NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1601401

Naval Air Station Oceana
Virginia Beach, Virginia

July 2019

November 17, 2016

Vista Work Order No. 1601401

Ms. Tiffany Hill
CH2M Hill
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 03, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-WE14 Oceana PFC'.

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,

Karen Lopez for

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 Work Order No. 1601401
Case Narrative

Sample Condition on Receipt:

Thirteen 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:

Modified EPA Method 537

The aqueous samples were extracted and analyzed for a selected list of 6 PFAS using 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

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1601401-09	OW26-MW1-1116	Modified EPA Method 537	18O2-PFHxS	H	156
1601401-10	OW26-MW1P 1116	Modified EPA Method 537	18O2-PFHxS	H	156
1601401-10	OW26-MW1P 1116	Modified EPA Method 537	13C2-PFOA	H	154

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1601401-01	OW2C-MW19-1116	01-Nov-16 09:50	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-02	OW2E-MW19-1116	01-Nov-16 11:10	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-03	OW2B-MW41-1116	01-Nov-16 12:05	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-04	203MW-19-1116	01-Nov-16 13:10	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-05	JTC-MW-B-1116	01-Nov-16 14:20	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-06	OC-MW03-1116	01-Nov-16 10:00	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-07	OC-MW01-1116	01-Nov-16 11:15	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-08	OC-MW02-1116	01-Nov-16 12:30	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-09	OW26-MW1-1116	01-Nov-16 13:40	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-10	OW26-MW1P 1116	01-Nov-16 13:45	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-11	OC-FB-110216	02-Nov-16 12:52	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-12	OC-EB-110216	02-Nov-16 12:20	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-13	MW-BG10-1116	02-Nov-16 14:25	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0078	Lab Sample:	B6K0078-BLK1
Sample Size:	0.125 L	Date Extracted:	11-Nov-2016 9:53	Date Analyzed:	14-Nov-16 17:52 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.00	
PFHpA	ND	0.591	2.00	8.00	
PFHxS	ND	0.947	2.00	8.00	
PFOA	ND	0.651	2.00	8.00	
PFOS	ND	0.807	0.900	8.00	
PFNA	ND	0.810	2.00	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	94.0	60 - 150	
IS	13C4-PFHpA	81.2	60 - 150	
IS	18O2-PFHxS	81.3	60 - 150	
IS	13C2-PFOA	82.0	60 - 150	
IS	13C8-PFOS	79.2	60 - 150	
IS	13C5-PFNA	74.3	50 - 150	

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

Sample ID: OPR

Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0078	Lab Sample:	B6K0078-BS1
Sample Size:	0.125 L	Date Extracted:	11-Nov-2016 9:53	Date Analyzed:	15-Nov-16 16:19 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	104	80.0	130	60 - 130
PFHpA	95.9	80.0	120	70 - 130
PFHxS	90.7	80.0	113	70 - 130
PFOA	101	80.0	126	70 - 130
PFOS	94.2	80.0	118	70 - 130
PFNA	95.2	80.0	119	50 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	95.9	60 - 150
IS	13C4-PFHpA	83.7	60 - 150
IS	18O2-PFHxS	85.4	60 - 150
IS	13C2-PFOA	79.4	60 - 150
IS	13C8-PFOS	89.5	60 - 150
IS	13C5-PFNA	80.3	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: OW2C-MW19-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 01-Nov-2016 9:50
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.123 L

Laboratory Data

Lab Sample: 1601401-01 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 00:12 Column: BEH C18
15-Nov-16 21:13 Column: BEH C18

Analyte	Conc. (ng/L)	LOD	LOQ	Qualifiers
PFBS	195	4.07	8.10	
PFHpA	113	2.03	8.10	
PFHxS	881	2.03	8.10	
PFOA	546	2.03	8.10	
PFOS	2430	4.57	40.5	D
PFNA	23.1	2.03	8.10	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	94.8	60 - 150	
IS	13C4-PFHpA	79.0	60 - 150	
IS	18O2-PFHxS	84.2	60 - 150	
IS	13C2-PFOA	89.3	60 - 150	
IS	13C8-PFOS	74.5	60 - 150	D
IS	13C5-PFNA	66.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OW2E-MW19-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 11:10
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-02	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 00:24	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	43.4	1.81	4.03	8.08	
PFHpA	493	0.597	2.02	8.08	
PFHxS	290	0.956	2.02	8.08	
PFOA	413	0.657	2.02	8.08	
PFOS	263	0.815	0.907	8.08	
PFNA	93.6	0.818	2.02	8.08	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C4-PFHpA	83.8	60 - 150	
IS	18O2-PFHxS	89.2	60 - 150	
IS	13C2-PFOA	84.7	60 - 150	
IS	13C8-PFOS	75.3	60 - 150	
IS	13C5-PFNA	72.5	50 - 150	

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

Sample ID: OW2B-MW41-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 01-Nov-2016 12:05
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.125 L

Laboratory Data

Lab Sample: 1601401-03 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 00:36 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	51.7	1.80	4.00	8.03	
PFHpA	275	0.593	2.00	8.03	
PFHxS	473	0.950	2.00	8.03	
PFOA	222	0.653	2.00	8.03	
PFOS	63.1	0.810	0.900	8.03	
PFNA	6.59	0.813	2.00	8.03	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C4-PFHpA	81.2	60 - 150	
IS	18O2-PFHxS	85.7	60 - 150	
IS	13C2-PFOA	84.3	60 - 150	
IS	13C8-PFOS	90.6	60 - 150	
IS	13C5-PFNA	71.7	50 - 150	

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

Sample ID: 203MW-19-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 13:10
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-04	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 00:48	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.06	
PFHpA	1.85	0.596	2.02	8.06	J
PFHxS	16.9	0.955	2.02	8.06	
PFOA	5.75	0.656	2.02	8.06	J
PFOS	7.17	0.813	0.907	8.06	J
PFNA	ND	0.816	2.02	8.06	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	102	60 - 150	
IS	13C4-PFHpA	84.5	60 - 150	
IS	18O2-PFHxS	85.0	60 - 150	
IS	13C2-PFOA	77.2	60 - 150	
IS	13C8-PFOS	70.8	60 - 150	
IS	13C5-PFNA	66.1	50 - 150	

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

Sample ID: JTC-MW-B-1116

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601401-05	Date Received:	03-Nov-2016 9:54
Project:	CTO-WE14 Oceana PFC	Sample Size:	0.121 L	QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Collected:	01-Nov-2016 14:20			Date Analyzed:	15-Nov-16 01:01 Column: BEH C18		
Location:	WAS PFC				15-Nov-16 21:25 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	4.27	1.84	4.13	8.24	J
PFHpA	6.29	0.609	2.07	8.24	J
PFHxS	212	0.976	2.07	8.24	
PFOA	12.6	0.671	2.07	8.24	
PFOS	4020	8.31	9.30	82.4	D
PFNA	6.08	0.835	2.07	8.24	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	98.1	60 - 150	
IS	13C4-PFHpA	83.5	60 - 150	
IS	18O2-PFHxS	84.9	60 - 150	
IS	13C2-PFOA	88.7	60 - 150	
IS	13C8-PFOS	82.8	60 - 150	D
IS	13C5-PFNA	74.6	50 - 150	

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

Sample ID: OC-MW03-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 10:00
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.126 L

Laboratory Data

Lab Sample:	1601401-06	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 01:13 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	6.89	1.77	3.97	7.91	J
PFHpA	9.62	0.585	1.98	7.91	
PFHxS	46.7	0.937	1.98	7.91	
PFOA	15.6	0.644	1.98	7.91	
PFOS	33.4	0.798	0.893	7.91	
PFNA	ND	0.801	1.98	7.91	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	100	60 - 150	
IS	13C4-PFHpA	81.2	60 - 150	
IS	18O2-PFHxS	78.6	60 - 150	
IS	13C2-PFOA	83.7	60 - 150	
IS	13C8-PFOS	79.7	60 - 150	
IS	13C5-PFNA	79.0	50 - 150	

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

Sample ID: OC-MW01-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 11:15
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.120 L

Laboratory Data

Lab Sample:	1601401-07	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 01:25	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	4.13	1.87	4.17	8.35	J
PFHpA	2.70	0.617	2.08	8.35	J
PFHxS	19.4	0.989	2.08	8.35	
PFOA	4.92	0.680	2.08	8.35	J
PFOS	8.16	0.843	0.938	8.35	J
PFNA	1.76	0.846	2.08	8.35	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	94.2	60 - 150	
IS	13C4-PFHpA	80.6	60 - 150	
IS	18O2-PFHxS	81.8	60 - 150	
IS	13C2-PFOA	82.8	60 - 150	
IS	13C8-PFOS	82.3	60 - 150	
IS	13C5-PFNA	77.4	50 - 150	

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

Sample ID: OC-MW02-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 12:30
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-08	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 01:37	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.06	
PFHpA	ND	0.596	2.02	8.06	
PFHxS	ND	0.954	2.02	8.06	
PFOA	0.814	0.656	2.02	8.06	J
PFOS	ND	0.813	0.907	8.06	
PFNA	ND	0.816	2.02	8.06	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	102	60 - 150	
IS	13C4-PFHpA	79.0	60 - 150	
IS	18O2-PFHxS	77.7	60 - 150	
IS	13C2-PFOA	77.7	60 - 150	
IS	13C8-PFOS	83.8	60 - 150	
IS	13C5-PFNA	86.5	50 - 150	

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

Sample ID: OW26-MW1-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 01-Nov-2016 13:40
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.124 L

Laboratory Data

Lab Sample: 1601401-09 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 21:49 Column: BEH C18

Analyte	Conc. (ng/L)	LOD	LOQ	Qualifiers
PFBS	4950	161.	322	D
PFHpA	13900	80.6	322	D
PFHxS	52400	80.6	322	D
PFOA	22600	80.6	322	D
PFOS	471000	36.3	322	D
PFNA	1530	80.6	322	D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	109	60 - 150	D
IS	13C4-PFHpA	103	60 - 150	D
IS	18O2-PFHxS	156	60 - 150	D, H
IS	13C2-PFOA	148	60 - 150	D
IS	13C8-PFOS	89.4	60 - 150	D
IS	13C5-PFNA	76.7	50 - 150	D

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OW26-MW1P 1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 13:45
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-10	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 23:40 Column: BEH C18		

Analyte	Conc. (ng/L)	LOD	LOQ	Qualifiers
PFBS	4740	161.	323	D
PFHpA	12900	80.6	323	D
PFHxS	51300	80.6	323	D
PFOA	21200	80.6	323	D
PFOS	471000	36.3	323	D
PFNA	1650	80.6	323	D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	118	60 - 150	D
IS	13C4-PFHpA	114	60 - 150	D
IS	18O2-PFHxS	156	60 - 150	D, H
IS	13C2-PFOA	154	60 - 150	D, H
IS	13C8-PFOS	94.9	60 - 150	D
IS	13C5-PFNA	80.1	50 - 150	D

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OC-FB-110216

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	02-Nov-2016 12:52
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.125 L

Laboratory Data

Lab Sample:	1601401-11	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 02:51	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.01	
PFHpA	ND	0.592	2.00	8.01	
PFHxS	ND	0.948	2.00	8.01	
PFOA	0.691	0.652	2.00	8.01	J
PFOS	ND	0.808	0.900	8.01	
PFNA	ND	0.811	2.00	8.01	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	96.9	60 - 150	
IS	13C4-PFHpA	78.7	60 - 150	
IS	18O2-PFHxS	89.2	60 - 150	
IS	13C2-PFOA	80.7	60 - 150	
IS	13C8-PFOS	92.2	60 - 150	
IS	13C5-PFNA	76.4	50 - 150	

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

Sample ID: OC-EB-110216

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 02-Nov-2016 12:20
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1601401-12 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 03:03 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.84	4.13	8.24	
PFHpA	ND	0.608	2.07	8.24	
PFHxS	ND	0.975	2.07	8.24	
PFOA	0.731	0.670	2.07	8.24	J
PFOS	ND	0.831	0.930	8.24	
PFNA	ND	0.834	2.07	8.24	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	92.8	60 - 150	
IS	13C4-PFHpA	79.8	60 - 150	
IS	18O2-PFHxS	86.9	60 - 150	
IS	13C2-PFOA	80.7	60 - 150	
IS	13C8-PFOS	85.9	60 - 150	
IS	13C5-PFNA	81.2	50 - 150	

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

Sample ID: MW-BG10-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	02-Nov-2016 14:25
Location:	NAS PFC

Sample Data

Matrix:	Groundwater
Sample Size:	0.119 L

Laboratory Data

Lab Sample:	1601401-13	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 03:15 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.87	4.20	8.38	
PFHpA	ND	0.619	2.10	8.38	
PFHxS	2.90	0.992	2.10	8.38	J
PFOA	1.85	0.682	2.10	8.38	J
PFOS	1.23	0.845	0.945	8.38	J
PFNA	ND	0.848	2.10	8.38	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	97.6	60 - 150	
IS	13C4-PFHpA	80.7	60 - 150	
IS	18O2-PFHxS	88.2	60 - 150	
IS	13C2-PFOA	79.7	60 - 150	
IS	13C8-PFOS	86.9	60 - 150	
IS	13C5-PFNA	74.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, 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.**
D	**Dilution**
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.**
*****	**See Cover Letter**
Conc.	**Concentration**
NA	**Not applicable**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
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

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY 1601401

For Laboratory Use Only
Laboratory Project ID: 1601401 Temp: 1.6 °C
Storage ID: Storage Secured: Yes ☑ No ☐

Project ID: CTO-WE14 OCEANA PFC P.O.#: 10006-7-10569B Sampler: MAL OST / MR CLAY (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
TIFFANY HILL	CH2M	5701 CLEVELAND ST	VIRGINIA BEACH	VA	541 768 3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
MAL OST MO	11/2/16	1545	Marissa Sparks MSparks	11/3/16	1013
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

Method of Shipment: FedEx

ATTN: MARTHA MAIER

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
OW2C-MW19-1116	11/1/16	0950	WAS PFC	2	G	AQ																2	
OW2E-MW39-1116	11/1/16	1110	WAS PFC	2	G	AQ																2	
OW2B-MW41-1116	11/1/16	1205	WAS PFC	2	G	AQ																2	
203MW-19-1116	11/1/16	1310	WAS PFC	2	G	AQ										MAY HAVE FUEL						2	NOTE: MAY HAVE FUEL IN IT
JTC-MW-B-1116	11/1/16	1420	WAS PFC	2	G	AQ										MAY HAVE FUEL						2	NOTE: MAY HAVE FUEL IN IT
OC-MW03-1116	11/1/16	1000	WAS PFC	2	G	AQ																2	
OC MW01-1116	11/1/16	1115		2	G	AQ																2	
OC MW02 1116	11/1/16	1230		2	G	AQ																2	
OW2A MW3 1116	11/1/16	1340		2	G	AQ																2	
OW2B MW17P 1116	11/1/16	1345		2	G	AQ																2	

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2MM
Address: 5701 Cleveland St
City: Vir Bch State: VA Zip: 23462
Phone: 541.768 3107 Fax:
Email: Tiffany.Hill@CH2M.com

Container Types: A = 1 Liter Amber, G = Glass Jar, P = PUF, T = MM5, O = Other:

Bottle Preservation Type: T = Thiosulfate, O = Other:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Vista Analytical Laboratory

CHAIN OF CUSTODY

1601401

For Laboratory Use Only
Laboratory Project ID: Temp: °C
Storage ID: Storage Secured: Yes ☐ No ☐

PFC

Project ID: CTO-WE14-OCEANA P.O.#: 10056-T-10569B Sampler: M OST / VML CLAY (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	CH2M	5701 Cleveland St	Virginia Beach	VA	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
VML OST	11/2/16	1545	Marissa Sparks MSparks	11/3/16	1013
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

Method of Shipment:

ATTN:

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
OC-FB-1102/16	11/2/16	1235	NAS PFC	2	A	FB															2		FB
OC-EB-1102/16	11/2/16	1320	NAS PFC	2	O	EB															2		EB
MW-BG10-1116	11/2/16	1425	NAS PFC	2	O	GW															2		

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M
Address: 5701 Cleveland St
City: Virginia Beach State: VA Zip: 23462
Phone: 541.768.3107 Fax:
Email: TiffanyHill@CH2M.com

Container Types: A = 1 Liter Amber, G = Glass Jar, P = PUF, T = MM5, O = Other:

Bottle Preservation Type: T = Thiosulfate, O = Other:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1601401 **TAT** 14

Samples Arrival:	**Date/Time** 11/3/16 0954	**Initials:** MWS	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 11/3/16 1530	**Initials:** JBLB	**Location:** WR-2 **Shelf/Rack:** NA

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

Temp °C: 1.4	(uncorrected)	**Time:** 1011 **Probe used: Yes☐ No☑**	**Thermometer ID:** IR-1
Temp °C: 1.1	(corrected)		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 7845 3254 8683	✓		
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			Yes	No	NA
Shipping Container	Vista	Client	Retain	Return	Dispose		

Comments:

OC-FB-110216 A/B
OC-EB-110216
MW-BG10-1116 ↓

Sample Label ID:	Collection Time	#Bottles
JTC-MW-B-1116	1420	A/B
OW2B-MW41-1116	1205	
OW2E-MW19-1116	1110	
OW2C-MW19-1116	0950	
203MW-19-1116	1310	
OC-MW02-1116	1230	
OW26-MW1-1116	1340	
OC-MW03-1116	1000	
OC-MW01-1116	1115	
OW26-MW1P-1116	1345	

BLA 09/06/2016

November 17, 2016

Vista Work Order No. 1601401

Ms. Tiffany Hill
CH2M Hill
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 03, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-WE14 Oceana PFC'.

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,

Karen Lopez for

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 Work Order No. 1601401
Case Narrative

Sample Condition on Receipt:

Thirteen 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:

Modified EPA Method 537

The aqueous samples were extracted and analyzed for a selected list of 6 PFAS using 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

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1601401-09	OW26-MW1-1116	Modified EPA Method 537	18O2-PFHxS	H	156
1601401-10	OW26-MW1P 1116	Modified EPA Method 537	18O2-PFHxS	H	156
1601401-10	OW26-MW1P 1116	Modified EPA Method 537	13C2-PFOA	H	154

H = Recovery was outside laboratory acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1601401-01	OW2C-MW19-1116	01-Nov-16 09:50	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-02	OW2E-MW19-1116	01-Nov-16 11:10	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-03	OW2B-MW41-1116	01-Nov-16 12:05	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-04	203MW-19-1116	01-Nov-16 13:10	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-05	JTC-MW-B-1116	01-Nov-16 14:20	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-06	OC-MW03-1116	01-Nov-16 10:00	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-07	OC-MW01-1116	01-Nov-16 11:15	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-08	OC-MW02-1116	01-Nov-16 12:30	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-09	OW26-MW1-1116	01-Nov-16 13:40	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-10	OW26-MW1P 1116	01-Nov-16 13:45	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-11	OC-FB-110216	02-Nov-16 12:52	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-12	OC-EB-110216	02-Nov-16 12:20	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1601401-13	MW-BG10-1116	02-Nov-16 14:25	03-Nov-16 09:54	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0078	Lab Sample:	B6K0078-BLK1
Sample Size:	0.125 L	Date Extracted:	11-Nov-2016 9:53	Date Analyzed:	14-Nov-16 17:52 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.00	
PFHpA	ND	0.591	2.00	8.00	
PFHxS	ND	0.947	2.00	8.00	
PFOA	ND	0.651	2.00	8.00	
PFOS	ND	0.807	0.900	8.00	
PFNA	ND	0.810	2.00	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	94.0	60 - 150	
IS	13C4-PFHpA	81.2	60 - 150	
IS	18O2-PFHxS	81.3	60 - 150	
IS	13C2-PFOA	82.0	60 - 150	
IS	13C8-PFOS	79.2	60 - 150	
IS	13C5-PFNA	74.3	50 - 150	

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

Sample ID: OPR

Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0078	Lab Sample:	B6K0078-BS1
Sample Size:	0.125 L	Date Extracted:	11-Nov-2016 9:53	Date Analyzed:	15-Nov-16 16:19 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	104	80.0	130	60 - 130
PFHpA	95.9	80.0	120	70 - 130
PFHxS	90.7	80.0	113	70 - 130
PFOA	101	80.0	126	70 - 130
PFOS	94.2	80.0	118	70 - 130
PFNA	95.2	80.0	119	50 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	95.9	60 - 150
IS	13C4-PFHpA	83.7	60 - 150
IS	18O2-PFHxS	85.4	60 - 150
IS	13C2-PFOA	79.4	60 - 150
IS	13C8-PFOS	89.5	60 - 150
IS	13C5-PFNA	80.3	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: OW2C-MW19-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 9:50
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.123 L

Laboratory Data

Lab Sample:	1601401-01	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 00:12 Column: BEH C18		
	15-Nov-16 21:13 Column: BEH C18		

Analyte	Conc. (ng/L)	LOD	LOQ	Qualifiers
PFBS	195	4.07	8.10	
PFHpA	113	2.03	8.10	
PFHxS	881	2.03	8.10	
PFOA	546	2.03	8.10	
PFOS	2430	4.57	40.5	D
PFNA	23.1	2.03	8.10	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	94.8	60 - 150	
IS	13C4-PFHpA	79.0	60 - 150	
IS	18O2-PFHxS	84.2	60 - 150	
IS	13C2-PFOA	89.3	60 - 150	
IS	13C8-PFOS	74.5	60 - 150	D
IS	13C5-PFNA	66.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OW2E-MW19-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 11:10
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-02	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 00:24	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	43.4	1.81	4.03	8.08	
PFHpA	493	0.597	2.02	8.08	
PFHxS	290	0.956	2.02	8.08	
PFOA	413	0.657	2.02	8.08	
PFOS	263	0.815	0.907	8.08	
PFNA	93.6	0.818	2.02	8.08	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C4-PFHpA	83.8	60 - 150	
IS	18O2-PFHxS	89.2	60 - 150	
IS	13C2-PFOA	84.7	60 - 150	
IS	13C8-PFOS	75.3	60 - 150	
IS	13C5-PFNA	72.5	50 - 150	

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

Sample ID: OW2B-MW41-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 01-Nov-2016 12:05
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.125 L

Laboratory Data

Lab Sample: 1601401-03 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 00:36 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	51.7	1.80	4.00	8.03	
PFHpA	275	0.593	2.00	8.03	
PFHxS	473	0.950	2.00	8.03	
PFOA	222	0.653	2.00	8.03	
PFOS	63.1	0.810	0.900	8.03	
PFNA	6.59	0.813	2.00	8.03	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C4-PFHpA	81.2	60 - 150	
IS	18O2-PFHxS	85.7	60 - 150	
IS	13C2-PFOA	84.3	60 - 150	
IS	13C8-PFOS	90.6	60 - 150	
IS	13C5-PFNA	71.7	50 - 150	

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

Sample ID: 203MW-19-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 13:10
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-04	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 00:48	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.06	
PFHpA	1.85	0.596	2.02	8.06	J
PFHxS	16.9	0.955	2.02	8.06	
PFOA	5.75	0.656	2.02	8.06	J
PFOS	7.17	0.813	0.907	8.06	J
PFNA	ND	0.816	2.02	8.06	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	102	60 - 150	
IS	13C4-PFHpA	84.5	60 - 150	
IS	18O2-PFHxS	85.0	60 - 150	
IS	13C2-PFOA	77.2	60 - 150	
IS	13C8-PFOS	70.8	60 - 150	
IS	13C5-PFNA	66.1	50 - 150	

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

Sample ID: JTC-MW-B-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 14:20
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.121 L

Laboratory Data

Lab Sample:	1601401-05	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 01:01 Column: BEH C18		
	15-Nov-16 21:25 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	4.27	1.84	4.13	8.24	J
PFHpA	6.29	0.609	2.07	8.24	J
PFHxS	212	0.976	2.07	8.24	
PFOA	12.6	0.671	2.07	8.24	
PFOS	4020	8.31	9.30	82.4	D
PFNA	6.08	0.835	2.07	8.24	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	98.1	60 - 150	
IS	13C4-PFHpA	83.5	60 - 150	
IS	18O2-PFHxS	84.9	60 - 150	
IS	13C2-PFOA	88.7	60 - 150	
IS	13C8-PFOS	82.8	60 - 150	D
IS	13C5-PFNA	74.6	50 - 150	

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

Sample ID: OC-MW03-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 10:00
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.126 L

Laboratory Data

Lab Sample:	1601401-06	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 01:13 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	6.89	1.77	3.97	7.91	J
PFHpA	9.62	0.585	1.98	7.91	
PFHxS	46.7	0.937	1.98	7.91	
PFOA	15.6	0.644	1.98	7.91	
PFOS	33.4	0.798	0.893	7.91	
PFNA	ND	0.801	1.98	7.91	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	100	60 - 150	
IS	13C4-PFHpA	81.2	60 - 150	
IS	18O2-PFHxS	78.6	60 - 150	
IS	13C2-PFOA	83.7	60 - 150	
IS	13C8-PFOS	79.7	60 - 150	
IS	13C5-PFNA	79.0	50 - 150	

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

Sample ID: OC-MW01-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 01-Nov-2016 11:15
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1601401-07 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 01:25 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	4.13	1.87	4.17	8.35	J
PFHpA	2.70	0.617	2.08	8.35	J
PFHxS	19.4	0.989	2.08	8.35	
PFOA	4.92	0.680	2.08	8.35	J
PFOS	8.16	0.843	0.938	8.35	J
PFNA	1.76	0.846	2.08	8.35	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	94.2	60 - 150	
IS	13C4-PFHpA	80.6	60 - 150	
IS	18O2-PFHxS	81.8	60 - 150	
IS	13C2-PFOA	82.8	60 - 150	
IS	13C8-PFOS	82.3	60 - 150	
IS	13C5-PFNA	77.4	50 - 150	

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

Sample ID: OC-MW02-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 01-Nov-2016 12:30
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.124 L

Laboratory Data

Lab Sample: 1601401-08 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 01:37 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.06	
PFHpA	ND	0.596	2.02	8.06	
PFHxS	ND	0.954	2.02	8.06	
PFOA	0.814	0.656	2.02	8.06	J
PFOS	ND	0.813	0.907	8.06	
PFNA	ND	0.816	2.02	8.06	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	102	60 - 150	
IS	13C4-PFHpA	79.0	60 - 150	
IS	18O2-PFHxS	77.7	60 - 150	
IS	13C2-PFOA	77.7	60 - 150	
IS	13C8-PFOS	83.8	60 - 150	
IS	13C5-PFNA	86.5	50 - 150	

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

Sample ID: OW26-MW1-1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 13:40
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-09	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 21:49 Column: BEH C18		

Analyte	Conc. (ng/L)	LOD	LOQ	Qualifiers
PFBS	4950	161.	322	D
PFHpA	13900	80.6	322	D
PFHxS	52400	80.6	322	D
PFOA	22600	80.6	322	D
PFOS	471000	36.3	322	D
PFNA	1530	80.6	322	D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	109	60 - 150	D
IS	13C4-PFHpA	103	60 - 150	D
IS	18O2-PFHxS	156	60 - 150	D, H
IS	13C2-PFOA	148	60 - 150	D
IS	13C8-PFOS	89.4	60 - 150	D
IS	13C5-PFNA	76.7	50 - 150	D

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OW26-MW1P 1116

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	01-Nov-2016 13:45
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601401-10	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 23:40	Column:	BEH C18

Analyte	Conc. (ng/L)	LOD	LOQ	Qualifiers
PFBS	4740	161.	323	D
PFHpA	12900	80.6	323	D
PFHxS	51300	80.6	323	D
PFOA	21200	80.6	323	D
PFOS	471000	36.3	323	D
PFNA	1650	80.6	323	D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	118	60 - 150	D
IS	13C4-PFHpA	114	60 - 150	D
IS	18O2-PFHxS	156	60 - 150	D, H
IS	13C2-PFOA	154	60 - 150	D, H
IS	13C8-PFOS	94.9	60 - 150	D
IS	13C5-PFNA	80.1	50 - 150	D

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OC-FB-110216

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	CTO-WE14 Oceana PFC
Date Collected:	02-Nov-2016 12:52
Location:	WAS PFC

Sample Data

Matrix:	Aqueous
Sample Size:	0.125 L

Laboratory Data

Lab Sample:	1601401-11	Date Received:	03-Nov-2016 9:54
QC Batch:	B6K0078	Date Extracted:	11-Nov-2016 9:53
Date Analyzed:	15-Nov-16 02:51	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.01	
PFHpA	ND	0.592	2.00	8.01	
PFHxS	ND	0.948	2.00	8.01	
PFOA	0.691	0.652	2.00	8.01	J
PFOS	ND	0.808	0.900	8.01	
PFNA	ND	0.811	2.00	8.01	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	96.9	60 - 150	
IS	13C4-PFHpA	78.7	60 - 150	
IS	18O2-PFHxS	89.2	60 - 150	
IS	13C2-PFOA	80.7	60 - 150	
IS	13C8-PFOS	92.2	60 - 150	
IS	13C5-PFNA	76.4	50 - 150	

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

Sample ID: OC-EB-110216

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 02-Nov-2016 12:20
Location: WAS PFC

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1601401-12 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 03:03 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.84	4.13	8.24	
PFHpA	ND	0.608	2.07	8.24	
PFHxS	ND	0.975	2.07	8.24	
PFOA	0.731	0.670	2.07	8.24	J
PFOS	ND	0.831	0.930	8.24	
PFNA	ND	0.834	2.07	8.24	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	92.8	60 - 150	
IS	13C4-PFHpA	79.8	60 - 150	
IS	18O2-PFHxS	86.9	60 - 150	
IS	13C2-PFOA	80.7	60 - 150	
IS	13C8-PFOS	85.9	60 - 150	
IS	13C5-PFNA	81.2	50 - 150	

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

Sample ID: MW-BG10-1116

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-WE14 Oceana PFC
Date Collected: 02-Nov-2016 14:25
Location: NAS PFC

Sample Data

Matrix: Groundwater
Sample Size: 0.119 L

Laboratory Data

Lab Sample: 1601401-13 Date Received: 03-Nov-2016 9:54
QC Batch: B6K0078 Date Extracted: 11-Nov-2016 9:53
Date Analyzed: 15-Nov-16 03:15 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.87	4.20	8.38	
PFHpA	ND	0.619	2.10	8.38	
PFHxS	2.90	0.992	2.10	8.38	J
PFOA	1.85	0.682	2.10	8.38	J
PFOS	1.23	0.845	0.945	8.38	J
PFNA	ND	0.848	2.10	8.38	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	97.6	60 - 150	
IS	13C4-PFHpA	80.7	60 - 150	
IS	18O2-PFHxS	88.2	60 - 150	
IS	13C2-PFOA	79.7	60 - 150	
IS	13C8-PFOS	86.9	60 - 150	
IS	13C5-PFNA	74.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, 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.**
D	**Dilution**
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.**
*****	**See Cover Letter**
Conc.	**Concentration**
NA	**Not applicable**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
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

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY 1601401

For Laboratory Use Only
Laboratory Project ID: 1601401 Temp: 1.6 °C
Storage ID: Storage Secured: Yes ☑ No ☐

Project ID: CTO-WE14 OCEANA PFC P.O.#: 10006-7-10569B Sampler: MAL OST / MR CLAY (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
TIFFANY HILL	CH2M	5701 CLEVELAND ST	VIRGINIA BEACH	VA	541 768 3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
MAL OST MO	11/2/16	1545	Marissa Sparks MSparks	11/3/16	1013
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

Method of Shipment: FedEx

ATTN: MARTHA MAIER

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
OW2C-MW19-1116	11/1/16	0950	WAS PFC	2	O	AQ																2	
OW2E-MW39-1116	11/1/16	1110	WAS PFC	2	O	AQ																2	
OW2B-MW41-1116	11/1/16	1205	WAS PFC	2	O	AQ																2	
203MW-19-1116	11/1/16	1310	WAS PFC	2	O	AQ										MAY HAVE FUEL						2	NOTE: MAY HAVE FUEL IN IT
JTC-MW-B-1116	11/1/16	1420	WAS PFC	2	O	AQ										MAY HAVE FUEL						2	NOTE: MAY HAVE FUEL IN IT
OC-MW03-1116	11/1/16	1000	WAS PFC	2	O	AQ																2	
OC MW01-1116	11/1/16	1115		2	O	AQ																2	
OC MW02 1116	11/1/16	1230		2	O	AQ																2	
OW2A MW3 1116	11/1/16	1340		2	O	AQ																2	
OW2A MW17P 1116	11/1/16	1345		2	O	AQ																2	

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: TIFFANY HILL
Company: CH2MM
Address: 5701 CLEVELAND ST
City: VIR BCH State: VA Zip: 23462
Phone: 541.768 3107 Fax:
Email: TIFFANY.HILL@CH2M.COM

Container Types: A = 1 Liter Amber, G = Glass Jar, P = PUF, T = MM5, O = Other:

Bottle Preservation Type: T = Thiosulfate, O = Other:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Vista Analytical Laboratory

CHAIN OF CUSTODY

1601401

For Laboratory Use Only
Laboratory Project ID: Temp: °C
Storage ID: Storage Secured: Yes ☐ No ☐

Project ID: CTO-WE14-OCEANA PFC P.O.#: 10056-T-10569E Sampler: M OST / VM CLAY (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	CH2M	5701 Cleveland St	Virginia Beach	VA	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
VML OST	11/2/16	1545	Marissa Sparks MSparks	11/3/16	1013
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

Method of Shipment:

ATTN:

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
OC-FB-1102/16	11/2/16	1235	NAS PFC	2	O	FB																2	FB
OC-EB-1102/16	11/2/16	1320	NAS PFC	2	O	EB																2	EB
MW-BG10-1116	11/2/16	1425	NAS PFC	2	O	GW																2	

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M
Address: 5701 Cleveland St
City: Virginia Beach State: VA Zip: 23462
Phone: 541.768.3107 Fax:
Email: TiffanyHill@CH2M.com

Container Types: A = 1 Liter Amber, G = Glass Jar, P = PUF, T = MM5, O = Other:

Bottle Preservation Type: T = Thiosulfate, O = Other:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1601401 **TAT** 14

Samples Arrival:	**Date/Time** 11/3/16 0954	**Initials:** MWS	**Location:** WR-2 **Shelf/Rack:** N/8
Logged In:	**Date/Time** 11/3/16 1530	**Initials:** JBLB	**Location:** WR-2 **Shelf/Rack:** NA

Delivered By:	FedEx	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C: 1.4 (uncorrected)	**Time:** 1011					
Temp °C: 1.1 (corrected)	**Probe used:** Yes☐ No☑	**Thermometer ID:** IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 7845 3254 8683	✓		
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			Yes	No	NA
Shipping Container	Vista	Client	Retain	Return	Dispose		

Comments:

OC-FB-110216 A/B
OC-EB-110216
MW-BG10-1116 ↓

Sample Label ID:	Collection Time	#Bottles
JTC-MW-B-1116	1420	A/B
OW2B-MW41-1116	1205	
OW2E-MW19-1116	1110	
OW2C-MW19-1116	0950	
203MW-19-1116	1310	
OC-MW02-1116	1230	
OW26-MW1-1116	1340	
OC-MW03-1116	1000	
OC-MW01-1116	1115	
OW26-MW1P-1116	1345	

BLA 09/06/2016

EXTRACTION INFORMATION

Process Sheet

Workorder: 1601401

Prep Expiration: 11/15/2016
Client: CH2M Hill

Workorder Due: 17-Nov-16 00:00

TAT: 14

Method: **537 PFAS DOD (LOQ as mRL)**
Matrix: **Aqueous**

Prep Batch: BGK0078

Prep Data Entered: INJ 11/12/16
Date and Initials

Version: UCMR 3 (6 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601401-01	A	OW2C-MW19-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-02	A	OW2E-MW19-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-03	A	OW2B-MW41-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-04	A	203MW-19-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-05	A	JTC-MW-B-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-06	A	OC-MW03-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-07	A	OC-MW01-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-08	A	OC-MW02-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-09	A	OW26-MW1-1116	03-Nov-16 09:54	WR-2 B-6	
1601401-10	A	OW26-MW1P 1116	03-Nov-16 09:54	WR-2 B-6	
1601401-11	A	OC-FB-110216	03-Nov-16 09:54	WR-2 B-6	
1601401-12	A	OC-EB-110216	03-Nov-16 09:54	WR-2 B-6	
1601401-13	A	MW-BG10-1116	03-Nov-16 09:54	WR-2 B-6	

WO Comments: **List of 6, include Total PFOA.**
Samples -04 and -05 may have fuel in it.

Vista PM: Martha Maier

Vial Box ID: Yggdrasil

Sample Reconciled By: INJ 11/11/16

Page 1 of 1

Percent Solids

Vista Analytical Laboratory

Project: B6K0078 **Balance ID:** HRMS-9

Sample ID	Chemist: Date: Time: N/A Boat Wt.	Sample + Boat Wt.	Chemist: Date: Time: N/A Residue + Boat Wt.	Chemist/Date INJ 11/11/16 pH before	pH* after	Cl
1601354-01				7	2	0
02				7	2	0
03				7	2	0
04				7	2	0
05				7	2	0
06				7	2	0
07				7	2	0
08				5	2	0
09				6	2	0
10				6	2	0
11				5	2	0
12				5	2	0
13				5	2	0
						~~0~~ INJ 11/14/16

INJ 11/11/16

Procedure:

- Tare the balance.
- Record Boat Weight.
- Add 2 - 10 g of sample.
- Record Wet Wt. + Boat Wt.
- Dry in oven overnight at 107°C.
- Tare the balance.
- Record Residue + Boat Wt.

Notes: Samples adjusted to pH 2 with 2 - 4 drops of 38% HCl INJ 11/12/16

- *Methods 8280, 613, 1613, 8290, 1614 – pH <9*
- *Methods 1668/PCN – pH 2-3*
- *NCASI 551 – pH 1*

%Solids rmh 5/2011

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DOD (LOO as mRL)

B6K0078

Chemist: _____

Prep Date/Time: 11-Nov-16 09:53

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE C6K0067	RS CHEM/WIT DATE
☐	B6K0078-BLK1	N/A	N/A	(0.125)	DM INJ 11/11/16	INJ 11/11/16	DM INJ 11/11/16
☐	B6K0078-BS1	↓	↓	↓	↓	↓	↓
☐	1601401-01 (A)	150.55	27.09	0.12346 ✓			
☐	1601401-02 (A)	150.84	27.03	0.12381 ✓			
☐	1601401-03	151.77	27.16	0.12461 ✓			
☐	1601401-04 (A)	151.02	27.01	0.12401 ✓			
☐	1601401-05 (A)	148.82	27.50	0.12132 ✓			
☐	1601401-06	153.36	26.99	0.12637 ✓			
☐	1601401-07 (A)	146.80	27.11	0.11969 ✓			
☐	1601401-08	151.21	27.19	0.12402 ✓			
☐	1601401-09 (A)	151.35	27.16	0.12419			
☐	1601401-10 (A)	150.35	27.15	0.12370 ✓			
☐	1601401-11	151.87	26.99	0.12488			
☐	1601401-12	148.46	27.03	0.12143 ✓			
☐	1601401-13 (A)	146.35	27.01	0.11934 ✓			

(A) Centrifuged samples then decanted into original bottles INJ 11/11/16

IS Name (V3)	NS Name (V2)	RS Name (V1)		
16I2604, 10µL	16I1601, 10µL	~~16I1603~~ INJ 11/11/16 16I2603, 10µL	SPE Chem: Strata 33µm 200mg/6mL Ele SOLV: 0.5% NH_4OH (methyl/MeOH Final Volume(s): 1mL	Check Out: Chemist/Date: INJ 11/14/16 Check In: N/A Chemist/Date: _____ Balance ID: HRMS-9

Comments: Assume 1 g = 1 mL

SAMPLE DATA – MODIFIED EPA METHOD 537

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_10.qld

Last Altered: Wednesday, November 16, 2016 09:44:02 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:45:24 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: B6K0078-BLK1, Description: Method Blank, Name: 161114J2_10.wiff, Date: 14-Nov-2016, Time: 17:52:43

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	1.535e0	6.197e3		0.125	3.42		
2	5	PFHpA	318.90	7.014e0	7.757e3		0.125	4.29		
3	6	PFHxS	79.91	1.745e1	1.182e3		0.125	4.41	0.354	
4	8	PFOA	368.90	7.125e1	6.457e3		0.125	4.68	0.554	
5	9	PFNA	419.00		5.550e3		0.125			
6	10	PFOS	79.92	2.098e0	3.439e3		0.125	5.05		
7	15	13C3-PFBS	79.95	6.197e3	1.242e4	0.531	0.125	3.42	94.0	94.0
8	16	13C2-PFHxA	269.90	3.901e3	1.242e4	0.905	0.125	3.81	34.7	86.8
9	17	13C4-PFHpA	321.90	7.757e3	1.242e4	0.770	0.125	4.29	81.2	81.2
10	18	18O2-PFHxS	102.90	1.182e3	5.268e3	0.276	0.125	4.40	81.3	81.3
11	19	13C2-6:2 FTS	408.90	1.912e3	1.187e4	0.219	0.125	4.64	73.7	73.7
12	20	13C2-PFOA	369.90	6.457e3	1.187e4	0.663	0.125	4.68	82.0	82.0
13	21	13C5-PFNA	422.90	5.550e3	7.332e3	1.019	0.125	5.00	74.3	74.3
14	22	13C8-PFOS	79.93	3.439e3	4.714e3	0.921	0.125	5.06	79.2	79.2
15	26	13C5-PFHxA	273.00	1.242e4	1.242e4	1.000	0.125	3.81	100	100
16	27	13C3-PFHxS	80.01	5.268e3	5.268e3	1.000	0.125	4.40	100	100
17	28	13C8-PFOA	375.90	1.187e4	1.187e4	1.000	0.125	4.68	100	100
18	29	13C4-PFOS	79.94	4.714e3	4.714e3	1.000	0.125	5.06	100	100
19	30	13C9-PFNA	427.00	7.332e3	7.332e3	1.000	0.125	5.00	100	100
20	31	13C6-PFDA	474.00	6.182e3	6.182e3	1.000	0.125	5.28	100	100
21	32	Total PFBS	79.90		6.197e3		0.125			
22	33	Total PFHxS	79.91		1.182e3		0.125		0.354	
23	34	Total PFOA	368.90		6.457e3		0.125		0.554	
24	35	Total PFOS	79.92		3.439e3		0.125			

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_10.qld

Last Altered: Wednesday, November 16, 2016 09:44:02 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:45:24 Pacific Standard Time

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Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: B6K0078-BLK1, Description: Method Blank, Name: 161114J2_10.wiff, Date: 14-Nov-2016, Time: 17:52:43

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	1.535	6197.466	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	17.451	1181.822	0.4

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.68	71.251	6457.388	0.6

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.05	2.098	3439.479	
2	35	Total PFOS	79.92	4.99	5.750	3439.479	
3	35	Total PFOS	79.92	4.98	4.849	3439.479	

Vista Analytical Laboratory Q1

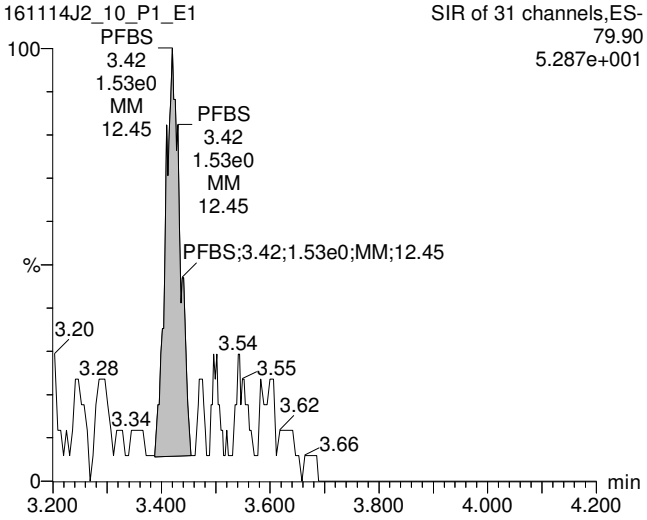
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_10.qld

Last Altered: Wednesday, November 16, 2016 09:44:02 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:45:24 Pacific Standard Time

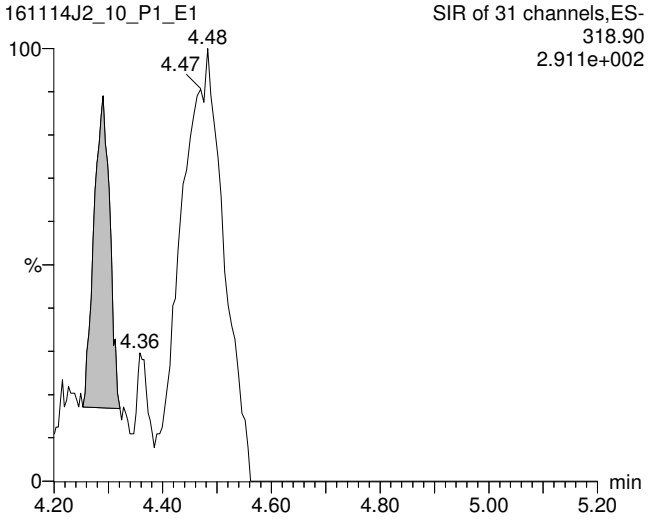
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: B6K0078-BLK1, Description: Method Blank, Name: 161114J2_10.wiff, Date: 14-Nov-2016, Time: 17:52:43, Instrument: , Lab: ©PE-SCIEX, User: sciex

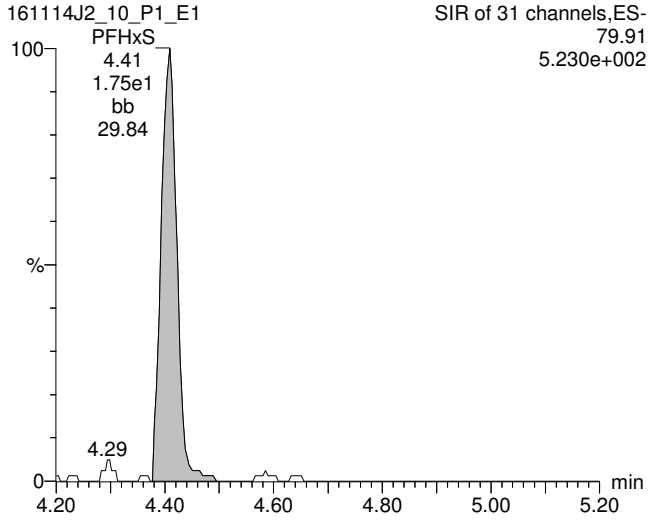
Total PFBS



PFHpA



Total PFHxS



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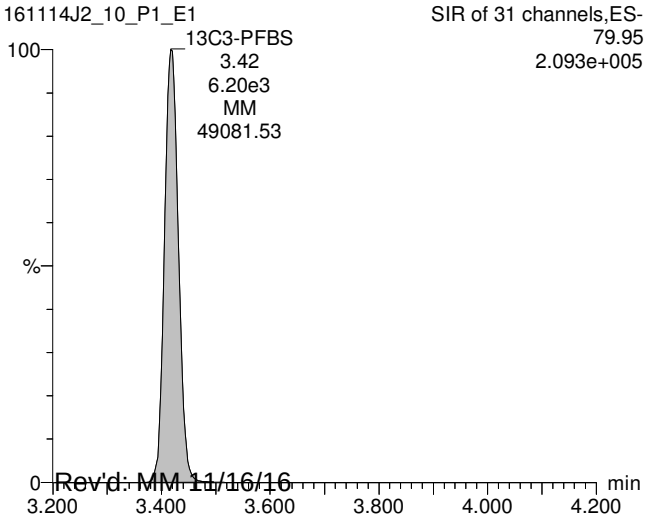

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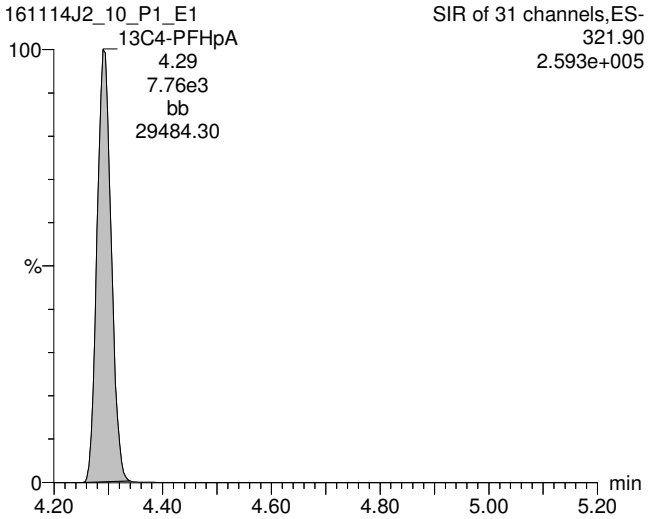
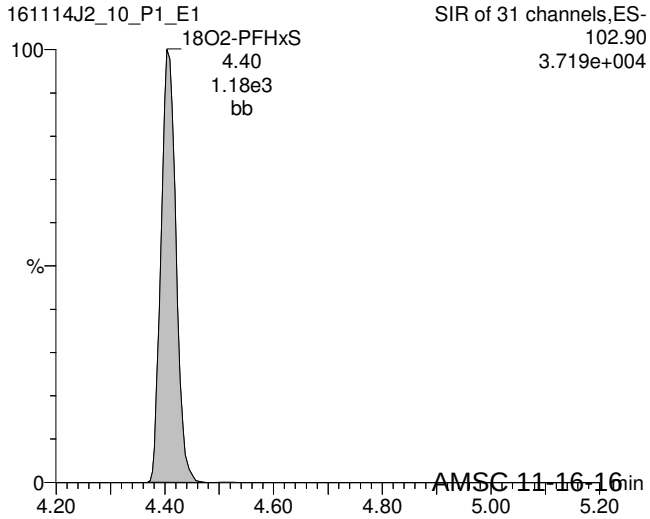


18O2-PFHxS



Rev'd: MM 11/16/16 AMSC 11-16-16

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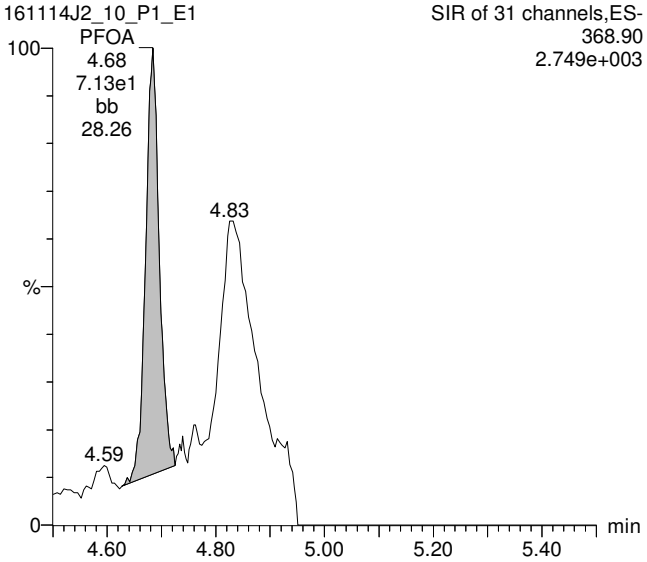
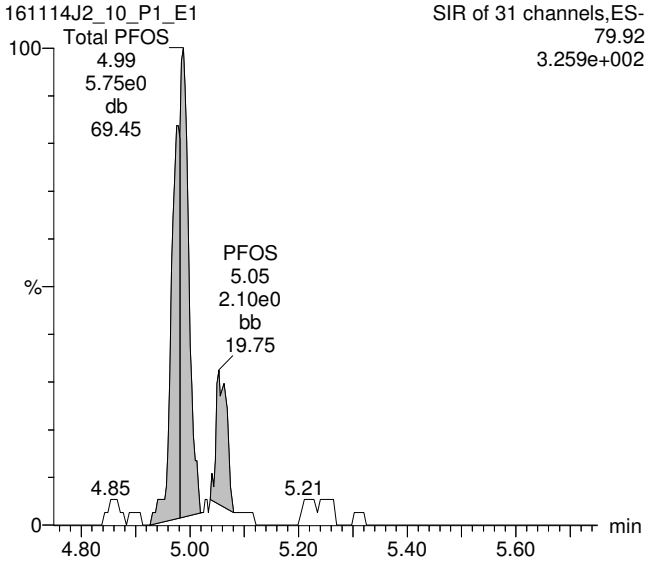
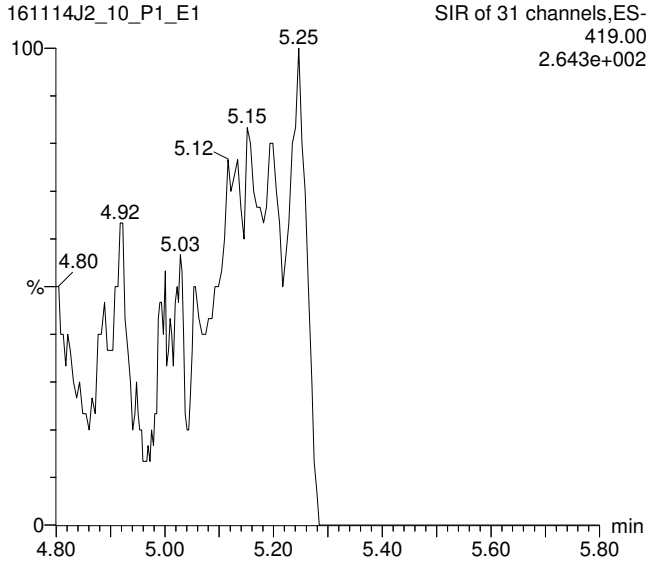
Total PFOA



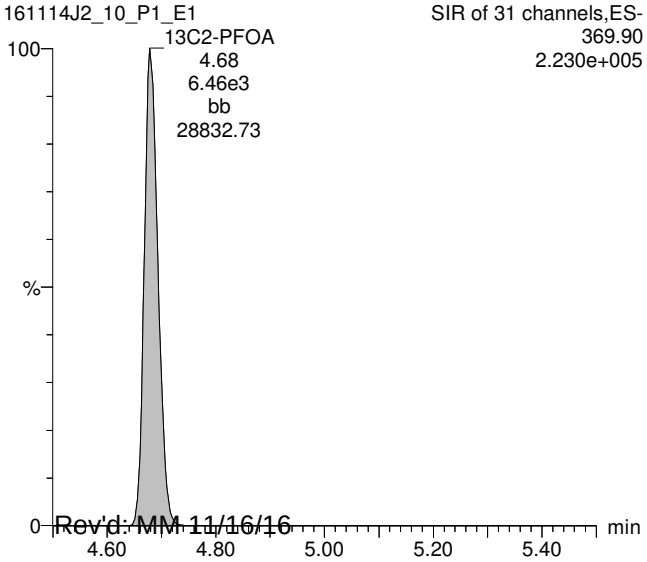
Total PFOS



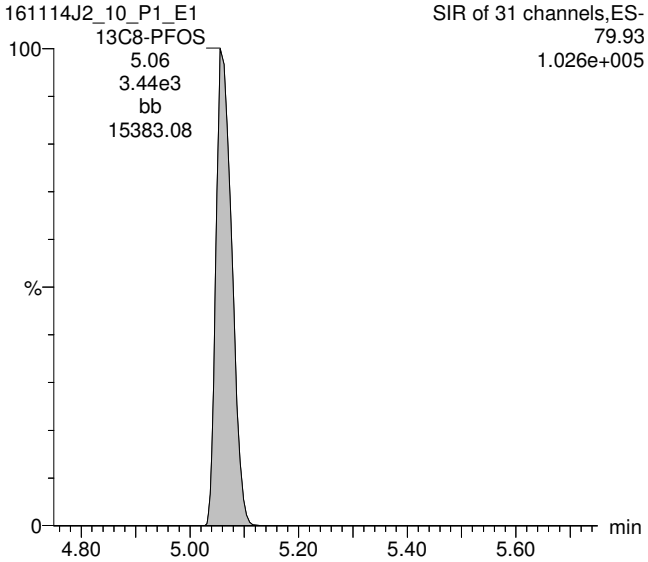
PFNA



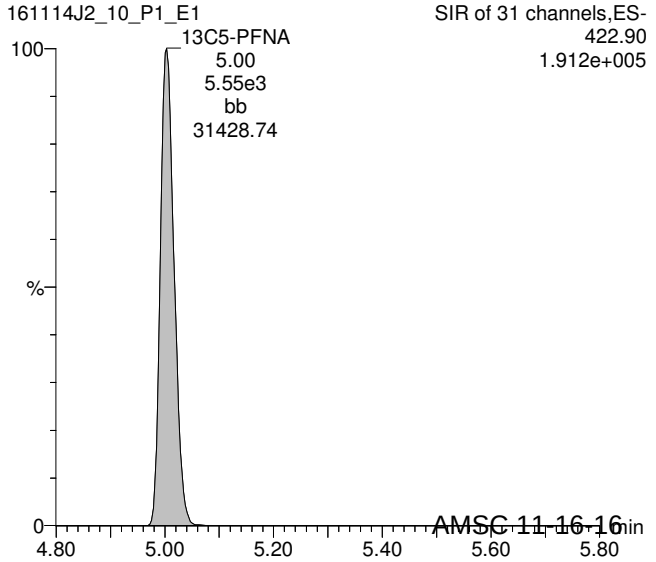
13C2-PFOA



13C8-PFOS



13C5-PFNA



Vista Analytical Laboratory Q1

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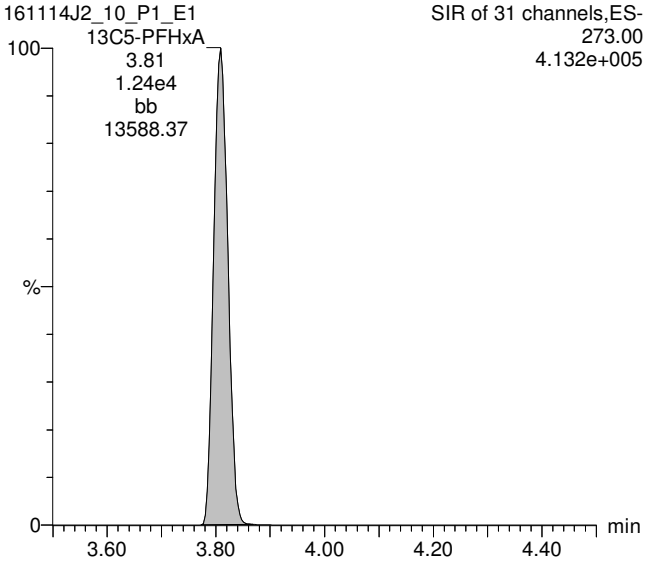
Printed: Wednesday, November 16, 2016 09:45:24 Pacific Standard Time

ID: B6K0078-BLK1, Description: Method Blank, Name: 161114J2_10.wiff, Date: 14-Nov-2016, Time: 17:52:43, Instrument: , Lab: ©PE-SCIEX, User: sciex

13C5-PFHxA



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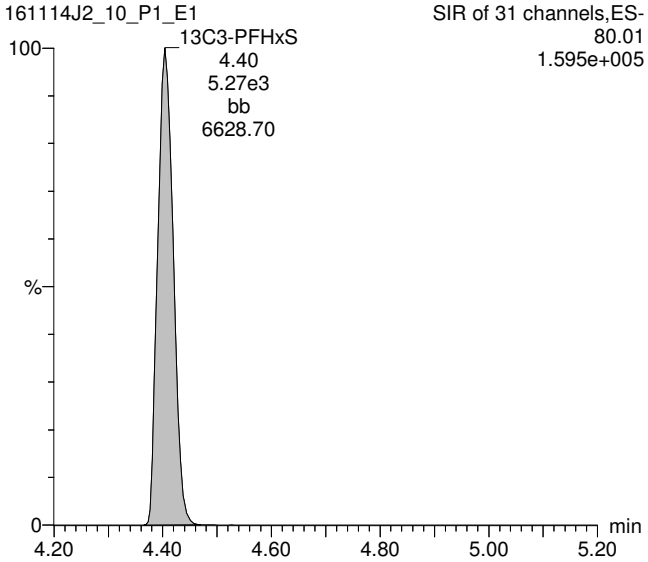
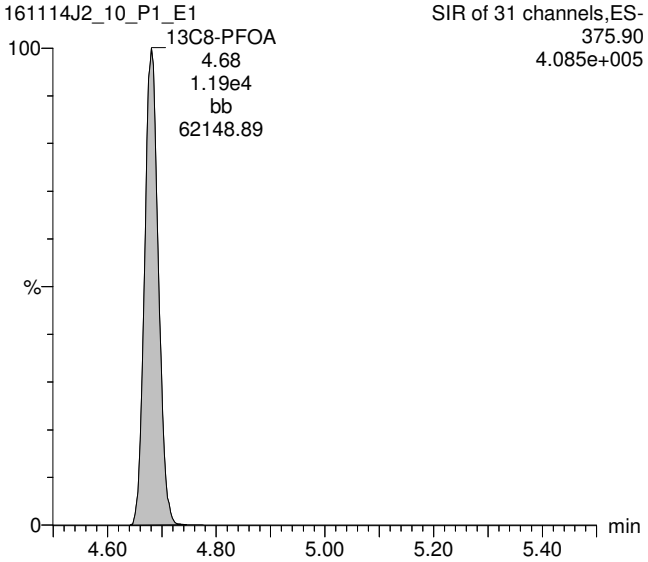
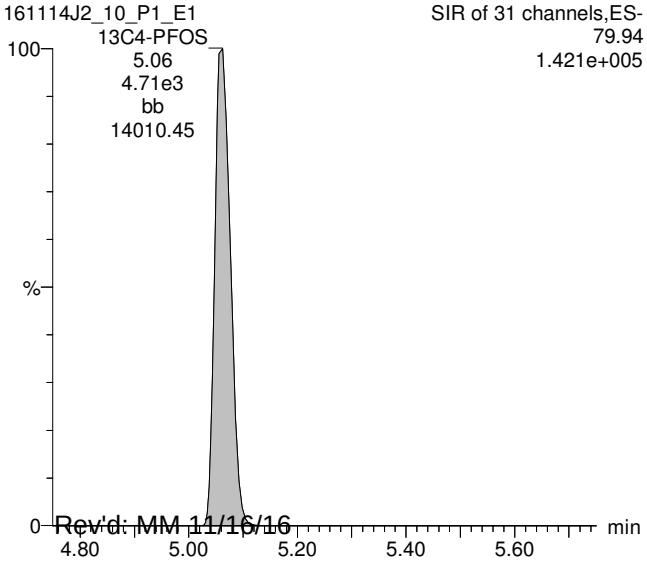


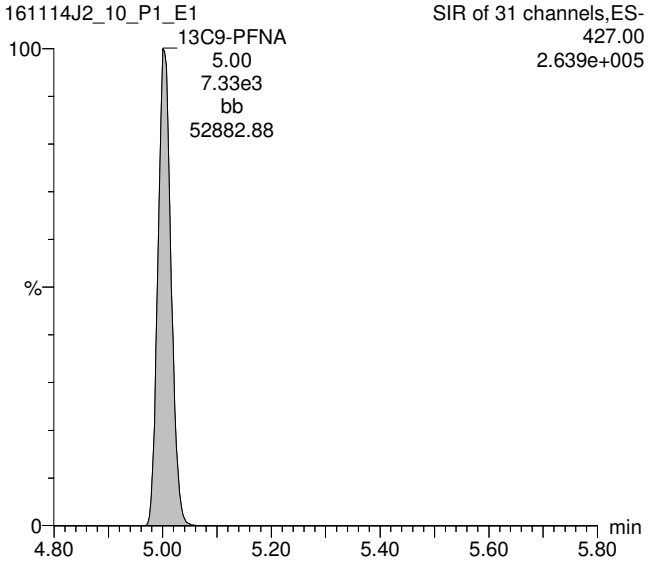
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_04.qld

Last Altered: Wednesday, November 16, 2016 15:53:20 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:53:57 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: B6K0078-BS1, Description: OPR, Name: 161115J1_04.wiff, Date: 15-Nov-2016, Time: 16:19:13

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	4.871e3	6.087e3		0.125	3.41	104	130
2	5	PFHpA	318.90	6.251e3	7.705e3		0.125	4.28	95.9	120
3	6	PFHxS	79.91	3.545e3	1.208e3		0.125	4.40	90.7	113
4	8	PFOA	368.90	8.041e3	6.205e3		0.125	4.67	101	126
5	9	PFNA	419.00	4.937e3	5.728e3		0.125	5.00	95.2	119
6	10	PFOS	79.92	4.156e3	3.499e3		0.125	5.07	94.2	118
7	15	13C3-PFBS	79.95	6.087e3	1.196e4	0.531	0.125	3.40	95.9	95.9
8	16	13C2-PFHxA	269.90	3.759e3	1.196e4	0.905	0.125	3.80	34.8	86.9
9	17	13C4-PFHpA	321.90	7.705e3	1.196e4	0.770	0.125	4.28	83.7	83.7
10	18	18O2-PFHxS	102.90	1.208e3	5.128e3	0.276	0.125	4.39	85.4	85.4
11	19	13C2-6:2 FTS	408.90	2.470e3	1.179e4	0.219	0.125	4.62	95.8	95.8
12	20	13C2-PFOA	369.90	6.205e3	1.179e4	0.663	0.125	4.67	79.4	79.4
13	21	13C5-PFNA	422.90	5.728e3	6.997e3	1.019	0.125	5.00	80.3	80.3
14	22	13C8-PFOS	79.93	3.499e3	4.241e3	0.921	0.125	5.06	89.5	89.5
15	25	13C4-PFBA	171.90	1.152e4	1.152e4	1.000	0.125	1.90	100	100
16	26	13C5-PFHxA	273.00	1.196e4	1.196e4	1.000	0.125	3.80	100	100
17	27	13C3-PFHxS	80.01	5.128e3	5.128e3	1.000	0.125	4.39	100	100
18	28	13C8-PFOA	375.90	1.179e4	1.179e4	1.000	0.125	4.67	100	100
19	29	13C4-PFOS	79.94	4.241e3	4.241e3	1.000	0.125	5.06	100	100
20	30	13C9-PFNA	427.00	6.997e3	6.997e3	1.000	0.125	5.00	100	100
21	31	13C6-PFDA	474.00	5.331e3	5.331e3	1.000	0.125	5.29	100	100
22	32	Total PFBS	79.90		6.087e3		0.125		104	
23	33	Total PFHxS	79.91		1.208e3		0.125		90.7	
24	34	Total PFOA	368.90		6.205e3		0.125		101	
25	35	Total PFOS	79.92		3.499e3		0.125		94.2	

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_04.qld

Last Altered: Wednesday, November 16, 2016 15:53:20 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:53:57 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: B6K0078-BS1, Description: OPR, Name: 161115J1_04.wiff, Date: 15-Nov-2016, Time: 16:19:13

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.41	4870.781	6087.023	103.9

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	3545.473	1208.028	90.7

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.67	8040.598	6204.589	100.9

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	4155.894	3498.755	94.2

Vista Analytical Laboratory Q1

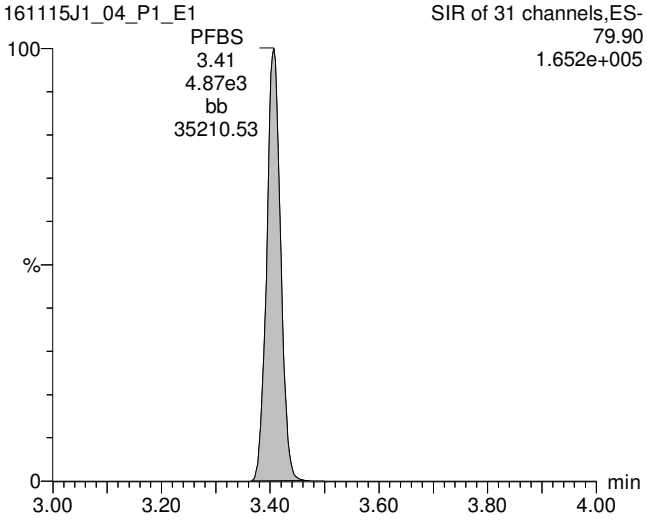
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_04.qld

Last Altered: Wednesday, November 16, 2016 15:53:20 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:53:57 Pacific Standard Time

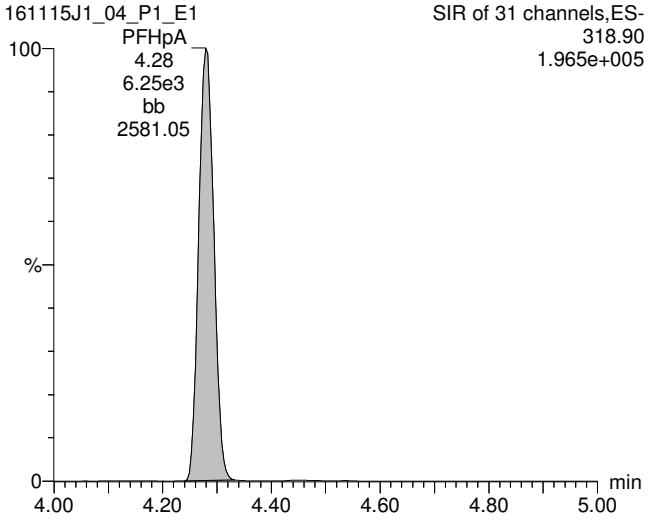
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: B6K0078-BS1, Description: OPR, Name: 161115J1_04.wiff, Date: 15-Nov-2016, Time: 16:19:13, Instrument: , Lab: ©PE-SCIEX, User: sciex

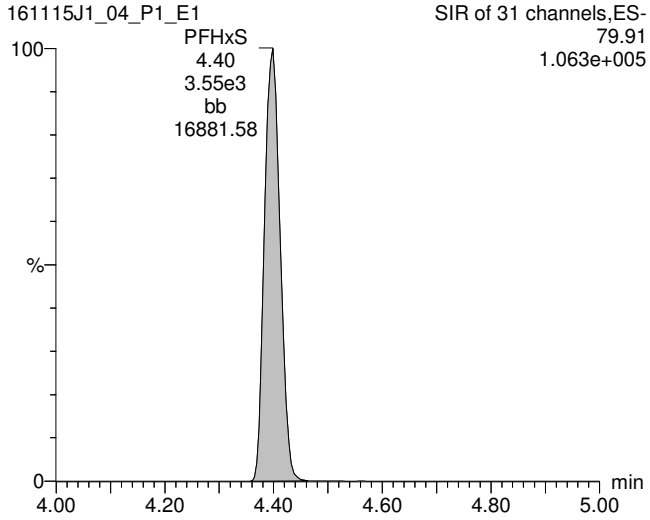
Total PFBS



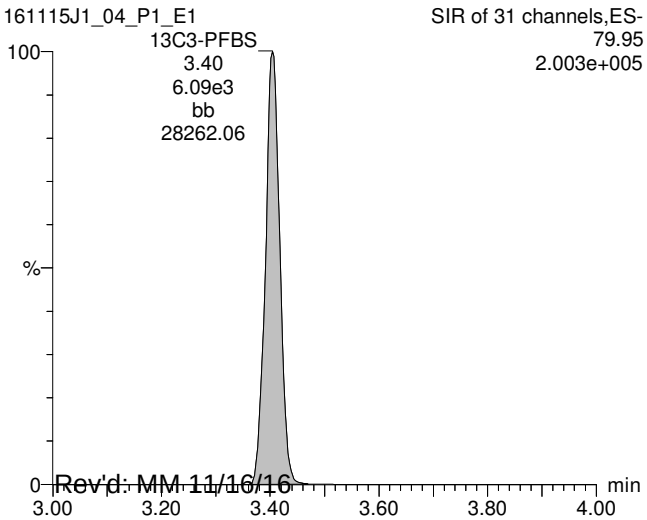
PFHpA



Total PFHxS



13C3-PFBS



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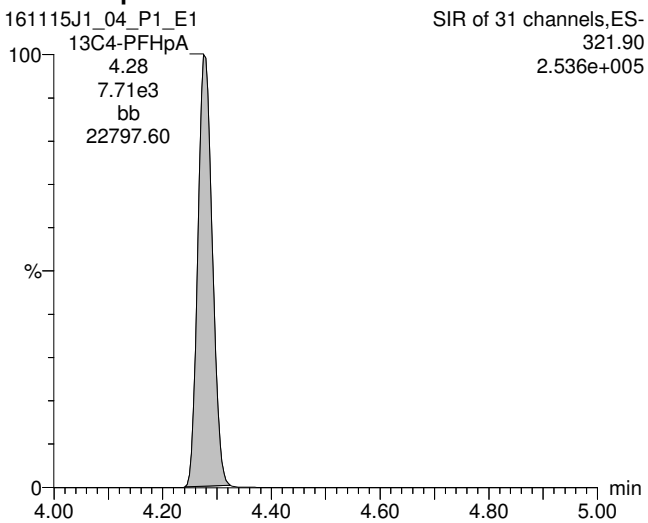
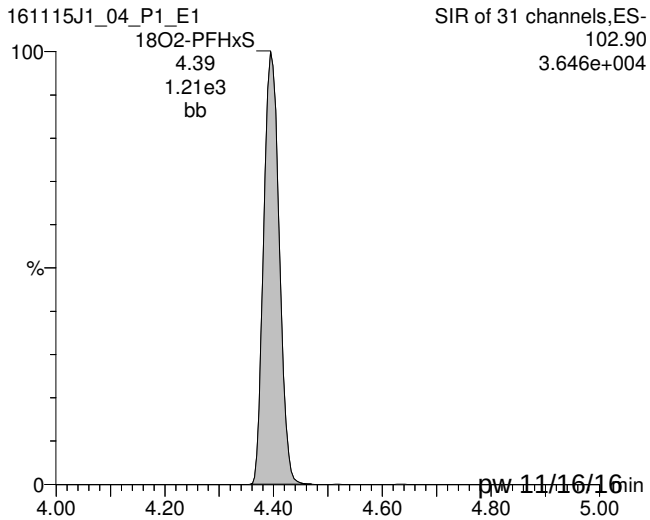


18O2-PFHxS



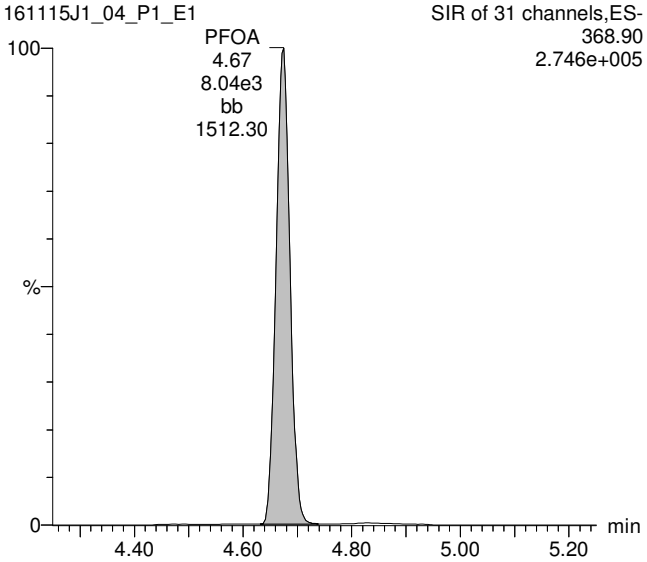
Rev'd: MM 11/16/16 pw 11/16/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_04.qld

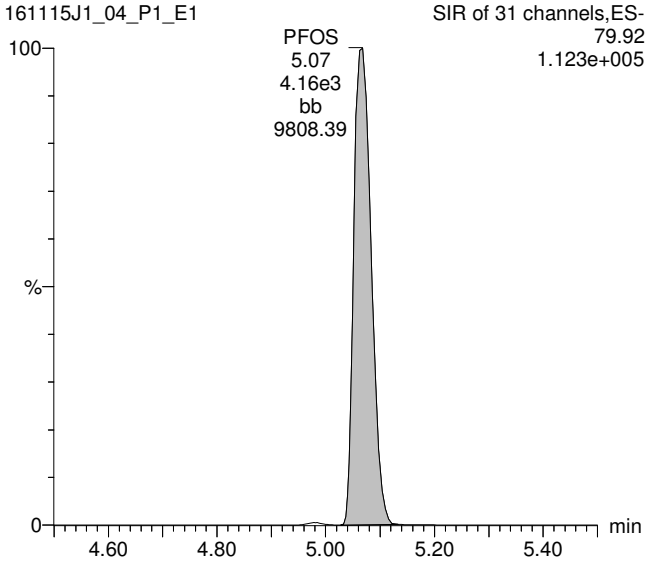
Last Altered: Wednesday, November 16, 2016 15:53:20 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:53:57 Pacific Standard Time

ID: B6K0078-BS1, Description: OPR, Name: 161115J1_04.wiff, Date: 15-Nov-2016, Time: 16:19:13, Instrument: , Lab: ©PE-SCIEX, User: sciex

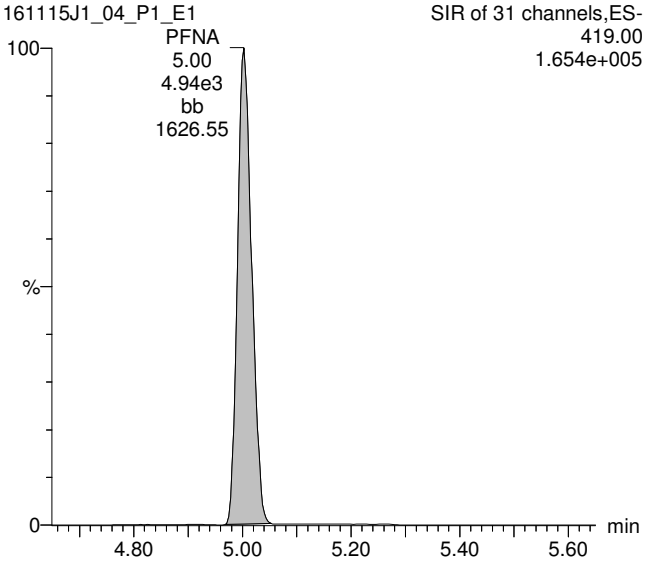
Total PFOA



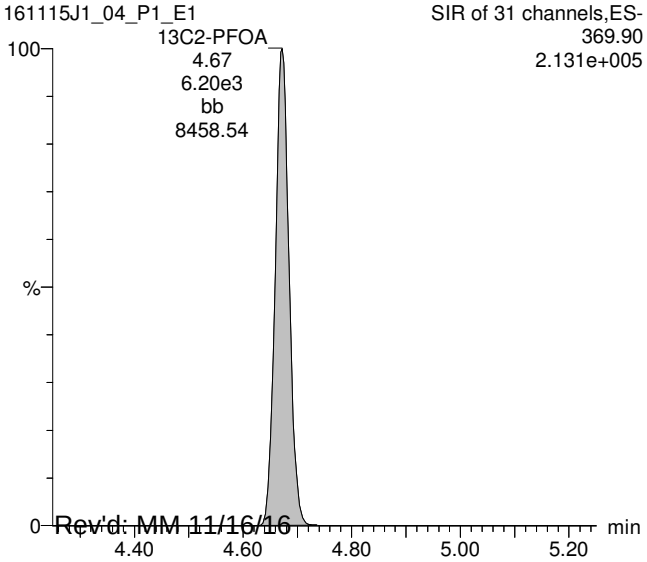
Total PFOS



PFNA



13C2-PFOA



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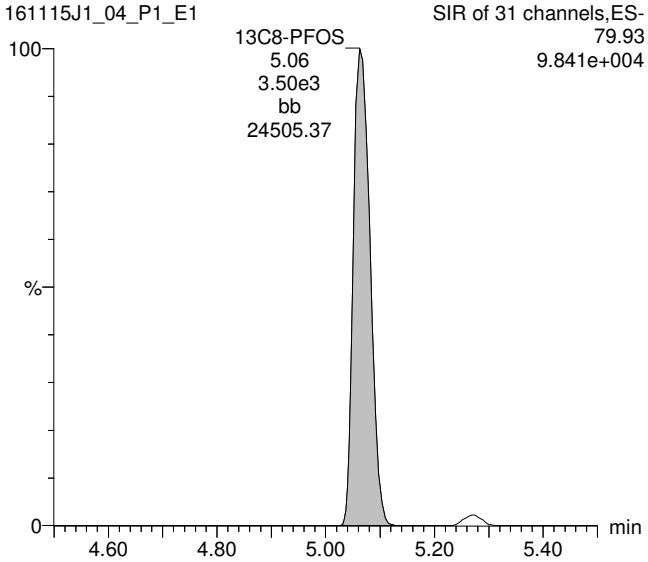
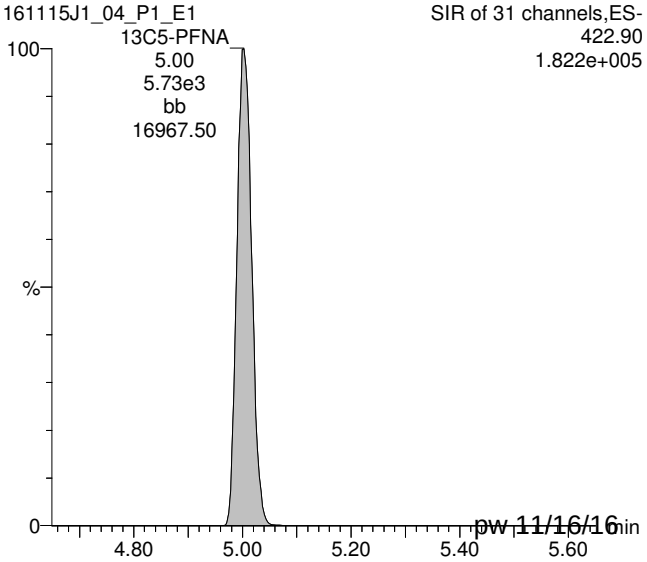


13C5-PFNA



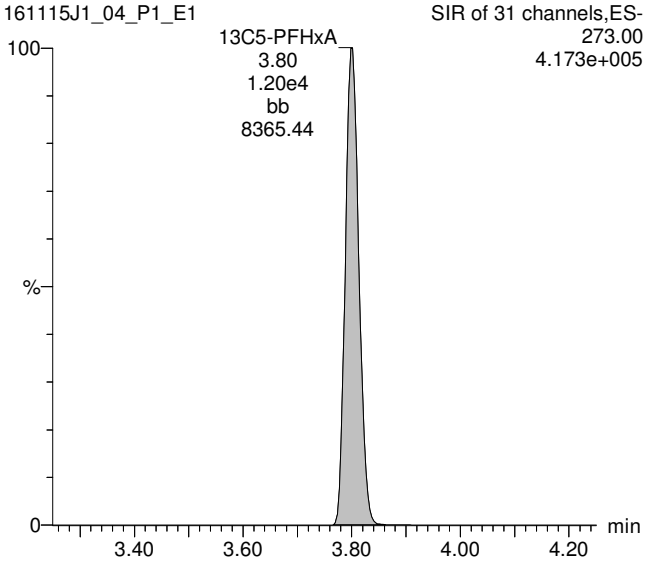
Rev'd: MM 11/16/16 pw 11/16/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_04.qld

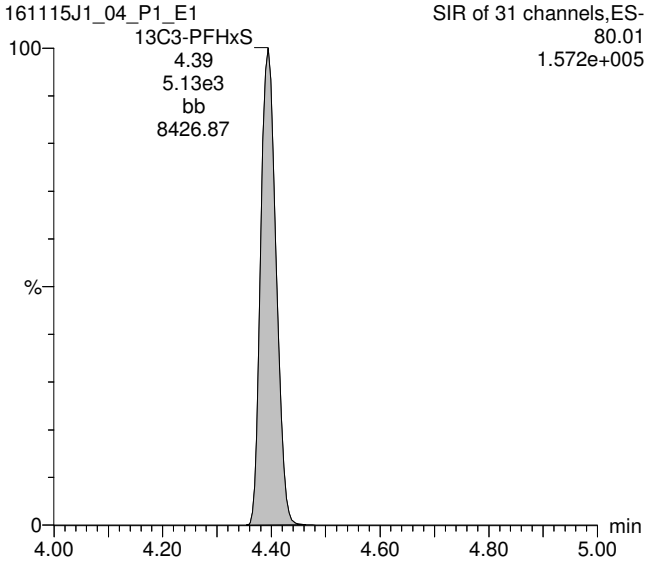
Last Altered: Wednesday, November 16, 2016 15:53:20 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:53:57 Pacific Standard Time

ID: B6K0078-BS1, Description: OPR, Name: 161115J1_04.wiff, Date: 15-Nov-2016, Time: 16:19:13, Instrument: , Lab: ©PE-SCIEX, User: sciex

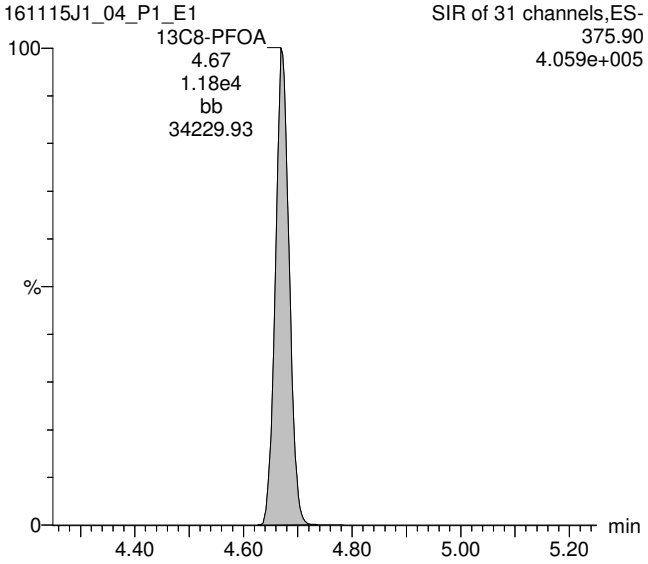
13C5-PFHxA



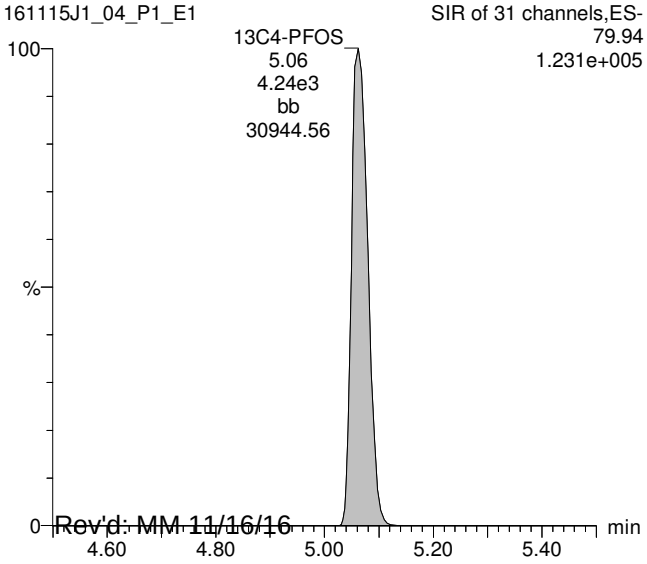
13C3-PFHxS



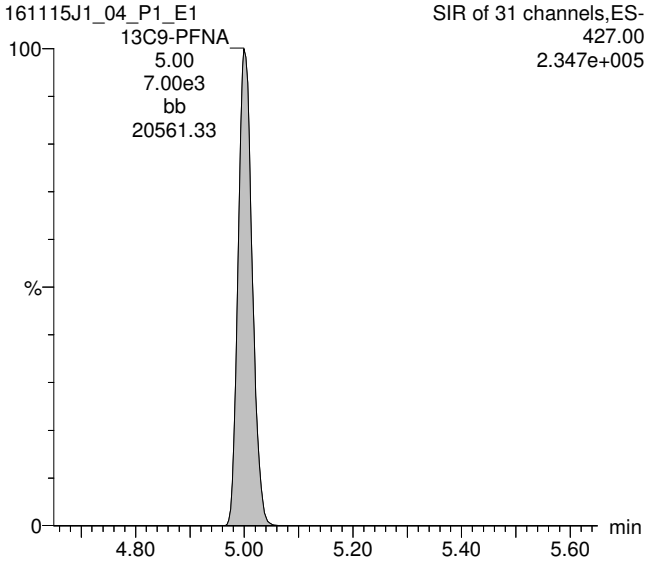
13C8-PFOA



13C4-PFOS



13C9-PFNA



Rev'd: MM 11/16/16

pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_41.qld

Last Altered: Wednesday, November 16, 2016 09:34:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:37:02 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-01, Description: OW2C-MW19-1116, Name: 161114J2_41.wiff, Date: 15-Nov-2016, Time: 00:12:12

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.		%Rec
1	3	PFBS	79.90	7.954e3	5.362e3		0.123	3.43	193		
2	5	PFHpA	318.90	6.113e3	6.482e3		0.123	4.30	113		
3	6	PFHxS	79.91	2.246e4	9.698e2		0.123	4.41	711		
4	8	PFOA	368.90	3.183e4	5.904e3		0.123	4.69	467		
5	9	PFNA	419.00	9.255e2	4.470e3		0.123	5.01	23.1		
6	10	PFOS	79.92	4.105e4	2.483e3		0.123	5.07	1340	E	
7	15	13C3-PFBS	79.95	5.362e3	1.066e4	0.531	0.123	3.43	96.0		94.8
8	16	13C2-PFHxA	269.90	3.299e3	1.066e4	0.905	0.123	3.82	34.6		85.5
9	17	13C4-PFHpA	321.90	6.482e3	1.066e4	0.770	0.123	4.29	80.0		79.0
10	18	18O2-PFHxS	102.90	9.698e2	4.174e3	0.276	0.123	4.41	85.2		84.2
11	19	13C2-6:2 FTS	408.90	1.762e3	9.964e3	0.219	0.123	4.64	81.8		80.8
12	20	13C2-PFOA	369.90	5.904e3	9.964e3	0.663	0.123	4.68	90.4		89.3
13	21	13C5-PFNA	422.90	4.470e3	6.624e3	1.019	0.123	5.01	67.0		66.2
14	22	13C8-PFOS	79.93	2.483e3	3.675e3	0.921	0.123	5.07	74.3		73.3
15	26	13C5-PFHxA	273.00	1.066e4	1.066e4	1.000	0.123	3.82	101		100
16	27	13C3-PFHxS	80.01	4.174e3	4.174e3	1.000	0.123	4.41	101		100
17	28	13C8-PFOA	375.90	9.964e3	9.964e3	1.000	0.123	4.69	101		100
18	29	13C4-PFOS	79.94	3.675e3	3.675e3	1.000	0.123	5.07	101		100
19	30	13C9-PFNA	427.00	6.624e3	6.624e3	1.000	0.123	5.01	101		100
20	31	13C6-PFDA	474.00	5.795e3	5.795e3	1.000	0.123	5.29	101		100
21	32	Total PFBS	79.90		5.362e3		0.123		195		
22	33	Total PFHxS	79.91		9.698e2		0.123		881		
23	34	Total PFOA	368.90		5.904e3		0.123		546		
24	35	Total PFOS	79.92		2.483e3		0.123		2260		

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_41.qld

Last Altered: Wednesday, November 16, 2016 09:34:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:37:02 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-01, Description: OW2C-MW19-1116, Name: 161114J2_41.wiff, Date: 15-Nov-2016, Time: 00:12:12

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.43	7954.467	5362.166	192.9
2	32	Total PFBS	79.90	3.30	149.484	5362.166	2.2

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	22456.760	969.770	711.5
2	33	Total PFHxS	79.91	4.32	5215.251	969.770	168.0
3	33	Total PFHxS	79.91	4.21	57.931	969.770	1.8

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.69	31833.885	5904.264	467.4
2	34	Total PFOA	368.90	4.60	5904.143	5904.264	78.3

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	41052.105	2483.254	1337.0
2	35	Total PFOS	79.92	4.96	26220.502	2483.254	853.7
3	35	Total PFOS	79.92	4.87	2175.469	2483.254	70.1

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_41.qld

Last Altered: Wednesday, November 16, 2016 09:34:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:37:02 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
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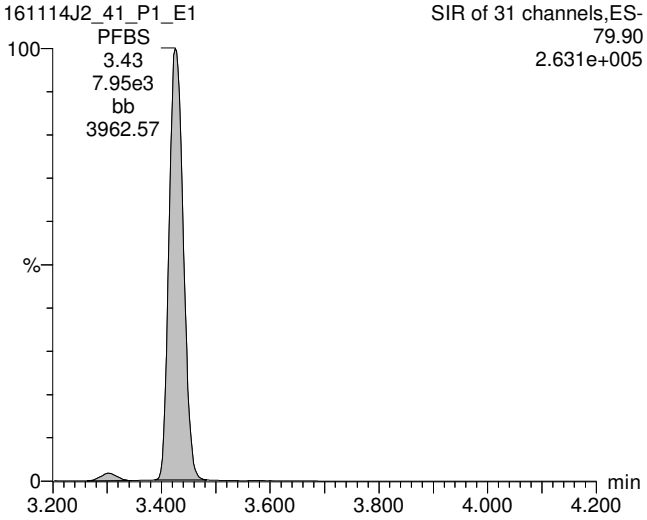
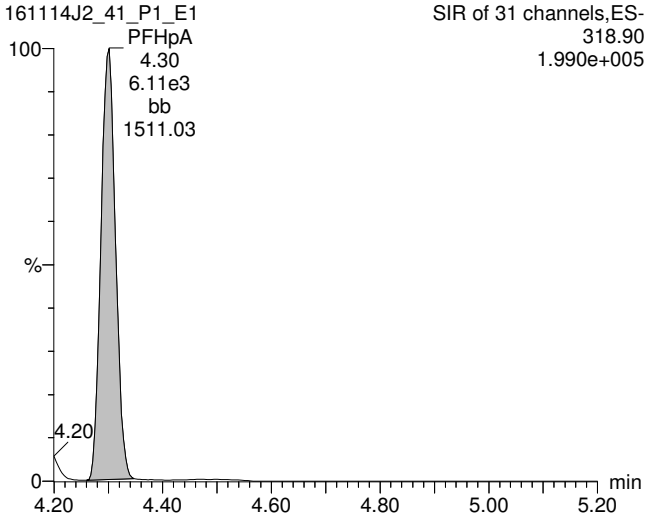
ID: 1601401-01, Description: OW2C-MW19-1116, Name: 161114J2_41.wiff, Date: 15-Nov-2016, Time: 00:12:12, Instrument: , Lab: ©PE-SCIEX, User: sciex

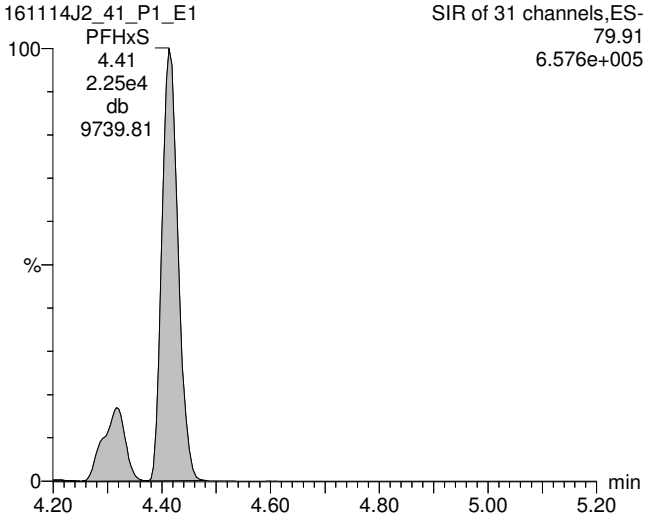
Total PFBS



PFHpA



Total PFHxS



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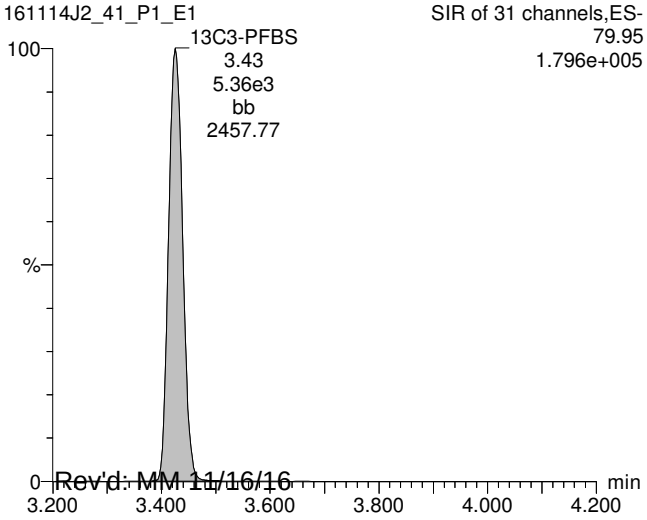

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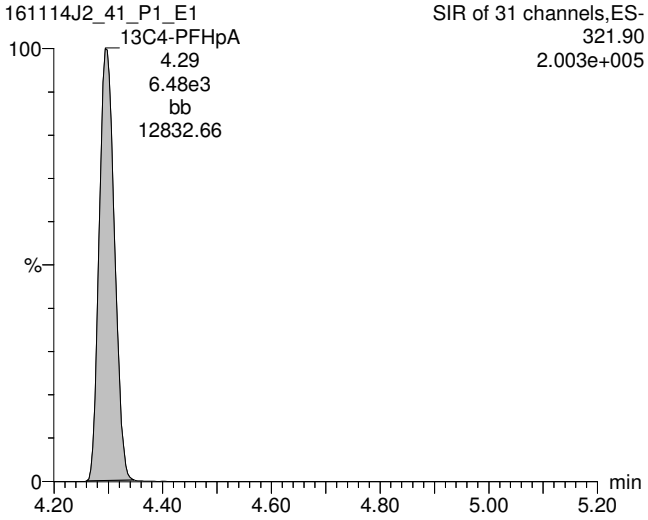
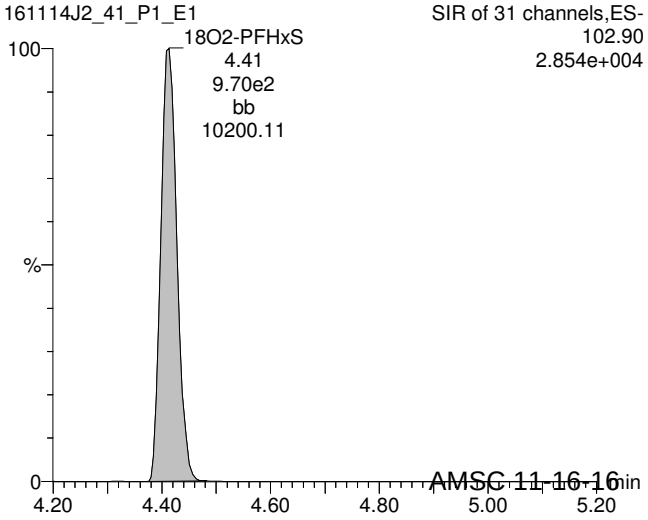


18O2-PFHxS



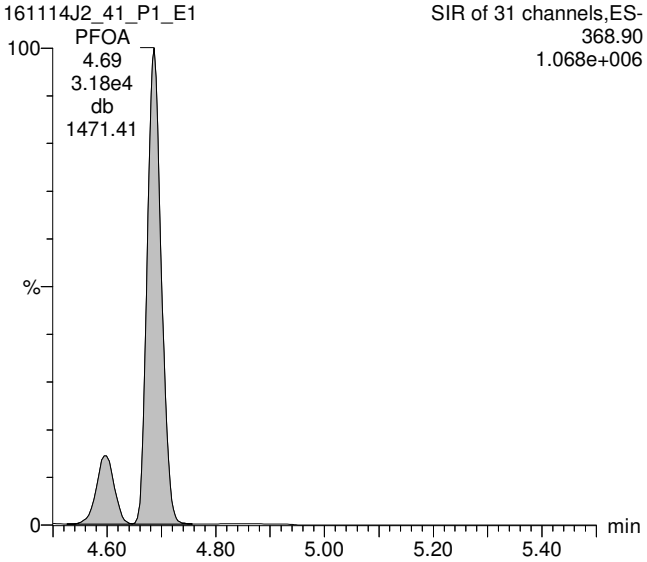
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_41.qld

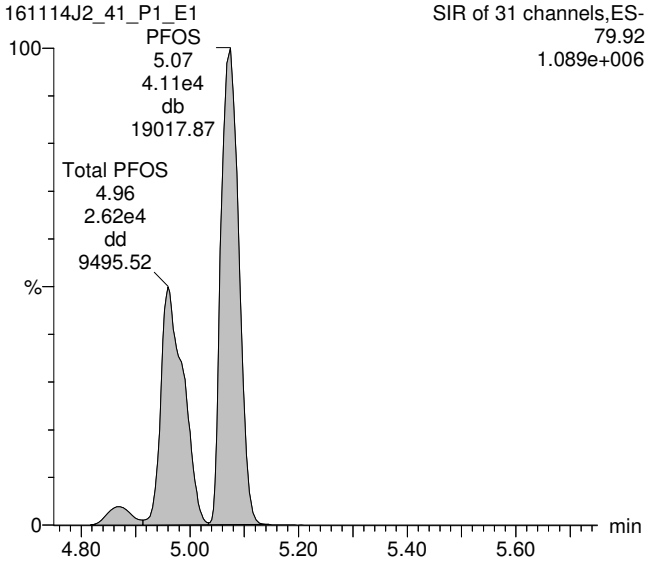
Last Altered: Wednesday, November 16, 2016 09:34:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:37:02 Pacific Standard Time

ID: 1601401-01, Description: OW2C-MW19-1116, Name: 161114J2_41.wiff, Date: 15-Nov-2016, Time: 00:12:12, Instrument: , Lab: ©PE-SCIEX, User: sciex

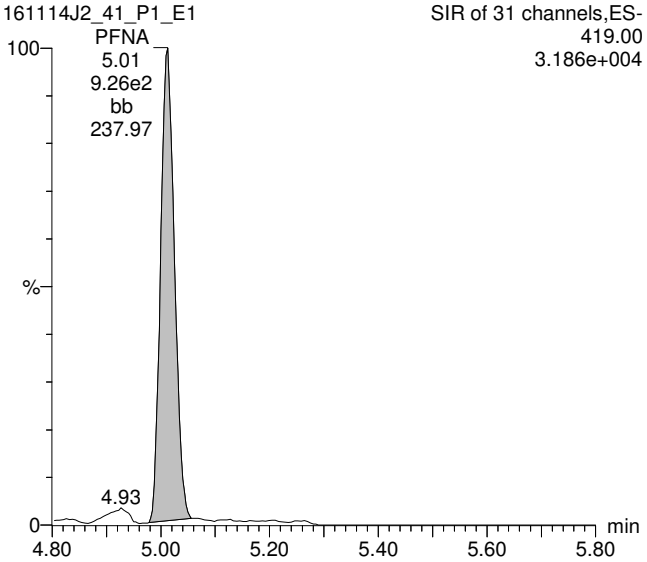
Total PFOA



Total PFOS



PFNA



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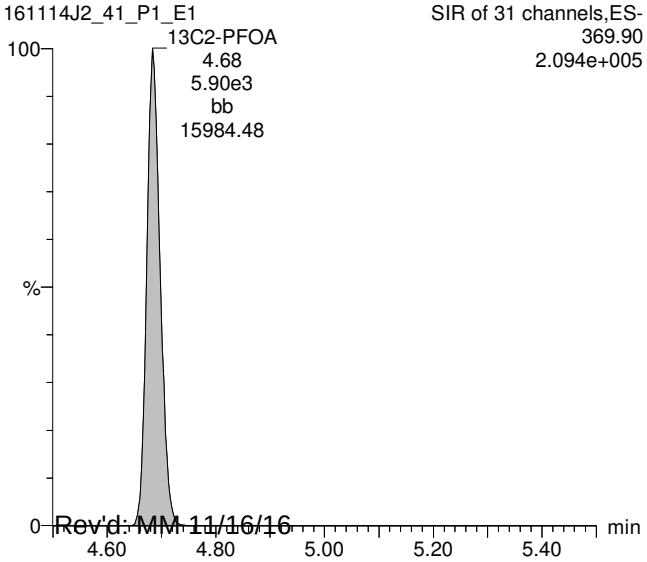

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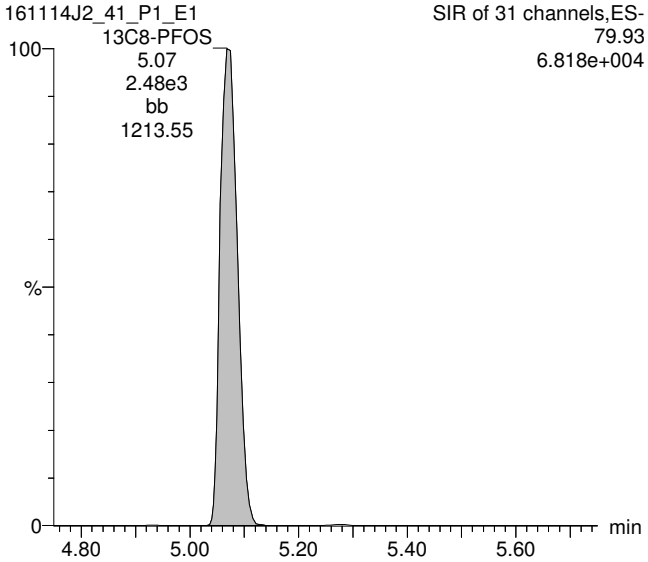
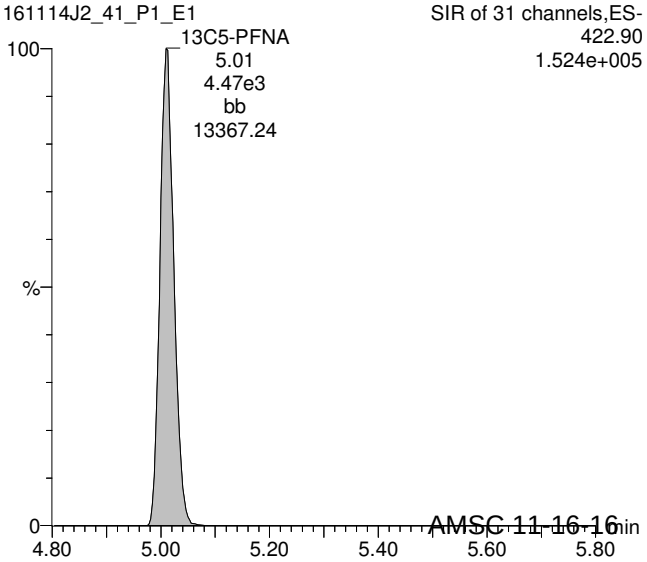


13C5-PFNA



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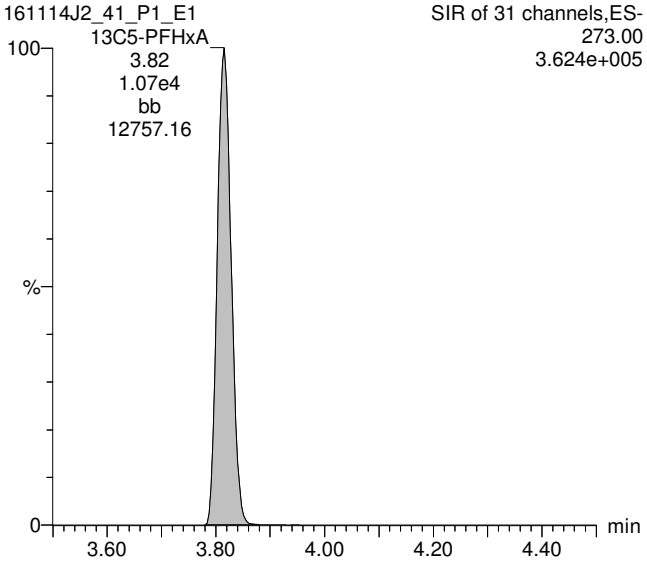
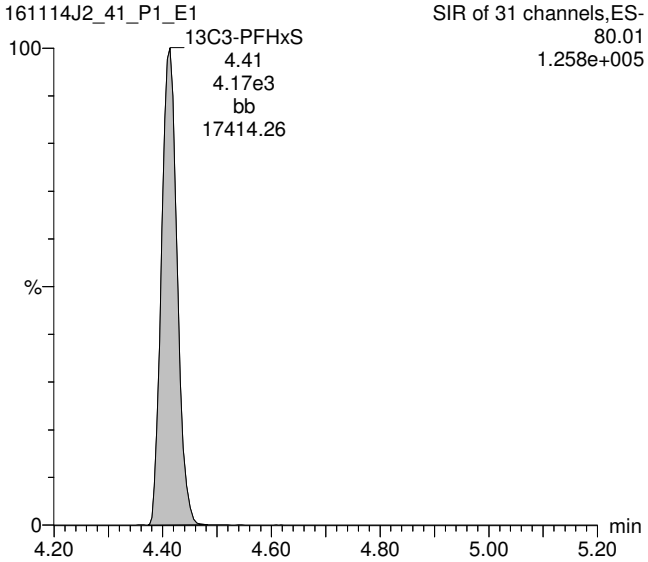
ID: 1601401-01, Description: OW2C-MW19-1116, Name: 161114J2_41.wiff, Date: 15-Nov-2016, Time: 00:12:12, Instrument: , Lab: ©PE-SCIEX, User: sciex

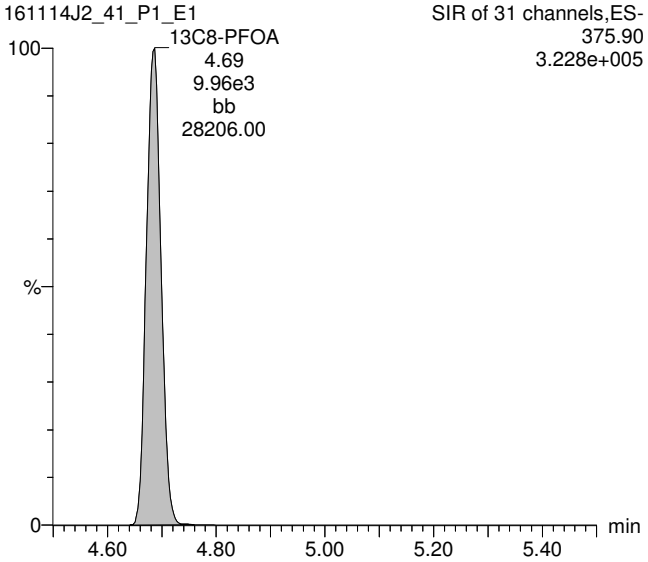
13C5-PFHxA



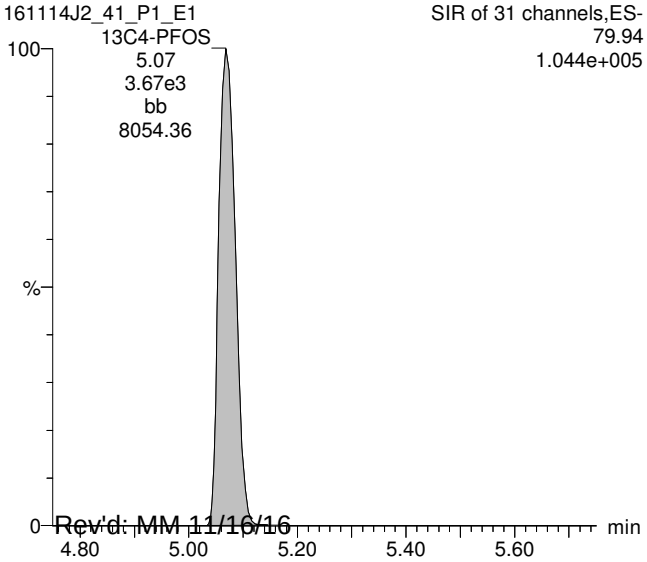
13C3-PFHxS



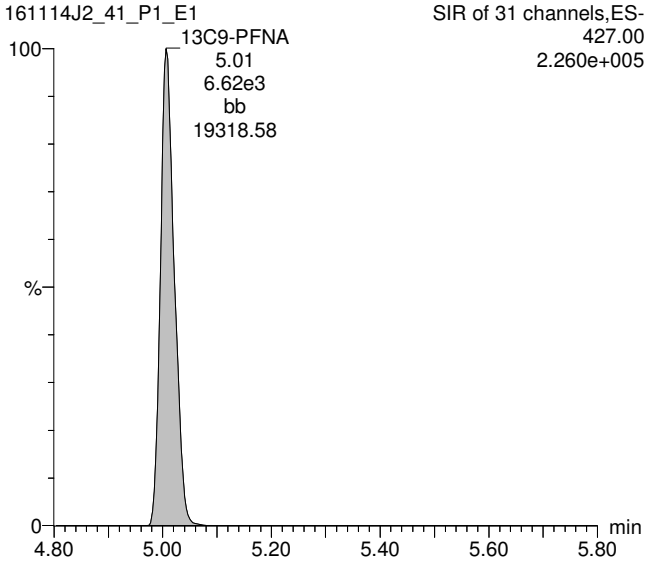
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_28.qld

Last Altered: Wednesday, November 16, 2016 14:44:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:56:33 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-01@5x, Description: OW2C-MW19-1116, Name: 161115J1_28.wiff, Date: 15-Nov-2016, Time: 21:13:00

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	10	PFOS	79.92	4.654e3	2.539e2		0.123	5.07	1480	
2	22	13C8-PFOS	79.93	2.539e2	3.699e2	0.921	0.123	5.07	75.4	74.5
3	29	13C4-PFOS	79.94	3.699e2	3.699e2	1.000	0.123	5.07	101	100
4	35	Total PFOS	79.92		2.539e2		0.123		2430	

Rev'd: MM 11/16/16 pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_28.qld

Last Altered: Wednesday, November 16, 2016 14:44:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:56:33 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-01@5x, Description: OW2C-MW19-1116, Name: 161115J1_28.wiff, Date: 15-Nov-2016, Time: 21:13:00

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.41	1616.595	1049.336	200.1

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	4444.218	170.434	799.1
2	33	Total PFHxS	79.91	4.31	727.327	170.434	133.4
3	33	Total PFHxS	79.91	4.28	207.385	170.434	38.1
4	33	Total PFHxS	79.91	4.19	10.783	170.434	1.9

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	34	Total PFOA	368.90	4.92	18.148	924.429	1.2
2	34	Total PFOA	368.90	4.83	88.528	924.429	7.1
3	8	PFOA	368.90	4.68	5218.980	924.429	492.8
4	34	Total PFOA	368.90	4.59	883.486	924.429	74.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	4654.459	253.931	1482.6
2	35	Total PFOS	79.92	4.98	1139.197	253.931	362.3
3	35	Total PFOS	79.92	4.96	1600.697	253.931	509.3
4	35	Total PFOS	79.92	4.86	237.501	253.931	74.9

Vista Analytical Laboratory Q1

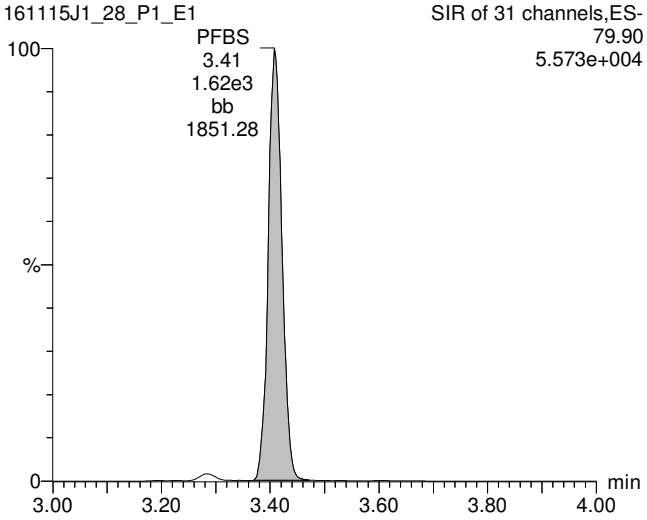
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_28.qld

Last Altered: Wednesday, November 16, 2016 14:44:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:56:33 Pacific Standard Time

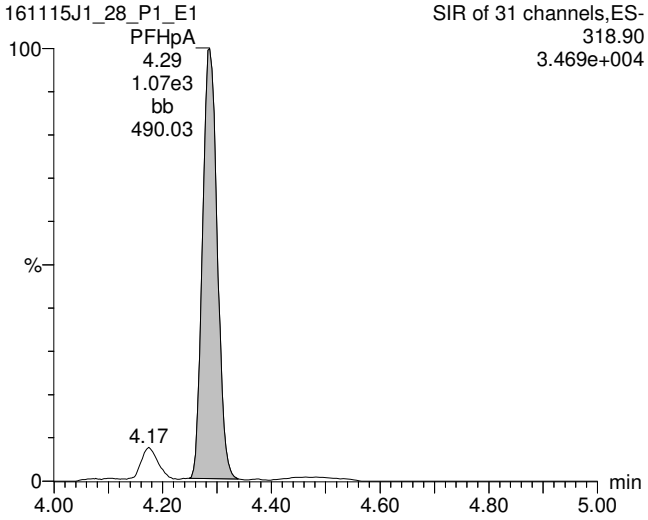
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-01@5x, Description: OW2C-MW19-1116, Name: 161115J1_28.wiff, Date: 15-Nov-2016, Time: 21:13:00, Instrument: , Lab: ©PE-SCIEX, User: sciex

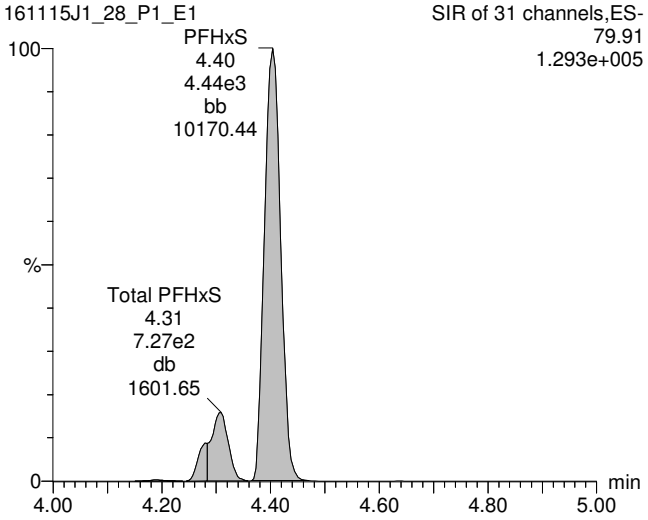
Total PFBS



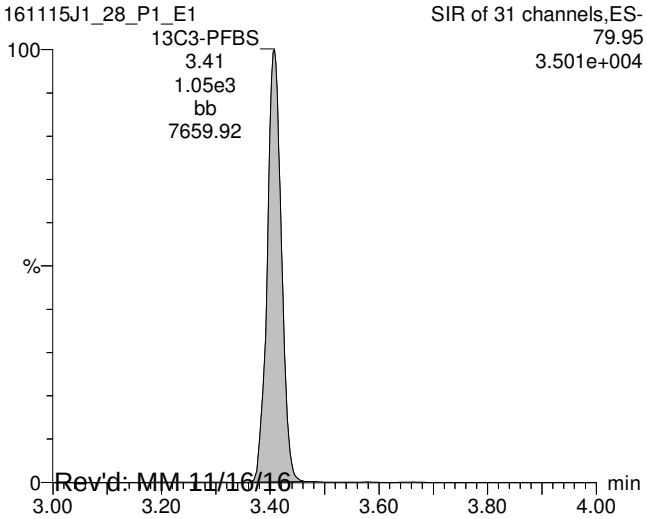
PFHpA



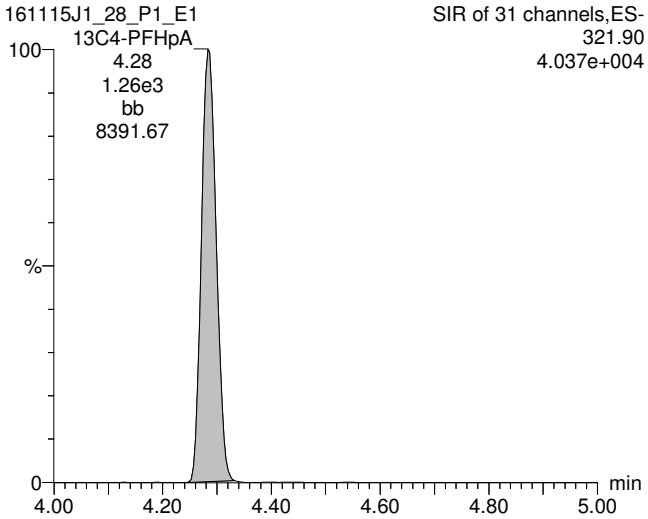
Total PFHxS



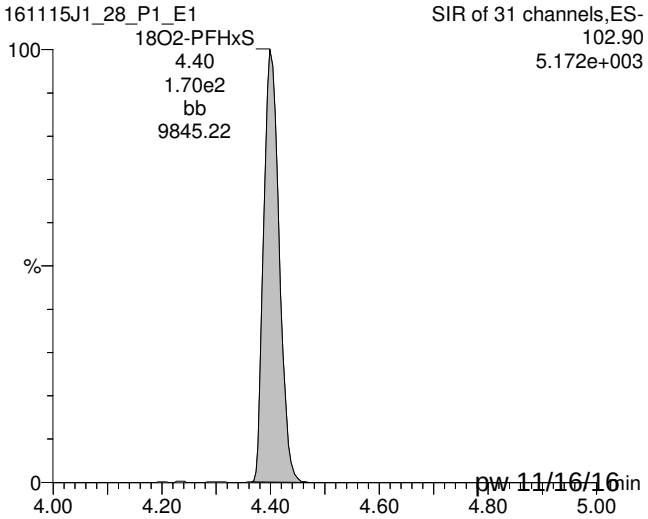
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



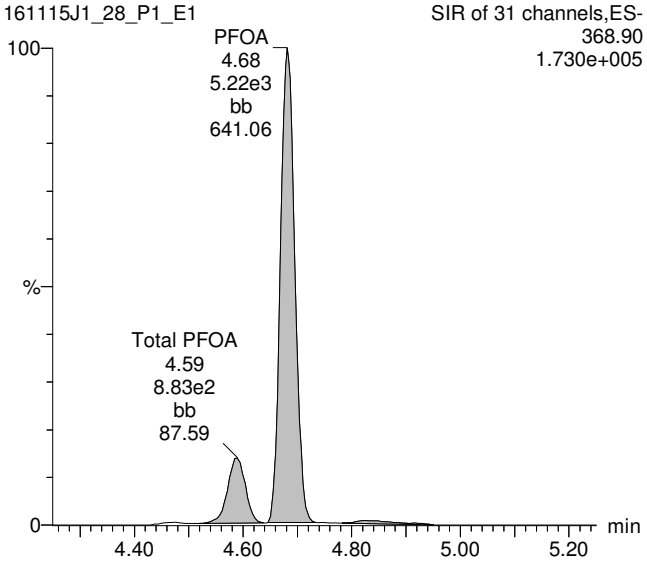
Rev'd: MM 11/16/16 pw 11/16/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_28.qld

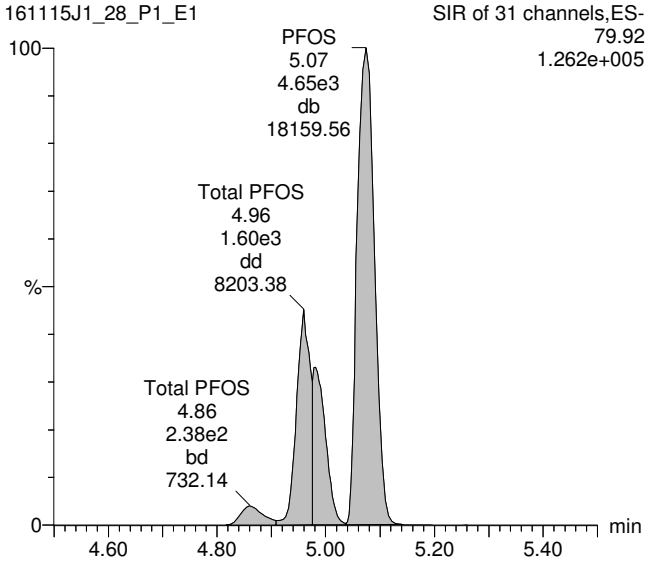
Last Altered: Wednesday, November 16, 2016 14:44:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:56:33 Pacific Standard Time

ID: 1601401-01@5x, Description: OW2C-MW19-1116, Name: 161115J1_28.wiff, Date: 15-Nov-2016, Time: 21:13:00, Instrument: , Lab: ©PE-SCIEX, User: sciex

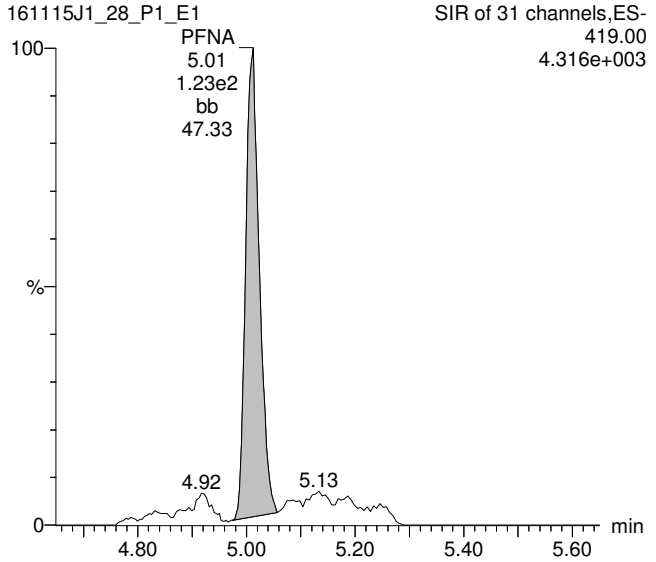
Total PFOA



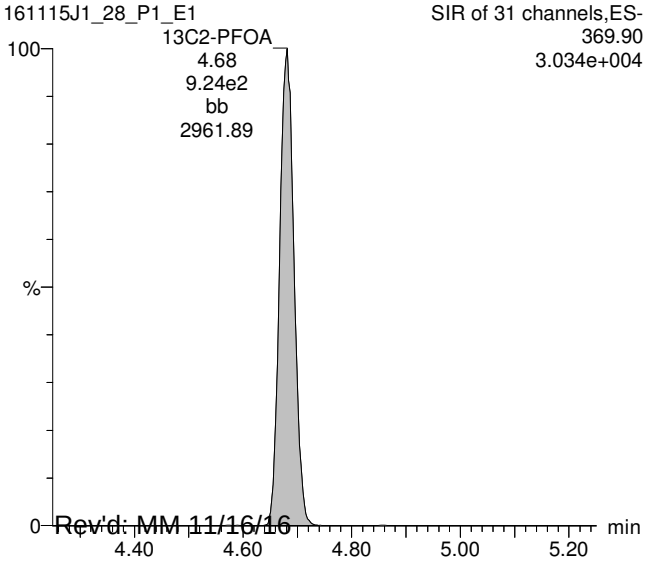
Total PFOS



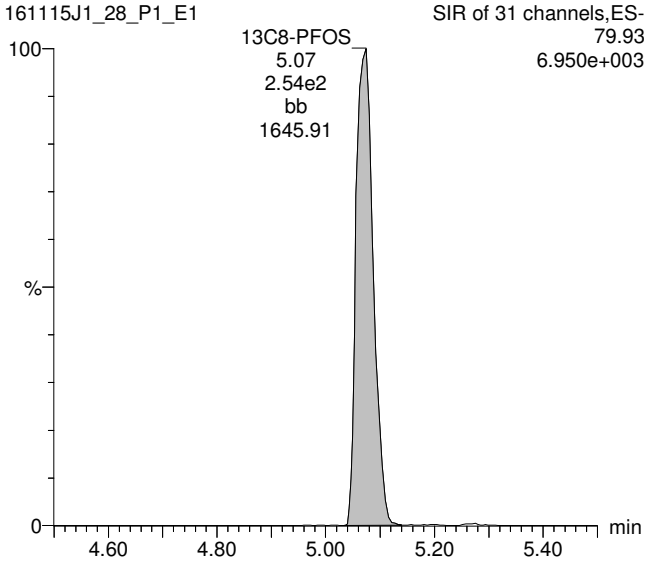
PFNA



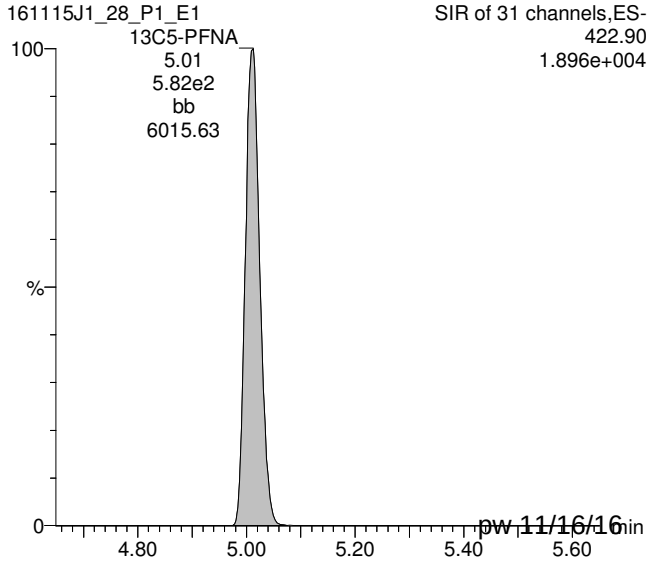
13C2-PFOA



13C8-PFOS



13C5-PFNA



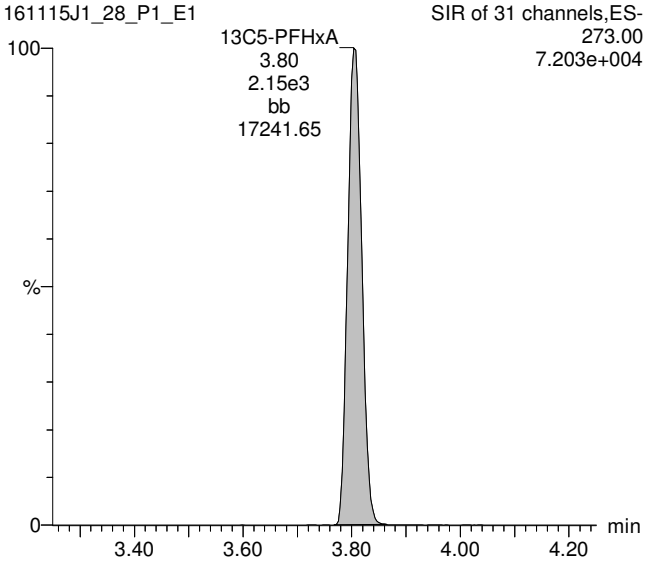
Rev'd: MM 11/16/16 pw 11/16/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_28.qld

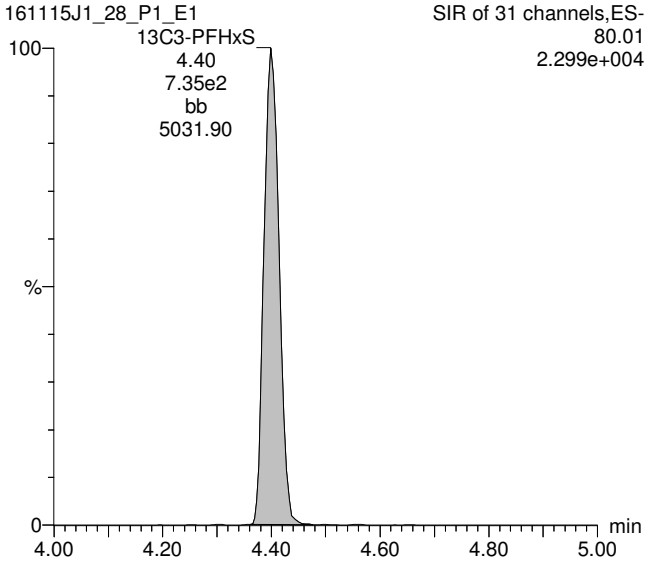
Last Altered: Wednesday, November 16, 2016 14:44:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:56:33 Pacific Standard Time

ID: 1601401-01@5x, Description: OW2C-MW19-1116, Name: 161115J1_28.wiff, Date: 15-Nov-2016, Time: 21:13:00, Instrument: , Lab: ©PE-SCIEX, User: sciex

