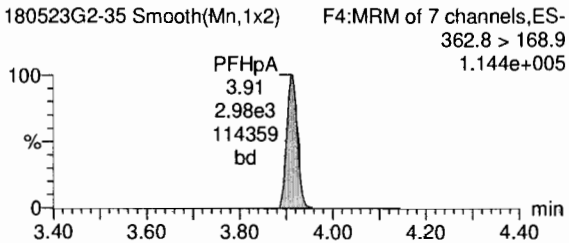
PFHxA



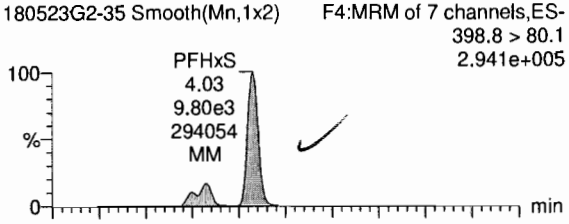


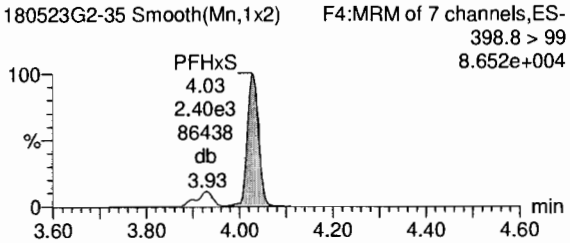
PFHpA



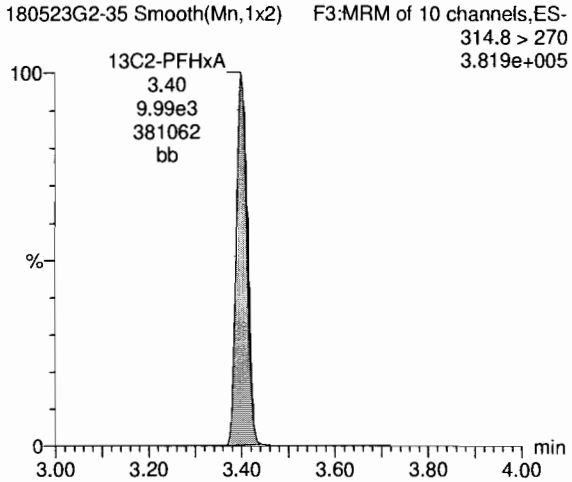


Total PFHxS

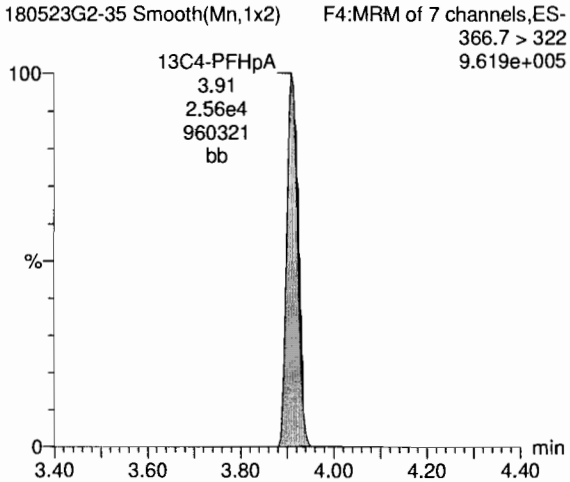




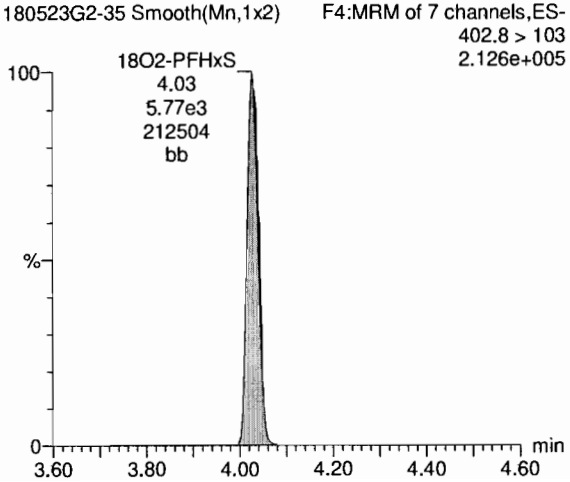
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



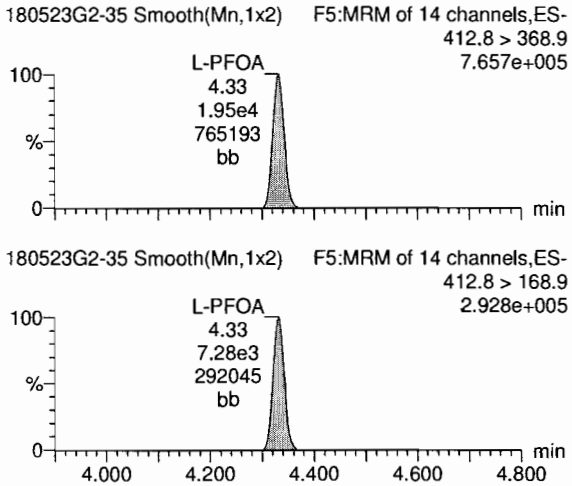
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-35.qld

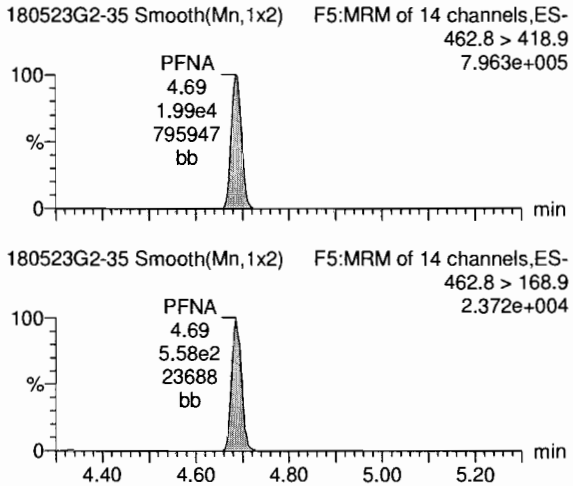
Last Altered: Thursday, May 24, 2018 09:23:40 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:24:09 Pacific Daylight Time

Name: 180523G2-35, Date: 23-May-2018, Time: 20:04:40, ID: ST180523G2-3 PFC CS3 18E1407, Description: PFC CS3 18E1407

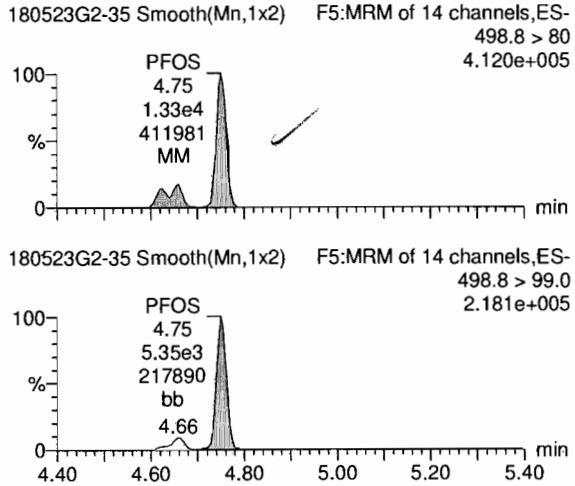
Total PFOA



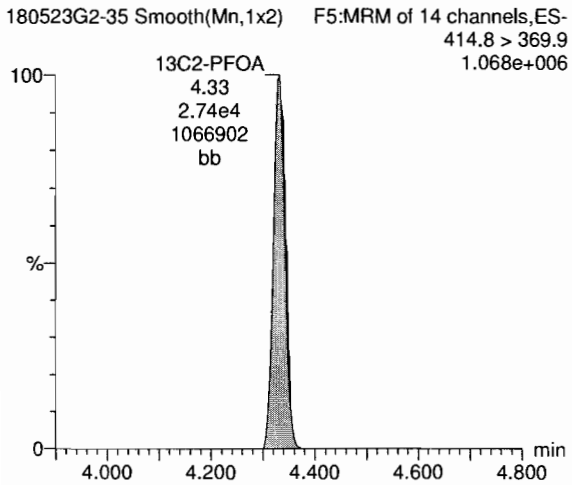
PFNA



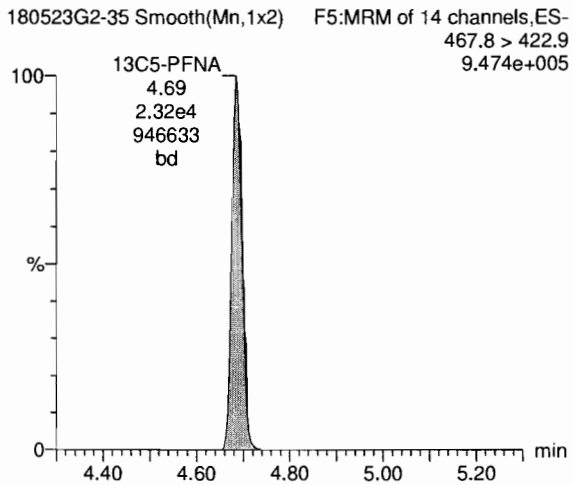
Total PFOS



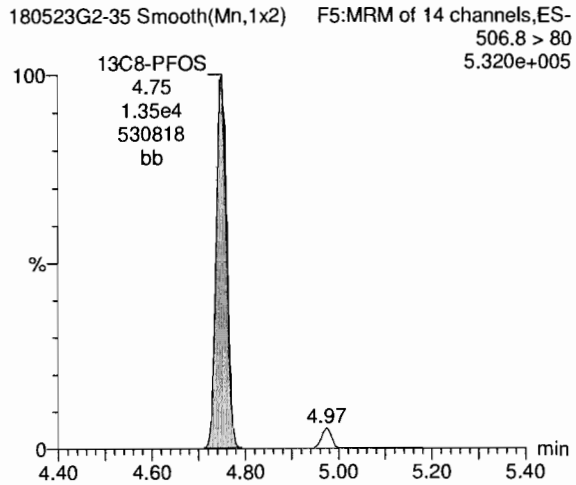
13C2-PFOA



13C5-PFNA



13C8-PFOS

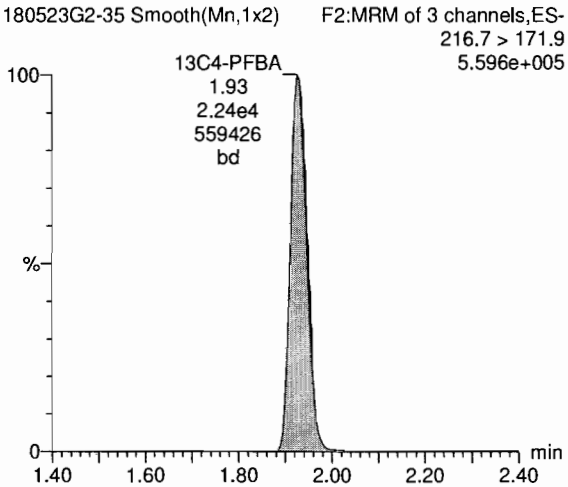


Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-35.qld

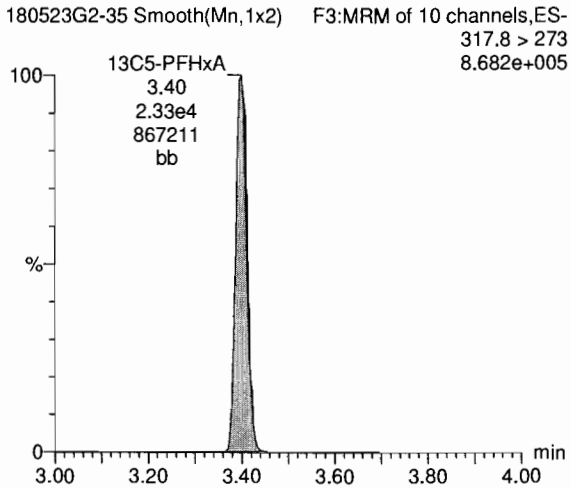
Last Altered: Thursday, May 24, 2018 09:23:40 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:24:09 Pacific Daylight Time

Name: 180523G2-35, Date: 23-May-2018, Time: 20:04:40, ID: ST180523G2-3 PFC CS3 18E1407, Description: PFC CS3 18E1407

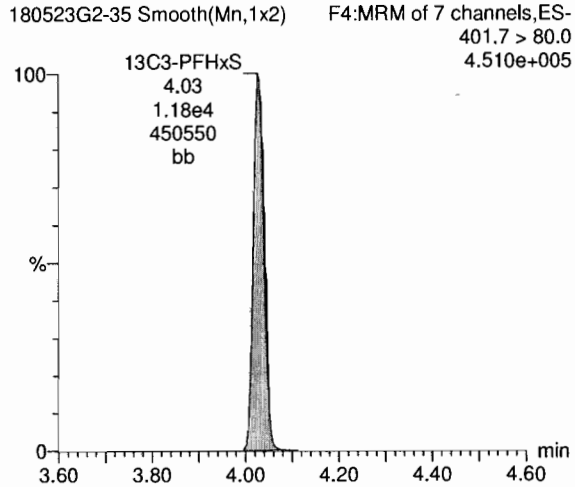
13C4-PFBA



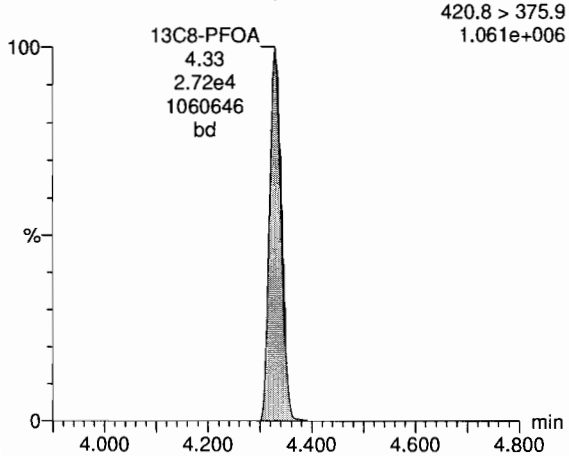
13C5-PFHxA



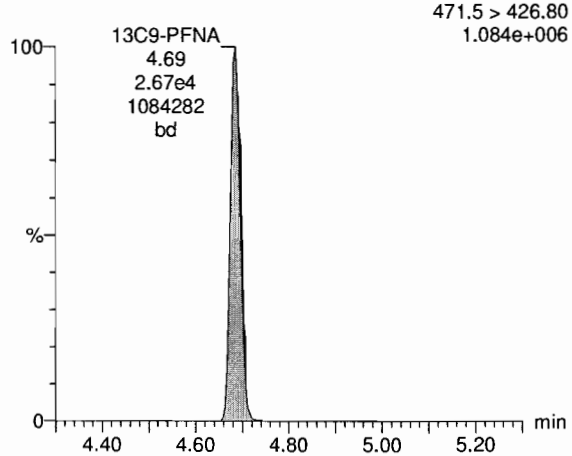
13C3-PFHxS



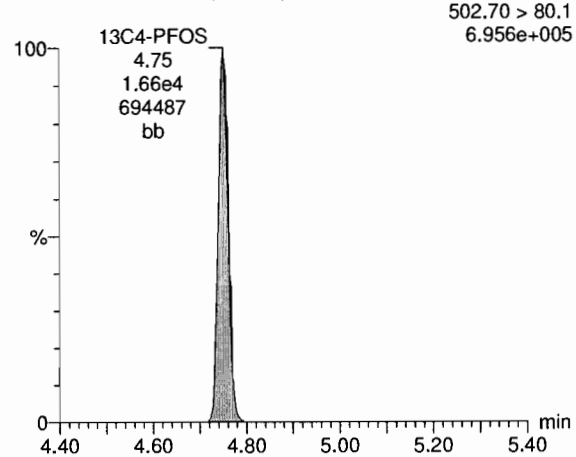
13C8-PFOA



13C9-PFNA



13C4-PFOS



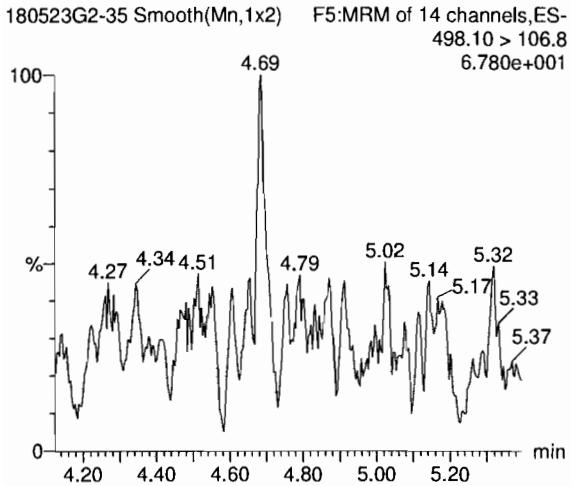
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180523G2\180523G2-35.qld

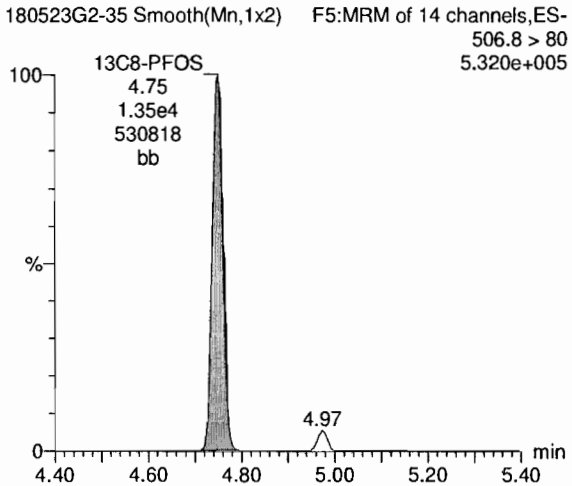
Last Altered: Thursday, May 24, 2018 09:23:40 Pacific Daylight Time
Printed: Thursday, May 24, 2018 09:24:09 Pacific Daylight Time

Name: 180523G2-35, Date: 23-May-2018, Time: 20:04:40, ID: ST180523G2-3 PFC CS3 18E1407, Description: PFC CS3 18E1407

TCDA



13C8-PFOS



LC Calibration Standards Review Checklist Q1

			ION Ratio NA	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID:	ST180524G1-10	L (M) H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	-11	(L) M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	-12	L (M) H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	-13	L (M) H	☑	☐	☐	☐	☐	☐	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 5.14.18

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

IIS Area Saved ☒ NA none DoD

Reviewed By: AD 5/25/18
Initials/Date

Comments:

Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180524G1\180524G1-32.qld

Last Altered: Friday, May 25, 2018 07:58:15 Pacific Daylight Time
Printed: Friday, May 25, 2018 07:58:36 Pacific Daylight Time

VAD 5/25/18

MJT 5/25/18

Method: X:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-32, Date: 24-May-2018, Time: 19:22:31, ID: ST180524G1-10 PFC CS3 18E2207, Description: PFC CS3 18E2207

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.21e4	2.03e4	1.00000		1.94	1.94	7.48	8.43	84.3
2	2	PFPeA	262.7 > 218.9	7.97e3	1.39e4	1.00000		2.81	2.81	7.17	10.4	103.6
3	3	PFBS	298.7>80	6.64e3	3.58e3	1.00000		3.05	3.05	23.2	9.00	90.0
4	4	PFHxA	312.7 > 268.8	9.36e3	7.35e3	1.00000		3.41	3.41	6.37	9.87	98.7
5	5	PFHpA	362.8 > 318.9	1.29e4	1.83e4	1.00000		3.91	3.91	8.77	10.5	105.2
6	6	PFHxS	398.8 > 80.1	5.85e3	4.12e3	1.00000		4.03	4.03	17.8	9.81	98.1
7	7	L-PFOA	412.8 > 368.9	1.37e4	1.90e4	1.00000		4.34	4.33	9.04	10.4	104.0
8	9	PFNA	462.8 > 418.9	1.28e4	1.59e4	1.00000		4.69	4.69	10.0	10.2	102.2
9	10	PFOS	498.8 > 80	7.31e3	8.70e3	1.00000		4.75	4.75	10.5	8.96	89.6
10	11	13C3-PFBA	215.8 > 171.9	2.03e4	1.82e4	1.00000	0.957	1.93	1.94	13.9	14.5	116.2
11	12	13C3-PFBS	301.8 > 99	3.58e3	1.71e4	1.00000	0.194	2.85	3.05	2.61	13.5	107.9
12	13	13C3-PFPeA	265.7 > 222	1.39e4	1.71e4	1.00000	0.807	2.82	2.81	10.2	12.6	100.6
13	14	13C2-PFHxA	314.8 > 270	7.35e3	1.71e4	1.00000	1.014	3.41	3.41	5.37	5.30	105.9
14	15	13C4-PFHpA	366.7 > 322	1.83e4	1.71e4	1.00000	1.039	3.90	3.91	13.4	12.9	103.1
15	16	18O2-PFHxS	402.8 > 103	4.12e3	7.99e3	1.00000	0.519	3.72	4.03	6.44	12.4	99.4
16	17	13C2-PFOA	414.8 > 369.9	1.90e4	1.71e4	1.00000	1.010	4.33	4.34	13.9	13.8	110.1
17	18	13C5-PFNA	467.8 > 422.9	1.59e4	1.73e4	1.00000	0.936	4.69	4.69	11.5	12.3	98.3
18	19	13C8-PFOS	506.8 > 80	8.70e3	1.05e4	1.00000	0.865	4.55	4.75	10.3	11.9	95.6
19	20	13C4-PFBA	216.7 > 171.9	1.82e4	1.82e4	1.00000	1.000	1.72	1.93	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	1.71e4	1.71e4	1.00000	1.000	3.66	3.41	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	7.99e3	7.99e3	1.00000	1.000	4.29	4.03	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	1.71e4	1.71e4	1.00000	1.000	4.53	4.33	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	1.73e4	1.73e4	1.00000	1.000	4.93	4.69	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.05e4	1.05e4	1.00000	1.000	4.98	4.75	12.5	12.5	100.0

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, May 25, 2018 08:06:52 Pacific Daylight Time
Printed: Friday, May 25, 2018 08:07:15 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	180524G1-1	WINDOW TEST	24-May-18	10:36:15
2	2	180524G1-2	IPA	24-May-18	10:48:31
3	3	180524G1-3	ST180524G1-1 PFC CS-2 18E2202	24-May-18	11:01:34
4	4	180524G1-4	ST180524G1-2 PFC CS-1 18E2203	24-May-18	11:14:27
5	5	180524G1-5	ST180524G1-3 PFC CS0 18E2204	24-May-18	11:27:22
6	6	180524G1-6	ST180524G1-4 PFC CS1 18E2205	24-May-18	11:40:19
7	7	180524G1-7	ST180524G1-5 PFC CS2 18E2206	24-May-18	11:53:18
8	8	180524G1-8	ST180524G1-6 PFC CS3 18E2207	24-May-18	12:06:15
9	9	180524G1-9	ST180524G1-7 PFC CS4 18E2208	24-May-18	12:19:12
10	10	180524G1-10	ST180524G1-8 PFC CS5 18E2209	24-May-18	12:32:10
11	11	180524G1-11	ST180524G1-9 PFC CS6 18E2210	24-May-18	12:45:08
12	12	180524G1-12	IPA	24-May-18	15:01:32
13	13	180524G1-13	ICV180524G1-1 PFC ICV 18E1401	24-May-18	15:13:47
14	14	180524G1-14	IPA	24-May-18	15:26:52
15	15	180524G1-15	ICV QC TESTER 18E2201	24-May-18	15:39:49
16	16	180524G1-16	B8E0065-BS1 OPR 0.125	24-May-18	15:52:51
17	17	180524G1-17	B8E0178-BS1 OPR 0.125	24-May-18	16:05:48
18	18	180524G1-18	B8E0178-BLK1 Method Blank 0.125	24-May-18	16:18:45
19	19	180524G1-19	1800775-01RE1 MW-2 0.1235	24-May-18	16:31:43
20	20	180524G1-20	1800775-02RE1 MW-5 0.11948	24-May-18	16:44:41
21	21	180524G1-21	1800830-01RE1 MW-11 0.12475	24-May-18	16:57:38
22	22	180524G1-22	1800830-02RE1 MW-13 0.12139	24-May-18	17:10:36
23	23	180524G1-23	1800830-03RE1 MW-15 0.11917	24-May-18	17:25:41
24	24	180524G1-24	1800830-04RE1 Field Blank 0.122	24-May-18	17:39:32
25	25	180524G1-25	1800830-05RE1 Equip Blank 0.121	24-May-18	17:51:43
26	26	180524G1-26	1800777-01RE1 AE-3 0.11859	24-May-18	18:04:39
27	27	180524G1-27	1800777-02RE1 AE-4New 0.11939	24-May-18	18:17:36
28	28	180524G1-28	1800828-01RE1 RFW-4 0.12151	24-May-18	18:30:34
29	29	180524G1-29	1800828-02RE1 GZ-202A 0.122	24-May-18	18:43:32
30	30	180524G1-30	1800876-01RE1 MW-5 0.1211	24-May-18	18:56:30
31	31	180524G1-31	IPA	24-May-18	19:09:35
32	32	180524G1-32	ST180524G1-10 PFC CS3 18E2207	24-May-18	19:22:31

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, May 25, 2018 08:06:52 Pacific Daylight Time
Printed: Friday, May 25, 2018 08:07:15 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
33	33 180524G1-33	IPA	24-May-18	19:35:27
34	34 180524G1-34	1800876-02RE1 MW-201D 0.1209	24-May-18	19:48:26
35	35 180524G1-35	1800876-03RE1 MW-2 0.12458	24-May-18	20:01:19
36	36 180524G1-36	1800876-04RE1 MW-3 0.11982	24-May-18	20:14:17
37	37 180524G1-37	1800876-05RE1 MW-1 0.11995	24-May-18	20:27:14
38	38 180524G1-38	1800876-06RE1 MW-203 0.11927	24-May-18	20:40:12
39	39 180524G1-39	1800877-03 MW-3 0.11906	24-May-18	20:53:09
40	40 180524G1-40	1800878-01 MW-1 0.12097	24-May-18	21:06:04
41	41 180524G1-41	1800878-02 MW-2 0.11476	24-May-18	21:19:01
42	42 180524G1-42	1800878-03 MW-3 0.10812	24-May-18	21:32:00
43	43 180524G1-43	1800878-04 MW-7 0.11394	24-May-18	21:44:57
44	44 180524G1-44	IPA	24-May-18	21:57:54
45	45 180524G1-45	ST180524G1-11 PFC CS0 18E2204	24-May-18	22:10:52
46	46 180524G1-46	IPA	24-May-18	22:23:49
47	47 180524G1-47	1800878-05 MW-9 0.11616	24-May-18	22:36:47
48	48 180524G1-48	1800878-06 W-1 0.10754	24-May-18	22:49:43
49	49 180524G1-49	1800878-07 W-5 0.11989	24-May-18	23:02:43
50	50 180524G1-50	1800878-08 W-6R 0.11295	24-May-18	23:15:34
51	51 180524G1-51	1800878-09 W-7 0.11693	24-May-18	23:28:31
52	52 180524G1-52	1800842-01 Dug 0.12025	24-May-18	23:41:29
53	53 180524G1-53	1800842-02 B-3 0.11618	24-May-18	23:54:26
54	54 180524G1-54	1800842-03 B-5 0.11864	25-May-18	00:07:24
55	55 180524G1-55	1800842-04 B-103S 0.11892	25-May-18	00:20:21
56	56 180524G1-56	IPA	25-May-18	00:33:21
57	57 180524G1-57	ST180524G1-12 PFC CS3 18E2207	25-May-18	00:46:17
58	58 180524G1-58	IPA	25-May-18	00:59:12
59	59 180524G1-59	1800842-05 B-103D 0.12101	25-May-18	01:12:11
60	60 180524G1-60	1800842-06 B-405S 0.12331	25-May-18	01:25:15
61	61 180524G1-61	1800842-07 B-405D 0.11828	25-May-18	01:38:09
62	62 180524G1-62	1800842-08 Field Blank 0.11699	25-May-18	01:51:06
63	63 180524G1-63	B8E0105-BLK1 Method Blank 0.125	25-May-18	02:04:04
64	64 180524G1-64	B8E0105-BS1 OPR 0.125	25-May-18	02:17:03
65	65 180524G1-65	1800904-01 Lagoon 0.11883	25-May-18	02:30:00
66	66 180524G1-66	1800918-01 PMW-6 0.11767	25-May-18	02:42:58
67	67 180524G1-67	1800913-01 MW-93-4 0.11769	25-May-18	02:55:51
68	68 180524G1-68	1800913-02 Field Blank 0.11732	25-May-18	03:08:48

Quantity Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, May 25, 2018 08:06:52 Pacific Daylight Time
Printed: Friday, May 25, 2018 08:07:15 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 180524G1-69	1800914-01 B-1 0.11852	25-May-18	03:21:46
70	70 180524G1-70	1800914-02 B-4 0.11885	25-May-18	03:34:43
71	71 180524G1-71	1800914-03 SG-2 (Seep) 0.11814	25-May-18	03:47:41
72	72 180524G1-72	B8E0150-BLK1 Method Blank 0.125	25-May-18	04:00:39
73	73 180524G1-73	B8E0150-BS1 OPR 0.125	25-May-18	04:13:41
74	74 180524G1-74	B8E0150-MS1 Matrix Spike 0.11786	25-May-18	04:26:34
75	75 180524G1-75	B8E0150-MSD1 Matrix Spike Dup 0.12...	25-May-18	04:39:30
76	76 180524G1-76	1800918-02 Field Blank 0.11691	25-May-18	04:52:24
77	77 180524G1-77	IPA	25-May-18	05:05:21
78	78 180524G1-78	ST180524G1-13 PFC CS3 18E2207	25-May-18	05:18:21
79	79 180524G1-79	IPA	25-May-18	05:31:17

Vista Analytical Laboratory

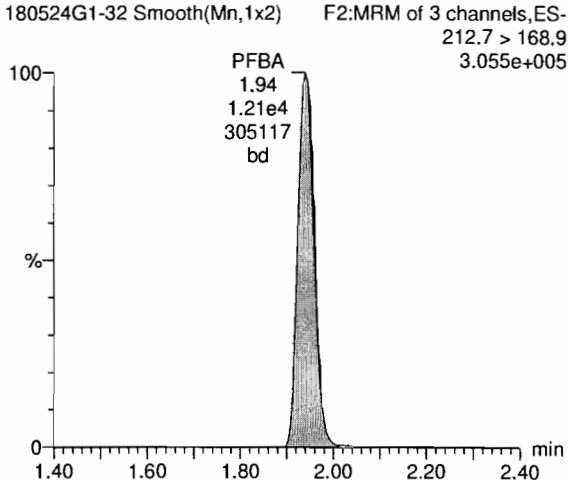
Dataset: X:\G1.PRO\Results\2018\180524G1\180524G1-32.qld

Last Altered: Friday, May 25, 2018 07:58:15 Pacific Daylight Time
Printed: Friday, May 25, 2018 07:58:36 Pacific Daylight Time

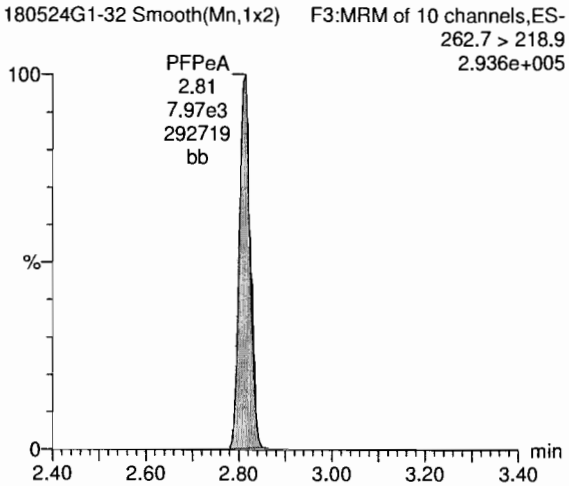
Method: X:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: X:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-32, Date: 24-May-2018, Time: 19:22:31, ID: ST180524G1-10 PFC CS3 18E2207, Description: PFC CS3 18E2207

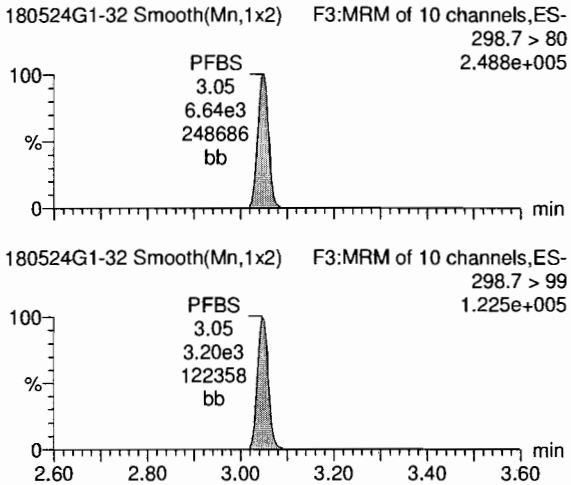
PFBA



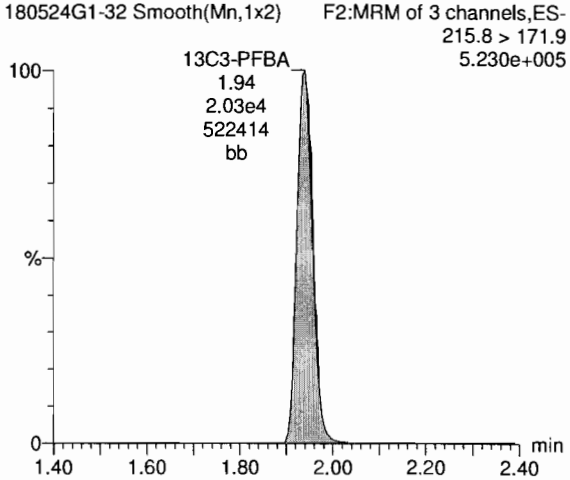
PFPeA



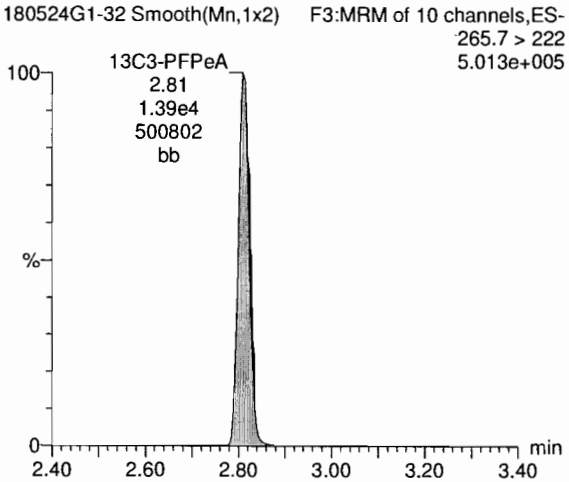
PFBS



13C3-PFBA



13C3-PFPeA



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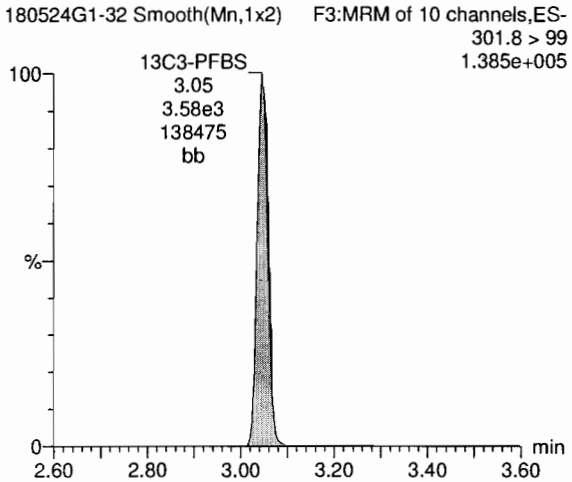
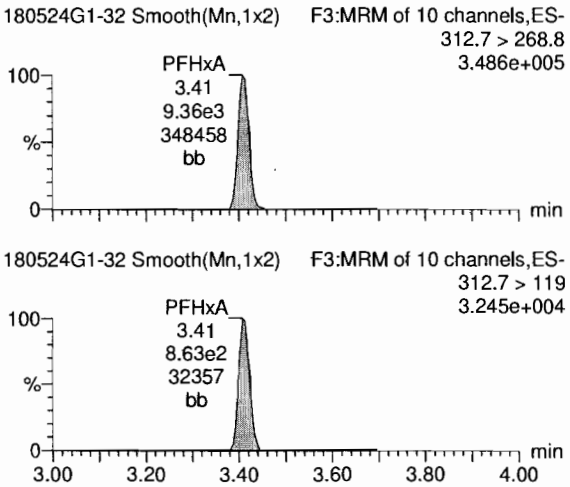


Dataset: X:\G1.PRO\Results\2018\180524G1\180524G1-32.qld

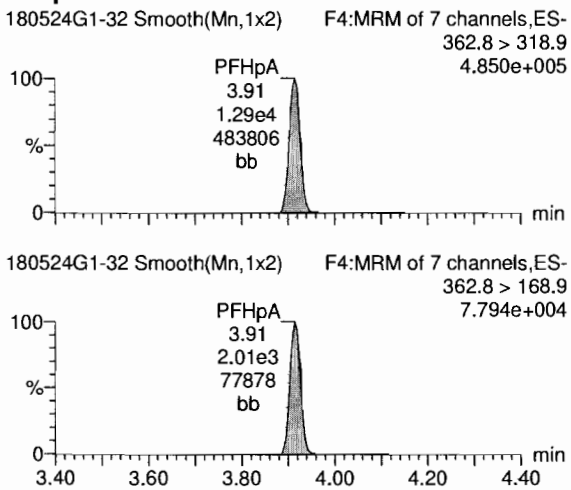
Last Altered: Friday, May 25, 2018 07:58:15 Pacific Daylight Time
Printed: Friday, May 25, 2018 07:58:36 Pacific Daylight Time

Name: 180524G1-32, Date: 24-May-2018, Time: 19:22:31, ID: ST180524G1-10 PFC CS3 18E2207, Description: PFC CS3 18E2207

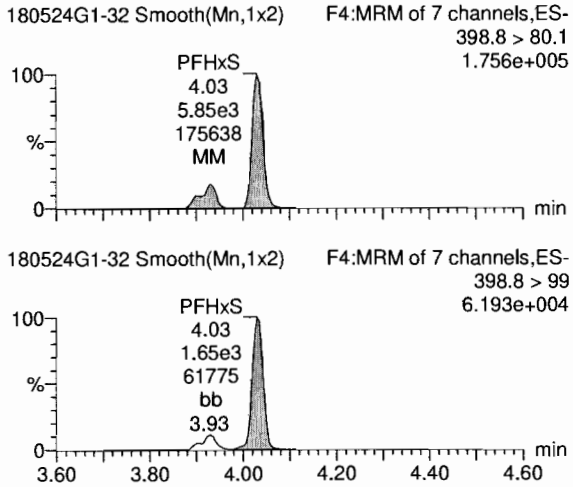
PFHxA



PFHpA



Total PFHxS



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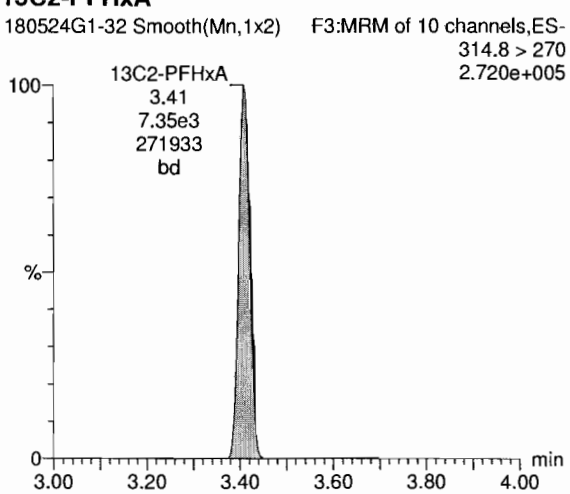
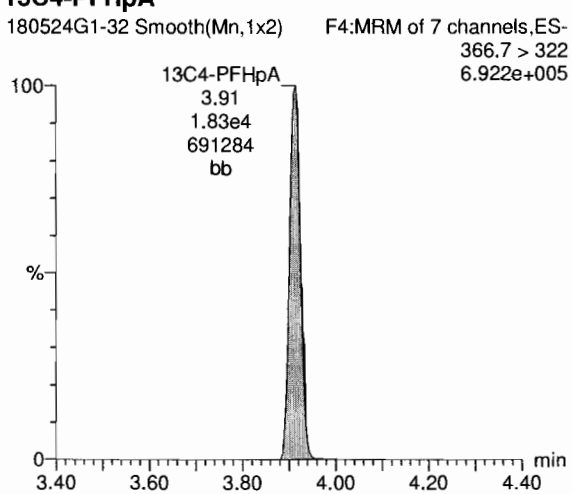
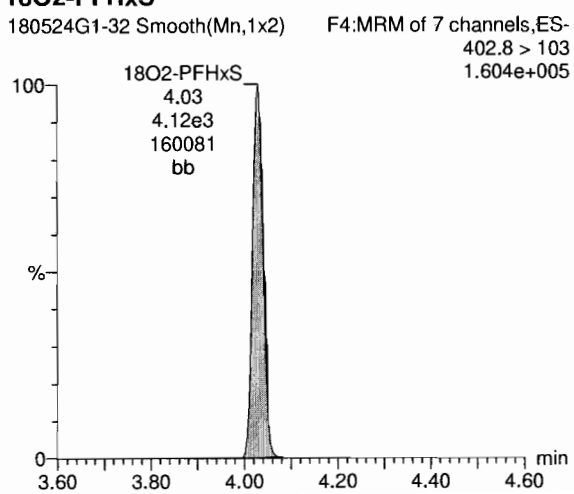


13C4-PFHpA



18O2-PFHxS



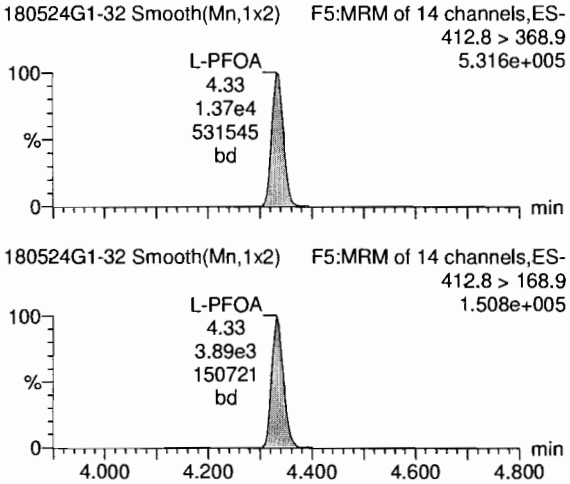
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180524G1\180524G1-32.qld

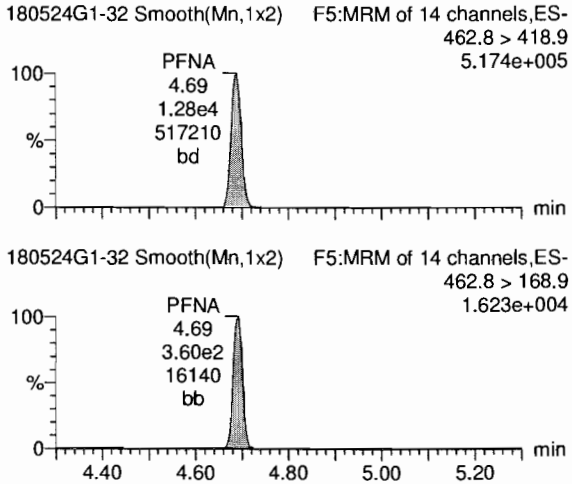
Last Altered: Friday, May 25, 2018 07:58:15 Pacific Daylight Time
Printed: Friday, May 25, 2018 07:58:36 Pacific Daylight Time

Name: 180524G1-32, Date: 24-May-2018, Time: 19:22:31, ID: ST180524G1-10 PFC CS3 18E2207, Description: PFC CS3 18E2207

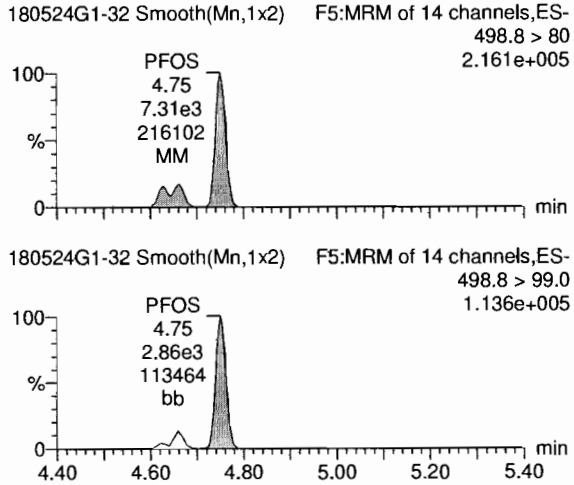
Total PFOA



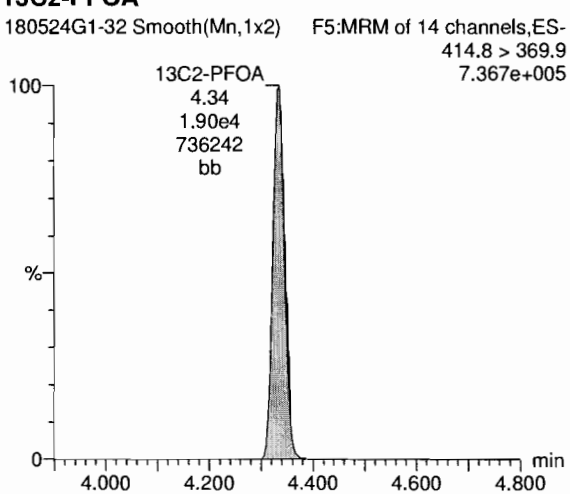
PFNA



Total PFOS



13C2-PFOA



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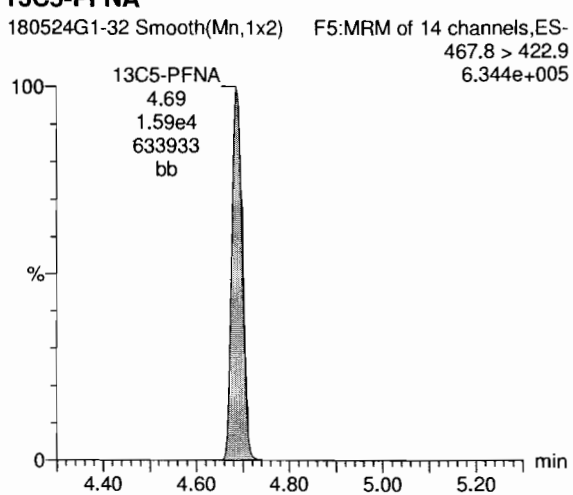
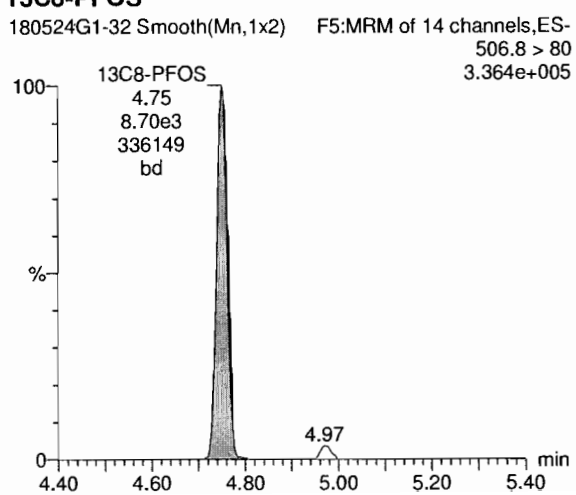


13C8-PFOS



Dataset: X:\G1.PRO\Results\2018\180524G1\180524G1-32.qld

Last Altered: Friday, May 25, 2018 07:58:15 Pacific Daylight Time
Printed: Friday, May 25, 2018 07:58:36 Pacific Daylight Time

Name: 180524G1-32, Date: 24-May-2018, Time: 19:22:31, ID: ST180524G1-10 PFC CS3 18E2207, Description: PFC CS3 18E2207

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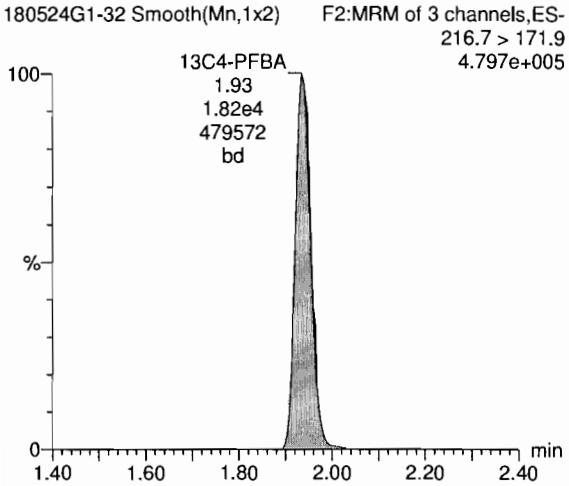

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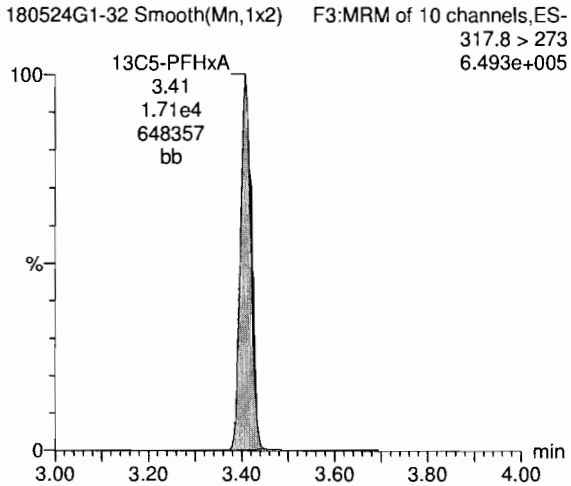

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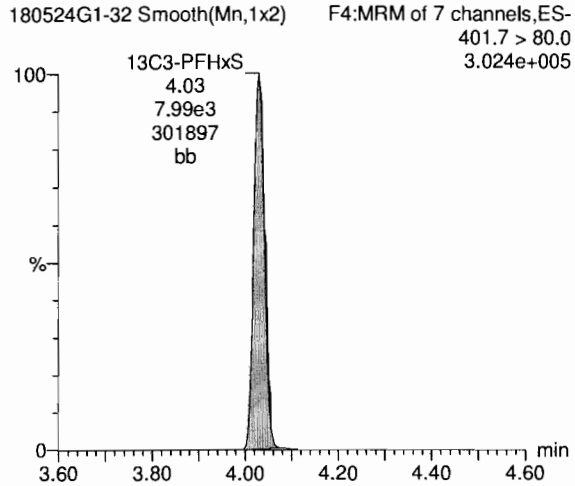

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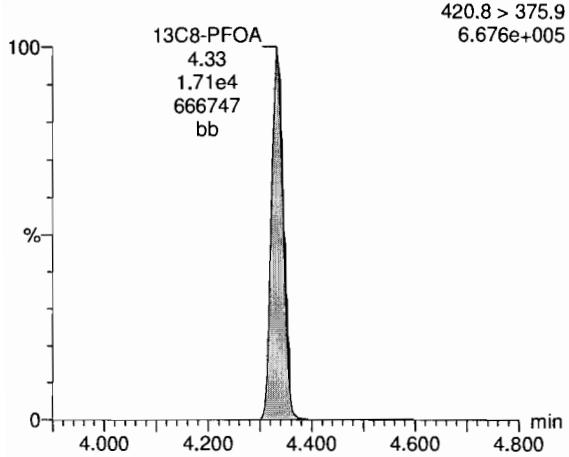

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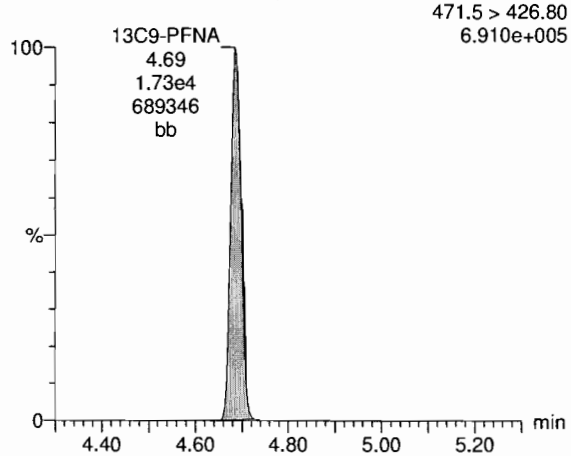
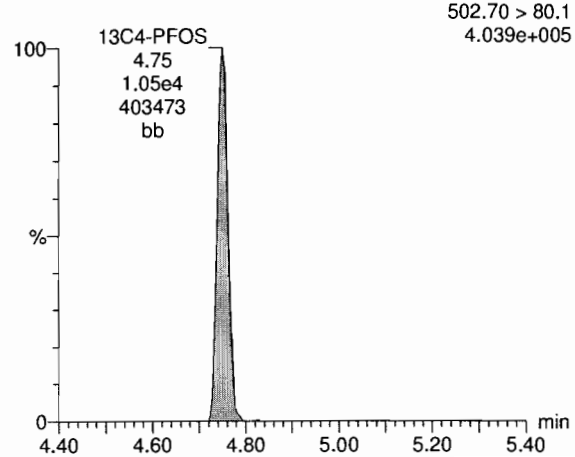


13C4-PFOS

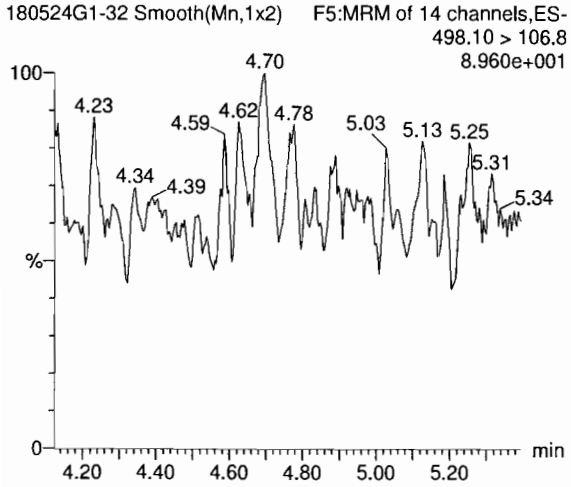


Dataset: X:\G1.PRO\Results\2018\180524G1\180524G1-32.qld

Last Altered: Friday, May 25, 2018 07:58:15 Pacific Daylight Time
Printed: Friday, May 25, 2018 07:58:36 Pacific Daylight Time

Name: 180524G1-32, Date: 24-May-2018, Time: 19:22:31, ID: ST180524G1-10 PFC CS3 18E2207, Description: PFC CS3 18E2207

TCDA



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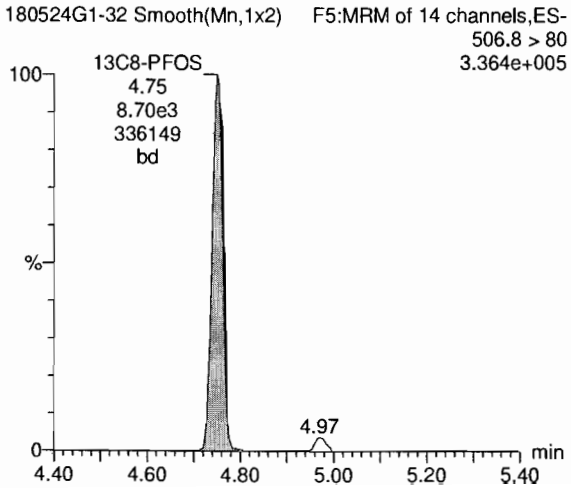

Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-24.qld

Last Altered: Friday, May 25, 2018 16:15:47 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:42:17 Pacific Daylight Time

JAM 5/27/18

Method: Y:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180525G1-24, Date: 25-May-2018, Time: 14:18:40, ID: ST180525G1-2 PFC CS3 18E2207, Description: PFC CS3 182207

70-130%

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.90e4	2.69e4	1.00000		1.92	1.92	8.83	9.95	99.5
2	2	PFPeA	262.7 > 218.9	1.08e4	2.09e4	1.00000		2.80	2.80	6.48	9.37	93.7
3	3	PFBS	298.7>80	1.10e4	5.01e3	1.00000		3.03	3.03	27.4	10.6	106.1
4	4	PFHxA	312.7 > 268.8	1.28e4	1.10e4	1.00000		3.40	3.40	5.84	9.06	90.6
5	5	PFHpA	362.8 > 318.9	1.96e4	2.88e4	1.00000		3.90	3.91	8.51	10.2	102.2
6	6	PFHxS	398.8 > 80.1	9.84e3	6.67e3	1.00000		4.02	4.02	18.4	10.2	101.7
7	7	L-PFOA	412.8 > 368.9	1.96e4	2.99e4	1.00000		4.32	4.32	8.20	9.41	94.1
8	9	PFNA	462.8 > 418.9	1.70e4	2.49e4	1.00000		4.68	4.68	8.53	8.71	87.1
9	10	PFOS	498.8 > 80	1.18e4	1.23e4	1.00000		4.74	4.74	12.0	10.2	102.4
10	11	13C3-PFBA	215.8 > 171.9	2.69e4	2.95e4	1.00000	0.957	1.91	1.92	11.4	11.9	95.4
11	12	13C3-PFBS	301.8 > 99	5.01e3	2.61e4	1.00000	0.194	2.84	3.03	2.40	12.4	99.1
12	13	13C3-PFPeA	265.7 > 222	2.09e4	2.61e4	1.00000	0.807	2.81	2.80	9.99	12.4	99.0
13	14	13C2-PFHxA	314.8 > 270	1.10e4	2.61e4	1.00000	1.014	3.40	3.40	5.25	5.17	103.5
14	15	13C4-PFHpA	366.7 > 322	2.88e4	2.61e4	1.00000	1.039	3.89	3.90	13.8	13.3	106.1
15	16	18O2-PFHxS	402.8 > 103	6.67e3	1.26e4	1.00000	0.519	3.71	4.02	6.64	12.8	102.5
16	17	13C2-PFOA	414.8 > 369.9	2.99e4	3.20e4	1.00000	1.010	4.32	4.32	11.7	11.6	92.7
17	18	13C5-PFNA	467.8 > 422.9	2.49e4	2.62e4	1.00000	0.936	4.68	4.68	11.9	12.7	101.7
18	19	13C8-PFOS	506.8 > 80	1.23e4	1.66e4	1.00000	0.865	4.54	4.74	9.22	10.7	85.2
19	20	13C4-PFBA	216.7 > 171.9	2.95e4	2.95e4	1.00000	1.000	1.72	1.91	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	2.61e4	2.61e4	1.00000	1.000	3.66	3.40	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	1.26e4	1.26e4	1.00000	1.000	4.29	4.02	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	3.20e4	3.20e4	1.00000	1.000	4.53	4.32	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	2.62e4	2.62e4	1.00000	1.000	4.93	4.68	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.66e4	1.66e4	1.00000	1.000	4.98	4.74	12.5	12.5	100.0

KBF 5/26/18

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Saturday, May 26, 2018 17:58:22 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:58:41 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: X:\G1.pro\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Compound name: PFBA

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1	1	180525G1-2	IPA	25-May-18	09:22:28
2	2	180525G1-3	ST180525G1-1 PFC CS0 18E2204	25-May-18	09:35:41
3	3	180525G1-4	IPA	25-May-18	09:48:26
4	4	180525G1-5	1800970-01 MW-1 0.12006	25-May-18	10:12:19
5	5	180525G1-6	1800970-02 MW-2 0.12369	25-May-18	10:24:31
6	6	180525G1-7	1800970-03 MW-3 0.11912	25-May-18	10:37:31
7	7	180525G1-8	1800970-04 MW-4 0.11782	25-May-18	10:50:29
8	8	180525G1-9	B8E0149-BLK1 Method Blank 0.125	25-May-18	11:03:26
9	9	180525G1-10	B8E0149-BS1 OPR 0.125	25-May-18	11:16:24
10	10	180525G1-11	1800973-01 DW-1 0.11867	25-May-18	11:29:21
11	11	180525G1-12	1800973-02 MW-11 0.1171	25-May-18	11:42:19
12	12	180525G1-13	1800973-03 MW-2 0.11787	25-May-18	11:55:17
13	13	180525G1-14	1800973-04 MW-13-14 0.11812	25-May-18	12:08:10
14	14	180525G1-15	1800973-05 Field Blank 0.11904	25-May-18	12:21:07
15	15	180525G1-16	1800973-06 Trip Blank 0.11904	25-May-18	12:34:05
16	16	180525G1-17	B8E0109-BLK1 Method Blank 3	25-May-18	12:47:02
17	17	180525G1-18	B8E0109-BS1 OPR 3	25-May-18	13:00:00
18	18	180525G1-19	1800902-01 A041318 3	25-May-18	13:12:57
19	19	180525G1-20	B8E0114-BLK1 Method Blank 1	25-May-18	13:25:55
20	20	180525G1-21	B8E0114-BS1 OPR 1	25-May-18	13:38:53
21	21	180525G1-22	1800843-04@5X STM-Subsurface Pipi...	25-May-18	13:53:31
22	22	180525G1-23	IPA	25-May-18	14:05:43
23	23	180525G1-24	ST180525G1-2 PFC CS3 18E2207	25-May-18	14:18:40
24	24	180525G1-25	IPA	25-May-18	14:31:36
25	25	180525G1-26	B8E0105-BS1 OPR 0.125	25-May-18	14:48:06
26	26	180525G1-27	1800821-03 S-SED-5 2.8	25-May-18	15:00:18
27	27	180525G1-28	1800821-04 S-SED-5-DUP 2.93	25-May-18	15:13:16
28	28	180525G1-29	1800821-05 S-SED-110 1.59	25-May-18	15:26:13
29	29	180525G1-30	1800821-06 S-SED-111 2.03	25-May-18	15:39:10
30	30	180525G1-31	1800821-07 S-SED-LR 1.91	25-May-18	15:52:08
31	31	180525G1-32	1800821-08 S-SED-BB1 1.23	25-May-18	16:05:06
32	32	180525G1-33	1800821-09 S-SED-4 2.24	25-May-18	16:18:03

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Saturday, May 26, 2018 17:58:22 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:58:41 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	180525G1-34	1800915-01 MW-1R 0.11839	25-May-18	16:30:56
34	34	180525G1-35	1800915-02 MW-2 0.12007	25-May-18	16:43:54
35	35	180525G1-36	1800915-03 MW-4R 0.11859	25-May-18	16:56:51
36	36	180525G1-37	1800915-04 Field Blank 0.12149	25-May-18	17:09:49
37	37	180525G1-38	1800915-05 Equipment Rinsate Blank 0...	25-May-18	17:22:46
38	38	180525G1-39	IPA	25-May-18	17:35:46
39	39	180525G1-40	ST180525G1-3 PFC CS0 18E2204	25-May-18	17:48:50
40	40	180525G1-41	IPA	25-May-18	18:01:54
41	41	180525G1-42	1800821-57 SW-SW-5 0.11205	25-May-18	18:14:52
42	42	180525G1-43	B8E0042-BS1 OPR 0.125	25-May-18	18:27:56
43	43	180525G1-44	B8E0042-MS1 Matrix Spike 0.12332	25-May-18	18:40:54
44	44	180525G1-45	B8E0042-MSD1 Matrix Spike Dup 0.1229	25-May-18	18:53:47
45	45	180525G1-46	B8E0042-MSD2 Matrix Spike Dup 0.11...	25-May-18	19:06:42
46	46	180525G1-47	B8E0042-MS2 Matrix Spike 0.11976	25-May-18	19:19:39
47	47	180525G1-48	B8E0042-BLK1 Method Blank 0.125	25-May-18	19:32:37
48	48	180525G1-49	1800821-31 DW-R-3-DUP 0.12034	25-May-18	19:45:34
49	49	180525G1-50	1800821-32 DW-R-3 0.11709	25-May-18	19:58:32
50	50	180525G1-51	1800821-33 GW-FPC-3B 0.12634	25-May-18	20:11:31
51	51	180525G1-52	1800821-34 DW-R-415BHR 0.12009	25-May-18	20:24:27
52	52	180525G1-53	1800821-35 GW-MW-10 0.12039	25-May-18	20:37:21
53	53	180525G1-54	1800821-36 GW-MW-8 0.12169	25-May-18	20:50:18
54	54	180525G1-55	1800821-37 GW-FPC-5B 0.12071	25-May-18	21:03:18
55	55	180525G1-56	1800821-38 GW-FPC-7B 0.11742	25-May-18	21:16:12
56	56	180525G1-57	1800821-39 GW-FPC-6B 0.12395	25-May-18	21:29:10
57	57	180525G1-58	IPA	25-May-18	21:42:07
58	58	180525G1-59	ST180525G1-4 PFC CS3 18E2207	25-May-18	21:55:06
59	59	180525G1-60	IPA	25-May-18	22:08:01
60	60	180525G1-61	1800821-40 GW-FPC-6A 0.11889	25-May-18	22:21:00
61	61	180525G1-62	1800821-41 SW-SW-BB2 0.11046	25-May-18	22:33:57
62	62	180525G1-63	1800821-42 DW-R-463BHR 0.1172	25-May-18	22:46:54
63	63	180525G1-64	1800821-43 DW-R-7WKD 0.12069	25-May-18	22:59:51
64	64	180525G1-65	1800821-44 DW-R-8WKD 0.11923	25-May-18	23:12:49
65	65	180525G1-66	1800821-45 DW-R-339BHR 0.10844	25-May-18	23:25:50
66	66	180525G1-67	1800821-46 DW-R-346BHR 0.11429	25-May-18	23:38:47
67	67	180525G1-68	1800821-47 DW-R-4ROD 0.11985	25-May-18	23:51:45
68	68	180525G1-69	1800821-48 S-EB-SEDIMENT 0.11863	26-May-18	00:04:42

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Saturday, May 26, 2018 17:58:22 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:58:41 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
69	69	180525G1-70	1800821-49 SW-SW-5-DUP 0.10895	26-May-18	00:17:40
70	70	180525G1-71	IPA	26-May-18	00:30:37
71	71	180525G1-72	ST180525G1-5 PFC CS3 18E2207	26-May-18	00:43:35
72	72	180525G1-73	IPA	26-May-18	00:56:30
73	73	180525G1-74	1800821-50 DW-R-21SMW 0.11397	26-May-18	01:09:29
74	74	180525G1-75	1800821-02 S-SED-BB2 1.59	26-May-18	01:22:26
75	75	180525G1-76	1800974-01 MW 101D 0.11918	26-May-18	01:35:24
76	76	180525G1-77	1800974-02 Field Blank 0.12112	26-May-18	01:48:25
77	77	180525G1-78	1800975-01 MW-5S 0.12185	26-May-18	02:01:22
78	78	180525G1-79	1800975-02 W-1 0.1218	26-May-18	02:14:19
79	79	180525G1-80	1800975-03 Field Blank 0.12257	26-May-18	02:27:17
80	80	180525G1-81	IPA	26-May-18	02:40:13
81	81	180525G1-82	ST180525G1-6 PFC CS3 18E2207	26-May-18	02:53:13
82	82	180525G1-83	IPA	26-May-18	03:06:09

Vista Analytical Laboratory

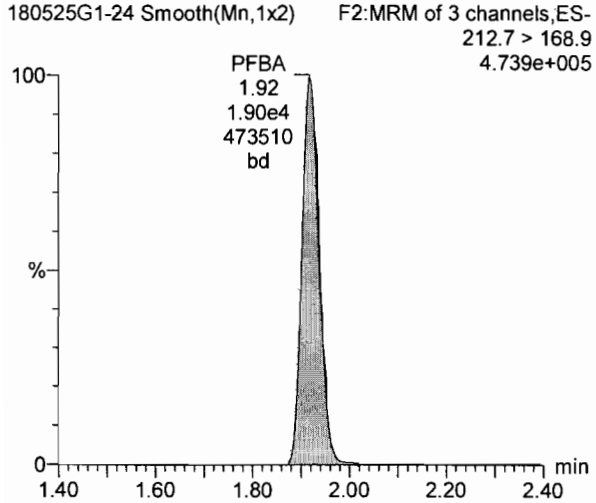
Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-24.qld

Last Altered: Friday, May 25, 2018 16:15:47 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:42:17 Pacific Daylight Time

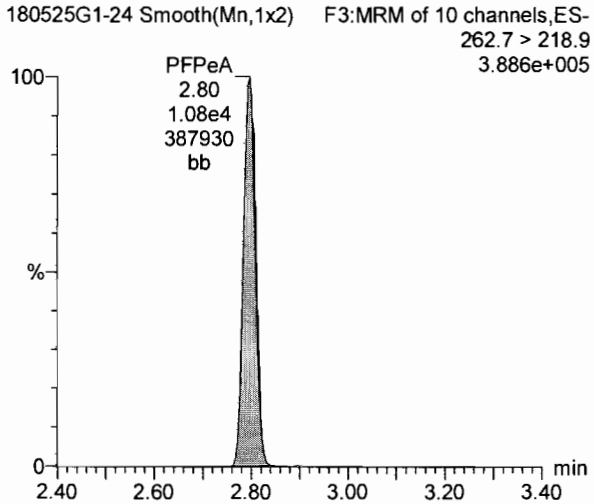
Method: Y:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180525G1-24, Date: 25-May-2018, Time: 14:18:40, ID: ST180525G1-2 PFC CS3 18E2207, Description: PFC CS3 182207

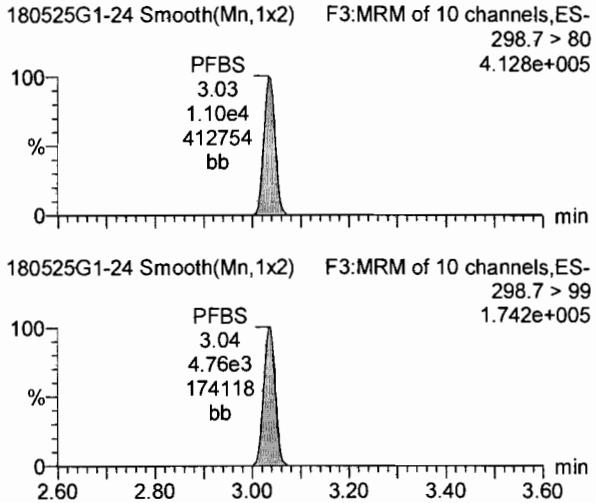
PFBA



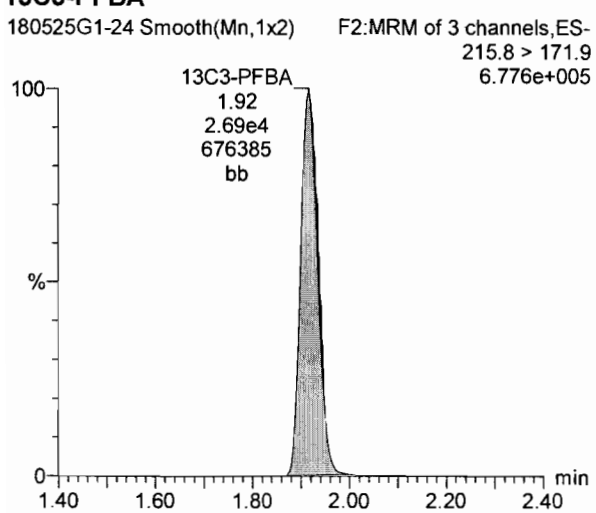
PFPeA



PFBS



13C3-PFBA



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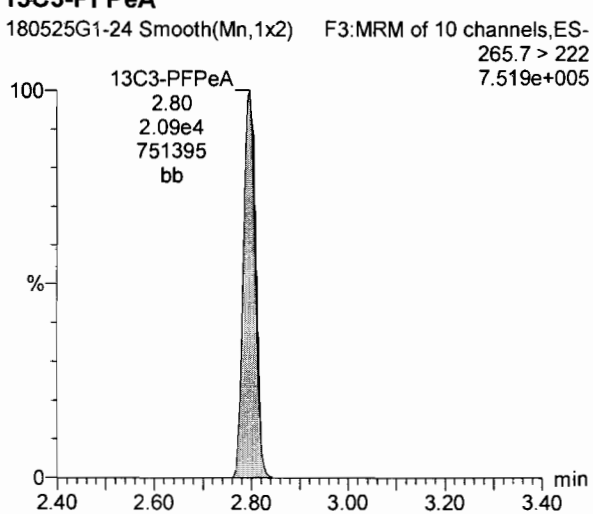
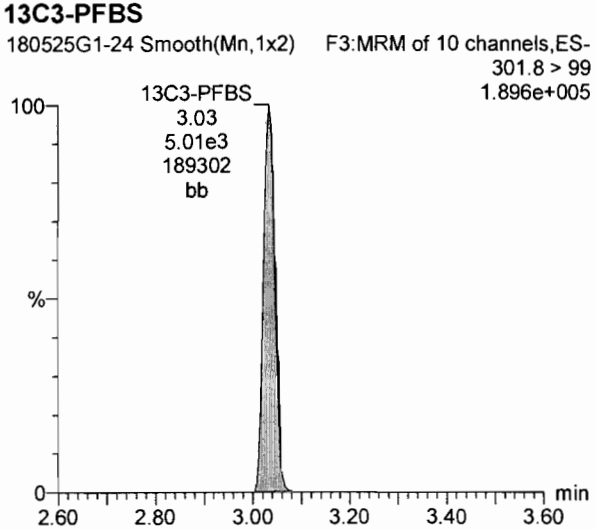


13C3-PFBS



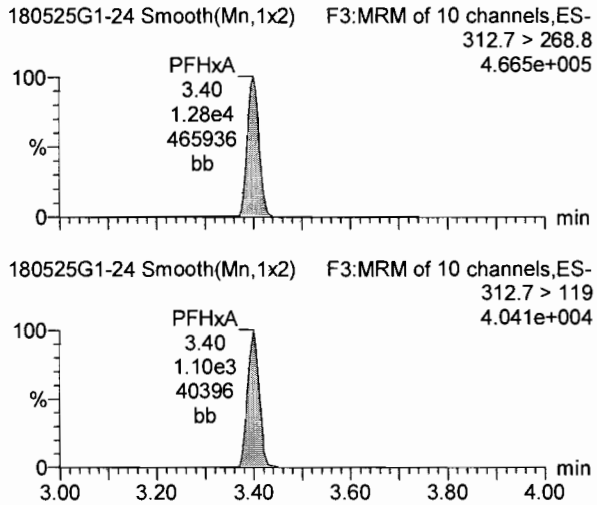
Quantify Sample Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-24.qld

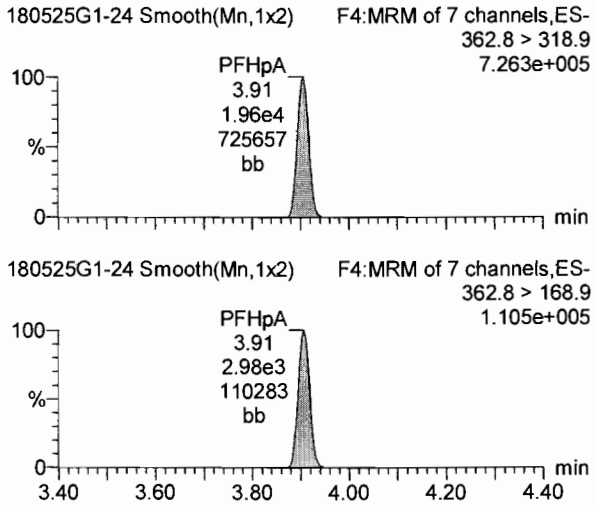
Last Altered: Friday, May 25, 2018 16:15:47 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:42:17 Pacific Daylight Time

Name: 180525G1-24, Date: 25-May-2018, Time: 14:18:40, ID: ST180525G1-2 PFC CS3 18E2207, Description: PFC CS3 182207

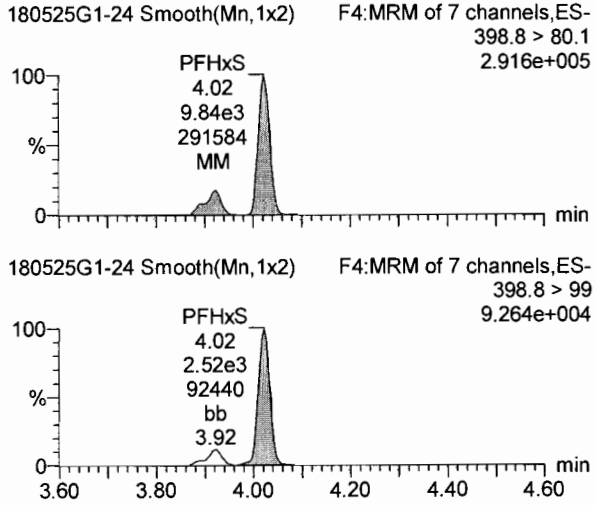
PFHxA



PFHpA



Total PFHxS



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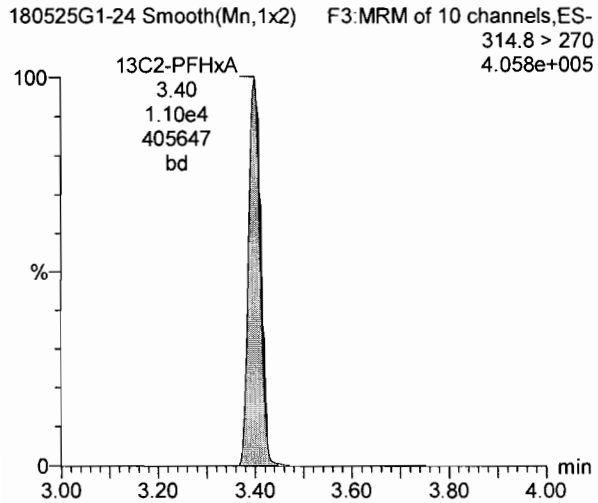

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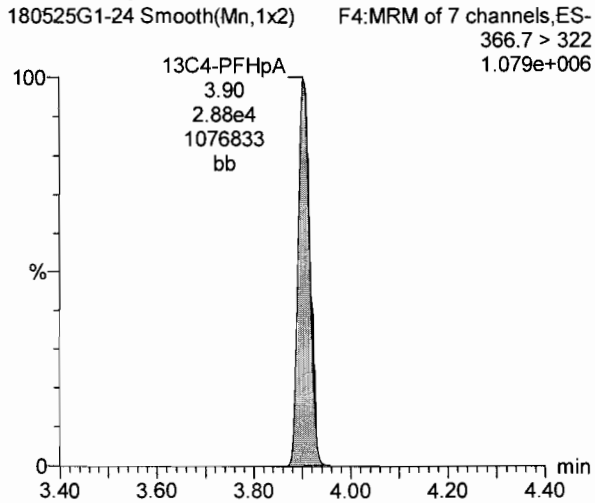
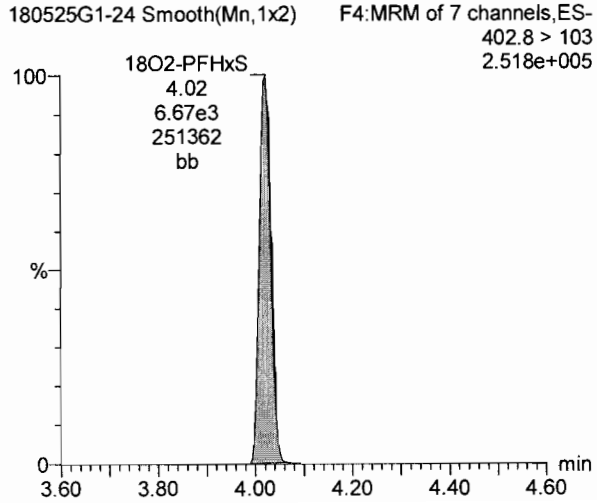


