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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Combined Level 2 and Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1700845

Naval Air Warfare Center Trenton
Trenton, New Jersey

August 2019

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N62376.SF.001172
NAWC TRENTON
5090.3c

LABORATORY DATA PACKAGE, 1700792, NAWC TRENTON, NJ
07/22/2017
VISTA ANALYTICAL LABORATORY

July 22, 2017

Vista Work Order No. 1700792

Ms. Mary Mang
Tetra Tech
661 Andersen Drive, Foster Plaza 7
Pittsburgh, PA 15220

Dear Ms. Mang,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 29, 2017. This sample set was analyzed on a standard turn-around time, under your Project Name 'NAWC Trenton'.

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 J. Volpendesta 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. 1700792
Case Narrative

Sample Condition on Receipt:

Eleven 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. A sample ID for "FRB-20170628" was resolved by following the Chain-of-Custody format, as requested.

Analytical Notes:

Modified EPA Method 537

The aqueous samples were extracted and analyzed for a selected list of 14 PFAS using Modified EPA Method 537.

Samples "West Ditch In-20170627", "MH388.9-20170628" and "RB01-20170628" were re-extracted due to very low recoveries of 13C2-PFDoA and 13C2-PFTeDA in the original extractions. The PFDoA, PFTrDA and PFTeDA results are reported from prep batch B7G0033 for those samples.

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 each preparation batch. No analytes were detected in the Method Blanks 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
1700792-01	West Ditch In-20170627	Modified EPA Method 537	13C2-PFDoA	H	32.5
1700792-01	West Ditch In-20170627	Modified EPA Method 537	13C2-PFTeDA	H	27.8
1700792-03	Interceptor-20170628	Modified EPA Method 537	d5-EtFOSAA	H	46.8
1700792-03	Interceptor-20170628	Modified EPA Method 537	13C2-PFDoA	H	21.4
1700792-03	Interceptor-20170628	Modified EPA Method 537	13C2-PFTeDA	H	20.1
1700792-04	Roof Drain-20170628	Modified EPA Method 537	13C2-PFDoA	H	29.8
1700792-04	Roof Drain-20170628	Modified EPA Method 537	13C2-PFTeDA	H	40.5
1700792-05	Spring-20170628	Modified EPA Method 537	13C2-PFDoA	H	34.9
1700792-05	Spring-20170628	Modified EPA Method 537	13C2-PFTeDA	H	46.6
1700792-06	FRB-20170628	Modified EPA Method 537	13C2-PFDoA	H	32.9
1700792-06	FRB-20170628	Modified EPA Method 537	13C2-PFTeDA	H	34.8
1700792-07	MH318.9-20170628	Modified EPA Method 537	13C2-PFDoA	H	31.8
1700792-07	MH318.9-20170628	Modified EPA Method 537	13C2-PFTeDA	H	24.8
1700792-08	MH388.9-20170628	Modified EPA Method 537	13C2-PFTeDA	H	43.3
1700792-09	Dup03-20170628	Modified EPA Method 537	d5-EtFOSAA	H	48.3
1700792-09	Dup03-20170628	Modified EPA Method 537	13C2-PFDoA	H	27.3
1700792-09	Dup03-20170628	Modified EPA Method 537	13C2-PFTeDA	H	34.5
1700792-10	Dup01-20170627	Modified EPA Method 537	13C2-PFTeDA	H	34.0
1700792-11	RB01-20170628	Modified EPA Method 537	13C2-PFDoA	H	28.5
1700792-11	RB01-20170628	Modified EPA Method 537	13C2-PFTeDA	H	36.9
B7F0137-BS1	B7F0137-BS1	Modified EPA Method 537	13C2-PFDoA	H	44.1
B7F0137-BS1	B7F0137-BS1	Modified EPA Method 537	13C2-PFTeDA	H	37.9
B7G0033-BLK1	B7G0033-BLK1	Modified EPA Method 537	13C2-PFDoA	H	33.9
B7G0033-BLK1	B7G0033-BLK1	Modified EPA Method 537	13C2-PFTeDA	H	29.1
B7G0033-BS1	B7G0033-BS1	Modified EPA Method 537	13C2-PFTeDA	H	23.8

H = Recovery was outside laboratory acceptance criteria.

In addition, the laboratory QC officer must read and sign a copy of the Quality Assurance Review Form displayed on the next page of this Attachment. Electronic deliverables are not considered to be complete without the accompanying Quality Assurance Review Form.

I Anna Helak, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (916) 673-1520 if there are any questions or problems with the enclosed electronic deliverables.

Signature: [signature] Title: QA Manager Date: 7/22/2017

Revision 9
ISG
08/18/16

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700792-01	West Ditch In-20170627	27-Jun-17 14:35	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-02	MH-140-20170628	28-Jun-17 08:35	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-03	Interceptor-20170628	28-Jun-17 08:50	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-04	Roof Drain-20170628	28-Jun-17 09:30	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-05	Spring-20170628	28-Jun-17 10:05	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-06	FRB-20170628	28-Jun-17 12:15	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-07	MH318.9-20170628	28-Jun-17 10:30	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-08	MH388.9-20170628	28-Jun-17 10:40	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-09	Dup03-20170628	28-Jun-17 08:50	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-10	Dup01-20170627	27-Jun-17 16:00	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700792-11	RB01-20170628	28-Jun-17 12:15	29-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

Modified EPA Method 537

Matrix: Aqueous
Sample Size: 0.125 L

QC Batch: B7F0137
Date Extracted: 30-Jun-2017 8:38

Lab Sample: B7F0137-BLK1
Date Analyzed: 07-Jul-17 13:56 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	5.00	8.00	
PFHxA	ND	2.18	5.00	8.00	
PFHpA	ND	0.591	5.00	8.00	
PFHxS	ND	0.947	5.00	8.00	
PFOA	ND	0.651	5.00	8.00	
PFOS	ND	0.807	5.00	8.00	
PFNA	ND	0.810	5.00	8.00	
PFDA	ND	1.49	5.00	8.00	
MeFOSAA	ND	1.65	5.00	8.00	
PFUnA	ND	1.05	5.00	8.00	
EtFOSAA	ND	1.37	5.00	8.00	
PFDoA	ND	0.792	5.00	8.00	
PFTrDA	ND	0.494	5.00	8.00	
PFTeDA	ND	0.755	5.00	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	120	50 - 150	
IS	13C2-PFHxA	110	50 - 150	
IS	13C4-PFHpA	99.1	50 - 150	
IS	18O2-PFHxS	104	50 - 150	
IS	13C2-PFOA	106	50 - 150	
IS	13C8-PFOS	114	50 - 150	
IS	13C5-PFNA	90.4	50 - 150	
IS	13C2-PFDA	76.9	50 - 150	
IS	d3-MeFOSAA	116	50 - 150	
IS	13C2-PFUnA	77.3	50 - 150	
IS	d5-EtFOSAA	81.3	50 - 150	
IS	13C2-PFDoA	64.6	50 - 150	
IS	13C2-PFTeDA	53.8	50 - 150	

DL - Detection limit
RL - Reporting limit

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:	B7F0137	Lab Sample:	B7F0137-BS1
Sample Size:	0.125 L	Date Extracted:	30-Jun-2017 8:38	Date Analyzed:	07-Jul-17 14:18 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	80.7	80.0	101	70 - 130
PFHxA	81.7	80.0	102	70 - 130
PFHpA	86.1	80.0	108	70 - 130
PFHxS	73.3	80.0	91.7	70 - 130
PFOA	81.7	80.0	102	70 - 130
PFOS	87.7	80.0	110	70 - 130
PFNA	83.0	80.0	104	70 - 130
PFDA	88.3	80.0	110	70 - 130
MeFOSAA	95.0	80.0	119	70 - 130
PFUnA	71.6	80.0	89.5	70 - 130
EtFOSAA	70.5	80.0	88.1	70 - 130
PFDoA	77.3	80.0	96.7	70 - 130
PFTrDA	54.1	80.0	67.6	60 - 130
PFTeDA	73.5	80.0	91.8	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	118	50 - 150
IS	13C2-PFHxA	107	50 - 150
IS	13C4-PFHpA	92.3	50 - 150
IS	18O2-PFHxS	102	50 - 150
IS	13C2-PFOA	93.4	50 - 150
IS	13C8-PFOS	91.0	50 - 150
IS	13C5-PFNA	92.5	50 - 150
IS	13C2-PFDA	78.1	50 - 150
IS	d3-MeFOSAA	84.7	50 - 150
IS	13C2-PFUnA	80.5	50 - 150
IS	d5-EtFOSAA	87.0	50 - 150
IS	13C2-PFDoA	44.1	50 - 150
IS	13C2-PFTeDA	37.9	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank **Modified EPA Method 537**

Matrix:	Aqueous	QC Batch:	B7G0033	Lab Sample:	B7G0033-BLK1
Sample Size:	0.125 L	Date Extracted:	10-Jul-2017 9:18	Date Analyzed:	11-Jul-17 18:47 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFDoA	ND	0.792	5.00	8.00	
PFTrDA	ND	0.494	5.00	8.00	
PFTeDA	ND	0.755	5.00	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C2-PFDoA	33.9	50 - 150	H
IS	13C2-PFTeDA	29.1	50 - 150	H

DL - Detection limit

RL - Reporting limit

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:	B7G0033	Lab Sample:	B7G0033-BS1
Sample Size:	0.125 L	Date Extracted:	10-Jul-2017 9:18	Date Analyzed:	11-Jul-17 18:15 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFDoA	81.0	80.0	101	70 - 130
PFTrDA	52.2	80.0	65.3	60 - 130
PFTeDA	69.4	80.0	86.8	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C2-PFDoA	50.3	50 - 150
IS	13C2-PFTeDA	23.8	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: West Ditch In-20170627

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 27-Jun-2017 14:35
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700792-01 Date Received: 29-Jun-2017 10:09
QC Batch: B7F0137 Date Extracted: 30-Jun-2017 8:38
Date Analyzed: 07-Jul-17 15:33 Column: BEH C18
11-Jul-17 19:19 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.92	5.34	8.56	
PFHxA	70.8	2.33	5.34	8.56	
PFHpA	52.7	0.632	5.34	8.56	
PFHxS	3.87	1.01	5.34	8.56	J
PFOA	39.8	0.697	5.34	8.56	
PFOS	9.80	0.863	5.34	8.56	
PFNA	7.76	0.867	5.34	8.56	J
PFDA	ND	1.59	5.34	8.56	
MeFOSAA	ND	1.77	5.34	8.56	
PFUnA	ND	1.12	5.34	8.56	
EtFOSAA	ND	1.47	5.34	8.56	
PFDoA	ND	0.816	5.17	8.24	
PFTrDA	ND	0.509	5.17	8.24	
PFTeDA	ND	0.778	5.17	8.24	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	107	50 - 150	
IS	13C2-PFHxA	104	50 - 150	
IS	13C4-PFHpA	84.9	50 - 150	
IS	18O2-PFHxS	97.5	50 - 150	
IS	13C2-PFOA	96.8	50 - 150	
IS	13C8-PFOS	108	50 - 150	
IS	13C5-PFNA	92.1	50 - 150	
IS	13C2-PFDA	86.9	50 - 150	
IS	d3-MeFOSAA	113	50 - 150	
IS	13C2-PFUnA	104	50 - 150	
IS	d5-EtFOSAA	60.4	50 - 150	
IS	13C2-PFDoA	32.5	50 - 150	H
IS	13C2-PFTeDA	27.8	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: MH-140-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 8:35
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700792-02
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 15:43 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.95	5.43	8.71	
PFHxA	70.5	2.37	5.43	8.71	
PFHpA	41.8	0.644	5.43	8.71	
PFHxS	4.70	1.03	5.43	8.71	J
PFOA	37.0	0.709	5.43	8.71	
PFOS	4.73	0.879	5.43	8.71	J
PFNA	4.90	0.882	5.43	8.71	J
PFDA	ND	1.62	5.43	8.71	
MeFOSAA	ND	1.80	5.43	8.71	
PFUnA	ND	1.14	5.43	8.71	
EtFOSAA	ND	1.49	5.43	8.71	
PFDoA	ND	0.863	5.43	8.71	
PFTrDA	ND	0.538	5.43	8.71	
PFTeDA	ND	0.822	5.43	8.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	108	50 - 150	
IS	13C4-PFHpA	98.2	50 - 150	
IS	18O2-PFHxS	97.3	50 - 150	
IS	13C2-PFOA	103	50 - 150	
IS	13C8-PFOS	94.2	50 - 150	
IS	13C5-PFNA	88.1	50 - 150	
IS	13C2-PFDA	72.8	50 - 150	
IS	d3-MeFOSAA	92.8	50 - 150	
IS	13C2-PFUnA	71.1	50 - 150	
IS	d5-EtFOSAA	59.1	50 - 150	
IS	13C2-PFDoA	52.1	50 - 150	
IS	13C2-PFTeDA	55.6	50 - 150	

DL - Detection limit

RL - Reporting limit

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: Interceptor-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 8:50
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700792-03
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 15:54 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.95	5.43	8.73	
PFHxA	35.9	2.38	5.43	8.73	
PFHpA	24.2	0.645	5.43	8.73	
PFHxS	4.88	1.03	5.43	8.73	J
PFOA	29.8	0.710	5.43	8.73	
PFOS	5.89	0.880	5.43	8.73	J
PFNA	4.92	0.884	5.43	8.73	J
PFDA	ND	1.63	5.43	8.73	
MeFOSAA	ND	1.80	5.43	8.73	
PFUnA	ND	1.15	5.43	8.73	
EtFOSAA	ND	1.49	5.43	8.73	
PFDoA	ND	0.864	5.43	8.73	
PFTrDA	ND	0.539	5.43	8.73	
PFTeDA	ND	0.824	5.43	8.73	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	108	50 - 150	
IS	13C4-PFHpA	98.5	50 - 150	
IS	18O2-PFHxS	107	50 - 150	
IS	13C2-PFOA	101	50 - 150	
IS	13C8-PFOS	105	50 - 150	
IS	13C5-PFNA	89.4	50 - 150	
IS	13C2-PFDA	100	50 - 150	
IS	d3-MeFOSAA	67.1	50 - 150	
IS	13C2-PFUnA	83.7	50 - 150	
IS	d5-EtFOSAA	46.8	50 - 150	H
IS	13C2-PFDoA	21.4	50 - 150	H
IS	13C2-PFTeDA	20.1	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Roof Drain-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 9:30
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700792-04 Date Received: 29-Jun-2017 10:09
QC Batch: B7F0137 Date Extracted: 30-Jun-2017 8:38
Date Analyzed: 07-Jul-17 16:05 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.95	5.43	8.71	
PFHxA	86.4	2.37	5.43	8.71	
PFHpA	64.6	0.643	5.43	8.71	
PFHxS	3.22	1.03	5.43	8.71	J
PFOA	35.8	0.709	5.43	8.71	
PFOS	3.82	0.878	5.43	8.71	J
PFNA	4.94	0.882	5.43	8.71	J
PFDA	ND	1.62	5.43	8.71	
MeFOSAA	ND	1.80	5.43	8.71	
PFUnA	ND	1.14	5.43	8.71	
EtFOSAA	ND	1.49	5.43	8.71	
PFDoA	ND	0.862	5.43	8.71	
PFTrDA	ND	0.538	5.43	8.71	
PFTeDA	ND	0.822	5.43	8.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	128	50 - 150	
IS	13C2-PFHxA	108	50 - 150	
IS	13C4-PFHpA	95.1	50 - 150	
IS	18O2-PFHxS	96.8	50 - 150	
IS	13C2-PFOA	113	50 - 150	
IS	13C8-PFOS	103	50 - 150	
IS	13C5-PFNA	97.9	50 - 150	
IS	13C2-PFDA	103	50 - 150	
IS	d3-MeFOSAA	90.5	50 - 150	
IS	13C2-PFUnA	93.6	50 - 150	
IS	d5-EtFOSAA	61.5	50 - 150	
IS	13C2-PFDoA	29.8	50 - 150	H
IS	13C2-PFTeDA	40.5	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Spring-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 10:05
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.0975 L

Laboratory Data

Lab Sample: 1700792-05
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 16:15 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.29	6.41	10.3	
PFHxA	87.5	2.79	6.41	10.3	
PFHpA	62.9	0.758	6.41	10.3	
PFHxS	2.96	1.21	6.41	10.3	J
PFOA	39.6	0.835	6.41	10.3	
PFOS	4.28	1.03	6.41	10.3	J
PFNA	8.19	1.04	6.41	10.3	J
PFDA	ND	1.91	6.41	10.3	
MeFOSAA	ND	2.12	6.41	10.3	
PFUnA	ND	1.35	6.41	10.3	
EtFOSAA	ND	1.76	6.41	10.3	
PFDoA	ND	1.02	6.41	10.3	
PFTrDA	ND	0.633	6.41	10.3	
PFTeDA	ND	0.968	6.41	10.3	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	123	50 - 150	
IS	13C2-PFHxA	111	50 - 150	
IS	13C4-PFHpA	89.3	50 - 150	
IS	18O2-PFHxS	97.8	50 - 150	
IS	13C2-PFOA	93.7	50 - 150	
IS	13C8-PFOS	101	50 - 150	
IS	13C5-PFNA	97.2	50 - 150	
IS	13C2-PFDA	92.0	50 - 150	
IS	d3-MeFOSAA	113	50 - 150	
IS	13C2-PFUnA	85.5	50 - 150	
IS	d5-EtFOSAA	68.5	50 - 150	
IS	13C2-PFDoA	34.9	50 - 150	H
IS	13C2-PFTeDA	46.6	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: FRB-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 12:15
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.112 L

Laboratory Data

Lab Sample: 1700792-06
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 16:26 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.00	5.58	8.92	
PFHxA	ND	2.43	5.58	8.92	
PFHpA	ND	0.659	5.58	8.92	
PFHxS	ND	1.06	5.58	8.92	
PFOA	ND	0.726	5.58	8.92	
PFOS	ND	0.900	5.58	8.92	
PFNA	ND	0.903	5.58	8.92	
PFDA	ND	1.66	5.58	8.92	
MeFOSAA	ND	1.84	5.58	8.92	
PFUnA	ND	1.17	5.58	8.92	
EtFOSAA	ND	1.53	5.58	8.92	
PFDoA	ND	0.883	5.58	8.92	
PFTrDA	ND	0.551	5.58	8.92	
PFTeDA	ND	0.842	5.58	8.92	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	127	50 - 150	
IS	13C2-PFHxA	111	50 - 150	
IS	13C4-PFHpA	95.4	50 - 150	
IS	18O2-PFHxS	112	50 - 150	
IS	13C2-PFOA	112	50 - 150	
IS	13C8-PFOS	105	50 - 150	
IS	13C5-PFNA	89.8	50 - 150	
IS	13C2-PFDA	74.7	50 - 150	
IS	d3-MeFOSAA	101	50 - 150	
IS	13C2-PFUnA	70.2	50 - 150	
IS	d5-EtFOSAA	64.3	50 - 150	
IS	13C2-PFDoA	32.9	50 - 150	H
IS	13C2-PFTeDA	34.8	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: MH318.9-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 10:30
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.119 L

Laboratory Data

Lab Sample: 1700792-07
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 16:37 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.88	5.25	8.42	
PFHxA	84.8	2.30	5.25	8.42	
PFHpA	54.2	0.622	5.25	8.42	
PFHxS	3.38	0.997	5.25	8.42	J
PFOA	63.4	0.685	5.25	8.42	
PFOS	6.63	0.850	5.25	8.42	J
PFNA	9.93	0.853	5.25	8.42	
PFDA	3.10	1.57	5.25	8.42	J
MeFOSAA	ND	1.74	5.25	8.42	
PFUnA	ND	1.11	5.25	8.42	
EtFOSAA	ND	1.44	5.25	8.42	
PFDoA	ND	0.834	5.25	8.42	
PFTrDA	ND	0.520	5.25	8.42	
PFTeDA	ND	0.795	5.25	8.42	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	119	50 - 150	
IS	13C2-PFHxA	102	50 - 150	
IS	13C4-PFHpA	92.2	50 - 150	
IS	18O2-PFHxS	105	50 - 150	
IS	13C2-PFOA	100	50 - 150	
IS	13C8-PFOS	106	50 - 150	
IS	13C5-PFNA	91.5	50 - 150	
IS	13C2-PFDA	95.5	50 - 150	
IS	d3-MeFOSAA	102	50 - 150	
IS	13C2-PFUnA	88.8	50 - 150	
IS	d5-EtFOSAA	66.3	50 - 150	
IS	13C2-PFDoA	31.8	50 - 150	H
IS	13C2-PFTeDA	24.8	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: MH388.9-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 10:40
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700792-08
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 17:20 Column: BEH C18
11-Jul-17 19:09 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.91	5.34	8.54	
PFHxA	84.6	2.33	5.34	8.54	
PFHpA	52.2	0.631	5.34	8.54	
PFHxS	2.84	1.01	5.34	8.54	J
PFOA	55.2	0.695	5.34	8.54	
PFOS	2.75	0.861	5.34	8.54	J
PFNA	5.49	0.864	5.34	8.54	J
PFDA	ND	1.59	5.34	8.54	
MeFOSAA	ND	1.76	5.34	8.54	
PFUnA	ND	1.12	5.34	8.54	
EtFOSAA	ND	1.46	5.34	8.54	
PFDoA	ND	0.803	5.08	8.11	
PFTrDA	ND	0.501	5.08	8.11	
PFTeDA	ND	0.766	5.08	8.11	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	118	50 - 150	
IS	13C2-PFHxA	101	50 - 150	
IS	13C4-PFHpA	88.8	50 - 150	
IS	18O2-PFHxS	100	50 - 150	
IS	13C2-PFOA	105	50 - 150	
IS	13C8-PFOS	111	50 - 150	
IS	13C5-PFNA	86.2	50 - 150	
IS	13C2-PFDA	74.5	50 - 150	
IS	d3-MeFOSAA	108	50 - 150	
IS	13C2-PFUnA	86.9	50 - 150	
IS	d5-EtFOSAA	64.2	50 - 150	
IS	13C2-PFDoA	78.0	50 - 150	
IS	13C2-PFTeDA	43.3	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Dup03-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 8:50
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.118 L

Laboratory Data

Lab Sample: 1700792-09 Date Received: 29-Jun-2017 10:09
QC Batch: B7F0137 Date Extracted: 30-Jun-2017 8:38
Date Analyzed: 07-Jul-17 17:31 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.89	5.30	8.46	
PFHxA	35.2	2.30	5.30	8.46	
PFHpA	26.1	0.625	5.30	8.46	
PFHxS	4.10	1.00	5.30	8.46	J
PFOA	30.6	0.688	5.30	8.46	
PFOS	6.62	0.853	5.30	8.46	J
PFNA	3.69	0.856	5.30	8.46	J
PFDA	ND	1.58	5.30	8.46	
MeFOSAA	ND	1.74	5.30	8.46	
PFUnA	ND	1.11	5.30	8.46	
EtFOSAA	ND	1.45	5.30	8.46	
PFDoA	ND	0.837	5.30	8.46	
PFTrDA	ND	0.522	5.30	8.46	
PFTeDA	ND	0.798	5.30	8.46	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	134	50 - 150	
IS	13C2-PFHxA	113	50 - 150	
IS	13C4-PFHpA	98.4	50 - 150	
IS	18O2-PFHxS	105	50 - 150	
IS	13C2-PFOA	98.1	50 - 150	
IS	13C8-PFOS	102	50 - 150	
IS	13C5-PFNA	86.0	50 - 150	
IS	13C2-PFDA	82.8	50 - 150	
IS	d3-MeFOSAA	75.5	50 - 150	
IS	13C2-PFUnA	81.8	50 - 150	
IS	d5-EtFOSAA	48.3	50 - 150	H
IS	13C2-PFDoA	27.3	50 - 150	H
IS	13C2-PFTeDA	34.5	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Dup01-20170627

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 27-Jun-2017 16:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.113 L

Laboratory Data

Lab Sample: 1700792-10
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 17:41 Column: BEH C18
21-Jul-17 16:16 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	127	1.97	5.53	8.82	
PFHxA	612	2.40	5.53	8.82	
PFHpA	190	0.652	5.53	8.82	
PFHxS	799	1.04	5.53	8.82	
PFOA	116	0.718	5.53	8.82	
PFOS	1600	8.90	55.3	88.2	D
PFNA	10.7	0.893	5.53	8.82	
PFDA	3.79	1.64	5.53	8.82	J
MeFOSAA	ND	1.82	5.53	8.82	
PFUnA	ND	1.16	5.53	8.82	
EtFOSAA	ND	1.51	5.53	8.82	
PFDoA	ND	0.873	5.53	8.82	
PFTrDA	ND	0.545	5.53	8.82	
PFTeDA	ND	0.832	5.53	8.82	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	131	50 - 150	
IS	13C2-PFHxA	117	50 - 150	
IS	13C4-PFHpA	99.0	50 - 150	
IS	18O2-PFHxS	106	50 - 150	
IS	13C2-PFOA	101	50 - 150	
IS	13C8-PFOS	128	50 - 150	D
IS	13C5-PFNA	84.1	50 - 150	
IS	13C2-PFDA	103	50 - 150	
IS	d3-MeFOSAA	121	50 - 150	
IS	13C2-PFUnA	89.6	50 - 150	
IS	d5-EtFOSAA	78.7	50 - 150	
IS	13C2-PFDoA	50.5	50 - 150	
IS	13C2-PFTeDA	34.0	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: RB01-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 12:15
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1700792-11
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 17:52 Column: BEH C18
11-Jul-17 18:58 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.86	5.21	8.33	
PFHxA	ND	2.27	5.21	8.33	
PFHpA	ND	0.615	5.21	8.33	
PFHxS	ND	0.986	5.21	8.33	
PFOA	ND	0.678	5.21	8.33	
PFOS	ND	0.840	5.21	8.33	
PFNA	ND	0.843	5.21	8.33	
PFDA	ND	1.55	5.21	8.33	
MeFOSAA	ND	1.72	5.21	8.33	
PFUnA	ND	1.09	5.21	8.33	
EtFOSAA	ND	1.43	5.21	8.33	
PFDoA	ND	0.807	5.08	8.15	
PFTrDA	ND	0.503	5.08	8.15	
PFTeDA	ND	0.769	5.08	8.15	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	112	50 - 150	
IS	13C4-PFHpA	101	50 - 150	
IS	18O2-PFHxS	93.7	50 - 150	
IS	13C2-PFOA	95.5	50 - 150	
IS	13C8-PFOS	105	50 - 150	
IS	13C5-PFNA	92.6	50 - 150	
IS	13C2-PFDA	87.8	50 - 150	
IS	d3-MeFOSAA	97.2	50 - 150	
IS	13C2-PFUnA	62.0	50 - 150	
IS	d5-EtFOSAA	54.6	50 - 150	
IS	13C2-PFDoA	28.5	50 - 150	H
IS	13C2-PFTeDA	36.9	50 - 150	H

DL - Detection limit

RL - Reporting limit

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.**
M	**Estimated Maximum Possible Concentration. (CA Region 2 projects only)**
*****	**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
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
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

For Laboratory Use Only
Work Order #: 1700792 Temp: 4.0 °C
Storage ID: WR-2, 3-4 Storage Secured: Yes [X] No [ ]

Project ID: NAWC Trenton PO#: 1132341-WR3 Sampler: Charles Meyer (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#
Tetra Tech Inc	Foster Plaza VII	661 Andersen Drive	Pittsburgh	PA	15220	4129217090 4129214040

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Mary Kay Bond MaryKay Bond	6/28/17	1800	Marissa Sparks MSpark	6/29/17	1030
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

ATTN:

Method of Shipment: Fed Ex

Tracking No.: 661219926143

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/PFOS	UCMR3 PFAS List:6	537 List: 14	Full List of 26	Other: Please List Below PFOA PFOS PFNA	EPA Method 537(DW only): PFOA/PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
West Ditch In-20170627	6/27/17	14:35	West Ditch, In	2	PJ	AQ					X				
MH-140-20170628	6/28/17	08:35	Manhole 140	2	PJ	AQ					X				
Interceptor-20170628	6/28/17	08:50	Interceptor	2	PJ	AQ					X				
Roof Drain-20170628	6/28/17	09:30	Roof Drain	2	PJ	AQ					X				
Spring-20170628	6/28/17	10:05	Spring	2	PJ	AQ					X				
FRB-20170628	6/28/17	12:15		2	PJ	AQ					X				Field Reagent Blank
MH318.9-20170628	6/28/17	10:30	Manhole 318,9	2	PJ	AQ					X				
MH388.9-20170628	6/28/17	10:40	Manhole 388.9	2	PJ	AQ					X				
DUP03-20170628	6/28/17	8:50		2	PJ	AQ					X				
DUP01-20170627	6/27/17	16:00		2	PJ	AQ					X				
RB01-20170628	6/28/17	12:15									X				

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Mary Mang
Company: Tetra Tech
Address: 234 Mall Boulevard Suite 260
City: King of Prussia State: PA Zip: 19406
Phone: 610 382 1174 Fax: 610 981 9645
Email: mary.mang at tetratech.com

Container Types: P= HDPE, PJ= HDPE Jar, O = Other PJ

Bottle Preservation Type: T = Thiosulfate, TZ = Trizma:

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

Sample Log-in Checklist

Vista Work Order #: 1700792 **TAT** 22 days

Samples Arrival:	**Date/Time** 6/29/17 1009	**Initials:** WS	**Location:** WR-2 **Shelf/Rack:** 1/3
Logged In:	**Date/Time** 6/29/17 1206	**Initials:** WS BDB	**Location:** WR-2 **Shelf/Rack:** 3-4

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

Temp °C: 4.4 (uncorrected)	**Time:** 1029	**Thermometer ID:** IR-2
Temp °C: 4.0 (corrected)	**Probe used:** Yes☐ No☒	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 8612 1992 6143	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓	WS	6/29/17
COC Anomaly/Sample Acceptance Form completed?	✓	~~✓~~	~~✓~~

If Chlorinated or Drinking Water Samples, Acceptable Preservation?						✓
Preservation Documented:	$Na_2S_2O_3$	Trizma	(None) Label		Yes	(No) NA
Shipping Container	Vista	Client	(Retain)	Return	Dispose	6/29/17

Comments:

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client:	Tetra Tech	Workorder Number:	1700792
Contact:	Mary Mang	Date Received:	29-Jun-17 10:09
Email:	mary.mang@tetratech.com	Documented by/date:	MSparks/29-Jun-17
Phone:	610-382-1174		

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

- [ ] Complete Chain-of-Custody
- [ ] Test Method Requested
- [ ] Analyte List Requested
- [ ] Other:
- [ ] Preservative
- [ ] Sample Identification
- [ ] Sample Collection Date and/or Time
- [ ] Collector's Name
- [ ] Sample Type
- [ ] Sample Location

The following anomalies were noted. Authorization is needed to proceed with analysis.

- [ ] Temperature outside < 6°C Range — Samples Affected: _____

  Temperature _____°C Ice Present? Yes No Melted

- [X] Sample ID Discrepancy: see comments
- [ ] Sample Holding Time Missed
- [ ] Custody Seals Broken
- [ ] Insufficient Sample Size
- [ ] Sample Container(s) Broken
- [ ] Incorrect Container Type

Comments:

COC ID: FRB-20170628
Label ID: **FRB01**-20170628

Client Authorization

Proceed with Analysis: (YES) NO Signature and Date MSh 6/30/17

Client Comments/Instructions per 6/30/17 email, COC ID is correct.

Correspondence

Kerri L. Chapin

From: Mang, Mary <Mary.Mang@tetratech.com>
Sent: Friday, June 30, 2017 6:17 AM
To: Karen Volpendesta; Ritchie, Megan
Cc: Martha Maier
Subject: RE: Vista Work Order #1700792; NAWC Trenton

Good Morning Karen,

You are correct. Please use the sample ID shown on the COC.

Thank you,
Mary

From: Mang, Mary
Sent: Thursday, June 29, 2017 5:41 PM
To: 'Karen Volpendesta' <kvol@vista-analytical.com>; Ritchie, Megan <Megan.Ritchie@tetratech.com>
Cc: mmaier@vista-analytical.com
Subject: RE: Vista Work Order #1700792; NAWC Trenton

Karen,

I will need to get back to you tomorrow morning on the sample ID.

Please notes, we ARE to analyze for the 14 PFAS analytes for both surface water and groundwater.. The confusion is that the change was made, but is not in the SAP.

Thanks,
Mary

From: Karen Volpendesta [mailto:kvol@vista-analytical.com]
Sent: Thursday, June 29, 2017 5:18 PM
To: Mang, Mary <Mary.Mang@tetratech.com>; Ritchie, Megan <Megan.Ritchie@tetratech.com>
Cc: mmaier@vista-analytical.com
Subject: Vista Work Order #1700792; NAWC Trenton

Mary,

Please find attached the sample receiving acknowledgement for Vista Analytical Work Order: 1700792.

Please note the anomaly described on the last page of the attachment: The sample ID on the COC for “FRB-20170628” does not match the sample ID on the bottle label “FRB01-20170628”. The sample is currently logged in using the sample ID on the COC. Please confirm the correct sample ID.

Please review the Sample Inventory Report found on page 3 to ensure that the samples were logged in correct.

These samples will be analyzed by Modified EPA Method 537 for PFOA, PFOS, and PFNA only.

If you have any questions, please contact me or Martha Maier at (916) 673-1520. We appreciate your business.

Best Regards,

Karen L. Volpendesta
(formerly Lopez)
Project Manager

Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
Phone: (916) 673-1520
www.vista-analytical.com
**Hours: Monday, Tuesday, & Thursday, 8am-4:30pm*

A woman-owned, small business enterprise.

EXTRACTION INFORMATION

Process Sheet

Workorder: 1700792

Prep Expiration: 2017-Jul-11
Client: Tetra Tech

Workorder Due: 21-Jul-17 00:00

TAT: 22

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

Prep Batch: B7F0137

Prep Data Entered: 7.3.17 ZAC
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: STG0018

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700792-01	☒	West Ditch In-20170627	29-Jun-17 10:09	WR-2 A-4	
1700792-02	☒	MH-140-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-03	☒	Interceptor-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-04	☒	Roof Drain-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-05	☒	Spring-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-06	☐	~~FRB-20170628~~ "FRB01-20170628" BS 6/30/17	29-Jun-17 10:09	WR-2 A-4	
1700792-07	☒	MH318.9-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-08	☒	MH388.9-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-09	☒	Dup03-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-10	☒	Dup01-20170627	29-Jun-17 10:09	WR-2 A-4	
1700792-11	☒	RB01-20170628	29-Jun-17 10:09	WR-2 A-4	

WO Comments: **Attach balance check doc.**

Vista PM:Martha Maier

Vial Box ID: Bacon-Nader

Sample Reconciled By: Brenden Schenk 6/30/17

Page 1 of 1

Batch: B7F0137

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700792-01	0.11683	N/A	N/A	1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-02	0.11475			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-03	0.11459			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-04	0.11484			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-05	0.09751			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-06	0.1121			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-07	0.11873			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-08	0.11713			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-09	0.11824			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-10	0.11337			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-11	0.12005			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
B7F0137-BLK1	0.125			1000	30-Jun-17 08:38	GM				QC
B7F0137-BS1	0.125			1000	30-Jun-17 08:38	GM	17D2705	10		QC

7-3-17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mRL)

B7F0137

Chemist: G. Mendiola

Prep Date/Time: 30-Jun-17 08:38

Prepared using: LCMS - SPE Extraction-LCMS

C7 G0007

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☐	B7F0137-BLK1	5	2	0	2	NA	NA	0.25	dm BSS 6/30/17	BSS 6/30/17	dm BSS 6/30/17
☐	B7F0137-BS1	5	2	0	2	↓	↓	↓	↓	↓	↓
☐	1700792-01	6	2	0	3	143.54	26.71	0.11683	↓	↓	↓
☐	1700792-02	6	2	0	3	141.52	26.77	0.11475	↓	↓	↓
☐	1700792-03	6	2	0	3	141.27	26.68	0.11459	↓	↓	↓
☐	1700792-04	5	2	0	2	141.63	26.79	0.11484	↓	↓	↓
☐	1700792-05	5	2	0	2	124.37	26.86	0.09751	↓	↓	↓
☐	1700792-06	4	2	0	2	138.93	26.83	0.11210	↓	↓	↓
☐	1700792-07	5	2	0	2	145.57	26.84	0.11873	↓	↓	↓
☐	1700792-08	5	2	0	2	144.00	26.87	0.11713	↓	↓	↓
☐	1700792-09	6	2	0	3	145.05	26.81	0.11824	↓	↓	↓
☐	1700792-10	5	2	0	2	140.25	26.88	0.11337	↓	↓	↓
☐	1700792-11	5	2	0	2	146.77	26.72	0.12005	↓	↓	↓

IS Name (V4) 17E2617, 10µL

NS Name (V2) dm 7/3/17 ~~17E0122, 20µL~~ 17D2705 10µL dm 7/3/17

RS Name (V5) 17E1907, 10µL

SPE Chem: Strata-X-AW 33µm 200mg/6mL

Ele SOLV: Methanol; 0.5% NH_4OH in MeOH

Final Volume(s) 1mL

Check Out: Chemist/Date: BSS 6/30/17

Check In: Chemist/Date: empty

Balance ID: HRMS-8

pH Adjusted: Chemist/Date: BSS 6/30/17

Comments: Assume 1 g = 1 mL

Process Sheet

Workorder: 1700792

RX

Prep Expiration: 2017-Jul-11
Client: Tetra Tech

Workorder Due: 21-Jul-17 00:00

TAT: 22

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

Prep Batch: B7G0033

Prep Data Entered: HB 7/11/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700792-01 B	☑	West Ditch In-20170627	29-Jun-17 10:09	WR-2 A-4	
~~1700792-02~~	☐	~~MH-140-20170628~~	29-Jun-17 10:09	WR-2 A-4	
1700792-03	☐	Interceptor-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-04	☐	Roof Drain-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-05	☐	Spring-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-06	☐	FRB-20170628	29-Jun-17 10:09	WR-2 A-4	
~~1700792-07~~	☐	~~MH318.9-20170628~~	29-Jun-17 10:09	WR-2 A-4	
1700792-08 B	☑	MH388.9-20170628	29-Jun-17 10:09	WR-2 A-4	
~~1700792-09~~	☐	~~Dup03-20170628~~	29-Jun-17 10:09	WR-2 A-4	
~~1700792-10~~	☐	~~Dup01-20170627~~	29-Jun-17 10:09	WR-2 A-4	
1700792-11 B	☑	RB01-20170628	29-Jun-17 10:09	WR-2 A-4	

WO Comments: **Attach balance check doc.**

Vista PM:Martha Maier

Vial Box ID: Dilliam Shake-Saver

Sample Reconciled By: HB 7/10/17 __/__/__

Page 1 of 1

Batch: B7G0033

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700792-01RE1	0.12136 ✓	NA	NA	1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700792-08RE1	0.12326 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700792-11RE1	0.12273 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700820-01	0.26911 ✓			1000	10-Jul-17 09:18	BAP			Water	537M PFAS
1700836-01	0.1236 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-02	0.1224 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-03	0.1219 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-04	0.12243 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-05	0.12319 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700844-01	0.277 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS
1700845-01	0.12034 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700845-02	0.12279 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700845-03	0.11824 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700845-03	0.11824 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700845-03	0.11824 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS
1700845-04	0.11933 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
B7G0033-BLK1	0.125 ✓			1000	10-Jul-17 09:18	BAP				QC
B7G0033-BS1	0.125 ✓			1000	10-Jul-17 09:18	BAP	17D2705 ✓	10 ✓		QC
B7G0033-MS1	0.12283 ✓			1000	10-Jul-17 09:18	BAP	17D2705 ✓	10 ✓		QC
B7G0033-MSD1	0.124 ✓			1000	10-Jul-17 09:18	BAP	17D2705 ✓	10 ✓		QC

HB 7/11/17

Printed: 7/11/2017 9:35:12AM

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

Method: 537M PFAS DOD (LOO as mRL)

B7G0033

Chemist: BP

Prep Date/Time: 10-Jul-17 09:18

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	C7G 0034 SPE	RS CHEM/WIT DATE
☐	B7G0033-BLK1	5	2	0	2	NA	NA	(0.125)	BP EL 7-10-17	BP 7-10-17	BP 7-11-17
☐	B7G0033-BS1	5	2	0	2	↓	↓	↓			
☐	1700792-01RE1	7	2	0	2	148.12	26.76	0.12136			
☐	1700792-08RE1	7	2	0	2	150.10	26.84	0.12326			
☐	1700792-11RE1	6	2	0	2	149.56	26.83	0.12273			
☐	1700820-01	6	2	0	5	303.41	34.30	0.26911			

IS Name	NS Name	RS Name
17E2617, 10uL (1)	17D2205, 10uL (2)	17F3038, 10uL (4)

SPE Chem: Strata X-AW 33 cm 200mg/6mL

Ele SOLV: 0.5% NH4OH in MeOH/MeOH

Final Volume(s) 1mL

Check Out: Chemist/Date: HB 7/10/17

Check In: Chemist/Date: empty

Balance ID: HRMS 8

pH Adjusted: Chemist/Date: HB 7/10/17

Comments: Assume 1 g = 1 mL

HRMS - 8

Vista Analytical Laboratory

BALANCE CALIBRATION CHECK

Weights # 22370 and 7718

Date	☑ for Weight # verification	Weight 1 1 g (0.9900 – 1.0100)	Weight 2 100 g (99.00 – 101.00)	Weight 3 2000 g (1980 – 2020)	Initials	Acceptable? (Y/N)
6/20/17	✓	1.00	100.00	2000.00	OBF	Y
6/21/17	✓	1.01	100.01	2000.03	HB	Y
6/22/17	✓	1.00	99.99	2000.01	OBF	Y
6/23/17	✓	0.99	100.00	2000.00	HB	Y
6/26/17	✓	1.00	100.00	2000.00	HB	Y
6/27/17	✓	1.01	100.00	2000.04	HB	Y
6/28/17	✓	1.00	~~101.00~~ 100.01	2000.01	HB	Y
6/29/17	✓	1.00	100.01	1999.98	HB	Y
6/30/17	✓	1.00	99.99	1999.98	HB	Y
7/3/17	✓	1.01	100.00	1999.99	OBF	Y

Comments:

Vista Analytical Laboratory

BALANCE CALIBRATION CHECK

Weights # 22370 and 7718

Date	☑ for Weight # verification	Weight 1 1 g (0.9900 – 1.0100)	Weight 2 100 g (99.00 – 101.00)	Weight 3 2000 g (1980 – 2020)	Initials	Acceptable? (Y/N)
6/20/17	✓	1.00	100.00	2000.00	OBF	Y
6/21/17	✓	1.01	100.01	2000.03	HB	Y
6/22/17	✓	1.00	99.99	2000.01	OBF	Y
6/23/17	✓	0.99	100.00	2000.00	HB	Y
6/26/17	✓	1.00	100.00	2000.00	HB	Y
6/27/17	✓	1.01	100.00	2000.04	HB	Y
6/28/17	✓	1.00	~~101.00~~ NOT WITHIN 100.01	2000.01	HB	Y
6/29/17	✓	1.00	100.01	1999.98	JH	Y
6/30/17	✓	1.00	99.99	1999.98	HB	Y
7/3/17	✓	1.01	100.00	1999.99	OBF	Y
7/5/17	✓	1.00	100.00	2000.01	JH	Y
7/6/17	✓	1.00	100.00	1999.99	EL	Y
7/7/17	✓	1.00	100.00	1999.99	OBF	Y
7.8.17	✓	0.99	100.00	2000.00	BP	Y
7/10/17	✓	1.00	100.00	2000.02	HB	Y

Comments:

SAMPLE DATA – MODIFIED EPA METHOD 537

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:11:00
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		5.91e3	0.1250		2.92				
2	2	PFHxA	313.2 > 268.9		1.99e4	0.1250		3.16				
3	3	PFHpA	363 > 318.9		4.57e4	0.1250		3.43				
4	4	PFHxS	398.9 > 79.6	4.37e1	3.95e3	0.1250		3.55	3.49	0.138	0.621	
5	5	PFOA	413 > 368.7		5.53e4	0.1250		3.63				
6	6	PFNA	462.9 > 418.8		2.96e4	0.1250		3.82				
7	7	PFOS	499 > 79.9		3.29e3	0.1250		3.86				
8	8	PFDA	513 > 468.8		9.66e3	0.1250		4.00				
9	9	PFUnA	562.9 > 518.9		4.38e3	0.1250		4.13				
10	10	N-MeFOSAA	570.1 > 419		1.46e3	0.1250		4.00				
11	11	N-EtFOSAA	584.2 > 419		1.05e3	0.1250		4.07				
12	12	PFDoA	612.9 > 318.8		4.28e2	0.1250		4.31				
13	13	PFTrDA	662.9 > 618.9		4.28e2	0.1250		4.50				
14	14	PFTeDA	712.9 > 668.8		2.48e3	0.1250		4.65				
15	15	13C3-PFBS	302 > 98.8	5.91e3	6.12e4	0.1250	0.032	2.92	2.93	0.483	120	120.3
16	16	13C2-PFHxA	315 > 269.8	1.99e4	6.12e4	0.1250	0.296	3.15	3.16	1.63	43.9	109.7
17	17	13C4-PFHpA	367.2 > 321.8	4.57e4	6.12e4	0.1250	0.302	3.43	3.43	3.73	99.1	99.1
18	18	18O2-PFHxS	403 > 102.6	3.95e3	8.73e3	0.1250	0.434	3.49	3.49	5.65	104	104.1
19	19	13C2-PFOA	414.9 > 369.7	5.53e4	4.58e4	0.1250	1.140	3.62	3.62	15.1	106	105.9
20	20	13C5-PFNA	468.2 > 422.9	2.96e4	3.41e4	0.1250	0.958	3.80	3.80	10.8	90.4	90.4
21	21	13C8-PFOS	507 > 79.9	3.29e3	2.72e3	0.1250	1.061	3.85	3.86	15.1	114	113.8
22	22	13C2-PFDA	515.1 > 469.9	9.66e3	1.33e4	0.1250	0.942	3.97	3.97	9.06	76.9	76.9
23	23	13C2-PFUnA	565 > 519.8	4.38e3	5.22e3	0.1250	1.084	4.13	4.14	10.5	77.3	77.3
24	24	d3-N-MeFOSAA	573.3 > 419	1.46e3	5.22e3	0.1250	0.240	4.00	4.00	3.49	116	116.1
25	25	d5-N-EtFOSAA	589.3 > 419	1.05e3	5.22e3	0.1250	0.247	4.07	4.07	2.51	81.3	81.3
26	26	13C2-PFDoA	615 > 569.7	4.28e2	5.22e3	0.1250	0.127	4.32	4.29	1.03	64.6	64.6
27	27	13C2-PFTeDA	714.8 > 669.6	2.48e3	5.22e3	0.1250	0.883	4.64	4.63	5.94	53.8	53.8
28	28	13C5-PFHxA	318 > 272.9	6.12e4	6.12e4	0.1250	1.000	3.15	3.16	5.00	40.0	100.0
29	29	13C3-PFHxS	401.9 > 79.9	8.73e3	8.73e3	0.1250	1.000	3.49	3.49	12.5	100	100.0
30	30	13C8-PFOA	421.3 > 376	4.58e4	4.58e4	0.1250	1.000	3.62	3.62	12.5	100	100.0
31	31	13C9-PFNA	472.2 > 426.9	3.41e4	3.41e4	0.1250	1.000	3.82	3.80	12.5	100	100.0
32	32	13C4-PFOS	503 > 79.9	2.72e3	2.72e3	0.1250	1.000	3.85	3.86	12.5	100	100.0

GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	1.33e4	1.33e4	0.1250	1.000	3.97	3.97	12.5	100	100.0
34	34	13C7-PFUnA	570.1 > 524.8	5.22e3	5.22e3	0.1250	1.000	4.13	4.13	12.5	100	100.0
35	35	Total PFBS	299 > 79.7	0.00e0	5.91e3	0.1250		2.91		0.000		
36	36	Total PFHxS	398.9 > 79.6	4.37e1	3.95e3	0.1250		3.48		0.138	0.621	
37	37	Total PFOA	413 > 368.7	0.00e0	5.53e4	0.1250		3.61		0.000		
38	38	Total PFOS	499 > 79.9	0.00e0	3.29e3	0.1250		3.84		0.000		
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1250		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1250		4.06		0.000		

GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:11:00
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.49	43.693	3947.771	0.138	bb	0.6

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7			55304.258		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9			3291.447		MM-I	

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

GM 7/20/17

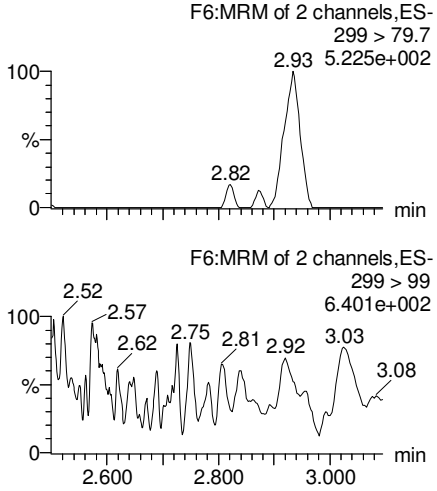
Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

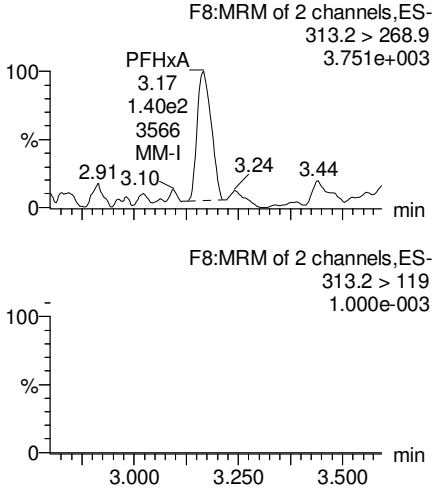
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:11:00
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

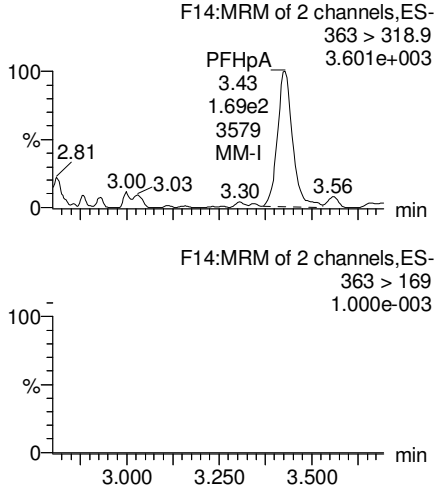
Total PFBS



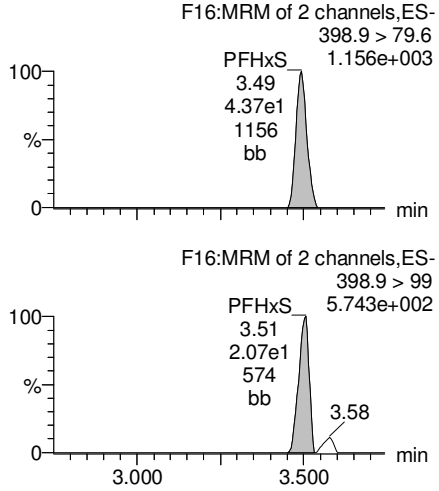
PFHxA



PFHpA



Total PFHxS



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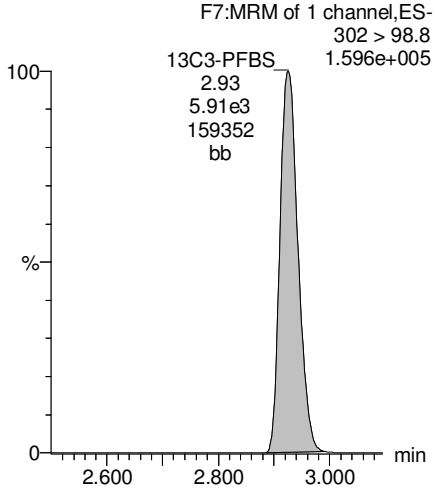
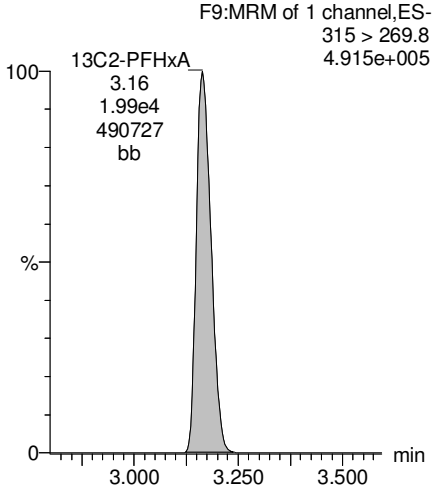
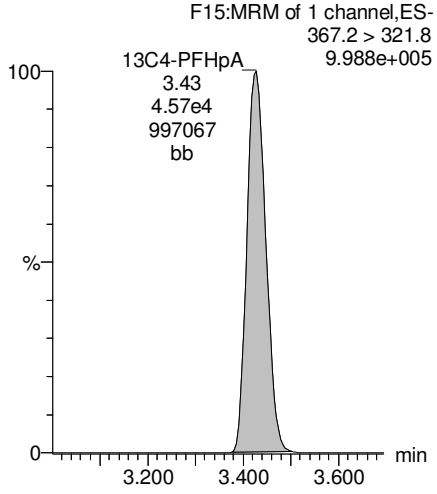


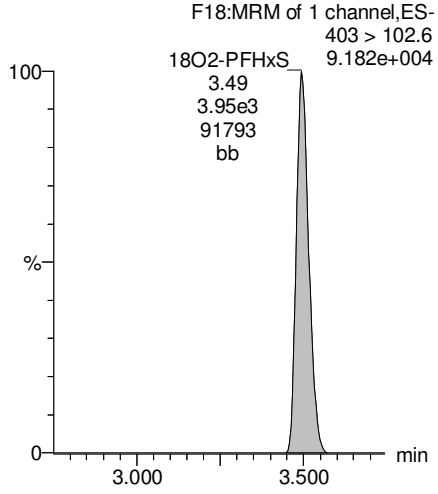
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



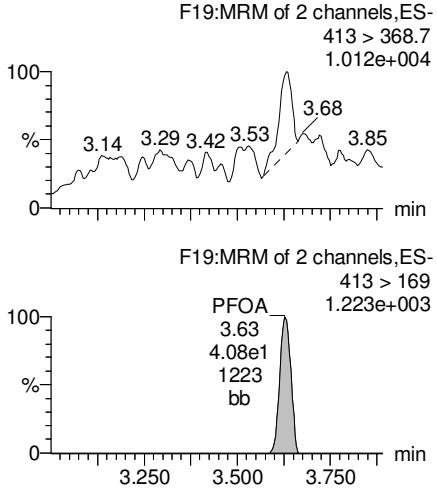
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

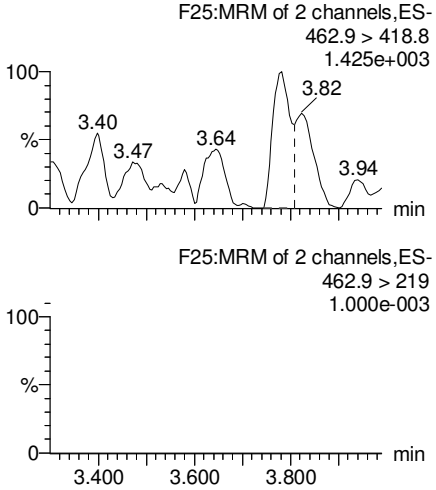
Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

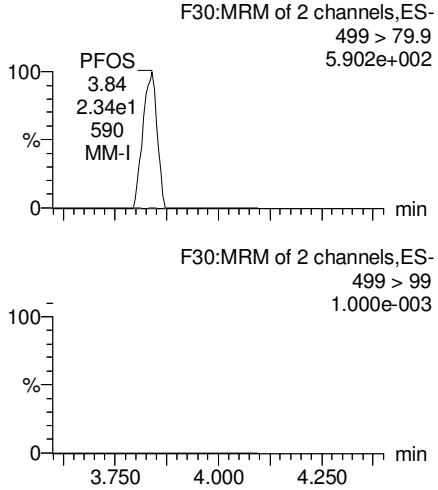
Total PFOA



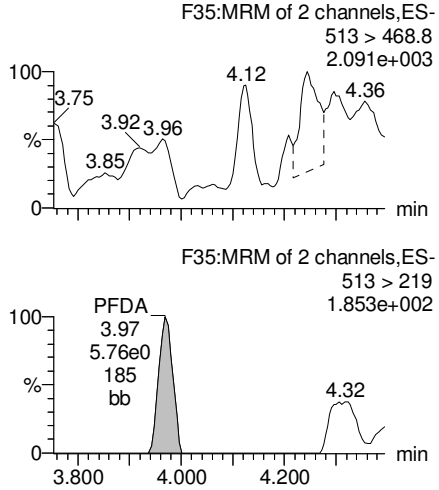
PFNA



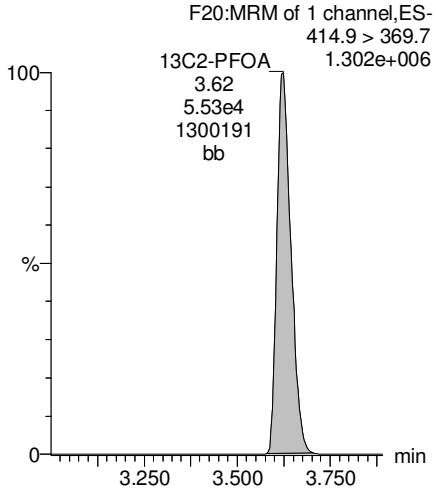
Total PFOS



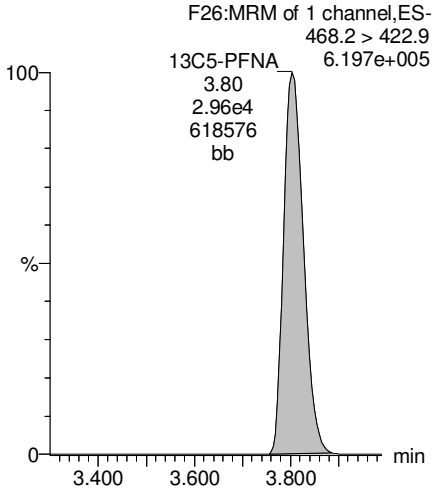
PFDA



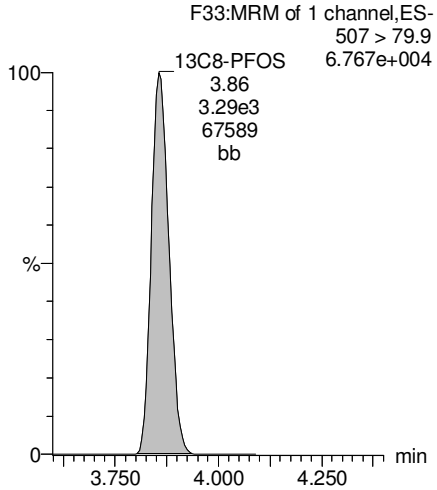
13C2-PFOA



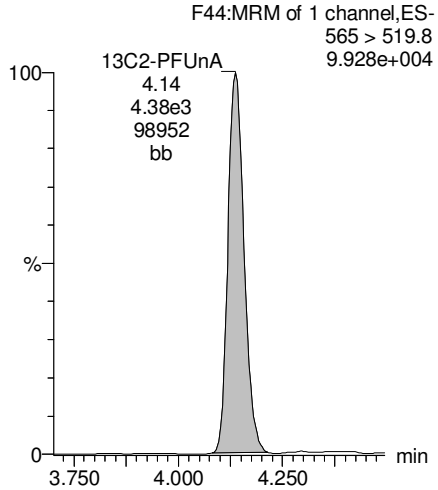
13C5-PFNA



13C8-PFOS



13C2-PFUnA



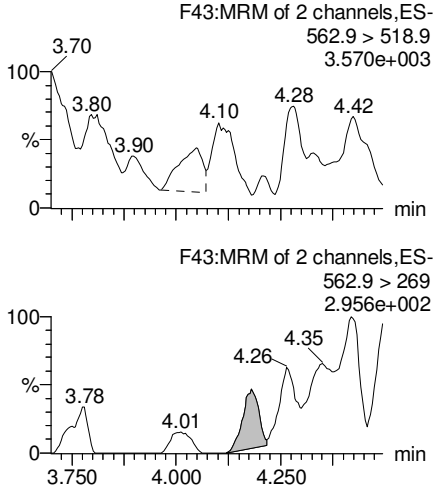
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

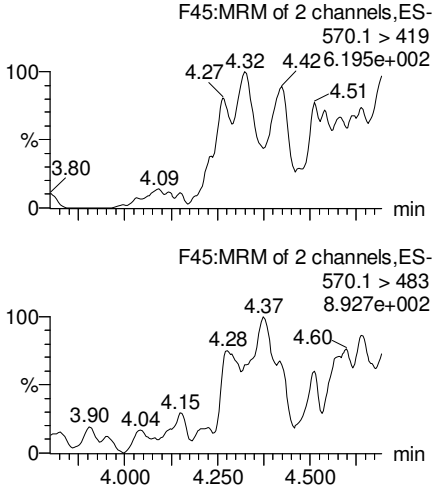
Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

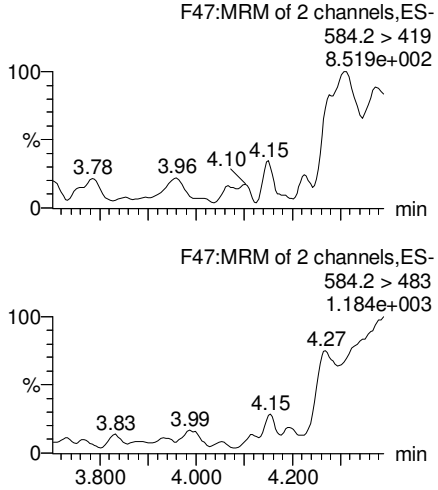
PFUnA



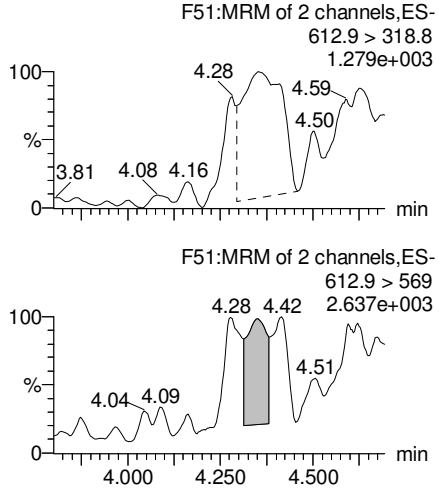
N-MeFOSAA



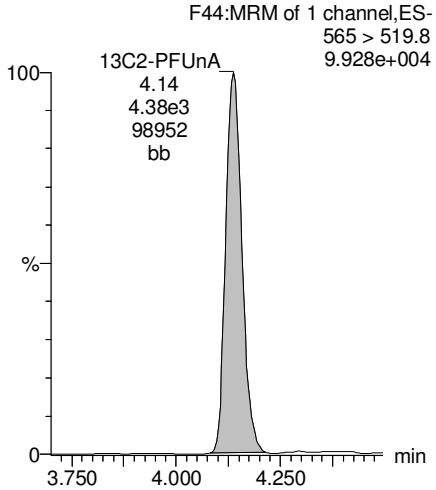
N-EtFOSAA



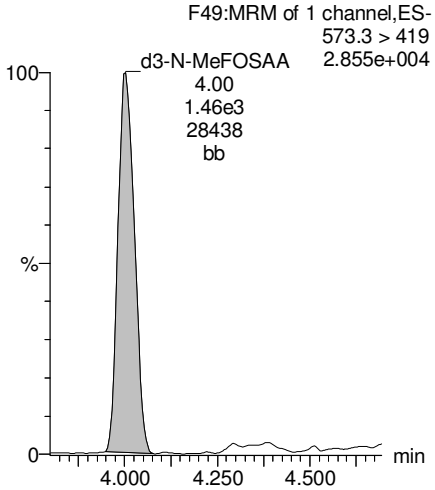
PFDoA



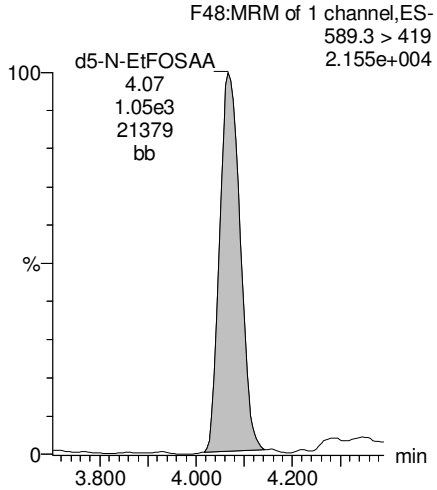
13C2-PFUnA



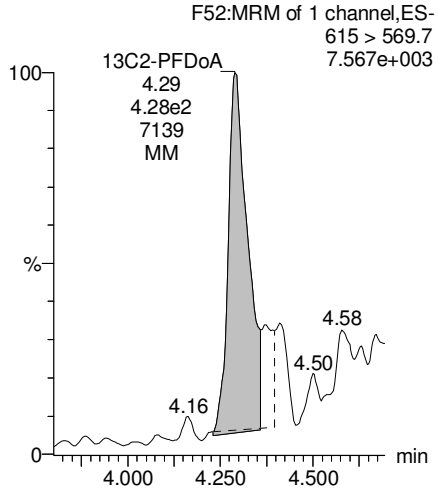
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



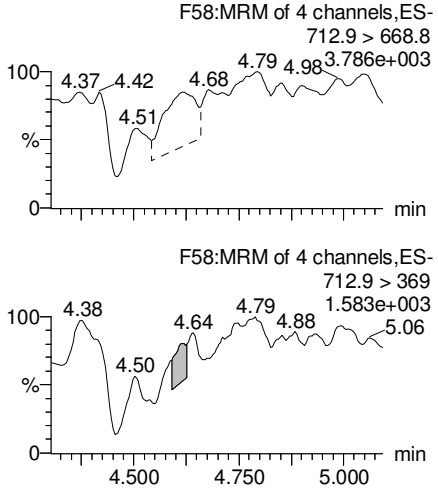
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

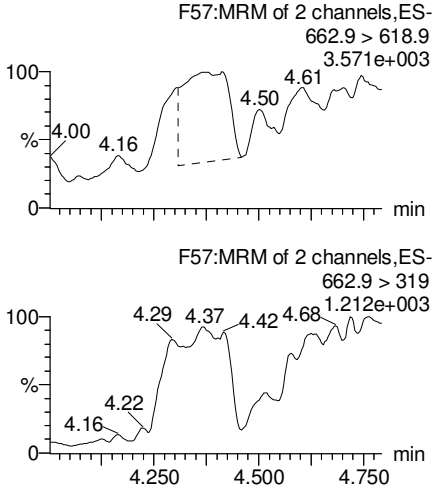
Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

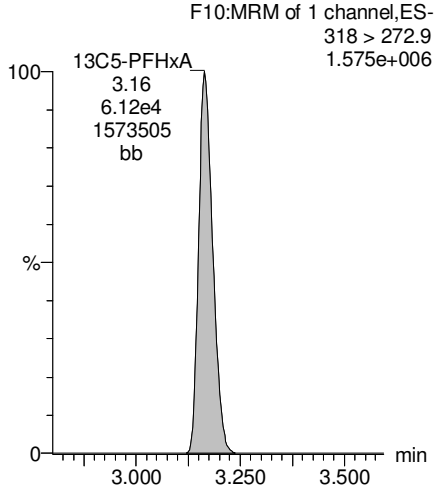
PFTeDA



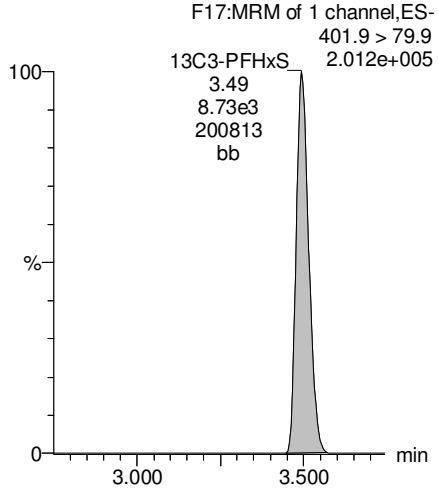
PFTrDA



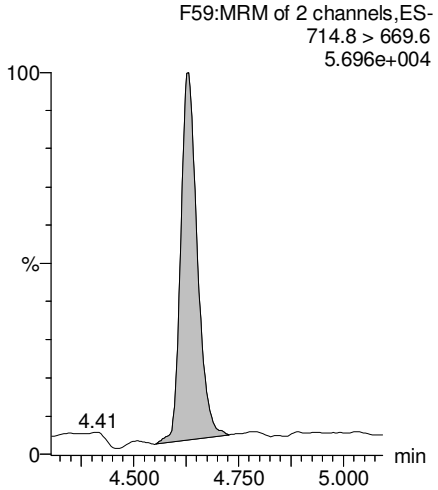
13C5-PFHxA



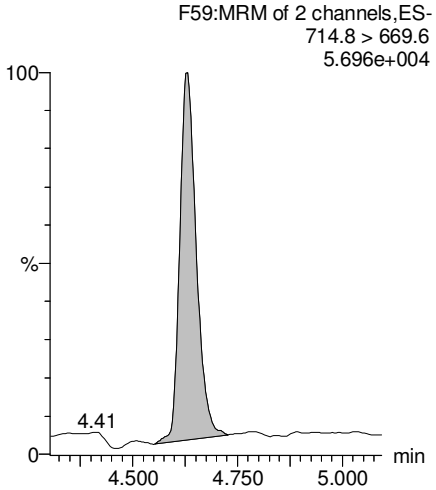
13C3-PFHxS



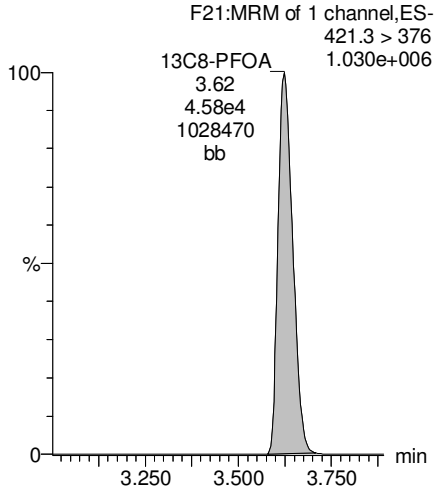
13C2-PFTeDA



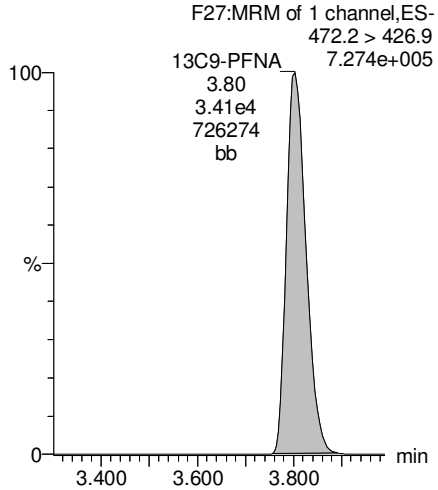
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



GM 7/20/17

Vista Analytical Laboratory

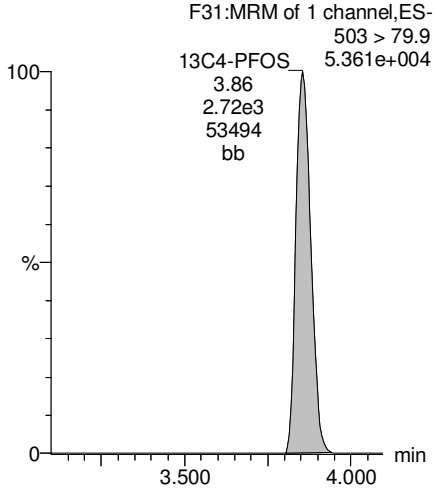
Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-3.qld

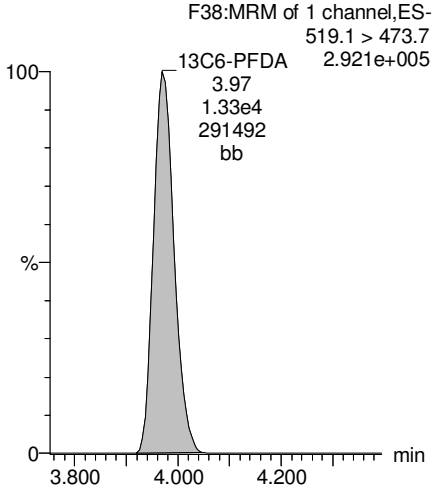
Last Altered: Thursday, July 20, 2017 12:22:20 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:23:26 Pacific Daylight Time

Name: 170707M2_3, Date: 07-Jul-2017, Time: 13:56:23, ID: B7F0137-BLK1 Method Blank 0.125, Description: Method Blank

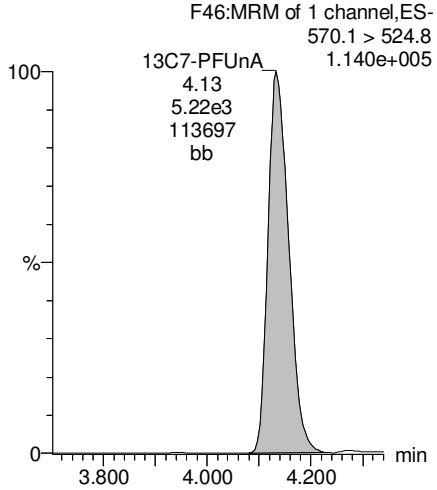
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

Last Altered: Thursday, July 20, 2017 12:28:16 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:30:00 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:11:00
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	5.47e3	3.60e3	0.1250		2.92	2.93	19.0	80.7	100.9	
2	2	PFHxA	313.2 > 268.9	3.48e4	1.21e4	0.1250		3.16	3.17	14.4	81.7	102.1	
3	3	PFHpA	363 > 318.9	2.75e4	2.65e4	0.1250		3.43	3.43	13.0	86.1	107.6	
4	4	PFHxS	398.9 > 79.6	3.51e3	2.58e3	0.1250		3.55	3.50	17.0	73.3	91.7	
5	5	PFOA	413 > 368.7	2.95e4	3.78e4	0.1250		3.63	3.63	9.73	81.7	102.1	
6	6	PFNA	462.9 > 418.8	2.52e4	2.72e4	0.1250		3.82	3.80	11.6	83.0	103.7	
7	7	PFOS	499 > 79.9	4.21e3	4.54e3	0.1250		3.86	3.86	11.6	87.7	109.6	
8	8	PFDA	513 > 468.8	1.57e4	1.53e4	0.1250		4.00	3.97	12.8	88.3	110.3	
9	9	PFUnA	562.9 > 518.9	4.61e3	7.05e3	0.1250		4.13	4.14	8.17	71.6	89.5	
10	10	N-MeFOSAA	570.1 > 419	2.50e3	1.65e3	0.1250		4.00	4.01	19.0	95.0	118.8	
11	11	N-EtFOSAA	584.2 > 419	1.41e3	1.74e3	0.1250		4.07	4.07	10.1	70.5	88.1	
12	12	PFDoA	612.9 > 318.8	2.92e2	4.53e2	0.1250		4.31	4.30	8.07	77.3	96.7	
13	13	PFTrDA	662.9 > 618.9	2.75e3	4.53e2	0.1250		4.50	4.46	75.9	54.1	67.6	
14	14	PFTeDA	712.9 > 668.8	2.37e3	2.71e3	0.1250		4.65	4.63	11.0	73.5	91.8	
15	15	13C3-PFBS	302 > 98.8	3.60e3	3.81e4	0.1250	0.032	2.92	2.93	0.472	118	117.5	
16	16	13C2-PFHxA	315 > 269.8	1.21e4	3.81e4	0.1250	0.296	3.15	3.17	1.59	42.8	107.0	
17	17	13C4-PFHpA	367.2 > 321.8	2.65e4	3.81e4	0.1250	0.302	3.43	3.43	3.48	92.3	92.3	
18	18	18O2-PFHxS	403 > 102.6	2.58e3	5.85e3	0.1250	0.434	3.49	3.50	5.52	102	101.7	
19	19	13C2-PFOA	414.9 > 369.7	3.78e4	3.55e4	0.1250	1.140	3.62	3.63	13.3	93.4	93.4	
20	20	13C5-PFNA	468.2 > 422.9	2.72e4	3.07e4	0.1250	0.958	3.80	3.80	11.1	92.5	92.5	
21	21	13C8-PFOS	507 > 79.9	4.54e3	4.70e3	0.1250	1.061	3.85	3.86	12.1	91.0	91.0	
22	22	13C2-PFDA	515.1 > 469.9	1.53e4	2.08e4	0.1250	0.942	3.97	3.97	9.20	78.1	78.1	
23	23	13C2-PFUnA	565 > 519.8	7.05e3	8.09e3	0.1250	1.084	4.13	4.13	10.9	80.5	80.5	
24	24	d3-N-MeFOSAA	573.3 > 419	1.65e3	8.09e3	0.1250	0.240	4.00	4.01	2.55	84.7	84.7	
25	25	d5-N-EtFOSAA	589.3 > 419	1.74e3	8.09e3	0.1250	0.247	4.07	4.07	2.69	87.0	87.0	
26	26	13C2-PFDoA	615 > 569.7	4.53e2	8.09e3	0.1250	0.127	4.32	4.29	0.700	44.1	44.1	H
27	27	13C2-PFTeDA	714.8 > 669.6	2.71e3	8.09e3	0.1250	0.883	4.64	4.63	4.19	37.9	37.9	H
28	28	13C5-PFHxA	318 > 272.9	3.81e4	3.81e4	0.1250	1.000	3.15	3.17	5.00	40.0	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	5.85e3	5.85e3	0.1250	1.000	3.49	3.50	12.5	100	100.0	
30	30	13C8-PFOA	421.3 > 376	3.55e4	3.55e4	0.1250	1.000	3.62	3.63	12.5	100	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.07e4	3.07e4	0.1250	1.000	3.82	3.80	12.5	100	100.0	
32	32	13C4-PFOS	503 > 79.9	4.70e3	4.70e3	0.1250	1.000	3.85	3.86	12.5	100	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

Last Altered: Thursday, July 20, 2017 12:28:16 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:30:00 Pacific Daylight Time

Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	2.08e4	2.08e4	0.1250	1.000	3.97	3.97	12.5	100	100.0
34	34	13C7-PFUnA	570.1 > 524.8	8.09e3	8.09e3	0.1250	1.000	4.13	4.14	12.5	100	100.0
35	35	Total PFBS	299 > 79.7	5.47e3	3.60e3	0.1250		2.91		19.0	80.7	
36	36	Total PFHxS	398.9 > 79.6	3.51e3	2.58e3	0.1250		3.48		17.0	73.3	
37	37	Total PFOA	413 > 368.7	2.95e4	3.78e4	0.1250		3.61		9.73	81.7	
38	38	Total PFOS	499 > 79.9	4.21e3	4.54e3	0.1250		3.84		11.6	87.7	
39	39	Total N-Me-FOSAA	570.1 > 419	2.50e3		0.1250		3.98		19.0	95.0	
40	40	Total N-EtFOSAA	584.2 > 419	1.41e3		0.1250		4.06		10.1	70.5	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

Last Altered: Thursday, July 20, 2017 12:28:16 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:30:00 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.93	5467.112	3597.409	18.997	bb	80.7

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.50	3505.774	2583.801	16.960	MM	73.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.63	29462.191	37846.414	9.731	bb	81.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.86	4210.312	4539.052	11.595	MM	87.7

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	10	N-MeFOSAA	570.1 > 419	4.01	2495.879	1646.233	18.951	bb	95.0

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	11	N-EtFOSAA	584.2 > 419	4.07	1405.219	1740.058	10.095	bb	70.5

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

Last Altered: Thursday, July 20, 2017 12:28:16 Pacific Daylight Time
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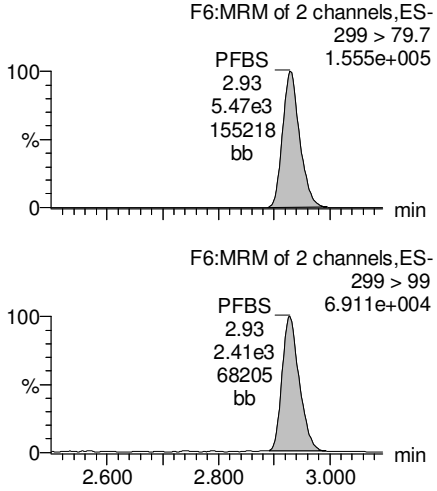
Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

Total PFBS



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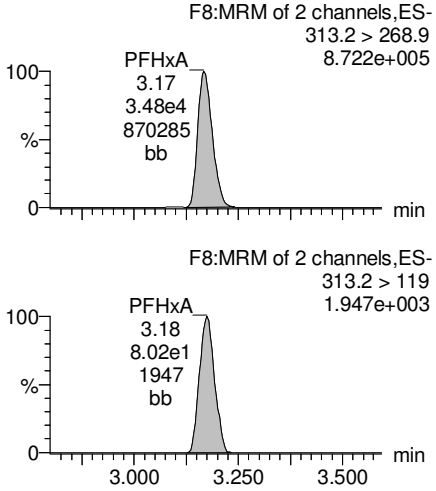

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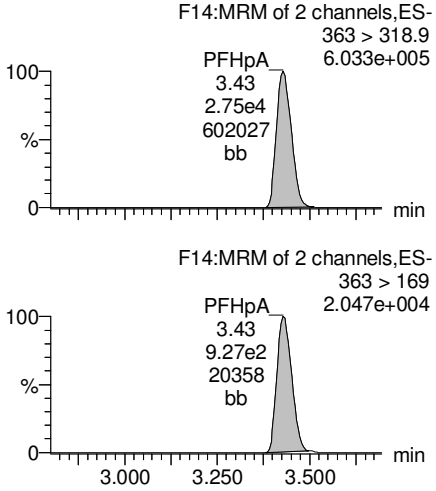

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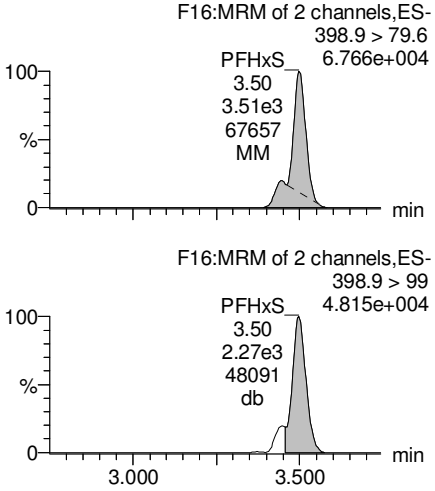

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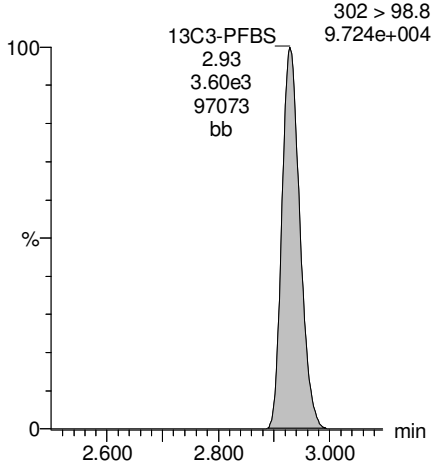

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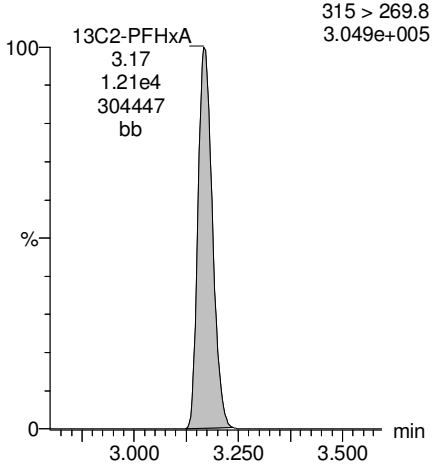

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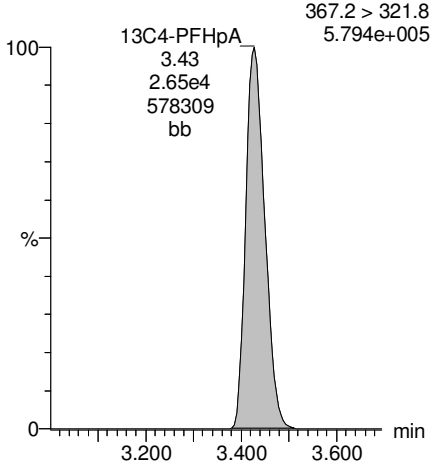

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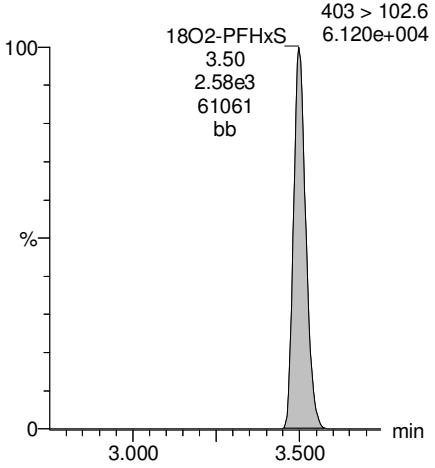

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

Last Altered: Thursday, July 20, 2017 12:28:16 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:30:00 Pacific Daylight Time

Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

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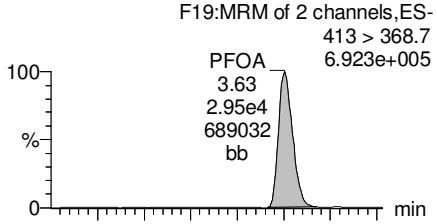

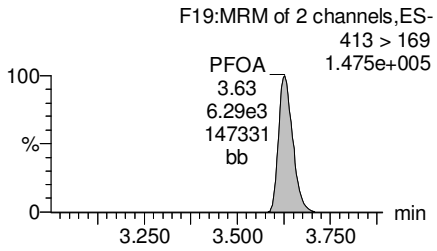

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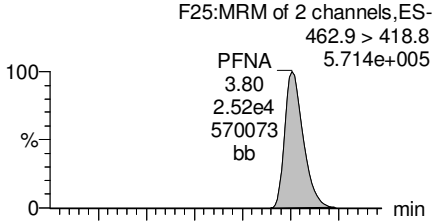

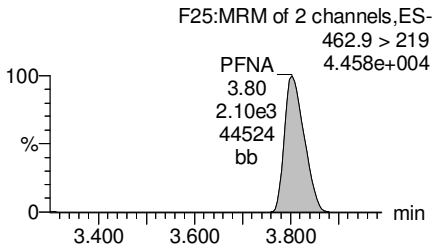

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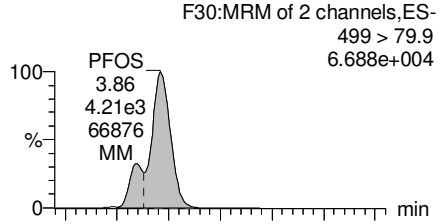

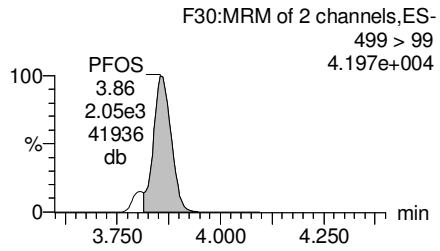

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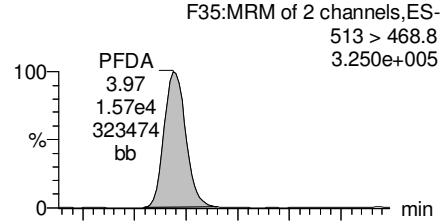
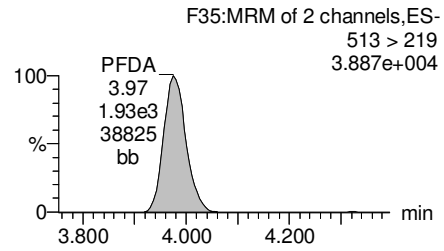
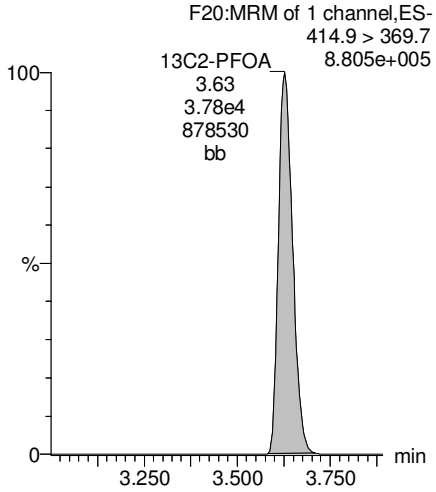




13C2-PFOA



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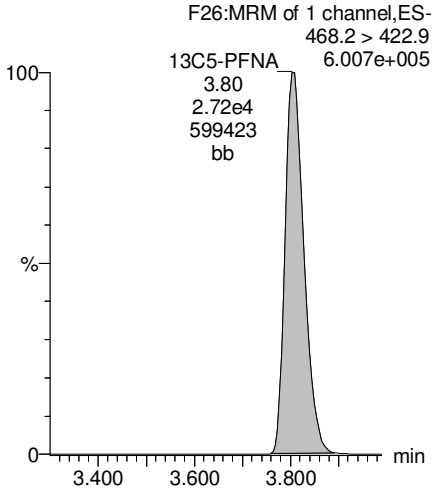

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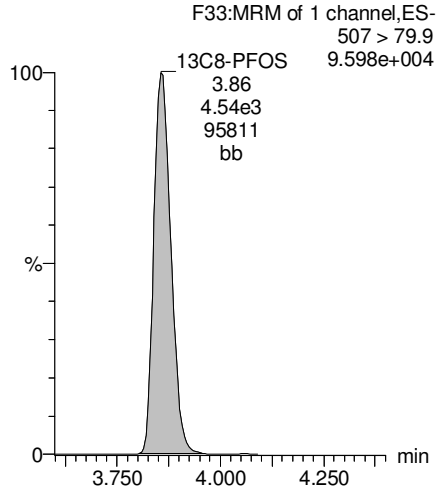

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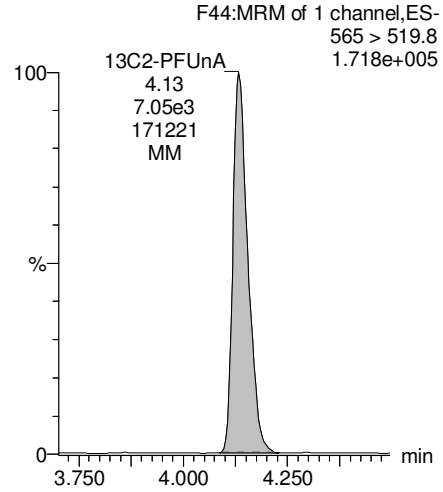

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

Last Altered: Thursday, July 20, 2017 12:28:16 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:30:00 Pacific Daylight Time

Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

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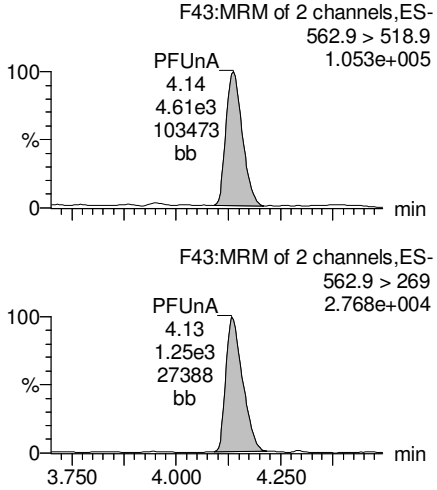
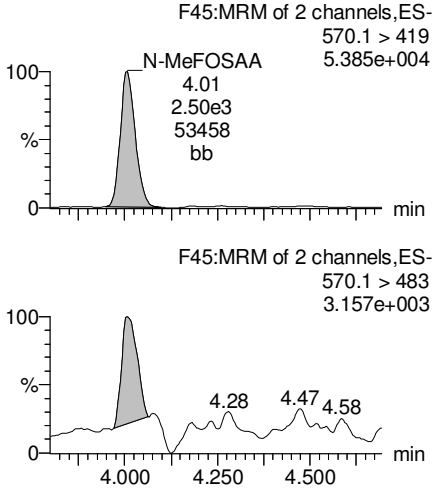


N-MeFOSAA



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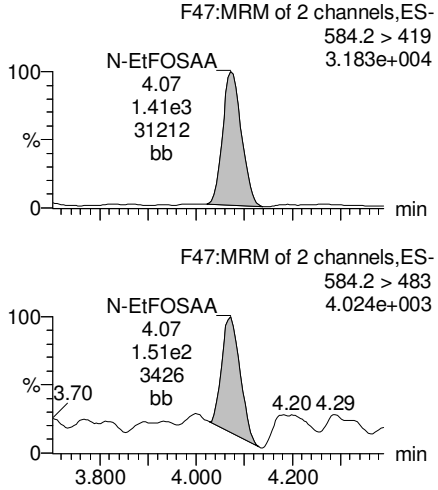

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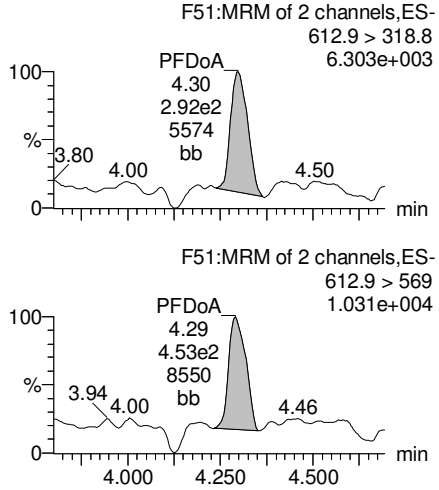

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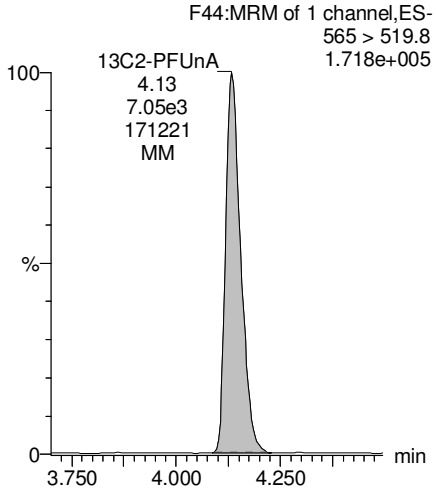

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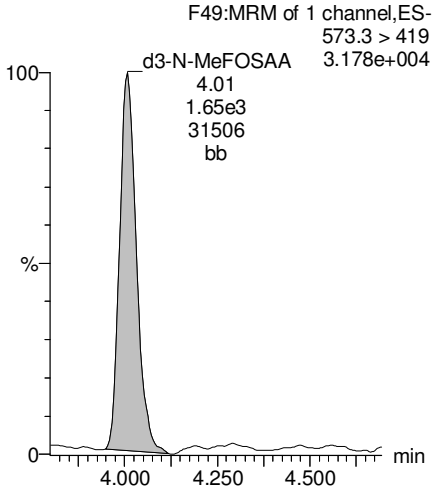

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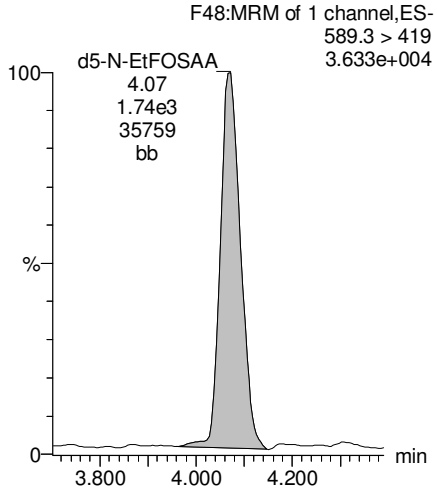

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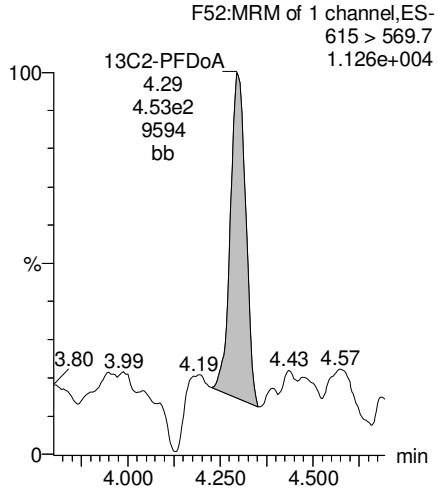

GM 7/20/17

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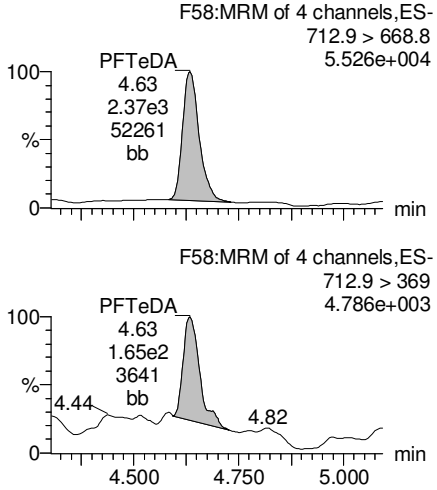
PFTeDA



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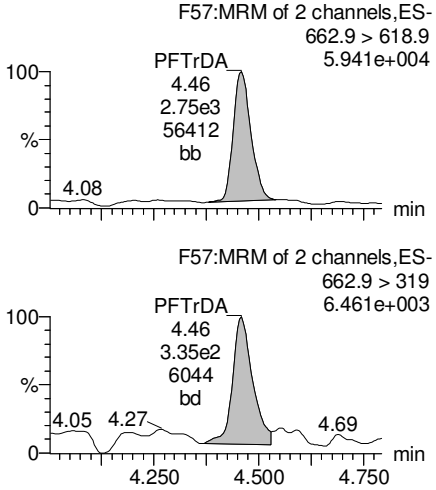
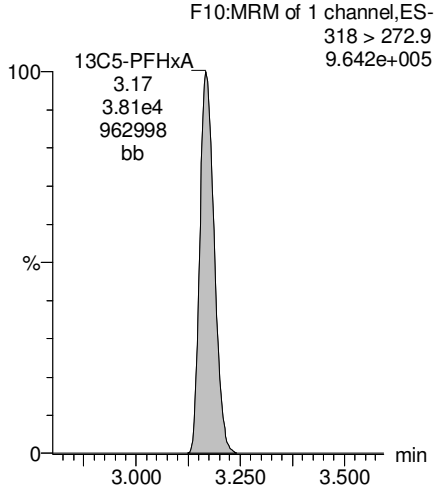


13C5-PFHxA



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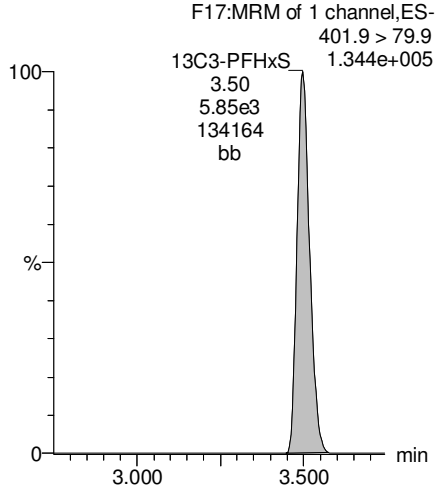

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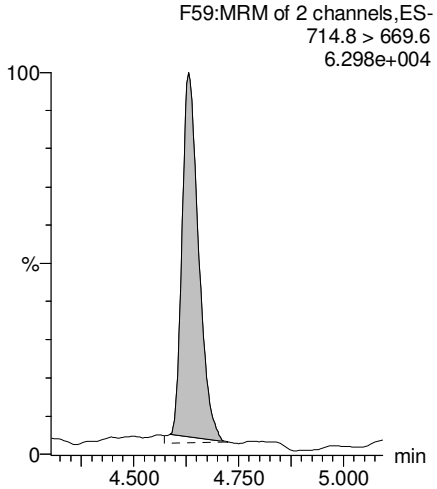

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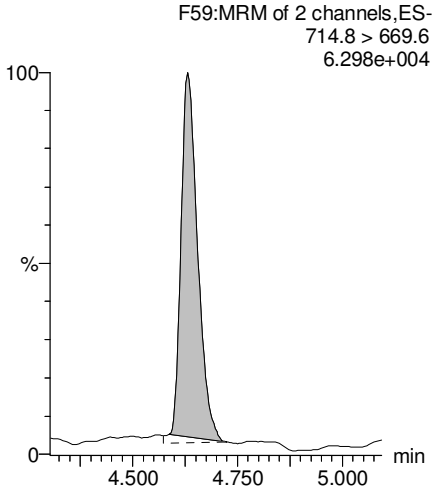

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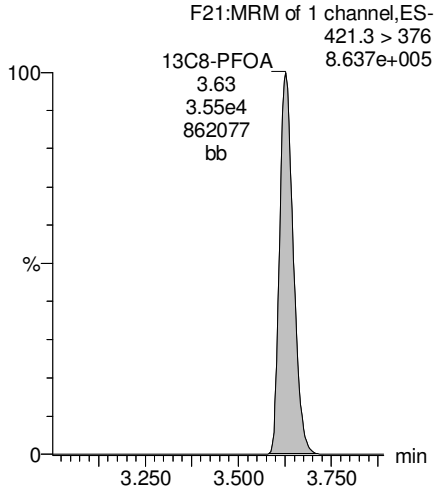

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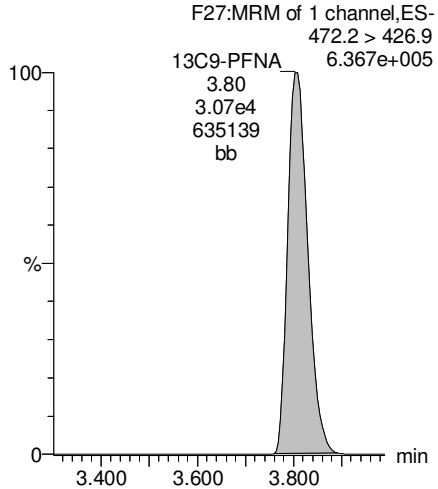

GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-5.qld

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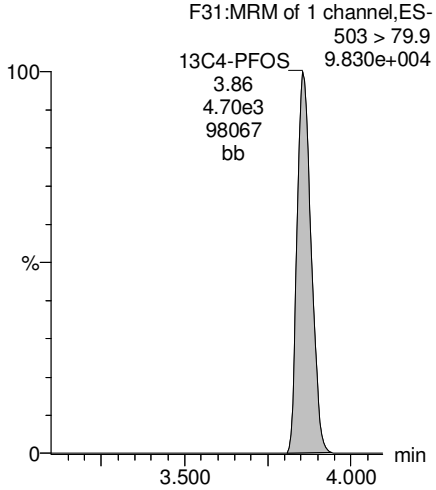
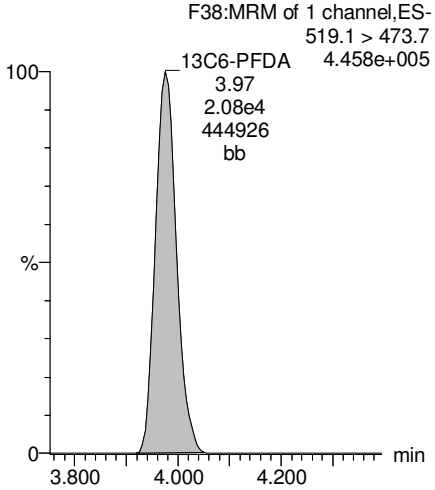
Name: 170707M2_5, Date: 07-Jul-2017, Time: 14:18:24, ID: B7F0137-BS1 OPR 0.125, Description: OPR

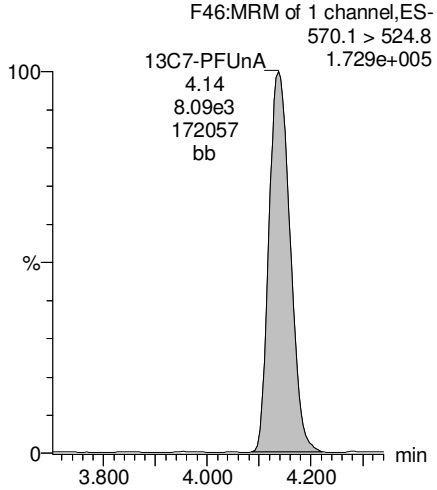
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-47.qld

Last Altered: Thursday, July 20, 2017 15:49:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:50:16 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 13 Jul 2017 08:53:22
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

Name: 170711M1_47, Date: 11-Jul-2017, Time: 18:47:43, ID: B7G0033-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	14	PFDoA	612.9 > 318.8		1.28e3	0.1250		4.32					
2	15	PFTrDA	662.9 > 618.9		1.28e3	0.1250		4.38					
3	16	PFTeDA	712.9 > 668.8		8.63e3	0.1250		4.55					
4	29	13C2-PFDoA	615 > 569.7	1.28e3	2.91e4	0.1250	0.130	4.32	4.24	0.551	33.9	33.9	H
5	30	13C2-PFTeDA	714.8 > 669.6	8.63e3	2.91e4	0.1250	1.018	4.55	4.57	3.70	29.1	29.1	H
6	38	13C7-PFUnA	570.1 > 524.8	2.91e4	2.91e4	0.1250	1.000	4.16	4.08	12.5	100	100.0	

GM 7/20/17

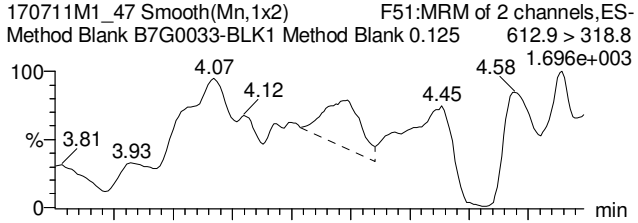
Dataset: U:\Q4.PRO\results\170711M1\170711M1-47.qld

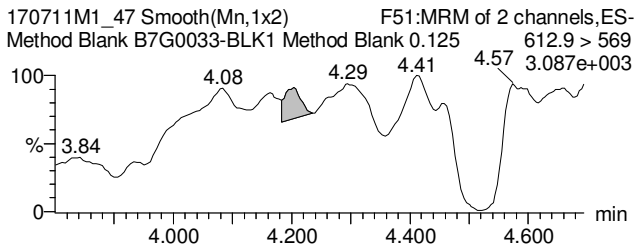
Last Altered: Thursday, July 20, 2017 15:49:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:50:16 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 13 Jul 2017 08:53:22
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

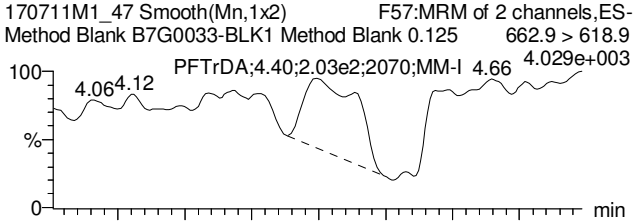
Name: 170711M1_47, Date: 11-Jul-2017, Time: 18:47:43, ID: B7G0033-BLK1 Method Blank 0.125, Description: Method Blank

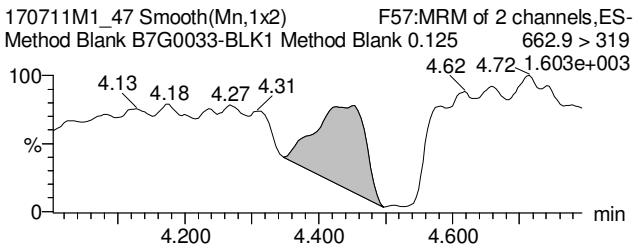
PFDoA



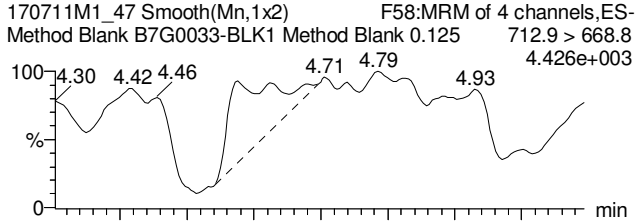


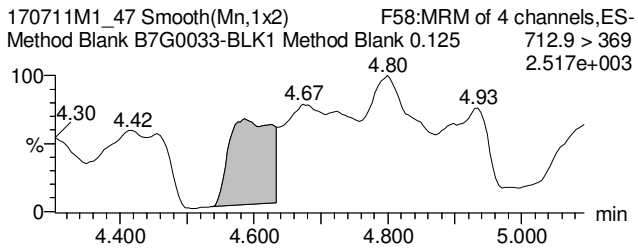
PFTrDA



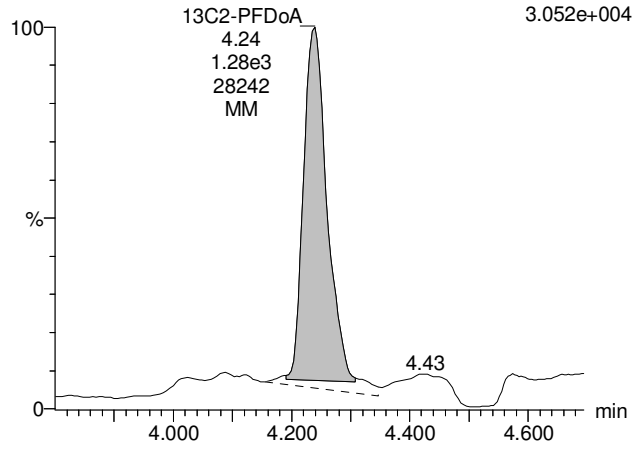


PFTeDA

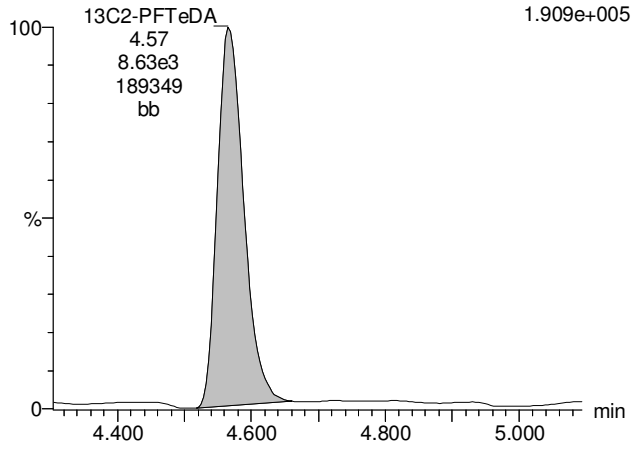




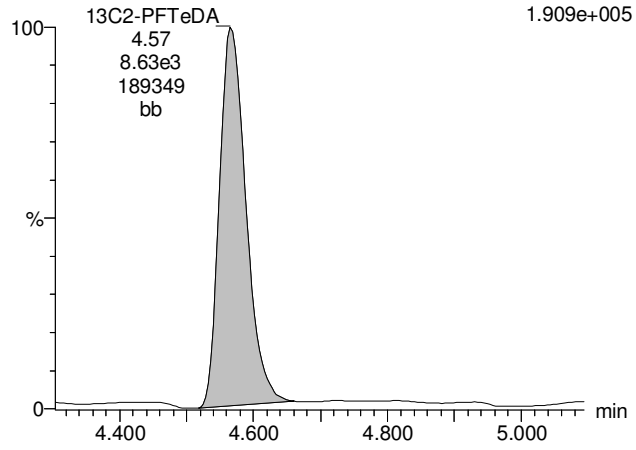
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA



GM 7/20/17

Vista Analytical Laboratory

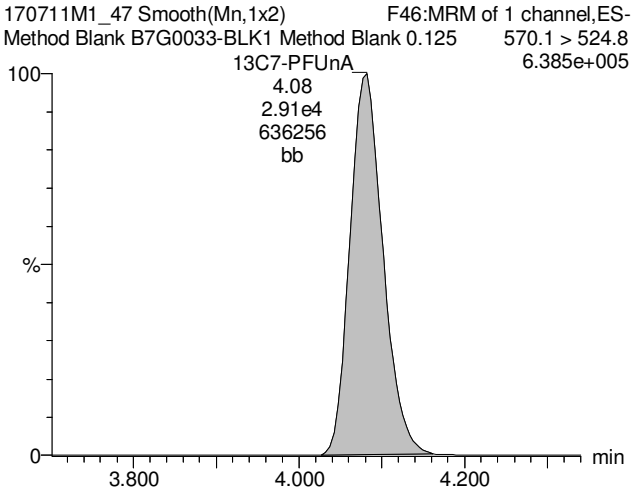
Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-47.qld

Last Altered: Thursday, July 20, 2017 15:49:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:50:16 Pacific Daylight Time

Name: 170711M1_47, Date: 11-Jul-2017, Time: 18:47:43, ID: B7G0033-BLK1 Method Blank 0.125, Description: Method Blank

13C7-PFUnA



GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-44.qld

Last Altered: Thursday, July 20, 2017 15:43:42 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:47:28 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 13 Jul 2017 08:53:22
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

Name: 170711M1_44, Date: 11-Jul-2017, Time: 18:15:31, ID: B7G0033-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	14	PFDoA	612.9 > 318.8	1.85e3	2.78e3	0.1250		4.32	4.23	8.32	81.0	101.3	
2	15	PFTrDA	662.9 > 618.9	1.92e4	2.78e3	0.1250		4.38	4.40	86.5	52.2	65.3	
3	16	PFTeDA	712.9 > 668.8	9.05e3	1.03e4	0.1250		4.55	4.56	11.0	69.4	86.8	
4	29	13C2-PFDoA	615 > 569.7	2.78e3	4.26e4	0.1250	0.130	4.32	4.23	0.816	50.3	50.3	
5	30	13C2-PFTeDA	714.8 > 669.6	1.03e4	4.26e4	0.1250	1.018	4.55	4.56	3.03	23.8	23.8	H
6	38	13C7-PFUnA	570.1 > 524.8	4.26e4	4.26e4	0.1250	1.000	4.16	4.08	12.5	100	100.0	

GM 7/20/27

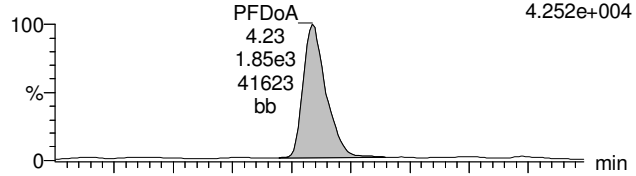
Dataset: U:\Q4.PRO\results\170711M1\170711M1-44.qld

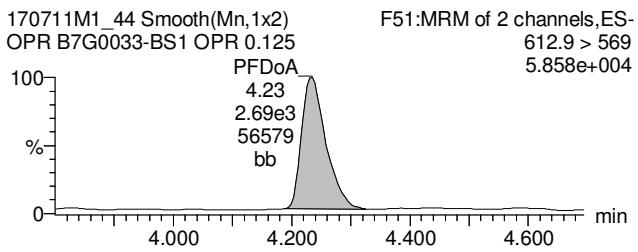
Last Altered: Thursday, July 20, 2017 15:43:42 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:47:28 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 13 Jul 2017 08:53:22
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

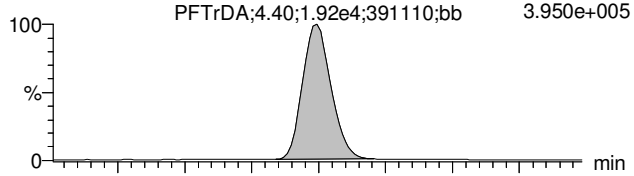
Name: 170711M1_44, Date: 11-Jul-2017, Time: 18:15:31, ID: B7G0033-BS1 OPR 0.125, Description: OPR

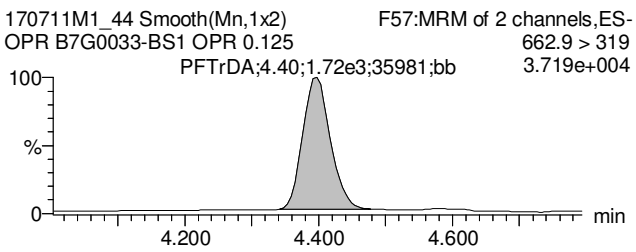
PFDoA



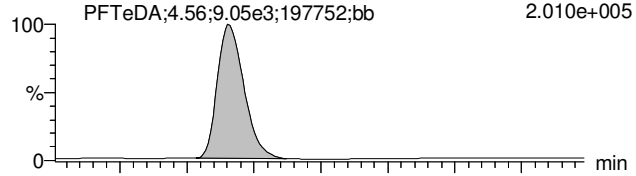


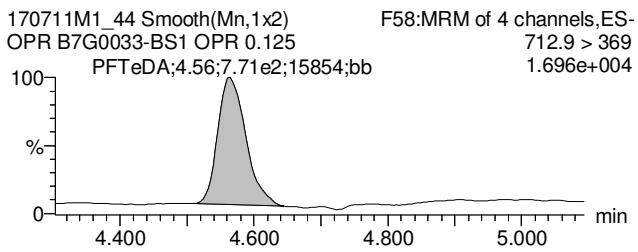
PFTrDA



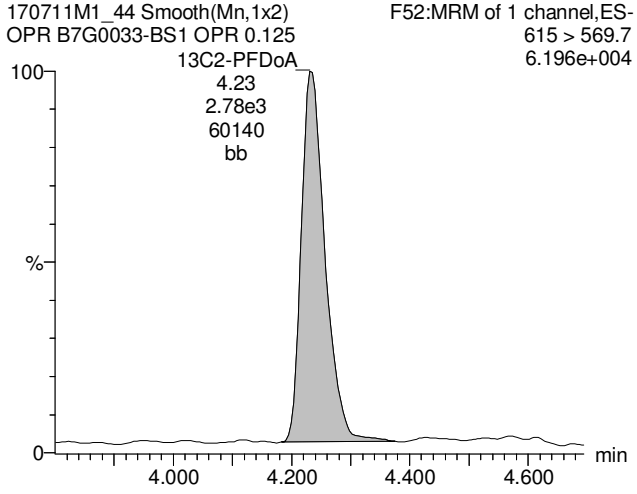


PFTeDA

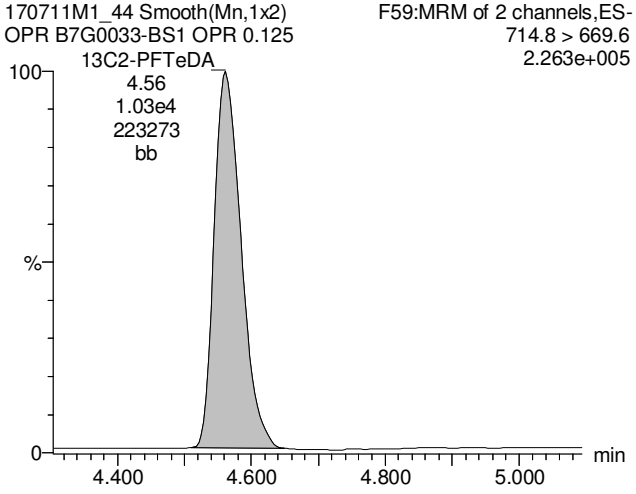




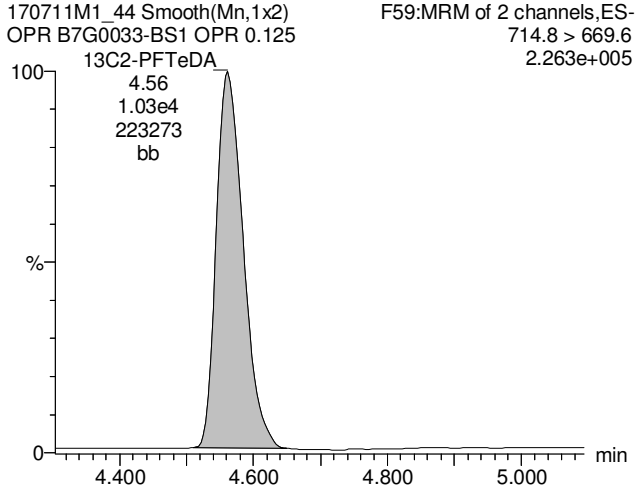
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA



GM 7/20/27

Vista Analytical Laboratory

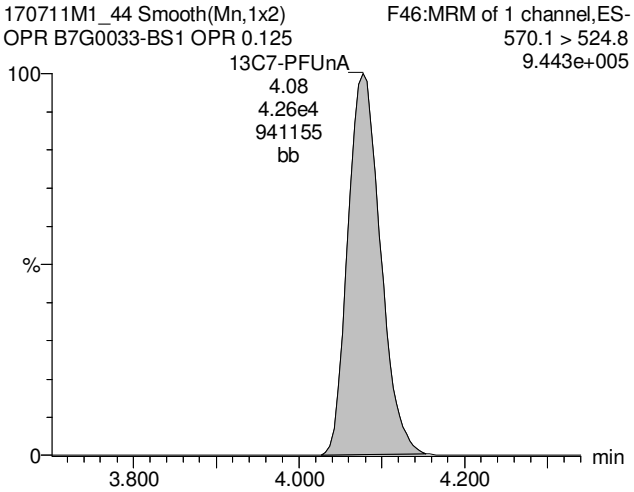
Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-44.qld

Last Altered: Thursday, July 20, 2017 15:43:42 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:47:28 Pacific Daylight Time

Name: 170711M1_44, Date: 11-Jul-2017, Time: 18:15:31, ID: B7G0033-BS1 OPR 0.125, Description: OPR

13C7-PFUnA



GM 7/20/27

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	1.12e2	3.87e3	0.1168		2.92	2.94	0.361	0.843		
2	2	PFHxA	313.2 > 268.9	3.27e4	1.40e4	0.1168		3.16	3.17	11.7	70.8		
3	3	PFHpA	363 > 318.9	1.75e4	2.90e4	0.1168		3.43	3.43	7.56	52.7		
4	4	PFHxS	398.9 > 79.6	1.75e2	2.60e3	0.1168		3.55	3.50	0.840	3.87		
5	5	PFOA	413 > 368.7	1.14e4	3.13e4	0.1168		3.63	3.63	4.54	39.8		
6	6	PFNA	462.9 > 418.8	1.22e3	1.42e4	0.1168		3.82	3.81	1.08	7.76		
7	7	PFOS	499 > 79.9	1.23e2	1.21e3	0.1168		3.86	3.80	1.26	9.80		
8	8	PFDA	513 > 468.8		3.23e3	0.1168		4.00					
9	9	PFUnA	562.9 > 518.9		1.44e3	0.1168		4.13					
10	10	N-MeFOSAA	570.1 > 419		3.47e2	0.1168		4.00					
11	11	N-EtFOSAA	584.2 > 419		1.90e2	0.1168		4.07					
12	12	PFDoA	612.9 > 318.8		2.39e1	0.1168		4.31					
13	13	PFTrDA	662.9 > 618.9		2.39e1	0.1168		4.50					
14	14	PFTeDA	712.9 > 668.8		2.21e2	0.1168		4.65					
15	15	13C3-PFBS	302 > 98.8	3.87e3	4.53e4	0.1168	0.032	2.92	2.93	0.428	114	106.6	
16	16	13C2-PFHxA	315 > 269.8	1.40e4	4.53e4	0.1168	0.296	3.15	3.17	1.54	44.5	104.0	
17	17	13C4-PFHpA	367.2 > 321.8	2.90e4	4.53e4	0.1168	0.302	3.43	3.43	3.20	90.8	84.9	
18	18	18O2-PFHxS	403 > 102.6	2.60e3	6.14e3	0.1168	0.434	3.49	3.50	5.29	104	97.5	
19	19	13C2-PFOA	414.9 > 369.7	3.13e4	2.83e4	0.1168	1.140	3.62	3.63	13.8	104	96.8	
20	20	13C5-PFNA	468.2 > 422.9	1.42e4	1.61e4	0.1168	0.958	3.80	3.81	11.0	98.6	92.1	
21	21	13C8-PFOS	507 > 79.9	1.21e3	1.06e3	0.1168	1.061	3.85	3.86	14.3	115	107.9	
22	22	13C2-PFDA	515.1 > 469.9	3.23e3	3.94e3	0.1168	0.942	3.97	3.97	10.2	93.0	86.9	
23	23	13C2-PFUnA	565 > 519.8	1.44e3	1.27e3	0.1168	1.084	4.13	4.14	14.1	111	104.0	
24	24	d3-N-MeFOSAA	573.3 > 419	3.47e2	1.27e3	0.1168	0.240	4.00	4.00	3.41	121	113.4	
25	25	d5-N-EtFOSAA	589.3 > 419	1.90e2	1.27e3	0.1168	0.247	4.07	4.07	1.87	64.7	60.4	
26	26	13C2-PFDoA	615 > 569.7	2.39e1	1.27e3	0.1168	0.127	4.32	4.29	0.235	15.8	14.8	H
27	27	13C2-PFTeDA	714.8 > 669.6	2.21e2	1.27e3	0.1168	0.883	4.64	4.63	2.17	21.0	19.7	H
28	28	13C5-PFHxA	318 > 272.9	4.53e4	4.53e4	0.1168	1.000	3.15	3.17	5.00	42.8	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	6.14e3	6.14e3	0.1168	1.000	3.49	3.50	12.5	107	100.0	
30	30	13C8-PFOA	421.3 > 376	2.83e4	2.83e4	0.1168	1.000	3.62	3.63	12.5	107	100.0	
31	31	13C9-PFNA	472.2 > 426.9	1.61e4	1.61e4	0.1168	1.000	3.82	3.81	12.5	107	100.0	
32	32	13C4-PFOS	503 > 79.9	1.06e3	1.06e3	0.1168	1.000	3.85	3.86	12.5	107	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	3.94e3	3.94e3	0.1168	1.000	3.97	3.97	12.5	107	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.27e3	1.27e3	0.1168	1.000	4.13	4.14	12.5	107	100.0
35	35	Total PFBS	299 > 79.7	1.12e2	3.87e3	0.1168		2.91		0.361	0.843	
36	36	Total PFHxS	398.9 > 79.6	1.75e2	2.60e3	0.1168		3.48		0.840	3.87	
37	37	Total PFOA	413 > 368.7	1.14e4	3.13e4	0.1168		3.61		4.54	39.8	
38	38	Total PFOS	499 > 79.9	1.23e2	1.21e3	0.1168		3.84		1.26	9.80	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1168		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1168		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.94	111.828	3872.630	0.361	bb	0.8

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.50	174.580	2597.991	0.840	bb	3.9

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.63	11350.090	31263.918	4.538	bb	39.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.80	122.526	1210.732	1.265	MM	9.8

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

GM 7/20/17

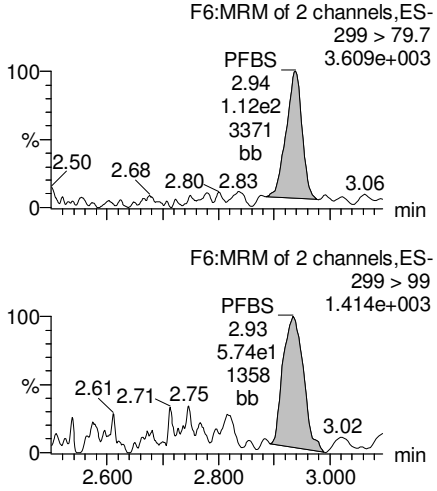
Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

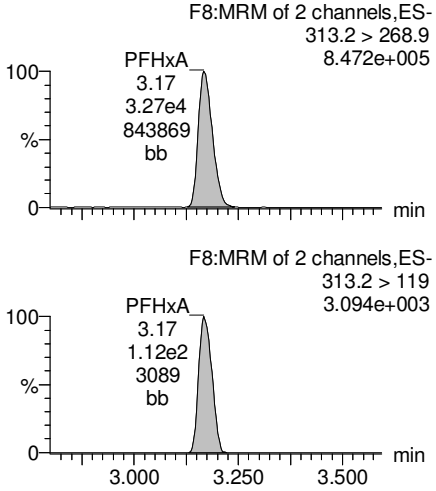
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

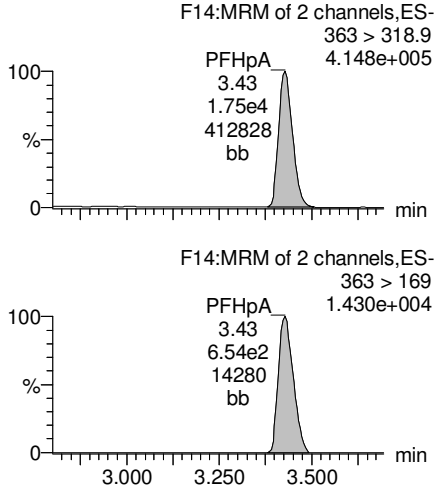
Total PFBS



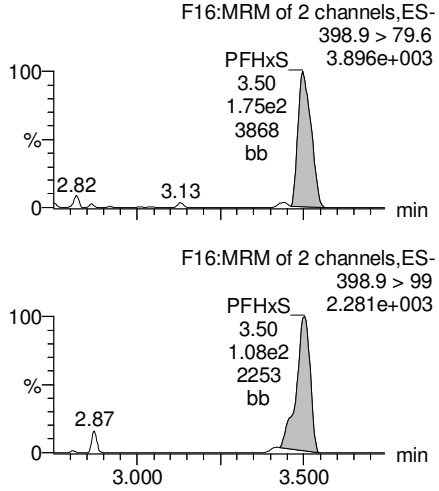
PFHxA



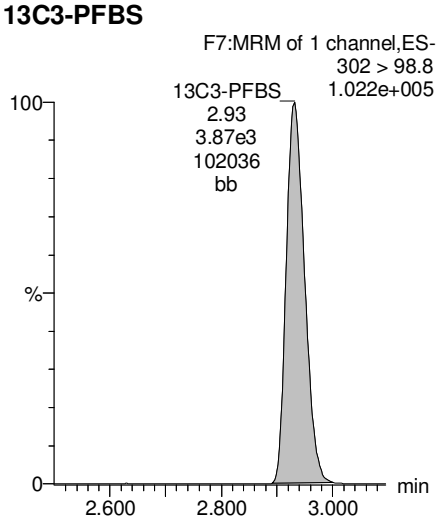
PFHpA



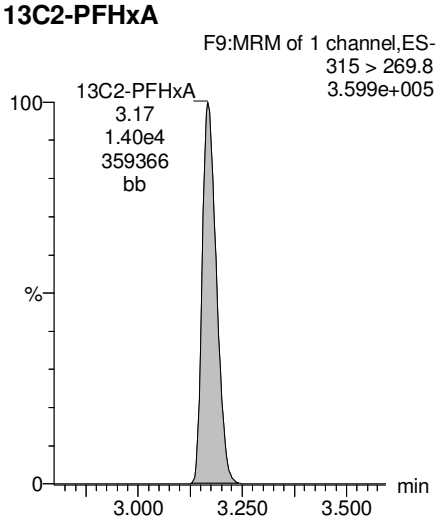
Total PFHxS



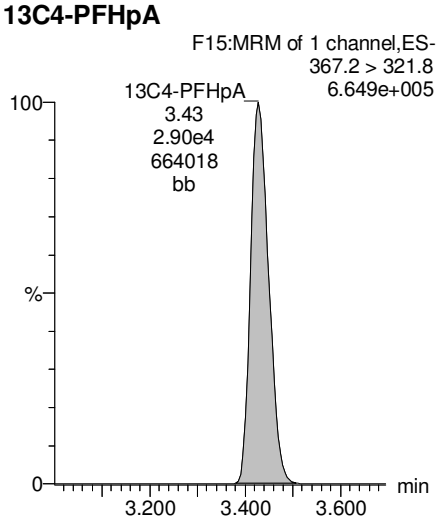
13C3-PFBS



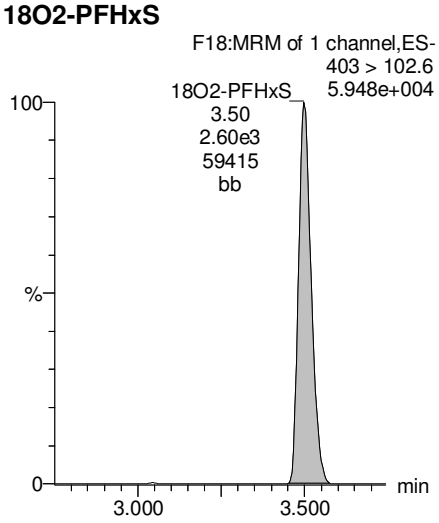
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



GM 7/20/17

Vista Analytical Laboratory

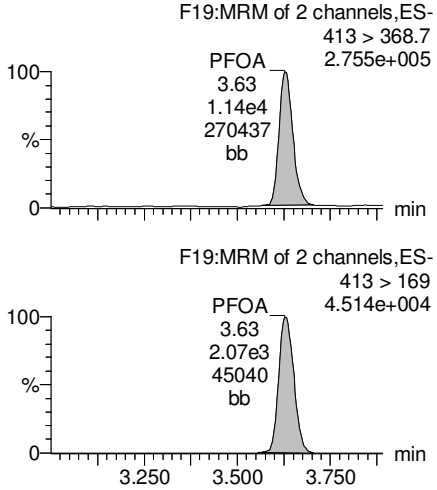
Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

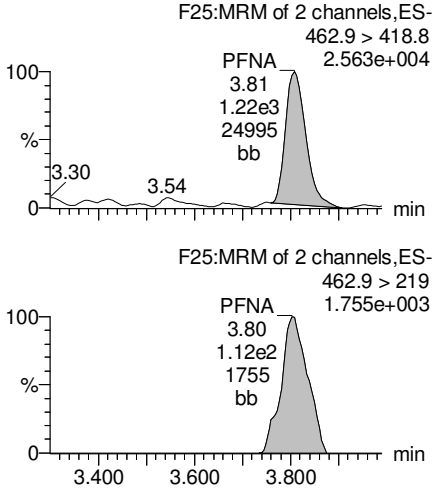
Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

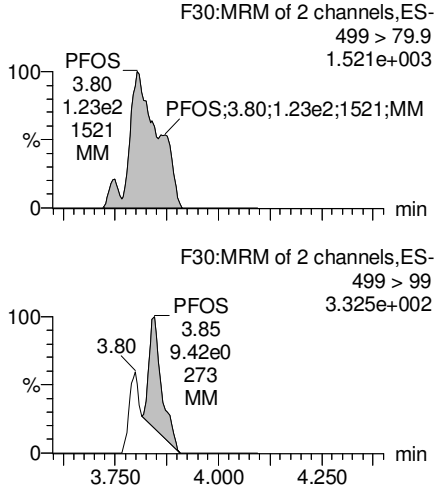
Total PFOA



PFNA



Total PFOS



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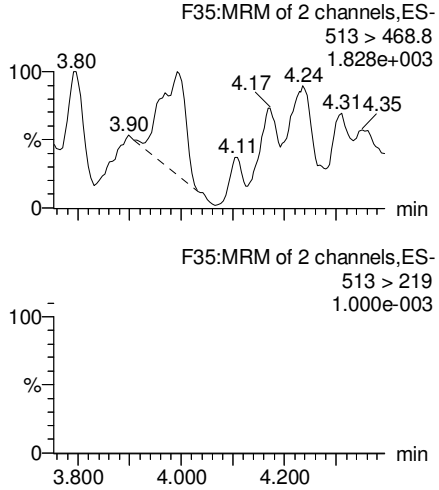
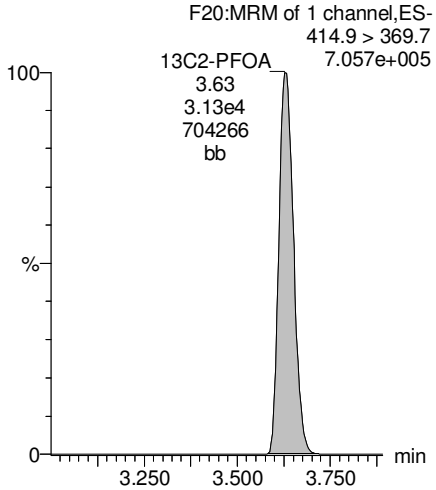
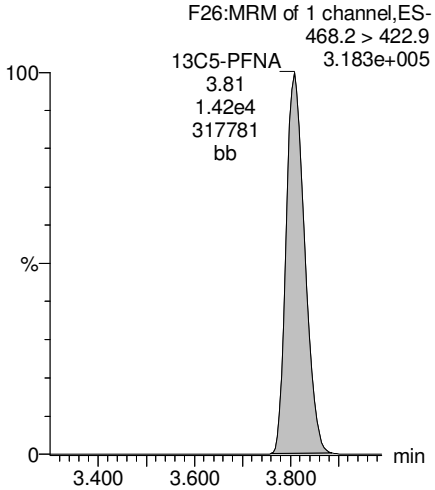


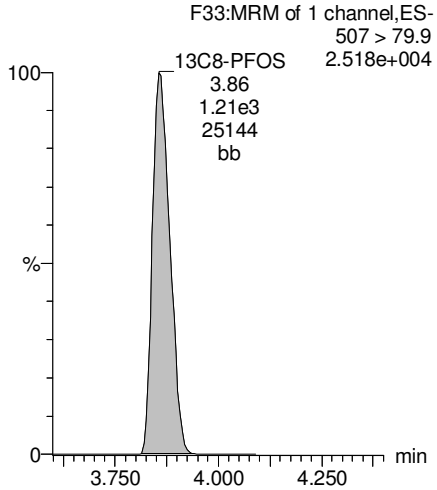
13C2-PFOA



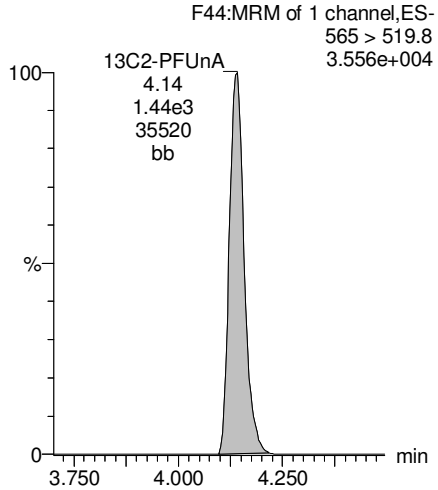
13C5-PFNA



13C8-PFOS



13C2-PFUnA



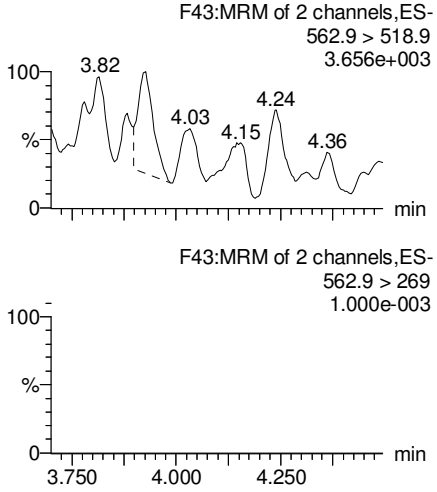
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

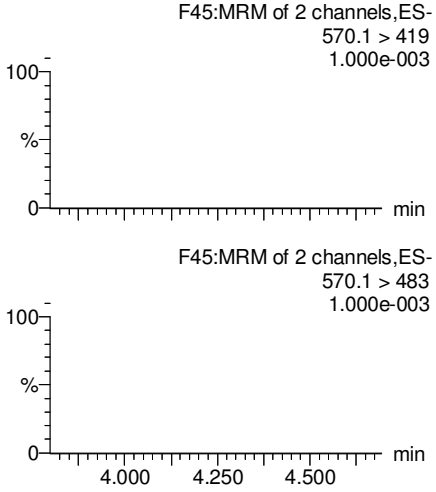
Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

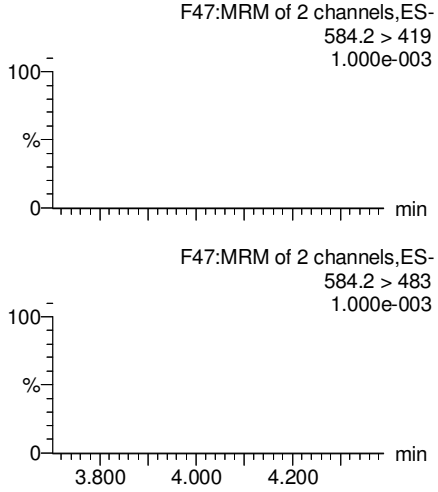
PFUnA



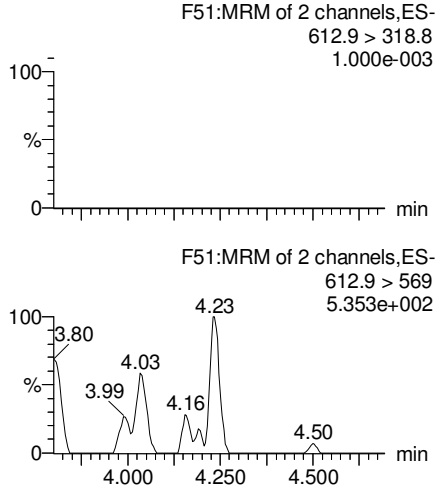
N-MeFOSAA



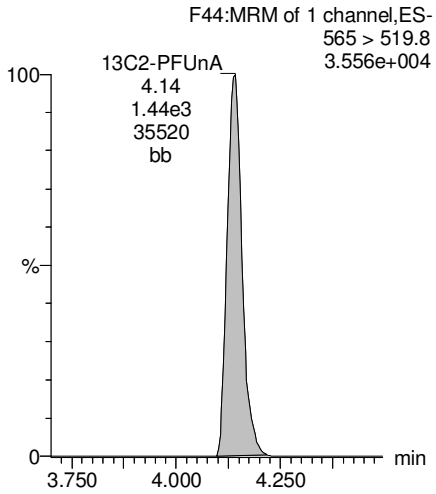
N-EtFOSAA



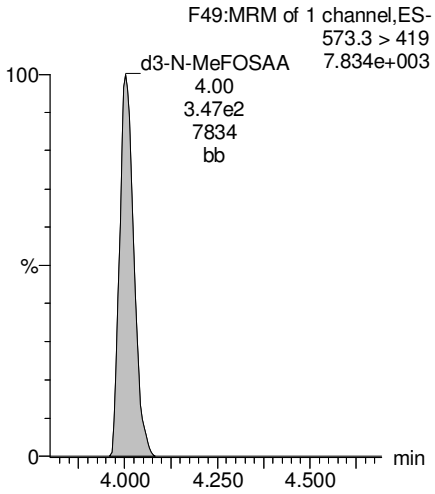
PFDoA



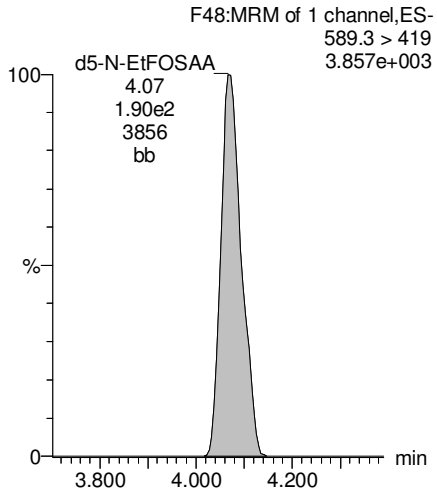
13C2-PFUnA



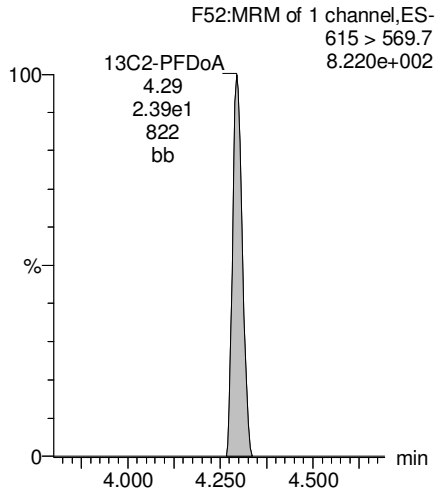
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



GM 7/20/17

Vista Analytical Laboratory

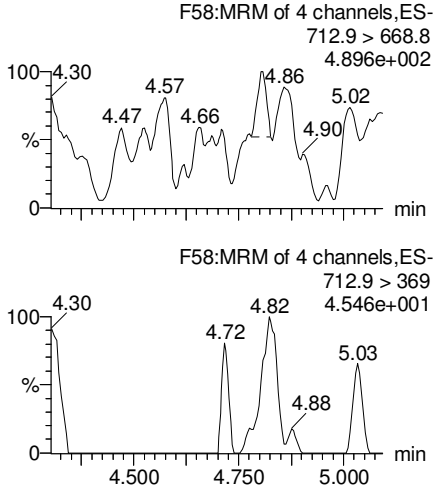
Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

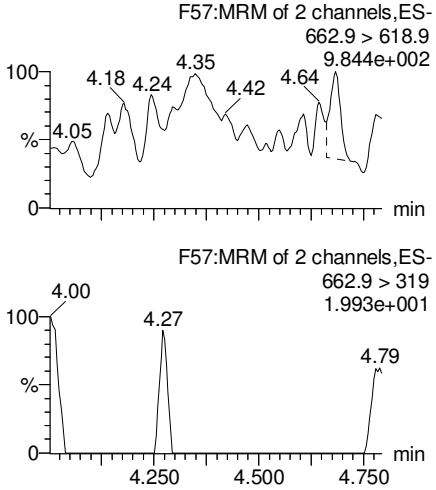
Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

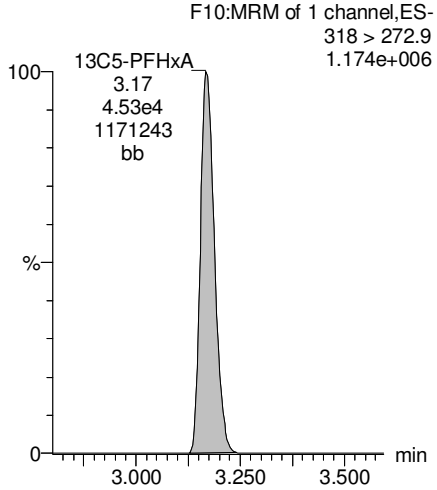
PFTeDA



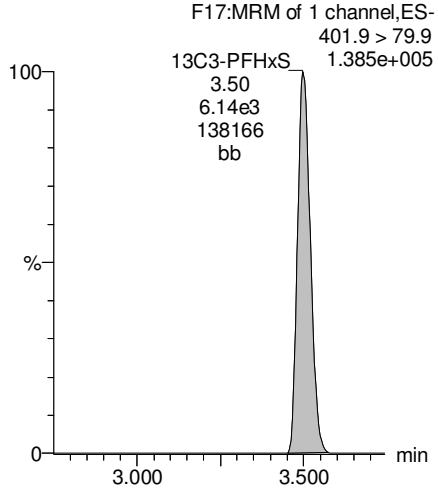
PFTrDA



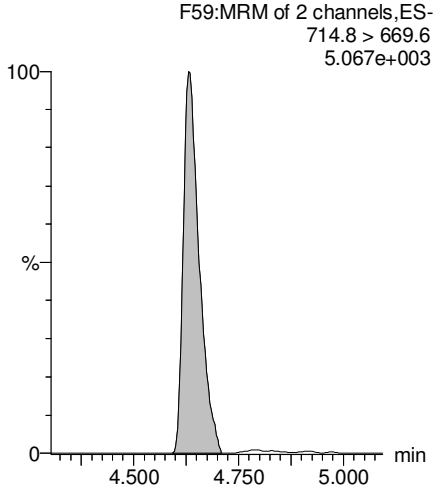
13C5-PFHxA



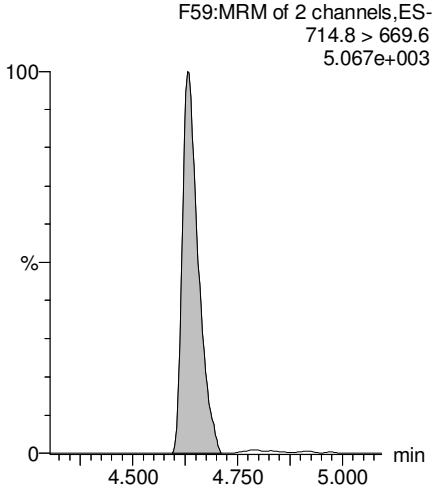
13C3-PFHxS



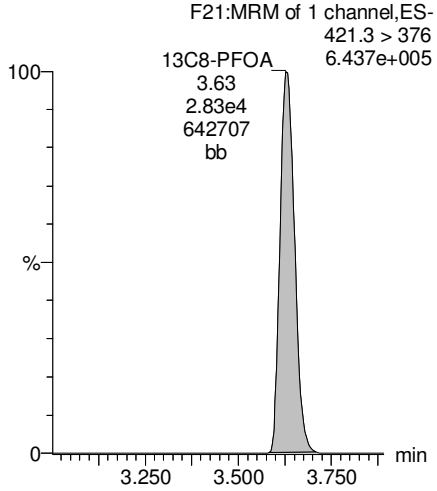
13C2-PFTeDA



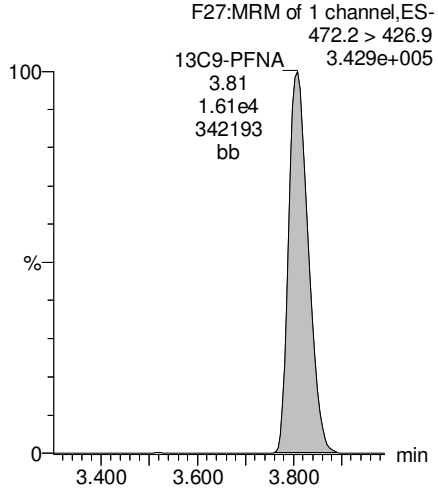
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



GM 7/20/17

Vista Analytical Laboratory

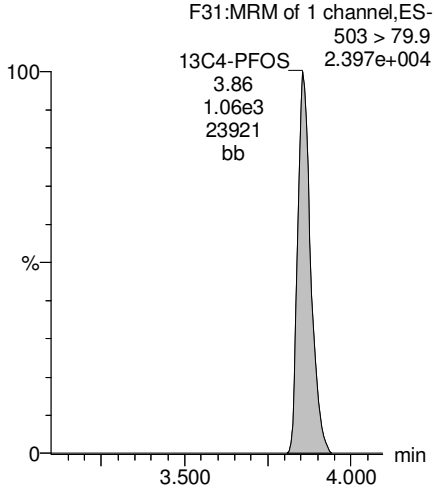
Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-12.qld

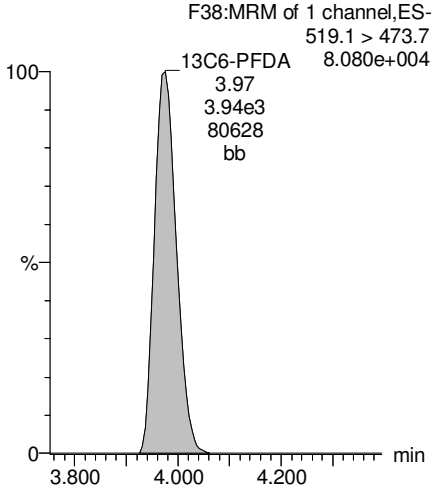
Last Altered: Thursday, July 20, 2017 13:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:15:24 Pacific Daylight Time

Name: 170707M2_12, Date: 07-Jul-2017, Time: 15:33:17, ID: 1700792-01 West Ditch In-20170627 0.11683, Description: West Ditch In-20170627

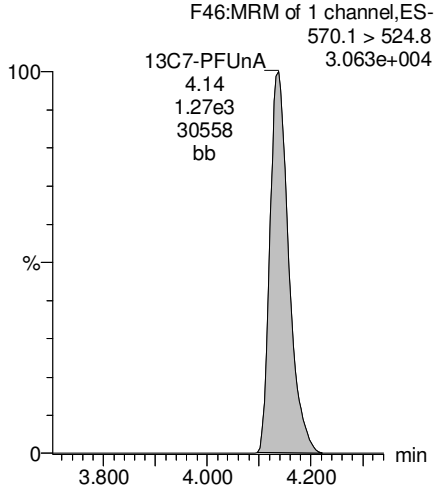
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-50.qld

Last Altered: Thursday, July 20, 2017 15:52:58 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:54:02 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 13 Jul 2017 08:53:22
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

Name: 170711M1_50, Date: 11-Jul-2017, Time: 19:19:46, ID: 1700792-01RE1 West Ditch In-20170627 0.12136, Description: West Ditch In-20170627

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	14	PFDoA	612.9 > 318.8		9.23e2	0.1214		4.32					
2	15	PFTrDA	662.9 > 618.9		9.23e2	0.1214		4.38					
3	16	PFTeDA	712.9 > 668.8		6.21e3	0.1214		4.55					
4	29	13C2-PFDoA	615 > 569.7	9.23e2	2.19e4	0.1214	0.130	4.32	4.23	0.527	33.4	32.5	H
5	30	13C2-PFTeDA	714.8 > 669.6	6.21e3	2.19e4	0.1214	1.018	4.55	4.57	3.54	28.7	27.8	H
6	38	13C7-PFUnA	570.1 > 524.8	2.19e4	2.19e4	0.1214	1.000	4.16	4.09	12.5	103	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/22/17

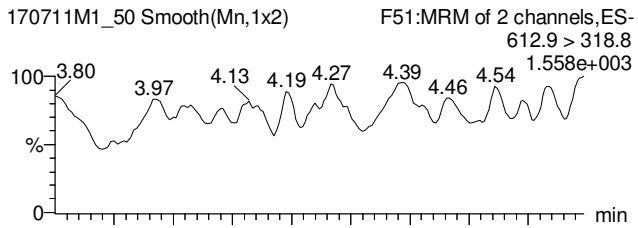
Dataset: U:\Q4.PRO\results\170711M1\170711M1-50.qld

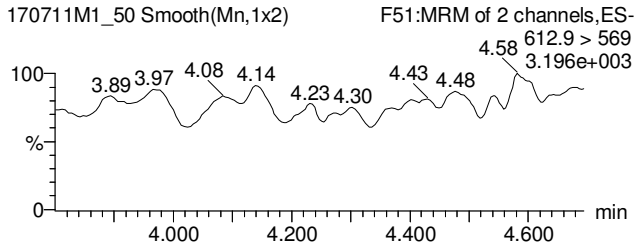
Last Altered: Thursday, July 20, 2017 15:52:58 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:54:02 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 13 Jul 2017 08:53:22
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

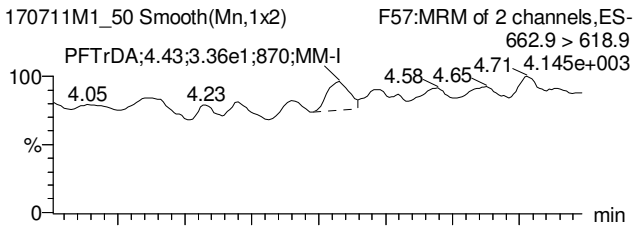
Name: 170711M1_50, Date: 11-Jul-2017, Time: 19:19:46, ID: 1700792-01RE1 West Ditch In-20170627 0.12136, Description: West Ditch In-20170627

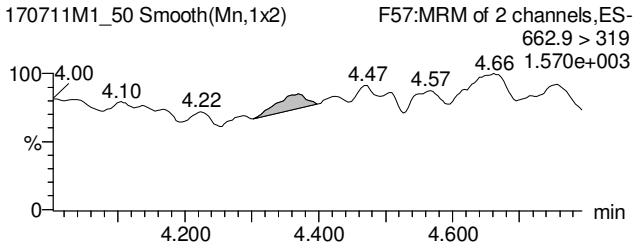
PFDoA



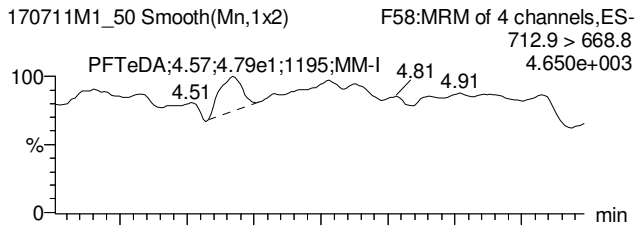


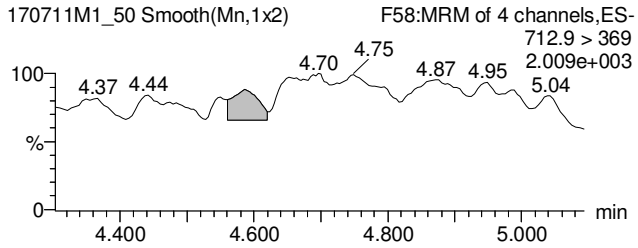
PFTrDA



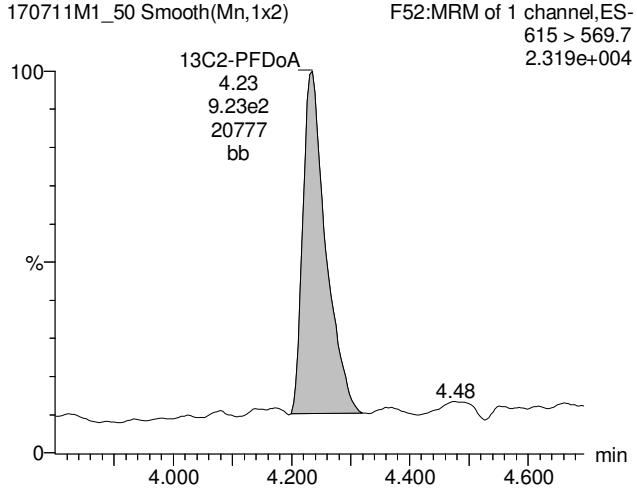


PFTeDA

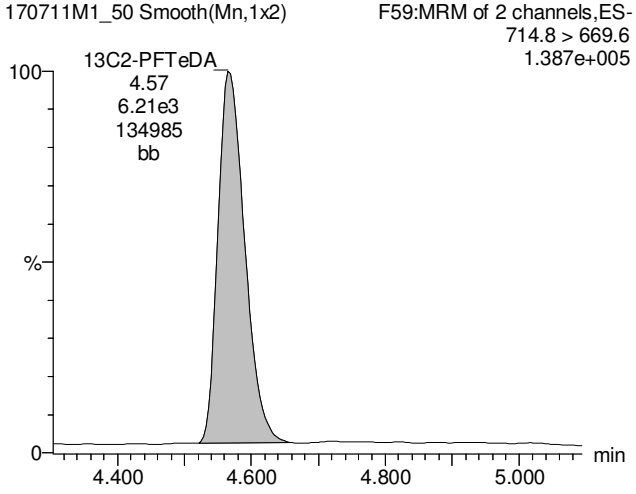




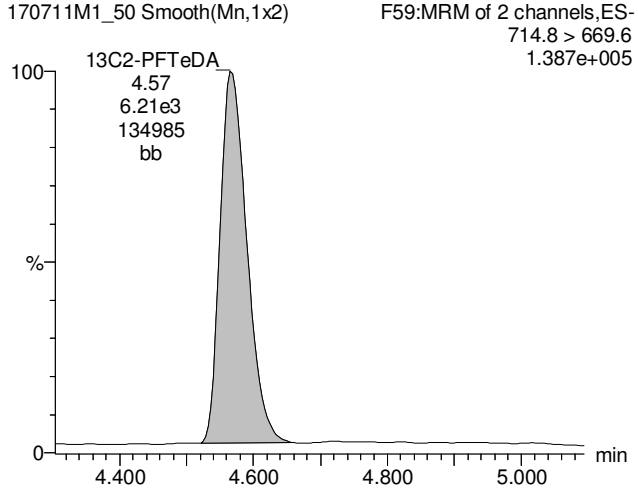
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA



GM 7/20/17

Vista Analytical Laboratory

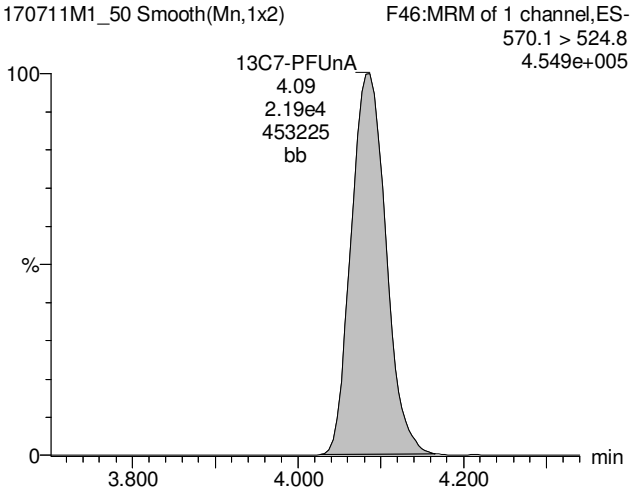
Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-50.qld

Last Altered: Thursday, July 20, 2017 15:52:58 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:54:02 Pacific Daylight Time

Name: 170711M1_50, Date: 11-Jul-2017, Time: 19:19:46, ID: 1700792-01RE1 West Ditch In-20170627 0.12136, Description: West Ditch In-20170627

13C7-PFUnA



GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.28e2	4.07e3	0.1148		2.92	2.94	0.392	1.01	
2	2	PFHxA	313.2 > 268.9	2.90e4	1.26e4	0.1148		3.16	3.17	11.5	70.5	
3	3	PFHpA	363 > 318.9	1.39e4	2.92e4	0.1148		3.43	3.43	5.95	41.8	
4	4	PFHxS	398.9 > 79.6	2.18e2	2.72e3	0.1148		3.55	3.50	1.00	4.70	
5	5	PFOA	413 > 368.7	1.33e4	4.01e4	0.1148		3.63	3.63	4.16	37.0	
6	6	PFNA	462.9 > 418.8	1.53e3	2.75e4	0.1148		3.82	3.81	0.693	4.90	
7	7	PFOS	499 > 79.9	2.17e2	4.31e3	0.1148		3.86	3.88	0.628	4.73	
8	8	PFDA	513 > 468.8	9.55e1	1.41e4	0.1148		4.00	3.99	0.0847		
9	9	PFUnA	562.9 > 518.9		5.09e3	0.1148		4.13				
10	10	N-MeFOSAA	570.1 > 419		1.47e3	0.1148		4.00				
11	11	N-EtFOSAA	584.2 > 419		9.66e2	0.1148		4.07				
12	12	PFDoA	612.9 > 318.8		4.37e2	0.1148		4.31				
13	13	PFTrDA	662.9 > 618.9		4.37e2	0.1148		4.50				
14	14	PFTeDA	712.9 > 668.8		3.24e3	0.1148		4.65				
15	15	13C3-PFBS	302 > 98.8	4.07e3	3.94e4	0.1148	0.032	2.92	2.93	0.516	140	128.7
16	16	13C2-PFHxA	315 > 269.8	1.26e4	3.94e4	0.1148	0.296	3.15	3.17	1.60	47.1	108.1
17	17	13C4-PFHpA	367.2 > 321.8	2.92e4	3.94e4	0.1148	0.302	3.43	3.43	3.70	107	98.2
18	18	18O2-PFHxS	403 > 102.6	2.72e3	6.45e3	0.1148	0.434	3.49	3.50	5.28	106	97.3
19	19	13C2-PFOA	414.9 > 369.7	4.01e4	3.42e4	0.1148	1.140	3.62	3.63	14.7	112	102.8
20	20	13C5-PFNA	468.2 > 422.9	2.75e4	3.26e4	0.1148	0.958	3.80	3.81	10.6	96.0	88.1
21	21	13C8-PFOS	507 > 79.9	4.31e3	4.31e3	0.1148	1.061	3.85	3.87	12.5	103	94.2
22	22	13C2-PFDA	515.1 > 469.9	1.41e4	2.05e4	0.1148	0.942	3.97	3.98	8.57	79.3	72.8
23	23	13C2-PFUnA	565 > 519.8	5.09e3	6.61e3	0.1148	1.084	4.13	4.14	9.63	77.4	71.1
24	24	d3-N-MeFOSAA	573.3 > 419	1.47e3	6.61e3	0.1148	0.240	4.00	4.01	2.79	101	92.8
25	25	d5-N-EtFOSAA	589.3 > 419	9.66e2	6.61e3	0.1148	0.247	4.07	4.08	1.83	64.3	59.1
26	26	13C2-PFDoA	615 > 569.7	4.37e2	6.61e3	0.1148	0.127	4.32	4.29	0.827	56.8	52.1
27	27	13C2-PFTeDA	714.8 > 669.6	3.24e3	6.61e3	0.1148	0.883	4.64	4.64	6.14	60.6	55.6
28	28	13C5-PFHxA	318 > 272.9	3.94e4	3.94e4	0.1148	1.000	3.15	3.17	5.00	43.6	100.0
29	29	13C3-PFHxS	401.9 > 79.9	6.45e3	6.45e3	0.1148	1.000	3.49	3.50	12.5	109	100.0
30	30	13C8-PFOA	421.3 > 376	3.42e4	3.42e4	0.1148	1.000	3.62	3.63	12.5	109	100.0
31	31	13C9-PFNA	472.2 > 426.9	3.26e4	3.26e4	0.1148	1.000	3.82	3.81	12.5	109	100.0
32	32	13C4-PFOS	503 > 79.9	4.31e3	4.31e3	0.1148	1.000	3.85	3.87	12.5	109	100.0

GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	2.05e4	2.05e4	0.1148	1.000	3.97	3.98	12.5	109	100.0
34	34	13C7-PFUnA	570.1 > 524.8	6.61e3	6.61e3	0.1148	1.000	4.13	4.14	12.5	109	100.0
35	35	Total PFBS	299 > 79.7	1.28e2	4.07e3	0.1148		2.91		0.392	1.01	
36	36	Total PFHxS	398.9 > 79.6	2.18e2	2.72e3	0.1148		3.48		1.00	4.70	
37	37	Total PFOA	413 > 368.7	1.33e4	4.01e4	0.1148		3.61		4.16	37.0	
38	38	Total PFOS	499 > 79.9	2.17e2	4.31e3	0.1148		3.84		0.628	4.73	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1148		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1148		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.94	127.746	4070.100	0.392	MM	1.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.50	218.434	2724.256	1.002	MM	4.7

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.63	13334.102	40105.465	4.156	bb	37.0

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.88	216.567	4310.778	0.628	MM	4.7

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
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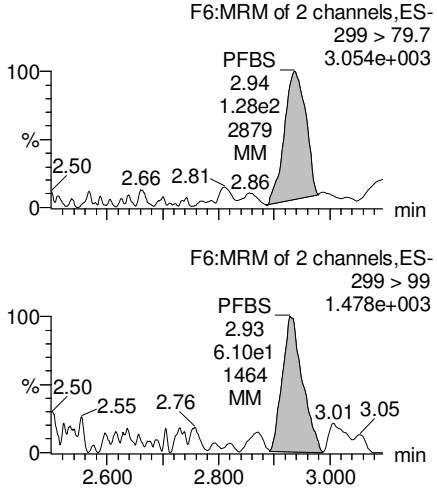
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

Total PFBS



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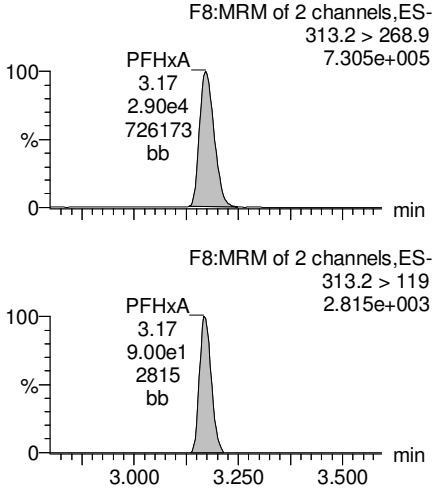

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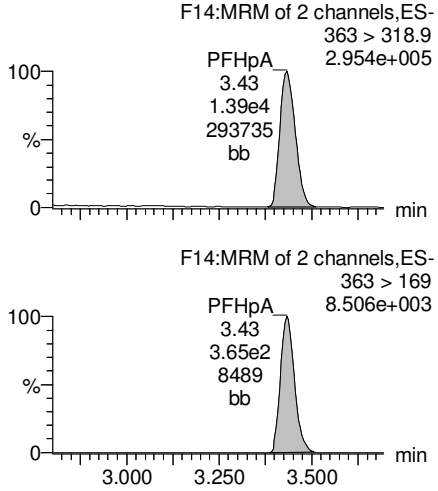

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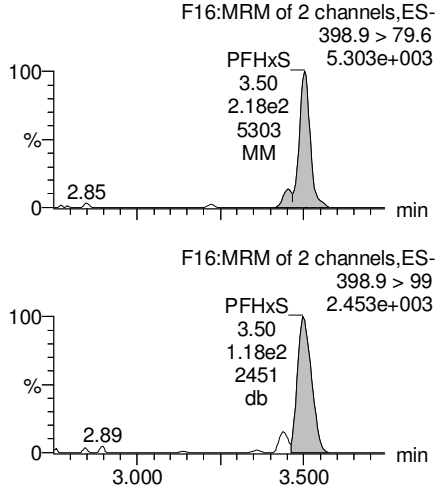

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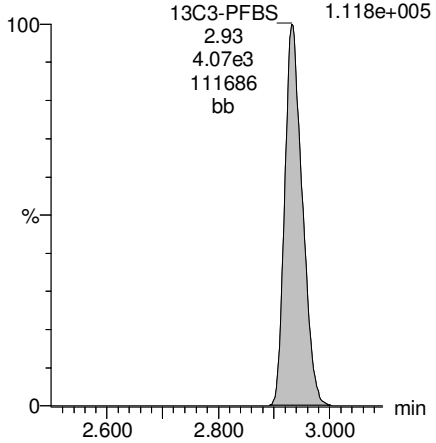

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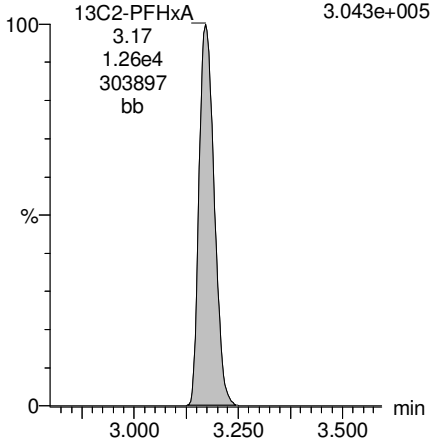

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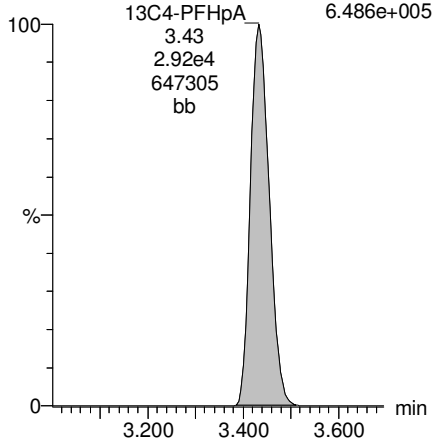

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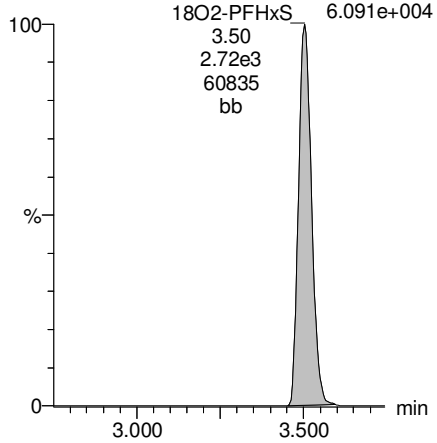


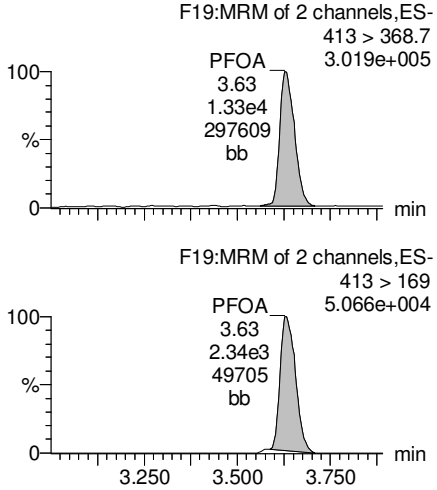
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

Total PFOA



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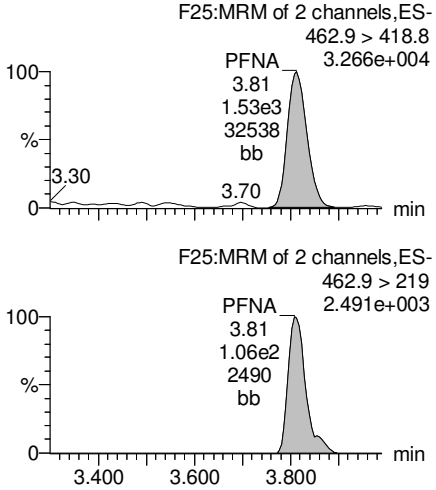

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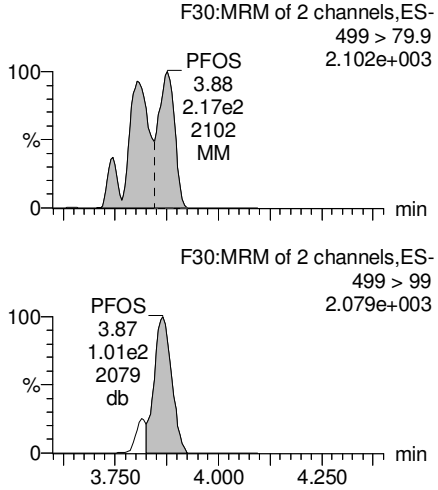

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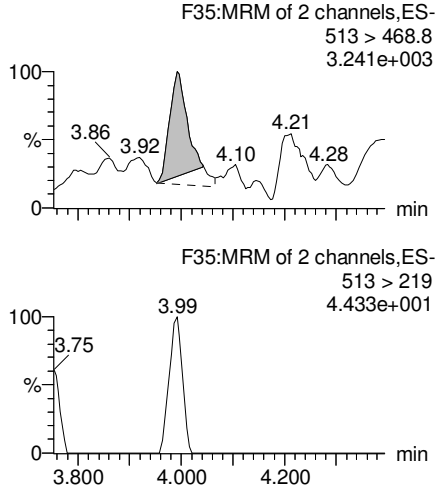

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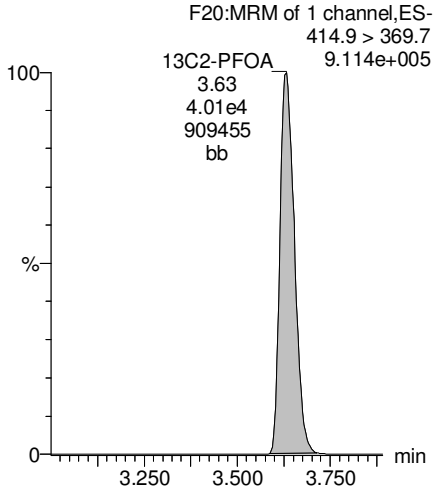

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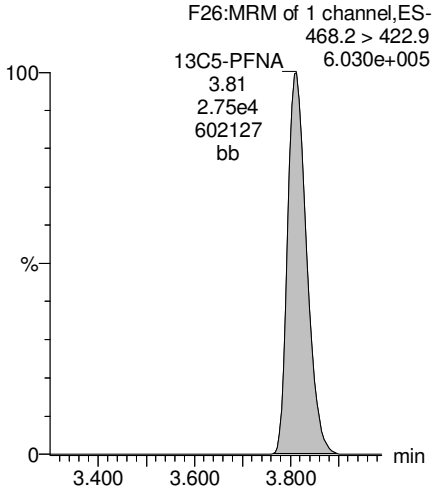

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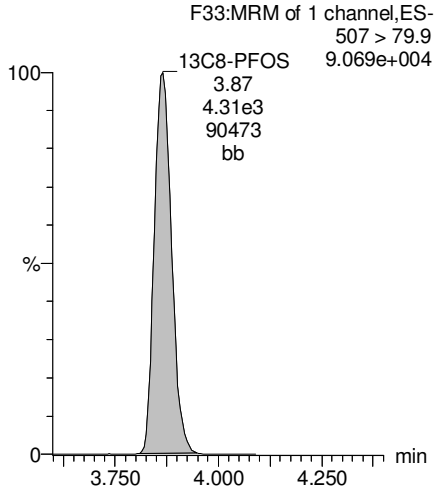

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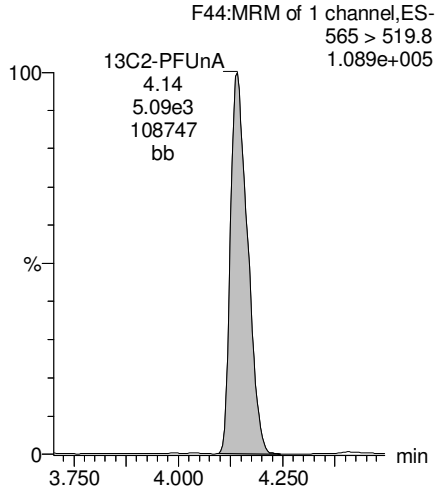


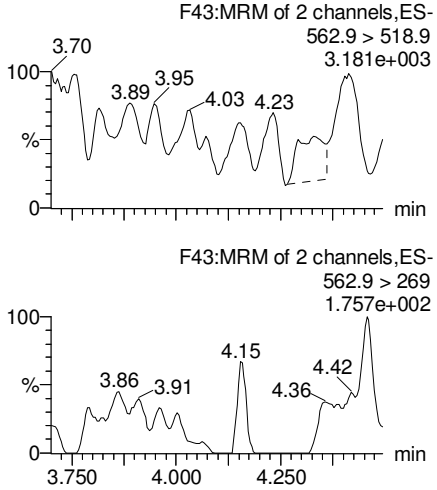
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

PFUnA



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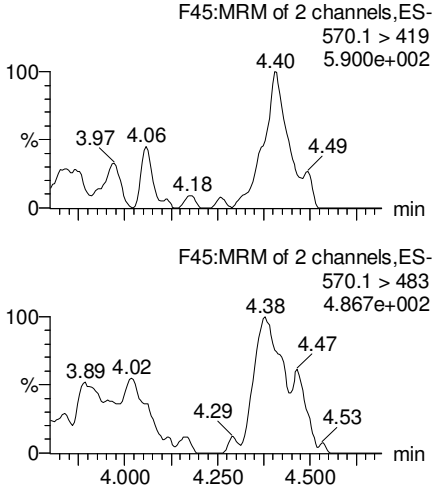

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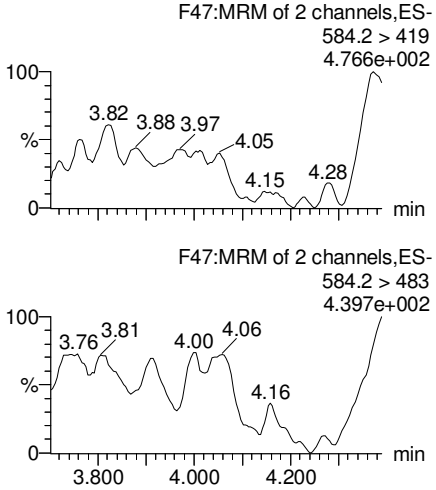

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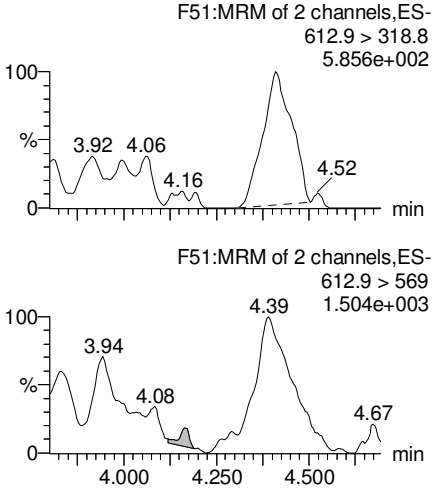

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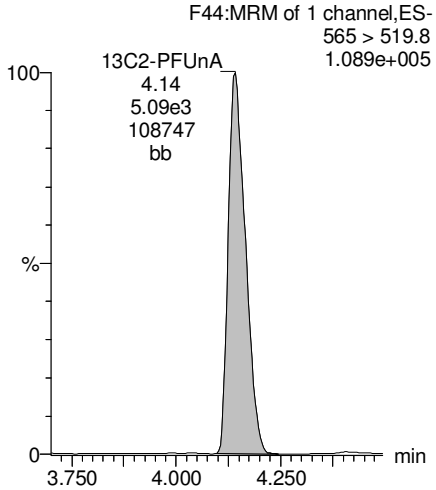

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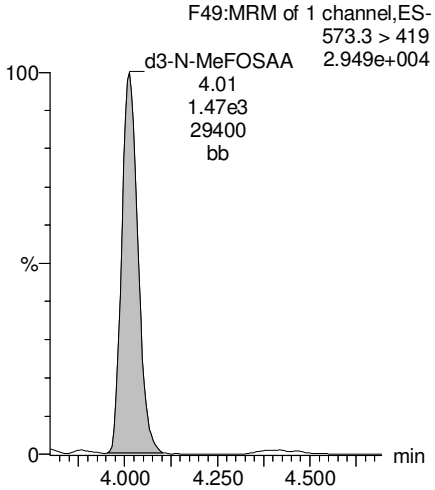
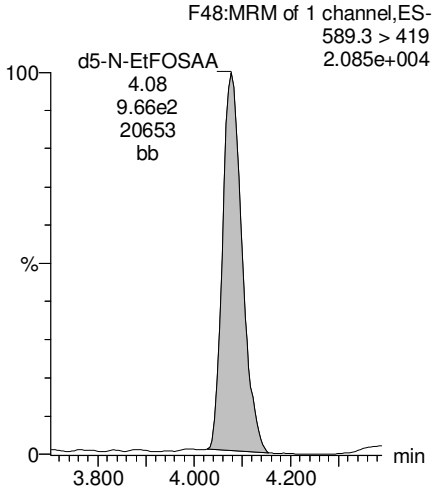


d5-N-EtFOSAA



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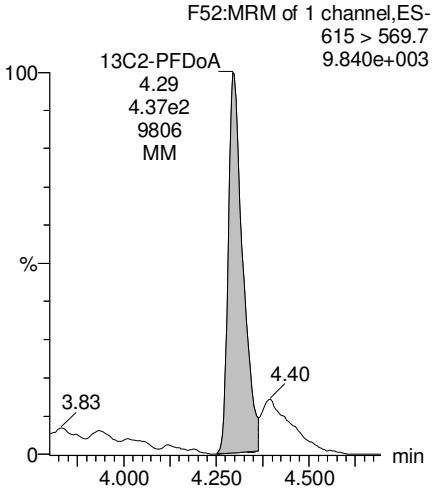

GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

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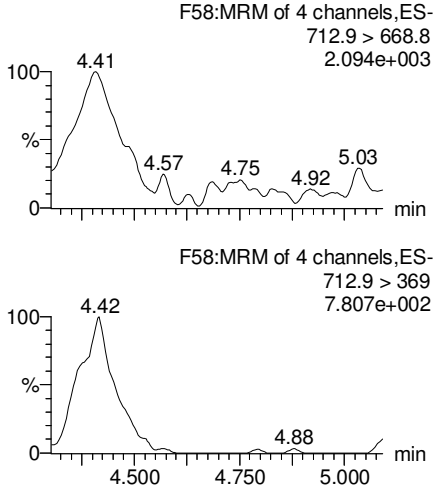
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

PFTeDA



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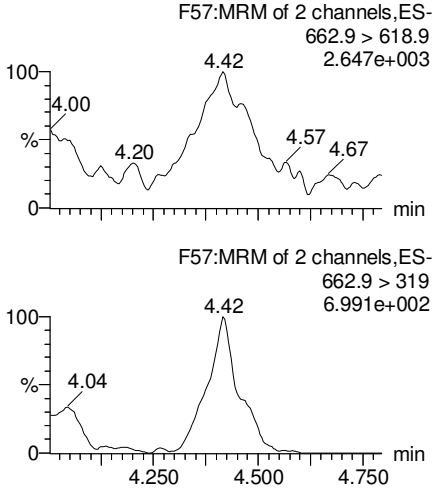
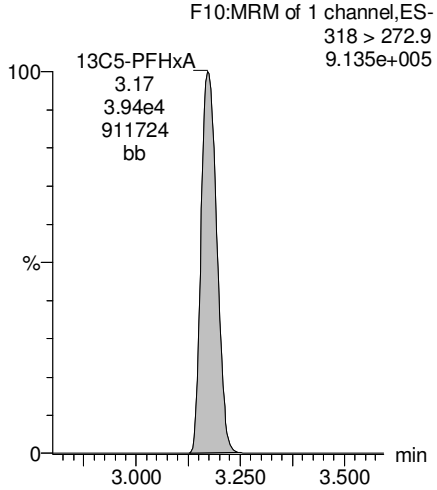
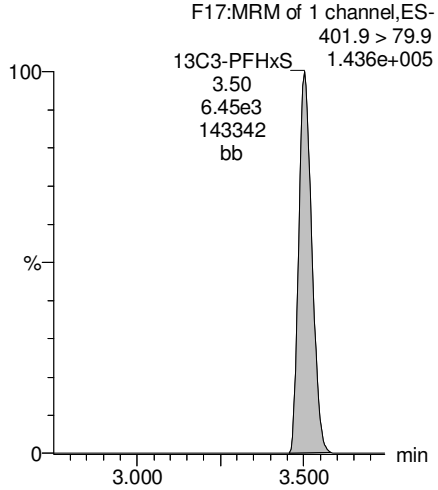


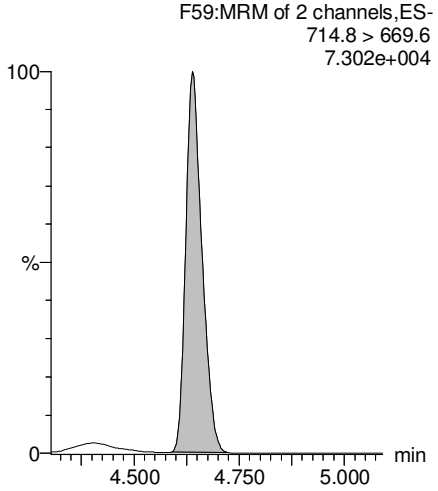
13C5-PFHxA



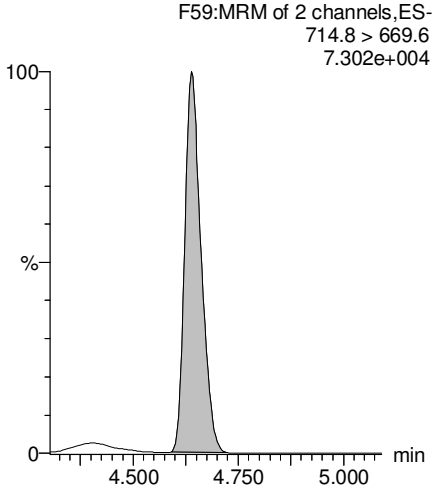
13C3-PFHxS



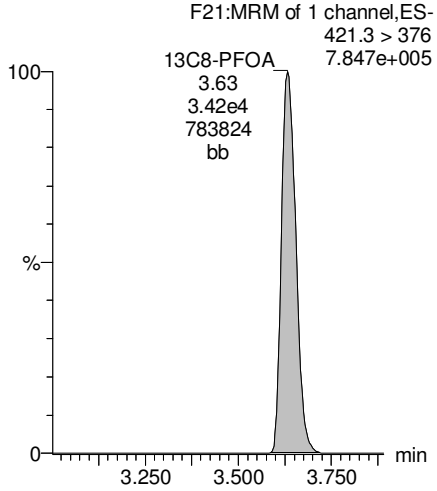
13C2-PFTeDA



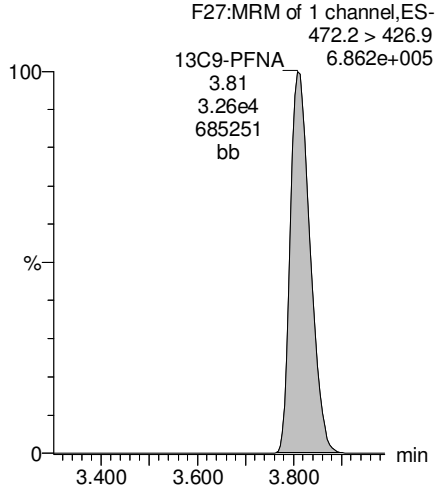
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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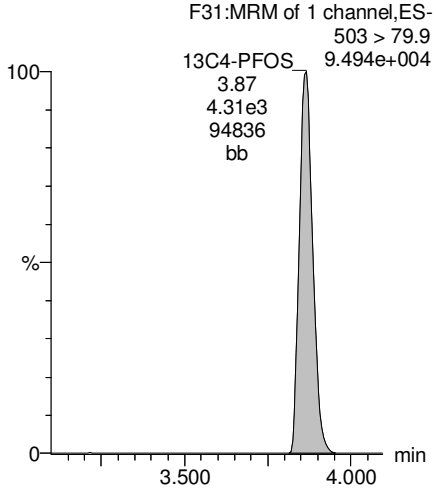
Dataset: U:\Q4.PRO\results\170707M2\170707M2-13.qld

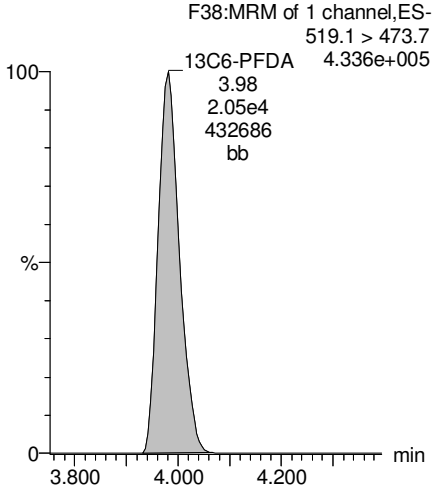
Last Altered: Thursday, July 20, 2017 14:18:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:19:18 Pacific Daylight Time

Name: 170707M2_13, Date: 07-Jul-2017, Time: 15:43:56, ID: 1700792-02 MH-140-20170628 0.11475, Description: MH-140-20170628

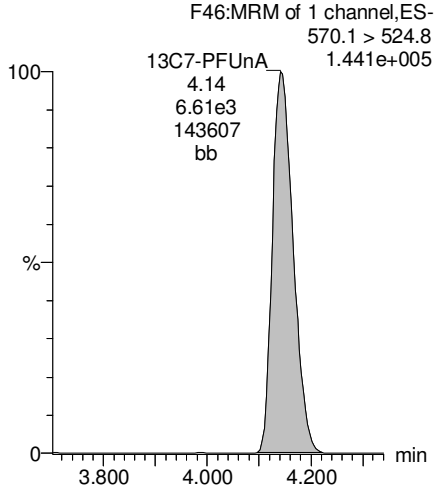
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		5.67e3	0.1146		2.92					
2	2	PFHxA	313.2 > 268.9	2.12e4	1.76e4	0.1146		3.16	3.18	6.03	35.9		
3	3	PFHpA	363 > 318.9	1.17e4	4.08e4	0.1146		3.43	3.43	3.57	24.2		
4	4	PFHxS	398.9 > 79.6	3.36e2	4.04e3	0.1146		3.55	3.50	1.04	4.88		
5	5	PFOA	413 > 368.7	1.37e4	5.05e4	0.1146		3.63	3.63	3.39	29.8		
6	6	PFNA	462.9 > 418.8	2.02e3	3.63e4	0.1146		3.82	3.81	0.695	4.92		
7	7	PFOS	499 > 79.9	5.06e2	8.25e3	0.1146		3.86	3.86	0.767	5.89		
8	8	PFDA	513 > 468.8	3.98e2	3.24e4	0.1146		4.00	3.97	0.154			
9	9	PFUnA	562.9 > 518.9		1.64e4	0.1146		4.13					
10	10	N-MeFOSAA	570.1 > 419		2.91e3	0.1146		4.00					
11	11	N-EtFOSAA	584.2 > 419		2.09e3	0.1146		4.07					
12	12	PFDoA	612.9 > 318.8		4.91e2	0.1146		4.31					
13	13	PFTrDA	662.9 > 618.9		4.91e2	0.1146		4.50					
14	14	PFTeDA	712.9 > 668.8		3.20e3	0.1146		4.65					
15	15	13C3-PFBS	302 > 98.8	5.67e3	5.49e4	0.1146	0.032	2.92	2.93	0.517	141	128.9	
16	16	13C2-PFHxA	315 > 269.8	1.76e4	5.49e4	0.1146	0.296	3.15	3.18	1.60	47.2	108.3	
17	17	13C4-PFHpA	367.2 > 321.8	4.08e4	5.49e4	0.1146	0.302	3.43	3.43	3.71	107	98.5	
18	18	18O2-PFHxS	403 > 102.6	4.04e3	8.73e3	0.1146	0.434	3.49	3.50	5.78	116	106.5	
19	19	13C2-PFOA	414.9 > 369.7	5.05e4	4.37e4	0.1146	1.140	3.62	3.63	14.4	111	101.3	
20	20	13C5-PFNA	468.2 > 422.9	3.63e4	4.24e4	0.1146	0.958	3.80	3.81	10.7	97.5	89.4	
21	21	13C8-PFOS	507 > 79.9	8.25e3	7.43e3	0.1146	1.061	3.85	3.86	13.9	114	104.5	
22	22	13C2-PFDA	515.1 > 469.9	3.24e4	3.43e4	0.1146	0.942	3.97	3.98	11.8	109	100.1	
23	23	13C2-PFUnA	565 > 519.8	1.64e4	1.80e4	0.1146	1.084	4.13	4.14	11.3	91.3	83.7	
24	24	d3-N-MeFOSAA	573.3 > 419	2.91e3	1.80e4	0.1146	0.240	4.00	4.01	2.02	73.2	67.1	
25	25	d5-N-EtFOSAA	589.3 > 419	2.09e3	1.80e4	0.1146	0.247	4.07	4.07	1.45	51.1	46.8	
26	26	13C2-PFDoA	615 > 569.7	4.91e2	1.80e4	0.1146	0.127	4.32	4.30	0.340	23.4	21.4	H
27	27	13C2-PFTeDA	714.8 > 669.6	3.20e3	1.80e4	0.1146	0.883	4.64	4.64	2.21	21.9	20.1	H
28	28	13C5-PFHxA	318 > 272.9	5.49e4	5.49e4	0.1146	1.000	3.15	3.18	5.00	43.6	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	8.73e3	8.73e3	0.1146	1.000	3.49	3.50	12.5	109	100.0	
30	30	13C8-PFOA	421.3 > 376	4.37e4	4.37e4	0.1146	1.000	3.62	3.63	12.5	109	100.0	
31	31	13C9-PFNA	472.2 > 426.9	4.24e4	4.24e4	0.1146	1.000	3.82	3.81	12.5	109	100.0	
32	32	13C4-PFOS	503 > 79.9	7.43e3	7.43e3	0.1146	1.000	3.85	3.86	12.5	109	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	3.43e4	3.43e4	0.1146	1.000	3.97	3.98	12.5	109	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.80e4	1.80e4	0.1146	1.000	4.13	4.14	12.5	109	100.0
35	35	Total PFBS	299 > 79.7	0.00e0	5.67e3	0.1146		2.91		0.000		
36	36	Total PFHxS	398.9 > 79.6	3.36e2	4.04e3	0.1146		3.48		1.04	4.88	
37	37	Total PFOA	413 > 368.7	1.37e4	5.05e4	0.1146		3.61		3.39	29.8	
38	38	Total PFOS	499 > 79.9	5.06e2	8.25e3	0.1146		3.84		0.767	5.89	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1146		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1146		4.06		0.000		

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.50	336.152	4039.271	1.040	MM	4.9

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.63	13682.144	50517.902	3.385	bb	29.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.86	506.292	8246.910	0.767	MM	5.9

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

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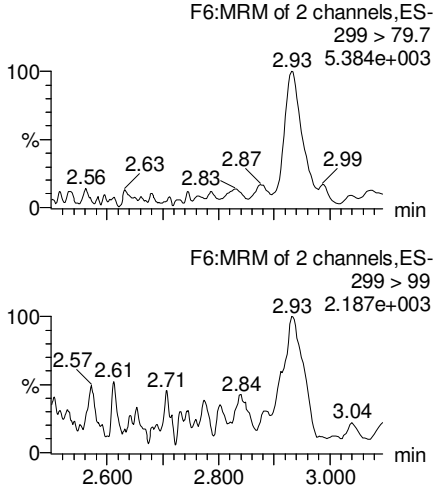
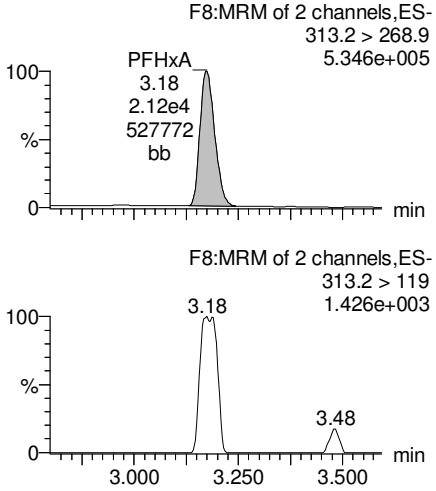
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

Total PFBS



PFHxA



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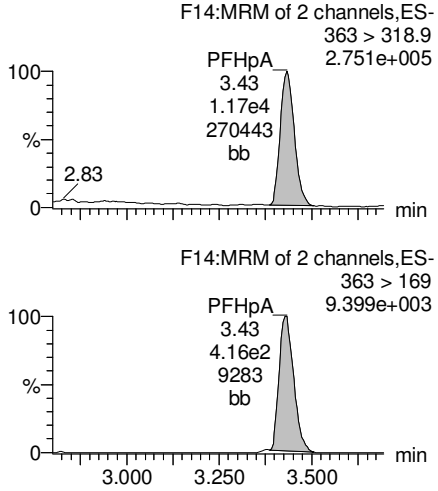
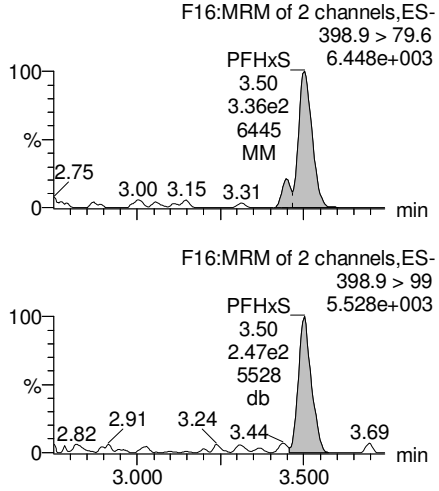


Total PFHxS



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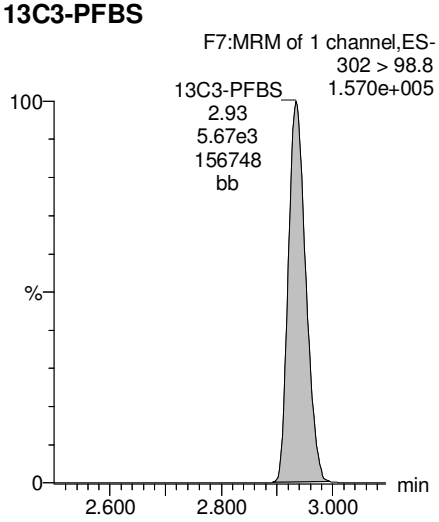
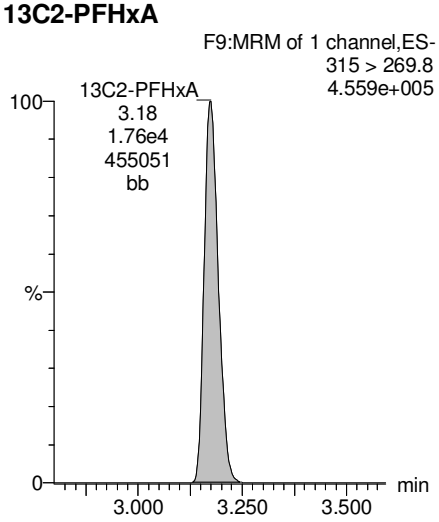
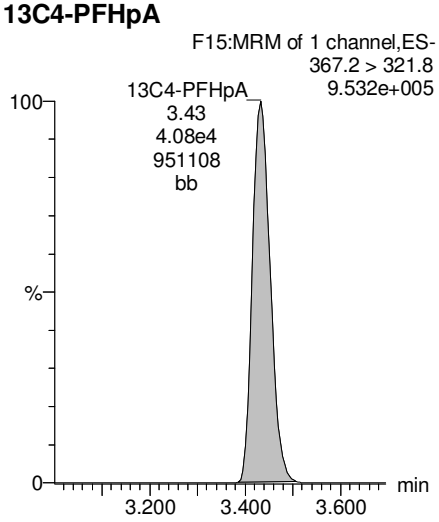


13C2-PFHxA



13C4-PFHpA



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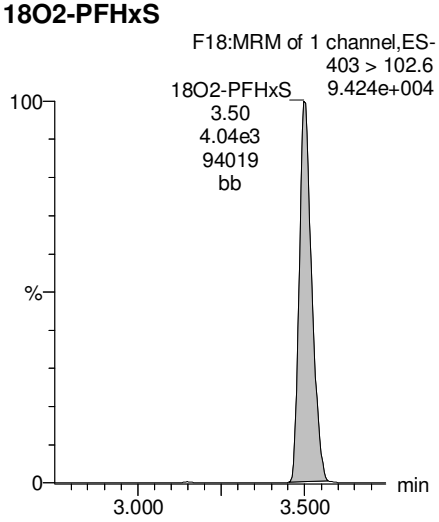

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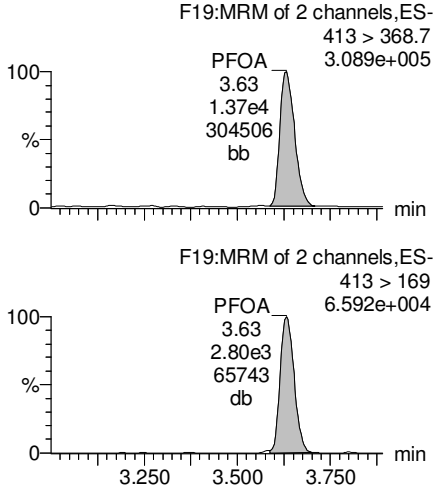
Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

Total PFOA



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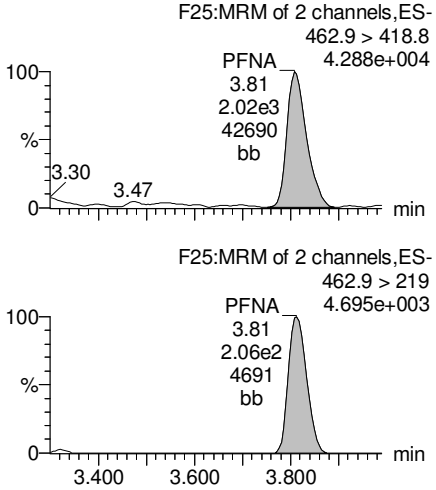
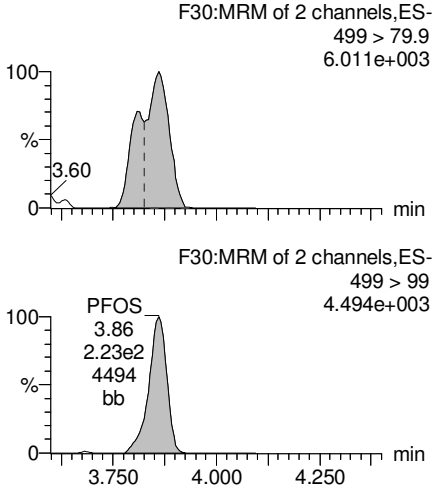


Total PFOS



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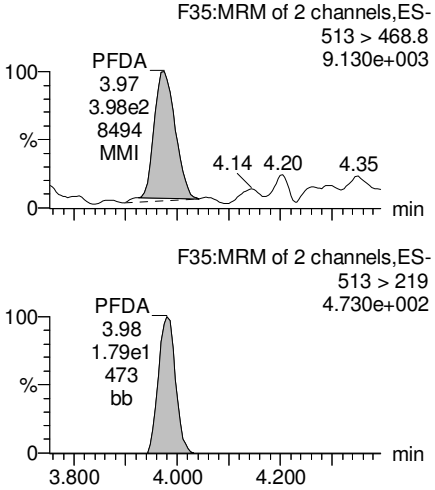

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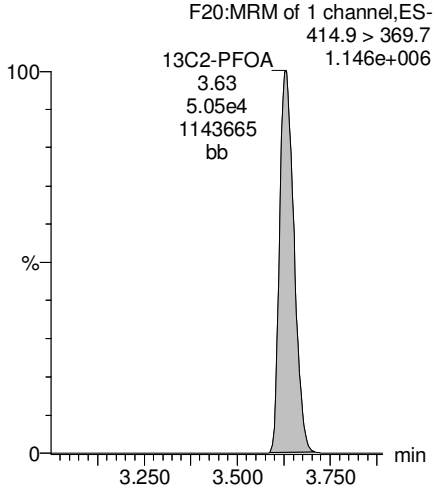
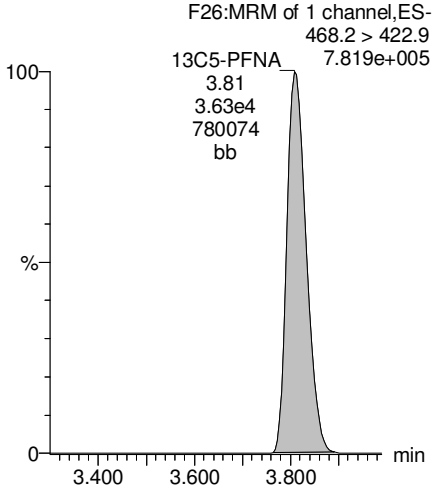
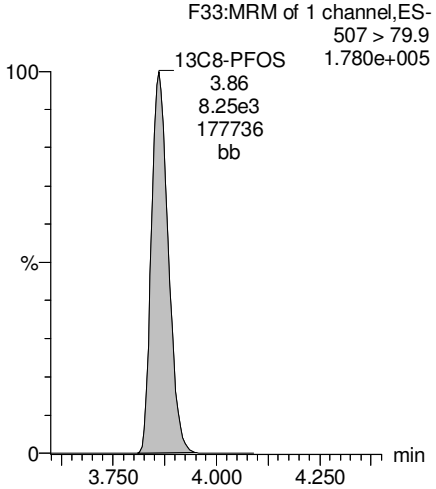


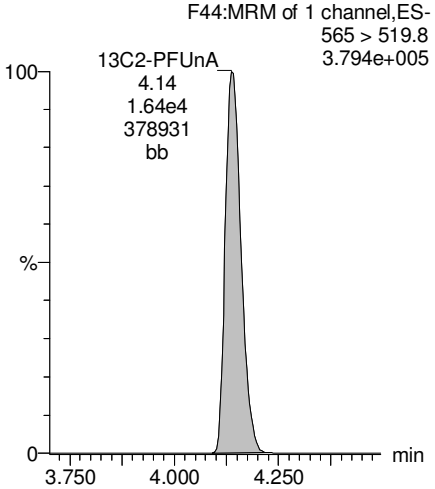
13C5-PFNA



13C8-PFOS



13C2-PFUnA



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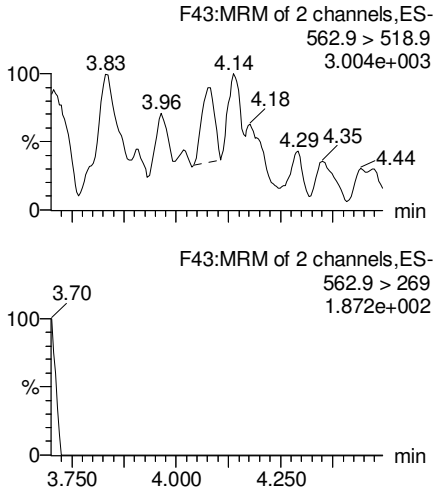
Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

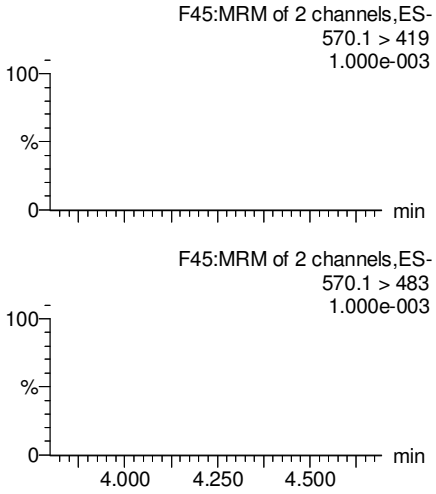
Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

PFUnA



N-MeFOSAA



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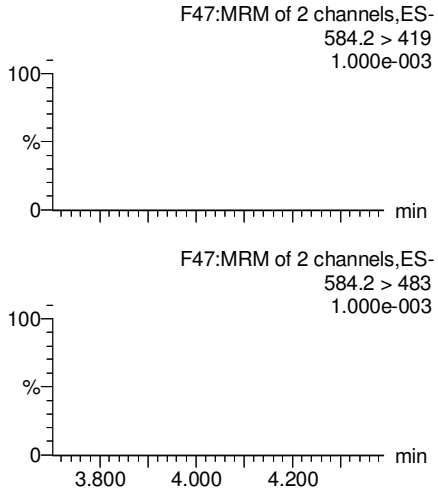
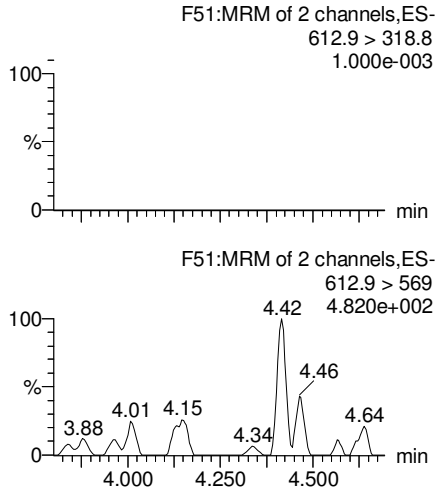
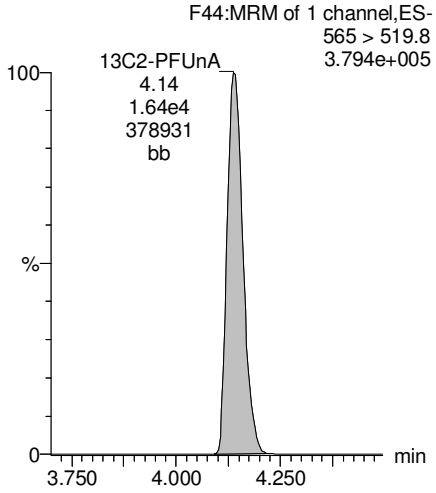


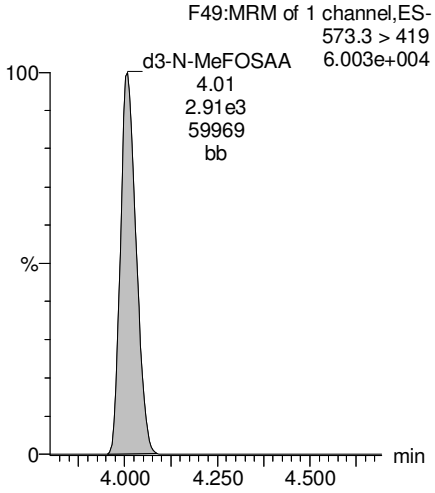
PFDoA



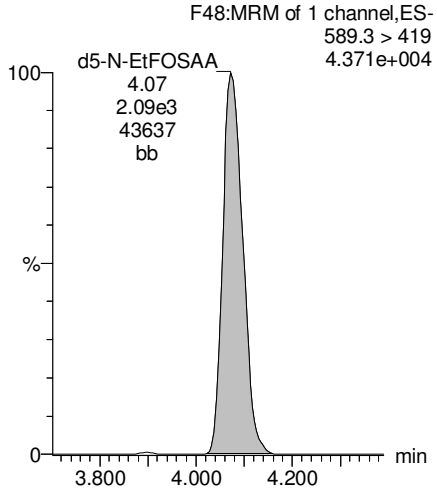
13C2-PFUnA



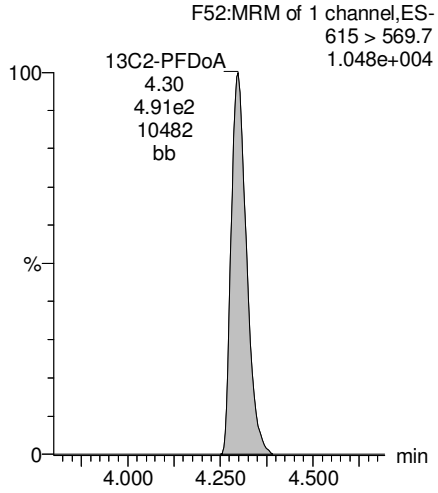
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



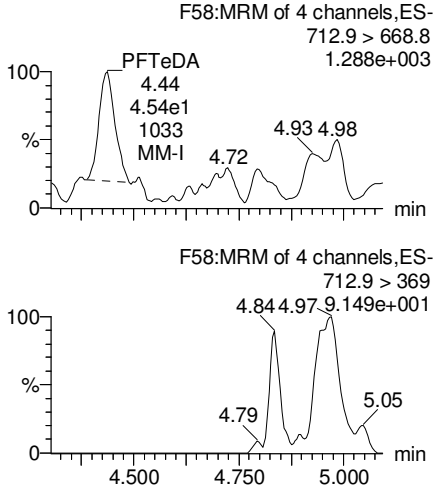
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