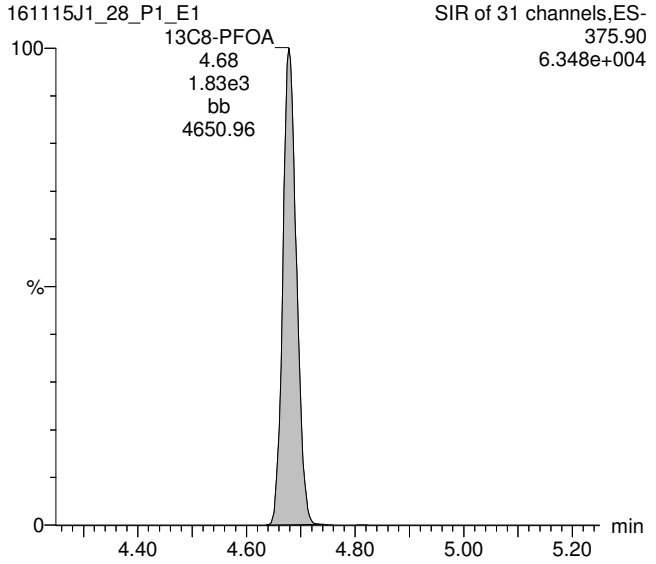
13C5-PFHxA



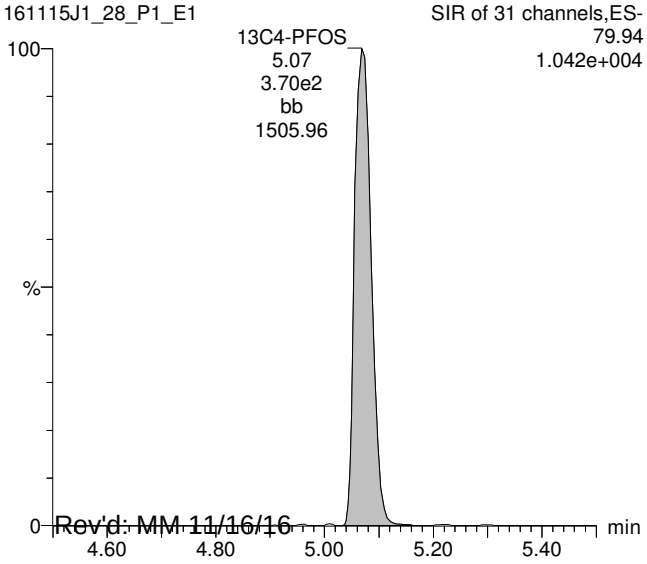
13C3-PFHxS



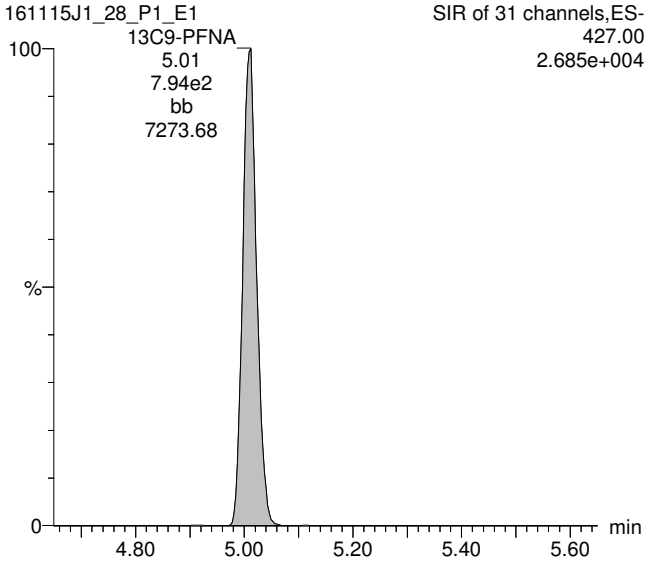
13C8-PFOA



13C4-PFOS



13C9-PFNA



Rev'd: MM 11/16/16

pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_42.qld

Last Altered: Wednesday, November 16, 2016 09:50:26 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:50:51 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-02, Description: OW2E-MW19-1116, Name: 161114J2_42.wiff, Date: 15-Nov-2016, Time: 00:24:28

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	1.852e3	5.543e3		0.124	3.42	43.4	
2	5	PFHpA	318.90	2.742e4	6.656e3		0.124	4.29	493	
3	6	PFHxS	79.91	9.036e3	1.116e3		0.124	4.41	252	
4	8	PFOA	368.90	2.846e4	6.061e3		0.124	4.69	399	
5	9	PFNA	419.00	4.166e3	4.964e3		0.124	5.01	93.6	
6	10	PFOS	79.92	5.446e3	2.630e3		0.124	5.07	166	
7	15	13C3-PFBS	79.95	5.543e3	1.032e4	0.531	0.124	3.42	102	101
8	16	13C2-PFHxA	269.90	3.288e3	1.032e4	0.905	0.124	3.81	35.6	88.1
9	17	13C4-PFHpA	321.90	6.656e3	1.032e4	0.770	0.124	4.29	84.6	83.8
10	18	18O2-PFHxS	102.90	1.116e3	4.531e3	0.276	0.124	4.41	90.1	89.2
11	19	13C2-6:2 FTS	408.90	5.177e3	1.079e4	0.219	0.124	4.65	222	219
12	20	13C2-PFOA	369.90	6.061e3	1.079e4	0.663	0.124	4.69	85.5	84.7
13	21	13C5-PFNA	422.90	4.964e3	6.712e3	1.019	0.124	5.01	73.2	72.5
14	22	13C8-PFOS	79.93	2.630e3	3.791e3	0.921	0.124	5.07	76.0	75.3
15	26	13C5-PFHxA	273.00	1.032e4	1.032e4	1.000	0.124	3.81	101	100
16	27	13C3-PFHxS	80.01	4.531e3	4.531e3	1.000	0.124	4.41	101	100
17	28	13C8-PFOA	375.90	1.079e4	1.079e4	1.000	0.124	4.69	101	100
18	29	13C4-PFOS	79.94	3.791e3	3.791e3	1.000	0.124	5.07	101	100
19	30	13C9-PFNA	427.00	6.712e3	6.712e3	1.000	0.124	5.01	101	100
20	31	13C6-PFDA	474.00	5.519e3	5.519e3	1.000	0.124	5.29	101	100
21	32	Total PFBS	79.90		5.543e3		0.124		43.4	
22	33	Total PFHxS	79.91		1.116e3		0.124		290	
23	34	Total PFOA	368.90		6.061e3		0.124		413	
24	35	Total PFOS	79.92		2.630e3		0.124		263	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_42.qld

Last Altered: Wednesday, November 16, 2016 09:50:26 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:50:51 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-02, Description: OW2E-MW19-1116, Name: 161114J2_42.wiff, Date: 15-Nov-2016, Time: 00:24:28

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	1851.626	5543.171	43.4
2	32	Total PFBS	79.90	3.30	29.604	5543.171	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	9036.145	1115.876	251.6
2	33	Total PFHxS	79.91	4.31	1388.295	1115.876	38.8

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.69	28460.240	6060.565	398.8
2	34	Total PFOA	368.90	4.59	1164.459	6060.565	14.5

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	5446.404	2630.433	166.3
2	35	Total PFOS	79.92	4.98	970.073	2630.433	29.0
3	35	Total PFOS	79.92	4.96	2004.745	2630.433	60.7
4	35	Total PFOS	79.92	4.87	267.336	2630.433	7.4

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_42.qld

Last Altered: Wednesday, November 16, 2016 09:50:26 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:50:51 Pacific Standard Time

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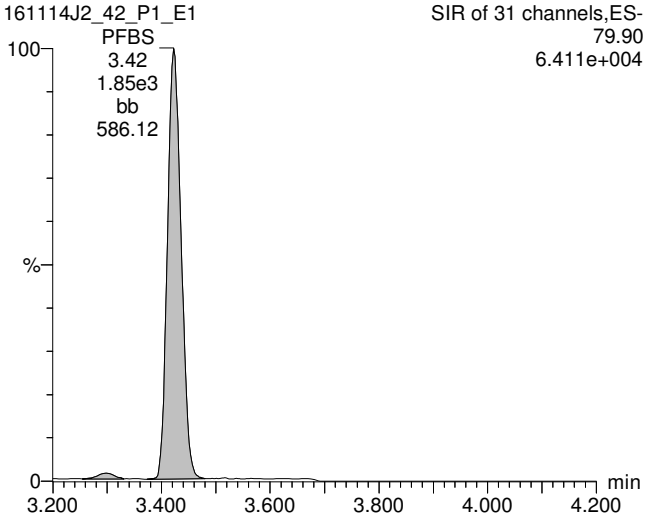
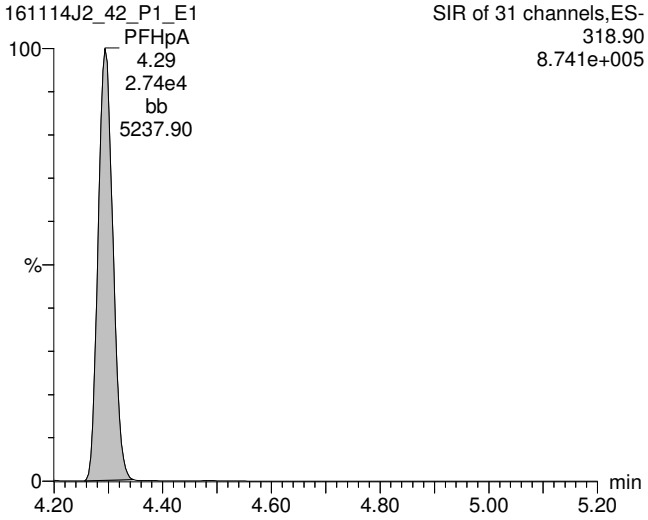
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-02, Description: OW2E-MW19-1116, Name: 161114J2_42.wiff, Date: 15-Nov-2016, Time: 00:24:28, Instrument: , Lab: ©PE-SCIEX, User: sciex

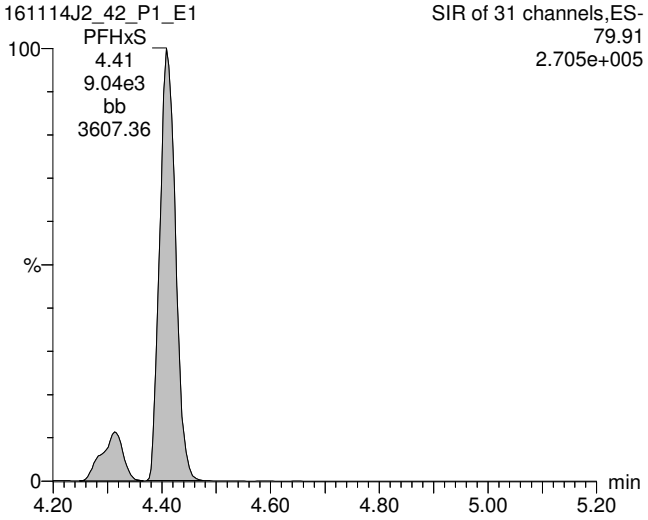
Total PFBS



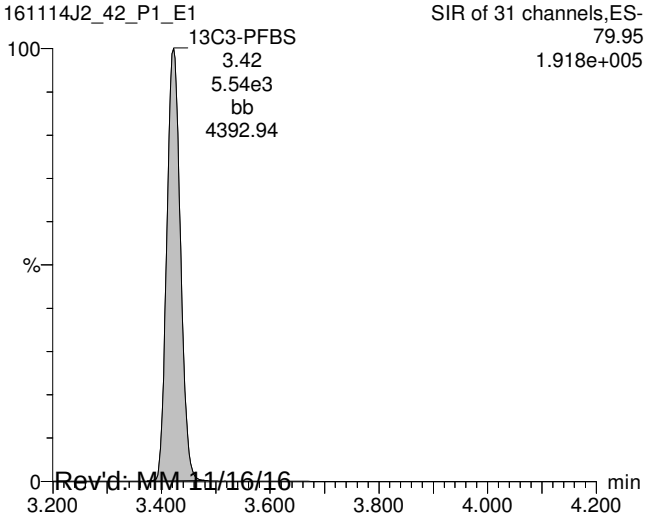
PFHpA



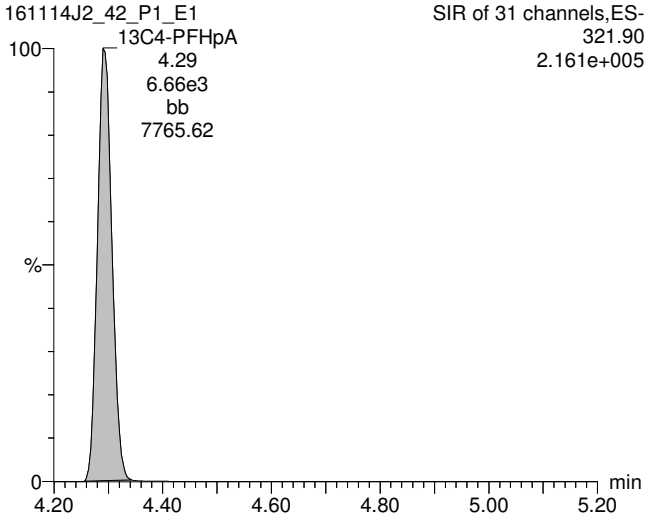
Total PFHxS



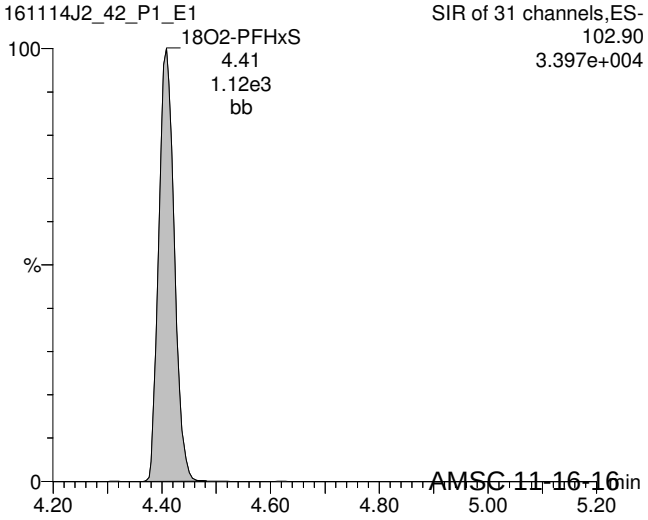
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



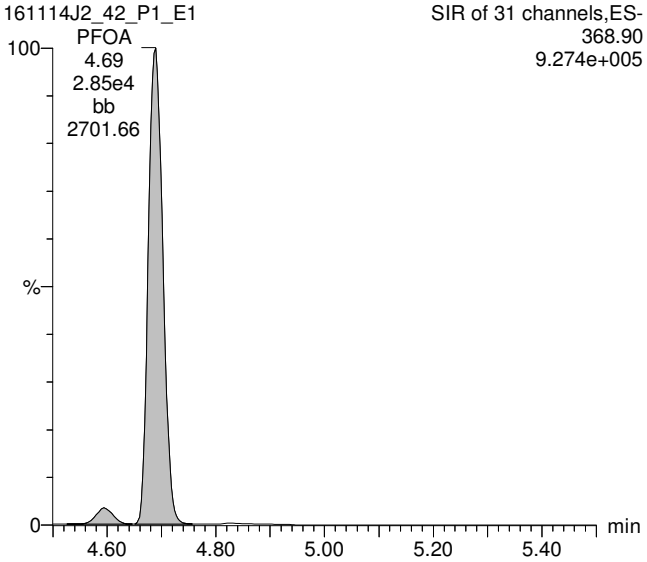
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_42.qld

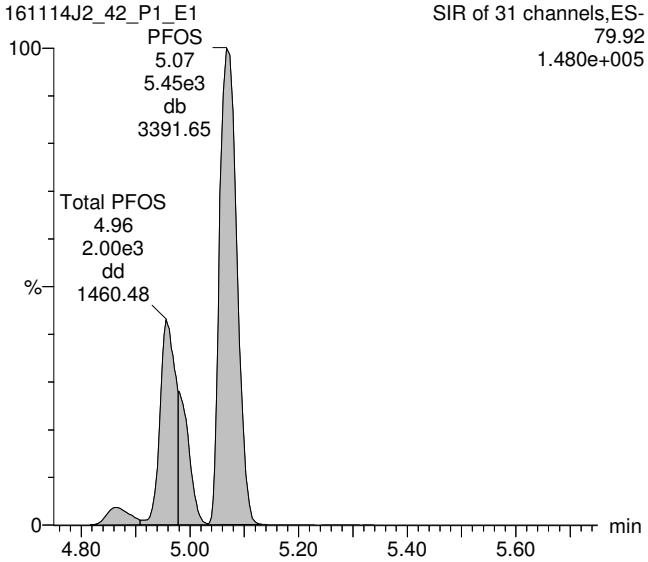
Last Altered: Wednesday, November 16, 2016 09:50:26 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:50:51 Pacific Standard Time

ID: 1601401-02, Description: OW2E-MW19-1116, Name: 161114J2_42.wiff, Date: 15-Nov-2016, Time: 00:24:28, Instrument: , Lab: ©PE-SCIEX, User: sciex

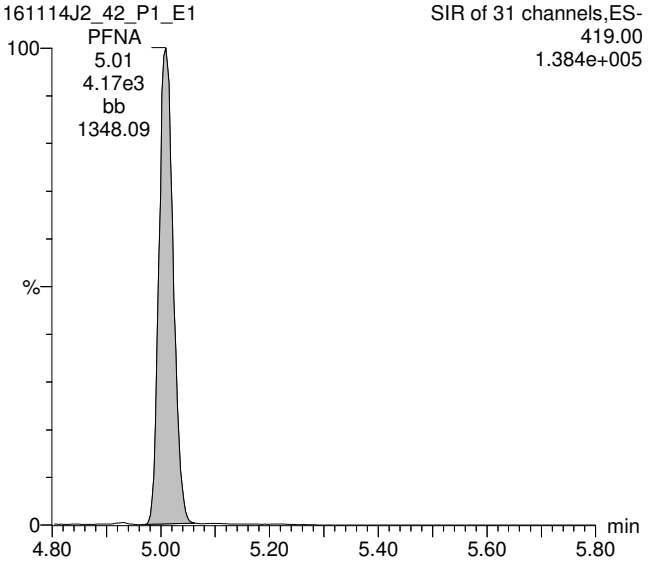
Total PFOA



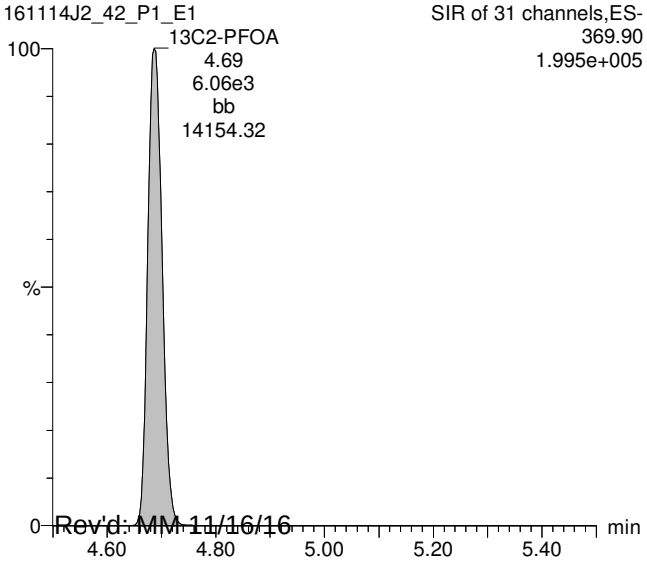
Total PFOS



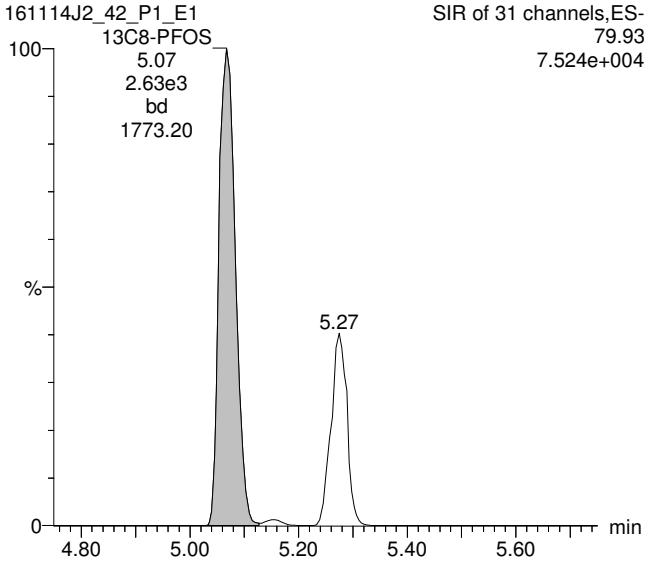
PFNA



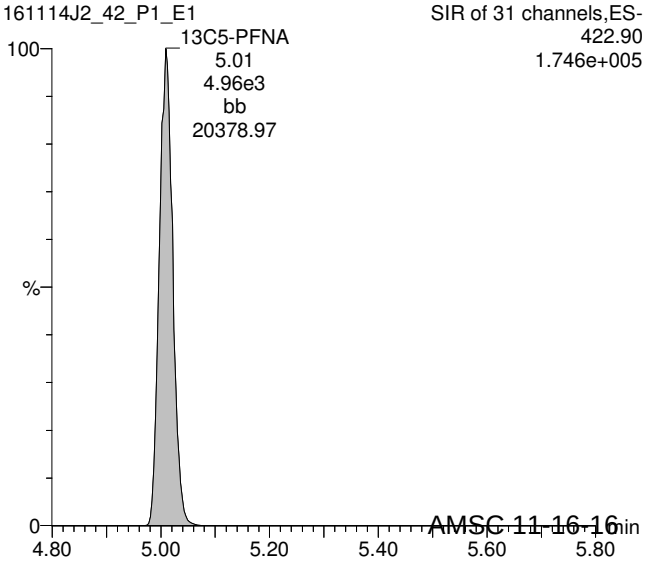
13C2-PFOA



13C8-PFOS



13C5-PFNA



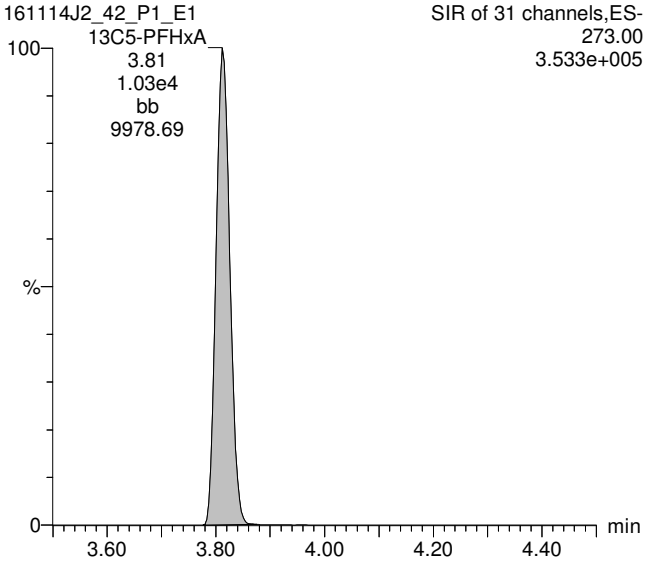
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_42.qld

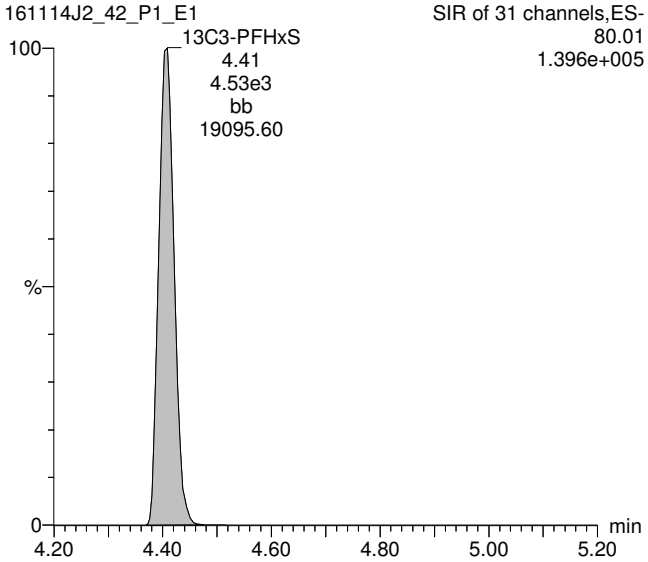
Last Altered: Wednesday, November 16, 2016 09:50:26 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:50:51 Pacific Standard Time

ID: 1601401-02, Description: OW2E-MW19-1116, Name: 161114J2_42.wiff, Date: 15-Nov-2016, Time: 00:24:28, Instrument: , Lab: ©PE-SCIEX, User: sciex

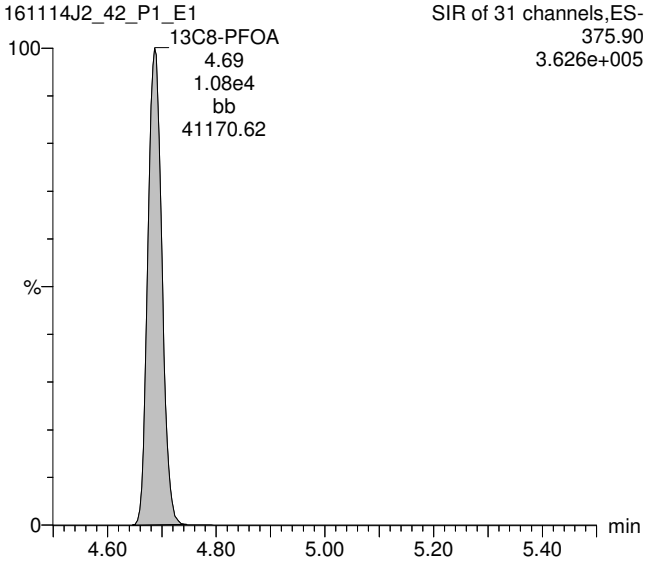
13C5-PFHxA



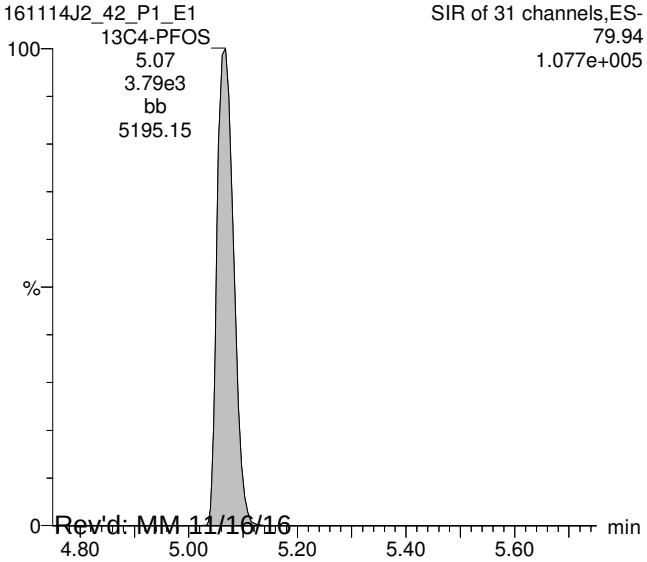
13C3-PFHxS



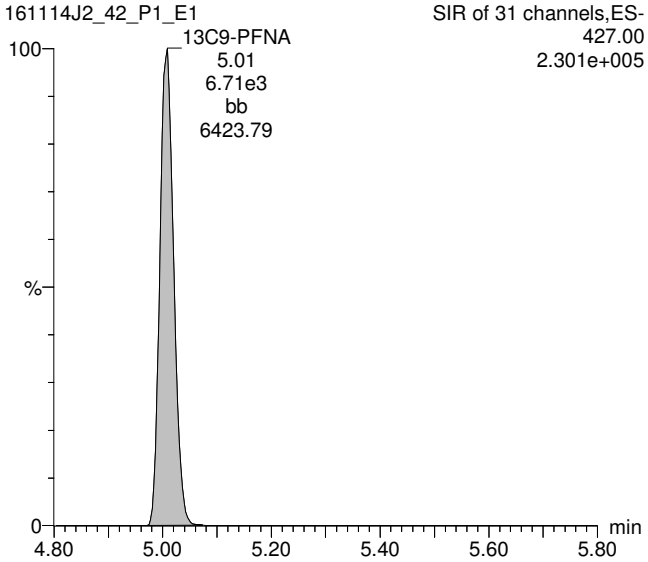
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_43.qld

Last Altered: Wednesday, November 16, 2016 09:52:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:54:04 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-03, Description: OW2B-MW41-1116, Name: 161114J2_43.wiff, Date: 15-Nov-2016, Time: 00:36:39

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	1.999e3	5.016e3		0.125	3.43	51.7	
2	5	PFHpA	318.90	1.355e4	5.849e3		0.125	4.30	275	
3	6	PFHxS	79.91	1.210e4	9.210e2		0.125	4.41	404	
4	8	PFOA	368.90	1.366e4	5.356e3		0.125	4.69	205	
5	9	PFNA	419.00	2.600e2	4.339e3		0.125	5.01	6.59	
6	10	PFOS	79.92	6.689e2	2.645e3		0.125	5.07	19.5	
7	15	13C3-PFBS	79.95	5.016e3	9.359e3	0.531	0.125	3.42	101	101
8	16	13C2-PFHxA	269.90	2.984e3	9.359e3	0.905	0.125	3.81	35.4	88.1
9	17	13C4-PFHpA	321.90	5.849e3	9.359e3	0.770	0.125	4.29	81.5	81.2
10	18	18O2-PFHxS	102.90	9.210e2	3.895e3	0.276	0.125	4.41	86.0	85.7
11	19	13C2-6:2 FTS	408.90	2.217e3	9.573e3	0.219	0.125	4.65	106	106
12	20	13C2-PFOA	369.90	5.356e3	9.573e3	0.663	0.125	4.68	84.6	84.3
13	21	13C5-PFNA	422.90	4.339e3	5.932e3	1.019	0.125	5.01	72.0	71.7
14	22	13C8-PFOS	79.93	2.645e3	3.170e3	0.921	0.125	5.07	90.9	90.6
15	26	13C5-PFHxA	273.00	9.359e3	9.359e3	1.000	0.125	3.81	100	100
16	27	13C3-PFHxS	80.01	3.895e3	3.895e3	1.000	0.125	4.41	100	100
17	28	13C8-PFOA	375.90	9.573e3	9.573e3	1.000	0.125	4.68	100	100
18	29	13C4-PFOS	79.94	3.170e3	3.170e3	1.000	0.125	5.07	100	100
19	30	13C9-PFNA	427.00	5.932e3	5.932e3	1.000	0.125	5.01	100	100
20	31	13C6-PFDA	474.00	4.577e3	4.577e3	1.000	0.125	5.29	100	100
21	32	Total PFBS	79.90		5.016e3		0.125		51.7	
22	33	Total PFHxS	79.91		9.210e2		0.125		473	
23	34	Total PFOA	368.90		5.356e3		0.125		222	
24	35	Total PFOS	79.92		2.645e3		0.125		63.1	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_43.qld

Last Altered: Wednesday, November 16, 2016 09:52:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:54:04 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-03, Description: OW2B-MW41-1116, Name: 161114J2_43.wiff, Date: 15-Nov-2016, Time: 00:36:39

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.43	1998.777	5015.738	51.7
2	32	Total PFBS	79.90	3.30	27.537	5015.738	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	12100.258	921.038	403.7
2	33	Total PFHxS	79.91	4.32	2052.703	921.038	69.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.69	13655.667	5356.016	204.6
2	34	Total PFOA	368.90	4.60	1250.058	5356.016	17.6

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	668.875	2645.197	19.5
2	35	Total PFOS	79.92	4.96	1276.132	2645.197	37.9
3	35	Total PFOS	79.92	4.87	215.403	2645.197	5.7

Vista Analytical Laboratory Q1

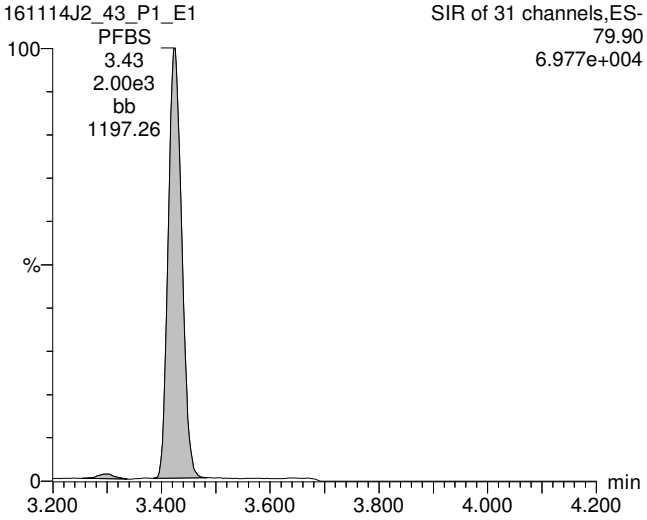
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_43.qld

Last Altered: Wednesday, November 16, 2016 09:52:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:54:04 Pacific Standard Time

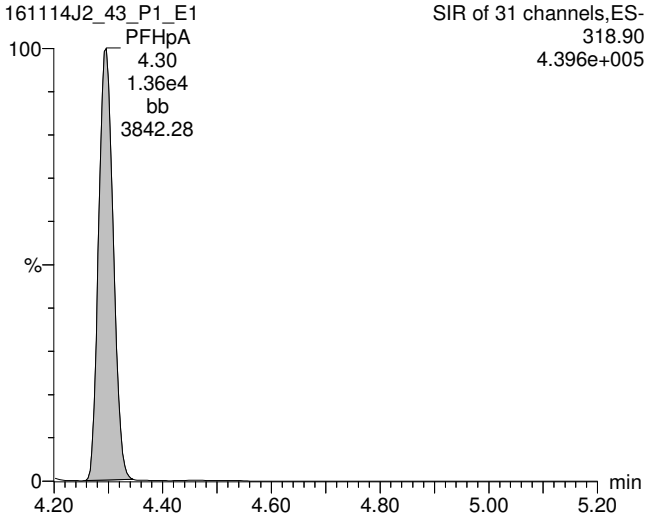
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-03, Description: OW2B-MW41-1116, Name: 161114J2_43.wiff, Date: 15-Nov-2016, Time: 00:36:39, Instrument: , Lab: ©PE-SCIEX, User: sciex

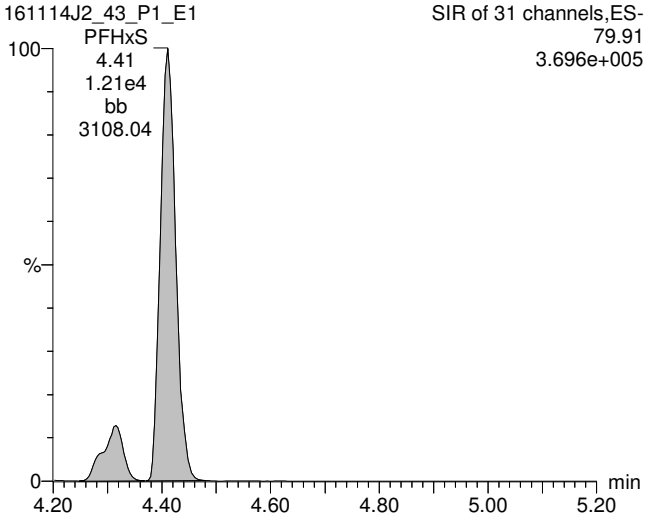
Total PFBS



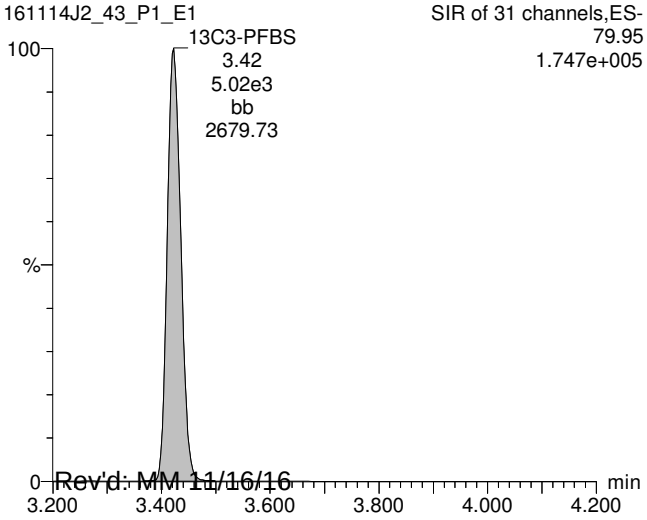
PFHpA



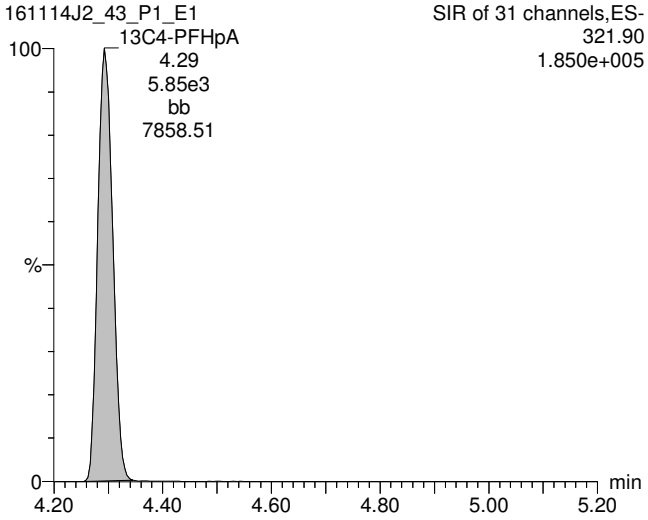
Total PFHxS



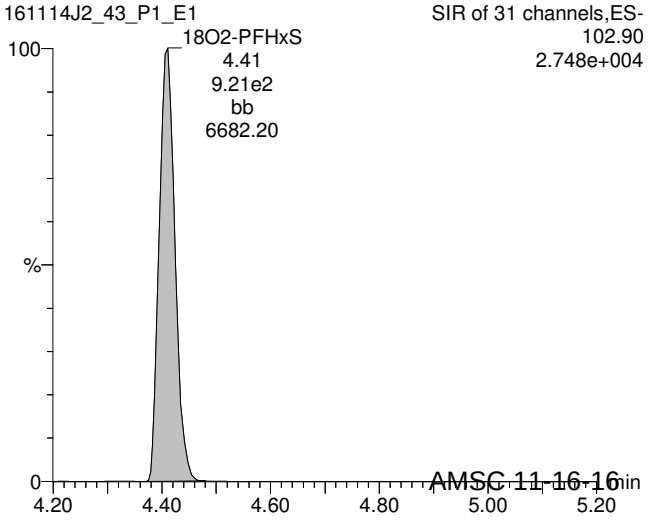
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



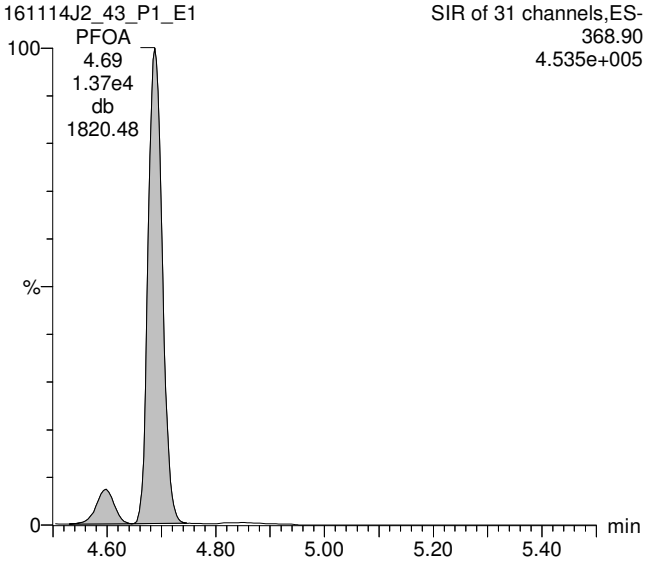
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_43.qld

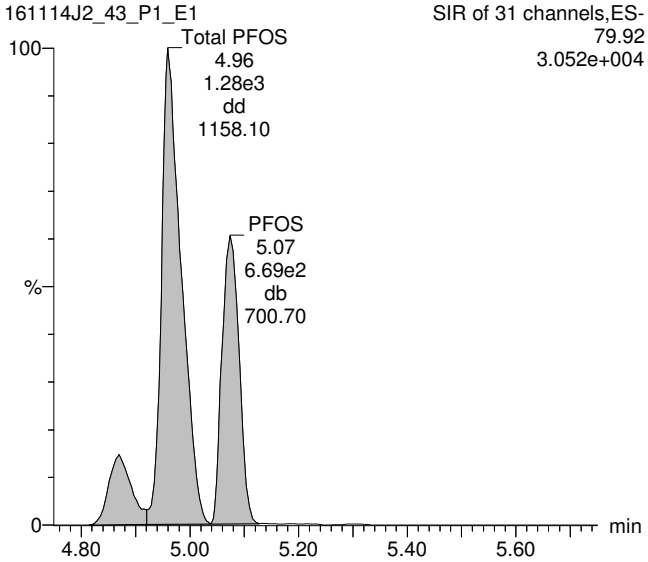
Last Altered: Wednesday, November 16, 2016 09:52:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:54:04 Pacific Standard Time

ID: 1601401-03, Description: OW2B-MW41-1116, Name: 161114J2_43.wiff, Date: 15-Nov-2016, Time: 00:36:39, Instrument: , Lab: ©PE-SCIEX, User: sciex

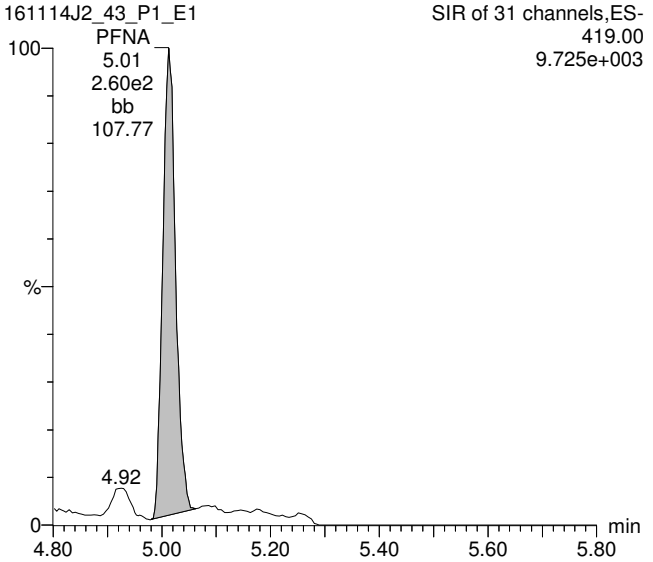
Total PFOA



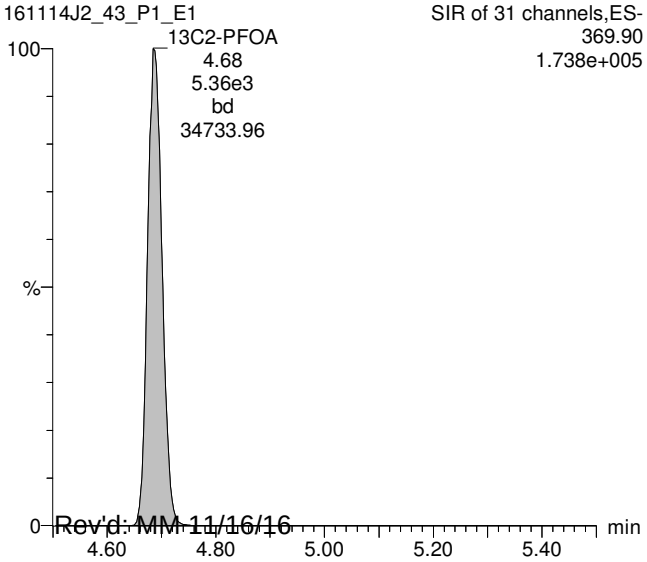
Total PFOS



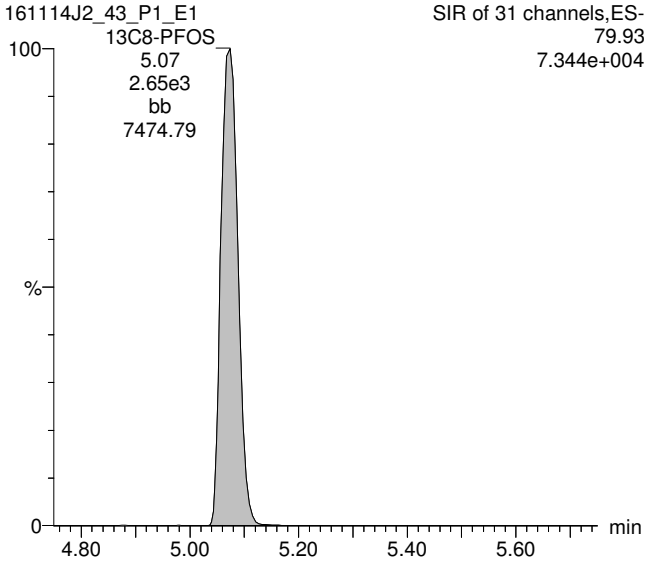
PFNA



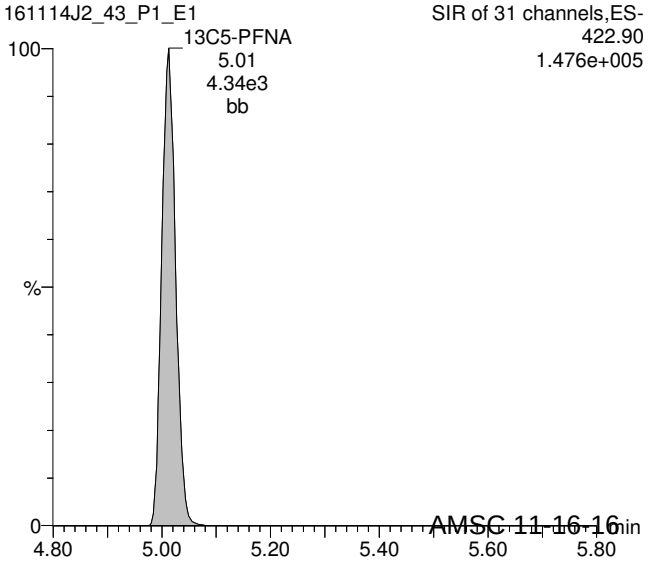
13C2-PFOA



13C8-PFOS



13C5-PFNA



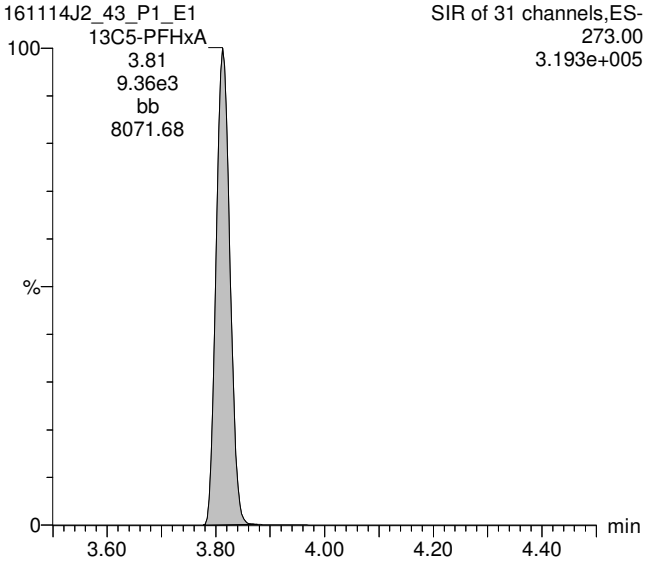
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_43.qld

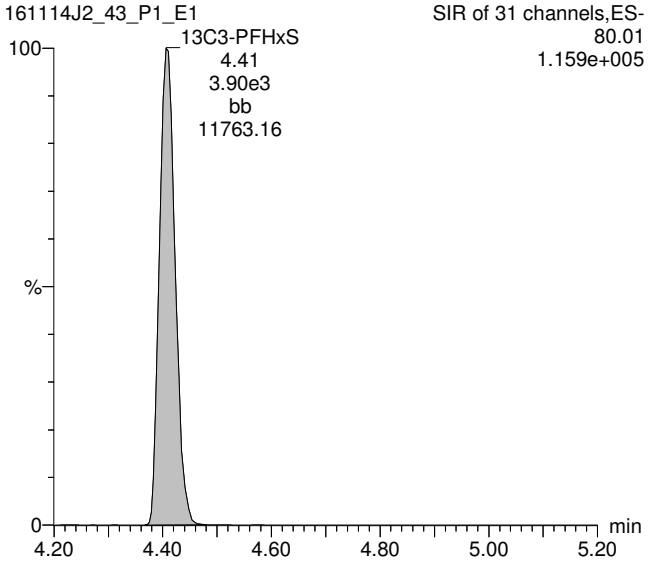
Last Altered: Wednesday, November 16, 2016 09:52:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:54:04 Pacific Standard Time

ID: 1601401-03, Description: OW2B-MW41-1116, Name: 161114J2_43.wiff, Date: 15-Nov-2016, Time: 00:36:39, Instrument: , Lab: ©PE-SCIEX, User: sciex

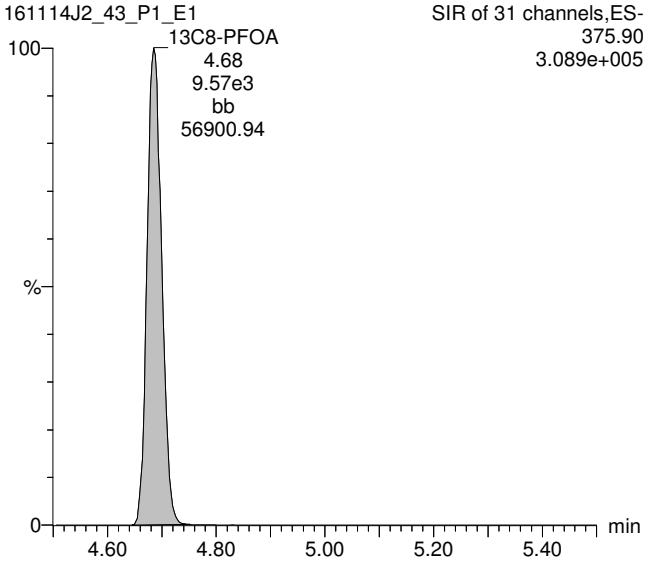
13C5-PFHxA



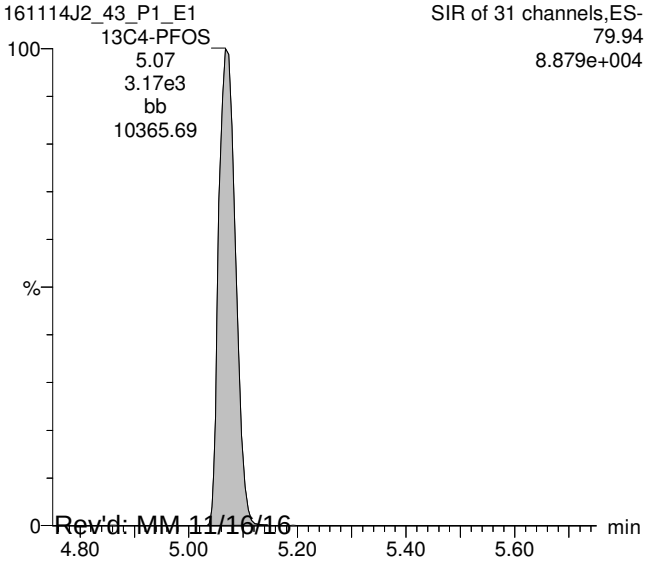
13C3-PFHxS



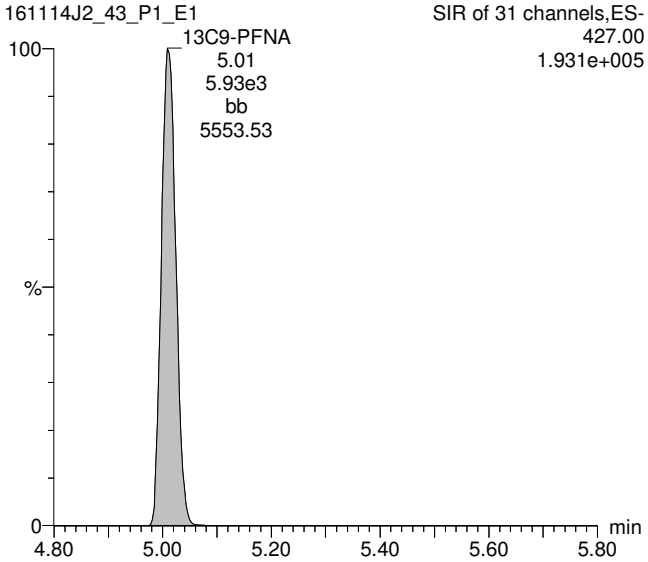
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_44.qld

Last Altered: Wednesday, November 16, 2016 09:57:38 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:57:52 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-04, Description: 203MW-19-1116, Name: 161114J2_44.wiff, Date: 15-Nov-2016, Time: 00:48:54

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	1.282e2	5.503e3		0.124	3.42	1.58	
2	5	PFHpA	318.90	1.230e2	6.600e3		0.124	4.30	1.85	
3	6	PFHxS	79.91	4.933e2	1.044e3		0.124	4.41	14.7	
4	8	PFOA	368.90	4.561e2	5.810e3		0.124	4.69	5.75	
5	9	PFNA	419.00	3.263e1	4.380e3		0.124	5.03	0.780	
6	10	PFOS	79.92	1.282e2	2.639e3		0.124	5.09	3.12	
7	15	13C3-PFBS	79.95	5.503e3	1.015e4	0.531	0.124	3.42	103	102
8	16	13C2-PFHxA	269.90	3.174e3	1.015e4	0.905	0.124	3.81	34.8	86.4
9	17	13C4-PFHpA	321.90	6.600e3	1.015e4	0.770	0.124	4.30	85.2	84.5
10	18	18O2-PFHxS	102.90	1.044e3	4.447e3	0.276	0.124	4.41	85.7	85.0
11	19	13C2-6:2 FTS	408.90	1.892e3	1.134e4	0.219	0.124	4.65	76.9	76.3
12	20	13C2-PFOA	369.90	5.810e3	1.134e4	0.663	0.124	4.69	77.9	77.2
13	21	13C5-PFNA	422.90	4.380e3	6.505e3	1.019	0.124	5.03	66.6	66.1
14	22	13C8-PFOS	79.93	2.639e3	4.043e3	0.921	0.124	5.09	71.4	70.8
15	26	13C5-PFHxA	273.00	1.015e4	1.015e4	1.000	0.124	3.81	101	100
16	27	13C3-PFHxS	80.01	4.447e3	4.447e3	1.000	0.124	4.41	101	100
17	28	13C8-PFOA	375.90	1.134e4	1.134e4	1.000	0.124	4.69	101	100
18	29	13C4-PFOS	79.94	4.043e3	4.043e3	1.000	0.124	5.08	101	100
19	30	13C9-PFNA	427.00	6.505e3	6.505e3	1.000	0.124	5.03	101	100
20	31	13C6-PFDA	474.00	4.773e3	4.773e3	1.000	0.124	5.30	101	100
21	32	Total PFBS	79.90		5.503e3		0.124		1.58	
22	33	Total PFHxS	79.91		1.044e3		0.124		16.9	
23	34	Total PFOA	368.90		5.810e3		0.124		5.75	
24	35	Total PFOS	79.92		2.639e3		0.124		7.17	

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_44.qld

Last Altered: Wednesday, November 16, 2016 09:57:38 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:57:52 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-04, Description: 203MW-19-1116, Name: 161114J2_44.wiff, Date: 15-Nov-2016, Time: 00:48:54

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	128.242	5502.505	1.6

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	493.278	1043.647	14.7
2	33	Total PFHxS	79.91	4.32	76.543	1043.647	2.2

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.69	456.082	5809.623	5.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.09	128.187	2638.810	3.1
2	35	Total PFOS	79.92	4.99	64.783	2638.810	1.2
3	35	Total PFOS	79.92	4.98	119.832	2638.810	2.9

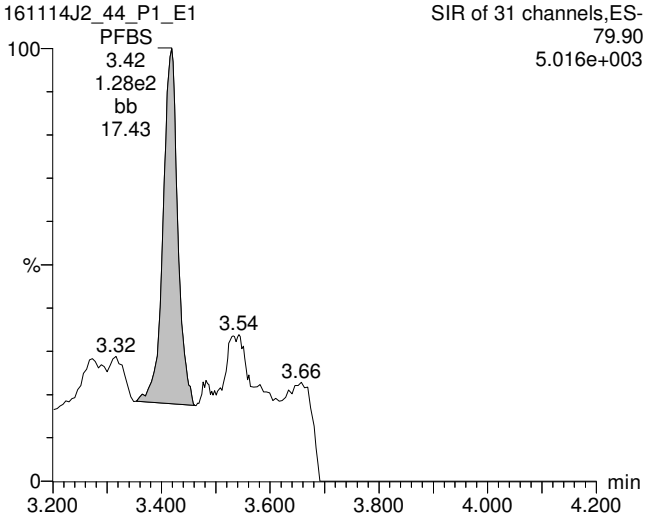
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_44.qld

Last Altered: Wednesday, November 16, 2016 09:57:38 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:57:52 Pacific Standard Time

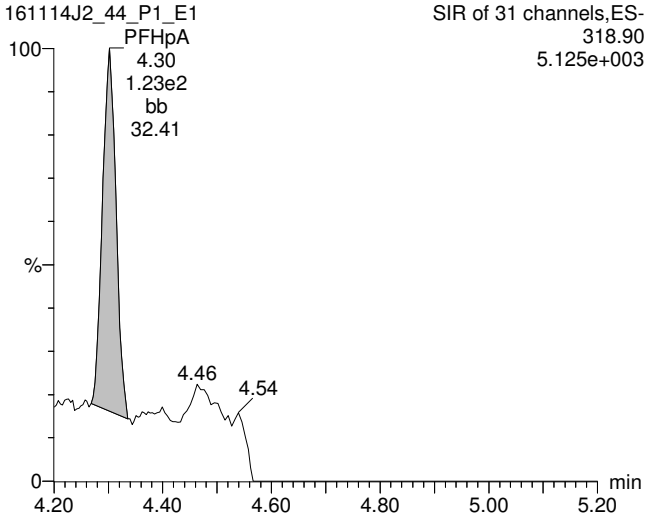
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-04, Description: 203MW-19-1116, Name: 161114J2_44.wiff, Date: 15-Nov-2016, Time: 00:48:54, Instrument: , Lab: ©PE-SCIEX, User: sciex

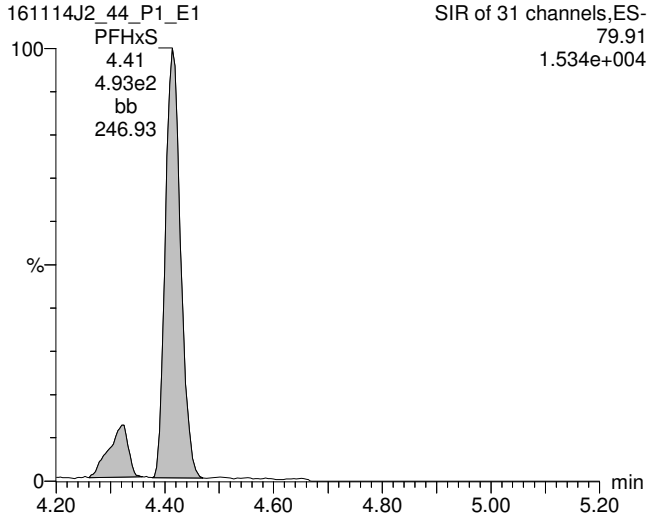
Total PFBS



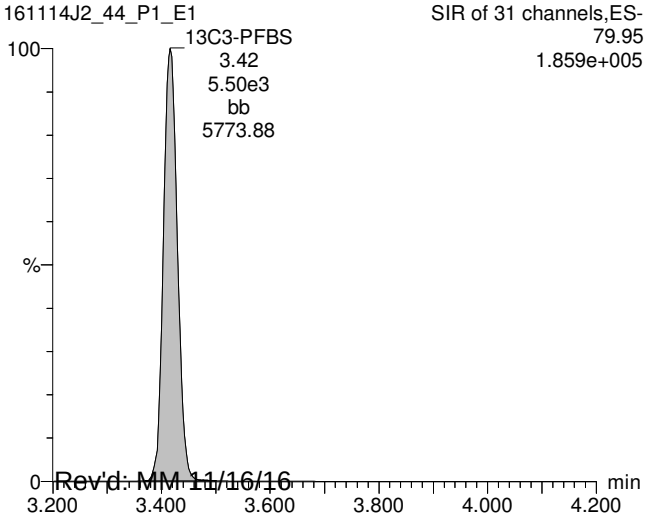
PFHpA



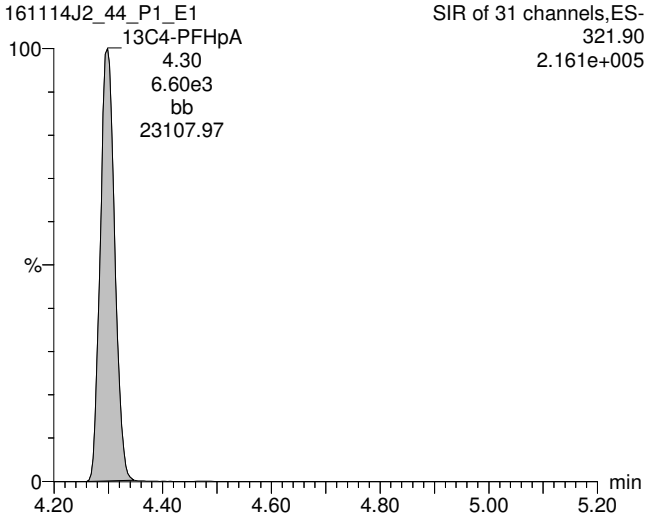
Total PFHxS



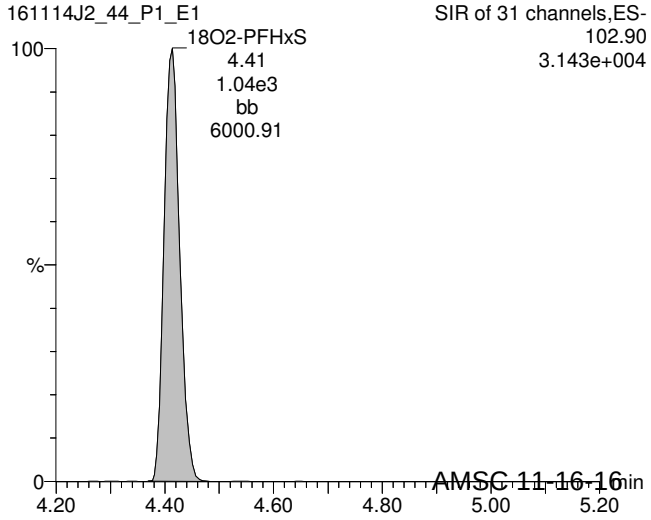
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



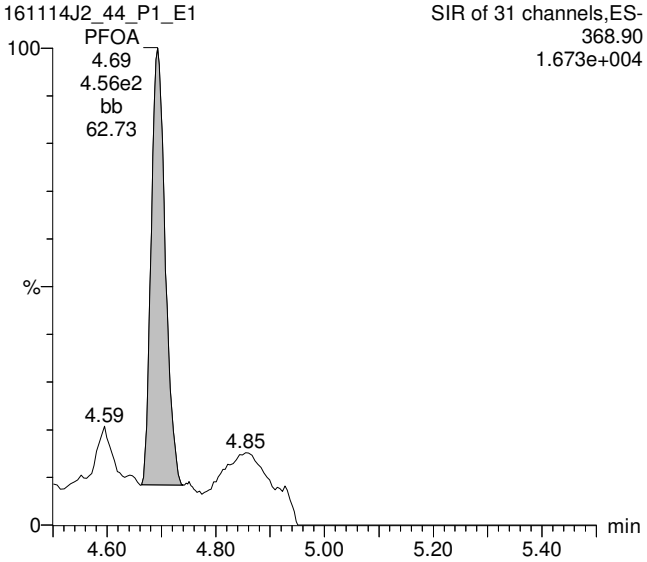
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_44.qld

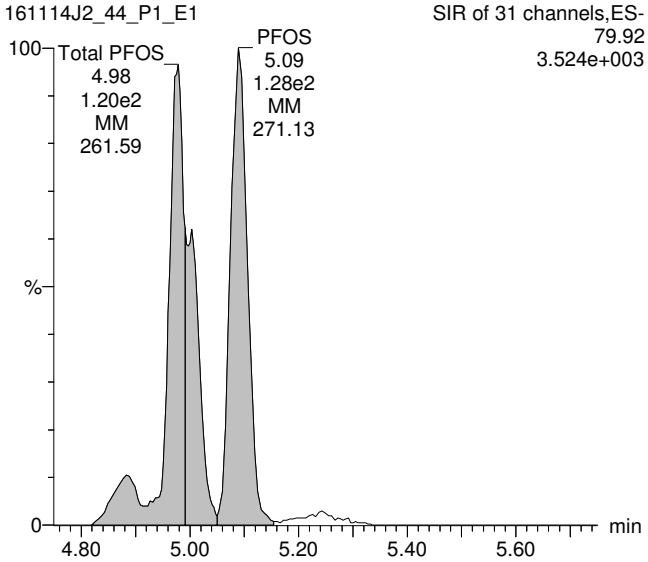
Last Altered: Wednesday, November 16, 2016 09:57:38 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:57:52 Pacific Standard Time

ID: 1601401-04, Description: 203MW-19-1116, Name: 161114J2_44.wiff, Date: 15-Nov-2016, Time: 00:48:54, Instrument: , Lab: ©PE-SCIEX, User: sciex

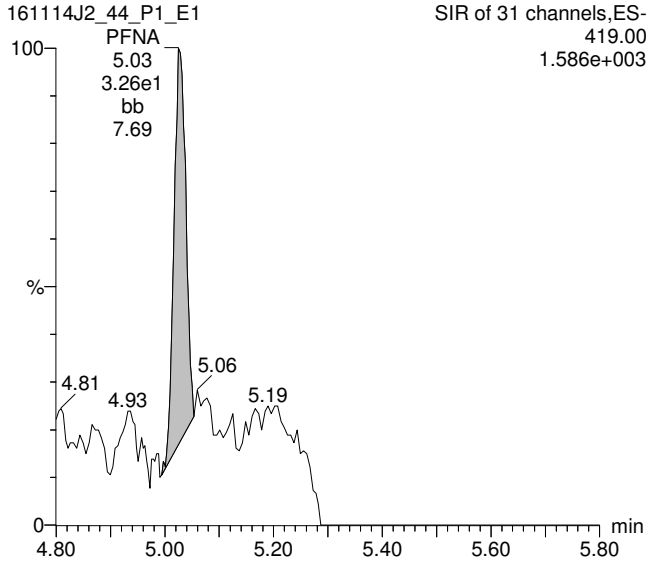
Total PFOA



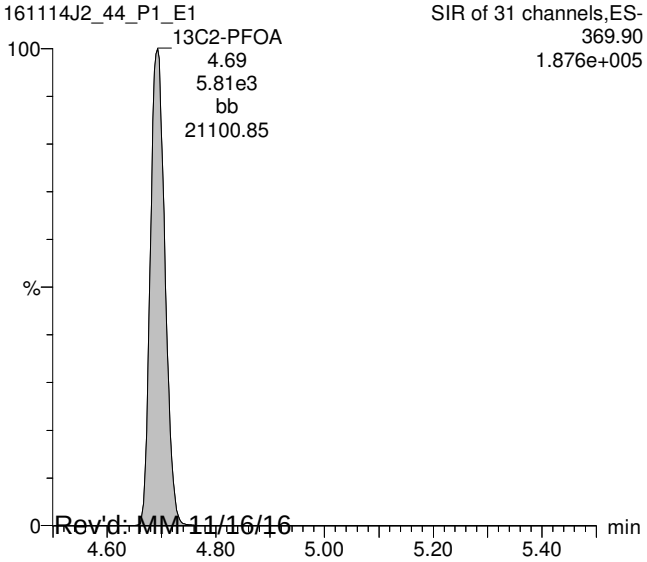
Total PFOS



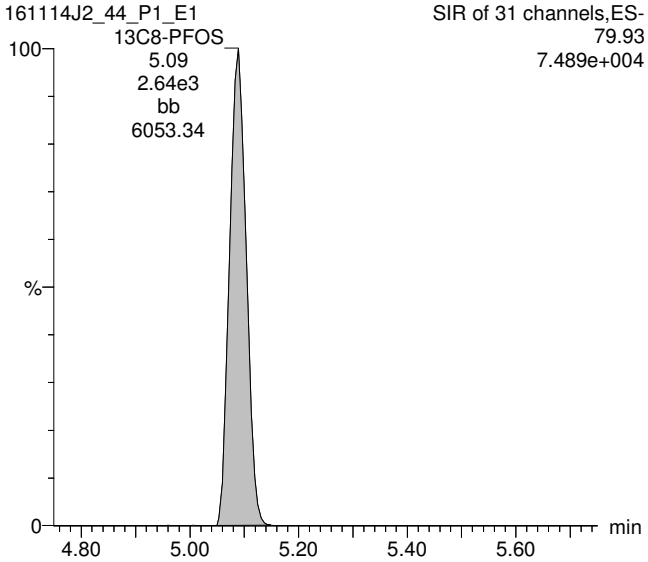
PFNA



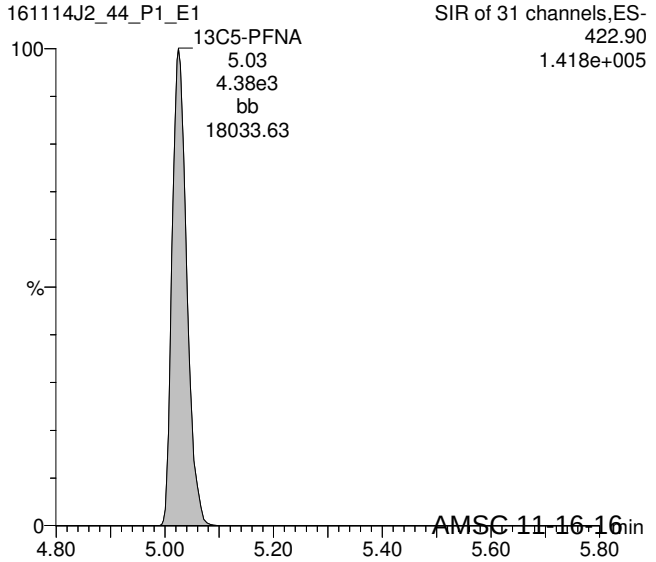
13C2-PFOA



13C8-PFOS



13C5-PFNA



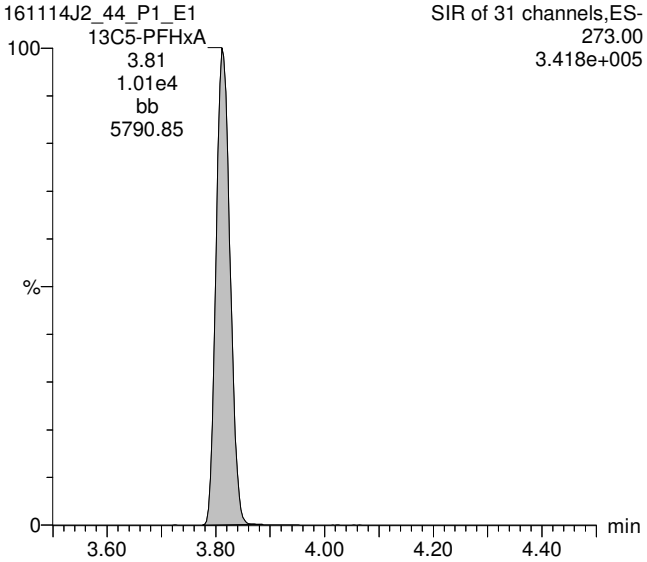
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_44.qld

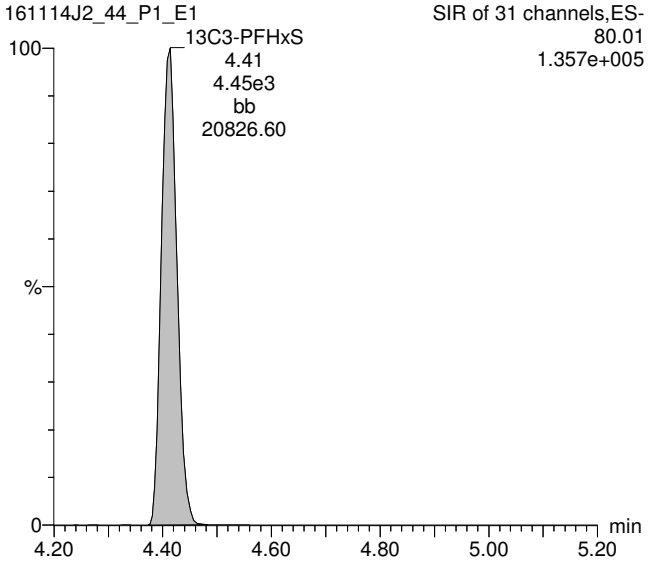
Last Altered: Wednesday, November 16, 2016 09:57:38 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:57:52 Pacific Standard Time

ID: 1601401-04, Description: 203MW-19-1116, Name: 161114J2_44.wiff, Date: 15-Nov-2016, Time: 00:48:54, Instrument: , Lab: ©PE-SCIEX, User: sciex

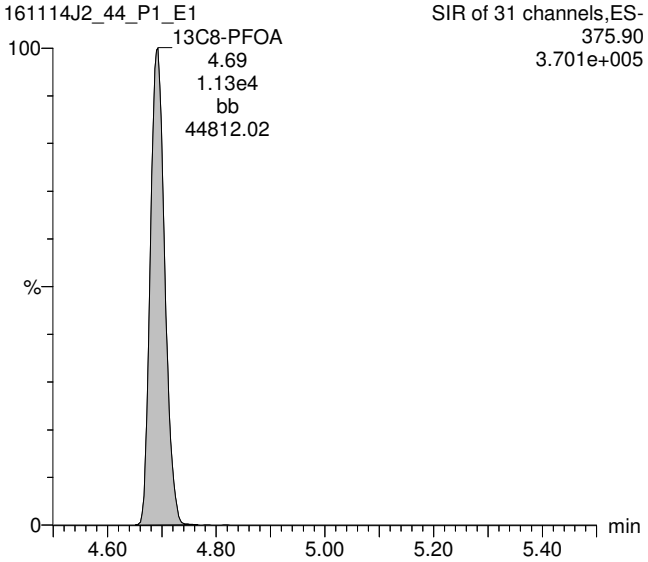
13C5-PFHxA



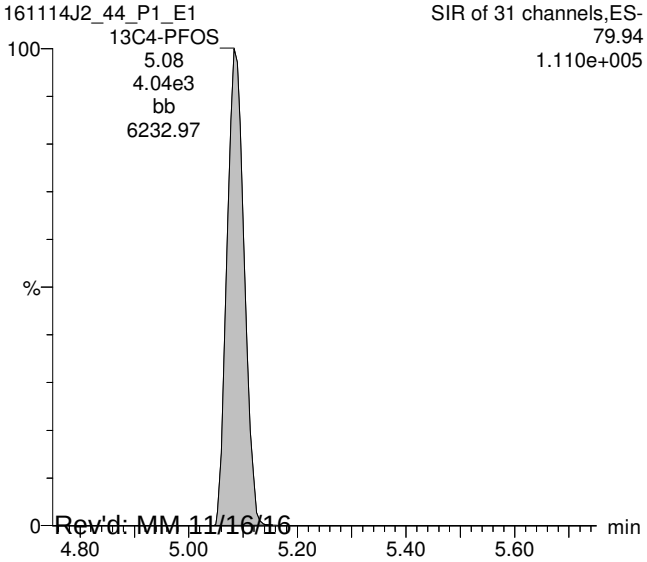
13C3-PFHxS



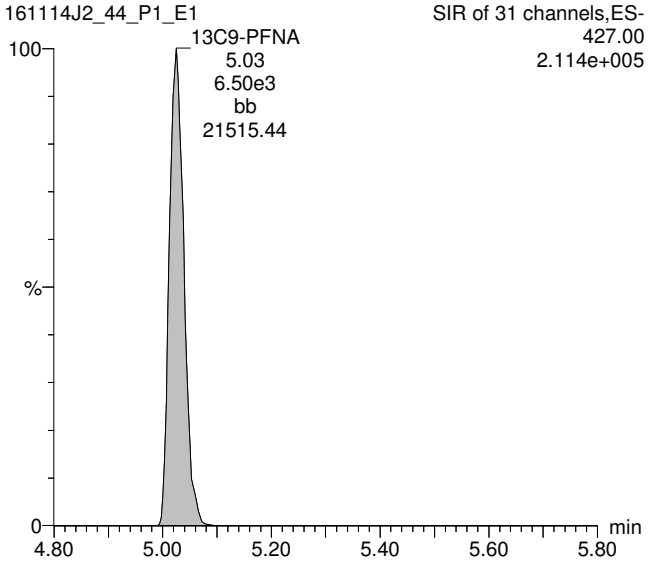
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_45.qld

Last Altered: Wednesday, November 16, 2016 10:01:30 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:01:59 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-05, Description: JTC-MW-B-1116, Name: 161114J2_45.wiff, Date: 15-Nov-2016, Time: 01:01:08

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	2.516e2	5.924e3		0.121	3.41	4.27	
2	5	PFHpA	318.90	3.988e2	7.305e3		0.121	4.29	6.29	
3	6	PFHxS	79.91	6.457e3	1.100e3		0.121	4.40	186	
4	8	PFOA	368.90	9.704e2	6.907e3		0.121	4.68	10.8	
5	9	PFNA	419.00	3.041e2	5.644e3		0.121	5.02	6.08	
6	10	PFOS	79.92	9.585e4	2.677e3		0.121	5.08	2950 E	
7	15	13C3-PFBS	79.95	5.924e3	1.137e4	0.531	0.121	3.41	101	98.1
8	16	13C2-PFHxA	269.90	3.565e3	1.137e4	0.905	0.121	3.81	35.7	86.6
9	17	13C4-PFHpA	321.90	7.305e3	1.137e4	0.770	0.121	4.29	86.0	83.5
10	18	18O2-PFHxS	102.90	1.100e3	4.694e3	0.276	0.121	4.40	87.5	84.9
11	19	13C2-6:2 FTS	408.90	2.083e3	1.175e4	0.219	0.121	4.63	83.6	81.1
12	20	13C2-PFOA	369.90	6.907e3	1.175e4	0.663	0.121	4.68	91.3	88.7
13	21	13C5-PFNA	422.90	5.644e3	7.423e3	1.019	0.121	5.01	76.9	74.6
14	22	13C8-PFOS	79.93	2.677e3	3.611e3	0.921	0.121	5.08	82.9	80.4
15	26	13C5-PFHxA	273.00	1.137e4	1.137e4	1.000	0.121	3.80	103	100
16	27	13C3-PFHxS	80.01	4.694e3	4.694e3	1.000	0.121	4.40	103	100
17	28	13C8-PFOA	375.90	1.175e4	1.175e4	1.000	0.121	4.68	103	100
18	29	13C4-PFOS	79.94	3.611e3	3.611e3	1.000	0.121	5.08	103	100
19	30	13C9-PFNA	427.00	7.423e3	7.423e3	1.000	0.121	5.01	103	100
20	31	13C6-PFDA	474.00	6.113e3	6.113e3	1.000	0.121	5.30	103	100
21	32	Total PFBS	79.90		5.924e3		0.121		4.27	
22	33	Total PFHxS	79.91		1.100e3		0.121		212	
23	34	Total PFOA	368.90		6.907e3		0.121		12.6	
24	35	Total PFOS	79.92		2.677e3		0.121		3910	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_45.qld

Last Altered: Wednesday, November 16, 2016 10:01:30 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:01:59 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-05, Description: JTC-MW-B-1116, Name: 161114J2_45.wiff, Date: 15-Nov-2016, Time: 01:01:08

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.41	251.628	5923.891	4.3

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	6457.221	1099.976	186.5
2	33	Total PFHxS	79.91	4.31	669.216	1099.976	19.3
3	33	Total PFHxS	79.91	4.28	219.783	1099.976	6.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.68	970.397	6907.289	10.8
2	34	Total PFOA	368.90	4.59	183.150	6907.289	1.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.08	95846.938	2676.530	2948.3
2	35	Total PFOS	79.92	4.99	13085.259	2676.530	401.8
3	35	Total PFOS	79.92	4.96	16908.066	2676.530	519.4
4	35	Total PFOS	79.92	4.87	1477.322	2676.530	44.6

Vista Analytical Laboratory Q1

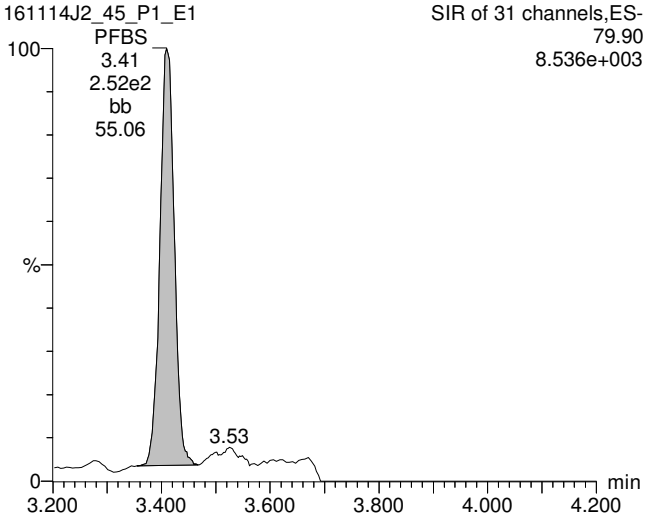
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_45.qld

Last Altered: Wednesday, November 16, 2016 10:01:30 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:01:59 Pacific Standard Time

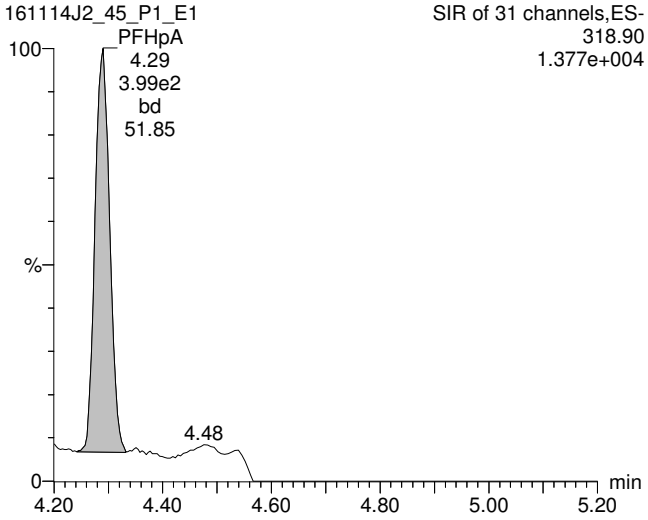
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-05, Description: JTC-MW-B-1116, Name: 161114J2_45.wiff, Date: 15-Nov-2016, Time: 01:01:08, Instrument: , Lab: ©PE-SCIEX, User: sciex

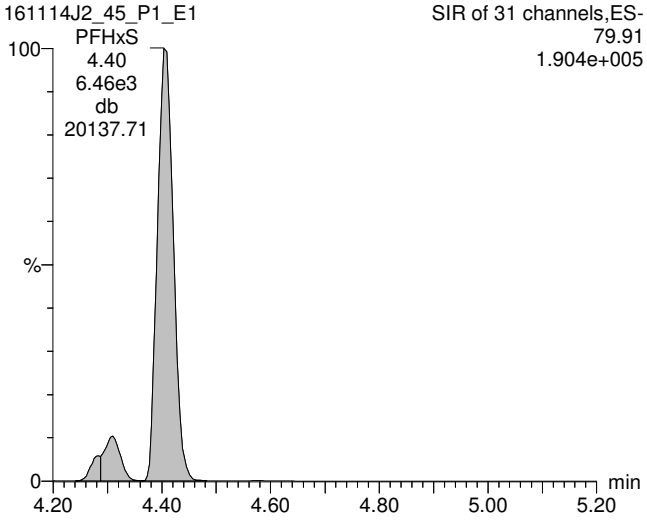
Total PFBS



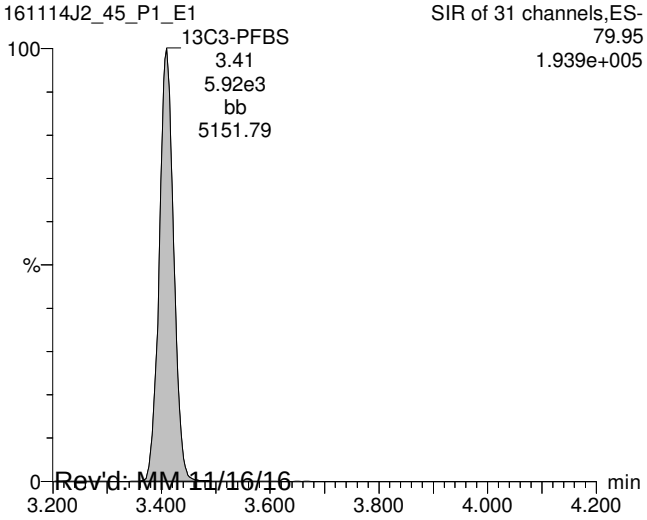
PFHpA



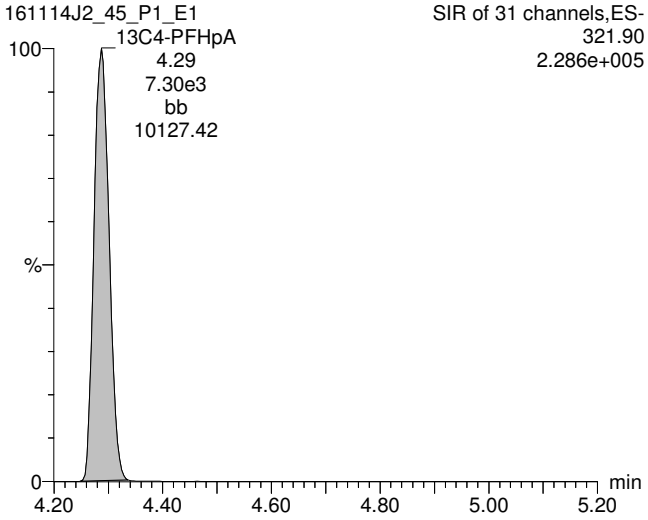
Total PFHxS



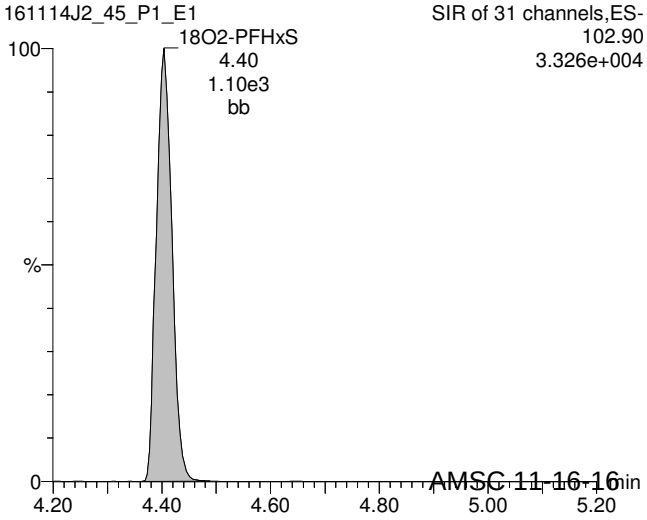
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



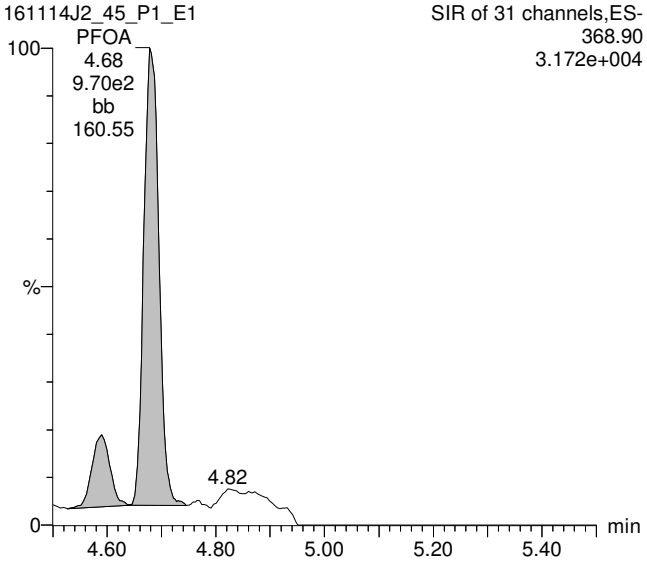
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_45.qld

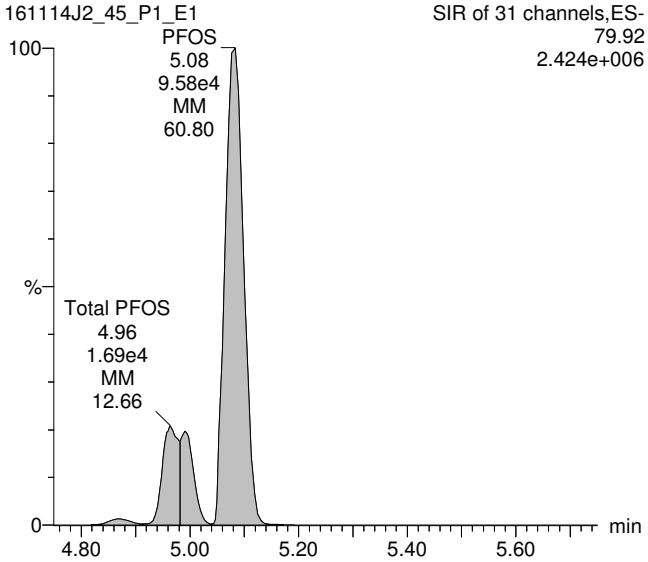
Last Altered: Wednesday, November 16, 2016 10:01:30 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:01:59 Pacific Standard Time

ID: 1601401-05, Description: JTC-MW-B-1116, Name: 161114J2_45.wiff, Date: 15-Nov-2016, Time: 01:01:08, Instrument: , Lab: ©PE-SCIEX, User: sciex

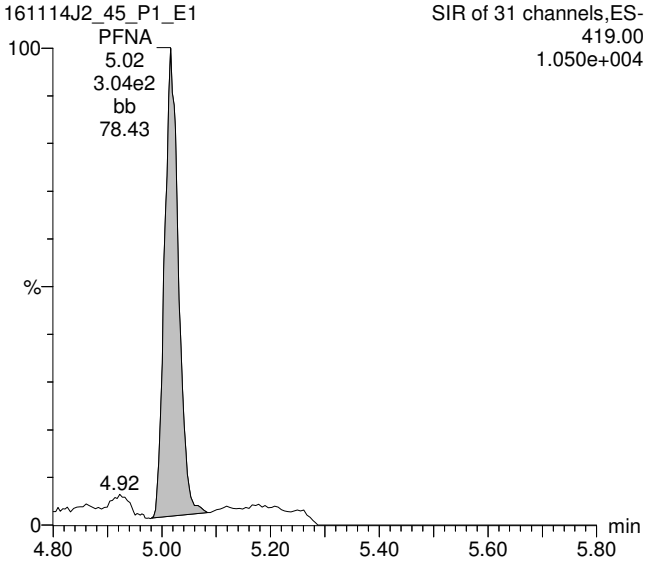
Total PFOA



Total PFOS



PFNA



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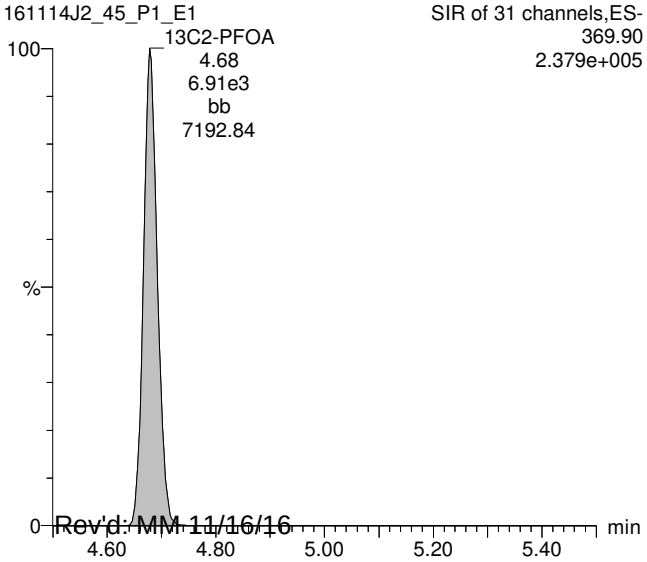
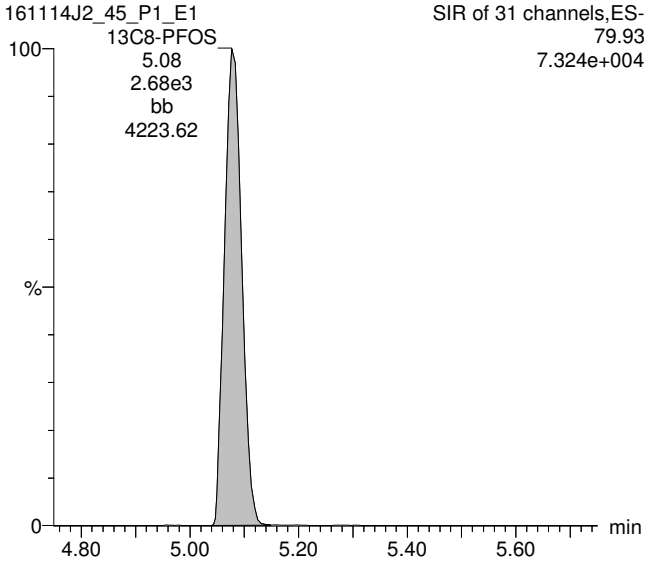
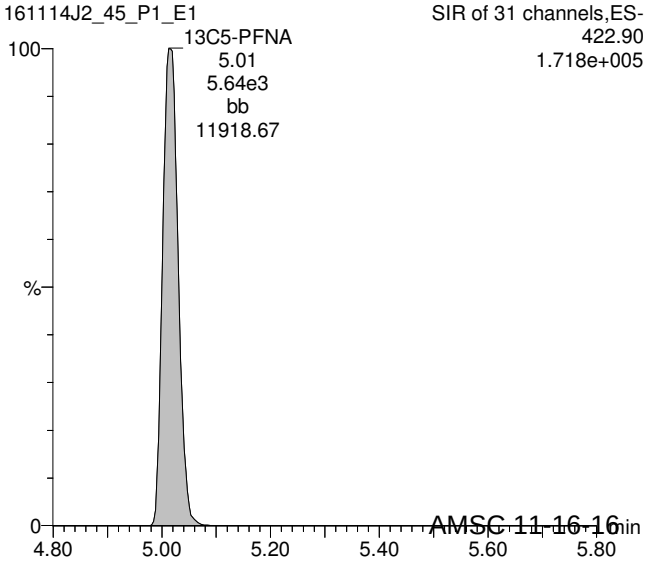


13C8-PFOS



13C5-PFNA



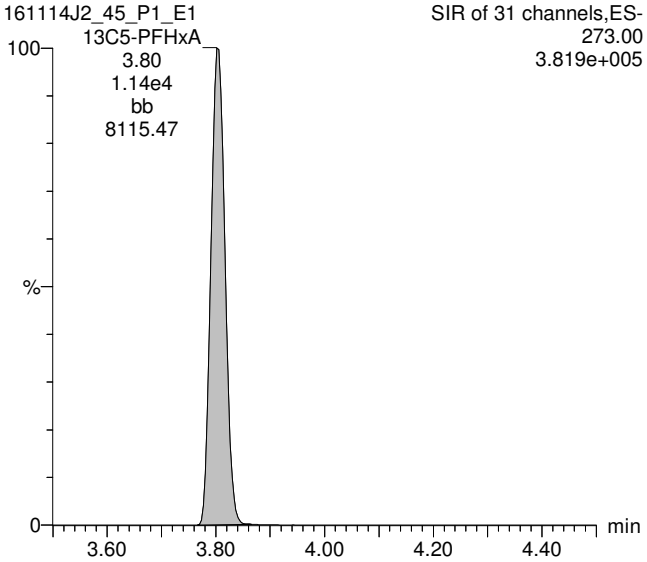
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_45.qld

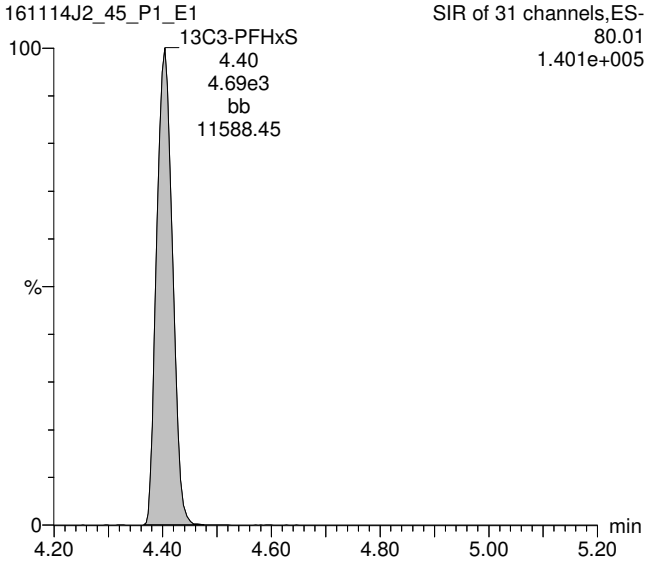
Last Altered: Wednesday, November 16, 2016 10:01:30 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:01:59 Pacific Standard Time

ID: 1601401-05, Description: JTC-MW-B-1116, Name: 161114J2_45.wiff, Date: 15-Nov-2016, Time: 01:01:08, Instrument: , Lab: ©PE-SCIEX, User: sciex

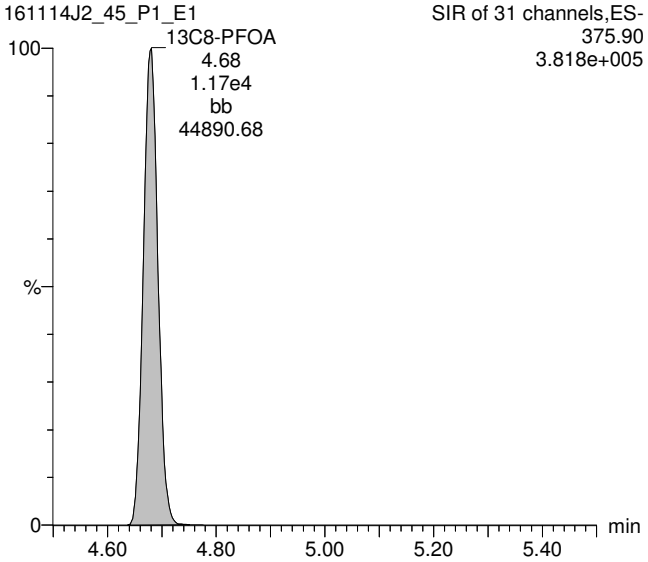
13C5-PFHxA



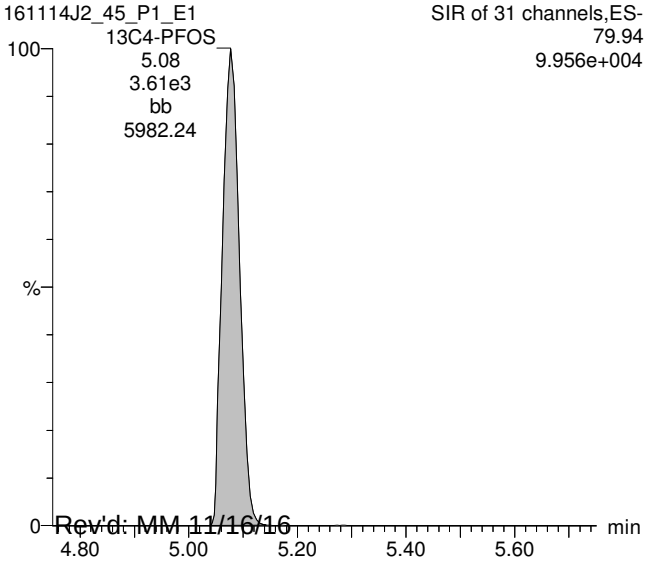
13C3-PFHxS



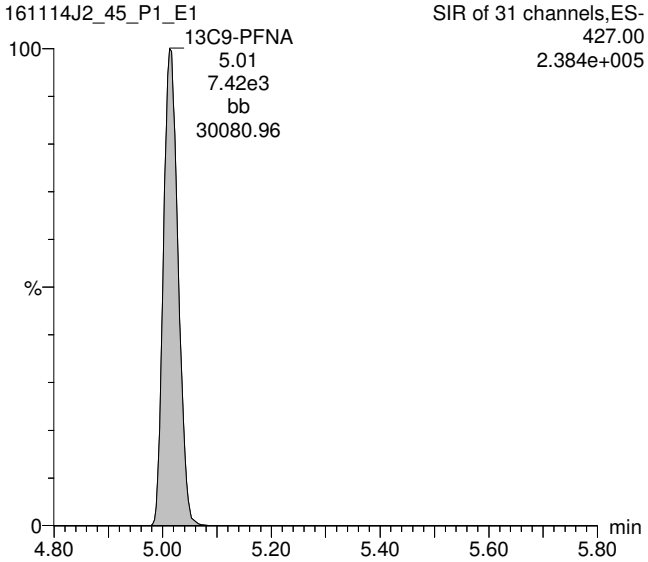
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_29.qld

Last Altered: Wednesday, November 16, 2016 14:59:15 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:00:13 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-05@10x, Description: JTC-MW-B-1116, Name: 161115J1_29.wiff, Date: 15-Nov-2016, Time: 21:25:17

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	10	PFOS	79.92	1.395e4	3.615e2		0.121	5.06	3180	
2	22	13C8-PFOS	79.93	3.615e2	4.736e2	0.921	0.121	5.06	85.4	82.8
3	29	13C4-PFOS	79.94	4.736e2	4.736e2	1.000	0.121	5.06	103	100
4	35	Total PFOS	79.92		3.615e2		0.121		4020	

Rev'd: MM 11/16/16 pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_29.qld

Last Altered: Wednesday, November 16, 2016 14:59:15 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:00:13 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-05@10x, Description: JTC-MW-B-1116, Name: 161115J1_29.wiff, Date: 15-Nov-2016, Time: 21:25:17

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.41	33.523	806.039	4.1

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	907.601	147.649	195.2
2	33	Total PFHxS	79.91	4.31	88.162	147.649	19.0
3	33	Total PFHxS	79.91	4.28	25.084	147.649	5.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.67	135.762	819.583	12.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.06	13954.300	361.526	3177.9
2	35	Total PFOS	79.92	4.98	1575.692	361.526	358.1
3	35	Total PFOS	79.92	4.95	1972.080	361.526	448.4
4	35	Total PFOS	79.92	4.85	177.777	361.526	39.7

Vista Analytical Laboratory Q1

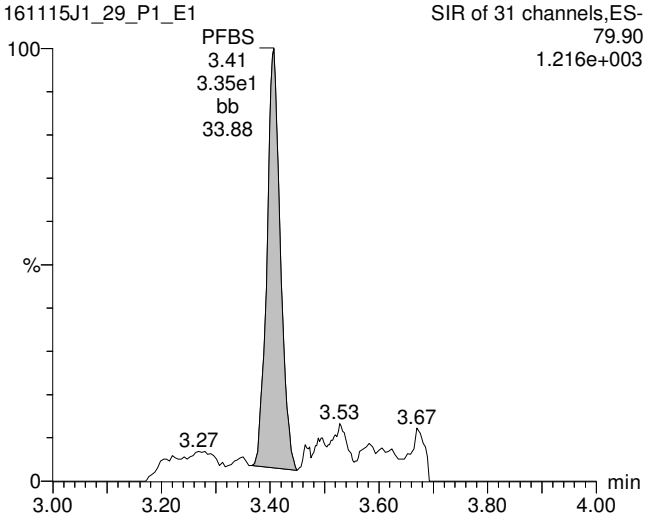
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_29.qld

Last Altered: Wednesday, November 16, 2016 14:59:15 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:00:13 Pacific Standard Time

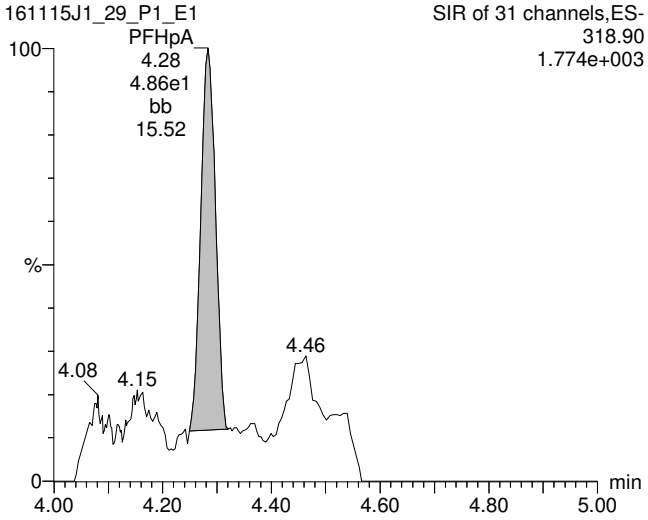
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-05@10x, Description: JTC-MW-B-1116, Name: 161115J1_29.wiff, Date: 15-Nov-2016, Time: 21:25:17, Instrument: , Lab: ©PE-SCIEX, User: sciex

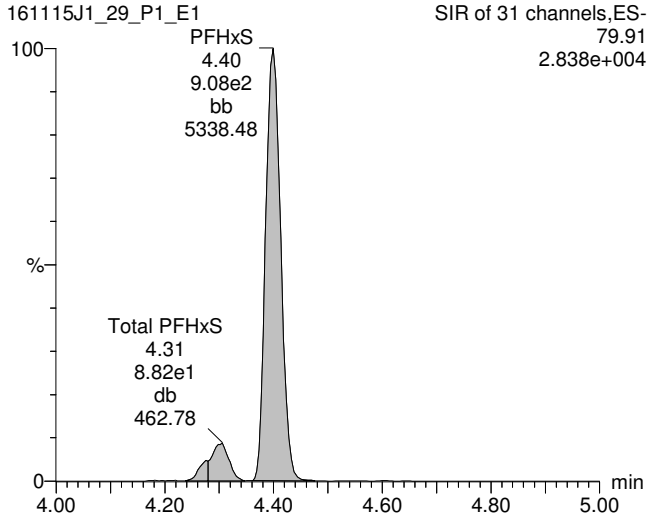
Total PFBS



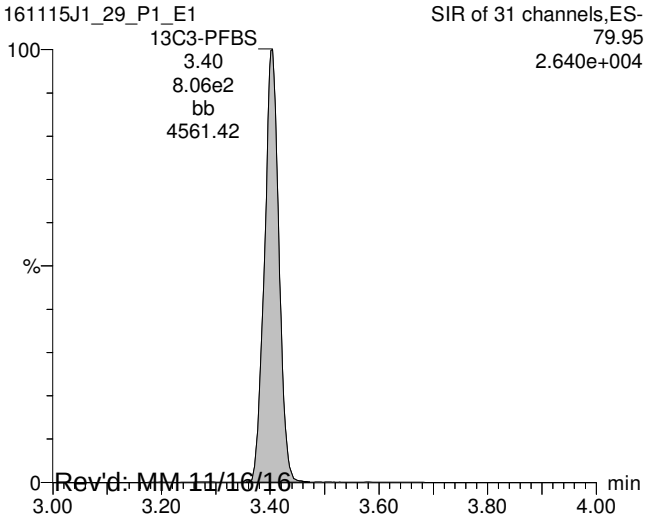
PFHpA



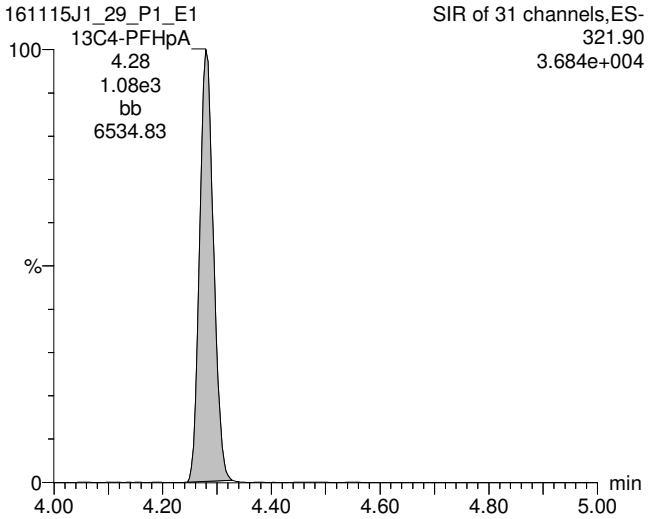
Total PFHxS



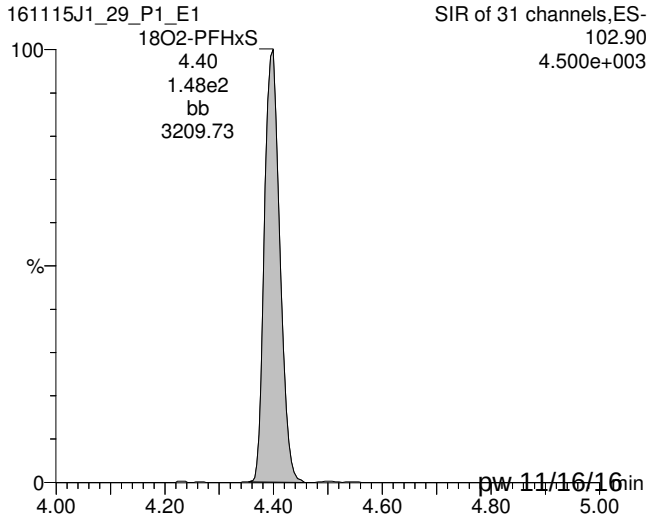
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



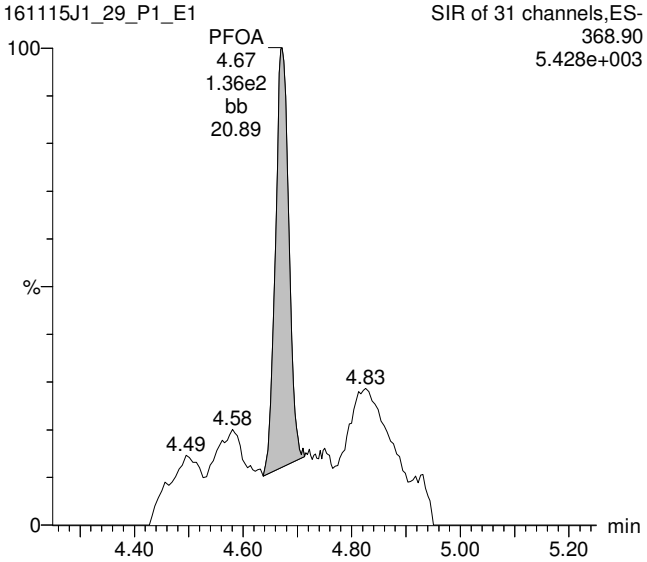
Rev'd: MM 11/16/16 pw 11/16/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_29.qld

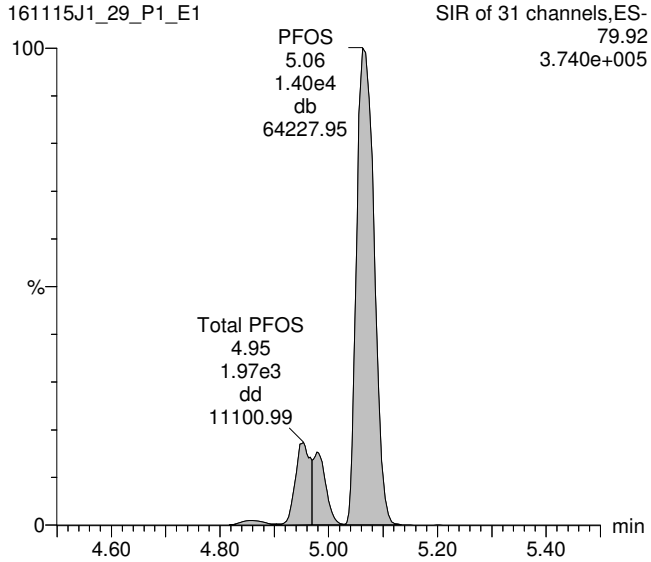
Last Altered: Wednesday, November 16, 2016 14:59:15 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:00:13 Pacific Standard Time

ID: 1601401-05@10x, Description: JTC-MW-B-1116, Name: 161115J1_29.wiff, Date: 15-Nov-2016, Time: 21:25:17, Instrument: , Lab: ©PE-SCIEX, User: sciex

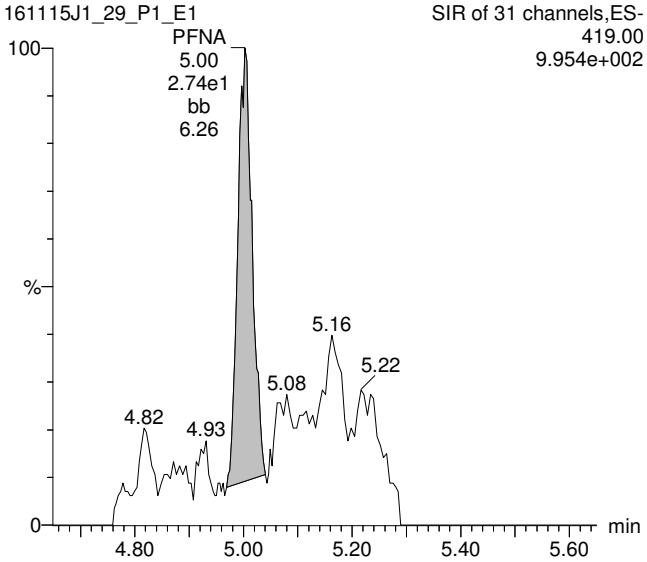
Total PFOA



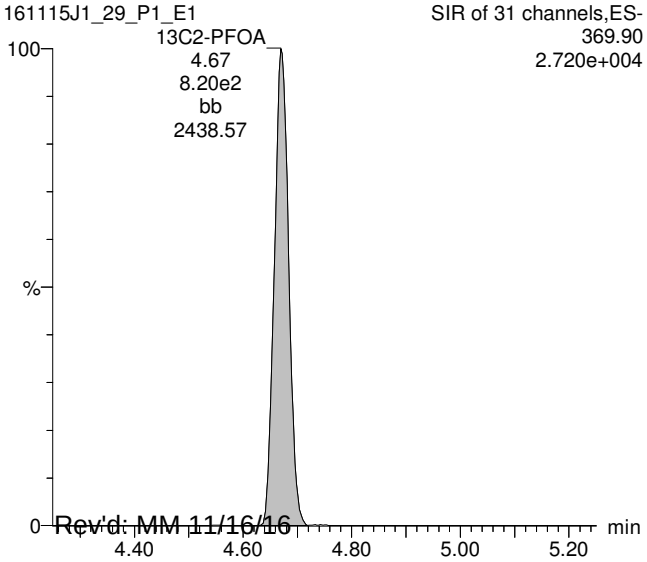
Total PFOS



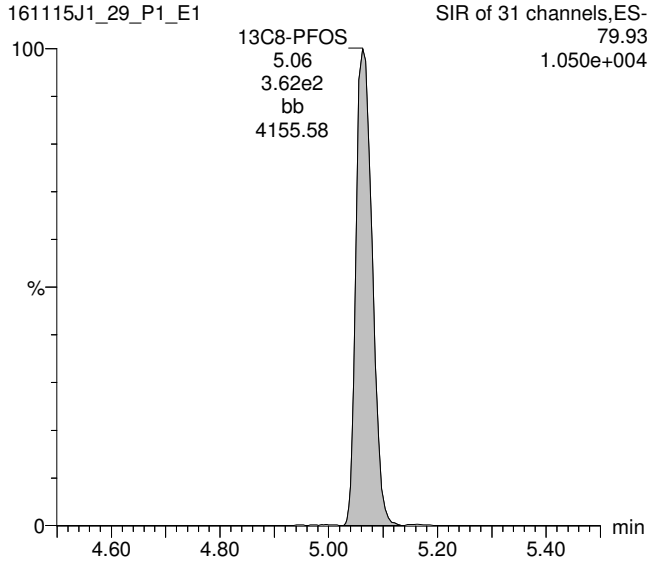
PFNA



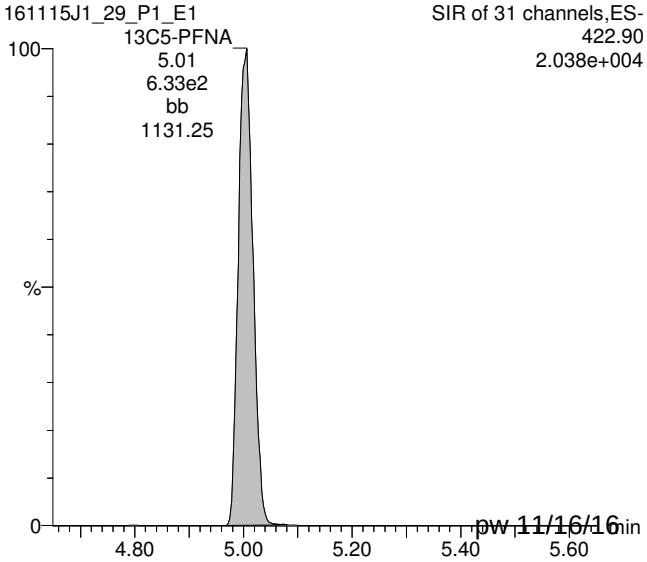
13C2-PFOA



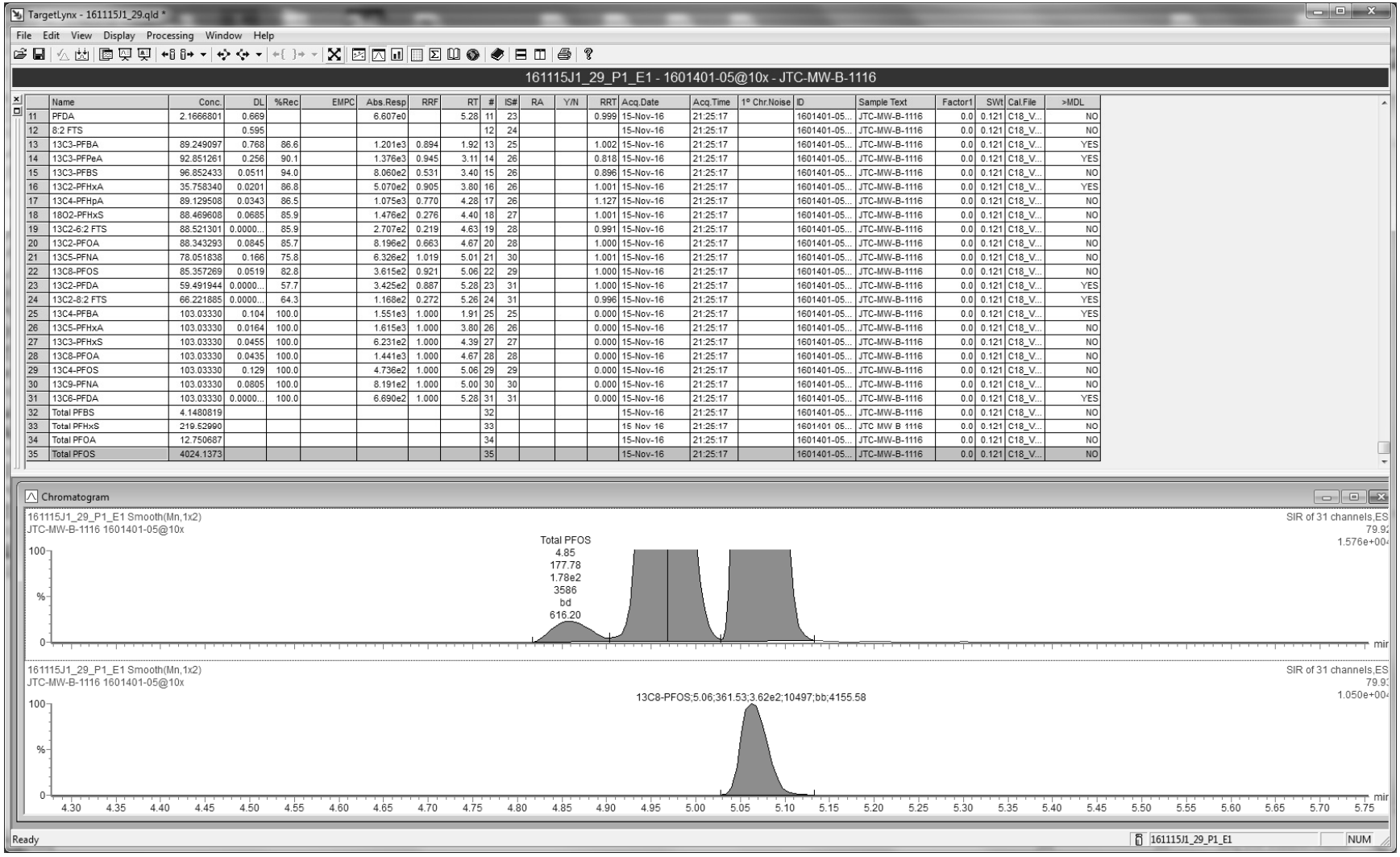
13C8-PFOS



13C5-PFNA



Rev'd: MM 11/16/16 pw 11/16/16



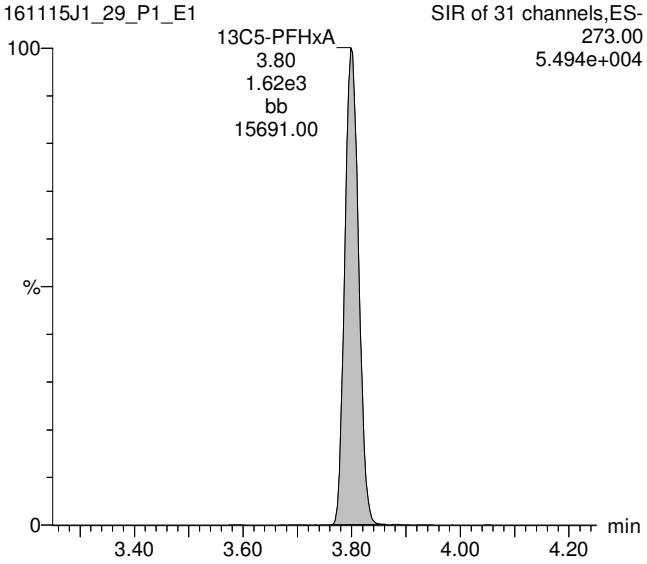
	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
11	PFDA	2.1666801	0.669			6.607e0		5.28	11	23			0.999	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
12	8:2 FTS		0.595						12	24				15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
13	13C3-PFBA	89.249097	0.768	86.6		1.201e3	0.894	1.92	13	25			1.002	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
14	13C3-PFPeA	92.851261	0.256	90.1		1.376e3	0.945	3.11	14	26			0.818	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
15	13C3-PFBS	96.852433	0.0511	94.0		8.060e2	0.531	3.40	15	26			0.896	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
16	13C2-PFHxA	35.758340	0.0201	86.8		5.070e2	0.905	3.80	16	26			1.001	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
17	13C4-PFHpA	89.129508	0.0343	86.5		1.075e3	0.770	4.28	17	26			1.127	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
18	18O2-PFHxS	88.469608	0.0685	85.9		1.476e2	0.276	4.40	18	27			1.001	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
19	13C2-6:2 FTS	88.521301	0.0000...	85.9		2.707e2	0.219	4.63	19	28			0.991	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
20	13C2-PFOA	88.343293	0.0845	85.7		8.196e2	0.663	4.67	20	28			1.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
21	13C5-PFNA	78.051838	0.166	75.8		6.326e2	1.019	5.01	21	30			1.001	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
22	13C8-PFOS	85.357269	0.0519	82.8		3.615e2	0.921	5.06	22	29			1.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
23	13C2-PFDA	59.491944	0.0000...	57.7		3.425e2	0.887	5.28	23	31			1.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
24	13C2-8:2 FTS	66.221885	0.0000...	64.3		1.168e2	0.272	5.26	24	31			0.996	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
25	13C4-PFBA	103.03330	0.104	100.0		1.551e3	1.000	1.91	25	25			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
26	13C5-PFHxA	103.03330	0.0164	100.0		1.615e3	1.000	3.80	26	26			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
27	13C3-PFHxS	103.03330	0.0455	100.0		6.231e2	1.000	4.39	27	27			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
28	13C8-PFOA	103.03330	0.0435	100.0		1.441e3	1.000	4.67	28	28			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
29	13C4-PFOS	103.03330	0.129	100.0		4.736e2	1.000	5.06	29	29			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
30	13C9-PFNA	103.03330	0.0805	100.0		8.191e2	1.000	5.00	30	30			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
31	13C6-PFDA	103.03330	0.0000...	100.0		6.690e2	1.000	5.28	31	31			0.000	15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	YES
32	Total PFBS	4.1480819							32					15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
33	Total PFHxS	219.52990							33					15 Nov 16	21:25:17		1601401 05...	JTC MW B 1116	0.0	0.121	C18_V...	NO
34	Total PFOA	12.750687							34					15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO
35	Total PFOS	4024.1373							35					15-Nov-16	21:25:17		1601401-05...	JTC-MW-B-1116	0.0	0.121	C18_V...	NO

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_29.qld

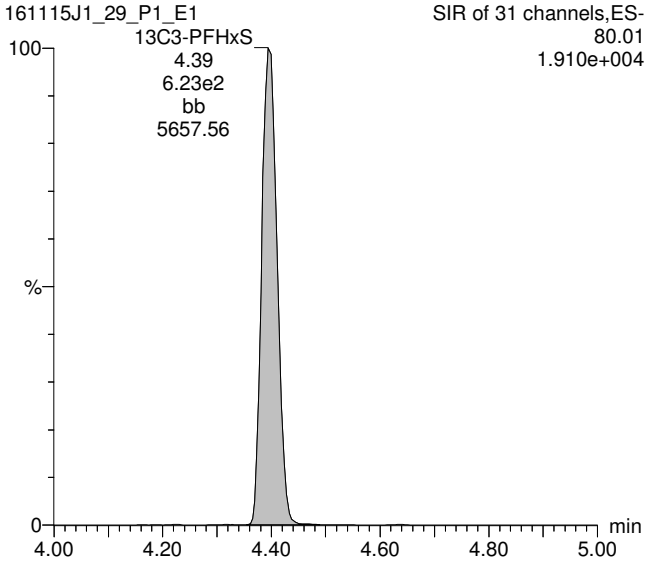
Last Altered: Wednesday, November 16, 2016 14:59:15 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:00:13 Pacific Standard Time

ID: 1601401-05@10x, Description: JTC-MW-B-1116, Name: 161115J1_29.wiff, Date: 15-Nov-2016, Time: 21:25:17, Instrument: , Lab: ©PE-SCIEX, User: sciex

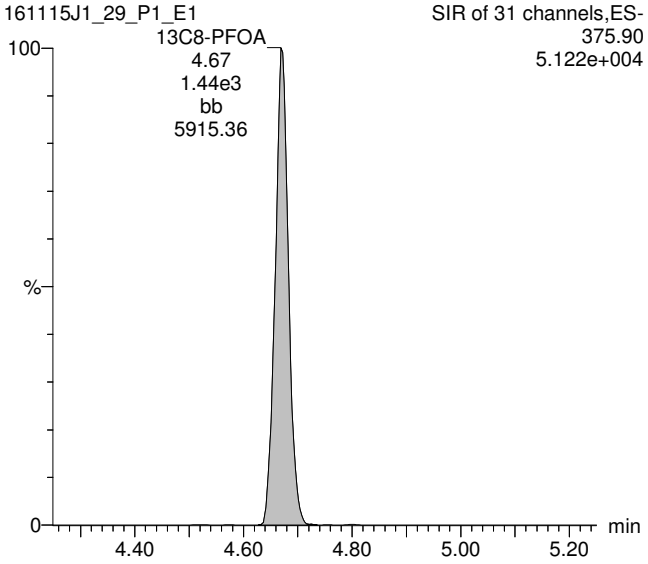
13C5-PFHxA



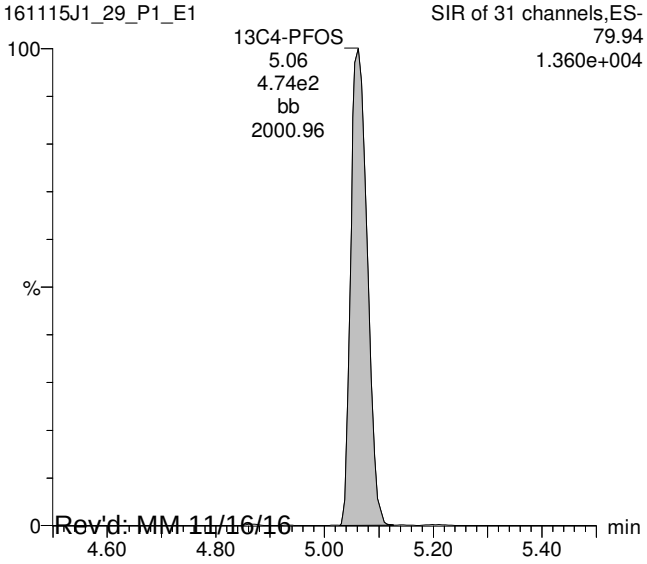
13C3-PFHxS



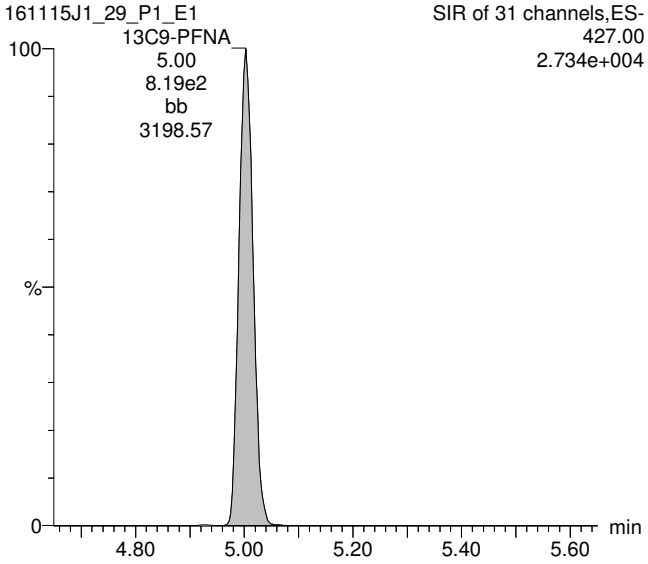
13C8-PFOA



13C4-PFOS



13C9-PFNA



Rev'd: MM 11/16/16

pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_46.qld

Last Altered: Wednesday, November 16, 2016 10:03:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:05:01 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-06, Description: OC-MW03-1116, Name: 161114J2_46.wiff, Date: 15-Nov-2016, Time: 01:13:22

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	3.461e2	5.450e3		0.126	3.42	6.89	
2	5	PFHpA	318.90	5.454e2	6.408e3		0.126	4.30	9.62	
3	6	PFHxS	79.91	1.326e3	1.023e3		0.126	4.41	39.6	
4	8	PFOA	368.90	1.034e3	5.817e3		0.126	4.69	13.2	
5	9	PFNA	419.00	2.568e1	5.104e3		0.126	5.02	0.502	
6	10	PFOS	79.92	3.895e2	3.054e3		0.126	5.08	9.31	
7	15	13C3-PFBS	79.95	5.450e3	1.025e4	0.531	0.126	3.42	99.1	100
8	16	13C2-PFHxA	269.90	3.338e3	1.025e4	0.905	0.126	3.82	35.6	90.0
9	17	13C4-PFHpA	321.90	6.408e3	1.025e4	0.770	0.126	4.30	80.4	81.2
10	18	18O2-PFHxS	102.90	1.023e3	4.712e3	0.276	0.126	4.41	77.8	78.6
11	19	13C2-6:2 FTS	408.90	1.608e3	1.047e4	0.219	0.126	4.64	69.4	70.2
12	20	13C2-PFOA	369.90	5.817e3	1.047e4	0.663	0.126	4.69	82.8	83.7
13	21	13C5-PFNA	422.90	5.104e3	6.334e3	1.019	0.126	5.02	78.2	79.0
14	22	13C8-PFOS	79.93	3.054e3	4.158e3	0.921	0.126	5.08	78.8	79.7
15	26	13C5-PFHxA	273.00	1.025e4	1.025e4	1.000	0.126	3.81	98.9	100
16	27	13C3-PFHxS	80.01	4.712e3	4.712e3	1.000	0.126	4.41	98.9	100
17	28	13C8-PFOA	375.90	1.047e4	1.047e4	1.000	0.126	4.68	98.9	100
18	29	13C4-PFOS	79.94	4.158e3	4.158e3	1.000	0.126	5.08	98.9	100
19	30	13C9-PFNA	427.00	6.334e3	6.334e3	1.000	0.126	5.02	98.9	100
20	31	13C6-PFDA	474.00	5.966e3	5.966e3	1.000	0.126	5.30	98.9	100
21	32	Total PFBS	79.90		5.450e3		0.126		6.89	
22	33	Total PFHxS	79.91		1.023e3		0.126		46.7	
23	34	Total PFOA	368.90		5.817e3		0.126		15.6	
24	35	Total PFOS	79.92		3.054e3		0.126		33.4	

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_46.qld

Last Altered: Wednesday, November 16, 2016 10:03:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:05:01 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-06, Description: OC-MW03-1116, Name: 161114J2_46.wiff, Date: 15-Nov-2016, Time: 01:13:22

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	346.132	5450.146	6.9

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	1325.896	1022.667	39.6
2	33	Total PFHxS	79.91	4.32	238.263	1022.667	7.0

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.69	1033.606	5817.478	13.2
2	34	Total PFOA	368.90	4.59	213.038	5817.478	2.5

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.08	389.454	3053.532	9.3
2	35	Total PFOS	79.92	4.97	884.986	3053.532	22.1
3	35	Total PFOS	79.92	4.87	106.356	3053.532	2.0

Vista Analytical Laboratory Q1

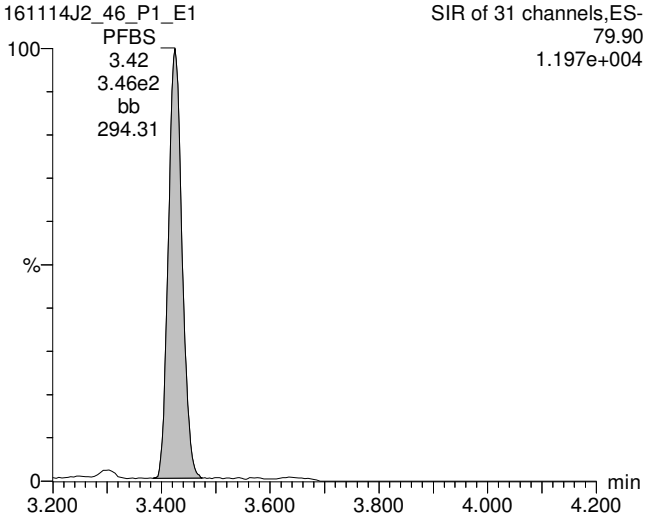
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_46.qld