18O2-PFHxS



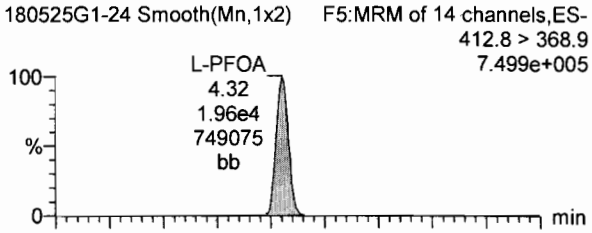
Vista Analytical Laboratory

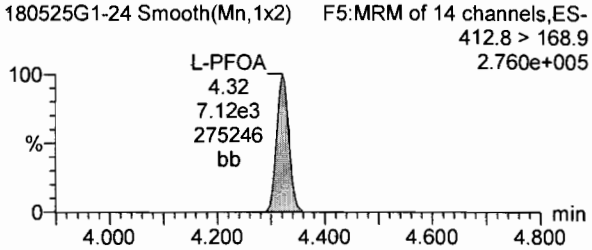
Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-24.qld

Last Altered: Friday, May 25, 2018 16:15:47 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:42:17 Pacific Daylight Time

Name: 180525G1-24, Date: 25-May-2018, Time: 14:18:40, ID: ST180525G1-2 PFC CS3 18E2207, Description: PFC CS3 182207

Total PFOA





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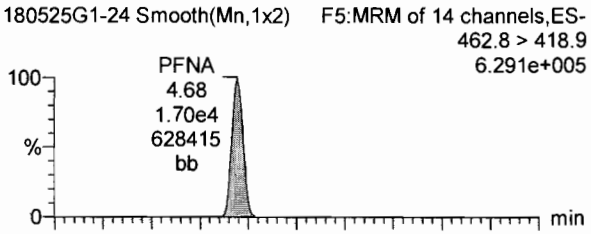

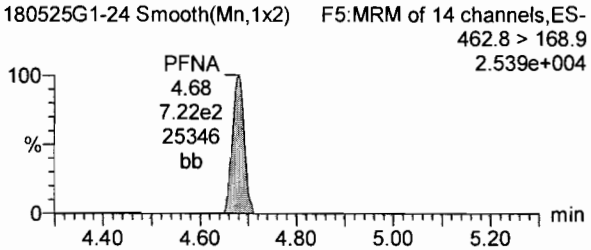

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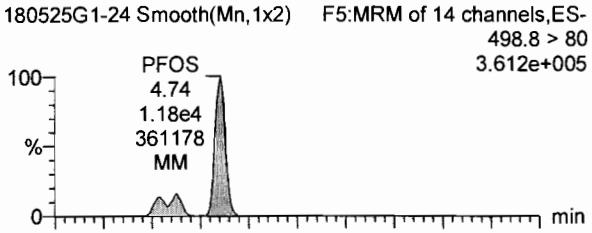
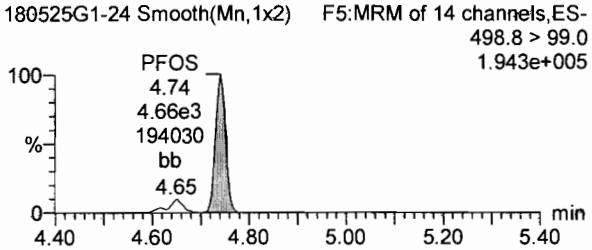
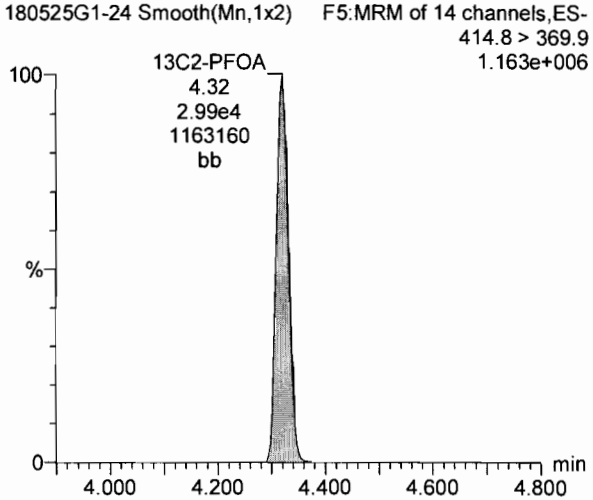




13C2-PFOA



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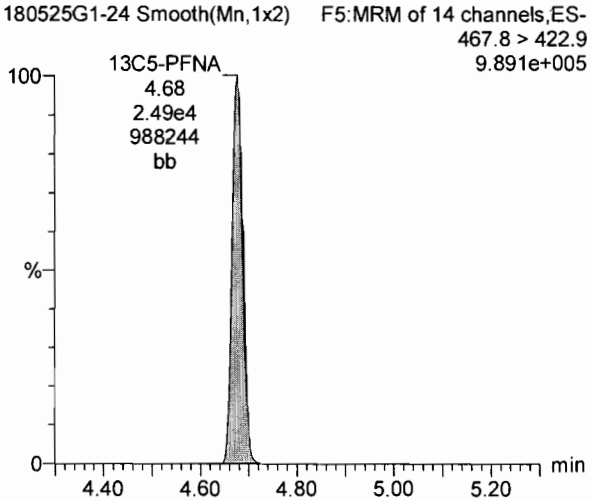
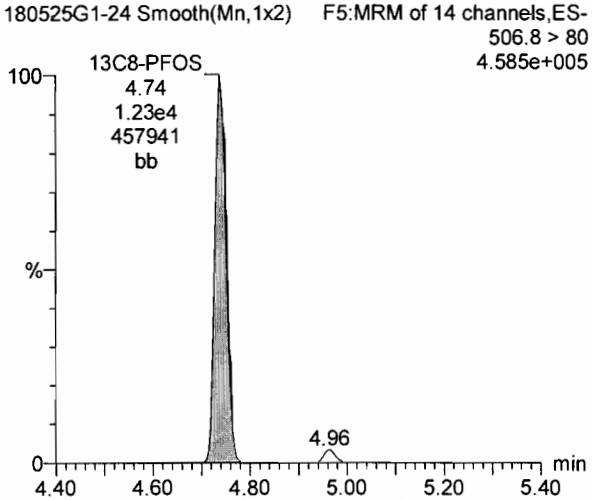


13C8-PFOS



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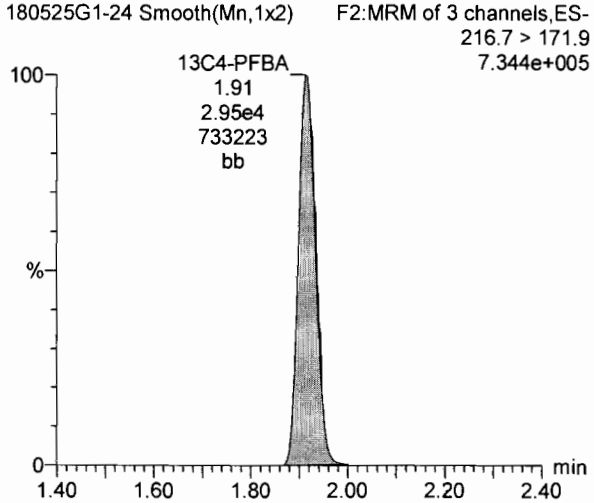
Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-24.qld

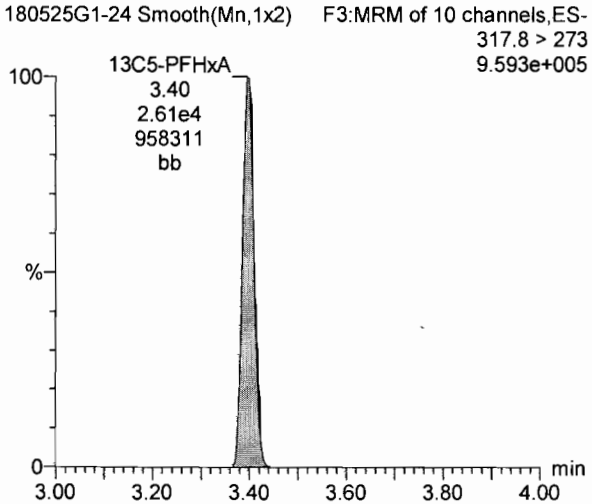
Last Altered: Friday, May 25, 2018 16:15:47 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:42:17 Pacific Daylight Time

Name: 180525G1-24, Date: 25-May-2018, Time: 14:18:40, ID: ST180525G1-2 PFC CS3 18E2207, Description: PFC CS3 182207

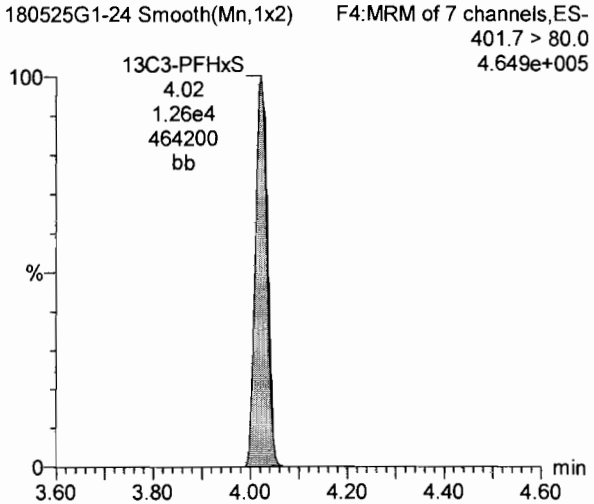
13C4-PFBA



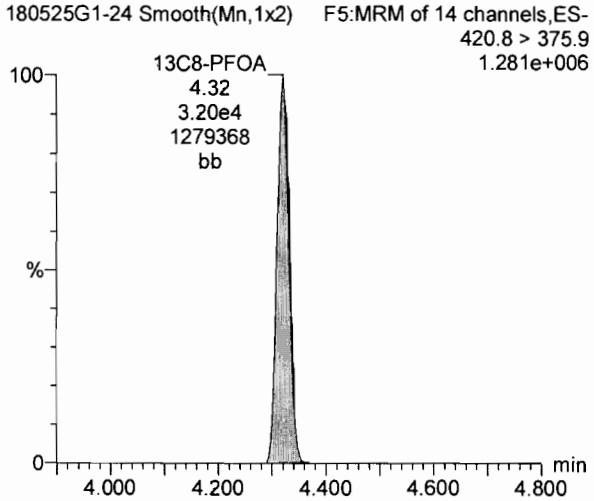
13C5-PFHxA



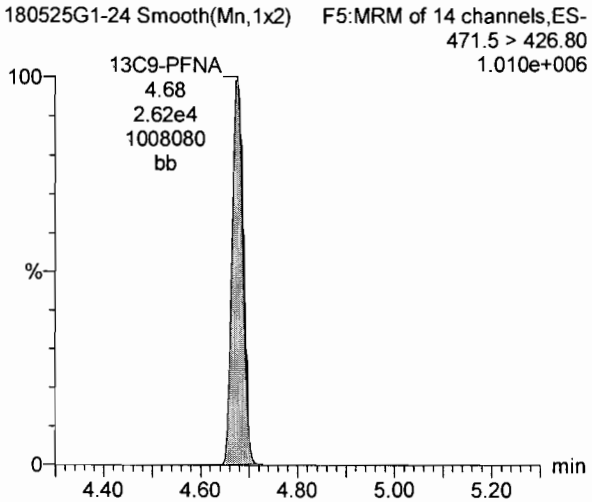
13C3-PFHxS



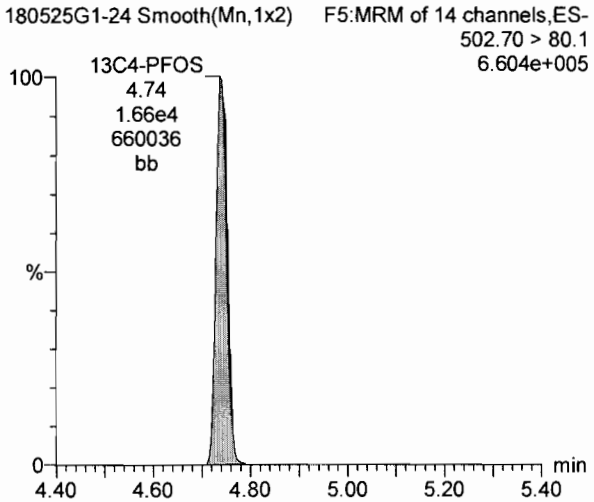
13C8-PFOA



13C9-PFNA



13C4-PFOS

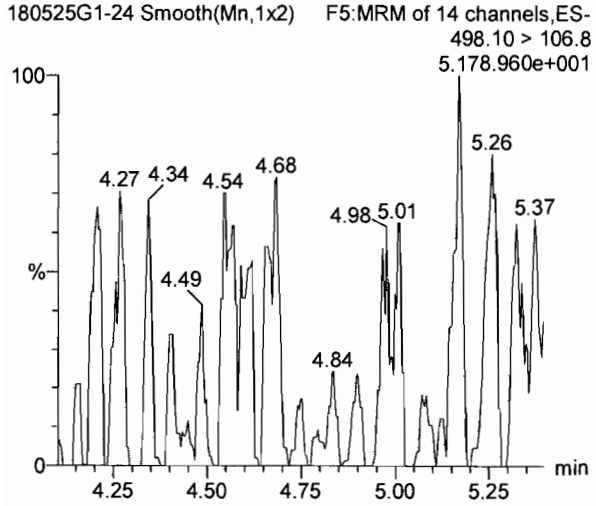


Dataset: X:\G1.PRO\Results\2018\180525G1\180525G1-24.qld

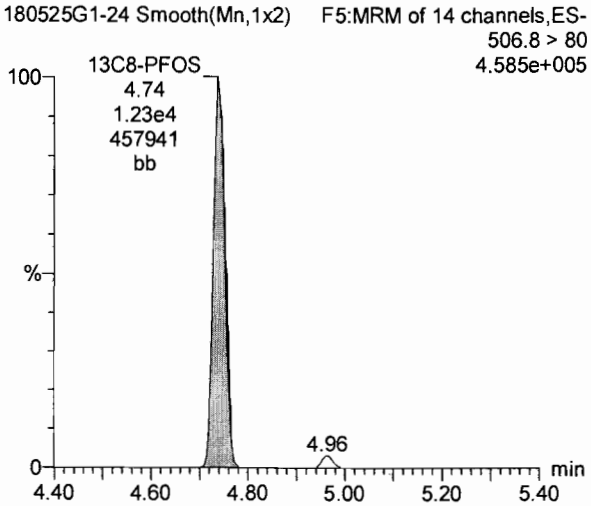
Last Altered: Friday, May 25, 2018 16:15:47 Pacific Daylight Time
Printed: Saturday, May 26, 2018 17:42:17 Pacific Daylight Time

Name: 180525G1-24, Date: 25-May-2018, Time: 14:18:40, ID: ST180525G1-2 PFC CS3 18E2207, Description: PFC CS3 182207

TCDA



13C8-PFOS



INITIAL CALIBRATION

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

→ No points excluded ✓

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
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✓

Method: X:\G1.pro\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

AB 5/21/18
MJT 5/21/18

✓

Compound name: PFBA
Correlation coefficient: r = 0.998456, r^2 = 0.996915
Calibration curve: 0.830338 * x + 0.0896946
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	1.97	437.863	18777.496	0.291	0.2	-2.8	NO	0.997	NO	MM
2	2	180518G2-3	Standard	0.500	1.97	771.524	19112.971	0.505	0.5	-0.1	NO	0.997	NO	bb
3	3	180518G2-4	Standard	1.000	1.98	1336.754	18594.482	0.899	1.0	-2.6	NO	0.997	NO	MM
4	4	180518G2-5	Standard	2.000	1.97	2636.612	18863.316	1.747	2.0	-0.2	NO	0.997	NO	MM
5	5	180518G2-6	Standard	5.000	1.98	6338.223	19396.426	4.085	4.8	-3.8	NO	0.997	NO	MM
6	6	180518G2-7	Standard	10.000	1.97	12366.577	18200.219	8.493	10.1	1.2	NO	0.997	NO	MM
7	7	180518G2-8	Standard	50.000	1.97	59486.980	17237.395	43.138	51.8	3.7	NO	0.997	NO	MM
8	8	180518G2-9	Standard	100.000	1.98	110496.094	15291.167	90.327	108.7	8.7	NO	0.997	NO	MM
9	9	180518G2-10	Standard	250.000	1.94	241396.328	15161.059	199.027	239.6	-4.2	NO	0.997	NO	MM

Compound name: PFPeA
Correlation coefficient: r = 0.999849, r^2 = 0.999698
Calibration curve: 0.702943 * x + 0.0392021
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	2.85	266.933	15647.934	0.213	0.2	-1.0	NO	1.000	NO	MM
2	2	180518G2-3	Standard	0.500	2.85	483.767	15048.868	0.402	0.5	3.2	NO	1.000	NO	bb
3	3	180518G2-4	Standard	1.000	2.85	895.766	14766.307	0.758	1.0	2.3	NO	1.000	NO	MM
4	4	180518G2-5	Standard	2.000	2.85	1617.295	15449.054	1.309	1.8	-9.7	NO	1.000	NO	MM
5	5	180518G2-6	Standard	5.000	2.85	4355.758	14448.794	3.768	5.3	6.1	NO	1.000	NO	MM
6	6	180518G2-7	Standard	10.000	2.85	8346.184	14416.914	7.236	10.2	2.4	NO	1.000	NO	MM
7	7	180518G2-8	Standard	50.000	2.85	35555.035	13035.813	34.094	48.4	-3.1	NO	1.000	NO	MM
8	8	180518G2-9	Standard	100.000	2.84	63105.113	11335.082	69.590	98.9	-1.1	NO	1.000	NO	MM
9	9	180518G2-10	Standard	250.000	2.84	127025.508	8953.549	177.340	252.2	0.9	NO	1.000	NO	MM

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
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Compound name: PFBS
Correlation coefficient: r = 0.998833, r^2 = 0.997667
Calibration curve: 2.40406 * x + -0.214742
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	3.08	188.939	4445.458	0.531	0.3	24.1	NO	0.998	NO	MM
2	2	180518G2-3	Standard	0.500	3.07	383.304	4863.679	0.985	0.5	-0.2	NO	0.998	NO	MM
3	3	180518G2-4	Standard	1.000	3.08	755.103	4215.047	2.239	1.0	2.1	NO	0.998	NO	MM
4	4	180518G2-5	Standard	2.000	3.08	1354.899	4320.972	3.920	1.7	-14.0	NO	0.998	NO	MM
5	5	180518G2-6	Standard	5.000	3.08	3534.359	3962.576	11.149	4.7	-5.5	NO	0.998	NO	MM
6	6	180518G2-7	Standard	10.000	3.08	6559.774	3716.584	22.063	9.3	-7.3	NO	0.998	NO	MM
7	7	180518G2-8	Standard	50.000	3.08	29318.385	3233.163	113.350	47.2	-5.5	NO	0.998	NO	MM
8	8	180518G2-9	Standard	100.000	3.07	53212.242	2567.141	259.103	107.9	7.9	NO	0.998	NO	MM
9	9	180518G2-10	Standard	250.000	3.07	103093.672	2178.921	591.426	246.1	-1.6	NO	0.998	NO	MM

Compound name: PFHxA
Correlation coefficient: r = 0.999857, r^2 = 0.999715
Calibration curve: 0.659738 * x + 0.0311456
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	3.45	333.171	8079.068	0.206	0.3	6.1	NO	1.000	NO	MM
2	2	180518G2-3	Standard	0.500	3.44	487.595	7587.962	0.321	0.4	-12.0	NO	1.000	NO	bd
3	3	180518G2-4	Standard	1.000	3.45	931.024	7215.057	0.645	0.9	-6.9	NO	1.000	NO	bd
4	4	180518G2-5	Standard	2.000	3.44	2081.196	7244.314	1.436	2.1	6.5	NO	1.000	NO	bd
5	5	180518G2-6	Standard	5.000	3.45	4841.797	6818.217	3.551	5.3	6.7	NO	1.000	NO	bd
6	6	180518G2-7	Standard	10.000	3.44	9685.485	7435.104	6.513	9.8	-1.7	NO	1.000	NO	MM
7	7	180518G2-8	Standard	50.000	3.44	42453.996	6242.050	34.006	51.5	3.0	NO	1.000	NO	MM
8	8	180518G2-9	Standard	100.000	3.44	78143.172	6014.033	64.967	98.4	-1.6	NO	1.000	NO	MM
9	9	180518G2-10	Standard	250.000	3.44	152729.703	4631.016	164.899	249.9	-0.0	NO	1.000	NO	MM

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

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Compound name: PFHpA
Correlation coefficient: r = 0.997968, r^2 = 0.995940
Calibration curve: 0.834371 * x + 0.108795
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	3.96	480.268	19647.375	0.306	0.2	-5.7	NO	0.996	NO	bb
2	2	180518G2-3	Standard	0.500	3.96	807.388	18735.982	0.539	0.5	3.0	NO	0.996	NO	bd
3	3	180518G2-4	Standard	1.000	3.96	1262.430	17880.975	0.883	0.9	-7.3	NO	0.996	NO	MM
4	4	180518G2-5	Standard	2.000	3.96	2674.919	19289.967	1.733	1.9	-2.6	NO	0.996	NO	MM
5	5	180518G2-6	Standard	5.000	3.95	6278.028	18175.824	4.318	5.0	0.9	NO	0.996	NO	MM
6	6	180518G2-7	Standard	10.000	3.95	12336.988	17880.201	8.625	10.2	2.1	NO	0.996	NO	MM
7	7	180518G2-8	Standard	50.000	3.95	51820.961	14780.586	43.825	52.4	4.8	NO	0.996	NO	MM
8	8	180518G2-9	Standard	100.000	3.95	93351.672	12733.884	91.637	109.7	9.7	NO	0.996	NO	MM
9	9	180518G2-10	Standard	250.000	3.95	167142.563	10524.968	198.507	237.8	-4.9	NO	0.996	NO	MM

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999359
Calibration curve: -0.000902977 * x^2 + 2.0406 * x + 0.0145008
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	4.07	186.334	4724.790	0.493	0.2	-6.2	NO	0.999	NO	MM
2	2	180518G2-3	Standard	0.500	4.07	380.674	4457.174	1.068	0.5	3.2	NO	0.999	NO	MM
3	3	180518G2-4	Standard	1.000	4.07	624.864	4145.828	1.884	0.9	-8.3	NO	0.999	NO	MM
4	4	180518G2-5	Standard	2.000	4.07	1301.807	3889.967	4.183	2.0	2.2	NO	0.999	NO	MM
5	5	180518G2-6	Standard	5.000	4.07	3274.087	3929.475	10.415	5.1	2.2	NO	0.999	NO	MM
6	6	180518G2-7	Standard	10.000	4.06	7032.158	3925.047	22.395	11.0	10.2	NO	0.999	NO	MM
7	7	180518G2-8	Standard	50.000	4.06	29350.906	3847.372	95.360	47.7	-4.5	NO	0.999	NO	MM
8	8	180518G2-9	Standard	100.000	4.06	56414.039	3572.082	197.413	101.3	1.3	NO	0.999	NO	MM
9	9	180518G2-10	Standard	250.000	4.06	109608.797	3020.663	453.579	249.9	-0.0	NO	0.999	NO	MM

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

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Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.998644
Calibration curve: -0.000890118 * x^2 + 1.02799 * x + 0.0302683
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	4.37	485.254	21569.896	0.281	0.2	-2.3	NO	0.999	NO	bd
2	2	180518G2-3	Standard	0.500	4.36	918.458	19304.678	0.595	0.5	9.9	NO	0.999	NO	bb
3	3	180518G2-4	Standard	1.000	4.37	1800.232	18125.096	1.242	1.2	17.9	NO	0.999	NO	bd
4	4	180518G2-5	Standard	2.000	4.36	2755.159	18939.307	1.818	1.7	-12.9	NO	0.999	NO	MM
5	5	180518G2-6	Standard	5.000	4.37	6640.116	16492.932	5.033	4.9	-2.3	NO	0.999	NO	MM
6	6	180518G2-7	Standard	10.000	4.36	14335.285	19673.324	9.108	8.9	-11.0	NO	0.999	NO	MM
7	7	180518G2-8	Standard	50.000	4.36	63315.844	16599.658	47.679	48.4	-3.2	NO	0.999	NO	MM
8	8	180518G2-9	Standard	100.000	4.36	117964.305	15048.187	97.989	104.8	4.8	NO	0.999	NO	MM
9	9	180518G2-10	Standard	250.000	4.36	232497.594	14522.043	200.125	247.8	-0.9	NO	0.999	NO	MM

Compound name: PFNA
Coefficient of Determination: R^2 = 0.997958
Calibration curve: -0.000843155 * x^2 + 1.08929 * x + 0.01432
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	4.72	417.745	18982.689	0.275	0.2	-4.2	NO	0.998	NO	bd
2	2	180518G2-3	Standard	0.500	4.72	900.107	16821.305	0.669	0.6	20.2	NO	0.998	NO	MM
3	3	180518G2-4	Standard	1.000	4.72	1183.140	13993.189	1.057	1.0	-4.2	NO	0.998	NO	MM
4	4	180518G2-5	Standard	2.000	4.72	2421.281	14707.082	2.058	1.9	-6.1	NO	0.998	NO	bd
5	5	180518G2-6	Standard	5.000	4.72	6021.326	13331.348	5.646	5.2	3.8	NO	0.998	NO	MM
6	6	180518G2-7	Standard	10.000	4.72	13256.756	16614.225	9.974	9.2	-7.9	NO	0.998	NO	MM
7	7	180518G2-8	Standard	50.000	4.72	60251.816	15437.850	48.786	46.4	-7.1	NO	0.998	NO	MM
8	8	180518G2-9	Standard	100.000	4.72	117441.000	13791.583	106.443	106.5	6.5	NO	0.998	NO	MM
9	9	180518G2-10	Standard	250.000	4.72	248379.031	14240.994	218.014	247.6	-1.0	NO	0.998	NO	MM

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.999444
Calibration curve: 0.000655128 * x^2 + 0.968009 * x + -0.0070504
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	0.250	4.78	205.810	10778.346	0.239	0.3	1.5	NO	0.999	NO	MM
2	2	180518G2-3	Standard	0.500	4.78	334.254	9878.688	0.423	0.4	-11.2	NO	0.999	NO	MM
3	3	180518G2-4	Standard	1.000	4.78	664.309	7581.260	1.095	1.1	13.8	NO	0.999	NO	MM
4	4	180518G2-5	Standard	2.000	4.78	1335.007	8303.210	2.010	2.1	4.0	NO	0.999	NO	MM
5	5	180518G2-6	Standard	5.000	4.79	2853.515	7647.588	4.664	4.8	-3.8	NO	0.999	NO	MM
6	6	180518G2-7	Standard	10.000	4.78	7091.272	10184.286	8.704	8.9	-10.6	NO	0.999	NO	MM
7	7	180518G2-8	Standard	50.000	4.78	37218.500	8882.973	52.373	52.3	4.5	NO	0.999	NO	MM
8	8	180518G2-9	Standard	100.000	4.78	66798.398	8193.037	101.913	98.7	-1.3	NO	0.999	NO	MM
9	9	180518G2-10	Standard	250.000	4.78	177285.984	7828.193	283.089	250.1	0.0	NO	0.999	NO	MM

Compound name: 13C3-PFBA
Response Factor: 1.00566
RRF SD: 0.0312416, Relative SD: 3.10656
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	1.97	18777.496	19717.615	11.904	11.8	-5.3	NO		NO	bb
2	2	180518G2-3	Standard	12.500	1.97	19112.971	19533.396	12.231	12.2	-2.7	NO		NO	MM
3	3	180518G2-4	Standard	12.500	1.97	18594.482	18178.295	12.786	12.7	1.7	NO		NO	MM
4	4	180518G2-5	Standard	12.500	1.97	18863.316	18571.244	12.697	12.6	1.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	1.97	19396.426	18276.186	13.266	13.2	5.5	NO		NO	MM
6	6	180518G2-7	Standard	12.500	1.97	18200.219	18318.207	12.419	12.3	-1.2	NO		NO	MM
7	7	180518G2-8	Standard	12.500	1.97	17237.395	16766.531	12.851	12.8	2.2	NO		NO	MM
8	8	180518G2-9	Standard	12.500	1.97	15291.167	15310.219	12.484	12.4	-0.7	NO		NO	MM
9	9	180518G2-10	Standard	12.500	1.95	15161.059	15163.274	12.498	12.4	-0.6	NO		NO	MM

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Compound name: 13C3-PFBS
Response Factor: 0.213452
RRF SD: 0.0234892, Relative SD: 11.0044
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	3.08	4445.458	19809.420	2.805	13.1	5.1	NO		NO	MM
2	2	180518G2-3	Standard	12.500	3.07	4863.679	19190.949	3.168	14.8	18.7	NO		NO	MM
3	3	180518G2-4	Standard	12.500	3.08	4215.047	18421.494	2.860	13.4	7.2	NO		NO	MM
4	4	180518G2-5	Standard	12.500	3.08	4320.972	19371.041	2.788	13.1	4.5	NO		NO	MM
5	5	180518G2-6	Standard	12.500	3.08	3962.576	18022.383	2.748	12.9	3.0	NO		NO	MM
6	6	180518G2-7	Standard	12.500	3.08	3716.584	18238.803	2.547	11.9	-4.5	NO		NO	MM
7	7	180518G2-8	Standard	12.500	3.08	3233.163	15727.529	2.570	12.0	-3.7	NO		NO	MM
8	8	180518G2-9	Standard	12.500	3.07	2567.141	14664.592	2.188	10.3	-18.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	3.08	2178.921	11647.291	2.338	11.0	-12.4	NO		NO	MM

Compound name: 13C3-PFPeA
Response Factor: 0.792878
RRF SD: 0.0178204, Relative SD: 2.24756
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	2.85	15647.934	19809.420	9.874	12.5	-0.4	NO		NO	MM
2	2	180518G2-3	Standard	12.500	2.85	15048.868	19190.949	9.802	12.4	-1.1	NO		NO	MM
3	3	180518G2-4	Standard	12.500	2.85	14766.307	18421.494	10.020	12.6	1.1	NO		NO	MM
4	4	180518G2-5	Standard	12.500	2.85	15449.054	19371.041	9.969	12.6	0.6	NO		NO	MM
5	5	180518G2-6	Standard	12.500	2.85	14448.794	18022.383	10.021	12.6	1.1	NO		NO	MM
6	6	180518G2-7	Standard	12.500	2.85	14416.914	18238.803	9.881	12.5	-0.3	NO		NO	MM
7	7	180518G2-8	Standard	12.500	2.84	13035.813	15727.529	10.361	13.1	4.5	NO		NO	MM
8	8	180518G2-9	Standard	12.500	2.84	11335.082	14664.592	9.662	12.2	-2.5	NO		NO	MM
9	9	180518G2-10	Standard	12.500	2.84	8953.549	11647.291	9.609	12.1	-3.0	NO		NO	MM

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Compound name: 13C2-PFHxA
Response Factor: 0.988734
RRF SD: 0.0317805, Relative SD: 3.21426
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	5.000	3.44	8079.068	19809.420	5.098	5.2	3.1	NO		NO	MM
2	2	180518G2-3	Standard	5.000	3.44	7587.962	19190.949	4.942	5.0	-0.0	NO		NO	MM
3	3	180518G2-4	Standard	5.000	3.45	7215.057	18421.494	4.896	5.0	-1.0	NO		NO	MM
4	4	180518G2-5	Standard	5.000	3.44	7244.314	19371.041	4.675	4.7	-5.4	NO		NO	MM
5	5	180518G2-6	Standard	5.000	3.45	6818.217	18022.383	4.729	4.8	-4.3	NO		NO	MM
6	6	180518G2-7	Standard	5.000	3.44	7435.104	18238.803	5.096	5.2	3.1	NO		NO	MM
7	7	180518G2-8	Standard	5.000	3.44	6242.050	15727.529	4.961	5.0	0.4	NO		NO	MM
8	8	180518G2-9	Standard	5.000	3.44	6014.033	14664.592	5.126	5.2	3.7	NO		NO	MM
9	9	180518G2-10	Standard	5.000	3.44	4631.016	11647.291	4.970	5.0	0.5	NO		NO	MM

Compound name: 13C4-PFHpA
Response Factor: 0.959468
RRF SD: 0.0466702, Relative SD: 4.86418
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	3.96	19647.375	19809.420	12.398	12.9	3.4	NO		NO	MM
2	2	180518G2-3	Standard	12.500	3.96	18735.982	19190.949	12.204	12.7	1.8	NO		NO	MM
3	3	180518G2-4	Standard	12.500	3.96	17880.975	18421.494	12.133	12.6	1.2	NO		NO	MM
4	4	180518G2-5	Standard	12.500	3.95	19289.967	19371.041	12.448	13.0	3.8	NO		NO	MM
5	5	180518G2-6	Standard	12.500	3.95	18175.824	18022.383	12.606	13.1	5.1	NO		NO	MM
6	6	180518G2-7	Standard	12.500	3.95	17880.201	18238.803	12.254	12.8	2.2	NO		NO	MM
7	7	180518G2-8	Standard	12.500	3.95	14780.586	15727.529	11.747	12.2	-2.1	NO		NO	MM
8	8	180518G2-9	Standard	12.500	3.95	12733.884	14664.592	10.854	11.3	-9.5	NO		NO	MM
9	9	180518G2-10	Standard	12.500	3.95	10524.968	11647.291	11.296	11.8	-5.8	NO		NO	MM

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Compound name: 18O2-PFHxS
Response Factor: 0.457743
RRF SD: 0.0283137, Relative SD: 6.18552
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	4.07	4724.790	9818.392	6.015	13.1	5.1	NO		NO	MM
2	2	180518G2-3	Standard	12.500	4.07	4457.174	9899.062	5.628	12.3	-1.6	NO		NO	MM
3	3	180518G2-4	Standard	12.500	4.07	4145.828	9553.198	5.425	11.9	-5.2	NO		NO	MM
4	4	180518G2-5	Standard	12.500	4.07	3889.967	9338.757	5.207	11.4	-9.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	4.06	3929.475	8819.239	5.569	12.2	-2.7	NO		NO	MM
6	6	180518G2-7	Standard	12.500	4.06	3925.047	9079.031	5.404	11.8	-5.6	NO		NO	MM
7	7	180518G2-8	Standard	12.500	4.06	3847.372	8101.109	5.936	13.0	3.8	NO		NO	MM
8	8	180518G2-9	Standard	12.500	4.06	3572.082	7324.343	6.096	13.3	6.5	NO		NO	MM
9	9	180518G2-10	Standard	12.500	4.06	3020.663	6075.429	6.215	13.6	8.6	NO		NO	MM

Compound name: 13C2-PFOA
Response Factor: 0.991084
RRF SD: 0.0633251, Relative SD: 6.38947
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	4.36	21569.896	21994.178	12.259	12.4	-1.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	4.36	19304.678	17952.457	13.442	13.6	8.5	NO		NO	MM
3	3	180518G2-4	Standard	12.500	4.37	18125.096	17828.734	12.708	12.8	2.6	NO		NO	MM
4	4	180518G2-5	Standard	12.500	4.36	18939.307	18953.613	12.491	12.6	0.8	NO		NO	MM
5	5	180518G2-6	Standard	12.500	4.37	16492.932	19506.391	10.569	10.7	-14.7	NO		NO	MM
6	6	180518G2-7	Standard	12.500	4.36	19673.324	19256.393	12.771	12.9	3.1	NO		NO	MM
7	7	180518G2-8	Standard	12.500	4.36	16599.658	16913.484	12.268	12.4	-1.0	NO		NO	MM
8	8	180518G2-9	Standard	12.500	4.36	15048.187	15518.849	12.121	12.2	-2.2	NO		NO	MM
9	9	180518G2-10	Standard	12.500	4.36	14522.043	14104.878	12.870	13.0	3.9	NO		NO	MM

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Compound name: 13C5-PFNA
Response Factor: 0.911741
RRF SD: 0.0670128, Relative SD: 7.34999
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 180518G2-2	Standard	12.500	4.72	18982.689	18327.736	12.947	14.2	13.6	NO		NO	MM
2	2 180518G2-3	Standard	12.500	4.72	16821.305	17476.465	12.031	13.2	5.6	NO		NO	MM
3	3 180518G2-4	Standard	12.500	4.72	13993.189	15630.434	11.191	12.3	-1.8	NO		NO	MM
4	4 180518G2-5	Standard	12.500	4.72	14707.082	18570.713	9.899	10.9	-13.1	NO		NO	MM
5	5 180518G2-6	Standard	12.500	4.72	13331.348	14697.126	11.338	12.4	-0.5	NO		NO	MM
6	6 180518G2-7	Standard	12.500	4.72	16614.225	18732.268	11.087	12.2	-2.7	NO		NO	MM
7	7 180518G2-8	Standard	12.500	4.72	15437.850	16235.172	11.886	13.0	4.3	NO		NO	MM
8	8 180518G2-9	Standard	12.500	4.72	13791.583	15595.537	11.054	12.1	-3.0	NO		NO	MM
9	9 180518G2-10	Standard	12.500	4.72	14240.994	15983.241	11.137	12.2	-2.3	NO		NO	MM

Compound name: 13C8-PFOS
Response Factor: 0.873275
RRF SD: 0.0498076, Relative SD: 5.70354
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 180518G2-2	Standard	12.500	4.78	10778.346	12303.238	10.951	12.5	0.3	NO		NO	MM
2	2 180518G2-3	Standard	12.500	4.78	9878.688	12253.168	10.078	11.5	-7.7	NO		NO	MM
3	3 180518G2-4	Standard	12.500	4.78	7581.260	8484.122	11.170	12.8	2.3	NO		NO	MM
4	4 180518G2-5	Standard	12.500	4.78	8303.210	9232.404	11.242	12.9	3.0	NO		NO	MM
5	5 180518G2-6	Standard	12.500	4.78	7647.588	8566.354	11.159	12.8	2.2	NO		NO	MM
6	6 180518G2-7	Standard	12.500	4.78	10184.286	11645.930	10.931	12.5	0.1	NO		NO	MM
7	7 180518G2-8	Standard	12.500	4.78	8882.973	9605.154	11.560	13.2	5.9	NO		NO	MM
8	8 180518G2-9	Standard	12.500	4.78	8193.037	8945.600	11.448	13.1	4.9	NO		NO	MM
9	9 180518G2-10	Standard	12.500	4.78	7828.193	10083.537	9.704	11.1	-11.1	NO		NO	MM

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	1.97	19717.615	19717.615	12.500	12.5	0.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	1.97	19533.396	19533.396	12.500	12.5	0.0	NO		NO	MM
3	3	180518G2-4	Standard	12.500	1.97	18178.295	18178.295	12.500	12.5	0.0	NO		NO	MM
4	4	180518G2-5	Standard	12.500	1.97	18571.244	18571.244	12.500	12.5	0.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	1.97	18276.186	18276.186	12.500	12.5	0.0	NO		NO	bb
6	6	180518G2-7	Standard	12.500	1.97	18318.207	18318.207	12.500	12.5	0.0	NO		NO	MM
7	7	180518G2-8	Standard	12.500	1.97	16766.531	16766.531	12.500	12.5	0.0	NO		NO	bb
8	8	180518G2-9	Standard	12.500	1.97	15310.219	15310.219	12.500	12.5	0.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	1.94	15163.274	15163.274	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 3.92523e-017, Relative SD: 3.92523e-015
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	3.44	19809.420	19809.420	12.500	12.5	0.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	3.44	19190.949	19190.949	12.500	12.5	0.0	NO		NO	MM
3	3	180518G2-4	Standard	12.500	3.44	18421.494	18421.494	12.500	12.5	0.0	NO		NO	MM
4	4	180518G2-5	Standard	12.500	3.44	19371.041	19371.041	12.500	12.5	0.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	3.45	18022.383	18022.383	12.500	12.5	0.0	NO		NO	MM
6	6	180518G2-7	Standard	12.500	3.44	18238.803	18238.803	12.500	12.5	0.0	NO		NO	MM
7	7	180518G2-8	Standard	12.500	3.44	15727.529	15727.529	12.500	12.5	0.0	NO		NO	MM
8	8	180518G2-9	Standard	12.500	3.44	14664.592	14664.592	12.500	12.5	0.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	3.44	11647.291	11647.291	12.500	12.5	0.0	NO		NO	MM

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 8.77708e-017, Relative SD: 8.77708e-015
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	4.07	9818.392	9818.392	12.500	12.5	0.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	4.07	9899.062	9899.062	12.500	12.5	0.0	NO		NO	MM
3	3	180518G2-4	Standard	12.500	4.07	9553.198	9553.198	12.500	12.5	0.0	NO		NO	MM
4	4	180518G2-5	Standard	12.500	4.07	9338.757	9338.757	12.500	12.5	0.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	4.07	8819.239	8819.239	12.500	12.5	0.0	NO		NO	MM
6	6	180518G2-7	Standard	12.500	4.06	9079.031	9079.031	12.500	12.5	0.0	NO		NO	MM
7	7	180518G2-8	Standard	12.500	4.06	8101.109	8101.109	12.500	12.5	0.0	NO		NO	MM
8	8	180518G2-9	Standard	12.500	4.06	7324.343	7324.343	12.500	12.5	0.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	4.06	6075.429	6075.429	12.500	12.5	0.0	NO		NO	MM

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 7.85046e-017, Relative SD: 7.85046e-015
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	4.36	21994.178	21994.178	12.500	12.5	0.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	4.36	17952.457	17952.457	12.500	12.5	0.0	NO		NO	MM
3	3	180518G2-4	Standard	12.500	4.37	17828.734	17828.734	12.500	12.5	0.0	NO		NO	MM
4	4	180518G2-5	Standard	12.500	4.36	18953.613	18953.613	12.500	12.5	0.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	4.37	19506.391	19506.391	12.500	12.5	0.0	NO		NO	MM
6	6	180518G2-7	Standard	12.500	4.36	19256.393	19256.393	12.500	12.5	0.0	NO		NO	MM
7	7	180518G2-8	Standard	12.500	4.36	16913.484	16913.484	12.500	12.5	0.0	NO		NO	MM
8	8	180518G2-9	Standard	12.500	4.36	15518.849	15518.849	12.500	12.5	0.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	4.36	14104.878	14104.878	12.500	12.5	0.0	NO		NO	MM

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 8.77708e-017, Relative SD: 8.77708e-015
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	4.72	18327.736	18327.736	12.500	12.5	0.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	4.71	17476.465	17476.465	12.500	12.5	0.0	NO		NO	MM
3	3	180518G2-4	Standard	12.500	4.72	15630.434	15630.434	12.500	12.5	0.0	NO		NO	MM
4	4	180518G2-5	Standard	12.500	4.72	18570.713	18570.713	12.500	12.5	0.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	4.72	14697.126	14697.126	12.500	12.5	0.0	NO		NO	MM
6	6	180518G2-7	Standard	12.500	4.72	18732.268	18732.268	12.500	12.5	0.0	NO		NO	MM
7	7	180518G2-8	Standard	12.500	4.72	16235.172	16235.172	12.500	12.5	0.0	NO		NO	MM
8	8	180518G2-9	Standard	12.500	4.72	15595.537	15595.537	12.500	12.5	0.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	4.72	15983.241	15983.241	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180518G2-2	Standard	12.500	4.78	12303.238	12303.238	12.500	12.5	0.0	NO		NO	MM
2	2	180518G2-3	Standard	12.500	4.78	12253.168	12253.168	12.500	12.5	0.0	NO		NO	MM
3	3	180518G2-4	Standard	12.500	4.78	8484.122	8484.122	12.500	12.5	0.0	NO		NO	bb
4	4	180518G2-5	Standard	12.500	4.78	9232.404	9232.404	12.500	12.5	0.0	NO		NO	MM
5	5	180518G2-6	Standard	12.500	4.78	8566.354	8566.354	12.500	12.5	0.0	NO		NO	MM
6	6	180518G2-7	Standard	12.500	4.78	11645.930	11645.930	12.500	12.5	0.0	NO		NO	MM
7	7	180518G2-8	Standard	12.500	4.78	9605.154	9605.154	12.500	12.5	0.0	NO		NO	MM
8	8	180518G2-9	Standard	12.500	4.78	8945.600	8945.600	12.500	12.5	0.0	NO		NO	MM
9	9	180518G2-10	Standard	12.500	4.78	10083.537	10083.537	12.500	12.5	0.0	NO		NO	MM

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:31:42 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180518G2-2, Date: 18-May-2018, Time: 11:12:45, ID: ST180518G2-1 PFC CS-2 18E1402, Description: PFC CS-2 18E1402

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	11	0.9969	NO	
2	2	PFPeA	13	0.9997	NO	
3	3	PFBS	12	0.9977	NO	
4	4	PFHxA	14	0.9997	NO	
5	5	PFHpA	15	0.9959	NO	
6	6	PFHxS	16	0.9994	NO	
7	7	L-PFOA	17	0.9986	NO	
8	9	PFNA	18	0.9980	NO	
9	10	PFOS	19	0.9994	NO	
10	11	13C3-PFBA	20		NO	3.107
11	12	13C3-PFBS	21		NO	11.004
12	13	13C3-PFPeA	21		NO	2.248
13	14	13C2-PFHxA	21		NO	3.214
14	15	13C4-PFHpA	21		NO	4.864
15	16	18O2-PFHxS	22		NO	6.186
16	17	13C2-PFOA	23		NO	6.389
17	18	13C5-PFNA	24		NO	7.350
18	19	13C8-PFOS	25		NO	5.704
19	20	13C4-PFBA	20		NO	0.000
20	21	13C5-PFHxA	21		NO	0.000
21	22	13C3-PFHxS	22		NO	0.000
22	23	13C8-PFOA	23		NO	0.000
23	24	13C9-PFNA	24		NO	0.000
24	25	13C4-PFOS	25		NO	0.000

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, May 21, 2018 08:45:45 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:46:09 Pacific Daylight Time

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Compound name: PFBA

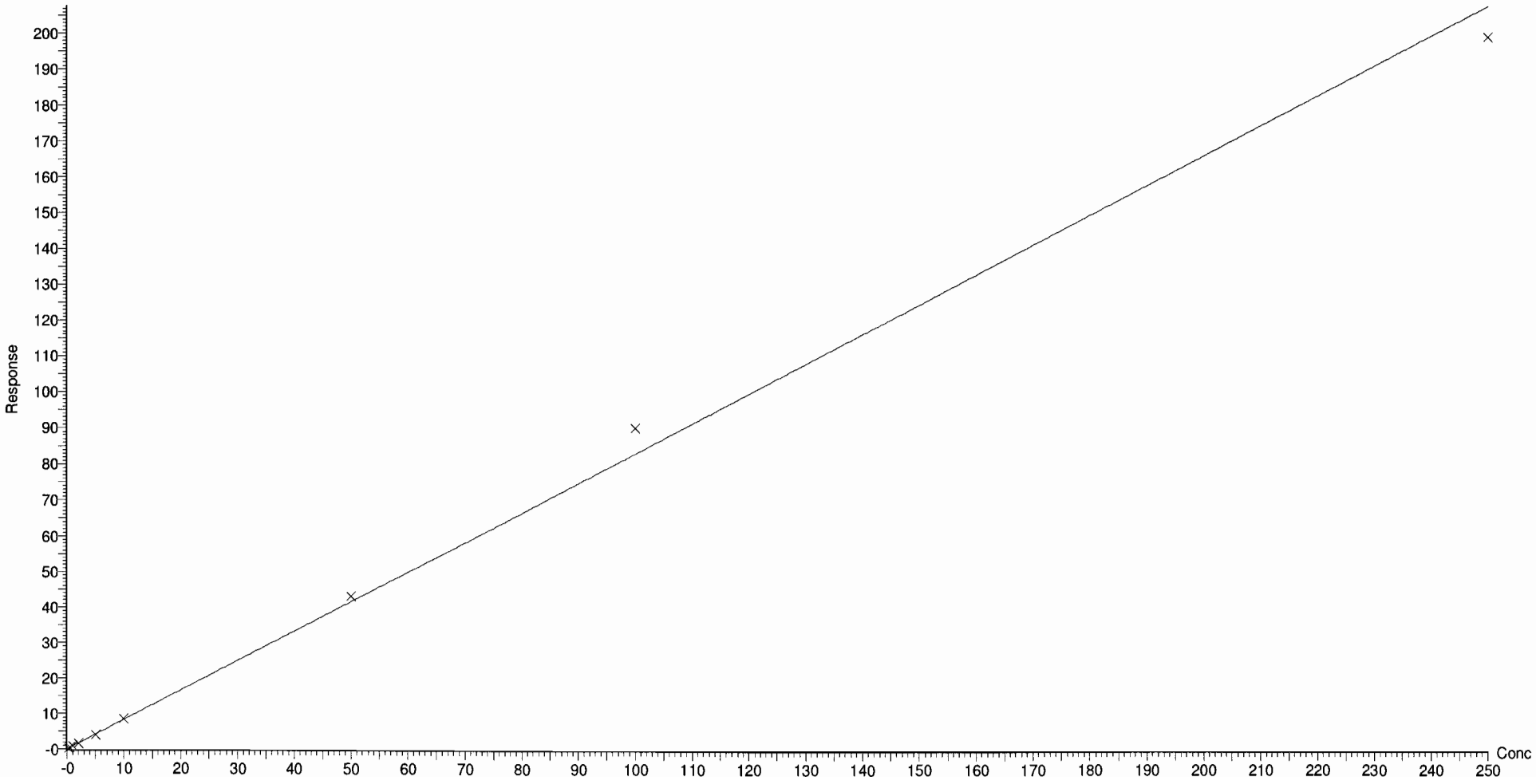
	Name	ID	Acq.Date	Acq.Time
1	180518G2-1	IPA	18-May-18	11:00:29
2	180518G2-2	ST180518G2-1 PFC CS-2 18E1402	18-May-18	11:12:45
3	180518G2-3	ST180518G2-2 PFC CS-1 18E1403	18-May-18	11:25:43
4	180518G2-4	ST180518G2-3 PFC CS0 18E1404	18-May-18	11:38:40
5	180518G2-5	ST180518G2-4 PFC CS1 18E1405	18-May-18	11:51:38
6	180518G2-6	ST180518G2-5 PFC CS2 18E1406	18-May-18	12:04:36
7	180518G2-7	ST180518G2-6 PFC CS3 18E1407	18-May-18	12:17:33
8	180518G2-8	ST180518G2-7 PFC CS4 18E1408	18-May-18	12:30:30
9	180518G2-9	ST180518G2-8 PFC CS5 18E1409	18-May-18	12:43:29
10	180518G2-10	ST180518G2-9 PFC CS6 18E1410	18-May-18	12:56:33
11	180518G2-11	IPA	18-May-18	13:09:27
12	180518G2-12	ICV180518G2-1 PFC ICV 18E1401	18-May-18	13:22:27
13	180518G2-13	IPA	18-May-18	13:35:22

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

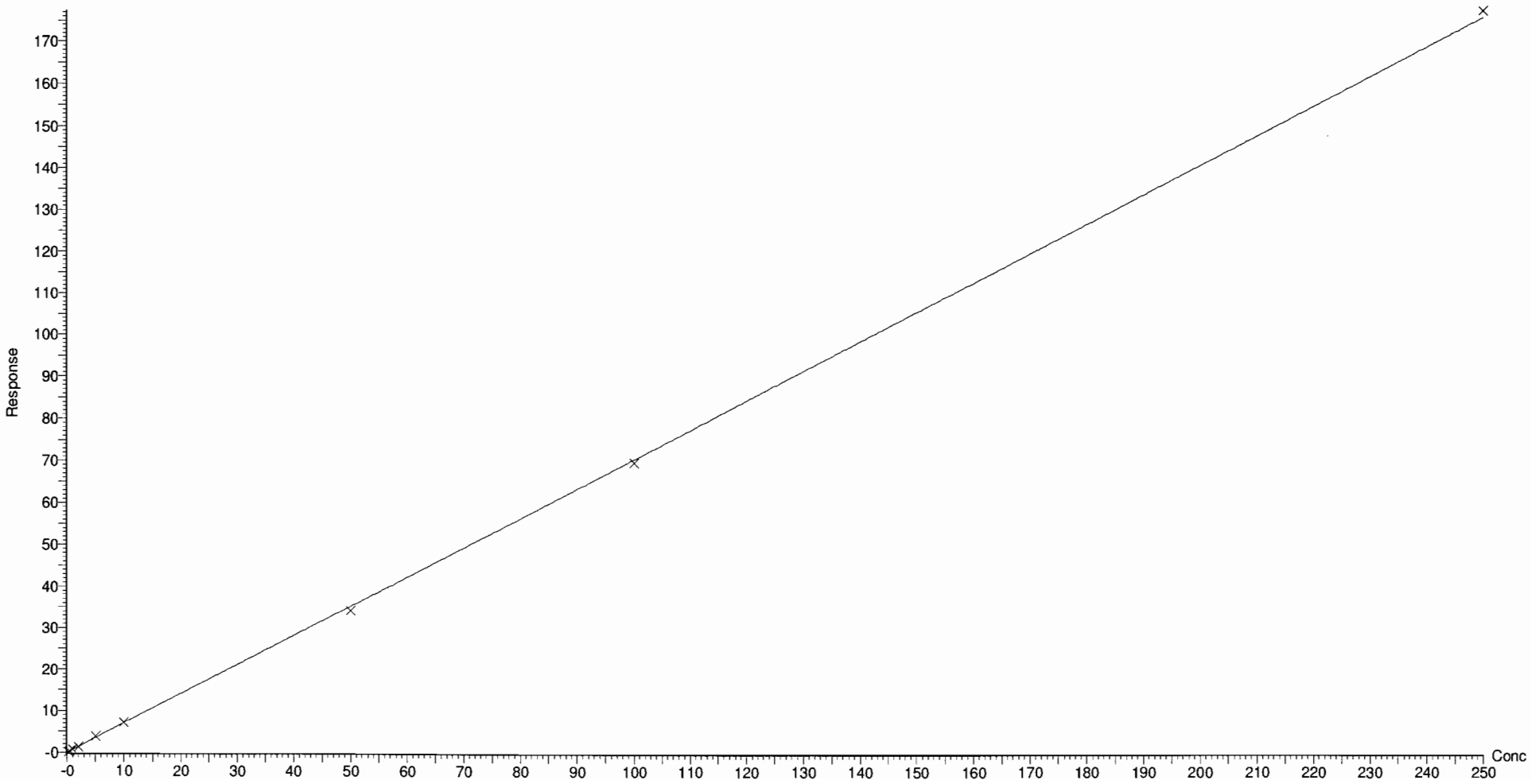
Compound name: PFBA
Correlation coefficient: r = 0.998456, r^2 = 0.996915
Calibration curve: 0.830338 * x + 0.0896946
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

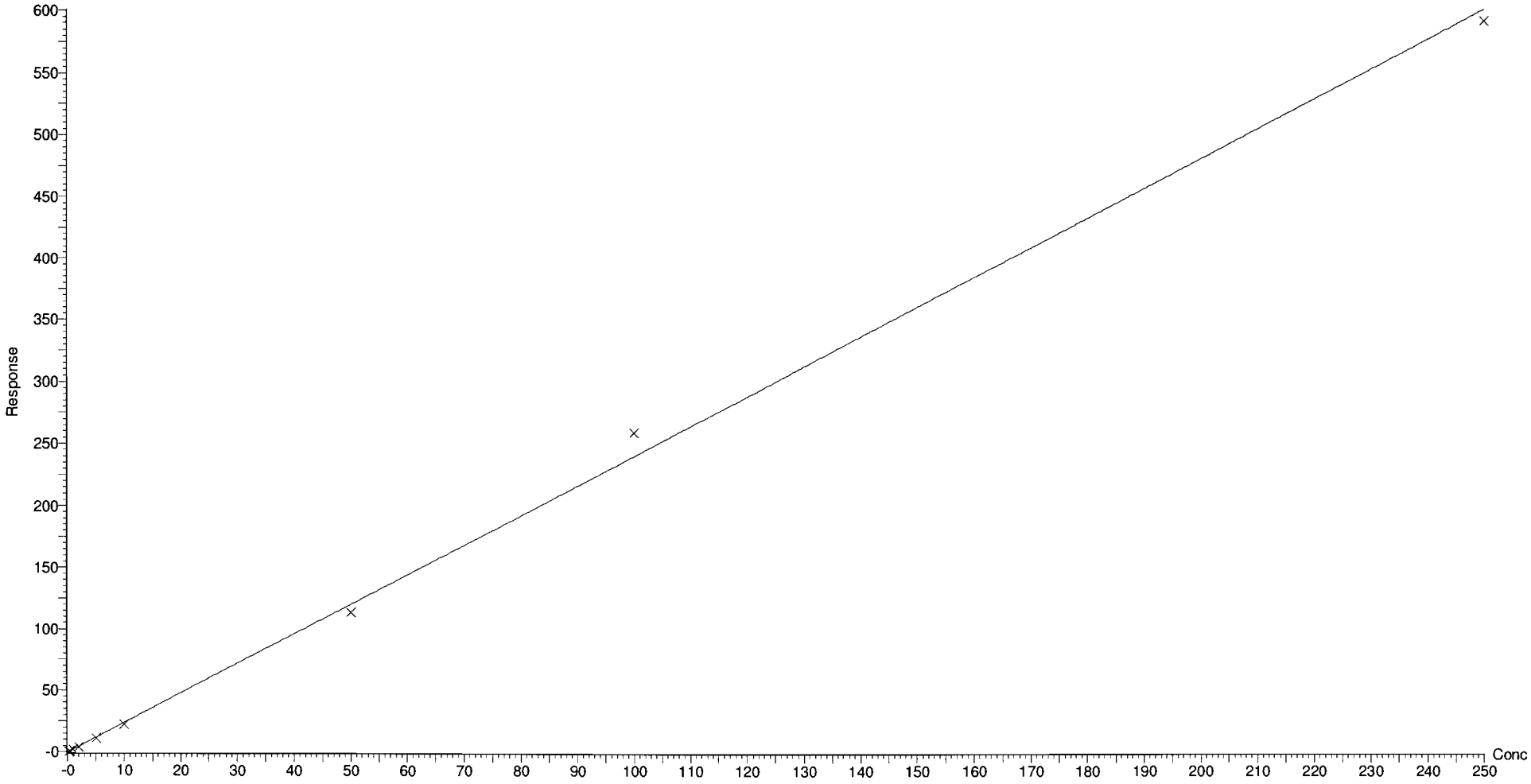
Compound name: PFPeA
Correlation coefficient: r = 0.999849, r^2 = 0.999698
Calibration curve: 0.702943 * x + 0.0392021
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

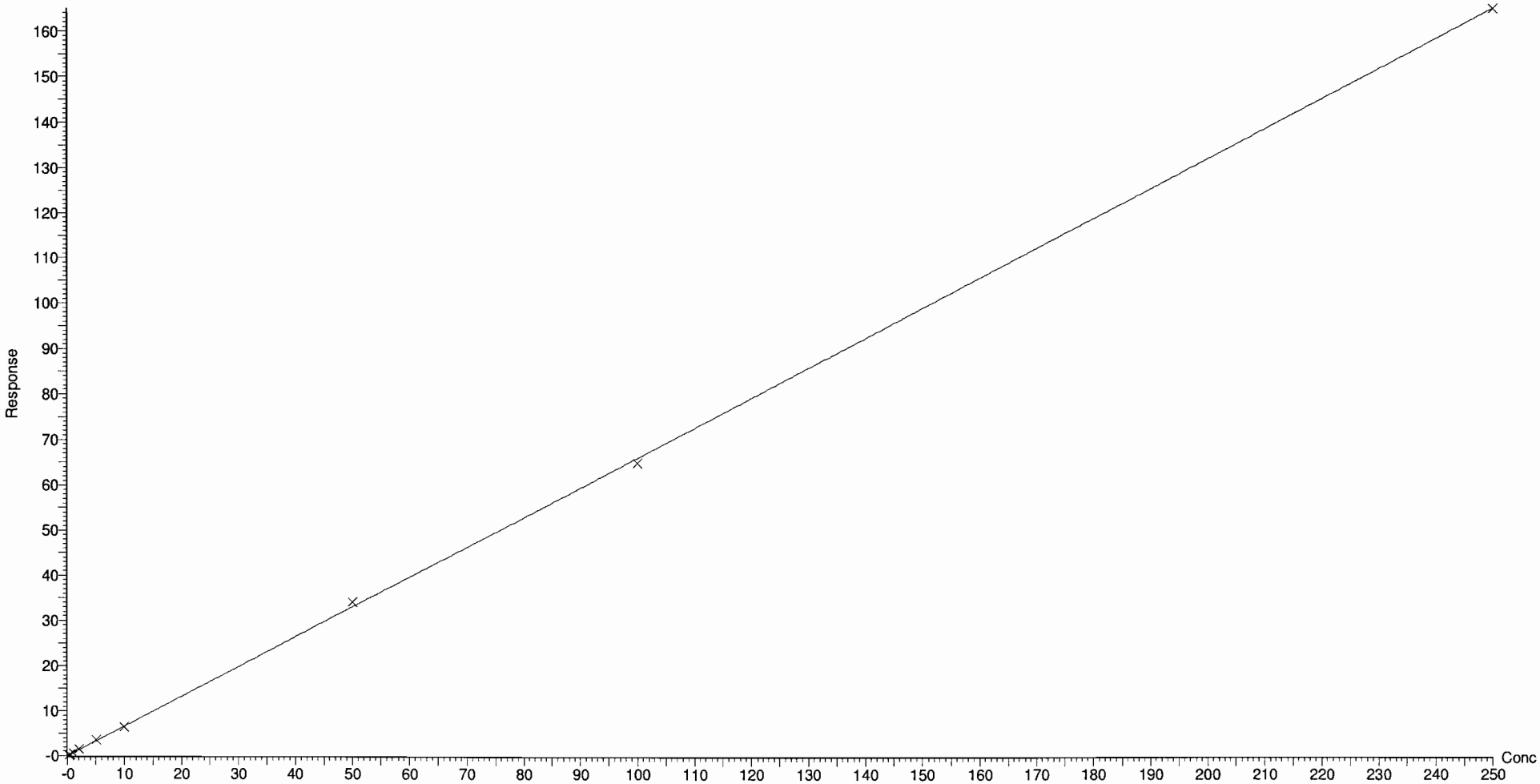
Compound name: PFBS
Correlation coefficient: r = 0.998833, r^2 = 0.997667
Calibration curve: 2.40406 * x + -0.214742
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

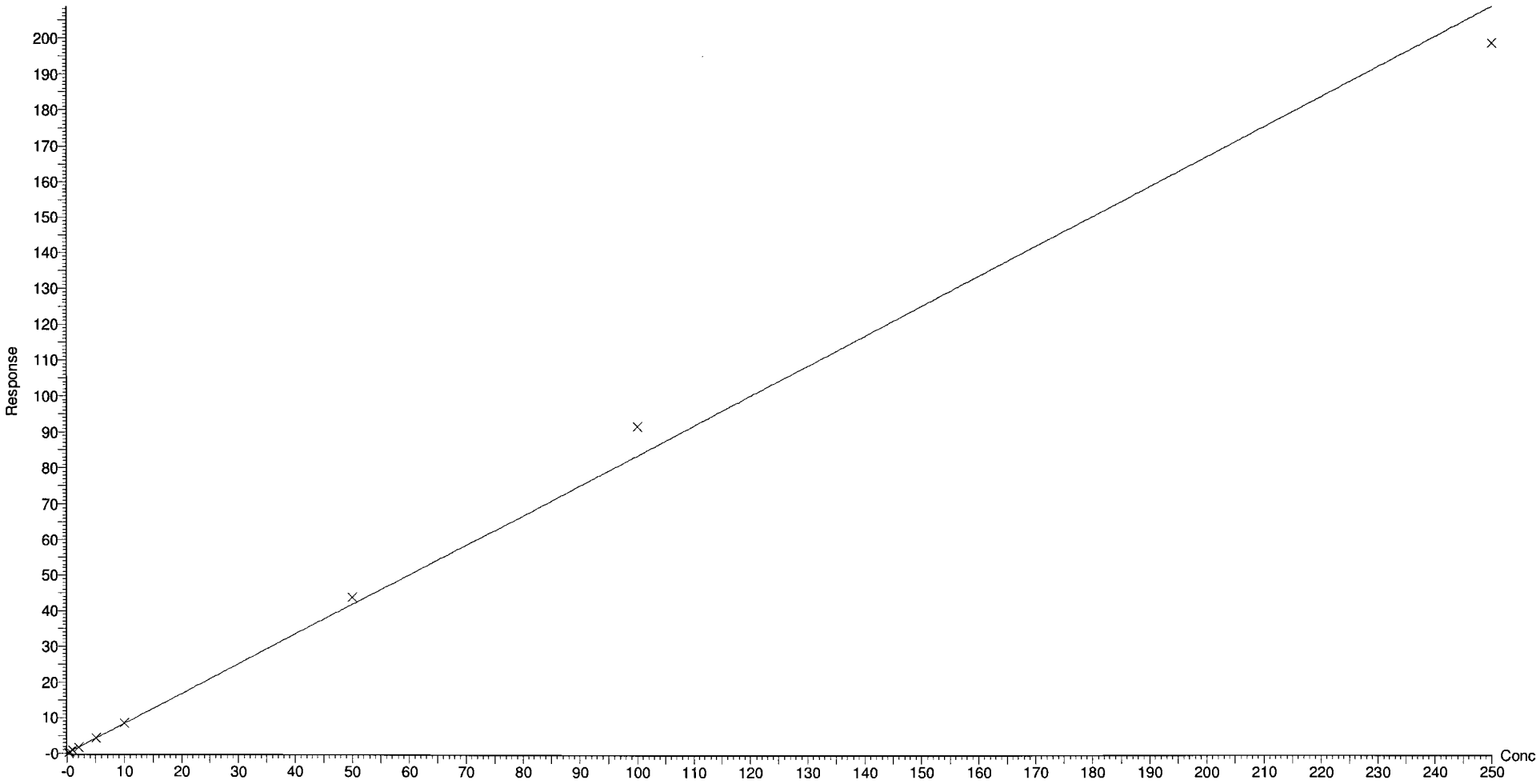
Compound name: PFHxA
Correlation coefficient: r = 0.999857, r^2 = 0.999715
Calibration curve: 0.659738 * x + 0.0311456
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

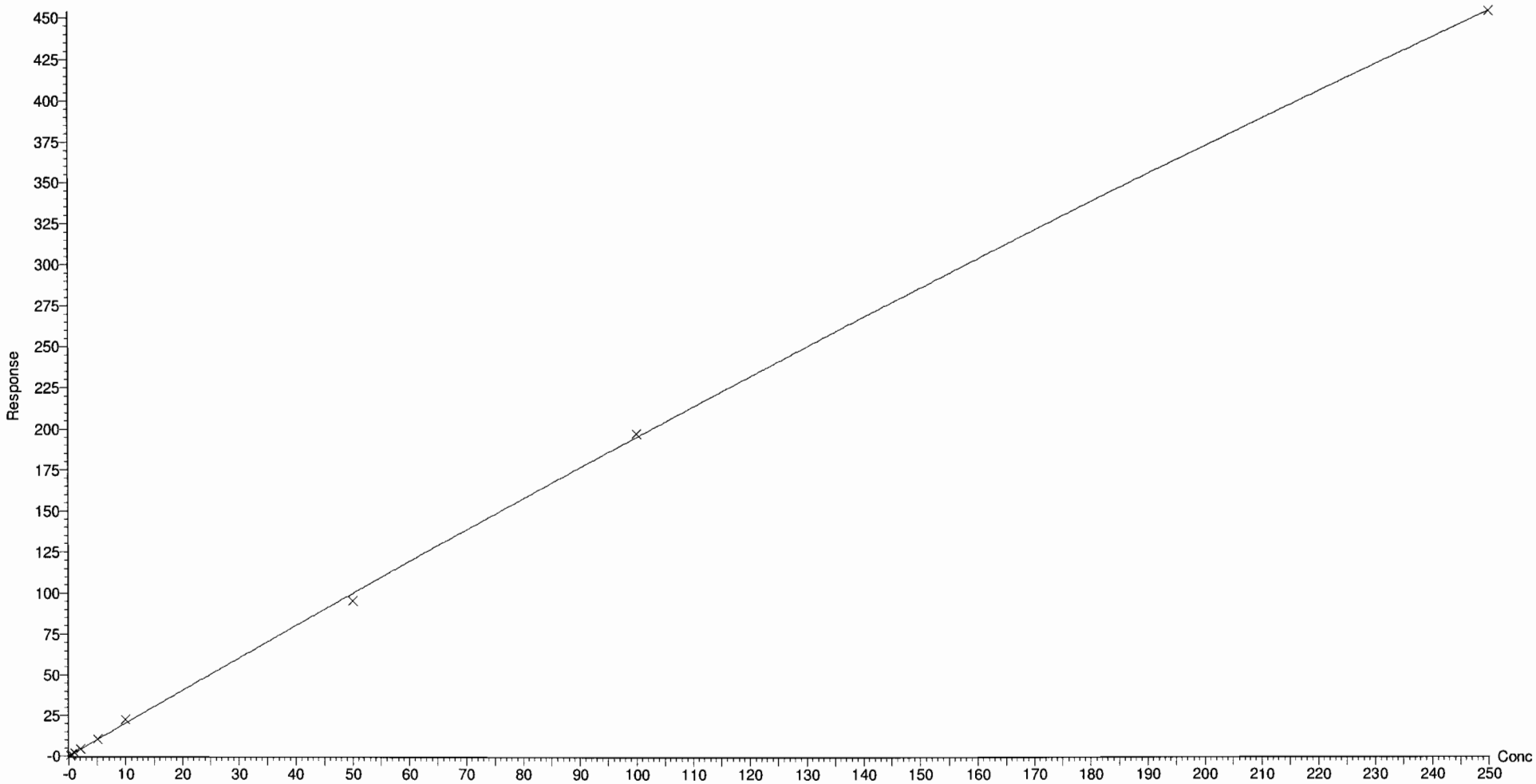
Compound name: PFHpA
Correlation coefficient: r = 0.997968, r^2 = 0.995940
Calibration curve: 0.834371 * x + 0.108795
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

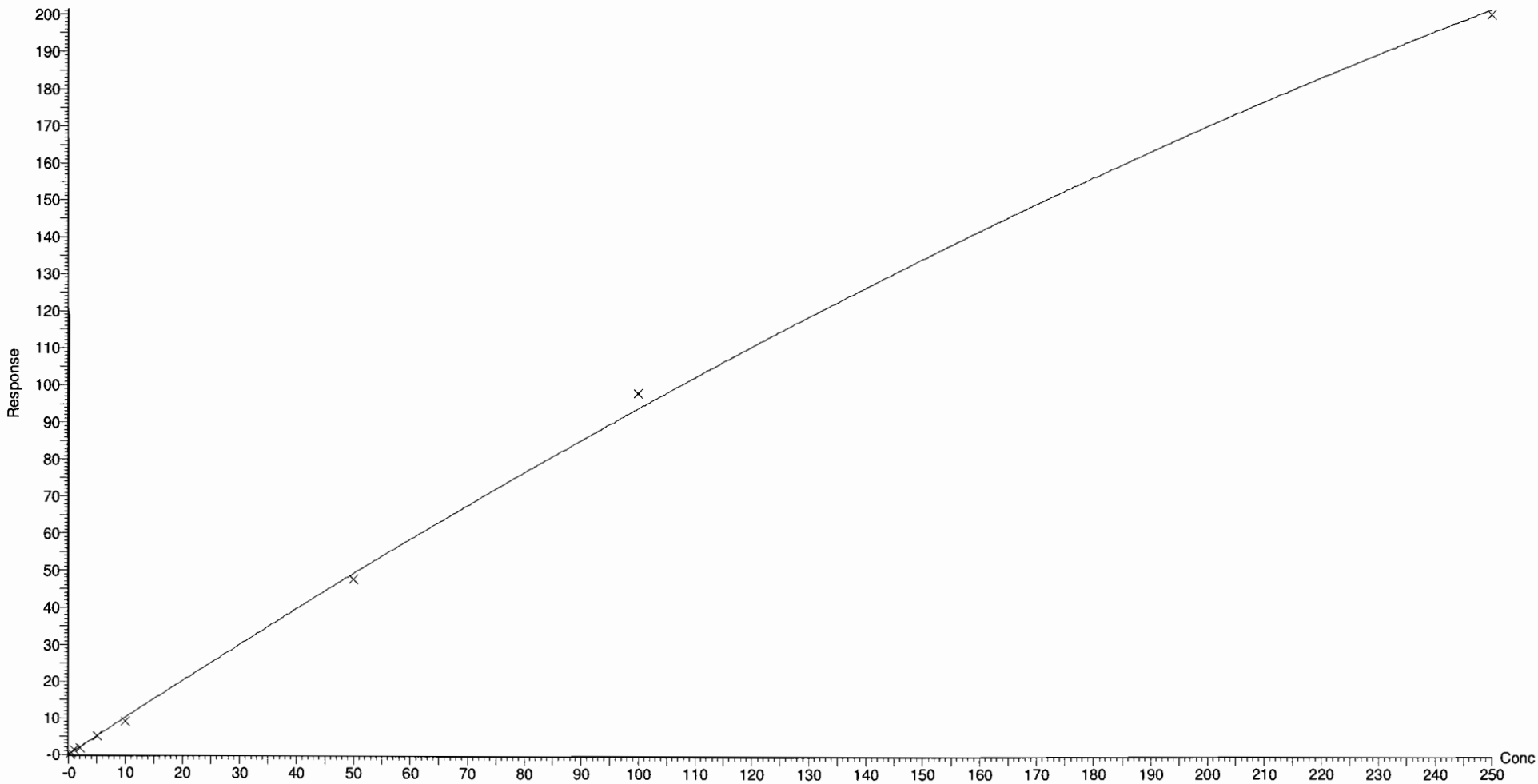
Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999359
Calibration curve: -0.000902977 * x^2 + 2.0406 * x + 0.0145008
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

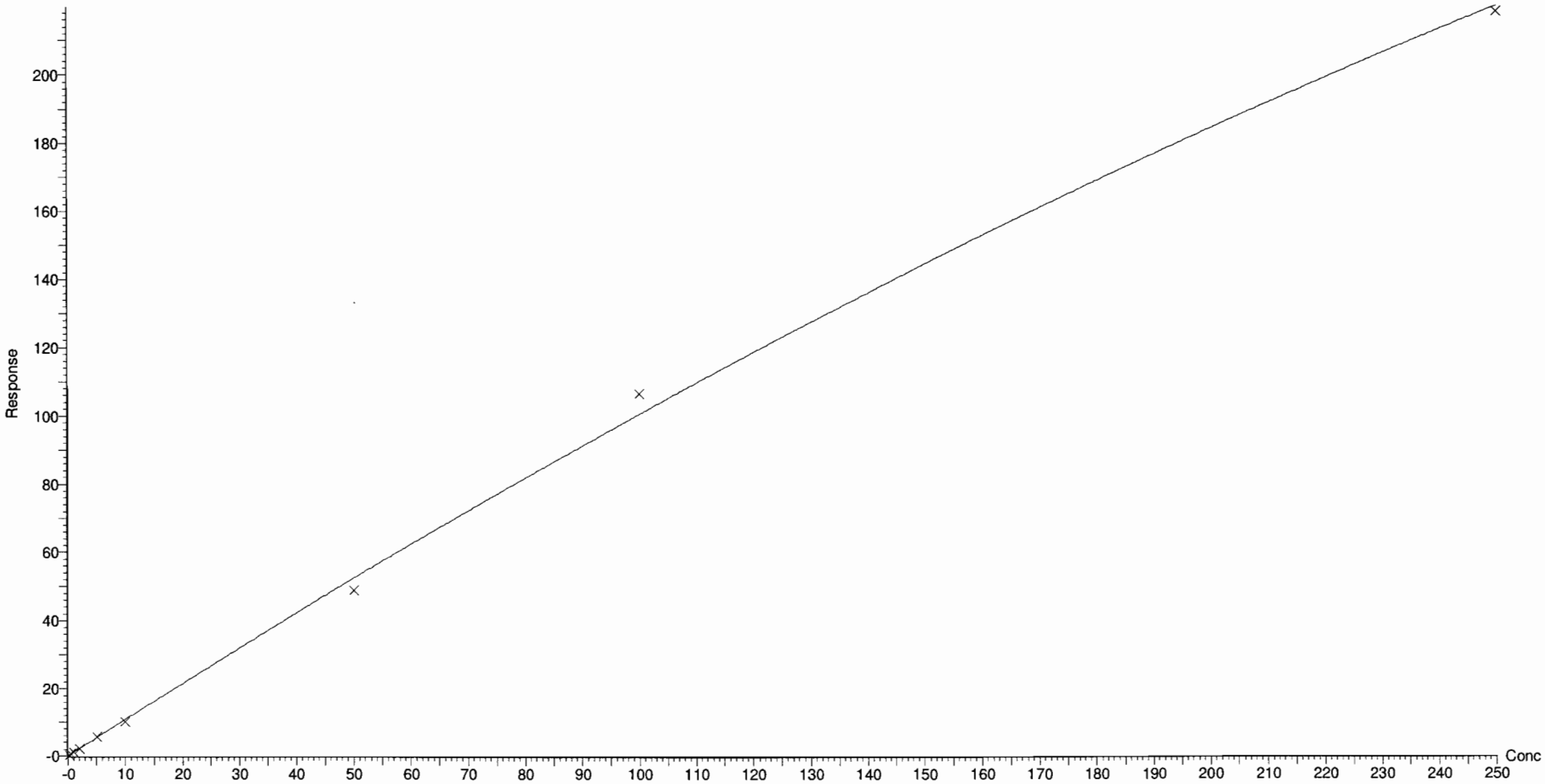
Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.998644
Calibration curve: -0.000890118 * x^2 + 1.02799 * x + 0.0302683
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