PFTeDA



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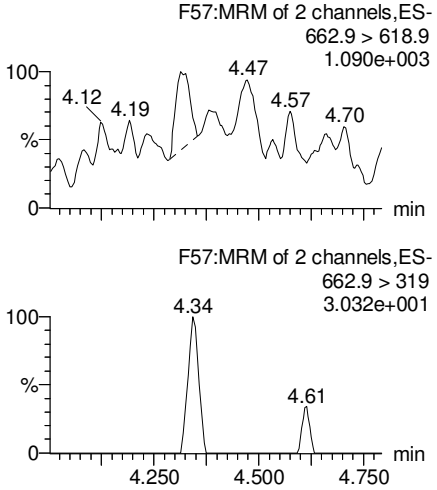
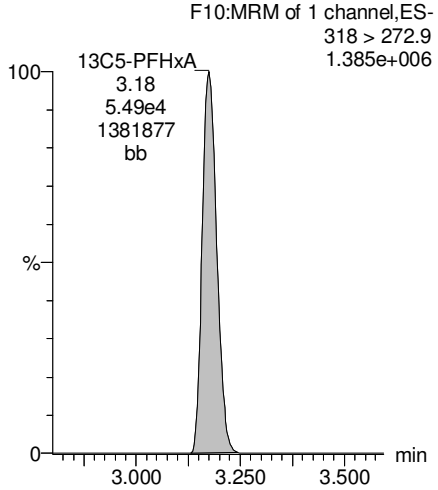
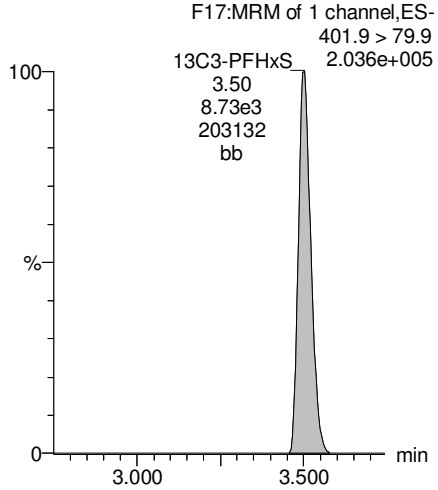


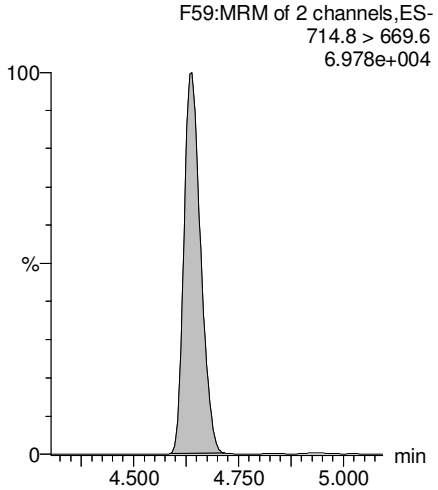
13C5-PFHxA



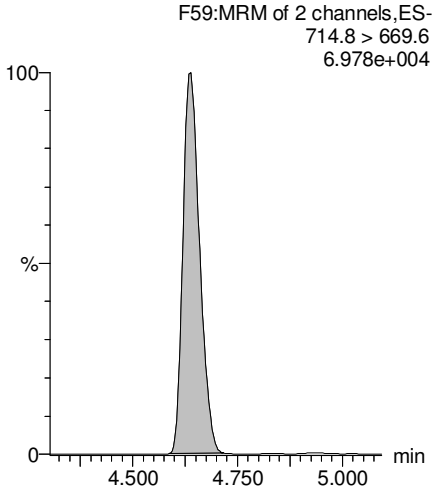
13C3-PFHxS



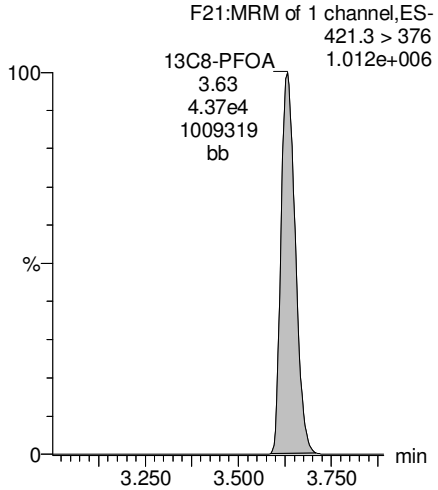
13C2-PFTeDA



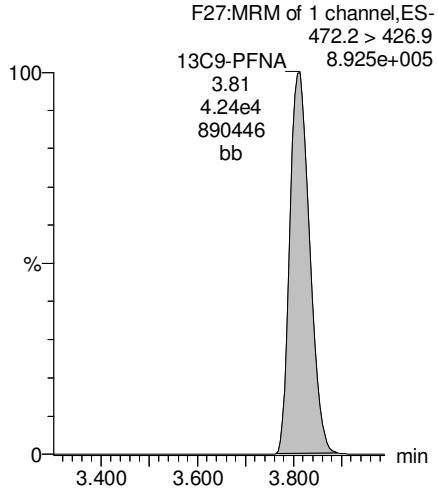
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



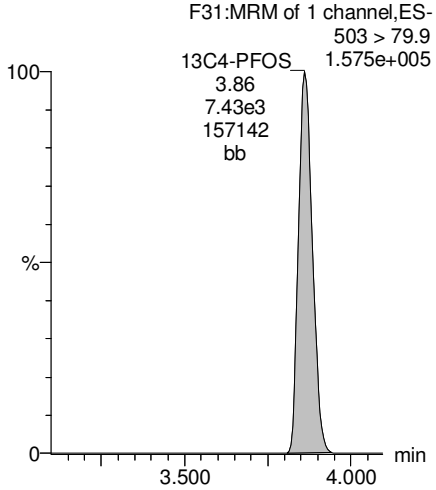
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-14.qld

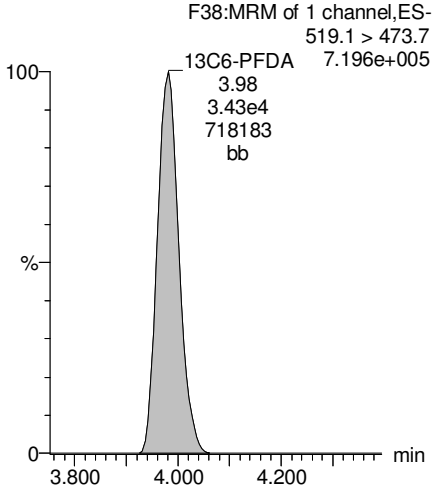
Last Altered: Thursday, July 20, 2017 14:21:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:22:06 Pacific Daylight Time

Name: 170707M2_14, Date: 07-Jul-2017, Time: 15:54:34, ID: 1700792-03 Interceptor-20170628 0.11459, Description: Interceptor-20170628

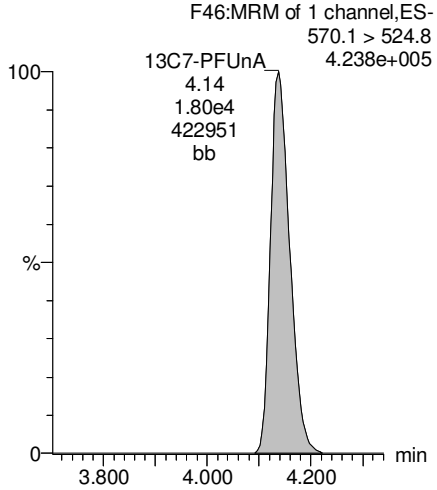
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	1.50e2	4.64e3	0.1148		2.92	2.93	0.405	1.06		
2	2	PFHxA	313.2 > 268.9	4.03e4	1.44e4	0.1148		3.16	3.17	14.0	86.4		
3	3	PFHpA	363 > 318.9	2.34e4	3.24e4	0.1148		3.43	3.43	9.04	64.6		
4	4	PFHxS	398.9 > 79.6	1.68e2	3.07e3	0.1148		3.55	3.50	0.684	3.22		
5	5	PFOA	413 > 368.7	1.43e4	4.43e4	0.1148		3.63	3.64	4.03	35.8		
6	6	PFNA	462.9 > 418.8	2.03e3	3.64e4	0.1148		3.82	3.81	0.699	4.94		
7	7	PFOS	499 > 79.9	2.65e2	6.38e3	0.1148		3.86	3.88	0.518	3.82		
8	8	PFDA	513 > 468.8		3.26e4	0.1148		4.00					
9	9	PFUnA	562.9 > 518.9		1.69e4	0.1148		4.13					
10	10	N-MeFOSAA	570.1 > 419		3.62e3	0.1148		4.00					
11	11	N-EtFOSAA	584.2 > 419		2.53e3	0.1148		4.07					
12	12	PFDoA	612.9 > 318.8		6.29e2	0.1148		4.31					
13	13	PFTrDA	662.9 > 618.9		6.29e2	0.1148		4.50					
14	14	PFTeDA	712.9 > 668.8		5.94e3	0.1148		4.65					
15	15	13C3-PFBS	302 > 98.8	4.64e3	4.51e4	0.1148	0.032	2.92	2.94	0.514	139	128.1	
16	16	13C2-PFHxA	315 > 269.8	1.44e4	4.51e4	0.1148	0.296	3.15	3.17	1.59	46.8	107.6	
17	17	13C4-PFHpA	367.2 > 321.8	3.24e4	4.51e4	0.1148	0.302	3.43	3.43	3.58	103	95.1	
18	18	18O2-PFHxS	403 > 102.6	3.07e3	7.30e3	0.1148	0.434	3.49	3.50	5.26	105	96.8	
19	19	13C2-PFOA	414.9 > 369.7	4.43e4	3.46e4	0.1148	1.140	3.62	3.64	16.0	122	112.5	
20	20	13C5-PFNA	468.2 > 422.9	3.64e4	3.88e4	0.1148	0.958	3.80	3.81	11.7	107	97.9	
21	21	13C8-PFOS	507 > 79.9	6.38e3	5.82e3	0.1148	1.061	3.85	3.86	13.7	113	103.4	
22	22	13C2-PFDA	515.1 > 469.9	3.26e4	3.37e4	0.1148	0.942	3.97	3.98	12.1	112	102.6	
23	23	13C2-PFUnA	565 > 519.8	1.69e4	1.66e4	0.1148	1.084	4.13	4.14	12.7	102	93.6	
24	24	d3-N-MeFOSAA	573.3 > 419	3.62e3	1.66e4	0.1148	0.240	4.00	4.01	2.72	98.5	90.5	
25	25	d5-N-EtFOSAA	589.3 > 419	2.53e3	1.66e4	0.1148	0.247	4.07	4.08	1.90	66.9	61.5	
26	26	13C2-PFDoA	615 > 569.7	6.29e2	1.66e4	0.1148	0.127	4.32	4.30	0.473	32.5	29.8	H
27	27	13C2-PFTeDA	714.8 > 669.6	5.94e3	1.66e4	0.1148	0.883	4.64	4.64	4.47	44.1	40.5	H
28	28	13C5-PFHxA	318 > 272.9	4.51e4	4.51e4	0.1148	1.000	3.15	3.17	5.00	43.5	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	7.30e3	7.30e3	0.1148	1.000	3.49	3.50	12.5	109	100.0	
30	30	13C8-PFOA	421.3 > 376	3.46e4	3.46e4	0.1148	1.000	3.62	3.63	12.5	109	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.88e4	3.88e4	0.1148	1.000	3.82	3.81	12.5	109	100.0	
32	32	13C4-PFOS	503 > 79.9	5.82e3	5.82e3	0.1148	1.000	3.85	3.87	12.5	109	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	3.37e4	3.37e4	0.1148	1.000	3.97	3.97	12.5	109	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.66e4	1.66e4	0.1148	1.000	4.13	4.14	12.5	109	100.0
35	35	Total PFBS	299 > 79.7	1.50e2	4.64e3	0.1148		2.91		0.405	1.06	
36	36	Total PFHxS	398.9 > 79.6	1.68e2	3.07e3	0.1148		3.48		0.684	3.22	
37	37	Total PFOA	413 > 368.7	1.43e4	4.43e4	0.1148		3.61		4.03	35.8	
38	38	Total PFOS	499 > 79.9	2.65e2	6.38e3	0.1148		3.84		0.518	3.82	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1148		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1148		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.93	150.259	4641.348	0.405	bb	1.1

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.50	168.031	3068.982	0.684	MM	3.2

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.64	14306.709	44325.941	4.035	bb	35.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.88	264.594	6382.458	0.518	MM	3.8

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

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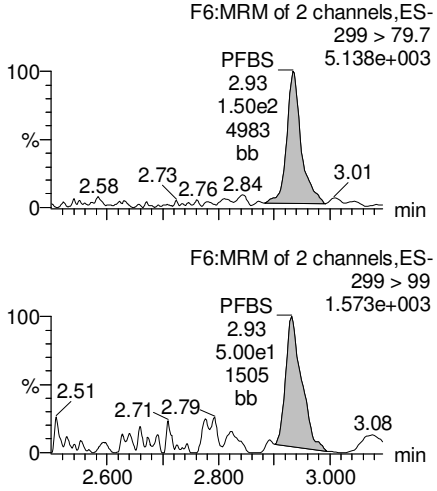
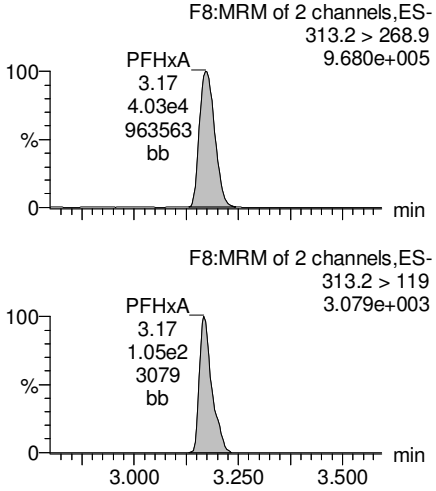
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

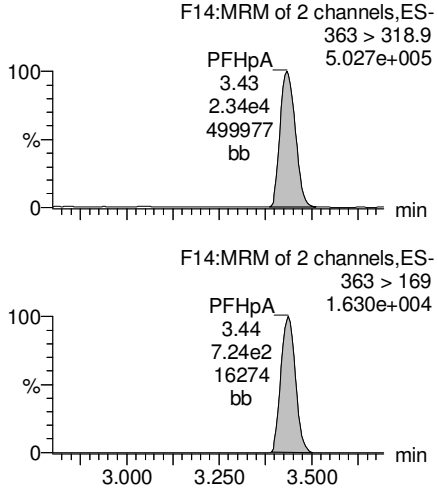
Total PFBS



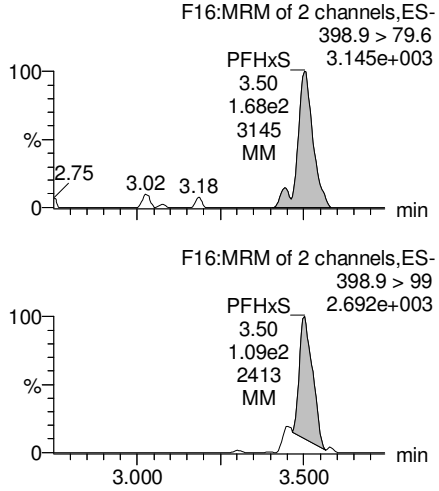
PFHxA



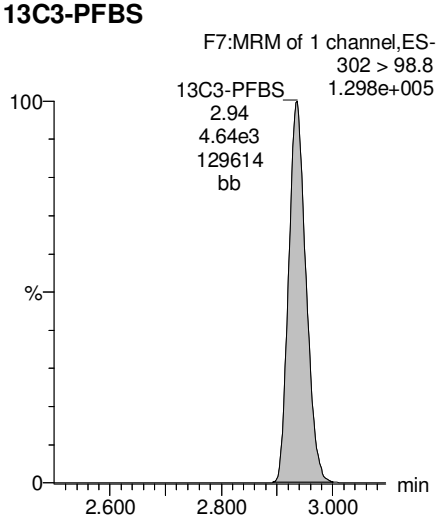
PFHpA



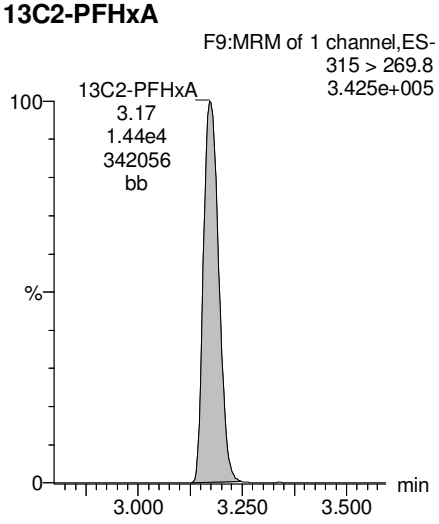
Total PFHxS



13C3-PFBS



13C2-PFHxA



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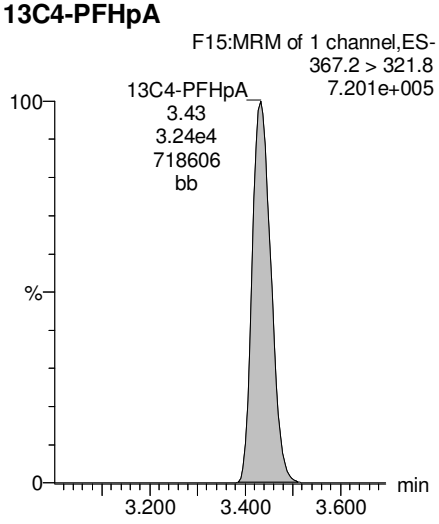
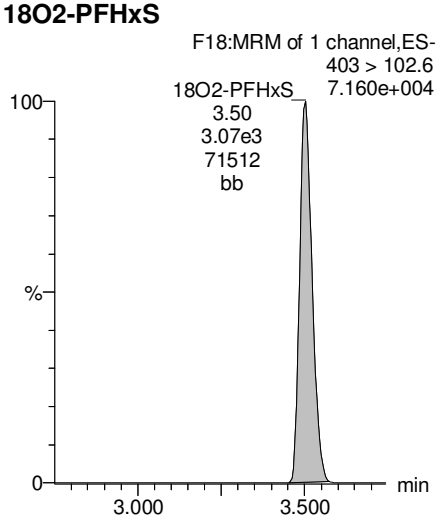


18O2-PFHxS



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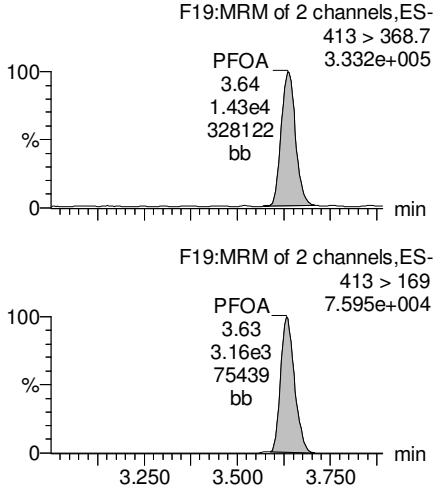
Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

Total PFOA



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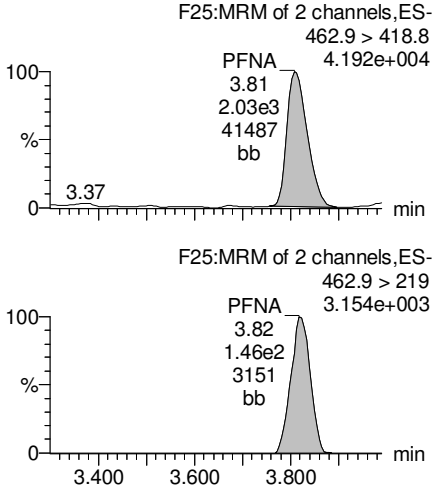
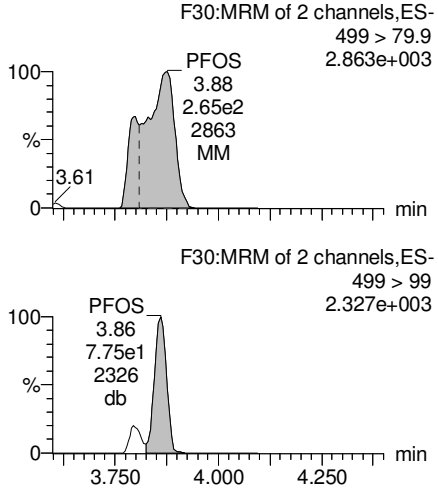


Total PFOS



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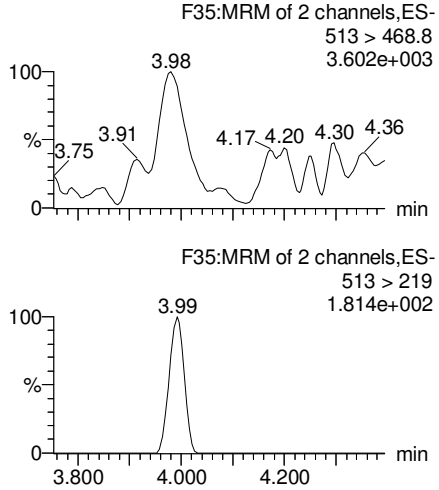

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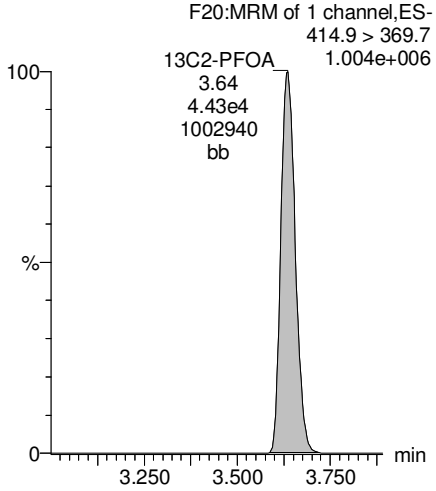

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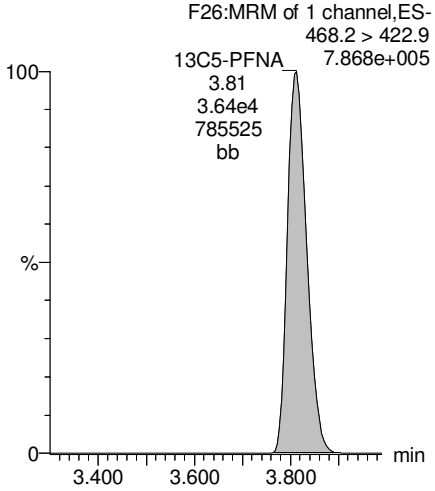
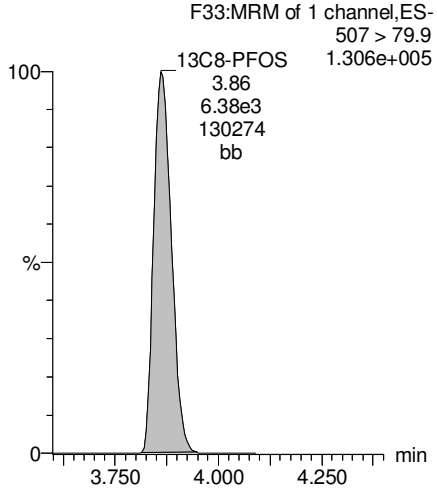
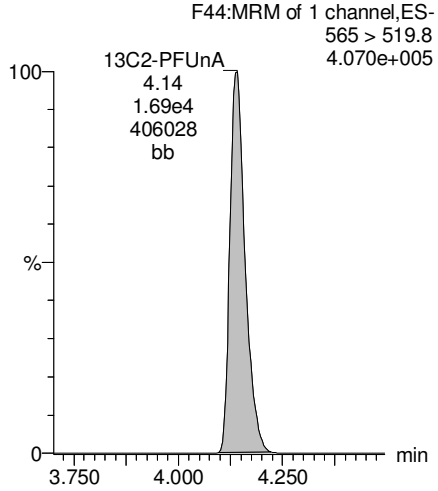


13C8-PFOS



13C2-PFUnA



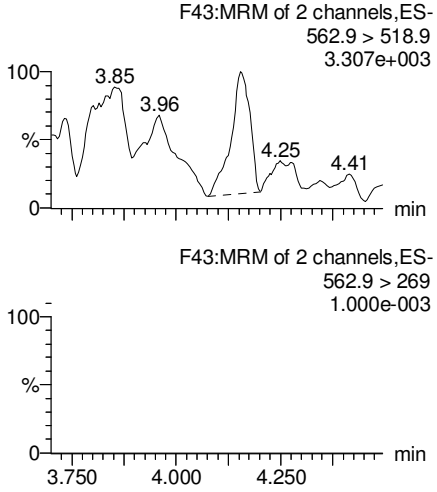
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

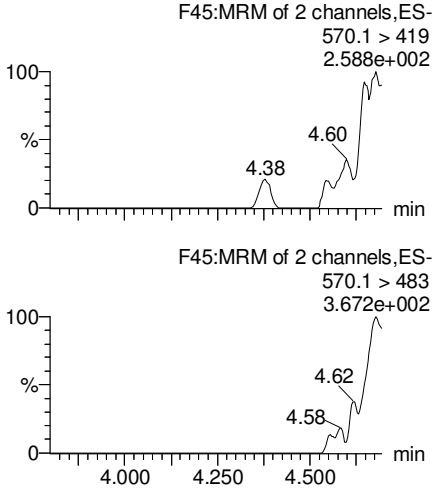
Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

PFUnA



N-MeFOSAA



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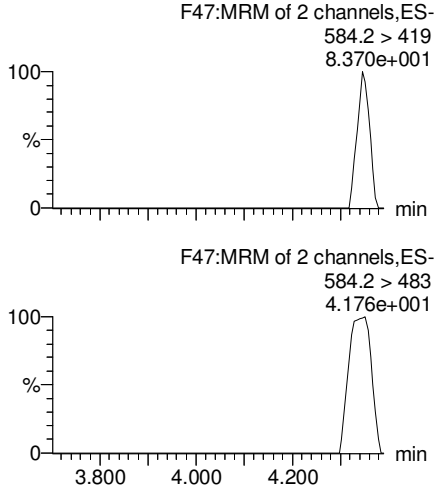
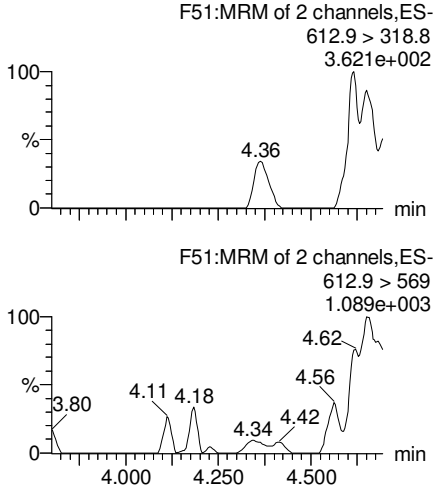


PFDoA



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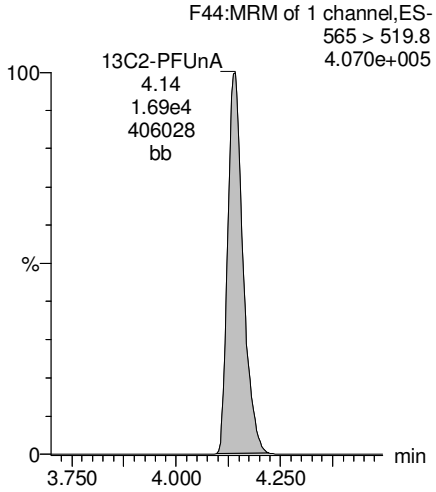
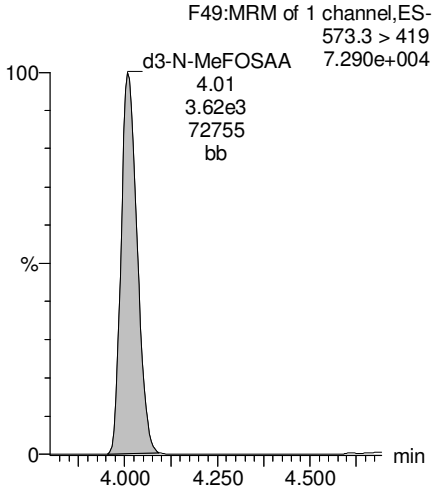
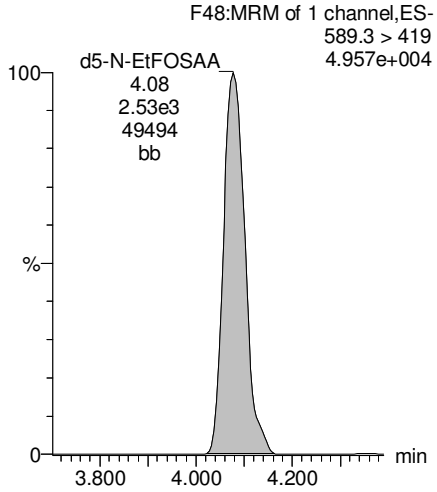


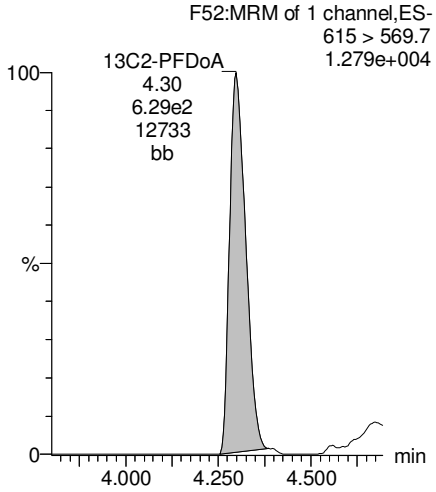
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



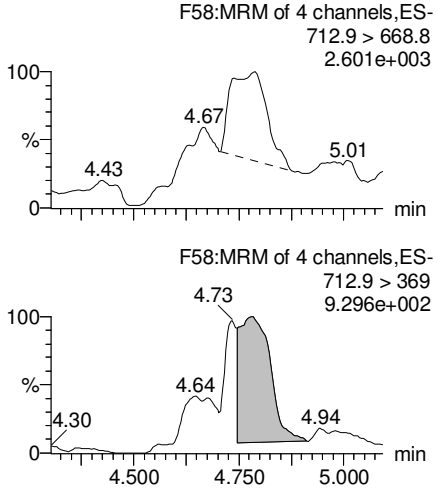
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

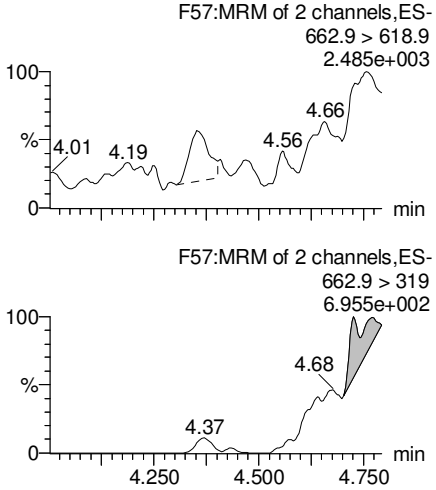
Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

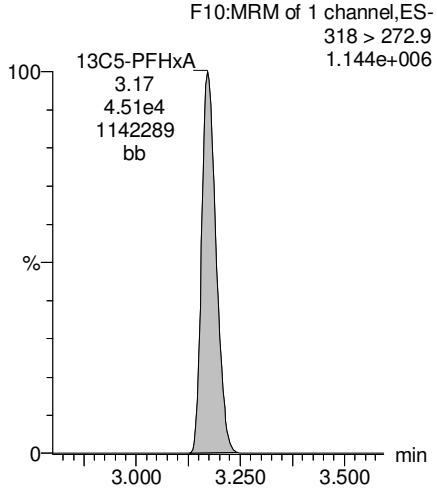
PFTeDA



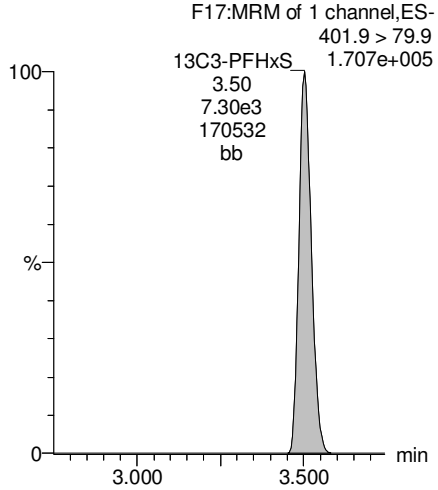
PFTrDA



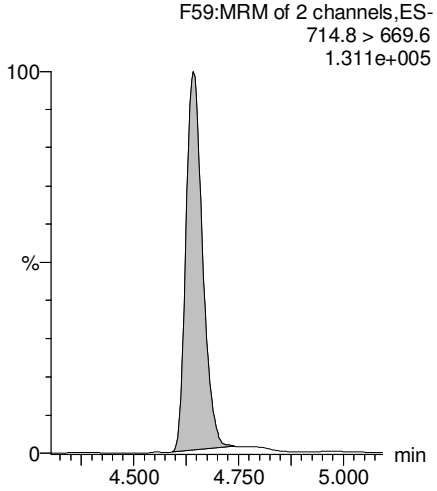
13C5-PFHxA



13C3-PFHxS



13C2-PFTeDA



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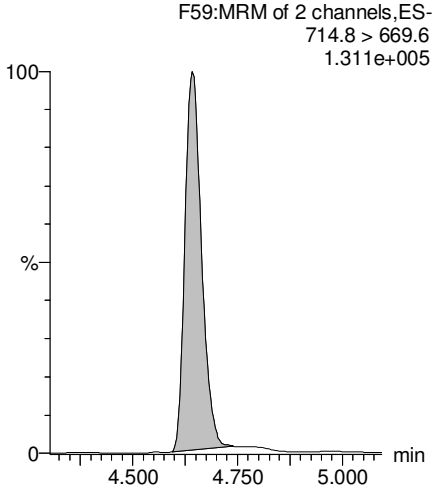
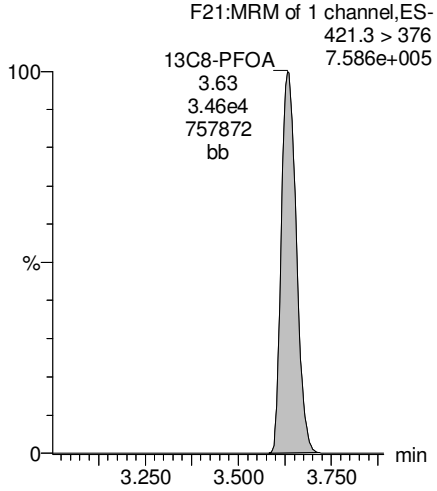
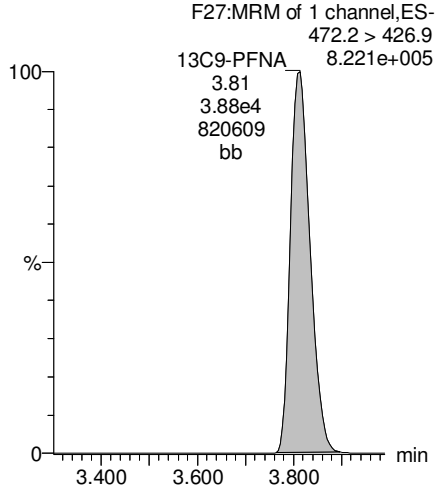


13C8-PFOA



13C9-PFNA



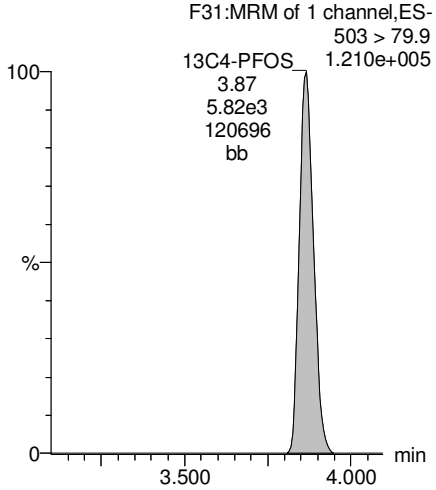
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-15.qld

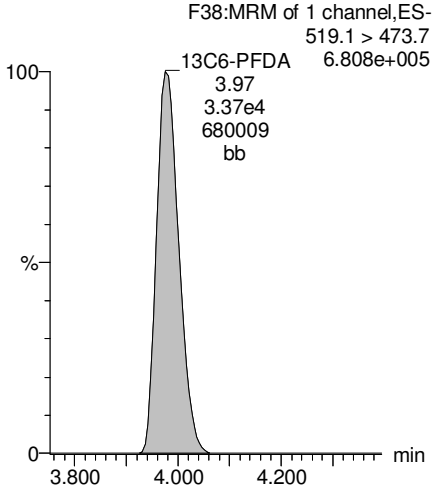
Last Altered: Thursday, July 20, 2017 14:24:54 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:25:30 Pacific Daylight Time

Name: 170707M2_15, Date: 07-Jul-2017, Time: 16:05:13, ID: 1700792-04 Roof Drain-20170628 0.11484, Description: Roof Drain-20170628

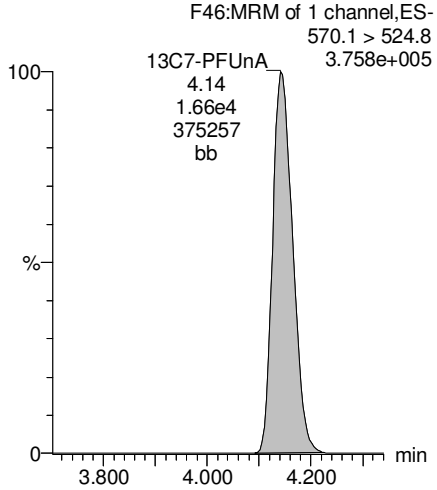
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	1.30e2	4.68e3	0.0975		2.92	2.93	0.347	0.934		
2	2	PFHxA	313.2 > 268.9	3.79e4	1.57e4	0.0975		3.16	3.17	12.1	87.5		
3	3	PFHpA	363 > 318.9	1.93e4	3.20e4	0.0975		3.43	3.43	7.53	62.9		
4	4	PFHxS	398.9 > 79.6	1.40e2	3.27e3	0.0975		3.55	3.51	0.534	2.96		
5	5	PFOA	413 > 368.7	1.20e4	3.95e4	0.0975		3.63	3.64	3.79	39.6		
6	6	PFNA	462.9 > 418.8	2.46e3	3.22e4	0.0975		3.82	3.81	0.956	8.19		
7	7	PFOS	499 > 79.9	2.69e2	6.80e3	0.0975		3.86	3.86	0.495	4.28		
8	8	PFDA	513 > 468.8	4.13e2	2.92e4	0.0975		4.00	3.99	0.177			
9	9	PFUnA	562.9 > 518.9		1.06e4	0.0975		4.13					
10	10	N-MeFOSAA	570.1 > 419		3.11e3	0.0975		4.00					
11	11	N-EtFOSAA	584.2 > 419		1.94e3	0.0975		4.07					
12	12	PFDoA	612.9 > 318.8		5.07e2	0.0975		4.31					
13	13	PFTrDA	662.9 > 618.9		5.07e2	0.0975		4.50					
14	14	PFTeDA	712.9 > 668.8		4.70e3	0.0975		4.65					
15	15	13C3-PFBS	302 > 98.8	4.68e3	4.76e4	0.0975	0.032	2.92	2.93	0.492	157	122.6	
16	16	13C2-PFHxA	315 > 269.8	1.57e4	4.76e4	0.0975	0.296	3.15	3.17	1.65	57.0	111.2	
17	17	13C4-PFHpA	367.2 > 321.8	3.20e4	4.76e4	0.0975	0.302	3.43	3.43	3.37	115	89.3	
18	18	18O2-PFHxS	403 > 102.6	3.27e3	7.71e3	0.0975	0.434	3.49	3.50	5.31	125	97.8	
19	19	13C2-PFOA	414.9 > 369.7	3.95e4	3.70e4	0.0975	1.140	3.62	3.63	13.4	120	93.7	
20	20	13C5-PFNA	468.2 > 422.9	3.22e4	3.45e4	0.0975	0.958	3.80	3.81	11.6	125	97.2	
21	21	13C8-PFOS	507 > 79.9	6.80e3	6.37e3	0.0975	1.061	3.85	3.86	13.3	129	100.6	
22	22	13C2-PFDA	515.1 > 469.9	2.92e4	3.37e4	0.0975	0.942	3.97	3.98	10.8	118	92.0	
23	23	13C2-PFUnA	565 > 519.8	1.06e4	1.14e4	0.0975	1.084	4.13	4.15	11.6	110	85.5	
24	24	d3-N-MeFOSAA	573.3 > 419	3.11e3	1.14e4	0.0975	0.240	4.00	4.01	3.41	145	113.3	
25	25	d5-N-EtFOSAA	589.3 > 419	1.94e3	1.14e4	0.0975	0.247	4.07	4.08	2.12	87.9	68.5	
26	26	13C2-PFDoA	615 > 569.7	5.07e2	1.14e4	0.0975	0.127	4.32	4.30	0.555	44.8	34.9	H
27	27	13C2-PFTeDA	714.8 > 669.6	4.70e3	1.14e4	0.0975	0.883	4.64	4.64	5.14	59.7	46.6	H
28	28	13C5-PFHxA	318 > 272.9	4.76e4	4.76e4	0.0975	1.000	3.15	3.17	5.00	51.3	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	7.71e3	7.71e3	0.0975	1.000	3.49	3.50	12.5	128	100.0	
30	30	13C8-PFOA	421.3 > 376	3.70e4	3.70e4	0.0975	1.000	3.62	3.64	12.5	128	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.45e4	3.45e4	0.0975	1.000	3.82	3.81	12.5	128	100.0	
32	32	13C4-PFOS	503 > 79.9	6.37e3	6.37e3	0.0975	1.000	3.85	3.87	12.5	128	100.0	

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Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	3.37e4	3.37e4	0.0975	1.000	3.97	3.98	12.5	128	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.14e4	1.14e4	0.0975	1.000	4.13	4.14	12.5	128	100.0
35	35	Total PFBS	299 > 79.7	1.30e2	4.68e3	0.0975		2.91		0.347	0.934	
36	36	Total PFHxS	398.9 > 79.6	1.40e2	3.27e3	0.0975		3.48		0.534	2.96	
37	37	Total PFOA	413 > 368.7	1.20e4	3.95e4	0.0975		3.61		3.79	39.6	
38	38	Total PFOS	499 > 79.9	2.69e2	6.80e3	0.0975		3.84		0.495	4.28	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.0975		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.0975		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.93	129.984	4681.648	0.347	MM	0.9

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.51	139.795	3274.857	0.534	bb	3.0

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.64	12005.399	39544.430	3.795	bb	39.6

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.86	269.321	6802.029	0.495	MM	4.3

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
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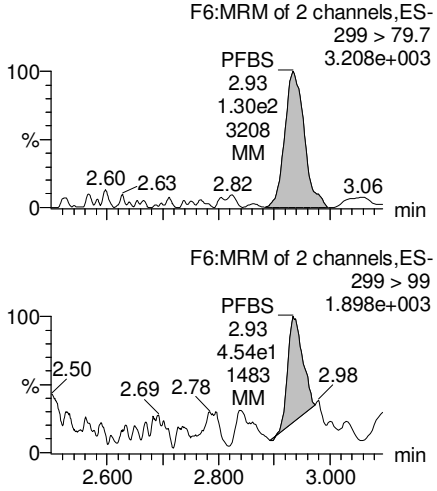
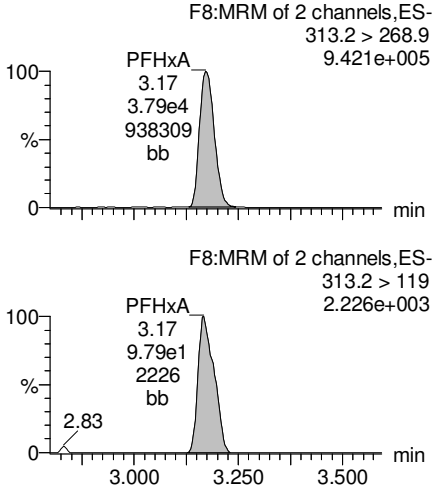
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

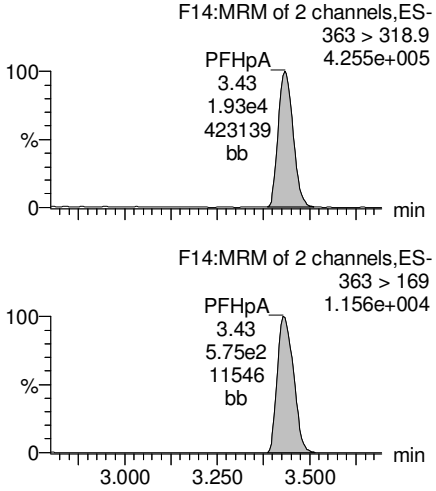
Total PFBS



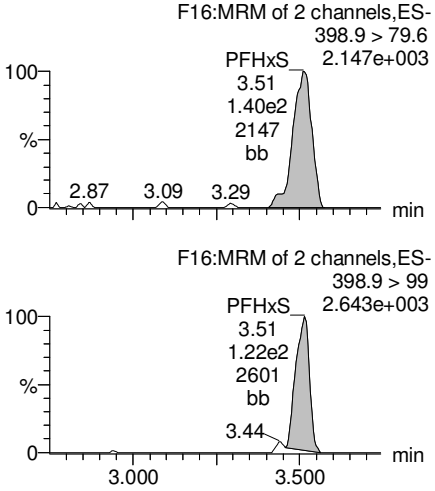
PFHxA



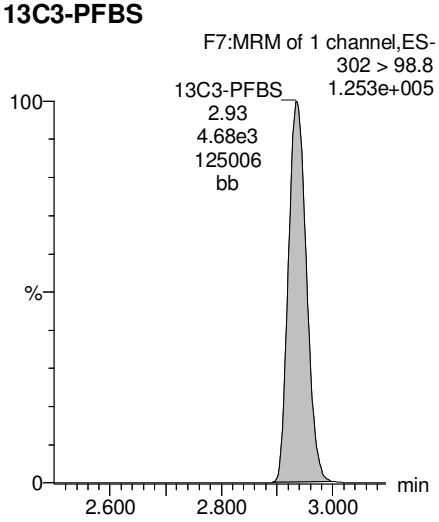
PFHpA



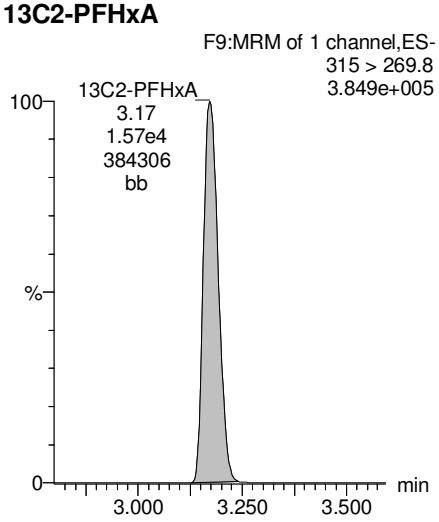
Total PFHxS



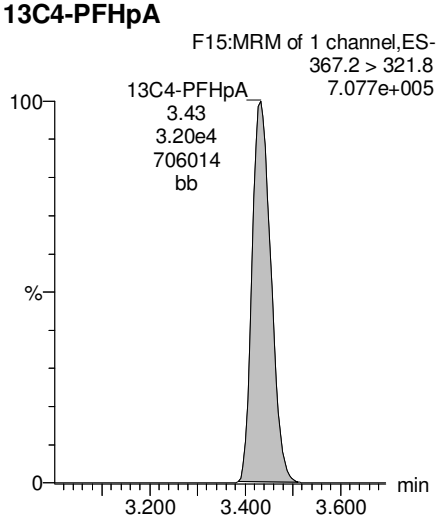
13C3-PFBS



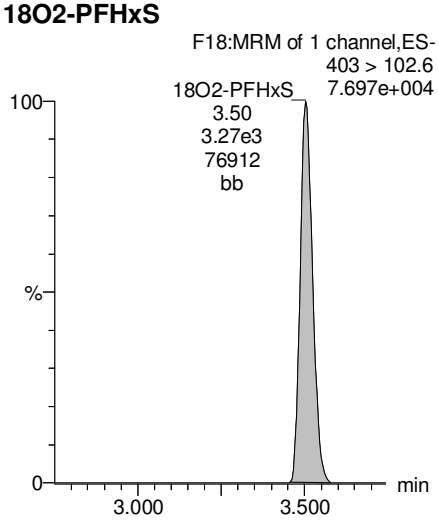
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



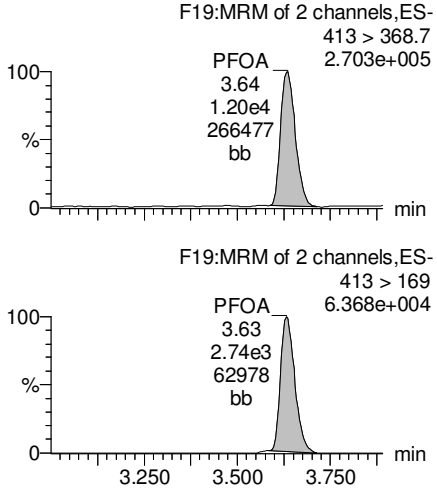
GM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

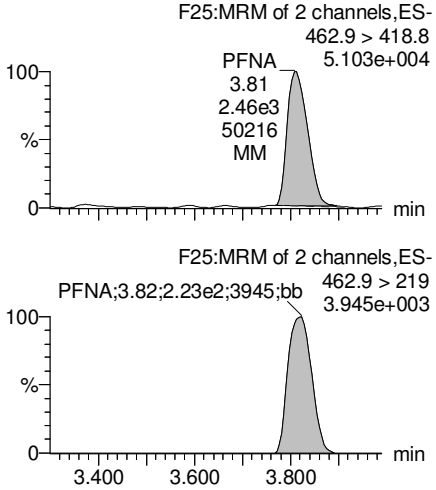
Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

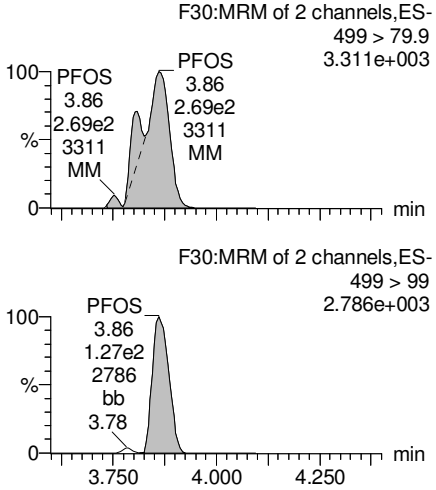
Total PFOA



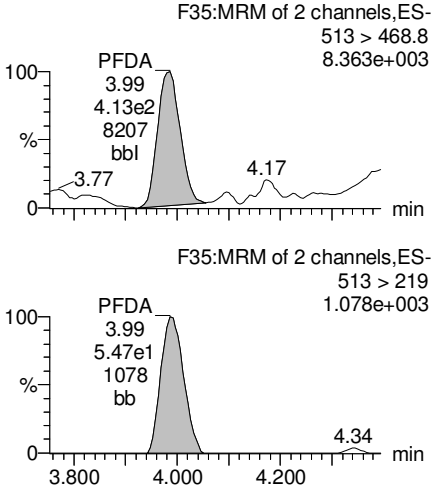
PFNA



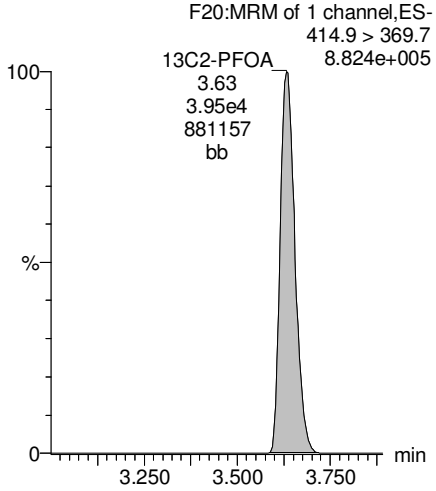
Total PFOS



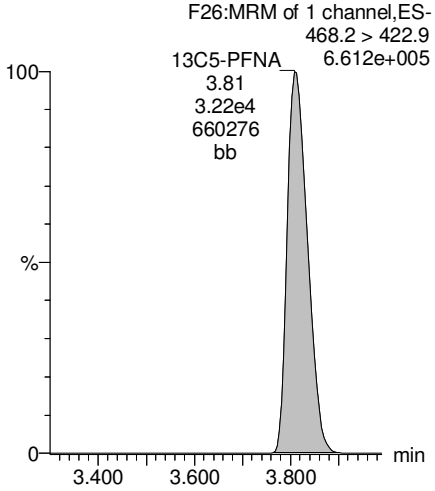
PFDA



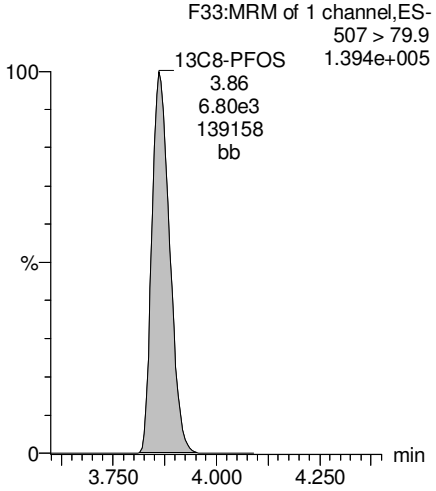
13C2-PFOA



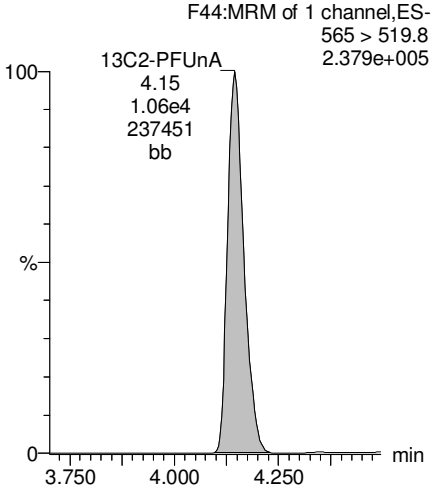
13C5-PFNA



13C8-PFOS



13C2-PFUnA



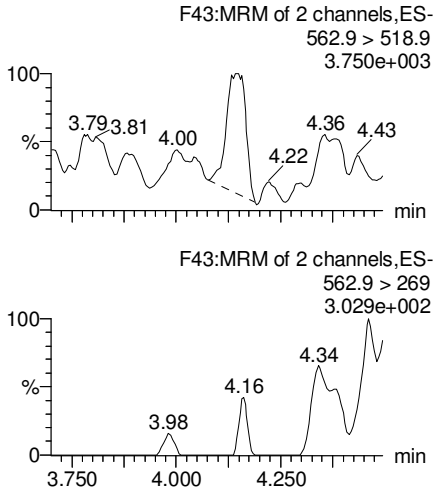
GM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

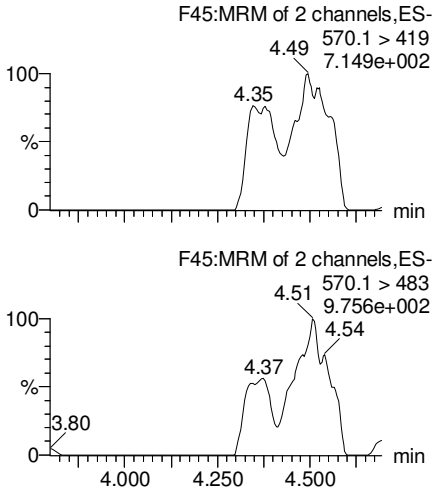
Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

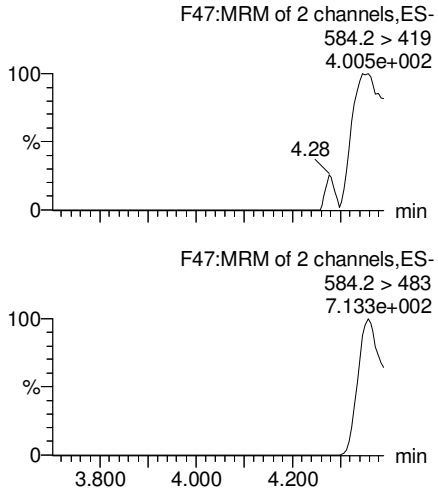
PFUnA



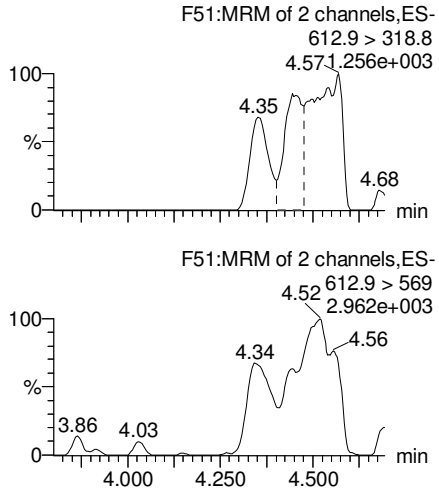
N-MeFOSAA



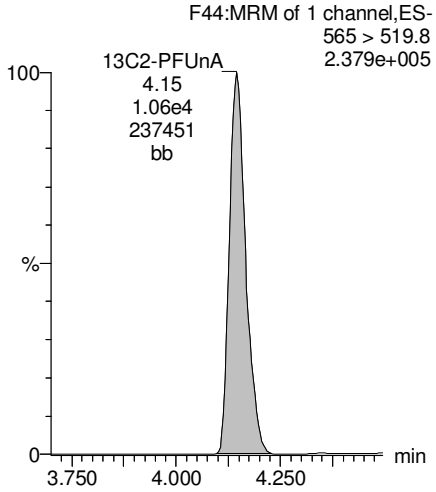
N-EtFOSAA



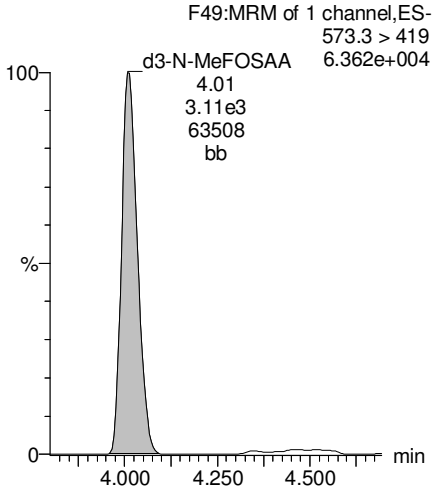
PFDoA



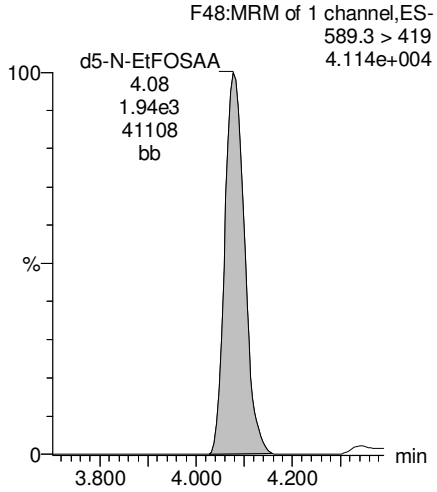
13C2-PFUnA



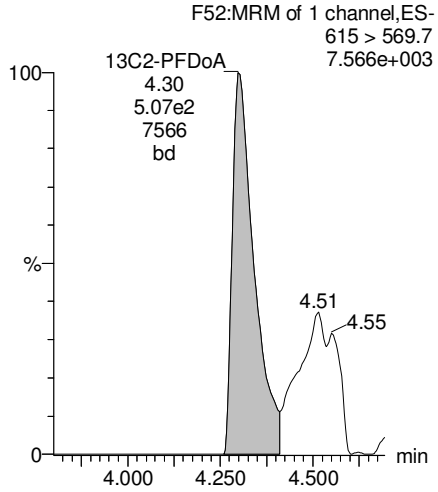
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



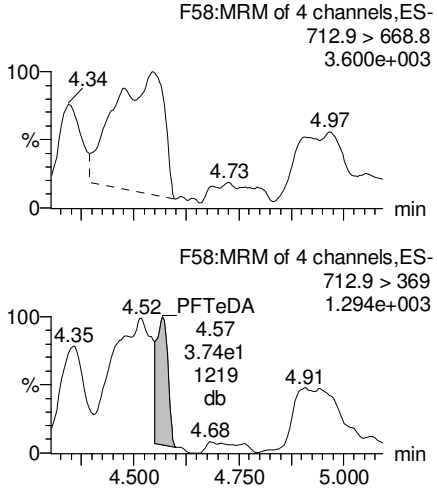
GM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

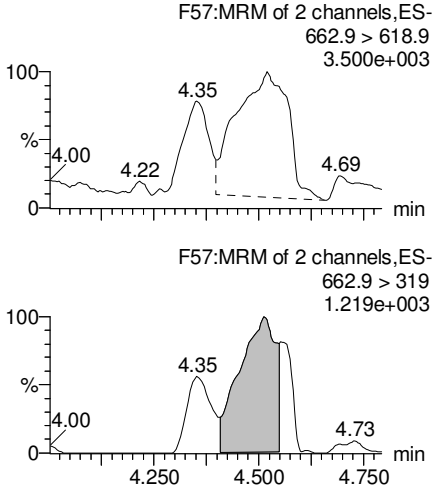
Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

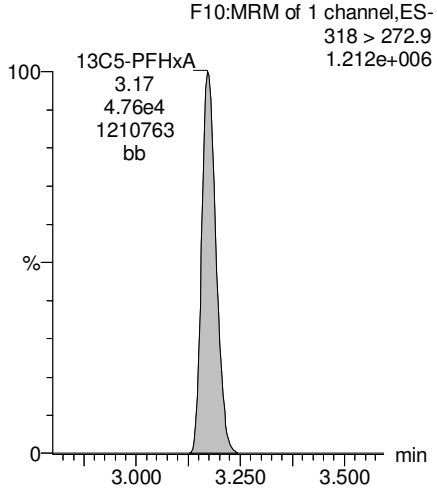
PFTeDA



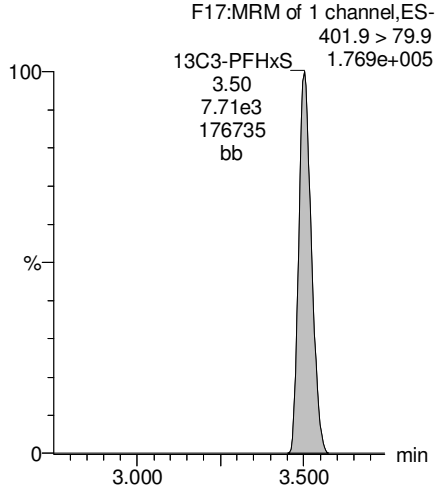
PFTrDA



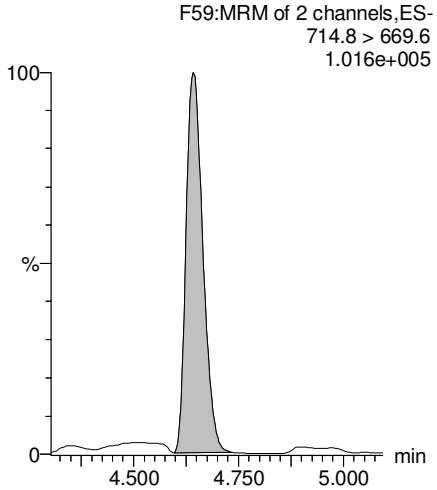
13C5-PFHxA



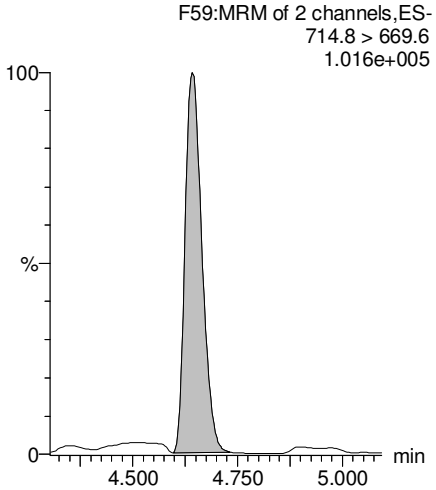
13C3-PFHxS



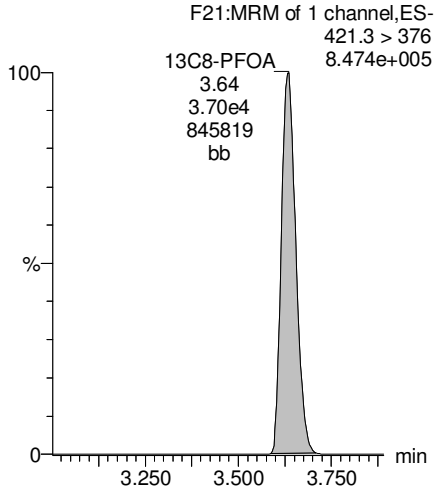
13C2-PFTeDA



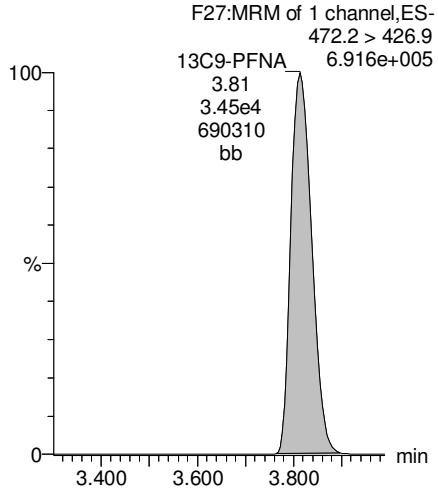
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



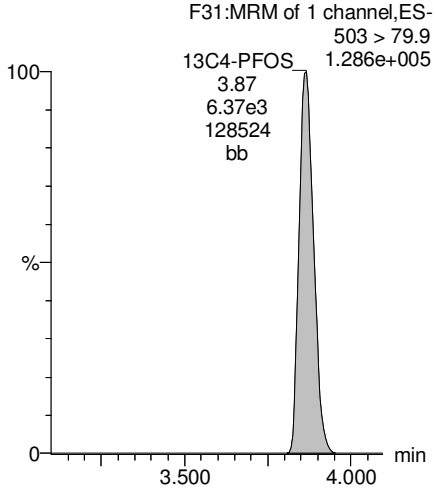
GM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-16.qld

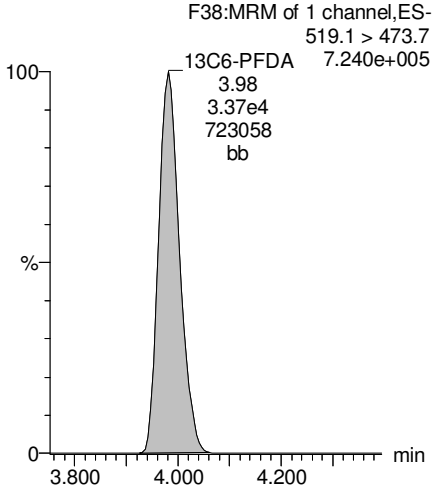
Last Altered: Friday, July 21, 2017 15:26:53 Pacific Daylight Time
Printed: Friday, July 21, 2017 15:27:26 Pacific Daylight Time

Name: 170707M2_16, Date: 07-Jul-2017, Time: 16:15:51, ID: 1700792-05 Spring-20170628 0.09751, Description: Spring-20170628

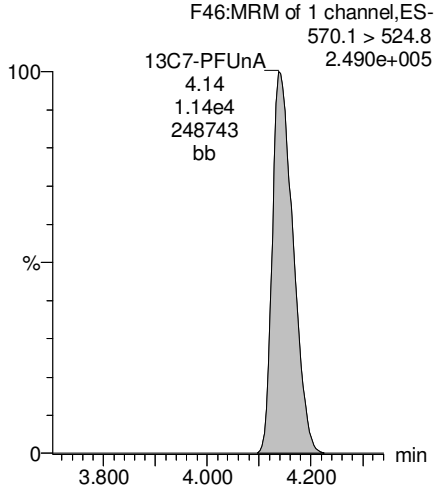
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		3.31e3	0.1121		2.92					
2	2	PFHxA	313.2 > 268.9		1.08e4	0.1121		3.16					
3	3	PFHpA	363 > 318.9		2.35e4	0.1121		3.43					
4	4	PFHxS	398.9 > 79.6		2.41e3	0.1121		3.55					
5	5	PFOA	413 > 368.7		3.24e4	0.1121		3.63					
6	6	PFNA	462.9 > 418.8		2.23e4	0.1121		3.82					
7	7	PFOS	499 > 79.9		3.89e3	0.1121		3.86					
8	8	PFDA	513 > 468.8		1.30e4	0.1121		4.00					
9	9	PFUnA	562.9 > 518.9		4.85e3	0.1121		4.13					
10	10	N-MeFOSAA	570.1 > 419		1.55e3	0.1121		4.00					
11	11	N-EtFOSAA	584.2 > 419		1.01e3	0.1121		4.07					
12	12	PFDoA	612.9 > 318.8		2.66e2	0.1121		4.31					
13	13	PFTrDA	662.9 > 618.9		2.66e2	0.1121		4.50					
14	14	PFTeDA	712.9 > 668.8		1.95e3	0.1121		4.65					
15	15	13C3-PFBS	302 > 98.8	3.31e3	3.26e4	0.1121	0.032	2.92	2.93	0.508	141	126.5	
16	16	13C2-PFHxA	315 > 269.8	1.08e4	3.26e4	0.1121	0.296	3.15	3.18	1.65	49.6	111.2	
17	17	13C4-PFHpA	367.2 > 321.8	2.35e4	3.26e4	0.1121	0.302	3.43	3.43	3.60	106	95.4	
18	18	18O2-PFHxS	403 > 102.6	2.41e3	4.97e3	0.1121	0.434	3.49	3.50	6.06	124	111.6	
19	19	13C2-PFOA	414.9 > 369.7	3.24e4	2.54e4	0.1121	1.140	3.62	3.63	15.9	125	111.9	
20	20	13C5-PFNA	468.2 > 422.9	2.23e4	2.59e4	0.1121	0.958	3.80	3.81	10.8	100	89.8	
21	21	13C8-PFOS	507 > 79.9	3.89e3	3.50e3	0.1121	1.061	3.85	3.86	13.9	117	104.7	
22	22	13C2-PFDA	515.1 > 469.9	1.30e4	1.85e4	0.1121	0.942	3.97	3.98	8.80	83.3	74.7	
23	23	13C2-PFUnA	565 > 519.8	4.85e3	6.37e3	0.1121	1.084	4.13	4.14	9.52	78.3	70.2	
24	24	d3-N-MeFOSAA	573.3 > 419	1.55e3	6.37e3	0.1121	0.240	4.00	4.01	3.04	113	101.2	
25	25	d5-N-EtFOSAA	589.3 > 419	1.01e3	6.37e3	0.1121	0.247	4.07	4.07	1.99	71.7	64.3	
26	26	13C2-PFDoA	615 > 569.7	2.66e2	6.37e3	0.1121	0.127	4.32	4.30	0.522	36.7	32.9	H
27	27	13C2-PFTeDA	714.8 > 669.6	1.95e3	6.37e3	0.1121	0.883	4.64	4.64	3.84	38.8	34.8	H
28	28	13C5-PFHxA	318 > 272.9	3.26e4	3.26e4	0.1121	1.000	3.15	3.18	5.00	44.6	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	4.97e3	4.97e3	0.1121	1.000	3.49	3.50	12.5	112	100.0	
30	30	13C8-PFOA	421.3 > 376	2.54e4	2.54e4	0.1121	1.000	3.62	3.63	12.5	112	100.0	
31	31	13C9-PFNA	472.2 > 426.9	2.59e4	2.59e4	0.1121	1.000	3.82	3.81	12.5	112	100.0	
32	32	13C4-PFOS	503 > 79.9	3.50e3	3.50e3	0.1121	1.000	3.85	3.86	12.5	112	100.0	

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Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	1.85e4	1.85e4	0.1121	1.000	3.97	3.98	12.5	112	100.0
34	34	13C7-PFUnA	570.1 > 524.8	6.37e3	6.37e3	0.1121	1.000	4.13	4.14	12.5	112	100.0
35	35	Total PFBS	299 > 79.7	0.00e0	3.31e3	0.1121		2.91		0.000		
36	36	Total PFHxS	398.9 > 79.6	0.00e0	2.41e3	0.1121		3.48		0.000		
37	37	Total PFOA	413 > 368.7	0.00e0	3.24e4	0.1121		3.61		0.000		
38	38	Total PFOS	499 > 79.9	0.00e0	3.89e3	0.1121		3.84		0.000		
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1121		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1121		4.06		0.000		

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6			2411.290		MM-	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7			32406.875		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

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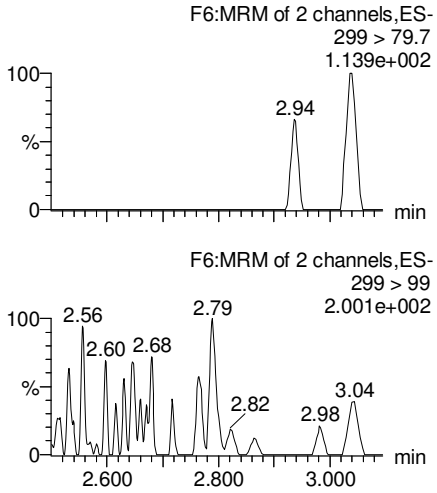
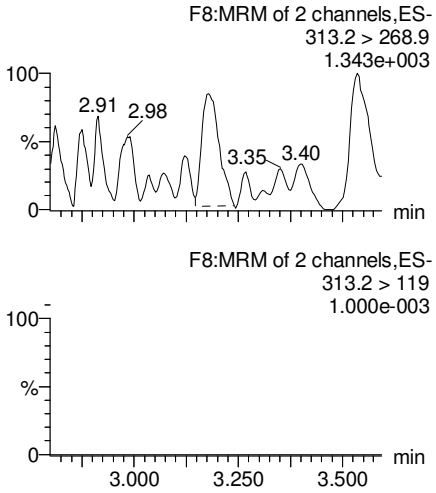
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

Total PFBS



PFHxA



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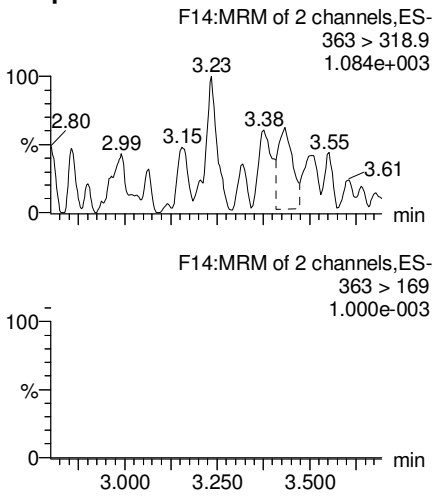
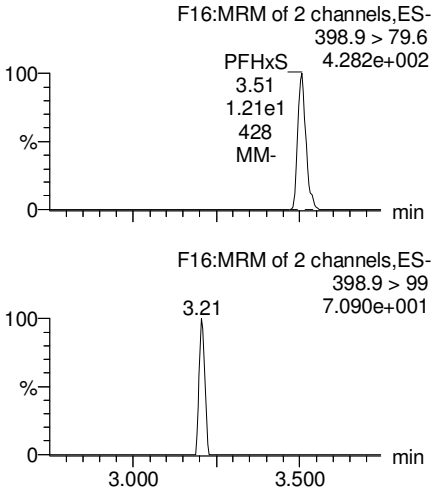
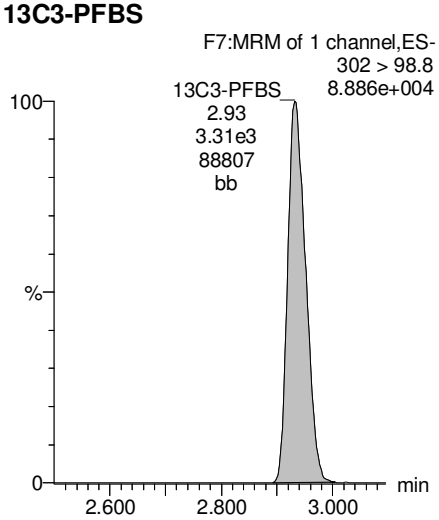


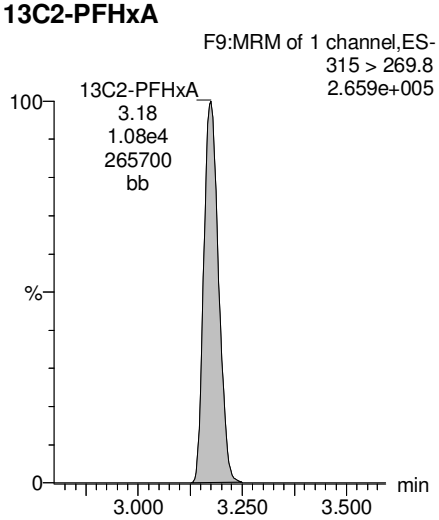
Total PFHxS



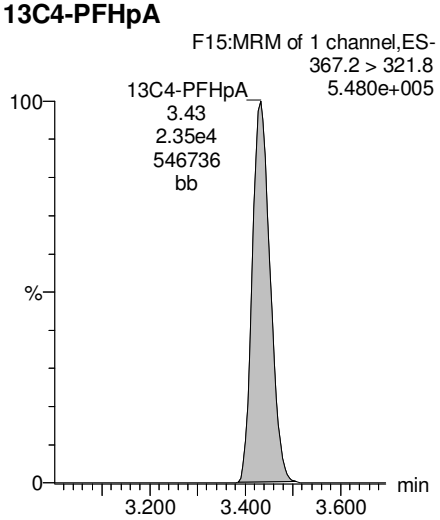
13C3-PFBS



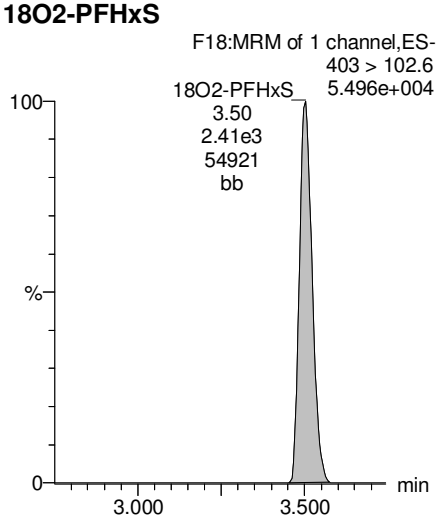
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



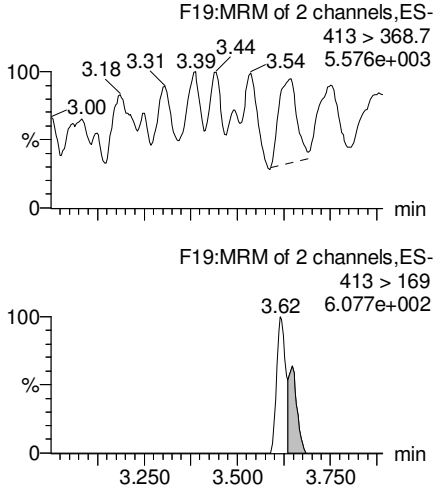
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

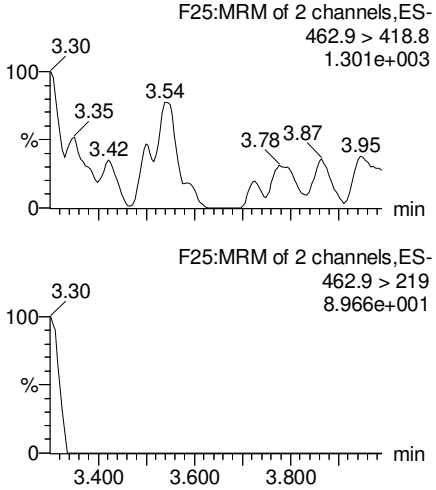
Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

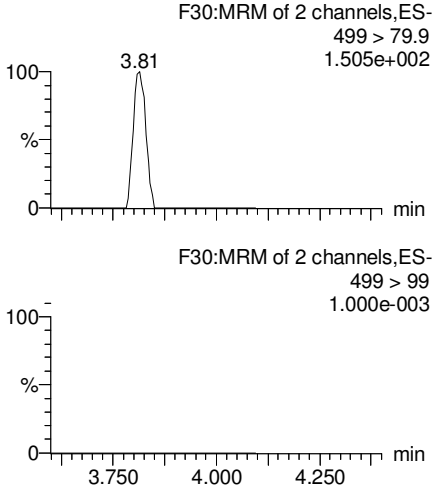
Total PFOA



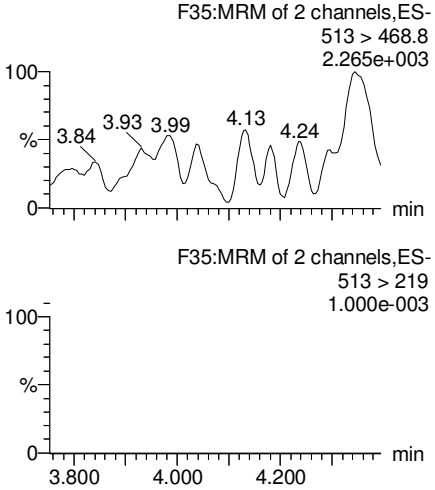
PFNA



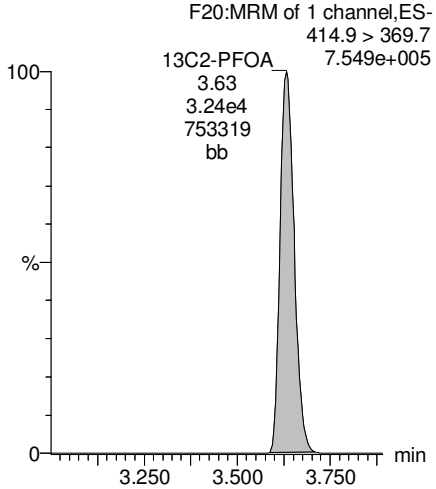
Total PFOS



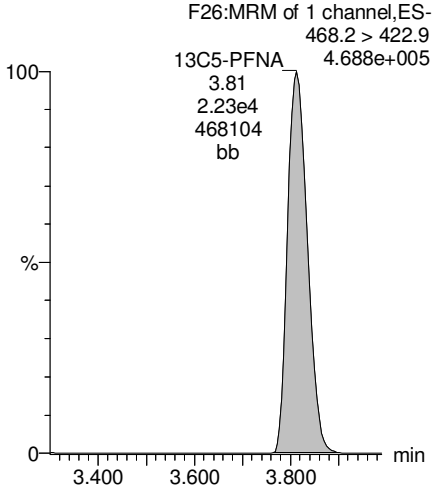
PFDA



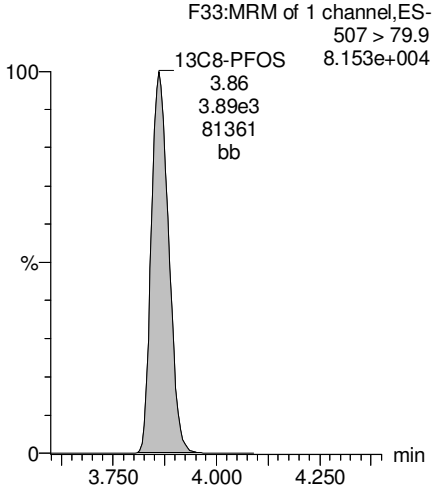
13C2-PFOA



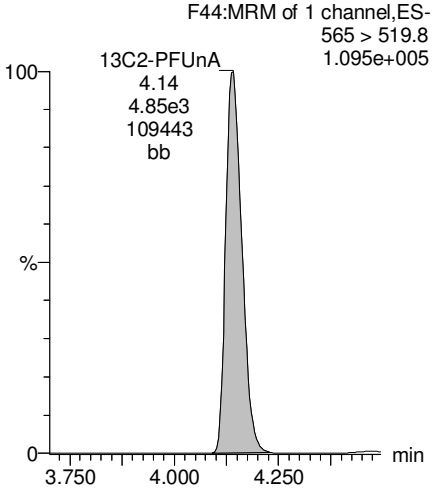
13C5-PFNA



13C8-PFOS



13C2-PFUnA



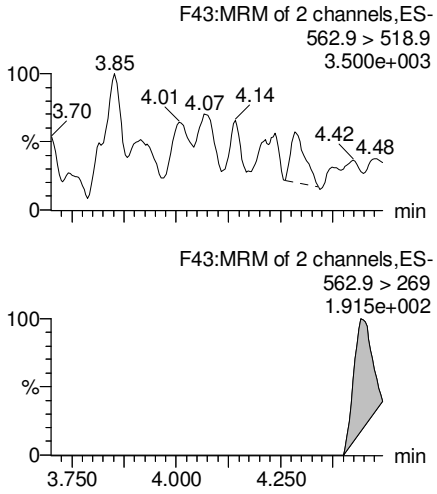
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

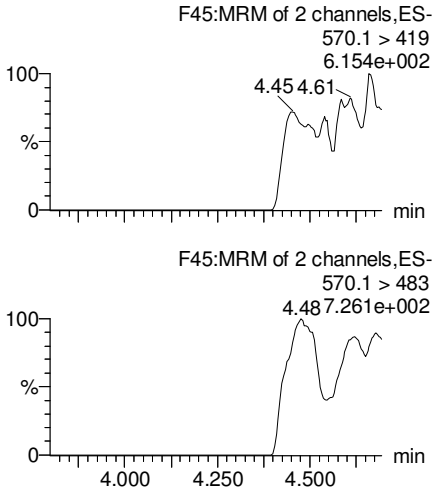
Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

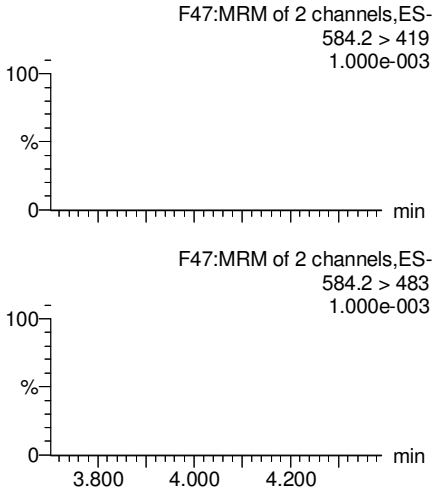
PFUnA



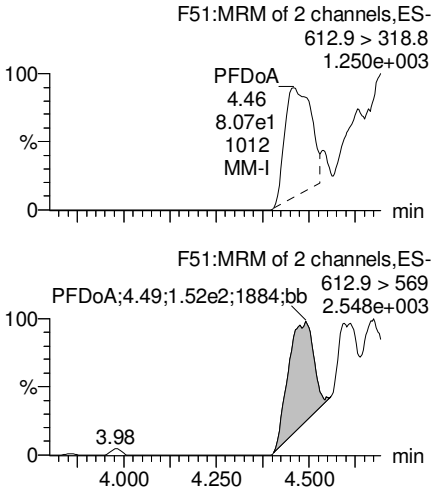
N-MeFOSAA



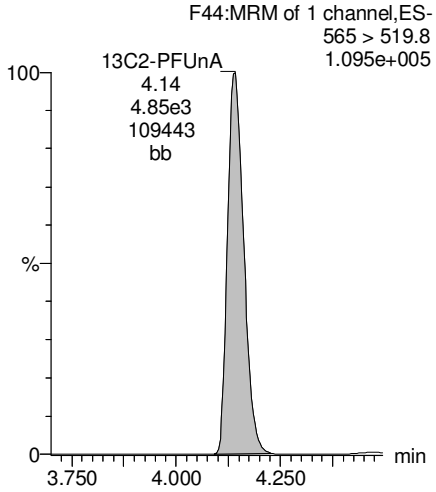
N-EtFOSAA



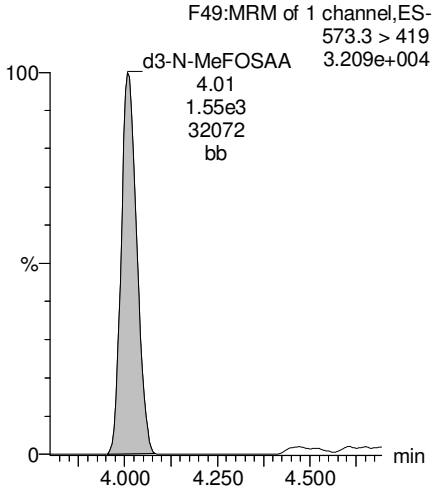
PFDoA



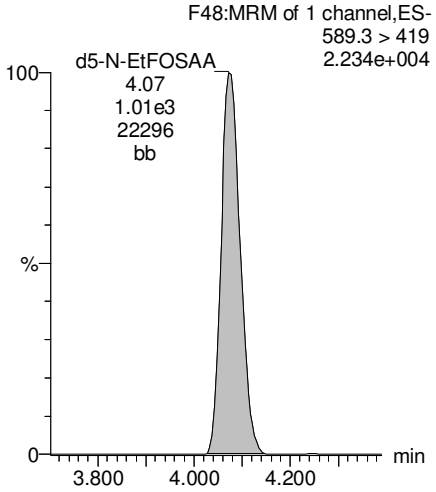
13C2-PFUnA



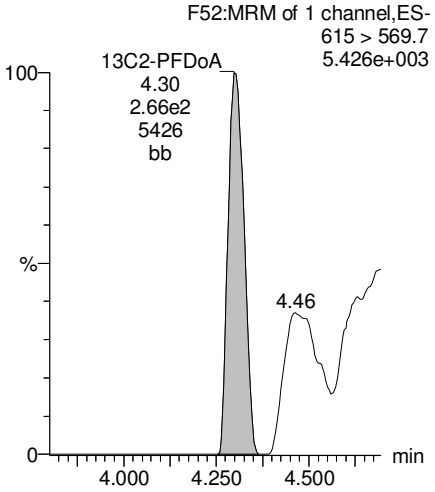
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



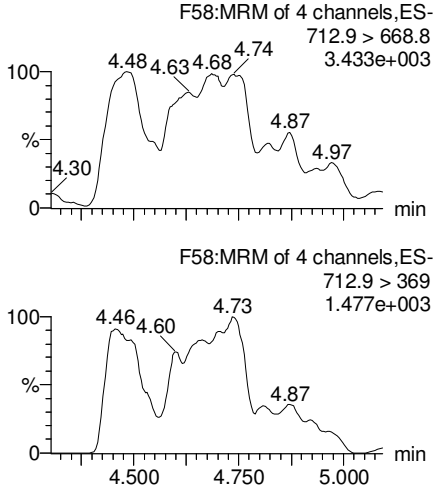
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

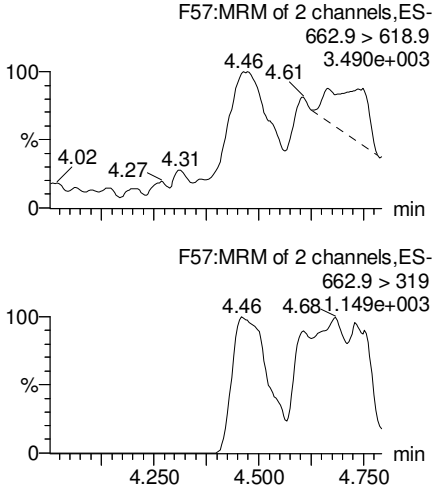
Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

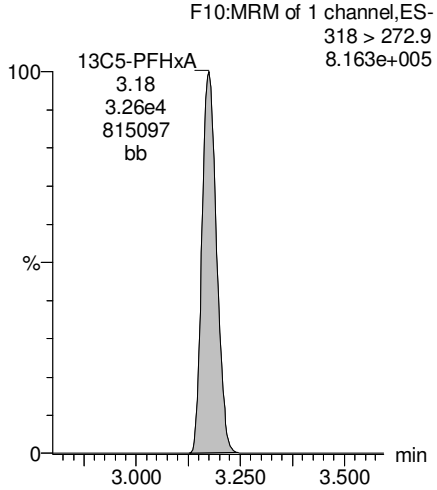
PFTeDA



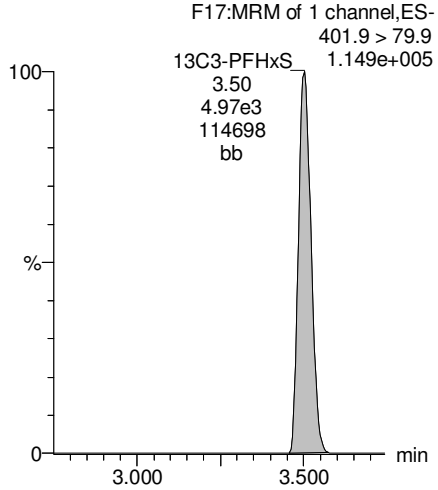
PFTrDA



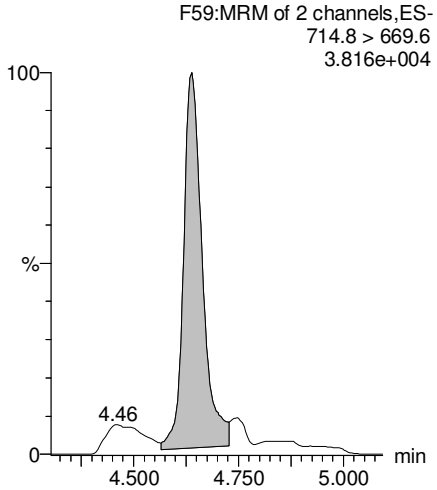
13C5-PFHxA



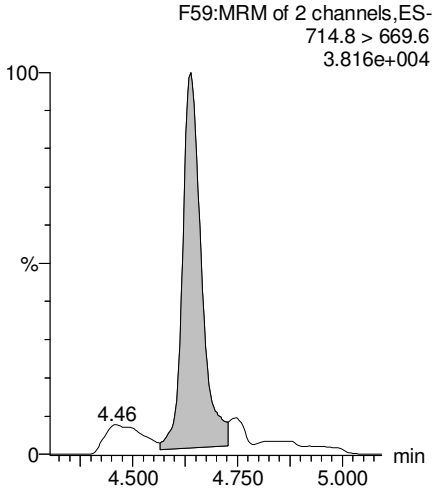
13C3-PFHxS



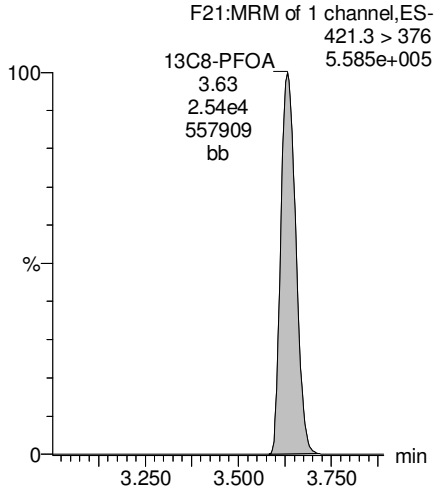
13C2-PFTeDA



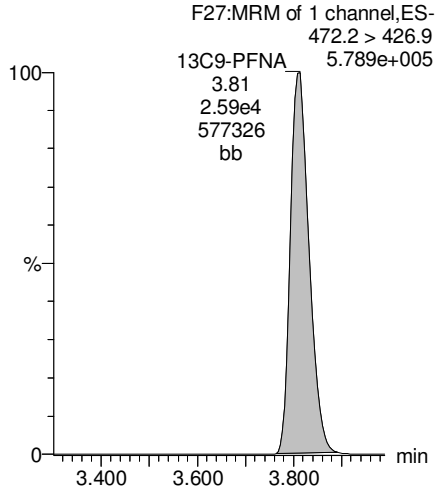
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



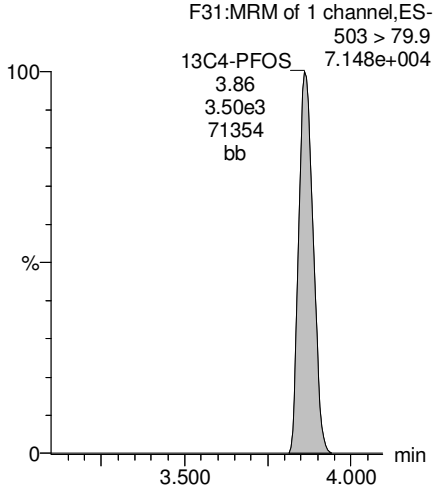
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-17.qld

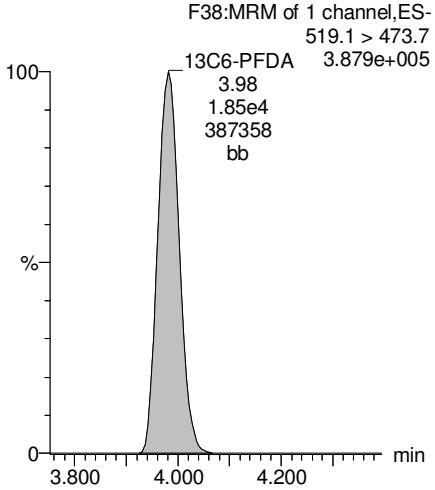
Last Altered: Thursday, July 20, 2017 14:34:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:35:30 Pacific Daylight Time

Name: 170707M2_17, Date: 07-Jul-2017, Time: 16:26:52, ID: 1700792-06 FRB-20170628 0.1121, Description: FRB-20170628

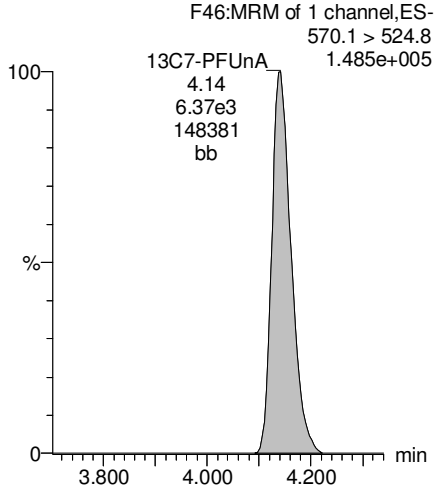
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	7.95e1	4.13e3	0.1187		2.92	2.93	0.241	0.288		
2	2	PFHxA	313.2 > 268.9	3.70e4	1.30e4	0.1187		3.16	3.18	14.2	84.8		
3	3	PFHpA	363 > 318.9	1.89e4	3.00e4	0.1187		3.43	3.43	7.88	54.2		
4	4	PFHxS	398.9 > 79.6	1.73e2	2.90e3	0.1187		3.55	3.50	0.745	3.38		
5	5	PFOA	413 > 368.7	2.27e4	3.93e4	0.1187		3.63	3.63	7.22	63.4		
6	6	PFNA	462.9 > 418.8	3.17e3	2.88e4	0.1187		3.82	3.81	1.38	9.93		
7	7	PFOS	499 > 79.9	3.91e2	5.51e3	0.1187		3.86	3.87	0.887	6.63		
8	8	PFDA	513 > 468.8	1.11e3	2.16e4	0.1187		4.00	3.98	0.643	3.10		
9	9	PFUnA	562.9 > 518.9		9.89e3	0.1187		4.13					
10	10	N-MeFOSAA	570.1 > 419		2.51e3	0.1187		4.00					
11	11	N-EtFOSAA	584.2 > 419		1.68e3	0.1187		4.07					
12	12	PFDoA	612.9 > 318.8		4.14e2	0.1187		4.31					
13	13	PFTrDA	662.9 > 618.9		4.14e2	0.1187		4.50					
14	14	PFTeDA	712.9 > 668.8		2.24e3	0.1187		4.65					
15	15	13C3-PFBS	302 > 98.8	4.13e3	4.32e4	0.1187	0.032	2.92	2.94	0.478	125	119.1	
16	16	13C2-PFHxA	315 > 269.8	1.30e4	4.32e4	0.1187	0.296	3.15	3.18	1.51	42.9	101.8	
17	17	13C4-PFHpA	367.2 > 321.8	3.00e4	4.32e4	0.1187	0.302	3.43	3.43	3.47	97.0	92.2	
18	18	18O2-PFHxS	403 > 102.6	2.90e3	6.37e3	0.1187	0.434	3.49	3.50	5.70	111	105.0	
19	19	13C2-PFOA	414.9 > 369.7	3.93e4	3.44e4	0.1187	1.140	3.62	3.63	14.3	105	100.1	
20	20	13C5-PFNA	468.2 > 422.9	2.88e4	3.28e4	0.1187	0.958	3.80	3.81	11.0	96.3	91.5	
21	21	13C8-PFOS	507 > 79.9	5.51e3	4.89e3	0.1187	1.061	3.85	3.87	14.1	112	106.1	
22	22	13C2-PFDA	515.1 > 469.9	2.16e4	2.40e4	0.1187	0.942	3.97	3.99	11.2	101	95.5	
23	23	13C2-PFUnA	565 > 519.8	9.89e3	1.03e4	0.1187	1.084	4.13	4.15	12.0	93.5	88.8	
24	24	d3-N-MeFOSAA	573.3 > 419	2.51e3	1.03e4	0.1187	0.240	4.00	4.01	3.05	107	101.6	
25	25	d5-N-EtFOSAA	589.3 > 419	1.68e3	1.03e4	0.1187	0.247	4.07	4.08	2.05	69.8	66.3	
26	26	13C2-PFDoA	615 > 569.7	4.14e2	1.03e4	0.1187	0.127	4.32	4.30	0.504	33.5	31.8	H
27	27	13C2-PFTeDA	714.8 > 669.6	2.24e3	1.03e4	0.1187	0.883	4.64	4.64	2.73	26.1	24.8	H
28	28	13C5-PFHxA	318 > 272.9	4.32e4	4.32e4	0.1187	1.000	3.15	3.18	5.00	42.1	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	6.37e3	6.37e3	0.1187	1.000	3.49	3.50	12.5	105	100.0	
30	30	13C8-PFOA	421.3 > 376	3.44e4	3.44e4	0.1187	1.000	3.62	3.63	12.5	105	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.28e4	3.28e4	0.1187	1.000	3.82	3.81	12.5	105	100.0	
32	32	13C4-PFOS	503 > 79.9	4.89e3	4.89e3	0.1187	1.000	3.85	3.87	12.5	105	100.0	

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Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	2.40e4	2.40e4	0.1187	1.000	3.97	3.98	12.5	105	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.03e4	1.03e4	0.1187	1.000	4.13	4.15	12.5	105	100.0
35	35	Total PFBS	299 > 79.7	7.95e1	4.13e3	0.1187		2.91		0.241	0.288	
36	36	Total PFHxS	398.9 > 79.6	1.73e2	2.90e3	0.1187		3.48		0.745	3.38	
37	37	Total PFOA	413 > 368.7	2.27e4	3.93e4	0.1187		3.61		7.22	63.4	
38	38	Total PFOS	499 > 79.9	3.91e2	5.51e3	0.1187		3.84		0.887	6.63	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1187		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1187		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.93	79.550	4125.791	0.241	bb	0.3

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.50	172.960	2902.790	0.745	MM	3.4

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.63	22685.859	39270.219	7.221	bb	63.4

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.87	391.026	5509.562	0.887	MM	6.6

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Rev'd: MM 7/21/17

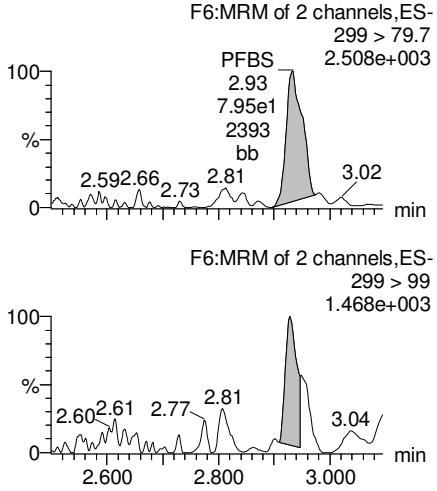
Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

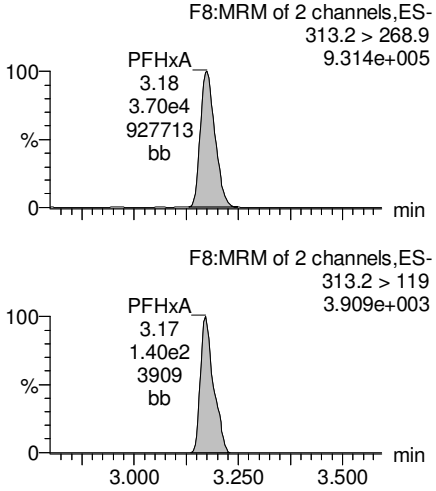
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

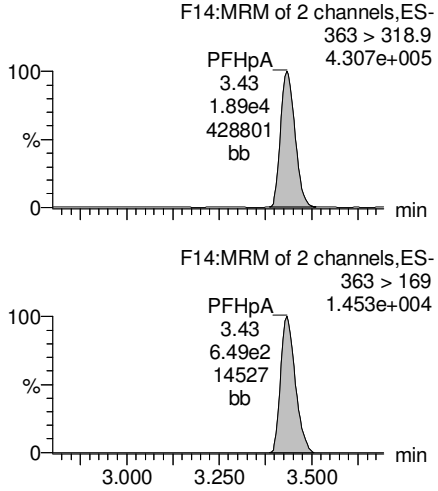
Total PFBS



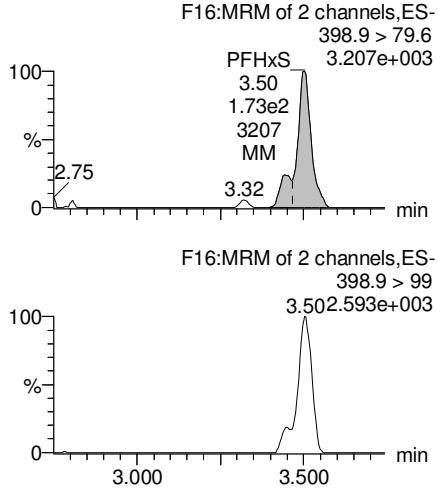
PFHxA



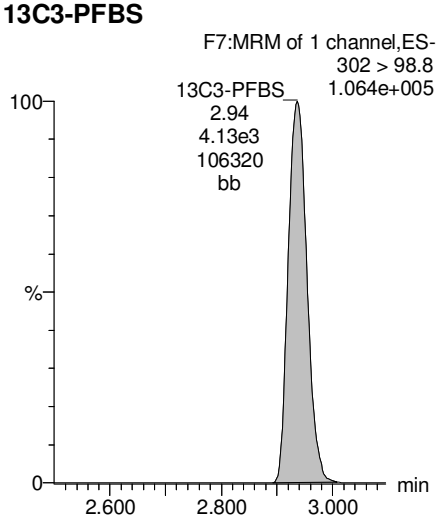
PFHpA



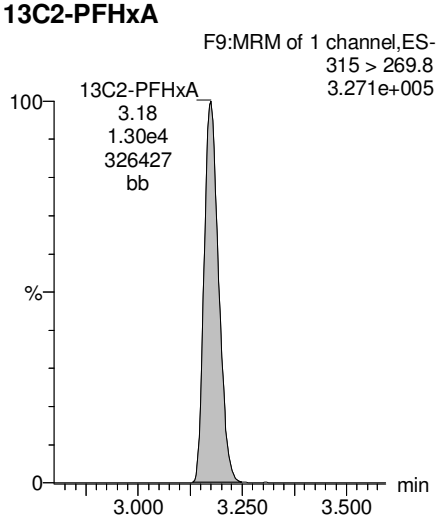
Total PFHxS



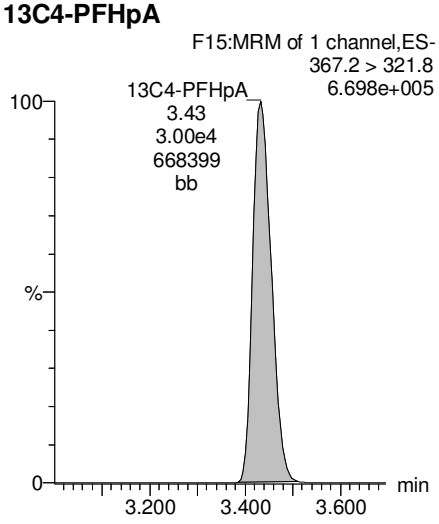
13C3-PFBS



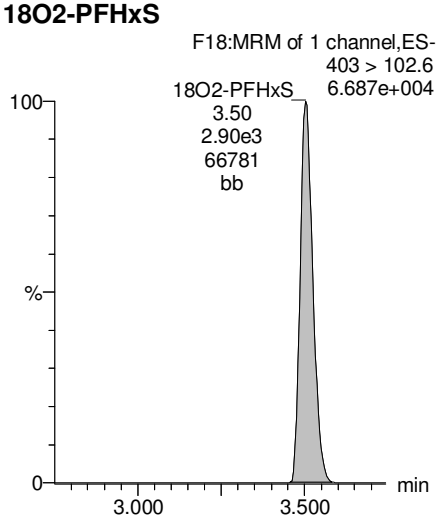
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



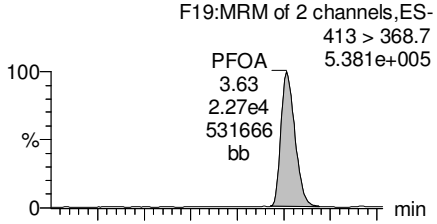
GM 7/20/17

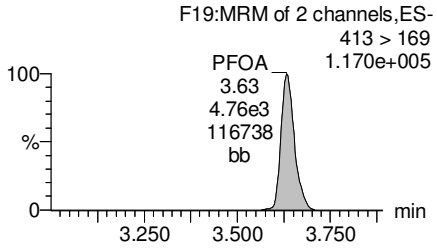
Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

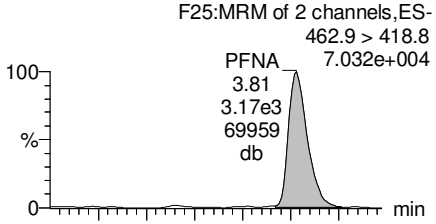
Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

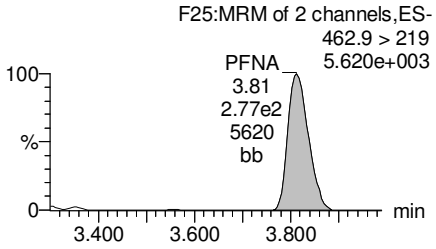
Total PFOA



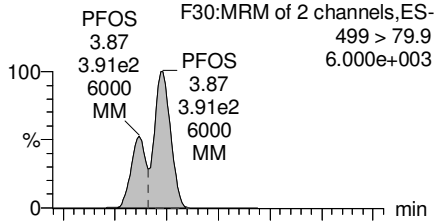


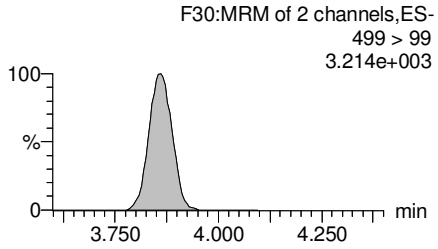
PFNA



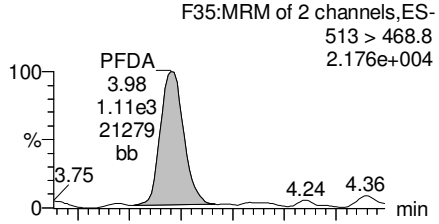


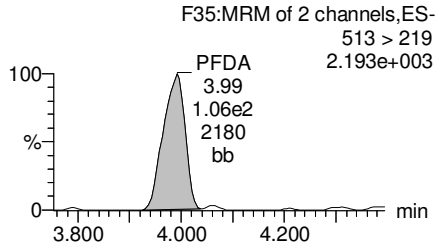
Total PFOS



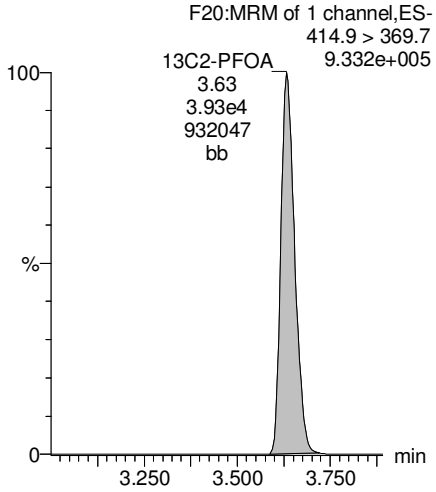


PFDA

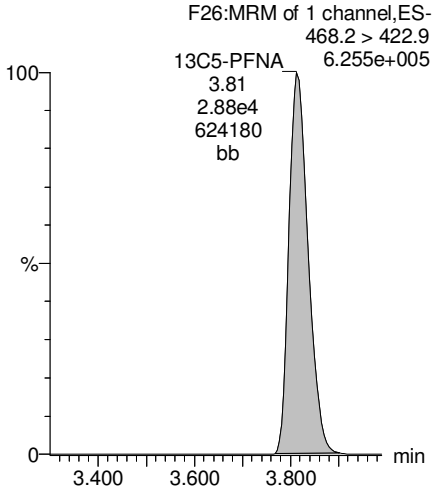




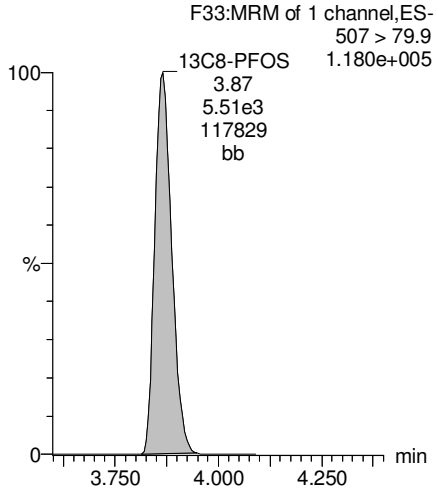
13C2-PFOA



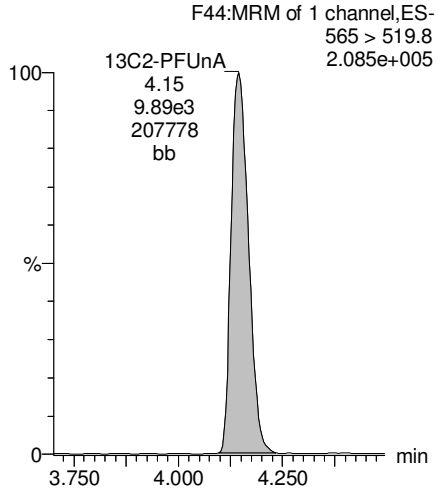
13C5-PFNA



13C8-PFOS



13C2-PFUnA



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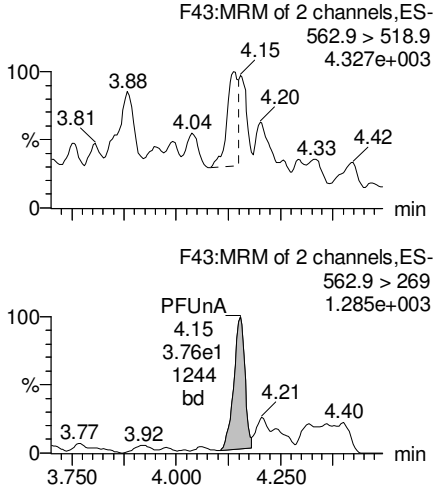
Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

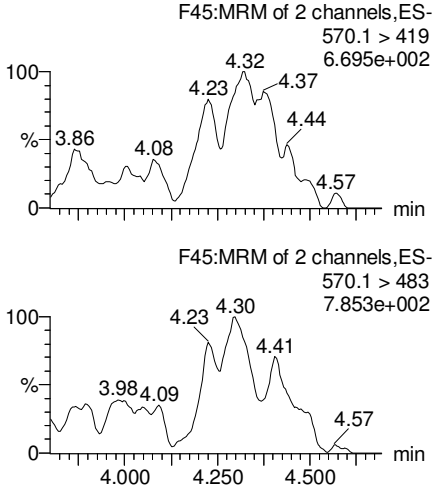
Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

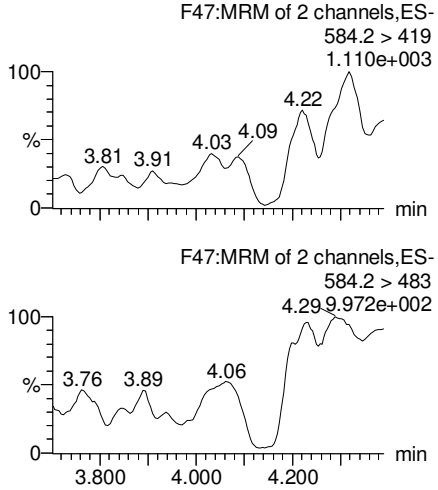
PFUnA



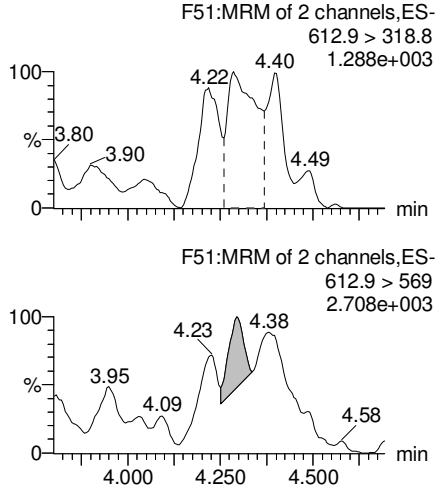
N-MeFOSAA



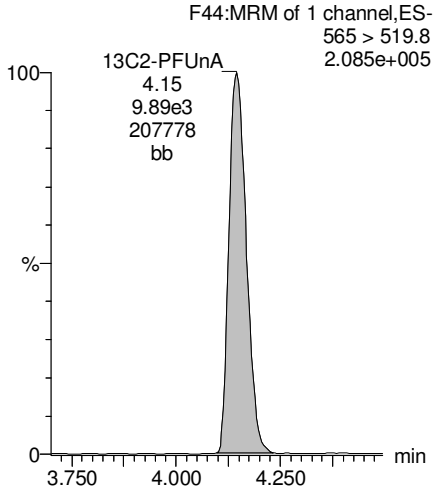
N-EtFOSAA



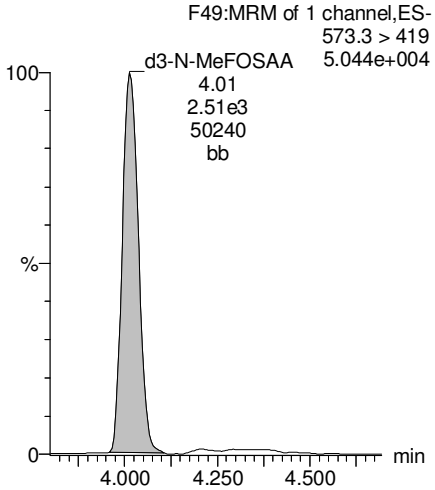
PFDoA



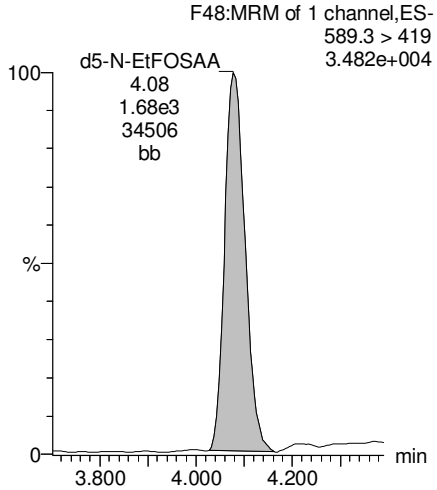
13C2-PFUnA



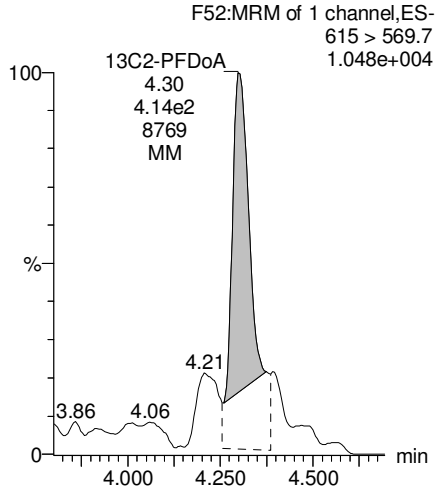
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



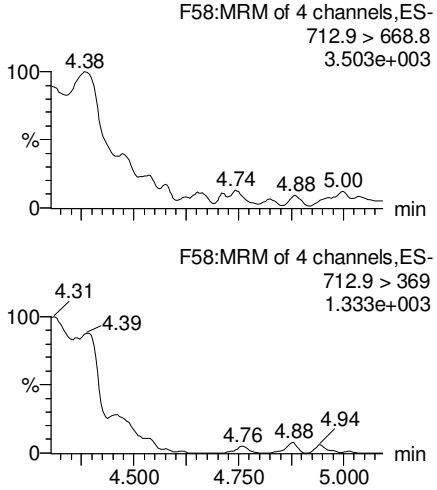
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

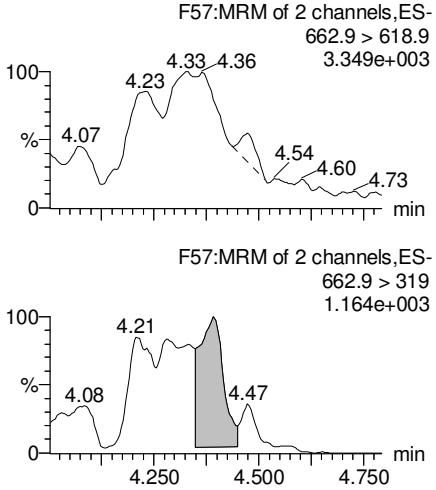
Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

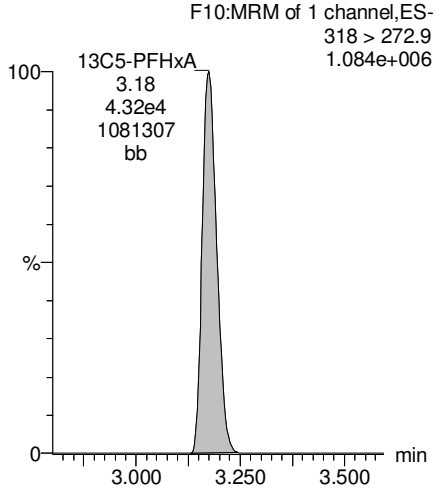
PFTeDA



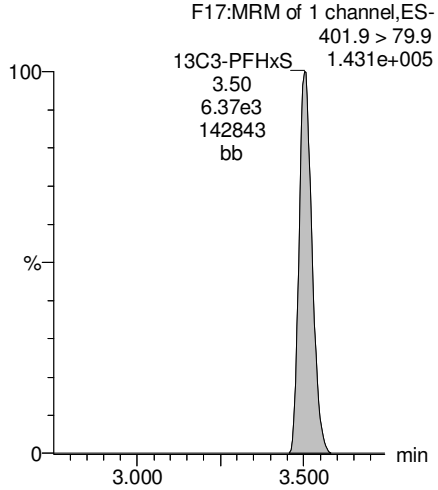
PFTrDA



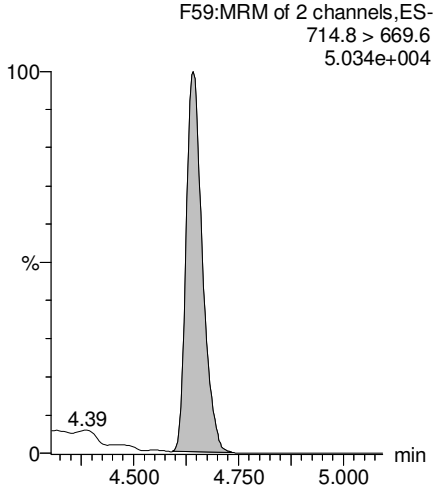
13C5-PFHxA



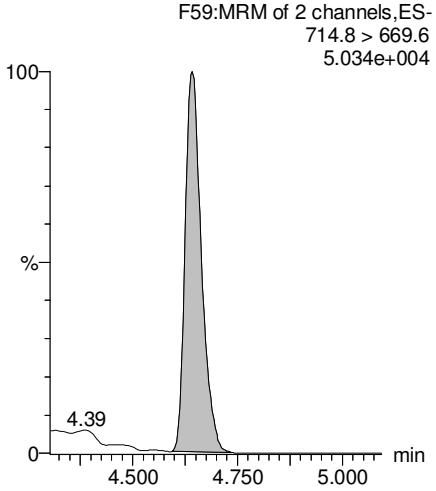
13C3-PFHxS



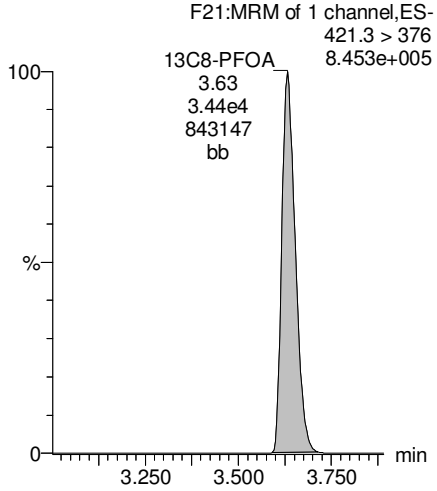
13C2-PFTeDA



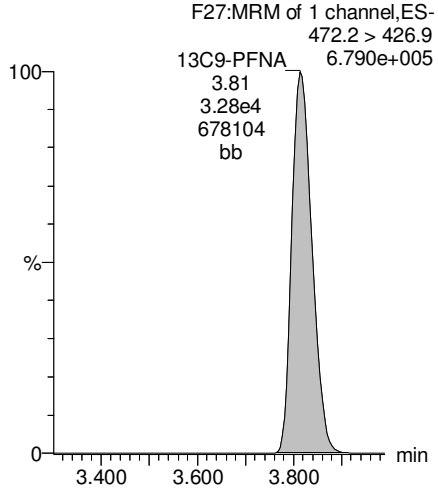
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



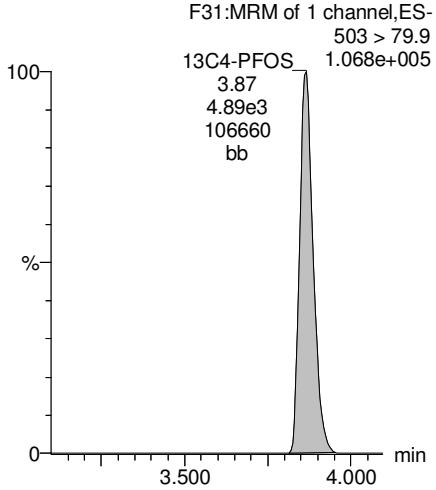
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-18.qld

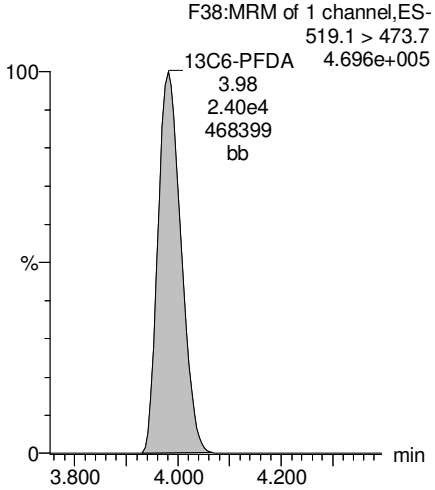
Last Altered: Thursday, July 20, 2017 14:38:27 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:38:55 Pacific Daylight Time

Name: 170707M2_18, Date: 07-Jul-2017, Time: 16:37:41, ID: 1700792-07 MH318.9-20170628 0.11873, Description: MH318.9-20170628

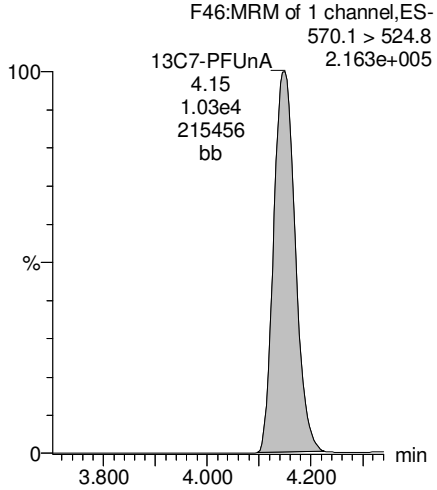
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	1.05e2	4.88e3	0.1171		2.92	2.93	0.269	0.422		
2	2	PFHxA	313.2 > 268.9	4.29e4	1.54e4	0.1171		3.16	3.18	14.0	84.6		
3	3	PFHpA	363 > 318.9	2.06e4	3.44e4	0.1171		3.43	3.44	7.50	52.2		
4	4	PFHxS	398.9 > 79.6	1.56e2	3.17e3	0.1171		3.55	3.51	0.616	2.84		
5	5	PFOA	413 > 368.7	2.24e4	4.50e4	0.1171		3.63	3.64	6.23	55.2		
6	6	PFNA	462.9 > 418.8	1.77e3	2.82e4	0.1171		3.82	3.81	0.784	5.49		
7	7	PFOS	499 > 79.9	1.23e2	3.91e3	0.1171		3.86	3.81	0.394	2.75		
8	8	PFDA	513 > 468.8	1.45e2	1.07e4	0.1171		4.00	3.98	0.170			
9	9	PFUnA	562.9 > 518.9		2.57e3	0.1171		4.13					
10	10	N-MeFOSAA	570.1 > 419		7.07e2	0.1171		4.00					
11	11	N-EtFOSAA	584.2 > 419		4.32e2	0.1171		4.07					
12	12	PFDoA	612.9 > 318.8		4.43e1	0.1171		4.31					
13	13	PFTrDA	662.9 > 618.9		4.43e1	0.1171		4.50					
14	14	PFTeDA	712.9 > 668.8		1.79e2	0.1171		4.65					
15	15	13C3-PFBS	302 > 98.8	4.88e3	5.14e4	0.1171	0.032	2.92	2.94	0.475	126	118.3	
16	16	13C2-PFHxA	315 > 269.8	1.54e4	5.14e4	0.1171	0.296	3.15	3.18	1.49	43.1	100.9	
17	17	13C4-PFHpA	367.2 > 321.8	3.44e4	5.14e4	0.1171	0.302	3.43	3.44	3.35	94.7	88.8	
18	18	18O2-PFHxS	403 > 102.6	3.17e3	7.29e3	0.1171	0.434	3.49	3.51	5.44	107	100.2	
19	19	13C2-PFOA	414.9 > 369.7	4.50e4	3.77e4	0.1171	1.140	3.62	3.64	14.9	112	104.6	
20	20	13C5-PFNA	468.2 > 422.9	2.82e4	3.42e4	0.1171	0.958	3.80	3.81	10.3	92.0	86.2	
21	21	13C8-PFOS	507 > 79.9	3.91e3	3.34e3	0.1171	1.061	3.85	3.87	14.7	118	110.5	
22	22	13C2-PFDA	515.1 > 469.9	1.07e4	1.52e4	0.1171	0.942	3.97	3.99	8.78	79.6	74.5	
23	23	13C2-PFUnA	565 > 519.8	2.57e3	2.72e3	0.1171	1.084	4.13	4.15	11.8	92.7	86.9	
24	24	d3-N-MeFOSAA	573.3 > 419	7.07e2	2.72e3	0.1171	0.240	4.00	4.02	3.24	115	108.0	
25	25	d5-N-EtFOSAA	589.3 > 419	4.32e2	2.72e3	0.1171	0.247	4.07	4.08	1.98	68.5	64.2	
26	26	13C2-PFDoA	615 > 569.7	4.43e1	2.72e3	0.1171	0.127	4.32	4.30	0.203	13.7	12.8	H
27	27	13C2-PFTeDA	714.8 > 669.6	1.79e2	2.72e3	0.1171	0.883	4.64	4.65	0.820	7.93	7.4	H
28	28	13C5-PFHxA	318 > 272.9	5.14e4	5.14e4	0.1171	1.000	3.15	3.18	5.00	42.7	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	7.29e3	7.29e3	0.1171	1.000	3.49	3.51	12.5	107	100.0	
30	30	13C8-PFOA	421.3 > 376	3.77e4	3.77e4	0.1171	1.000	3.62	3.64	12.5	107	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.42e4	3.42e4	0.1171	1.000	3.82	3.81	12.5	107	100.0	
32	32	13C4-PFOS	503 > 79.9	3.34e3	3.34e3	0.1171	1.000	3.85	3.87	12.5	107	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	1.52e4	1.52e4	0.1171	1.000	3.97	3.99	12.5	107	100.0
34	34	13C7-PFUnA	570.1 > 524.8	2.72e3	2.72e3	0.1171	1.000	4.13	4.15	12.5	107	100.0
35	35	Total PFBS	299 > 79.7	1.05e2	4.88e3	0.1171		2.91		0.269	0.422	
36	36	Total PFHxS	398.9 > 79.6	1.56e2	3.17e3	0.1171		3.48		0.616	2.84	
37	37	Total PFOA	413 > 368.7	2.24e4	4.50e4	0.1171		3.61		6.23	55.2	
38	38	Total PFOS	499 > 79.9	1.23e2	3.91e3	0.1171		3.84		0.394	2.75	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1171		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1171		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.93	105.081	4877.053	0.269	bb	0.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.51	156.331	3174.461	0.616	MM	2.8

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.64	22414.463	44978.750	6.229	bb	55.2

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.81	123.355	3913.737	0.394	MM	2.7

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

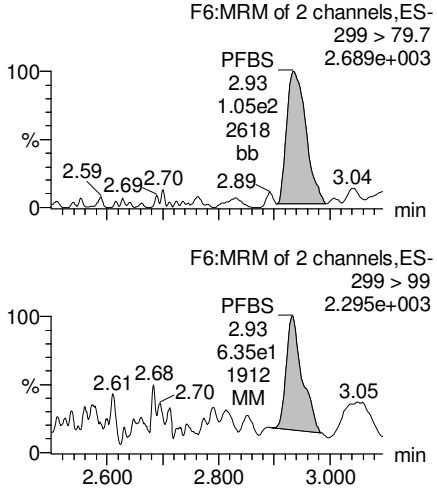
Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

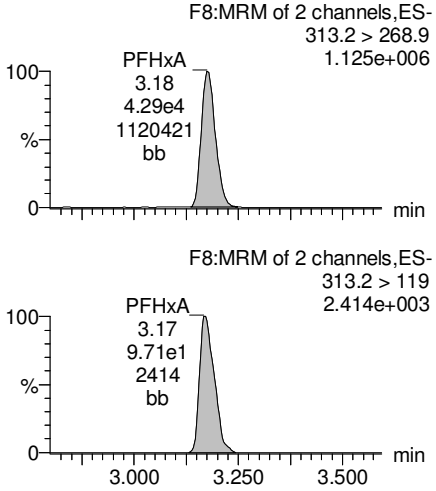
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

Total PFBS



PFHxA



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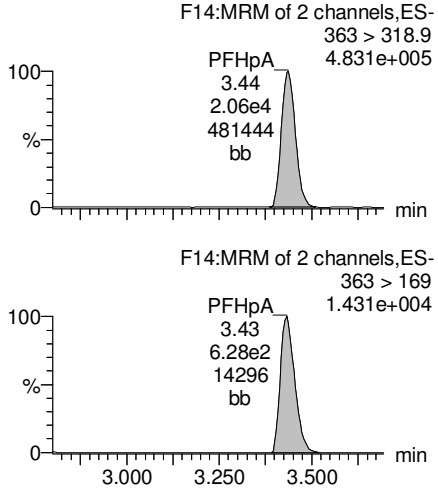
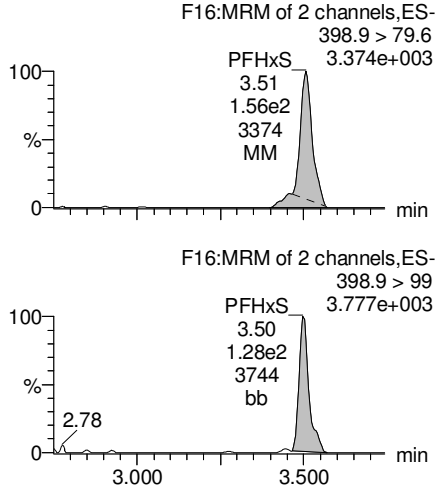


Total PFHxS



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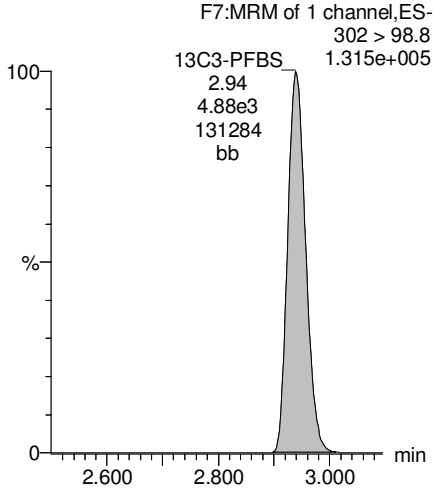

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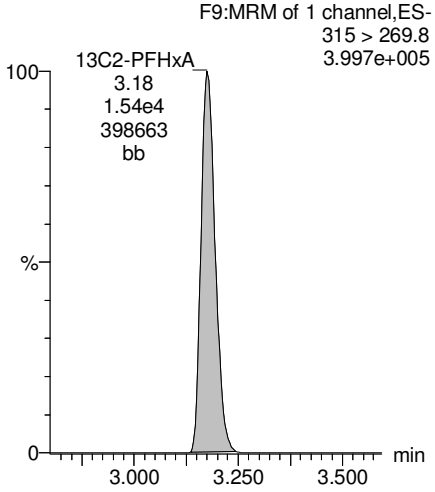

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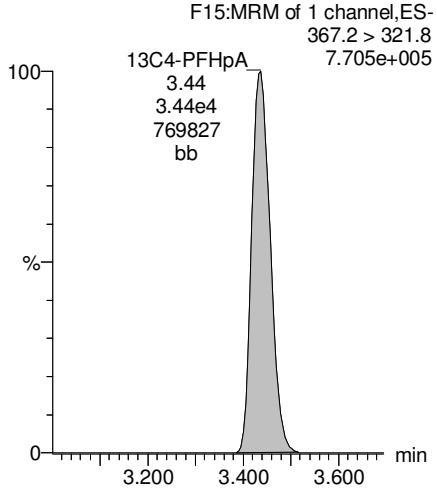

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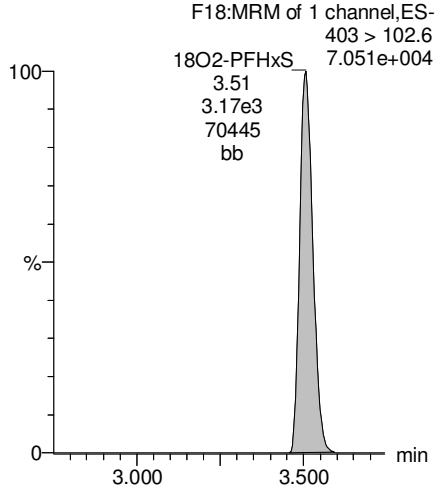

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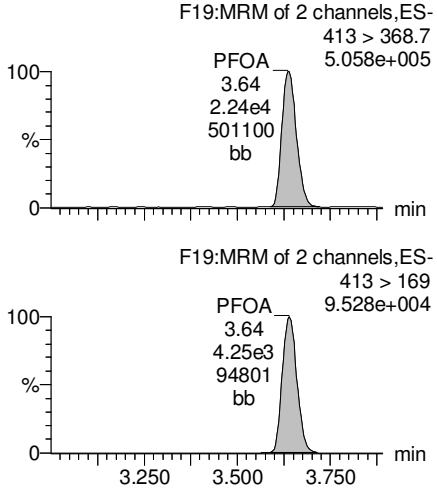
Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

Total PFOA



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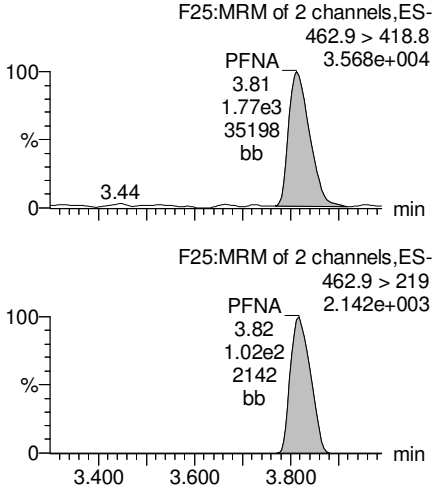
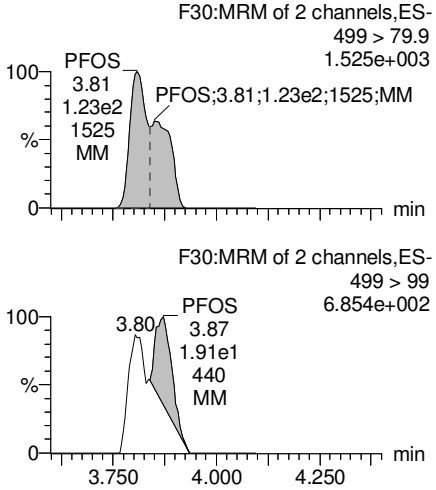
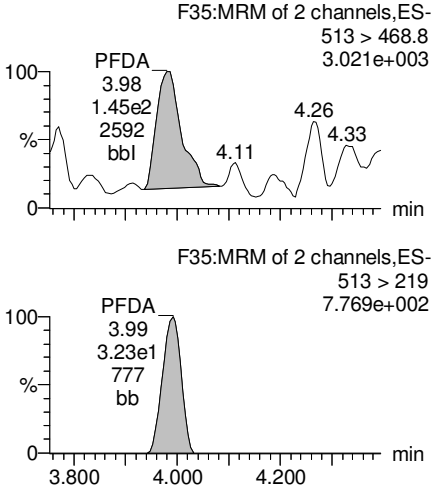


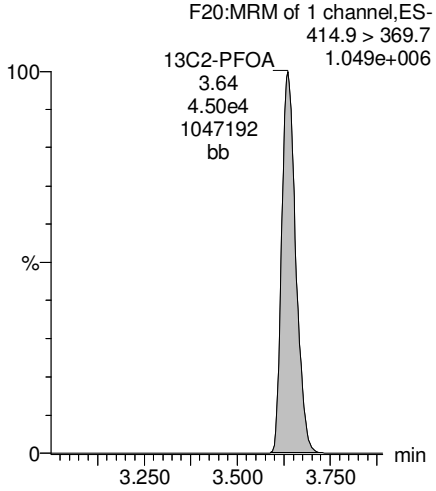
Total PFOS



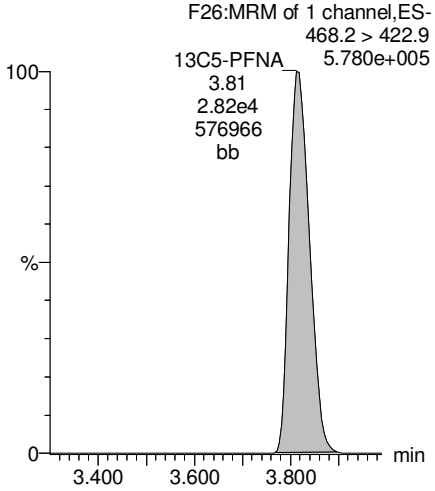
PFDA



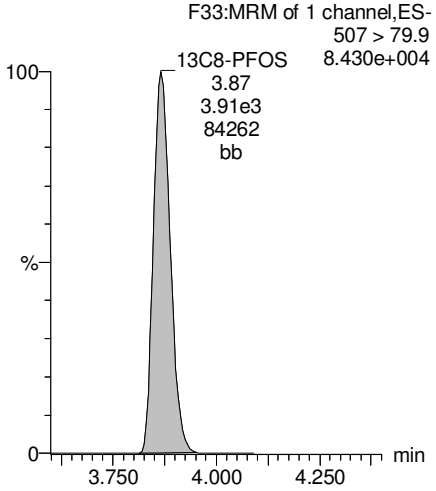
13C2-PFOA



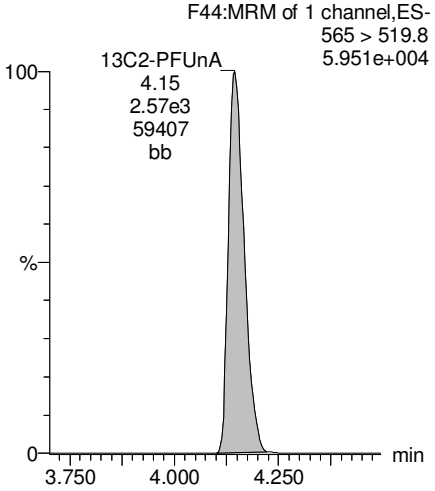
13C5-PFNA



13C8-PFOS



13C2-PFUnA



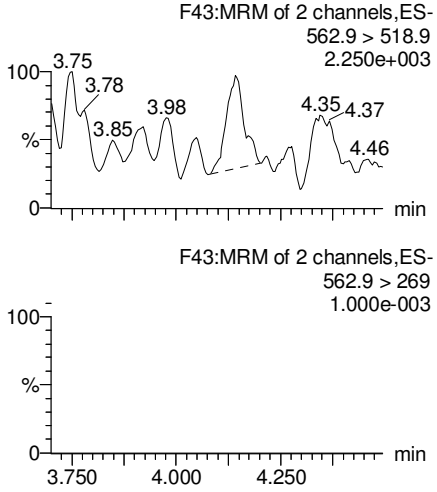
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

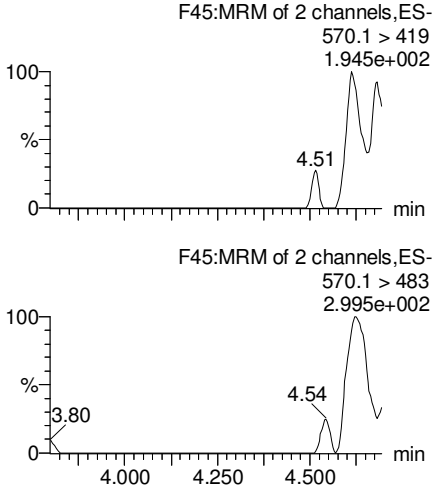
Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

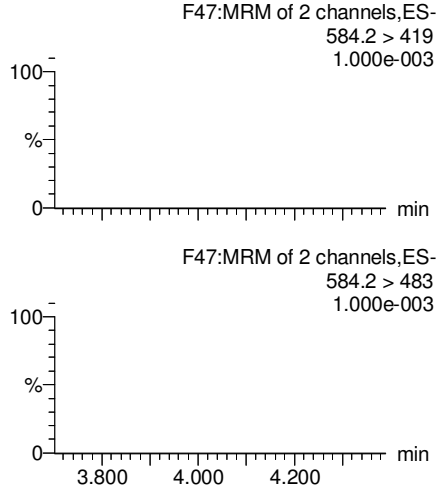
PFUnA



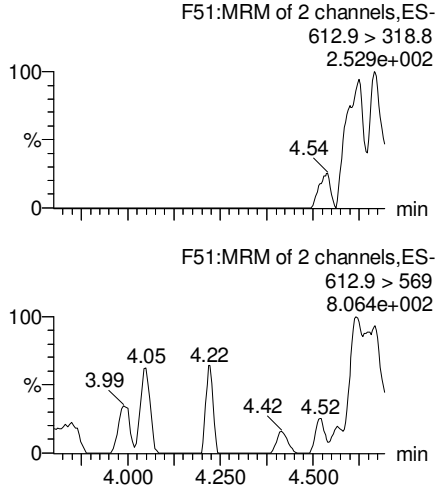
N-MeFOSAA



N-EtFOSAA



PFDoA



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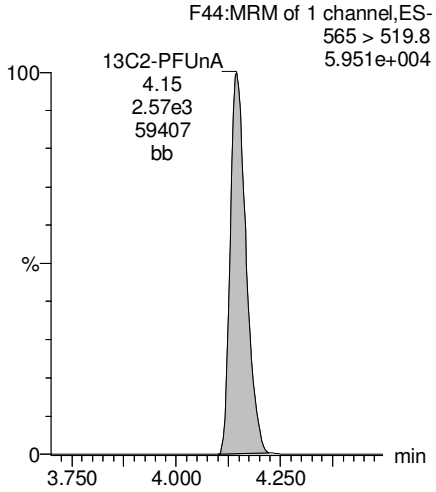

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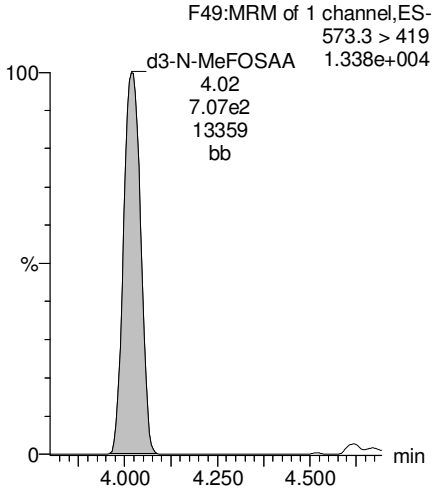
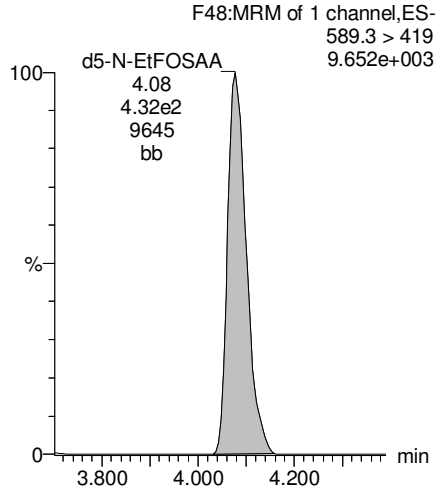
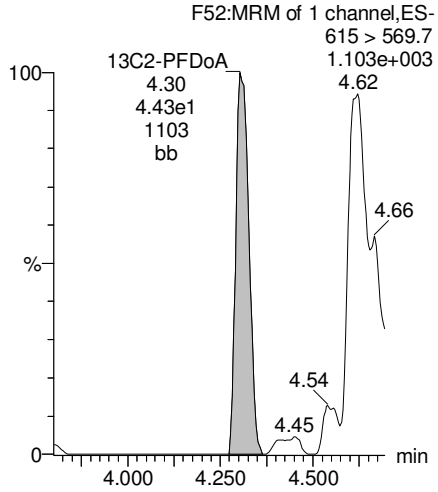


d5-N-EtFOSAA



13C2-PFDoA



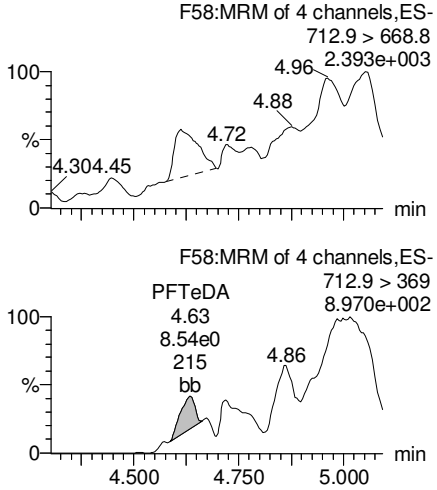
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

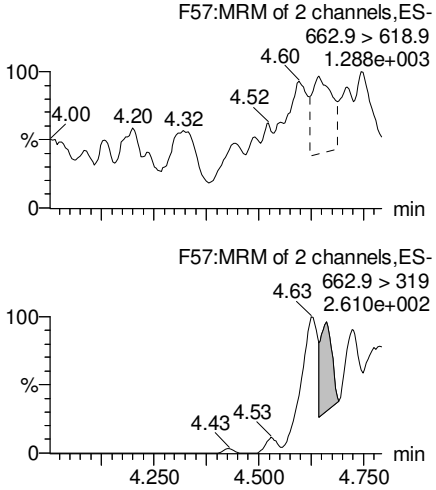
Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

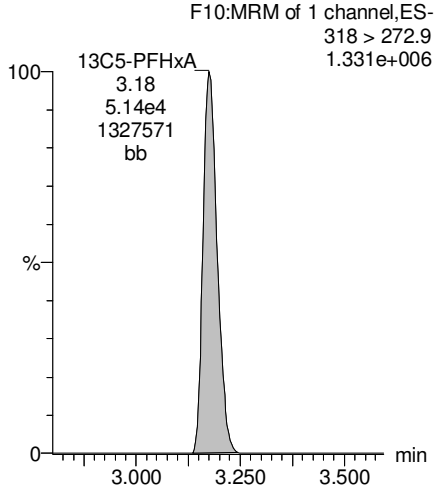
PFTeDA



PFTrDA



13C5-PFHxA



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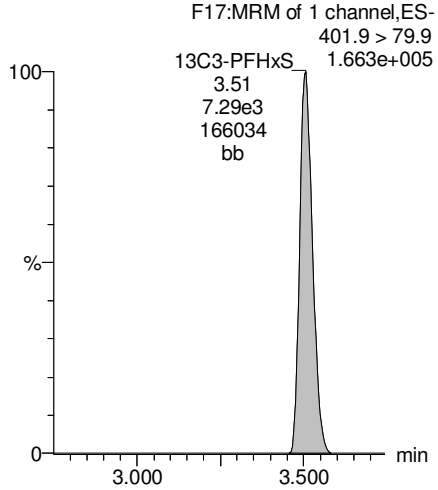

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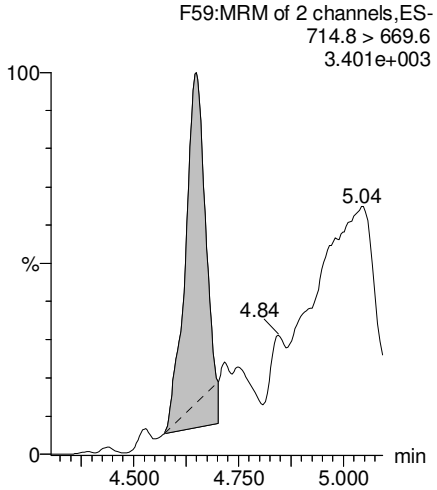

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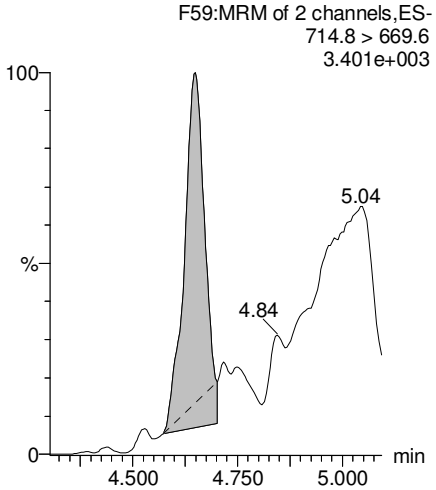
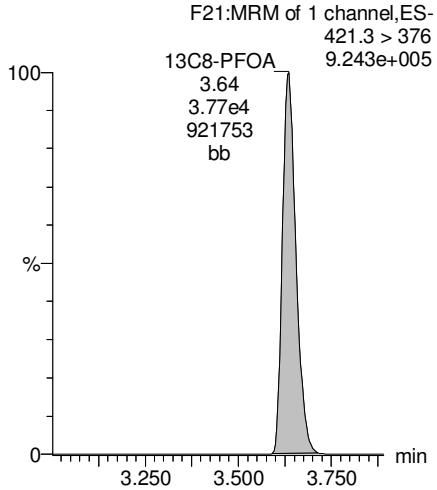
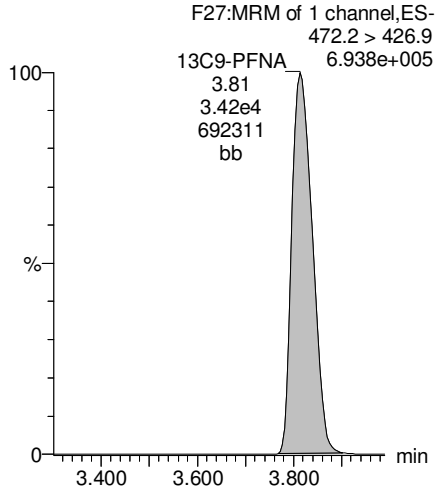


13C8-PFOA



13C9-PFNA



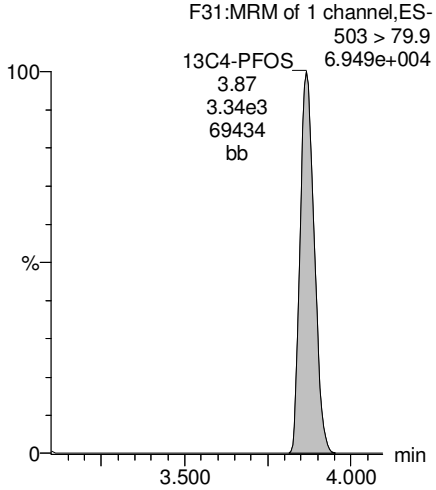
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-22.qld

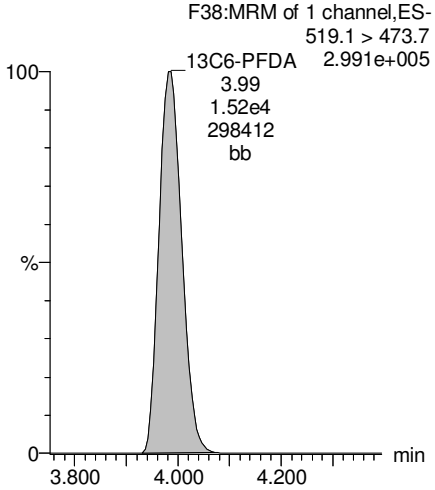
Last Altered: Thursday, July 20, 2017 14:42:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:42:26 Pacific Daylight Time

Name: 170707M2_22, Date: 07-Jul-2017, Time: 17:20:31, ID: 1700792-08 MH388.9-20170628 0.11713, Description: MH388.9-20170628

13C4-PFOS



13C6-PFDA



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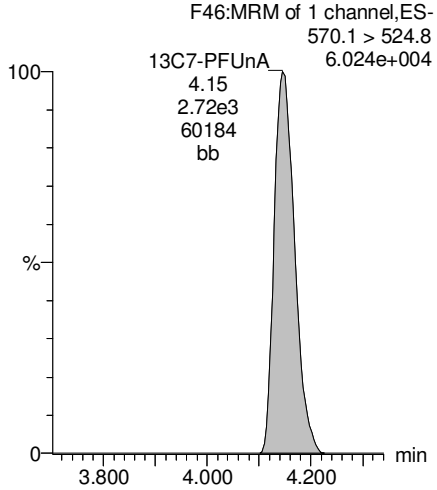

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Vista Analytical Laboratory

Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-49.qld

Last Altered: Thursday, July 20, 2017 16:24:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:25:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14A.cdb 14 Jul 2017 08:57:46

Name: 170711M1_49, Date: 11-Jul-2017, Time: 19:09:07, ID: 1700792-08RE1 MH388.9-20170628 0.12326, Description: MH388.9-20170628

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1	12	PFDoA	612.9 > 318.8		5.43e3	0.1230		4.32					
2	13	PFTrDA	662.9 > 618.9		5.43e3	0.1230		4.50					
3	14	PFTeDA	712.9 > 668.8		2.37e4	0.1230		4.66					
4	28	13C2-PFDoA	615 > 569.7	5.43e3	5.37e4	0.1230	0.130	4.32	4.23	1.27	79.3	78.0	
5	29	13C2-PFTeDA	714.8 > 669.6	2.37e4	5.37e4	0.1230	1.018	4.66	4.57	5.51	44.0	43.3	H
6	37	13C7-PFUnA	570.1 > 524.8	5.37e4	5.37e4	0.1230	1.000	4.16	4.08	12.5	102	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/22/17

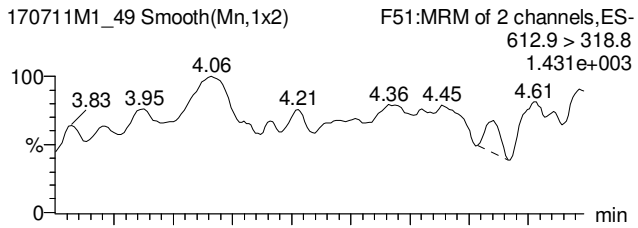
Dataset: U:\Q4.PRO\results\170711M1\170711M1-49.qld

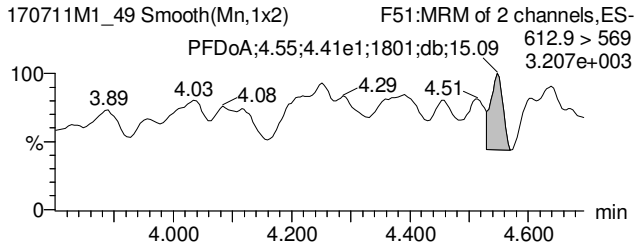
Last Altered: Thursday, July 20, 2017 16:24:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:25:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14A.cdb 14 Jul 2017 08:57:46

Name: 170711M1_49, Date: 11-Jul-2017, Time: 19:09:07, ID: 1700792-08RE1 MH388.9-20170628 0.12326, Description: MH388.9-20170628

PFDoA





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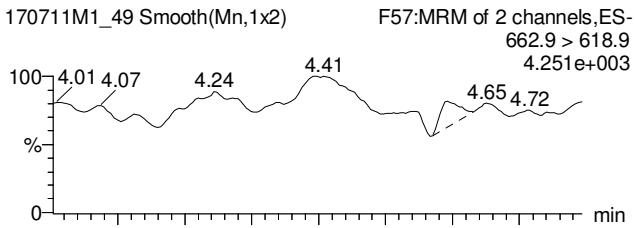

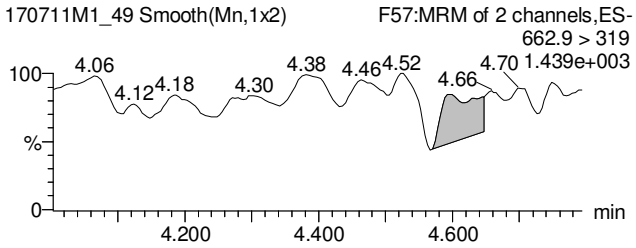

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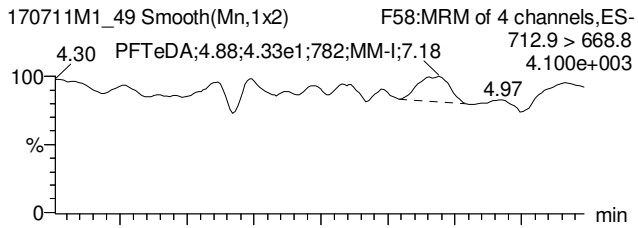

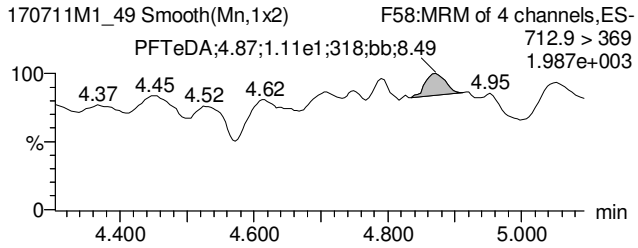

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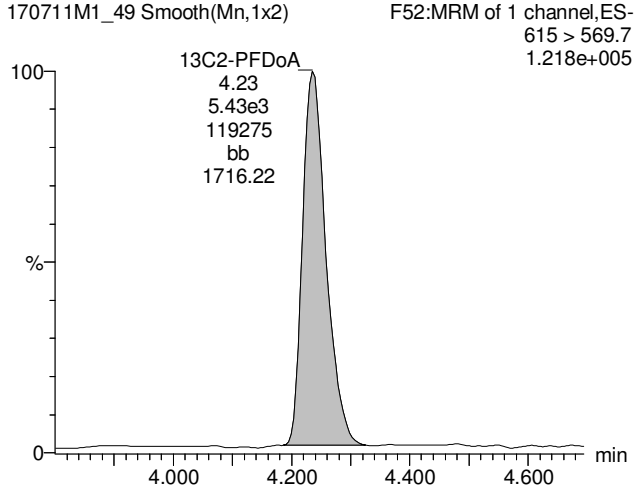

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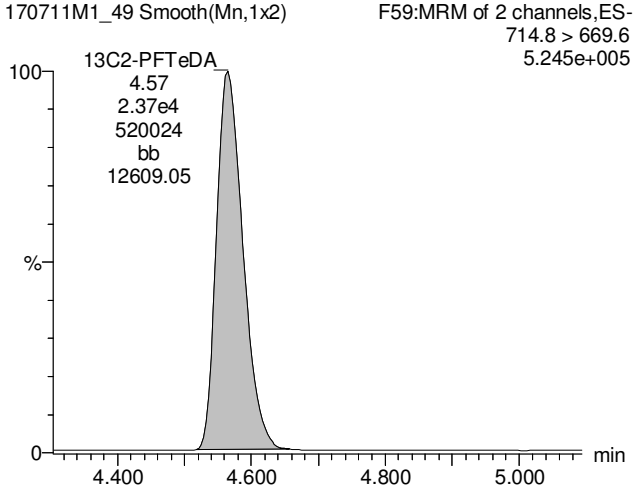

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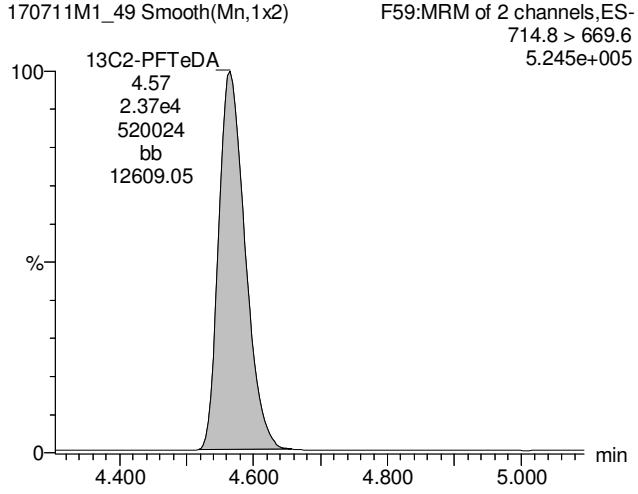

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Vista Analytical Laboratory

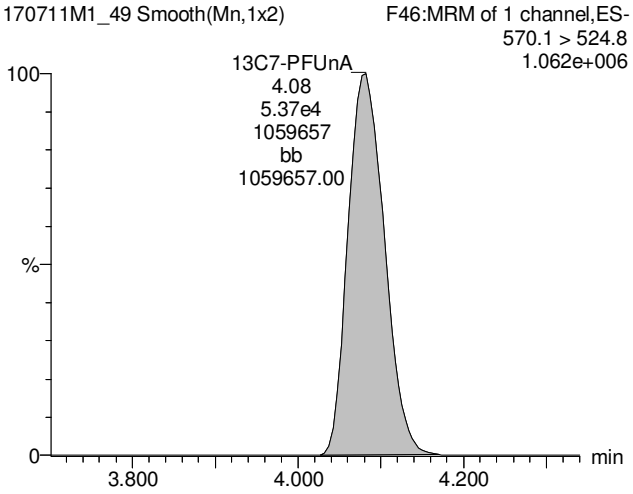
Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-49.qld

Last Altered: Thursday, July 20, 2017 16:24:02 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:25:40 Pacific Daylight Time

Name: 170711M1_49, Date: 11-Jul-2017, Time: 19:09:07, ID: 1700792-08RE1 MH388.9-20170628 0.12326, Description: MH388.9-20170628

13C7-PFUnA



GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:46:07 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	1.57e2	5.21e3	0.1182		2.92	2.94	0.377	0.907		
2	2	PFHxA	313.2 > 268.9	1.97e4	1.62e4	0.1182		3.16	3.18	6.10	35.2		
3	3	PFHpA	363 > 318.9	1.13e4	3.60e4	0.1182		3.43	3.43	3.93	26.1		
4	4	PFHxS	398.9 > 79.6	2.65e2	3.68e3	0.1182		3.55	3.51	0.900	4.10		
5	5	PFOA	413 > 368.7	1.35e4	4.71e4	0.1182		3.63	3.63	3.57	30.6		
6	6	PFNA	462.9 > 418.8	1.63e3	3.68e4	0.1182		3.82	3.81	0.554	3.69		
7	7	PFOS	499 > 79.9	5.21e2	7.37e3	0.1182		3.86	3.86	0.883	6.62		
8	8	PFDA	513 > 468.8	2.61e2	2.76e4	0.1182		4.00	3.98	0.118			
9	9	PFUnA	562.9 > 518.9		1.56e4	0.1182		4.13					
10	10	N-MeFOSAA	570.1 > 419		3.20e3	0.1182		4.00					
11	11	N-EtFOSAA	584.2 > 419		2.11e3	0.1182		4.07					
12	12	PFDoA	612.9 > 318.8		6.10e2	0.1182		4.31					
13	13	PFTrDA	662.9 > 618.9		6.10e2	0.1182		4.50					
14	14	PFTeDA	712.9 > 668.8		5.37e3	0.1182		4.65					
15	15	13C3-PFBS	302 > 98.8	5.21e3	4.85e4	0.1182	0.032	2.92	2.94	0.537	141	133.8	
16	16	13C2-PFHxA	315 > 269.8	1.62e4	4.85e4	0.1182	0.296	3.15	3.18	1.67	47.6	112.5	
17	17	13C4-PFHpA	367.2 > 321.8	3.60e4	4.85e4	0.1182	0.302	3.43	3.43	3.71	104	98.4	
18	18	18O2-PFHxS	403 > 102.6	3.68e3	8.07e3	0.1182	0.434	3.49	3.50	5.69	111	104.8	
19	19	13C2-PFOA	414.9 > 369.7	4.71e4	4.21e4	0.1182	1.140	3.62	3.63	14.0	104	98.1	
20	20	13C5-PFNA	468.2 > 422.9	3.68e4	4.47e4	0.1182	0.958	3.80	3.81	10.3	91.0	86.0	
21	21	13C8-PFOS	507 > 79.9	7.37e3	6.81e3	0.1182	1.061	3.85	3.87	13.5	108	102.0	
22	22	13C2-PFDA	515.1 > 469.9	2.76e4	3.54e4	0.1182	0.942	3.97	3.98	9.76	87.6	82.8	
23	23	13C2-PFUnA	565 > 519.8	1.56e4	1.76e4	0.1182	1.084	4.13	4.15	11.1	86.5	81.8	
24	24	d3-N-MeFOSAA	573.3 > 419	3.20e3	1.76e4	0.1182	0.240	4.00	4.01	2.27	79.8	75.5	
25	25	d5-N-EtFOSAA	589.3 > 419	2.11e3	1.76e4	0.1182	0.247	4.07	4.08	1.49	51.1	48.3	H
26	26	13C2-PFDoA	615 > 569.7	6.10e2	1.76e4	0.1182	0.127	4.32	4.30	0.433	28.8	27.3	H
27	27	13C2-PFTeDA	714.8 > 669.6	5.37e3	1.76e4	0.1182	0.883	4.64	4.64	3.81	36.5	34.5	H
28	28	13C5-PFHxA	318 > 272.9	4.85e4	4.85e4	0.1182	1.000	3.15	3.18	5.00	42.3	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	8.07e3	8.07e3	0.1182	1.000	3.49	3.50	12.5	106	100.0	
30	30	13C8-PFOA	421.3 > 376	4.21e4	4.21e4	0.1182	1.000	3.62	3.63	12.5	106	100.0	
31	31	13C9-PFNA	472.2 > 426.9	4.47e4	4.47e4	0.1182	1.000	3.82	3.81	12.5	106	100.0	
32	32	13C4-PFOS	503 > 79.9	6.81e3	6.81e3	0.1182	1.000	3.85	3.87	12.5	106	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:46:07 Pacific Daylight Time

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	3.54e4	3.54e4	0.1182	1.000	3.97	3.98	12.5	106	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.76e4	1.76e4	0.1182	1.000	4.13	4.14	12.5	106	100.0
35	35	Total PFBS	299 > 79.7	1.57e2	5.21e3	0.1182		2.91		0.377	0.907	
36	36	Total PFHxS	398.9 > 79.6	2.65e2	3.68e3	0.1182		3.48		0.900	4.10	
37	37	Total PFOA	413 > 368.7	1.35e4	4.71e4	0.1182		3.61		3.57	30.6	
38	38	Total PFOS	499 > 79.9	5.21e2	7.37e3	0.1182		3.84		0.883	6.62	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1182		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1182		4.06		0.000		

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
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Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.94	157.156	5207.358	0.377	MM	0.9

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.51	264.698	3675.908	0.900	MM	4.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.63	13457.411	47069.605	3.574	dd	30.6

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.86	520.610	7373.128	0.883	MM	6.6

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
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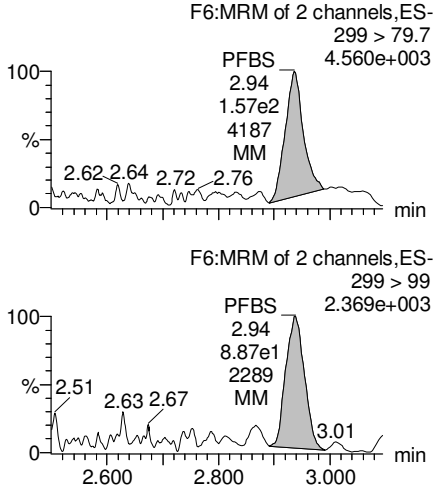
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

Total PFBS



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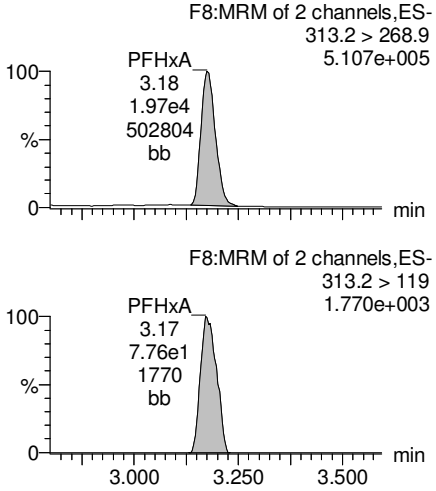

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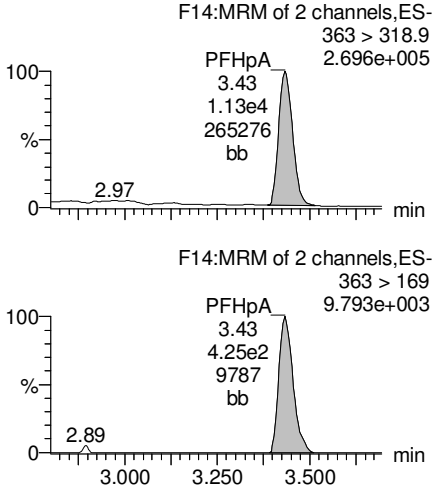
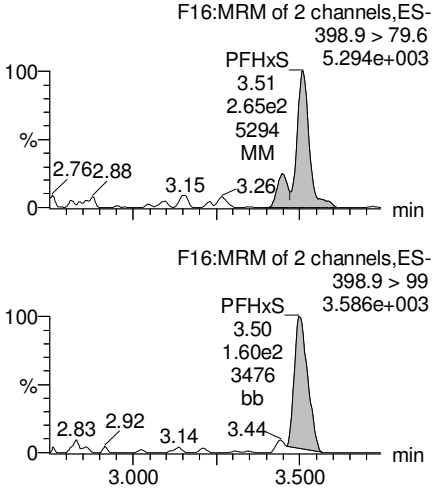


Total PFHxS



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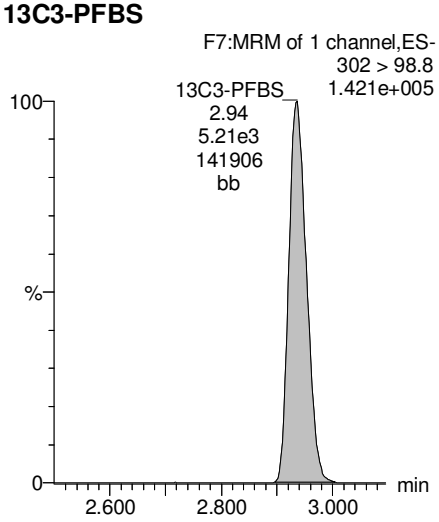

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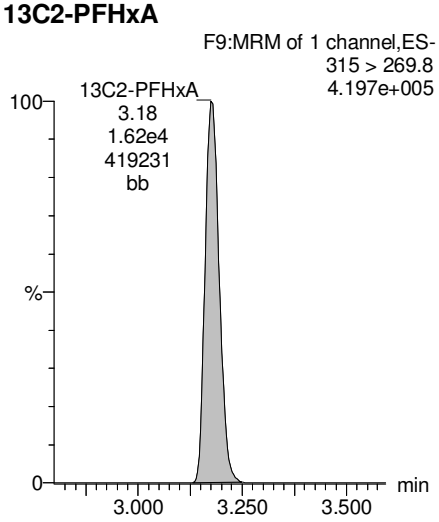

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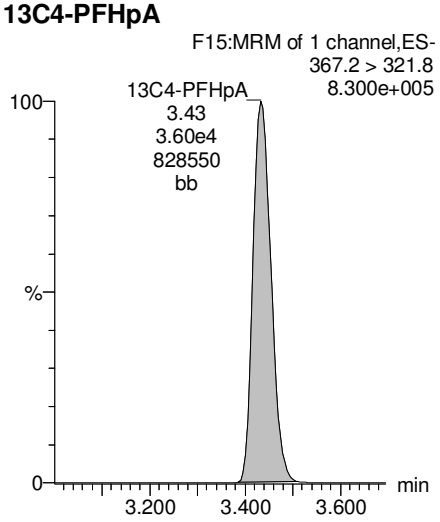

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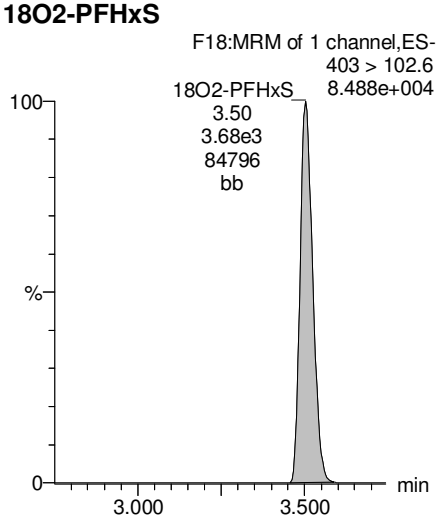

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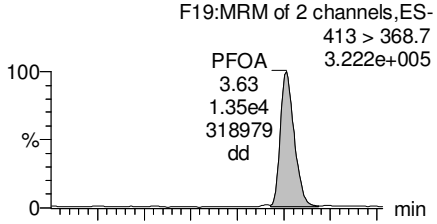
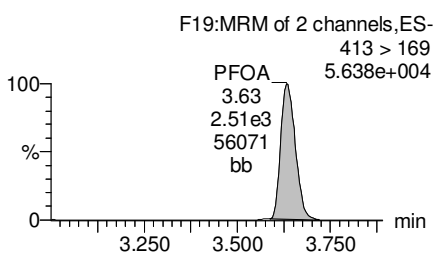
Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:46:07 Pacific Daylight Time

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

Total PFOA





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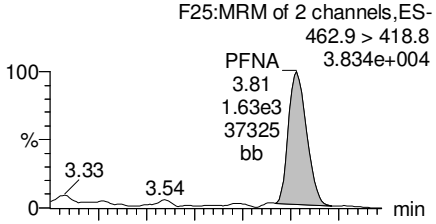
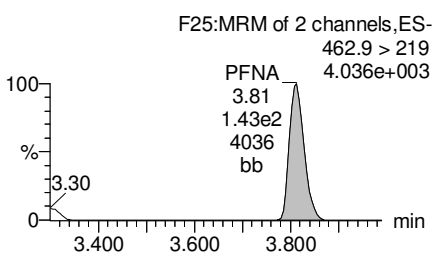
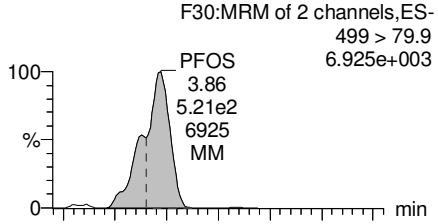
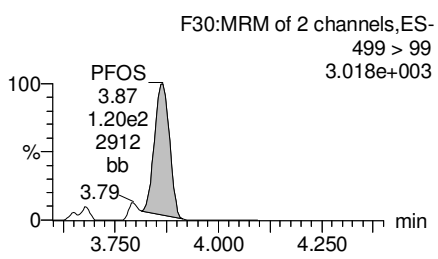




Total PFOS





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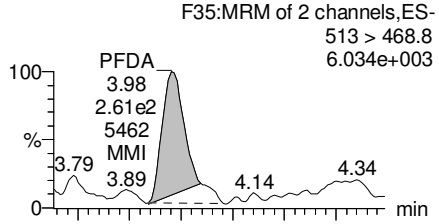
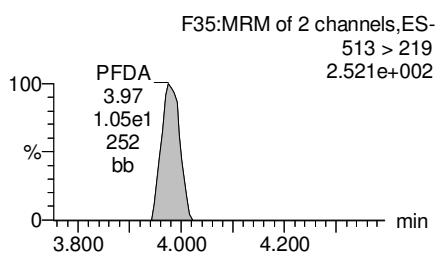
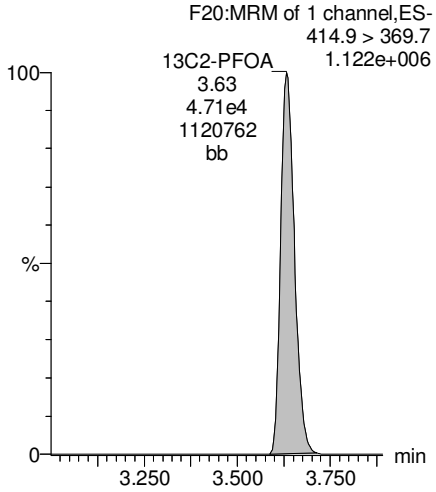




13C2-PFOA



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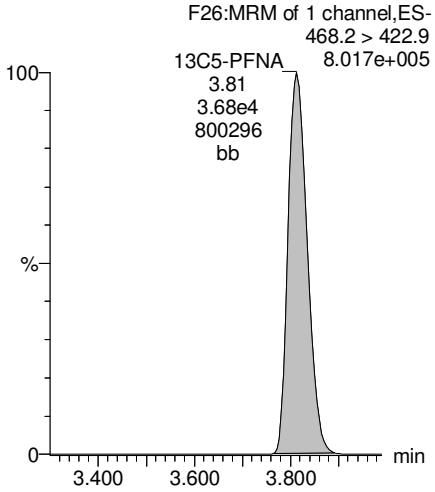
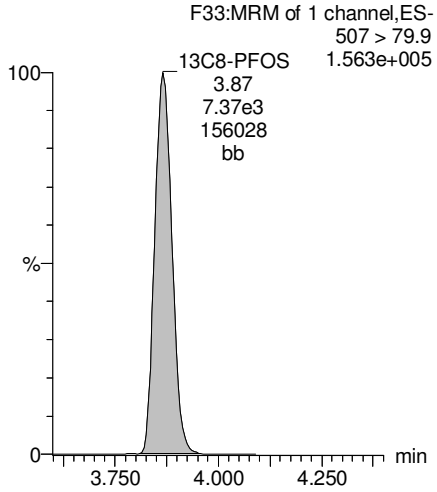
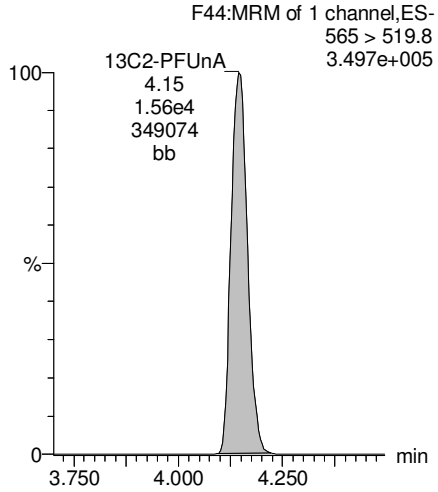


13C8-PFOS



13C2-PFUnA



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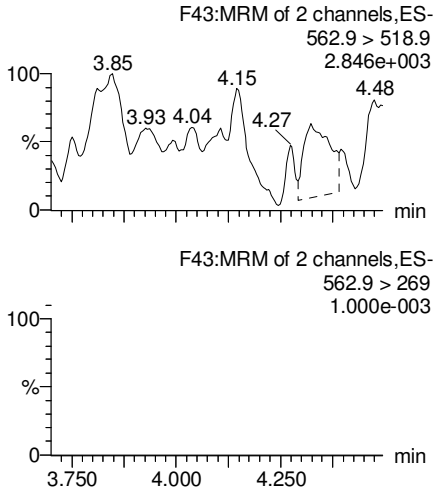
Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

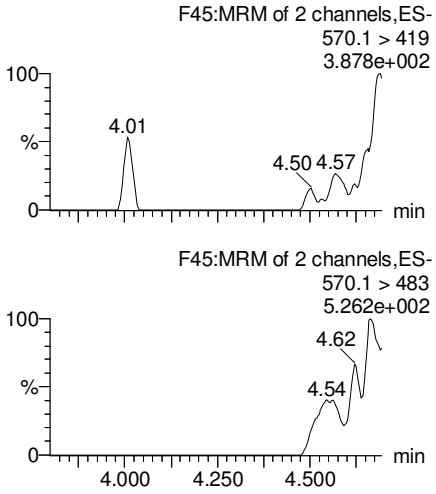
Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:46:07 Pacific Daylight Time

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

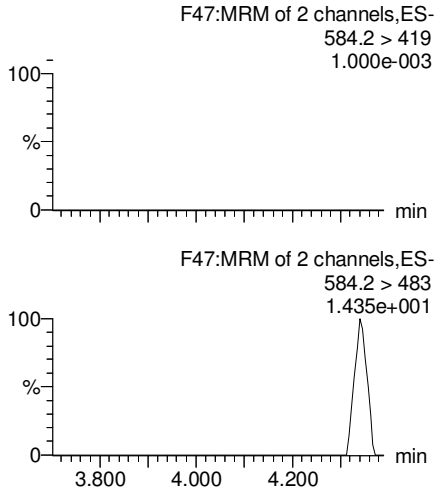
PFUnA



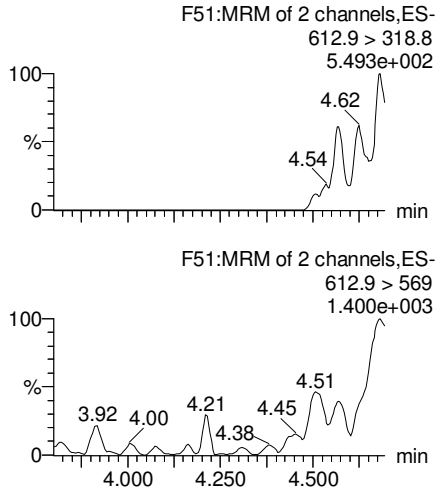
N-MeFOSAA



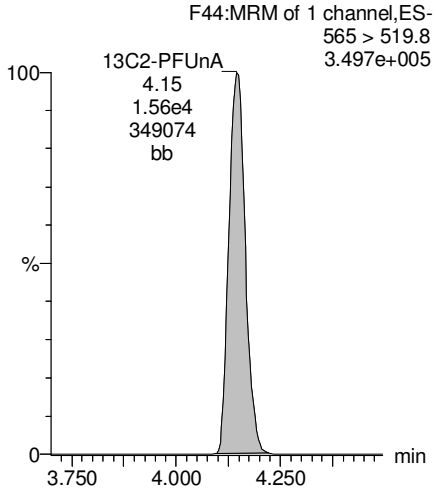
N-EtFOSAA



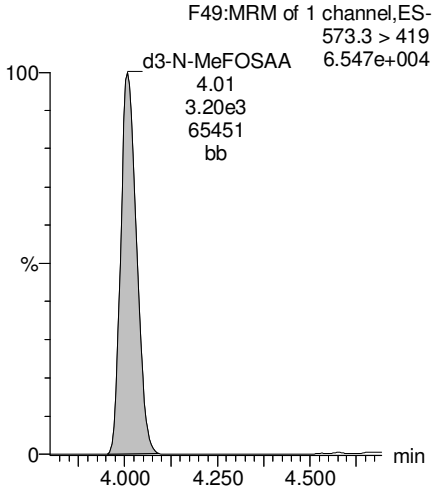
PFDoA



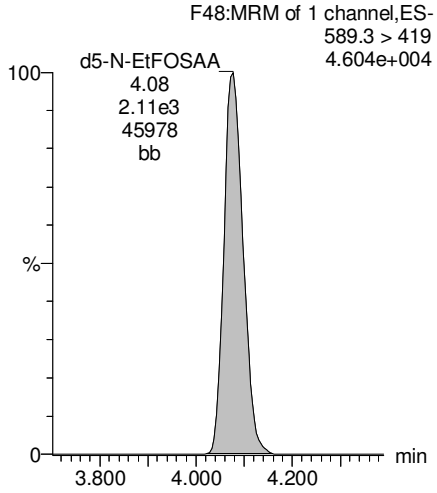
13C2-PFUnA



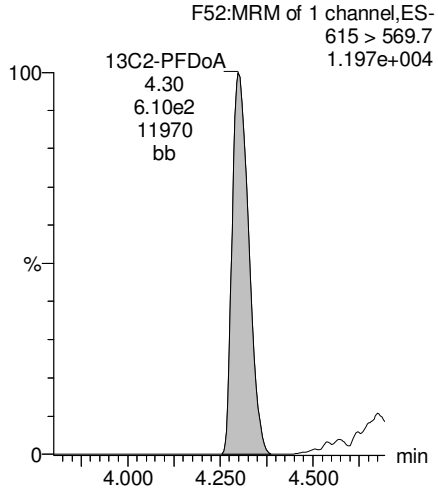
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



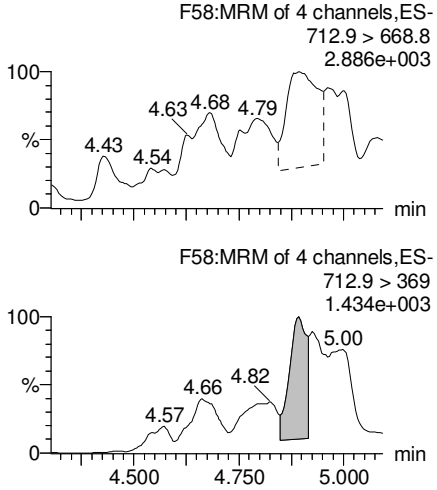
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

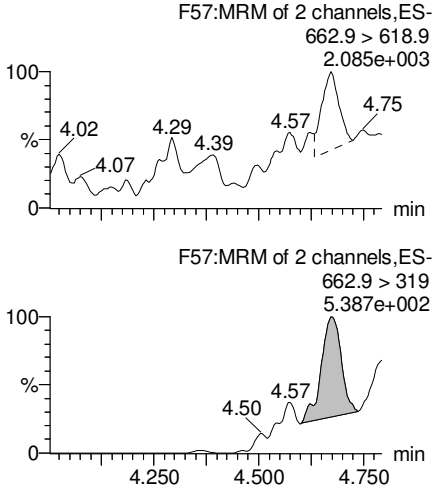
Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:46:07 Pacific Daylight Time

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

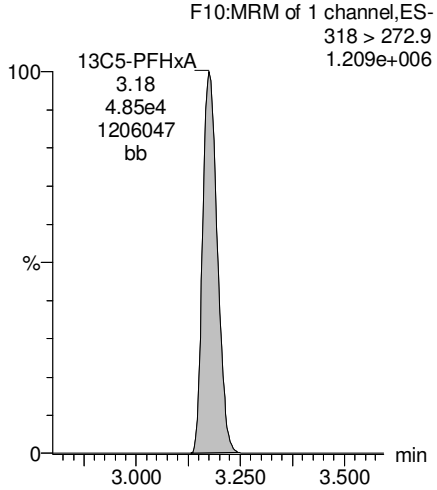
PFTeDA



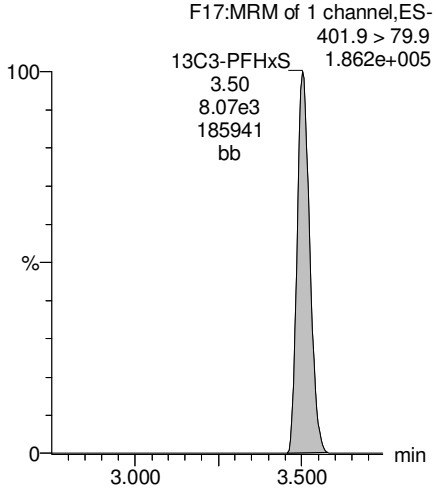
PFTrDA



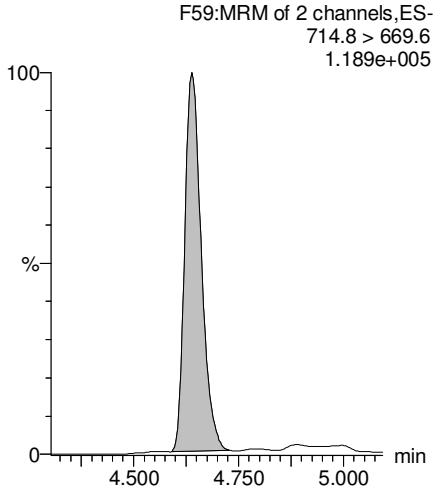
13C5-PFHxA



13C3-PFHxS



13C2-PFTeDA



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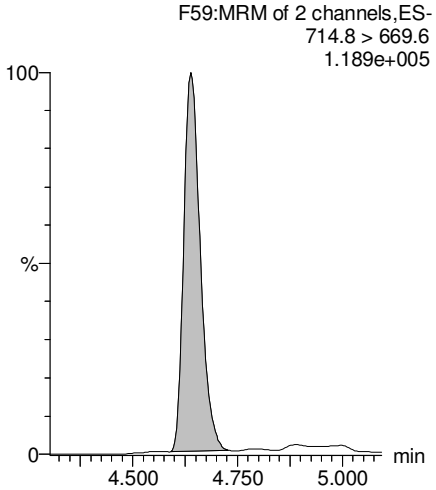
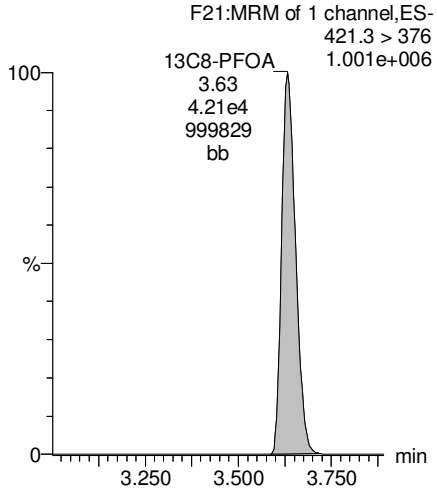
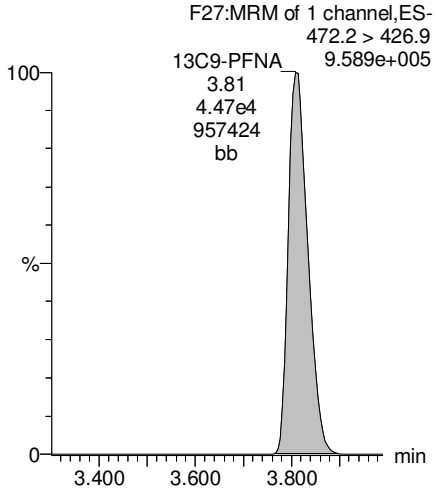


13C8-PFOA



13C9-PFNA



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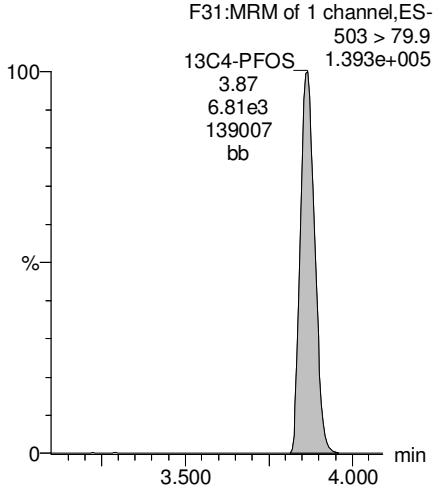
Dataset: U:\Q4.PRO\results\170707M2\170707M2-23.qld

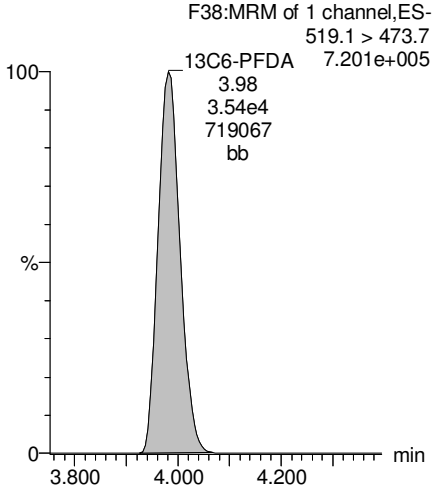
Last Altered: Thursday, July 20, 2017 14:45:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:46:07 Pacific Daylight Time

Name: 170707M2_23, Date: 07-Jul-2017, Time: 17:31:09, ID: 1700792-09 Dup03-20170628 0.11824, Description: Dup03-20170628

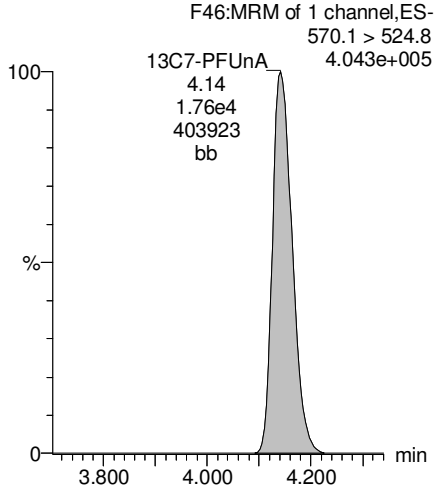
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

*See dilution.