Last Altered: Wednesday, November 16, 2016 10:03:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:05:01 Pacific Standard Time

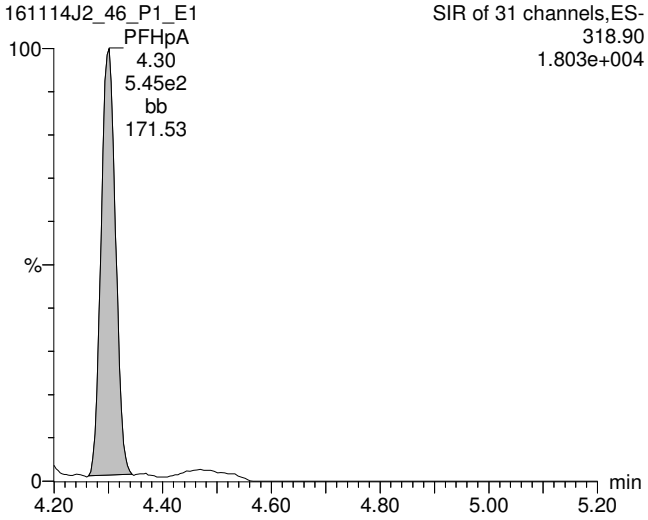
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-06, Description: OC-MW03-1116, Name: 161114J2_46.wiff, Date: 15-Nov-2016, Time: 01:13:22, Instrument: , Lab: ©PE-SCIEX, User: sciex

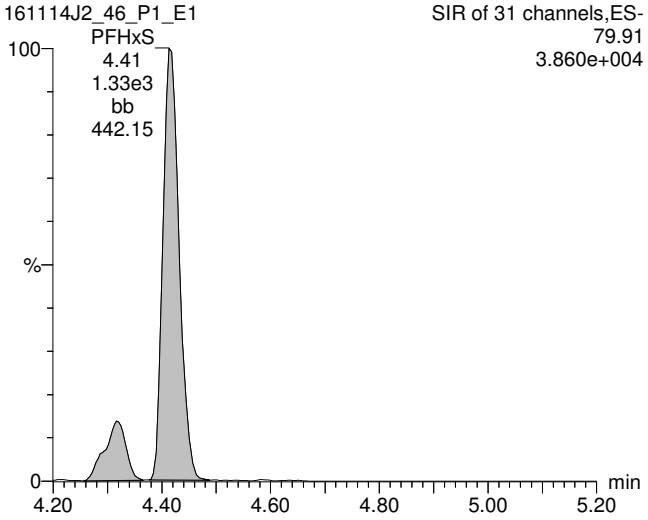
Total PFBS



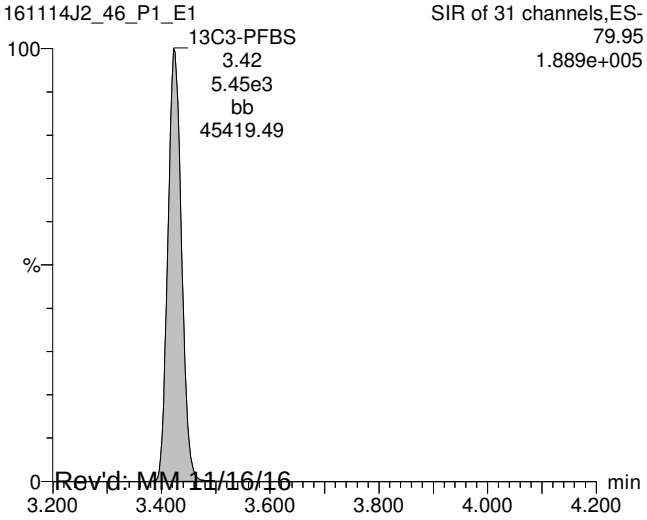
PFHpA



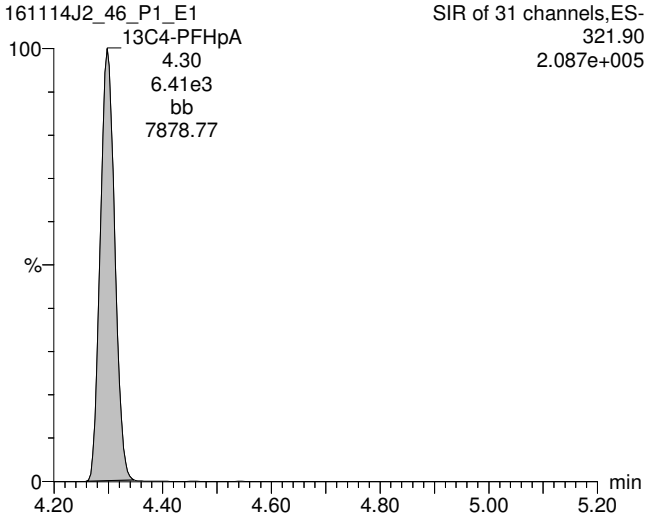
Total PFHxS



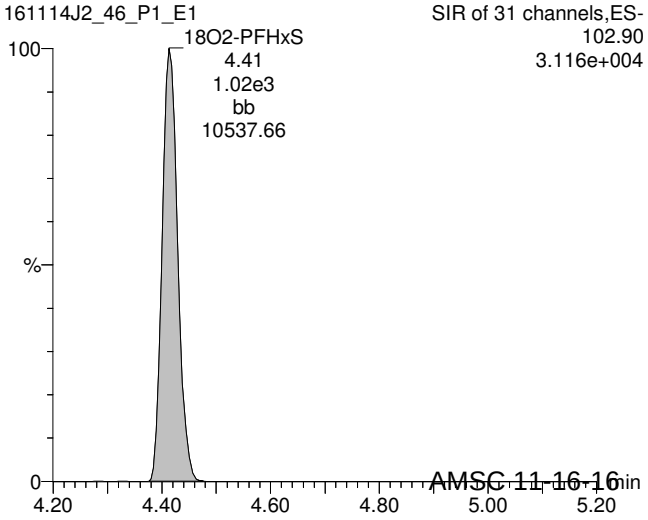
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



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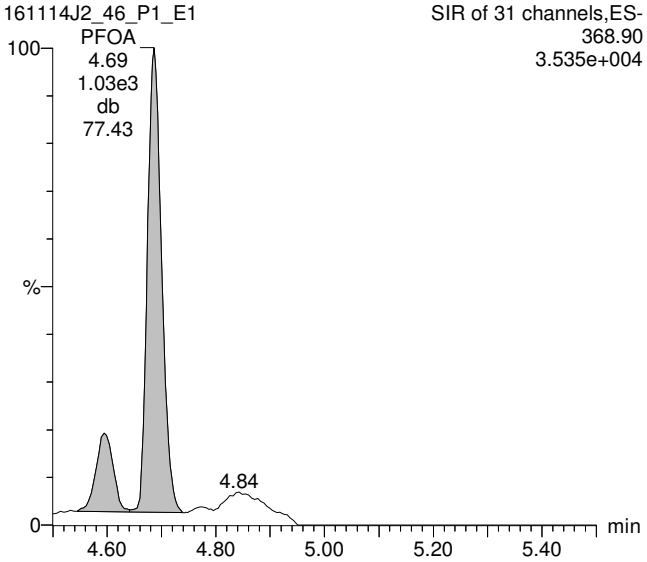
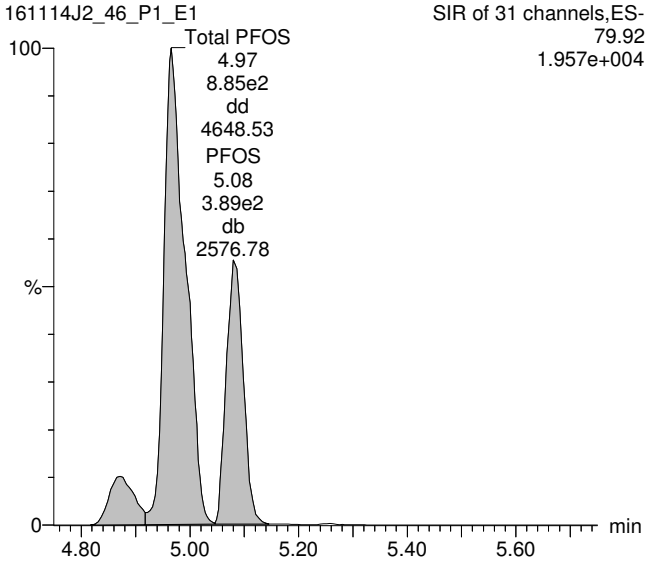
Last Altered: Wednesday, November 16, 2016 10:03:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:05:01 Pacific Standard Time

ID: 1601401-06, Description: OC-MW03-1116, Name: 161114J2_46.wiff, Date: 15-Nov-2016, Time: 01:13:22, Instrument: , Lab: ©PE-SCIEX, User: sciex

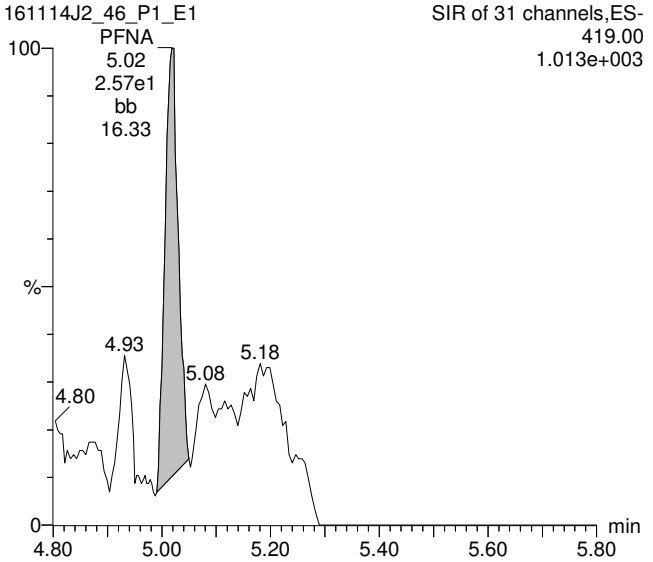
Total PFOA



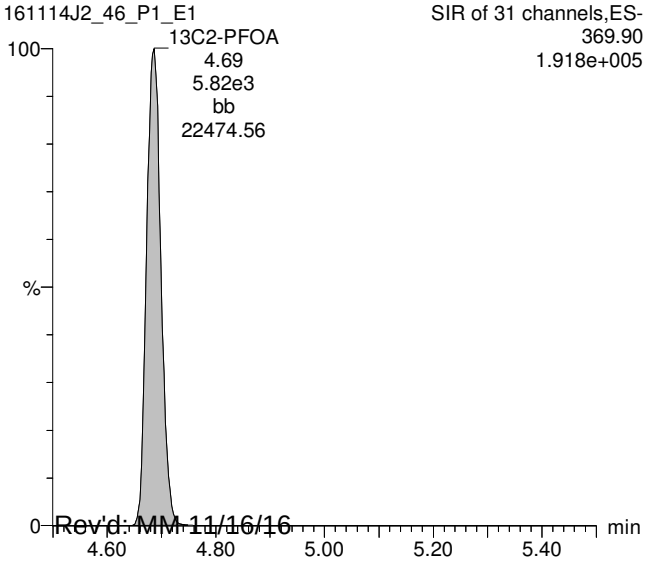
Total PFOS



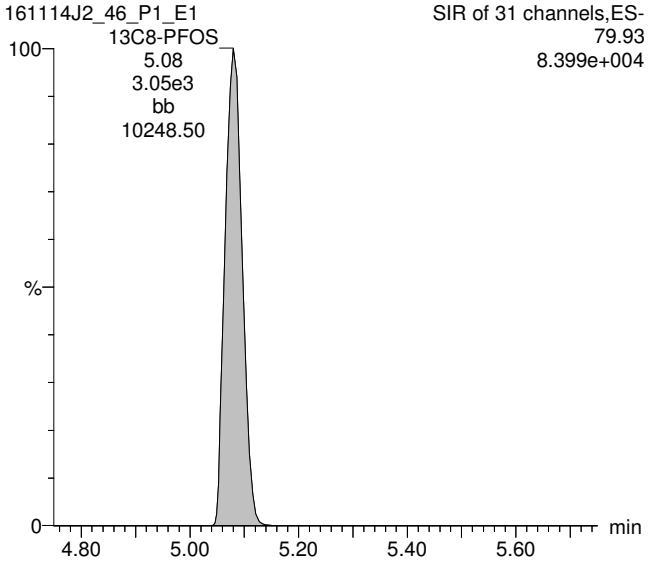
PFNA



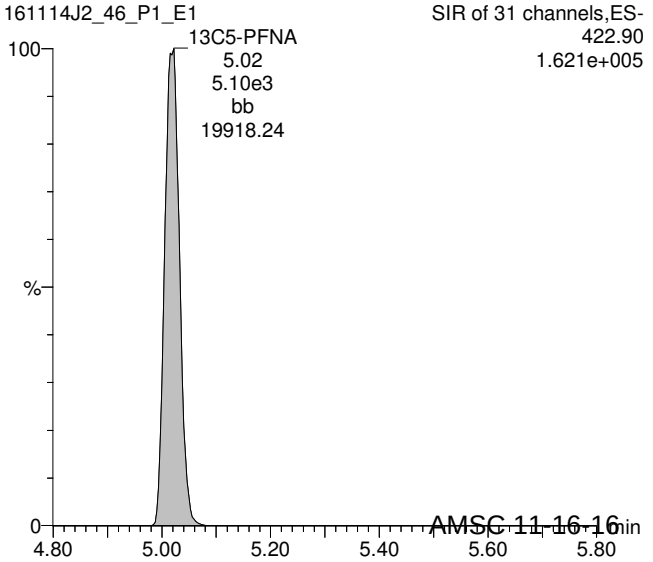
13C2-PFOA



13C8-PFOS



13C5-PFNA

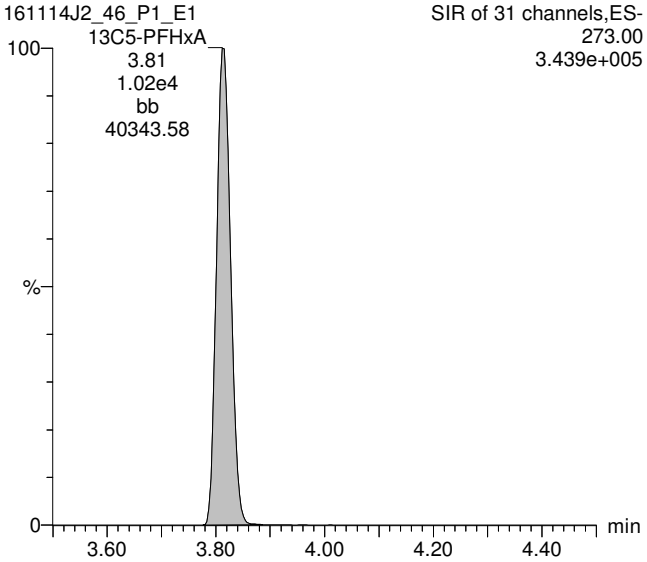


Dataset: U:\Q2.PRO\Results\161114J2\161114J2_46.qld

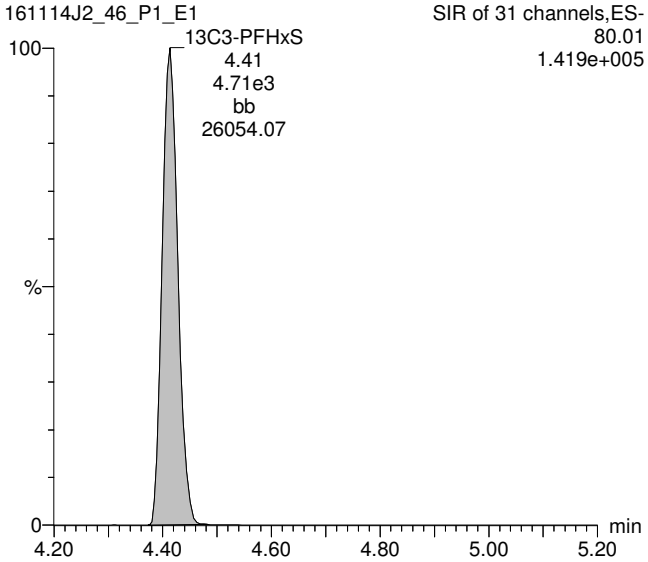
Last Altered: Wednesday, November 16, 2016 10:03:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:05:01 Pacific Standard Time

ID: 1601401-06, Description: OC-MW03-1116, Name: 161114J2_46.wiff, Date: 15-Nov-2016, Time: 01:13:22, Instrument: , Lab: ©PE-SCIEX, User: sciex

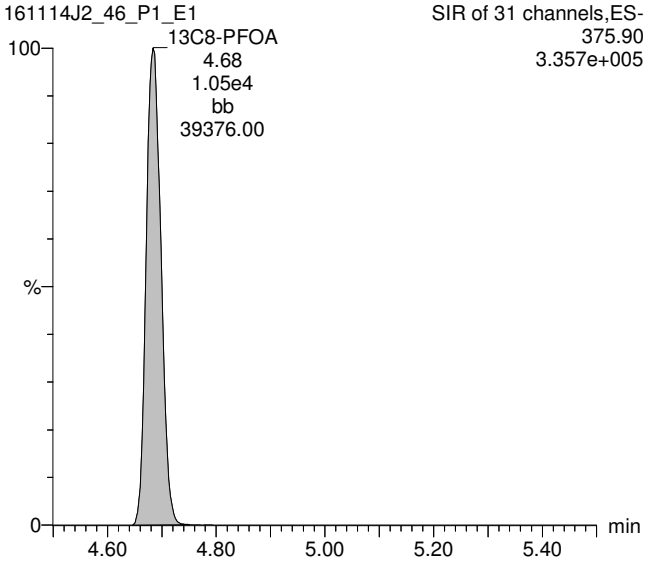
13C5-PFHxA



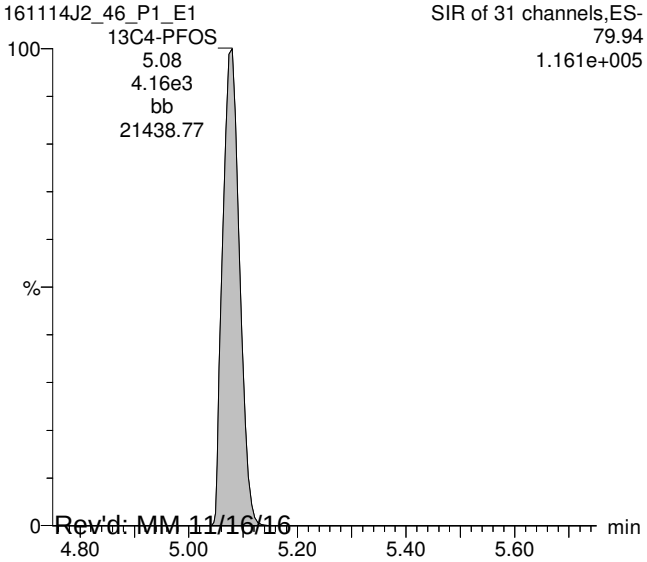
13C3-PFHxS



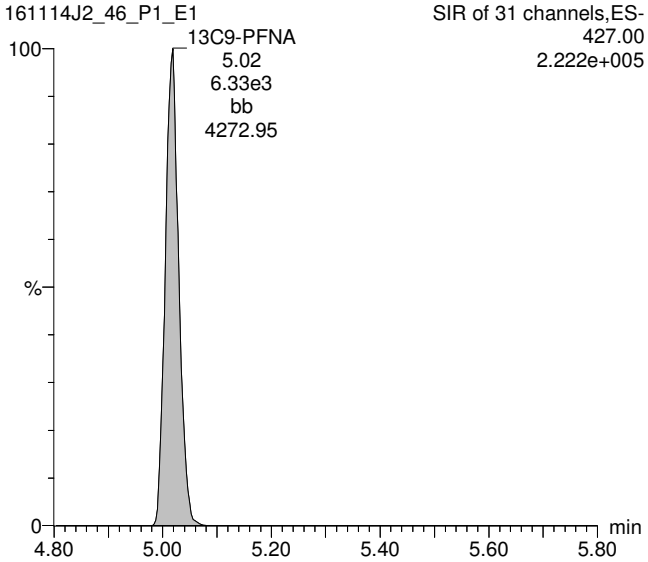
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_47.qld

Last Altered: Wednesday, November 16, 2016 10:06:16 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:08:57 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-07, Description: OC-MW01-1116, Name: 161114J2_47.wiff, Date: 15-Nov-2016, Time: 01:25:33

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	2.163e2	5.265e3		0.120	3.42	4.13	
2	5	PFHpA	318.90	1.628e2	6.524e3		0.120	4.29	2.70	
3	6	PFHxS	79.91	4.904e2	9.615e2		0.120	4.40	16.4	
4	8	PFOA	368.90	3.926e2	5.996e3		0.120	4.68	4.92	
5	9	PFNA	419.00	8.126e1	5.190e3		0.120	5.00	1.76	
6	10	PFOS	79.92	2.080e2	2.981e3		0.120	5.06	5.00	
7	15	13C3-PFBS	79.95	5.265e3	1.052e4	0.531	0.120	3.41	98.4	94.2
8	16	13C2-PFHxA	269.90	3.140e3	1.052e4	0.905	0.120	3.81	34.5	82.5
9	17	13C4-PFHpA	321.90	6.524e3	1.052e4	0.770	0.120	4.29	84.1	80.6
10	18	18O2-PFHxS	102.90	9.615e2	4.259e3	0.276	0.120	4.40	85.4	81.8
11	19	13C2-6:2 FTS	408.90	1.836e3	1.092e4	0.219	0.120	4.63	80.3	76.9
12	20	13C2-PFOA	369.90	5.996e3	1.092e4	0.663	0.120	4.68	86.5	82.8
13	21	13C5-PFNA	422.90	5.190e3	6.575e3	1.019	0.120	5.00	80.9	77.4
14	22	13C8-PFOS	79.93	2.981e3	3.930e3	0.921	0.120	5.06	86.0	82.3
15	26	13C5-PFHxA	273.00	1.052e4	1.052e4	1.000	0.120	3.81	104	100
16	27	13C3-PFHxS	80.01	4.259e3	4.259e3	1.000	0.120	4.40	104	100
17	28	13C8-PFOA	375.90	1.092e4	1.092e4	1.000	0.120	4.68	104	100
18	29	13C4-PFOS	79.94	3.930e3	3.930e3	1.000	0.120	5.06	104	100
19	30	13C9-PFNA	427.00	6.575e3	6.575e3	1.000	0.120	5.00	104	100
20	31	13C6-PFDA	474.00	5.208e3	5.208e3	1.000	0.120	5.28	104	100
21	32	Total PFBS	79.90		5.265e3		0.120		4.13	
22	33	Total PFHxS	79.91		9.615e2		0.120		19.4	
23	34	Total PFOA	368.90		5.996e3		0.120		4.92	
24	35	Total PFOS	79.92		2.981e3		0.120		8.16	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_47.qld

Last Altered: Wednesday, November 16, 2016 10:06:16 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:08:57 Pacific Standard Time

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Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-07, Description: OC-MW01-1116, Name: 161114J2_47.wiff, Date: 15-Nov-2016, Time: 01:25:33

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	216.283	5264.718	4.1

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	33	Total PFHxS	79.91	4.31	90.709	961.522	2.9
2	6	PFHxS	79.91	4.40	490.390	961.522	16.4

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.68	392.632	5996.406	4.9

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.06	207.986	2981.156	5.0
2	35	Total PFOS	79.92	4.97	69.558	2981.156	1.1
3	35	Total PFOS	79.92	4.95	101.862	2981.156	2.0

Vista Analytical Laboratory Q1

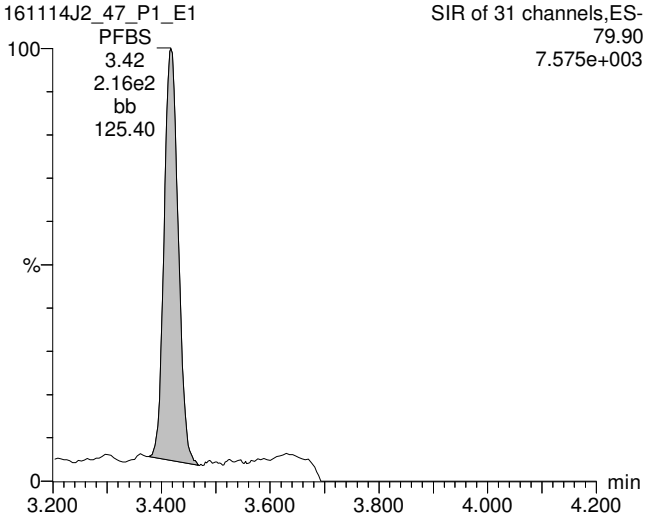
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_47.qld

Last Altered: Wednesday, November 16, 2016 10:06:16 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:08:57 Pacific Standard Time

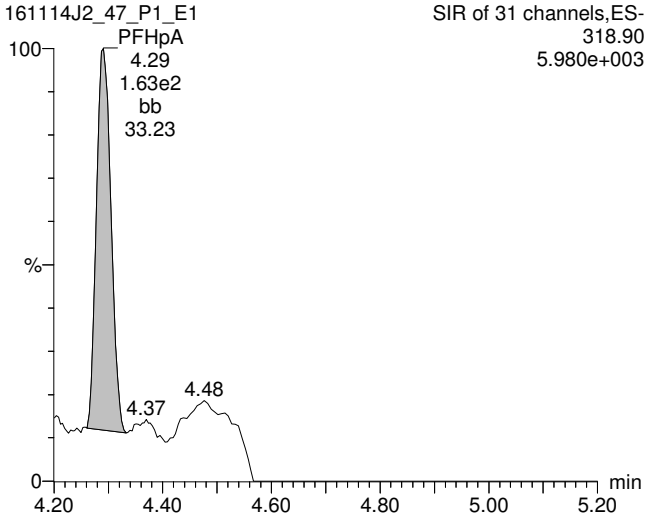
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-07, Description: OC-MW01-1116, Name: 161114J2_47.wiff, Date: 15-Nov-2016, Time: 01:25:33, Instrument: , Lab: ©PE-SCIEX, User: sciex

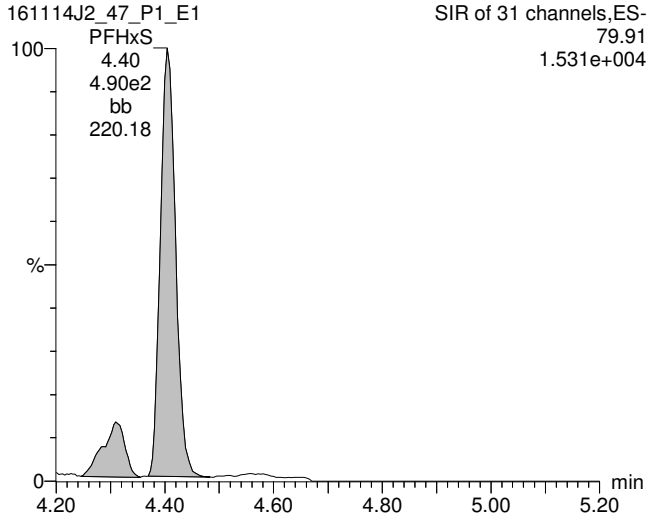
Total PFBS



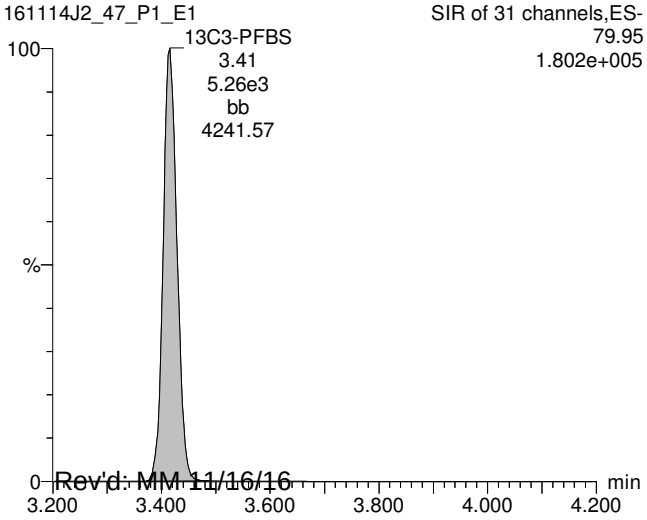
PFHpA



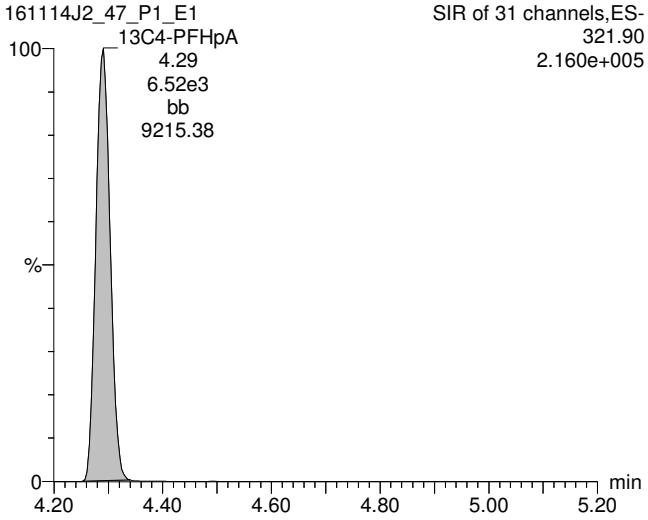
Total PFHxS



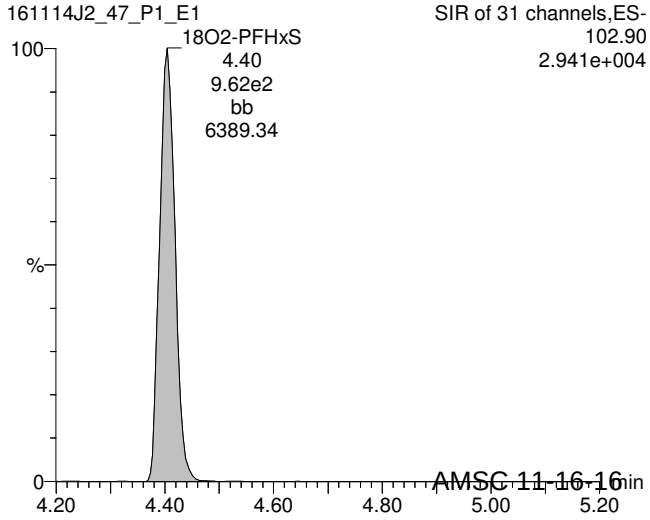
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



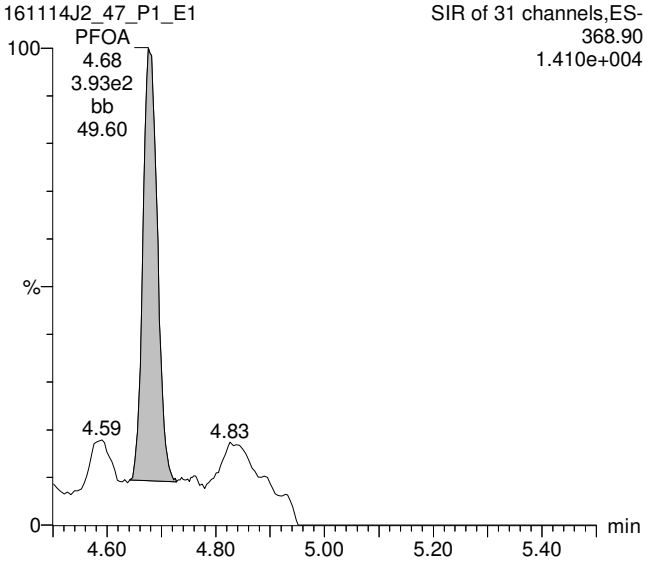
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_47.qld

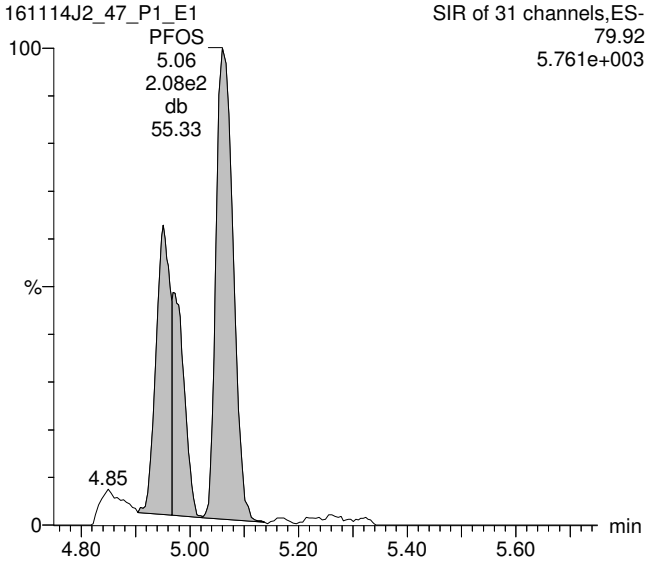
Last Altered: Wednesday, November 16, 2016 10:06:16 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:08:57 Pacific Standard Time

ID: 1601401-07, Description: OC-MW01-1116, Name: 161114J2_47.wiff, Date: 15-Nov-2016, Time: 01:25:33, Instrument: , Lab: ©PE-SCIEX, User: sciex

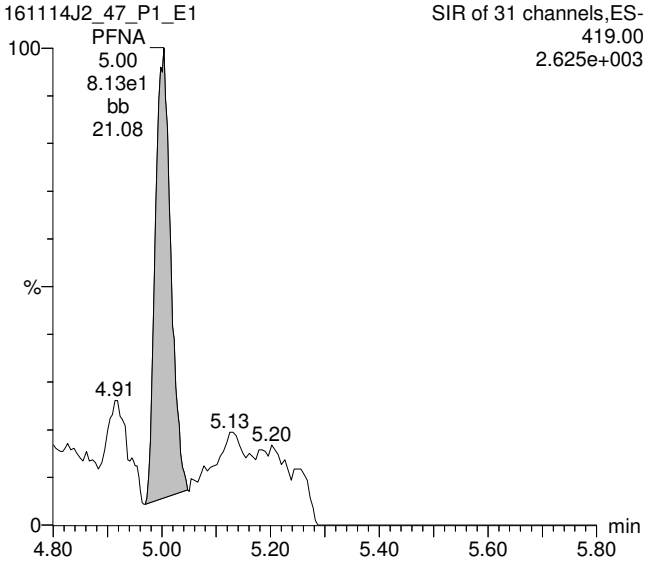
Total PFOA



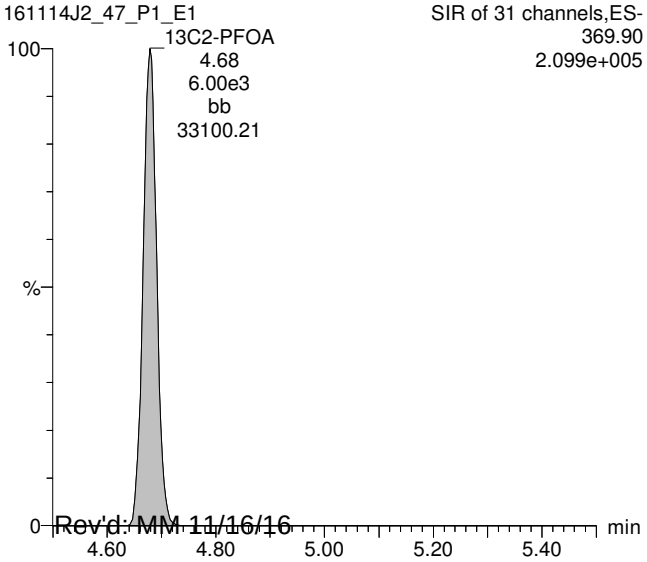
Total PFOS



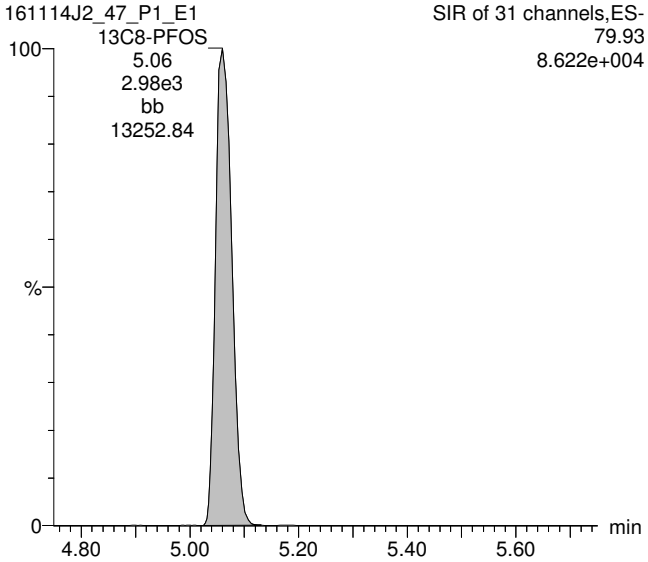
PFNA



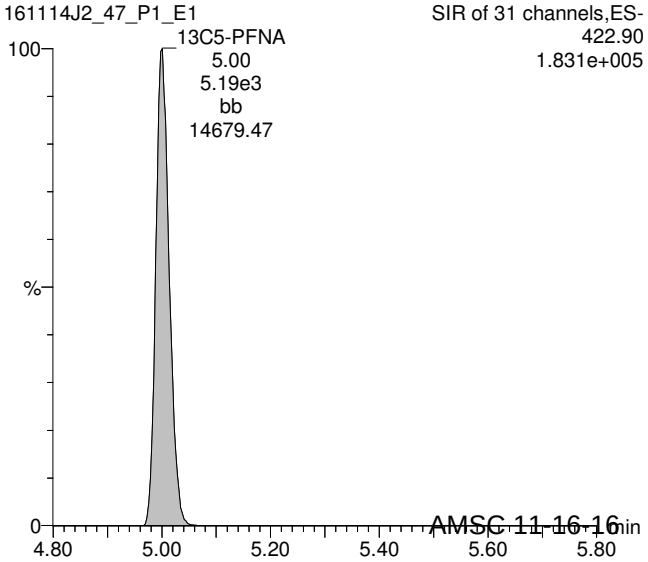
13C2-PFOA



13C8-PFOS



13C5-PFNA

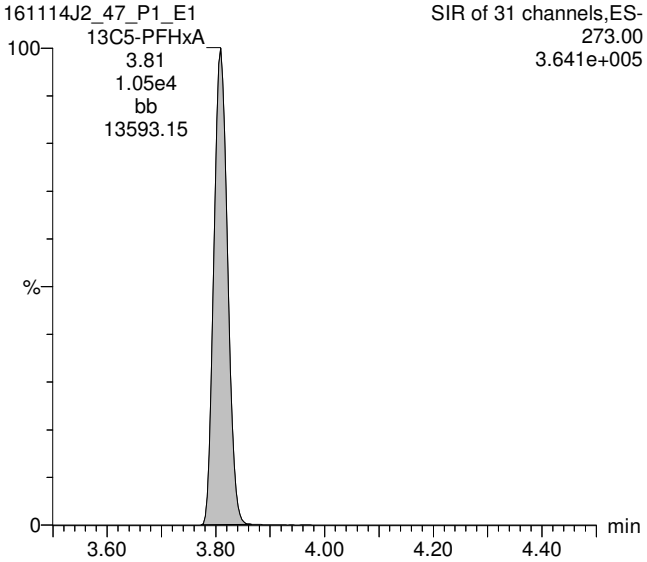


Dataset: U:\Q2.PRO\Results\161114J2\161114J2_47.qld

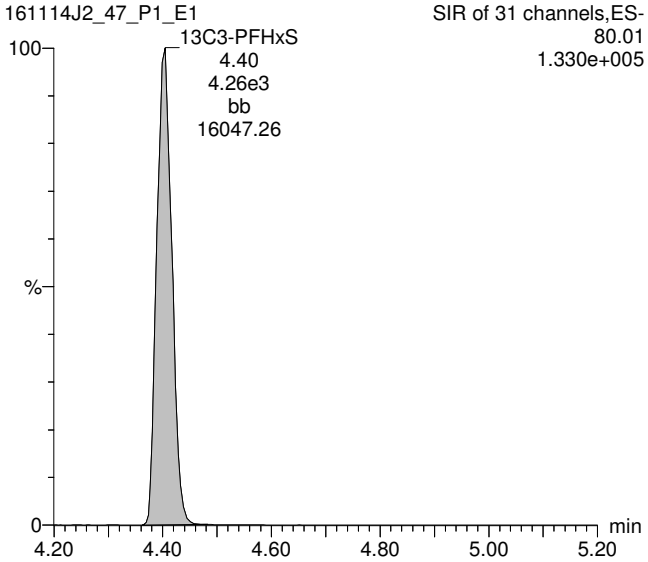
Last Altered: Wednesday, November 16, 2016 10:06:16 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:08:57 Pacific Standard Time

ID: 1601401-07, Description: OC-MW01-1116, Name: 161114J2_47.wiff, Date: 15-Nov-2016, Time: 01:25:33, Instrument: , Lab: ©PE-SCIEX, User: sciex

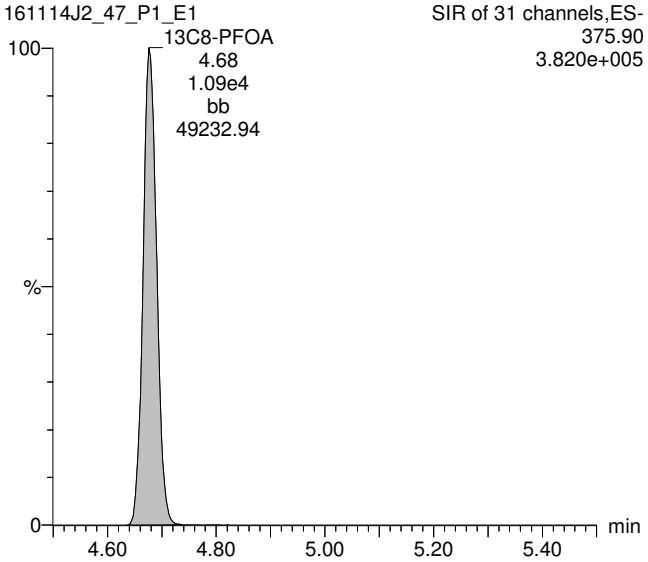
13C5-PFHxA



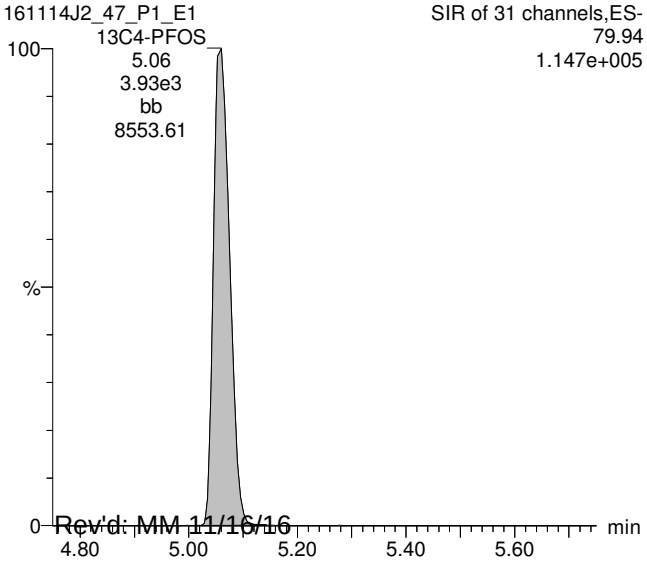
13C3-PFHxS



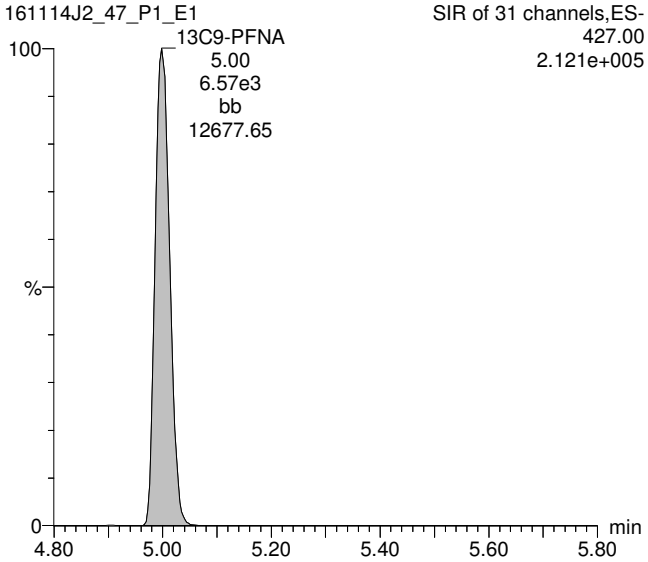
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_48.qld

Last Altered: Wednesday, November 16, 2016 10:14:47 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:14:54 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-08, Description: OC-MW02-1116, Name: 161114J2_48.wiff, Date: 15-Nov-2016, Time: 01:37:49

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	2.650e0	5.726e3		0.124	3.42		
2	5	PFHpA	318.90	7.600e0	6.453e3		0.124	4.29		
3	6	PFHxS	79.91	2.405e1	1.051e3		0.124	4.41	0.611	
4	8	PFOA	368.90	7.774e1	5.409e3		0.124	4.68	0.814	
5	9	PFNA	419.00		5.008e3		0.124			
6	10	PFOS	79.92	3.865e1	3.033e3		0.124	5.08	0.233	
7	15	13C3-PFBS	79.95	5.726e3	1.061e4	0.531	0.124	3.42	102	102
8	16	13C2-PFHxA	269.90	3.410e3	1.061e4	0.905	0.124	3.81	35.8	88.8
9	17	13C4-PFHpA	321.90	6.453e3	1.061e4	0.770	0.124	4.29	79.6	79.0
10	18	18O2-PFHxS	102.90	1.051e3	4.898e3	0.276	0.124	4.40	78.3	77.7
11	19	13C2-6:2 FTS	408.90	1.810e3	1.049e4	0.219	0.124	4.64	79.5	78.9
12	20	13C2-PFOA	369.90	5.409e3	1.049e4	0.663	0.124	4.68	78.3	77.7
13	21	13C5-PFNA	422.90	5.008e3	5.677e3	1.019	0.124	5.01	87.2	86.5
14	22	13C8-PFOS	79.93	3.033e3	3.928e3	0.921	0.124	5.08	84.5	83.8
15	26	13C5-PFHxA	273.00	1.061e4	1.061e4	1.000	0.124	3.81	101	100
16	27	13C3-PFHxS	80.01	4.898e3	4.898e3	1.000	0.124	4.40	101	100
17	28	13C8-PFOA	375.90	1.049e4	1.049e4	1.000	0.124	4.68	101	100
18	29	13C4-PFOS	79.94	3.928e3	3.928e3	1.000	0.124	5.07	101	100
19	30	13C9-PFNA	427.00	5.677e3	5.677e3	1.000	0.124	5.01	101	100
20	31	13C6-PFDA	474.00	4.830e3	4.830e3	1.000	0.124	5.30	101	100
21	32	Total PFBS	79.90		5.726e3		0.124			
22	33	Total PFHxS	79.91		1.051e3		0.124		0.611	
23	34	Total PFOA	368.90		5.409e3		0.124		0.814	
24	35	Total PFOS	79.92		3.033e3		0.124		0.233	

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_48.qld

Last Altered: Wednesday, November 16, 2016 10:14:47 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:14:54 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-08, Description: OC-MW02-1116, Name: 161114J2_48.wiff, Date: 15-Nov-2016, Time: 01:37:49

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	2.650	5726.387	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	24.051	1050.668	0.6

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.68	77.743	5409.423	0.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.08	38.650	3033.150	0.2
2	35	Total PFOS	79.92	4.99	11.573	3033.150	
3	35	Total PFOS	79.92	4.99	11.288	3033.150	
4	35	Total PFOS	79.92	4.96	8.575	3033.150	

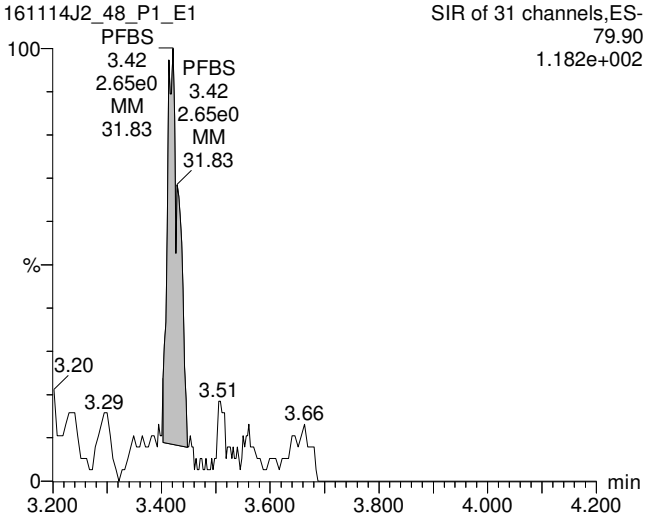
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_48.qld

Last Altered: Wednesday, November 16, 2016 10:14:47 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:14:54 Pacific Standard Time

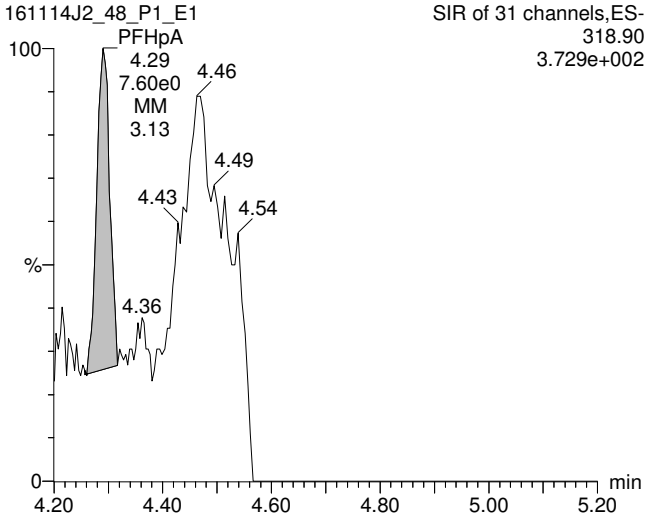
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-08, Description: OC-MW02-1116, Name: 161114J2_48.wiff, Date: 15-Nov-2016, Time: 01:37:49, Instrument: , Lab: ©PE-SCIEX, User: sciex

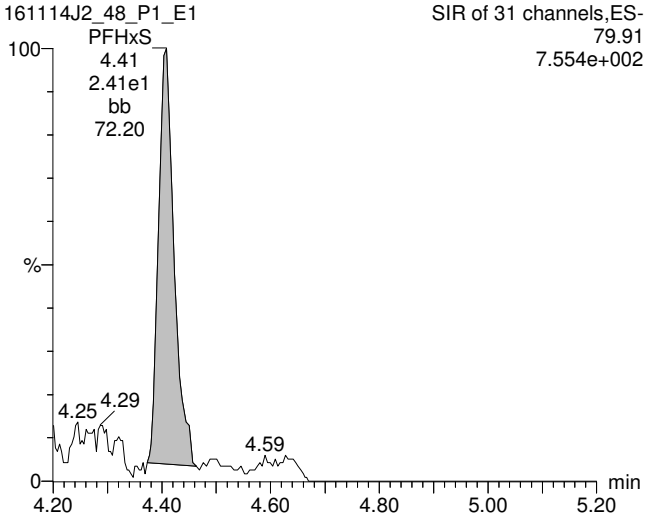
Total PFBS



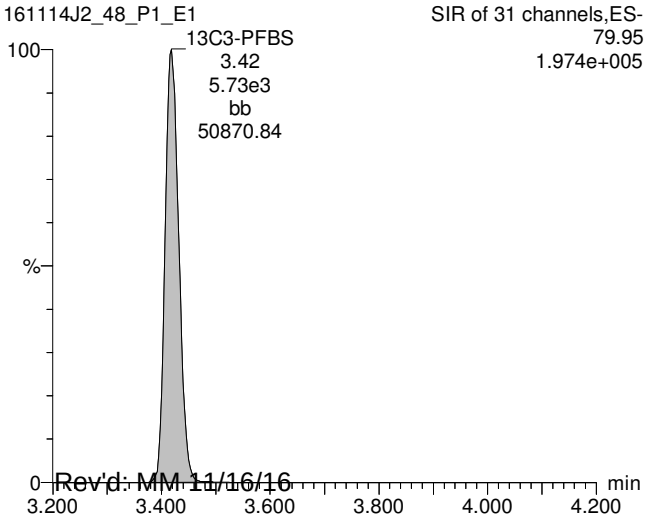
PFHpA



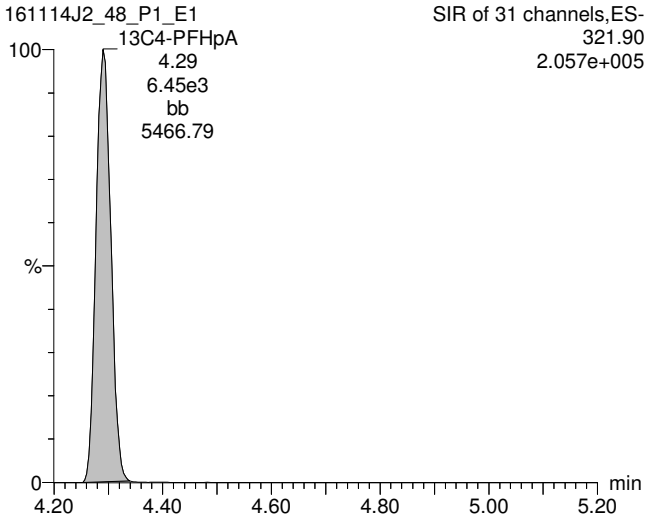
Total PFHxS



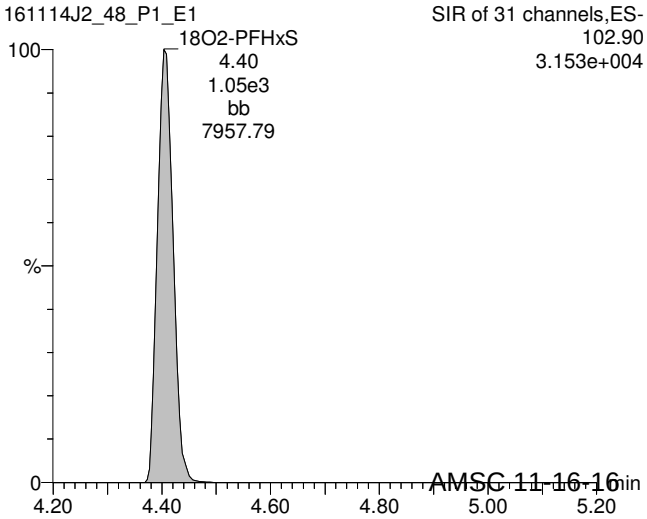
13C3-PFBS



13C4-PFHpA



18O2-PFHxS

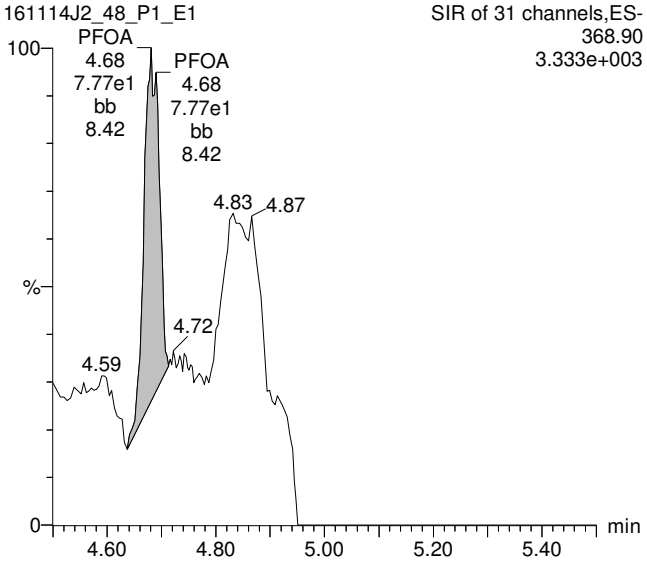


Dataset: U:\Q2.PRO\Results\161114J2\161114J2_48.qld

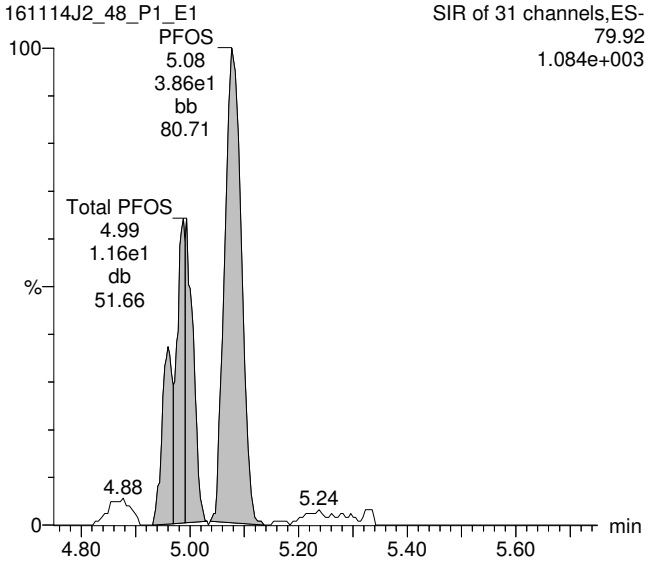
Last Altered: Wednesday, November 16, 2016 10:14:47 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:14:54 Pacific Standard Time

ID: 1601401-08, Description: OC-MW02-1116, Name: 161114J2_48.wiff, Date: 15-Nov-2016, Time: 01:37:49, Instrument: , Lab: ©PE-SCIEX, User: sciex

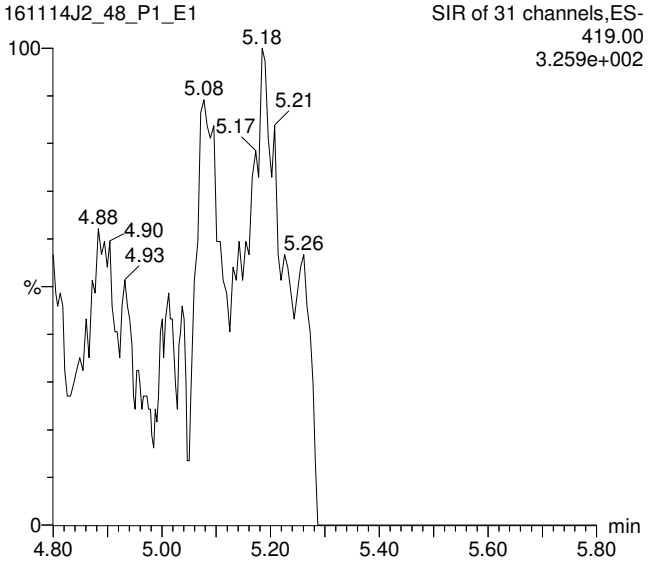
Total PFOA



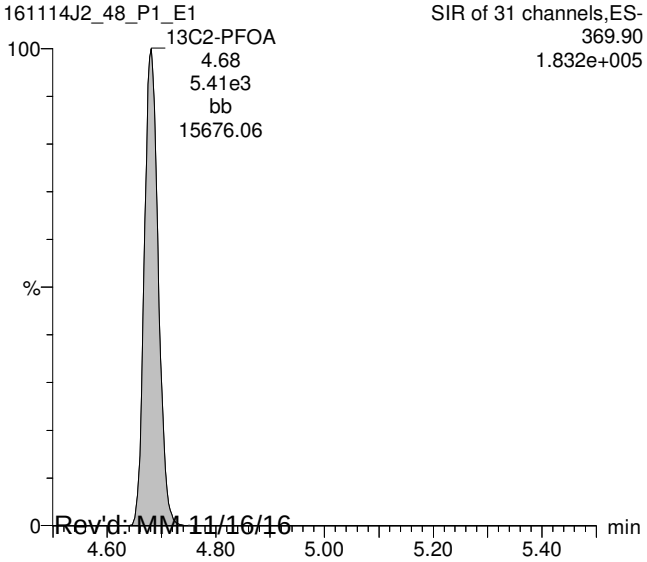
Total PFOS



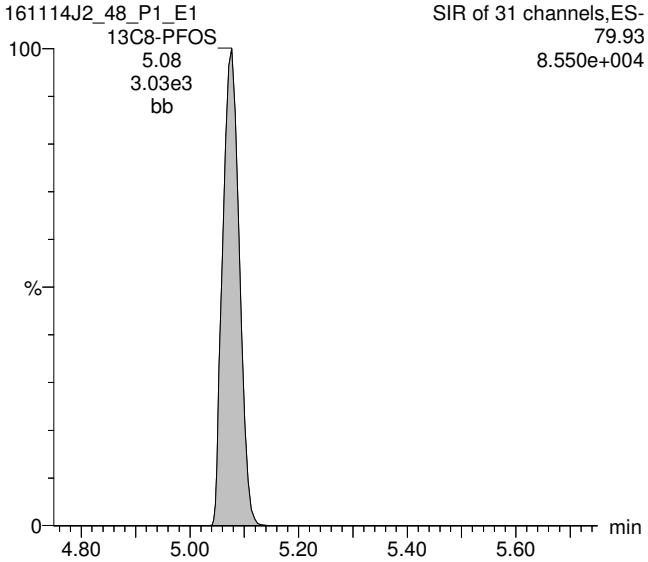
PFNA



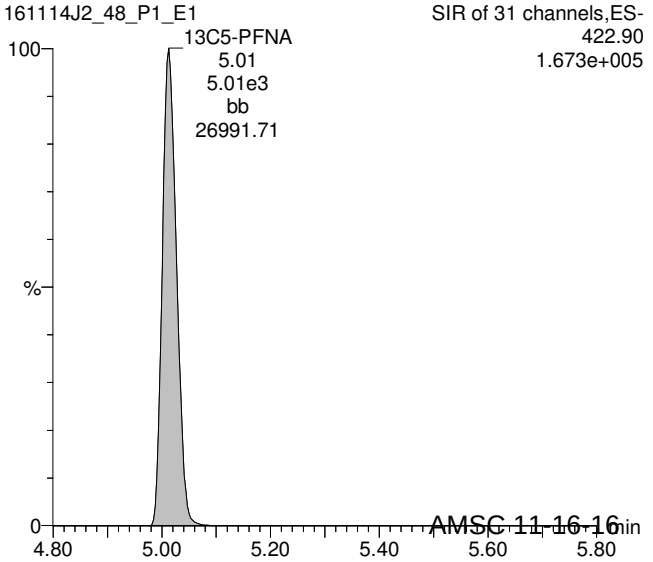
13C2-PFOA



13C8-PFOS



13C5-PFNA

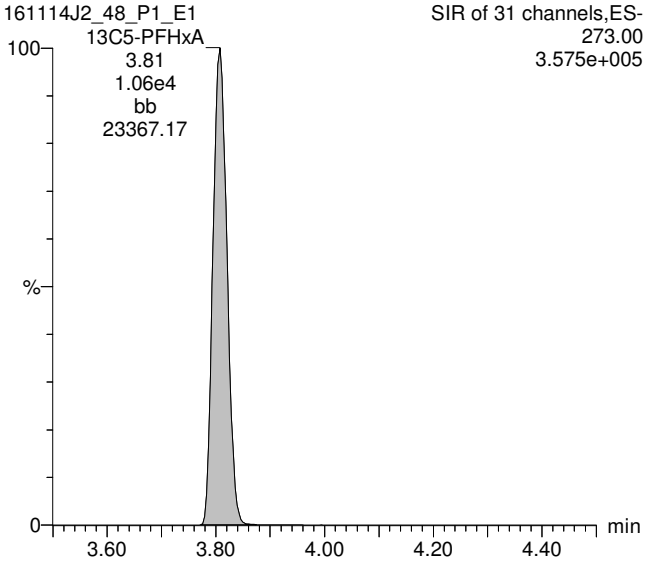


Dataset: U:\Q2.PRO\Results\161114J2\161114J2_48.qld

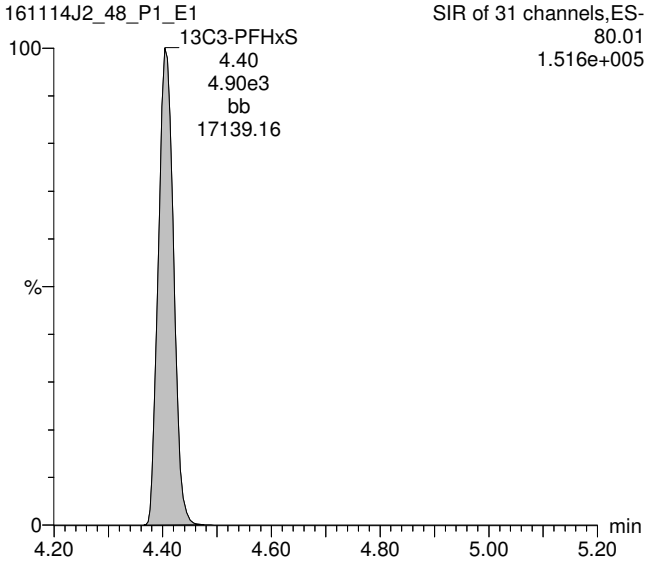
Last Altered: Wednesday, November 16, 2016 10:14:47 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:14:54 Pacific Standard Time

ID: 1601401-08, Description: OC-MW02-1116, Name: 161114J2_48.wiff, Date: 15-Nov-2016, Time: 01:37:49, Instrument: , Lab: ©PE-SCIEX, User: sciex

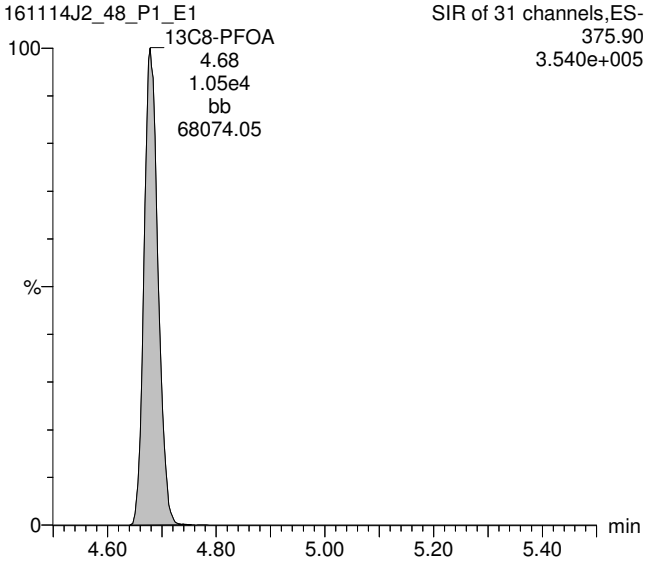
13C5-PFHxA



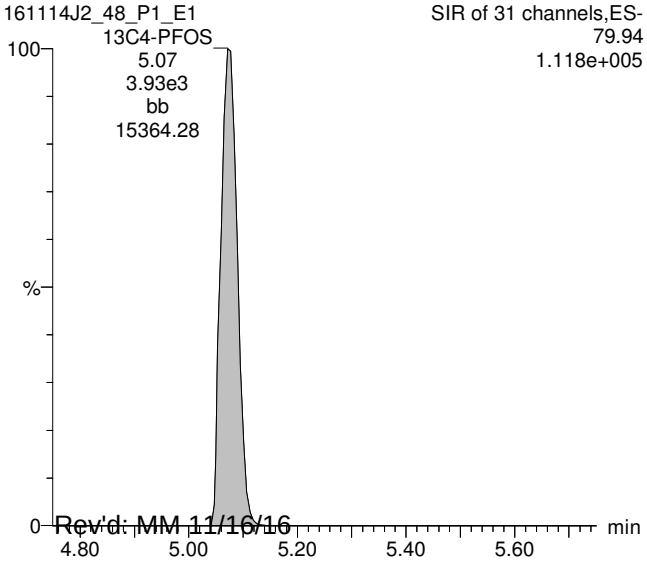
13C3-PFHxS



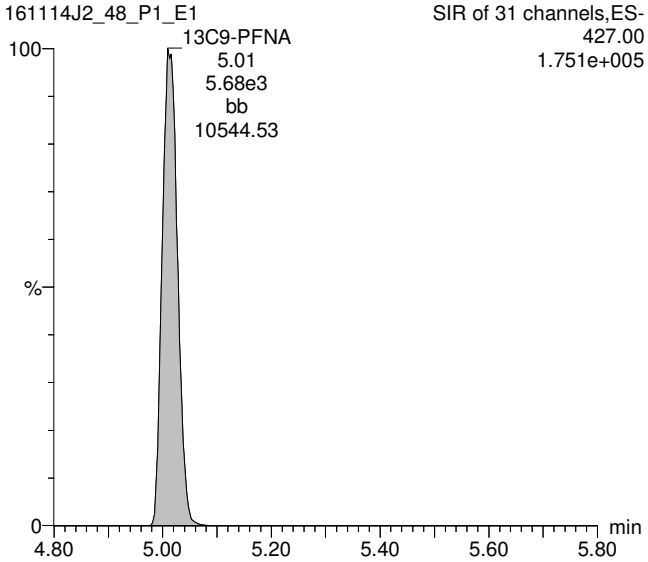
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ngLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:18:57 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:42 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	3	PFBS	79.90	2.763e4	3.757e2		0.124	3.40	4950		
2	5	PFHpA	318.90	5.982e4	5.153e2		0.124	4.28	13900		
3	6	PFHxS	79.91	1.651e5	6.970e1		0.124	4.40	35100		
4	8	PFOA	368.90	1.674e5	6.615e2		0.124	4.67	**		** See ug/L Targeting
5	9	PFNA	419.00	5.569e3	4.036e2		0.124	5.01	1530		
6	10	PFOS	79.92	2.364e5	1.026e2		0.124	5.07	185000		
7	15	13C3-PFBS	79.95	3.757e2	6.473e2	0.531	0.124	3.40	110	109	
8	16	13C2-PFHxA	269.90	3.443e2	6.473e2	0.905	0.124	3.80	59.2	147	
9	17	13C4-PFHpA	321.90	5.153e2	6.473e2	0.770	0.124	4.28	104	103	
10	18	18O2-PFHxS	102.90	6.970e1	1.620e2	0.276	0.124	4.40	157	156	H
11	19	13C2-6:2 FTS	408.90	1.255e4	6.731e2	0.219	0.124	4.63	8580	8530	
12	20	13C2-PFOA	369.90	6.615e2	6.731e2	0.663	0.124	4.67	149	148	
13	21	13C5-PFNA	422.90	4.036e2	5.165e2	1.019	0.124	5.01	77.2	76.7	
14	22	13C8-PFOS	79.93	1.026e2	1.245e2	0.921	0.124	5.07	90.0	89.4	
15	25	13C4-PFBA	171.90	7.905e2	7.905e2	1.000	0.124	1.92	101	100	
16	26	13C5-PFHxA	273.00	6.473e2	6.473e2	1.000	0.124	3.80	101	100	
17	27	13C3-PFHxS	80.01	1.620e2	1.620e2	1.000	0.124	4.40	101	100	
18	28	13C8-PFOA	375.90	6.731e2	6.731e2	1.000	0.124	4.67	101	100	
19	29	13C4-PFOS	79.94	1.245e2	1.245e2	1.000	0.124	5.07	101	100	
20	30	13C9-PFNA	427.00	5.165e2	5.165e2	1.000	0.124	5.01	101	100	
21	31	13C6-PFDA	474.00	4.499e2	4.499e2	1.000	0.124	5.29	101	100	
22	32	Total PFBS	79.90		3.757e2		0.124		4950		
23	33	Total PFHxS	79.91		6.970e1		0.124		52400		
24	34	Total PFOA	368.90		6.615e2		0.124		47.9		
25	35	Total PFOS	79.92		1.026e2		0.124		471000		

Rev'd: MM 11/16/16 pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ngLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:18:57 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:42 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.40	27626.686	375.704	4952.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	165068.078	69.699	35095.1
2	33	Total PFHxS	79.91	4.30	58902.246	69.699	17131.3
3	33	Total PFHxS	79.91	4.19	432.037	69.699	192.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.67	167447.922	661.503	**
2	34	Total PFOA	368.90	4.58	30886.959	661.503	**
3	34	Total PFOA	368.90	4.47	410.873	661.503	47.9

**See ug/L Targeting

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	236405.734	102.568	18542...
2	35	Total PFOS	79.92	4.96	310274.438	102.568	24336...
3	35	Total PFOS	79.92	4.86	53785.766	102.568	42186.8

Rev'd: MM 11/16/16 pw 11/16/16

Vista Analytical Laboratory Q1

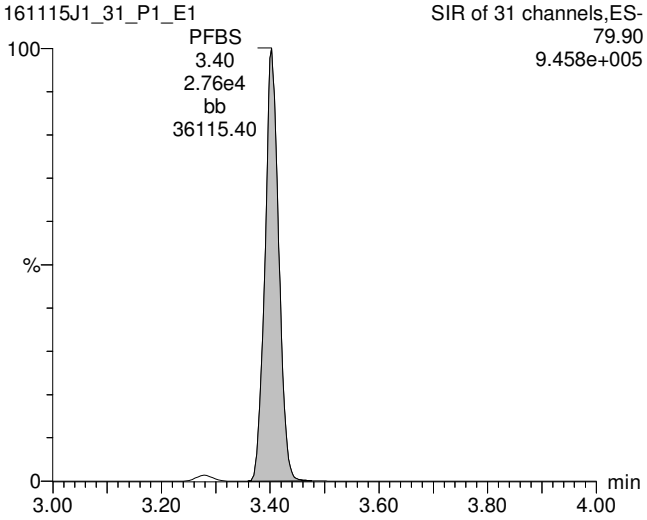
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ngLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:18:57 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:42 Pacific Standard Time

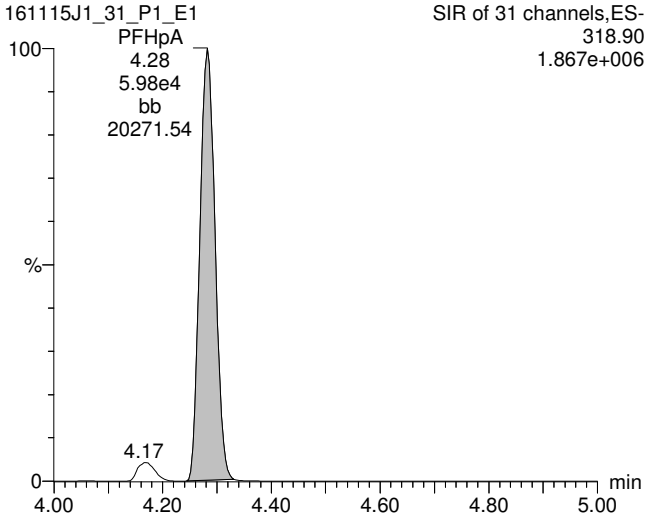
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48, Instrument: , Lab: ©PE-SCIEX, User: sciex

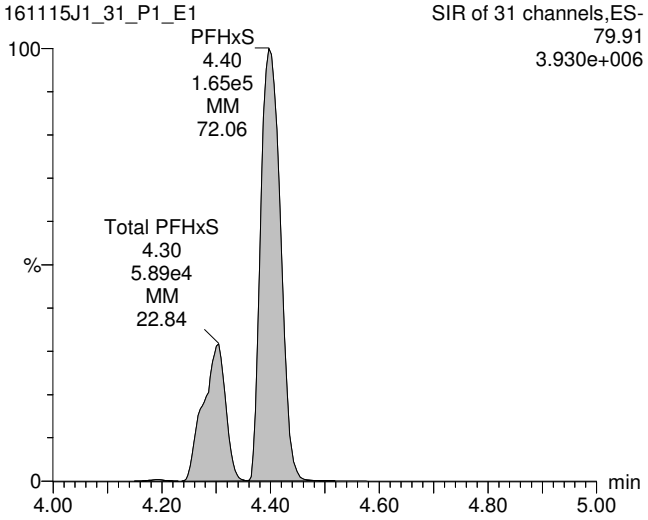
Total PFBS



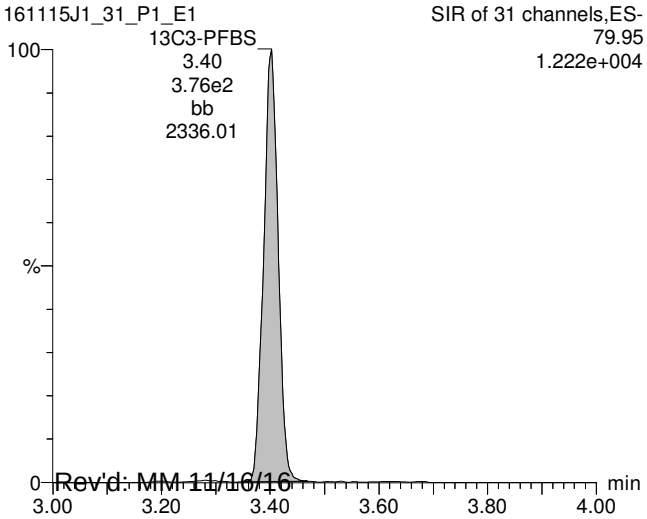
PFHpA



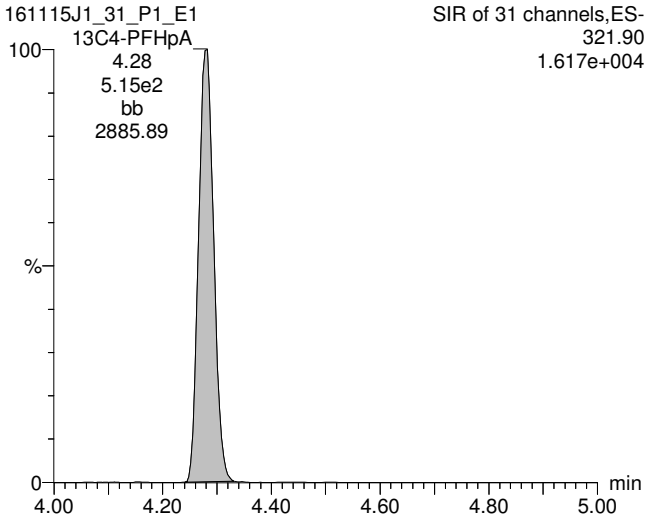
Total PFHxS



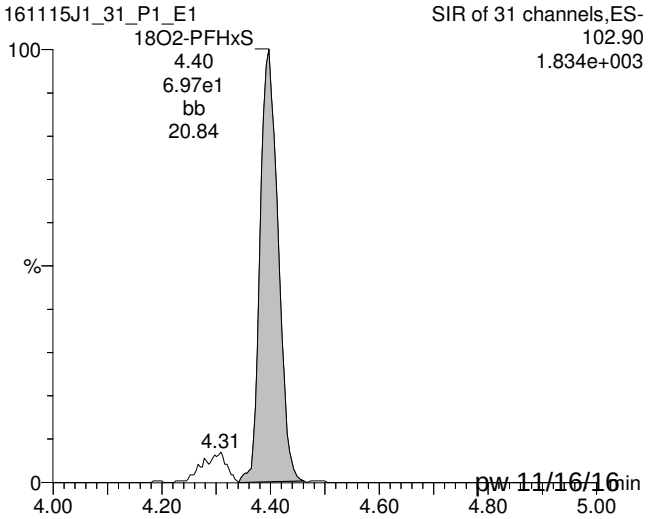
13C3-PFBS



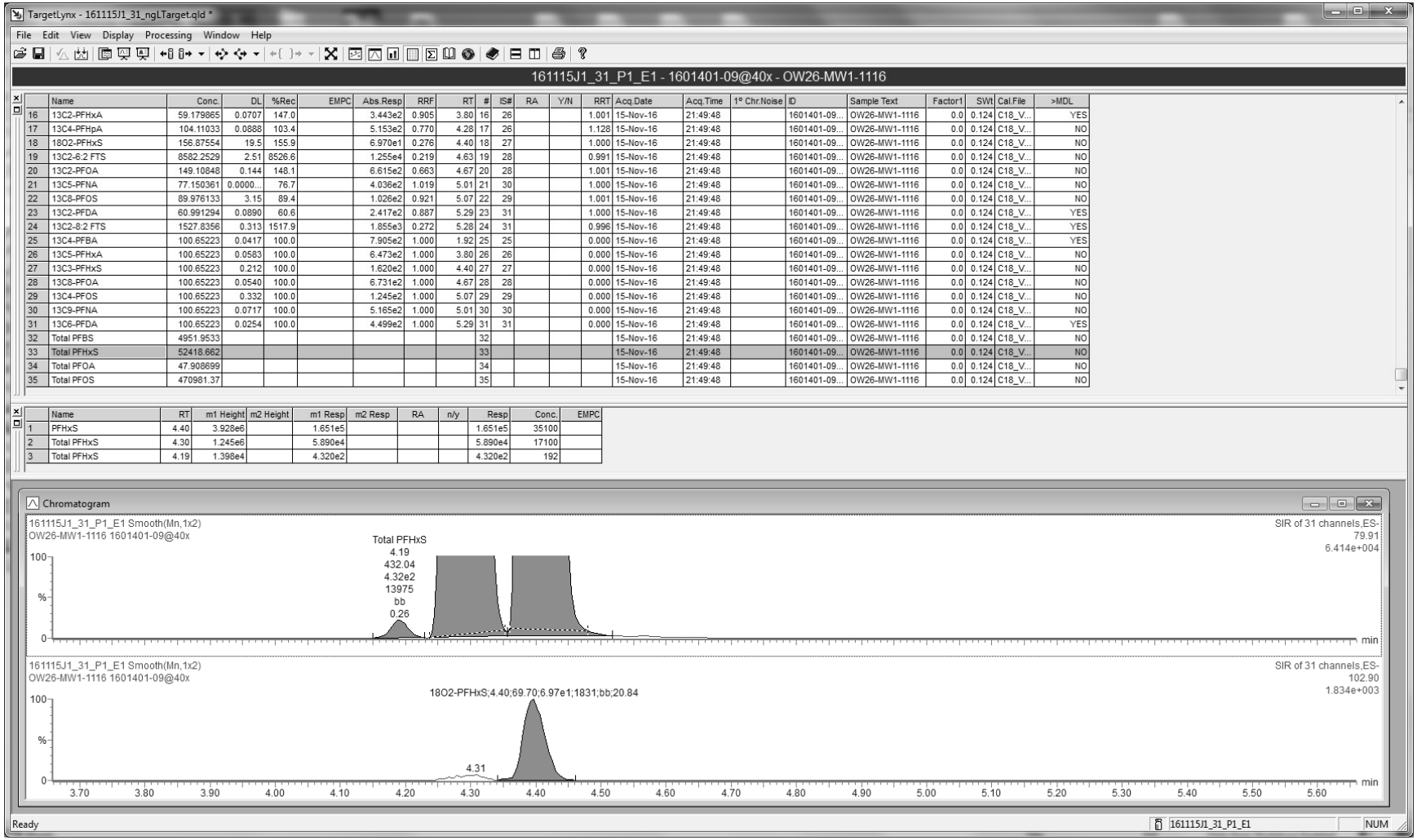
13C4-PFHpA



18O2-PFHxS



Rev'd: MM 11/16/16 pw 11/16/16



	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
16	13C2-PFHxA	59.179865	0.0707	147.0		3.443e2	0.905	3.80	16	26			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
17	13C4-PFHpA	104.11033	0.0888	103.4		5.153e2	0.770	4.28	17	26			1.128	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	156.87554	19.5	155.9		6.970e1	0.276	4.40	18	27			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8582.2529	2.51	8526.6		1.255e4	0.219	4.63	19	28			0.991	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	149.10848	0.144	148.1		6.615e2	0.663	4.67	20	28			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	77.150361	0.0000...	76.7		4.036e2	1.019	5.01	21	30			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
22	13C8-PFOS	89.976133	3.15	89.4		1.026e2	0.921	5.07	22	29			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
23	13C2-PFDA	60.991294	0.0890	60.6		2.417e2	0.887	5.29	23	31			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
24	13C2-8:2 FTS	1527.8356	0.313	1517.9		1.855e3	0.272	5.28	24	31			0.996	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
25	13C4-PFBA	100.65223	0.0417	100.0		7.905e2	1.000	1.92	25	25			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
26	13C5-PFHxA	100.65223	0.0583	100.0		6.473e2	1.000	3.80	26	26			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
27	13C3-PFHxS	100.65223	0.212	100.0		1.620e2	1.000	4.40	27	27			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
28	13C8-PFOA	100.65223	0.0540	100.0		6.731e2	1.000	4.67	28	28			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
29	13C4-PFOS	100.65223	0.332	100.0		1.245e2	1.000	5.07	29	29			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
30	13C9-PFNA	100.65223	0.0717	100.0		5.165e2	1.000	5.01	30	30			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
31	13C6-PFDA	100.65223	0.0254	100.0		4.499e2	1.000	5.29	31	31			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
32	Total PFBS	4951.9533							32					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
33	Total PFHxS	52418.662							33					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
34	Total PFOA	47.908699							34					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
35	Total PFOS	470981.37							35					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO

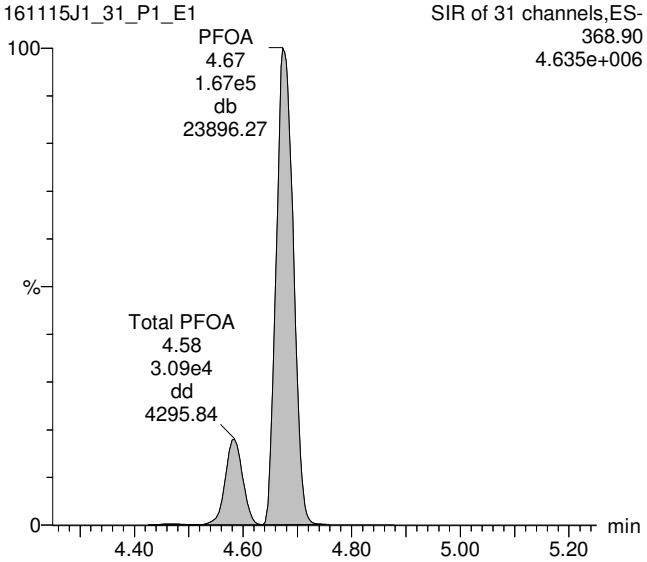
	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1	PFHxS	4.40	3.928e6		1.651e5				1.651e5	35100	
2	Total PFHxS	4.30	1.245e6		5.890e4				5.890e4	17100	
3	Total PFHxS	4.19	1.398e4		4.320e2				4.320e2	192	

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ngLTarget.qld

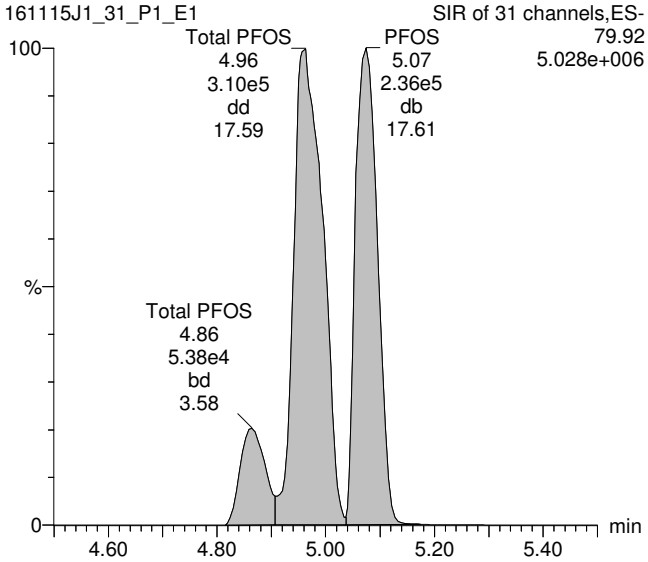
Last Altered: Wednesday, November 16, 2016 15:18:57 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:42 Pacific Standard Time

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48, Instrument: , Lab: ©PE-SCIEX, User: sciex

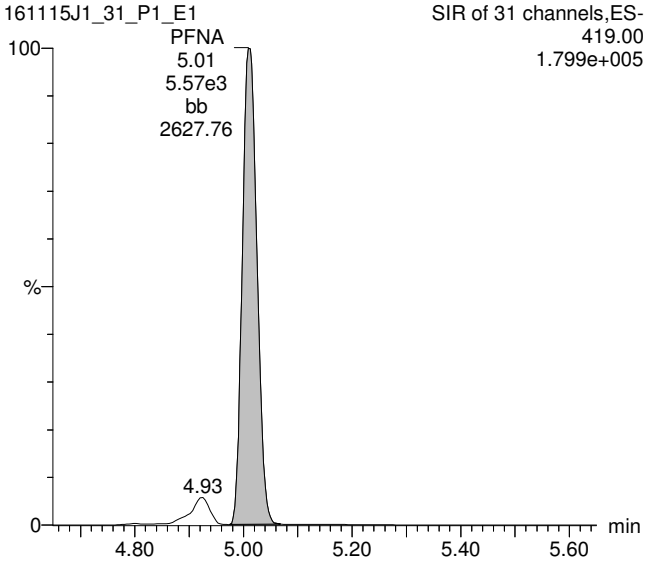
Total PFOA



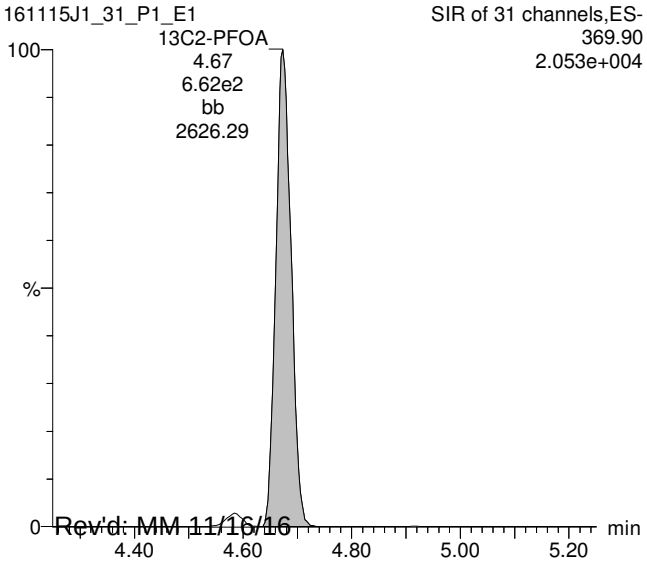
Total PFOS



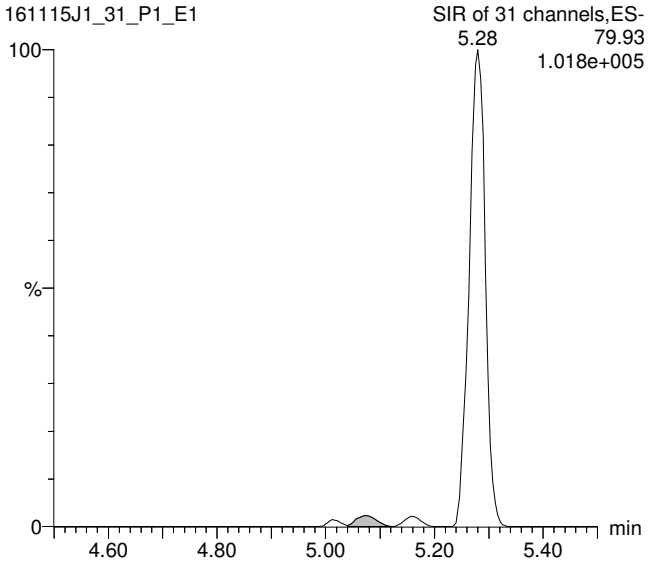
PFNA



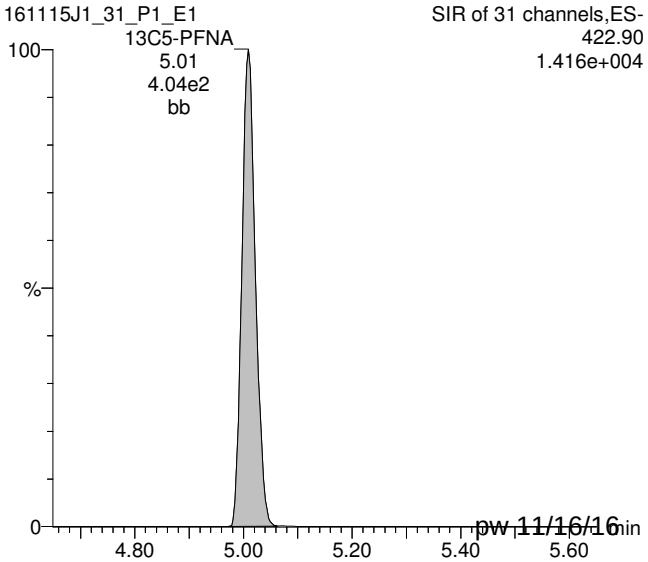
13C2-PFOA



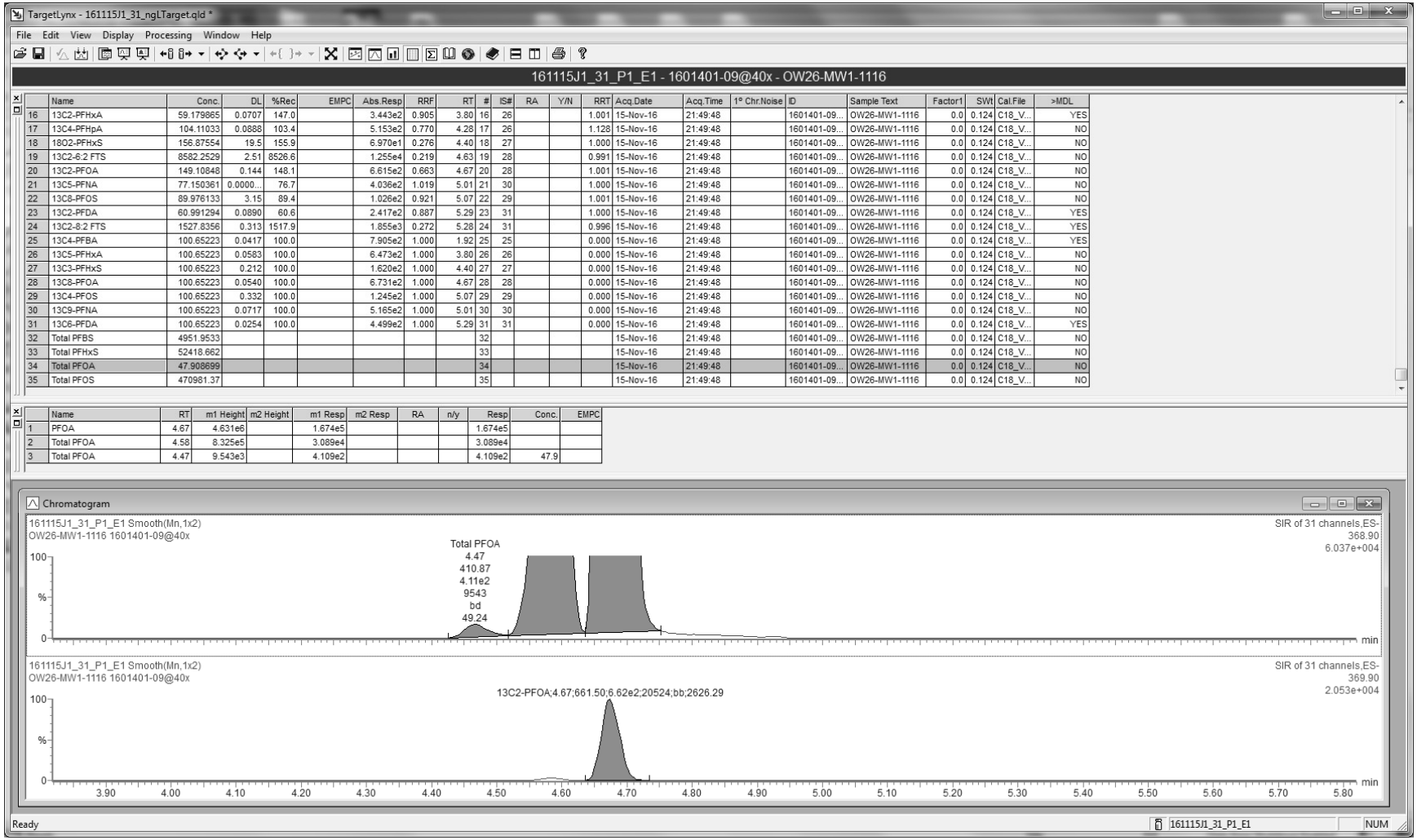
13C8-PFOS



13C5-PFNA

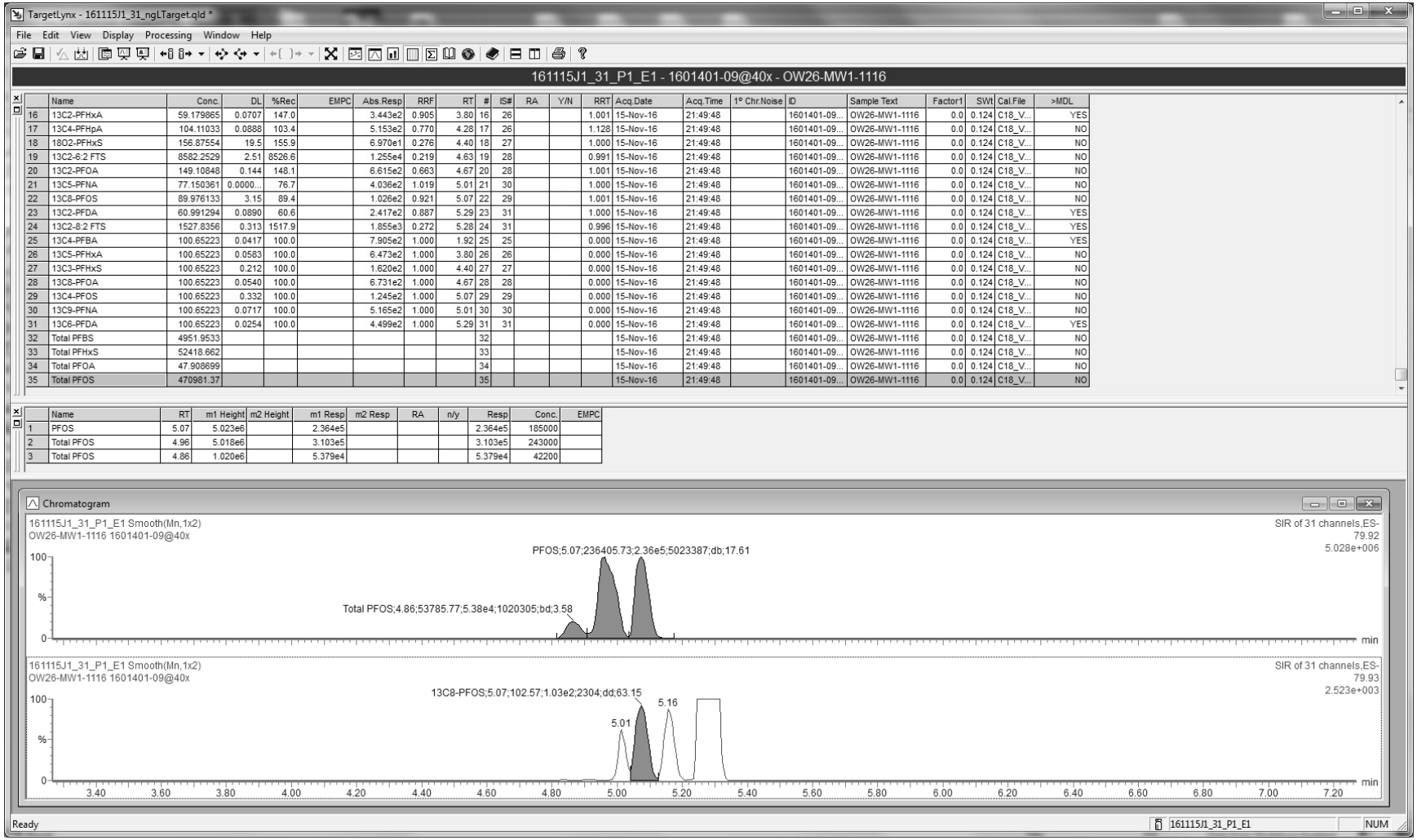


Rev'd: MM 11/16/16 pw 11/16/16



	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
16	13C2-PFHxA	59.179865	0.0707	147.0		3.443e2	0.905	3.80	16	26			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
17	13C4-PFHpA	104.11033	0.0888	103.4		5.153e2	0.770	4.28	17	26			1.128	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	156.87554	19.5	155.9		6.970e1	0.276	4.40	18	27			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8582.2529	2.51	8526.6		1.255e4	0.219	4.63	19	28			0.991	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	149.10848	0.144	148.1		6.615e2	0.663	4.67	20	28			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	77.150361	0.0000...	76.7		4.036e2	1.019	5.01	21	30			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
22	13C8-PFOS	89.976133	3.15	89.4		1.026e2	0.921	5.07	22	29			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
23	13C2-PFDA	60.991294	0.0890	60.6		2.417e2	0.887	5.29	23	31			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
24	13C2-8:2 FTS	1527.8356	0.313	1517.9		1.855e3	0.272	5.28	24	31			0.996	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
25	13C4-PFBA	100.65223	0.0417	100.0		7.905e2	1.000	1.92	25	25			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
26	13C5-PFHxA	100.65223	0.0583	100.0		6.473e2	1.000	3.80	26	26			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
27	13C3-PFHxS	100.65223	0.212	100.0		1.620e2	1.000	4.40	27	27			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
28	13C8-PFOA	100.65223	0.0540	100.0		6.731e2	1.000	4.67	28	28			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
29	13C4-PFOS	100.65223	0.332	100.0		1.245e2	1.000	5.07	29	29			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
30	13C9-PFNA	100.65223	0.0717	100.0		5.165e2	1.000	5.01	30	30			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
31	13C6-PFDA	100.65223	0.0254	100.0		4.499e2	1.000	5.29	31	31			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
32	Total PFBS	4951.9533							32					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
33	Total PFHxS	52418.662							33					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
34	Total PFOA	47.908699							34					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
35	Total PFOS	470981.37							35					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1	PFOA	4.67	4.631e6		1.674e5				1.674e5		
2	Total PFOA	4.58	8.325e5		3.089e4				3.089e4		
3	Total PFOA	4.47	9.543e3		4.109e2				4.109e2	47.9	



	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
16	13C2-PFHxA	59.179865	0.0707	147.0		3.443e2	0.905	3.80	16	26			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
17	13C4-PFHpA	104.11033	0.0888	103.4		5.153e2	0.770	4.28	17	26			1.128	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	156.87554	19.5	155.9		6.970e1	0.276	4.40	18	27			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8582.2529	2.51	8526.6		1.255e4	0.219	4.63	19	28			0.991	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	149.10848	0.144	148.1		6.615e2	0.663	4.67	20	28			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	77.150361	0.0000...	76.7		4.036e2	1.019	5.01	21	30			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
22	13C8-PFOS	89.976133	3.15	89.4		1.026e2	0.921	5.07	22	29			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
23	13C2-PFDA	60.991294	0.0890	60.6		2.417e2	0.887	5.29	23	31			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
24	13C2-8:2 FTS	1527.8356	0.313	1517.9		1.855e3	0.272	5.28	24	31			0.996	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
25	13C4-PFBA	100.65223	0.0417	100.0		7.905e2	1.000	1.92	25	25			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
26	13C5-PFHxA	100.65223	0.0583	100.0		6.473e2	1.000	3.80	26	26			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
27	13C3-PFHxS	100.65223	0.212	100.0		1.620e2	1.000	4.40	27	27			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
28	13C8-PFOA	100.65223	0.0540	100.0		6.731e2	1.000	4.67	28	28			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
29	13C4-PFOS	100.65223	0.332	100.0		1.245e2	1.000	5.07	29	29			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
30	13C9-PFNA	100.65223	0.0717	100.0		5.165e2	1.000	5.01	30	30			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
31	13C6-PFDA	100.65223	0.0254	100.0		4.499e2	1.000	5.29	31	31			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	YES
32	Total PFBS	4951.9533							32					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
33	Total PFHxS	52418.662							33					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
34	Total PFOA	47.908699							34					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
35	Total PFOS	470981.37							35					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1	PFOS	5.07	5.023e6		2.364e5				2.364e5	185000	
2	Total PFOS	4.96	5.018e6		3.103e5				3.103e5	243000	
3	Total PFOS	4.86	1.020e6		5.379e4				5.379e4	42200	

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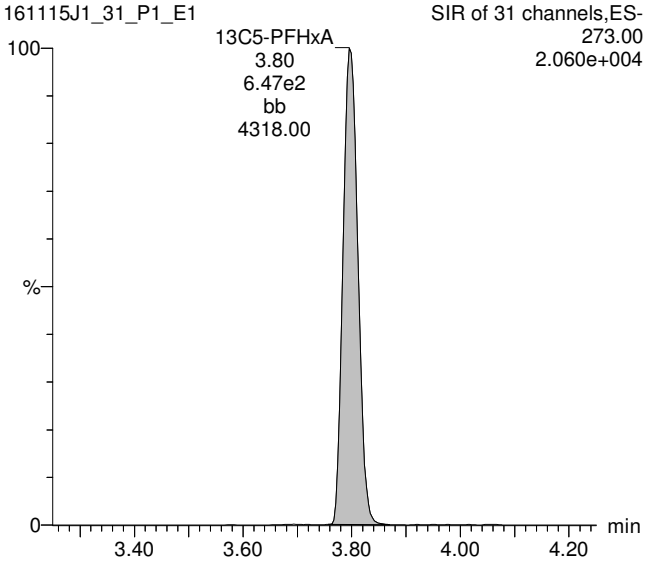
Last Altered: Wednesday, November 16, 2016 15:18:57 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:42 Pacific Standard Time

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48, Instrument: , Lab: ©PE-SCIEX, User: sciex

13C5-PFHxA



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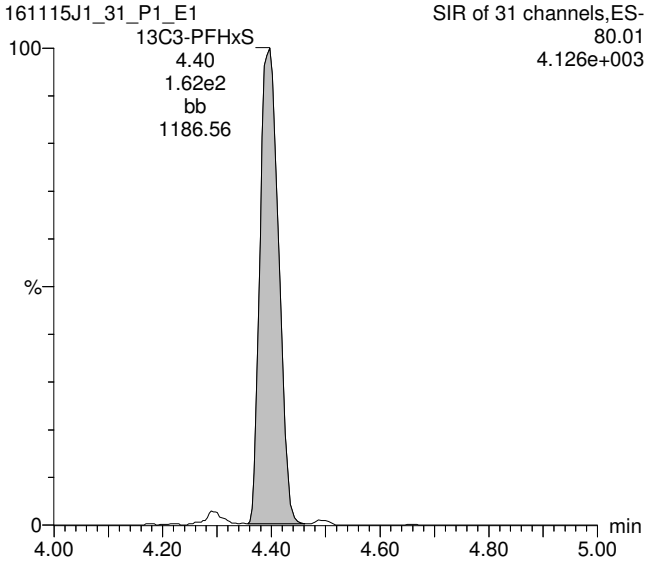
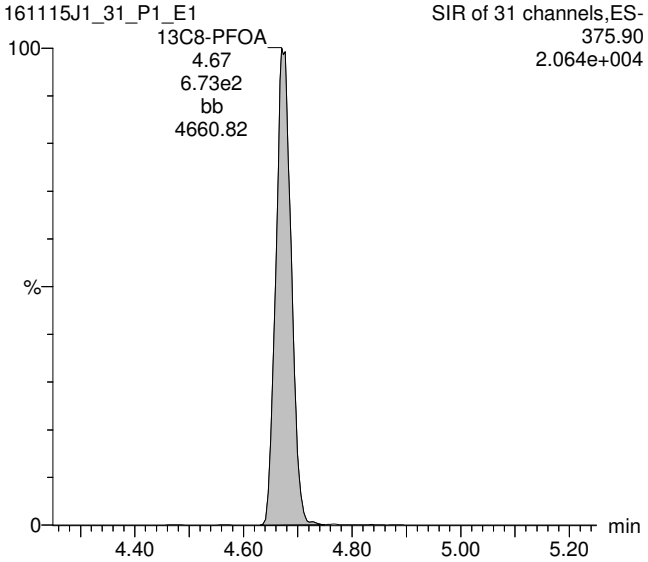
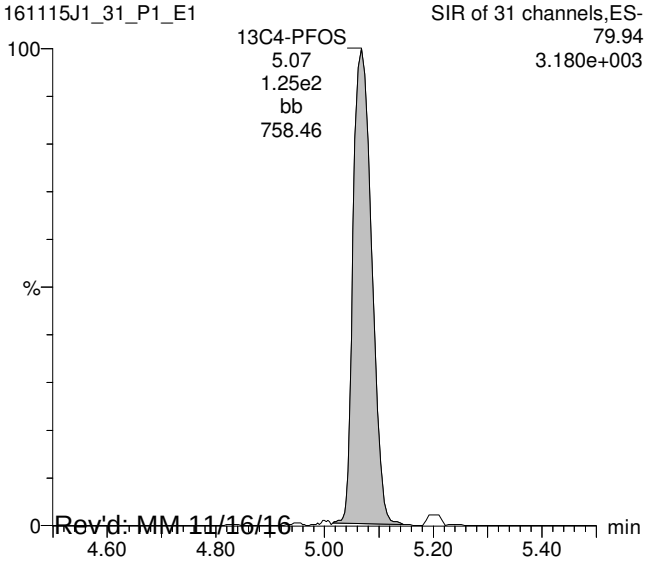


13C8-PFOA



13C4-PFOS



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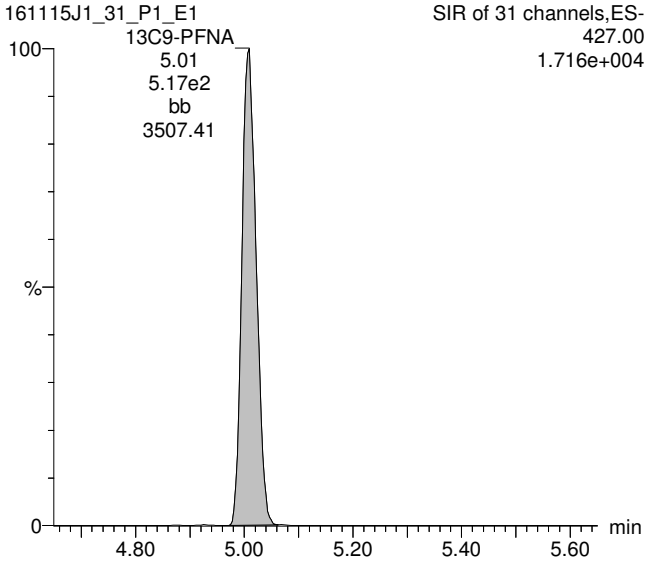


Rev'd: MM 11/16/16

pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ugLTarget.qld

Last Altered: Wednesday, November 16, 2016 17:00:59 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:06:21 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	8	PFOA	368.90	1.678e5	6.615e2		0.124	4.67	19.3	
2	20	13C2-PFOA	369.90	6.615e2	6.731e2	0.663	0.124	4.67	0.149	148
3	28	13C8-PFOA	375.90	6.731e2	6.731e2	1.000	0.124	4.67	0.101	100
4	34	Total PFOA	368.90		6.615e2		0.124		22.6	

Target = ug/L

pw 11/17/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ugLTarget.qld

Last Altered: Wednesday, November 16, 2016 17:00:59 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:06:21 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.40	27626.686	375.704	8.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	165343.328	69.699	73.8
2	33	Total PFHxS	79.91	4.30	59003.723	69.699	26.3
3	33	Total PFHxS	79.91	4.19	432.037	69.699	0.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.67	167764.016	661.503	19.3
2	34	Total PFOA	368.90	4.58	31000.563	661.503	3.3 **
3	34	Total PFOA	368.90	4.47	410.873	661.503	

** See ngL Target

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	236405.734	102.568	184.6
2	35	Total PFOS	79.92	4.96	310274.438	102.568	242.6
3	35	Total PFOS	79.92	4.86	53785.766	102.568	41.4

pw 11/17/16

Vista Analytical Laboratory Q1

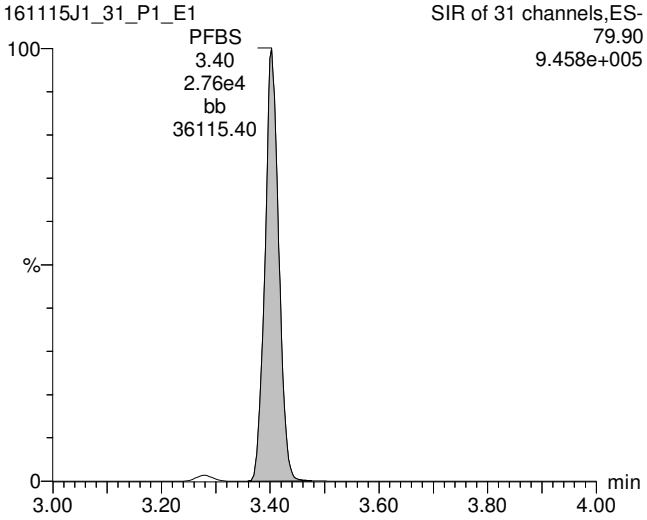
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ugLTarget.qld

Last Altered: Wednesday, November 16, 2016 17:00:59 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:06:21 Pacific Standard Time

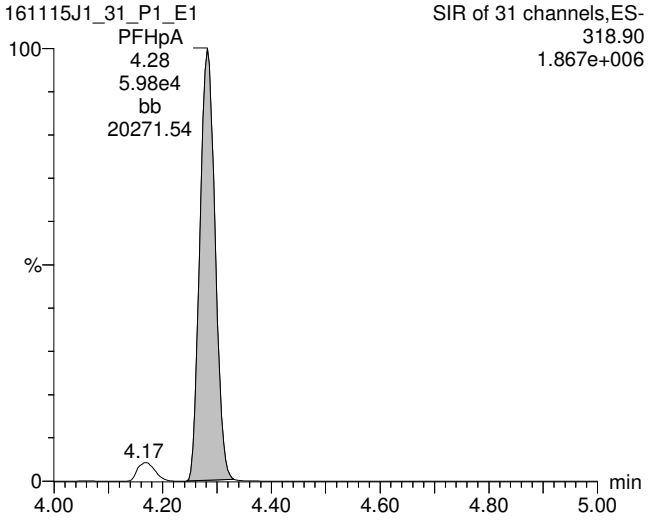
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48, Instrument: , Lab: ©PE-SCIEX, User: sciex

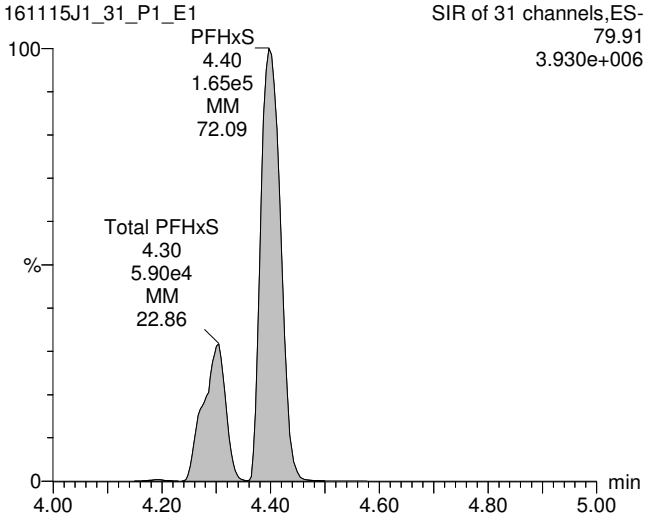
Total PFBS



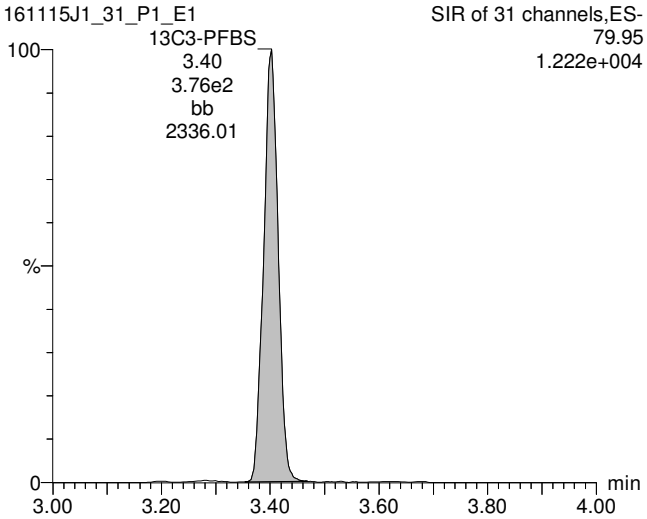
PFHpA



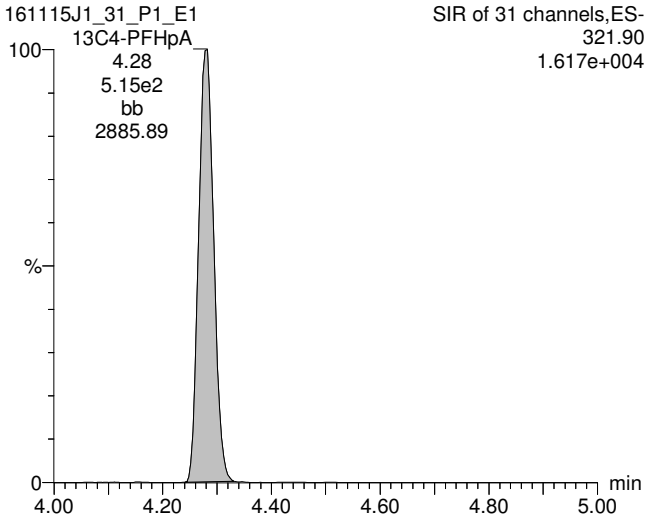
Total PFHxS



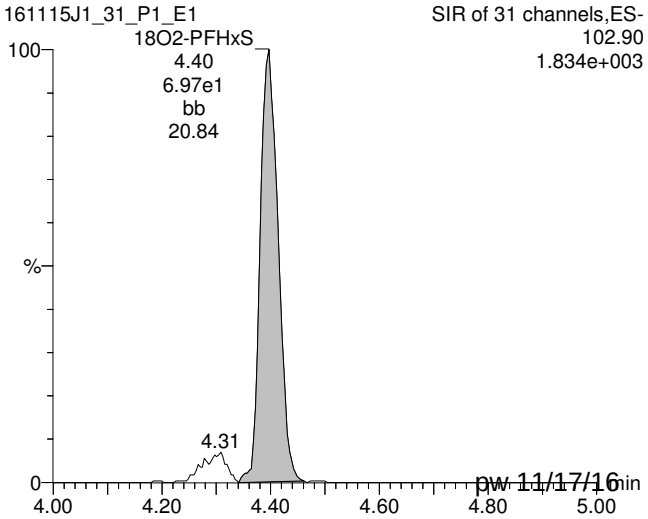
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



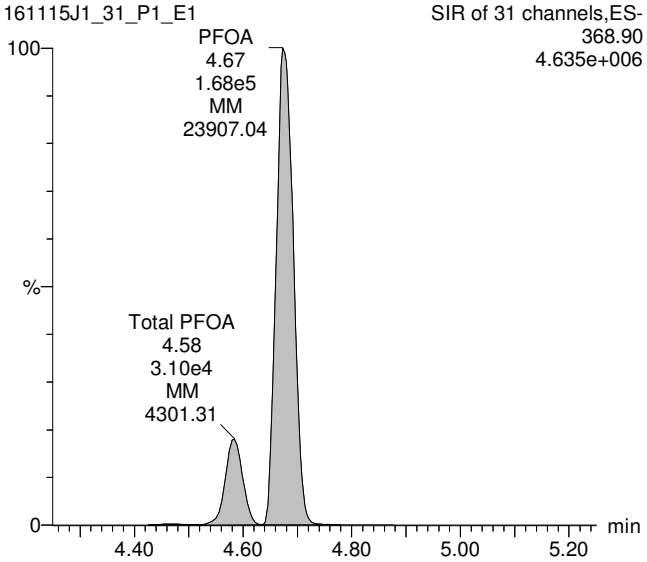
pw 11/17/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ugLTarget.qld

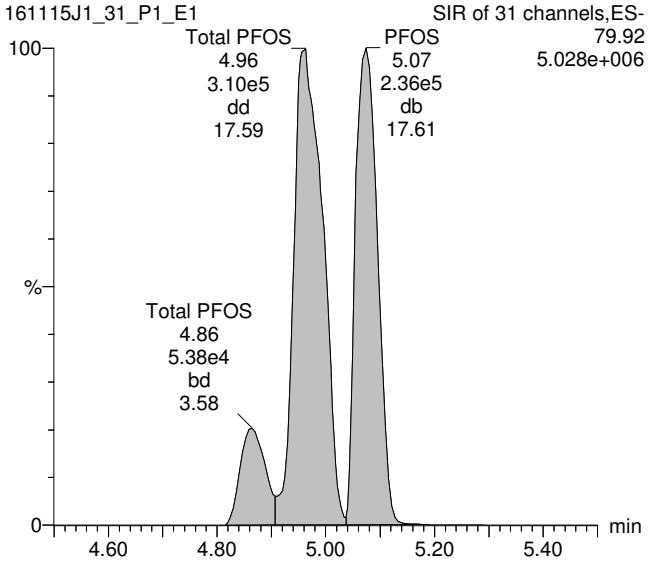
Last Altered: Wednesday, November 16, 2016 17:00:59 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:06:21 Pacific Standard Time

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48, Instrument: , Lab: ©PE-SCIEX, User: sciex

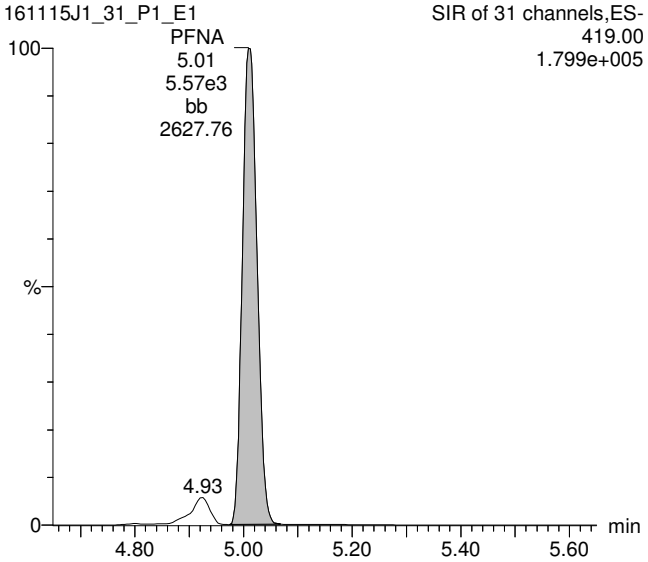
Total PFOA



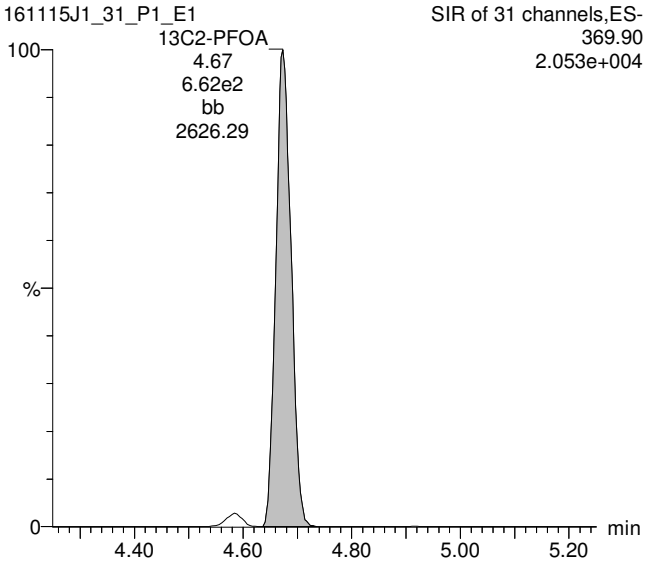
Total PFOS



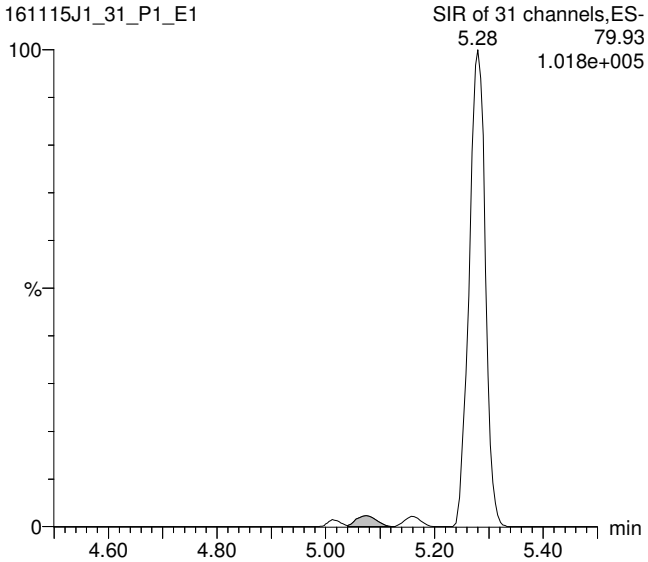
PFNA



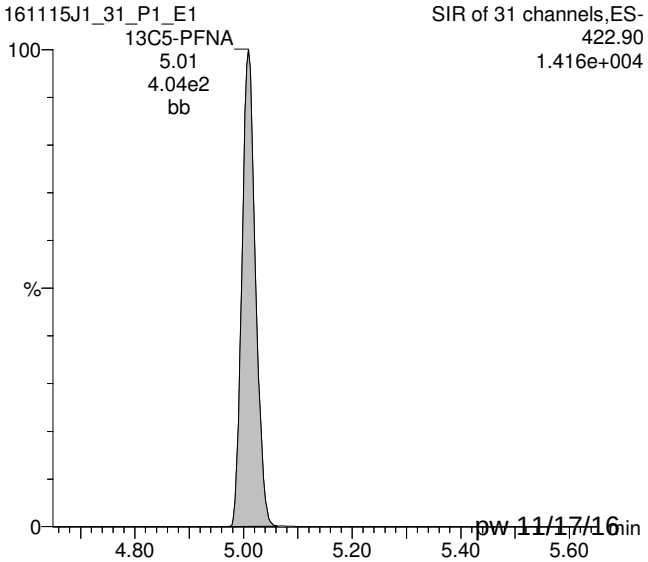
13C2-PFOA



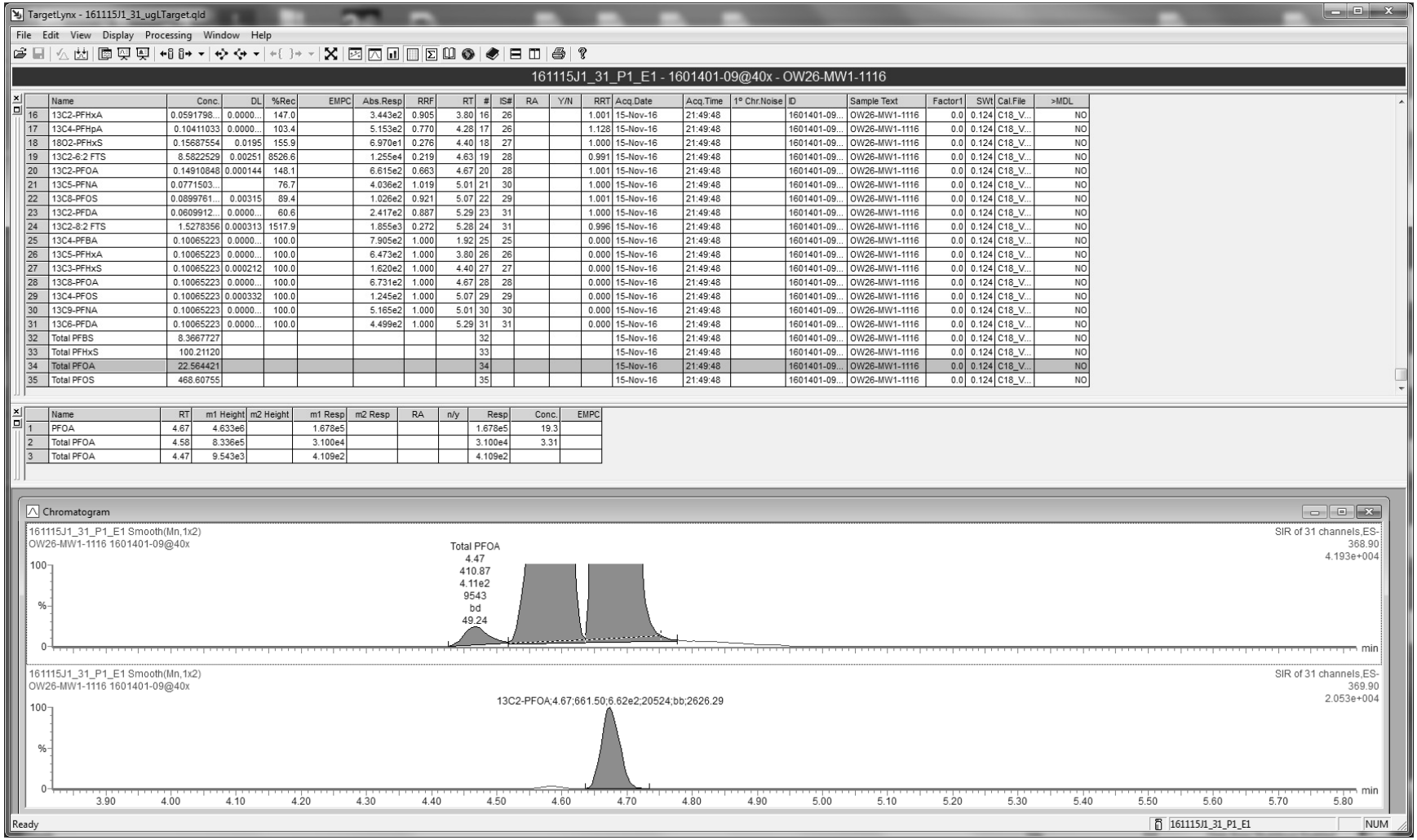
13C8-PFOS



13C5-PFNA



pw 11/17/16



	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
16	13C2-PFHxA	0.0591798...	0.0000...	147.0		3.443e2	0.905	3.80	16	26			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
17	13C4-PFHpA	0.10411033	0.0000...	103.4		5.153e2	0.770	4.28	17	26			1.128	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	0.15687554	0.0195	155.9		6.970e1	0.276	4.40	18	27			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8.5822529	0.00251	8526.6		1.255e4	0.219	4.63	19	28			0.991	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	0.14910848	0.000144	148.1		6.615e2	0.663	4.67	20	28			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	0.0771503...		76.7		4.036e2	1.019	5.01	21	30			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
22	13C8-PFOS	0.0899761...	0.00315	89.4		1.026e2	0.921	5.07	22	29			1.001	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
23	13C2-PFDA	0.0609912...	0.0000...	60.6		2.417e2	0.887	5.29	23	31			1.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
24	13C2-8:2 FTS	1.5278356	0.000313	1517.9		1.855e3	0.272	5.28	24	31			0.996	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
25	13C4-PFBA	0.10065223	0.0000...	100.0		7.905e2	1.000	1.92	25	25			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
26	13C5-PFHxA	0.10065223	0.0000...	100.0		6.473e2	1.000	3.80	26	26			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
27	13C3-PFHxS	0.10065223	0.000212	100.0		1.620e2	1.000	4.40	27	27			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
28	13C8-PFOA	0.10065223	0.0000...	100.0		6.731e2	1.000	4.67	28	28			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
29	13C4-PFOS	0.10065223	0.000332	100.0		1.245e2	1.000	5.07	29	29			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
30	13C9-PFNA	0.10065223	0.0000...	100.0		5.165e2	1.000	5.01	30	30			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
31	13C6-PFDA	0.10065223	0.0000...	100.0		4.499e2	1.000	5.29	31	31			0.000	15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
32	Total PFBS	8.3667727							32					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
33	Total PFHxS	100.21120							33					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
34	Total PFOA	22.564421							34					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO
35	Total PFOS	468.60755							35					15-Nov-16	21:49:48		1601401-09...	OW26-MW1-1116	0.0	0.124	C18_V...	NO

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1	PFOA	4.67	4.633e6		1.678e5				1.678e5	19.3	
2	Total PFOA	4.58	8.336e5		3.100e4				3.100e4	3.31	
3	Total PFOA	4.47	9.543e3		4.109e2				4.109e2		

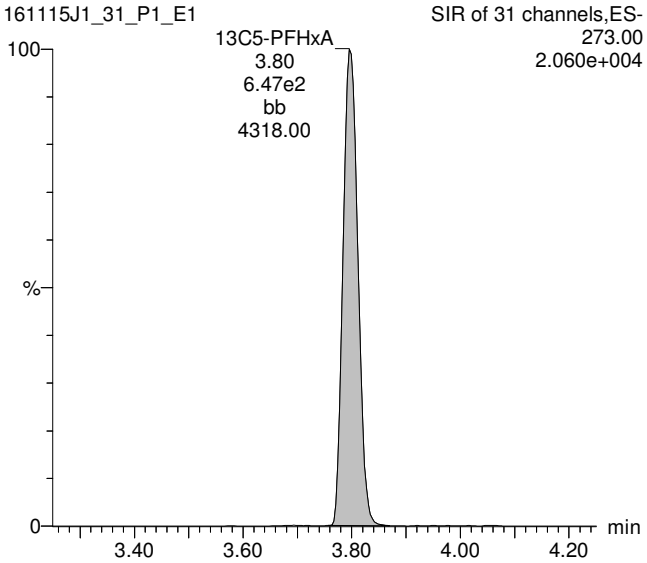
pw 11/17/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_31_ugLTarget.qld