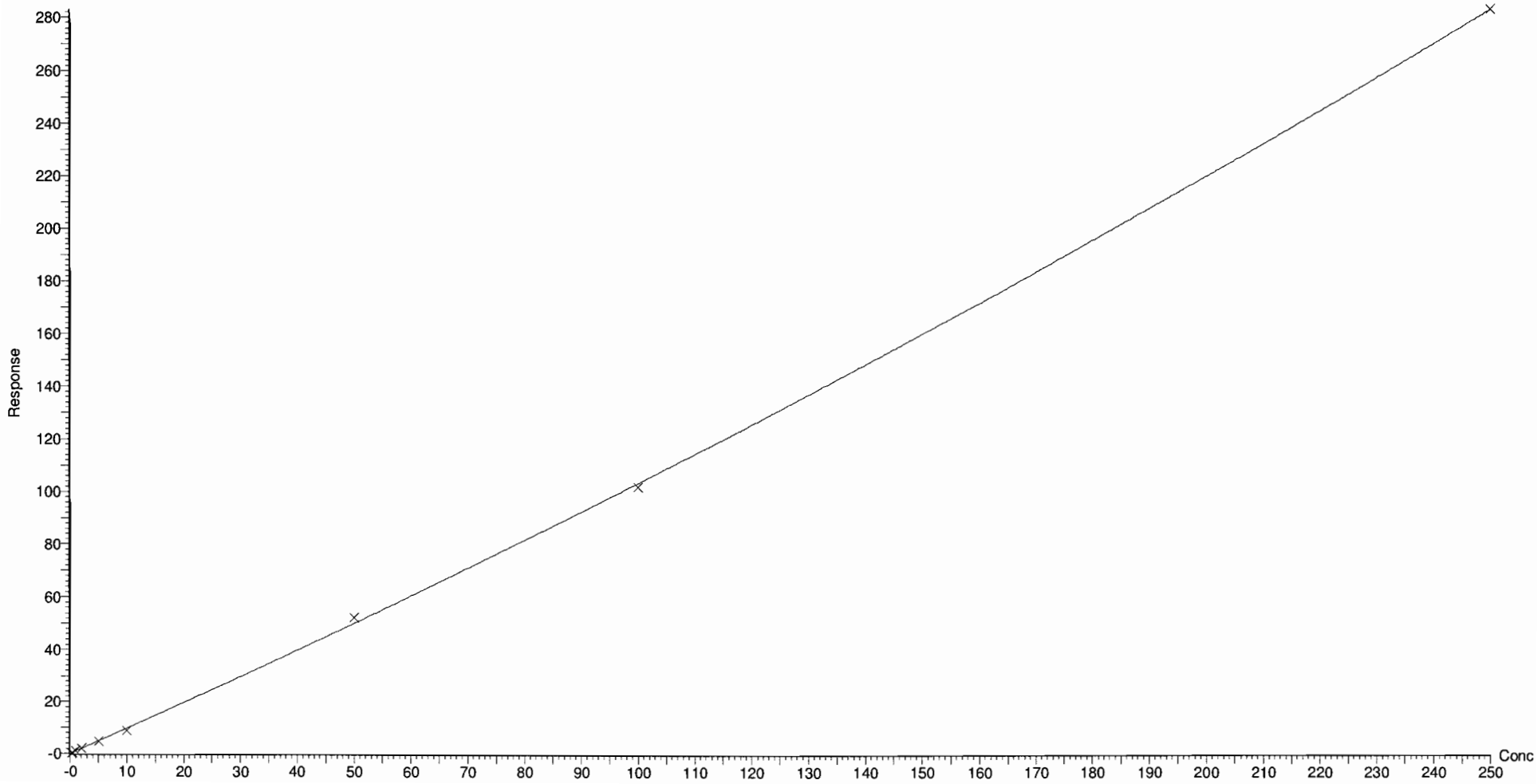
Compound name: PFNA
Coefficient of Determination: R^2 = 0.997958
Calibration curve: -0.000843155 * x^2 + 1.08929 * x + 0.01432
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:34:03 Pacific Daylight Time

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999444
Calibration curve: 0.000655128 * x^2 + 0.968009 * x + -0.0070504
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



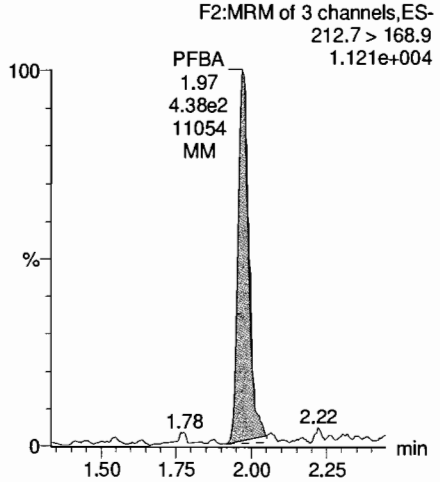
Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:43:19 Pacific Daylight Time

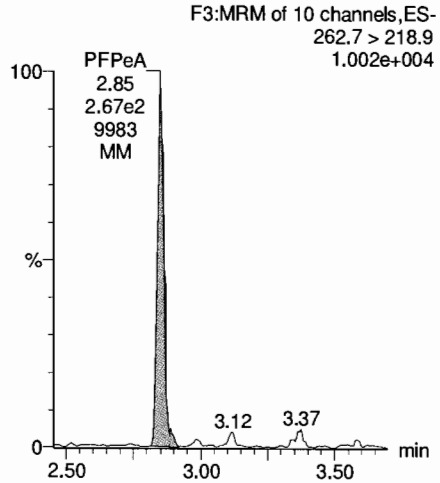
Method: X:\G1.pro\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180518G2-2, Date: 18-May-2018, Time: 11:12:45, ID: ST180518G2-1 PFC CS-2 18E1402, Description: PFC CS-2 18E1402

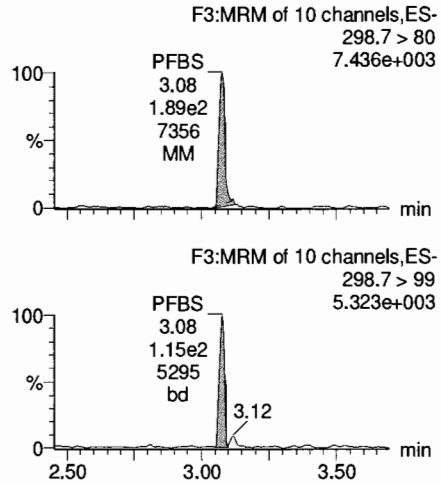
PFBA



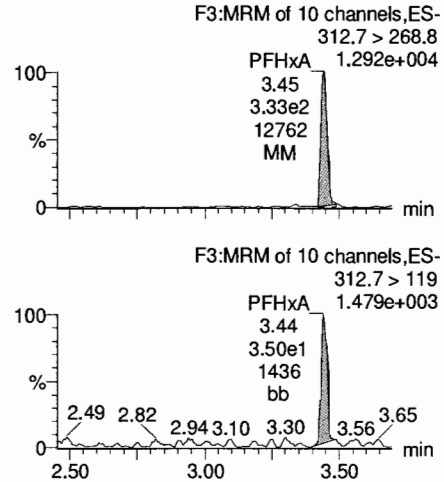
PFPeA



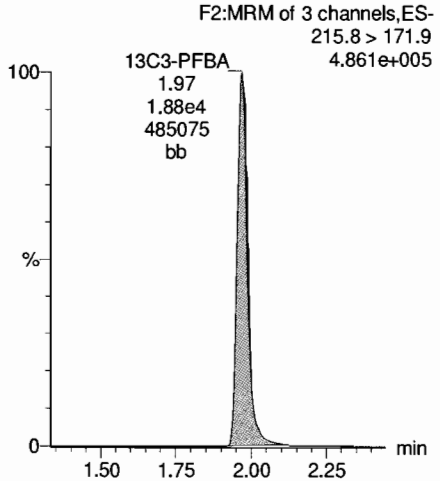
PFBS



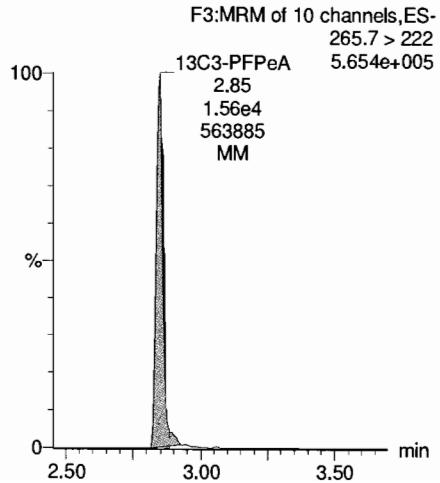
PFHxA



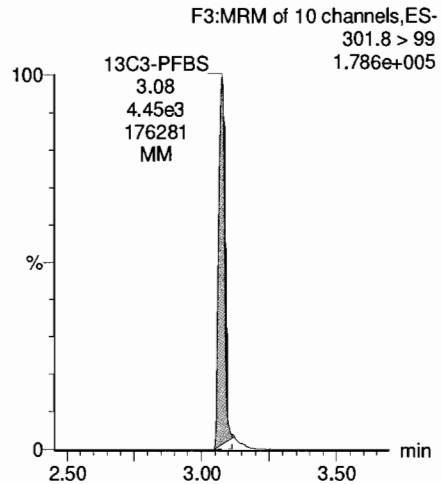
13C3-PFBA



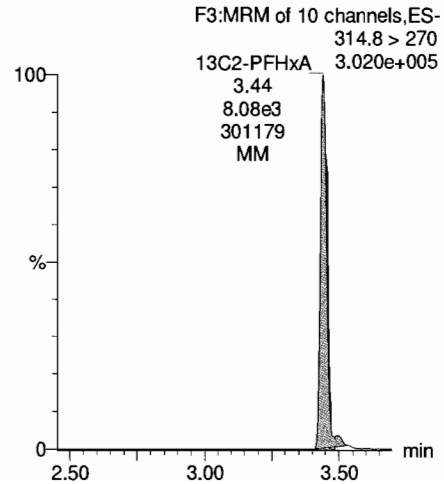
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

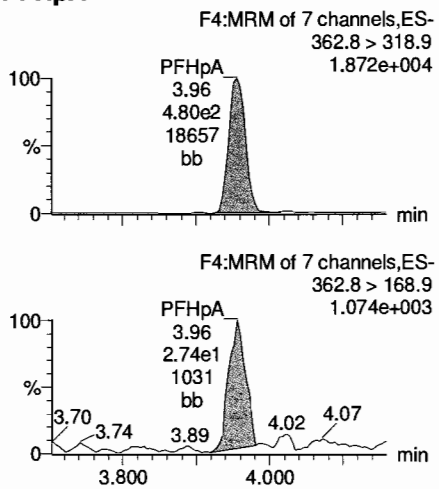


Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

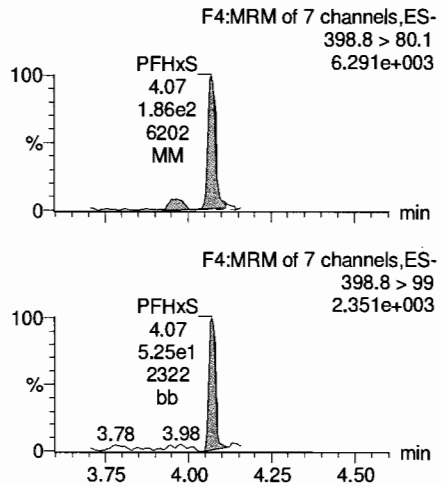
Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:43:19 Pacific Daylight Time

Name: 180518G2-2, Date: 18-May-2018, Time: 11:12:45, ID: ST180518G2-1 PFC CS-2 18E1402, Description: PFC CS-2 18E1402

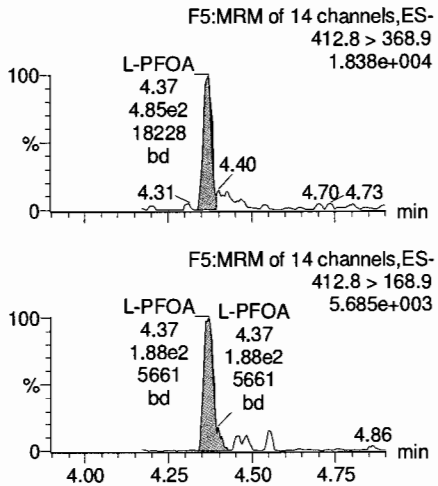
PFHpA



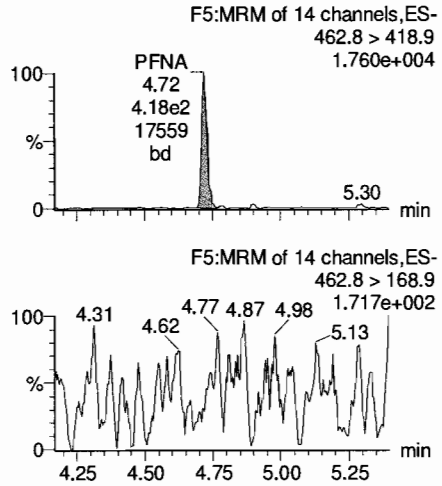
PFHxS



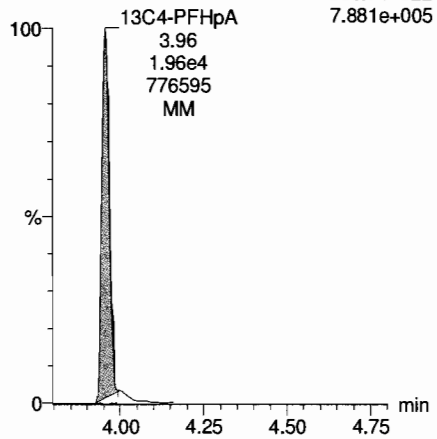
L-PFOA



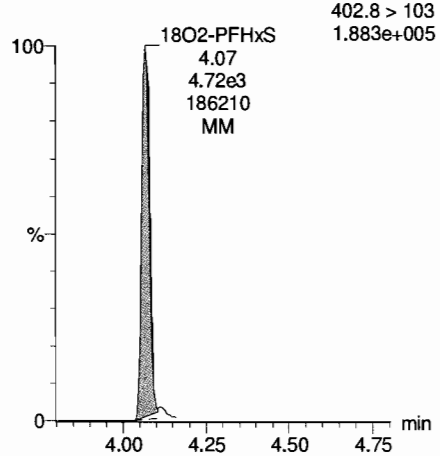
PFNA



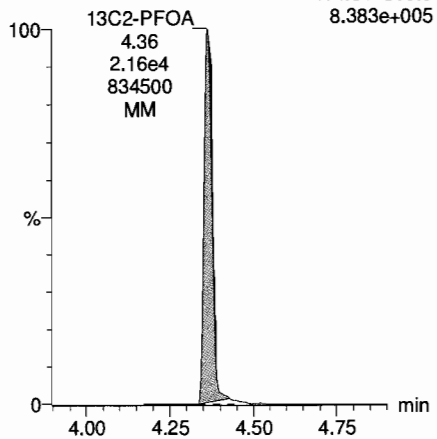
13C4-PFHpA



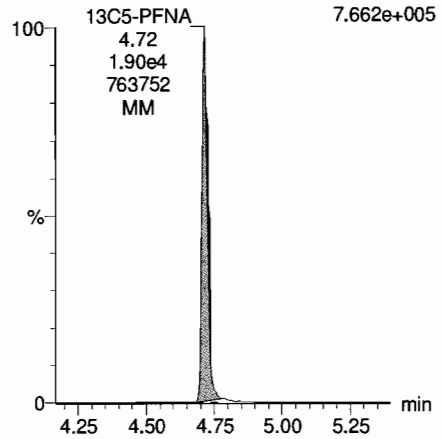
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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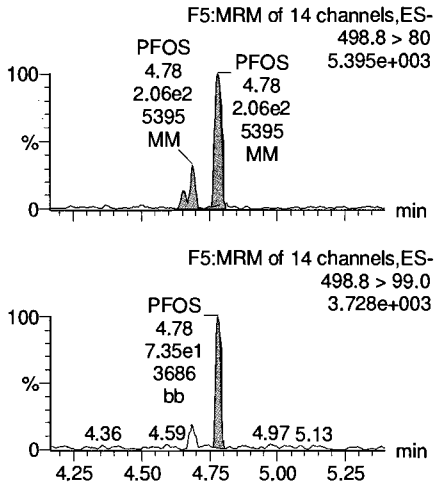
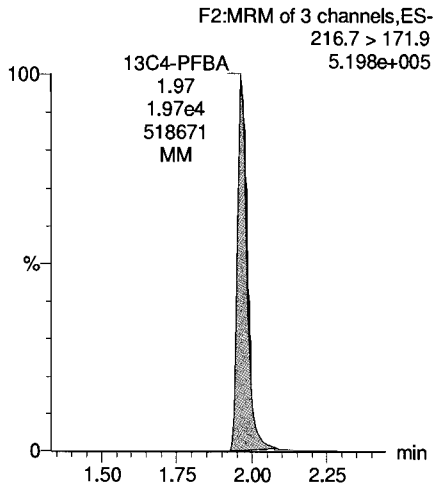
Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:43:19 Pacific Daylight Time

Name: 180518G2-2, Date: 18-May-2018, Time: 11:12:45, ID: ST180518G2-1 PFC CS-2 18E1402, Description: PFC CS-2 18E1402

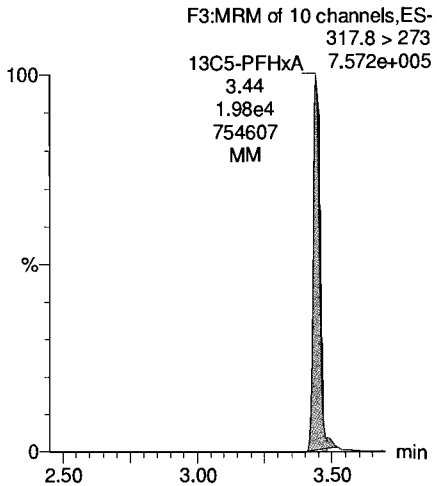
PFOS



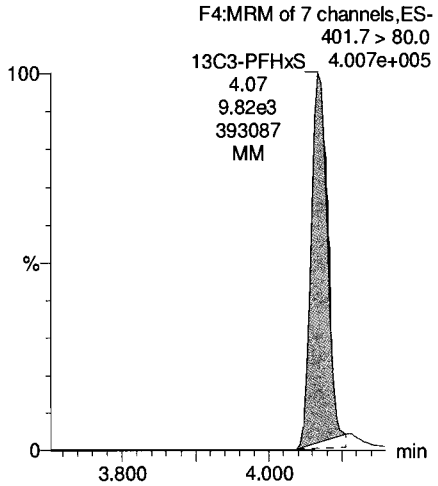
13C4-PFBA



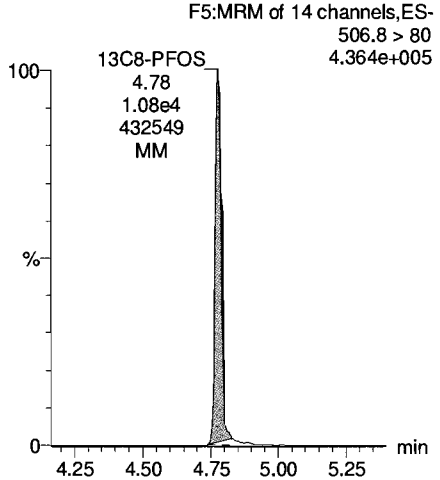
13C5-PFHxA



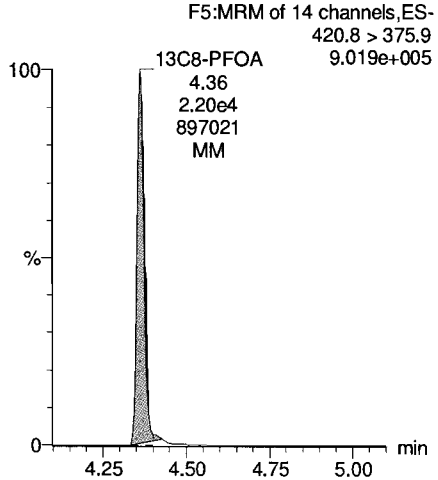
13C3-PFHxS



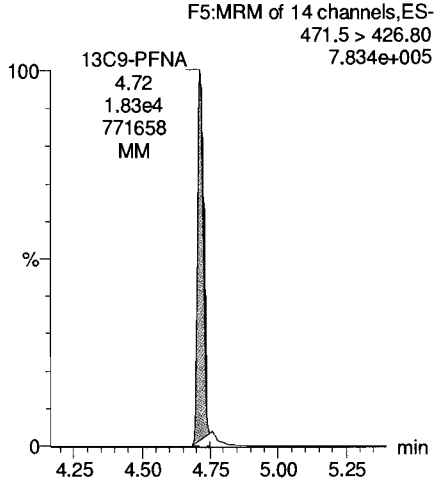
13C8-PFOS



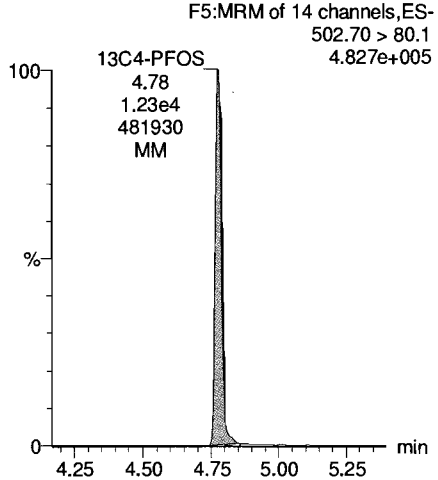
13C8-PFOA



13C9-PFNA



13C4-PFOS



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Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
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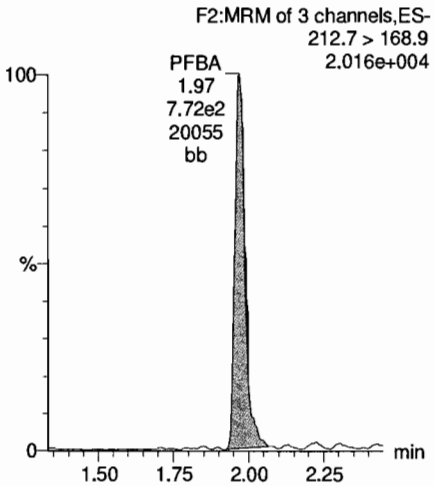
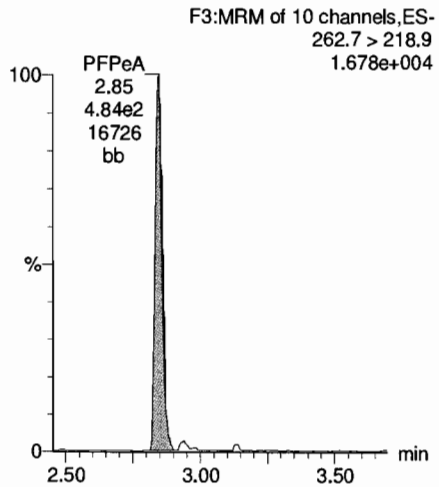
Name: 180518G2-3, Date: 18-May-2018, Time: 11:25:43, ID: ST180518G2-2 PFC CS-1 18E1403, Description: PFC CS-1 18E1403

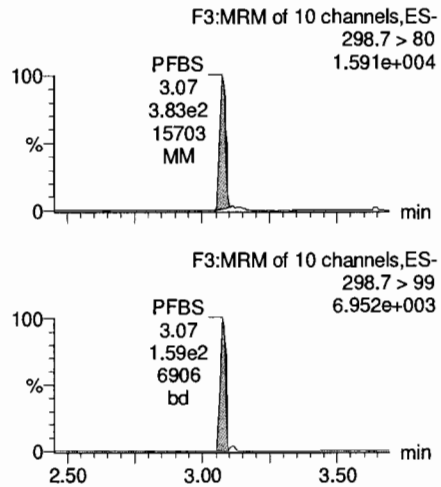
PFBA



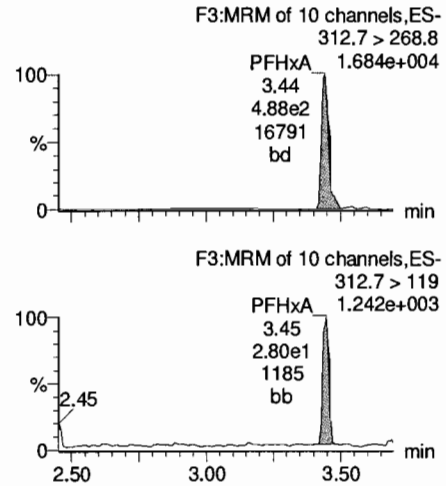
PFPeA



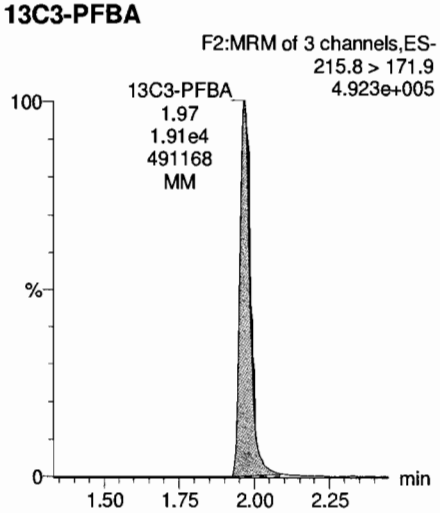
PFBS



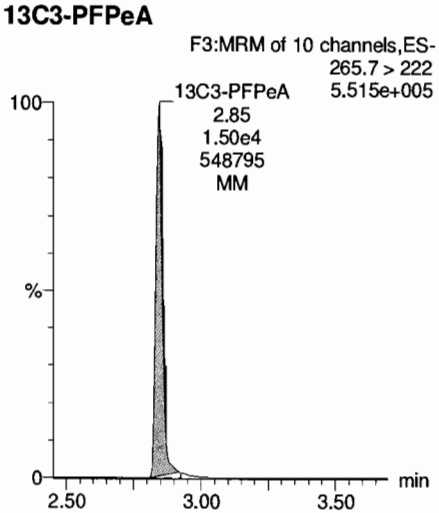
PFHxA



13C3-PFBA



13C3-PFPeA



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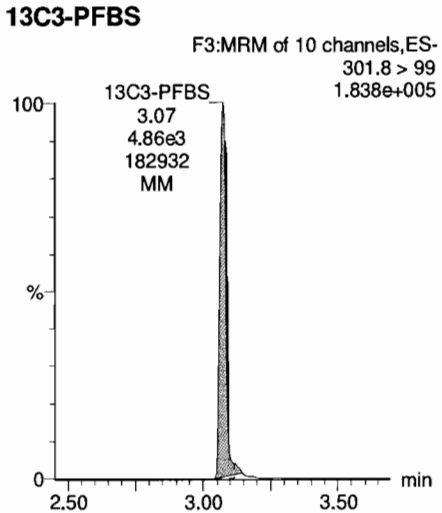
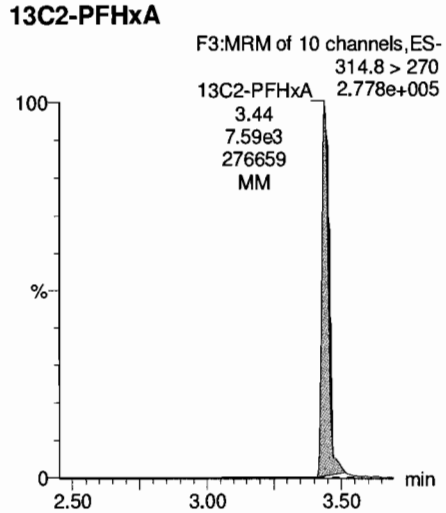


13C2-PFHxA



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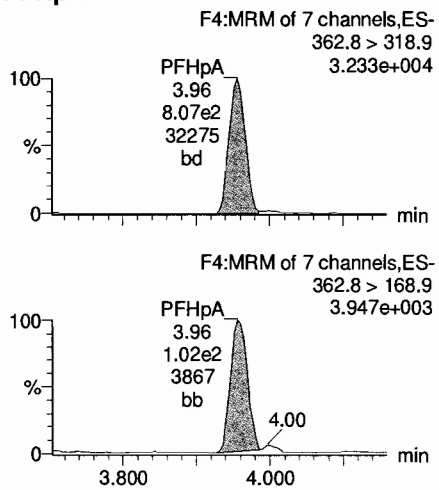
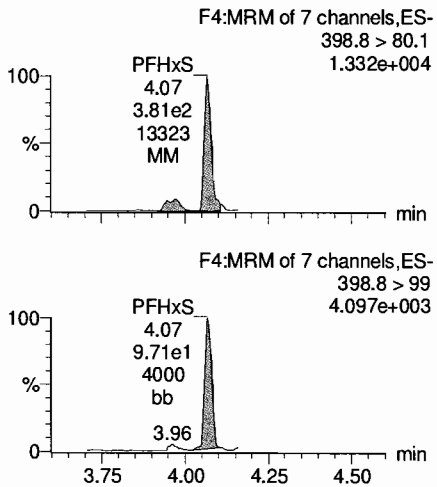
Name: 180518G2-3, Date: 18-May-2018, Time: 11:25:43, ID: ST180518G2-2 PFC CS-1 18E1403, Description: PFC CS-1 18E1403

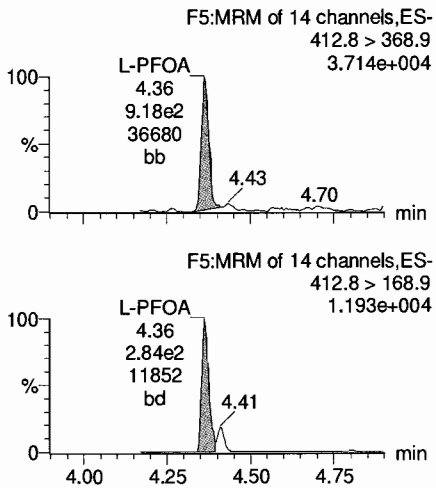
PFHpA



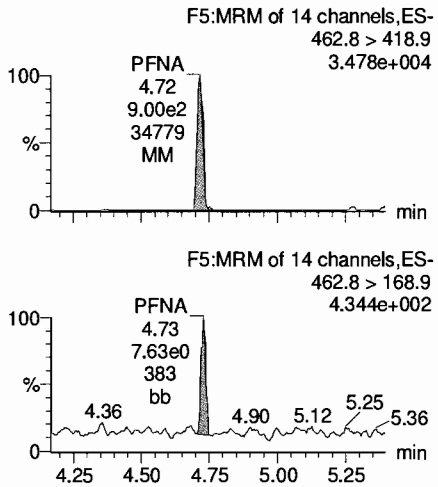
PFHxS



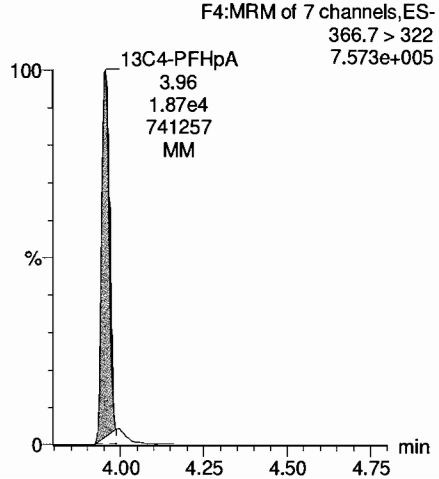
L-PFOA



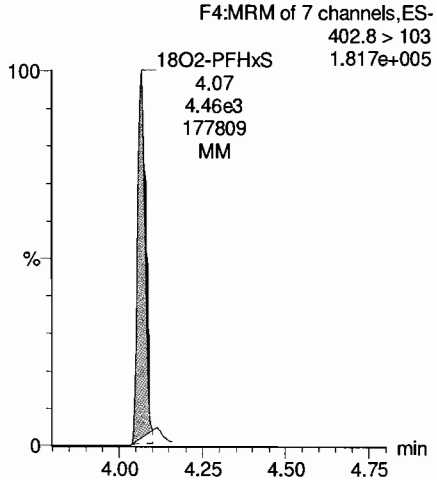
PFNA



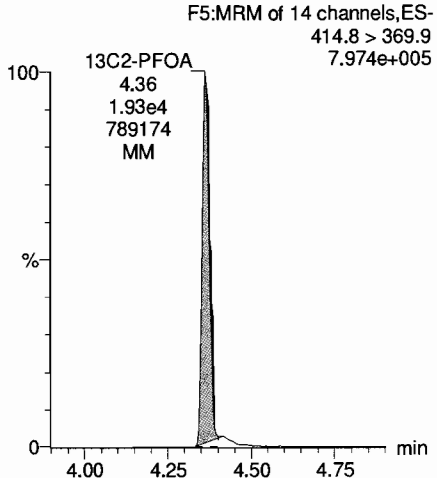
13C4-PFHpA



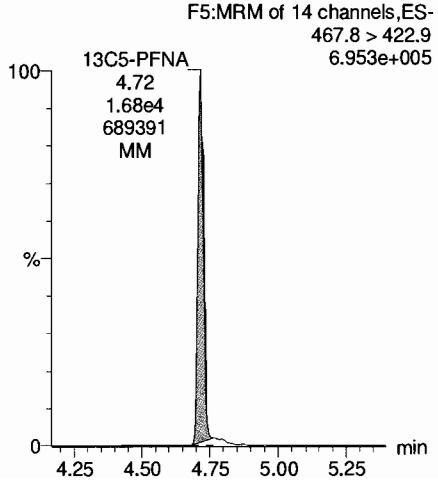
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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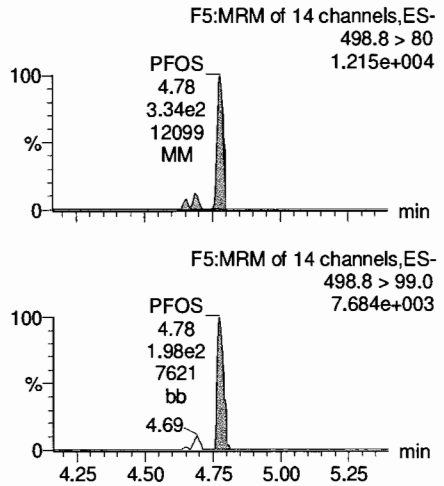
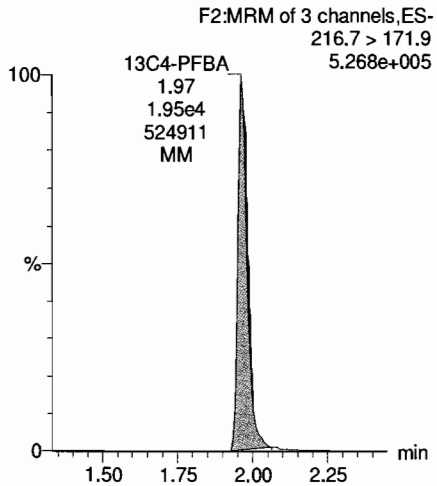
Name: 180518G2-3, Date: 18-May-2018, Time: 11:25:43, ID: ST180518G2-2 PFC CS-1 18E1403, Description: PFC CS-1 18E1403

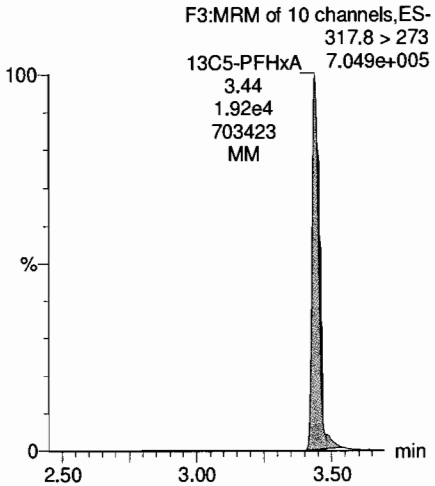
PFOS



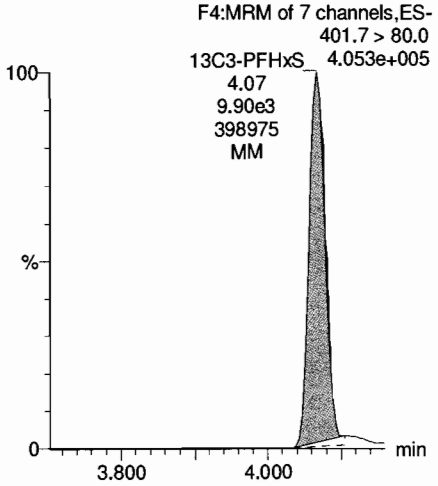
13C4-PFBA



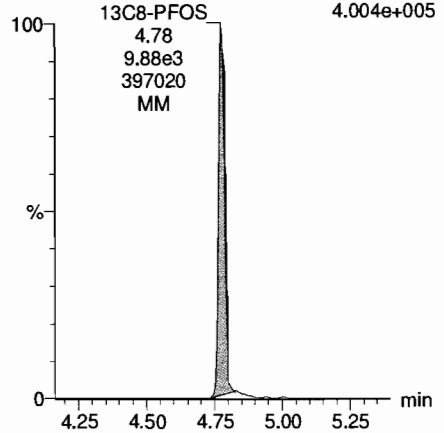
13C5-PFHxA



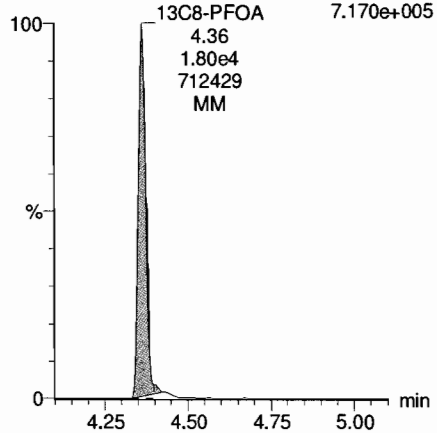
13C3-PFHxS



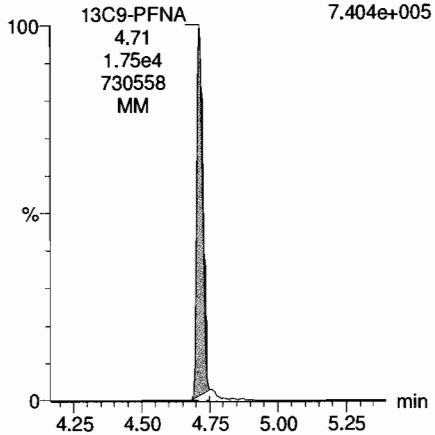
13C8-PFOS



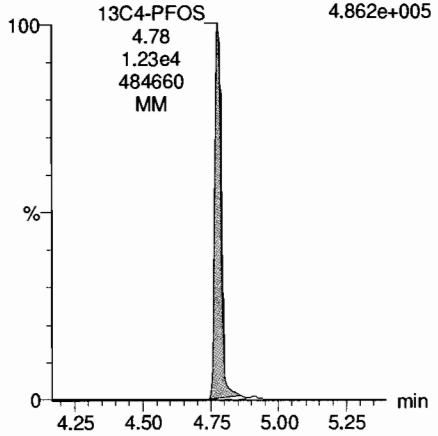
13C8-PFOA



13C9-PFNA



13C4-PFOS



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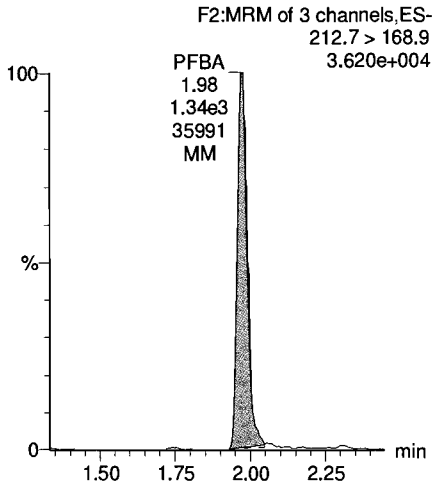
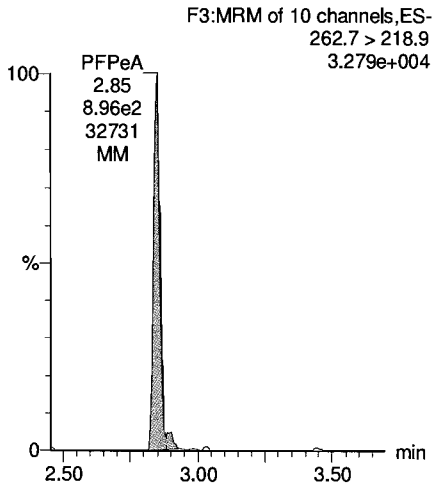
Name: 180518G2-4, Date: 18-May-2018, Time: 11:38:40, ID: ST180518G2-3 PFC CS0 18E1404, Description: PFC CS0 18E1404

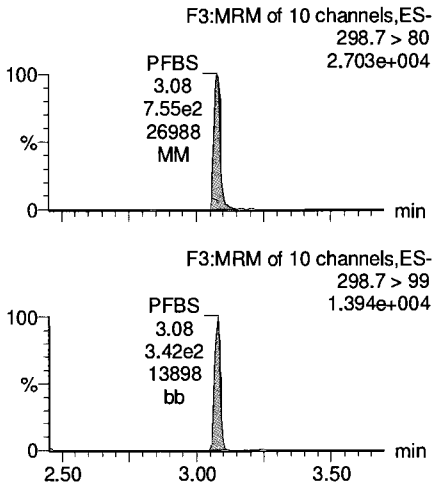
PFBA



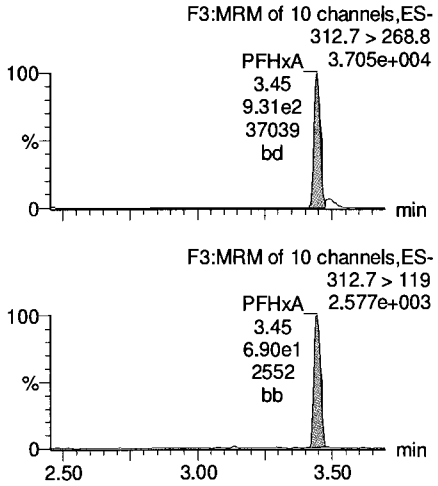
PFPeA



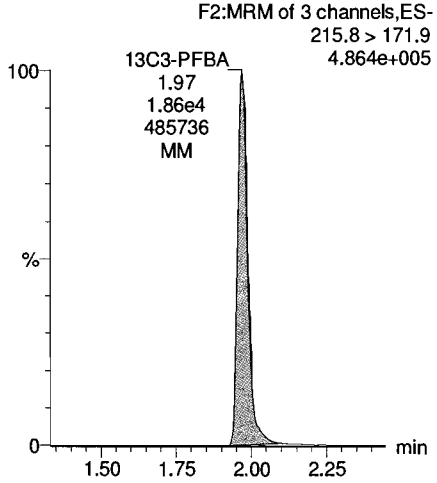
PFBS



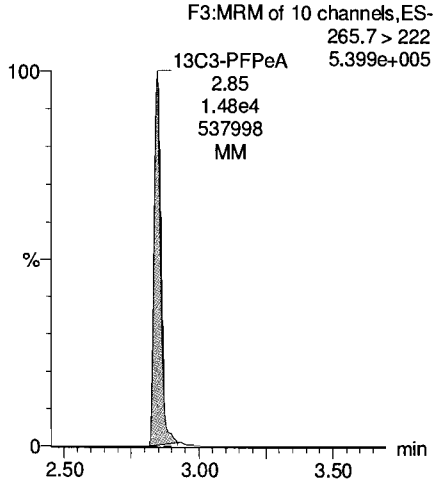
PFHxA



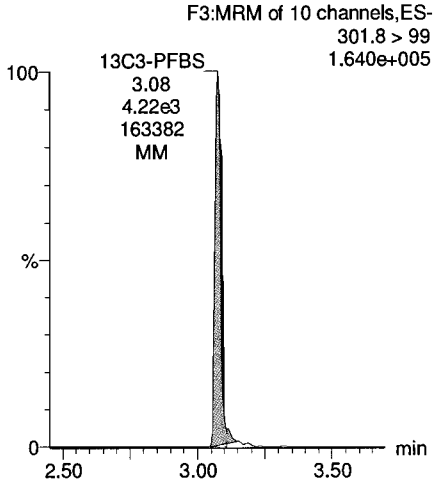
13C3-PFBA



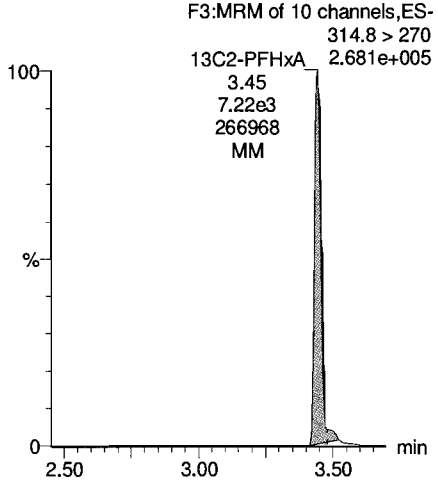
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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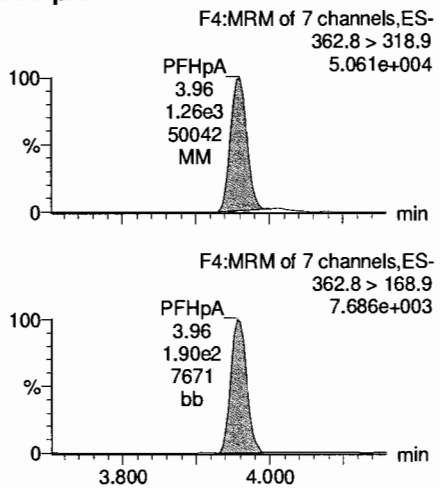
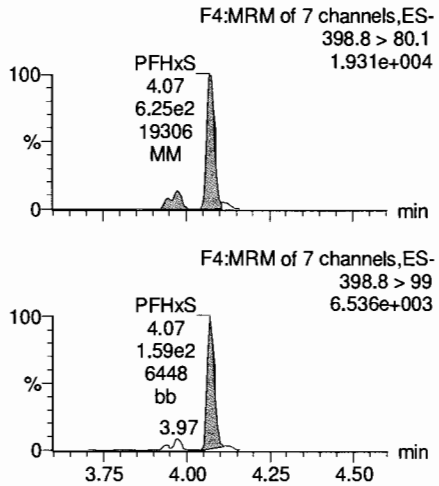
Name: 180518G2-4, Date: 18-May-2018, Time: 11:38:40, ID: ST180518G2-3 PFC CS0 18E1404, Description: PFC CS0 18E1404

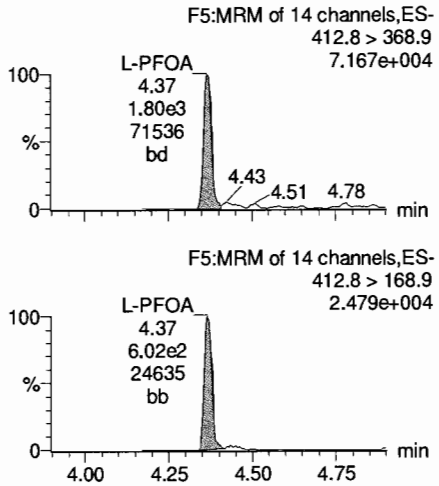
PFHpA



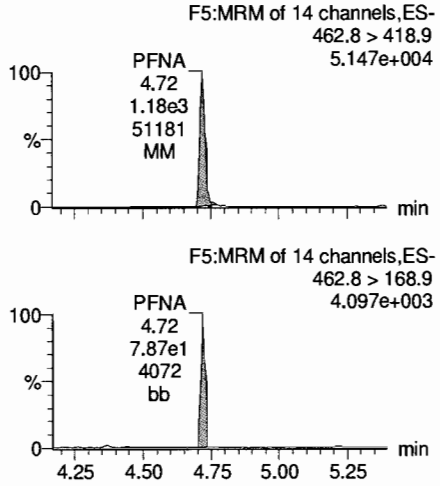
PFHxS



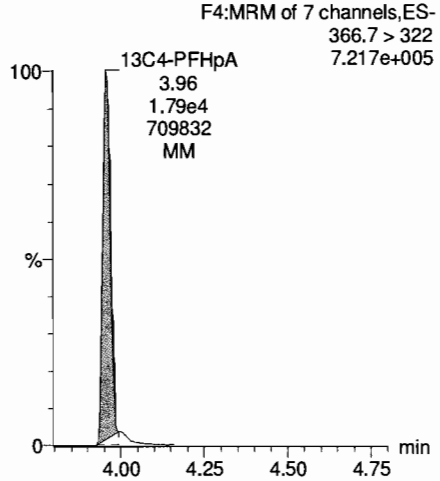
L-PFOA



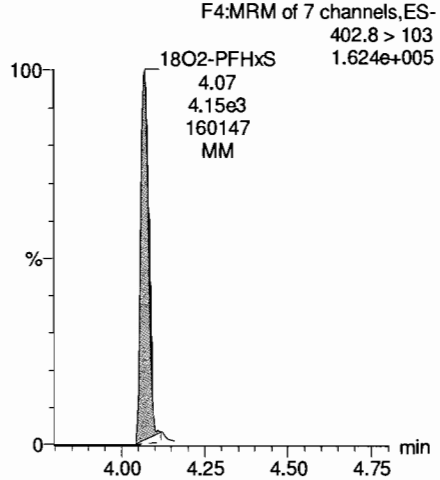
PFNA



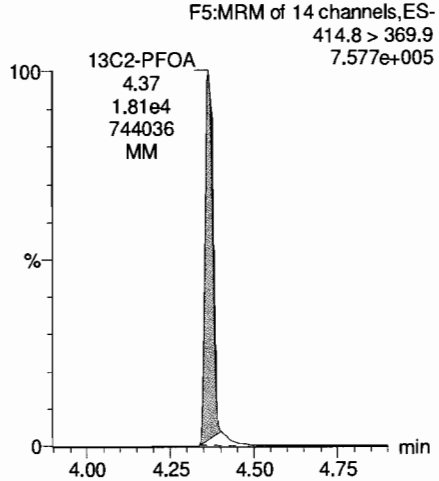
13C4-PFHpA



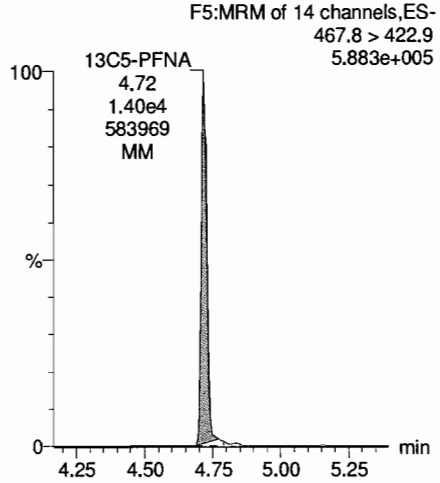
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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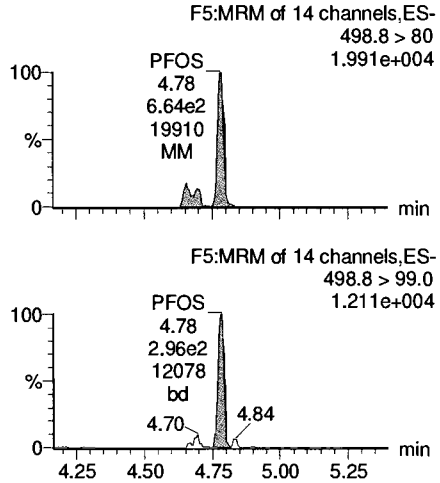
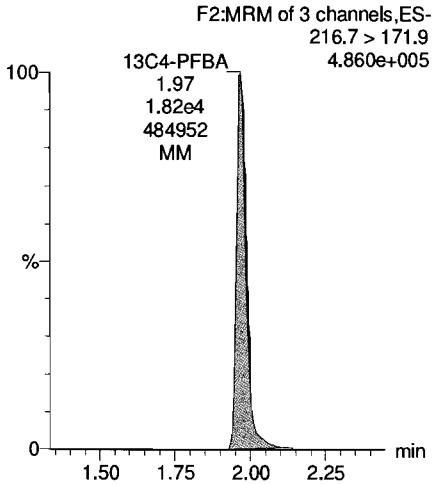
Name: 180518G2-4, Date: 18-May-2018, Time: 11:38:40, ID: ST180518G2-3 PFC CS0 18E1404, Description: PFC CS0 18E1404

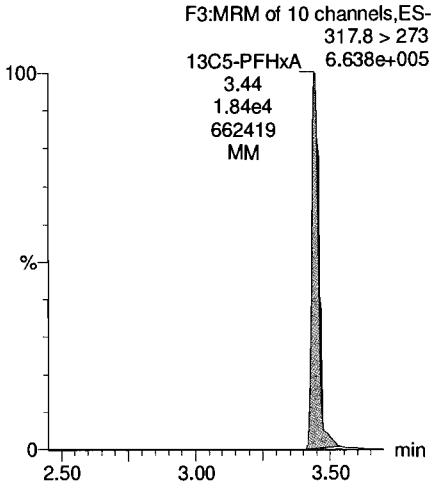
PFOS



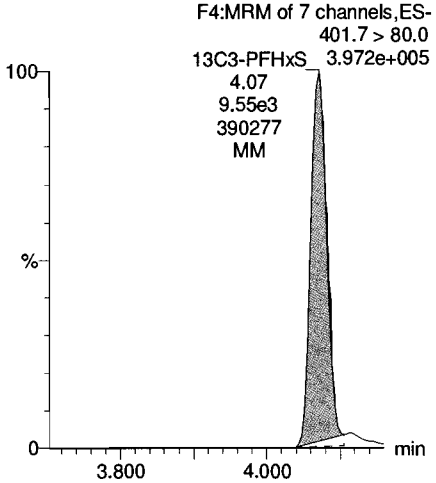
13C4-PFBA



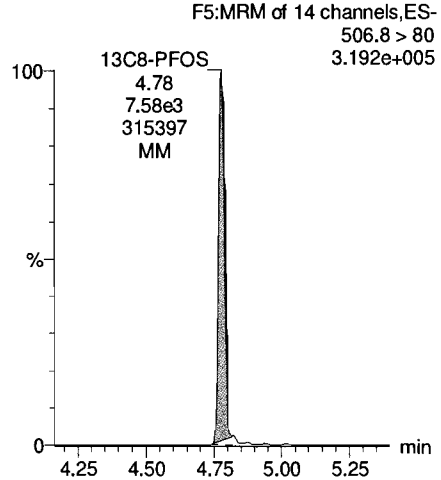
13C5-PFHxA



13C3-PFHxS



13C8-PFOS



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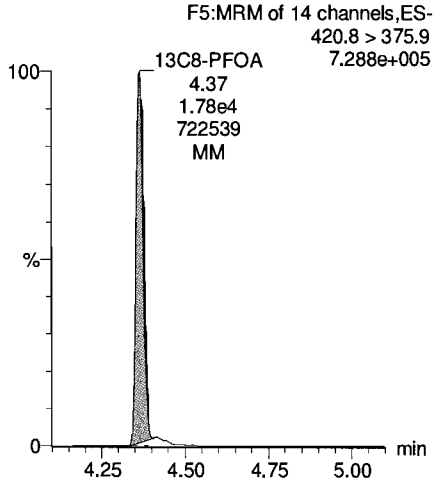
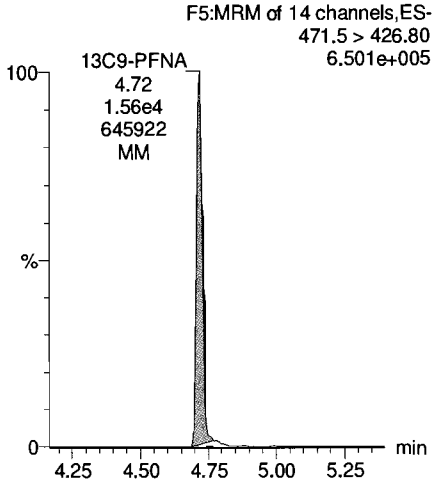
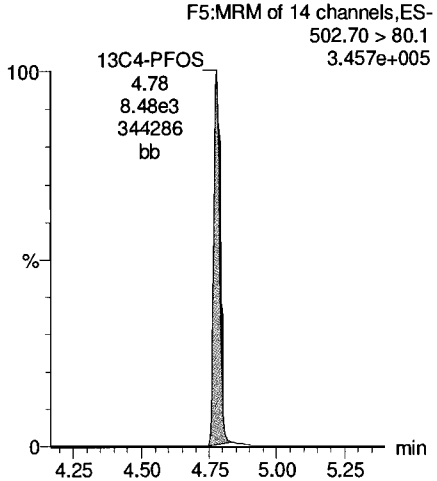


13C9-PFNA



13C4-PFOS



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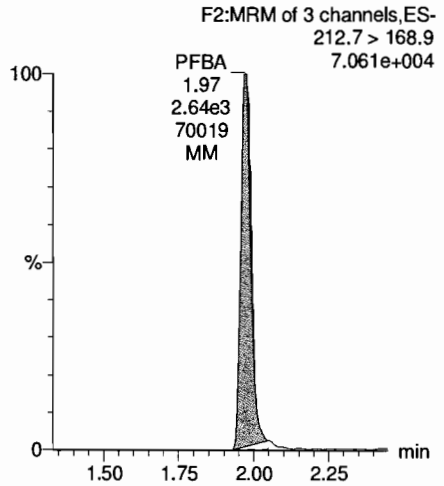
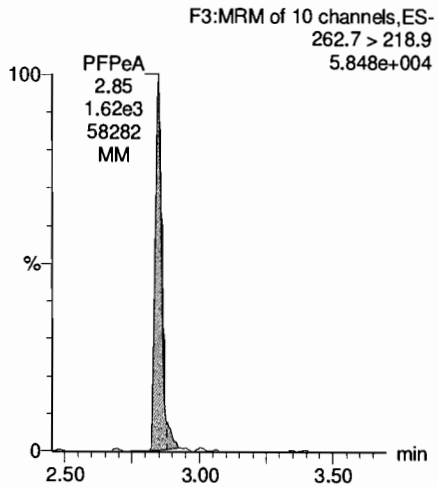
Name: 180518G2-5, Date: 18-May-2018, Time: 11:51:38, ID: ST180518G2-4 PFC CS1 18E1405, Description: PFC CS1 18E1405

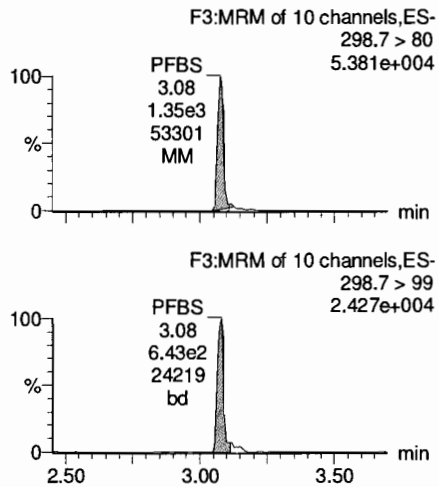
PFBA



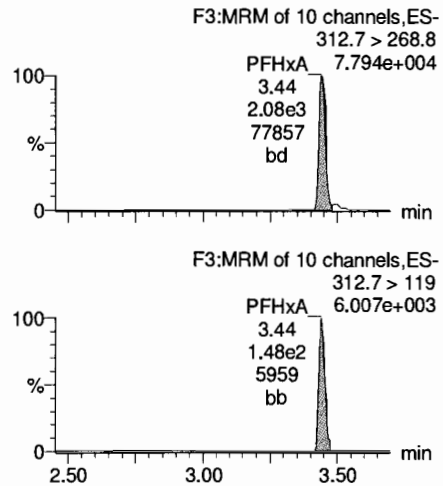
PFPeA



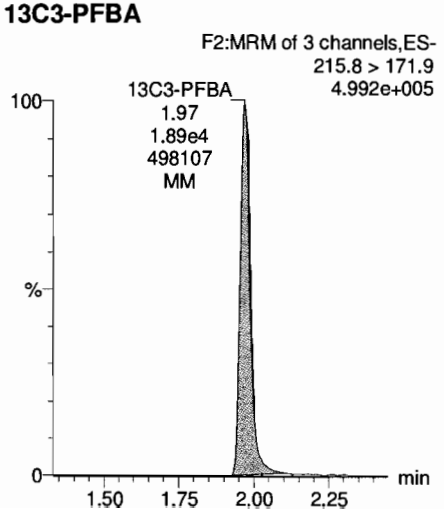
PFBS



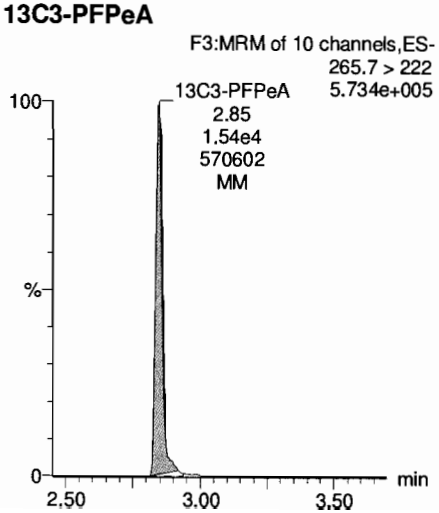
PFHxA



13C3-PFBA



13C3-PFPeA



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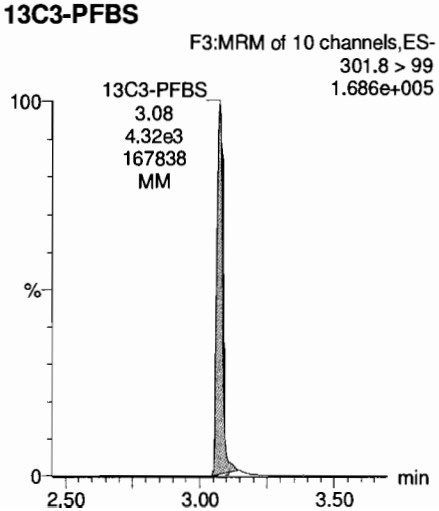
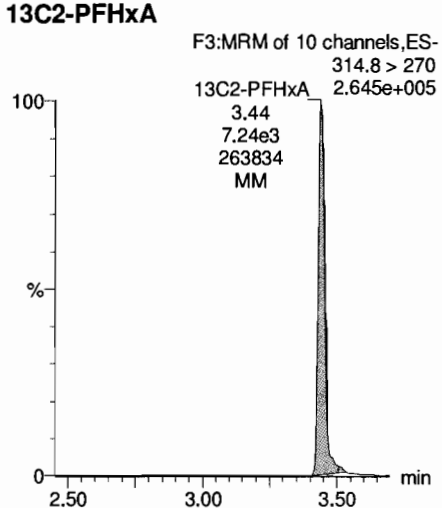


13C2-PFHxA



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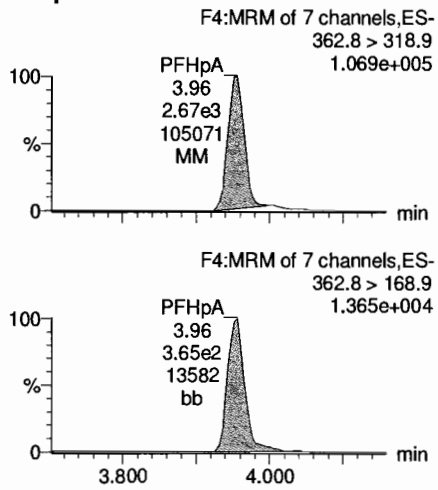
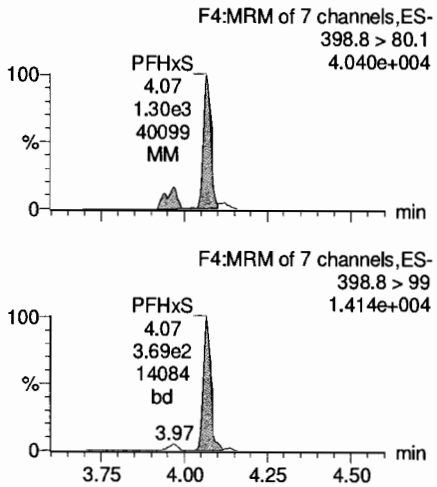
Name: 180518G2-5, Date: 18-May-2018, Time: 11:51:38, ID: ST180518G2-4 PFC CS1 18E1405, Description: PFC CS1 18E1405

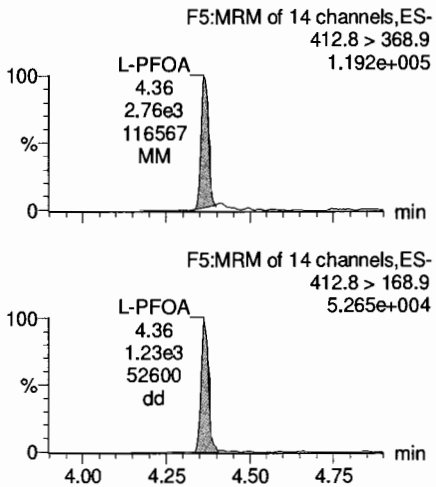
PFHpA



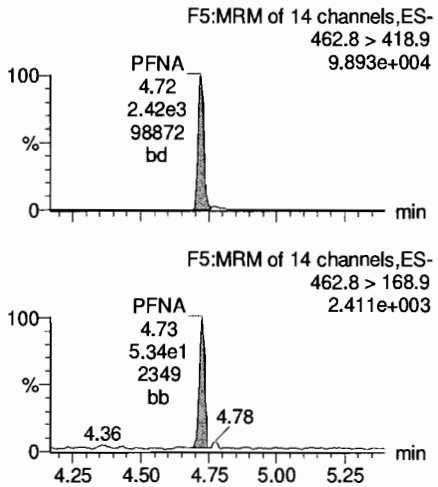
PFHxS



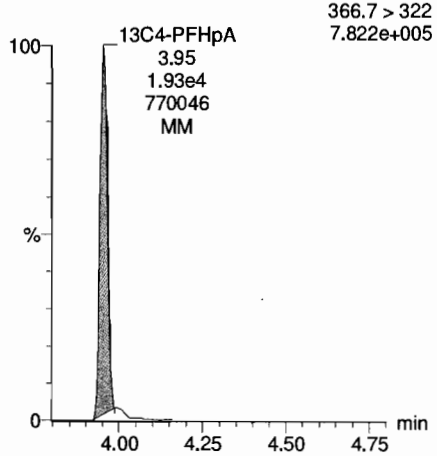
L-PFOA



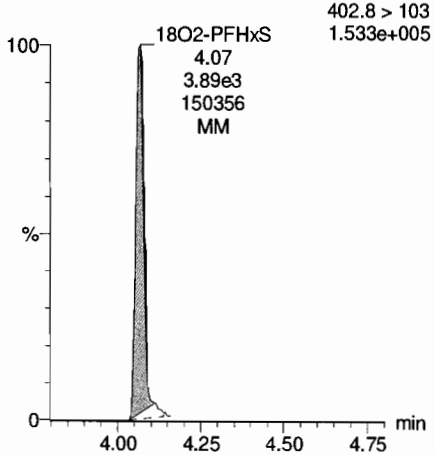
PFNA



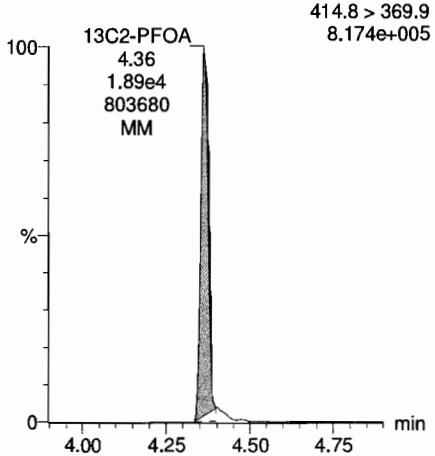
13C4-PFHpA



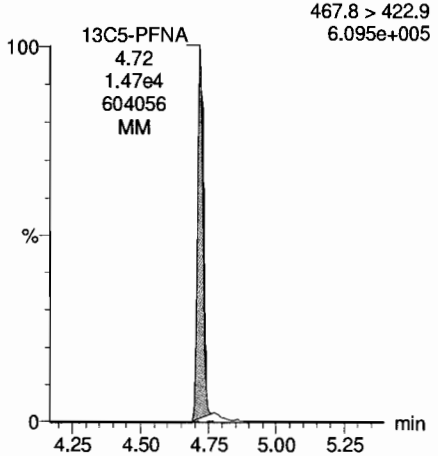
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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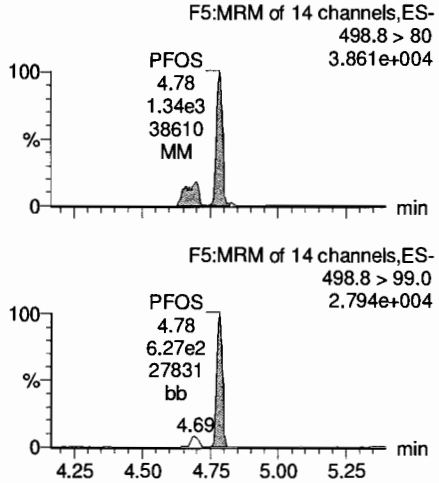
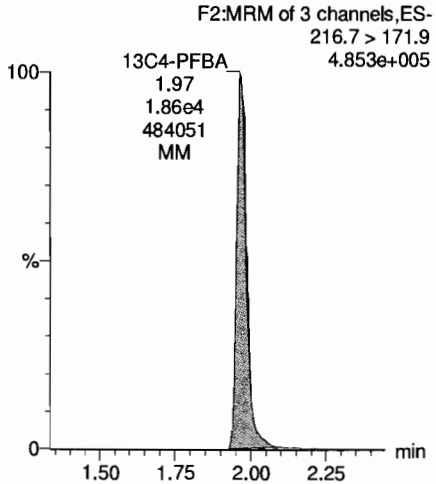
Name: 180518G2-5, Date: 18-May-2018, Time: 11:51:38, ID: ST180518G2-4 PFC CS1 18E1405, Description: PFC CS1 18E1405

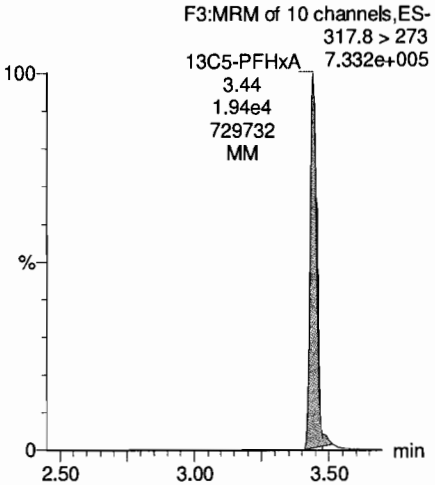
PFOS



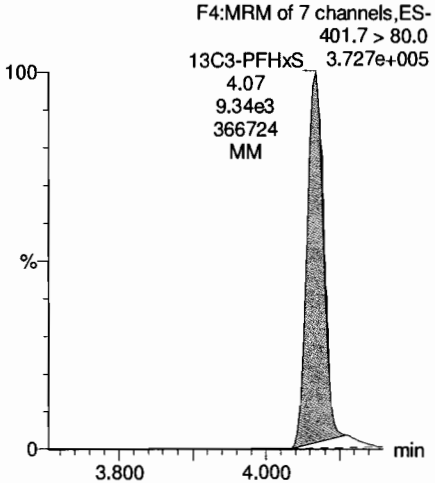
13C4-PFBA



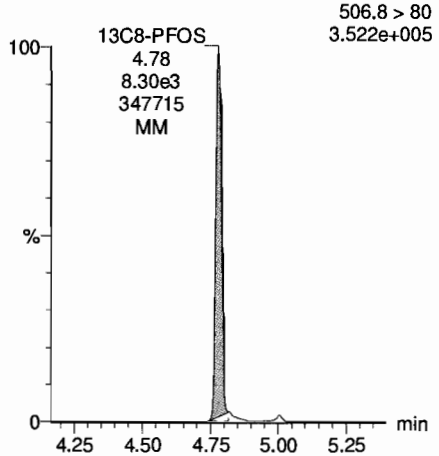
13C5-PFHxA



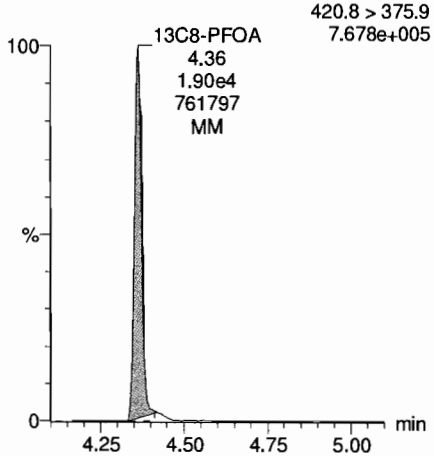
13C3-PFHxS



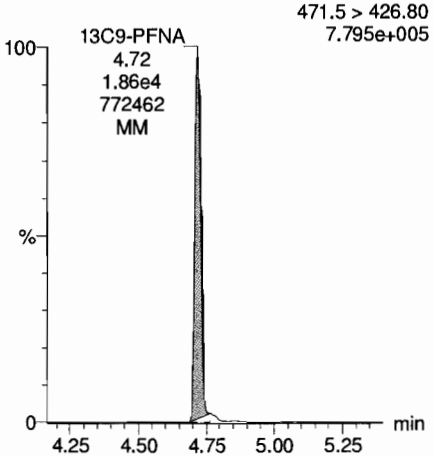
13C8-PFOS



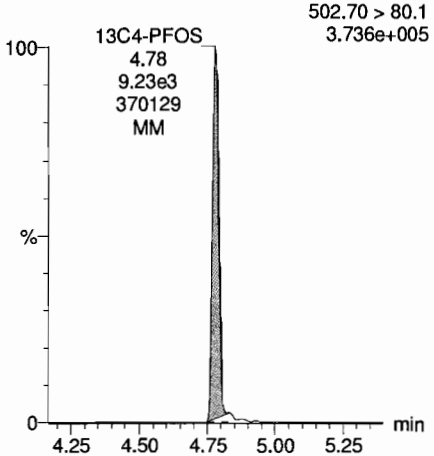
13C8-PFOA



13C9-PFNA



13C4-PFOS



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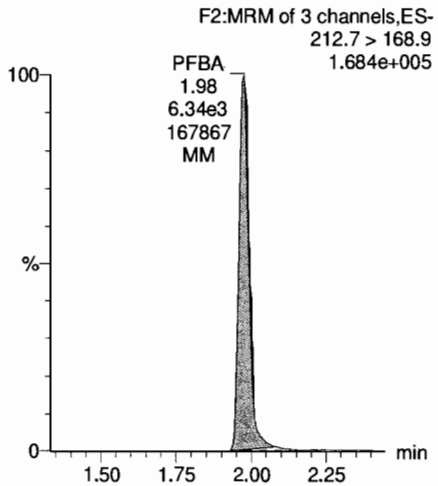
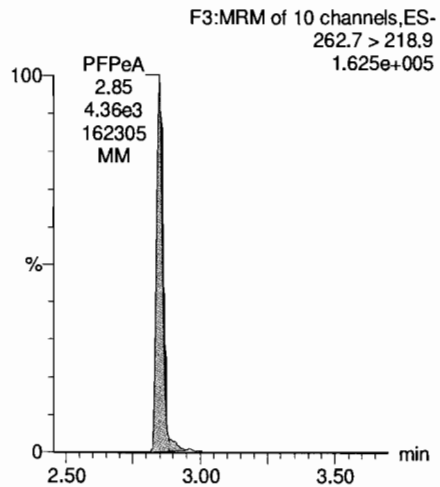
Name: 180518G2-6, Date: 18-May-2018, Time: 12:04:36, ID: ST180518G2-5 PFC CS2 18E1406, Description: PFC CS2 18E1406

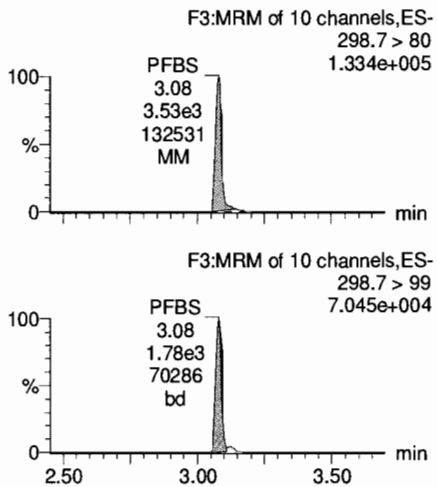
PFBA



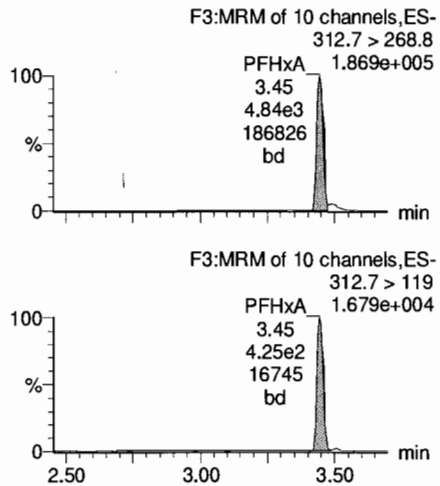
PFPeA



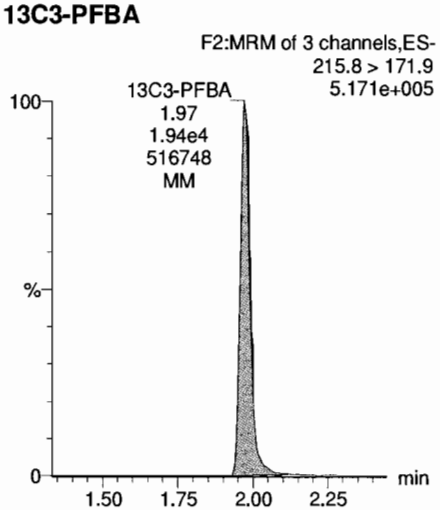
PFBS



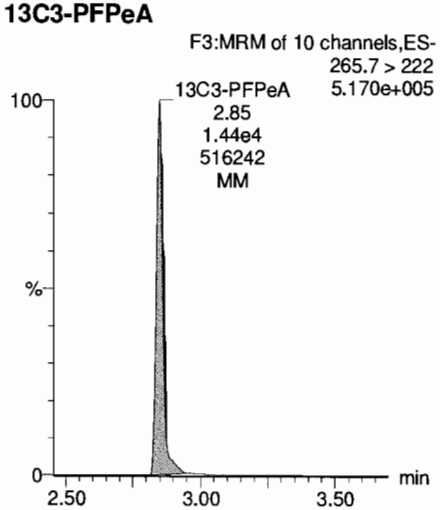
PFHxA



13C3-PFBA



13C3-PFPeA



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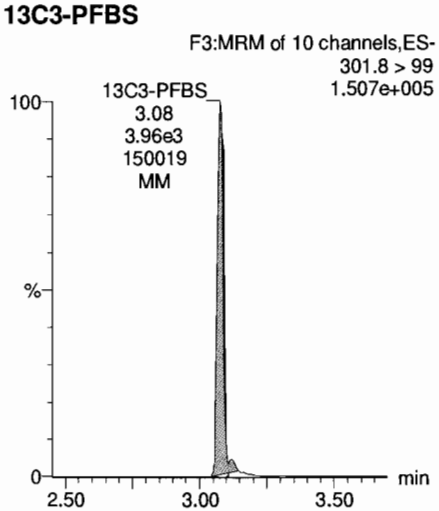
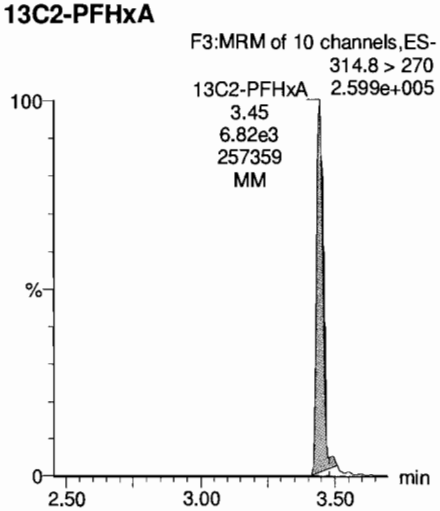


13C2-PFHxA



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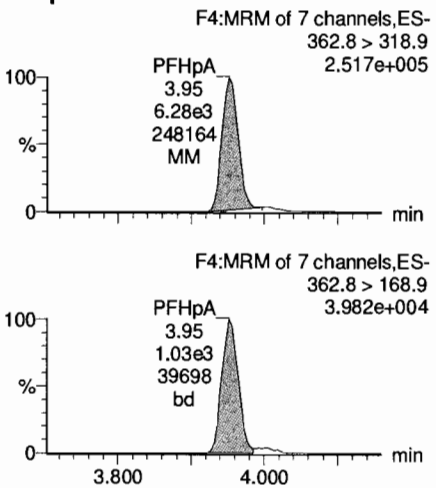
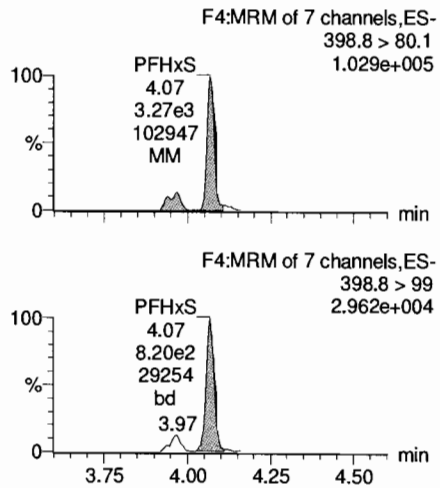
Name: 180518G2-6, Date: 18-May-2018, Time: 12:04:36, ID: ST180518G2-5 PFC CS2 18E1406, Description: PFC CS2 18E1406