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	8.12e3	3.74e3	0.1134		2.92	2.94	27.1	127		
2	2	PFHxA	313.2 > 268.9	2.36e5	1.24e4	0.1134		3.16	3.18	95.5	612		
3	3	PFHpA	363 > 318.9	5.43e4	2.65e4	0.1134		3.43	3.44	25.6	190		
4	4	PFHxS	398.9 > 79.6	2.99e4	2.50e3	0.1134		3.55	3.51	149	799		
5	5	PFOA	413 > 368.7	3.42e4	3.43e4	0.1134		3.63	3.64	12.5	116		
6	6	PFNA	462.9 > 418.8	2.83e3	2.50e4	0.1134		3.82	3.81	1.42	10.7		
7	7	PFOS	499 > 79.9	9.48e4	4.03e3	0.1134		3.86	3.87	294	3010	E*	
8	8	PFDA	513 > 468.8	9.32e2	1.63e4	0.1134		4.00	3.99	0.713	3.79		
9	9	PFUnA	562.9 > 518.9		5.24e3	0.1134		4.13					
10	10	N-MeFOSAA	570.1 > 419		1.57e3	0.1134		4.00					
11	11	N-EtFOSAA	584.2 > 419		1.05e3	0.1134		4.07					
12	12	PFDoA	612.9 > 318.8		3.46e2	0.1134		4.31					
13	13	PFTrDA	662.9 > 618.9		3.46e2	0.1134		4.50					
14	14	PFTeDA	712.9 > 668.8		1.62e3	0.1134		4.65					
15	15	13C3-PFBS	302 > 98.8	3.74e3	3.55e4	0.1134	0.032	2.92	2.94	0.527	145	131.4	
16	16	13C2-PFHxA	315 > 269.8	1.24e4	3.55e4	0.1134	0.296	3.15	3.18	1.74	51.8	117.4	
17	17	13C4-PFHpA	367.2 > 321.8	2.65e4	3.55e4	0.1134	0.302	3.43	3.44	3.73	109	99.0	
18	18	18O2-PFHxS	403 > 102.6	2.50e3	5.41e3	0.1134	0.434	3.49	3.51	5.77	117	106.4	
19	19	13C2-PFOA	414.9 > 369.7	3.43e4	2.97e4	0.1134	1.140	3.62	3.64	14.4	112	101.3	
20	20	13C5-PFNA	468.2 > 422.9	2.50e4	3.11e4	0.1134	0.958	3.80	3.82	10.1	92.7	84.1	
21	21	13C8-PFOS	507 > 79.9	4.03e3	3.48e3	0.1134	1.061	3.85	3.87	14.5	120	108.9	
22	22	13C2-PFDA	515.1 > 469.9	1.63e4	1.69e4	0.1134	0.942	3.97	3.99	12.1	113	102.6	
23	23	13C2-PFUnA	565 > 519.8	5.24e3	5.40e3	0.1134	1.084	4.13	4.15	12.1	98.8	89.6	
24	24	d3-N-MeFOSAA	573.3 > 419	1.57e3	5.40e3	0.1134	0.240	4.00	4.02	3.64	134	121.2	
25	25	d5-N-EtFOSAA	589.3 > 419	1.05e3	5.40e3	0.1134	0.247	4.07	4.08	2.43	86.7	78.7	
26	26	13C2-PFDoA	615 > 569.7	3.46e2	5.40e3	0.1134	0.127	4.32	4.31	0.802	55.7	50.5	
27	27	13C2-PFTeDA	714.8 > 669.6	1.62e3	5.40e3	0.1134	0.883	4.64	4.65	3.75	37.5	34.0	H
28	28	13C5-PFHxA	318 > 272.9	3.55e4	3.55e4	0.1134	1.000	3.15	3.18	5.00	44.1	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	5.41e3	5.41e3	0.1134	1.000	3.49	3.51	12.5	110	100.0	
30	30	13C8-PFOA	421.3 > 376	2.97e4	2.97e4	0.1134	1.000	3.62	3.64	12.5	110	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.11e4	3.11e4	0.1134	1.000	3.82	3.82	12.5	110	100.0	
32	32	13C4-PFOS	503 > 79.9	3.48e3	3.48e3	0.1134	1.000	3.85	3.87	12.5	110	100.0	

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Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	1.69e4	1.69e4	0.1134	1.000	3.97	3.99	12.5	110	100.0
34	34	13C7-PFUnA	570.1 > 524.8	5.40e3	5.40e3	0.1134	1.000	4.13	4.15	12.5	110	100.0
35	35	Total PFBS	299 > 79.7	8.12e3	3.74e3	0.1134		2.91		27.1	127	
36	36	Total PFHxS	398.9 > 79.6	2.99e4	2.50e3	0.1134		3.48		149	799	
37	37	Total PFOA	413 > 368.7	3.42e4	3.43e4	0.1134		3.61		12.5	116	
38	38	Total PFOS	499 > 79.9	9.48e4	4.03e3	0.1134		3.84		294	3010	
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1134		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1134		4.06		0.000		

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.94	8117.774	3743.008	27.110	bb	127.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.51	29910.230	2501.694	149.450	MM	799.5

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.64	34204.453	34341.039	12.450	MM	115.8

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9	3.87	94813.836	4025.816	294.393	MM	3010.1

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

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Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

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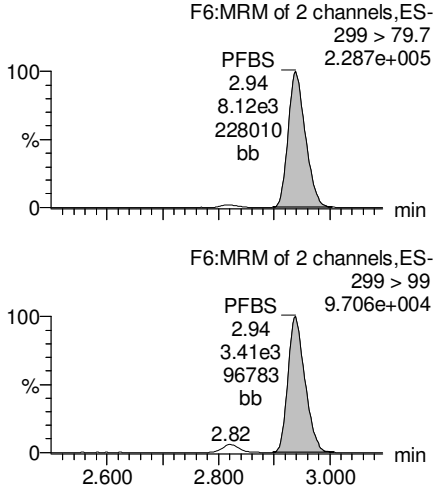
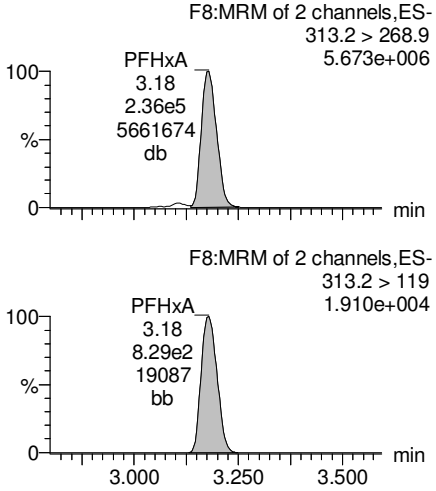
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

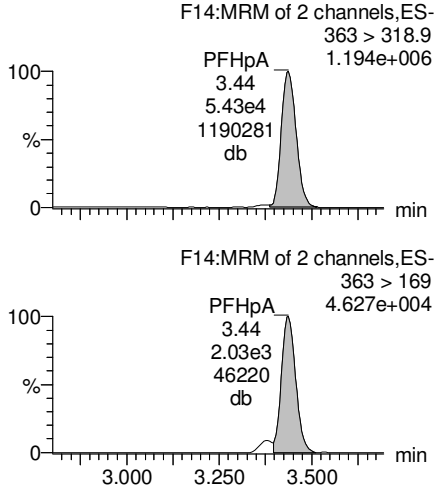
Total PFBS



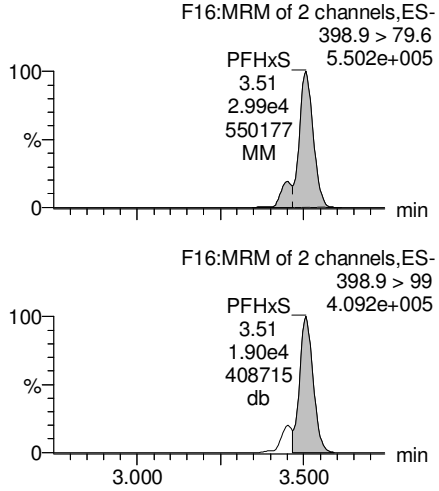
PFHxA



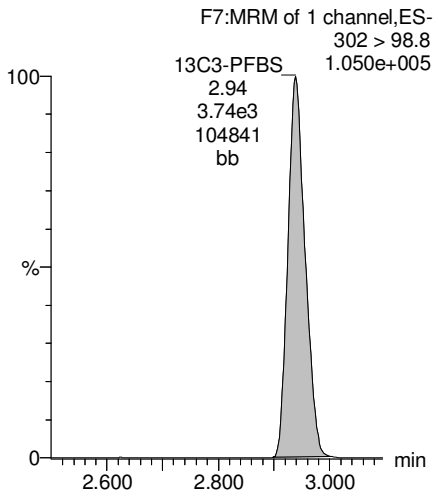
PFHpA



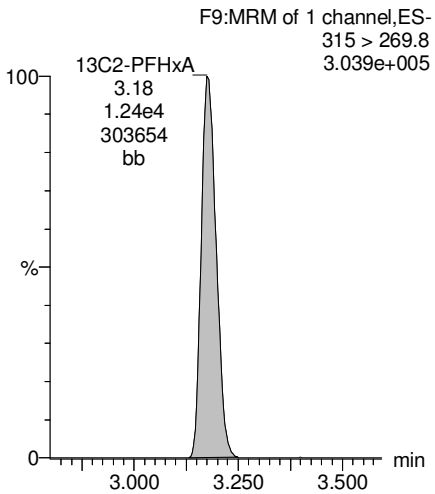
Total PFHxS



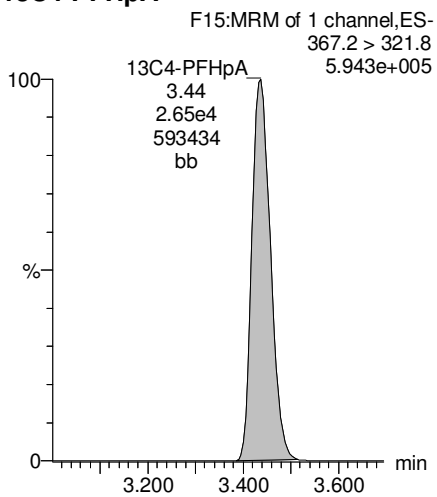
13C3-PFBS



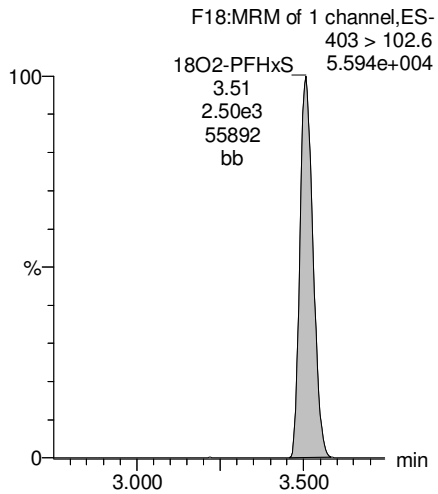
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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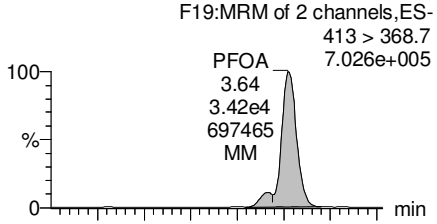
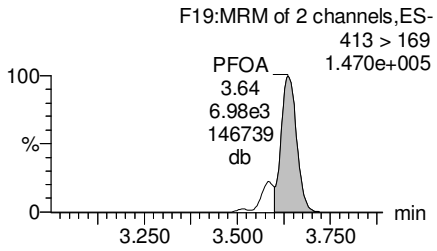
Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

Total PFOA





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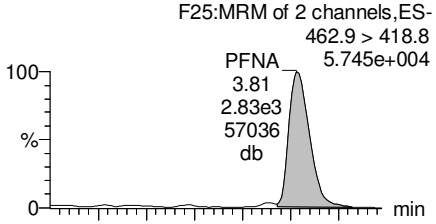
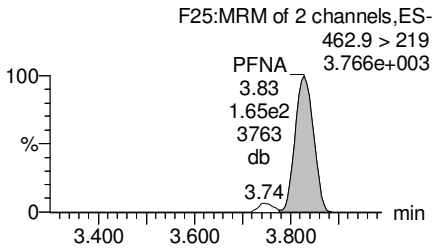
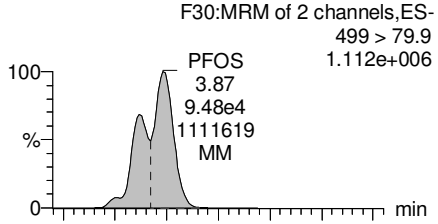
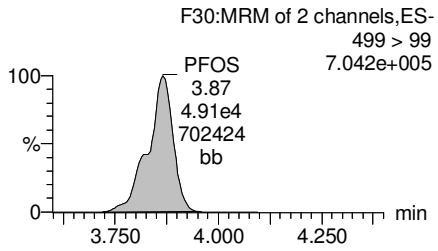




Total PFOS





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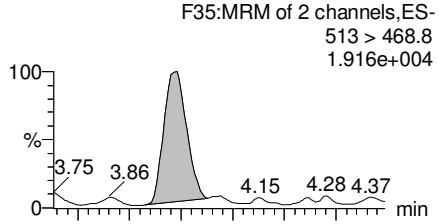
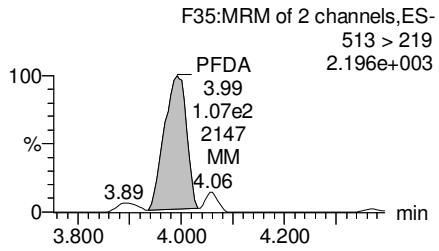
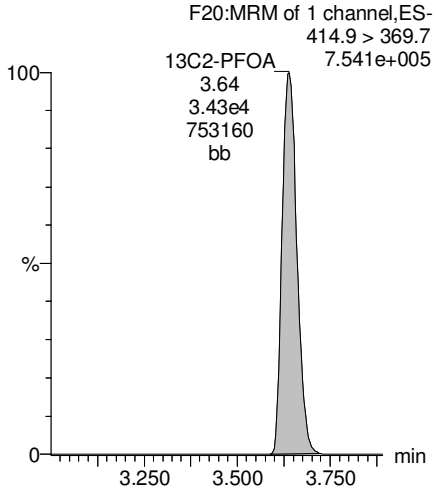
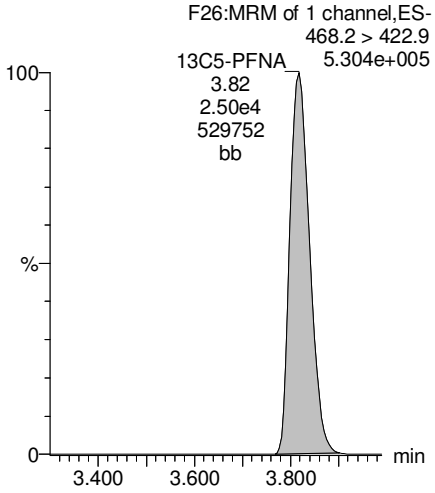




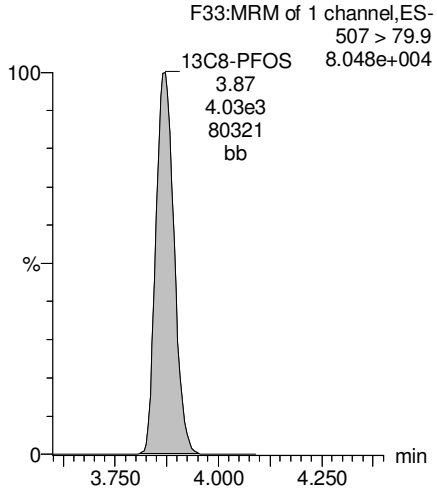
13C2-PFOA



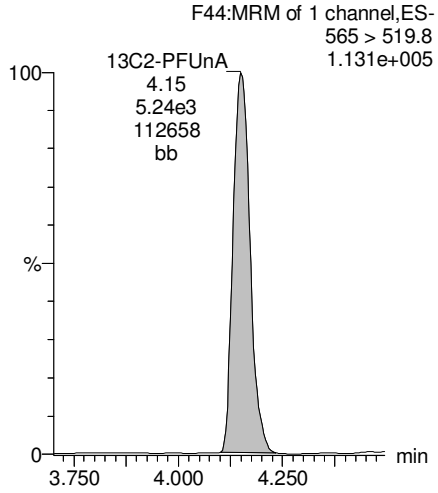
13C5-PFNA



13C8-PFOS



13C2-PFUnA



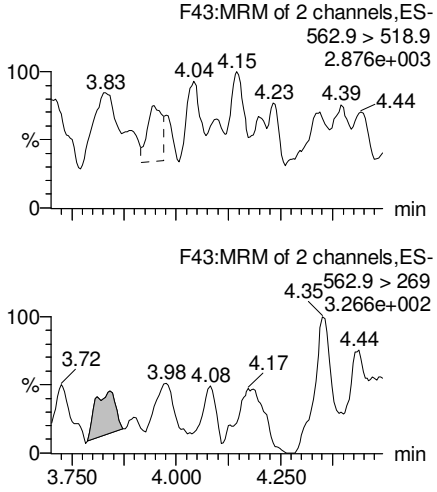
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

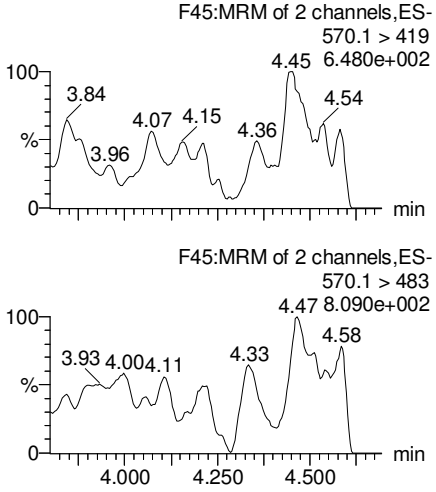
Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

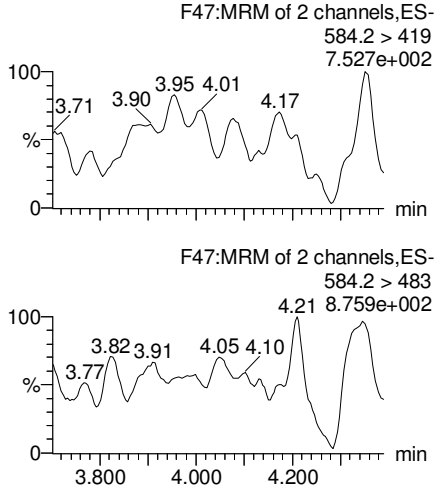
PFUnA



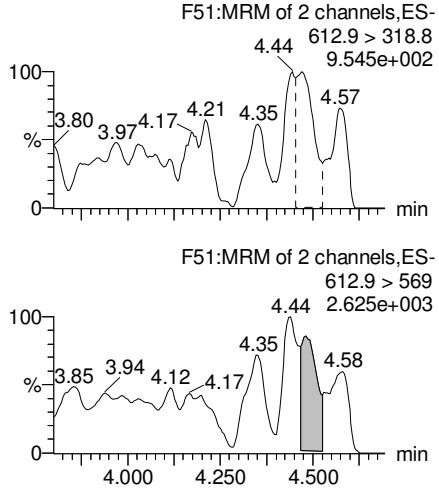
N-MeFOSAA



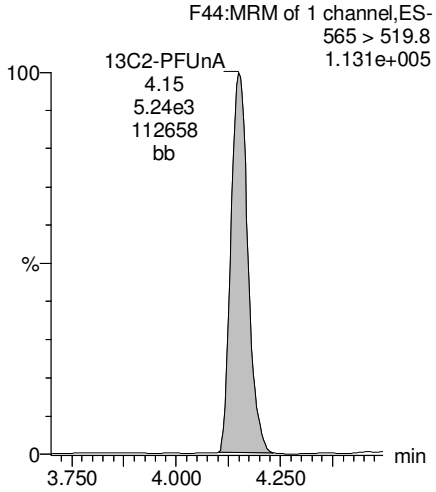
N-EtFOSAA



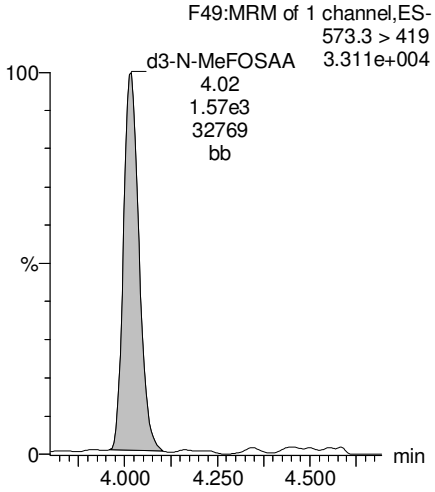
PFDoA



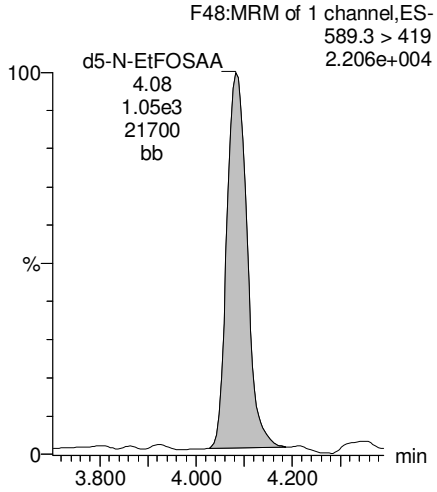
13C2-PFUnA



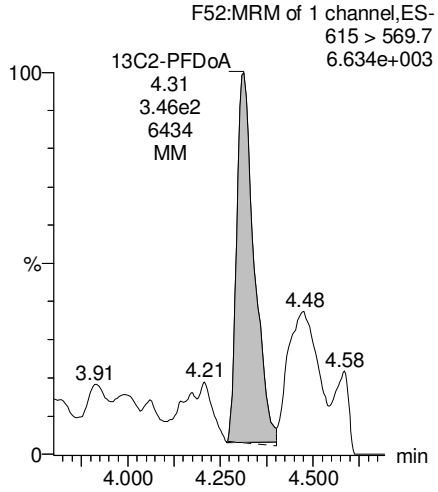
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



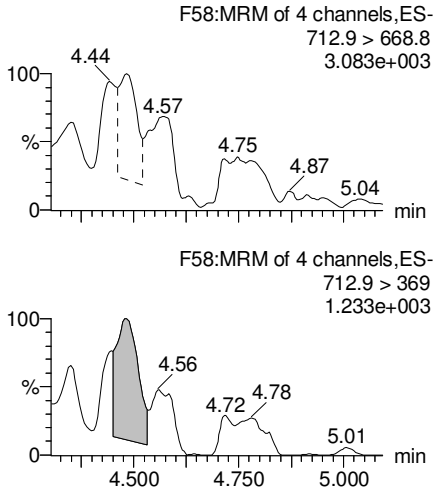
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

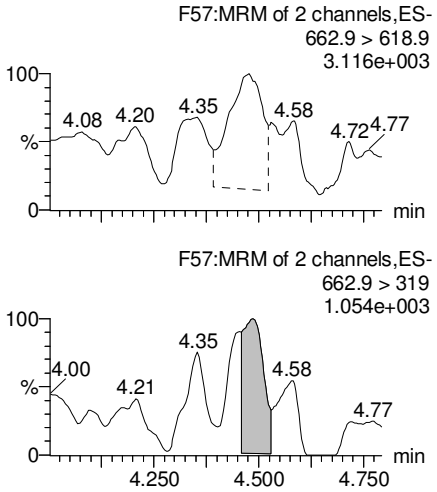
Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

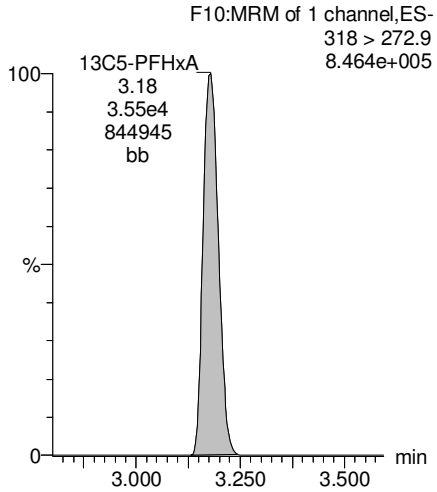
PFTeDA



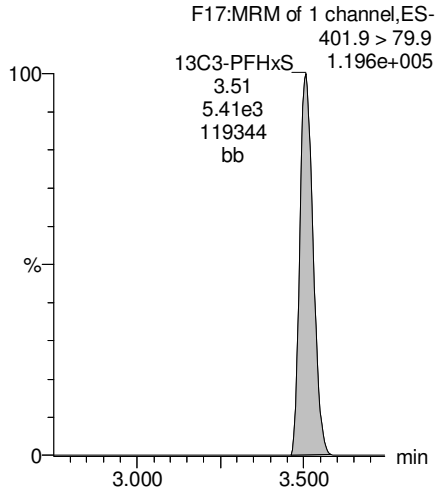
PFTrDA



13C5-PFHxA



13C3-PFHxS



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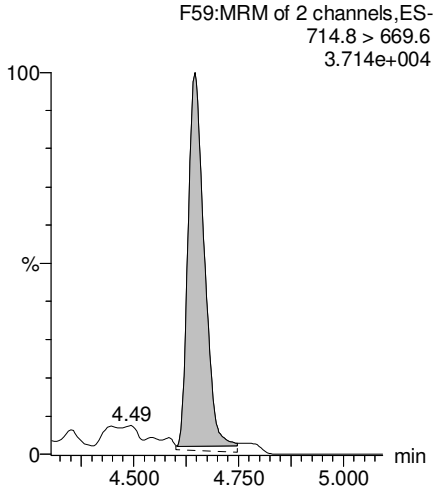
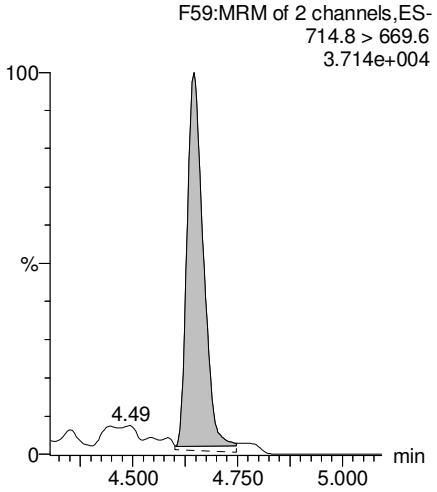
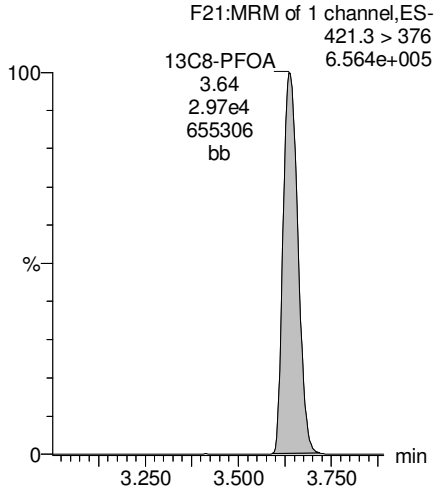


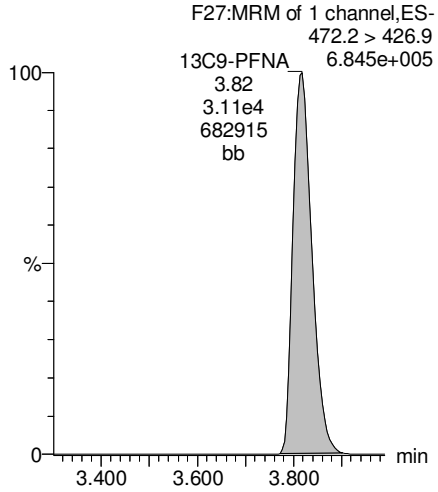
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



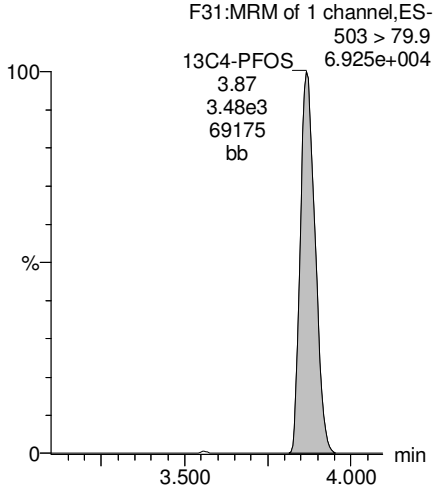
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-24.qld

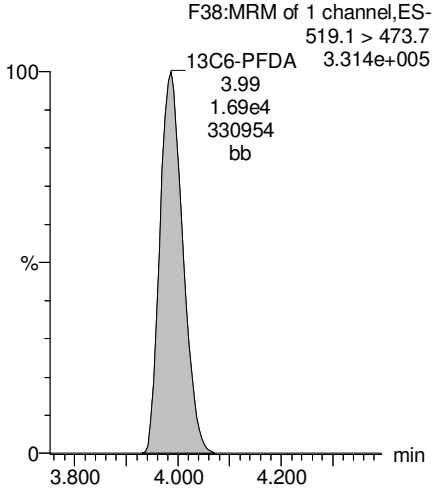
Last Altered: Thursday, July 20, 2017 14:55:33 Pacific Daylight Time
Printed: Thursday, July 20, 2017 14:55:44 Pacific Daylight Time

Name: 170707M2_24, Date: 07-Jul-2017, Time: 17:41:47, ID: 1700792-10 Dup01-20170627 0.11337, Description: Dup01-20170627

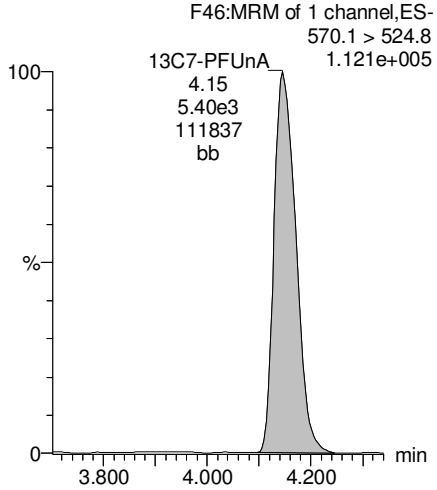
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/20/17

Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-4.qld

Last Altered: Saturday, July 22, 2017 09:40:10 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:41:34 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: 1700792-10@10X Dup01-20170627 0.11337, Description: Dup01-20170627, Name: 170721G6_4, Date: 21-Jul-2017, Time: 16:16:32

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	9	PFOS	499.0 >79.9	1.518e2	1.747e1		0.113	4.66	1600	
2	20	13C8-PFOS	507.0 > 79.9	1.747e1	1.332e1	1.026	0.113	4.66	141	128
3	26	13C4-PFOS	503.0 > 79.9	1.332e1	1.332e1	1.000	0.113	4.66	110	100
4	31	Total PFOS	499.0 >79.9		1.747e1		0.113		1600	

AC 7/22/17

Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-4.qld

Last Altered: Saturday, July 22, 2017 09:40:10 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:41:34 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: 1700792-10@10X Dup01-20170627 0.11337, Description: Dup01-20170627, Name: 170721G6_4, Date: 21-Jul-2017, Time: 16:16:32

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	3	PFBS	299.0 > 79.7	2.92	577.366	225.215	126.7

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFHxS	398.9 > 79.6	3.95	1569.144	159.874	517.7

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	7	PFOA	413.0 > 368.7	4.25	292.032	344.796	106.5
2	30	Total PFOA	413.0 > 368.7	4.15	87.834	344.796	31.5

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	9	PFOS	499.0 >79.9	4.66	151.815	17.470	1603.0

AC 7/22/17

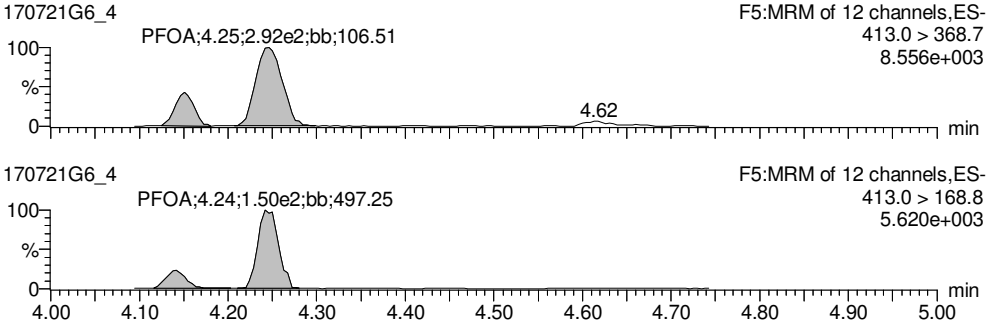
Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-4.qld

Last Altered: Saturday, July 22, 2017 09:40:10 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:41:34 Pacific Daylight Time

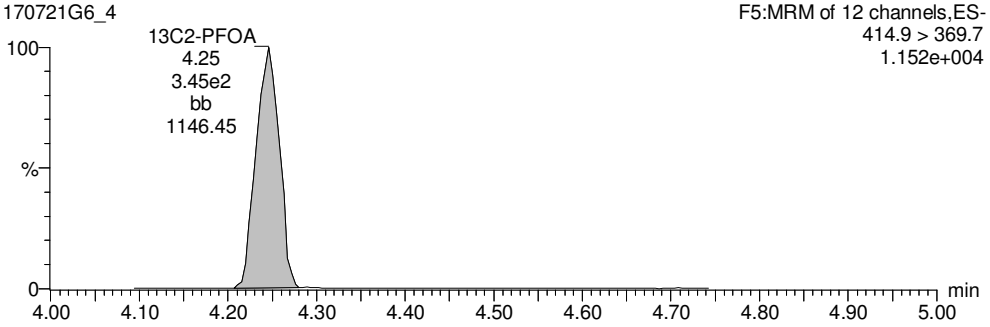
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: 1700792-10@10X Dup01-20170627 0.11337, Description: Dup01-20170627, Name: 170721G6_4, Date: 21-Jul-2017, Time: 16:16:32, Instrument: , Lab: , User:

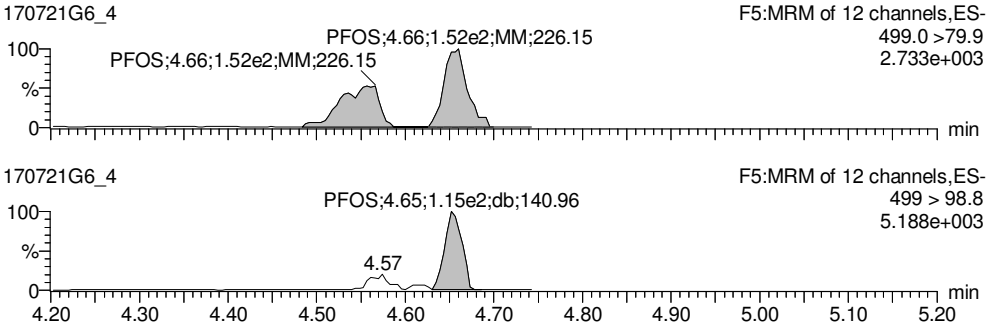
Total PFOA



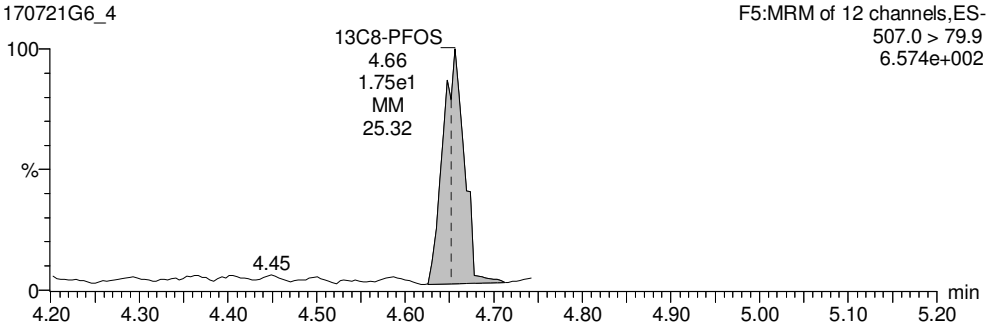
13C2-PFOA



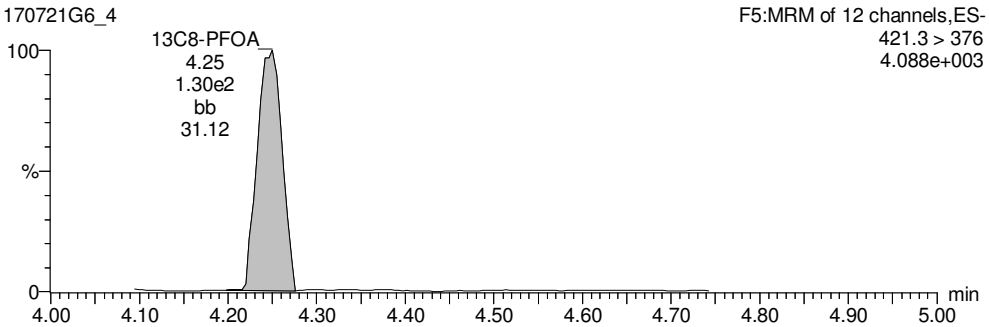
Total PFOS



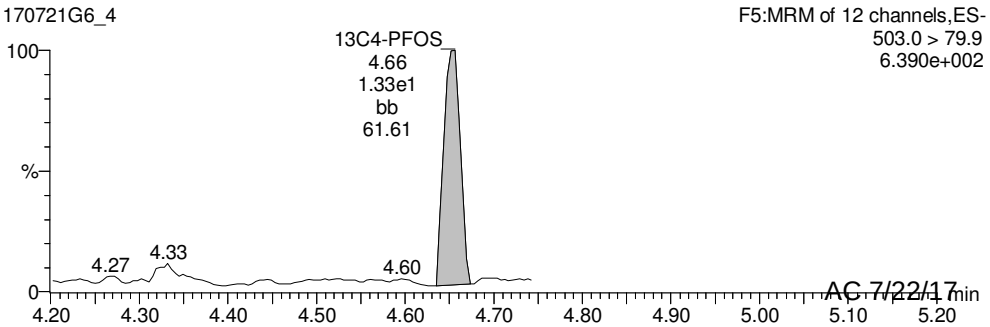
13C8-PFOS



13C8-PFOA



13C4-PFOS



AC 7/22/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		3.89e3	0.1201		2.92					
2	2	PFHxA	313.2 > 268.9		1.24e4	0.1201		3.16					
3	3	PFHpA	363 > 318.9		2.86e4	0.1201		3.43					
4	4	PFHxS	398.9 > 79.6		2.57e3	0.1201		3.55					
5	5	PFOA	413 > 368.7		3.71e4	0.1201		3.63					
6	6	PFNA	462.9 > 418.8		3.00e4	0.1201		3.82					
7	7	PFOS	499 > 79.9		5.10e3	0.1201		3.86					
8	8	PFDA	513 > 468.8		2.15e4	0.1201		4.00					
9	9	PFUnA	562.9 > 518.9		7.20e3	0.1201		4.13					
10	10	N-MeFOSAA	570.1 > 419		2.50e3	0.1201		4.00					
11	11	N-EtFOSAA	584.2 > 419		1.45e3	0.1201		4.07					
12	12	PFDoA	612.9 > 318.8		2.15e2	0.1201		4.31					
13	13	PFTrDA	662.9 > 618.9		2.15e2	0.1201		4.50					
14	14	PFTeDA	712.9 > 668.8		7.27e2	0.1201		4.65					
15	15	13C3-PFBS	302 > 98.8	3.89e3	3.76e4	0.1201	0.032	2.92	2.94	0.517	134	128.7	
16	16	13C2-PFHxA	315 > 269.8	1.24e4	3.76e4	0.1201	0.296	3.15	3.18	1.65	46.4	111.5	
17	17	13C4-PFHpA	367.2 > 321.8	2.86e4	3.76e4	0.1201	0.302	3.43	3.44	3.81	105	101.0	
18	18	18O2-PFHxS	403 > 102.6	2.57e3	6.32e3	0.1201	0.434	3.49	3.50	5.09	97.6	93.7	
19	19	13C2-PFOA	414.9 > 369.7	3.71e4	3.40e4	0.1201	1.140	3.62	3.63	13.6	99.4	95.5	
20	20	13C5-PFNA	468.2 > 422.9	3.00e4	3.38e4	0.1201	0.958	3.80	3.81	11.1	96.4	92.6	
21	21	13C8-PFOS	507 > 79.9	5.10e3	4.59e3	0.1201	1.061	3.85	3.87	13.9	109	104.6	
22	22	13C2-PFDA	515.1 > 469.9	2.15e4	2.60e4	0.1201	0.942	3.97	3.98	10.3	91.5	87.8	
23	23	13C2-PFUnA	565 > 519.8	7.20e3	1.07e4	0.1201	1.084	4.13	4.14	8.40	64.5	62.0	
24	24	d3-N-MeFOSAA	573.3 > 419	2.50e3	1.07e4	0.1201	0.240	4.00	4.01	2.92	101	97.2	
25	25	d5-N-EtFOSAA	589.3 > 419	1.45e3	1.07e4	0.1201	0.247	4.07	4.08	1.69	56.8	54.6	
26	26	13C2-PFDoA	615 > 569.7	2.15e2	1.07e4	0.1201	0.127	4.32	4.30	0.251	16.5	15.8	H
27	27	13C2-PFTeDA	714.8 > 669.6	7.27e2	1.07e4	0.1201	0.883	4.64	4.64	0.848	8.00	7.7	H
28	28	13C5-PFHxA	318 > 272.9	3.76e4	3.76e4	0.1201	1.000	3.15	3.18	5.00	41.6	100.0	
29	29	13C3-PFHxS	401.9 > 79.9	6.32e3	6.32e3	0.1201	1.000	3.49	3.50	12.5	104	100.0	
30	30	13C8-PFOA	421.3 > 376	3.40e4	3.40e4	0.1201	1.000	3.62	3.63	12.5	104	100.0	
31	31	13C9-PFNA	472.2 > 426.9	3.38e4	3.38e4	0.1201	1.000	3.82	3.81	12.5	104	100.0	
32	32	13C4-PFOS	503 > 79.9	4.59e3	4.59e3	0.1201	1.000	3.85	3.87	12.5	104	100.0	

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33	13C6-PFDA	519.1 > 473.7	2.60e4	2.60e4	0.1201	1.000	3.97	3.98	12.5	104	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.07e4	1.07e4	0.1201	1.000	4.13	4.14	12.5	104	100.0
35	35	Total PFBS	299 > 79.7	0.00e0	3.89e3	0.1201		2.91		0.000		
36	36	Total PFHxS	398.9 > 79.6	0.00e0	2.57e3	0.1201		3.48		0.000		
37	37	Total PFOA	413 > 368.7	0.00e0	3.71e4	0.1201		3.61		0.000		
38	38	Total PFOS	499 > 79.9	0.00e0	5.10e3	0.1201		3.84		0.000		
39	39	Total N-Me-FOSAA	570.1 > 419	0.00e0		0.1201		3.98		0.000		
40	40	Total N-EtFOSAA	584.2 > 419	0.00e0		0.1201		4.06		0.000		

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Vista Analytical Laboratory

Rev'd: MM 7/21/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6			2572.500		MM-	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7			37071.191		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7	PFOS	499 > 79.9			5098.028		MM-I	

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

GM 7/20/17

Vista Analytical Laboratory

Rev'd: MM 7/21/17

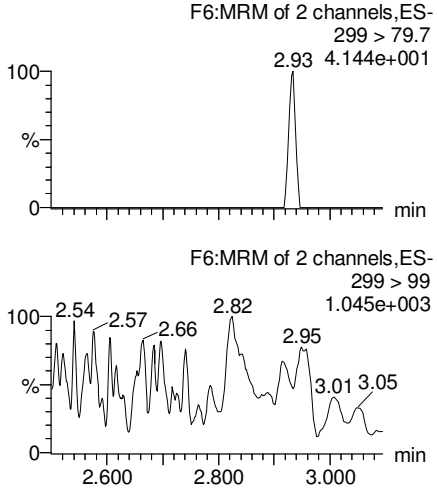
Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

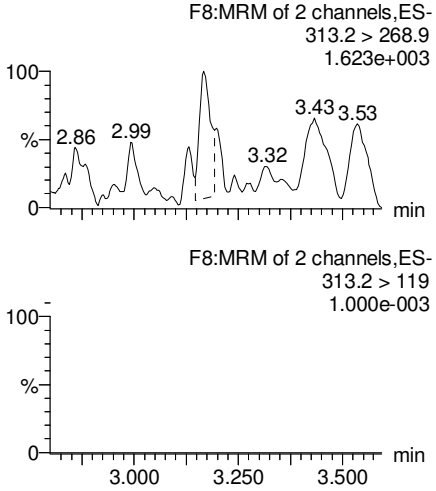
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 13:42:33
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

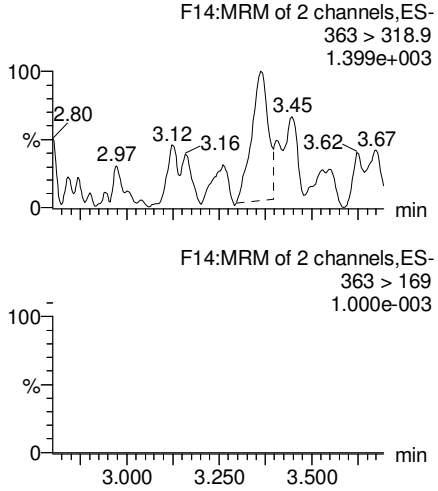
Total PFBS



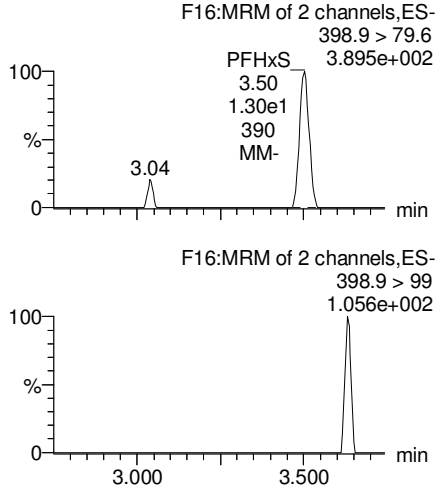
PFHxA



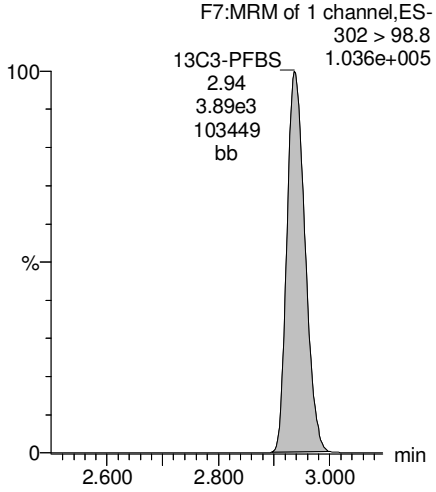
PFHpA



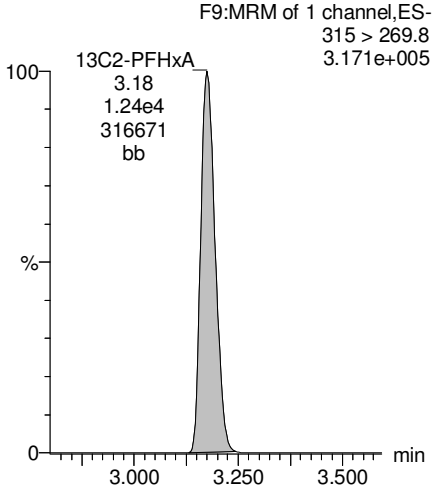
Total PFHxS



13C3-PFBS



13C2-PFHxA



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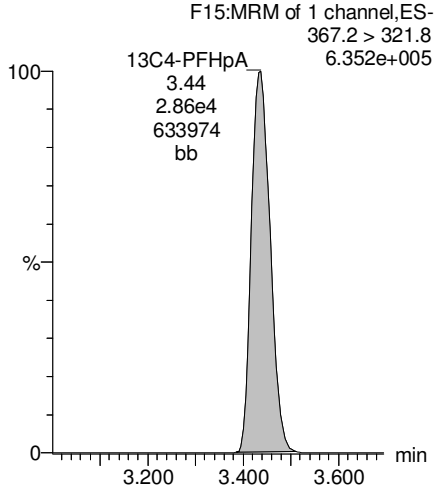
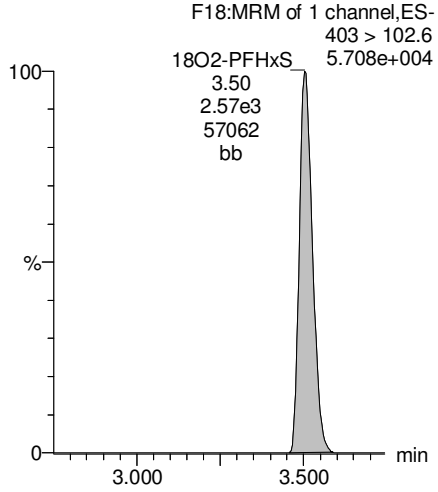


18O2-PFHxS



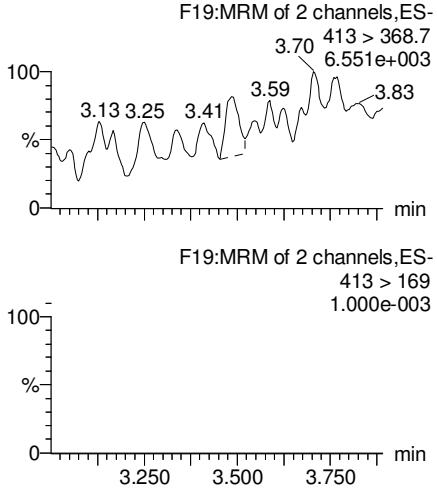
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

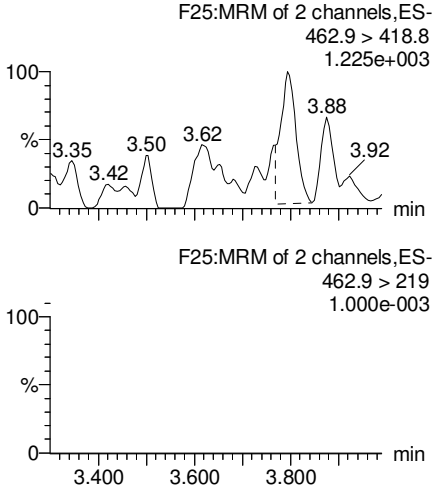
Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

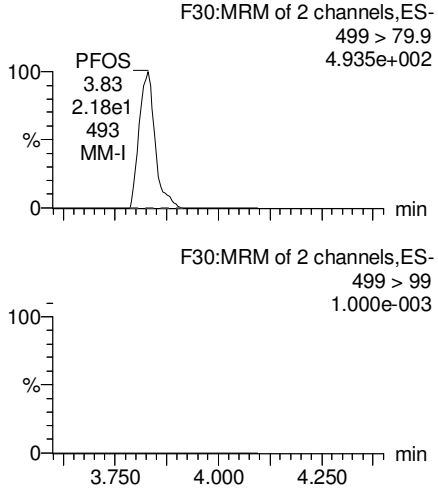
Total PFOA



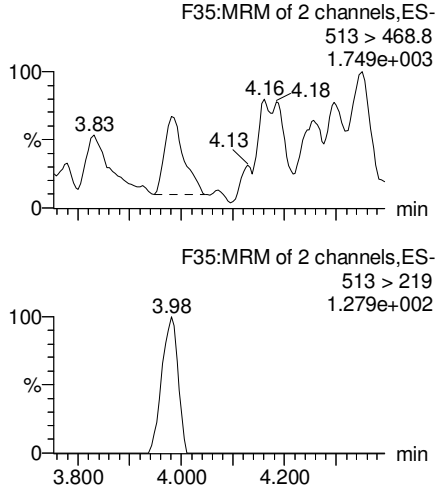
PFNA



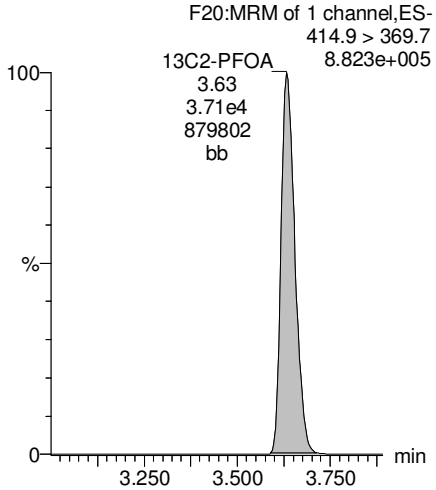
Total PFOS



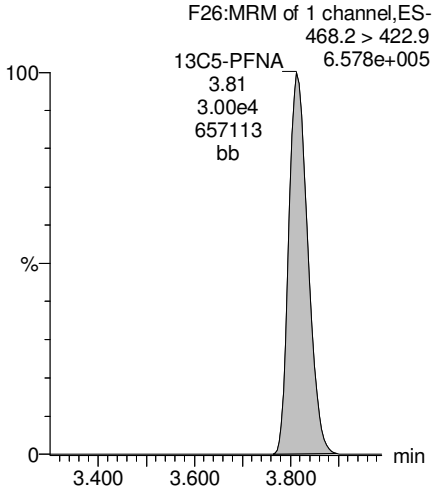
PFDA



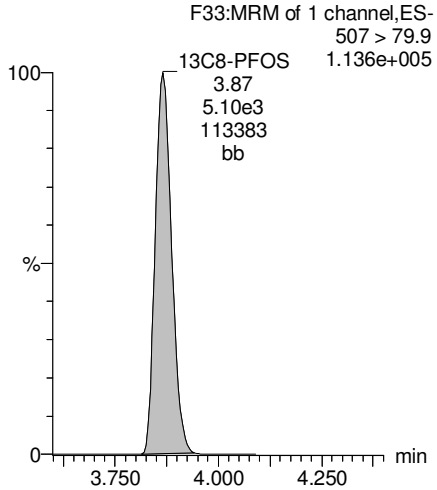
13C2-PFOA



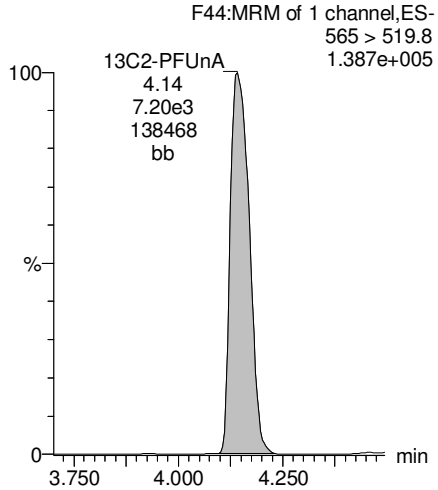
13C5-PFNA



13C8-PFOS



13C2-PFUnA



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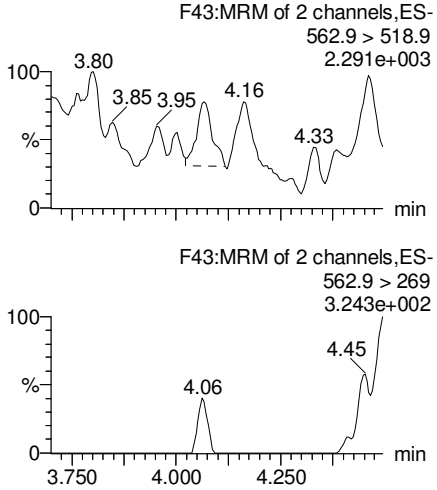
Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

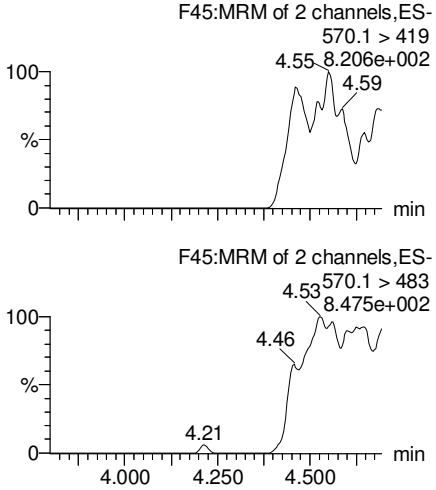
Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

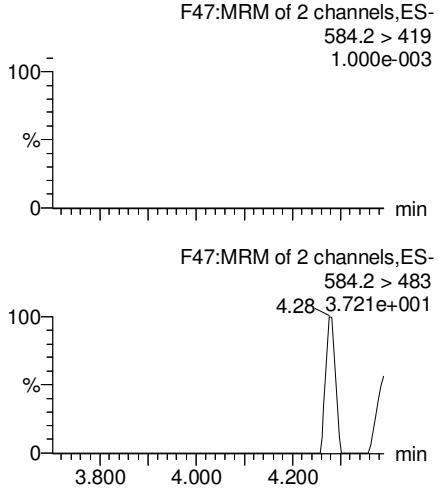
PFUnA



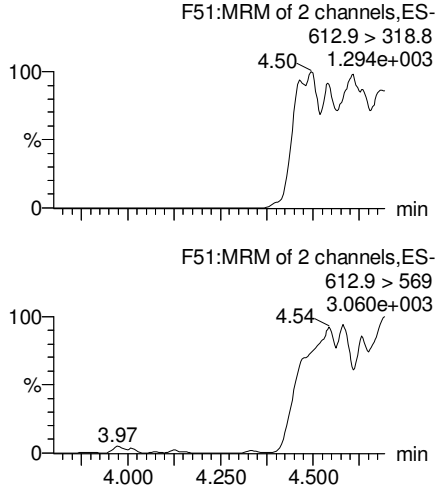
N-MeFOSAA



N-EtFOSAA



PFDoA



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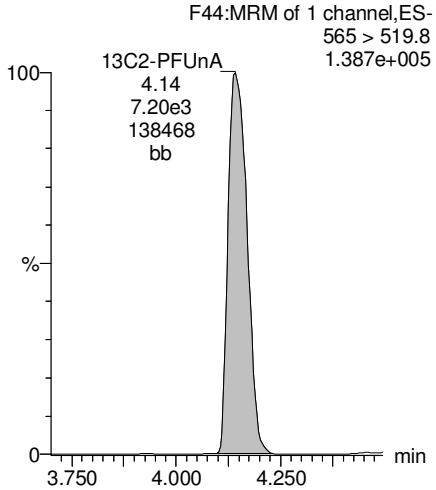
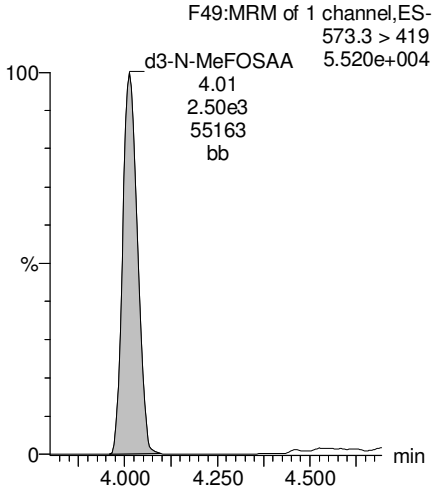
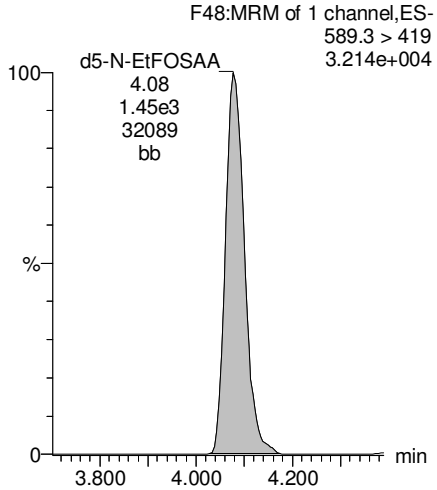


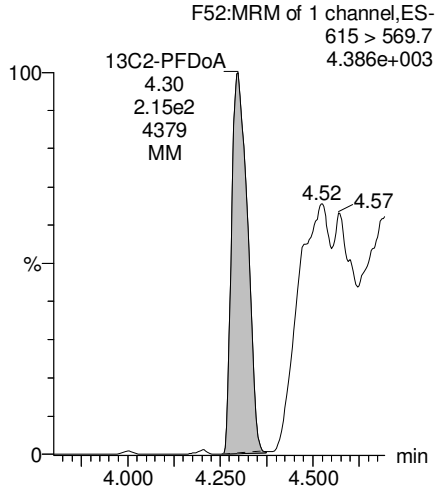
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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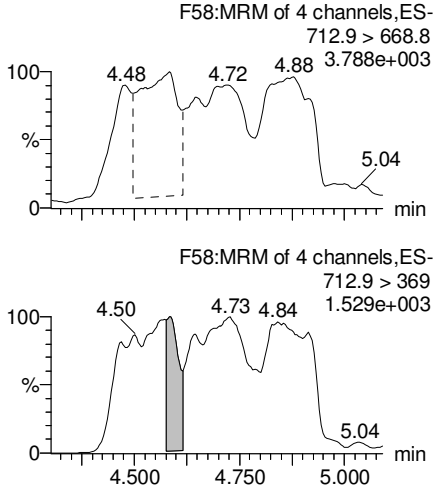
Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

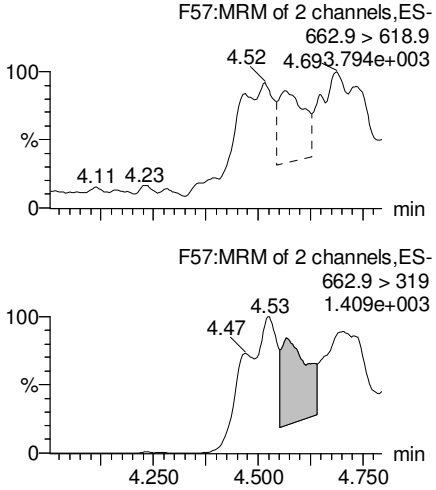
Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

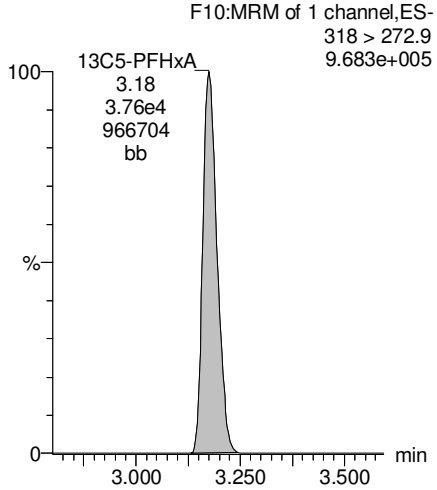
PFTeDA



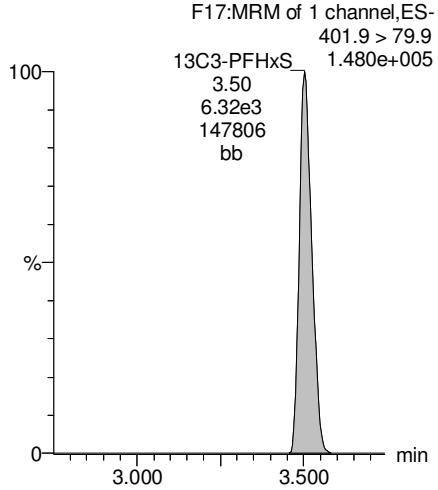
PFTrDA



13C5-PFHxA



13C3-PFHxS



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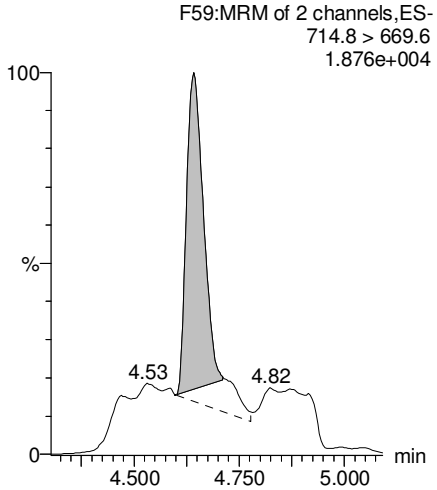

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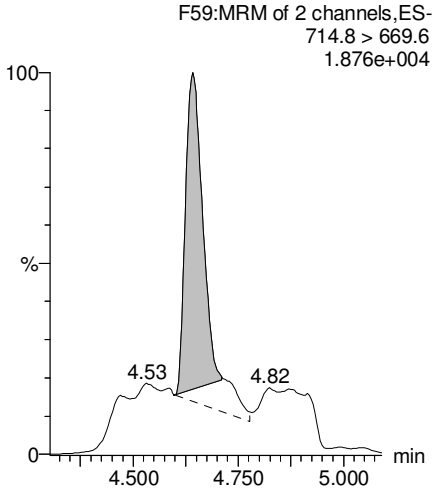
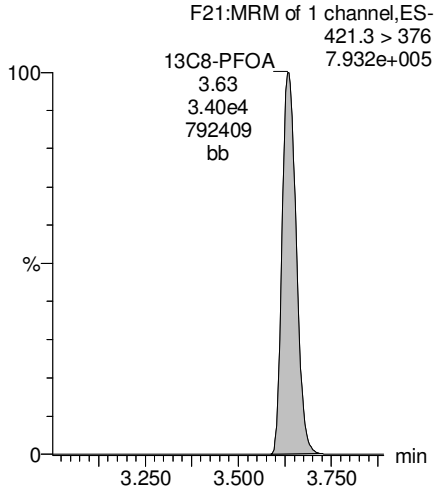
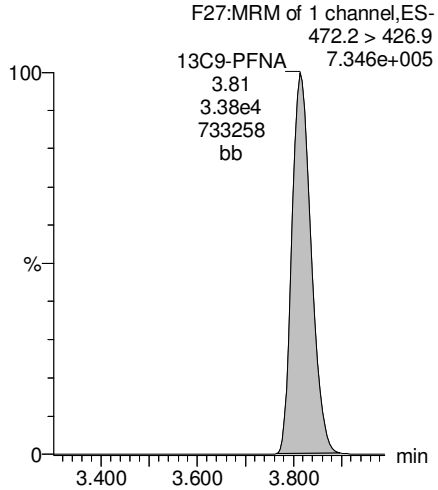


13C8-PFOA



13C9-PFNA



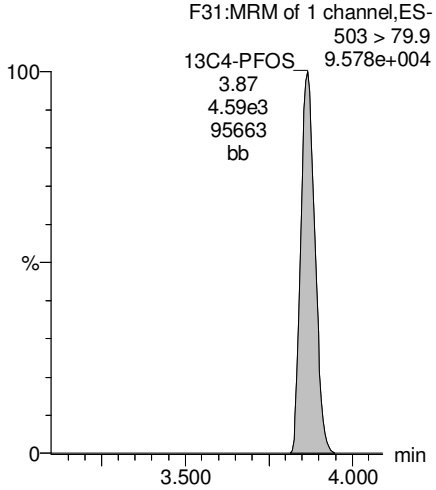
GM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-25.qld

Last Altered: Thursday, July 20, 2017 14:59:44 Pacific Daylight Time
Printed: Thursday, July 20, 2017 15:00:21 Pacific Daylight Time

Name: 170707M2_25, Date: 07-Jul-2017, Time: 17:52:26, ID: 1700792-11 RB01-20170628 0.12005, Description: RB01-20170628

13C4-PFOS



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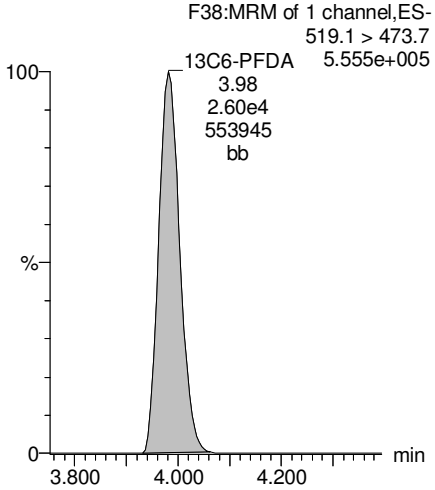
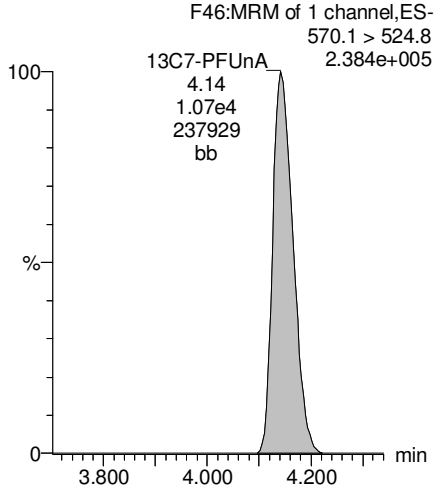


13C7-PFUnA



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Vista Analytical Laboratory

Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-48.qld

Last Altered: Thursday, July 20, 2017 16:26:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:27:41 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14A.cdb 14 Jul 2017 08:57:46

Name: 170711M1_48, Date: 11-Jul-2017, Time: 18:58:21, ID: 1700792-11RE1 RB01-20170628 0.12273, Description: RB01-20170628

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	12	PFDoA	612.9 > 318.8		6.21e2	0.1227		4.32					
2	13	PFTrDA	662.9 > 618.9		6.21e2	0.1227		4.50					
3	14	PFTeDA	712.9 > 668.8		6.30e3	0.1227		4.66					
4	28	13C2-PFDoA	615 > 569.7	6.21e2	1.68e4	0.1227	0.130	4.32	4.23	0.463	29.1	28.5	H
5	29	13C2-PFTeDA	714.8 > 669.6	6.30e3	1.68e4	0.1227	1.018	4.66	4.56	4.70	37.6	36.9	H
6	37	13C7-PFUnA	570.1 > 524.8	1.68e4	1.68e4	0.1227	1.000	4.16	4.07	12.5	102	100.0	

GM 7/20/17

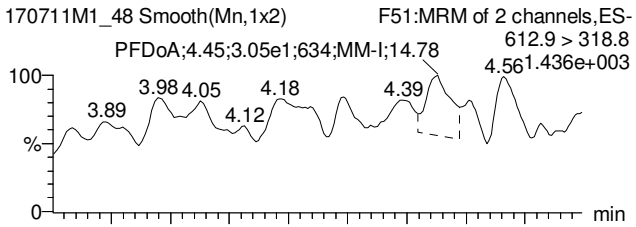
Dataset: U:\Q4.PRO\results\170711M1\170711M1-48.qld

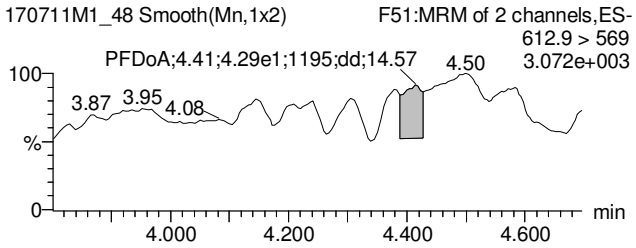
Last Altered: Thursday, July 20, 2017 16:26:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:27:41 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14A.cdb 14 Jul 2017 08:57:46

Name: 170711M1_48, Date: 11-Jul-2017, Time: 18:58:21, ID: 1700792-11RE1 RB01-20170628 0.12273, Description: RB01-20170628

PFDoA





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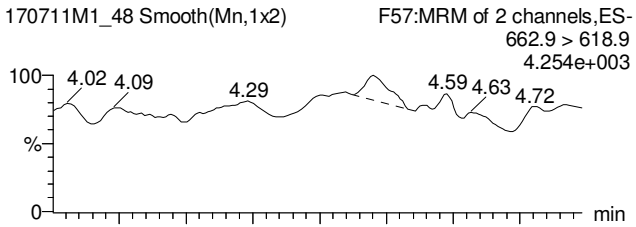
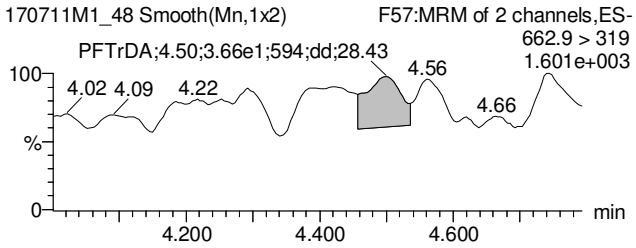
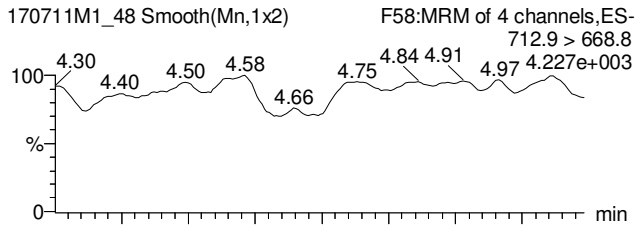
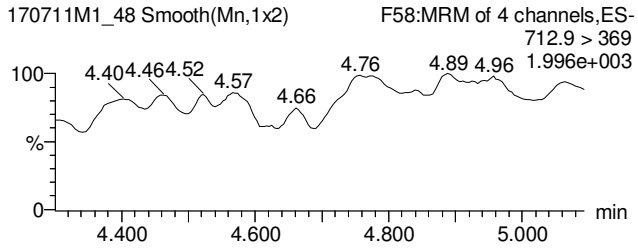




PFTeDA





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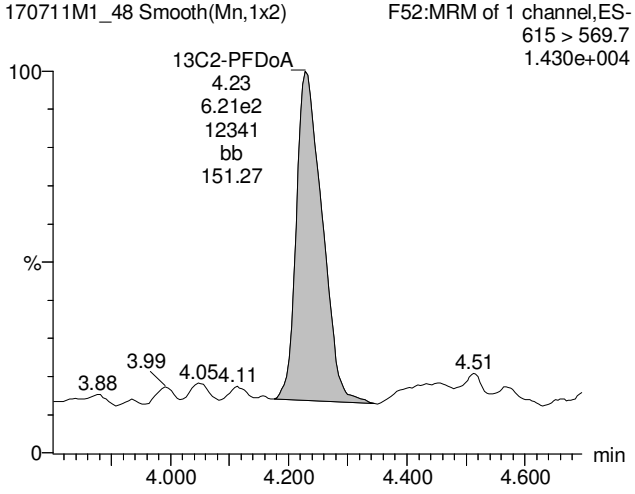

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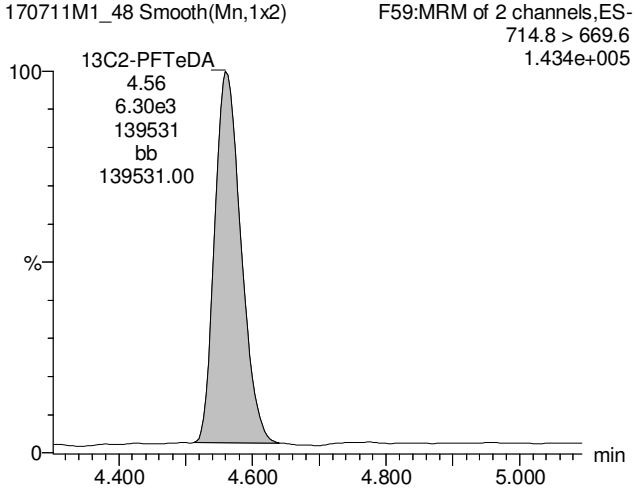

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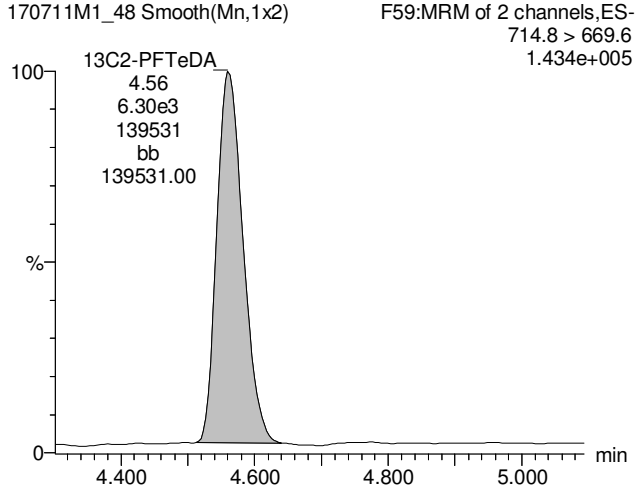


GM 7/20/17

Vista Analytical Laboratory

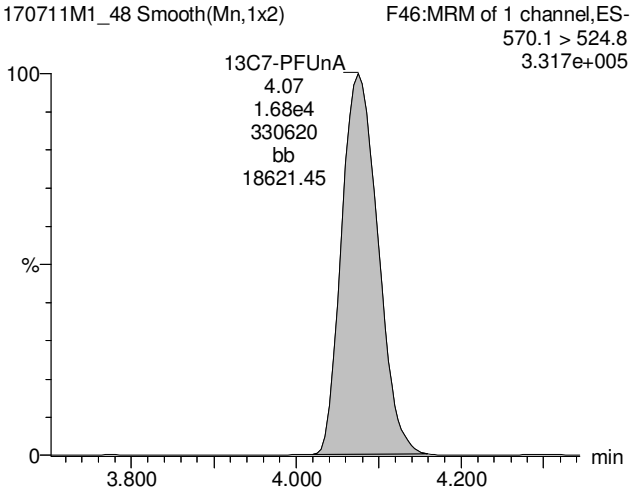
Rev'd: MM 7/22/17

Dataset: U:\Q4.PRO\results\170711M1\170711M1-48.qld

Last Altered: Thursday, July 20, 2017 16:26:47 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:27:41 Pacific Daylight Time

Name: 170711M1_48, Date: 11-Jul-2017, Time: 18:58:21, ID: 1700792-11RE1 RB01-20170628 0.12273, Description: RB01-20170628

13C7-PFUnA



GM 7/20/17

CONTINUING CALIBRATION

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.16e3	4.19e3	1.0000		2.92	2.92	18.4	9.76	97.6
2	2	PFHxA	313.2 > 268.9	4.75e4	1.62e4	1.0000		3.16	3.16	14.7	10.4	104.0
3	3	PFHpA	363 > 318.9	4.25e4	4.61e4	1.0000		3.43	3.42	11.5	9.54	95.4
4	4	PFHxS	398.9 > 79.6	5.27e3	4.08e3	1.0000		3.55	3.49	16.2	8.73	87.3
5	5	PFOA	413 > 368.7	7.77e4	9.64e4	1.0000		3.63	3.62	10.1	10.6	105.9
6	6	PFNA	462.9 > 418.8	7.54e4	7.98e4	1.0000		3.82	3.80	11.8	10.6	105.7
7	7	PFOS	499 > 79.9	1.27e4	1.58e4	1.0000		3.86	3.85	10.1	9.53	95.3
8	8	PFDA	513 > 468.8	7.01e4	8.05e4	1.0000		4.00	3.96	10.9	9.39	93.9
9	9	PFUnA	562.9 > 518.9	5.77e4	7.40e4	1.0000		4.13	4.13	9.74	10.7	107.0
10	10	N-MeFOSAA	570.1 > 419	2.12e4	1.80e4	1.0000		4.00	4.00	14.7	9.22	92.2
11	11	N-EtFOSAA	584.2 > 419	1.75e4	1.85e4	1.0000		4.07	4.07	11.8	10.3	103.0
12	12	PFDoA	612.9 > 318.8	6.02e3	1.01e4	1.0000		4.31	4.28	7.42	8.89	88.9
13	13	PFTrDA	662.9 > 618.9	8.91e4	1.01e4	1.0000		4.50	4.45	110	9.90	99.0
14	14	PFTeDA	712.9 > 668.8	6.53e4	7.45e4	1.0000		4.65	4.62	10.9	9.18	91.8
15	15	13C3-PFBS	302 > 98.8	4.19e3	5.15e4	1.0000	0.032	2.92	2.92	0.407	12.7	101.4
16	16	13C2-PFHxA	315 > 269.8	1.62e4	5.15e4	1.0000	0.296	3.15	3.16	1.57	5.31	106.1
17	17	13C4-PFHpA	367.2 > 321.8	4.61e4	5.15e4	1.0000	0.302	3.43	3.42	4.48	14.9	118.9
18	18	18O2-PFHxS	403 > 102.6	4.08e3	1.03e4	1.0000	0.434	3.49	3.49	4.93	11.3	90.8
19	19	13C2-PFOA	414.9 > 369.7	9.64e4	8.32e4	1.0000	1.140	3.62	3.62	14.5	12.7	101.6
20	20	13C5-PFNA	468.2 > 422.9	7.98e4	8.20e4	1.0000	0.958	3.80	3.80	12.2	12.7	101.6
21	21	13C8-PFOS	507 > 79.9	1.58e4	1.53e4	1.0000	1.061	3.85	3.85	12.9	12.1	97.1
22	22	13C2-PFDA	515.1 > 469.9	8.05e4	8.59e4	1.0000	0.942	3.97	3.96	11.7	12.4	99.4
23	23	13C2-PFUnA	565 > 519.8	7.40e4	8.94e4	1.0000	1.084	4.13	4.13	10.3	9.54	76.3
24	24	d3-N-MeFOSAA	573.3 > 419	1.80e4	8.94e4	1.0000	0.240	4.00	4.00	2.52	10.5	83.7
25	25	d5-N-EtFOSAA	589.3 > 419	1.85e4	8.94e4	1.0000	0.247	4.07	4.06	2.59	10.5	83.7
26	26	13C2-PFDoA	615 > 569.7	1.01e4	8.94e4	1.0000	0.127	4.32	4.29	1.42	11.2	89.3
27	27	13C2-PFTeDA	714.8 > 669.6	7.45e4	8.94e4	1.0000	0.883	4.64	4.62	10.4	11.8	94.5
28	28	13C5-PFHxA	318 > 272.9	5.15e4	5.15e4	1.0000	1.000	3.15	3.16	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	1.03e4	1.03e4	1.0000	1.000	3.49	3.49	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	8.32e4	8.32e4	1.0000	1.000	3.62	3.62	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	8.20e4	8.20e4	1.0000	1.000	3.82	3.80	12.5	12.5	100.0

70-130

50-150

DM 7/20/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	1.53e4	1.53e4	1.0000	1.000	3.85	3.85	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	8.59e4	8.59e4	1.0000	1.000	3.97	3.96	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	8.94e4	8.94e4	1.0000	1.000	4.13	4.13	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 20, 2017 16:34:18 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:38:16 Pacific Daylight Time

Compound name: PFHxA

	Name	ID	Acq.Date	Acq.Time
1	170707M2_2	ST170707M2-1 PFC CS3 17G0508	07-Jul-17	13:45:44
2	170707M2_3	B7F0137-BLK1 Method Blank 0.125	07-Jul-17	13:56:23
3	170707M2_4	IPA	07-Jul-17	14:07:44
4	170707M2_5	B7F0137-BS1 OPR 0.125	07-Jul-17	14:18:24
5	170707M2_6	1700789-01@5X GR-OF-20170627 0.10782	07-Jul-17	14:29:12
6	170707M2_7	1700789-02@5X MH-117T-20170627 0.12311	07-Jul-17	14:39:57
7	170707M2_8	1700789-03@5X MH-117N-20170627 0.12348	07-Jul-17	14:50:35
8	170707M2_9	B7F0136-MS1@5X Matrix Spike 0.12272	07-Jul-17	15:01:14
9	170707M2_10	B7F0136-MSD1@5X Matrix Spike Dup 0.12124	07-Jul-17	15:11:54
10	170707M2_11	1700789-05@10X MH-118.5N-20170627 0.12...	07-Jul-17	15:22:39
11	170707M2_12	1700792-01 West Ditch In-20170627 0.11683	07-Jul-17	15:33:17
12	170707M2_13	1700792-02 MH-140-20170628 0.11475	07-Jul-17	15:43:56
13	170707M2_14	1700792-03 Interceptor-20170628 0.11459	07-Jul-17	15:54:34
14	170707M2_15	1700792-04 Roof Drain-20170628 0.11484	07-Jul-17	16:05:13
15	170707M2_16	1700792-05 Spring-20170628 0.09751	07-Jul-17	16:15:51
16	170707M2_17	1700792-06 FRB-20170628 0.1121	07-Jul-17	16:26:52
17	170707M2_18	1700792-07 MH318.9-20170628 0.11873	07-Jul-17	16:37:41
18	170707M2_19	IPA	07-Jul-17	16:48:19
19	170707M2_20	ST170707M2-2 PFC CS3 17G0508	07-Jul-17	16:58:58
20	170707M2_21	IPA	07-Jul-17	17:09:44
21	170707M2_22	1700792-08 MH388.9-20170628 0.11713	07-Jul-17	17:20:31
22	170707M2_23	1700792-09 Dup03-20170628 0.11824	07-Jul-17	17:31:09
23	170707M2_24	1700792-10 Dup01-20170627 0.11337	07-Jul-17	17:41:47
24	170707M2_25	1700792-11 RB01-20170628 0.12005	07-Jul-17	17:52:26
25	170707M2_26	IPA	07-Jul-17	18:03:04
26	170707M2_27	ST170707M2-3 PFC CS3 17G0508	07-Jul-17	18:13:43

LC Calibration Standards Review Checklist Q4

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	AM 7/20/17 NA
Calibration ID:	ST170707-M2-1	L (M) H	NA ☐	☑	☑	☑	☑	☐	☐
Calibration ID:	-2	L (M) H	☐	☑	☑	☑	☑	☑	☐
Calibration ID:	-3	L (M) H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/21/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Reviewed By: 7/21/17
Initials/Date

Comments:
L14

Vista Analytical Laboratory

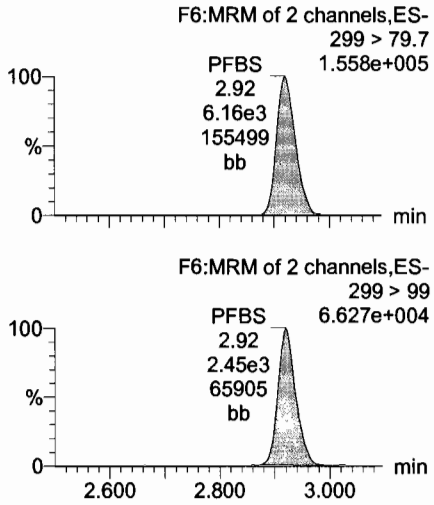
Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

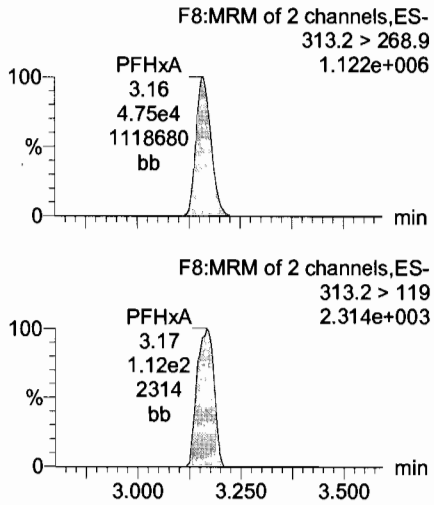
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

Total PFBS



PFHxA



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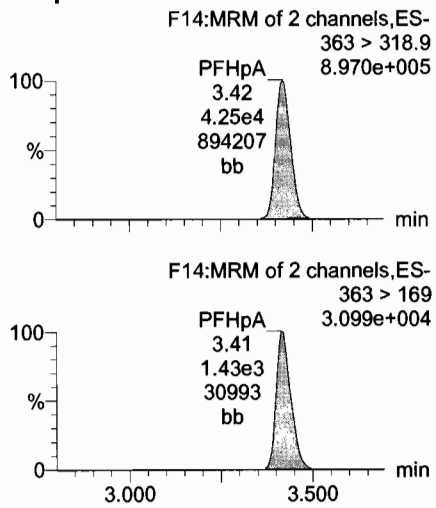
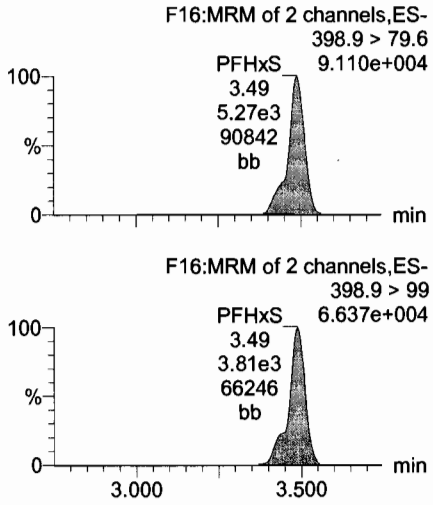


Total PFHxS



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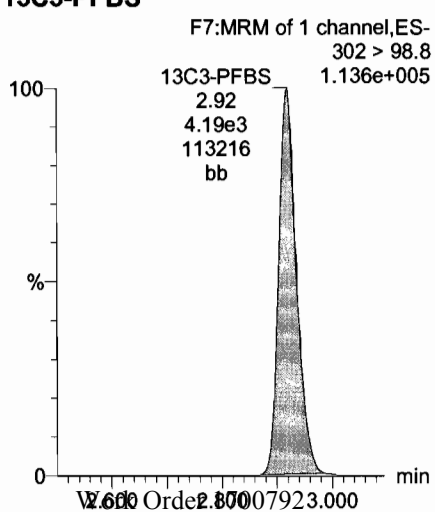

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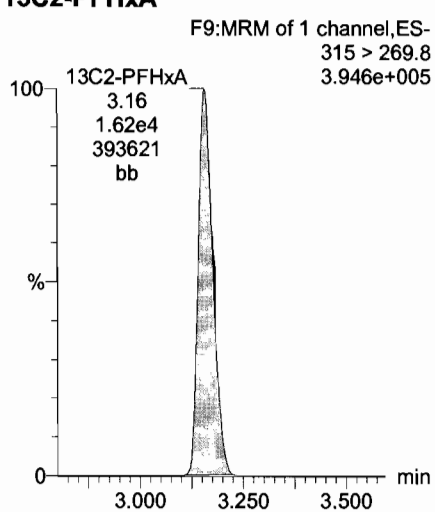

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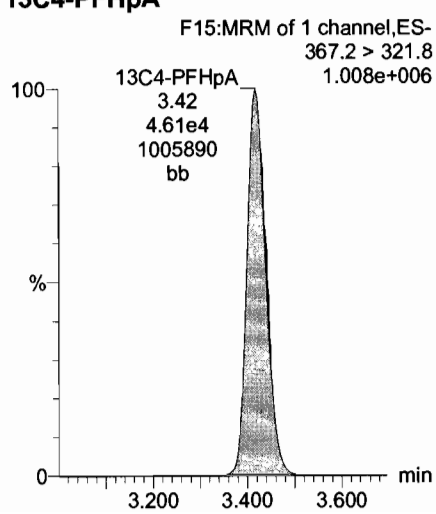
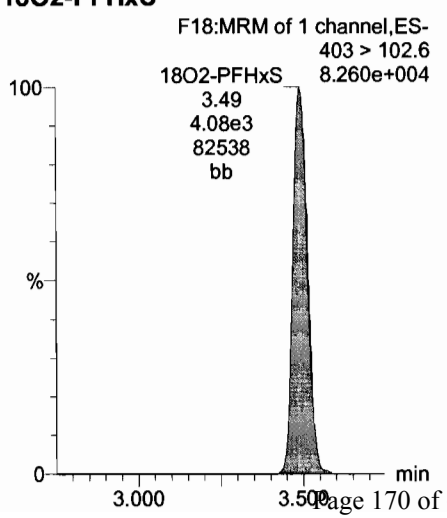


18O2-PFHxS

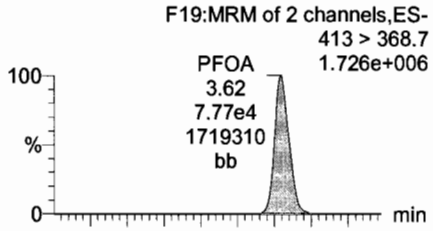


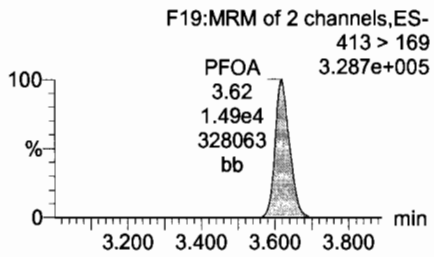
Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

Total PFOA





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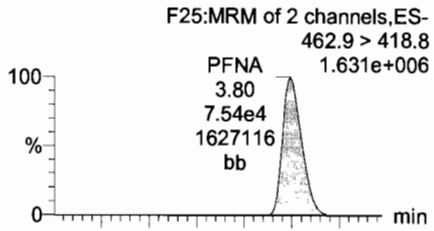
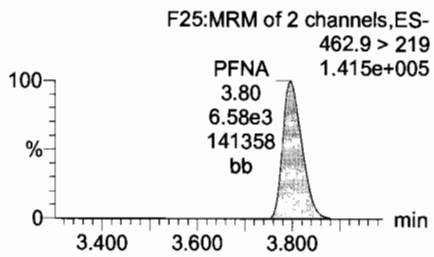
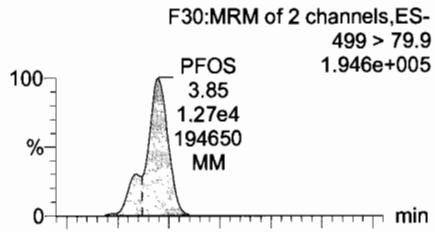
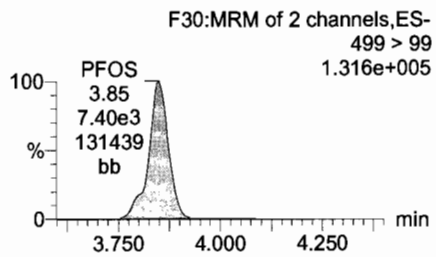


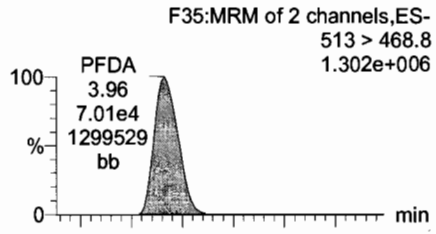


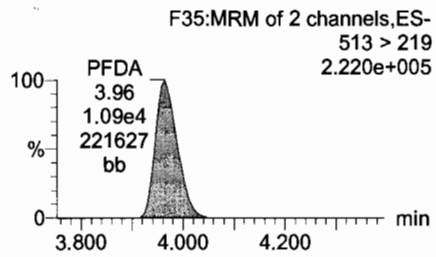
Total PFOS



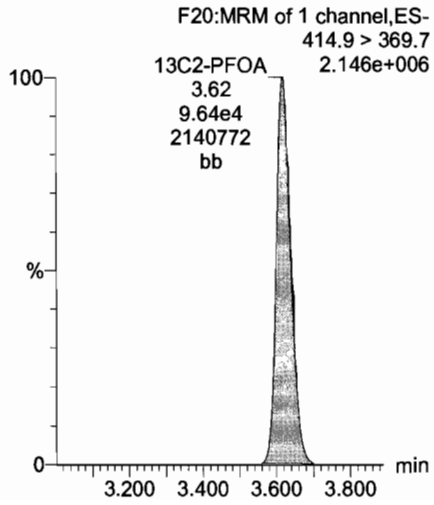


PFDA

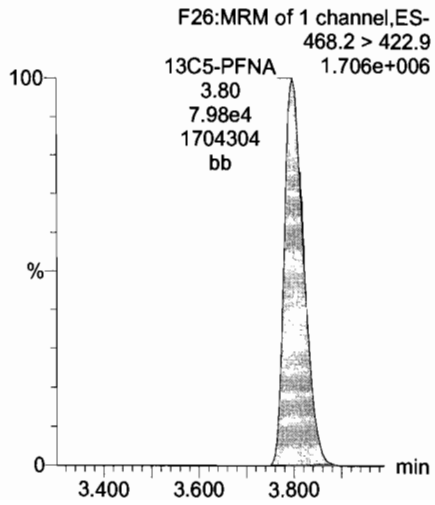




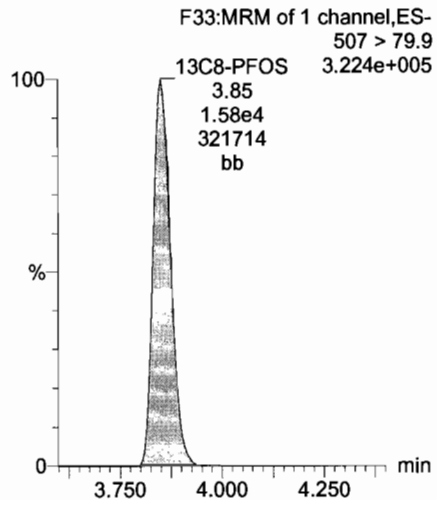
13C2-PFOA



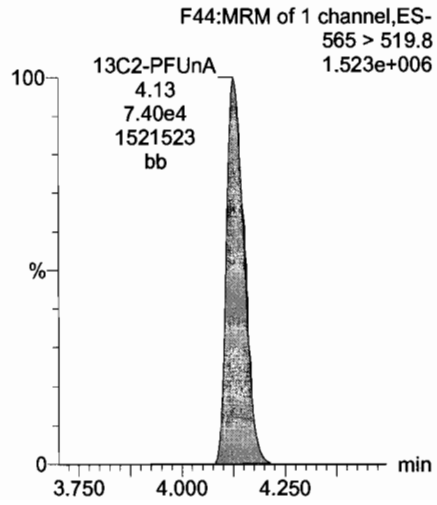
13C5-PFNA



13C8-PFOS



13C2-PFUnA

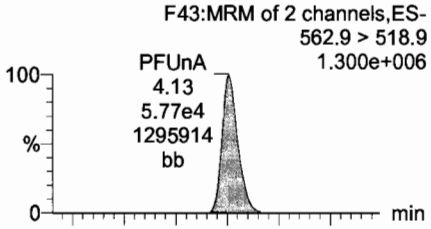


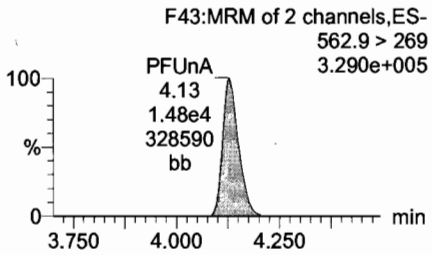
Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

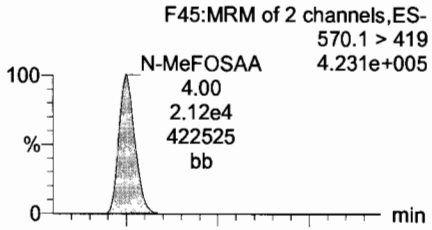
Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

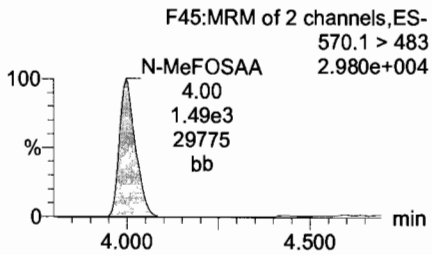
PFUnA



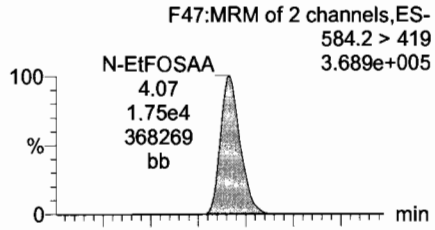


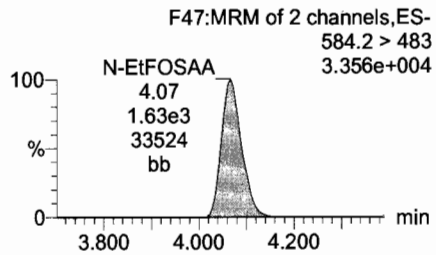
N-MeFOSAA



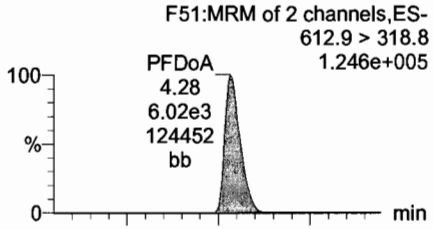


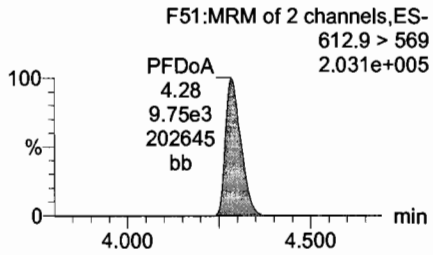
N-EtFOSAA



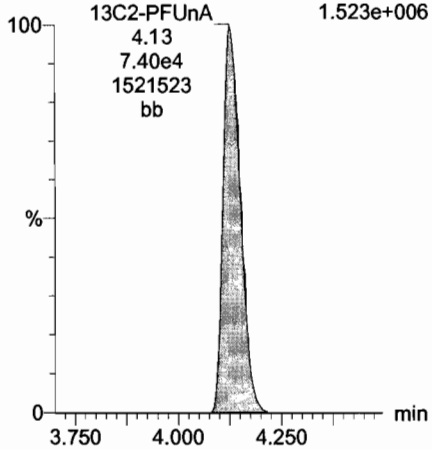


PFDoA

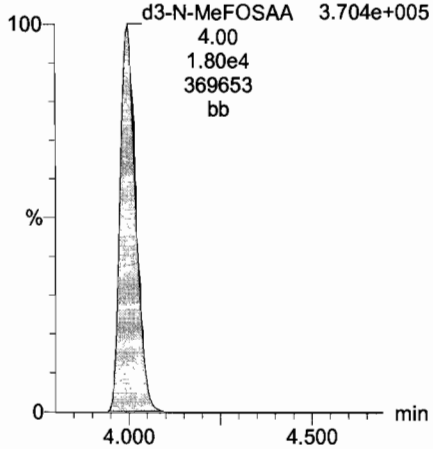




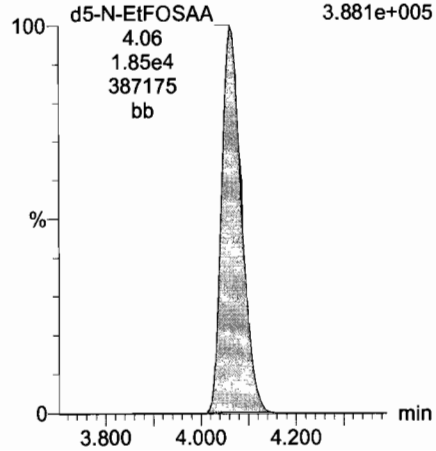
13C2-PFUnA



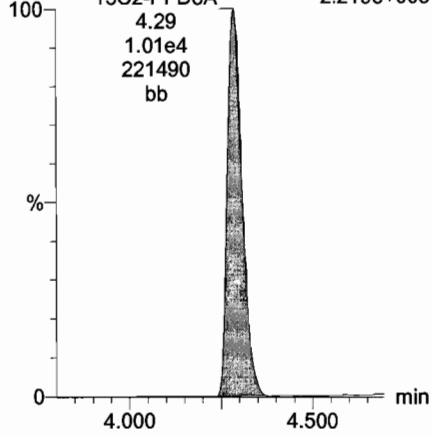
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA

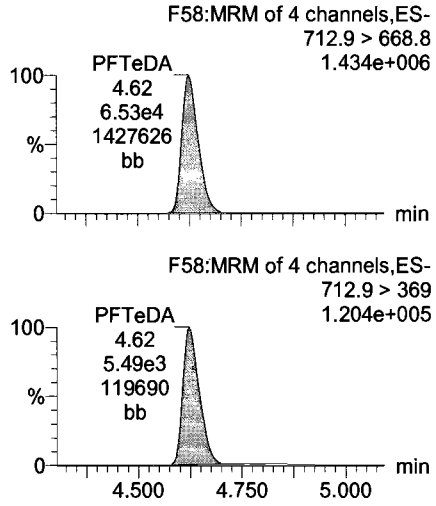


Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

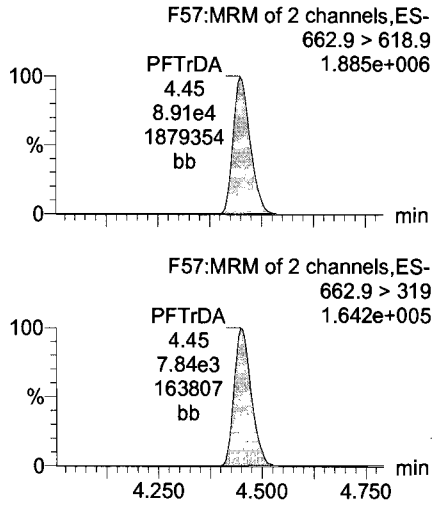
Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

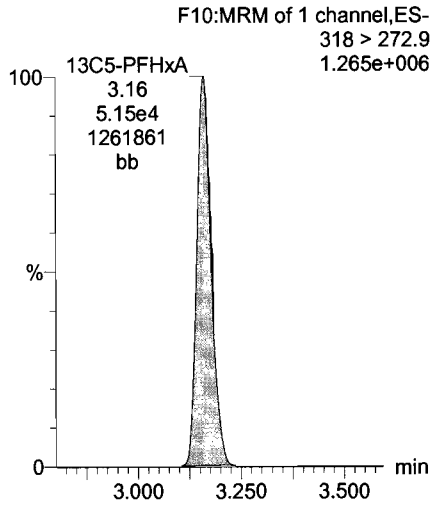
PFTeDA



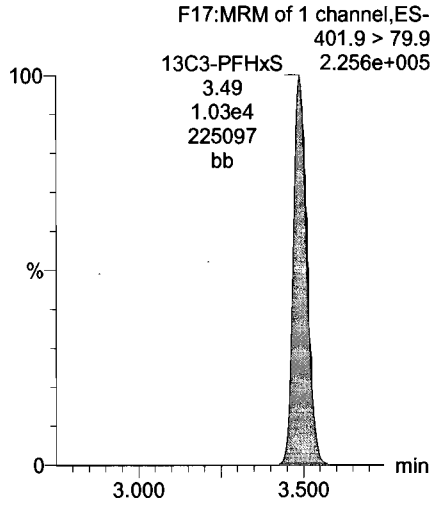
PFTrDA



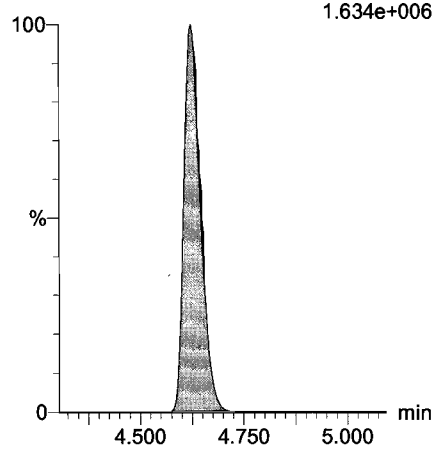
13C5-PFHxA



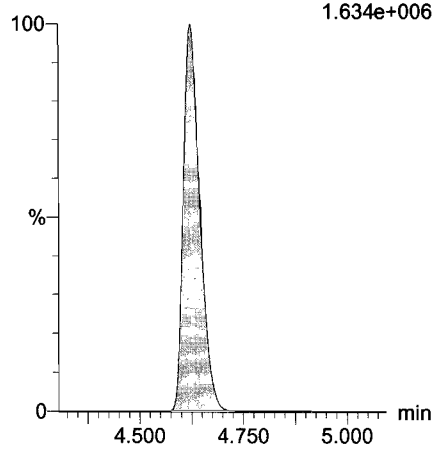
13C3-PFHxS



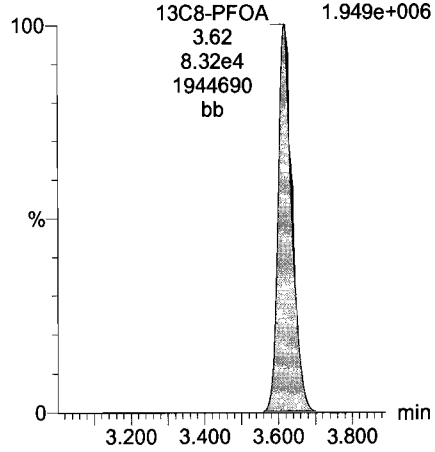
13C2-PFTeDA



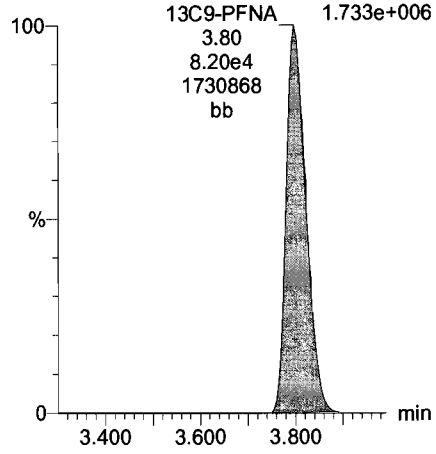
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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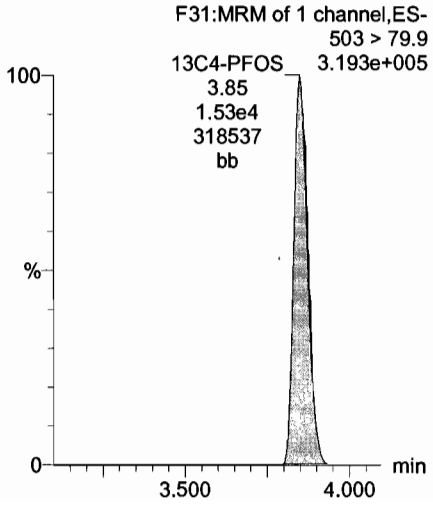
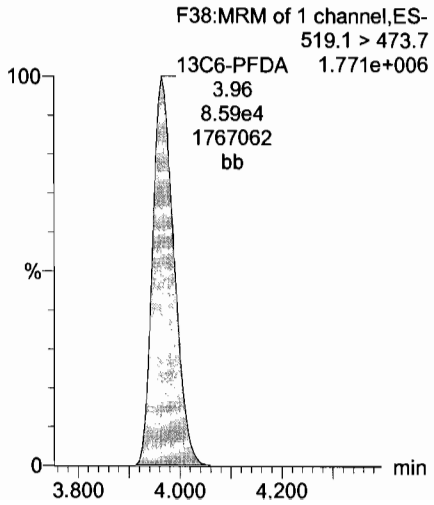
Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

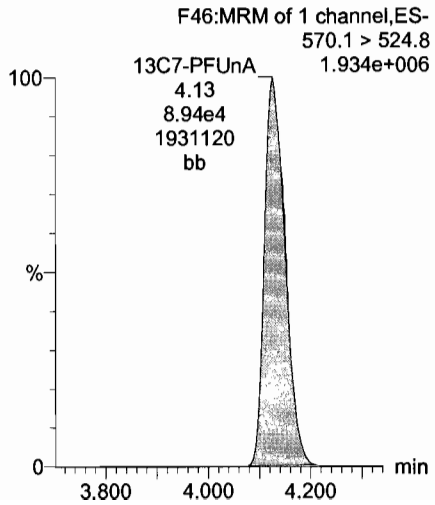
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.71e3	4.61e3	1.0000		2.92	2.93	18.2	9.67	96.7
2	2	PFHxA	313.2 > 268.9	5.42e4	1.87e4	1.0000		3.16	3.18	14.5	10.3	102.7
3	3	PFHpA	363 > 318.9	5.70e4	5.95e4	1.0000		3.43	3.43	12.0	9.92	99.2
4	4	PFHxS	398.9 > 79.6	7.25e3	5.33e3	1.0000		3.55	3.50	17.0	9.20	92.0
5	5	PFOA	413 > 368.7	8.29e4	1.09e5	1.0000		3.63	3.64	9.52	9.99	99.9
6	6	PFNA	462.9 > 418.8	7.93e4	8.73e4	1.0000		3.82	3.82	11.4	10.2	101.6
7	7	PFOS	499 > 79.9	1.33e4	1.57e4	1.0000		3.86	3.87	10.6	9.99	99.9
8	8	PFDA	513 > 468.8	7.49e4	8.20e4	1.0000		4.00	3.99	11.4	9.85	98.5
9	9	PFUnA	562.9 > 518.9	6.26e4	8.68e4	1.0000		4.13	4.15	9.01	9.88	98.8
10	10	N-MeFOSAA	570.1 > 419	2.08e4	1.76e4	1.0000		4.00	4.02	14.7	9.22	92.2
11	11	N-EtFOSAA	584.2 > 419	1.71e4	1.79e4	1.0000		4.07	4.08	11.9	10.4	103.8
12	12	PFDoA	612.9 > 318.8	6.27e3	1.04e4	1.0000		4.31	4.30	7.57	9.07	90.7
13	13	PFTrDA	662.9 > 618.9	8.89e4	1.04e4	1.0000		4.50	4.47	107	9.67	96.7
14	14	PFTeDA	712.9 > 668.8	6.37e4	7.48e4	1.0000		4.65	4.64	10.6	8.92	89.2
15	15	13C3-PFBS	302 > 98.8	4.61e3	6.14e4	1.0000	0.032	2.92	2.93	0.375	11.7	93.4
16	16	13C2-PFHxA	315 > 269.8	1.87e4	6.14e4	1.0000	0.296	3.15	3.18	1.52	5.14	102.8
17	17	13C4-PFHpA	367.2 > 321.8	5.95e4	6.14e4	1.0000	0.302	3.43	3.43	4.84	16.0	128.4
18	18	18O2-PFHxS	403 > 102.6	5.33e3	1.32e4	1.0000	0.434	3.49	3.50	5.03	11.6	92.6
19	19	13C2-PFOA	414.9 > 369.7	1.09e5	9.20e4	1.0000	1.140	3.62	3.64	14.8	13.0	103.9
20	20	13C5-PFNA	468.2 > 422.9	8.73e4	9.27e4	1.0000	0.958	3.80	3.81	11.8	12.3	98.3
21	21	13C8-PFOS	507 > 79.9	1.57e4	1.44e4	1.0000	1.061	3.85	3.87	13.6	12.8	102.5
22	22	13C2-PFDA	515.1 > 469.9	8.20e4	9.06e4	1.0000	0.942	3.97	3.99	11.3	12.0	96.0
23	23	13C2-PFUnA	565 > 519.8	8.68e4	1.01e5	1.0000	1.084	4.13	4.15	10.8	9.96	79.6
24	24	d3-N-MeFOSAA	573.3 > 419	1.76e4	1.01e5	1.0000	0.240	4.00	4.01	2.19	9.13	73.0
25	25	d5-N-EtFOSAA	589.3 > 419	1.79e4	1.01e5	1.0000	0.247	4.07	4.08	2.23	9.01	72.1
26	26	13C2-PFDoA	615 > 569.7	1.04e4	1.01e5	1.0000	0.127	4.32	4.30	1.29	10.1	81.1
27	27	13C2-PFTeDA	714.8 > 669.6	7.48e4	1.01e5	1.0000	0.883	4.64	4.65	9.30	10.5	84.3
28	28	13C5-PFHxA	318 > 272.9	6.14e4	6.14e4	1.0000	1.000	3.15	3.18	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	1.32e4	1.32e4	1.0000	1.000	3.49	3.50	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	9.20e4	9.20e4	1.0000	1.000	3.62	3.64	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	9.27e4	9.27e4	1.0000	1.000	3.82	3.81	12.5	12.5	100.0

70-130

50-150

AM 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	1.44e4	1.44e4	1.0000	1.000	3.85	3.87	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	9.06e4	9.06e4	1.0000	1.000	3.97	3.99	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.01e5	1.01e5	1.0000	1.000	4.13	4.15	12.5	12.5	100.0

Dataset: Untitled

Last Altered: Thursday, July 20, 2017 16:34:18 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:38:16 Pacific Daylight Time

Compound name: PFHxA

	Name	ID	Acq.Date	Acq.Time
1	170707M2_2	ST170707M2-1 PFC CS3 17G0508	07-Jul-17	13:45:44
2	170707M2_3	B7F0137-BLK1 Method Blank 0.125	07-Jul-17	13:56:23
3	170707M2_4	IPA	07-Jul-17	14:07:44
4	170707M2_5	B7F0137-BS1 OPR 0.125	07-Jul-17	14:18:24
5	170707M2_6	1700789-01@5X GR-OF-20170627 0.10782	07-Jul-17	14:29:12
6	170707M2_7	1700789-02@5X MH-117T-20170627 0.12311	07-Jul-17	14:39:57
7	170707M2_8	1700789-03@5X MH-117N-20170627 0.12348	07-Jul-17	14:50:35
8	170707M2_9	B7F0136-MS1@5X Matrix Spike 0.12272	07-Jul-17	15:01:14
9	170707M2_10	B7F0136-MSD1@5X Matrix Spike Dup 0.12124	07-Jul-17	15:11:54
10	170707M2_11	1700789-05@10X MH-118.5N-20170627 0.12...	07-Jul-17	15:22:39
11	170707M2_12	1700792-01 West Ditch In-20170627 0.11683	07-Jul-17	15:33:17
12	170707M2_13	1700792-02 MH-140-20170628 0.11475	07-Jul-17	15:43:56
13	170707M2_14	1700792-03 Interceptor-20170628 0.11459	07-Jul-17	15:54:34
14	170707M2_15	1700792-04 Roof Drain-20170628 0.11484	07-Jul-17	16:05:13
15	170707M2_16	1700792-05 Spring-20170628 0.09751	07-Jul-17	16:15:51
16	170707M2_17	1700792-06 FRB-20170628 0.1121	07-Jul-17	16:26:52
17	170707M2_18	1700792-07 MH318.9-20170628 0.11873	07-Jul-17	16:37:41
18	170707M2_19	IPA	07-Jul-17	16:48:19
19	170707M2_20	ST170707M2-2 PFC CS3 17G0508	07-Jul-17	16:58:58
20	170707M2_21	IPA	07-Jul-17	17:09:44
21	170707M2_22	1700792-08 MH388.9-20170628 0.11713	07-Jul-17	17:20:31
22	170707M2_23	1700792-09 Dup03-20170628 0.11824	07-Jul-17	17:31:09
23	170707M2_24	1700792-10 Dup01-20170627 0.11337	07-Jul-17	17:41:47
24	170707M2_25	1700792-11 RB01-20170628 0.12005	07-Jul-17	17:52:26
25	170707M2_26	IPA	07-Jul-17	18:03:04
26	170707M2_27	ST170707M2-3 PFC CS3 17G0508	07-Jul-17	18:13:43

Vista Analytical Laboratory

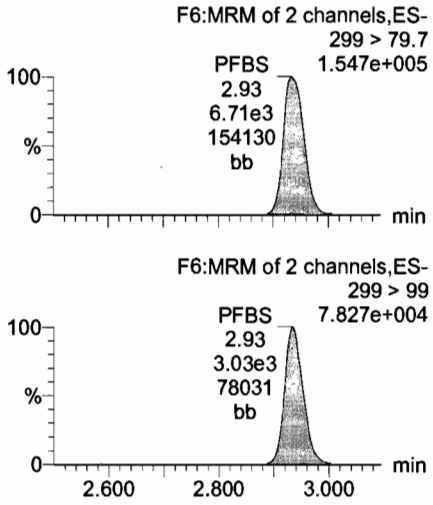
Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

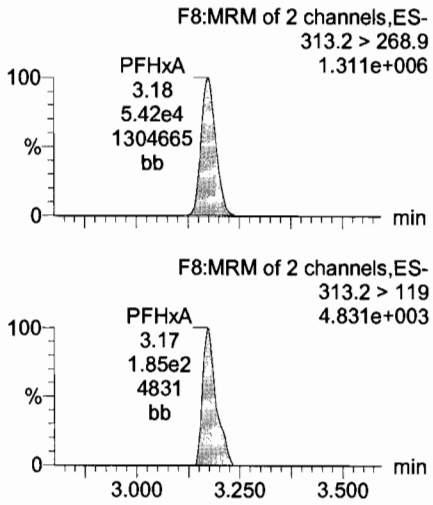
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

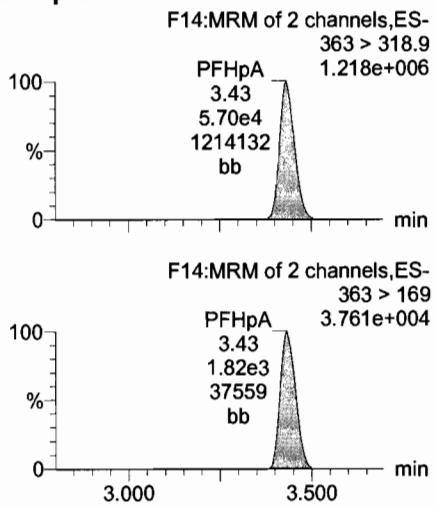
Total PFBS



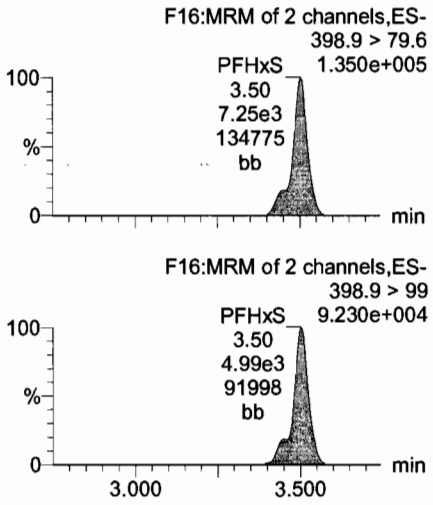
PFHxA



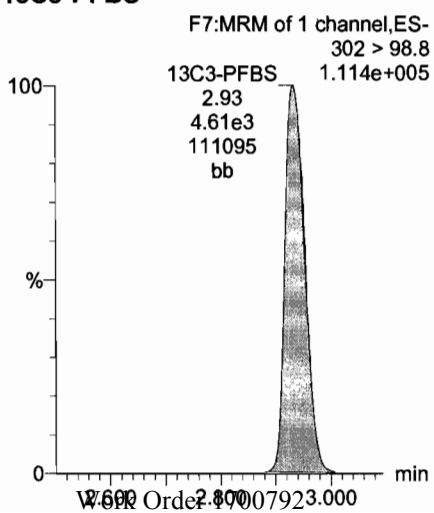
PFHpA



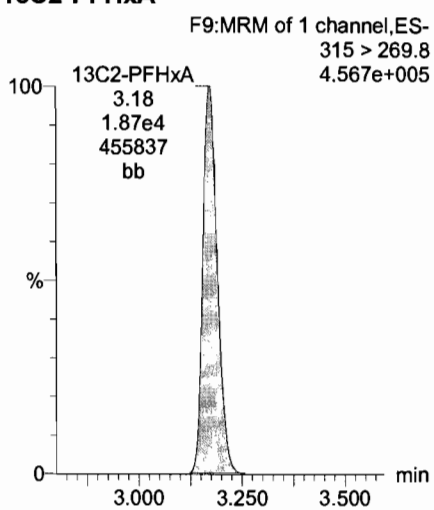
Total PFHxS



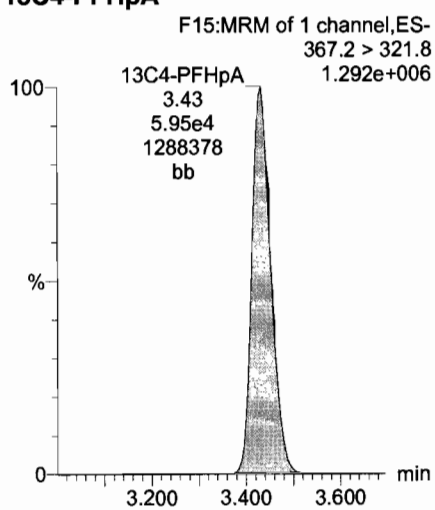
13C3-PFBS



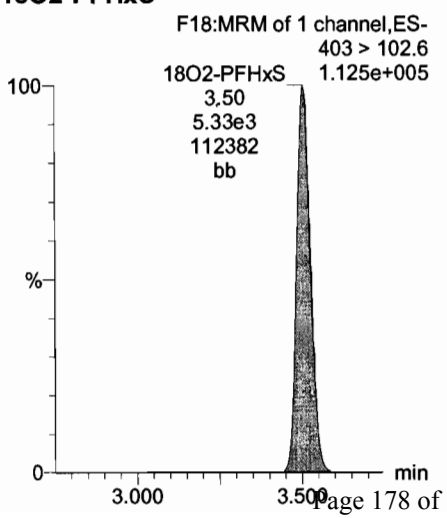
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

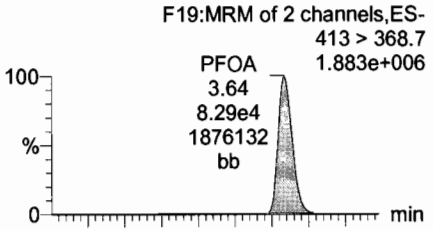


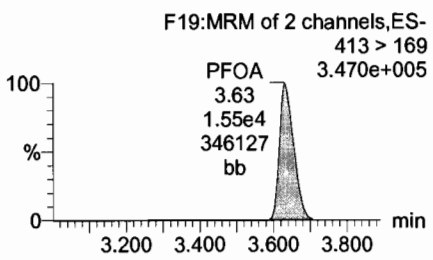
Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

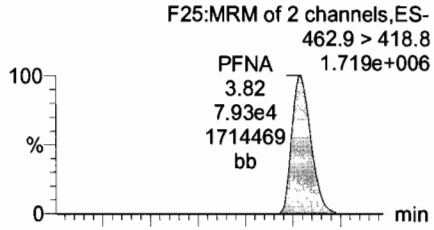
Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

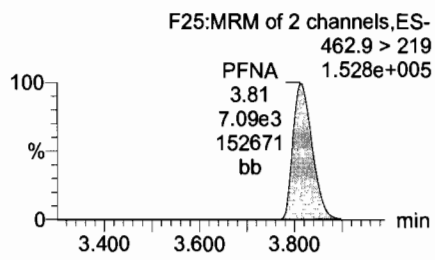
Total PFOA



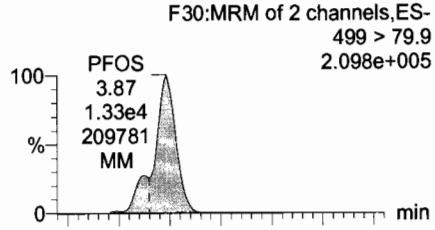


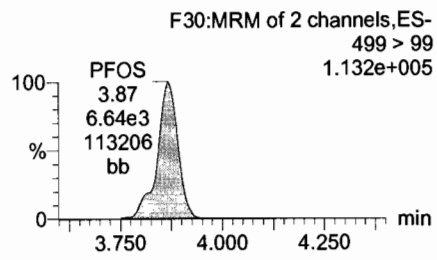
PFNA



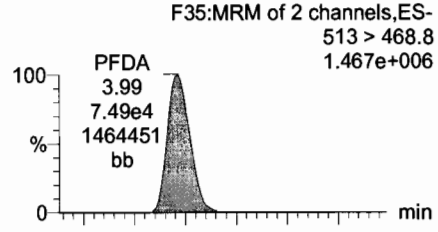


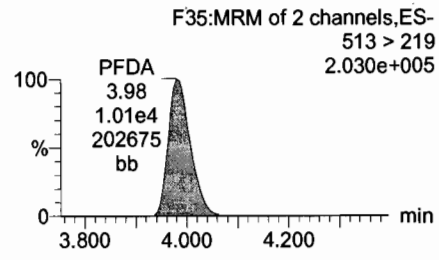
Total PFOS



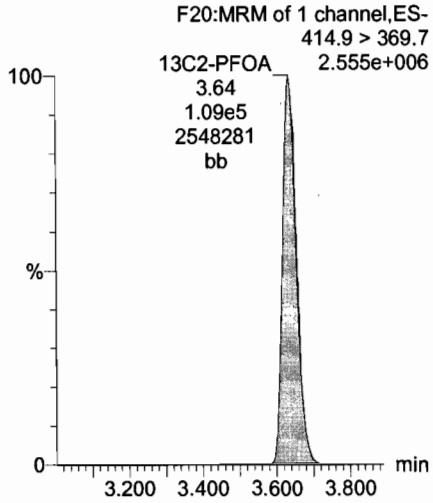


PFDA

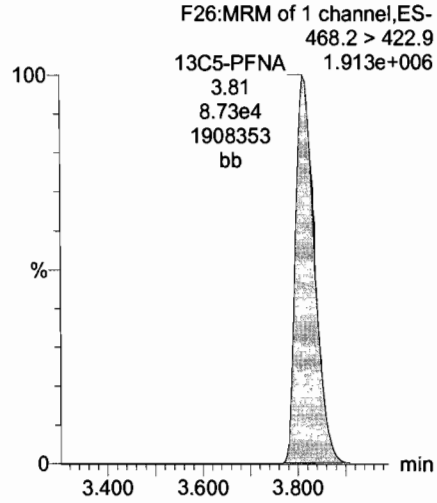




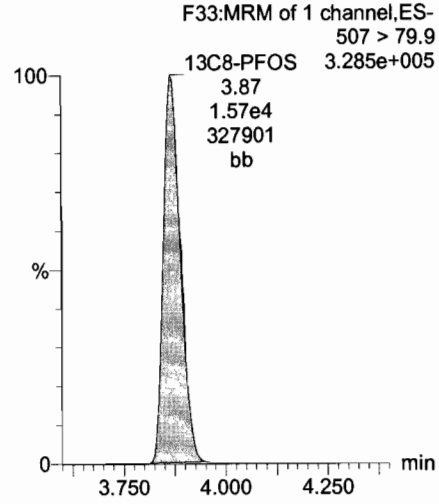
13C2-PFOA



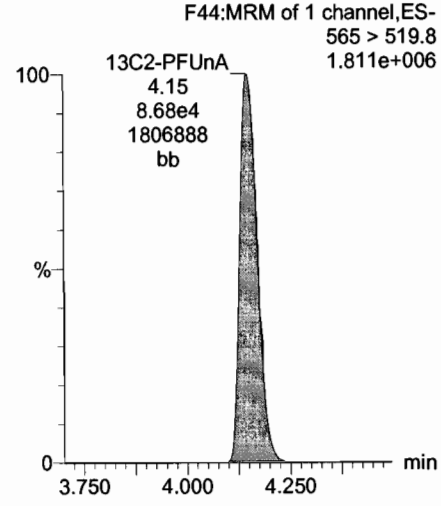
13C5-PFNA



13C8-PFOS



13C2-PFUnA

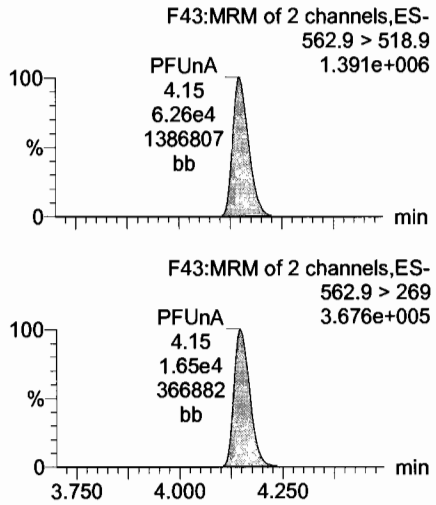


Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

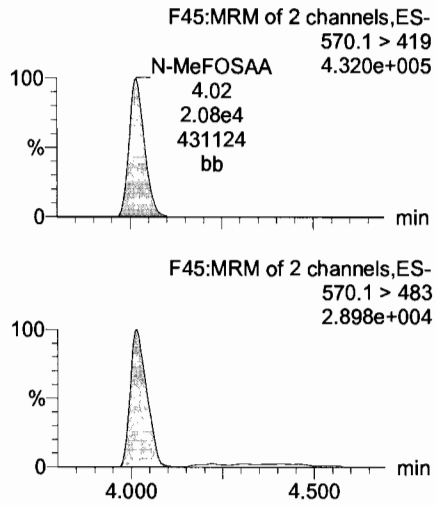
Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

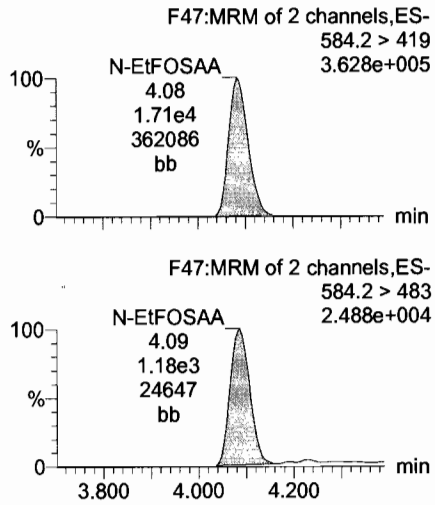
PFUnA



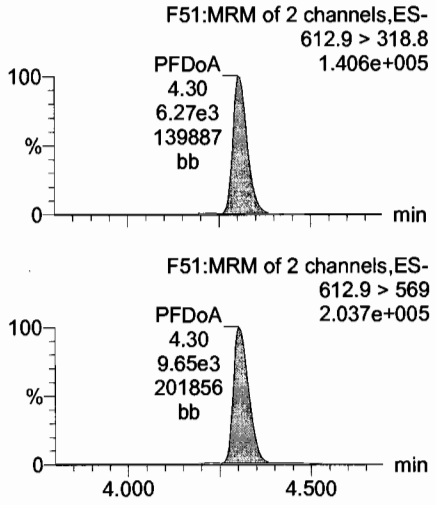
N-MeFOSAA



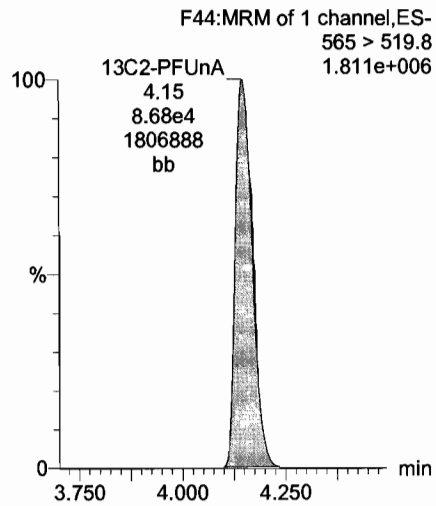
N-EtFOSAA



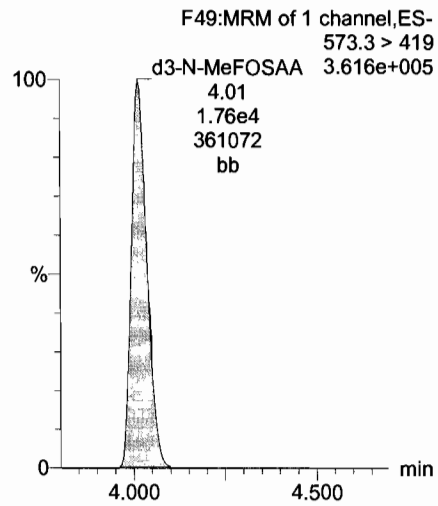
PFDoA



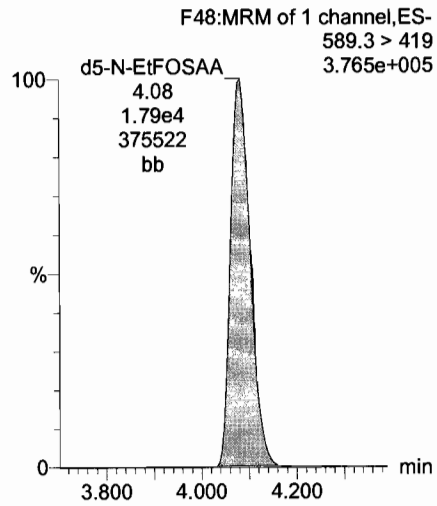
13C2-PFUnA



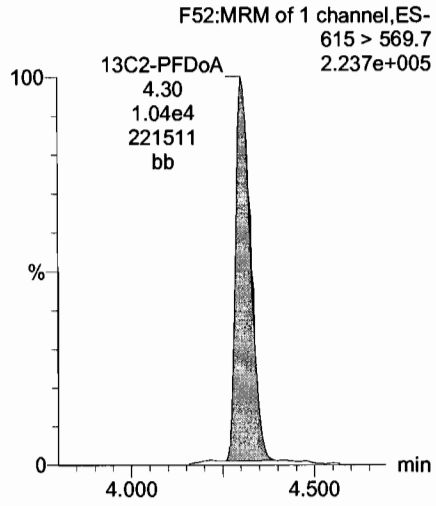
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA

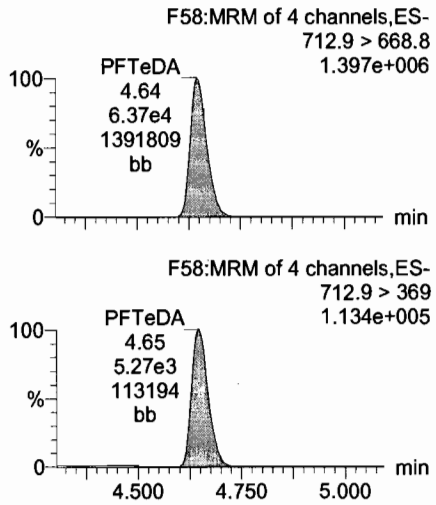


Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

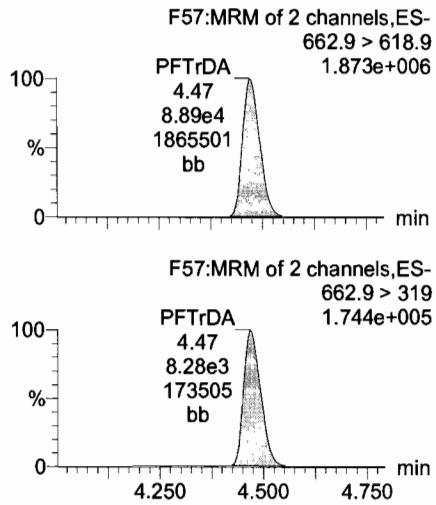
Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

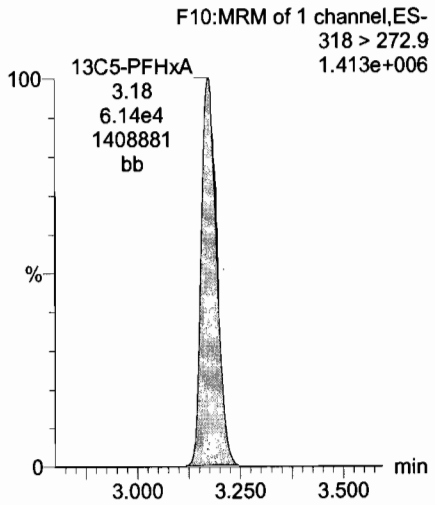
PFTeDA



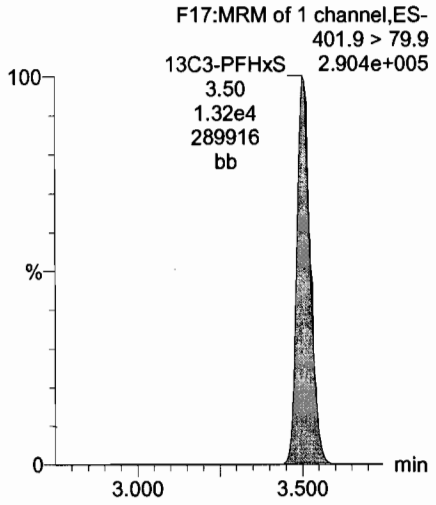
PFTrDA



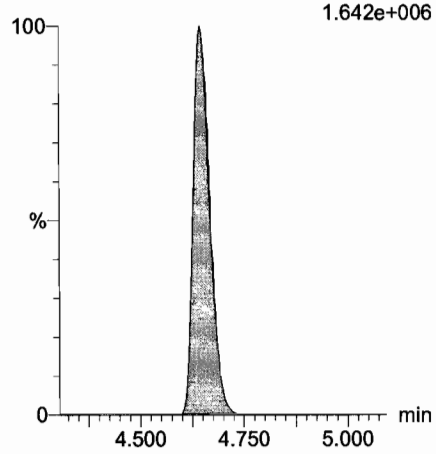
13C5-PFHxA



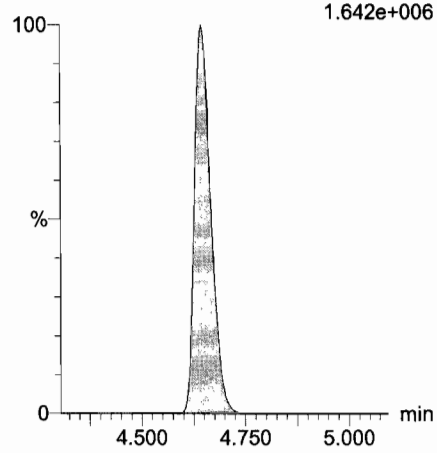
13C3-PFHxS



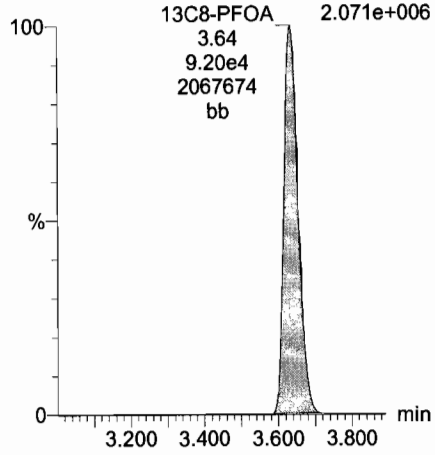
13C2-PFTeDA



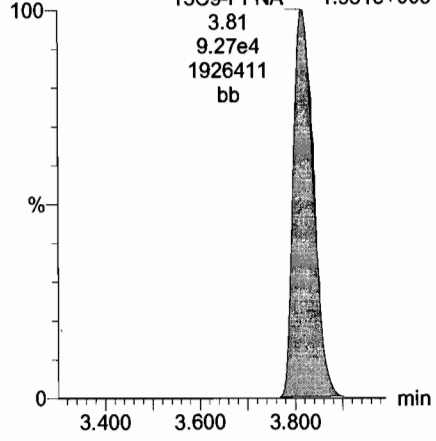
13C2-PFTeDA



13C8-PFOA



13C9-PFNA

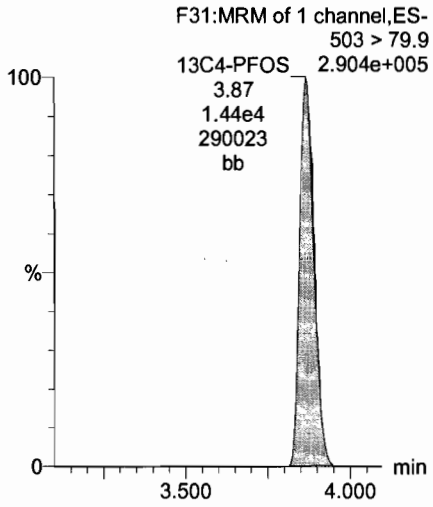


Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

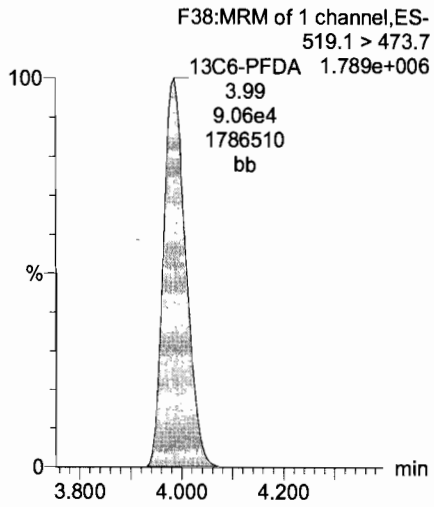
Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

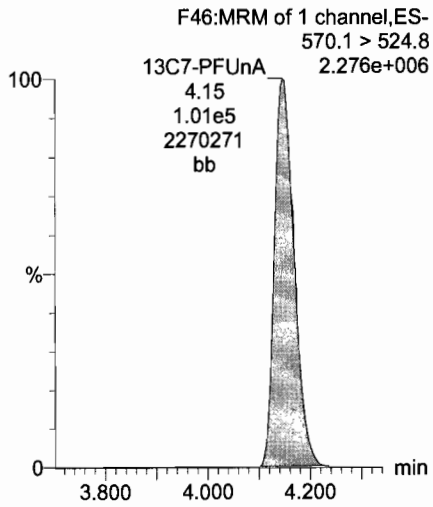
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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

Dataset: U:\Q4.PRO\results\170707M2\170707M2-27_L14.qld

Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.46e3	4.79e3	1.0000		2.92	2.94	16.9	8.95	89.5
2	2	PFHxA	313.2 > 268.9	5.11e4	1.82e4	1.0000		3.16	3.17	14.0	9.93	99.3
3	3	PFHpA	363 > 318.9	5.37e4	5.74e4	1.0000		3.43	3.43	11.7	9.69	96.9
4	4	PFHxS	398.9 > 79.6	6.75e3	5.17e3	1.0000		3.55	3.50	16.3	8.82	88.2
5	5	PFOA	413 > 368.7	7.59e4	9.08e4	1.0000		3.63	3.63	10.5	11.0	109.8
6	6	PFNA	462.9 > 418.8	8.30e4	8.73e4	1.0000		3.82	3.81	11.9	10.6	106.4
7	7	PFOS	499 > 79.9	1.31e4	1.67e4	1.0000		3.86	3.87	9.79	9.24	92.4
8	8	PFDA	513 > 468.8	8.81e4	9.02e4	1.0000		4.00	3.99	12.2	10.6	105.6
9	9	PFUnA	562.9 > 518.9	6.36e4	9.20e4	1.0000		4.13	4.15	8.63	9.47	94.7
10	10	N-MeFOSAA	570.1 > 419	2.14e4	1.71e4	1.0000		4.00	4.02	15.7	9.82	98.2
11	11	N-EtFOSAA	584.2 > 419	1.67e4	1.77e4	1.0000		4.07	4.08	11.8	10.3	103.3
12	12	PFDoA	612.9 > 318.8	6.60e3	1.10e4	1.0000		4.31	4.30	7.48	8.97	89.7
13	13	PFTrDA	662.9 > 618.9	8.99e4	1.10e4	1.0000		4.50	4.47	102	9.16	91.6
14	14	PFTeDA	712.9 > 668.8	6.74e4	7.97e4	1.0000		4.65	4.65	10.6	8.86	88.6
15	15	13C3-PFBS	302 > 98.8	4.79e3	5.97e4	1.0000	0.032	2.92	2.94	0.401	12.5	99.9
16	16	13C2-PFHxA	315 > 269.8	1.82e4	5.97e4	1.0000	0.296	3.15	3.17	1.53	5.15	103.1
17	17	13C4-PFHpA	367.2 > 321.8	5.74e4	5.97e4	1.0000	0.302	3.43	3.43	4.80	15.9	127.4
18	18	18O2-PFHxS	403 > 102.6	5.17e3	1.27e4	1.0000	0.434	3.49	3.50	5.08	11.7	93.5
19	19	13C2-PFOA	414.9 > 369.7	9.08e4	8.23e4	1.0000	1.140	3.62	3.63	13.8	12.1	96.7
20	20	13C5-PFNA	468.2 > 422.9	8.73e4	9.09e4	1.0000	0.958	3.80	3.81	12.0	12.5	100.2
21	21	13C8-PFOS	507 > 79.9	1.67e4	1.46e4	1.0000	1.061	3.85	3.87	14.4	13.5	108.2
22	22	13C2-PFDA	515.1 > 469.9	9.02e4	1.02e5	1.0000	0.942	3.97	3.98	11.0	11.7	93.6
23	23	13C2-PFUnA	565 > 519.8	9.20e4	8.27e4	1.0000	1.084	4.13	4.15	13.9	12.8	102.6
24	24	d3-N-MeFOSAA	573.3 > 419	1.71e4	8.27e4	1.0000	0.240	4.00	4.01	2.58	10.7	85.9
25	25	d5-N-EtFOSAA	589.3 > 419	1.77e4	8.27e4	1.0000	0.247	4.07	4.08	2.67	10.8	86.3
26	26	13C2-PFDoA	615 > 569.7	1.10e4	8.27e4	1.0000	0.127	4.32	4.30	1.67	13.1	104.9
27	27	13C2-PFTeDA	714.8 > 669.6	7.97e4	8.27e4	1.0000	0.883	4.64	4.65	12.0	13.6	109.1
28	28	13C5-PFHxA	318 > 272.9	5.97e4	5.97e4	1.0000	1.000	3.15	3.17	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	1.27e4	1.27e4	1.0000	1.000	3.49	3.50	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	8.23e4	8.23e4	1.0000	1.000	3.62	3.63	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	9.09e4	9.09e4	1.0000	1.000	3.82	3.81	12.5	12.5	100.0

70-130

50-150

dlm 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-27_L14.qld

Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	1.46e4	1.46e4	1.0000	1.000	3.85	3.87	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	1.02e5	1.02e5	1.0000	1.000	3.97	3.98	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	8.27e4	8.27e4	1.0000	1.000	4.13	4.15	12.5	12.5	100.0

Dataset: Untitled

Last Altered: Thursday, July 20, 2017 16:34:18 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:38:16 Pacific Daylight Time

Compound name: PFHxA

	Name	ID	Acq.Date	Acq.Time
1	170707M2_2	ST170707M2-1 PFC CS3 17G0508	07-Jul-17	13:45:44
2	170707M2_3	B7F0137-BLK1 Method Blank 0.125	07-Jul-17	13:56:23
3	170707M2_4	IPA	07-Jul-17	14:07:44
4	170707M2_5	B7F0137-BS1 OPR 0.125	07-Jul-17	14:18:24
5	170707M2_6	1700789-01@5X GR-OF-20170627 0.10782	07-Jul-17	14:29:12
6	170707M2_7	1700789-02@5X MH-117T-20170627 0.12311	07-Jul-17	14:39:57
7	170707M2_8	1700789-03@5X MH-117N-20170627 0.12348	07-Jul-17	14:50:35
8	170707M2_9	B7F0136-MS1@5X Matrix Spike 0.12272	07-Jul-17	15:01:14
9	170707M2_10	B7F0136-MSD1@5X Matrix Spike Dup 0.12124	07-Jul-17	15:11:54
10	170707M2_11	1700789-05@10X MH-118.5N-20170627 0.12...	07-Jul-17	15:22:39
11	170707M2_12	1700792-01 West Ditch In-20170627 0.11683	07-Jul-17	15:33:17
12	170707M2_13	1700792-02 MH-140-20170628 0.11475	07-Jul-17	15:43:56
13	170707M2_14	1700792-03 Interceptor-20170628 0.11459	07-Jul-17	15:54:34
14	170707M2_15	1700792-04 Roof Drain-20170628 0.11484	07-Jul-17	16:05:13
15	170707M2_16	1700792-05 Spring-20170628 0.09751	07-Jul-17	16:15:51
16	170707M2_17	1700792-06 FRB-20170628 0.1121	07-Jul-17	16:26:52
17	170707M2_18	1700792-07 MH318.9-20170628 0.11873	07-Jul-17	16:37:41
18	170707M2_19	IPA	07-Jul-17	16:48:19
19	170707M2_20	ST170707M2-2 PFC CS3 17G0508	07-Jul-17	16:58:58
20	170707M2_21	IPA	07-Jul-17	17:09:44
21	170707M2_22	1700792-08 MH388.9-20170628 0.11713	07-Jul-17	17:20:31
22	170707M2_23	1700792-09 Dup03-20170628 0.11824	07-Jul-17	17:31:09
23	170707M2_24	1700792-10 Dup01-20170627 0.11337	07-Jul-17	17:41:47
24	170707M2_25	1700792-11 RB01-20170628 0.12005	07-Jul-17	17:52:26
25	170707M2_26	IPA	07-Jul-17	18:03:04
26	170707M2_27	ST170707M2-3 PFC CS3 17G0508	07-Jul-17	18:13:43

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-27_L14.qld

Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

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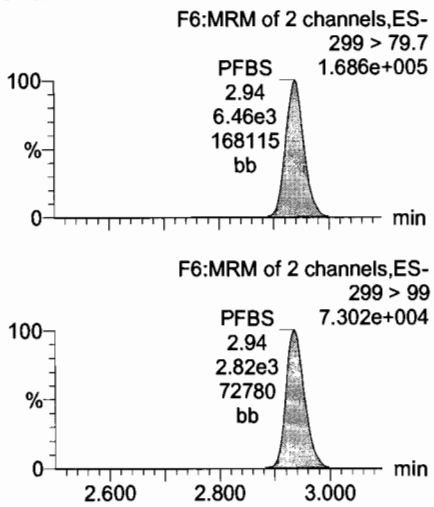
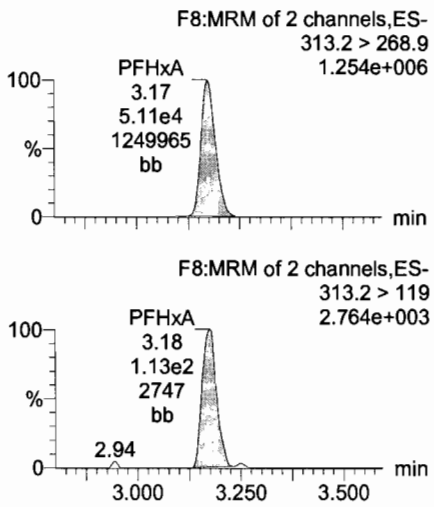
Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

Total PFBS



PFHxA



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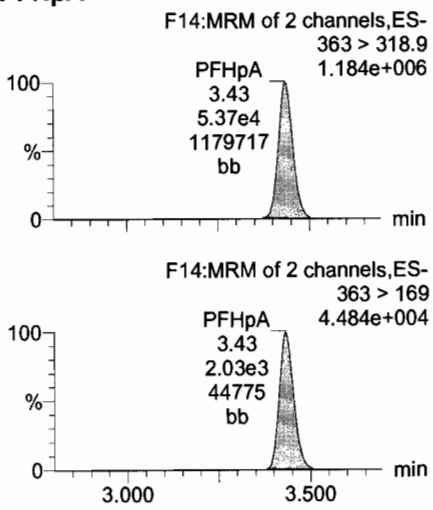

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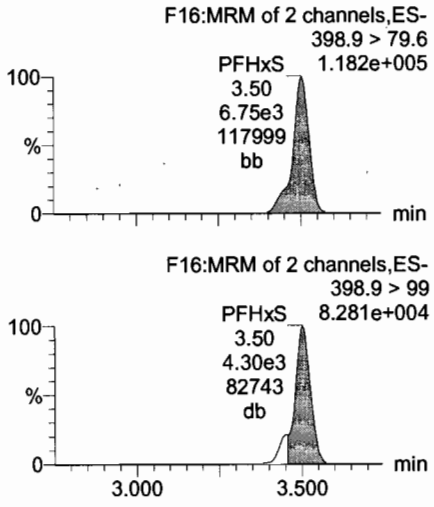
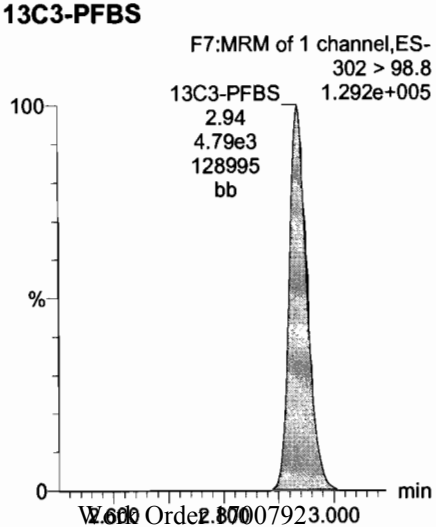


13C3-PFBS



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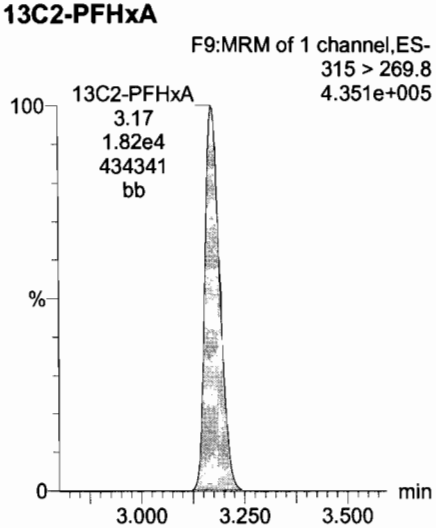

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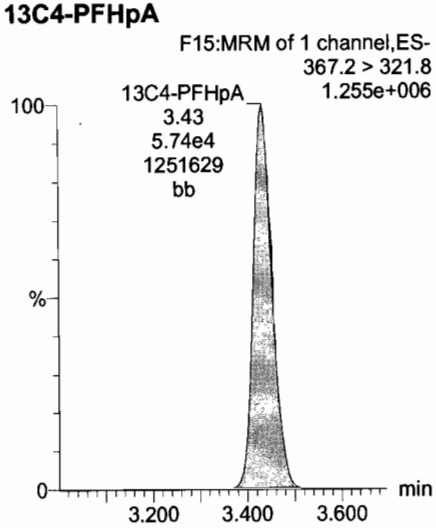

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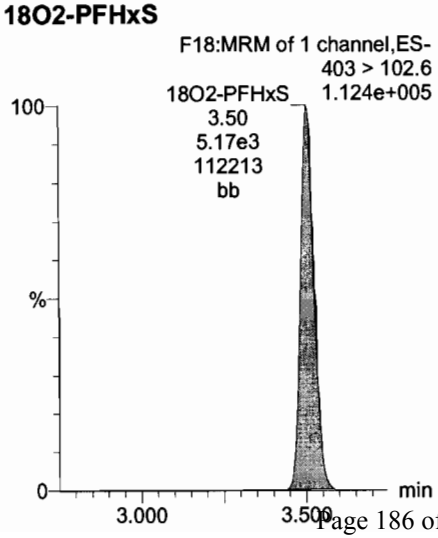

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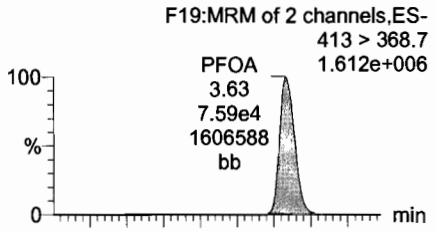
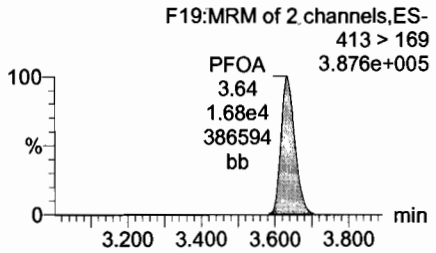
Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

Total PFOA





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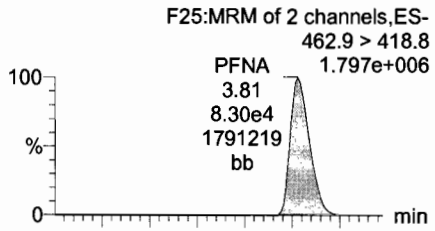

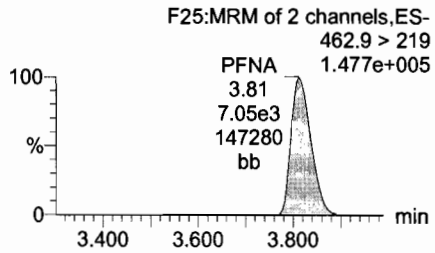

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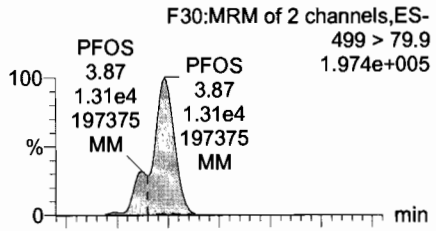

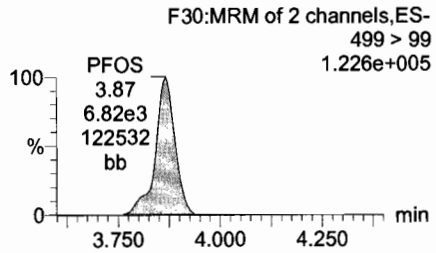

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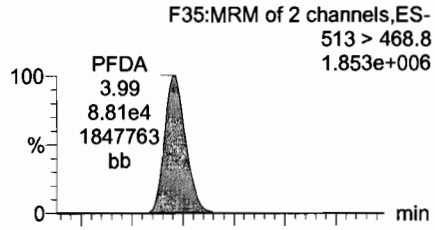

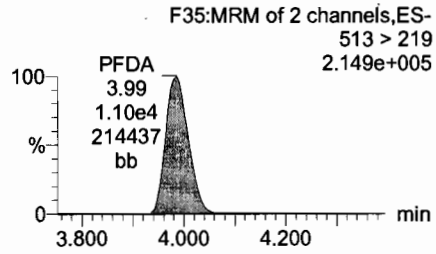

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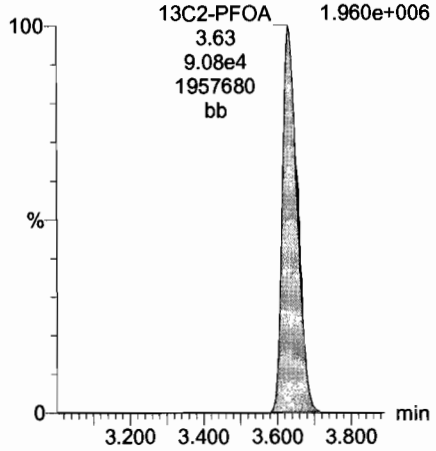

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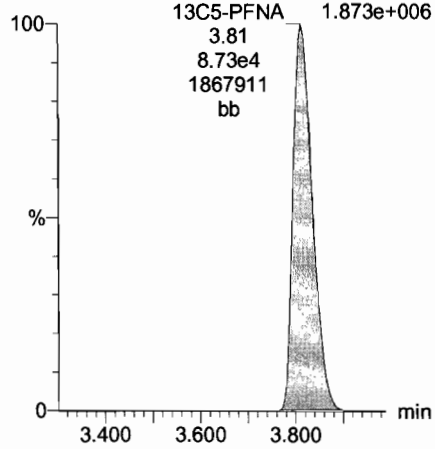
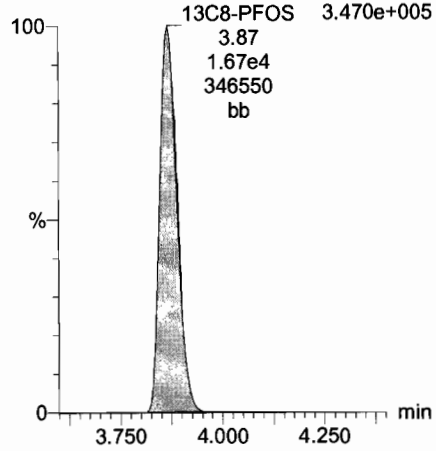


13C8-PFOS



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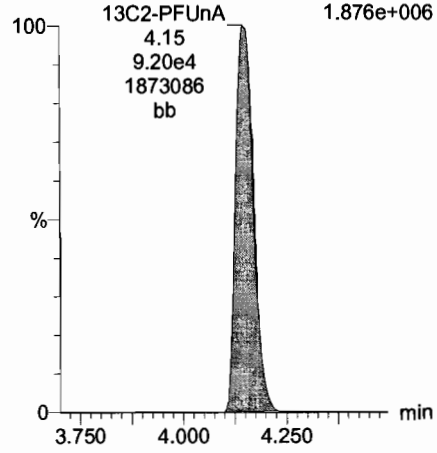

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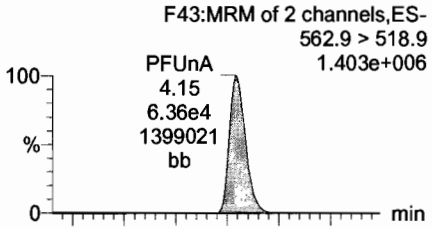
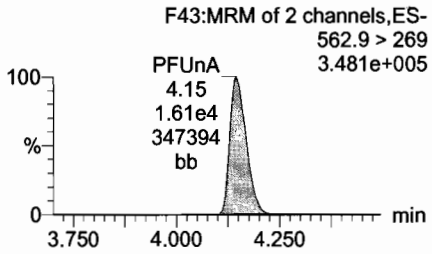
Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

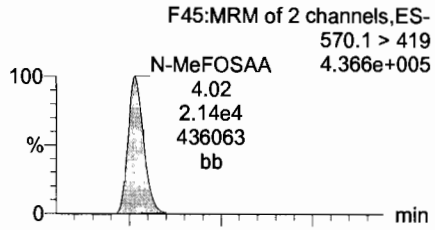
Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

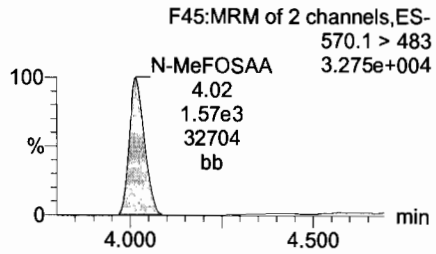
PFUnA



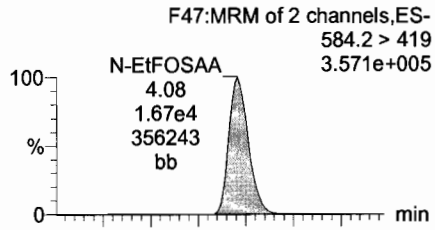


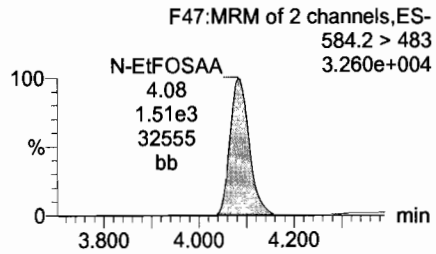
N-MeFOSAA





N-EtFOSAA





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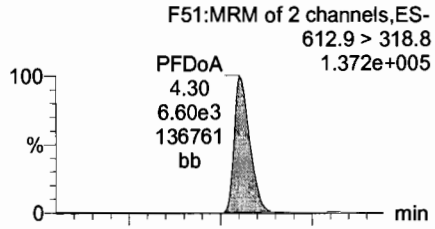

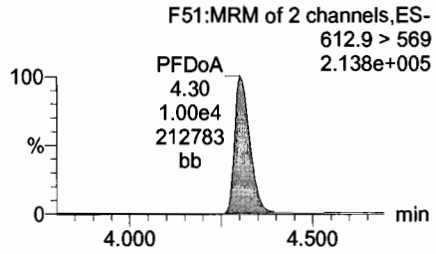

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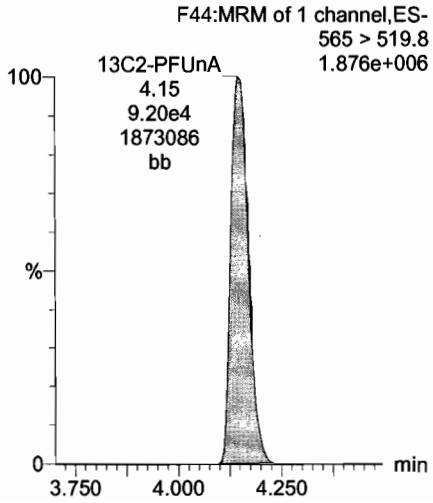
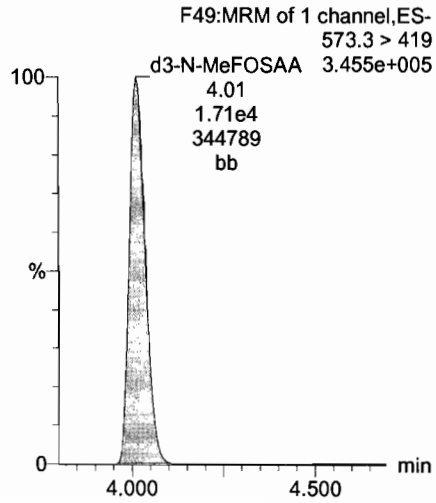


d3-N-MeFOSAA



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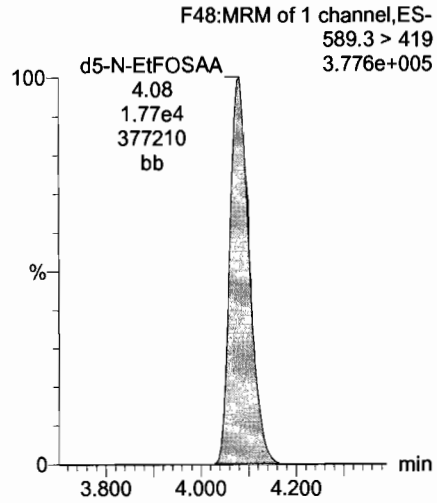

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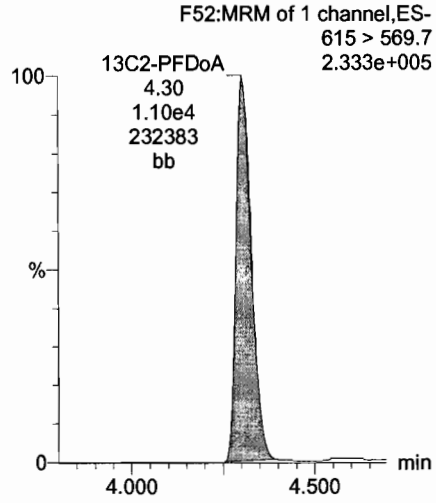

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Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
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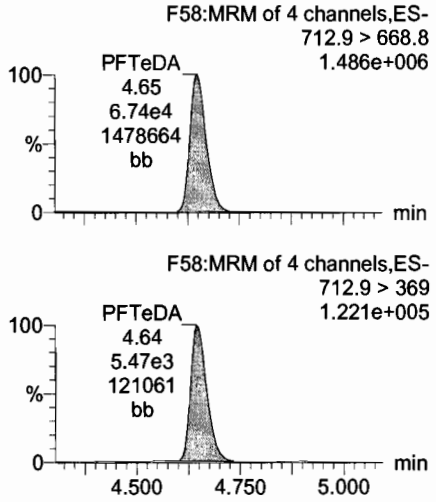
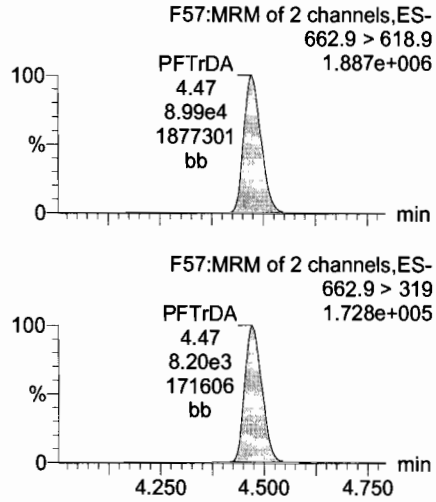
Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

PFTeDA



PFTrDA



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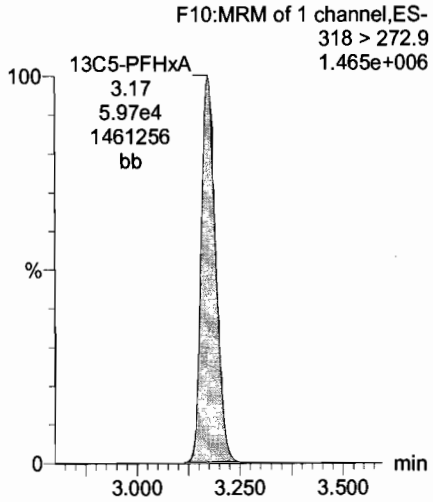
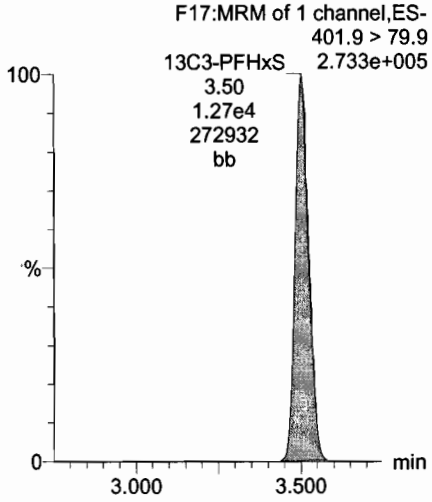


13C3-PFHxS



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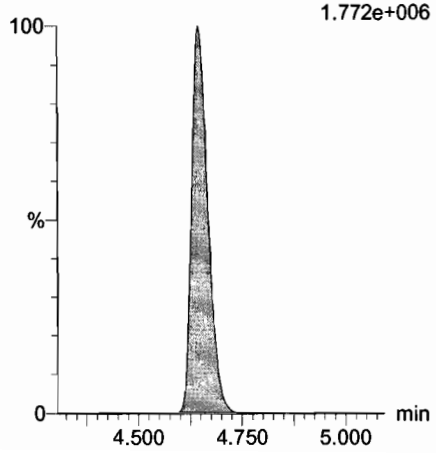

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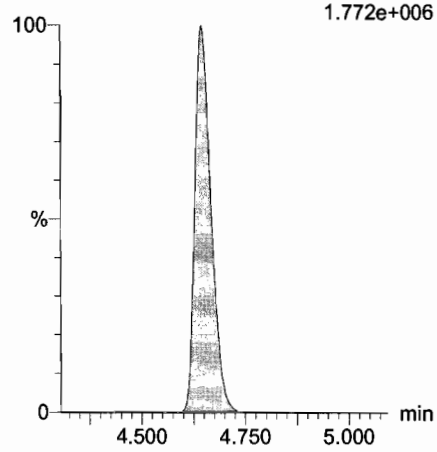
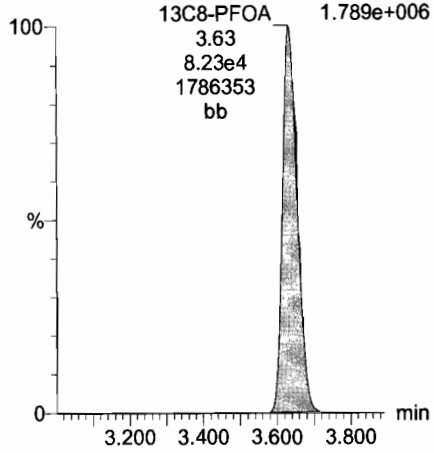
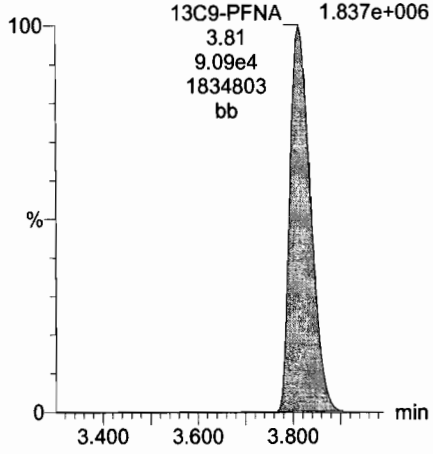


13C8-PFOA



13C9-PFNA

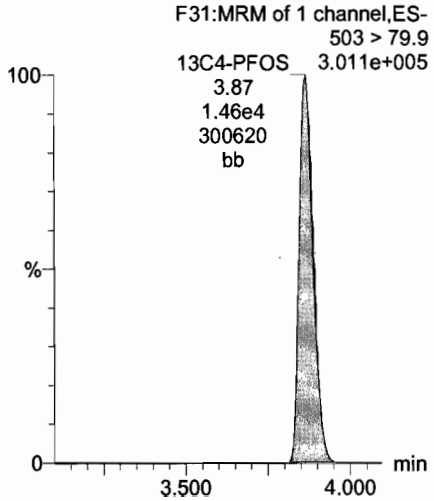


Dataset: U:\Q4.PRO\results\170707M2\170707M2-27_L14.qld

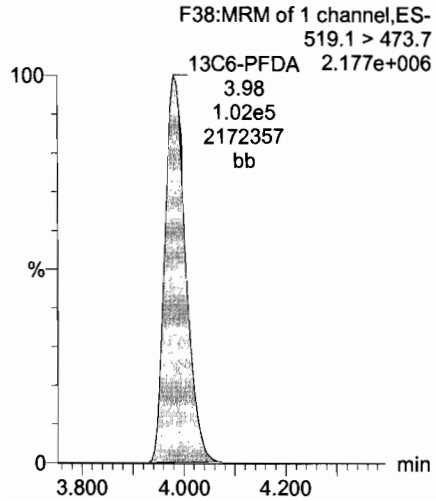
Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

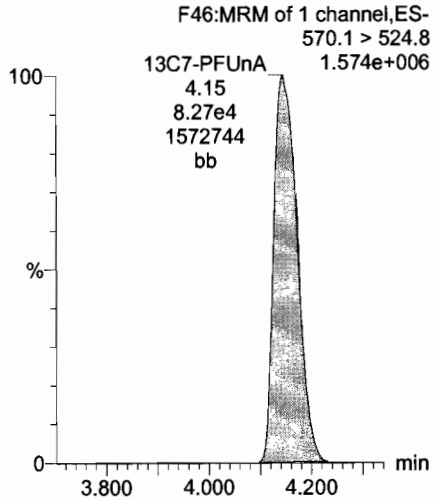
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170711M1\170711M1-41_L14.qld

Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

AC 7/13/17 MJT 7/14/17

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.18e3	2.95e3	1.000		2.92	2.87	21.9	9.67	96.7
2	2	PFHxA	313.2 > 268.9	3.85e4	1.24e4	1.000		3.16	3.11	15.6	9.47	94.7
3	3	PFHpA	363 > 318.9	3.48e4	3.29e4	1.000		3.43	3.38	13.2	9.17	91.7
4	4	PFHxS	398.9 > 79.6	4.41e3	2.80e3	1.000		3.55	3.45	19.6	10.7	106.7
5	5	PFOA	413 > 368.7	5.19e4	5.42e4	1.000		3.63	3.57	12.0	10.4	104.3
6	6	PFNA	462.9 > 418.8	7.23e4	6.33e4	1.000		3.82	3.75	14.3	10.4	104.2
7	7	PFOS	499 > 79.9	1.13e4	1.18e4	1.000		3.86	3.80	11.9	10.6	105.9
8	8	PFDA	513 > 468.8	8.08e4	6.77e4	1.000		4.00	3.91	14.9	9.91	99.1
9	9	PFUnA	562.9 > 518.9	5.44e4	6.60e4	1.000		4.16	4.08	10.3	9.81	98.1
10	10	N-MeFOSAA	570.1 > 419	2.03e4	1.31e4	1.000		4.00	3.95	19.3	10.3	103.5
11	11	N-EtFOSAA	584.2 > 419	1.66e4	1.35e4	1.000		4.08	4.01	15.4	11.3	112.6
12	12	PFDoA	612.9 > 318.8	5.90e3	7.11e3	1.000		4.32	4.24	10.4	10.3	103.4
13	13	PFTrDA	662.9 > 618.9	7.66e4	7.11e3	1.000		4.50	4.40	135	10.0	100.0
14	14	PFTeDA	712.9 > 668.8	5.69e4	5.85e4	1.000		4.66	4.56	12.2	9.62	96.2
15	15	13C3-PFBA	216.1 > 171.8	1.28e4	1.37e4	1.000	0.918	1.43	1.34	11.7	12.8	102.1
16	16	13C3-PFPeA	266 > 221.8	2.54e4	1.37e4	1.000	1.784	2.72	2.64	23.3	13.0	104.3
17	17	13C3-PFBS	302 > 98.8	2.95e3	1.37e4	1.000	0.215	2.92	2.87	2.70	12.6	100.5
18	18	13C2-PFHxA	315 > 269.8	1.24e4	3.81e4	1.000	0.304	3.16	3.11	1.62	5.34	106.8
19	19	13C4-PFHpA	367.2 > 321.8	3.29e4	3.81e4	1.000	0.306	3.43	3.37	4.32	14.1	113.1
20	20	18O2-PFHxS	403 > 102.6	2.80e3	6.46e3	1.000	0.437	3.55	3.45	5.43	12.4	99.3
21	21	13C2-PFOA	414.9 > 369.7	5.42e4	4.16e4	1.000	1.292	3.63	3.58	16.3	12.6	101.0
22	22	13C5-PFNA	468.2 > 422.9	6.33e4	6.25e4	1.000	0.980	3.82	3.75	12.7	12.9	103.4
23	23	13C8-PFOS	507 > 79.9	1.18e4	1.09e4	1.000	1.098	3.86	3.80	13.6	12.3	98.8
24	24	13C2-PFDA	515.1 > 469.9	6.77e4	6.86e4	1.000	0.928	4.00	3.91	12.3	13.3	106.3
25	25	13C2-PFUnA	565 > 519.8	6.60e4	6.95e4	1.000	1.083	4.16	4.08	11.9	11.0	87.6
26	26	d3-N-MeFOSAA	573.3 > 419	1.31e4	6.95e4	1.000	0.224	4.00	3.94	2.36	10.5	84.2
27	27	d5-N-EtFOSAA	589.3 > 419	1.35e4	6.95e4	1.000	0.230	4.08	4.01	2.43	10.6	84.5
28	28	13C2-PFDoA	615 > 569.7	7.11e3	6.95e4	1.000	0.130	4.32	4.23	1.28	9.84	78.7
29	29	13C2-PFTeDA	714.8 > 669.6	5.85e4	6.95e4	1.000	1.018	4.66	4.57	10.5	10.3	82.7
30	30	13C4-PFBA	217 > 171.8	1.37e4	1.37e4	1.000	1.000	1.43	1.34	12.5	12.5	100.0
31	31	13C5-PFHxA	318 > 272.9	3.81e4	3.81e4	1.000	1.000	3.18	3.11	5.00	5.00	100.0

70-130

50-150

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170711M1\170711M1-41_L14.qld

Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C3-PFHxS	401.9 > 79.9	6.46e3	6.46e3	1.000	1.000	3.55	3.44	12.5	12.5	100.0
33	33	13C8-PFOA	421.3 > 376	4.16e4	4.16e4	1.000	1.000	3.63	3.58	12.5	12.5	100.0
34	34	13C9-PFNA	472.2 > 426.9	6.25e4	6.25e4	1.000	1.000	3.82	3.75	12.5	12.5	100.0
35	35	13C4-PFOS	503 > 79.9	1.09e4	1.09e4	1.000	1.000	3.86	3.80	12.5	12.5	100.0
36	36	13C6-PFDA	519.1 > 473.7	6.86e4	6.86e4	1.000	1.000	4.00	3.91	12.5	12.5	100.0
37	37	13C7-PFUnA	570.1 > 524.8	6.95e4	6.95e4	1.000	1.000	4.16	4.08	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170711M1_1	IPA	11-Jul-17	08:51:57
2	170711M1_2	ST170711M1-1 PFC CS3 17G1008	11-Jul-17	09:02:53
3	170711M1_3	IPA	11-Jul-17	09:13:39
4	170711M1_4	B7E0157-BS1 OPR 1	11-Jul-17	09:24:20
5	170711M1_5	IPA	11-Jul-17	09:35:03
6	170711M1_6	B7E0157-BLK1 Method Blank 1	11-Jul-17	09:45:42
7	170711M1_7	1700655-01 Pedigree Chopped Ground Dinne...	11-Jul-17	09:56:20
8	170711M1_8	1700655-02 Purina Friskies Salmon Dinner Cl...	11-Jul-17	10:06:59
9	170711M1_9	IPA	11-Jul-17	10:17:44
10	170711M1_10	B7G0024-BS2 OPR 0.25	11-Jul-17	10:28:24
11	170711M1_11	IPA	11-Jul-17	10:39:03
12	170711M1_12	ST170711M1-2 PFC CS3 17G1008	11-Jul-17	10:49:41
13	170711M1_13	IPA	11-Jul-17	11:00:27
14	170711M1_14	B7G0029-BS1 OPR 0.005	11-Jul-17	12:51:34
15	170711M1_15	IPA	11-Jul-17	13:02:29
16	170711M1_16	B7G0029-BLK1 Method Blank 0.005	11-Jul-17	13:13:07
17	170711M1_17	1700842-01 Shaws/Littleton 0.005	11-Jul-17	13:23:46
18	170711M1_18	1700842-02 Walmart/Gorham 0.005	11-Jul-17	13:34:24
19	170711M1_19	1700842-03 Whole Foods/Nashua 0.005	11-Jul-17	13:45:02
20	170711M1_20	1700842-04 Walmart/Epping 0.005	11-Jul-17	13:57:16
21	170711M1_21	1700842-05 Freshmarket/Portsmouth 0.005	11-Jul-17	14:08:28
22	170711M1_22	1700842-06 Trader Joes/Newington 0.005	11-Jul-17	14:19:07
23	170711M1_23	1700842-07 Market Basket/Dover 0.005	11-Jul-17	14:29:45
24	170711M1_24	1700842-08 Hannaford/Keene 0.005	11-Jul-17	14:40:32
25	170711M1_25	1700842-09 Market Basket /Claremont 0.005	11-Jul-17	14:51:10
26	170711M1_26	1700842-10 Market Basket/Claremont 2 0.005	11-Jul-17	15:01:59
27	170711M1_27	IPA	11-Jul-17	15:12:44
28	170711M1_28	ST170711M1-3 PFC CS3 17G1008	11-Jul-17	15:23:22
29	170711M1_29	IPA	11-Jul-17	15:34:09
30	170711M1_30	1700842-11 Market Basket/Claremont 3 0.005	11-Jul-17	15:44:47
31	170711M1_31	1700842-12 Price Chopper/W.Lebanon 0.005	11-Jul-17	15:55:26

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170711M1_32	1700842-13 Market Basket/Concord 0.005	11-Jul-17	16:06:13
33	170711M1_33	1700842-14 Cumberland Farms/Meredith 0.005	11-Jul-17	16:17:42
34	170711M1_34	1700842-15 EM-Heath/Center Harbor 0.005	11-Jul-17	16:28:34
35	170711M1_35	1700842-16 Shaws/North Conway 0.005	11-Jul-17	16:39:13
36	170711M1_36	1700842-17 Milk 1 0.005	11-Jul-17	16:49:59
37	170711M1_37	1700842-18 Milk 2 0.005	11-Jul-17	17:00:38
38	170711M1_38	170711_929	11-Jul-17	17:11:16
39	170711M1_39	170711_972	11-Jul-17	17:21:55
40	170711M1_40	IPA	11-Jul-17	17:32:33
41	170711M1_41	ST170711M1-4 PFC CS3 17G1008 ✓	11-Jul-17	17:43:19
42	170711M1_42	IPA	11-Jul-17	17:54:06
43	170711M1_43	B7G0014-BS1 OPR 0.125	11-Jul-17	18:04:47
44	170711M1_44	B7G0033-BS1 OPR 0.125	11-Jul-17	18:15:31
45	170711M1_45	IPA	11-Jul-17	18:26:18
46	170711M1_46	B7G0014-BLK1 Method Blank 0.125	11-Jul-17	18:37:02
47	170711M1_47	B7G0033-BLK1 Method Blank 0.125	11-Jul-17	18:47:43
48	170711M1_48	1700792-11RE1 RB01-20170628 0.12273	11-Jul-17	18:58:21
49	170711M1_49	1700792-08RE1 MH388.9-20170628 0.12326	11-Jul-17	19:09:07
50	170711M1_50	1700792-01RE1 West Ditch In-20170627 0.12...	11-Jul-17	19:19:46
51	170711M1_51	1700803-01 SB01 0.12033	11-Jul-17	19:30:24
52	170711M1_52	1700803-03 IRPSite7-GW-46GW205-201706...	11-Jul-17	19:41:03
53	170711M1_53	1700803-04 IRPSite7-GW-FD01-20170628 0....	11-Jul-17	19:51:41
54	170711M1_54	1700803-05 IRPSite7-GW-07GW202-201706...	11-Jul-17	20:02:19
55	170711M1_55	1700803-06 IRPSite7-GW-FRB01-20170628 ...	11-Jul-17	20:12:58
56	170711M1_56	1700803-07 IRPSite5-GW-FRB01-20170628 ...	11-Jul-17	20:23:36
57	170711M1_57	1700803-08 IRPSite5-GW-04GW81S-201706...	11-Jul-17	20:34:15
58	170711M1_58	1700803-09 IRPSite5-GW-04GW80-2017062...	11-Jul-17	20:44:53
59	170711M1_59	B7G0014-MS1 Matrix Spike 0.12163	11-Jul-17	20:55:31
60	170711M1_60	B7G0014-MSD1 Matrix Spike Dup 0.1181	11-Jul-17	21:06:22
61	170711M1_61	1700803-10 EB02 0.10956	11-Jul-17	21:17:12
62	170711M1_62	IPA	11-Jul-17	21:27:59
63	170711M1_63	ST170711M1-5 PFC CS3 17G1008 ✓	11-Jul-17	21:38:37
64	170711M1_64	IPA	11-Jul-17	21:49:23
65	170711M1_65	1700820-01 MTBE_5527 0.26911	11-Jul-17	22:00:02

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
66	170711M1_66	1700836-01 DPH-MW11 0.1236	11-Jul-17	22:10:40
67	170711M1_67	1700836-02 DPH-B7 0.1224	11-Jul-17	22:21:19
68	170711M1_68	1700836-03 DPH-MW3-17 0.1219	11-Jul-17	22:31:57
69	170711M1_69	1700836-04 DPH-EX4 0.12243	11-Jul-17	22:42:36
70	170711M1_70	1700836-05 DPH-MW6-17 0.12319	11-Jul-17	22:53:14
71	170711M1_71	1700844-01 2041010001 0.277	11-Jul-17	23:03:52
72	170711M1_72	1700845-01 MW-29S-20170707 0.12034	11-Jul-17	23:14:31
73	170711M1_73	1700845-02 DUP04-20170707 0.12279	11-Jul-17	23:25:17
74	170711M1_74	1700845-03 MW-27S-20170707 0.11824	11-Jul-17	23:36:03
75	170711M1_75	B7G0033-MS1 Matrix Spike 0.12283	11-Jul-17	23:46:42
76	170711M1_76	B7G0033-MSD1 Matrix Spike Dup 0.124	11-Jul-17	23:57:29
77	170711M1_77	1700845-04 MW-30S-20170707 0.11933	12-Jul-17	00:08:07
78	170711M1_78	IPA	12-Jul-17	00:18:45
79	170711M1_79	ST170711M1-6 PFC CS3 17G1008	12-Jul-17	00:29:24
80	170711M1_80	IPA	12-Jul-17	00:40:11

LC Calibration Standards Review Checklist Q4

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID: ST7071IM1-4	L (M) H	N/A	☑	☑	☑	☑	☐	☐
Calibration ID: -5	L (M) H	☐	☑	☑	☑	☑	☐	☐
Calibration ID: -6	L (M) H	☐	☑	☑	☑	☑	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/21/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☐

Reviewed By: MJT 7/14/17
Initials/Date

Comments:
L14

Vista Analytical Laboratory

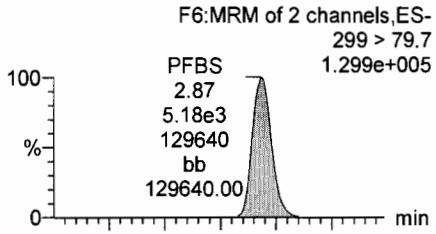
Dataset: U:\Q4.PRO\results\170711M1\170711M1-41_L14.qld

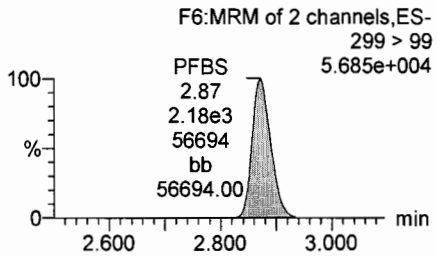
Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

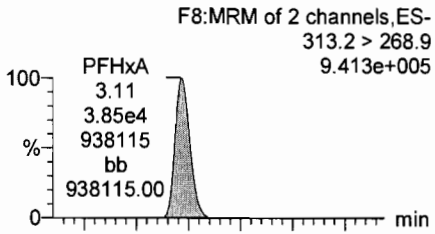
Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

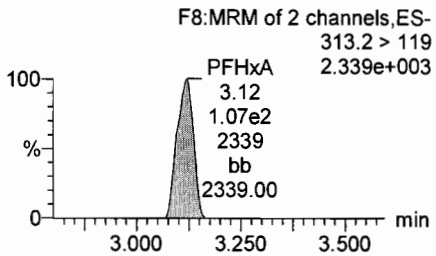
Total PFBS



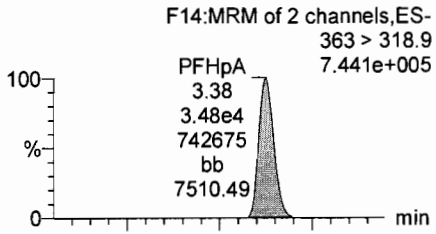


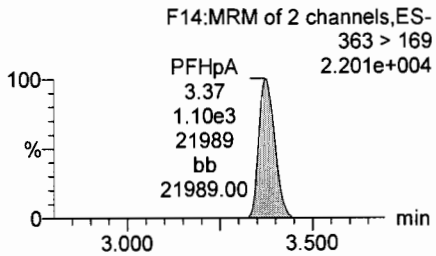
PFHxA



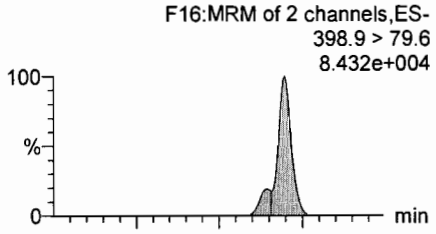


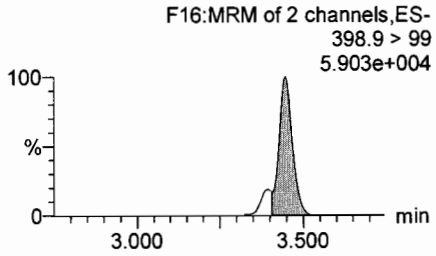
PFHpA



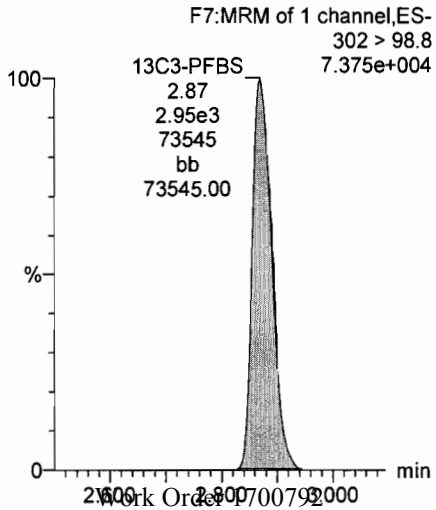


Total PFHxS

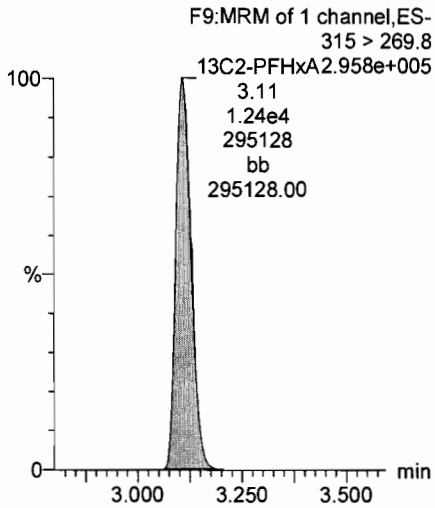




13C3-PFBS



13C2-PFHxA



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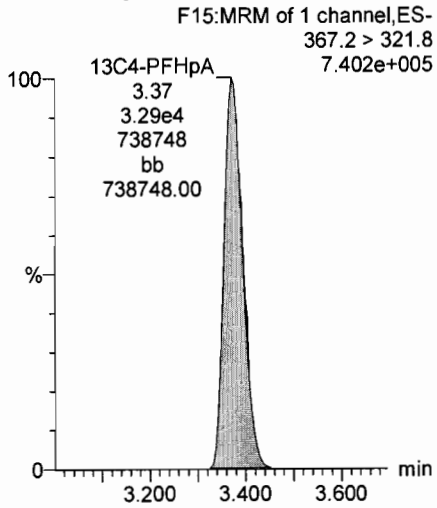
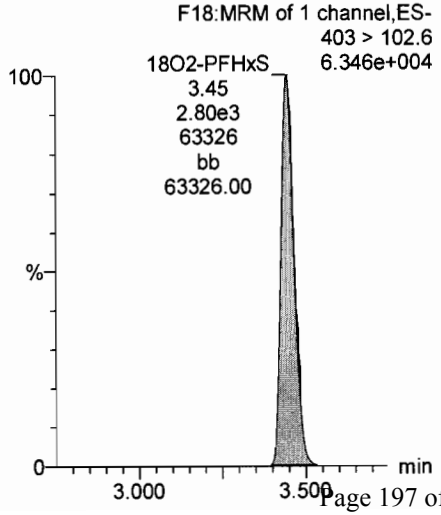


18O2-PFHxS



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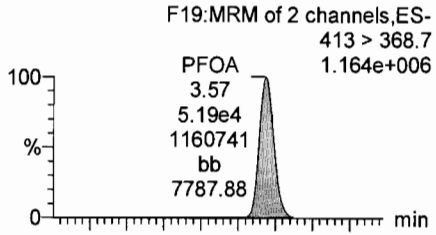
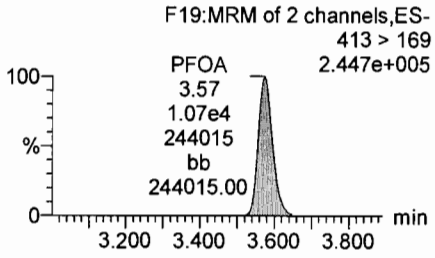
Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

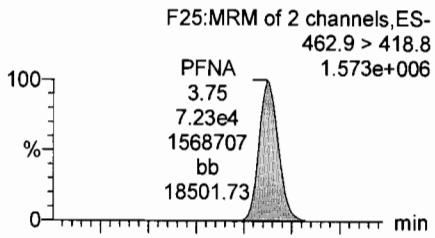
Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

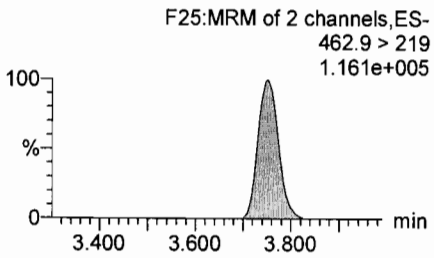
Total PFOA



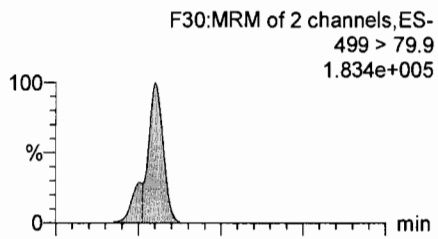


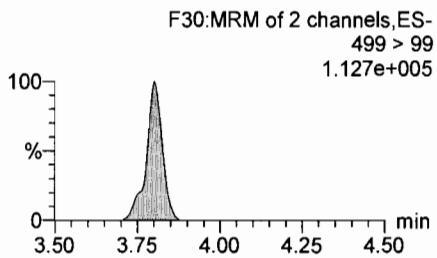
PFNA



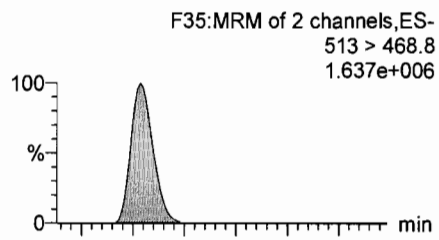


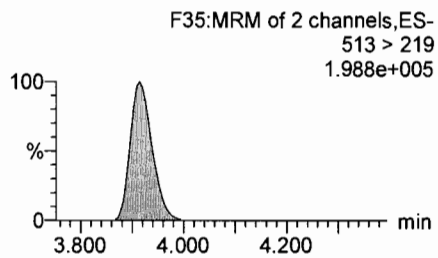
Total PFOS



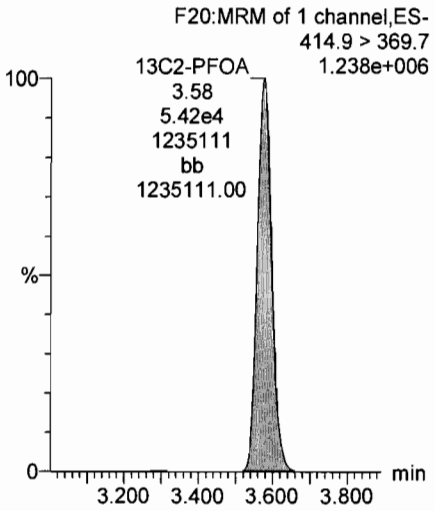


PFDA

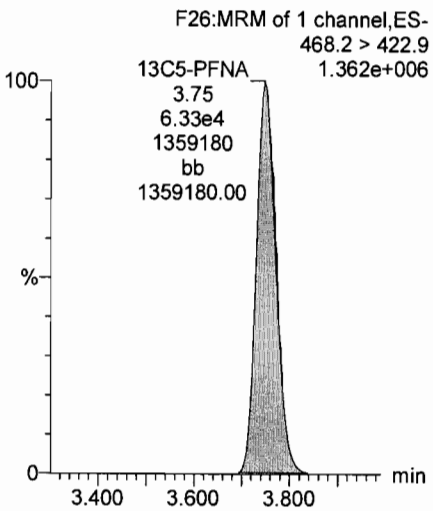




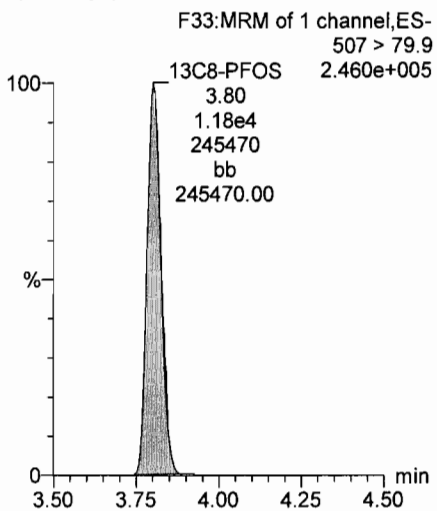
13C2-PFOA



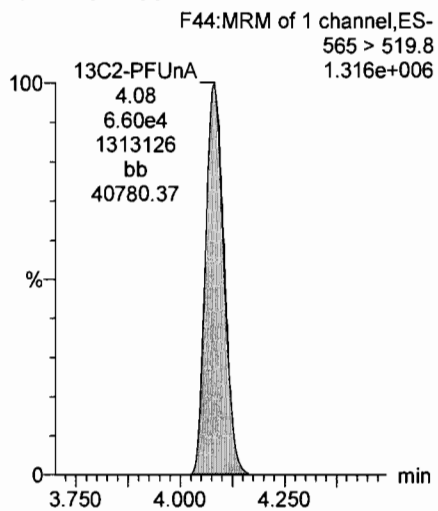
13C5-PFNA



13C8-PFOS



13C2-PFUnA



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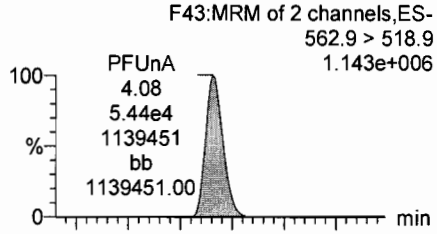
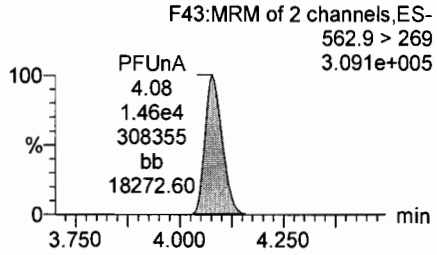
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

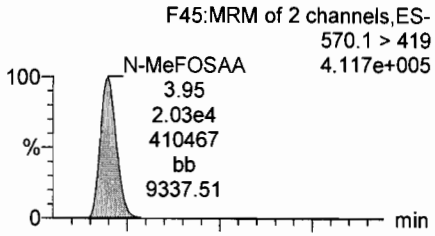
Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

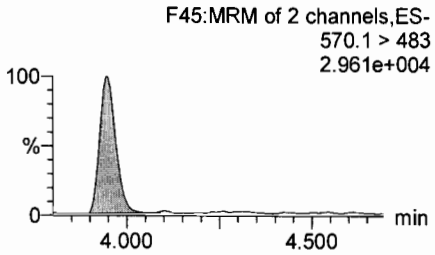
PFUnA



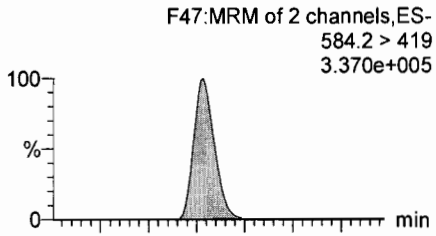


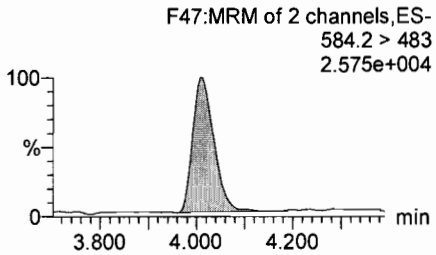
N-MeFOSAA



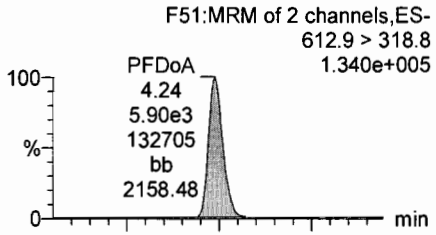


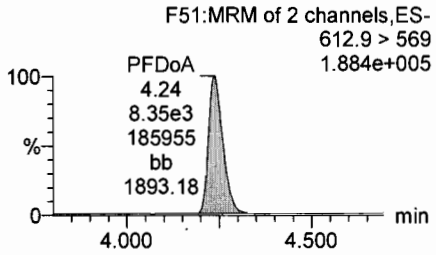
N-EtFOSAA



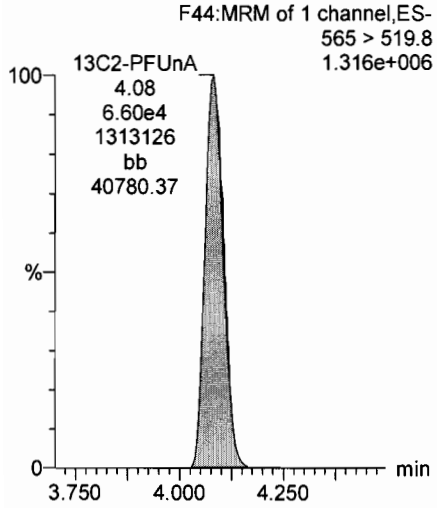


PFDoA

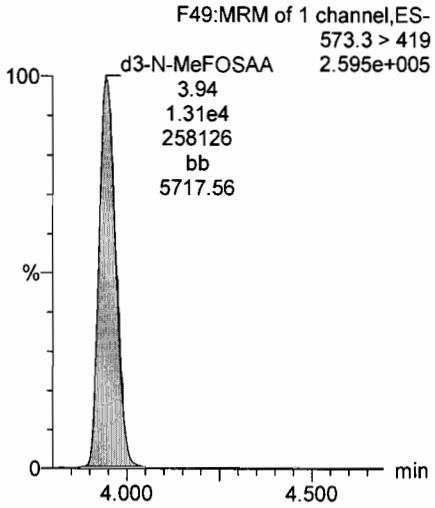




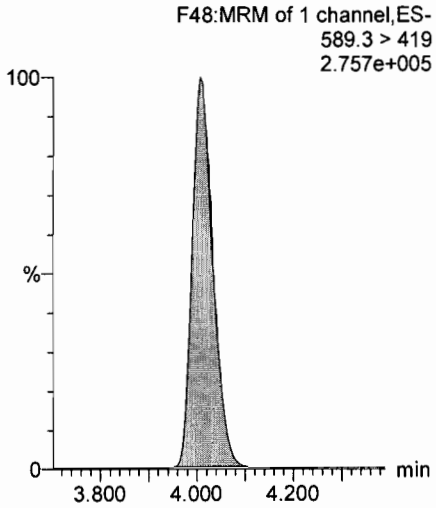
13C2-PFUnA



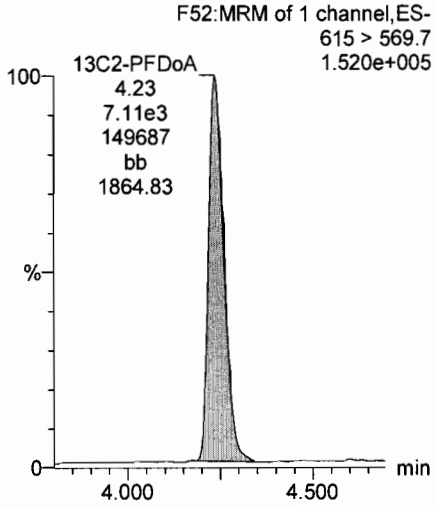
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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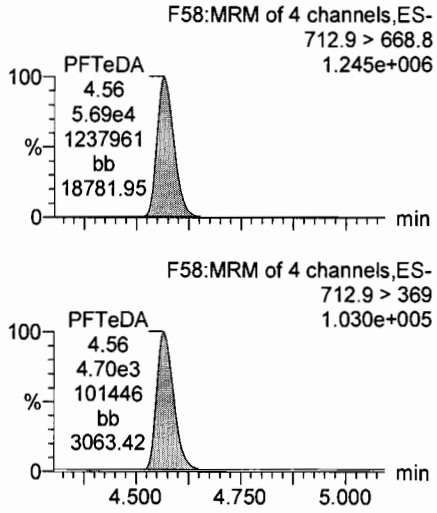
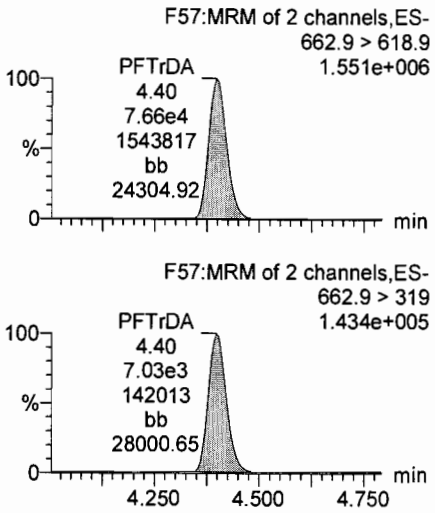
Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

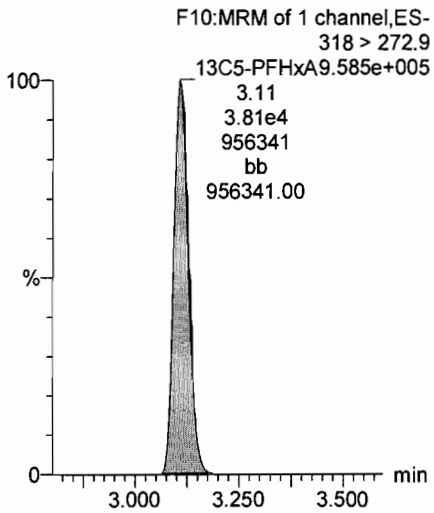
PFTeDA



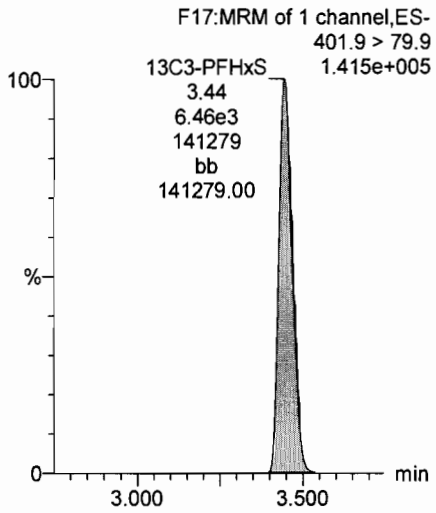
PFTrDA



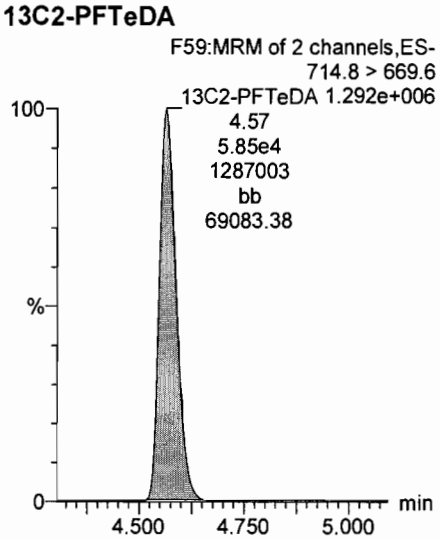
13C5-PFHxA



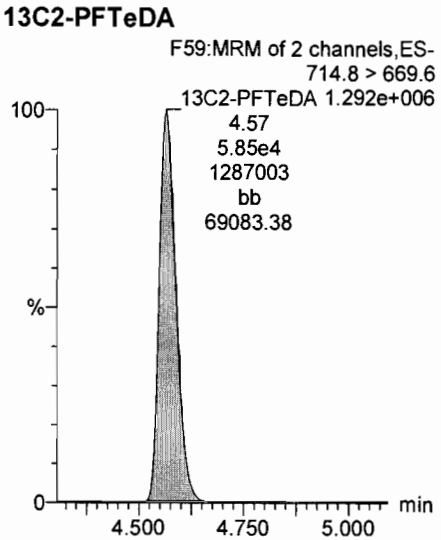
13C3-PFHxS



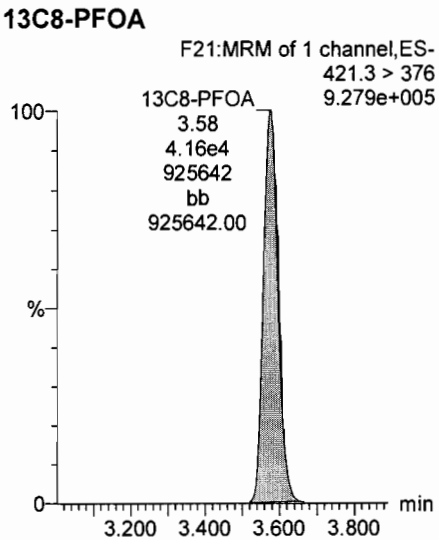
13C2-PFTeDA



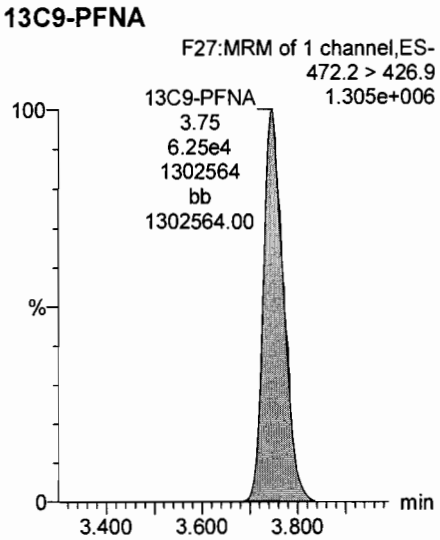
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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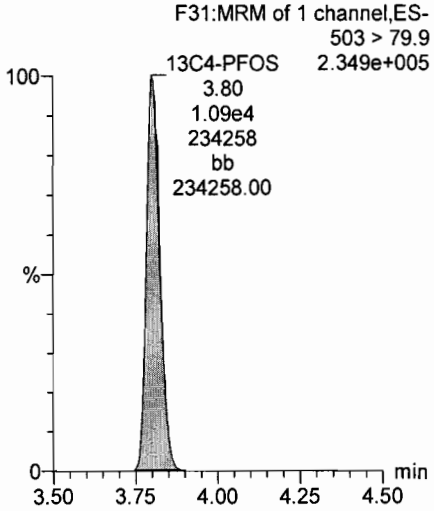
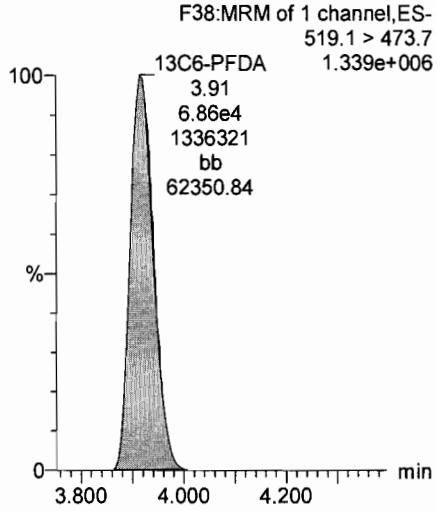
Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

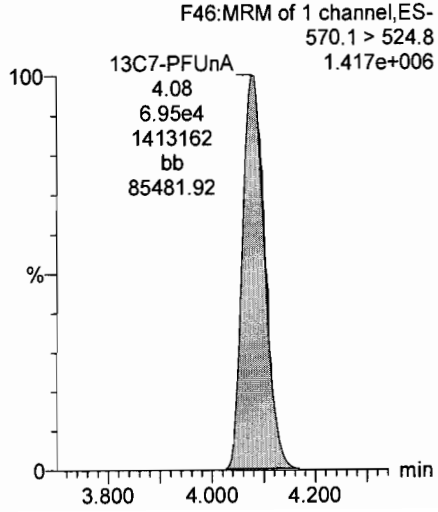
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

AC 7/13/17 MJT 7/14/17

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.73e3	3.22e3	1.000		2.92	2.87	22.3	9.82	98.2
2	2	PFHxA	313.2 > 268.9	4.37e4	1.35e4	1.000		3.16	3.11	16.2	9.84	98.4
3	3	PFHpA	363 > 318.9	3.67e4	3.35e4	1.000		3.43	3.37	13.7	9.52	95.2
4	4	PFHxS	398.9 > 79.6	4.83e3	3.08e3	1.000		3.55	3.45	19.6	10.6	106.5
5	5	PFOA	413 > 368.7	5.92e4	6.00e4	1.000		3.63	3.57	12.3	10.7	107.5
6	6	PFNA	462.9 > 418.8	7.03e4	6.75e4	1.000		3.82	3.75	13.0	9.48	94.8
7	7	PFOS	499 > 79.9	1.21e4	1.18e4	1.000		3.86	3.80	12.8	11.4	113.5
8	8	PFDA	513 > 468.8	7.57e4	6.27e4	1.000		4.00	3.92	15.1	10.0	100.1
9	9	PFUnA	562.9 > 518.9	5.75e4	7.29e4	1.000		4.16	4.08	9.86	9.38	93.8
10	10	N-MeFOSAA	570.1 > 419	2.11e4	1.47e4	1.000		4.00	3.95	17.9	9.60	96.0
11	11	N-EtFOSAA	584.2 > 419	1.78e4	1.61e4	1.000		4.08	4.01	13.9	10.2	101.8
12	12	PFDoA	612.9 > 318.8	5.59e3	8.39e3	1.000		4.32	4.24	8.33	8.30	83.0
13	13	PFTrDA	662.9 > 618.9	8.09e4	8.39e3	1.000		4.50	4.40	121	8.97	89.7
14	14	PFTeDA	712.9 > 668.8	5.92e4	5.71e4	1.000		4.66	4.57	13.0	10.3	102.6
15	15	13C3-PFBA	216.1 > 171.8	1.32e4	1.44e4	1.000	0.918	1.43	1.34	11.5	12.5	100.1
16	16	13C3-PFPeA	266 > 221.8	2.66e4	1.44e4	1.000	1.784	2.72	2.63	23.1	12.9	103.6
17	17	13C3-PFBS	302 > 98.8	3.22e3	1.44e4	1.000	0.215	2.92	2.87	2.79	12.9	103.6
18	18	13C2-PFHxA	315 > 269.8	1.35e4	4.20e4	1.000	0.304	3.16	3.11	1.61	5.30	106.0
19	19	13C4-PFHpA	367.2 > 321.8	3.35e4	4.20e4	1.000	0.306	3.43	3.37	3.99	13.0	104.4
20	20	18O2-PFHxS	403 > 102.6	3.08e3	7.16e3	1.000	0.437	3.55	3.44	5.37	12.3	98.3
21	21	13C2-PFOA	414.9 > 369.7	6.00e4	4.84e4	1.000	1.292	3.63	3.57	15.5	12.0	95.9
22	22	13C5-PFNA	468.2 > 422.9	6.75e4	6.66e4	1.000	0.980	3.82	3.75	12.7	12.9	103.5
23	23	13C8-PFOS	507 > 79.9	1.18e4	1.16e4	1.000	1.098	3.86	3.80	12.8	11.7	93.2
24	24	13C2-PFDA	515.1 > 469.9	6.27e4	6.86e4	1.000	0.928	4.00	3.92	11.4	12.3	98.6
25	25	13C2-PFUnA	565 > 519.8	7.29e4	5.75e4	1.000	1.083	4.16	4.08	15.8	14.6	117.0
26	26	d3-N-MeFOSAA	573.3 > 419	1.47e4	5.75e4	1.000	0.224	4.00	3.94	3.20	14.3	114.0
27	27	d5-N-EtFOSAA	589.3 > 419	1.61e4	5.75e4	1.000	0.230	4.08	4.01	3.49	15.2	121.6
28	28	13C2-PFDoA	615 > 569.7	8.39e3	5.75e4	1.000	0.130	4.32	4.24	1.82	14.0	112.3
29	29	13C2-PFTeDA	714.8 > 669.6	5.71e4	5.75e4	1.000	1.018	4.66	4.57	12.4	12.2	97.6
30	30	13C4-PFBA	217 > 171.8	1.44e4	1.44e4	1.000	1.000	1.43	1.34	12.5	12.5	100.0
31	31	13C5-PFHxA	318 > 272.9	4.20e4	4.20e4	1.000	1.000	3.18	3.11	5.00	5.00	100.0

70-130

50-150

Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C3-PFHxS	401.9 > 79.9	7.16e3	7.16e3	1.000	1.000	3.55	3.44	12.5	12.5	100.0
33	33	13C8-PFOA	421.3 > 376	4.84e4	4.84e4	1.000	1.000	3.63	3.57	12.5	12.5	100.0
34	34	13C9-PFNA	472.2 > 426.9	6.66e4	6.66e4	1.000	1.000	3.82	3.75	12.5	12.5	100.0
35	35	13C4-PFOS	503 > 79.9	1.16e4	1.16e4	1.000	1.000	3.86	3.80	12.5	12.5	100.0
36	36	13C6-PFDA	519.1 > 473.7	6.86e4	6.86e4	1.000	1.000	4.00	3.91	12.5	12.5	100.0
37	37	13C7-PFUnA	570.1 > 524.8	5.75e4	5.75e4	1.000	1.000	4.16	4.08	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170711M1_1	IPA	11-Jul-17	08:51:57
2	170711M1_2	ST170711M1-1 PFC CS3 17G1008	11-Jul-17	09:02:53
3	170711M1_3	IPA	11-Jul-17	09:13:39
4	170711M1_4	B7E0157-BS1 OPR 1	11-Jul-17	09:24:20
5	170711M1_5	IPA	11-Jul-17	09:35:03
6	170711M1_6	B7E0157-BLK1 Method Blank 1	11-Jul-17	09:45:42
7	170711M1_7	1700655-01 Pedigree Chopped Ground Dinne...	11-Jul-17	09:56:20
8	170711M1_8	1700655-02 Purina Friskies Salmon Dinner Cl...	11-Jul-17	10:06:59
9	170711M1_9	IPA	11-Jul-17	10:17:44
10	170711M1_10	B7G0024-BS2 OPR 0.25	11-Jul-17	10:28:24
11	170711M1_11	IPA	11-Jul-17	10:39:03
12	170711M1_12	ST170711M1-2 PFC CS3 17G1008	11-Jul-17	10:49:41
13	170711M1_13	IPA	11-Jul-17	11:00:27
14	170711M1_14	B7G0029-BS1 OPR 0.005	11-Jul-17	12:51:34
15	170711M1_15	IPA	11-Jul-17	13:02:29
16	170711M1_16	B7G0029-BLK1 Method Blank 0.005	11-Jul-17	13:13:07
17	170711M1_17	1700842-01 Shaws/Littleton 0.005	11-Jul-17	13:23:46
18	170711M1_18	1700842-02 Walmart/Gorham 0.005	11-Jul-17	13:34:24
19	170711M1_19	1700842-03 Whole Foods/Nashua 0.005	11-Jul-17	13:45:02
20	170711M1_20	1700842-04 Walmart/Epping 0.005	11-Jul-17	13:57:16
21	170711M1_21	1700842-05 Freshmarket/Portsmouth 0.005	11-Jul-17	14:08:28
22	170711M1_22	1700842-06 Trader Joes/Newington 0.005	11-Jul-17	14:19:07
23	170711M1_23	1700842-07 Market Basket/Dover 0.005	11-Jul-17	14:29:45
24	170711M1_24	1700842-08 Hannaford/Keene 0.005	11-Jul-17	14:40:32
25	170711M1_25	1700842-09 Market Basket /Claremont 0.005	11-Jul-17	14:51:10
26	170711M1_26	1700842-10 Market Basket/Claremont 2 0.005	11-Jul-17	15:01:59
27	170711M1_27	IPA	11-Jul-17	15:12:44
28	170711M1_28	ST170711M1-3 PFC CS3 17G1008	11-Jul-17	15:23:22
29	170711M1_29	IPA	11-Jul-17	15:34:09
30	170711M1_30	1700842-11 Market Basket/Claremont 3 0.005	11-Jul-17	15:44:47
31	170711M1_31	1700842-12 Price Chopper/W.Lebanon 0.005	11-Jul-17	15:55:26

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Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

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32	170711M1_32	1700842-13 Market Basket/Concord 0.005	11-Jul-17	16:06:13
33	170711M1_33	1700842-14 Cumberland Farms/Meredith 0.005	11-Jul-17	16:17:42
34	170711M1_34	1700842-15 EM-Heath/Center Harbor 0.005	11-Jul-17	16:28:34
35	170711M1_35	1700842-16 Shaws/North Conway 0.005	11-Jul-17	16:39:13
36	170711M1_36	1700842-17 Milk 1 0.005	11-Jul-17	16:49:59
37	170711M1_37	1700842-18 Milk 2 0.005	11-Jul-17	17:00:38
38	170711M1_38	170711_929	11-Jul-17	17:11:16
39	170711M1_39	170711_972	11-Jul-17	17:21:55
40	170711M1_40	IPA	11-Jul-17	17:32:33
41	170711M1_41	ST170711M1-4 PFC CS3 17G1008 ✓	11-Jul-17	17:43:19
42	170711M1_42	IPA	11-Jul-17	17:54:06
43	170711M1_43	B7G0014-BS1 OPR 0.125	11-Jul-17	18:04:47
44	170711M1_44	B7G0033-BS1 OPR 0.125	11-Jul-17	18:15:31
45	170711M1_45	IPA	11-Jul-17	18:26:18
46	170711M1_46	B7G0014-BLK1 Method Blank 0.125	11-Jul-17	18:37:02
47	170711M1_47	B7G0033-BLK1 Method Blank 0.125	11-Jul-17	18:47:43
48	170711M1_48	1700792-11RE1 RB01-20170628 0.12273	11-Jul-17	18:58:21
49	170711M1_49	1700792-08RE1 MH388.9-20170628 0.12326	11-Jul-17	19:09:07
50	170711M1_50	1700792-01RE1 West Ditch In-20170627 0.12...	11-Jul-17	19:19:46
51	170711M1_51	1700803-01 SB01 0.12033	11-Jul-17	19:30:24
52	170711M1_52	1700803-03 IRPSite7-GW-46GW205-201706...	11-Jul-17	19:41:03
53	170711M1_53	1700803-04 IRPSite7-GW-FD01-20170628 0....	11-Jul-17	19:51:41
54	170711M1_54	1700803-05 IRPSite7-GW-07GW202-201706...	11-Jul-17	20:02:19
55	170711M1_55	1700803-06 IRPSite7-GW-FRB01-20170628 ...	11-Jul-17	20:12:58
56	170711M1_56	1700803-07 IRPSite5-GW-FRB01-20170628 ...	11-Jul-17	20:23:36
57	170711M1_57	1700803-08 IRPSite5-GW-04GW81S-201706...	11-Jul-17	20:34:15
58	170711M1_58	1700803-09 IRPSite5-GW-04GW80-2017062...	11-Jul-17	20:44:53
59	170711M1_59	B7G0014-MS1 Matrix Spike 0.12163	11-Jul-17	20:55:31
60	170711M1_60	B7G0014-MSD1 Matrix Spike Dup 0.1181	11-Jul-17	21:06:22
61	170711M1_61	1700803-10 EB02 0.10956	11-Jul-17	21:17:12
62	170711M1_62	IPA	11-Jul-17	21:27:59
63	170711M1_63	ST170711M1-5 PFC CS3 17G1008 ✓	11-Jul-17	21:38:37
64	170711M1_64	IPA	11-Jul-17	21:49:23
65	170711M1_65	1700820-01 MTBE_5527 0.26911	11-Jul-17	22:00:02

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Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

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67	170711M1_67	1700836-02 DPH-B7 0.1224	11-Jul-17	22:21:19
68	170711M1_68	1700836-03 DPH-MW3-17 0.1219	11-Jul-17	22:31:57
69	170711M1_69	1700836-04 DPH-EX4 0.12243	11-Jul-17	22:42:36
70	170711M1_70	1700836-05 DPH-MW6-17 0.12319	11-Jul-17	22:53:14
71	170711M1_71	1700844-01 2041010001 0.277	11-Jul-17	23:03:52
72	170711M1_72	1700845-01 MW-29S-20170707 0.12034	11-Jul-17	23:14:31
73	170711M1_73	1700845-02 DUP04-20170707 0.12279	11-Jul-17	23:25:17
74	170711M1_74	1700845-03 MW-27S-20170707 0.11824	11-Jul-17	23:36:03
75	170711M1_75	B7G0033-MS1 Matrix Spike 0.12283	11-Jul-17	23:46:42
76	170711M1_76	B7G0033-MSD1 Matrix Spike Dup 0.124	11-Jul-17	23:57:29
77	170711M1_77	1700845-04 MW-30S-20170707 0.11933	12-Jul-17	00:08:07
78	170711M1_78	IPA	12-Jul-17	00:18:45
79	170711M1_79	ST170711M1-6 PFC CS3 17G1008	12-Jul-17	00:29:24
80	170711M1_80	IPA	12-Jul-17	00:40:11

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Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

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Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

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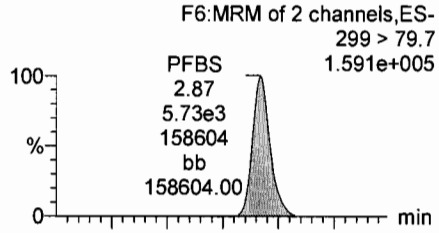
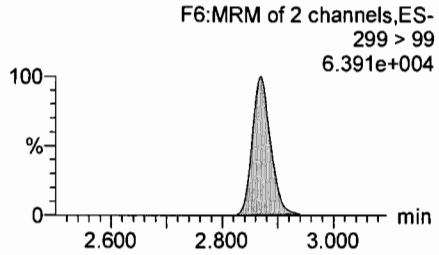
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

Total PFBS





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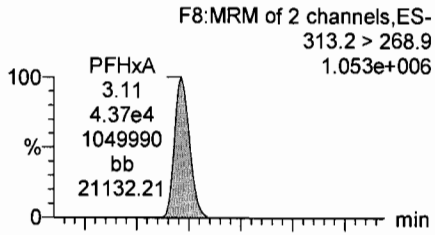