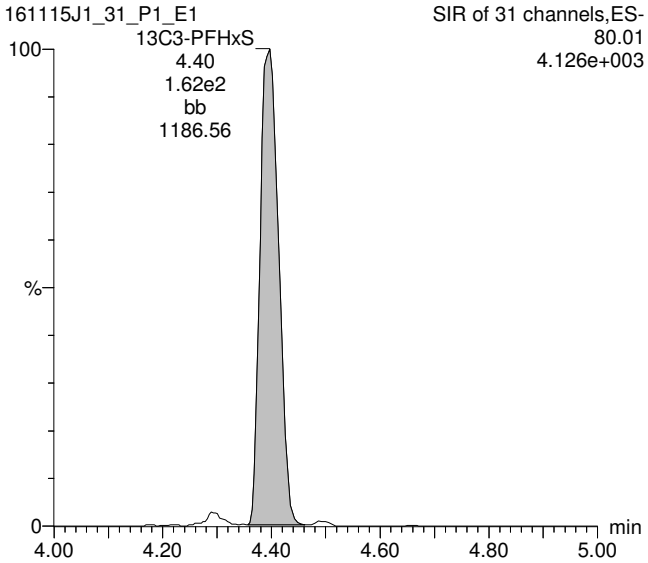
Last Altered: Wednesday, November 16, 2016 17:00:59 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:06:21 Pacific Standard Time

ID: 1601401-09@40x, Description: OW26-MW1-1116, Name: 161115J1_31.wiff, Date: 15-Nov-2016, Time: 21:49:48, Instrument: , Lab: ©PE-SCIEX, User: sciex

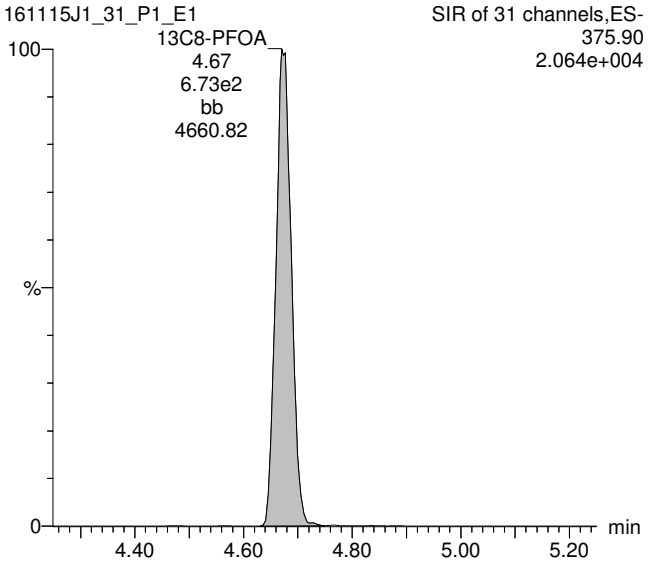
13C5-PFHxA



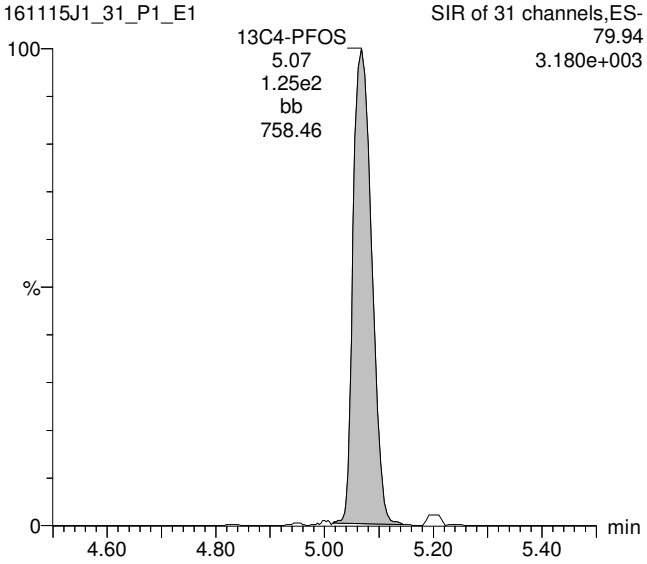
13C3-PFHxS



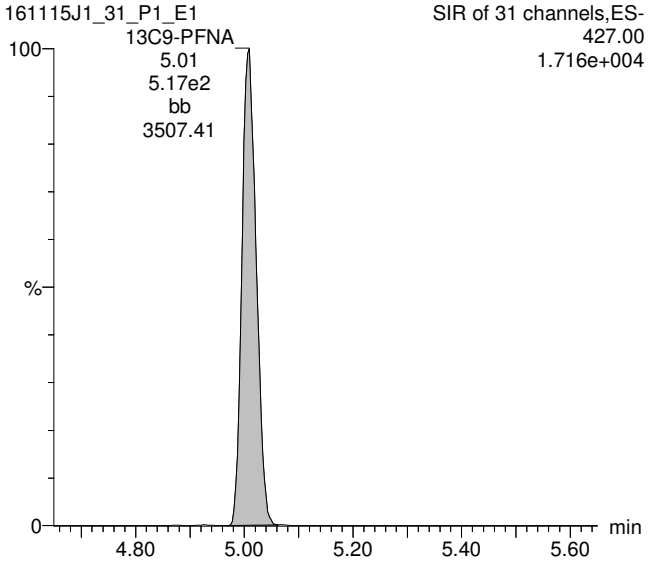
13C8-PFOA



13C4-PFOS



13C9-PFNA



pw 11/17/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ngLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:37:10 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:38:01 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	3	PFBS	79.90	3.896e4	5.686e2		0.124	3.40	4740		
2	5	PFHpA	318.90	8.581e4	7.969e2		0.124	4.28	12900		
3	6	PFHxS	79.91	1.917e5	8.953e1		0.124	4.40	33000		
4	8	PFOA	368.90	2.105e5	9.271e2		0.124	4.67	**		** See ug/L Targeting
5	9	PFNA	419.00	9.192e3	6.218e2		0.124	5.01	1650		
6	10	PFOS	79.92	2.733e5	1.260e2		0.124	5.07	175000		
7	15	13C3-PFBS	79.95	5.686e2	9.049e2	0.531	0.124	3.40	120	118	
8	16	13C2-PFHxA	269.90	4.809e2	9.049e2	0.905	0.124	3.79	59.4	147	
9	17	13C4-PFHpA	321.90	7.969e2	9.049e2	0.770	0.124	4.28	116	114	
10	18	18O2-PFHxS	102.90	8.953e1	2.074e2	0.276	0.124	4.39	158	156	H
11	19	13C2-6:2 FTS	408.90	1.672e4	9.076e2	0.219	0.124	4.63	8510	8430	
12	20	13C2-PFOA	369.90	9.271e2	9.076e2	0.663	0.124	4.67	156	154	H
13	21	13C5-PFNA	422.90	6.218e2	7.611e2	1.019	0.124	5.01	81.0	80.1	
14	22	13C8-PFOS	79.93	1.260e2	1.440e2	0.921	0.124	5.06	95.9	94.9	
15	25	13C4-PFBA	171.90	1.208e3	1.208e3	1.000	0.124	1.91	101	100	
16	26	13C5-PFHxA	273.00	9.049e2	9.049e2	1.000	0.124	3.79	101	100	
17	27	13C3-PFHxS	80.01	2.074e2	2.074e2	1.000	0.124	4.39	101	100	
18	28	13C8-PFOA	375.90	9.076e2	9.076e2	1.000	0.124	4.67	101	100	
19	29	13C4-PFOS	79.94	1.440e2	1.440e2	1.000	0.124	5.06	101	100	
20	30	13C9-PFNA	427.00	7.611e2	7.611e2	1.000	0.124	5.00	101	100	
21	31	13C6-PFDA	474.00	7.088e2	7.088e2	1.000	0.124	5.29	101	100	
22	32	Total PFBS	79.90		5.686e2		0.124		4740		
23	33	Total PFHxS	79.91		8.953e1		0.124		51300		
24	34	Total PFOA	368.90		9.271e2		0.124		58.9		
25	35	Total PFOS	79.92		1.260e2		0.124		471000		

Rev'd: MM 11/16/16 pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ngLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:37:10 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:38:01 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.40	38964.777	568.630	4742.6

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	33	Total PFHxS	79.91	4.30	82211.359	89.533	18283.1
2	6	PFHxS	79.91	4.40	191724.953	89.533	32971.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.67	210469.219	927.076	**
2	34	Total PFOA	368.90	4.58	49741.953	927.076	**
3	34	Total PFOA	368.90	4.46	702.147	927.076	58.9

** See ug/L Targeting

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	273287.031	125.983	17520...
2	35	Total PFOS	79.92	4.95	375960.938	125.983	24103...
3	35	Total PFOS	79.92	4.86	85249.250	125.983	54653.6

Vista Analytical Laboratory Q1

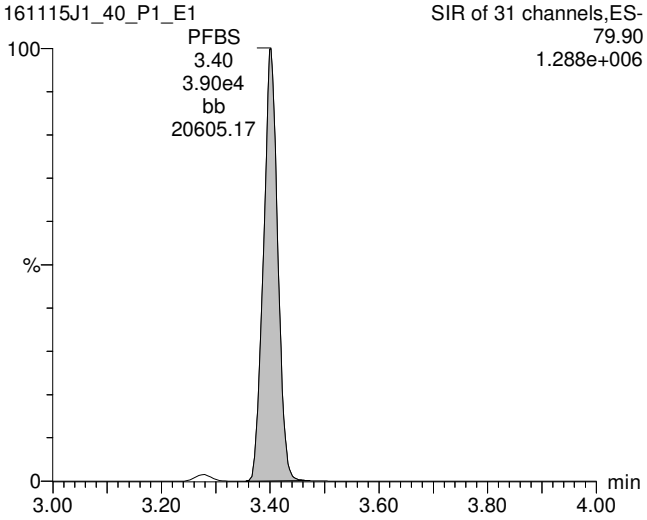
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ngLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:37:10 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:38:01 Pacific Standard Time

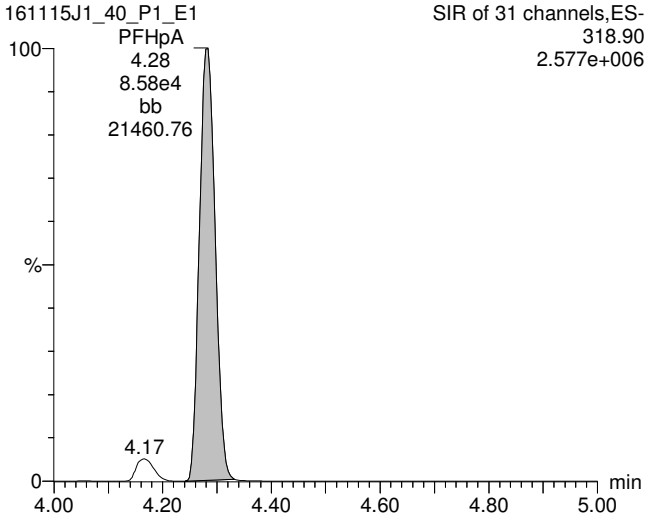
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05, Instrument: , Lab: ©PE-SCIEX, User: sciex

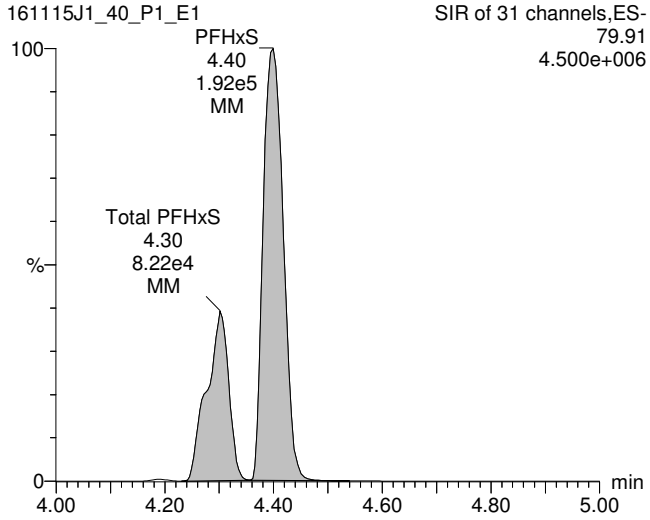
Total PFBS



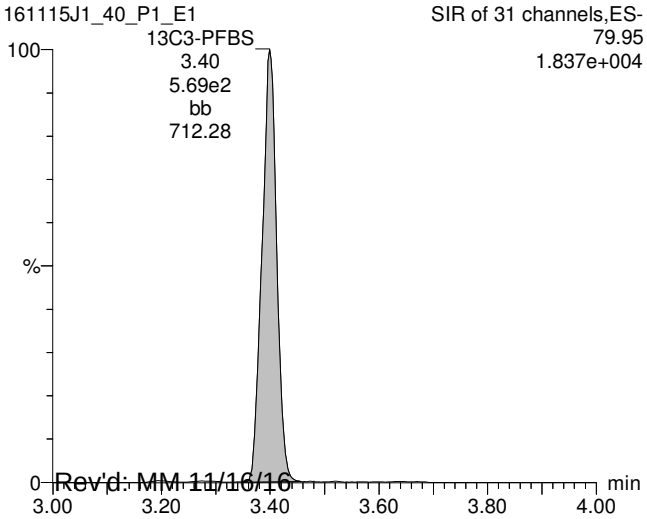
PFHpA



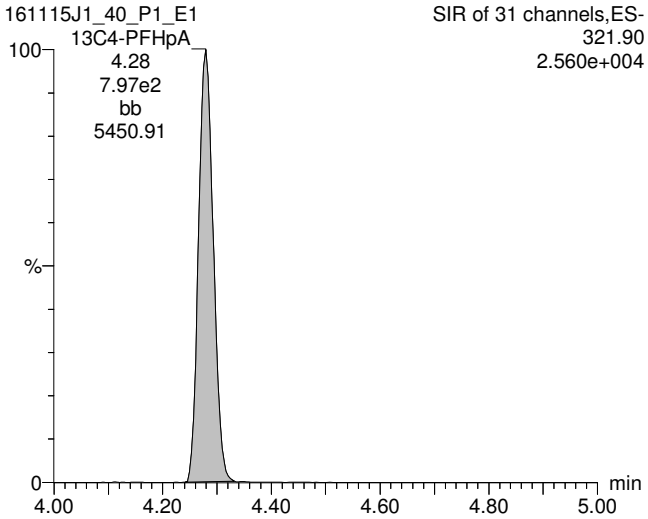
Total PFHxS



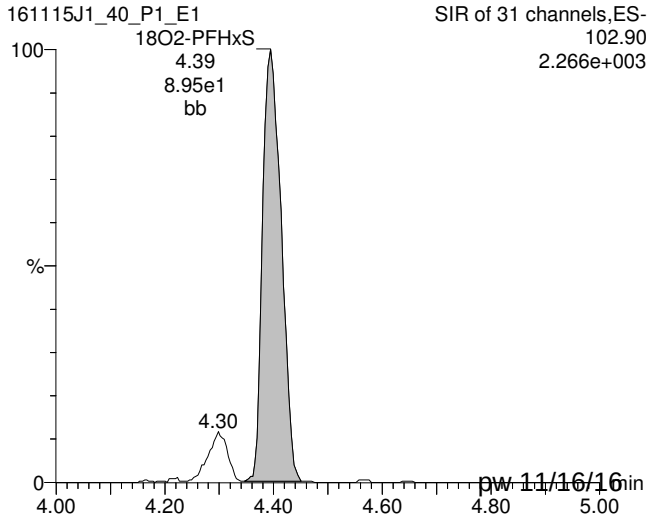
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



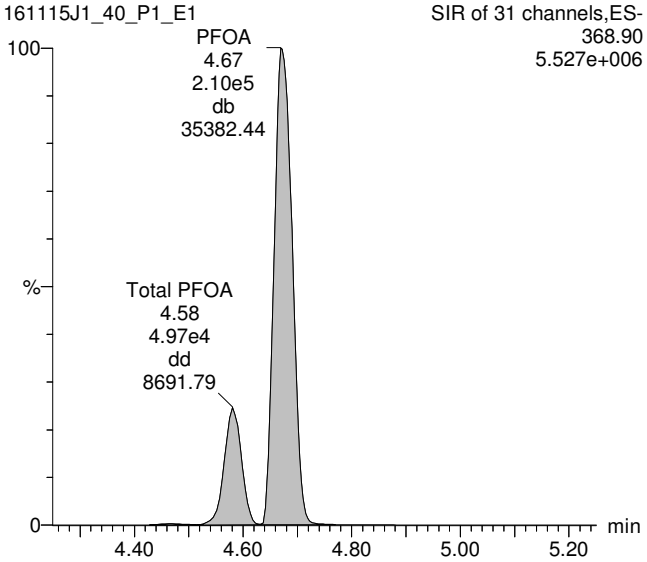
Rev'd: MM 11/16/16 pw 11/16/16

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ngLTarget.qld

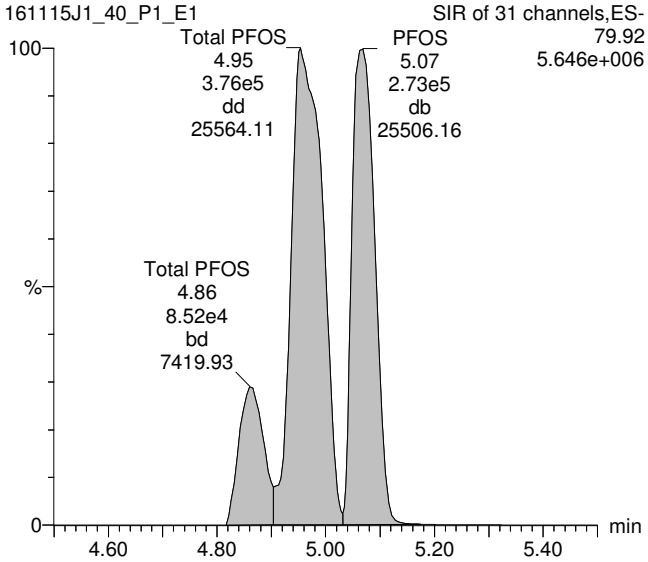
Last Altered: Wednesday, November 16, 2016 15:37:10 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:38:01 Pacific Standard Time

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05, Instrument: , Lab: ©PE-SCIEX, User: sciex

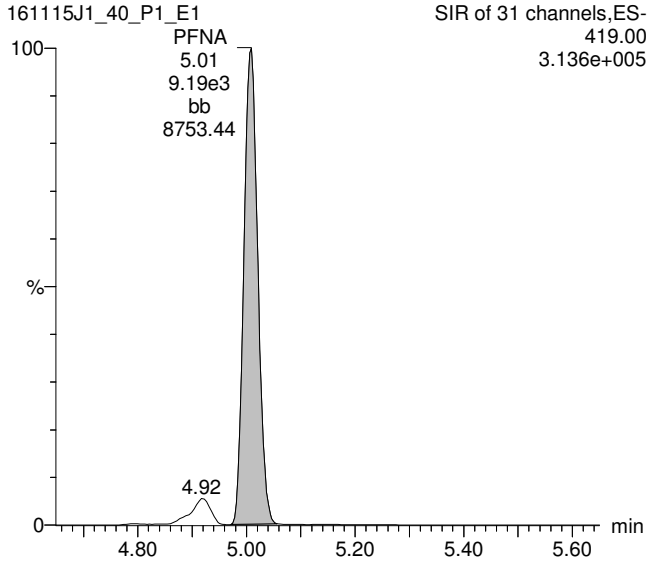
Total PFOA



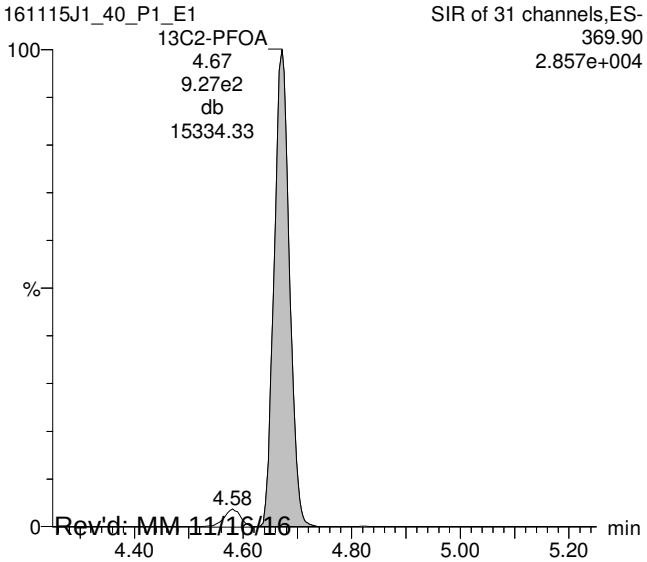
Total PFOS



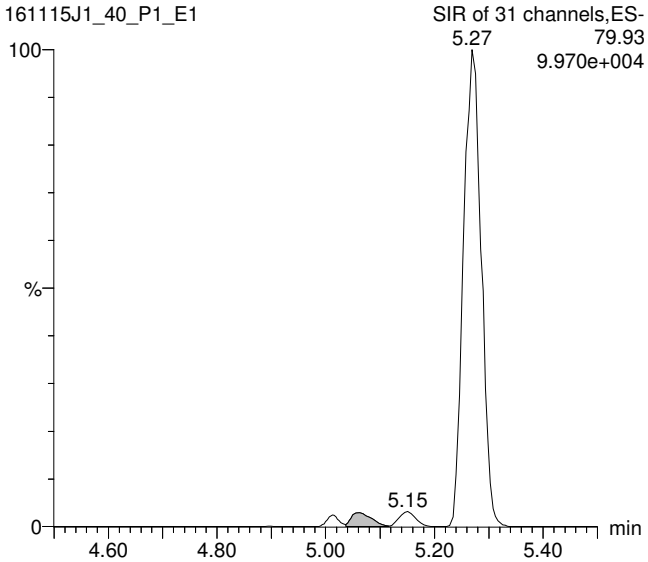
PFNA



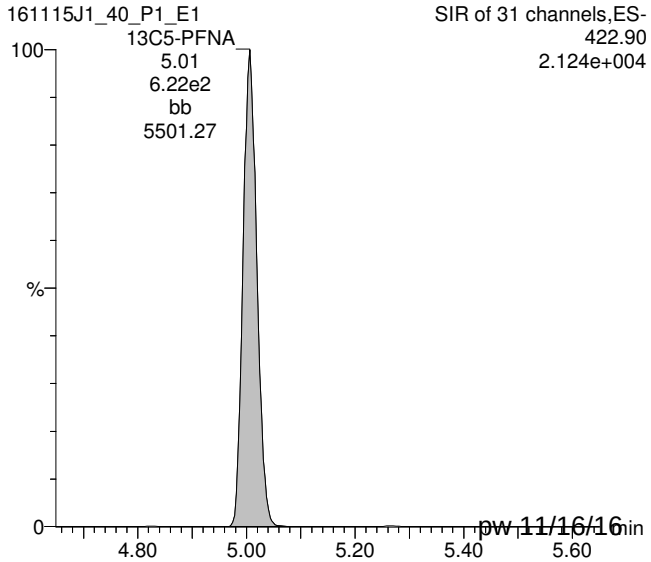
13C2-PFOA



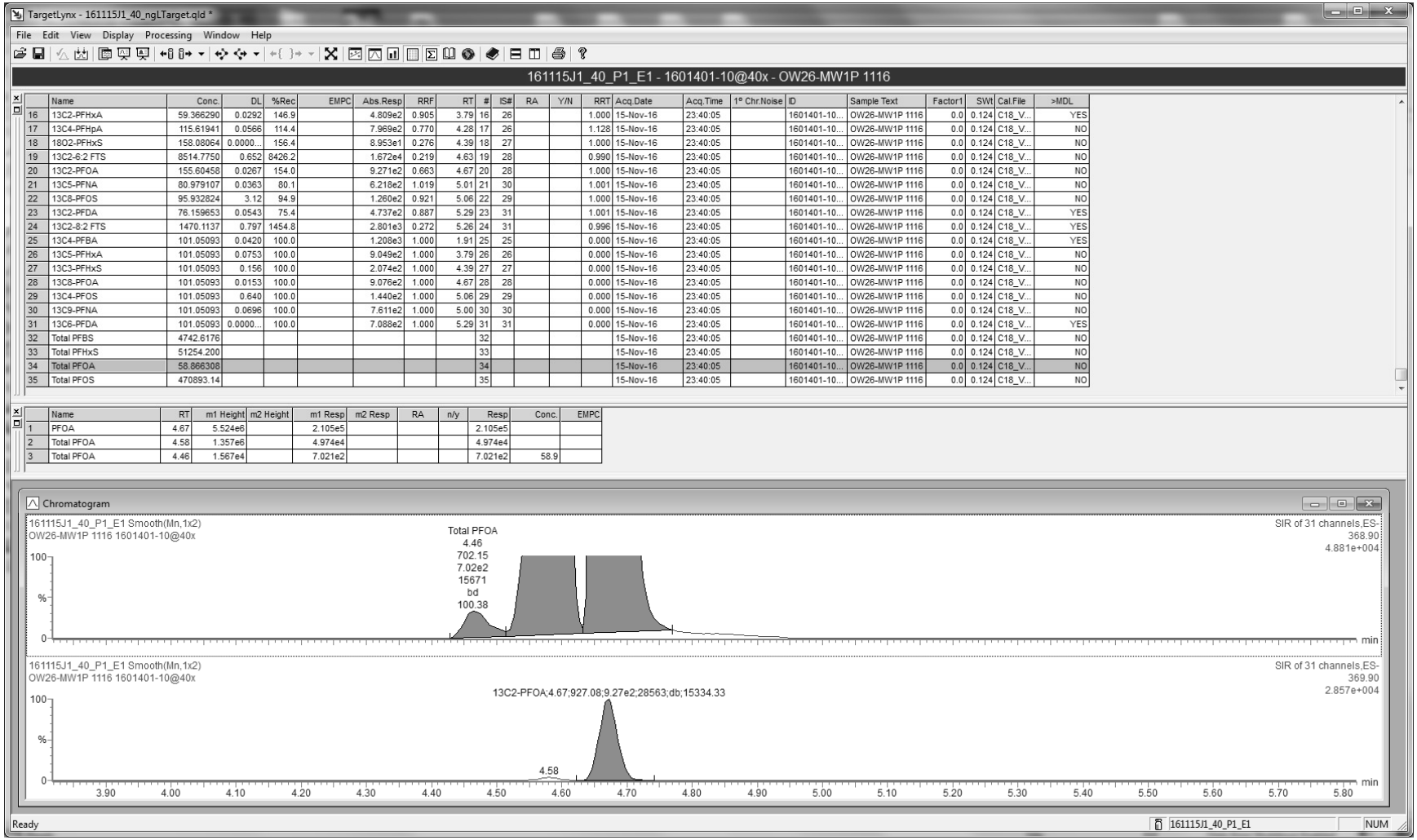
13C8-PFOS



13C5-PFNA

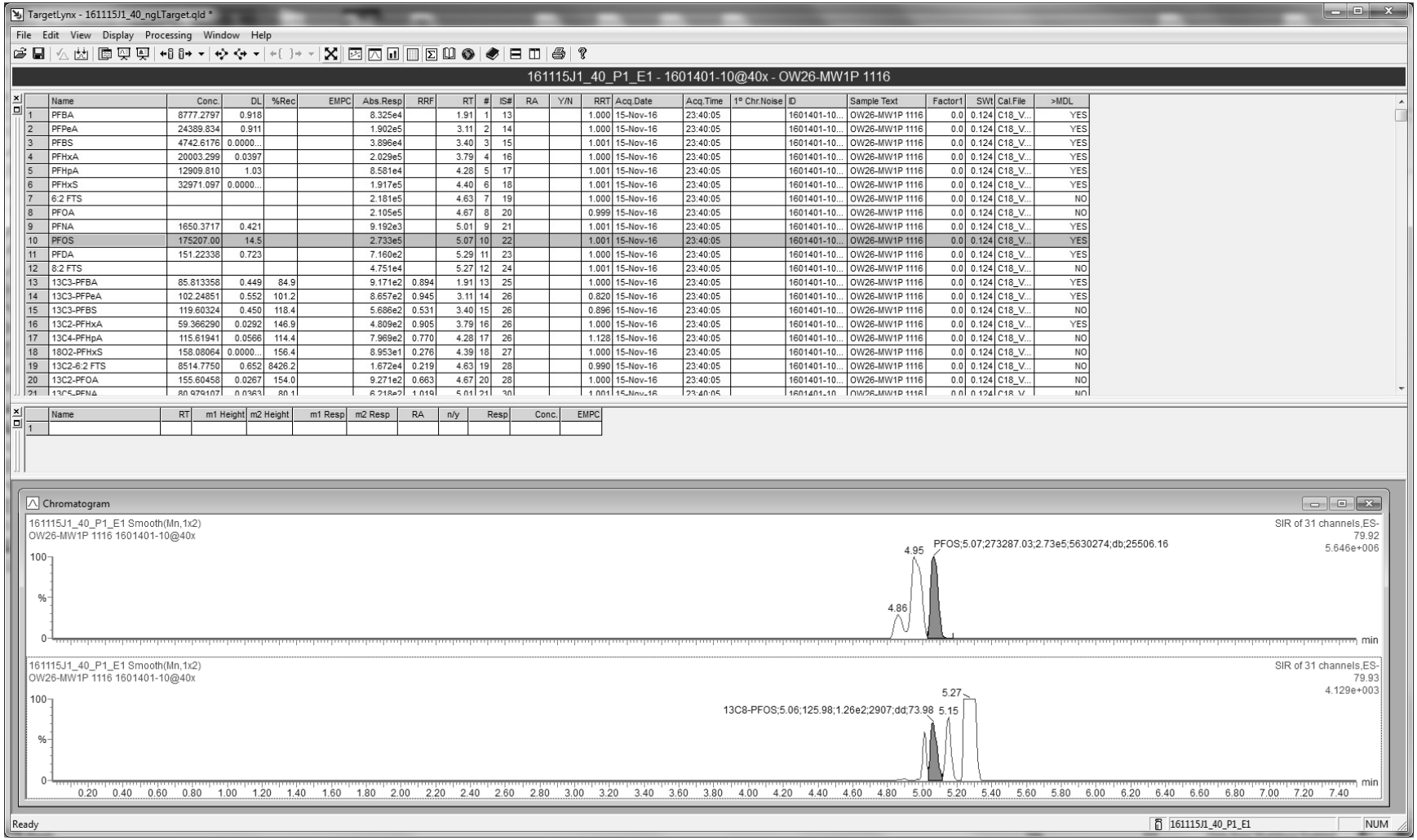


Rev'd: MM 11/16/16 pw 11/16/16



	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
16	13C2-PFHxA	59.366290	0.0292	146.9		4.809e2	0.905	3.79	16	26			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
17	13C4-PFHpA	115.61941	0.0566	114.4		7.969e2	0.770	4.28	17	26			1.128	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	158.08064	0.0000...	156.4		8.953e1	0.276	4.39	18	27			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8514.7750	0.652	8426.2		1.672e4	0.219	4.63	19	28			0.990	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	155.60458	0.0267	154.0		9.271e2	0.663	4.67	20	28			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	80.979107	0.0363	80.1		6.218e2	1.019	5.01	21	30			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
22	13C8-PFOS	95.932824	3.12	94.9		1.260e2	0.921	5.06	22	29			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
23	13C2-PFDA	76.159653	0.0543	75.4		4.737e2	0.887	5.29	23	31			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
24	13C2-8:2 FTS	1470.1137	0.797	1454.8		2.801e3	0.272	5.26	24	31			0.996	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
25	13C4-PFBA	101.05093	0.0420	100.0		1.208e3	1.000	1.91	25	25			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
26	13C5-PFHxA	101.05093	0.0753	100.0		9.049e2	1.000	3.79	26	26			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
27	13C3-PFHxS	101.05093	0.156	100.0		2.074e2	1.000	4.39	27	27			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
28	13C8-PFOA	101.05093	0.0153	100.0		9.076e2	1.000	4.67	28	28			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
29	13C4-PFOS	101.05093	0.640	100.0		1.440e2	1.000	5.06	29	29			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
30	13C9-PFNA	101.05093	0.0696	100.0		7.611e2	1.000	5.00	30	30			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
31	13C6-PFDA	101.05093	0.0000...	100.0		7.088e2	1.000	5.29	31	31			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
32	Total PFBS	4742.6176							32					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
33	Total PFHxS	51254.200							33					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
34	Total PFOA	58.866308							34					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
35	Total PFOS	470893.14							35					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1	PFOA	4.67	5.524e6		2.105e5				2.105e5		
2	Total PFOA	4.58	1.357e6		4.974e4				4.974e4		
3	Total PFOA	4.46	1.567e4		7.021e2				7.021e2	58.9	



	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
1	PFBA	8777.2797	0.918			8.325e4		1.91	1	13			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
2	PFPeA	24389.834	0.911			1.902e5		3.11	2	14			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
3	PFBS	4742.6176	0.0000...			3.896e4		3.40	3	15			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
4	PFHxA	20003.299	0.0397			2.029e5		3.79	4	16			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
5	PFHpA	12909.810	1.03			8.581e4		4.28	5	17			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
6	PFHxS	32971.097	0.0000...			1.917e5		4.40	6	18			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
7	6:2 FTS					2.181e5		4.63	7	19			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
8	PFOA					2.105e5		4.67	8	20			0.999	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
9	PFNA	1650.3717	0.421			9.192e3		5.01	9	21			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
10	PFOS	175207.00	14.5			2.733e5		5.07	10	22			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
11	PFDA	151.22338	0.723			7.160e2		5.29	11	23			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
12	8:2 FTS					4.751e4		5.27	12	24			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
13	13C3-PFBA	85.813358	0.449	84.9		9.171e2	0.894	1.91	13	25			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
14	13C3-PFPeA	102.24851	0.552	101.2		8.657e2	0.945	3.11	14	26			0.820	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
15	13C3-PFBS	119.60324	0.450	118.4		5.686e2	0.531	3.40	15	26			0.896	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
16	13C2-PFHxA	59.366290	0.0292	146.9		4.809e2	0.905	3.79	16	26			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	YES
17	13C4-PFHpA	115.61941	0.0566	114.4		7.969e2	0.770	4.28	17	26			1.128	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	158.08064	0.0000...	156.4		8.953e1	0.276	4.39	18	27			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8514.7750	0.652	8426.2		1.672e4	0.219	4.63	19	28			0.990	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	155.60458	0.0267	154.0		9.271e2	0.663	4.67	20	28			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	80.979107	0.0363	80.1		6.218e2	1.019	5.01	21	30			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO

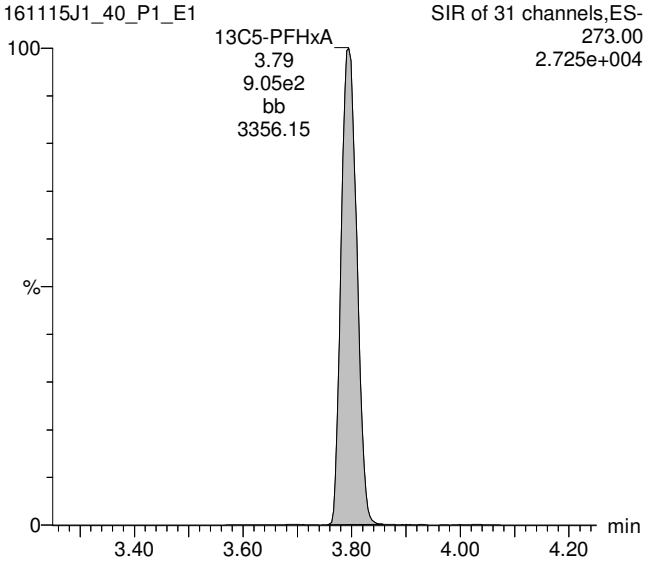
	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1											

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ngLTarget.qld

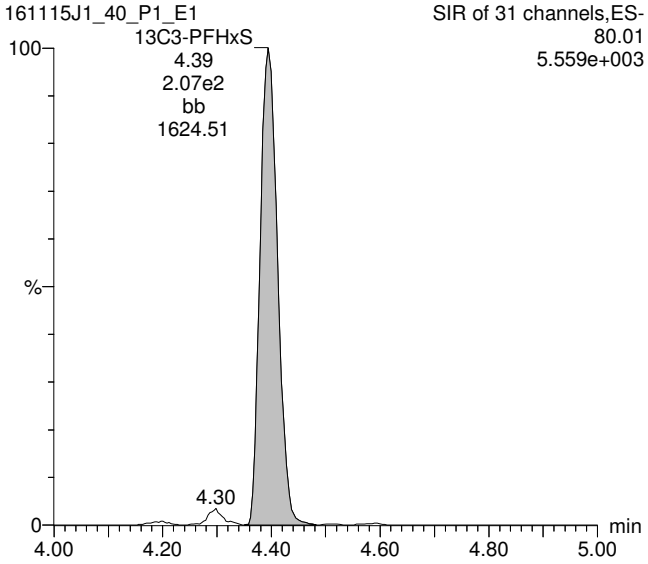
Last Altered: Wednesday, November 16, 2016 15:37:10 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:38:01 Pacific Standard Time

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05, Instrument: , Lab: ©PE-SCIEX, User: sciex

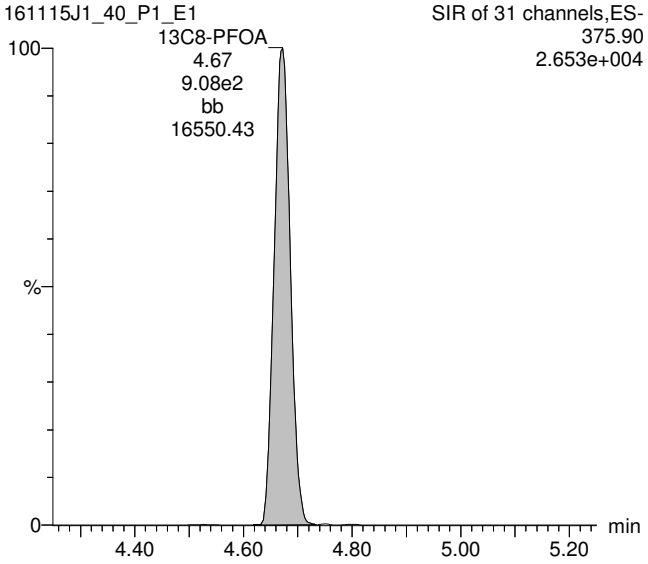
13C5-PFHxA



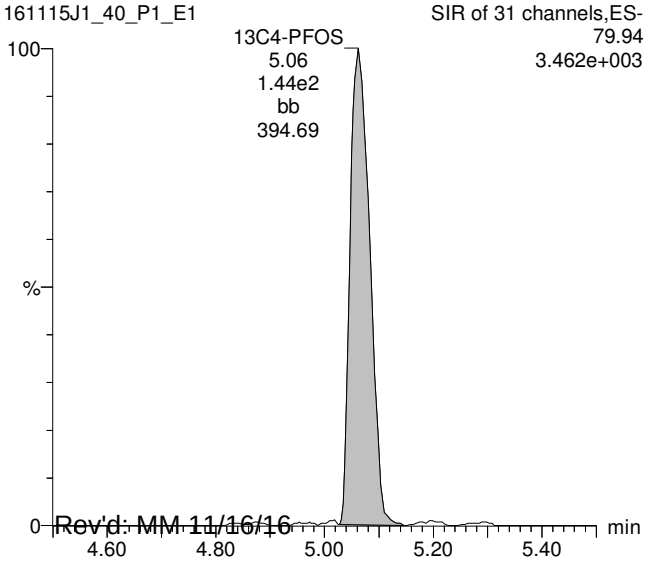
13C3-PFHxS



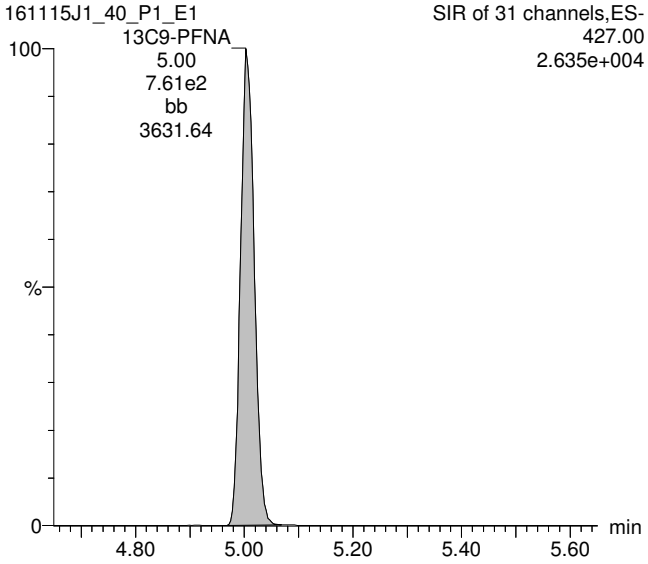
13C8-PFOA



13C4-PFOS



13C9-PFNA



Rev'd: MM 11/16/16

pw 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ugLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:29:57 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:11:29 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	8	PFOA	368.90	2.109e5	9.271e2		0.124	4.67	17.3	
2	20	13C2-PFOA	369.90	9.271e2	9.076e2	0.663	0.124	4.67	0.156	154
3	28	13C8-PFOA	375.90	9.076e2	9.076e2	1.000	0.124	4.67	0.101	100
4	34	Total PFOA	368.90		9.271e2		0.124		21.2	

Target = ug/L

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ugLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:29:57 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:11:29 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.40	38964.777	568.630	7.7

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	33	Total PFHxS	79.91	4.30	82211.359	89.533	28.7
2	6	PFHxS	79.91	4.40	191724.953	89.533	66.9

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.67	210860.734	927.076	17.3
2	34	Total PFOA	368.90	4.58	49848.973	927.076	3.9
3	34	Total PFOA	368.90	4.46	702.147	927.076	**

** See ng/L Target

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	273287.031	125.983	174.4
2	35	Total PFOS	79.92	4.95	375960.938	125.983	240.2
3	35	Total PFOS	79.92	4.86	85249.250	125.983	53.9

Vista Analytical Laboratory Q1

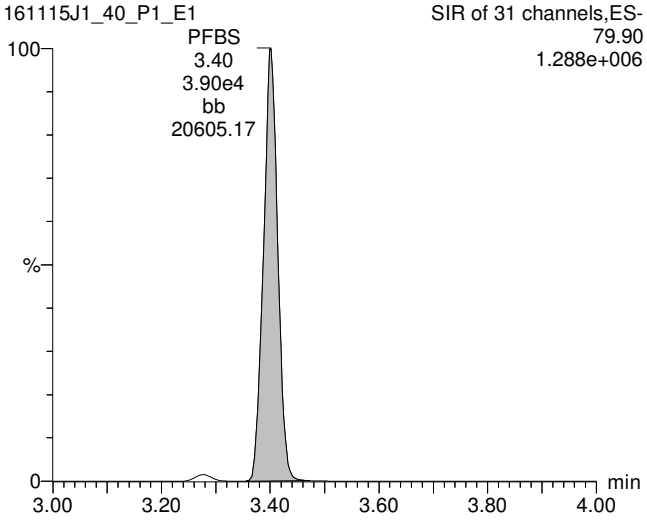
Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ugLTarget.qld

Last Altered: Wednesday, November 16, 2016 15:29:57 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:11:29 Pacific Standard Time

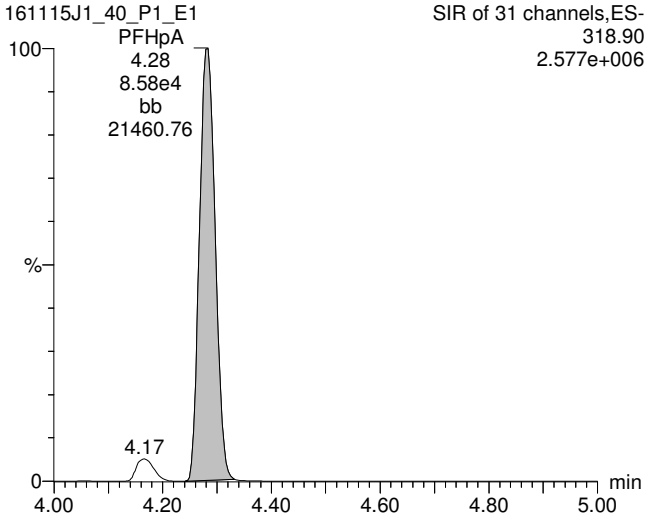
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 16 Nov 2016 11:00:11
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05, Instrument: , Lab: ©PE-SCIEX, User: sciex

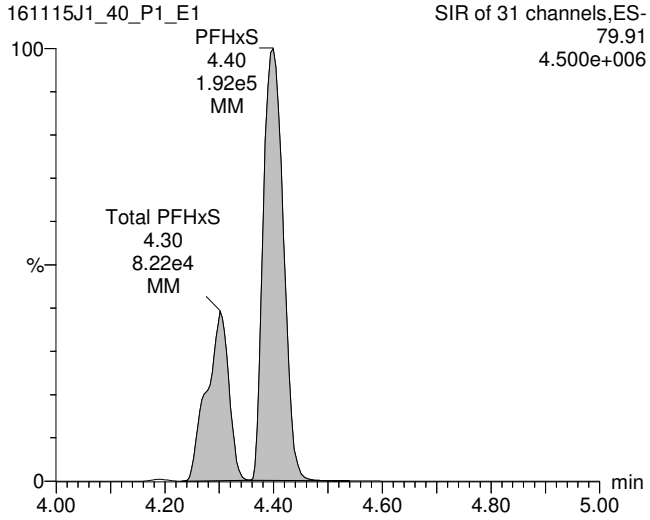
Total PFBS



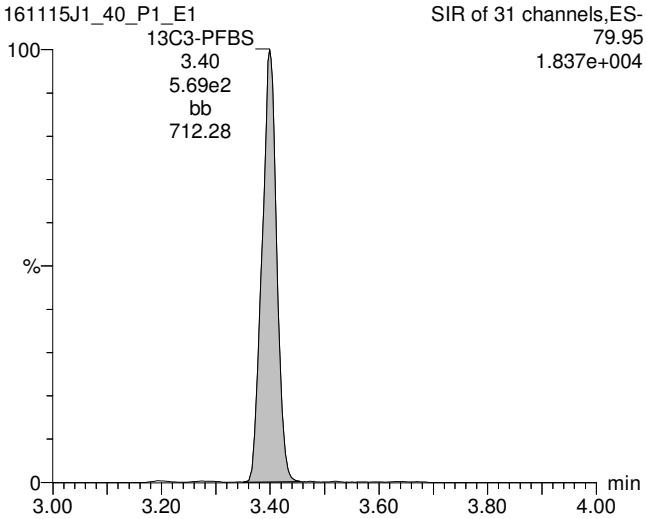
PFHpA



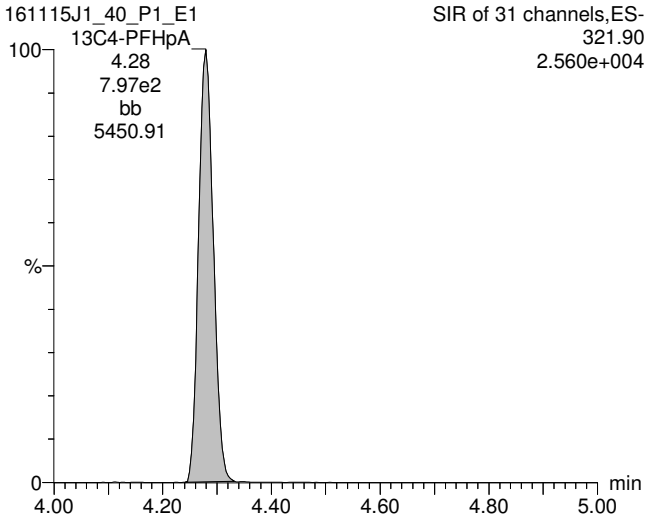
Total PFHxS



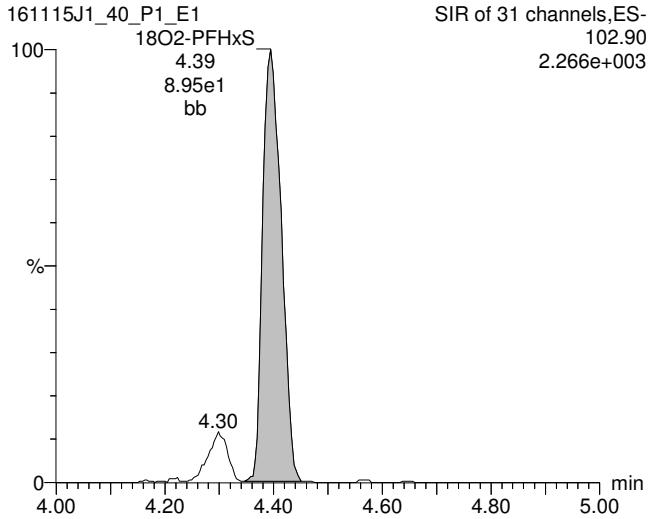
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



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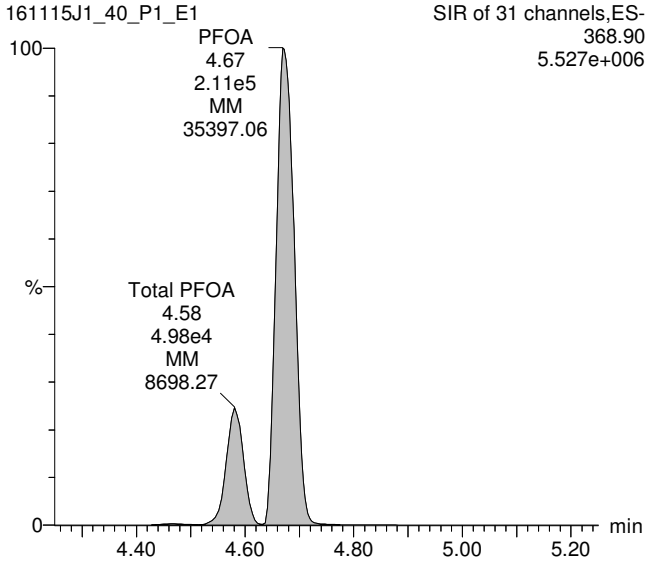
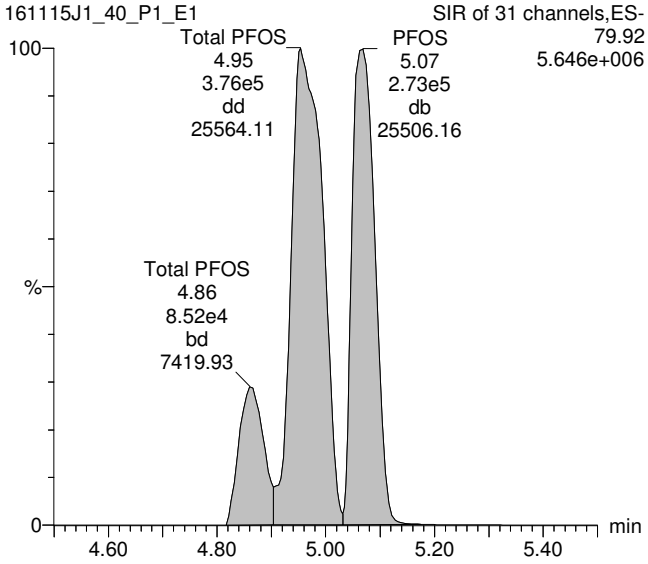
Last Altered: Wednesday, November 16, 2016 15:29:57 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:11:29 Pacific Standard Time

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05, Instrument: , Lab: ©PE-SCIEX, User: sciex

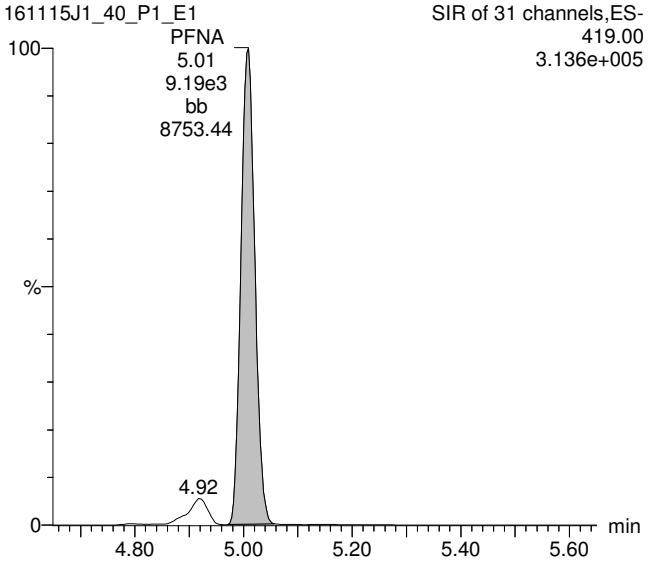
Total PFOA



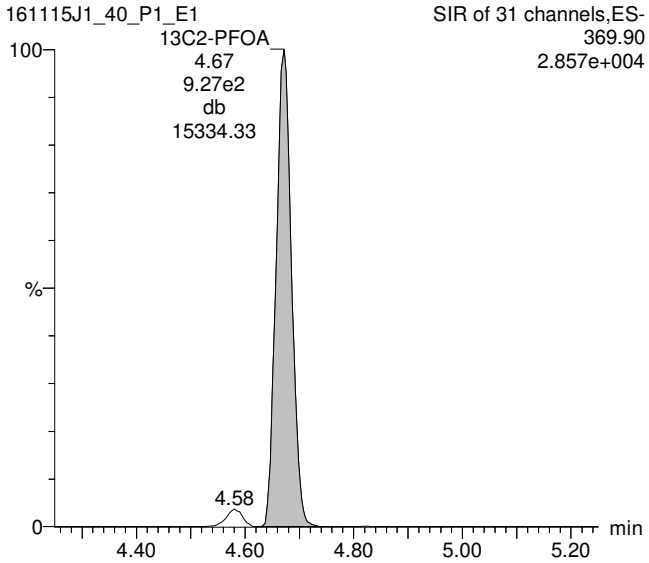
Total PFOS



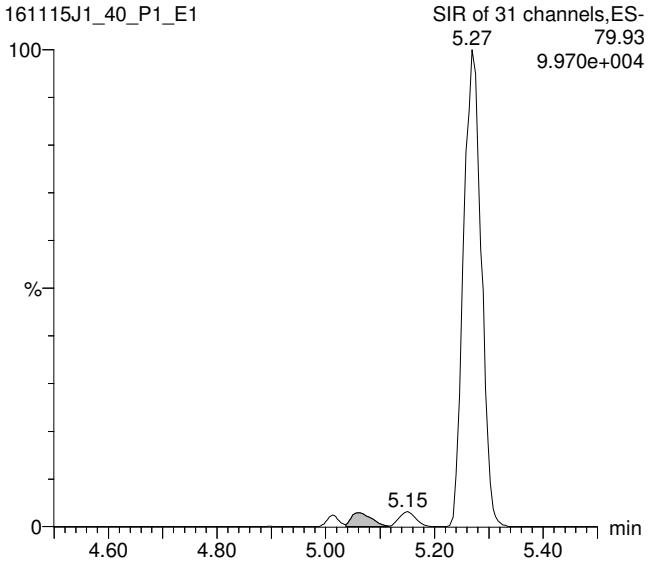
PFNA



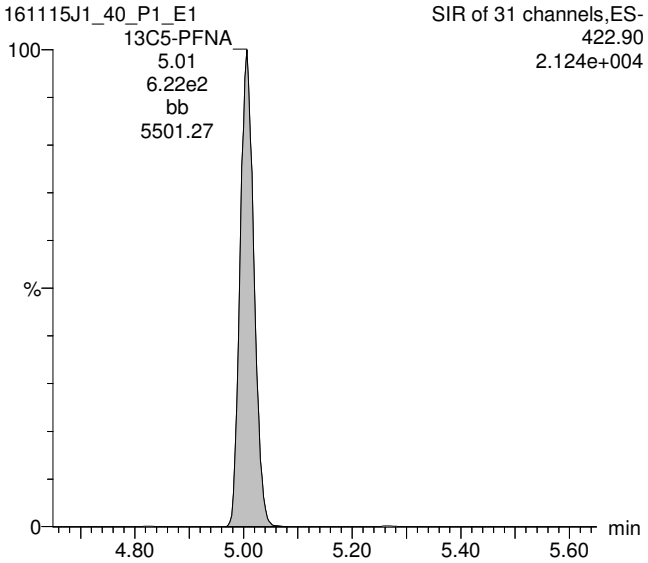
13C2-PFOA

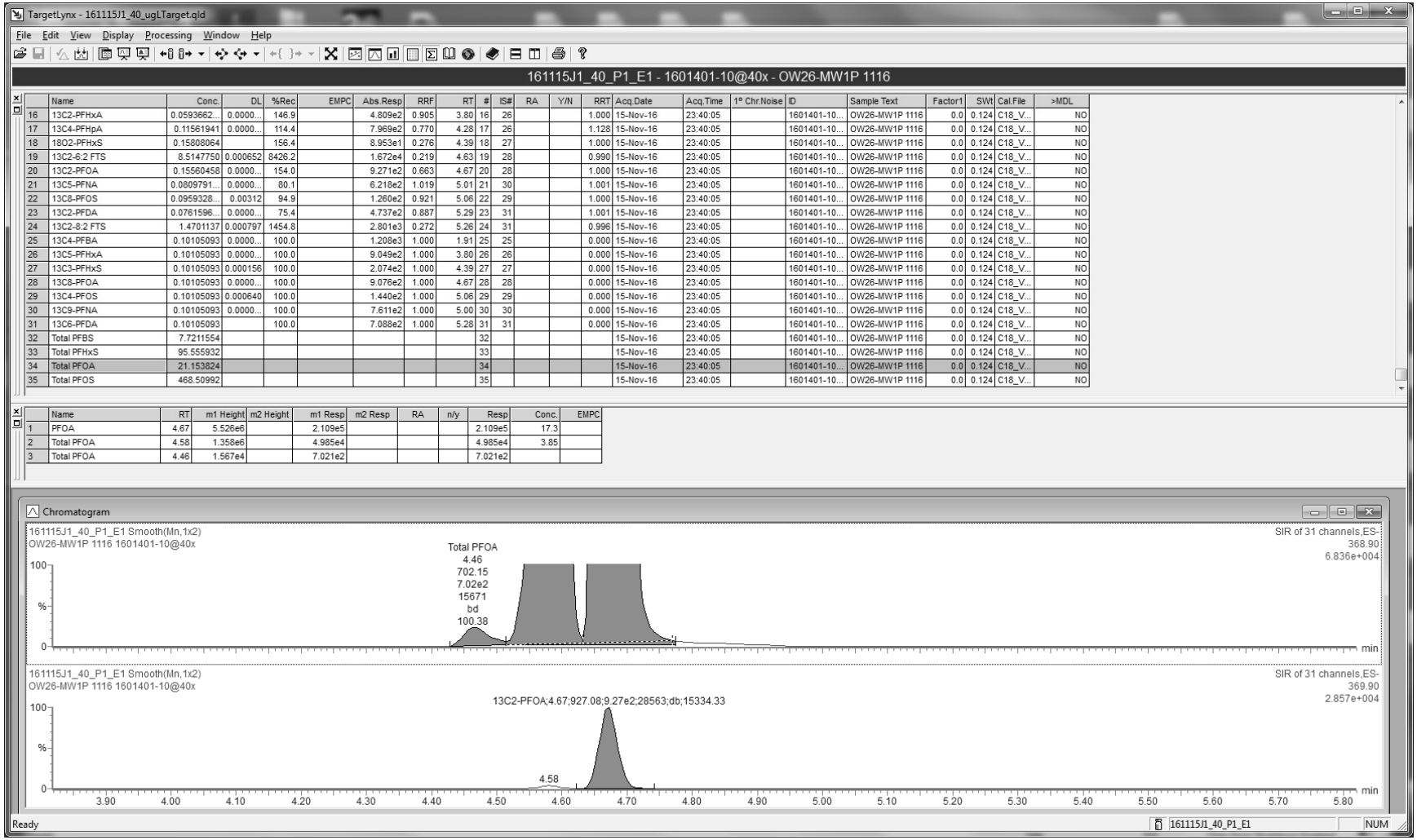


13C8-PFOS



13C5-PFNA





	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1° Chr.Noise	ID	Sample Text	Factor1	SWt	Cal.File	>MDL
16	13C2-PFHxA	0.0593662...	0.0000...	146.9		4.809e2	0.905	3.80	16	26			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
17	13C4-PFHpA	0.11561941	0.0000...	114.4		7.969e2	0.770	4.28	17	26			1.128	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
18	18O2-PFHxS	0.15808064		156.4		8.953e1	0.276	4.39	18	27			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
19	13C2-6:2 FTS	8.5147750	0.000652	8426.2		1.672e4	0.219	4.63	19	28			0.990	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
20	13C2-PFOA	0.15560458	0.0000...	154.0		9.271e2	0.663	4.67	20	28			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
21	13C5-PFNA	0.0809791...	0.0000...	80.1		6.218e2	1.019	5.01	21	30			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
22	13C8-PFOS	0.0959328...	0.00312	94.9		1.260e2	0.921	5.06	22	29			1.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
23	13C2-PFDA	0.0761596...	0.0000...	75.4		4.737e2	0.887	5.29	23	31			1.001	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
24	13C2-8:2 FTS	1.4701137	0.000797	1454.8		2.801e3	0.272	5.26	24	31			0.996	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
25	13C4-PFBA	0.10105093	0.0000...	100.0		1.208e3	1.000	1.91	25	25			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
26	13C5-PFHxA	0.10105093	0.0000...	100.0		9.049e2	1.000	3.80	26	26			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
27	13C3-PFHxS	0.10105093	0.000156	100.0		2.074e2	1.000	4.39	27	27			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
28	13C8-PFOA	0.10105093	0.0000...	100.0		9.076e2	1.000	4.67	28	28			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
29	13C4-PFOS	0.10105093	0.000640	100.0		1.440e2	1.000	5.06	29	29			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
30	13C9-PFNA	0.10105093	0.0000...	100.0		7.611e2	1.000	5.00	30	30			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
31	13C6-PFDA	0.10105093		100.0		7.088e2	1.000	5.28	31	31			0.000	15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
32	Total PFBS	7.7211554							32					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
33	Total PFHxS	95.555932							33					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
34	Total PFOA	21.153824							34					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO
35	Total PFOS	468.50992							35					15-Nov-16	23:40:05		1601401-10...	OW26-MW1P 1116	0.0	0.124	C18_V...	NO

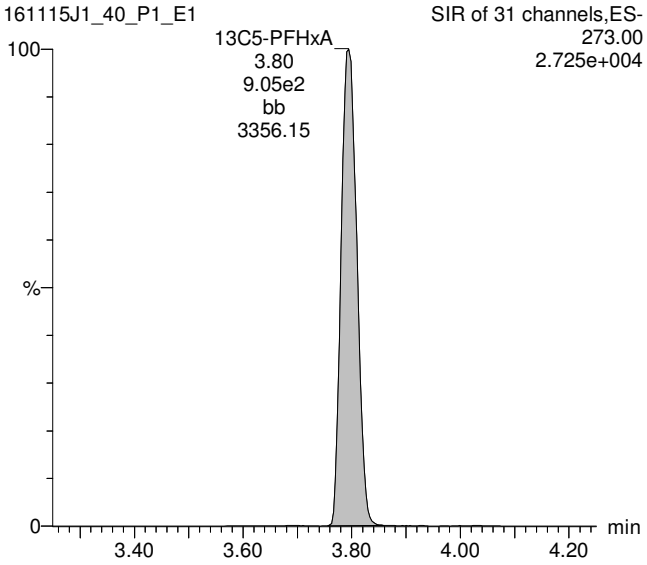
	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1	PFOA	4.67	5.526e6		2.109e5				2.109e5	17.3	
2	Total PFOA	4.58	1.358e6		4.985e4				4.985e4	3.85	
3	Total PFOA	4.46	1.567e4		7.021e2				7.021e2		

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_40_ugLTarget.qld

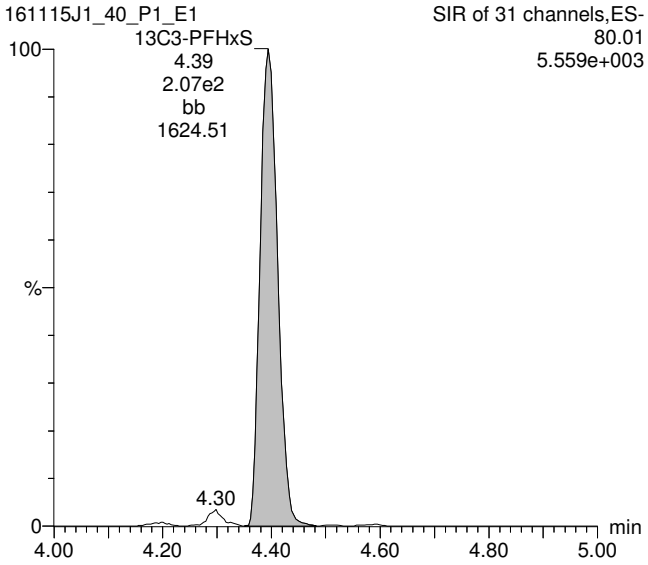
Last Altered: Wednesday, November 16, 2016 15:29:57 Pacific Standard Time
Printed: Thursday, November 17, 2016 09:11:29 Pacific Standard Time

ID: 1601401-10@40x, Description: OW26-MW1P 1116, Name: 161115J1_40.wiff, Date: 15-Nov-2016, Time: 23:40:05, Instrument: , Lab: ©PE-SCIEX, User: sciex

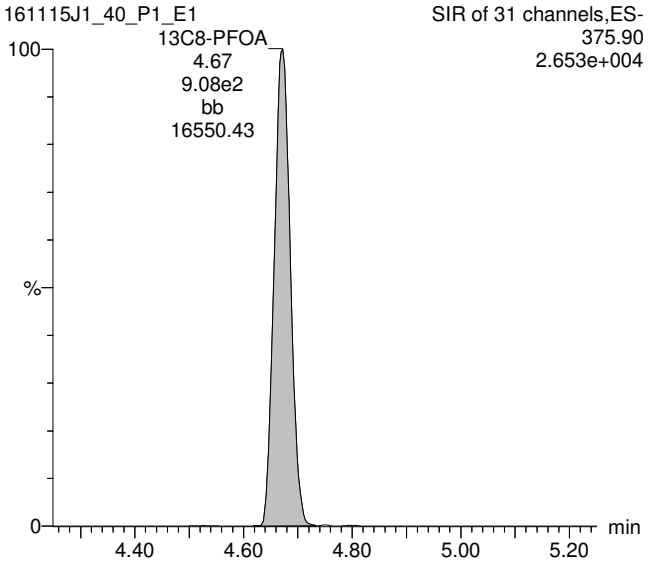
13C5-PFHxA



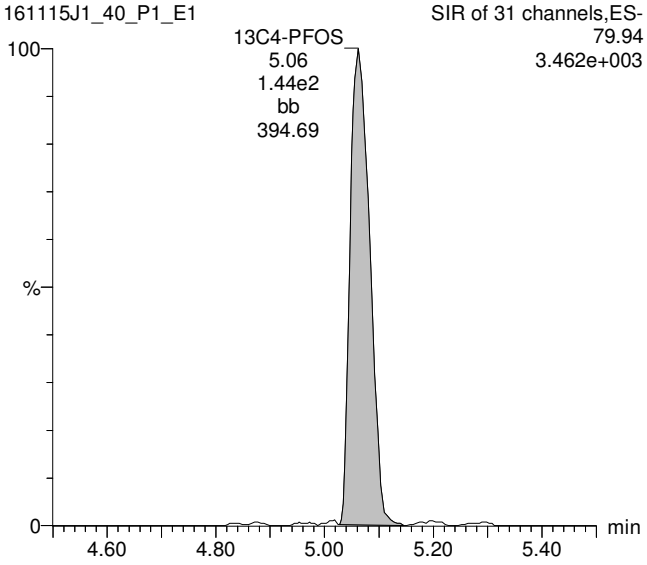
13C3-PFHxS



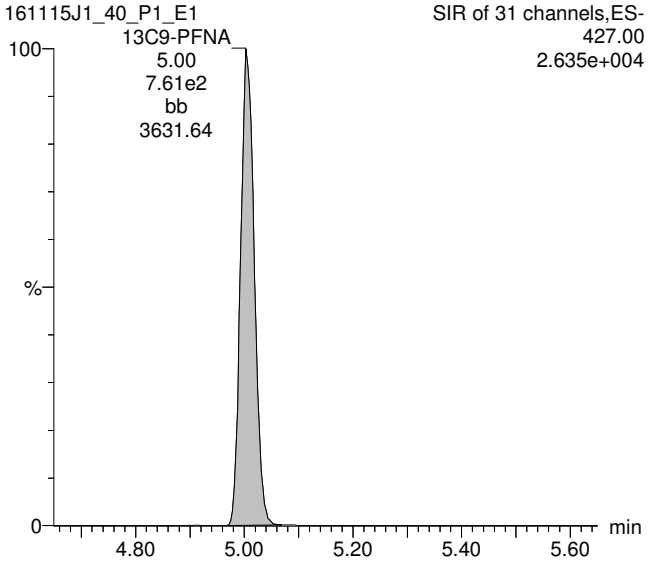
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_54.qld

Last Altered: Wednesday, November 16, 2016 10:30:04 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:30:51 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-11, Description: OC-FB-110216, Name: 161114J2_54.wiff, Date: 15-Nov-2016, Time: 02:51:20

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	2.240e0	5.895e3		0.125	3.43		
2	5	PFHpA	318.90	8.160e0	6.942e3		0.125	4.29		
3	6	PFHxS	79.91	2.264e1	1.207e3		0.125	4.41	0.478	
4	8	PFOA	368.90	8.085e1	6.300e3		0.125	4.68	0.691	
5	9	PFNA	419.00		5.225e3		0.125			
6	10	PFOS	79.92	1.149e1	3.475e3		0.125	5.07		
7	15	13C3-PFBS	79.95	5.895e3	1.146e4	0.531	0.125	3.42	97.0	96.9
8	16	13C2-PFHxA	269.90	3.653e3	1.146e4	0.905	0.125	3.81	35.3	88.1
9	17	13C4-PFHpA	321.90	6.942e3	1.146e4	0.770	0.125	4.29	78.8	78.7
10	18	18O2-PFHxS	102.90	1.207e3	4.901e3	0.276	0.125	4.41	89.3	89.2
11	19	13C2-6:2 FTS	408.90	1.783e3	1.176e4	0.219	0.125	4.64	69.4	69.3
12	20	13C2-PFOA	369.90	6.300e3	1.176e4	0.663	0.125	4.68	80.8	80.7
13	21	13C5-PFNA	422.90	5.225e3	6.705e3	1.019	0.125	5.01	76.5	76.4
14	22	13C8-PFOS	79.93	3.475e3	4.092e3	0.921	0.125	5.06	92.3	92.2
15	26	13C5-PFHxA	273.00	1.146e4	1.146e4	1.000	0.125	3.81	100	100
16	27	13C3-PFHxS	80.01	4.901e3	4.901e3	1.000	0.125	4.41	100	100
17	28	13C8-PFOA	375.90	1.176e4	1.176e4	1.000	0.125	4.68	100	100
18	29	13C4-PFOS	79.94	4.092e3	4.092e3	1.000	0.125	5.06	100	100
19	30	13C9-PFNA	427.00	6.705e3	6.705e3	1.000	0.125	5.00	100	100
20	31	13C6-PFDA	474.00	5.861e3	5.861e3	1.000	0.125	5.29	100	100
21	32	Total PFBS	79.90		5.895e3		0.125			
22	33	Total PFHxS	79.91		1.207e3		0.125		0.478	
23	34	Total PFOA	368.90		6.300e3		0.125		0.691	
24	35	Total PFOS	79.92		3.475e3		0.125			

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_54.qld

Last Altered: Wednesday, November 16, 2016 10:30:04 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:30:51 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-11, Description: OC-FB-110216, Name: 161114J2_54.wiff, Date: 15-Nov-2016, Time: 02:51:20

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.43	2.240	5895.052	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	22.643	1207.095	0.5

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.68	80.846	6299.965	0.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.07	11.486	3474.893	
2	35	Total PFOS	79.92	4.99	9.199	3474.893	
3	35	Total PFOS	79.92	4.97	13.110	3474.893	

Vista Analytical Laboratory Q1

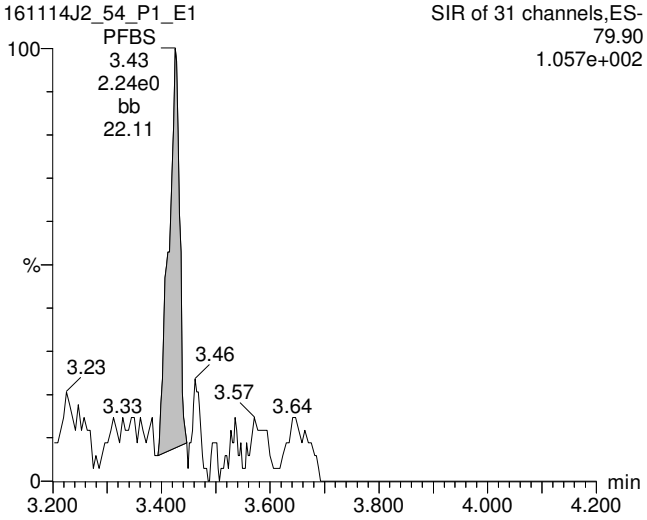
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_54.qld

Last Altered: Wednesday, November 16, 2016 10:30:04 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:30:51 Pacific Standard Time

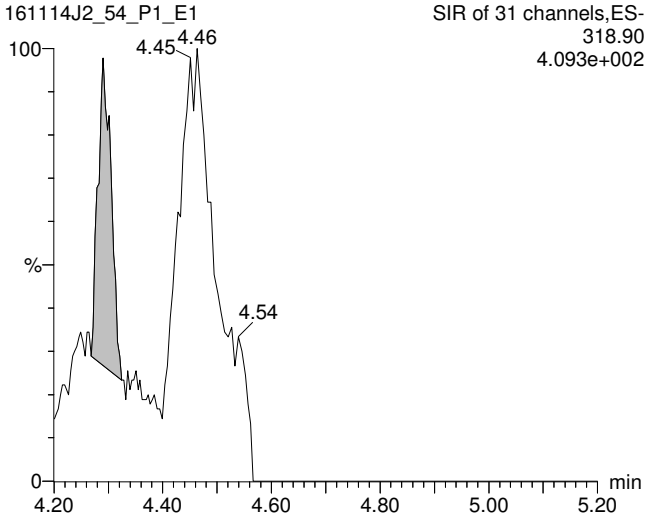
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-11, Description: OC-FB-110216, Name: 161114J2_54.wiff, Date: 15-Nov-2016, Time: 02:51:20, Instrument: , Lab: ©PE-SCIEX, User: sciex

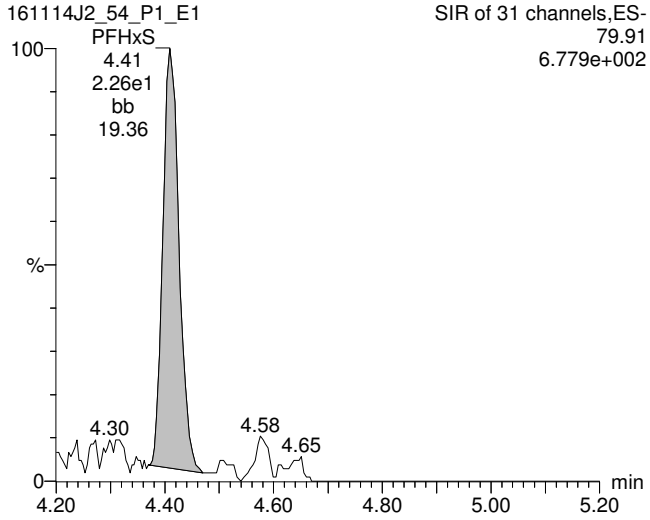
Total PFBS



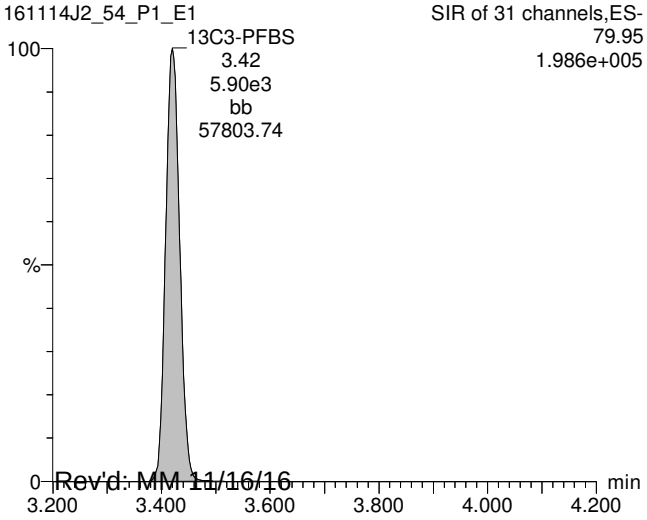
PFHpA



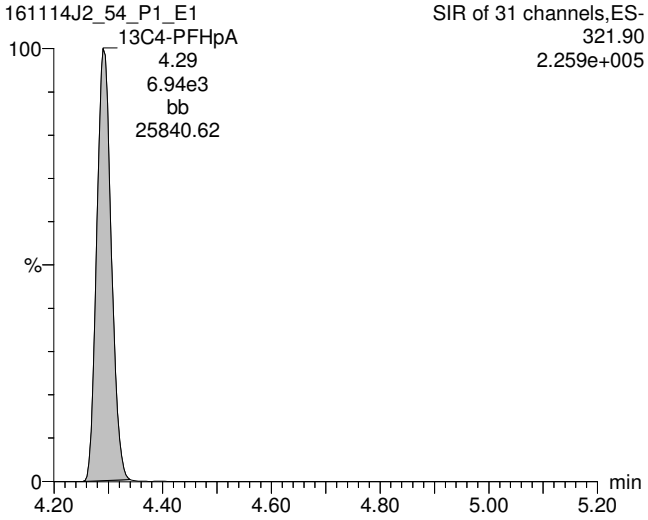
Total PFHxS



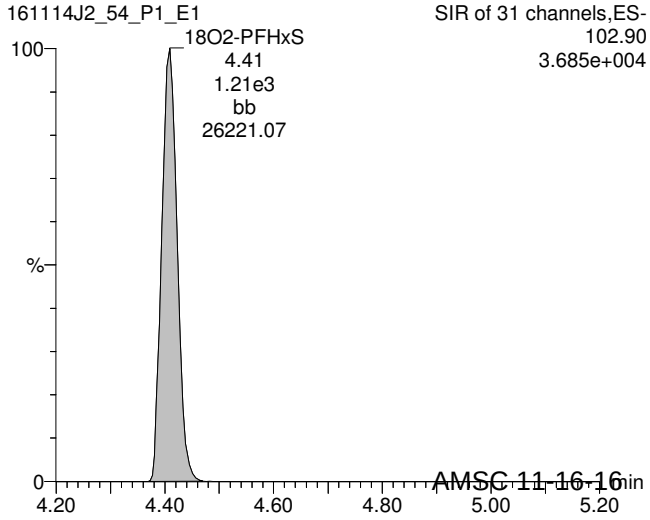
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



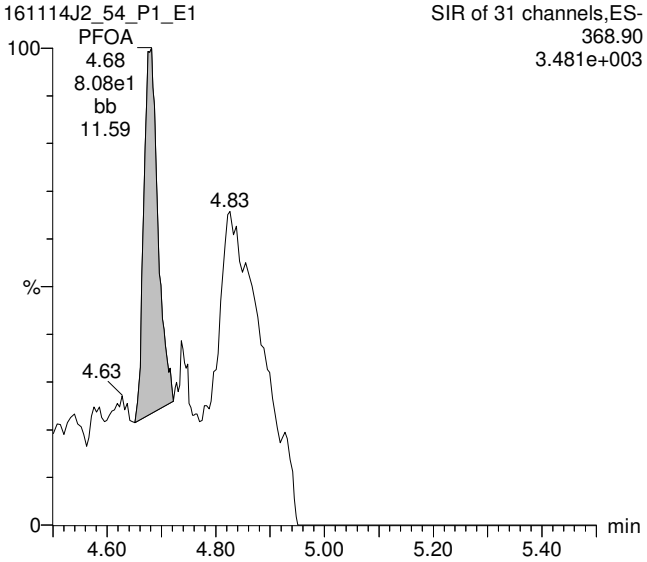
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_54.qld

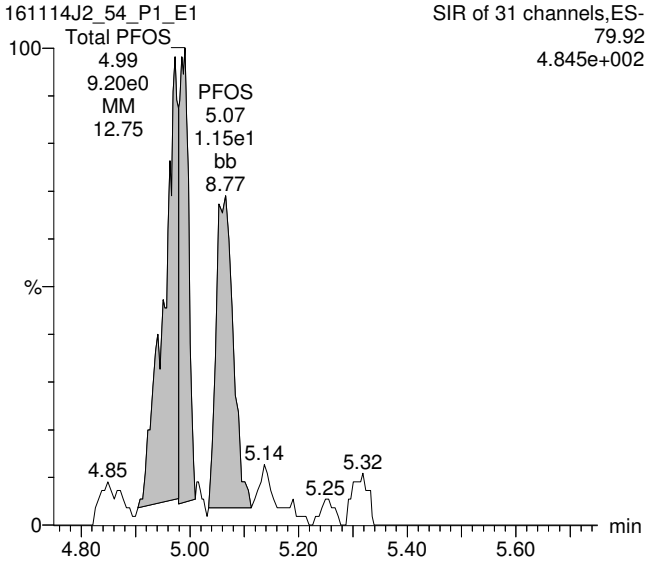
Last Altered: Wednesday, November 16, 2016 10:30:04 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:30:51 Pacific Standard Time

ID: 1601401-11, Description: OC-FB-110216, Name: 161114J2_54.wiff, Date: 15-Nov-2016, Time: 02:51:20, Instrument: , Lab: ©PE-SCIEX, User: sciex

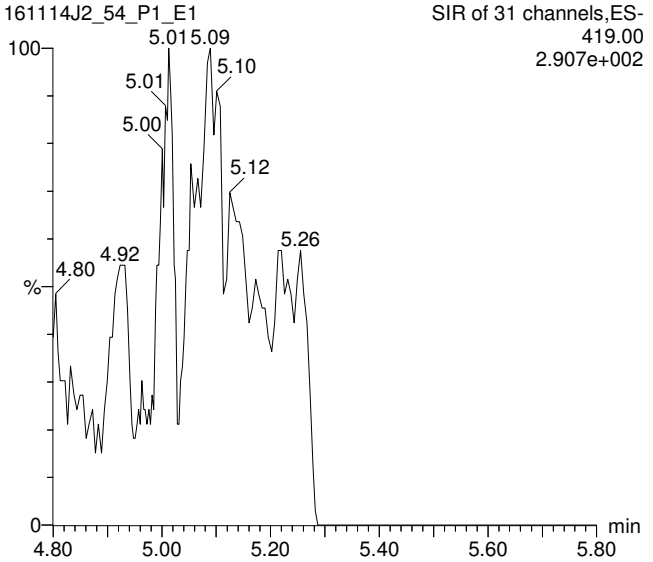
Total PFOA



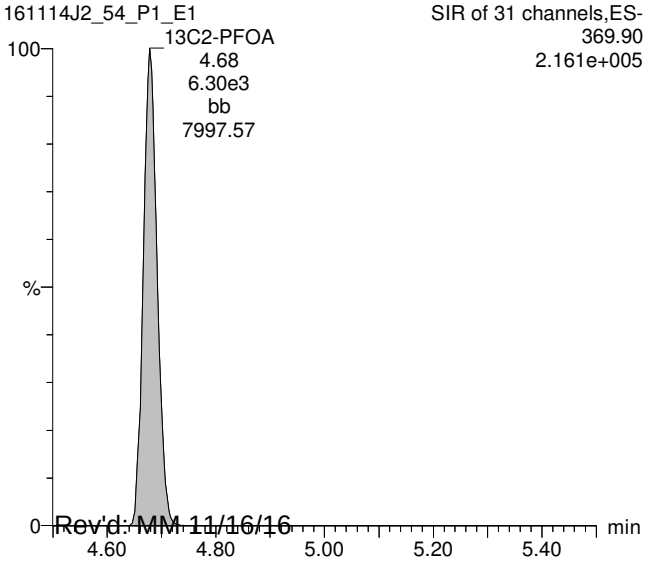
Total PFOS



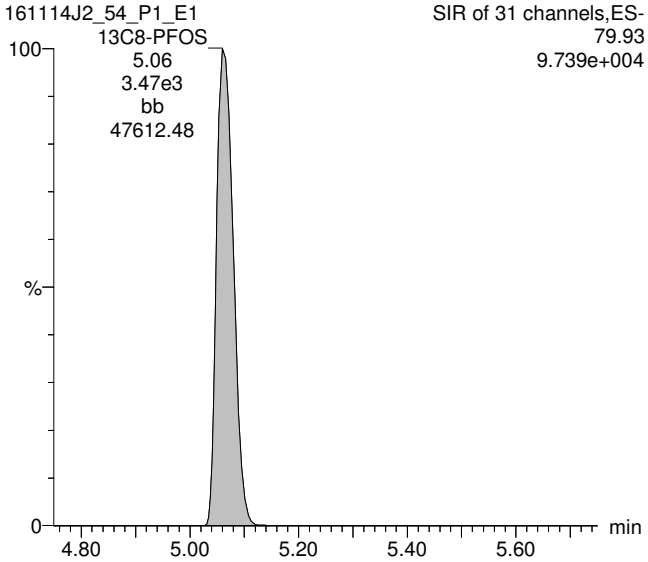
PFNA



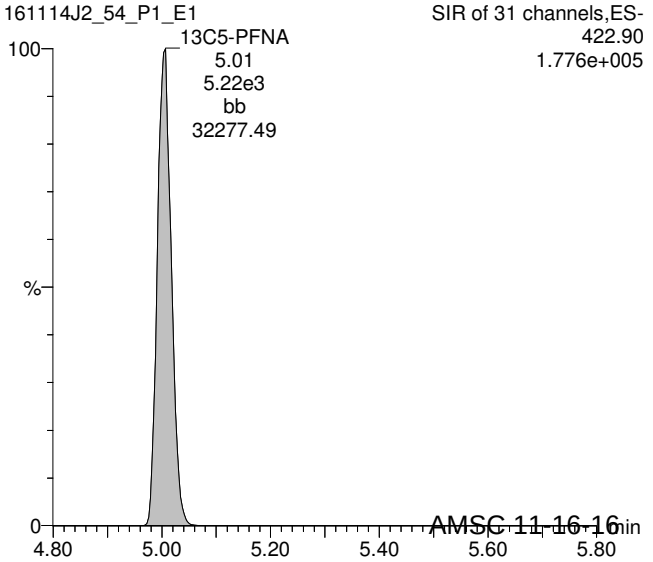
13C2-PFOA



13C8-PFOS



13C5-PFNA



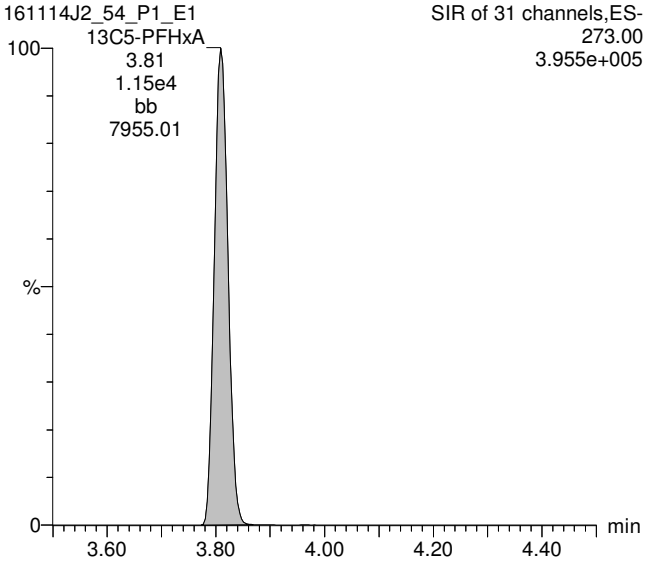
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_54.qld

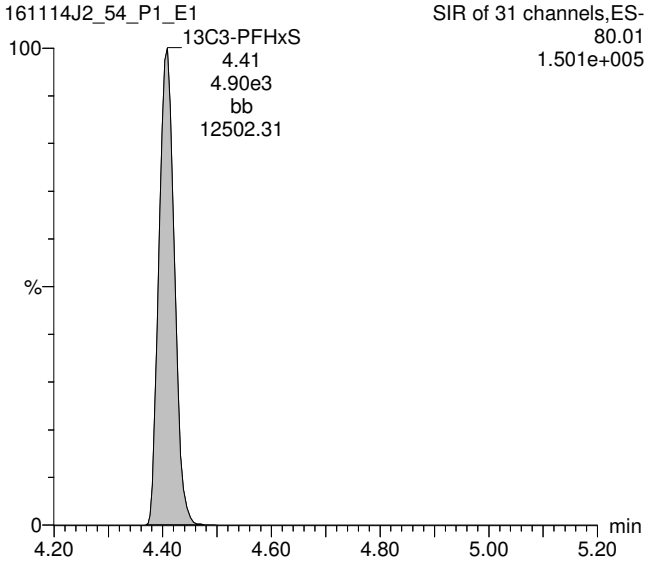
Last Altered: Wednesday, November 16, 2016 10:30:04 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:30:51 Pacific Standard Time

ID: 1601401-11, Description: OC-FB-110216, Name: 161114J2_54.wiff, Date: 15-Nov-2016, Time: 02:51:20, Instrument: , Lab: ©PE-SCIEX, User: sciex

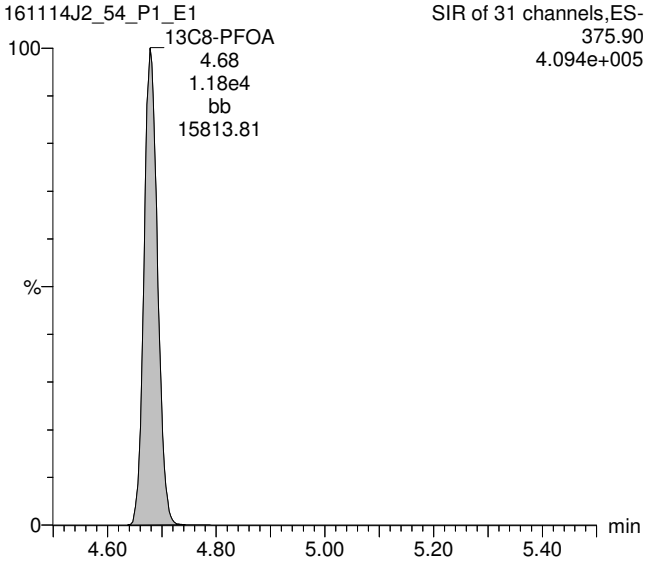
13C5-PFHxA



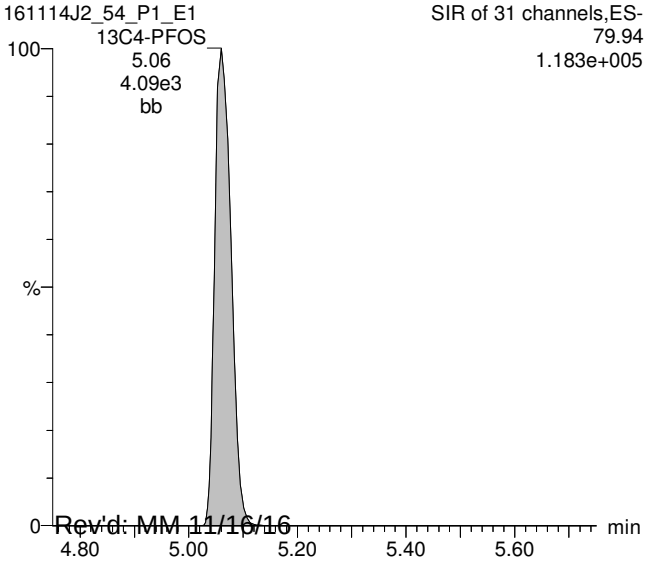
13C3-PFHxS



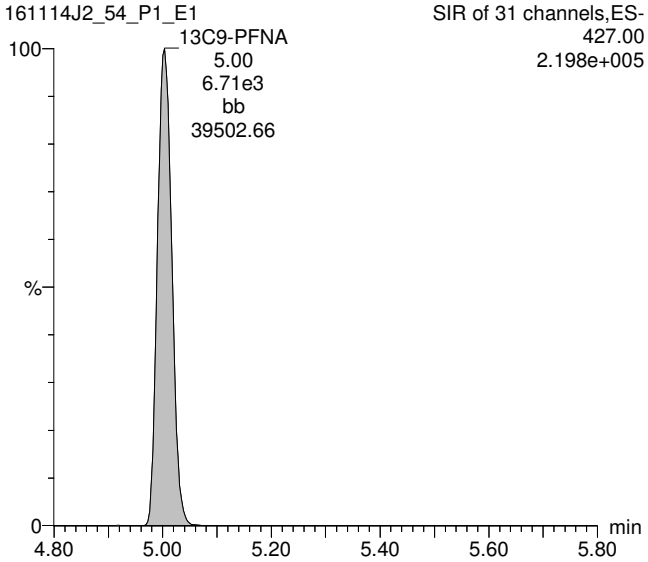
13C8-PFOA



13C4-PFOS



13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_55.qld

Last Altered: Wednesday, November 16, 2016 10:34:48 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:35:00 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-12, Description: OC-EB-110216, Name: 161114J2_55.wiff, Date: 15-Nov-2016, Time: 03:03:35

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	1.179e0	5.170e3		0.121	3.43		
2	5	PFHpA	318.90	7.598e0	6.449e3		0.121	4.29		
3	6	PFHxS	79.91	1.521e1	1.084e3		0.121	4.41	0.341	
4	8	PFOA	368.90	7.634e1	5.831e3		0.121	4.68	0.731	
5	9	PFNA	419.00		5.010e3		0.121			
6	10	PFOS	79.92	7.492e0	3.105e3		0.121	5.08		
7	15	13C3-PFBS	79.95	5.170e3	1.050e4	0.531	0.121	3.42	95.5	92.8
8	16	13C2-PFHxA	269.90	3.249e3	1.050e4	0.905	0.121	3.81	35.2	85.5
9	17	13C4-PFHpA	321.90	6.449e3	1.050e4	0.770	0.121	4.29	82.2	79.8
10	18	18O2-PFHxS	102.90	1.084e3	4.518e3	0.276	0.121	4.41	89.5	86.9
11	19	13C2-6:2 FTS	408.90	1.739e3	1.089e4	0.219	0.121	4.64	75.1	73.0
12	20	13C2-PFOA	369.90	5.831e3	1.089e4	0.663	0.121	4.68	83.1	80.7
13	21	13C5-PFNA	422.90	5.010e3	6.056e3	1.019	0.121	5.00	83.5	81.2
14	22	13C8-PFOS	79.93	3.105e3	3.923e3	0.921	0.121	5.07	88.4	85.9
15	26	13C5-PFHxA	273.00	1.050e4	1.050e4	1.000	0.121	3.81	103	100
16	27	13C3-PFHxS	80.01	4.518e3	4.518e3	1.000	0.121	4.40	103	100
17	28	13C8-PFOA	375.90	1.089e4	1.089e4	1.000	0.121	4.68	103	100
18	29	13C4-PFOS	79.94	3.923e3	3.923e3	1.000	0.121	5.07	103	100
19	30	13C9-PFNA	427.00	6.056e3	6.056e3	1.000	0.121	5.00	103	100
20	31	13C6-PFDA	474.00	5.176e3	5.176e3	1.000	0.121	5.29	103	100
21	32	Total PFBS	79.90		5.170e3		0.121			
22	33	Total PFHxS	79.91		1.084e3		0.121		0.341	
23	34	Total PFOA	368.90		5.831e3		0.121		0.731	
24	35	Total PFOS	79.92		3.105e3		0.121			

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_55.qld

Last Altered: Wednesday, November 16, 2016 10:34:48 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:35:00 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-12, Description: OC-EB-110216, Name: 161114J2_55.wiff, Date: 15-Nov-2016, Time: 03:03:35

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.43	1.179	5169.995	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.41	15.206	1083.765	0.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.68	76.339	5830.859	0.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	35	Total PFOS	79.92	4.99	15.277	3104.766	
2	10	PFOS	79.92	5.08	7.492	3104.766	

Vista Analytical Laboratory Q1

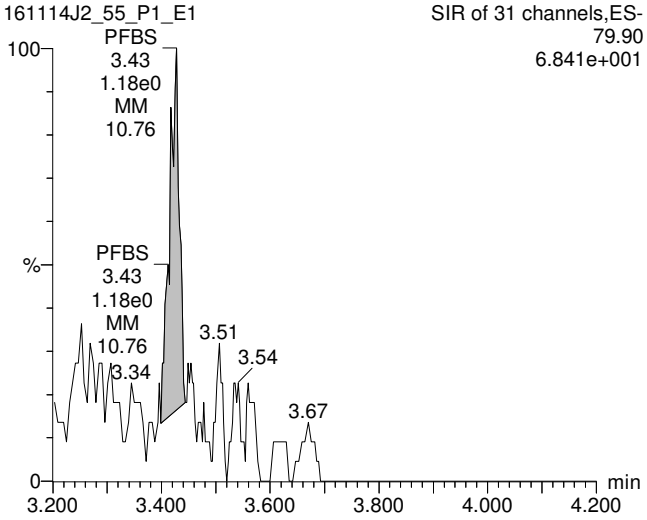
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_55.qld

Last Altered: Wednesday, November 16, 2016 10:34:48 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:35:00 Pacific Standard Time

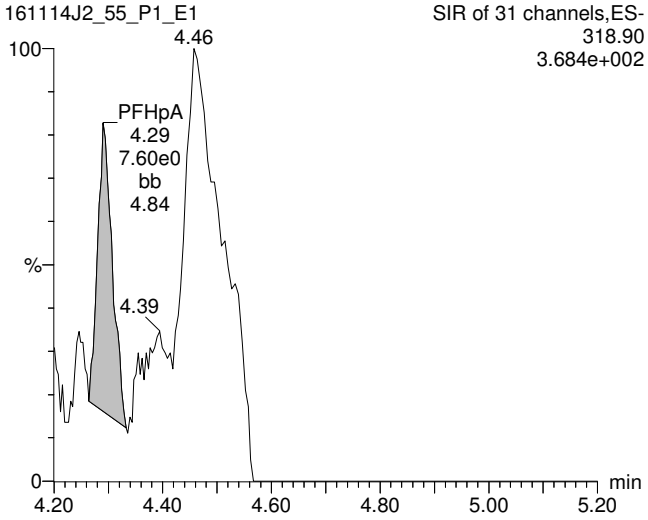
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-12, Description: OC-EB-110216, Name: 161114J2_55.wiff, Date: 15-Nov-2016, Time: 03:03:35, Instrument: , Lab: ©PE-SCIEX, User: sciex

Total PFBS



PFHpA



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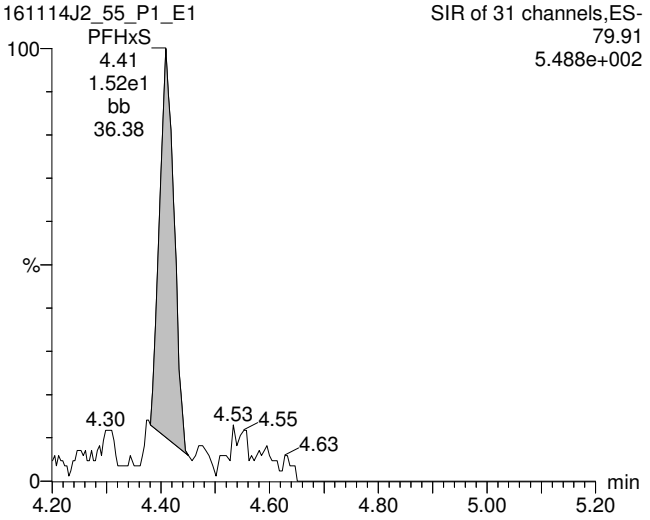
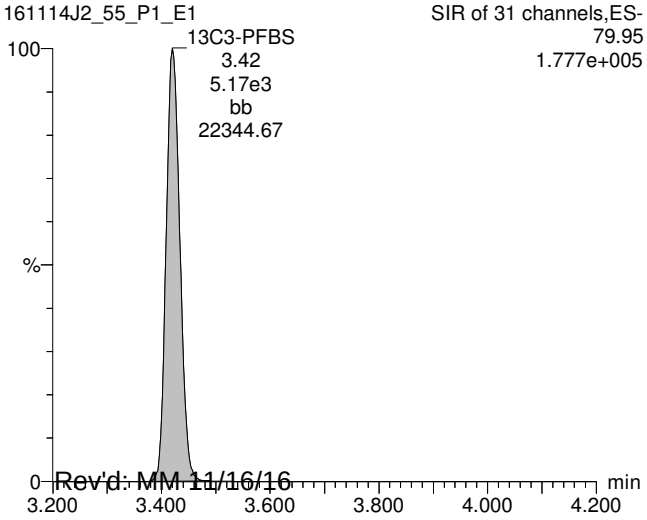


13C3-PFBS



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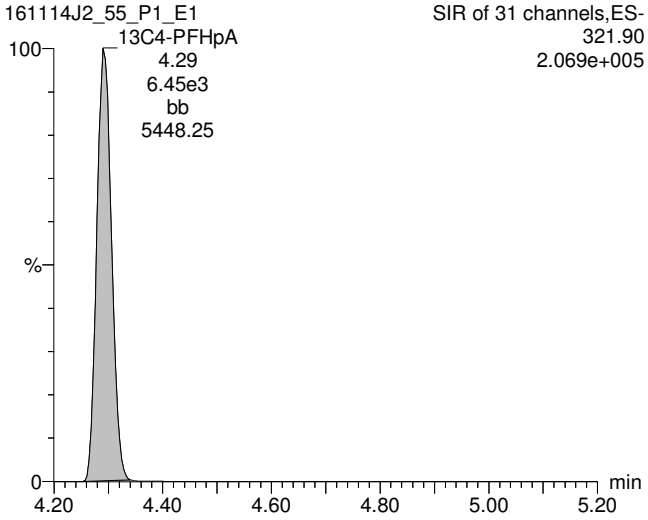
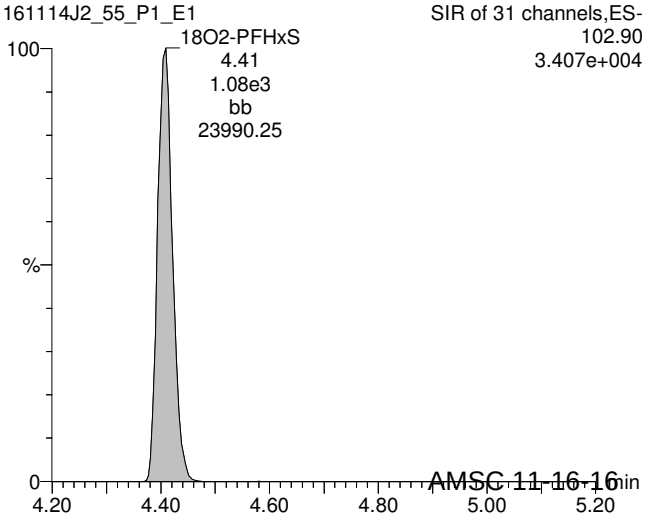


18O2-PFHxS



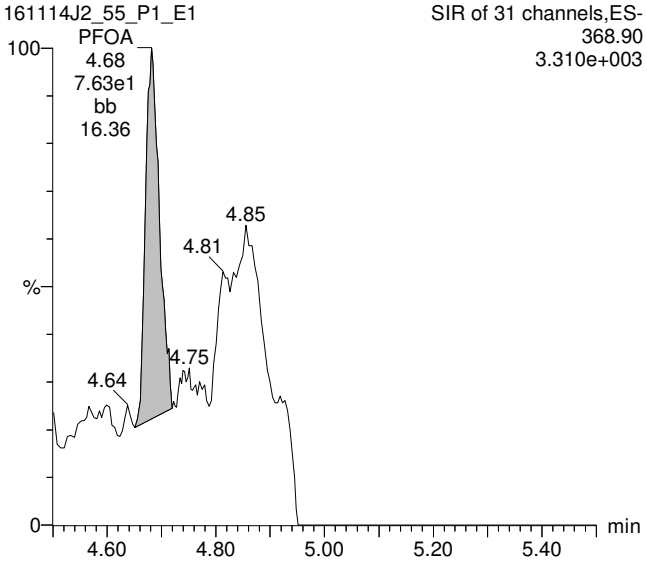
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_55.qld

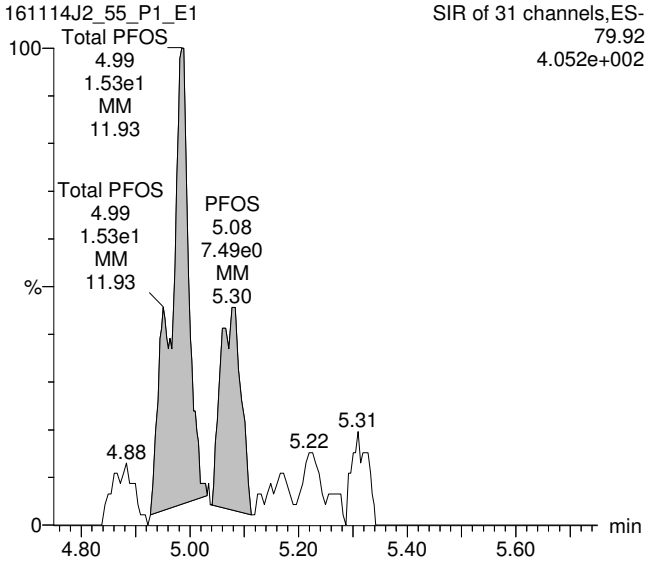
Last Altered: Wednesday, November 16, 2016 10:34:48 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:35:00 Pacific Standard Time

ID: 1601401-12, Description: OC-EB-110216, Name: 161114J2_55.wiff, Date: 15-Nov-2016, Time: 03:03:35, Instrument: , Lab: ©PE-SCIEX, User: sciex

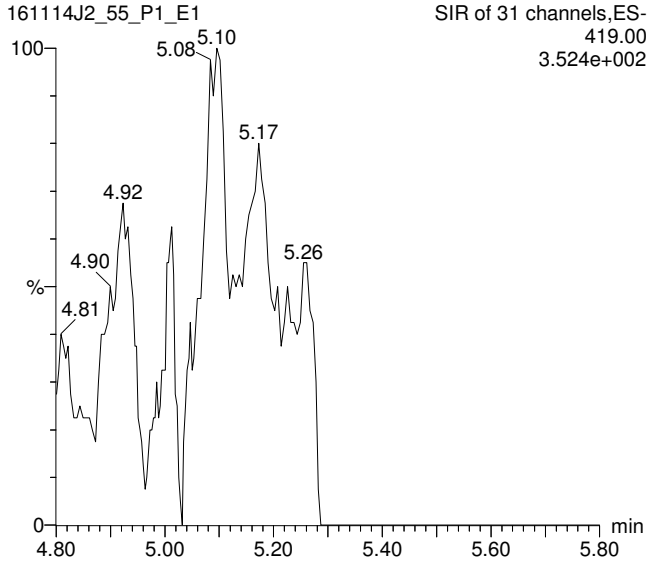
Total PFOA



Total PFOS



PFNA



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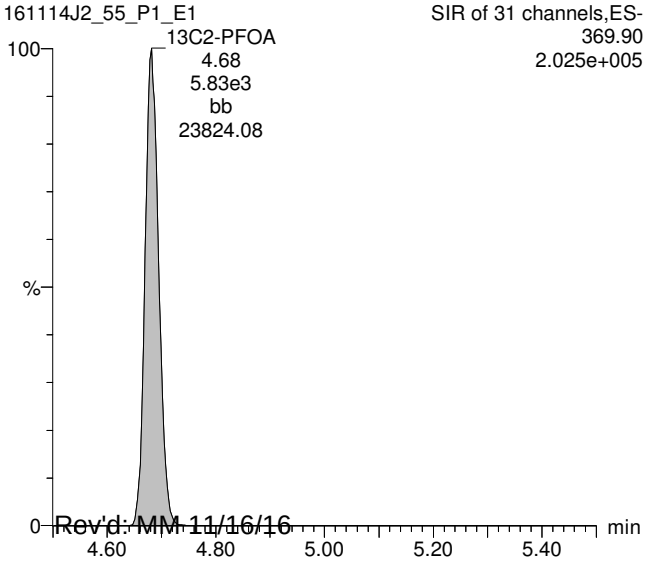
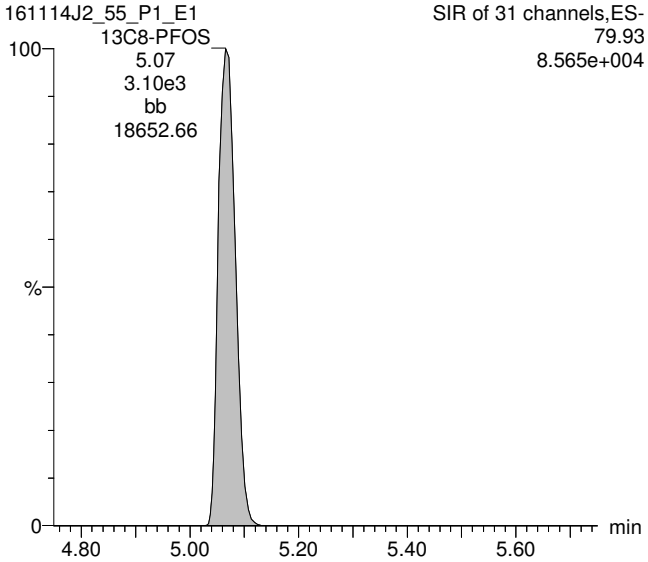
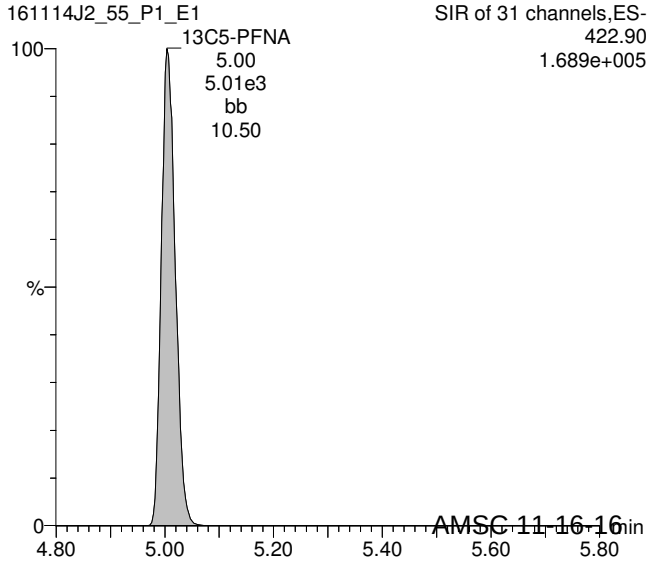


13C8-PFOS



13C5-PFNA

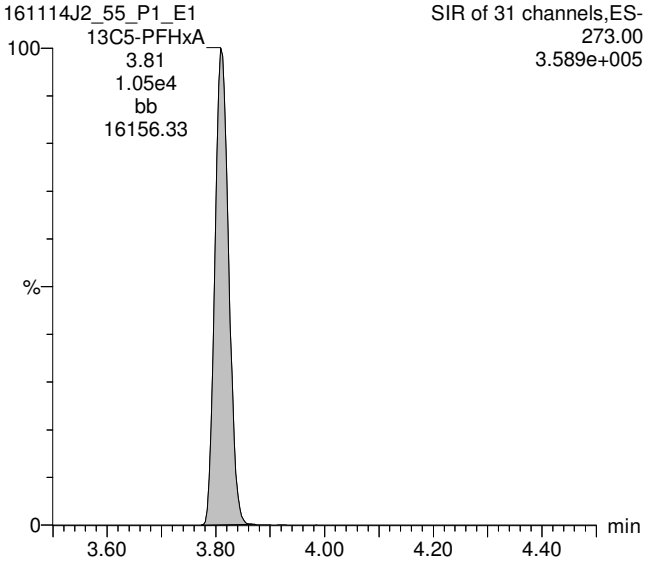


Dataset: U:\Q2.PRO\Results\161114J2\161114J2_55.qld

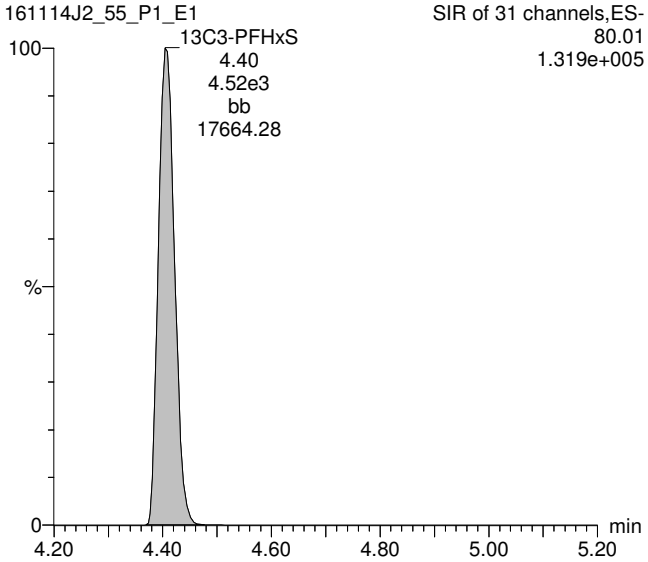
Last Altered: Wednesday, November 16, 2016 10:34:48 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:35:00 Pacific Standard Time

ID: 1601401-12, Description: OC-EB-110216, Name: 161114J2_55.wiff, Date: 15-Nov-2016, Time: 03:03:35, Instrument: , Lab: ©PE-SCIEX, User: sciex

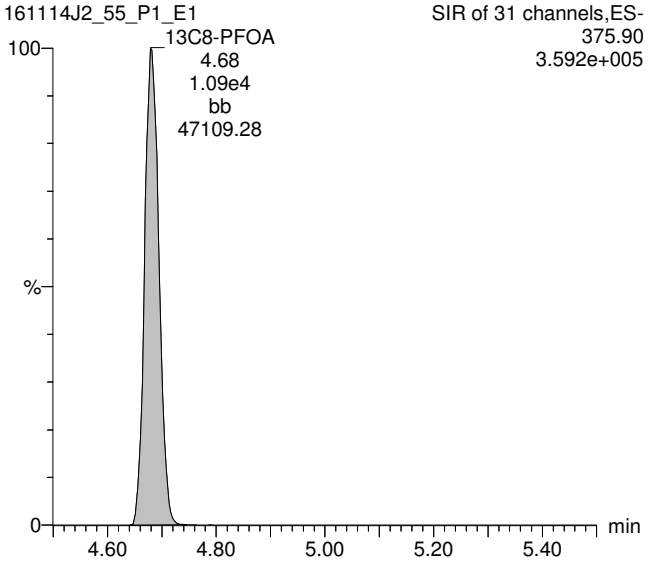
13C5-PFHxA



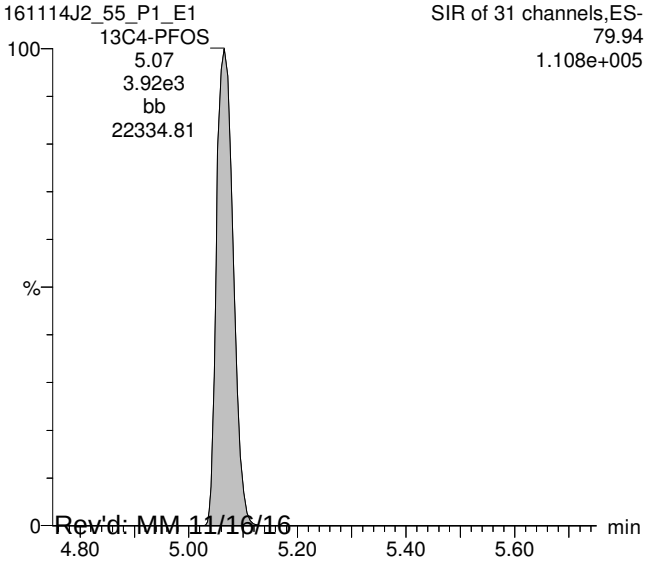
13C3-PFHxS



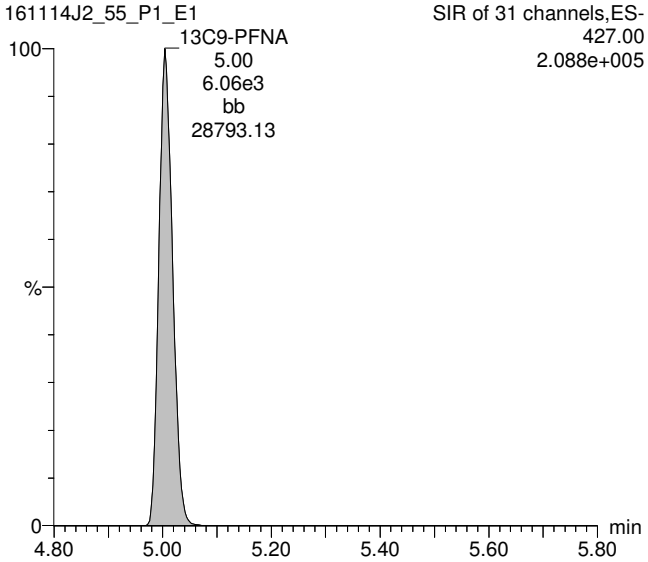
13C8-PFOA



13C4-PFOS



13C9-PFNA



Rev'd: MM 11/16/16

AMSC 11-16-16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_56.qld

Last Altered: Wednesday, November 16, 2016 10:41:56 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:42:05 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-13, Description: MW-BG10-1116, Name: 161114J2_56.wiff, Date: 15-Nov-2016, Time: 03:15:50

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3	PFBS	79.90	1.732e1	4.842e3		0.119	3.42		
2	5	PFHpA	318.90	2.489e1	5.805e3		0.119	4.29	0.139	
3	6	PFHxS	79.91	7.677e1	9.054e2		0.119	4.40	2.65	
4	8	PFOA	368.90	1.291e2	4.792e3		0.119	4.69	1.85	
5	9	PFNA	419.00		4.203e3		0.119			
6	10	PFOS	79.92	6.562e1	2.781e3		0.119	5.09	1.15	
7	15	13C3-PFBS	79.95	4.842e3	9.345e3	0.531	0.119	3.42	102	97.6
8	16	13C2-PFHxA	269.90	2.946e3	9.345e3	0.905	0.119	3.81	36.5	87.1
9	17	13C4-PFHpA	321.90	5.805e3	9.345e3	0.770	0.119	4.29	84.5	80.7
10	18	18O2-PFHxS	102.90	9.054e2	3.718e3	0.276	0.119	4.40	92.4	88.2
11	19	13C2-6:2 FTS	408.90	1.575e3	9.060e3	0.219	0.119	4.64	83.3	79.5
12	20	13C2-PFOA	369.90	4.792e3	9.060e3	0.663	0.119	4.69	83.5	79.7
13	21	13C5-PFNA	422.90	4.203e3	5.544e3	1.019	0.119	5.02	77.9	74.4
14	22	13C8-PFOS	79.93	2.781e3	3.472e3	0.921	0.119	5.08	91.0	86.9
15	26	13C5-PFHxA	273.00	9.345e3	9.345e3	1.000	0.119	3.81	105	100
16	27	13C3-PFHxS	80.01	3.718e3	3.718e3	1.000	0.119	4.40	105	100
17	28	13C8-PFOA	375.90	9.060e3	9.060e3	1.000	0.119	4.68	105	100
18	29	13C4-PFOS	79.94	3.472e3	3.472e3	1.000	0.119	5.08	105	100
19	30	13C9-PFNA	427.00	5.544e3	5.544e3	1.000	0.119	5.02	105	100
20	31	13C6-PFDA	474.00	4.691e3	4.691e3	1.000	0.119	5.31	105	100
21	32	Total PFBS	79.90		4.842e3		0.119			
22	33	Total PFHxS	79.91		9.054e2		0.119		2.90	
23	34	Total PFOA	368.90		4.792e3		0.119		1.85	
24	35	Total PFOS	79.92		2.781e3		0.119		1.23	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_56.qld

Last Altered: Wednesday, November 16, 2016 10:41:56 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:42:05 Pacific Standard Time

Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-13, Description: MW-BG10-1116, Name: 161114J2_56.wiff, Date: 15-Nov-2016, Time: 03:15:50

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.42	17.318	4841.906	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.40	76.773	905.425	2.6
2	33	Total PFHxS	79.91	4.31	8.601	905.425	0.2
3	33	Total PFHxS	79.91	4.28	1.307	905.425	
4	33	Total PFHxS	79.91	4.27	4.655	905.425	0.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.69	129.065	4792.137	1.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.09	65.622	2780.820	1.2
2	35	Total PFOS	79.92	5.00	13.473	2780.820	
3	35	Total PFOS	79.92	4.99	7.840	2780.820	
4	35	Total PFOS	79.92	4.98	30.012	2780.820	0.1

Vista Analytical Laboratory Q1

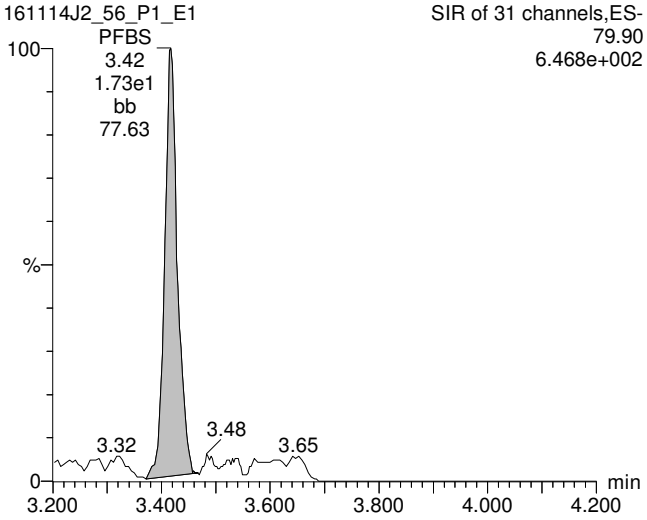
Dataset: U:\Q2.PRO\Results\161114J2\161114J2_56.qld

Last Altered: Wednesday, November 16, 2016 10:41:56 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:42:05 Pacific Standard Time

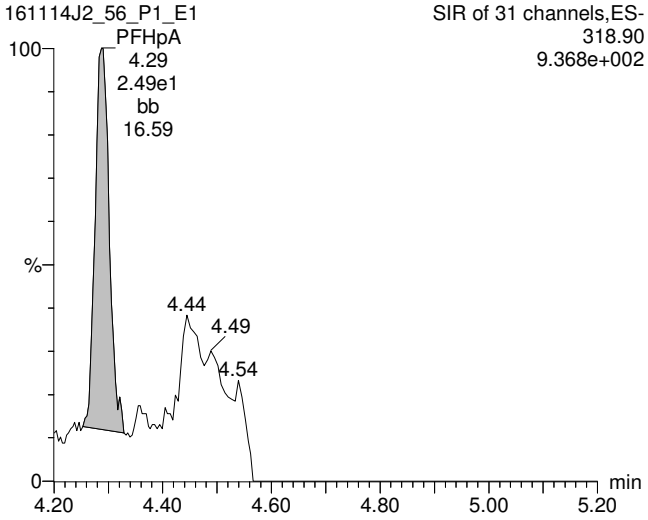
Method: U:\Q2.pro\MethDB\PFC List 18_A No4-2FTS_Linear.mdb 15 Nov 2016 16:30:48
Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

ID: 1601401-13, Description: MW-BG10-1116, Name: 161114J2_56.wiff, Date: 15-Nov-2016, Time: 03:15:50, Instrument: , Lab: ©PE-SCIEX, User: sciex

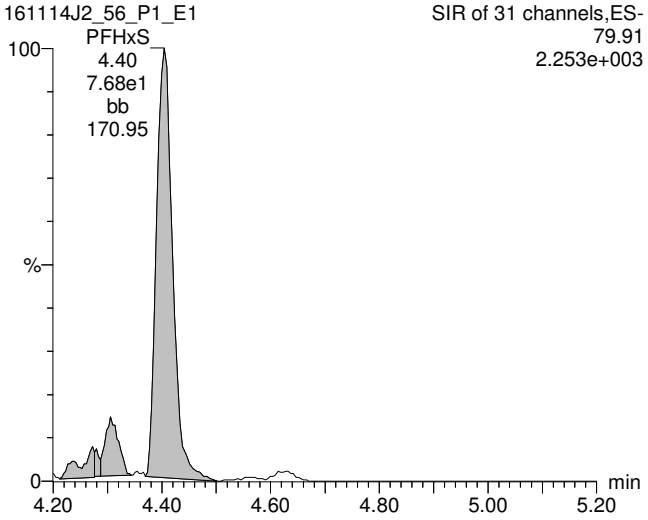
Total PFBS



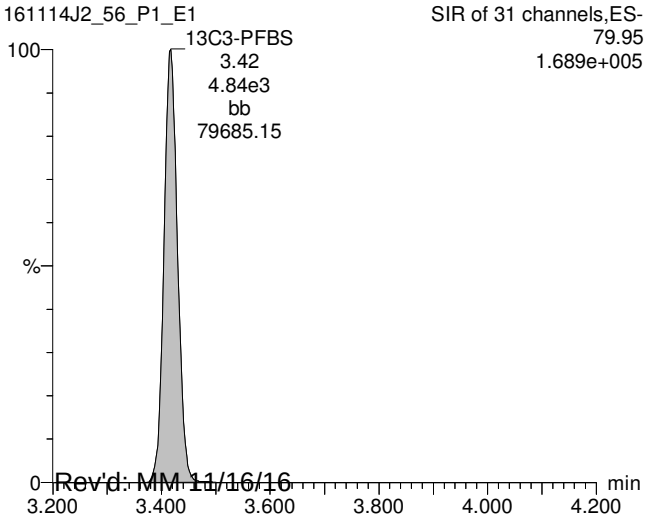
PFHpA



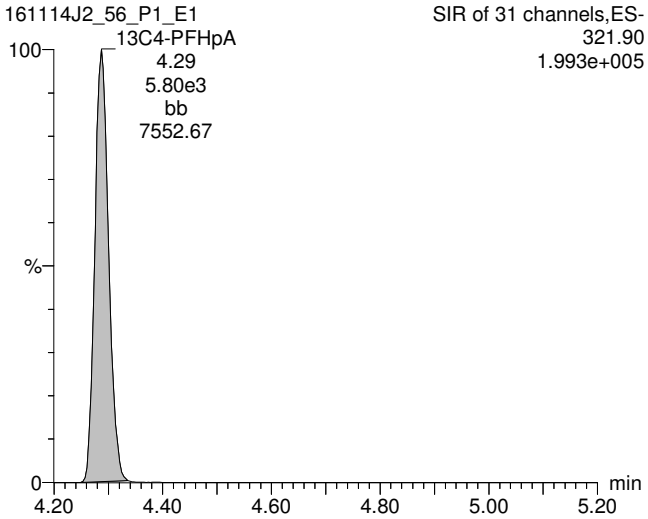
Total PFHxS



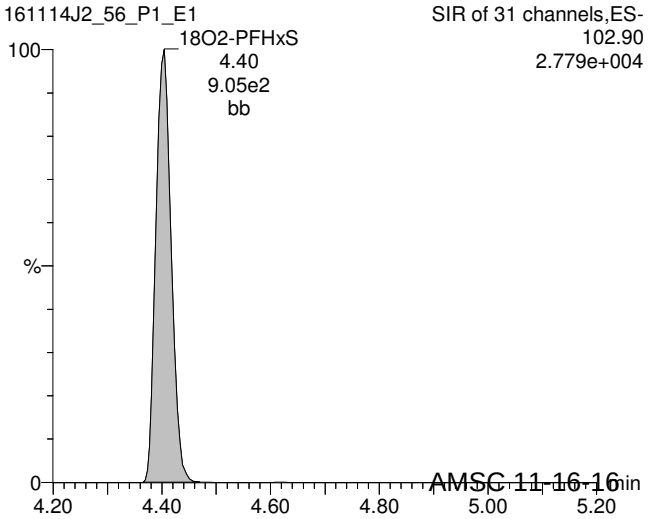
13C3-PFBS



13C4-PFHpA



18O2-PFHxS



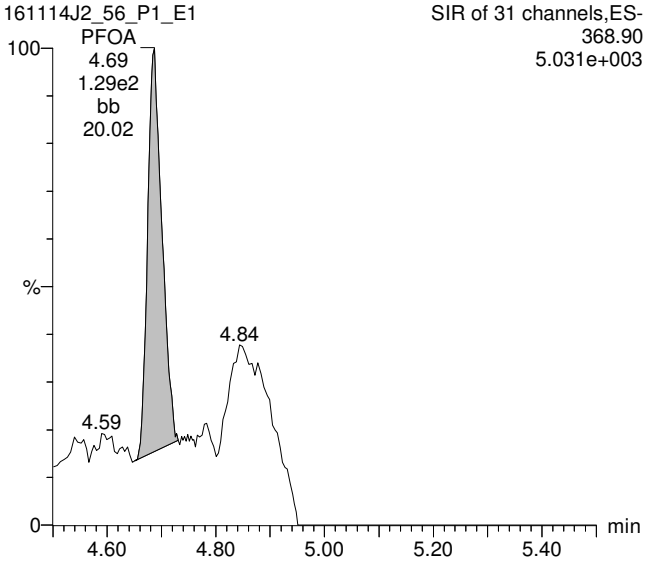
Rev'd: MM 11/16/16 AMSC 11-16-16

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_56.qld

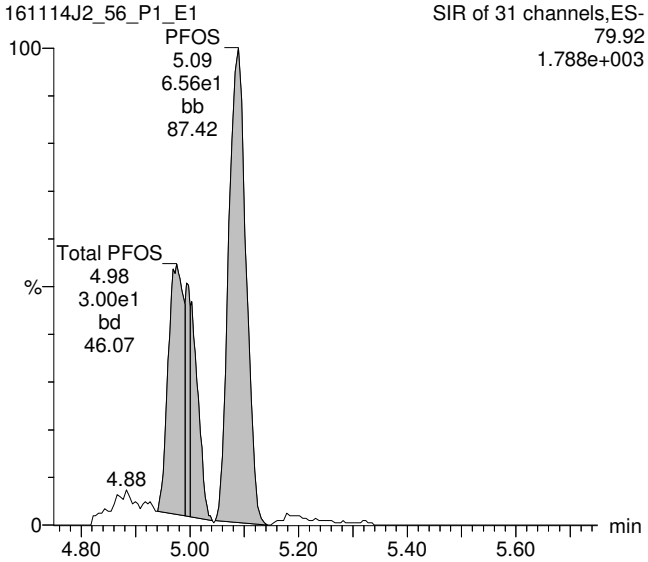
Last Altered: Wednesday, November 16, 2016 10:41:56 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:42:05 Pacific Standard Time

ID: 1601401-13, Description: MW-BG10-1116, Name: 161114J2_56.wiff, Date: 15-Nov-2016, Time: 03:15:50, Instrument: , Lab: ©PE-SCIEX, User: sciex