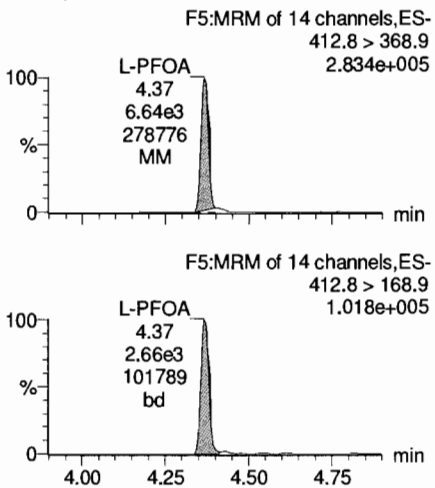
PFHpA



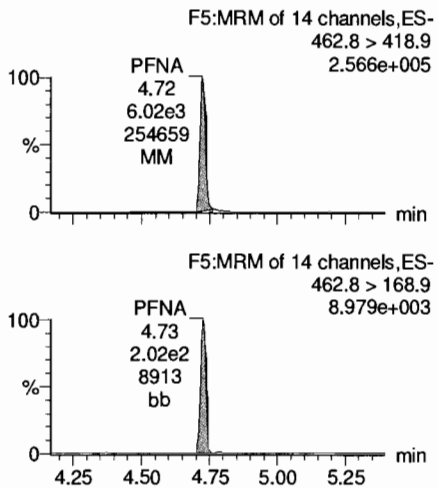
PFHxS



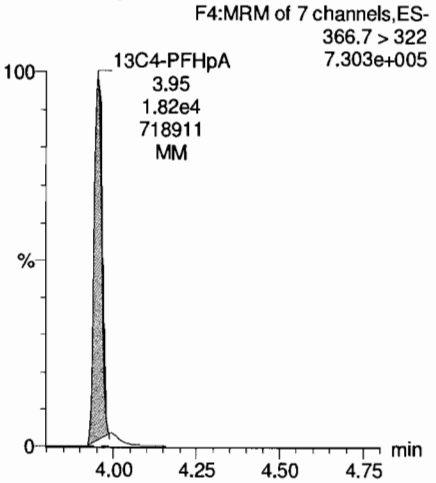
L-PFOA



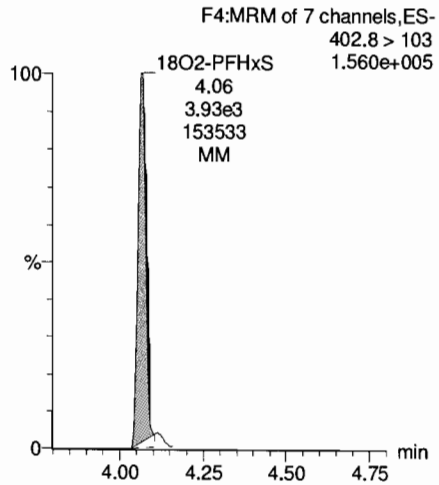
PFNA



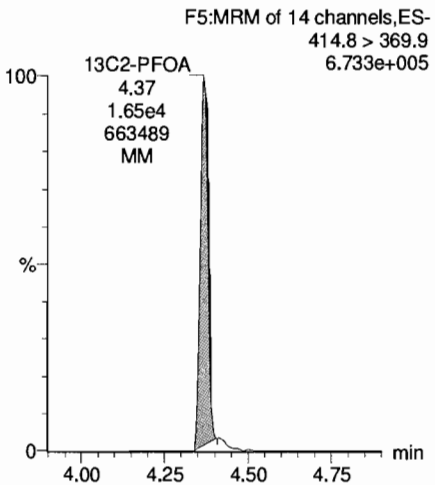
13C4-PFHpA



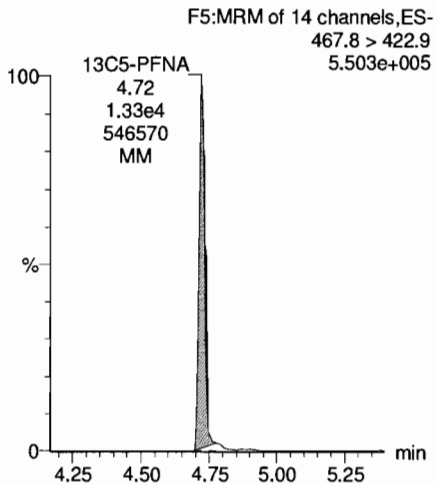
18O2-PFHxS



13C2-PFOA



13C5-PFNA



Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
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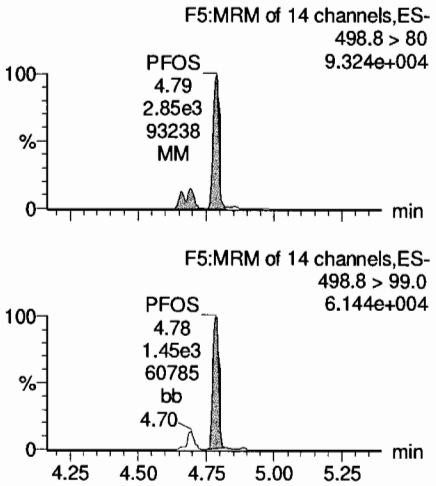
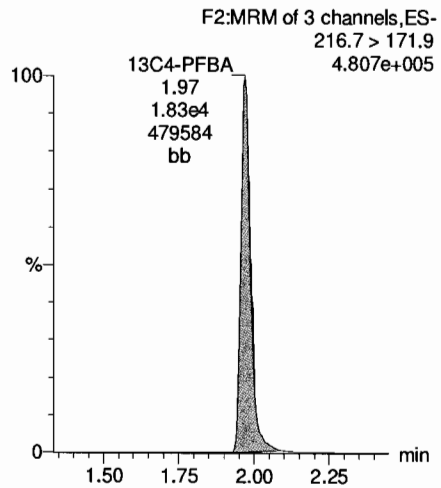
Name: 180518G2-6, Date: 18-May-2018, Time: 12:04:36, ID: ST180518G2-5 PFC CS2 18E1406, Description: PFC CS2 18E1406

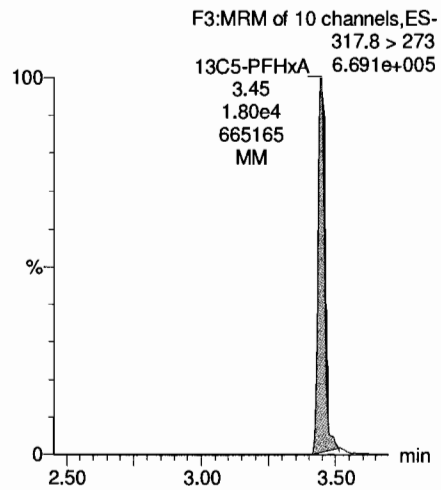
PFOS



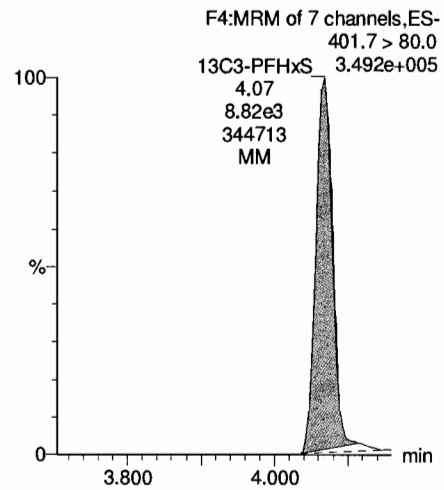
13C4-PFBA



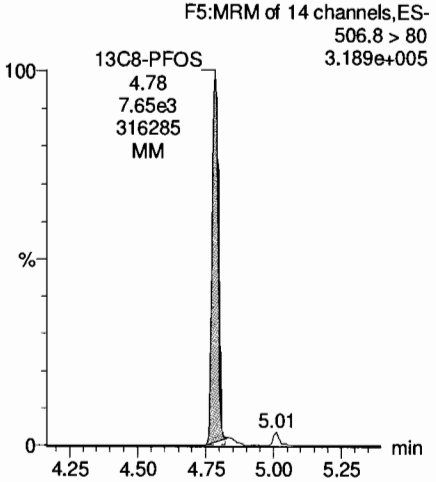
13C5-PFHxA



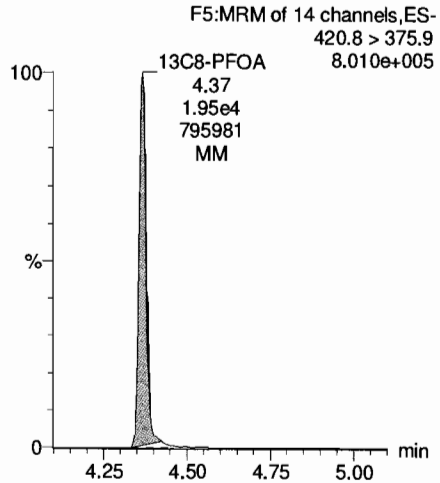
13C3-PFHxS



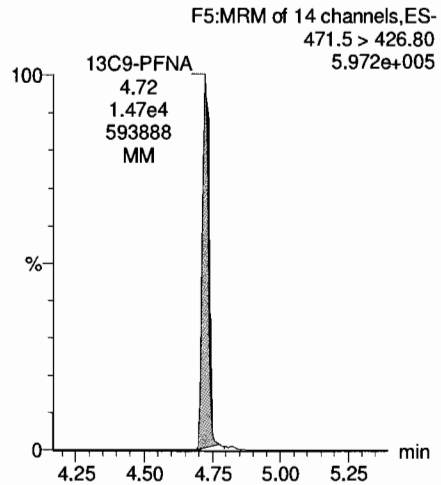
13C8-PFOS



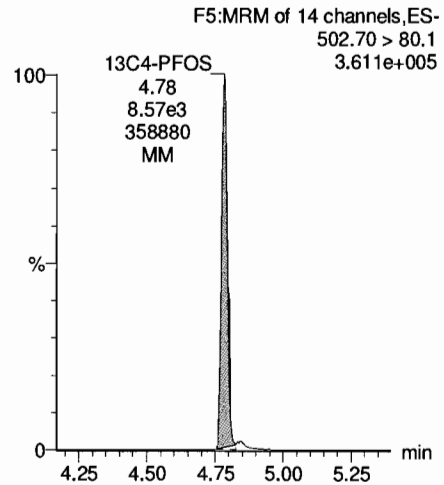
13C8-PFOA



13C9-PFNA



13C4-PFOS



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Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
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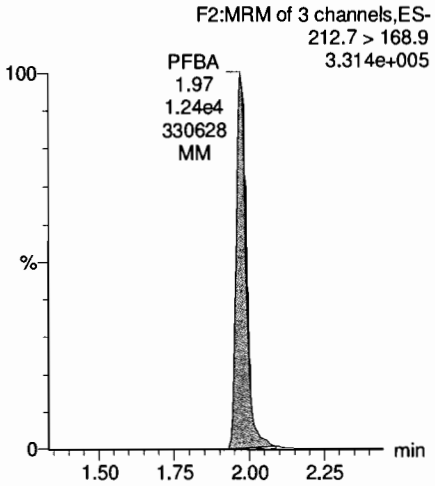
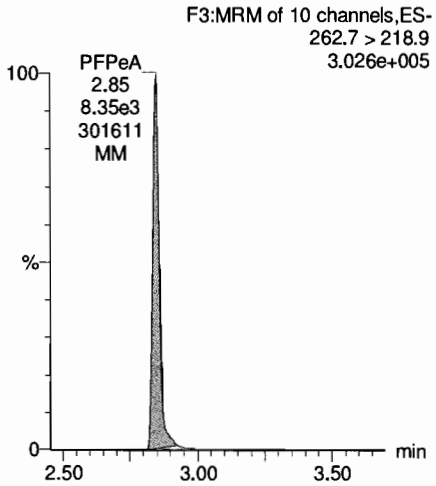
Name: 180518G2-7, Date: 18-May-2018, Time: 12:17:33, ID: ST180518G2-6 PFC CS3 18E1407, Description: PFC CS3 18E1407

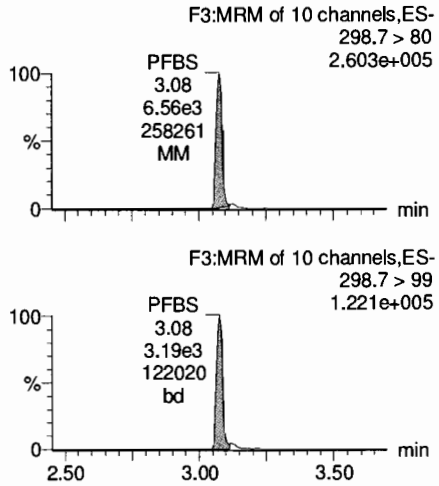
PFBA



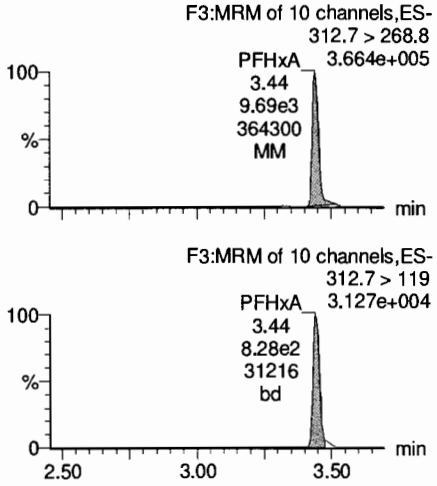
PFPeA



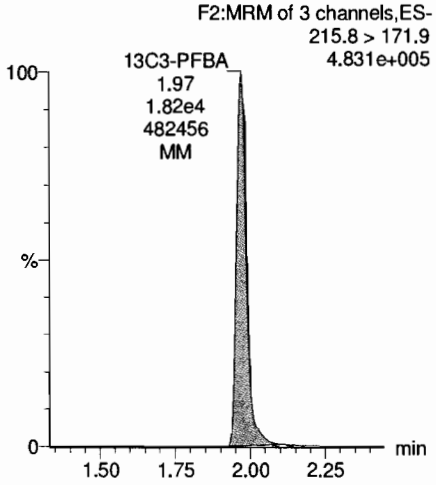
PFBS



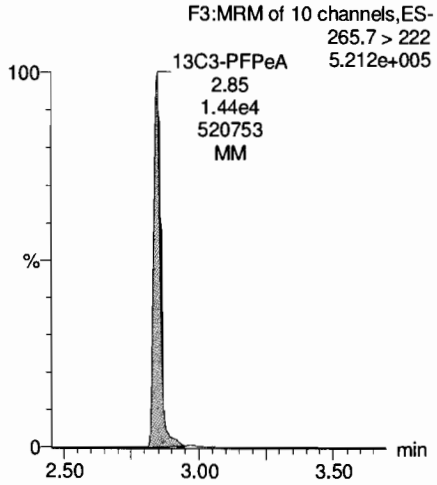
PFHxA



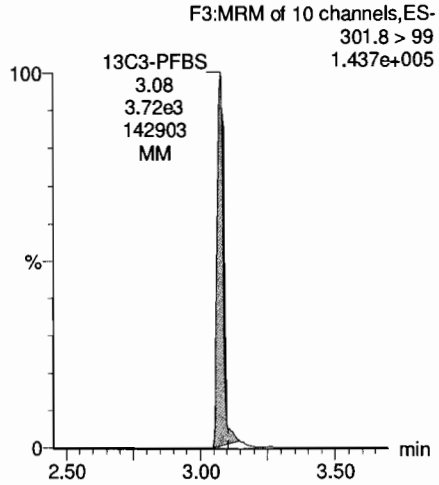
13C3-PFBA



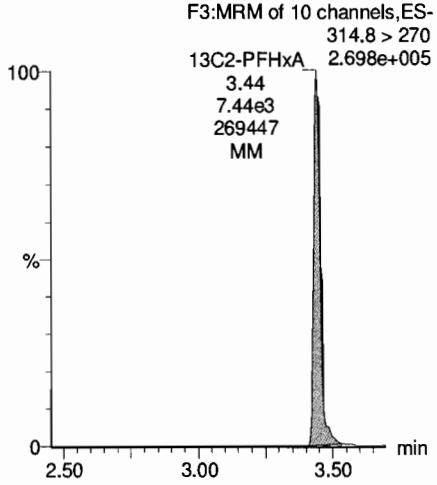
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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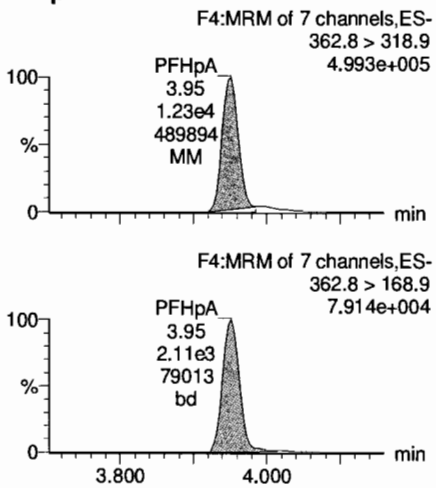
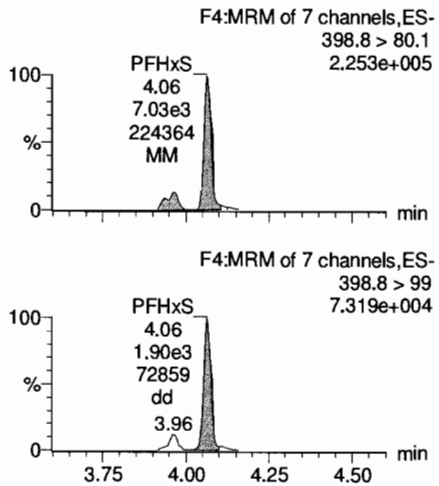
Name: 180518G2-7, Date: 18-May-2018, Time: 12:17:33, ID: ST180518G2-6 PFC CS3 18E1407, Description: PFC CS3 18E1407

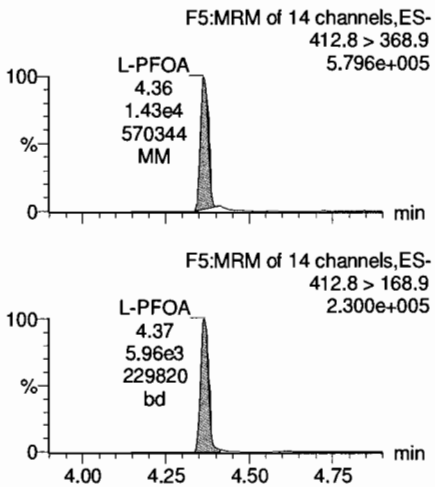
PFHpA



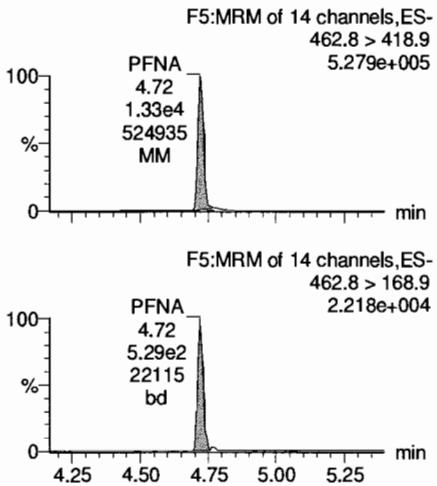
PFHxS



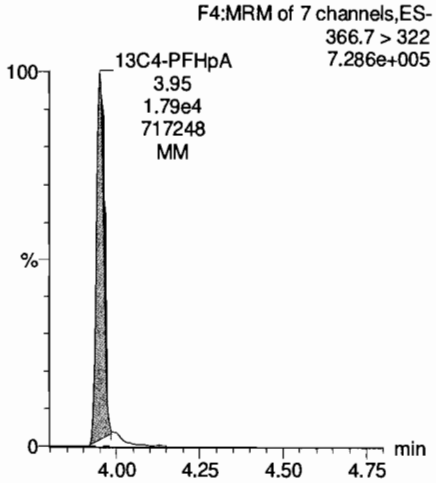
L-PFOA



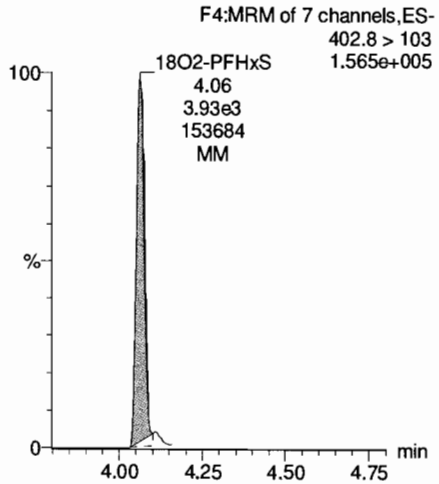
PFNA



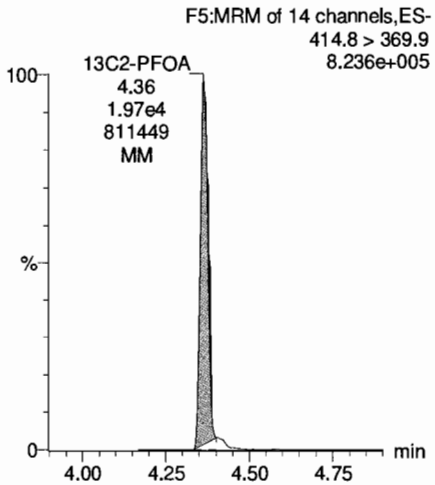
13C4-PFHpA



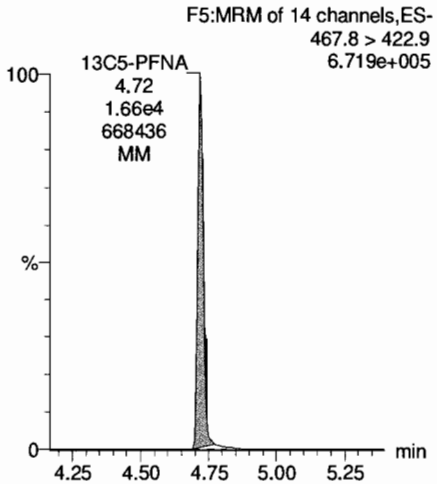
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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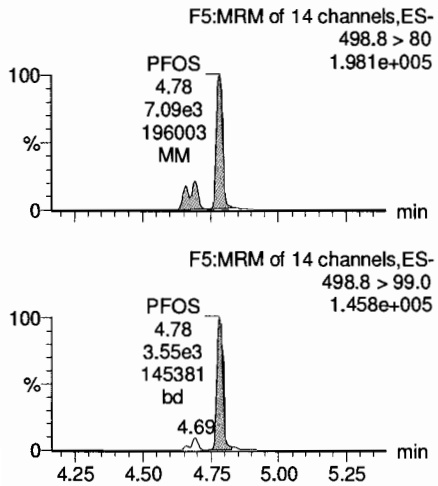
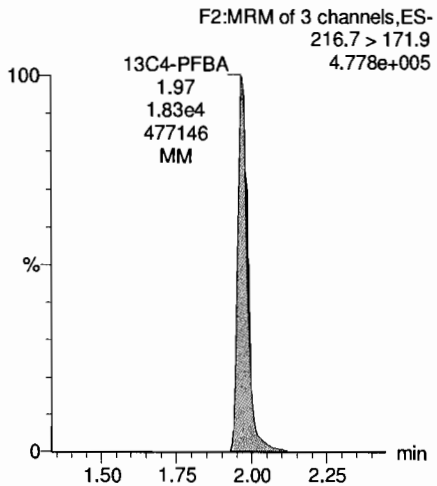
Name: 180518G2-7, Date: 18-May-2018, Time: 12:17:33, ID: ST180518G2-6 PFC CS3 18E1407, Description: PFC CS3 18E1407

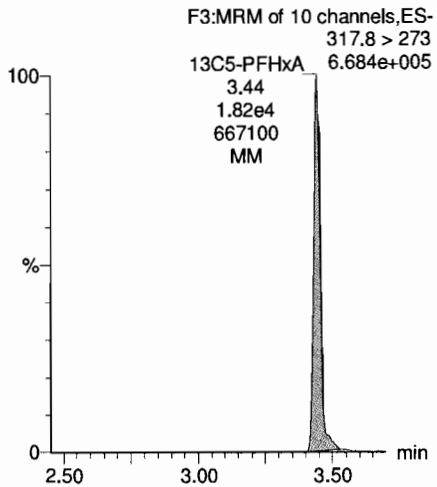
PFOS



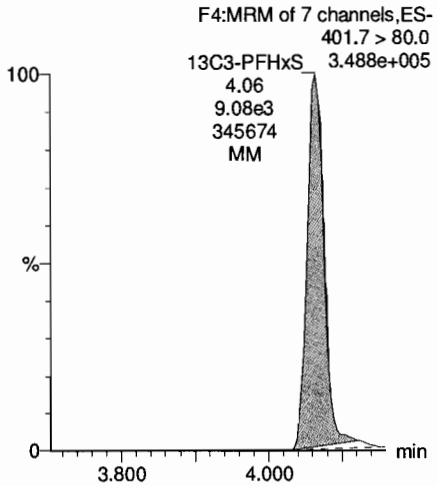
13C4-PFBA



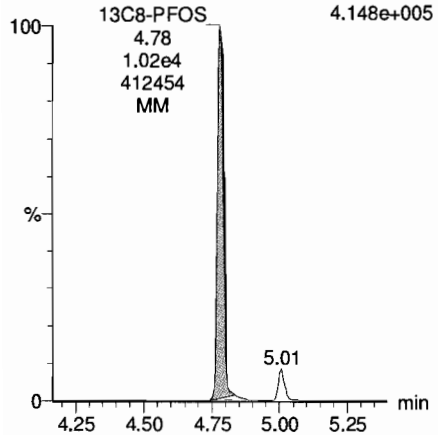
13C5-PFHxA



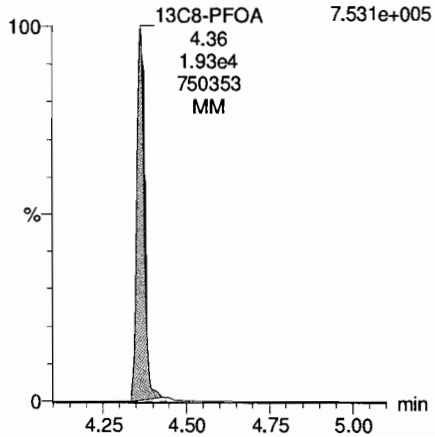
13C3-PFHxS



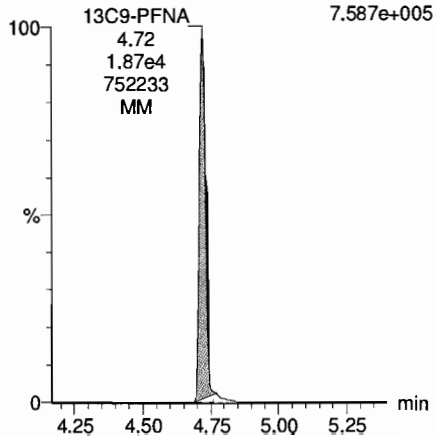
13C8-PFOS



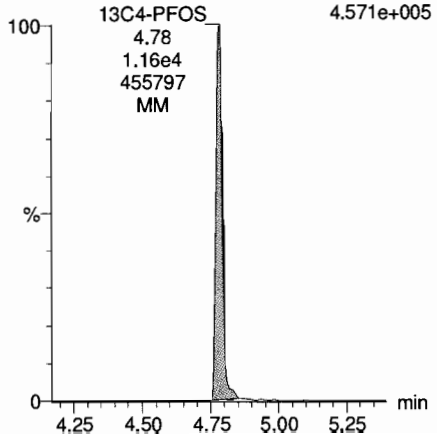
13C8-PFOA



13C9-PFNA



13C4-PFOS



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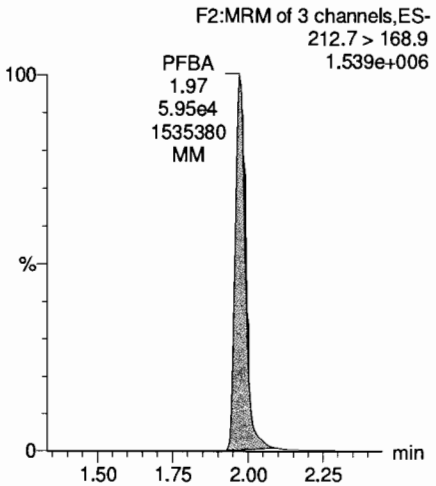
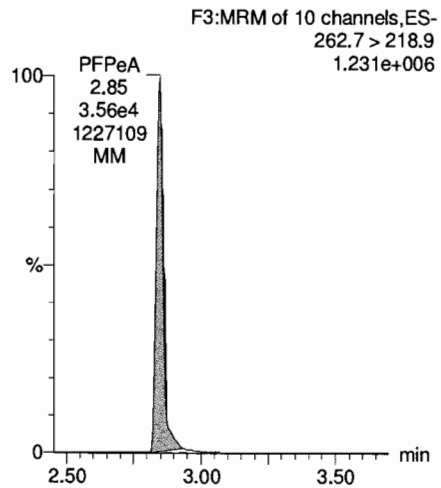
Name: 180518G2-8, Date: 18-May-2018, Time: 12:30:30, ID: ST180518G2-7 PFC CS4 18E1408, Description: PFC CS4 18E1408

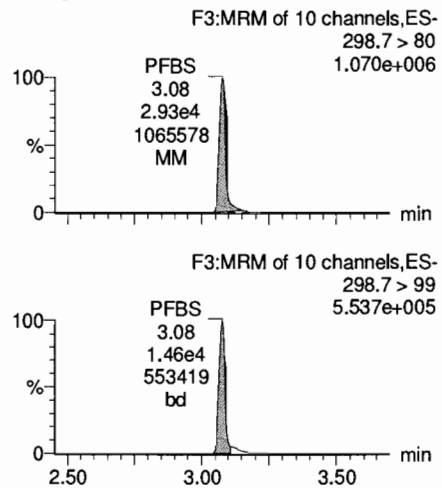
PFBA



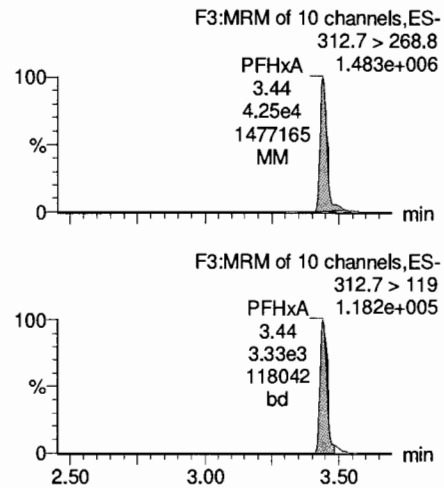
PFPeA



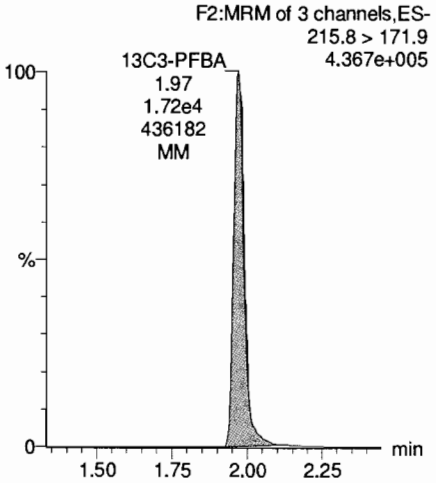
PFBS



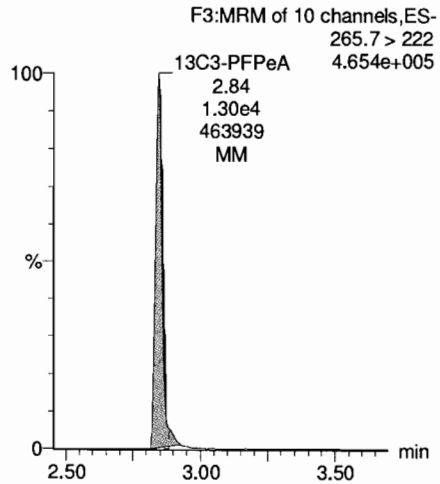
PFHxA



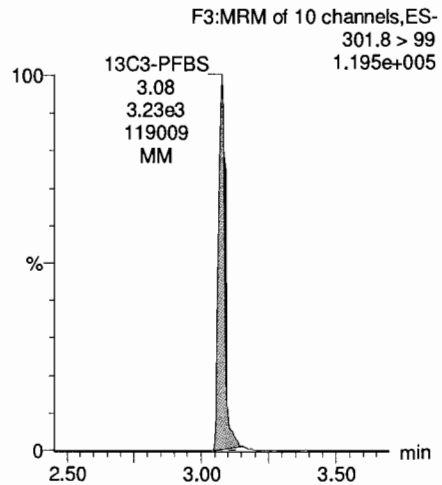
13C3-PFBA



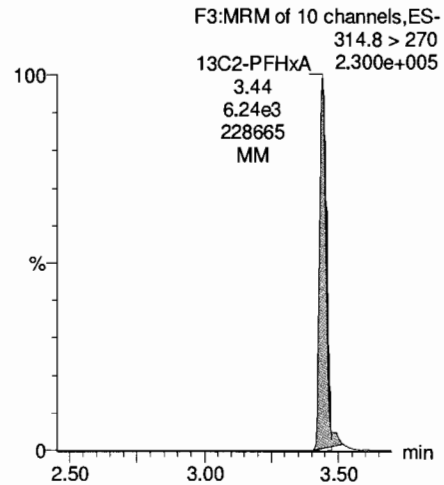
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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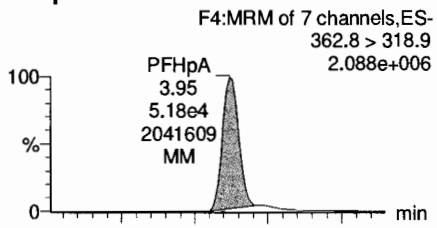
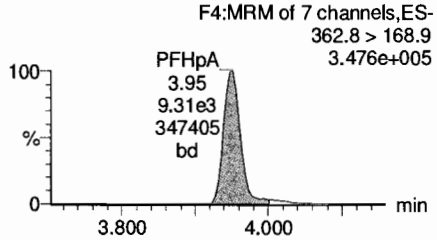
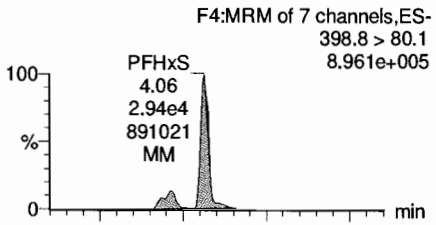
Name: 180518G2-8, Date: 18-May-2018, Time: 12:30:30, ID: ST180518G2-7 PFC CS4 18E1408, Description: PFC CS4 18E1408

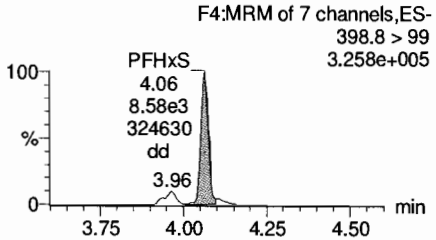
PFHpA



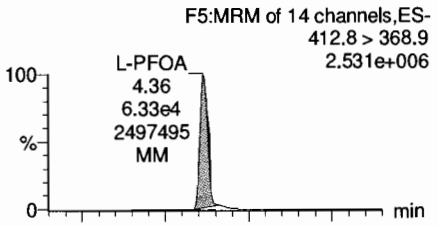


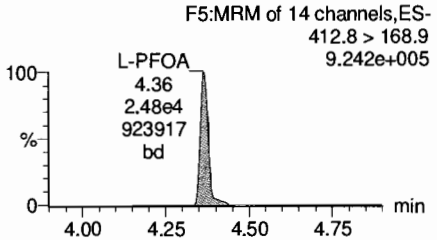
PFHxS



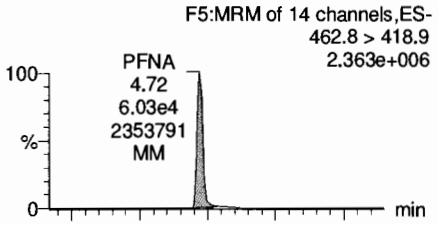


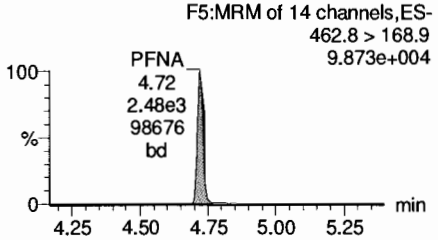
L-PFOA



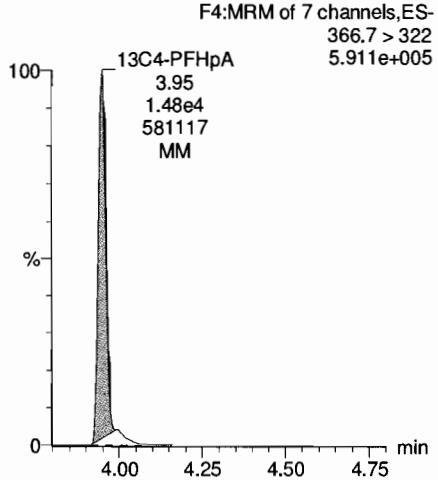


PFNA

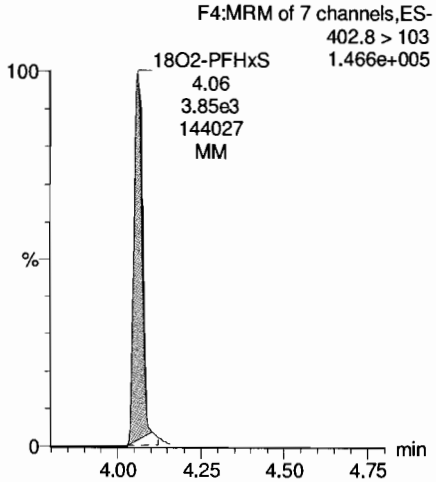




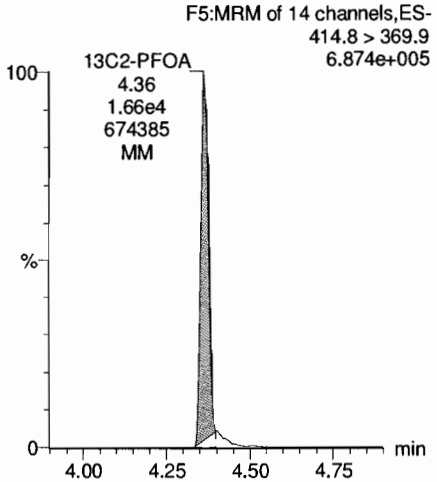
13C4-PFHpA



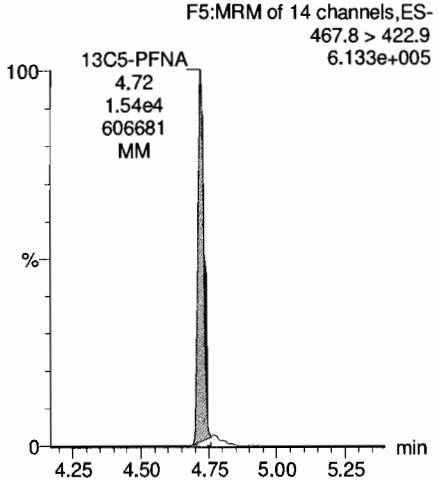
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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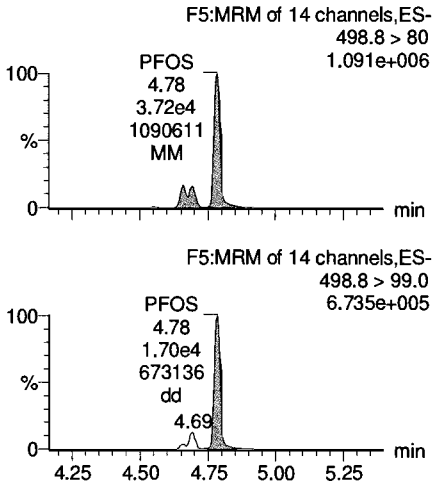
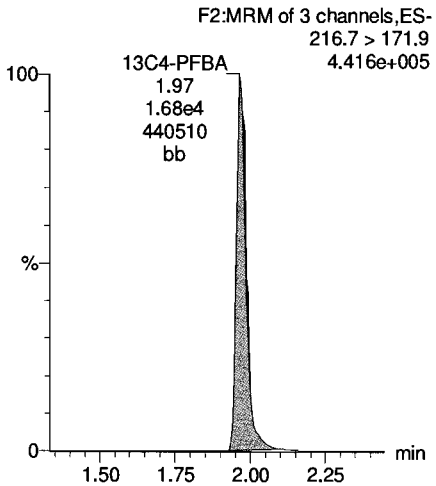
Printed: Monday, May 21, 2018 08:43:19 Pacific Daylight Time

Name: 180518G2-8, Date: 18-May-2018, Time: 12:30:30, ID: ST180518G2-7 PFC CS4 18E1408, Description: PFC CS4 18E1408

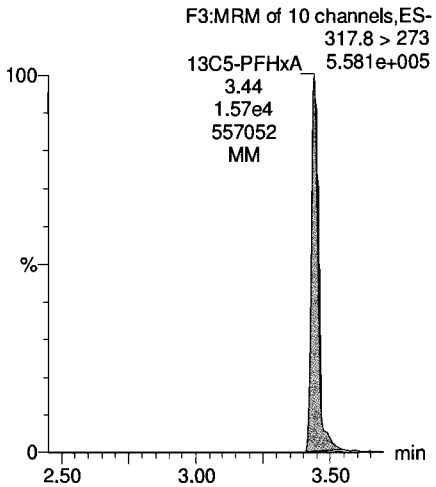
PFOS



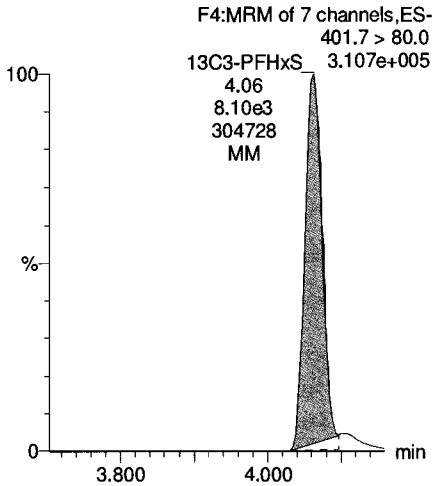
13C4-PFBA



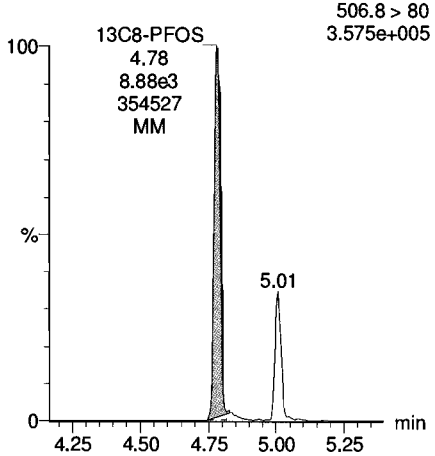
13C5-PFHxA



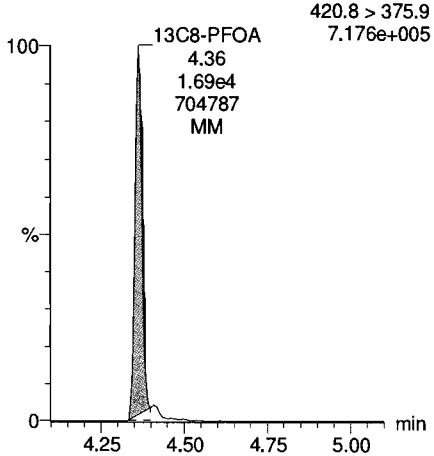
13C3-PFHxS



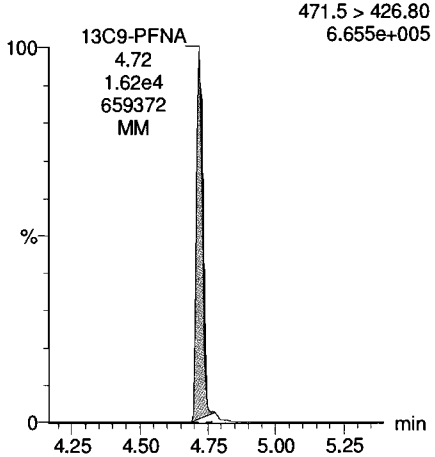
13C8-PFOS



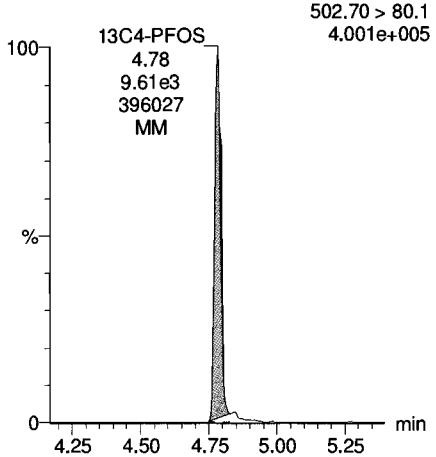
13C8-PFOA



13C9-PFNA



13C4-PFOS



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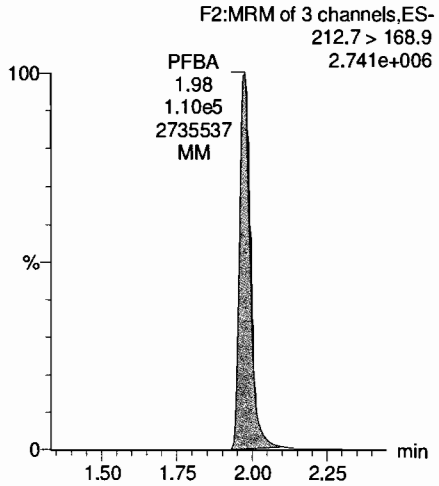
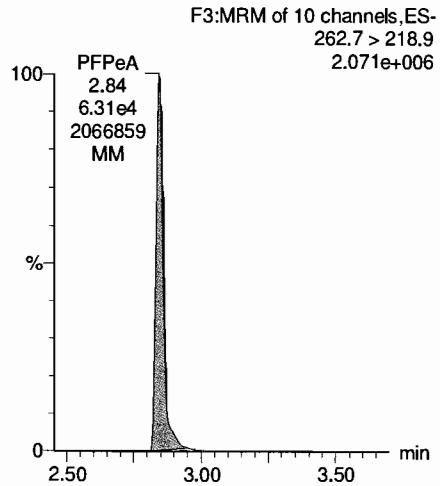
Name: 180518G2-9, Date: 18-May-2018, Time: 12:43:29, ID: ST180518G2-8 PFC CS5 18E1409, Description: PFC CS5 18E1409

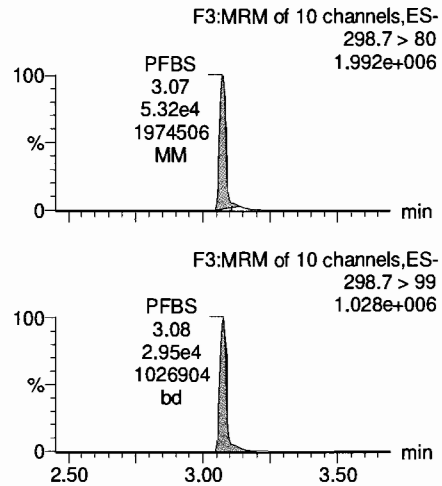
PFBA



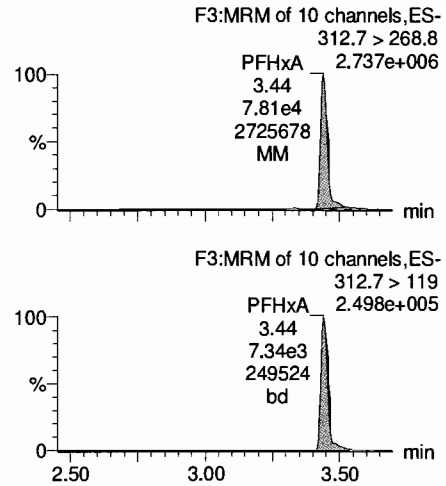
PFPeA



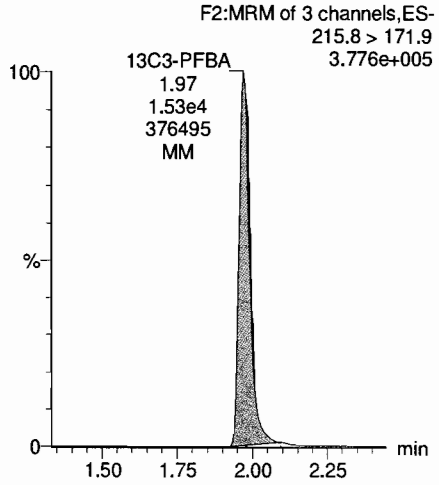
PFBS



PFHxA



13C3-PFBA



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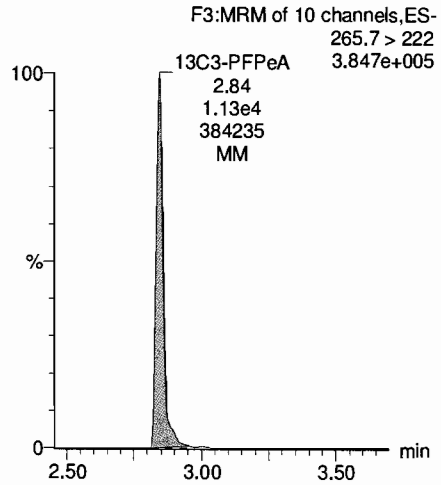

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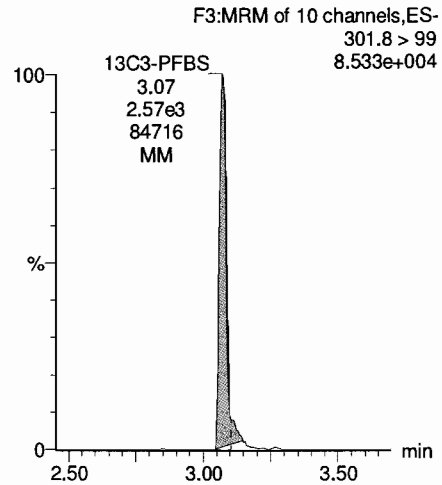
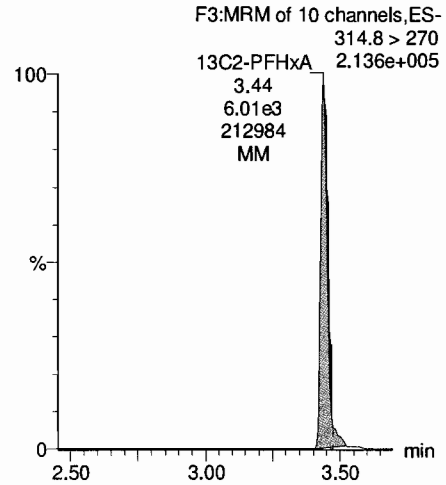


13C2-PFHxA



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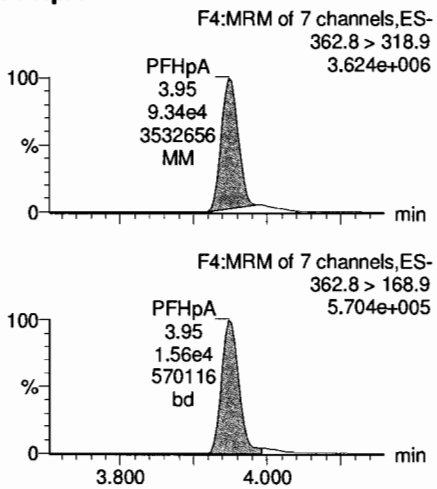
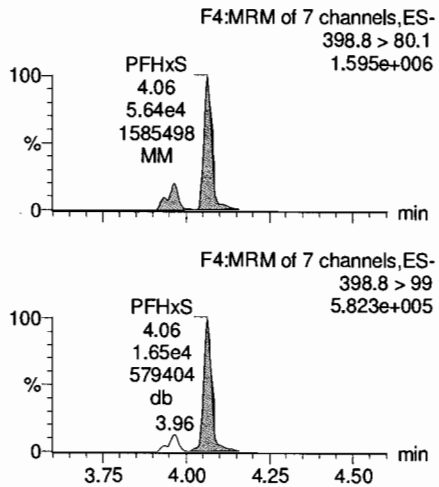
Name: 180518G2-9, Date: 18-May-2018, Time: 12:43:29, ID: ST180518G2-8 PFC CS5 18E1409, Description: PFC CS5 18E1409

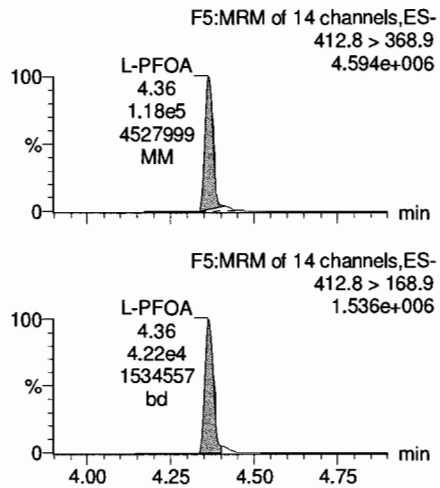
PFHpA



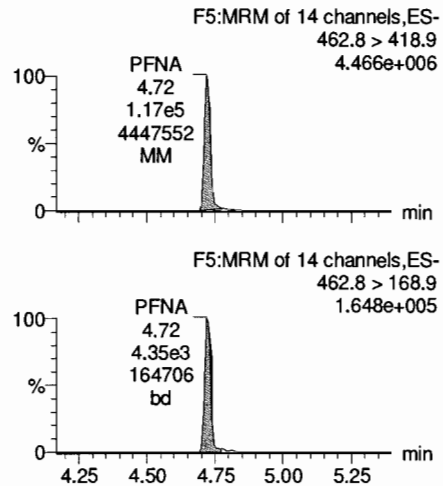
PFHxS



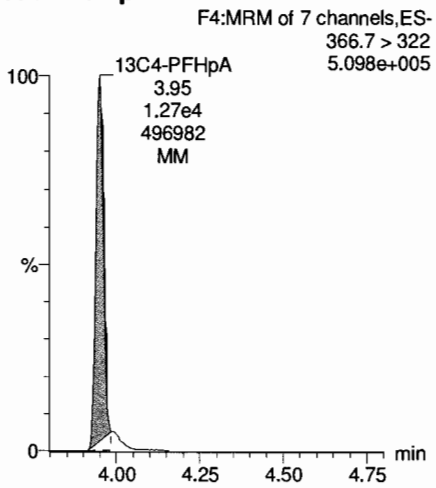
L-PFOA



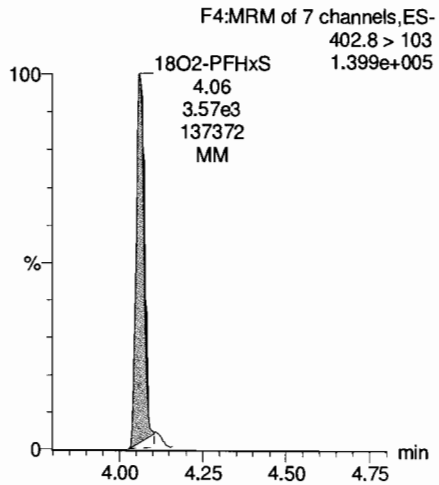
PFNA



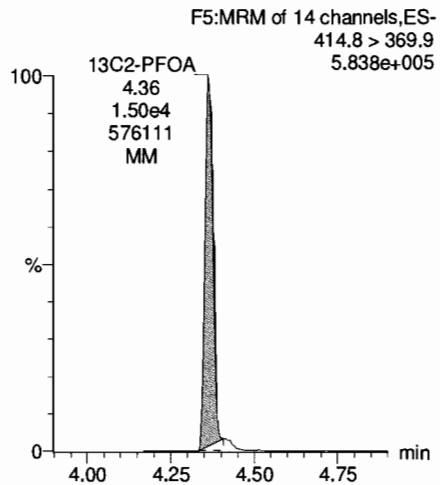
13C4-PFHpA



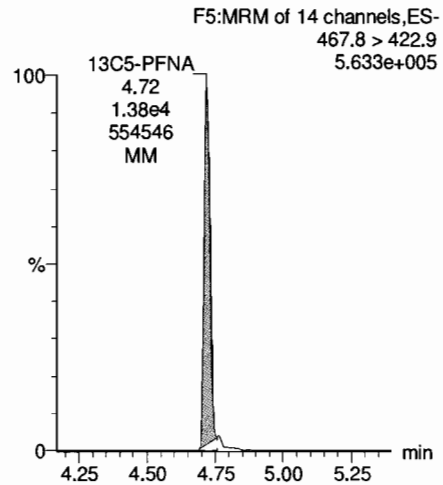
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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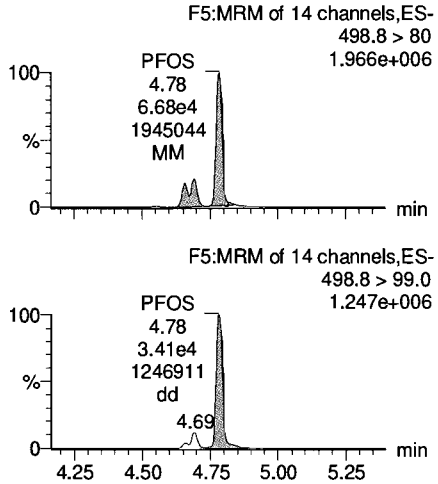
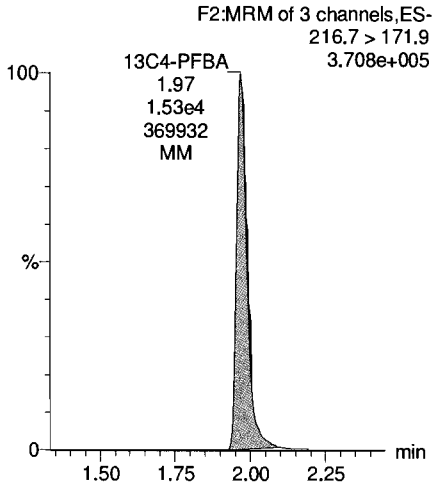
Name: 180518G2-9, Date: 18-May-2018, Time: 12:43:29, ID: ST180518G2-8 PFC CS5 18E1409, Description: PFC CS5 18E1409

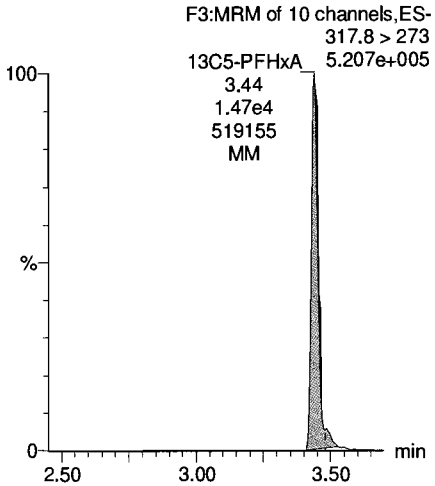
PFOS



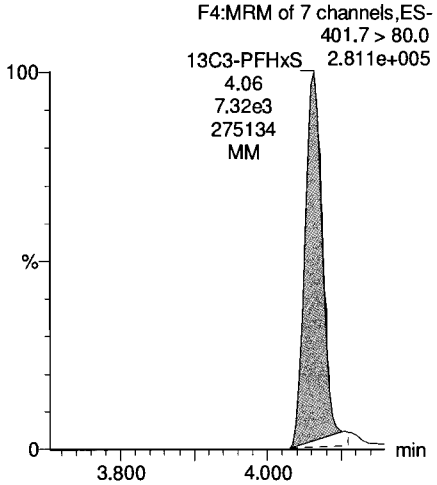
13C4-PFBA



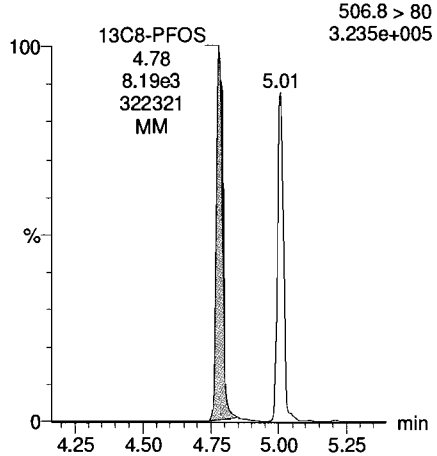
13C5-PFHxA



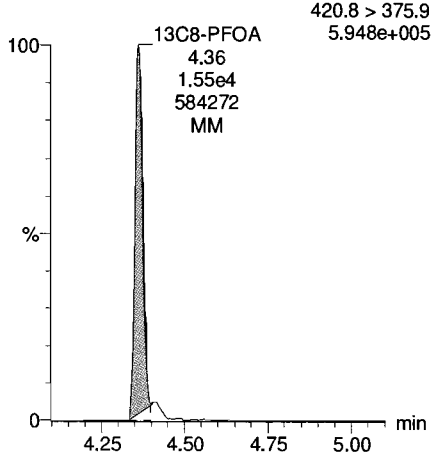
13C3-PFHxS



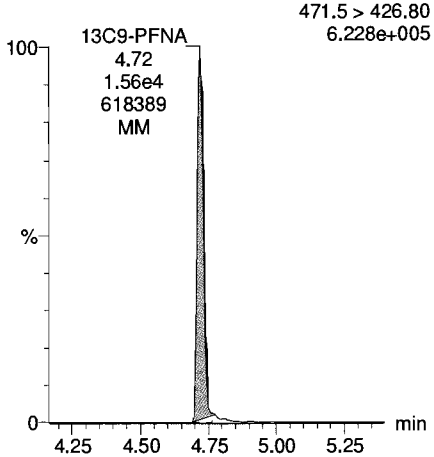
13C8-PFOS



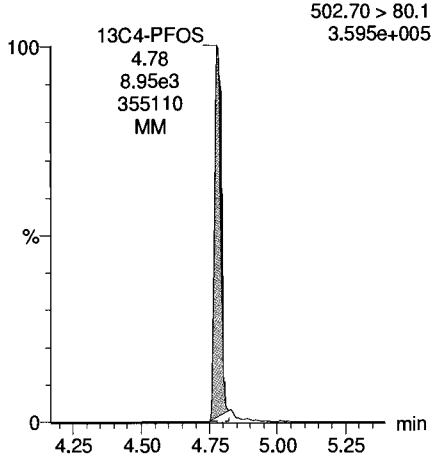
13C8-PFOA



13C9-PFNA



13C4-PFOS



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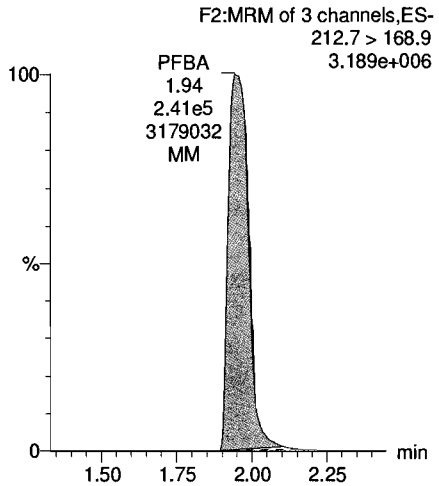
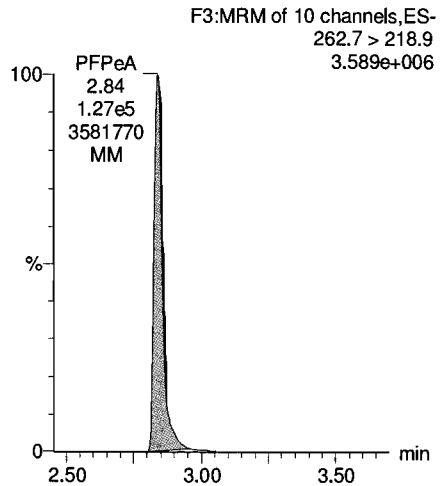
Name: 180518G2-10, Date: 18-May-2018, Time: 12:56:33, ID: ST180518G2-9 PFC CS6 18E1410, Description: PFC CS6 18E1410

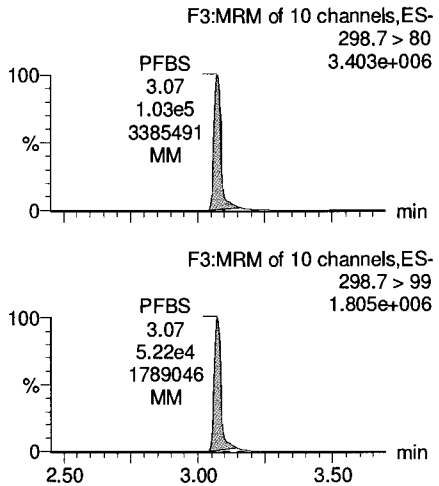
PFBA



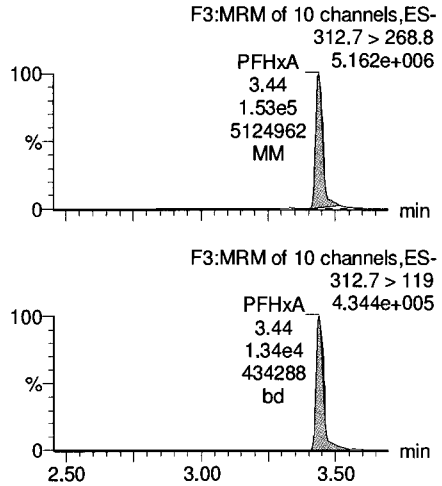
PFPeA



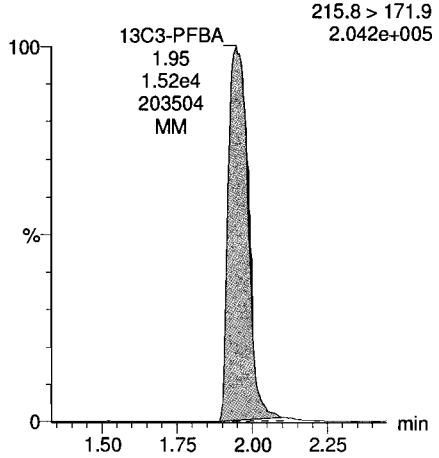
PFBS



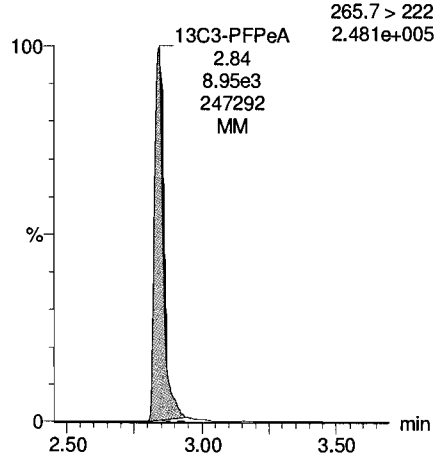
PFHxA



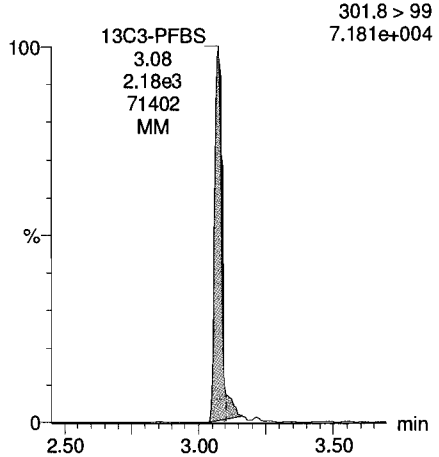
13C3-PFBA



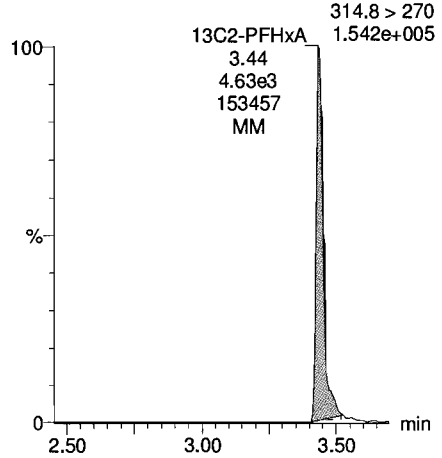
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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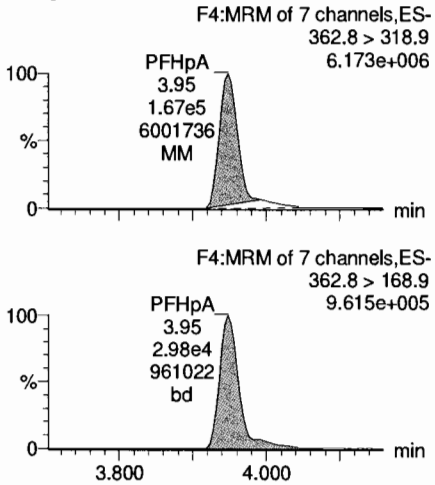
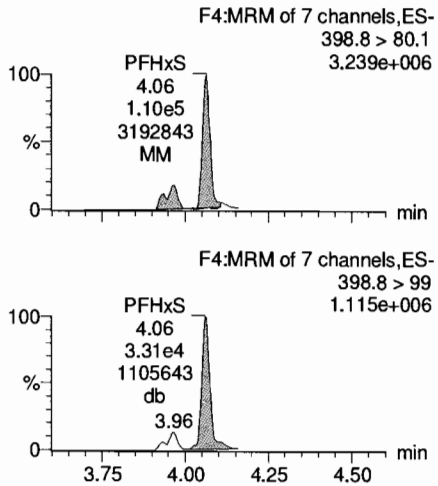
Name: 180518G2-10, Date: 18-May-2018, Time: 12:56:33, ID: ST180518G2-9 PFC CS6 18E1410, Description: PFC CS6 18E1410

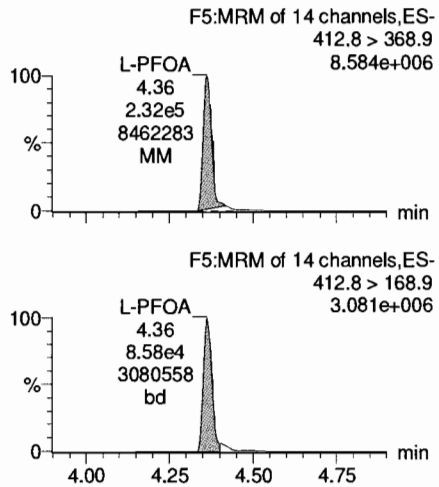
PFHpA



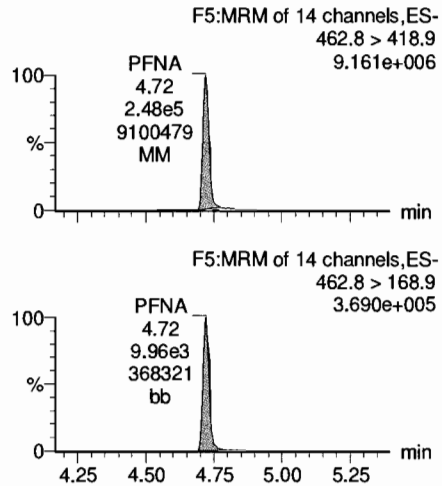
PFHxS



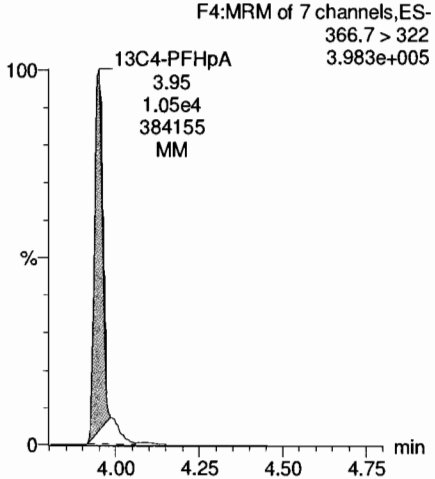
L-PFOA



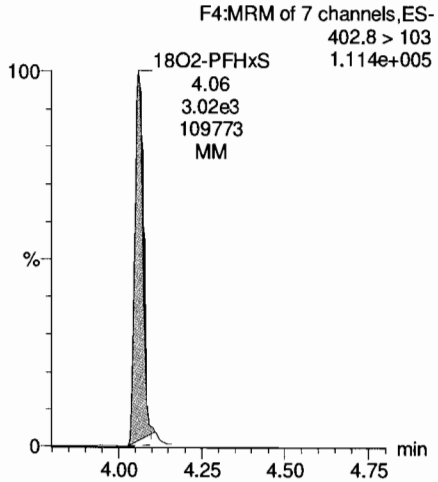
PFNA



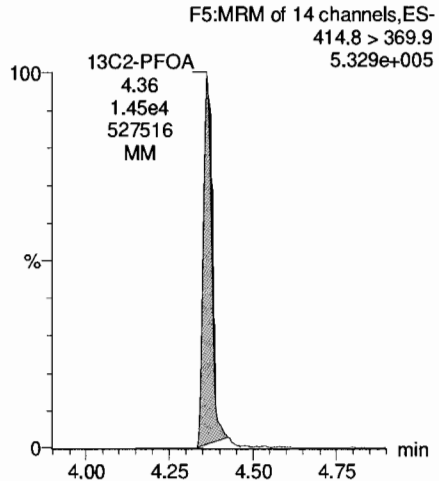
13C4-PFHpA



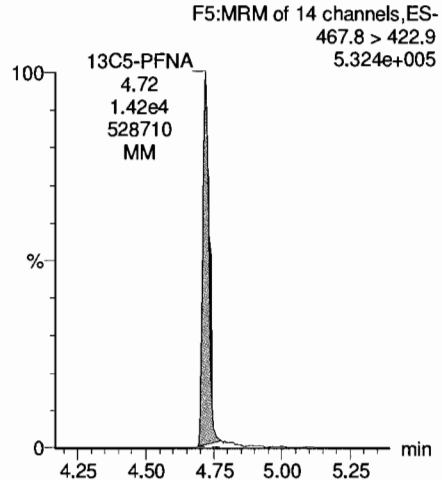
18O2-PFHxS



13C2-PFOA



13C5-PFNA

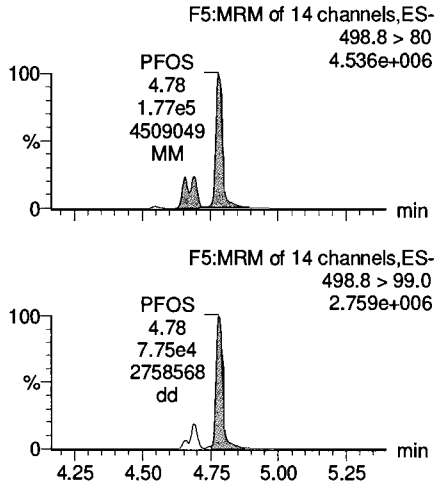


Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-CRV.qld

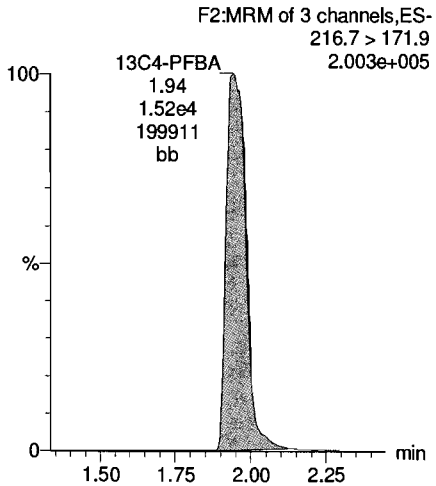
Last Altered: Monday, May 21, 2018 08:27:26 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:43:19 Pacific Daylight Time

Name: 180518G2-10, Date: 18-May-2018, Time: 12:56:33, ID: ST180518G2-9 PFC CS6 18E1410, Description: PFC CS6 18E1410

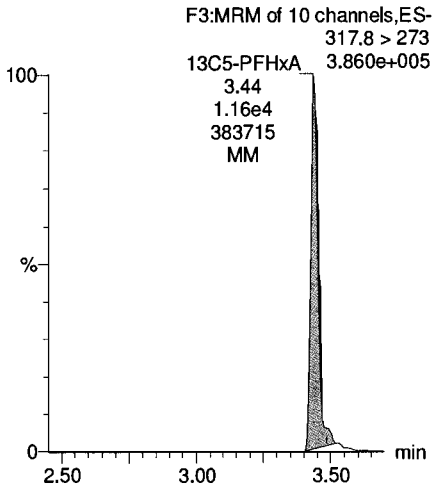
PFOS



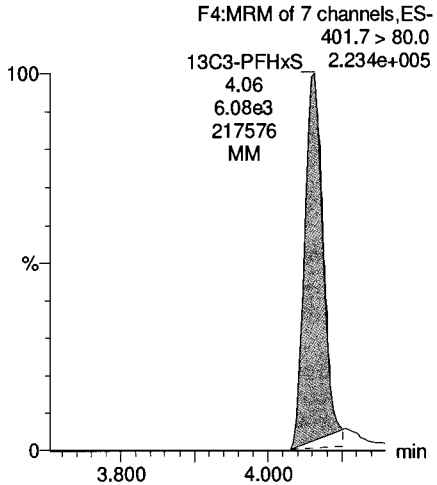
13C4-PFBA



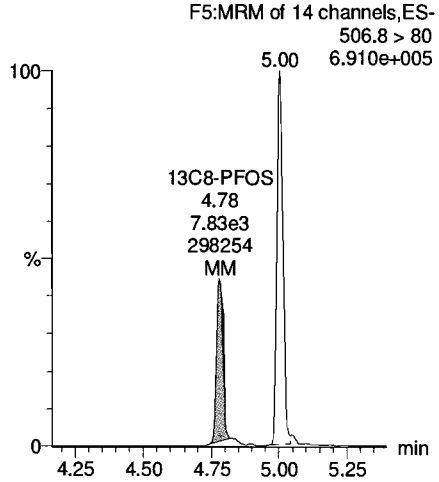
13C5-PFHxA



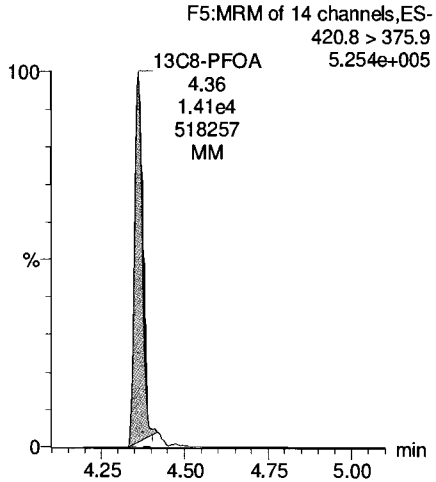
13C3-PFHxS



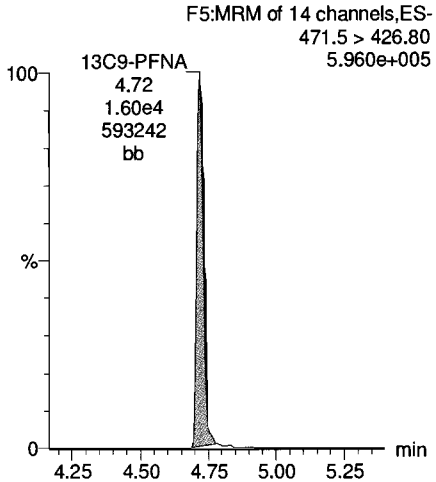
13C8-PFOS



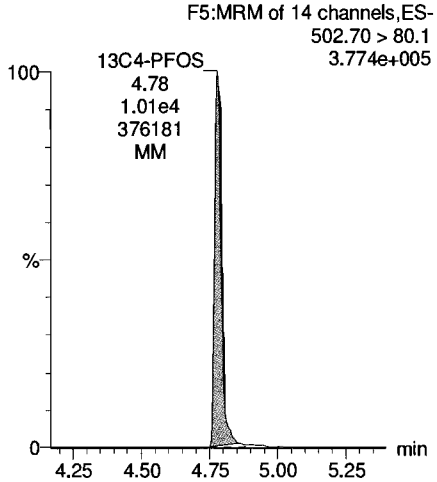
13C8-PFOA



13C9-PFNA



13C4-PFOS



Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-ICV.qld

Last Altered: Monday, May 21, 2018 08:51:15 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:52:16 Pacific Daylight Time