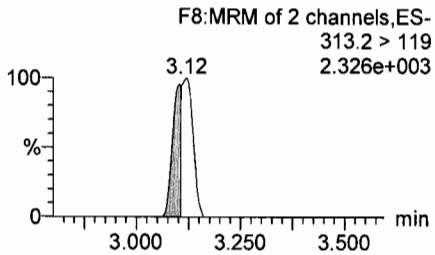

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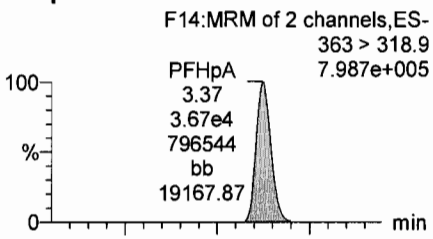
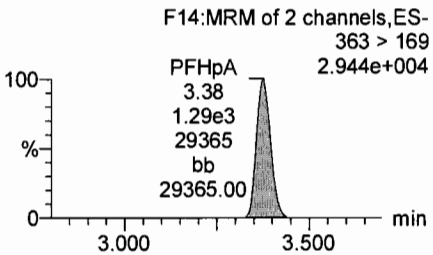
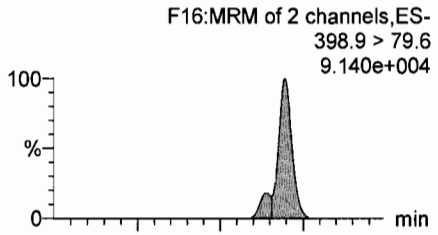
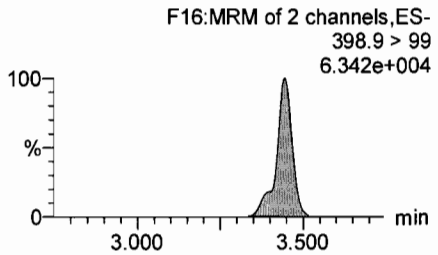


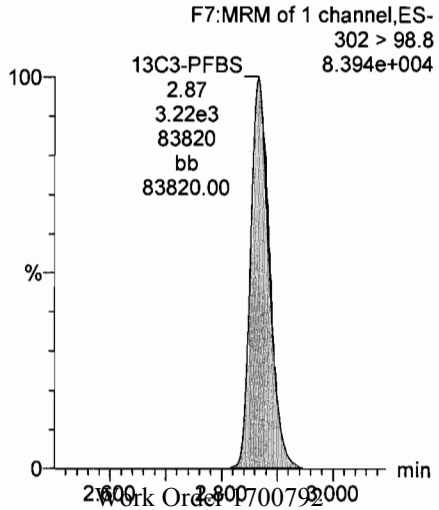


Total PFHxS

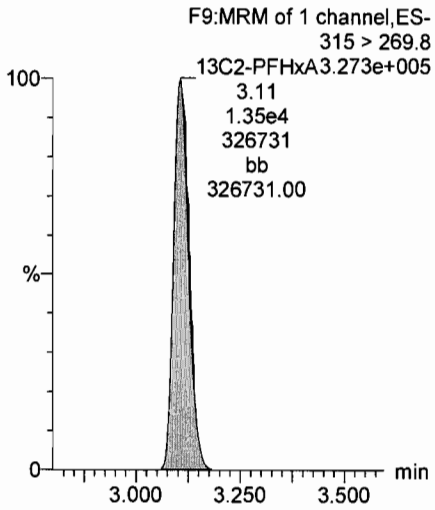




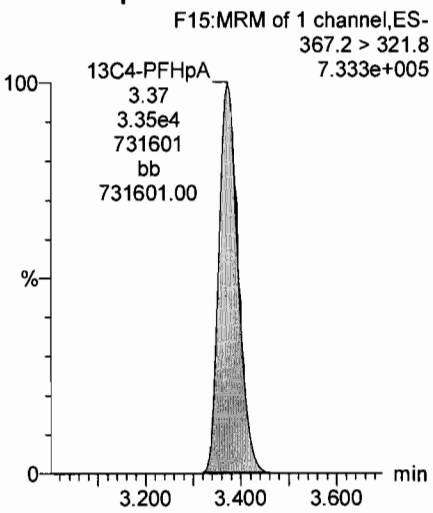
13C3-PFBS



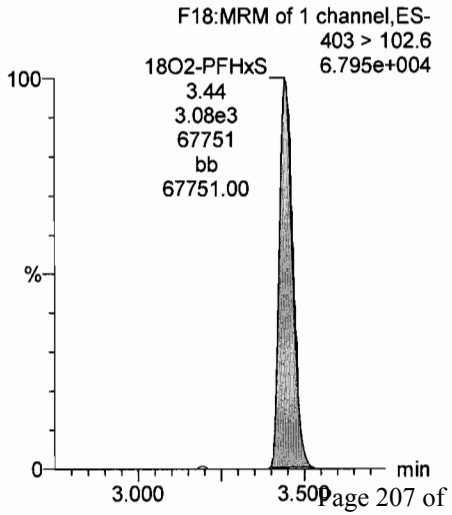
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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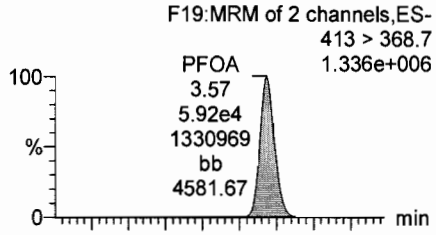
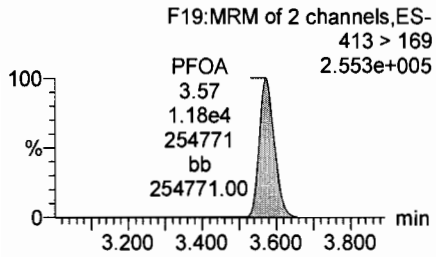
Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

Total PFOA





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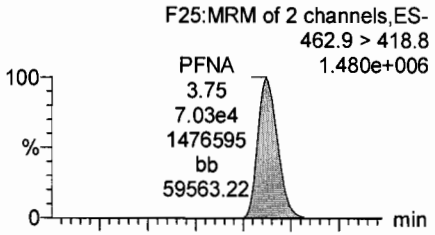
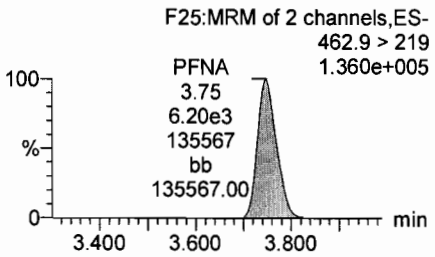
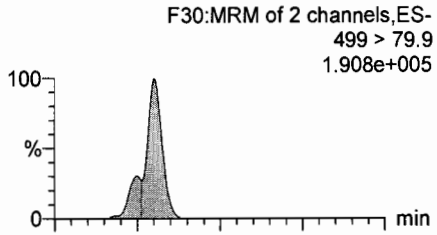
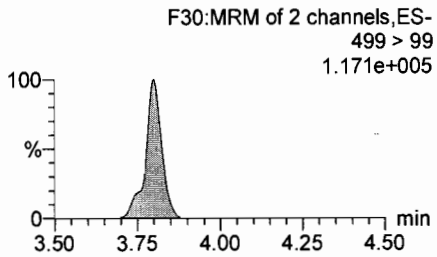




Total PFOS





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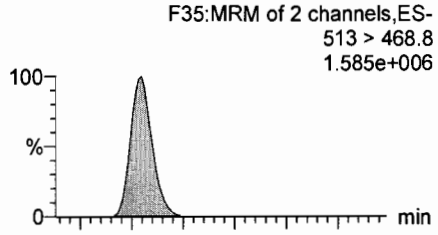

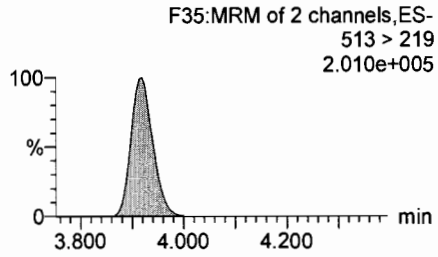

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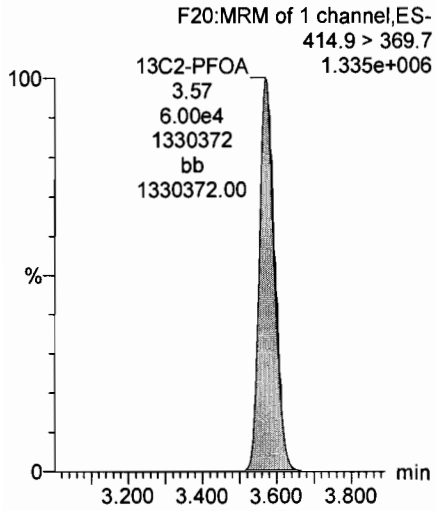

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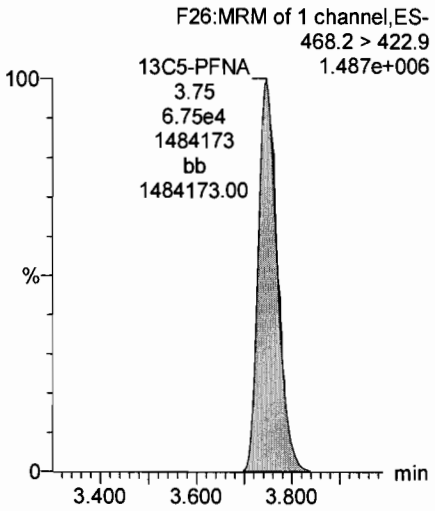
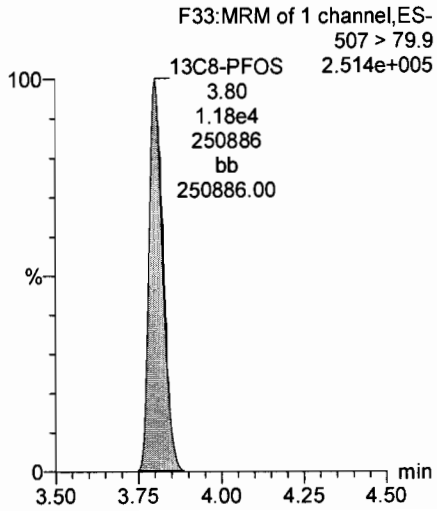
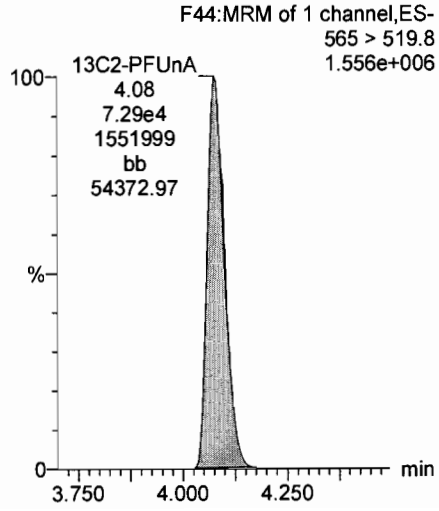


13C8-PFOS



13C2-PFUnA

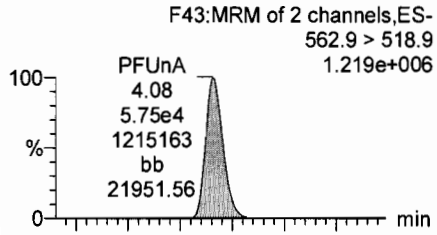


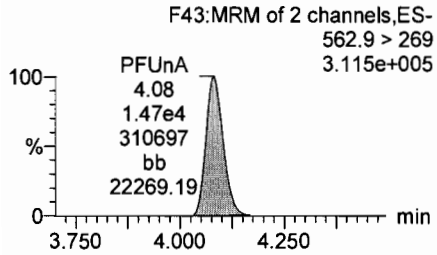
Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

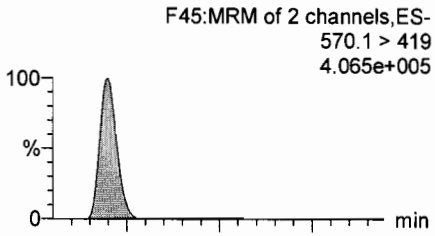
Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

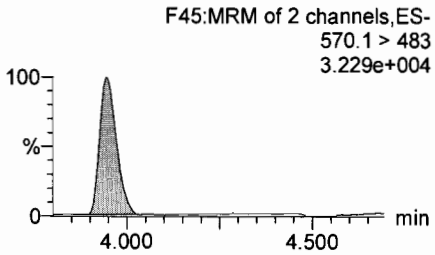
PFUnA



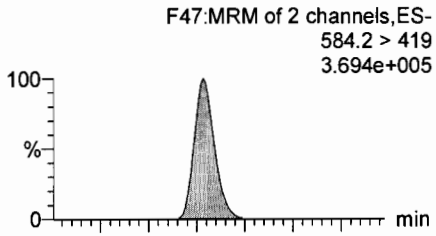


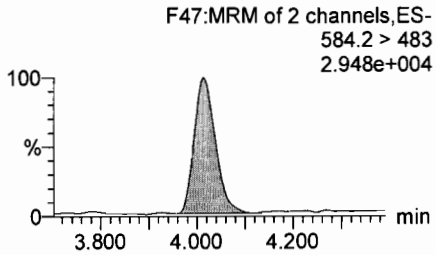
N-MeFOSAA



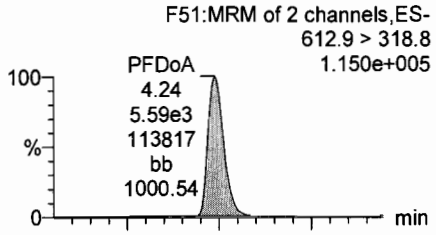


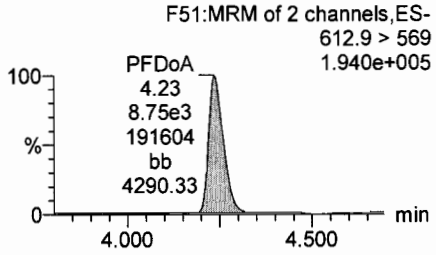
N-EtFOSAA



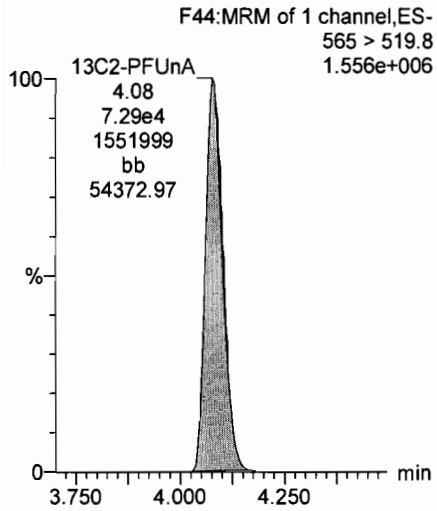


PFDoA

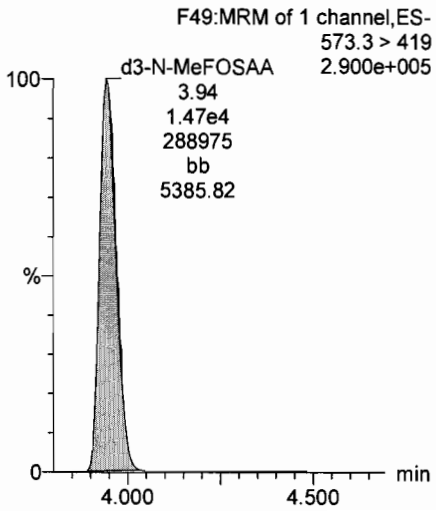




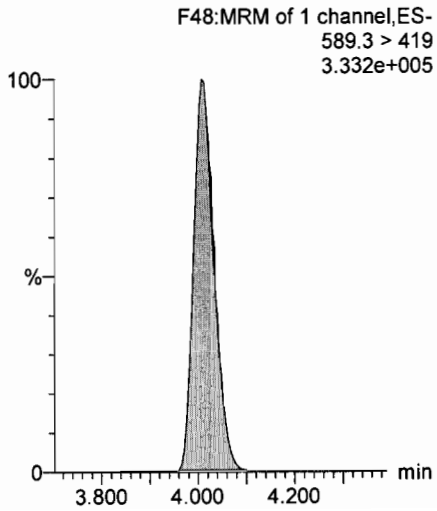
13C2-PFUnA



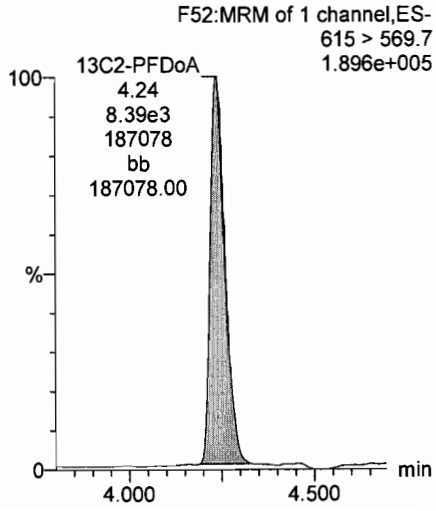
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA

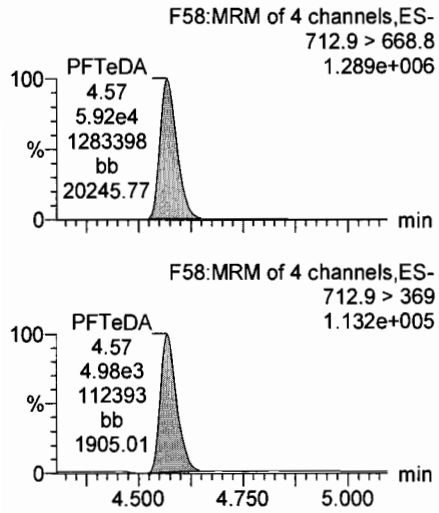


Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

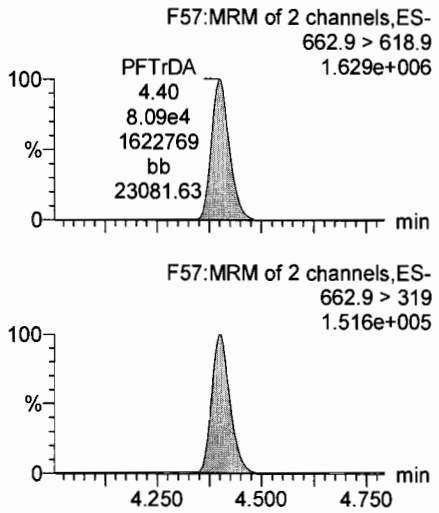
Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

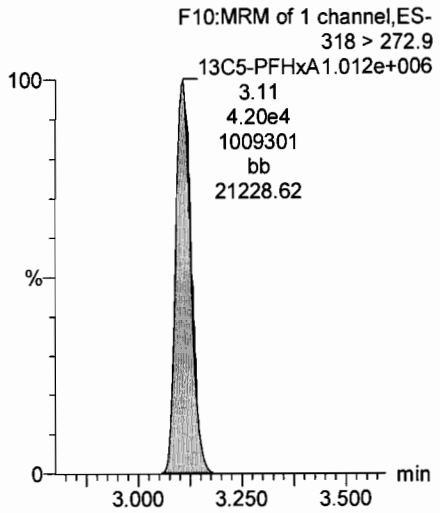
PFTeDA



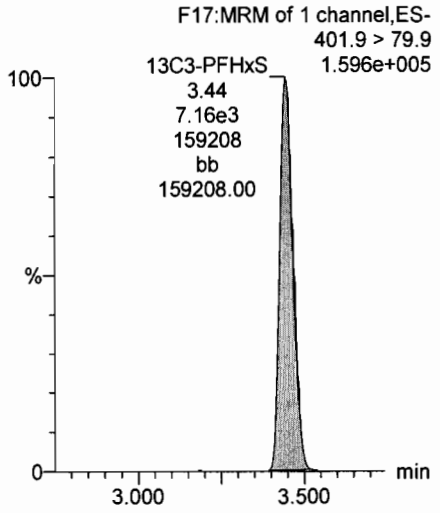
PFTrDA



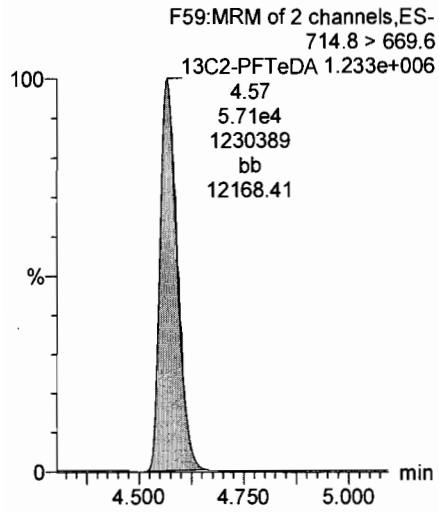
13C5-PFHxA



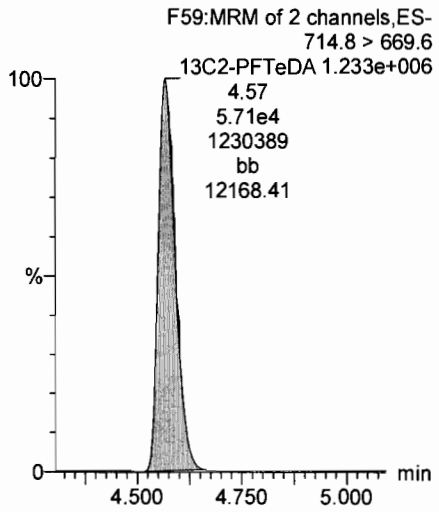
13C3-PFHxS



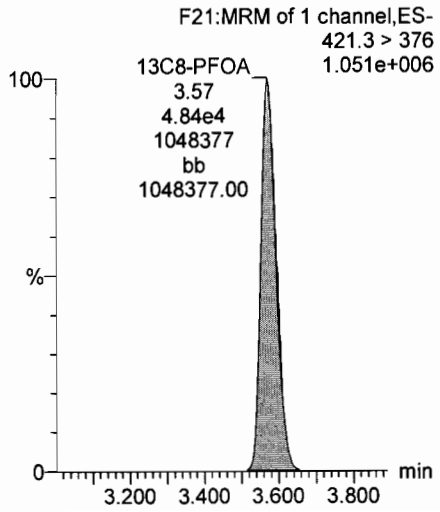
13C2-PFTeDA



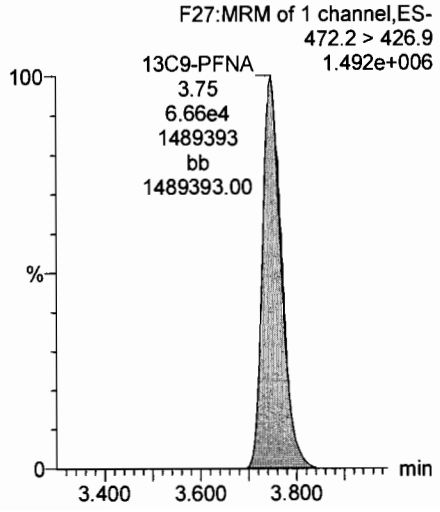
13C2-PFTeDA



13C8-PFOA



13C9-PFNA

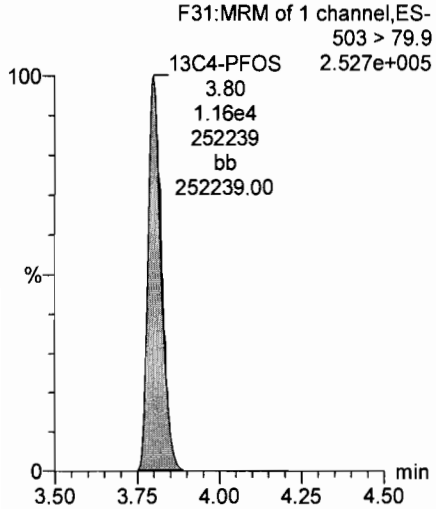


Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

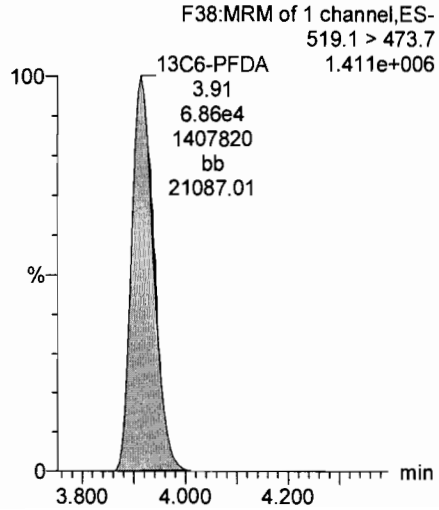
Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

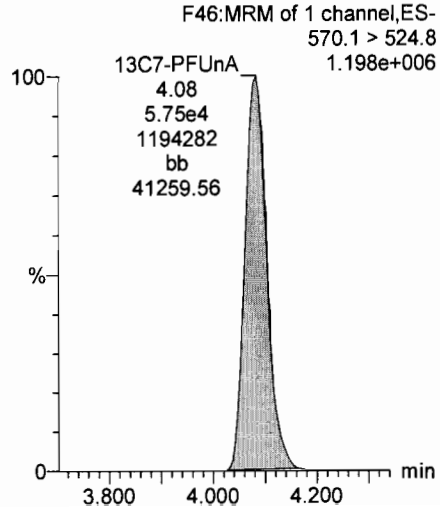
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-2.qld

Last Altered: Saturday, July 22, 2017 09:47:35 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:49:15 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170721G6-1 PFC CS-1 17G2117, Description: PFC CS-1 17G2117, Name: 170721G6_2, Date: 21-Jul-2017, Time: 15:51:03

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	9	PFOS	499.0 >79.9	1.322e2	7.861e3		1.00	4.66	0.489	97.8	70-130
2	20	13C8-PFOS	507.0 > 79.9	7.861e3	8.139e3	1.026	1.00	4.65	11.8	94.1	50-150
3	26	13C4-PFOS	503.0 > 79.9	8.139e3	8.139e3	1.000	1.00	4.65	12.5	100	

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Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Saturday, July 22, 2017 09:52:13 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:52:59 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170721G6_1	IPA	21-Jul-17	15:38:33
2	170721G6_2	ST170721G6-1 PFC CS-1 17G2117	21-Jul-17	15:51:03
3	170721G6_3	IPA	21-Jul-17	16:03:33
4	170721G6_4	1700792-10@10X Dup01-20170627 0.11337	21-Jul-17	16:16:32
5	170721G6_5	IPA	21-Jul-17	16:29:14
6	170721G6_6	ST170721G6-2 PFC CS3 17G1927	21-Jul-17	16:41:30
7	170721G6_7	IPA	21-Jul-17	16:54:01

Vista Analytical Laboratory Q1

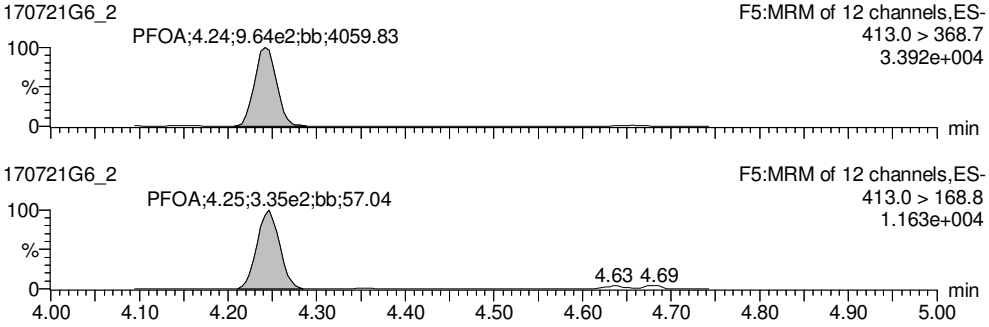
Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-2.qld

Last Altered: Saturday, July 22, 2017 09:47:35 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:49:15 Pacific Daylight Time

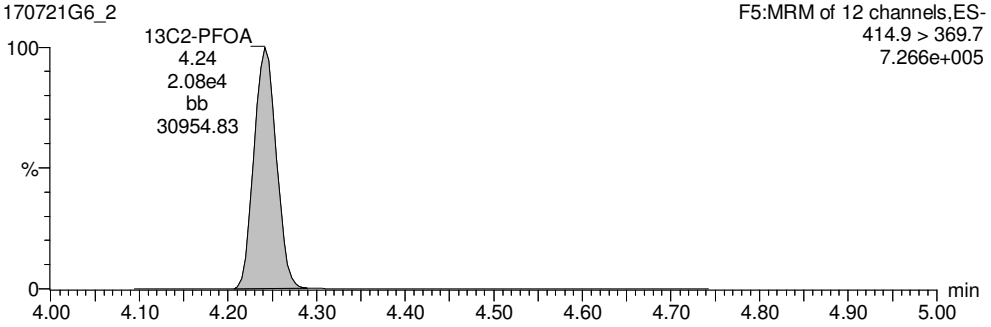
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170721G6-1 PFC CS-1 17G2117, Description: PFC CS-1 17G2117, Name: 170721G6_2, Date: 21-Jul-2017, Time: 15:51:03, Instrument: , Lab: , User:

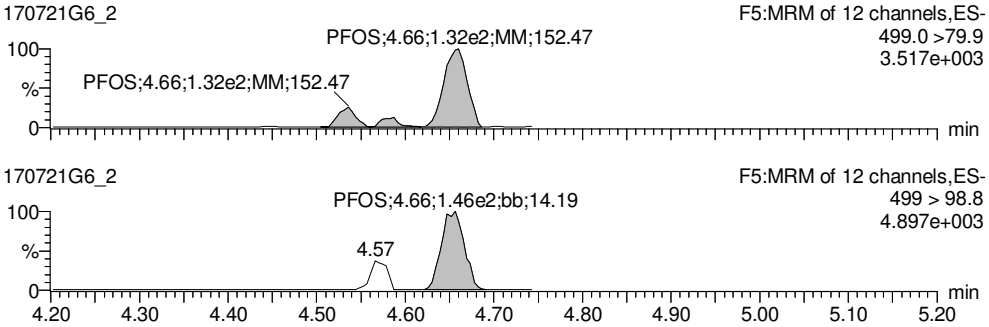
Total PFOA



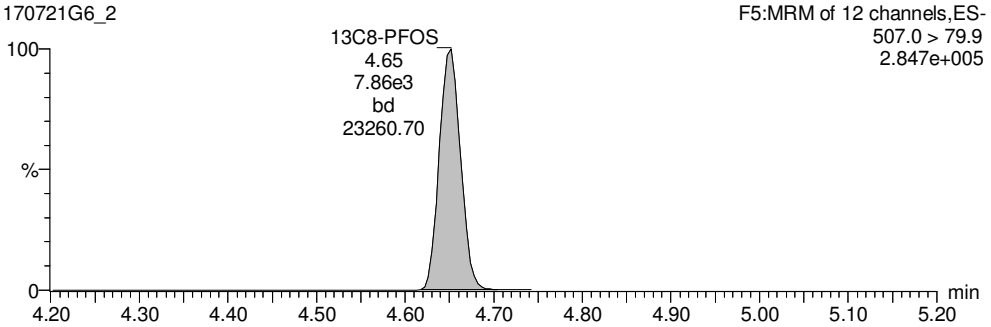
13C2-PFOA



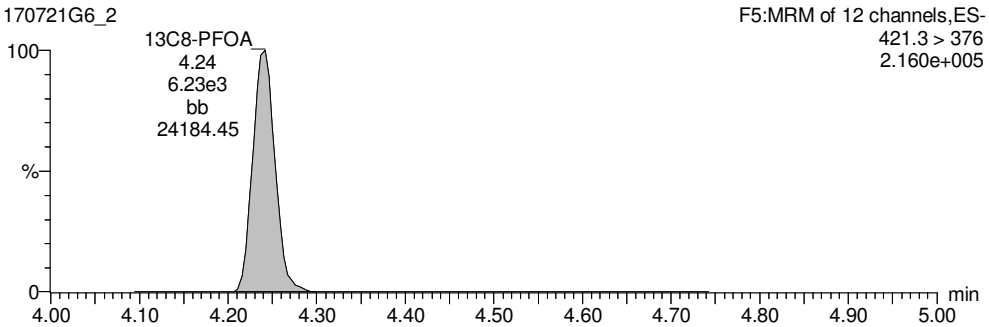
Total PFOS



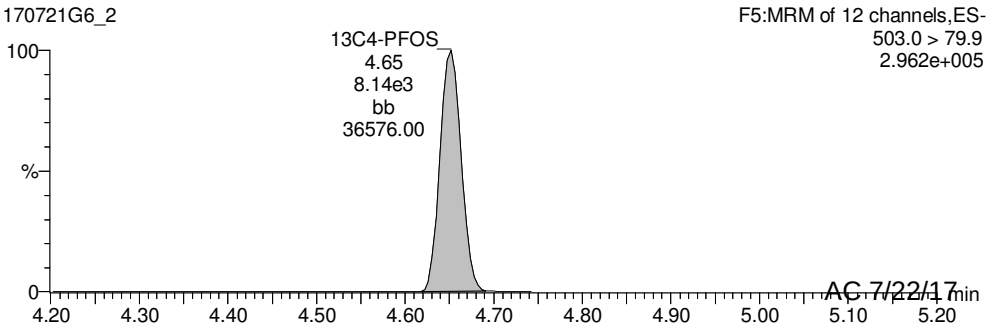
13C8-PFOS



13C8-PFOA



13C4-PFOS



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Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-6.qld

Last Altered: Saturday, July 22, 2017 10:06:10 Pacific Daylight Time
Printed: Saturday, July 22, 2017 10:06:51 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170721G6-2 PFC CS3 17G1927, Description: PFC CS3 17G1927, Name: 170721G6_6, Date: 21-Jul-2017, Time: 16:41:30

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	9	PFOS	499.0 >79.9	3.472e3	7.858e3		1.00	4.66	9.37	93.7	70-130
2	20	13C8-PFOS	507.0 > 79.9	7.858e3	7.400e3	1.026	1.00	4.65	12.9	104	50-150
3	26	13C4-PFOS	503.0 > 79.9	7.400e3	7.400e3	1.000	1.00	4.65	12.5	100	

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Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Saturday, July 22, 2017 09:52:13 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:56:24 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170721G6_1	IPA	21-Jul-17	15:38:33
2	170721G6_2	ST170721G6-1 PFC CS-1 17G2117	21-Jul-17	15:51:03
3	170721G6_3	IPA	21-Jul-17	16:03:33
4	170721G6_4	1700792-10@10X Dup01-20170627 0.11337	21-Jul-17	16:16:32
5	170721G6_5	IPA	21-Jul-17	16:29:14
6	170721G6_6	ST170721G6-2 PFC CS3 17G1927	21-Jul-17	16:41:30
7	170721G6_7	IPA	21-Jul-17	16:54:01

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Vista Analytical Laboratory Q1

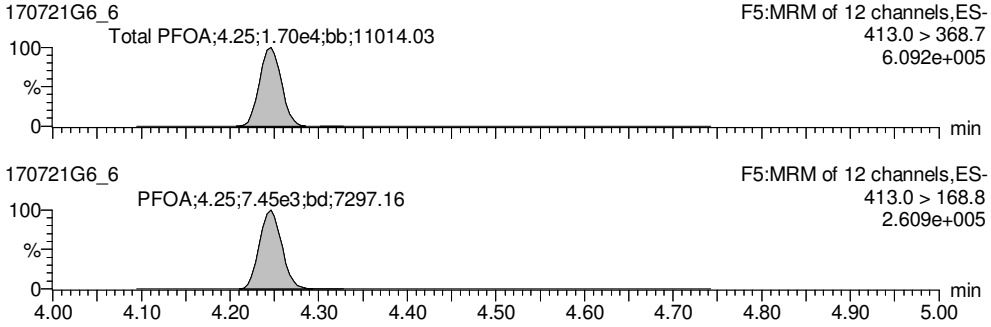
Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-6.qld

Last Altered: Saturday, July 22, 2017 10:06:10 Pacific Daylight Time
Printed: Saturday, July 22, 2017 10:06:51 Pacific Daylight Time

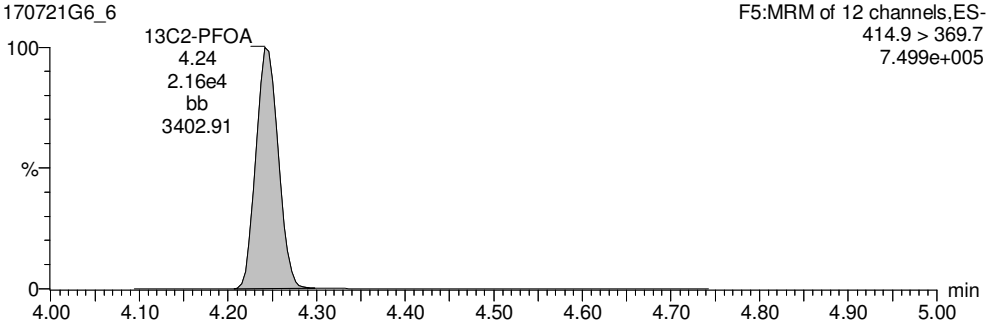
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170721G6-2 PFC CS3 17G1927, Description: PFC CS3 17G1927, Name: 170721G6_6, Date: 21-Jul-2017, Time: 16:41:30, Instrument: , Lab: , User:

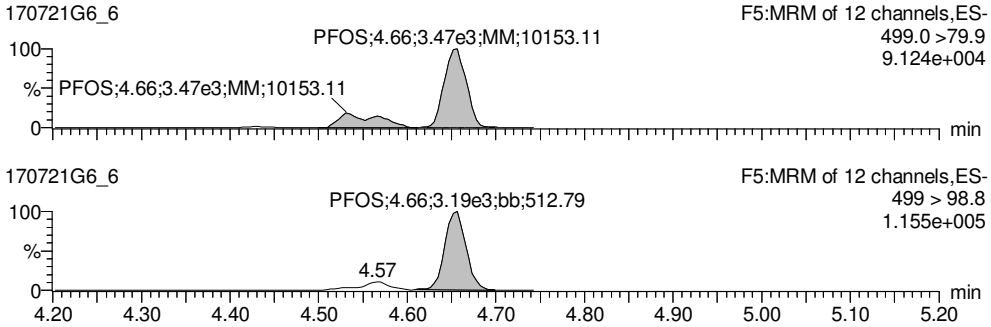
Total PFOA



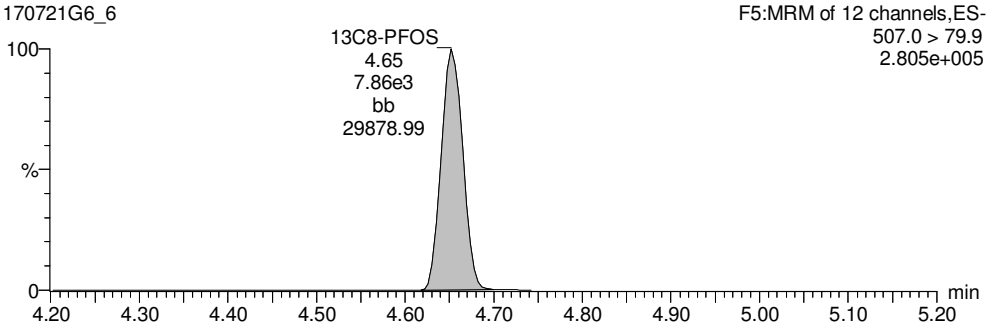
13C2-PFOA



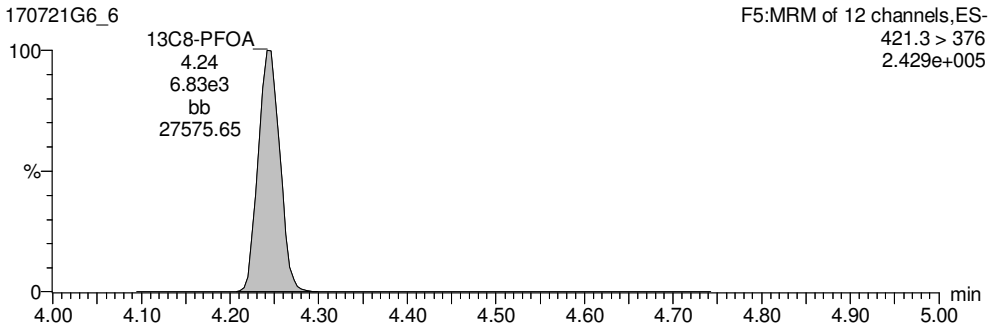
Total PFOS



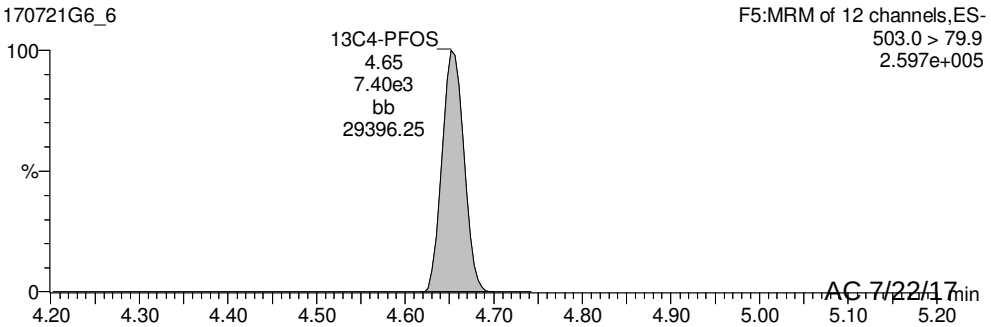
13C8-PFOS



13C8-PFOA



13C4-PFOS



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INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:49:03 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:17:05
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Compound name: PFBS
Correlation coefficient: r = 0.999311, r^2 = 0.998622
Calibration curve: 1.8654 * x + 0.177147
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	2.91	125.733	2938.156	0.535	bb	0.2	-23.3
2	2	170705M2_3	Standard	0.500	2.91	274.135	3185.882	1.076	bb	0.5	-3.7
3	3	170705M2_4	Standard	1.000	2.91	521.219	2857.299	2.280	bb	1.1	12.7
4	4	170705M2_5	Standard	2.000	2.91	1030.654	2980.753	4.322	bb	2.2	11.1
5	5	170705M2_6	Standard	5.000	2.91	2487.573	3115.085	9.982	bb	5.3	5.1
6	6	170705M2_7	Standard	10.000	2.90	4439.071	3067.311	18.090	bb	9.6	-4.0
7	7	170705M2_8	Standard	50.000	2.90	21747.844	2792.265	97.358	bb	52.1	4.2
8	8	170705M2_9	Standard	100.000	2.90	43517.570	2979.658	182.561	bb	97.8	-2.2

Compound name: PFHxA
Correlation coefficient: r = 0.999586, r^2 = 0.999173
Calibration curve: 1.37106 * x + 0.396864
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.15	930.784	10364.861	0.449	bbX	0.0	-84.8
2	2	170705M2_3	Standard	0.500	3.16	1938.407	11079.211	0.875	bbX	0.3	-30.3
3	3	170705M2_4	Standard	1.000	3.16	3580.227	11239.421	1.593	bb	0.9	-12.8
4	4	170705M2_5	Standard	2.000	3.15	7592.697	10441.585	3.636	db	2.4	18.1
5	5	170705M2_6	Standard	5.000	3.15	16920.393	11712.890	7.223	bb	5.0	-0.4
6	6	170705M2_7	Standard	10.000	3.15	29010.945	10900.922	13.307	bb	9.4	-5.8
7	7	170705M2_8	Standard	50.000	3.15	155929.297	11183.368	69.715	bb	50.6	1.1
8	8	170705M2_9	Standard	100.000	3.15	311700.125	11355.477	137.247	bb	99.8	-0.2

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Compound name: PFHpA
Correlation coefficient: r = 0.998862, r^2 = 0.997726
Calibration curve: 1.17677 * x + 0.307824
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.42	865.095	28174.320	0.384	bbX	0.1	-74.2
2	2	170705M2_3	Standard	0.500	3.42	1636.894	26635.770	0.768	bb	0.4	-21.8
3	3	170705M2_4	Standard	1.000	3.42	3446.113	27885.830	1.545	bb	1.1	5.1
4	4	170705M2_5	Standard	2.000	3.42	6837.425	29611.441	2.886	bb	2.2	9.6
5	5	170705M2_6	Standard	5.000	3.42	15523.172	28877.217	6.719	bb	5.4	9.0
6	6	170705M2_7	Standard	10.000	3.41	25794.193	27952.889	11.535	bb	9.5	-4.6
7	7	170705M2_8	Standard	50.000	3.41	140524.750	28110.525	62.488	bb	52.8	5.7
8	8	170705M2_9	Standard	100.000	3.41	250847.719	27385.096	114.500	bb	97.0	-3.0

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999590
Calibration curve: -0.00247497 * x^2 + 1.87329 * x + -0.00705947
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.49	93.769	2594.732	0.452	MM	0.2	-2.0
2	2	170705M2_3	Standard	0.500	3.50	195.692	2589.928	0.944	MM	0.5	1.7
3	3	170705M2_4	Standard	1.000	3.49	464.071	2913.508	1.991	MM	1.1	6.8
4	4	170705M2_5	Standard	2.000	3.50	894.373	2989.887	3.739	MM	2.0	0.3
5	5	170705M2_6	Standard	5.000	3.49	2047.378	2866.506	8.928	MM	4.8	-4.0
6	6	170705M2_7	Standard	10.000	3.48	3922.652	2774.778	17.671	MM	9.6	-4.4
7	7	170705M2_8	Standard	50.000	3.48	18716.000	2618.582	89.342	MM	51.2	2.3
8	8	170705M2_9	Standard	100.000	3.48	34991.797	2704.431	161.734	MM	99.4	-0.6

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Compound name: PFOA
Correlation coefficient: r = 0.999420, r^2 = 0.998839
Calibration curve: 0.933761 * x + 0.193294
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.62	1284.817	43531.598	0.369	bd	0.2	-24.8
2	2	170705M2_3	Standard	0.500	3.62	2227.929	48053.043	0.580	bb	0.4	-17.3
3	3	170705M2_4	Standard	1.000	3.62	4569.104	45696.223	1.250	bb	1.1	13.2
4	4	170705M2_5	Standard	2.000	3.62	8739.742	46379.480	2.355	bb	2.3	15.8
5	5	170705M2_6	Standard	5.000	3.62	18573.055	42715.777	5.435	bb	5.6	12.3
6	6	170705M2_7	Standard	10.000	3.61	35522.211	45589.391	9.740	bb	10.2	2.2
7	7	170705M2_8	Standard	50.000	3.61	150408.438	40322.508	46.627	bb	49.7	-0.5
8	8	170705M2_9	Standard	100.000	3.61	321997.094	43389.621	92.763	bb	99.1	-0.9

Compound name: PFNA
Correlation coefficient: r = 0.999280, r^2 = 0.998560
Calibration curve: 1.11098 * x + 0.0688283
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.81	1171.810	47770.836	0.307	MM	0.2	-14.4
2	2	170705M2_3	Standard	0.500	3.80	2756.608	52243.852	0.660	MM	0.5	6.3
3	3	170705M2_4	Standard	1.000	3.80	5663.031	54290.777	1.304	bb	1.1	11.2
4	4	170705M2_5	Standard	2.000	3.80	11539.653	54512.996	2.646	bb	2.3	16.0
5	5	170705M2_6	Standard	5.000	3.80	24322.898	48291.633	6.296	bb	5.6	12.1
6	6	170705M2_7	Standard	10.000	3.79	42993.871	51635.496	10.408	bb	9.3	-6.9
7	7	170705M2_8	Standard	50.000	3.79	220269.813	48688.023	56.551	bb	50.8	1.7
8	8	170705M2_9	Standard	100.000	3.79	470415.844	53525.945	109.857	bb	98.8	-1.2

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.998873
Calibration curve: -0.000575658 * x^2 + 1.05897 * x + 0.0534494
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.84	272.087	9413.727	0.361	MM	0.3	16.3
2	2	170705M2_3	Standard	0.500	3.86	400.136	10871.231	0.460	MM	0.4	-23.2
3	3	170705M2_4	Standard	1.000	3.85	1042.090	11022.589	1.182	MM	1.1	6.6
4	4	170705M2_5	Standard	2.000	3.85	2145.399	10620.750	2.525	bb	2.3	16.8
5	5	170705M2_6	Standard	5.000	3.85	4941.119	10669.258	5.789	MM	5.4	8.6
6	6	170705M2_7	Standard	10.000	3.84	8099.005	9939.181	10.186	MM	9.6	-3.8
7	7	170705M2_8	Standard	50.000	3.84	39063.281	9623.398	50.740	bb	49.2	-1.6
8	8	170705M2_9	Standard	100.000	3.84	78466.844	9748.393	100.615	bb	100.4	0.4

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998398
Calibration curve: 0.000759384 * x^2 + 1.12777 * x + 0.228347
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	3.97	1951.477	55632.191	0.438	bb	0.2	-25.5
2	2	170705M2_3	Standard	0.500	3.97	3453.753	56620.121	0.762	bd	0.5	-5.3
3	3	170705M2_4	Standard	1.000	3.97	6905.331	62663.176	1.377	bb	1.0	1.8
4	4	170705M2_5	Standard	2.000	3.97	14230.029	57448.082	3.096	bb	2.5	26.9
5	5	170705M2_6	Standard	5.000	3.96	30603.072	59067.801	6.476	bb	5.5	10.4
6	6	170705M2_7	Standard	10.000	3.96	48989.387	57214.508	10.703	bb	9.2	-7.7
7	7	170705M2_8	Standard	50.000	3.96	270264.500	58303.238	57.944	bb	49.5	-0.9
8	8	170705M2_9	Standard	100.000	3.96	495796.375	51247.992	120.931	bb	100.3	0.3

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Compound name: PFUnA
Correlation coefficient: r = 0.998781, r^2 = 0.997563
Calibration curve: 0.901738 * x + 0.0982118
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	4.13	1296.185	62046.969	0.261	bb	0.2	-27.7
2	2	170705M2_3	Standard	0.500	4.14	2809.686	63528.918	0.553	bb	0.5	0.8
3	3	170705M2_4	Standard	1.000	4.14	5080.900	55413.711	1.146	bb	1.2	16.2
4	4	170705M2_5	Standard	2.000	4.14	10284.878	62163.789	2.068	bb	2.2	9.2
5	5	170705M2_6	Standard	5.000	4.13	24180.139	61536.848	4.912	bb	5.3	6.8
6	6	170705M2_7	Standard	10.000	4.12	42430.457	59057.191	8.981	bb	9.9	-1.5
7	7	170705M2_8	Standard	50.000	4.12	218260.484	64685.254	42.177	bb	46.7	-6.7
8	8	170705M2_9	Standard	100.000	4.12	402963.281	54245.828	92.856	bb	102.9	2.9

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999610
Calibration curve: -0.00133241 * x^2 + 1.61336 * x + -0.019444
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	4.00	429.221	13824.592	0.388	bb	0.3	1.1
2	2	170705M2_3	Standard	0.500	4.00	872.219	14234.324	0.766	bb	0.5	-2.6
3	3	170705M2_4	Standard	1.000	4.00	1658.677	13112.977	1.581	bb	1.0	-0.7
4	4	170705M2_5	Standard	2.000	4.00	3706.589	14049.660	3.298	bb	2.1	3.0
5	5	170705M2_6	Standard	5.000	3.99	8063.015	12826.344	7.858	bb	4.9	-2.0
6	6	170705M2_7	Standard	10.000	3.99	16067.637	13268.185	15.137	bb	9.5	-5.3
7	7	170705M2_8	Standard	50.000	3.99	81804.094	12943.525	79.001	bb	51.1	2.3
8	8	170705M2_9	Standard	100.000	3.99	149881.781	12724.132	147.242	bb	99.4	-0.6

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Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999426
Calibration curve: 0.00157116 * x^2 + 1.12286 * x + 0.0790977
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	4.08	402.172	13874.378	0.362	bbX	0.3	0.9
2	2	170705M2_3	Standard	0.500	4.08	625.424	13899.495	0.562	bb	0.4	-14.0
3	3	170705M2_4	Standard	1.000	4.07	1486.438	13745.829	1.352	bb	1.1	13.2
4	4	170705M2_5	Standard	2.000	4.07	3091.382	14579.158	2.651	bb	2.3	14.1
5	5	170705M2_6	Standard	5.000	4.06	6536.002	13540.418	6.034	bb	5.3	5.3
6	6	170705M2_7	Standard	10.000	4.06	12651.616	14363.329	11.010	bb	9.6	-3.9
7	7	170705M2_8	Standard	50.000	4.05	64759.824	13574.722	59.633	bb	49.6	-0.8
8	8	170705M2_9	Standard	100.000	4.06	128597.008	12523.236	128.358	bb	100.2	0.2

Compound name: PFDoA
Correlation coefficient: r = 0.999542, r^2 = 0.999083
Calibration curve: 0.830738 * x + 0.0366231
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	4.31	107.734	7090.979	0.190	bb	0.2	-26.2
2	2	170705M2_3	Standard	0.500	4.30	289.868	7251.595	0.500	bb	0.6	11.5
3	3	170705M2_4	Standard	1.000	4.29	459.943	6817.750	0.843	bb	1.0	-2.9
4	4	170705M2_5	Standard	2.000	4.30	1208.494	7804.063	1.936	bb	2.3	14.3
5	5	170705M2_6	Standard	5.000	4.29	2377.221	6537.772	4.545	bb	5.4	8.5
6	6	170705M2_7	Standard	10.000	4.28	4439.618	7053.735	7.867	bb	9.4	-5.7
7	7	170705M2_8	Standard	50.000	4.28	23850.646	7085.070	42.079	bb	50.6	1.2
8	8	170705M2_9	Standard	100.000	4.28	45273.797	6858.020	82.520	bb	99.3	-0.7

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Compound name: PFTrDA
Correlation coefficient: r = 0.999307, r^2 = 0.998614
Calibration curve: 10.821 * x + 2.72105
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	4.46	1874.518	7090.979	3.304	bbX	0.1	-78.4
2	2	170705M2_3	Standard	0.500	4.47	4003.324	7251.595	6.901	bb	0.4	-22.7
3	3	170705M2_4	Standard	1.000	4.46	7442.000	6817.750	13.645	bb	1.0	0.9
4	4	170705M2_5	Standard	2.000	4.47	15466.644	7804.063	24.773	bb	2.0	1.9
5	5	170705M2_6	Standard	5.000	4.45	34794.688	6537.772	66.526	bb	5.9	17.9
6	6	170705M2_7	Standard	10.000	4.44	64315.676	7053.735	113.975	bb	10.3	2.8
7	7	170705M2_8	Standard	50.000	4.44	309907.188	7085.070	546.761	bb	50.3	0.6
8	8	170705M2_9	Standard	100.000	4.44	586941.375	6858.020	1069.808	bb	98.6	-1.4

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999498
Calibration curve: -0.000989892 * x^2 + 1.18715 * x + 0.13375
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	0.250	4.64	1407.173	46747.992	0.376	bb	0.2	-18.3
2	2	170705M2_3	Standard	0.500	4.64	2854.123	50027.531	0.713	bb	0.5	-2.4
3	3	170705M2_4	Standard	1.000	4.64	5316.194	47718.160	1.393	bb	1.1	6.1
4	4	170705M2_5	Standard	2.000	4.64	11385.062	50935.184	2.794	bb	2.2	12.3
5	5	170705M2_6	Standard	5.000	4.63	25391.598	49814.836	6.371	bb	5.3	5.6
6	6	170705M2_7	Standard	10.000	4.62	46087.875	49546.270	11.627	bb	9.8	-2.4
7	7	170705M2_8	Standard	50.000	4.61	220414.203	48918.633	56.322	bb	49.4	-1.3
8	8	170705M2_9	Standard	100.000	4.62	434117.906	49646.109	109.303	bb	100.4	0.4

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Compound name: 13C3-PFBS
Response Factor: 0.0321044
RRF SD: 0.00160131, Relative SD: 4.98783
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	2.90	2938.156	36934.543	0.398	bb	12.4	-0.9
2	2	170705M2_3	Standard	12.500	2.91	3185.882	37581.402	0.424	bb	13.2	5.6
3	3	170705M2_4	Standard	12.500	2.91	2857.299	38061.805	0.375	bb	11.7	-6.5
4	4	170705M2_5	Standard	12.500	2.91	2980.753	39265.156	0.380	bb	11.8	-5.4
5	5	170705M2_6	Standard	12.500	2.90	3115.085	38459.203	0.405	bb	12.6	0.9
6	6	170705M2_7	Standard	12.500	2.91	3067.311	35323.004	0.434	bb	13.5	8.2
7	7	170705M2_8	Standard	12.500	2.90	2792.265	34923.203	0.400	bb	12.5	-0.4
8	8	170705M2_9	Standard	12.500	2.90	2979.658	37720.324	0.395	bb	12.3	-1.6

Compound name: 13C2-PFHxA
Response Factor: 0.296386
RRF SD: 0.0168441, Relative SD: 5.68316
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	5.000	3.15	10364.861	36934.543	1.403	bb	4.7	-5.3
2	2	170705M2_3	Standard	5.000	3.16	11079.211	37581.402	1.474	bb	5.0	-0.5
3	3	170705M2_4	Standard	5.000	3.16	11239.421	38061.805	1.476	bb	5.0	-0.4
4	4	170705M2_5	Standard	5.000	3.15	10441.585	39265.156	1.330	bb	4.5	-10.3
5	5	170705M2_6	Standard	5.000	3.15	11712.890	38459.203	1.523	bb	5.1	2.8
6	6	170705M2_7	Standard	5.000	3.15	10900.922	35323.004	1.543	bb	5.2	4.1
7	7	170705M2_8	Standard	5.000	3.15	11183.368	34923.203	1.601	bb	5.4	8.0
8	8	170705M2_9	Standard	5.000	3.15	11355.477	37720.324	1.505	bb	5.1	1.6

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Compound name: 13C4-PFHpA
Response Factor: 0.301574
RRF SD: 0.0129733, Relative SD: 4.30187
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.42	28174.320	36934.543	3.814	bb	12.6	1.2
2	2	170705M2_3	Standard	12.500	3.42	26635.770	37581.402	3.544	bb	11.8	-6.0
3	3	170705M2_4	Standard	12.500	3.42	27885.830	38061.805	3.663	bb	12.1	-2.8
4	4	170705M2_5	Standard	12.500	3.42	29611.441	39265.156	3.771	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	3.42	28877.217	38459.203	3.754	bb	12.4	-0.4
6	6	170705M2_7	Standard	12.500	3.41	27952.889	35323.004	3.957	bb	13.1	5.0
7	7	170705M2_8	Standard	12.500	3.41	28110.525	34923.203	4.025	bb	13.3	6.8
8	8	170705M2_9	Standard	12.500	3.41	27385.096	37720.324	3.630	bb	12.0	-3.7

Compound name: 18O2-PFHxS
Response Factor: 0.434349
RRF SD: 0.0284465, Relative SD: 6.54922
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.49	2594.732	6817.387	4.758	bb	11.0	-12.4
2	2	170705M2_3	Standard	12.500	3.49	2589.928	6164.226	5.252	bb	12.1	-3.3
3	3	170705M2_4	Standard	12.500	3.49	2913.508	6644.131	5.481	bb	12.6	1.0
4	4	170705M2_5	Standard	12.500	3.49	2989.887	6498.437	5.751	bb	13.2	5.9
5	5	170705M2_6	Standard	12.500	3.49	2866.506	6113.233	5.861	bb	13.5	8.0
6	6	170705M2_7	Standard	12.500	3.48	2774.778	6537.576	5.305	bb	12.2	-2.3
7	7	170705M2_8	Standard	12.500	3.48	2618.582	6160.812	5.313	bb	12.2	-2.1
8	8	170705M2_9	Standard	12.500	3.48	2704.431	5917.072	5.713	bb	13.2	5.2

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Compound name: 13C2-PFOA
Response Factor: 1.14047
RRF SD: 0.0311664, Relative SD: 2.73276
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.62	43531.598	38977.832	13.960	bb	12.2	-2.1
2	2	170705M2_3	Standard	12.500	3.62	48053.043	41005.910	14.648	bb	12.8	2.8
3	3	170705M2_4	Standard	12.500	3.62	45696.223	39029.453	14.635	bb	12.8	2.7
4	4	170705M2_5	Standard	12.500	3.62	46379.480	42331.734	13.695	bb	12.0	-3.9
5	5	170705M2_6	Standard	12.500	3.62	42715.777	36537.793	14.614	bb	12.8	2.5
6	6	170705M2_7	Standard	12.500	3.61	45589.391	39402.188	14.463	bb	12.7	1.5
7	7	170705M2_8	Standard	12.500	3.61	40322.508	36472.195	13.820	bb	12.1	-3.1
8	8	170705M2_9	Standard	12.500	3.61	43389.621	38161.703	14.212	bb	12.5	-0.3

Compound name: 13C5-PFNA
Response Factor: 0.95797
RRF SD: 0.0563983, Relative SD: 5.88727
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.80	47770.836	52300.438	11.417	bb	11.9	-4.7
2	2	170705M2_3	Standard	12.500	3.80	52243.852	52519.844	12.434	bb	13.0	3.8
3	3	170705M2_4	Standard	12.500	3.80	54290.777	52957.340	12.815	bb	13.4	7.0
4	4	170705M2_5	Standard	12.500	3.80	54512.996	54419.230	12.522	bb	13.1	4.6
5	5	170705M2_6	Standard	12.500	3.79	48291.633	56932.551	10.603	bb	11.1	-11.5
6	6	170705M2_7	Standard	12.500	3.79	51635.496	52904.762	12.200	bb	12.7	1.9
7	7	170705M2_8	Standard	12.500	3.79	48688.023	50838.715	11.971	bb	12.5	-0.0
8	8	170705M2_9	Standard	12.500	3.79	53525.945	56534.215	11.835	bb	12.4	-1.2

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Compound name: 13C8-PFOS
Response Factor: 1.06141
RRF SD: 0.0529547, Relative SD: 4.9891
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.85	9413.727	9402.628	12.515	bb	11.8	-5.7
2	2	170705M2_3	Standard	12.500	3.85	10871.231	9786.112	13.886	bb	13.1	4.7
3	3	170705M2_4	Standard	12.500	3.85	11022.589	9642.229	14.289	bb	13.5	7.7
4	4	170705M2_5	Standard	12.500	3.85	10620.750	9991.625	13.287	bb	12.5	0.1
5	5	170705M2_6	Standard	12.500	3.85	10669.258	10308.810	12.937	bb	12.2	-2.5
6	6	170705M2_7	Standard	12.500	3.84	9939.181	9025.101	13.766	bb	13.0	3.8
7	7	170705M2_8	Standard	12.500	3.84	9623.398	9648.409	12.468	bd	11.7	-6.0
8	8	170705M2_9	Standard	12.500	3.84	9748.393	9378.699	12.993	bd	12.2	-2.1

Compound name: 13C2-PFDA
Response Factor: 0.942006
RRF SD: 0.0532165, Relative SD: 5.64928
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.97	55632.191	59940.918	11.601	bb	12.3	-1.5
2	2	170705M2_3	Standard	12.500	3.97	56620.121	63230.613	11.193	bb	11.9	-4.9
3	3	170705M2_4	Standard	12.500	3.97	62663.176	59436.520	13.179	bb	14.0	11.9
4	4	170705M2_5	Standard	12.500	3.97	57448.082	59932.414	11.982	bb	12.7	1.8
5	5	170705M2_6	Standard	12.500	3.96	59067.801	66052.234	11.178	bb	11.9	-5.1
6	6	170705M2_7	Standard	12.500	3.96	57214.508	59362.641	12.048	bb	12.8	2.3
7	7	170705M2_8	Standard	12.500	3.96	58303.238	61872.145	11.779	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	3.96	51247.992	56989.531	11.241	bb	11.9	-4.5

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Compound name: 13C2-PFUnA
Response Factor: 1.08439
RRF SD: 0.0985113, Relative SD: 9.08448
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	4.13	62046.969	53537.027	14.487	bb	13.4	6.9
2	2	170705M2_3	Standard	12.500	4.14	63528.918	57247.090	13.872	bb	12.8	2.3
3	3	170705M2_4	Standard	12.500	4.14	55413.711	51139.855	13.545	bb	12.5	-0.1
4	4	170705M2_5	Standard	12.500	4.14	62163.789	53307.301	14.577	bb	13.4	7.5
5	5	170705M2_6	Standard	12.500	4.12	61536.848	58437.289	13.163	bb	12.1	-2.9
6	6	170705M2_7	Standard	12.500	4.12	59057.191	60314.734	12.239	bb	11.3	-9.7
7	7	170705M2_8	Standard	12.500	4.12	64685.254	53582.891	15.090	bb	13.9	11.3
8	8	170705M2_9	Standard	12.500	4.12	54245.828	59133.727	11.467	bb	10.6	-15.4

Compound name: d3-N-MeFOSAA
Response Factor: 0.240382
RRF SD: 0.0195314, Relative SD: 8.12516
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	4.00	13824.592	53537.027	3.228	bb	13.4	7.4
2	2	170705M2_3	Standard	12.500	4.00	14234.324	57247.090	3.108	bb	12.9	3.4
3	3	170705M2_4	Standard	12.500	4.00	13112.977	51139.855	3.205	bb	13.3	6.7
4	4	170705M2_5	Standard	12.500	4.00	14049.660	53307.301	3.294	bb	13.7	9.6
5	5	170705M2_6	Standard	12.500	4.00	12826.344	58437.289	2.744	bb	11.4	-8.7
6	6	170705M2_7	Standard	12.500	3.99	13268.185	60314.734	2.750	bb	11.4	-8.5
7	7	170705M2_8	Standard	12.500	3.98	12943.525	53582.891	3.020	bb	12.6	0.5
8	8	170705M2_9	Standard	12.500	3.99	12724.132	59133.727	2.690	bb	11.2	-10.5

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Compound name: d5-N-EtFOSAA
Response Factor: 0.2474
RRF SD: 0.0204724, Relative SD: 8.27503
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	4.07	13874.378	53537.027	3.239	bb	13.1	4.8
2	2	170705M2_3	Standard	12.500	4.07	13899.495	57247.090	3.035	bb	12.3	-1.9
3	3	170705M2_4	Standard	12.500	4.07	13745.829	51139.855	3.360	bb	13.6	8.6
4	4	170705M2_5	Standard	12.500	4.07	14579.158	53307.301	3.419	bb	13.8	10.5
5	5	170705M2_6	Standard	12.500	4.06	13540.418	58437.289	2.896	bb	11.7	-6.3
6	6	170705M2_7	Standard	12.500	4.05	14363.329	60314.734	2.977	bb	12.0	-3.7
7	7	170705M2_8	Standard	12.500	4.05	13574.722	53582.891	3.167	bb	12.8	2.4
8	8	170705M2_9	Standard	12.500	4.06	12523.236	59133.727	2.647	bb	10.7	-14.4

Compound name: 13C2-PFDoA
Response Factor: 0.126983
RRF SD: 0.0114927, Relative SD: 9.05061
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	4.30	7090.979	53537.027	1.656	bb	13.0	4.3
2	2	170705M2_3	Standard	12.500	4.30	7251.595	57247.090	1.583	bb	12.5	-0.2
3	3	170705M2_4	Standard	12.500	4.30	6817.750	51139.855	1.666	bb	13.1	5.0
4	4	170705M2_5	Standard	12.500	4.30	7804.063	53307.301	1.830	bb	14.4	15.3
5	5	170705M2_6	Standard	12.500	4.29	6537.772	58437.289	1.398	bb	11.0	-11.9
6	6	170705M2_7	Standard	12.500	4.28	7053.735	60314.734	1.462	bb	11.5	-7.9
7	7	170705M2_8	Standard	12.500	4.28	7085.070	53582.891	1.653	bb	13.0	4.1
8	8	170705M2_9	Standard	12.500	4.28	6858.020	59133.727	1.450	bb	11.4	-8.7

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Compound name: 13C2-PFTeDA
Response Factor: 0.882761
RRF SD: 0.0469789, Relative SD: 5.32181
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	4.64	46747.992	53537.027	10.915	bb	12.4	-1.1
2	2	170705M2_3	Standard	12.500	4.64	50027.531	57247.090	10.924	bb	12.4	-1.0
3	3	170705M2_4	Standard	12.500	4.64	47718.160	51139.855	11.664	bb	13.2	5.7
4	4	170705M2_5	Standard	12.500	4.64	50935.184	53307.301	11.944	bb	13.5	8.2
5	5	170705M2_6	Standard	12.500	4.63	49814.836	58437.289	10.656	bb	12.1	-3.4
6	6	170705M2_7	Standard	12.500	4.62	49546.270	60314.734	10.268	bb	11.6	-6.9
7	7	170705M2_8	Standard	12.500	4.61	48918.633	53582.891	11.412	bb	12.9	3.4
8	8	170705M2_9	Standard	12.500	4.62	49646.109	59133.727	10.494	bb	11.9	-4.9

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	5.000	3.15	36934.543	36934.543	5.000	bb	5.0	0.0
2	2	170705M2_3	Standard	5.000	3.16	37581.402	37581.402	5.000	bb	5.0	0.0
3	3	170705M2_4	Standard	5.000	3.16	38061.805	38061.805	5.000	bb	5.0	0.0
4	4	170705M2_5	Standard	5.000	3.15	39265.156	39265.156	5.000	bb	5.0	0.0
5	5	170705M2_6	Standard	5.000	3.15	38459.203	38459.203	5.000	bb	5.0	0.0
6	6	170705M2_7	Standard	5.000	3.15	35323.004	35323.004	5.000	bb	5.0	0.0
7	7	170705M2_8	Standard	5.000	3.15	34923.203	34923.203	5.000	bb	5.0	0.0
8	8	170705M2_9	Standard	5.000	3.15	37720.324	37720.324	5.000	bb	5.0	0.0

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.49	6817.387	6817.387	12.500	bb	12.5	0.0
2	2	170705M2_3	Standard	12.500	3.49	6164.226	6164.226	12.500	bb	12.5	0.0
3	3	170705M2_4	Standard	12.500	3.49	6644.131	6644.131	12.500	bb	12.5	0.0
4	4	170705M2_5	Standard	12.500	3.49	6498.437	6498.437	12.500	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	3.48	6113.233	6113.233	12.500	bb	12.5	0.0
6	6	170705M2_7	Standard	12.500	3.48	6537.576	6537.576	12.500	bb	12.5	0.0
7	7	170705M2_8	Standard	12.500	3.48	6160.812	6160.812	12.500	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	3.48	5917.072	5917.072	12.500	bb	12.5	0.0

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.62	38977.832	38977.832	12.500	bb	12.5	0.0
2	2	170705M2_3	Standard	12.500	3.62	41005.910	41005.910	12.500	bb	12.5	0.0
3	3	170705M2_4	Standard	12.500	3.62	39029.453	39029.453	12.500	bb	12.5	0.0
4	4	170705M2_5	Standard	12.500	3.62	42331.734	42331.734	12.500	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	3.62	36537.793	36537.793	12.500	bb	12.5	0.0
6	6	170705M2_7	Standard	12.500	3.61	39402.188	39402.188	12.500	bb	12.5	0.0
7	7	170705M2_8	Standard	12.500	3.61	36472.195	36472.195	12.500	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	3.61	38161.703	38161.703	12.500	bb	12.5	0.0

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.80	52300.438	52300.438	12.500	bb	12.5	0.0
2	2	170705M2_3	Standard	12.500	3.80	52519.844	52519.844	12.500	bb	12.5	0.0
3	3	170705M2_4	Standard	12.500	3.80	52957.340	52957.340	12.500	bb	12.5	0.0
4	4	170705M2_5	Standard	12.500	3.80	54419.230	54419.230	12.500	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	3.79	56932.551	56932.551	12.500	bb	12.5	0.0
6	6	170705M2_7	Standard	12.500	3.79	52904.762	52904.762	12.500	bb	12.5	0.0
7	7	170705M2_8	Standard	12.500	3.79	50838.715	50838.715	12.500	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	3.79	56534.215	56534.215	12.500	bb	12.5	0.0

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.85	9402.628	9402.628	12.500	bb	12.5	0.0
2	2	170705M2_3	Standard	12.500	3.85	9786.112	9786.112	12.500	bb	12.5	0.0
3	3	170705M2_4	Standard	12.500	3.85	9642.229	9642.229	12.500	bb	12.5	0.0
4	4	170705M2_5	Standard	12.500	3.85	9991.625	9991.625	12.500	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	3.85	10308.810	10308.810	12.500	bb	12.5	0.0
6	6	170705M2_7	Standard	12.500	3.84	9025.101	9025.101	12.500	bb	12.5	0.0
7	7	170705M2_8	Standard	12.500	3.84	9648.409	9648.409	12.500	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	3.84	9378.699	9378.699	12.500	bb	12.5	0.0

Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:49:03 Pacific Daylight Time

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	3.97	59940.918	59940.918	12.500	bb	12.5	0.0
2	2	170705M2_3	Standard	12.500	3.97	63230.613	63230.613	12.500	bb	12.5	0.0
3	3	170705M2_4	Standard	12.500	3.97	59436.520	59436.520	12.500	bb	12.5	0.0
4	4	170705M2_5	Standard	12.500	3.97	59932.414	59932.414	12.500	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	3.96	66052.234	66052.234	12.500	bb	12.5	0.0
6	6	170705M2_7	Standard	12.500	3.96	59362.641	59362.641	12.500	bb	12.5	0.0
7	7	170705M2_8	Standard	12.500	3.96	61872.145	61872.145	12.500	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	3.96	56989.531	56989.531	12.500	bb	12.5	0.0

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.18688e-016, Relative SD: 1.18688e-014
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primar...	Conc.	%Dev
1	1	170705M2_2	Standard	12.500	4.13	53537.027	53537.027	12.500	bb	12.5	0.0
2	2	170705M2_3	Standard	12.500	4.13	57247.090	57247.090	12.500	bb	12.5	0.0
3	3	170705M2_4	Standard	12.500	4.14	51139.855	51139.855	12.500	bb	12.5	0.0
4	4	170705M2_5	Standard	12.500	4.14	53307.301	53307.301	12.500	bb	12.5	0.0
5	5	170705M2_6	Standard	12.500	4.12	58437.289	58437.289	12.500	bb	12.5	0.0
6	6	170705M2_7	Standard	12.500	4.12	60314.734	60314.734	12.500	bb	12.5	0.0
7	7	170705M2_8	Standard	12.500	4.12	53582.891	53582.891	12.500	bb	12.5	0.0
8	8	170705M2_9	Standard	12.500	4.12	59133.727	59133.727	12.500	bb	12.5	0.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 19, 2017 14:00:18 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 14:00:51 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:56:08
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170705M2_2	ST170705M2-1 PFC CS-2 17G0503	05-Jul-17	13:27:57
2	170705M2_3	ST170705M2-2 PFC CS-1 17G0504	05-Jul-17	13:38:43
3	170705M2_4	ST170705M2-3 PFC CS0 17G0505	05-Jul-17	13:49:28
4	170705M2_5	ST170705M2-4 PFC CS1 17G0506	05-Jul-17	14:00:11
5	170705M2_6	ST170705M2-5 PFC CS2 17G0507	05-Jul-17	14:10:49
6	170705M2_7	ST170705M2-6 PFC CS3 17G0508	05-Jul-17	14:21:36
7	170705M2_8	ST170705M2-7 PFC CS4 17G0509	05-Jul-17	14:32:14
8	170705M2_9	ST170705M2-8 PFC CS5 17G0510	05-Jul-17	14:43:01
9	170705M2_10	IPA	05-Jul-17	14:53:47
10	170705M2_11	SS170705M2-1 PFC SSS 17G0502	05-Jul-17	15:04:25
11	170705M2_12	IPA	05-Jul-17	15:15:04

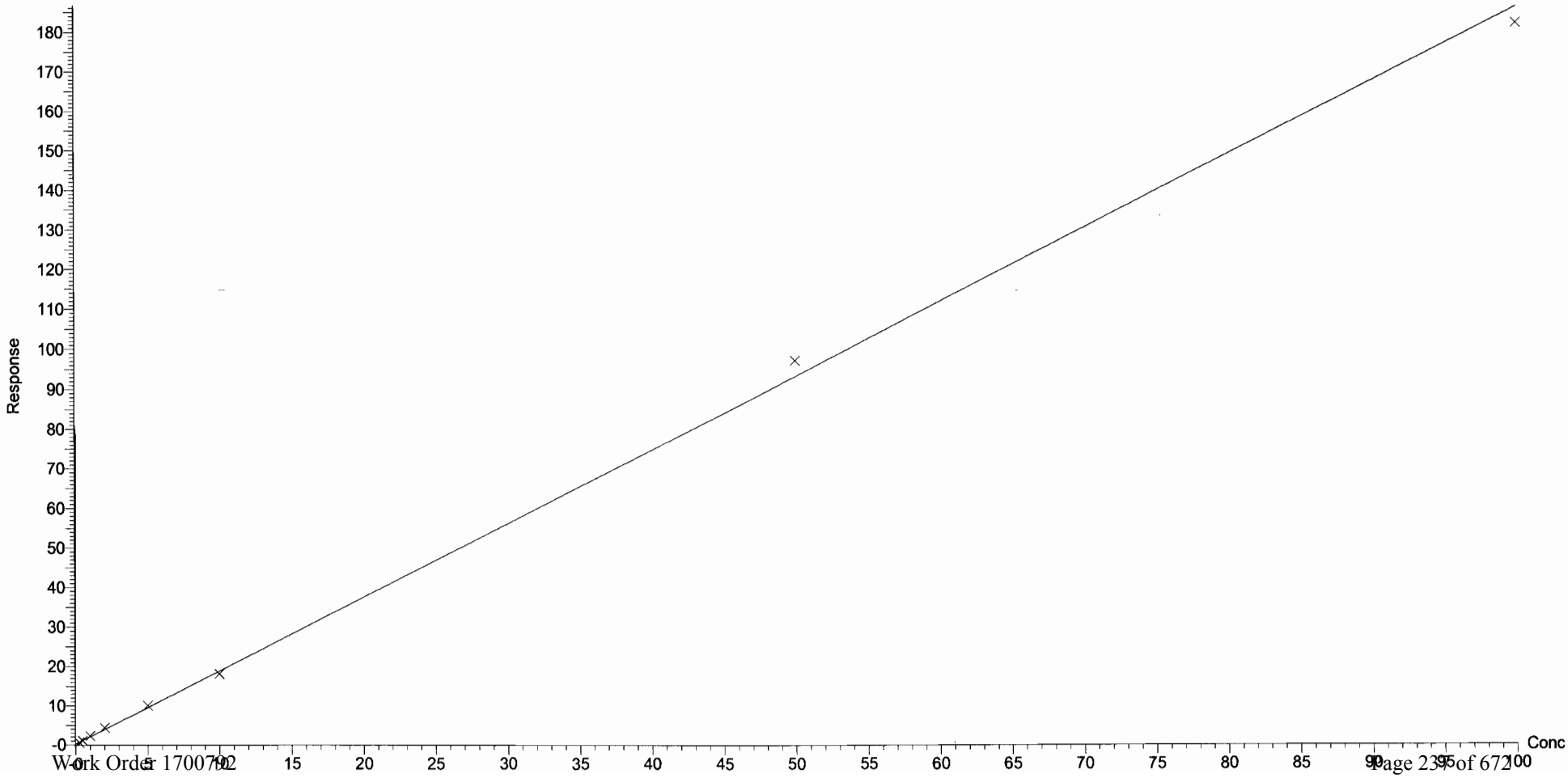
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:17:05
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

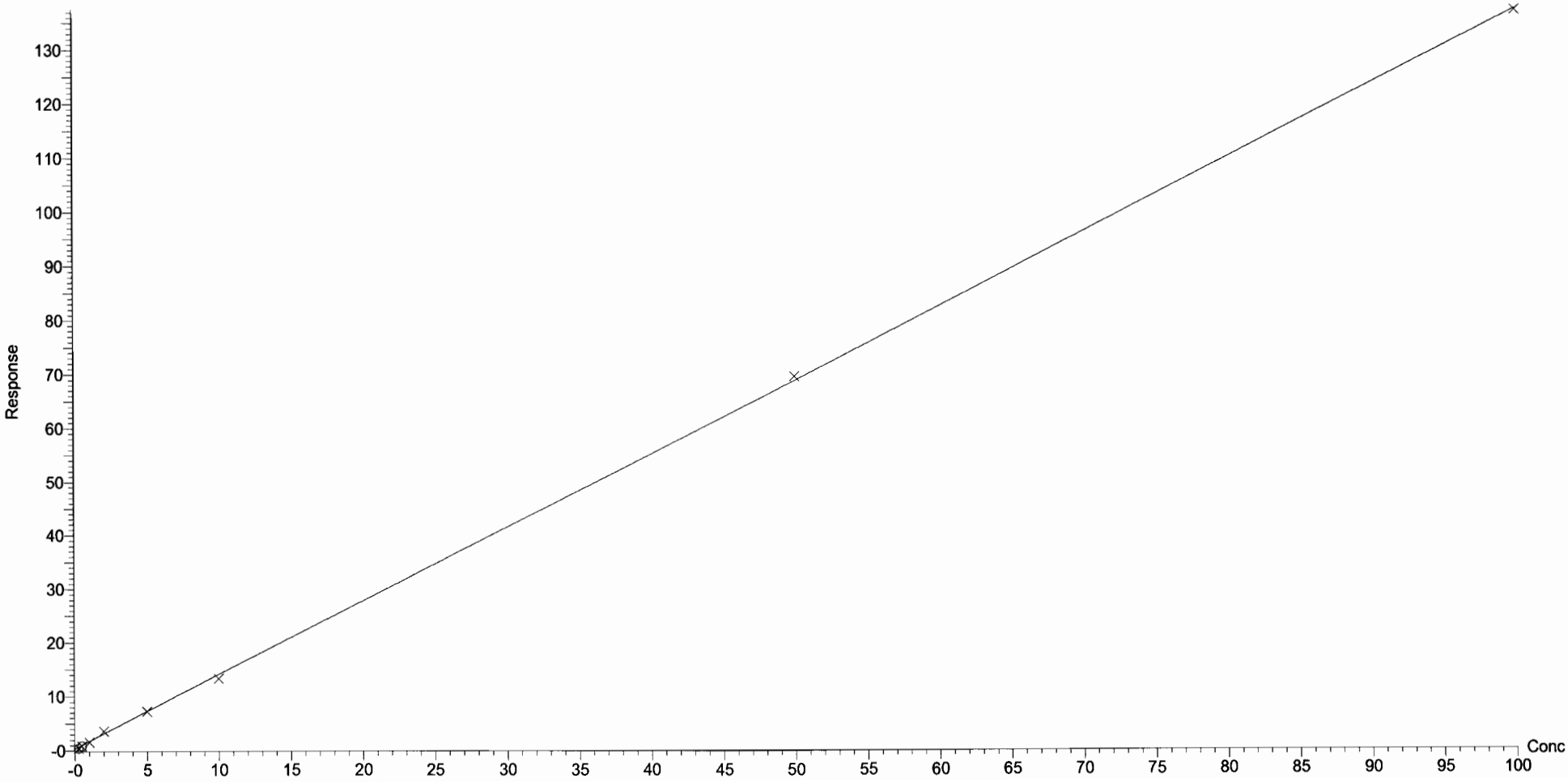
Compound name: PFBS
Correlation coefficient: r = 0.999311, r^2 = 0.998622
Calibration curve: 1.8654 * x + 0.177147
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

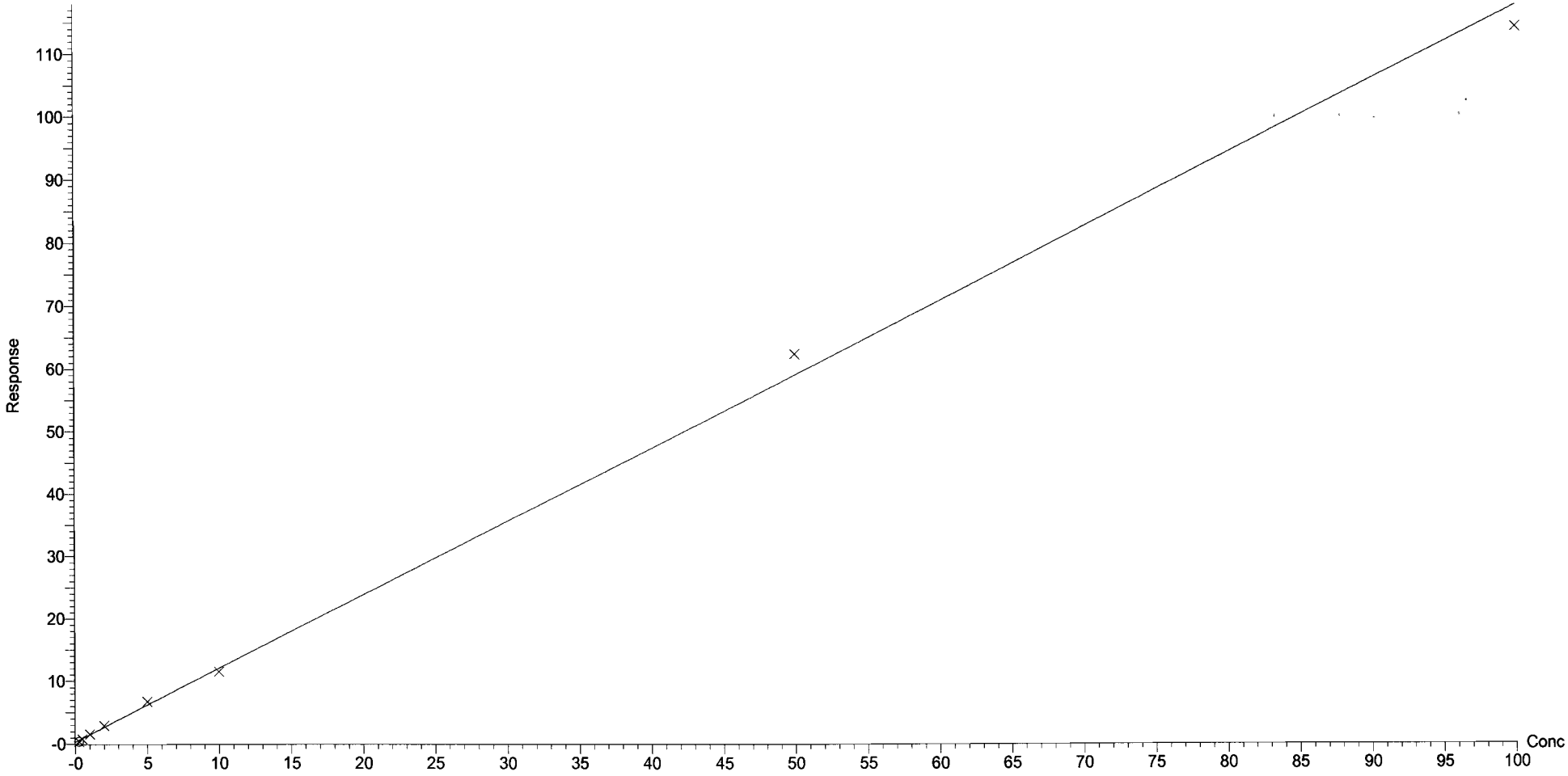
Compound name: PFHxA
Correlation coefficient: r = 0.999586, r^2 = 0.999173
Calibration curve: 1.37106 * x + 0.396864
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

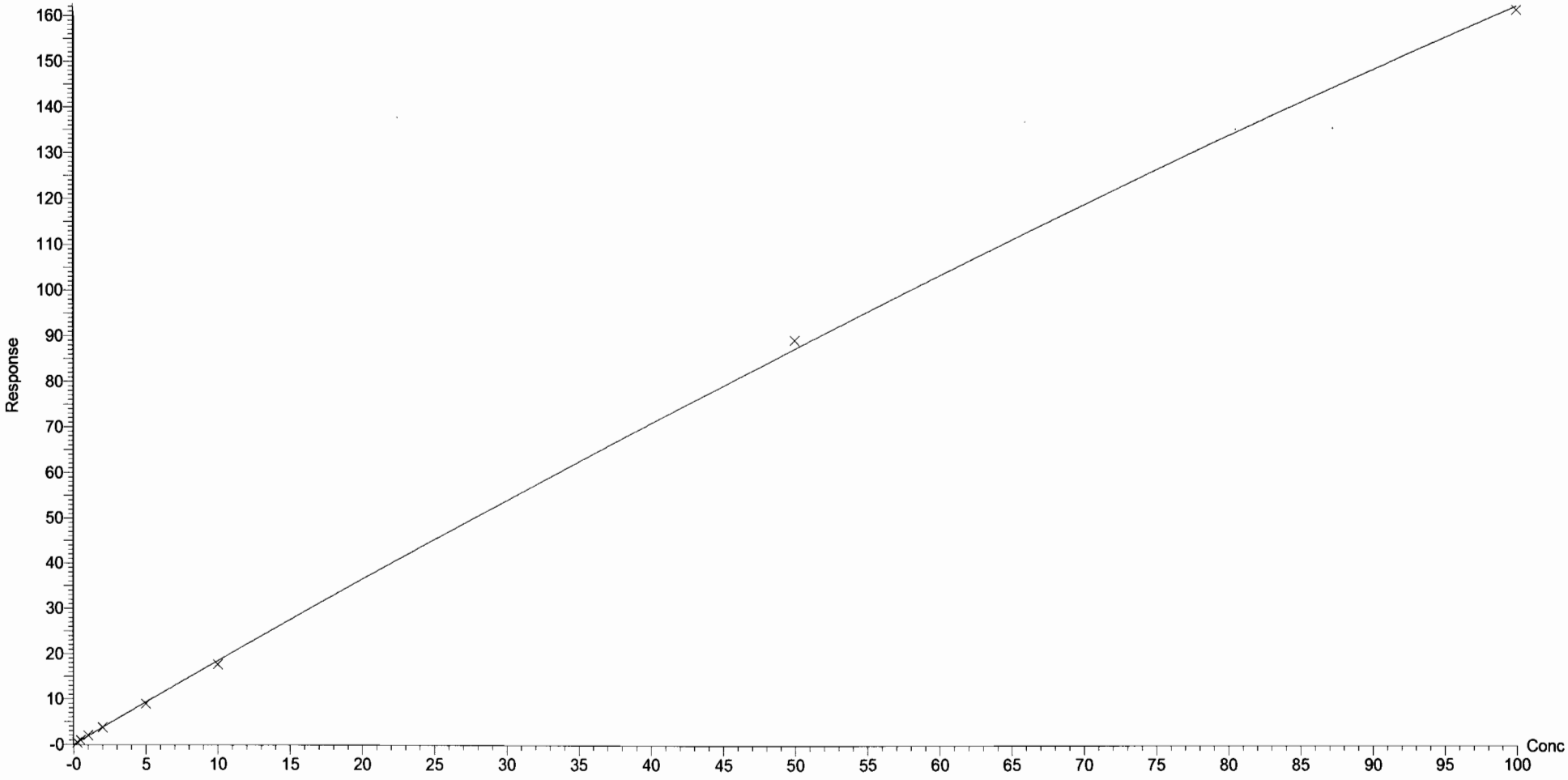
Compound name: PFHpA
Correlation coefficient: r = 0.998862, r^2 = 0.997726
Calibration curve: 1.17677 * x + 0.307824
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

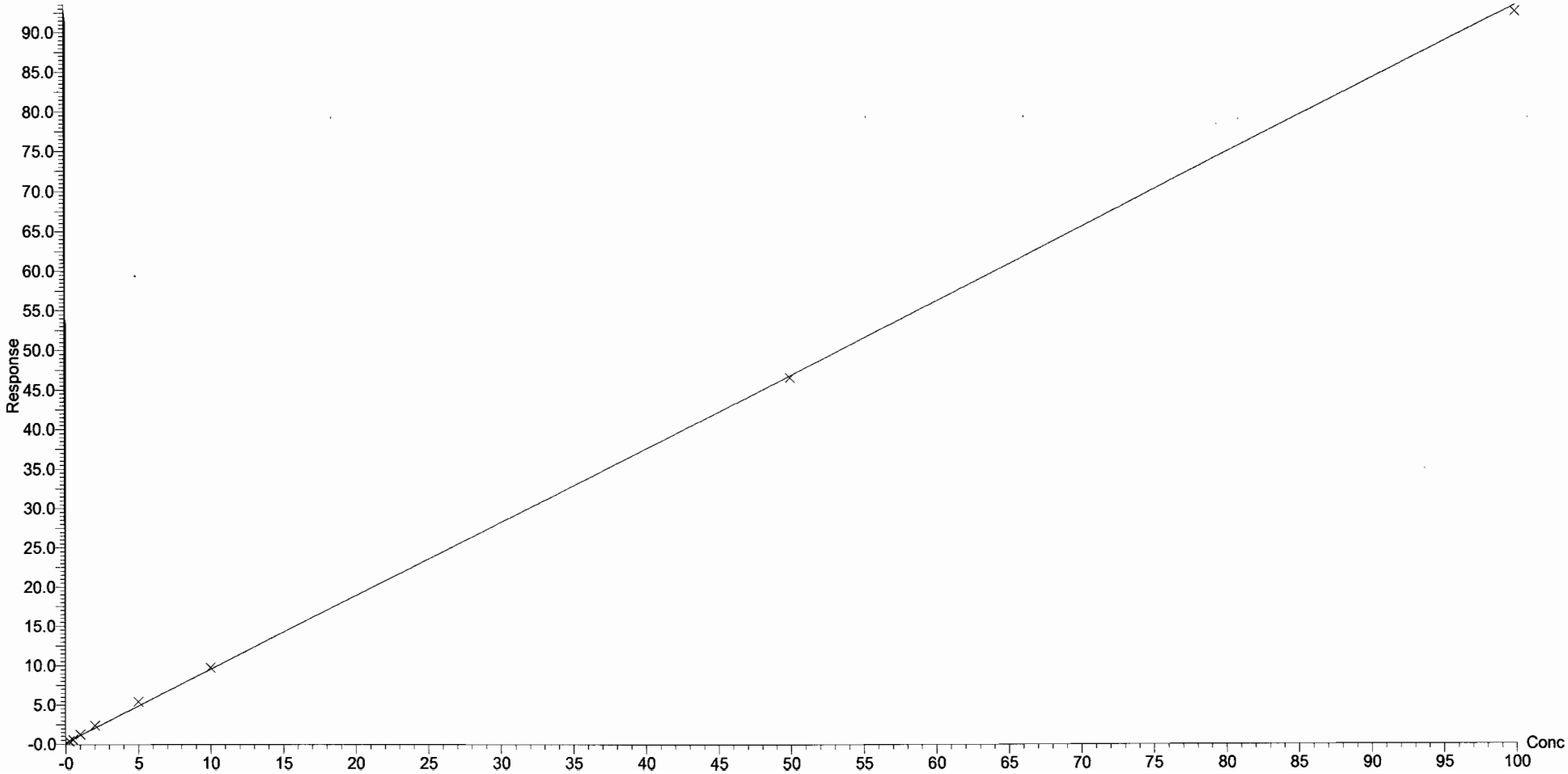
Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999590
Calibration curve: -0.00247497 * x^2 + 1.87329 * x + -0.00705947
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

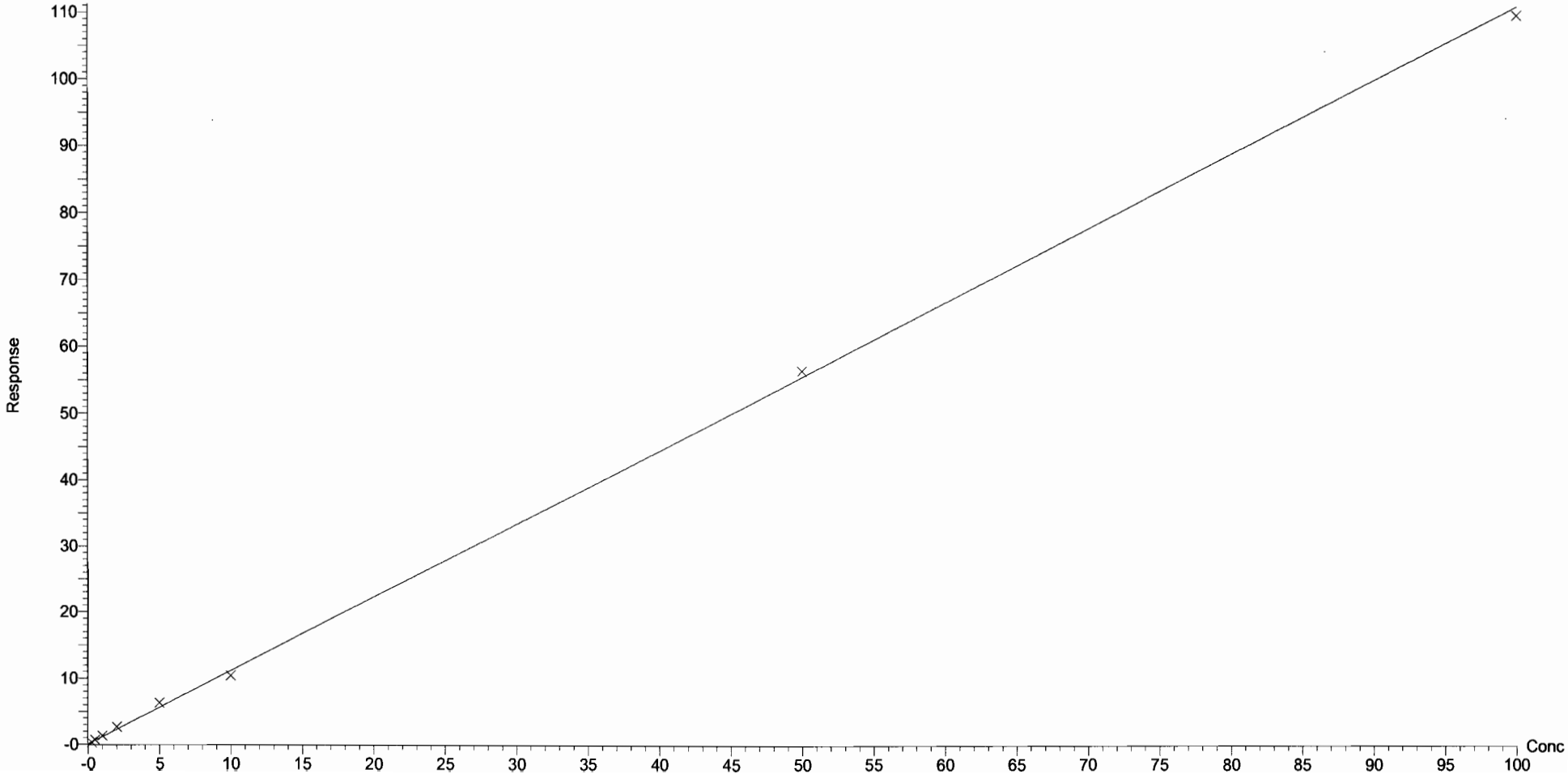
Compound name: PFOA
Correlation coefficient: r = 0.999420, r^2 = 0.998839
Calibration curve: 0.933761 * x + 0.193294
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

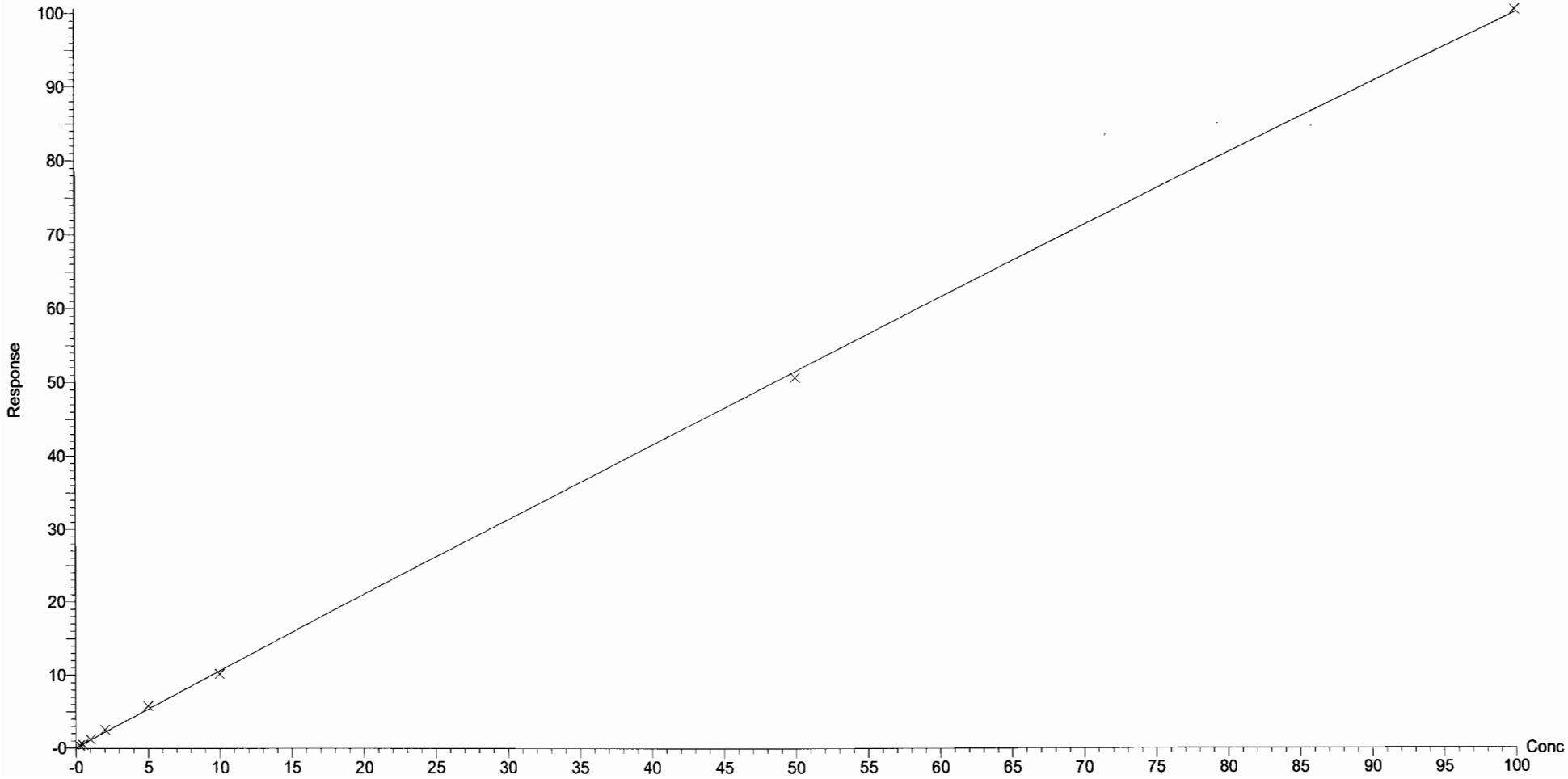
Compound name: PFNA
Correlation coefficient: r = 0.999280, r^2 = 0.998560
Calibration curve: 1.11098 * x + 0.0688283
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

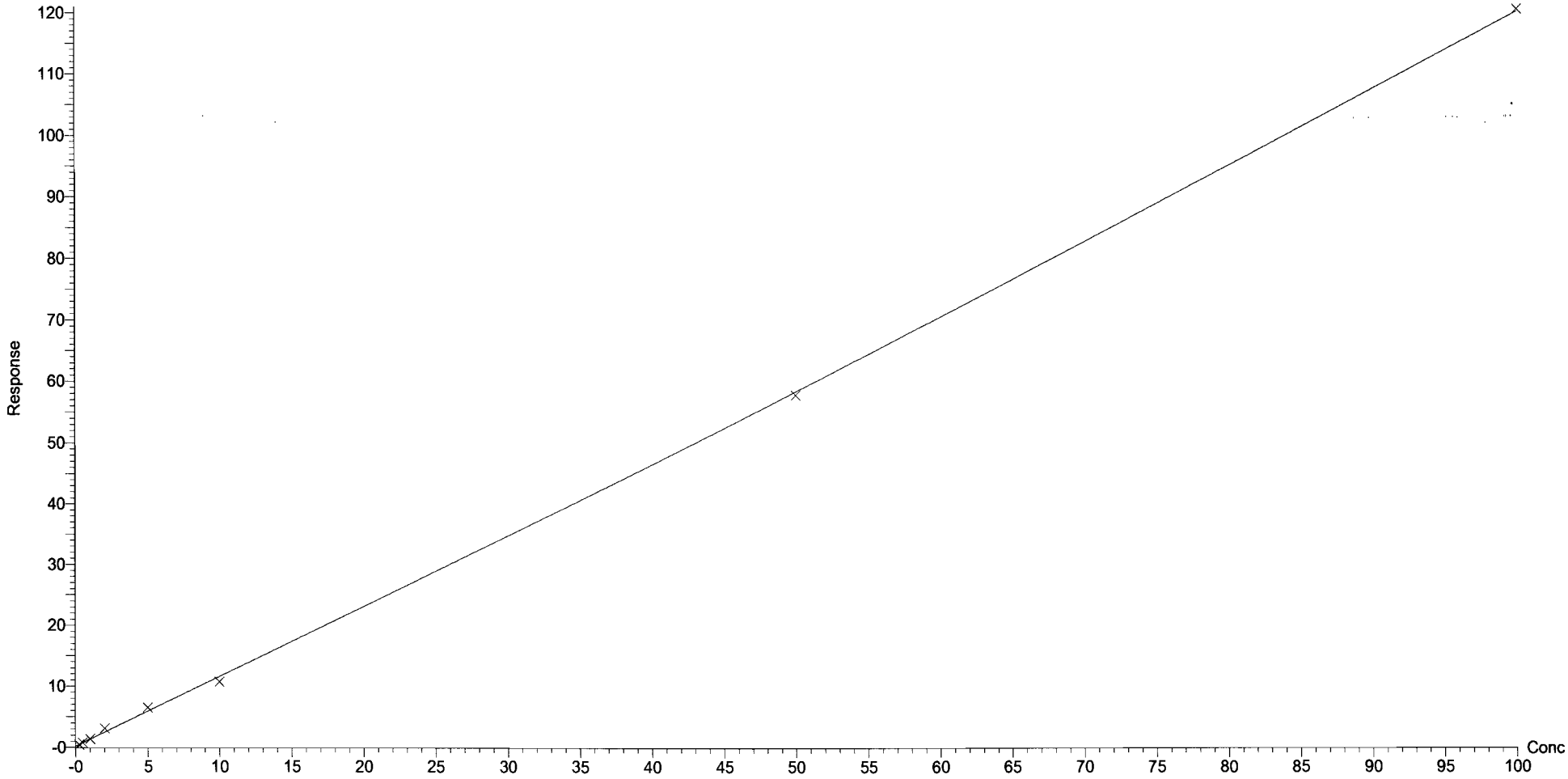
Compound name: PFOS
Coefficient of Determination: R^2 = 0.998873
Calibration curve: -0.000575658 * x^2 + 1.05897 * x + 0.0534494
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998398
Calibration curve: 0.000759384 * x^2 + 1.12777 * x + 0.228347
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



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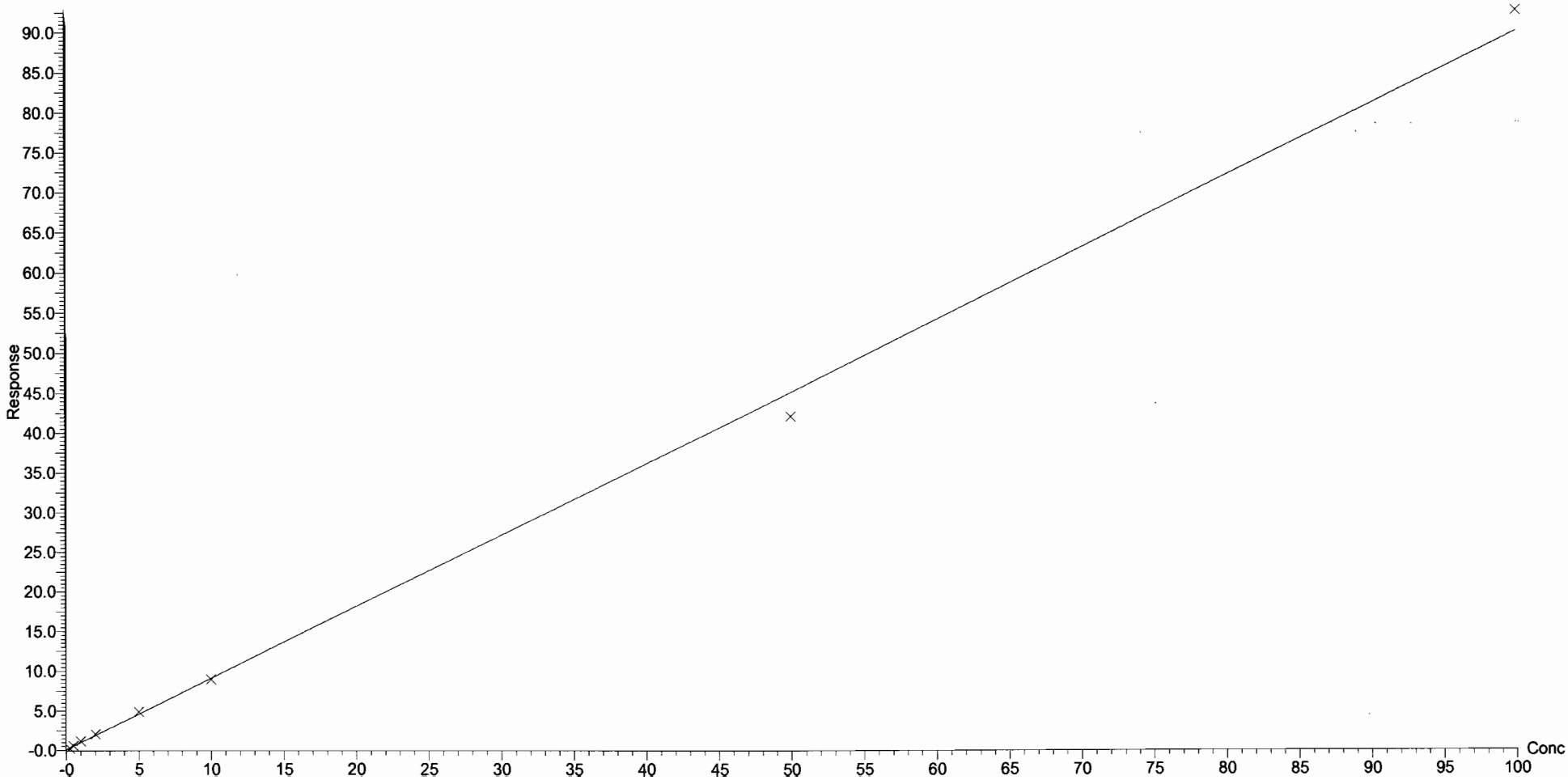
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

Compound name: PFUnA
Correlation coefficient: r = 0.998781, r^2 = 0.997563
Calibration curve: 0.901738 * x + 0.0982118
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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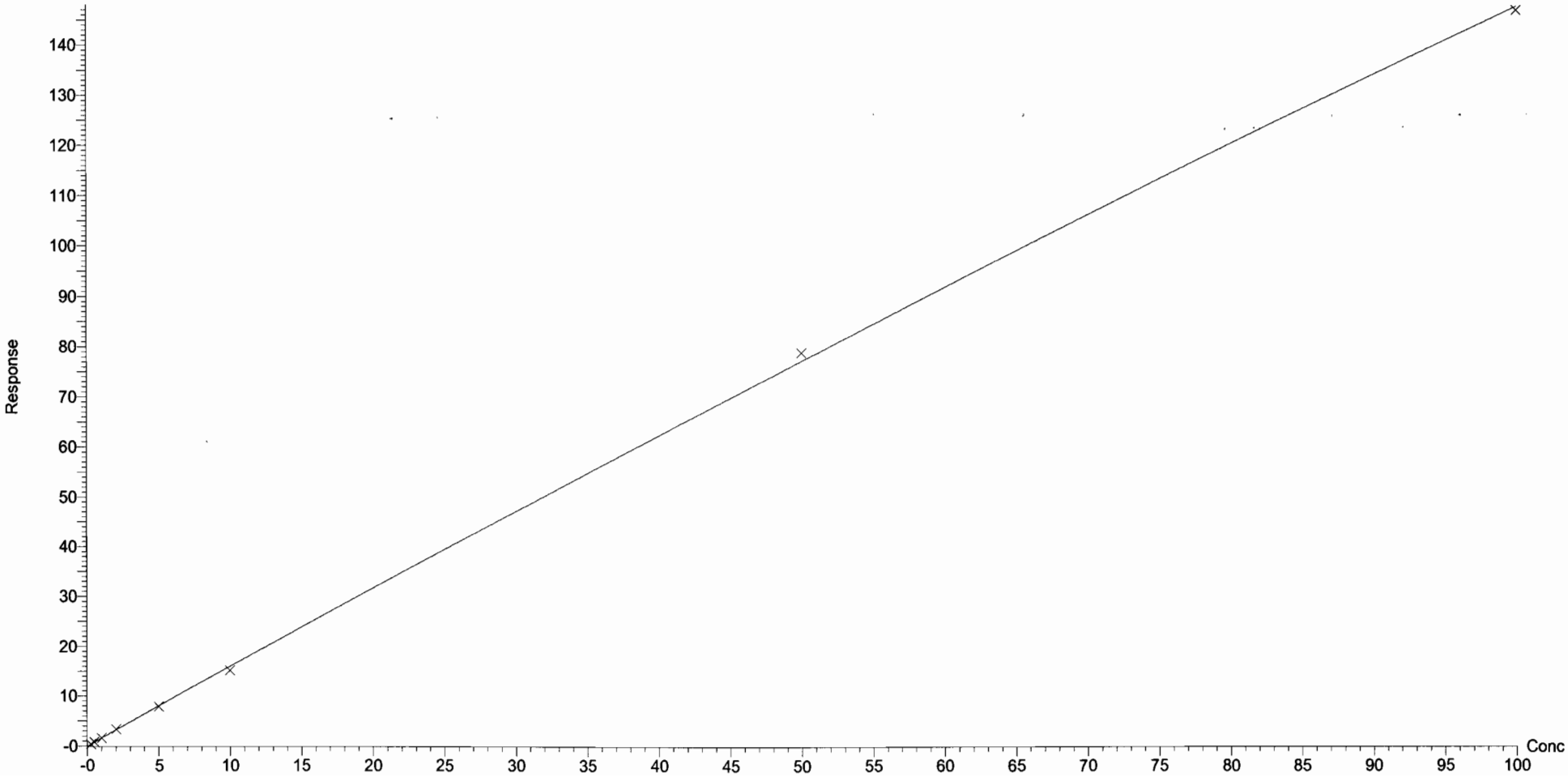
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999610
Calibration curve: -0.00133241 * x^2 + 1.61336 * x + -0.019444
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



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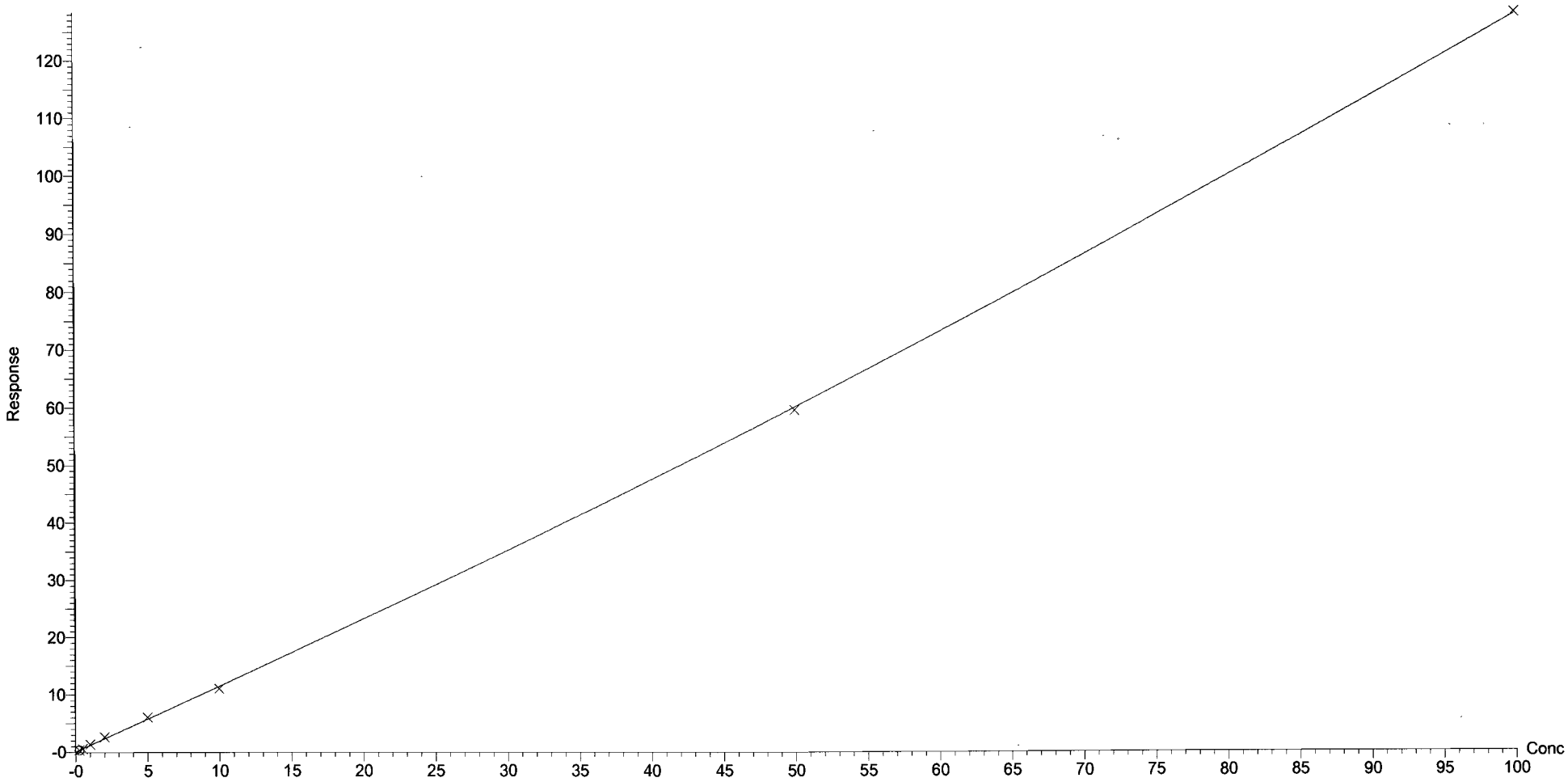
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

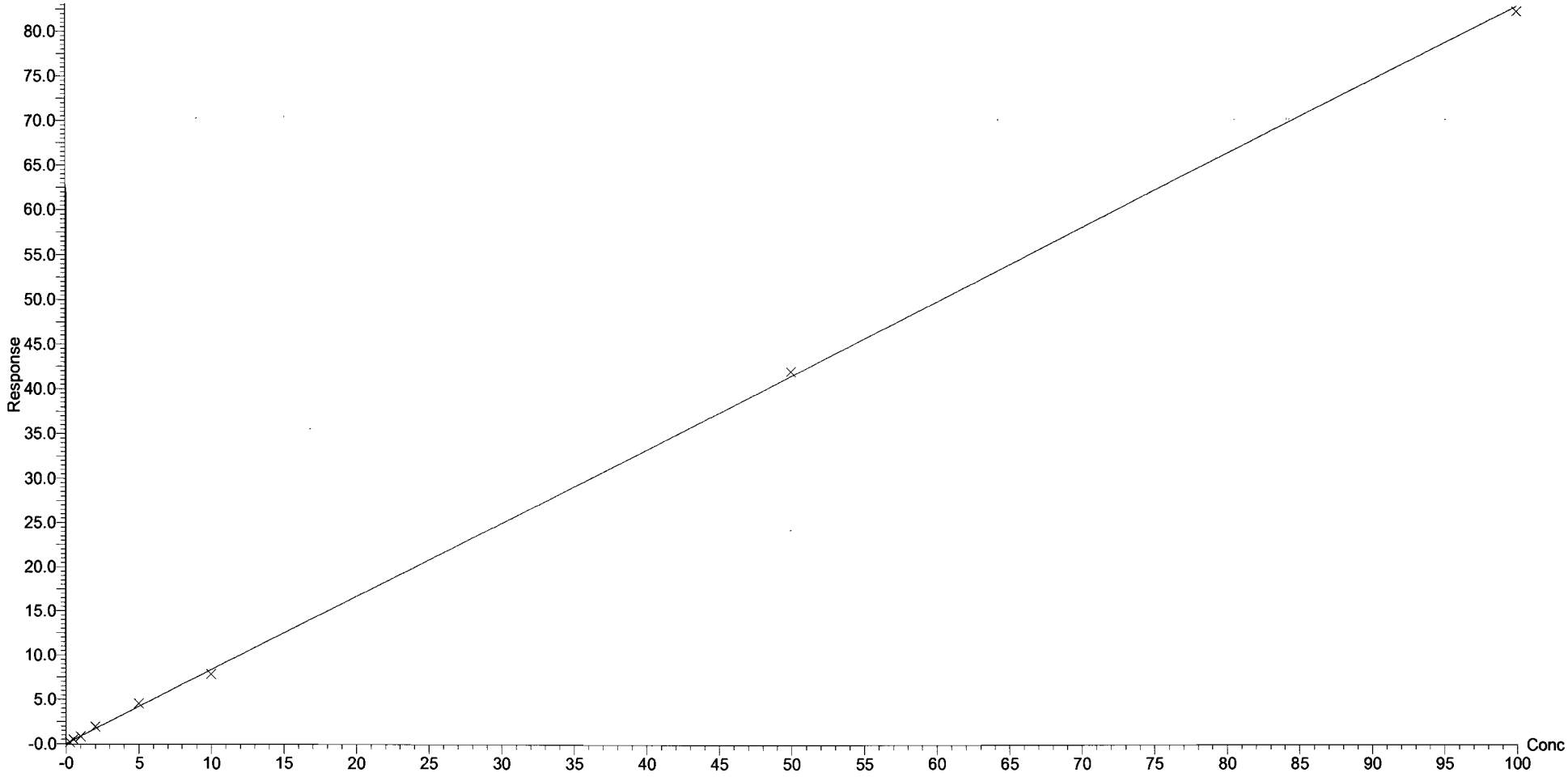
Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999426
Calibration curve: 0.00157116 * x^2 + 1.12286 * x + 0.0790977
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

Compound name: PFDoA
Correlation coefficient: r = 0.999542, r^2 = 0.999083
Calibration curve: 0.830738 * x + 0.0366231
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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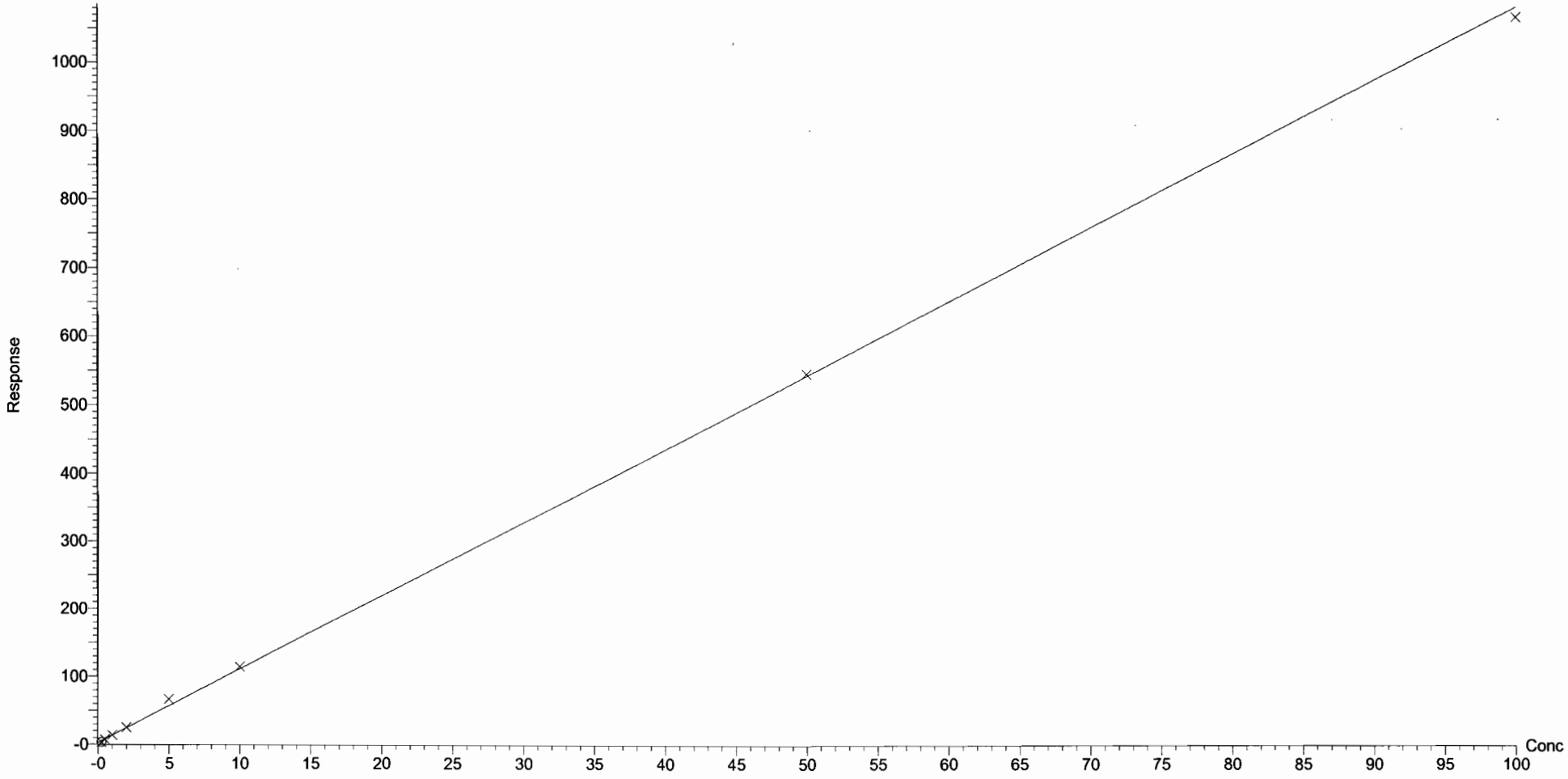
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

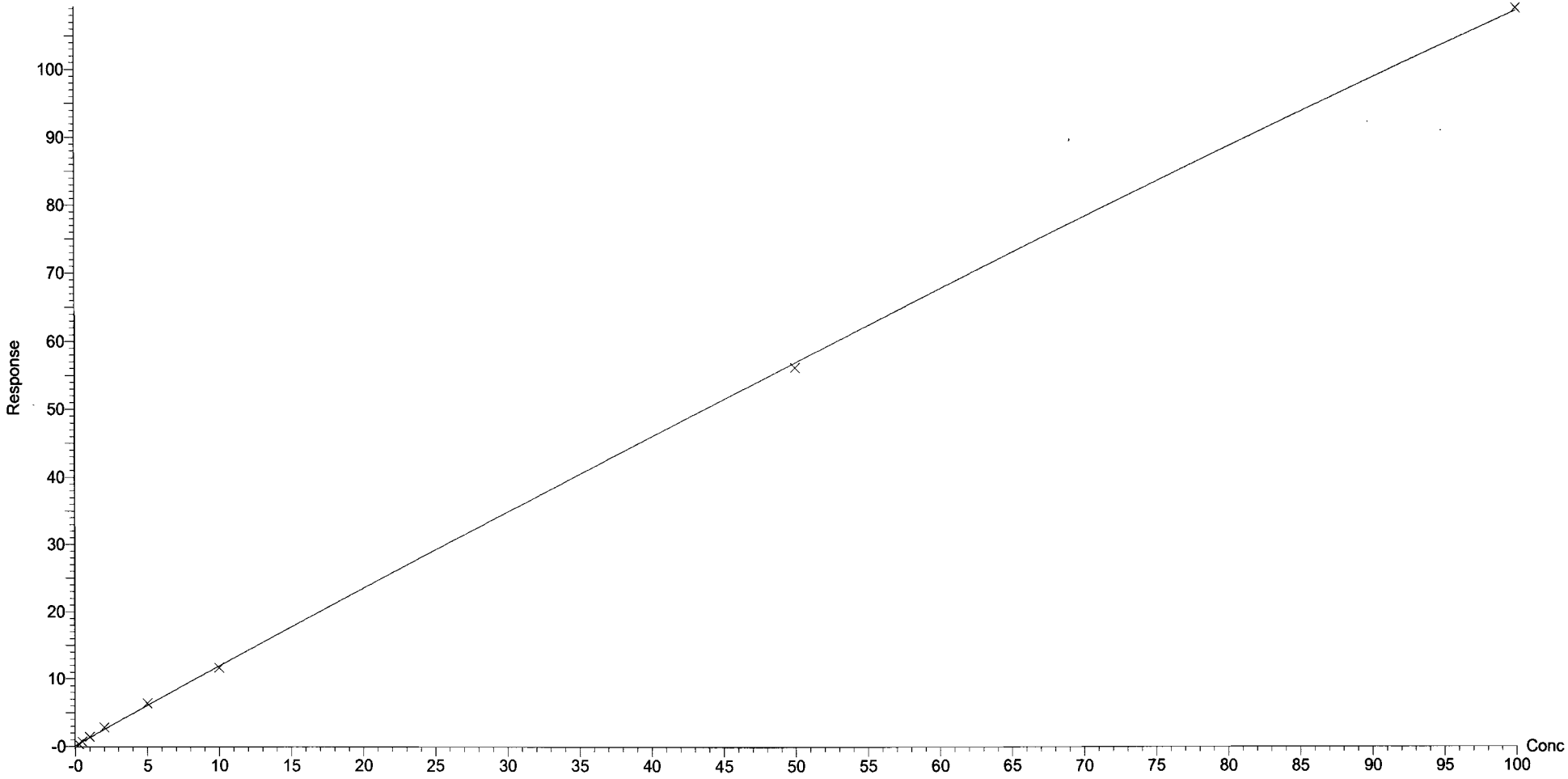
Compound name: PFTrDA
Correlation coefficient: r = 0.999307, r^2 = 0.998614
Calibration curve: 10.821 * x + 2.72105
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:46:10 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999498
Calibration curve: -0.000989892 * x^2 + 1.18715 * x + 0.13375
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

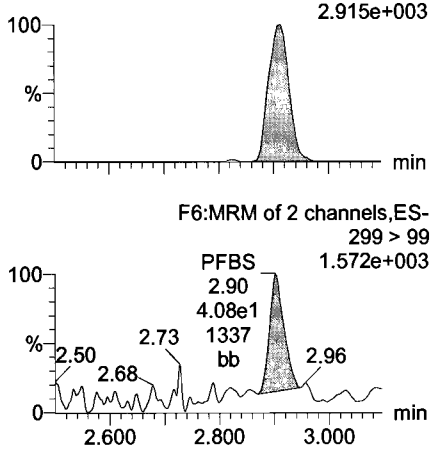
Dataset: U:\Q4.PRO\results\170705M2\170705M2-CRV_L14.qld

Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

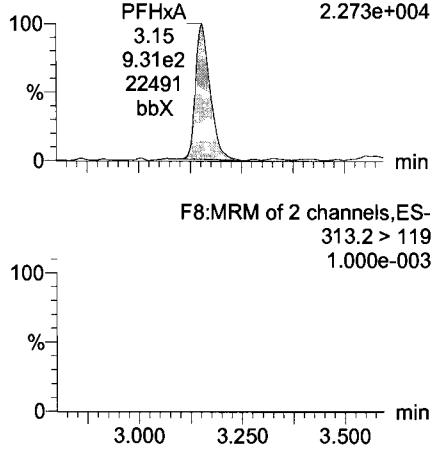
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:17:05
Calibration: 19 Jul 2017 13:31:36

Name: 170705M2_2, Date: 05-Jul-2017, Time: 13:27:57, ID: ST170705M2-1 PFC CS-2 17G0503, Description: PFC CS-2 17G0503

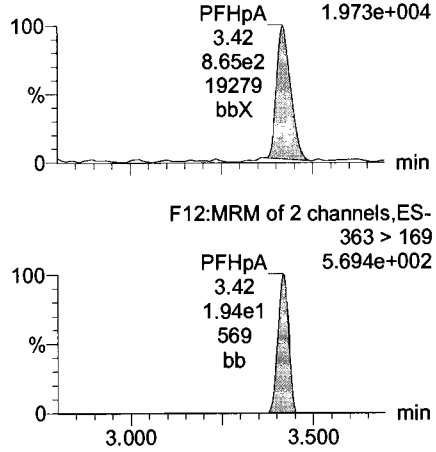
PFBS



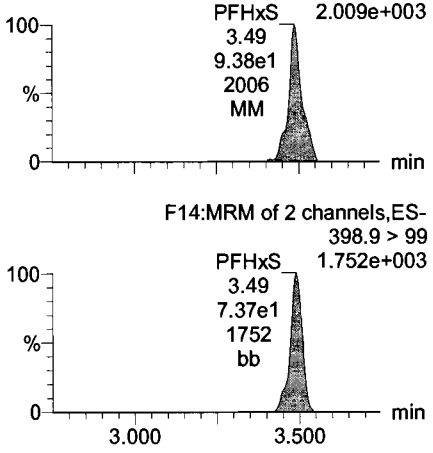
PFHxA



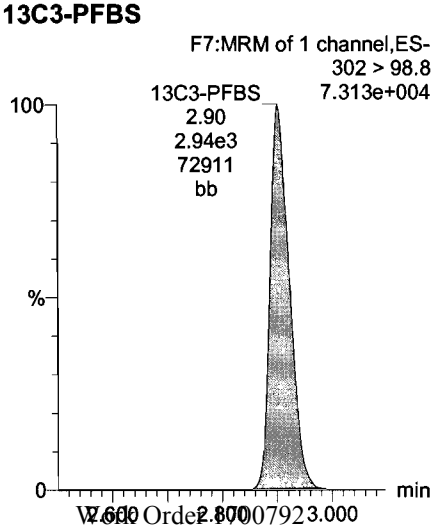
PFHpA



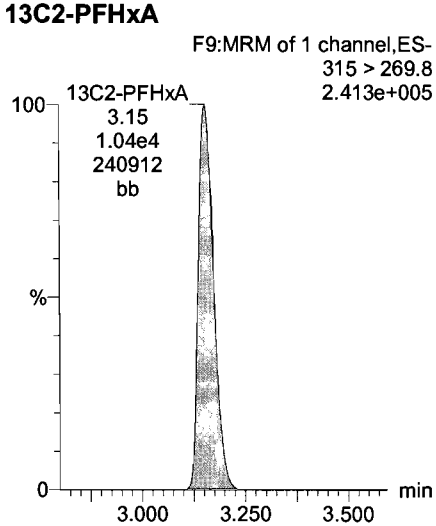
PFHxS



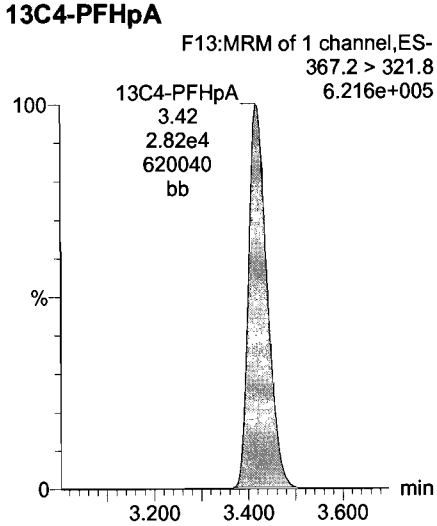
13C3-PFBS



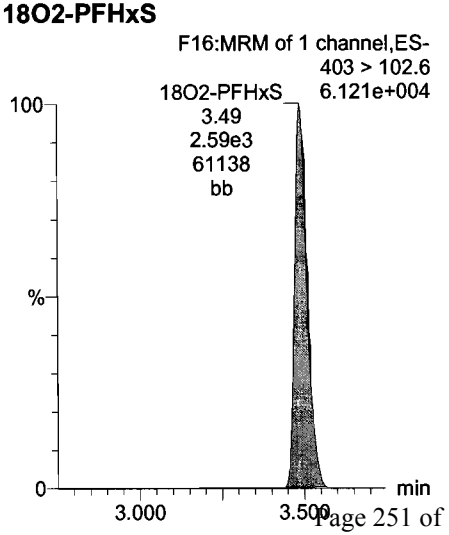
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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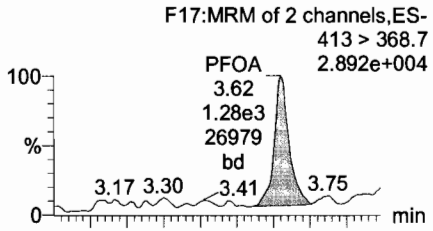
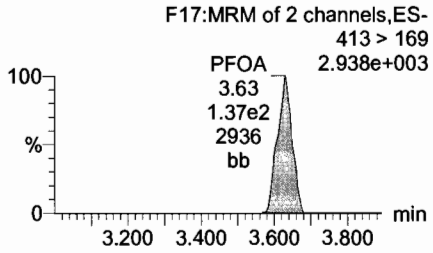
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_2, Date: 05-Jul-2017, Time: 13:27:57, ID: ST170705M2-1 PFC CS-2 17G0503, Description: PFC CS-2 17G0503

PFOA





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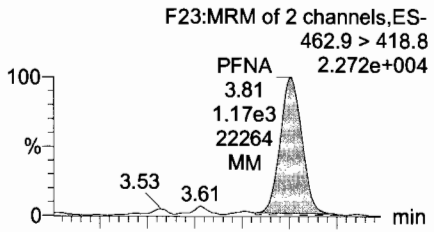

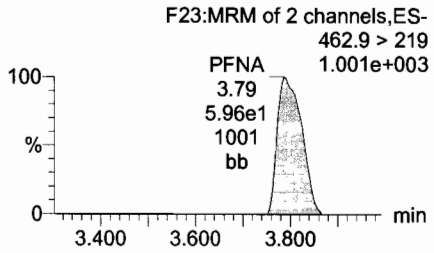

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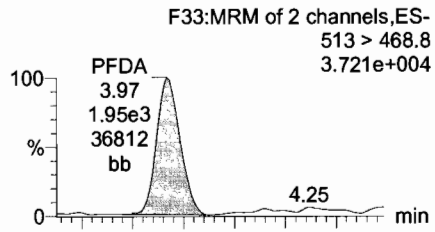

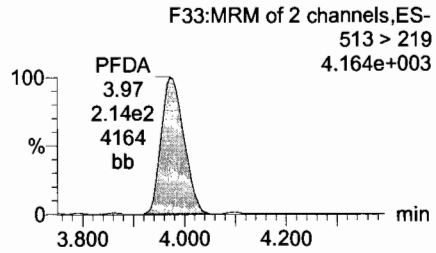

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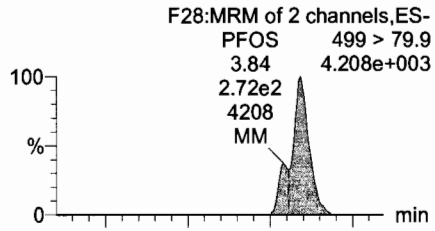
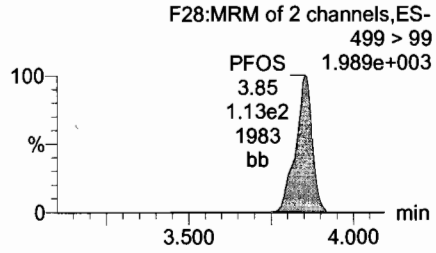
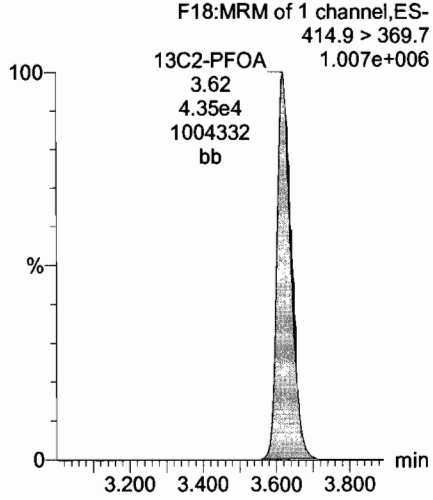




13C2-PFOA



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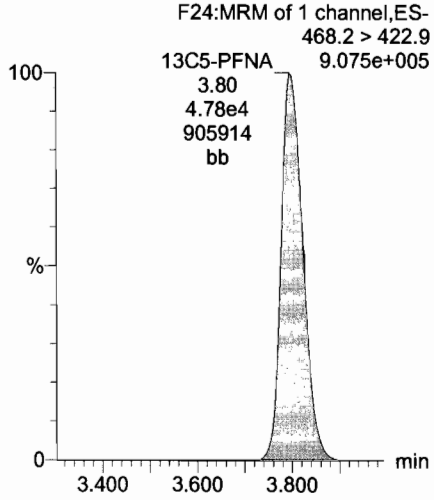

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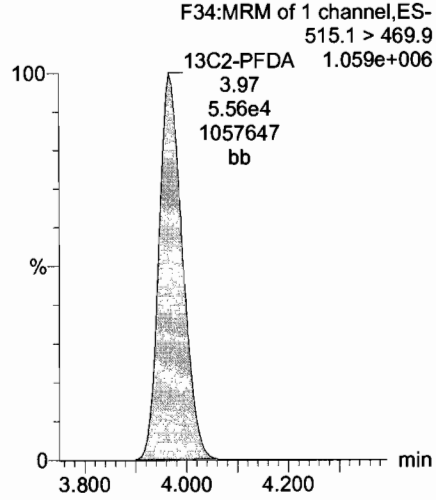
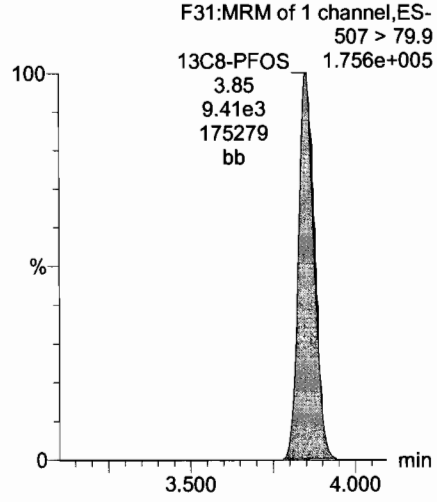


13C8-PFOS



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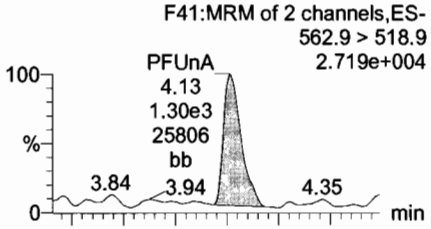
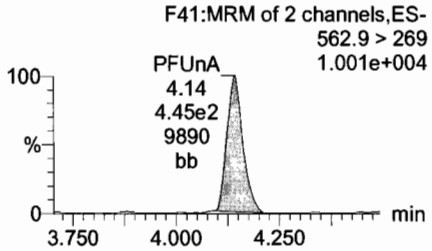
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_2, Date: 05-Jul-2017, Time: 13:27:57, ID: ST170705M2-1 PFC CS-2 17G0503, Description: PFC CS-2 17G0503

PFUnA





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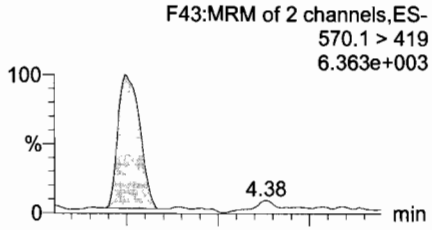

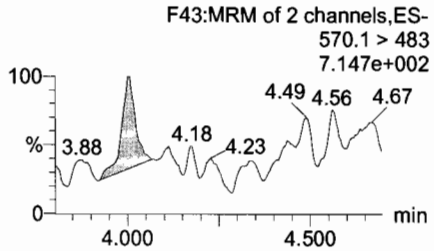

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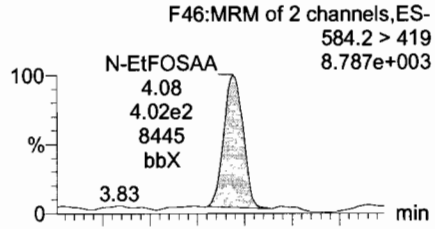
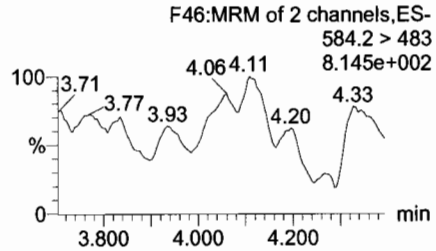
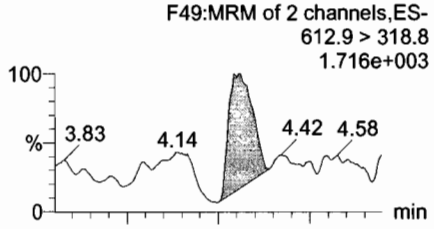
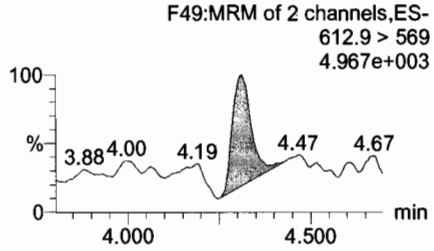


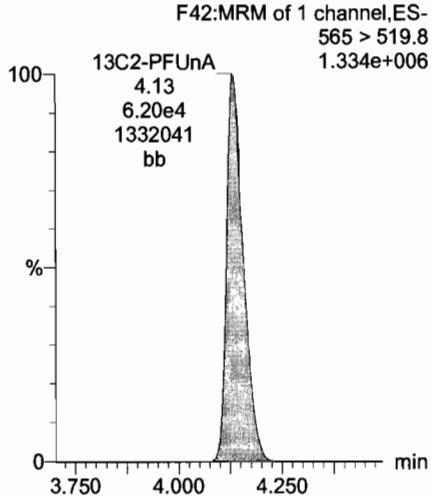


PFDoA





13C2-PFUnA



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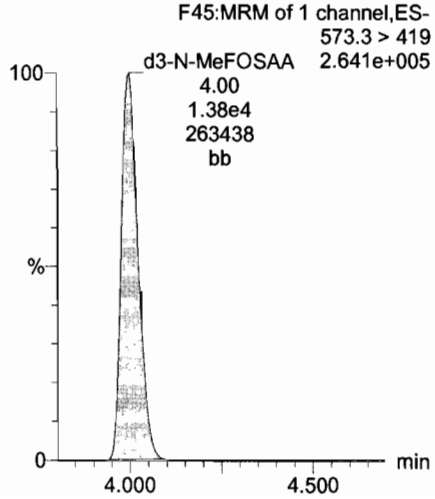
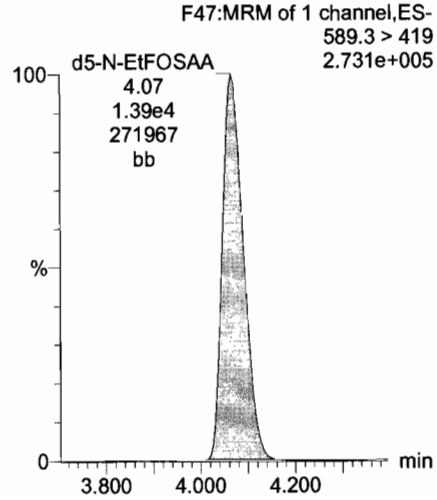
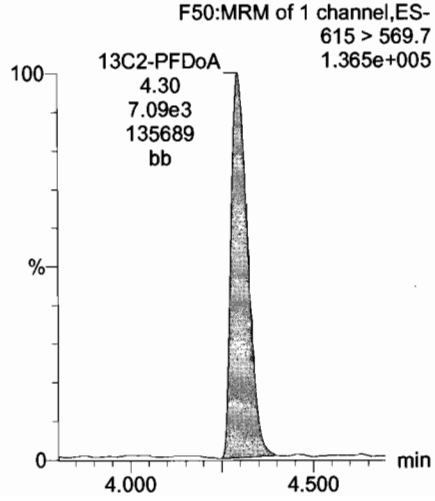


d5-N-EtFOSAA



13C2-PFDoA



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Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_2, Date: 05-Jul-2017, Time: 13:27:57, ID: ST170705M2-1 PFC CS-2 17G0503, Description: PFC CS-2 17G0503

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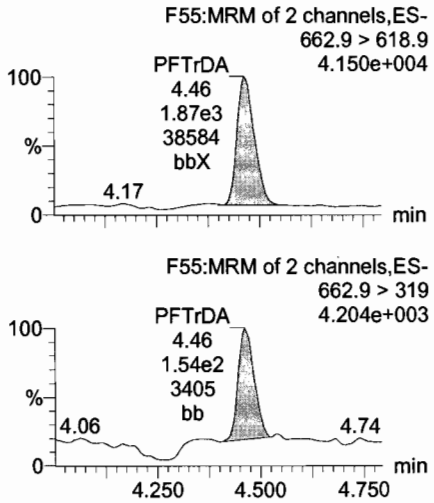
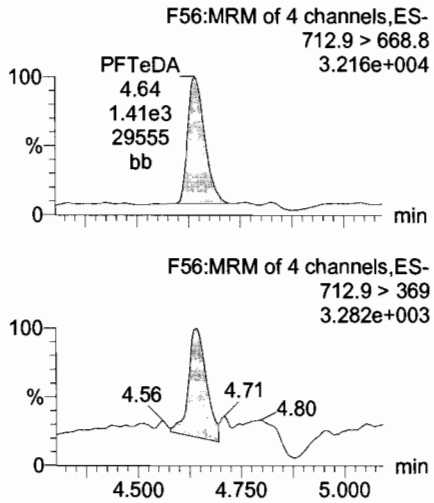


PFTeDA



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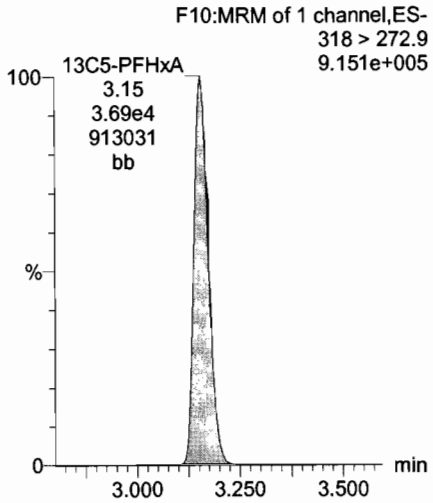
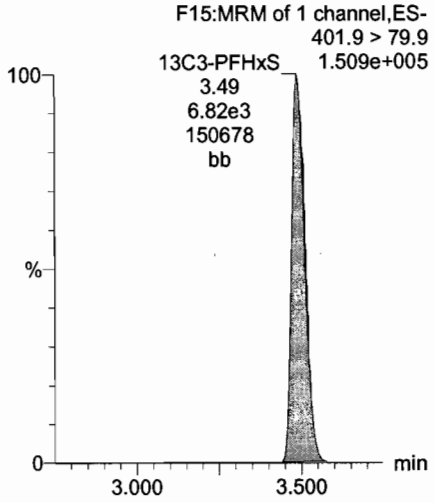


13C3-PFHxS



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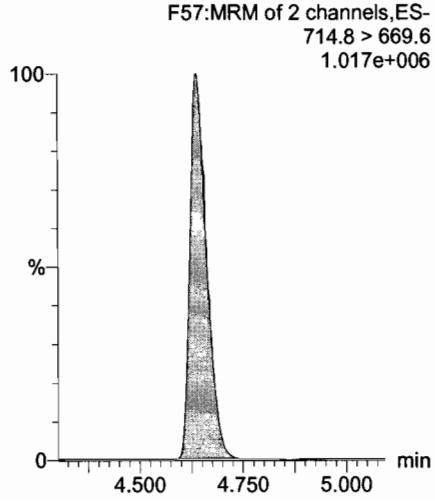

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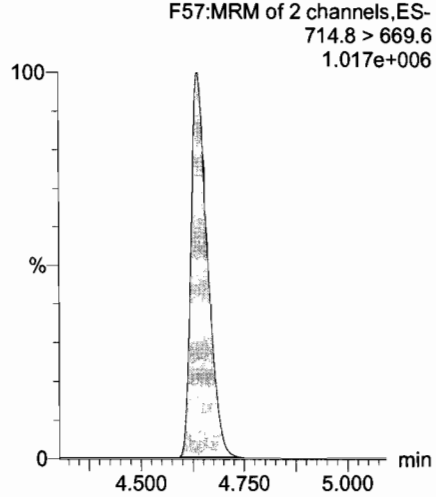
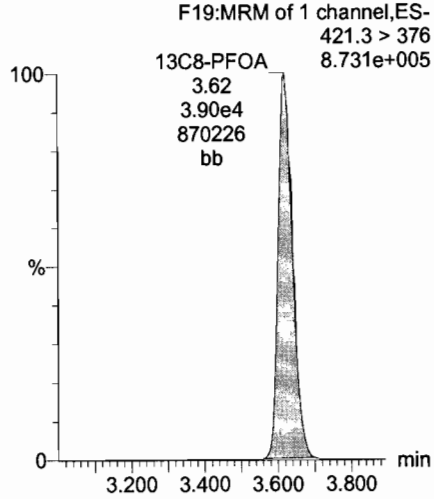


13C8-PFOA



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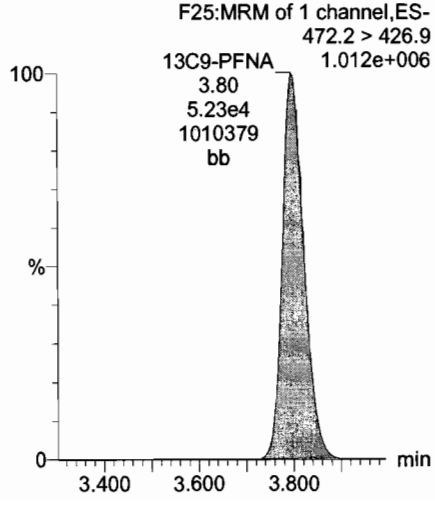

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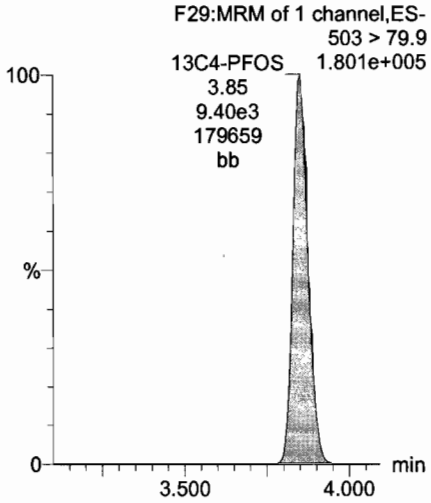
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_2, Date: 05-Jul-2017, Time: 13:27:57, ID: ST170705M2-1 PFC CS-2 17G0503, Description: PFC CS-2 17G0503

13C4-PFOS



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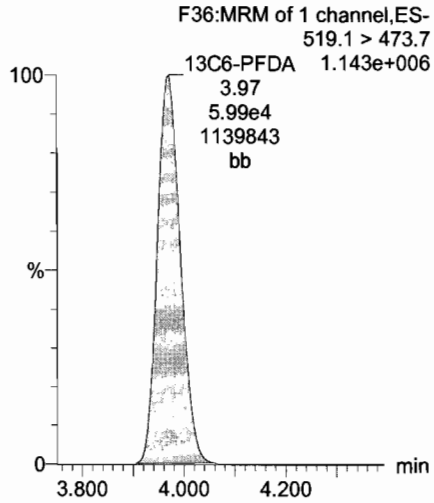
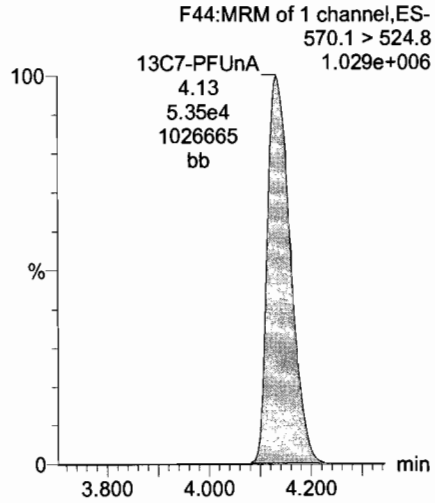


13C7-PFUnA



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Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_3, Date: 05-Jul-2017, Time: 13:38:43, ID: ST170705M2-2 PFC CS-1 17G0504, Description: PFC CS-1 17G0504

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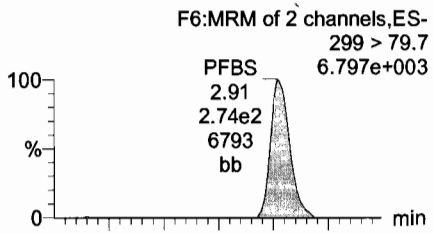
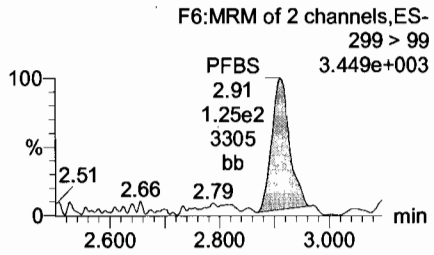
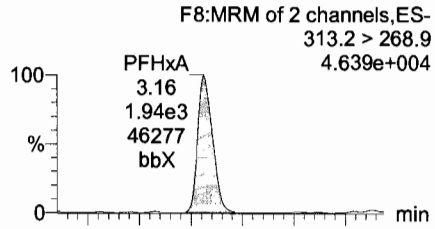
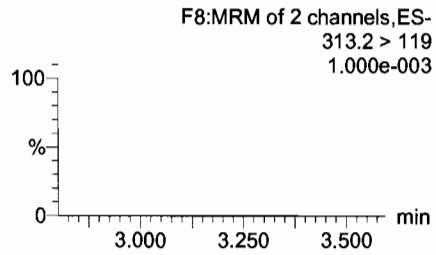




PFHxA





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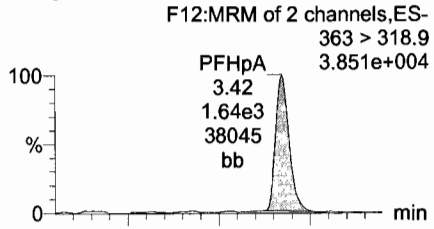

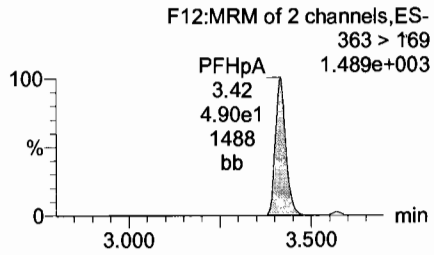

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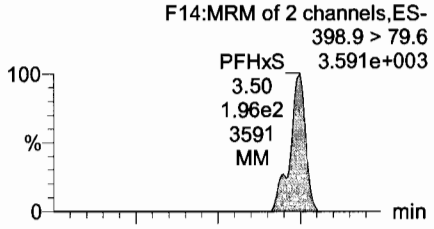

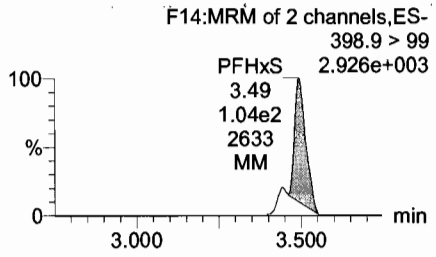

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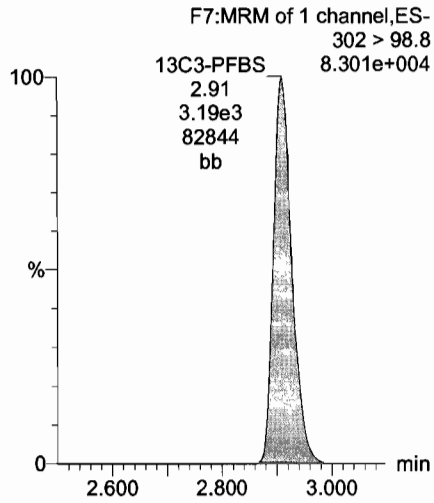
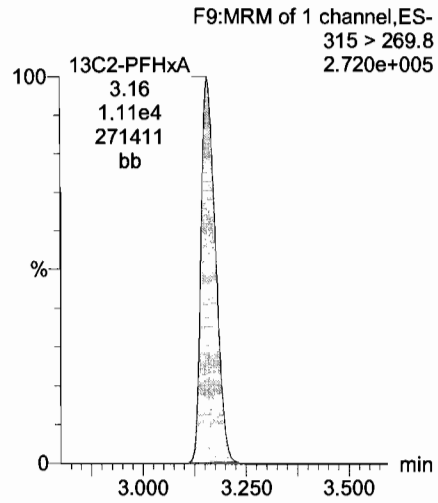
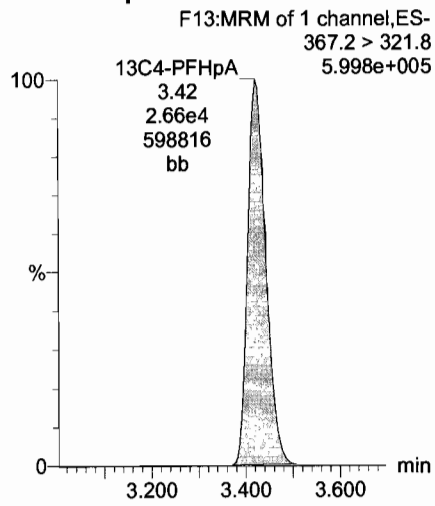


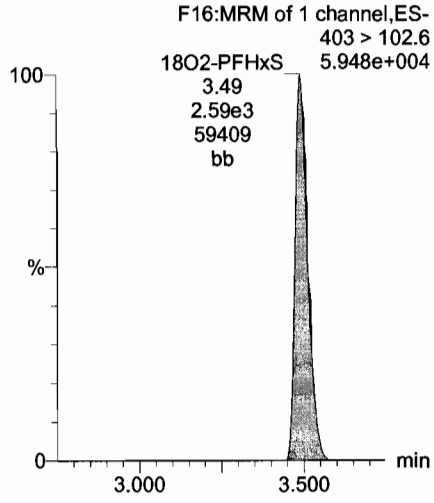
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_3, Date: 05-Jul-2017, Time: 13:38:43, ID: ST170705M2-2 PFC CS-1 17G0504, Description: PFC CS-1 17G0504

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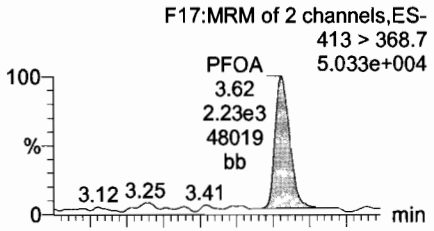

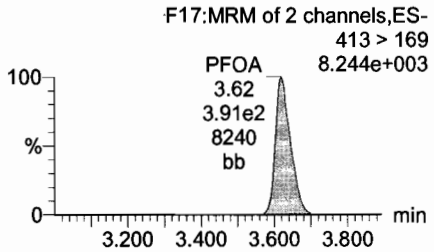

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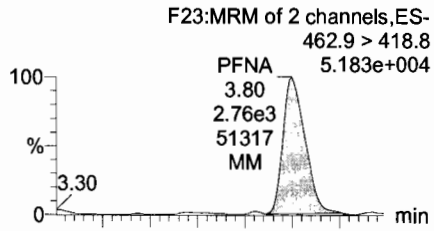

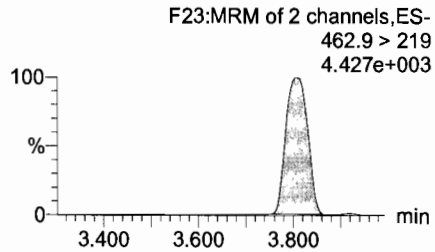

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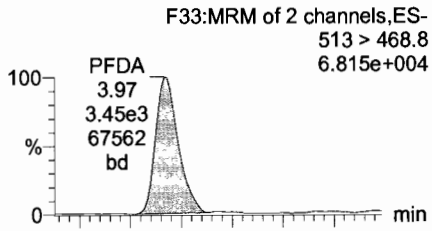

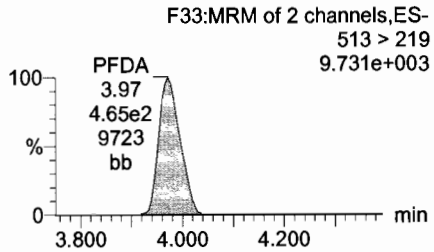

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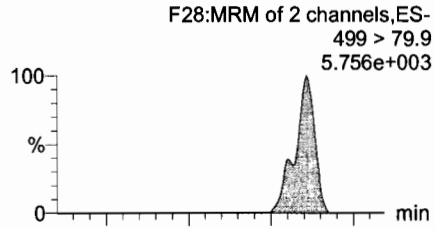

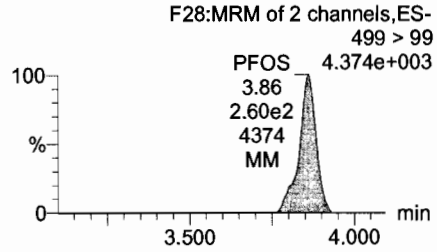

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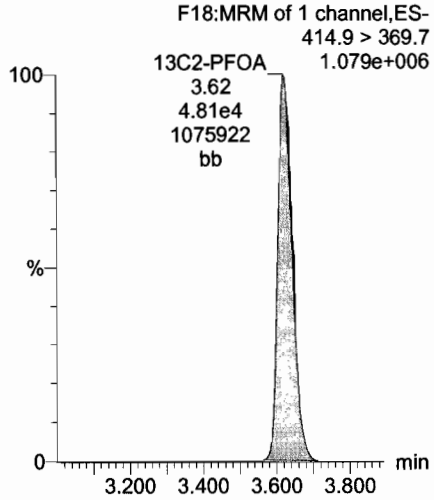
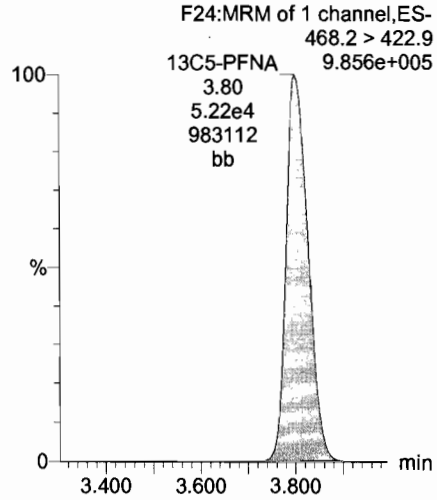


13C5-PFNA



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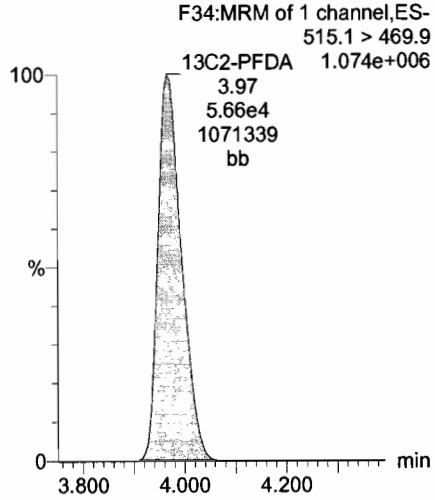
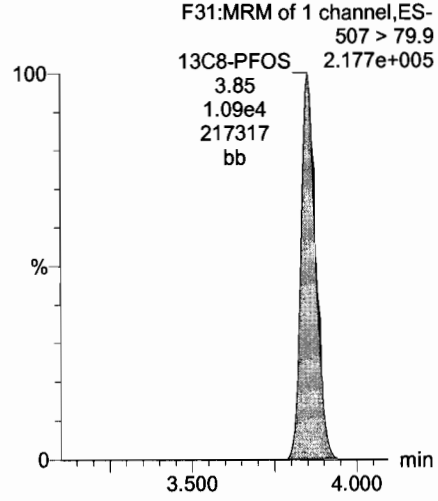


13C8-PFOS



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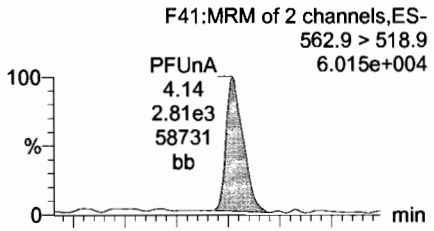
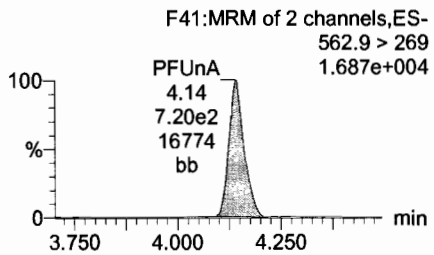
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_3, Date: 05-Jul-2017, Time: 13:38:43, ID: ST170705M2-2 PFC CS-1 17G0504, Description: PFC CS-1 17G0504

PFUnA





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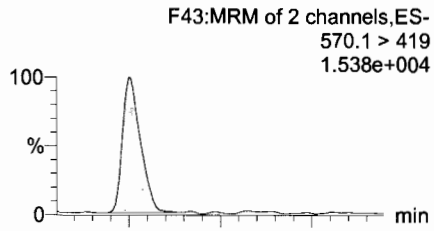

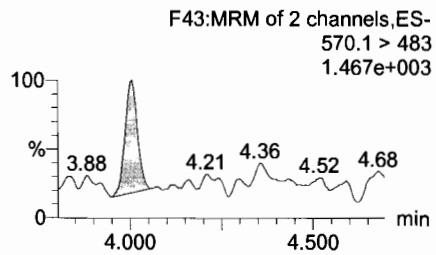

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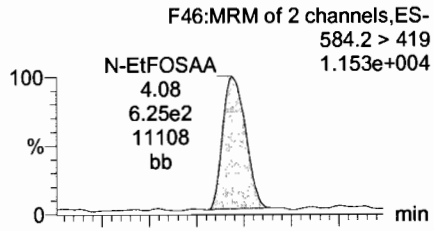
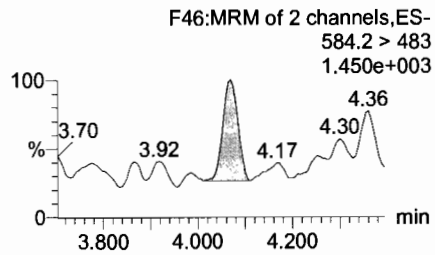
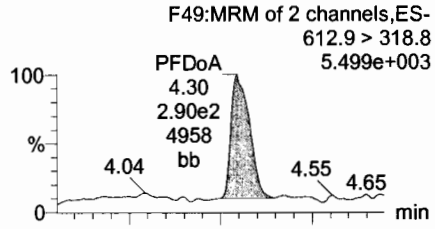
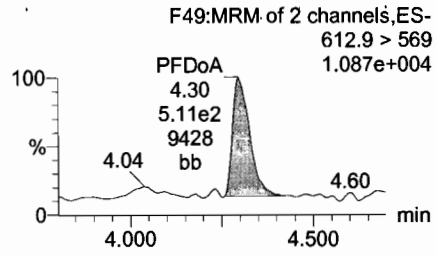




PFDoA





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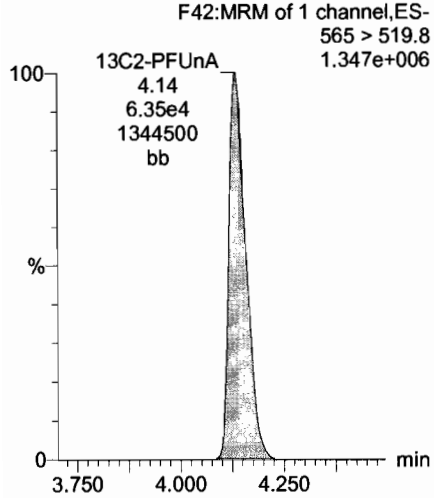
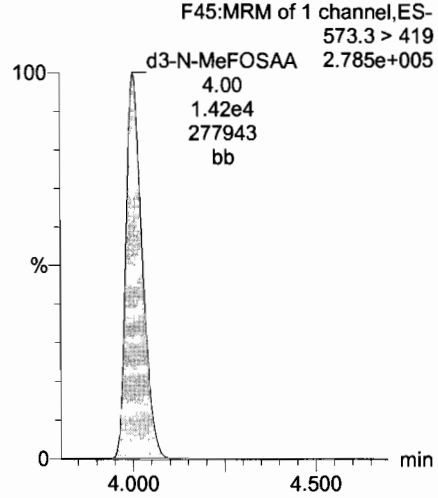


d3-N-MeFOSAA



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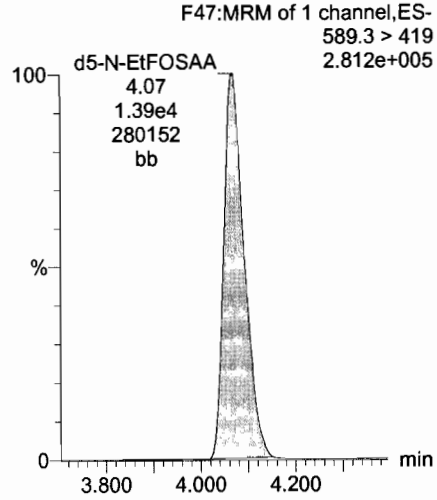

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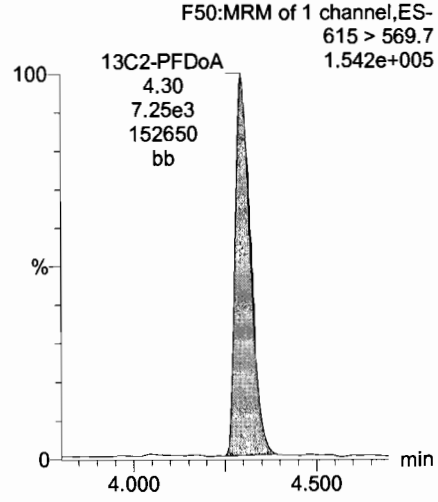

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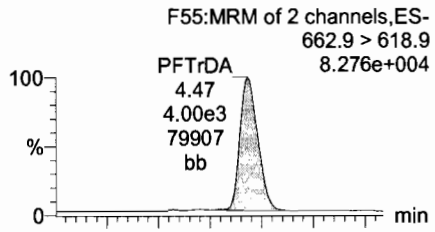
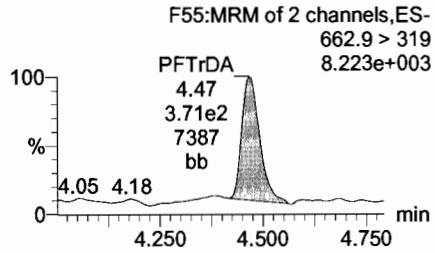
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_3, Date: 05-Jul-2017, Time: 13:38:43, ID: ST170705M2-2 PFC CS-1 17G0504, Description: PFC CS-1 17G0504

PFTrDA





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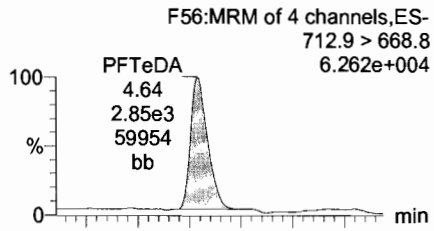

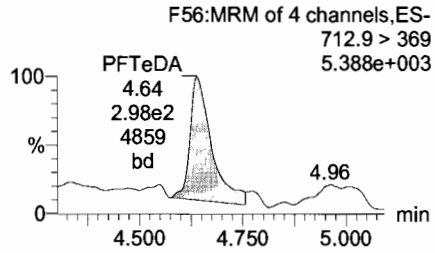

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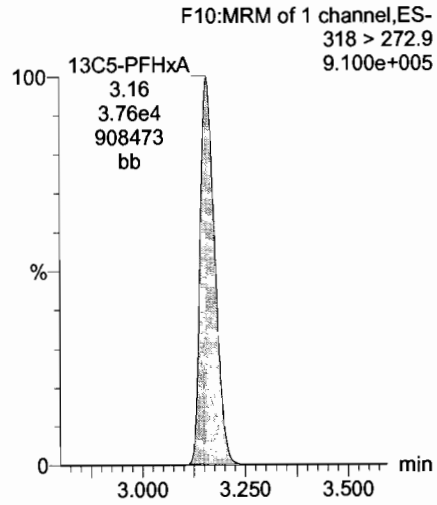

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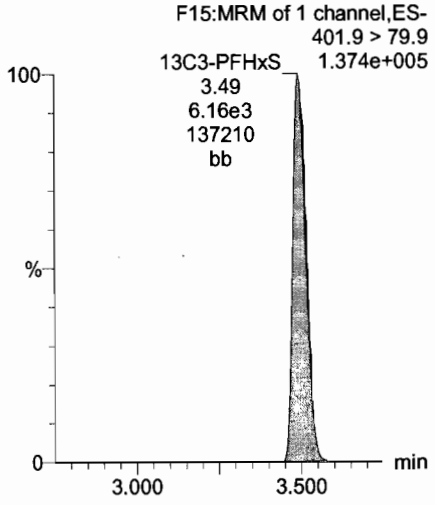

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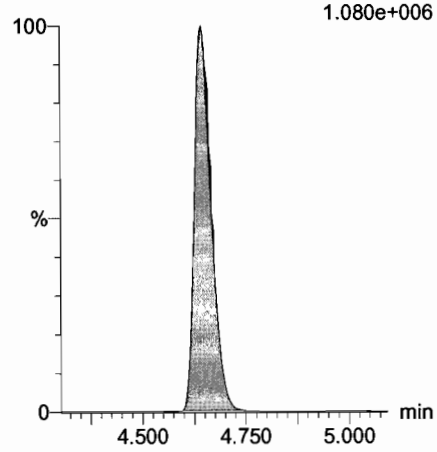

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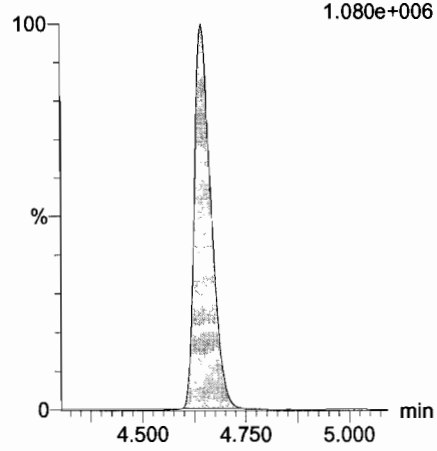

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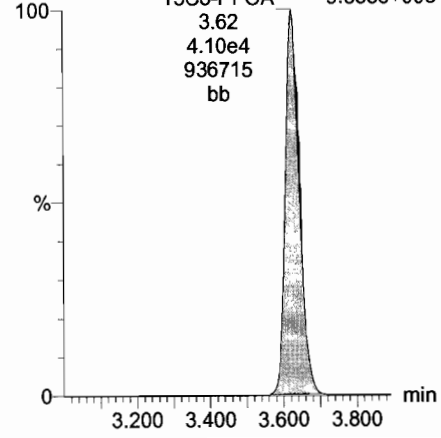
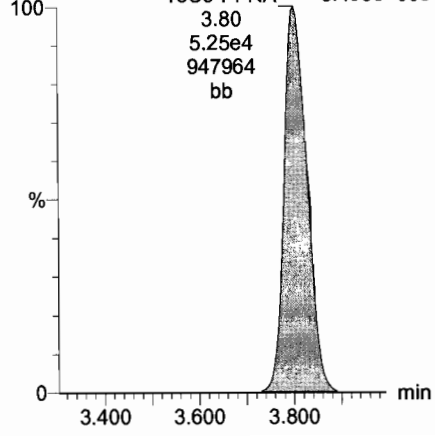


13C9-PFNA



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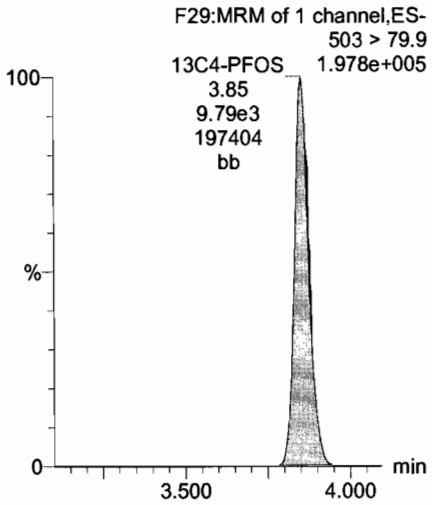
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_3, Date: 05-Jul-2017, Time: 13:38:43, ID: ST170705M2-2 PFC CS-1 17G0504, Description: PFC CS-1 17G0504

13C4-PFOS



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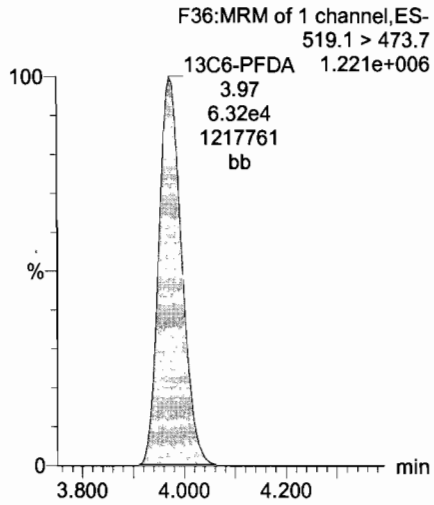
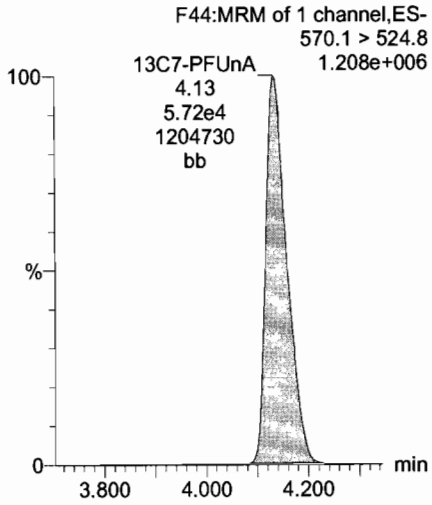


13C7-PFUnA



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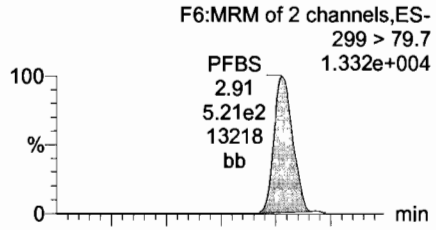
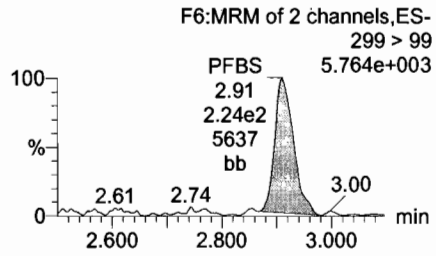
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

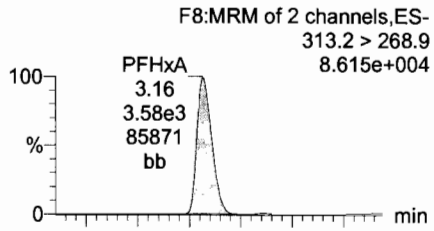
Name: 170705M2_4, Date: 05-Jul-2017, Time: 13:49:28, ID: ST170705M2-3 PFC CS0 17G0505, Description: PFC CS0 17G0505

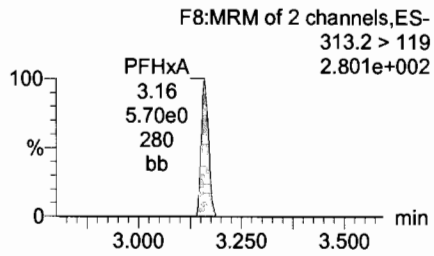
PFBS





PFHxA





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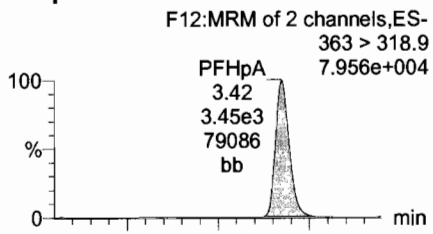

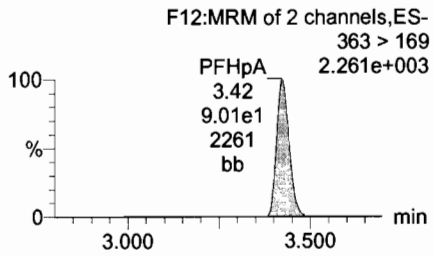

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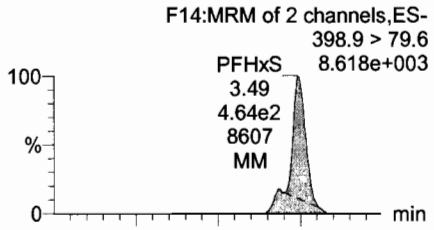
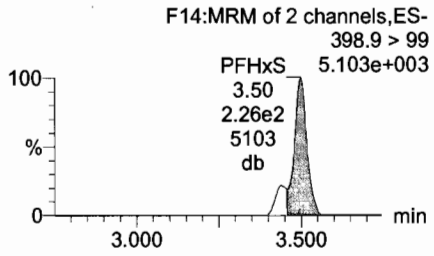
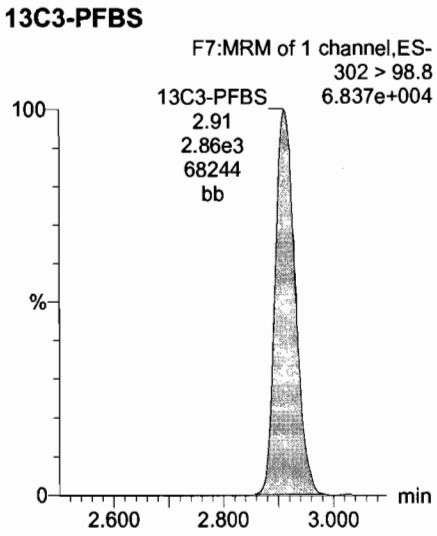
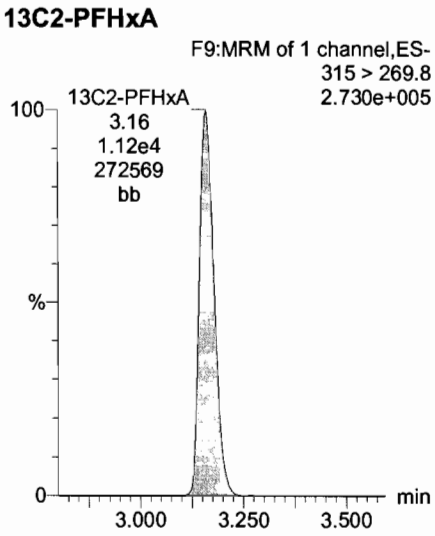




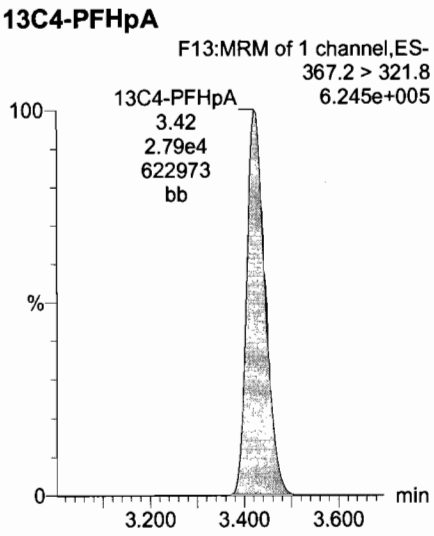
13C3-PFBS



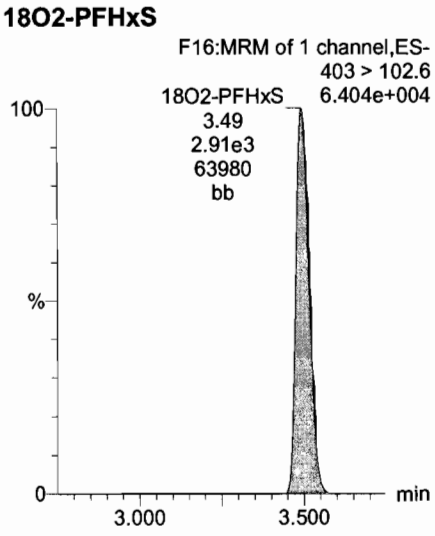
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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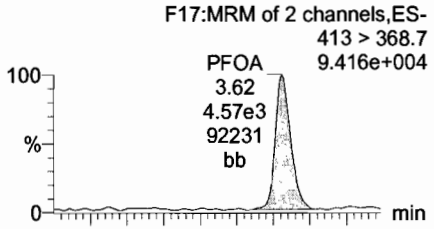
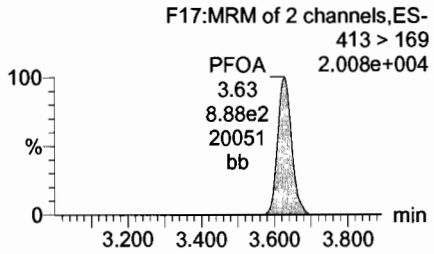
PFOA





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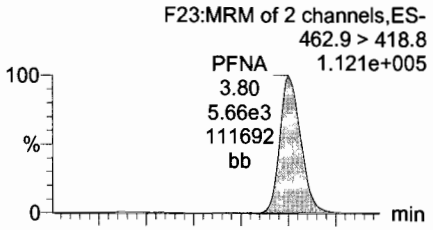

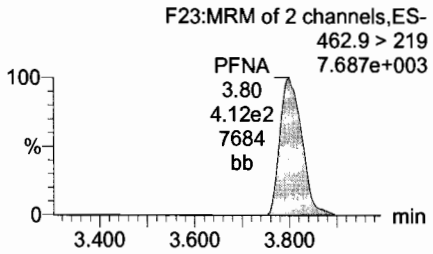

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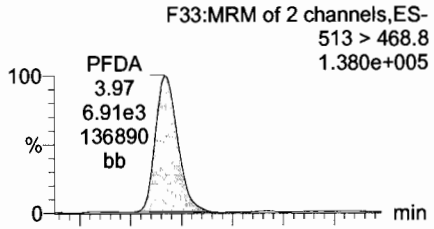
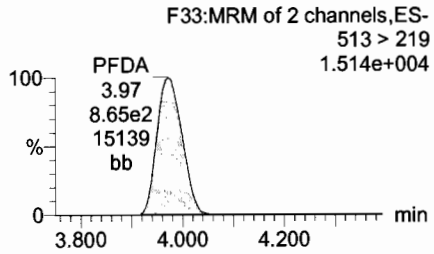
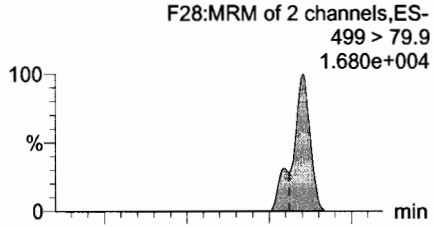
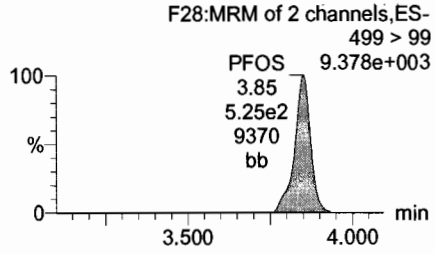


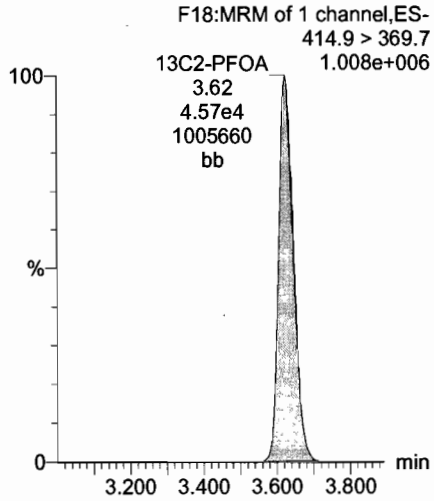


PFOS

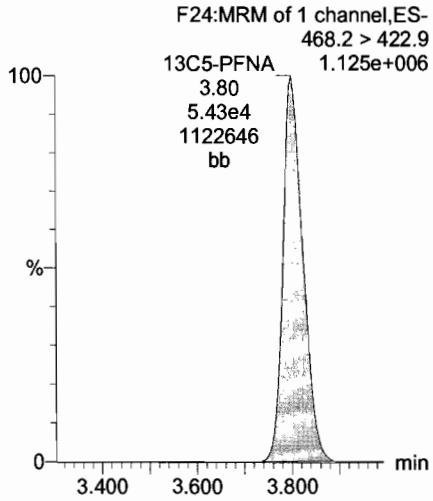




13C2-PFOA



13C5-PFNA



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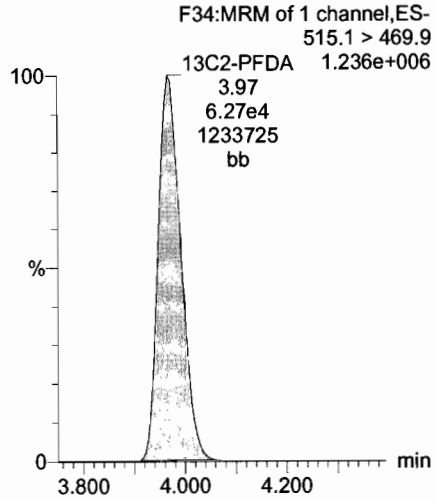
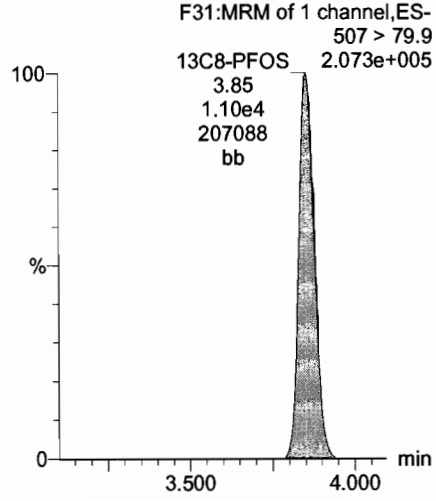


13C8-PFOS



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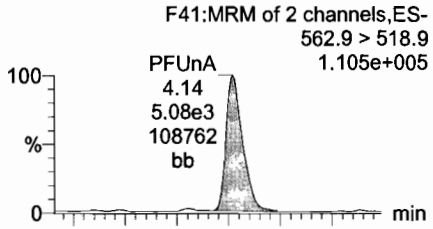
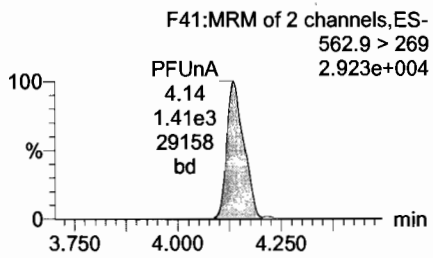
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_4, Date: 05-Jul-2017, Time: 13:49:28, ID: ST170705M2-3 PFC CS0 17G0505, Description: PFC CS0 17G0505

PFUnA





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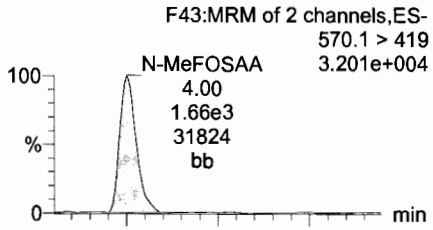

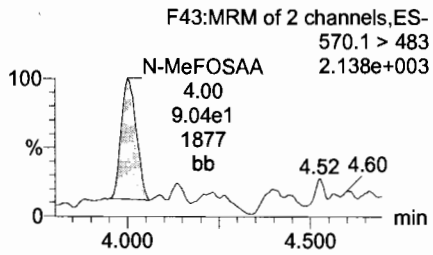

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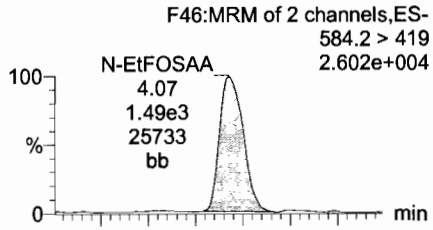

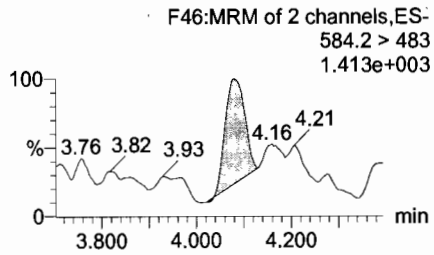

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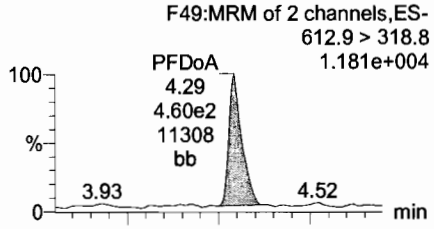
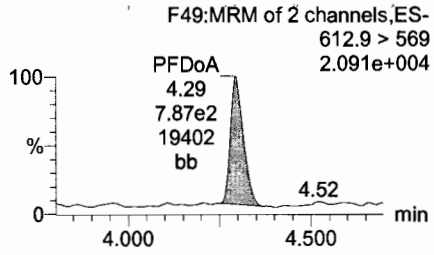
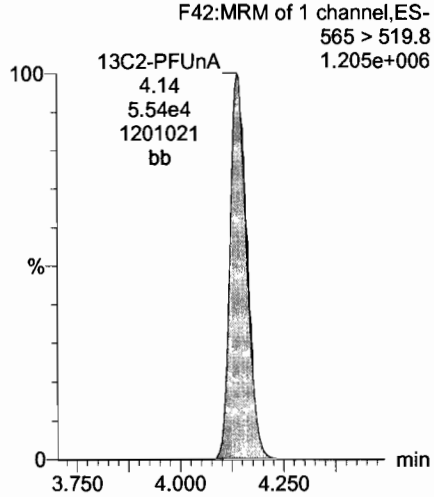
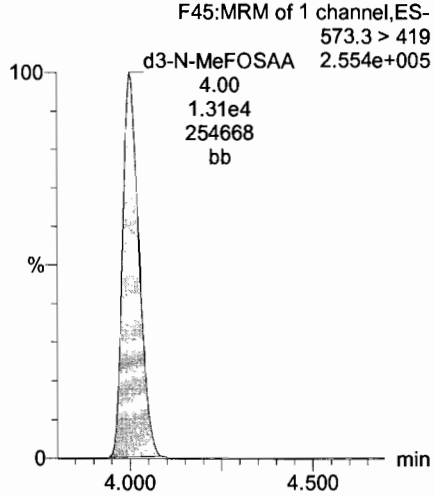




13C2-PFUnA



d3-N-MeFOSAA



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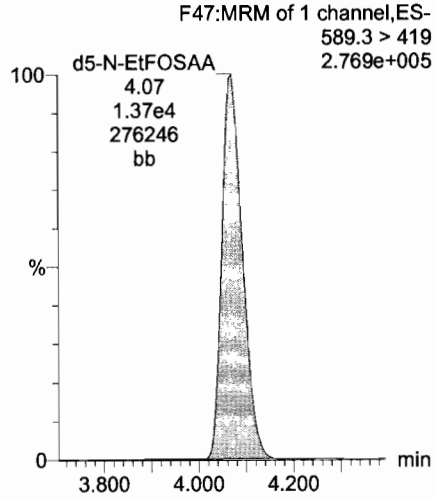

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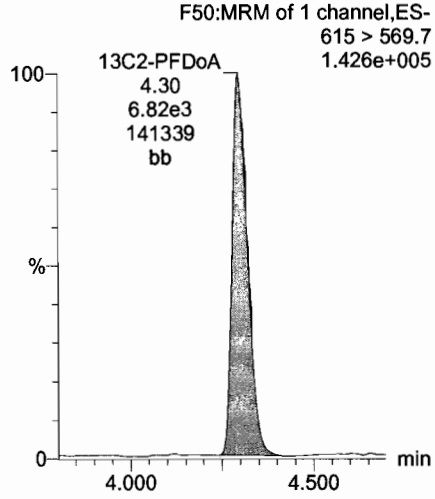

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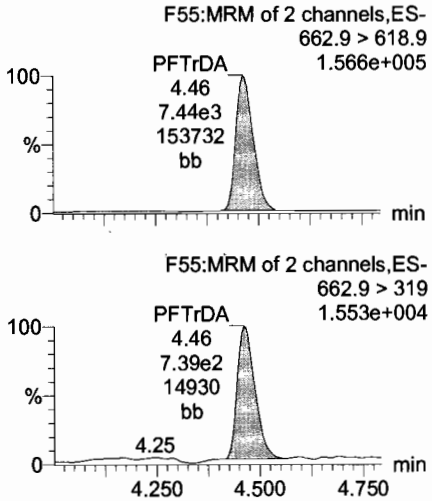
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_4, Date: 05-Jul-2017, Time: 13:49:28, ID: ST170705M2-3 PFC CS0 17G0505, Description: PFC CS0 17G0505

PFTrDA



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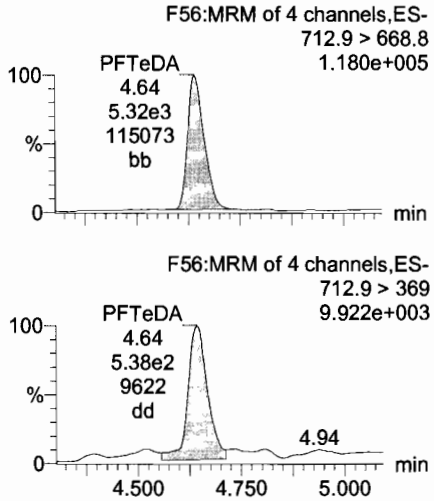
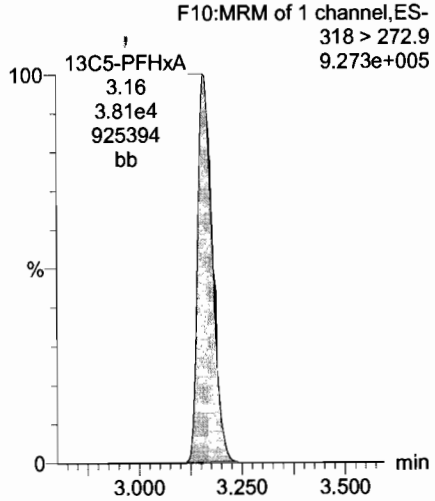
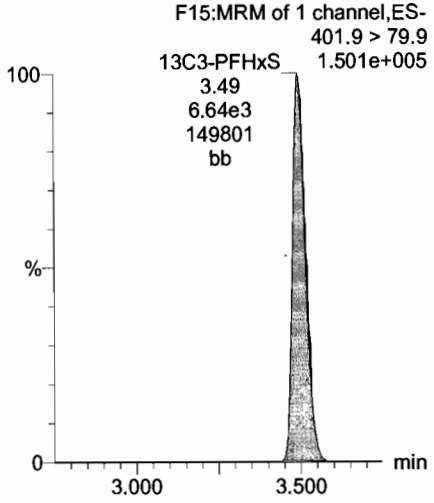


13C5-PFHxA



13C3-PFHxS



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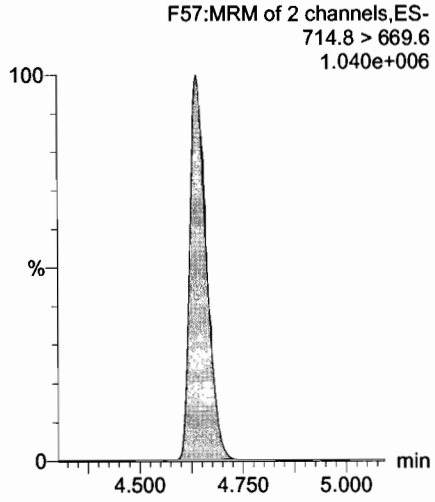

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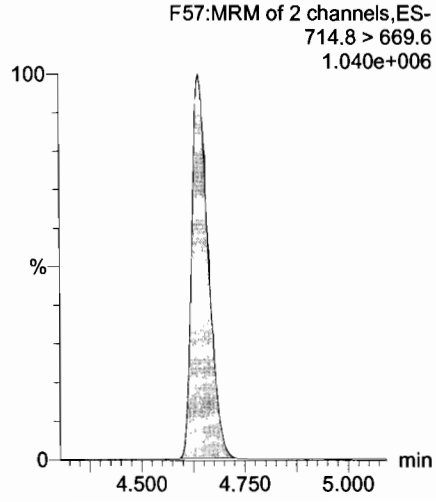

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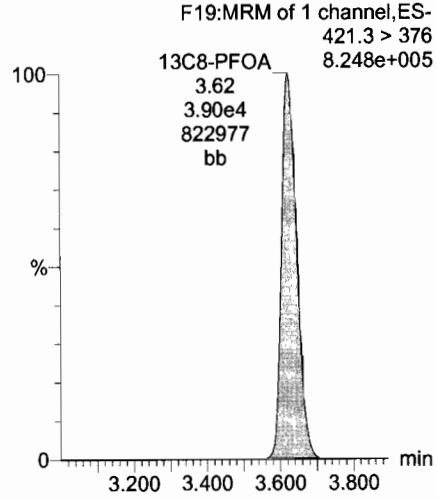

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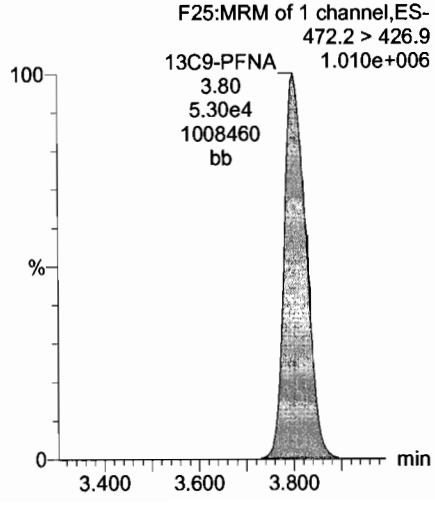

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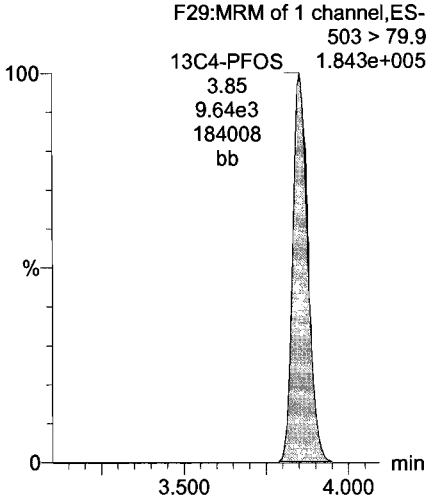
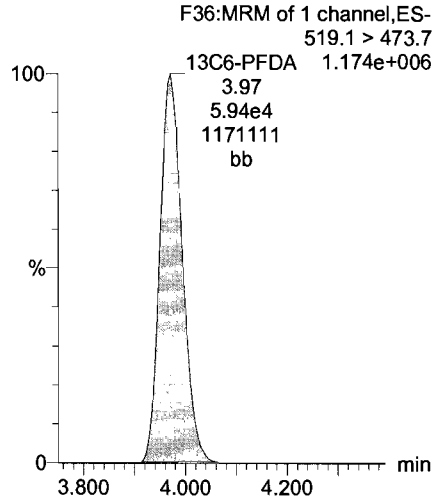
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_4, Date: 05-Jul-2017, Time: 13:49:28, ID: ST170705M2-3 PFC CS0 17G0505, Description: PFC CS0 17G0505

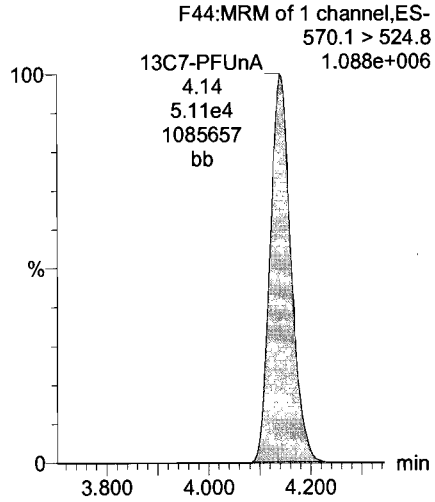
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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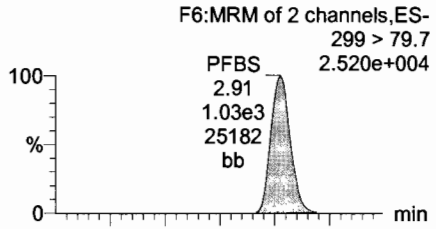
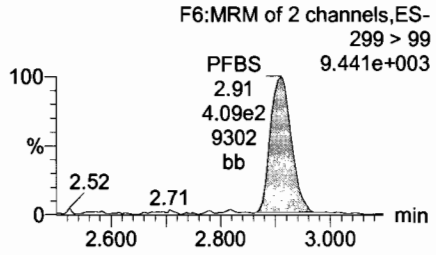
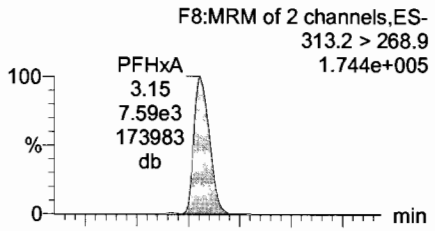
Name: 170705M2_5, Date: 05-Jul-2017, Time: 14:00:11, ID: ST170705M2-4 PFC CS1 17G0506, Description: PFC CS1 17G0506

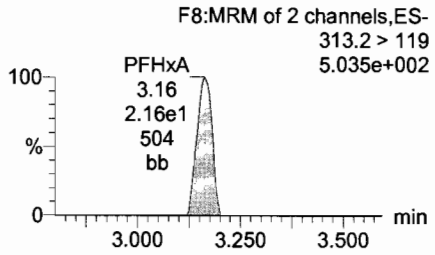
PFBS



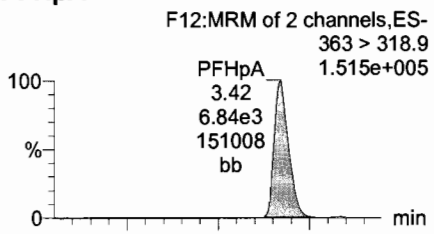


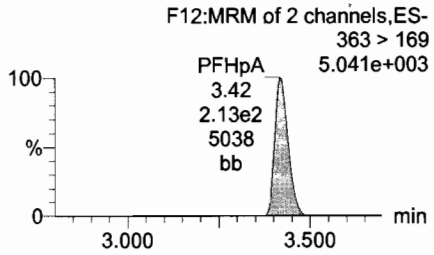
PFHxA



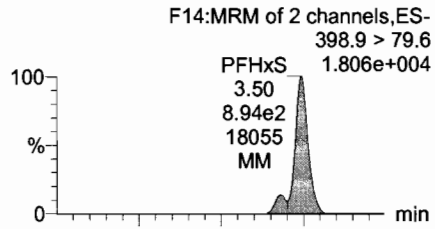


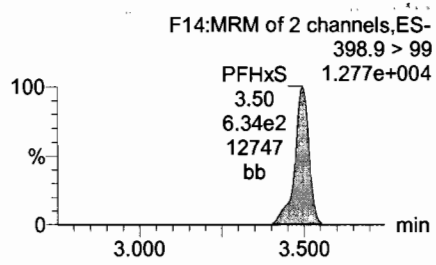
PFHpA



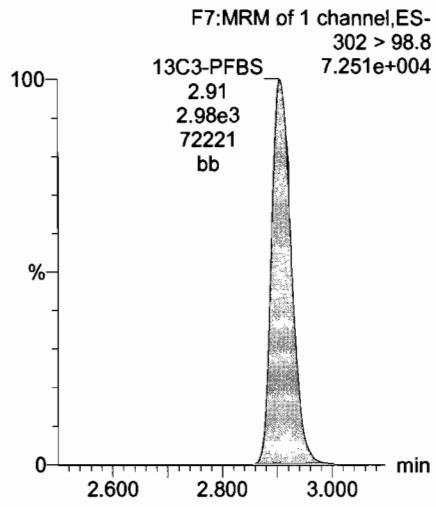


PFHxS

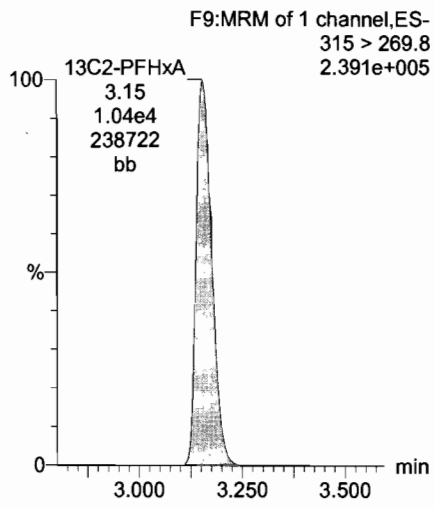




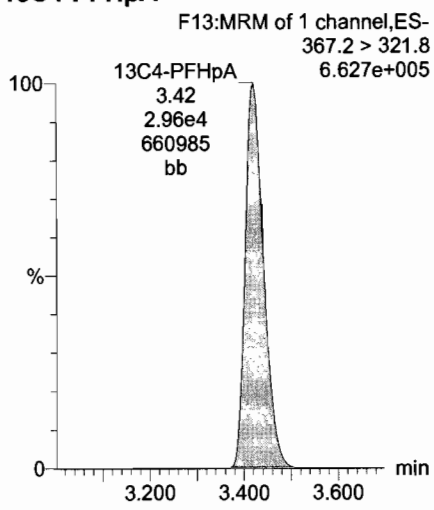
13C3-PFBS



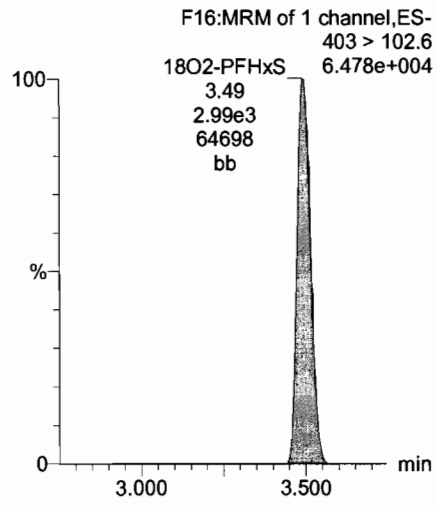
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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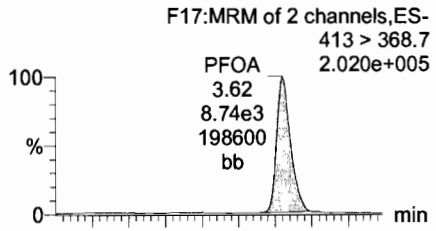
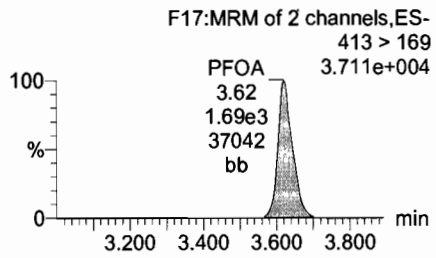
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_5, Date: 05-Jul-2017, Time: 14:00:11, ID: ST170705M2-4 PFC CS1 17G0506, Description: PFC CS1 17G0506