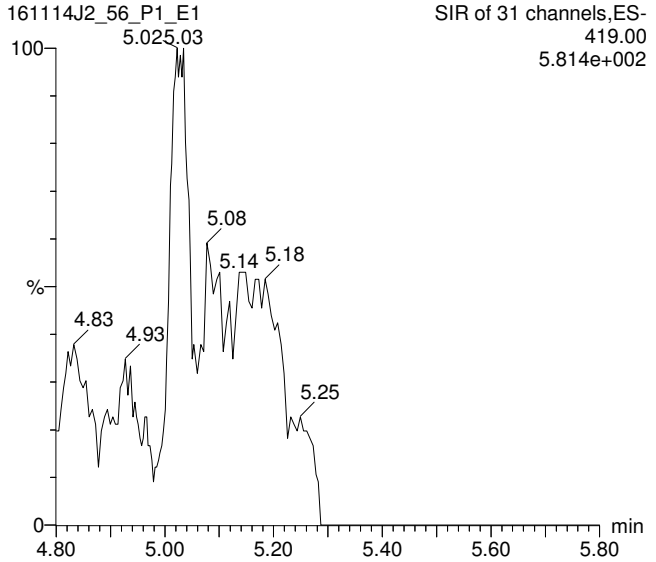
Total PFOA



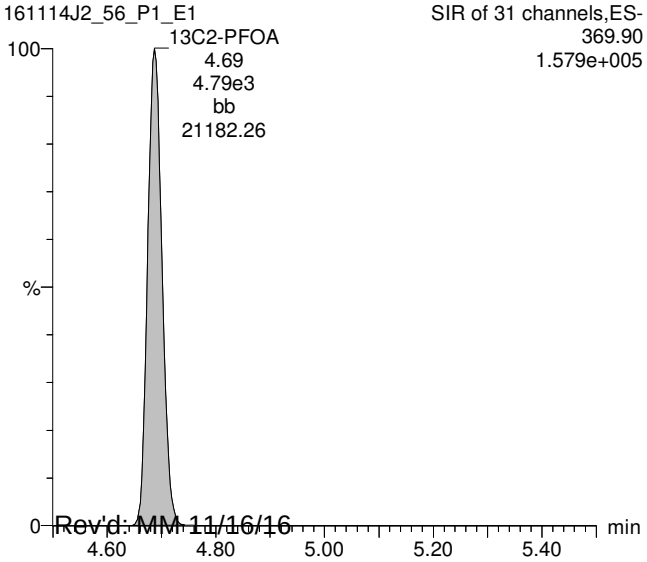
Total PFOS



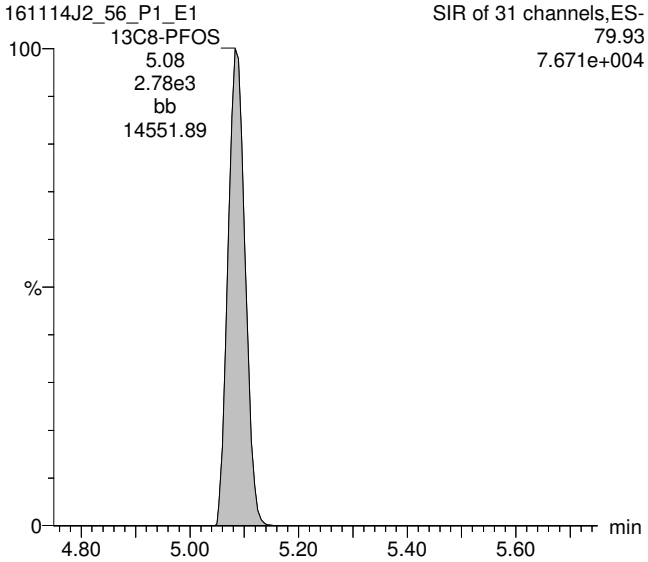
PFNA



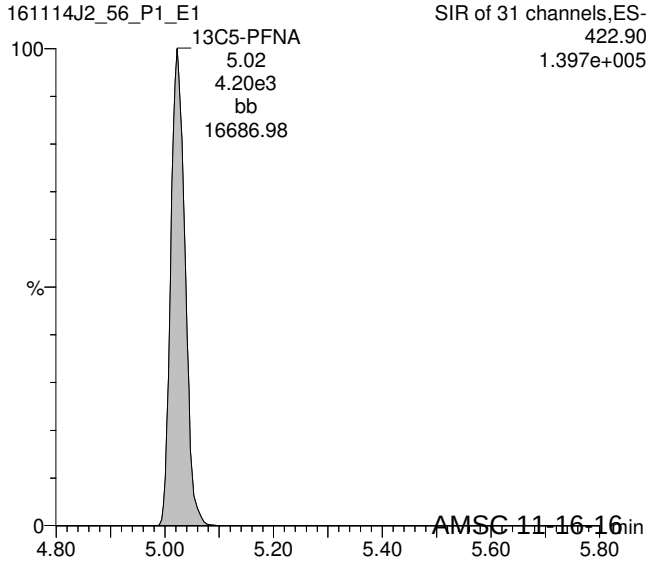
13C2-PFOA



13C8-PFOS



13C5-PFNA



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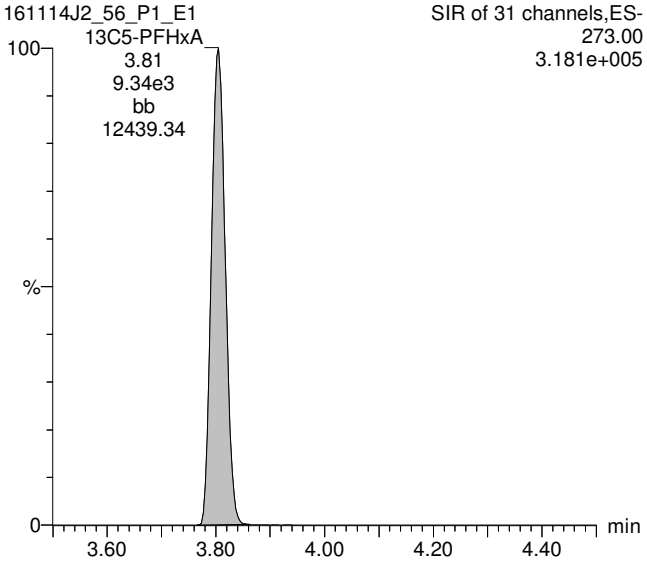
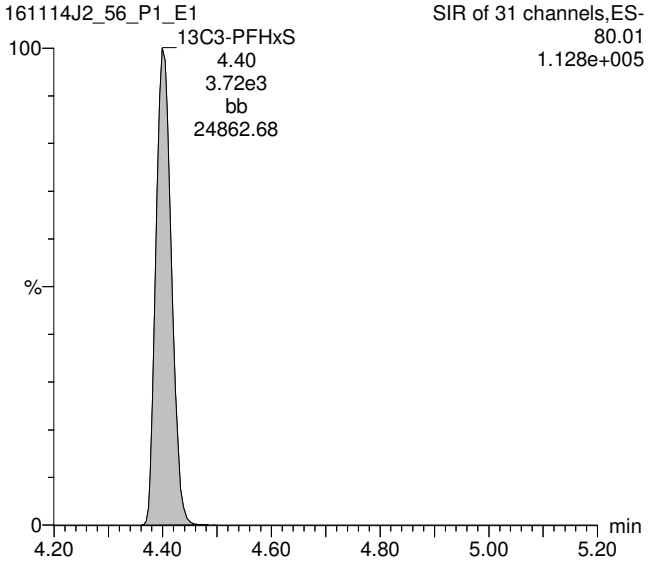
Last Altered: Wednesday, November 16, 2016 10:41:56 Pacific Standard Time
Printed: Wednesday, November 16, 2016 10:42:05 Pacific Standard Time

ID: 1601401-13, Description: MW-BG10-1116, Name: 161114J2_56.wiff, Date: 15-Nov-2016, Time: 03:15:50, Instrument: , Lab: ©PE-SCIEX, User: sciex

13C5-PFHxA



13C3-PFHxS



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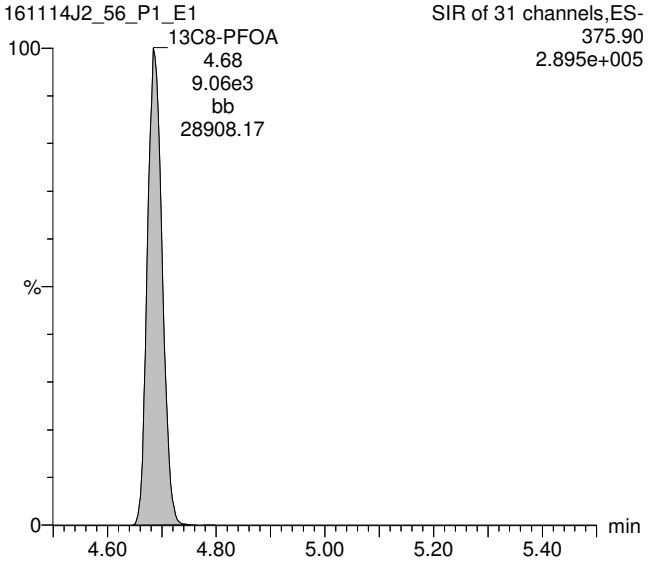

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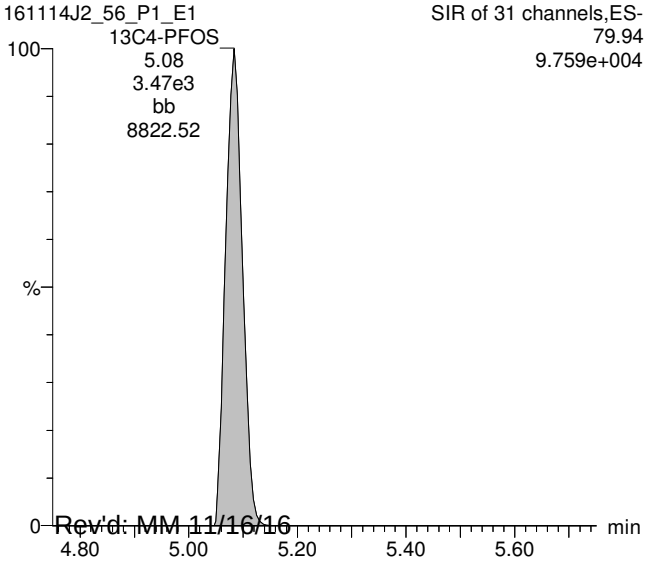

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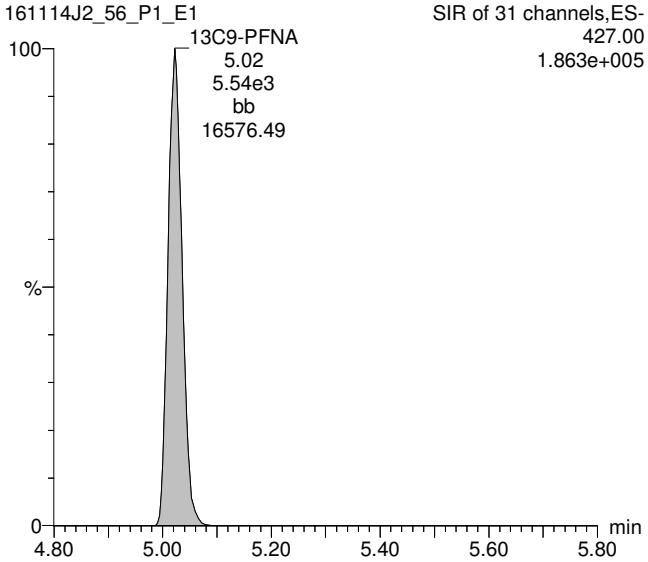

CONTINUING CALIBRATION

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_02.qld

Last Altered: Tuesday, November 15, 2016 10:02:30 Pacific Standard Time
Printed: Tuesday, November 15, 2016 10:03:28 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161114J2_02.wiff, Date: 14-Nov-2016, Time: 16:14:49, ID: ST161114J2-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBA	168.90	2.71e4	1.19e4		1.000	1.95	27.3	109.2
2	2	PFPeA	218.90	2.66e4	1.31e4		1.000	3.14	27.9	111.4
3	3	PFBS	79.90	1.35e4	7.37e3		1.000	3.42	29.2	116.6
4	4	PFHxA	268.90	2.36e4	5.10e3		1.000	3.81	27.1	108.6
5	5	PFHpA	318.90	1.91e4	9.92e3		1.000	4.29	28.5	114.1
6	6	PFHxS	79.91	1.08e4	1.48e3		1.000	4.41	28.1	112.5
7	7	6:2 FTS	406.90	5.97e3	3.11e3		1.000	4.64	26.5	106.0
8	8	PFOA	368.90	2.37e4	8.44e3		1.000	4.68	28.3	113.1
9	9	PFNA	419.00	1.52e4	7.40e3		1.000	5.02	28.4	113.6
10	10	PFOS	79.92	9.29e3	3.69e3		1.000	5.09	25.0	100.1
11	11	PFDA	469.00	8.28e3	3.87e3		1.000	5.30	26.4	105.8
12	12	8:2 FTS	506.90	2.30e3	9.85e2		1.000	5.28	28.9	115.5
13	13	13C3-PFBA	172.00	1.19e4	1.67e4	0.894	1.000	1.95	9.93	79.5
14	14	13C3-PFPeA	221.90	1.31e4	1.70e4	0.945	1.000	3.13	10.2	81.2
15	15	13C3-PFBS	79.95	7.37e3	1.70e4	0.531	1.000	3.42	10.2	81.6
16	16	13C2-PFHxA	269.90	5.10e3	1.70e4	0.905	1.000	3.81	4.14	82.7
17	17	13C4-PFHpA	321.90	9.92e3	1.70e4	0.770	1.000	4.29	9.47	75.7
18	18	18O2-PFHxS	102.90	1.48e3	7.00e3	0.276	1.000	4.41	9.58	76.6
19	19	13C2-6:2 FTS	408.90	3.11e3	1.63e4	0.219	1.000	4.64	10.9	87.5
20	20	13C2-PFOA	369.90	8.44e3	1.63e4	0.663	1.000	4.68	9.78	78.2
21	21	13C5-PFNA	422.90	7.40e3	9.37e3	1.019	1.000	5.02	9.69	77.5
22	22	13C8-PFOS	79.93	3.69e3	4.90e3	0.921	1.000	5.08	10.2	81.8
23	23	13C2-PFDA	470.00	3.87e3	5.77e3	0.887	1.000	5.30	9.47	75.8
24	24	13C2-8:2 FTS	508.70	9.85e2	5.77e3	0.272	1.000	5.28	7.86	62.9
25	25	13C4-PFBA	171.90	1.67e4	1.67e4	1.000	1.000	1.95	12.5	100.0
26	26	13C5-PFHxA	273.00	1.70e4	1.70e4	1.000	1.000	3.81	12.5	100.0
27	27	13C3-PFHxS	80.01	7.00e3	7.00e3	1.000	1.000	4.41	12.5	100.0
28	28	13C8-PFOA	375.90	1.63e4	1.63e4	1.000	1.000	4.68	12.5	100.0
29	29	13C4-PFOS	79.94	4.90e3	4.90e3	1.000	1.000	5.08	12.5	100.0
30	30	13C9-PFNA	427.00	9.37e3	9.37e3	1.000	1.000	5.02	12.5	100.0
31	31	13C6-PFDA	474.00	5.77e3	5.77e3	1.000	1.000	5.30	12.5	100.0

75-125
60-150
60-150
40-150
60-150
50-150
60-150
40-150

PJ 11/15/16

	Sample Name	Acquisition Date	Sample ID	Sample Comment
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2	161114J2_02	11/14/2016 16:14:49	ST161114J2-1 PFC C3.5 16K1120	PFC C3.5 16K1120A A
3	161114J2_03	11/14/2016 16:27:00	IPA	IPA
4	161114J2_04	11/14/2016 16:39:16	B6K0041-BS1	OPR
5	161114J2_05	11/14/2016 16:51:31	B6K0052-BS1	OPR
6	161114J2_06	11/14/2016 17:03:46	B6K0078-BS1	OPR
7	161114J2_07	11/14/2016 17:15:57	IPA	IPA
8	161114J2_08	11/14/2016 17:28:15	B6K0041-BLK1	Method Blank
9	161114J2_09	11/14/2016 17:40:28	B6K0052-BLK1	Method Blank
10	161114J2_10	11/14/2016 17:52:43	B6K0078-BLK1	Method Blank
11	161114J2_11	11/14/2016 18:04:55	1601385-01	WURTS_EB004JH-102716
12	161114J2_12	11/14/2016 18:17:10	1601385-02	WURTS_VAS15010-20-23
13	161114J2_13	11/14/2016 18:29:25	1601385-03	WURTS_VAS15010-20-23_FD
14	161114J2_14	11/14/2016 18:41:40	1601385-04	WURTS_VAS15010-30-33
15	161114J2_15	11/14/2016 18:53:54	1601385-05	WURTS_VAS15011-16-19
16	161114J2_16	11/14/2016 19:06:09	1601385-06	WURTS_VAS15011-26-29
17	161114J2_17	11/14/2016 19:18:23	1601385-07	WURTS_VAS15011-36-39
18	161114J2_18	11/14/2016 19:30:39	1601385-08	WURTS_VAS15011-6-9
19	161114J2_19	11/14/2016 19:42:53	1601385-09	WURTS_VAS15012-18-21
20	161114J2_20	11/14/2016 19:55:09	1601385-10	WURTS_VAS15012-28-31
21	161114J2_21	11/14/2016 20:07:26	IPA	IPA
22	161114J2_22	11/14/2016 20:19:40	ST161114J2-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
23	161114J2_23	11/14/2016 20:31:55	IPA	IPA
24	161114J2_24	11/14/2016 20:44:10	1601385-11	WURTS_VAS15012-38-41
25	161114J2_25	11/14/2016 20:56:23	1601385-12	WURTS_VAS15012-8-11
26	161114J2_26	11/14/2016 21:08:37	1601391-01	DUP06_161031
27	161114J2_27	11/14/2016 21:20:51	1601391-08	M14-09D_161031
28	161114J2_28	11/14/2016 21:33:02	1601391-09	M14-09S_161031
29	161114J2_29	11/14/2016 21:45:17	1601391-10	M14-14_161031
30	161114J2_30	11/14/2016 21:57:31	1601391-11	M14-22_161031
31	161114J2_31	11/14/2016 22:09:41	1601391-12	EB17_161031
32	161114J2_32	11/14/2016 22:21:58	1601391-19	M14-23_161031
33	161114J2_33	11/14/2016 22:34:13	1601391-20	M14-24_161031
34	161114J2_34	11/14/2016 22:46:28	IPA	IPA
35	161114J2_35	11/14/2016 22:58:43	ST161114J2-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
36	161114J2_36	11/14/2016 23:10:58	IPA	IPA
37	161114J2_37	11/14/2016 23:23:13	B6K0052-MS1	Matrix Spike
38	161114J2_38	11/14/2016 23:35:28	B6K0052-MSD1	Matrix Spike Dup
39	161114J2_39	11/14/2016 23:47:43	B6K0052-MS2	Matrix Spike
40	161114J2_40	11/14/2016 23:59:59	B6K0052-MSD2	Matrix Spike Dup
41	161114J2_41	11/15/2016 00:12:12	1601401-01	OW2C-MW19-1116
42	161114J2_42	11/15/2016 00:24:28	1601401-02	OW2E-MW19-1116
43	161114J2_43	11/15/2016 00:36:39	1601401-03	OW2B-MW41-1116
44	161114J2_44	11/15/2016 00:48:54	1601401-04	203MW-19-1116
45	161114J2_45	11/15/2016 01:01:08	1601401-05	JTC-MW-B-1116
46	161114J2_46	11/15/2016 01:13:22	1601401-06	OC-MW03-1116
47	161114J2_47	11/15/2016 01:25:33	1601401-07	OC-MW01-1116
48	161114J2_48	11/15/2016 01:37:49	1601401-08	OC-MW02-1116
49	161114J2_49	11/15/2016 01:50:04	1601401-09	OW26-MW1-1116

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51	161114J2_51	11/15/2016 02:14:35	IPA	IPA
52	161114J2_52	11/15/2016 02:26:51	ST161114J2-4 PFC C3.5 16K1120	PFC C3.5 16K1120A A
53	161114J2_53	11/15/2016 02:39:05	IPA	IPA
54	161114J2_54	11/15/2016 02:51:20	1601401-11	OC-FB-110216
55	161114J2_55	11/15/2016 03:03:35	1601401-12	OC-EB-110216
56	161114J2_56	11/15/2016 03:15:50	1601401-13	MW-BG10-1116
57	161114J2_57	11/15/2016 03:28:06	B6K0064-MS1	Matrix Spike
58	161114J2_58	11/15/2016 03:40:23	B6K0064-MSD1	Matrix Spike Dup
59	161114J2_59	11/15/2016 03:52:40	1601405-01	CASTL-PUBAM21-110316
60	161114J2_60	11/15/2016 04:04:52	1601405-02	CASTL-PUBAM21-110316FD
61	161114J2_61	11/15/2016 04:17:07	1601405-03	CASTL-FB-VIS-110316
62	161114J2_62	11/15/2016 04:29:21	1601409-01	WURTS-EB006JH-103116
63	161114J2_63	11/15/2016 04:41:31	1601409-02	WURTS-EB007JH-110116
64	161114J2_64	11/15/2016 04:53:48	IPA	IPA
65	161114J2_65	11/15/2016 05:06:02	ST161114J2-5 PFC C3.5 16K1120	PFC C3.5 16K1120A A
66	161114J2_66	11/15/2016 05:18:17	IPA	IPA
67	161114J2_67	11/15/2016 05:30:28	B6K0064-BS1	OPR
68	161114J2_68	11/15/2016 05:42:45	IPA	IPA
69	161114J2_69	11/15/2016 05:55:01	B6K0064-BLK1	Method Blank
70	161114J2_70	11/15/2016 06:07:15	1601409-03	WURTS-VAS04006-22-25
71	161114J2_71	11/15/2016 06:19:30	1601409-04	WURTS-VAS04006-32-35
72	161114J2_72	11/15/2016 06:31:44	B6K0064-MS2	Matrix Spike
73	161114J2_73	11/15/2016 06:43:56	B6K0064-MSD2	Matrix Spike Dup
74	161114J2_74	11/15/2016 06:56:12	1601409-05	WURTS-VAS04007-20-23
75	161114J2_75	11/15/2016 07:08:27	1601409-06	WURTS-VAS04007-30-33
76	161114J2_76	11/15/2016 07:20:42	1601409-07	WURTS-VAS04007-40-43
77	161114J2_77	11/15/2016 07:32:58	1601409-08	WURTS-VAS04007-50-53
78	161114J2_78	11/15/2016 07:45:13	1601409-09	WURTS-VAS04008-24-27
79	161114J2_79	11/15/2016 07:57:28	1601409-10	WURTS-VAS04008-34-37
80	161114J2_80	11/15/2016 08:09:42	1601409-11	WURTS-VAS04008-44-47
81	161114J2_81	11/15/2016 08:21:53	1601409-12	WURTS-VAS04008-54-57
82	161114J2_82	11/15/2016 08:34:06	IPA	IPA
83	161114J2_83	11/15/2016 08:46:21	ST161114J2-6 PFC C3.5 16K1120	PFC C3.5 16K1120A A
84	161114J2_84	11/15/2016 08:58:36	IPA	IPA

LC Calibration Standards Review Checklist Q2

Calibration ID:	L M H	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manaul Integrations	NA
ST161114J2-1	L M H	NA	☑	☑	☑	☑	☑	☑
-2	L M H	☐	☑	☑	☑	☑	☑	☐
-3	L M H	☐	☑	☑	☑	☑	☑	☐
-4	L M H	☐	☑	☑	☑	☑	☑	☐
-5	L M H	☐	☑	☑	☑	☑	☑	☐
-6	L M H	☐	☑	☑	☑	☑	☑	☑
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 10/14/16

Reviewed By: AC 11/15/16
Initials/Date

Comments:
PFC L5418A

Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_02.qld

Last Altered: Tuesday, November 15, 2016 10:02:30 Pacific Standard Time
Printed: Tuesday, November 15, 2016 10:03:46 Pacific Standard Time

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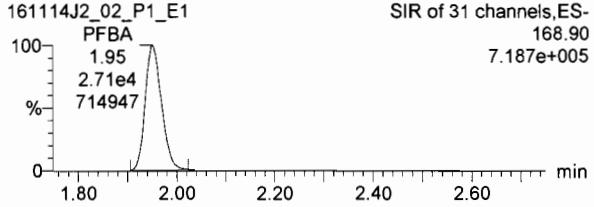
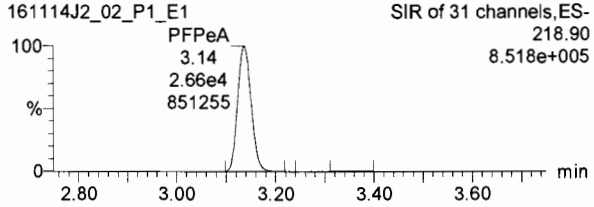
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161114J2_02.wiff, Date: 14-Nov-2016, Time: 16:14:49, ID: ST161114J2-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

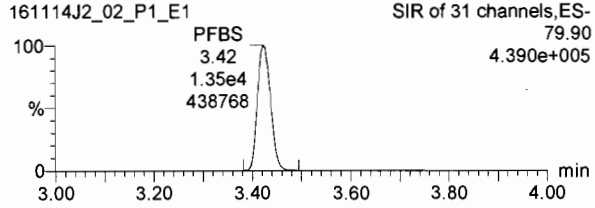
PFBA



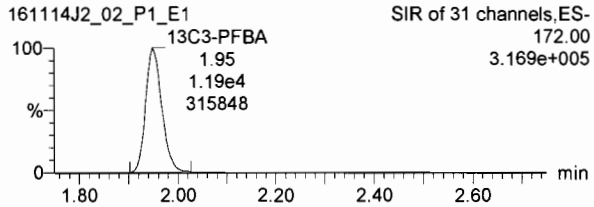
PFPeA



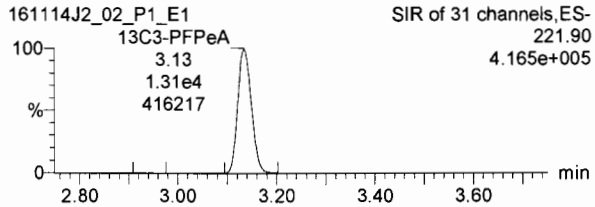
PFBS



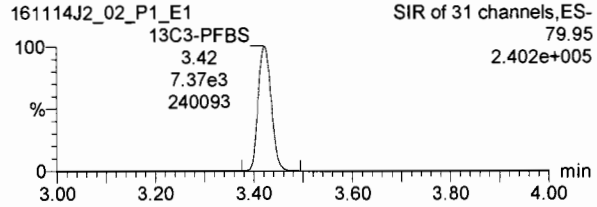
13C3-PFBA



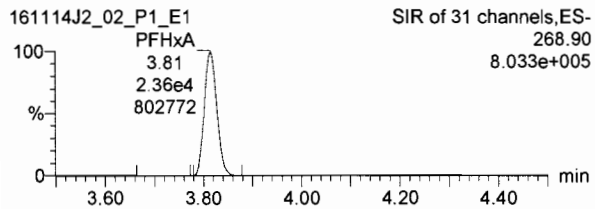
13C3-PFPeA



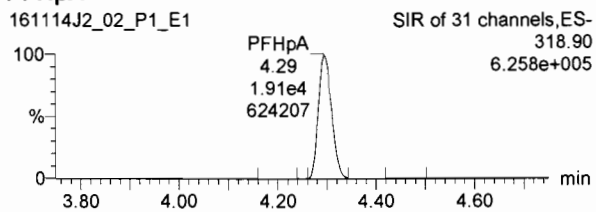
13C3-PFBS



PFHxA



PFHpA



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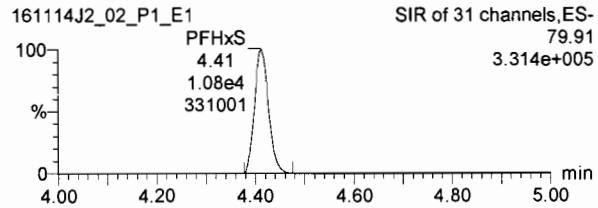
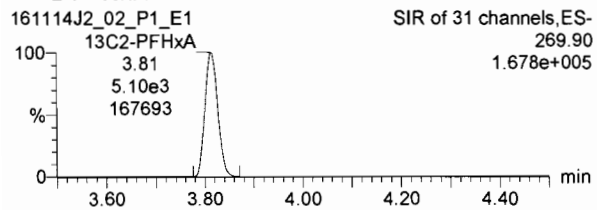
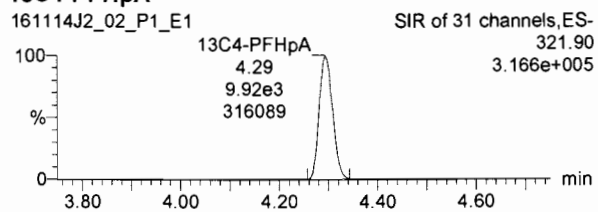


13C2-PFHxA



13C4-PFHpA



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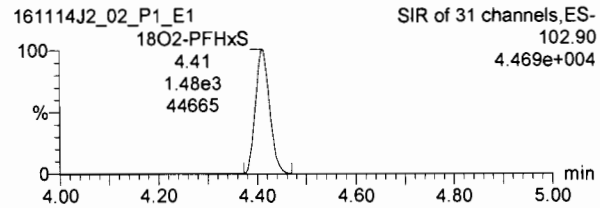

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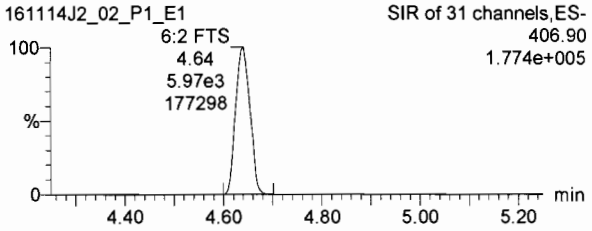
Name: 161114J2_02.wiff, Date: 14-Nov-2016, Time: 16:14:49, ID: ST161114J2-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

6:2 FTS



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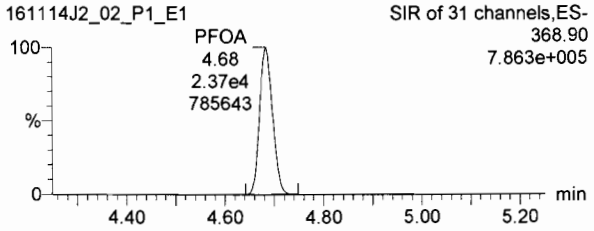

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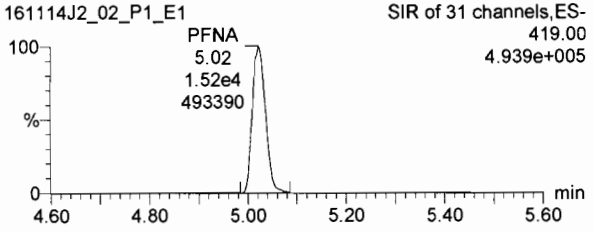
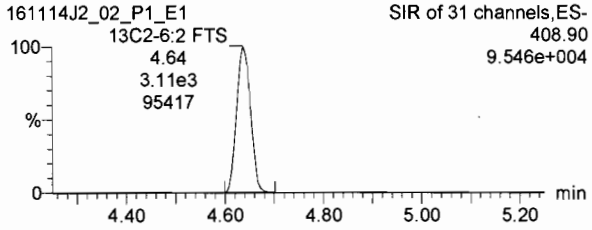
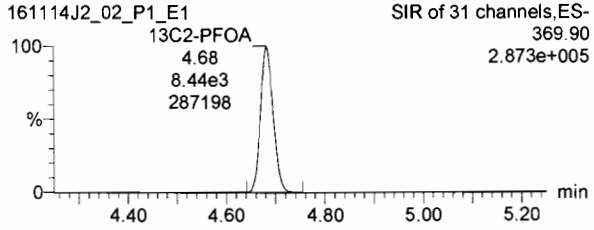


13C2-6:2 FTS



13C2-PFOA



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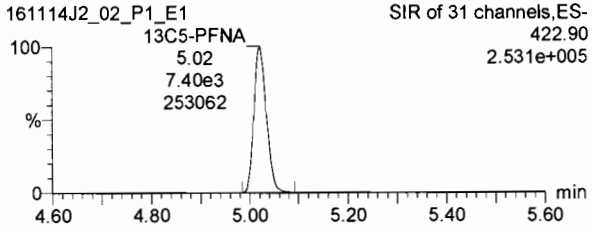
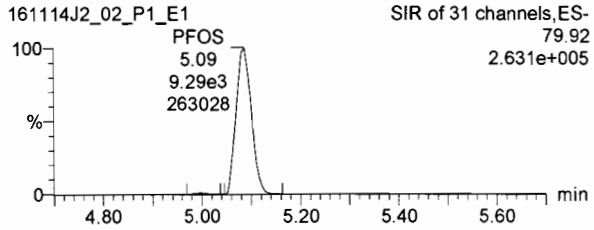
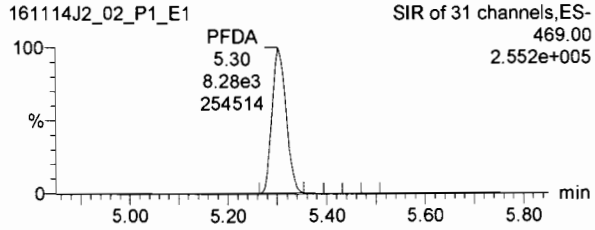


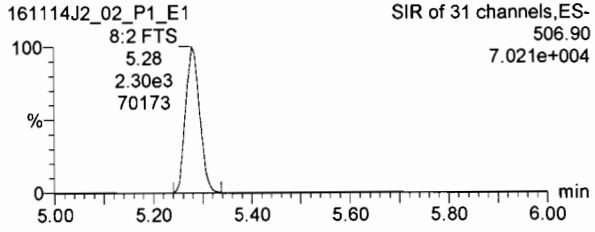
PFOS



PFDA



8:2 FTS



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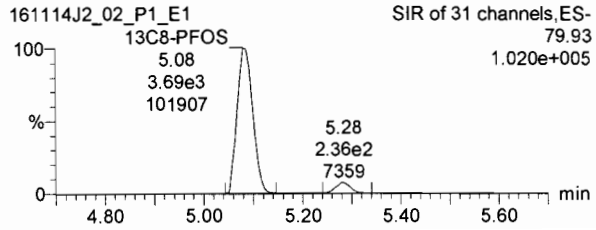

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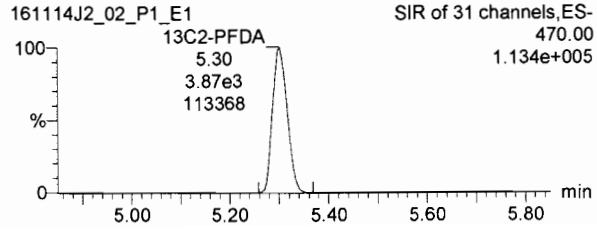
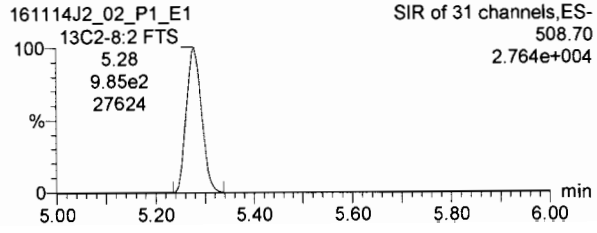


13C2-8:2 FTS



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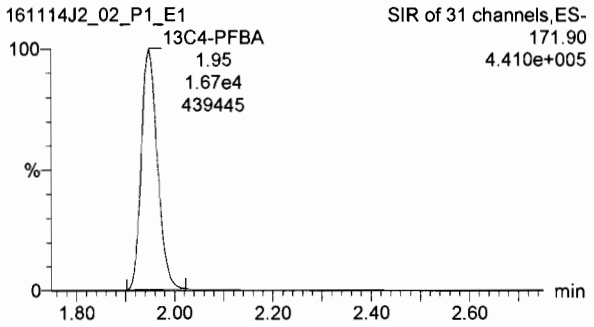
Name: 161114J2_02.wiff, Date: 14-Nov-2016, Time: 16:14:49, ID: ST161114J2-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

13C4-PFBA



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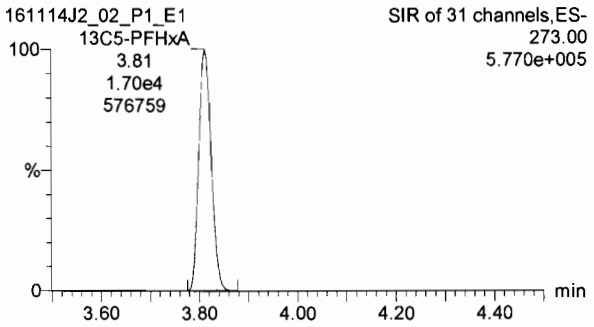

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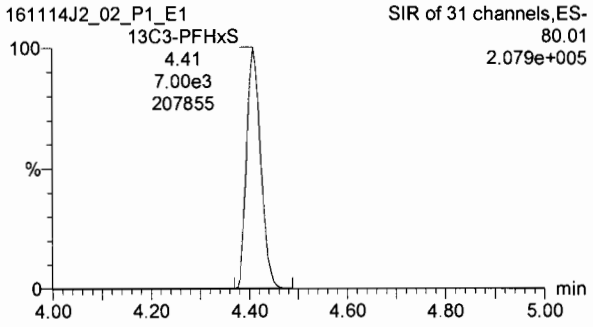

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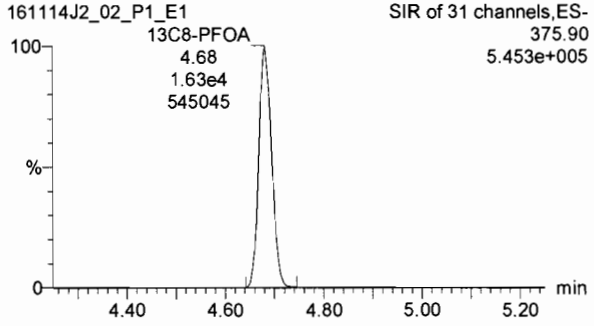
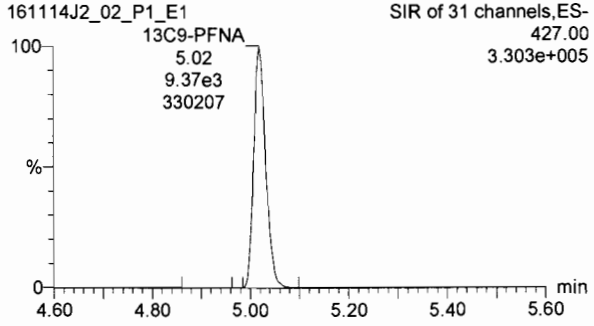


13C9-PFNA



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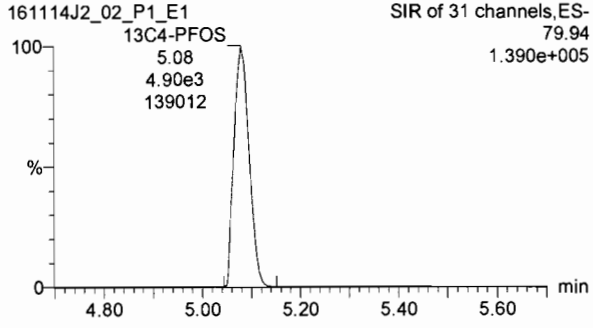
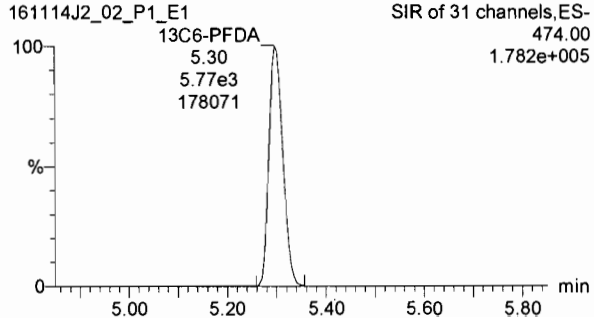


13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_22.qld

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Printed: Tuesday, November 15, 2016 10:05:39 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161114J2_22.wiff, Date: 14-Nov-2016, Time: 20:19:40, ID: ST161114J2-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

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1	1	PFBA	168.90	2.74e4	1.21e4		1.000	1.96	27.0	107.9
2	2	PFPeA	218.90	2.76e4	1.36e4		1.000	3.13	27.8	111.4
3	3	PFBS	79.90	1.42e4	7.97e3		1.000	3.42	28.4	113.7
4	4	PFHxA	268.90	2.40e4	5.06e3		1.000	3.81	27.8	111.1
5	5	PFHpA	318.90	2.10e4	1.03e4		1.000	4.29	30.0	120.1
6	6	PFHxS	79.91	1.09e4	1.57e3		1.000	4.41	26.7	106.7
7	7	6:2 FTS	406.90	5.74e3	2.63e3		1.000	4.64	30.4	121.7
8	8	PFOA	368.90	2.53e4	9.51e3		1.000	4.69	26.7	106.7
9	9	PFNA	419.00	1.44e4	7.55e3		1.000	5.03	26.3	105.4
10	10	PFOS	79.92	9.52e3	3.74e3		1.000	5.09	25.3	101.3
11	11	PFDA	469.00	8.09e3	3.91e3		1.000	5.31	25.6	102.4
12	12	8:2 FTS	506.90	2.24e3	1.03e3		1.000	5.29	26.6	106.5
13	13	13C3-PFBA	172.00	1.21e4	1.69e4	0.894	1.000	1.96	10.1	80.5
14	14	13C3-PFPeA	221.90	1.36e4	1.76e4	0.945	1.000	3.13	10.2	81.7
15	15	13C3-PFBS	79.95	7.97e3	1.76e4	0.531	1.000	3.42	10.7	85.4
16	16	13C2-PFHxA	269.90	5.06e3	1.76e4	0.905	1.000	3.81	3.98	79.6
17	17	13C4-PFHpA	321.90	1.03e4	1.76e4	0.770	1.000	4.29	9.55	76.4
18	18	18O2-PFHxS	102.90	1.57e3	7.04e3	0.276	1.000	4.40	10.1	80.8
19	19	13C2-6:2 FTS	408.90	2.63e3	1.77e4	0.219	1.000	4.64	8.48	67.9
20	20	13C2-PFOA	369.90	9.51e3	1.77e4	0.663	1.000	4.69	10.1	81.0
21	21	13C5-PFNA	422.90	7.55e3	1.01e4	1.019	1.000	5.02	9.19	73.5
22	22	13C8-PFOS	79.93	3.74e3	4.86e3	0.921	1.000	5.09	10.4	83.5
23	23	13C2-PFDA	470.00	3.91e3	5.36e3	0.887	1.000	5.31	10.3	82.2
24	24	13C2-8:2 FTS	508.70	1.03e3	5.36e3	0.272	1.000	5.28	8.87	70.9
25	25	13C4-PFBA	171.90	1.69e4	1.69e4	1.000	1.000	1.95	12.5	100.0
26	26	13C5-PFHxA	273.00	1.76e4	1.76e4	1.000	1.000	3.81	12.5	100.0
27	27	13C3-PFHxS	80.01	7.04e3	7.04e3	1.000	1.000	4.40	12.5	100.0
28	28	13C8-PFOA	375.90	1.77e4	1.77e4	1.000	1.000	4.69	12.5	100.0
29	29	13C4-PFOS	79.94	4.86e3	4.86e3	1.000	1.000	5.09	12.5	100.0
30	30	13C9-PFNA	427.00	1.01e4	1.01e4	1.000	1.000	5.02	12.5	100.0
31	31	13C6-PFDA	474.00	5.36e3	5.36e3	1.000	1.000	5.31	12.5	100.0

75-125
60-150
40-150
60-150
50-150
60-150
40-150

PLW
11/15/16

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3	161114J2_03	11/14/2016 16:27:00	IPA	IPA
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5	161114J2_05	11/14/2016 16:51:31	B6K0052-BS1	OPR
6	161114J2_06	11/14/2016 17:03:46	B6K0078-BS1	OPR
7	161114J2_07	11/14/2016 17:15:57	IPA	IPA
8	161114J2_08	11/14/2016 17:28:15	B6K0041-BLK1	Method Blank
9	161114J2_09	11/14/2016 17:40:28	B6K0052-BLK1	Method Blank
10	161114J2_10	11/14/2016 17:52:43	B6K0078-BLK1	Method Blank
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12	161114J2_12	11/14/2016 18:17:10	1601385-02	WURTS_VAS15010-20-23
13	161114J2_13	11/14/2016 18:29:25	1601385-03	WURTS_VAS15010-20-23_FD
14	161114J2_14	11/14/2016 18:41:40	1601385-04	WURTS_VAS15010-30-33
15	161114J2_15	11/14/2016 18:53:54	1601385-05	WURTS_VAS15011-16-19
16	161114J2_16	11/14/2016 19:06:09	1601385-06	WURTS_VAS15011-26-29
17	161114J2_17	11/14/2016 19:18:23	1601385-07	WURTS_VAS15011-36-39
18	161114J2_18	11/14/2016 19:30:39	1601385-08	WURTS_VAS15011-6-9
19	161114J2_19	11/14/2016 19:42:53	1601385-09	WURTS_VAS15012-18-21
20	161114J2_20	11/14/2016 19:55:09	1601385-10	WURTS_VAS15012-28-31
21	161114J2_21	11/14/2016 20:07:26	IPA	IPA
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24	161114J2_24	11/14/2016 20:44:10	1601385-11	WURTS_VAS15012-38-41
25	161114J2_25	11/14/2016 20:56:23	1601385-12	WURTS_VAS15012-8-11
26	161114J2_26	11/14/2016 21:08:37	1601391-01	DUP06_161031
27	161114J2_27	11/14/2016 21:20:51	1601391-08	M14-09D_161031
28	161114J2_28	11/14/2016 21:33:02	1601391-09	M14-09S_161031
29	161114J2_29	11/14/2016 21:45:17	1601391-10	M14-14_161031
30	161114J2_30	11/14/2016 21:57:31	1601391-11	M14-22_161031
31	161114J2_31	11/14/2016 22:09:41	1601391-12	EB17_161031
32	161114J2_32	11/14/2016 22:21:58	1601391-19	M14-23_161031
33	161114J2_33	11/14/2016 22:34:13	1601391-20	M14-24_161031
34	161114J2_34	11/14/2016 22:46:28	IPA	IPA
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38	161114J2_38	11/14/2016 23:35:28	B6K0052-MSD1	Matrix Spike Dup
39	161114J2_39	11/14/2016 23:47:43	B6K0052-MS2	Matrix Spike
40	161114J2_40	11/14/2016 23:59:59	B6K0052-MSD2	Matrix Spike Dup
41	161114J2_41	11/15/2016 00:12:12	1601401-01	OW2C-MW19-1116
42	161114J2_42	11/15/2016 00:24:28	1601401-02	OW2E-MW19-1116
43	161114J2_43	11/15/2016 00:36:39	1601401-03	OW2B-MW41-1116
44	161114J2_44	11/15/2016 00:48:54	1601401-04	203MW-19-1116
45	161114J2_45	11/15/2016 01:01:08	1601401-05	JTC-MW-B-1116
46	161114J2_46	11/15/2016 01:13:22	1601401-06	OC-MW03-1116
47	161114J2_47	11/15/2016 01:25:33	1601401-07	OC-MW01-1116
48	161114J2_48	11/15/2016 01:37:49	1601401-08	OC-MW02-1116
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53	161114J2_53	11/15/2016 02:39:05	IPA	IPA
54	161114J2_54	11/15/2016 02:51:20	1601401-11	OC-FB-110216
55	161114J2_55	11/15/2016 03:03:35	1601401-12	OC-EB-110216
56	161114J2_56	11/15/2016 03:15:50	1601401-13	MW-BG10-1116
57	161114J2_57	11/15/2016 03:28:06	B6K0064-MS1	Matrix Spike
58	161114J2_58	11/15/2016 03:40:23	B6K0064-MSD1	Matrix Spike Dup
59	161114J2_59	11/15/2016 03:52:40	1601405-01	CASTL-PUBAM21-110316
60	161114J2_60	11/15/2016 04:04:52	1601405-02	CASTL-PUBAM21-110316FD
61	161114J2_61	11/15/2016 04:17:07	1601405-03	CASTL-FB-VIS-110316
62	161114J2_62	11/15/2016 04:29:21	1601409-01	WURTS-EB006JH-103116
63	161114J2_63	11/15/2016 04:41:31	1601409-02	WURTS-EB007JH-110116
64	161114J2_64	11/15/2016 04:53:48	IPA	IPA
65	161114J2_65	11/15/2016 05:06:02	ST161114J2-5 PFC C3.5 16K1120	PFC C3.5 16K1120A A
66	161114J2_66	11/15/2016 05:18:17	IPA	IPA
67	161114J2_67	11/15/2016 05:30:28	B6K0064-BS1	OPR
68	161114J2_68	11/15/2016 05:42:45	IPA	IPA
69	161114J2_69	11/15/2016 05:55:01	B6K0064-BLK1	Method Blank
70	161114J2_70	11/15/2016 06:07:15	1601409-03	WURTS-VAS04006-22-25
71	161114J2_71	11/15/2016 06:19:30	1601409-04	WURTS-VAS04006-32-35
72	161114J2_72	11/15/2016 06:31:44	B6K0064-MS2	Matrix Spike
73	161114J2_73	11/15/2016 06:43:56	B6K0064-MSD2	Matrix Spike Dup
74	161114J2_74	11/15/2016 06:56:12	1601409-05	WURTS-VAS04007-20-23
75	161114J2_75	11/15/2016 07:08:27	1601409-06	WURTS-VAS04007-30-33
76	161114J2_76	11/15/2016 07:20:42	1601409-07	WURTS-VAS04007-40-43
77	161114J2_77	11/15/2016 07:32:58	1601409-08	WURTS-VAS04007-50-53
78	161114J2_78	11/15/2016 07:45:13	1601409-09	WURTS-VAS04008-24-27
79	161114J2_79	11/15/2016 07:57:28	1601409-10	WURTS-VAS04008-34-37
80	161114J2_80	11/15/2016 08:09:42	1601409-11	WURTS-VAS04008-44-47
81	161114J2_81	11/15/2016 08:21:53	1601409-12	WURTS-VAS04008-54-57
82	161114J2_82	11/15/2016 08:34:06	IPA	IPA
83	161114J2_83	11/15/2016 08:46:21	ST161114J2-6 PFC C3.5 16K1120	PFC C3.5 16K1120A A
84	161114J2_84	11/15/2016 08:58:36	IPA	IPA

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Printed: Tuesday, November 15, 2016 10:05:01 Pacific Standard Time

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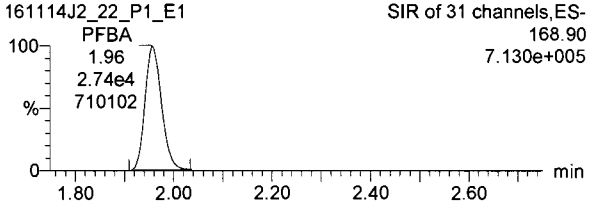
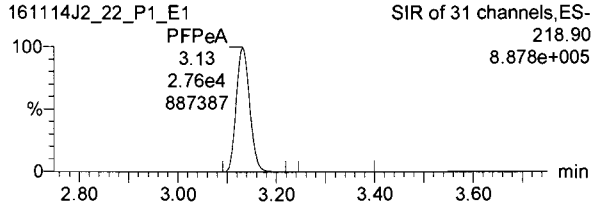
Name: 161114J2_22.wiff, Date: 14-Nov-2016, Time: 20:19:40, ID: ST161114J2-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

PFBA



PFPeA



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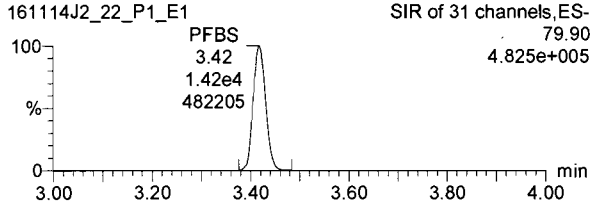
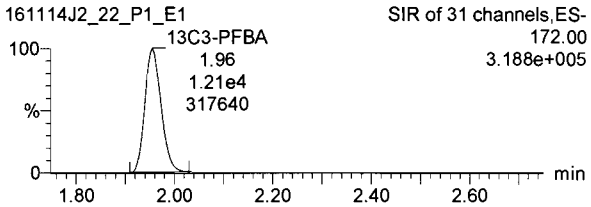


13C3-PFBA



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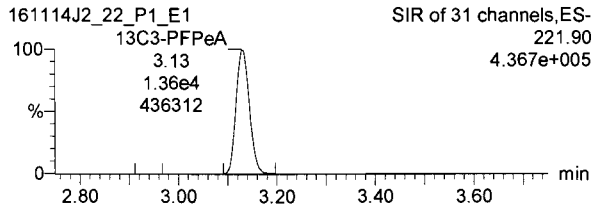

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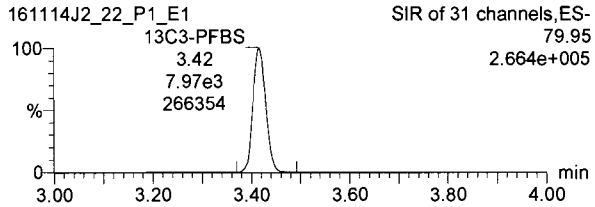

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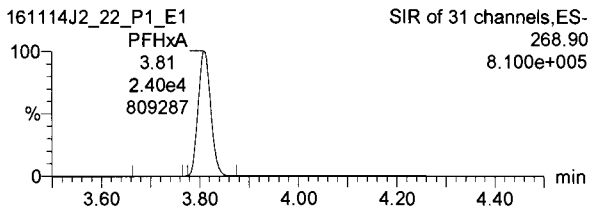

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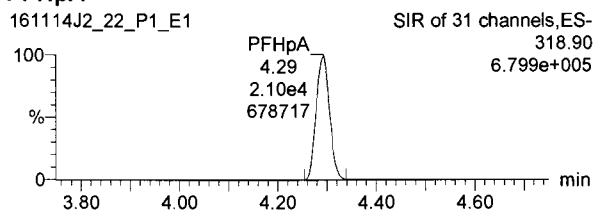
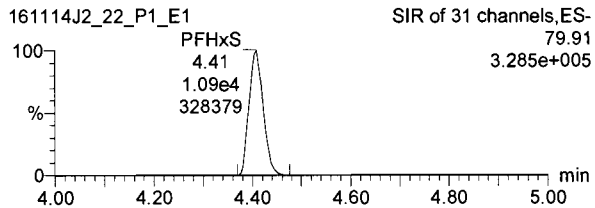


PFHxS



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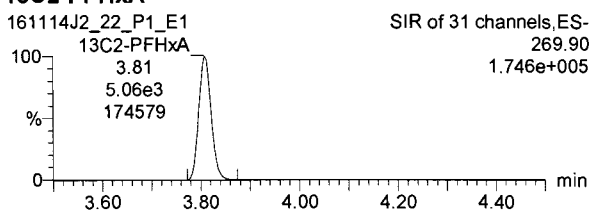

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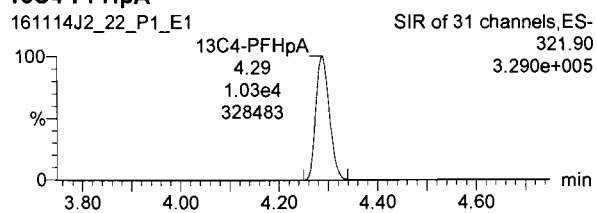
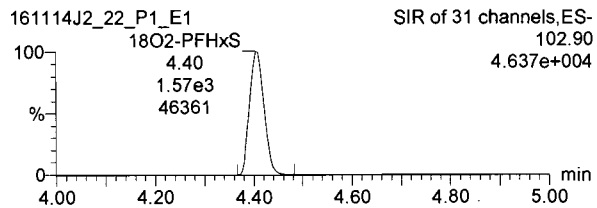


18O2-PFHxS



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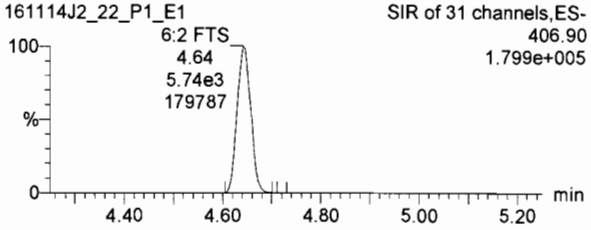
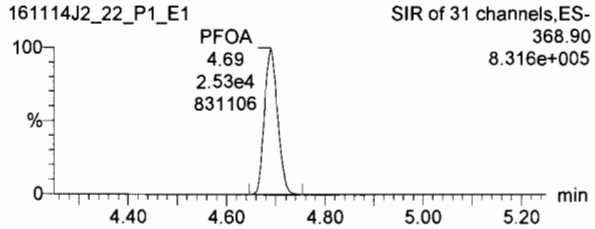
Name: 161114J2_22.wiff, Date: 14-Nov-2016, Time: 20:19:40, ID: ST161114J2-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

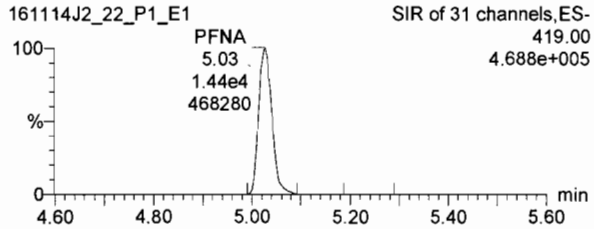
6:2 FTS



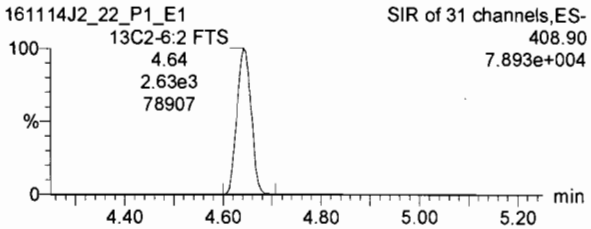
PFOA



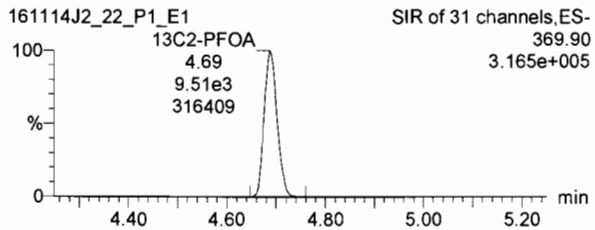
PFNA



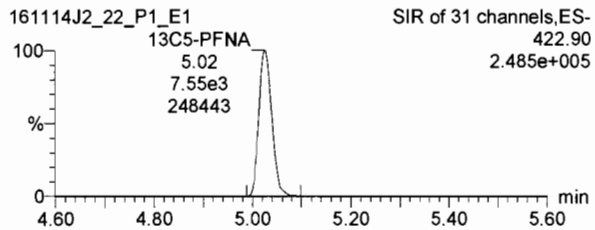
13C2-6:2 FTS



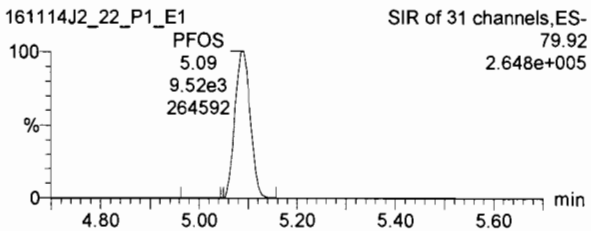
13C2-PFOA



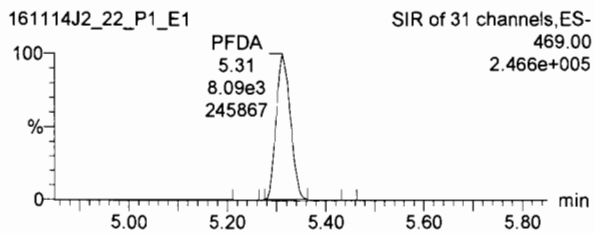
13C5-PFNA



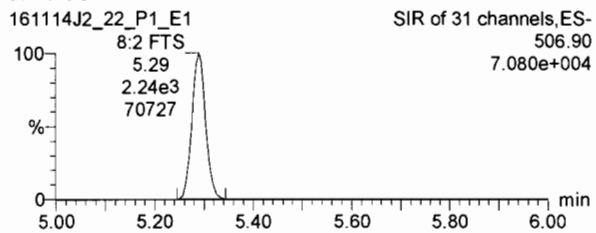
PFOS



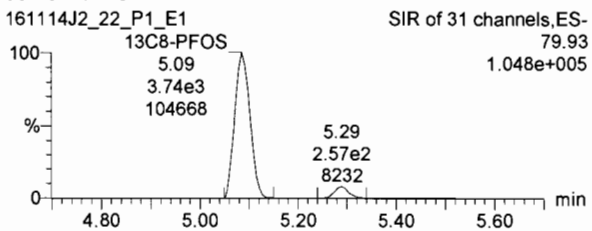
PFDA



8:2 FTS



13C8-PFOS



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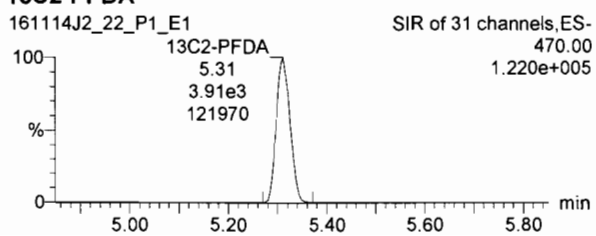
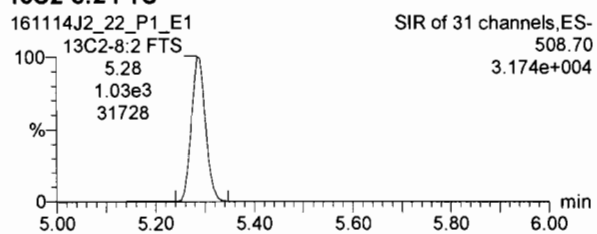


13C2-8:2 FTS



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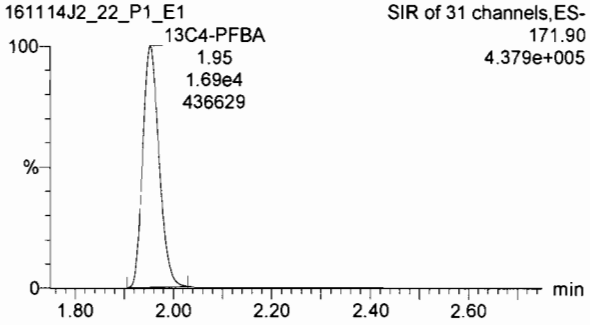
Printed: Tuesday, November 15, 2016 10:05:01 Pacific Standard Time

Name: 161114J2_22.wiff, Date: 14-Nov-2016, Time: 20:19:40, ID: ST161114J2-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

13C4-PFBA



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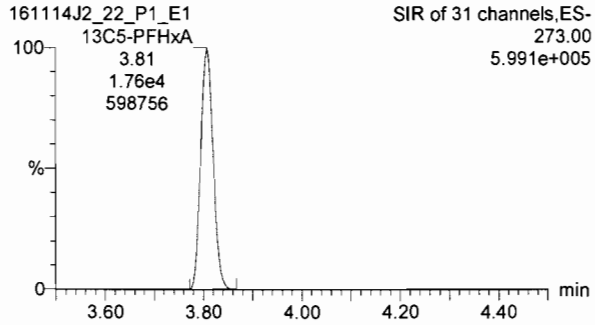
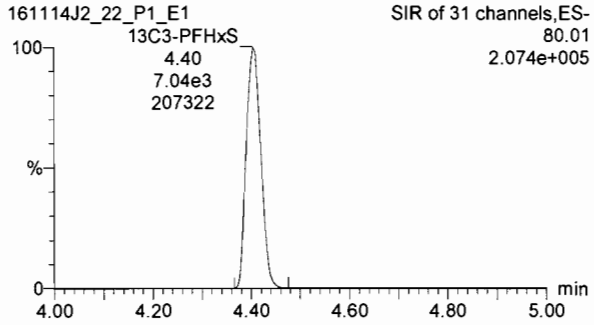


13C3-PFHxS



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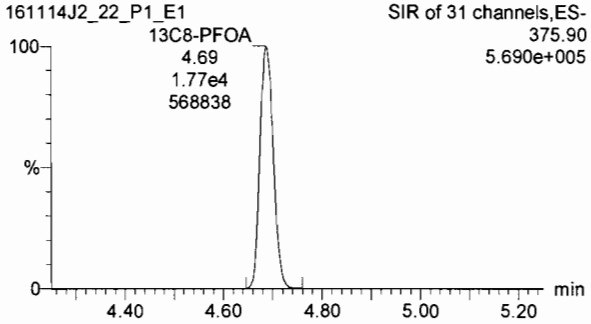
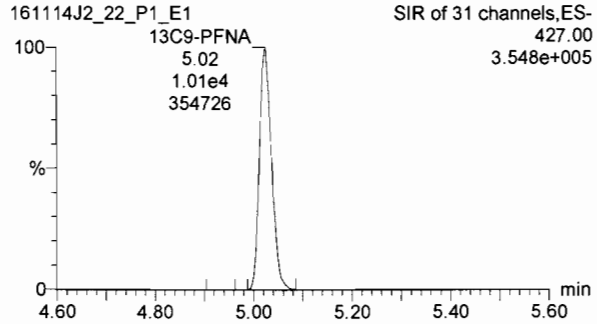
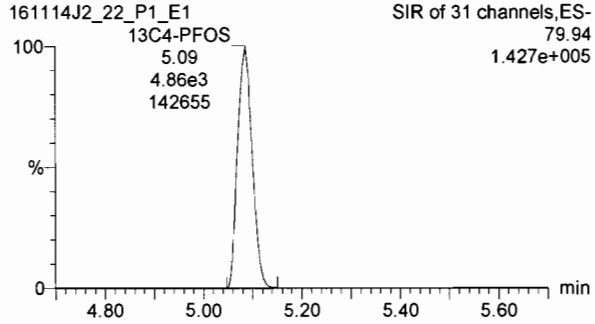


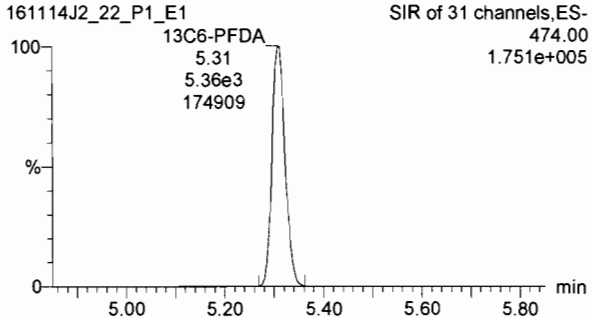
13C9-PFNA



13C4-PFOS



13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_35.qld

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Printed: Tuesday, November 15, 2016 10:06:55 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161114J2_35.wiff, Date: 14-Nov-2016, Time: 22:58:43, ID: ST161114J2-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

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1	1	PFBA	168.90	2.65e4	1.15e4		1.000	1.96	27.5	109.8
2	2	PFPeA	218.90	2.77e4	1.36e4		1.000	3.14	27.9	111.6
3	3	PFBS	79.90	1.39e4	7.66e3		1.000	3.42	28.9	115.7
4	4	PFHxA	268.90	2.36e4	4.97e3		1.000	3.81	27.8	111.2
5	5	PFHpA	318.90	1.87e4	1.03e4		1.000	4.29	27.0	107.8
6	6	PFHxS	79.91	1.08e4	1.43e3		1.000	4.41	28.9	115.6
7	7	6:2 FTS	406.90	5.32e3	2.76e3		1.000	4.64	26.6	106.3
8	8	PFOA	368.90	2.39e4	8.79e3		1.000	4.69	27.3	109.1
9	9	PFNA	419.00	1.44e4	7.80e3		1.000	5.02	25.5	101.9
10	10	PFOS	79.92	9.33e3	3.60e3		1.000	5.08	25.8	103.2
11	11	PFDA	469.00	8.09e3	3.44e3		1.000	5.31	29.0	116.2
12	12	8:2 FTS	506.90	2.03e3	9.55e2		1.000	5.29	26.0	104.0
13	13	13C3-PFBA	172.00	1.15e4	1.62e4	0.894	1.000	1.96	9.93	79.4
14	14	13C3-PFPeA	221.90	1.36e4	1.63e4	0.945	1.000	3.13	11.1	88.6
15	15	13C3-PFBS	79.95	7.66e3	1.63e4	0.531	1.000	3.42	11.1	88.7
16	16	13C2-PFHxA	269.90	4.97e3	1.63e4	0.905	1.000	3.81	4.22	84.5
17	17	13C4-PFHpA	321.90	1.03e4	1.63e4	0.770	1.000	4.29	10.3	82.1
18	18	18O2-PFHxS	102.90	1.43e3	6.72e3	0.276	1.000	4.41	9.67	77.4
19	19	13C2-6:2 FTS	408.90	2.76e3	1.65e4	0.219	1.000	4.64	9.55	76.4
20	20	13C2-PFOA	369.90	8.79e3	1.65e4	0.663	1.000	4.69	10.0	80.2
21	21	13C5-PFNA	422.90	7.80e3	9.60e3	1.019	1.000	5.02	9.96	79.7
22	22	13C8-PFOS	79.93	3.60e3	4.46e3	0.921	1.000	5.08	10.9	87.6
23	23	13C2-PFDA	470.00	3.44e3	5.02e3	0.887	1.000	5.31	9.67	77.3
24	24	13C2-8:2 FTS	508.70	9.55e2	5.02e3	0.272	1.000	5.28	8.75	70.0
25	25	13C4-PFBA	171.90	1.62e4	1.62e4	1.000	1.000	1.96	12.5	100.0
26	26	13C5-PFHxA	273.00	1.63e4	1.63e4	1.000	1.000	3.80	12.5	100.0
27	27	13C3-PFHxS	80.01	6.72e3	6.72e3	1.000	1.000	4.41	12.5	100.0
28	28	13C8-PFOA	375.90	1.65e4	1.65e4	1.000	1.000	4.69	12.5	100.0
29	29	13C4-PFOS	79.94	4.46e3	4.46e3	1.000	1.000	5.08	12.5	100.0
30	30	13C9-PFNA	427.00	9.60e3	9.60e3	1.000	1.000	5.02	12.5	100.0
31	31	13C6-PFDA	474.00	5.02e3	5.02e3	1.000	1.000	5.31	12.5	100.0

75 - 125
60-150
40-150
60-150
50-150
60-150
40-150

PW 11/15/16

	Sample Name	Acquisition Date	Sample ID	Sample Comment
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2	161114J2_02	11/14/2016 16:14:49	ST161114J2-1 PFC C3.5 16K1120	PFC C3.5 16K1120A A
3	161114J2_03	11/14/2016 16:27:00	IPA	IPA
4	161114J2_04	11/14/2016 16:39:16	B6K0041-BS1	OPR
5	161114J2_05	11/14/2016 16:51:31	B6K0052-BS1	OPR
6	161114J2_06	11/14/2016 17:03:46	B6K0078-BS1	OPR
7	161114J2_07	11/14/2016 17:15:57	IPA	IPA
8	161114J2_08	11/14/2016 17:28:15	B6K0041-BLK1	Method Blank
9	161114J2_09	11/14/2016 17:40:28	B6K0052-BLK1	Method Blank
10	161114J2_10	11/14/2016 17:52:43	B6K0078-BLK1	Method Blank
11	161114J2_11	11/14/2016 18:04:55	1601385-01	WURTS_EB004JH-102716
12	161114J2_12	11/14/2016 18:17:10	1601385-02	WURTS_VAS15010-20-23
13	161114J2_13	11/14/2016 18:29:25	1601385-03	WURTS_VAS15010-20-23_FD
14	161114J2_14	11/14/2016 18:41:40	1601385-04	WURTS_VAS15010-30-33
15	161114J2_15	11/14/2016 18:53:54	1601385-05	WURTS_VAS15011-16-19
16	161114J2_16	11/14/2016 19:06:09	1601385-06	WURTS_VAS15011-26-29
17	161114J2_17	11/14/2016 19:18:23	1601385-07	WURTS_VAS15011-36-39
18	161114J2_18	11/14/2016 19:30:39	1601385-08	WURTS_VAS15011-6-9
19	161114J2_19	11/14/2016 19:42:53	1601385-09	WURTS_VAS15012-18-21
20	161114J2_20	11/14/2016 19:55:09	1601385-10	WURTS_VAS15012-28-31
21	161114J2_21	11/14/2016 20:07:26	IPA	IPA
22	161114J2_22	11/14/2016 20:19:40	ST161114J2-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
23	161114J2_23	11/14/2016 20:31:55	IPA	IPA
24	161114J2_24	11/14/2016 20:44:10	1601385-11	WURTS_VAS15012-38-41
25	161114J2_25	11/14/2016 20:56:23	1601385-12	WURTS_VAS15012-8-11
26	161114J2_26	11/14/2016 21:08:37	1601391-01	DUP06_161031
27	161114J2_27	11/14/2016 21:20:51	1601391-08	M14-09D_161031
28	161114J2_28	11/14/2016 21:33:02	1601391-09	M14-09S_161031
29	161114J2_29	11/14/2016 21:45:17	1601391-10	M14-14_161031
30	161114J2_30	11/14/2016 21:57:31	1601391-11	M14-22_161031
31	161114J2_31	11/14/2016 22:09:41	1601391-12	EB17_161031
32	161114J2_32	11/14/2016 22:21:58	1601391-19	M14-23_161031
33	161114J2_33	11/14/2016 22:34:13	1601391-20	M14-24_161031
34	161114J2_34	11/14/2016 22:46:28	IPA	IPA
35	161114J2_35	11/14/2016 22:58:43	ST161114J2-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
36	161114J2_36	11/14/2016 23:10:58	IPA	IPA
37	161114J2_37	11/14/2016 23:23:13	B6K0052-MS1	Matrix Spike
38	161114J2_38	11/14/2016 23:35:28	B6K0052-MSD1	Matrix Spike Dup
39	161114J2_39	11/14/2016 23:47:43	B6K0052-MS2	Matrix Spike
40	161114J2_40	11/14/2016 23:59:59	B6K0052-MSD2	Matrix Spike Dup
41	161114J2_41	11/15/2016 00:12:12	1601401-01	OW2C-MW19-1116
42	161114J2_42	11/15/2016 00:24:28	1601401-02	OW2E-MW19-1116
43	161114J2_43	11/15/2016 00:36:39	1601401-03	OW2B-MW41-1116
44	161114J2_44	11/15/2016 00:48:54	1601401-04	203MW-19-1116
45	161114J2_45	11/15/2016 01:01:08	1601401-05	JTC-MW-B-1116
46	161114J2_46	11/15/2016 01:13:22	1601401-06	OC-MW03-1116
47	161114J2_47	11/15/2016 01:25:33	1601401-07	OC-MW01-1116
48	161114J2_48	11/15/2016 01:37:49	1601401-08	OC-MW02-1116
49	161114J2_49	11/15/2016 01:50:04	1601401-09	OW26-MW1-1116

	Sample Name	Acquisition Date	Sample ID	Sample Comment
50	161114J2_50	11/15/2016 02:02:20	1601401-10	OW26-MW1P 1116
51	161114J2_51	11/15/2016 02:14:35	IPA	IPA
52	161114J2_52	11/15/2016 02:26:51	ST161114J2-4 PFC C3.5 16K1120	PFC C3.5 16K1120A A
53	161114J2_53	11/15/2016 02:39:05	IPA	IPA
54	161114J2_54	11/15/2016 02:51:20	1601401-11	OC-FB-110216
55	161114J2_55	11/15/2016 03:03:35	1601401-12	OC-EB-110216
56	161114J2_56	11/15/2016 03:15:50	1601401-13	MW-BG10-1116
57	161114J2_57	11/15/2016 03:28:06	B6K0064-MS1	Matrix Spike
58	161114J2_58	11/15/2016 03:40:23	B6K0064-MSD1	Matrix Spike Dup
59	161114J2_59	11/15/2016 03:52:40	1601405-01	CASTL-PUBAM21-110316
60	161114J2_60	11/15/2016 04:04:52	1601405-02	CASTL-PUBAM21-110316FD
61	161114J2_61	11/15/2016 04:17:07	1601405-03	CASTL-FB-VIS-110316
62	161114J2_62	11/15/2016 04:29:21	1601409-01	WURTS-EB006JH-103116
63	161114J2_63	11/15/2016 04:41:31	1601409-02	WURTS-EB007JH-110116
64	161114J2_64	11/15/2016 04:53:48	IPA	IPA
65	161114J2_65	11/15/2016 05:06:02	ST161114J2-5 PFC C3.5 16K1120	PFC C3.5 16K1120A A
66	161114J2_66	11/15/2016 05:18:17	IPA	IPA
67	161114J2_67	11/15/2016 05:30:28	B6K0064-BS1	OPR
68	161114J2_68	11/15/2016 05:42:45	IPA	IPA
69	161114J2_69	11/15/2016 05:55:01	B6K0064-BLK1	Method Blank
70	161114J2_70	11/15/2016 06:07:15	1601409-03	WURTS-VAS04006-22-25
71	161114J2_71	11/15/2016 06:19:30	1601409-04	WURTS-VAS04006-32-35
72	161114J2_72	11/15/2016 06:31:44	B6K0064-MS2	Matrix Spike
73	161114J2_73	11/15/2016 06:43:56	B6K0064-MSD2	Matrix Spike Dup
74	161114J2_74	11/15/2016 06:56:12	1601409-05	WURTS-VAS04007-20-23
75	161114J2_75	11/15/2016 07:08:27	1601409-06	WURTS-VAS04007-30-33
76	161114J2_76	11/15/2016 07:20:42	1601409-07	WURTS-VAS04007-40-43
77	161114J2_77	11/15/2016 07:32:58	1601409-08	WURTS-VAS04007-50-53
78	161114J2_78	11/15/2016 07:45:13	1601409-09	WURTS-VAS04008-24-27
79	161114J2_79	11/15/2016 07:57:28	1601409-10	WURTS-VAS04008-34-37
80	161114J2_80	11/15/2016 08:09:42	1601409-11	WURTS-VAS04008-44-47
81	161114J2_81	11/15/2016 08:21:53	1601409-12	WURTS-VAS04008-54-57
82	161114J2_82	11/15/2016 08:34:06	IPA	IPA
83	161114J2_83	11/15/2016 08:46:21	ST161114J2-6 PFC C3.5 16K1120	PFC C3.5 16K1120A A
84	161114J2_84	11/15/2016 08:58:36	IPA	IPA

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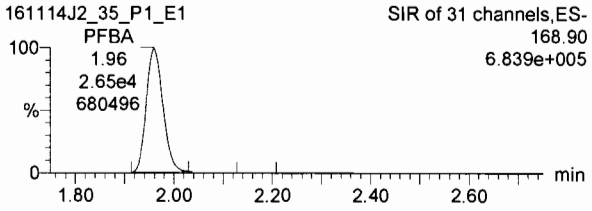
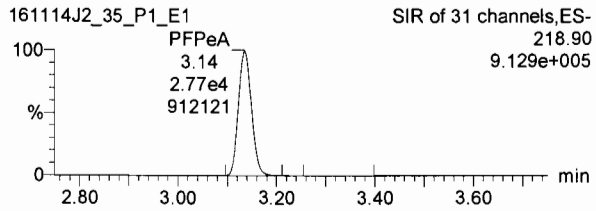
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161114J2_35.wiff, Date: 14-Nov-2016, Time: 22:58:43, ID: ST161114J2-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

PFBA



PFPeA



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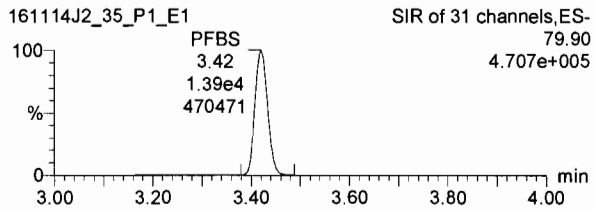
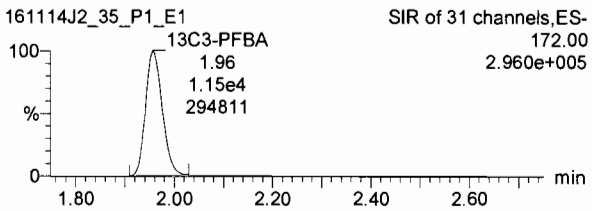
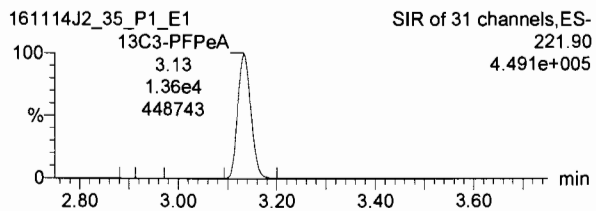


13C3-PFBA



13C3-PFPeA



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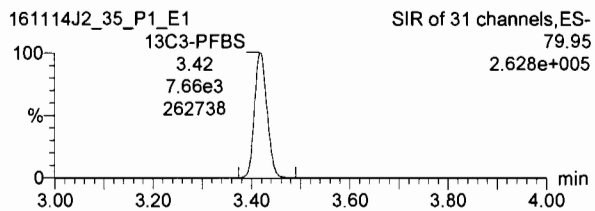
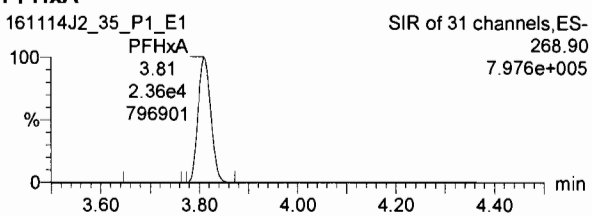
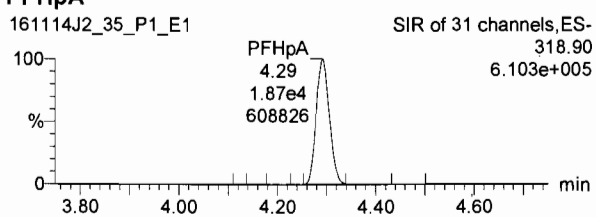


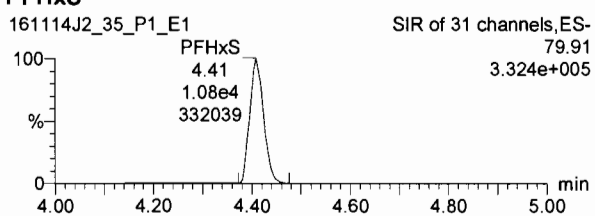
PFHxA



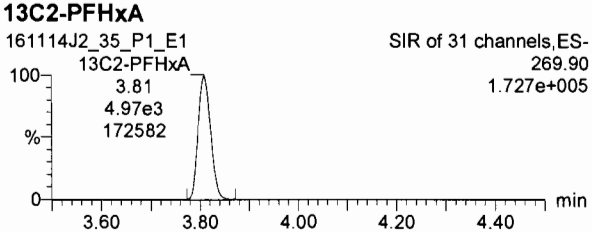
PFHpA



PFHxS



13C2-PFHxA



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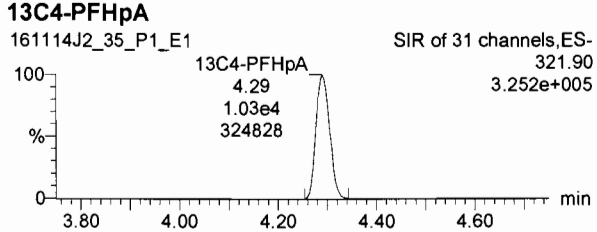
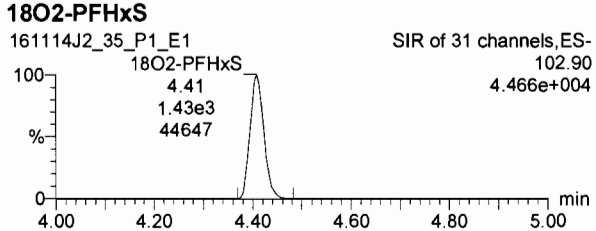


18O2-PFHxS



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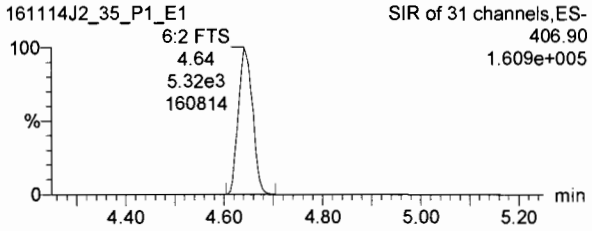
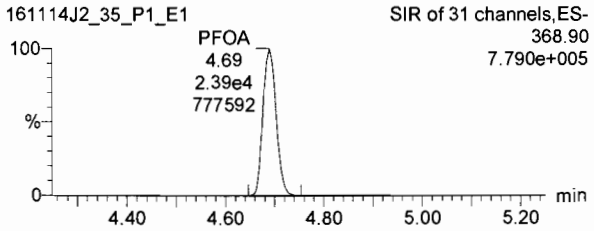
Name: 161114J2_35.wiff, Date: 14-Nov-2016, Time: 22:58:43, ID: ST161114J2-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

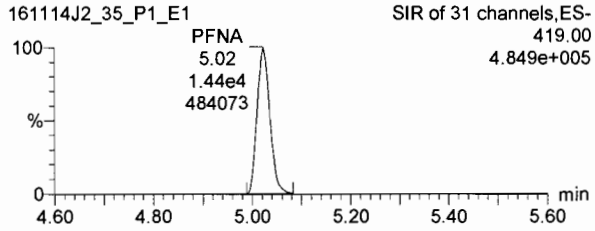
6:2 FTS



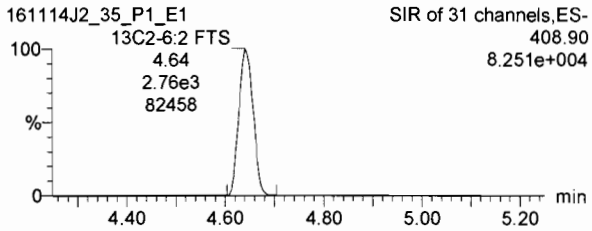
PFOA



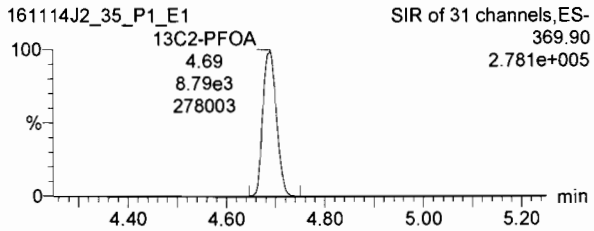
PFNA



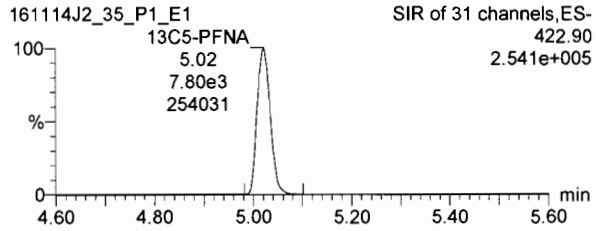
13C2-6:2 FTS



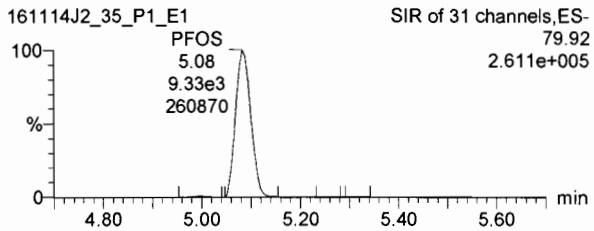
13C2-PFOA



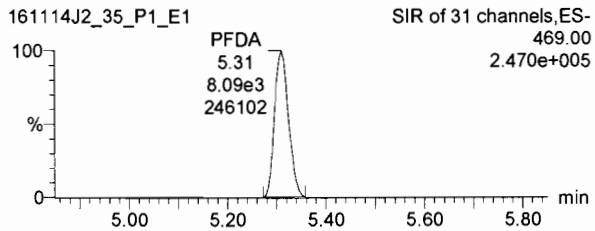
13C5-PFNA



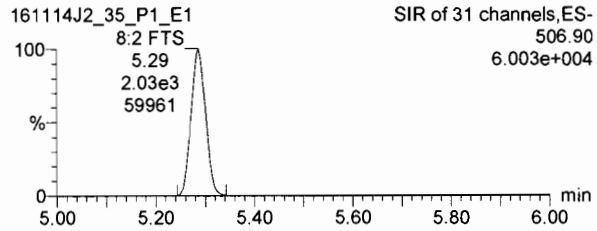
PFOS



PFDA



8:2 FTS



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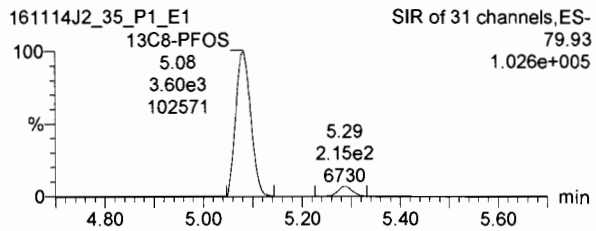
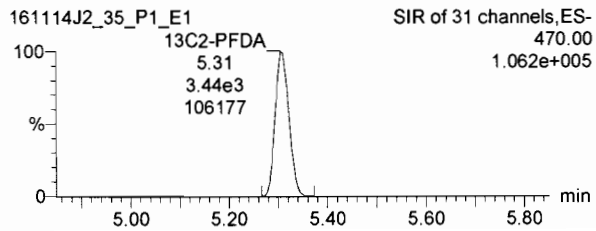
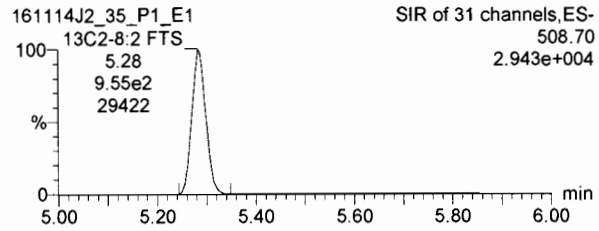


13C2-PFDA



13C2-8:2 FTS



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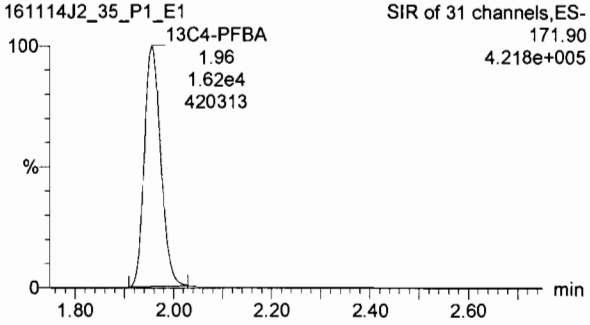
13C4-PFBA



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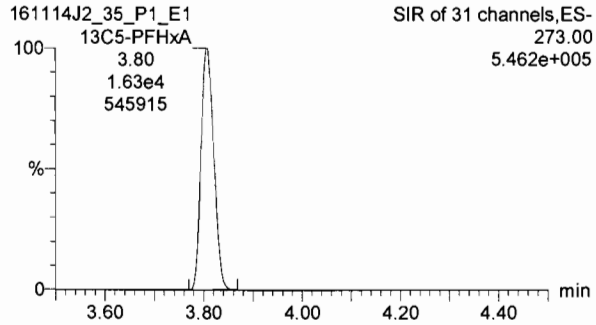

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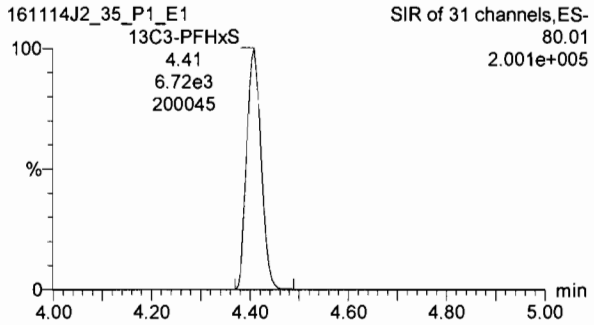

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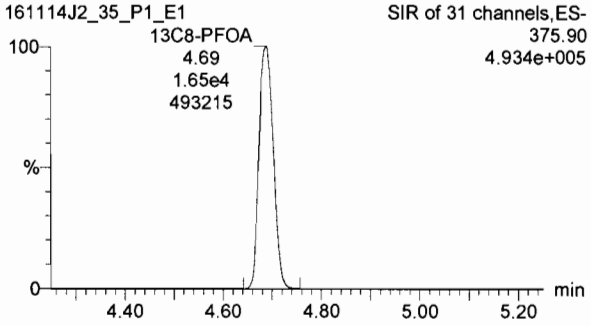

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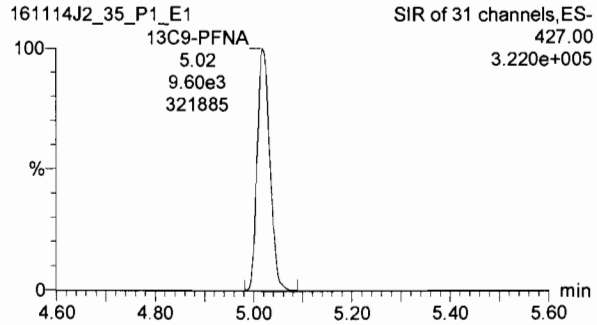

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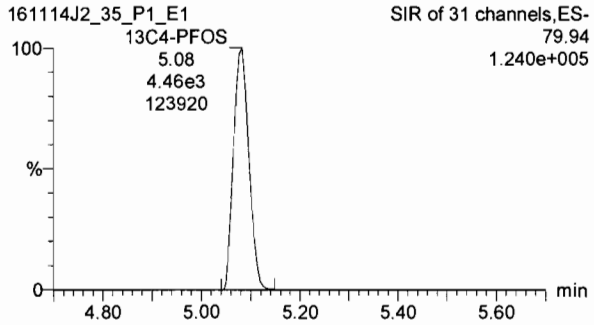
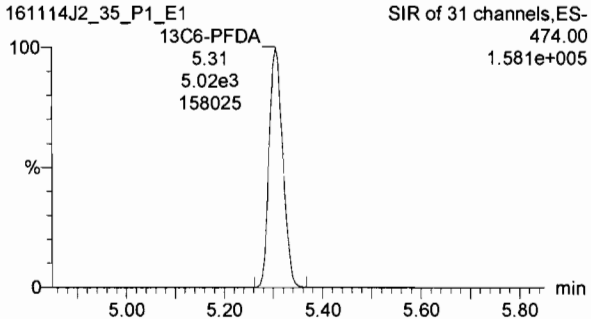


13C6-PFDA



Vista Analytical Laboratory Q1

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

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1	1	PFBA	168.90	2.65e4	1.19e4		1.000	1.97	26.7	106.6	75-125
2	2	PFPeA	218.90	2.69e4	1.31e4		1.000	3.14	28.1	112.3	
3	3	PFBS	79.90	1.31e4	7.10e3		1.000	3.42	29.4	117.6	
4	4	PFHxA	268.90	2.29e4	4.78e3		1.000	3.81	28.1	112.3	
5	5	PFHpA	318.90	1.89e4	9.85e3		1.000	4.29	28.4	113.7	
6	6	PFHxS	79.91	1.04e4	1.49e3		1.000	4.41	27.0	108.0	
7	7	6:2 FTS	406.90	5.10e3	2.53e3		1.000	4.64	27.9	111.5	
8	8	PFOA	368.90	2.22e4	9.00e3		1.000	4.68	24.7	98.6	
9	9	PFNA	419.00	1.35e4	7.52e3		1.000	5.01	24.8	99.1	
10	10	PFOS	79.92	9.51e3	3.41e3		1.000	5.07	27.8	111.2	
11	11	PFDA	469.00	6.80e3	3.44e3		1.000	5.29	24.5	97.9	
12	12	8:2 FTS	506.90	1.63e3	8.04e2		1.000	5.27	24.8	99.2	
13	13	13C3-PFBA	172.00	1.19e4	1.62e4	0.894	1.000	1.97	10.2	81.9	60-150
14	14	13C3-PFPeA	221.90	1.31e4	1.59e4	0.945	1.000	3.14	10.9	87.1	
15	15	13C3-PFBS	79.95	7.10e3	1.59e4	0.531	1.000	3.42	10.5	83.9	
16	16	13C2-PFHxA	269.90	4.78e3	1.59e4	0.905	1.000	3.81	4.14	82.9	
17	17	13C4-PFHpA	321.90	9.85e3	1.59e4	0.770	1.000	4.29	10.0	80.3	
18	18	18O2-PFHxS	102.90	1.49e3	6.87e3	0.276	1.000	4.40	9.81	78.5	
19	19	13C2-6:2 FTS	408.90	2.53e3	1.63e4	0.219	1.000	4.64	8.87	71.0	40-150
20	20	13C2-PFOA	369.90	9.00e3	1.63e4	0.663	1.000	4.68	10.4	83.2	60-150
21	21	13C5-PFNA	422.90	7.52e3	9.39e3	1.019	1.000	5.01	9.82	78.6	50-150
22	22	13C8-PFOS	79.93	3.41e3	4.19e3	0.921	1.000	5.07	11.0	88.2	60-150
23	23	13C2-PFDA	470.00	3.44e3	4.72e3	0.887	1.000	5.29	10.3	82.2	
24	24	13C2-8:2 FTS	508.70	8.04e2	4.72e3	0.272	1.000	5.27	7.84	62.7	40-150
25	25	13C4-PFBA	171.90	1.62e4	1.62e4	1.000	1.000	1.97	12.5	100.0	
26	26	13C5-PFHxA	273.00	1.59e4	1.59e4	1.000	1.000	3.81	12.5	100.0	
27	27	13C3-PFHxS	80.01	6.87e3	6.87e3	1.000	1.000	4.40	12.5	100.0	
28	28	13C8-PFOA	375.90	1.63e4	1.63e4	1.000	1.000	4.68	12.5	100.0	
29	29	13C4-PFOS	79.94	4.19e3	4.19e3	1.000	1.000	5.07	12.5	100.0	
30	30	13C9-PFNA	427.00	9.39e3	9.39e3	1.000	1.000	5.00	12.5	100.0	
31	31	13C6-PFDA	474.00	4.72e3	4.72e3	1.000	1.000	5.29	12.5	100.0	

PW
11/15/16

	Sample Name	Acquisition Date	Sample ID	Sample Comment
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2	161114J2_02	11/14/2016 16:14:49	ST161114J2-1 PFC C3.5 16K1120	PFC C3.5 16K1120A A
3	161114J2_03	11/14/2016 16:27:00	IPA	IPA
4	161114J2_04	11/14/2016 16:39:16	B6K0041-BS1	OPR
5	161114J2_05	11/14/2016 16:51:31	B6K0052-BS1	OPR
6	161114J2_06	11/14/2016 17:03:46	B6K0078-BS1	OPR
7	161114J2_07	11/14/2016 17:15:57	IPA	IPA
8	161114J2_08	11/14/2016 17:28:15	B6K0041-BLK1	Method Blank
9	161114J2_09	11/14/2016 17:40:28	B6K0052-BLK1	Method Blank
10	161114J2_10	11/14/2016 17:52:43	B6K0078-BLK1	Method Blank
11	161114J2_11	11/14/2016 18:04:55	1601385-01	WURTS_EB004JH-102716
12	161114J2_12	11/14/2016 18:17:10	1601385-02	WURTS_VAS15010-20-23
13	161114J2_13	11/14/2016 18:29:25	1601385-03	WURTS_VAS15010-20-23_FD
14	161114J2_14	11/14/2016 18:41:40	1601385-04	WURTS_VAS15010-30-33
15	161114J2_15	11/14/2016 18:53:54	1601385-05	WURTS_VAS15011-16-19
16	161114J2_16	11/14/2016 19:06:09	1601385-06	WURTS_VAS15011-26-29
17	161114J2_17	11/14/2016 19:18:23	1601385-07	WURTS_VAS15011-36-39
18	161114J2_18	11/14/2016 19:30:39	1601385-08	WURTS_VAS15011-6-9
19	161114J2_19	11/14/2016 19:42:53	1601385-09	WURTS_VAS15012-18-21
20	161114J2_20	11/14/2016 19:55:09	1601385-10	WURTS_VAS15012-28-31
21	161114J2_21	11/14/2016 20:07:26	IPA	IPA
22	161114J2_22	11/14/2016 20:19:40	ST161114J2-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
23	161114J2_23	11/14/2016 20:31:55	IPA	IPA
24	161114J2_24	11/14/2016 20:44:10	1601385-11	WURTS_VAS15012-38-41
25	161114J2_25	11/14/2016 20:56:23	1601385-12	WURTS_VAS15012-8-11
26	161114J2_26	11/14/2016 21:08:37	1601391-01	DUP06_161031
27	161114J2_27	11/14/2016 21:20:51	1601391-08	M14-09D_161031
28	161114J2_28	11/14/2016 21:33:02	1601391-09	M14-09S_161031
29	161114J2_29	11/14/2016 21:45:17	1601391-10	M14-14_161031
30	161114J2_30	11/14/2016 21:57:31	1601391-11	M14-22_161031
31	161114J2_31	11/14/2016 22:09:41	1601391-12	EB17_161031
32	161114J2_32	11/14/2016 22:21:58	1601391-19	M14-23_161031
33	161114J2_33	11/14/2016 22:34:13	1601391-20	M14-24_161031
34	161114J2_34	11/14/2016 22:46:28	IPA	IPA
35	161114J2_35	11/14/2016 22:58:43	ST161114J2-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
36	161114J2_36	11/14/2016 23:10:58	IPA	IPA
37	161114J2_37	11/14/2016 23:23:13	B6K0052-MS1	Matrix Spike
38	161114J2_38	11/14/2016 23:35:28	B6K0052-MSD1	Matrix Spike Dup
39	161114J2_39	11/14/2016 23:47:43	B6K0052-MS2	Matrix Spike
40	161114J2_40	11/14/2016 23:59:59	B6K0052-MSD2	Matrix Spike Dup
41	161114J2_41	11/15/2016 00:12:12	1601401-01	OW2C-MW19-1116
42	161114J2_42	11/15/2016 00:24:28	1601401-02	OW2E-MW19-1116
43	161114J2_43	11/15/2016 00:36:39	1601401-03	OW2B-MW41-1116
44	161114J2_44	11/15/2016 00:48:54	1601401-04	203MW-19-1116
45	161114J2_45	11/15/2016 01:01:08	1601401-05	JTC-MW-B-1116
46	161114J2_46	11/15/2016 01:13:22	1601401-06	OC-MW03-1116
47	161114J2_47	11/15/2016 01:25:33	1601401-07	OC-MW01-1116
48	161114J2_48	11/15/2016 01:37:49	1601401-08	OC-MW02-1116
49	161114J2_49	11/15/2016 01:50:04	1601401-09	OW26-MW1-1116

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51	161114J2_51	11/15/2016 02:14:35	IPA	IPA
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53	161114J2_53	11/15/2016 02:39:05	IPA	IPA
54	161114J2_54	11/15/2016 02:51:20	1601401-11	OC-FB-110216
55	161114J2_55	11/15/2016 03:03:35	1601401-12	OC-EB-110216
56	161114J2_56	11/15/2016 03:15:50	1601401-13	MW-BG10-1116
57	161114J2_57	11/15/2016 03:28:06	B6K0064-MS1	Matrix Spike
58	161114J2_58	11/15/2016 03:40:23	B6K0064-MSD1	Matrix Spike Dup
59	161114J2_59	11/15/2016 03:52:40	1601405-01	CASTL-PUBAM21-110316
60	161114J2_60	11/15/2016 04:04:52	1601405-02	CASTL-PUBAM21-110316FD
61	161114J2_61	11/15/2016 04:17:07	1601405-03	CASTL-FB-VIS-110316
62	161114J2_62	11/15/2016 04:29:21	1601409-01	WURTS-EB006JH-103116
63	161114J2_63	11/15/2016 04:41:31	1601409-02	WURTS-EB007JH-110116
64	161114J2_64	11/15/2016 04:53:48	IPA	IPA
65	161114J2_65	11/15/2016 05:06:02	ST161114J2-5 PFC C3.5 16K1120	PFC C3.5 16K1120A A
66	161114J2_66	11/15/2016 05:18:17	IPA	IPA
67	161114J2_67	11/15/2016 05:30:28	B6K0064-BS1	OPR
68	161114J2_68	11/15/2016 05:42:45	IPA	IPA
69	161114J2_69	11/15/2016 05:55:01	B6K0064-BLK1	Method Blank
70	161114J2_70	11/15/2016 06:07:15	1601409-03	WURTS-VAS04006-22-25
71	161114J2_71	11/15/2016 06:19:30	1601409-04	WURTS-VAS04006-32-35
72	161114J2_72	11/15/2016 06:31:44	B6K0064-MS2	Matrix Spike
73	161114J2_73	11/15/2016 06:43:56	B6K0064-MSD2	Matrix Spike Dup
74	161114J2_74	11/15/2016 06:56:12	1601409-05	WURTS-VAS04007-20-23
75	161114J2_75	11/15/2016 07:08:27	1601409-06	WURTS-VAS04007-30-33
76	161114J2_76	11/15/2016 07:20:42	1601409-07	WURTS-VAS04007-40-43
77	161114J2_77	11/15/2016 07:32:58	1601409-08	WURTS-VAS04007-50-53
78	161114J2_78	11/15/2016 07:45:13	1601409-09	WURTS-VAS04008-24-27
79	161114J2_79	11/15/2016 07:57:28	1601409-10	WURTS-VAS04008-34-37
80	161114J2_80	11/15/2016 08:09:42	1601409-11	WURTS-VAS04008-44-47
81	161114J2_81	11/15/2016 08:21:53	1601409-12	WURTS-VAS04008-54-57
82	161114J2_82	11/15/2016 08:34:06	IPA	IPA
83	161114J2_83	11/15/2016 08:46:21	ST161114J2-6 PFC C3.5 16K1120	PFC C3.5 16K1120A A
84	161114J2_84	11/15/2016 08:58:36	IPA	IPA

Vista Analytical Laboratory Q2

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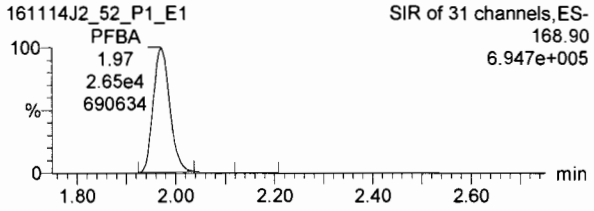
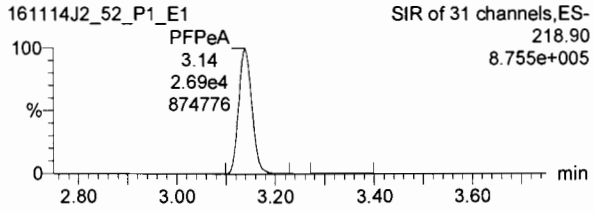
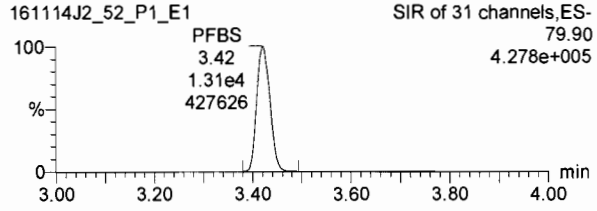


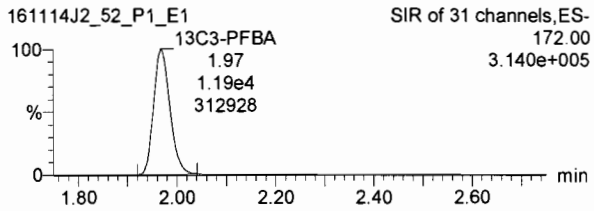
PFPeA



PFBS



13C3-PFBA



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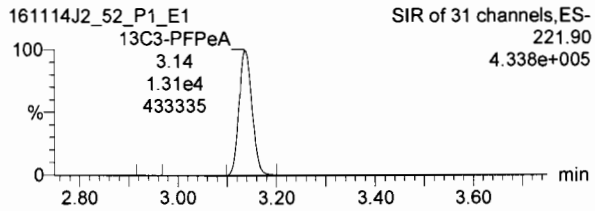

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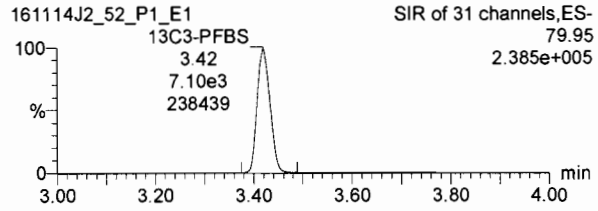

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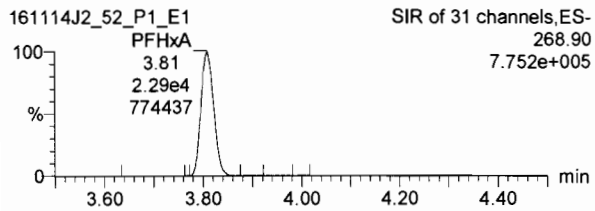

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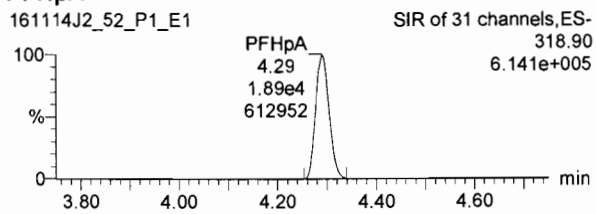

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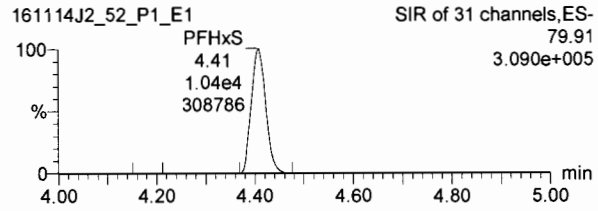

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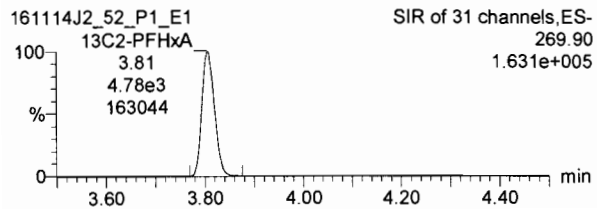

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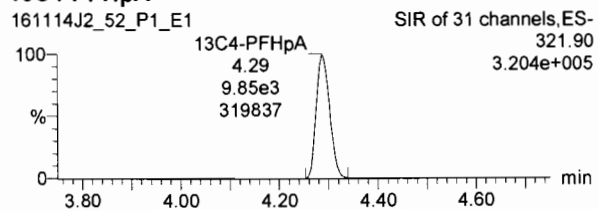
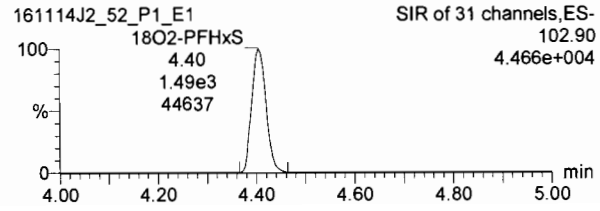


18O2-PFHxS



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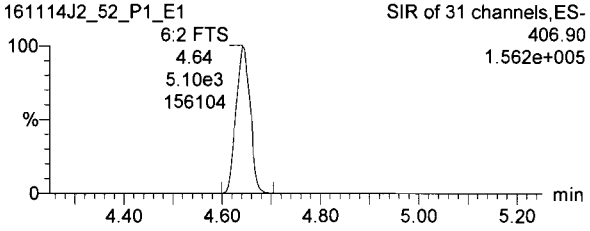
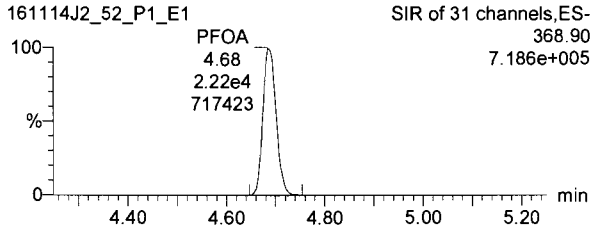
6:2 FTS



PFOA



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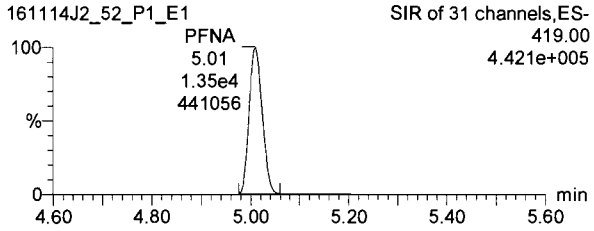

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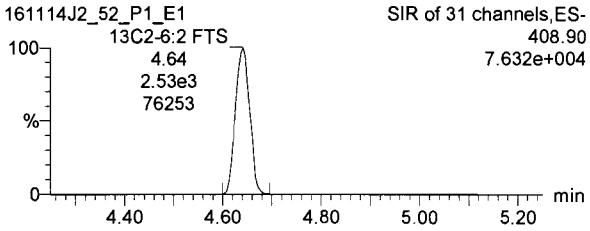

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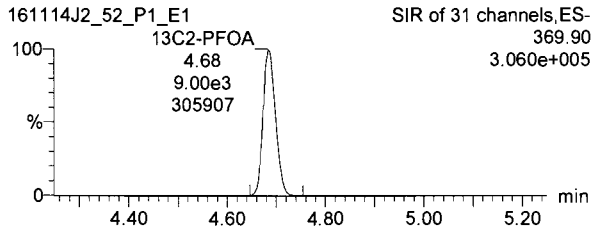

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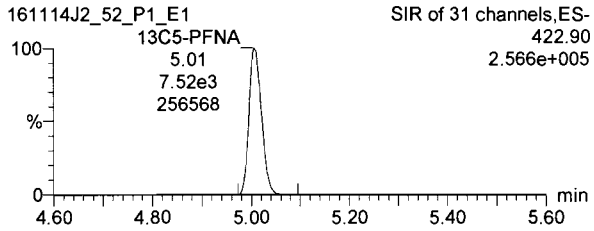
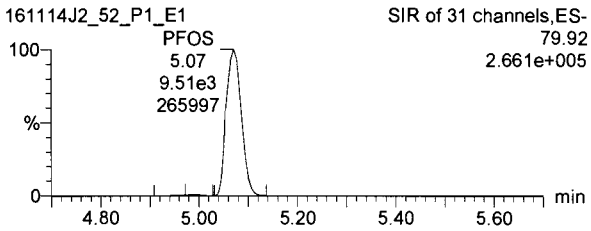


PFOS



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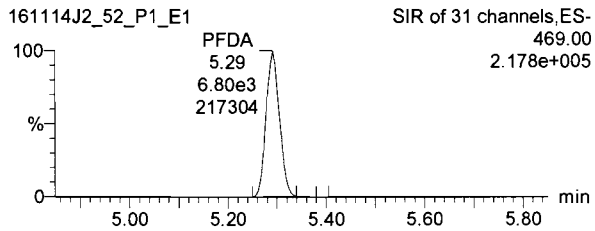
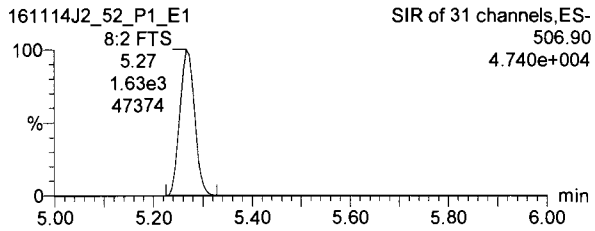


8:2 FTS



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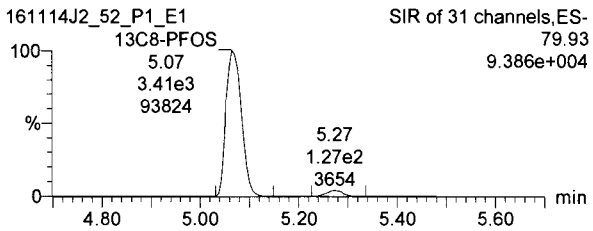

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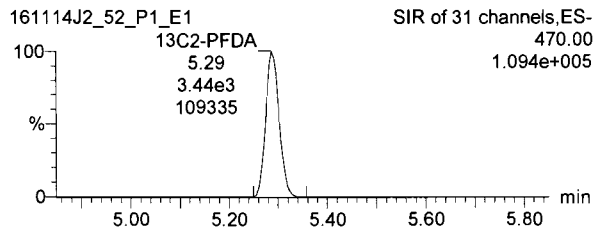

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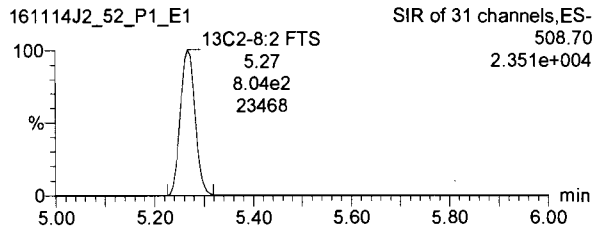

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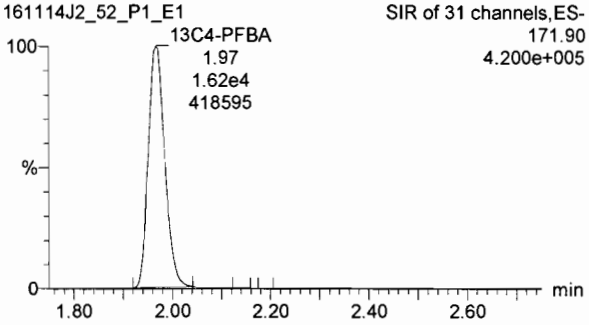
13C4-PFBA



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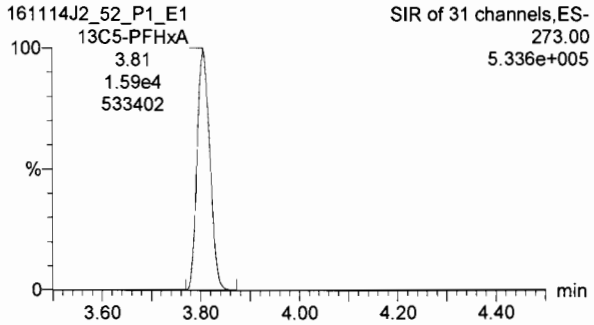

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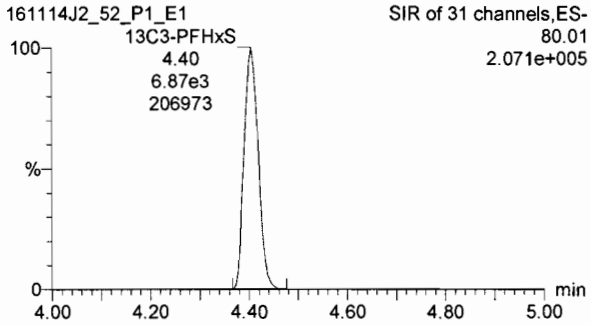

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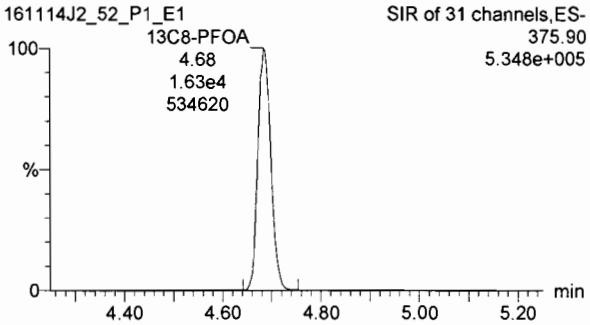

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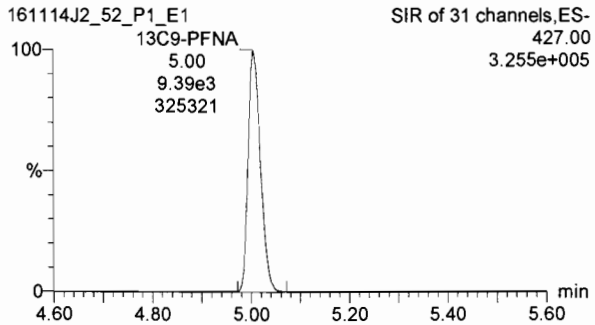
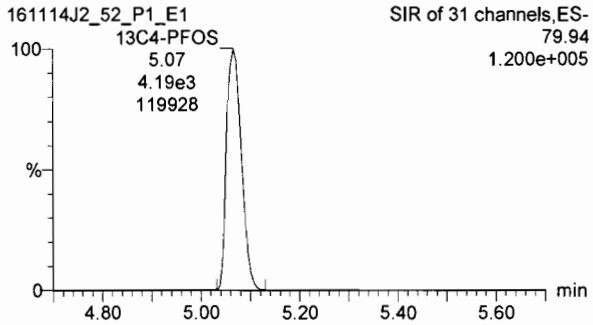


13C4-PFOS



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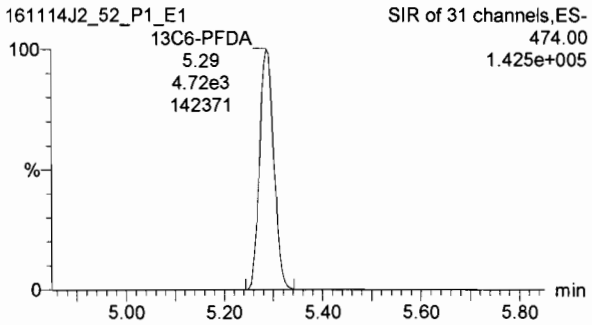

Quantify Sample Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161114J2\161114J2_65.qld

Last Altered: Tuesday, November 15, 2016 10:23:49 Pacific Standard Time
Printed: Tuesday, November 15, 2016 10:25:15 Pacific Standard Time

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1	1	PFBA	168.90	2.77e4	1.18e4		1.000	1.96	27.9	111.7
2	2	PFPeA	218.90	2.69e4	1.33e4		1.000	3.14	27.8	111.2
3	3	PFBS	79.90	1.35e4	7.46e3		1.000	3.43	28.9	115.6
4	4	PFHxA	268.90	2.34e4	4.88e3		1.000	3.82	28.1	112.3
5	5	PFHpA	318.90	1.90e4	9.97e3		1.000	4.30	28.2	112.8
6	6	PFHxS	79.91	9.45e3	1.45e3		1.000	4.41	25.1	100.2
7	7	6:2 FTS	406.90	5.51e3	2.52e3		1.000	4.65	30.4	121.4
8	8	PFOA	368.90	2.53e4	9.08e3		1.000	4.69	28.1	112.3
9	9	PFNA	419.00	1.49e4	7.76e3		1.000	5.02	26.4	105.8
10	10	PFOS	79.92	8.94e3	3.32e3		1.000	5.09	26.8	107.1
11	11	PFDA	469.00	6.73e3	3.30e3		1.000	5.30	25.2	100.8
12	12	8:2 FTS	506.90	1.71e3	8.10e2		1.000	5.28	25.9	103.6
13	13	13C3-PFBA	172.00	1.18e4	1.68e4	0.894	1.000	1.96	9.85	78.8
14	14	13C3-PFPeA	221.90	1.33e4	1.66e4	0.945	1.000	3.14	10.5	84.3
15	15	13C3-PFBS	79.95	7.46e3	1.66e4	0.531	1.000	3.42	10.5	84.4
16	16	13C2-PFHxA	269.90	4.88e3	1.66e4	0.905	1.000	3.81	4.05	81.0
17	17	13C4-PFHpA	321.90	9.97e3	1.66e4	0.770	1.000	4.29	9.73	77.8
18	18	18O2-PFHxS	102.90	1.45e3	6.78e3	0.276	1.000	4.41	9.71	77.7
19	19	13C2-6:2 FTS	408.90	2.52e3	1.68e4	0.219	1.000	4.64	8.58	68.6
20	20	13C2-PFOA	369.90	9.08e3	1.68e4	0.663	1.000	4.69	10.2	81.3
21	21	13C5-PFNA	422.90	7.76e3	9.58e3	1.019	1.000	5.02	9.92	79.4
22	22	13C8-PFOS	79.93	3.32e3	4.38e3	0.921	1.000	5.08	10.3	82.4
23	23	13C2-PFDA	470.00	3.30e3	4.30e3	0.887	1.000	5.30	10.8	86.7
24	24	13C2-8:2 FTS	508.70	8.10e2	4.30e3	0.272	1.000	5.28	8.68	69.4
25	25	13C4-PFBA	171.90	1.68e4	1.68e4	1.000	1.000	1.96	12.5	100.0
26	26	13C5-PFHxA	273.00	1.66e4	1.66e4	1.000	1.000	3.81	12.5	100.0
27	27	13C3-PFHxS	80.01	6.78e3	6.78e3	1.000	1.000	4.41	12.5	100.0
28	28	13C8-PFOA	375.90	1.68e4	1.68e4	1.000	1.000	4.68	12.5	100.0
29	29	13C4-PFOS	79.94	4.38e3	4.38e3	1.000	1.000	5.08	12.5	100.0
30	30	13C9-PFNA	427.00	9.58e3	9.58e3	1.000	1.000	5.02	12.5	100.0
31	31	13C6-PFDA	474.00	4.30e3	4.30e3	1.000	1.000	5.30	12.5	100.0

75-125
60-150
40-150
60-150
50-150
60-150
40-150

PW 11/15/16

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3	161114J2_03	11/14/2016 16:27:00	IPA	IPA
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5	161114J2_05	11/14/2016 16:51:31	B6K0052-BS1	OPR
6	161114J2_06	11/14/2016 17:03:46	B6K0078-BS1	OPR
7	161114J2_07	11/14/2016 17:15:57	IPA	IPA
8	161114J2_08	11/14/2016 17:28:15	B6K0041-BLK1	Method Blank
9	161114J2_09	11/14/2016 17:40:28	B6K0052-BLK1	Method Blank
10	161114J2_10	11/14/2016 17:52:43	B6K0078-BLK1	Method Blank
11	161114J2_11	11/14/2016 18:04:55	1601385-01	WURTS_EB004JH-102716
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13	161114J2_13	11/14/2016 18:29:25	1601385-03	WURTS_VAS15010-20-23_FD
14	161114J2_14	11/14/2016 18:41:40	1601385-04	WURTS_VAS15010-30-33
15	161114J2_15	11/14/2016 18:53:54	1601385-05	WURTS_VAS15011-16-19
16	161114J2_16	11/14/2016 19:06:09	1601385-06	WURTS_VAS15011-26-29
17	161114J2_17	11/14/2016 19:18:23	1601385-07	WURTS_VAS15011-36-39
18	161114J2_18	11/14/2016 19:30:39	1601385-08	WURTS_VAS15011-6-9
19	161114J2_19	11/14/2016 19:42:53	1601385-09	WURTS_VAS15012-18-21
20	161114J2_20	11/14/2016 19:55:09	1601385-10	WURTS_VAS15012-28-31
21	161114J2_21	11/14/2016 20:07:26	IPA	IPA
22	161114J2_22	11/14/2016 20:19:40	ST161114J2-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
23	161114J2_23	11/14/2016 20:31:55	IPA	IPA
24	161114J2_24	11/14/2016 20:44:10	1601385-11	WURTS_VAS15012-38-41
25	161114J2_25	11/14/2016 20:56:23	1601385-12	WURTS_VAS15012-8-11
26	161114J2_26	11/14/2016 21:08:37	1601391-01	DUP06_161031
27	161114J2_27	11/14/2016 21:20:51	1601391-08	M14-09D_161031
28	161114J2_28	11/14/2016 21:33:02	1601391-09	M14-09S_161031
29	161114J2_29	11/14/2016 21:45:17	1601391-10	M14-14_161031
30	161114J2_30	11/14/2016 21:57:31	1601391-11	M14-22_161031
31	161114J2_31	11/14/2016 22:09:41	1601391-12	EB17_161031
32	161114J2_32	11/14/2016 22:21:58	1601391-19	M14-23_161031
33	161114J2_33	11/14/2016 22:34:13	1601391-20	M14-24_161031
34	161114J2_34	11/14/2016 22:46:28	IPA	IPA
35	161114J2_35	11/14/2016 22:58:43	ST161114J2-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
36	161114J2_36	11/14/2016 23:10:58	IPA	IPA
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38	161114J2_38	11/14/2016 23:35:28	B6K0052-MSD1	Matrix Spike Dup
39	161114J2_39	11/14/2016 23:47:43	B6K0052-MS2	Matrix Spike
40	161114J2_40	11/14/2016 23:59:59	B6K0052-MSD2	Matrix Spike Dup
41	161114J2_41	11/15/2016 00:12:12	1601401-01	OW2C-MW19-1116
42	161114J2_42	11/15/2016 00:24:28	1601401-02	OW2E-MW19-1116
43	161114J2_43	11/15/2016 00:36:39	1601401-03	OW2B-MW41-1116
44	161114J2_44	11/15/2016 00:48:54	1601401-04	203MW-19-1116
45	161114J2_45	11/15/2016 01:01:08	1601401-05	JTC-MW-B-1116
46	161114J2_46	11/15/2016 01:13:22	1601401-06	OC-MW03-1116
47	161114J2_47	11/15/2016 01:25:33	1601401-07	OC-MW01-1116
48	161114J2_48	11/15/2016 01:37:49	1601401-08	OC-MW02-1116
49	161114J2_49	11/15/2016 01:50:04	1601401-09	OW26-MW1-1116

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53	161114J2_53	11/15/2016 02:39:05	IPA	IPA
54	161114J2_54	11/15/2016 02:51:20	1601401-11	OC-FB-110216
55	161114J2_55	11/15/2016 03:03:35	1601401-12	OC-EB-110216
56	161114J2_56	11/15/2016 03:15:50	1601401-13	MW-BG10-1116
57	161114J2_57	11/15/2016 03:28:06	B6K0064-MS1	Matrix Spike
58	161114J2_58	11/15/2016 03:40:23	B6K0064-MSD1	Matrix Spike Dup
59	161114J2_59	11/15/2016 03:52:40	1601405-01	CASTL-PUBAM21-110316
60	161114J2_60	11/15/2016 04:04:52	1601405-02	CASTL-PUBAM21-110316FD
61	161114J2_61	11/15/2016 04:17:07	1601405-03	CASTL-FB-VIS-110316
62	161114J2_62	11/15/2016 04:29:21	1601409-01	WURTS-EB006JH-103116
63	161114J2_63	11/15/2016 04:41:31	1601409-02	WURTS-EB007JH-110116
64	161114J2_64	11/15/2016 04:53:48	IPA	IPA
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66	161114J2_66	11/15/2016 05:18:17	IPA	IPA
67	161114J2_67	11/15/2016 05:30:28	B6K0064-BS1	OPR
68	161114J2_68	11/15/2016 05:42:45	IPA	IPA
69	161114J2_69	11/15/2016 05:55:01	B6K0064-BLK1	Method Blank
70	161114J2_70	11/15/2016 06:07:15	1601409-03	WURTS-VAS04006-22-25
71	161114J2_71	11/15/2016 06:19:30	1601409-04	WURTS-VAS04006-32-35
72	161114J2_72	11/15/2016 06:31:44	B6K0064-MS2	Matrix Spike
73	161114J2_73	11/15/2016 06:43:56	B6K0064-MSD2	Matrix Spike Dup
74	161114J2_74	11/15/2016 06:56:12	1601409-05	WURTS-VAS04007-20-23
75	161114J2_75	11/15/2016 07:08:27	1601409-06	WURTS-VAS04007-30-33
76	161114J2_76	11/15/2016 07:20:42	1601409-07	WURTS-VAS04007-40-43
77	161114J2_77	11/15/2016 07:32:58	1601409-08	WURTS-VAS04007-50-53
78	161114J2_78	11/15/2016 07:45:13	1601409-09	WURTS-VAS04008-24-27
79	161114J2_79	11/15/2016 07:57:28	1601409-10	WURTS-VAS04008-34-37
80	161114J2_80	11/15/2016 08:09:42	1601409-11	WURTS-VAS04008-44-47
81	161114J2_81	11/15/2016 08:21:53	1601409-12	WURTS-VAS04008-54-57
82	161114J2_82	11/15/2016 08:34:06	IPA	IPA
83	161114J2_83	11/15/2016 08:46:21	ST161114J2-6 PFC C3.5 16K1120	PFC C3.5 16K1120A A
84	161114J2_84	11/15/2016 08:58:36	IPA	IPA

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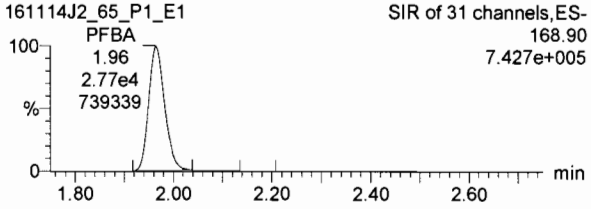
PFBA



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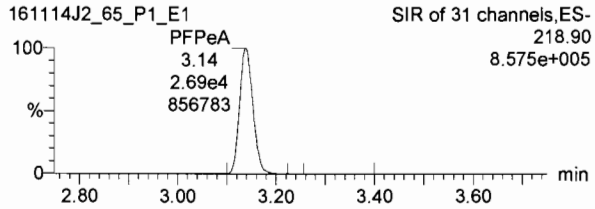

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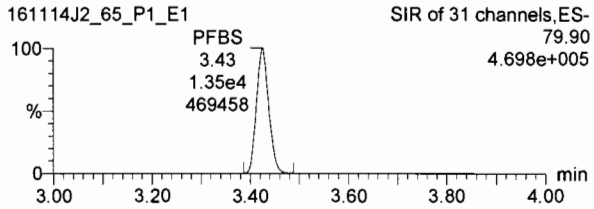

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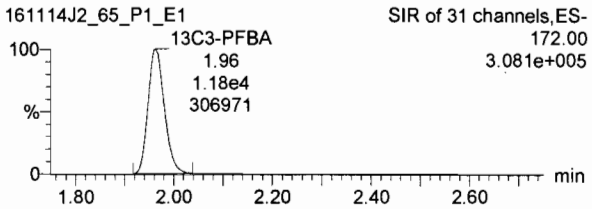

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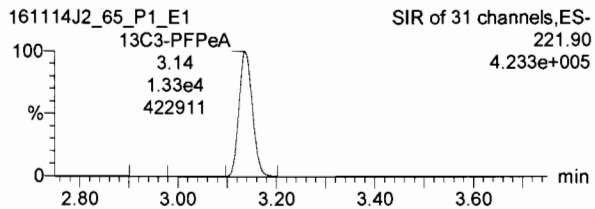

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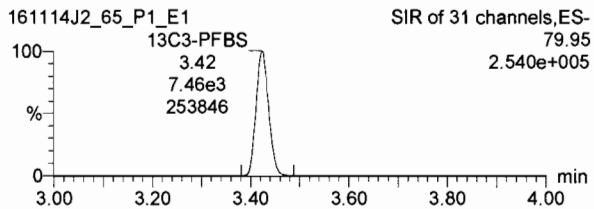

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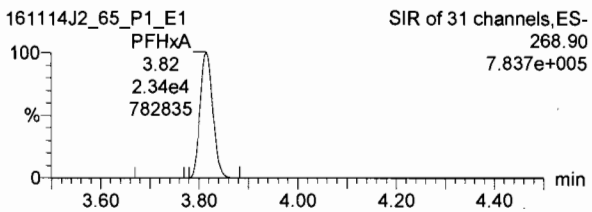

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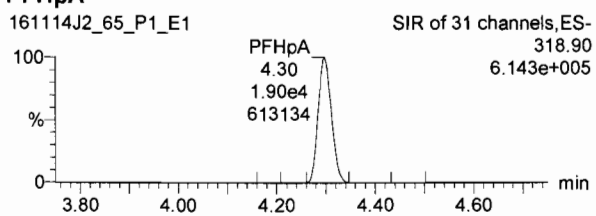

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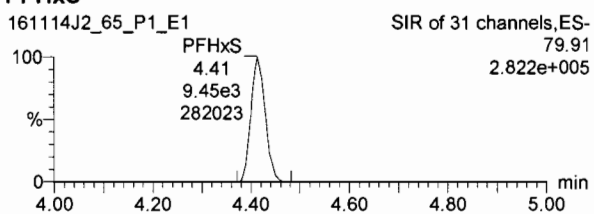