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180518G2-12, Date: 18-May-2018, Time: 13:22:27, ID: ICV180518G2-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.28e4	1.86e4	1.00000		1.97	1.97	8.60	10.3	102.5
2	2	PFPeA	262.7 > 218.9	7.66e3	1.39e4	1.00000		2.85	2.85	6.89	9.75	97.5
3	3	PFBS	298.7>80	5.90e3	3.76e3	1.00000		3.08	3.08	19.6	8.26	82.6
4	4	PFHxA	312.7 > 268.8	9.89e3	7.15e3	1.00000		3.44	3.44	6.92	10.4	104.5
5	5	PFHpA	362.8 > 318.9	1.31e4	1.89e4	1.00000		3.95	3.95	8.63	10.2	102.2
6	6	PFHxS	398.8 > 80.1	5.74e3	4.35e3	1.00000		4.06	4.06	16.5	8.11	81.1
7	7	L-PFOA	412.8 > 368.9	1.50e4	2.10e4	1.00000		4.36	4.36	8.92	8.71	87.1
8	9	PFNA	462.8 > 418.9	1.19e4	1.90e4	1.00000		4.72	4.72	7.84	7.22	72.2
9	10	PFOS	498.8 > 80	6.68e3	1.02e4	1.00000		4.78	4.78	8.16	8.39	83.9
10	11	13C3-PFBA	215.8 > 171.9	1.86e4	1.84e4	1.00000	1.006	1.97	1.97	12.7	12.6	100.9
11	12	13C3-PFBS	301.8 > 99	3.76e3	1.86e4	1.00000	0.213	2.88	3.08	2.52	11.8	94.4
12	13	13C3-PFPeA	265.7 > 222	1.39e4	1.86e4	1.00000	0.793	2.85	2.85	9.32	11.8	94.0
13	14	13C2-PFHxA	314.8 > 270	7.15e3	1.86e4	1.00000	0.989	3.13	3.44	4.79	4.85	97.0
14	15	13C4-PFHpA	366.7 > 322	1.89e4	1.86e4	1.00000	0.959	3.94	3.95	12.7	13.2	105.7
15	16	18O2-PFHxS	402.8 > 103	4.35e3	9.94e3	1.00000	0.458	3.75	4.06	5.47	11.9	95.5
16	17	13C2-PFOA	414.8 > 369.9	2.10e4	2.16e4	1.00000	0.991	4.36	4.36	12.1	12.3	98.0
17	18	13C5-PFNA	467.8 > 422.9	1.90e4	1.96e4	1.00000	0.912	4.72	4.72	12.1	13.3	106.4
18	19	13C8-PFOS	506.8 > 80	1.02e4	1.11e4	1.00000	0.873	4.58	4.78	11.6	13.2	105.8
19	20	13C4-PFBA	216.7 > 171.9	1.84e4	1.84e4	1.00000	1.000	1.72	1.97	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	1.86e4	1.86e4	1.00000	1.000	3.66	3.44	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	9.94e3	9.94e3	1.00000	1.000	4.29	4.06	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	2.16e4	2.16e4	1.00000	1.000	4.53	4.36	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	1.96e4	1.96e4	1.00000	1.000	4.93	4.72	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.11e4	1.11e4	1.00000	1.000	4.98	4.78	12.5	12.5	100.0

MJT 5/21/18

AD 5/21/18

Vista Analytical Laboratory

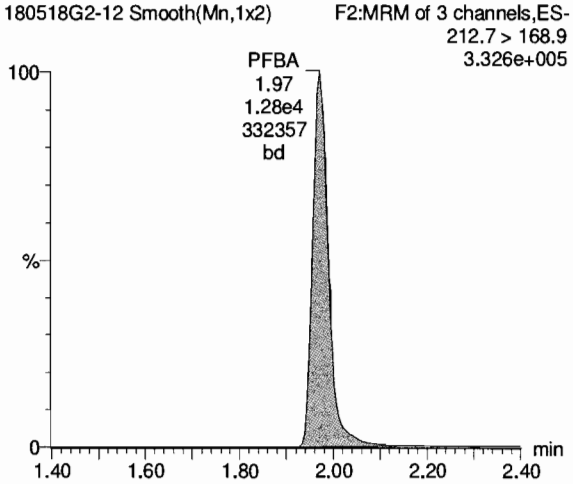
Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-ICV.qld

Last Altered: Monday, May 21, 2018 08:51:15 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:52:16 Pacific Daylight Time

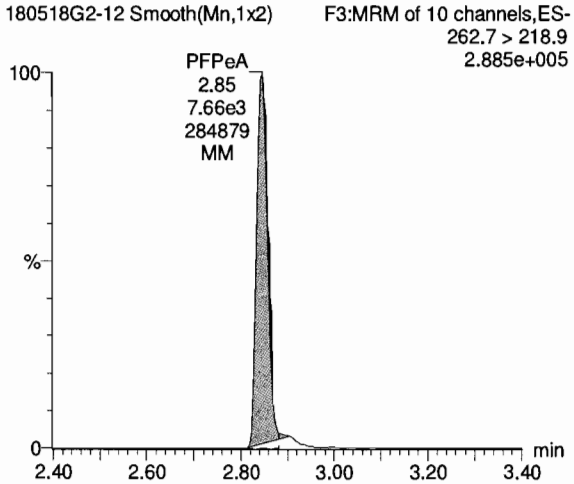
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180518G2-12, Date: 18-May-2018, Time: 13:22:27, ID: ICV180518G2-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

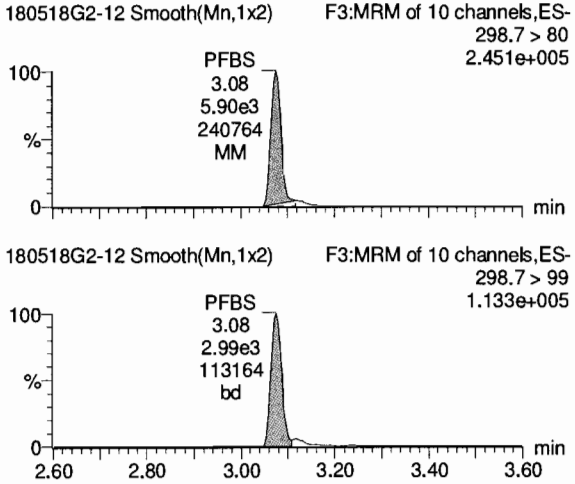
PFBA



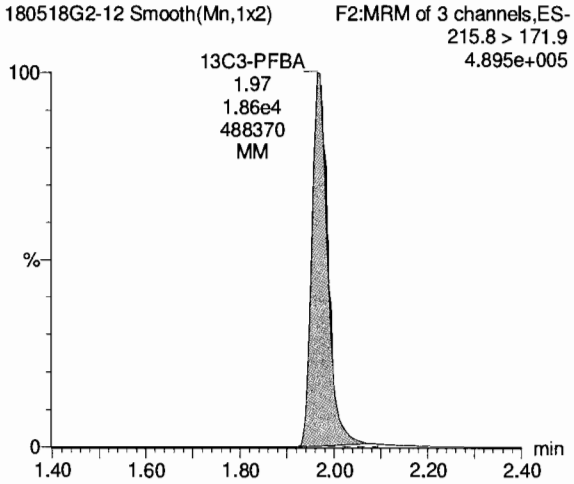
PFPeA



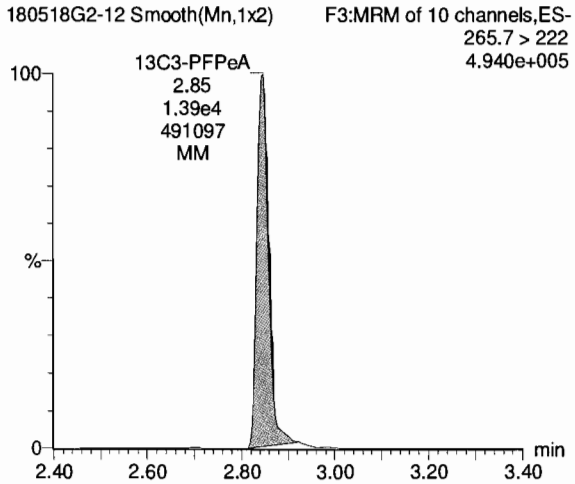
PFBS



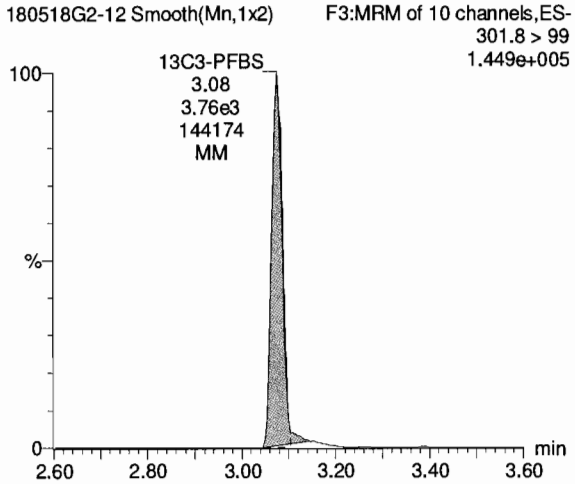
13C3-PFBA



13C3-PFPeA



13C3-PFBS

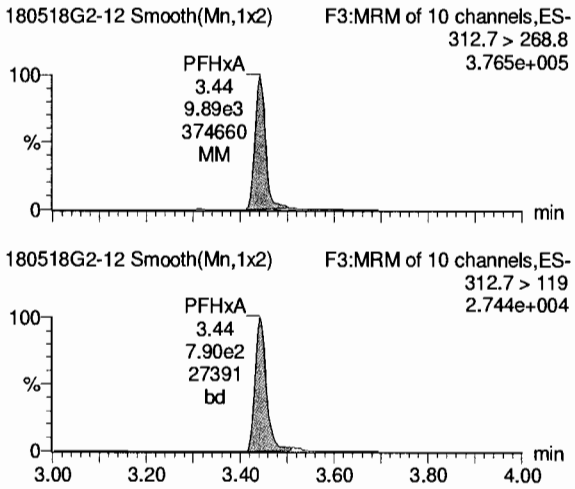


Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-ICV.qld

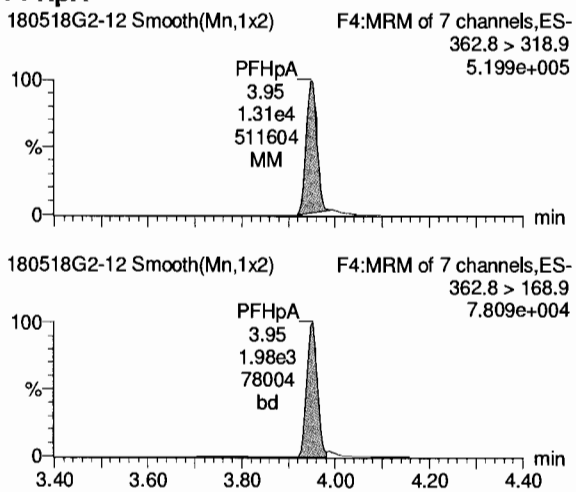
Last Altered: Monday, May 21, 2018 08:51:15 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:52:16 Pacific Daylight Time

Name: 180518G2-12, Date: 18-May-2018, Time: 13:22:27, ID: ICV180518G2-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

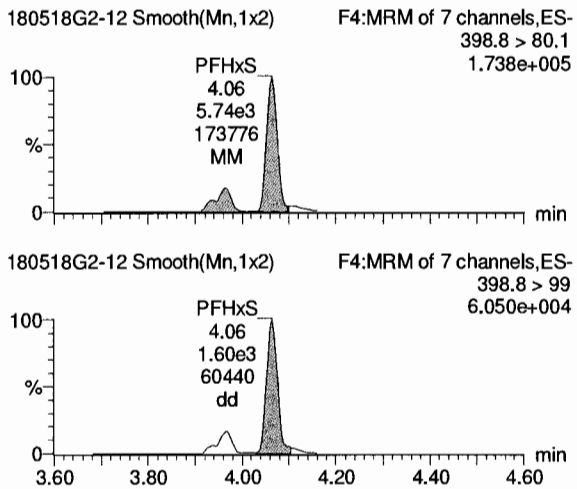
PFHxA



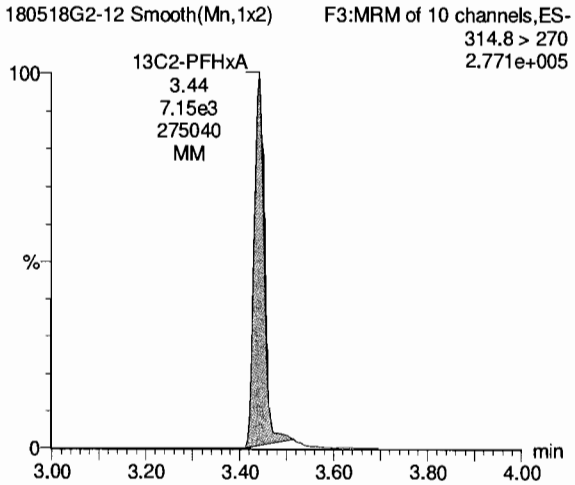
PFHpA



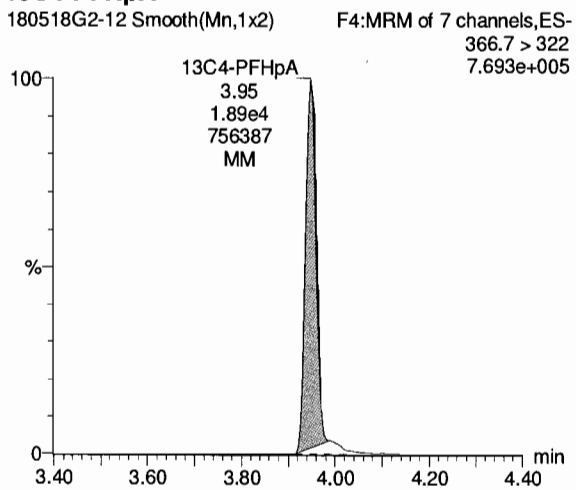
Total PFHxS



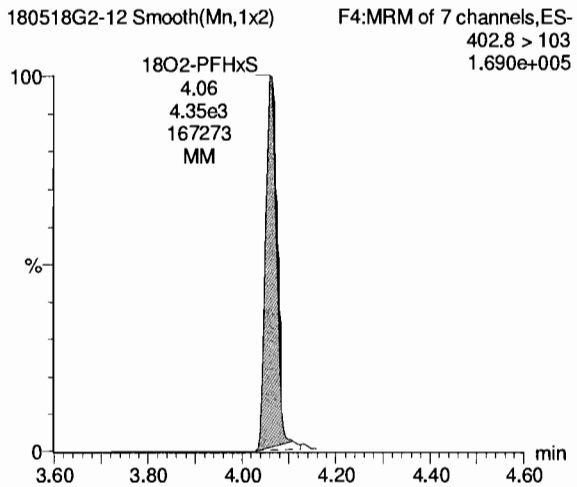
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

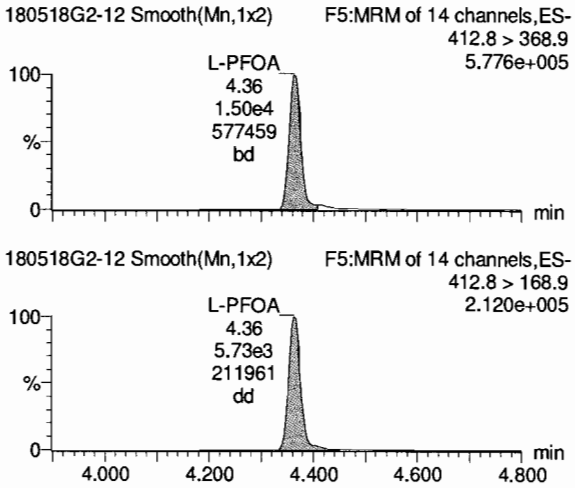


Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-ICV.qld

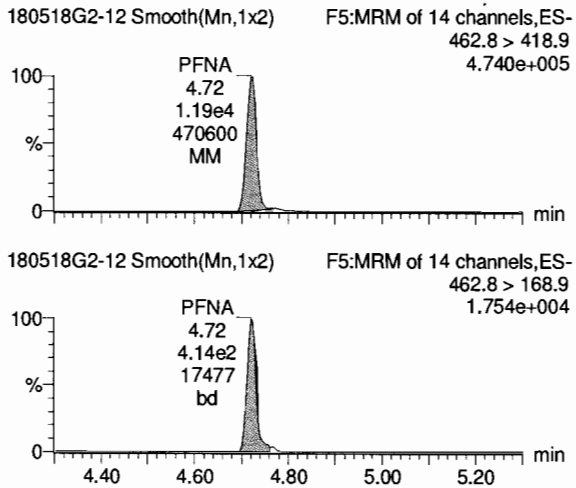
Last Altered: Monday, May 21, 2018 08:51:15 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:52:16 Pacific Daylight Time

Name: 180518G2-12, Date: 18-May-2018, Time: 13:22:27, ID: ICV180518G2-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

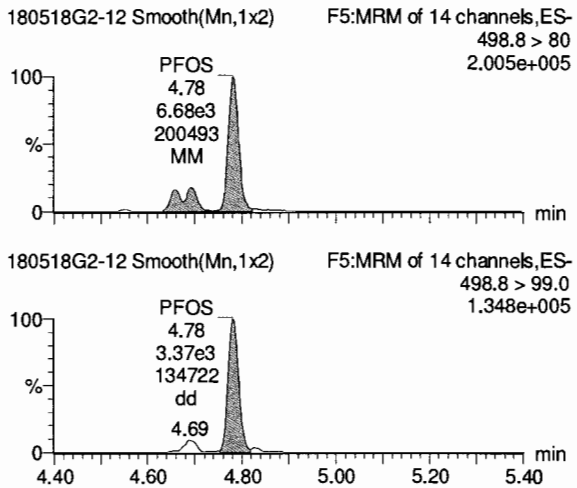
Total PFOA



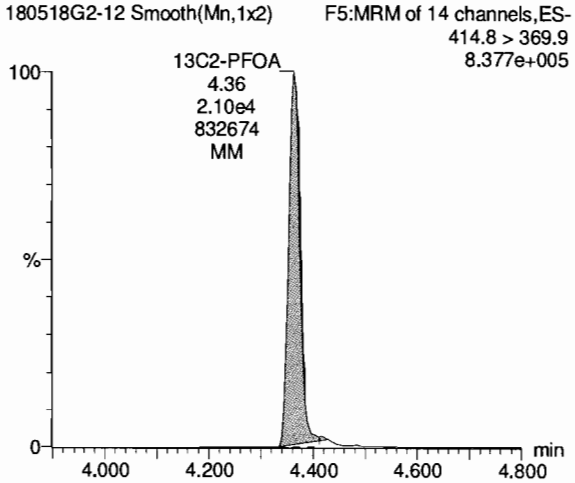
PFNA



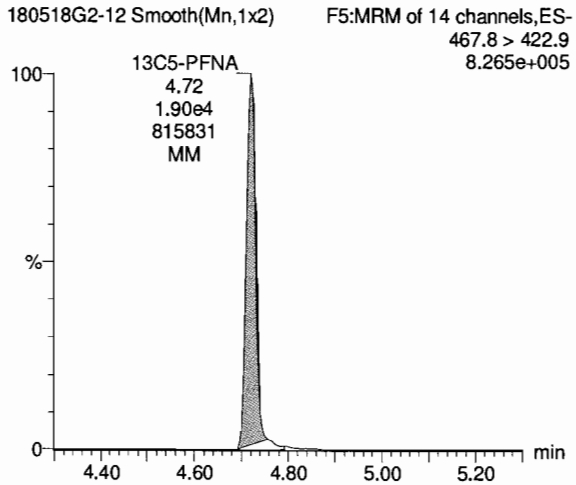
Total PFOS



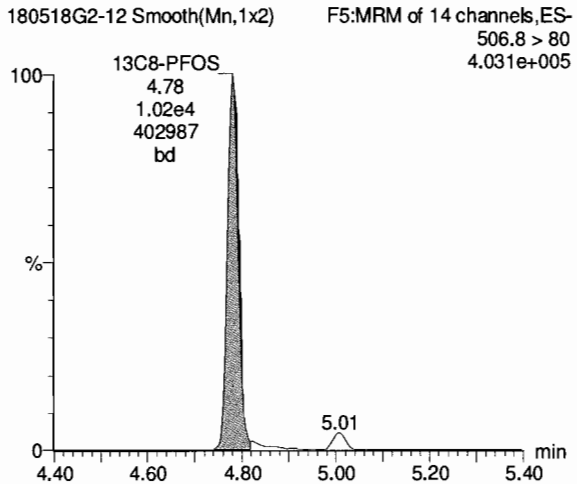
13C2-PFOA



13C5-PFNA



13C8-PFOS

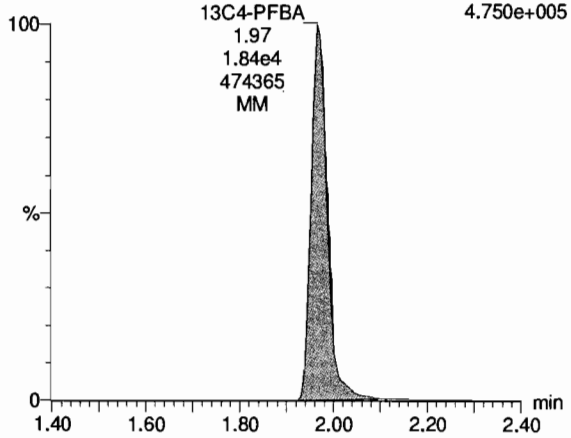


Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-ICV.qld

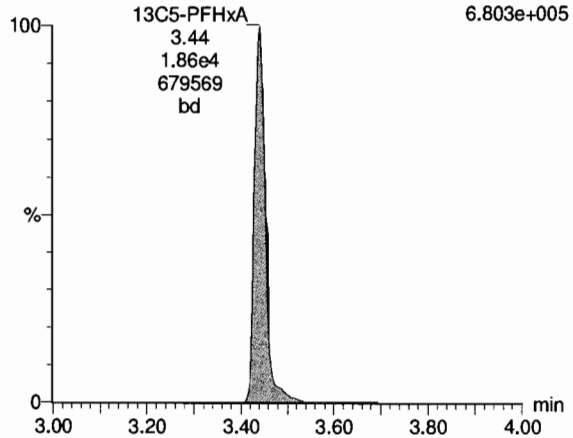
Last Altered: Monday, May 21, 2018 08:51:15 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:52:16 Pacific Daylight Time

Name: 180518G2-12, Date: 18-May-2018, Time: 13:22:27, ID: ICV180518G2-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

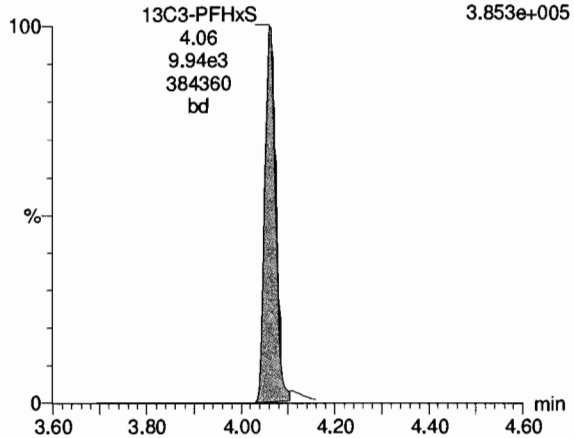
13C4-PFBA



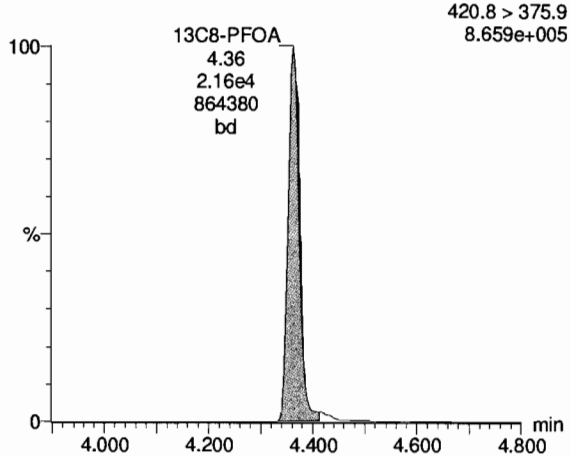
13C5-PFHxA



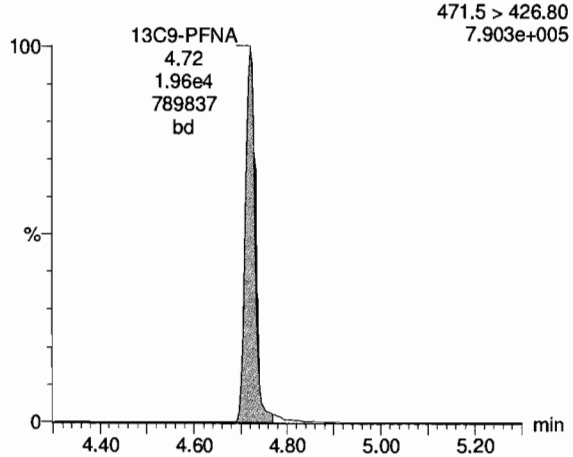
13C3-PFHxS



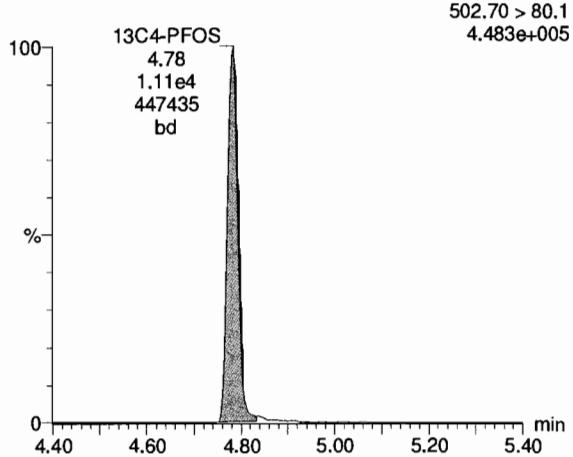
13C8-PFOA



13C9-PFNA



13C4-PFOS

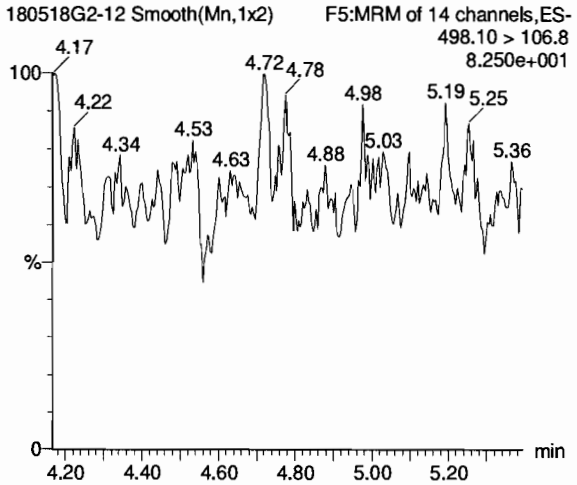


Dataset: Y:\G1.PRO\Results\2018\180518G2\180518G2-ICV.qld

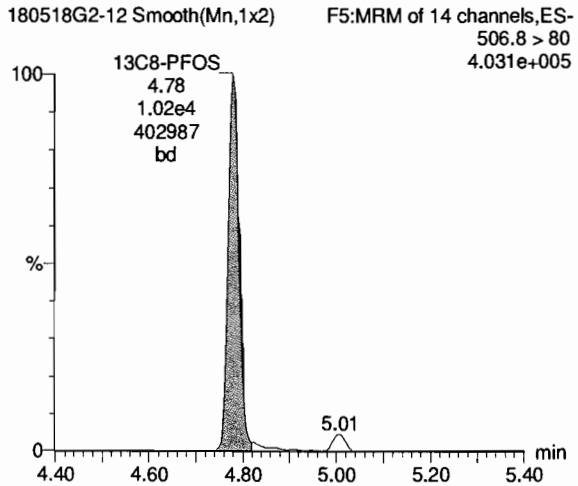
Last Altered: Monday, May 21, 2018 08:51:15 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:52:16 Pacific Daylight Time

Name: 180518G2-12, Date: 18-May-2018, Time: 13:22:27, ID: ICV180518G2-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

TCDA



13C8-PFOS



Vista Analytical Laboratory

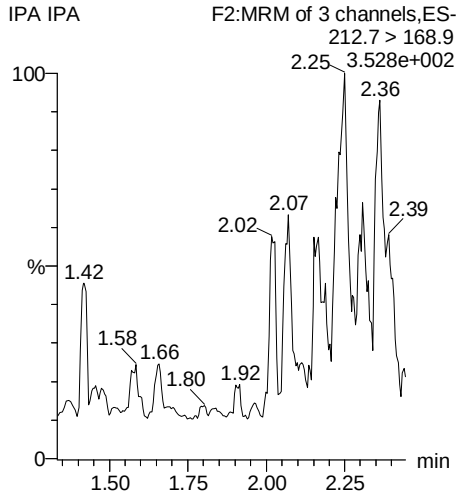
Dataset: Untitled

Last Altered: Monday, May 21, 2018 08:53:51 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:54:04 Pacific Daylight Time

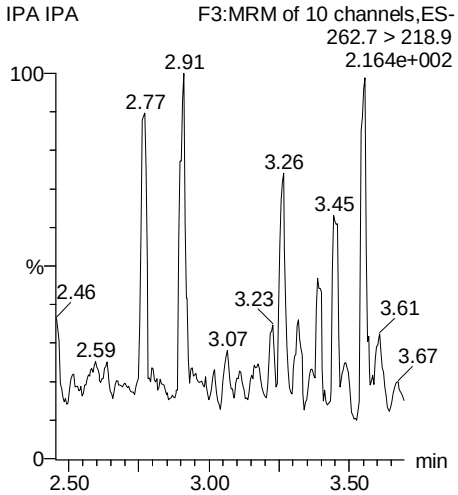
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 17 May 2018 13:54:25
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-18-18_L9.cdb 21 May 2018 08:27:26

Name: 180518G2-11, Date: 18-May-2018, Time: 13:09:27, ID: IPA, Description: IPA

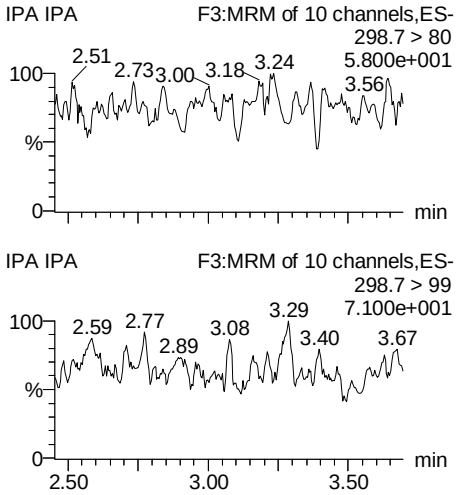
PFBA



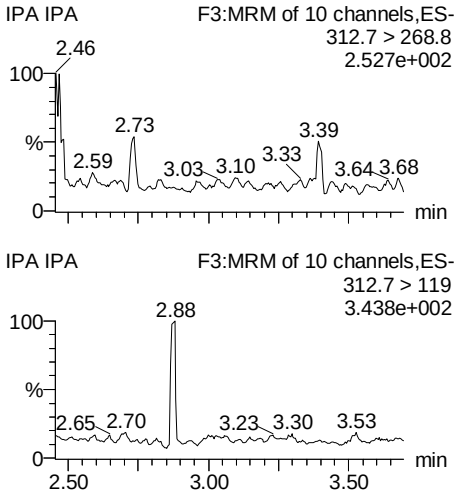
PFPeA



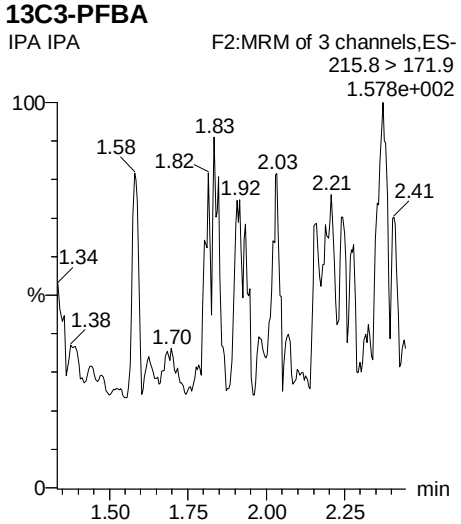
PFBS



PFHxA



13C3-PFBA



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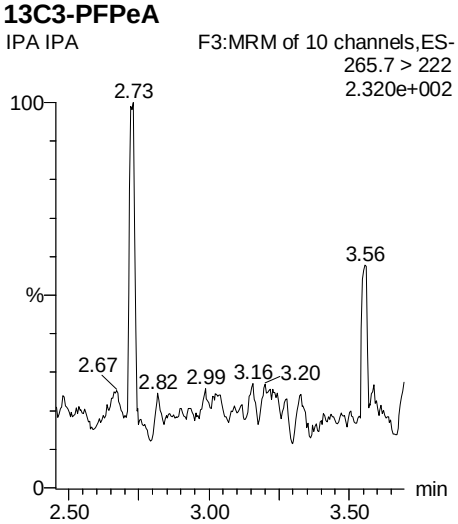

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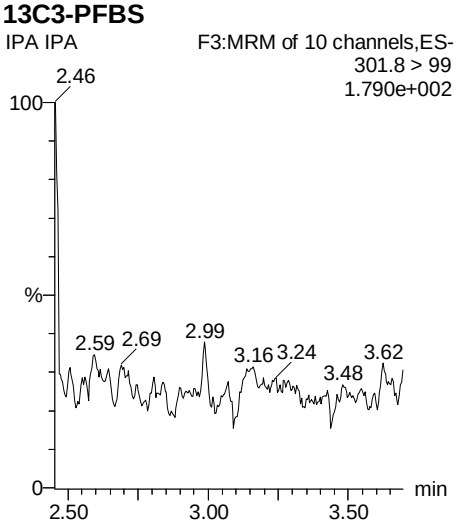
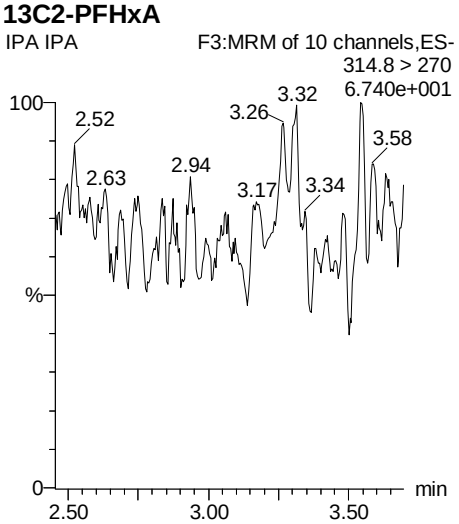


13C2-PFHxA



AD 5/21/2018

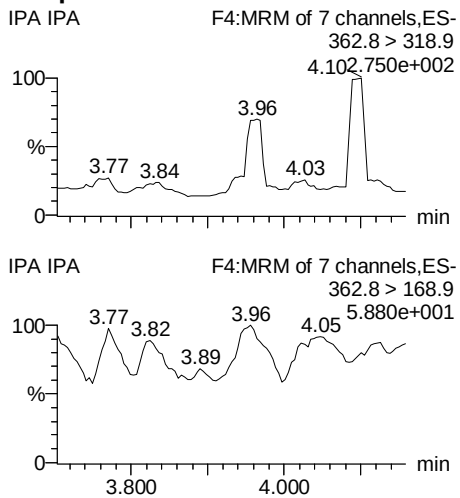
Vista Analytical Laboratory

Dataset: Untitled

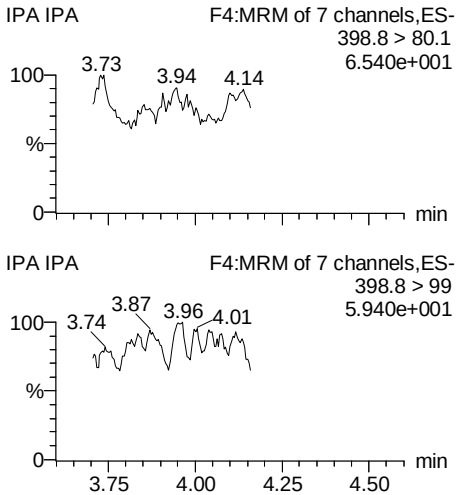
Last Altered: Monday, May 21, 2018 08:53:51 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:54:04 Pacific Daylight Time

Name: 180518G2-11, Date: 18-May-2018, Time: 13:09:27, ID: IPA, Description: IPA

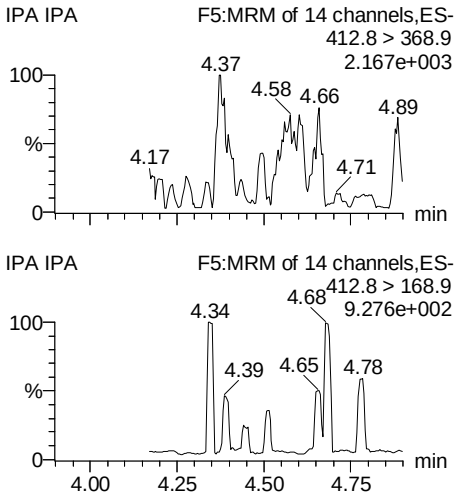
PFHpA



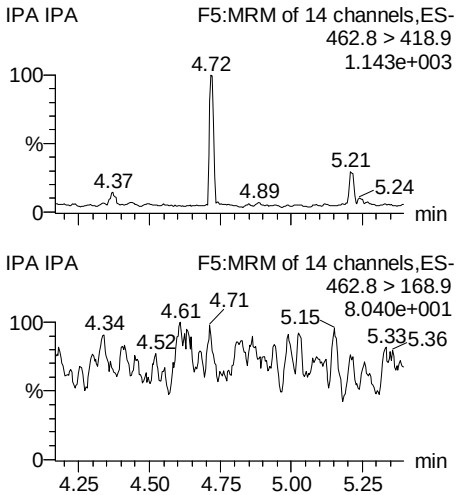
PFHxS



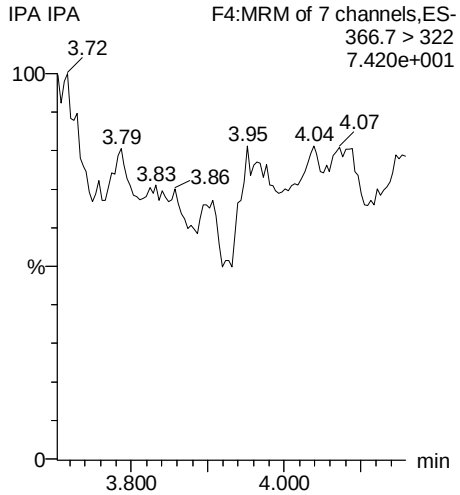
L-PFOA



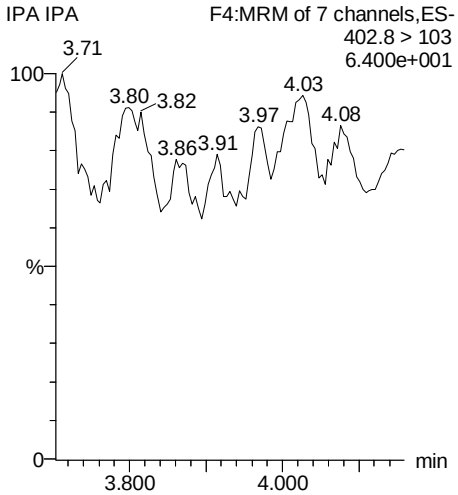
PFNA



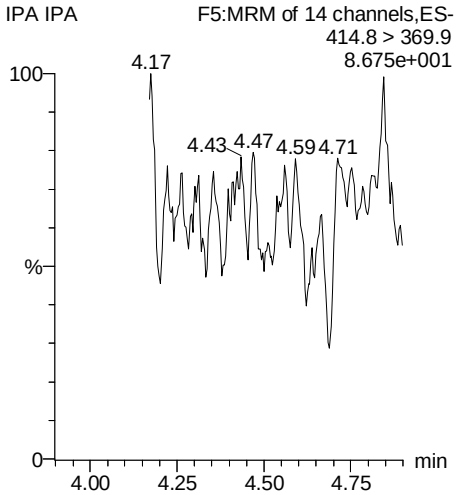
13C4-PFHpA



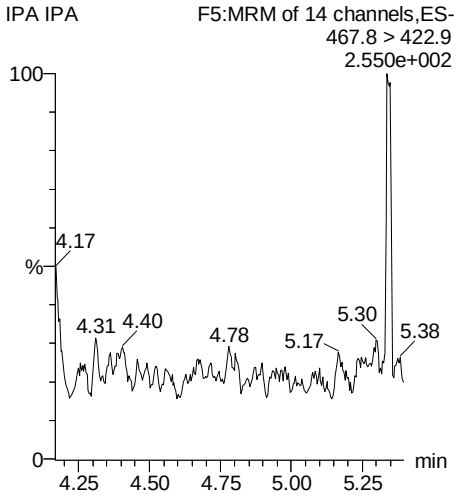
18O2-PFHxS



13C2-PFOA



13C5-PFNA



AD 5/21/2018

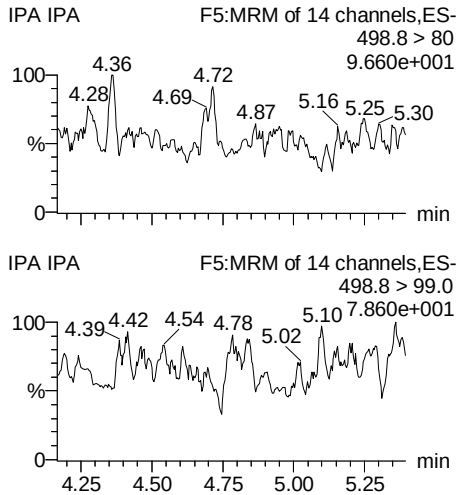
Vista Analytical Laboratory

Dataset: Untitled

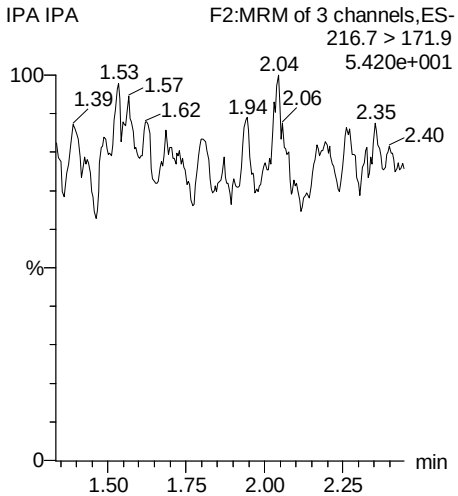
Last Altered: Monday, May 21, 2018 08:53:51 Pacific Daylight Time
Printed: Monday, May 21, 2018 08:54:04 Pacific Daylight Time

Name: 180518G2-11, Date: 18-May-2018, Time: 13:09:27, ID: IPA, Description: IPA

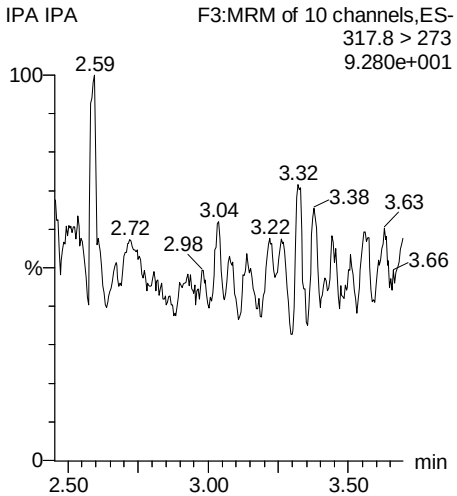
PFOS



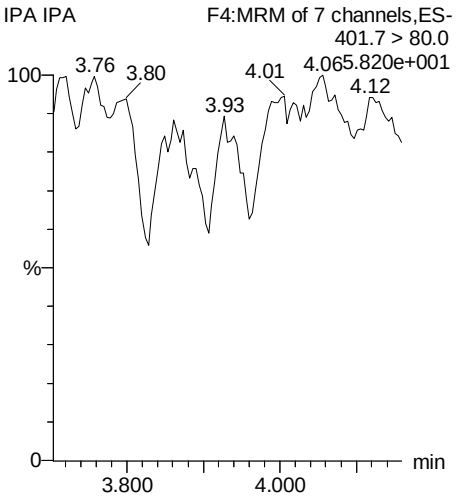
13C4-PFBA



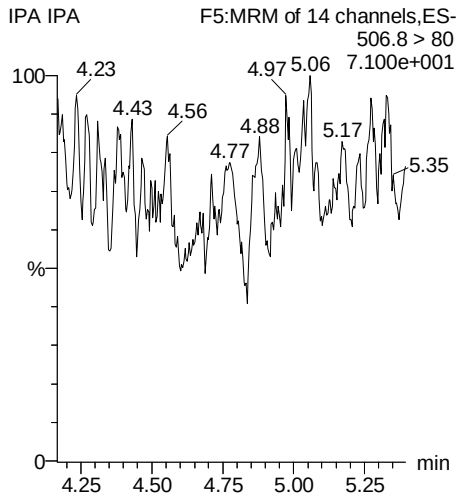
13C5-PFHxA



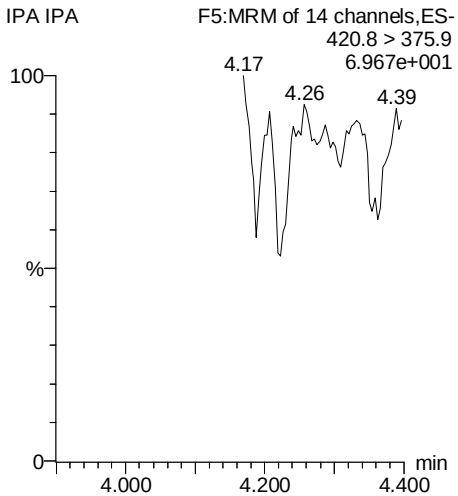
13C3-PFHxS



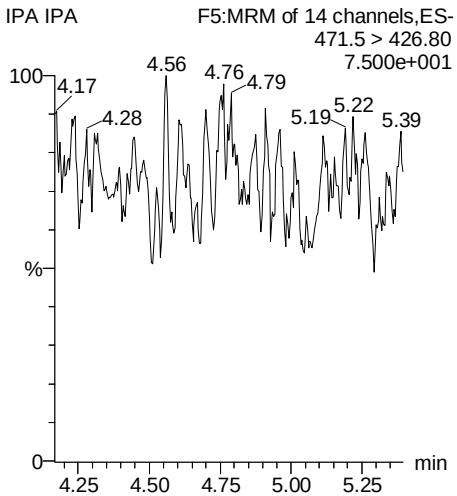
13C8-PFOS



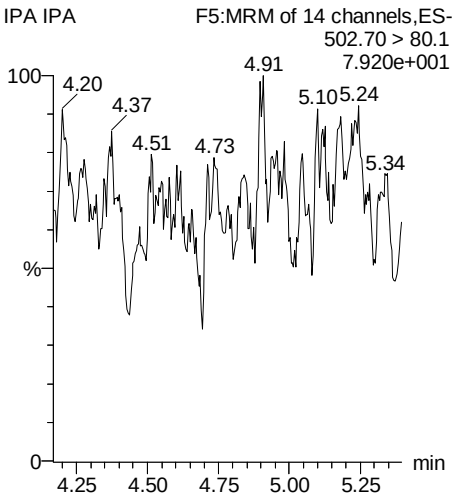
13C8-PFOA



13C9-PFNA



13C4-PFOS



AD 5/21/2018

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Low point:
PFOS = 0.50
AD 5/24/18

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:12 Pacific Daylight Time

DM 5/24/18

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Compound name: PFBA
Correlation coefficient: r = 0.999867, r^2 = 0.999734
Calibration curve: 0.884505 * x + 0.030087
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	1.93	385.120	19992.990	0.241	0.2	-4.7	NO	1.000	NO	bb
2	2	180524G1-4	Standard	0.500	1.93	674.642	17882.930	0.472	0.5	-0.2	NO	1.000	NO	bb
3	3	180524G1-5	Standard	1.000	1.93	1328.477	18054.936	0.920	1.0	0.6	NO	1.000	NO	bb
4	4	180524G1-6	Standard	2.000	1.93	2716.962	17896.645	1.898	2.1	5.6	NO	1.000	NO	bb
5	5	180524G1-7	Standard	5.000	1.93	6300.971	18241.830	4.318	4.8	-3.1	NO	1.000	NO	bb
6	6	180524G1-8	Standard	10.000	1.93	13017.256	17976.338	9.052	10.2	2.0	NO	1.000	NO	bb
7	7	180524G1-9	Standard	50.000	1.93	60223.934	16715.406	45.036	50.9	1.8	NO	1.000	NO	bb
8	8	180524G1-10	Standard	100.000	1.93	101569.008	14732.153	86.180	97.4	-2.6	NO	1.000	NO	bb
9	9	180524G1-11	Standard	250.000	1.92	227360.875	12770.655	222.542	251.6	0.6	NO	1.000	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999918, r^2 = 0.999836
Calibration curve: 0.696025 * x + -0.0393114
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	2.80	156.668	16909.109	0.116	0.2	-10.8	NO	1.000	NO	bb
2	2	180524G1-4	Standard	0.500	2.80	367.949	14904.374	0.309	0.5	-0.0	NO	1.000	NO	bb
3	3	180524G1-5	Standard	1.000	2.81	898.226	14536.358	0.772	1.2	16.6	NO	1.000	NO	bd
4	4	180524G1-6	Standard	2.000	2.81	1577.824	14460.090	1.364	2.0	0.8	NO	1.000	NO	bb
5	5	180524G1-7	Standard	5.000	2.80	3796.235	14207.534	3.340	4.9	-2.9	NO	1.000	NO	bb
6	6	180524G1-8	Standard	10.000	2.80	7806.009	14426.325	6.764	9.8	-2.3	NO	1.000	NO	bb
7	7	180524G1-9	Standard	50.000	2.81	34686.781	12618.081	34.362	49.4	-1.1	NO	1.000	NO	bb
8	8	180524G1-10	Standard	100.000	2.81	55648.363	10093.095	68.919	99.1	-0.9	NO	1.000	NO	bb
9	9	180524G1-11	Standard	250.000	2.80	109672.156	7826.514	175.161	251.7	0.7	NO	1.000	NO	bb

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:12 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.999286
Calibration curve: 0.00105391 * x^2 + 2.56933 * x + -0.0221787
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	3.03	235.365	4062.376	0.724	0.3	16.2	NO	0.999	NO	bb
2	2	180524G1-4	Standard	0.500	3.04	369.536	3480.163	1.327	0.5	5.0	NO	0.999	NO	bb
3	3	180524G1-5	Standard	1.000	3.04	651.055	3805.850	2.138	0.8	-15.9	NO	0.999	NO	bb
4	4	180524G1-6	Standard	2.000	3.04	1447.891	3429.989	5.277	2.1	3.0	NO	0.999	NO	bb
5	5	180524G1-7	Standard	5.000	3.04	3554.789	3763.209	11.808	4.6	-8.1	NO	0.999	NO	bd
6	6	180524G1-8	Standard	10.000	3.04	6790.861	3419.184	24.826	9.6	-3.7	NO	0.999	NO	bd
7	7	180524G1-9	Standard	50.000	3.04	31852.291	2868.065	138.823	52.9	5.8	NO	0.999	NO	bd
8	8	180524G1-10	Standard	100.000	3.04	51005.004	2447.544	260.491	97.5	-2.5	NO	0.999	NO	bb
9	9	180524G1-11	Standard	250.000	3.04	95770.211	1687.346	709.474	250.4	0.2	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999765, r^2 = 0.999531
Calibration curve: 0.644451 * x + 0.00270391
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	3.40	271.383	8039.040	0.169	0.3	3.1	NO	1.000	NO	bb
2	2	180524G1-4	Standard	0.500	3.40	443.950	7350.415	0.302	0.5	-7.1	NO	1.000	NO	bb
3	3	180524G1-5	Standard	1.000	3.40	974.135	7763.406	0.627	1.0	-3.1	NO	1.000	NO	bb
4	4	180524G1-6	Standard	2.000	3.40	1755.222	7109.895	1.234	1.9	-4.4	NO	1.000	NO	bb
5	5	180524G1-7	Standard	5.000	3.40	4543.959	6815.340	3.334	5.2	3.4	NO	1.000	NO	bd
6	6	180524G1-8	Standard	10.000	3.40	9367.522	6860.628	6.827	10.6	5.9	NO	1.000	NO	bb
7	7	180524G1-9	Standard	50.000	3.40	42888.934	6583.824	32.571	50.5	1.1	NO	1.000	NO	bb
8	8	180524G1-10	Standard	100.000	3.40	70872.203	5350.375	66.231	102.8	2.8	NO	1.000	NO	bb
9	9	180524G1-11	Standard	250.000	3.40	129697.336	4089.009	158.593	246.1	-1.6	NO	1.000	NO	bb

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:12 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999767
Calibration curve: 0.000181451 * x^2 + 0.829696 * x + 0.017997
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	3.91	386.327	20401.684	0.237	0.3	5.4	NO	1.000	NO	MM
2	2	180524G1-4	Standard	0.500	3.91	587.281	17903.545	0.410	0.5	-5.5	NO	1.000	NO	bb
3	3	180524G1-5	Standard	1.000	3.91	1364.954	19577.719	0.871	1.0	2.8	NO	1.000	NO	bd
4	4	180524G1-6	Standard	2.000	3.92	2652.289	19877.219	1.668	2.0	-0.6	NO	1.000	NO	bb
5	5	180524G1-7	Standard	5.000	3.91	6051.165	18511.938	4.086	4.9	-2.0	NO	1.000	NO	bb
6	6	180524G1-8	Standard	10.000	3.91	11509.311	17594.404	8.177	9.8	-1.9	NO	1.000	NO	bb
7	7	180524G1-9	Standard	50.000	3.92	56337.340	16229.429	43.391	51.7	3.4	NO	1.000	NO	bb
8	8	180524G1-10	Standard	100.000	3.92	93840.609	14086.009	83.275	98.2	-1.8	NO	1.000	NO	bb
9	9	180524G1-11	Standard	250.000	3.92	172884.250	9862.661	219.115	250.4	0.1	NO	1.000	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.999822, r^2 = 0.999644
Calibration curve: 1.80831 * x + 0.0298716
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	4.04	168.340	4684.372	0.449	0.2	-7.2	NO	1.000	NO	MM
2	2	180524G1-4	Standard	0.500	4.03	331.145	4181.205	0.990	0.5	6.2	NO	1.000	NO	MM
3	3	180524G1-5	Standard	1.000	4.03	705.084	4549.104	1.937	1.1	5.5	NO	1.000	NO	MM
4	4	180524G1-6	Standard	2.000	4.04	1362.160	4704.840	3.619	2.0	-0.8	NO	1.000	NO	MM
5	5	180524G1-7	Standard	5.000	4.03	3013.057	3930.189	9.583	5.3	5.7	NO	1.000	NO	MM
6	6	180524G1-8	Standard	10.000	4.03	5847.599	4345.165	16.822	9.3	-7.1	NO	1.000	NO	MM
7	7	180524G1-9	Standard	50.000	4.03	27998.625	3938.638	88.859	49.1	-1.8	NO	1.000	NO	MM
8	8	180524G1-10	Standard	100.000	4.03	49585.047	3481.792	178.016	98.4	-1.6	NO	1.000	NO	MM
9	9	180524G1-11	Standard	250.000	4.04	99724.594	2726.371	457.222	252.8	1.1	NO	1.000	NO	MM

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Compound name: L-PFOA
Correlation coefficient: r = 0.999849, r^2 = 0.999699
Calibration curve: 0.855949 * x + 0.139684
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	4.33	573.112	18433.816	0.389	0.3	16.3	NO	1.000	NO	bd
2	2	180524G1-4	Standard	0.500	4.33	666.225	18353.328	0.454	0.4	-26.6	NO	1.000	NO	bb
3	3	180524G1-5	Standard	1.000	4.34	1458.923	18730.313	0.974	1.0	-2.6	NO	1.000	NO	bd
4	4	180524G1-6	Standard	2.000	4.33	2727.240	16390.182	2.080	2.3	13.3	NO	1.000	NO	bb
5	5	180524G1-7	Standard	5.000	4.33	6339.681	18975.490	4.176	4.7	-5.7	NO	1.000	NO	bd
6	6	180524G1-8	Standard	10.000	4.33	12559.983	17188.957	9.134	10.5	5.1	NO	1.000	NO	bb
7	7	180524G1-9	Standard	50.000	4.34	64048.219	18543.844	43.174	50.3	0.6	NO	1.000	NO	bb
8	8	180524G1-10	Standard	100.000	4.34	105578.453	15438.780	85.482	99.7	-0.3	NO	1.000	NO	bb
9	9	180524G1-11	Standard	250.000	4.34	205255.250	11999.042	213.825	249.6	-0.1	NO	1.000	NO	bb

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999859
Calibration curve: -0.000217856 * x^2 + 0.986983 * x + -0.0492866
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	4.69	222.735	14558.159	0.191	0.2	-2.5	NO	1.000	NO	bb
2	2	180524G1-4	Standard	0.500	4.69	505.775	12863.700	0.491	0.5	9.6	NO	1.000	NO	bb
3	3	180524G1-5	Standard	1.000	4.69	989.585	14900.496	0.830	0.9	-10.9	NO	1.000	NO	bb
4	4	180524G1-6	Standard	2.000	4.69	2260.539	13465.063	2.099	2.2	8.9	NO	1.000	NO	bb
5	5	180524G1-7	Standard	5.000	4.69	5463.100	14239.355	4.796	4.9	-1.7	NO	1.000	NO	bb
6	6	180524G1-8	Standard	10.000	4.69	9484.532	12621.136	9.394	9.6	-4.1	NO	1.000	NO	bb
7	7	180524G1-9	Standard	50.000	4.69	60384.332	15388.795	49.049	50.3	0.6	NO	1.000	NO	bb
8	8	180524G1-10	Standard	100.000	4.69	91140.852	11783.097	96.686	100.2	0.2	NO	1.000	NO	bb
9	9	180524G1-11	Standard	250.000	4.69	219311.781	11768.059	232.952	249.9	-0.1	NO	1.000	NO	bb

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.994760
Calibration curve: -0.000191443 * x^2 + 1.19174 * x + -0.161166
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	0.250	4.75	180.627	7801.454	0.289	0.4	51.2	NO	0.995	NO	MMX
2	2	180524G1-4	Standard	0.500	4.75	213.353	7439.209	0.358	0.4	-12.8	NO	0.995	NO	MM
3	3	180524G1-5	Standard	1.000	4.75	873.019	8674.184	1.258	1.2	19.1	NO	0.995	NO	MM
4	4	180524G1-6	Standard	2.000	4.75	1246.934	7501.566	2.078	1.9	-6.0	NO	0.995	NO	MM
5	5	180524G1-7	Standard	5.000	4.75	3242.328	7697.903	5.265	4.6	-8.9	NO	0.995	NO	MM
6	6	180524G1-8	Standard	10.000	4.75	5358.405	6932.469	9.662	8.3	-17.5	NO	0.995	NO	MM
7	7	180524G1-9	Standard	50.000	4.75	37865.676	8942.172	52.931	44.9	-10.3	NO	0.995	NO	MM
8	8	180524G1-10	Standard	100.000	4.75	65934.945	6374.796	129.288	110.6	10.6	NO	0.995	NO	MM
9	9	180524G1-11	Standard	250.000	4.75	160431.844	7105.558	282.229	246.7	-1.3	NO	0.995	NO	MM

Compound name: 13C3-PFBA
Response Factor: 0.956615
RRF SD: 0.0270707, Relative SD: 2.82984
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	1.93	19992.990	20053.086	12.463	13.0	4.2	NO		NO	bd
2	2	180524G1-4	Standard	12.500	1.93	17882.930	19412.727	11.515	12.0	-3.7	NO		NO	bb
3	3	180524G1-5	Standard	12.500	1.93	18054.936	19443.992	11.607	12.1	-2.9	NO		NO	bb
4	4	180524G1-6	Standard	12.500	1.93	17896.645	18460.771	12.118	12.7	1.3	NO		NO	bb
5	5	180524G1-7	Standard	12.500	1.93	18241.830	18792.131	12.134	12.7	1.5	NO		NO	bd
6	6	180524G1-8	Standard	12.500	1.93	17976.338	18811.148	11.945	12.5	-0.1	NO		NO	bb
7	7	180524G1-9	Standard	12.500	1.93	16715.406	17627.490	11.853	12.4	-0.9	NO		NO	bd
8	8	180524G1-10	Standard	12.500	1.93	14732.153	14898.004	12.361	12.9	3.4	NO		NO	bd
9	9	180524G1-11	Standard	12.500	1.93	12770.655	13733.842	11.623	12.2	-2.8	NO		NO	bd

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Compound name: 13C3-PFBS
Response Factor: 0.193716
RRF SD: 0.0132854, Relative SD: 6.85819
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	3.04	4062.376	19581.746	2.593	13.4	7.1	NO		NO	bb
2	2	180524G1-4	Standard	12.500	3.04	3480.163	18534.814	2.347	12.1	-3.1	NO		NO	bb
3	3	180524G1-5	Standard	12.500	3.04	3805.850	18373.266	2.589	13.4	6.9	NO		NO	bb
4	4	180524G1-6	Standard	12.500	3.04	3429.989	18774.264	2.284	11.8	-5.7	NO		NO	bb
5	5	180524G1-7	Standard	12.500	3.04	3763.209	17558.787	2.679	13.8	10.6	NO		NO	bb
6	6	180524G1-8	Standard	12.500	3.04	3419.184	17444.715	2.450	12.6	1.2	NO		NO	bd
7	7	180524G1-9	Standard	12.500	3.04	2868.065	15943.040	2.249	11.6	-7.1	NO		NO	bd
8	8	180524G1-10	Standard	12.500	3.04	2447.544	12854.834	2.380	12.3	-1.7	NO		NO	bd
9	9	180524G1-11	Standard	12.500	3.04	1687.346	9491.771	2.222	11.5	-8.2	NO		NO	bb

Compound name: 13C3-PFPeA
Response Factor: 0.807367
RRF SD: 0.0279191, Relative SD: 3.45805
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	2.80	16909.109	19581.746	10.794	13.4	7.0	NO		NO	bb
2	2	180524G1-4	Standard	12.500	2.80	14904.374	18534.814	10.052	12.4	-0.4	NO		NO	bb
3	3	180524G1-5	Standard	12.500	2.81	14536.358	18373.266	9.890	12.2	-2.0	NO		NO	bb
4	4	180524G1-6	Standard	12.500	2.81	14460.090	18774.264	9.628	11.9	-4.6	NO		NO	bb
5	5	180524G1-7	Standard	12.500	2.80	14207.534	17558.787	10.114	12.5	0.2	NO		NO	bb
6	6	180524G1-8	Standard	12.500	2.80	14426.325	17444.715	10.337	12.8	2.4	NO		NO	bb
7	7	180524G1-9	Standard	12.500	2.81	12618.081	15943.040	9.893	12.3	-2.0	NO		NO	bb
8	8	180524G1-10	Standard	12.500	2.81	10093.095	12854.834	9.814	12.2	-2.8	NO		NO	bd
9	9	180524G1-11	Standard	12.500	2.80	7826.514	9491.771	10.307	12.8	2.1	NO		NO	bb

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Compound name: 13C2-PFHxA
Response Factor: 1.01382
RRF SD: 0.0430684, Relative SD: 4.24814
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	5.000	3.40	8039.040	19581.746	5.132	5.1	1.2	NO		NO	bb
2	2	180524G1-4	Standard	5.000	3.40	7350.415	18534.814	4.957	4.9	-2.2	NO		NO	bb
3	3	180524G1-5	Standard	5.000	3.40	7763.406	18373.266	5.282	5.2	4.2	NO		NO	bb
4	4	180524G1-6	Standard	5.000	3.40	7109.895	18774.264	4.734	4.7	-6.6	NO		NO	bb
5	5	180524G1-7	Standard	5.000	3.40	6815.340	17558.787	4.852	4.8	-4.3	NO		NO	bb
6	6	180524G1-8	Standard	5.000	3.40	6860.628	17444.715	4.916	4.8	-3.0	NO		NO	bb
7	7	180524G1-9	Standard	5.000	3.40	6583.824	15943.040	5.162	5.1	1.8	NO		NO	bd
8	8	180524G1-10	Standard	5.000	3.40	5350.375	12854.834	5.203	5.1	2.6	NO		NO	bb
9	9	180524G1-11	Standard	5.000	3.40	4089.009	9491.771	5.385	5.3	6.2	NO		NO	bd

Compound name: 13C4-PFHpA
Response Factor: 1.03864
RRF SD: 0.0375245, Relative SD: 3.61283
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	3.91	20401.684	19581.746	13.023	12.5	0.3	NO		NO	bb
2	2	180524G1-4	Standard	12.500	3.91	17903.545	18534.814	12.074	11.6	-7.0	NO		NO	bb
3	3	180524G1-5	Standard	12.500	3.91	19577.719	18373.266	13.319	12.8	2.6	NO		NO	bb
4	4	180524G1-6	Standard	12.500	3.92	19877.219	18774.264	13.234	12.7	1.9	NO		NO	bd
5	5	180524G1-7	Standard	12.500	3.91	18511.938	17558.787	13.179	12.7	1.5	NO		NO	bb
6	6	180524G1-8	Standard	12.500	3.91	17594.404	17444.715	12.607	12.1	-2.9	NO		NO	bb
7	7	180524G1-9	Standard	12.500	3.91	16229.429	15943.040	12.725	12.3	-2.0	NO		NO	bb
8	8	180524G1-10	Standard	12.500	3.92	14086.009	12854.834	13.697	13.2	5.5	NO		NO	bb
9	9	180524G1-11	Standard	12.500	3.91	9862.661	9491.771	12.988	12.5	0.0	NO		NO	bb

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Compound name: 18O2-PFHxS
Response Factor: 0.518696
RRF SD: 0.0251479, Relative SD: 4.84829
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.03	4684.372	9448.527	6.197	11.9	-4.4	NO		NO	bd
2	2	180524G1-4	Standard	12.500	4.03	4181.205	8291.998	6.303	12.2	-2.8	NO		NO	bd
3	3	180524G1-5	Standard	12.500	4.03	4549.104	8442.638	6.735	13.0	3.9	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.03	4704.840	9012.829	6.525	12.6	0.6	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.03	3930.189	8306.060	5.915	11.4	-8.8	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.03	4345.165	8071.019	6.730	13.0	3.8	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.03	3938.638	7765.247	6.340	12.2	-2.2	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.03	3481.792	6413.327	6.786	13.1	4.7	NO		NO	bb
9	9	180524G1-11	Standard	12.500	4.03	2726.371	4995.625	6.822	13.2	5.2	NO		NO	bb

Compound name: 13C2-PFOA
Response Factor: 1.0098
RRF SD: 0.0538831, Relative SD: 5.33599
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.33	18433.816	18989.807	12.134	12.0	-3.9	NO		NO	bb
2	2	180524G1-4	Standard	12.500	4.33	18353.328	16782.293	13.670	13.5	8.3	NO		NO	bb
3	3	180524G1-5	Standard	12.500	4.33	18730.313	20180.256	11.602	11.5	-8.1	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.34	16390.182	16530.438	12.394	12.3	-1.8	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.33	18975.490	18717.102	12.673	12.5	0.4	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.33	17188.957	15834.034	13.570	13.4	7.5	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.33	18543.844	17992.918	12.883	12.8	2.1	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.34	15438.780	15404.620	12.528	12.4	-0.8	NO		NO	bd
9	9	180524G1-11	Standard	12.500	4.34	11999.042	12344.272	12.150	12.0	-3.7	NO		NO	bd

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Compound name: 13C5-PFNA
Response Factor: 0.936339
RRF SD: 0.0816238, Relative SD: 8.71734
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.69	14558.159	12913.077	14.092	15.1	20.4	NO		NO	bb
2	2	180524G1-4	Standard	12.500	4.69	12863.700	13855.270	11.605	12.4	-0.8	NO		NO	bb
3	3	180524G1-5	Standard	12.500	4.69	14900.496	16363.940	11.382	12.2	-2.8	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.69	13465.063	14123.912	11.917	12.7	1.8	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.69	14239.355	15219.757	11.695	12.5	-0.1	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.69	12621.136	13476.794	11.706	12.5	0.0	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.69	15388.795	18390.727	10.460	11.2	-10.6	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.69	11783.097	12553.174	11.733	12.5	0.2	NO		NO	bb
9	9	180524G1-11	Standard	12.500	4.69	11768.059	13687.206	10.747	11.5	-8.2	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 0.865282
RRF SD: 0.0868522, Relative SD: 10.0374
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.75	7801.454	8878.277	10.984	12.7	1.6	NO		NO	bb
2	2	180524G1-4	Standard	12.500	4.75	7439.209	8746.432	10.632	12.3	-1.7	NO		NO	bb
3	3	180524G1-5	Standard	12.500	4.75	8674.184	10382.206	10.444	12.1	-3.4	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.75	7501.566	9128.068	10.273	11.9	-5.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.75	7697.903	8725.854	11.027	12.7	2.0	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.75	6932.469	7574.751	11.440	13.2	5.8	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.75	8942.172	10126.451	11.038	12.8	2.1	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.75	6374.796	9160.381	8.699	10.1	-19.6	NO		NO	bd
9	9	180524G1-11	Standard	12.500	4.75	7105.558	6934.793	12.808	14.8	18.4	NO		NO	MM

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	1.92	20053.086	20053.086	12.500	12.5	0.0	NO		NO	bb
2	2	180524G1-4	Standard	12.500	1.93	19412.727	19412.727	12.500	12.5	0.0	NO		NO	bb
3	3	180524G1-5	Standard	12.500	1.93	19443.992	19443.992	12.500	12.5	0.0	NO		NO	bb
4	4	180524G1-6	Standard	12.500	1.93	18460.771	18460.771	12.500	12.5	0.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	1.93	18792.131	18792.131	12.500	12.5	0.0	NO		NO	bb
6	6	180524G1-8	Standard	12.500	1.93	18811.148	18811.148	12.500	12.5	0.0	NO		NO	bb
7	7	180524G1-9	Standard	12.500	1.93	17627.490	17627.490	12.500	12.5	0.0	NO		NO	bd
8	8	180524G1-10	Standard	12.500	1.93	14898.004	14898.004	12.500	12.5	0.0	NO		NO	bb
9	9	180524G1-11	Standard	12.500	1.91	13733.842	13733.842	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 3.92523e-017, Relative SD: 3.92523e-015
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	3.40	19581.746	19581.746	12.500	12.5	0.0	NO		NO	bb
2	2	180524G1-4	Standard	12.500	3.40	18534.814	18534.814	12.500	12.5	0.0	NO		NO	bb
3	3	180524G1-5	Standard	12.500	3.40	18373.266	18373.266	12.500	12.5	0.0	NO		NO	bb
4	4	180524G1-6	Standard	12.500	3.40	18774.264	18774.264	12.500	12.5	0.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	3.40	17558.787	17558.787	12.500	12.5	0.0	NO		NO	bb
6	6	180524G1-8	Standard	12.500	3.40	17444.715	17444.715	12.500	12.5	0.0	NO		NO	bb
7	7	180524G1-9	Standard	12.500	3.40	15943.040	15943.040	12.500	12.5	0.0	NO		NO	bb
8	8	180524G1-10	Standard	12.500	3.40	12854.834	12854.834	12.500	12.5	0.0	NO		NO	bb
9	9	180524G1-11	Standard	12.500	3.40	9491.771	9491.771	12.500	12.5	0.0	NO		NO	bd

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.03	9448.527	9448.527	12.500	12.5	0.0	NO		NO	bd
2	2	180524G1-4	Standard	12.500	4.03	8291.998	8291.998	12.500	12.5	0.0	NO		NO	bb
3	3	180524G1-5	Standard	12.500	4.03	8442.638	8442.638	12.500	12.5	0.0	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.04	9012.829	9012.829	12.500	12.5	0.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.03	8306.060	8306.060	12.500	12.5	0.0	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.03	8071.019	8071.019	12.500	12.5	0.0	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.03	7765.247	7765.247	12.500	12.5	0.0	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.03	6413.327	6413.327	12.500	12.5	0.0	NO		NO	bd
9	9	180524G1-11	Standard	12.500	4.03	4995.625	4995.625	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.33	18989.807	18989.807	12.500	12.5	0.0	NO		NO	bd
2	2	180524G1-4	Standard	12.500	4.33	16782.293	16782.293	12.500	12.5	0.0	NO		NO	bb
3	3	180524G1-5	Standard	12.500	4.33	20180.256	20180.256	12.500	12.5	0.0	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.33	16530.438	16530.438	12.500	12.5	0.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.33	18717.102	18717.102	12.500	12.5	0.0	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.33	15834.034	15834.034	12.500	12.5	0.0	NO		NO	bd
7	7	180524G1-9	Standard	12.500	4.33	17992.918	17992.918	12.500	12.5	0.0	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.33	15404.620	15404.620	12.500	12.5	0.0	NO		NO	bb
9	9	180524G1-11	Standard	12.500	4.33	12344.272	12344.272	12.500	12.5	0.0	NO		NO	bb

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:12 Pacific Daylight Time

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.69	12913.077	12913.077	12.500	12.5	0.0	NO		NO	bb
2	2	180524G1-4	Standard	12.500	4.69	13855.270	13855.270	12.500	12.5	0.0	NO		NO	bd
3	3	180524G1-5	Standard	12.500	4.69	16363.940	16363.940	12.500	12.5	0.0	NO		NO	bd
4	4	180524G1-6	Standard	12.500	4.69	14123.912	14123.912	12.500	12.5	0.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.69	15219.757	15219.757	12.500	12.5	0.0	NO		NO	bd
6	6	180524G1-8	Standard	12.500	4.69	13476.794	13476.794	12.500	12.5	0.0	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.69	18390.727	18390.727	12.500	12.5	0.0	NO		NO	bd
8	8	180524G1-10	Standard	12.500	4.69	12553.174	12553.174	12.500	12.5	0.0	NO		NO	bd
9	9	180524G1-11	Standard	12.500	4.69	13687.206	13687.206	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180524G1-3	Standard	12.500	4.75	8878.277	8878.277	12.500	12.5	0.0	NO		NO	bb
2	2	180524G1-4	Standard	12.500	4.75	8746.432	8746.432	12.500	12.5	0.0	NO		NO	bb
3	3	180524G1-5	Standard	12.500	4.75	10382.206	10382.206	12.500	12.5	0.0	NO		NO	bb
4	4	180524G1-6	Standard	12.500	4.75	9128.068	9128.068	12.500	12.5	0.0	NO		NO	bb
5	5	180524G1-7	Standard	12.500	4.75	8725.854	8725.854	12.500	12.5	0.0	NO		NO	bb
6	6	180524G1-8	Standard	12.500	4.75	7574.751	7574.751	12.500	12.5	0.0	NO		NO	bb
7	7	180524G1-9	Standard	12.500	4.75	10126.451	10126.451	12.500	12.5	0.0	NO		NO	bb
8	8	180524G1-10	Standard	12.500	4.75	9160.381	9160.381	12.500	12.5	0.0	NO		NO	bb
9	9	180524G1-11	Standard	12.500	4.75	6934.793	6934.793	12.500	12.5	0.0	NO		NO	bb

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Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
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Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-3, Date: 24-May-2018, Time: 11:01:34, ID: ST180524G1-1 PFC CS-2 18E2202, Description: PFC CS-2 18E2202

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	11	0.9997	NO	
2	2	PFPeA	13	0.9998	NO	
3	3	PFBS	12	0.9993	NO	
4	4	PFHxA	14	0.9995	NO	
5	5	PFHpA	15	0.9998	NO	
6	6	PFHxS	16	0.9996	NO	
7	7	L-PFOA	17	0.9997	NO	
8	9	PFNA	18	0.9999	NO	
9	10	PFOS	19	0.9948	NO	
10	11	13C3-PFBA	20		NO	2.830
11	12	13C3-PFBS	21		NO	6.858
12	13	13C3-PFPeA	21		NO	3.458
13	14	13C2-PFHxA	21		NO	4.248
14	15	13C4-PFHpA	21		NO	3.613
15	16	18O2-PFHxS	22		NO	4.848
16	17	13C2-PFOA	23		NO	5.336
17	18	13C5-PFNA	24		NO	8.717
18	19	13C8-PFOS	25		NO	10.037
19	20	13C4-PFBA	20		NO	0.000
20	21	13C5-PFHxA	21		NO	0.000
21	22	13C3-PFHxS	22		NO	0.000
22	23	13C8-PFOA	23		NO	0.000
23	24	13C9-PFNA	24		NO	0.000
24	25	13C4-PFOS	25		NO	0.000

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, May 24, 2018 15:47:37 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:48:14 Pacific Daylight Time

Method: Y:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: No Calibration

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
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2	2	180524G1-3	ST180524G1-1 PFC CS-2 18E2202	24-May-18	11:01:34
3	3	180524G1-4	ST180524G1-2 PFC CS-1 18E2203	24-May-18	11:14:27
4	4	180524G1-5	ST180524G1-3 PFC CS0 18E2204	24-May-18	11:27:22
5	5	180524G1-6	ST180524G1-4 PFC CS1 18E2205	24-May-18	11:40:19
6	6	180524G1-7	ST180524G1-5 PFC CS2 18E2206	24-May-18	11:53:18
7	7	180524G1-8	ST180524G1-6 PFC CS3 18E2207	24-May-18	12:06:15
8	8	180524G1-9	ST180524G1-7 PFC CS4 18E2208	24-May-18	12:19:12
9	9	180524G1-10	ST180524G1-8 PFC CS5 18E2209	24-May-18	12:32:10
10	10	180524G1-11	ST180524G1-9 PFC CS6 18E2210	24-May-18	12:45:08
11	11	180524G1-12	IPA	24-May-18	15:01:32
12	12	180524G1-13	ICV180524G1-1 PFC ICV 18E1401	24-May-18	15:13:47
13	13	180524G1-14	IPA	24-May-18	15:26:52