PFOA





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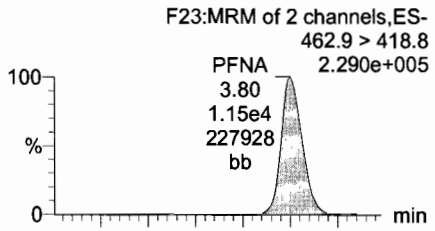

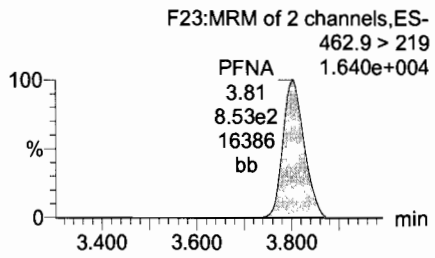

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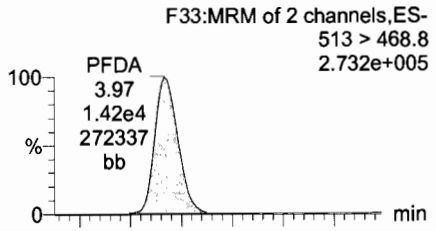

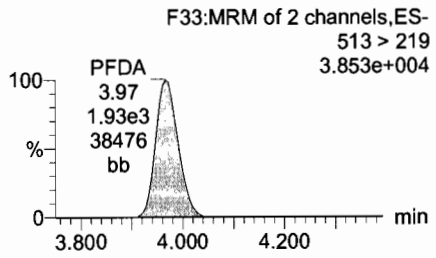

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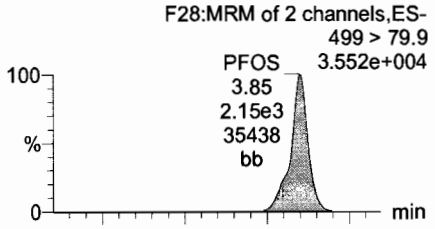
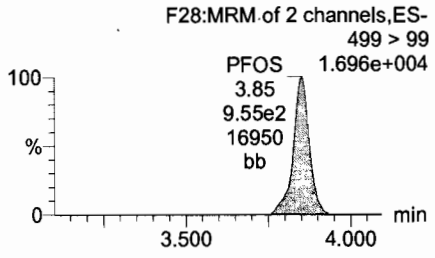
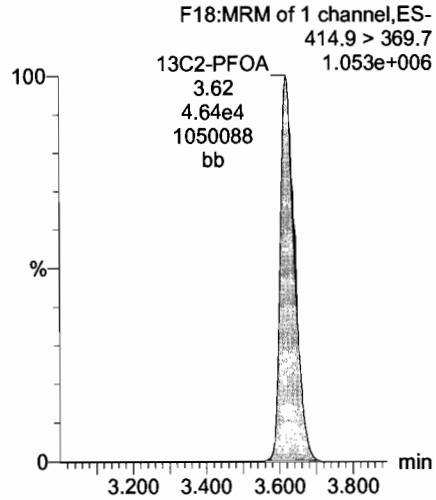
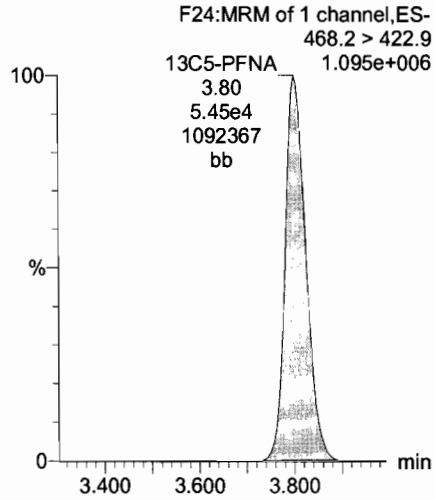




13C2-PFOA



13C5-PFNA



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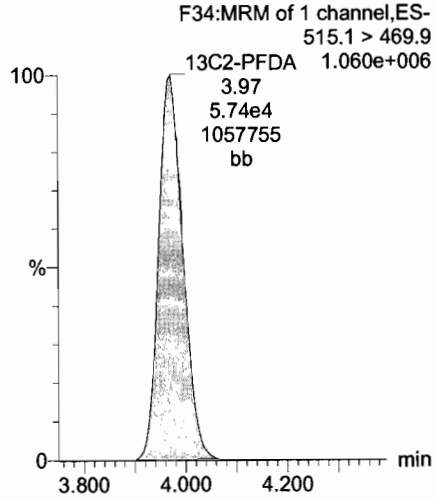
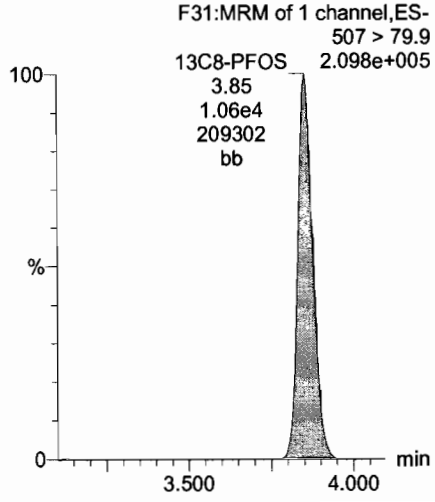


13C8-PFOS



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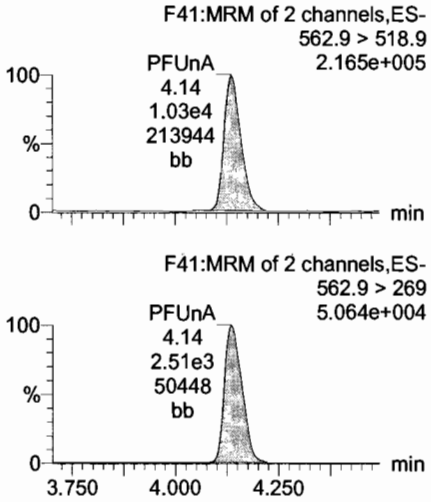
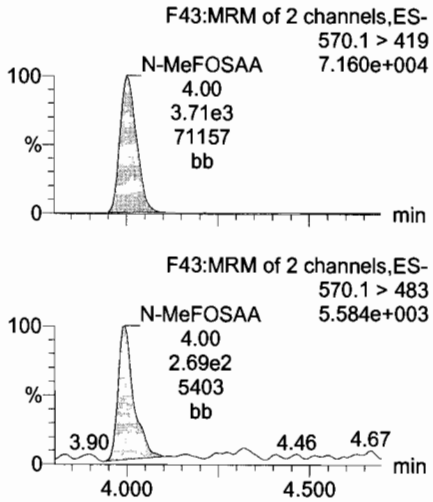
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_5, Date: 05-Jul-2017, Time: 14:00:11, ID: ST170705M2-4 PFC CS1 17G0506, Description: PFC CS1 17G0506

PFUnA



N-MeFOSAA



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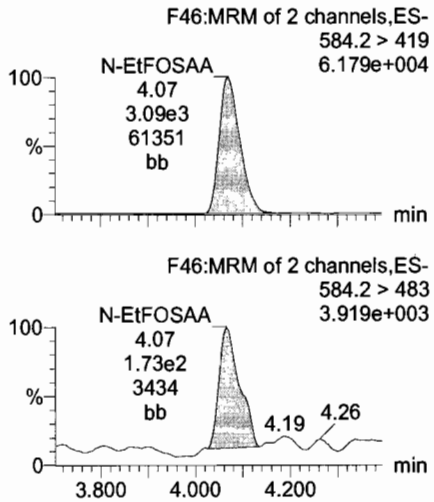

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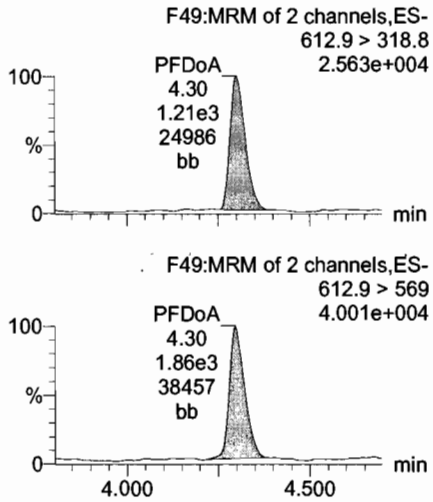

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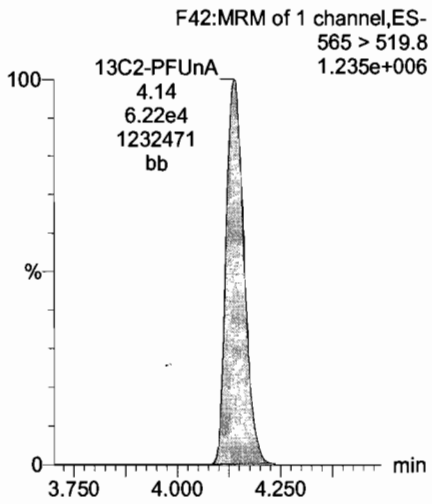
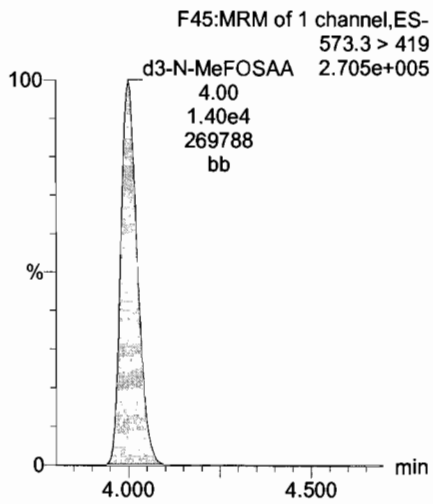


d3-N-MeFOSAA



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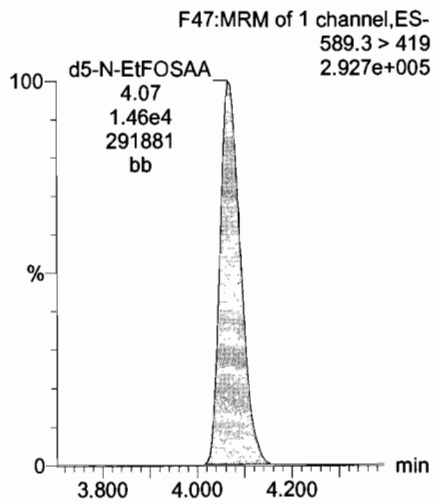

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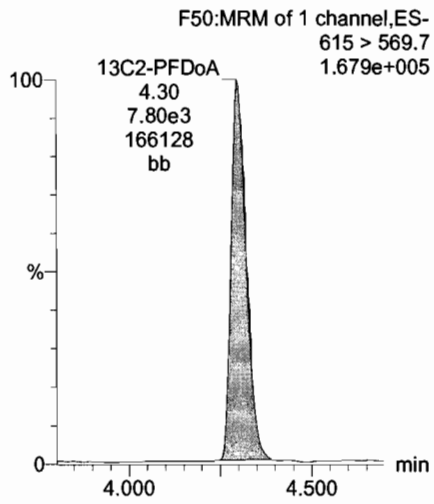

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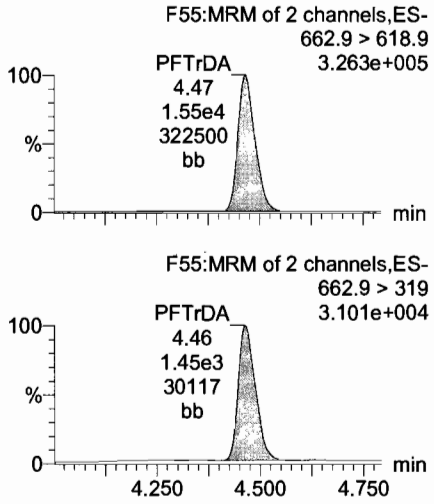
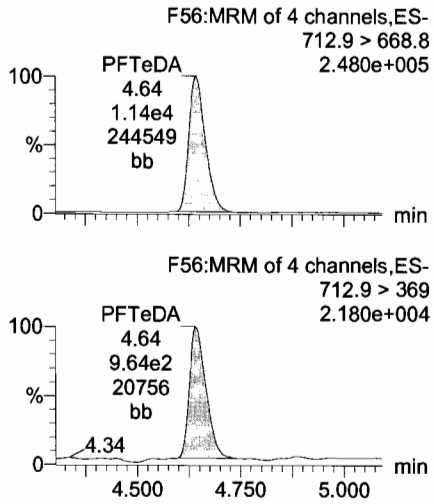
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_5, Date: 05-Jul-2017, Time: 14:00:11, ID: ST170705M2-4 PFC CS1 17G0506, Description: PFC CS1 17G0506

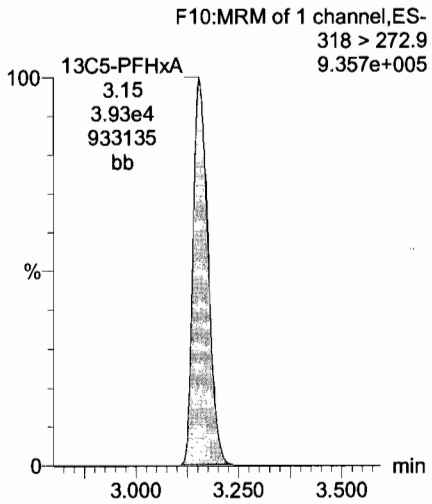
PFTrDA



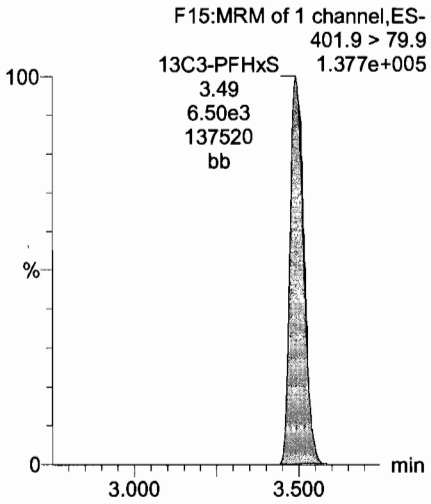
PFTeDA



13C5-PFHxA



13C3-PFHxS



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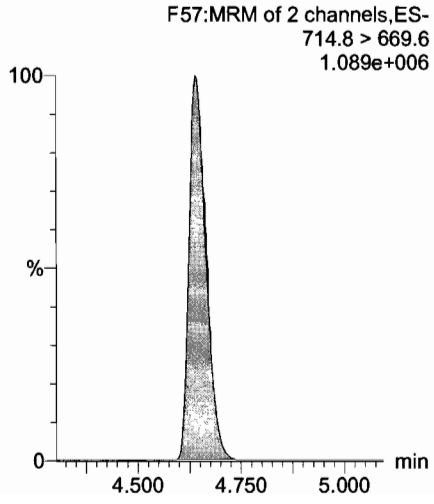

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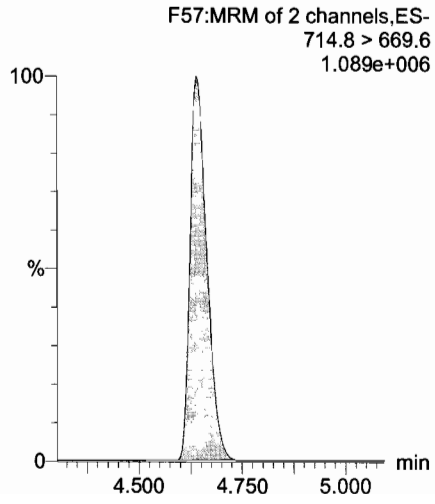
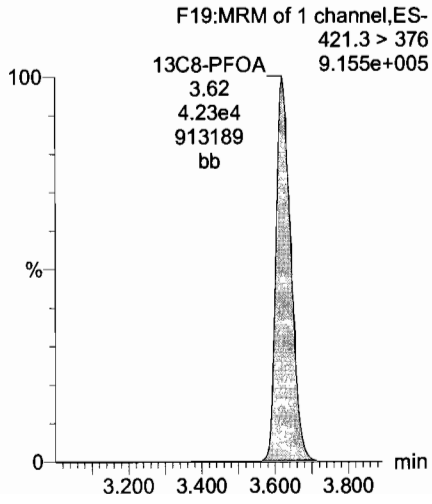
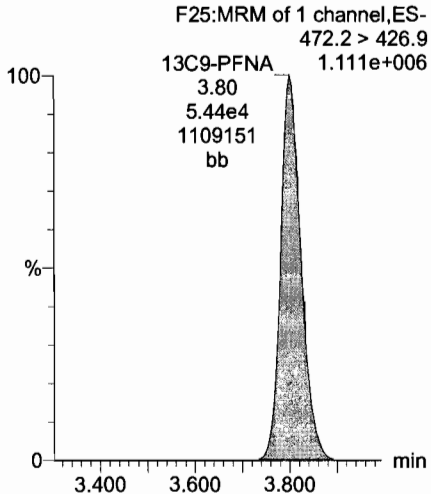


13C8-PFOA



13C9-PFNA



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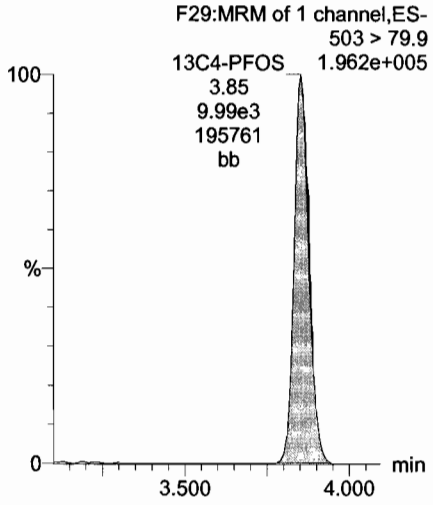
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_5, Date: 05-Jul-2017, Time: 14:00:11, ID: ST170705M2-4 PFC CS1 17G0506, Description: PFC CS1 17G0506

13C4-PFOS



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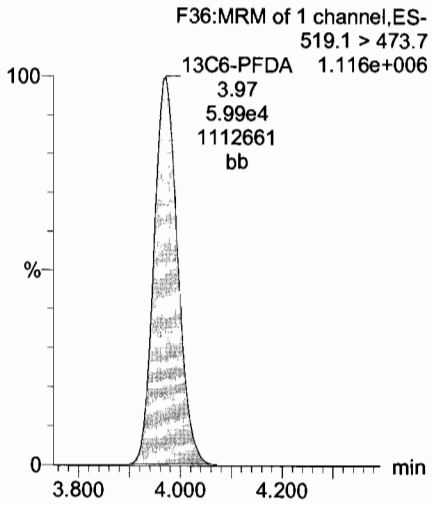
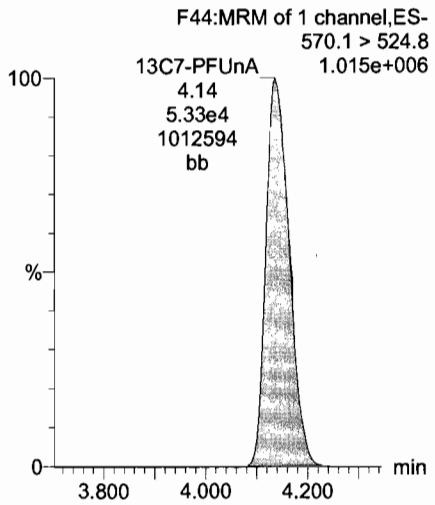


13C7-PFUnA



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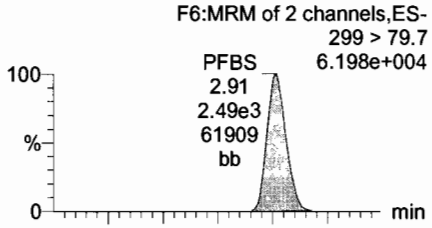
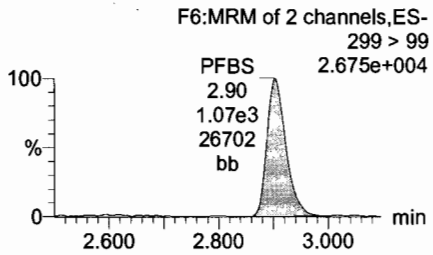
Name: 170705M2_6, Date: 05-Jul-2017, Time: 14:10:49, ID: ST170705M2-5 PFC CS2 17G0507, Description: PFC CS2 17G0507

PFBS





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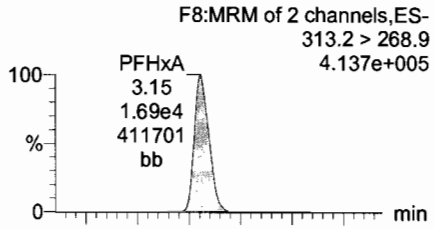
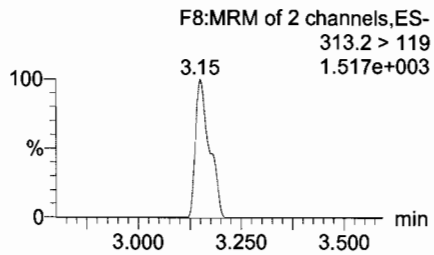
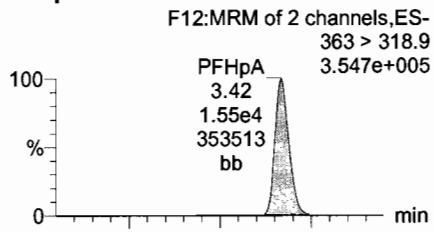
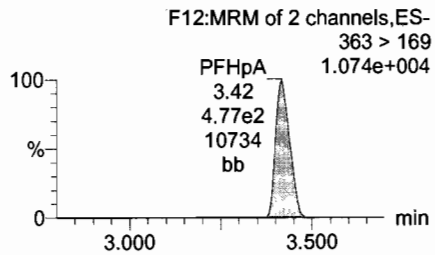


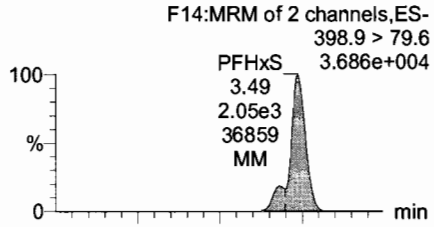


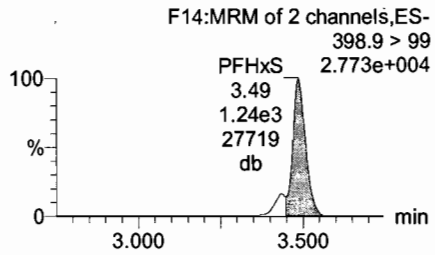
PFHpA





PFHxS





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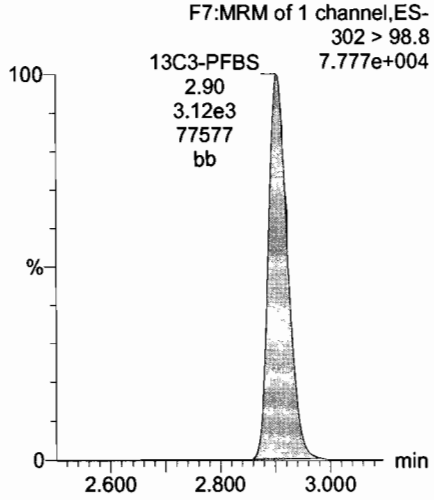
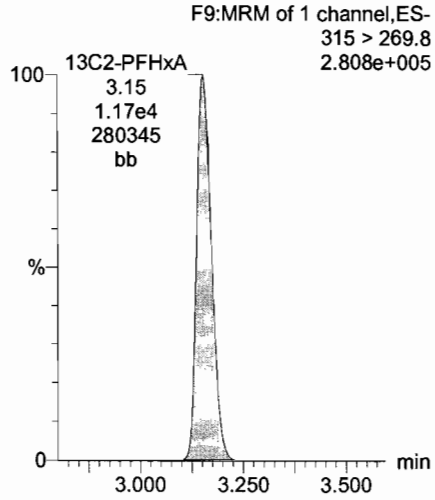
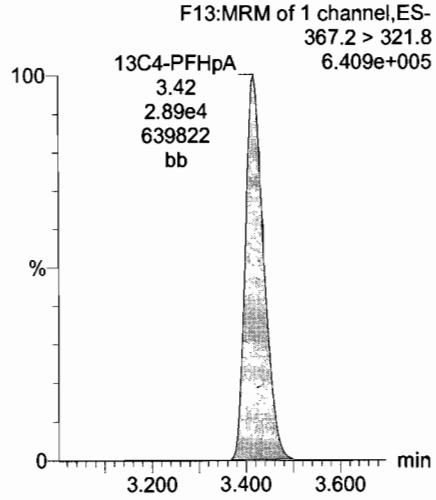


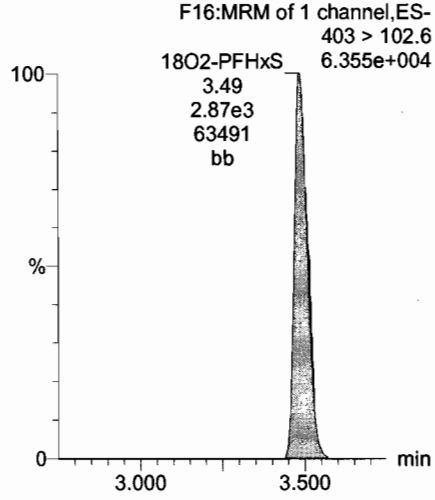
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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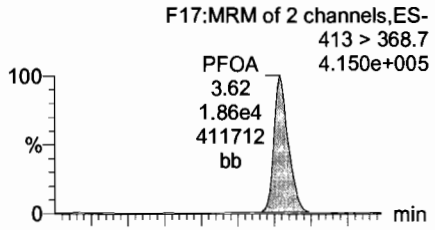
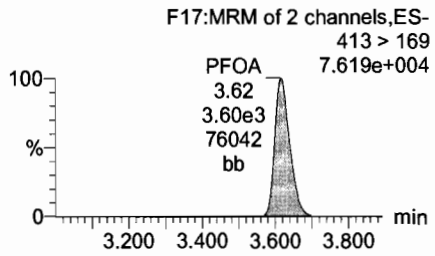
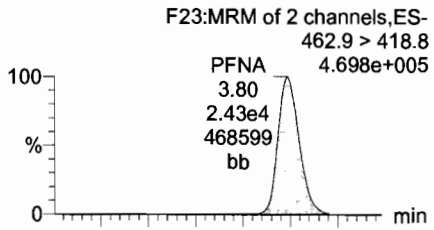
Name: 170705M2_6, Date: 05-Jul-2017, Time: 14:10:49, ID: ST170705M2-5 PFC CS2 17G0507, Description: PFC CS2 17G0507

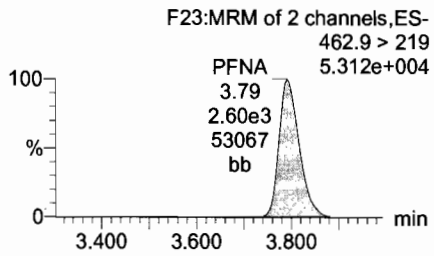
PFOA





PFNA





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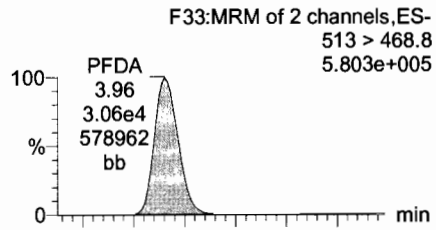
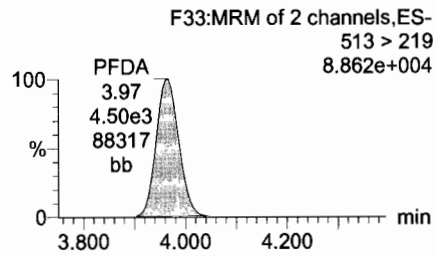
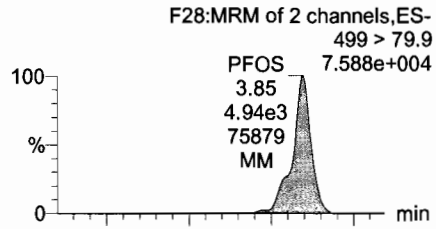
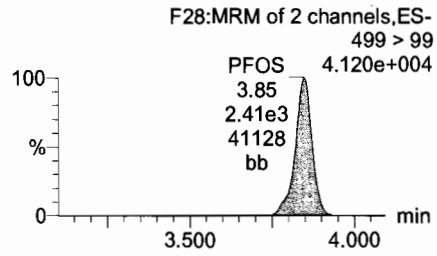


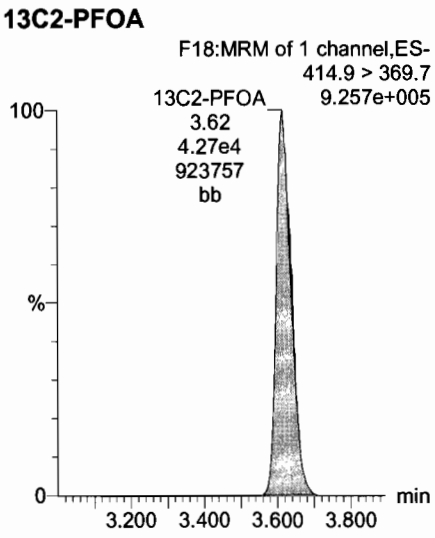


PFOS

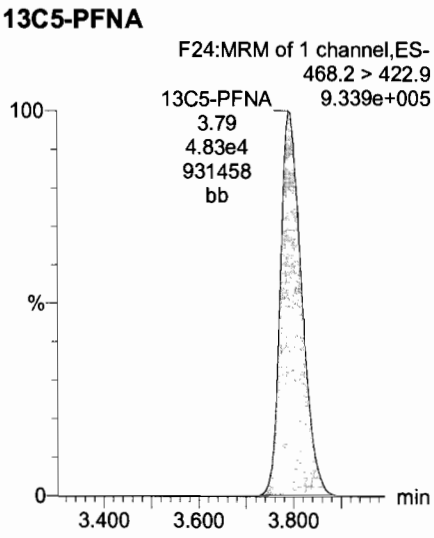




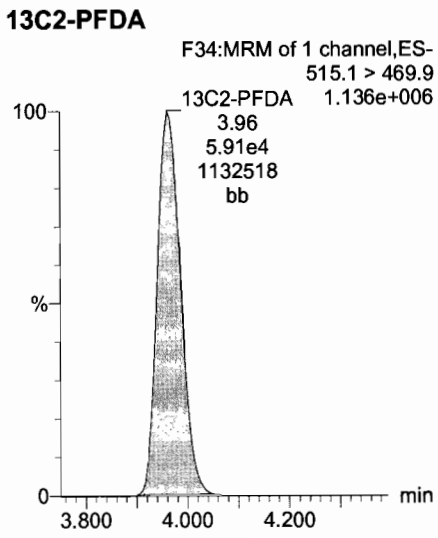
13C2-PFOA



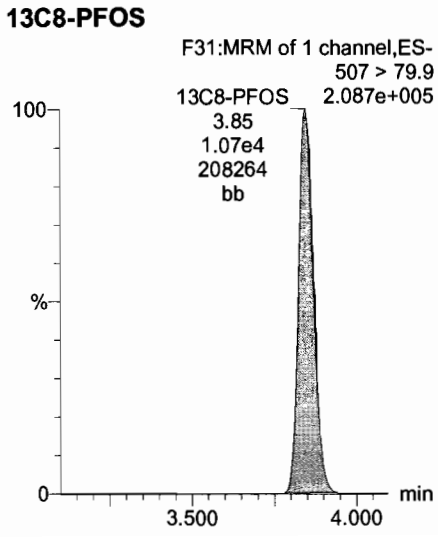
13C5-PFNA



13C2-PFDA



13C8-PFOS



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Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_6, Date: 05-Jul-2017, Time: 14:10:49, ID: ST170705M2-5 PFC CS2 17G0507, Description: PFC CS2 17G0507

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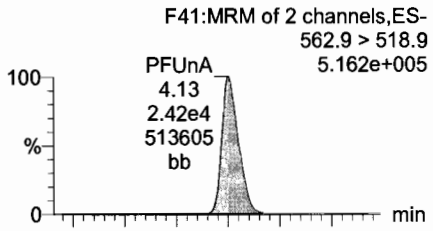
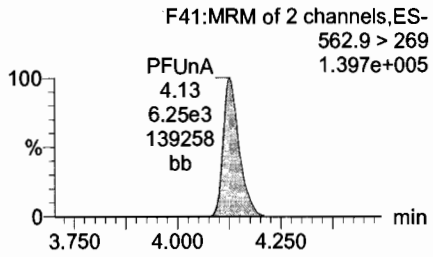
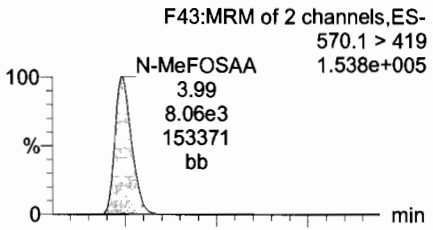
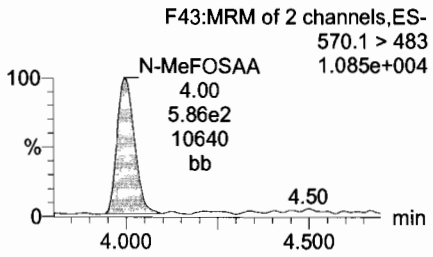




N-MeFOSAA





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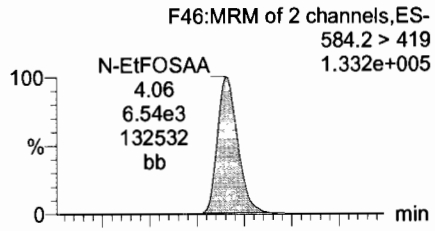

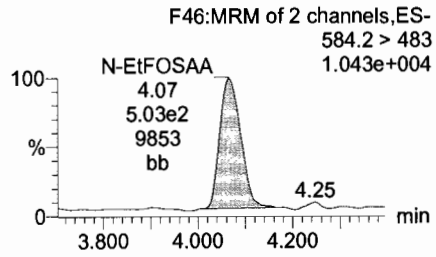

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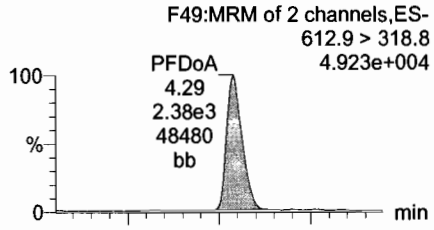

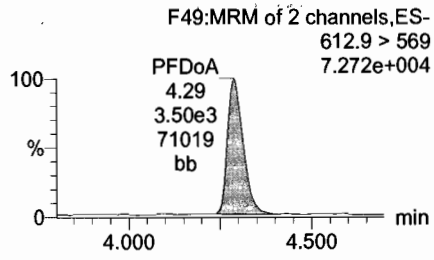

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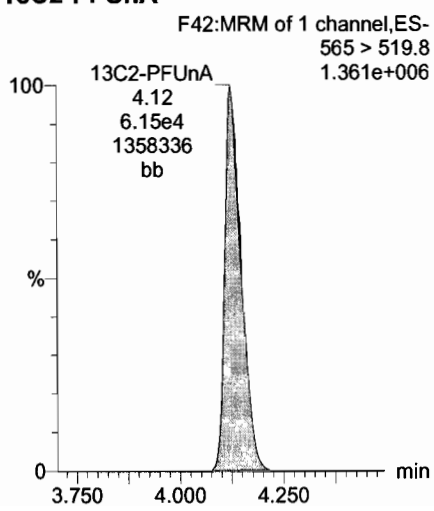

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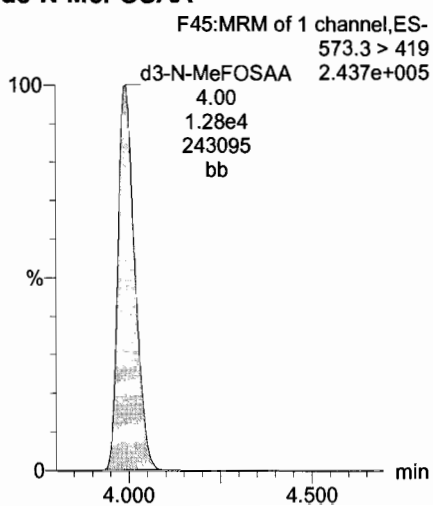

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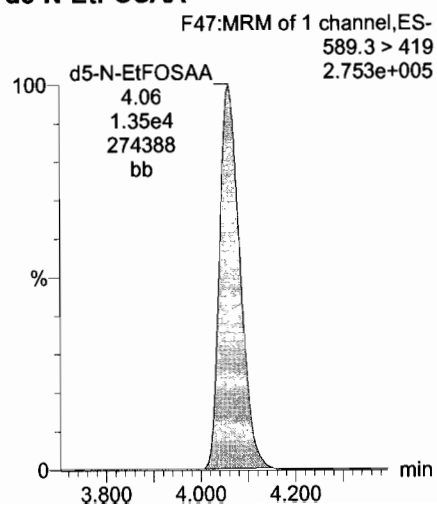

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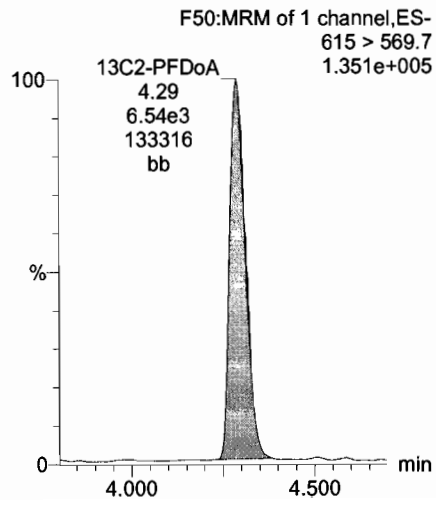

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Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_6, Date: 05-Jul-2017, Time: 14:10:49, ID: ST170705M2-5 PFC CS2 17G0507, Description: PFC CS2 17G0507

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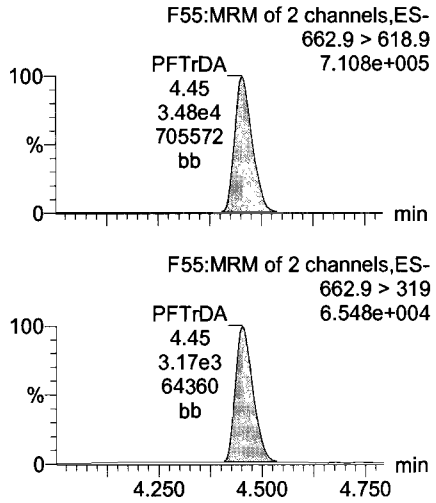

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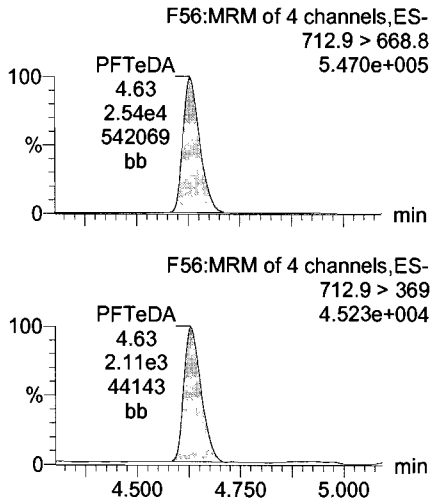
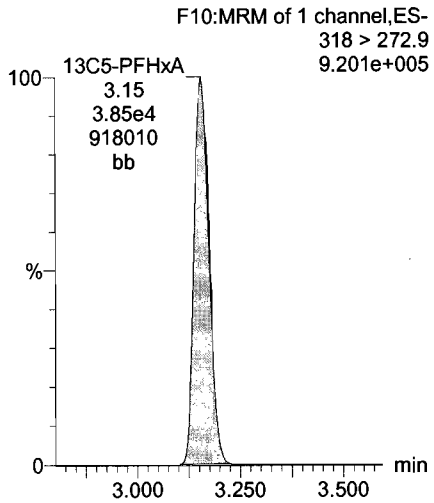


13C5-PFHxA



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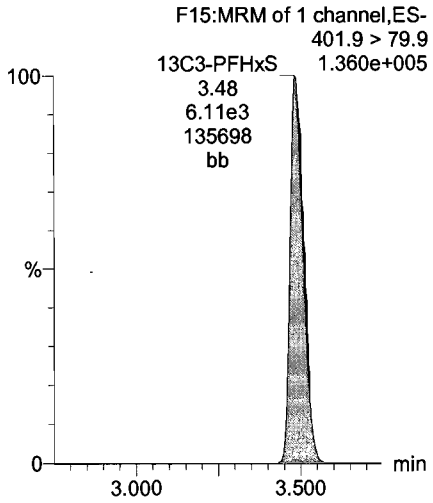

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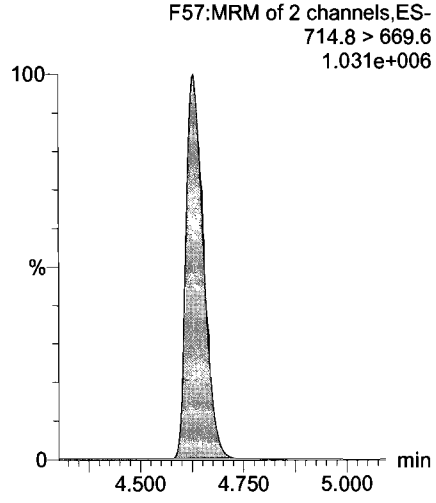

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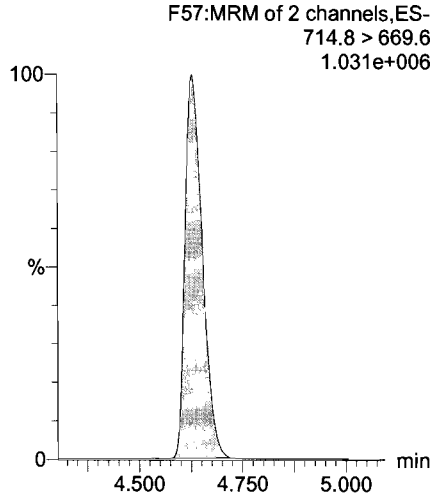

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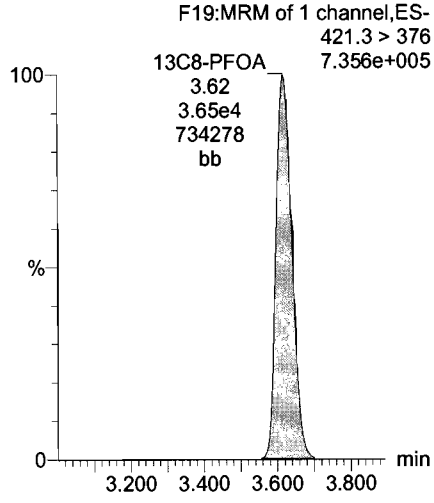

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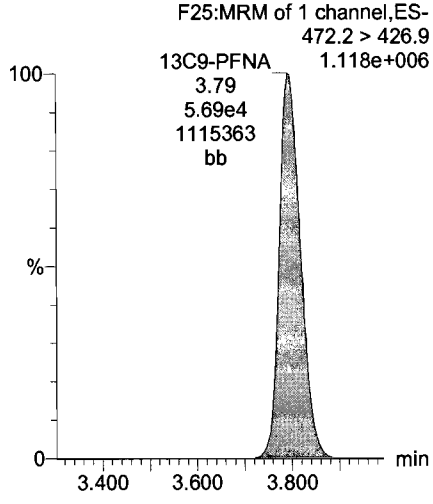

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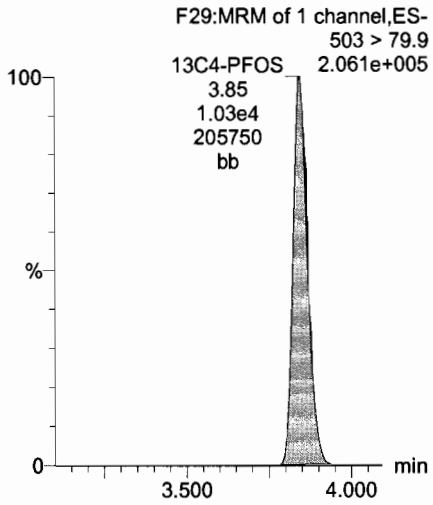
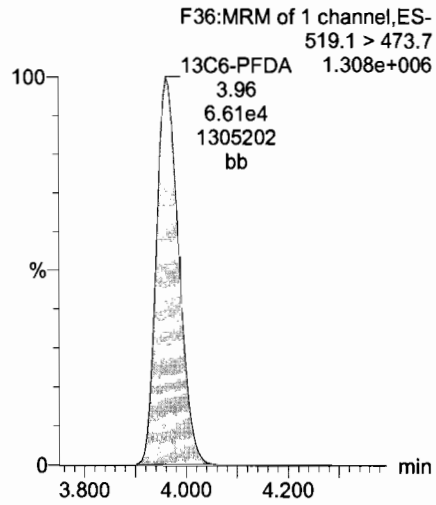
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_6, Date: 05-Jul-2017, Time: 14:10:49, ID: ST170705M2-5 PFC CS2 17G0507, Description: PFC CS2 17G0507

13C4-PFOS



13C6-PFDA



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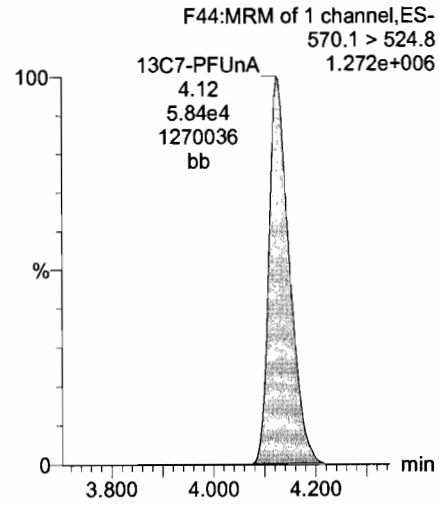

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Name: 170705M2_7, Date: 05-Jul-2017, Time: 14:21:36, ID: ST170705M2-6 PFC CS3 17G0508, Description: PFC CS3 17G0508

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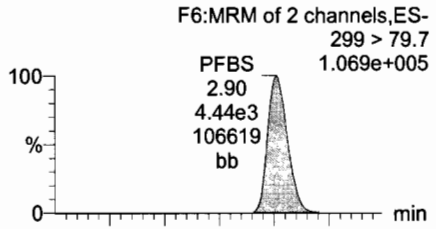

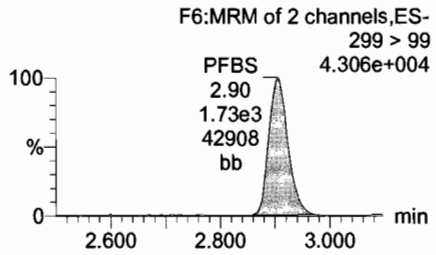

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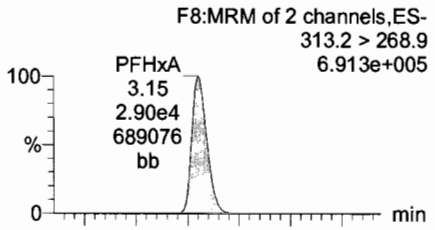

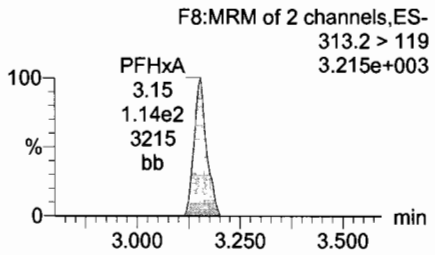

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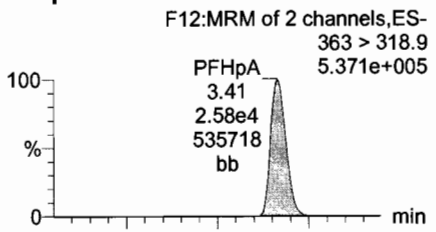

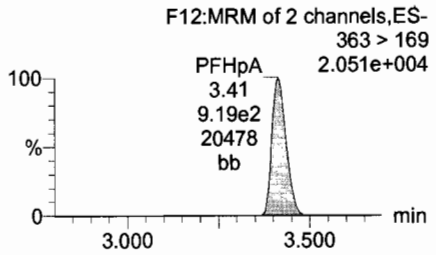

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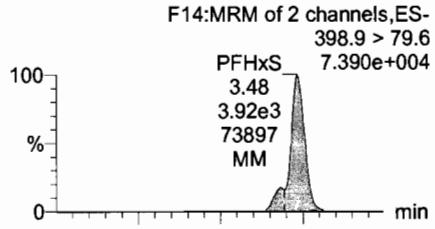

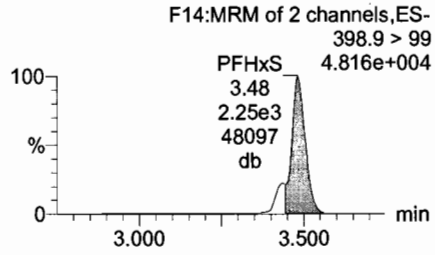

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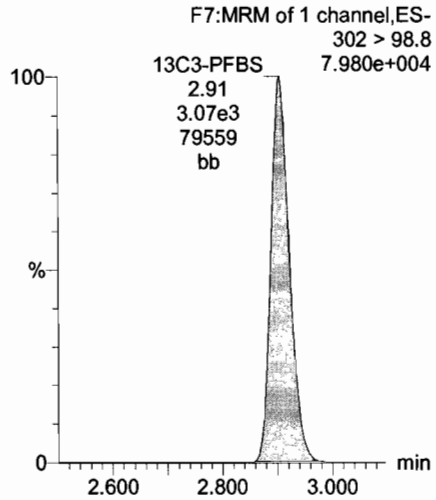
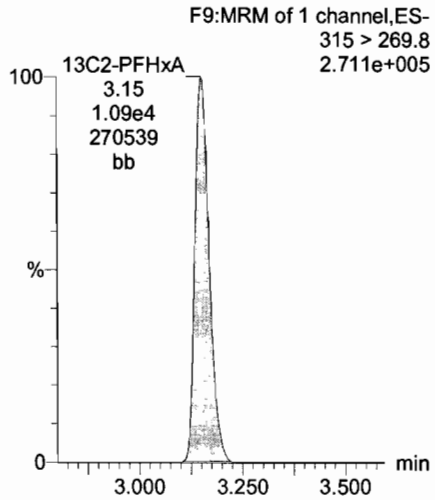
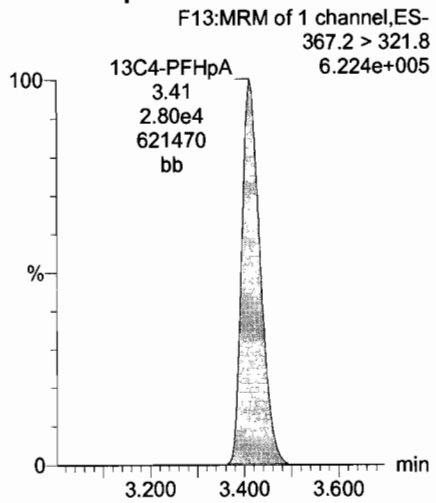


13C2-PFHxA



13C4-PFHpA



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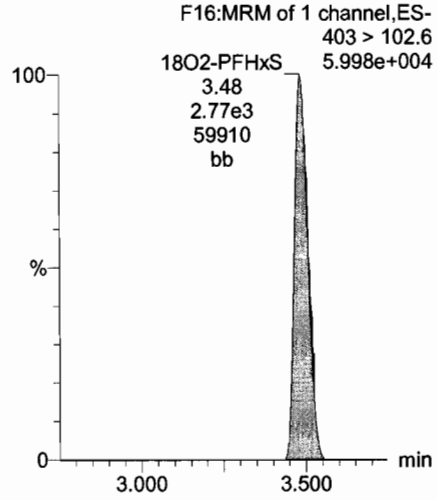

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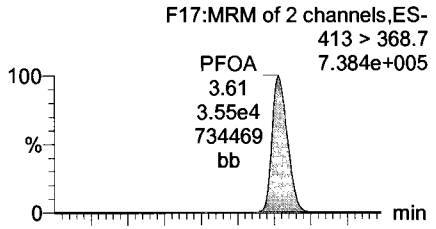
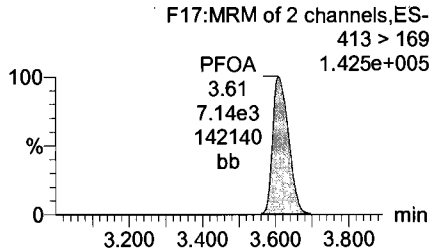
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_7, Date: 05-Jul-2017, Time: 14:21:36, ID: ST170705M2-6 PFC CS3 17G0508, Description: PFC CS3 17G0508

PFOA





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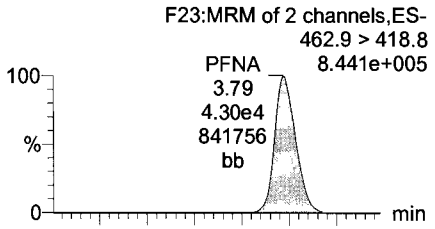

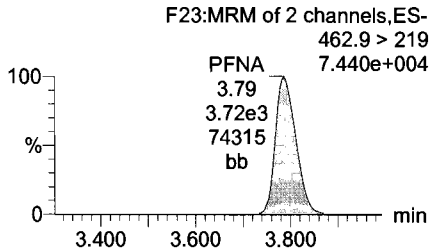

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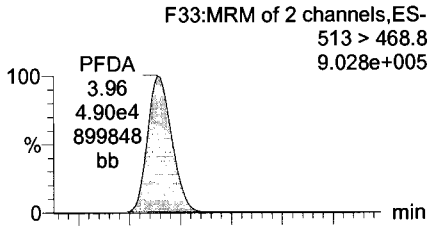
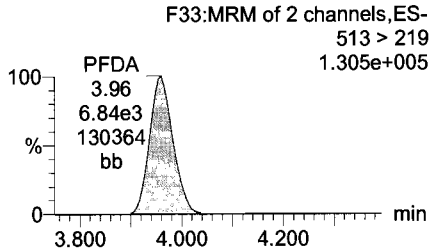
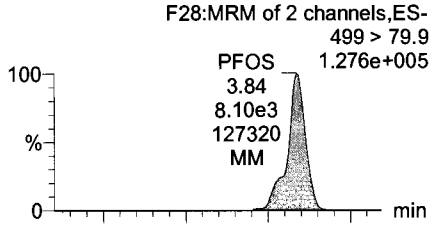
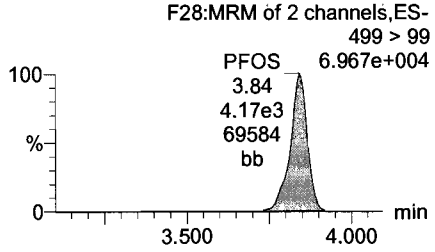




PFOS





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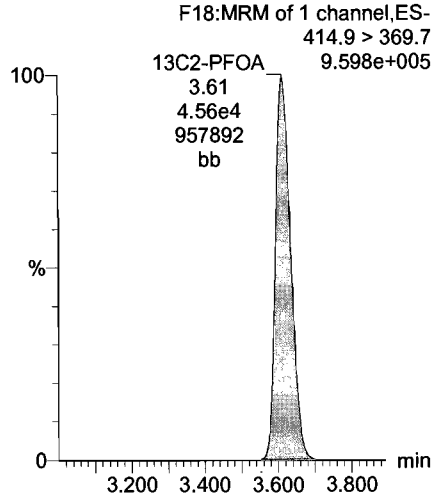
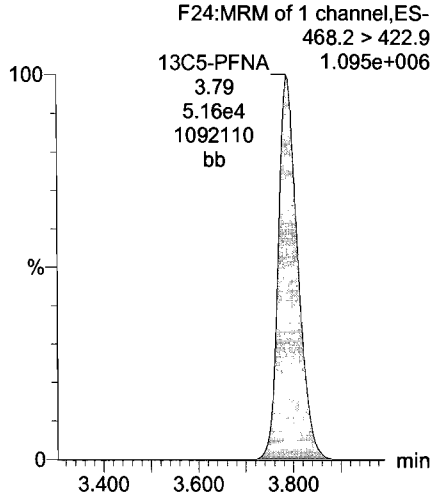


13C5-PFNA



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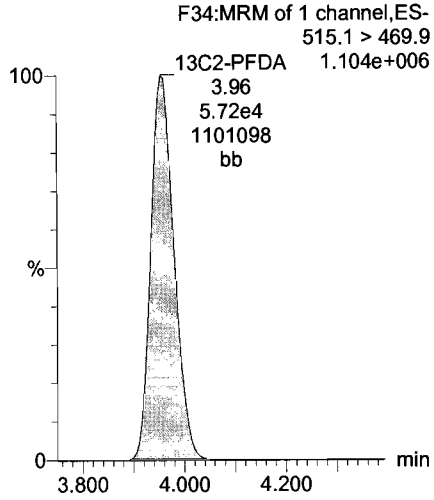

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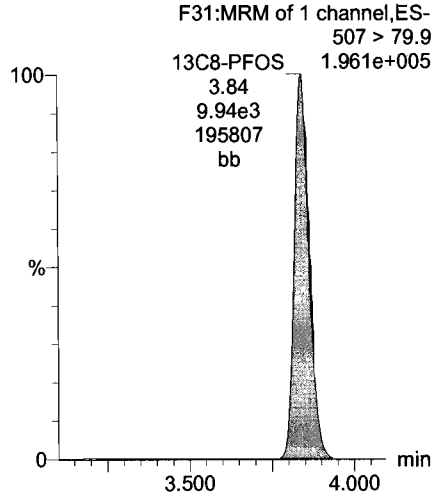

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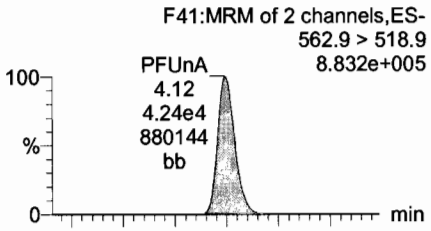
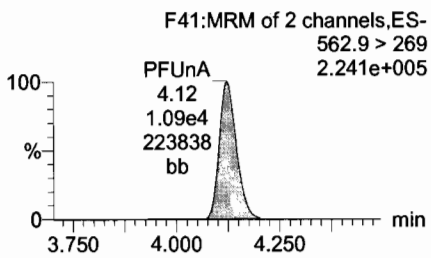
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_7, Date: 05-Jul-2017, Time: 14:21:36, ID: ST170705M2-6 PFC CS3 17G0508, Description: PFC CS3 17G0508

PFUnA





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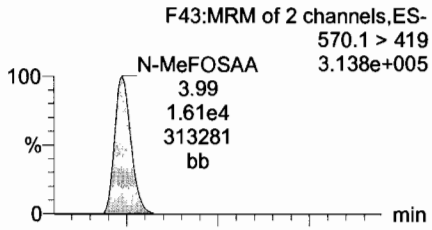

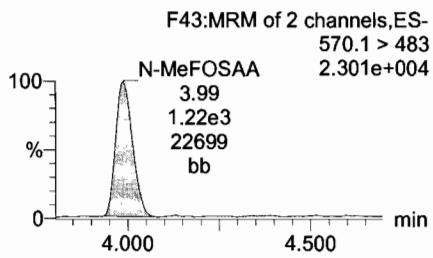

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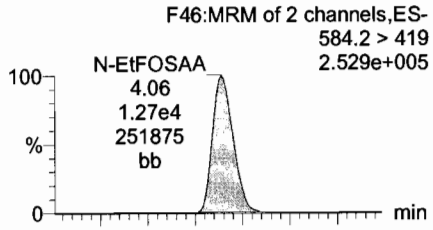
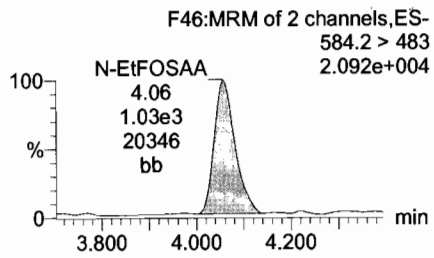
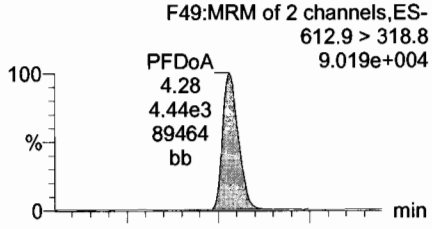
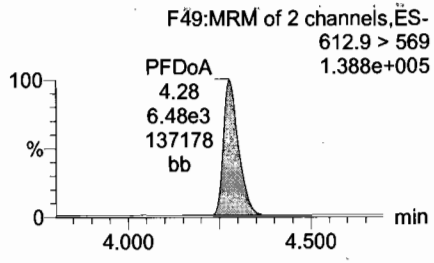




PFDoA





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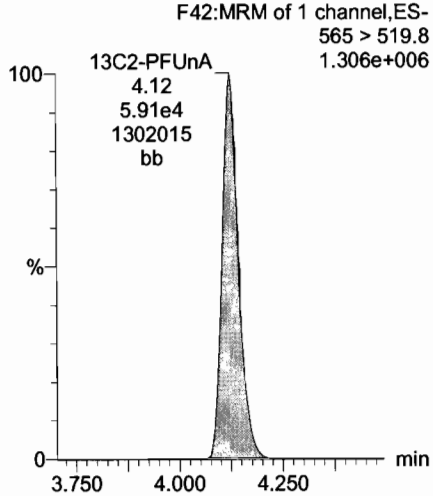
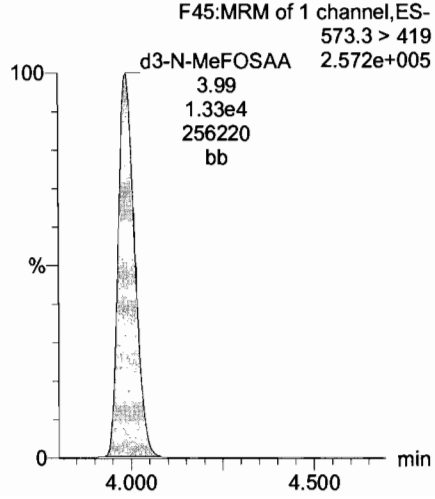


d3-N-MeFOSAA



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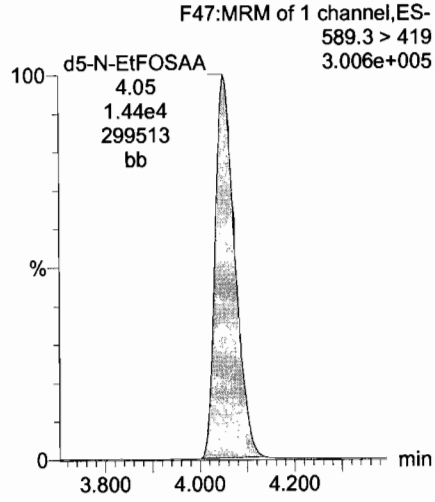

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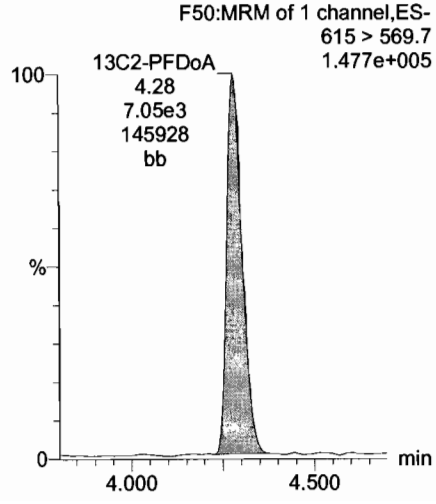

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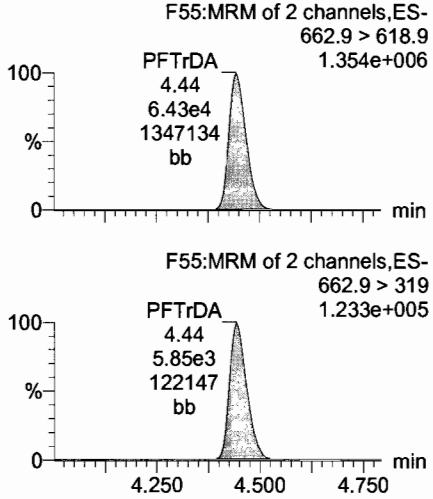
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_7, Date: 05-Jul-2017, Time: 14:21:36, ID: ST170705M2-6 PFC CS3 17G0508, Description: PFC CS3 17G0508

PFTrDA



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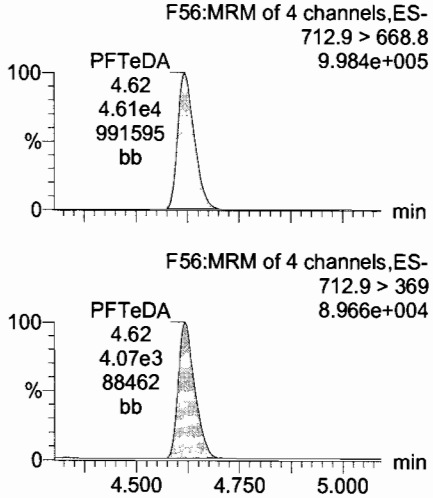
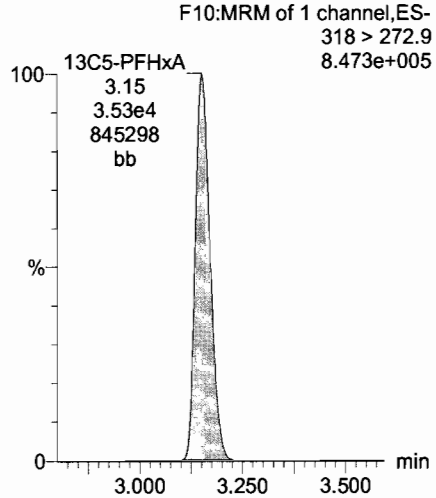
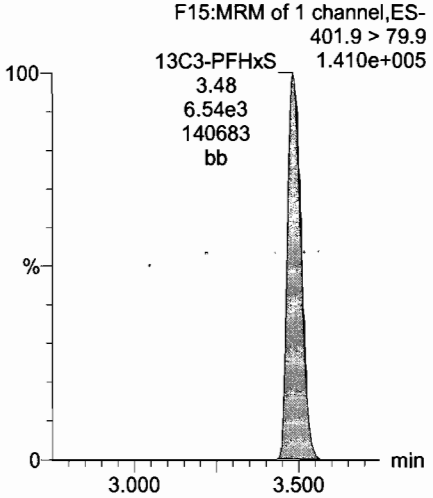


13C5-PFHxA



13C3-PFHxS



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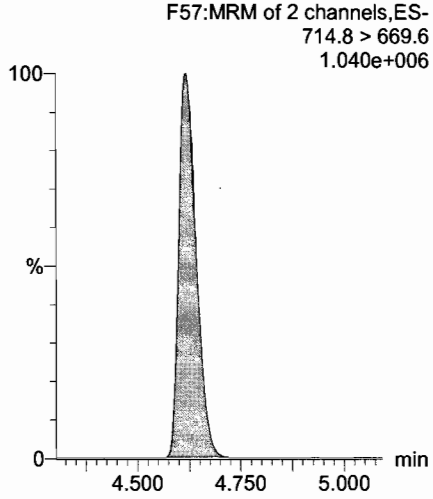

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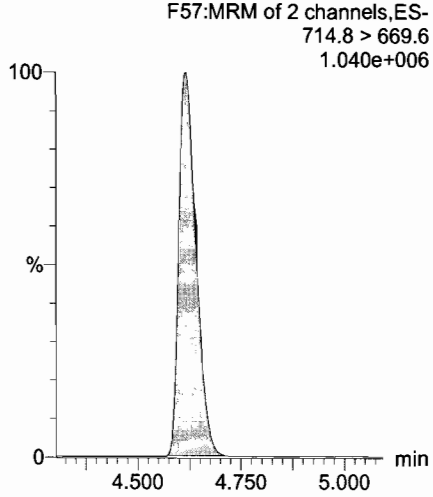

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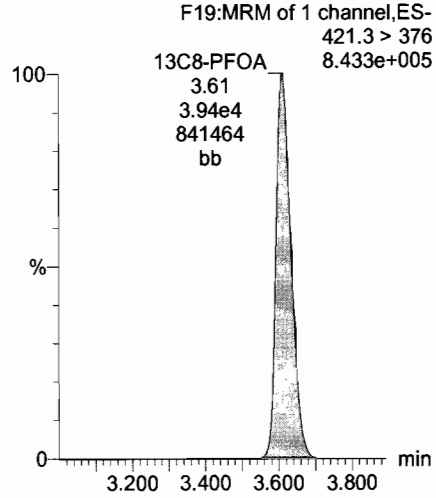
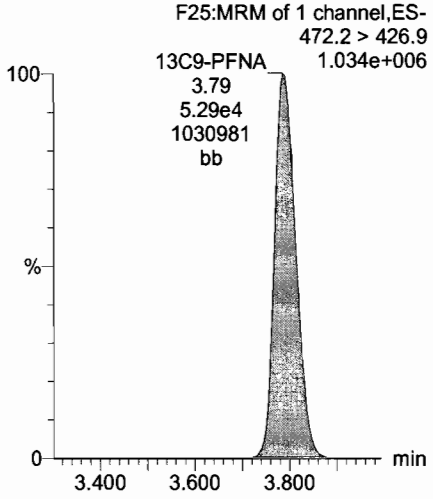


13C9-PFNA



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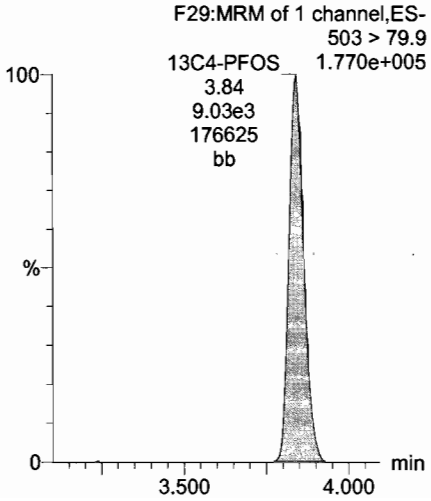
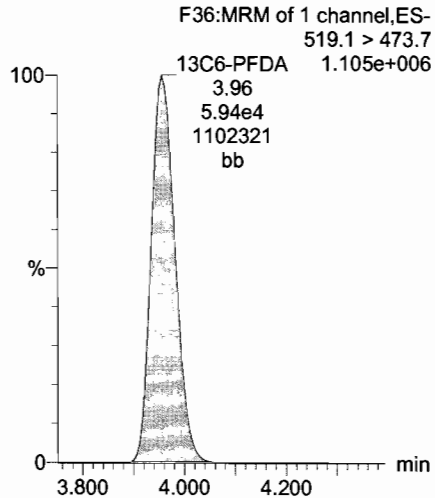
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_7, Date: 05-Jul-2017, Time: 14:21:36, ID: ST170705M2-6 PFC CS3 17G0508, Description: PFC CS3 17G0508

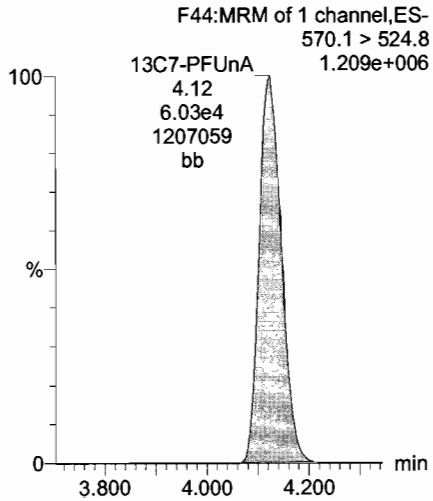
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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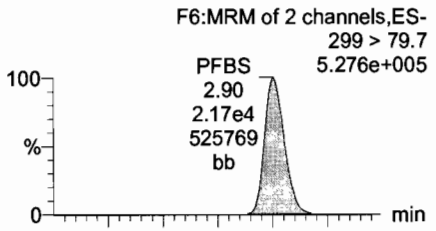
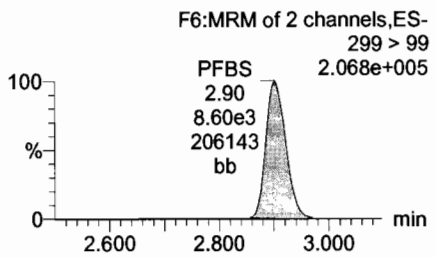
Name: 170705M2_8, Date: 05-Jul-2017, Time: 14:32:14, ID: ST170705M2-7 PFC CS4 17G0509, Description: PFC CS4 17G0509

PFBS





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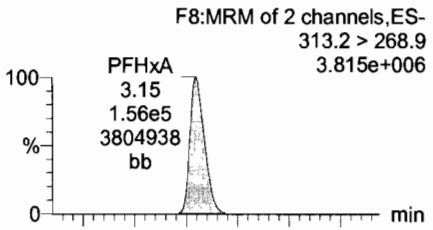

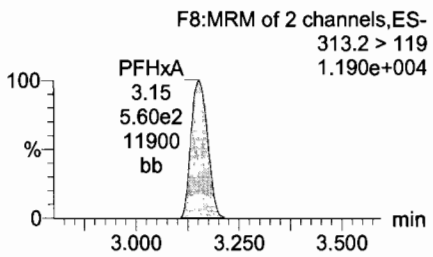

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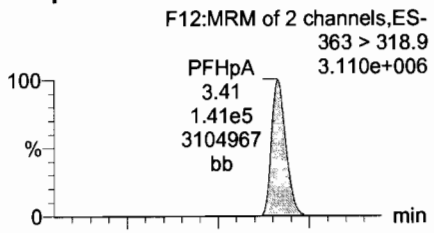
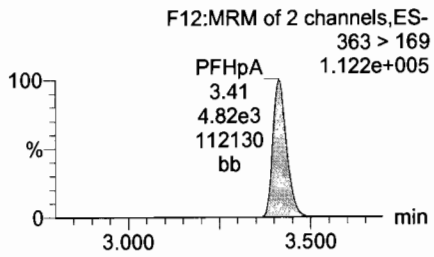
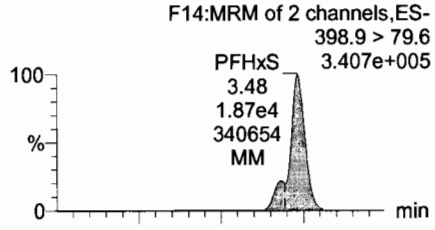
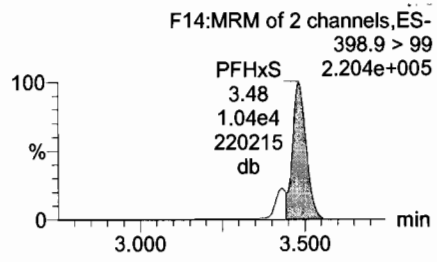




PFHxS





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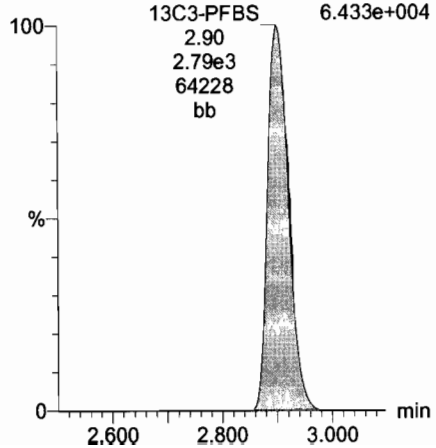

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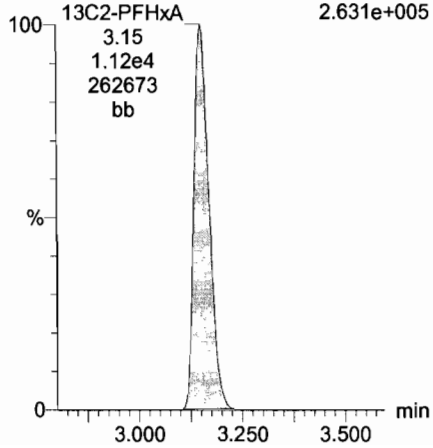

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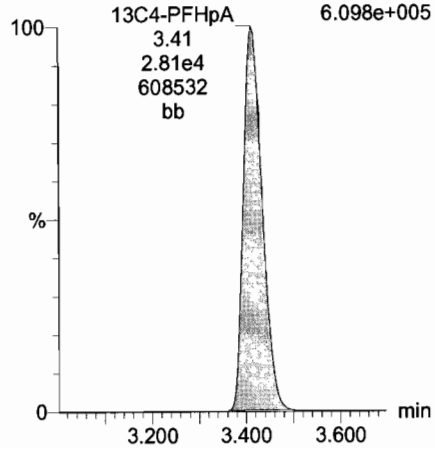
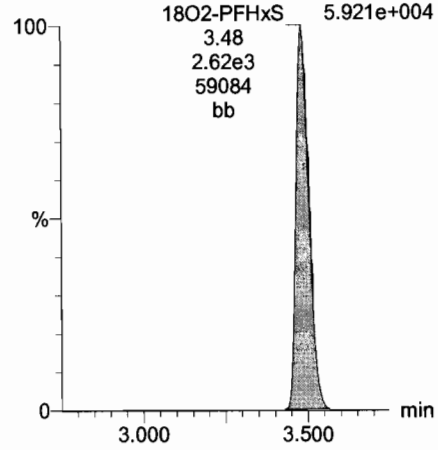


18O2-PFHxS



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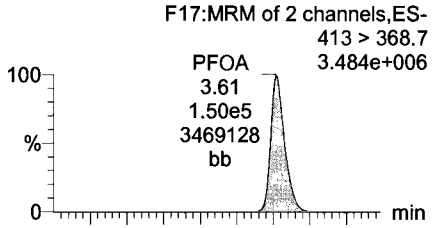
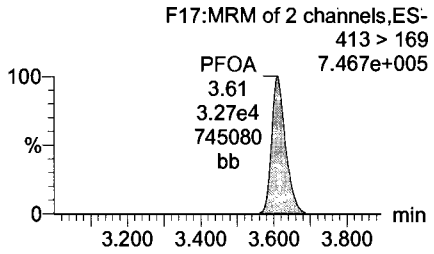
Name: 170705M2_8, Date: 05-Jul-2017, Time: 14:32:14, ID: ST170705M2-7 PFC CS4 17G0509, Description: PFC CS4 17G0509

PFOA





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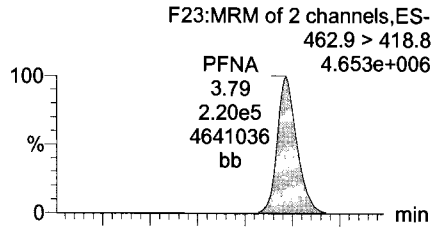

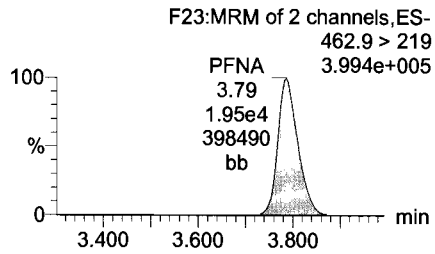

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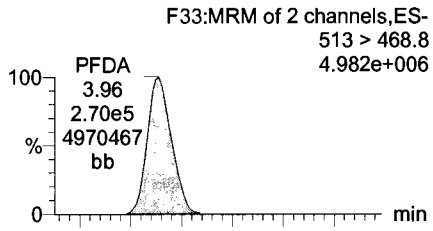
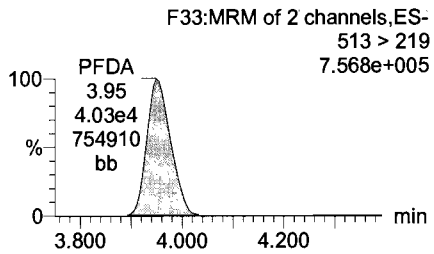
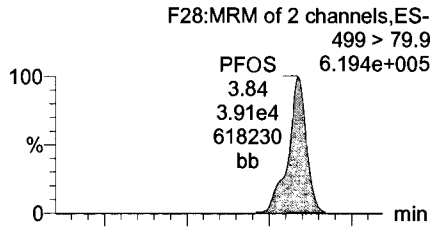
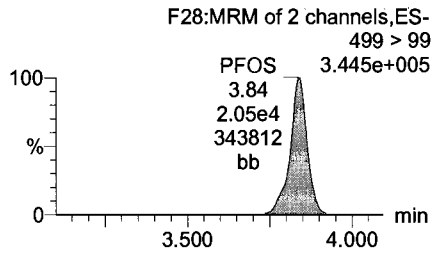




PFOS





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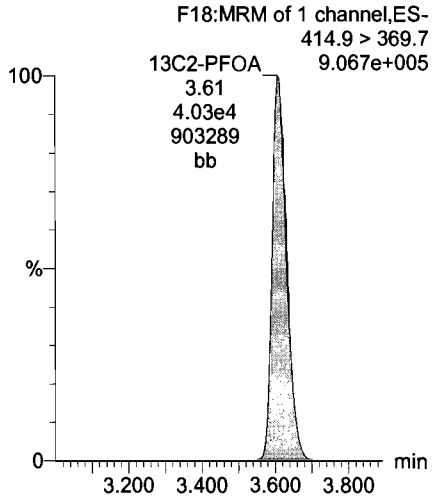

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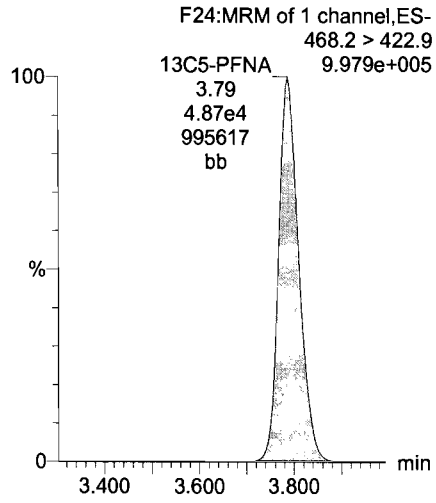

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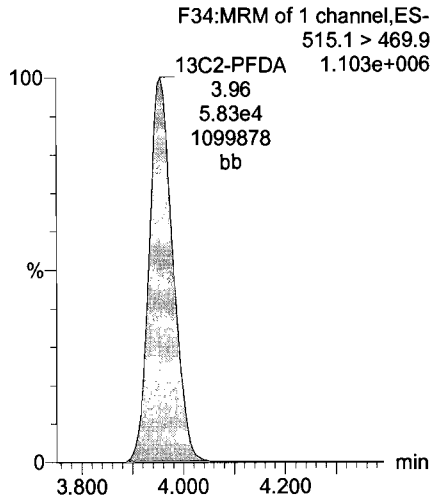
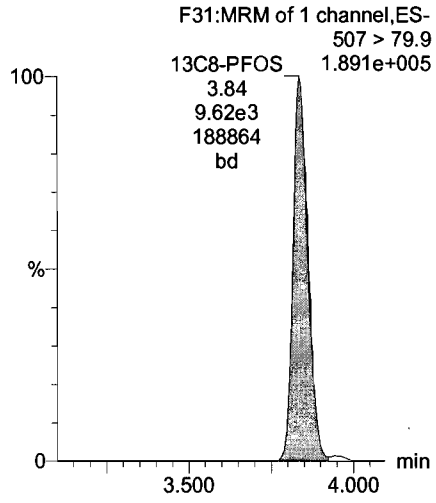


13C8-PFOS



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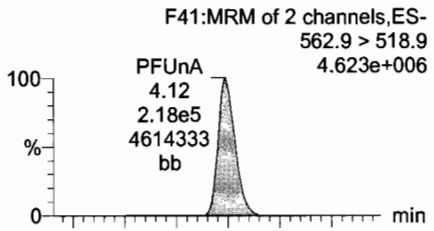
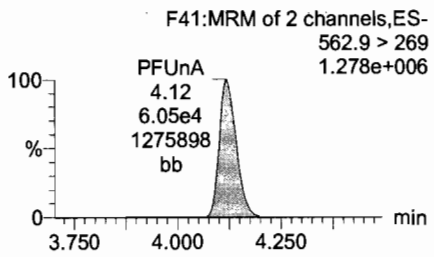
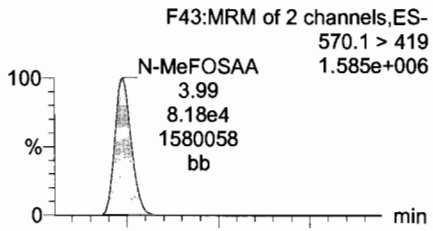
Name: 170705M2_8, Date: 05-Jul-2017, Time: 14:32:14, ID: ST170705M2-7 PFC CS4 17G0509, Description: PFC CS4 17G0509

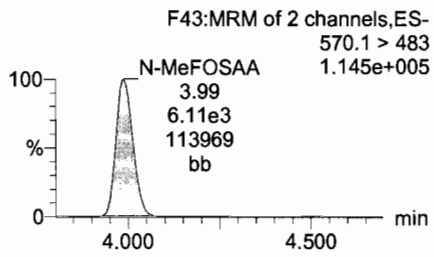
PFUnA



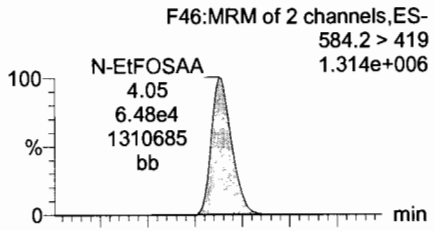


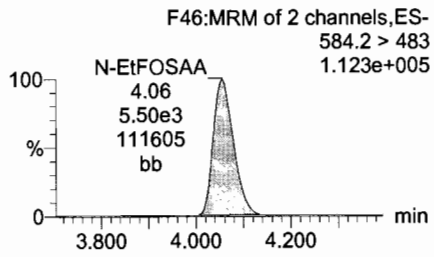
N-MeFOSAA





N-EtFOSAA





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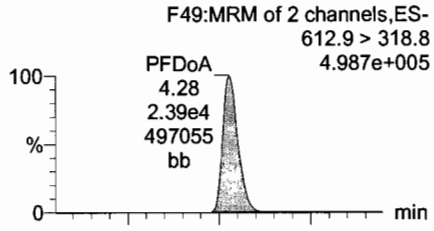

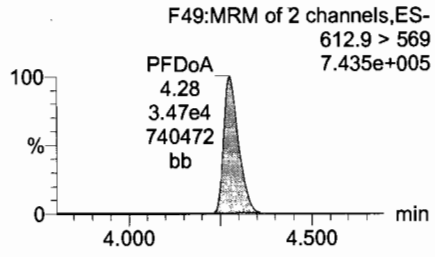

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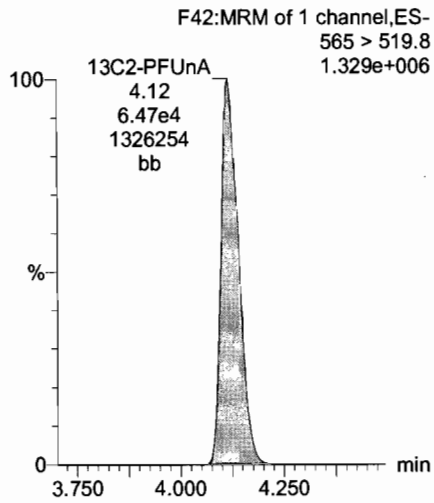

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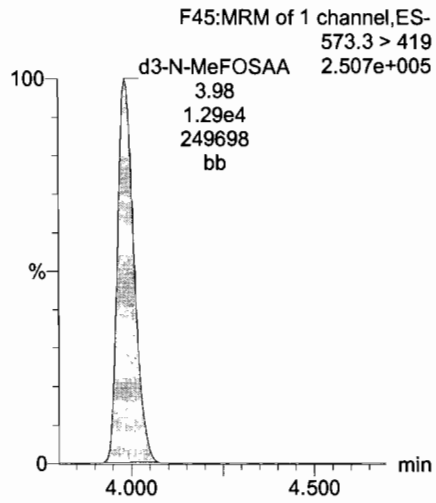

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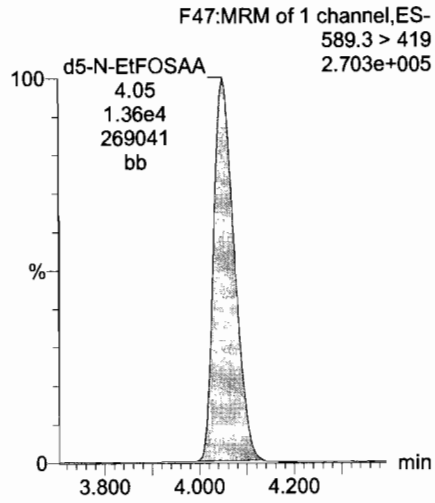
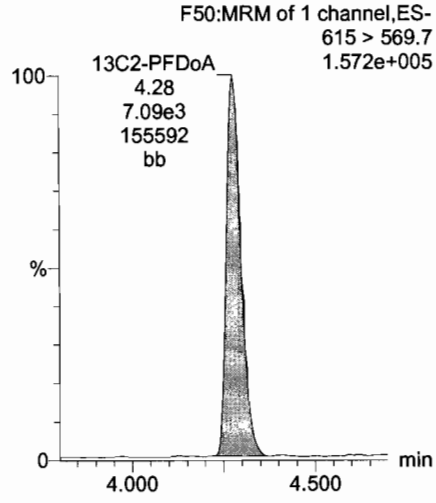


13C2-PFDoA



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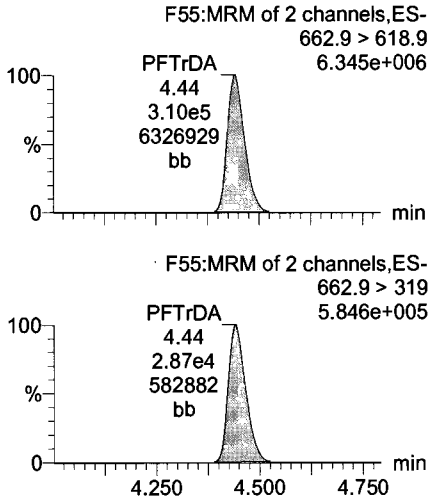
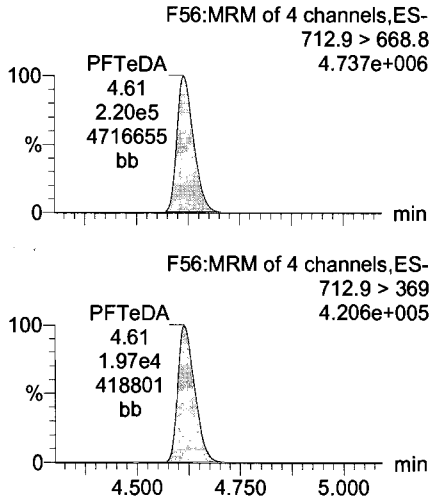
Last Altered: Wednesday, July 19, 2017 13:31:36 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_8, Date: 05-Jul-2017, Time: 14:32:14, ID: ST170705M2-7 PFC CS4 17G0509, Description: PFC CS4 17G0509

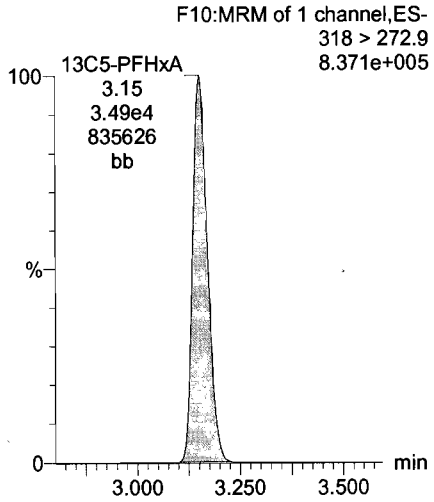
PFTrDA



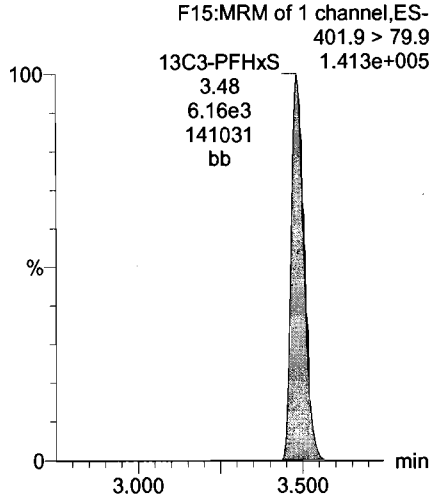
PFTeDA



13C5-PFHxA



13C3-PFHxS



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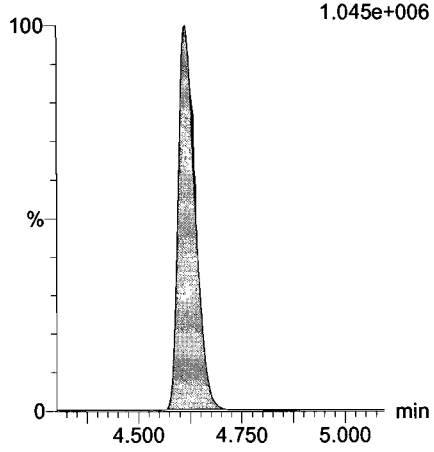

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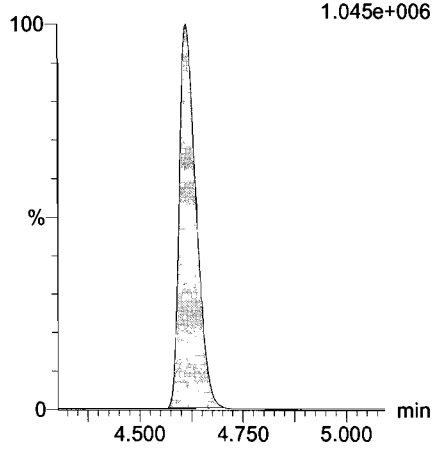
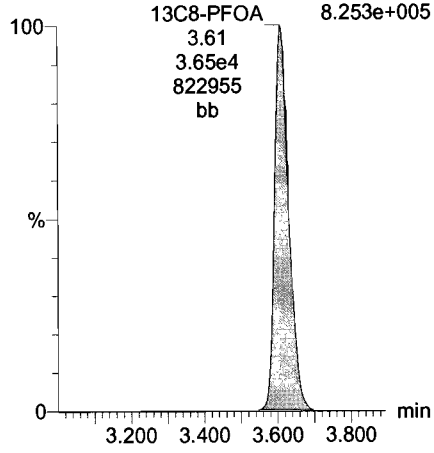
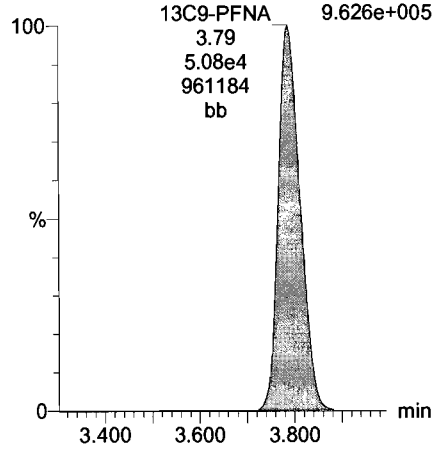


13C8-PFOA



13C9-PFNA



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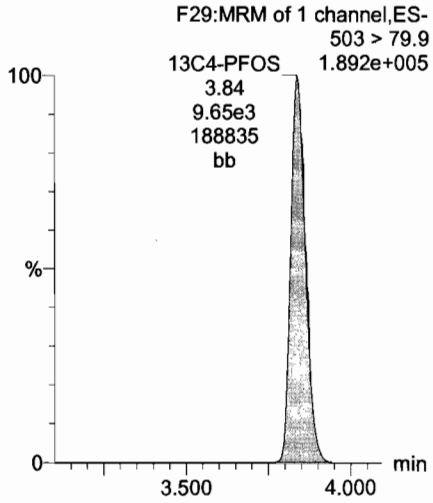
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_8, Date: 05-Jul-2017, Time: 14:32:14, ID: ST170705M2-7 PFC CS4 17G0509, Description: PFC CS4 17G0509

13C4-PFOS



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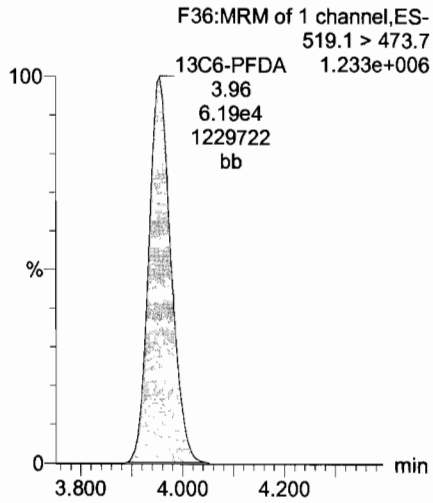

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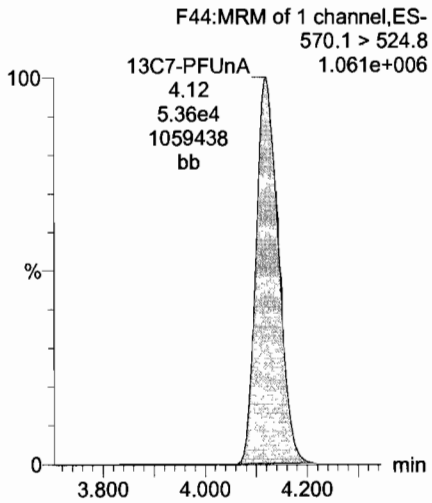

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Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_9, Date: 05-Jul-2017, Time: 14:43:01, ID: ST170705M2-8 PFC CS5 17G0510, Description: PFC CS5 17G0510

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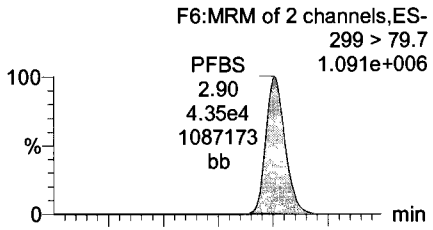

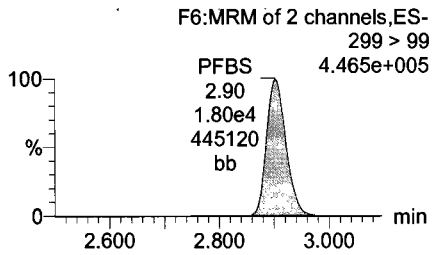

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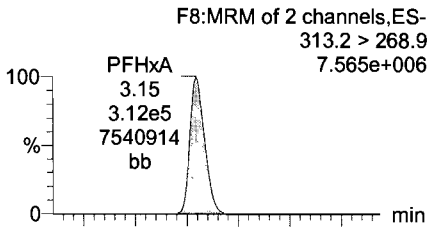

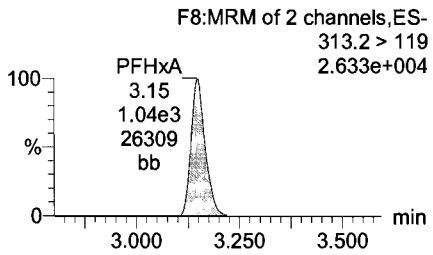

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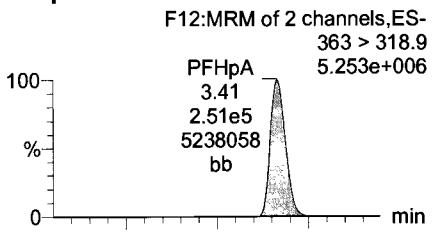

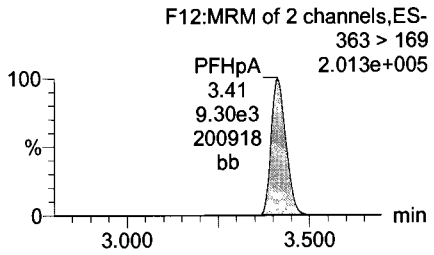

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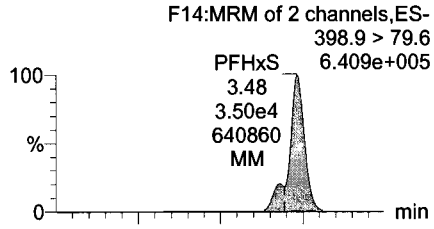

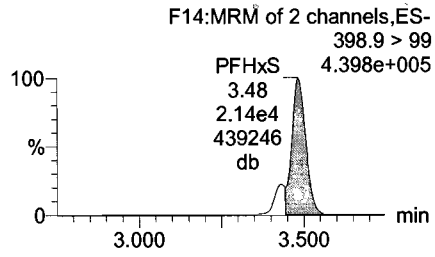

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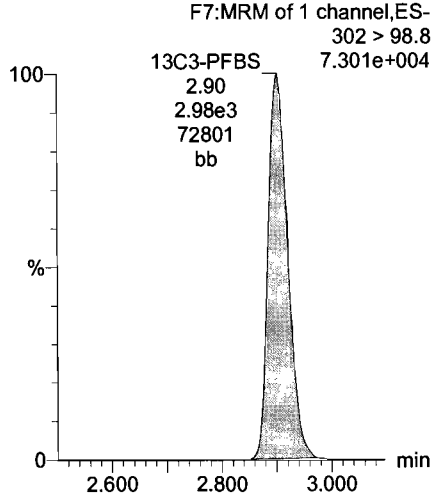

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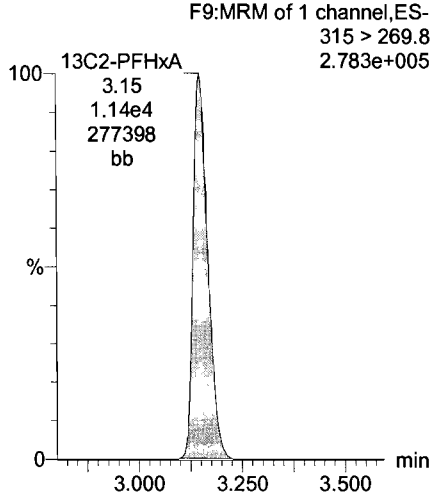

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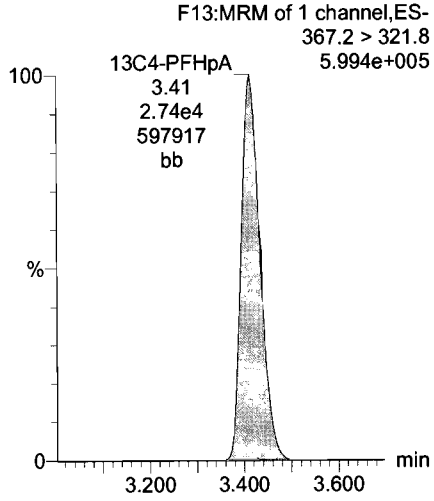

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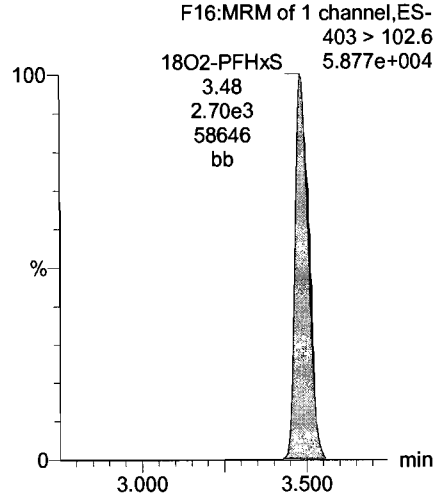

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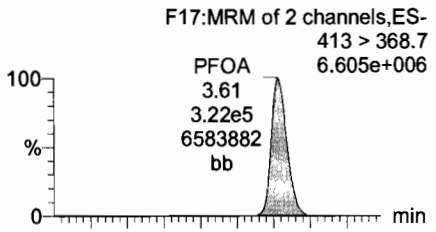
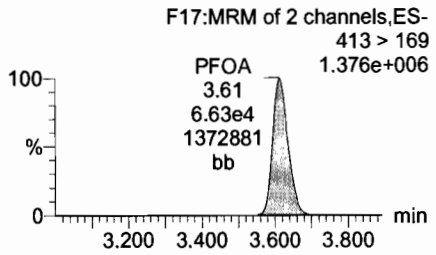
Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_9, Date: 05-Jul-2017, Time: 14:43:01, ID: ST170705M2-8 PFC CS5 17G0510, Description: PFC CS5 17G0510

PFOA





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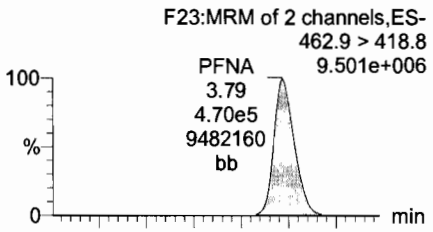

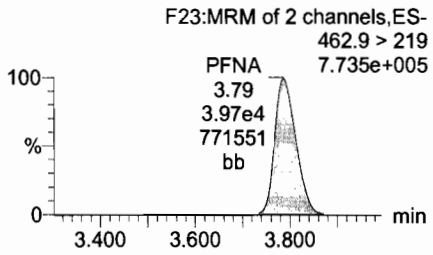

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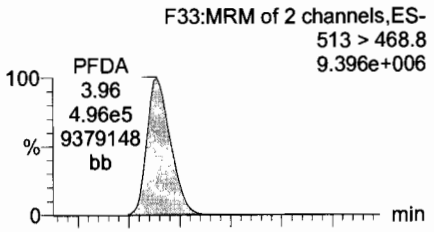

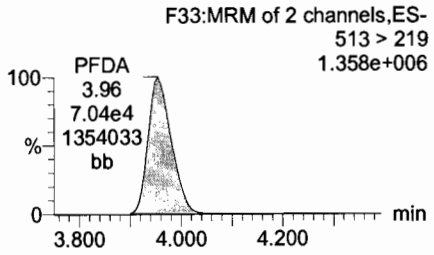

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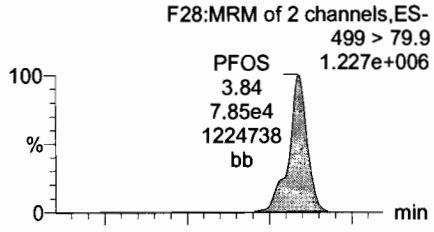

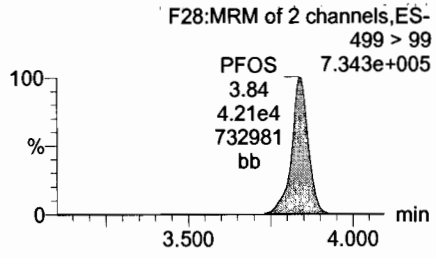

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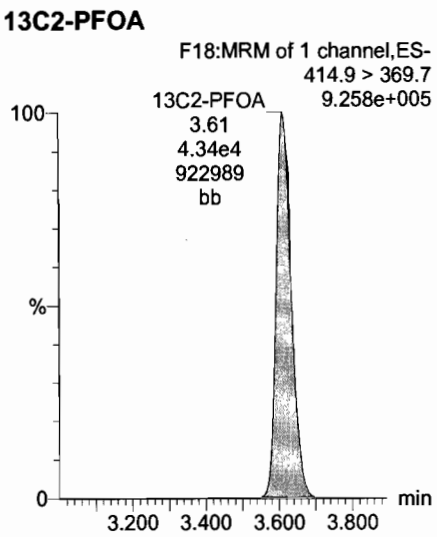

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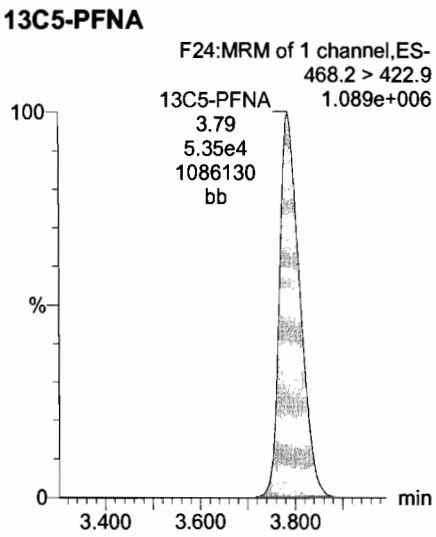

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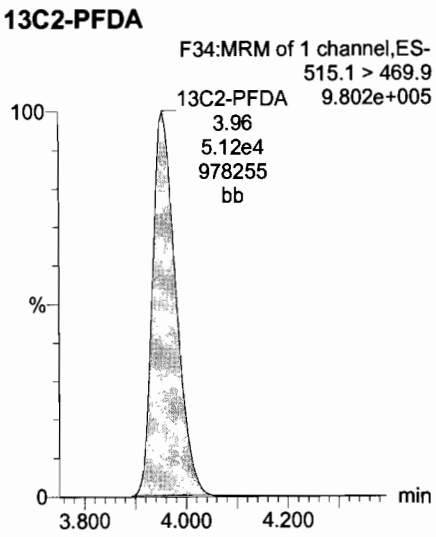
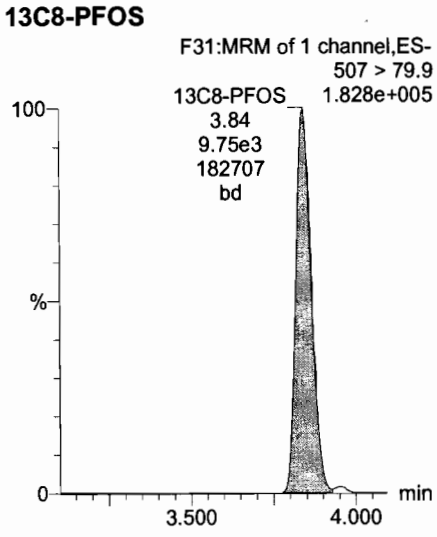


13C8-PFOS



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Printed: Wednesday, July 19, 2017 13:44:34 Pacific Daylight Time

Name: 170705M2_9, Date: 05-Jul-2017, Time: 14:43:01, ID: ST170705M2-8 PFC CS5 17G0510, Description: PFC CS5 17G0510

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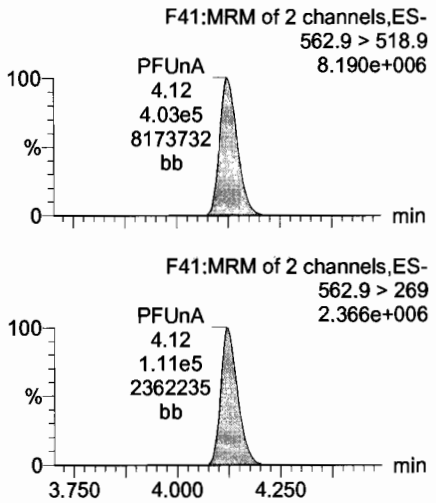

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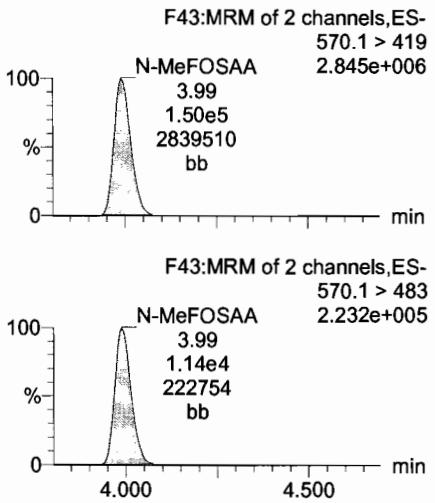

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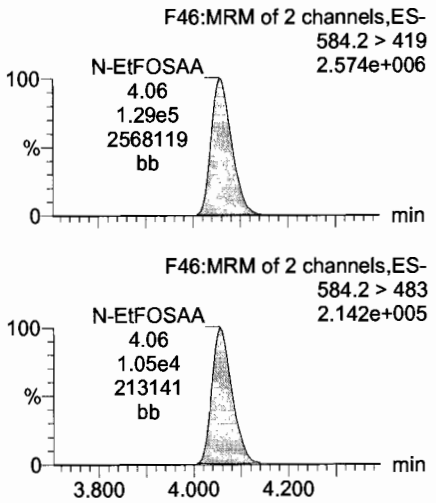
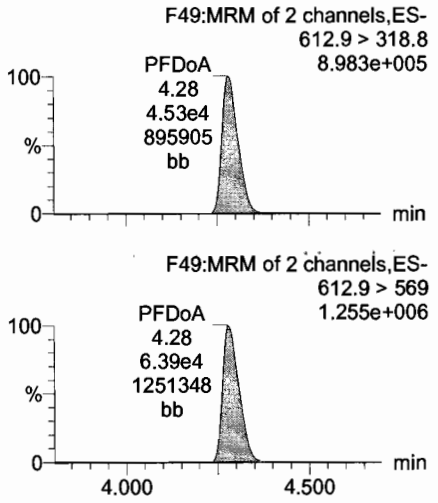


PFDoA



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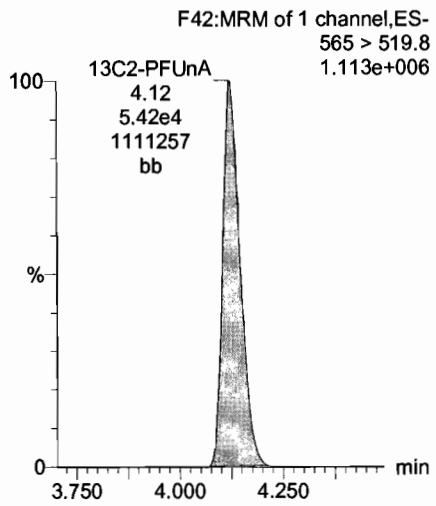

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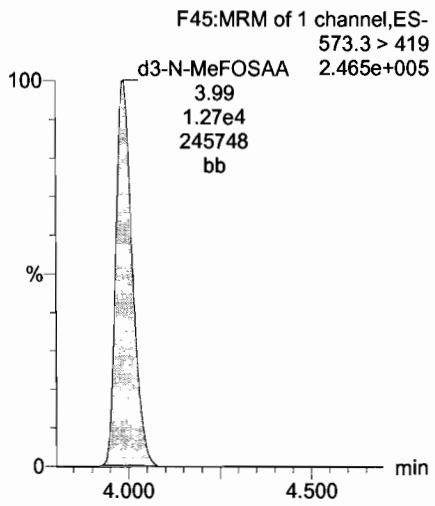

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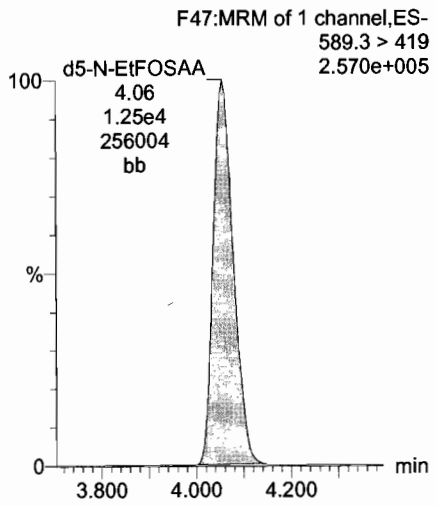

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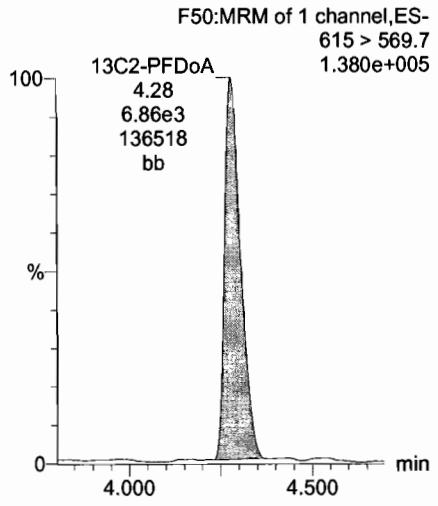

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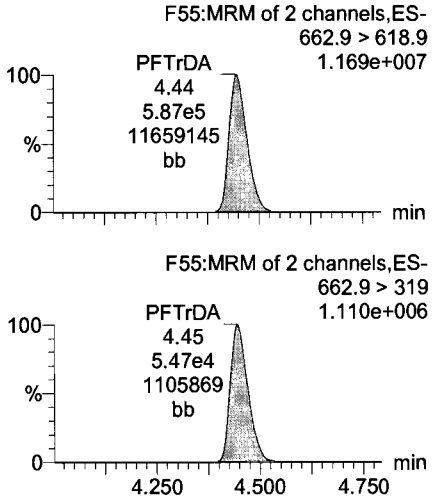
Name: 170705M2_9, Date: 05-Jul-2017, Time: 14:43:01, ID: ST170705M2-8 PFC CS5 17G0510, Description: PFC CS5 17G0510

PFTrDA



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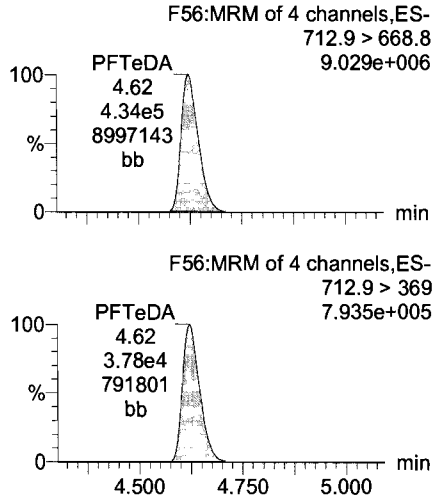

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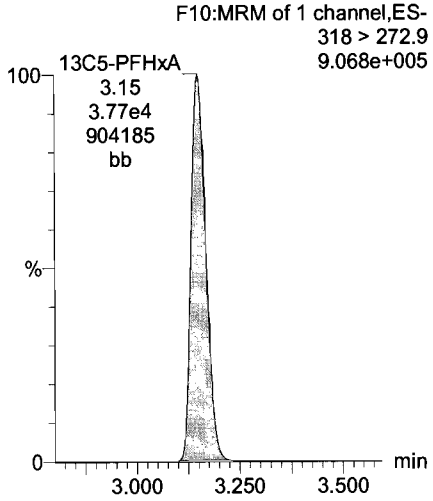

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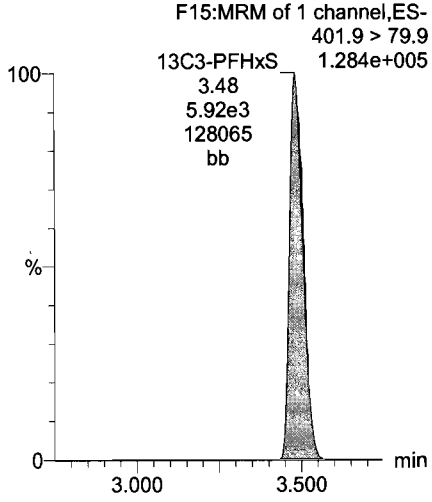

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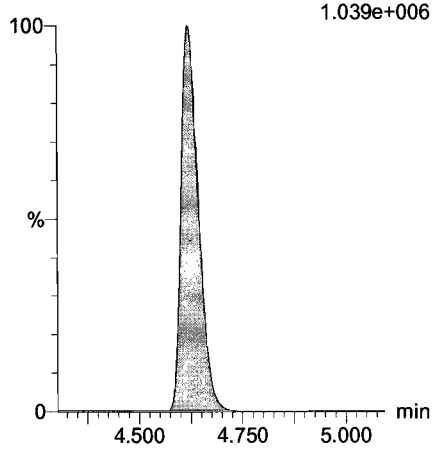
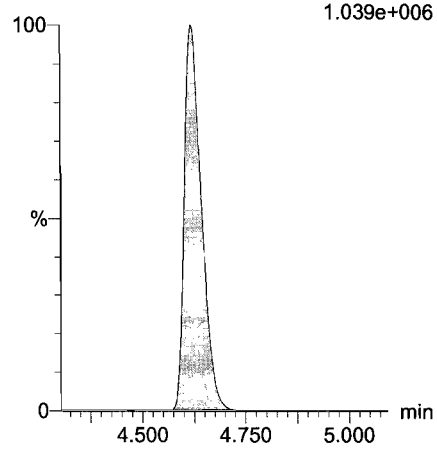


13C2-PFTeDA



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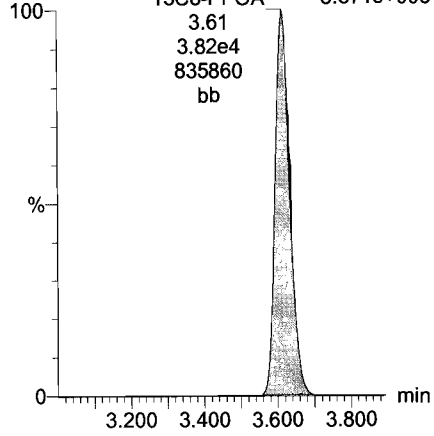

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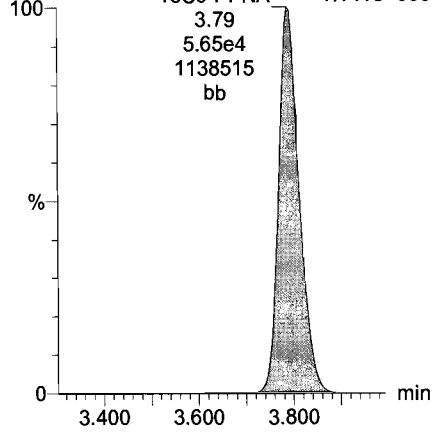

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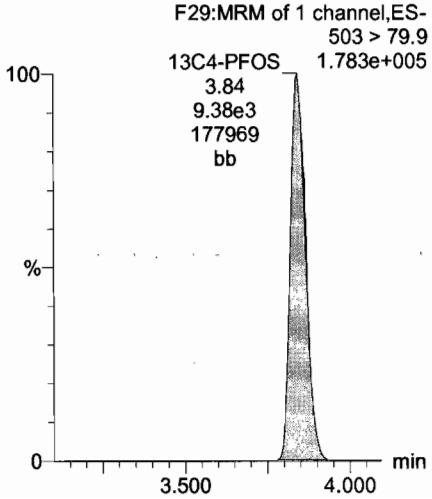

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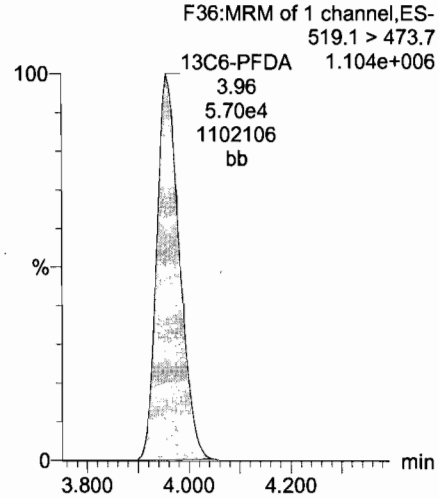

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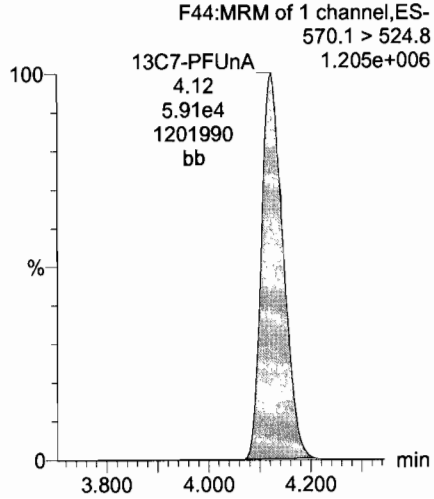

Vista Analytical Laboratory

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IC 7-19-17

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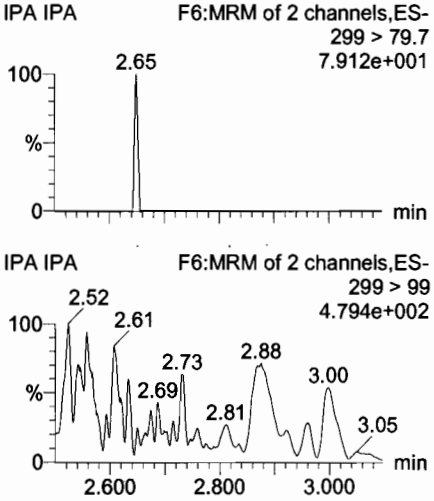

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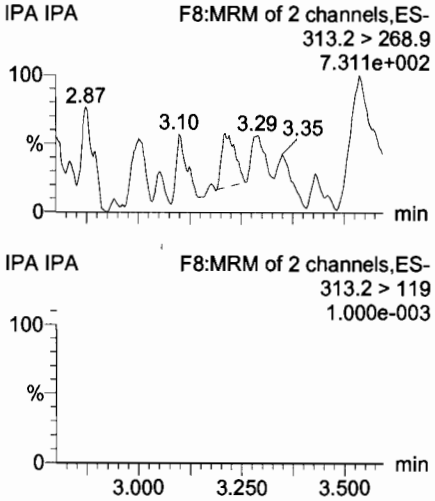

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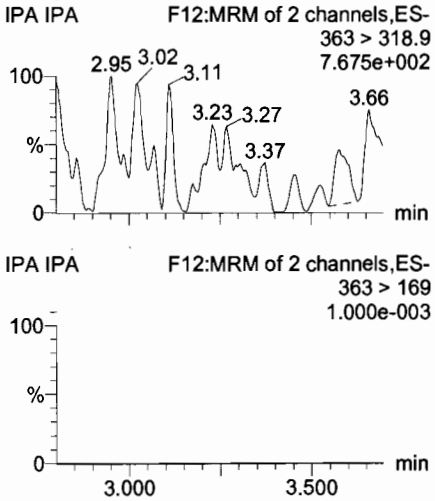

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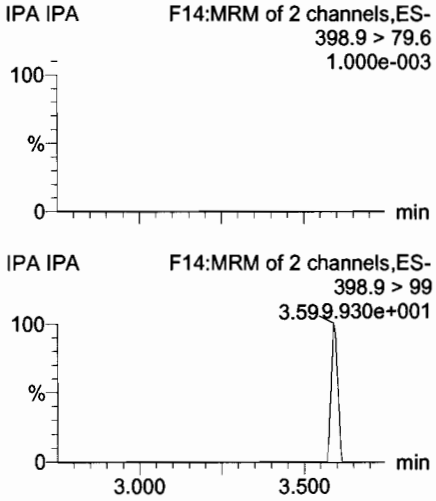

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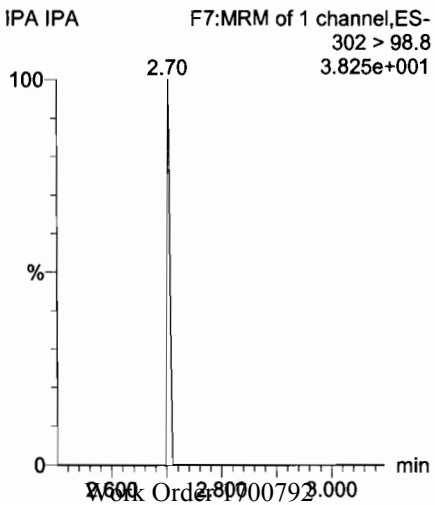

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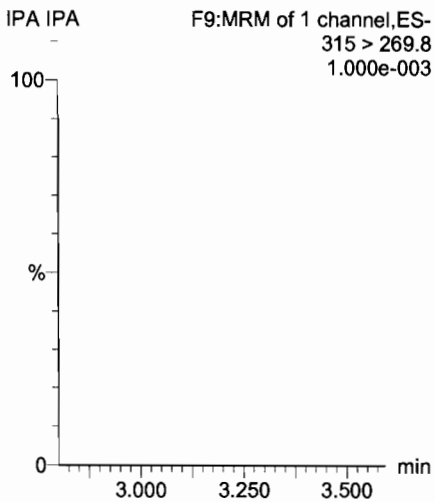

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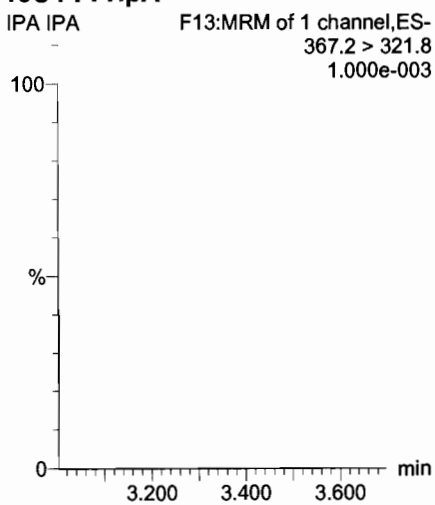

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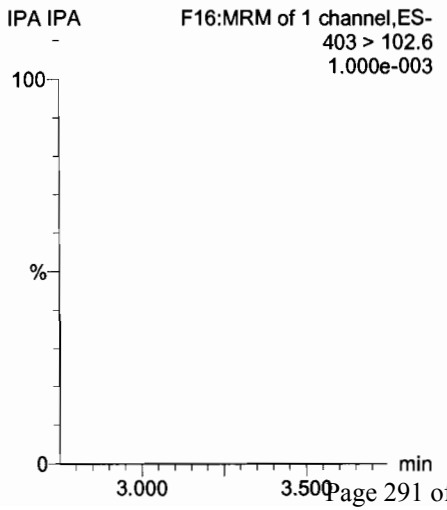

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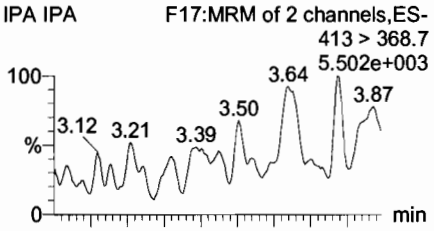

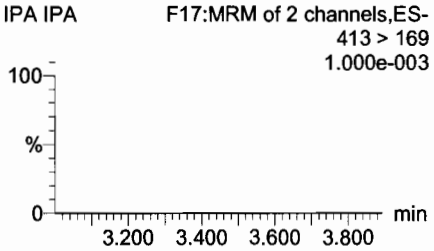

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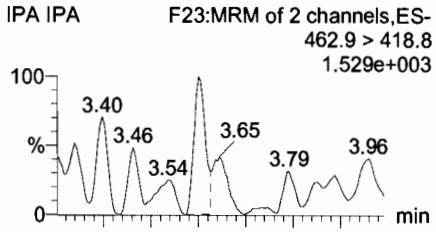

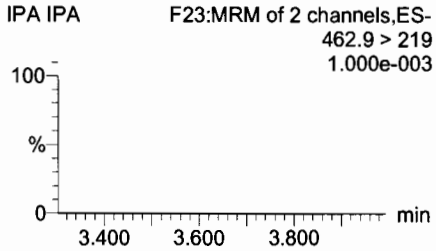

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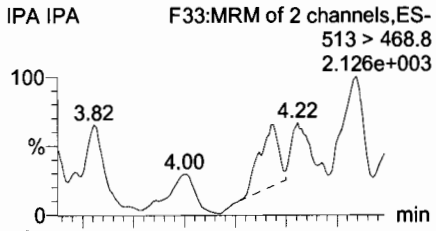

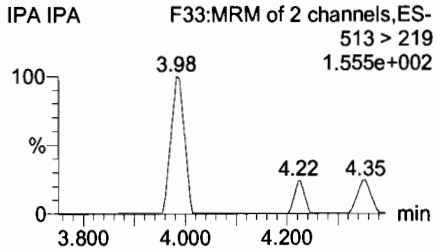

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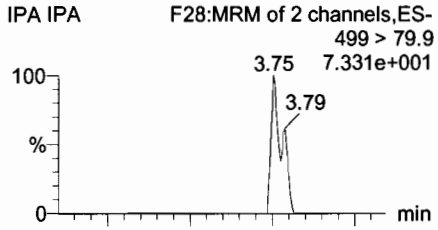

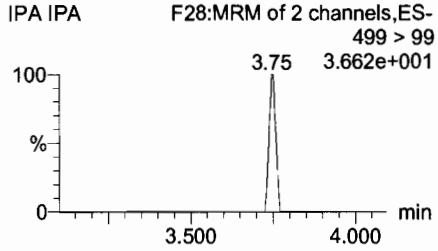

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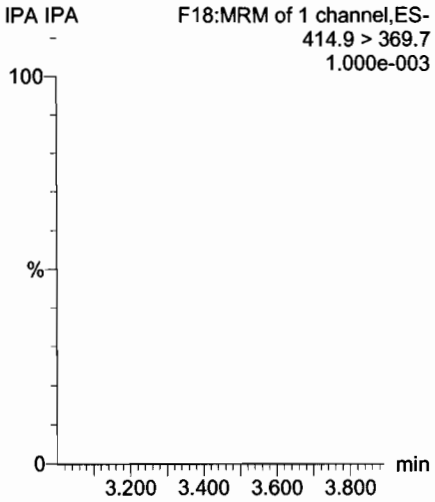

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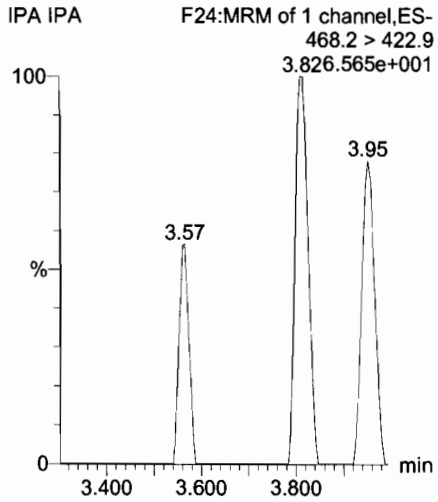

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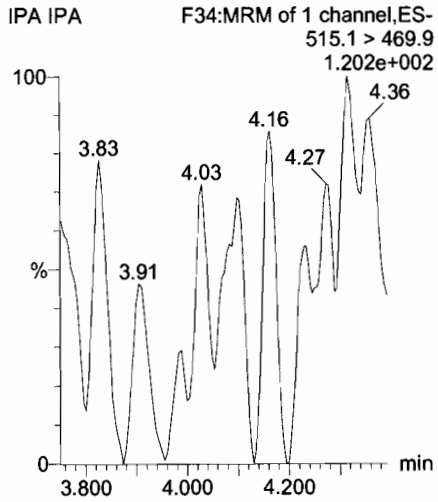

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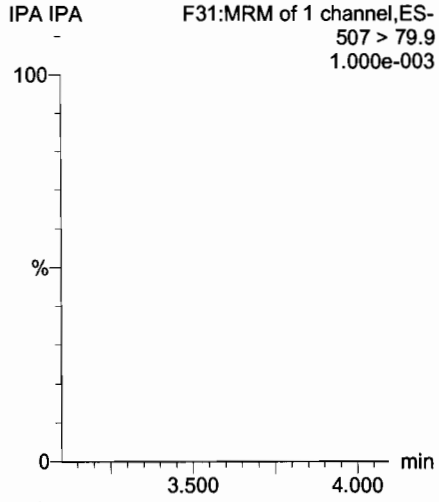

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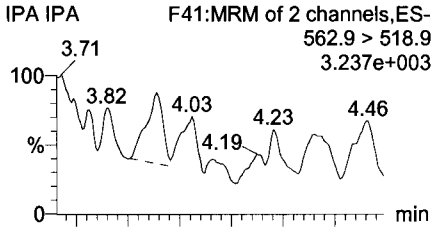

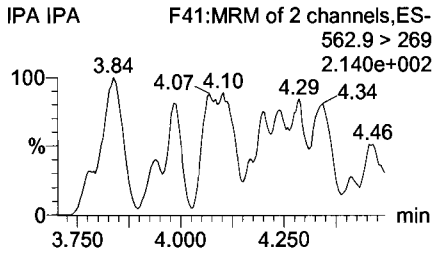

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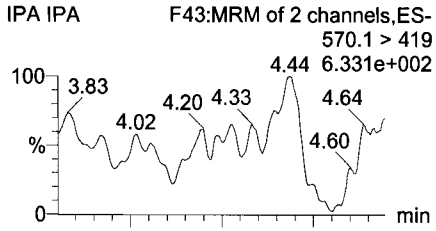

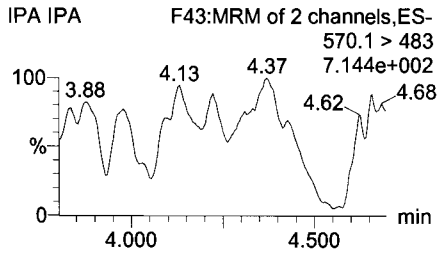

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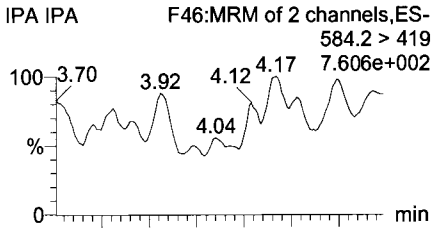

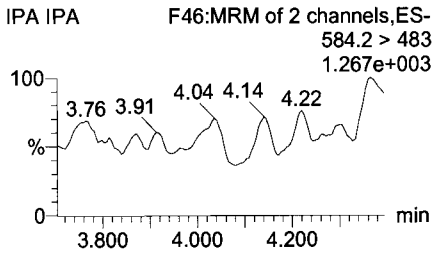

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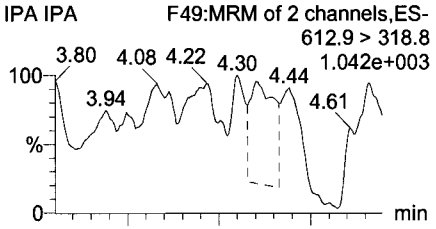

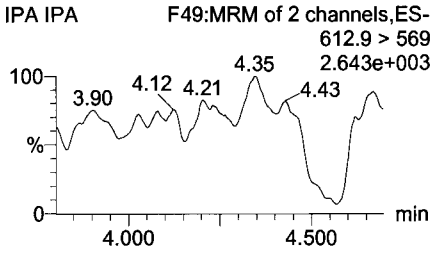

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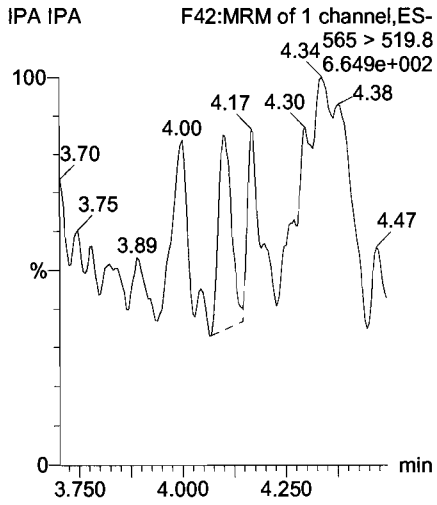

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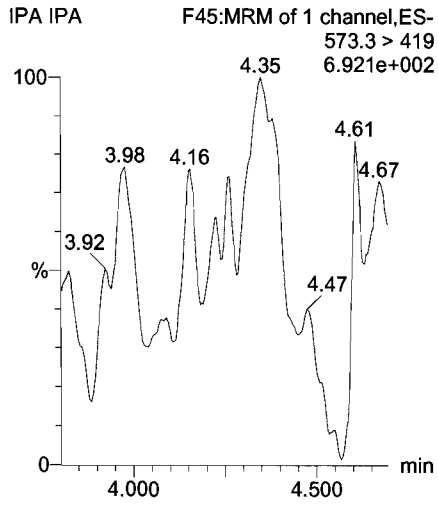

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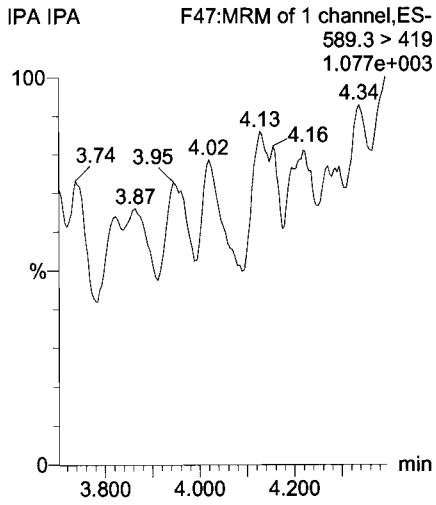

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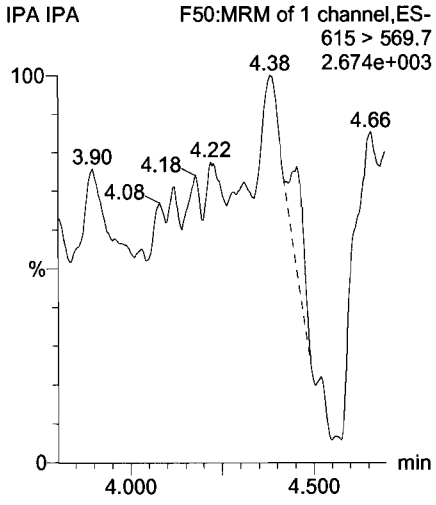

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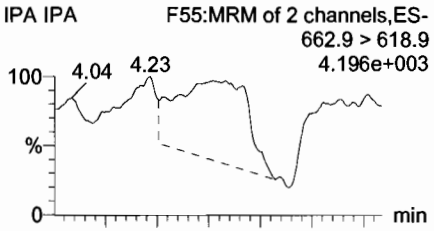

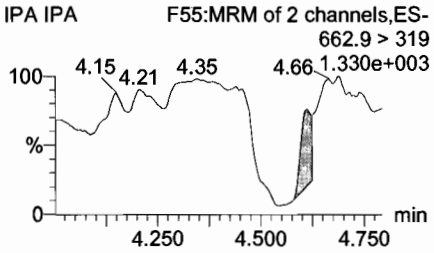

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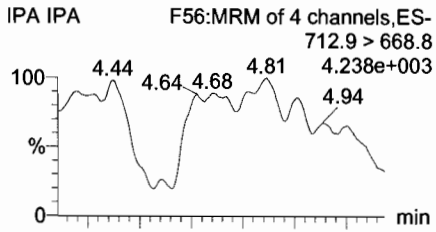

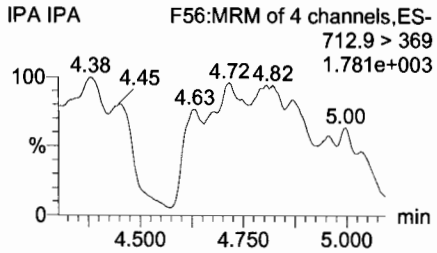

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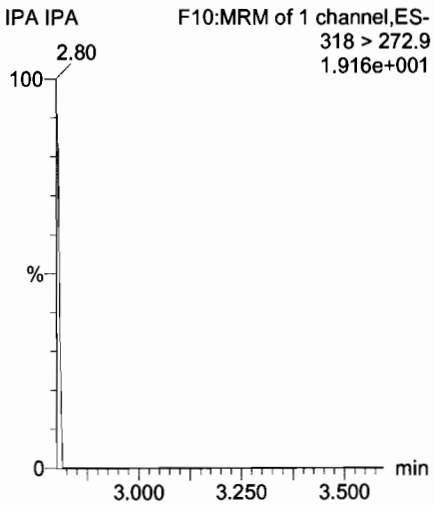

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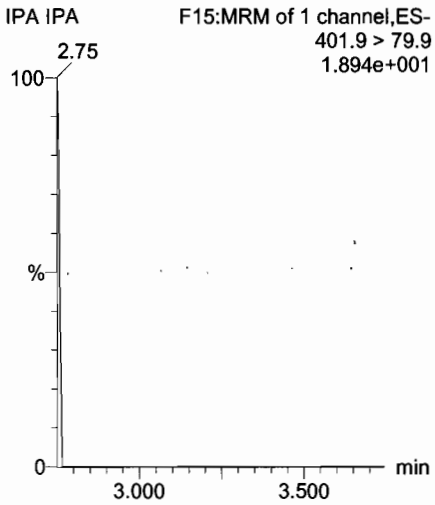

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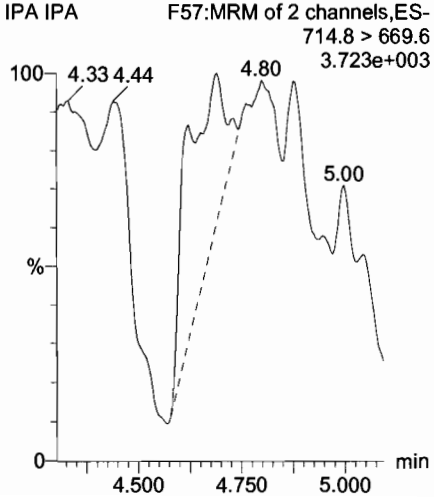

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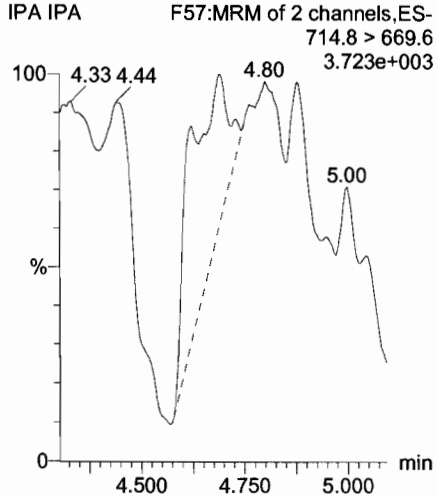

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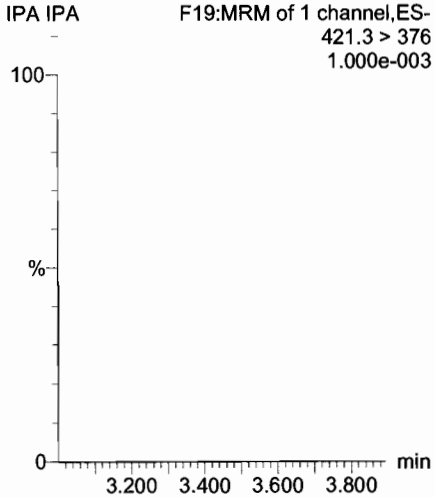

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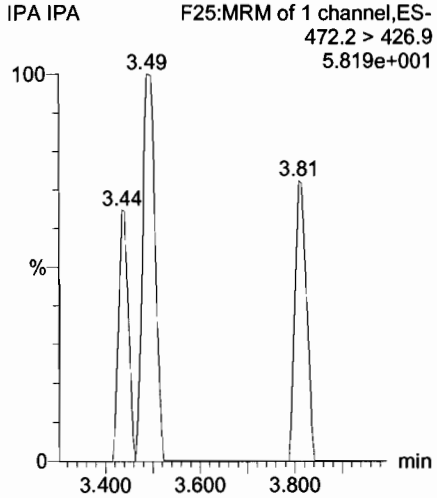

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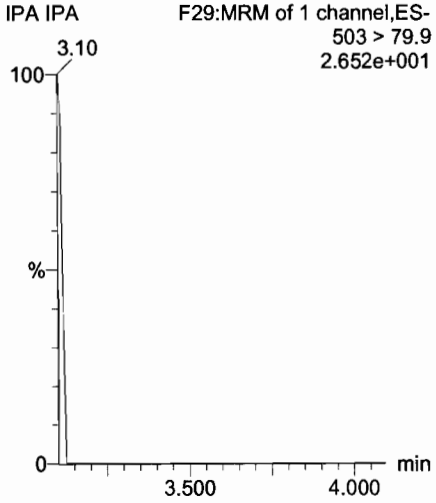

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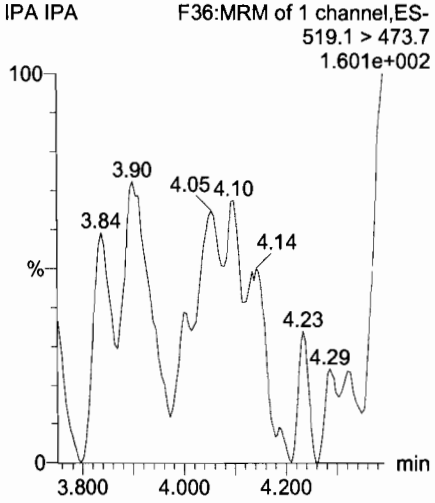
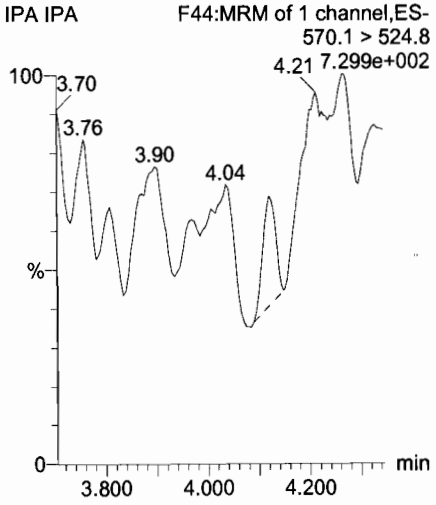


13C7-PFUnA



Vista Analytical Laboratory

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Printed: Wednesday, July 19, 2017 13:57:19 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:56:08
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

✓ AC 7/19/17

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	4.07e3	3.20e3	1.0000		2.92	2.91	15.9	8.43	84.3
2	2	PFHxA	313.2 > 268.9	3.42e4	1.14e4	1.0000		3.16	3.15	15.0	10.7	106.8
3	3	PFHpA	363 > 318.9	2.97e4	3.09e4	1.0000		3.43	3.41	12.0	9.93	99.3
4	4	PFHxS	398.9 > 79.6	3.47e3	3.05e3	1.0000		3.55	3.48	14.2	7.68	76.8
5	5	PFOA	413 > 368.7	3.73e4	4.66e4	1.0000		3.63	3.61	10.0	10.5	105.2
6	6	PFNA	462.9 > 418.8	4.85e4	5.23e4	1.0000		3.82	3.79	11.6	10.4	103.6
7	7	PFOS	499 > 79.9	8.39e3	1.01e4	1.0000		3.86	3.84	10.4	9.85	98.5
8	8	PFDA	513 > 468.8	5.40e4	5.70e4	1.0000		4.00	3.96	11.8	10.2	102.3
9	9	PFUnA	562.9 > 518.9	4.50e4	6.44e4	1.0000		4.13	4.12	8.74	9.59	95.9
10	10	N-MeFOSAA	570.1 > 419	1.58e4	1.22e4	1.0000		4.00	3.98	16.2	10.1	101.4
11	11	N-EtFOSAA	584.2 > 419	1.31e4	1.33e4	1.0000		4.08	4.06	12.3	10.7	107.2
12	12	PFDoA	612.9 > 318.8	4.77e3	6.71e3	1.0000		4.31	4.28	8.87	10.6	106.4
13	13	PFTrDA	662.9 > 618.9	6.07e4	6.71e3	1.0000		4.50	4.44	113	10.2	101.9
14	14	PFTeDA	712.9 > 668.8	4.49e4	4.82e4	1.0000		4.65	4.61	11.6	9.78	97.8
15	15	13C3-PFBS	302 > 98.8	3.20e3	3.66e4	1.0000	0.032	2.92	2.91	0.436	13.6	108.8
16	16	13C2-PFHxA	315 > 269.8	1.14e4	3.66e4	1.0000	0.296	3.15	3.15	1.55	5.24	104.9
17	17	13C4-PFHpA	367.2 > 321.8	3.09e4	3.66e4	1.0000	0.302	3.43	3.41	4.23	14.0	112.2
18	18	18O2-PFHxS	403 > 102.6	3.05e3	6.49e3	1.0000	0.434	3.49	3.48	5.87	13.5	108.1
19	19	13C2-PFOA	414.9 > 369.7	4.66e4	3.79e4	1.0000	1.140	3.62	3.61	15.4	13.5	107.9
20	20	13C5-PFNA	468.2 > 422.9	5.23e4	5.78e4	1.0000	0.958	3.80	3.79	11.3	11.8	94.5
21	21	13C8-PFOS	507 > 79.9	1.01e4	9.50e3	1.0000	1.061	3.85	3.84	13.2	12.5	99.7
22	22	13C2-PFDA	515.1 > 469.9	5.70e4	5.52e4	1.0000	0.942	3.97	3.96	12.9	13.7	109.6
23	23	13C2-PFUnA	565 > 519.8	6.44e4	5.94e4	1.0000	1.084	4.13	4.12	13.5	12.5	99.9
24	24	d3-N-MeFOSAA	573.3 > 419	1.22e4	5.94e4	1.0000	0.240	4.00	3.98	2.56	10.7	85.3
25	25	d5-N-EtFOSAA	589.3 > 419	1.33e4	5.94e4	1.0000	0.247	4.07	4.05	2.80	11.3	90.5
26	26	13C2-PFDoA	615 > 569.7	6.71e3	5.94e4	1.0000	0.127	4.32	4.28	1.41	11.1	89.0
27	27	13C2-PFTeDA	714.8 > 669.6	4.82e4	5.94e4	1.0000	0.883	4.64	4.61	10.1	11.5	91.9
28	28	13C5-PFHxA	318 > 272.9	3.66e4	3.66e4	1.0000	1.000	3.15	3.15	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	6.49e3	6.49e3	1.0000	1.000	3.49	3.48	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	3.79e4	3.79e4	1.0000	1.000	3.62	3.61	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	5.78e4	5.78e4	1.0000	1.000	3.82	3.79	12.5	12.5	100.0

70-130

7/19/17

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 19, 2017 13:56:31 Pacific Daylight Time
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Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	9.50e3	9.50e3	1.0000	1.000	3.85	3.84	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	5.52e4	5.52e4	1.0000	1.000	3.97	3.96	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	5.94e4	5.94e4	1.0000	1.000	4.13	4.12	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 19, 2017 13:56:31 Pacific Daylight Time
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Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:56:08
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	1	PFBS	299 > 79.7	2.91	4065.935	3195.256	15.906	bb	8.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	4	PFHxS	398.9 > 79.6	3.48	3468.745	3047.549	14.228	MM	7.7
2	36	Total PFHxS	398.9 > 79.6	3.43	450.082	3047.549	1.846	bd	1.0

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	5	PFOA	413 > 368.7	3.61	37303.105	46566.715	10.013	bb	10.5

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	38	Total PFOS	499 > 79.9	3.78	1246.896	10054.862	1.550	bd	1.4
2	7	PFOS	499 > 79.9	3.84	8386.800	10054.862	10.426	MM	9.8

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	10	N-MeFOSAA	570.1 > 419	3.98	15800.099	12190.212	16.202	bb	10.1

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	11	N-EtFOSAA	584.2 > 419	4.06	13091.983	13306.594	12.298	bb	10.7

Vista Analytical Laboratory

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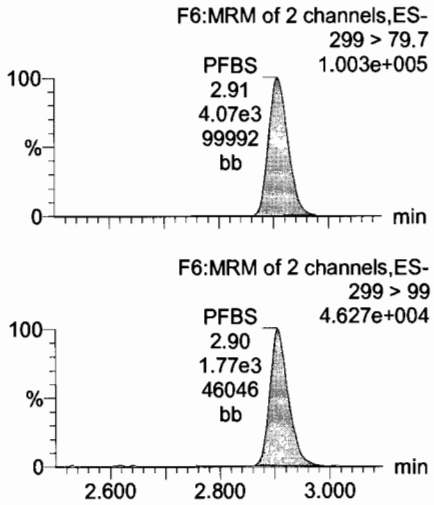
Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 19 Jul 2017 13:56:08
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

Total PFBS



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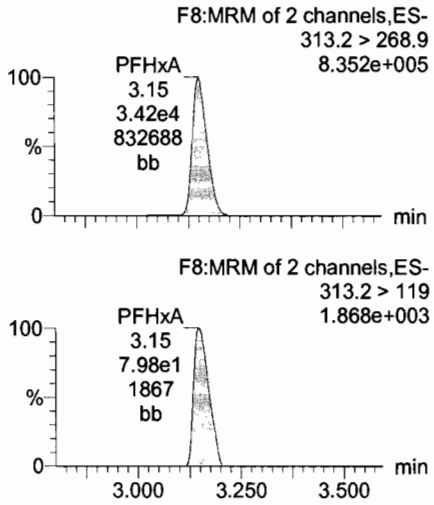

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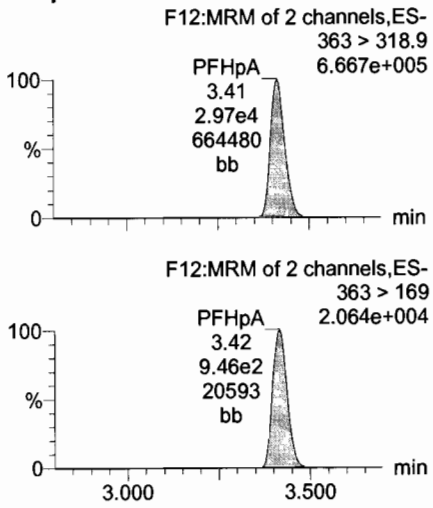

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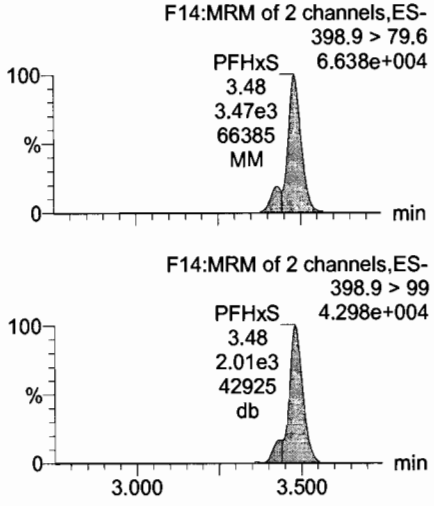

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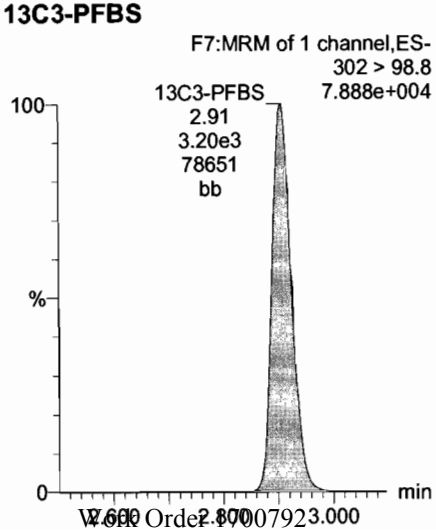

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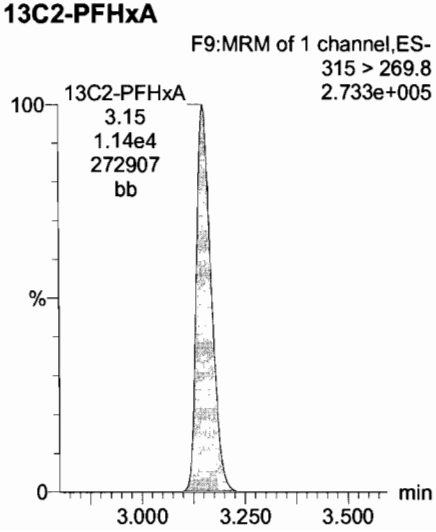

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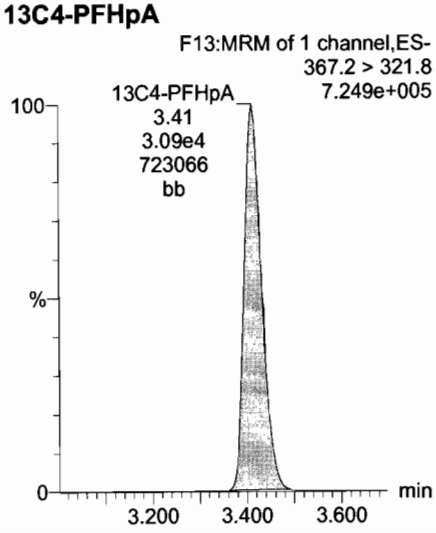

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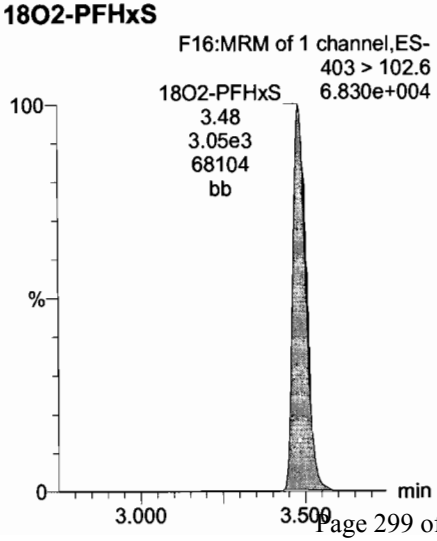

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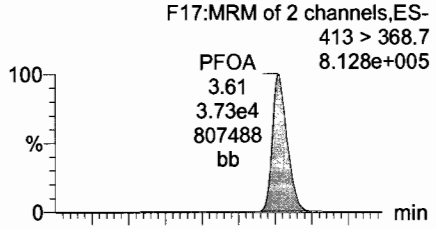
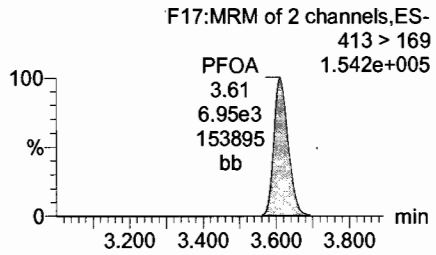
Printed: Wednesday, July 19, 2017 13:57:19 Pacific Daylight Time

Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

Total PFOA





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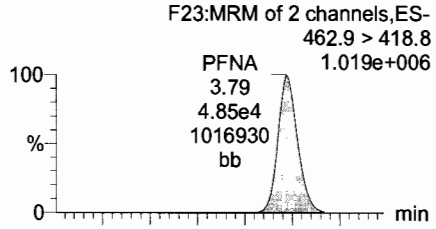
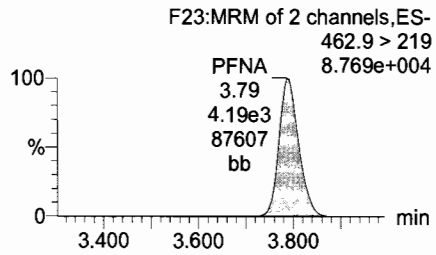
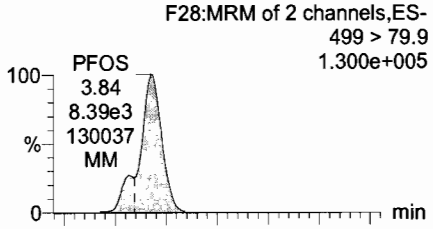
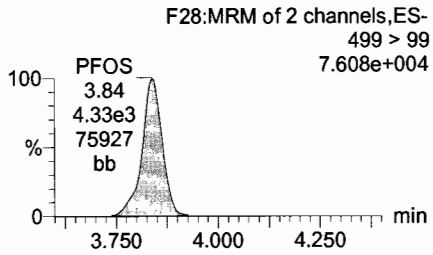




Total PFOS





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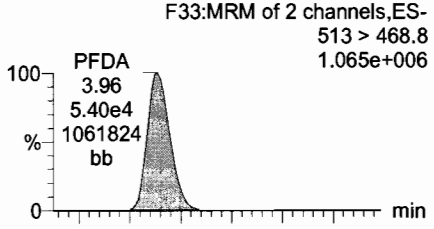

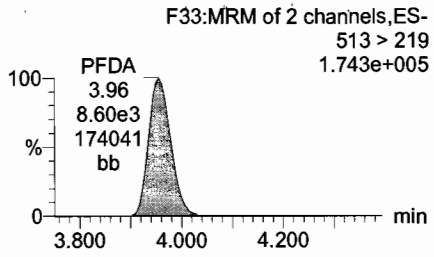

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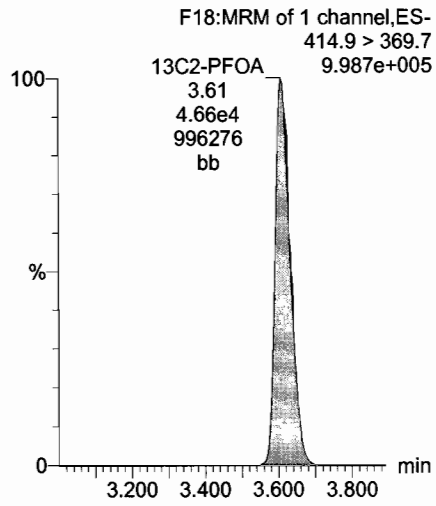

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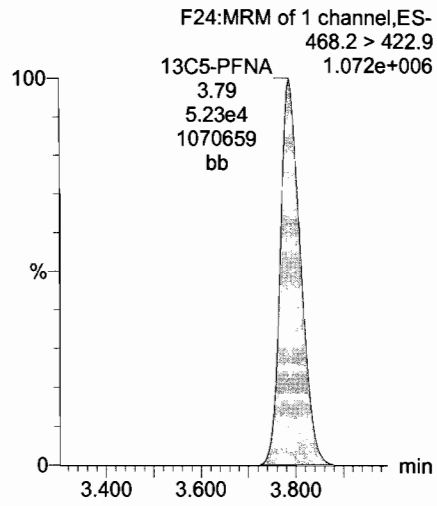

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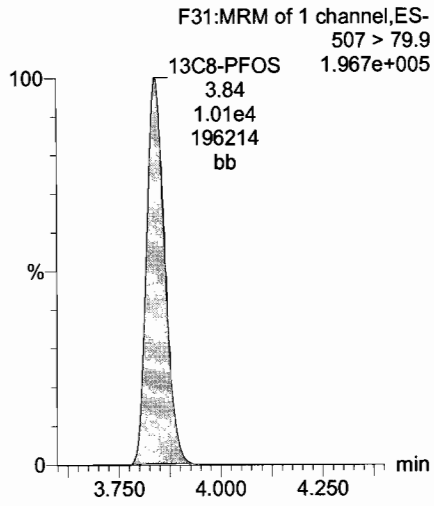

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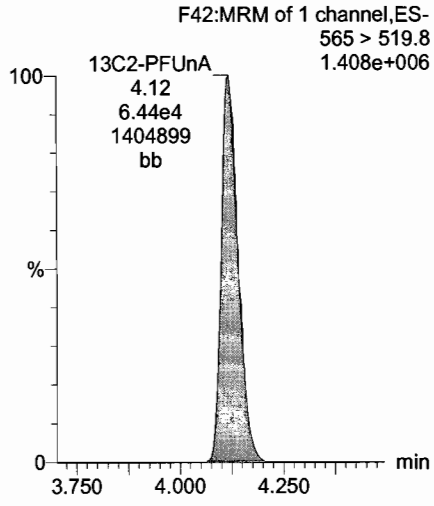

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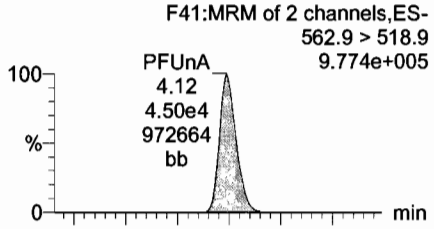
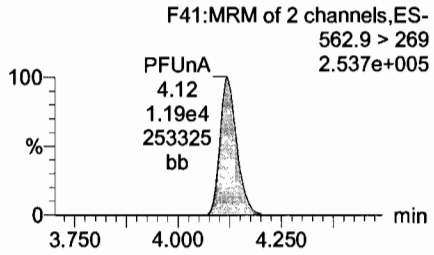
Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

PFUnA





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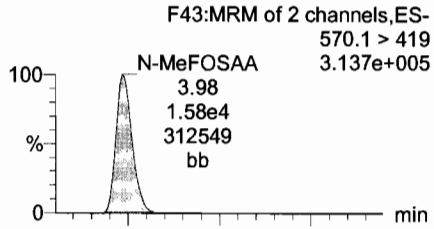

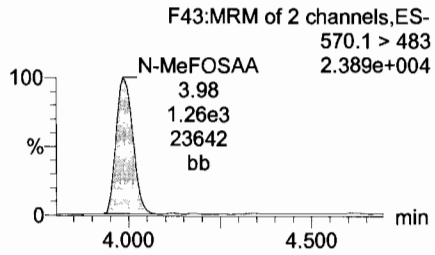

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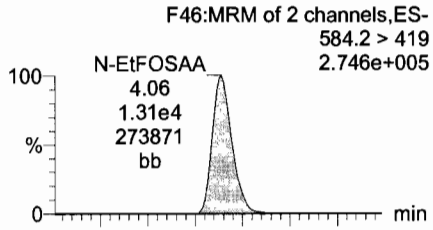

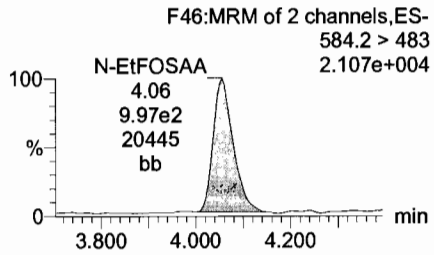

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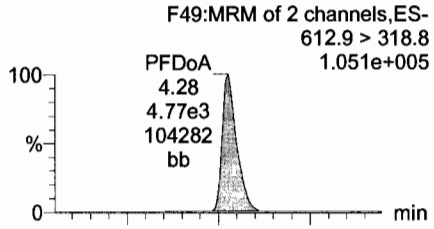

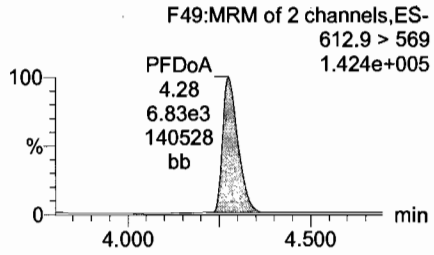

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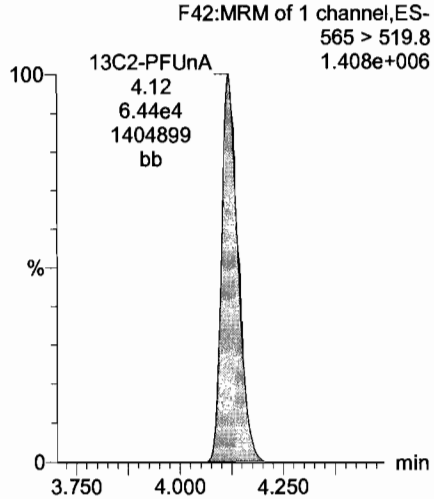

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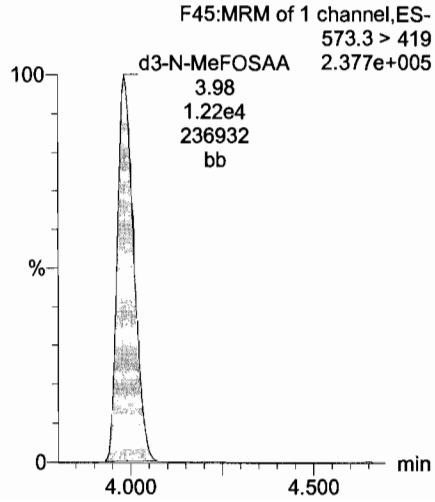
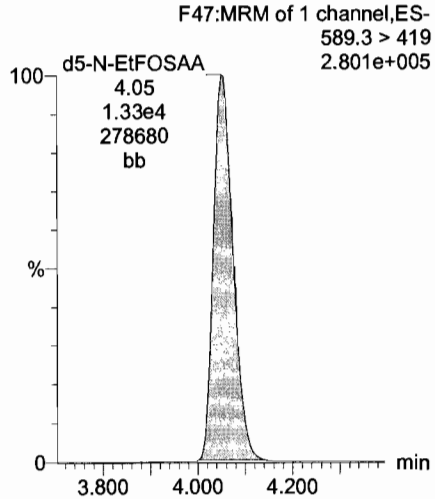
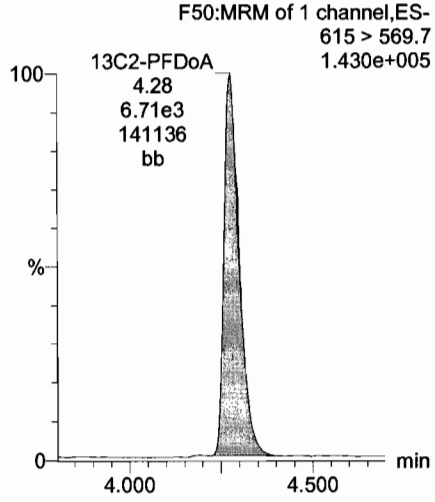


d5-N-EtFOSAA



13C2-PFDoA



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Last Altered: Wednesday, July 19, 2017 13:56:31 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:57:19 Pacific Daylight Time

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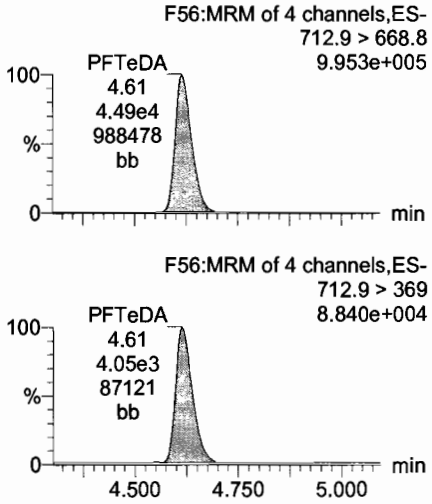
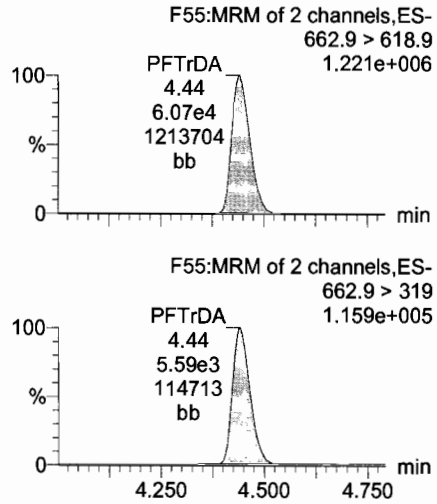
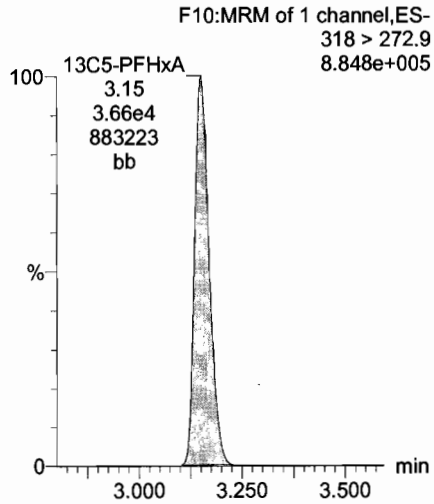
PFTeDA



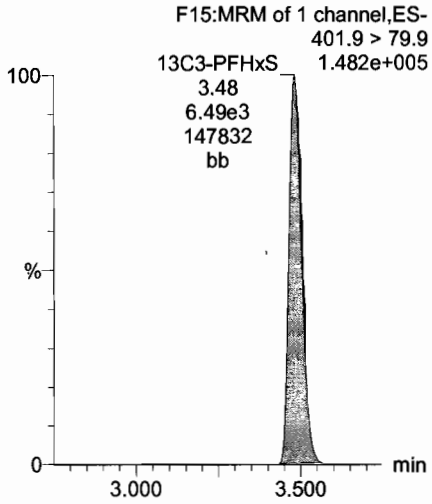
PFTrDA



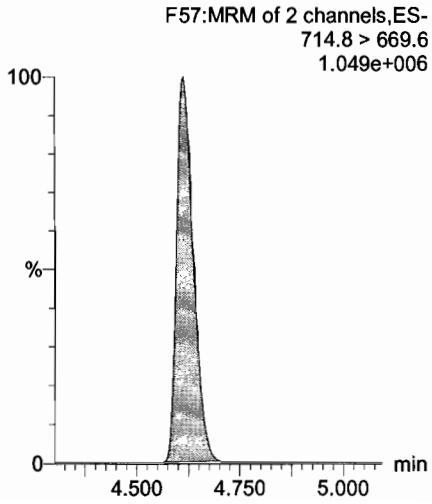
13C5-PFHxA



13C3-PFHxS



13C2-PFTeDA



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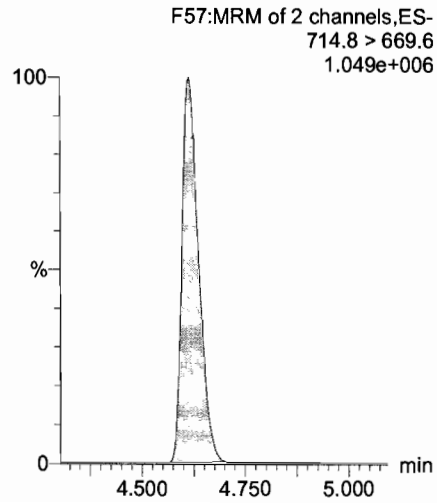
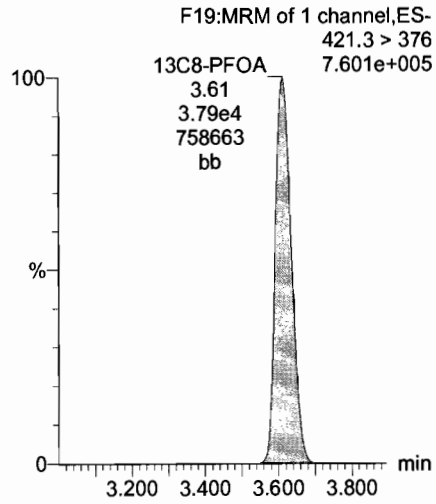
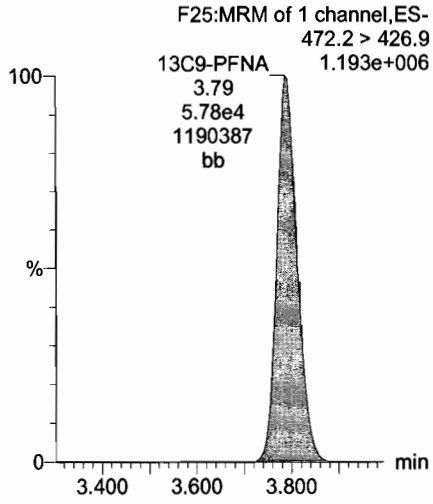


13C8-PFOA



13C9-PFNA



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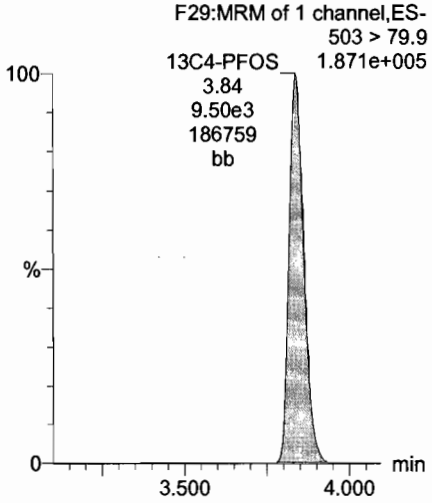
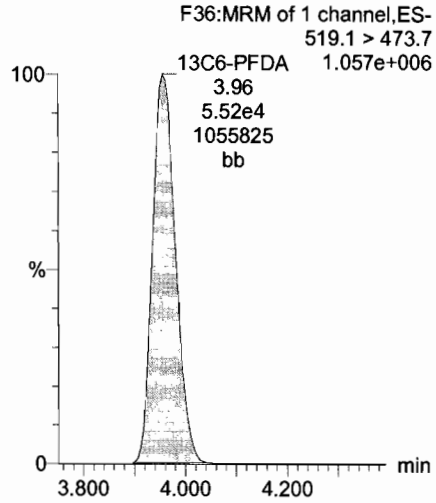
Last Altered: Wednesday, July 19, 2017 13:56:31 Pacific Daylight Time
Printed: Wednesday, July 19, 2017 13:57:19 Pacific Daylight Time

Name: 170705M2_11, Date: 05-Jul-2017, Time: 15:04:25, ID: SS170705M2-1 PFC SSS 17G0502, Description: PFC SSS 17G0502

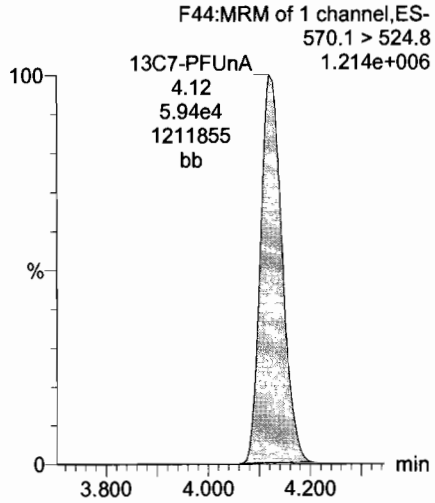
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:12 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 14:40:20
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

7/11/17 ✓AC 7/12/17

Compound name: PFBA
Correlation coefficient: r = 0.999893, r^2 = 0.999786
Calibration curve: 1.28141 * x + 0.357618
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	1.54	427.146	7397.170	0.722	0.3	13.7	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	1.53	573.831	7319.772	0.980	0.5	-2.9	NO	1.000	NO	MM
3	3	170710M3_4	Standard	1.000	1.53	882.903	6882.142	1.604	1.0	-2.8	NO	1.000	NO	MM
4	4	170710M3_5	Standard	2.000	1.53	1699.421	7900.523	2.689	1.8	-9.0	NO	1.000	NO	MM
5	5	170710M3_6	Standard	5.000	1.53	4102.863	7407.220	6.924	5.1	2.5	NO	1.000	NO	MM
6	6	170710M3_7	Standard	10.000	1.53	8104.495	7861.154	12.887	9.8	-2.2	NO	1.000	NO	MM
7	7	170710M3_8	Standard	50.000	1.53	39359.148	7569.607	64.995	50.4	0.9	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	1.53	80359.727	7829.357	128.299	99.8	-0.2	NO	1.000	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999846, r^2 = 0.999691
Calibration curve: 1.10816 * x + 0.0226306
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	2.77	360.082	14987.434	0.300	0.3	0.2	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	2.76	656.584	14351.720	0.572	0.5	-0.9	NO	1.000	NO	MM
3	3	170710M3_4	Standard	1.000	2.75	1173.282	13204.935	1.111	1.0	-1.8	NO	1.000	NO	bb
4	4	170710M3_5	Standard	2.000	2.75	2648.726	14397.656	2.300	2.1	2.7	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	2.75	6691.328	14859.215	5.629	5.1	1.2	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	2.75	13251.902	14932.953	11.093	10.0	-0.1	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	2.75	62725.262	14515.980	54.014	48.7	-2.6	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	2.75	138385.234	15422.105	112.165	101.2	1.2	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: PFBS
Correlation coefficient: r = 0.999477, r^2 = 0.998954
Calibration curve: 2.28212 * x + -0.143002
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	2.97	64.107	1829.255	0.438	0.3	1.8	NO	0.999	NO	bb
2	2	170710M3_3	Standard	0.500	2.96	174.822	1880.541	1.162	0.6	14.4	NO	0.999	NO	bb
3	3	170710M3_4	Standard	1.000	2.95	250.827	1680.475	1.866	0.9	-12.0	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	2.95	664.245	1678.509	4.947	2.2	11.5	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	2.95	1423.155	1827.422	9.735	4.3	-13.4	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	2.95	3293.945	1863.759	22.092	9.7	-2.6	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	2.95	14448.479	1600.534	112.841	49.5	-1.0	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	2.95	31826.346	1723.074	230.883	101.2	1.2	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999918, r^2 = 0.999836
Calibration curve: 1.63818 * x + 0.0563003
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.19	527.456	6599.234	0.400	0.2	-16.2	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	3.19	1190.925	6260.955	0.951	0.5	9.2	NO	1.000	NO	bb
3	3	170710M3_4	Standard	1.000	3.18	2031.727	5844.579	1.738	1.0	2.7	NO	1.000	NO	bb
4	4	170710M3_5	Standard	2.000	3.18	4143.116	6111.841	3.389	2.0	1.7	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	3.18	11189.350	6584.623	8.497	5.2	3.0	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	3.19	22422.309	6880.506	16.294	9.9	-0.9	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	3.19	107894.484	6517.125	82.778	50.5	1.0	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	3.18	224318.094	6887.408	162.847	99.4	-0.6	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

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Compound name: PFHpA
Correlation coefficient: r = 0.999627, r^2 = 0.999254
Calibration curve: 1.43595 * x + 0.0332012
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.46	484.804	16912.918	0.358	0.2	-9.4	NO	0.999	NO	bb
2	2	170710M3_3	Standard	0.500	3.45	1094.714	15983.809	0.856	0.6	14.6	NO	0.999	NO	db
3	3	170710M3_4	Standard	1.000	3.44	1816.426	14729.492	1.541	1.1	5.0	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	3.44	3368.228	16736.117	2.516	1.7	-13.6	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	3.44	9552.159	16831.109	7.094	4.9	-1.7	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	3.45	19620.016	16406.695	14.948	10.4	3.9	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	3.45	91102.258	15463.272	73.644	51.3	2.5	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	3.45	193055.844	17039.475	141.624	98.6	-1.4	NO	0.999	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.998220, r^2 = 0.996443
Calibration curve: 1.95713 * x + -0.172436
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.52	58.724	1651.524	0.444	0.3	26.1	NO	0.996	NO	bb
2	2	170710M3_3	Standard	0.500	3.51	92.843	1720.000	0.675	0.4	-13.4	NO	0.996	NO	MM
3	3	170710M3_4	Standard	1.000	3.51	184.365	1350.057	1.707	1.0	-4.0	NO	0.996	NO	MM
4	4	170710M3_5	Standard	2.000	3.51	444.710	1600.253	3.474	1.9	-6.8	NO	0.996	NO	MM
5	5	170710M3_6	Standard	5.000	3.51	1145.275	1665.698	8.595	4.5	-10.4	NO	0.996	NO	bb
6	6	170710M3_7	Standard	10.000	3.51	2600.573	1486.850	21.863	11.3	12.6	NO	0.996	NO	MM
7	7	170710M3_8	Standard	50.000	3.51	10992.927	1511.473	90.912	46.5	-6.9	NO	0.996	NO	MM
8	8	170710M3_9	Standard	100.000	3.51	25599.898	1590.326	201.216	102.9	2.9	NO	0.996	NO	MM

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: PFOA
Correlation coefficient: r = 0.999767, r^2 = 0.999534
Calibration curve: 1.13618 * x + 0.150469
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.65	785.839	24338.092	0.404	0.2	-10.9	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	3.65	1540.769	25154.738	0.766	0.5	8.3	NO	1.000	NO	MM
3	3	170710M3_4	Standard	1.000	3.65	2312.138	22319.385	1.295	1.0	0.7	NO	1.000	NO	MM
4	4	170710M3_5	Standard	2.000	3.65	4933.051	25531.586	2.415	2.0	-0.3	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	3.64	12429.696	27012.830	5.752	4.9	-1.4	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	3.65	25517.219	27058.725	11.788	10.2	2.4	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	3.64	123694.688	26424.334	58.514	51.4	2.7	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	3.65	248919.391	27780.598	112.002	98.4	-1.6	NO	1.000	NO	bb

Compound name: PFNA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.36368 * x + 0.0901055
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.83	809.352	23133.879	0.437	0.3	1.8	NO	1.000	NO	bb
2	2	170710M3_3	Standard	0.500	3.82	1465.662	25510.555	0.718	0.5	-7.9	NO	1.000	NO	bb
3	3	170710M3_4	Standard	1.000	3.82	2763.543	25152.525	1.373	0.9	-5.9	NO	1.000	NO	bb
4	4	170710M3_5	Standard	2.000	3.82	6805.311	27896.482	3.049	2.2	8.5	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	3.82	16015.691	27575.711	7.260	5.3	5.2	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	3.82	32890.461	30707.572	13.389	9.8	-2.5	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	3.82	146644.188	26401.301	69.430	50.8	1.7	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	3.82	313277.875	28967.555	135.185	99.1	-0.9	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: PFOSA
Correlation coefficient: r = 0.999222, r^2 = 0.998444
Calibration curve: 1.18859 * x + -0.127408
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.85	34.129	1942.804	0.220	0.3	16.8	NO	0.998	NO	bb
2	2	170710M3_3	Standard	0.500	3.84	64.107	2215.917	0.362	0.4	-17.7	NO	0.998	NO	bb
3	3	170710M3_4	Standard	1.000	3.85	137.984	2053.589	0.840	0.8	-18.6	NO	0.998	NO	bb
4	4	170710M3_5	Standard	2.000	3.84	430.613	2071.983	2.598	2.3	14.6	NO	0.998	NO	bb
5	5	170710M3_6	Standard	5.000	3.84	1047.884	2036.011	6.433	5.5	10.4	NO	0.998	NO	bb
6	6	170710M3_7	Standard	10.000	3.84	2150.737	2370.515	11.341	9.6	-3.5	NO	0.998	NO	bb
7	7	170710M3_8	Standard	50.000	3.84	9977.661	2179.217	57.232	48.3	-3.5	NO	0.998	NO	bb
8	8	170710M3_9	Standard	100.000	3.84	21289.654	2207.907	120.531	101.5	1.5	NO	0.998	NO	bb

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999061
Calibration curve: 0.00185446 * x^2 + 1.10476 * x + 0.0290301
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.88	115.763	5370.698	0.269	0.2	-13.0	NO	0.999	NO	bb
2	2	170710M3_3	Standard	0.500	3.87	241.379	5419.104	0.557	0.5	-4.5	NO	0.999	NO	MM
3	3	170710M3_4	Standard	1.000	3.88	500.986	5346.955	1.171	1.0	3.2	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	3.88	1168.767	5508.184	2.652	2.4	18.3	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	3.87	2478.524	5282.377	5.865	5.2	4.7	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	3.88	5348.684	5677.549	11.776	10.4	4.5	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	3.88	26226.332	5678.869	57.728	48.3	-3.4	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	3.88	56412.301	5421.565	130.065	100.7	0.7	NO	0.999	NO	bb

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Compound name: PFDA
Correlation coefficient: r = 0.999516, r^2 = 0.999032
Calibration curve: 1.56384 * x + -0.255433
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.99	932.302	28930.936	0.403	0.4	68.4	NO	0.999	NO	MMX
2	2	170710M3_3	Standard	0.500	4.00	1408.826	29747.686	0.592	0.5	8.4	NO	0.999	NO	MM
3	3	170710M3_4	Standard	1.000	3.99	3557.009	31897.771	1.394	1.1	5.5	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	3.99	7354.864	31493.791	2.919	2.0	1.5	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	4.00	16044.657	29596.766	6.776	4.5	-10.1	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	3.99	37473.484	33043.109	14.176	9.2	-7.7	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	3.99	195941.813	30631.795	79.959	51.3	2.6	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	3.99	392413.031	31463.066	155.902	99.9	-0.1	NO	0.999	NO	bb

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999111
Calibration curve: 0.00122021 * x^2 + 0.942287 * x + 0.216781
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.15	1010.402	28555.941	0.442	0.2	-4.3	NO	0.999	NO	MM
2	2	170710M3_3	Standard	0.500	4.15	1647.712	35214.363	0.585	0.4	-21.9	NO	0.999	NO	MM
3	3	170710M3_4	Standard	1.000	4.15	3030.180	29618.668	1.279	1.1	12.5	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	4.15	5814.139	32452.291	2.239	2.1	7.0	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	4.15	14655.979	32879.375	5.572	5.6	12.8	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	4.15	29217.963	39593.965	9.224	9.4	-5.6	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	4.15	137931.563	34542.293	49.914	49.6	-0.9	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	4.15	285394.844	33371.344	106.901	100.2	0.2	NO	0.999	NO	bb

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Compound name: PFDS
Coefficient of Determination: R^2 = 0.998301
Calibration curve: 8.31559e-005 * x^2 + 0.0878672 * x + 0.0164965
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.19	74.979	28555.941	0.033	0.2	-25.7	NO	0.998	NO	MM
2	2	170710M3_3	Standard	0.500	4.19	147.908	35214.363	0.053	0.4	-18.1	NO	0.998	NO	MM
3	3	170710M3_4	Standard	1.000	4.19	278.651	29618.668	0.118	1.1	14.9	NO	0.998	NO	bb
4	4	170710M3_5	Standard	2.000	4.19	594.978	32452.291	0.229	2.4	20.7	NO	0.998	NO	MM
5	5	170710M3_6	Standard	5.000	4.19	1375.311	32879.375	0.523	5.7	14.6	NO	0.998	NO	bb
6	6	170710M3_7	Standard	10.000	4.19	2729.414	39593.965	0.862	9.5	-4.7	NO	0.998	NO	bb
7	7	170710M3_8	Standard	50.000	4.19	12432.069	34542.293	4.499	48.8	-2.5	NO	0.998	NO	bb
8	8	170710M3_9	Standard	100.000	4.19	25881.063	33371.344	9.694	100.6	0.6	NO	0.998	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997169
Calibration curve: 0.00815082 * x^2 + 0.735747 * x + 0.0266157
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.31	51.321	3994.664	0.161	0.2	-27.3	NO	0.997	NO	MM
2	2	170710M3_3	Standard	0.500	4.30	129.734	4336.155	0.374	0.5	-6.1	NO	0.997	NO	MM
3	3	170710M3_4	Standard	1.000	4.31	280.387	3663.755	0.957	1.2	24.7	NO	0.997	NO	MM
4	4	170710M3_5	Standard	2.000	4.31	546.983	3448.438	1.983	2.6	29.2	NO	0.997	NO	MM
5	5	170710M3_6	Standard	5.000	4.31	1402.543	4397.531	3.987	5.1	1.9	NO	0.997	NO	MM
6	6	170710M3_7	Standard	10.000	4.31	2740.511	4609.228	7.432	9.1	-8.6	NO	0.997	NO	MM
7	7	170710M3_8	Standard	50.000	4.31	16155.003	3523.270	57.315	50.1	0.2	NO	0.997	NO	bb
8	8	170710M3_9	Standard	100.000	4.31	30002.807	3866.813	96.988	72.9	-27.1	NO	0.997	NO	bbX

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Compound name: PFTrDA
Correlation coefficient: r = 0.999219, r^2 = 0.998438
Calibration curve: 13.2156 * x + 0.215995
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.47	1086.143	3994.664	3.399	0.2	-3.7	NO	0.998	NO	MM
2	2	170710M3_3	Standard	0.500	4.47	2399.472	4336.155	6.917	0.5	1.4	NO	0.998	NO	bb
3	3	170710M3_4	Standard	1.000	4.47	3940.881	3663.755	13.445	1.0	0.1	NO	0.998	NO	MM
4	4	170710M3_5	Standard	2.000	4.47	8370.897	3448.438	30.343	2.3	14.0	NO	0.998	NO	MM
5	5	170710M3_6	Standard	5.000	4.47	21857.848	4397.531	62.131	4.7	-6.3	NO	0.998	NO	bb
6	6	170710M3_7	Standard	10.000	4.47	44589.504	4609.228	120.925	9.1	-8.7	NO	0.998	NO	bb
7	7	170710M3_8	Standard	50.000	4.47	194608.984	3523.270	690.442	52.2	4.5	NO	0.998	NO	bb
8	8	170710M3_9	Standard	100.000	4.47	403466.813	3866.813	1304.261	98.7	-1.3	NO	0.998	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999934
Calibration curve: -0.000916009 * x^2 + 1.26347 * x + 0.0596778
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.65	1022.516	33198.340	0.385	0.3	3.0	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	4.64	1820.870	32091.508	0.709	0.5	2.9	NO	1.000	NO	bb
3	3	170710M3_4	Standard	1.000	4.64	2762.201	26986.623	1.279	1.0	-3.4	NO	1.000	NO	MM
4	4	170710M3_5	Standard	2.000	4.64	6675.592	32219.420	2.590	2.0	0.3	NO	1.000	NO	MM
5	5	170710M3_6	Standard	5.000	4.64	15829.568	31939.072	6.195	4.9	-2.5	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	4.64	32960.660	32979.863	12.493	9.9	-0.9	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	4.64	144863.203	29463.150	61.459	50.4	0.9	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	4.64	289834.000	30963.135	117.008	99.8	-0.2	NO	1.000	NO	bb

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Compound name: 13C3-PFBA
Response Factor: 0.918451
RRF SD: 0.0228833, Relative SD: 2.49151
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	1.53	7397.170	8045.280	11.493	12.5	0.1	NO		NO	bb
2	2	170710M3_3	Standard	12.500	1.53	7319.772	8103.498	11.291	12.3	-1.7	NO		NO	bb
3	3	170710M3_4	Standard	12.500	1.52	6882.142	7483.426	11.496	12.5	0.1	NO		NO	bb
4	4	170710M3_5	Standard	12.500	1.53	7900.523	8401.936	11.754	12.8	2.4	NO		NO	bd
5	5	170710M3_6	Standard	12.500	1.53	7407.220	8412.924	11.006	12.0	-4.1	NO		NO	bb
6	6	170710M3_7	Standard	12.500	1.52	7861.154	8228.657	11.942	13.0	4.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	1.53	7569.607	8207.246	11.529	12.6	0.4	NO		NO	bd
8	8	170710M3_9	Standard	12.500	1.53	7829.357	8634.025	11.335	12.3	-1.3	NO		NO	bb

Compound name: 13C3-PFPeA
Response Factor: 1.781
RRF SD: 0.0433451, Relative SD: 2.43375
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	2.77	14987.434	8045.280	23.286	13.1	4.6	NO		NO	bb
2	2	170710M3_3	Standard	12.500	2.75	14351.720	8103.498	22.138	12.4	-0.6	NO		NO	MM
3	3	170710M3_4	Standard	12.500	2.75	13204.935	7483.426	22.057	12.4	-0.9	NO		NO	bb
4	4	170710M3_5	Standard	12.500	2.75	14397.656	8401.936	21.420	12.0	-3.8	NO		NO	bb
5	5	170710M3_6	Standard	12.500	2.75	14859.215	8412.924	22.078	12.4	-0.8	NO		NO	bb
6	6	170710M3_7	Standard	12.500	2.75	14932.953	8228.657	22.684	12.7	1.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	2.75	14515.980	8207.246	22.108	12.4	-0.7	NO		NO	bb
8	8	170710M3_9	Standard	12.500	2.75	15422.105	8634.025	22.328	12.5	0.3	NO		NO	bb

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Compound name: 13C3-PFBS
Response Factor: 0.215258
RRF SD: 0.0148395, Relative SD: 6.89383
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	2.97	1829.255	8045.280	2.842	13.2	5.6	NO		NO	bb
2	2	170710M3_3	Standard	12.500	2.96	1880.541	8103.498	2.901	13.5	7.8	NO		NO	bb
3	3	170710M3_4	Standard	12.500	2.96	1680.475	7483.426	2.807	13.0	4.3	NO		NO	bb
4	4	170710M3_5	Standard	12.500	2.95	1678.509	8401.936	2.497	11.6	-7.2	NO		NO	bb
5	5	170710M3_6	Standard	12.500	2.95	1827.422	8412.924	2.715	12.6	0.9	NO		NO	bb
6	6	170710M3_7	Standard	12.500	2.95	1863.759	8228.657	2.831	13.2	5.2	NO		NO	bb
7	7	170710M3_8	Standard	12.500	2.95	1600.534	8207.246	2.438	11.3	-9.4	NO		NO	bb
8	8	170710M3_9	Standard	12.500	2.95	1723.074	8634.025	2.495	11.6	-7.3	NO		NO	bb

Compound name: 13C2-PFHxA
Response Factor: 0.303893
RRF SD: 0.0120463, Relative SD: 3.964
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	5.000	3.20	6599.234	21818.400	1.512	5.0	-0.5	NO		NO	bb
2	2	170710M3_3	Standard	5.000	3.19	6260.955	21557.213	1.452	4.8	-4.4	NO		NO	bb
3	3	170710M3_4	Standard	5.000	3.19	5844.579	19500.141	1.499	4.9	-1.4	NO		NO	bb
4	4	170710M3_5	Standard	5.000	3.18	6111.841	20840.465	1.466	4.8	-3.5	NO		NO	bb
5	5	170710M3_6	Standard	5.000	3.18	6584.623	22435.646	1.467	4.8	-3.4	NO		NO	bb
6	6	170710M3_7	Standard	5.000	3.19	6880.506	21282.260	1.616	5.3	6.4	NO		NO	bb
7	7	170710M3_8	Standard	5.000	3.19	6517.125	20826.820	1.565	5.1	3.0	NO		NO	bb
8	8	170710M3_9	Standard	5.000	3.18	6887.408	21826.197	1.578	5.2	3.8	NO		NO	bb

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Compound name: 13C4-PFHpA
Response Factor: 0.305965
RRF SD: 0.00856155, Relative SD: 2.79821
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.45	16912.918	21818.400	3.876	12.7	1.3	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.45	15983.809	21557.213	3.707	12.1	-3.1	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.45	14729.492	19500.141	3.777	12.3	-1.2	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.45	16736.117	20840.465	4.015	13.1	5.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.44	16831.109	22435.646	3.751	12.3	-1.9	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.45	16406.695	21282.260	3.855	12.6	0.8	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.44	15463.272	20826.820	3.712	12.1	-2.9	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.45	17039.475	21826.197	3.903	12.8	2.1	NO		NO	bb

Compound name: 18O2-PFHxS
Response Factor: 0.437189
RRF SD: 0.0227029, Relative SD: 5.19292
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.52	1651.524	3795.795	5.439	12.4	-0.5	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.52	1720.000	3856.194	5.575	12.8	2.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.52	1350.057	3265.055	5.169	11.8	-5.4	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.52	1600.253	3804.850	5.257	12.0	-3.8	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.52	1665.698	3472.170	5.997	13.7	9.7	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.51	1486.850	3371.803	5.512	12.6	0.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.51	1511.473	3354.416	5.632	12.9	3.1	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.52	1590.326	3869.111	5.138	11.8	-6.0	NO		NO	bb

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Compound name: 13C2-PFOA
Response Factor: 1.29206
RRF SD: 0.0648147, Relative SD: 5.01639
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.65	24338.092	17959.266	16.940	13.1	4.9	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.65	25154.738	19184.902	16.390	12.7	1.5	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.65	22319.385	18247.898	15.289	11.8	-5.3	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.65	25531.586	20935.916	15.244	11.8	-5.6	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.64	27012.830	21746.758	15.527	12.0	-3.9	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.65	27058.725	19624.896	17.235	13.3	6.7	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.65	26424.334	21065.352	15.680	12.1	-2.9	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.65	27780.598	20545.762	16.902	13.1	4.6	NO		NO	bb

Compound name: 13C5-PFNA
Response Factor: 0.980095
RRF SD: 0.0617584, Relative SD: 6.30126
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.83	23133.879	24826.572	11.648	11.9	-4.9	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.82	25510.555	25407.900	12.551	12.8	2.4	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.82	25152.525	26987.840	11.650	11.9	-4.9	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.82	27896.482	30615.023	11.390	11.6	-7.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.82	27575.711	27704.439	12.442	12.7	1.6	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.82	30707.572	28246.664	13.589	13.9	10.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.82	26401.301	25411.732	12.987	13.3	6.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.82	28967.555	30807.039	11.754	12.0	-4.1	NO		NO	bb

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Compound name: 13C8-PFOSA
Response Factor: 0.0697066
RRF SD: 0.00599506, Relative SD: 8.60043
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.85	1942.804	29392.709	0.826	11.9	-5.2	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.84	2215.917	33292.914	0.832	11.9	-4.5	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.84	2053.589	25046.889	1.025	14.7	17.6	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.85	2071.983	31311.639	0.827	11.9	-5.1	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.84	2036.011	32131.605	0.792	11.4	-9.1	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.84	2370.515	33095.688	0.895	12.8	2.8	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.84	2179.217	32101.432	0.849	12.2	-2.6	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.84	2207.907	29853.807	0.924	13.3	6.1	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 1.09812
RRF SD: 0.106578, Relative SD: 9.7055
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.88	5370.698	4072.196	16.486	15.0	20.1	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.88	5419.104	5130.696	13.203	12.0	-3.8	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.87	5346.955	4837.479	13.816	12.6	0.7	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.88	5508.184	5669.458	12.144	11.1	-11.5	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.87	5282.377	5068.695	13.027	11.9	-5.1	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.88	5677.549	5023.010	14.129	12.9	2.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.87	5678.869	4963.667	14.301	13.0	4.2	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.88	5421.565	5333.926	12.705	11.6	-7.4	NO		NO	bd

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Compound name: 13C2-PFDA
Response Factor: 0.927939
RRF SD: 0.0650889, Relative SD: 7.01435
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.99	28930.936	30066.424	12.028	13.0	3.7	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.99	29747.686	34644.785	10.733	11.6	-7.5	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.99	31897.771	35483.492	11.237	12.1	-3.1	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.99	31493.791	33241.297	11.843	12.8	2.1	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.00	29596.766	34417.320	10.749	11.6	-7.3	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.99	33043.109	37874.355	10.906	11.8	-6.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.99	30631.795	30816.412	12.425	13.4	7.1	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.99	31463.066	30550.707	12.873	13.9	11.0	NO		NO	bb

Compound name: 13C2-PFUnA
Response Factor: 1.08271
RRF SD: 0.0782079, Relative SD: 7.22335
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.15	28555.941	29392.709	12.144	11.2	-10.3	NO		NO	bb
2	2	170710M3_3	Standard	12.500	4.15	35214.363	33292.914	13.221	12.2	-2.3	NO		NO	db
3	3	170710M3_4	Standard	12.500	4.15	29618.668	25046.889	14.782	13.7	9.2	NO		NO	bb
4	4	170710M3_5	Standard	12.500	4.15	32452.291	31311.639	12.955	12.0	-4.3	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.15	32879.375	32131.605	12.791	11.8	-5.5	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.15	39593.965	33095.688	14.954	13.8	10.5	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.15	34542.293	32101.432	13.450	12.4	-0.6	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.15	33371.344	29853.807	13.973	12.9	3.2	NO		NO	bb

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Compound name: 13C2-PFDoA
Response Factor: 0.129746
RRF SD: 0.0132942, Relative SD: 10.2463
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.31	3994.664	29392.709	1.699	13.1	4.7	NO		NO	MM
2	2	170710M3_3	Standard	12.500	4.31	4336.155	33292.914	1.628	12.5	0.4	NO		NO	MM
3	3	170710M3_4	Standard	12.500	4.30	3663.755	25046.889	1.828	14.1	12.7	NO		NO	MM
4	4	170710M3_5	Standard	12.500	4.31	3448.438	31311.639	1.377	10.6	-15.1	NO		NO	MM
5	5	170710M3_6	Standard	12.500	4.30	4397.531	32131.605	1.711	13.2	5.5	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.31	4609.228	33095.688	1.741	13.4	7.3	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.30	3523.270	32101.432	1.372	10.6	-15.4	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.31	3866.813	29853.807	1.619	12.5	-0.2	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 1.01816
RRF SD: 0.0659527, Relative SD: 6.47762
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.65	33198.340	29392.709	14.118	13.9	10.9	NO		NO	bb
2	2	170710M3_3	Standard	12.500	4.65	32091.508	33292.914	12.049	11.8	-5.3	NO		NO	bb
3	3	170710M3_4	Standard	12.500	4.64	26986.623	25046.889	13.468	13.2	5.8	NO		NO	bb
4	4	170710M3_5	Standard	12.500	4.65	32219.420	31311.639	12.862	12.6	1.1	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.65	31939.072	32131.605	12.425	12.2	-2.4	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.65	32979.863	33095.688	12.456	12.2	-2.1	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.64	29463.150	32101.432	11.473	11.3	-9.9	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.65	30963.135	29853.807	12.964	12.7	1.9	NO		NO	bb

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	1.53	8045.280	8045.280	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	1.53	8103.498	8103.498	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	1.52	7483.426	7483.426	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	1.53	8401.936	8401.936	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	1.53	8412.924	8412.924	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	1.52	8228.657	8228.657	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	1.53	8207.246	8207.246	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	1.53	8634.025	8634.025	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	5.000	3.19	21818.400	21818.400	5.000	5.0	0.0	NO		NO	bb
2	2	170710M3_3	Standard	5.000	3.19	21557.213	21557.213	5.000	5.0	0.0	NO		NO	bb
3	3	170710M3_4	Standard	5.000	3.18	19500.141	19500.141	5.000	5.0	0.0	NO		NO	bb
4	4	170710M3_5	Standard	5.000	3.19	20840.465	20840.465	5.000	5.0	0.0	NO		NO	bb
5	5	170710M3_6	Standard	5.000	3.18	22435.646	22435.646	5.000	5.0	0.0	NO		NO	bb
6	6	170710M3_7	Standard	5.000	3.19	21282.260	21282.260	5.000	5.0	0.0	NO		NO	bb
7	7	170710M3_8	Standard	5.000	3.19	20826.820	20826.820	5.000	5.0	0.0	NO		NO	bb
8	8	170710M3_9	Standard	5.000	3.18	21826.197	21826.197	5.000	5.0	0.0	NO		NO	bb

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.52	3795.795	3795.795	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.52	3856.194	3856.194	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.51	3265.055	3265.055	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.52	3804.850	3804.850	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.51	3472.170	3472.170	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.52	3371.803	3371.803	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.52	3354.416	3354.416	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.52	3869.111	3869.111	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.65	17959.266	17959.266	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.65	19184.902	19184.902	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.64	18247.898	18247.898	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.65	20935.916	20935.916	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.64	21746.758	21746.758	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.65	19624.896	19624.896	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.65	21065.352	21065.352	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.65	20545.762	20545.762	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170710M3_2	Standard	12.500	3.82	24826.572	24826.572	12.500	12.5	0.0	NO		NO	bb
2	2 170710M3_3	Standard	12.500	3.82	25407.900	25407.900	12.500	12.5	0.0	NO		NO	bb
3	3 170710M3_4	Standard	12.500	3.82	26987.840	26987.840	12.500	12.5	0.0	NO		NO	bb
4	4 170710M3_5	Standard	12.500	3.82	30615.023	30615.023	12.500	12.5	0.0	NO		NO	bb
5	5 170710M3_6	Standard	12.500	3.82	27704.439	27704.439	12.500	12.5	0.0	NO		NO	bb
6	6 170710M3_7	Standard	12.500	3.82	28246.664	28246.664	12.500	12.5	0.0	NO		NO	bb
7	7 170710M3_8	Standard	12.500	3.82	25411.732	25411.732	12.500	12.5	0.0	NO		NO	bb
8	8 170710M3_9	Standard	12.500	3.82	30807.039	30807.039	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170710M3_2	Standard	12.500	3.88	4072.196	4072.196	12.500	12.5	0.0	NO		NO	bb
2	2 170710M3_3	Standard	12.500	3.88	5130.696	5130.696	12.500	12.5	0.0	NO		NO	bb
3	3 170710M3_4	Standard	12.500	3.87	4837.479	4837.479	12.500	12.5	0.0	NO		NO	bb
4	4 170710M3_5	Standard	12.500	3.87	5669.458	5669.458	12.500	12.5	0.0	NO		NO	bb
5	5 170710M3_6	Standard	12.500	3.88	5068.695	5068.695	12.500	12.5	0.0	NO		NO	bb
6	6 170710M3_7	Standard	12.500	3.87	5023.010	5023.010	12.500	12.5	0.0	NO		NO	bb
7	7 170710M3_8	Standard	12.500	3.87	4963.667	4963.667	12.500	12.5	0.0	NO		NO	bb
8	8 170710M3_9	Standard	12.500	3.88	5333.926	5333.926	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 5.93439e-017, Relative SD: 5.93439e-015
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.99	30066.424	30066.424	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.99	34644.785	34644.785	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.99	35483.492	35483.492	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.99	33241.297	33241.297	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.99	34417.320	34417.320	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.00	37874.355	37874.355	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.99	30816.412	30816.412	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.99	30550.707	30550.707	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.18688e-016, Relative SD: 1.18688e-014
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.15	29392.709	29392.709	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	4.15	33292.914	33292.914	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	4.15	25046.889	25046.889	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	4.15	31311.639	31311.639	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.15	32131.605	32131.605	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.15	33095.688	33095.688	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.15	32101.432	32101.432	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.15	29853.807	29853.807	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 11, 2017 17:10:51 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:12:41 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 17:05:26
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170710M3_1	IPA	10-Jul-17	16:24:39
2	170710M3_2	ST170710M3-1 PFC CS-2 17G1003	10-Jul-17	16:35:25
3	170710M3_3	ST170710M3-2 PFC CS-1 17G1004	10-Jul-17	16:46:13
4	170710M3_4	ST170710M3-3 PFC CS0 17G1005	10-Jul-17	16:56:56
5	170710M3_5	ST170710M3-4 PFC CS1 17G1006	10-Jul-17	17:07:35
6	170710M3_6	ST170710M3-5 PFC CS2 17G1007	10-Jul-17	17:18:21
7	170710M3_7	ST170710M3-6 PFC CS3 17G1008	10-Jul-17	17:28:59
8	170710M3_8	ST170710M3-7 PFC CS4 17G1009	10-Jul-17	17:39:46
9	170710M3_9	ST170710M3-8 PFC CS5 17G1010	10-Jul-17	17:50:33
10	170710M3_10	IPA	10-Jul-17	18:01:19
11	170710M3_11	SS170710M3-1 PFC SSS 17G1011	10-Jul-17	18:11:57
12	170710M3_12	IPA	10-Jul-17	18:22:44
13	170710M3_13	B7G0013-BS1 OPR 0.125	10-Jul-17	18:33:22
14	170710M3_14	B7G0020-BS1 OPR 0.25	10-Jul-17	18:44:08
15	170710M3_15	B7G0024-BS1 OPR 0.25	10-Jul-17	18:54:55
16	170710M3_16	B7G0024-BS2 OPR 0.25	10-Jul-17	19:06:07
17	170710M3_17	IPA	10-Jul-17	19:17:52
18	170710M3_18	B7G0013-BLK1 Method Blank 0.125	10-Jul-17	19:29:17
19	170710M3_19	B7G0020-BLK1 Method Blank 0.25	10-Jul-17	19:40:01
20	170710M3_20	B7G0024-BLK1 Method Blank 0.25	10-Jul-17	19:50:39
21	170710M3_21	1700757-01RE1 DPH-MW6 0.11883	10-Jul-17	20:01:26
22	170710M3_22	1700757-02RE1 DPH-B5 0.12231	10-Jul-17	20:12:04
23	170710M3_23	1700757-03RE1 DPH-105 0.11689	10-Jul-17	20:22:43
24	170710M3_24	1700767-01RE1 1 Main 0.24476	10-Jul-17	20:33:21
25	170710M3_25	1700767-02RE1 2 Keyser 0.2358	10-Jul-17	20:43:59
26	170710M3_26	1700767-03RE1 3 College 0.24414	10-Jul-17	20:54:46
27	170710M3_27	1700767-04RE1 4 College 0.24491	10-Jul-17	21:05:24
28	170710M3_28	1700767-05RE1 5 Sunrise 0.24353	10-Jul-17	21:16:02
29	170710M3_29	1700803-02 EB01 0.11989	10-Jul-17	21:26:41
30	170710M3_30	1700804-01 IRPSite7-GW-07GW41-2017062...	10-Jul-17	21:37:19
31	170710M3_31	1700804-02 IRPSite5-GW-05GW01-2017062...	10-Jul-17	21:48:06