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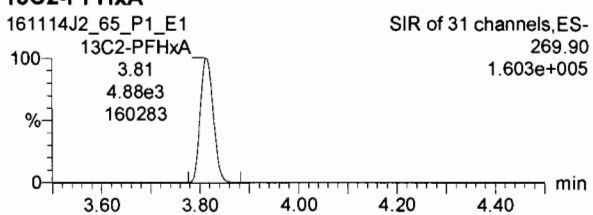

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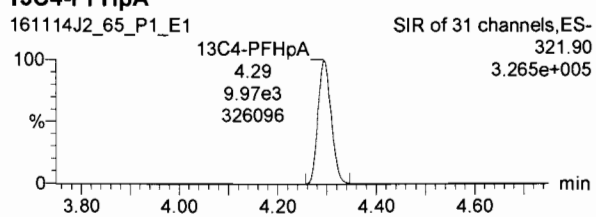

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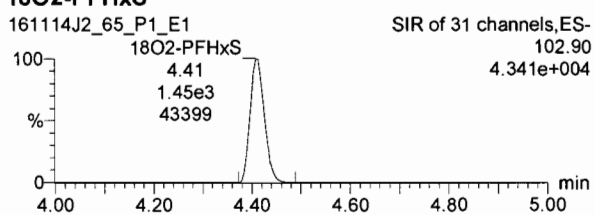

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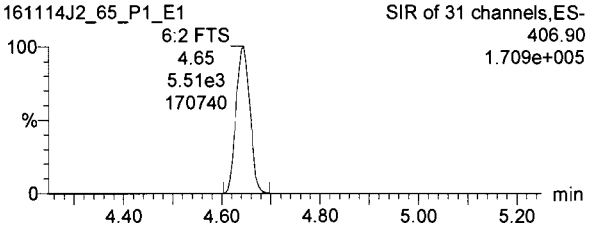
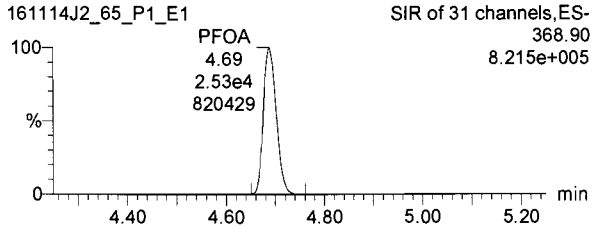
6:2 FTS



PFOA



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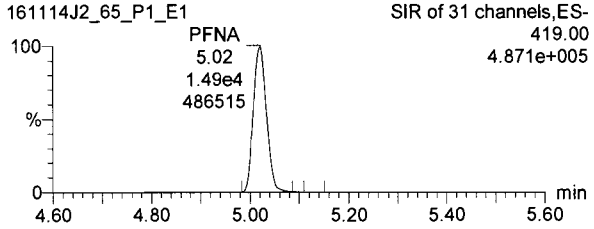

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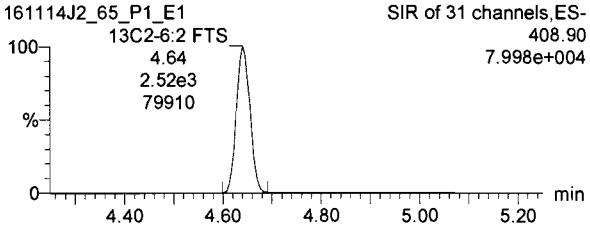

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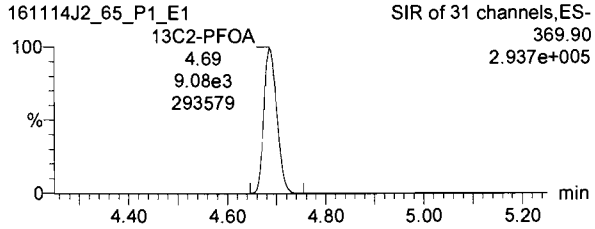

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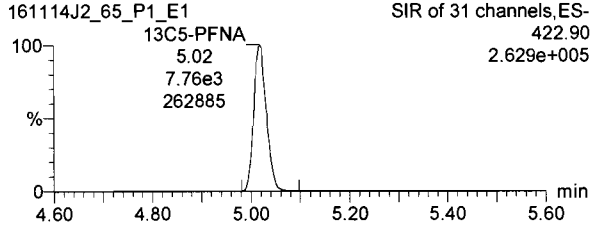
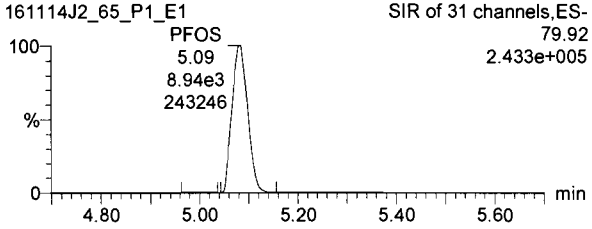


PFOS



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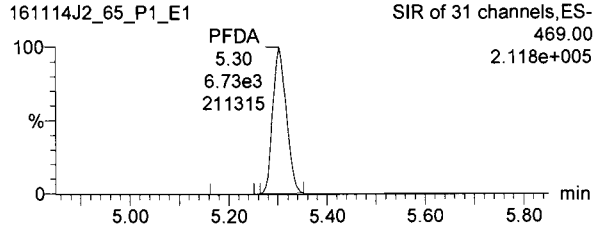
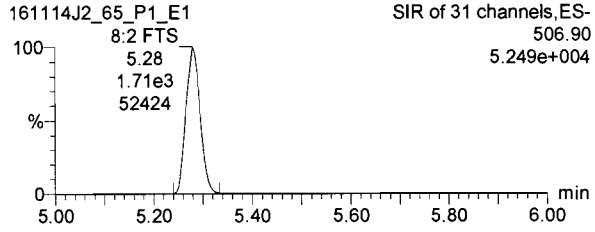


8:2 FTS



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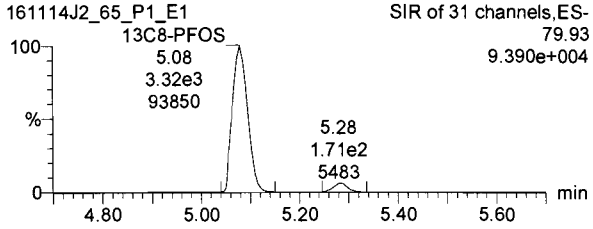
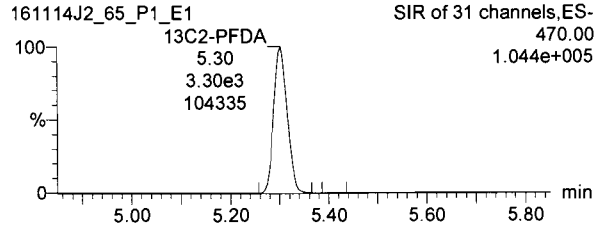
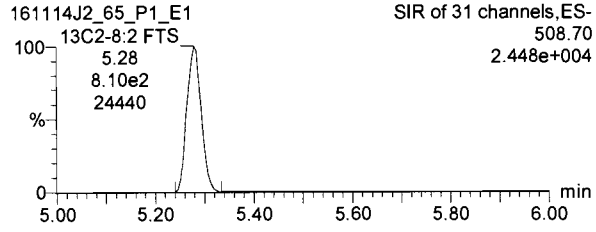


13C2-PFDA



13C2-8:2 FTS



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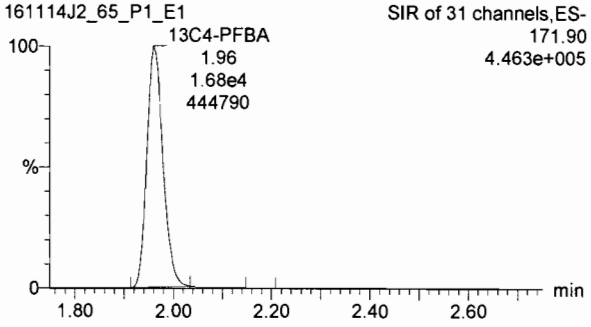
13C4-PFBA



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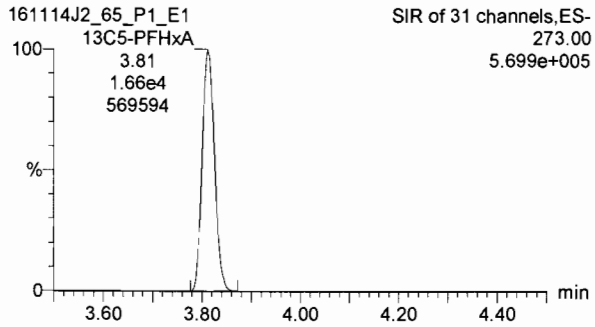
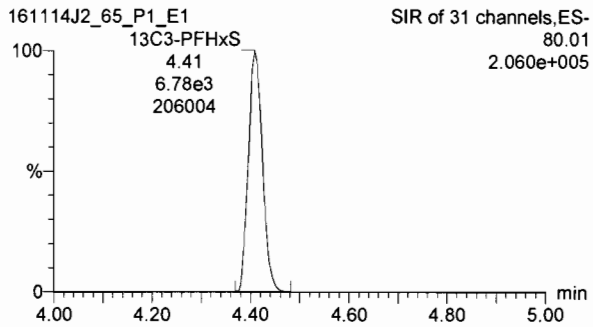
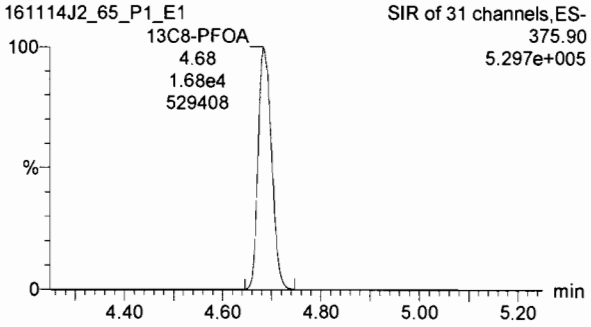


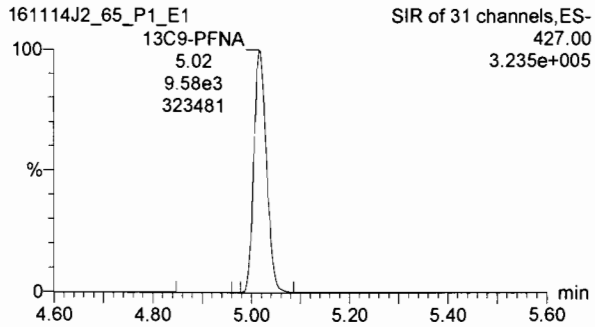
13C3-PFHxS



13C8-PFOA



13C9-PFNA



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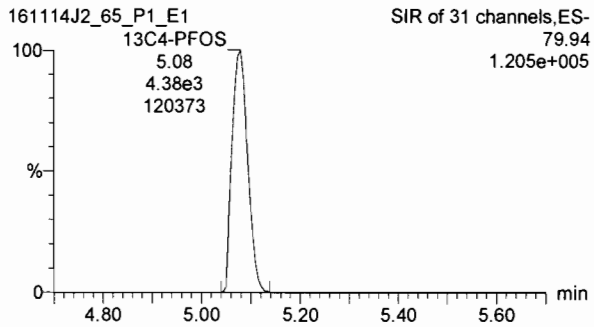
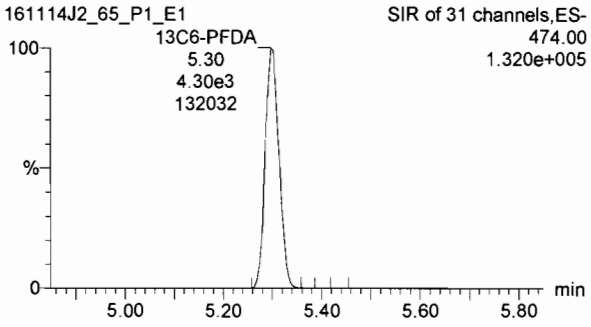


13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_02.qld

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Printed: Wednesday, November 16, 2016 09:42:04 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161115J1_02.wiff, Date: 15-Nov-2016, Time: 15:54:43, ID: ST161115J1-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBA	168.90	2.85e4	1.25e4		1.000	1.92	27.2	109.0
2	2	PFPeA	218.90	2.90e4	1.46e4		1.000	3.12	27.2	108.8
3	3	PFBS	79.90	1.46e4	8.33e3		1.000	3.41	28.1	112.3
4	4	PFHxA	268.90	2.63e4	5.46e3		1.000	3.81	28.2	112.6
5	5	PFHpA	318.90	2.16e4	1.11e4		1.000	4.29	28.8	115.2
6	6	PFHxS	79.91	1.19e4	1.62e3		1.000	4.40	28.4	113.5
7	7	6:2 FTS	406.90	6.49e3	3.30e3		1.000	4.64	27.2	108.6
8	8	PFOA	368.90	2.64e4	1.05e4		1.000	4.68	25.0	100.1
9	9	PFNA	419.00	1.67e4	8.72e3		1.000	5.01	26.4	105.7
10	10	PFOS	79.92	8.57e3	3.54e3		1.000	5.07	24.1	96.3
11	11	PFDA	469.00	6.91e3	3.31e3		1.000	5.30	25.8	103.4
12	12	8:2 FTS	506.90	1.86e3	9.45e2		1.000	5.27	24.0	95.9
13	13	13C3-PFBA	172.00	1.25e4	1.76e4	0.894	1.000	1.92	9.95	79.6
14	14	13C3-PFPeA	221.90	1.46e4	1.88e4	0.945	1.000	3.12	10.3	82.3
15	15	13C3-PFBS	79.95	8.33e3	1.88e4	0.531	1.000	3.41	10.4	83.4
16	16	13C2-PFHxA	269.90	5.46e3	1.88e4	0.905	1.000	3.81	4.01	80.3
17	17	13C4-PFHpA	321.90	1.11e4	1.88e4	0.770	1.000	4.29	9.59	76.7
18	18	18O2-PFHxS	102.90	1.62e3	7.57e3	0.276	1.000	4.40	9.68	77.4
19	19	13C2-6:2 FTS	408.90	3.30e3	1.90e4	0.219	1.000	4.64	9.92	79.4
20	20	13C2-PFOA	369.90	1.05e4	1.90e4	0.663	1.000	4.68	10.4	83.6
21	21	13C5-PFNA	422.90	8.72e3	1.02e4	1.019	1.000	5.01	10.4	83.5
22	22	13C8-PFOS	79.93	3.54e3	4.48e3	0.921	1.000	5.07	10.7	85.9
23	23	13C2-PFDA	470.00	3.31e3	4.93e3	0.887	1.000	5.29	9.46	75.7
24	24	13C2-8:2 FTS	508.70	9.45e2	4.93e3	0.272	1.000	5.27	8.83	70.6
25	25	13C4-PFBA	171.90	1.76e4	1.76e4	1.000	1.000	1.92	12.5	100.0
26	26	13C5-PFHxA	273.00	1.88e4	1.88e4	1.000	1.000	3.81	12.5	100.0
27	27	13C3-PFHxS	80.01	7.57e3	7.57e3	1.000	1.000	4.40	12.5	100.0
28	28	13C8-PFOA	375.90	1.90e4	1.90e4	1.000	1.000	4.68	12.5	100.0
29	29	13C4-PFOS	79.94	4.48e3	4.48e3	1.000	1.000	5.07	12.5	100.0
30	30	13C9-PFNA	427.00	1.02e4	1.02e4	1.000	1.000	5.01	12.5	100.0
31	31	13C6-PFDA	474.00	4.93e3	4.93e3	1.000	1.000	5.29	12.5	100.0

75-150
60-150
40-150
60-150
50-150
60-150
40-150

PW
11/16/16

Printing Time: 09:53:01
Printing Date: Wednesday, November 16, 2016

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3	161115J1_03	11/15/2016 16:06:58	IPA	IPA
4	161115J1_04	11/15/2016 16:19:13	B6K0078-BS1	OPR
5	161115J1_05	11/15/2016 16:31:28	IPA	IPA
6	161115J1_06	11/15/2016 16:43:43	1601385-05@5x	WURTS_VAS15011-16-19
7	161115J1_07	11/15/2016 16:55:54	1601385-10@10x	WURTS_VAS15012-28-31
8	161115J1_08	11/15/2016 17:08:10	1601391-01@25x	DUP06_161031
9	161115J1_09	11/15/2016 17:20:25	1601391-01@40x	DUP06_161031
10	161115J1_10	11/15/2016 17:32:39	1601391-08@25x	M14-09D_161031
11	161115J1_11	11/15/2016 17:44:52	1601391-08@40x	M14-09D_161031
12	161115J1_12	11/15/2016 17:57:08	1601391-09@25x	M14-09S_161031
13	161115J1_13	11/15/2016 18:09:23	1601391-09@40x	M14-09S_161031
14	161115J1_14	11/15/2016 18:21:37	1601391-10@10x	M14-14_161031
15	161115J1_15	11/15/2016 18:33:51	B6K0052-MS1@25x	Matrix Spike
16	161115J1_16	11/15/2016 18:46:07	B6K0052-MS1@40x	Matrix Spike
17	161115J1_17	11/15/2016 18:58:23	B6K0052-MSD1@25x	Matrix Spike Dup
18	161115J1_18	11/15/2016 19:10:37	B6K0052-MSD1@40x	Matrix Spike Dup
19	161115J1_19	11/15/2016 19:22:54	IPA	IPA
20	161115J1_20	11/15/2016 19:35:09	ST161115J1-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
21	161115J1_21	11/15/2016 19:47:21	IPA	IPA
22	161115J1_22	11/15/2016 19:59:37	1601391-11@25x	M14-22_161031
23	161115J1_23	11/15/2016 20:11:52	1601391-11@40x	M14-22_161031
24	161115J1_24	11/15/2016 20:24:06	1601391-19@25x	M14-23_161031
25	161115J1_25	11/15/2016 20:36:20	1601391-19@40x	M14-23_161031
26	161115J1_26	11/15/2016 20:48:35	1601391-20@25x	M14-24_161031
27	161115J1_27	11/15/2016 21:00:48	1601391-20@40x	M14-24_161031
28	161115J1_28	11/15/2016 21:13:00	1601401-01@5x	OW2C-MW19-1116
29	161115J1_29	11/15/2016 21:25:17	1601401-05@10x	JTC-MW-B-1116
30	161115J1_30	11/15/2016 21:37:32	1601401-09@25x	OW26-MW1-1116
31	161115J1_31	11/15/2016 21:49:48	1601401-09@40x	OW26-MW1-1116
32	161115J1_32	11/15/2016 22:02:00	B6K0052-MS2@25x	Matrix Spike
33	161115J1_33	11/15/2016 22:14:17	B6K0052-MS2@40x	Matrix Spike
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37	161115J1_37	11/15/2016 23:03:18	ST161115J1-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
38	161115J1_38	11/15/2016 23:15:33	IPA	IPA
39	161115J1_39	11/15/2016 23:27:49	1601401-10@25x	OW26-MW1P 1116
40	161115J1_40	11/15/2016 23:40:05	1601401-10@40x	OW26-MW1P 1116
41	161115J1_41	11/15/2016 23:52:20	1601409-07@5x	WURTS-VAS04007-40-43
42	161115J1_42	11/16/2016 00:04:33	IPA	IPA
43	161115J1_43	11/16/2016 00:16:48	ST161115J1-4 PFC C3.5 16K1120	PFC C3.5 16K1120A A
44	161115J1_44	11/16/2016 00:29:03	IPA	IPA

LC Calibration Standards Review Checklist Q2

Calibration ID	L M H	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manaul Integrations	NA
ST161115J1-1	L (M) H	NA	☑	☑	☑	☑	☑	☐
-2	L (M) H	☐	☑	☑	☑	☑	☑	☐
-3	L (M) H	☐	☑	☑	☑	☑	☑	☐
-4	L (M) H	☐	☑	☑	☑	☑	☑	☑
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 10/14/16

Comments:
PFC List 18A

Reviewed By: AC 11/16/16
Initials/Date

Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_02.qld

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Printed: Wednesday, November 16, 2016 09:43:09 Pacific Standard Time

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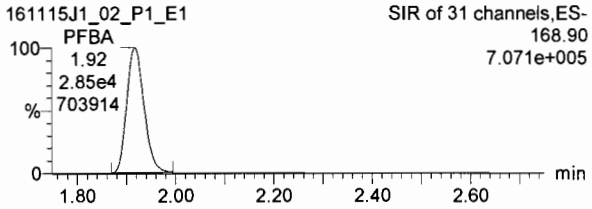
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161115J1_02.wiff, Date: 15-Nov-2016, Time: 15:54:43, ID: ST161115J1-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

PFBA



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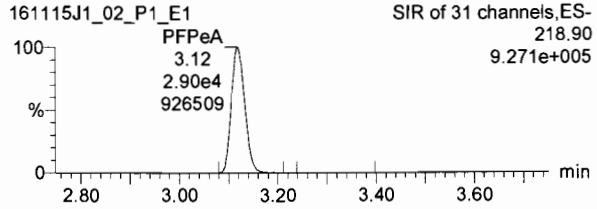
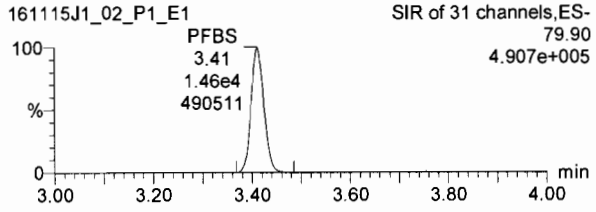
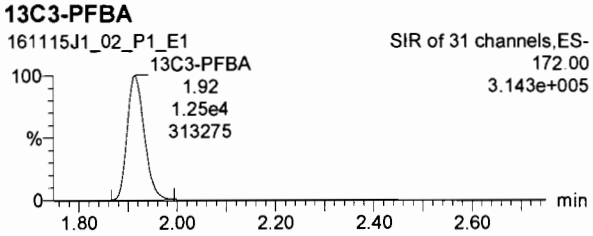


PFBS



13C3-PFBA



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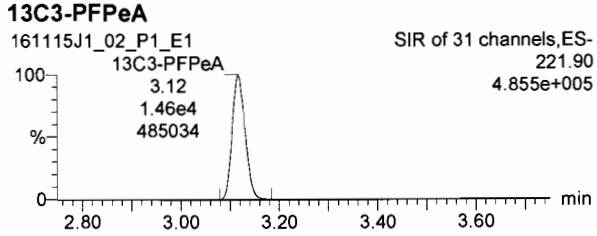

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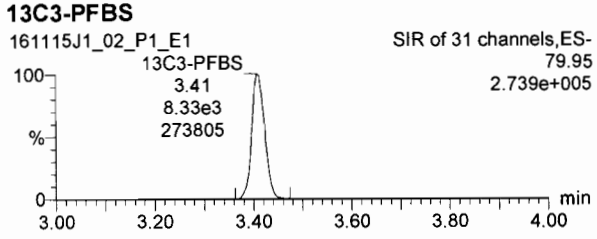
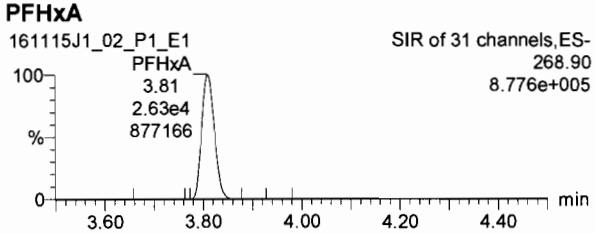
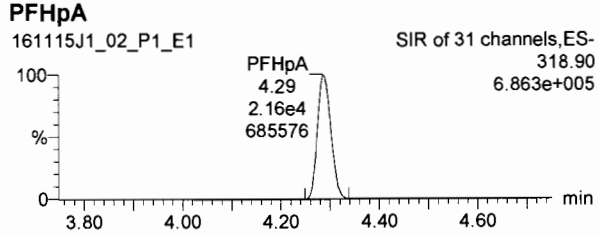


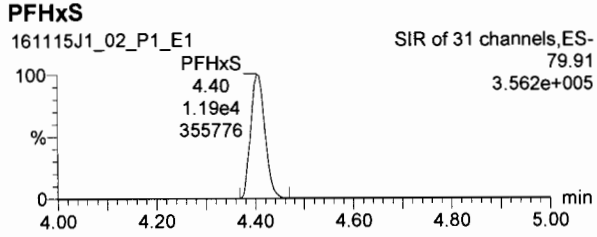
PFHxA



PFHpA



PFHxS



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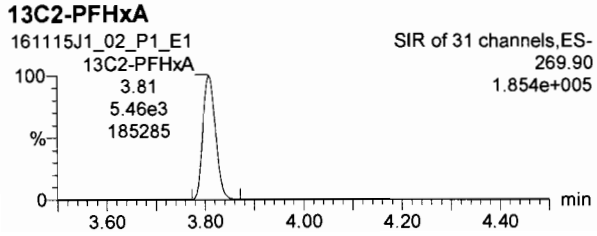
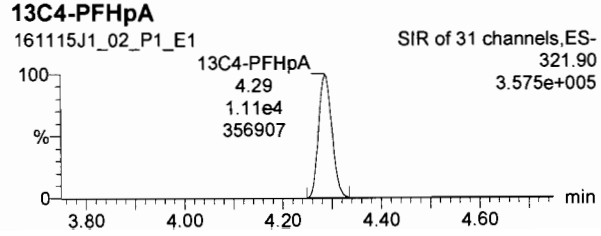
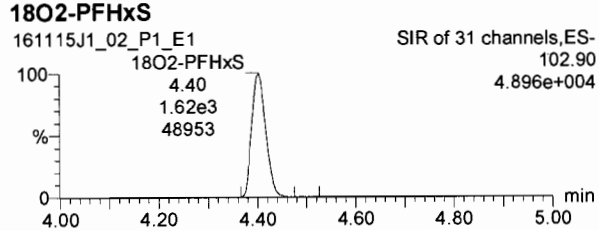


13C4-PFHpA



18O2-PFHxS



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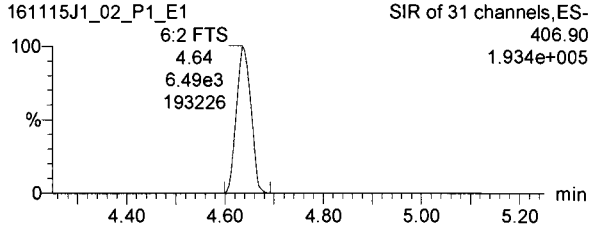
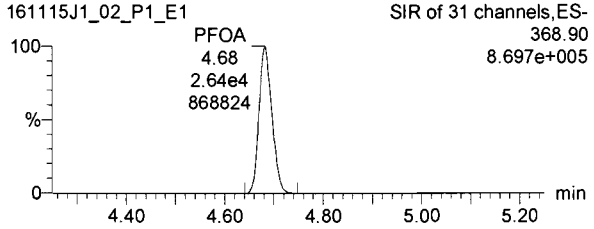
Name: 161115J1_02.wiff, Date: 15-Nov-2016, Time: 15:54:43, ID: ST161115J1-1 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

6:2 FTS



PFOA



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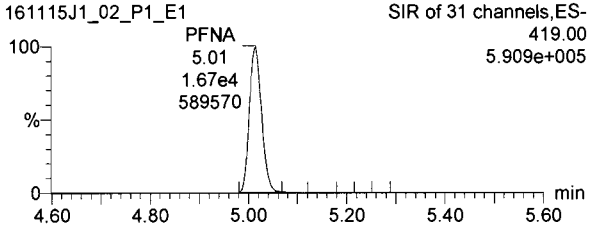
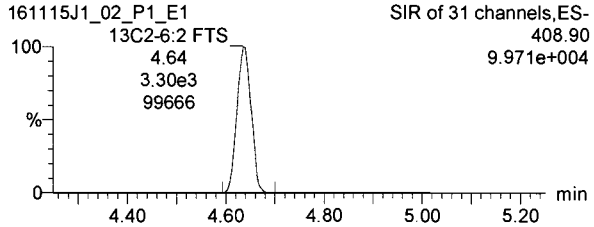


13C2-6:2 FTS



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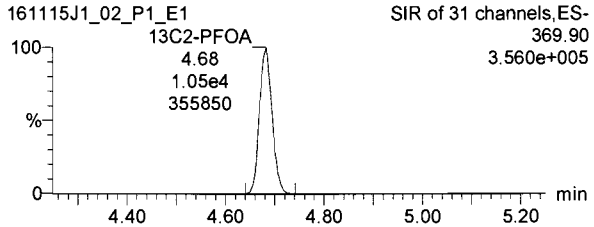

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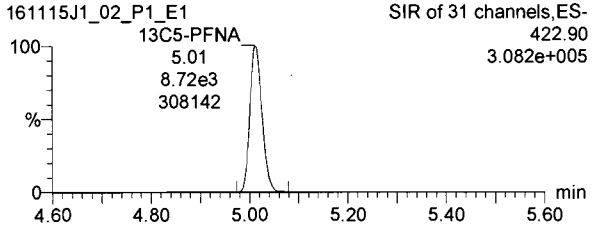

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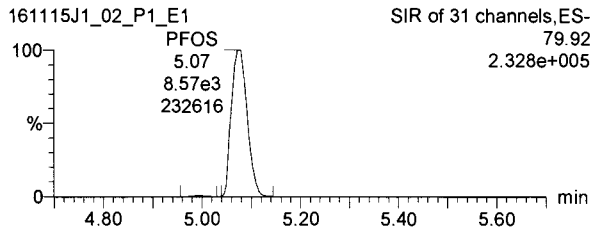

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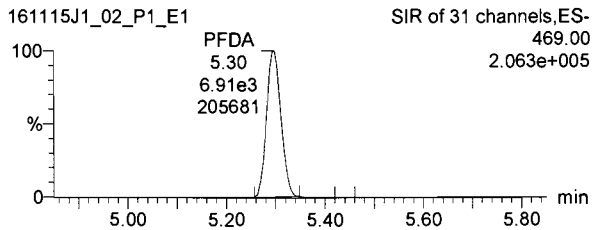
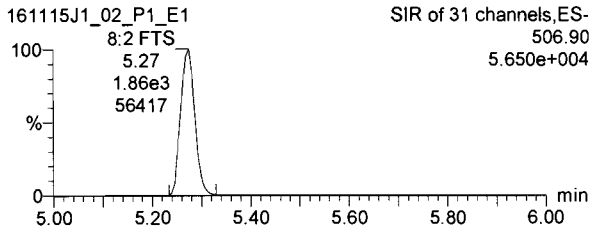


8:2 FTS



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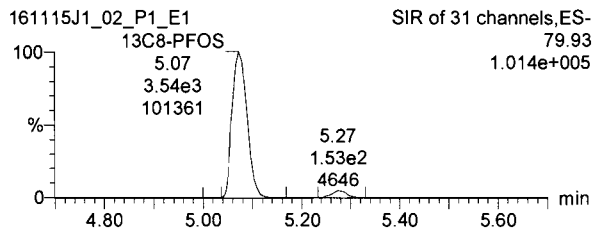

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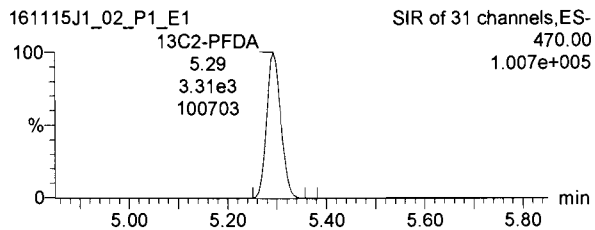
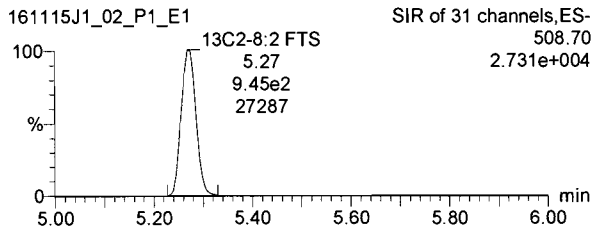


13C2-8:2 FTS



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Printed: Wednesday, November 16, 2016 09:43:09 Pacific Standard Time

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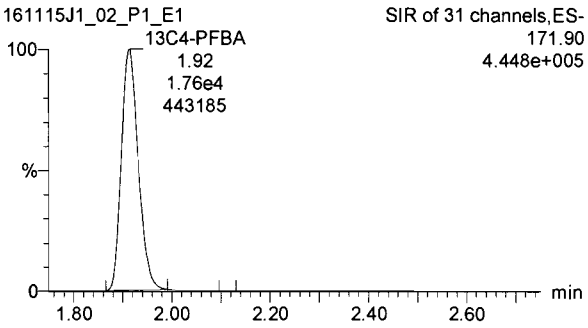
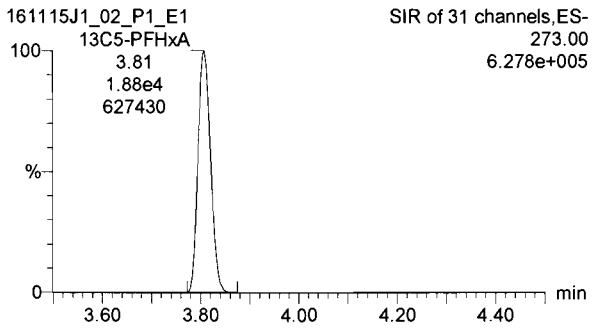
13C4-PFBA



13C5-PFHxA



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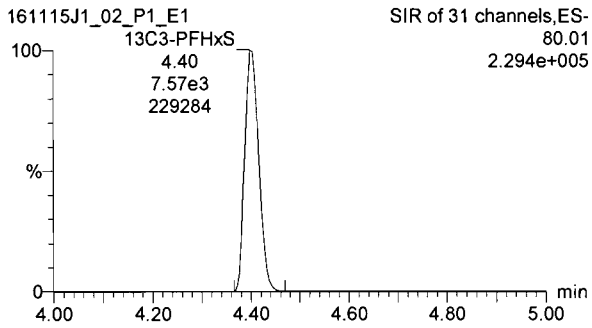

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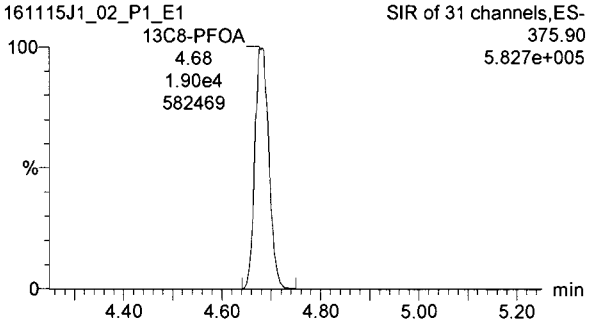
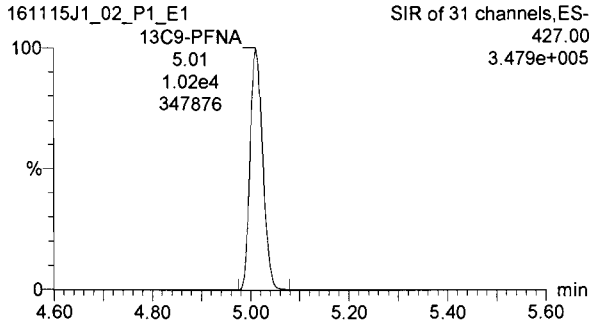


13C9-PFNA



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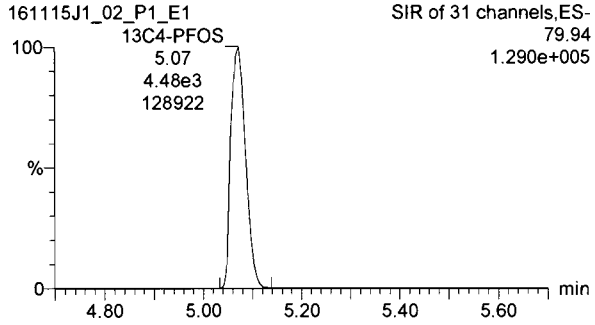

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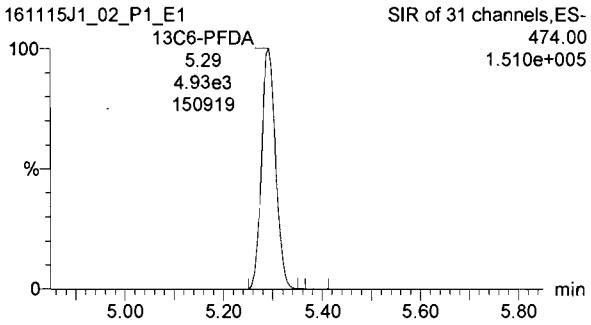

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_20.qld

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Printed: Wednesday, November 16, 2016 09:45:04 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161115J1_20.wiff, Date: 15-Nov-2016, Time: 19:35:09, ID: ST161115J1-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBA	168.90	2.87e4	1.25e4		1.000	1.92	27.4	109.6
2	2	PFPeA	218.90	2.97e4	1.46e4		1.000	3.11	27.8	111.0
3	3	PFBS	79.90	1.44e4	8.39e3		1.000	3.40	27.5	109.8
4	4	PFHxA	268.90	2.59e4	5.37e3		1.000	3.80	28.2	112.7
5	5	PFHpA	318.90	2.21e4	1.12e4		1.000	4.28	29.1	116.5
6	6	PFHxS	79.91	1.14e4	1.58e3		1.000	4.40	27.9	111.4
7	7	6:2 FTS	406.90	6.30e3	3.24e3		1.000	4.63	26.8	107.4
8	8	PFOA	368.90	2.58e4	9.82e3		1.000	4.68	26.3	105.3
9	9	PFNA	419.00	1.55e4	8.01e3		1.000	4.99	26.7	106.9
10	10	PFOS	79.92	9.14e3	3.46e3		1.000	5.06	26.3	105.1
11	11	PFDA	469.00	5.75e3	2.79e3		1.000	5.28	25.5	101.9
12	12	8:2 FTS	506.90	1.61e3	7.52e2		1.000	5.26	26.2	105.0
13	13	13C3-PFBA	172.00	1.25e4	1.81e4	0.894	1.000	1.92	9.66	77.3
14	14	13C3-PFPeA	221.90	1.46e4	1.81e4	0.945	1.000	3.11	10.7	85.4
15	15	13C3-PFBS	79.95	8.39e3	1.81e4	0.531	1.000	3.40	10.9	87.1
16	16	13C2-PFHxA	269.90	5.37e3	1.81e4	0.905	1.000	3.80	4.09	81.9
17	17	13C4-PFHpA	321.90	1.12e4	1.81e4	0.770	1.000	4.28	10.1	80.5
18	18	18O2-PFHxS	102.90	1.58e3	7.66e3	0.276	1.000	4.40	9.35	74.8
19	19	13C2-6:2 FTS	408.90	3.24e3	1.77e4	0.219	1.000	4.63	10.5	83.8
20	20	13C2-PFOA	369.90	9.82e3	1.77e4	0.663	1.000	4.67	10.5	83.8
21	21	13C5-PFNA	422.90	8.01e3	9.70e3	1.019	1.000	5.00	10.1	81.0
22	22	13C8-PFOS	79.93	3.46e3	4.43e3	0.921	1.000	5.05	10.6	84.8
23	23	13C2-PFDA	470.00	2.79e3	4.43e3	0.887	1.000	5.28	8.89	71.1
24	24	13C2-8:2 FTS	508.70	7.52e2	4.43e3	0.272	1.000	5.25	7.82	62.5
25	25	13C4-PFBA	171.90	1.81e4	1.81e4	1.000	1.000	1.92	12.5	100.0
26	26	13C5-PFHxA	273.00	1.81e4	1.81e4	1.000	1.000	3.79	12.5	100.0
27	27	13C3-PFHxS	80.01	7.66e3	7.66e3	1.000	1.000	4.40	12.5	100.0
28	28	13C8-PFOA	375.90	1.77e4	1.77e4	1.000	1.000	4.67	12.5	100.0
29	29	13C4-PFOS	79.94	4.43e3	4.43e3	1.000	1.000	5.05	12.5	100.0
30	30	13C9-PFNA	427.00	9.70e3	9.70e3	1.000	1.000	4.99	12.5	100.0
31	31	13C6-PFDA	474.00	4.43e3	4.43e3	1.000	1.000	5.28	12.5	100.0

75 - 150
60 - 150
40 - 150
60 - 150
50 - 150
60 - 150
40 - 150

PW
11/16/16

Printing Time: 09:53:01
Printing Date: Wednesday, November 16, 2016

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3	161115J1_03	11/15/2016 16:06:58	IPA	IPA
4	161115J1_04	11/15/2016 16:19:13	B6K0078-BS1	OPR
5	161115J1_05	11/15/2016 16:31:28	IPA	IPA
6	161115J1_06	11/15/2016 16:43:43	1601385-05@5x	WURTS_VAS15011-16-19
7	161115J1_07	11/15/2016 16:55:54	1601385-10@10x	WURTS_VAS15012-28-31
8	161115J1_08	11/15/2016 17:08:10	1601391-01@25x	DUP06_161031
9	161115J1_09	11/15/2016 17:20:25	1601391-01@40x	DUP06_161031
10	161115J1_10	11/15/2016 17:32:39	1601391-08@25x	M14-09D_161031
11	161115J1_11	11/15/2016 17:44:52	1601391-08@40x	M14-09D_161031
12	161115J1_12	11/15/2016 17:57:08	1601391-09@25x	M14-09S_161031
13	161115J1_13	11/15/2016 18:09:23	1601391-09@40x	M14-09S_161031
14	161115J1_14	11/15/2016 18:21:37	1601391-10@10x	M14-14_161031
15	161115J1_15	11/15/2016 18:33:51	B6K0052-MS1@25x	Matrix Spike
16	161115J1_16	11/15/2016 18:46:07	B6K0052-MS1@40x	Matrix Spike
17	161115J1_17	11/15/2016 18:58:23	B6K0052-MSD1@25x	Matrix Spike Dup
18	161115J1_18	11/15/2016 19:10:37	B6K0052-MSD1@40x	Matrix Spike Dup
19	161115J1_19	11/15/2016 19:22:54	IPA	IPA
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21	161115J1_21	11/15/2016 19:47:21	IPA	IPA
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23	161115J1_23	11/15/2016 20:11:52	1601391-11@40x	M14-22_161031
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25	161115J1_25	11/15/2016 20:36:20	1601391-19@40x	M14-23_161031
26	161115J1_26	11/15/2016 20:48:35	1601391-20@25x	M14-24_161031
27	161115J1_27	11/15/2016 21:00:48	1601391-20@40x	M14-24_161031
28	161115J1_28	11/15/2016 21:13:00	1601401-01@5x	OW2C-MW19-1116
29	161115J1_29	11/15/2016 21:25:17	1601401-05@10x	JTC-MW-B-1116
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31	161115J1_31	11/15/2016 21:49:48	1601401-09@40x	OW26-MW1-1116
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37	161115J1_37	11/15/2016 23:03:18	ST161115J1-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
38	161115J1_38	11/15/2016 23:15:33	IPA	IPA
39	161115J1_39	11/15/2016 23:27:49	1601401-10@25x	OW26-MW1P 1116
40	161115J1_40	11/15/2016 23:40:05	1601401-10@40x	OW26-MW1P 1116
41	161115J1_41	11/15/2016 23:52:20	1601409-07@5x	WURTS-VAS04007-40-43
42	161115J1_42	11/16/2016 00:04:33	IPA	IPA
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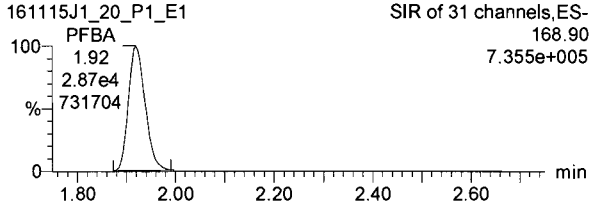

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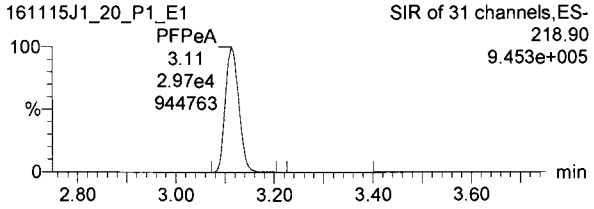

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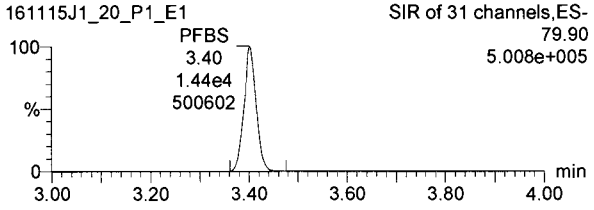

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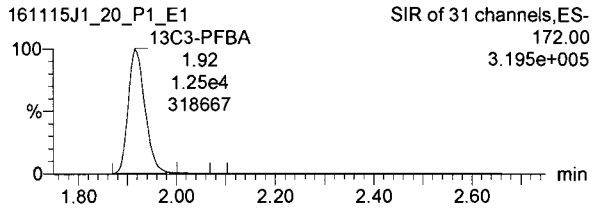

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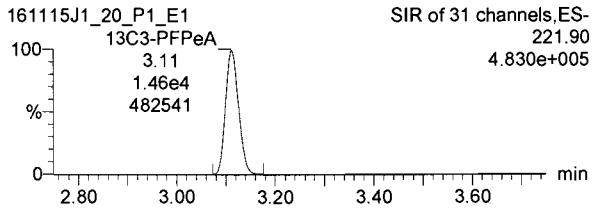

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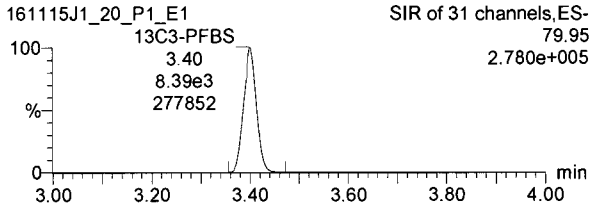
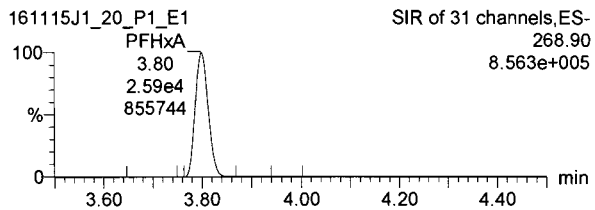
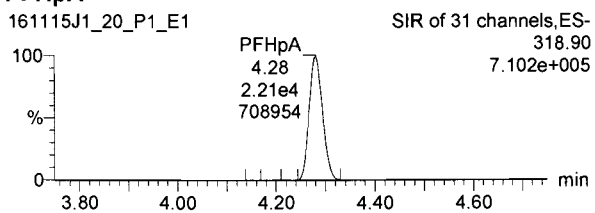


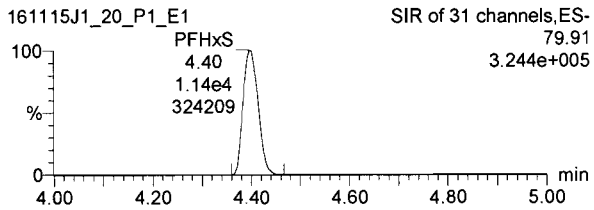
PFHxA



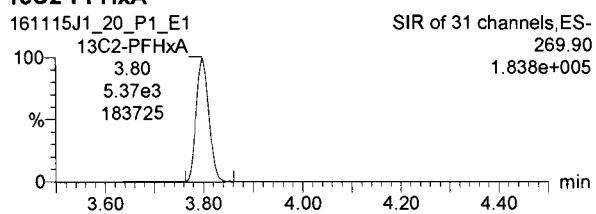
PFHpA



PFHxS



13C2-PFHxA



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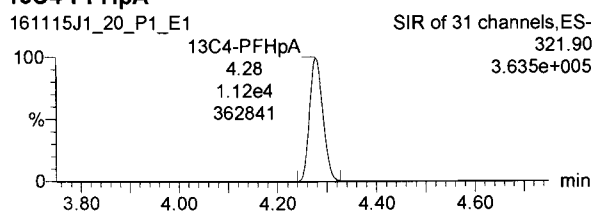

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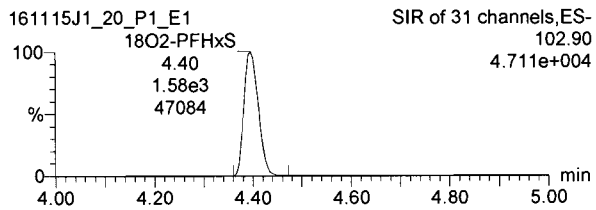

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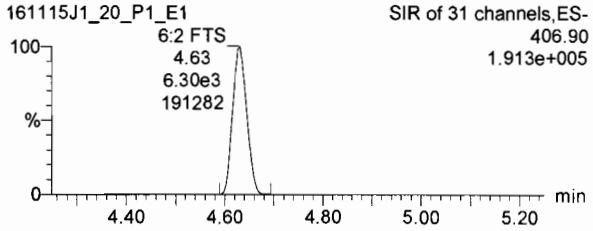
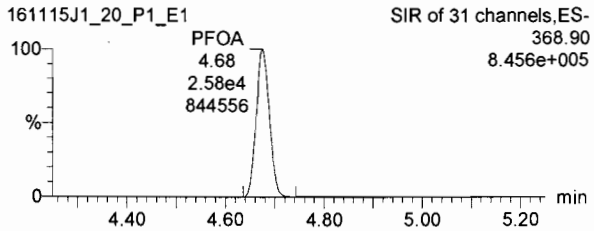
Printed: Wednesday, November 16, 2016 09:44:50 Pacific Standard Time

Name: 161115J1_20.wiff, Date: 15-Nov-2016, Time: 19:35:09, ID: ST161115J1-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

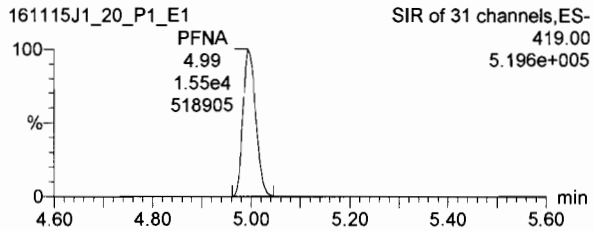
6:2 FTS



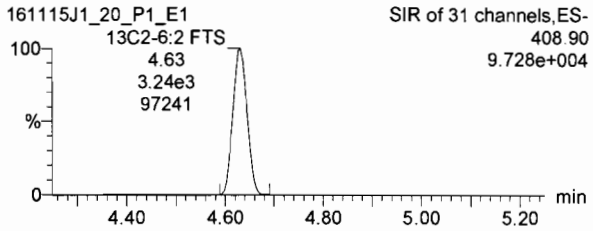
PFOA



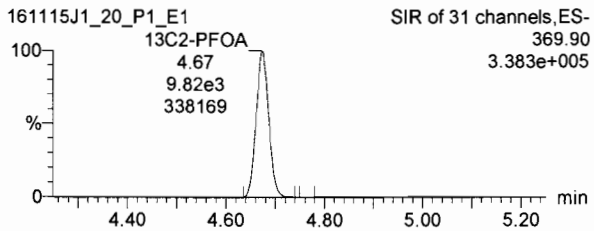
PFNA



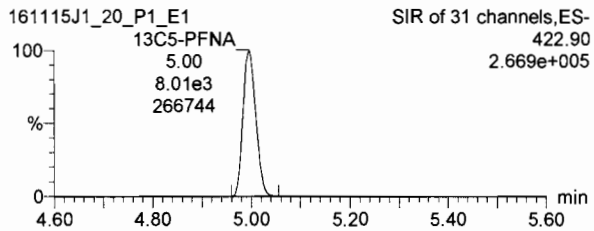
13C2-6:2 FTS



13C2-PFOA



13C5-PFNA



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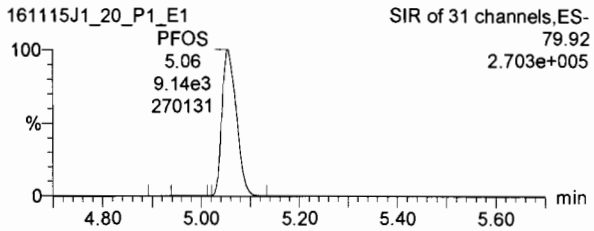
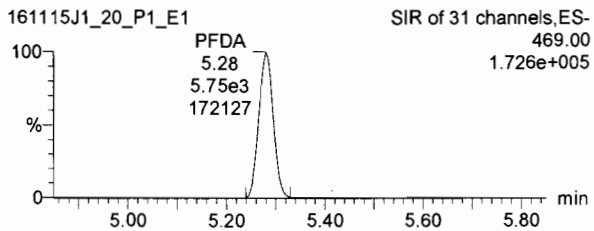
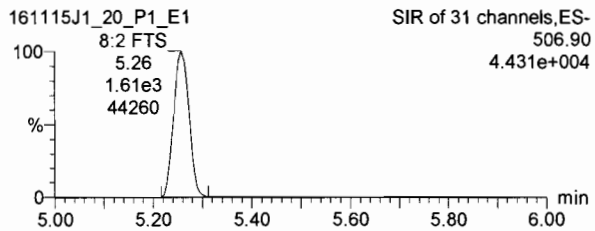


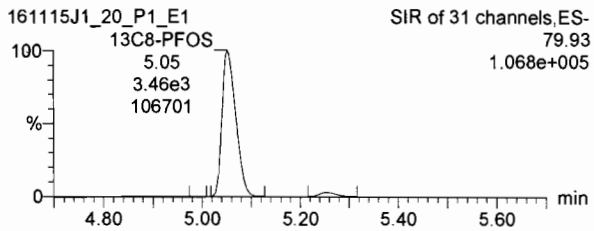
PFDA



8:2 FTS



13C8-PFOS



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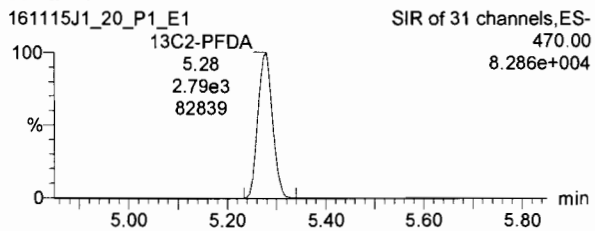
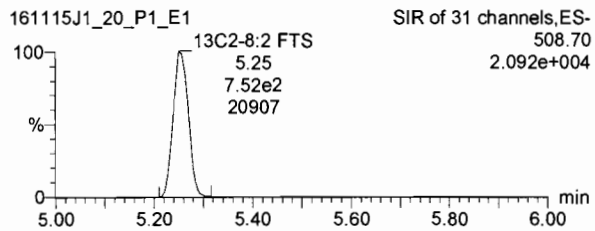


13C2-8:2 FTS



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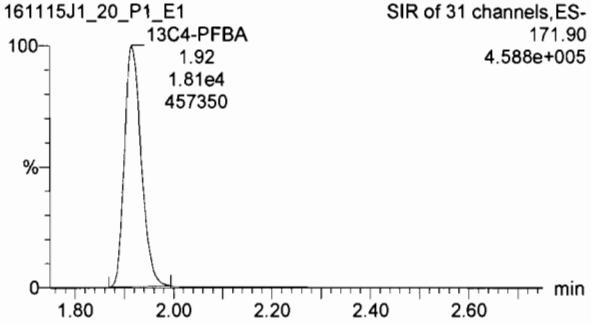
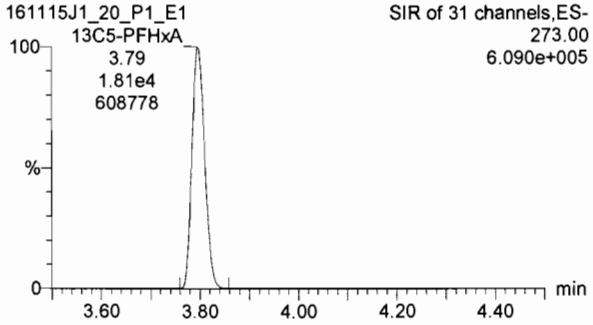
Last Altered: Wednesday, November 16, 2016 09:44:15 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:44:50 Pacific Standard Time

Name: 161115J1_20.wiff, Date: 15-Nov-2016, Time: 19:35:09, ID: ST161115J1-2 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

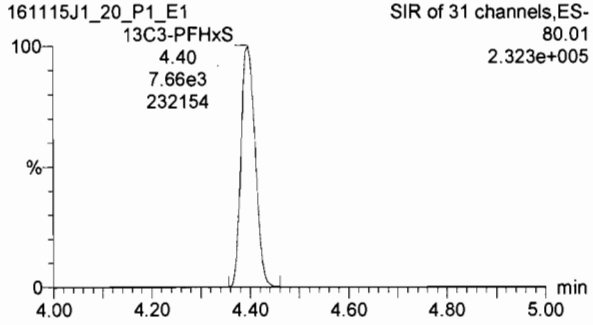
13C4-PFBA



13C5-PFHxA



13C3-PFHxS



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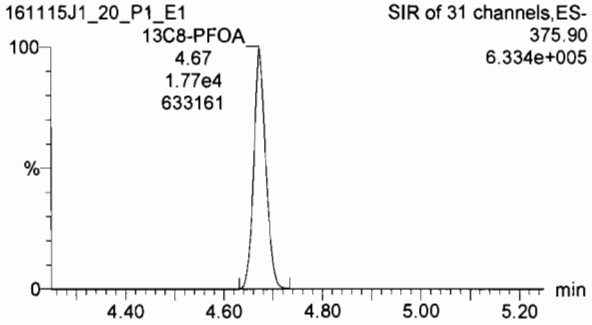
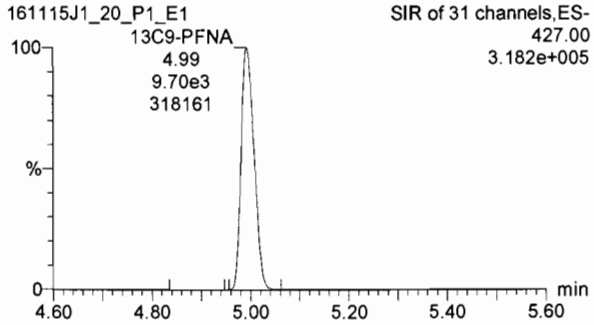
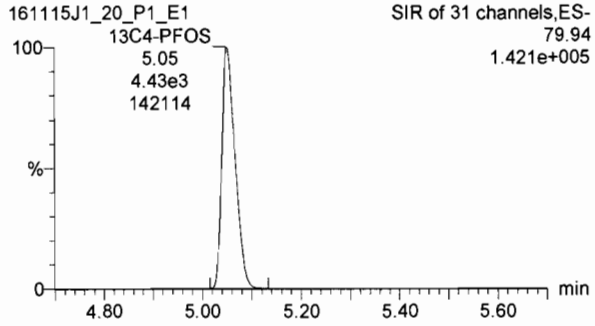


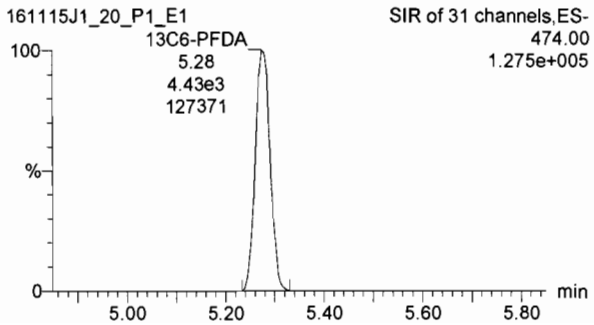
13C9-PFNA



13C4-PFOS



13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_37.qld

Last Altered: Wednesday, November 16, 2016 09:45:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:46:07 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161115J1_37.wiff, Date: 15-Nov-2016, Time: 23:03:18, ID: ST161115J1-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBA	168.90	2.95e4	1.30e4		1.000	1.92	27.1	108.3
2	2	PFPeA	218.90	2.93e4	1.49e4		1.000	3.11	27.0	108.1
3	3	PFBS	79.90	1.47e4	8.48e3		1.000	3.40	27.8	111.1
4	4	PFHxA	268.90	2.65e4	5.52e3		1.000	3.79	28.1	112.3
5	5	PFHpA	318.90	2.15e4	1.14e4		1.000	4.28	28.1	112.3
6	6	PFHxS	79.91	1.11e4	1.69e3		1.000	4.39	25.4	101.4
7	7	6:2 FTS	406.90	6.70e3	3.45e3		1.000	4.62	26.8	107.3
8	8	PFOA	368.90	2.51e4	1.02e4		1.000	4.67	24.6	98.4
9	9	PFNA	419.00	1.65e4	8.13e3		1.000	5.00	28.0	112.0
10	10	PFOS	79.92	9.15e3	3.62e3		1.000	5.06	25.2	100.6
11	11	PFDA	469.00	5.96e3	2.79e3		1.000	5.28	26.4	105.8
12	12	8:2 FTS	506.90	1.58e3	7.28e2		1.000	5.26	26.6	106.4
13	13	13C3-PFBA	172.00	1.30e4	1.80e4	0.894	1.000	1.92	10.1	80.7
14	14	13C3-PFPeA	221.90	1.49e4	1.87e4	0.945	1.000	3.11	10.5	84.2
15	15	13C3-PFBS	79.95	8.48e3	1.87e4	0.531	1.000	3.40	10.7	85.6
16	16	13C2-PFHxA	269.90	5.52e3	1.87e4	0.905	1.000	3.79	4.09	81.7
17	17	13C4-PFHpA	321.90	1.14e4	1.87e4	0.770	1.000	4.27	9.88	79.0
18	18	18O2-PFHxS	102.90	1.69e3	7.41e3	0.276	1.000	4.39	10.3	82.4
19	19	13C2-6:2 FTS	408.90	3.45e3	1.74e4	0.219	1.000	4.62	11.3	90.7
20	20	13C2-PFOA	369.90	1.02e4	1.74e4	0.663	1.000	4.67	11.0	88.4
21	21	13C5-PFNA	422.90	8.13e3	1.03e4	1.019	1.000	4.99	9.70	77.6
22	22	13C8-PFOS	79.93	3.62e3	4.52e3	0.921	1.000	5.05	10.9	87.0
23	23	13C2-PFDA	470.00	2.79e3	4.27e3	0.887	1.000	5.28	9.20	73.6
24	24	13C2-8:2 FTS	508.70	7.28e2	4.27e3	0.272	1.000	5.25	7.84	62.7
25	25	13C4-PFBA	171.90	1.80e4	1.80e4	1.000	1.000	1.92	12.5	100.0
26	26	13C5-PFHxA	273.00	1.87e4	1.87e4	1.000	1.000	3.79	12.5	100.0
27	27	13C3-PFHxS	80.01	7.41e3	7.41e3	1.000	1.000	4.39	12.5	100.0
28	28	13C8-PFOA	375.90	1.74e4	1.74e4	1.000	1.000	4.67	12.5	100.0
29	29	13C4-PFOS	79.94	4.52e3	4.52e3	1.000	1.000	5.05	12.5	100.0
30	30	13C9-PFNA	427.00	1.03e4	1.03e4	1.000	1.000	4.99	12.5	100.0
31	31	13C6-PFDA	474.00	4.27e3	4.27e3	1.000	1.000	5.28	12.5	100.0

75-125
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60-150
50-150
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40-150

PW
11/16/16

Printing Time: 09:53:01
Printing Date: Wednesday, November 16, 2016

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5	161115J1_05	11/15/2016 16:31:28	IPA	IPA
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7	161115J1_07	11/15/2016 16:55:54	1601385-10@10x	WURTS_VAS15012-28-31
8	161115J1_08	11/15/2016 17:08:10	1601391-01@25x	DUP06_161031
9	161115J1_09	11/15/2016 17:20:25	1601391-01@40x	DUP06_161031
10	161115J1_10	11/15/2016 17:32:39	1601391-08@25x	M14-09D_161031
11	161115J1_11	11/15/2016 17:44:52	1601391-08@40x	M14-09D_161031
12	161115J1_12	11/15/2016 17:57:08	1601391-09@25x	M14-09S_161031
13	161115J1_13	11/15/2016 18:09:23	1601391-09@40x	M14-09S_161031
14	161115J1_14	11/15/2016 18:21:37	1601391-10@10x	M14-14_161031
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16	161115J1_16	11/15/2016 18:46:07	B6K0052-MS1@40x	Matrix Spike
17	161115J1_17	11/15/2016 18:58:23	B6K0052-MSD1@25x	Matrix Spike Dup
18	161115J1_18	11/15/2016 19:10:37	B6K0052-MSD1@40x	Matrix Spike Dup
19	161115J1_19	11/15/2016 19:22:54	IPA	IPA
20	161115J1_20	11/15/2016 19:35:09	ST161115J1-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
21	161115J1_21	11/15/2016 19:47:21	IPA	IPA
22	161115J1_22	11/15/2016 19:59:37	1601391-11@25x	M14-22_161031
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24	161115J1_24	11/15/2016 20:24:06	1601391-19@25x	M14-23_161031
25	161115J1_25	11/15/2016 20:36:20	1601391-19@40x	M14-23_161031
26	161115J1_26	11/15/2016 20:48:35	1601391-20@25x	M14-24_161031
27	161115J1_27	11/15/2016 21:00:48	1601391-20@40x	M14-24_161031
28	161115J1_28	11/15/2016 21:13:00	1601401-01@5x	OW2C-MW19-1116
29	161115J1_29	11/15/2016 21:25:17	1601401-05@10x	JTC-MW-B-1116
30	161115J1_30	11/15/2016 21:37:32	1601401-09@25x	OW26-MW1-1116
31	161115J1_31	11/15/2016 21:49:48	1601401-09@40x	OW26-MW1-1116
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36	161115J1_36	11/15/2016 22:51:02	IPA	IPA
37	161115J1_37	11/15/2016 23:03:18	ST161115J1-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
38	161115J1_38	11/15/2016 23:15:33	IPA	IPA
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40	161115J1_40	11/15/2016 23:40:05	1601401-10@40x	OW26-MW1P 1116
41	161115J1_41	11/15/2016 23:52:20	1601409-07@5x	WURTS-VAS04007-40-43
42	161115J1_42	11/16/2016 00:04:33	IPA	IPA
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Last Altered: Wednesday, November 16, 2016 09:45:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:46:22 Pacific Standard Time

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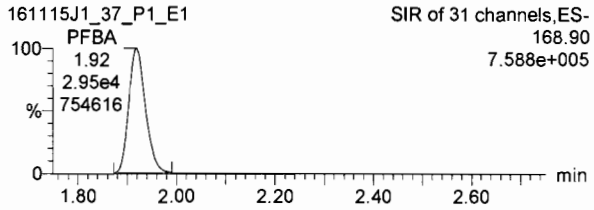
Name: 161115J1_37.wiff, Date: 15-Nov-2016, Time: 23:03:18, ID: ST161115J1-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

PFBA



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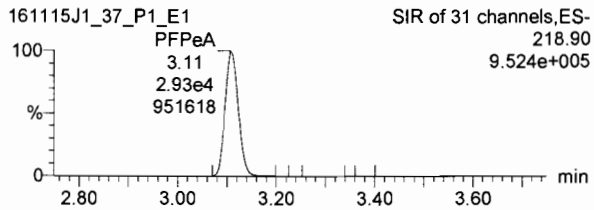

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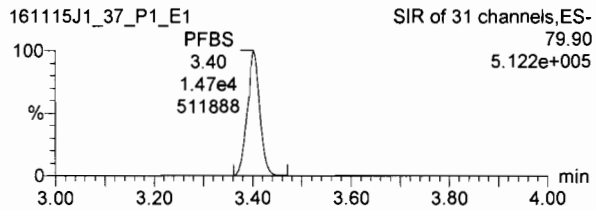
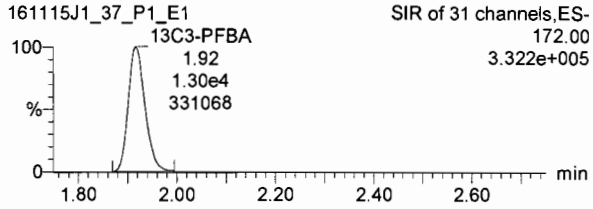


13C3-PFBA



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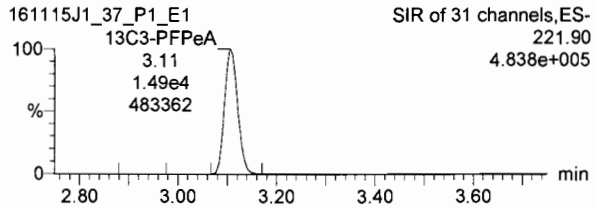
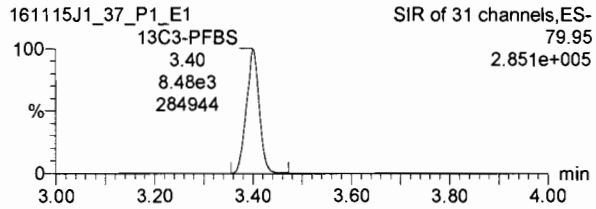
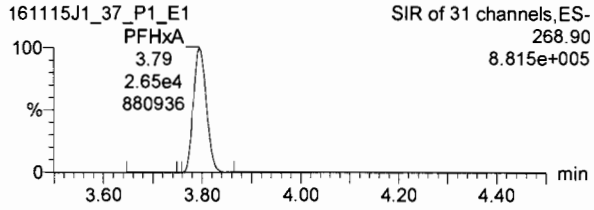


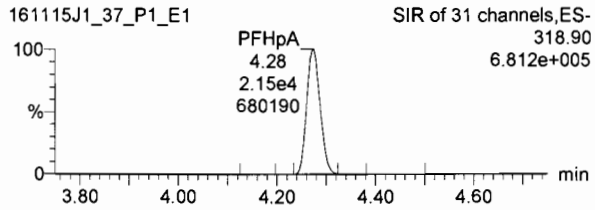
13C3-PFBS



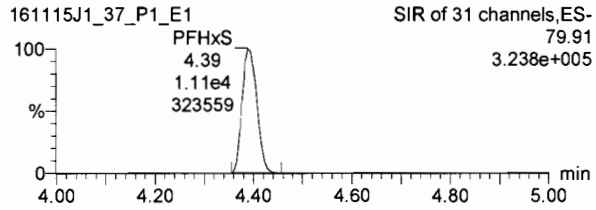
PFHxA



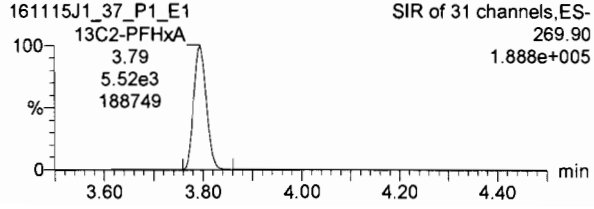
PFHpA



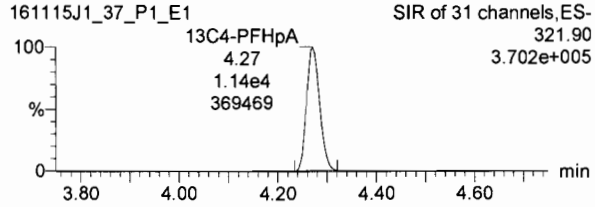
PFHxS



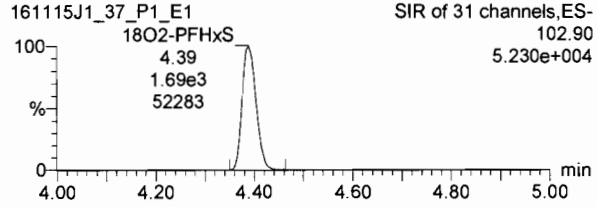
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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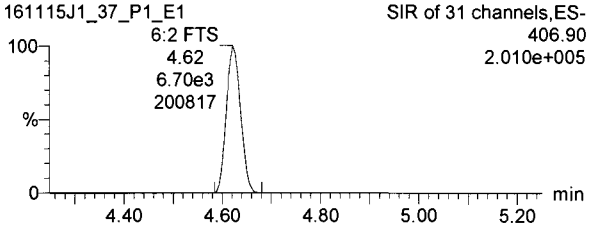
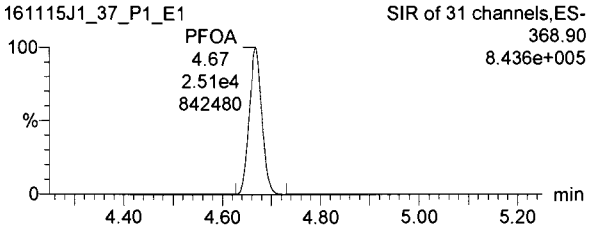
Printed: Wednesday, November 16, 2016 09:46:22 Pacific Standard Time

Name: 161115J1_37.wiff, Date: 15-Nov-2016, Time: 23:03:18, ID: ST161115J1-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

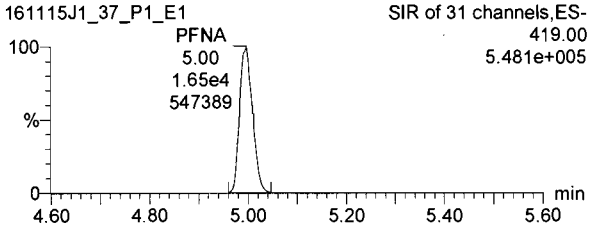
6:2 FTS



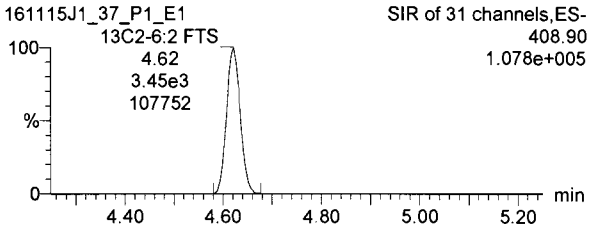
PFOA



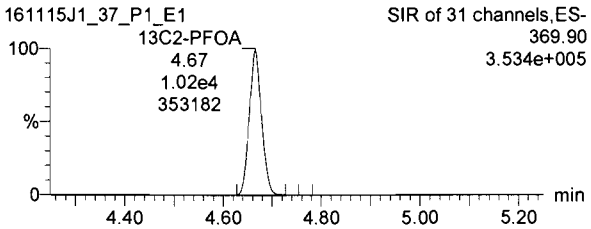
PFNA



13C2-6:2 FTS



13C2-PFOA



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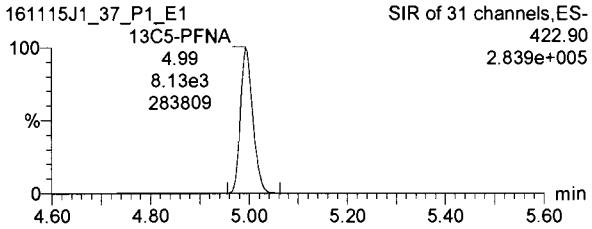

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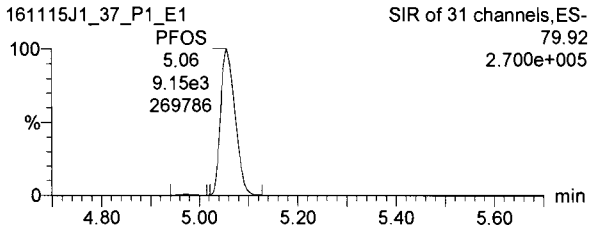
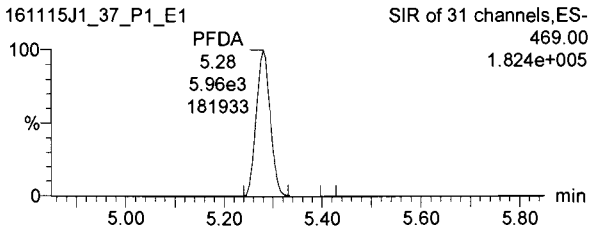
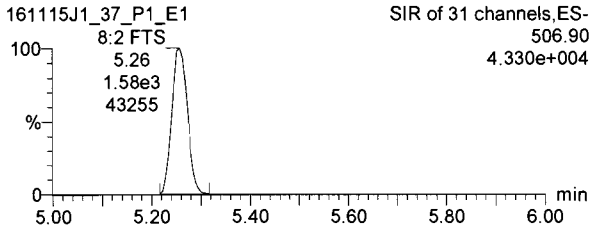


PFDA



8:2 FTS



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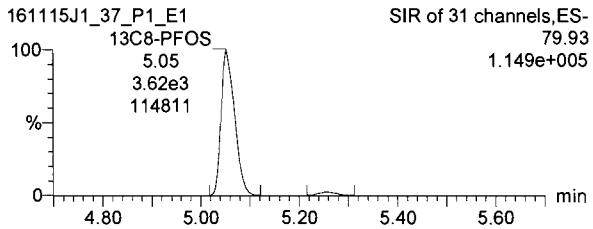

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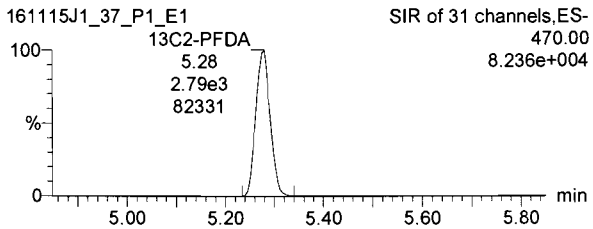
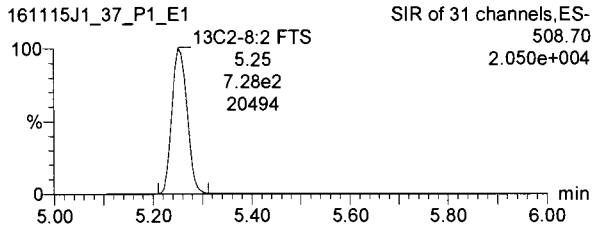


13C2-8:2 FTS



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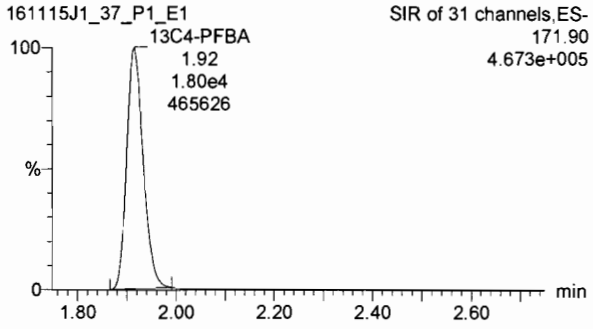
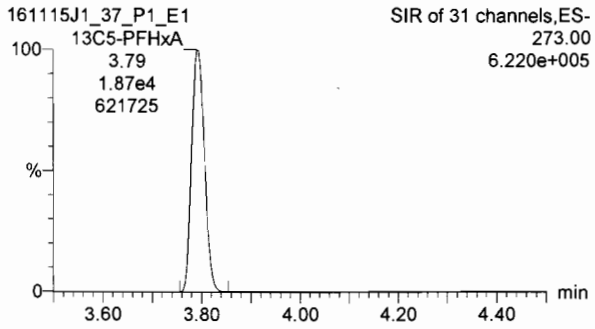
Printed: Wednesday, November 16, 2016 09:46:22 Pacific Standard Time

Name: 161115J1_37.wiff, Date: 15-Nov-2016, Time: 23:03:18, ID: ST161115J1-3 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

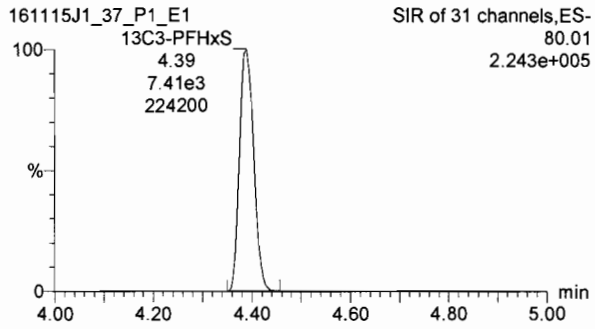
13C4-PFBA



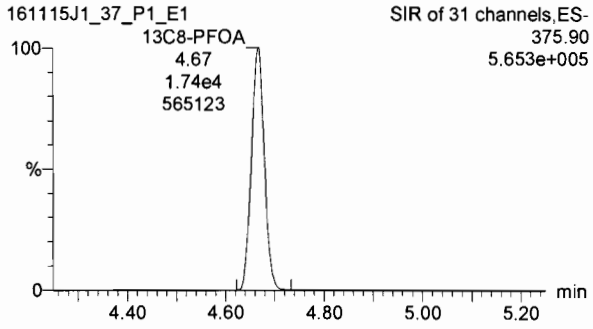
13C5-PFHxA



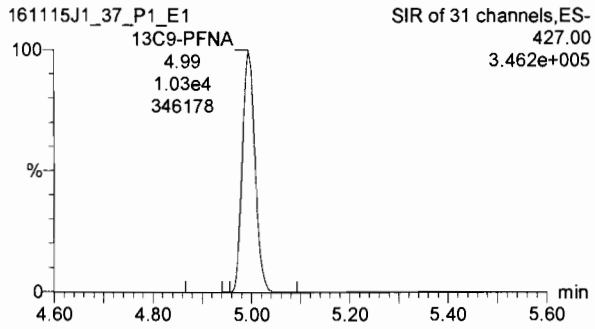
13C3-PFHxS



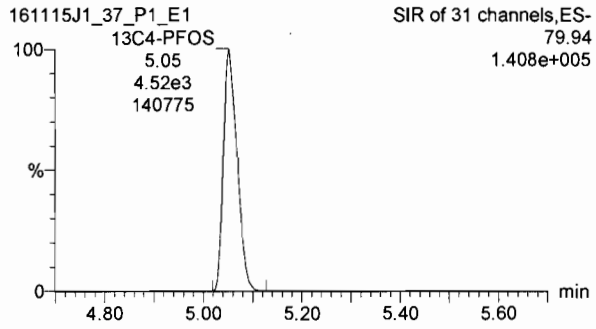
13C8-PFOA



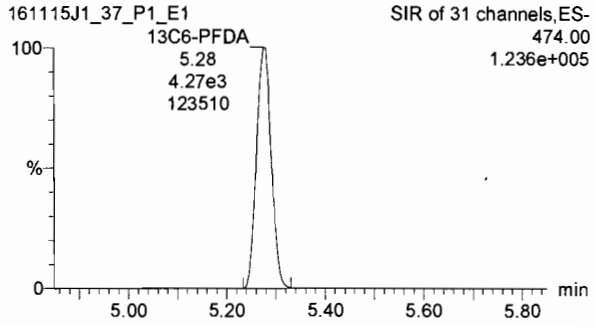
13C9-PFNA



13C4-PFOS



13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161115J1\161115J1_43.qld

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Printed: Wednesday, November 16, 2016 09:48:07 Pacific Standard Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

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	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBA	168.90	2.94e4	1.30e4		1.000	1.92	26.9	107.8
2	2	PFPeA	218.90	2.99e4	1.48e4		1.000	3.11	27.8	111.1
3	3	PFBS	79.90	1.39e4	8.26e3		1.000	3.40	26.9	107.6
4	4	PFHxA	268.90	2.64e4	5.53e3		1.000	3.79	27.9	111.6
5	5	PFHpA	318.90	2.14e4	1.14e4		1.000	4.28	27.8	111.3
6	6	PFHxS	79.91	1.17e4	1.79e3		1.000	4.39	25.1	100.4
7	7	6:2 FTS	406.90	6.60e3	3.61e3		1.000	4.62	25.2	100.6
8	8	PFOA	368.90	2.52e4	9.64e3		1.000	4.67	26.2	104.8
9	9	PFNA	419.00	1.63e4	7.83e3		1.000	5.00	28.7	114.9
10	10	PFOS	79.92	8.91e3	3.34e3		1.000	5.06	26.6	106.3
11	11	PFDA	469.00	6.03e3	2.53e3		1.000	5.29	29.5	118.0
12	12	8:2 FTS	506.90	1.49e3	7.70e2		1.000	5.27	23.5	94.1
13	13	13C3-PFBA	172.00	1.30e4	1.82e4	0.894	1.000	1.92	10.0	80.0
14	14	13C3-PFPeA	221.90	1.48e4	1.88e4	0.945	1.000	3.10	10.4	82.8
15	15	13C3-PFBS	79.95	8.26e3	1.88e4	0.531	1.000	3.40	10.3	82.6
16	16	13C2-PFHxA	269.90	5.53e3	1.88e4	0.905	1.000	3.79	4.06	81.2
17	17	13C4-PFHpA	321.90	1.14e4	1.88e4	0.770	1.000	4.27	9.83	78.7
18	18	18O2-PFHxS	102.90	1.79e3	6.85e3	0.276	1.000	4.39	11.8	94.8
19	19	13C2-6:2 FTS	408.90	3.61e3	1.80e4	0.219	1.000	4.62	11.5	91.8
20	20	13C2-PFOA	369.90	9.64e3	1.80e4	0.663	1.000	4.67	10.1	80.8
21	21	13C5-PFNA	422.90	7.83e3	1.00e4	1.019	1.000	5.00	9.58	76.6
22	22	13C8-PFOS	79.93	3.34e3	4.12e3	0.921	1.000	5.06	11.0	88.0
23	23	13C2-PFDA	470.00	2.53e3	3.98e3	0.887	1.000	5.29	8.95	71.6
24	24	13C2-8:2 FTS	508.70	7.70e2	3.98e3	0.272	1.000	5.27	8.91	71.3
25	25	13C4-PFBA	171.90	1.82e4	1.82e4	1.000	1.000	1.92	12.5	100.0
26	26	13C5-PFHxA	273.00	1.88e4	1.88e4	1.000	1.000	3.79	12.5	100.0
27	27	13C3-PFHxS	80.01	6.85e3	6.85e3	1.000	1.000	4.39	12.5	100.0
28	28	13C8-PFOA	375.90	1.80e4	1.80e4	1.000	1.000	4.67	12.5	100.0
29	29	13C4-PFOS	79.94	4.12e3	4.12e3	1.000	1.000	5.06	12.5	100.0
30	30	13C9-PFNA	427.00	1.00e4	1.00e4	1.000	1.000	5.00	12.5	100.0
31	31	13C6-PFDA	474.00	3.98e3	3.98e3	1.000	1.000	5.29	12.5	100.0

75-125
60-150
40-150
60-150
60-150
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40-150

PW 11/16/16

Printing Time: 09:53:01
Printing Date: Wednesday, November 16, 2016

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4	161115J1_04	11/15/2016 16:19:13	B6K0078-BS1	OPR
5	161115J1_05	11/15/2016 16:31:28	IPA	IPA
6	161115J1_06	11/15/2016 16:43:43	1601385-05@5x	WURTS_VAS15011-16-19
7	161115J1_07	11/15/2016 16:55:54	1601385-10@10x	WURTS_VAS15012-28-31
8	161115J1_08	11/15/2016 17:08:10	1601391-01@25x	DUP06_161031
9	161115J1_09	11/15/2016 17:20:25	1601391-01@40x	DUP06_161031
10	161115J1_10	11/15/2016 17:32:39	1601391-08@25x	M14-09D_161031
11	161115J1_11	11/15/2016 17:44:52	1601391-08@40x	M14-09D_161031
12	161115J1_12	11/15/2016 17:57:08	1601391-09@25x	M14-09S_161031
13	161115J1_13	11/15/2016 18:09:23	1601391-09@40x	M14-09S_161031
14	161115J1_14	11/15/2016 18:21:37	1601391-10@10x	M14-14_161031
15	161115J1_15	11/15/2016 18:33:51	B6K0052-MS1@25x	Matrix Spike
16	161115J1_16	11/15/2016 18:46:07	B6K0052-MS1@40x	Matrix Spike
17	161115J1_17	11/15/2016 18:58:23	B6K0052-MSD1@25x	Matrix Spike Dup
18	161115J1_18	11/15/2016 19:10:37	B6K0052-MSD1@40x	Matrix Spike Dup
19	161115J1_19	11/15/2016 19:22:54	IPA	IPA
20	161115J1_20	11/15/2016 19:35:09	ST161115J1-2 PFC C3.5 16K1120	PFC C3.5 16K1120A A
21	161115J1_21	11/15/2016 19:47:21	IPA	IPA
22	161115J1_22	11/15/2016 19:59:37	1601391-11@25x	M14-22_161031
23	161115J1_23	11/15/2016 20:11:52	1601391-11@40x	M14-22_161031
24	161115J1_24	11/15/2016 20:24:06	1601391-19@25x	M14-23_161031
25	161115J1_25	11/15/2016 20:36:20	1601391-19@40x	M14-23_161031
26	161115J1_26	11/15/2016 20:48:35	1601391-20@25x	M14-24_161031
27	161115J1_27	11/15/2016 21:00:48	1601391-20@40x	M14-24_161031
28	161115J1_28	11/15/2016 21:13:00	1601401-01@5x	OW2C-MW19-1116
29	161115J1_29	11/15/2016 21:25:17	1601401-05@10x	JTC-MW-B-1116
30	161115J1_30	11/15/2016 21:37:32	1601401-09@25x	OW26-MW1-1116
31	161115J1_31	11/15/2016 21:49:48	1601401-09@40x	OW26-MW1-1116
32	161115J1_32	11/15/2016 22:02:00	B6K0052-MS2@25x	Matrix Spike
33	161115J1_33	11/15/2016 22:14:17	B6K0052-MS2@40x	Matrix Spike
34	161115J1_34	11/15/2016 22:26:33	B6K0052-MSD2@25x	Matrix Spike Dup
35	161115J1_35	11/15/2016 22:38:46	B6K0052-MSD2@40x	Matrix Spike Dup
36	161115J1_36	11/15/2016 22:51:02	IPA	IPA
37	161115J1_37	11/15/2016 23:03:18	ST161115J1-3 PFC C3.5 16K1120	PFC C3.5 16K1120A A
38	161115J1_38	11/15/2016 23:15:33	IPA	IPA
39	161115J1_39	11/15/2016 23:27:49	1601401-10@25x	OW26-MW1P 1116
40	161115J1_40	11/15/2016 23:40:05	1601401-10@40x	OW26-MW1P 1116
41	161115J1_41	11/15/2016 23:52:20	1601409-07@5x	WURTS-VAS04007-40-43
42	161115J1_42	11/16/2016 00:04:33	IPA	IPA
43	161115J1_43	11/16/2016 00:16:48	ST161115J1-4 PFC C3.5 16K1120	PFC C3.5 16K1120A A
44	161115J1_44	11/16/2016 00:29:03	IPA	IPA

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Printed: Wednesday, November 16, 2016 09:47:44 Pacific Standard Time

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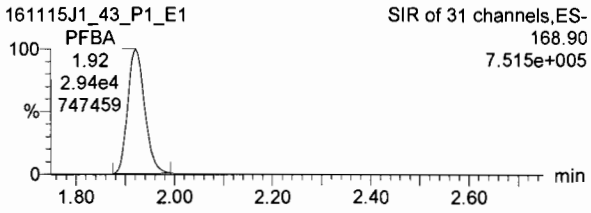
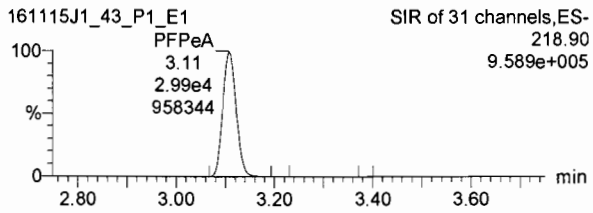
Name: 161115J1_43.wiff, Date: 16-Nov-2016, Time: 00:16:48, ID: ST161115J1-4 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

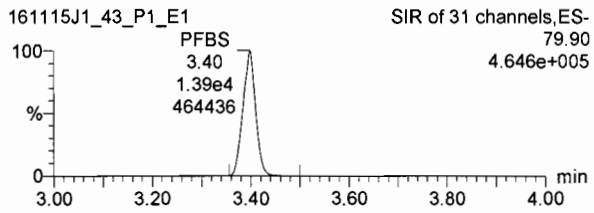
PFBA



PFPeA



PFBS



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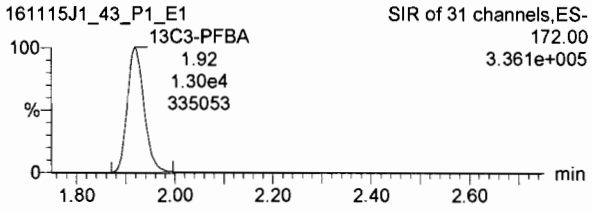

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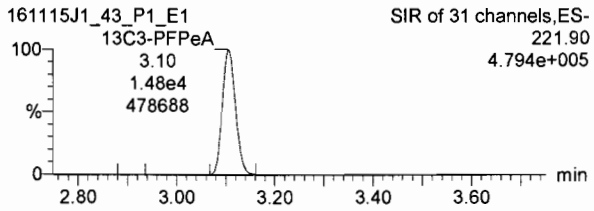

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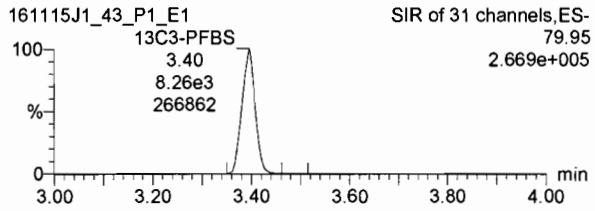
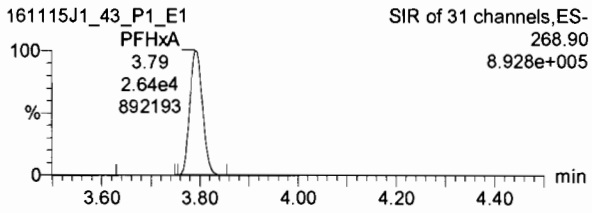
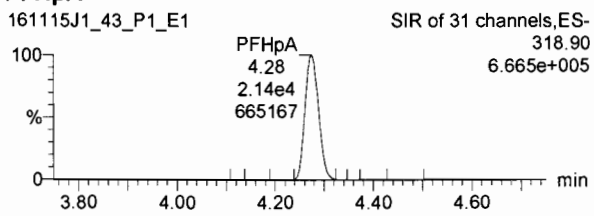


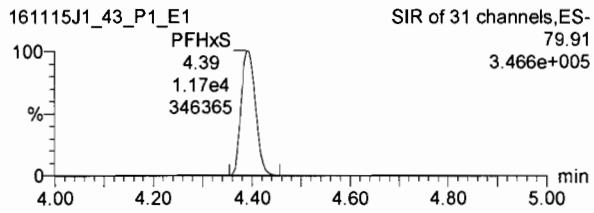
PFHxA



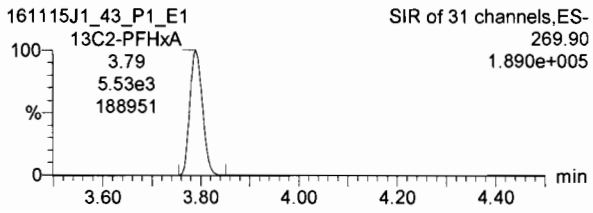
PFHpA



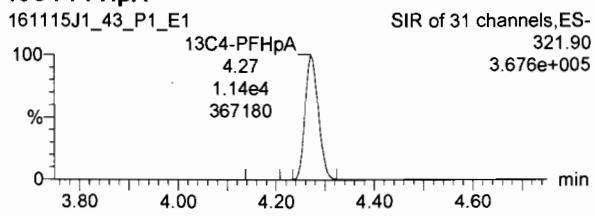
PFHxS



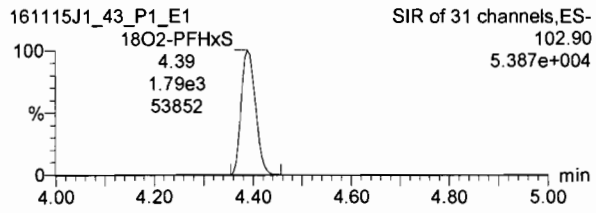
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

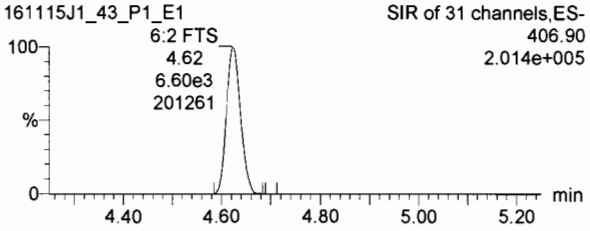


Dataset: U:\Q2.PRO\Results\161115J1\161115J1_43.qld

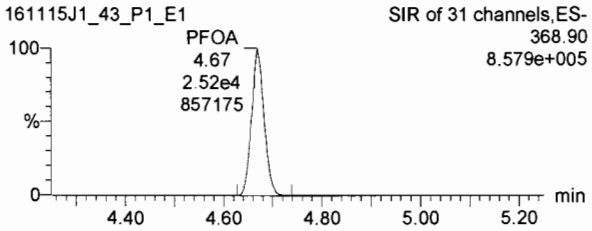
Last Altered: Wednesday, November 16, 2016 09:47:07 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:47:44 Pacific Standard Time

Name: 161115J1_43.wiff, Date: 16-Nov-2016, Time: 00:16:48, ID: ST161115J1-4 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

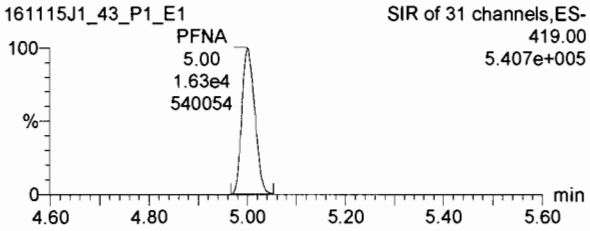
6:2 FTS



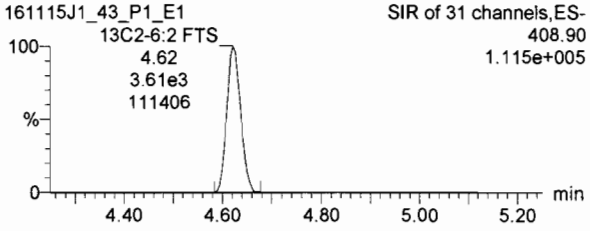
PFOA



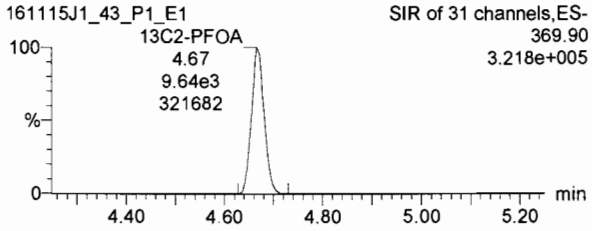
PFNA



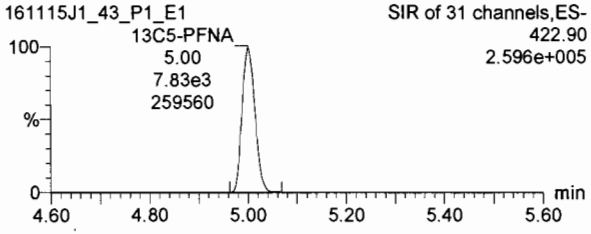
13C2-6:2 FTS



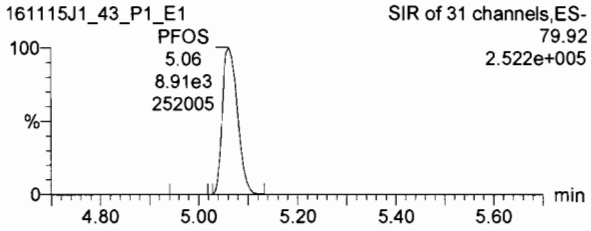
13C2-PFOA



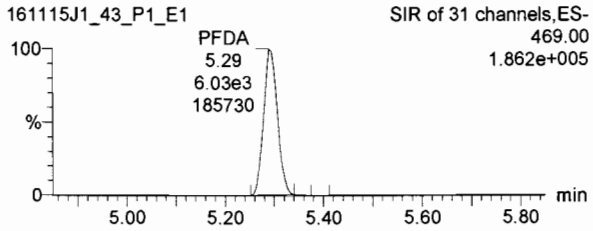
13C5-PFNA



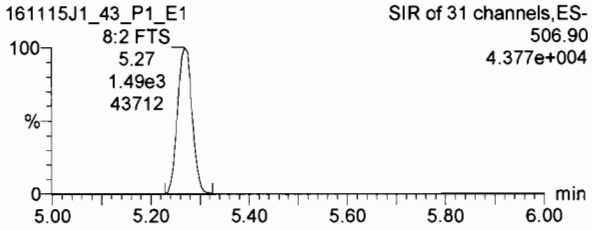
PFOS



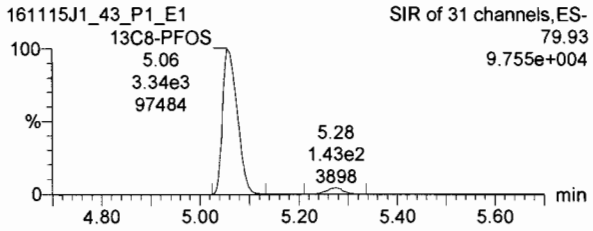
PFDA



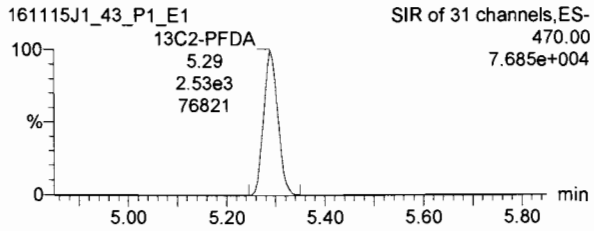
8:2 FTS



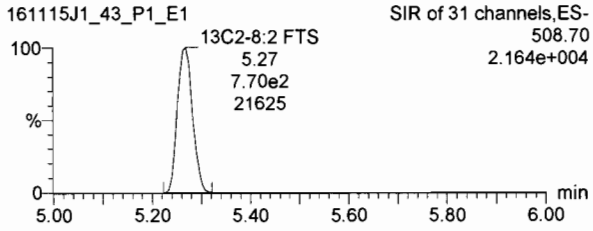
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

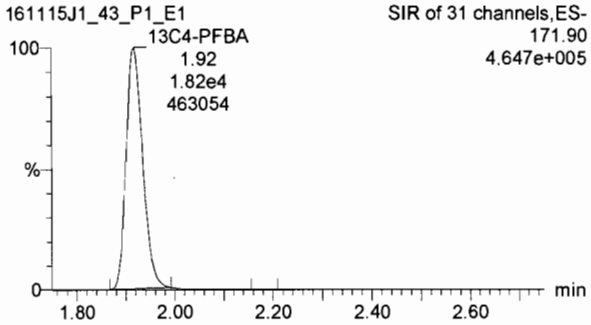


Dataset: U:\Q2.PRO\Results\161115J1\161115J1_43.qld

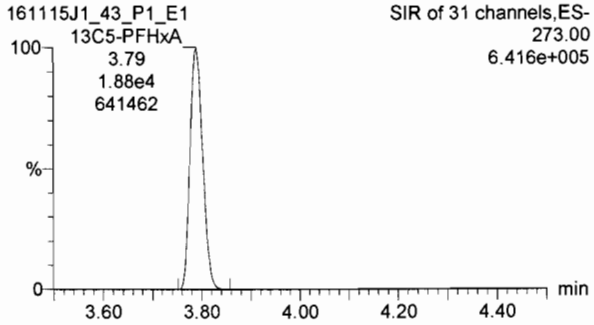
Last Altered: Wednesday, November 16, 2016 09:47:07 Pacific Standard Time
Printed: Wednesday, November 16, 2016 09:47:44 Pacific Standard Time

Name: 161115J1_43.wiff, Date: 16-Nov-2016, Time: 00:16:48, ID: ST161115J1-4 PFC C3.5 16K1120, Description: PFC C3.5 16K1120A A

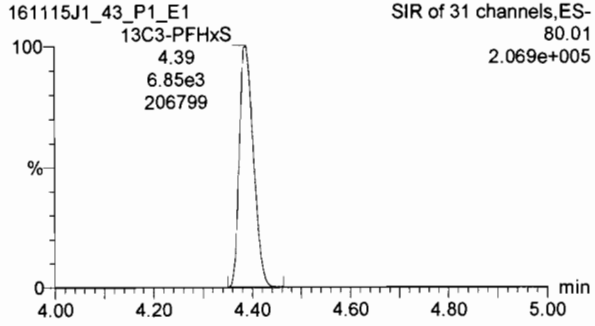
13C4-PFBA



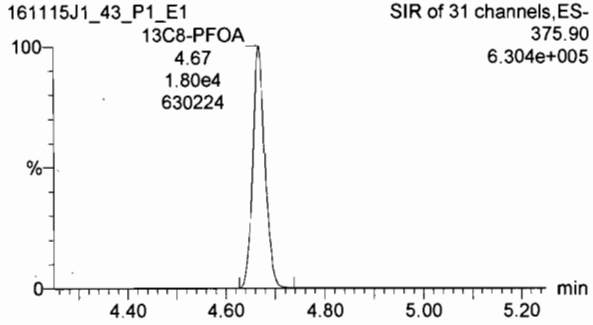
13C5-PFHxA



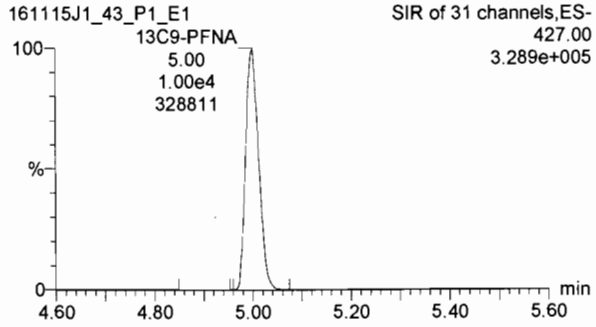
13C3-PFHxS



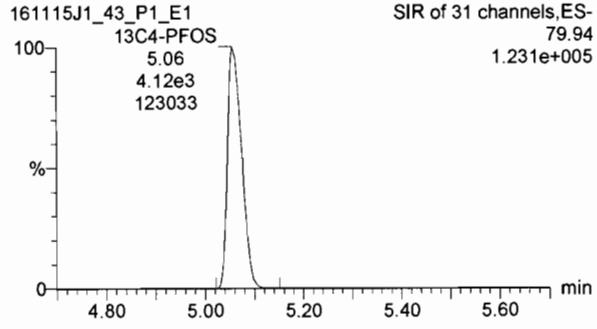
13C8-PFOA



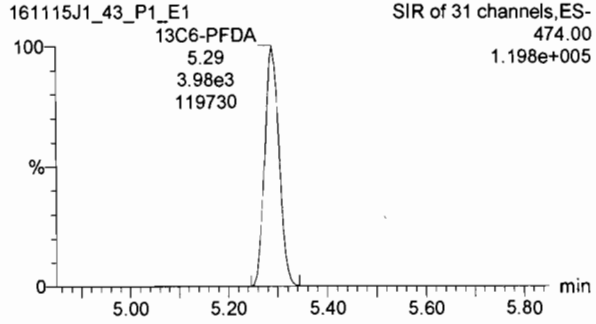
13C9-PFNA



13C4-PFOS



13C6-PFDA



INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:53:42 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Mixed.mdb 12 Nov 2016 10:51:05
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Compound name: PFBA
Correlation coefficient: r = 0.998498, r^2 = 0.996999
Calibration curve: 1.04509 * x + 0.0382703
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	2.04	5.63e2	1.03e4	0.616	23.3	1.36
2	2	161111J2_04_P1_E1	1.00	2.04	9.71e2	1.10e4	1.02	2.2	1.11
3	3	161111J2_05_P1_E1	2.00	2.03	1.64e3	1.14e4	1.68	-15.9	0.898
4	4	161111J2_06_P1_E1	5.00	2.04	3.73e3	1.12e4	3.94	-21.3	0.830
5	5	161111J2_07_P1_E1	10.0	2.04	1.01e4	1.08e4	11.1	10.6	1.16
6	6	161111J2_08_P1_E1	25.0	2.04	2.07e4	8.98e3	27.6	10.3	1.15
7	7	161111J2_09_P1_E1	50.0	2.04	4.37e4	1.03e4	50.8	1.5	1.06
8	8	161111J2_10_P1_E1	75.0	2.04	6.53e4	1.05e4	74.4	-0.8	1.04
9	9	161111J2_11_P1_E1	100	2.04	8.30e4	1.02e4	97.5	-2.5	1.02

PW
11/12/16

✓AC 11/13/16

Compound name: PFPeA
Correlation coefficient: r = 0.998036, r^2 = 0.996076
Calibration curve: 0.910461 * x + 0.0566694
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	3.18	5.69e2	1.15e4	0.619	23.7	1.24
2	2	161111J2_04_P1_E1	1.00	3.19	1.04e3	1.26e4	1.07	7.4	1.03
3	3	161111J2_05_P1_E1	2.00	3.18	1.66e3	1.32e4	1.66	-16.9	0.785
4	4	161111J2_06_P1_E1	5.00	3.18	3.82e3	1.32e4	3.91	-21.8	0.723
5	5	161111J2_07_P1_E1	10.0	3.19	1.04e4	1.30e4	10.9	8.9	0.998
6	6	161111J2_08_P1_E1	25.0	3.18	2.17e4	1.06e4	28.1	12.6	1.03
7	7	161111J2_09_P1_E1	50.0	3.18	4.51e4	1.20e4	51.7	3.4	0.943
8	8	161111J2_10_P1_E1	75.0	3.18	6.59e4	1.22e4	74.0	-1.4	0.899
9	9	161111J2_11_P1_E1	100	3.18	8.26e4	1.17e4	96.5	-3.5	0.880

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
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Compound name: PFBS
Coefficient of Determination: R^2 = 0.977505
Calibration curve: 0.00122129 * x^2 + 0.743308 * x + 0.145497
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x^2, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	3.45	2.92e2	6.77e3	0.529	5.8	1.08
2	2	161111J2_04_P1_E1	1.00	3.47	4.88e2	6.92e3	0.988	-1.2	0.881
3	3	161111J2_05_P1_E1	2.00	3.46	8.48e2	7.66e3	1.66	-17.0	0.692
4	4	161111J2_06_P1_E1	5.00	3.46	1.89e3	7.70e3	3.90	-22.1	0.612
5	5	161111J2_07_P1_E1	10.0	3.47	5.15e3	7.23e3	11.6	15.7	0.891
6	6	161111J2_08_P1_E1	25.0	3.46	1.10e4	5.91e3	29.6	18.3	0.928
7	7	161111J2_09_P1_E1	50.0	3.46	2.22e4	6.45e3	53.1	6.2	0.861
8	8	161111J2_10_P1_E1	75.0	3.46	3.34e4	6.63e3	75.3	0.4	0.840
9	9	161111J2_11_P1_E1	100	3.46	4.15e4	6.50e3	93.1	-6.9	0.799

Compound name: PFHxA
Correlation coefficient: r = 0.996921, r^2 = 0.993852
Calibration curve: 0.852369 * x + 0.067677
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	3.84	5.34e2	4.46e3	0.623	24.6	1.20
2	2	161111J2_04_P1_E1	1.00	3.84	9.27e2	4.84e3	1.04	4.4	0.958
3	3	161111J2_05_P1_E1	2.00	3.83	1.51e3	5.10e3	1.65	-17.4	0.738
4	4	161111J2_06_P1_E1	5.00	3.84	3.45e3	5.09e3	3.90	-22.0	0.678
5	5	161111J2_07_P1_E1	10.0	3.84	9.48e3	4.93e3	11.2	12.0	0.962
6	6	161111J2_08_P1_E1	25.0	3.84	1.97e4	3.97e3	29.0	15.9	0.990
7	7	161111J2_09_P1_E1	50.0	3.84	4.06e4	4.55e3	52.3	4.6	0.893
8	8	161111J2_10_P1_E1	75.0	3.85	5.88e4	4.61e3	74.7	-0.4	0.850
9	9	161111J2_11_P1_E1	100	3.85	7.27e4	4.53e3	94.1	-5.9	0.803

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
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Compound name: PFHpA
Correlation coefficient: r = 0.998500, r^2 = 0.997002
Calibration curve: 0.842904 * x + 0.0395603
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	4.32	4.20e2	9.04e3	0.642	28.4	1.16
2	2	161111J2_04_P1_E1	1.00	4.33	7.53e2	9.91e3	1.08	7.9	0.949
3	3	161111J2_05_P1_E1	2.00	4.32	1.18e3	1.08e4	1.57	-21.4	0.682
4	4	161111J2_06_P1_E1	5.00	4.33	2.74e3	1.04e4	3.86	-22.8	0.659
5	5	161111J2_07_P1_E1	10.0	4.32	7.77e3	1.05e4	11.0	9.6	0.928
6	6	161111J2_08_P1_E1	25.0	4.32	1.58e4	8.54e3	27.4	9.8	0.927
7	7	161111J2_09_P1_E1	50.0	4.32	3.40e4	1.00e4	50.1	0.1	0.845
8	8	161111J2_10_P1_E1	75.0	4.33	5.23e4	1.04e4	74.6	-0.5	0.839
9	9	161111J2_11_P1_E1	100	4.32	6.50e4	9.81e3	98.3	-1.7	0.829

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.998167
Calibration curve: 0.00081896 * x^2 + 3.22284 * x + 0.0419742
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	4.43	2.29e2	1.34e3	0.648	29.7	4.26
2	2	161111J2_04_P1_E1	1.00	4.44	3.76e2	1.41e3	1.02	1.8	3.32
3	3	161111J2_05_P1_E1	2.00	4.43	6.82e2	1.59e3	1.65	-17.4	2.68
4	4	161111J2_06_P1_E1	5.00	4.44	1.50e3	1.48e3	3.91	-21.8	2.53
5	5	161111J2_07_P1_E1	10.0	4.44	3.85e3	1.46e3	10.2	2.0	3.30
6	6	161111J2_08_P1_E1	25.0	4.44	8.40e3	1.22e3	26.6	6.3	3.45
7	7	161111J2_09_P1_E1	50.0	4.44	1.86e4	1.41e3	50.3	0.6	3.28
8	8	161111J2_10_P1_E1	75.0	4.44	2.65e4	1.37e3	73.8	-1.6	3.23
9	9	161111J2_11_P1_E1	100	4.43	3.33e4	1.25e3	100	0.4	3.32

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
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Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.995743
Calibration curve: -0.00213642 * x^2 + 0.961467 * x + 0.0440674
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	4.66	1.33e2	2.51e3	0.643	28.6	1.32
2	2	161111J2_04_P1_E1	1.00	4.67	1.94e2	2.89e3	0.826	-17.4	0.837
3	3	161111J2_05_P1_E1	2.00	4.66	4.01e2	2.88e3	1.77	-11.7	0.868
4	4	161111J2_06_P1_E1	5.00	4.67	9.29e2	2.84e3	4.24	-15.2	0.817
5	5	161111J2_07_P1_E1	10.0	4.67	2.40e3	2.63e3	12.1	21.4	1.14
6	6	161111J2_08_P1_E1	25.0	4.66	4.58e3	2.68e3	23.4	-6.5	0.854
7	7	161111J2_09_P1_E1	50.0	4.67	1.00e4	2.95e3	49.6	-0.9	0.849
8	8	161111J2_10_P1_E1	75.0	4.67	1.51e4	3.07e3	77.3	3.0	0.821
9	9	161111J2_11_P1_E1	100	4.66	2.07e4	3.49e3	98.6	-1.4	0.741

Compound name: PFOA
Coefficient of Determination: R^2 = 0.996931
Calibration curve: -0.0025112 * x^2 + 1.31194 * x + 0.0471482
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	4.71	5.87e2	8.45e3	0.627	25.4	1.74
2	2	161111J2_04_P1_E1	1.00	4.71	1.03e3	8.64e3	1.10	10.2	1.49
3	3	161111J2_05_P1_E1	2.00	4.70	1.64e3	9.24e3	1.66	-17.2	1.11
4	4	161111J2_06_P1_E1	5.00	4.71	3.78e3	9.36e3	3.84	-23.2	1.01
5	5	161111J2_07_P1_E1	10.0	4.72	9.98e3	9.02e3	10.7	7.2	1.38
6	6	161111J2_08_P1_E1	25.0	4.71	2.00e4	7.47e3	26.9	7.7	1.34
7	7	161111J2_09_P1_E1	50.0	4.71	4.10e4	8.76e3	49.2	-1.7	1.17
8	8	161111J2_10_P1_E1	75.0	4.71	6.01e4	9.14e3	72.8	-2.9	1.10
9	9	161111J2_11_P1_E1	100	4.71	7.58e4	8.81e3	102	1.8	1.08

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Compound name: PFNA
Correlation coefficient: r = 0.998382, r^2 = 0.996768
Calibration curve: 0.905077 * x + 0.00552082
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	5.03	3.24e2	7.26e3	0.611	22.1	1.12
2	2	161111J2_04_P1_E1	1.00	5.03	6.34e2	8.73e3	0.997	-0.3	0.908
3	3	161111J2_05_P1_E1	2.00	5.03	1.10e3	8.84e3	1.71	-14.5	0.776
4	4	161111J2_06_P1_E1	5.00	5.05	2.80e3	1.02e4	3.79	-24.2	0.687
5	5	161111J2_07_P1_E1	10.0	5.06	8.36e3	9.95e3	11.6	16.0	1.05
6	6	161111J2_08_P1_E1	25.0	5.03	1.25e4	6.61e3	26.0	4.1	0.943
7	7	161111J2_09_P1_E1	50.0	5.03	2.75e4	7.56e3	50.3	0.6	0.911
8	8	161111J2_10_P1_E1	75.0	5.03	4.10e4	7.89e3	71.8	-4.3	0.866
9	9	161111J2_11_P1_E1	100	5.05	6.43e4	8.74e3	102	1.7	0.920

Compound name: PFOS
Correlation coefficient: r = 0.985935, r^2 = 0.972067
Calibration curve: 1.25111 * x + 0.123067
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x^2, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	5.09	2.07e2	3.18e3	0.553	10.7	1.63
2	2	161111J2_04_P1_E1	1.00	5.10	3.67e2	3.57e3	0.927	-7.3	1.28
3	3	161111J2_05_P1_E1	2.00	5.09	6.49e2	3.92e3	1.56	-22.2	1.04
4	4	161111J2_06_P1_E1	5.00	5.11	1.33e3	3.44e3	3.77	-24.6	0.968
5	5	161111J2_07_P1_E1	10.0	5.11	3.82e3	3.38e3	11.2	11.7	1.41
6	6	161111J2_08_P1_E1	25.0	5.09	8.42e3	2.92e3	28.7	14.8	1.44
7	7	161111J2_09_P1_E1	50.0	5.09	1.21e4	2.42e3	49.9	-0.2	1.25
8	8	161111J2_10_P1_E1	75.0	5.10	2.03e4	2.48e3	81.7	9.0	1.36
9	9	161111J2_11_P1_E1	100	5.11	2.75e4	2.53e3	108	8.2	1.35

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Compound name: PFDA
Correlation coefficient: r = 0.998849, r^2 = 0.997699
Calibration curve: 1.01138 * x + -0.0247569
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	5.31	1.89e2	4.48e3	0.547	9.4	1.06
2	2	161111J2_04_P1_E1	1.00	5.32	3.61e2	4.63e3	0.988	-1.2	0.975
3	3	161111J2_05_P1_E1	2.00	5.32	7.61e2	5.52e3	1.73	-13.6	0.861
4	4	161111J2_06_P1_E1	5.00	5.33	1.52e3	4.38e3	4.31	-13.7	0.867
5	5	161111J2_07_P1_E1	10.0	5.33	3.62e3	4.24e3	10.6	6.0	1.07
6	6	161111J2_08_P1_E1	25.0	5.31	8.34e3	3.84e3	26.9	7.5	1.09
7	7	161111J2_09_P1_E1	50.0	5.32	1.26e4	2.94e3	52.8	5.7	1.07
8	8	161111J2_10_P1_E1	75.0	5.31	1.79e4	3.02e3	73.3	-2.2	0.989
9	9	161111J2_11_P1_E1	100	5.32	2.62e4	3.33e3	97.3	-2.7	0.983

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.995769
Calibration curve: -0.00383329 * x^2 + 1.1235 * x + -0.0810222
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500	5.29	6.35e1	1.27e3	0.632	26.4	1.25
2	2	161111J2_04_P1_E1	1.00	5.29	1.02e2	1.36e3	0.910	-9.0	0.938
3	3	161111J2_05_P1_E1	2.00	5.30	2.14e2	1.48e3	1.69	-15.5	0.903
4	4	161111J2_06_P1_E1	5.00	5.31	4.03e2	1.23e3	3.77	-24.6	0.819
5	5	161111J2_07_P1_E1	10.0	5.31	1.09e3	1.27e3	9.94	-0.6	1.07
6	6	161111J2_08_P1_E1	25.0	5.29	2.44e3	1.08e3	27.7	10.8	1.12
7	7	161111J2_09_P1_E1	50.0	5.30	4.06e3	1.08e3	50.6	1.1	0.939
8	8	161111J2_10_P1_E1	75.0	5.29	5.24e3	1.08e3	71.7	-4.3	0.811
9	9	161111J2_11_P1_E1	100	5.30	6.59e3	1.10e3	102	1.8	0.746

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Compound name: 13C3-PFBA
Response Factor: 0.89422
RRF SD: 0.0909819, Relative SD: 10.1744
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	2.03	1.03e4	1.29e4	11.2	-10.3	0.802
2	2	161111J2_04_P1_E1	12.5	2.04	1.10e4	1.17e4	13.1	4.9	0.938
3	3	161111J2_05_P1_E1	12.5	2.03	1.14e4	1.19e4	13.4	7.2	0.958
4	4	161111J2_06_P1_E1	12.5	2.04	1.12e4	1.11e4	14.2	13.5	1.01
5	5	161111J2_07_P1_E1	12.5	2.04	1.08e4	1.11e4	13.6	9.0	0.974
6	6	161111J2_08_P1_E1	12.5	2.04	8.98e3	1.24e4	10.1	-19.3	0.721
7	7	161111J2_09_P1_E1	12.5	2.04	1.03e4	1.17e4	12.3	-1.7	0.879
8	8	161111J2_10_P1_E1	12.5	2.04	1.05e4	1.18e4	12.5	-0.3	0.891
9	9	161111J2_11_P1_E1	12.5	2.04	1.02e4	1.17e4	12.1	-2.8	0.869

Compound name: 13C3-PFPeA
Response Factor: 0.945444
RRF SD: 0.102116, Relative SD: 10.8009
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	3.18	1.15e4	1.41e4	10.8	-13.9	0.814
2	2	161111J2_04_P1_E1	12.5	3.19	1.26e4	1.31e4	12.7	1.5	0.960
3	3	161111J2_05_P1_E1	12.5	3.17	1.32e4	1.35e4	13.0	3.7	0.981
4	4	161111J2_06_P1_E1	12.5	3.18	1.32e4	1.23e4	14.2	13.9	1.08
5	5	161111J2_07_P1_E1	12.5	3.19	1.30e4	1.22e4	14.0	12.2	1.06
6	6	161111J2_08_P1_E1	12.5	3.18	1.06e4	1.38e4	10.1	-19.4	0.762
7	7	161111J2_09_P1_E1	12.5	3.18	1.20e4	1.25e4	12.6	1.0	0.955
8	8	161111J2_10_P1_E1	12.5	3.18	1.22e4	1.27e4	12.8	2.1	0.965
9	9	161111J2_11_P1_E1	12.5	3.18	1.17e4	1.26e4	12.4	-1.1	0.935

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Compound name: 13C3-PFBS
Response Factor: 0.530916
RRF SD: 0.0593801, Relative SD: 11.1845
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	3.45	6.77e3	1.41e4	11.3	-9.5	0.480
2	2	161111J2_04_P1_E1	12.5	3.47	6.92e3	1.31e4	12.4	-0.7	0.527
3	3	161111J2_05_P1_E1	12.5	3.46	7.66e3	1.35e4	13.4	7.3	0.570
4	4	161111J2_06_P1_E1	12.5	3.46	7.70e3	1.23e4	14.8	18.2	0.627
5	5	161111J2_07_P1_E1	12.5	3.47	7.23e3	1.22e4	13.9	11.2	0.590
6	6	161111J2_08_P1_E1	12.5	3.46	5.91e3	1.38e4	10.1	-19.6	0.427
7	7	161111J2_09_P1_E1	12.5	3.46	6.45e3	1.25e4	12.1	-3.0	0.515
8	8	161111J2_10_P1_E1	12.5	3.46	6.63e3	1.27e4	12.3	-1.3	0.524
9	9	161111J2_11_P1_E1	12.5	3.46	6.50e3	1.26e4	12.2	-2.5	0.518

Compound name: 13C2-PFHxA
Response Factor: 0.904554
RRF SD: 0.0988189, Relative SD: 10.9246
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	5.00	3.84	4.46e3	1.41e4	4.37	-12.5	0.791
2	2	161111J2_04_P1_E1	5.00	3.84	4.84e3	1.31e4	5.09	1.8	0.921
3	3	161111J2_05_P1_E1	5.00	3.83	5.10e3	1.35e4	5.24	4.9	0.948
4	4	161111J2_06_P1_E1	5.00	3.84	5.09e3	1.23e4	5.73	14.6	1.04
5	5	161111J2_07_P1_E1	5.00	3.84	4.93e3	1.22e4	5.56	11.3	1.01
6	6	161111J2_08_P1_E1	5.00	3.84	3.97e3	1.38e4	3.96	-20.7	0.717
7	7	161111J2_09_P1_E1	5.00	3.84	4.55e3	1.25e4	5.02	0.4	0.908
8	8	161111J2_10_P1_E1	5.00	3.84	4.61e3	1.27e4	5.03	0.7	0.911
9	9	161111J2_11_P1_E1	5.00	3.85	4.53e3	1.26e4	4.98	-0.3	0.902

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Compound name: 13C4-PFHpA
Response Factor: 0.769651
RRF SD: 0.0853478, Relative SD: 11.0892
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	4.32	9.04e3	1.41e4	10.4	-16.6	0.642
2	2	161111J2_04_P1_E1	12.5	4.33	9.91e3	1.31e4	12.3	-1.9	0.755
3	3	161111J2_05_P1_E1	12.5	4.31	1.08e4	1.35e4	13.1	4.8	0.806
4	4	161111J2_06_P1_E1	12.5	4.33	1.04e4	1.23e4	13.8	10.0	0.847
5	5	161111J2_07_P1_E1	12.5	4.32	1.05e4	1.22e4	13.9	11.1	0.855
6	6	161111J2_08_P1_E1	12.5	4.32	8.54e3	1.38e4	10.0	-19.8	0.617
7	7	161111J2_09_P1_E1	12.5	4.32	1.00e4	1.25e4	13.0	4.3	0.803
8	8	161111J2_10_P1_E1	12.5	4.33	1.04e4	1.27e4	13.3	6.6	0.821
9	9	161111J2_11_P1_E1	12.5	4.32	9.81e3	1.26e4	12.7	1.5	0.781

Compound name: 18O2-PFHxS
Response Factor: 0.275968
RRF SD: 0.0323848, Relative SD: 11.735
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	4.43	1.34e3	5.84e3	10.4	-16.6	0.230
2	2	161111J2_04_P1_E1	12.5	4.44	1.41e3	5.10e3	12.6	0.5	0.277
3	3	161111J2_05_P1_E1	12.5	4.43	1.59e3	5.19e3	13.9	10.9	0.306
4	4	161111J2_06_P1_E1	12.5	4.44	1.48e3	4.72e3	14.2	13.5	0.313
5	5	161111J2_07_P1_E1	12.5	4.44	1.46e3	4.92e3	13.4	7.4	0.296
6	6	161111J2_08_P1_E1	12.5	4.44	1.22e3	5.55e3	9.93	-20.5	0.219
7	7	161111J2_09_P1_E1	12.5	4.43	1.41e3	4.80e3	13.4	6.8	0.295
8	8	161111J2_10_P1_E1	12.5	4.44	1.37e3	4.97e3	12.4	-0.4	0.275
9	9	161111J2_11_P1_E1	12.5	4.43	1.25e3	4.61e3	12.3	-1.5	0.272

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Compound name: 13C2-6:2 FTS
Response Factor: 0.218688
RRF SD: 0.0312976, Relative SD: 14.3115
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	4.66	2.51e3	1.41e4	10.2	-18.7	0.178
2	2	161111J2_04_P1_E1	12.5	4.66	2.89e3	1.39e4	11.9	-4.9	0.208
3	3	161111J2_05_P1_E1	12.5	4.66	2.88e3	1.30e4	12.7	1.6	0.222
4	4	161111J2_06_P1_E1	12.5	4.67	2.84e3	1.35e4	12.0	-3.9	0.210
5	5	161111J2_07_P1_E1	12.5	4.67	2.63e3	1.28e4	11.8	-5.6	0.206
6	6	161111J2_08_P1_E1	12.5	4.66	2.68e3	1.42e4	10.8	-14.0	0.188
7	7	161111J2_09_P1_E1	12.5	4.66	2.95e3	1.26e4	13.4	7.0	0.234
8	8	161111J2_10_P1_E1	12.5	4.67	3.07e3	1.30e4	13.5	8.3	0.237
9	9	161111J2_11_P1_E1	12.5	4.66	3.49e3	1.23e4	16.3	30.1	0.284

Compound name: 13C2-PFOA
Response Factor: 0.663371
RRF SD: 0.0669504, Relative SD: 10.0924
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	4.71	8.45e3	1.41e4	11.3	-9.7	0.599
2	2	161111J2_04_P1_E1	12.5	4.71	8.64e3	1.39e4	11.7	-6.4	0.621
3	3	161111J2_05_P1_E1	12.5	4.70	9.24e3	1.30e4	13.4	7.3	0.712
4	4	161111J2_06_P1_E1	12.5	4.71	9.36e3	1.35e4	13.0	4.2	0.691
5	5	161111J2_07_P1_E1	12.5	4.72	9.02e3	1.28e4	13.3	6.6	0.707
6	6	161111J2_08_P1_E1	12.5	4.71	7.47e3	1.42e4	9.88	-21.0	0.524
7	7	161111J2_09_P1_E1	12.5	4.71	8.76e3	1.26e4	13.1	4.6	0.694
8	8	161111J2_10_P1_E1	12.5	4.71	9.14e3	1.30e4	13.3	6.2	0.704
9	9	161111J2_11_P1_E1	12.5	4.71	8.81e3	1.23e4	13.5	8.1	0.717

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Compound name: 13C5-PFNA
Response Factor: 1.01945
RRF SD: 0.110532, Relative SD: 10.8423
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.02	7.26e3	8.03e3	11.1	-11.3	0.904
2	2	161111J2_04_P1_E1	12.5	5.03	8.73e3	7.82e3	13.7	9.5	1.12
3	3	161111J2_05_P1_E1	12.5	5.03	8.84e3	8.19e3	13.2	5.8	1.08
4	4	161111J2_06_P1_E1	12.5	5.05	1.02e4	8.40e3	14.9	19.1	1.21
5	5	161111J2_07_P1_E1	12.5	5.05	9.95e3	1.00e4	12.2	-2.5	0.994
6	6	161111J2_08_P1_E1	12.5	5.03	6.61e3	7.86e3	10.3	-17.5	0.841
7	7	161111J2_09_P1_E1	12.5	5.03	7.56e3	7.38e3	12.6	0.5	1.02
8	8	161111J2_10_P1_E1	12.5	5.03	7.89e3	7.77e3	12.5	-0.4	1.02
9	9	161111J2_11_P1_E1	12.5	5.04	8.74e3	8.86e3	12.1	-3.2	0.987

Compound name: 13C8-PFOS
Response Factor: 0.92134
RRF SD: 0.0963018, Relative SD: 10.4524
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.09	3.18e3	4.04e3	10.7	-14.7	0.786
2	2	161111J2_04_P1_E1	12.5	5.10	3.57e3	3.65e3	13.3	6.3	0.979
3	3	161111J2_05_P1_E1	12.5	5.09	3.92e3	3.72e3	14.3	14.3	1.05
4	4	161111J2_06_P1_E1	12.5	5.11	3.44e3	3.47e3	13.5	7.6	0.991
5	5	161111J2_07_P1_E1	12.5	5.11	3.38e3	3.51e3	13.1	4.6	0.963
6	6	161111J2_08_P1_E1	12.5	5.09	2.92e3	3.88e3	10.2	-18.2	0.753
7	7	161111J2_09_P1_E1	12.5	5.09	2.42e3	2.58e3	12.7	1.9	0.939
8	8	161111J2_10_P1_E1	12.5	5.09	2.48e3	2.72e3	12.4	-1.1	0.912
9	9	161111J2_11_P1_E1	12.5	5.10	2.53e3	2.77e3	12.4	-0.7	0.915

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

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Compound name: 13C2-PFDA
Response Factor: 0.886754
RRF SD: 0.0917341, Relative SD: 10.3449
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.31	4.48e3	5.57e3	11.3	-9.3	0.805
2	2	161111J2_04_P1_E1	12.5	5.32	4.63e3	4.96e3	13.2	5.5	0.935
3	3	161111J2_05_P1_E1	12.5	5.32	5.52e3	5.51e3	14.1	13.0	1.00
4	4	161111J2_06_P1_E1	12.5	5.33	4.38e3	4.37e3	14.1	13.1	1.00
5	5	161111J2_07_P1_E1	12.5	5.32	4.24e3	4.61e3	13.0	3.6	0.919
6	6	161111J2_08_P1_E1	12.5	5.31	3.84e3	5.31e3	10.2	-18.5	0.722
7	7	161111J2_09_P1_E1	12.5	5.32	2.94e3	3.32e3	12.5	-0.3	0.884
8	8	161111J2_10_P1_E1	12.5	5.31	3.02e3	3.63e3	11.7	-6.4	0.830
9	9	161111J2_11_P1_E1	12.5	5.32	3.33e3	3.79e3	12.4	-0.8	0.880