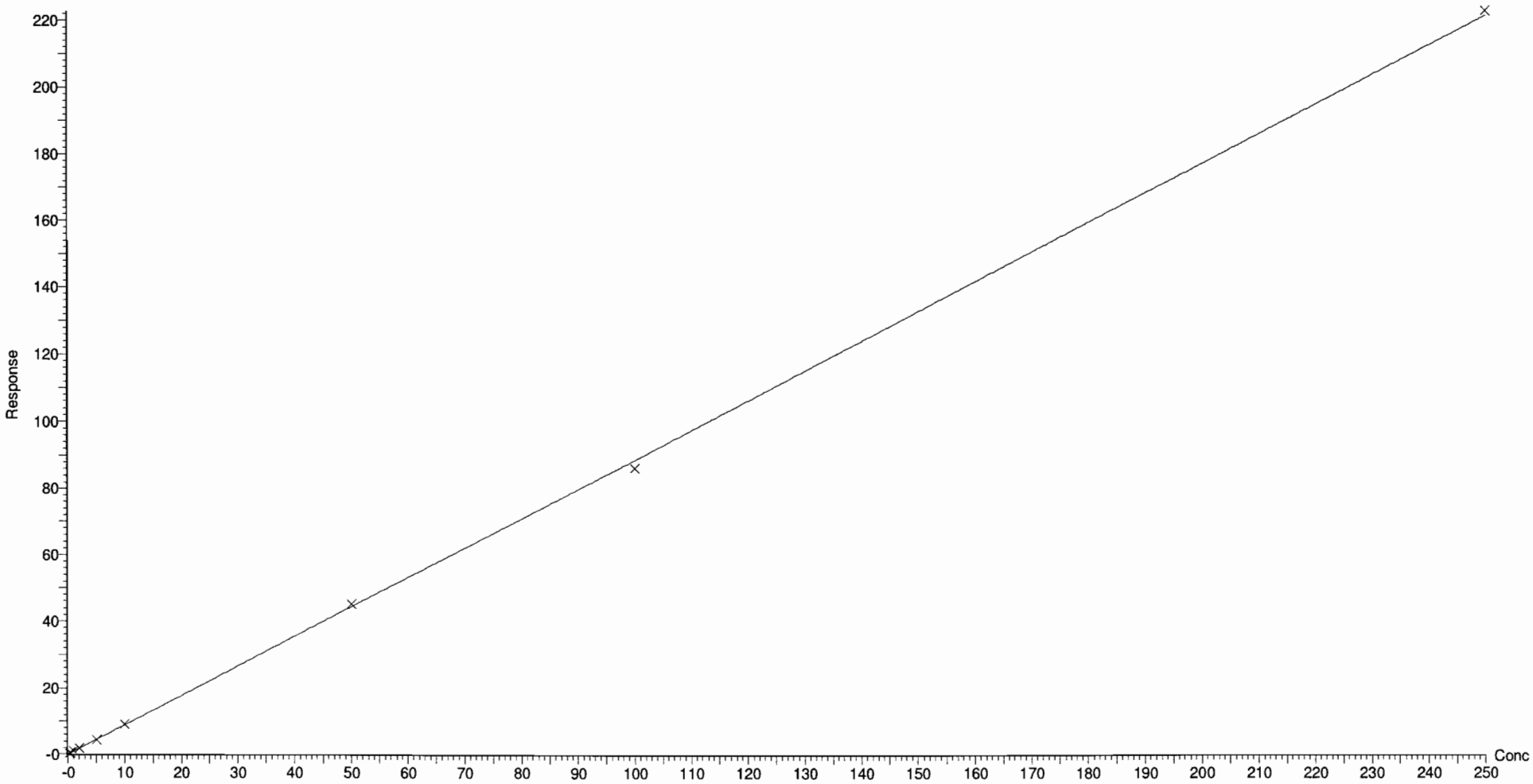
Vista Analytical Laboratory Q1

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

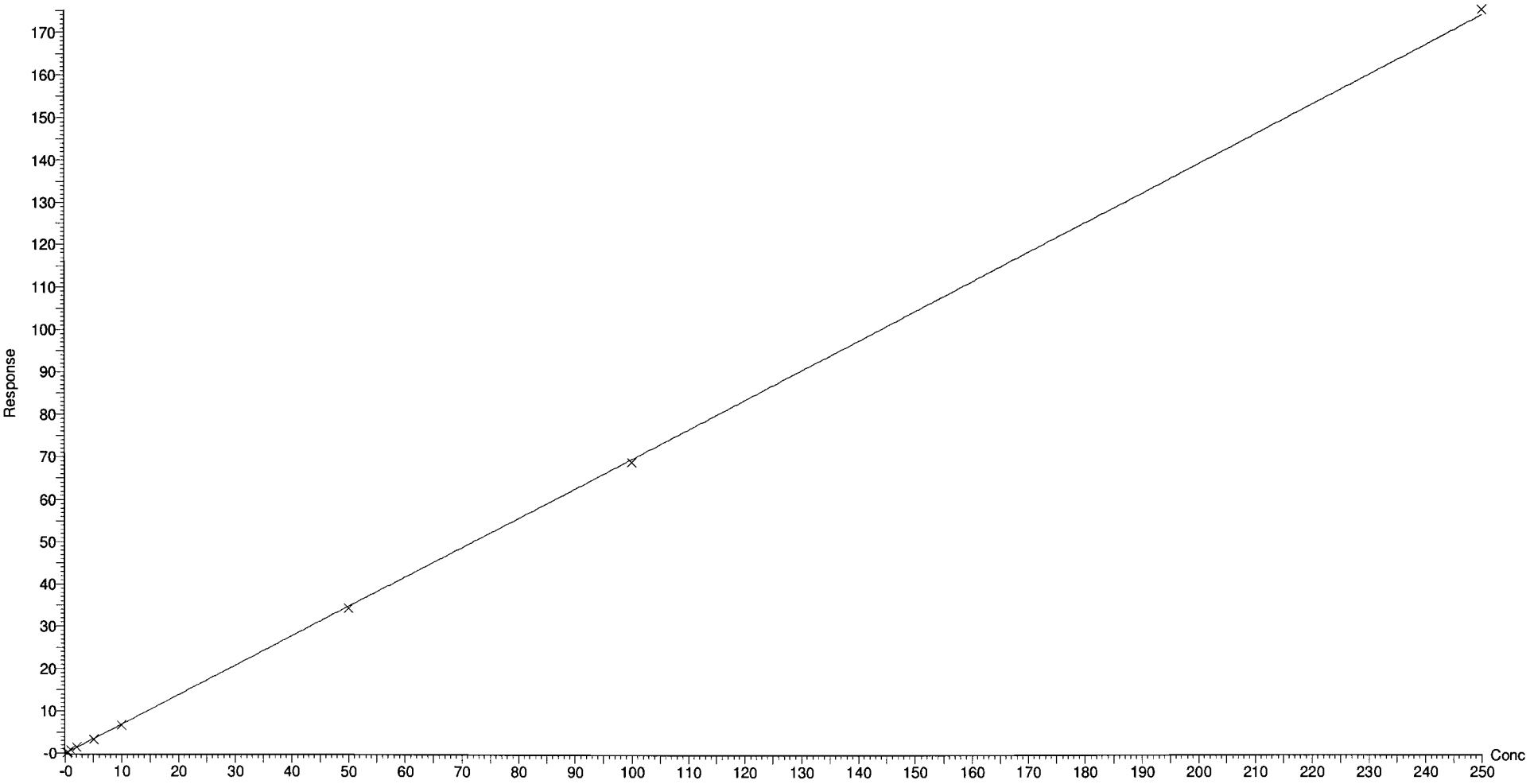
Compound name: PFBA
Correlation coefficient: r = 0.999867, r^2 = 0.999734
Calibration curve: 0.884505 * x + 0.030087
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

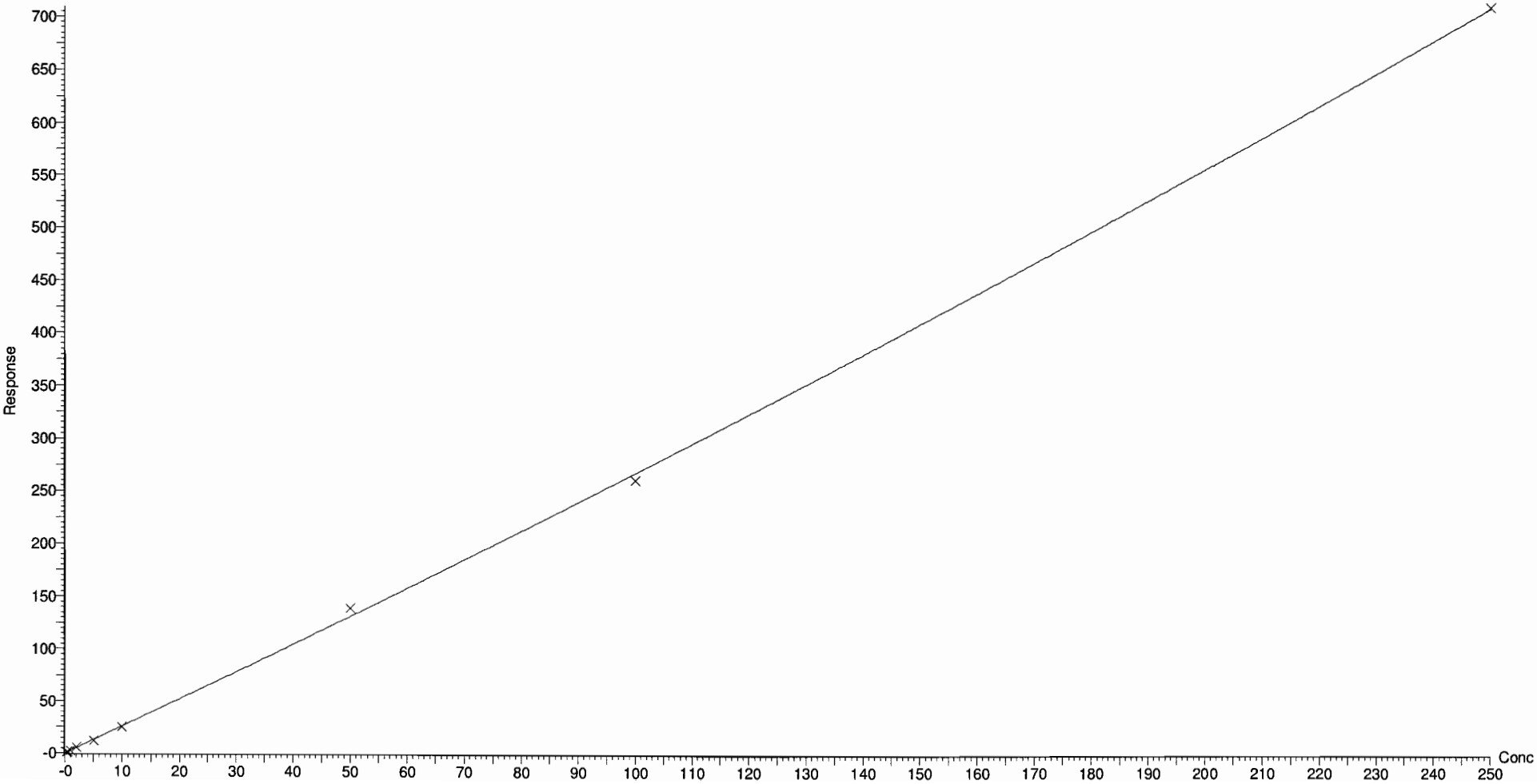
Compound name: PFPeA
Correlation coefficient: r = 0.999918, r^2 = 0.999836
Calibration curve: 0.696025 * x + -0.0393114
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.999286
Calibration curve: 0.00105391 * x^2 + 2.56933 * x + -0.0221787
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



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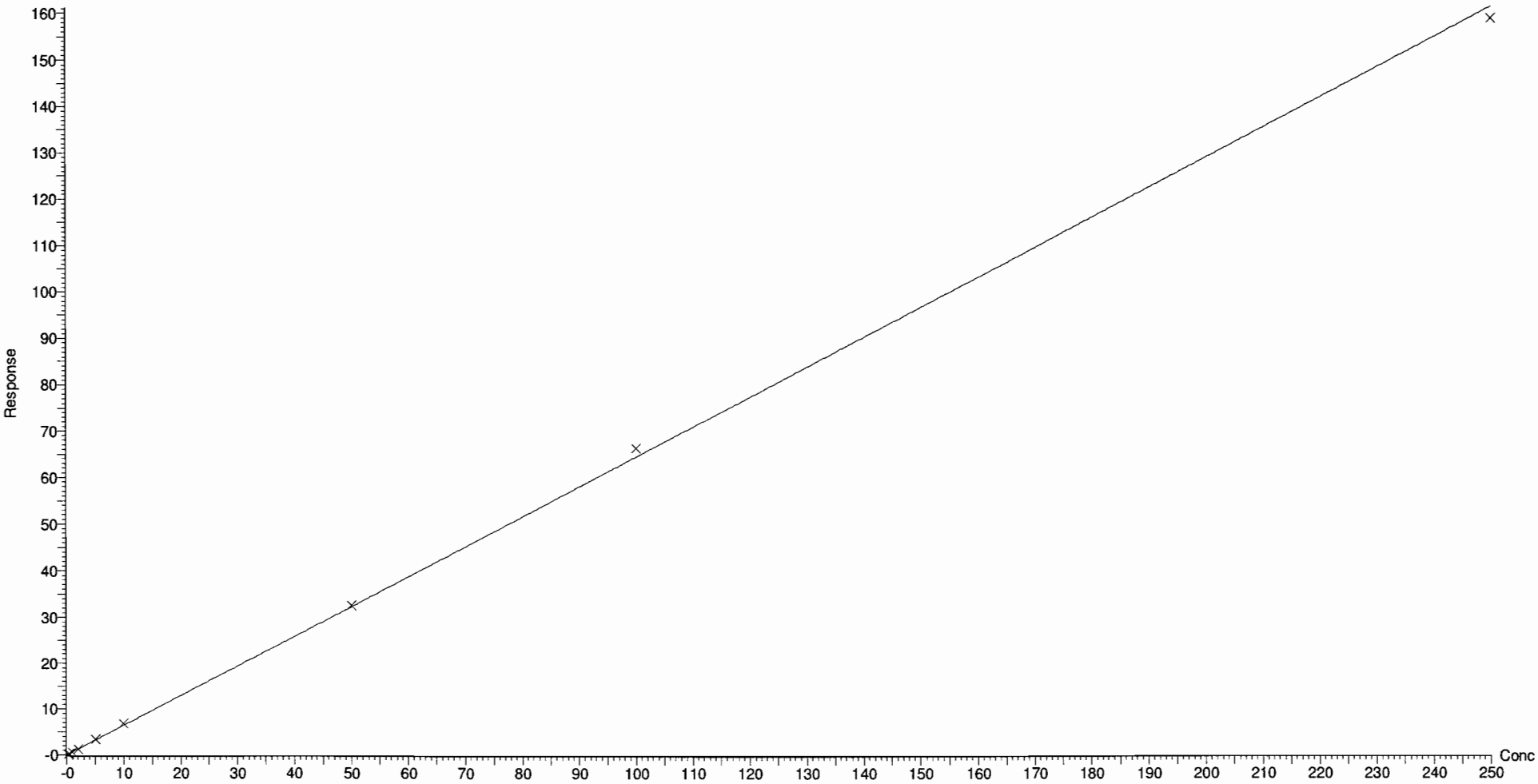
Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

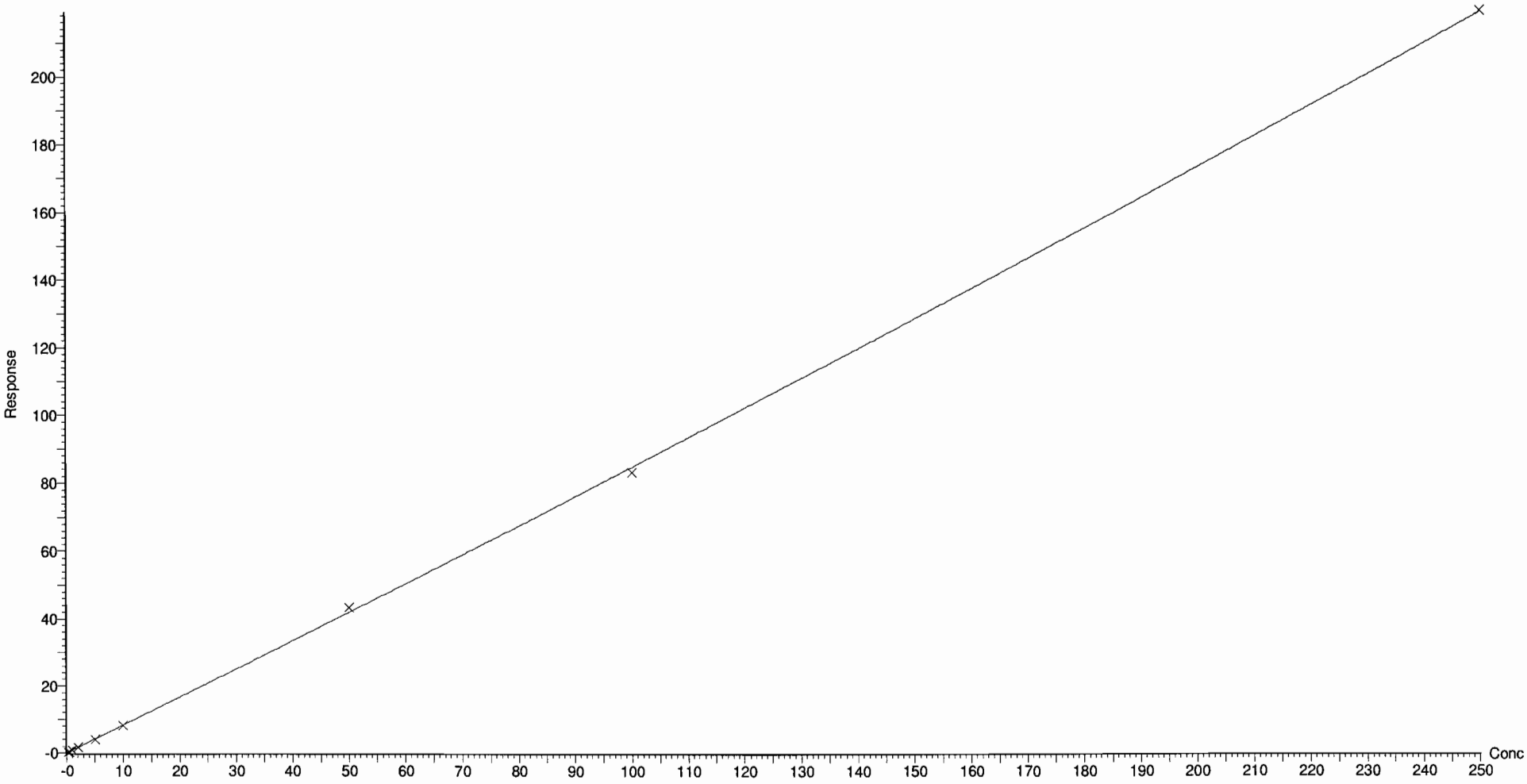
Compound name: PFHxA
Correlation coefficient: r = 0.999765, r^2 = 0.999531
Calibration curve: 0.644451 * x + 0.00270391
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999767
Calibration curve: 0.000181451 * x^2 + 0.829696 * x + 0.017997
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

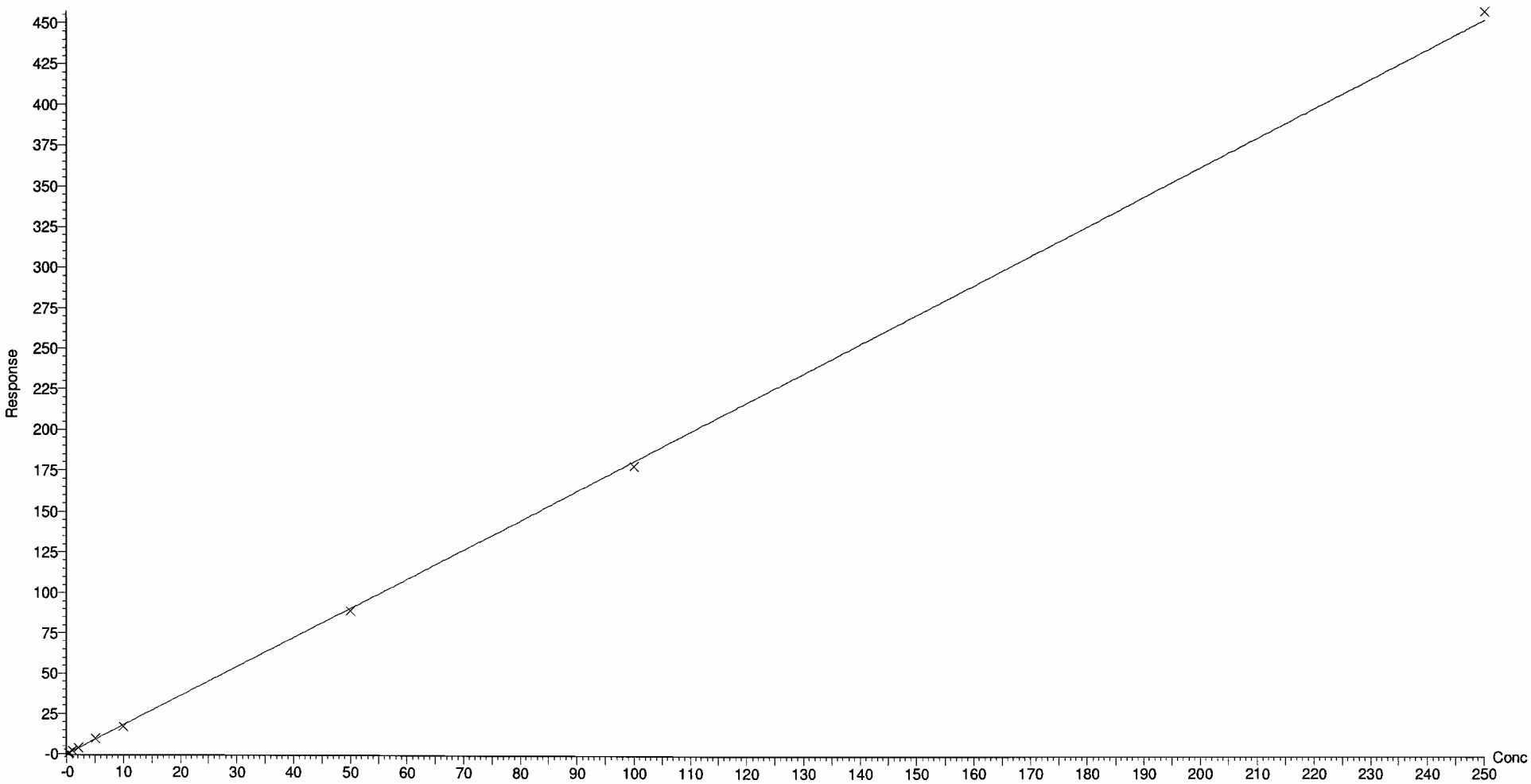


Vista Analytical Laboratory Q1

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

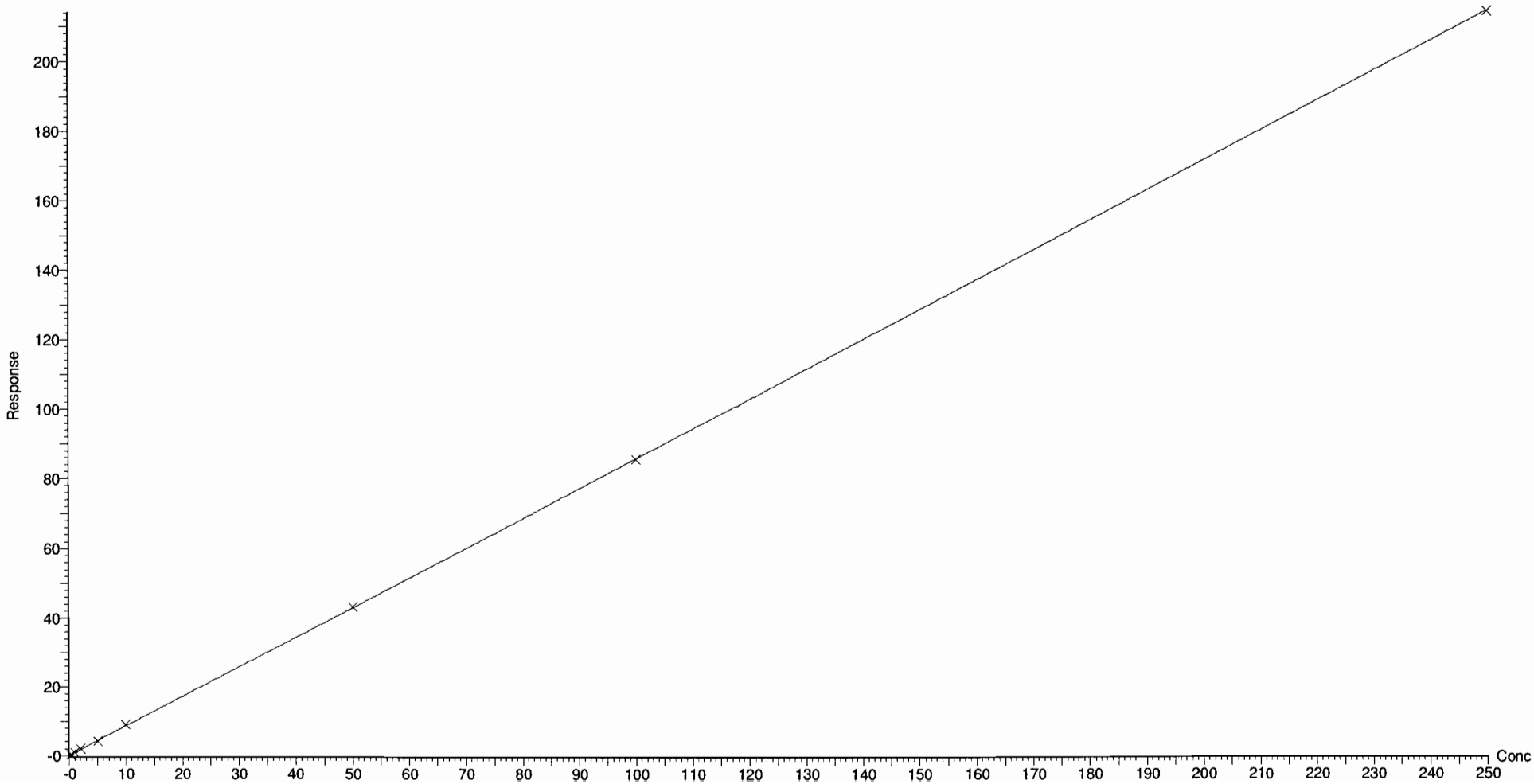
Compound name: PFHxS
Correlation coefficient: r = 0.999822, r^2 = 0.999644
Calibration curve: 1.80831 * x + 0.0298716
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

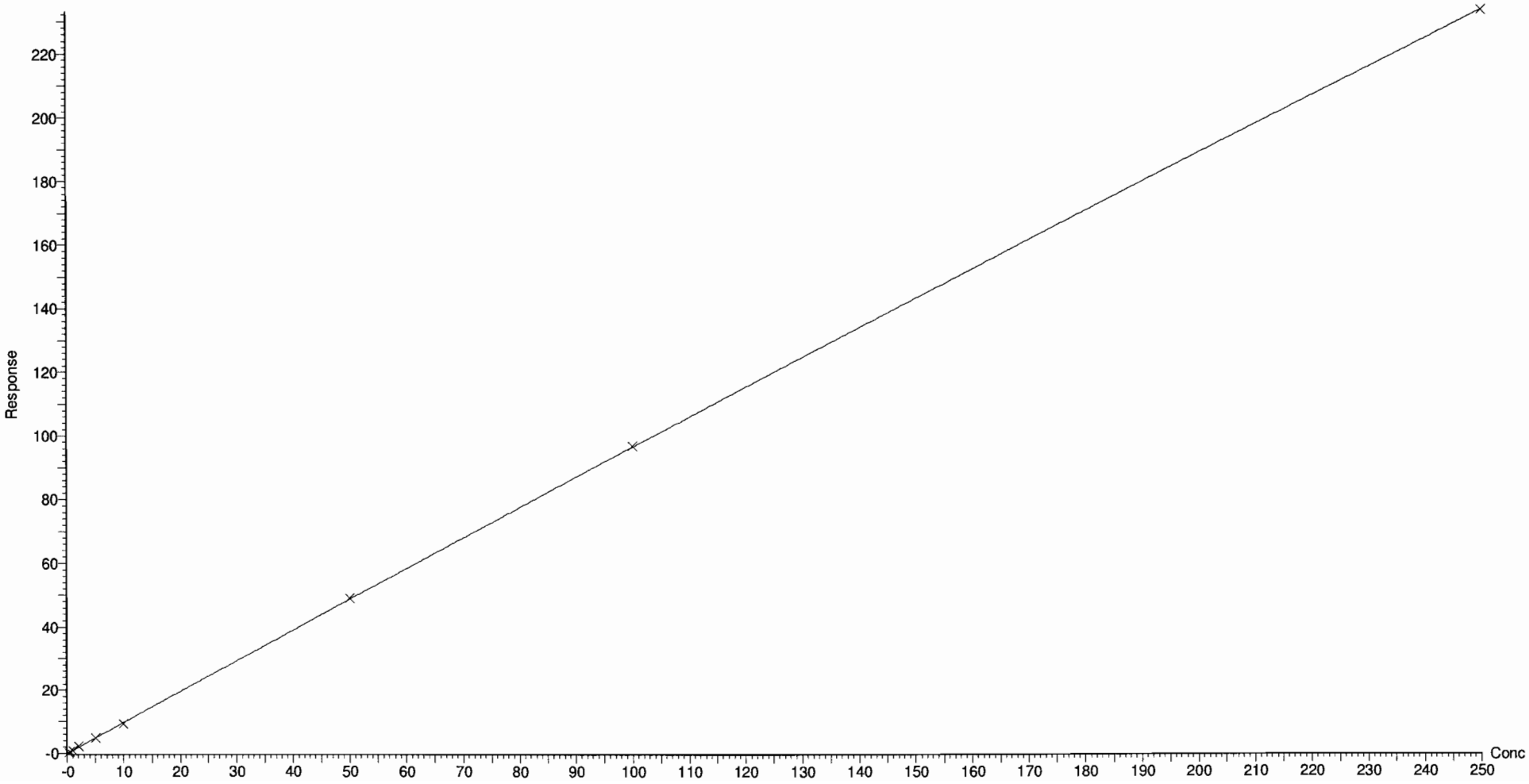
Compound name: L-PFOA
Correlation coefficient: r = 0.999849, r^2 = 0.999699
Calibration curve: 0.855949 * x + 0.139684
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

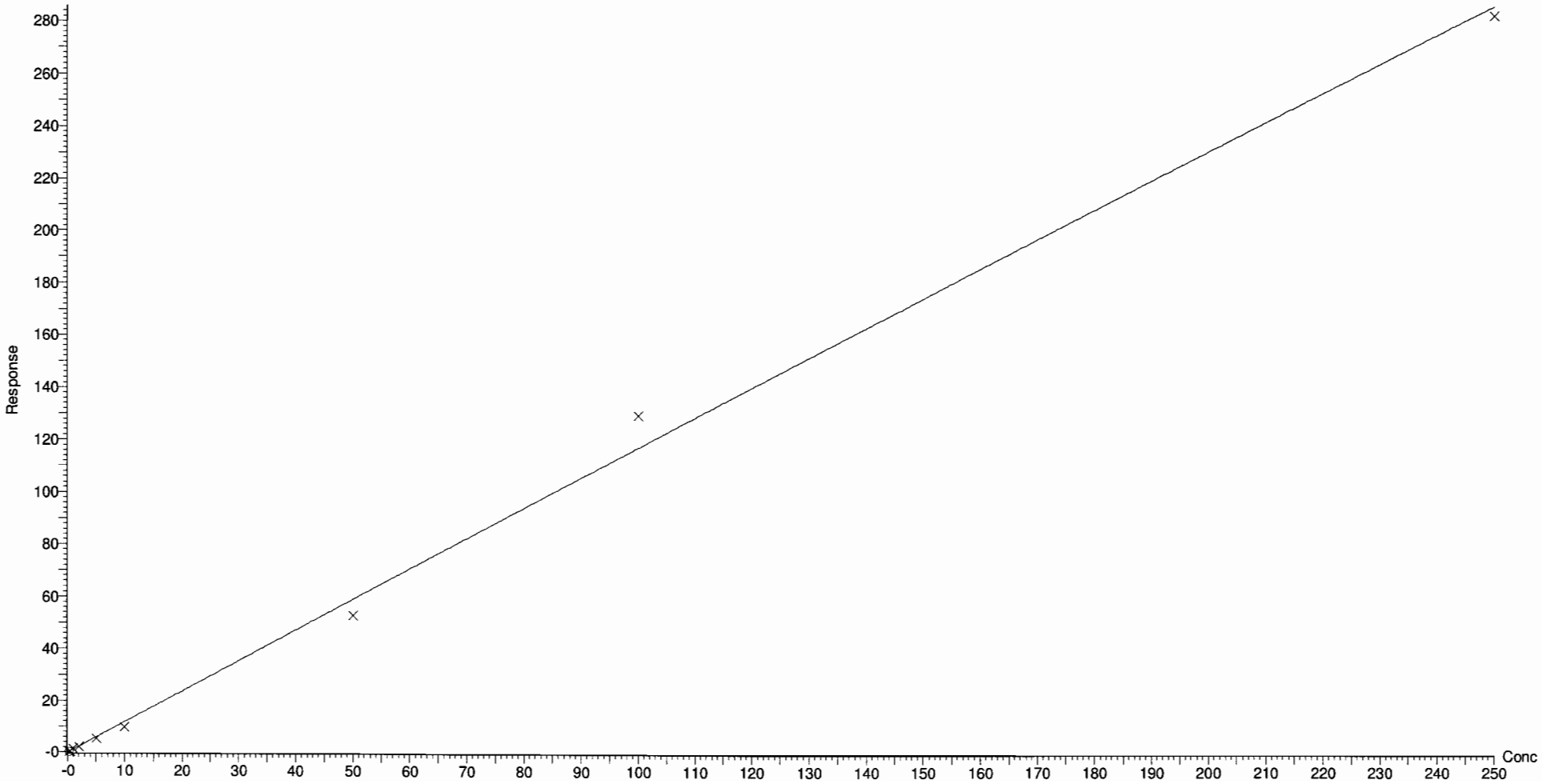
Compound name: PFNA
Coefficient of Determination: R^2 = 0.999859
Calibration curve: -0.000217856 * x^2 + 0.986983 * x + -0.0492866
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:44:50 Pacific Daylight Time

Compound name: PFOS
Coefficient of Determination: R^2 = 0.994760
Calibration curve: -0.000191443 * x^2 + 1.19174 * x + -0.161166
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

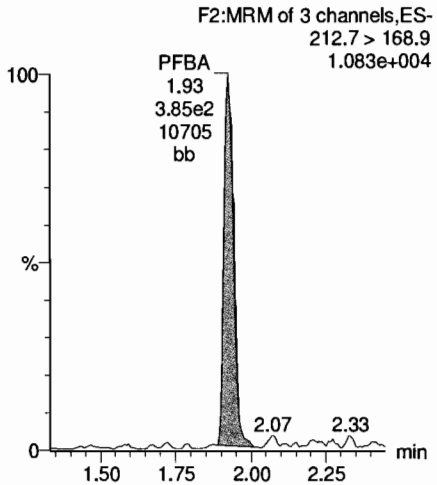
Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

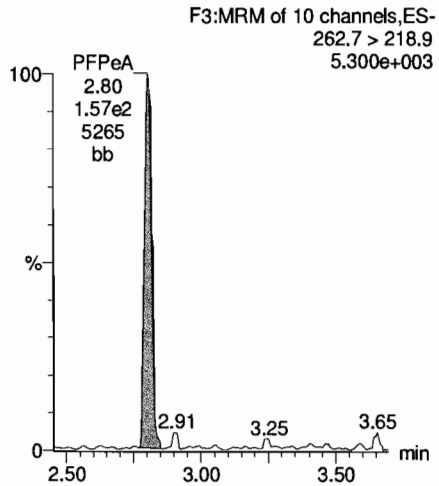
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-3, Date: 24-May-2018, Time: 11:01:34, ID: ST180524G1-1 PFC CS-2 18E2202, Description: PFC CS-2 18E2202

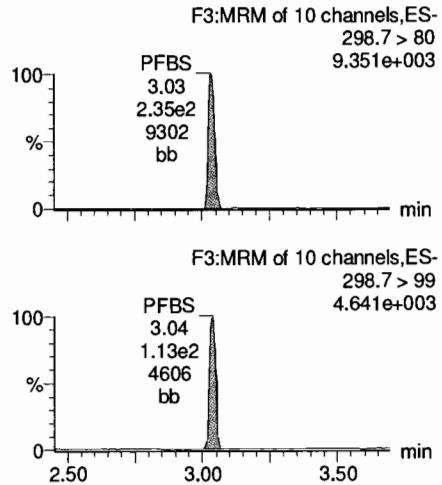
PFBA



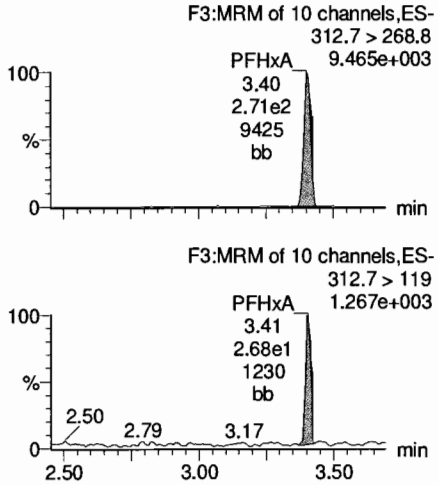
PFPeA



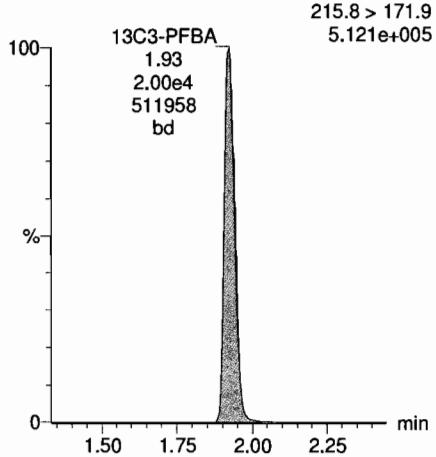
PFBS



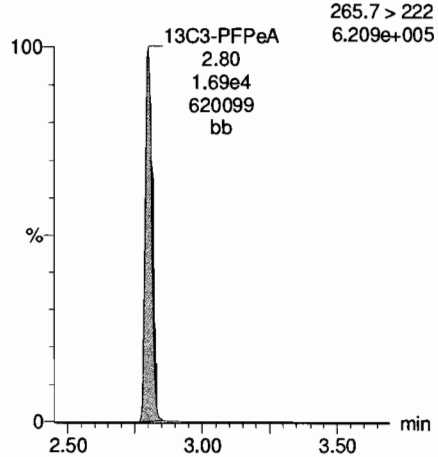
PFHxA



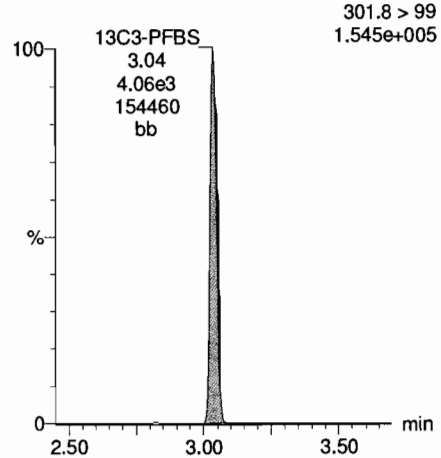
13C3-PFBA



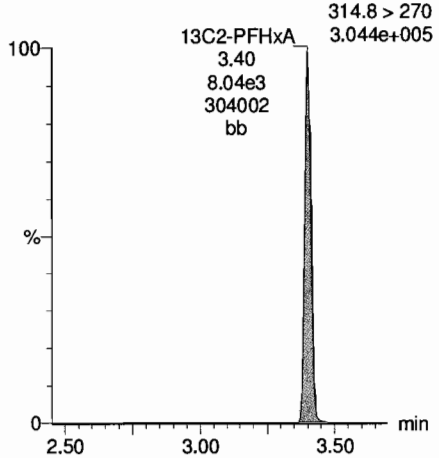
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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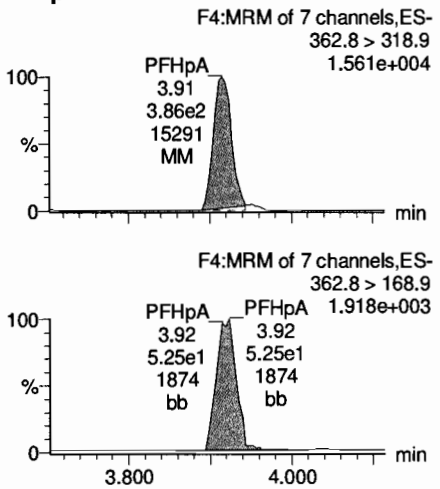
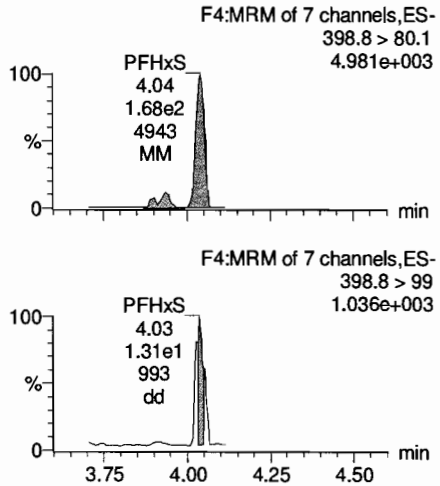
Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-3, Date: 24-May-2018, Time: 11:01:34, ID: ST180524G1-1 PFC CS-2 18E2202, Description: PFC CS-2 18E2202

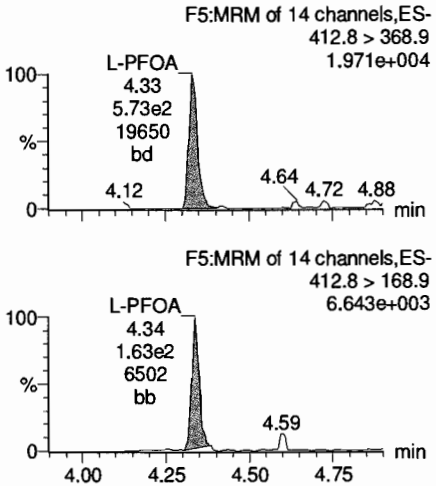
PFHpA



PFHxS



L-PFOA



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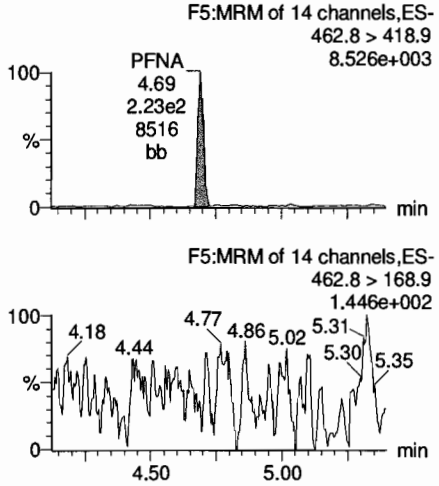
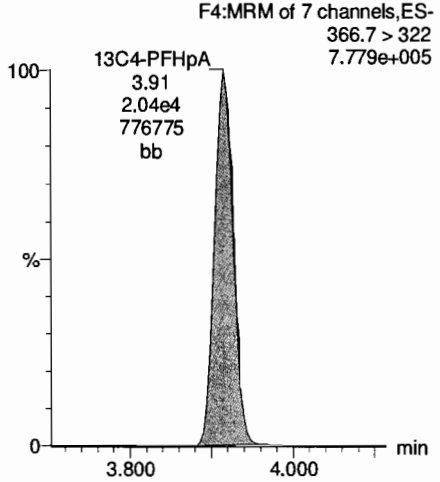
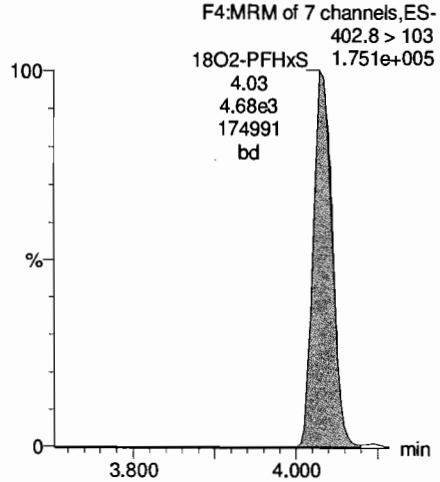


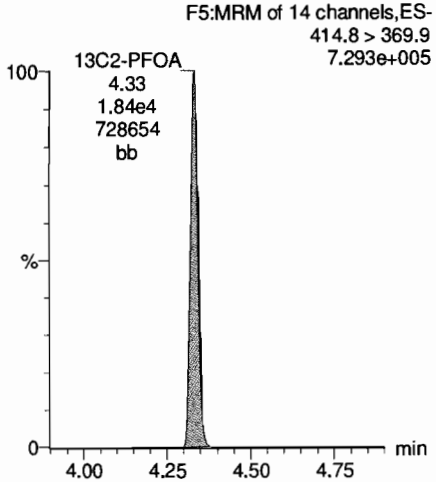
13C4-PFHpA



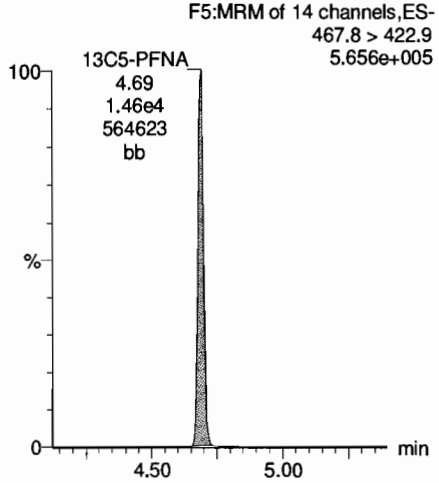
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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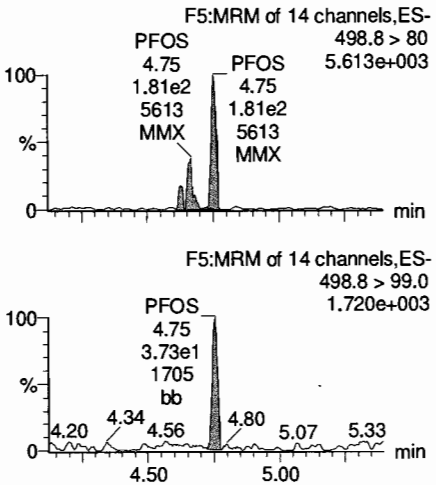
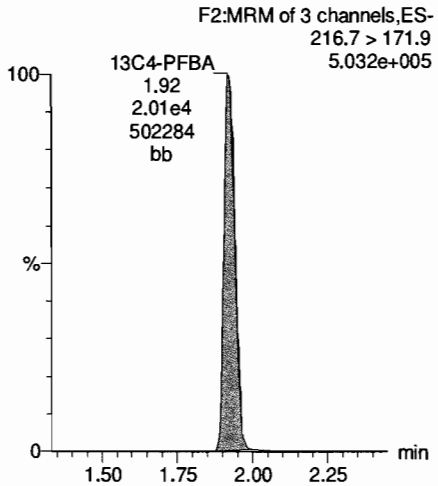
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-3, Date: 24-May-2018, Time: 11:01:34, ID: ST180524G1-1 PFC CS-2 18E2202, Description: PFC CS-2 18E2202

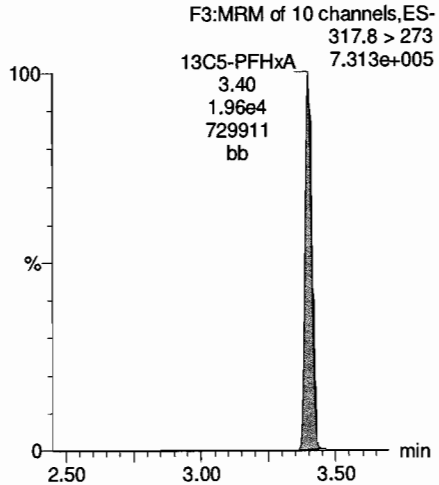
PFOS



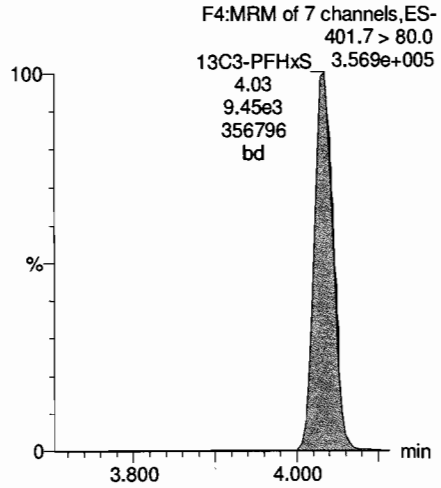
13C4-PFBA



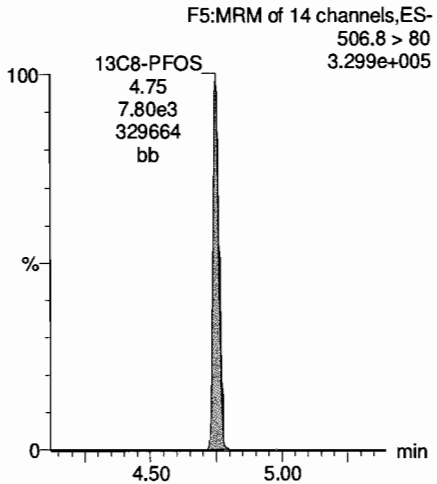
13C5-PFHxA



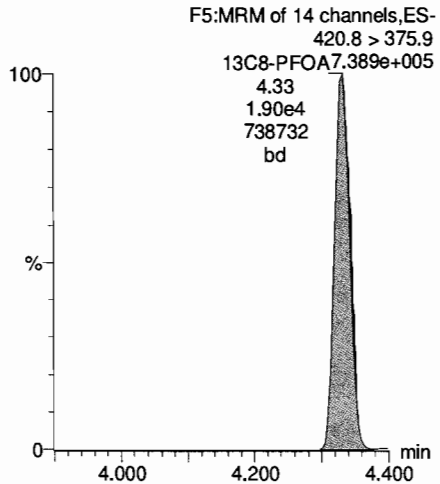
13C3-PFHxS



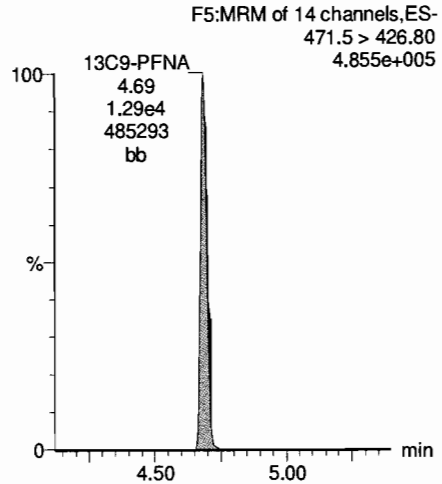
13C8-PFOS



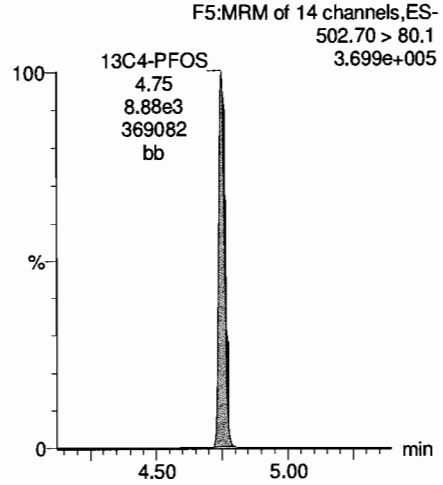
13C8-PFOA



13C9-PFNA



13C4-PFOS



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Name: 180524G1-4, Date: 24-May-2018, Time: 11:14:27, ID: ST180524G1-2 PFC CS-1 18E2203, Description: PFC CS-1 18E2203

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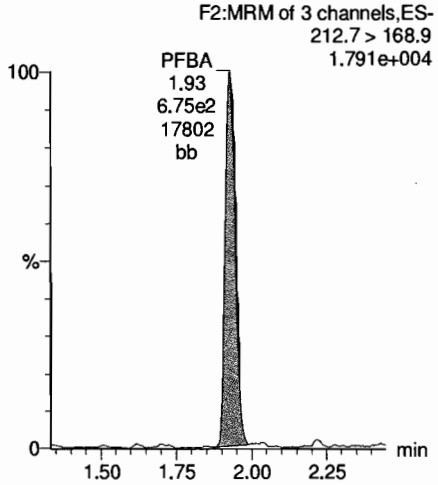

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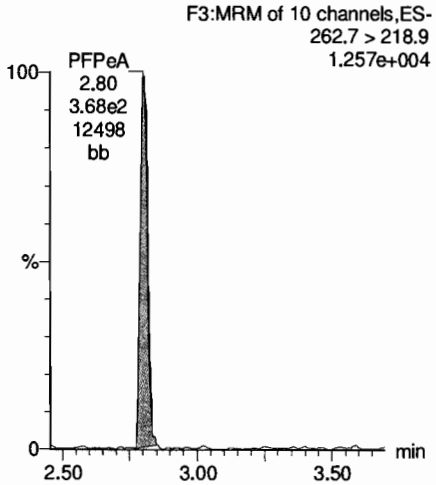

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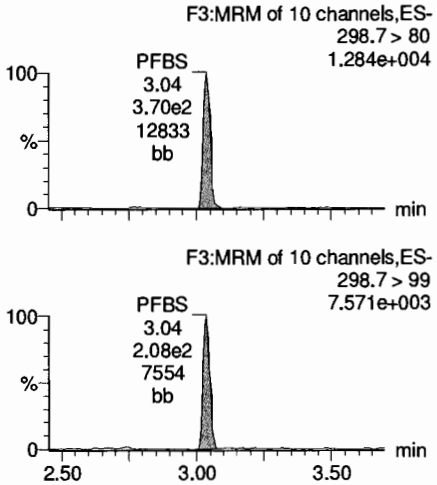
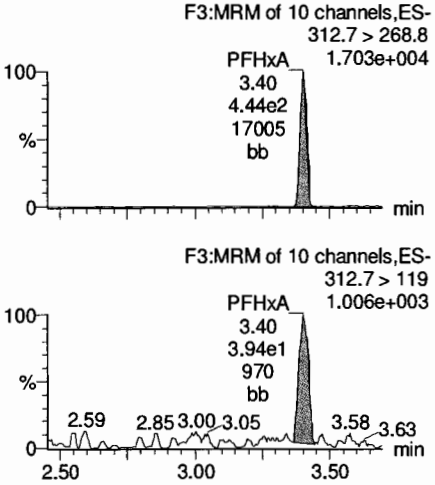
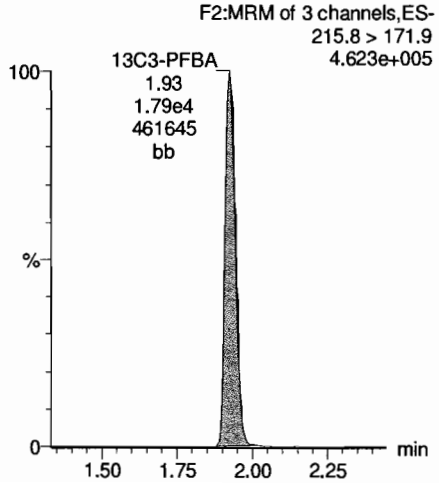


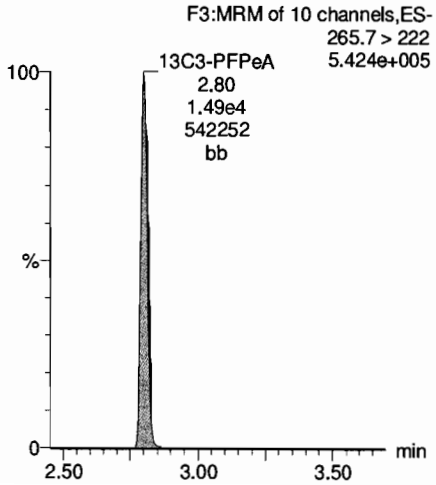
PFHxA



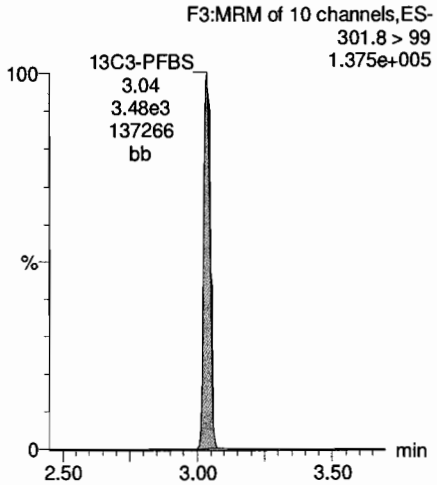
13C3-PFBA



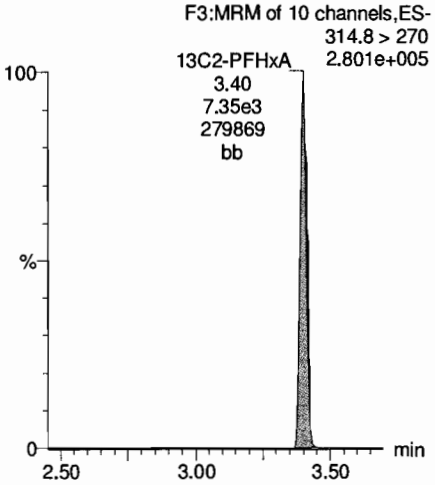
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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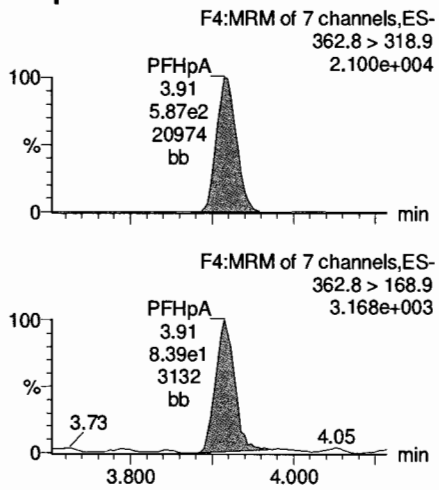
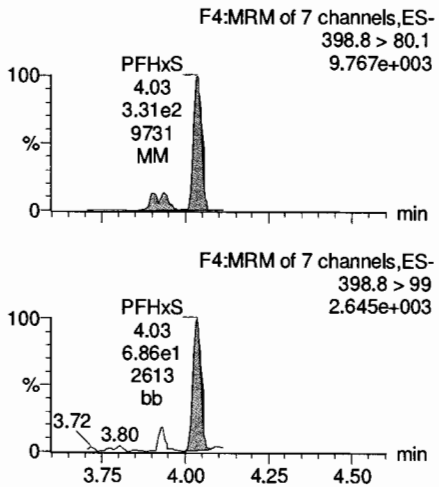
Name: 180524G1-4, Date: 24-May-2018, Time: 11:14:27, ID: ST180524G1-2 PFC CS-1 18E2203, Description: PFC CS-1 18E2203

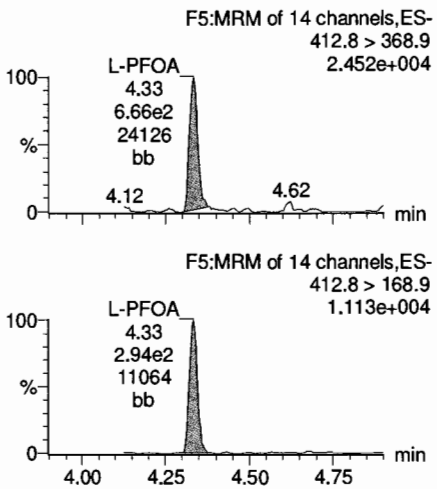
PFHpA



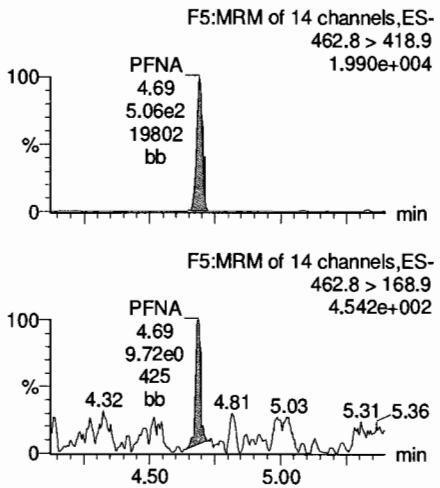
PFHxS



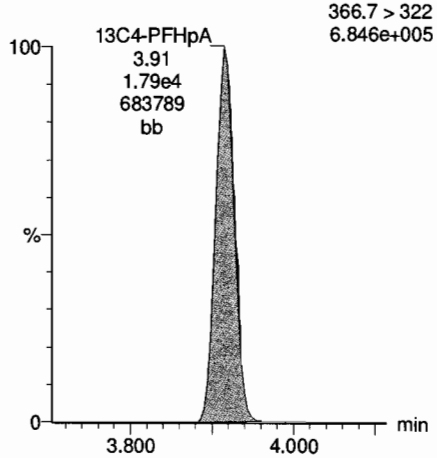
L-PFOA



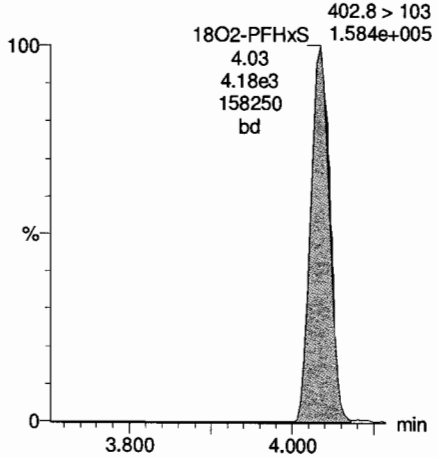
PFNA



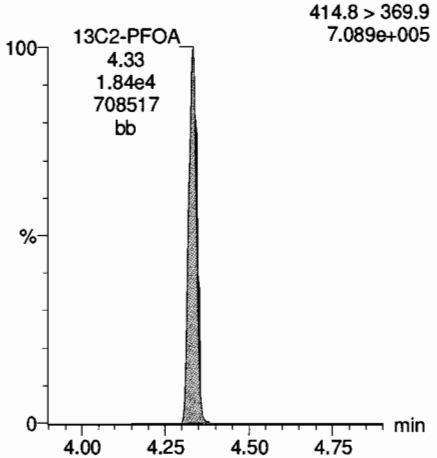
13C4-PFHpA



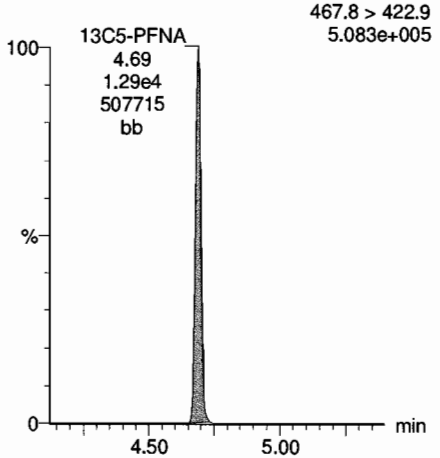
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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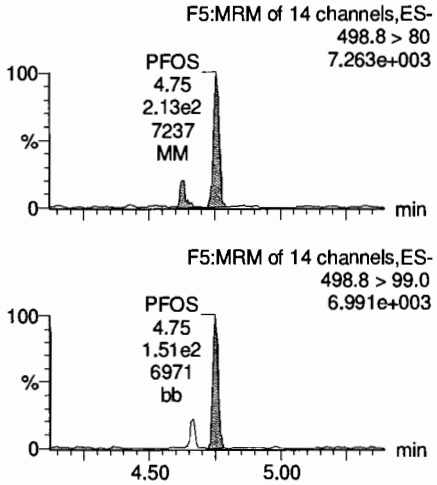
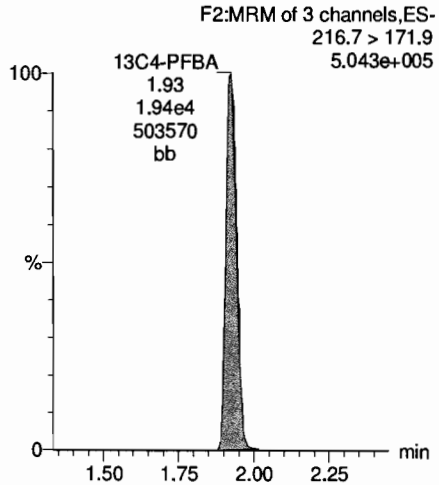
Name: 180524G1-4, Date: 24-May-2018, Time: 11:14:27, ID: ST180524G1-2 PFC CS-1 18E2203, Description: PFC CS-1 18E2203

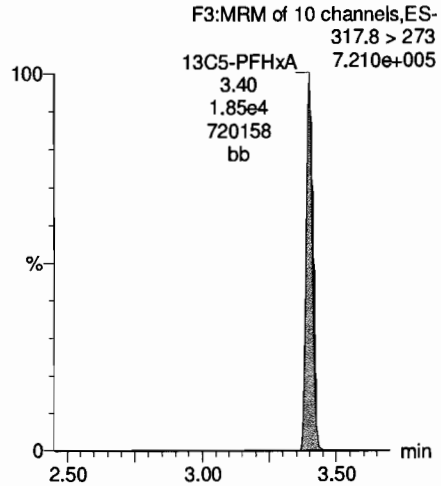
PFOS



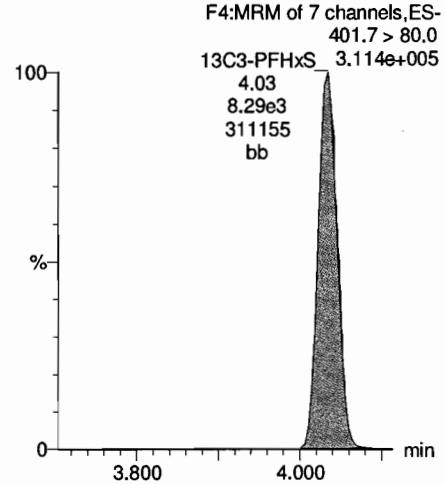
13C4-PFBA



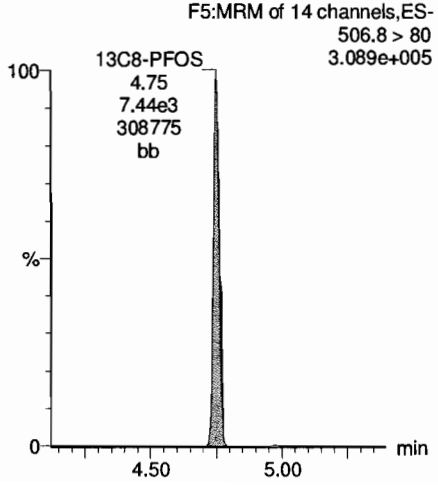
13C5-PFHxA



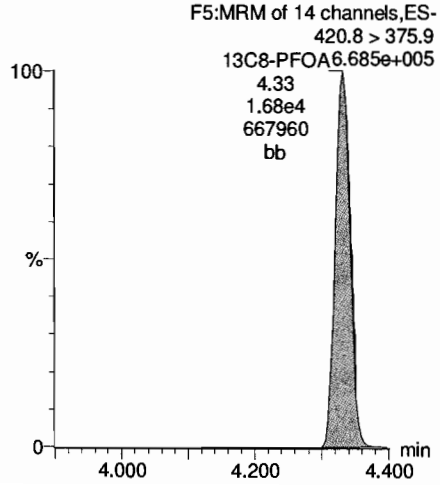
13C3-PFHxS



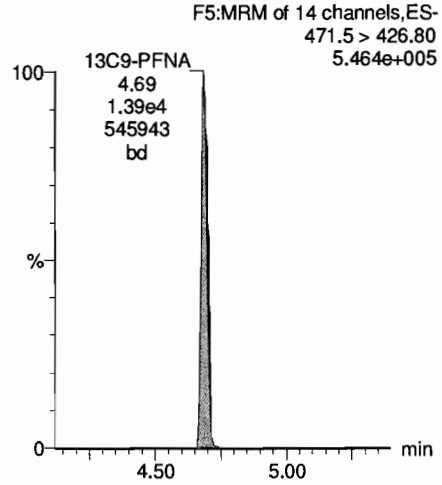
13C8-PFOS



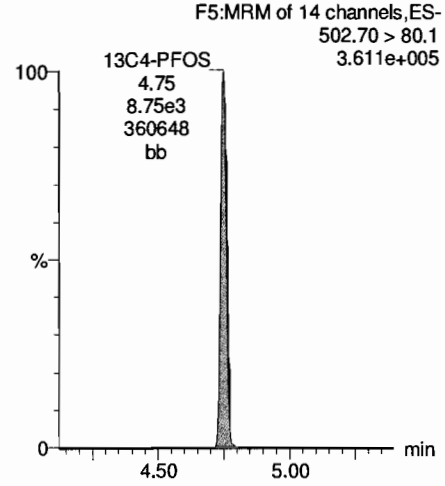
13C8-PFOA



13C9-PFNA



13C4-PFOS



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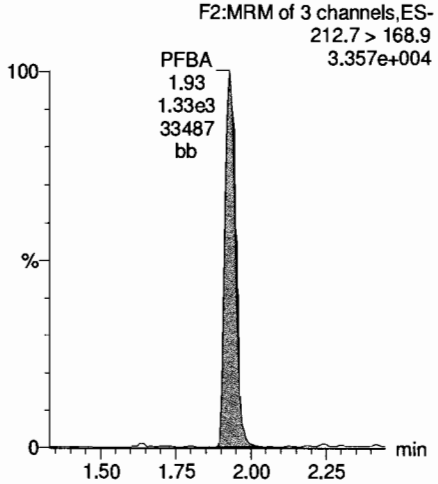
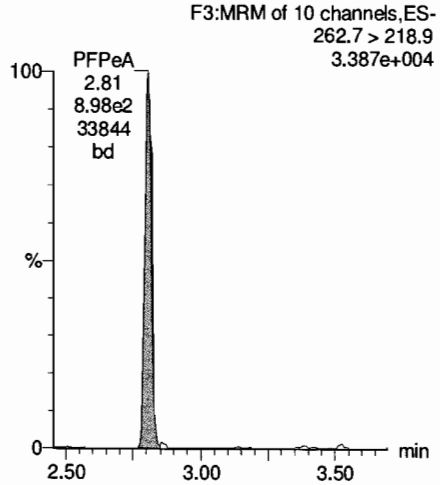
Name: 180524G1-5, Date: 24-May-2018, Time: 11:27:22, ID: ST180524G1-3 PFC CS0 18E2204, Description: PFC CS0 18E2204

PFBA



PFPeA



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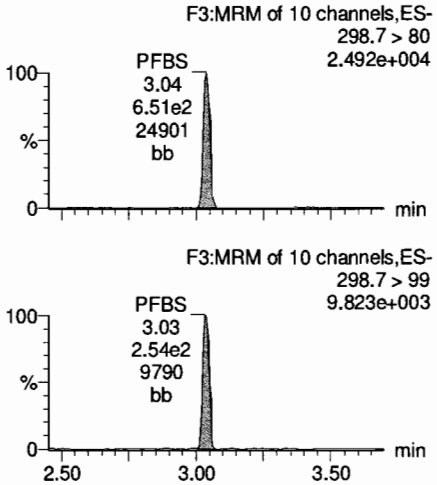
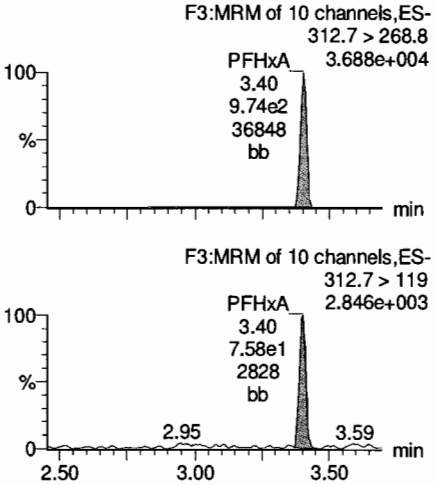
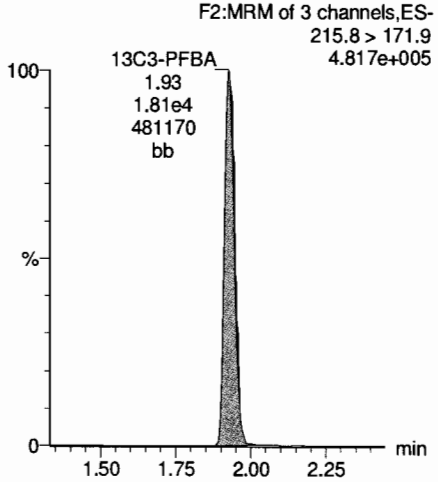


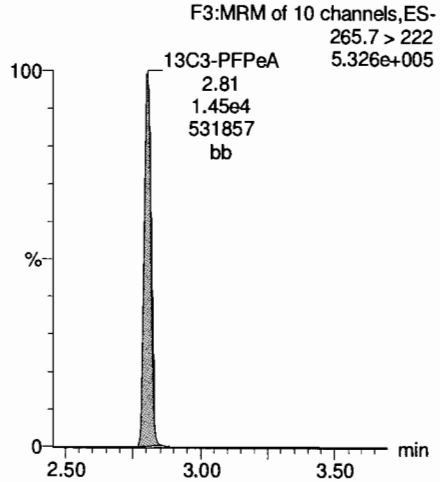
PFHxA



13C3-PFBA



13C3-PFPeA



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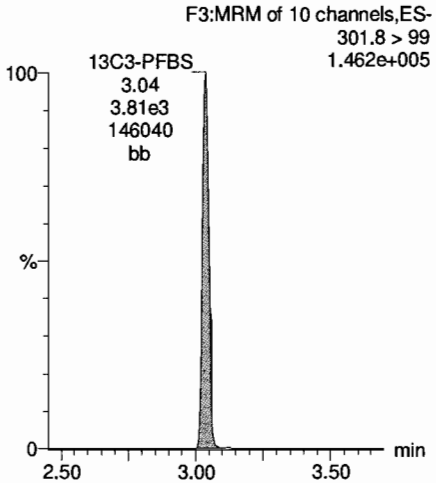
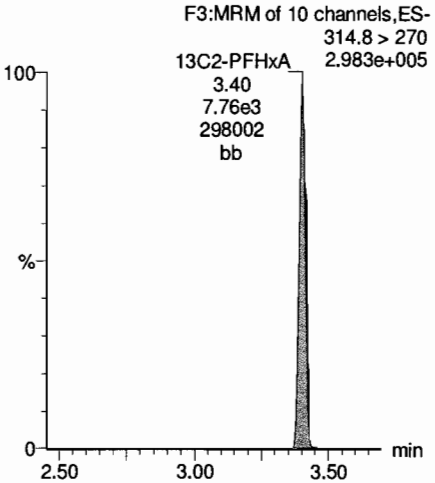


13C2-PFHxA



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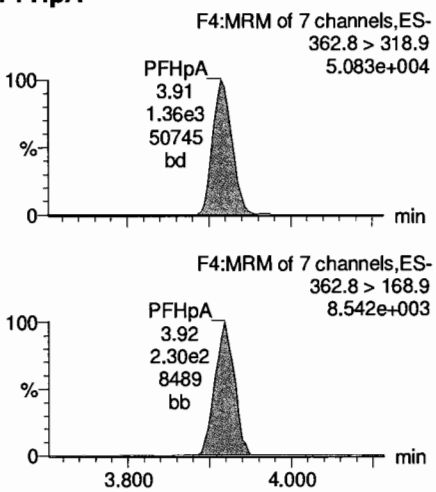
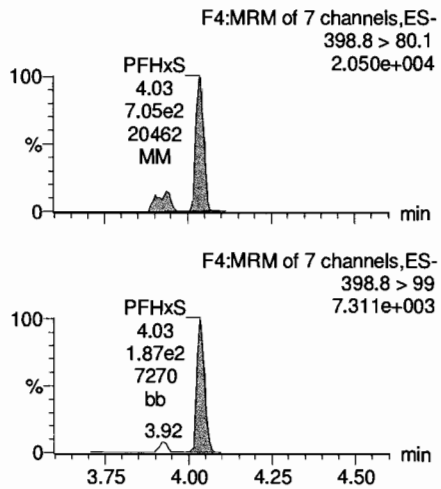
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-5, Date: 24-May-2018, Time: 11:27:22, ID: ST180524G1-3 PFC CS0 18E2204, Description: PFC CS0 18E2204

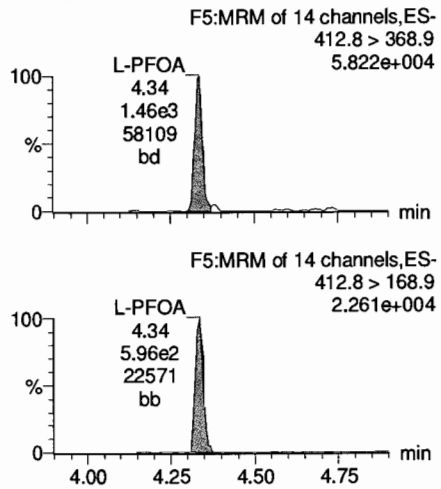
PFHpA



PFHxS



L-PFOA



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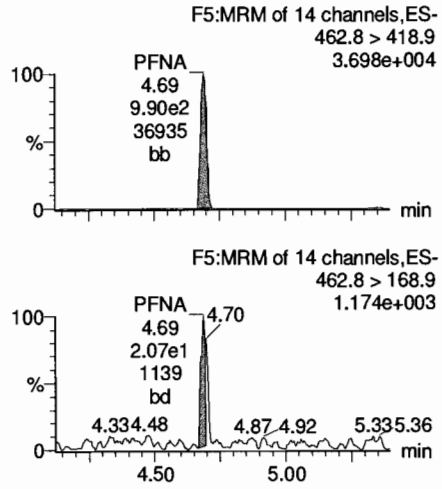

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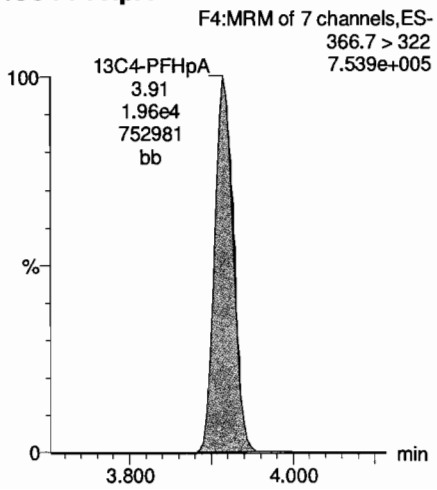
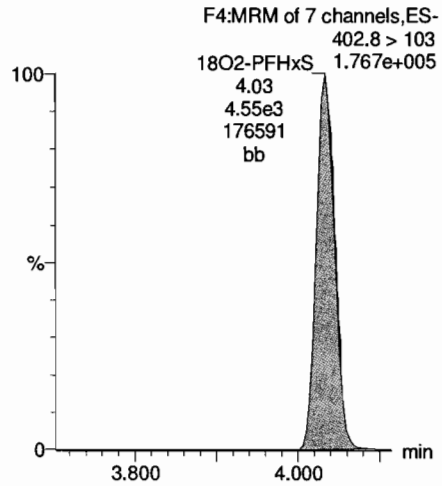
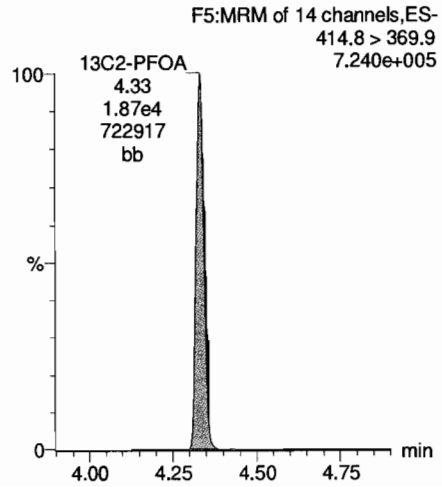