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 11, 2017 17:10:51 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:12:41 Pacific Daylight Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
32	170710M3_32	IPA	10-Jul-17	21:58:44
33	170710M3_33	ST170710M3-9 PFC CS3 17G1008	10-Jul-17	22:09:22
34	170710M3_34	IPA	10-Jul-17	22:20:01
35	170710M3_35	1700804-03 IRPSite5-GW-FD01-20170629 0....	10-Jul-17	22:31:27
36	170710M3_36	1700804-04 IRPSite33-GW-FRB01-20170629...	10-Jul-17	22:42:07
37	170710M3_37	1700804-05 IRPSite33-GW-11MW204D-2017...	10-Jul-17	22:52:45
38	170710M3_38	1700804-06 IRPSite33-GW-11MW204S-2017...	10-Jul-17	23:03:24
39	170710M3_39	1700804-07 Bldg 110-GW-11MW205D-20170...	10-Jul-17	23:14:02
40	170710M3_40	1700804-08 Bldg 110-GW-FRB01-20170629 0...	10-Jul-17	23:24:41
41	170710M3_41	1700804-09 Bldg 110-GW-11MW205S-20170...	10-Jul-17	23:35:19
42	170710M3_42	1700804-10 IRPSite7-GW-07GW102-201706...	10-Jul-17	23:45:57
43	170710M3_43	1700804-11 IRPSite5-GW-04GW82-2017062...	10-Jul-17	23:56:36
44	170710M3_44	1700751-01RE1 NH0100960_I 0.23355	11-Jul-17	00:07:41
45	170710M3_45	IPA	11-Jul-17	00:18:50
46	170710M3_46	ST170710M3-10 PFC CS3 17G1008	11-Jul-17	00:29:28
47	170710M3_47	IPA	11-Jul-17	00:40:16
48	170710M3_48	1700751-02RE1 NH0100960_E 0.24913	11-Jul-17	00:51:03
49	170710M3_49	1700751-03RE1 NH0100901_I 0.25207	11-Jul-17	01:01:51
50	170710M3_50	1700751-04RE1 NH0100901_E 0.24547	11-Jul-17	01:12:29
51	170710M3_51	1700751-05RE1 NH0100668_I 0.22393	11-Jul-17	01:23:08
52	170710M3_52	1700751-06RE1 NH0100668_E 0.24262	11-Jul-17	01:33:46
53	170710M3_53	1700751-07RE1 NH0101303_I 0.05246	11-Jul-17	01:44:33
54	170710M3_54	1700751-08RE1 NH0101303_E 0.24891	11-Jul-17	01:55:11
55	170710M3_55	1700751-09RE1 NH0101311_I 0.23975	11-Jul-17	02:06:00
56	170710M3_56	1700751-10RE1 NH0101311_E 0.25554	11-Jul-17	02:17:45
57	170710M3_57	1700752-01RE1 STP-MW-71-061917 0.11831	11-Jul-17	02:28:31
58	170710M3_58	IPA	11-Jul-17	02:39:10
59	170710M3_59	ST170710M3-11 PFC CS3 17G1008	11-Jul-17	02:49:48

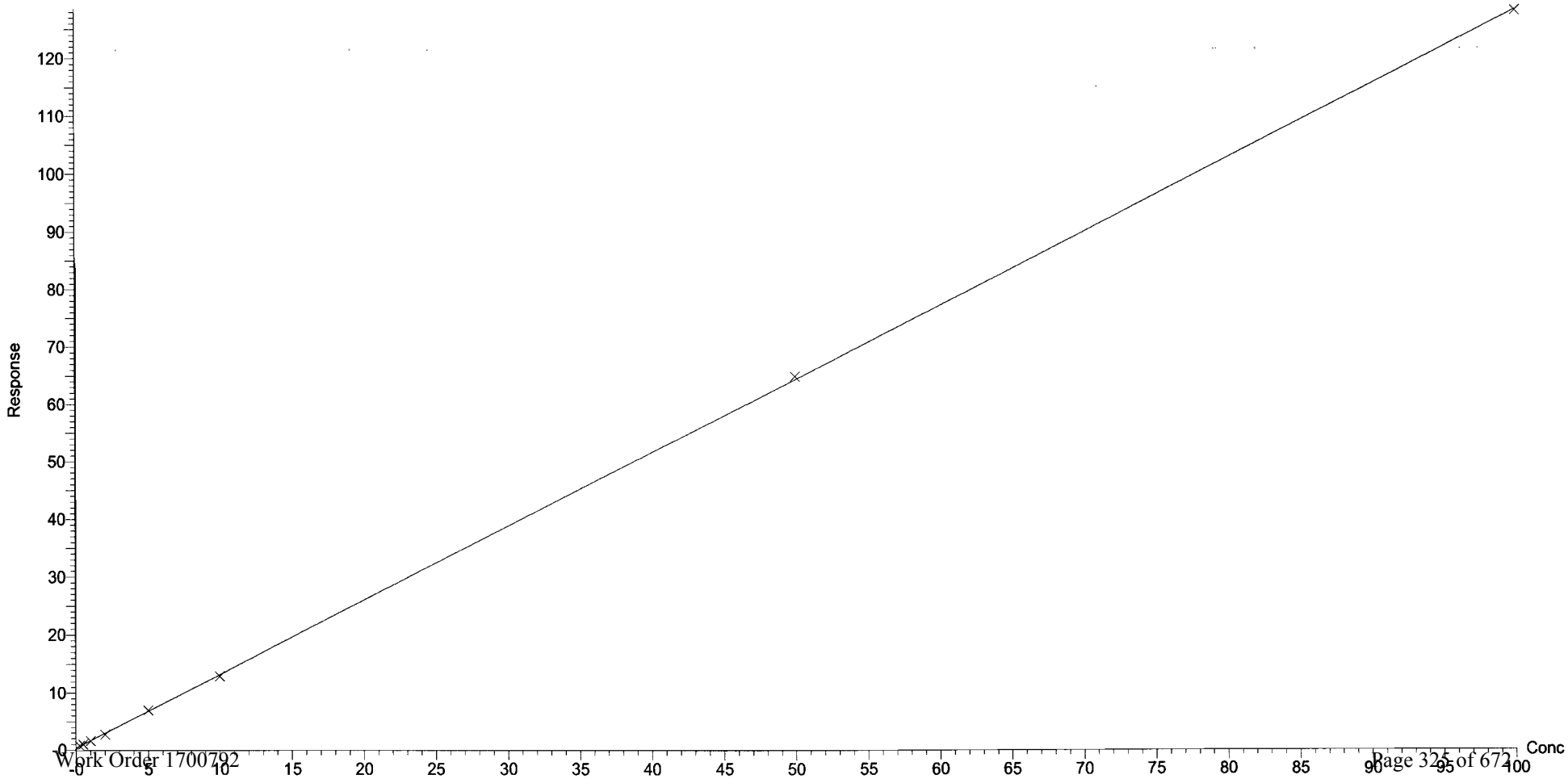
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 14:40:20
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

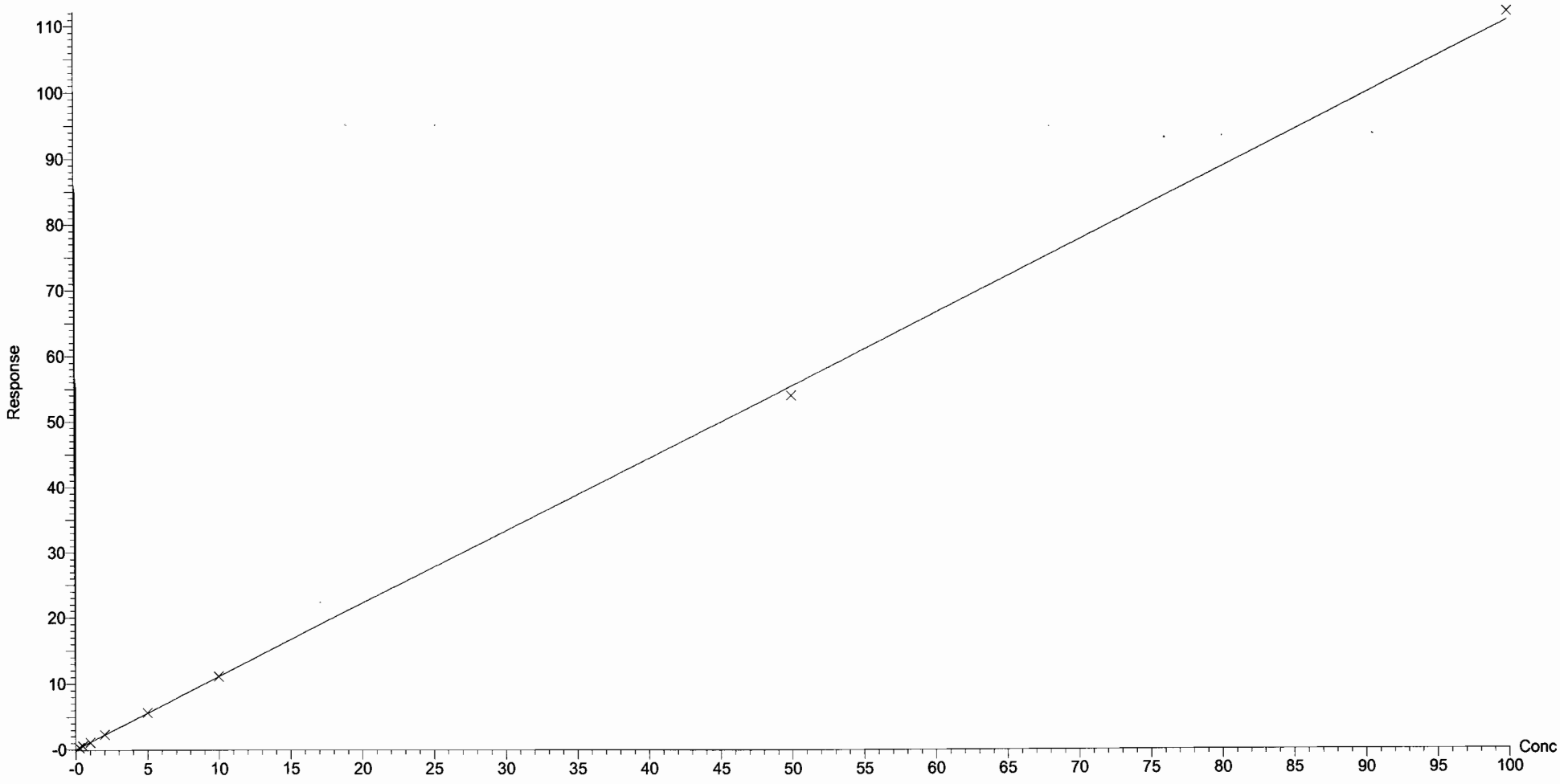
Compound name: PFBA
Correlation coefficient: r = 0.999893, r^2 = 0.999786
Calibration curve: 1.28141 * x + 0.357618
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

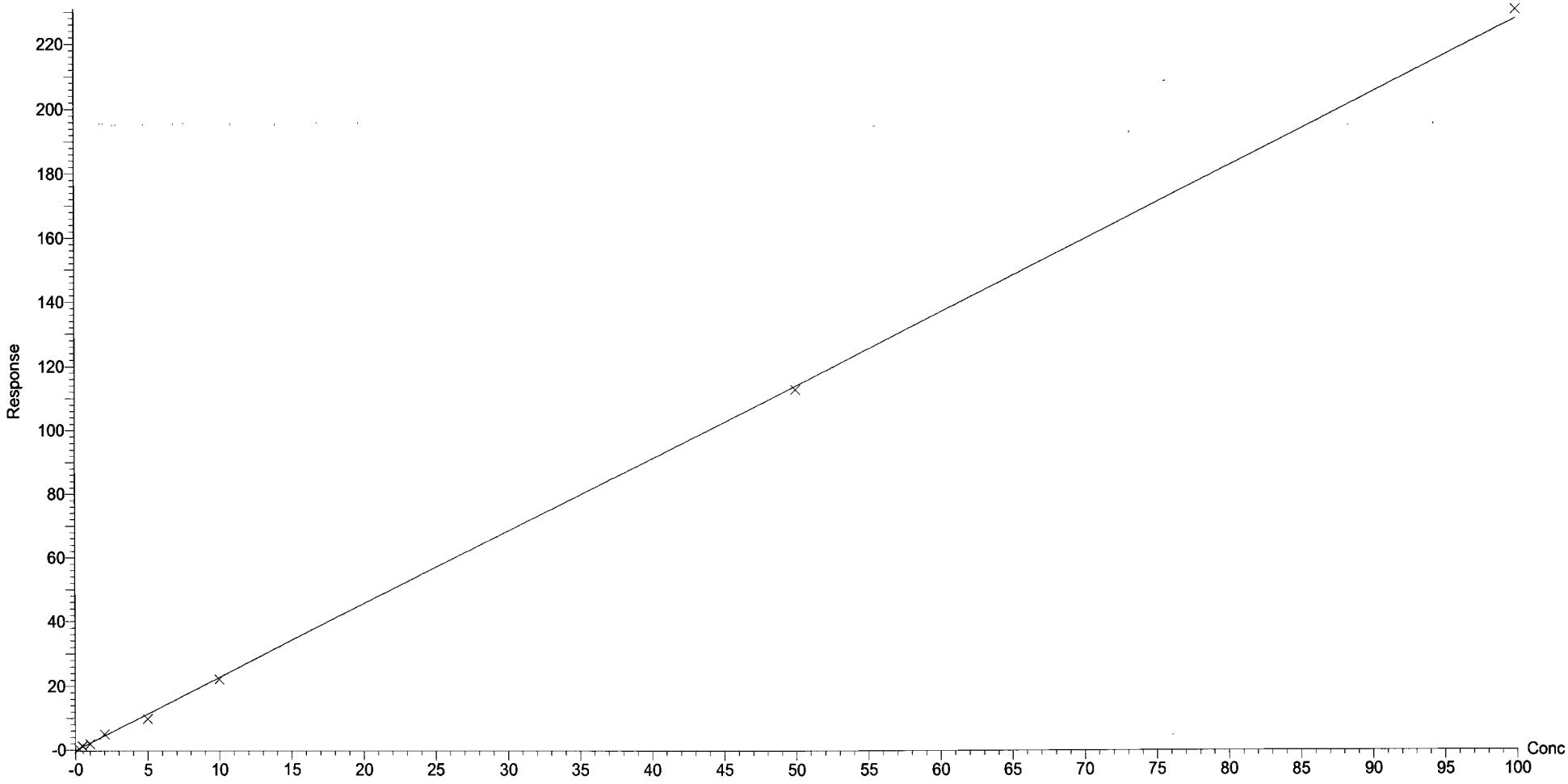
Compound name: PFPeA
Correlation coefficient: r = 0.999846, r^2 = 0.999691
Calibration curve: 1.10816 * x + 0.0226306
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

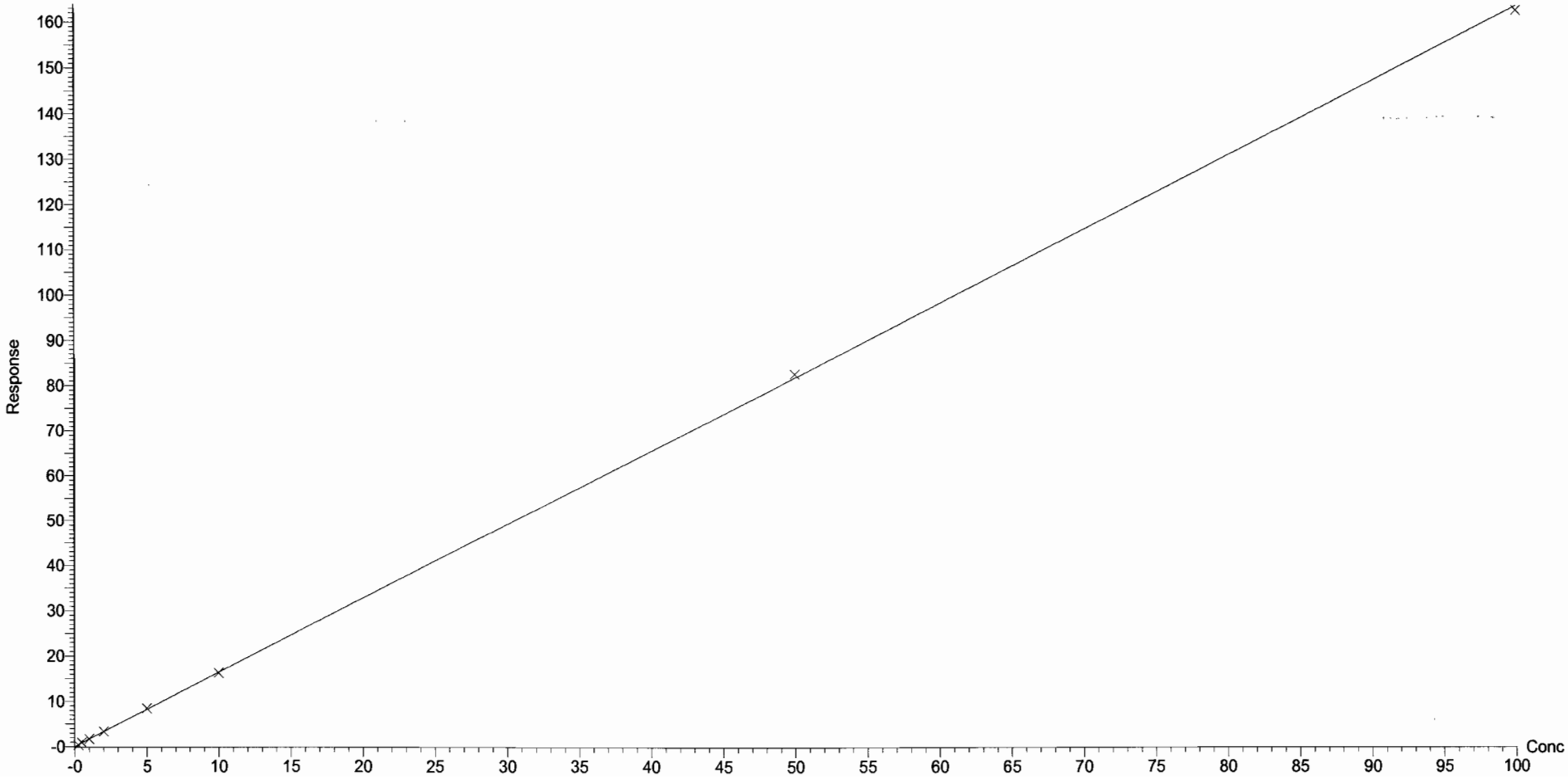
Compound name: PFBS
Correlation coefficient: r = 0.999477, r^2 = 0.998954
Calibration curve: 2.28212 * x + -0.143002
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

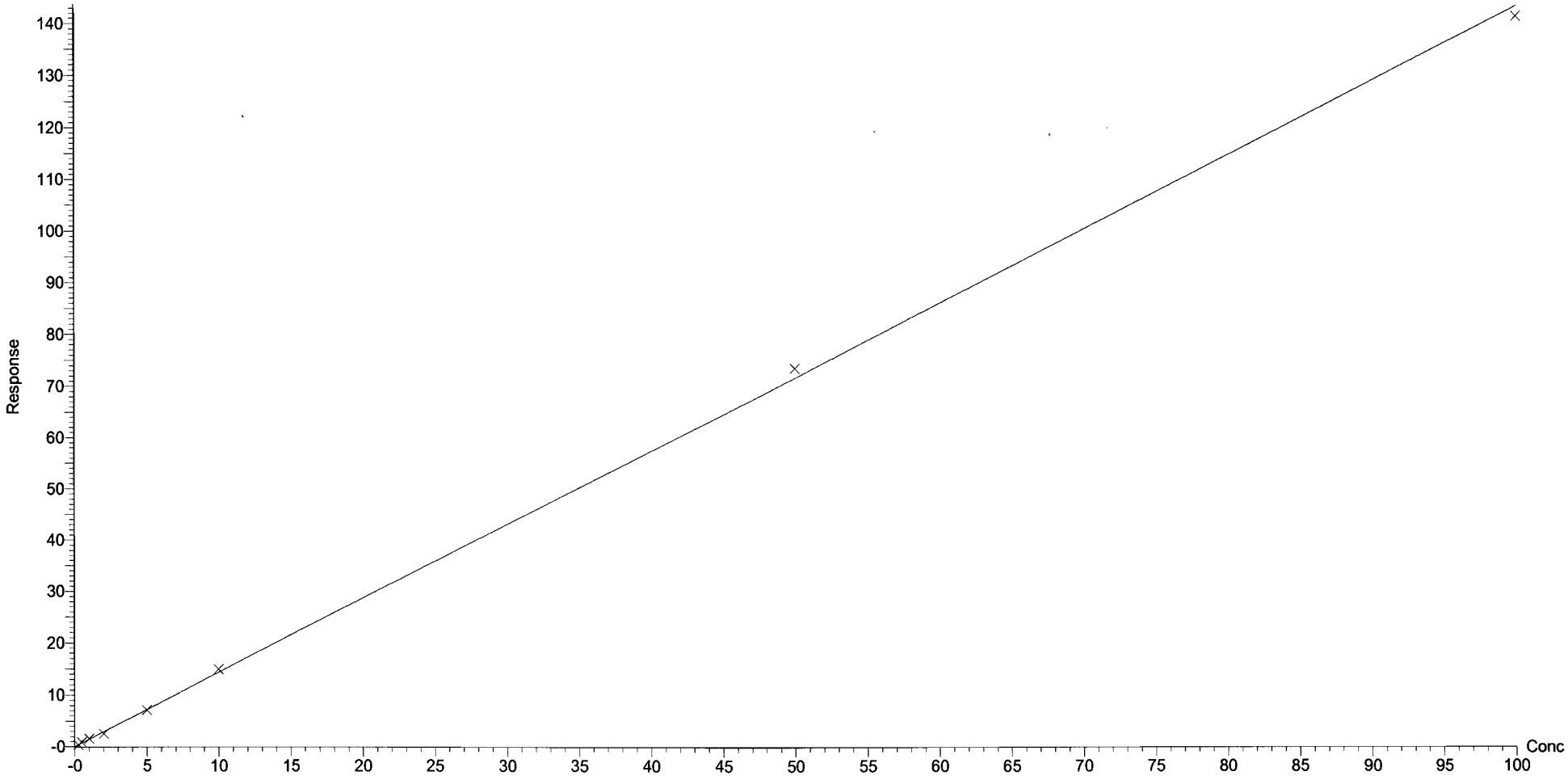
Compound name: PFHxA
Correlation coefficient: r = 0.999918, r^2 = 0.999836
Calibration curve: 1.63818 * x + 0.0563003
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

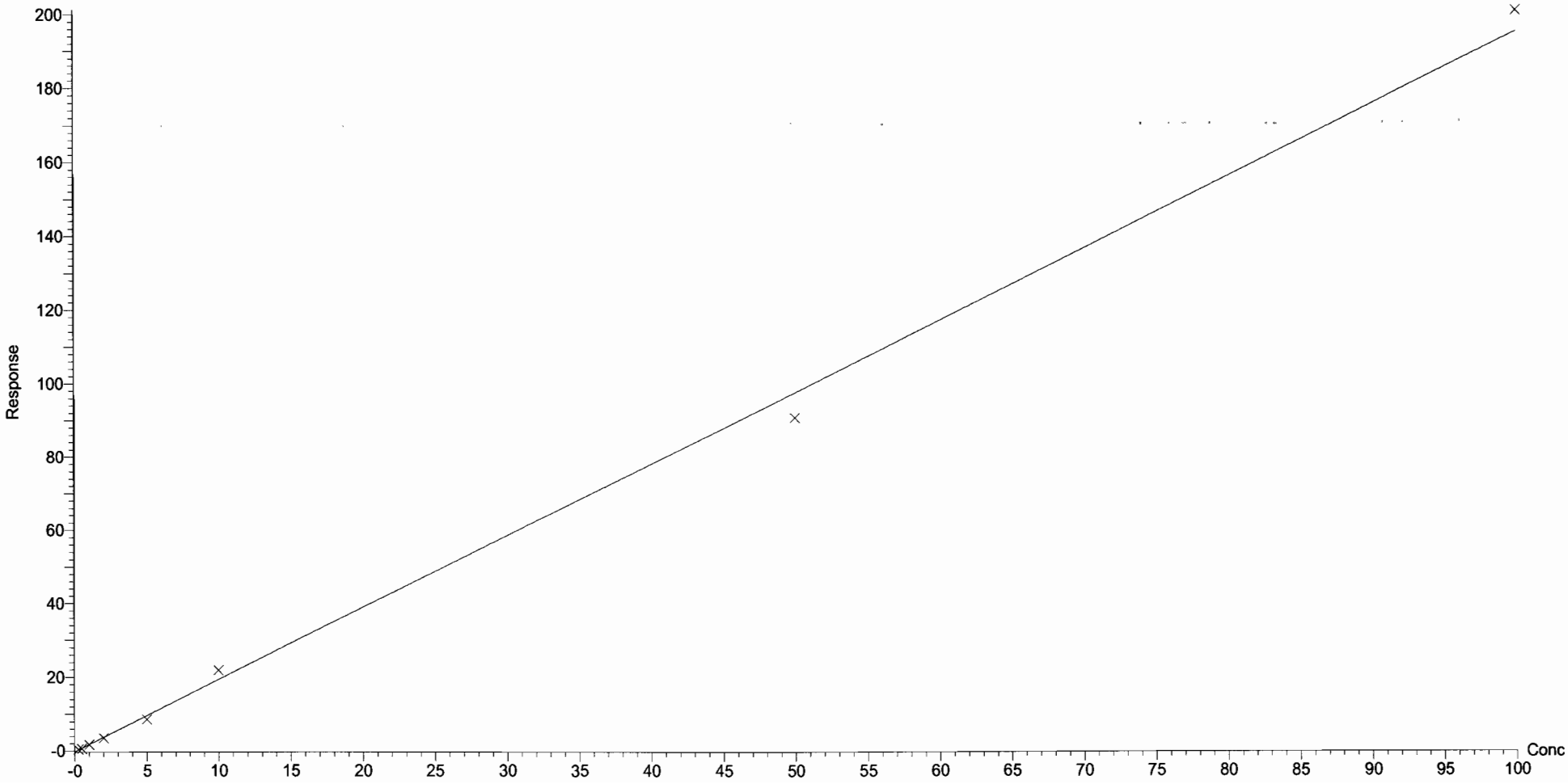
Compound name: PFHpA
Correlation coefficient: r = 0.999627, r^2 = 0.999254
Calibration curve: 1.43595 * x + 0.0332012
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

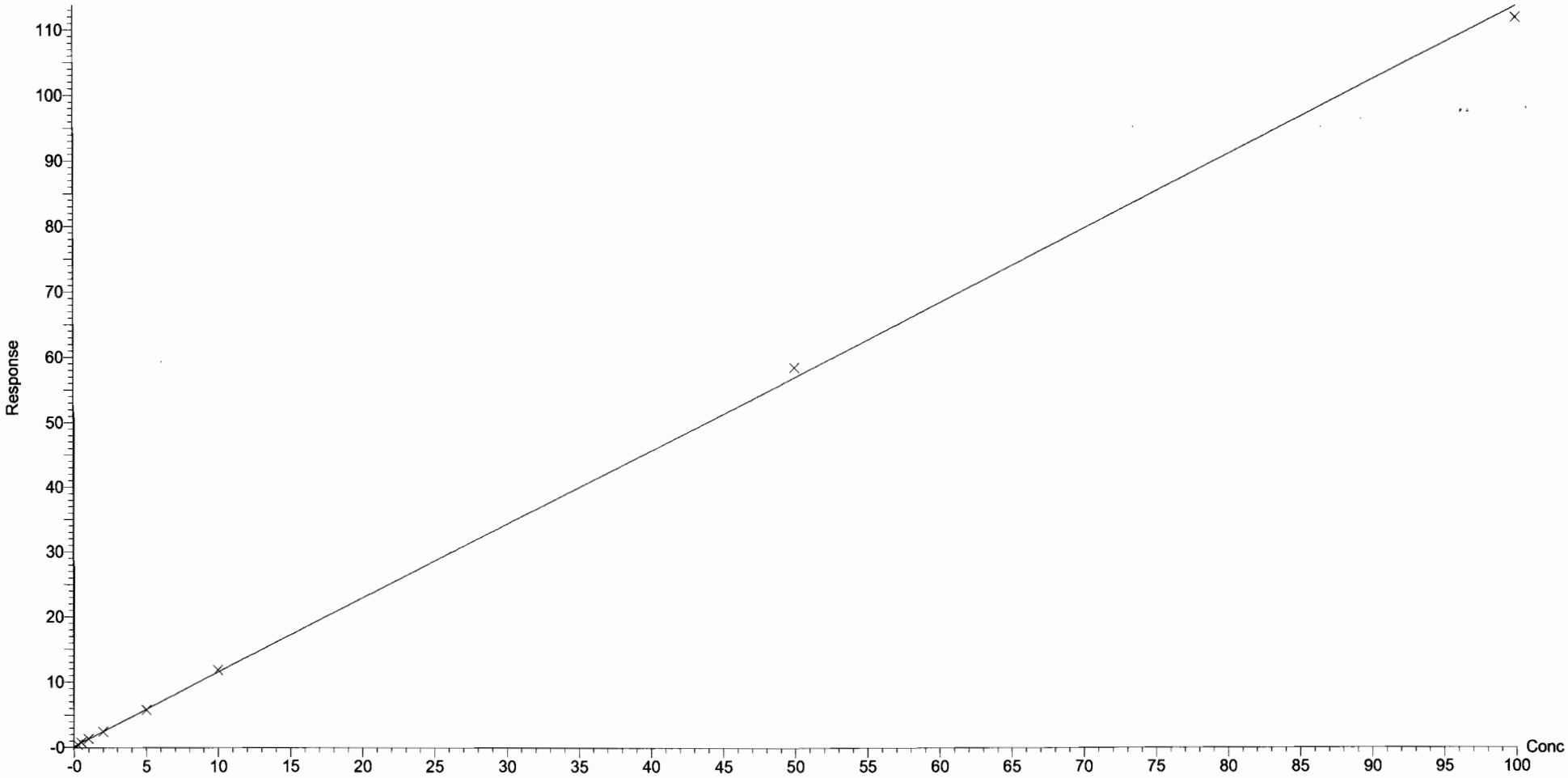
Compound name: PFHxS
Correlation coefficient: r = 0.998220, r^2 = 0.996443
Calibration curve: 1.95713 * x + -0.172436
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

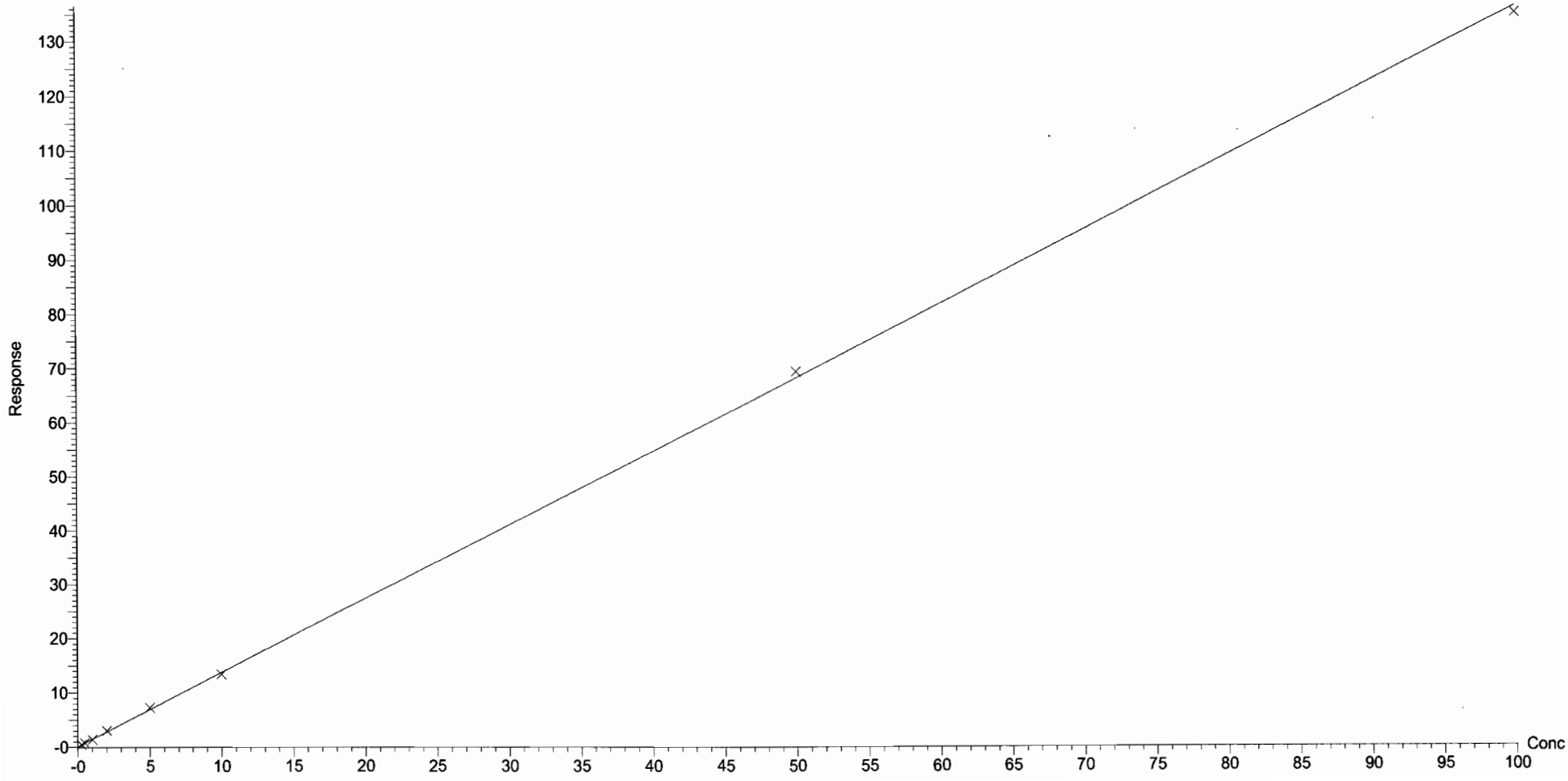
Compound name: PFOA
Correlation coefficient: r = 0.999767, r^2 = 0.999534
Calibration curve: 1.13618 * x + 0.150469
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

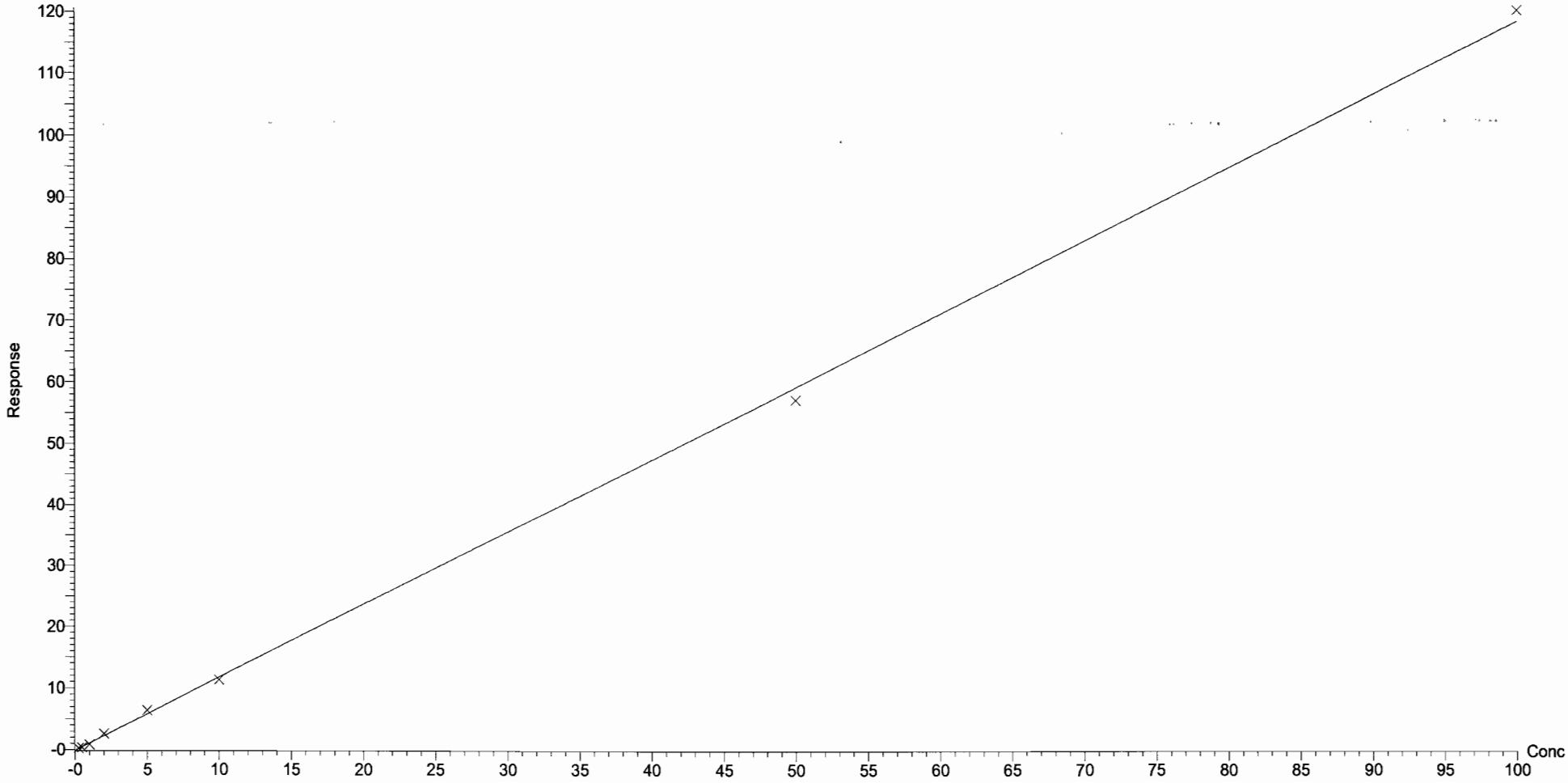
Compound name: PFNA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.36368 * x + 0.0901055
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

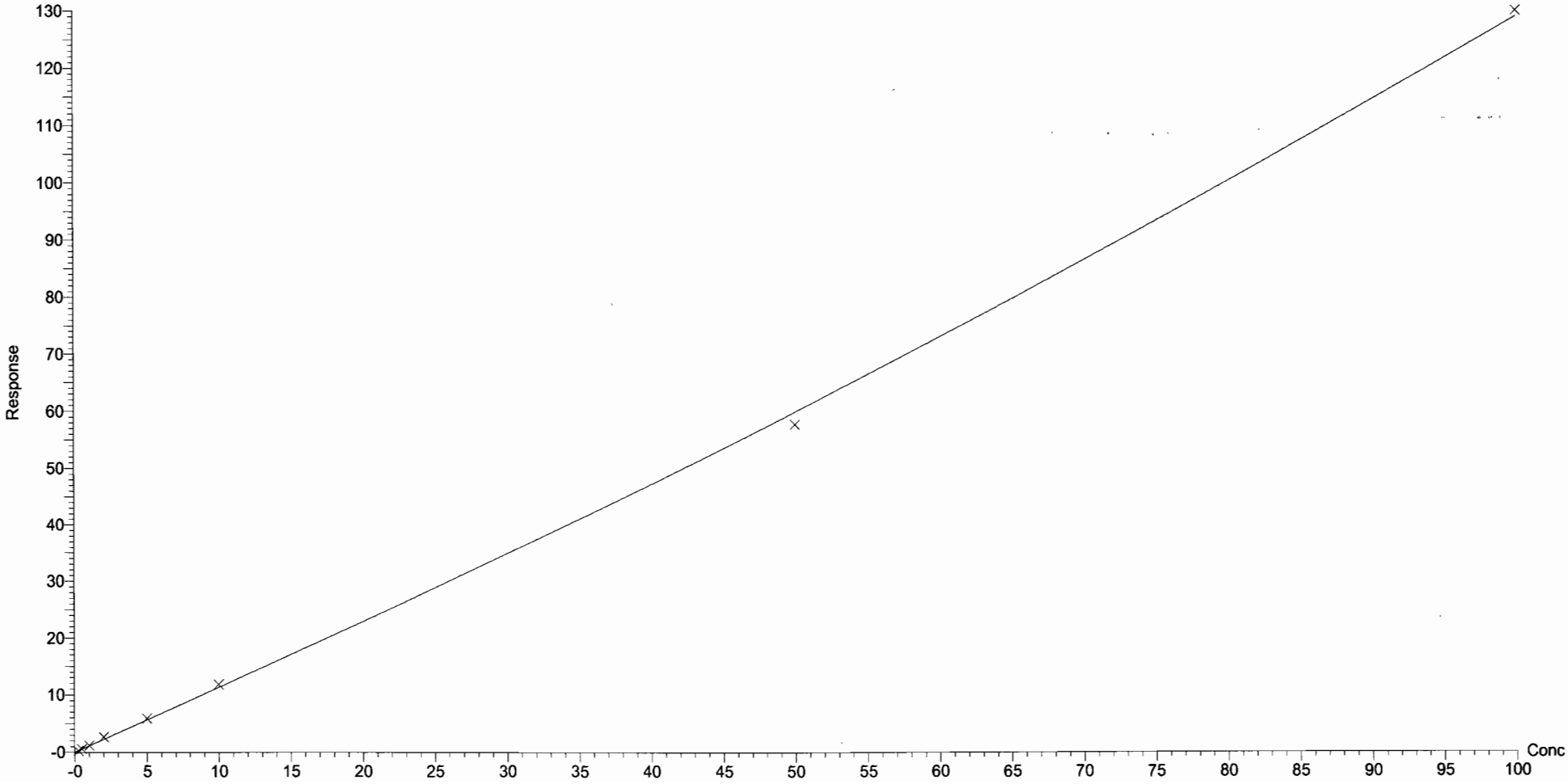
Compound name: PFOSA
Correlation coefficient: r = 0.999222, r^2 = 0.998444
Calibration curve: 1.18859 * x + -0.127408
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999061
Calibration curve: 0.00185446 * x^2 + 1.10476 * x + 0.0290301
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



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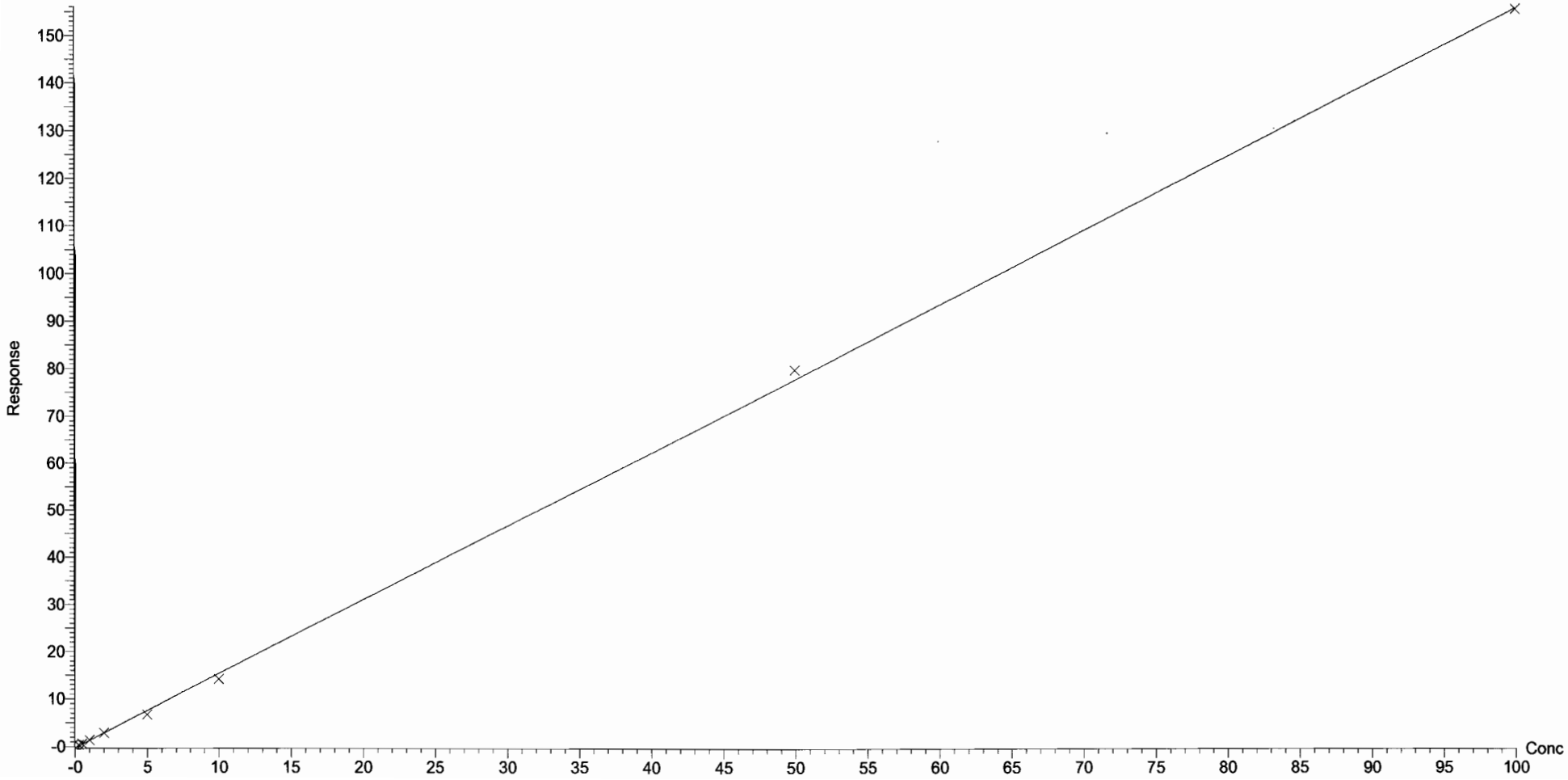
Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Compound name: PFDA
Correlation coefficient: r = 0.999516, r^2 = 0.999032
Calibration curve: 1.56384 * x + -0.255433
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

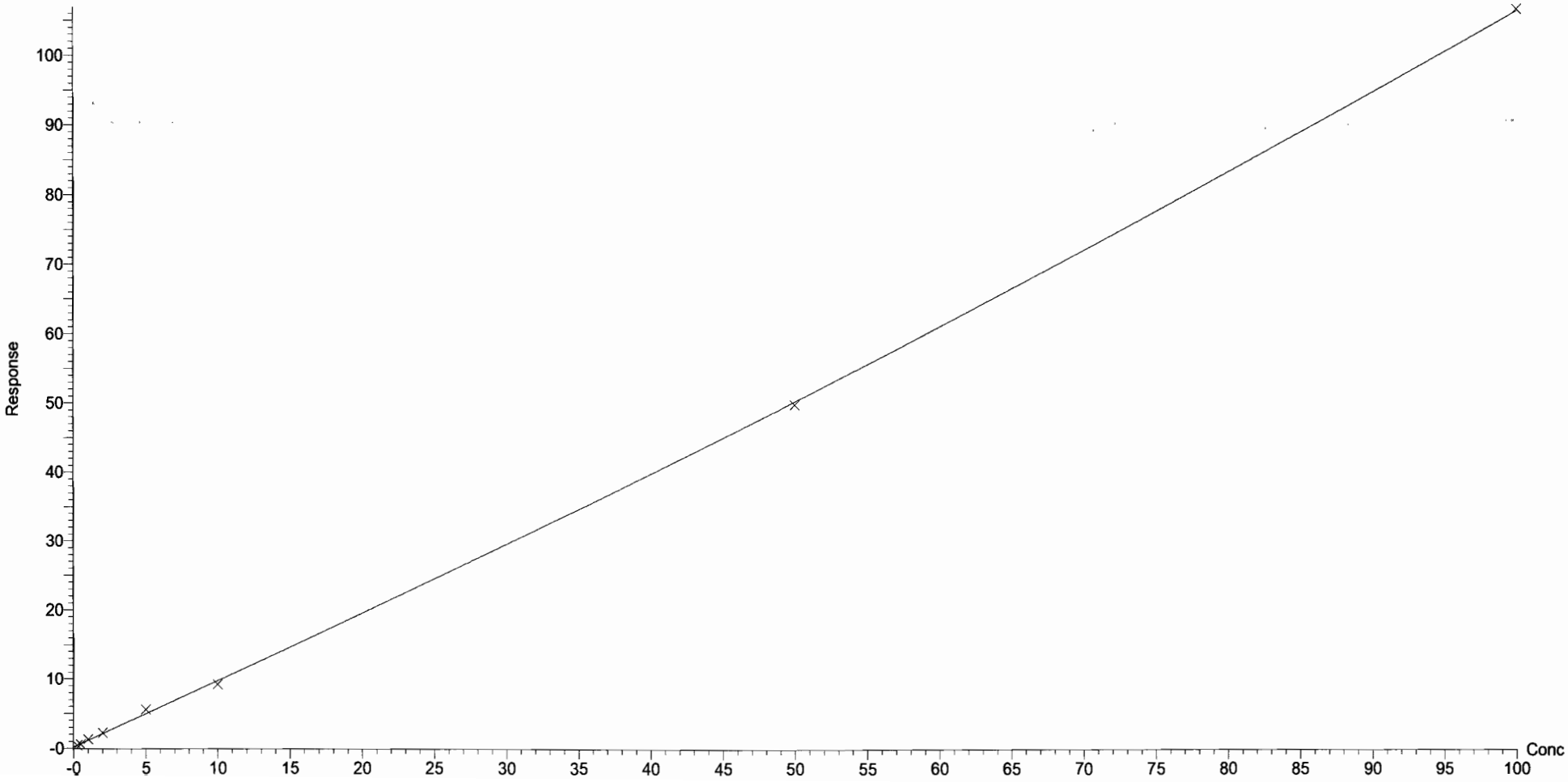


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

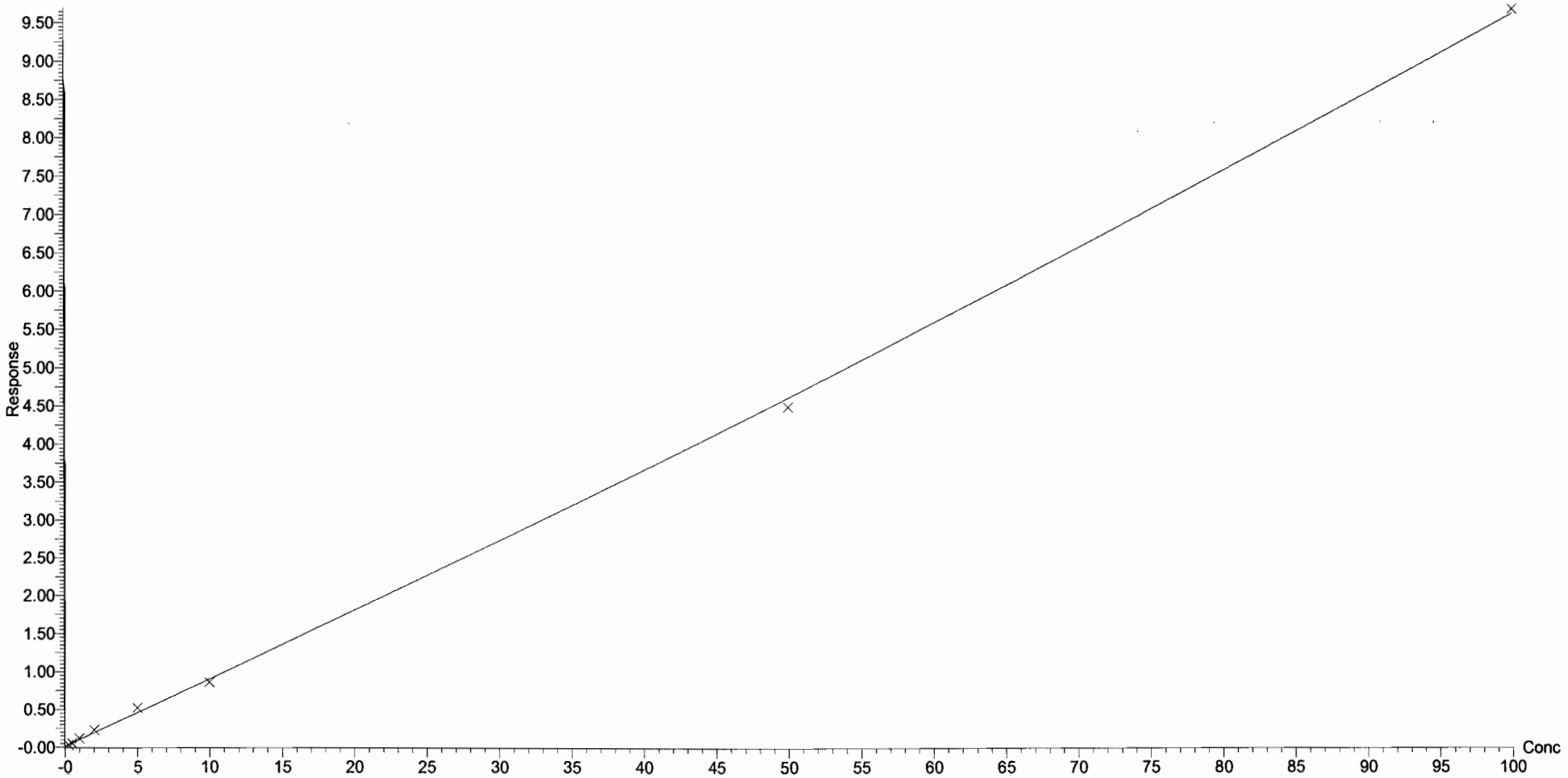
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999111
Calibration curve: 0.00122021 * x^2 + 0.942287 * x + 0.216781
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

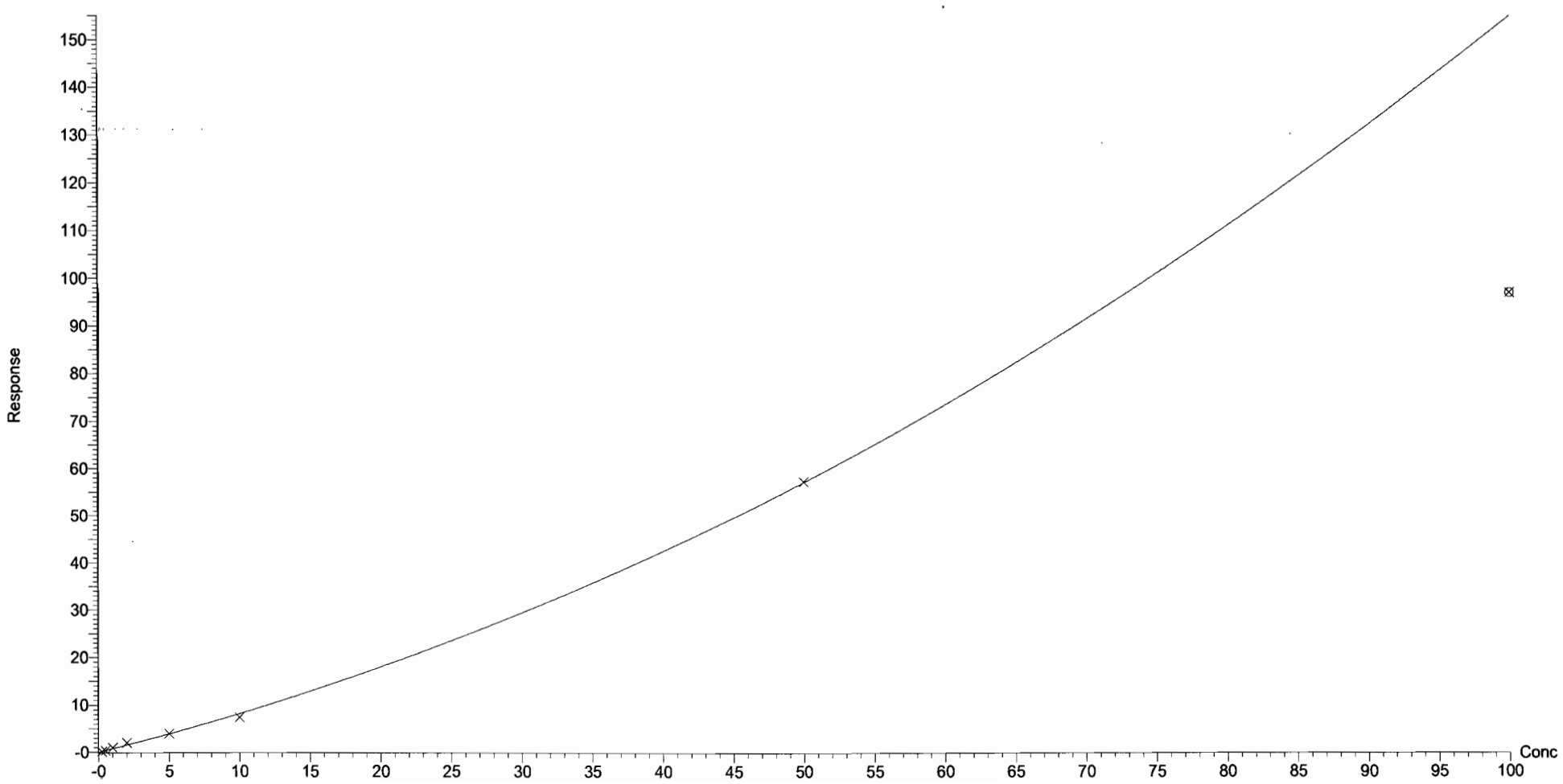
Compound name: PFDS
Coefficient of Determination: R^2 = 0.998301
Calibration curve: 8.31559e-005 * x^2 + 0.0878672 * x + 0.0164965
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997169
Calibration curve: 0.00815082 * x^2 + 0.735747 * x + 0.0266157
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
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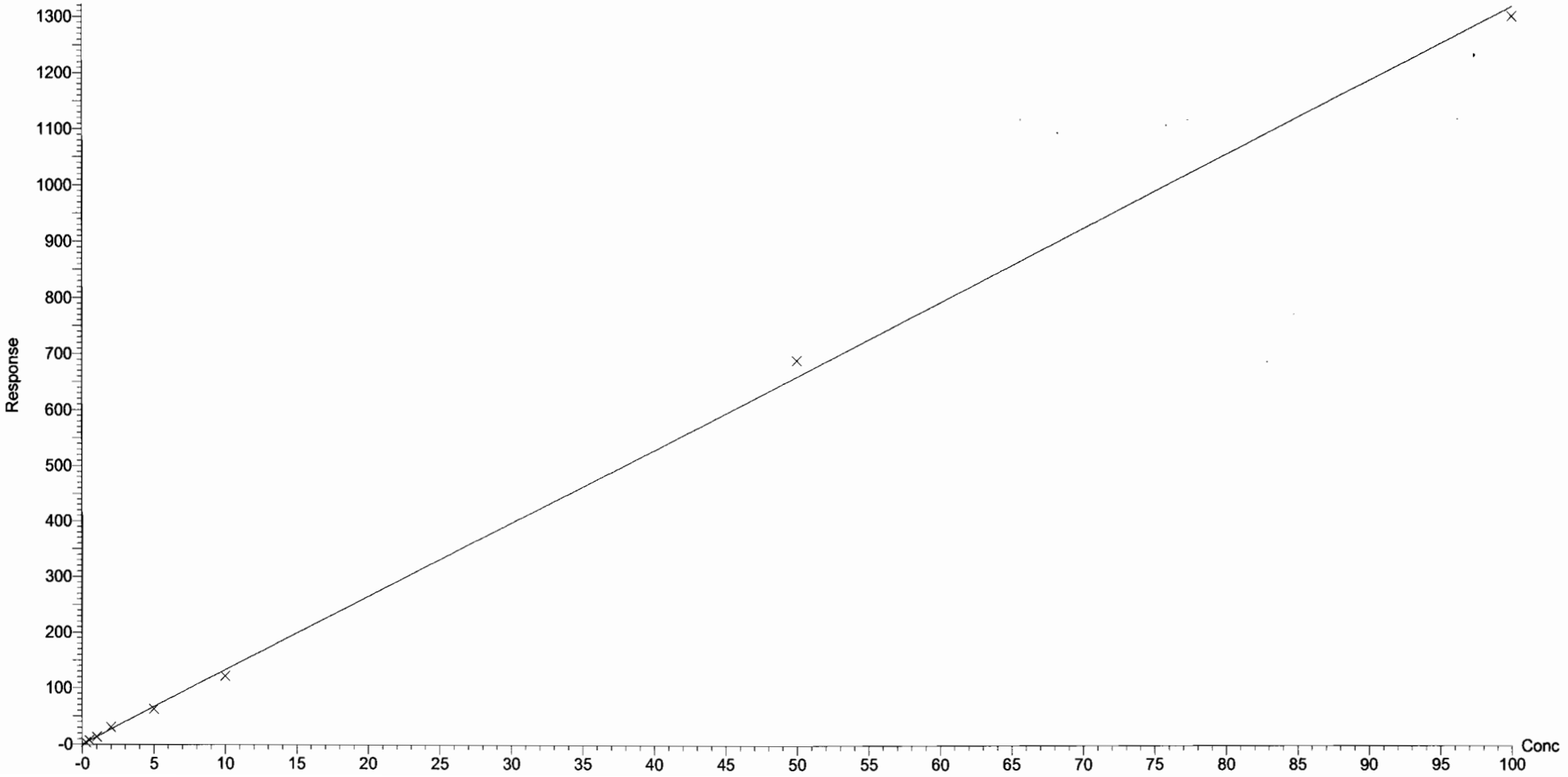
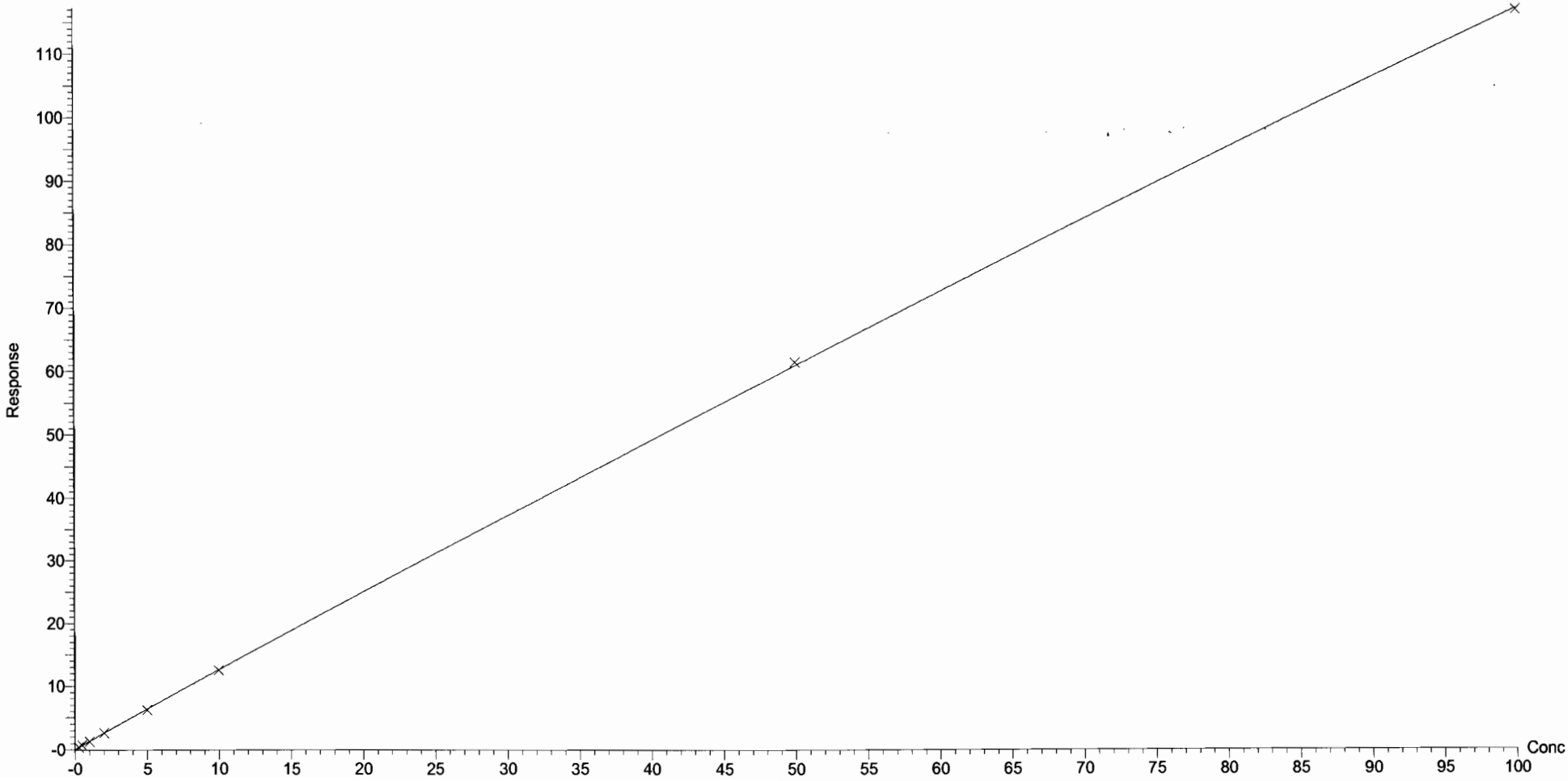
Compound name: PFTrDA
Correlation coefficient: r = 0.999219, r^2 = 0.998438
Calibration curve: 13.2156 * x + 0.215995
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999934
Calibration curve: -0.000916009 * x^2 + 1.26347 * x + 0.0596778
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 14:40:20
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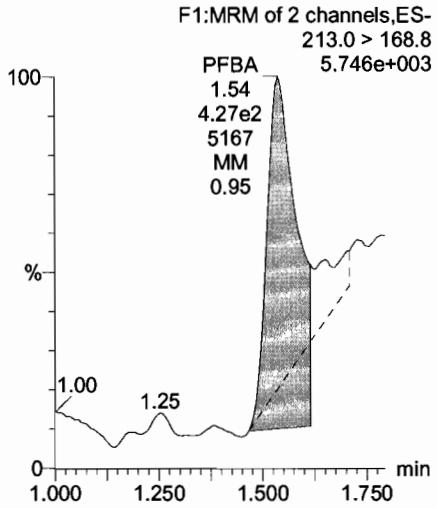
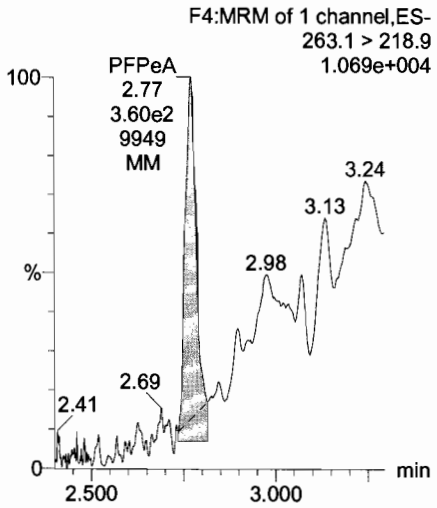
Name: 170710M3_2, Date: 10-Jul-2017, Time: 16:35:25, ID: ST170710M3-1 PFC CS-2 17G1003, Description: PFC CS-2 17G1003

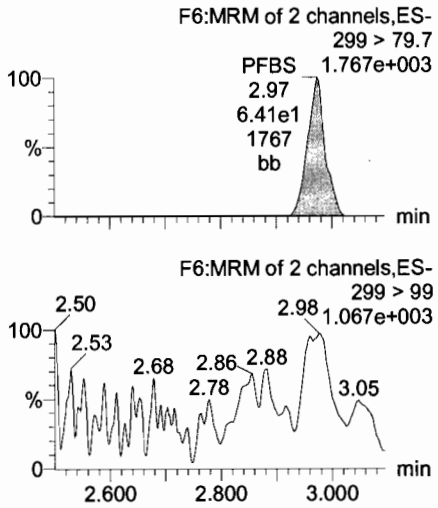
PFBA



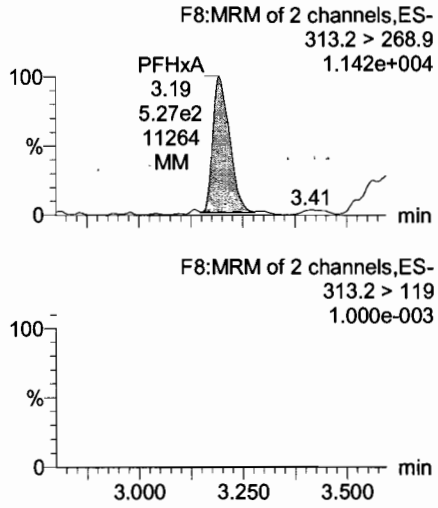
PFPeA



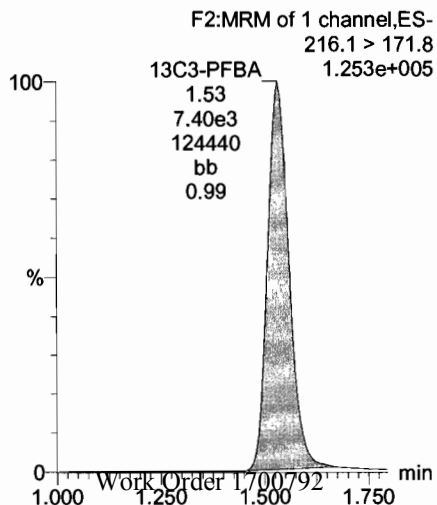
Total PFBS



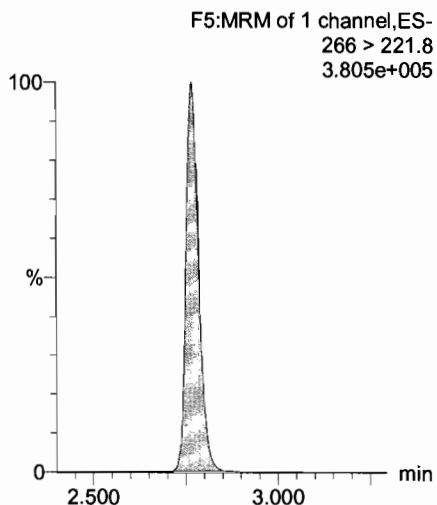
PFHxA



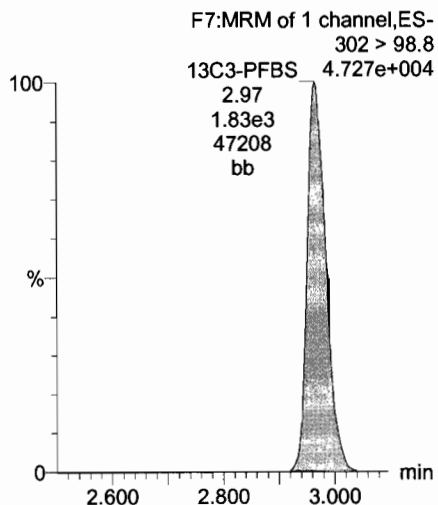
13C3-PFBA



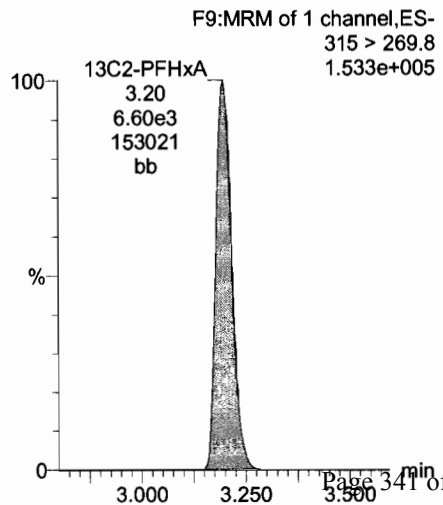
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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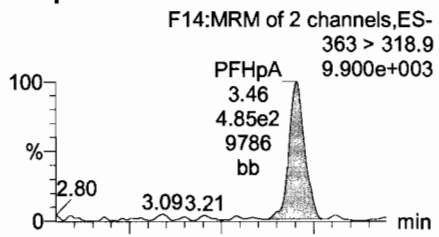
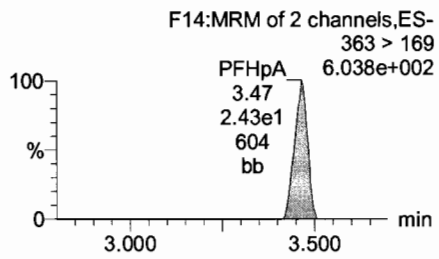
Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_2, Date: 10-Jul-2017, Time: 16:35:25, ID: ST170710M3-1 PFC CS-2 17G1003, Description: PFC CS-2 17G1003

PFHpA





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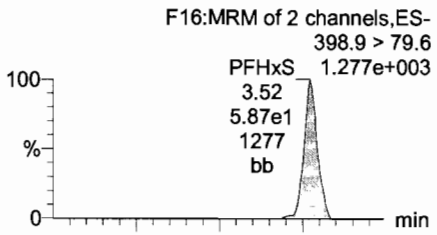
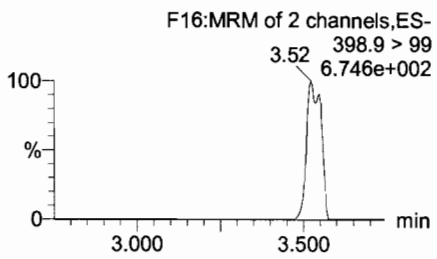
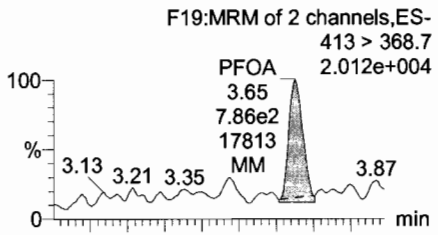
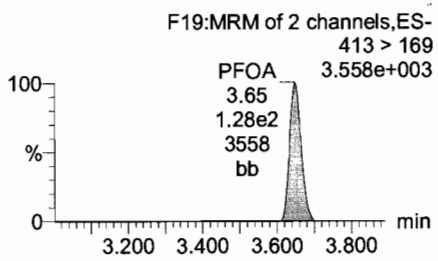


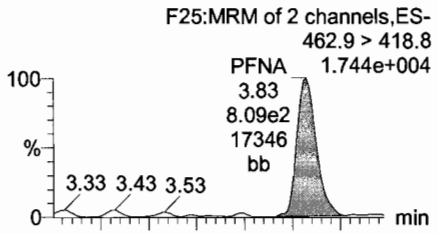


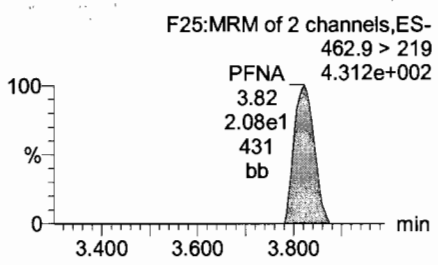
Total PFOA



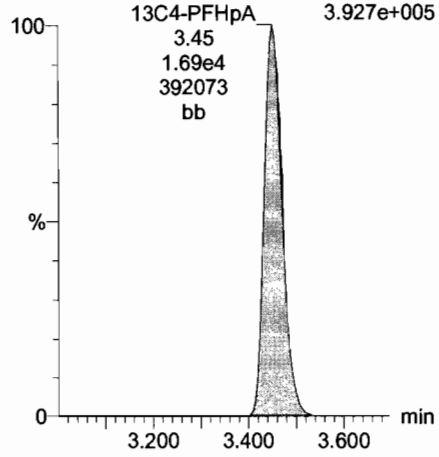


PFNA

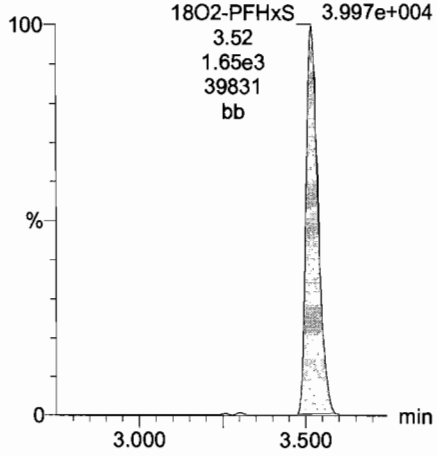




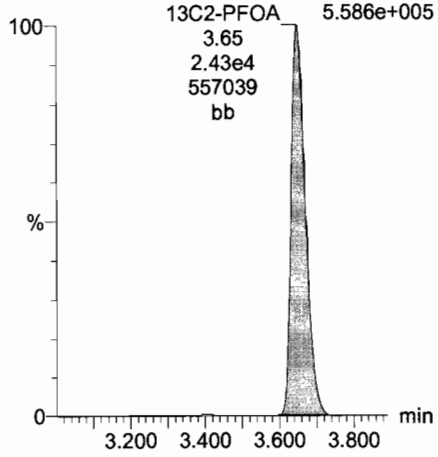
13C4-PFHpA



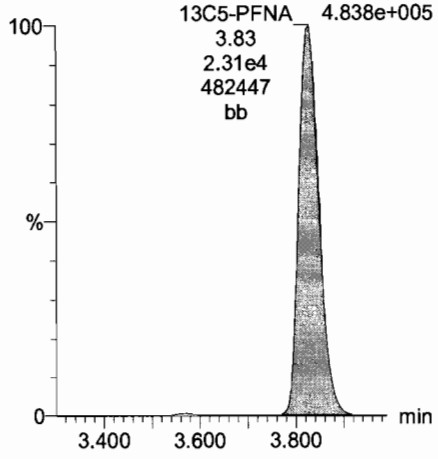
18O2-PFHxS



13C2-PFOA



13C5-PFNA

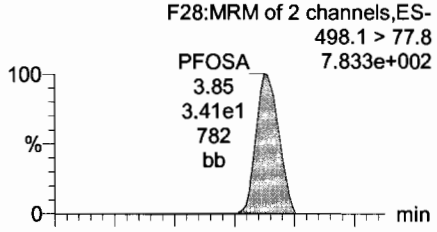


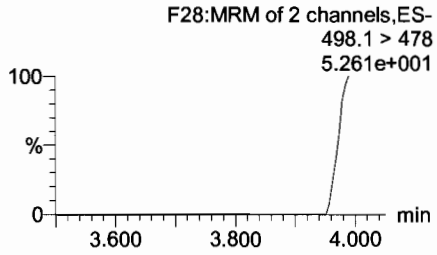
Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

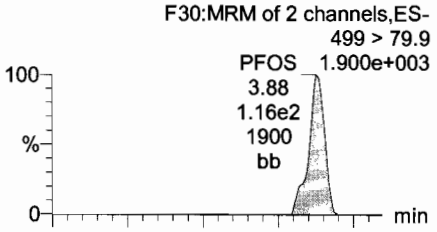
Name: 170710M3_2, Date: 10-Jul-2017, Time: 16:35:25, ID: ST170710M3-1 PFC CS-2 17G1003, Description: PFC CS-2 17G1003

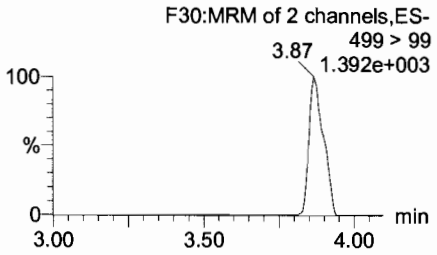
PFOSA



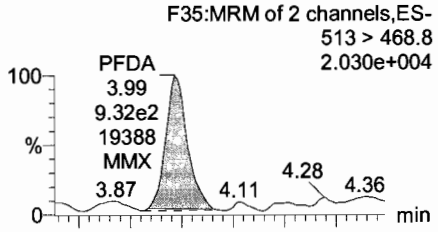


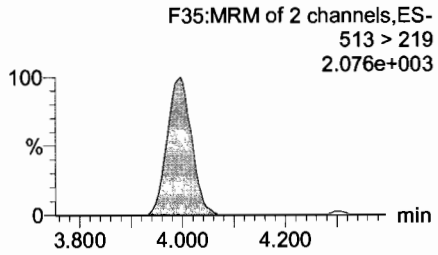
Total PFOS



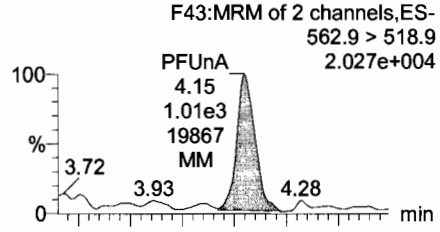


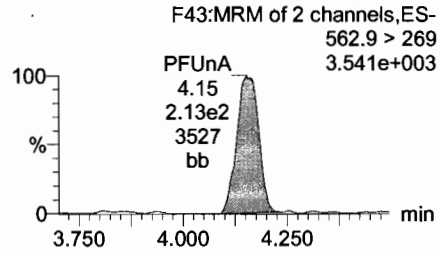
PFDA



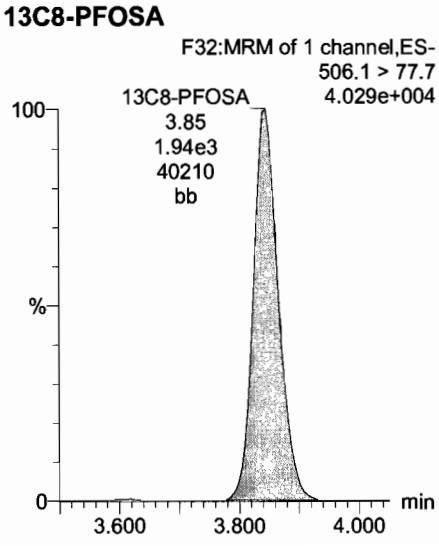


PFUnA

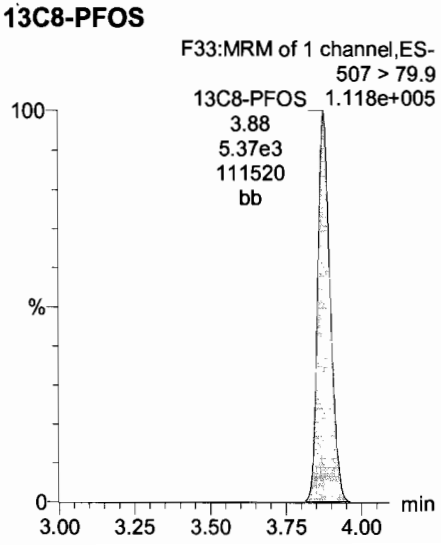




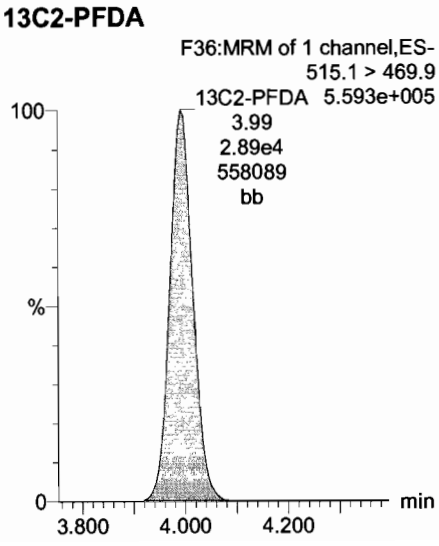
13C8-PFOSA



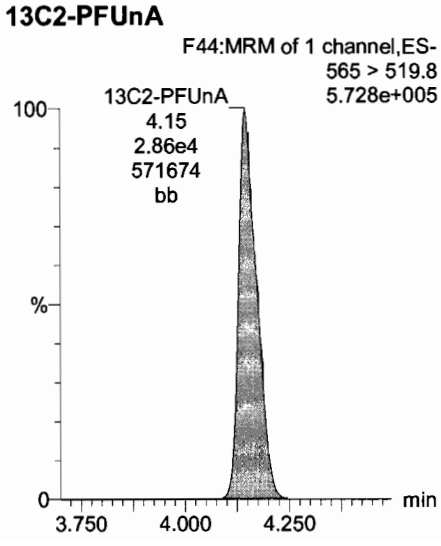
13C8-PFOS



13C2-PFDA



13C2-PFUnA

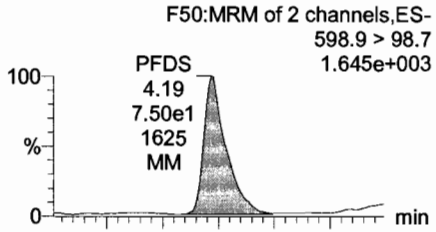


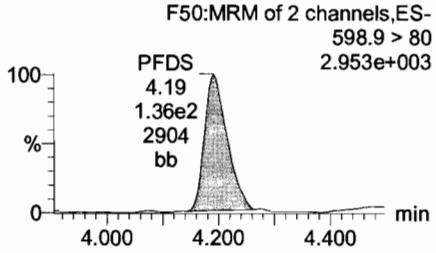
Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

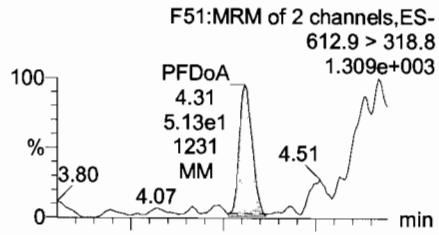
Name: 170710M3_2, Date: 10-Jul-2017, Time: 16:35:25, ID: ST170710M3-1 PFC CS-2 17G1003, Description: PFC CS-2 17G1003

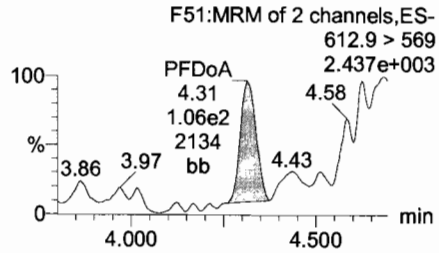
PFDS



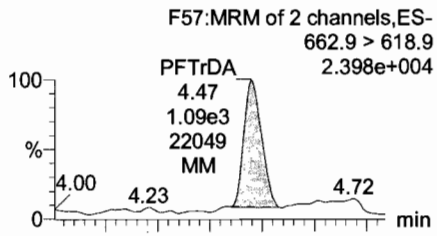


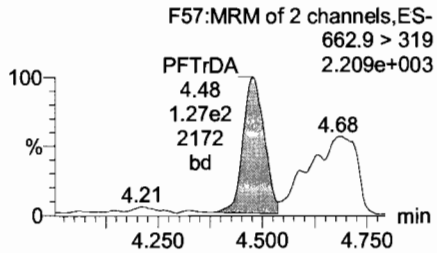
PFDoA



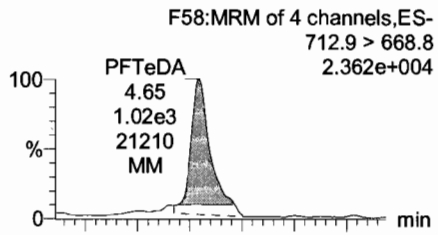


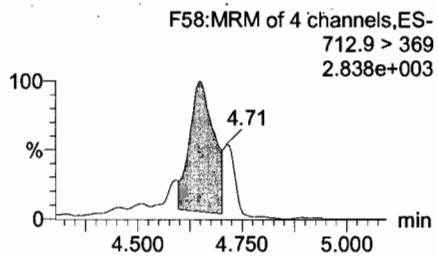
PFTrDA



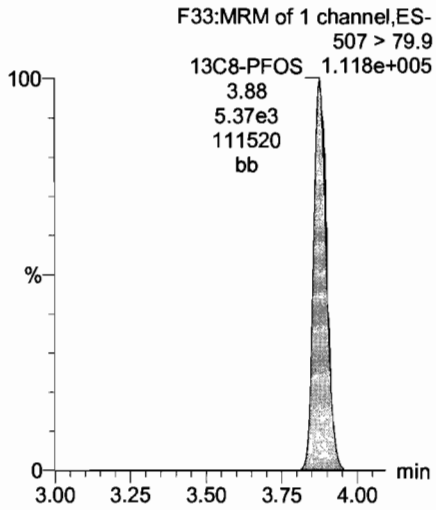


PFTeDA

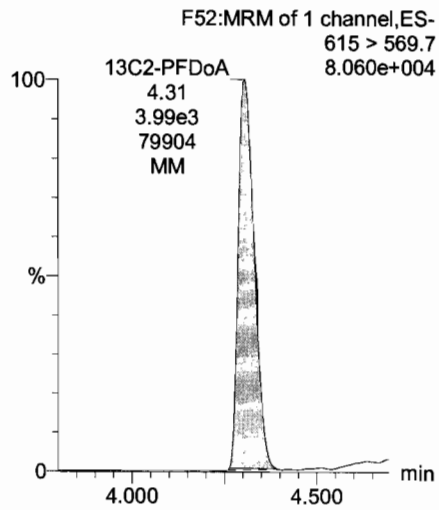




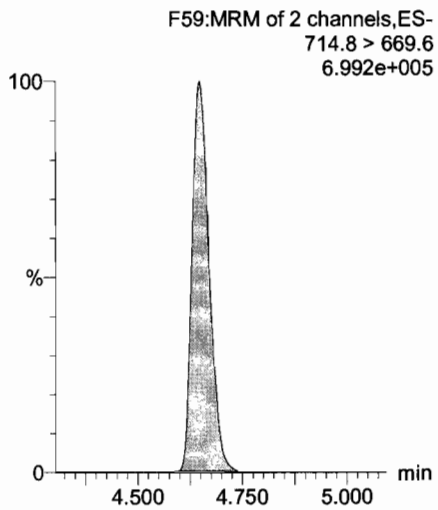
13C8-PFOS



13C2-PFDoA



13C2-PFTeDA



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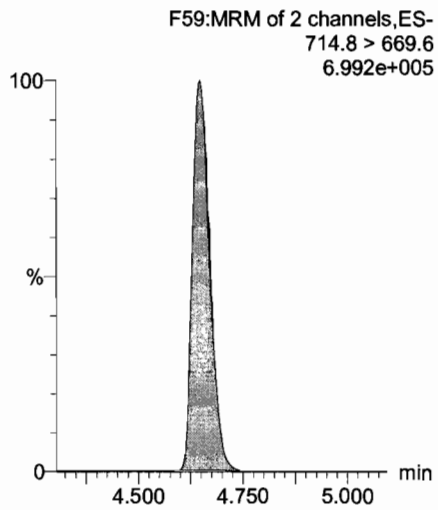
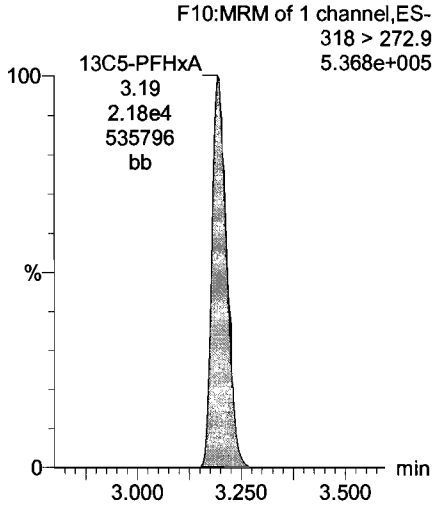


Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

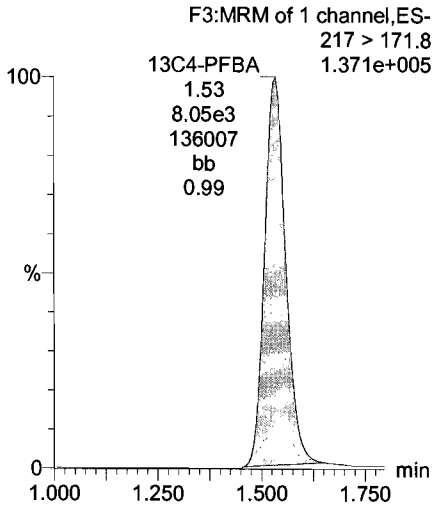
Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_2, Date: 10-Jul-2017, Time: 16:35:25, ID: ST170710M3-1 PFC CS-2 17G1003, Description: PFC CS-2 17G1003

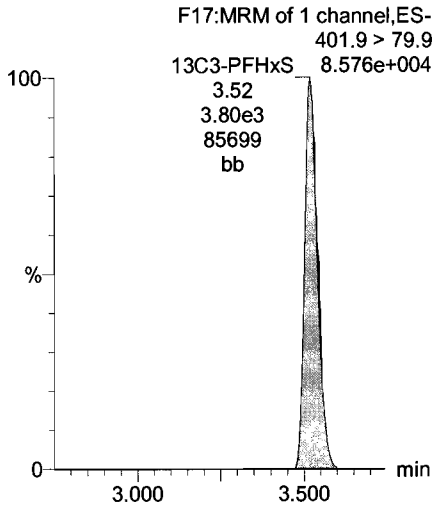
13C5-PFHxA



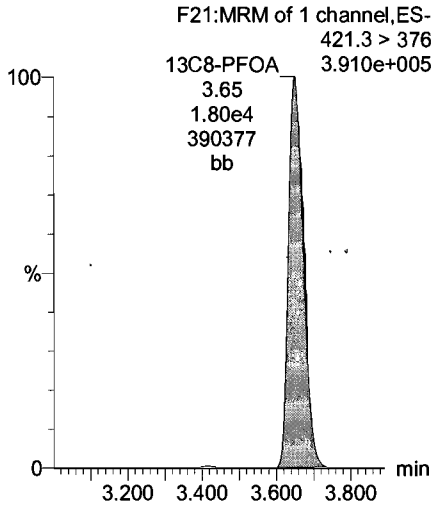
13C4-PFBA



13C3-PFHxS



13C8-PFOA



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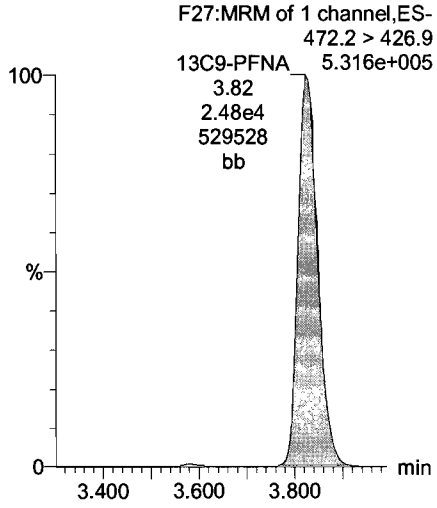
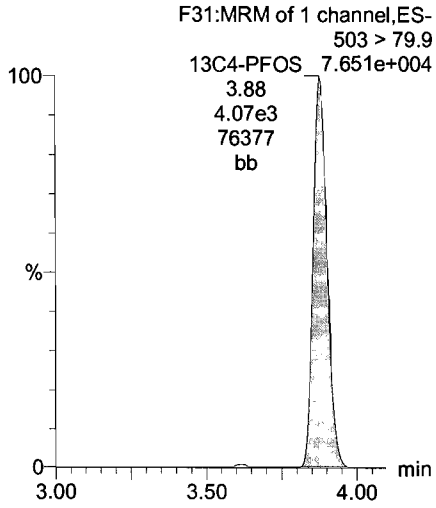
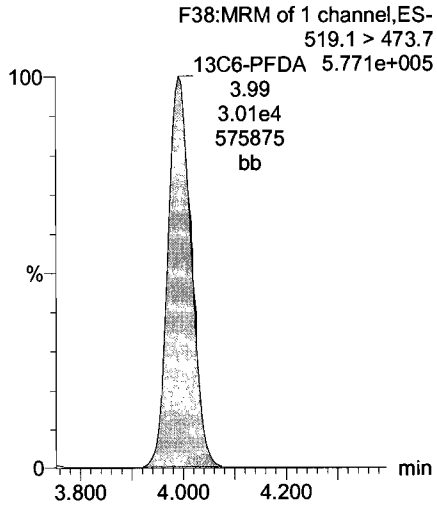


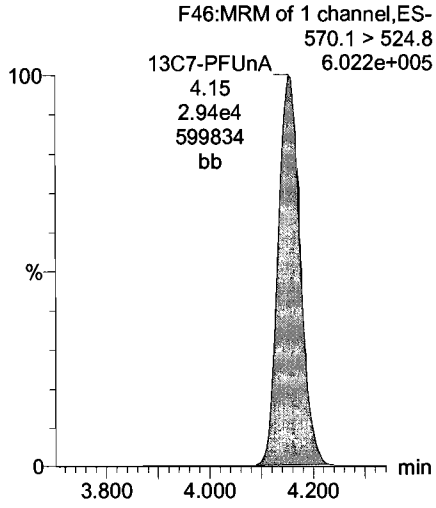
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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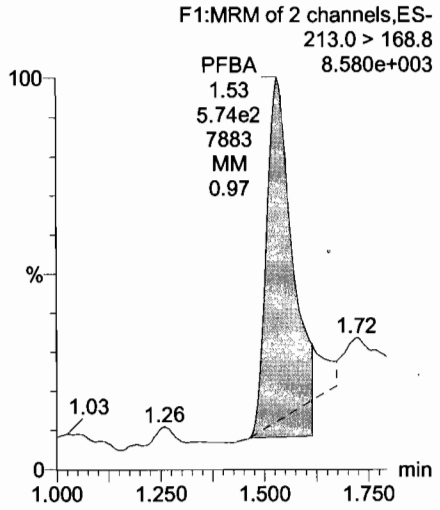
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_3, Date: 10-Jul-2017, Time: 16:46:13, ID: ST170710M3-2 PFC CS-1 17G1004, Description: PFC CS-1 17G1004

PFBA



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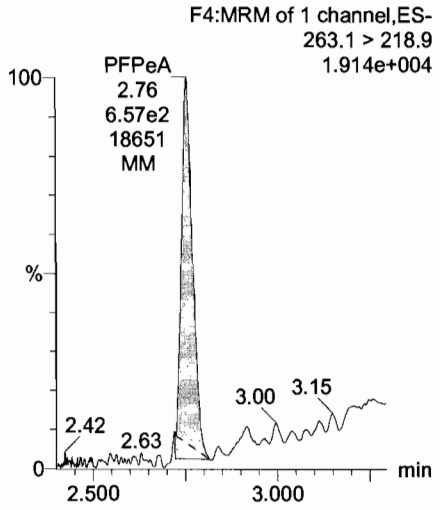

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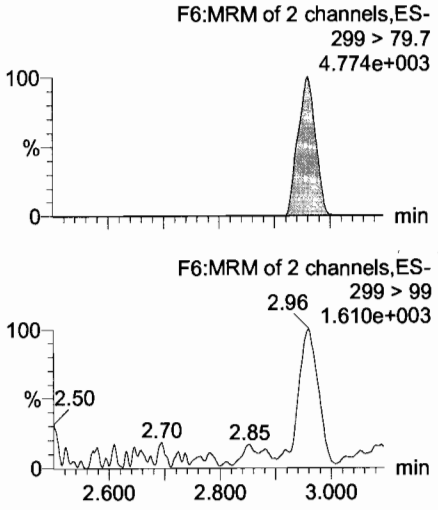

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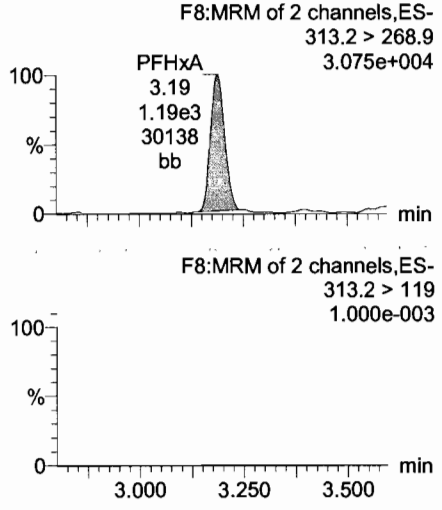

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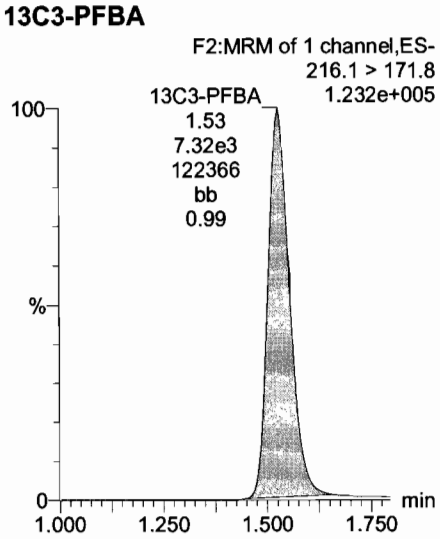

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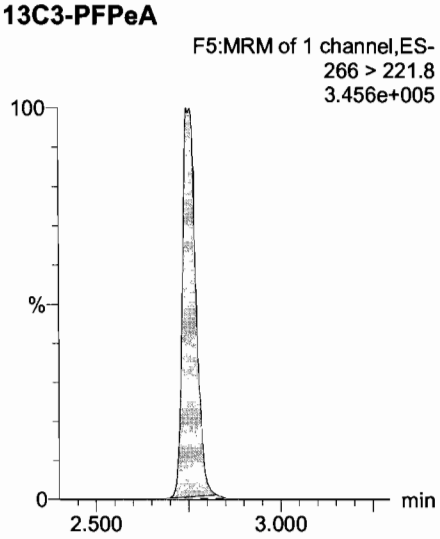

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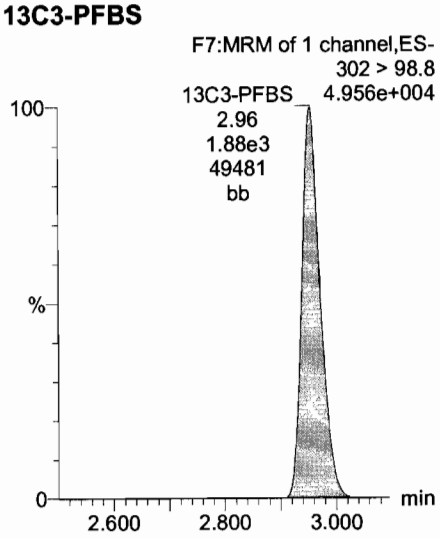

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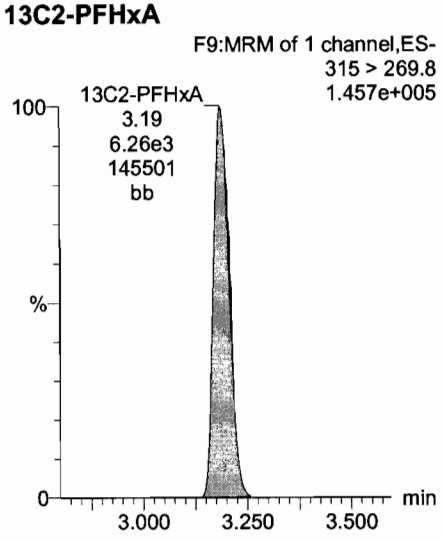

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Name: 170710M3_3, Date: 10-Jul-2017, Time: 16:46:13, ID: ST170710M3-2 PFC CS-1 17G1004, Description: PFC CS-1 17G1004

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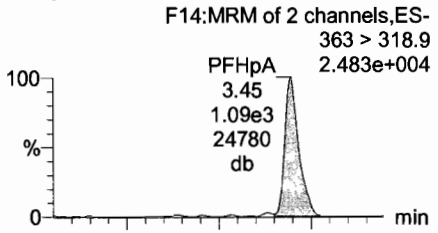

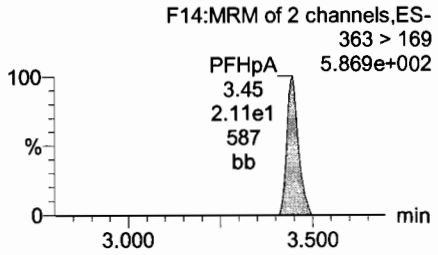

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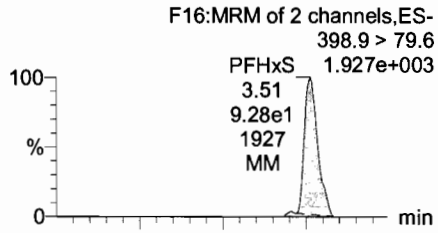

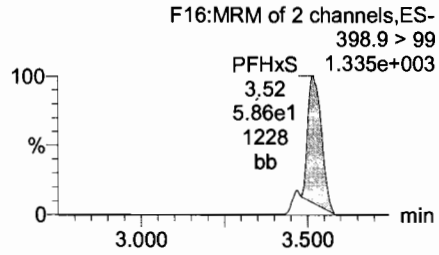

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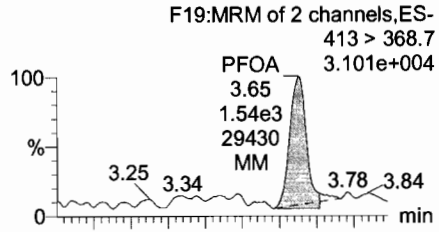

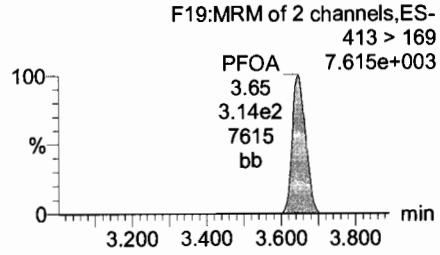

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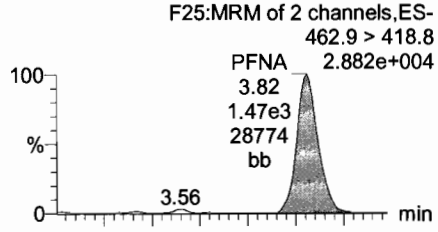
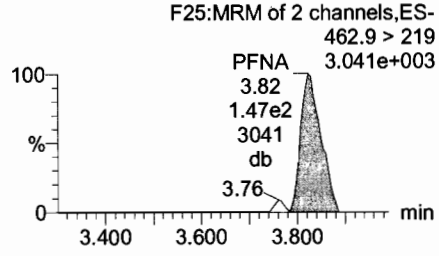
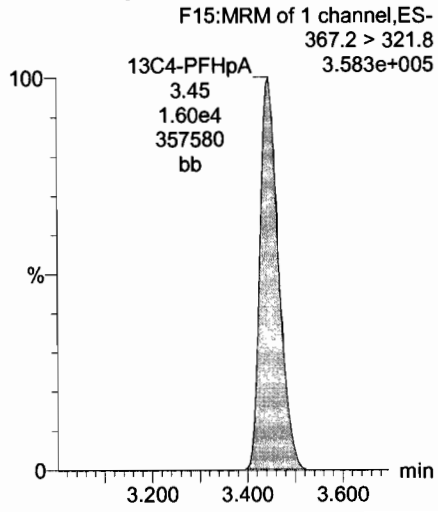




13C4-PFHpA



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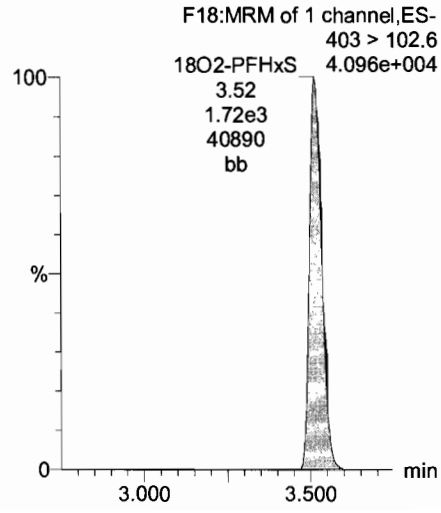

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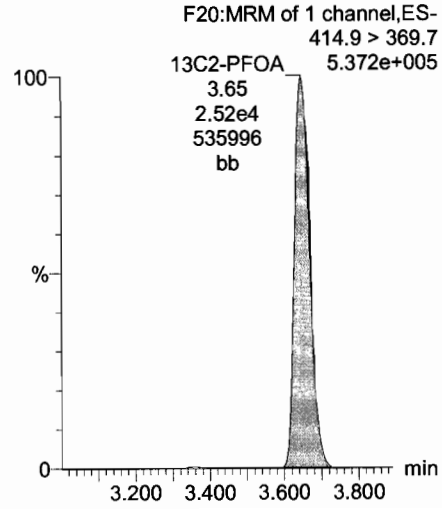

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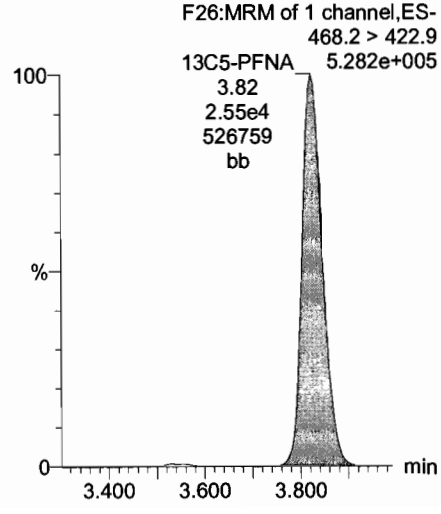

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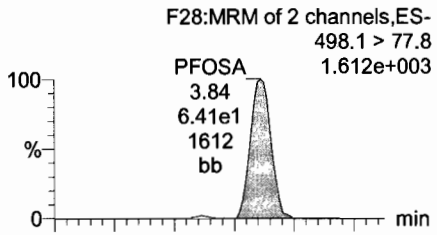
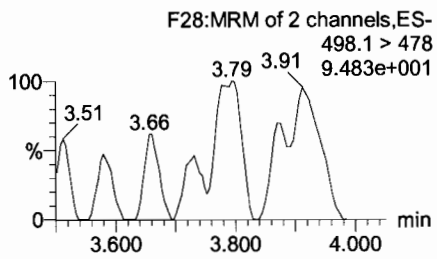
Name: 170710M3_3, Date: 10-Jul-2017, Time: 16:46:13, ID: ST170710M3-2 PFC CS-1 17G1004, Description: PFC CS-1 17G1004

PFOSA





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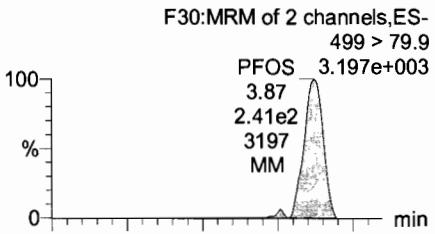

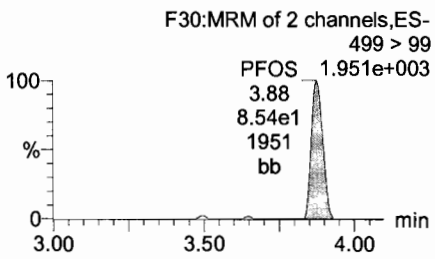

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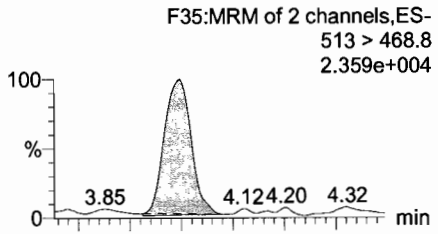

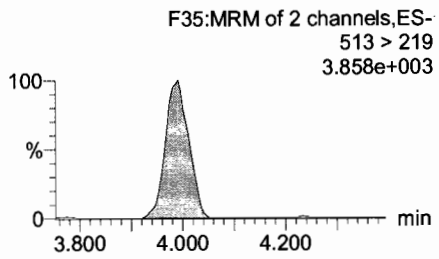

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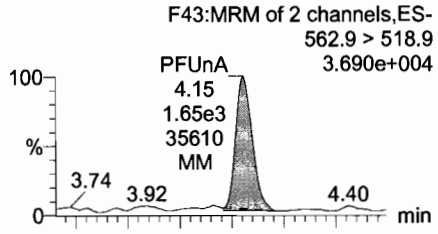
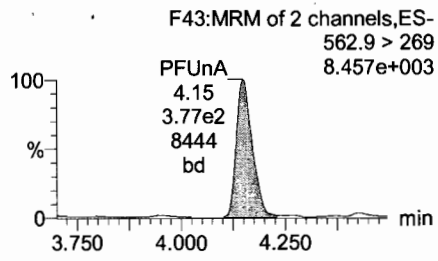
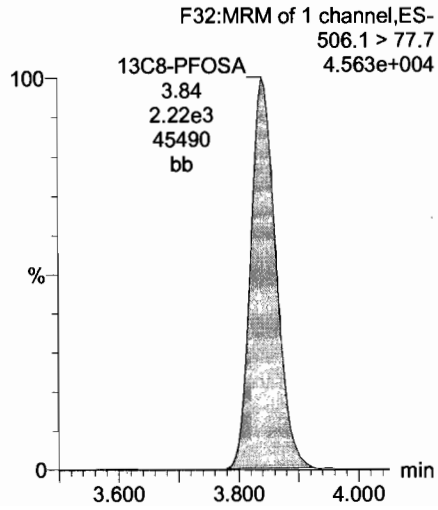
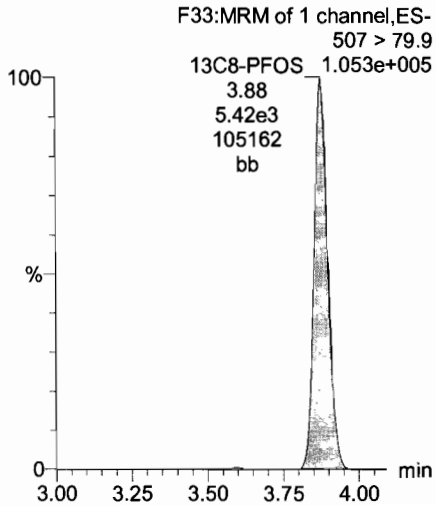




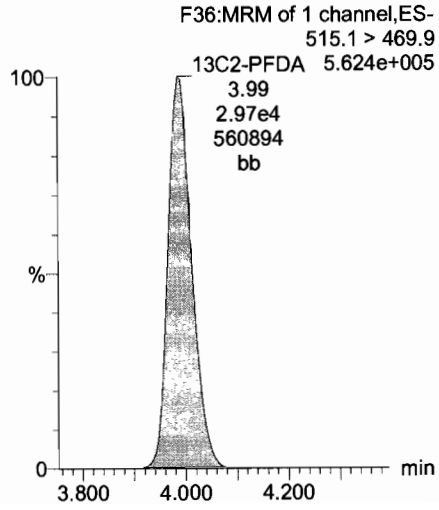
13C8-PFOSA



13C8-PFOS



13C2-PFDA



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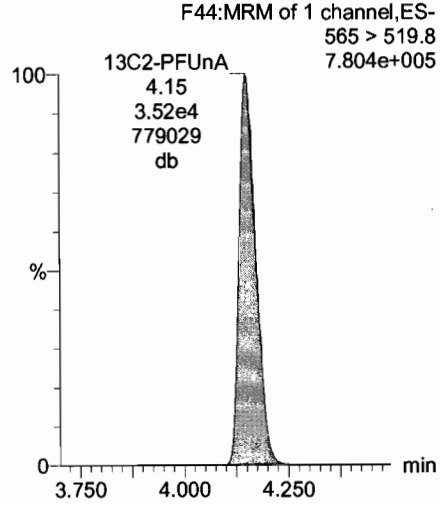

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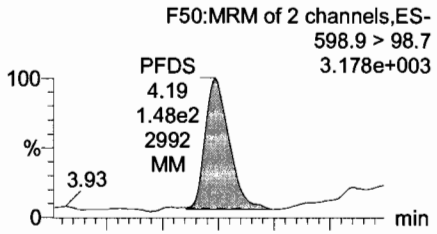
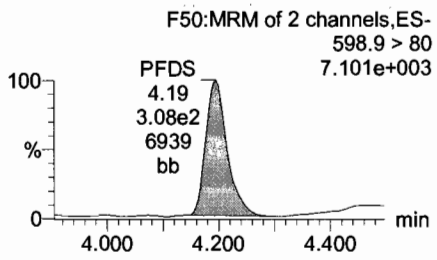
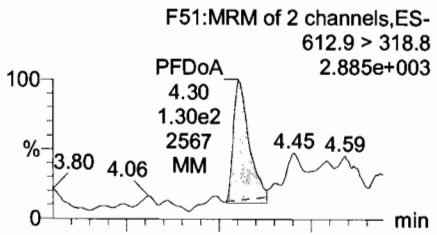
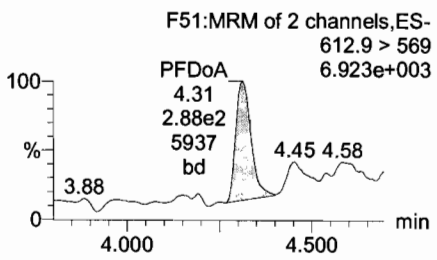
PFDS





PFDoA





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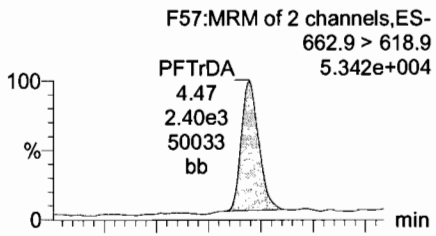
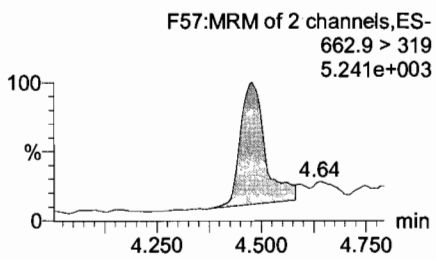
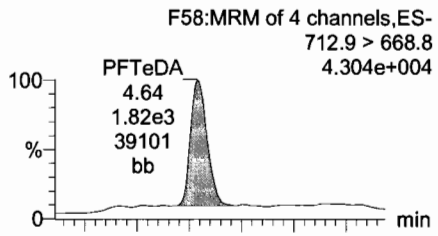
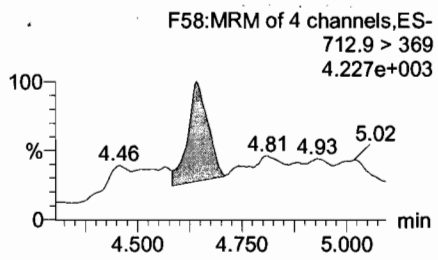


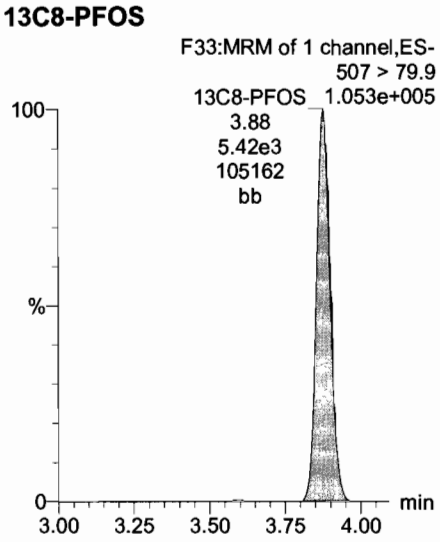


PFTeDA





13C8-PFOS



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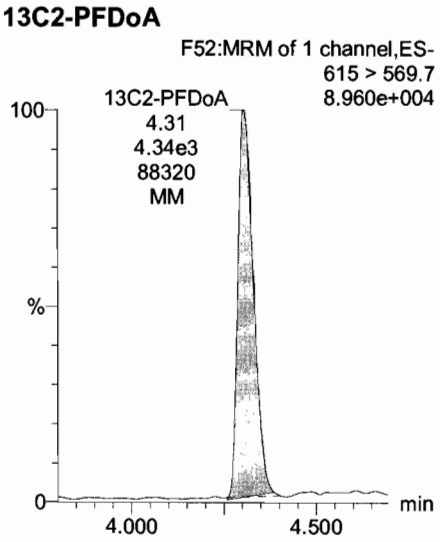

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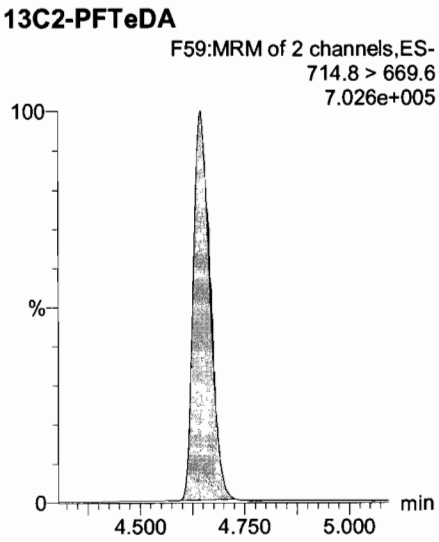

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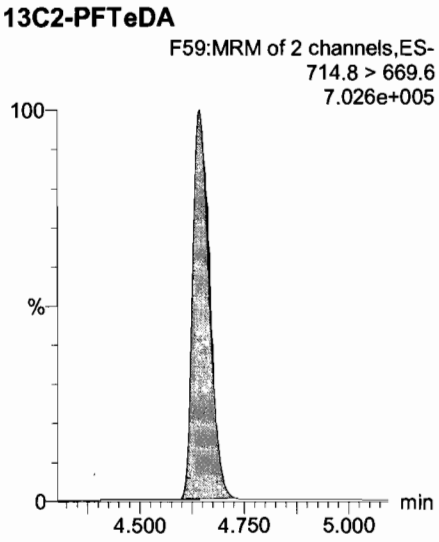

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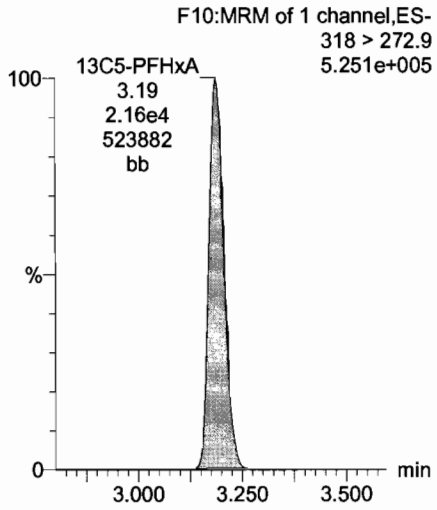
13C5-PFHxA



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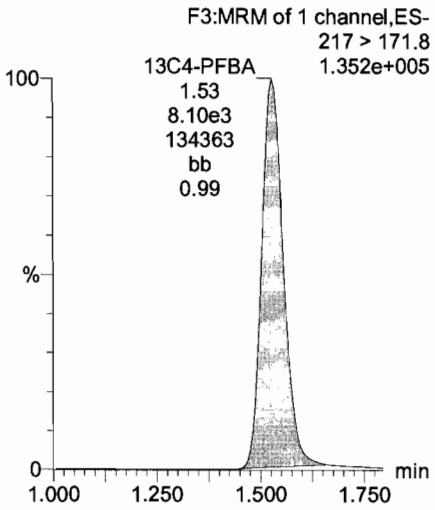

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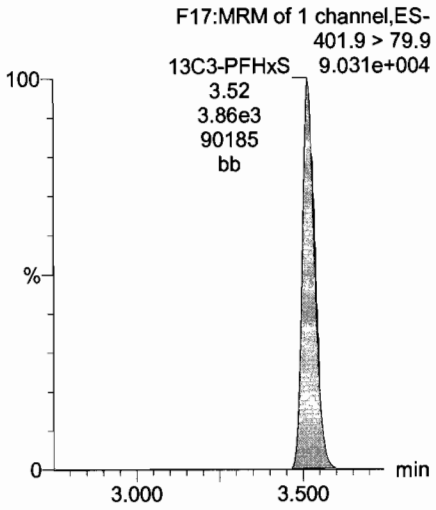

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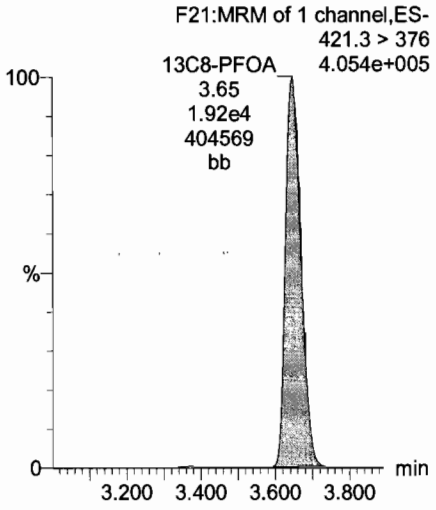

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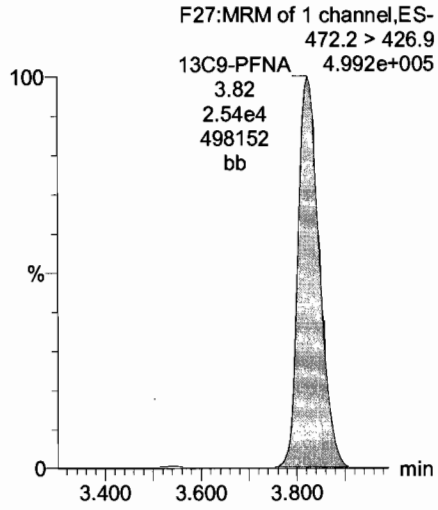
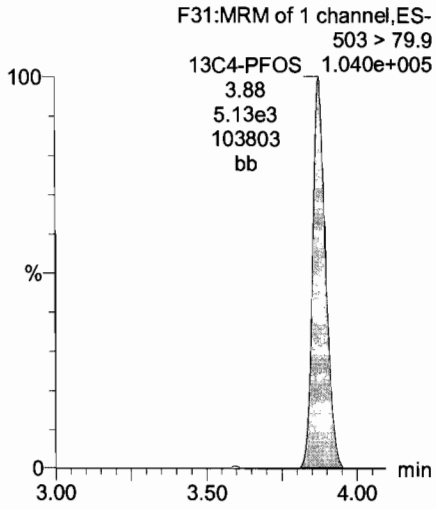
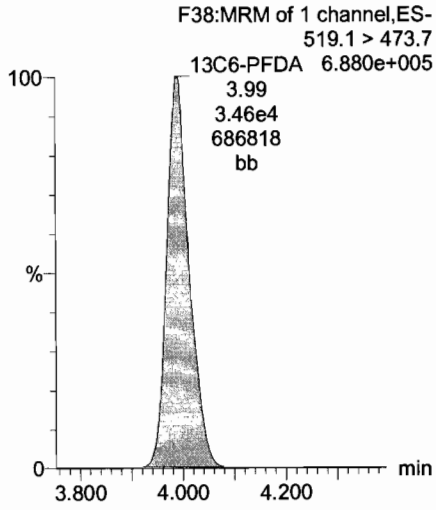


13C4-PFOS



13C6-PFDA



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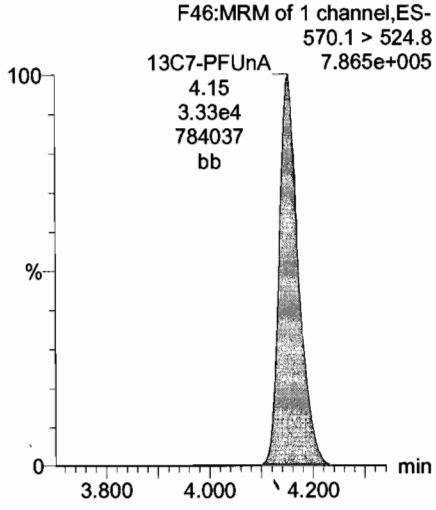

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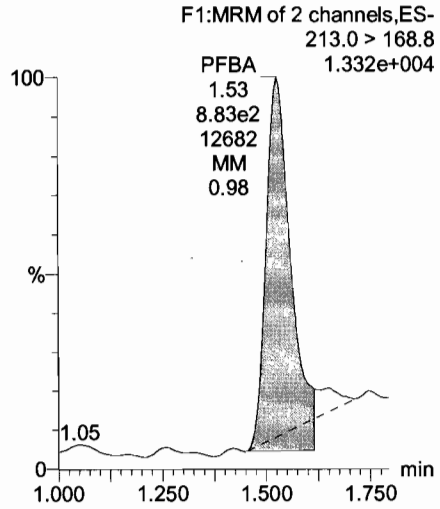
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_4, Date: 10-Jul-2017, Time: 16:56:56, ID: ST170710M3-3 PFC CS0 17G1005, Description: PFC CS0 17G1005

PFBA



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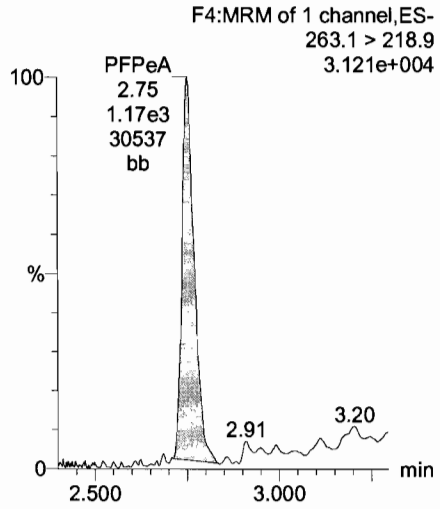

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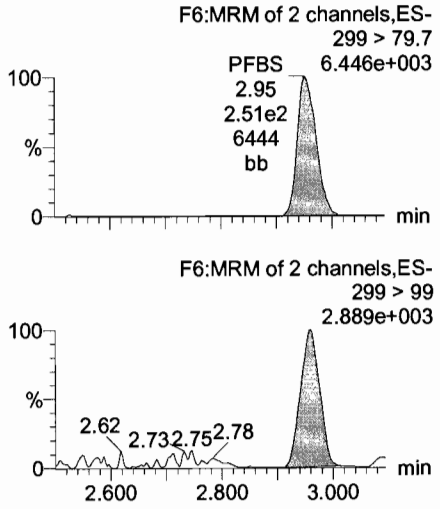
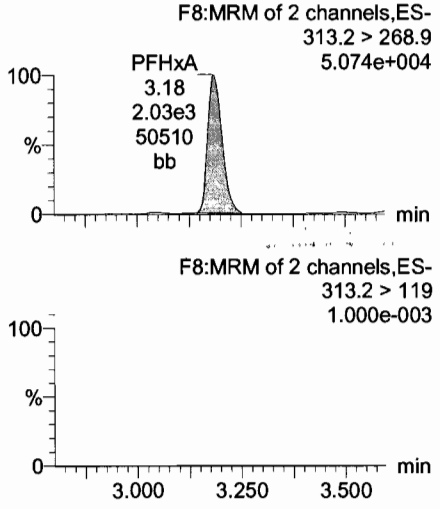


PFHxA



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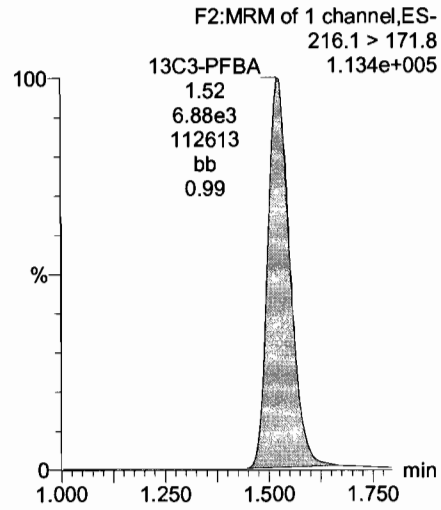

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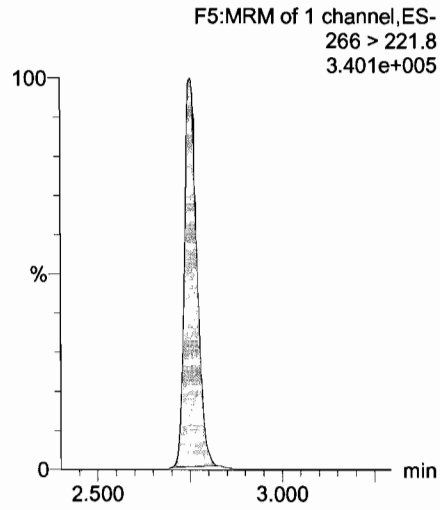

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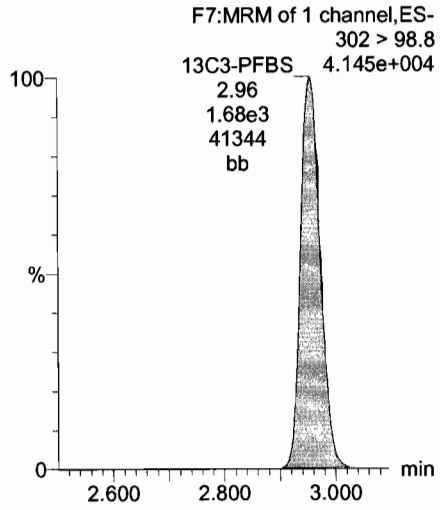

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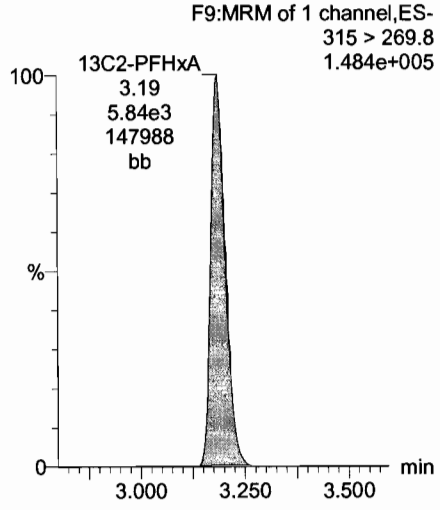

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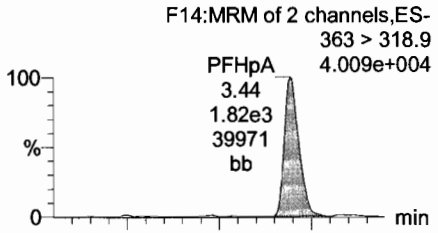

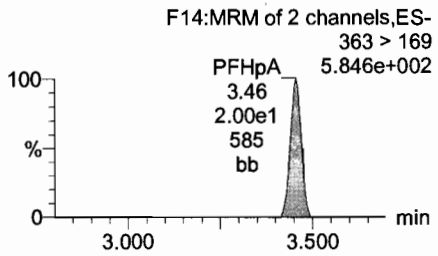

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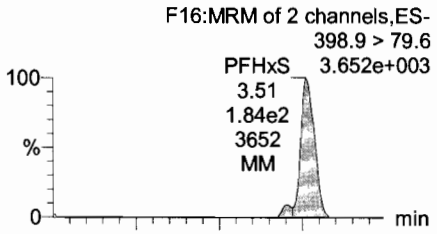

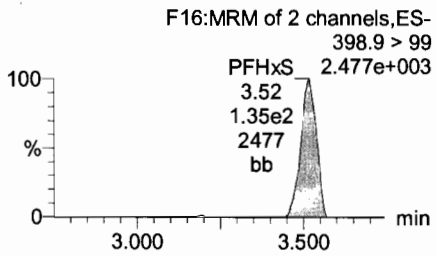

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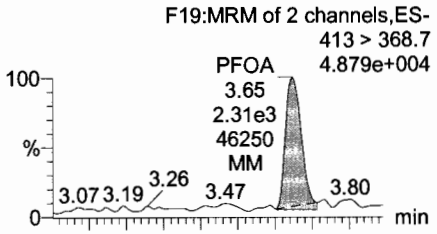

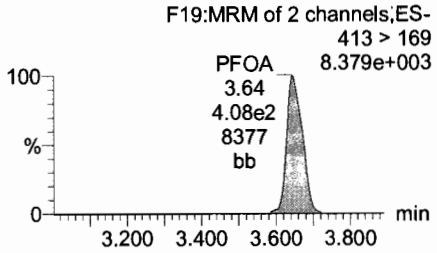

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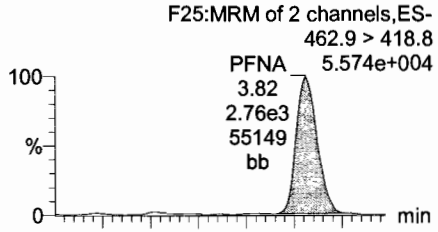

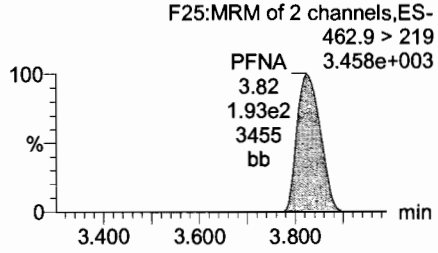

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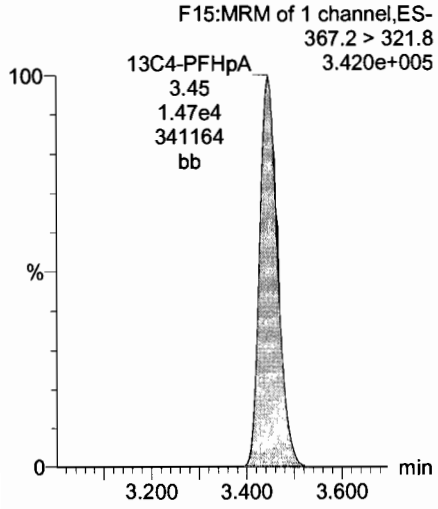
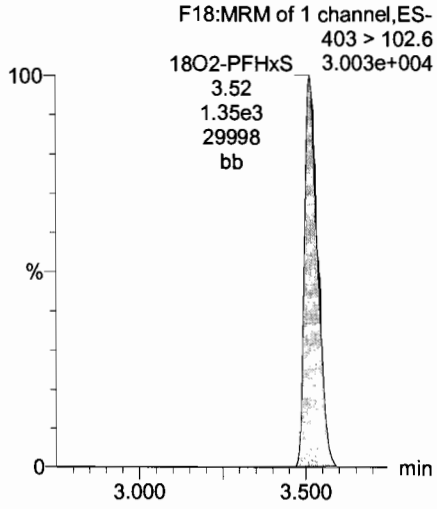


18O2-PFHxS



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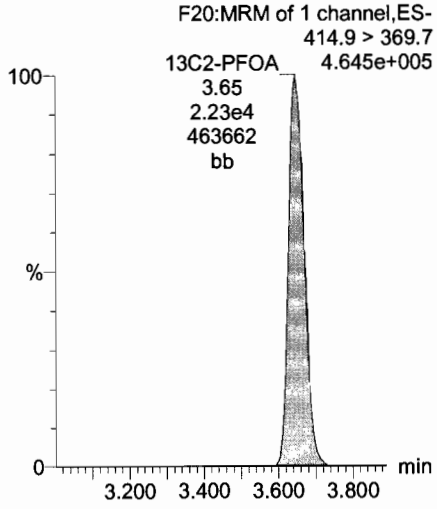

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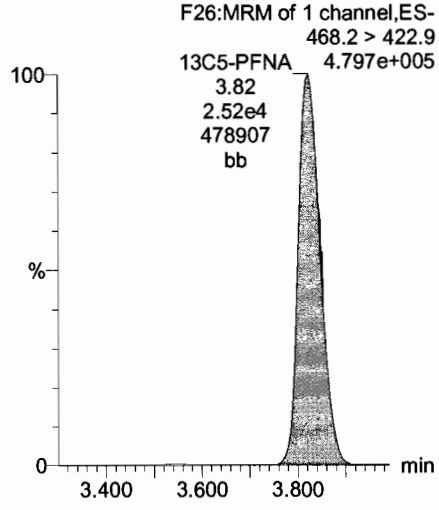

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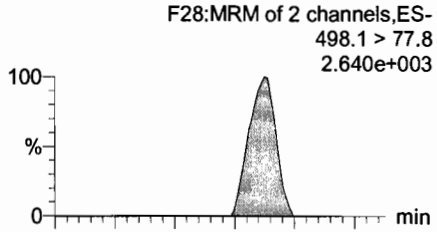
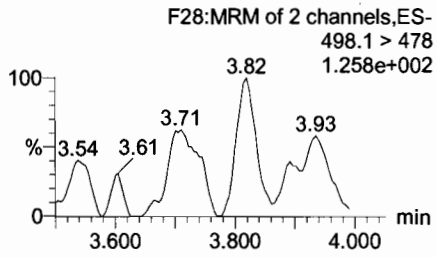
PFOSA





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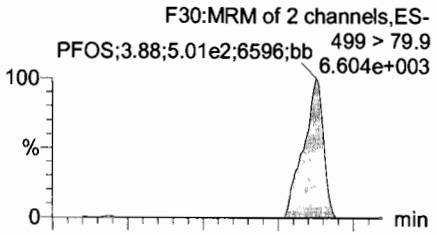

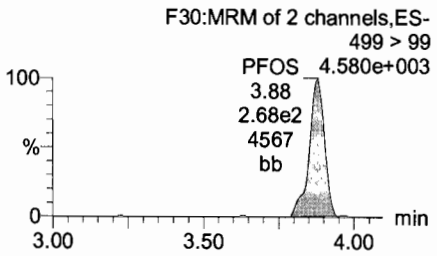

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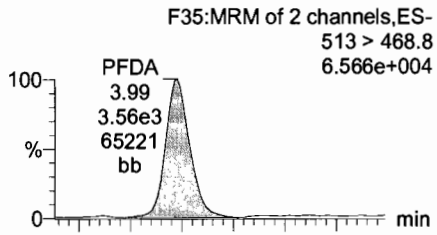

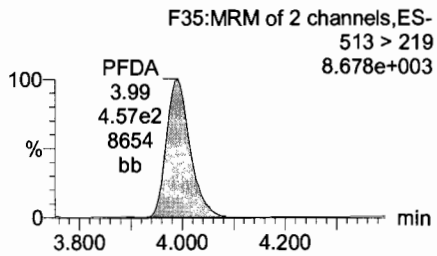

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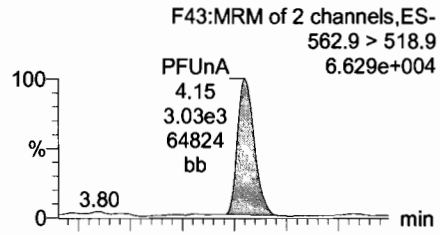

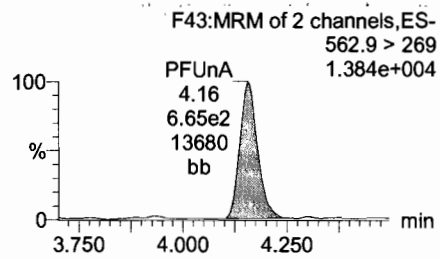

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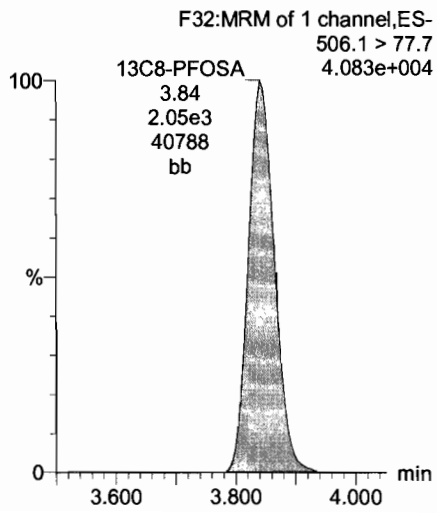
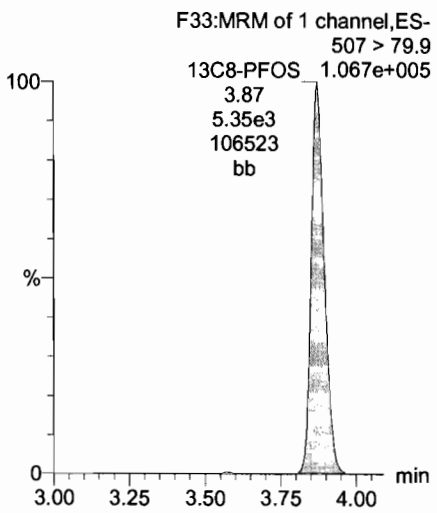
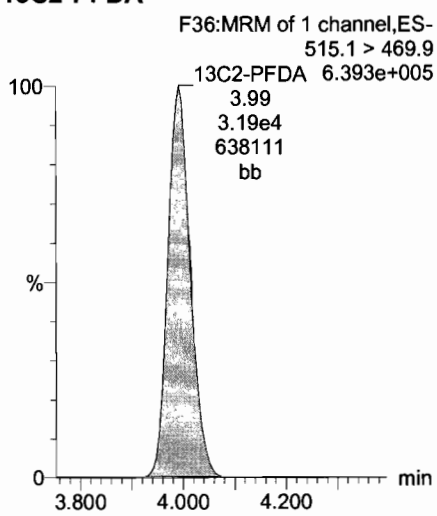


13C8-PFOS



13C2-PFDA



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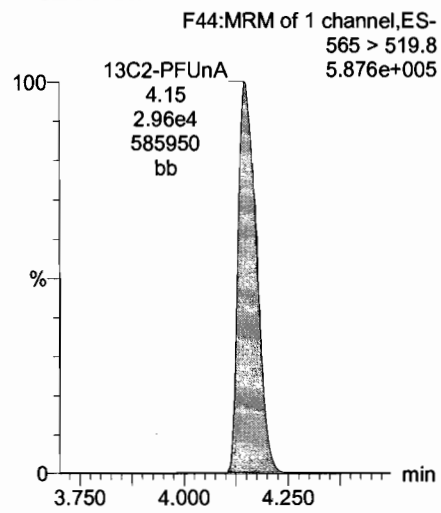

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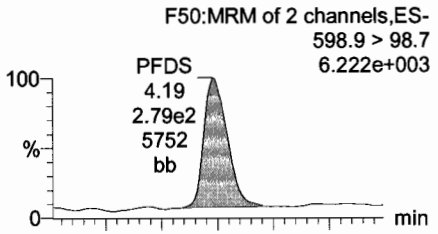
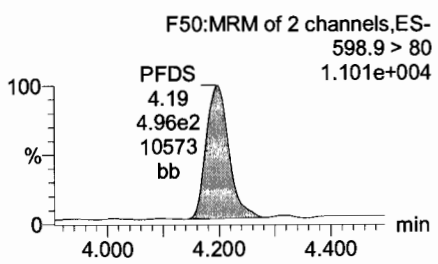
PFDS





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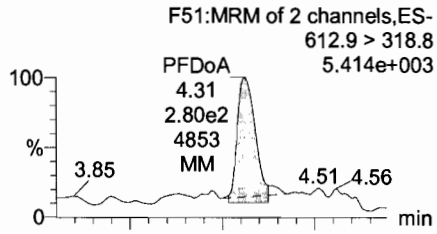

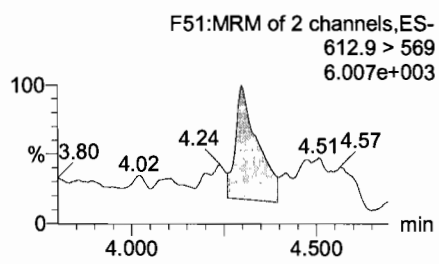

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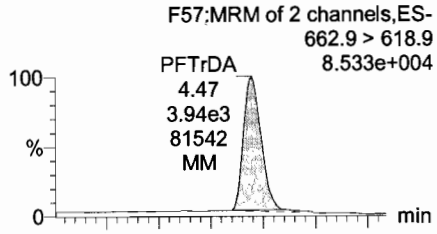

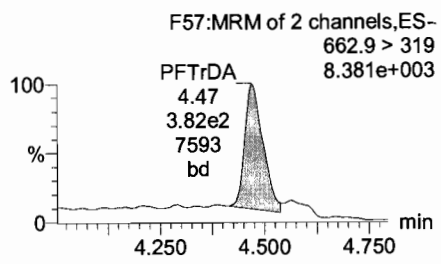

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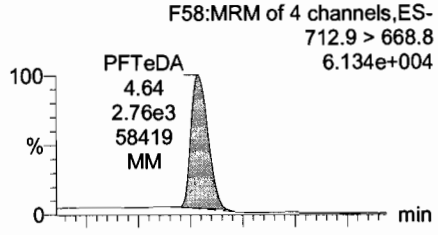

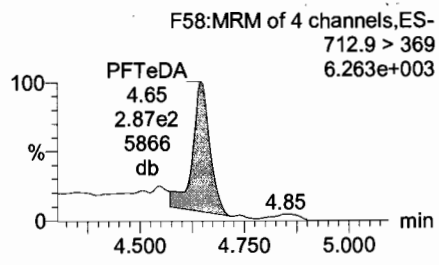

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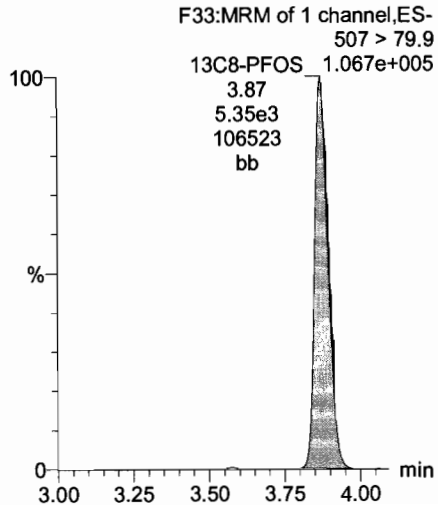

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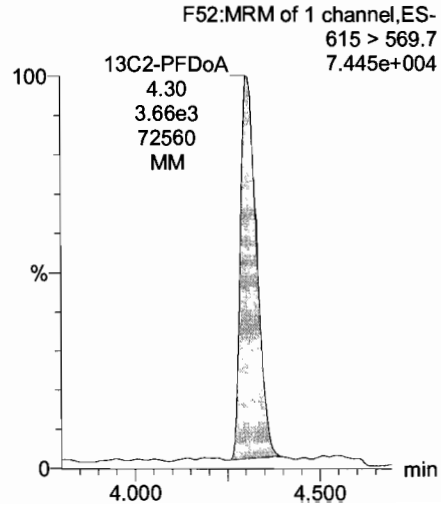

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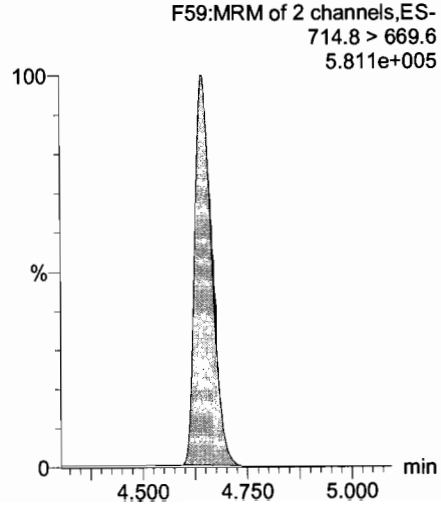

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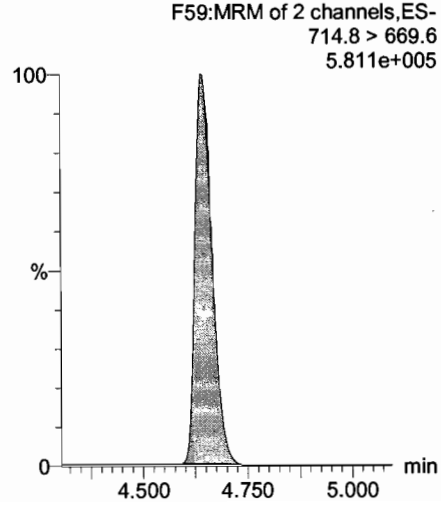

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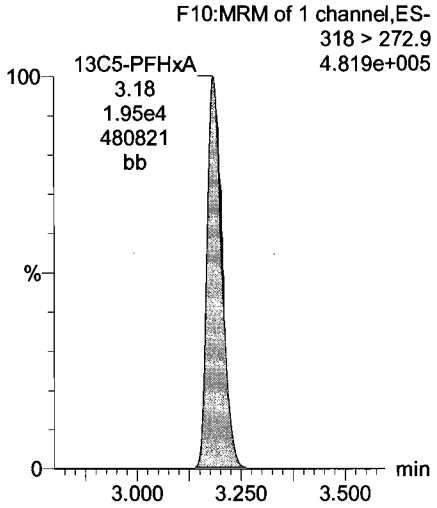
Name: 170710M3_4, Date: 10-Jul-2017, Time: 16:56:56, ID: ST170710M3-3 PFC CS0 17G1005, Description: PFC CS0 17G1005

13C5-PFHxA



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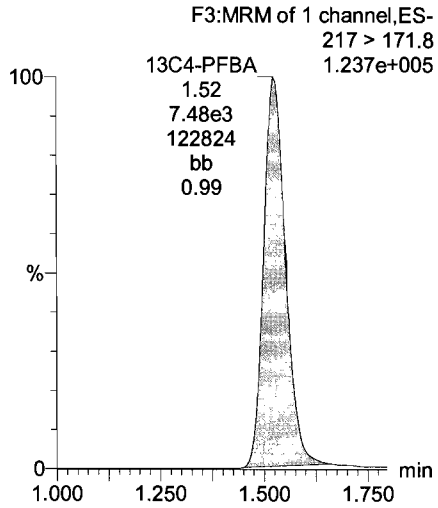

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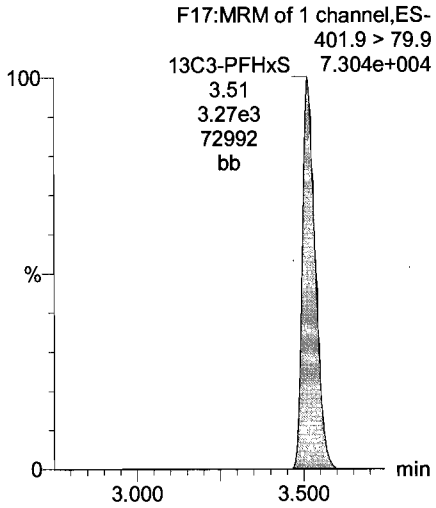

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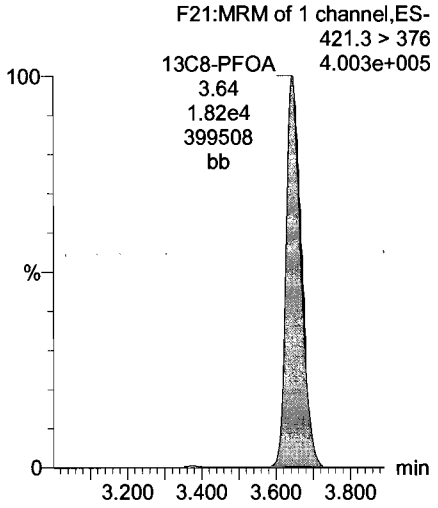
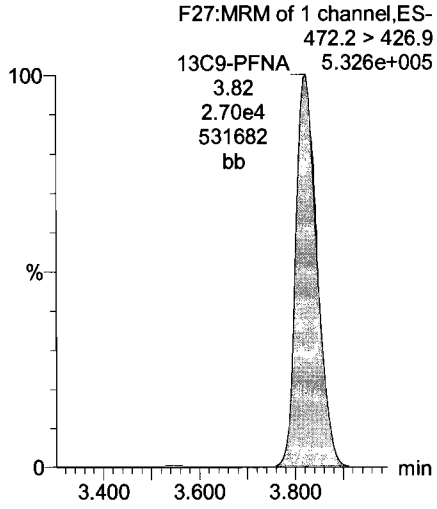
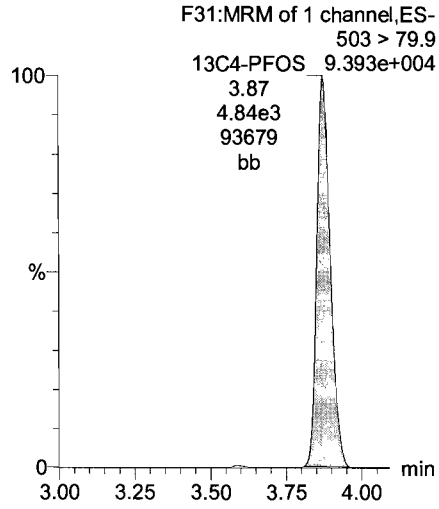


13C9-PFNA



13C4-PFOS



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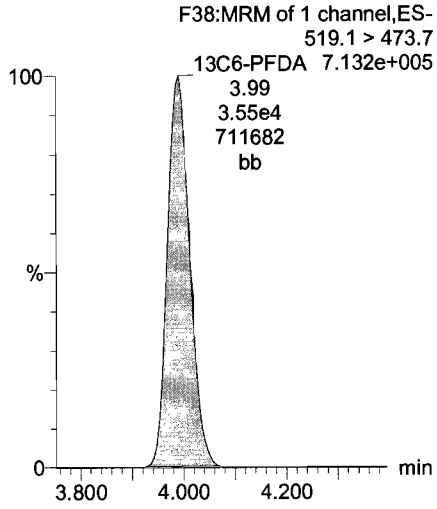
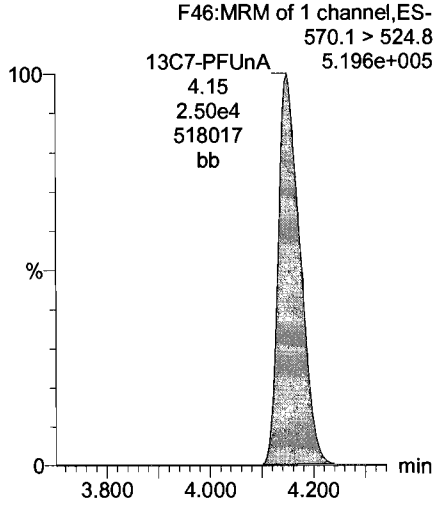


13C7-PFUnA



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Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_5, Date: 10-Jul-2017, Time: 17:07:35, ID: ST170710M3-4 PFC CS1 17G1006, Description: PFC CS1 17G1006

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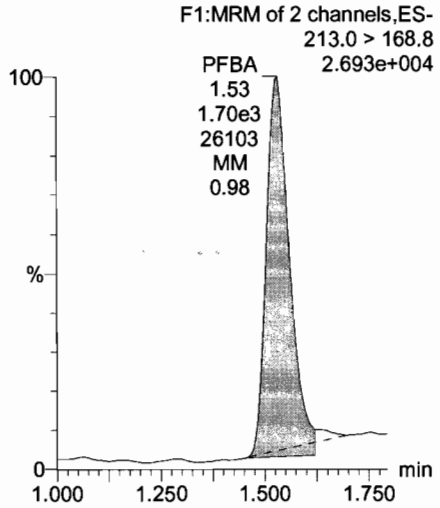
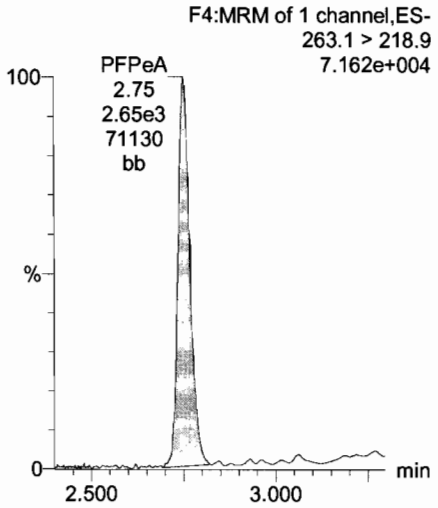


PFPeA



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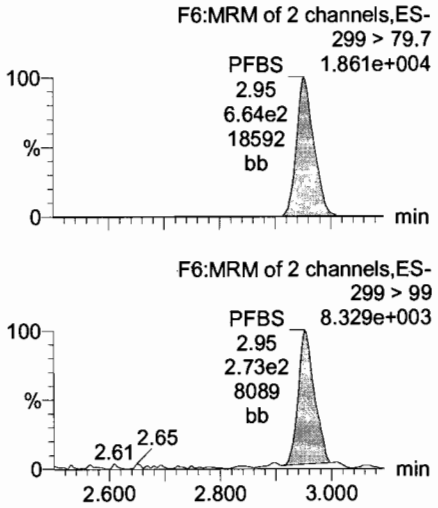

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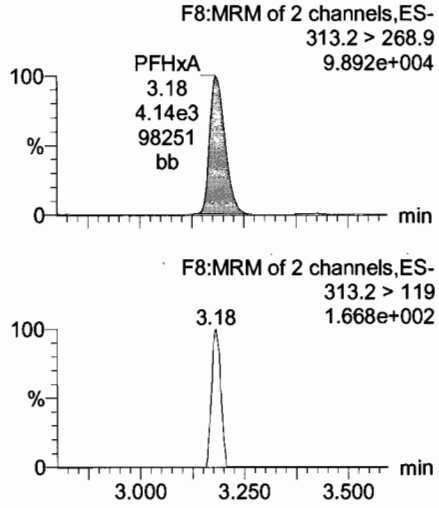

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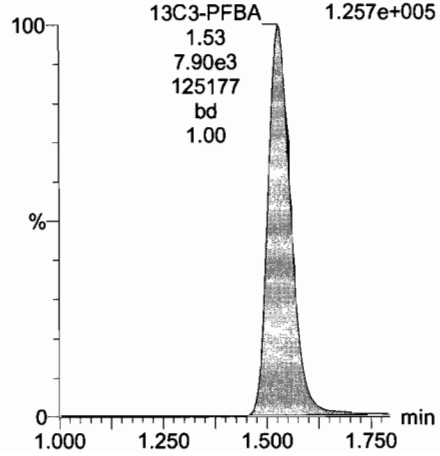

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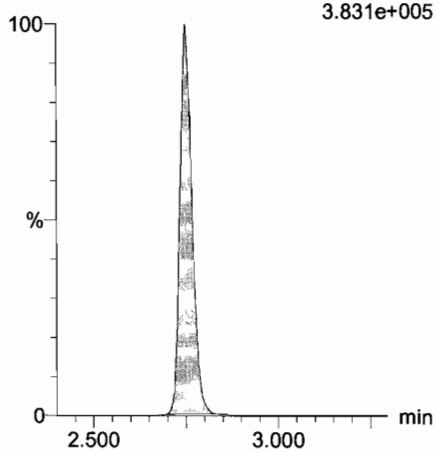

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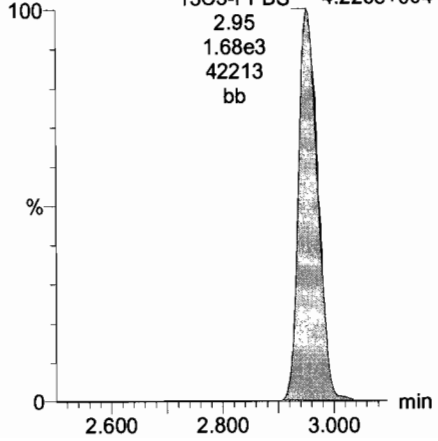

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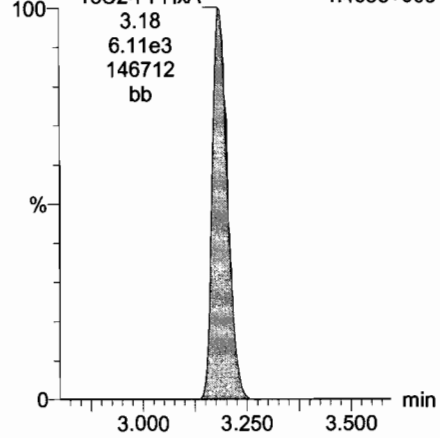

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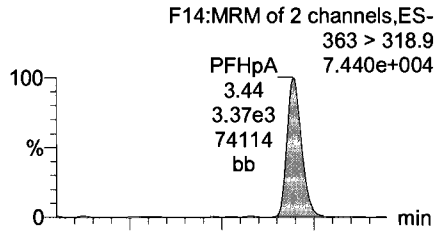
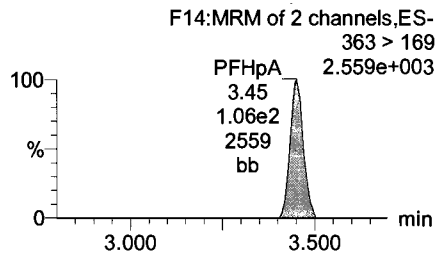
Name: 170710M3_5, Date: 10-Jul-2017, Time: 17:07:35, ID: ST170710M3-4 PFC CS1 17G1006, Description: PFC CS1 17G1006

PFHpA





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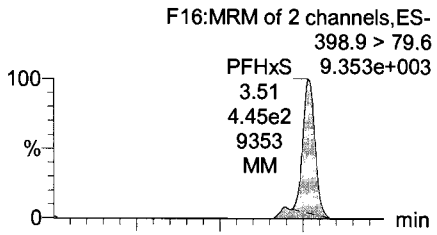

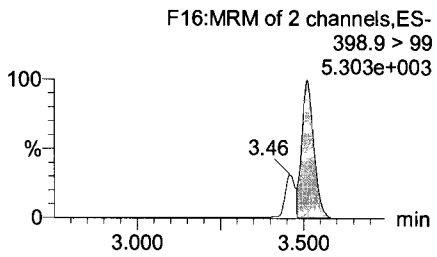

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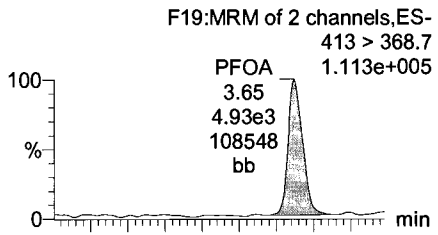

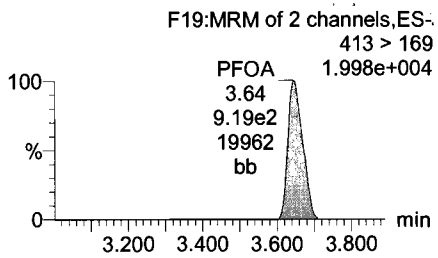

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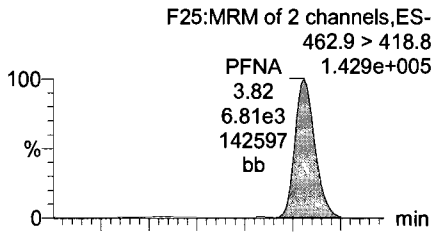
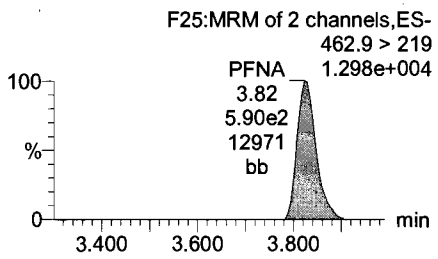
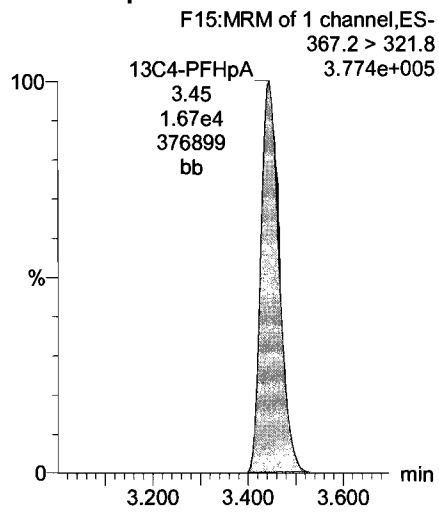
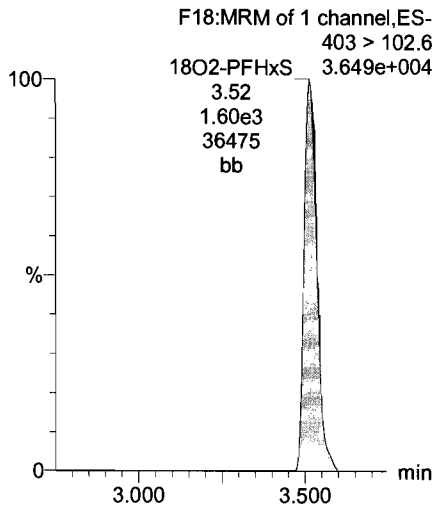




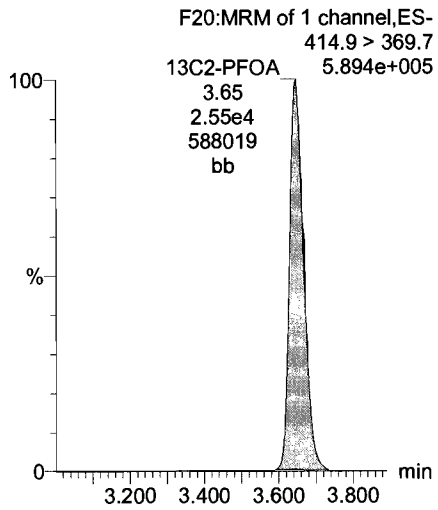
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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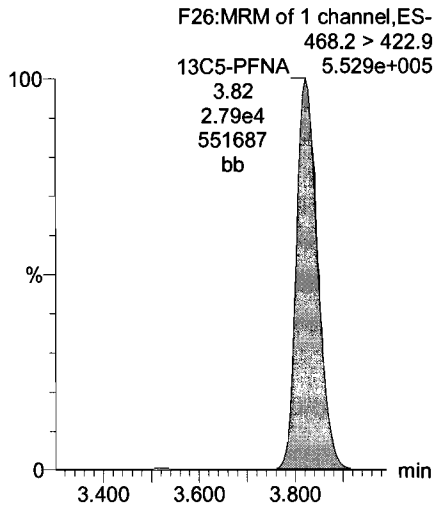

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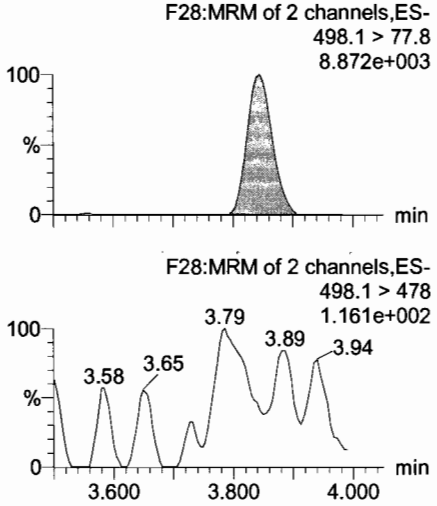
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_5, Date: 10-Jul-2017, Time: 17:07:35, ID: ST170710M3-4 PFC CS1 17G1006, Description: PFC CS1 17G1006

PFOSA



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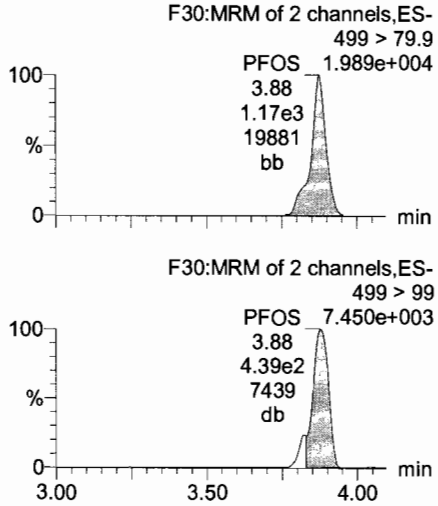

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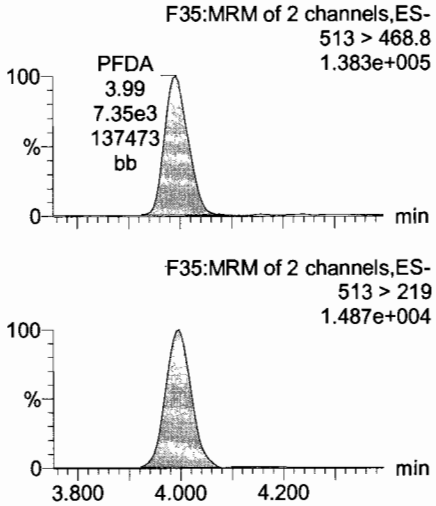
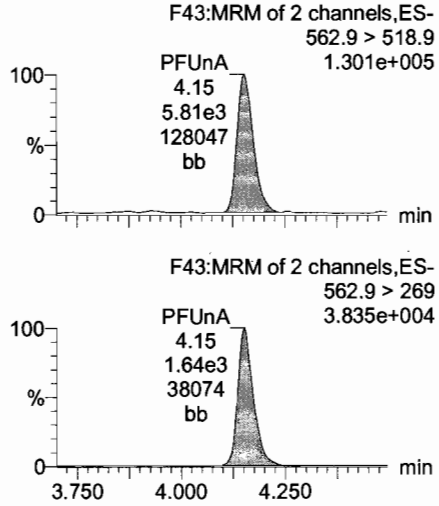


PFUnA



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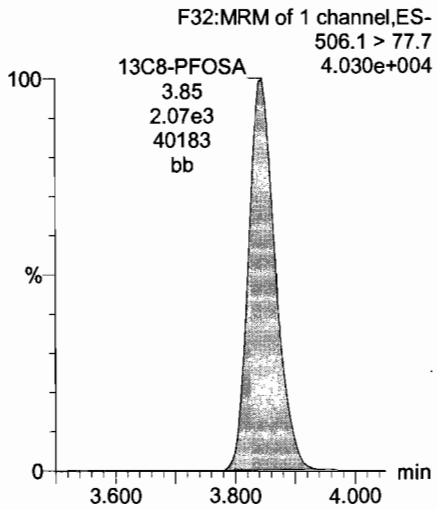

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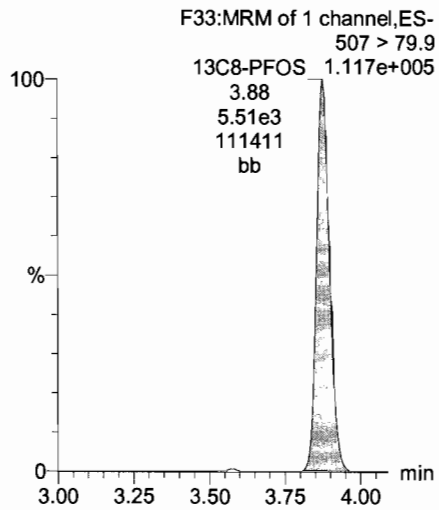

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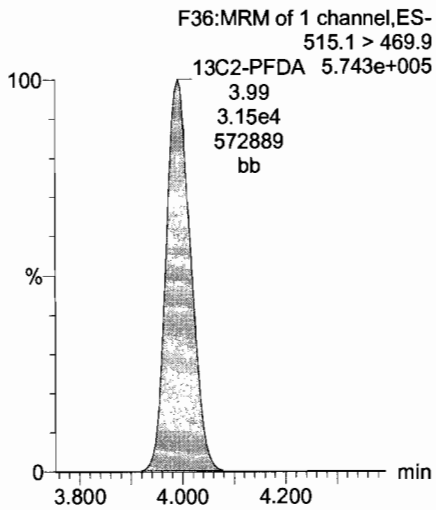
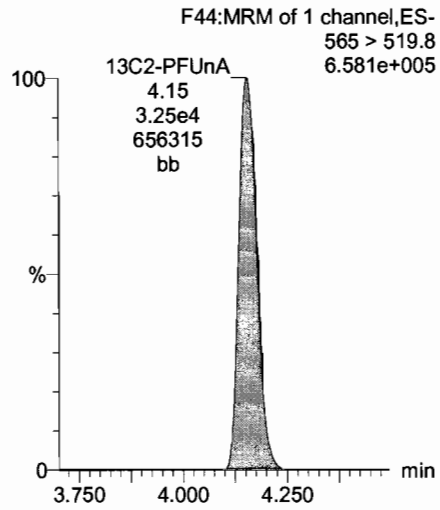


13C2-PFUnA



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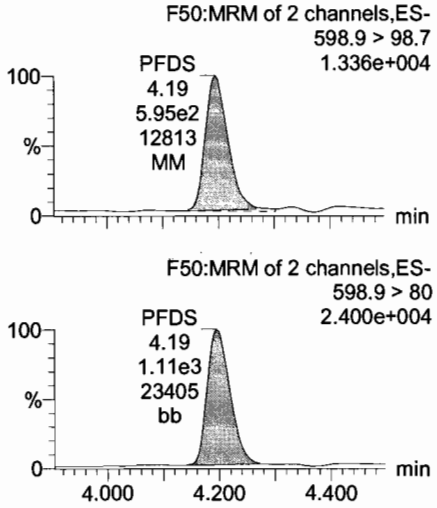
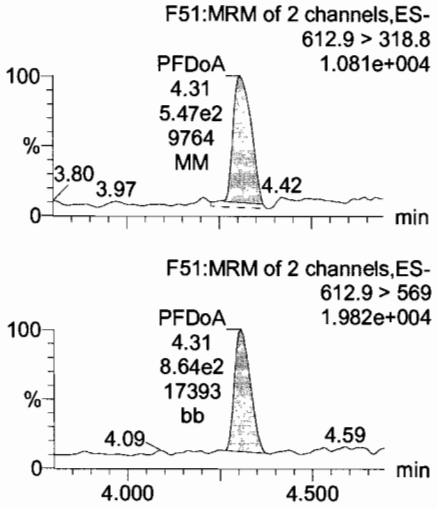
Name: 170710M3_5, Date: 10-Jul-2017, Time: 17:07:35, ID: ST170710M3-4 PFC CS1 17G1006, Description: PFC CS1 17G1006

PFDS



PFDoA



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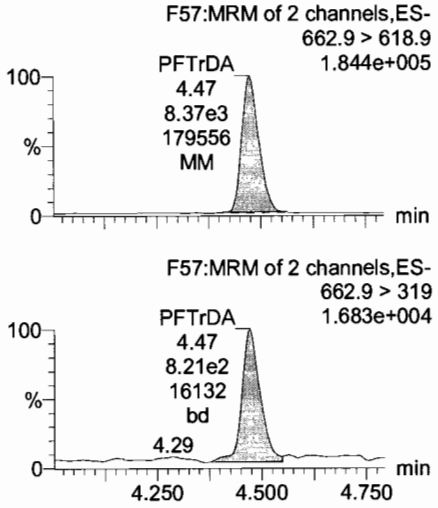

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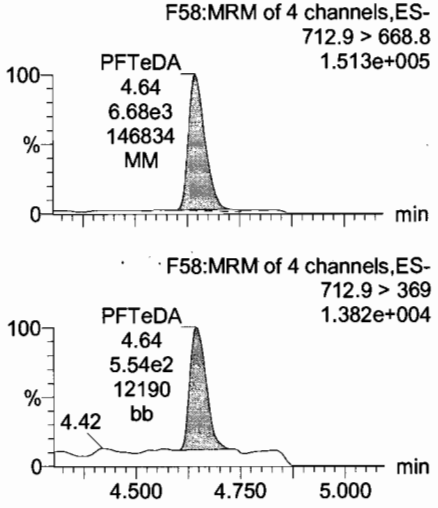

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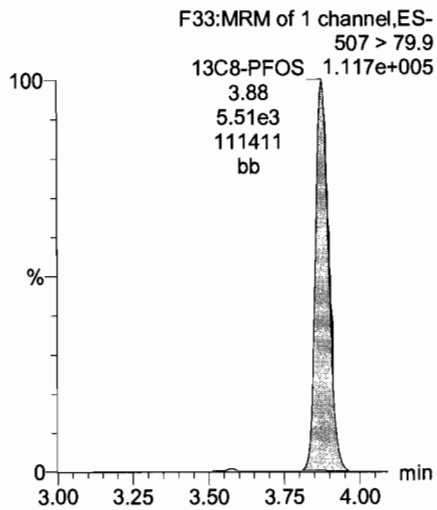

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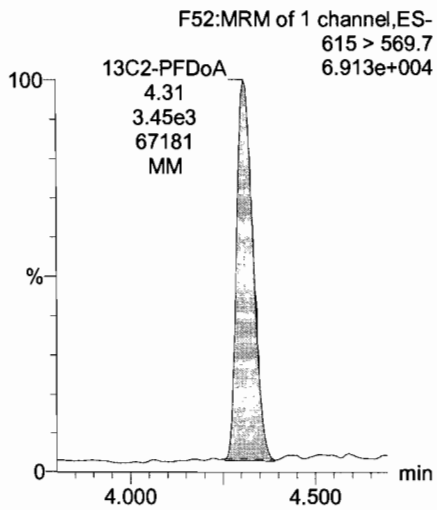

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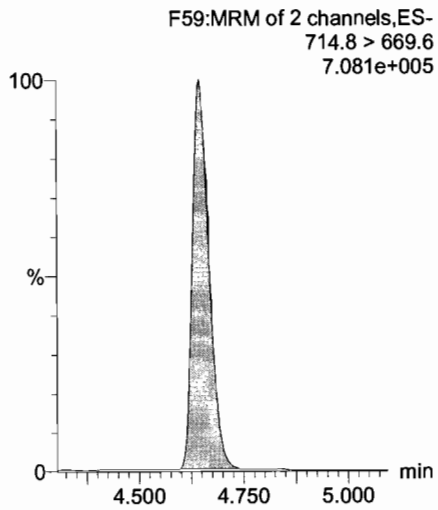

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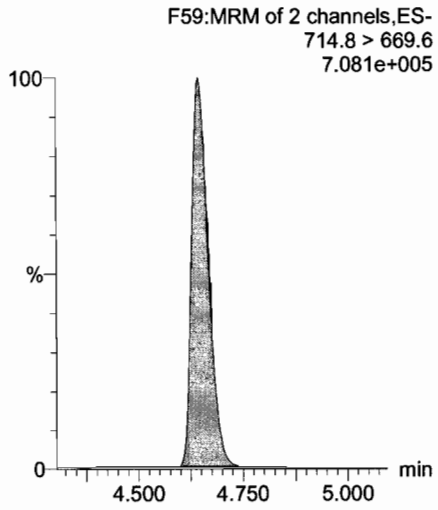

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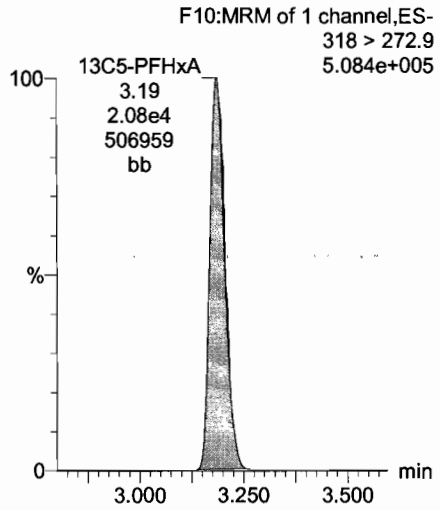
Name: 170710M3_5, Date: 10-Jul-2017, Time: 17:07:35, ID: ST170710M3-4 PFC CS1 17G1006, Description: PFC CS1 17G1006

13C5-PFHxA



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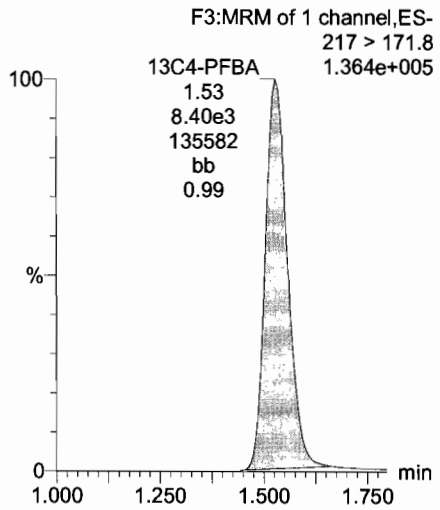
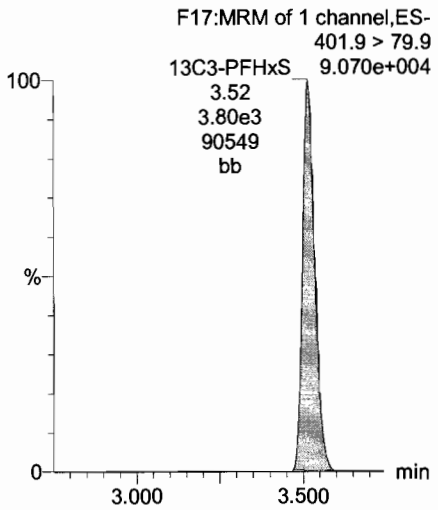


13C3-PFHxS



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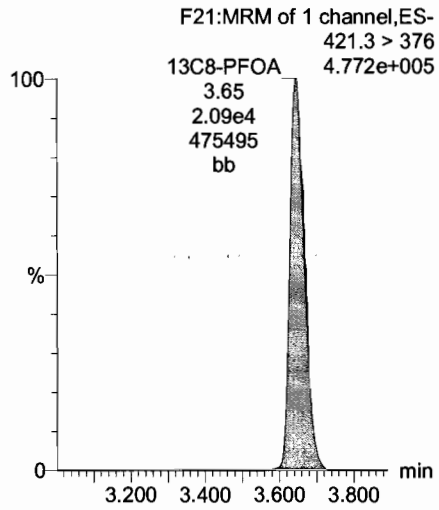

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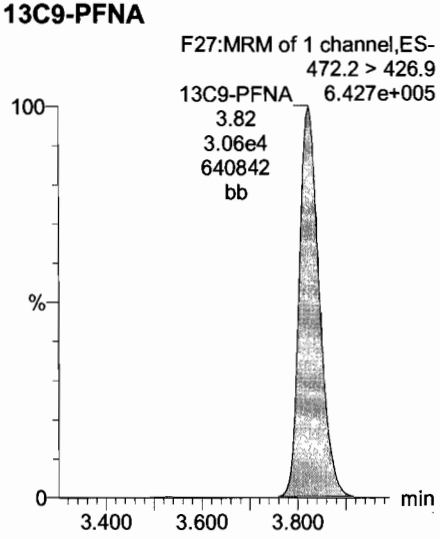
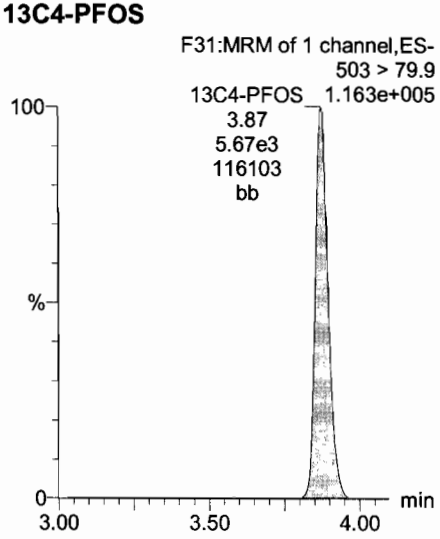


13C4-PFOS



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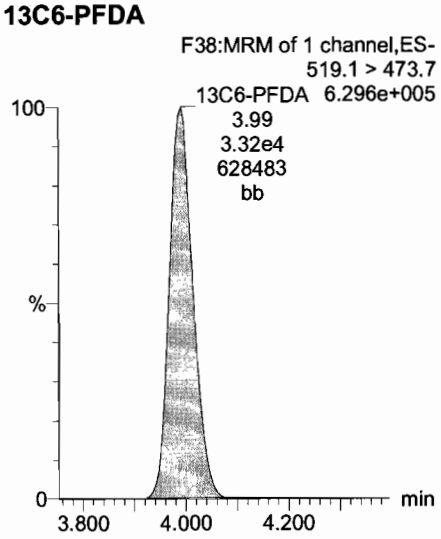
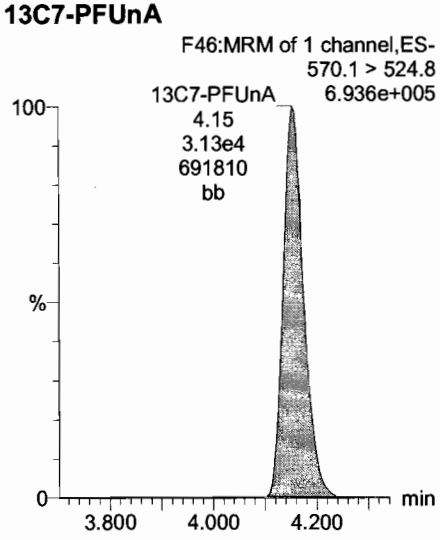


13C7-PFUnA



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Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

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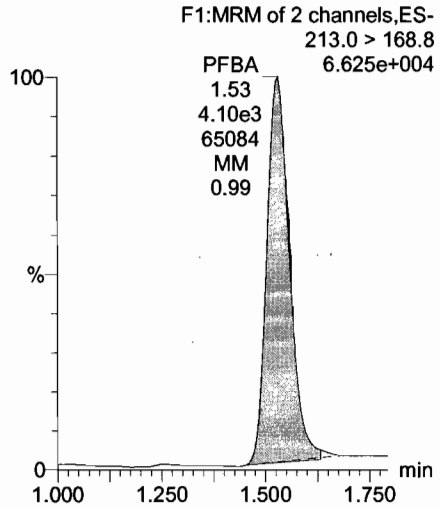
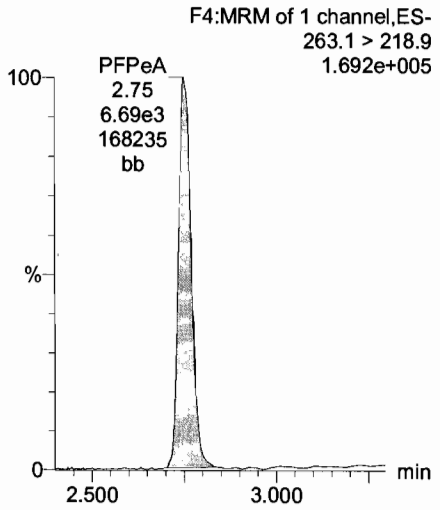
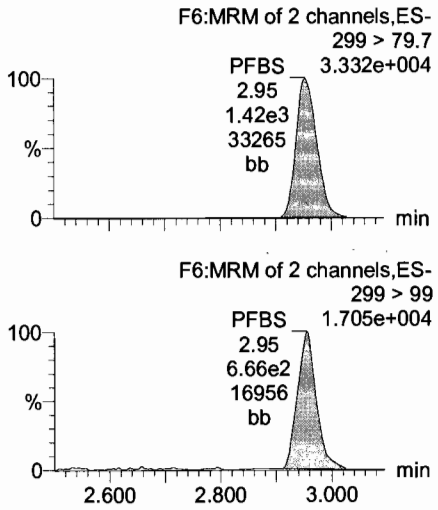
PFBA



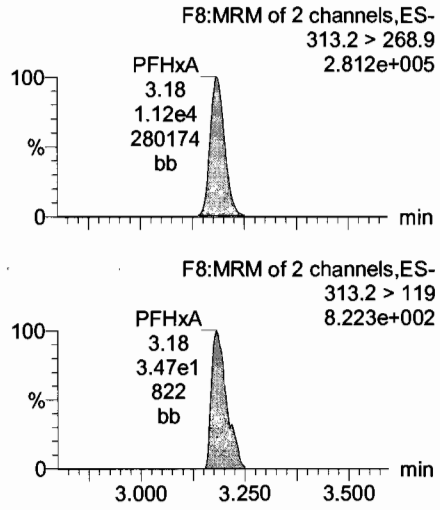
PFPeA



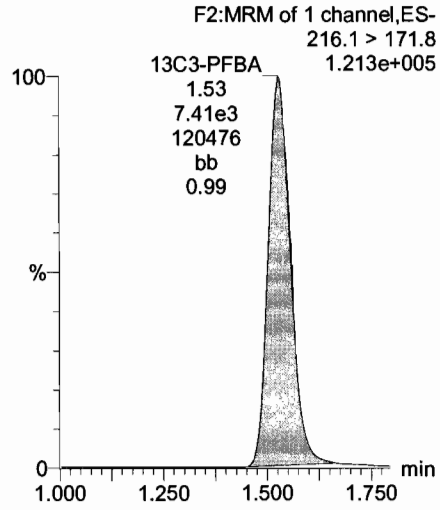
Total PFBS



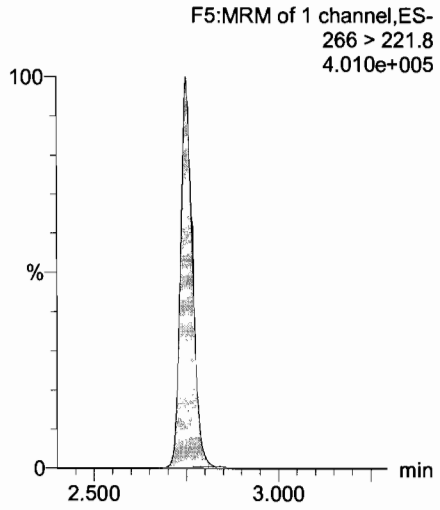
PFHxA



13C3-PFBA



13C3-PFPeA



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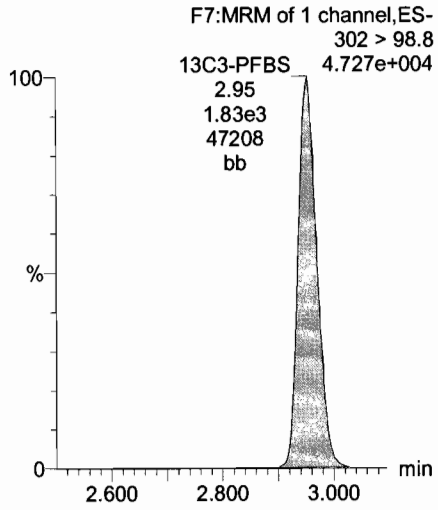

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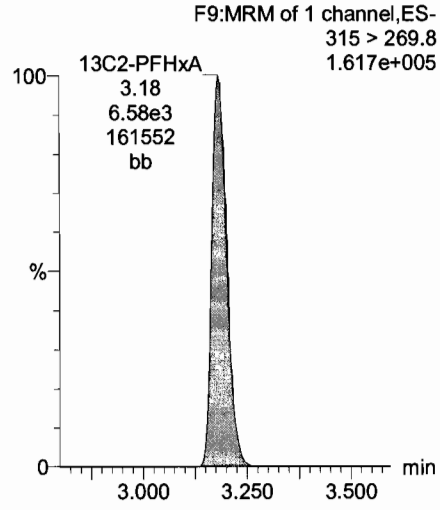

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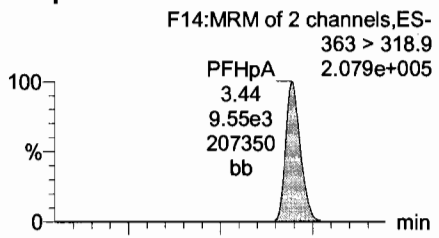
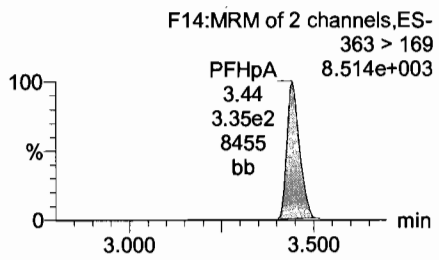
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_6, Date: 10-Jul-2017, Time: 17:18:21, ID: ST170710M3-5 PFC CS2 17G1007, Description: PFC CS2 17G1007

PFHpA





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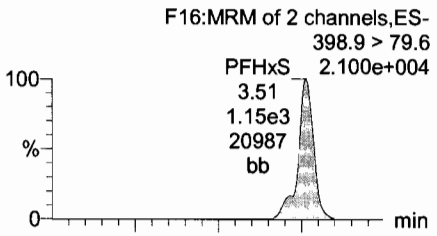

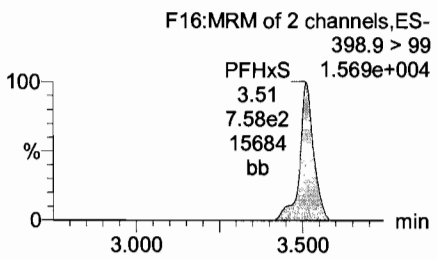

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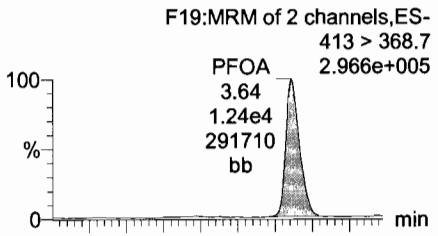

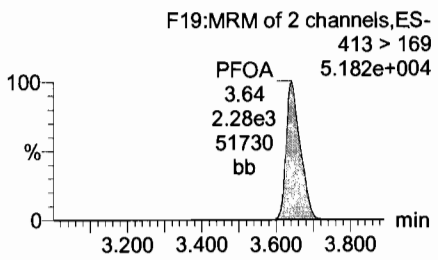

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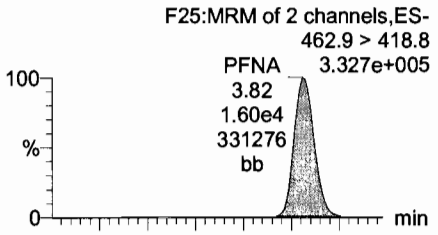
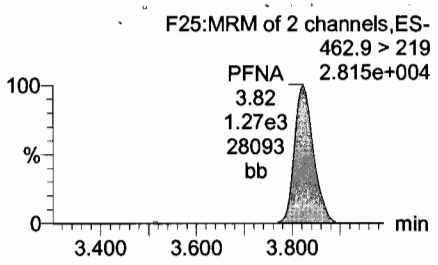
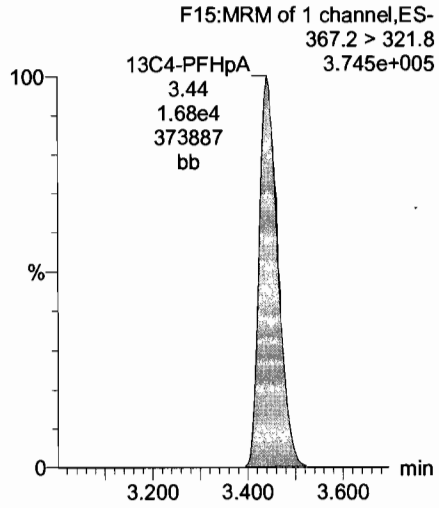
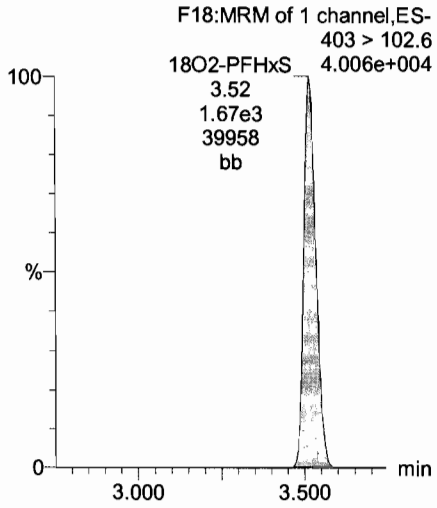




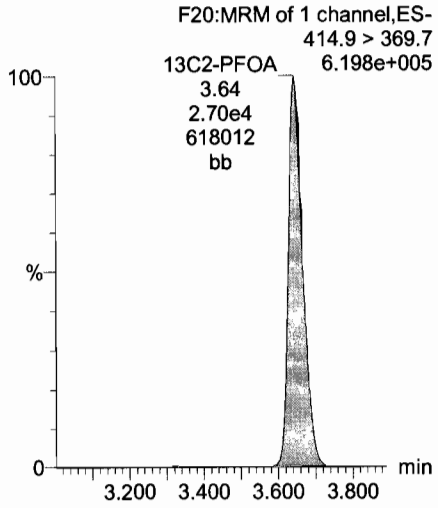
13C4-PFHpA



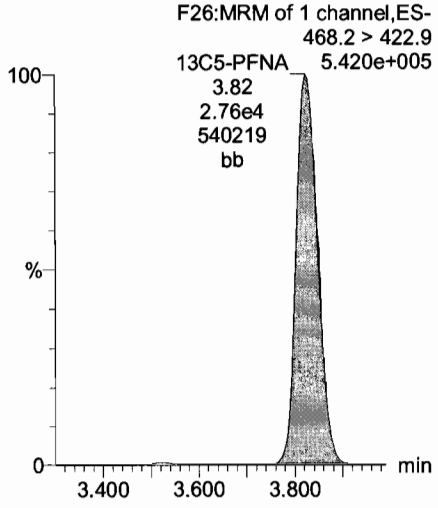
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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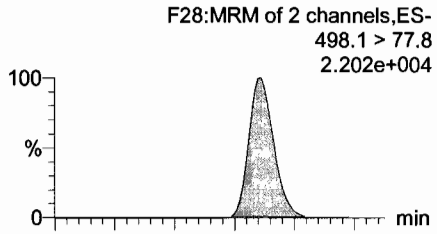
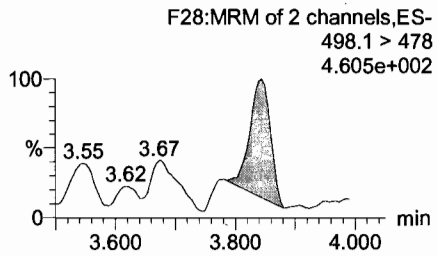
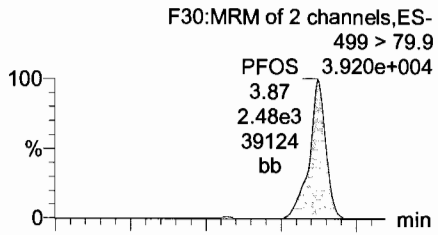
Name: 170710M3_6, Date: 10-Jul-2017, Time: 17:18:21, ID: ST170710M3-5 PFC CS2 17G1007, Description: PFC CS2 17G1007

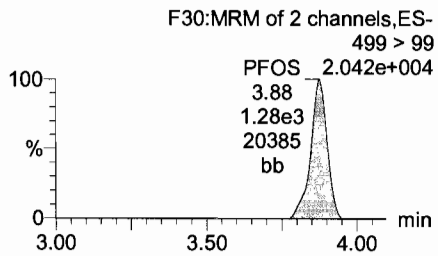
PFOSA



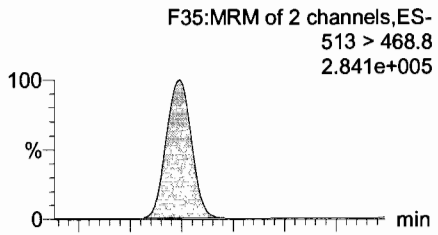


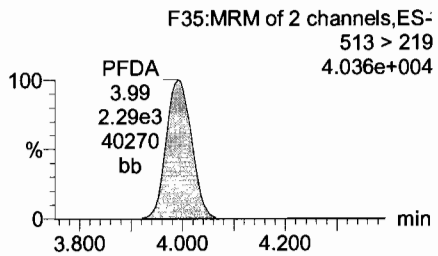
Total PFOS



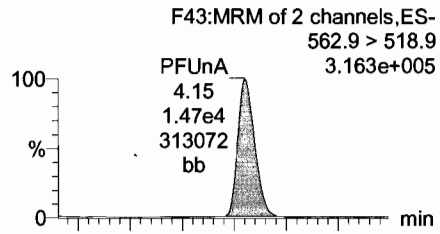


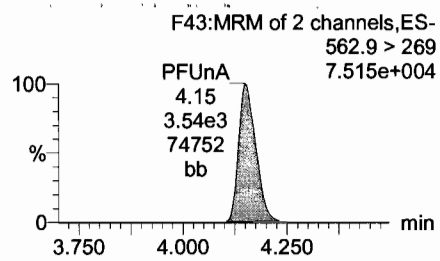
PFDA





PFUnA





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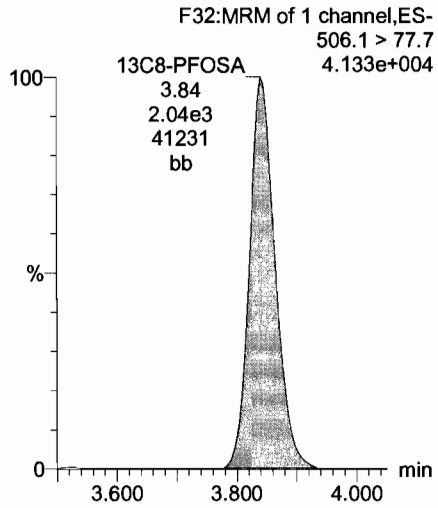
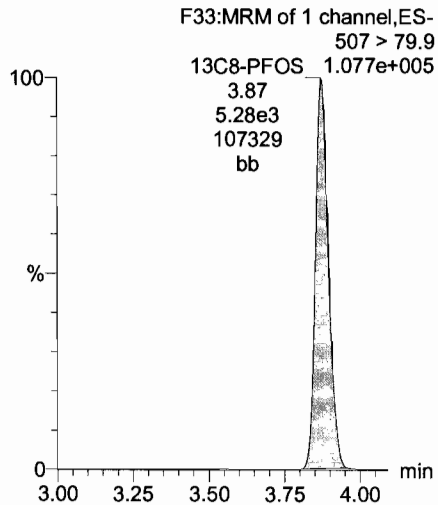
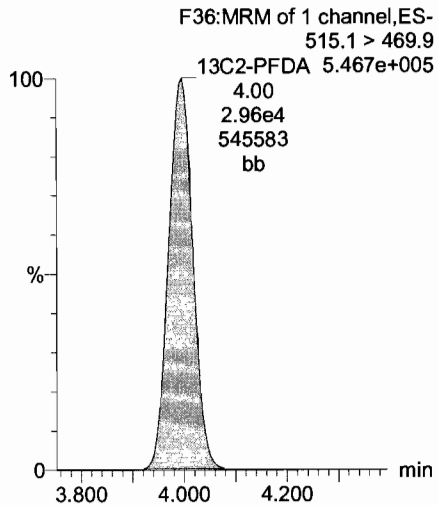


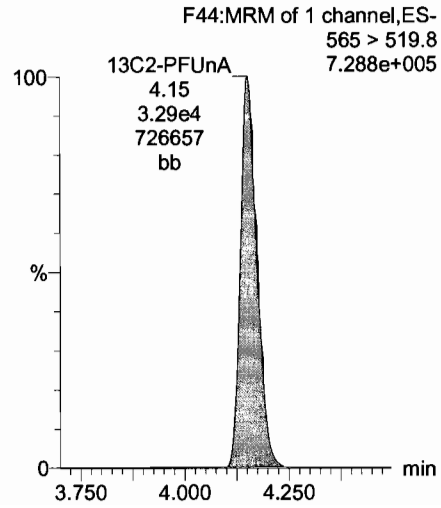
13C8-PFOS



13C2-PFDA



13C2-PFUnA



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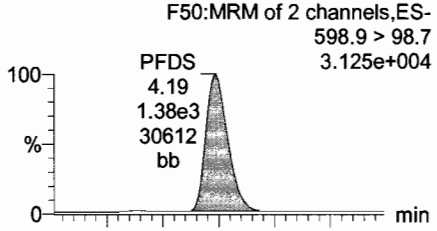
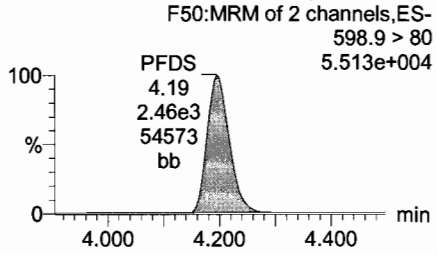
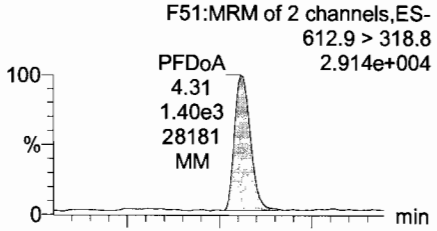
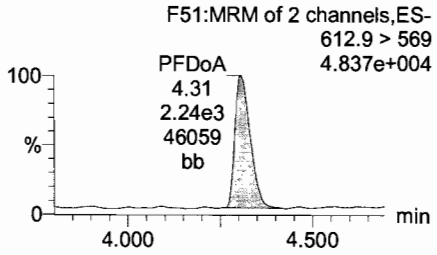
PFDS



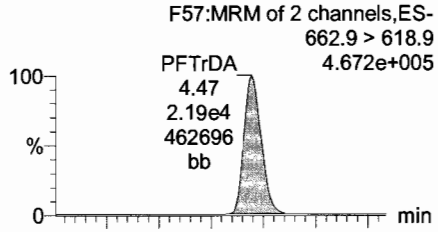


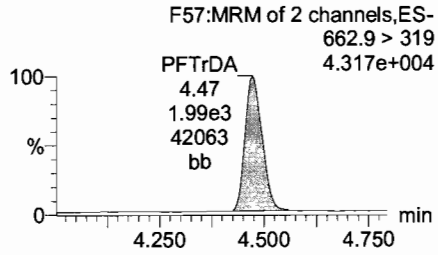
PFDoA



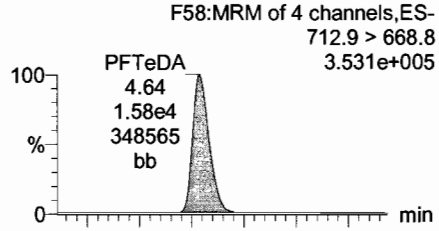


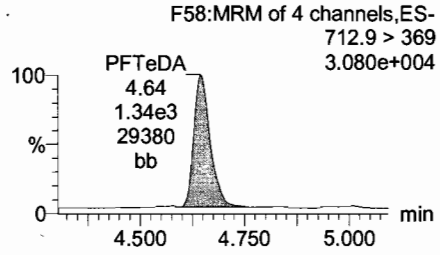
PFTrDA



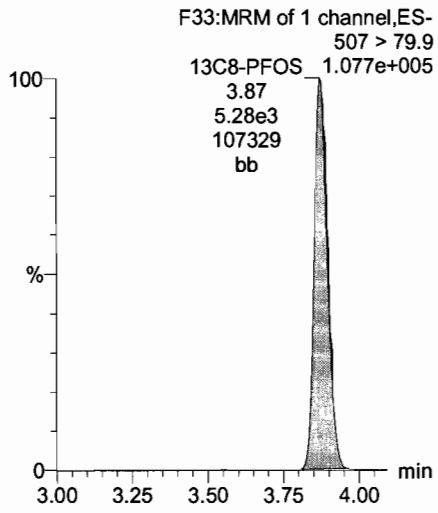


PFTeDA

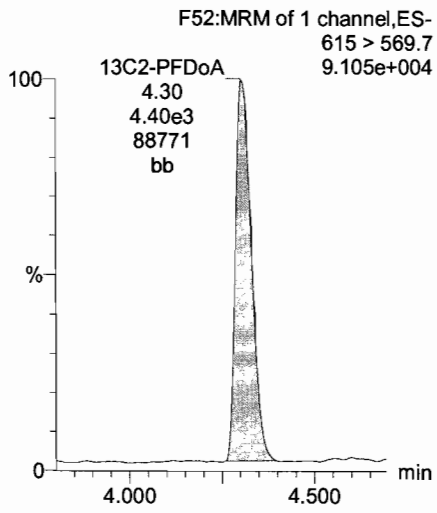




13C8-PFOS



13C2-PFDoA



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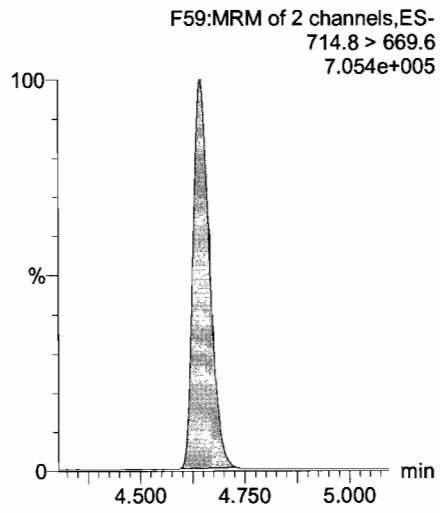
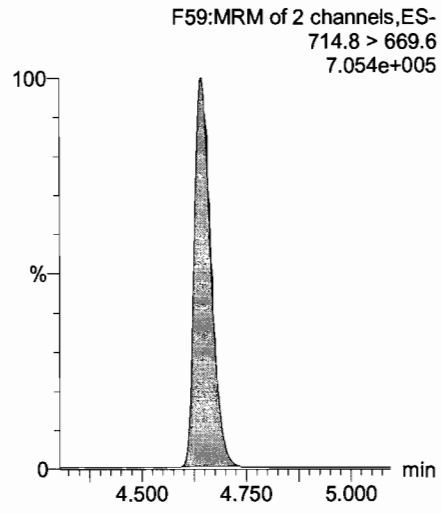


13C2-PFTeDA



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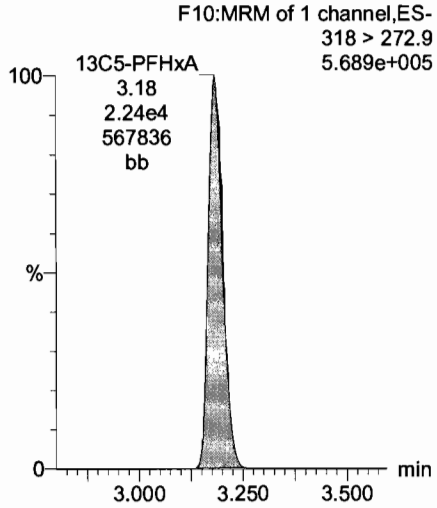
Name: 170710M3_6, Date: 10-Jul-2017, Time: 17:18:21, ID: ST170710M3-5 PFC CS2 17G1007, Description: PFC CS2 17G1007