Compound name: 13C2-8:2 FTS
Response Factor: 0.271622
RRF SD: 0.0363065, Relative SD: 13.3666
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.29	1.27e3	5.57e3	10.5	-16.3	0.227
2	2	161111J2_04_P1_E1	12.5	5.29	1.36e3	4.96e3	12.6	0.9	0.274
3	3	161111J2_05_P1_E1	12.5	5.30	1.48e3	5.51e3	12.4	-1.1	0.269
4	4	161111J2_06_P1_E1	12.5	5.31	1.23e3	4.37e3	13.0	3.6	0.281
5	5	161111J2_07_P1_E1	12.5	5.31	1.27e3	4.61e3	12.7	1.5	0.276
6	6	161111J2_08_P1_E1	12.5	5.29	1.08e3	5.31e3	9.39	-24.9	0.204
7	7	161111J2_09_P1_E1	12.5	5.29	1.08e3	3.32e3	15.0	19.7	0.325
8	8	161111J2_10_P1_E1	12.5	5.29	1.08e3	3.63e3	13.7	9.2	0.297
9	9	161111J2_11_P1_E1	12.5	5.30	1.10e3	3.79e3	13.4	7.3	0.291

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

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	2.03	1.29e4	1.29e4	12.5	0.0	1.00
2	2	161111J2_04_P1_E1	12.5	2.04	1.17e4	1.17e4	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	2.03	1.19e4	1.19e4	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	2.03	1.11e4	1.11e4	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	2.03	1.11e4	1.11e4	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	2.04	1.24e4	1.24e4	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	2.04	1.17e4	1.17e4	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	2.04	1.18e4	1.18e4	12.5	0.0	1.00
9	9	161111J2_11_P1_E1	12.5	2.04	1.17e4	1.17e4	12.5	0.0	1.00

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	3.83	1.41e4	1.41e4	12.5	0.0	1.00
2	2	161111J2_04_P1_E1	12.5	3.84	1.31e4	1.31e4	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	3.83	1.35e4	1.35e4	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	3.84	1.23e4	1.23e4	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	3.84	1.22e4	1.22e4	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	3.84	1.38e4	1.38e4	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	3.83	1.25e4	1.25e4	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	3.84	1.27e4	1.27e4	12.5	0.0	1.00
9	9	161111J2_11_P1_E1	12.5	3.85	1.26e4	1.26e4	12.5	0.0	1.00

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	4.43	5.84e3	5.84e3	12.5	0.0	1.00
2	2	161111J2_04_P1_E1	12.5	4.43	5.10e3	5.10e3	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	4.43	5.19e3	5.19e3	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	4.44	4.72e3	4.72e3	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	4.44	4.92e3	4.92e3	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	4.43	5.55e3	5.55e3	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	4.43	4.80e3	4.80e3	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	4.44	4.97e3	4.97e3	12.5	0.0	1.00
9	9	161111J2_11_P1_E1	12.5	4.43	4.61e3	4.61e3	12.5	0.0	1.00

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	4.70	1.41e4	1.41e4	12.5	0.0	1.00
2	2	161111J2_04_P1_E1	12.5	4.71	1.39e4	1.39e4	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	4.70	1.30e4	1.30e4	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	4.71	1.35e4	1.35e4	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	4.72	1.28e4	1.28e4	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	4.71	1.42e4	1.42e4	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	4.71	1.26e4	1.26e4	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	4.71	1.30e4	1.30e4	12.5	0.0	1.00
9	9	161111J2_11_P1_E1	12.5	4.71	1.23e4	1.23e4	12.5	0.0	1.00

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.09	4.04e3	4.04e3	12.5	-0.0	1.00
2	2	161111J2_04_P1_E1	12.5	5.09	3.65e3	3.65e3	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	5.09	3.72e3	3.72e3	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	5.10	3.47e3	3.47e3	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	5.11	3.51e3	3.51e3	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	5.08	3.88e3	3.88e3	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	5.09	2.58e3	2.58e3	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	5.09	2.72e3	2.72e3	12.5	0.0	1.00
9	9	161111J2_11_P1_E1	12.5	5.10	2.77e3	2.77e3	12.5	0.0	1.00

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.02	8.03e3	8.03e3	12.5	0.0	1.00
2	2	161111J2_04_P1_E1	12.5	5.03	7.82e3	7.82e3	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	5.03	8.19e3	8.19e3	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	5.04	8.40e3	8.40e3	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	5.05	1.00e4	1.00e4	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	5.03	7.86e3	7.86e3	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	5.03	7.38e3	7.38e3	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	5.03	7.77e3	7.77e3	12.5	0.0	1.00
9	9	161111J2_11_P1_E1	12.5	5.05	8.86e3	8.86e3	12.5	0.0	1.00

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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	12.5	5.30	5.57e3	5.57e3	12.5	0.0	1.00
2	2	161111J2_04_P1_E1	12.5	5.31	4.96e3	4.96e3	12.5	0.0	1.00
3	3	161111J2_05_P1_E1	12.5	5.32	5.51e3	5.51e3	12.5	0.0	1.00
4	4	161111J2_06_P1_E1	12.5	5.33	4.37e3	4.37e3	12.5	0.0	1.00
5	5	161111J2_07_P1_E1	12.5	5.32	4.61e3	4.61e3	12.5	0.0	1.00
6	6	161111J2_08_P1_E1	12.5	5.31	5.31e3	5.31e3	12.5	0.0	1.00
7	7	161111J2_09_P1_E1	12.5	5.31	3.32e3	3.32e3	12.5	0.0	1.00
8	8	161111J2_10_P1_E1	12.5	5.31	3.63e3	3.63e3	12.5	-0.0	1.00
9	9	161111J2_11_P1_E1	12.5	5.32	3.79e3	3.79e3	12.5	0.0	1.00

Compound name: Total PFBS
Coefficient of Determination: R^2 = 0.977505
Calibration curve: 0.00122129 * x^2 + 0.743308 * x + 0.145497
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x^2, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500			6.77e3	0.529		
2	2	161111J2_04_P1_E1	1.00			6.92e3	0.988		
3	3	161111J2_05_P1_E1	2.00			7.66e3	1.66		
4	4	161111J2_06_P1_E1	5.00			7.70e3	3.90		
5	5	161111J2_07_P1_E1	10.0			7.23e3	11.6		
6	6	161111J2_08_P1_E1	25.0			5.91e3	29.6		
7	7	161111J2_09_P1_E1	50.0			6.45e3	53.1		
8	8	161111J2_10_P1_E1	75.0			6.63e3	75.3		
9	9	161111J2_11_P1_E1	100			6.50e3	93.1		

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Compound name: Total PFHxS
Coefficient of Determination: R^2 = 0.998167
Calibration curve: 0.00081896 * x^2 + 3.22284 * x + 0.0419742
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500			1.34e3	0.648		
2	2	161111J2_04_P1_E1	1.00			1.41e3	1.02		
3	3	161111J2_05_P1_E1	2.00			1.59e3	1.65		
4	4	161111J2_06_P1_E1	5.00			1.48e3	3.91		
5	5	161111J2_07_P1_E1	10.0			1.46e3	10.2		
6	6	161111J2_08_P1_E1	25.0			1.22e3	26.6		
7	7	161111J2_09_P1_E1	50.0			1.41e3	50.3		
8	8	161111J2_10_P1_E1	75.0			1.37e3	73.8		
9	9	161111J2_11_P1_E1	100			1.25e3	100		

Compound name: Total PFOA
Coefficient of Determination: R^2 = 0.996931
Calibration curve: -0.0025112 * x^2 + 1.31194 * x + 0.0471482
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500			8.45e3	0.627		
2	2	161111J2_04_P1_E1	1.00			8.64e3	1.19		
3	3	161111J2_05_P1_E1	2.00			9.24e3	1.66		
4	4	161111J2_06_P1_E1	5.00			9.36e3	3.84		
5	5	161111J2_07_P1_E1	10.0			9.02e3	10.7		
6	6	161111J2_08_P1_E1	25.0			7.47e3	27.0		
7	7	161111J2_09_P1_E1	50.0			8.76e3	49.2		
8	8	161111J2_10_P1_E1	75.0			9.14e3	72.8		
9	9	161111J2_11_P1_E1	100			8.81e3	102		

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Compound name: Total PFOS
Correlation coefficient: r = 0.985935, r^2 = 0.972067
Calibration curve: 1.25111 * x + 0.123067
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x^2, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	161111J2_03_P1_E1	0.500			3.18e3	0.553		
2	2	161111J2_04_P1_E1	1.00			3.57e3	0.927		
3	3	161111J2_05_P1_E1	2.00			3.92e3	1.56		
4	4	161111J2_06_P1_E1	5.00			3.44e3	3.77		
5	5	161111J2_07_P1_E1	10.0			3.38e3	11.2		
6	6	161111J2_08_P1_E1	25.0			2.92e3	28.7		
7	7	161111J2_09_P1_E1	50.0			2.42e3	50.0		
8	8	161111J2_10_P1_E1	75.0			2.48e3	81.9		
9	9	161111J2_11_P1_E1	100			2.53e3	108		

Vista Analytical Laboratory Q1

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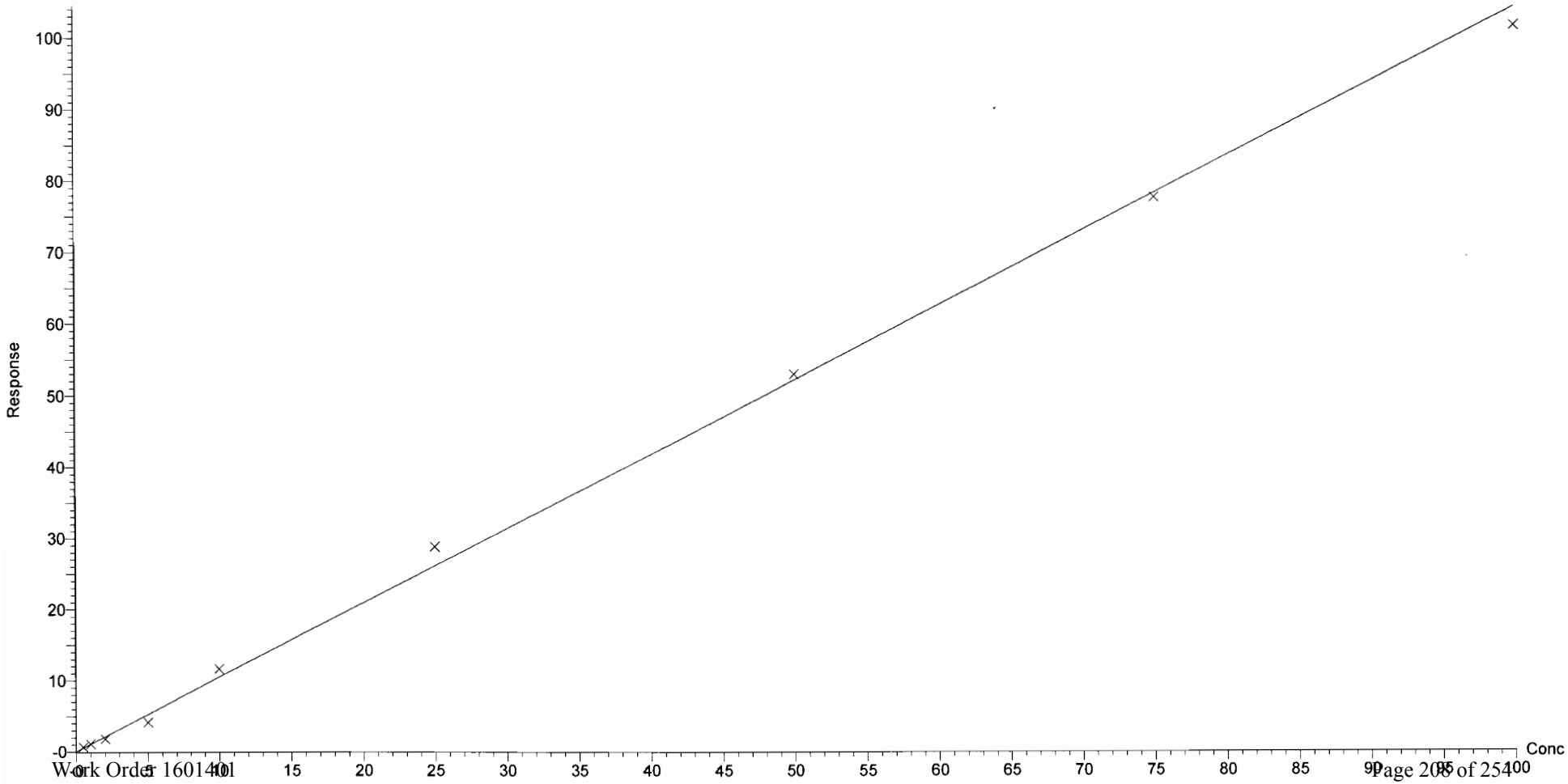
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Mixed.mdb 12 Nov 2016 10:51:05
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

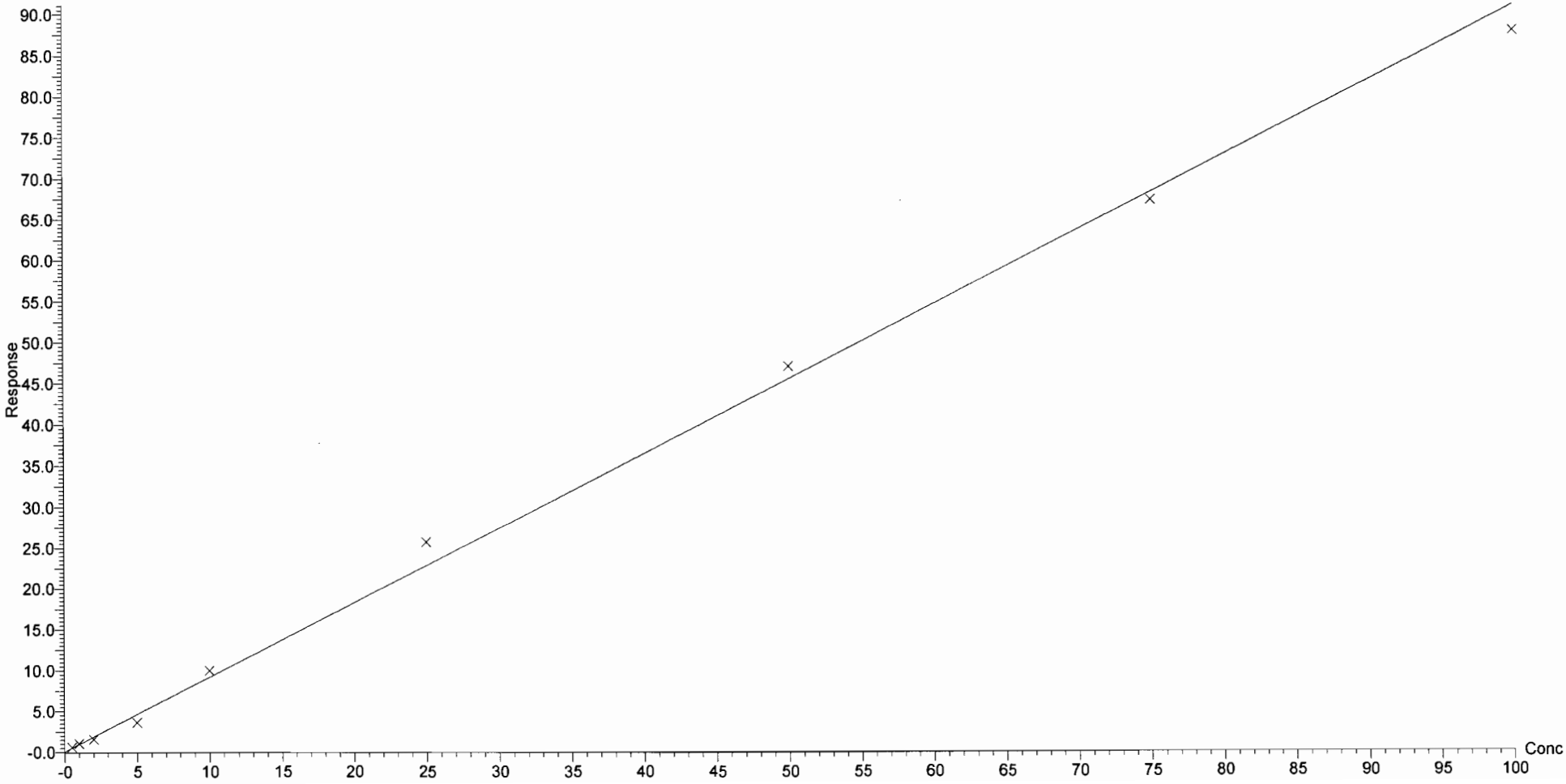
Compound name: PFBA
Correlation coefficient: r = 0.998498, r^2 = 0.996999
Calibration curve: 1.04509 * x + 0.0382703
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

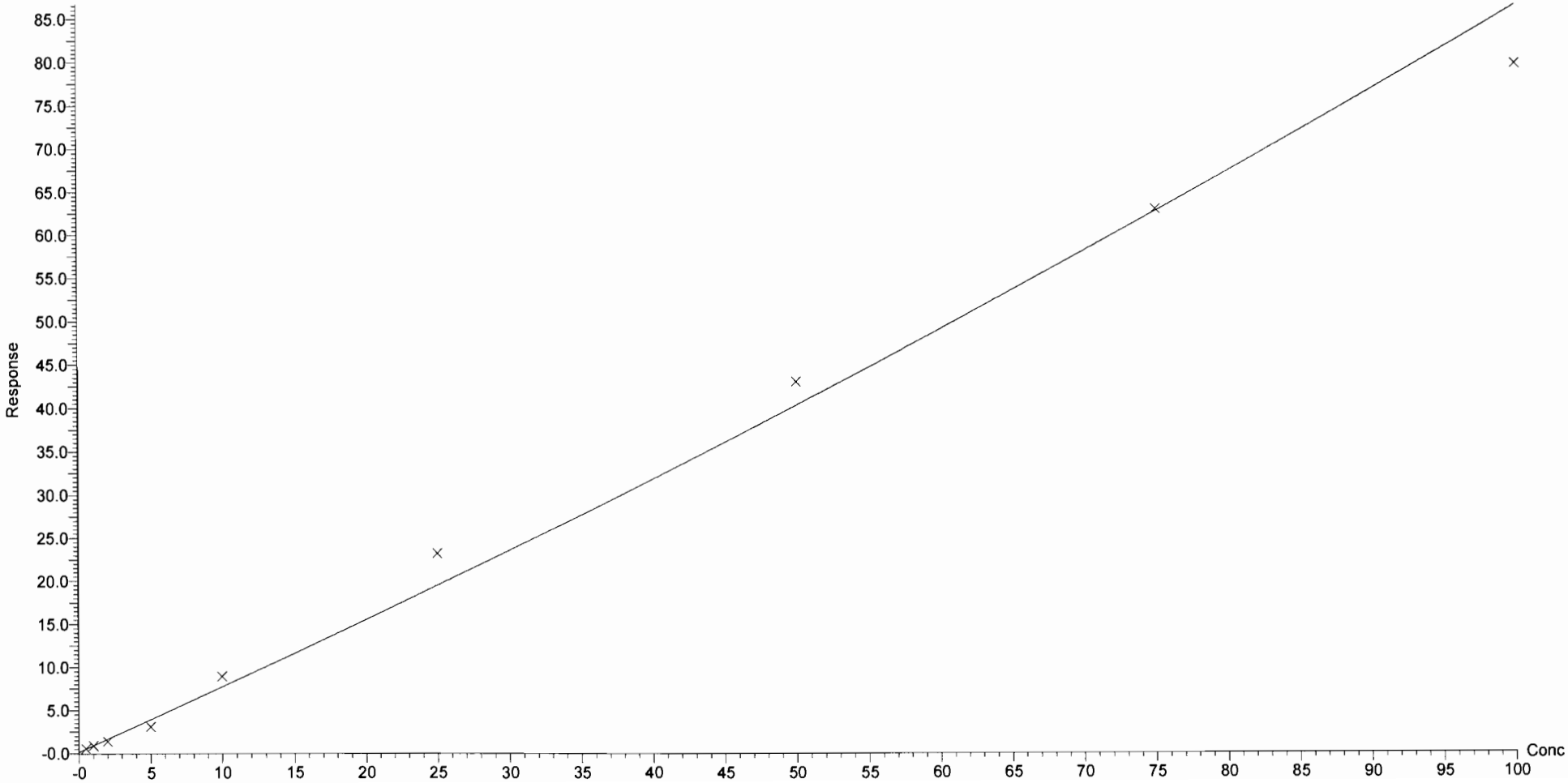
Compound name: PFPeA
Correlation coefficient: r = 0.998036, r^2 = 0.996076
Calibration curve: 0.910461 * x + 0.0566694
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

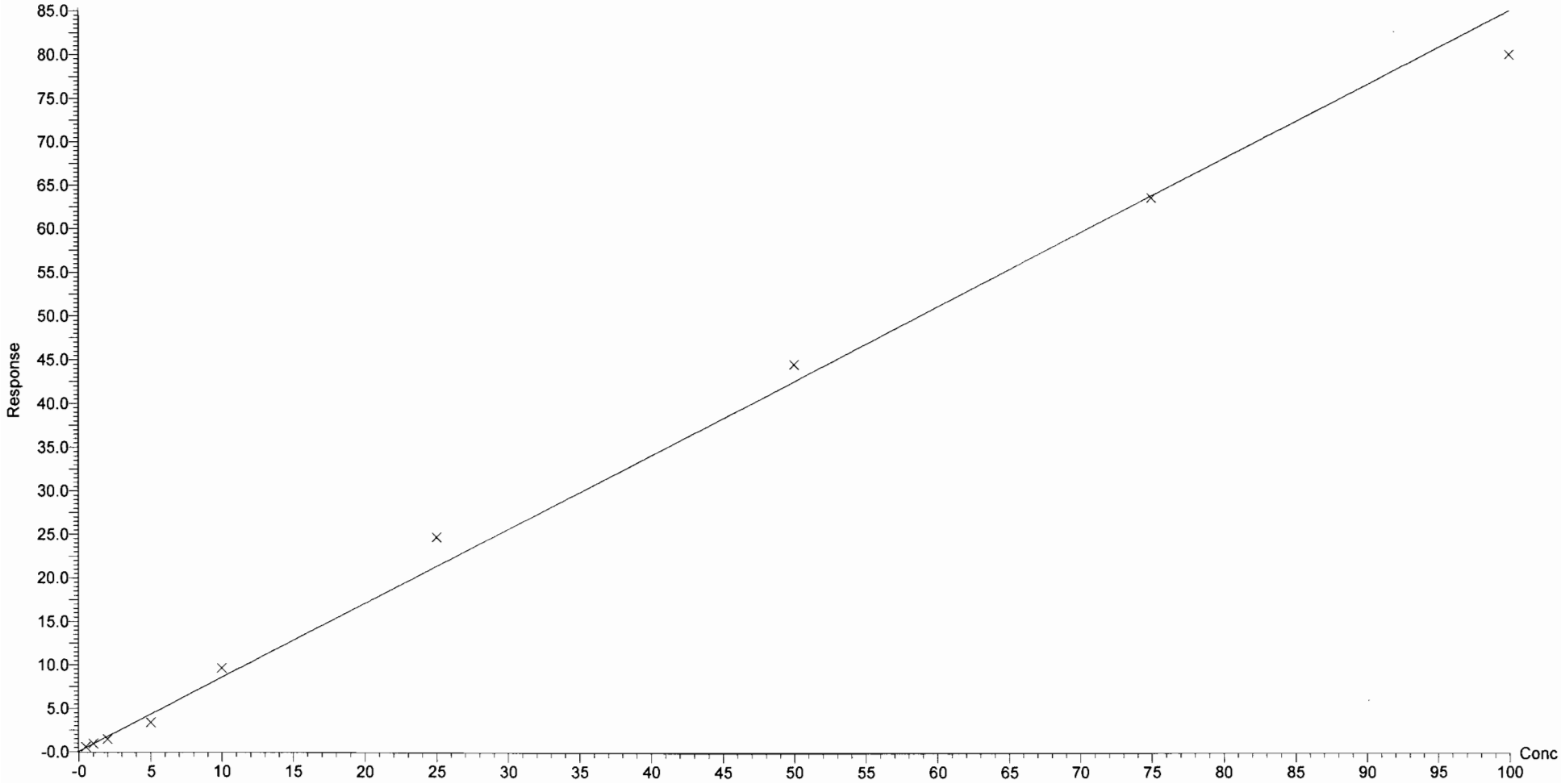
Compound name: PFBS
Coefficient of Determination: R^2 = 0.977505
Calibration curve: 0.00122129 * x^2 + 0.743308 * x + 0.145497
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x^2, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

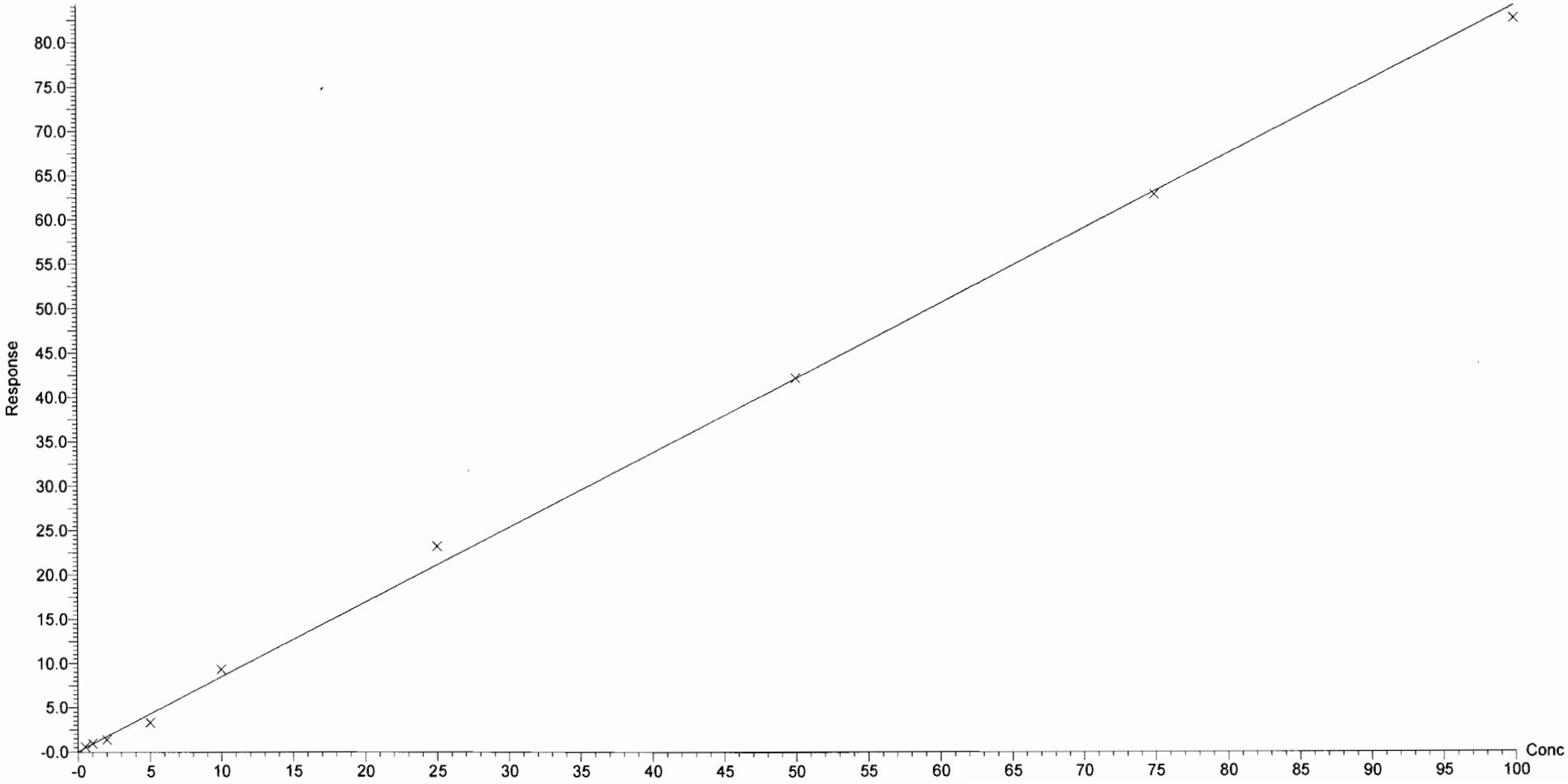
Compound name: PFHxA
Correlation coefficient: r = 0.996921, r^2 = 0.993852
Calibration curve: 0.852369 * x + 0.067677
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

Compound name: PFHpA
Correlation coefficient: r = 0.998500, r^2 = 0.997002
Calibration curve: 0.842904 * x + 0.0395603
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

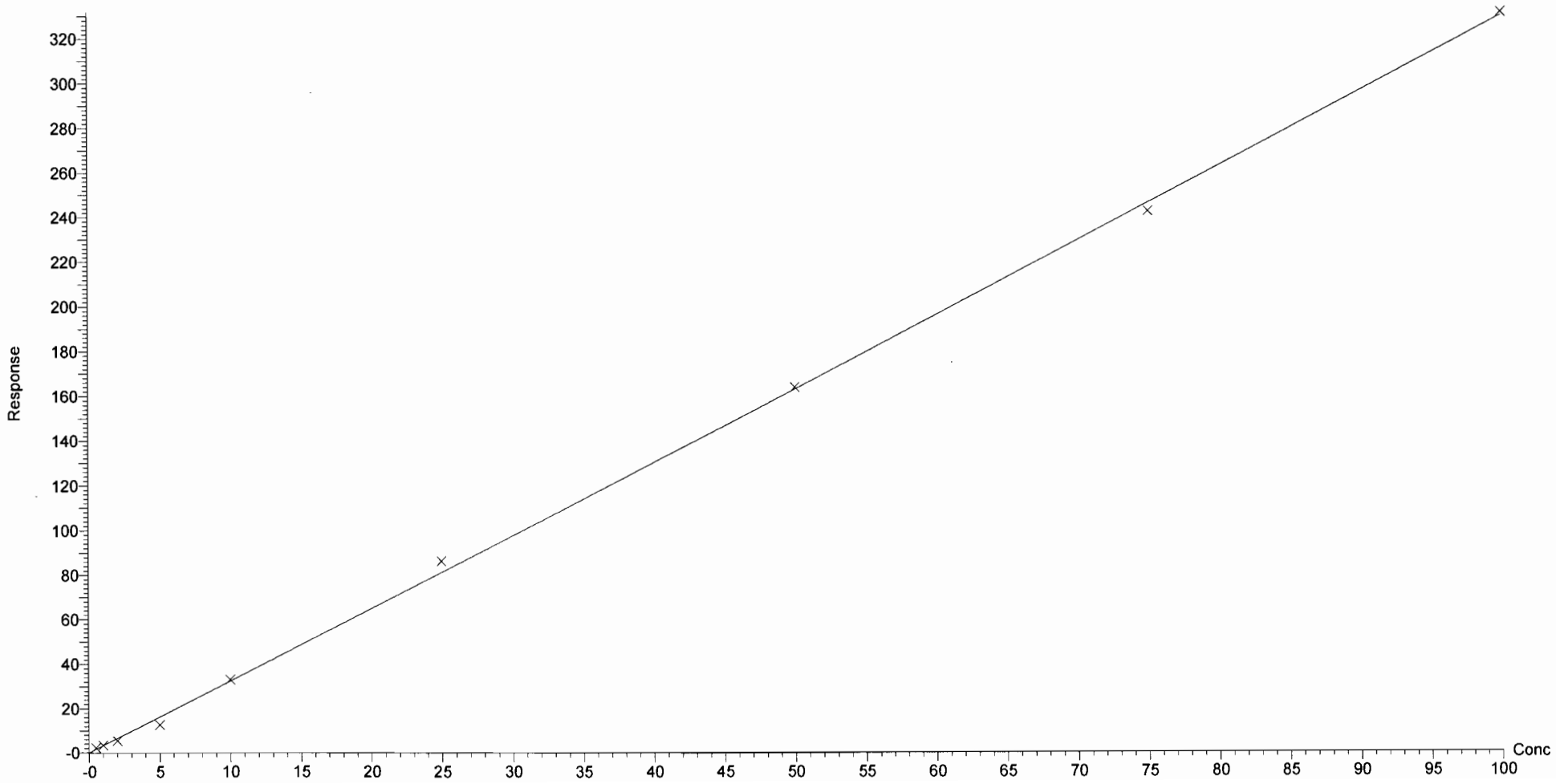


Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

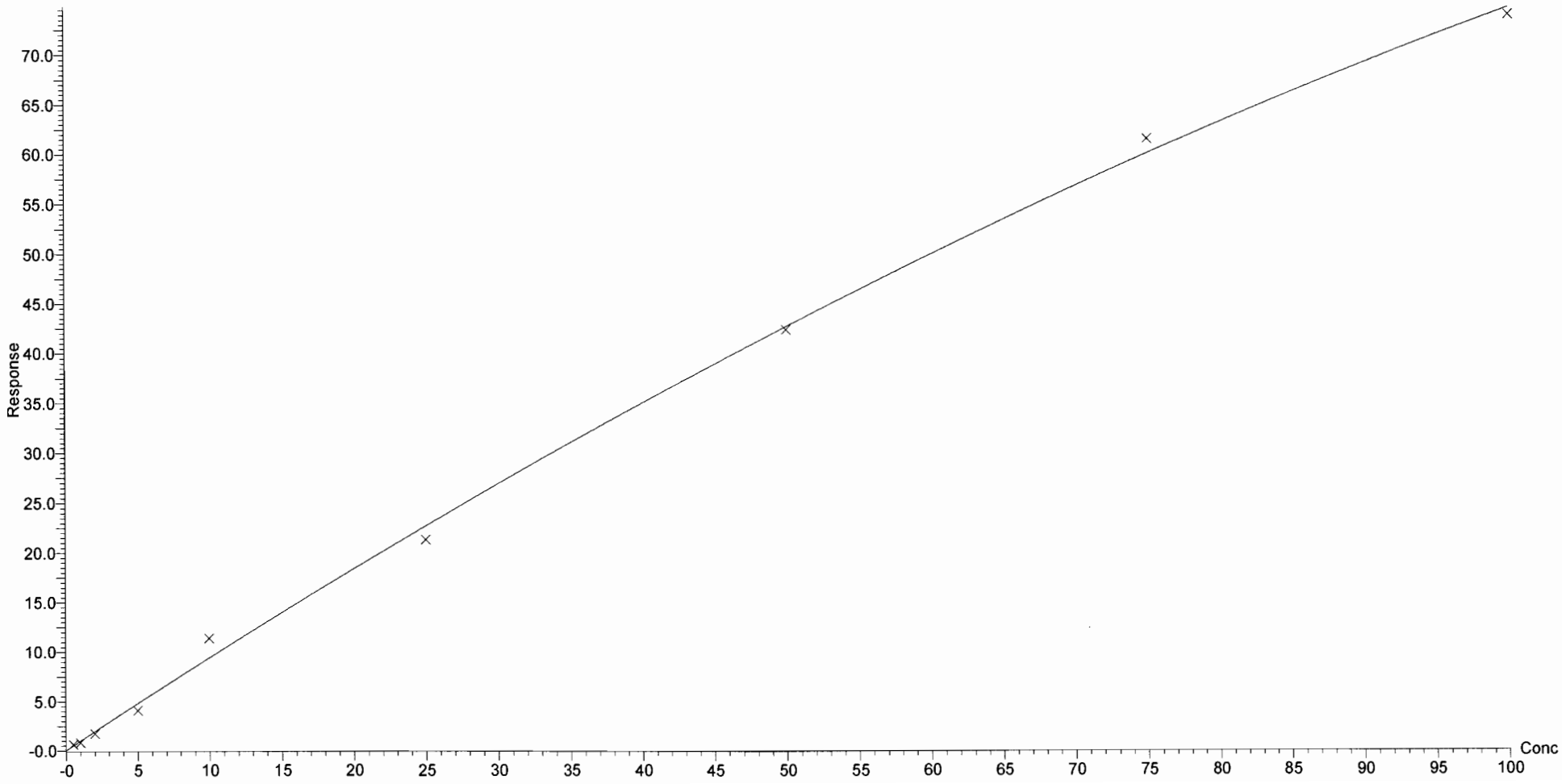
Compound name: PFHxS
Coefficient of Determination: R^2 = 0.998167
Calibration curve: 0.00081896 * x^2 + 3.22284 * x + 0.0419742
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

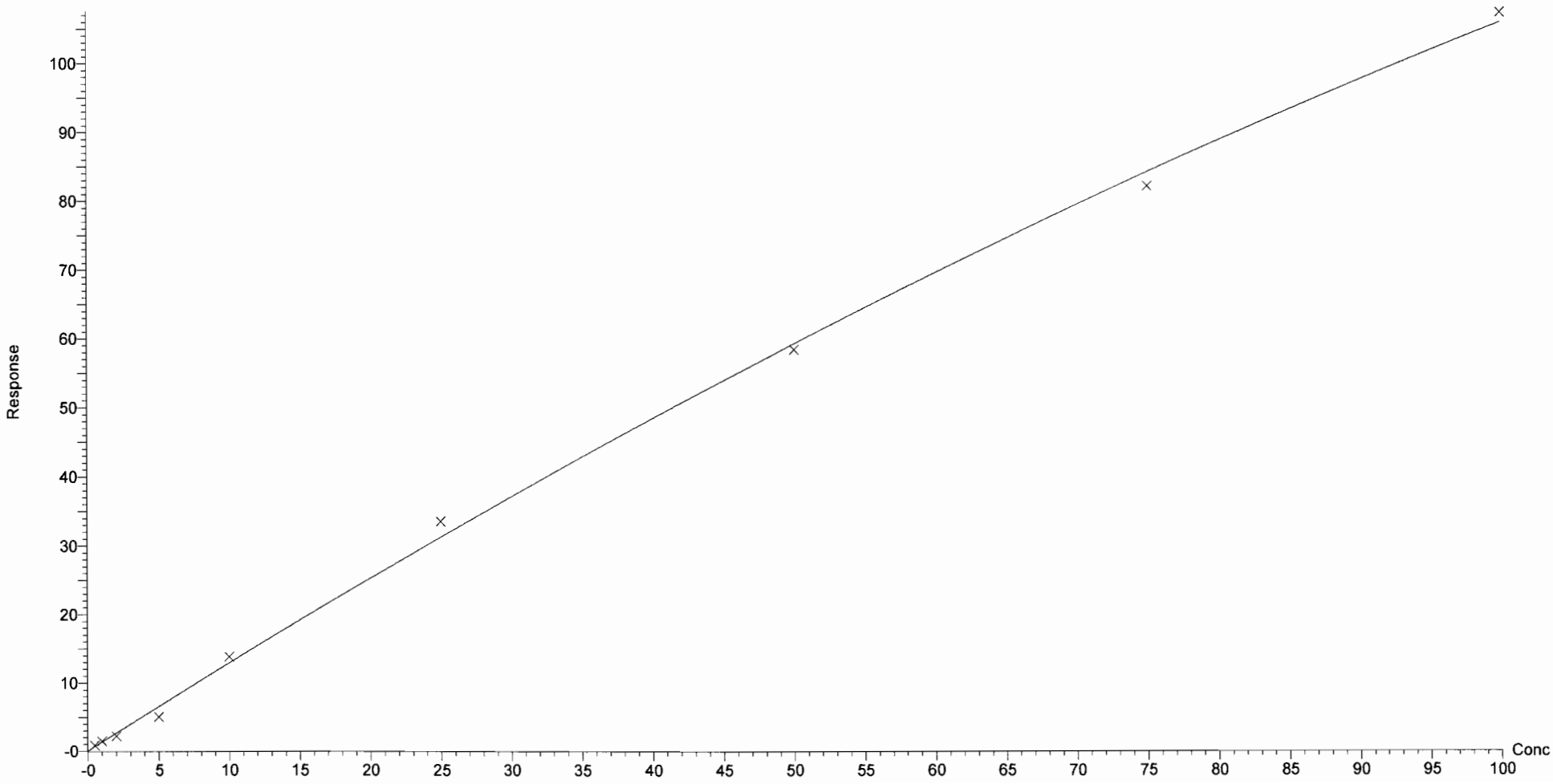
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.995743
Calibration curve: -0.00213642 * x^2 + 0.961467 * x + 0.0440674
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

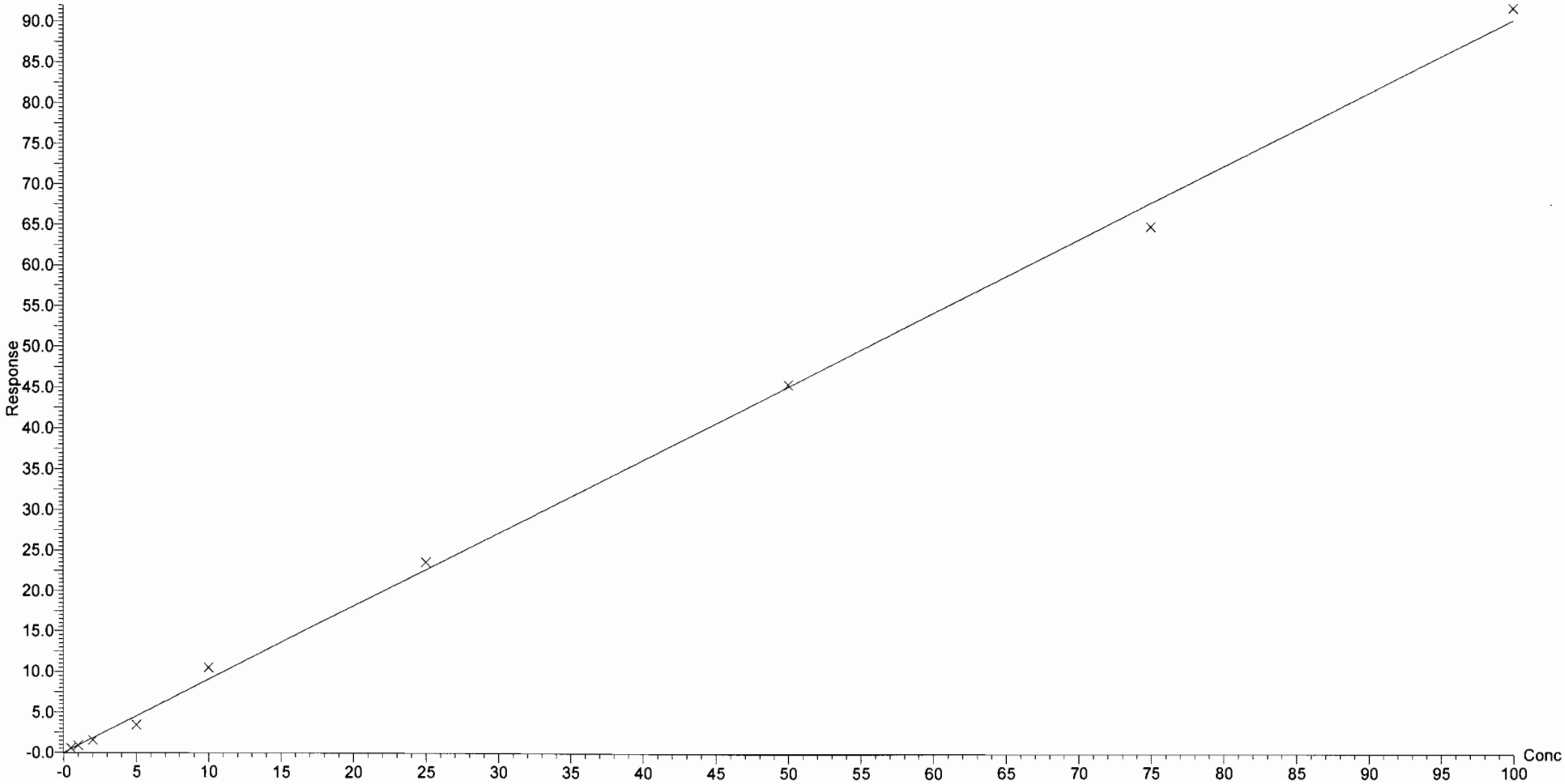
Compound name: PFOA
Coefficient of Determination: R^2 = 0.996931
Calibration curve: -0.0025112 * x^2 + 1.31194 * x + 0.0471482
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

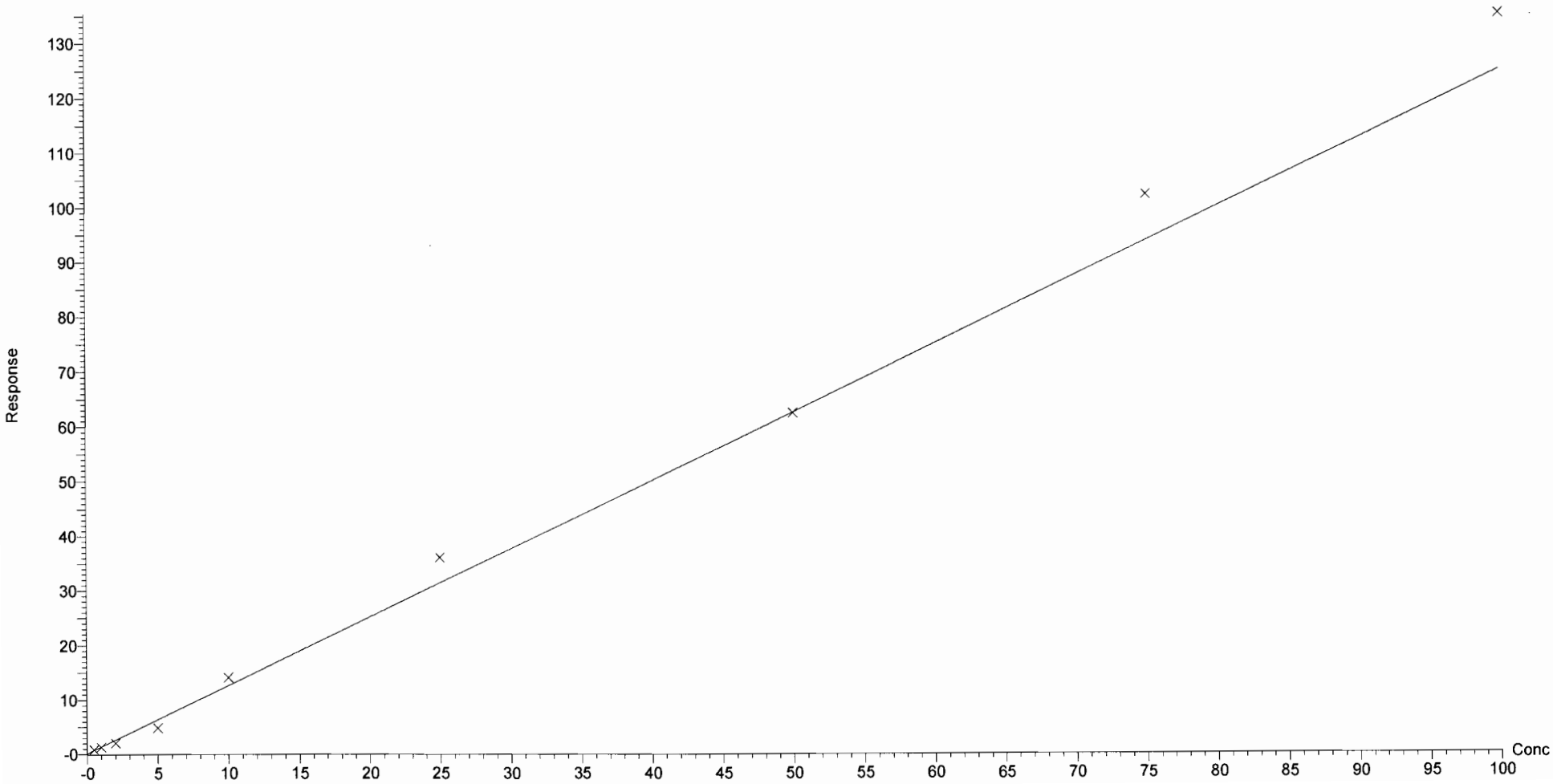
Compound name: PFNA
Correlation coefficient: r = 0.998382, r^2 = 0.996768
Calibration curve: 0.905077 * x + 0.00552082
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

Compound name: PFOS
Correlation coefficient: r = 0.985935, r^2 = 0.972067
Calibration curve: 1.25111 * x + 0.123067
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x^2, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
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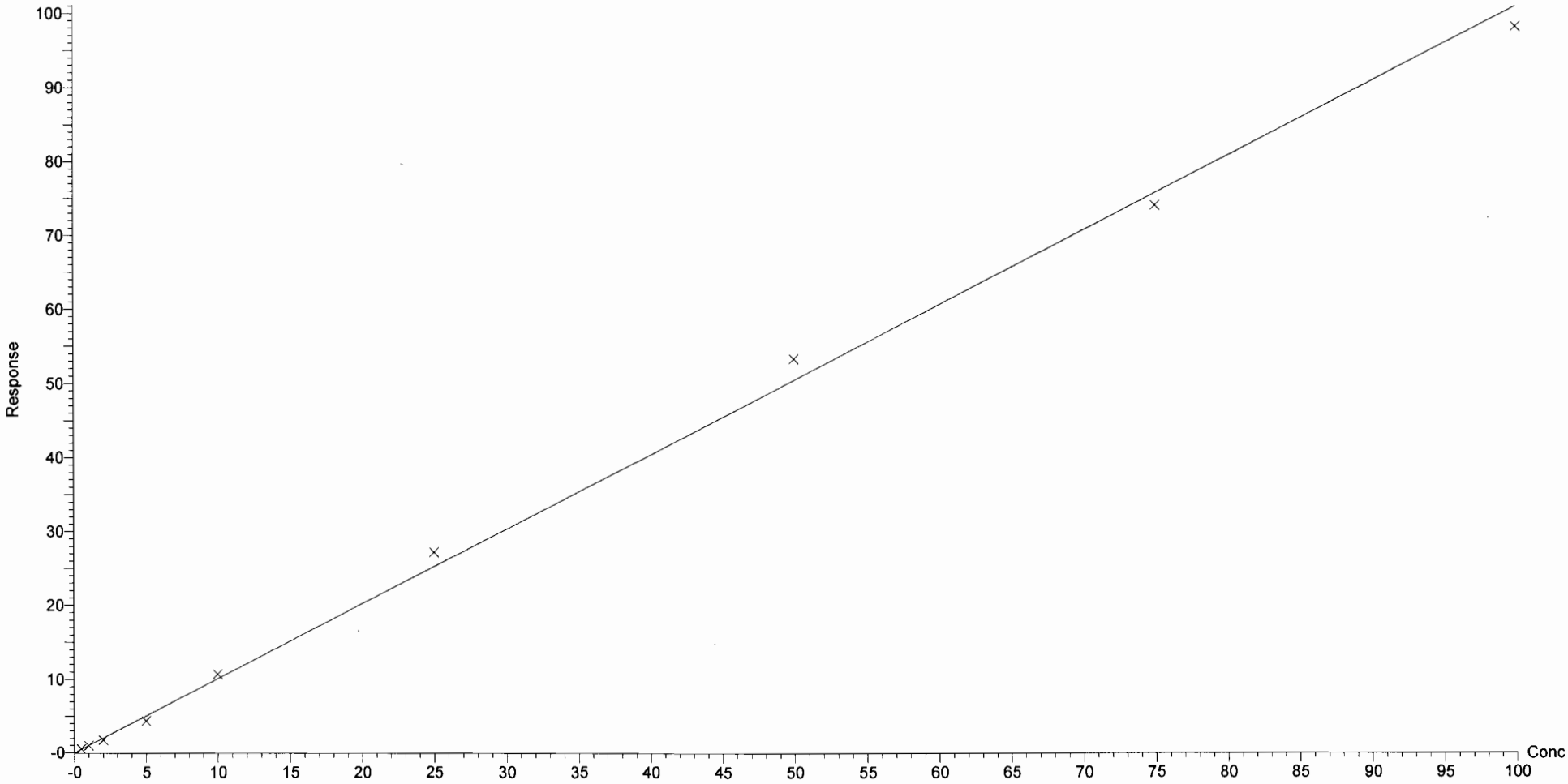
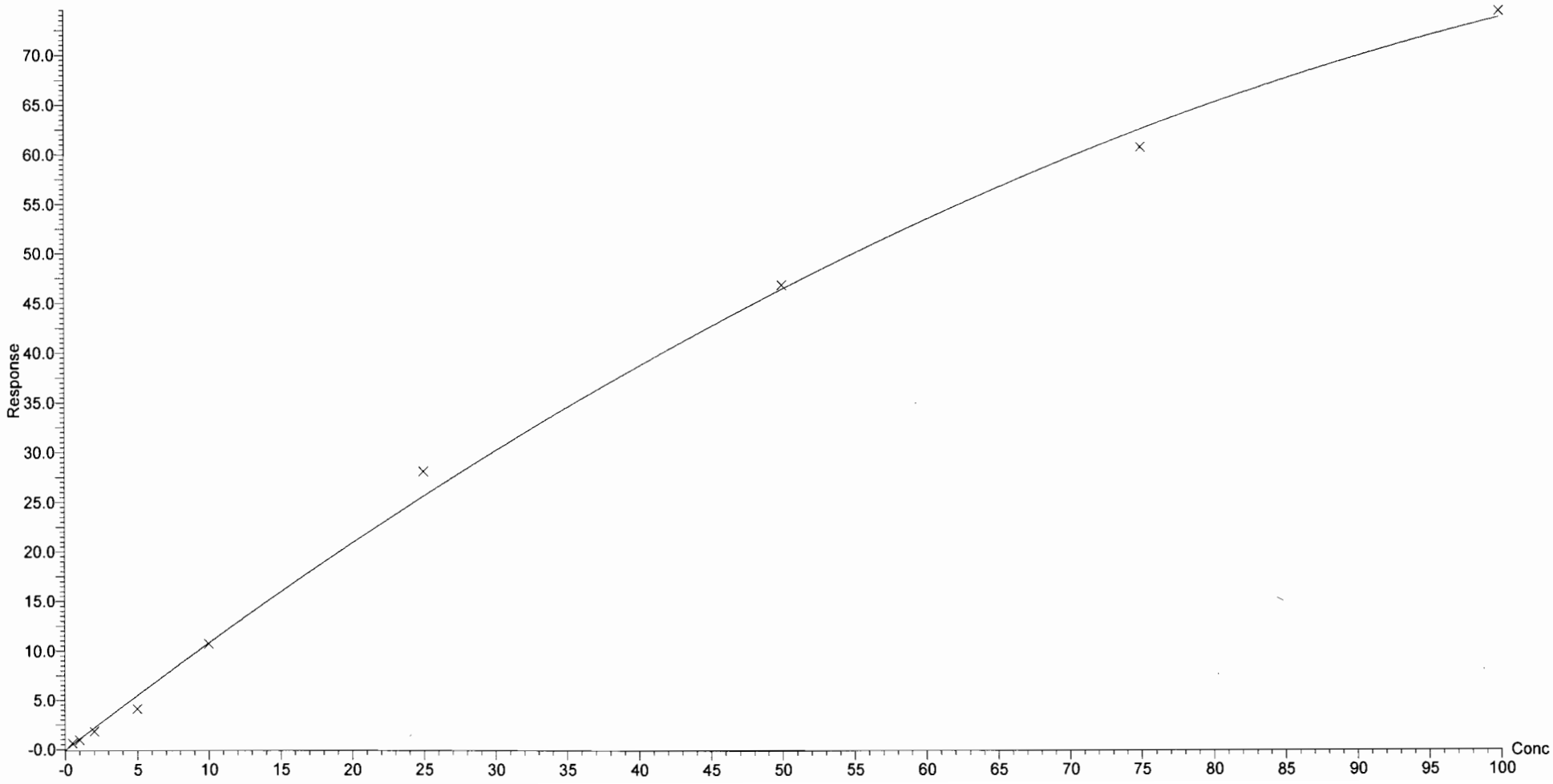
Compound name: PFDA
Correlation coefficient: r = 0.998849, r^2 = 0.997699
Calibration curve: 1.01138 * x + -0.0247569
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:54:20 Pacific Standard Time

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.995769
Calibration curve: -0.00383329 * x^2 + 1.1235 * x + -0.0810222
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



	Sample Name	Acquisition Date	Sample ID	Sample Comment
1	161111J2_01	11/11/2016 16:27:18	IPA	IPA
2	161111J2_02	11/11/2016 16:39:32	ST161111J2-1 PFC CS(-2)16K1114	PFC CS(-2)16K1114 A
3	161111J2_03	11/11/2016 16:51:46	ST161111J2-2 PFC CS(-1) 16K1115	PFC CS(-1) 16K1115 A
4	161111J2_04	11/11/2016 17:04:00	ST161111J2-3 PFC CS0 16K1116	PFC CS0 16K1116 A
5	161111J2_05	11/11/2016 17:16:11	ST161111J2-4 PFC CS1 16K1117	PFC CS1 16K1117 A
6	161111J2_06	11/11/2016 17:28:26	ST161111J2-5 PFC CS2 16K1118	PFC CS2 16K1118 A
7	161111J2_07	11/11/2016 17:40:40	ST161111J2-6 PFC CS3 16K1119	PFC CS3 16K1119 A
8	161111J2_08	11/11/2016 17:52:55	ST161111J2-7 PFC C3.5 16K1120	PFC C3.5 16K1120 A
9	161111J2_09	11/11/2016 18:05:09	ST161111J2-8 PFC CS4 16K1121	PFC CS4 16K1121 A
10	161111J2_10	11/11/2016 18:17:21	ST161111J2-9 PFC CS4.5 16K1122	PFC CS4.5 16K1122 A
11	161111J2_11	11/11/2016 18:29:38	ST161111J2-10 PFC CS5 16K1123	PFC CS5 16K1123 A
12	161111J2_12	11/11/2016 18:41:52	IPA	IPA
13	161111J2_13	11/11/2016 18:54:07	SS161111J2-1 PFC SSS 16J1810	PFC SSS 16J1810 A
14	161111J2_14	11/11/2016 19:06:23	IPA	IPA
15	161111J2_15	11/11/2016 19:18:38	B6K0030-BS1	OPR
16	161111J2_16	11/11/2016 19:30:51	B6K0033-BS1	OPR
17	161111J2_17	11/11/2016 19:43:07	IPA	IPA
18	161111J2_18	11/11/2016 19:55:22	B6K0033-BLK1	Method Blank
19	161111J2_19	11/11/2016 20:07:37	B6K0030-BLK1	Method Blank
20	161111J2_20	11/11/2016 20:19:48	1601384-01	WURTS_EB001JH-102416
21	161111J2_21	11/11/2016 20:32:00	1601384-02	WURTS_VAS01014-27-30
22	161111J2_22	11/11/2016 20:44:16	1601384-03	WURTS_VAS01014-37-40
23	161111J2_23	11/11/2016 20:56:27	1601384-04	WURTS_VAS01014-47-50
24	161111J2_24	11/11/2016 21:08:40	1601384-05	WURTS_VAS13004-20-23
25	161111J2_25	11/11/2016 21:20:55	1601384-06	WURTS_VAS13004-30-33
26	161111J2_26	11/11/2016 21:33:11	1601384-07	WURTS_VAS13004-40-43
27	161111J2_27	11/11/2016 21:45:25	1601384-08	WURTS_VAS13004-50-53
28	161111J2_28	11/11/2016 21:57:40	1601384-09	WURTS_VAS13005-26-29
29	161111J2_29	11/11/2016 22:09:56	1601384-10	WURTS_VAS13005-36-39
30	161111J2_30	11/11/2016 22:22:11	IPA	IPA
31	161111J2_31	11/11/2016 22:34:26	ST161111J2-11 PFC C3.5 16K1120	PFC C3.5 16K0713 A
32	161111J2_32	11/11/2016 22:46:37	IPA	IPA
33	161111J2_33	11/11/2016 22:58:52	1601384-11	WURTS_VAS13005-46-49
34	161111J2_34	11/11/2016 23:11:09	1601384-12	WURTS_VAS13005-56-59
35	161111J2_35	11/11/2016 23:23:24	1601386-01	WURTS_EB002JH-102516
36	161111J2_36	11/11/2016 23:35:37	1601386-02	WURTS_EB003JH-102616
37	161111J2_37	11/11/2016 23:47:49	1601386-03	WURTS_VAS01012-18-21
38	161111J2_38	11/12/2016 00:00:10	1601386-04	WURTS_VAS01012-18-21_FD
39	161111J2_39	11/12/2016 00:12:24	1601386-05	WURTS_VAS01012-28-31
40	161111J2_40	11/12/2016 00:24:39	1601386-06	WURTS_VAS01012-38-41
41	161111J2_41	11/12/2016 00:36:54	1601386-07	WURTS_VAS01012-48-51
42	161111J2_42	11/12/2016 00:49:08	1601386-08	WURTS_VAS01013-20-23
43	161111J2_43	11/12/2016 01:01:20	IPA	IPA
44	161111J2_44	11/12/2016 01:13:36	ST161111J2-12 PFC C3.5 16K1120	PFC C3.5 16K0713 A
45	161111J2_45	11/12/2016 01:25:47	IPA	IPA
46	161111J2_46	11/12/2016 01:38:02	1601386-09	WURTS_VAS01013-30-33
47	161111J2_47	11/12/2016 01:50:17	1601386-10	WURTS_VAS01013-40-43
48	161111J2_48	11/12/2016 02:02:33	1601386-11	WURTS_VAS01013-50-53
49	161111J2_49	11/12/2016 02:14:49	1601386-12	WURTS_VAS01014-57-60
50	161111J2_50	11/12/2016 02:27:05	1601386-13	WURTS_EB005JH-102816
51	161111J2_51	11/12/2016 02:39:20	1601386-14	WURTS_VAS15010-40-43
52	161111J2_52	11/12/2016 02:51:36	1601386-15	WURTS_VAS15010-50-53
53	161111J2_53	11/12/2016 03:03:48	1601359-10	FB-M08-07_161025
54	161111J2_54	11/12/2016 03:16:02	B6K0033-MS1	Matrix Spike
55	161111J2_55	11/12/2016 03:28:18	B6K0033-MSD1	Matrix Spike Dup
56	161111J2_56	11/12/2016 03:40:31	IPA	IPA
57	161111J2_57	11/12/2016 03:52:46	ST161111J2-13 PFC C3.5 16K1120	PFC C3.5 16K0713 A
58	161111J2_58	11/12/2016 04:05:00	IPA	IPA

Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
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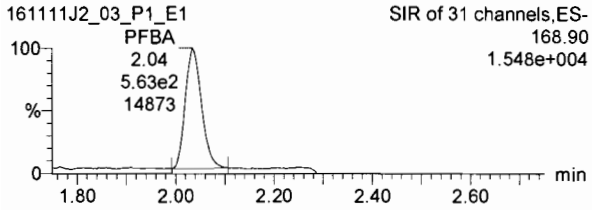
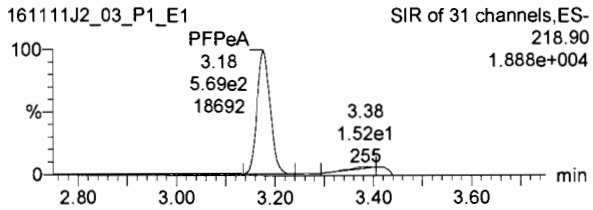
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Mixed.mdb 12 Nov 2016 10:51:05
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161111J2_03.wiff, Date: 11-Nov-2016, Time: 16:51:46, ID: ST161111J2-2 PFC CS(-1) 16K1115, Description: PFC CS(-1) 16K1115 A

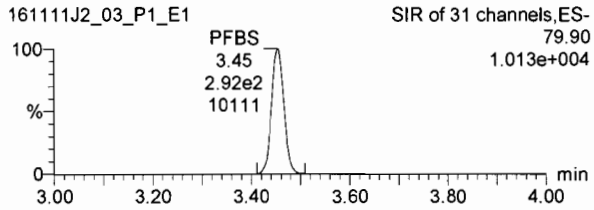
PFBA



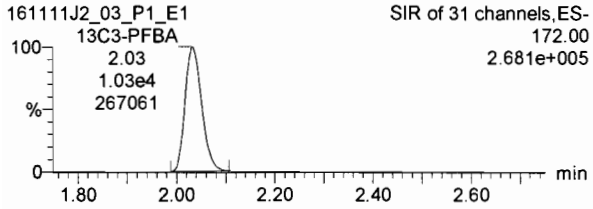
PFPeA



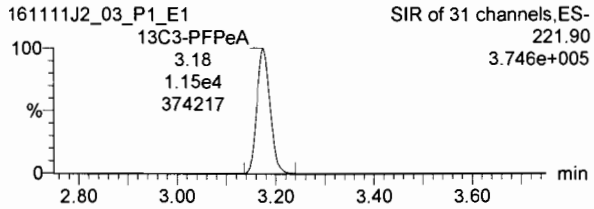
PFBS



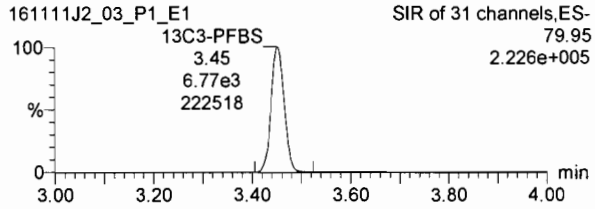
13C3-PFBA



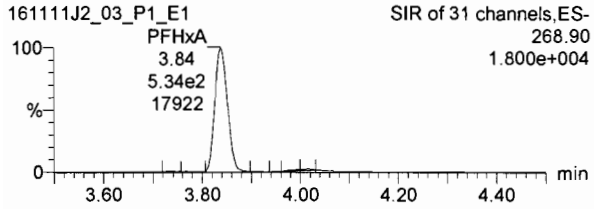
13C3-PFPeA



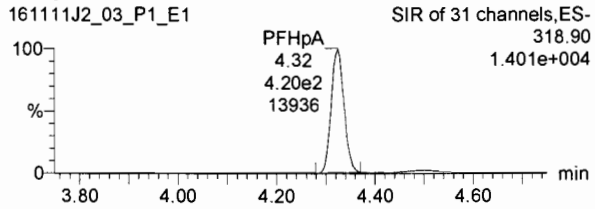
13C3-PFBS



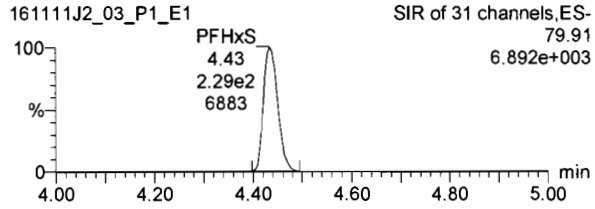
PFHxA



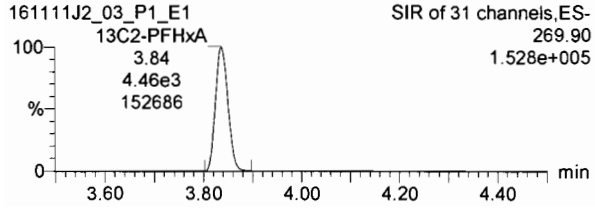
PFHpA



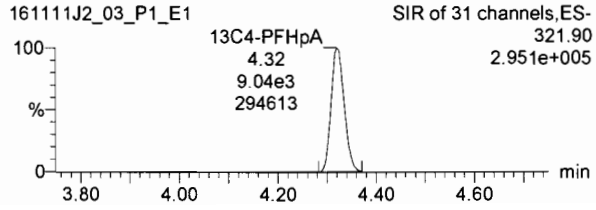
PFHxS



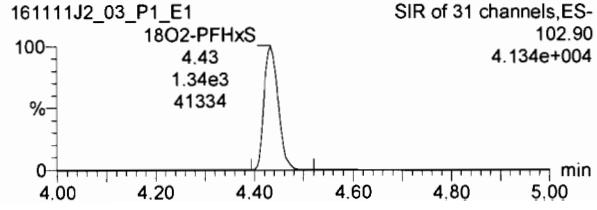
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

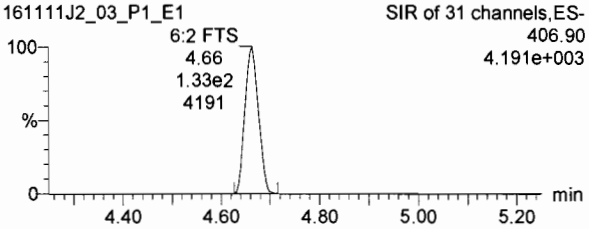


Dataset: U:\Q2.PRO\Results\161112J2\161111J2crv.qld

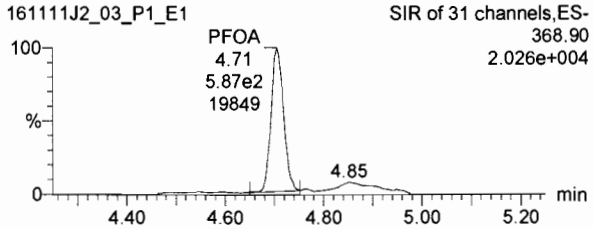
Last Altered: Saturday, November 12, 2016 10:51:18 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:55:05 Pacific Standard Time

Name: 161111J2_03.wiff, Date: 11-Nov-2016, Time: 16:51:46, ID: ST161111J2-2 PFC CS(-1) 16K1115, Description: PFC CS(-1) 16K1115 A

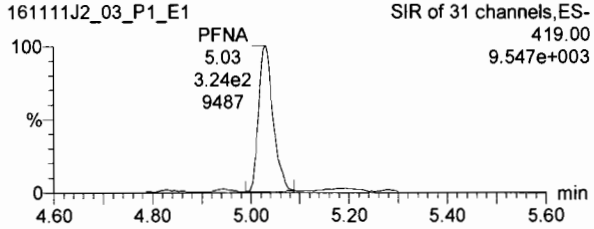
6:2 FTS



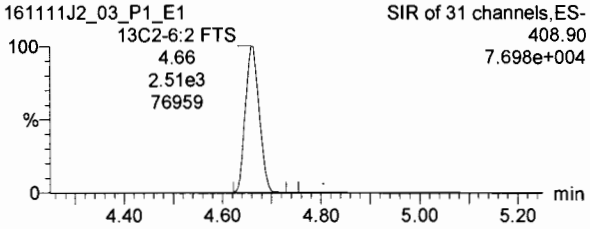
PFOA



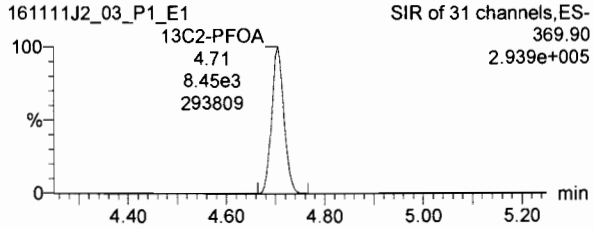
PFNA



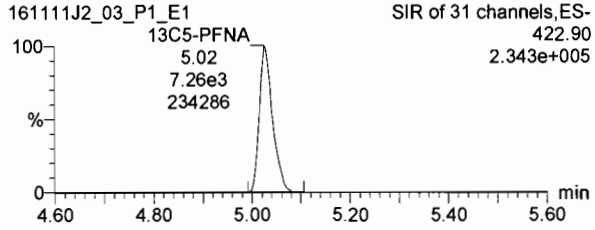
13C2-6:2 FTS



13C2-PFOA



13C5-PFNA



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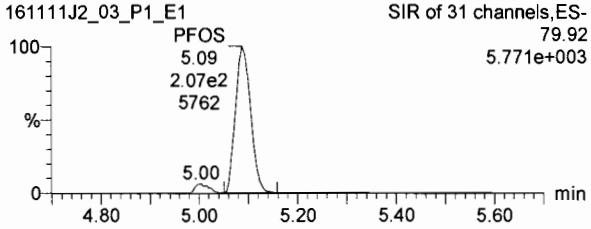

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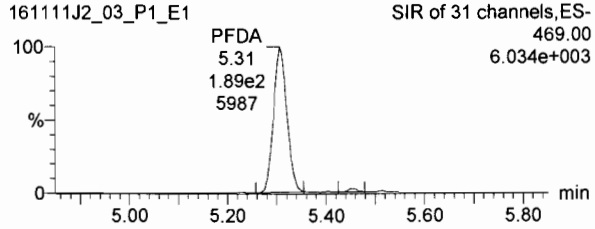
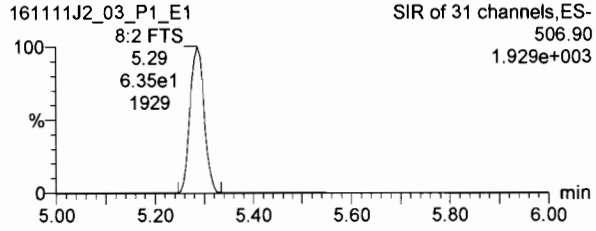
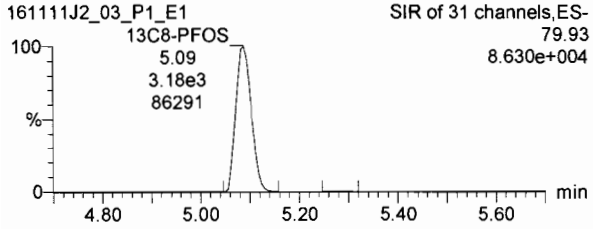


8:2 FTS



13C8-PFOS



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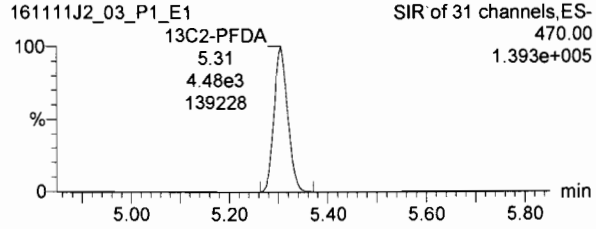
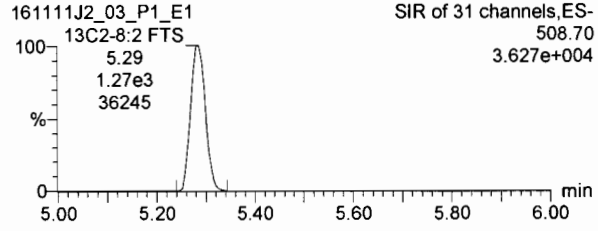


13C2-8:2 FTS



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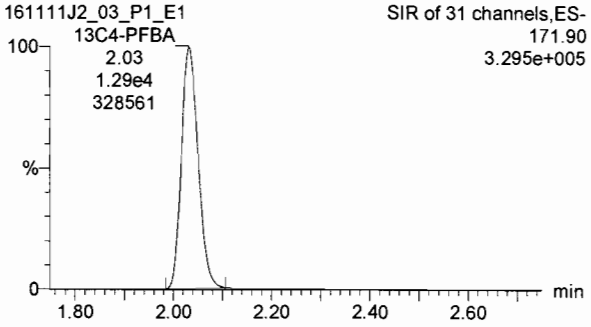
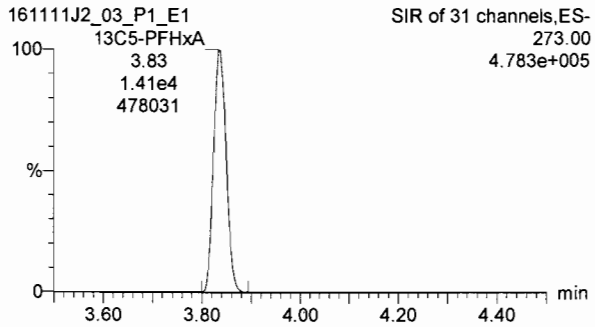
Name: 161111J2_03.wiff, Date: 11-Nov-2016, Time: 16:51:46, ID: ST161111J2-2 PFC CS(-1) 16K1115, Description: PFC CS(-1) 16K1115 A

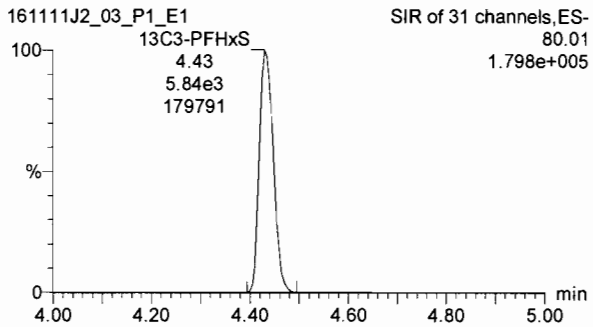
13C4-PFBA



13C5-PFHxA



13C3-PFHxS



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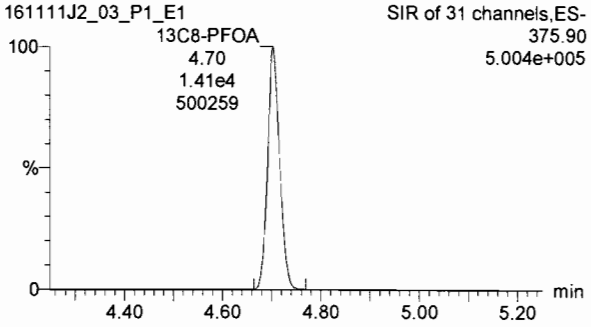

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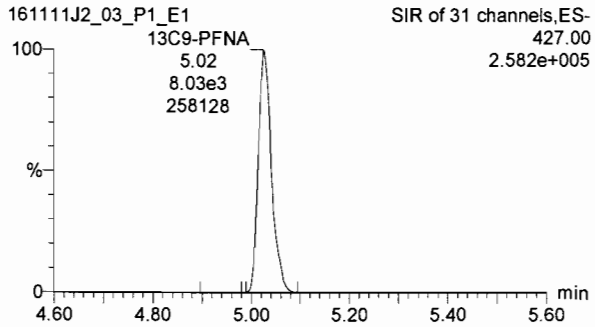

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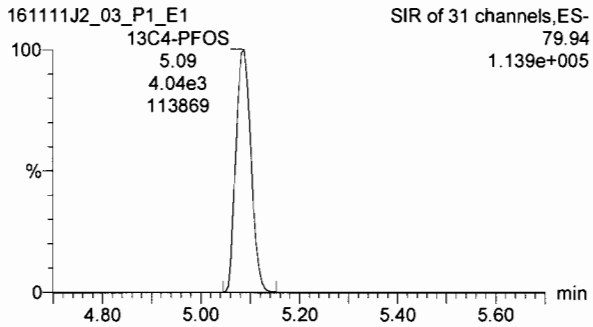
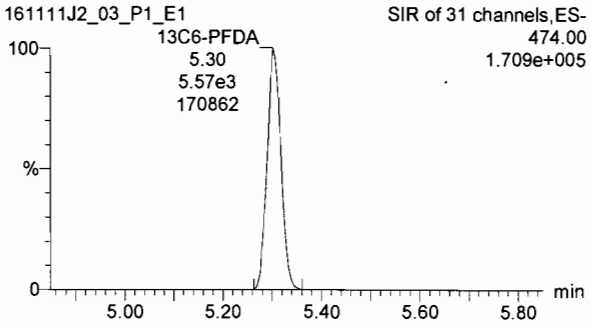


13C6-PFDA



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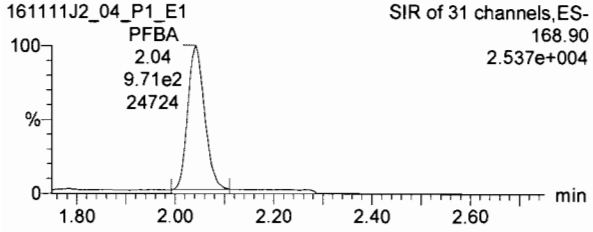

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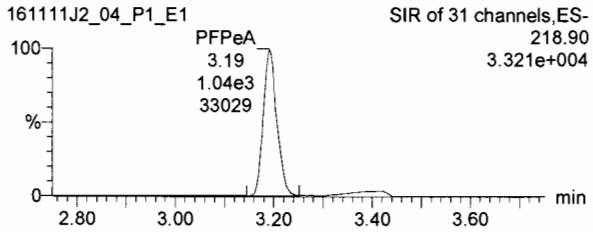

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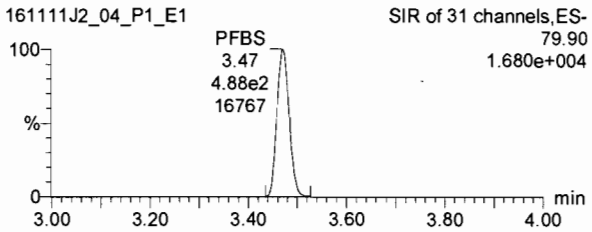

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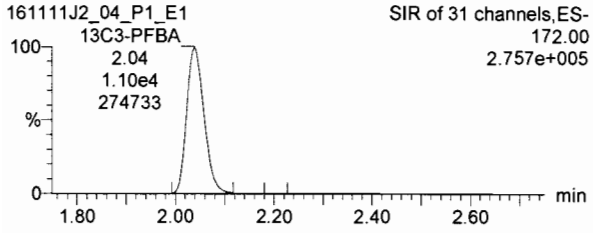

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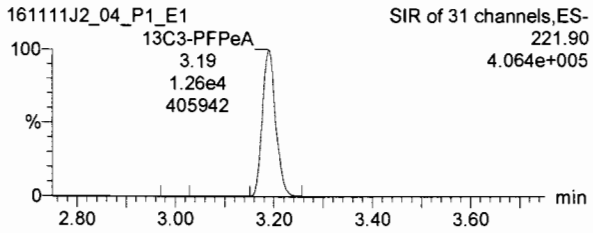

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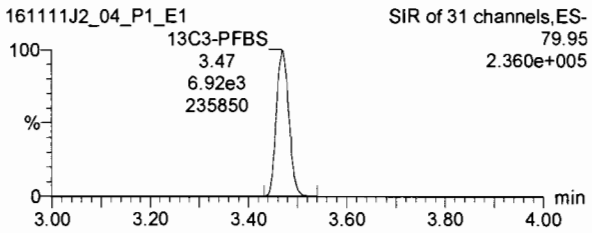

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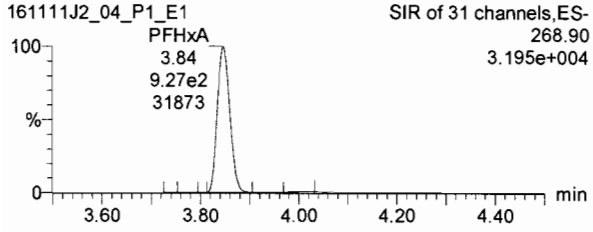

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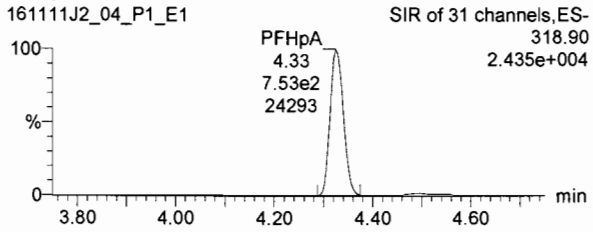

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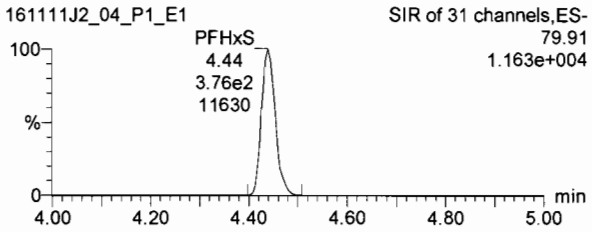

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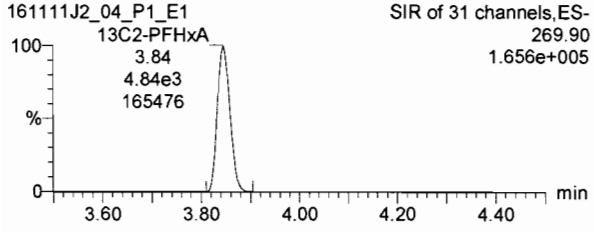

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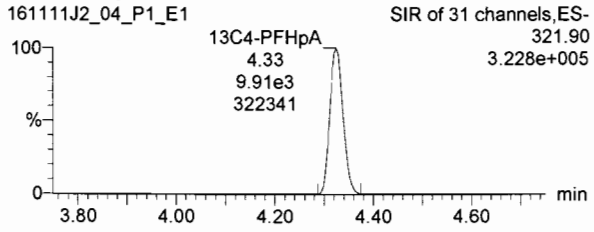
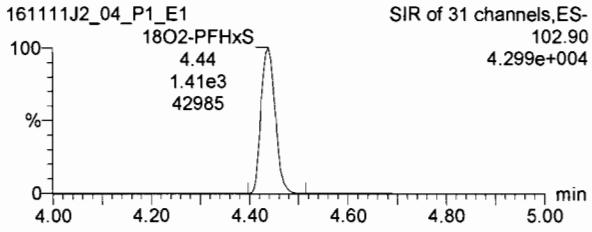


18O2-PFHxS



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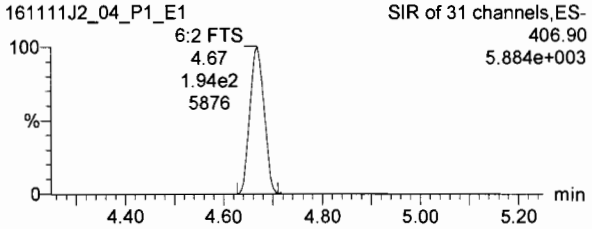
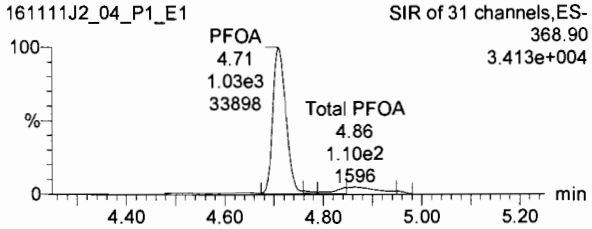
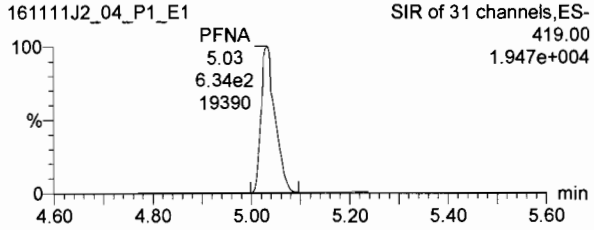
6:2 FTS



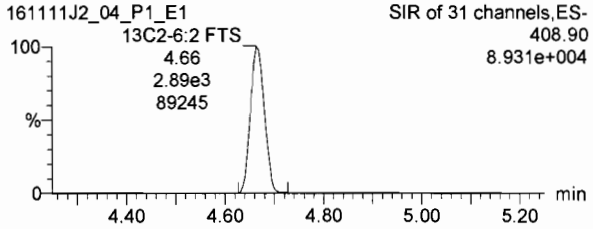
PFOA



PFNA



13C2-6:2 FTS



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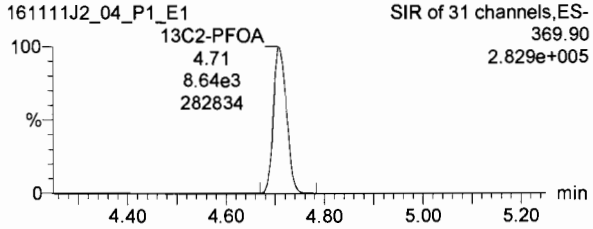

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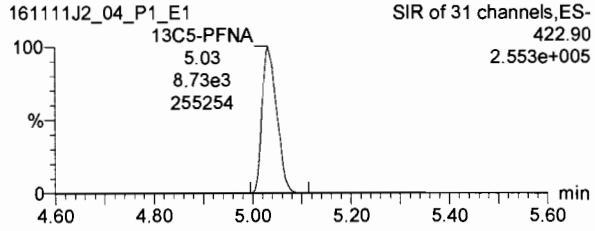
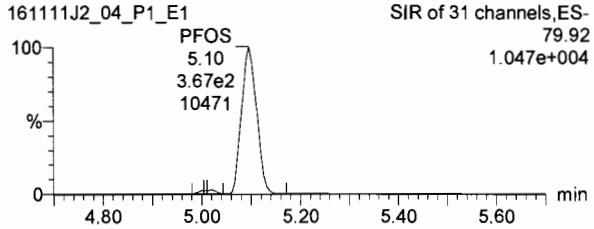
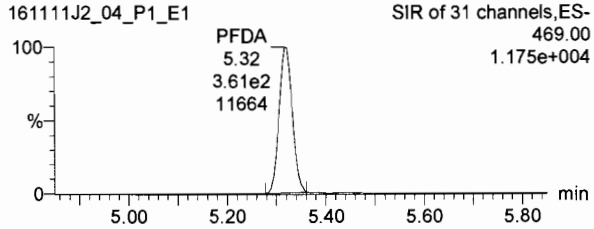


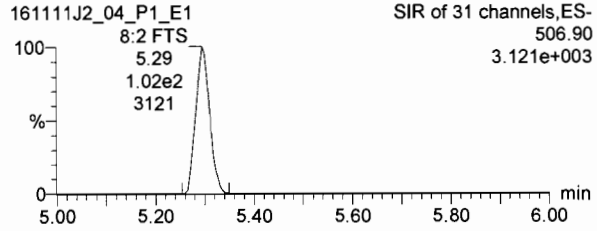
PFOS



PFDA



8:2 FTS



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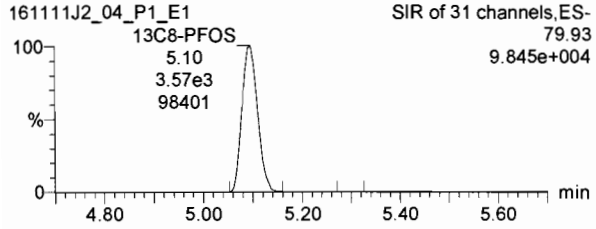

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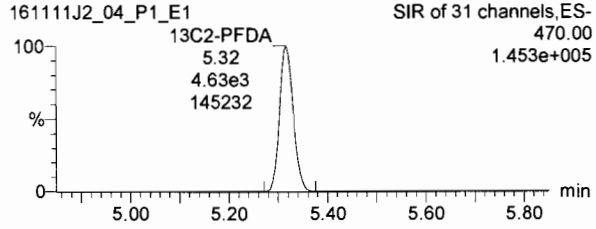

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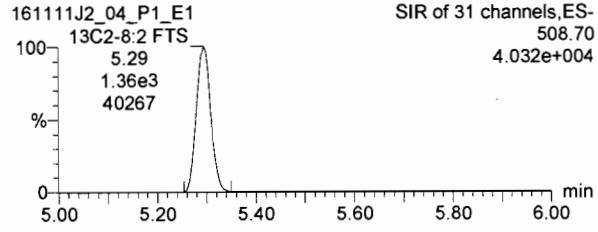

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Name: 161111J2_04.wiff, Date: 11-Nov-2016, Time: 17:04:00, ID: ST161111J2-3 PFC CS0 16K1116, Description: PFC CS0 16K1116 A

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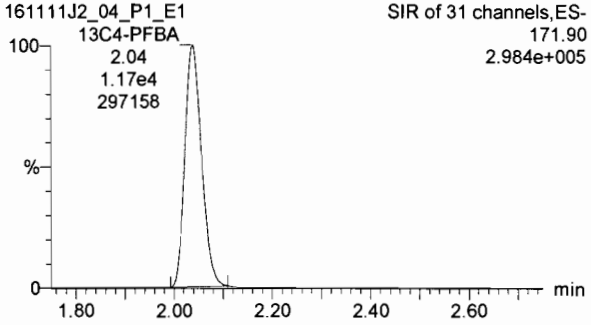

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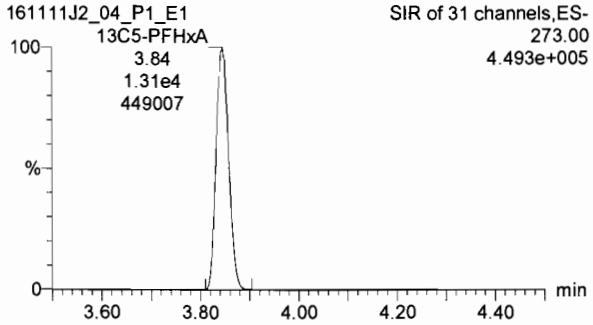

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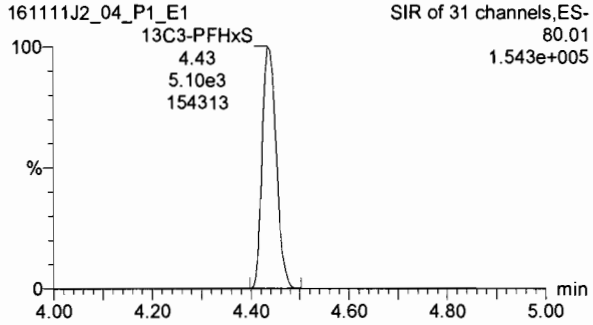

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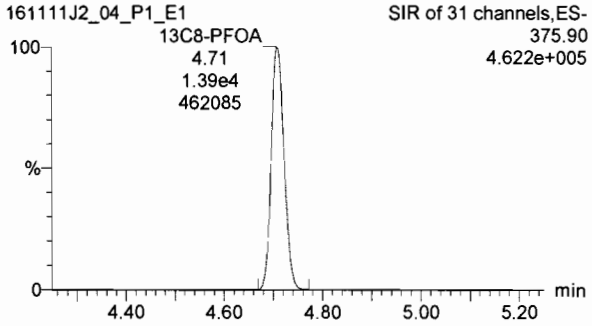

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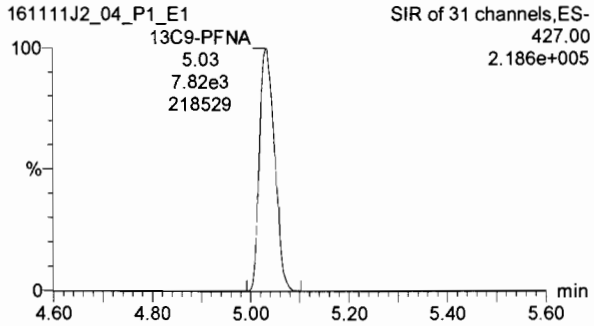

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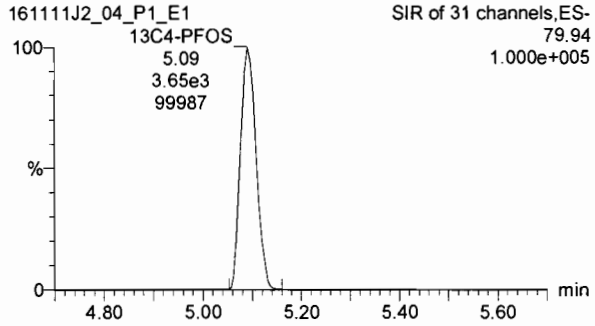

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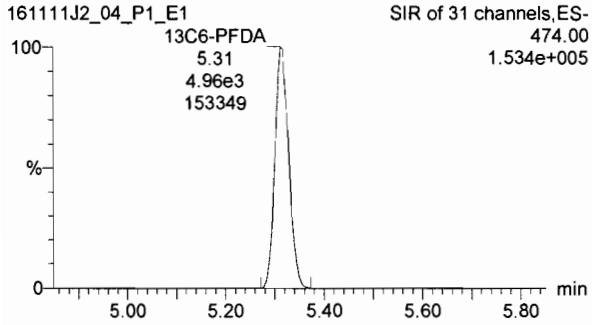

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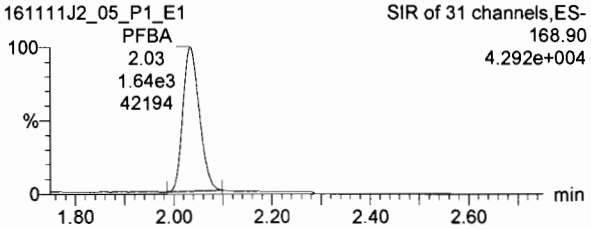

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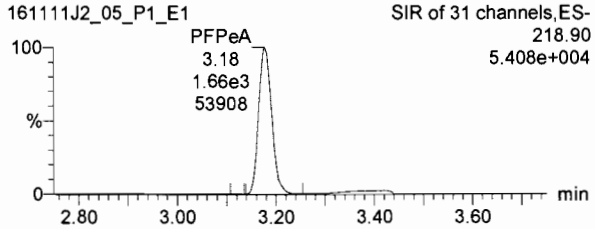

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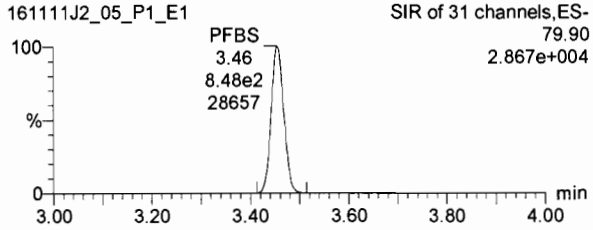

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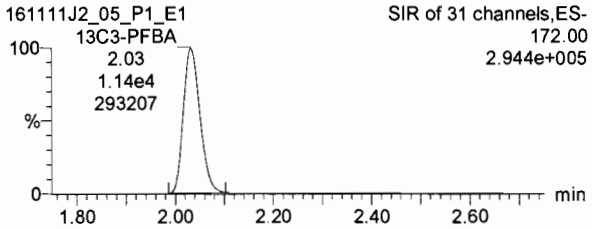

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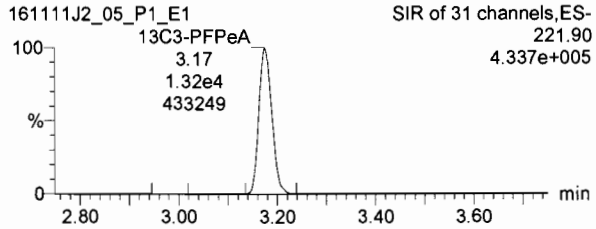

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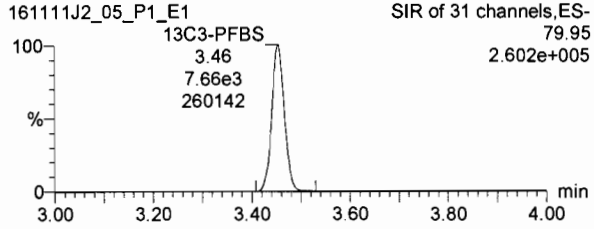

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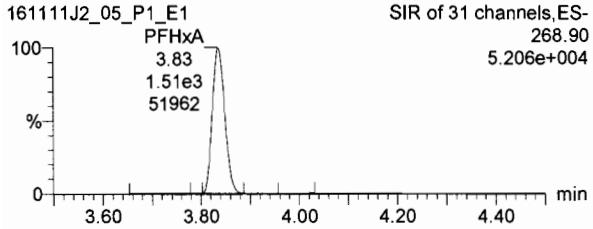

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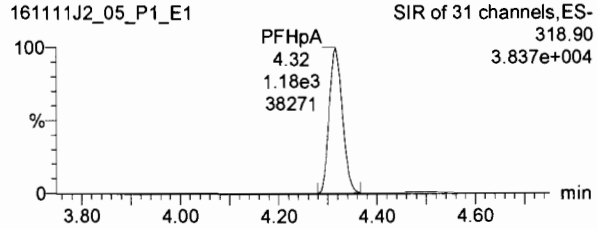

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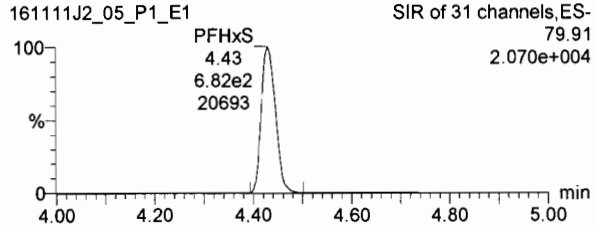

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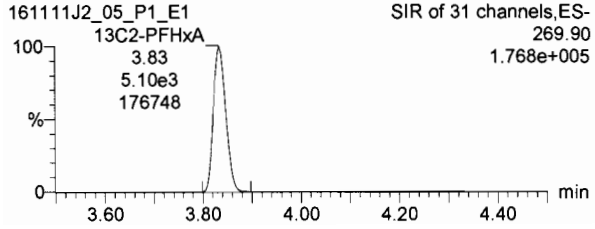

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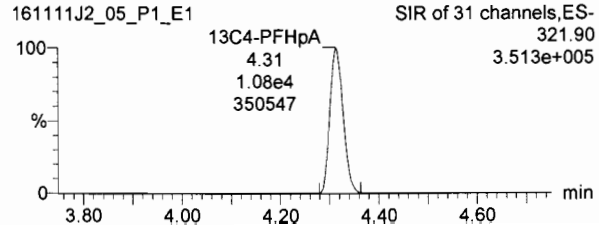

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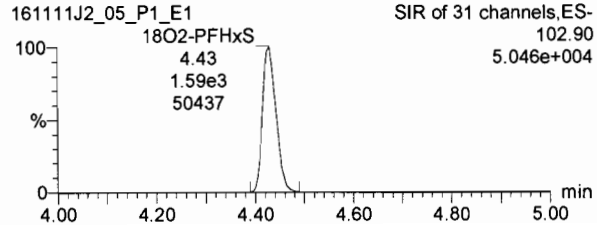

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Name: 161111J2_05.wiff, Date: 11-Nov-2016, Time: 17:16:11, ID: ST161111J2-4 PFC CS1 16K1117, Description: PFC CS1 16K1117 A

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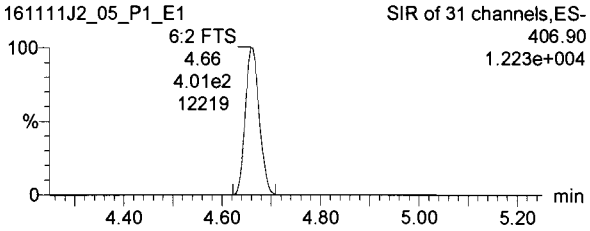

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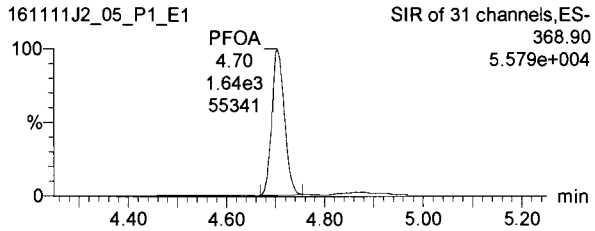

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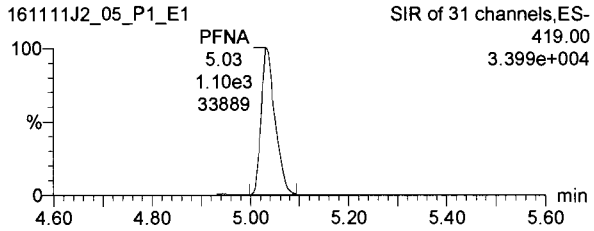

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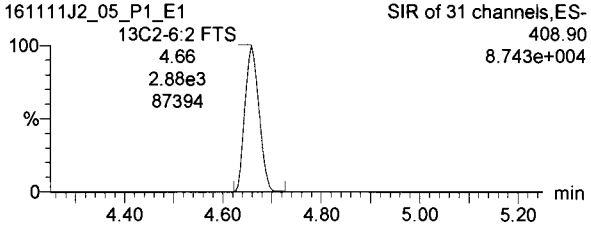

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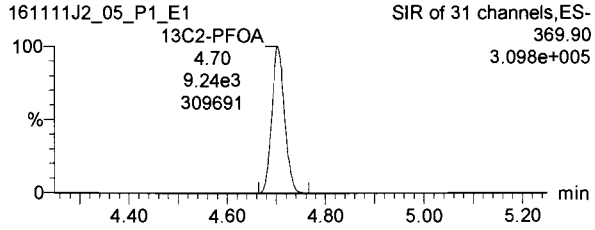

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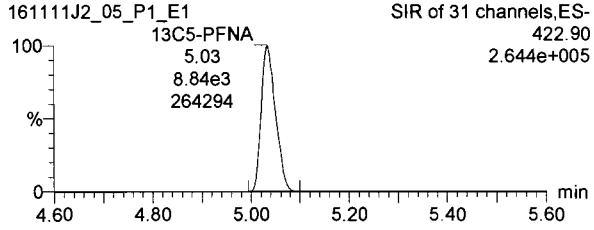

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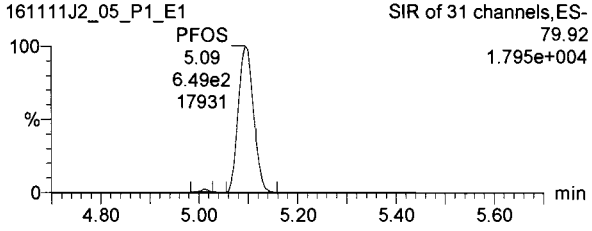

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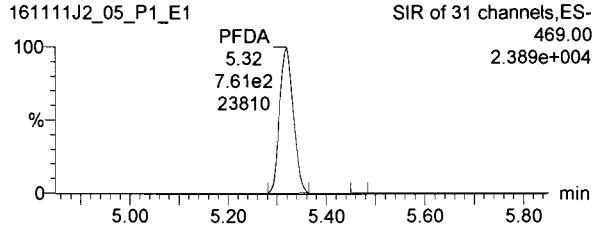

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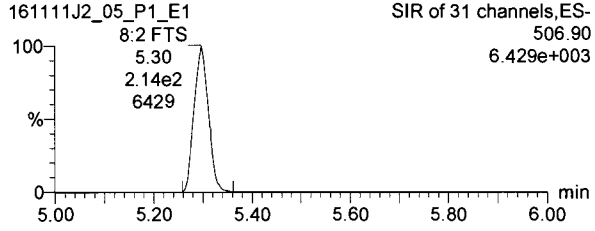

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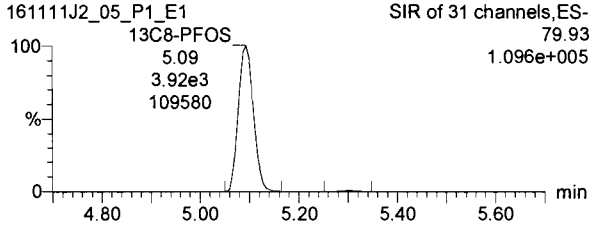

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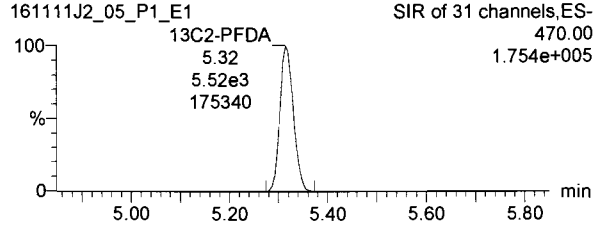

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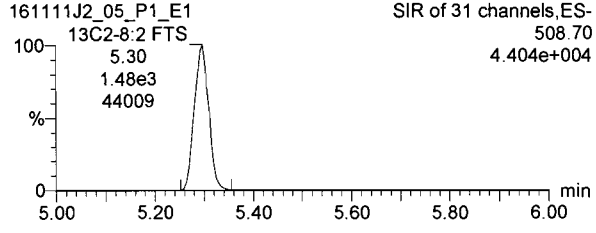

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Name: 161111J2_05.wiff, Date: 11-Nov-2016, Time: 17:16:11, ID: ST161111J2-4 PFC CS1 16K1117, Description: PFC CS1 16K1117 A

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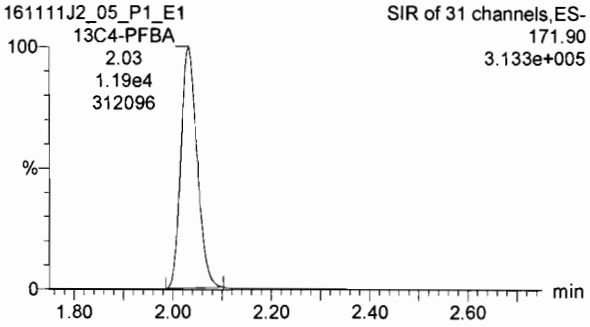

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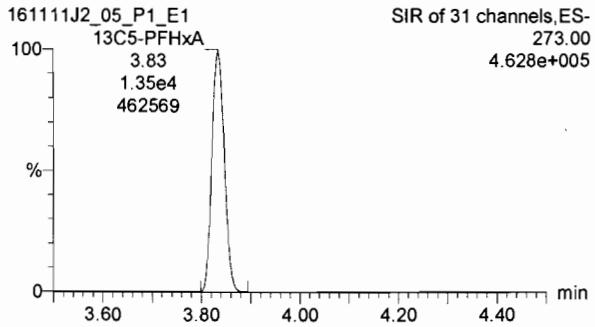

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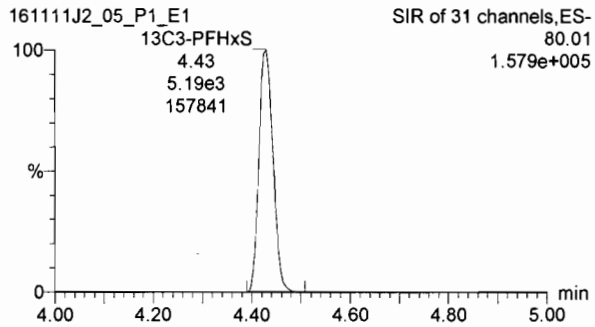

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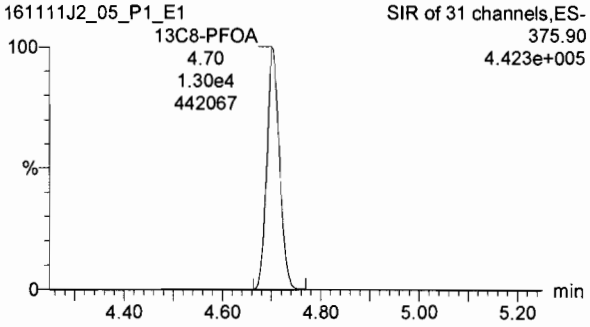

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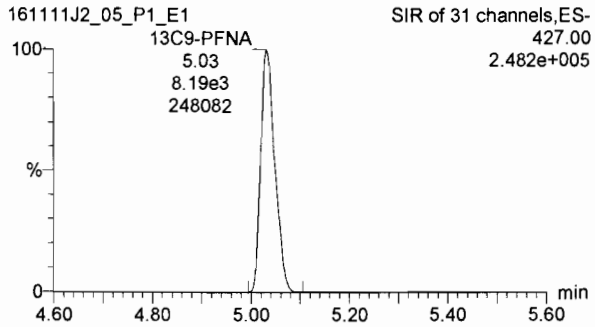

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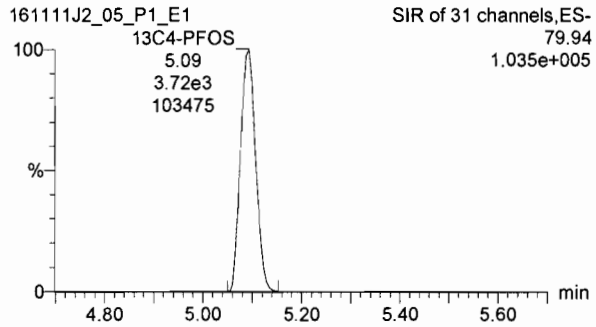

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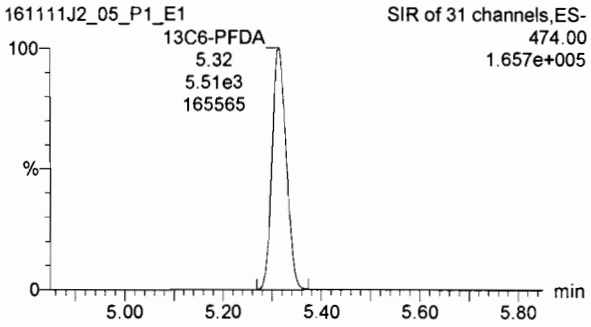

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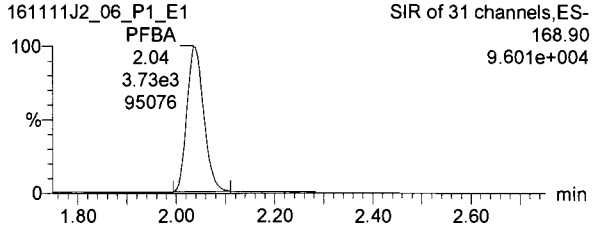

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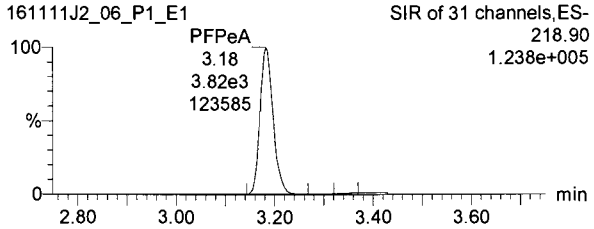

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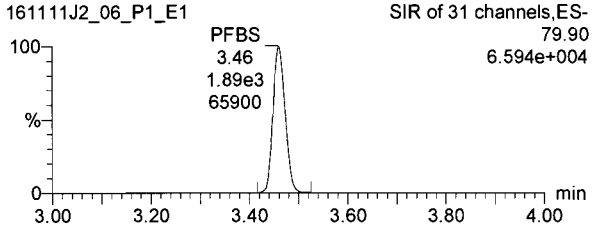

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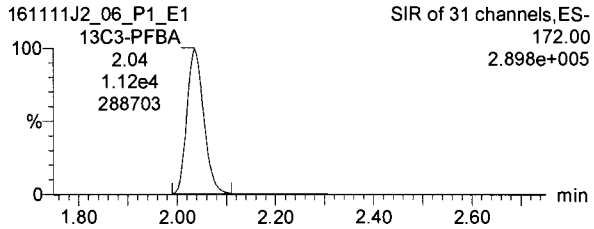

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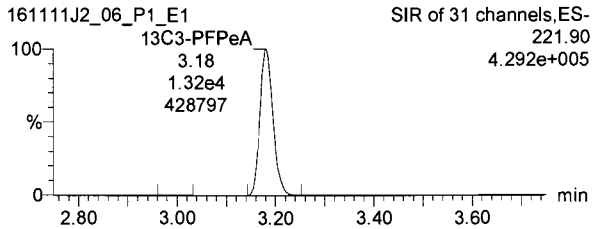

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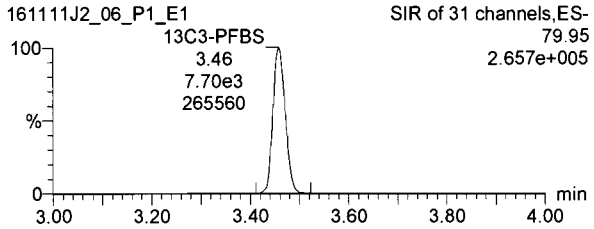

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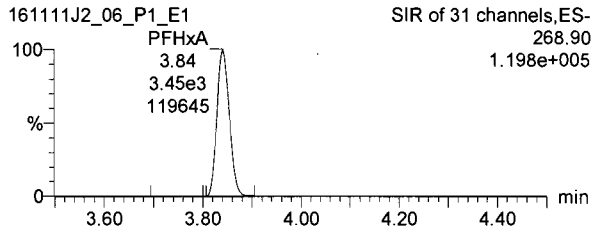

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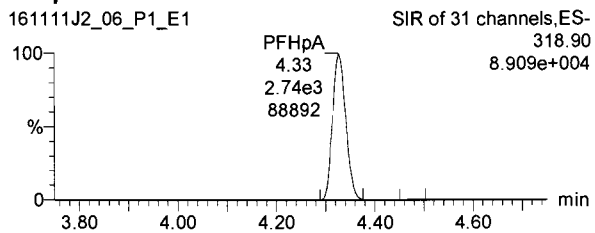

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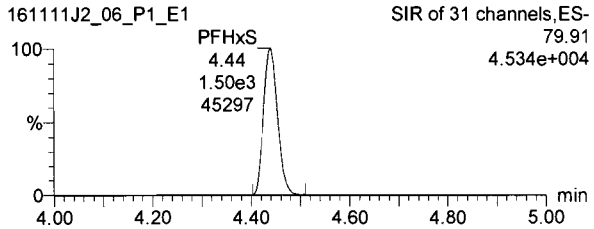

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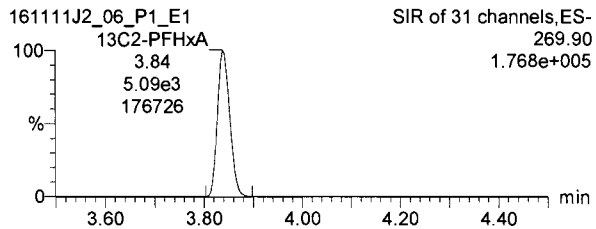

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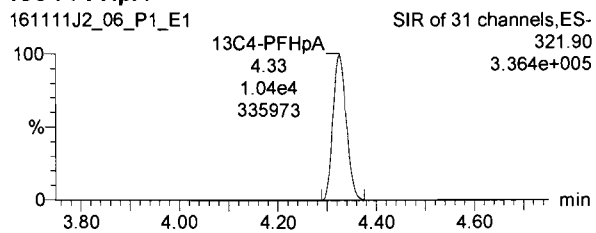

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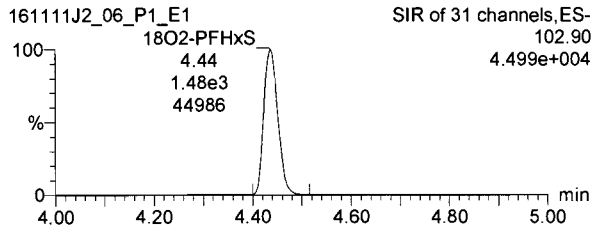

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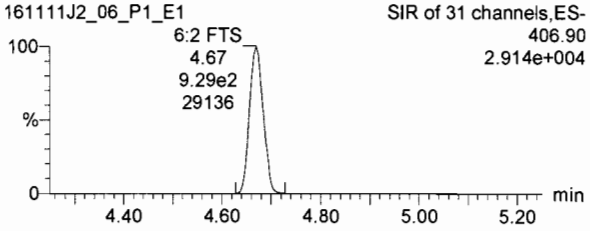

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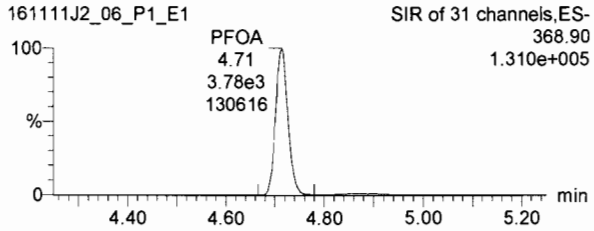

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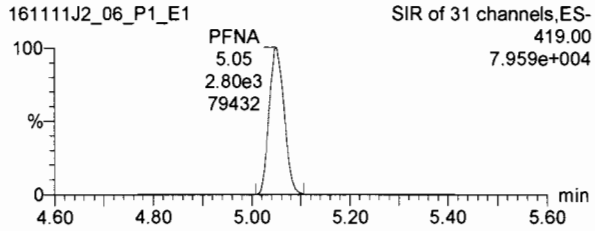

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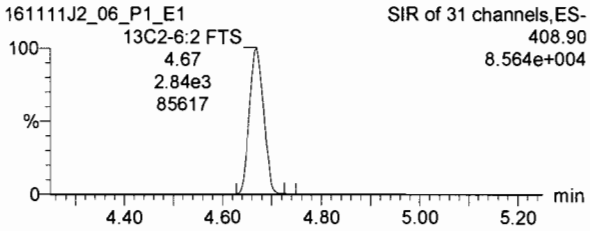

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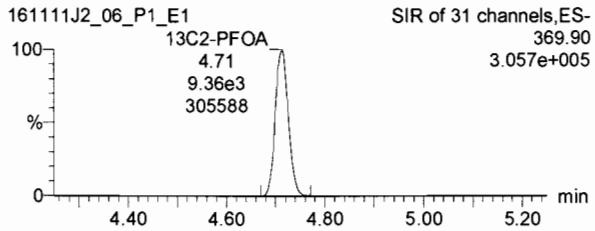

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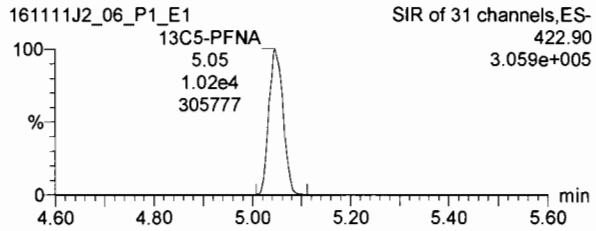

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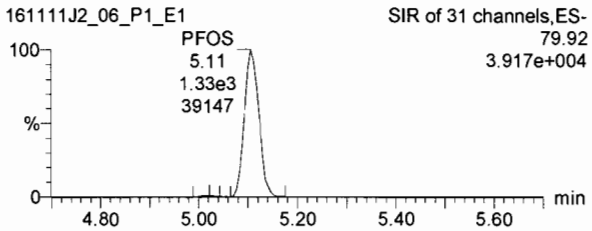

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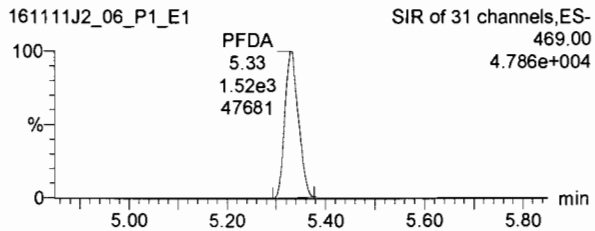

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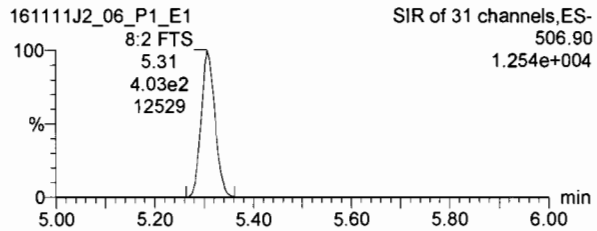

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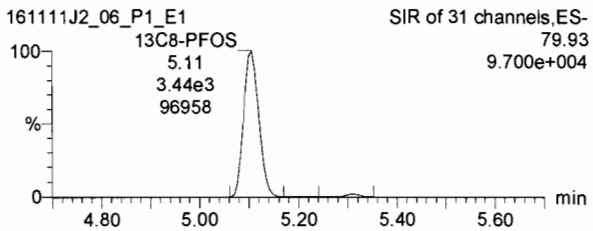

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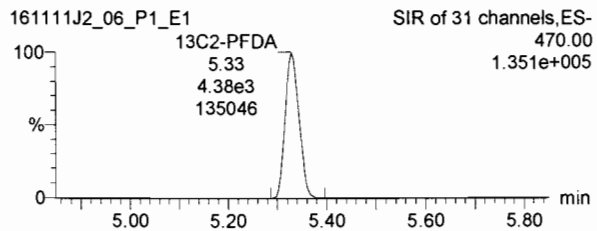

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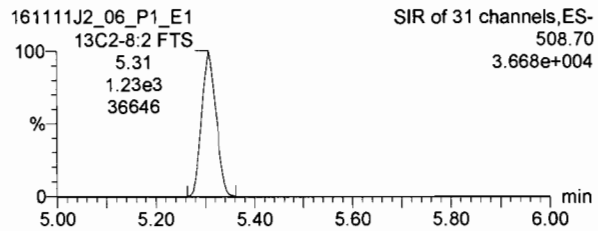

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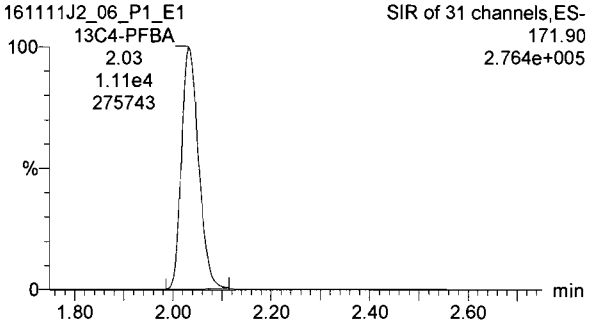
Name: 161111J2_06.wiff, Date: 11-Nov-2016, Time: 17:28:26, ID: ST161111J2-5 PFC CS2 16K1118, Description: PFC CS2 16K1118 A

13C4-PFBA



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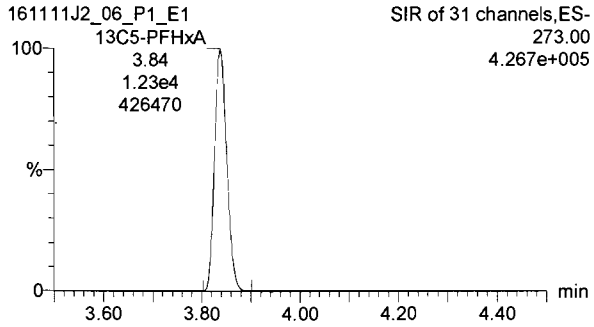

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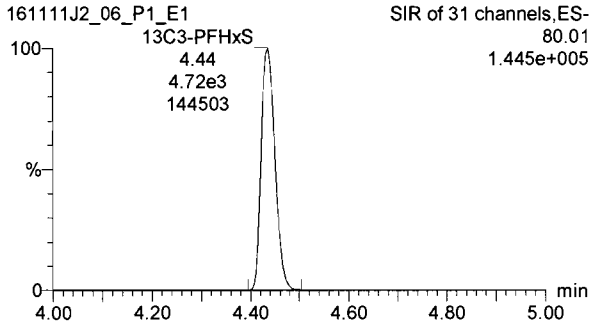

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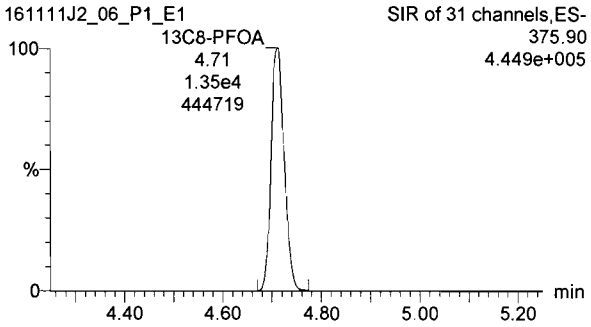

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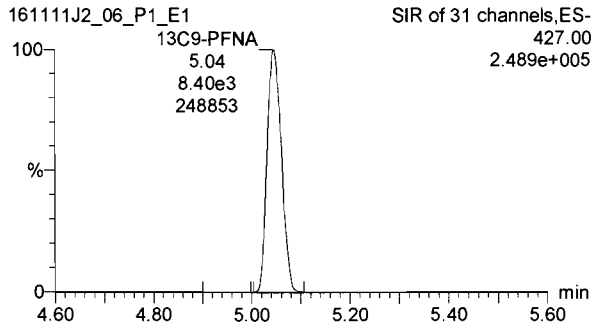

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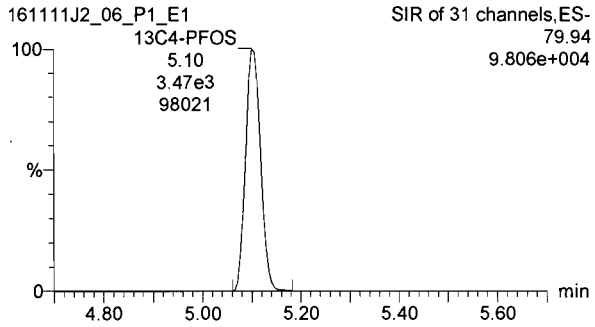
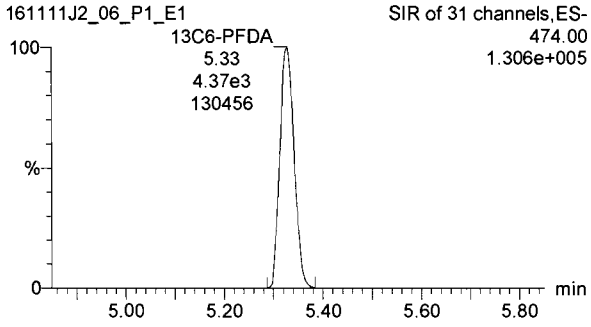


13C6-PFDA



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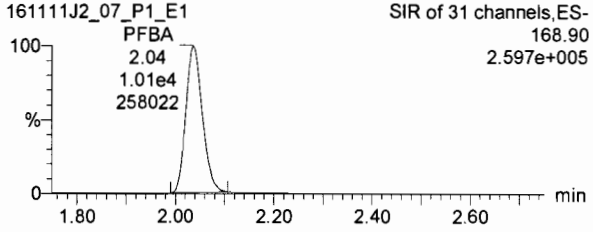

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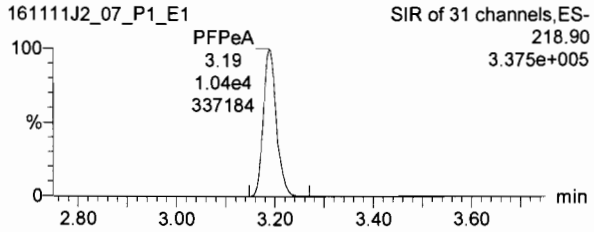

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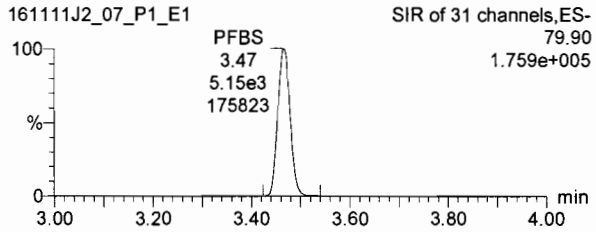

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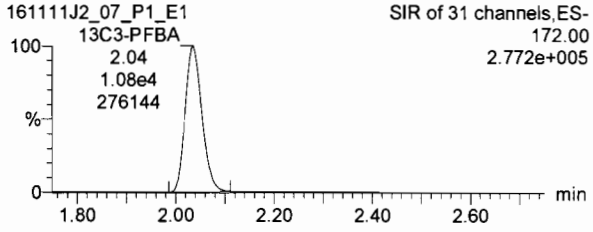

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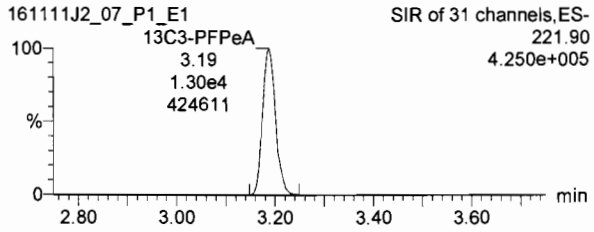

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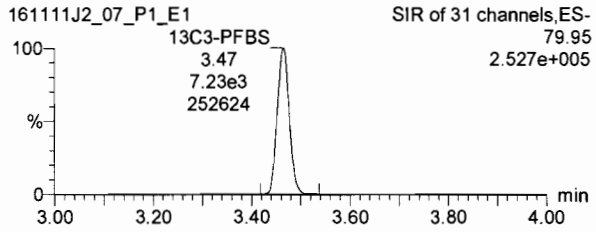

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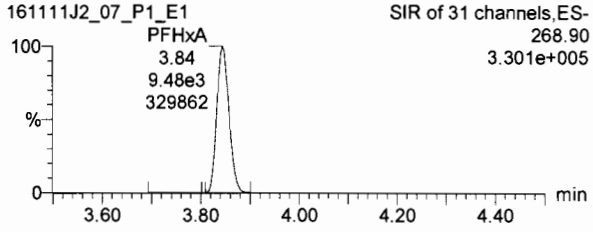

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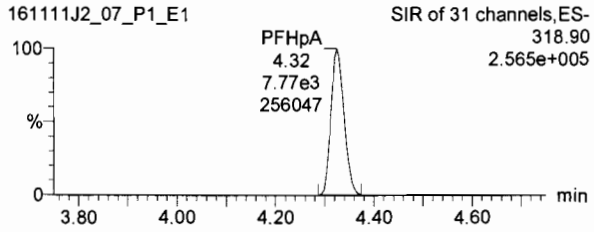

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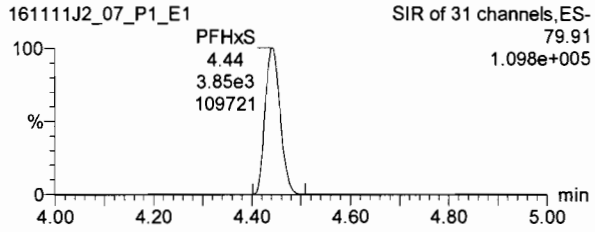

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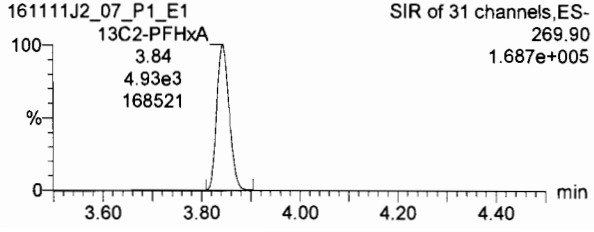

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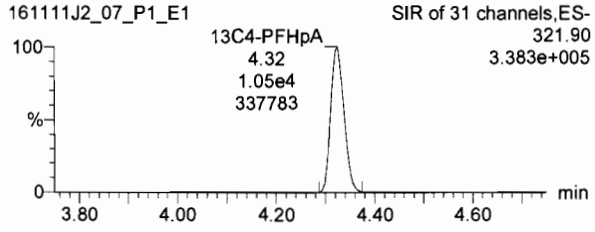

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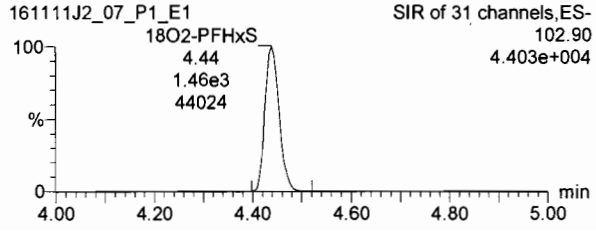