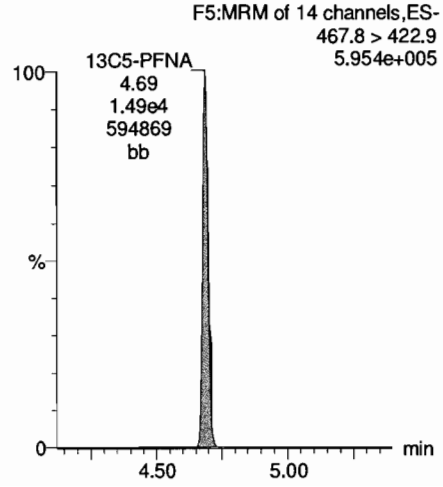
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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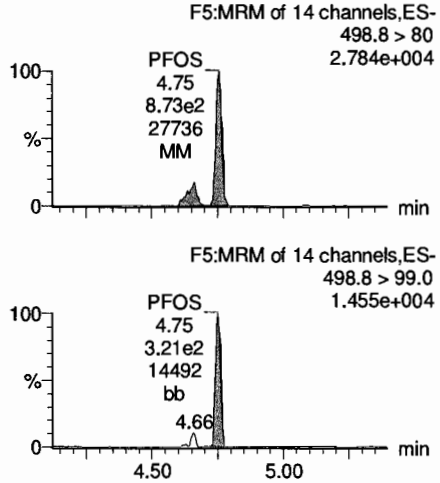
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-5, Date: 24-May-2018, Time: 11:27:22, ID: ST180524G1-3 PFC CS0 18E2204, Description: PFC CS0 18E2204

PFOS



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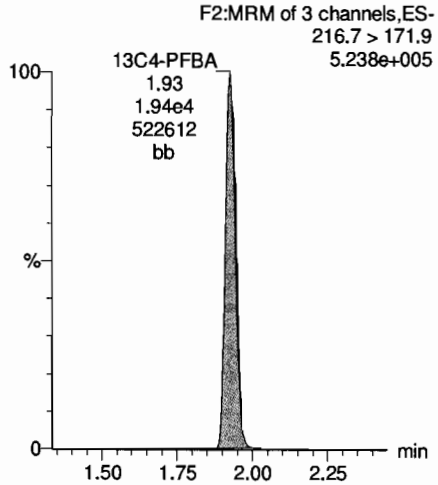
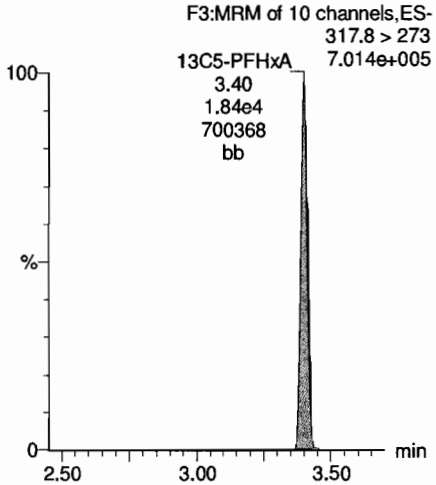
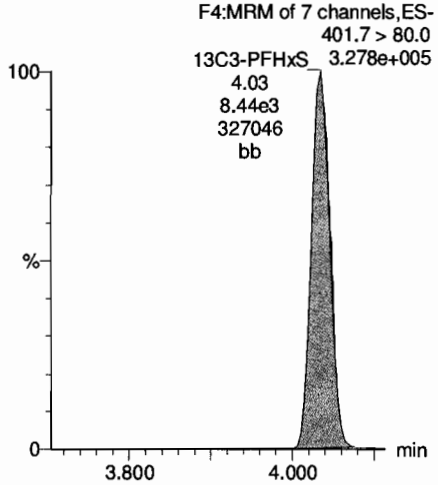


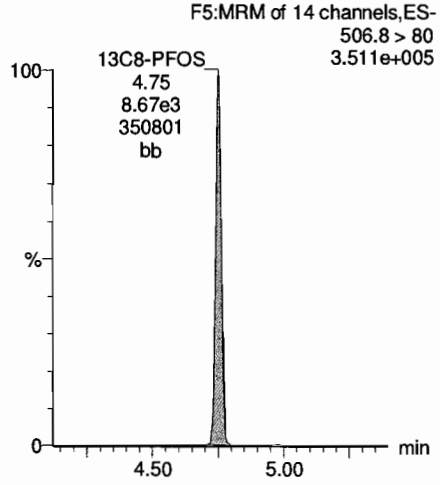
13C5-PFHxA



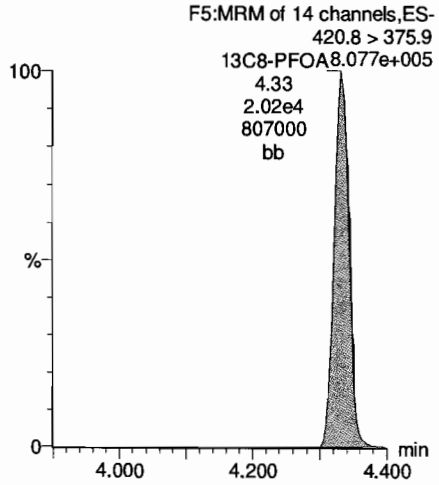
13C3-PFHxS



13C8-PFOS



13C8-PFOA



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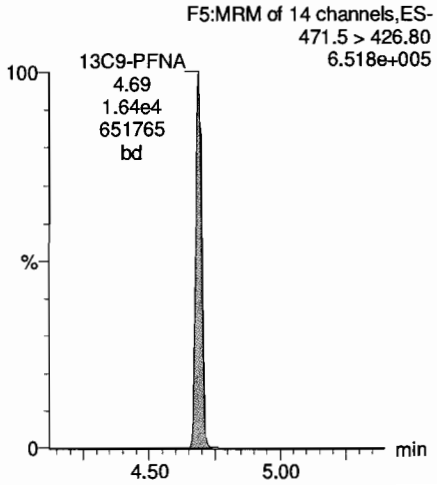
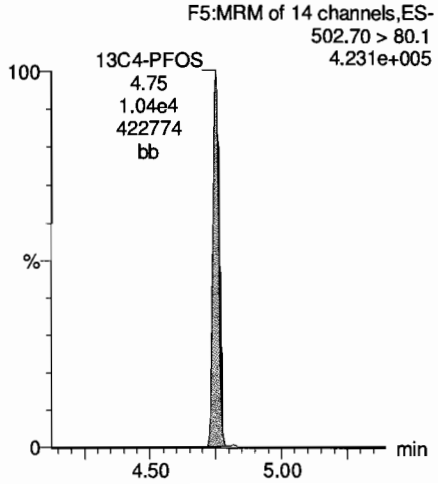


13C4-PFOS



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Name: 180524G1-6, Date: 24-May-2018, Time: 11:40:19, ID: ST180524G1-4 PFC CS1 18E2205, Description: PFC CS1 18E2205

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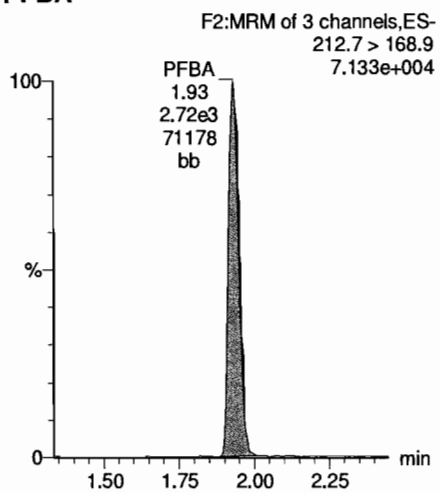

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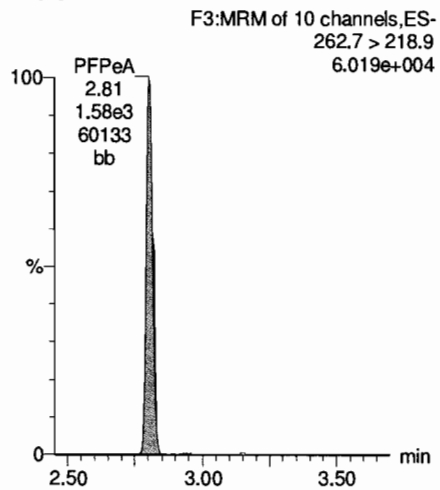

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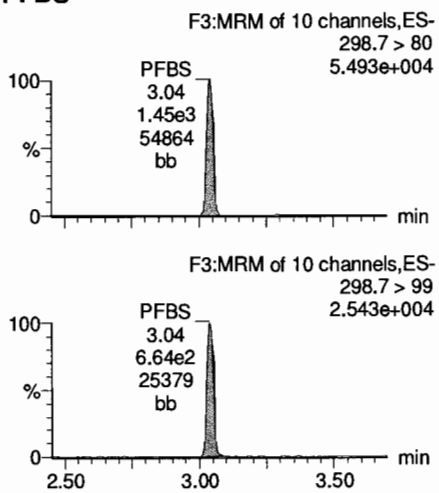

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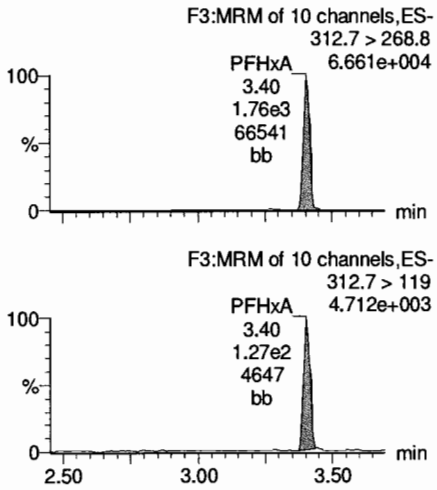
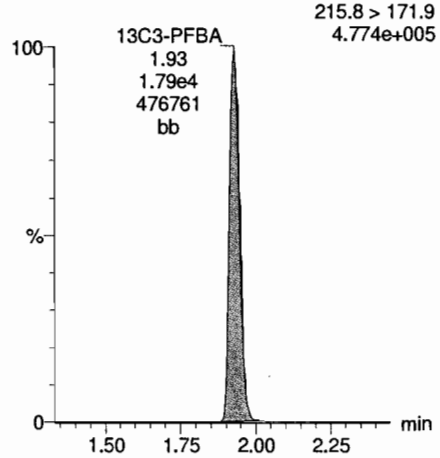


13C3-PFBA



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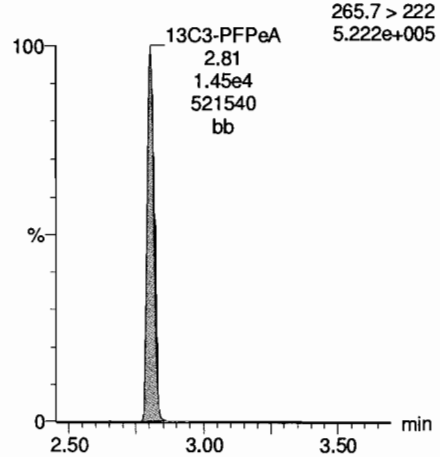

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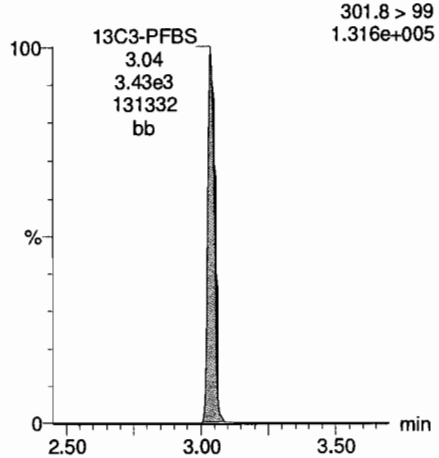
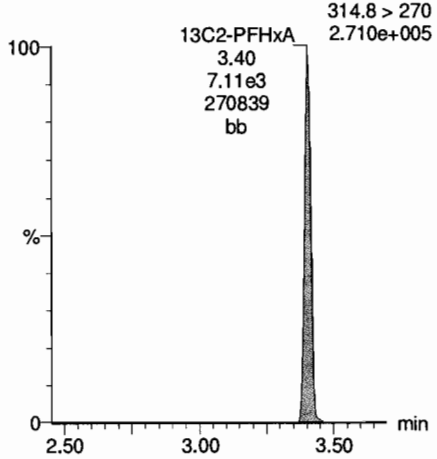


13C2-PFHxA



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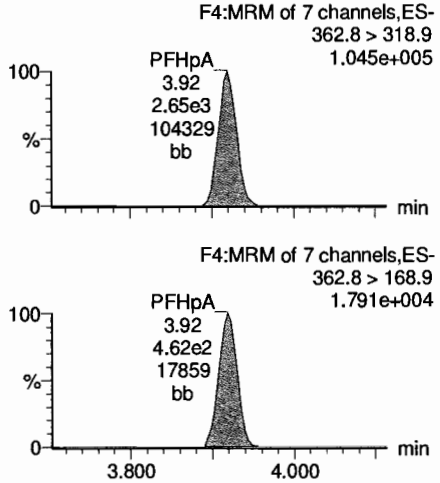
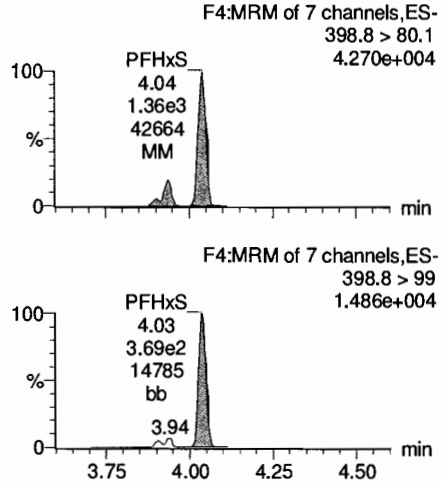
Name: 180524G1-6, Date: 24-May-2018, Time: 11:40:19, ID: ST180524G1-4 PFC CS1 18E2205, Description: PFC CS1 18E2205

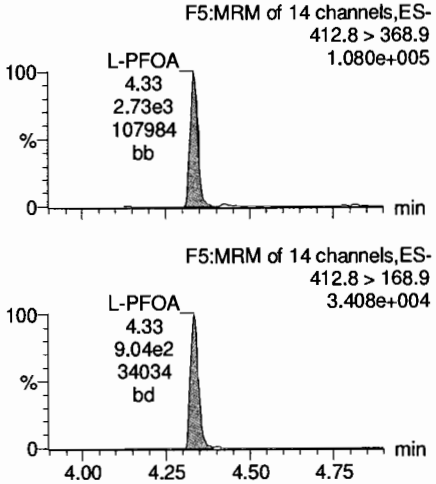
PFHpA



PFHxS



L-PFOA



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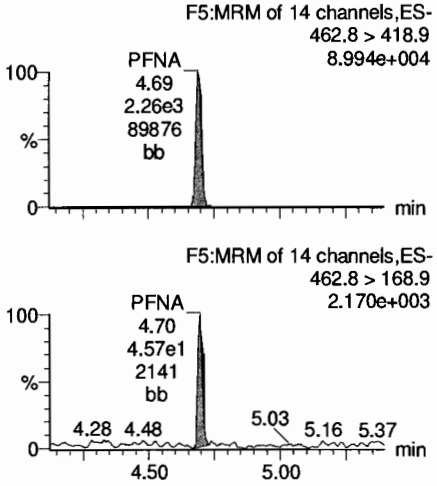
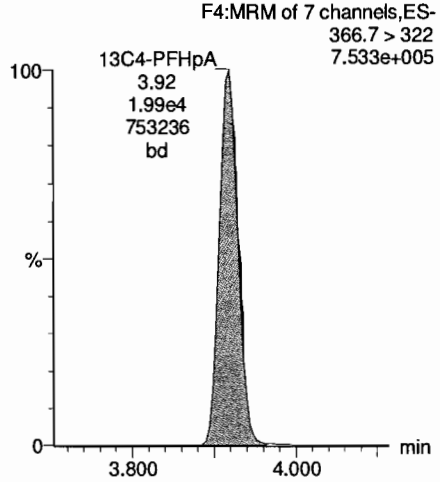
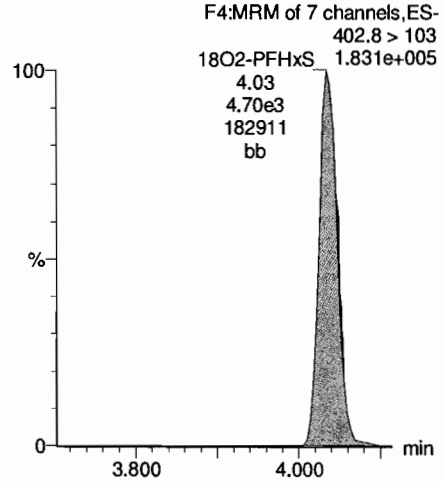


13C4-PFHpA



18O2-PFHxS



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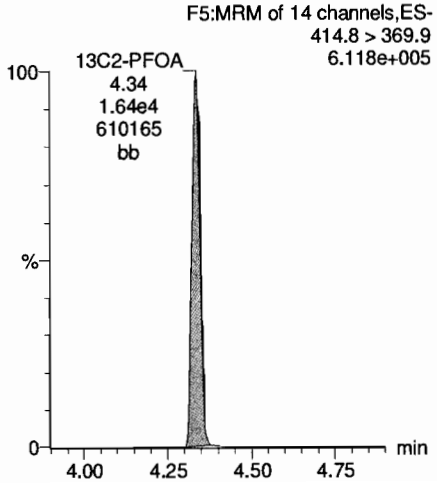
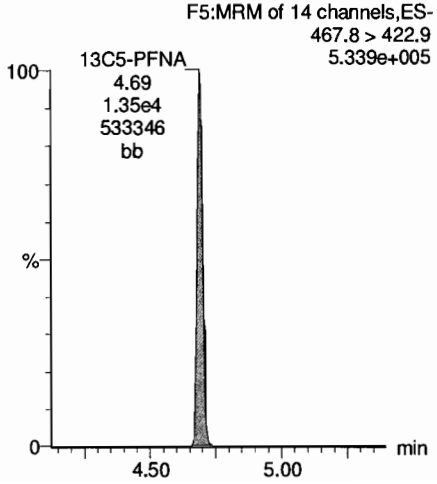


13C5-PFNA



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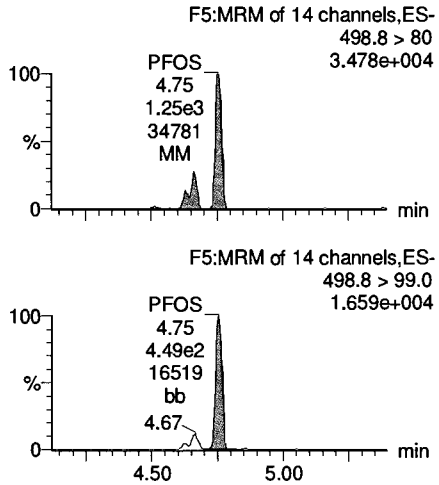
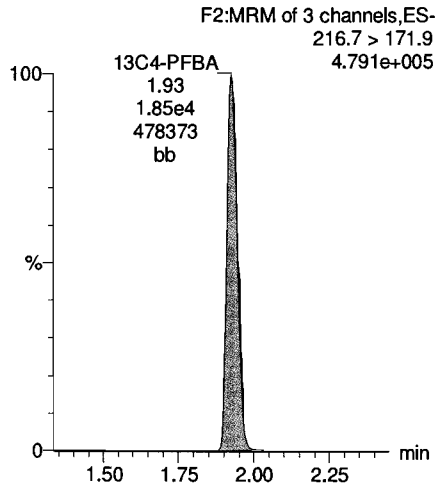
Name: 180524G1-6, Date: 24-May-2018, Time: 11:40:19, ID: ST180524G1-4 PFC CS1 18E2205, Description: PFC CS1 18E2205

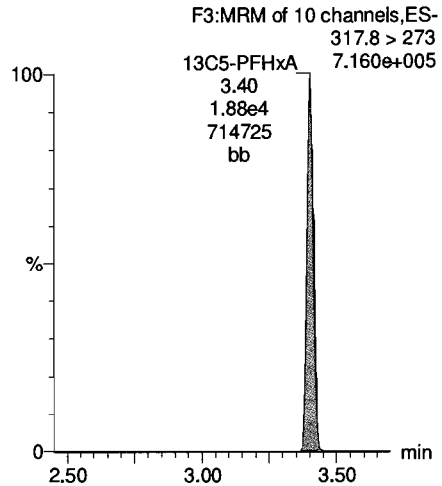
PFOS



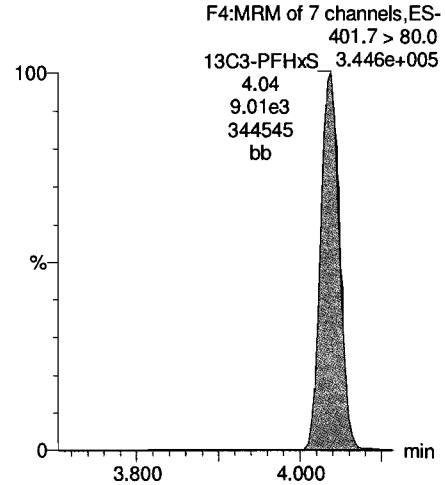
13C4-PFBA



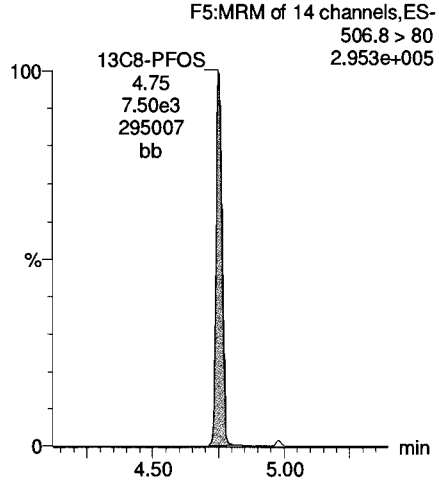
13C5-PFHxA



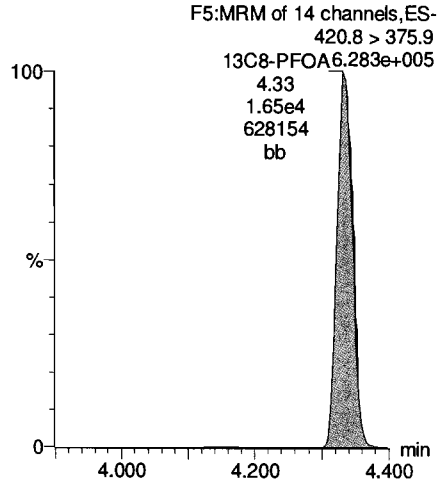
13C3-PFHxS



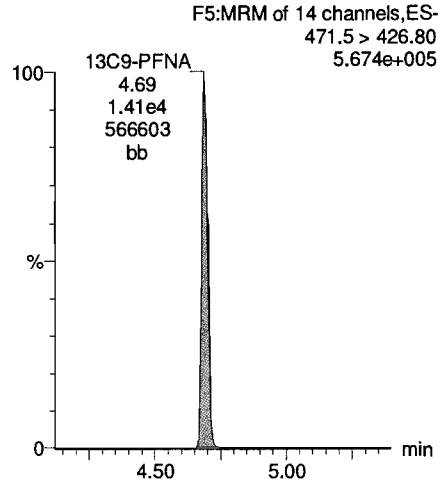
13C8-PFOS



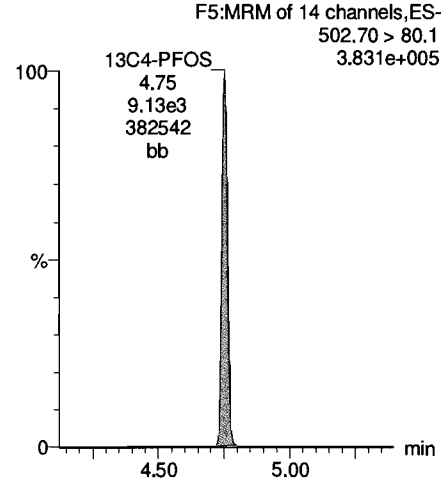
13C8-PFOA



13C9-PFNA



13C4-PFOS



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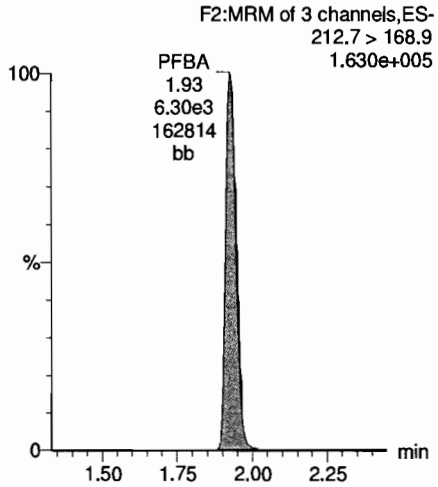
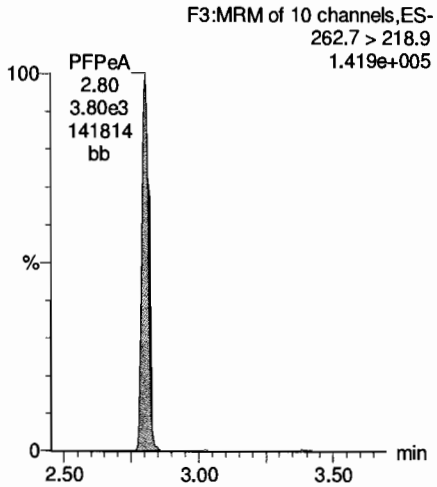
Name: 180524G1-7, Date: 24-May-2018, Time: 11:53:18, ID: ST180524G1-5 PFC CS2 18E2206, Description: PFC CS2 18E2206

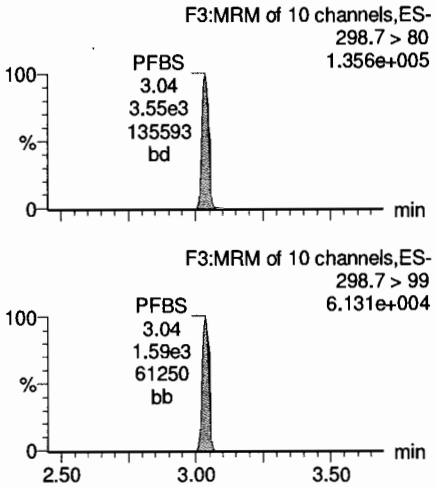
PFBA



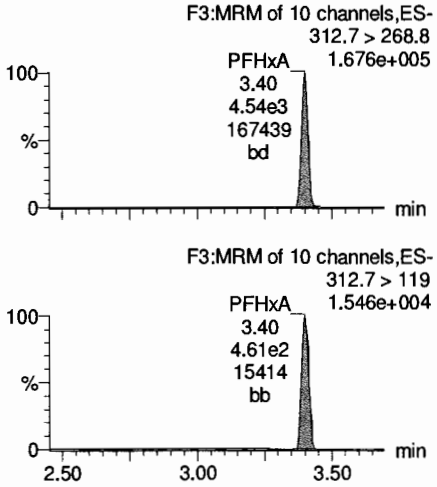
PFPeA



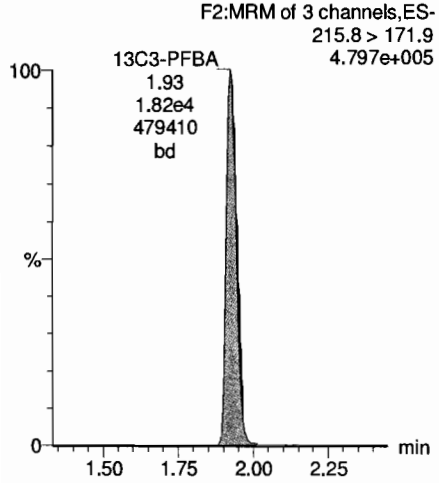
PFBS



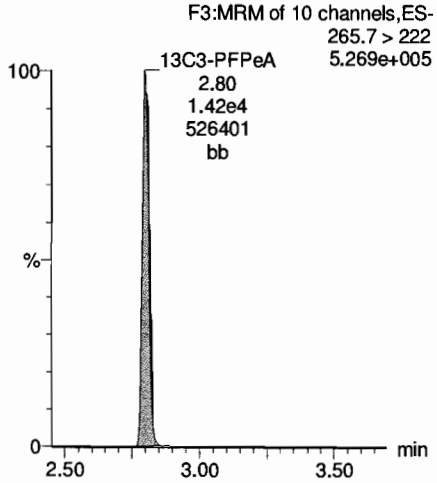
PFHxA



13C3-PFBA



13C3-PFPeA



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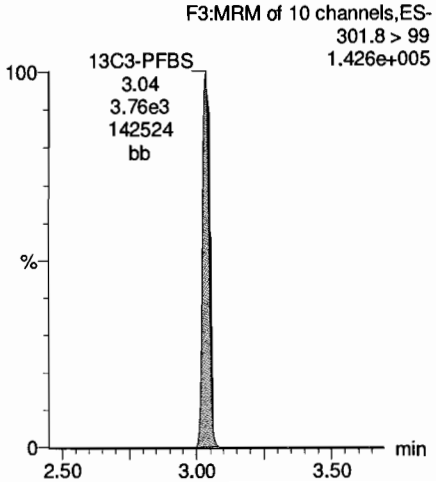
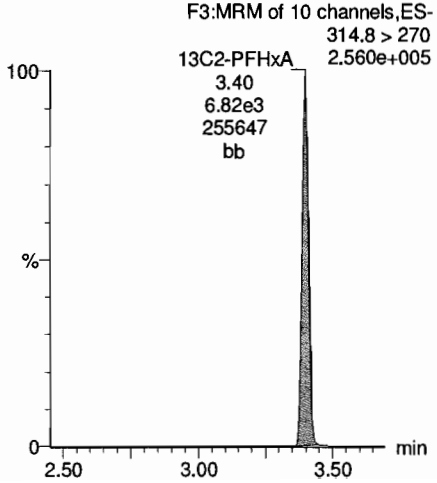


13C2-PFHxA



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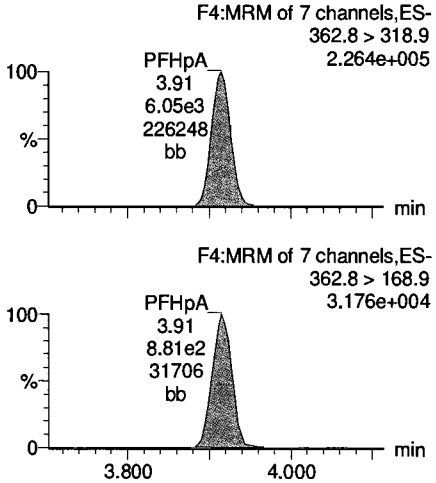
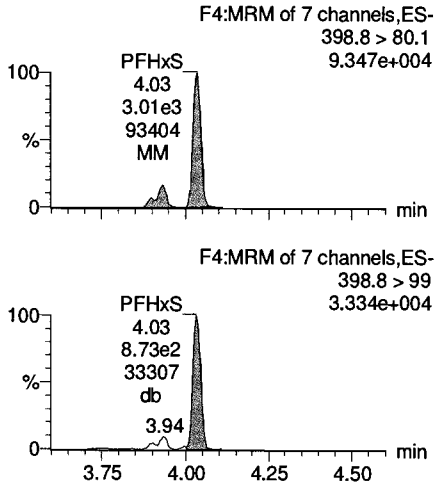
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-7, Date: 24-May-2018, Time: 11:53:18, ID: ST180524G1-5 PFC CS2 18E2206, Description: PFC CS2 18E2206

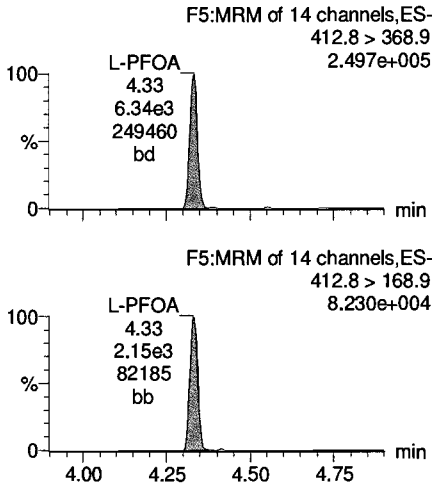
PFHpA



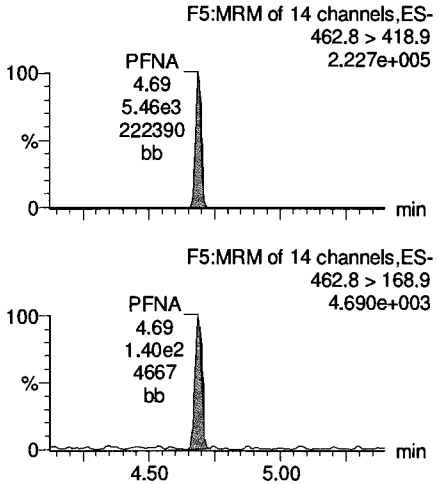
PFHxS



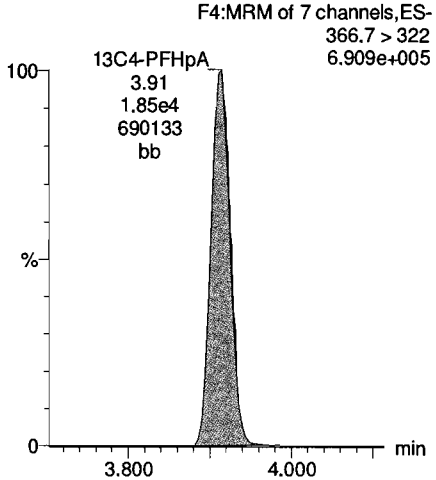
L-PFOA



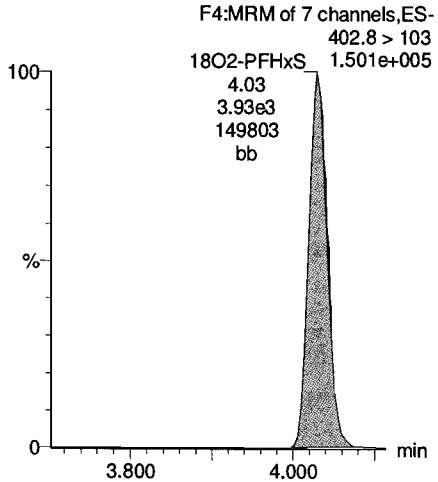
PFNA



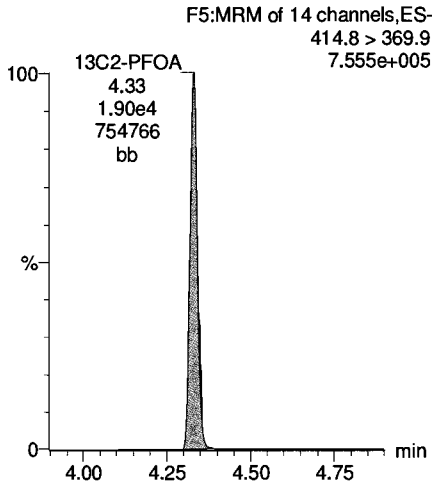
13C4-PFHpA



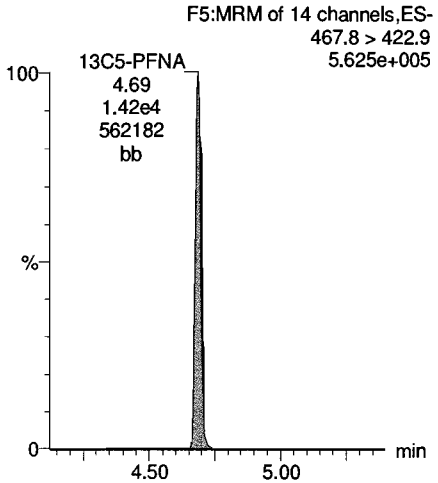
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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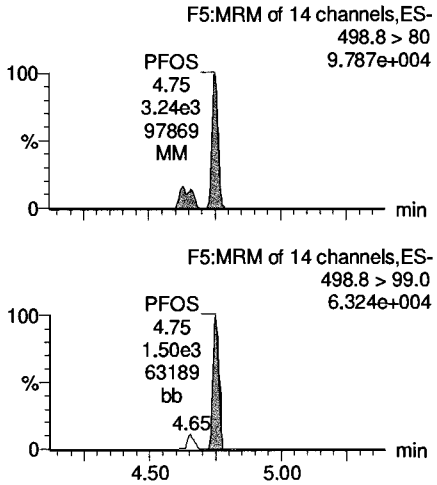
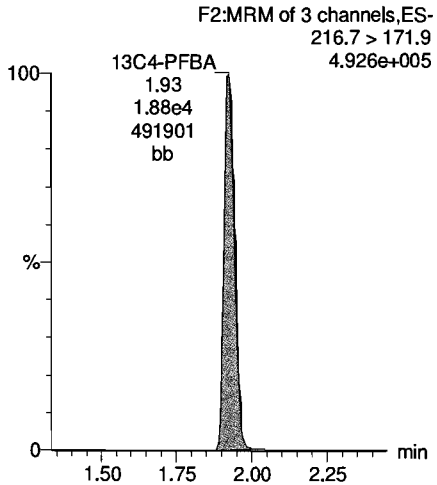
Name: 180524G1-7, Date: 24-May-2018, Time: 11:53:18, ID: ST180524G1-5 PFC CS2 18E2206, Description: PFC CS2 18E2206

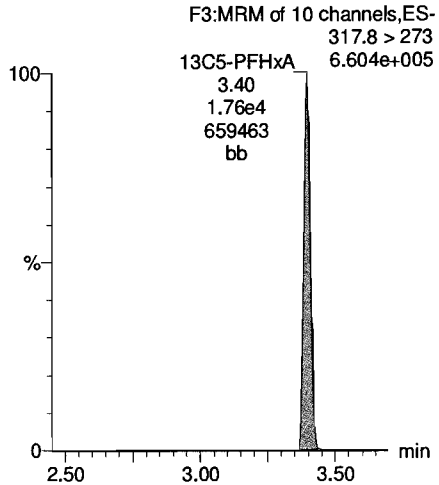
PFOS



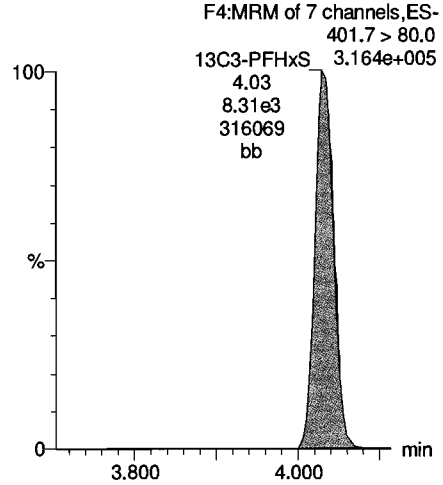
13C4-PFBA



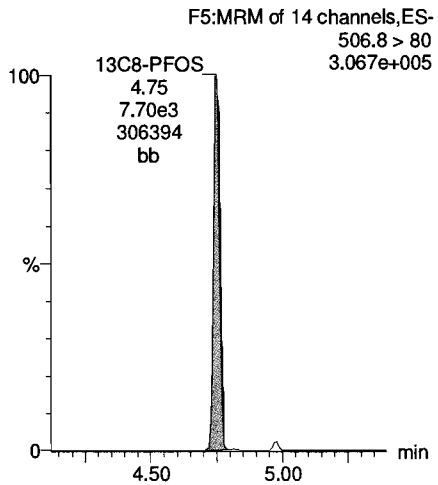
13C5-PFHxA



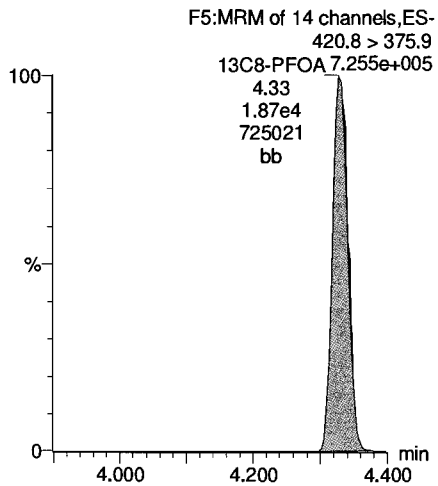
13C3-PFHxS



13C8-PFOS



13C8-PFOA



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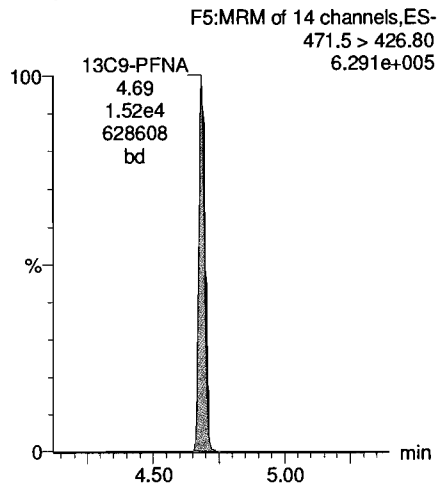
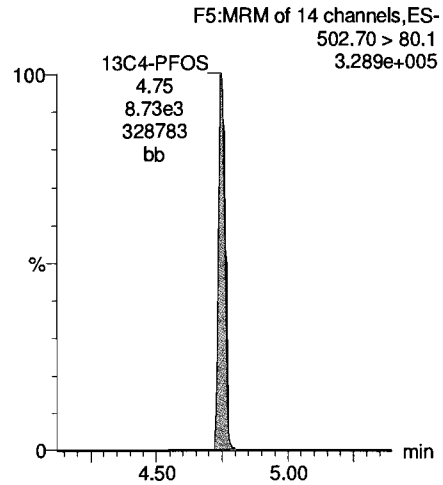


13C4-PFOS



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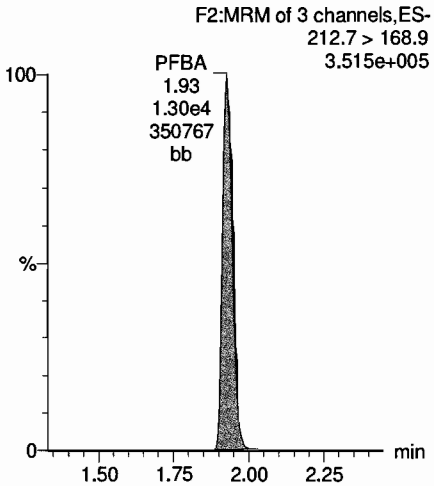
Name: 180524G1-8, Date: 24-May-2018, Time: 12:06:15, ID: ST180524G1-6 PFC CS3 18E2207, Description: PFC CS3 18E2207

PFBA



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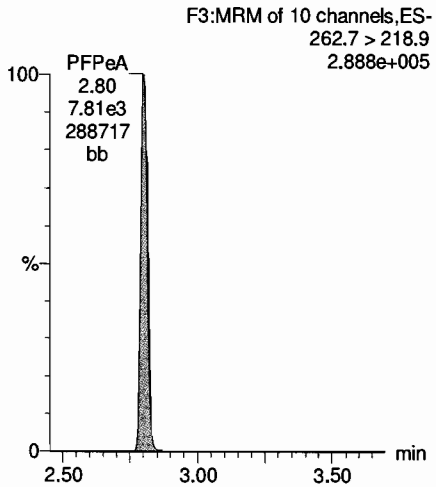

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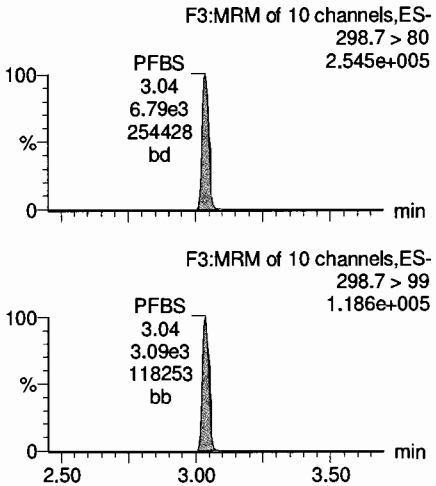
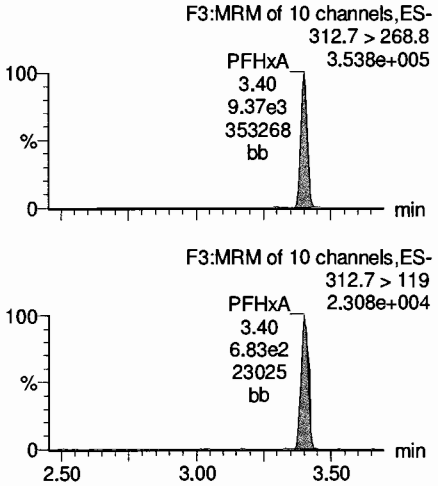


PFHxA



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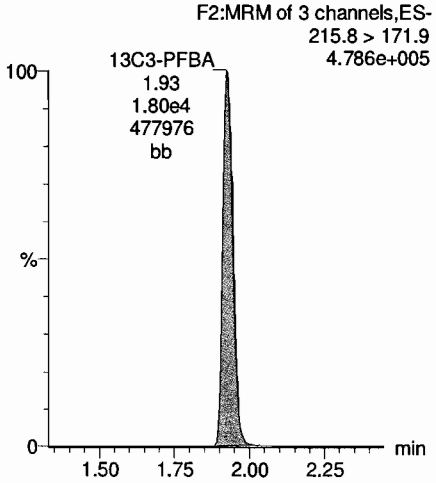

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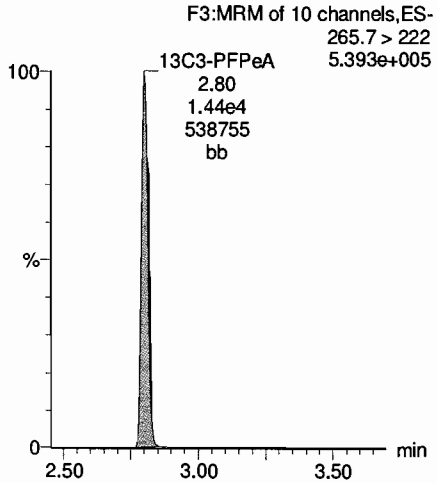

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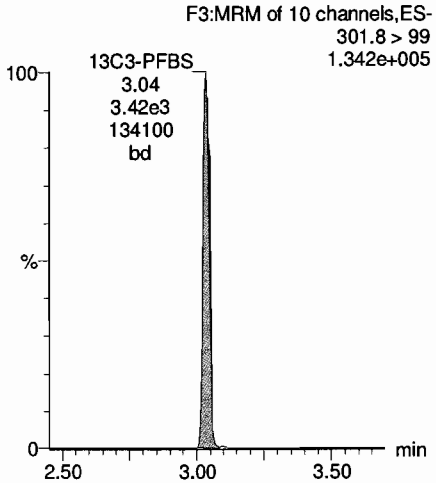
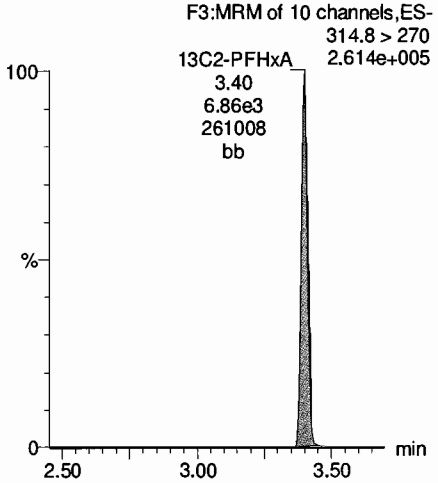


13C2-PFHxA



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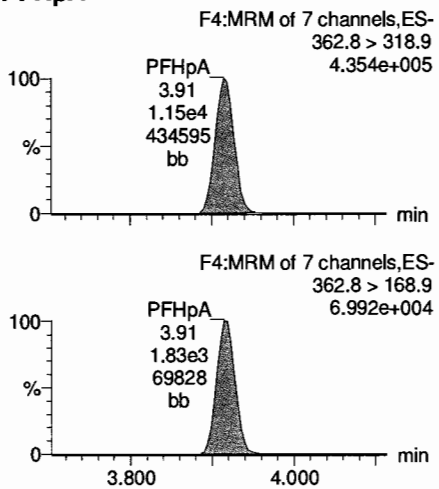
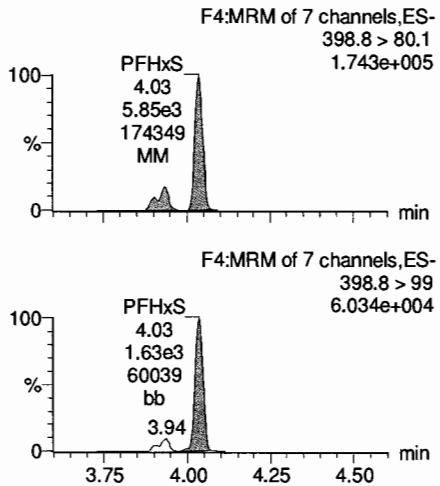
Name: 180524G1-8, Date: 24-May-2018, Time: 12:06:15, ID: ST180524G1-6 PFC CS3 18E2207, Description: PFC CS3 18E2207

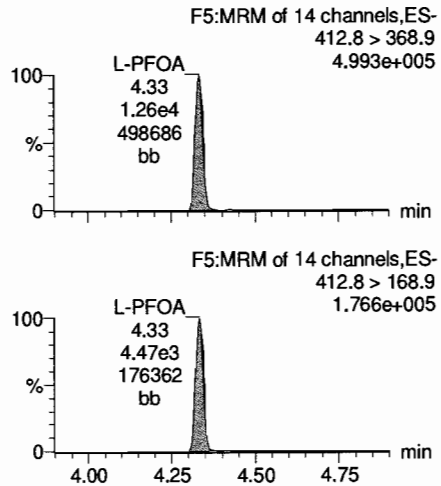
PFHpA



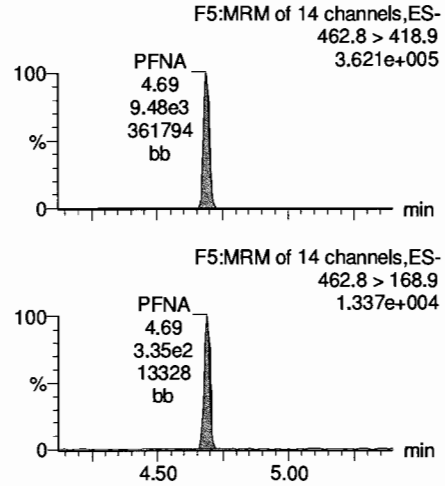
PFHxS



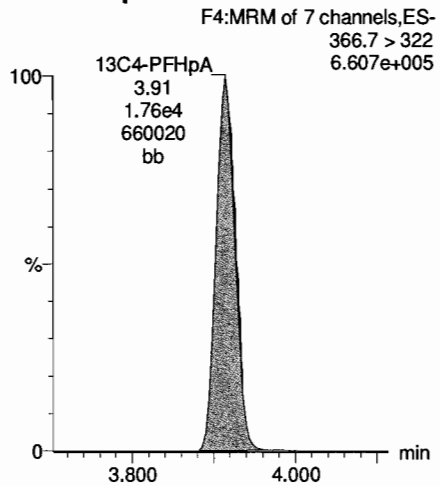
L-PFOA



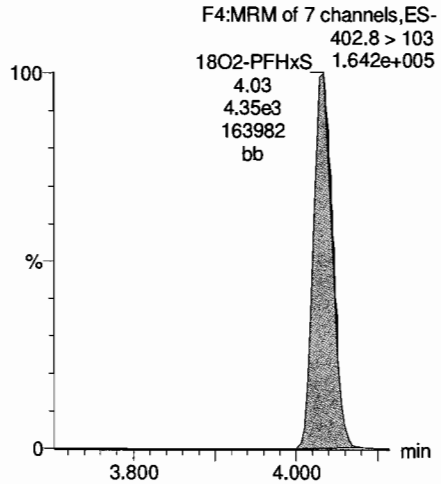
PFNA



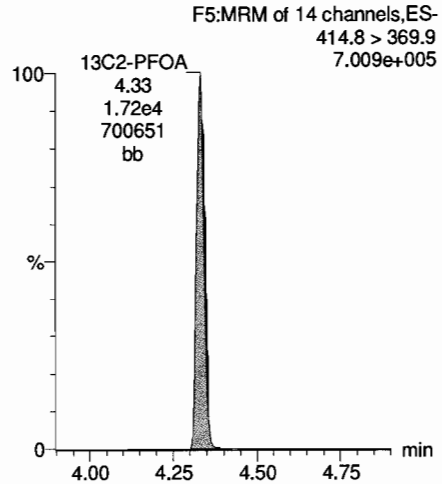
13C4-PFHpA



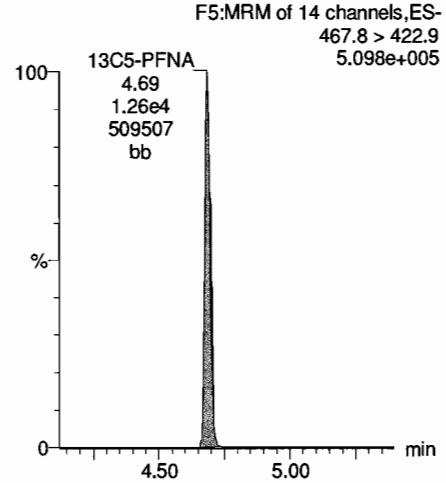
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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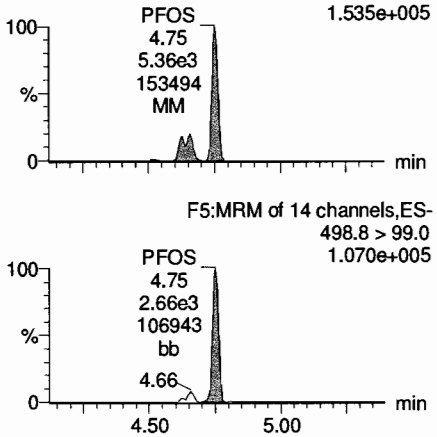
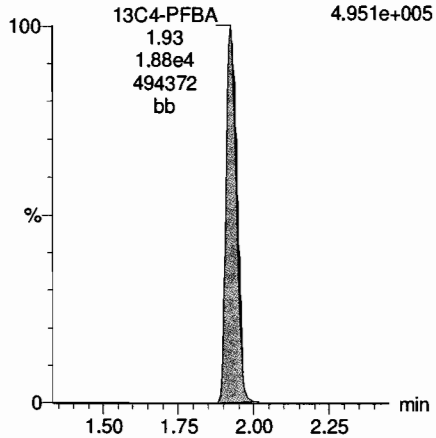
Name: 180524G1-8, Date: 24-May-2018, Time: 12:06:15, ID: ST180524G1-6 PFC CS3 18E2207, Description: PFC CS3 18E2207

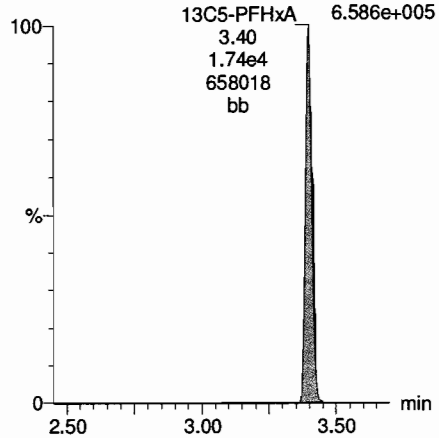
PFOS



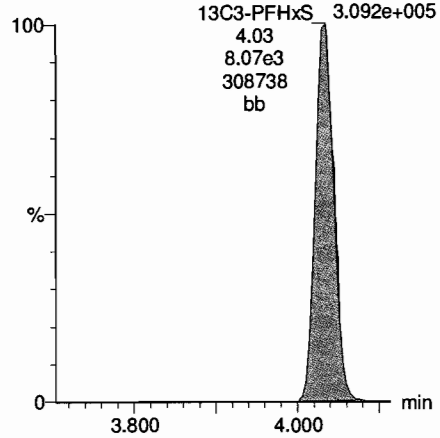
13C4-PFBA



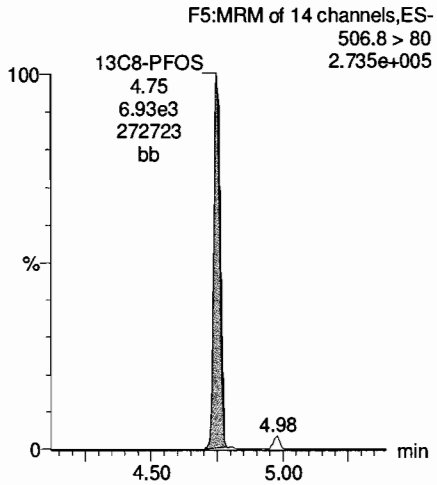
13C5-PFHxA



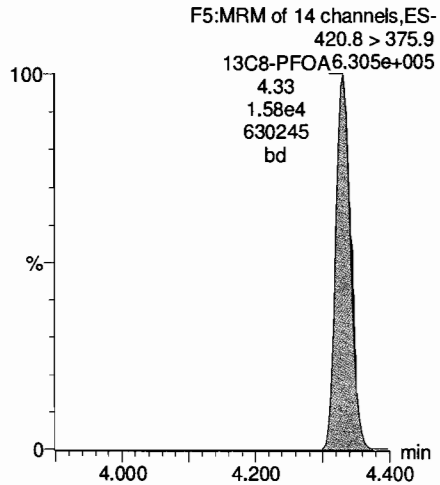
13C3-PFHxS



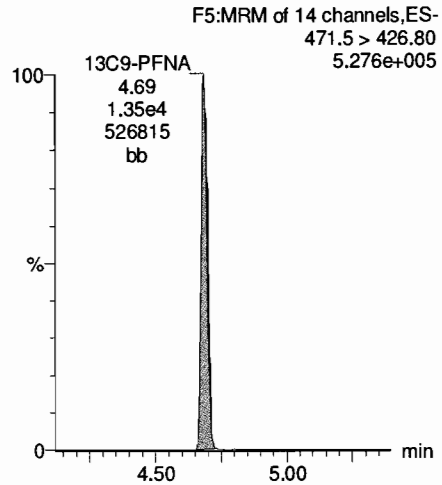
13C8-PFOS



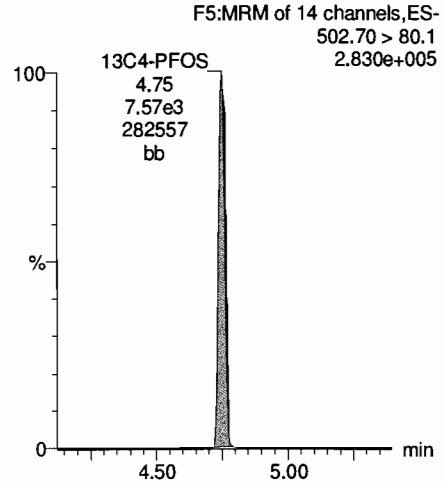
13C8-PFOA



13C9-PFNA



13C4-PFOS



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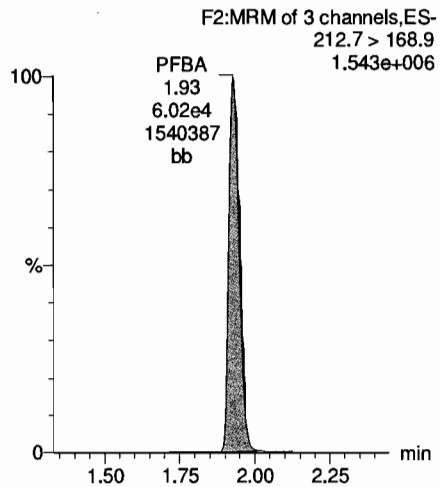
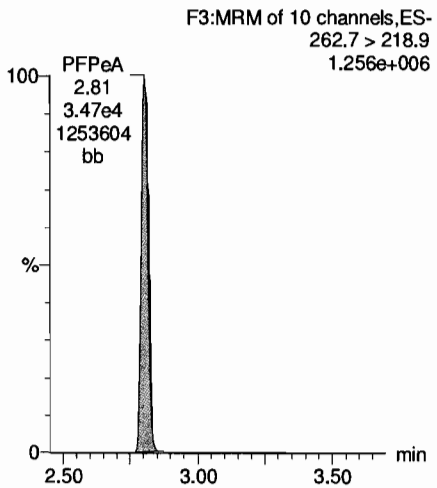
Name: 180524G1-9, Date: 24-May-2018, Time: 12:19:12, ID: ST180524G1-7 PFC CS4 18E2208, Description: PFC CS4 18E2208

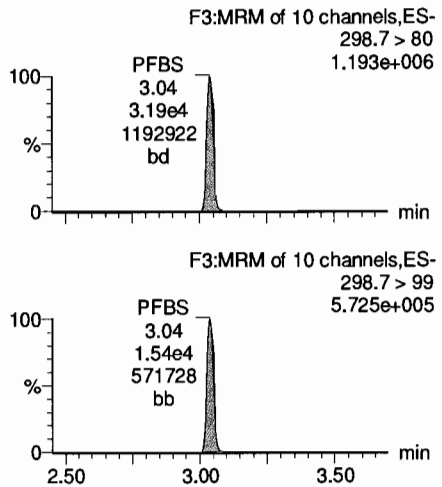
PFBA



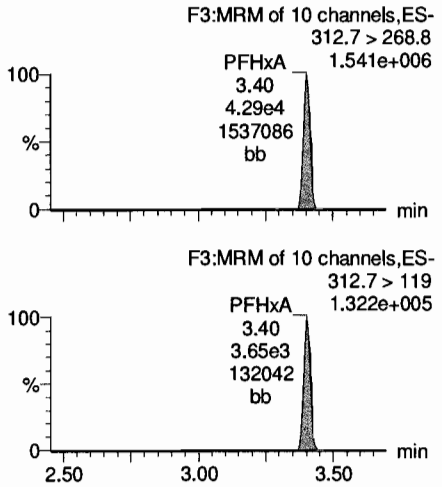
PFPeA



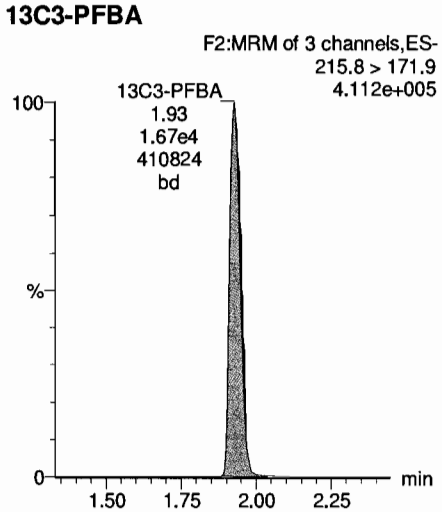
PFBS



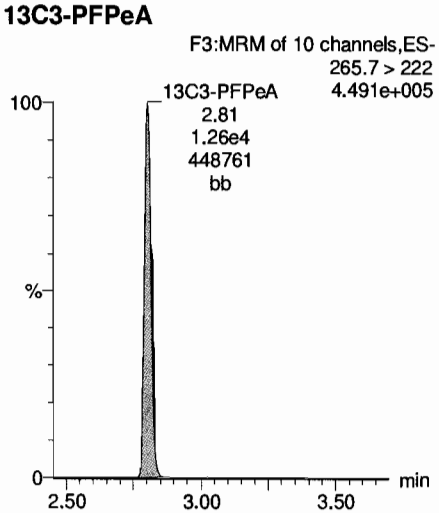
PFHxA



13C3-PFBA



13C3-PFPeA



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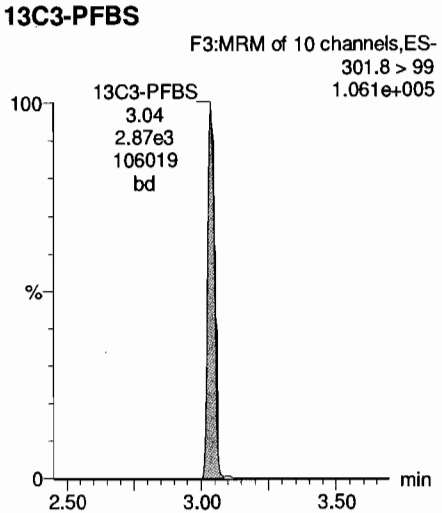
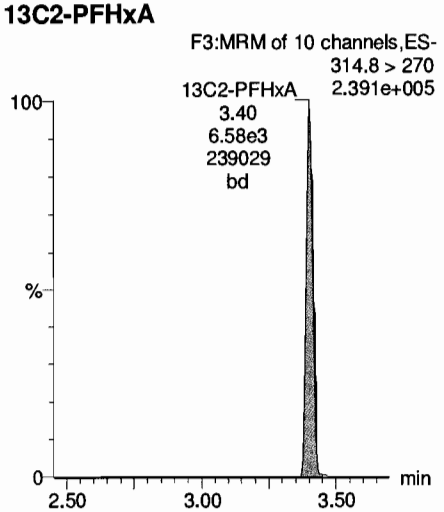


13C2-PFHxA



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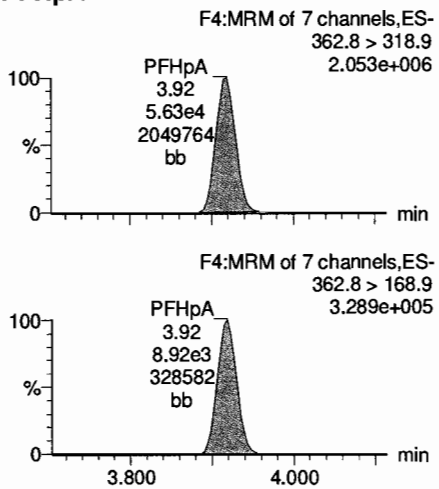
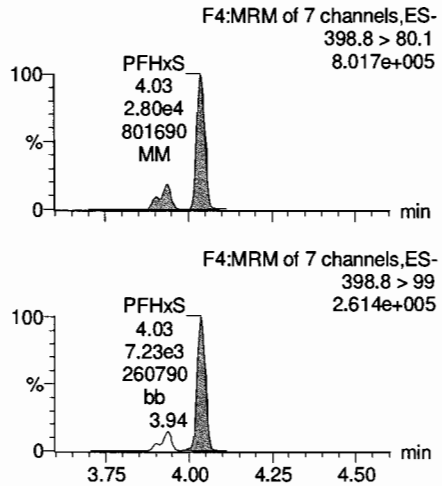
Name: 180524G1-9, Date: 24-May-2018, Time: 12:19:12, ID: ST180524G1-7 PFC CS4 18E2208, Description: PFC CS4 18E2208

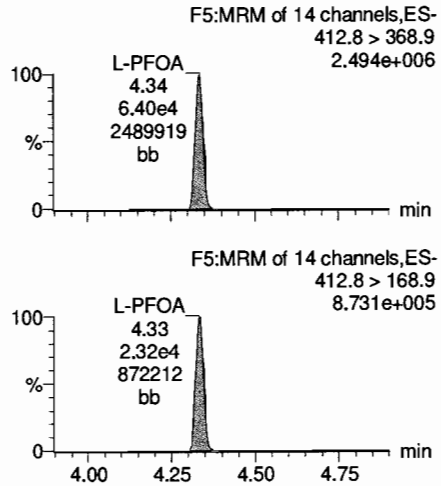
PFHpA



PFHxS



L-PFOA



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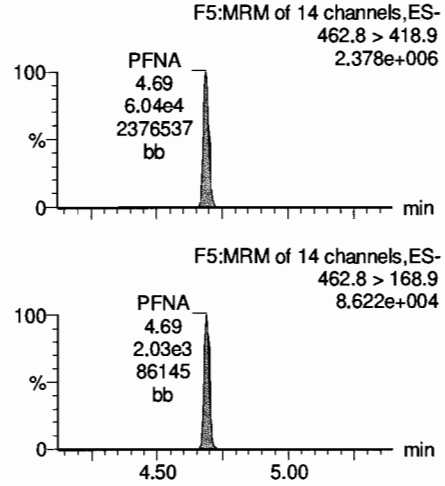
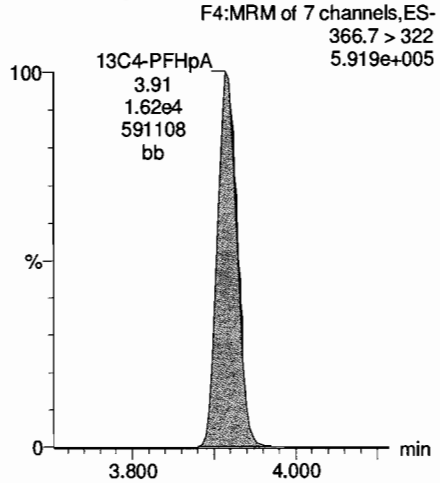
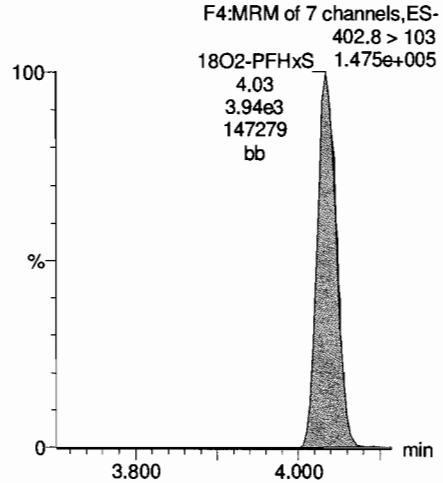


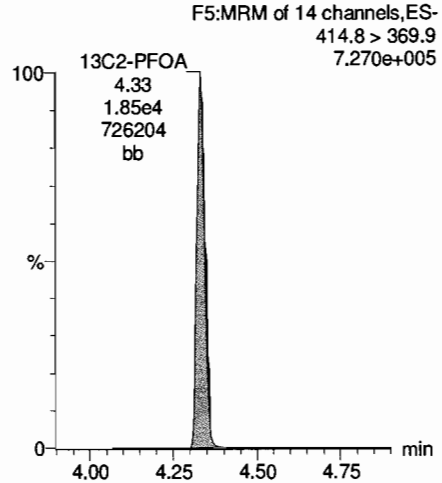
13C4-PFHpA



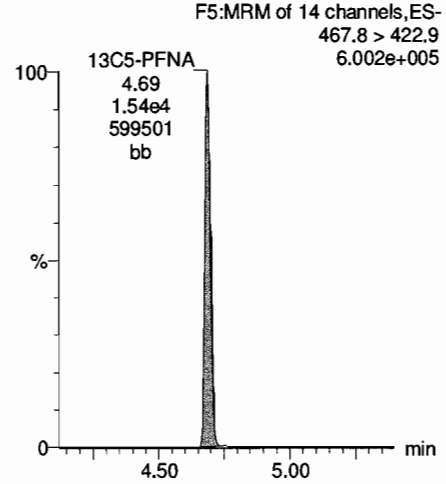
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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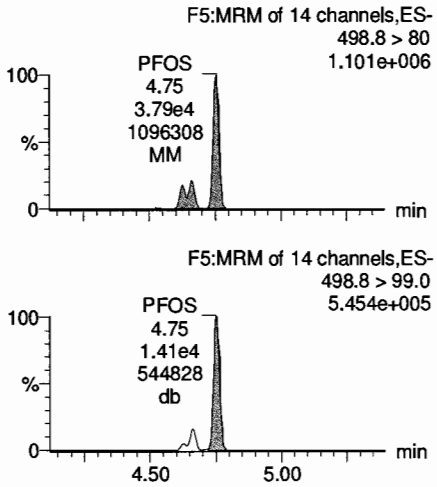
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-9, Date: 24-May-2018, Time: 12:19:12, ID: ST180524G1-7 PFC CS4 18E2208, Description: PFC CS4 18E2208

PFOS



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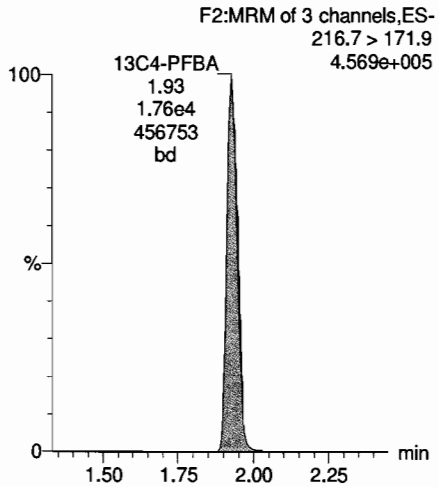
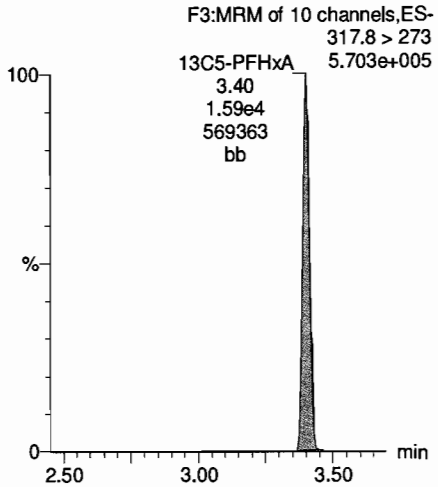
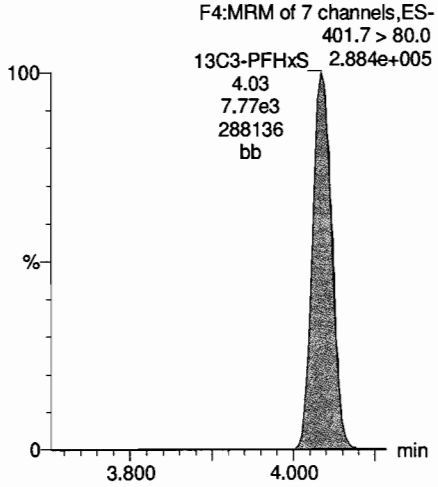


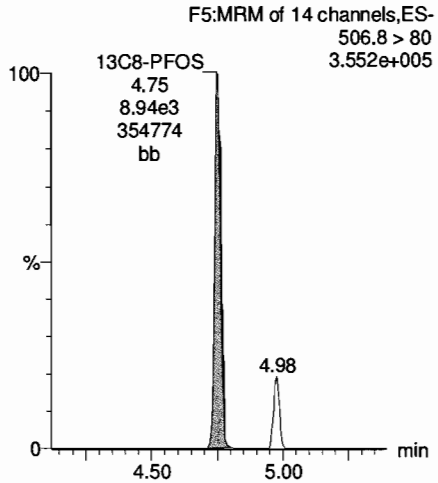
13C5-PFHxA



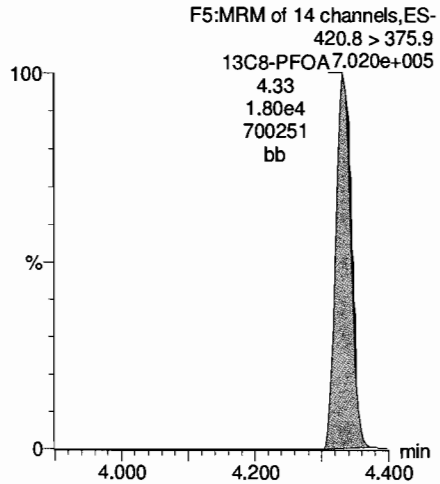
13C3-PFHxS



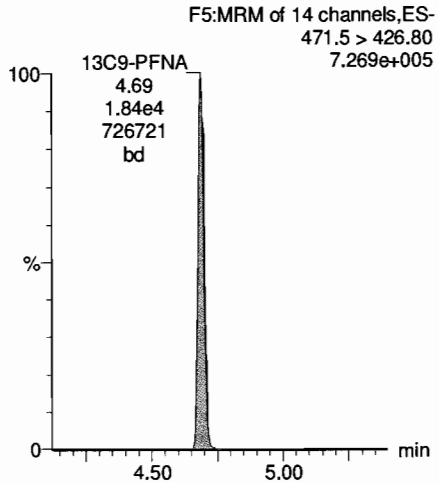
13C8-PFOS



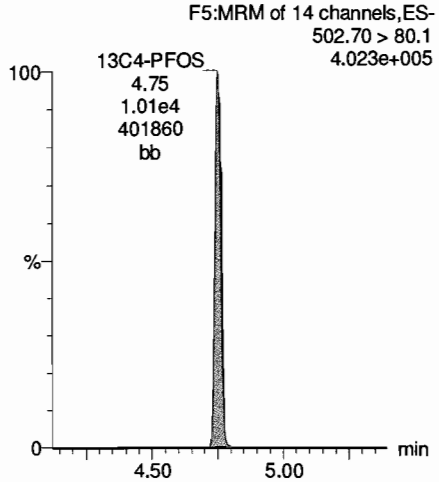
13C8-PFOA



13C9-PFNA



13C4-PFOS



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Name: 180524G1-10, Date: 24-May-2018, Time: 12:32:10, ID: ST180524G1-8 PFC CS5 18E2209, Description: PFC CS5 18E2209

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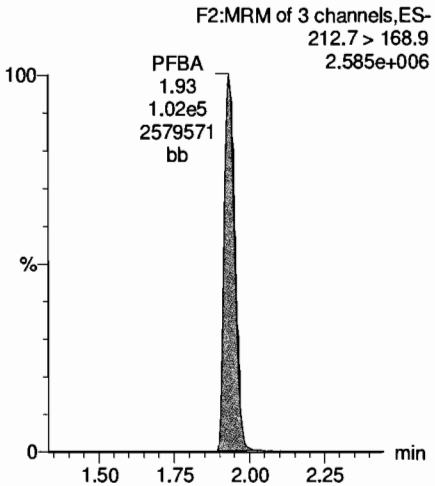

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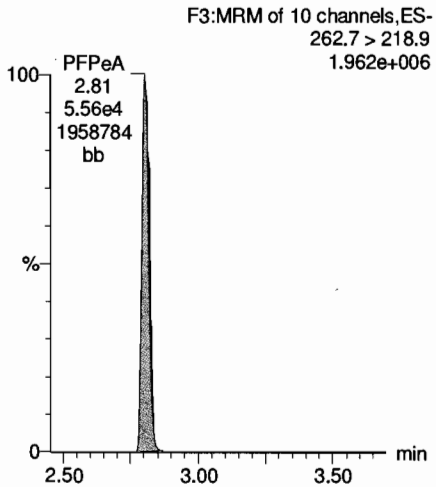

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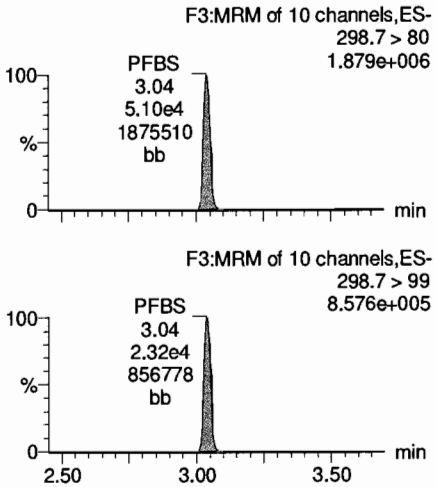

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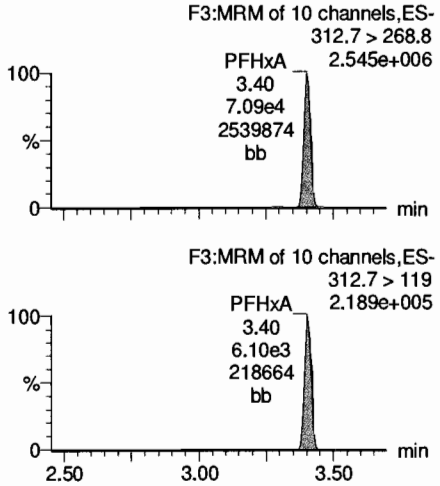