13C5-PFHxA



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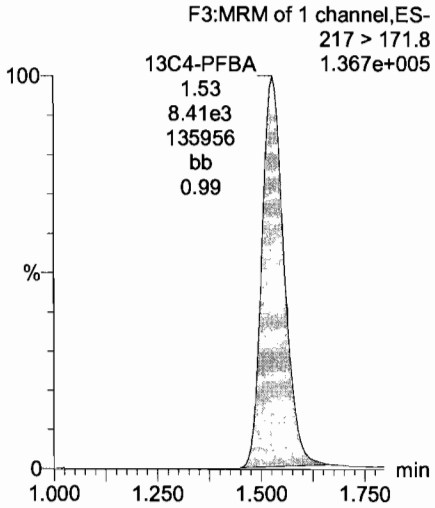
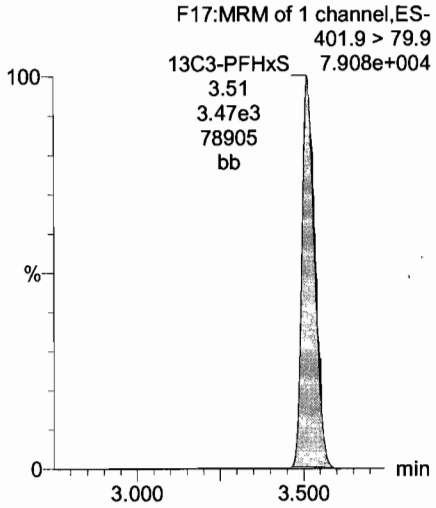
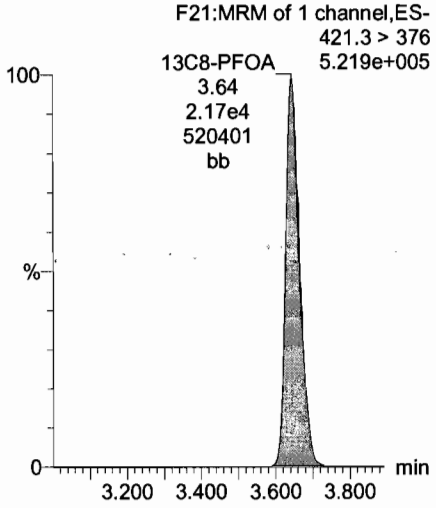


13C3-PFHxS



13C8-PFOA



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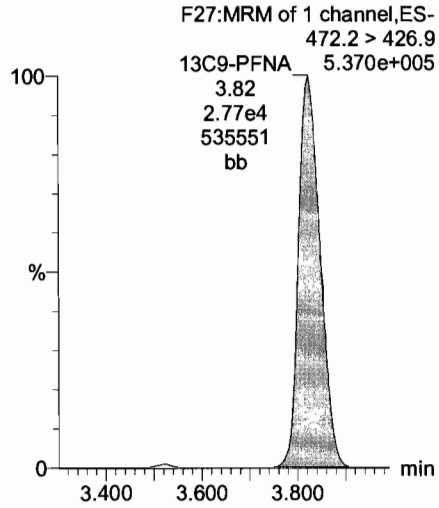
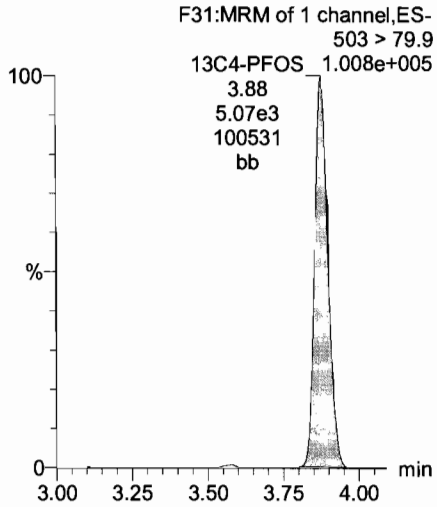


13C4-PFOS



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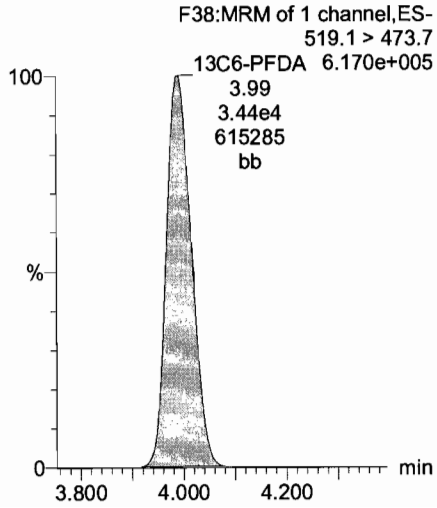

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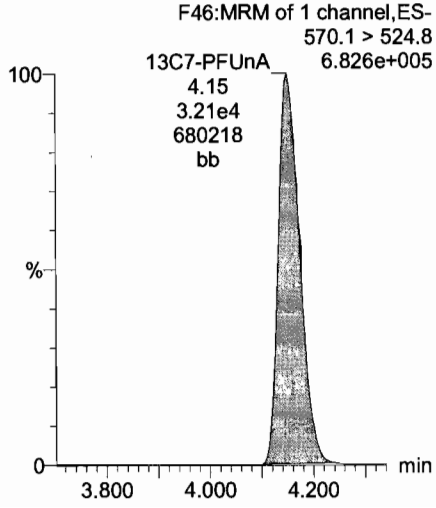

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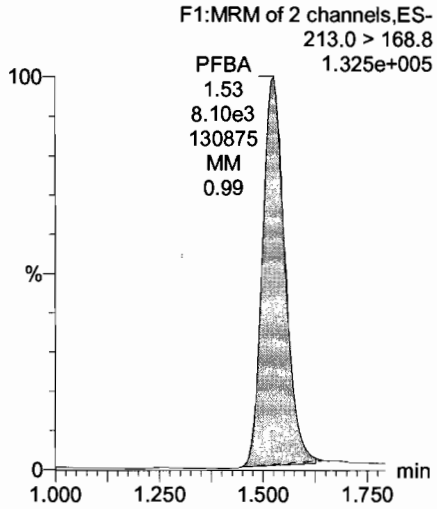
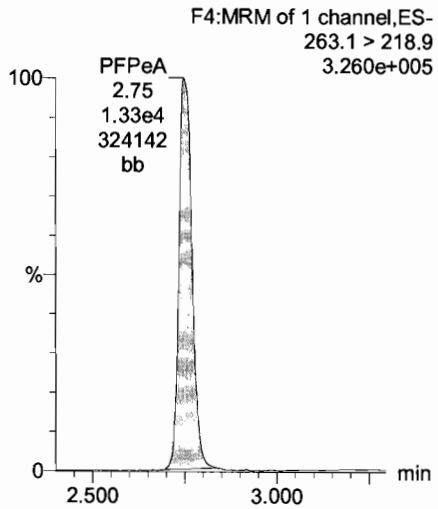
PFBA



PFPeA



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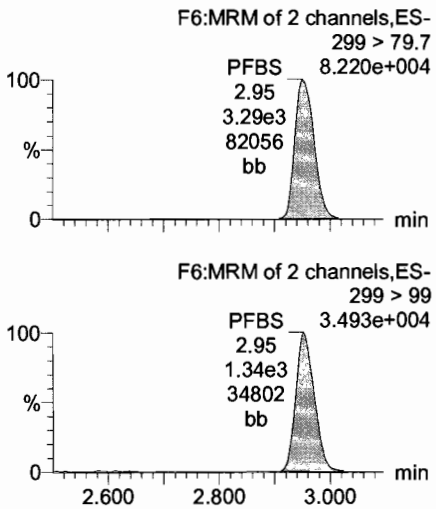

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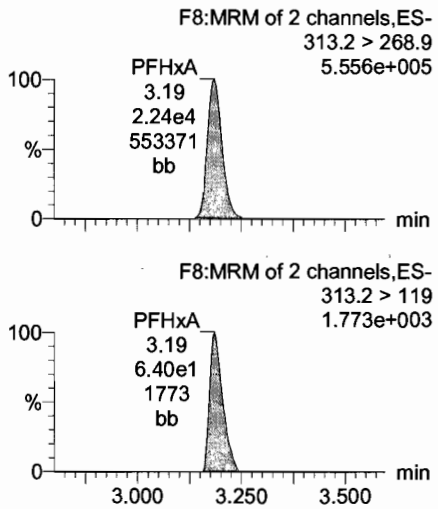

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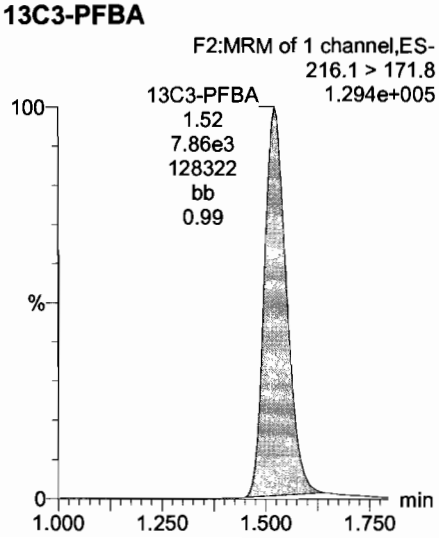

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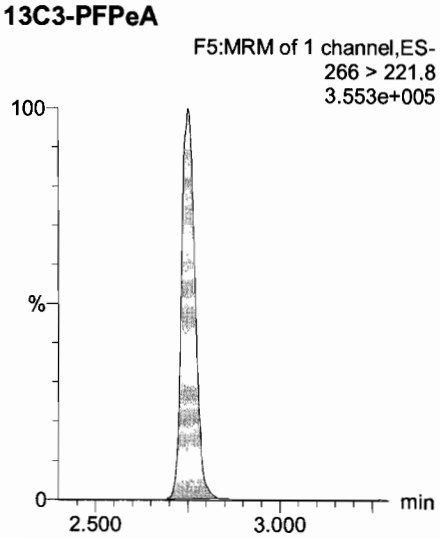

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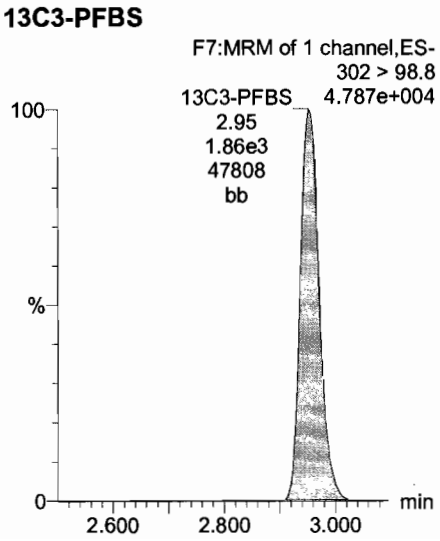

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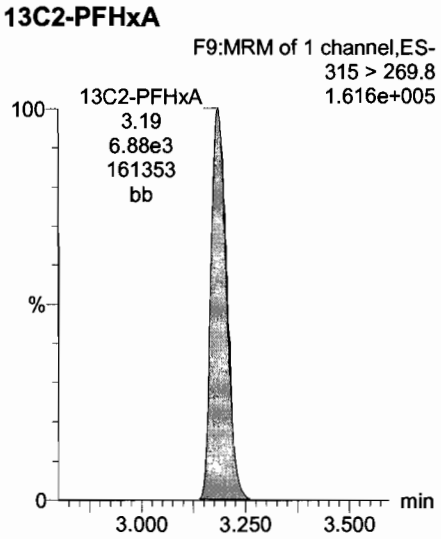

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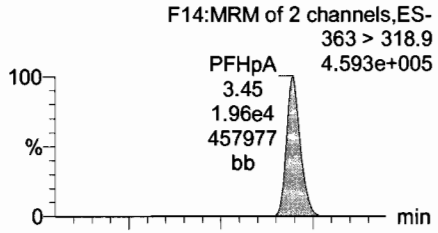
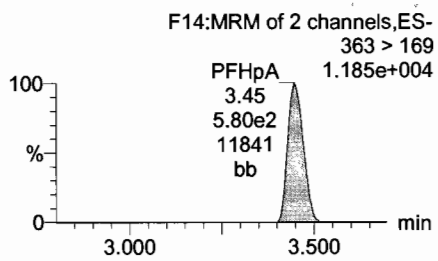
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_7, Date: 10-Jul-2017, Time: 17:28:59, ID: ST170710M3-6 PFC CS3 17G1008, Description: PFC CS3 17G1008

PFHpA





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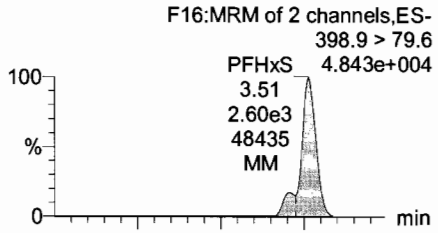

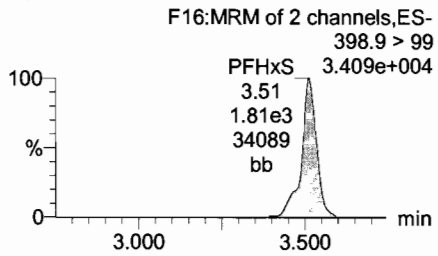

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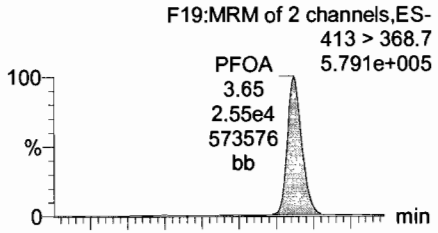

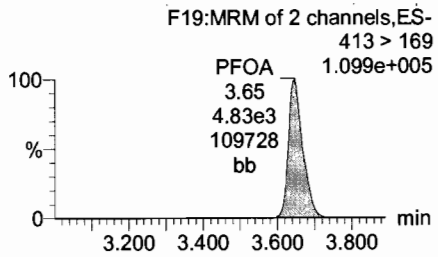

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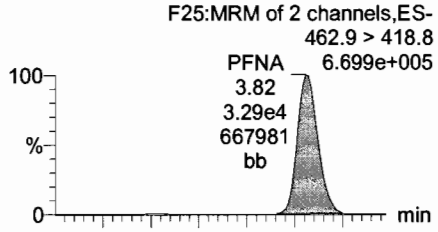

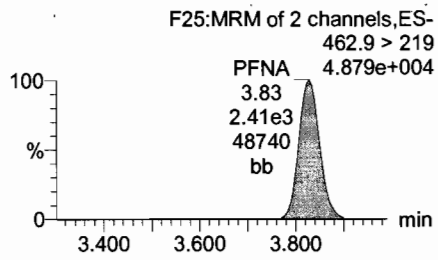

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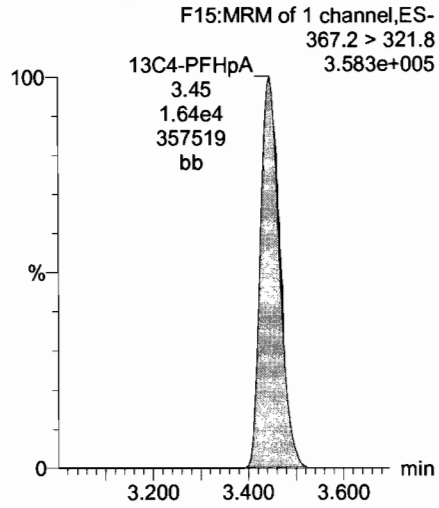

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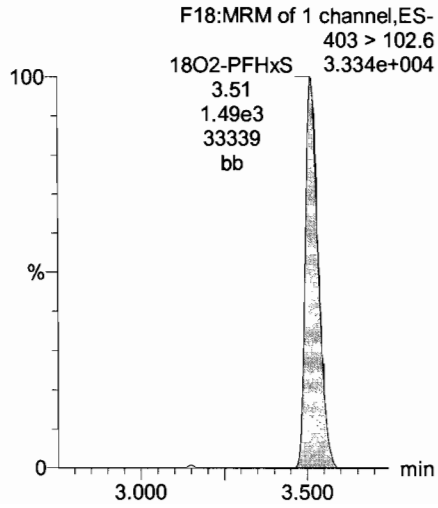

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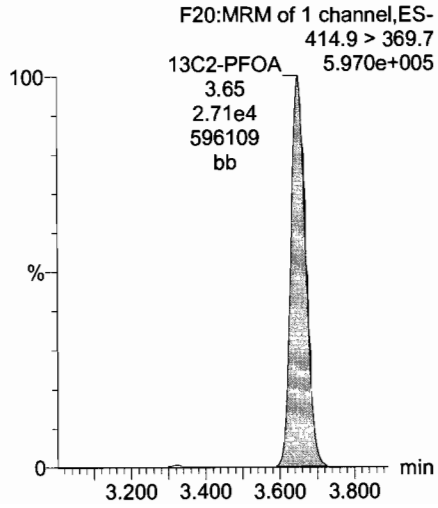

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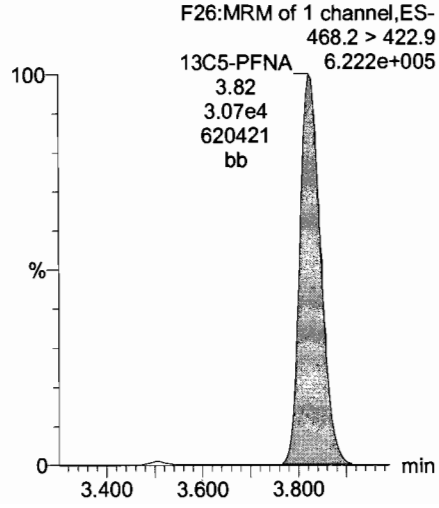

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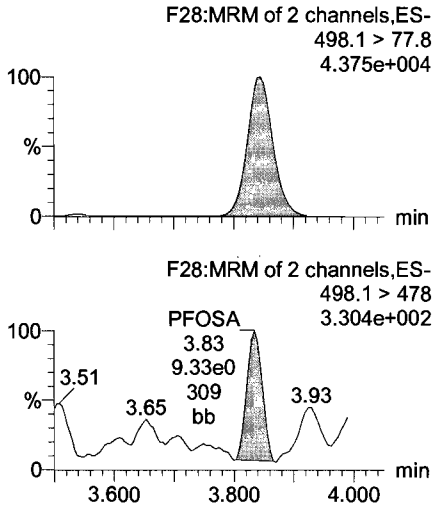
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_7, Date: 10-Jul-2017, Time: 17:28:59, ID: ST170710M3-6 PFC CS3 17G1008, Description: PFC CS3 17G1008

PFOSA



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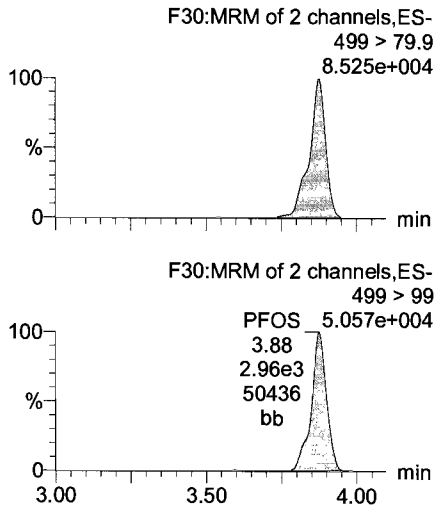

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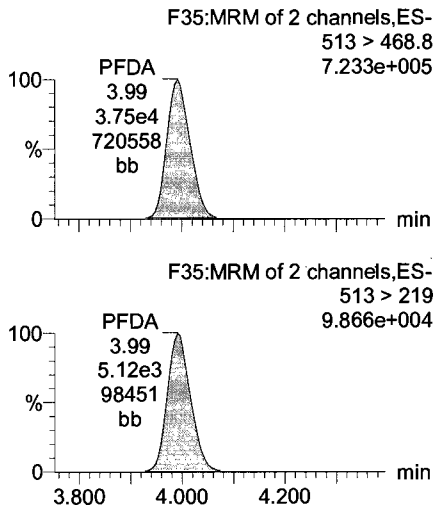

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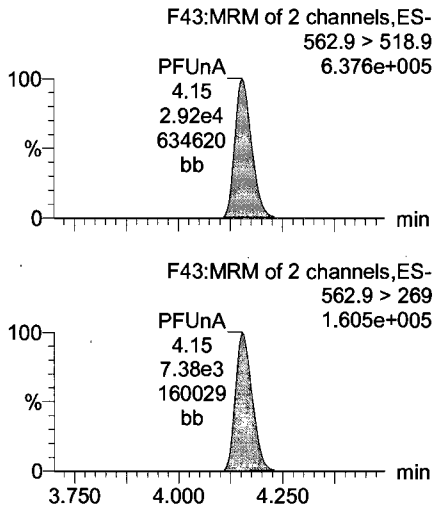

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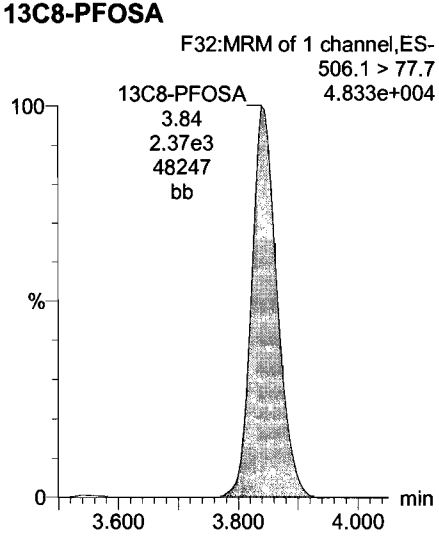

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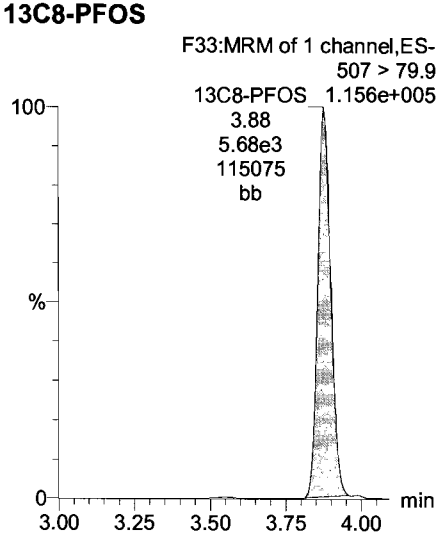

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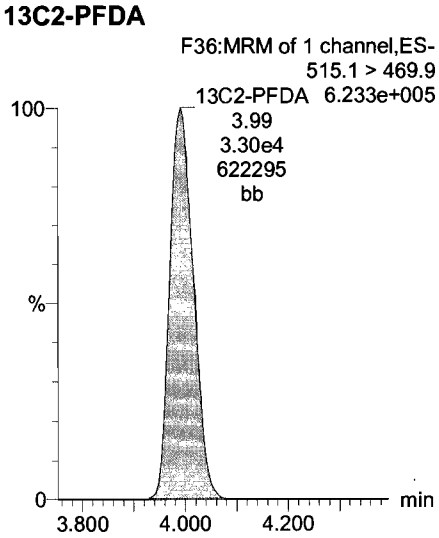
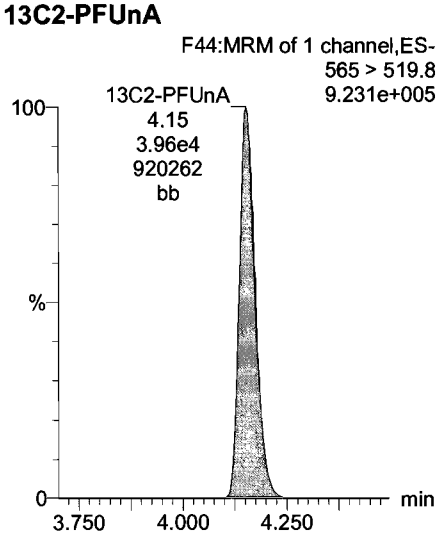


13C2-PFUnA



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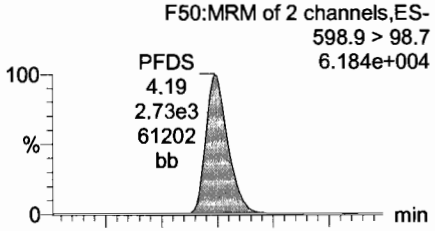
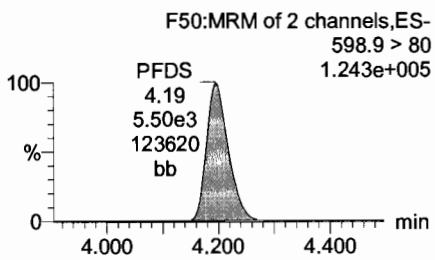
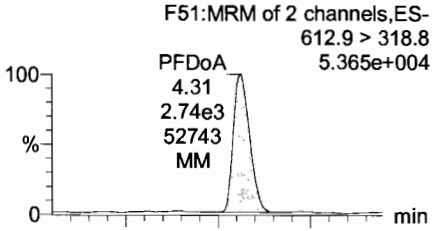
Name: 170710M3_7, Date: 10-Jul-2017, Time: 17:28:59, ID: ST170710M3-6 PFC CS3 17G1008, Description: PFC CS3 17G1008

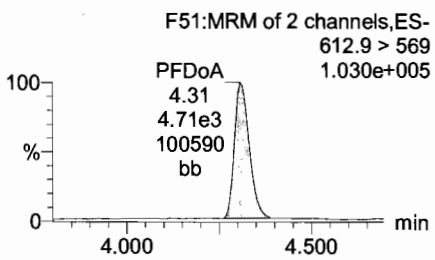
PFDS





PFDoA





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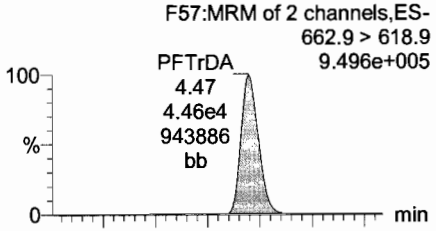

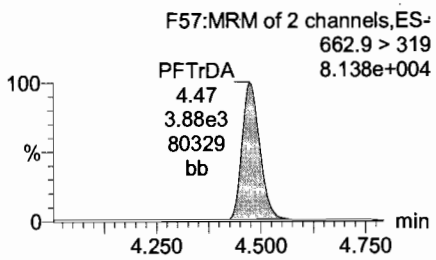

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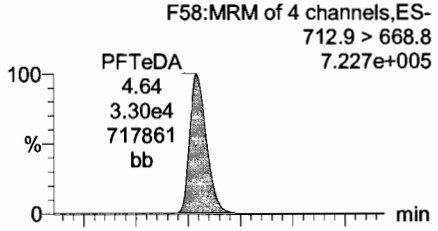
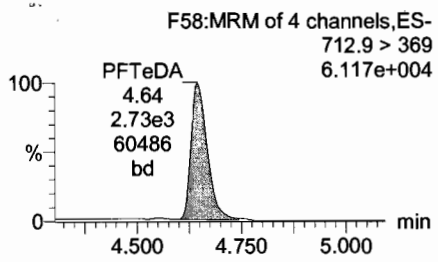
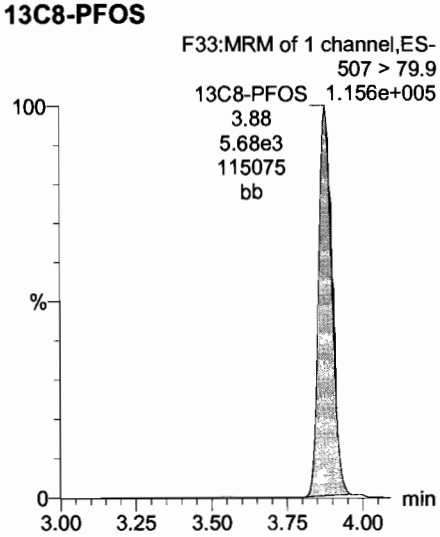
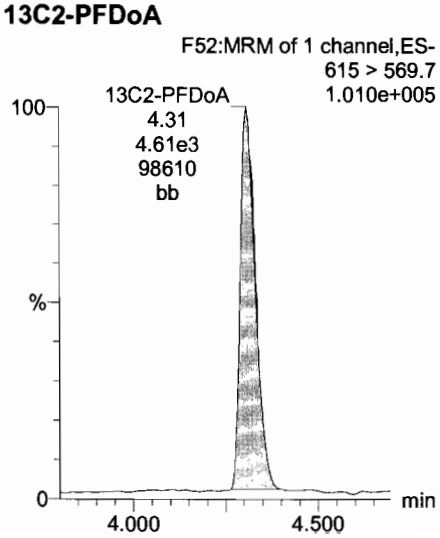




13C8-PFOS



13C2-PFDoA



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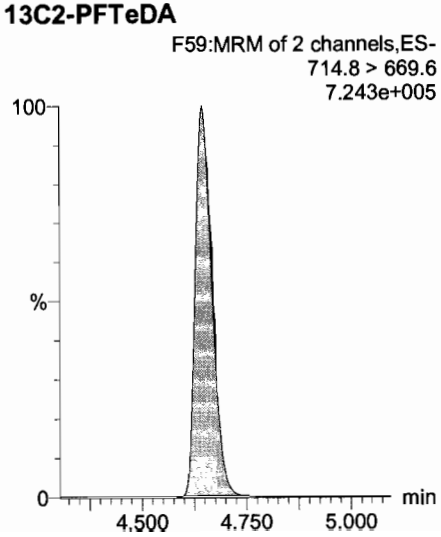

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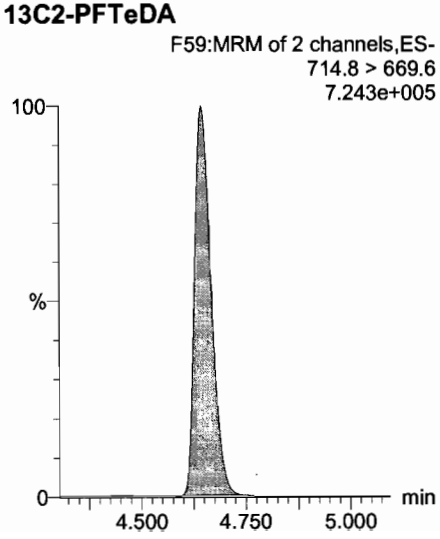

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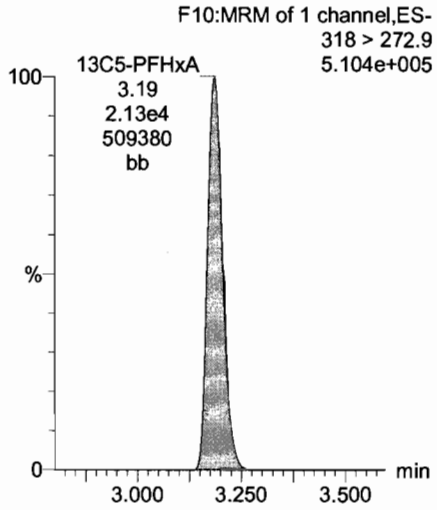
Name: 170710M3_7, Date: 10-Jul-2017, Time: 17:28:59, ID: ST170710M3-6 PFC CS3 17G1008, Description: PFC CS3 17G1008

13C5-PFHxA



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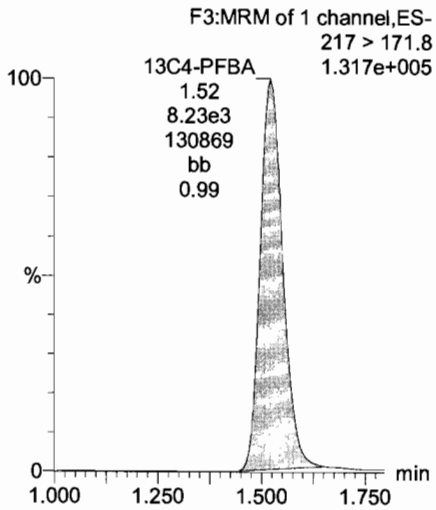
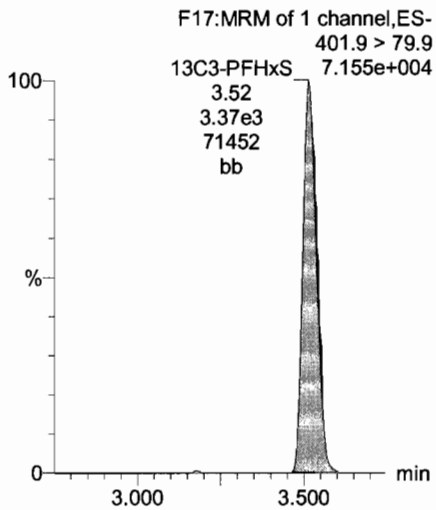


13C3-PFHxS



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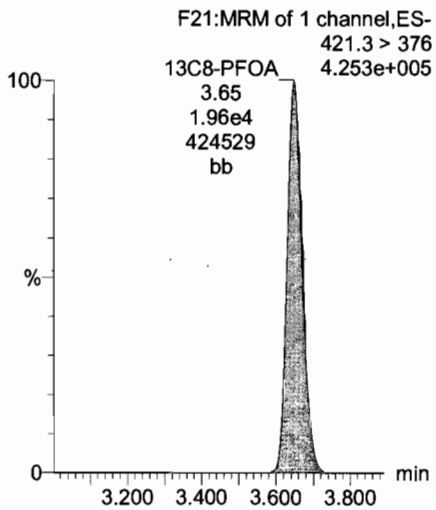

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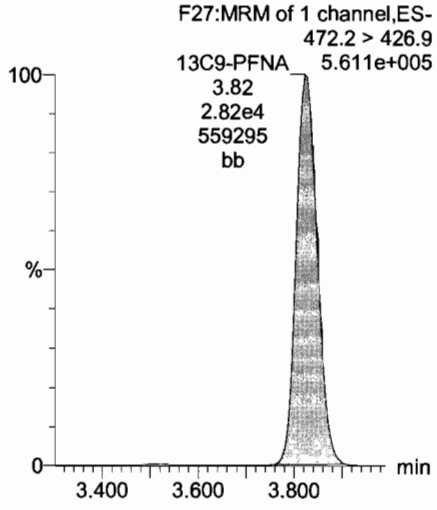
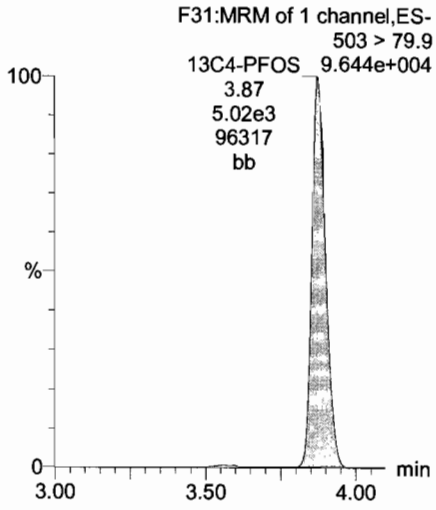
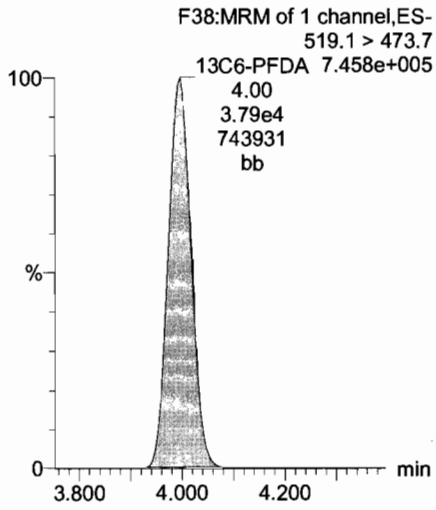


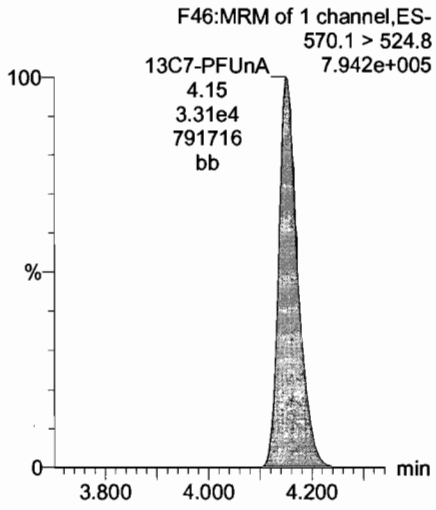
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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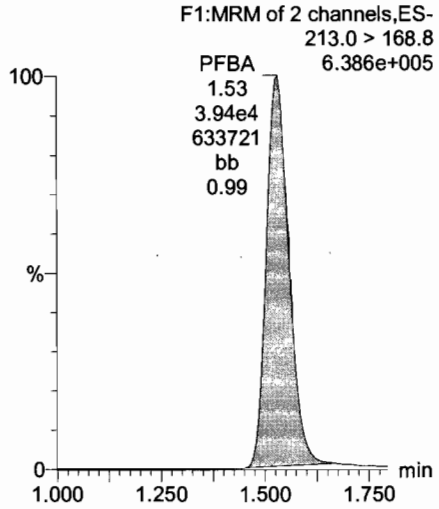
PFBA



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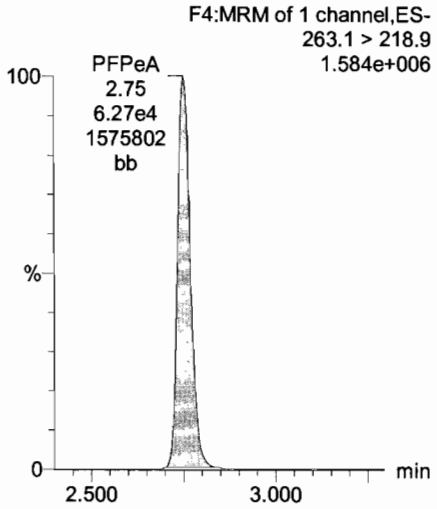

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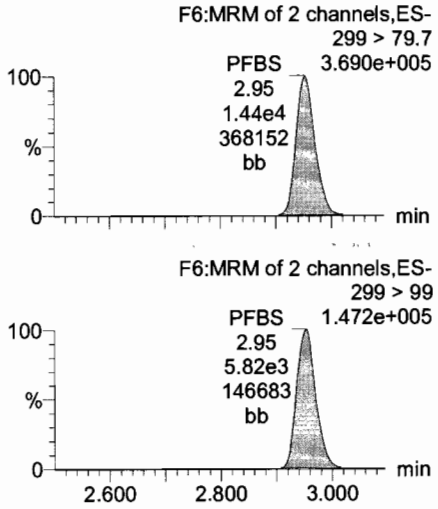
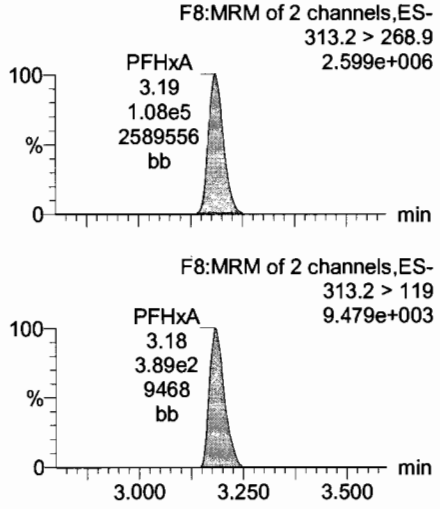
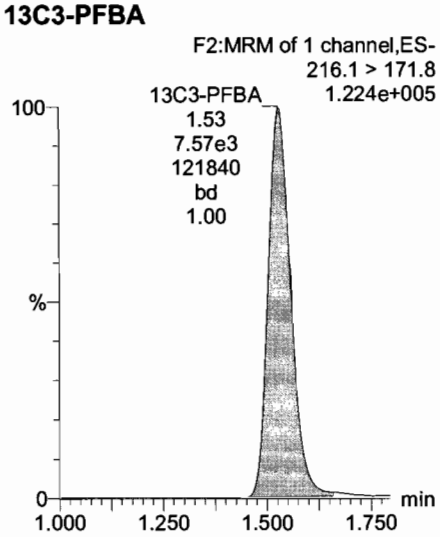


PFHxA



13C3-PFBA



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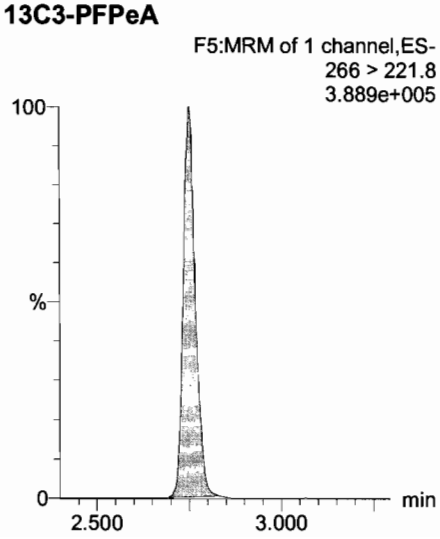

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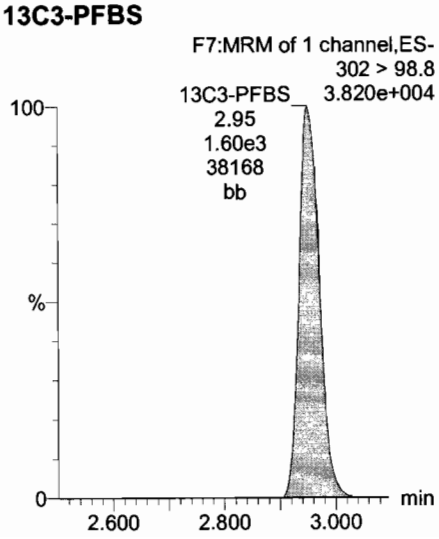
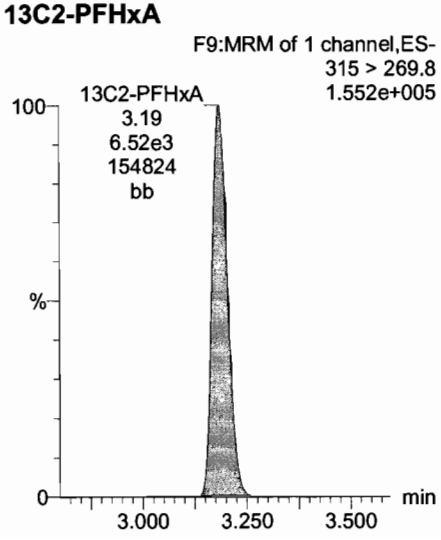


13C2-PFHxA



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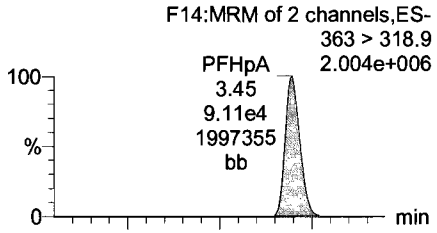
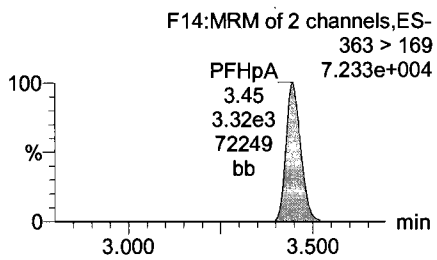
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_8, Date: 10-Jul-2017, Time: 17:39:46, ID: ST170710M3-7 PFC CS4 17G1009, Description: PFC CS4 17G1009

PFHpA





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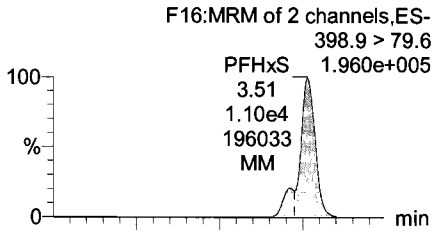

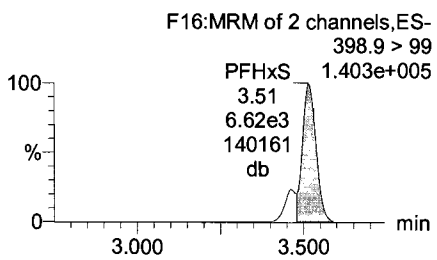

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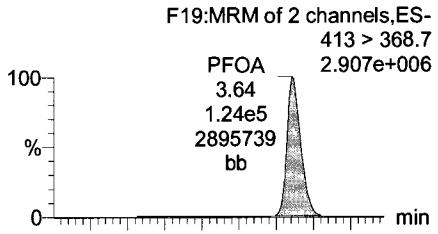

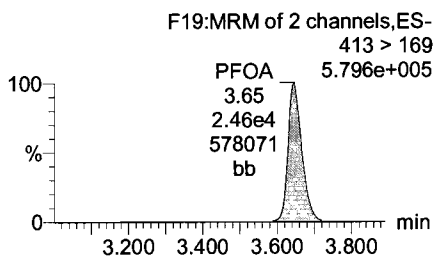

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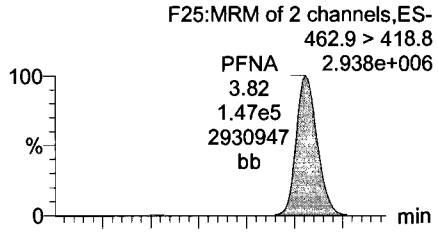
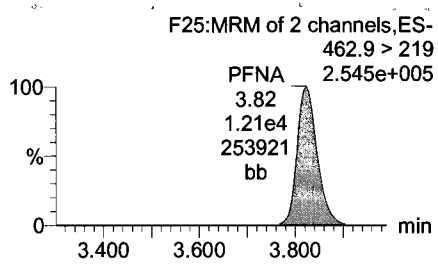
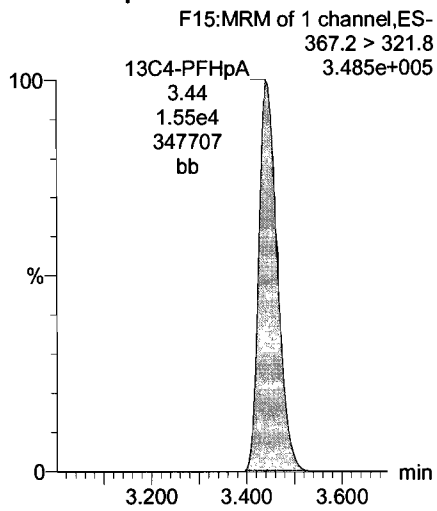
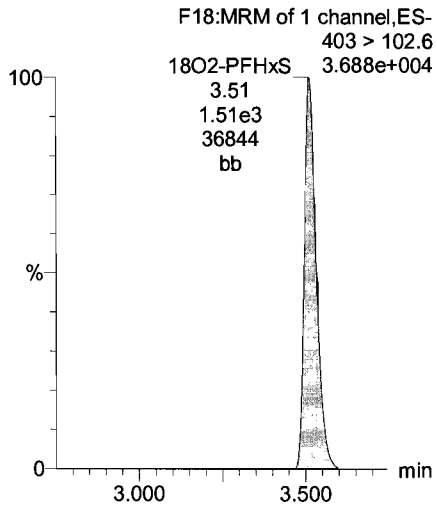




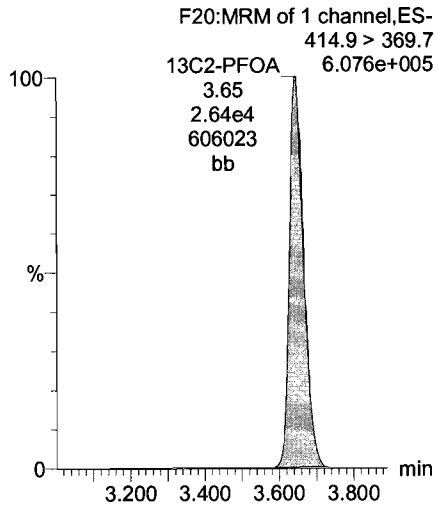
13C4-PFHpA



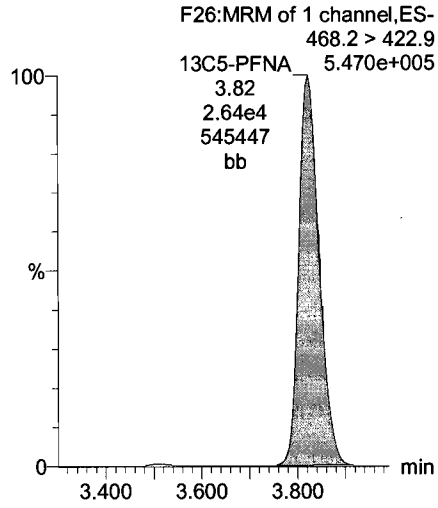
18O2-PFHxS



13C2-PFOA



13C5-PFNA



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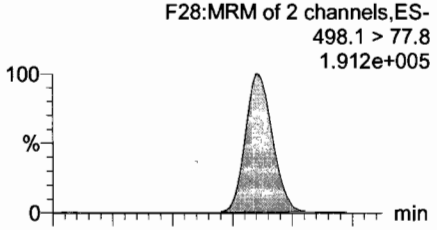
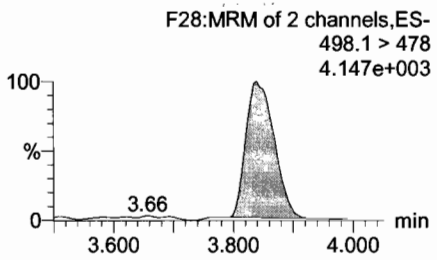
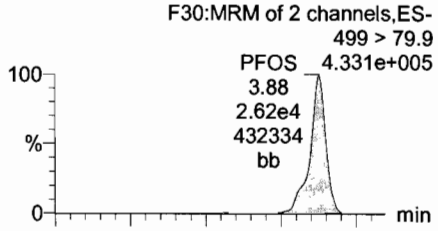
Name: 170710M3_8, Date: 10-Jul-2017, Time: 17:39:46, ID: ST170710M3-7 PFC CS4 17G1009, Description: PFC CS4 17G1009

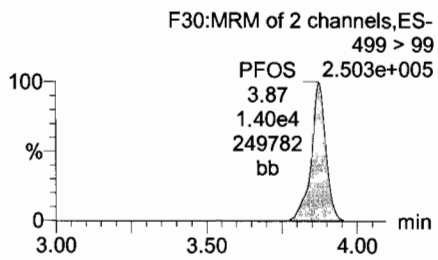
PFOSA



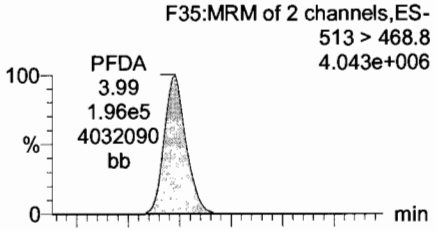


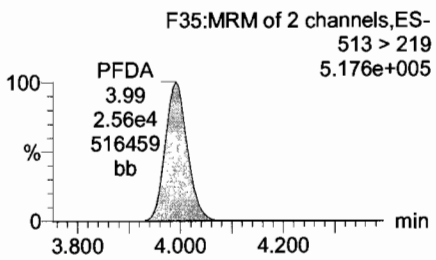
Total PFOS



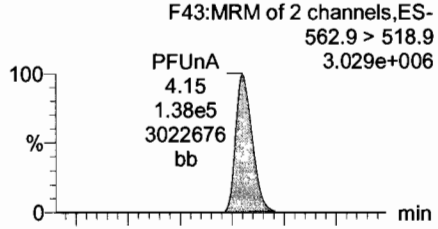


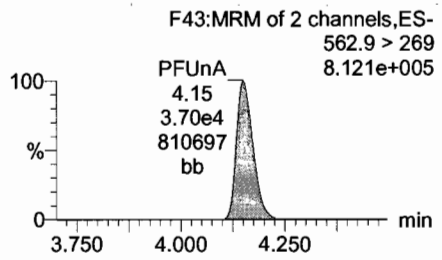
PFDA



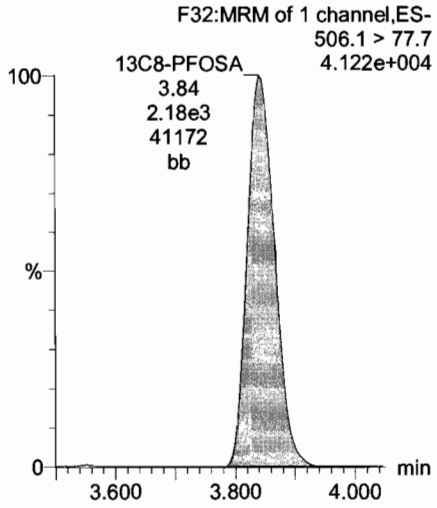


PFUnA

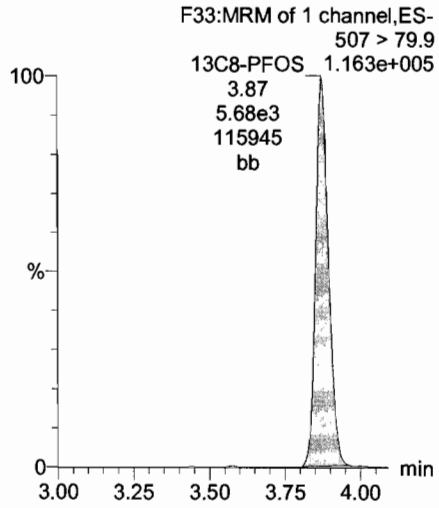




13C8-PFOSA



13C8-PFOS



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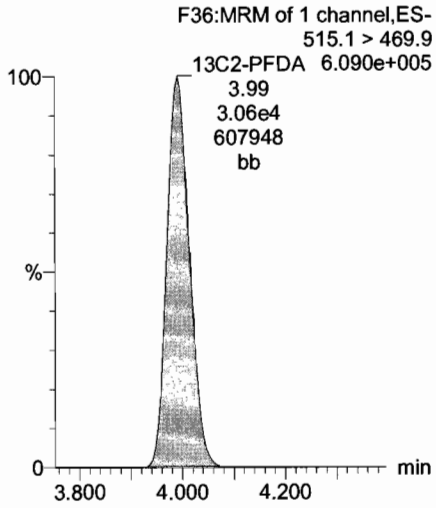
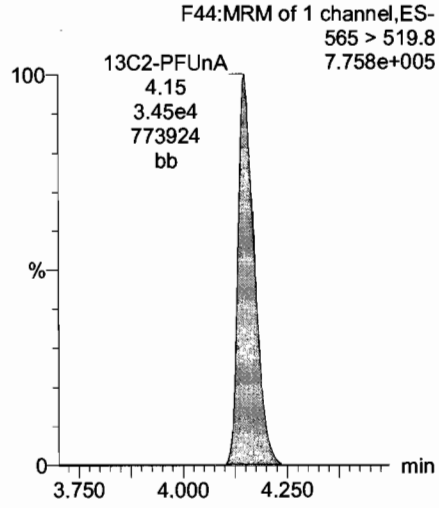


13C2-PFUnA



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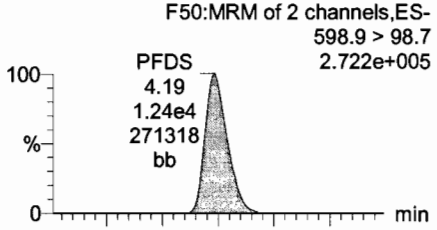
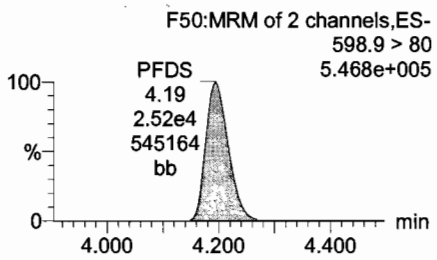
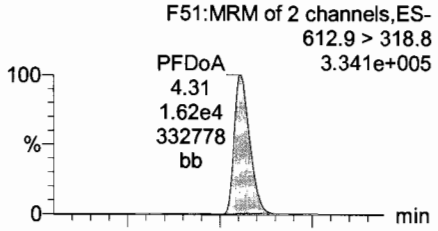
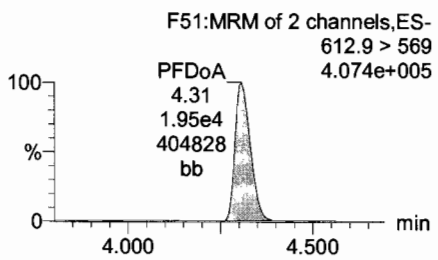
PFDS





PFDoA





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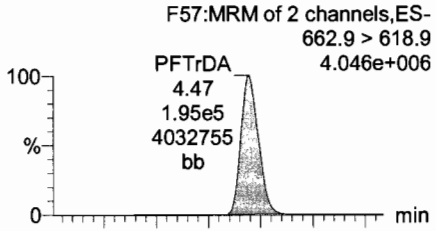
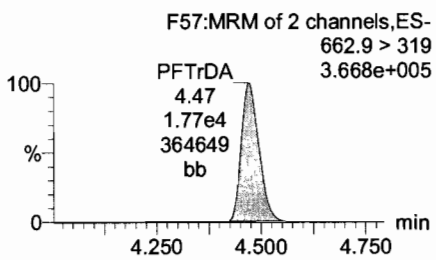
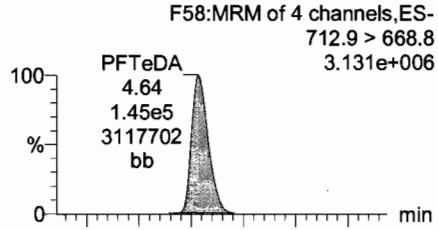
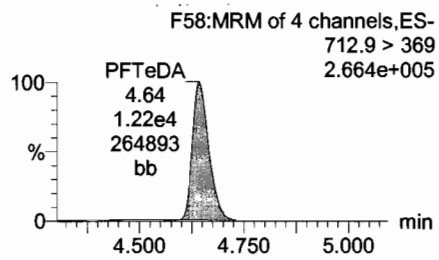


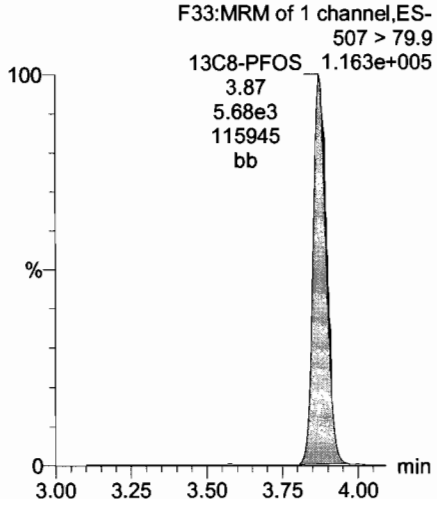


PFTeDA

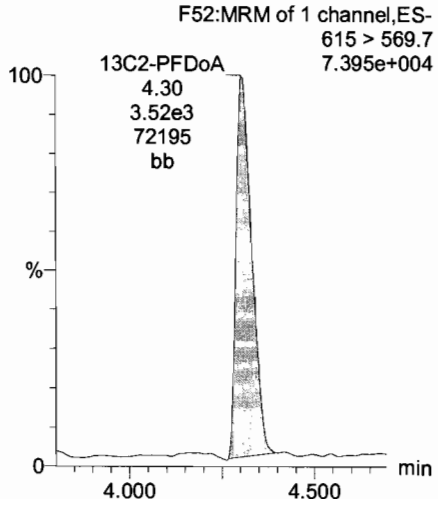




13C8-PFOS



13C2-PFDoA



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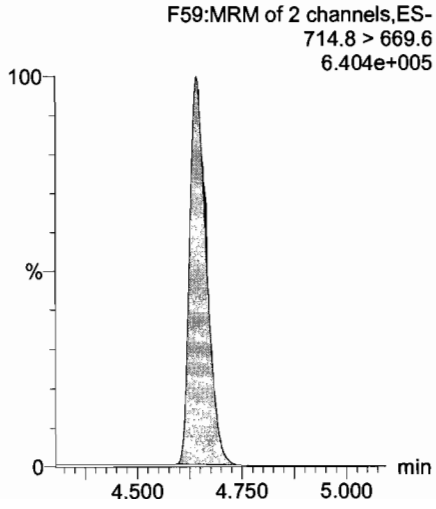

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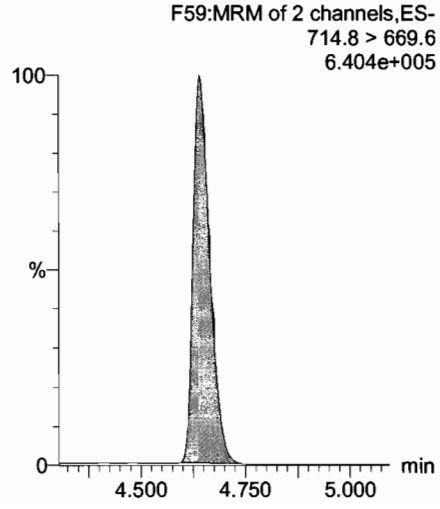

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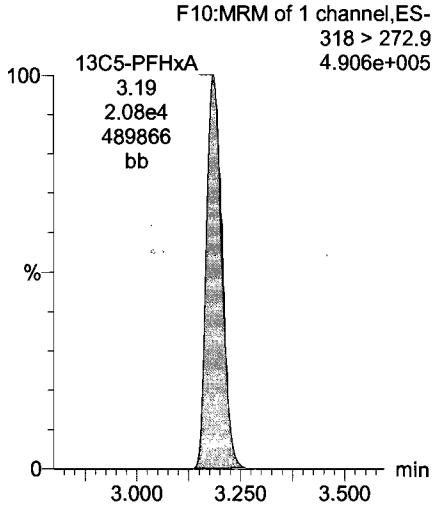
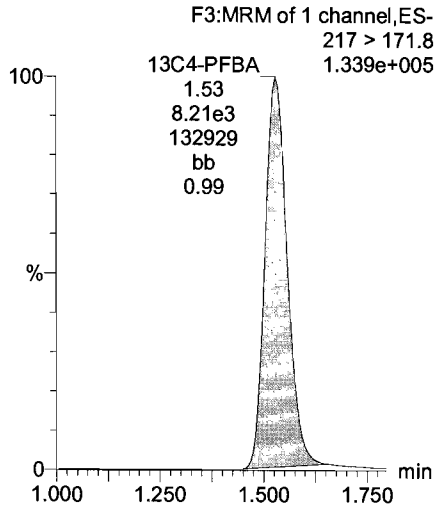
Name: 170710M3_8, Date: 10-Jul-2017, Time: 17:39:46, ID: ST170710M3-7 PFC CS4 17G1009, Description: PFC CS4 17G1009

13C5-PFHxA



13C4-PFBA



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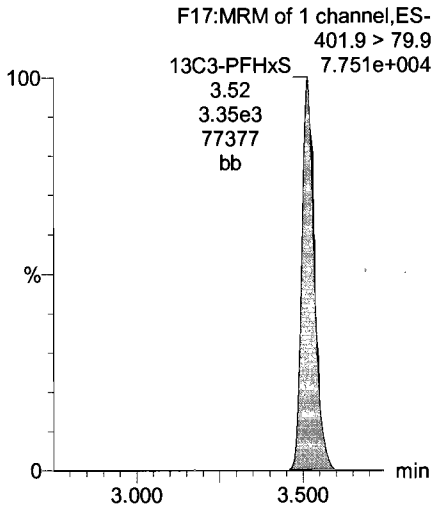

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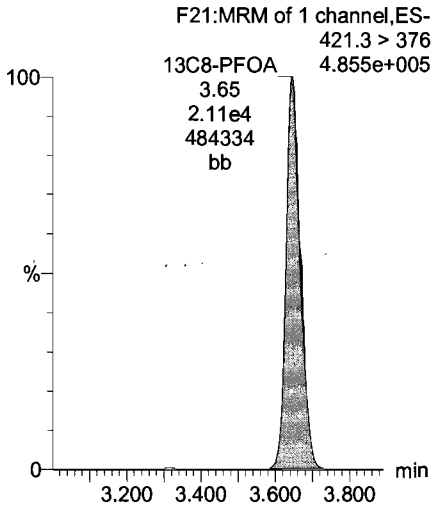

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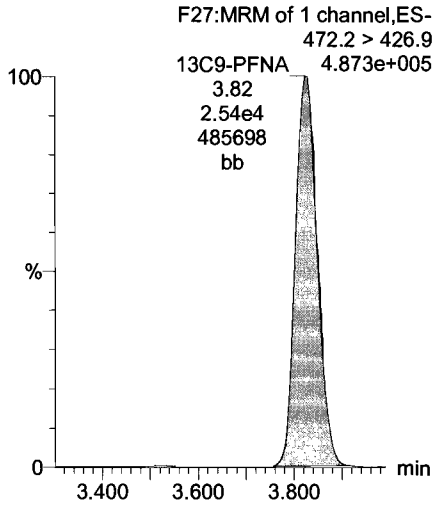
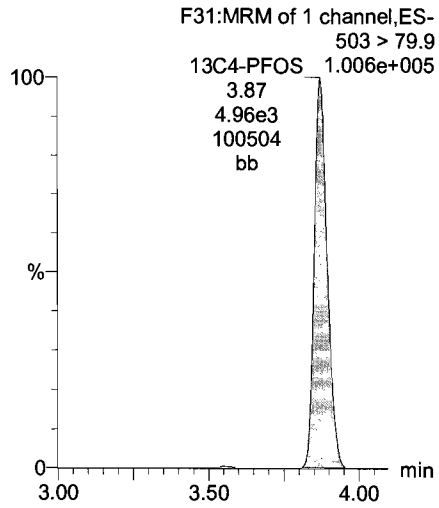
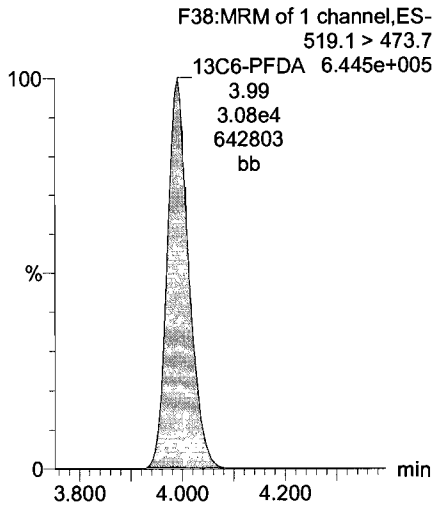


13C4-PFOS



13C6-PFDA



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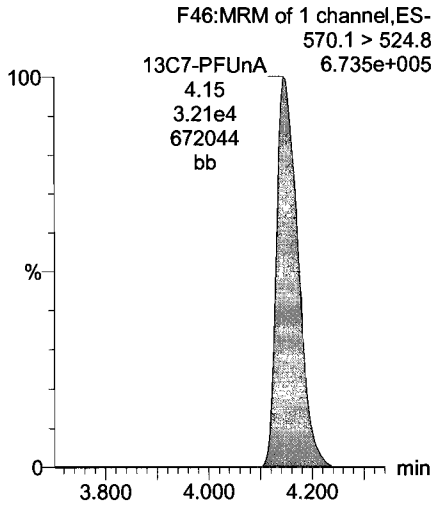

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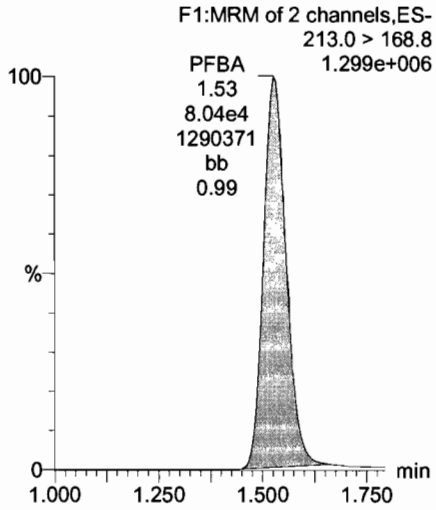
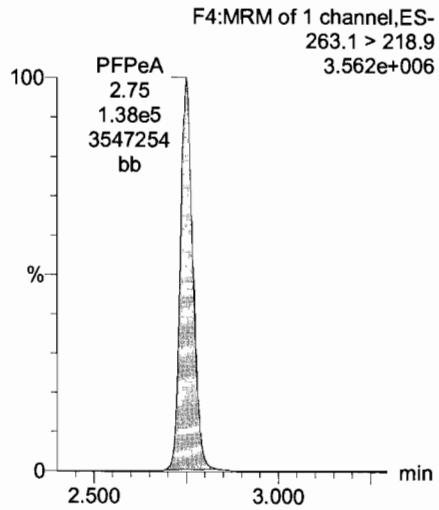
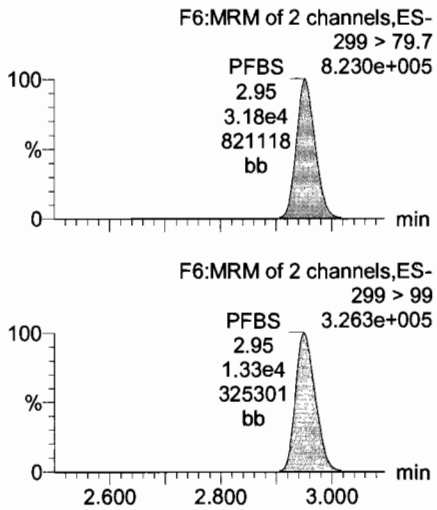
PFBA



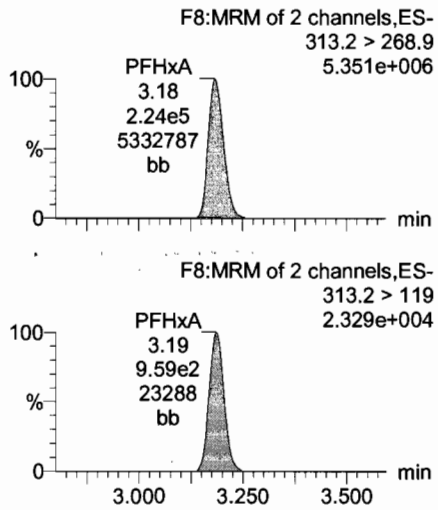
PFPeA



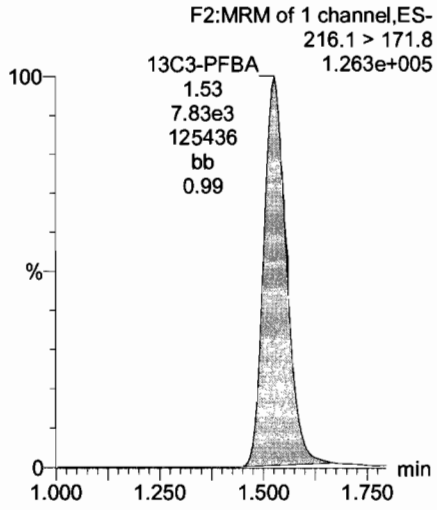
Total PFBS



PFHxA



13C3-PFBA



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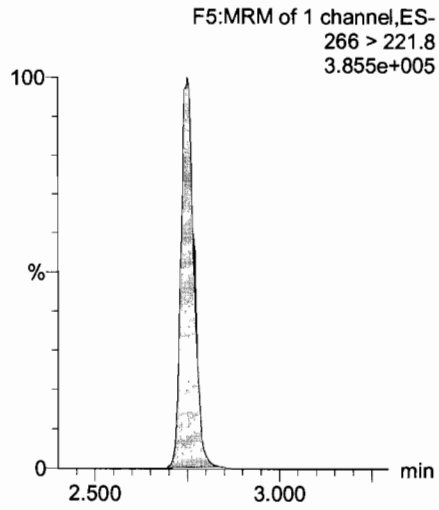

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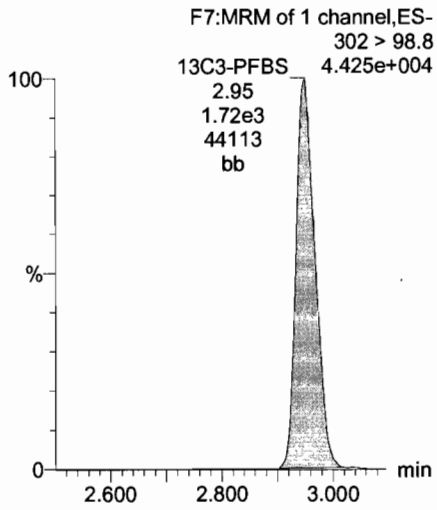
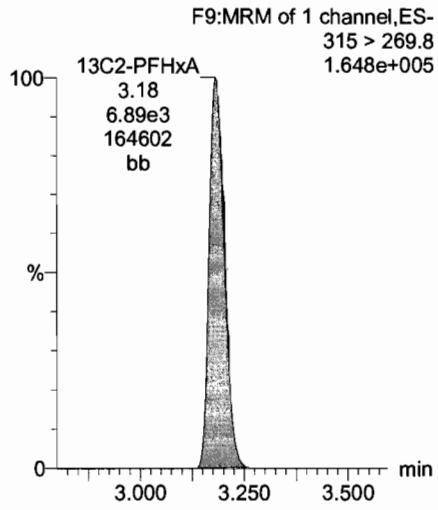


13C2-PFHxA

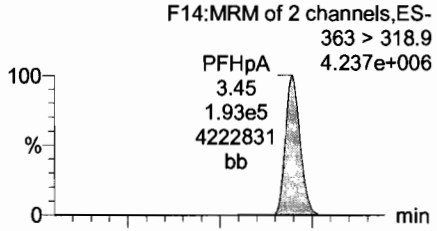


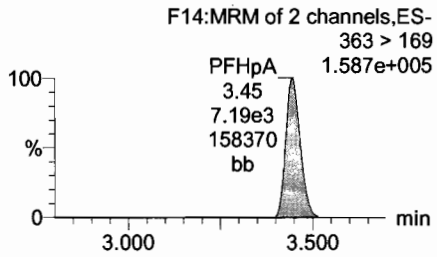
Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_9, Date: 10-Jul-2017, Time: 17:50:33, ID: ST170710M3-8 PFC CS5 17G1010, Description: PFC CS5 17G1010

PFHpA





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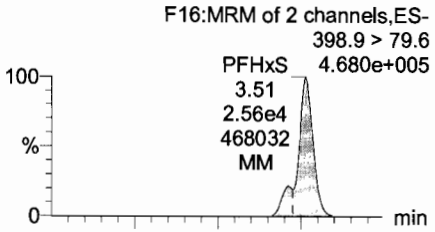
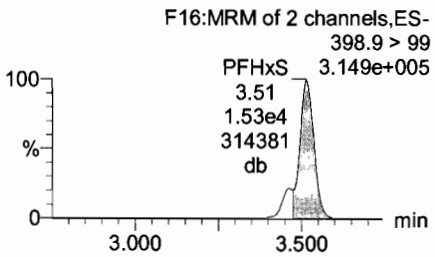
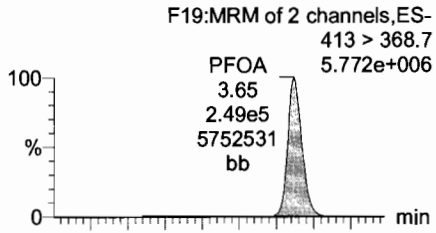
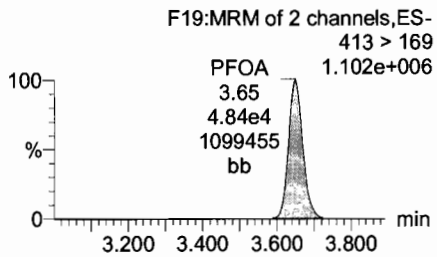




Total PFOA





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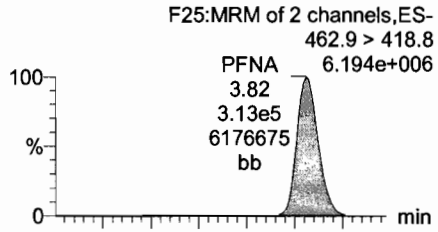
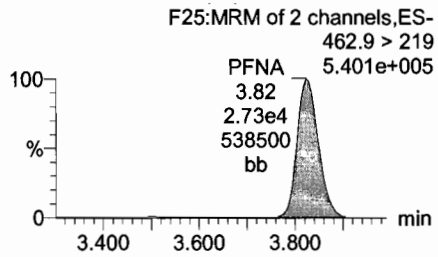
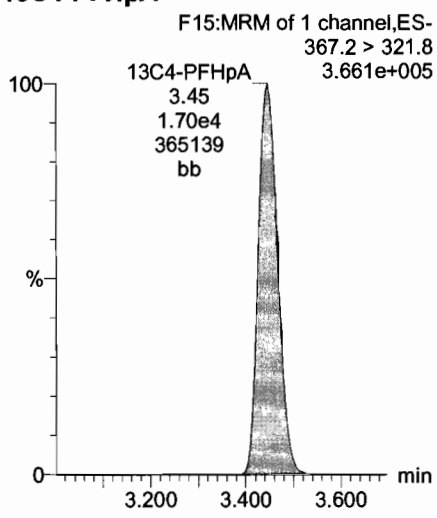
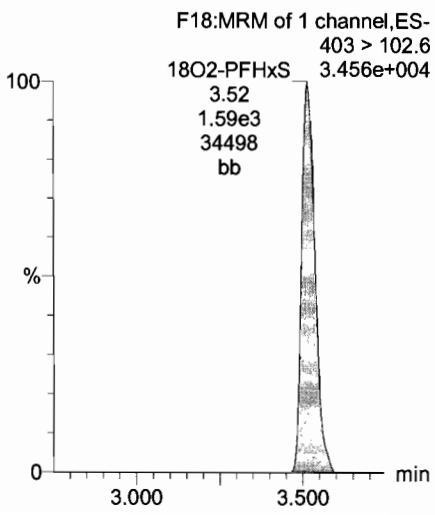




13C4-PFHpA



18O2-PFHxS



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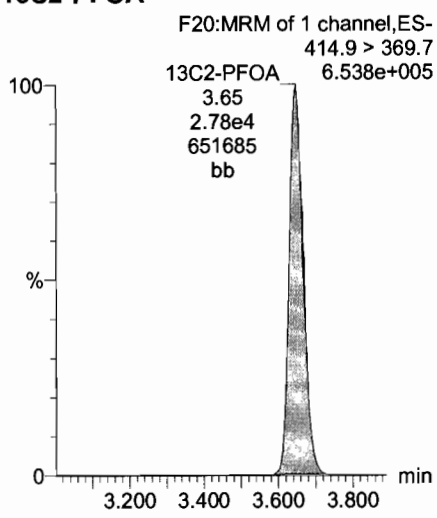

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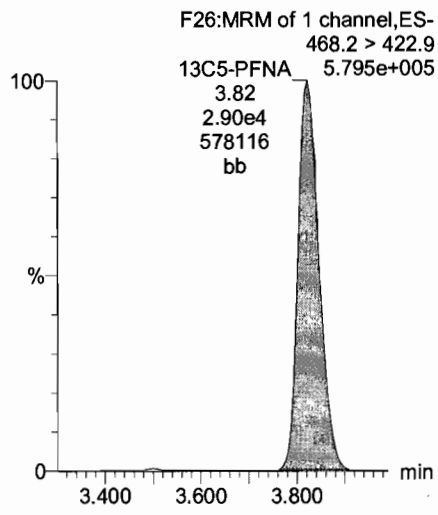

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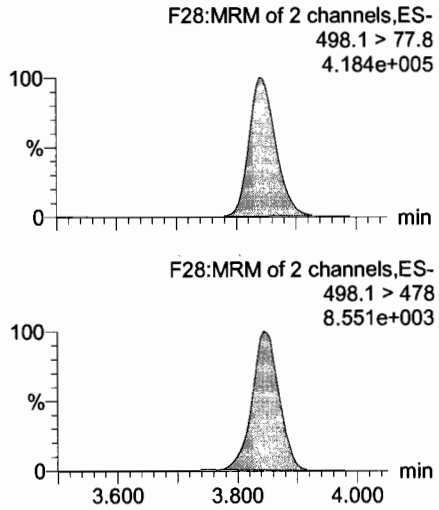
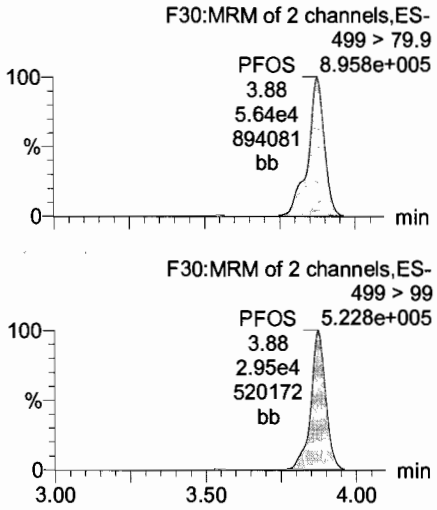
Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_9, Date: 10-Jul-2017, Time: 17:50:33, ID: ST170710M3-8 PFC CS5 17G1010, Description: PFC CS5 17G1010

PFOSA



Total PFOS



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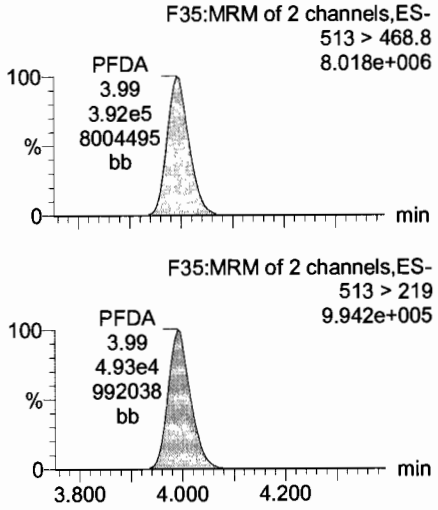
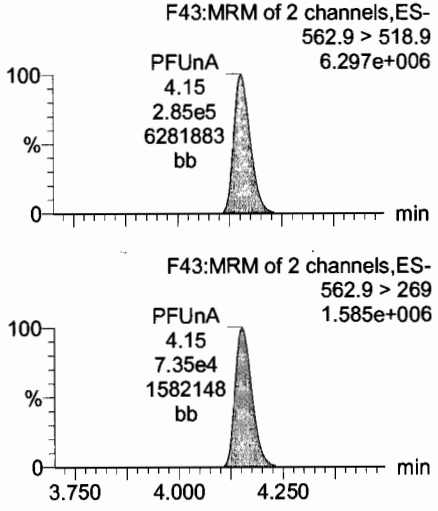


PFUnA



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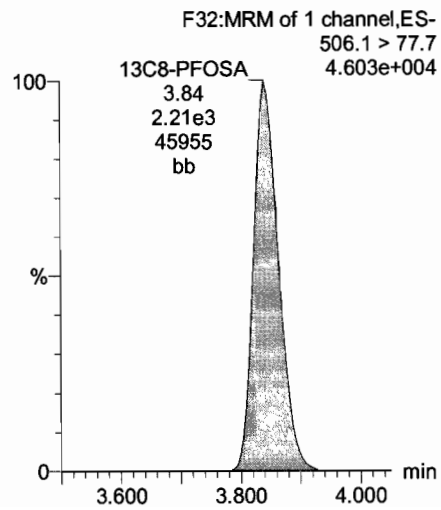

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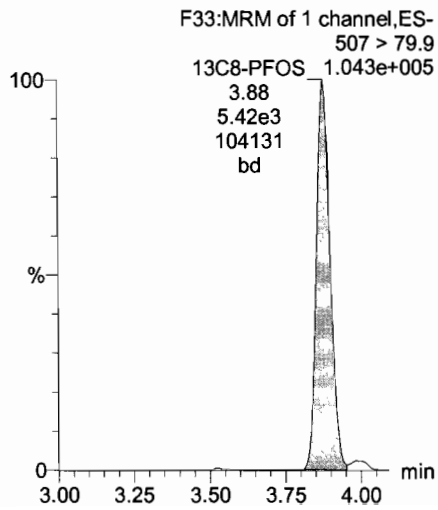

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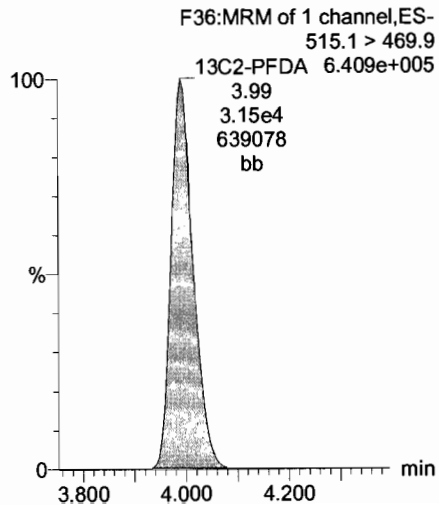
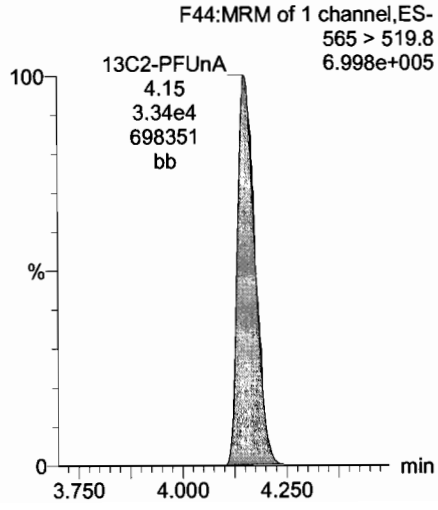


13C2-PFUnA



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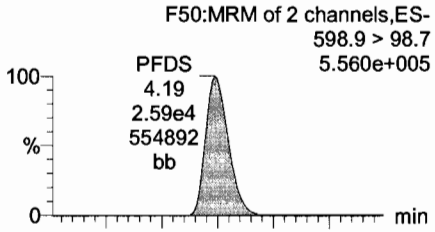
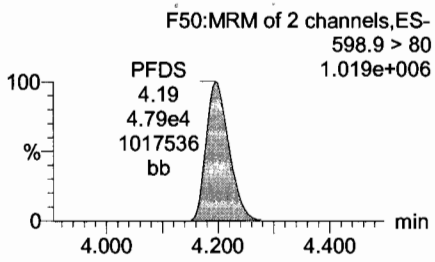
Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

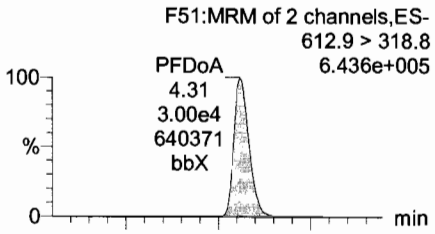
Name: 170710M3_9, Date: 10-Jul-2017, Time: 17:50:33, ID: ST170710M3-8 PFC CS5 17G1010, Description: PFC CS5 17G1010

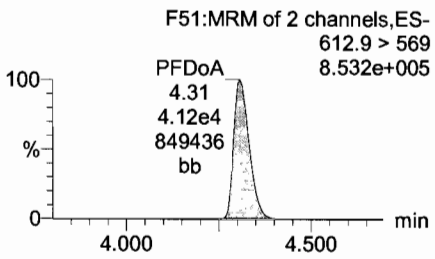
PFDS





PFDoA





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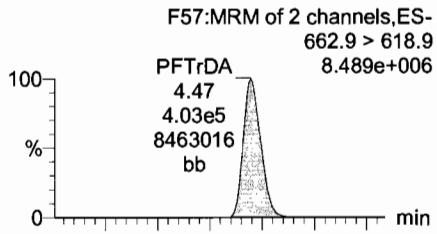

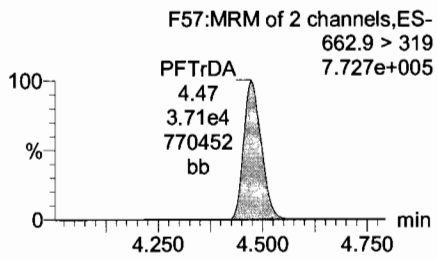

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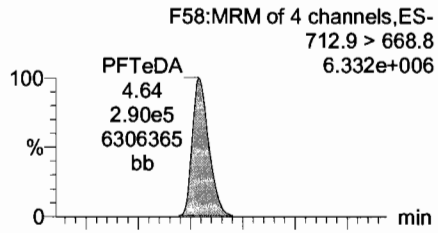
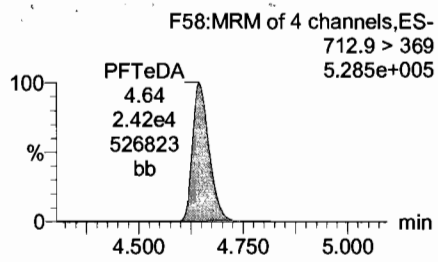
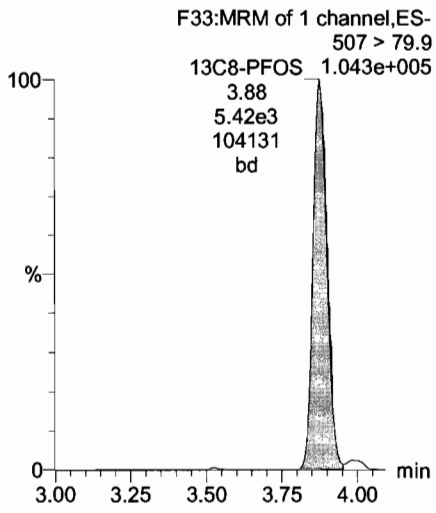
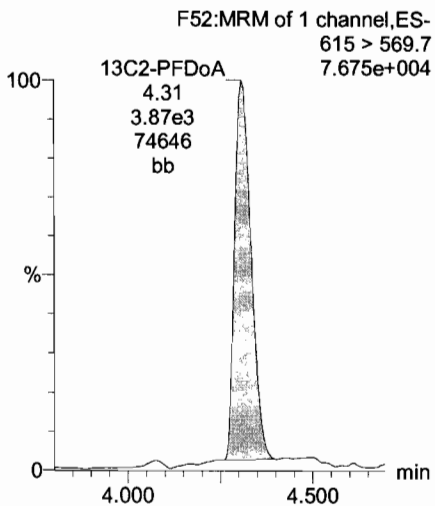




13C8-PFOS



13C2-PFDoA



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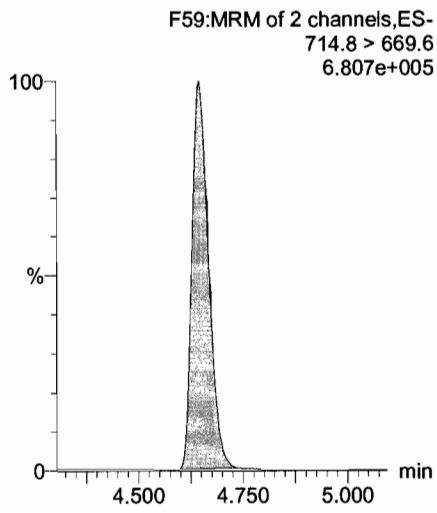

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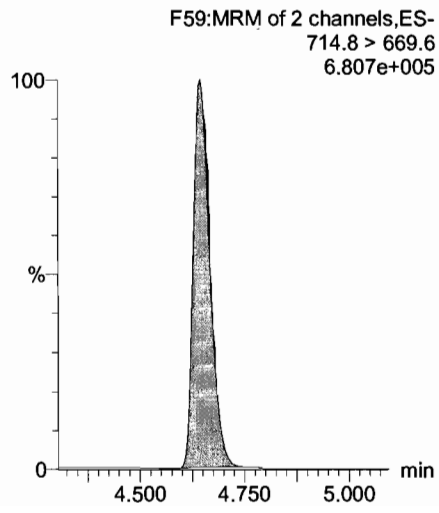

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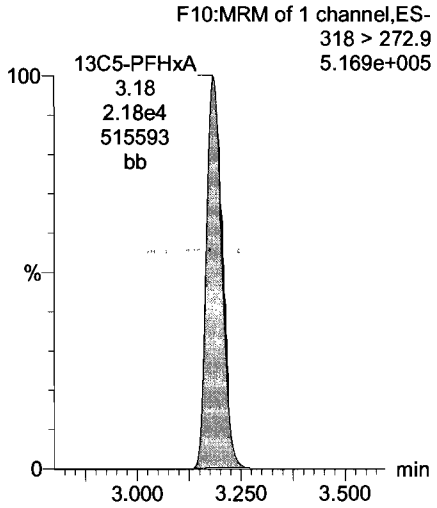
Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:08:08 Pacific Daylight Time

Name: 170710M3_9, Date: 10-Jul-2017, Time: 17:50:33, ID: ST170710M3-8 PFC CS5 17G1010, Description: PFC CS5 17G1010

13C5-PFHxA



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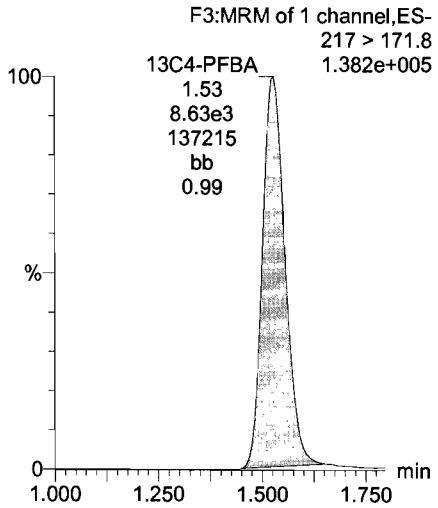
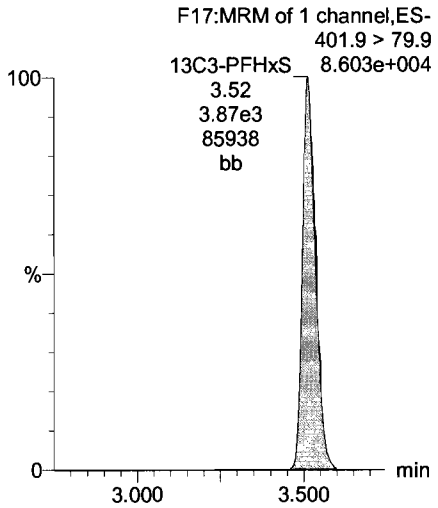


13C3-PFHxS



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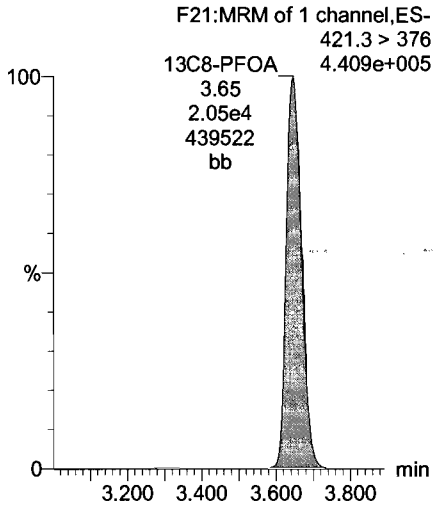
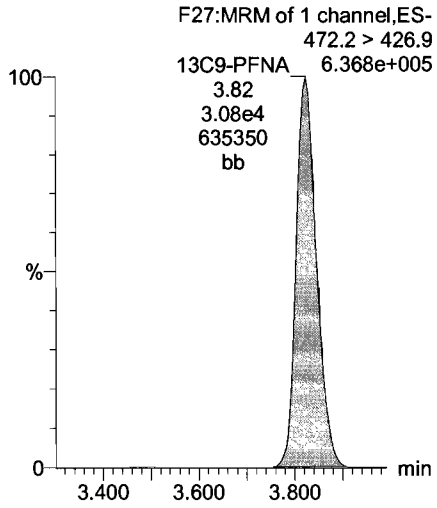


13C9-PFNA



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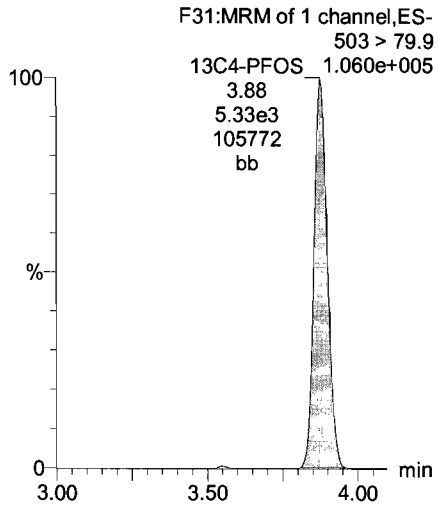
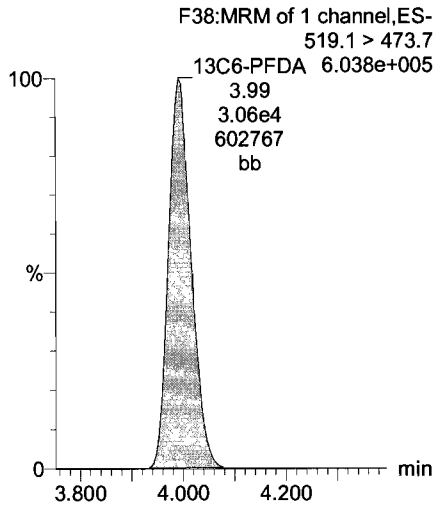
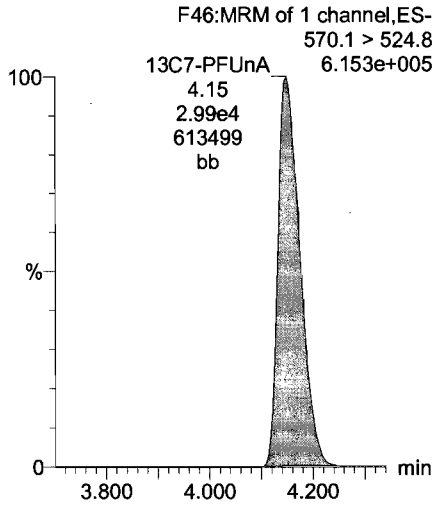


13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170710M3\170710M3-11-L16.qld

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Printed: Tuesday, July 11, 2017 17:19:10 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 17:05:26
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

7/11/17 ✓AC 7/12/17

Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	7.14e3	7.22e3	1.000		1.50	1.53	12.4	9.37	93.7
2	2	PFPeA	263.1 > 218.9	1.10e4	1.36e4	1.000		2.72	2.76	10.1	9.11	91.1
3	3	PFBS	299 > 79.7	2.41e3	1.62e3	1.000		2.92	2.95	18.6	8.23	82.3
4	4	PFHxA	313.2 > 268.9	1.88e4	6.57e3	1.000		3.16	3.19	14.3	8.71	87.1
5	5	PFHpA	363 > 318.9	1.55e4	1.56e4	1.000		3.43	3.45	12.4	8.62	86.2
6	6	PFHxS	398.9 > 79.6	1.79e3	1.43e3	1.000		3.55	3.51	15.6	8.08	80.8
7	7	PFOA	413 > 368.7	2.07e4	2.44e4	1.000		3.63	3.65	10.6	9.19	91.9
8	8	PFNA	462.9 > 418.8	2.58e4	2.82e4	1.000		3.82	3.82	11.5	8.34	83.4
9	9	PFOSA	498.1 > 77.8	1.85e3	1.90e3	1.000		3.83	3.84	12.2	10.3	103.4
10	10	PFOS	499 > 79.9	4.20e3	4.85e3	1.000		3.86	3.88	10.8	9.62	96.2
11	11	PFDA	513 > 468.8	3.07e4	2.87e4	1.000		4.00	3.99	13.4	8.73	87.3
12	12	PFUnA	562.9 > 518.9	2.51e4	3.22e4	1.000		4.16	4.15	9.72	9.95	99.5
13	13	PFDS	598.9 > 98.7	2.18e3	3.22e4	1.000		4.20	4.19	0.846	9.36	93.6
14	14	PFDoA	612.9 > 318.8	2.76e3	3.66e3	1.000		4.32	4.30	9.43	11.4	113.6
15	15	PFTrDA	662.9 > 618.9	3.48e4	3.66e3	1.000		4.50	4.47	119	8.96	89.6
16	16	PFTeDA	712.9 > 668.8	2.52e4	2.75e4	1.000		4.66	4.64	11.4	9.06	90.6
17	17	13C3-PFBA	216.1 > 171.8	7.22e3	8.20e3	1.000	0.918	1.53	1.53	11.0	12.0	95.8
18	18	13C3-PFPeA	266 > 221.8	1.36e4	8.20e3	1.000	1.781	2.72	2.75	20.7	11.6	93.2
19	19	13C3-PFBS	302 > 98.8	1.62e3	8.20e3	1.000	0.215	2.92	2.96	2.46	11.4	91.6
20	20	13C2-PFHxA	315 > 269.8	6.57e3	2.07e4	1.000	0.304	3.16	3.19	1.59	5.22	104.3
21	21	13C4-PFHpA	367.2 > 321.8	1.56e4	2.07e4	1.000	0.306	3.43	3.45	3.77	12.3	98.6
22	22	18O2-PFHxS	403 > 102.6	1.43e3	3.46e3	1.000	0.437	3.55	3.52	5.18	11.9	94.9
23	23	13C2-PFOA	414.9 > 369.7	2.44e4	1.73e4	1.000	1.292	3.63	3.65	17.6	13.6	109.2
24	24	13C5-PFNA	468.2 > 422.9	2.82e4	2.84e4	1.000	0.980	3.82	3.82	12.4	12.6	101.1
25	25	13C8-PFOSA	506.1 > 77.7	1.90e3	3.24e4	1.000	0.070	3.83	3.84	0.733	10.5	84.1
26	26	13C8-PFOS	507 > 79.9	4.85e3	5.16e3	1.000	1.098	3.86	3.88	11.8	10.7	85.6
27	27	13C2-PFDA	515.1 > 469.9	2.87e4	3.44e4	1.000	0.928	4.00	3.99	10.4	11.2	90.0
28	28	13C2-PFUnA	565 > 519.8	3.22e4	3.24e4	1.000	1.083	4.16	4.15	12.4	11.5	91.8
29	29	13C2-PFDoA	615 > 569.7	3.66e3	3.24e4	1.000	0.130	4.32	4.30	1.41	10.9	87.1
30	30	13C2-PFTeDA	714.8 > 669.6	2.75e4	3.24e4	1.000	1.018	4.66	4.64	10.6	10.4	83.5
31	31	13C4-PFBA	217 > 171.8	8.20e3	8.20e3	1.000	1.000	1.53	1.53	12.5	12.5	100.0

70-130

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170710M3\170710M3-11-L16.qld

Last Altered: Tuesday, July 11, 2017 17:18:50 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:19:10 Pacific Daylight Time

Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C5-PFHxA	318 > 272.9	2.07e4	2.07e4	1.000	1.000	3.16	3.18	5.00	5.00	100.0
33	33	13C3-PFHxS	401.9 > 79.9	3.46e3	3.46e3	1.000	1.000	3.55	3.52	12.5	12.5	100.0
34	34	13C8-PFOA	421.3 > 376	1.73e4	1.73e4	1.000	1.000	3.63	3.65	12.5	12.5	100.0
35	35	13C9-PFNA	472.2 > 426.9	2.84e4	2.84e4	1.000	1.000	3.82	3.82	12.5	12.5	100.0
36	36	13C4-PFOS	503 > 79.9	5.16e3	5.16e3	1.000	1.000	3.86	3.87	12.5	12.5	100.0
37	37	13C6-PFDA	519.1 > 473.7	3.44e4	3.44e4	1.000	1.000	4.00	3.99	12.5	12.5	100.0
38	38	13C7-PFUnA	570.1 > 524.8	3.24e4	3.24e4	1.000	1.000	4.16	4.15	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170710M3\170710M3-11-L16.qld

Last Altered: Tuesday, July 11, 2017 17:18:50 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:19:10 Pacific Daylight Time

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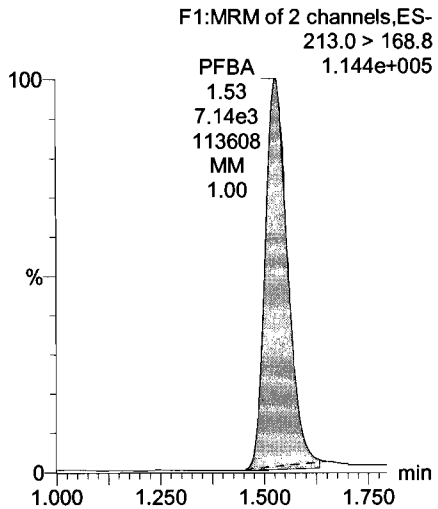
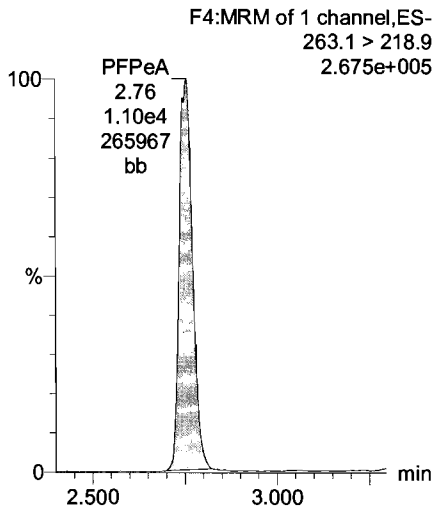
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

PFBA



PFPeA



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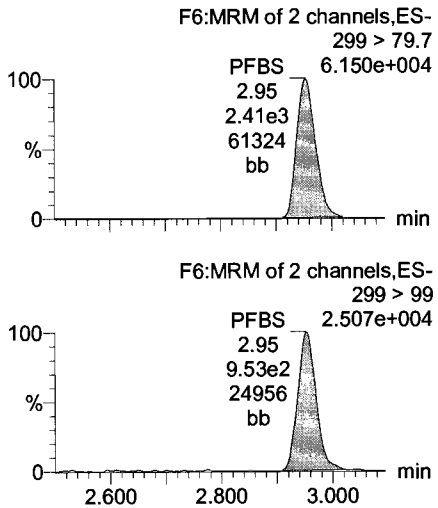
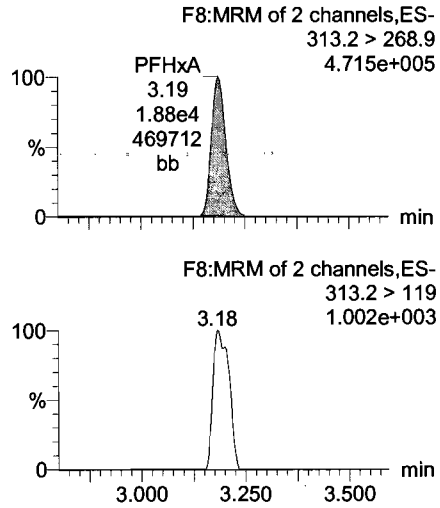


PFHxA



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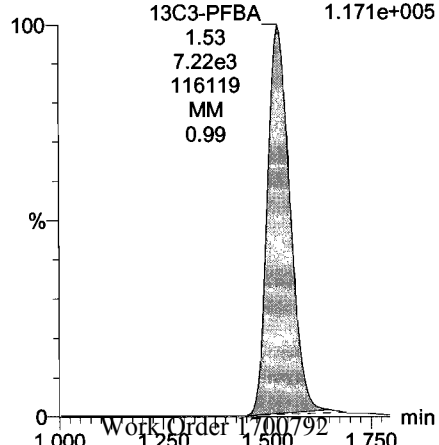

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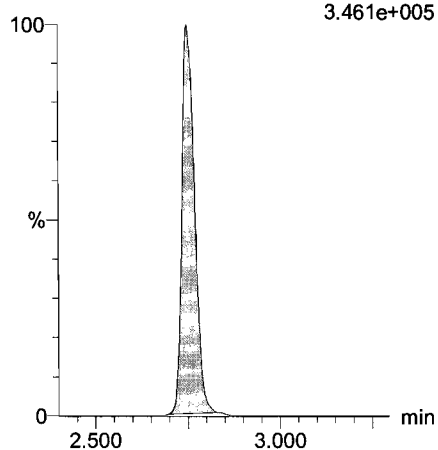

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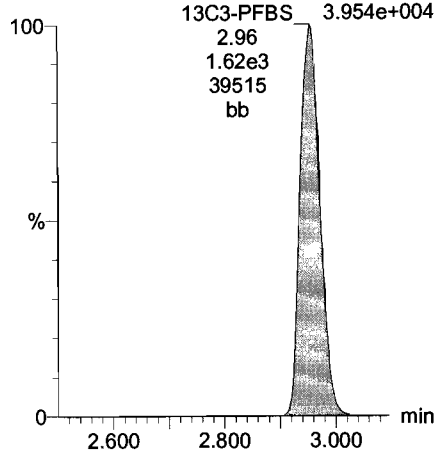

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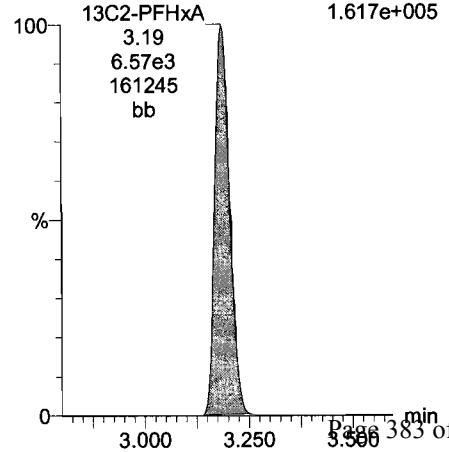

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Last Altered: Tuesday, July 11, 2017 17:18:50 Pacific Daylight Time
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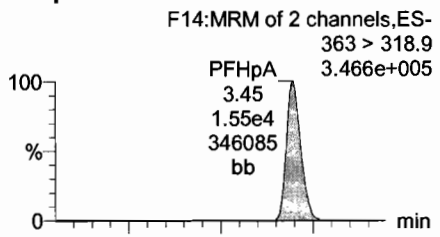
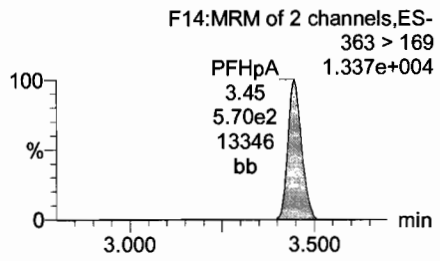
Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

PFHpA





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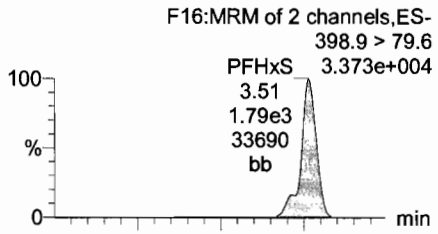

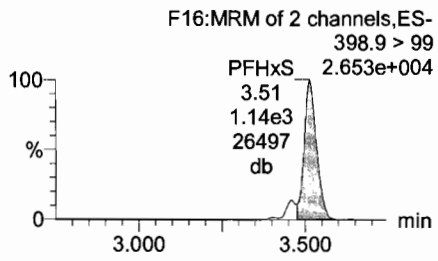

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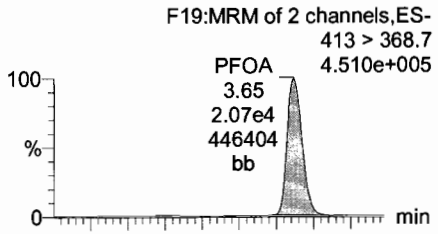

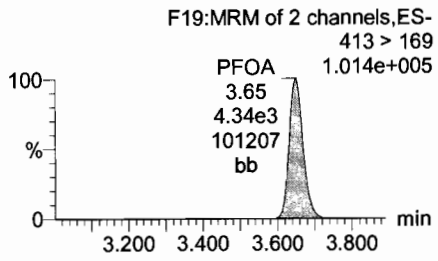

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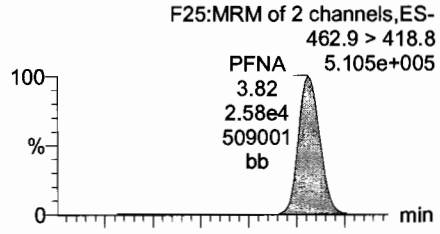

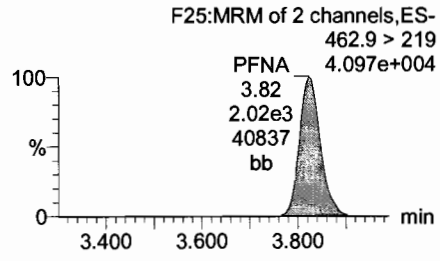

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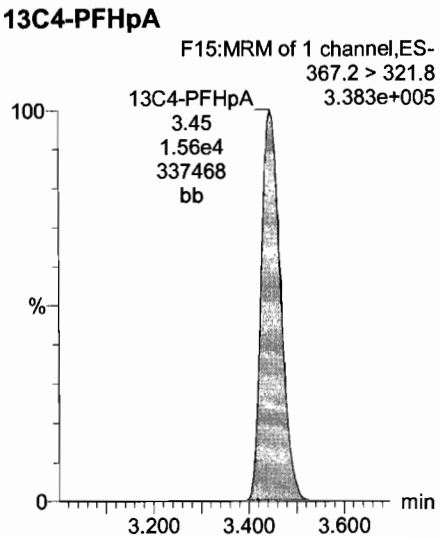
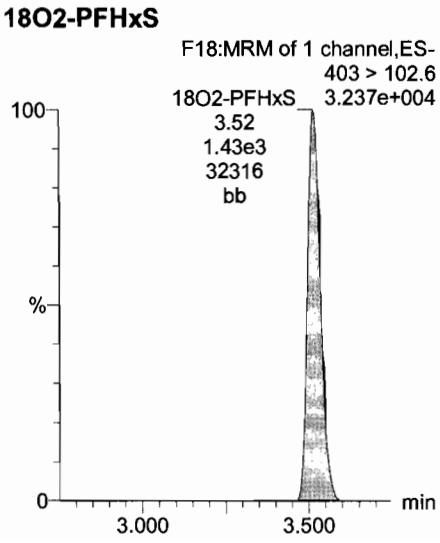


18O2-PFHxS



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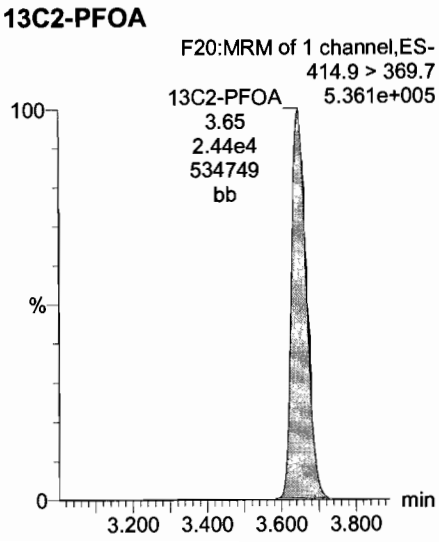

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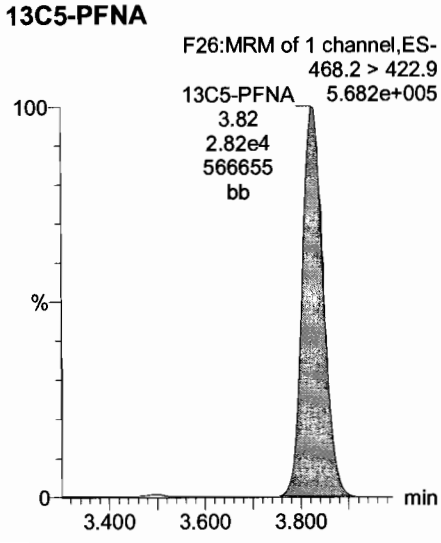

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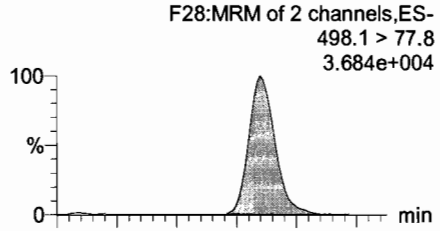
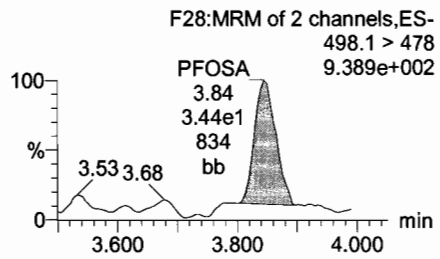
Printed: Tuesday, July 11, 2017 17:19:10 Pacific Daylight Time

Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

PFOSA





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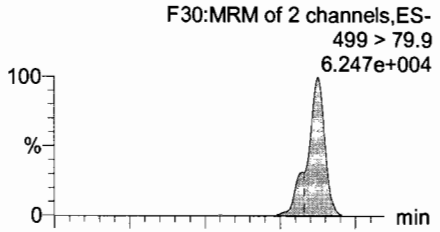

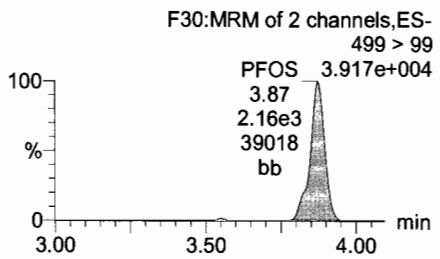

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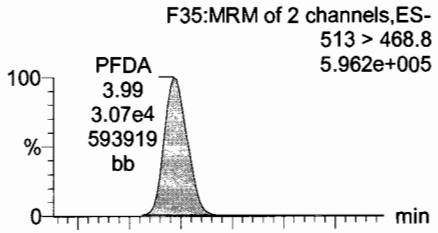
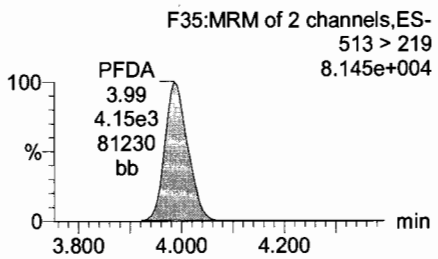
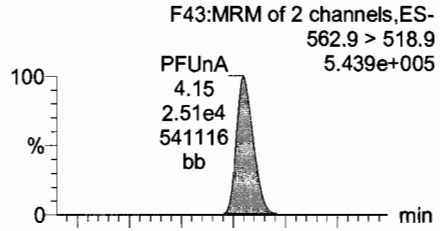
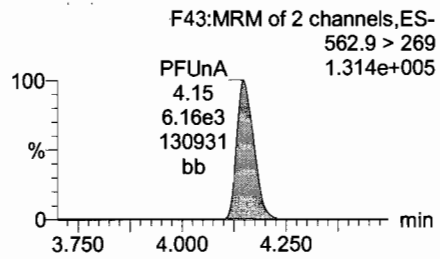




PFUnA





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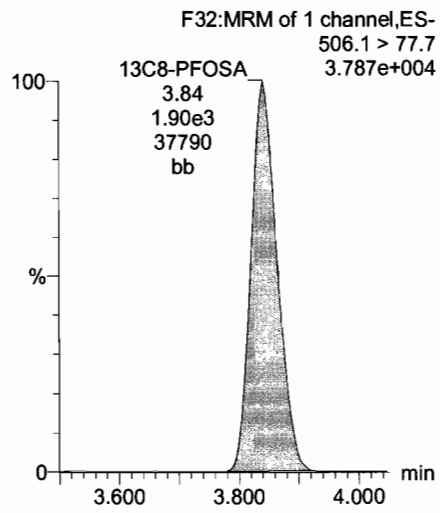
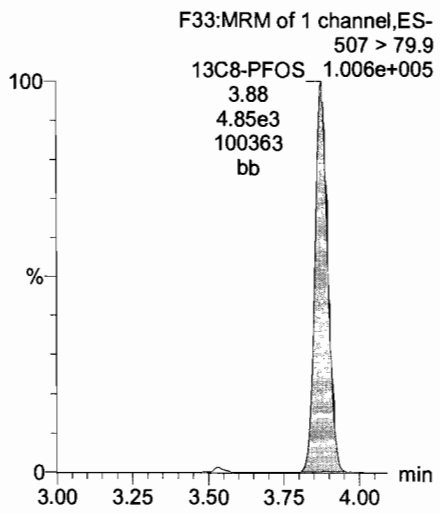
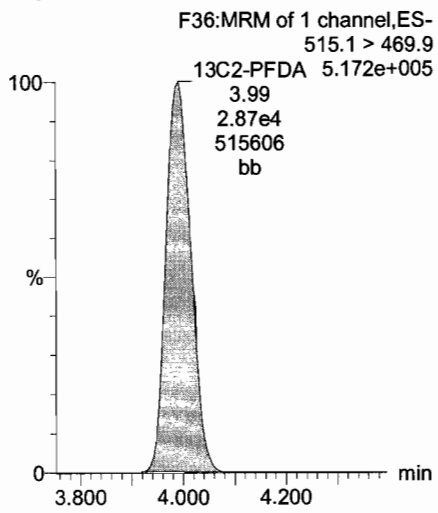


13C8-PFOS



13C2-PFDA



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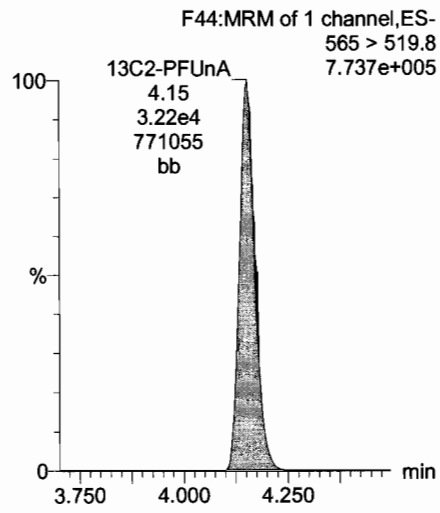

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Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

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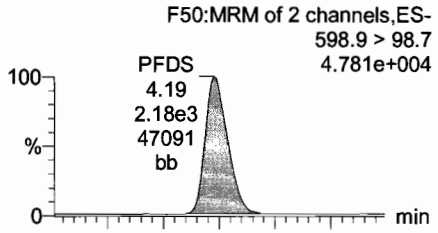
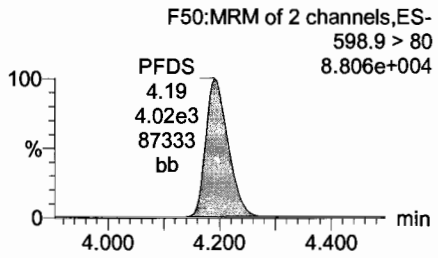
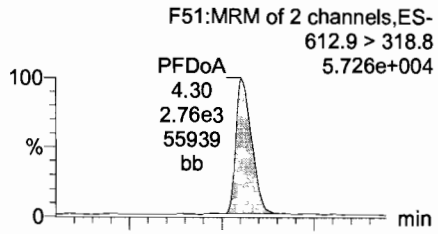
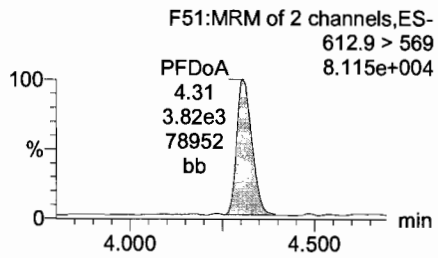


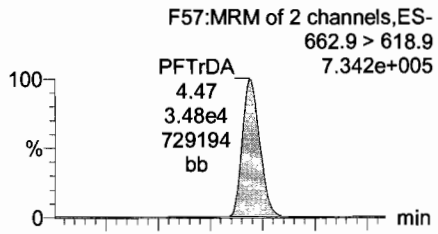


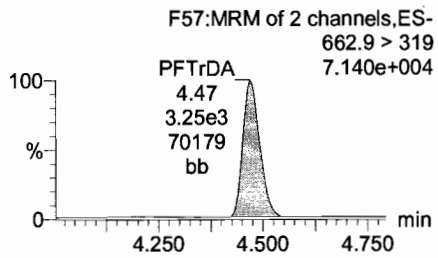
PFDoA





PFTrDA





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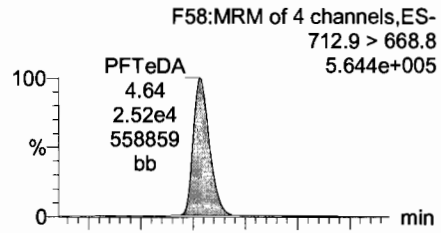
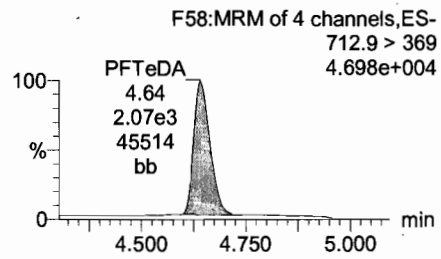
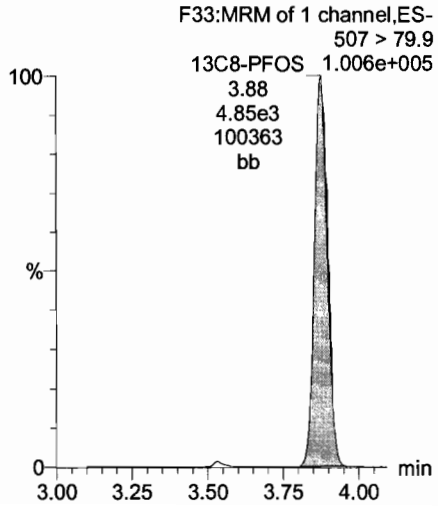
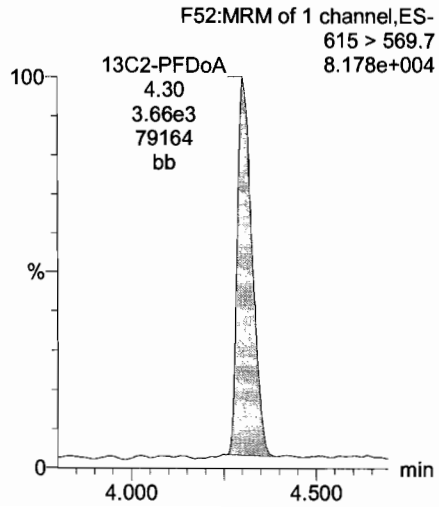




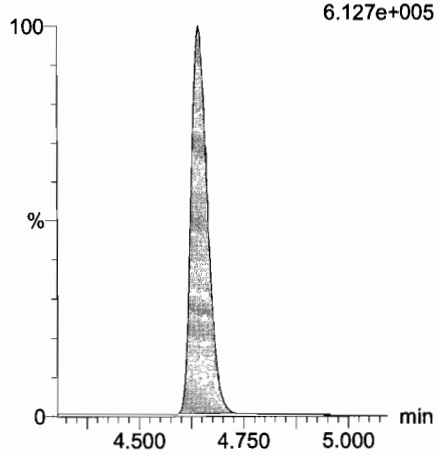
13C8-PFOS



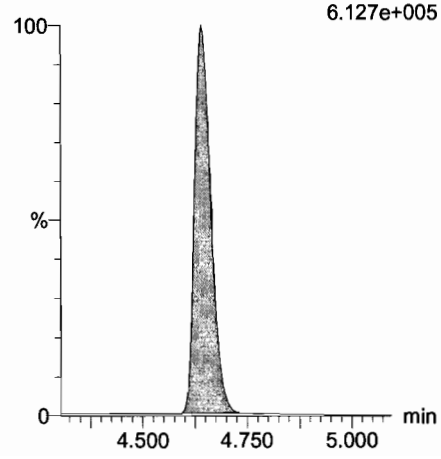
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

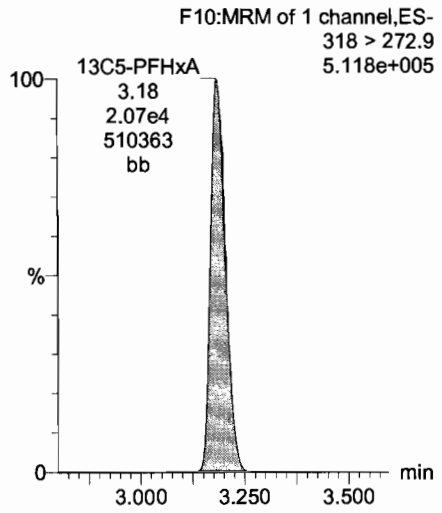


Dataset: U:\Q4.PRO\results\170710M3\170710M3-11-L16.qld

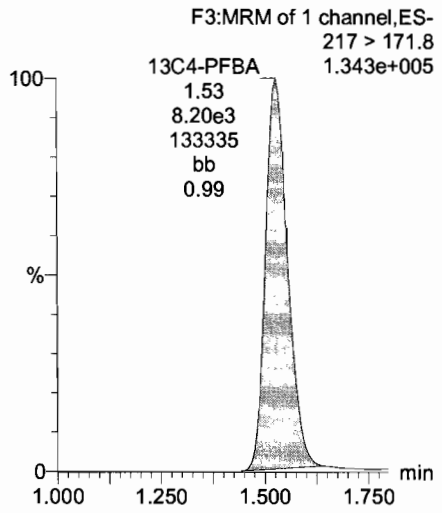
Last Altered: Tuesday, July 11, 2017 17:18:50 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:19:10 Pacific Daylight Time

Name: 170710M3_11, Date: 10-Jul-2017, Time: 18:11:57, ID: SS170710M3-1 PFC SSS 17G1011, Description: PFC SSS 17G1011

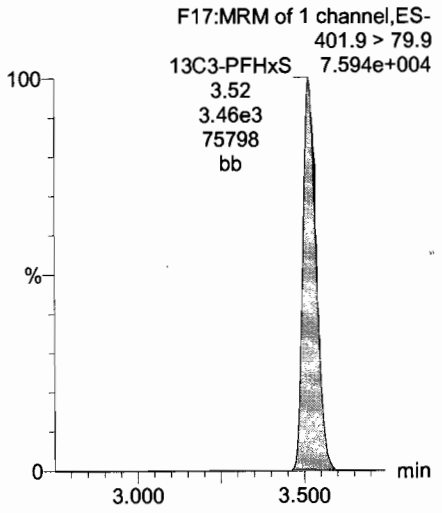
13C5-PFHxA



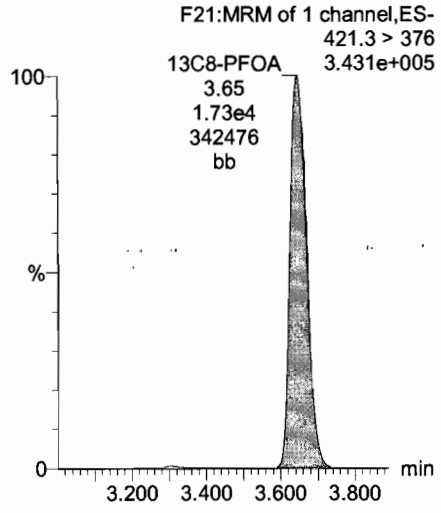
13C4-PFBA



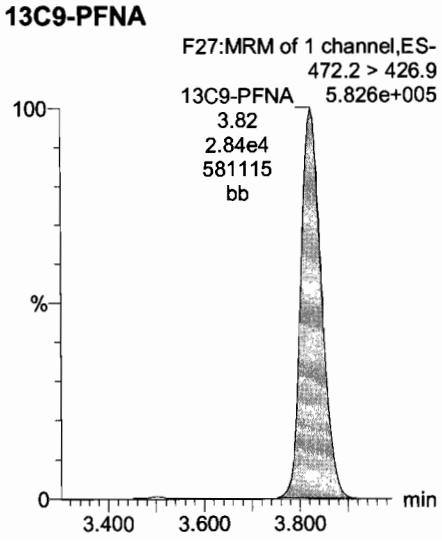
13C3-PFHxS



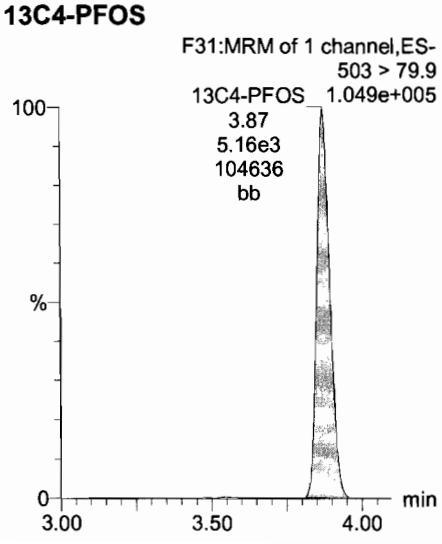
13C8-PFOA



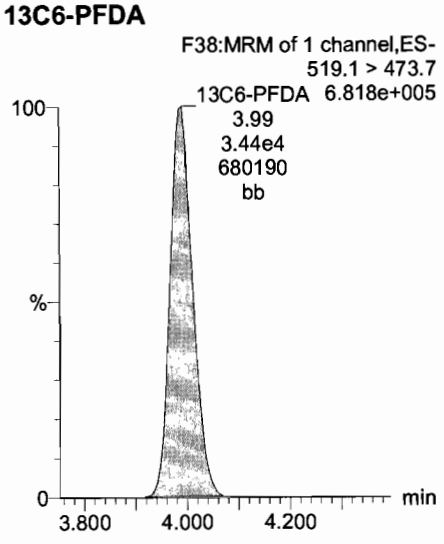
13C9-PFNA



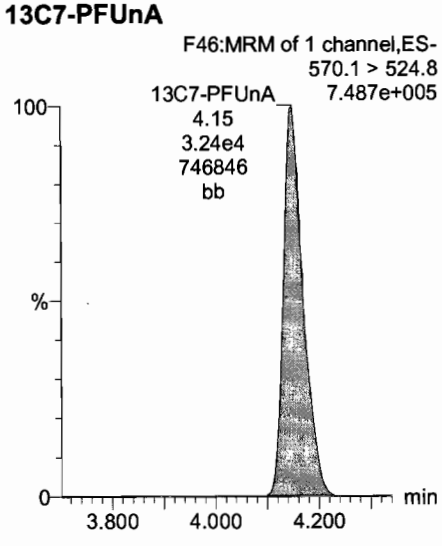
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFBA
Correlation coefficient: r = 0.999903, r^2 = 0.999805
Calibration curve: 0.812368 * x + 0.0615352
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	1.72	3.49e2	1.58e4	0.264	5.7	1.10
2	2	170711G3_3	0.500	1.74	5.86e2	1.55e4	0.505	1.1	0.944
3	3	170711G3_4	1.00	1.73	1.21e3	1.81e4	0.951	-4.9	0.834
4	4	170711G3_5	2.00	1.73	2.38e3	1.72e4	2.05	2.4	0.863
5	5	170711G3_6	5.00	1.73	5.55e3	1.70e4	4.96	-0.9	0.818
6	6	170711G3_7	10.0	1.73	9.97e3	1.59e4	9.56	-4.4	0.783
7	7	170711G3_8	50.0	1.73	5.56e4	1.69e4	50.6	1.2	0.823
8	8	170711G3_9	100	1.73	1.04e5	1.60e4	99.9	-0.1	0.812

7/12/17

✓ AC 7/12/17

Compound name: PFPeA
Correlation coefficient: r = 0.999205, r^2 = 0.998411
Calibration curve: 1.19919 * x + -0.0457496
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	2.66	1.45e2	6.49e3	0.270	8.1	1.11
2	2	170711G3_3	0.500	2.66	2.85e2	6.41e3	0.502	0.4	1.11
3	3	170711G3_4	1.00	2.66	6.45e2	6.98e3	1.00	0.1	1.15
4	4	170711G3_5	2.00	2.66	1.12e3	6.82e3	1.75	-12.6	1.02
5	5	170711G3_6	5.00	2.66	2.99e3	6.09e3	5.15	3.0	1.23
6	6	170711G3_7	10.0	2.66	6.17e3	6.20e3	10.4	4.1	1.24
7	7	170711G3_8	50.0	2.66	2.92e4	6.43e3	47.3	-5.4	1.13
8	8	170711G3_9	100	2.66	5.32e4	5.42e3	102	2.4	1.23

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999521, r^2 = 0.999042
Calibration curve: 2.23981 * x + -0.119881
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	2.94	1.58e2	3.78e3	0.287	14.9	2.09
2	2	170711G3_3	0.500	2.93	2.53e2	3.62e3	0.444	-11.2	1.75
3	3	170711G3_4	1.00	2.93	6.93e2	4.02e3	1.02	1.7	2.16
4	4	170711G3_5	2.00	2.93	1.40e3	3.91e3	2.05	2.3	2.23
5	5	170711G3_6	5.00	2.93	3.08e3	3.39e3	5.13	2.6	2.27
6	6	170711G3_7	10.0	2.93	5.58e3	3.54e3	8.85	-11.5	1.97
7	7	170711G3_8	50.0	2.94	2.76e4	3.07e3	50.3	0.5	2.25
8	8	170711G3_9	100	2.94	5.08e4	2.82e3	101	0.7	2.25

Compound name: PFHxA
Correlation coefficient: r = 0.999444, r^2 = 0.998888
Calibration curve: 1.90952 * x + 0.14452
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	3.32	2.43e2	6.03e3	0.188	-24.9	2.01
2	2	170711G3_3	0.500	3.32	5.14e2	5.41e3	0.546	9.1	2.37
3	3	170711G3_4	1.00	3.31	1.01e3	6.15e3	0.997	-0.3	2.05
4	4	170711G3_5	2.00	3.32	2.17e3	5.99e3	2.29	14.5	2.26
5	5	170711G3_6	5.00	3.32	4.55e3	5.79e3	5.07	1.5	1.97
6	6	170711G3_7	10.0	3.31	8.97e3	5.92e3	9.85	-1.5	1.89
7	7	170711G3_8	50.0	3.32	4.41e4	5.56e3	51.9	3.8	1.98
8	8	170711G3_9	100	3.32	7.99e4	5.34e3	97.9	-2.1	1.87

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: r = 0.999678, r^2 = 0.999357
Calibration curve: 2.37086 * x + 0.00117983
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	3.82	3.62e2	7.37e3	0.259	3.6	2.46
2	2	170711G3_3	0.500	3.82	7.13e2	7.16e3	0.524	4.9	2.49
3	3	170711G3_4	1.00	3.82	1.64e3	8.40e3	1.03	3.0	2.44
4	4	170711G3_5	2.00	3.83	2.94e3	8.04e3	1.93	-3.6	2.29
5	5	170711G3_6	5.00	3.83	6.53e3	7.67e3	4.49	-10.2	2.13
6	6	170711G3_7	10.0	3.83	1.38e4	7.22e3	10.1	0.6	2.39
7	7	170711G3_8	50.0	3.83	6.29e4	6.46e3	51.4	2.7	2.44
8	8	170711G3_9	100	3.83	1.13e5	6.02e3	99.1	-0.9	2.35

Compound name: PFHxS
Correlation coefficient: r = 0.999359, r^2 = 0.998718
Calibration curve: 2.089 * x + 0.0768621
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	3.95	1.52e2	3.62e3	0.214	-14.4	2.10
2	2	170711G3_3	0.500	3.95	3.06e2	3.28e3	0.522	4.4	2.33
3	3	170711G3_4	1.00	3.95	6.74e2	3.99e3	0.975	-2.5	2.11
4	4	170711G3_5	2.00	3.95	1.27e3	3.53e3	2.11	5.7	2.25
5	5	170711G3_6	5.00	3.95	3.06e3	3.54e3	5.14	2.8	2.16
6	6	170711G3_7	10.0	3.95	5.64e3	3.30e3	10.2	2.1	2.14
7	7	170711G3_8	50.0	3.95	2.86e4	3.27e3	52.3	4.7	2.19
8	8	170711G3_9	100	3.95	5.14e4	3.16e3	97.2	-2.8	2.03

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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Compound name: PFOA
Correlation coefficient: r = 0.999784, r^2 = 0.999567
Calibration curve: 0.87047 * x + 0.0781634
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	4.24	3.08e2	1.58e4	0.189	-24.2	0.972
2	2	170711G3_3	0.500	4.23	6.61e2	1.55e4	0.523	4.6	1.07
3	3	170711G3_4	1.00	4.23	1.61e3	1.90e4	1.13	12.6	1.06
4	4	170711G3_5	2.00	4.23	2.62e3	1.69e4	2.13	6.5	0.966
5	5	170711G3_6	5.00	4.23	5.77e3	1.62e4	5.04	0.8	0.893
6	6	170711G3_7	10.0	4.23	1.26e4	1.81e4	9.90	-1.0	0.869
7	7	170711G3_8	50.0	4.24	6.04e4	1.70e4	50.9	1.8	0.888
8	8	170711G3_9	100	4.24	1.09e5	1.59e4	98.9	-1.1	0.862

Compound name: PFNA
Coefficient of Determination: R^2 = 0.998825
Calibration curve: -0.00319585 * x^2 + 2.90085 * x + -0.200852
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	170711G3_2	0.250	4.57	2.30e2	5.19e3	0.261	4.3	2.22
2	2	170711G3_3	0.500	4.57	5.05e2	4.82e3	0.520	4.1	2.62
3	3	170711G3_4	1.00	4.57	1.24e3	5.54e3	1.04	3.8	2.81
4	4	170711G3_5	2.00	4.57	2.50e3	5.55e3	2.02	0.9	2.82
5	5	170711G3_6	5.00	4.57	4.65e3	4.55e3	4.49	-10.2	2.55
6	6	170711G3_7	10.0	4.57	1.07e4	5.00e3	9.42	-5.8	2.68
7	7	170711G3_8	50.0	4.57	5.65e4	4.97e3	52.0	4.1	2.84
8	8	170711G3_9	100	4.57	9.65e4	4.72e3	98.9	-1.1	2.56

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Compound name: PFOS
Correlation coefficient: r = 0.999086, r^2 = 0.998172
Calibration curve: 0.598169 * x + -0.0823444
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	4.62	3.18e1	5.02e3	0.270	7.9	0.316
2	2	170711G3_3	0.500	4.62	8.17e1	5.04e3	0.476	-4.7	0.405
3	3	170711G3_4	1.00	4.63	2.56e2	5.98e3	1.03	3.3	0.536
4	4	170711G3_5	2.00	4.63	4.27e2	5.14e3	1.87	-6.4	0.519
5	5	170711G3_6	5.00	4.63	1.01e3	4.82e3	4.53	-9.3	0.526
6	6	170711G3_7	10.0	4.63	2.26e3	4.48e3	10.7	6.9	0.631
7	7	170711G3_8	50.0	4.63	1.31e4	5.25e3	52.5	5.0	0.626
8	8	170711G3_9	100	4.63	2.48e4	5.33e3	97.4	-2.6	0.582

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998620
Calibration curve: 8.29904e-005 * x^2 + 0.207158 * x + 0.0227635
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	170711G3_2	0.250	4.86	4.10e1	8.43e3	0.184	-26.6	0.243
2	2	170711G3_3	0.500	4.86	7.86e1	8.93e3	0.421	-15.7	0.220
3	3	170711G3_4	1.00	4.86	2.54e2	1.13e4	1.25	24.7	0.281
4	4	170711G3_5	2.00	4.86	3.79e2	9.78e3	2.23	11.3	0.242
5	5	170711G3_6	5.00	4.86	8.46e2	9.56e3	5.22	4.4	0.221
6	6	170711G3_7	10.0	4.86	1.52e3	8.62e3	10.5	5.0	0.221
7	7	170711G3_8	50.0	4.86	9.66e3	1.19e4	48.1	-3.8	0.204
8	8	170711G3_9	100	4.86	1.86e4	1.07e4	101	0.8	0.218

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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Compound name: 13C3-PFBA
Response Factor: 1.34288
RRF SD: 0.0418579, Relative SD: 3.11703
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	1.73	1.58e4	1.23e4	12.0	-4.1	1.29
2	2	170711G3_3	12.5	1.73	1.55e4	1.20e4	12.0	-3.7	1.29
3	3	170711G3_4	12.5	1.73	1.81e4	1.33e4	12.6	1.1	1.36
4	4	170711G3_5	12.5	1.73	1.72e4	1.30e4	12.3	-1.7	1.32
5	5	170711G3_6	12.5	1.73	1.70e4	1.22e4	12.9	3.2	1.39
6	6	170711G3_7	12.5	1.73	1.59e4	1.14e4	13.0	3.8	1.39
7	7	170711G3_8	12.5	1.73	1.69e4	1.23e4	12.8	2.6	1.38
8	8	170711G3_9	12.5	1.73	1.60e4	1.20e4	12.3	-1.3	1.33

Compound name: 13C3-PFBS
Response Factor: 0.25962
RRF SD: 0.0207298, Relative SD: 7.98467
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	2.93	3.78e3	1.35e4	13.4	7.6	0.279
2	2	170711G3_3	12.5	2.93	3.62e3	1.34e4	13.0	3.9	0.270
3	3	170711G3_4	12.5	2.93	4.02e3	1.47e4	13.2	5.5	0.274
4	4	170711G3_5	12.5	2.93	3.91e3	1.44e4	13.0	4.3	0.271
5	5	170711G3_6	12.5	2.93	3.39e3	1.34e4	12.2	-2.3	0.254
6	6	170711G3_7	12.5	2.93	3.54e3	1.30e4	13.1	5.0	0.272
7	7	170711G3_8	12.5	2.93	3.07e3	1.38e4	10.7	-14.2	0.223
8	8	170711G3_9	12.5	2.94	2.82e3	1.20e4	11.3	-9.7	0.235

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

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Compound name: 13C3-PFPeA
Response Factor: 0.469572
RRF SD: 0.0107677, Relative SD: 2.29309
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	2.66	6.49e3	1.35e4	12.8	2.1	0.480
2	2	170711G3_3	12.5	2.66	6.41e3	1.34e4	12.7	1.8	0.478
3	3	170711G3_4	12.5	2.66	6.98e3	1.47e4	12.7	1.3	0.476
4	4	170711G3_5	12.5	2.66	6.82e3	1.44e4	12.6	0.6	0.472
5	5	170711G3_6	12.5	2.66	6.09e3	1.34e4	12.1	-2.9	0.456
6	6	170711G3_7	12.5	2.66	6.20e3	1.30e4	12.7	1.6	0.477
7	7	170711G3_8	12.5	2.66	6.43e3	1.38e4	12.4	-0.5	0.467
8	8	170711G3_9	12.5	2.66	5.42e3	1.20e4	12.0	-4.0	0.451

Compound name: 13C2-PFHxA
Response Factor: 0.427462
RRF SD: 0.019949, Relative SD: 4.66684
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.32	6.03e3	1.35e4	13.0	4.3	0.446
2	2	170711G3_3	12.5	3.32	5.41e3	1.34e4	11.8	-5.6	0.404
3	3	170711G3_4	12.5	3.32	6.15e3	1.47e4	12.3	-2.0	0.419
4	4	170711G3_5	12.5	3.32	5.99e3	1.44e4	12.1	-2.9	0.415
5	5	170711G3_6	12.5	3.32	5.79e3	1.34e4	12.7	1.4	0.434
6	6	170711G3_7	12.5	3.31	5.92e3	1.30e4	13.3	6.5	0.455
7	7	170711G3_8	12.5	3.32	5.56e3	1.38e4	11.8	-5.6	0.404
8	8	170711G3_9	12.5	3.32	5.34e3	1.20e4	13.0	3.9	0.444

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

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Compound name: 13C4-PFHpA
Response Factor: 0.538432
RRF SD: 0.0364647, Relative SD: 6.77239
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.83	7.37e3	1.35e4	12.6	1.1	0.544
2	2	170711G3_3	12.5	3.82	7.16e3	1.34e4	12.4	-0.9	0.534
3	3	170711G3_4	12.5	3.82	8.40e3	1.47e4	13.3	6.2	0.572
4	4	170711G3_5	12.5	3.83	8.04e3	1.44e4	12.9	3.4	0.557
5	5	170711G3_6	12.5	3.83	7.67e3	1.34e4	13.3	6.7	0.575
6	6	170711G3_7	12.5	3.83	7.22e3	1.30e4	12.9	3.2	0.556
7	7	170711G3_8	12.5	3.83	6.46e3	1.38e4	10.9	-12.9	0.469
8	8	170711G3_9	12.5	3.83	6.02e3	1.20e4	11.6	-6.9	0.501

Compound name: 18O2-PFHxS
Response Factor: 0.465365
RRF SD: 0.020374, Relative SD: 4.37807
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.95	3.62e3	8.05e3	12.1	-3.4	0.449
2	2	170711G3_3	12.5	3.95	3.28e3	7.22e3	12.2	-2.4	0.454
3	3	170711G3_4	12.5	3.95	3.99e3	8.19e3	13.1	4.6	0.487
4	4	170711G3_5	12.5	3.95	3.53e3	7.72e3	12.3	-1.9	0.457
5	5	170711G3_6	12.5	3.95	3.54e3	7.54e3	12.6	0.8	0.469
6	6	170711G3_7	12.5	3.95	3.30e3	7.11e3	12.5	-0.3	0.464
7	7	170711G3_8	12.5	3.95	3.27e3	7.42e3	11.8	-5.3	0.441
8	8	170711G3_9	12.5	3.95	3.16e3	6.29e3	13.5	7.9	0.502

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

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Compound name: 13C2-PFOA
Response Factor: 3.71264
RRF SD: 0.217223, Relative SD: 5.85091
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	4.23	1.58e4	4.49e3	11.9	-5.0	3.53
2	2	170711G3_3	12.5	4.23	1.55e4	4.55e3	11.5	-8.2	3.41
3	3	170711G3_4	12.5	4.23	1.90e4	5.04e3	12.7	1.4	3.76
4	4	170711G3_5	12.5	4.23	1.69e4	4.57e3	12.5	-0.1	3.71
5	5	170711G3_6	12.5	4.23	1.62e4	4.55e3	12.0	-4.3	3.55
6	6	170711G3_7	12.5	4.23	1.81e4	4.51e3	13.5	8.3	4.02
7	7	170711G3_8	12.5	4.23	1.70e4	4.57e3	12.5	0.3	3.72
8	8	170711G3_9	12.5	4.23	1.59e4	3.97e3	13.5	7.6	4.00

Compound name: 13C5-PFNA
Response Factor: 0.928619
RRF SD: 0.070955, Relative SD: 7.64091
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	170711G3_2	12.5	4.57	5.19e3	5.57e3	12.5	0.2	0.931
2	2	170711G3_3	12.5	4.57	4.82e3	5.04e3	12.9	3.2	0.958
3	3	170711G3_4	12.5	4.57	5.54e3	5.90e3	12.6	1.1	0.939
4	4	170711G3_5	12.5	4.57	5.55e3	5.17e3	14.5	15.7	1.07
5	5	170711G3_6	12.5	4.57	4.55e3	5.05e3	12.1	-3.0	0.900
6	6	170711G3_7	12.5	4.57	5.00e3	5.41e3	12.4	-0.5	0.924
7	7	170711G3_8	12.5	4.57	4.97e3	5.75e3	11.6	-7.0	0.863
8	8	170711G3_9	12.5	4.57	4.72e3	5.62e3	11.3	-9.6	0.839

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Compound name: 13C2- PFDA
Response Factor: 2.04259
RRF SD: 0.105833, Relative SD: 5.18132
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	170711G3_2	12.5	4.86	8.43e3	4.50e3	11.5	-8.2	1.88
2	2	170711G3_3	12.5	4.86	8.93e3	4.25e3	12.9	2.8	2.10
3	3	170711G3_4	12.5	4.85	1.13e4	5.46e3	12.7	1.2	2.07
4	4	170711G3_5	12.5	4.86	9.78e3	4.98e3	12.0	-3.8	1.96
5	5	170711G3_6	12.5	4.86	9.56e3	4.69e3	12.5	-0.2	2.04
6	6	170711G3_7	12.5	4.86	8.62e3	4.37e3	12.1	-3.4	1.97
7	7	170711G3_8	12.5	4.86	1.19e4	5.34e3	13.6	8.8	2.22
8	8	170711G3_9	12.5	4.86	1.07e4	5.09e3	12.8	2.8	2.10

Compound name: 13C8-PFOS
Response Factor: 1.026
RRF SD: 0.0446111, Relative SD: 4.34807
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	170711G3_2	12.5	4.63	5.02e3	5.27e3	11.6	-7.1	0.953
2	2	170711G3_3	12.5	4.63	5.04e3	4.57e3	13.4	7.5	1.10
3	3	170711G3_4	12.5	4.63	5.98e3	5.74e3	12.7	1.6	1.04
4	4	170711G3_5	12.5	4.63	5.14e3	5.02e3	12.5	-0.2	1.02
5	5	170711G3_6	12.5	4.63	4.82e3	4.77e3	12.3	-1.5	1.01
6	6	170711G3_7	12.5	4.63	4.48e3	4.31e3	12.7	1.4	1.04
7	7	170711G3_8	12.5	4.63	5.25e3	5.31e3	12.0	-3.7	0.988
8	8	170711G3_9	12.5	4.63	5.33e3	5.09e3	12.8	2.1	1.05

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	1.72	1.23e4	1.23e4	12.5	0.0	1.00
2	2	170711G3_3	12.5	1.72	1.20e4	1.20e4	12.5	0.0	1.00
3	3	170711G3_4	12.5	1.72	1.33e4	1.33e4	12.5	0.0	1.00
4	4	170711G3_5	12.5	1.73	1.30e4	1.30e4	12.5	0.0	1.00
5	5	170711G3_6	12.5	1.72	1.22e4	1.22e4	12.5	0.0	1.00
6	6	170711G3_7	12.5	1.73	1.14e4	1.14e4	12.5	0.0	1.00
7	7	170711G3_8	12.5	1.73	1.23e4	1.23e4	12.5	0.0	1.00
8	8	170711G3_9	12.5	1.73	1.20e4	1.20e4	12.5	0.0	1.00

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.32	1.35e4	1.35e4	12.5	0.0	1.00
2	2	170711G3_3	12.5	3.32	1.34e4	1.34e4	12.5	0.0	1.00
3	3	170711G3_4	12.5	3.32	1.47e4	1.47e4	12.5	0.0	1.00
4	4	170711G3_5	12.5	3.32	1.44e4	1.44e4	12.5	0.0	1.00
5	5	170711G3_6	12.5	3.32	1.34e4	1.34e4	12.5	0.0	1.00
6	6	170711G3_7	12.5	3.31	1.30e4	1.30e4	12.5	-0.0	1.00
7	7	170711G3_8	12.5	3.32	1.38e4	1.38e4	12.5	0.0	1.00
8	8	170711G3_9	12.5	3.32	1.20e4	1.20e4	12.5	0.0	1.00

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.95	8.05e3	8.05e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	3.95	7.22e3	7.22e3	12.5	-0.0	1.00
3	3	170711G3_4	12.5	3.95	8.19e3	8.19e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	3.95	7.72e3	7.72e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	3.95	7.54e3	7.54e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	3.95	7.11e3	7.11e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	3.95	7.42e3	7.42e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	3.95	6.29e3	6.29e3	12.5	0.0	1.00

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	4.23	4.49e3	4.49e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.23	4.55e3	4.55e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.23	5.04e3	5.04e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.23	4.57e3	4.57e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.23	4.55e3	4.55e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.23	4.51e3	4.51e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.24	4.57e3	4.57e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.23	3.97e3	3.97e3	12.5	0.0	1.00

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Compound name: 13C9-PFNA
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	170711G3_2	12.5	4.57	5.57e3	5.57e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.57	5.04e3	5.04e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.57	5.90e3	5.90e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.57	5.17e3	5.17e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.57	5.05e3	5.05e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.57	5.41e3	5.41e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.57	5.75e3	5.75e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.57	5.62e3	5.62e3	12.5	0.0	1.00

Compound name: 13C4-PFOS
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	170711G3_2	12.5	4.63	5.27e3	5.27e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.63	4.57e3	4.57e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.63	5.74e3	5.74e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.63	5.02e3	5.02e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.63	4.77e3	4.77e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.63	4.31e3	4.31e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.63	5.31e3	5.31e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.63	5.09e3	5.09e3	12.5	0.0	1.00

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
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	170711G3_2	12.5	4.86	4.50e3	4.50e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.85	4.25e3	4.25e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.85	5.46e3	5.46e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.85	4.98e3	4.98e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.85	4.69e3	4.69e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.85	4.37e3	4.37e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.86	5.34e3	5.34e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.85	5.09e3	5.09e3	12.5	0.0	1.00

Vista Analytical Laboratory VG-11

Dataset: Untitled

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Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFOS

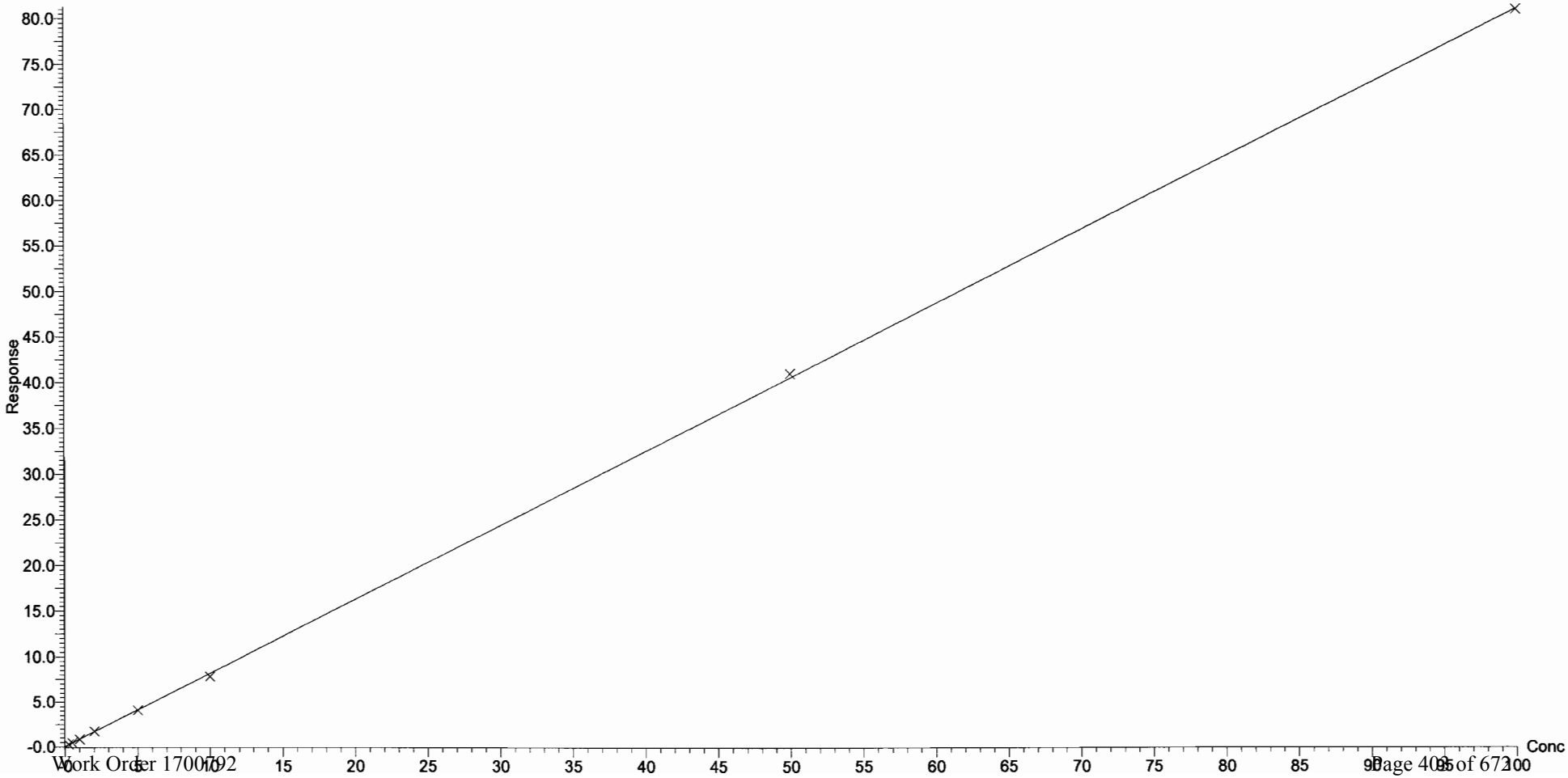
	Name	ID	Acq.Date	Acq.Time
1	170711G3_1	IPA	11-Jul-17	17:16:59
2	170711G3_2	ST170711G3-1 PFC CS-2 17G1111	11-Jul-17	17:29:23
3	170711G3_3	ST170711G3-2 PFC CS-1 17G1112	11-Jul-17	17:41:54
4	170711G3_4	ST170711G3-3 PFC CS0 17G1113	11-Jul-17	17:54:28
5	170711G3_5	ST170711G3-4 PFC CS1 17G1114	11-Jul-17	18:07:01
6	170711G3_6	ST170711G3-5 PFC CS2 17G1115	11-Jul-17	18:19:36
7	170711G3_7	ST170711G3-6 PFC CS3 17G1116	11-Jul-17	18:32:12
8	170711G3_8	ST170711G3-7 PFC CS4 17G1117	11-Jul-17	18:44:45
9	170711G3_9	ST170711G3-8 PFC CS5 17G1118	11-Jul-17	18:57:37
10	170711G3_10	IPA	11-Jul-17	19:10:03
11	170711G3_11	SS170711G3-1 PFC SSS 17G1119	11-Jul-17	19:22:36
12	170711G3_12	IPA	11-Jul-17	19:35:06
13	170711G3_13	B7G0031-BS1 OPR 0.125	11-Jul-17	19:47:42
14	170711G3_14	IPA	11-Jul-17	20:00:12
15	170711G3_15	B7G0031-BLK1 Method Blank 0.125	11-Jul-17	20:12:48
16	170711G3_16	1700830-07 MW-6-063017-25 0.12093	11-Jul-17	20:25:18
17	170711G3_17	B7G0031-MS1 Matrix Spike 0.12062	11-Jul-17	20:38:06
18	170711G3_18	B7G0031-MSD1 Matrix Spike Dup 0.12141	11-Jul-17	20:50:26
19	170711G3_19	1700830-11 BARNS-04-GW-TW02-062817-30...	11-Jul-17	21:02:59
20	170711G3_20	1700831-02 BARNS-06-GW-TW01-062817-3...	11-Jul-17	21:15:33
21	170711G3_21	1700831-07 BARNS-01-GW-TW03-062917-3...	11-Jul-17	21:28:06
22	170711G3_22	1700831-12 BARNS-06-GW-TW01-062817-D...	11-Jul-17	21:40:34
23	170711G3_23	1700832-04 BARNS-07-GW-TW05-062917-4...	11-Jul-17	21:53:09
24	170711G3_24	1700832-07 BARNS-EB-03-063017 0.12216	11-Jul-17	22:05:41
25	170711G3_25	1700832-08 BARNS-EB-04-063017 0.12295	11-Jul-17	22:19:37
26	170711G3_26	1700832-09 BARNS-EB-05-063017 0.1174	11-Jul-17	22:31:51
27	170711G3_27	1700832-10 BARNS-08-GW-TW04-063017-3...	11-Jul-17	22:44:20
28	170711G3_28	IPA	11-Jul-17	22:56:54
29	170711G3_29	ST170711G3-9 PFC CS3 17G1116	11-Jul-17	23:09:26
30	170711G3_30	IPA	11-Jul-17	23:21:56

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

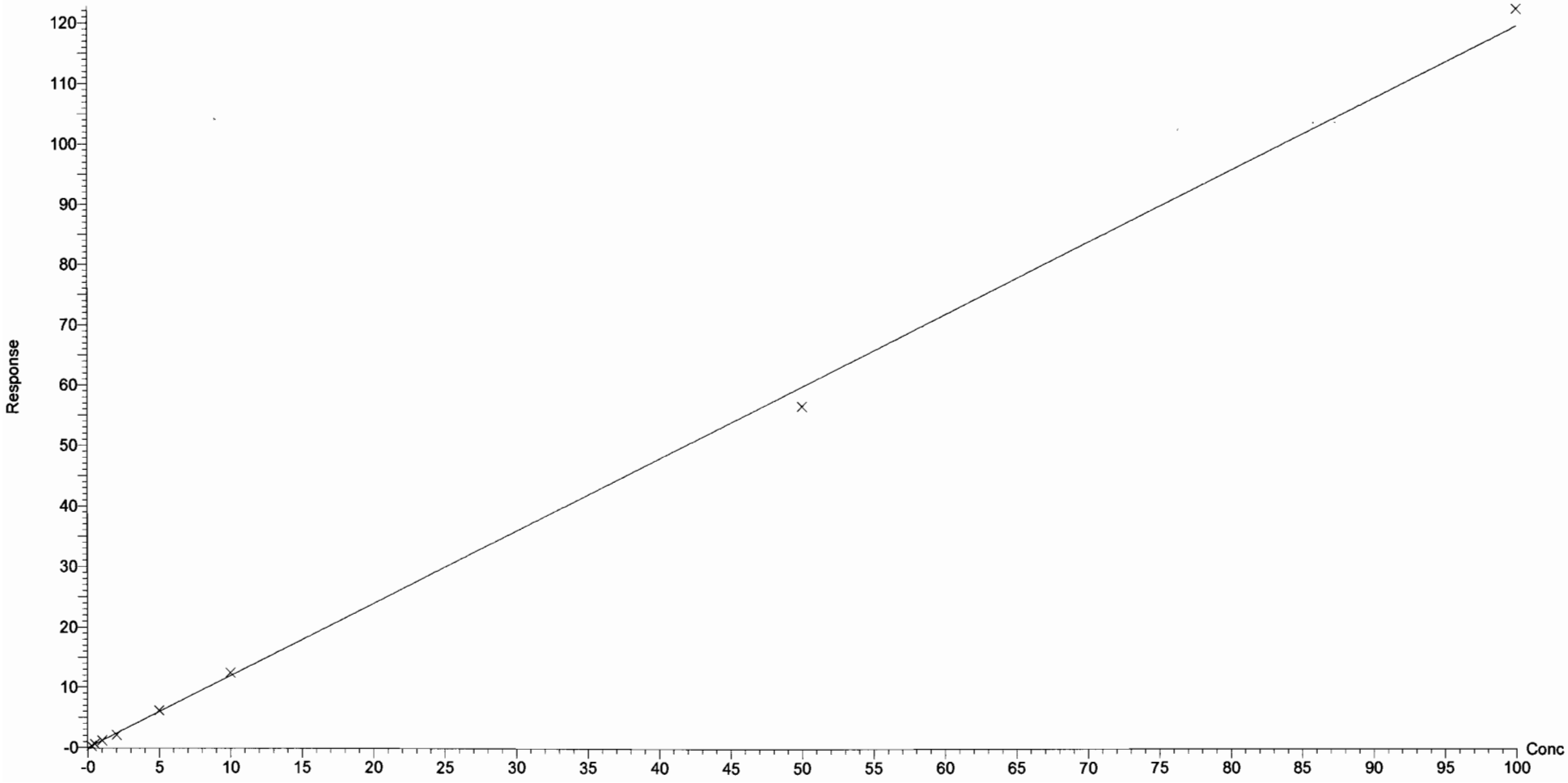
Compound name: PFBA
Correlation coefficient: r = 0.999903, r^2 = 0.999805
Calibration curve: 0.812368 * x + 0.0615352
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

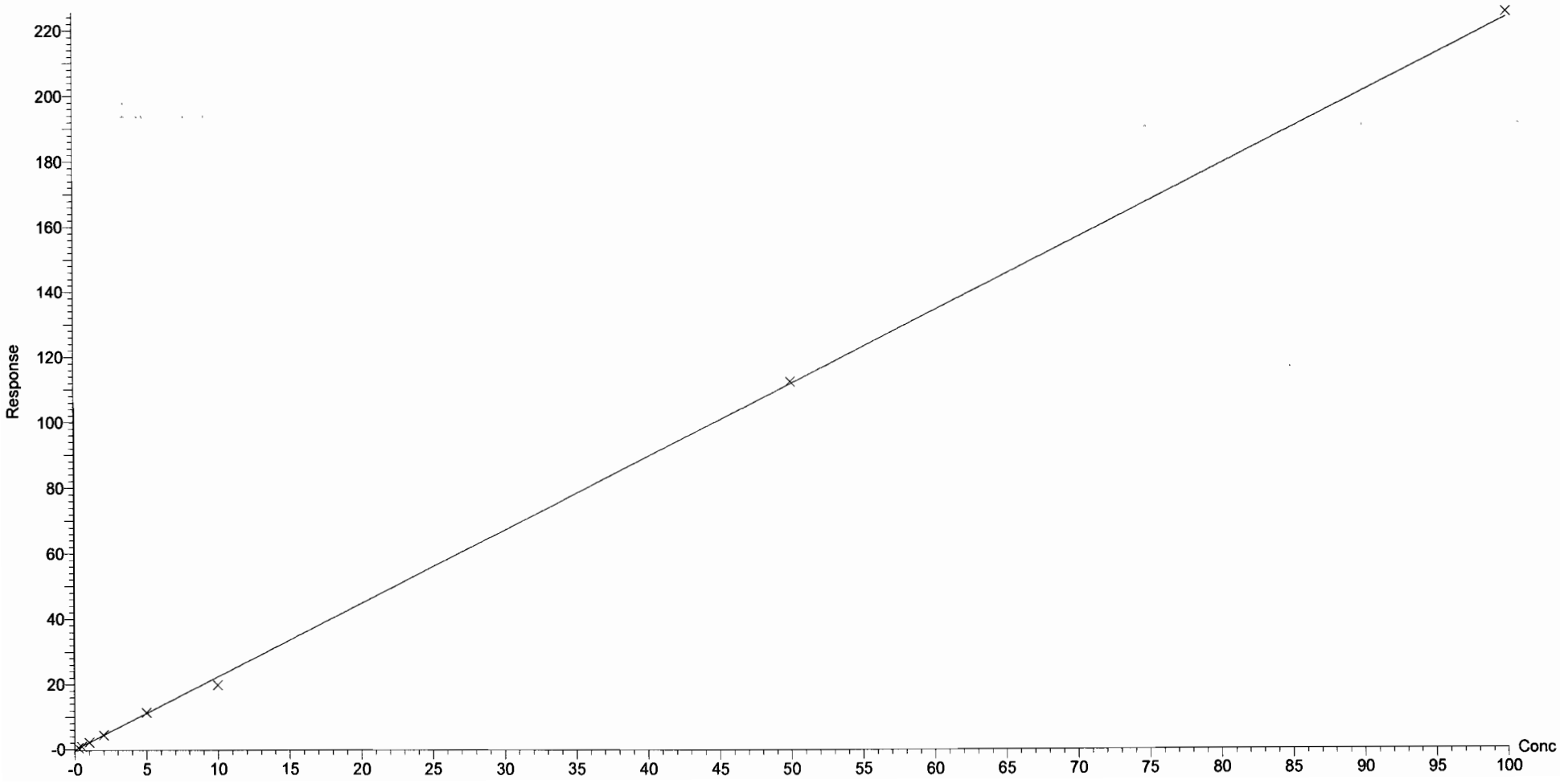
Compound name: PFPeA
Correlation coefficient: r = 0.999205, r^2 = 0.998411
Calibration curve: 1.19919 * x + -0.0457496
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

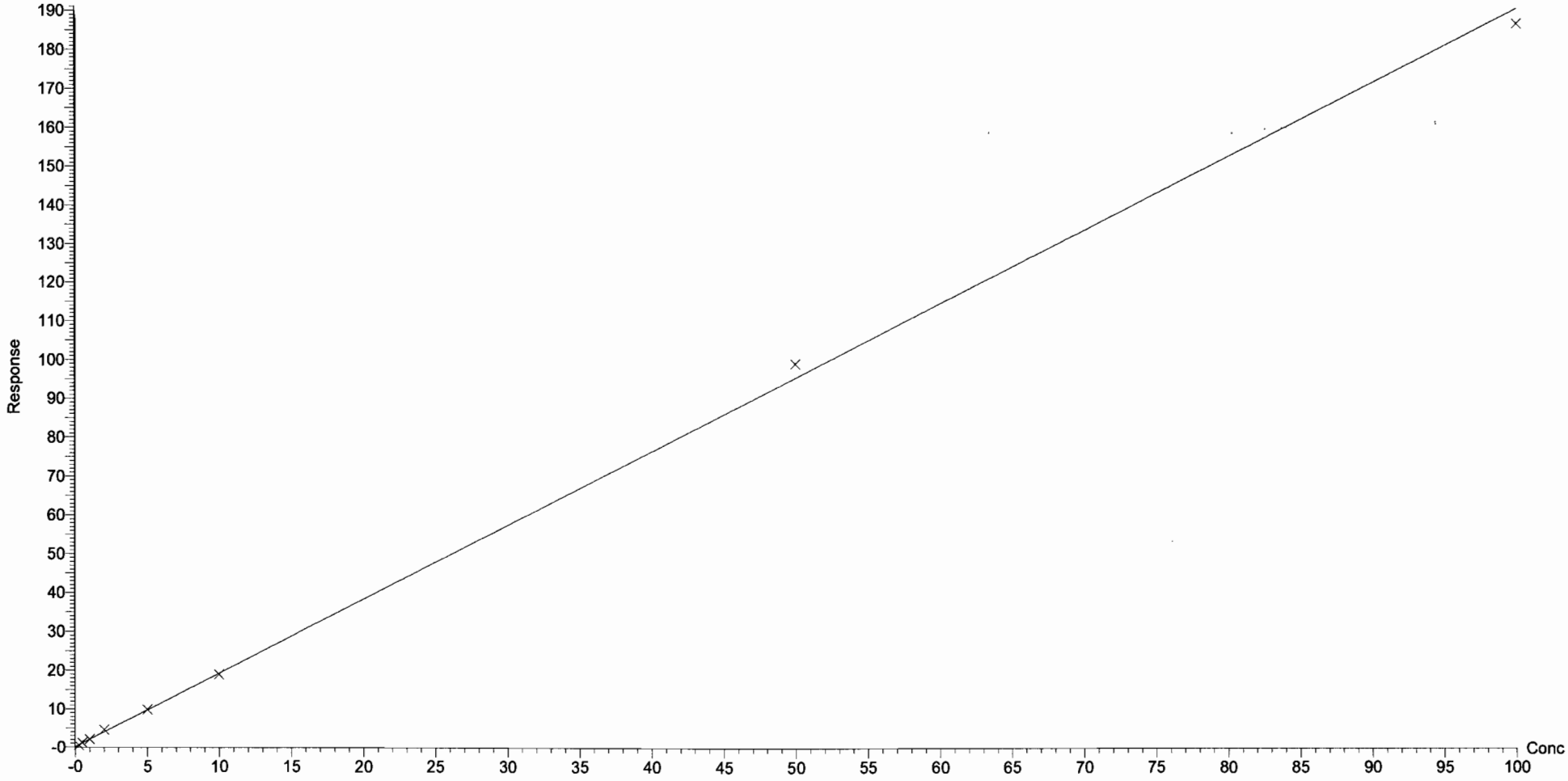
Compound name: PFBS
Correlation coefficient: r = 0.999521, r^2 = 0.999042
Calibration curve: 2.23981 * x + -0.119881
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.999444, r^2 = 0.998888
Calibration curve: 1.90952 * x + 0.14452
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

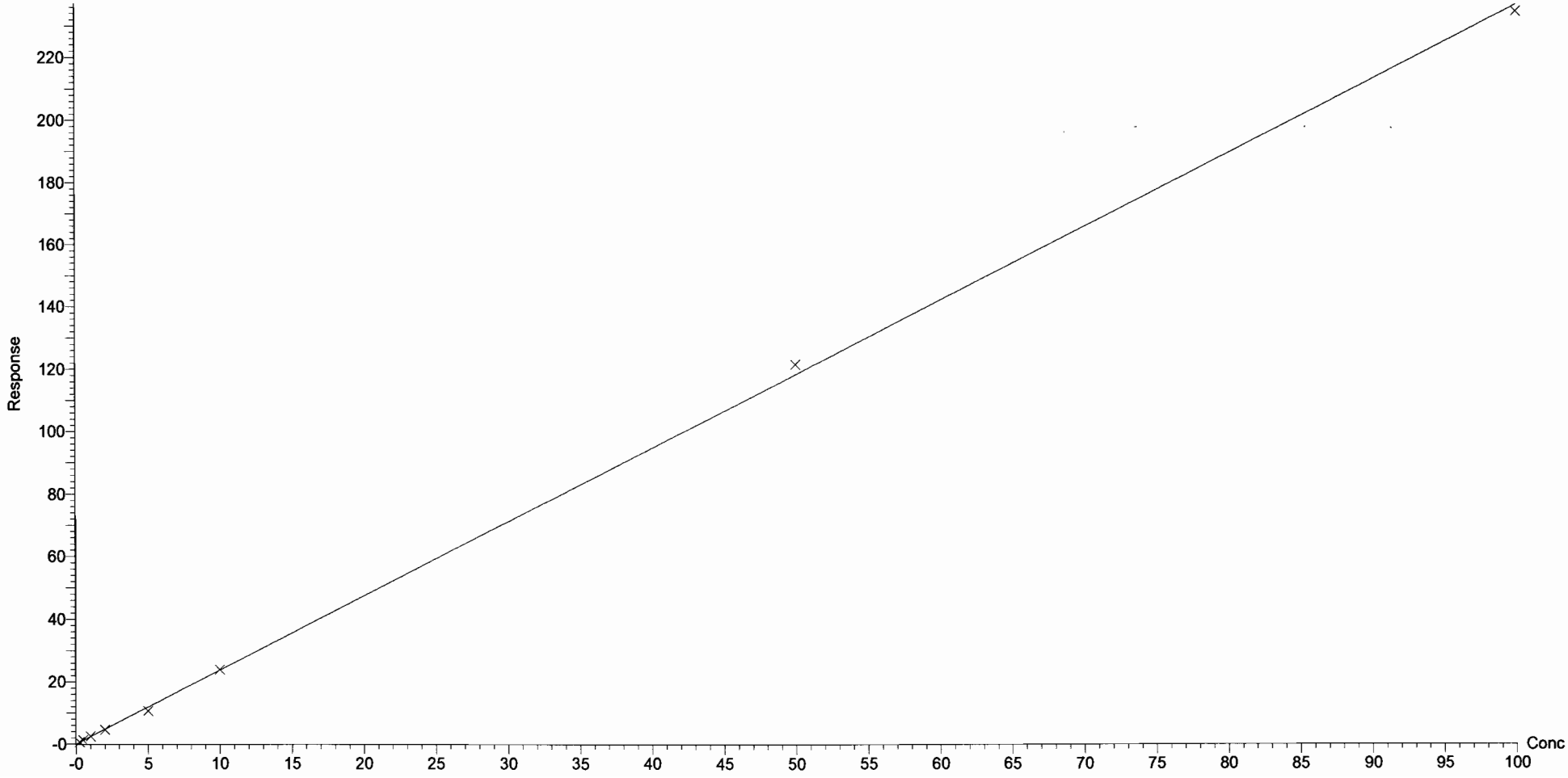


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

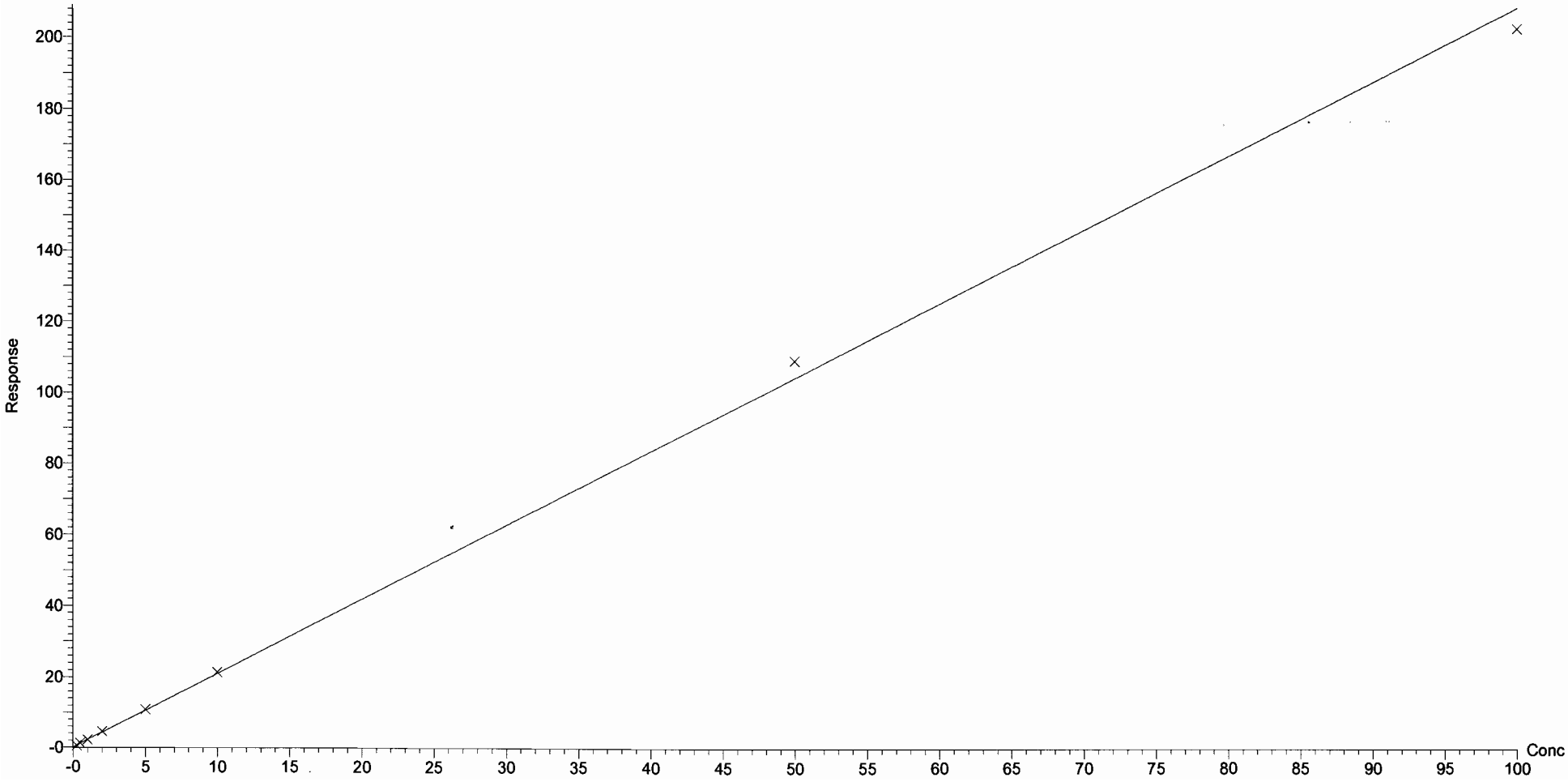
Compound name: PFHpA
Correlation coefficient: r = 0.999678, r^2 = 0.999357
Calibration curve: 2.37086 * x + 0.00117983
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

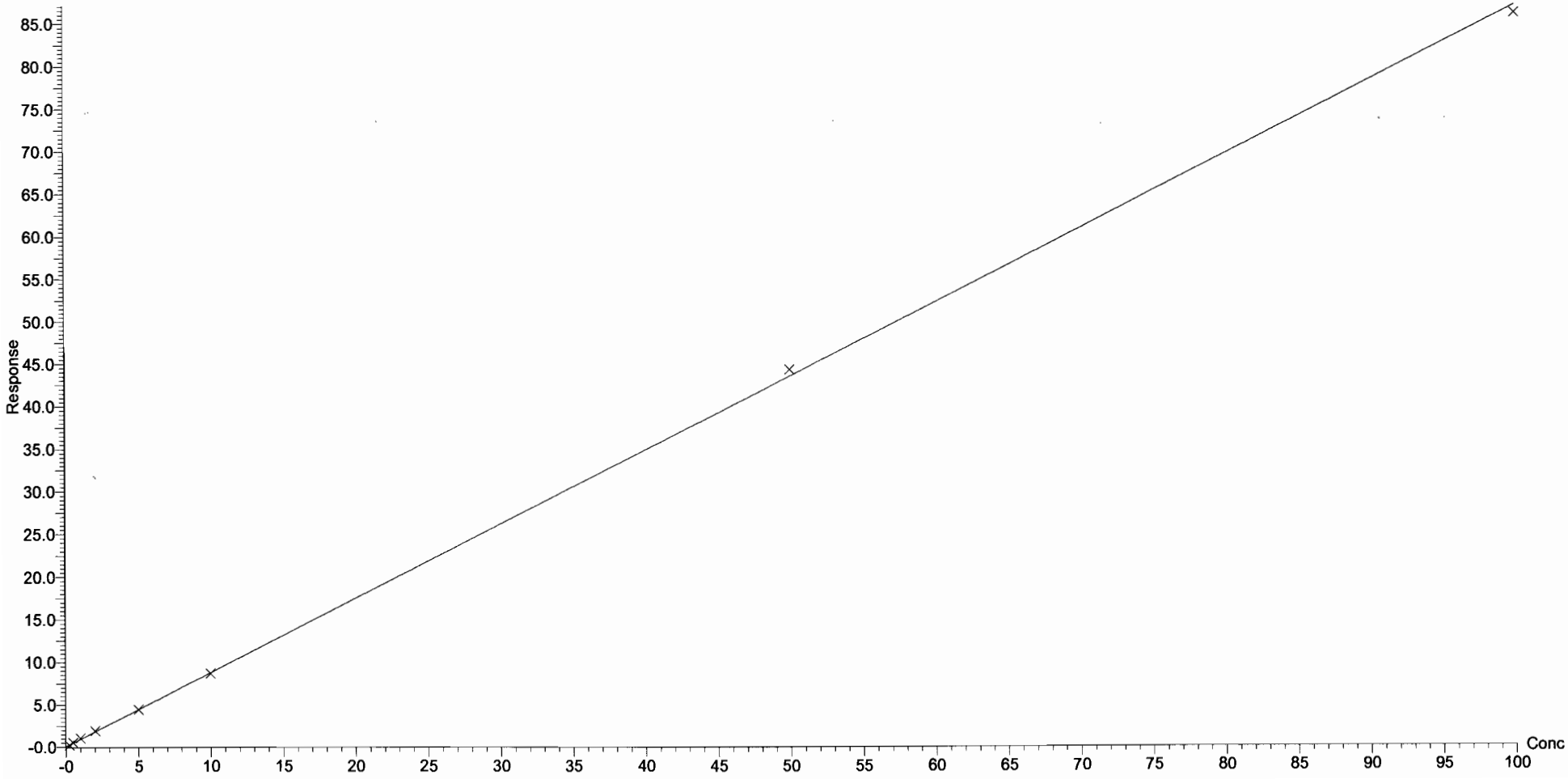
Compound name: PFHxS
Correlation coefficient: r = 0.999359, r^2 = 0.998718
Calibration curve: 2.089 * x + 0.0768621
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

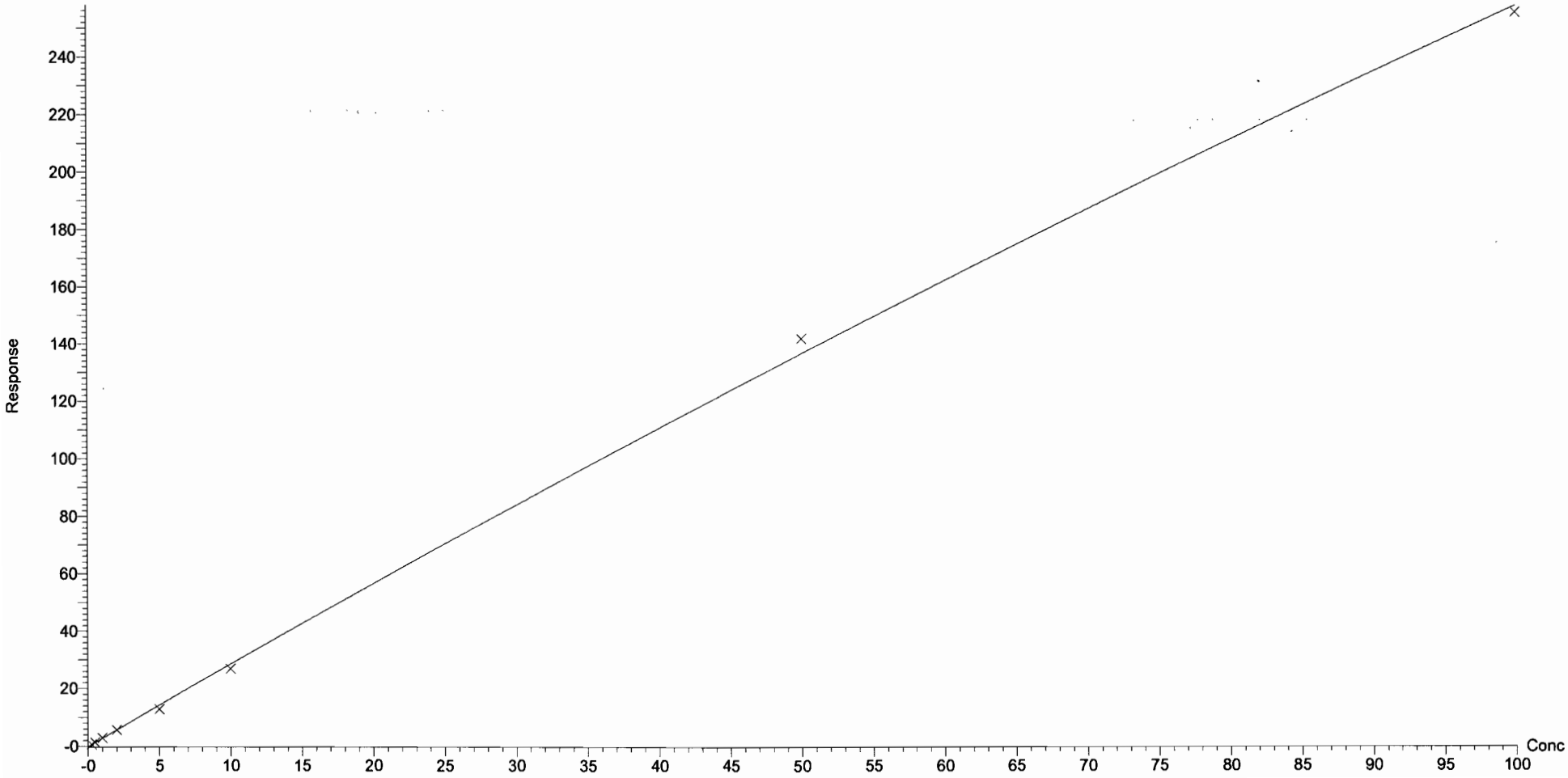
Compound name: PFOA
Correlation coefficient: r = 0.999784, r^2 = 0.999567
Calibration curve: 0.87047 * x + 0.0781634
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

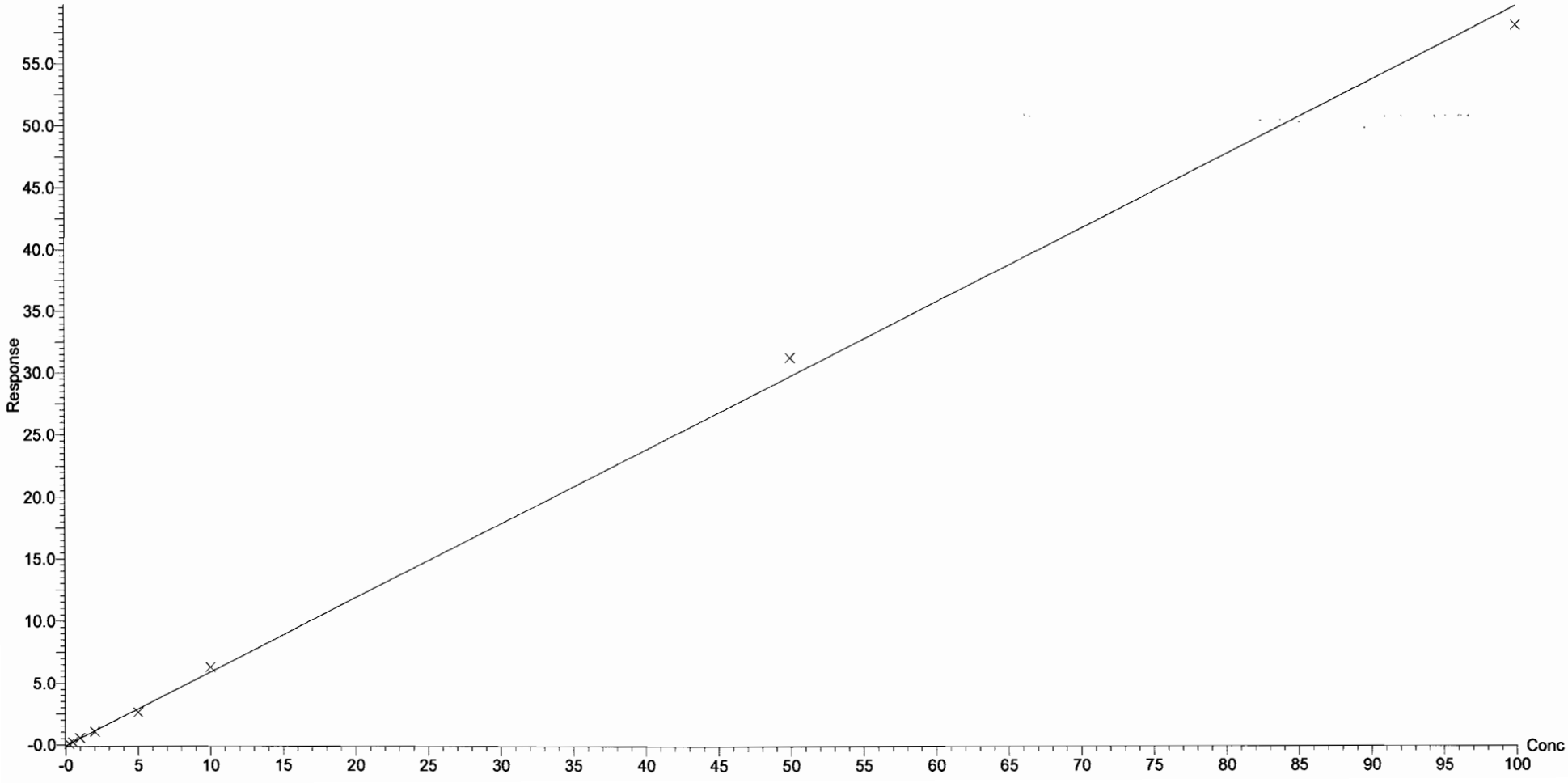
Compound name: PFNA
Coefficient of Determination: R^2 = 0.998825
Calibration curve: -0.00319585 * x^2 + 2.90085 * x + -0.200852
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

Compound name: PFOS
Correlation coefficient: r = 0.999086, r^2 = 0.998172
Calibration curve: 0.598169 * x + -0.0823444
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

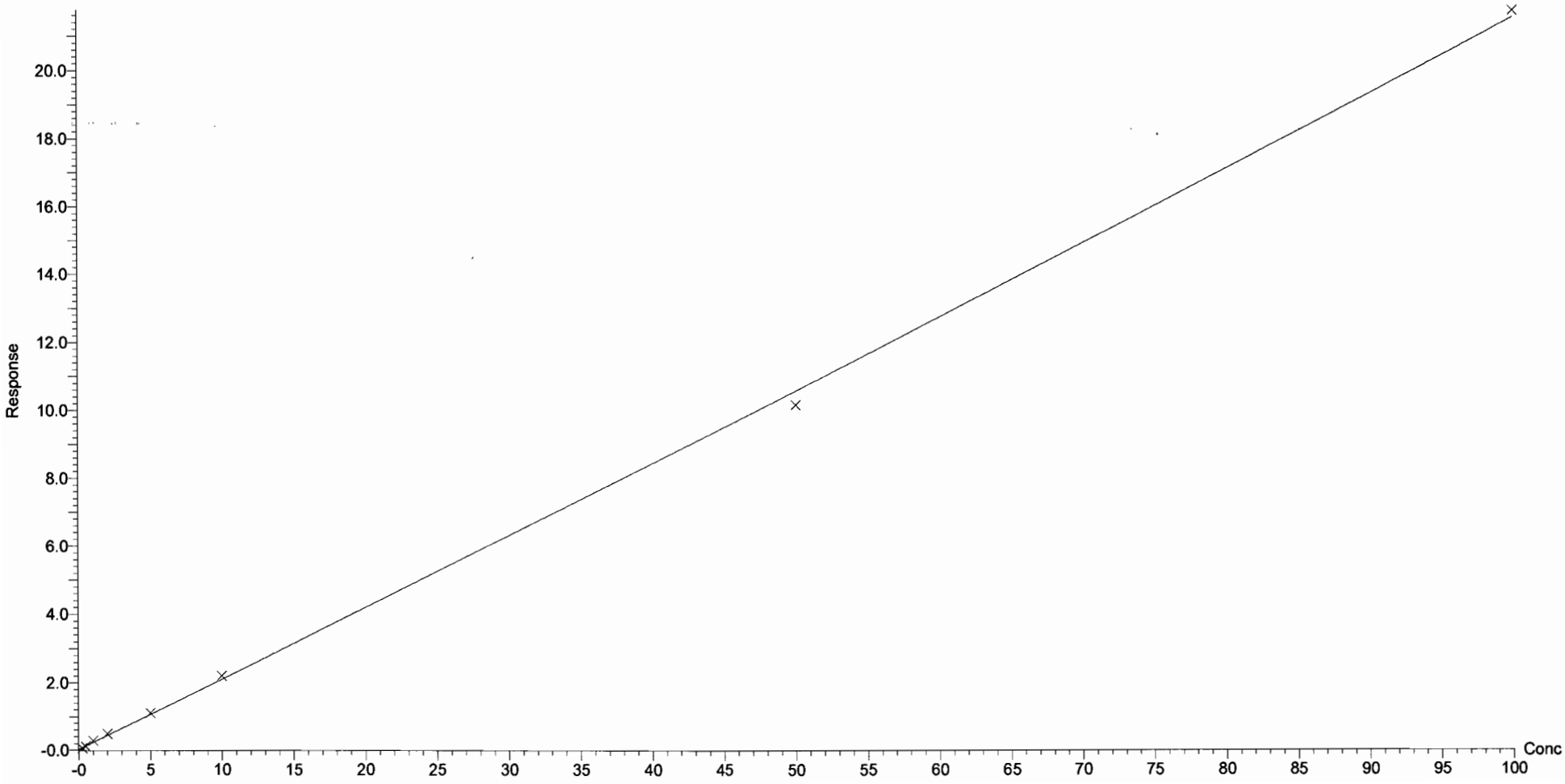


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998620
Calibration curve: 8.29904e-005 * x^2 + 0.207158 * x + 0.0227635
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

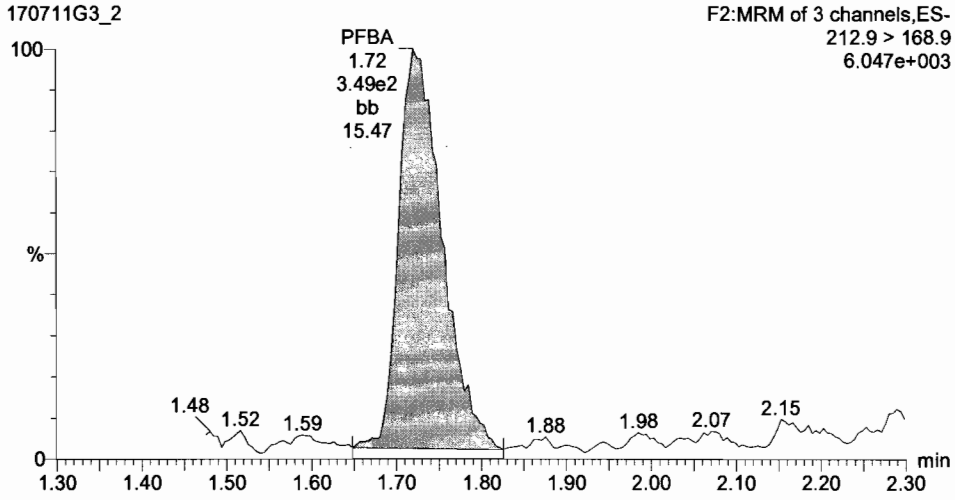
Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

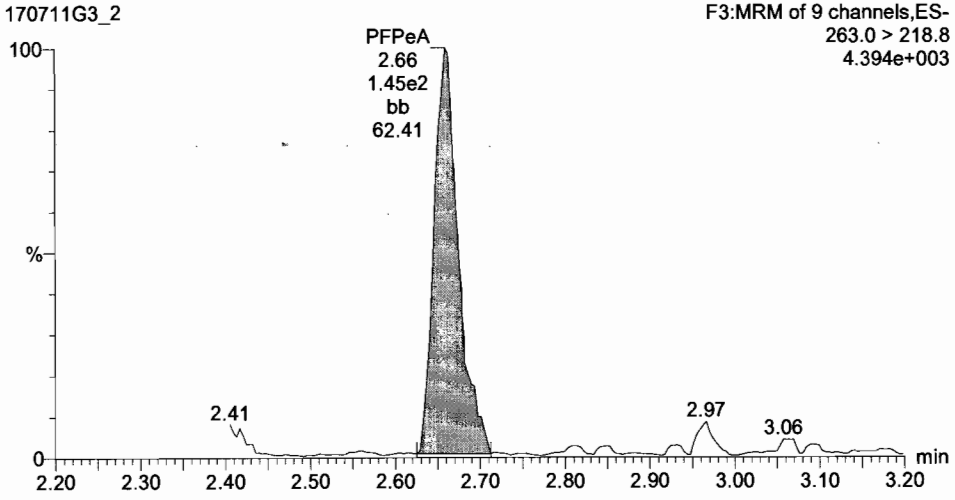
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

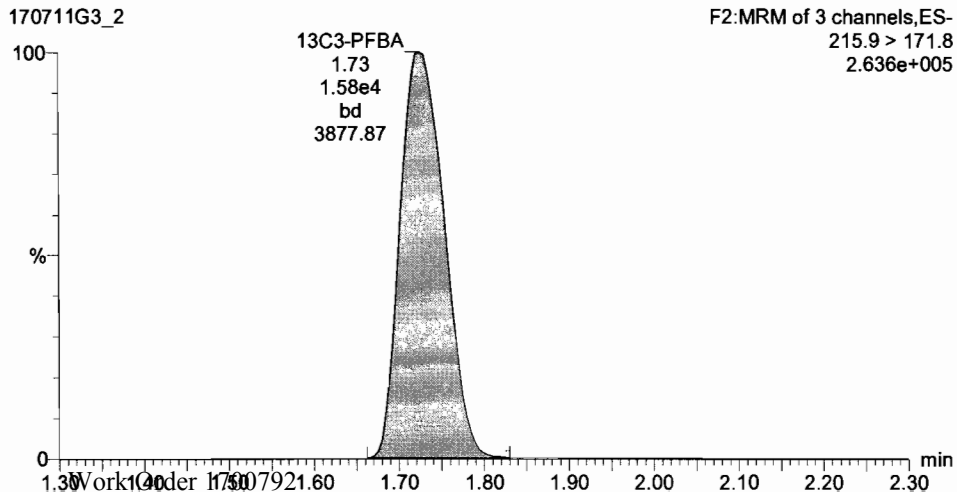
PFBA



PFPeA



13C3-PFBA



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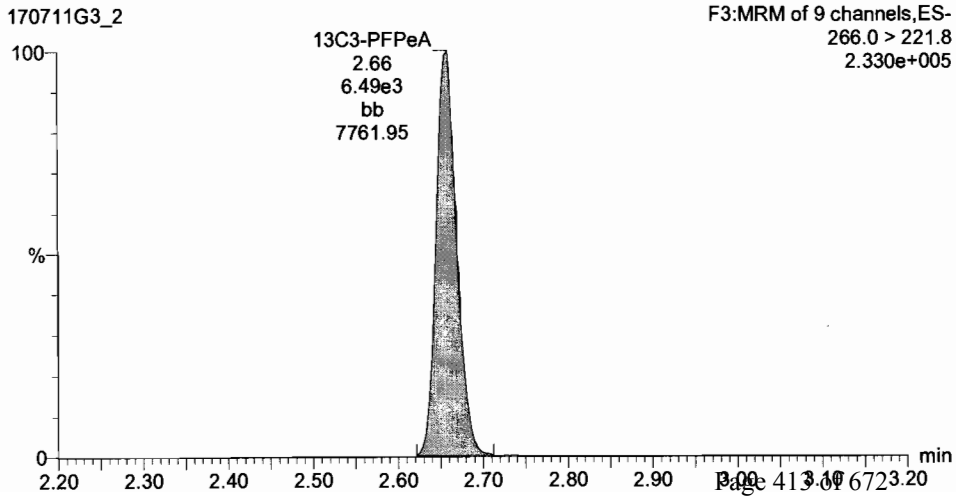
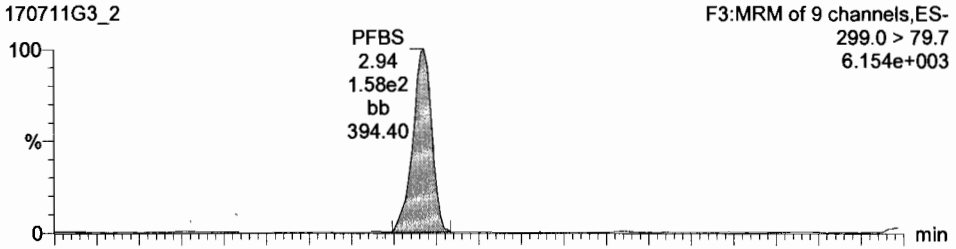


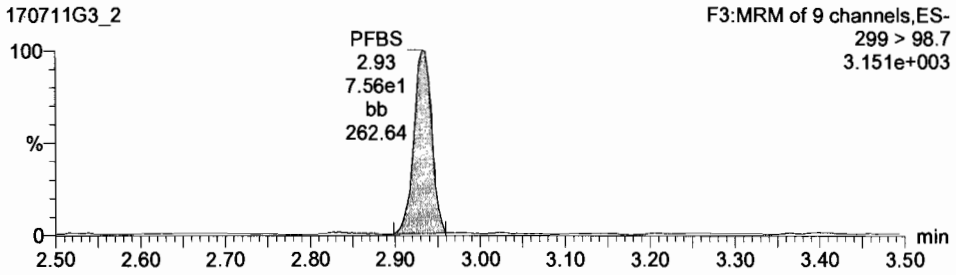
Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

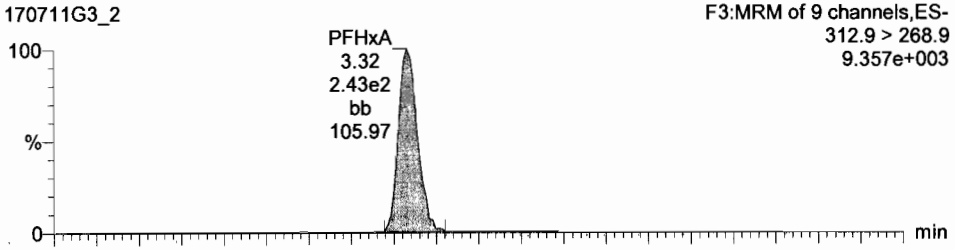
ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

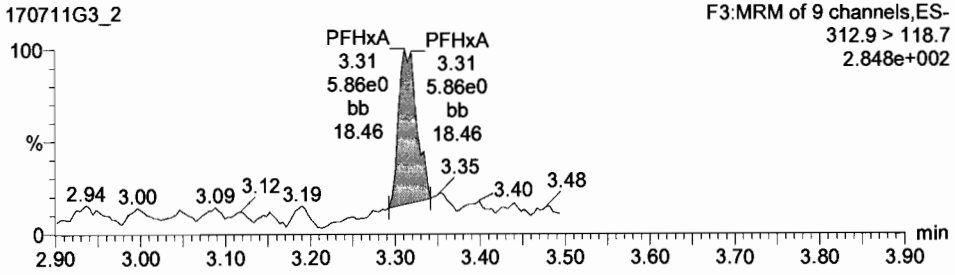
Total PFBS





PFHxA





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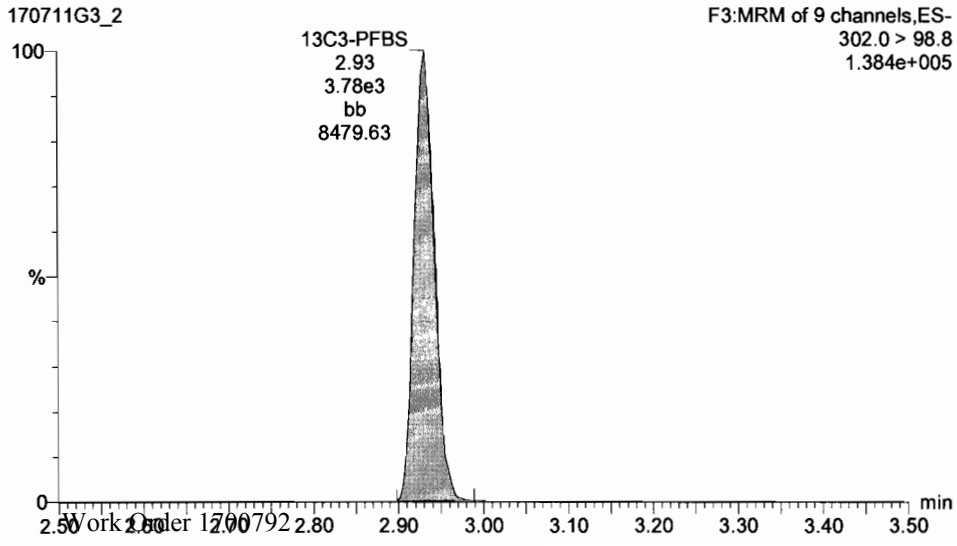

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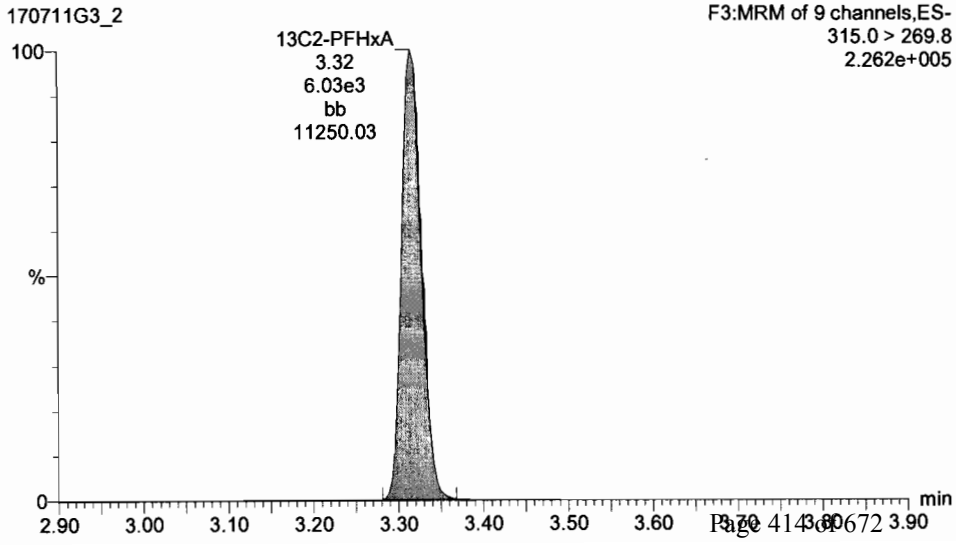
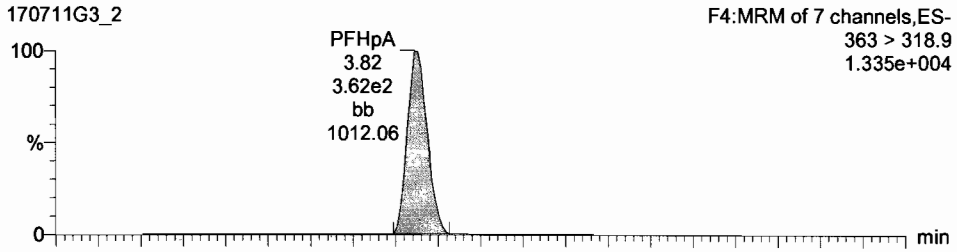


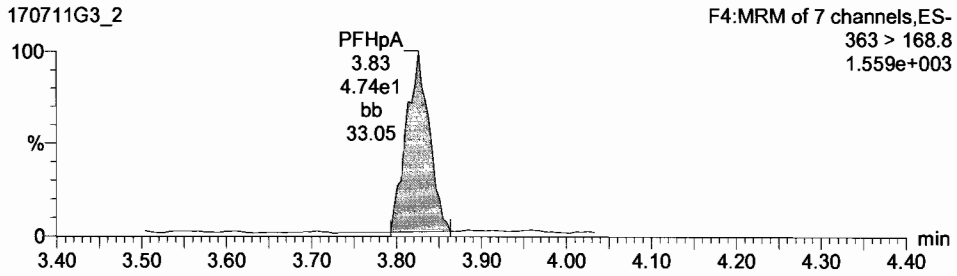
Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

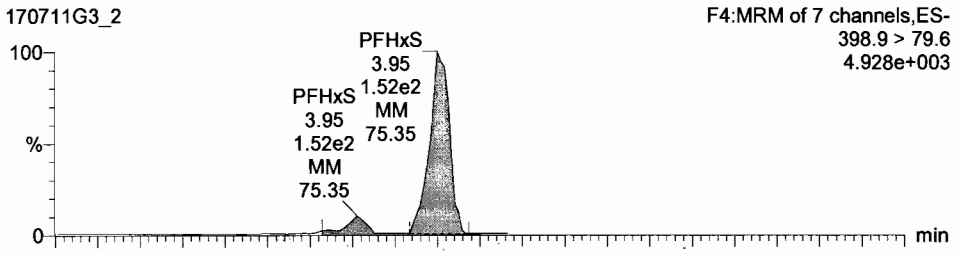
ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