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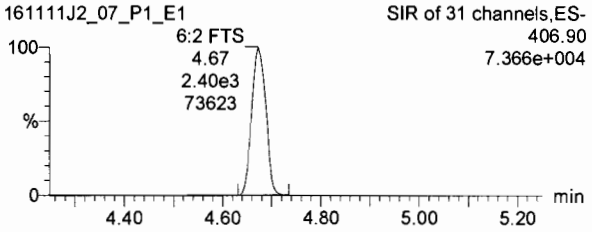
6:2 FTS



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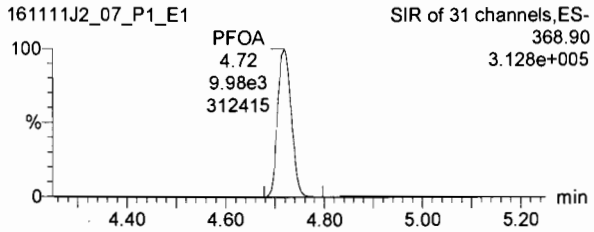

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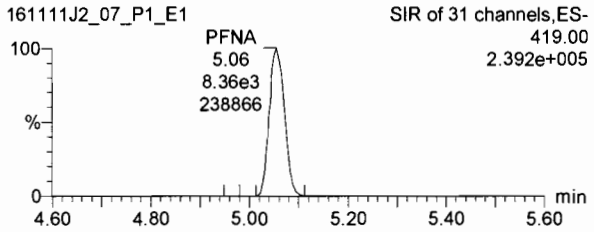

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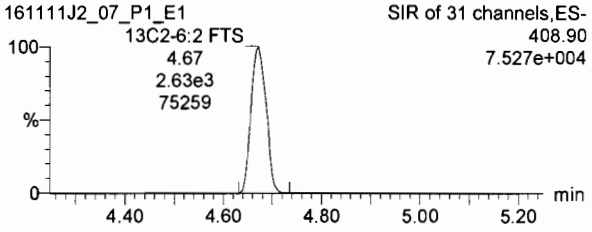

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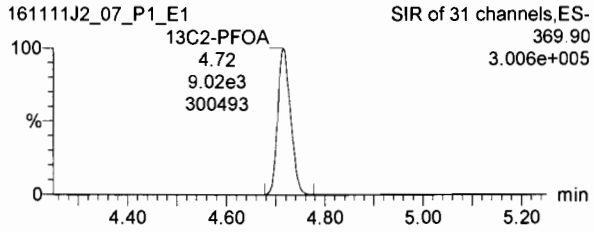

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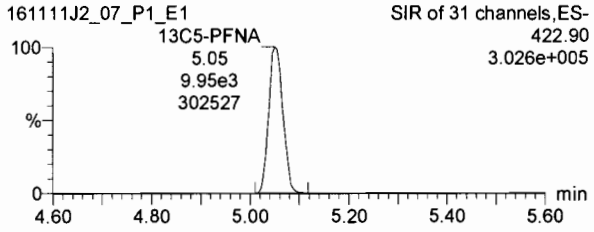

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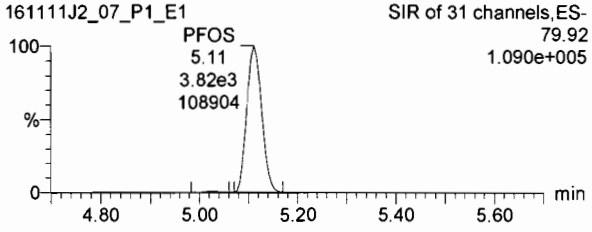

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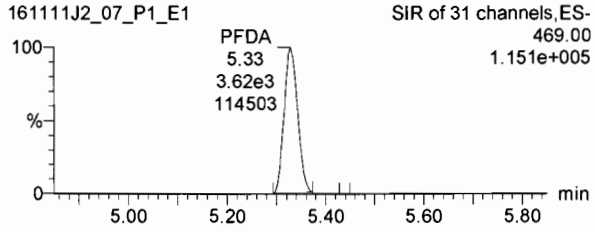
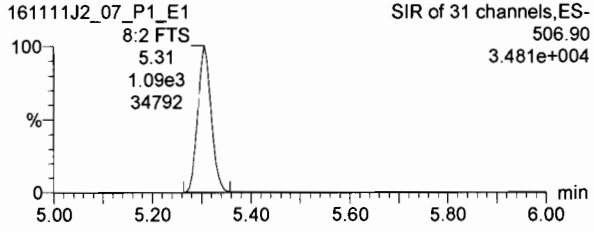


8:2 FTS



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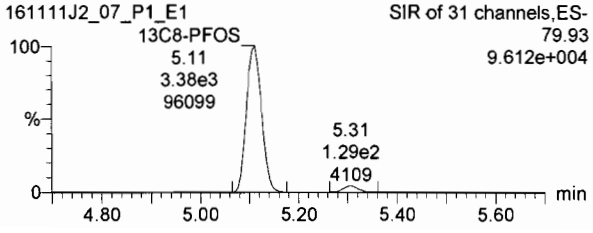

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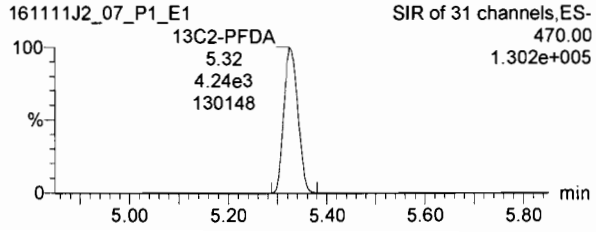

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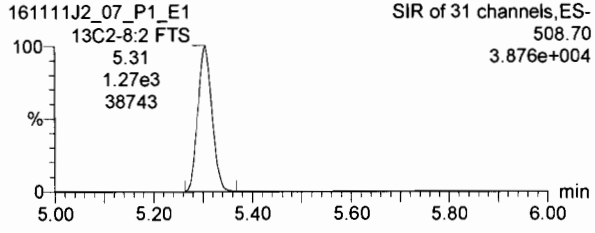

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Name: 161111J2_07.wiff, Date: 11-Nov-2016, Time: 17:40:40, ID: ST161111J2-6 PFC CS3 16K1119, Description: PFC CS3 16K1119 A

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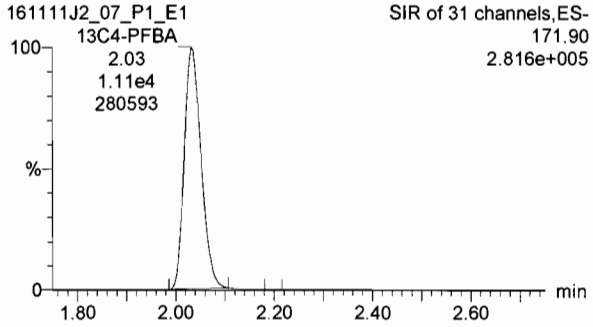

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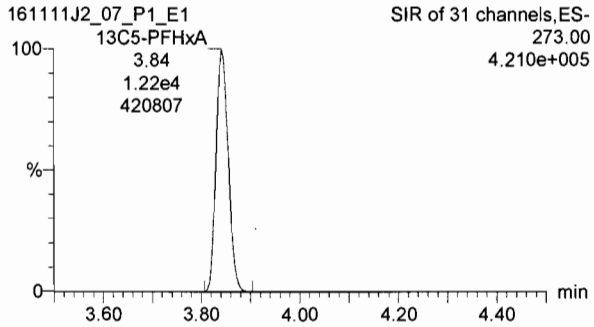

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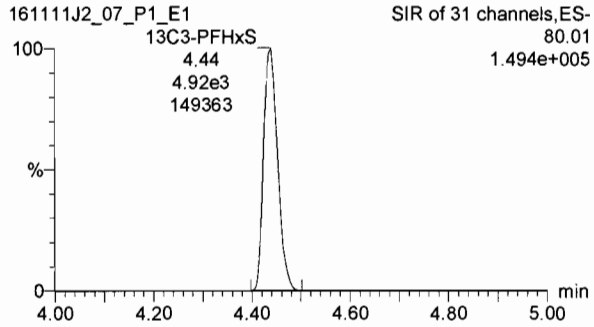

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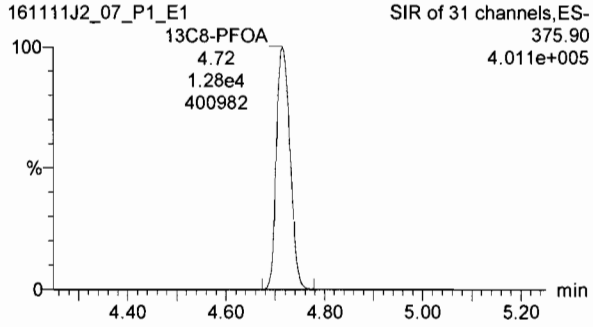

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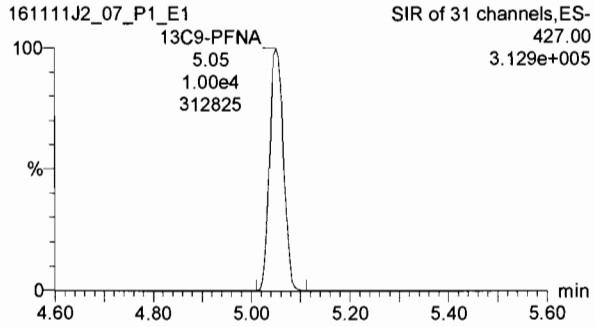

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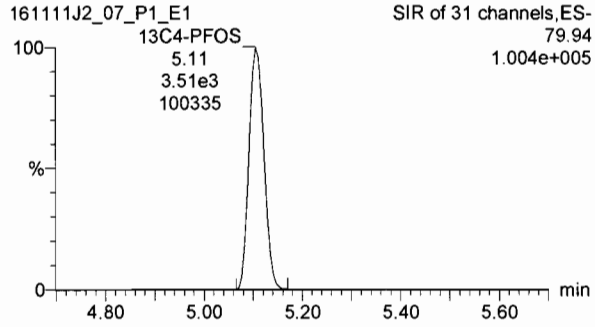

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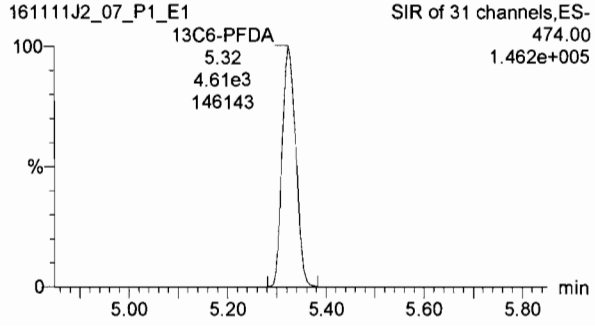

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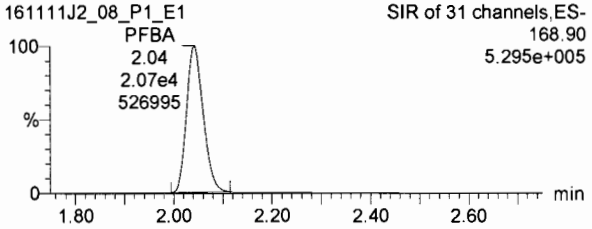

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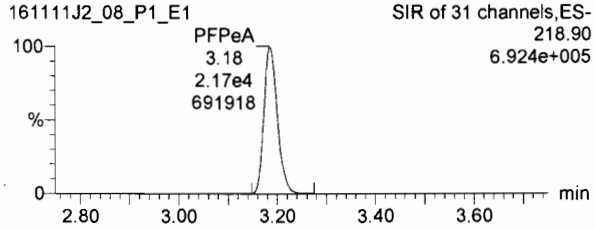

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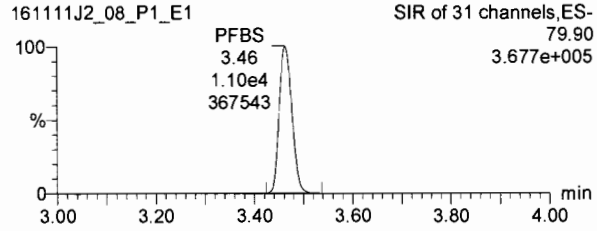

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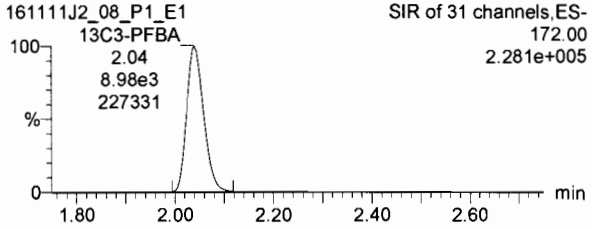

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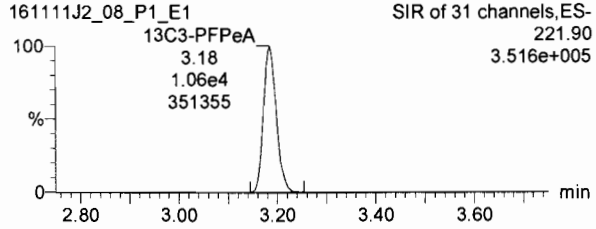

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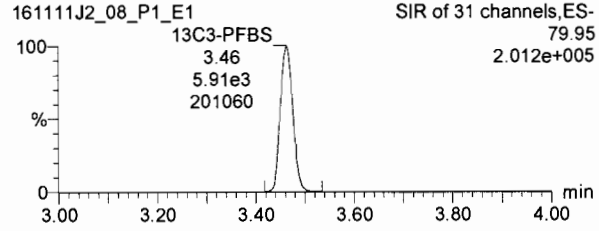

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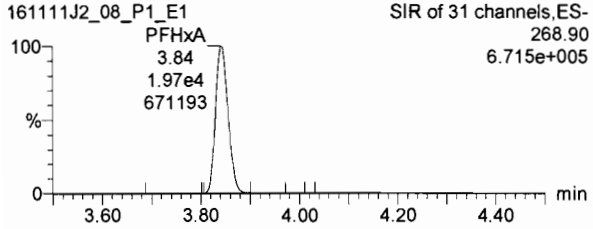

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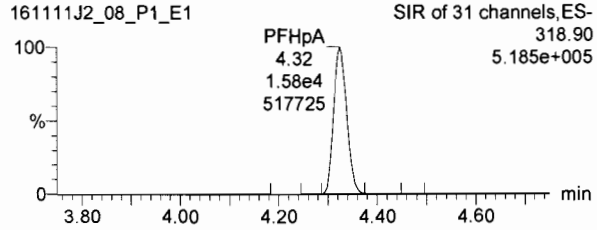

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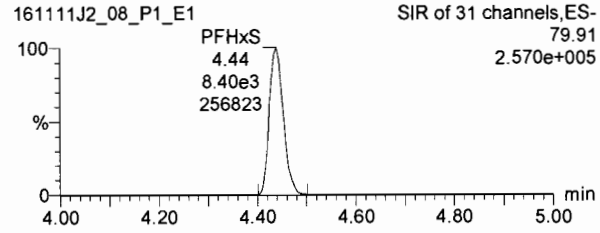

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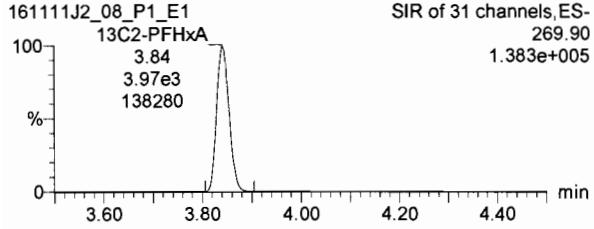

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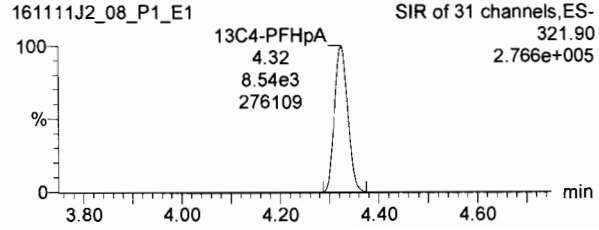
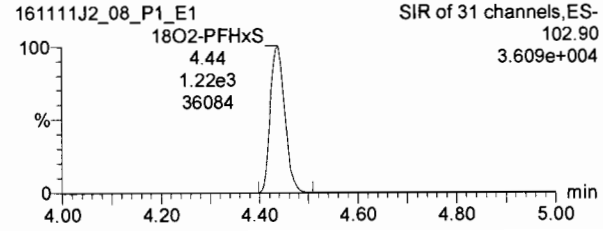


18O2-PFHxS



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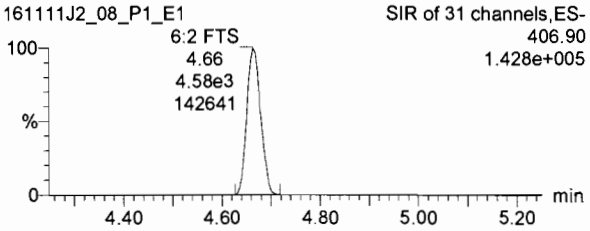

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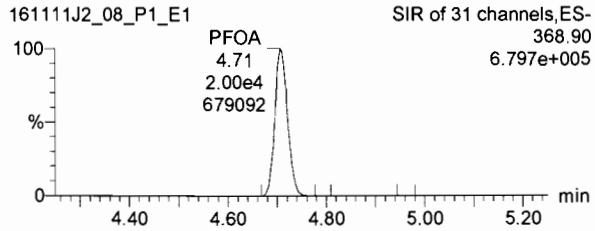

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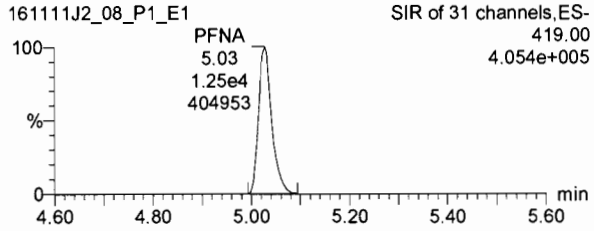
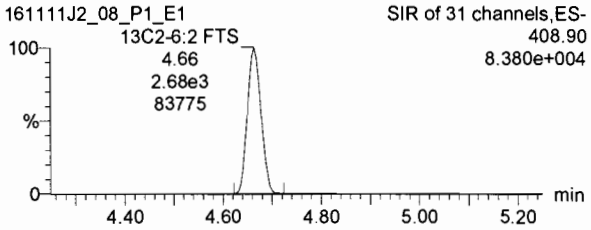


13C2-6:2 FTS



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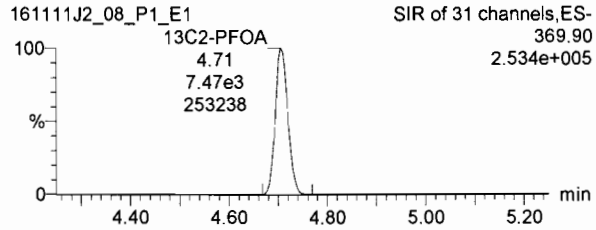

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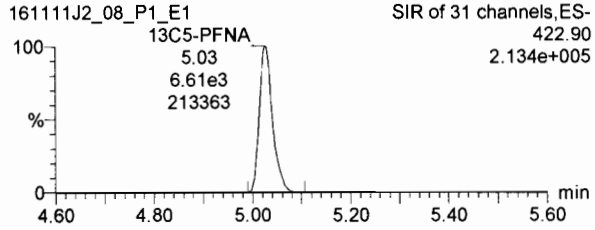

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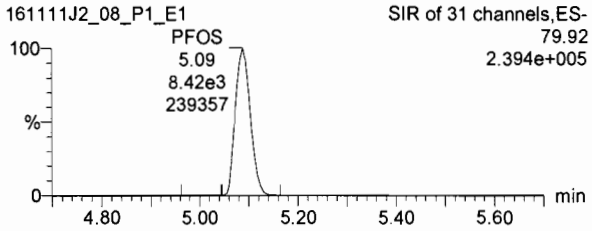

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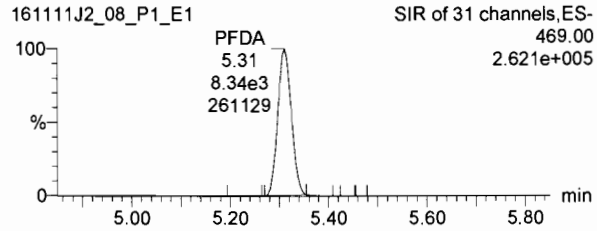

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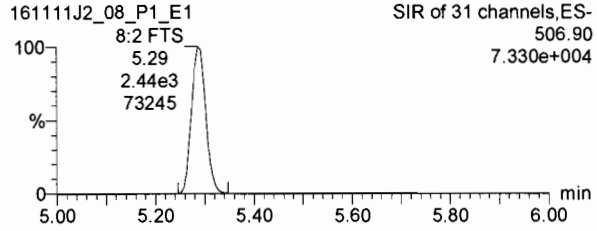

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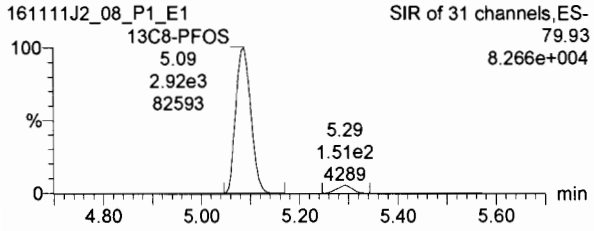
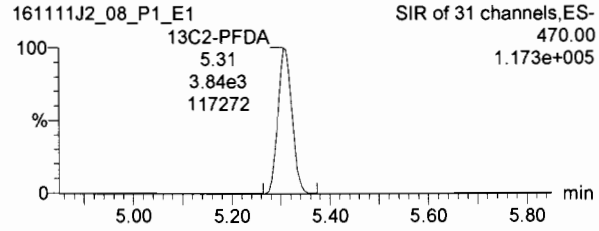
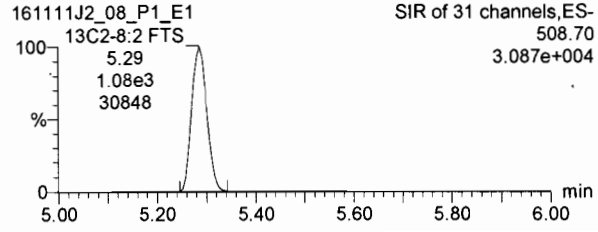


13C2-PFDA



13C2-8:2 FTS



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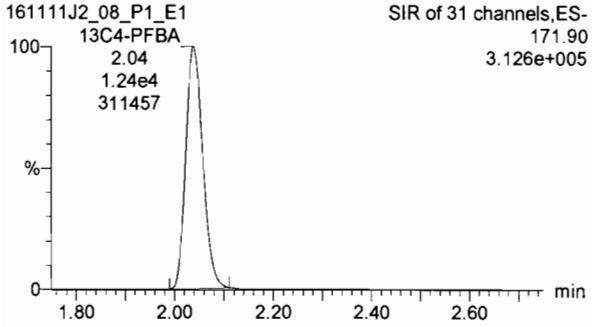
Name: 161111J2_08.wiff, Date: 11-Nov-2016, Time: 17:52:55, ID: ST161111J2-7 PFC C3.5 16K1120, Description: PFC C3.5 16K1120 A

13C4-PFBA



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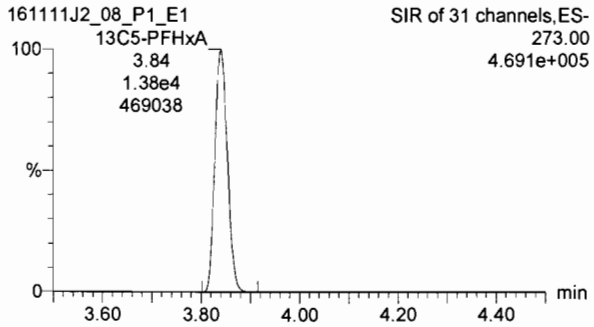
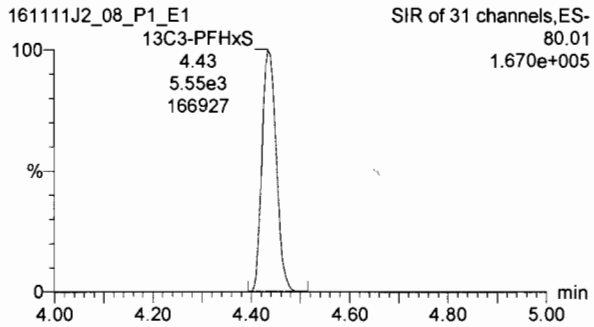


13C3-PFHxS



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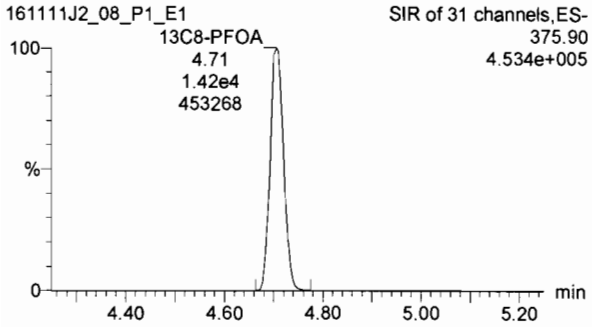

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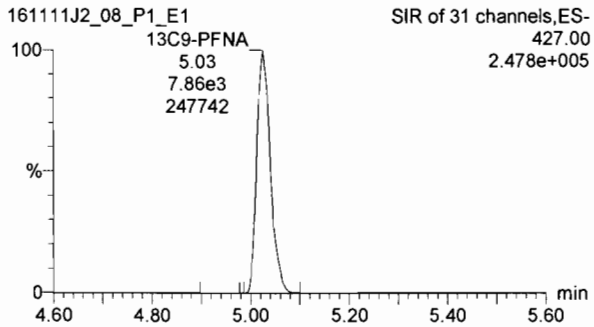
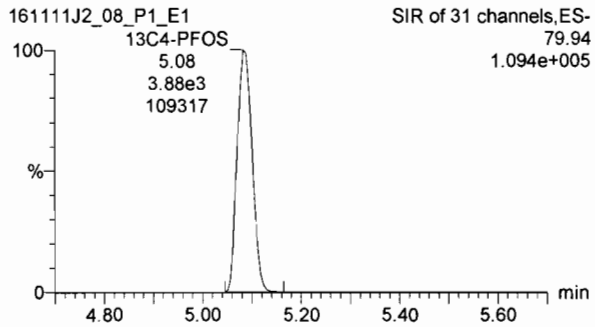
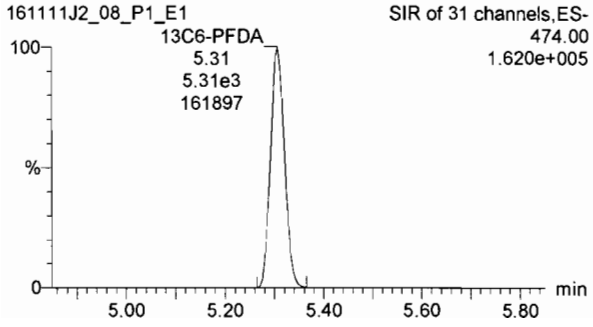


13C4-PFOS



13C6-PFDA



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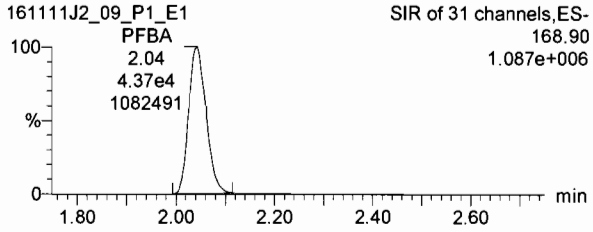
Name: 161111J2_09.wiff, Date: 11-Nov-2016, Time: 18:05:09, ID: ST161111J2-8 PFC CS4 16K1121, Description: PFC CS4 16K1121 A

PFBA



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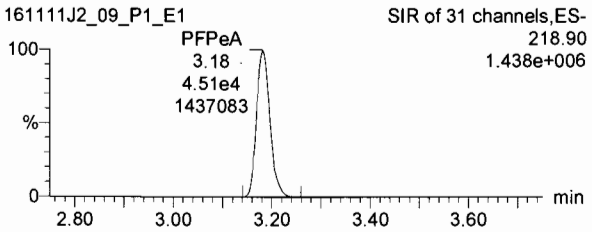

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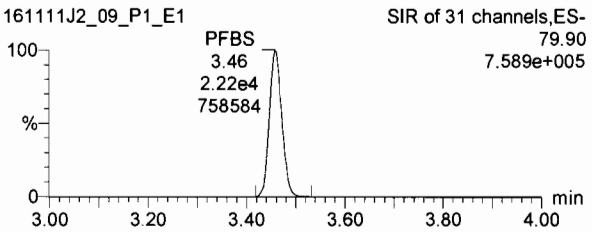

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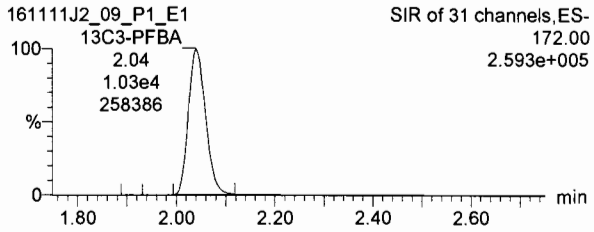

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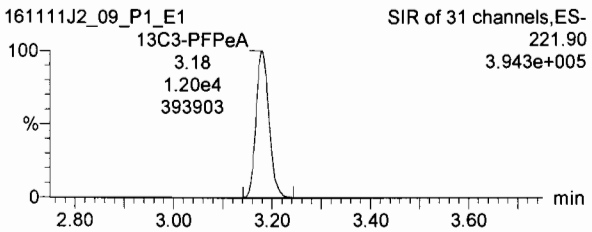

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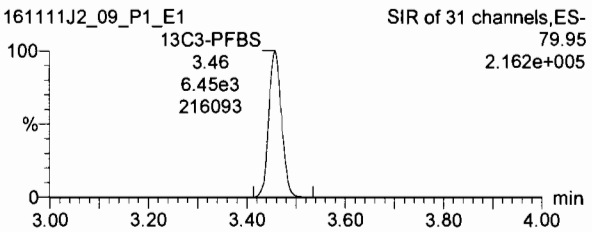

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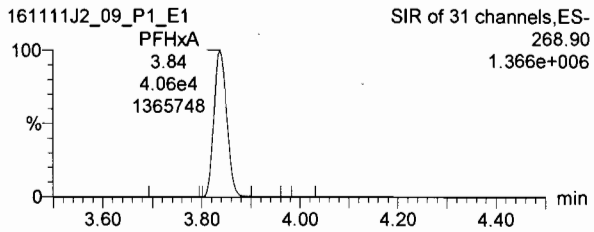
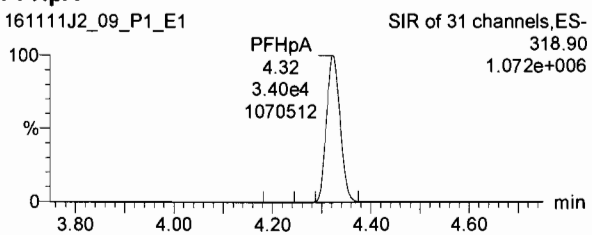


PFHpA



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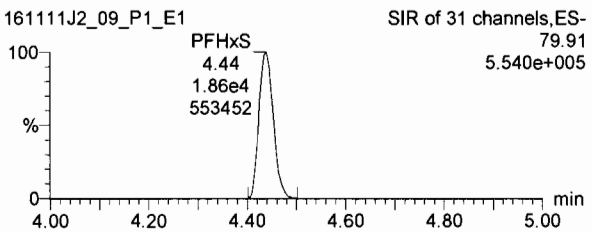

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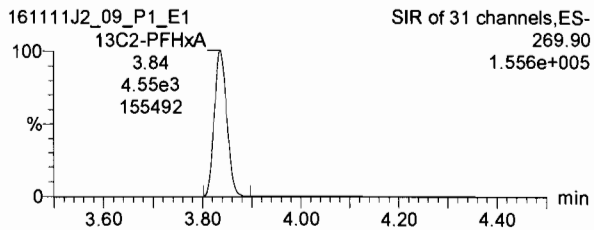

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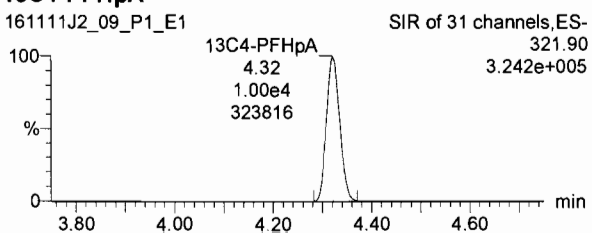
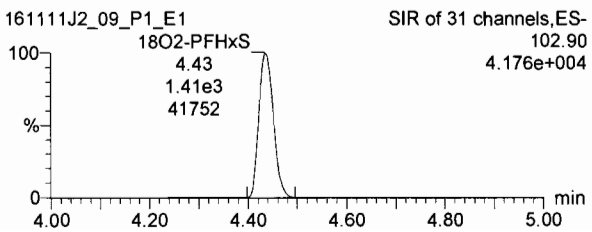


18O2-PFHxS



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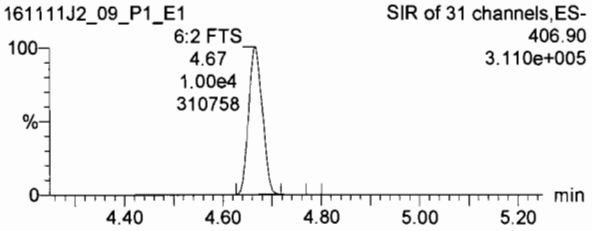
Name: 161111J2_09.wiff, Date: 11-Nov-2016, Time: 18:05:09, ID: ST161111J2-8 PFC CS4 16K1121, Description: PFC CS4 16K1121 A

6:2 FTS



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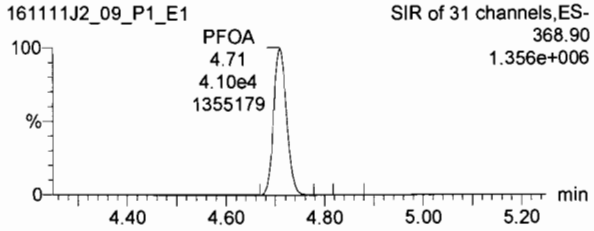
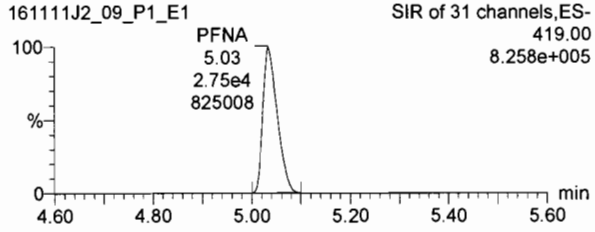
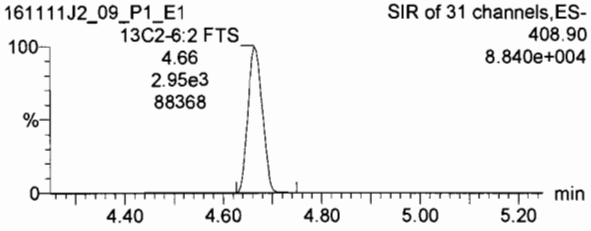


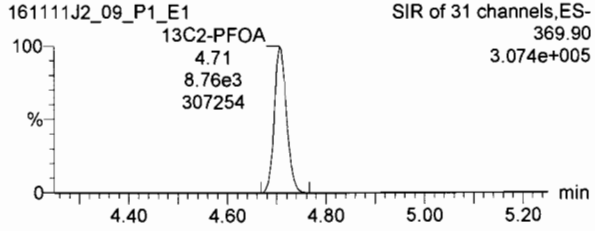
PFNA



13C2-6:2 FTS



13C2-PFOA



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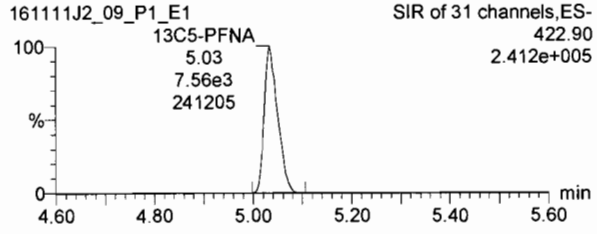

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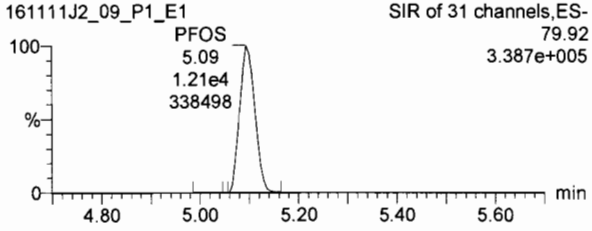
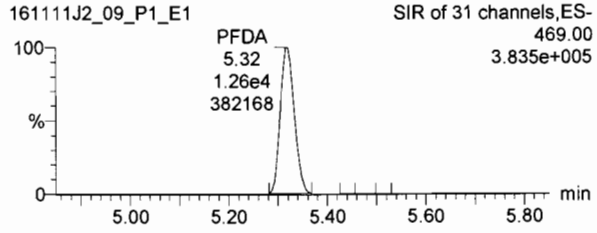
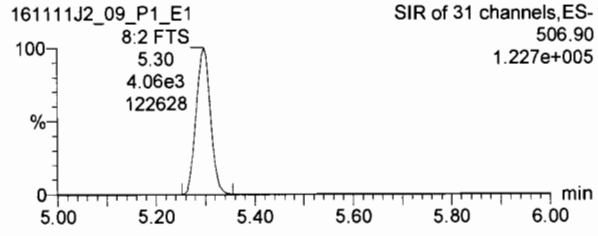


PFDA



8:2 FTS



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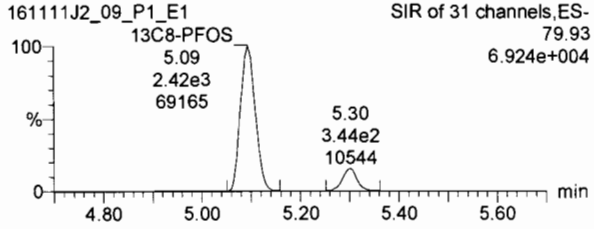

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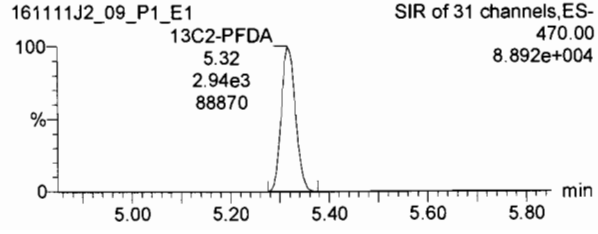
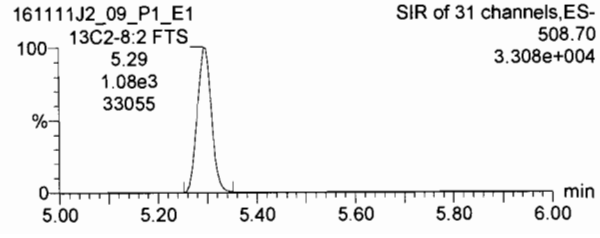


13C2-8:2 FTS



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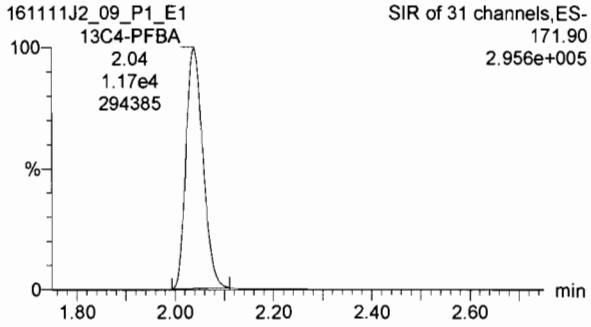
Name: 161111J2_09.wiff, Date: 11-Nov-2016, Time: 18:05:09, ID: ST161111J2-8 PFC CS4 16K1121, Description: PFC CS4 16K1121 A

13C4-PFBA



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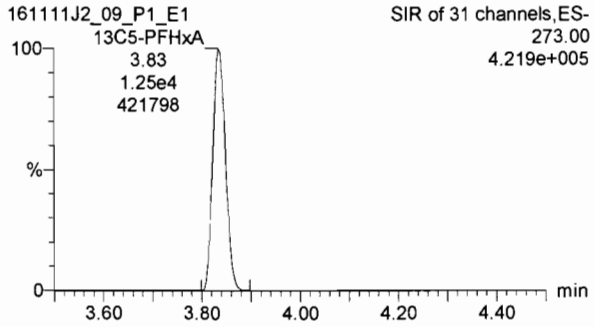

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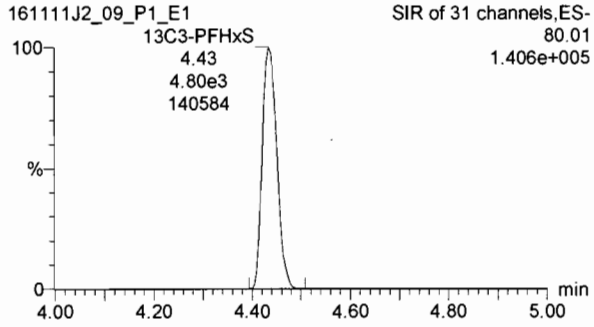

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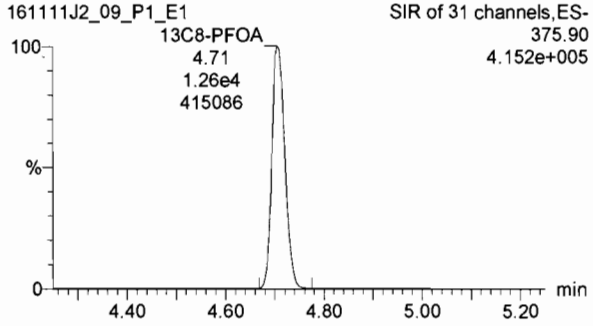

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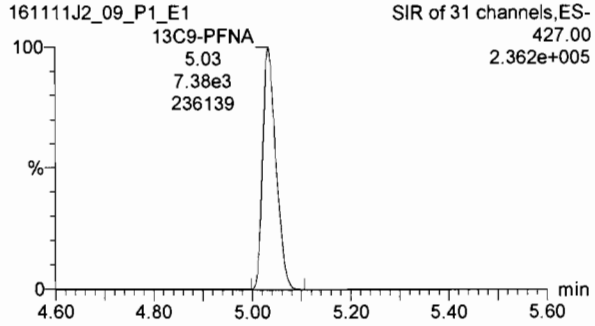

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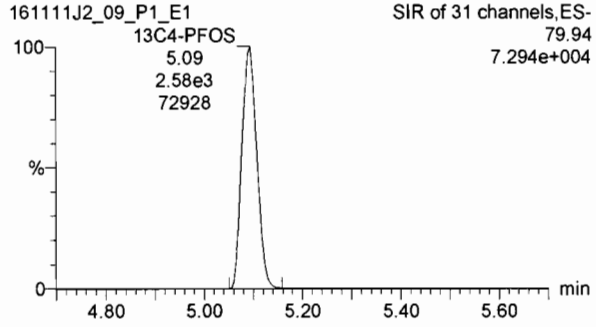

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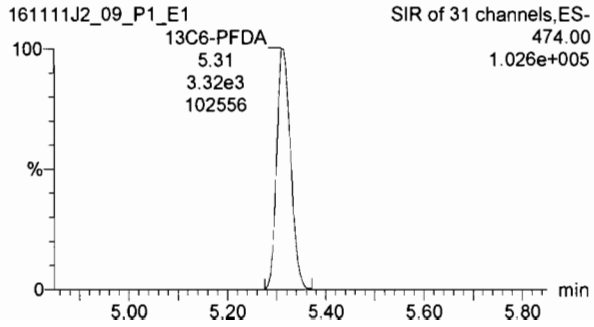

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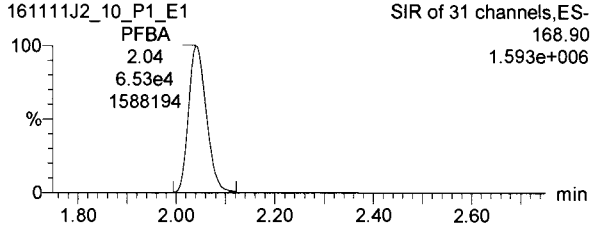

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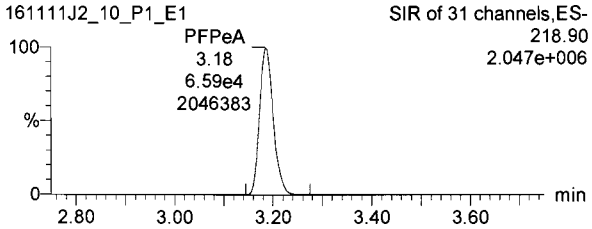

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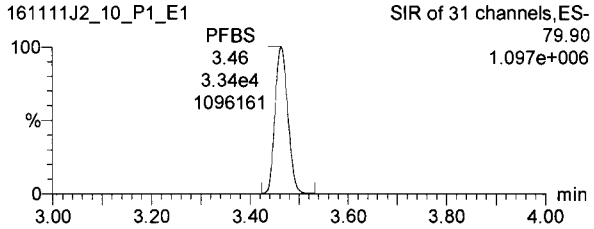

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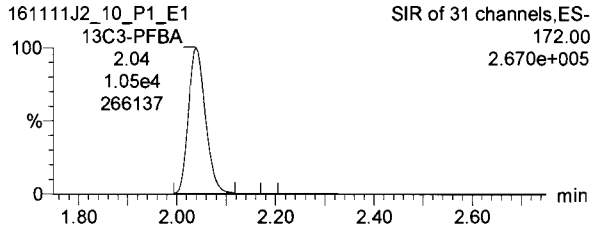

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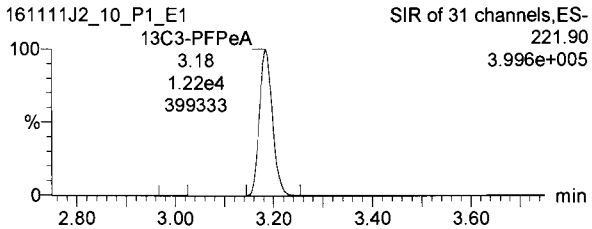

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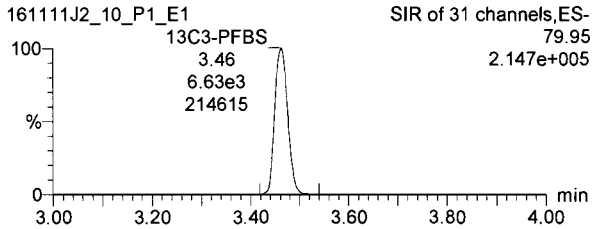
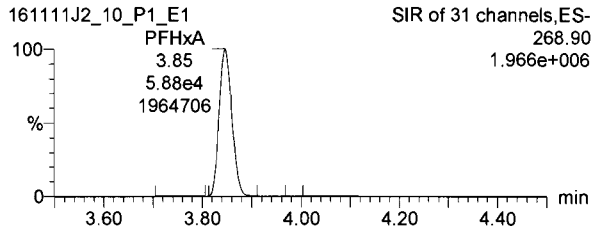
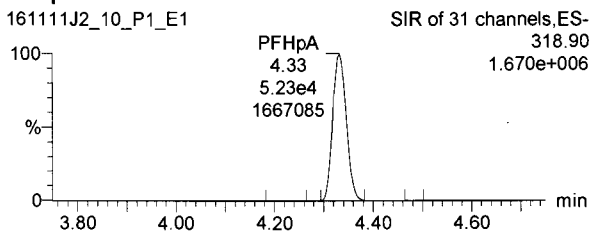


PFHxA



PFHpA



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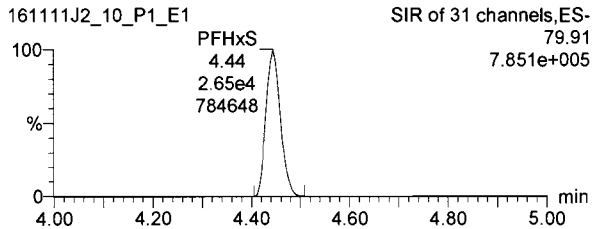

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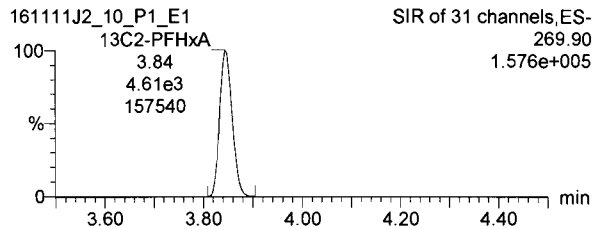
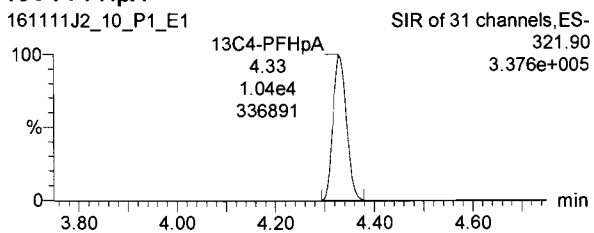


13C4-PFHpA



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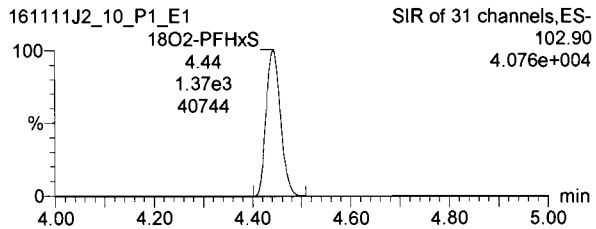

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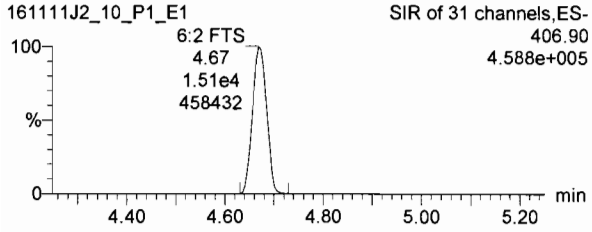
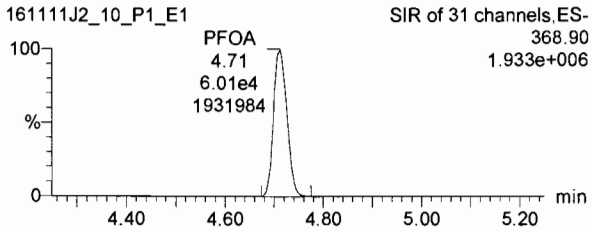
Name: 161111J2_10.wiff, Date: 11-Nov-2016, Time: 18:17:21, ID: ST161111J2-9 PFC CS4.5 16K1122, Description: PFC CS4.5 16K1122 A

6:2 FTS



PFOA



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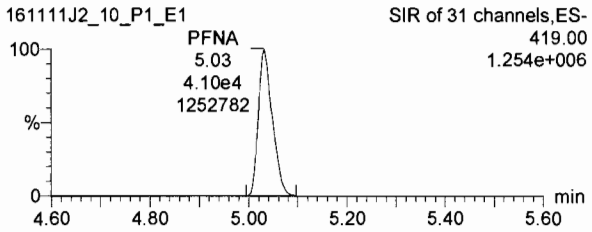
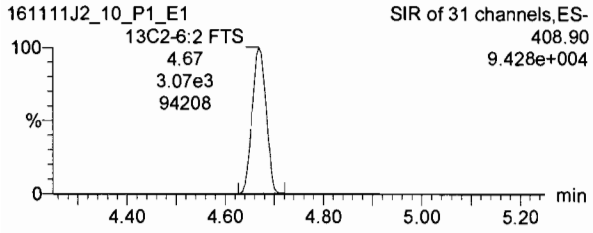


13C2-6:2 FTS



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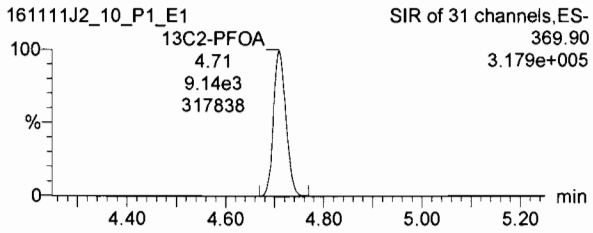

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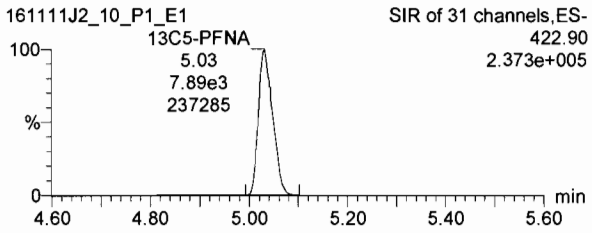

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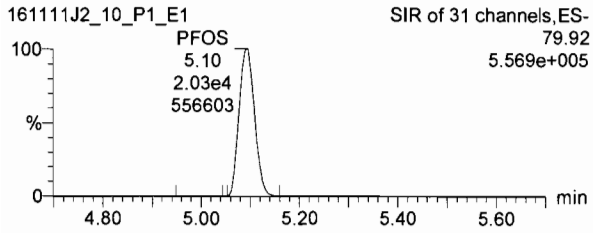

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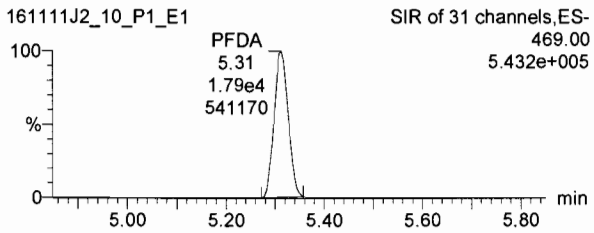
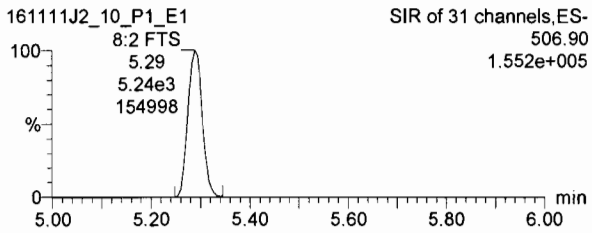
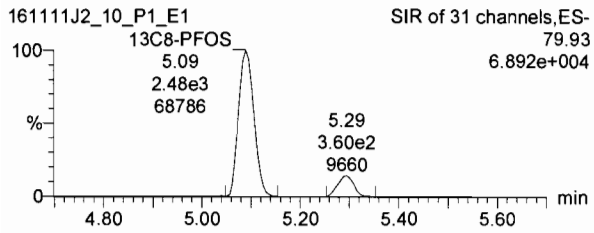


8:2 FTS



13C8-PFOS



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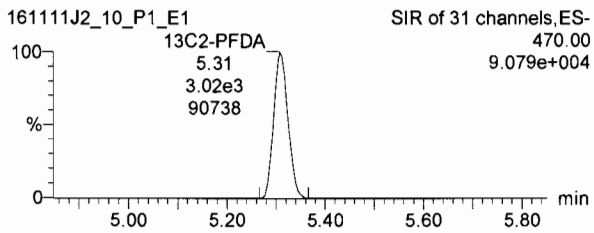
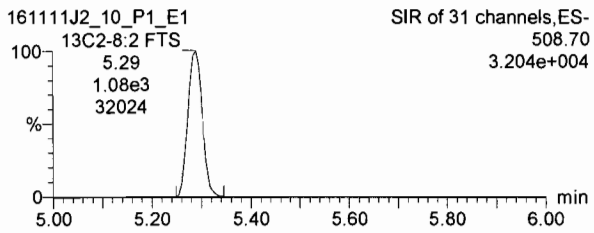


13C2-8:2 FTS



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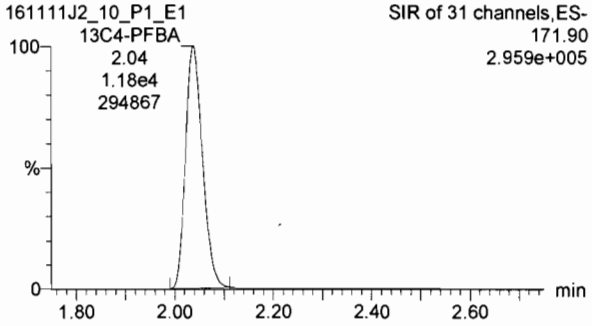
Printed: Saturday, November 12, 2016 10:55:05 Pacific Standard Time

Name: 161111J2_10.wiff, Date: 11-Nov-2016, Time: 18:17:21, ID: ST161111J2-9 PFC CS4.5 16K1122, Description: PFC CS4.5 16K1122 A

13C4-PFBA



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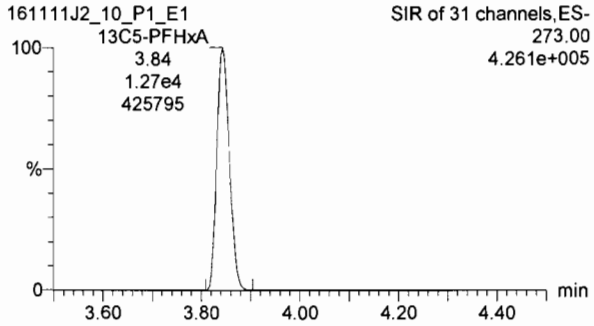

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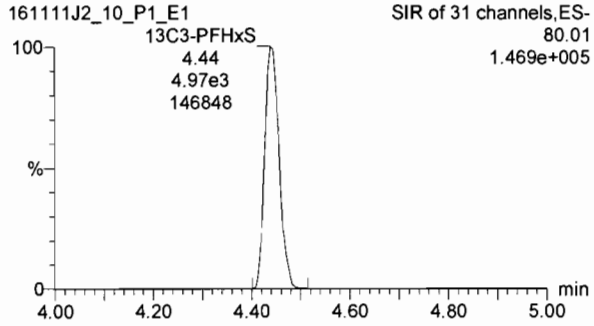

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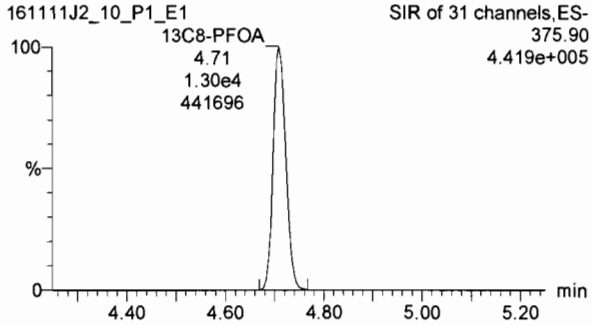

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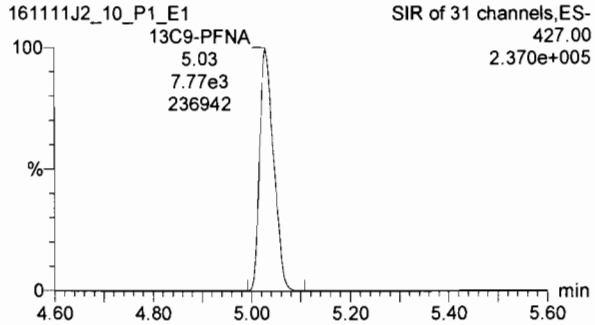

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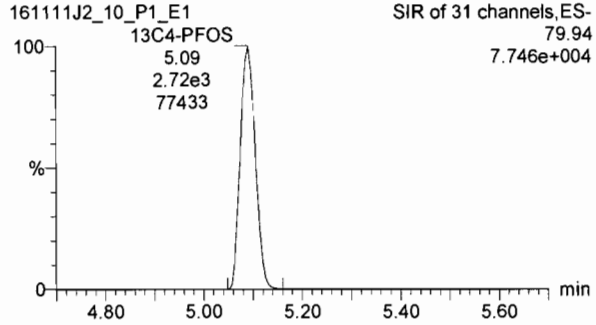

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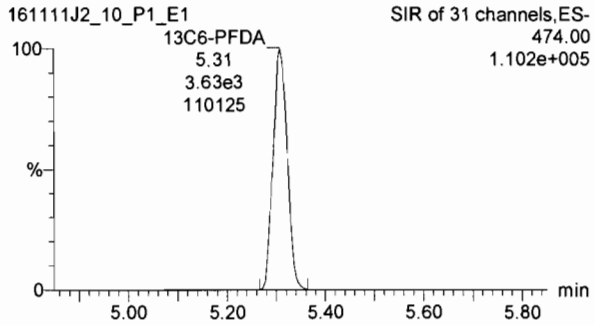

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Name: 161111J2_11.wiff, Date: 11-Nov-2016, Time: 18:29:38, ID: ST161111J2-10 PFC CS5 16K1123, Description: PFC CS5 16K1123 A

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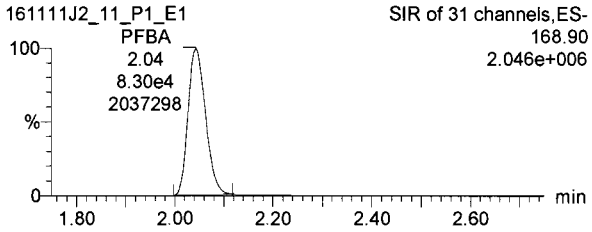

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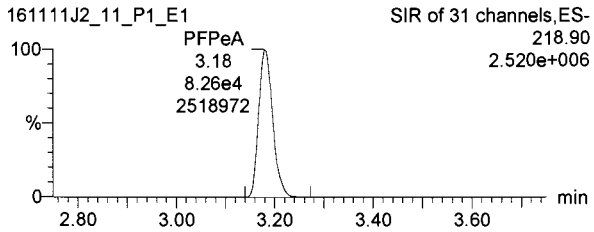

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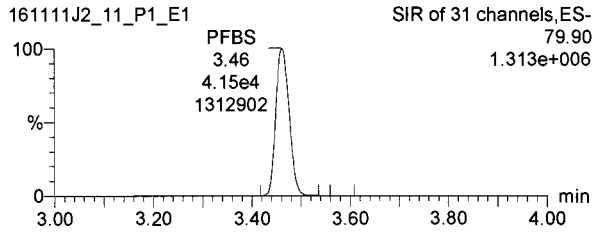

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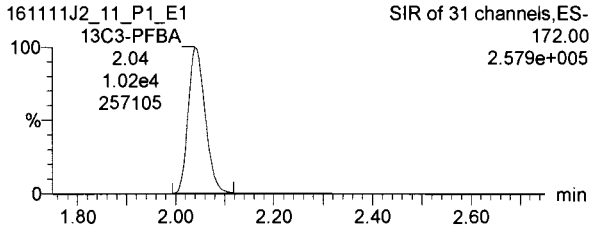

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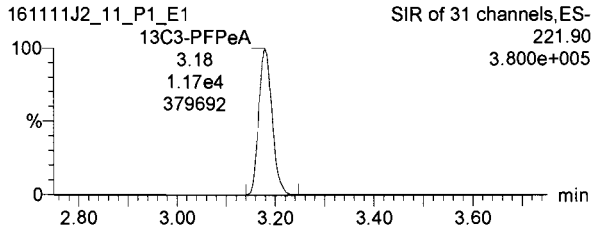

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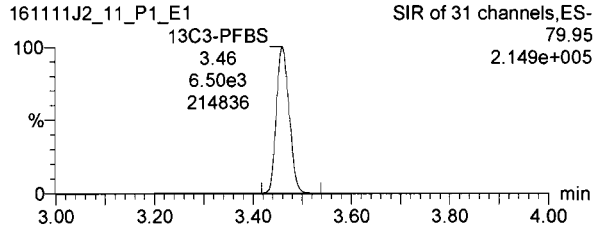

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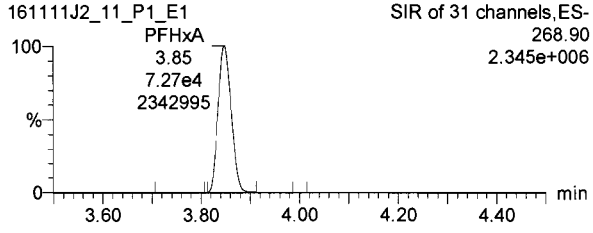

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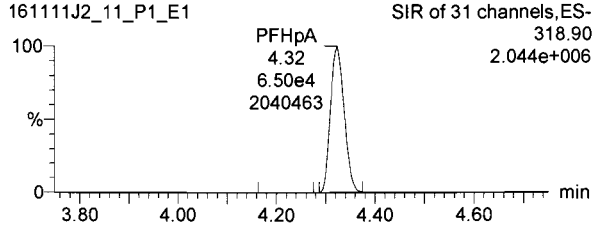

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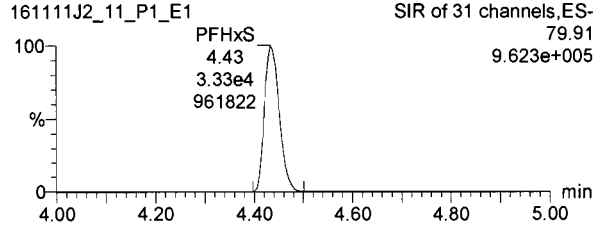

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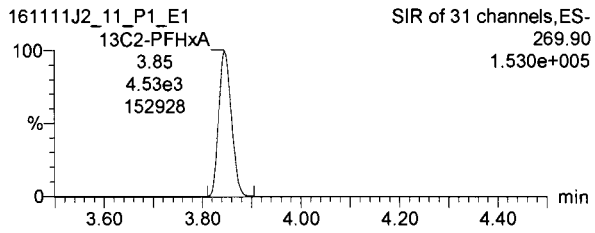

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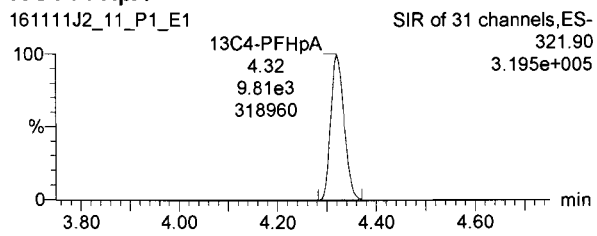

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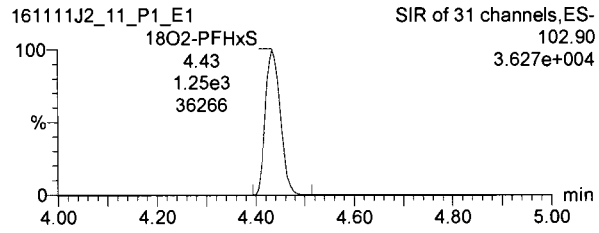

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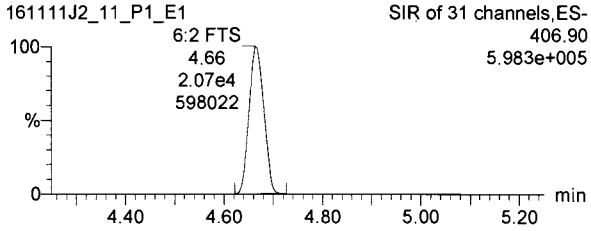
Name: 161111J2_11.wiff, Date: 11-Nov-2016, Time: 18:29:38, ID: ST161111J2-10 PFC CS5 16K1123, Description: PFC CS5 16K1123 A

6:2 FTS



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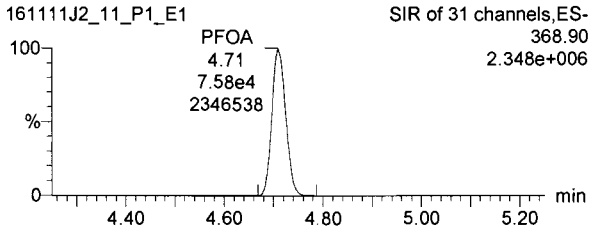

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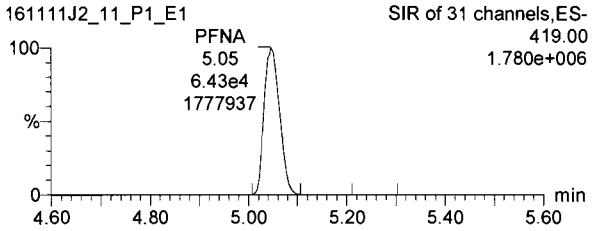
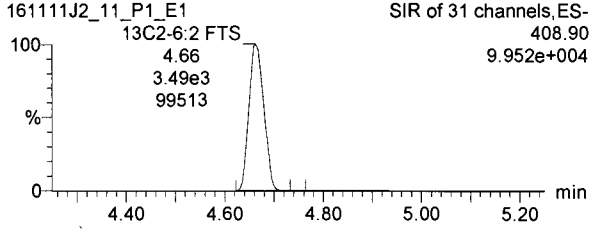


13C2-6:2 FTS



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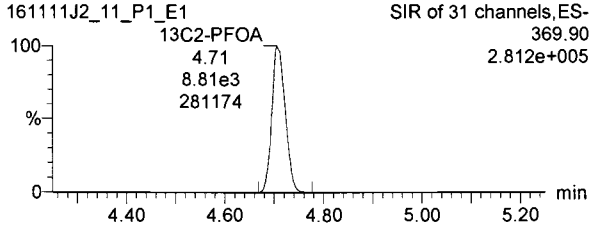

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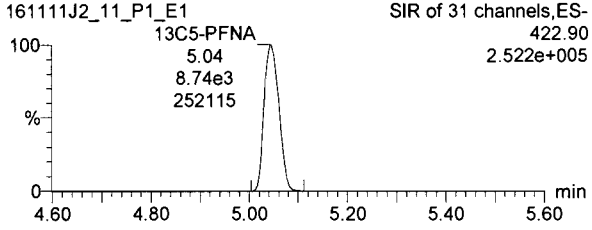

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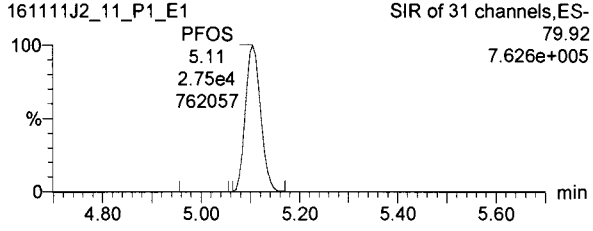

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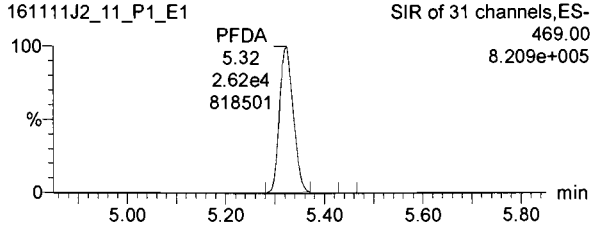
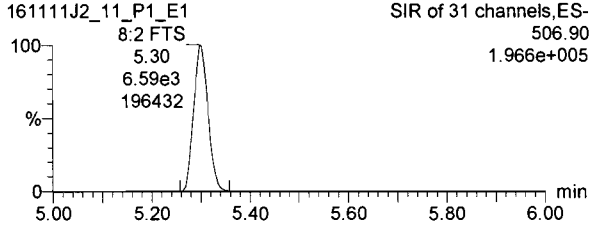


8:2 FTS



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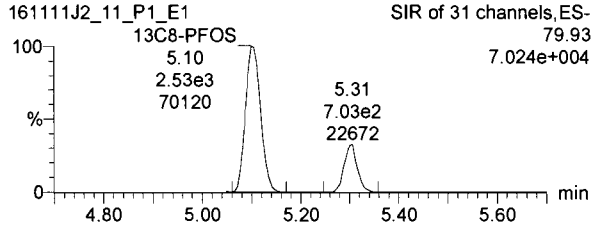

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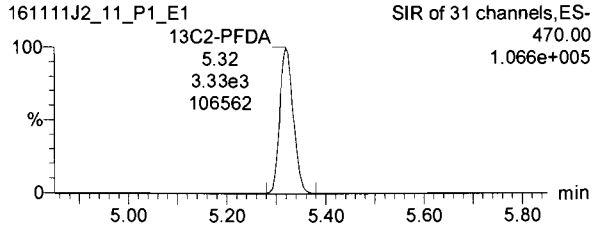
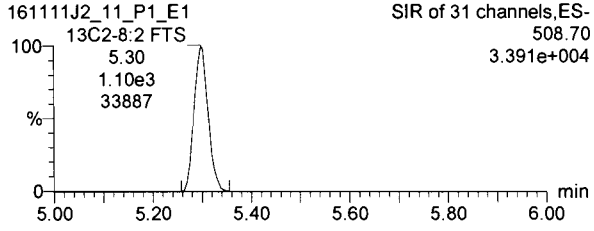


13C2-8:2 FTS



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Name: 161111J2_11.wiff, Date: 11-Nov-2016, Time: 18:29:38, ID: ST161111J2-10 PFC CS5 16K1123, Description: PFC CS5 16K1123 A

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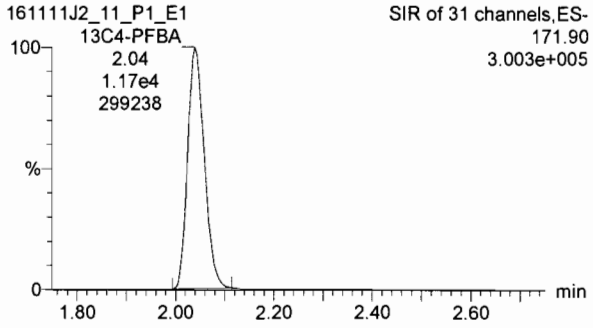

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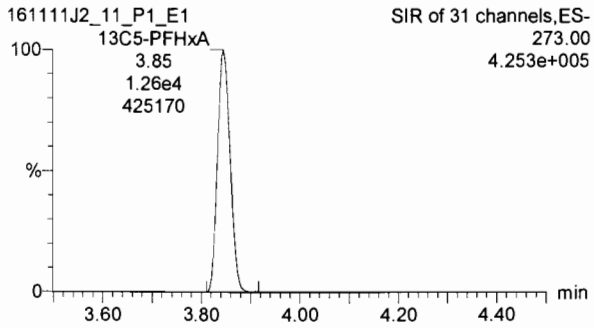

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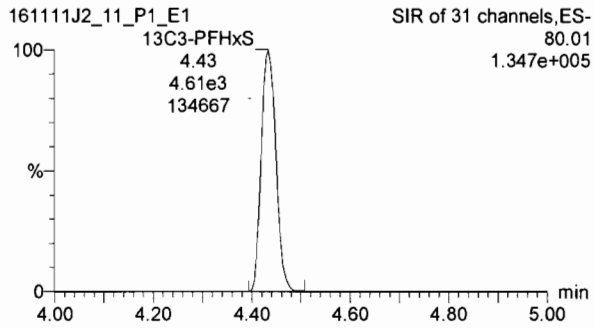

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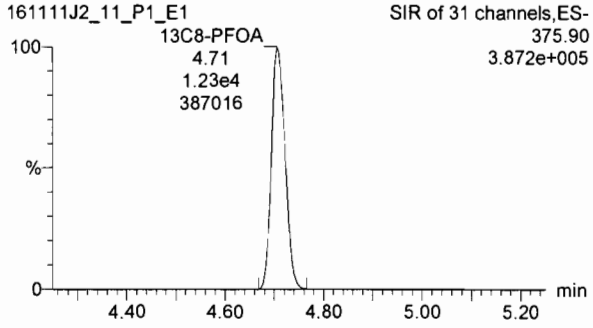

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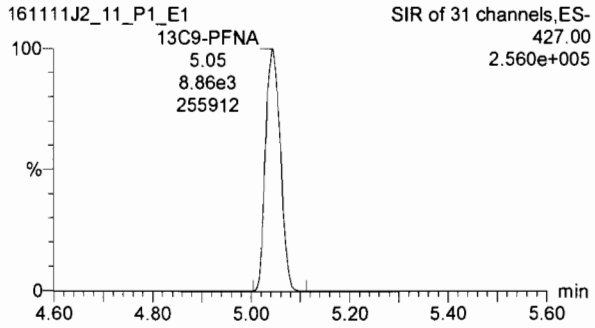

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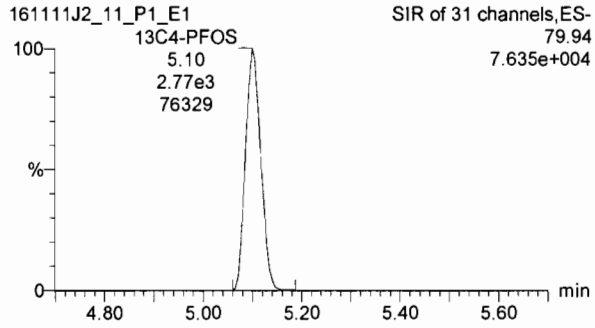

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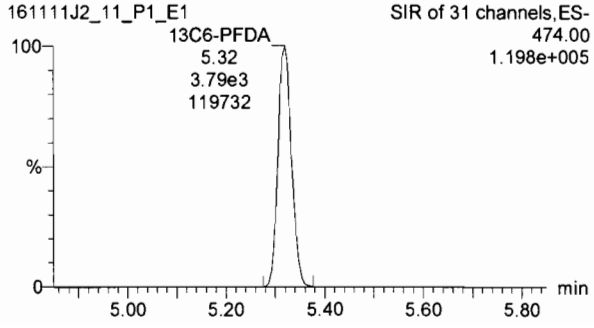

Vista Analytical Laboratory Q1

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2	2	PFPeA	218.90	1.94e4	1.18e4		1.000	3.19	22.5	89.8
3	3	PFBS	79.90	1.14e4	6.55e3		1.000	3.46	27.8	111.0
4	4	PFHxA	268.90	2.23e4	4.41e3		1.000	3.85	29.6	118.3
5	5	PFHpA	318.90	1.86e4	8.83e3		1.000	4.33	31.2	125.0
6	6	PFHxS	79.91	7.07e3	1.18e3		1.000	4.44	23.1	92.5
7	7	6:2 FTS	406.90	4.53e3	2.56e3		1.000	4.67	24.3	97.0
8	8	PFOA	368.90	1.62e4	7.16e3		1.000	4.71	22.5	90.2
9	9	PFNA	419.00	1.27e4	6.10e3		1.000	5.03	28.8	115.2
10	10	PFOS	79.92	4.58e3	2.00e3		1.000	5.09	22.7	90.9
11	11	PFDA	469.00	4.57e3	1.88e3		1.000	5.31	30.0	120.2
12	12	8:2 FTS	506.90	1.13e3	5.74e2		1.000	5.29	23.9	95.5
13	13	13C3-PFBA	172.00	1.03e4	1.15e4	0.894	1.000	2.04	12.6	100.4
14	14	13C3-PFPeA	221.90	1.18e4	1.22e4	0.945	1.000	3.19	12.9	102.8
15	15	13C3-PFBS	79.95	6.55e3	1.22e4	0.531	1.000	3.46	12.7	101.5
16	16	13C2-PFHxA	269.90	4.41e3	1.22e4	0.905	1.000	3.85	5.01	100.2
17	17	13C4-PFHpA	321.90	8.83e3	1.22e4	0.770	1.000	4.32	11.8	94.4
18	18	18O2-PFHxS	102.90	1.18e3	4.46e3	0.276	1.000	4.44	12.0	95.8
19	19	13C2-6:2 FTS	408.90	2.56e3	1.16e4	0.219	1.000	4.67	12.6	100.9
20	20	13C2-PFOA	369.90	7.16e3	1.16e4	0.663	1.000	4.71	11.6	93.1
21	21	13C5-PFNA	422.90	6.10e3	6.12e3	1.019	1.000	5.03	12.2	97.8
22	22	13C8-PFOS	79.93	2.00e3	2.16e3	0.921	1.000	5.09	12.6	100.7
23	23	13C2-PFDA	470.00	1.88e3	2.28e3	0.887	1.000	5.31	11.6	92.8
24	24	13C2-8:2 FTS	508.70	5.74e2	2.28e3	0.272	1.000	5.29	11.6	92.4
25	25	13C4-PFBA	171.90	1.15e4	1.15e4	1.000	1.000	2.04	12.5	100.0
26	26	13C5-PFHxA	273.00	1.22e4	1.22e4	1.000	1.000	3.84	12.5	100.0
27	27	13C3-PFHxS	80.01	4.46e3	4.46e3	1.000	1.000	4.44	12.5	100.0
28	28	13C8-PFOA	375.90	1.16e4	1.16e4	1.000	1.000	4.71	12.5	100.0
29	29	13C4-PFOS	79.94	2.16e3	2.16e3	1.000	1.000	5.09	12.5	100.0
30	30	13C9-PFNA	427.00	6.12e3	6.12e3	1.000	1.000	5.03	12.5	100.0
31	31	13C6-PFDA	474.00	2.28e3	2.28e3	1.000	1.000	5.30	12.5	100.0

Limits
75-125

114.1 A
114.2 A
115.4 A

PW
11/12/16

Dataset: U:\Q2.PRO\Results\161112J2\161111J2_13.qld

Last Altered: Saturday, November 12, 2016 10:56:35 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:57:30 Pacific Standard Time

Name: 161111J2_13.wiff, Date: 11-Nov-2016, Time: 18:54:07, ID: SS161111J2-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
32	32 Total PFBS	79.90		6.55e3		1.000		27.8	
33	33 Total PFHxS	79.91		1.18e3		1.000		28.0	
34	34 Total PFOA	368.90		7.16e3		1.000		26.5	
35	35 Total PFOS	79.92		2.00e3		1.000		32.1	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\161112J2\161111J2_13.qld

Last Altered: Saturday, November 12, 2016 10:56:35 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:57:30 Pacific Standard Time

Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Mixed.mdb 12 Nov 2016 10:51:05
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161111J2_13.wiff, Date: 11-Nov-2016, Time: 18:54:07, ID: SS161111J2-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	79.90	3.46	1.14e4	6.55e3	27.8

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	79.91	4.44	7.07e3	1.18e3	23.1
2	33	Total PFHxS	79.91	4.34	1.49e3	1.18e3	4.87

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	8	PFOA	368.90	4.71	1.62e4	7.16e3	22.5
2	34	Total PFOA	368.90	4.62	2.98e3	7.16e3	3.96

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	10	PFOS	79.92	5.09	4.58e3	2.00e3	22.7
2	35	Total PFOS	79.92	5.01	1.83e3	2.00e3	9.01
3	35	Total PFOS	79.92	4.89	8.54e1	2.00e3	0.328

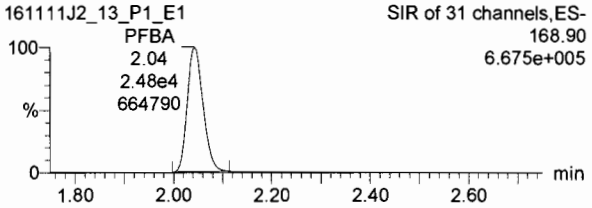
Dataset: U:\Q2.PRO\Results\161112J2\161111J2_13.qld

Last Altered: Saturday, November 12, 2016 10:56:35 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:57:42 Pacific Standard Time

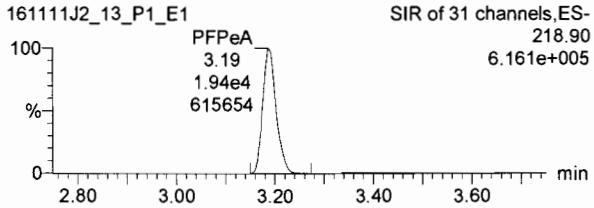
Method: U:\Q2.PRO\MethDB\PFC List 18_A No4-2FTS_Mixed.mdb 12 Nov 2016 10:51:05
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_11-11-16_L18_A.cdb 12 Nov 2016 10:16:40

Name: 161111J2_13.wiff, Date: 11-Nov-2016, Time: 18:54:07, ID: SS161111J2-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

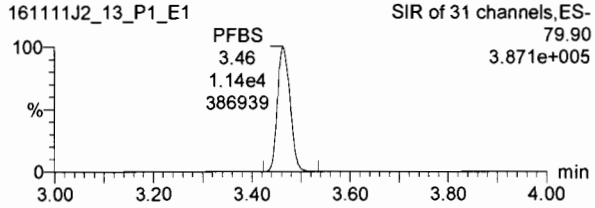
PFBA



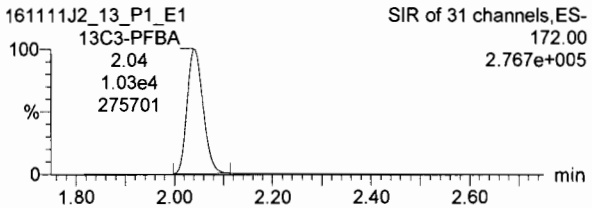
PFPeA



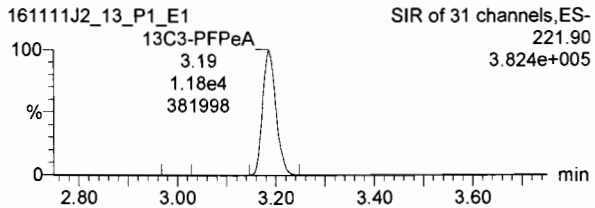
PFBS



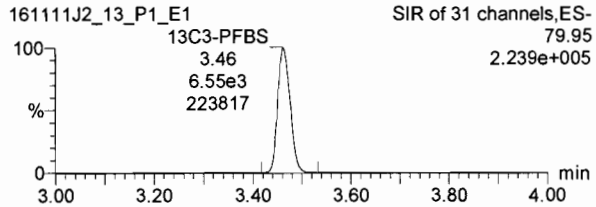
13C3-PFBA



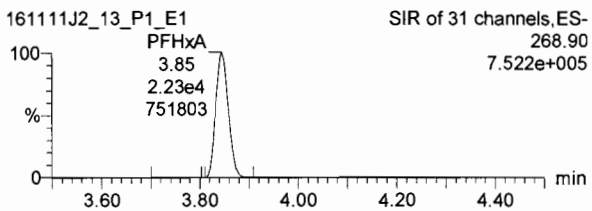
13C3-PFPeA



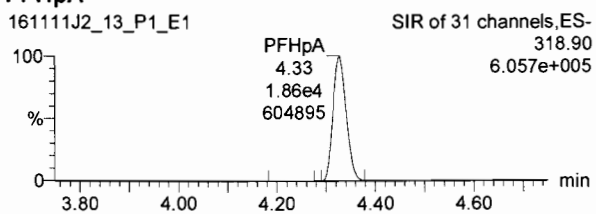
13C3-PFBS



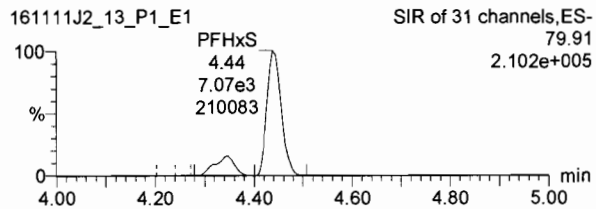
PFHxA



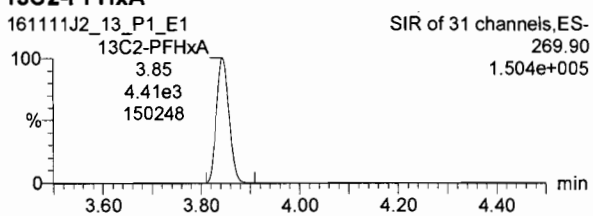
PFHpA



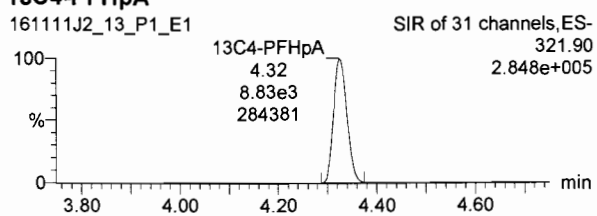
PFHxS



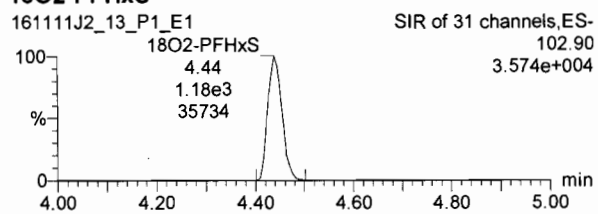
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

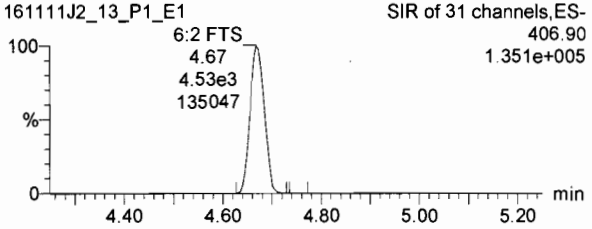


Dataset: U:\Q2.PRO\Results\161112J2\161111J2_13.qld

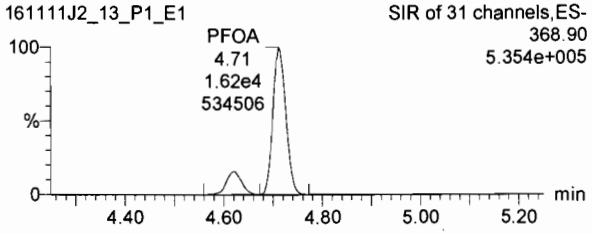
Last Altered: Saturday, November 12, 2016 10:56:35 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:57:42 Pacific Standard Time

Name: 161111J2_13.wiff, Date: 11-Nov-2016, Time: 18:54:07, ID: SS161111J2-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

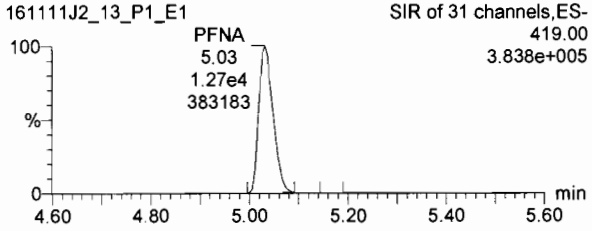
6:2 FTS



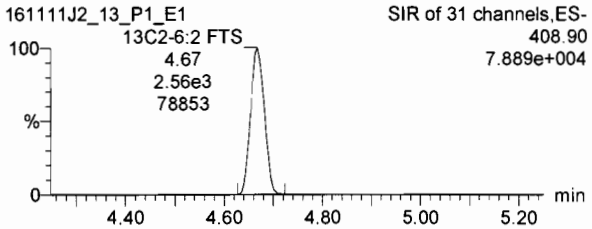
PFOA



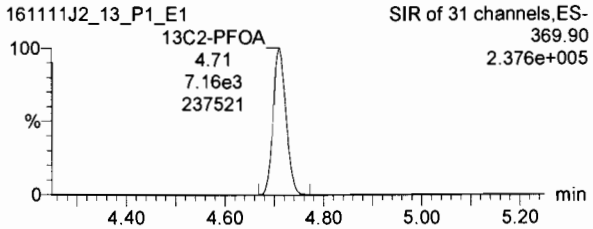
PFNA



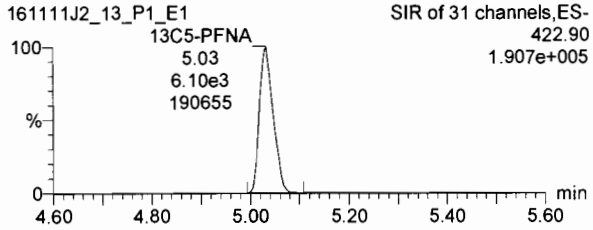
13C2-6:2 FTS



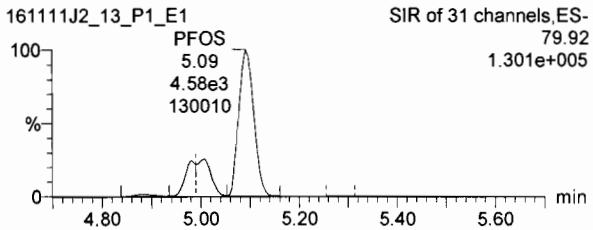
13C2-PFOA



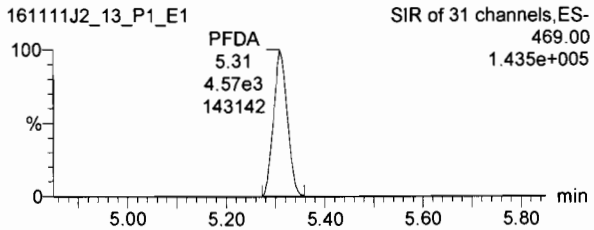
13C5-PFNA



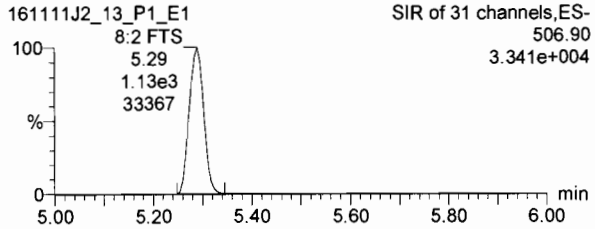
PFOS



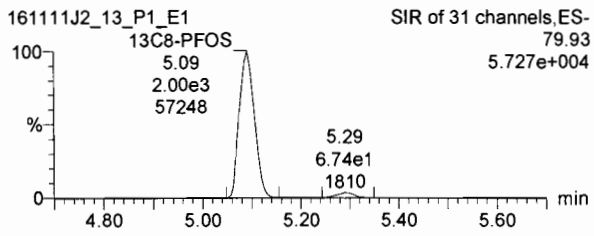
PFDA



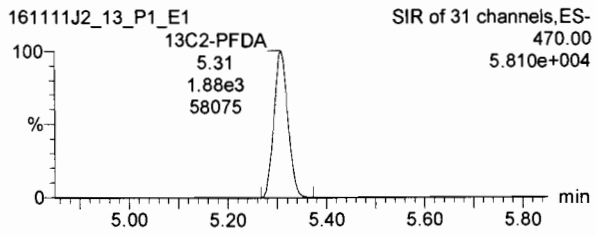
8:2 FTS



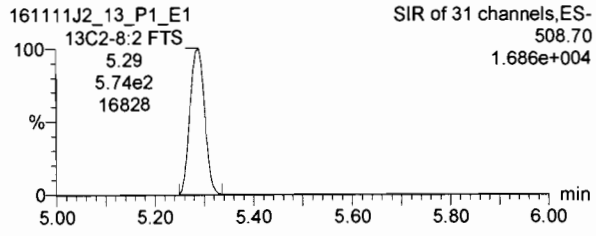
13C8-PFOS

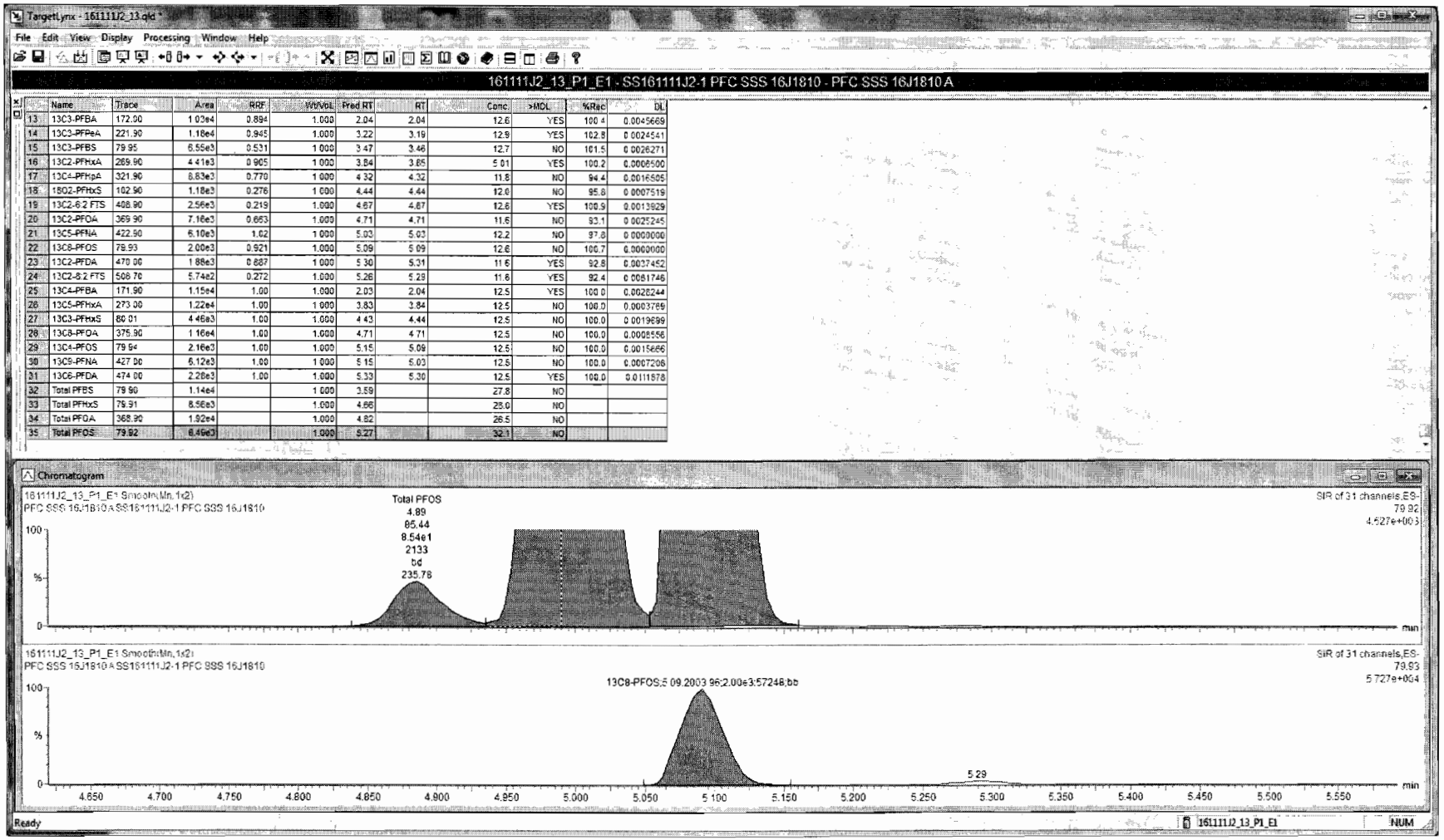


13C2-PFDA



13C2-8:2 FTS





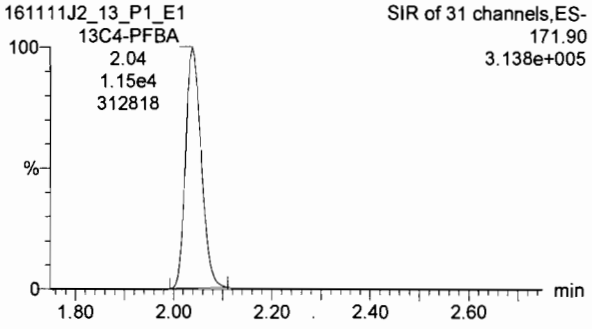
	Name	Trace	Area	RRF	%WVol	Pred RT	RT	Conc.	>MDL	%Rec	DL
13	13C3-PFBA	172.00	1.03e4	0.894	1.000	2.04	2.04	12.6	YES	100.4	0.0045669
14	13C3-PFPeA	221.90	1.18e4	0.945	1.000	3.22	3.19	12.9	YES	102.8	0.0024541
15	13C3-PFBS	79.95	6.55e3	0.531	1.000	3.47	3.46	12.7	NO	101.5	0.0026271
16	13C2-PFHxA	269.90	4.41e3	0.905	1.000	3.84	3.85	5.01	YES	100.2	0.0006500
17	13C4-PFHpA	321.90	8.83e3	0.770	1.000	4.32	4.32	11.8	NO	94.4	0.0016505
18	18O2-PFHxS	102.90	1.18e3	0.276	1.000	4.44	4.44	12.6	NO	95.8	0.0007519
19	13C2-6:2 FTS	408.90	2.56e3	0.219	1.000	4.67	4.67	12.6	YES	100.9	0.0013929
20	13C2-PFOA	369.90	7.16e3	0.663	1.000	4.71	4.71	11.6	NO	93.1	0.0025245
21	13C5-PFNA	422.90	6.10e3	1.02	1.000	5.03	5.03	12.2	NO	97.8	0.0000000
22	13C8-PFOS	79.93	2.00e3	0.921	1.000	5.09	5.09	12.6	NO	100.7	0.0000000
23	13C2-PFDA	470.00	1.88e3	0.887	1.000	5.30	5.31	11.6	YES	92.8	0.0027452
24	13C2-8:2 FTS	508.70	5.74e2	0.272	1.000	5.26	5.29	11.6	YES	92.4	0.0081746
25	13C4-PFBA	171.90	1.15e4	1.00	1.000	2.03	2.04	12.5	YES	100.0	0.0028244
26	13C5-PFHxA	273.00	1.22e4	1.00	1.000	3.83	3.84	12.5	NO	100.0	0.0003789
27	13C3-PFHxS	80.01	4.46e3	1.00	1.000	4.43	4.44	12.5	NO	100.0	0.0019699
28	13C8-PFOA	375.90	1.16e4	1.00	1.000	4.71	4.71	12.5	NO	100.0	0.0008556
29	13C4-PFOS	79.94	2.16e3	1.00	1.000	5.15	5.09	12.5	NO	100.0	0.0015666
30	13C9-PFNA	427.00	6.12e3	1.00	1.000	5.15	5.03	12.5	NO	100.0	0.0007206
31	13C6-PFDA	474.00	2.28e3	1.00	1.000	5.33	5.30	12.5	YES	100.0	0.0111878
32	Total PFBS	79.90	1.14e4		1.000	3.59		27.8	NO		
33	Total PFHxS	79.91	8.56e3		1.000	4.66		25.0	NO		
34	Total PFOA	368.90	1.92e4		1.000	4.82		26.5	NO		
35	Total PFOS	79.92	6.46e3		1.000	5.27		32.1	NO		

Dataset: U:\Q2.PRO\Results\161112J2\161111J2_13.qld

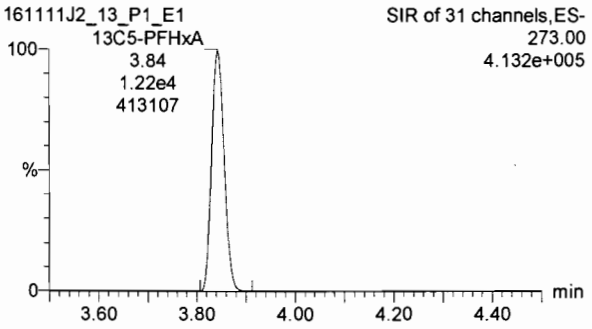
Last Altered: Saturday, November 12, 2016 10:56:35 Pacific Standard Time
Printed: Saturday, November 12, 2016 10:57:42 Pacific Standard Time

Name: 161111J2_13.wiff, Date: 11-Nov-2016, Time: 18:54:07, ID: SS161111J2-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

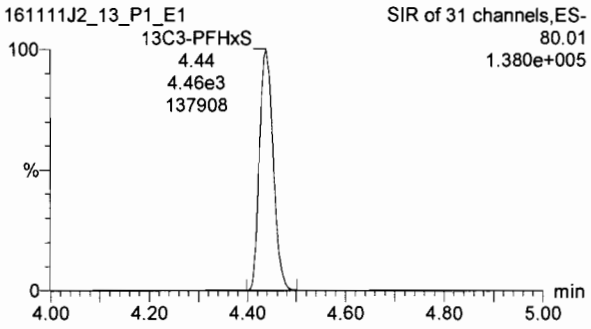
13C4-PFBA



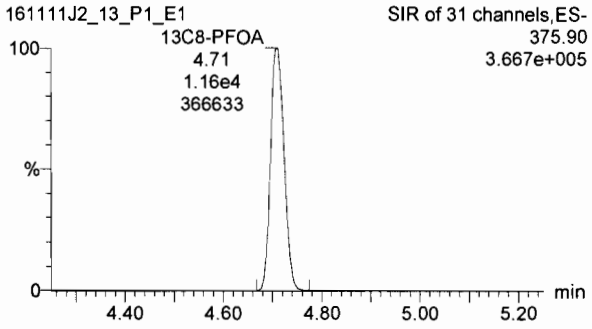
13C5-PFHxA



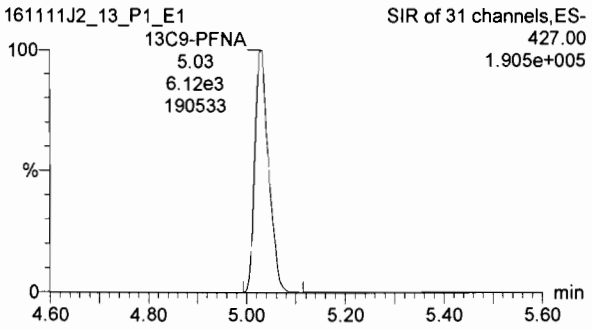
13C3-PFHxS



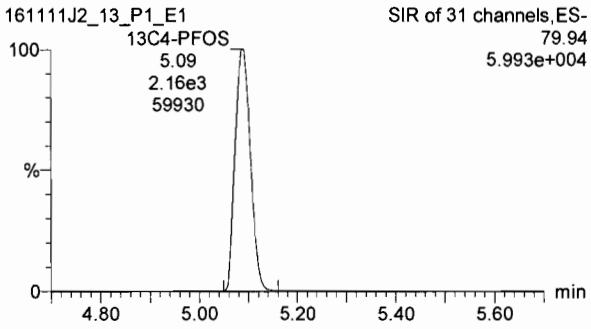
13C8-PFOA



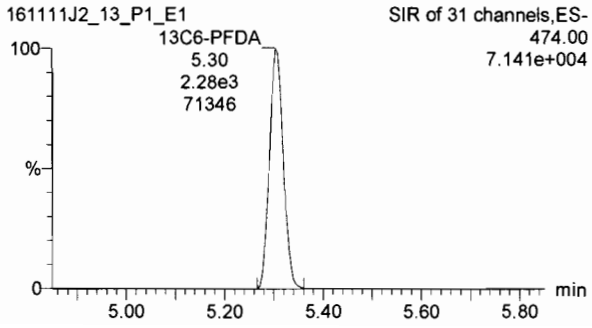
13C9-PFNA



13C4-PFOS

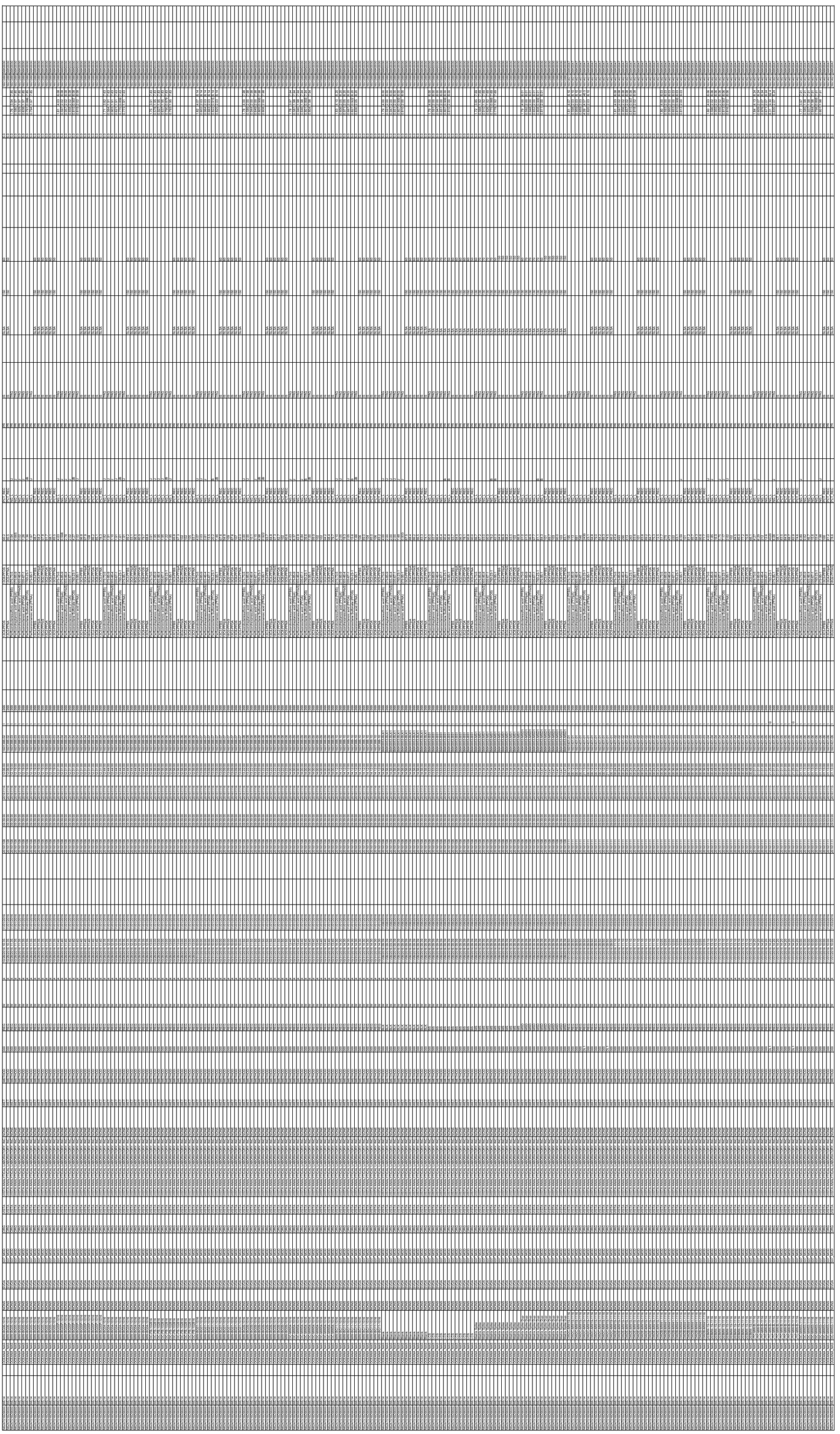


13C6-PFDA



Results

Contract_ID	EQ_CTO_Number	Phase	Installation_ID	Sample_Name	CHEM_Code	Analysis_Group	Analytical_Method	ORG_Code	Lab_Code	Lab_Name	Leachate_Method	Sample_Basis	Extraction_Method	Result_Type	Sub_QC_Type	Sample_Medium	QC_Level	Date/Time_Collected	Date_Received	Leachate_Date	Leachate_Time	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Dilution	Raw_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier	QC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	EDR_Version	DL	LOD	LOQ	SSD	Analytes_Batch	Validator_Name	Val_Date
M6247016D9000	M614		OCEANA_NAS	DW11-MW9-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	1000	REG	W		10/25/2016 10:30	10/27/2016			20161101	08:58:00	20161102	21:48:00	19013700-01	40	9999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	6570		NG/L			PR	TRG								8.0	157.5	216	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:30	10/27/2016			20161101	08:58:00	20161102	21:48:00	19013700-01	40	9999			Perfluoroheptanoic acid (PFHpA)	375-85-9	2200		NG/L			PR	TRG								8.0	37.1	79.4	216	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:30	10/27/2016			20161101	08:58:00	20161102	21:48:00	19013700-01	40	9999			Perfluorononanoic acid (PFNA)	375-95-1	8590		NG/L			PR	TRG								8.0	25.5	79.4	216	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:30	10/27/2016			20161101	08:58:00	20161102	21:48:00	19013700-01	40	9999			Perfluorooctane Sulfonate (PFOS)	1763-23-1	151000		NG/L			PR	TRG								8.0	32.1	55.7	216	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:30	10/27/2016			20161101	08:58:00	20161102	21:48:00	19013700-01	40	9999			Perfluorooctanoic acid (PFOA)	335-67-1	956		NG/L			PR	TRG								8.0	33.7	79.4	216	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:30	10/27/2016			20161101	08:58:00	20161102	21:48:00	19013700-01	40	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	1190		NG/L			PR	TRG								8.0	26.5	79.4	216	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			Perfluoroheptanoic acid (PFHpA)	375-85-9	3940		NG/L			PR	TRG								8.0	23.5	80.6	323	19013701	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	24200		NG/L			PR	TRG								8.0	26.3	80.6	323	19013701	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			Perfluorooctanoic acid (PFOA)	335-67-1	10100		NG/L	J		PR	TRG								8.0	26.3	80.6	323	19013701	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	14400		NG/L			PR	TRG								8.0	23.5	80.6	323	19013701	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			Perfluorononanoic acid (PFNA)	375-95-1	978		NG/L			PR	TRG								8.0	32.7	80.6	323	19013701	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	89.7		NG/L			PR	REC																										
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			Perfluorooctanoic acid (PFOA)	335-67-1	1130		NG/L			PR	REC			SLSA	150	60															
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	82.8		NG/L			PR	REC			SLSA	150	60															
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			Perfluorooctanoic acid (PFOA)	335-67-1	1010		NG/L			PR	REC			SLSA	150	60															
M6247016D9000	M614		OCEANA_NAS	DW11-MW9P-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 10:35	10/27/2016			20161101	08:58:00	20161104	16:13:00	19013700-02	40	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	81.4		NG/L			PR	REC			SLSA	150	60															
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorooctanesulfonic acid (PFOS)	375-73-5	1700		NG/L			PR	TRG								8.0	36.4	81.3	163	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluoroheptanoic acid (PFHpA)	375-85-9	2830		NG/L			PR	TRG								8.0	14.0	40.7	163	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	16900		NG/L			PR	TRG								8.0	19.3	40.7	163	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorooctanoic acid (PFOA)	335-67-1	5380		NG/L	J		PR	TRG								8.0	19.3	40.7	163	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	19800		NG/L			PR	TRG								8.0	16.4	18.3	163	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	QL1	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorononanoic acid (PFNA)	375-95-1	151		NG/L			PR	TRG								8.0	8.54	20.3	163	19013700	SWK0005		
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	1000	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	1380		NG/L			PR	TRG								8.0											
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	1000	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorooctanoic acid (PFOA)	335-67-1	1020		NG/L	J		PR	TRG								8.0											
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	1000	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS)	39108-34-4	1020		NG/L			PR	REC			SLSA	150	60															
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	1000	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorononanoic acid (PFNA)	375-95-1	1020		NG/L			PR	REC			SLSA	150	60															
M6247016D9000	M614		OCEANA_NAS	DW11-MW9R-1016	NONS	SVOA	SIM_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	1000	REG	W		10/25/2016 11:20	10/27/2016			20161101	08:58:00	20161102	22:49:00	19013700-03	20	9999			Perfluorooctanoic acid (PFOA)	335-67-1	1020		NG/L	J		PR	REC			SLSA	150	60			



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Data Validation Summary

Oceana CTO-WE44, NALF Fentress

TO: Tiffany Hill/CVO

Anita Dodson/VBO

FROM: Tiffany McGlynn/GNV

CC: Herb Kelly/GNV

DATE: December 9, 2016

Introduction

The following data validation report discusses the data validation process and findings for Vista Analytical in the Sample Delivery Groups (SDGs) listed in the table below.

Samples were analyzed using the following analytical methods:

- 537 MOD Perfluorinated Hydrocarbons

The samples included in these SDGs are listed in the table below.

SDG	Sample Name	Matrix
1601370	OW11-MW9-1016	Water
1601370	OW11-MW9P-1016	Water
1601370	OW11-MW8-1016	Water
1601370	OW11-MW1-1016	Water
1601370	OW11-MW7-1016	Water
1601370	OW11-MW5-1016	Water
1601370	OW11-MW6-1016	Water
1601370	OW11-MW4-1016	Water
1601370	MW-BG13-1016	Water
1601370	MW-BG13P-1016	Water
1601370	MW-BG12-1016	Water
1601388	MW-BG07-1016	Water

SDG	Sample Name	Matrix
1601388	MW-BG06-1016	Water
1601388	MW-BG05-1016	Water
1601388	MW-BG05P-1016	Water
1601388	MW-BG04-1016	Water
1601388	OC-FB-102816	Water
1601388	MW-BG01-1016	Water
1601388	MW-BG09-1016	Water
1601388	OC-MW04-1016	Water
1601388	MW-BG11-1016	Water
1601401	203MW-19-1116	Water
1601401	JTC-MW-B-1116	Water
1601401	MW-BG10-1116	Water
1601401	OW2C-MW19-1116	Water
1601401	OW2E-MW19-1116	Water
1601401	OW2B-MW41-1116	Water
1601401	OC-EB-110216	Water
1601401	OC-MW03-1116	Water
1601401	OC-MW01-1116	Water
1601401	OC-FB-110216	Water
1601401	OC-MW02-1116	Water
1601401	OW26-MW1-1116	Water
1601401	OW26-MW1P 1116	Water
1601420	FTWG-MW-02-1116	Water
1601420	OC-EB110816	Water
1601420	OC-FB110816	Water
1601437	OW11-MW1-1016	Water
1601437	OW11-MW4-1016	Water
1601437	OW11-MW5-1016	Water
1601437	OW11-MW6-1016	Water
1601437	OW11-MW7-1016	Water
1601437	OW11-MW9-1016	Water
1601437	OW11-MW9P-1016	Water

Data Evaluation

Data was evaluated in accordance with the analytical methods and with the criteria found in the following guidance documents: Sampling and Analysis Plan Basewide Site Inspection for Perfluorinated Compounds Naval Air Station Oceana Virginia Beach, Virginia CTO-WE44 (October 2016) and National Functional Guidelines for Superfund Organic Methods Data Review (September 2016), as applicable. The samples were evaluated based on the following criteria:

- Data Completeness
- Technical Holding Times
- Tuning Instrument
- Initial/Continuing Calibrations
- Blanks
- Internal Standards
- Laboratory Control Samples
- Isotope Dilution Analyte
- Field Duplicates
- Identification/Quantitation
- Reporting Limits

Overall Evaluation of Data/Potential Usability Issues

Specific details regarding qualification of the data are addressed in the sections below. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte, the validator has chosen the qualifier that best indicates possible bias in the results and qualified these data accordingly.

Data Completeness

The SDG was received complete and intact.

Technical Holding Times

According to the chain of custody records, sampling was performed on 10/25/16 through 11/8/16. Samples were received at the laboratory 10/27/16 through 11/9/16. All sample preparation and analyses were originally performed within holding time requirements with the exception of selected samples in SDG 1601437, which were re-extracted 15 days out of holding time. These samples were reanalyzed for Perfluorooctane Sulfonate (PFOS) only due to the high concentration detected in the original sample analysis. Affected data are summarized in **Attachment 1**.

Blanks

Target compounds were detected in the method blanks, equipment blanks, and field blanks as listed in the table below. Affected data are summarized in **Attachment 1**.

Blank ID	Compound	Conc.	Units
B6K0053-BLK1	Perfluorooctane Sulfonate (PFOS)	1.48	NG_L
B6K0124-BLK1	Perfluorooctane Sulfonate (PFOS)	1.71	NG_L
B6K0001-BLK1	Perfluorooctanoic acid (PFOA)	0.818	NG_L
B6K0053-BLK1	Perfluorononanoic acid (PFNA)	0.933	NG_L
OC-FB-110216	Perfluorooctanoic acid (PFOA)	0.691	NG_L
OC-EB-110216	Perfluorooctanoic acid (PFOA)	0.731	NG_L
OC-FB110816	Perfluorononanoic acid (PFNA)	0.866	NG_L
B6K0124-BLK1	Perfluoroheptanoic acid (PFHpA)	0.802	NG_L

Field Duplicate Precision

Native sample MW-BG13-1016 and field duplicate MW-BG13P-1016 did not meet precision criteria for perfluorohexanesulfonic acid (PFHxS) and PFOS. Affected data are summarized in **Attachment 1**.

Internal Standards

Sample MW-BG13P-1016 exhibited low recoveries in the internal standards. Samples OW26-MW1-1116 and OW26-MW1P 1116 exhibited high recoveries in the internal standards. Affected data are summarized in **Attachment 1**.

Conclusion

These data can be used in the project decision-making process as qualified by the data quality evaluation process.

Please do not hesitate to contact us about this validation report.

Sincerely,

Tiffany McGlynn

Qualification Flags

Exclude	More appropriate data exist for this analyte.
R	Data were rejected for use.
UL	Analyte not detected, quantitation limit is potentially biased low.
UJ	Analyte not detected, estimated quantitation limit.
U	Analyte not detected.
B	Not detected substantially above the level reported in laboratory or field blanks.
L	Analyte present, estimated value potentially biased low.
K	Analyte present, estimated value potentially biased high.
N	Analyte identification presumptive; no second column analysis performed or GC/MS tentative identification.
J	Analyte present, estimated value.
NJ	Analysis indicates the presence of an analyte that was "tentatively identified" and the associated value represents its approximate concentration.
None	Placeholder for calculating quality control issues that do not require flagging.
=	Analyte was detected at a concentration greater than the quantitation limit.

Qualifier Code Reference

Value	Description
%SOL	High Moisture content
2C	Second Column – Poor Dual Column Reproducibility
2S	Second Source – Bad reproducibility between tandem detectors
BD	Blank Spike/Blank Spike Duplicate(LCS/LCSD) Precision
BRL	Below Reporting Limit
BSH	Blank Spike/LCS – High Recovery
BSL	Blank Spike/LCS – Low Recovery
CC	Continuing Calibration
CCBL	Continuing Calibration Blank Contamination
CCH	Continuing Calibration Verification – High Recovery
CCL	Continuing Calibration Verification – Low Recovery
DL	Redundant Result – due to Dilution
EBL	Equipment Blank Contamination
EMPC	Estimated Possible Maximum Concentration
ESH	Extraction Standard - High Recovery
ESL	Extraction Standard - Low Recovery
FBL	Field Blank Contamination
FD	Field Duplicate
HT	Holding Time
ICB	Initial Calibration – Bad Linearity or Curve Function
ICH	Initial Calibration – High Relative Response Factors
ICL	Initial Calibration – Low Relative Response Factors
IR15	Ion ratio exceeds +/- 15% difference
ISH	Internal Standard – High Recovery
ISL	Internal Standard – Low Recovery
LD	Lab Duplicate Reproducibility
LR	Concentration Exceeds Linear Range
MBL	Method Blank Contamination
MDP	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix interference obscuring the raw data

Value	Description
MSH	Matrix Spike and/or Matrix Spike Duplicate – High Recovery
MSL	Matrix Spike and/or Matrix Spike Duplicate – Low Recovery
OT	Other
PD	Pesticide Degradation
RE	Redundant Result - due to Reanalysis or Re-extraction
SD	Serial Dilution Reproducibility
SSH	Spiked Surrogate – High Recovery
SSL	Spiked Surrogate – Low Recovery
TBL	Trip Blank Contamination
TN	Tune

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
203MW-19	SWMU 00011, AOC UST 000002	OCEANA_NAS	WLM	Monitoring well	1601401	12201499.31	3467100.19	Perfluoroalkyl Compounds	203MW-19-1116	WG	Ground water	01-Nov-16
OC-MW03	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12202980.67	3461415.27	Perfluoroalkyl Compounds	OC-MW03-1116	WG	Ground water	01-Nov-16
OC-MW02	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211305.62	3470257.28	Perfluoroalkyl Compounds	OC-MW02-1116	WG	Ground water	01-Nov-16
OW2E-MW19	SWMU 00031	OCEANA_NAS	WLM	Monitoring well	1601401	12206240.93	3465874.04	Perfluoroalkyl Compounds	OW2E-MW19-1116	WG	Ground water	01-Nov-16
OC-MW01	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211050.89	3473427.26	Perfluoroalkyl Compounds	OC-MW01-1116	WG	Ground water	01-Nov-16
OC-MW01	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211050.89	3473427.26	Perfluoroalkyl Compounds	OC-MW01-1116	WG	Ground water	01-Nov-16
OC-MW02	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211305.62	3470257.28	Perfluoroalkyl Compounds	OC-MW02-1116	WG	Ground water	01-Nov-16
JTC-MW-B	SWMU 00011, AOC UST 000018	OCEANA_NAS	WLM	Monitoring well	1601401	12201566.69	3461241.38	Perfluoroalkyl Compounds	JTC-MW-B-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1-1116	WG	Ground water	01-Nov-16
OC-MW02	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211305.62	3470257.28	Perfluoroalkyl Compounds	OC-MW02-1116	WG	Ground water	01-Nov-16
OW2C-MW19	SWMU 00029	OCEANA_NAS	WLM	Monitoring well	1601401	12204694.36	3464258.958	Perfluoroalkyl Compounds	OW2C-MW19A-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1P-1116	WG	Ground water	01-Nov-16
OW2B-MW41	SWMU 00028	OCEANA_NAS	WLM	Monitoring well	1601401	12208169.58	3465668.04	Perfluoroalkyl Compounds	OW2B-MW41A-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-FB-110216	WQ	Water for QC samples	02-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-EB-110216	WQ	Water for QC samples	02-Nov-16
MW-BG10	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601401	12202959.85	3457532.263	Perfluoroalkyl Compounds	MW-BG10-1116	WG	Ground water	02-Nov-16
JTC-MW-B	SWMU 00011, AOC UST 000018	OCEANA_NAS	WLM	Monitoring well	1601401	12201566.69	3461241.38	Perfluoroalkyl Compounds	JTC-MW-B-1116	WG	Ground water	01-Nov-16
JTC-MW-B	SWMU 00011, AOC UST 000018	OCEANA_NAS	WLM	Monitoring well	1601401	12201566.69	3461241.38	Perfluoroalkyl Compounds	JTC-MW-B-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-EB-110216	WQ	Water for QC samples	02-Nov-16
OW2E-MW19	SWMU 00031	OCEANA_NAS	WLM	Monitoring well	1601401	12206240.93	3465874.04	Perfluoroalkyl Compounds	OW2E-MW19-1116	WG	Ground water	01-Nov-16
OW2E-MW19	SWMU 00031	OCEANA_NAS	WLM	Monitoring well	1601401	12206240.93	3465874.04	Perfluoroalkyl Compounds	OW2E-MW19-1116	WG	Ground water	01-Nov-16
OW2E-MW19	SWMU 00031	OCEANA_NAS	WLM	Monitoring well	1601401	12206240.93	3465874.04	Perfluoroalkyl Compounds	OW2E-MW19-1116	WG	Ground water	01-Nov-16
203MW-19	SWMU 00011, AOC UST 000002	OCEANA_NAS	WLM	Monitoring well	1601401	12201499.31	3467100.19	Perfluoroalkyl Compounds	203MW-19-1116	WG	Ground water	01-Nov-16
203MW-19	SWMU 00011, AOC UST 000002	OCEANA_NAS	WLM	Monitoring well	1601401	12201499.31	3467100.19	Perfluoroalkyl Compounds	203MW-19-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-EB-110216	WQ	Water for QC samples	02-Nov-16
OW2E-MW19	SWMU 00031	OCEANA_NAS	WLM	Monitoring well	1601401	12206240.93	3465874.04	Perfluoroalkyl Compounds	OW2E-MW19-1116	WG	Ground water	01-Nov-16
OW2B-MW41	SWMU 00028	OCEANA_NAS	WLM	Monitoring well	1601401	12208169.58	3465668.04	Perfluoroalkyl Compounds	OW2B-MW41A-1116	WG	Ground water	01-Nov-16
MW-BG10	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601401	12202959.85	3457532.263	Perfluoroalkyl Compounds	MW-BG10-1116	WG	Ground water	02-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-EB-110216	WQ	Water for QC samples	02-Nov-16
203MW-19	SWMU 00011, AOC UST 000002	OCEANA_NAS	WLM	Monitoring well	1601401	12201499.31	3467100.19	Perfluoroalkyl Compounds	203MW-19-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1P-1116	WG	Ground water	01-Nov-16
203MW-19	SWMU 00011, AOC UST 000002	OCEANA_NAS	WLM	Monitoring well	1601401	12201499.31	3467100.19	Perfluoroalkyl Compounds	203MW-19-1116	WG	Ground water	01-Nov-16
OW2C-MW19	SWMU 00029	OCEANA_NAS	WLM	Monitoring well	1601401	12204694.36	3464258.958	Perfluoroalkyl Compounds	OW2C-MW19A-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-FB-110216	WQ	Water for QC samples	02-Nov-16
JTC-MW-B	SWMU 00011, AOC UST 000018	OCEANA_NAS	WLM	Monitoring well	1601401	12201566.69	3461241.38	Perfluoroalkyl Compounds	JTC-MW-B-1116	WG	Ground water	01-Nov-16
OW2B-MW41	SWMU 00028	OCEANA_NAS	WLM	Monitoring well	1601401	12208169.58	3465668.04	Perfluoroalkyl Compounds	OW2B-MW41A-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-EB-110216	WQ	Water for QC samples	02-Nov-16
OC-MW01	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211050.89	3473427.26	Perfluoroalkyl Compounds	OC-MW01-1116	WG	Ground water	01-Nov-16
MW-BG10	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601401	12202959.85	3457532.263	Perfluoroalkyl Compounds	MW-BG10-1116	WG	Ground water	02-Nov-16
OC-MW01	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211050.89	3473427.26	Perfluoroalkyl Compounds	OC-MW01-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1-1116	WG	Ground water	01-Nov-16
OW2C-MW19	SWMU 00029	OCEANA_NAS	WLM	Monitoring well	1601401	12204694.36	3464258.958	Perfluoroalkyl Compounds	OW2C-MW19A-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1P-1116	WG	Ground water	01-Nov-16
OC-MW01	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211050.89	3473427.26	Perfluoroalkyl Compounds	OC-MW01-1116	WG	Ground water	01-Nov-16

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
JTC-MW-B	SWMU 00011, AOC UST 000018	OCEANA_NAS	WLM	Monitoring well	1601401	12201566.69	3461241.38	Perfluoroalkyl Compounds	JTC-MW-B-1116	WG	Ground water	01-Nov-16
OC-MW03	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12202980.67	3461415.27	Perfluoroalkyl Compounds	OC-MW03-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1-1116	WG	Ground water	01-Nov-16
OC-MW02	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211305.62	3470257.28	Perfluoroalkyl Compounds	OC-MW02-1116	WG	Ground water	01-Nov-16
OC-MW03	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12202980.67	3461415.27	Perfluoroalkyl Compounds	OC-MW03-1116	WG	Ground water	01-Nov-16
OC-MW03	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12202980.67	3461415.27	Perfluoroalkyl Compounds	OC-MW03-1116	WG	Ground water	01-Nov-16
OW2B-MW41	SWMU 00028	OCEANA_NAS	WLM	Monitoring well	1601401	12208169.58	3465668.04	Perfluoroalkyl Compounds	OW2B-MW41A-1116	WG	Ground water	01-Nov-16
MW-BG10	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601401	12202959.85	3457532.263	Perfluoroalkyl Compounds	MW-BG10-1116	WG	Ground water	02-Nov-16
OC-MW02	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211305.62	3470257.28	Perfluoroalkyl Compounds	OC-MW02-1116	WG	Ground water	01-Nov-16
OW2B-MW41	SWMU 00028	OCEANA_NAS	WLM	Monitoring well	1601401	12208169.58	3465668.04	Perfluoroalkyl Compounds	OW2B-MW41A-1116	WG	Ground water	01-Nov-16
OW2B-MW41	SWMU 00028	OCEANA_NAS	WLM	Monitoring well	1601401	12208169.58	3465668.04	Perfluoroalkyl Compounds	OW2B-MW41A-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-FB-110216	WQ	Water for QC samples	02-Nov-16
OW2C-MW19	SWMU 00029	OCEANA_NAS	WLM	Monitoring well	1601401	12204694.36	3464258.958	Perfluoroalkyl Compounds	OW2C-MW19A-1116	WG	Ground water	01-Nov-16
OC-MW03	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12202980.67	3461415.27	Perfluoroalkyl Compounds	OC-MW03-1116	WG	Ground water	01-Nov-16
JTC-MW-B	SWMU 00011, AOC UST 000018	OCEANA_NAS	WLM	Monitoring well	1601401	12201566.69	3461241.38	Perfluoroalkyl Compounds	JTC-MW-B-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1P-1116	WG	Ground water	01-Nov-16
OW2C-MW19	SWMU 00029	OCEANA_NAS	WLM	Monitoring well	1601401	12204694.36	3464258.958	Perfluoroalkyl Compounds	OW2C-MW19A-1116	WG	Ground water	01-Nov-16
OC-MW03	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12202980.67	3461415.27	Perfluoroalkyl Compounds	OC-MW03-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-FB-110216	WQ	Water for QC samples	02-Nov-16
OC-MW02	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211305.62	3470257.28	Perfluoroalkyl Compounds	OC-MW02-1116	WG	Ground water	01-Nov-16
MW-BG10	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601401	12202959.85	3457532.263	Perfluoroalkyl Compounds	MW-BG10-1116	WG	Ground water	02-Nov-16
203MW-19	SWMU 00011, AOC UST 000002	OCEANA_NAS	WLM	Monitoring well	1601401	12201499.31	3467100.19	Perfluoroalkyl Compounds	203MW-19-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1P-1116	WG	Ground water	01-Nov-16
MW-BG10	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601401	12202959.85	3457532.263	Perfluoroalkyl Compounds	MW-BG10-1116	WG	Ground water	02-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-FB-110216	WQ	Water for QC samples	02-Nov-16
OW2E-MW19	SWMU 00031	OCEANA_NAS	WLM	Monitoring well	1601401	12206240.93	3465874.04	Perfluoroalkyl Compounds	OW2E-MW19-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1-1116	WG	Ground water	01-Nov-16
OW2C-MW19	SWMU 00029	OCEANA_NAS	WLM	Monitoring well	1601401	12204694.36	3464258.958	Perfluoroalkyl Compounds	OW2C-MW19A-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1-1116	WG	Ground water	01-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-EB-110216	WQ	Water for QC samples	02-Nov-16
		OCEANA_NAS			1601401			Perfluoroalkyl Compounds	OC-FB-110216	WQ	Water for QC samples	02-Nov-16
OC-MW01	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601401	12211050.89	3473427.26	Perfluoroalkyl Compounds	OC-MW01-1116	WG	Ground water	01-Nov-16
OW26-MW1	SWMU 00026	OCEANA_NAS	WLM	Monitoring well	1601401	12206854.25	3465595.32	Perfluoroalkyl Compounds	OW26-MW1P-1116	WG	Ground water	01-Nov-16