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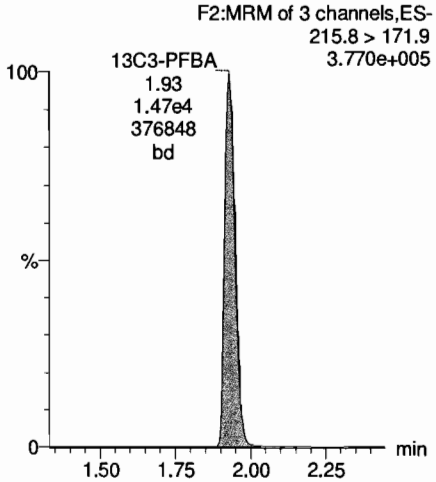

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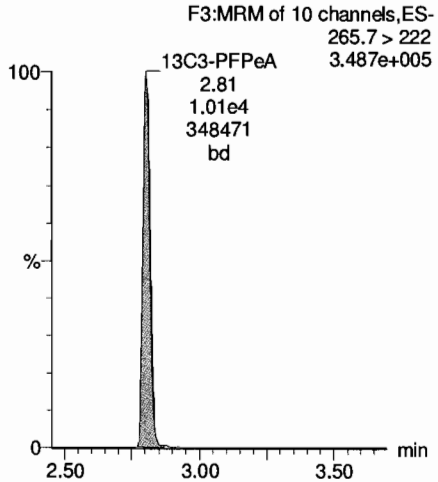

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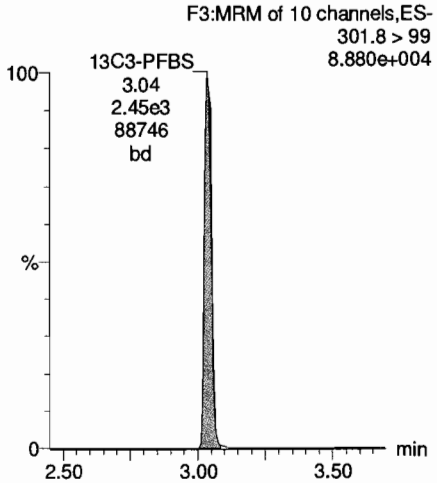
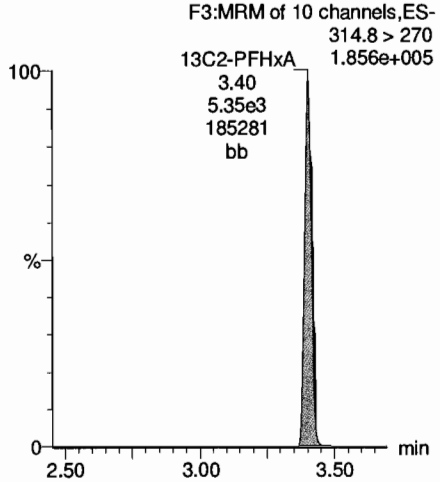


13C2-PFHxA



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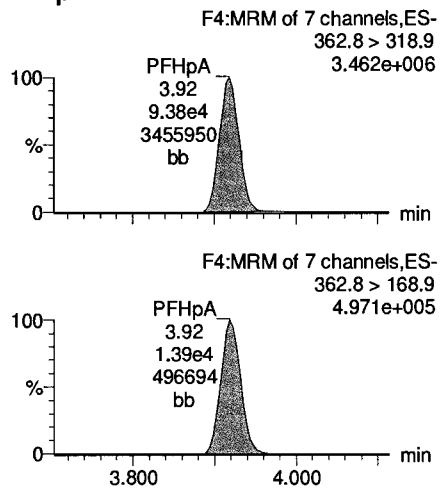
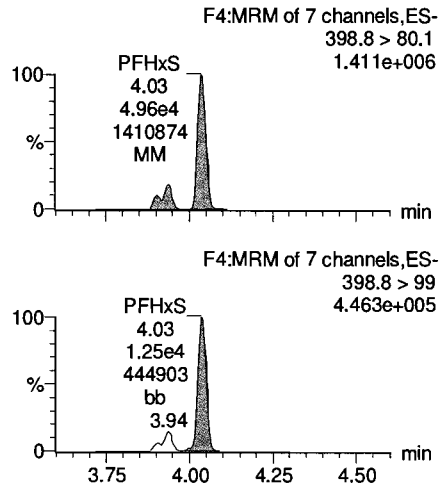
Name: 180524G1-10, Date: 24-May-2018, Time: 12:32:10, ID: ST180524G1-8 PFC CS5 18E2209, Description: PFC CS5 18E2209

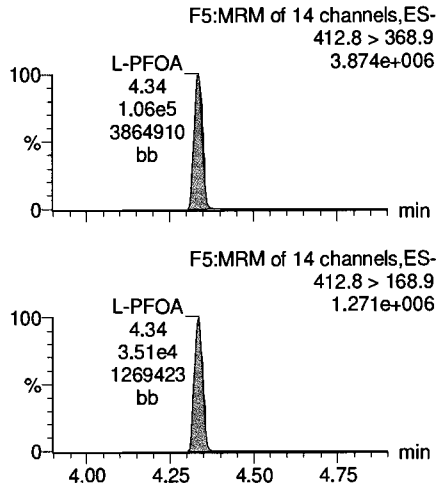
PFHpA



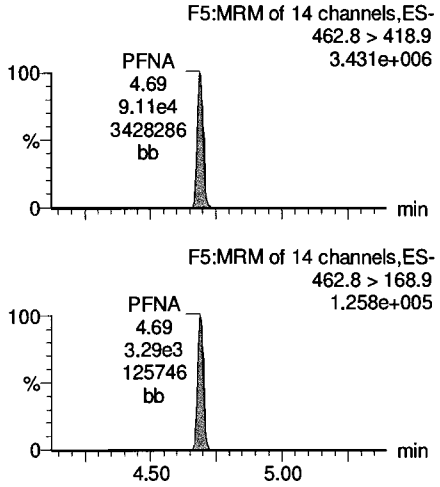
PFHxS



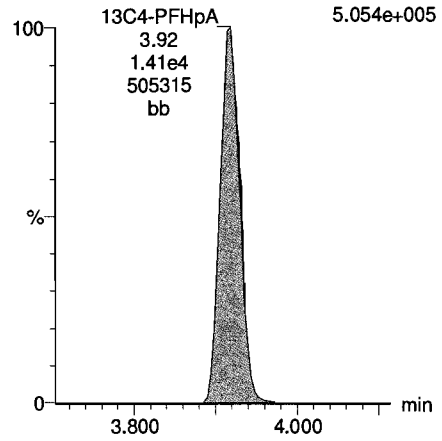
L-PFOA



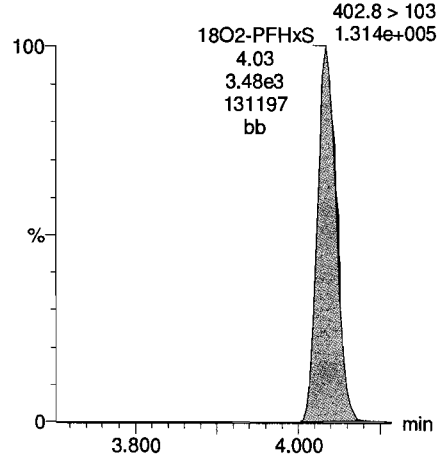
PFNA



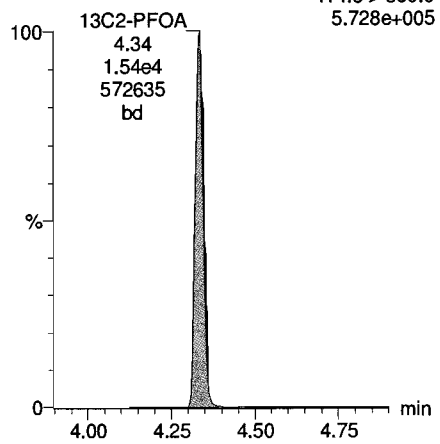
13C4-PFHpA



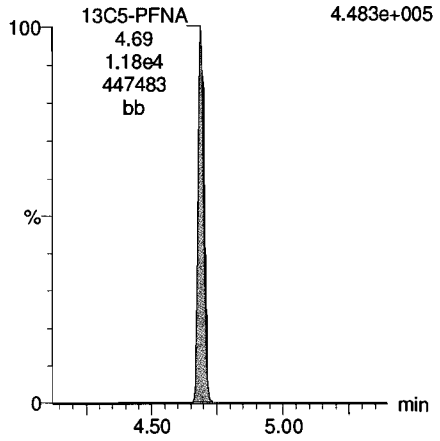
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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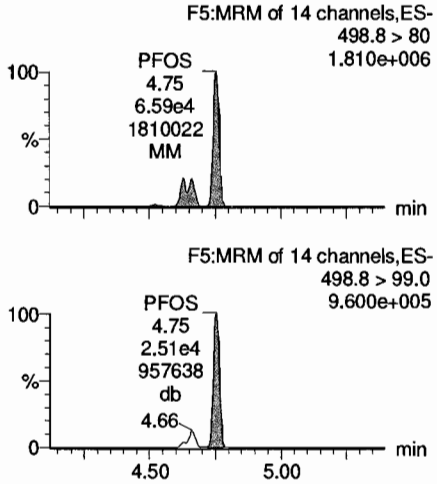
Name: 180524G1-10, Date: 24-May-2018, Time: 12:32:10, ID: ST180524G1-8 PFC CS5 18E2209, Description: PFC CS5 18E2209

PFOS



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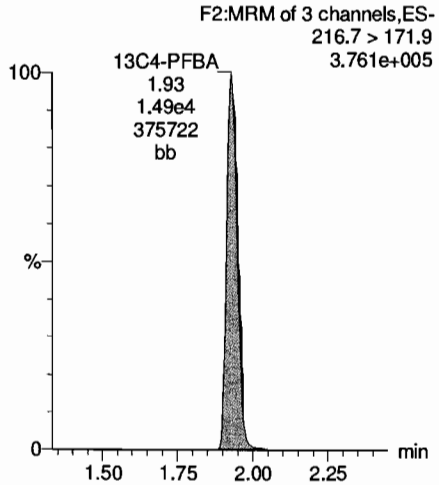
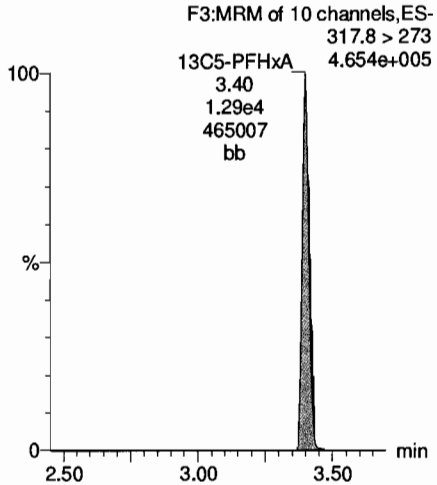
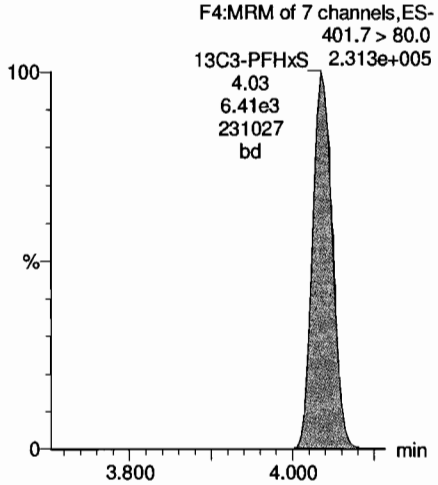


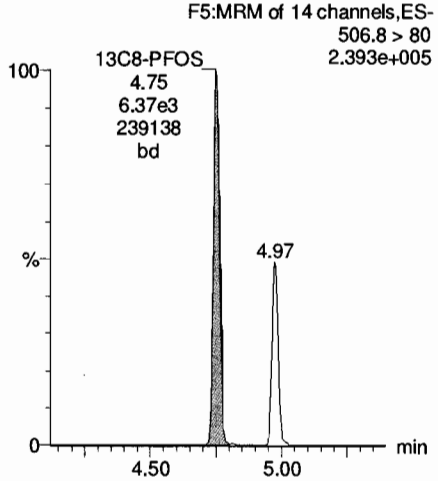
13C5-PFHxA



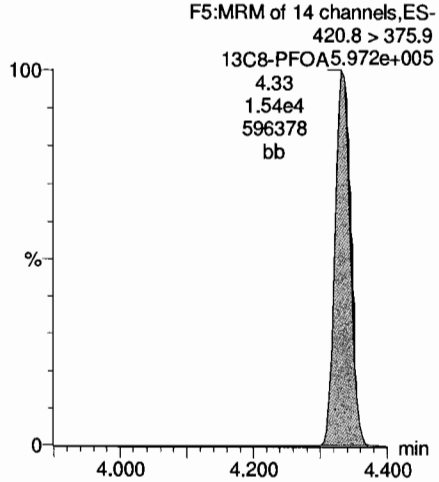
13C3-PFHxS



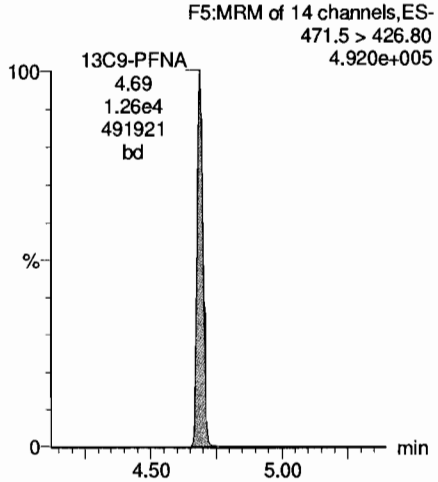
13C8-PFOS



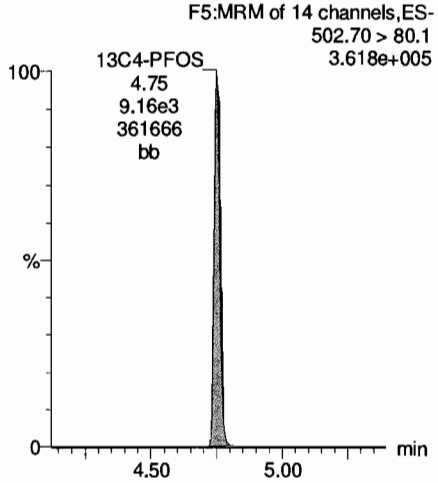
13C8-PFOA



13C9-PFNA



13C4-PFOS



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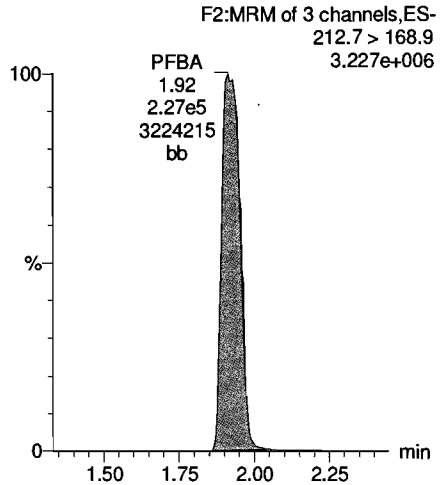
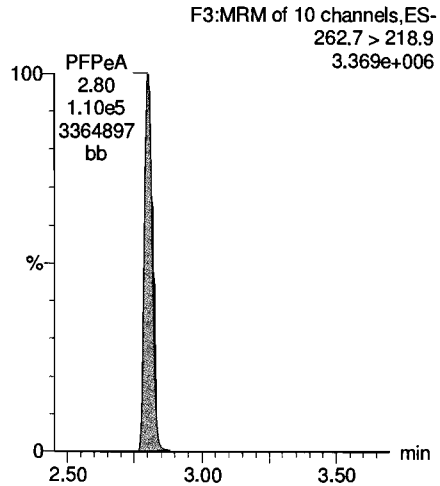
Name: 180524G1-11, Date: 24-May-2018, Time: 12:45:08, ID: ST180524G1-9 PFC CS6 18E2210, Description: PFC CS6 18E2210

PFBA



PFPeA



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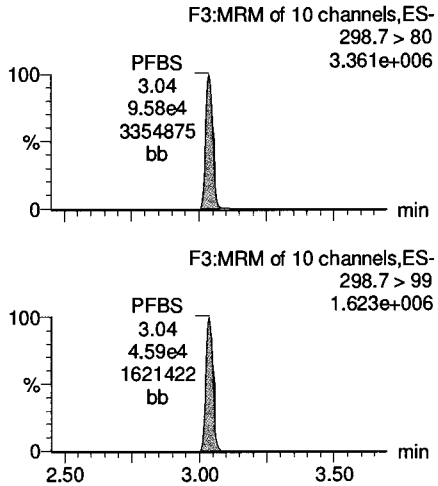
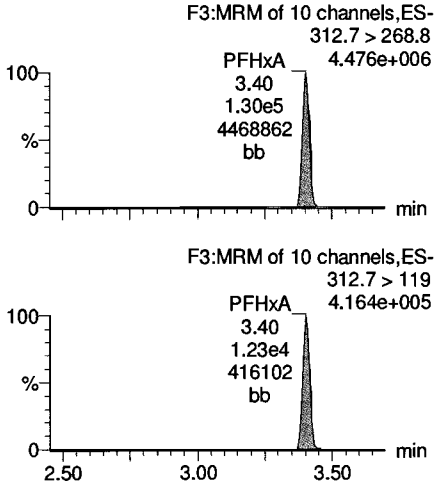
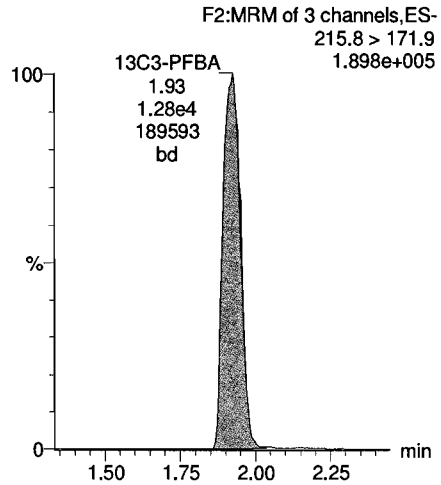


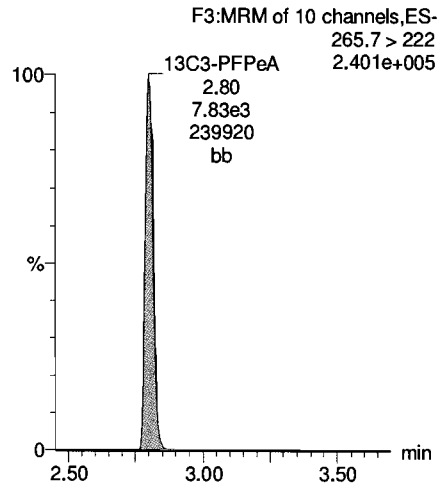
PFHxA



13C3-PFBA



13C3-PFPeA



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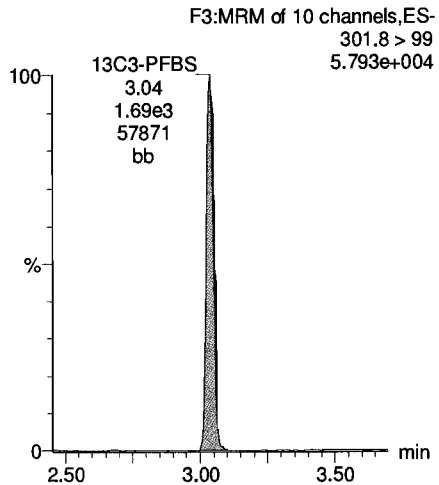
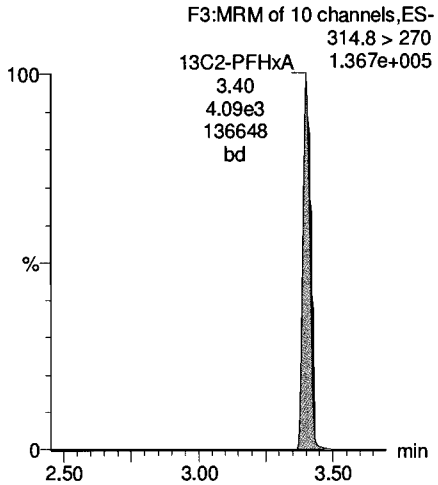


13C2-PFHxA

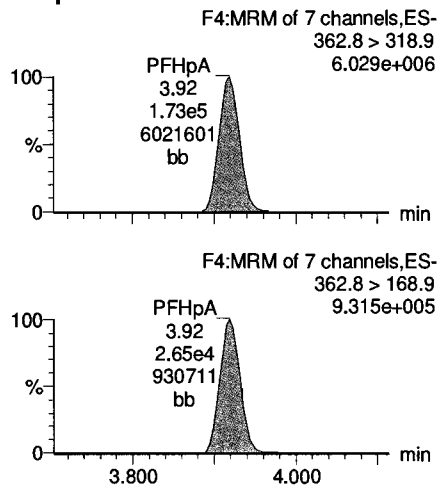


Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-CRV_2.qld

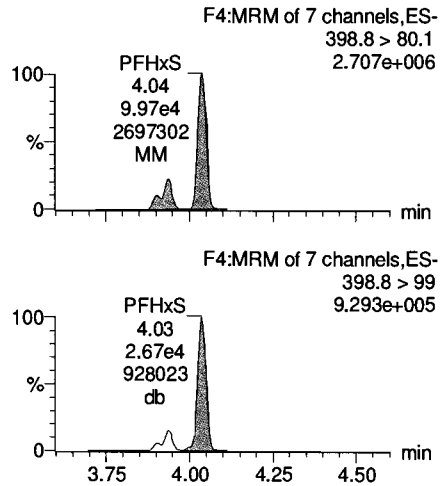
Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-11, Date: 24-May-2018, Time: 12:45:08, ID: ST180524G1-9 PFC CS6 18E2210, Description: PFC CS6 18E2210

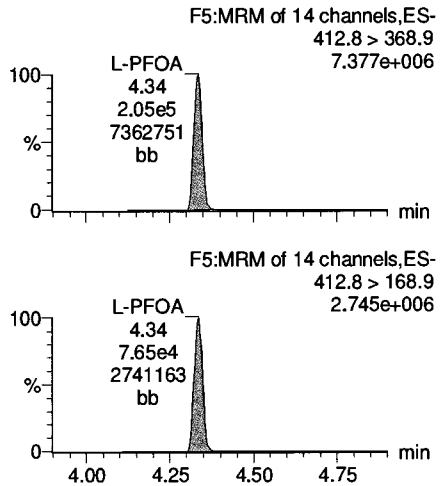
PFHpA



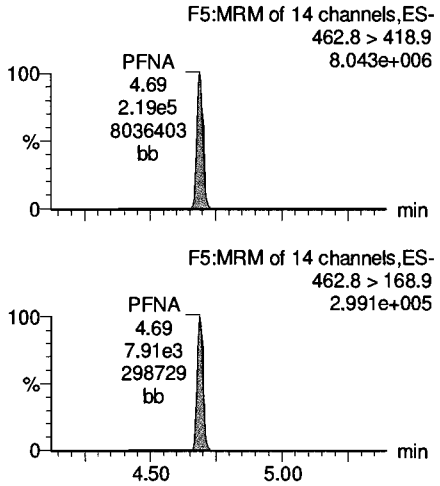
PFHxS



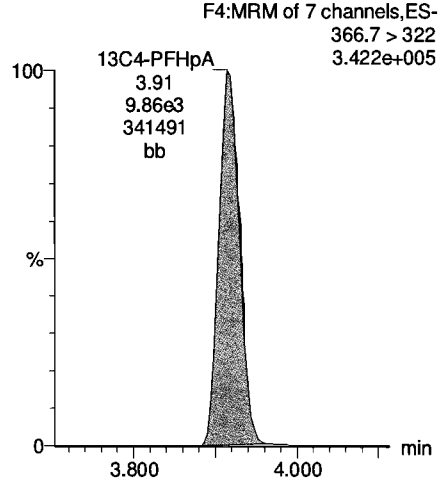
L-PFOA



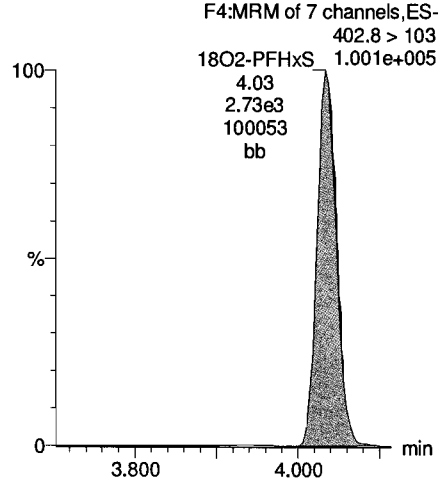
PFNA



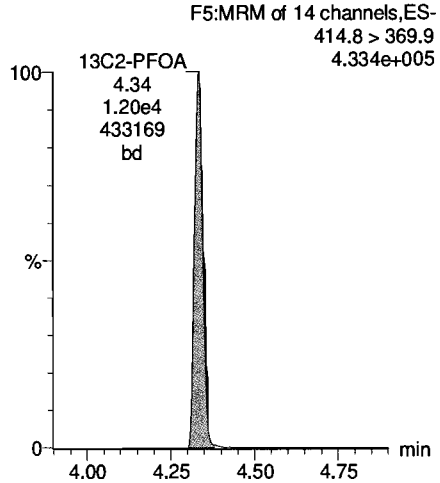
13C4-PFHpA



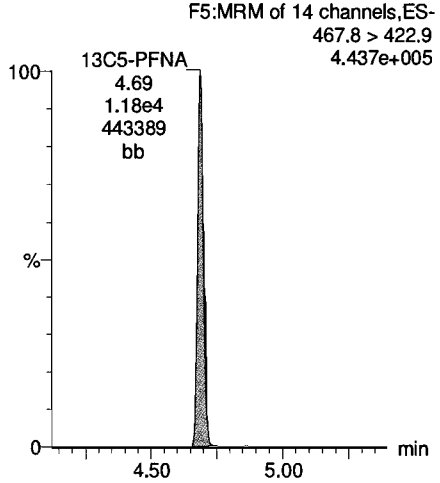
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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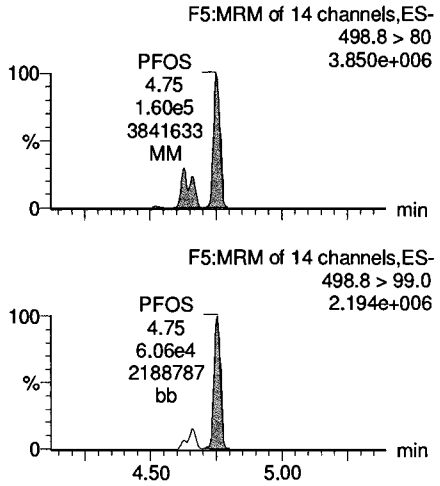
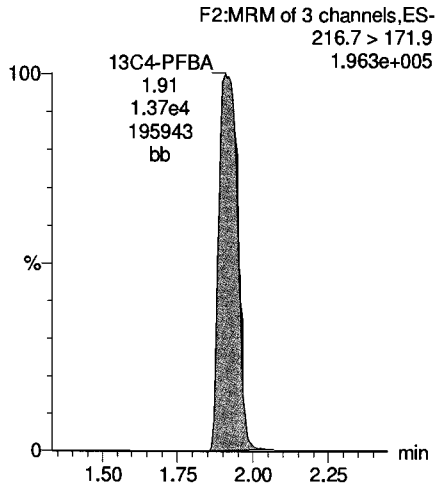
Last Altered: Thursday, May 24, 2018 15:40:22 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:46:12 Pacific Daylight Time

Name: 180524G1-11, Date: 24-May-2018, Time: 12:45:08, ID: ST180524G1-9 PFC CS6 18E2210, Description: PFC CS6 18E2210

PFOS



13C4-PFBA



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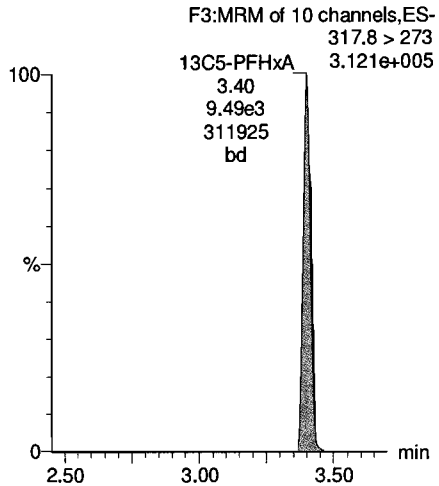
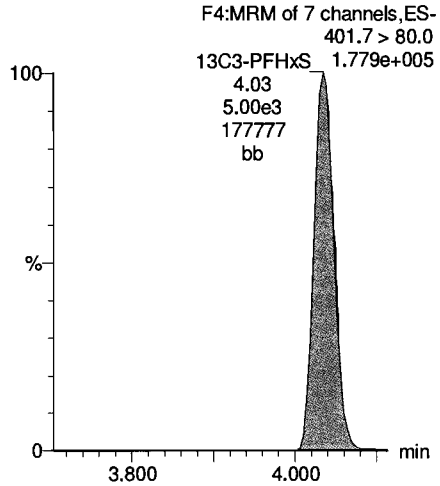
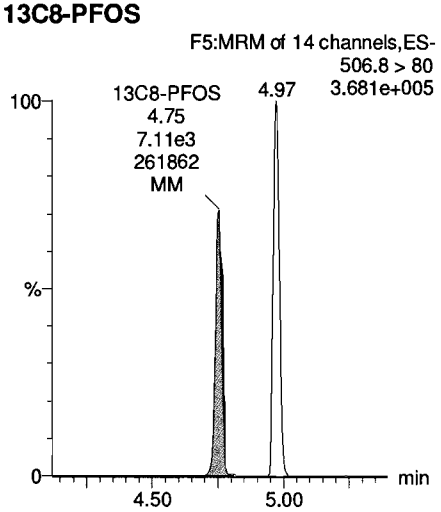


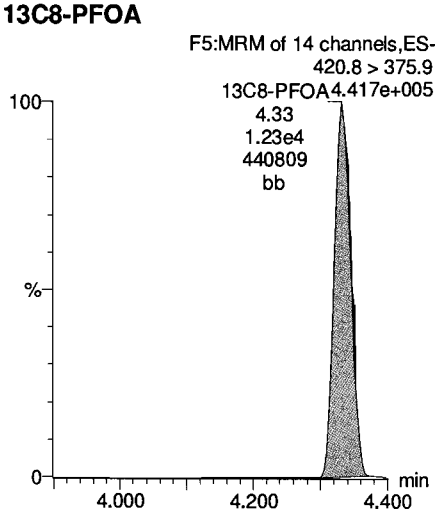
13C3-PFHxS



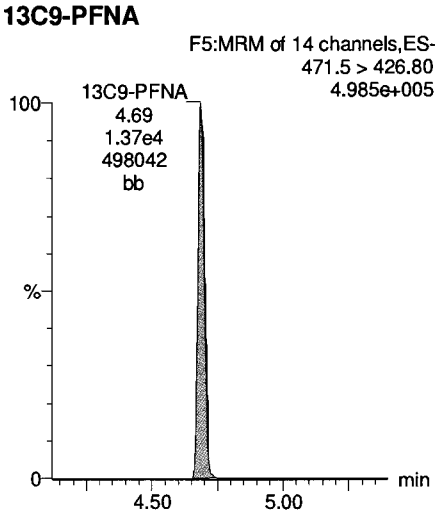
13C8-PFOS



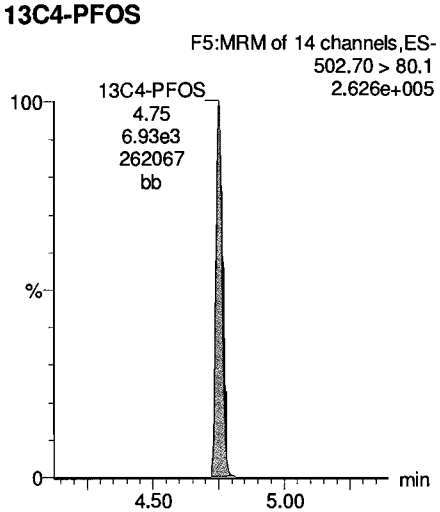
13C8-PFOA



13C9-PFNA



13C4-PFOS



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-ICV.qld

Last Altered: Thursday, May 24, 2018 15:50:14 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:50:43 Pacific Daylight Time

J OM 5/24/18

Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

AO 5/24/18

Name: 180524G1-13, Date: 24-May-2018, Time: 15:13:47, ID: ICV180524G1-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

	#	Name	Trace	Area	IS Area	Wt/VoL	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	212.7 > 168.9	1.48e4	2.03e4	1.00000		1.94	1.94	9.09	10.2	102.4
2	2	PFPeA	262.7 > 218.9	8.89e3	1.55e4	1.00000		2.81	2.81	7.18	10.4	103.8
3	3	PFBS	298.7>80	7.18e3	4.16e3	1.00000		3.05	3.05	21.6	8.37	83.7
4	4	PFHxA	312.7 > 268.8	1.11e4	8.32e3	1.00000		3.41	3.41	6.69	10.4	103.7
5	5	PFHpA	362.8 > 318.9	1.51e4	2.20e4	1.00000		3.92	3.92	8.59	10.3	103.1
6	6	PFHxS	398.8 > 80.1	6.86e3	5.27e3	1.00000		4.04	4.04	16.3	8.98	89.8
7	7	L-PFOA	412.8 > 368.9	1.51e4	2.35e4	1.00000		4.34	4.34	8.07	9.26	92.6
8	9	PFNA	462.8 > 418.9	1.37e4	1.93e4	1.00000		4.69	4.69	8.83	9.01	90.1
9	10	PFOS	498.8 > 80	9.04e3	1.02e4	1.00000		4.75	4.76	11.0	9.41	94.1
10	11	13C3-PFBA	215.8 > 171.9	2.03e4	2.08e4	1.00000	0.957	1.94	1.94	12.2	12.8	102.2
11	12	13C3-PFBS	301.8 > 99	4.16e3	1.94e4	1.00000	0.194	2.85	3.05	2.68	13.8	110.7
12	13	13C3-PFPeA	265.7 > 222	1.55e4	1.94e4	1.00000	0.807	2.82	2.81	9.95	12.3	98.6
13	14	13C2-PFHxA	314.8 > 270	8.32e3	1.94e4	1.00000	1.014	3.10	3.41	5.35	5.28	105.6
14	15	13C4-PFHpA	366.7 > 322	2.20e4	1.94e4	1.00000	1.039	3.91	3.92	14.2	13.7	109.3
15	16	18O2-PFHxS	402.8 > 103	5.27e3	9.35e3	1.00000	0.519	3.73	4.04	7.05	13.6	108.7
16	17	13C2-PFOA	414.8 > 369.9	2.35e4	2.18e4	1.00000	1.010	4.34	4.34	13.4	13.3	106.4
17	18	13C5-PFNA	467.8 > 422.9	1.93e4	1.91e4	1.00000	0.936	4.69	4.69	12.6	13.5	107.9
18	19	13C8-PFOS	506.8 > 80	1.02e4	1.14e4	1.00000	0.865	4.55	4.75	11.2	13.0	103.7
19	20	13C4-PFBA	216.7 > 171.9	2.08e4	2.08e4	1.00000	1.000	1.72	1.94	12.5	12.5	100.0
20	21	13C5-PFHxA	317.8>273	1.94e4	1.94e4	1.00000	1.000	3.66	3.41	12.5	12.5	100.0
21	22	13C3-PFHxS	401.7 > 80.0	9.35e3	9.35e3	1.00000	1.000	4.29	4.04	12.5	12.5	100.0
22	23	13C8-PFOA	420.8 > 375.9	2.18e4	2.18e4	1.00000	1.000	4.53	4.34	12.5	12.5	100.0
23	24	13C9-PFNA	471.5 > 426.80	1.91e4	1.91e4	1.00000	1.000	4.93	4.69	12.5	12.5	100.0
24	25	13C4-PFOS	502.70 > 80.1	1.14e4	1.14e4	1.00000	1.000	4.98	4.75	12.5	12.5	100.0
25	26	Total PFHxS	398.8 > 80.1	6.86e3	5.27e3	1.00000		4.30		16.3	8.98	
26	27	Total PFOA	412.8 > 368.9	1.51e4	2.35e4	1.00000		4.53		8.07	9.26	
27	28	Total PFOS	498.8 > 80	9.04e3	1.02e4	1.00000		4.73		11.0	9.41	

Vista Analytical Laboratory

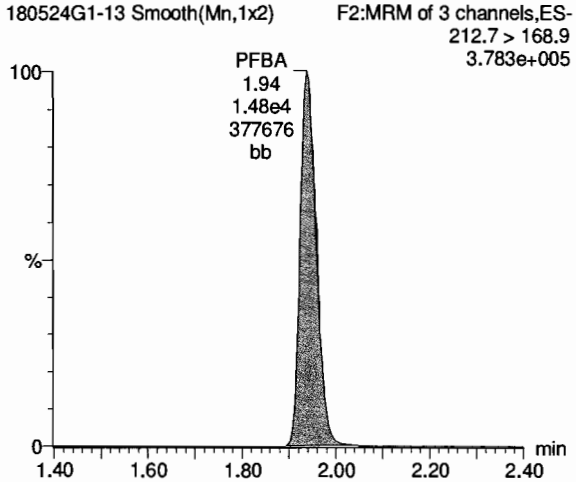
Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-ICV.qld

Last Altered: Thursday, May 24, 2018 15:50:14 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:50:43 Pacific Daylight Time

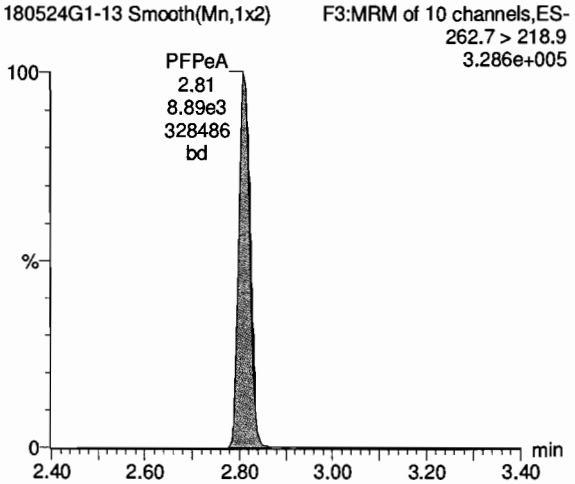
Method: Y:\G1.PRO\MethDB\PFAS_A_180517_L9.mdb 21 May 2018 13:27:14
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-13, Date: 24-May-2018, Time: 15:13:47, ID: ICV180524G1-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

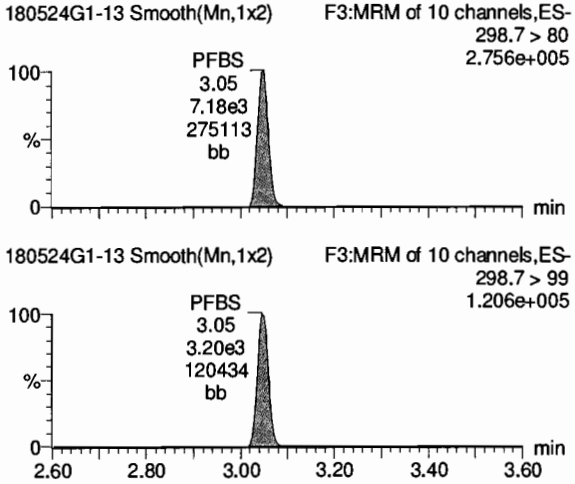
PFBA



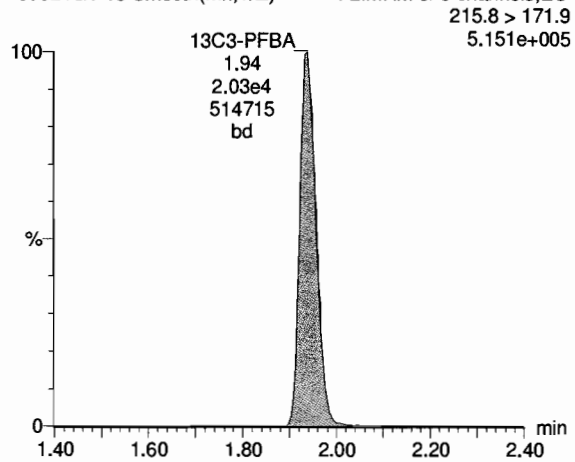
PFPeA



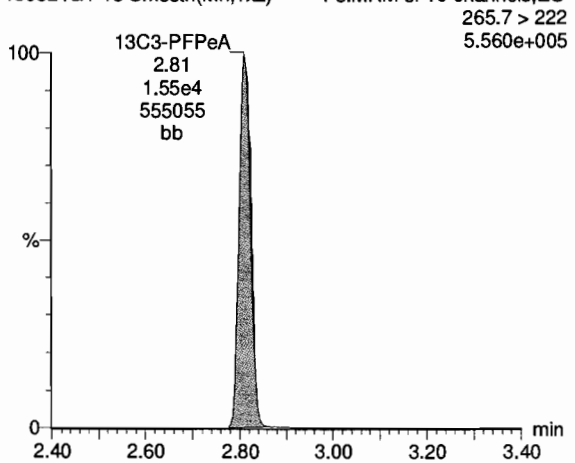
PFBS



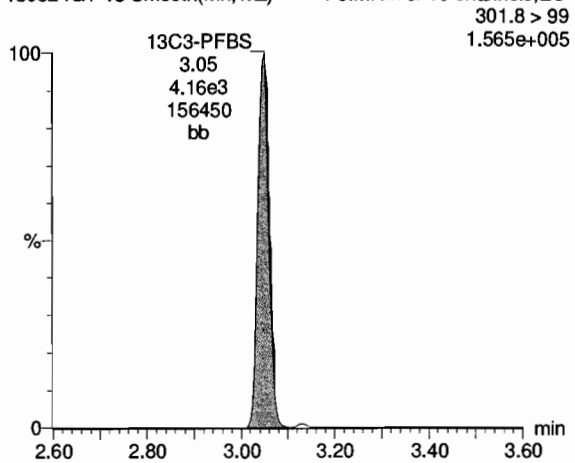
13C3-PFBA



13C3-PFPeA



13C3-PFBS

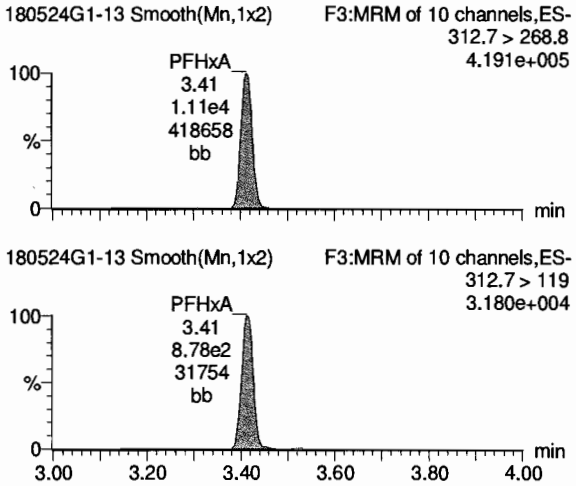


Dataset: Y:\G1.PRO\Results\2018\180524G1\180524G1-ICV.qld

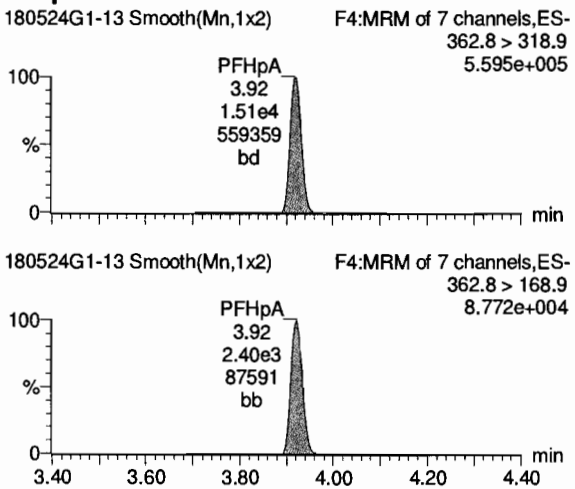
Last Altered: Thursday, May 24, 2018 15:50:14 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:50:43 Pacific Daylight Time

Name: 180524G1-13, Date: 24-May-2018, Time: 15:13:47, ID: ICV180524G1-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

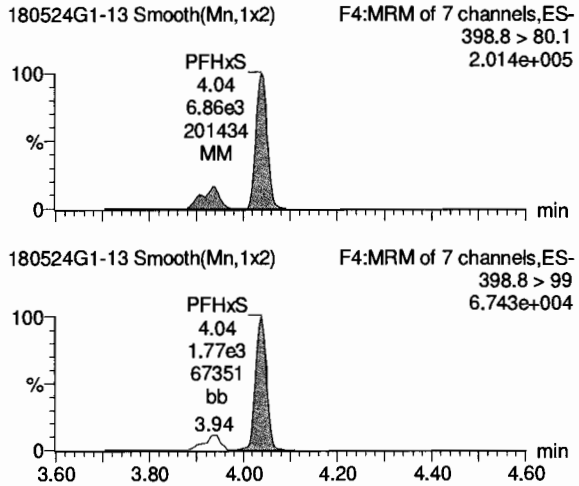
PFHxA



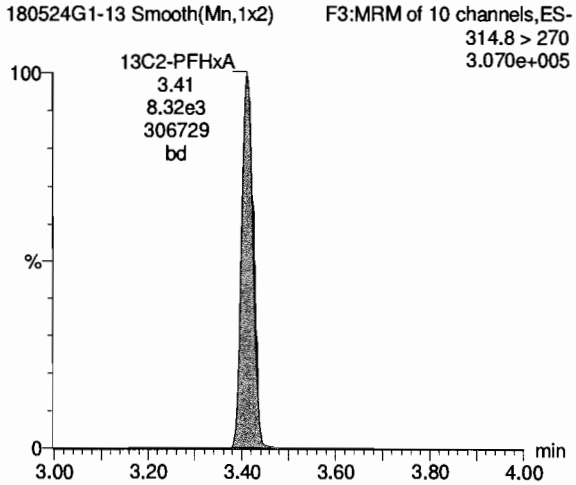
PFHpA



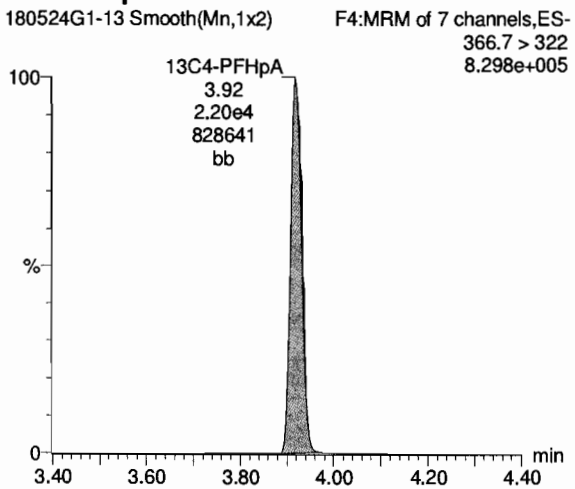
Total PFHxS



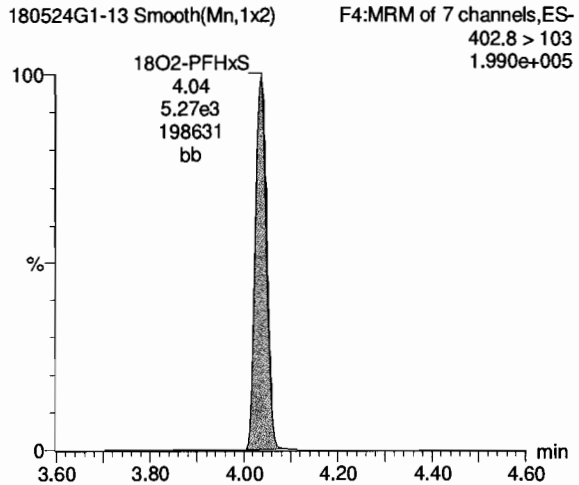
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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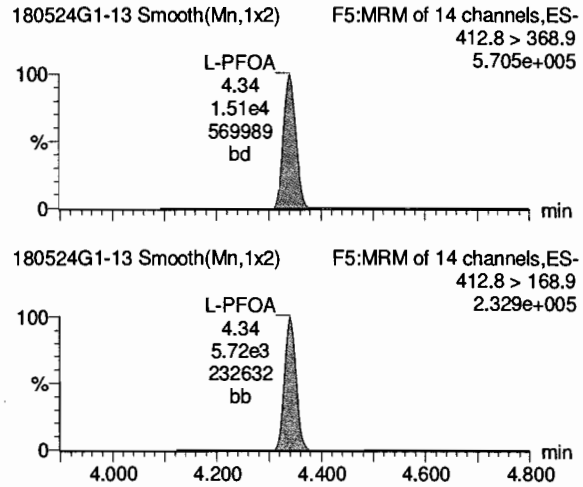
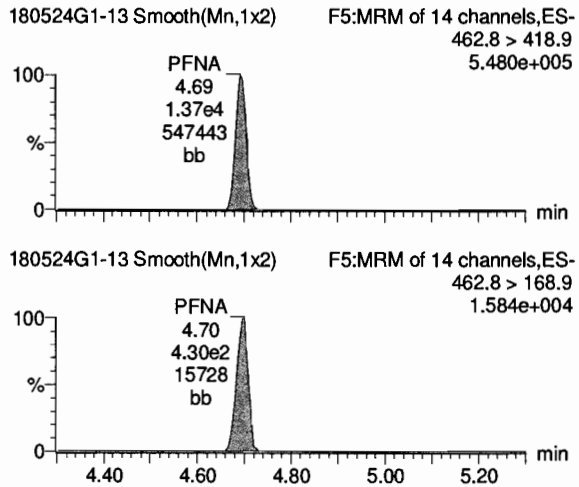
Last Altered: Thursday, May 24, 2018 15:50:14 Pacific Daylight Time
Printed: Thursday, May 24, 2018 15:50:43 Pacific Daylight Time

Name: 180524G1-13, Date: 24-May-2018, Time: 15:13:47, ID: ICV180524G1-1 PFC ICV 18E1401, Description: PFC ICV 18E1401

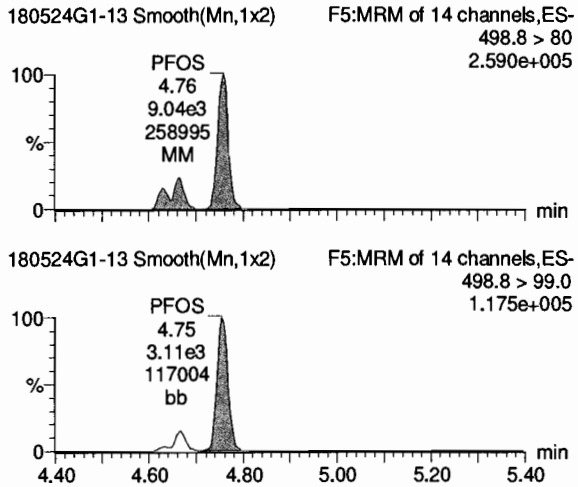
Total PFOA



PFNA



Total PFOS



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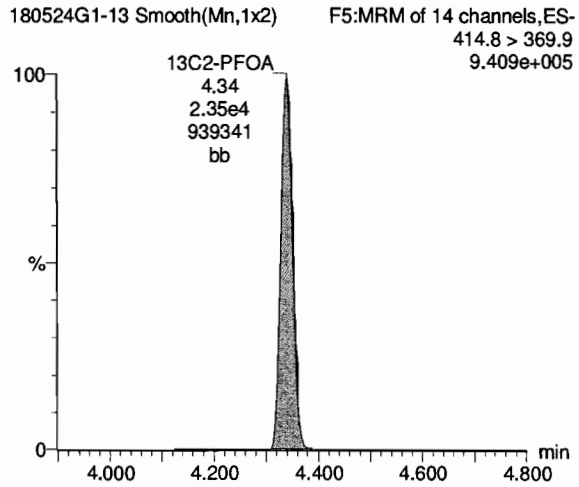

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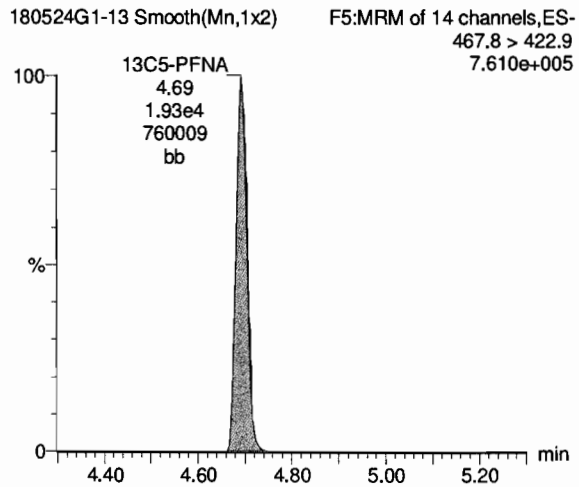

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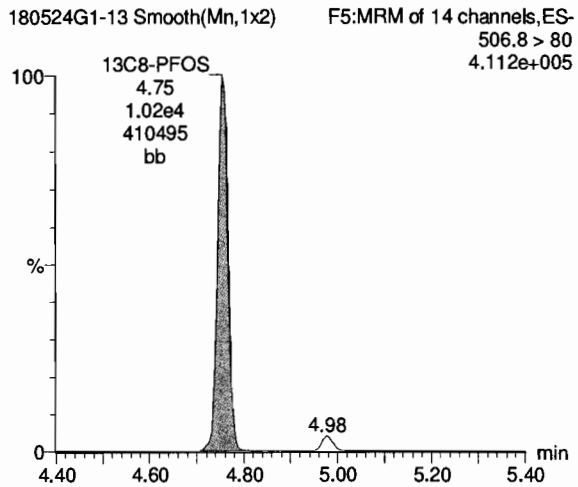


Vista Analytical Laboratory

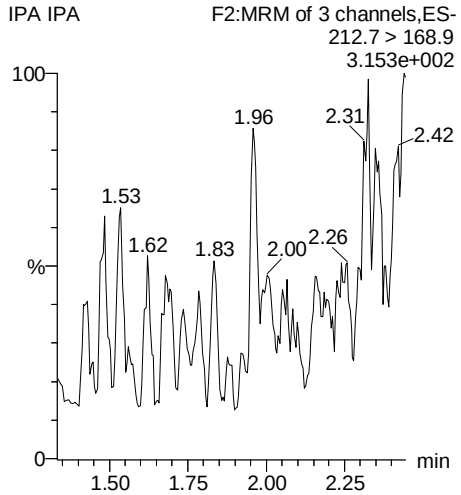
Dataset: Untitled

Last Altered: Thursday, May 24, 2018 16:54:15 Pacific Daylight Time
Printed: Thursday, May 24, 2018 16:54:28 Pacific Daylight Time

Method: Y:\G1.PRO\MethDB\PFAS_A_180524_L9.mdb 24 May 2018 15:17:29
Calibration: Y:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_05-24-18_L9.cdb 24 May 2018 15:40:22

Name: 180524G1-12, Date: 24-May-2018, Time: 15:01:32, ID: IPA, Description: IPA

PFBA



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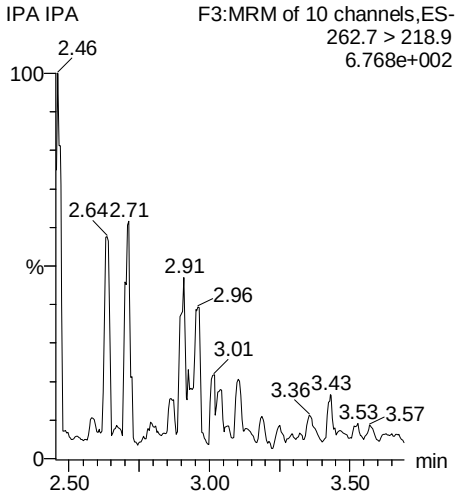

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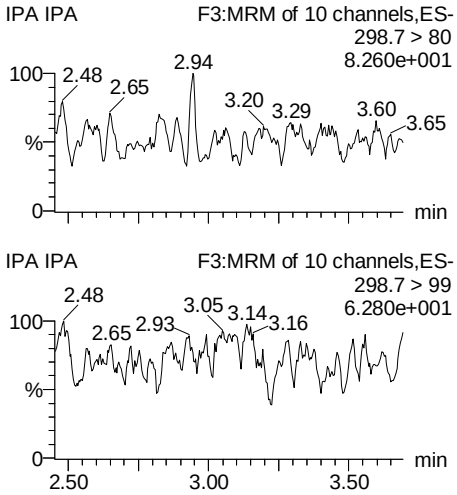

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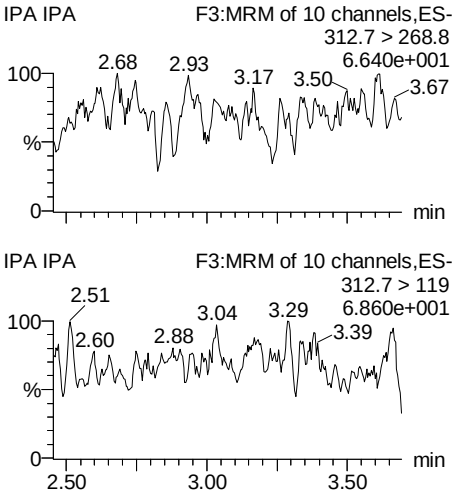

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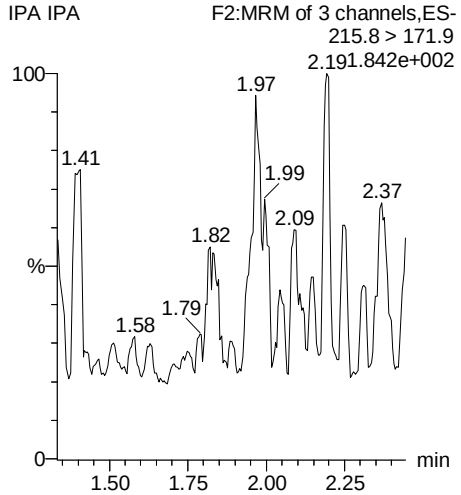

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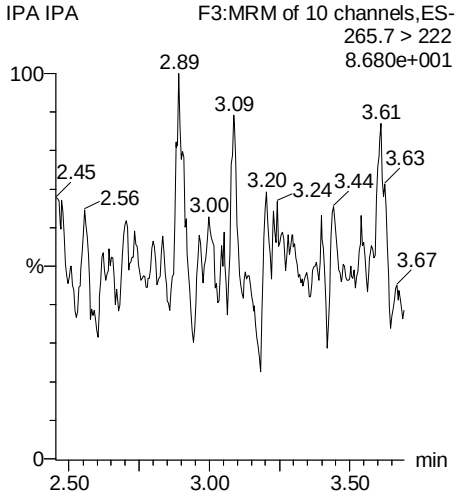

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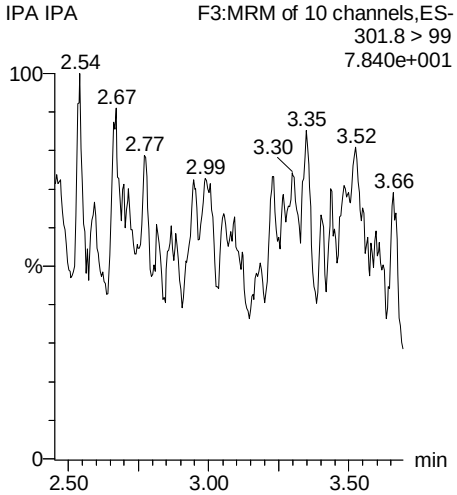

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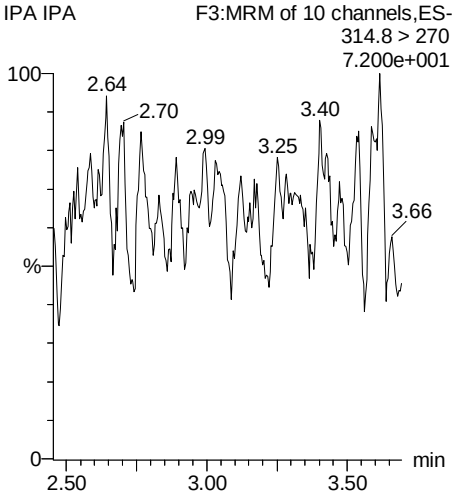

AD 5/24/2018

Vista Analytical Laboratory

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Printed: Thursday, May 24, 2018 16:54:28 Pacific Daylight Time

Name: 180524G1-12, Date: 24-May-2018, Time: 15:01:32, ID: IPA, Description: IPA

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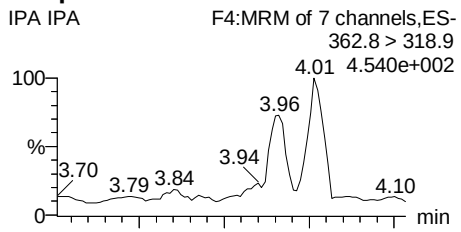

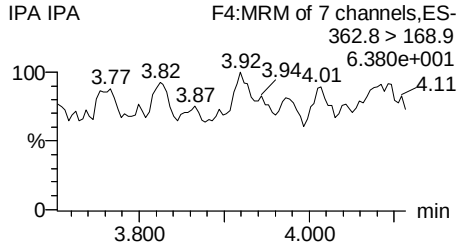

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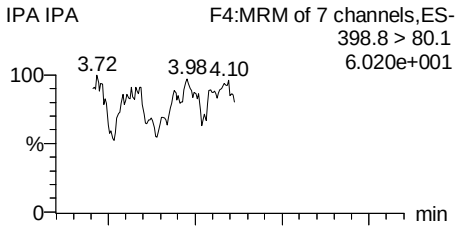

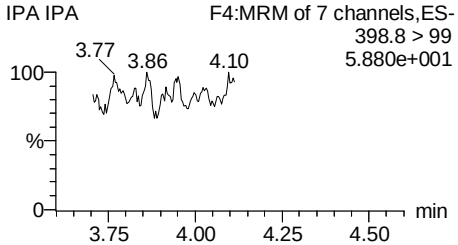

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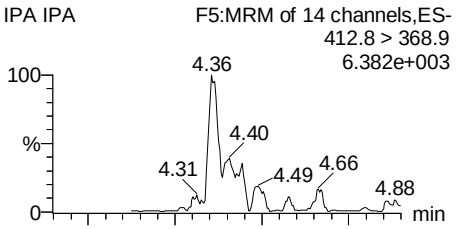

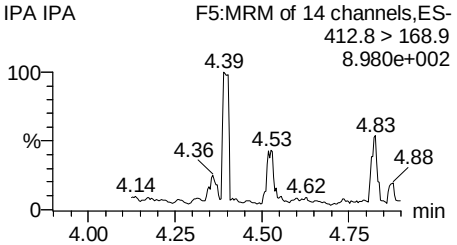

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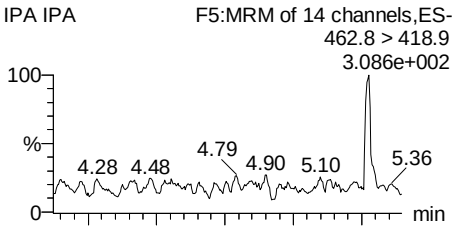

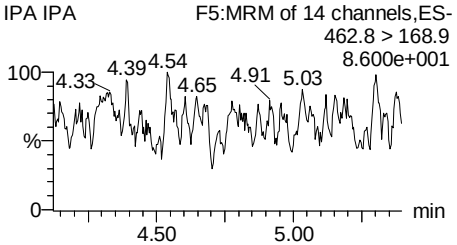

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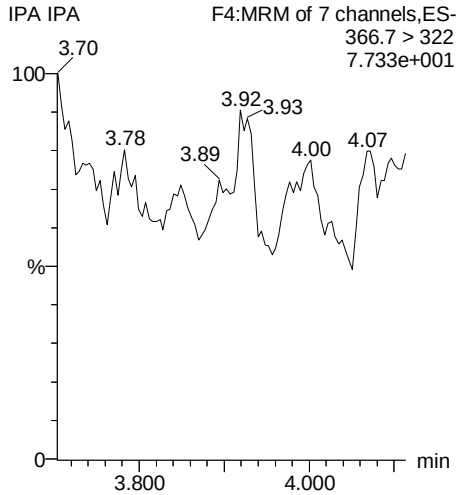

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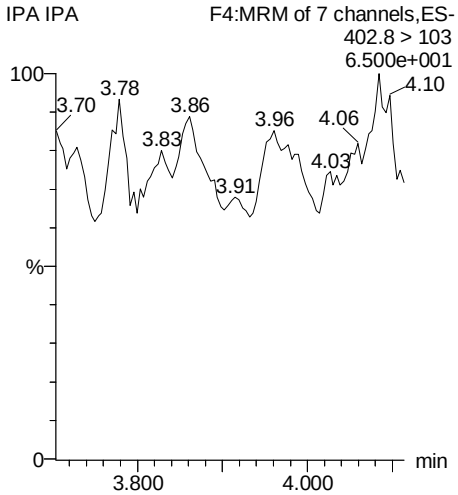

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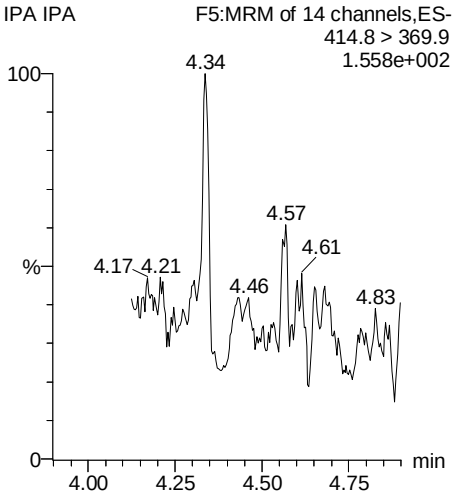

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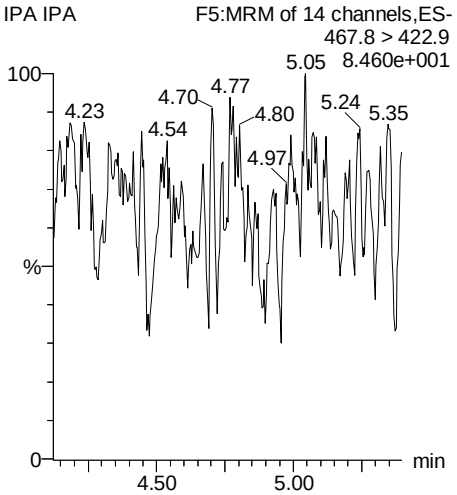

AD 5/24/2018

Vista Analytical Laboratory

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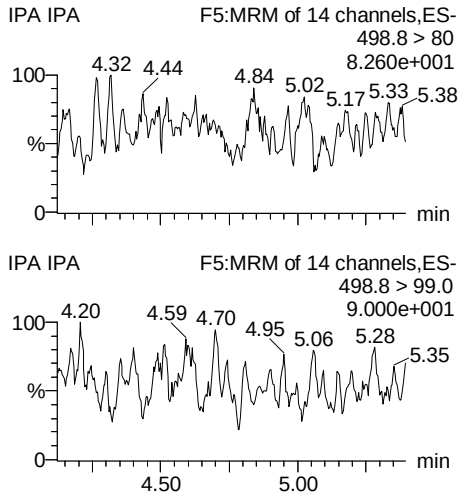
Printed: Thursday, May 24, 2018 16:54:28 Pacific Daylight Time

Name: 180524G1-12, Date: 24-May-2018, Time: 15:01:32, ID: IPA, Description: IPA

PFOS



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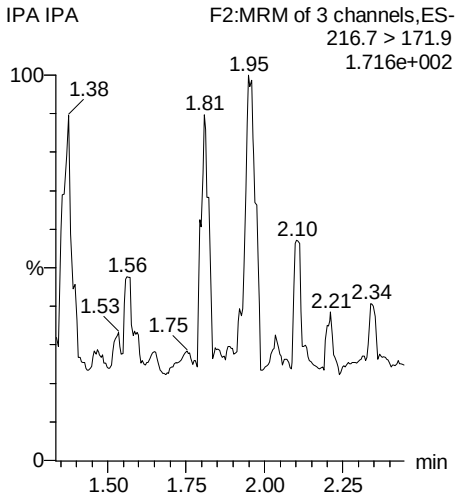

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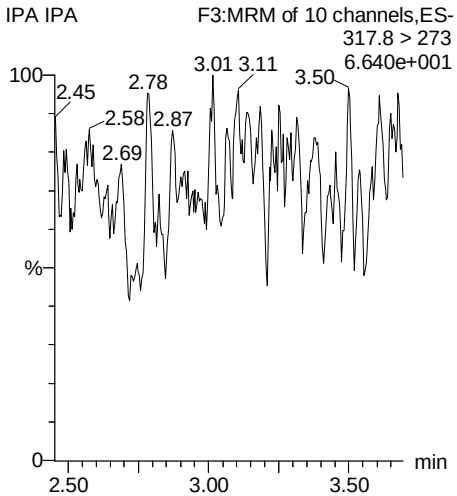

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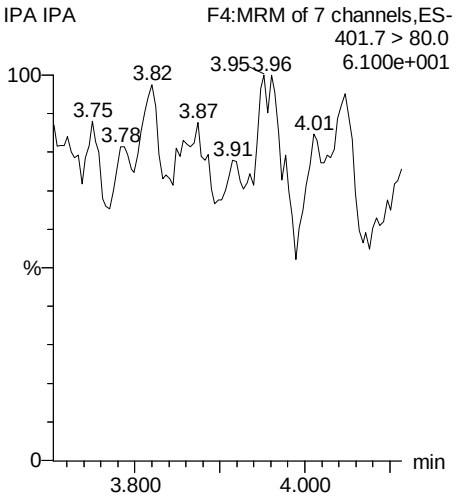

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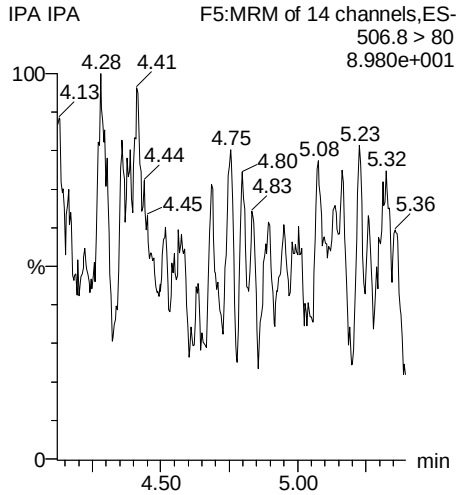

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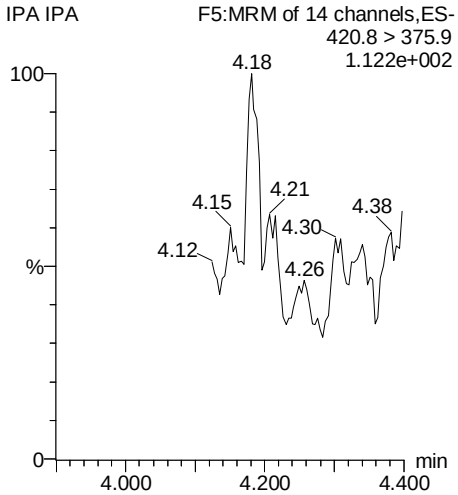

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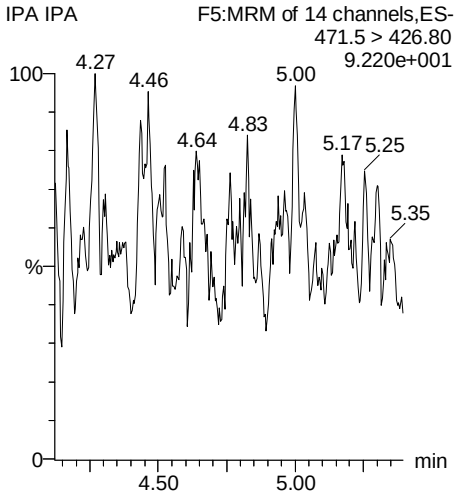

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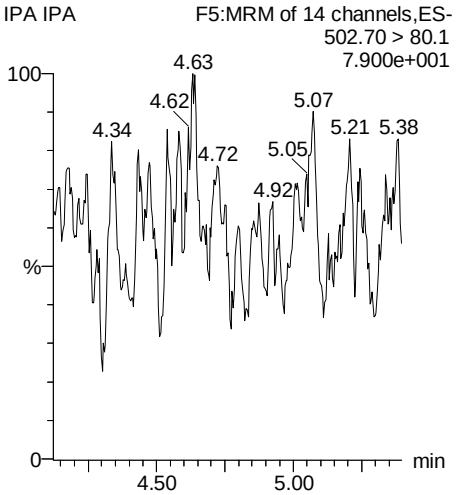

AD 5/24/2018

Eastern Analytical, Inc.

Chain-of-Custody and Sample Log-In Information

SAMPLE CONDITIONS PAGE

EAI ID#: **181195**

Client: **CES, Inc. (Lewiston)**

Client Designation: **Coakley Landfill Storm Water | 10424.019**

Temperature upon receipt (°C): 5.1 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
181195.01	STM-Outfall Pipe	4/27/18	4/26/18	aqueous		Adheres to Sample Acceptance Policy Cooler ID: M-287
181195.02	STM-Outfall Pipe Dup	4/27/18	4/26/18	aqueous		Adheres to Sample Acceptance Policy Cooler ID: M-287
181195.03	STM-Perimeter Ditches	4/27/18	4/26/18	aqueous		Adheres to Sample Acceptance Policy Cooler ID: M-287
181195.04	STM-Subsurface Piping	4/27/18	4/26/18	aqueous		Adheres to Sample Acceptance Policy Cooler ID: M-287

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

FOR 181195

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BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2 BTEX; 524.2 MTBE ONLY; 8260B 624 VTICs; 1, 4 DIOXANE	VOC: 8021B BTEX HALOS	VOC: 8015B GRO MAVPH	SVOC: 8270D 625 SVHCs EDB DBCP; ABN A BN PAH	SVOC: TPH8100 L1 L2	SVOC: 8015B DRO MAEPH	SVOC: PEST 608 PCB 608; PEST 8081A PCB 8082	SVOC: OIL & GREASE 1664 TPH 1664	TCLP: TCLP 1311 ABN METALS; VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	INORGANICS: TS TSS TDS SPEC. CON.	INORGANICS: BR CL F SO4; NO2 NO3 NO2-NO2	INORGANICS: BOD CBOD T. ALK.	INORGANICS: TKN NH3 T. PHOS. O. PHOS.	INORGANICS: pH T. RES. CHLORINE	INORGANICS: COD PHENOLS TOC DOC	INORGANICS: TOTAL CYANIDE TOTAL SULFIDE	INORGANICS: REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	MICRO: TOTAL COLIFORM E. COLI FECAL COLIFORM ENTEROCOCCI HETEROTROPHIC PLATE COUNT	OTHER: 537 Modified			# OF CONTAINERS	NOTES MEOH VIAL #
STM-outfall pipe	4-26-18 / 9:30	SW	G																					2			2	
STM-outfall pipe-DUP	4-26-18 / 9:30																											
STM-outfall pipe-MS	4-26-18 / 9:30																											
STM-outfall pipe-MSD	4-26-18 / 9:30																											
STM-Perimeter Ditches	4-26-18 / 10:30																											
STM-Subsurface piping	4-26-18 / 10:30																											

4-27-18

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Mike Deyling
COMPANY: CES, Inc.
ADDRESS: 640 Main St.
CITY: Lewiston STATE: ME ZIP: 04240
PHONE: 2077956009 EXT.:
FAX: sgerma@ces-maine.com
E-MAIL: mdeyling@ces-maine.com
SITE NAME: Coakley Landfill stormwater
PROJECT #: 10424.019
STATE: NH MA ME VT OTHER:
REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP OIL FUND, BROWNFIELD OR OTHER: Superfund
QUOTE #: PO #:

DATE NEEDED:

QA/QC REPORTING LEVEL A B C OR PRESUMPTIVE CERTAINTY

REPORTING OPTIONS PRELIMS: YES OR NO IF YES: FAX OR PDF

ELECTRONIC OPTIONS NO FAX E-MAIL PDF EQUIS

TEMP. 5.1 °C ICE? YES NO

EDD used for Call Bo17 event

SAMPLER(S): David Chapman

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
[signature]	4-27-18	1435	Lisa Burton
RELINQUISHED BY: Lisa Burton	DATE: 4-27-18	TIME: 1630	RECEIVED BY: [signature]
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

METALS: 8 RCRA 13 PP FE, MN PB, CU

OTHER METALS:

SAMPLES FIELD FILTERED? ☐ YES ☐ NO

NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO IF DIFFERENT)
Modified 537 for PFBS, PFHpA, PFOA PFHxS, PFNA, PFOS

SITE HISTORY:
SUSPECTED CONTAMINATION:
FIELD READINGS:

Eastern Analytical, Inc.
professional laboratory and drilling services

EAI SAMPLE CONDITIONS PAGE
EAI SRB # 181195

Received via: other:_____

- [x] EAI Courier
- [ ] UPS
- [ ] FedEx
- [ ] Customer D/O
- [ ] Custody Seal
- [ ] US Postal
- [ ] EAI Employee
- [ ] Field Services
- [ ] Other

Unpacked by: AUB
Date: APR 27 2018

Samples Labeled by (Costar): AUB

Preservation checked by: AUB **Date:** APR 27 2018 **Delivered to lab by:** AUB **Date:** APR 27 2018

Analysis	Preservation			Preservative added? Select all applicable.	Sample Storage	
Metals:	HNO3: pH<2	F	L	☐ Container received unpreserved	Rec Lab-1	
Dissolved Analysis:	Filtering:	F	L	☐ Sample matrix interference	VOA Lab-1	
DOC / TOC:	H3PO4: pH<2	F	L	☐ Sample split / transferred	VOA Lab-2	
Phenols:	H2SO4: pH<2	F	L	☐ Sample filtered by EAI	Ext Lab-1	
NH3 / TKN / COD / PO4:	H2SO4: pH<2	F	L	☐ Other -	Ext Lab SOC	
Sulfide / Cyanide:	NaOH: pH>11	F	L		Wet Lab P-1	
525 / EPH / DRO:	HCl: pH<2	F	L		Wet Lab U-1	
Method 5035 VOC (soils):	Methanol	F	L	Syringe MeOH Vial Additional Jar	Soils-1	
BOD / Uranium / Other :	Sample Split	Y	N		Metal Shelf	

Subcontracted Samples: Stored in Rec Lab Fridge: (Y) N

Shipped Via: EAI Courier ~~UPS~~ FedEx Other Courier EAI Employee Subbed By: AUB Sub Date: 4/30/18

Sub Lab: Anlyt Svcs. ALS-CA ALS-NY ALS-TX AWCL EEA EMSL Frontier GEL KNL LL MEL NEB Optimum PACE-FL PACE-NY Phoenix Seacoast Anlyt. Sterling Summit (Vista) Other:_____

Customer Communication / Sample Issues - Include customer and date contacted.

VOC Trip Blank - Y / N / NA Date: Time:	
1,4D Trip Blank - Y / N / NA Date: Time:	
EDB Trip Blank - Y / N / NA Date:	
Cooler M-287 temp 5.1°C	
All samples came out of	
one cooler	