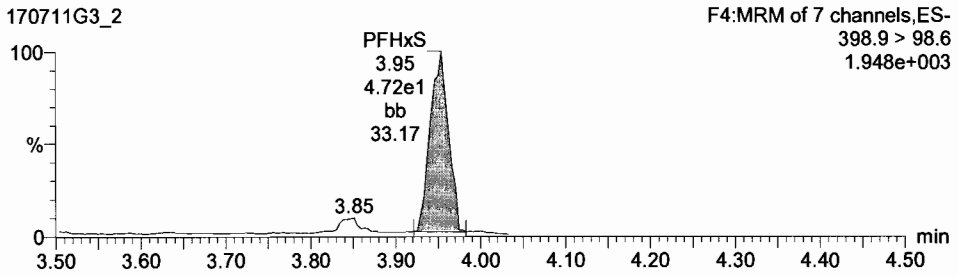
PFHpA



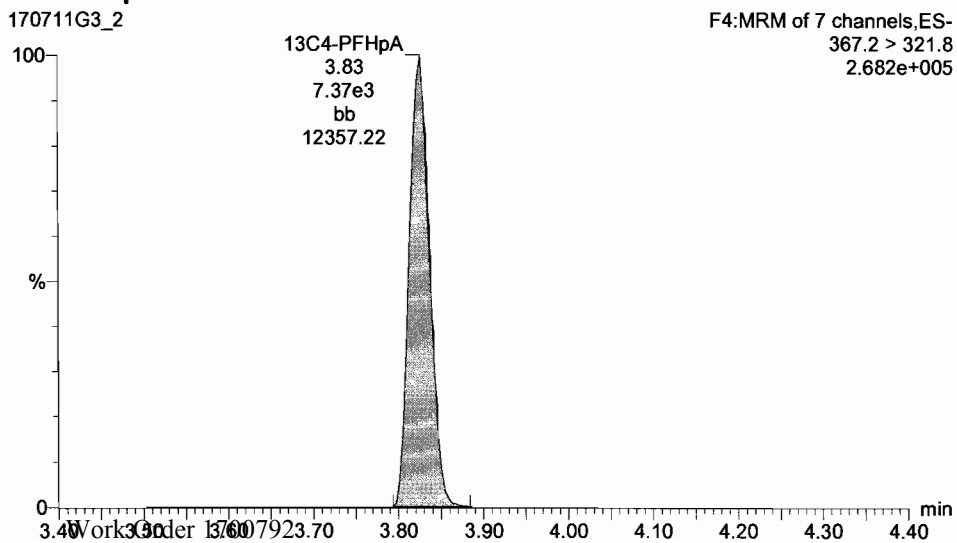


Total PFHxS

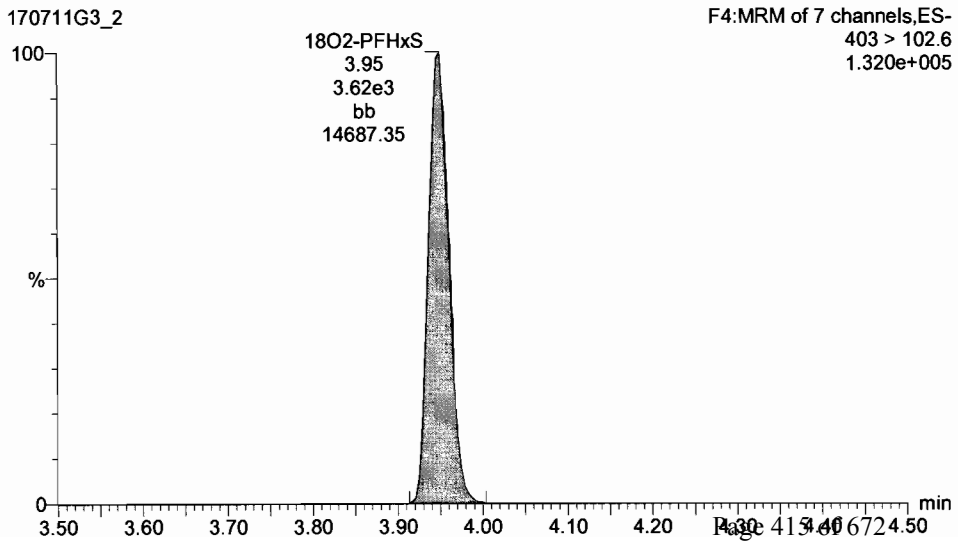




13C4-PFHpA



18O2-PFHxS

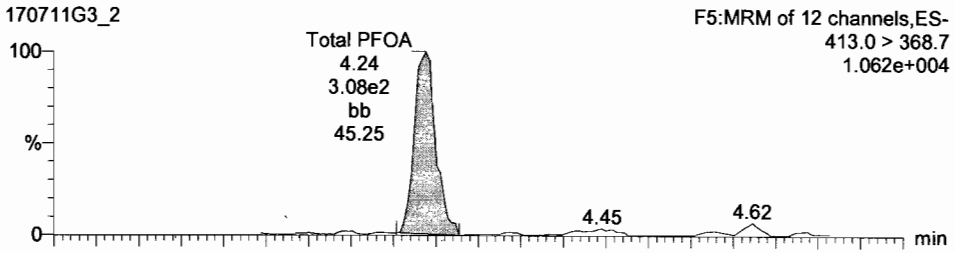


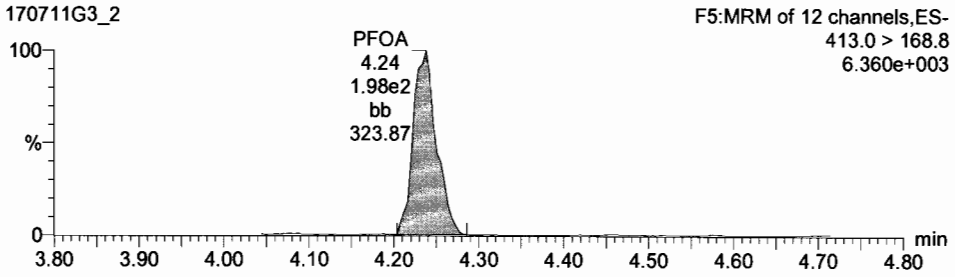
Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

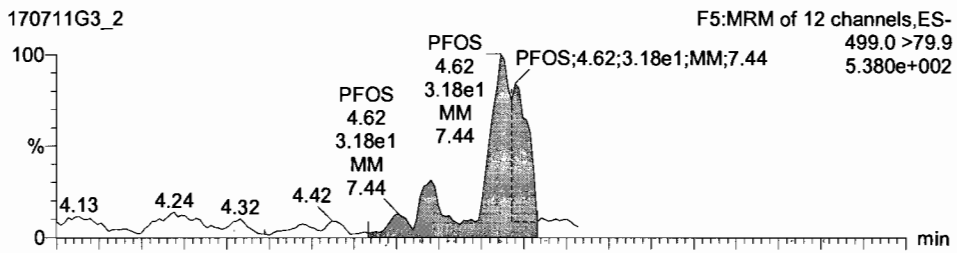
ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

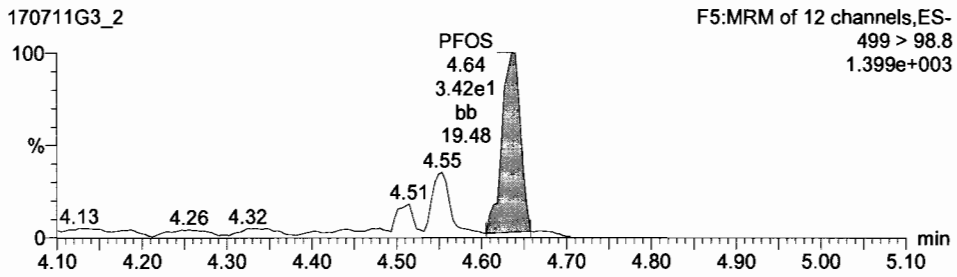
Total PFOA



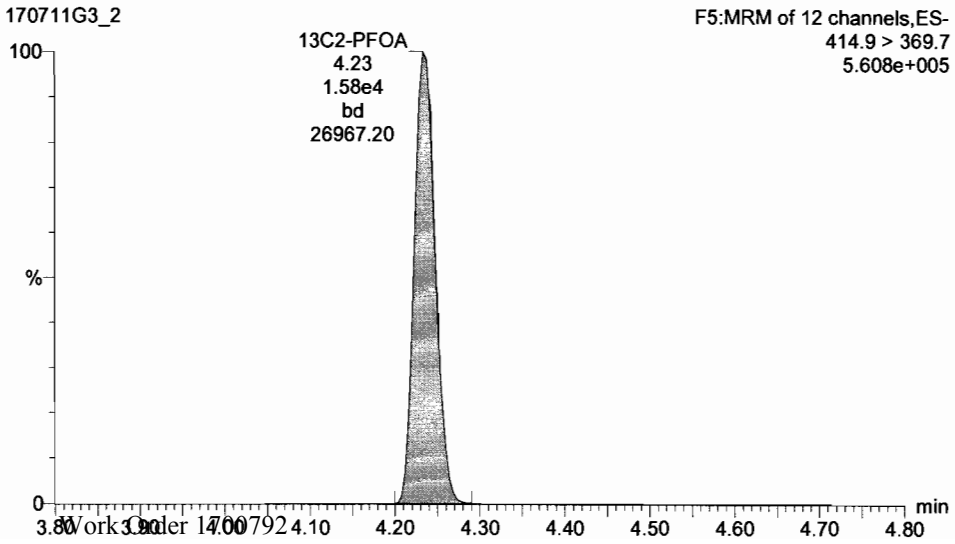


Total PFOS

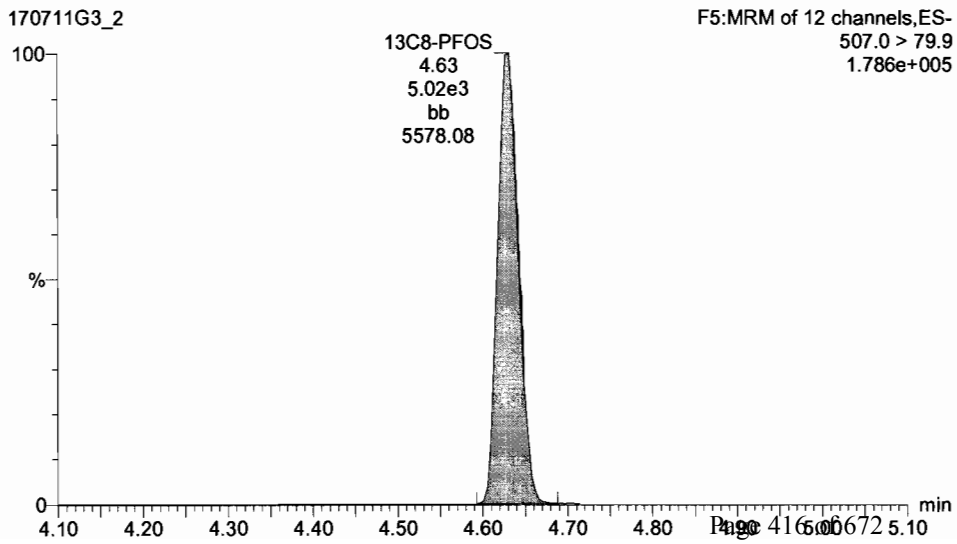




13C2-PFOA



13C8-PFOS

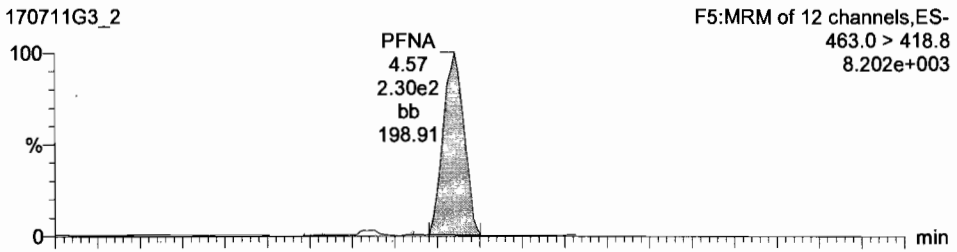


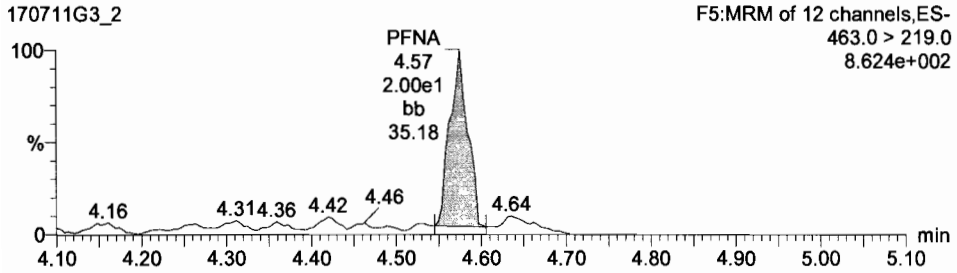
Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

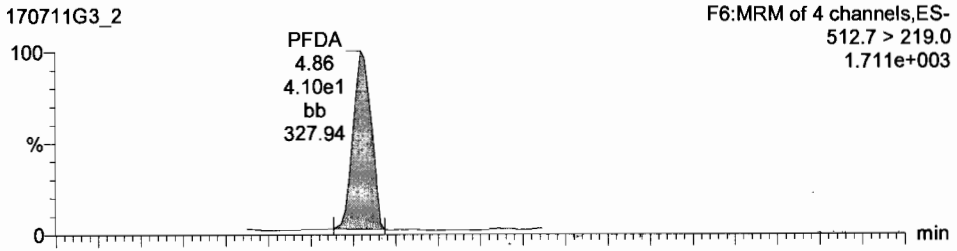
ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

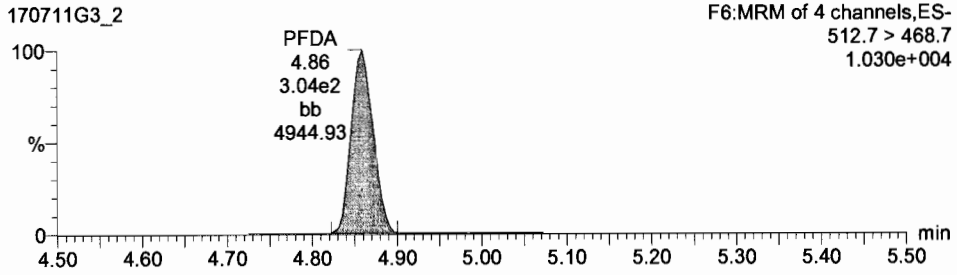
PFNA



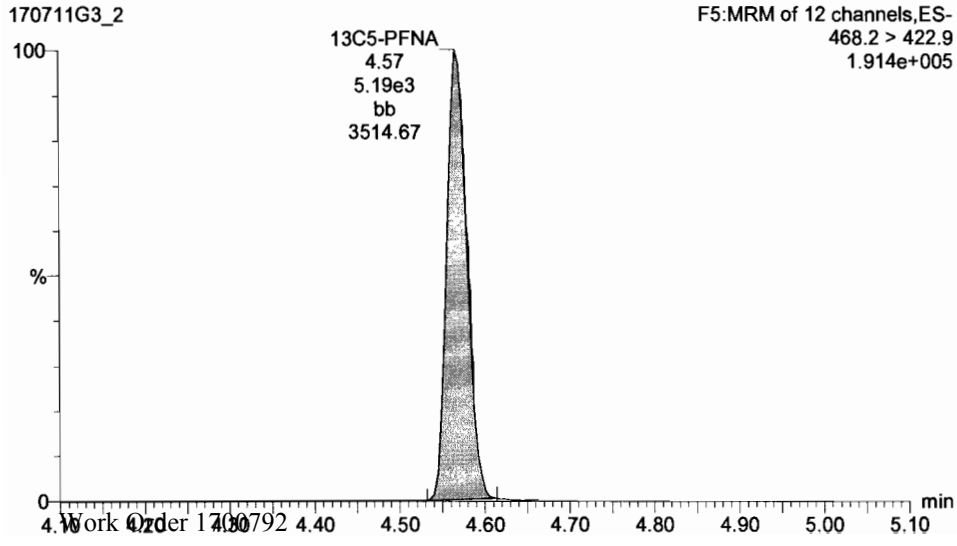


PFDA





13C5-PFNA

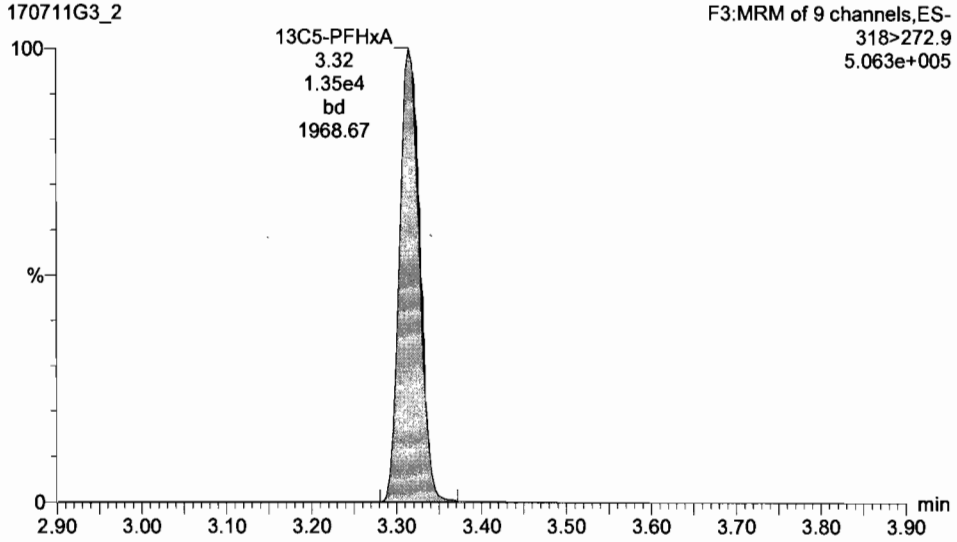


Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

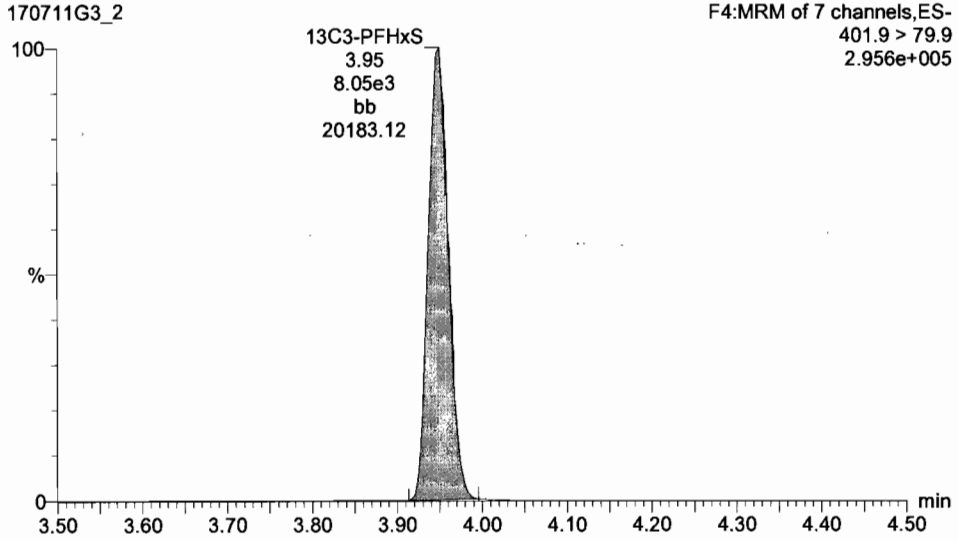
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

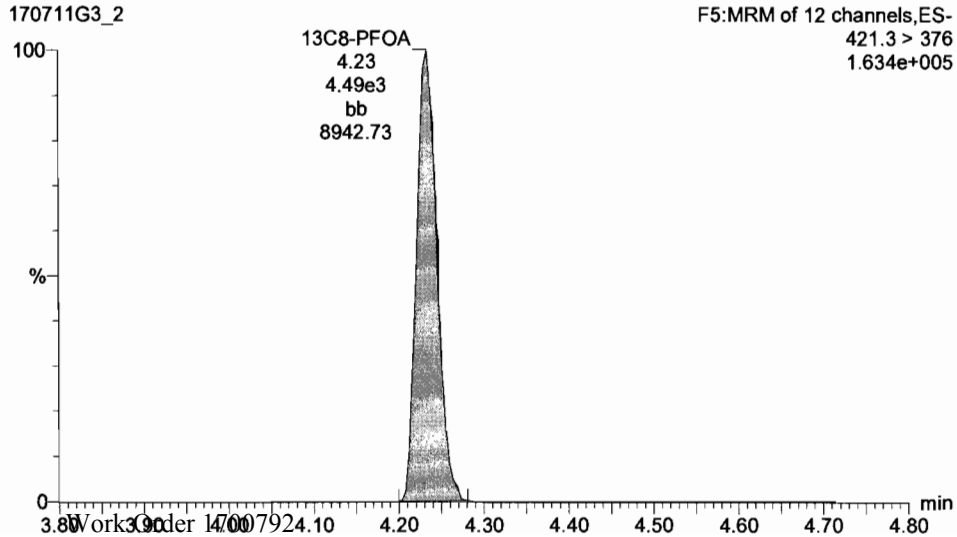
13C5-PFHxA



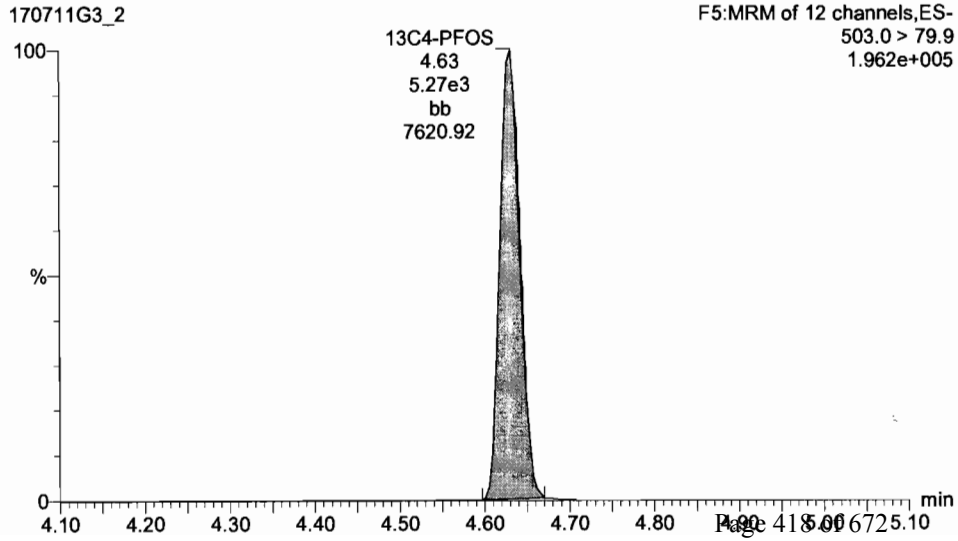
13C3-PFHxS



13C8-PFOA



13C4-PFOS



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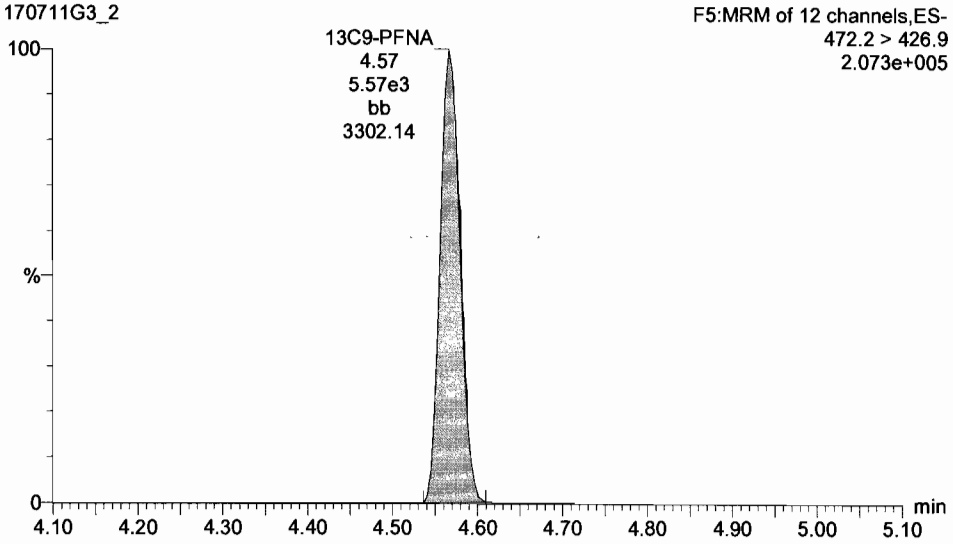
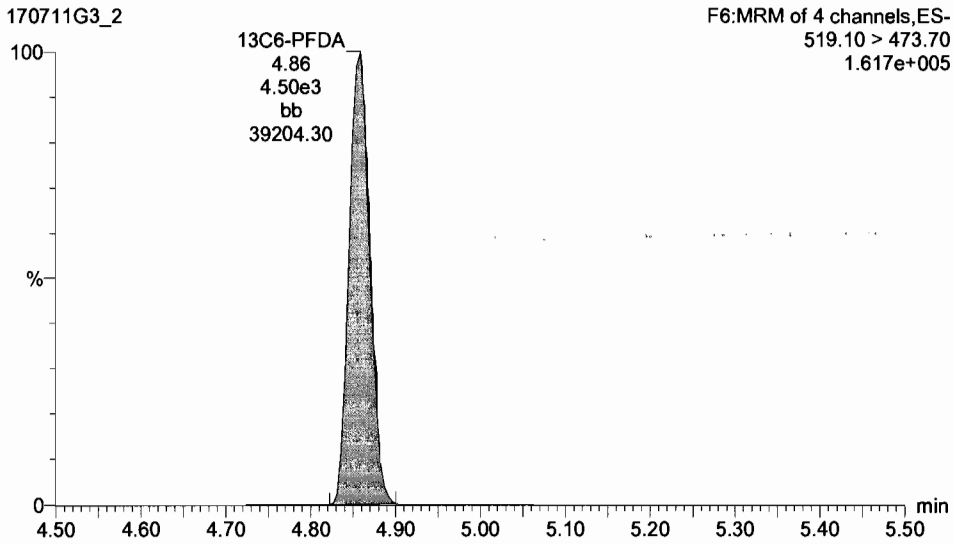
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-1 PFC CS-2 17G1111, Description: PFC CS-2 17G1111, Name: 170711G3_2, Date: 11-Jul-2017, Time: 17:29:23, Instrument: , Lab: , User:

13C9-PFNA



13C6-PFDA



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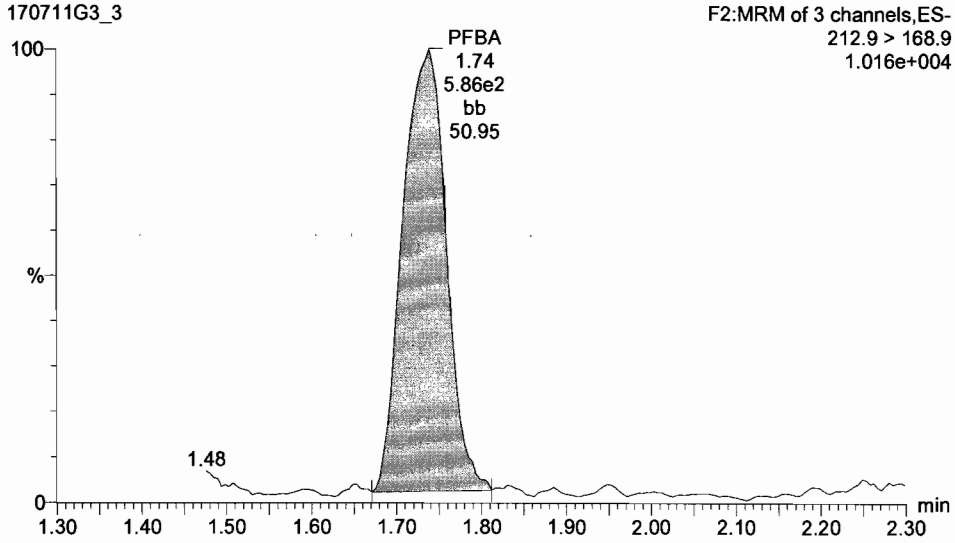
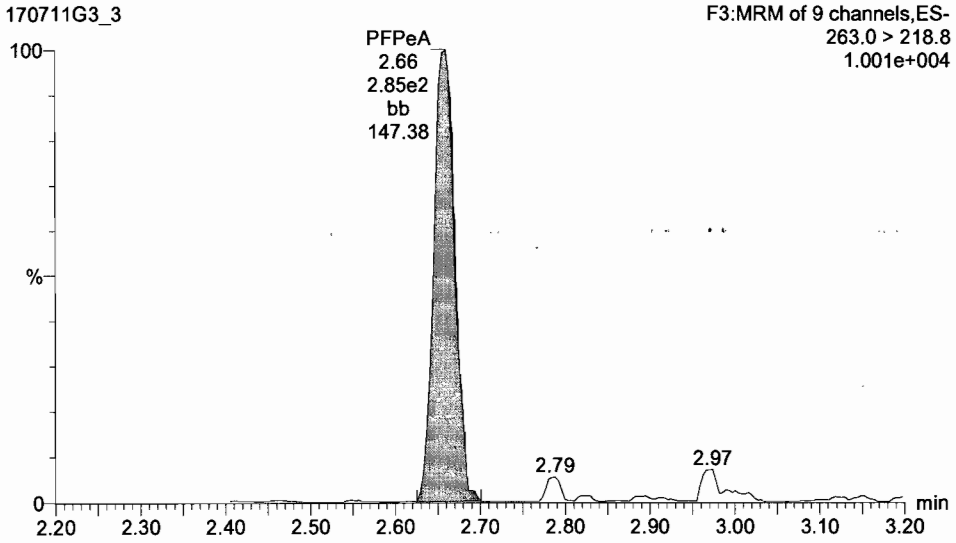
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

PFBA



PFPeA



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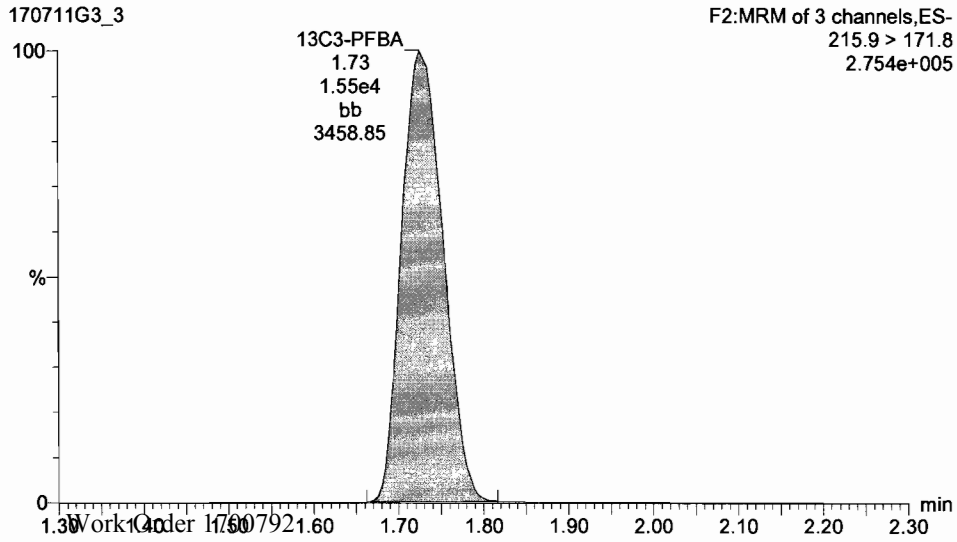

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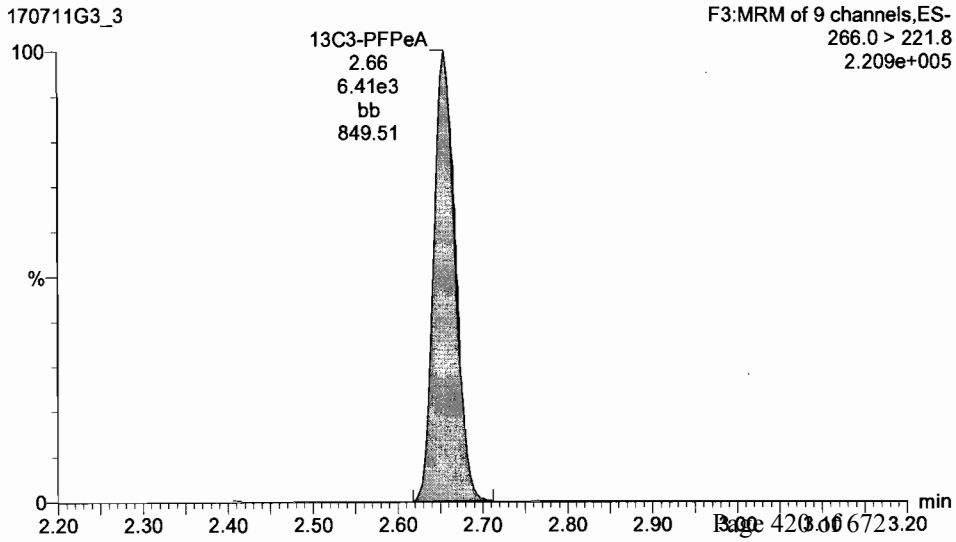

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

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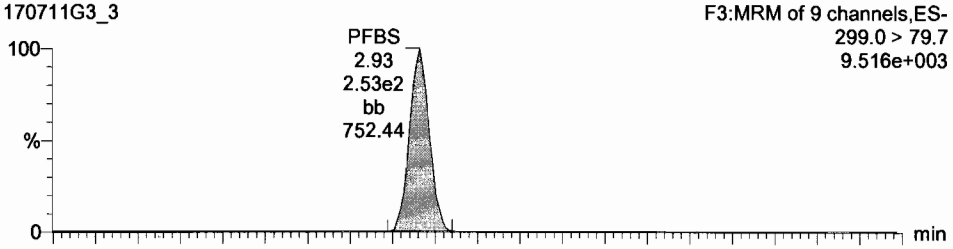

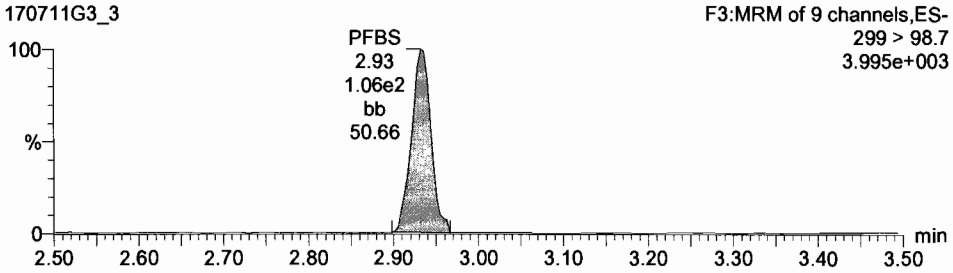

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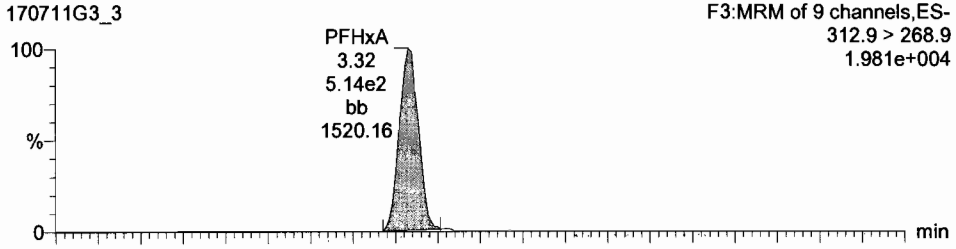

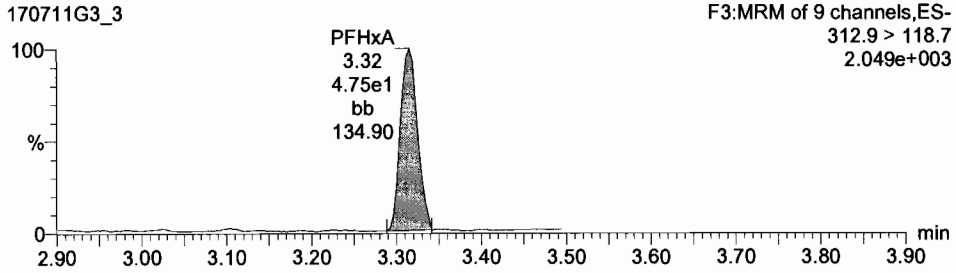

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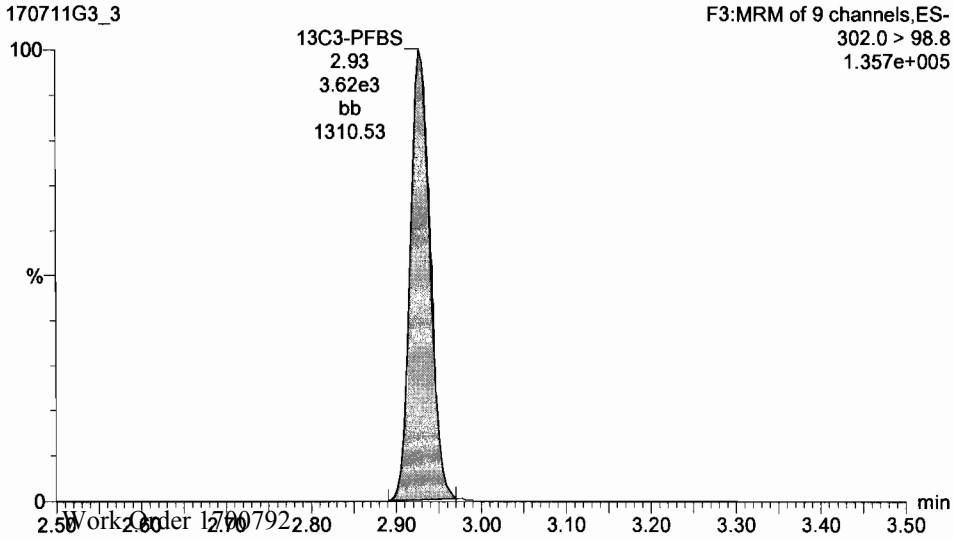

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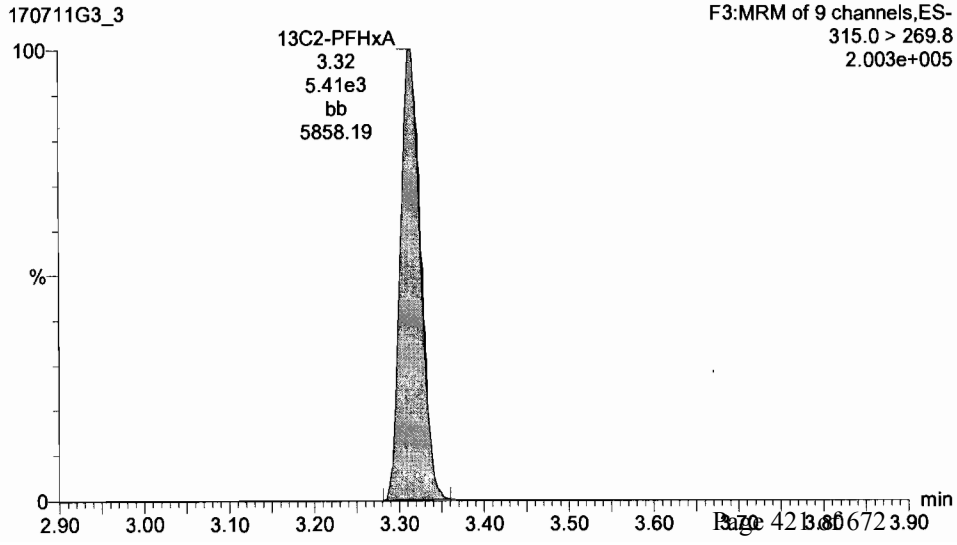

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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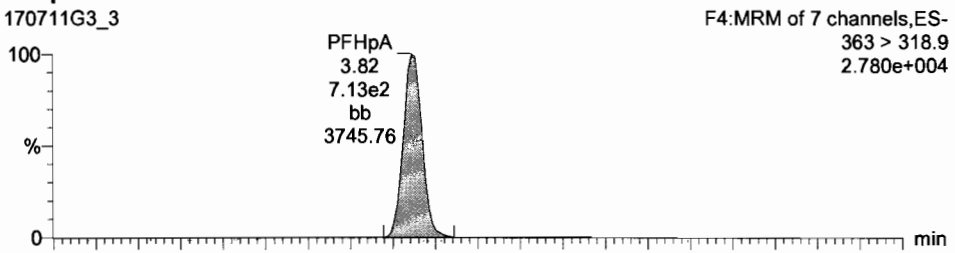
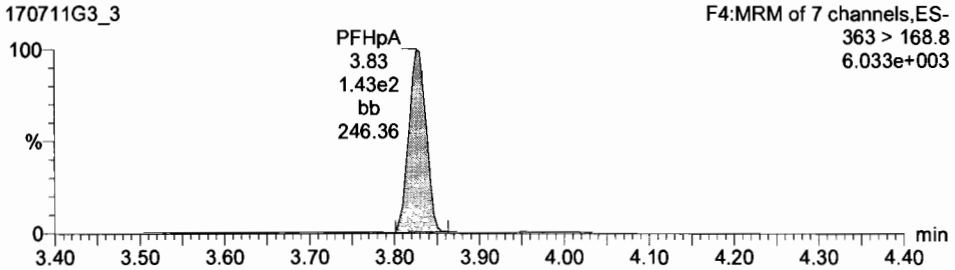
ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

PFHpA





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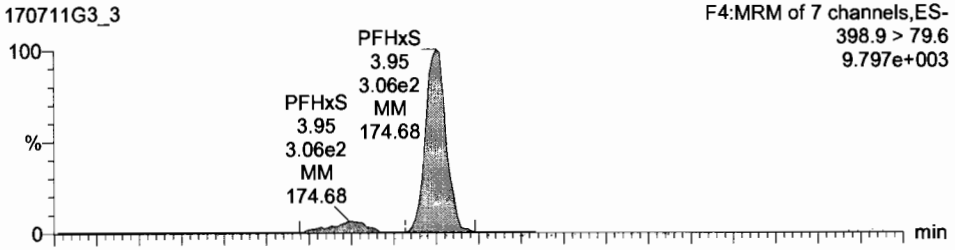

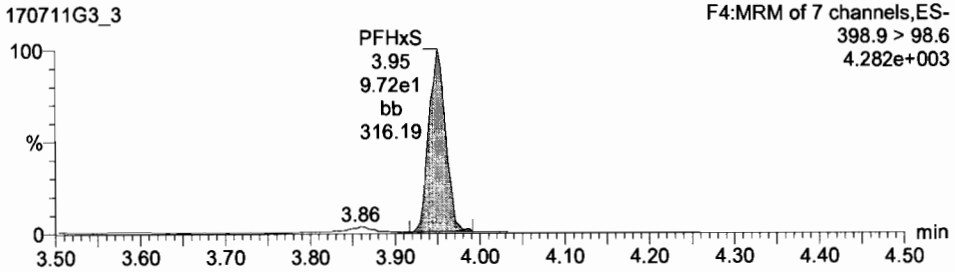

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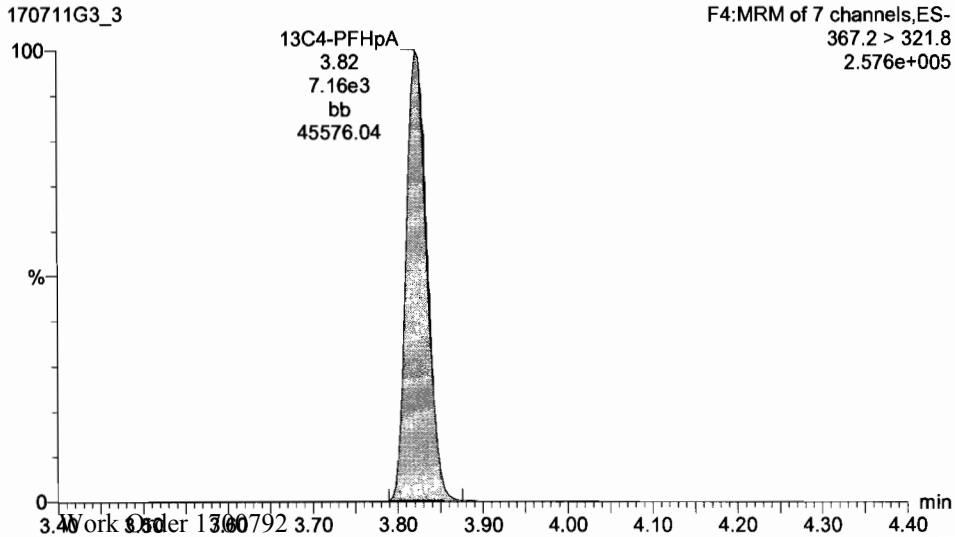
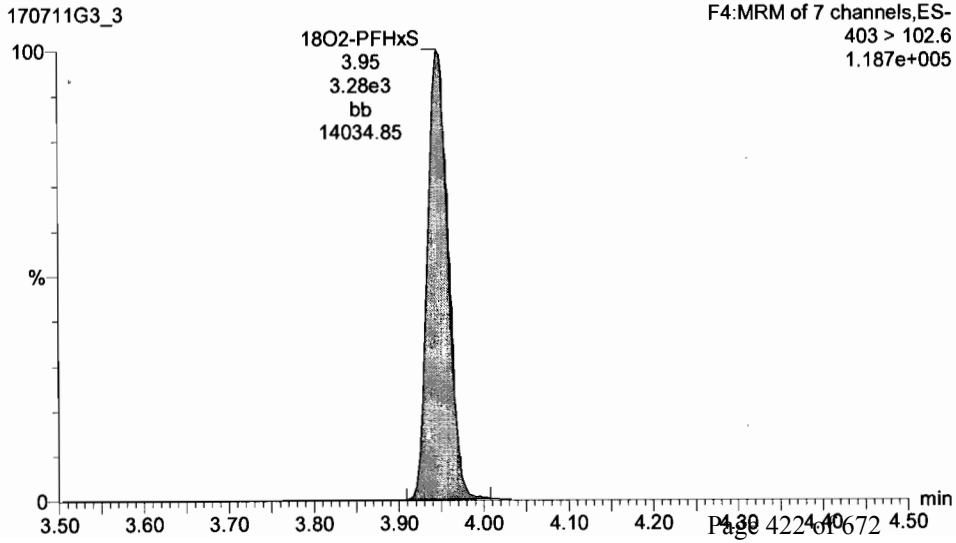


18O2-PFHxS



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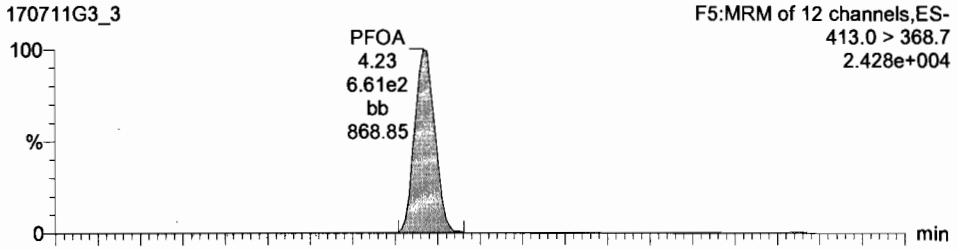
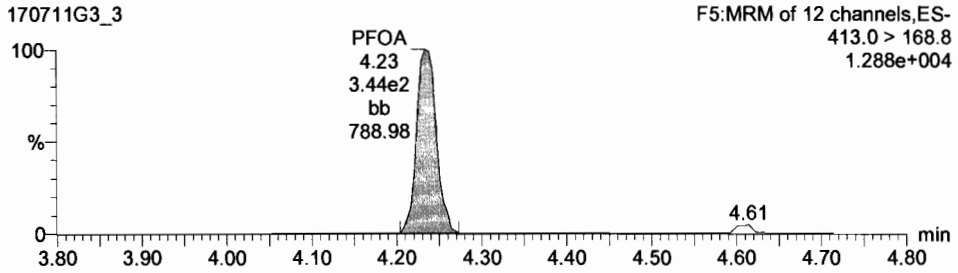
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

Total PFOA





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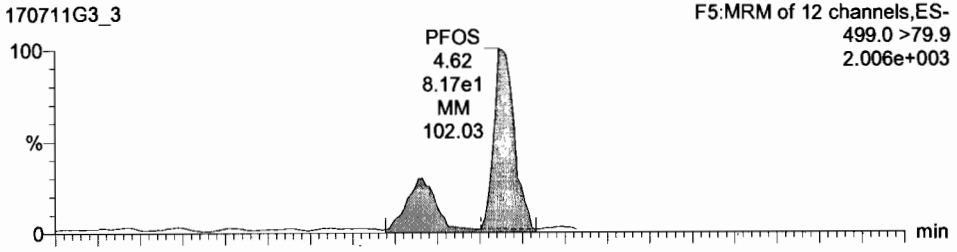
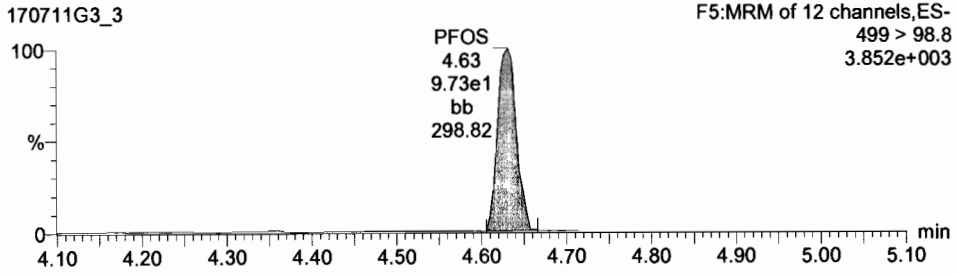
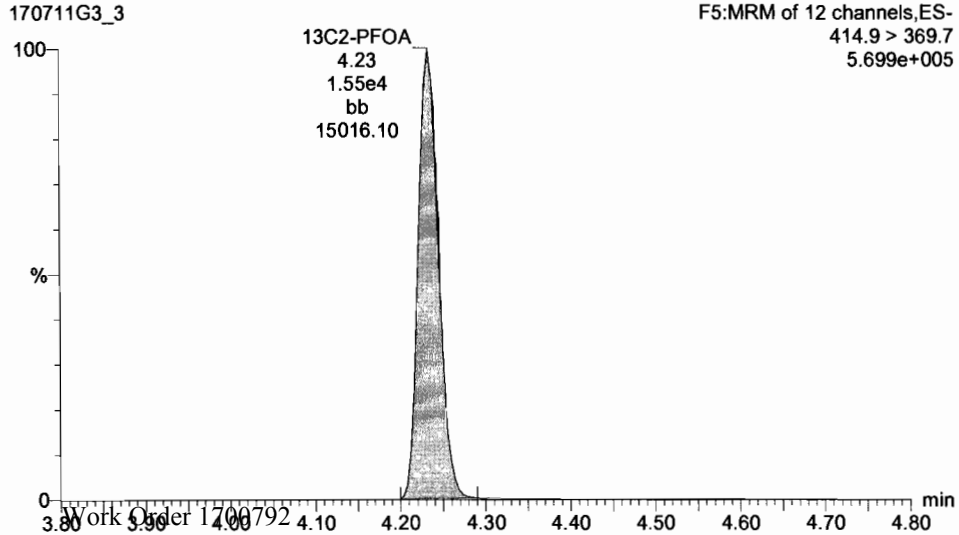




13C2-PFOA



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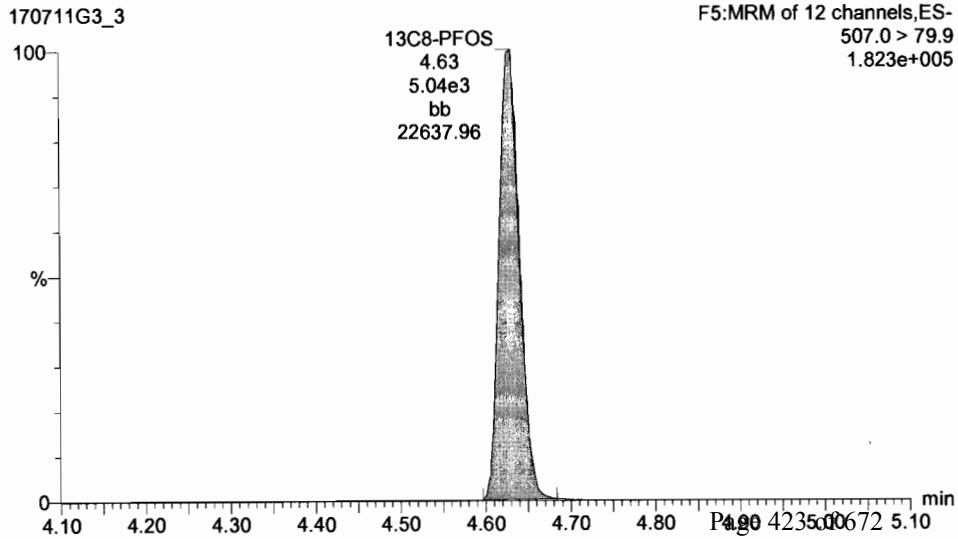

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ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

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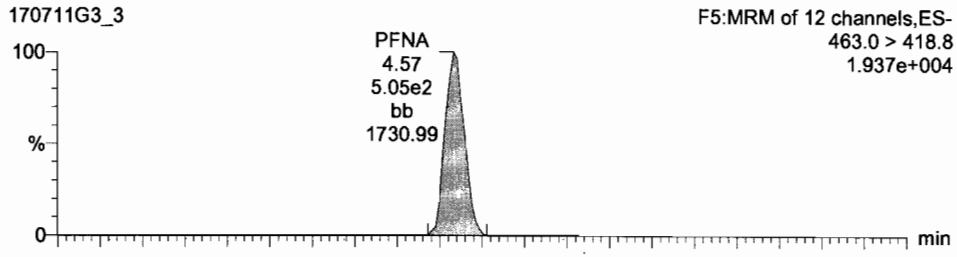

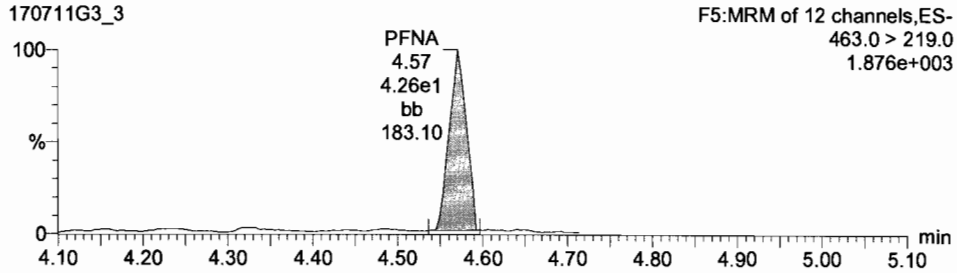

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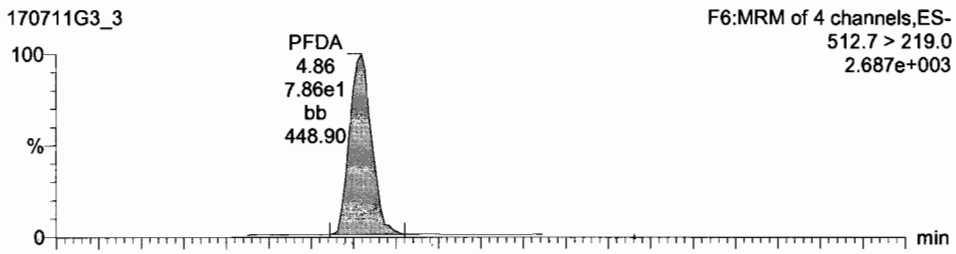
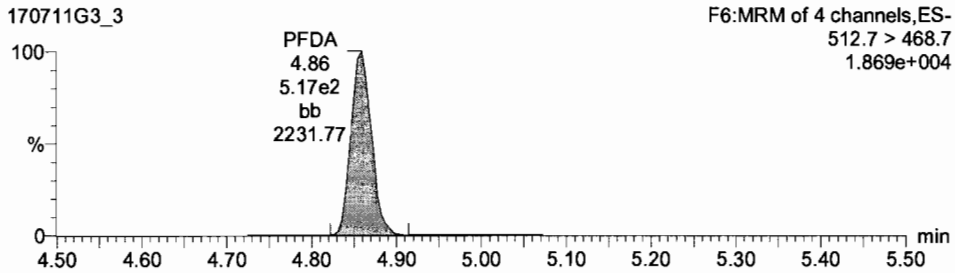
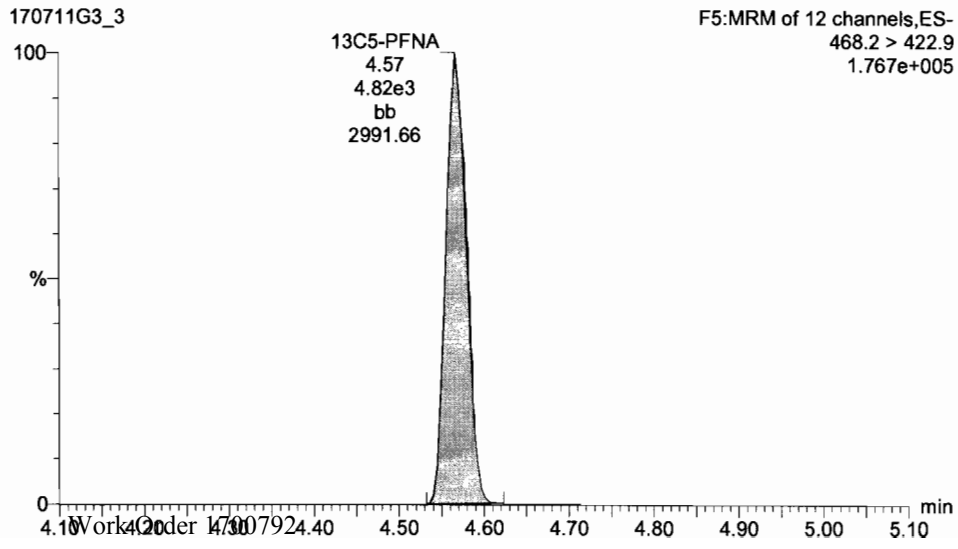




13C5-PFNA



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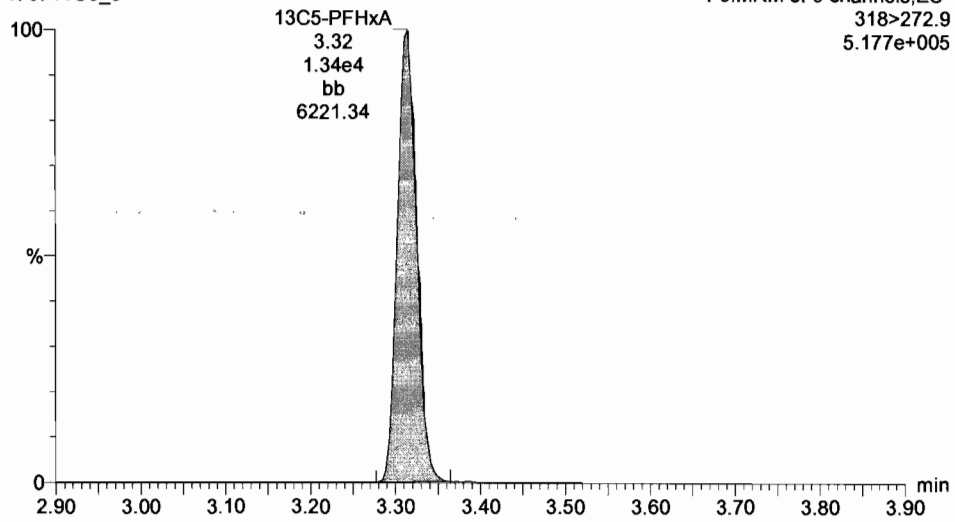
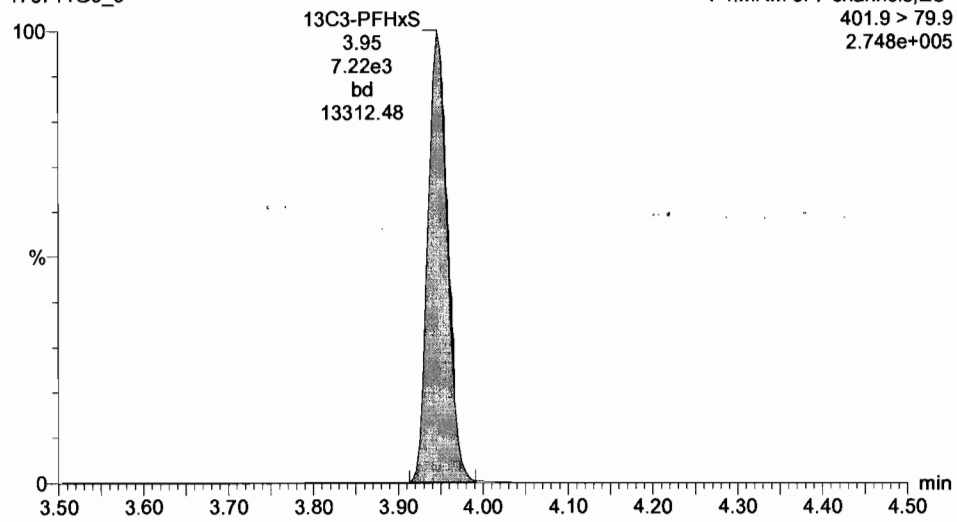
ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

13C5-PFHxA



13C3-PFHxS



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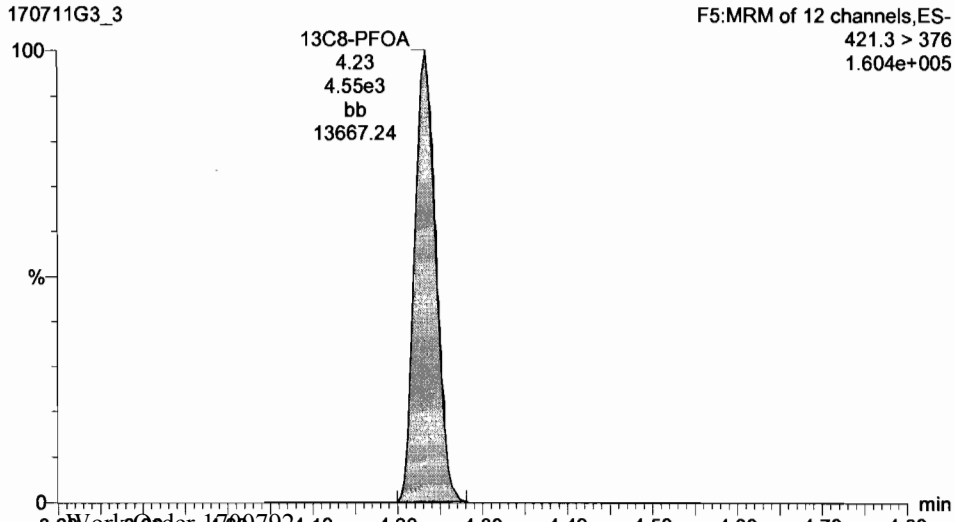
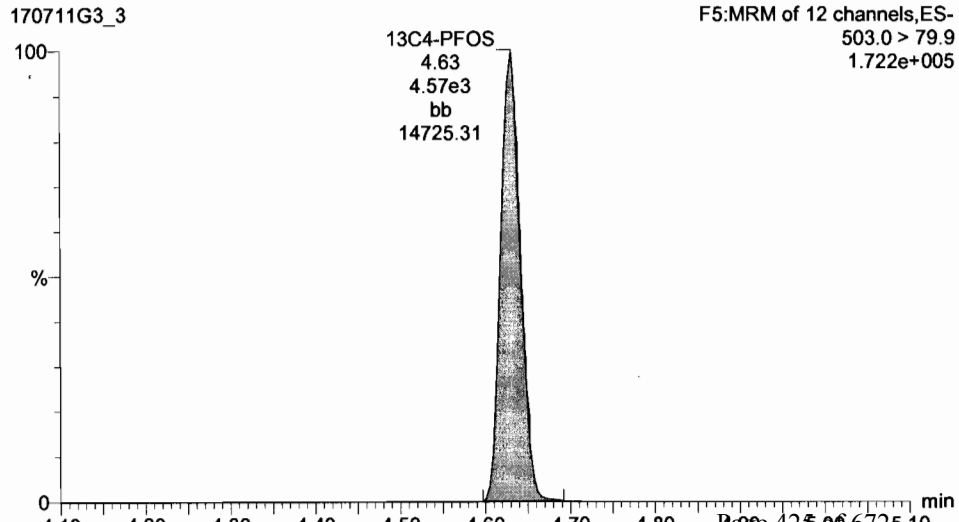


13C4-PFOS



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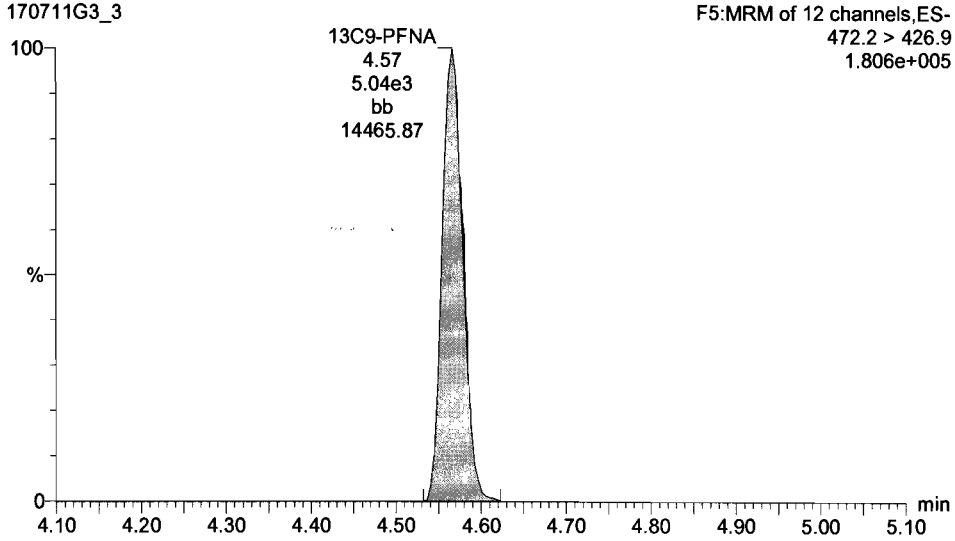
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-2 PFC CS-1 17G1112, Description: PFC CS-1 17G1112, Name: 170711G3_3, Date: 11-Jul-2017, Time: 17:41:54, Instrument: , Lab: , User:

13C9-PFNA



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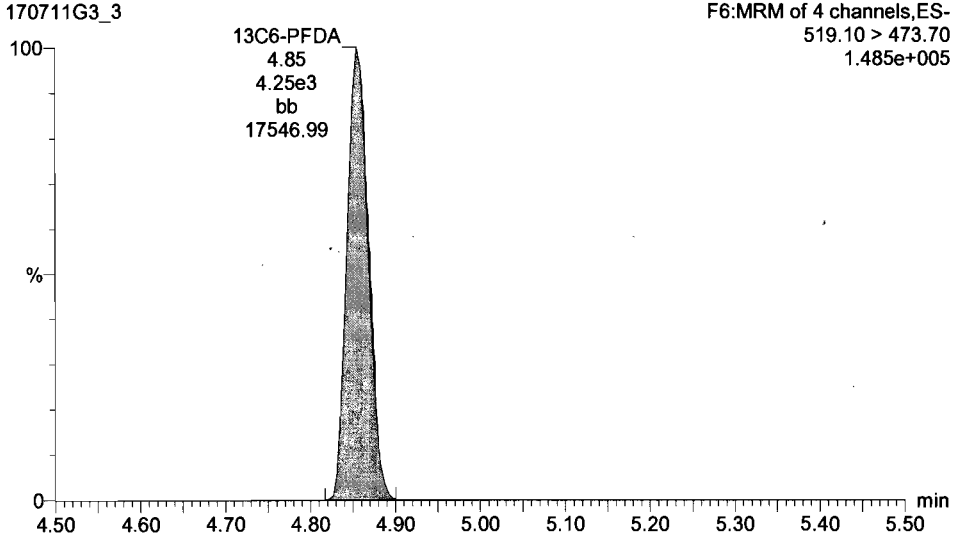

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Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

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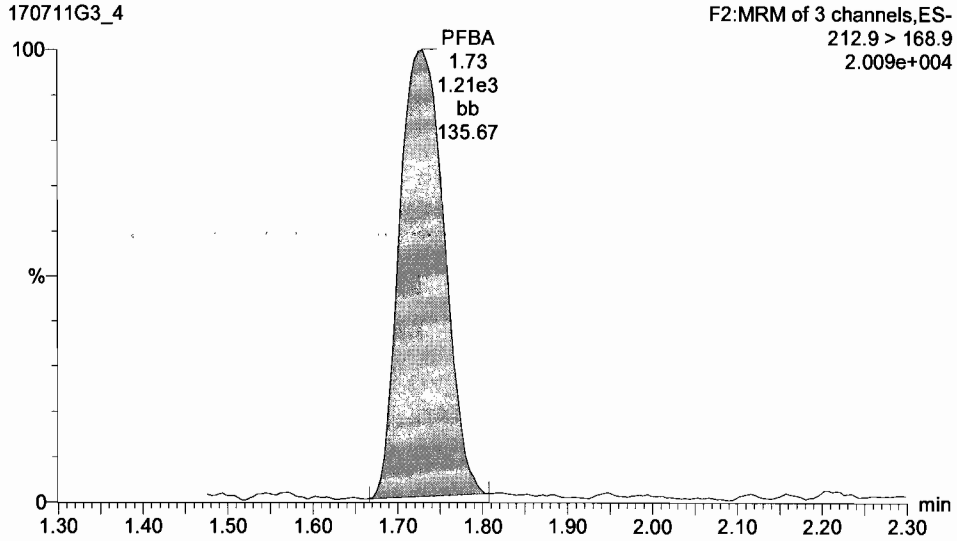
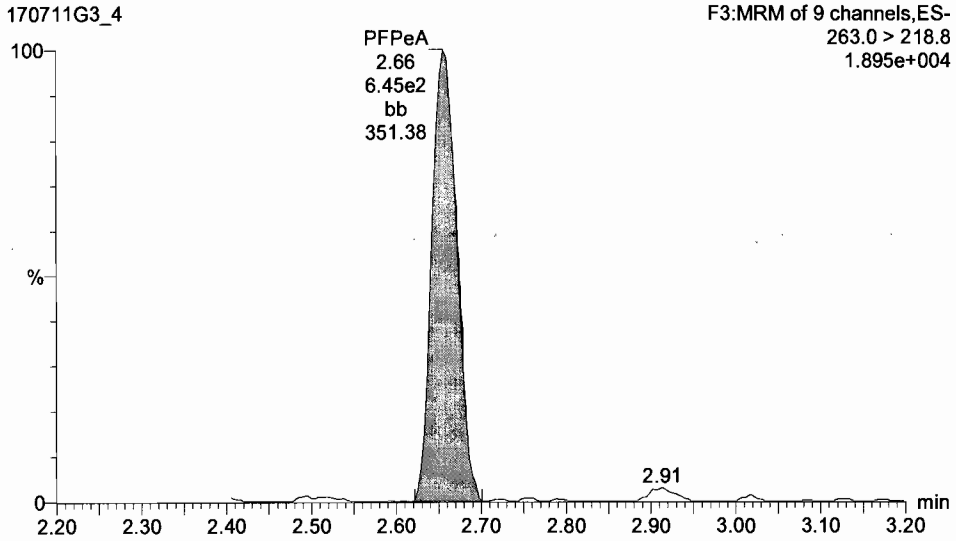
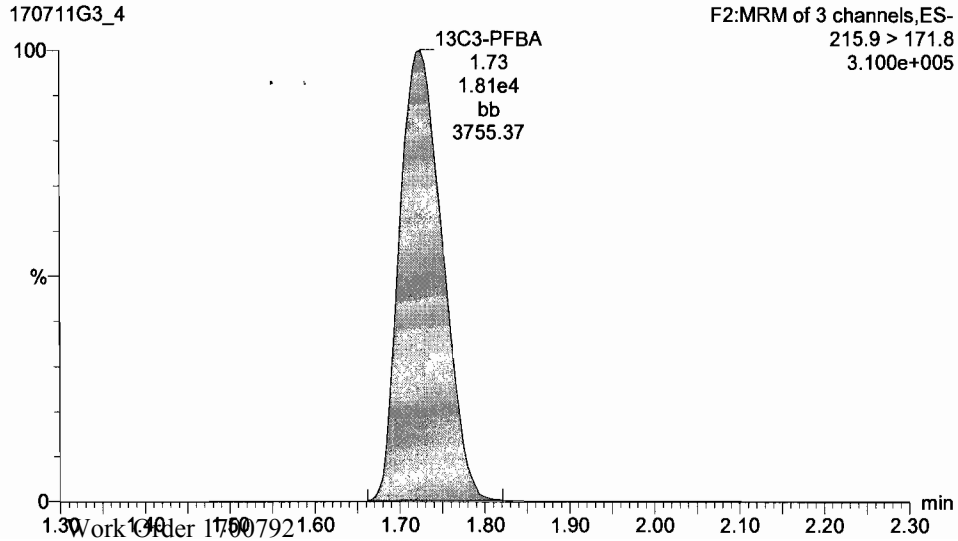


PFPeA



13C3-PFBA



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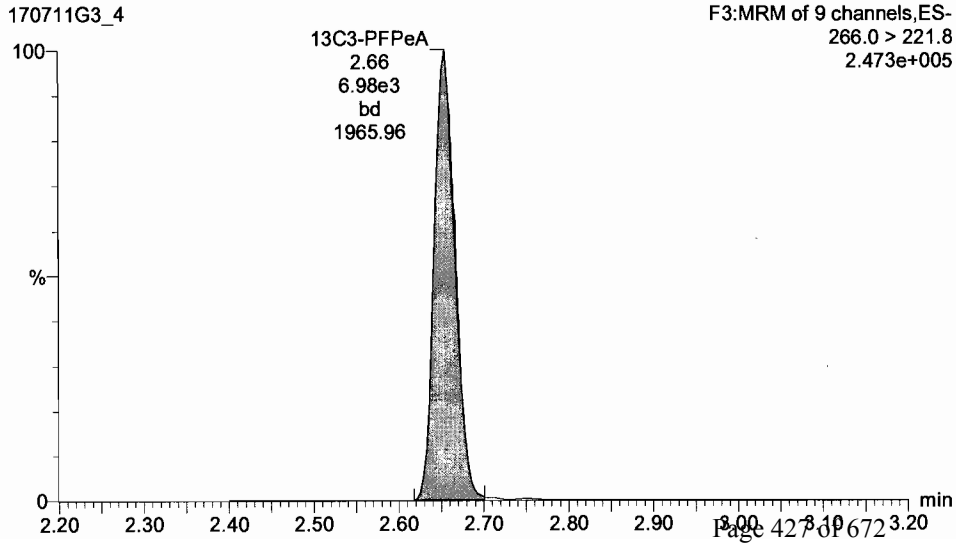

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

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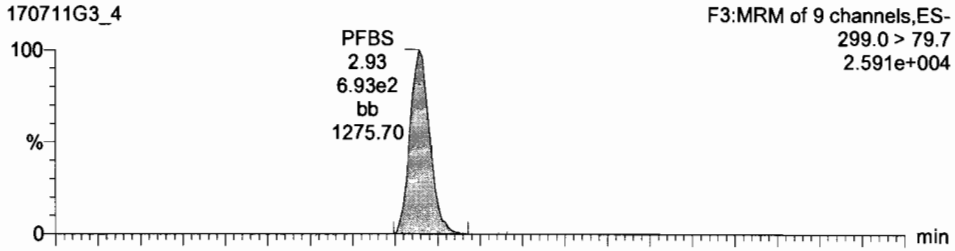
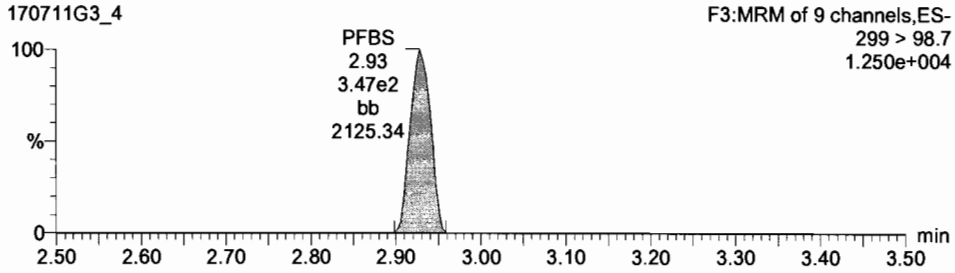
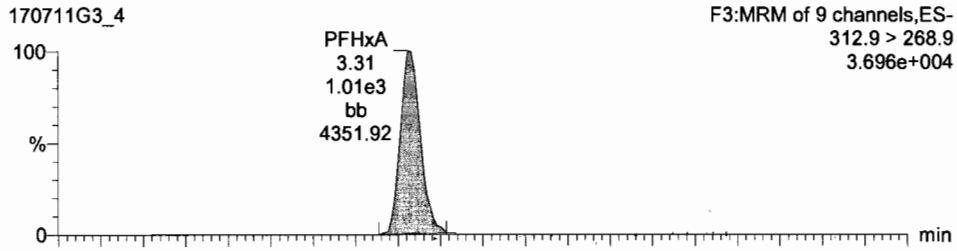
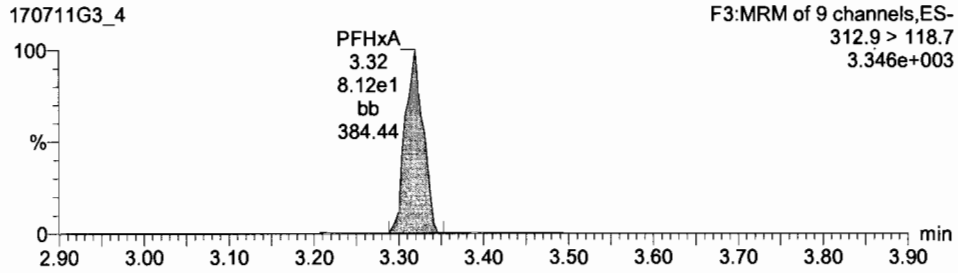




PFHxA





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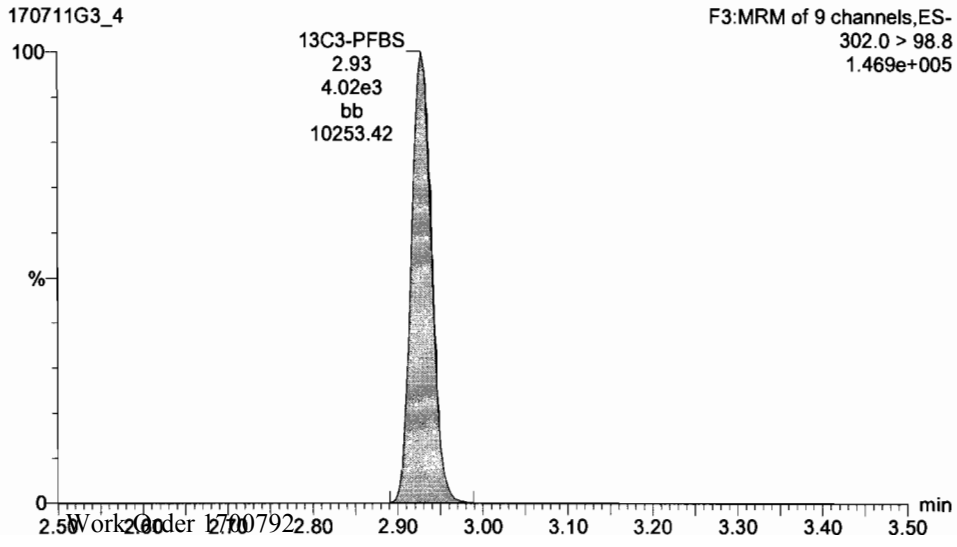

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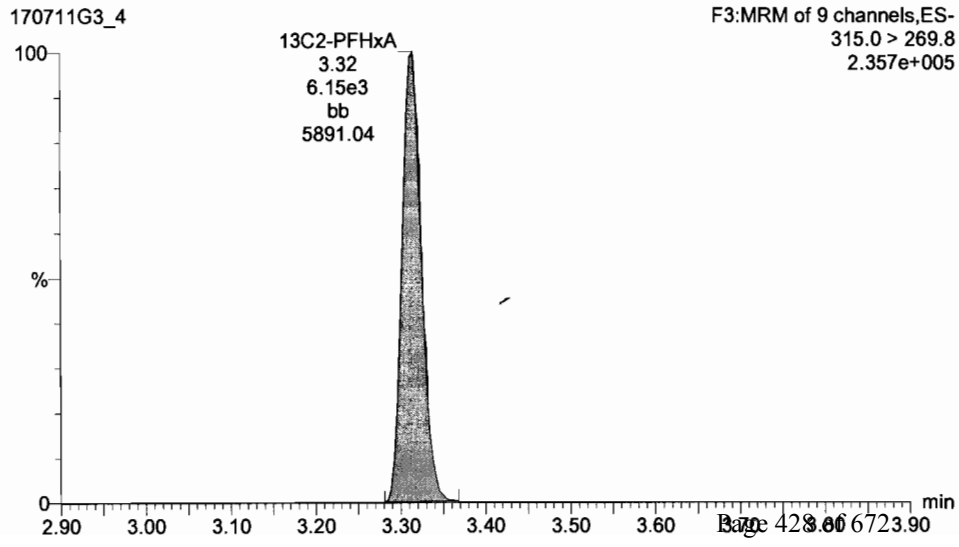

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

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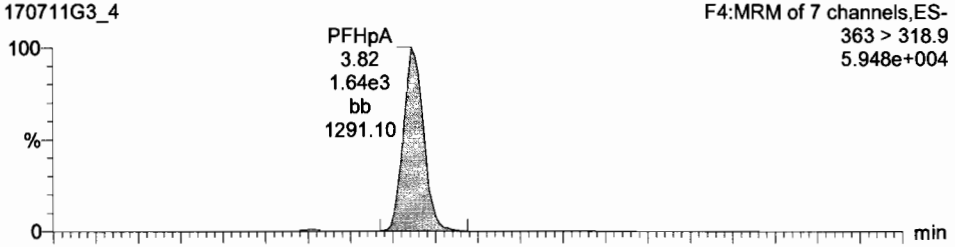

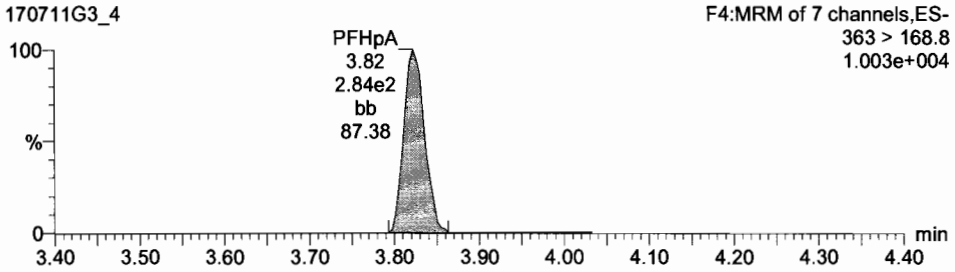

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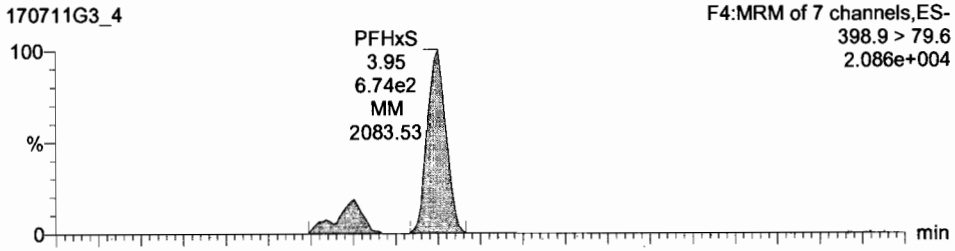

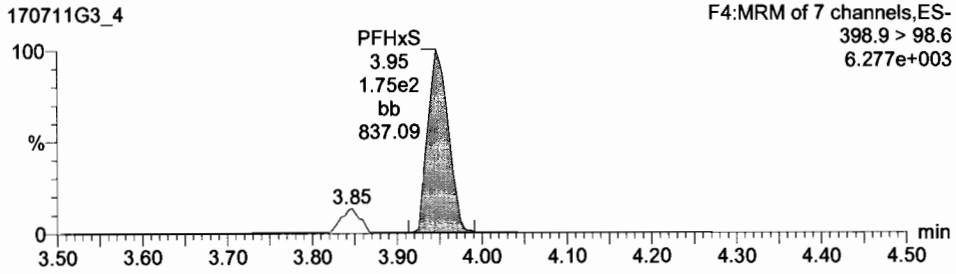

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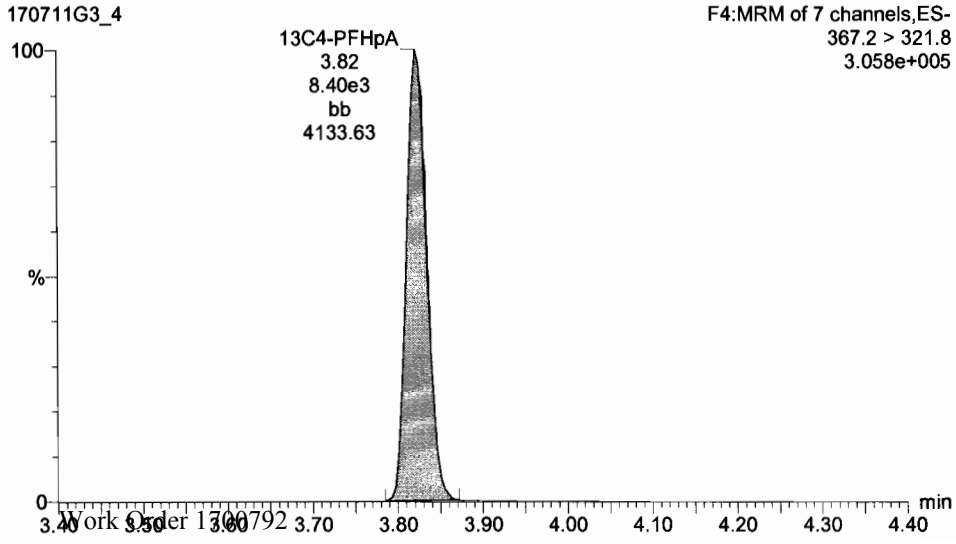
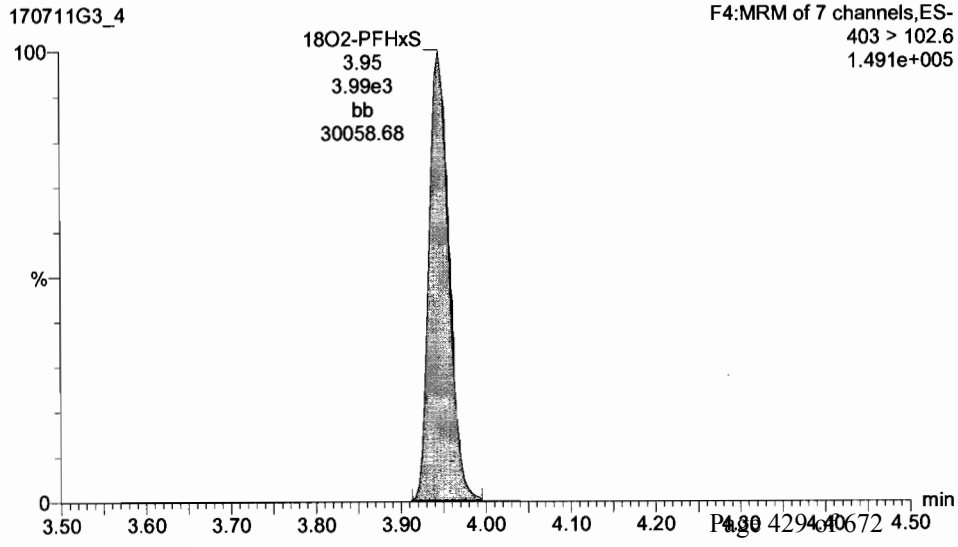


18O2-PFHxS



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Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

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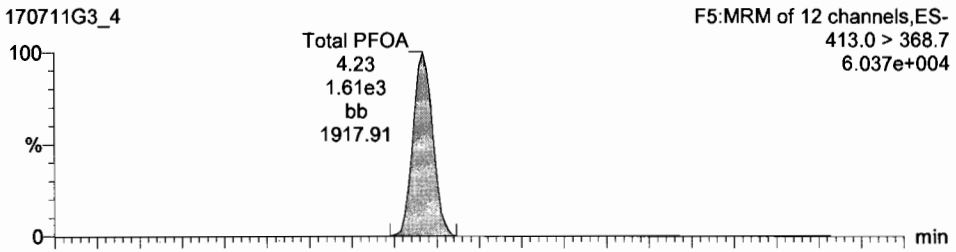

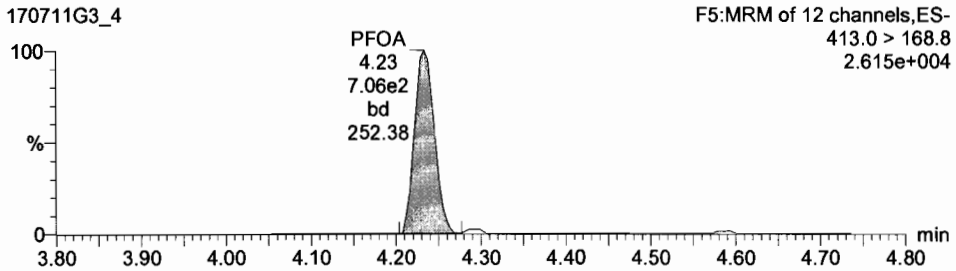

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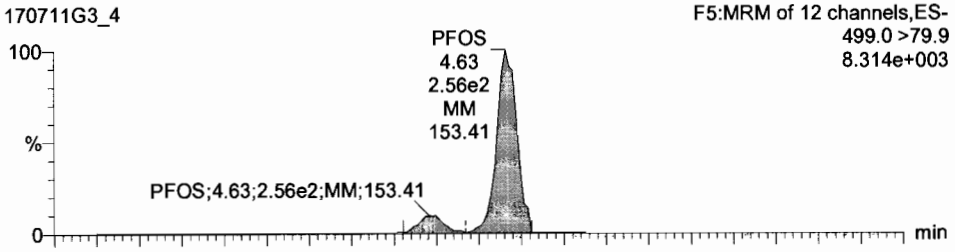
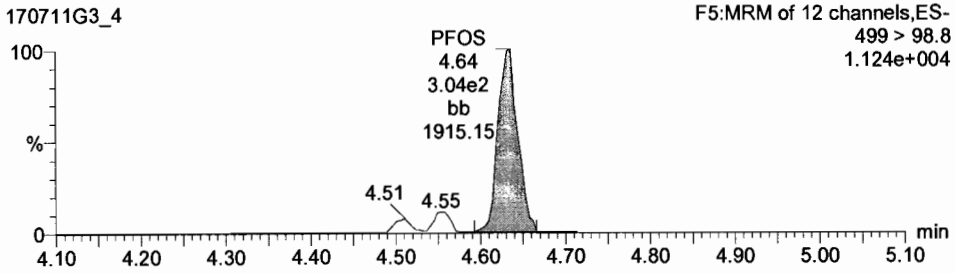
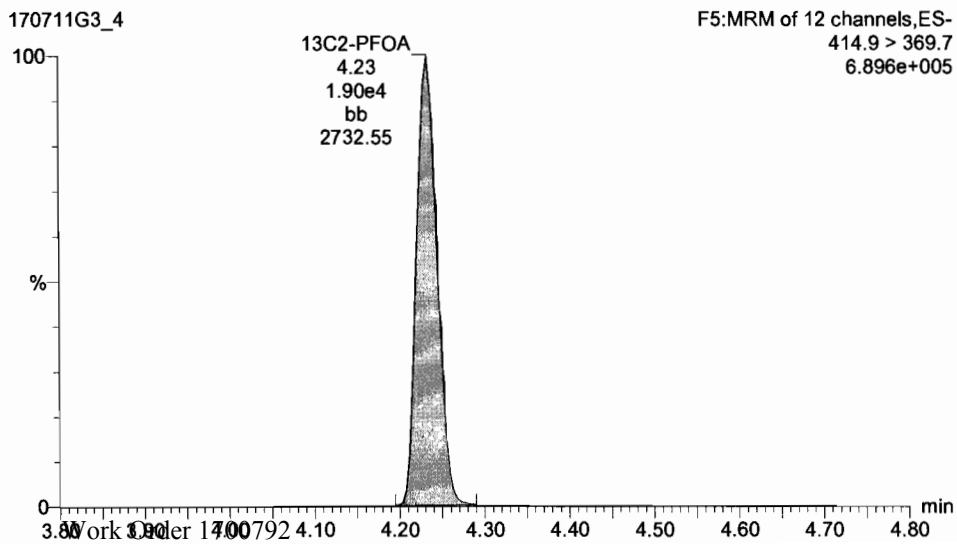
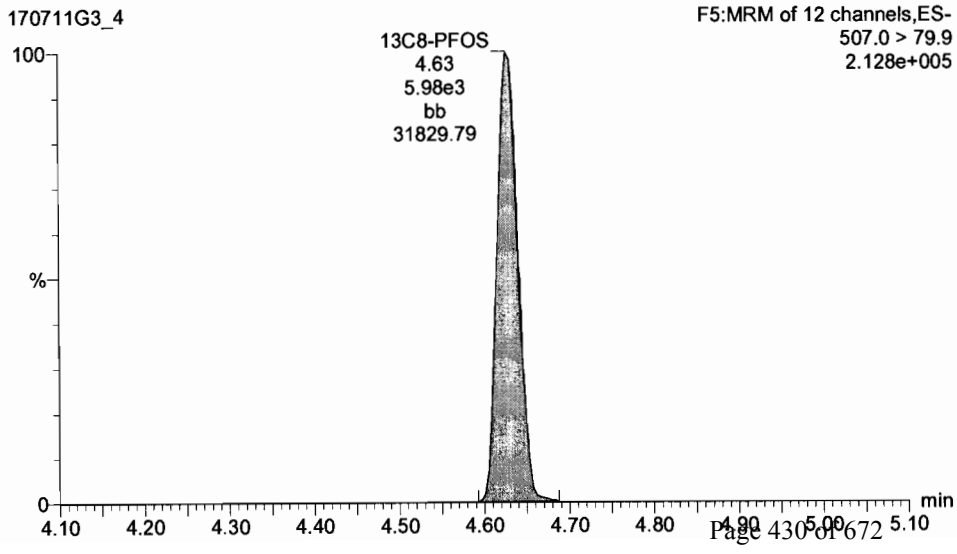




13C2-PFOA



13C8-PFOS



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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

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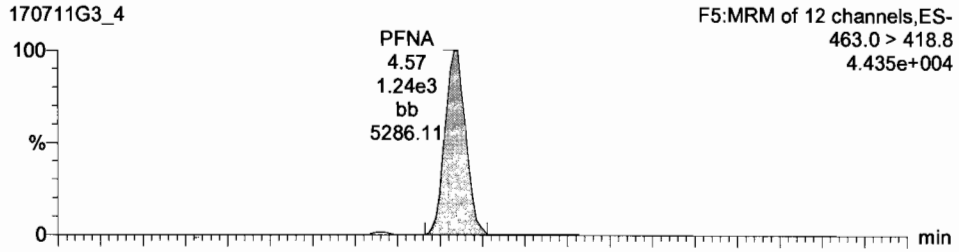

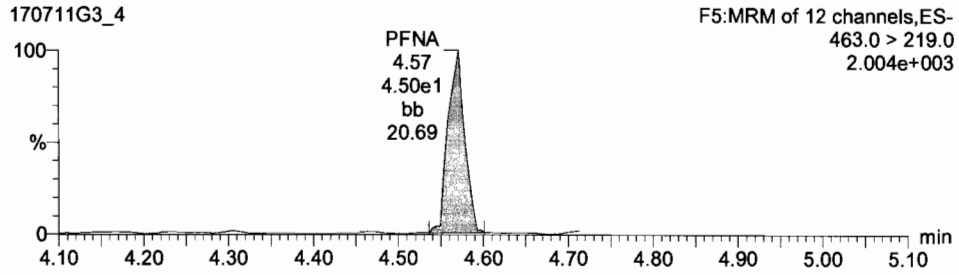

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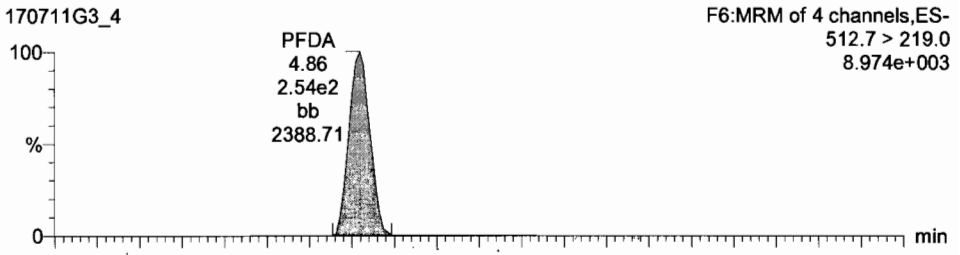

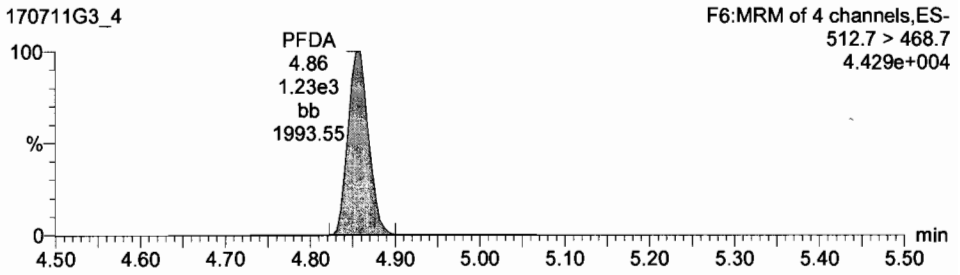

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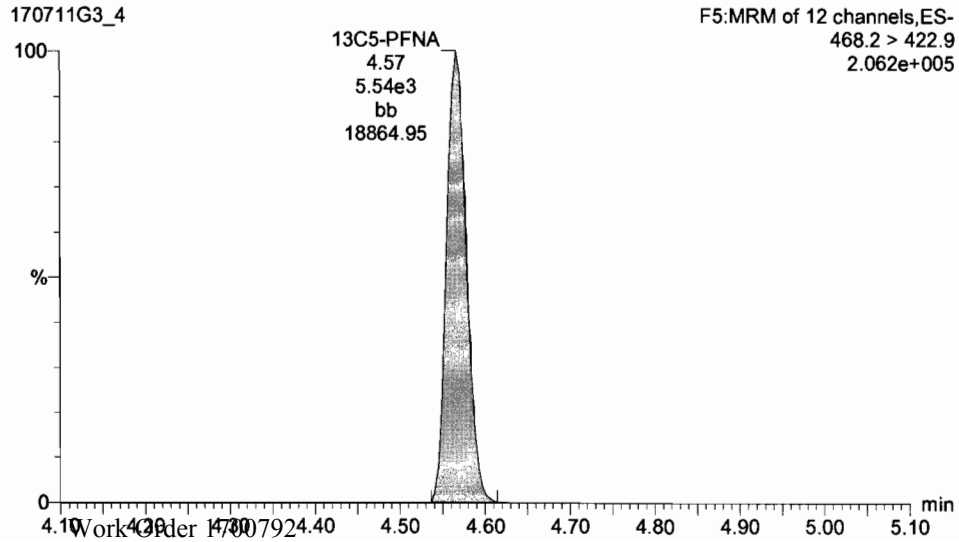

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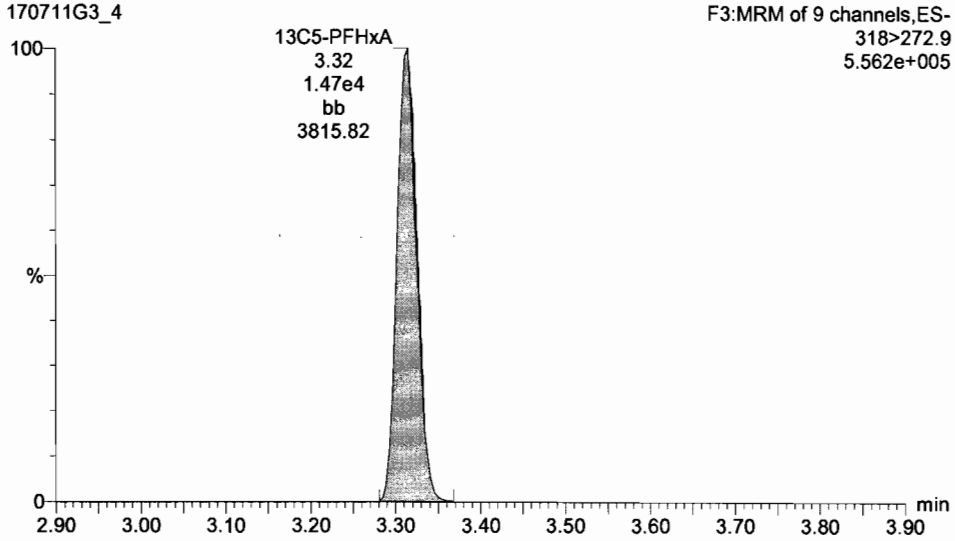
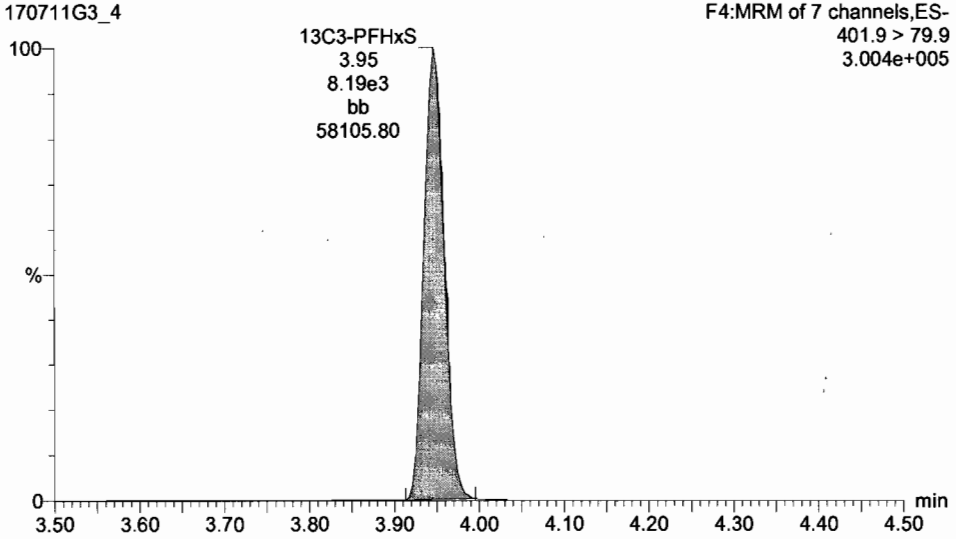
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

13C5-PFHxA



13C3-PFHxS



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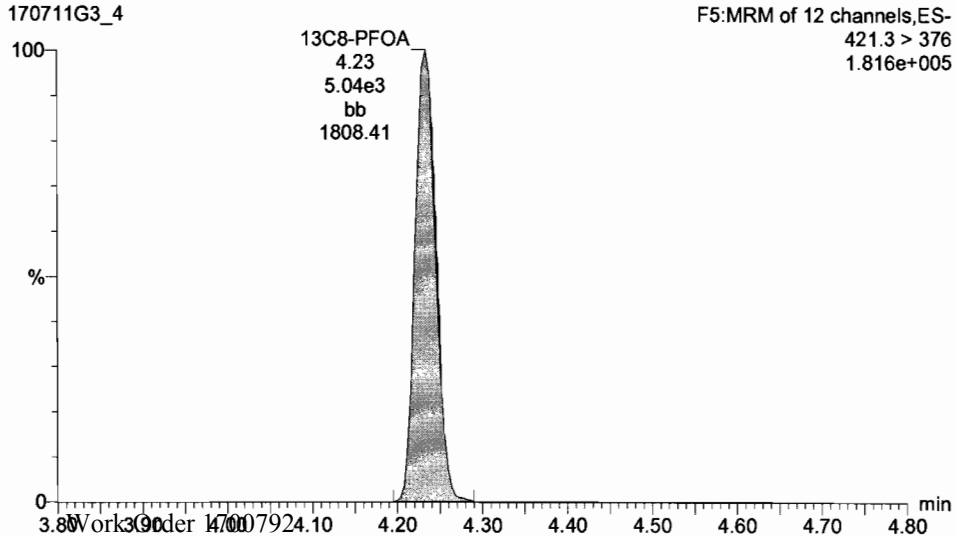
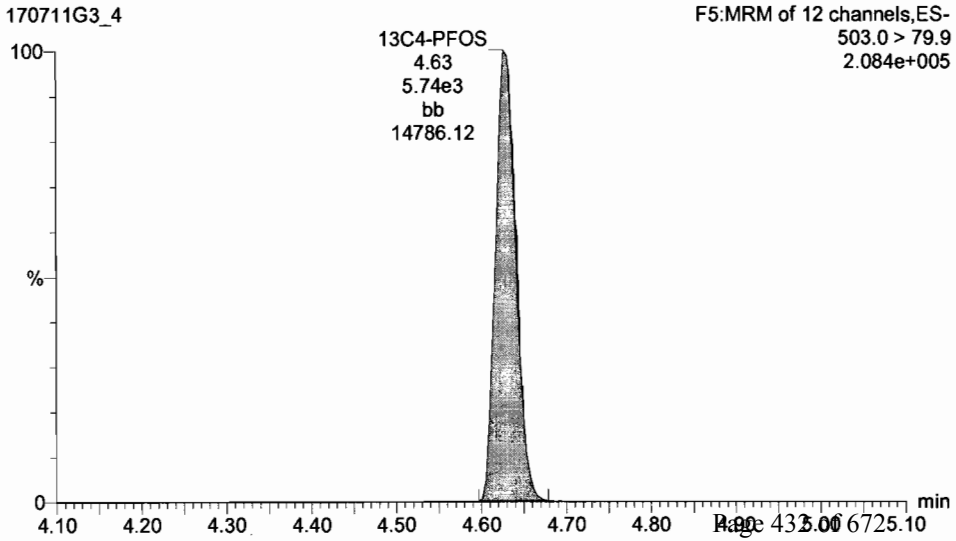


13C4-PFOS



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

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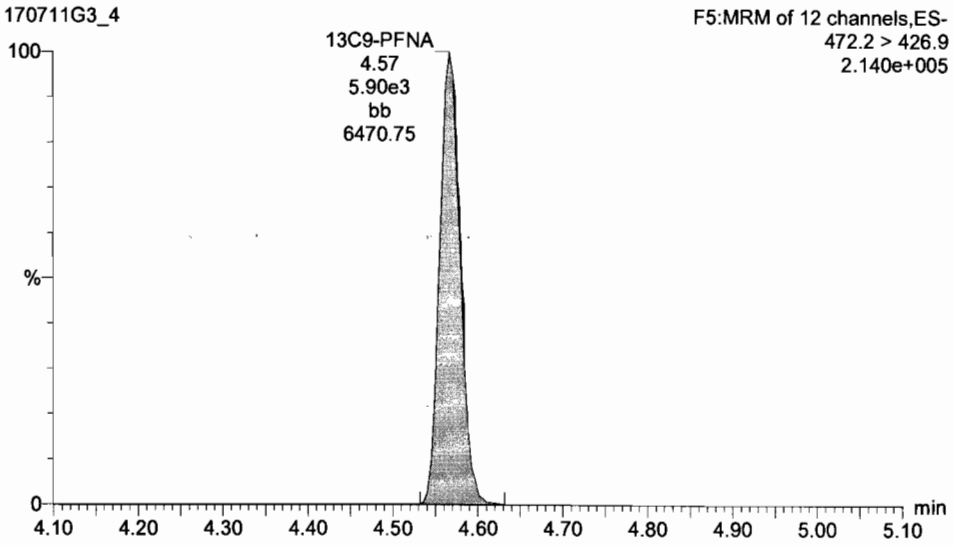
ID: ST170711G3-3 PFC CS0 17G1113, Description: PFC CS 0 17G1113, Name: 170711G3_4, Date: 11-Jul-2017, Time: 17:54:28, Instrument: , Lab: , User:

13C9-PFNA



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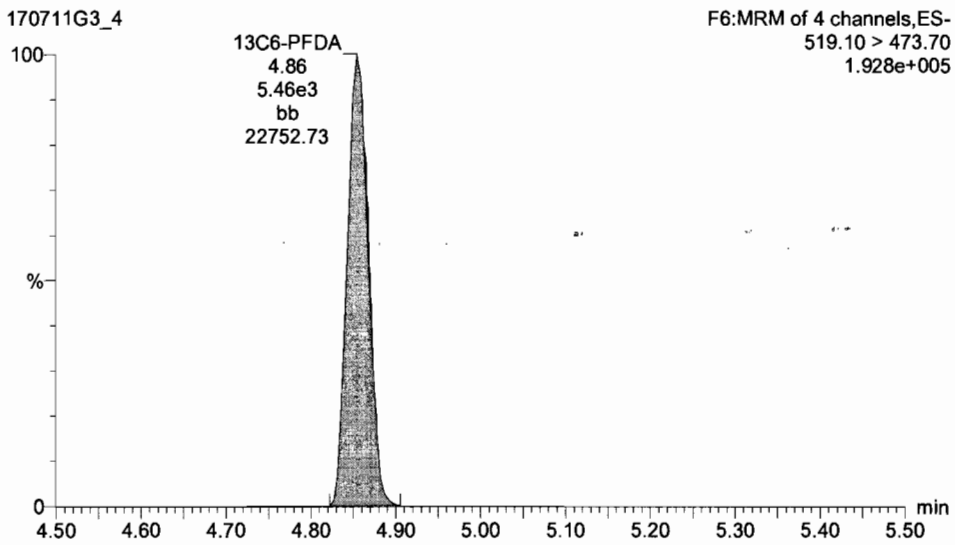

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ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

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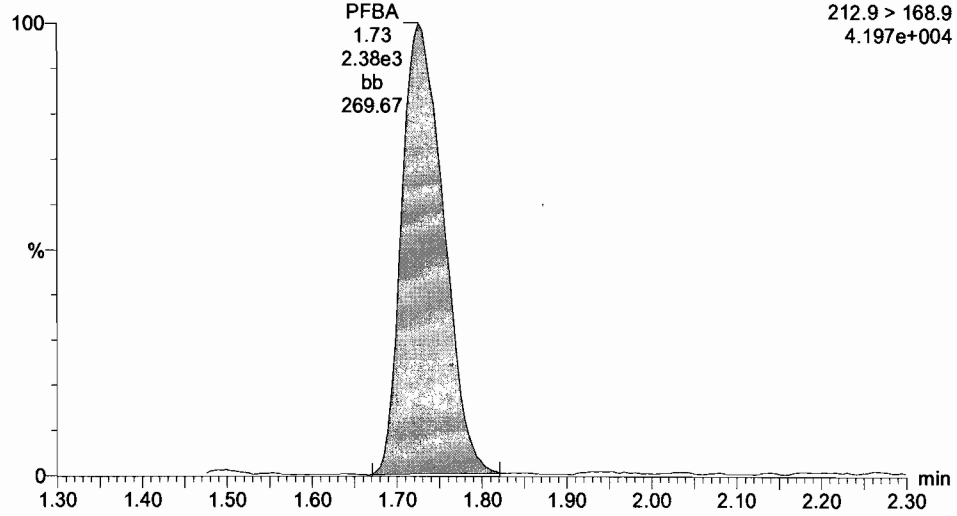
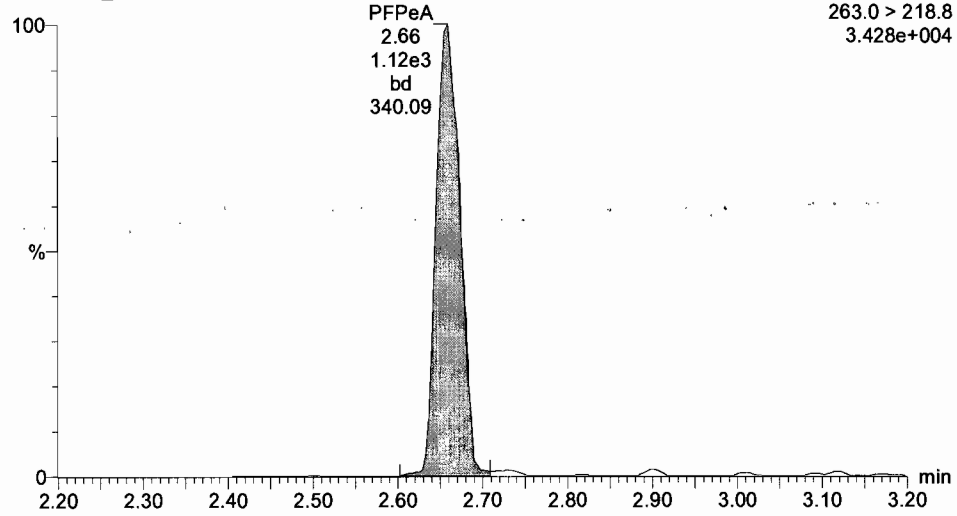


PFPeA



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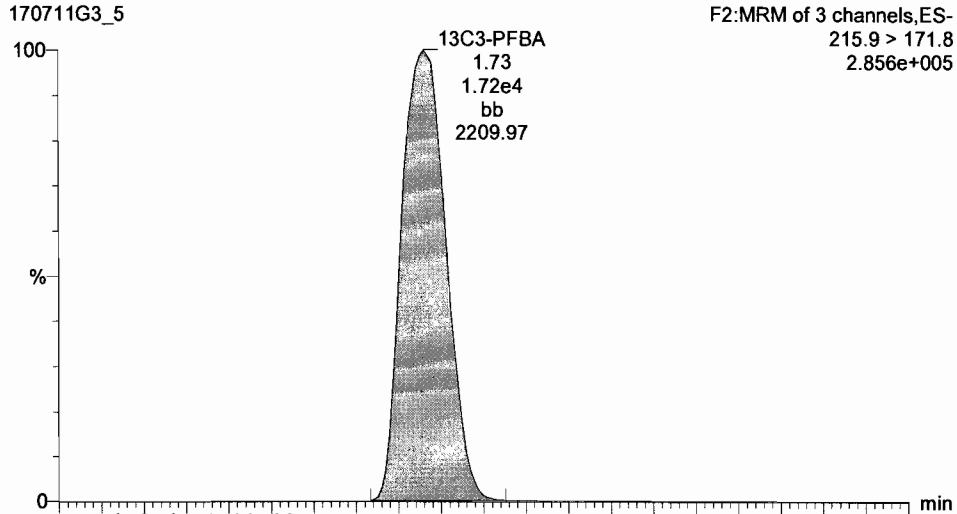

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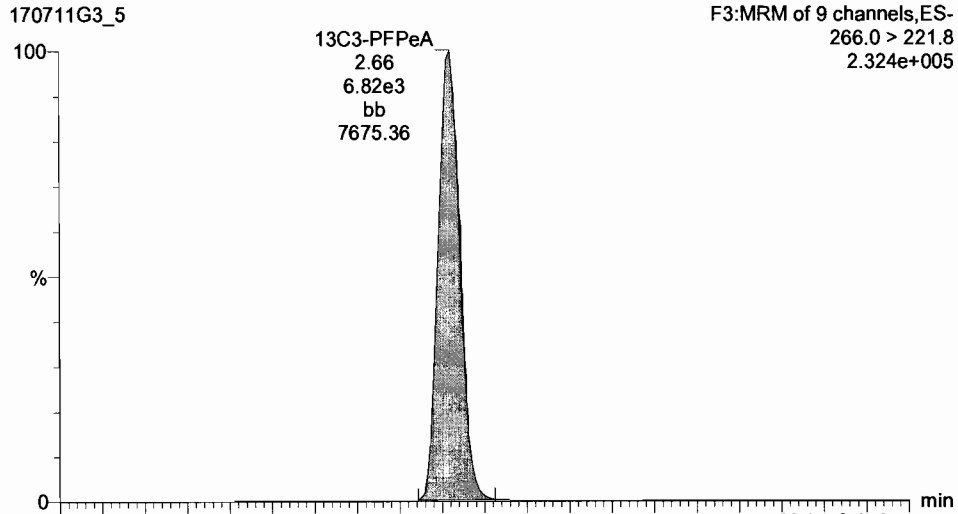

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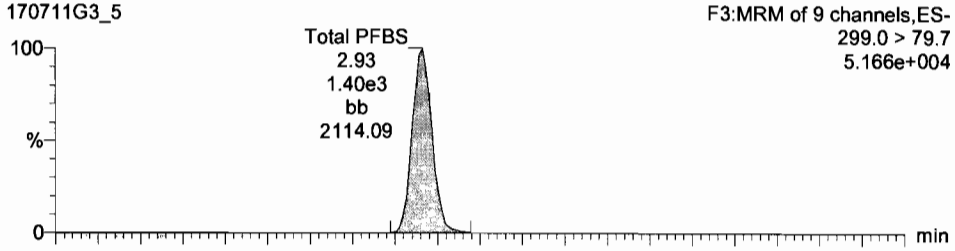
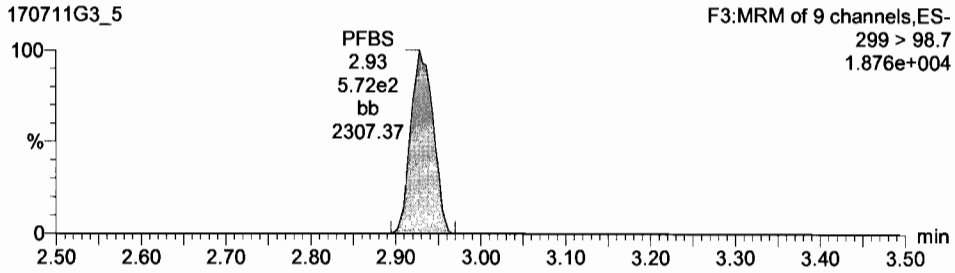
ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

Total PFBS





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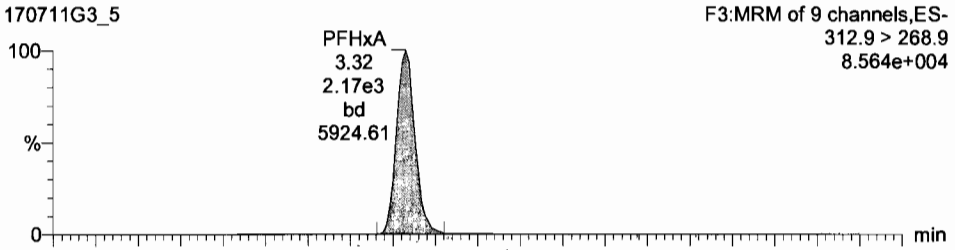

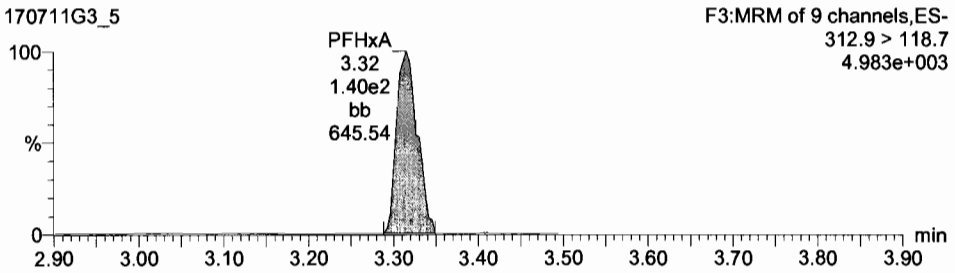

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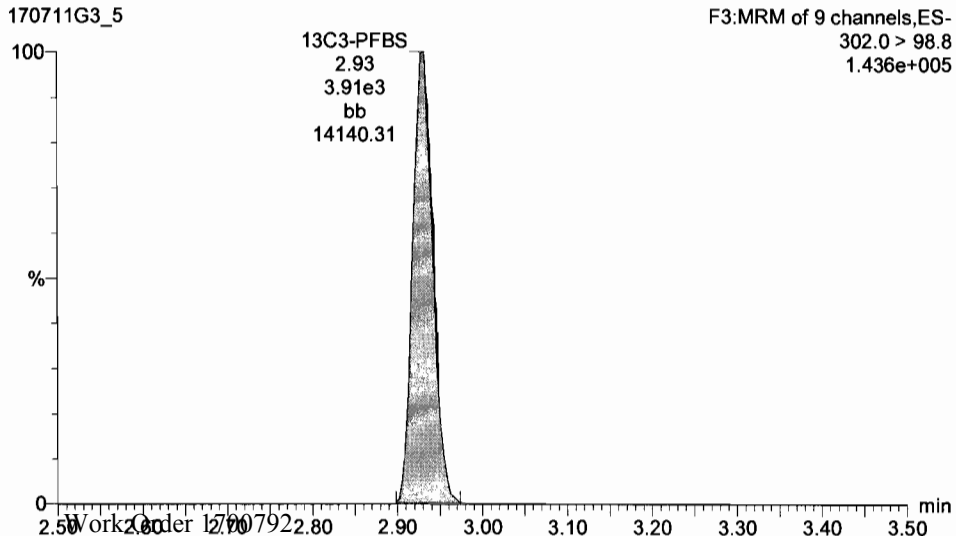
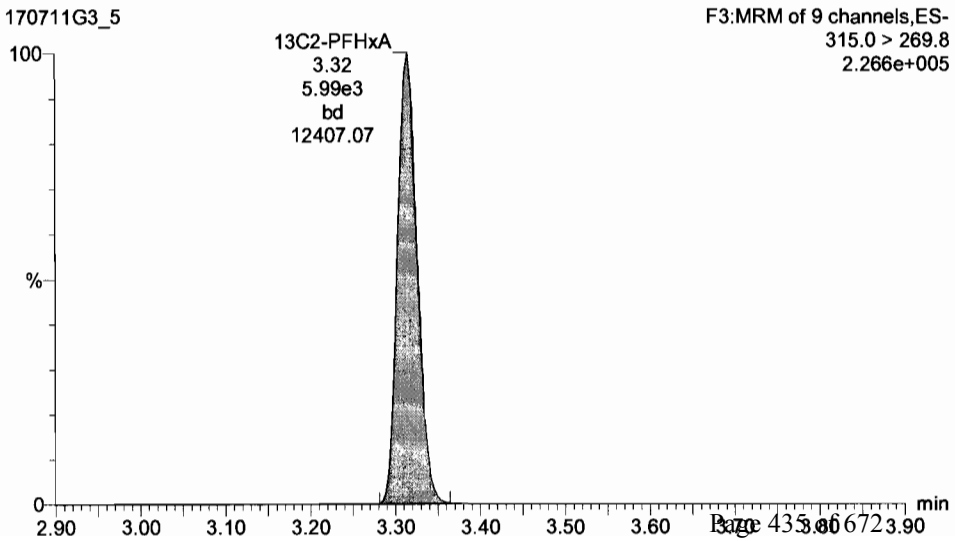


13C2-PFHxA



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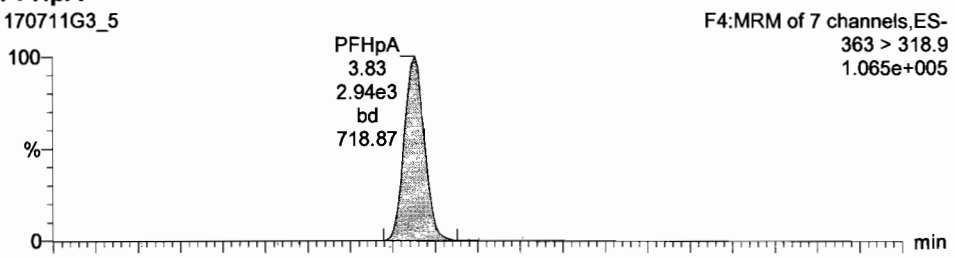
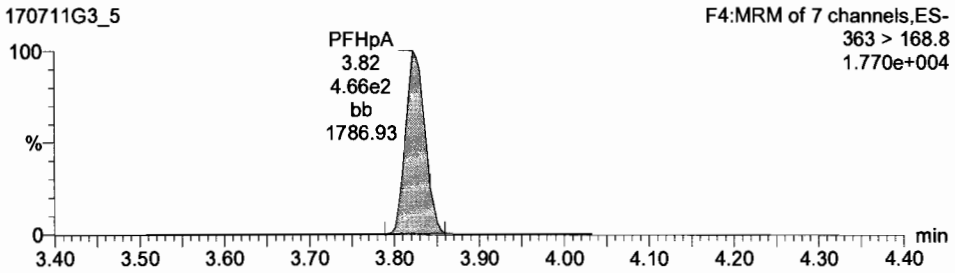
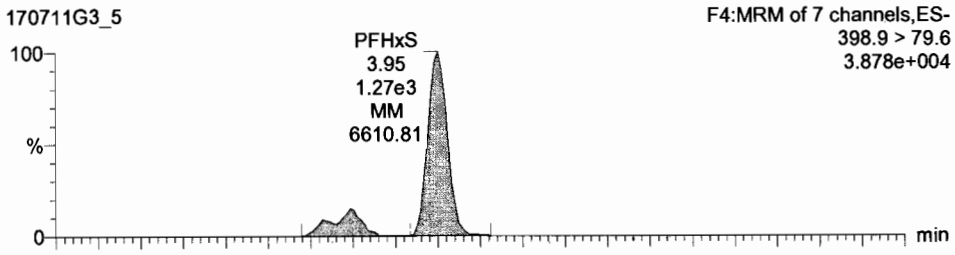
ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

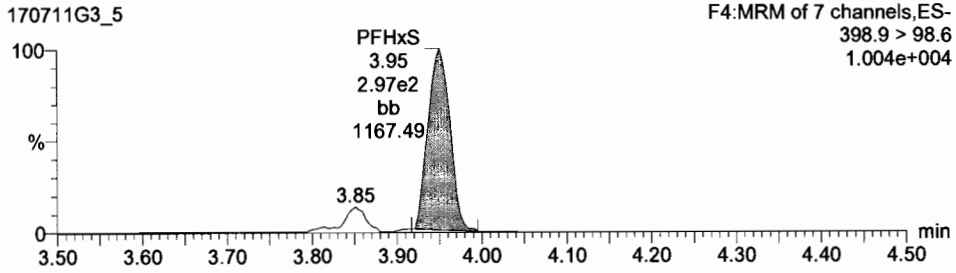
PFHpA





Total PFHxS





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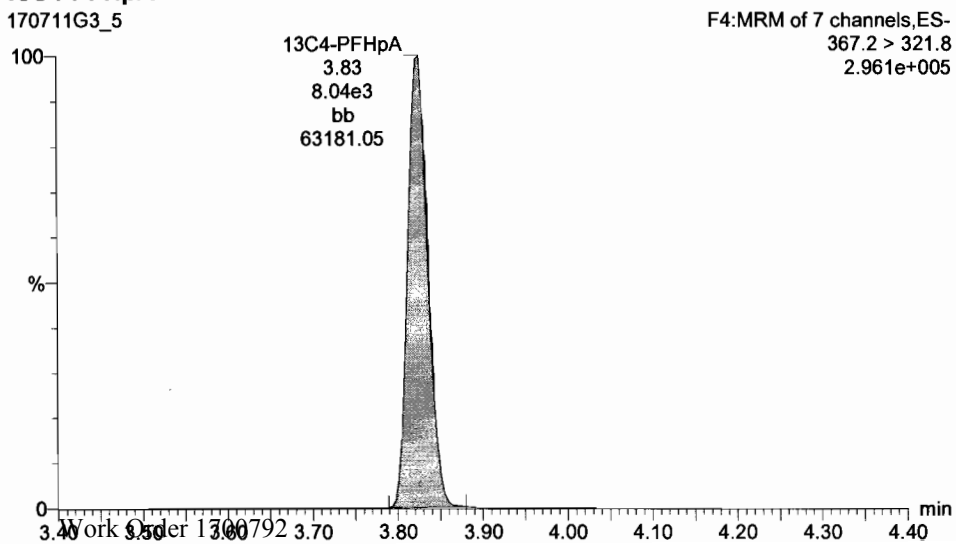
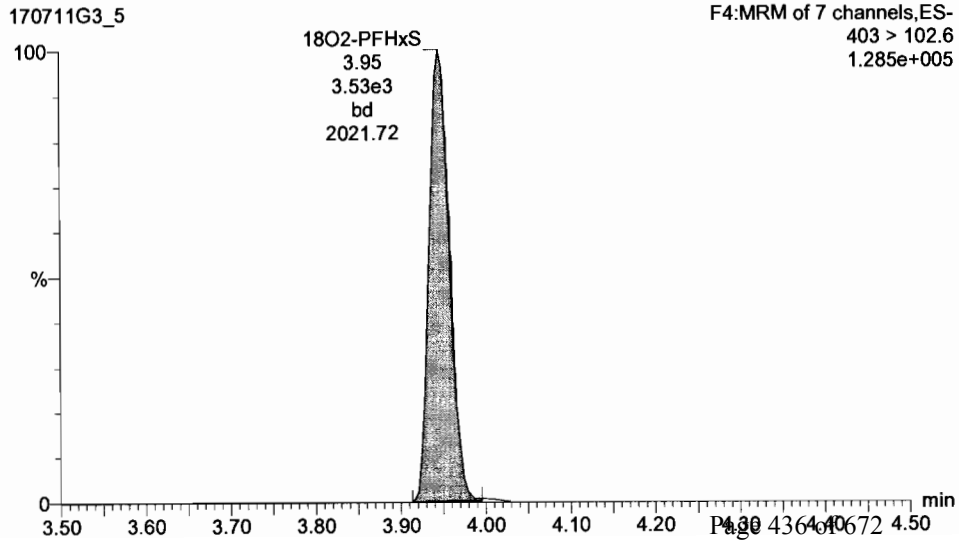


18O2-PFHxS



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

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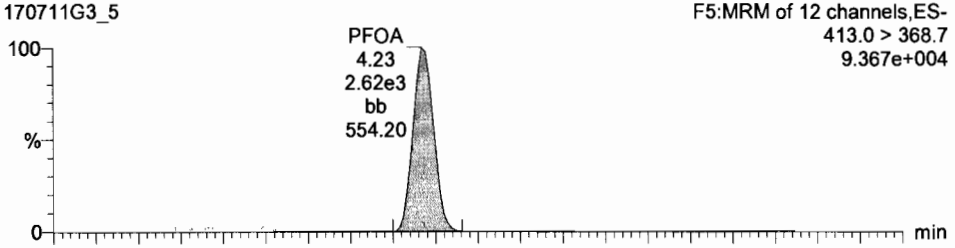

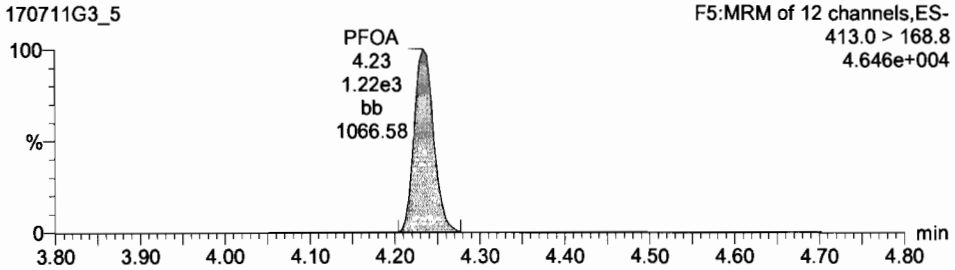

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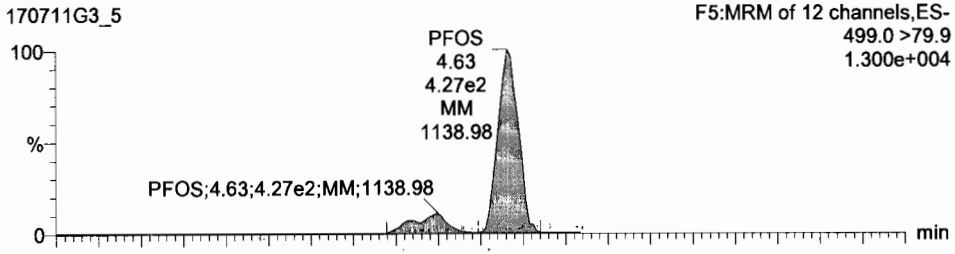

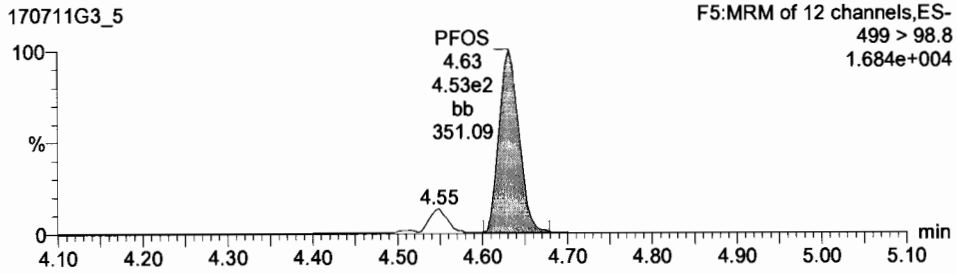

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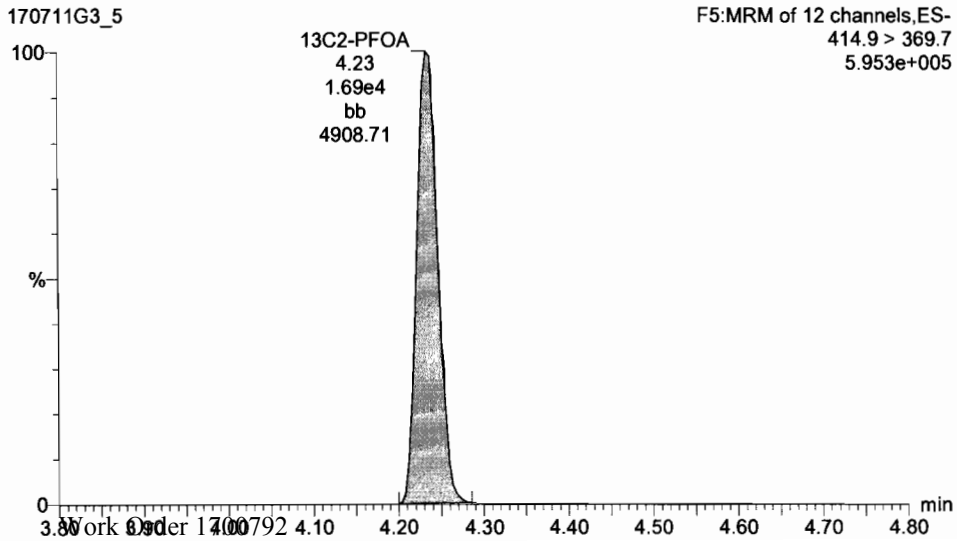
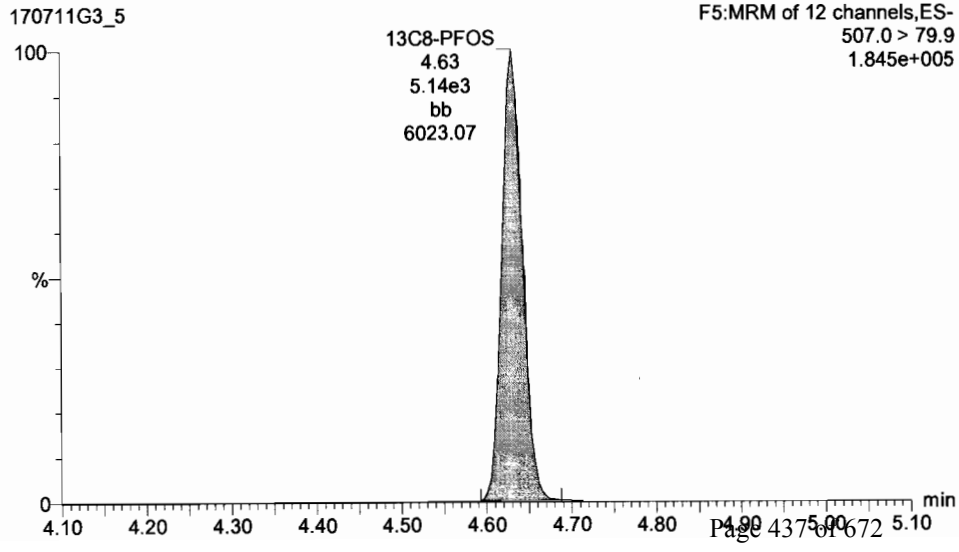


13C8-PFOS



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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

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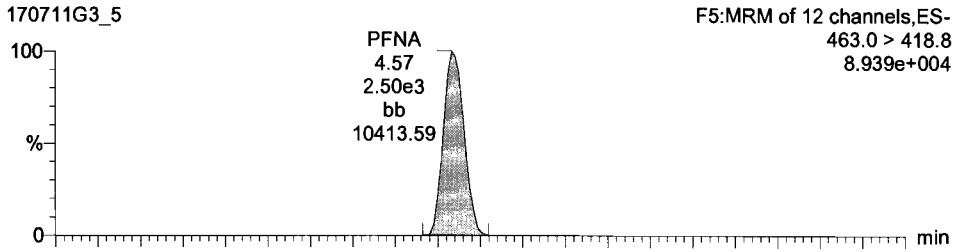

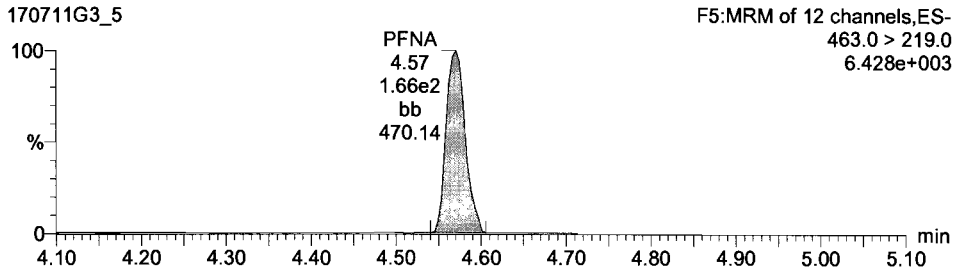

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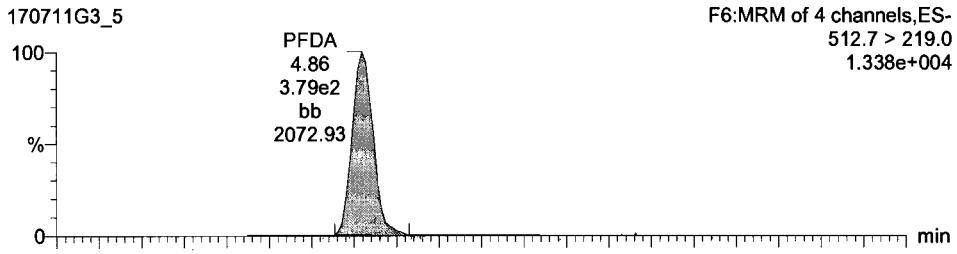

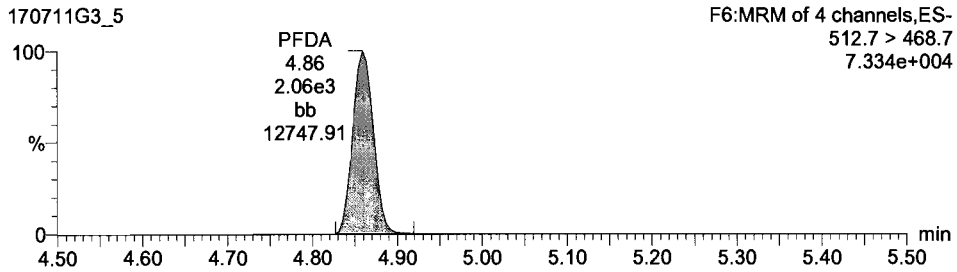

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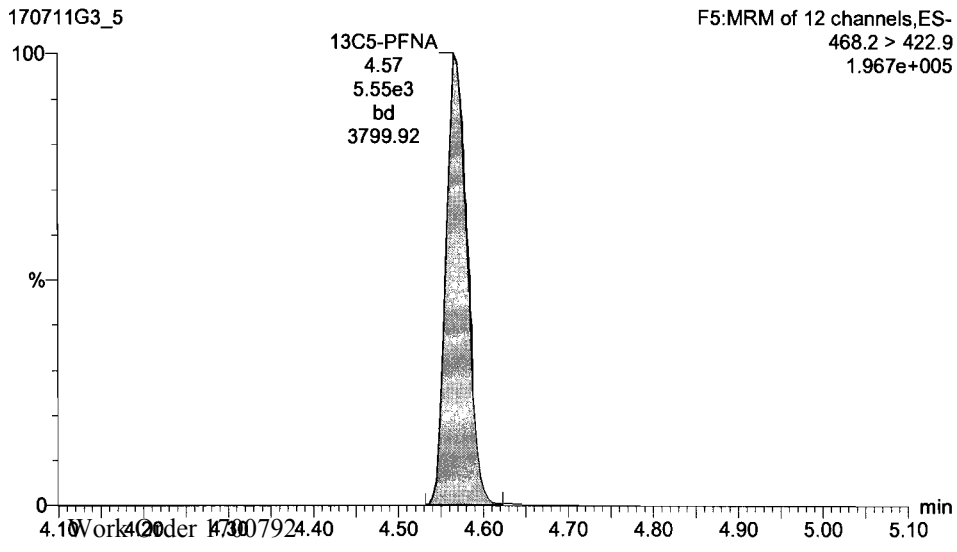

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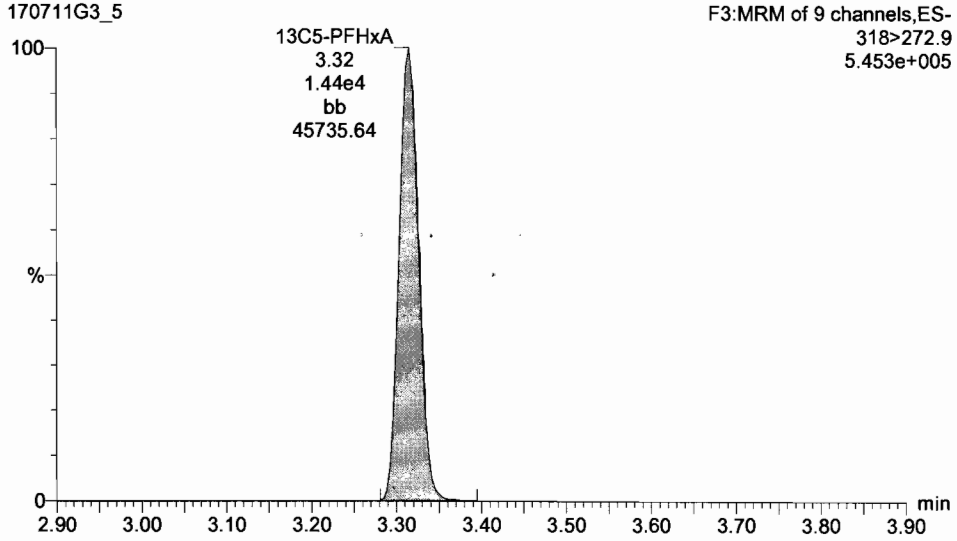
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

13C5-PFHxA



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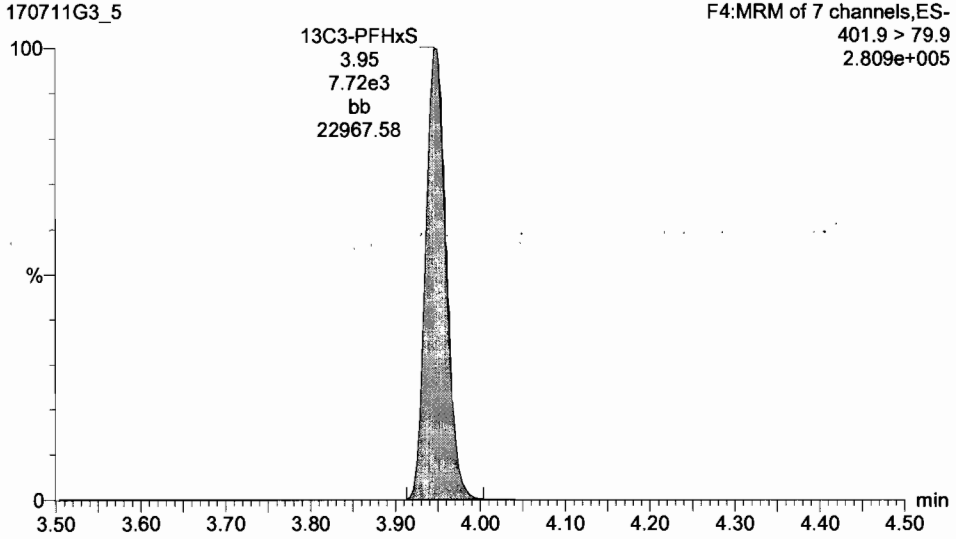
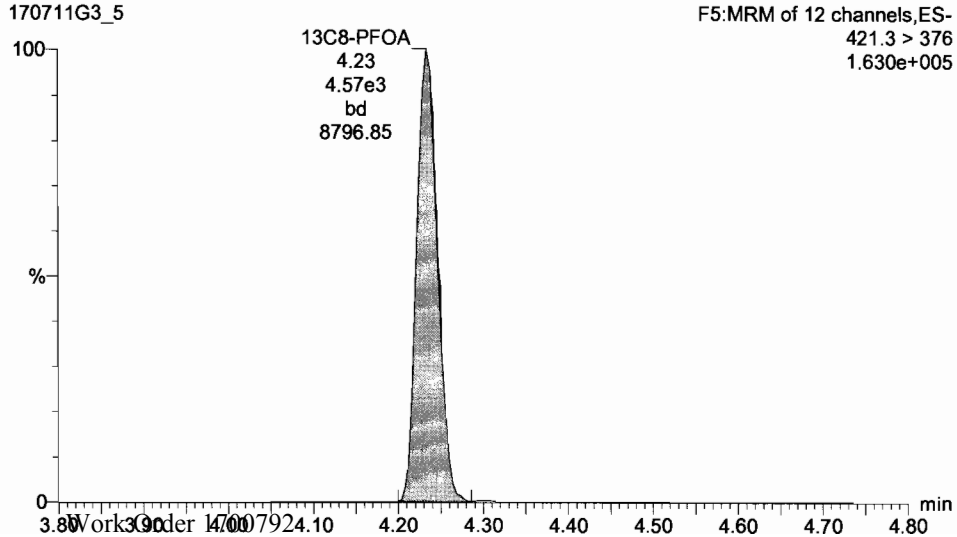
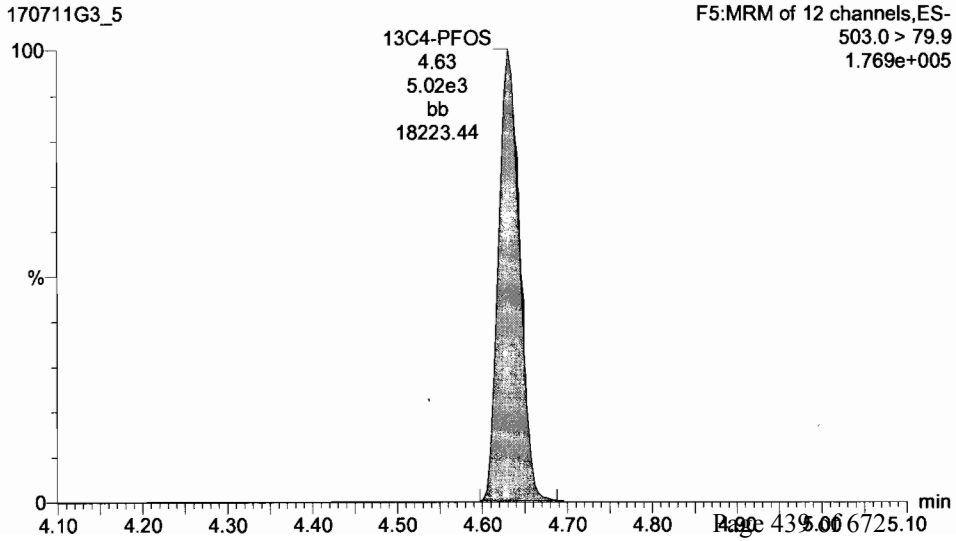


13C8-PFOA



13C4-PFOS



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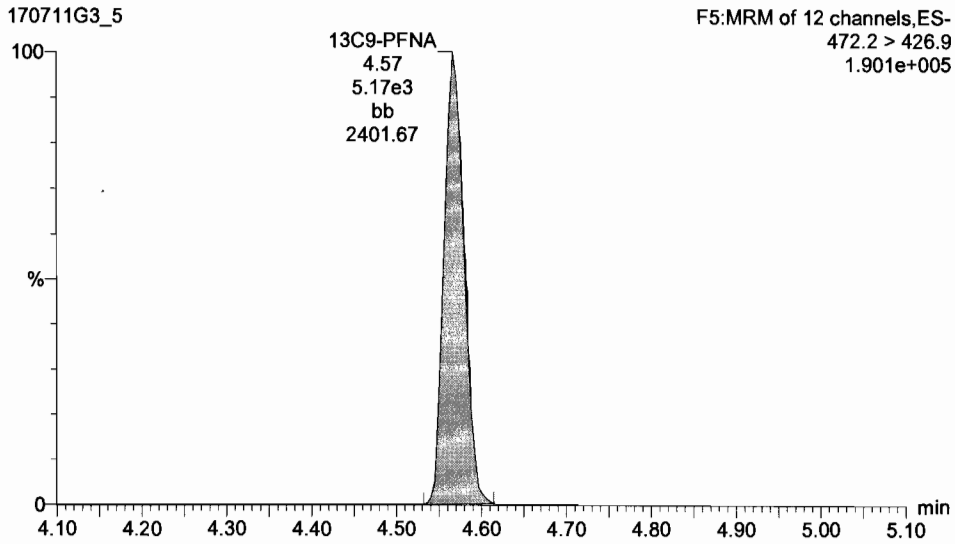
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-4 PFC CS1 17G1114, Description: PFC CS1 17G1114, Name: 170711G3_5, Date: 11-Jul-2017, Time: 18:07:01, Instrument: , Lab: , User:

13C9-PFNA



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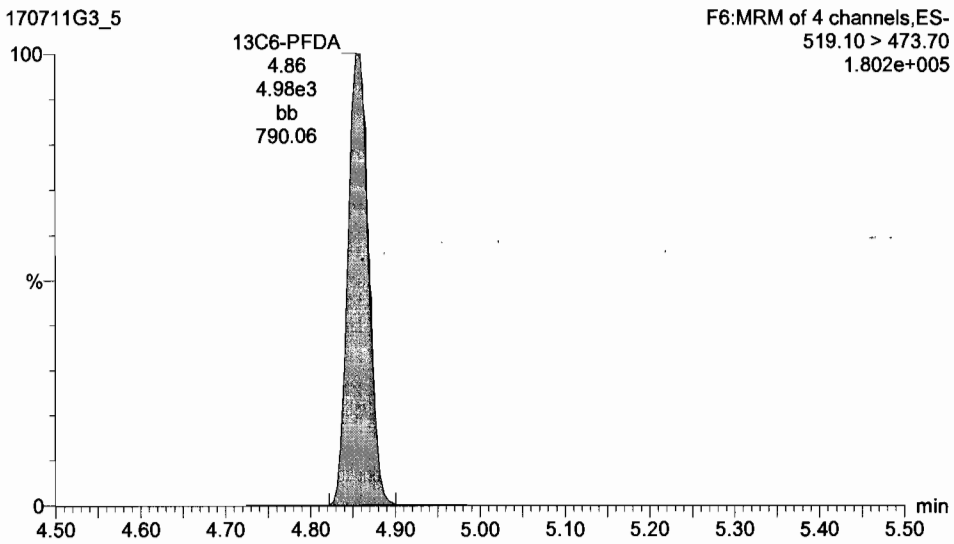

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

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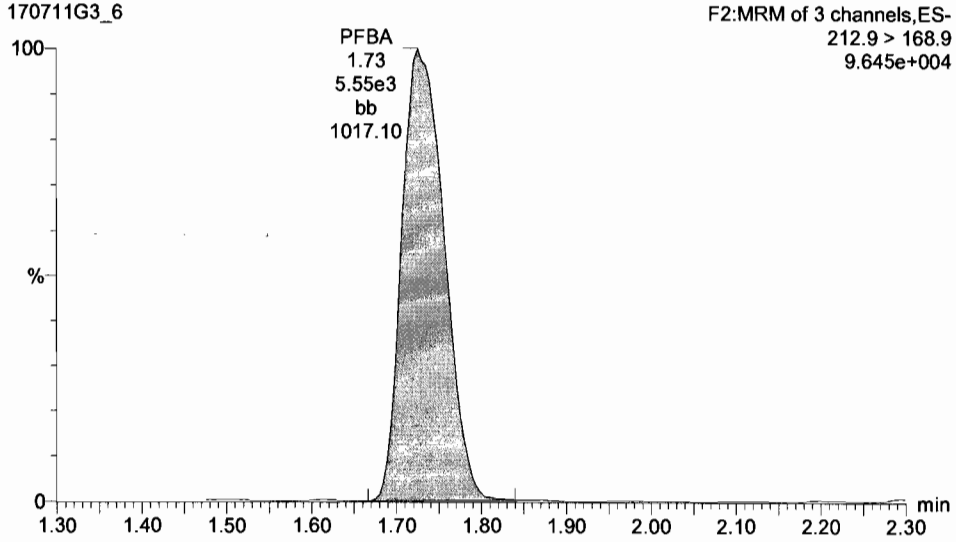

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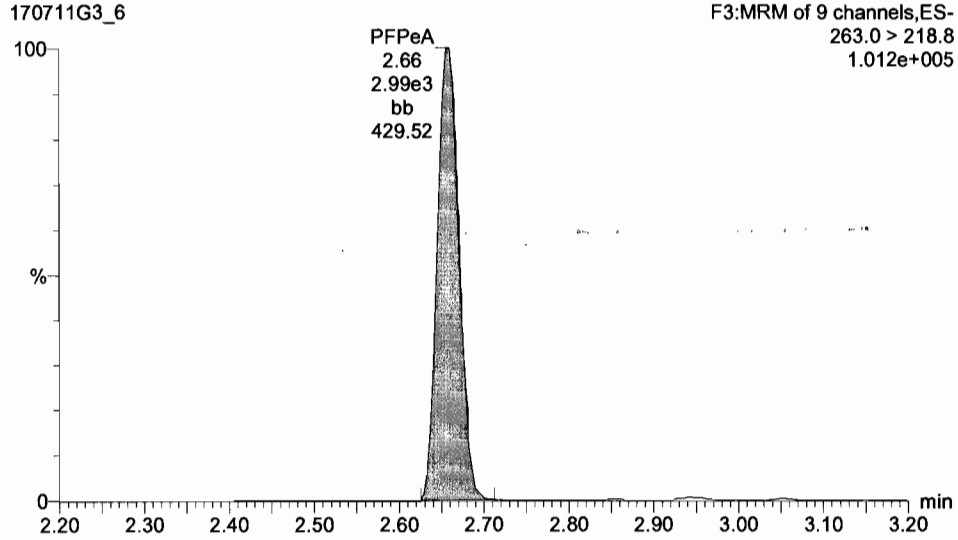

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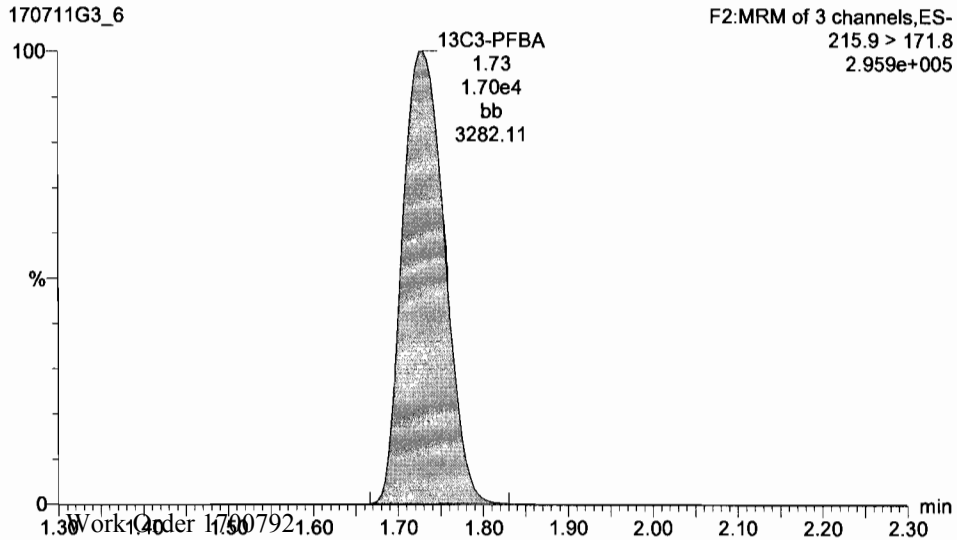

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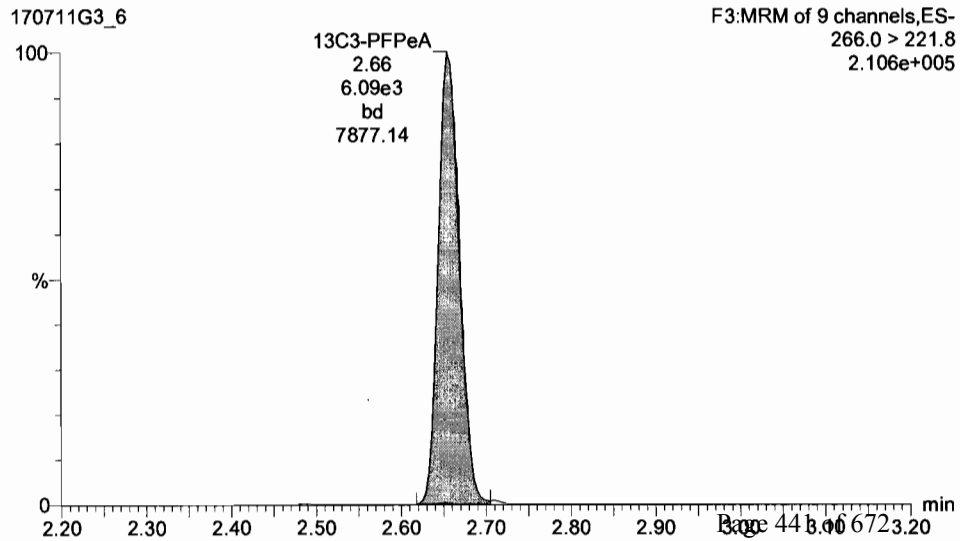

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

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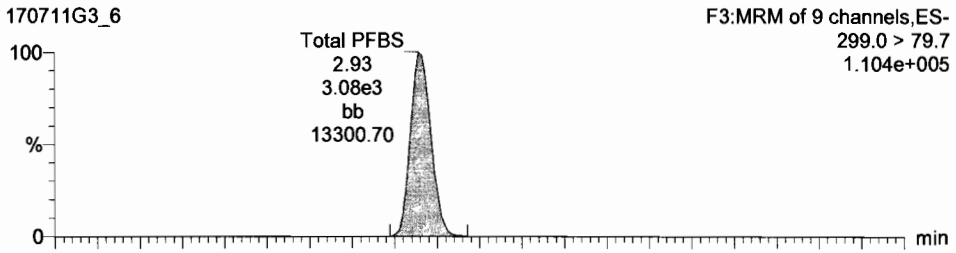

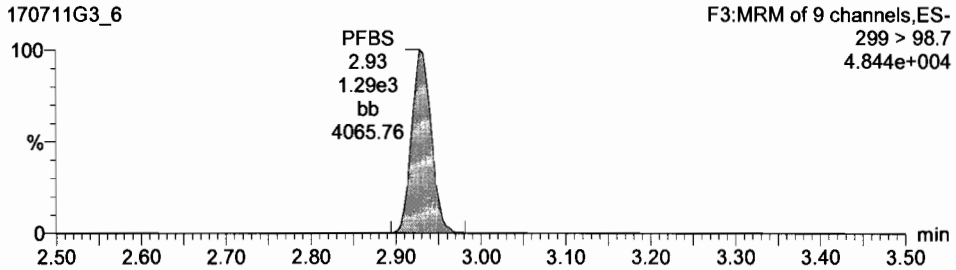

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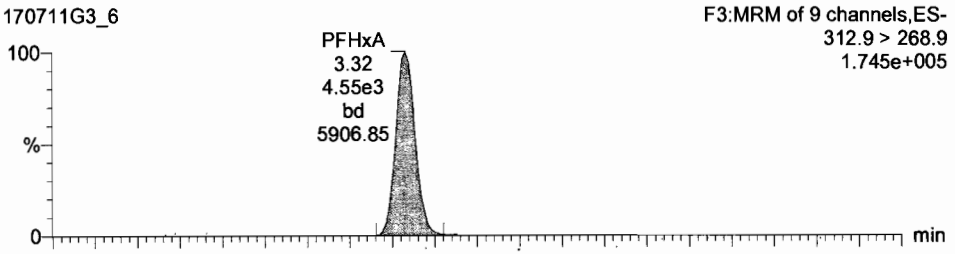

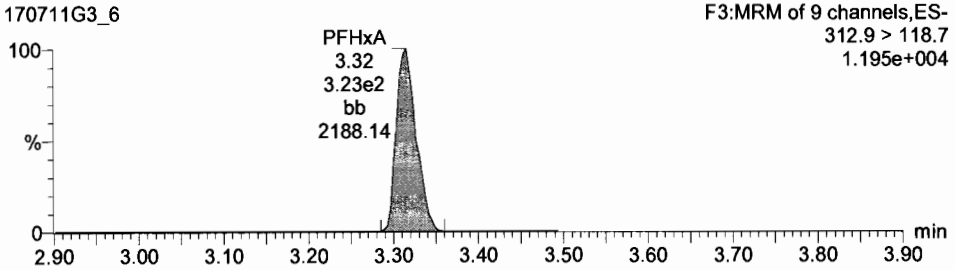

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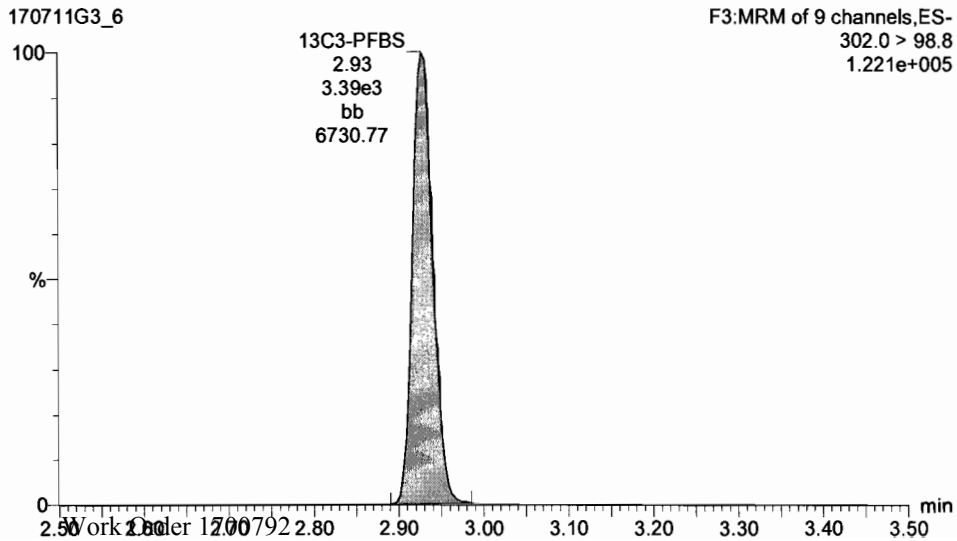

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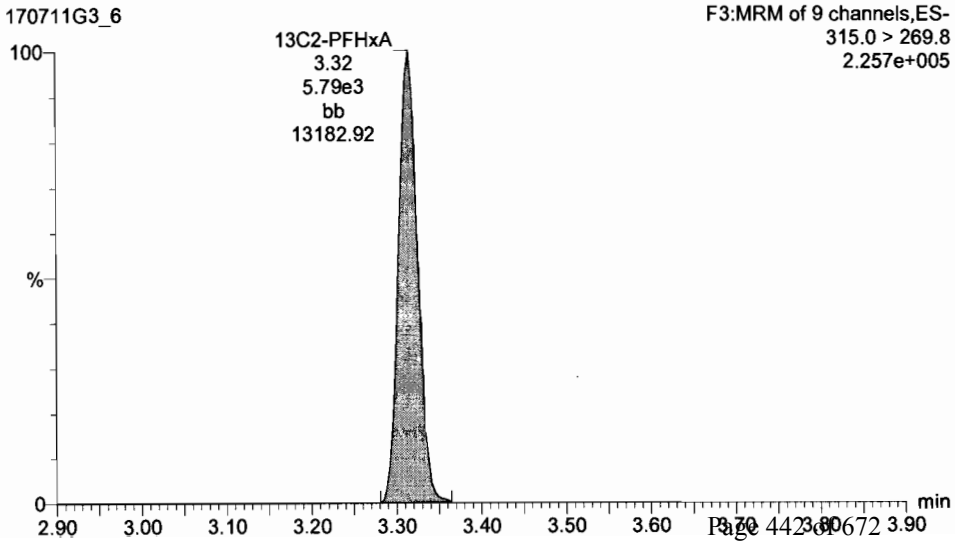

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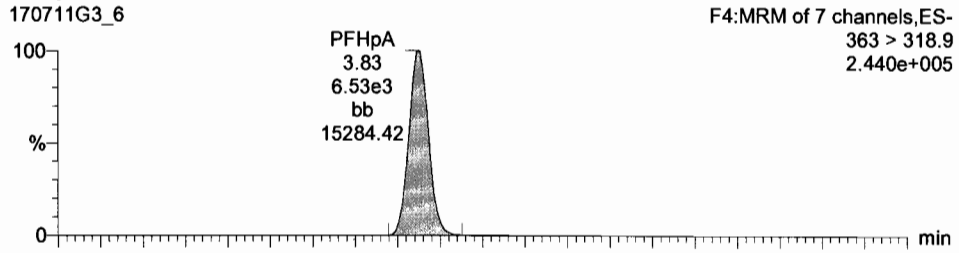
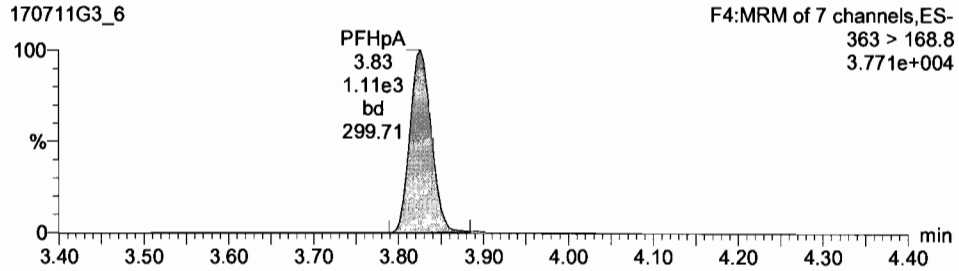
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

PFHpA





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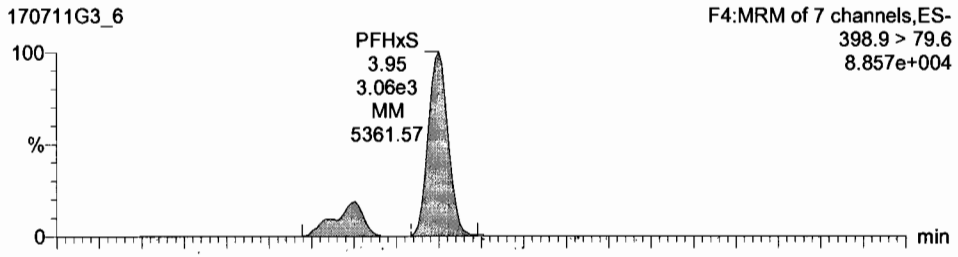
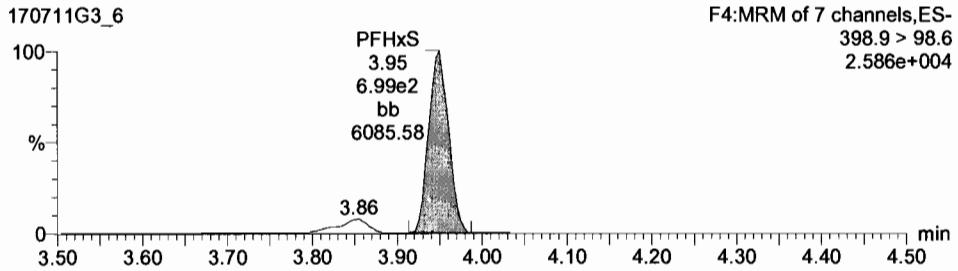
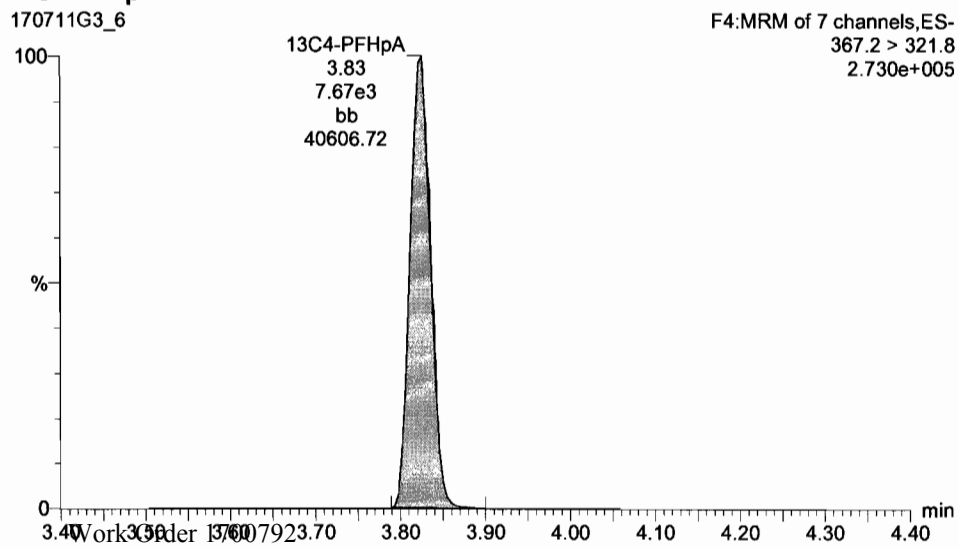




13C4-PFHpA



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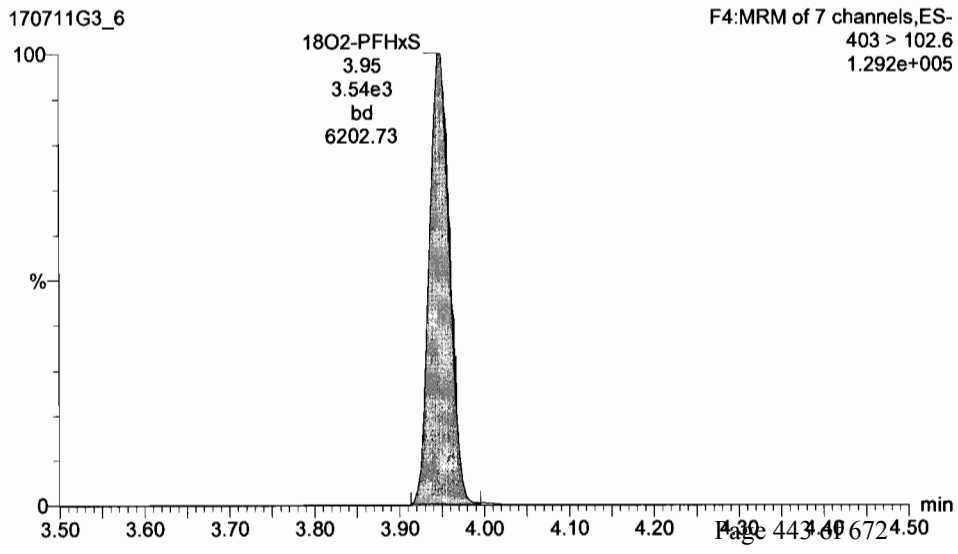

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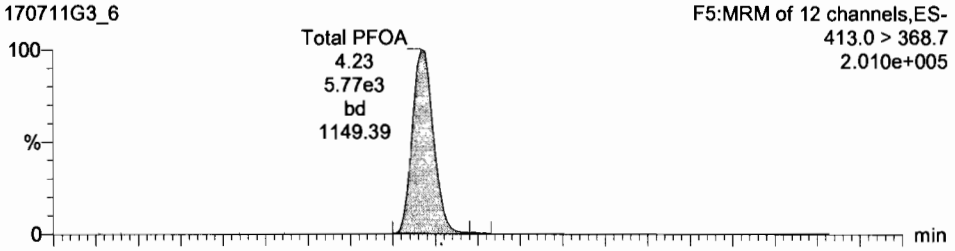
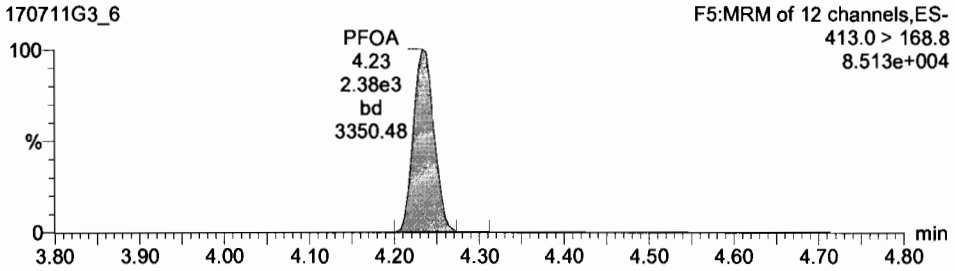
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

Total PFOA





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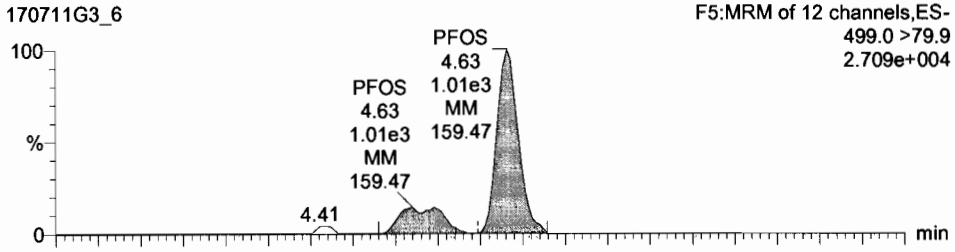

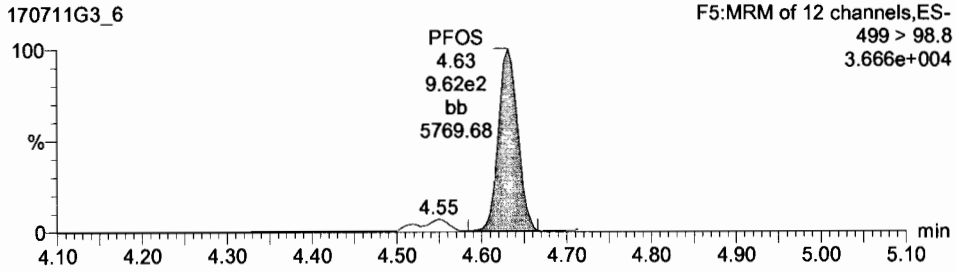

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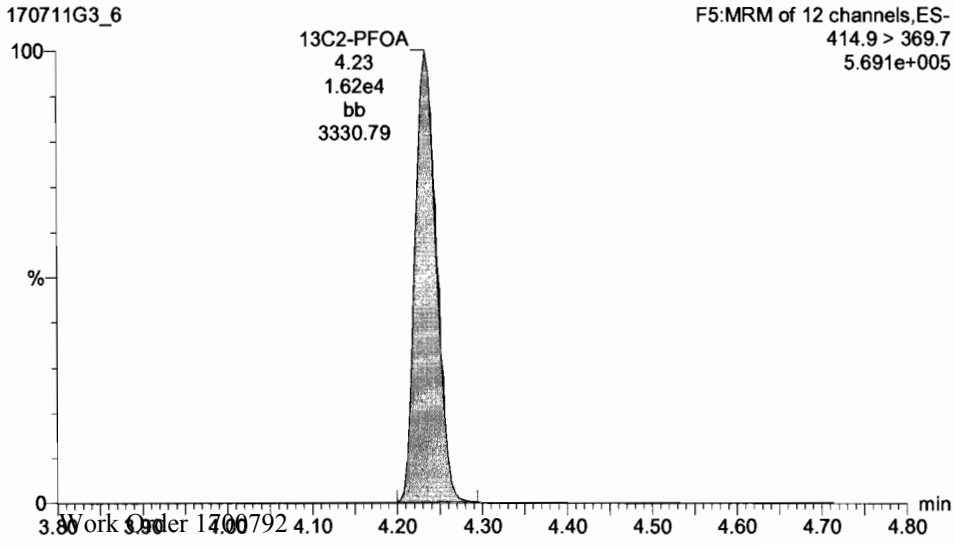

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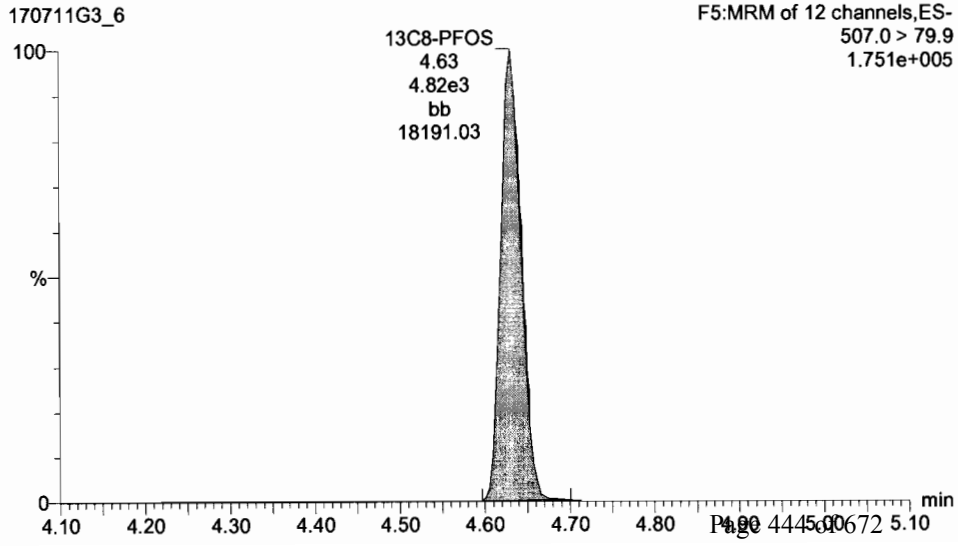

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

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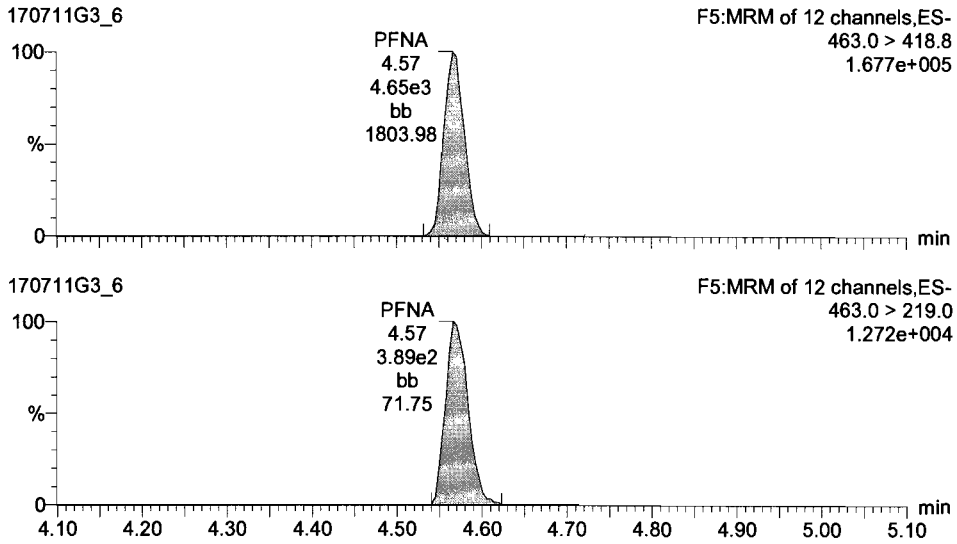

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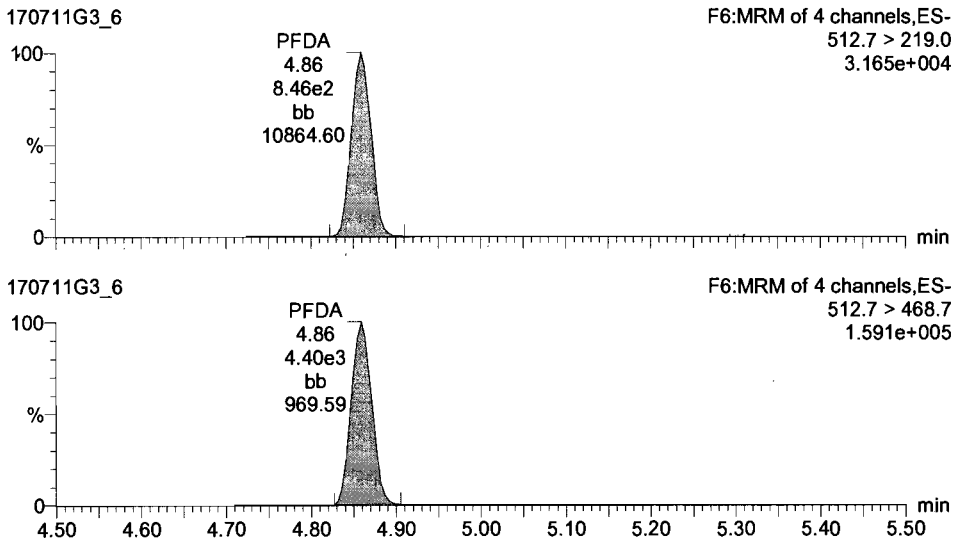

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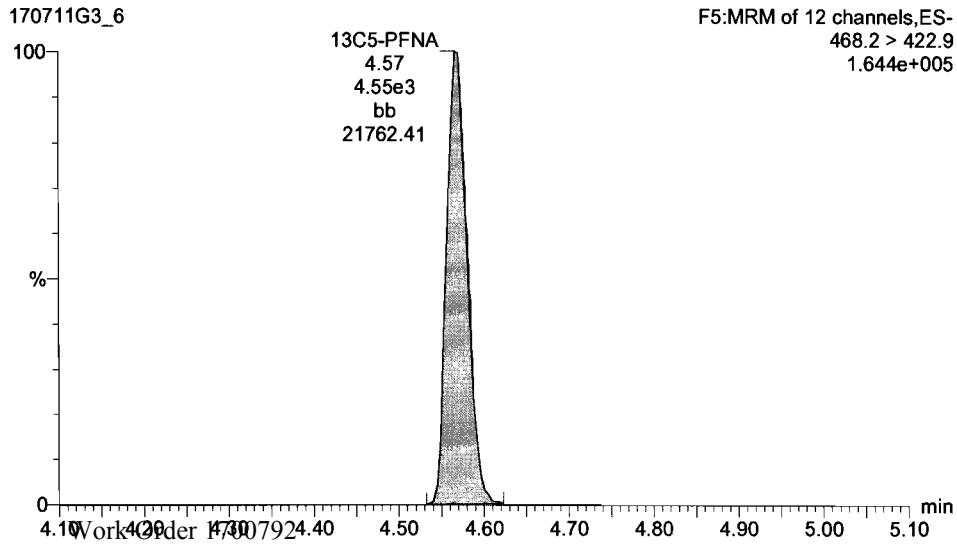

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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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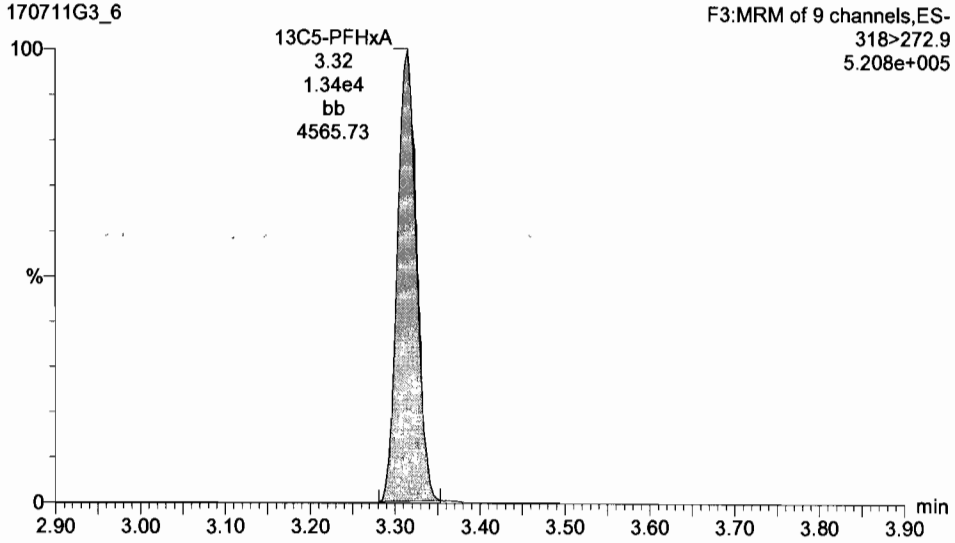
ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

13C5-PFHxA



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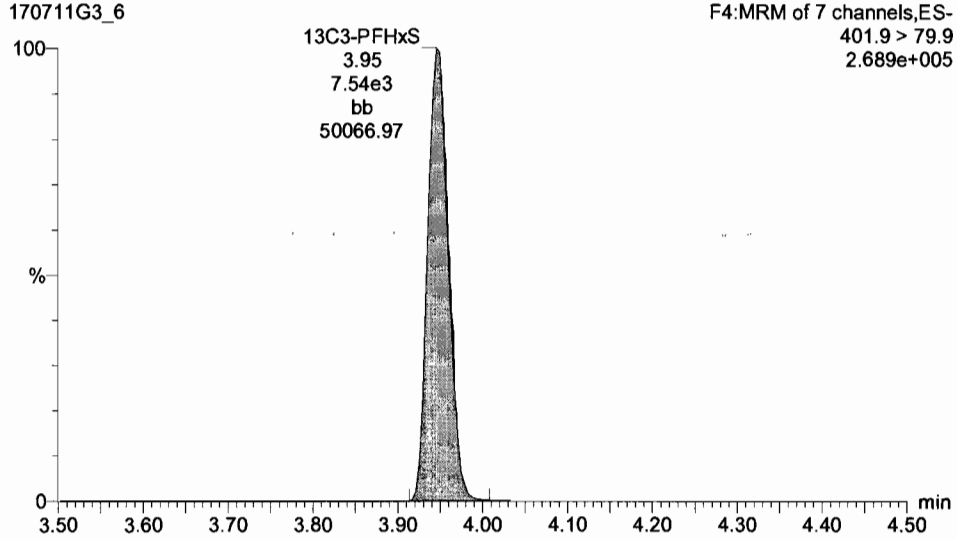

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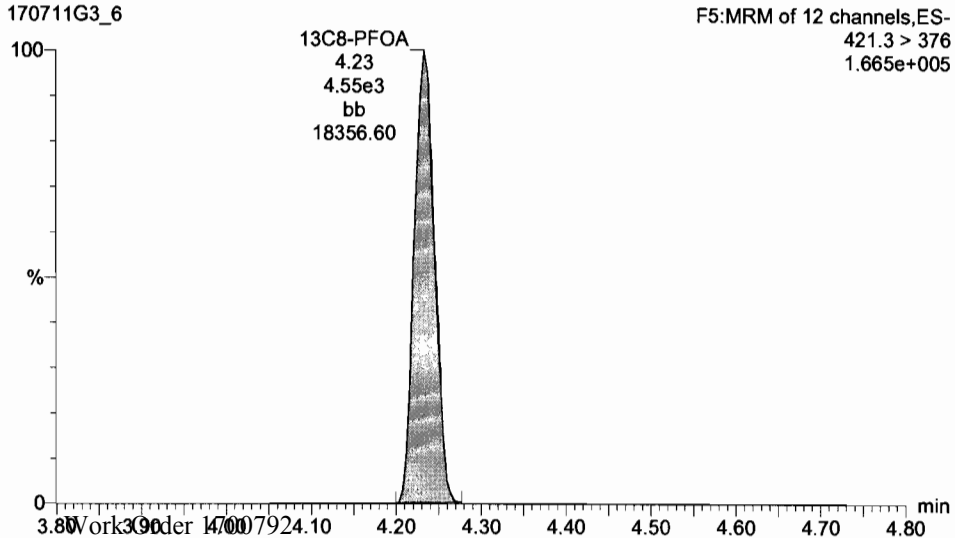

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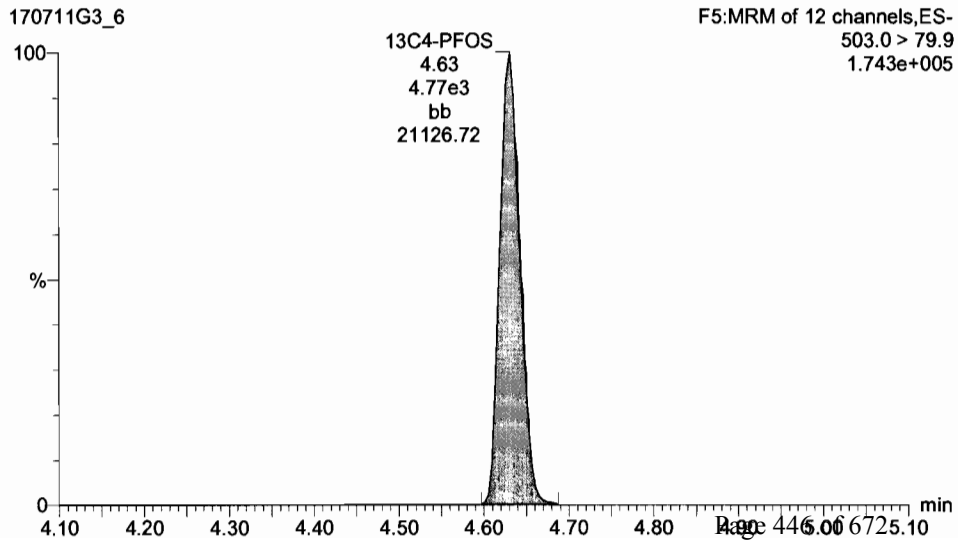

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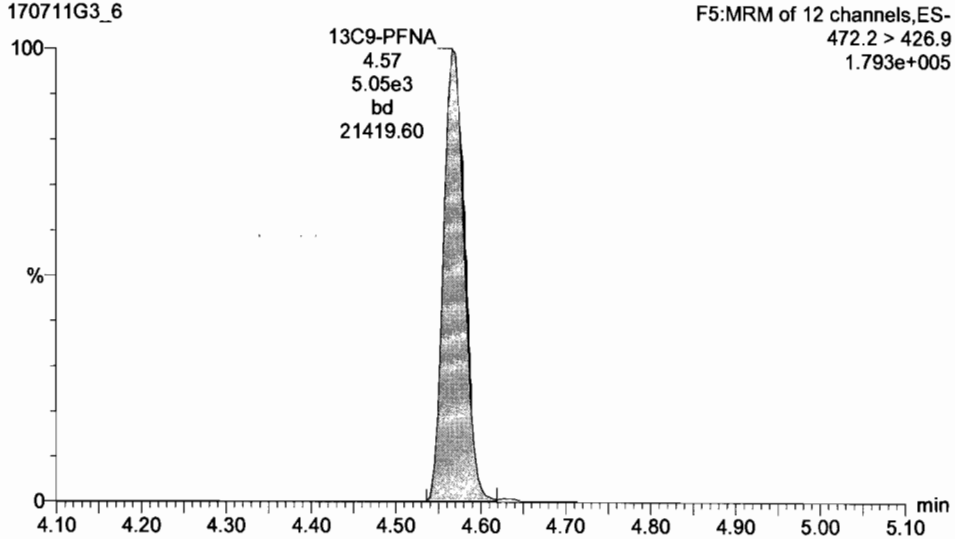
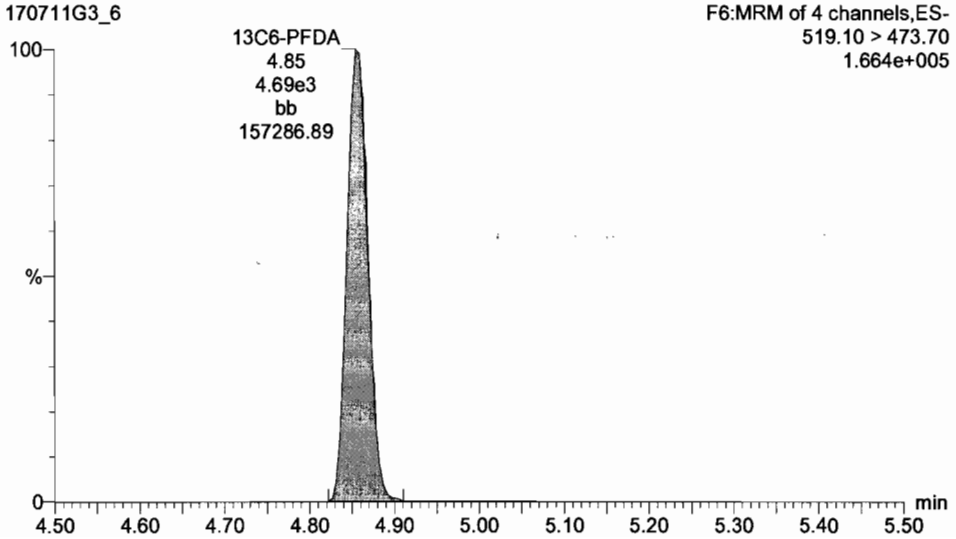
ID: ST170711G3-5 PFC CS2 17G1115, Description: PFC CS2 17G1115, Name: 170711G3_6, Date: 11-Jul-2017, Time: 18:19:36, Instrument: , Lab: , User:

13C9-PFNA



13C6-PFDA



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

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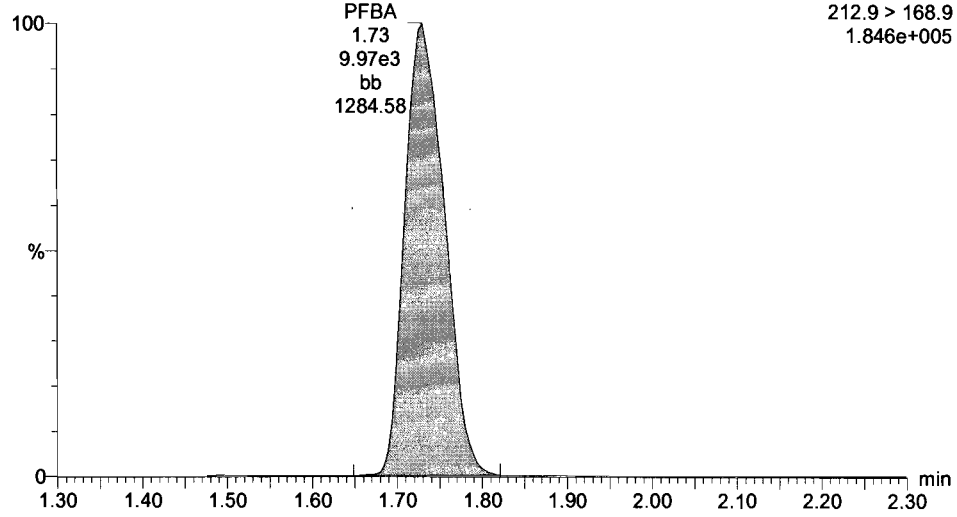

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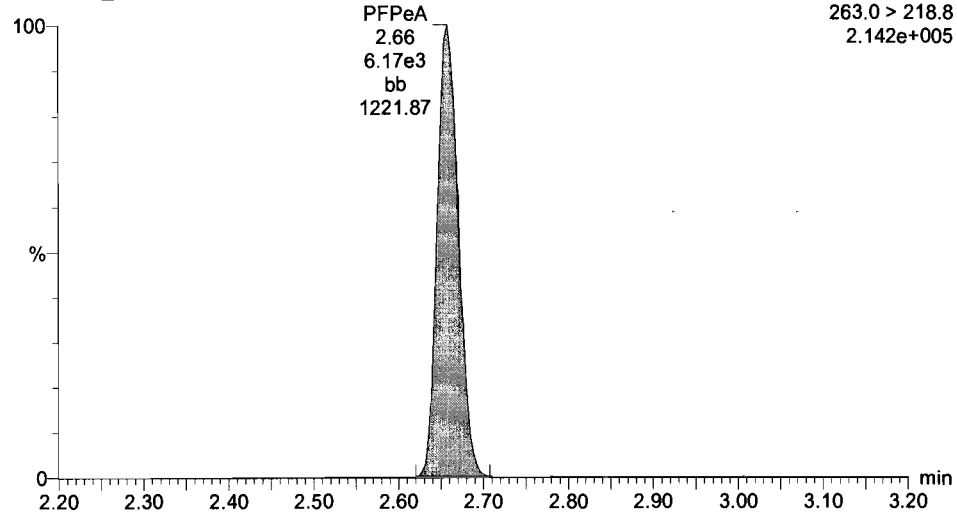

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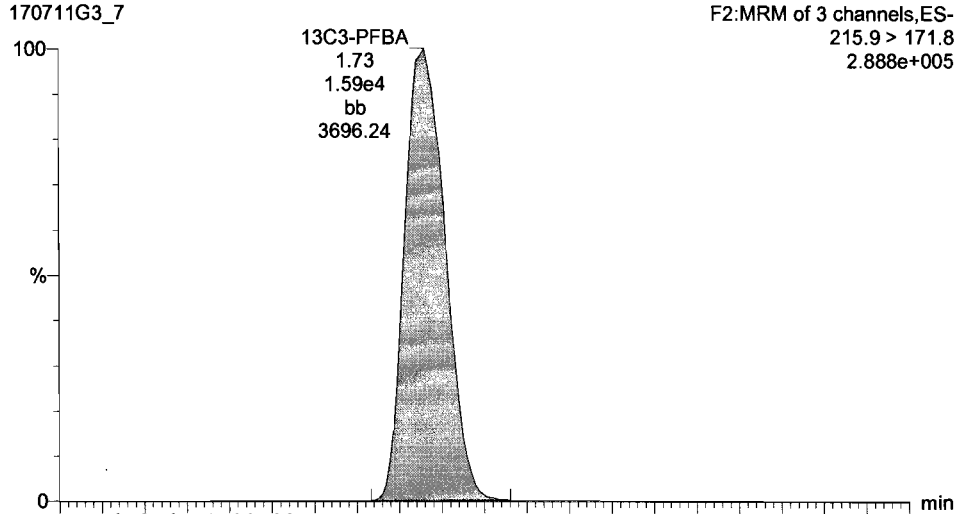

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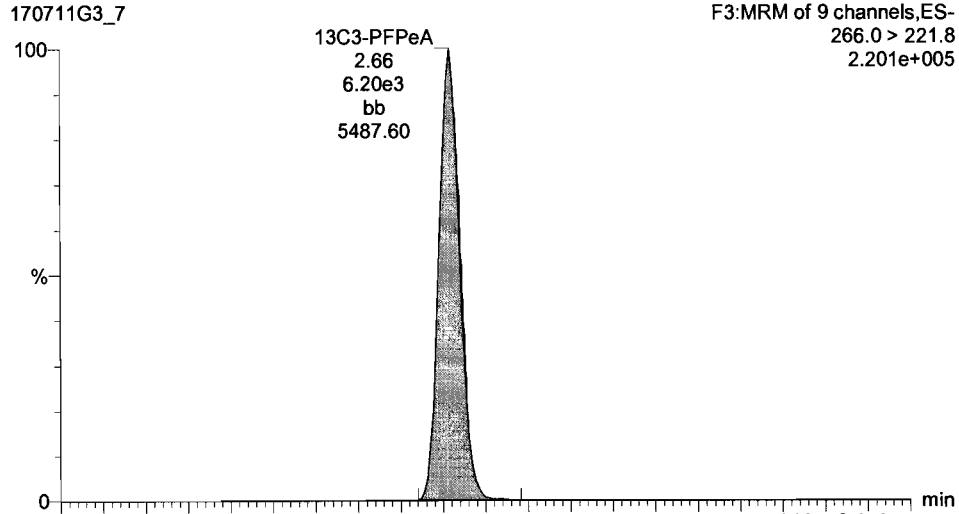

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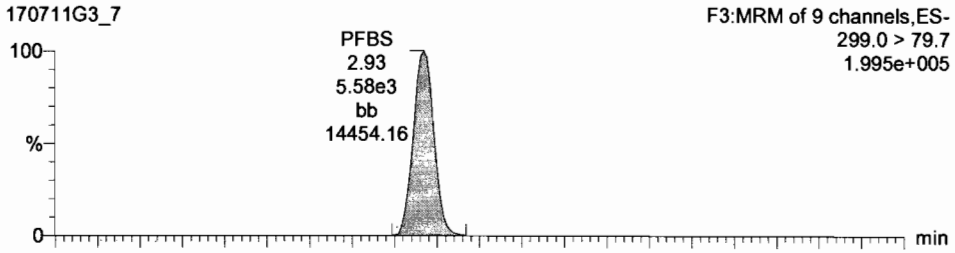
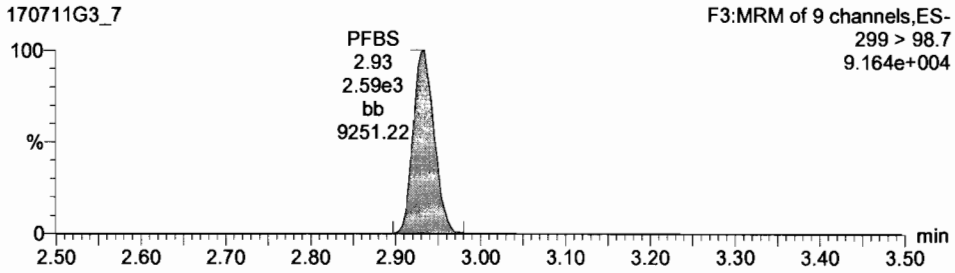
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

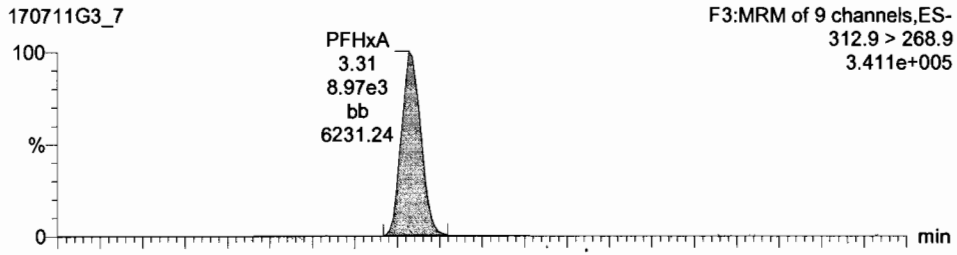
ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

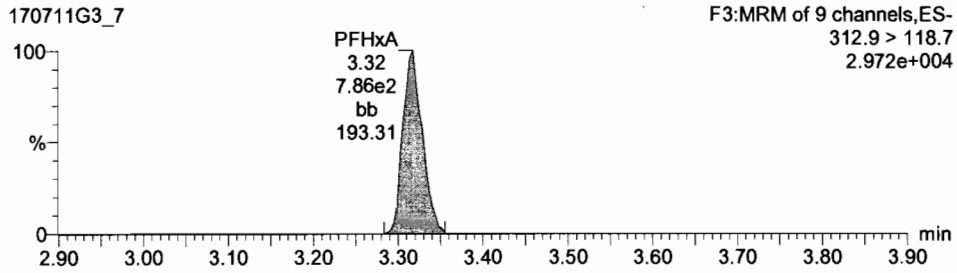
Total PFBS





PFHxA





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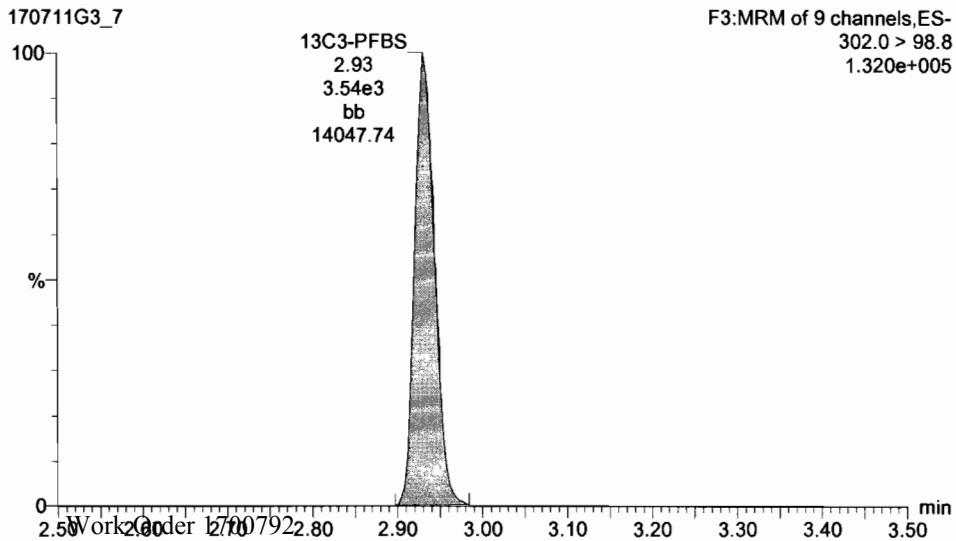
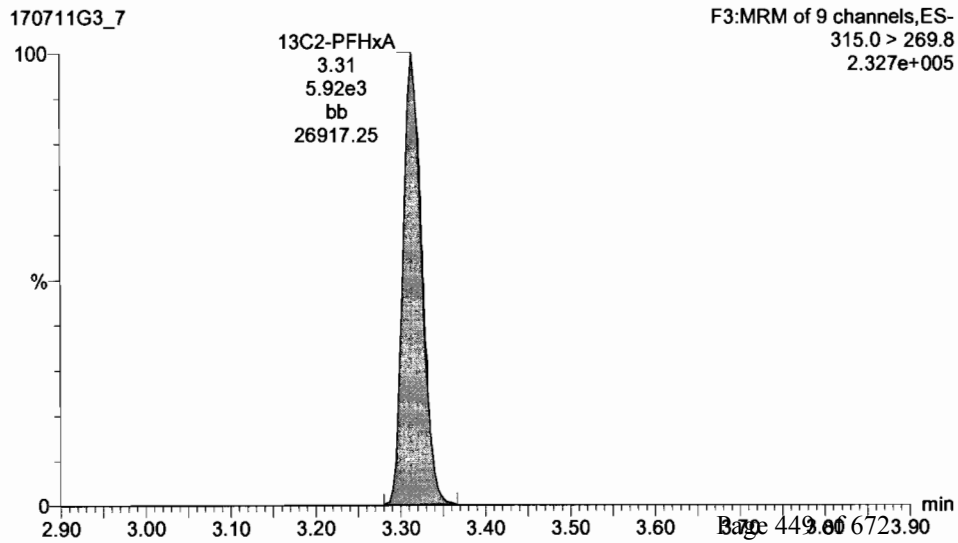


13C2-PFHxA



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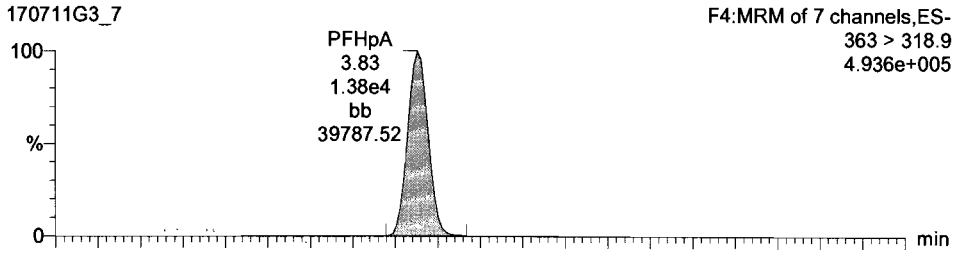
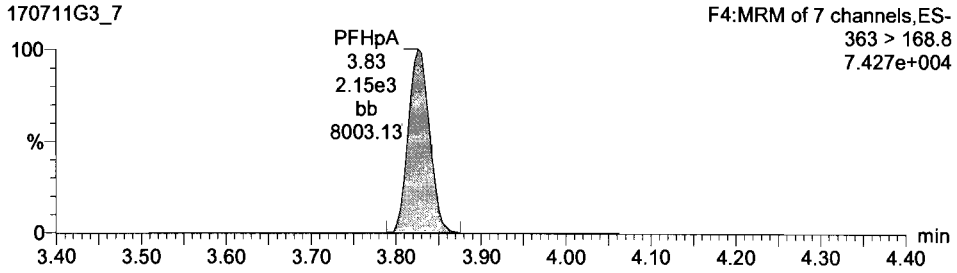
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

PFHpA





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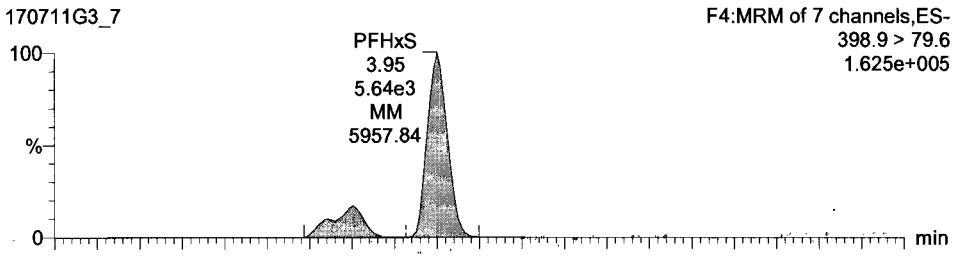
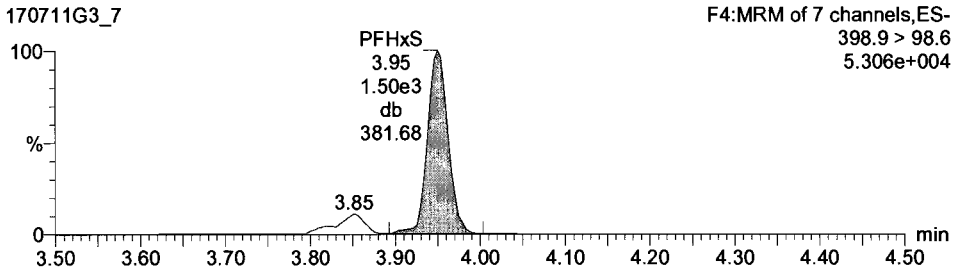
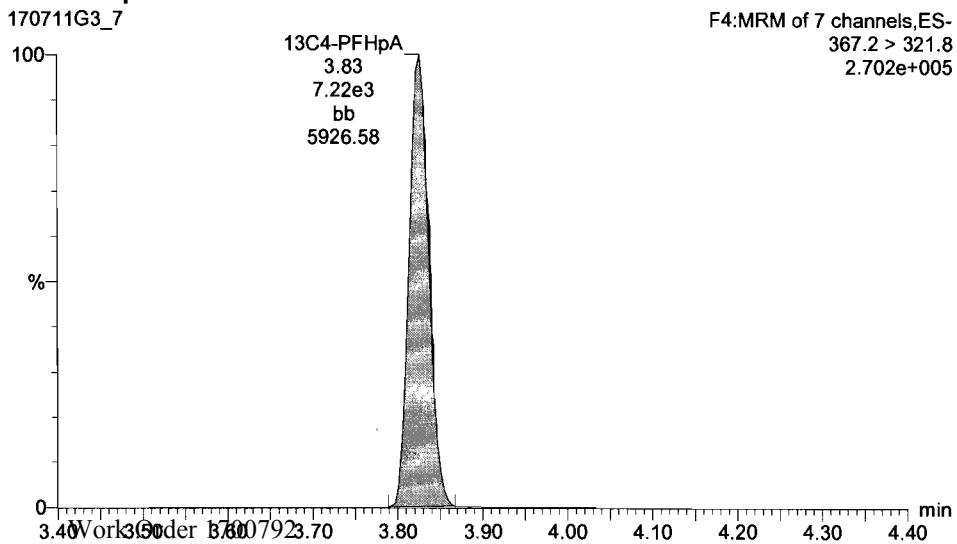
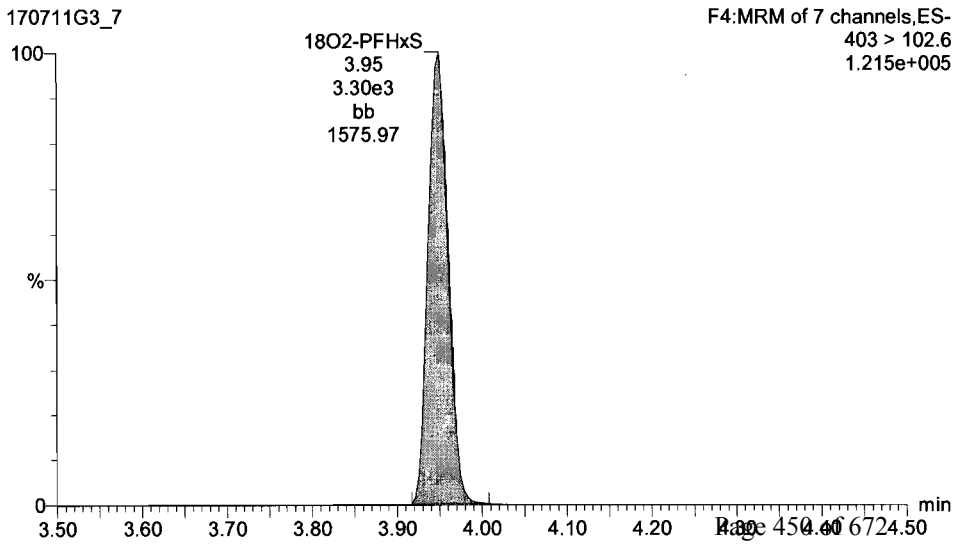




13C4-PFHpA



18O2-PFHxS



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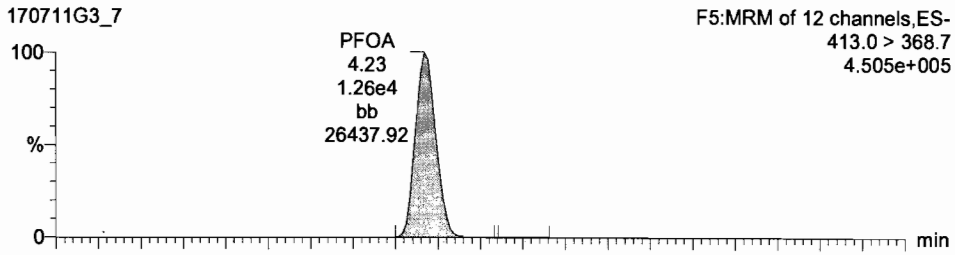
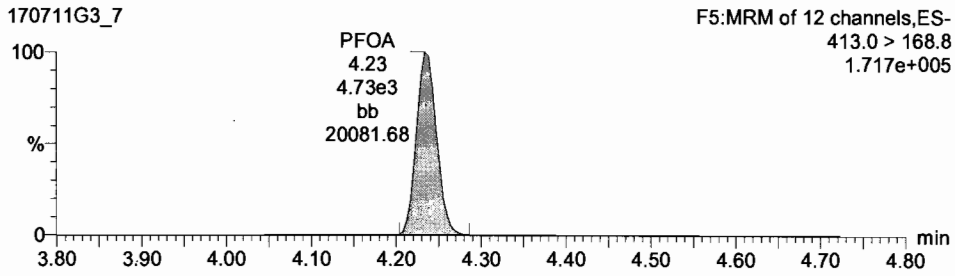
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

Total PFOA





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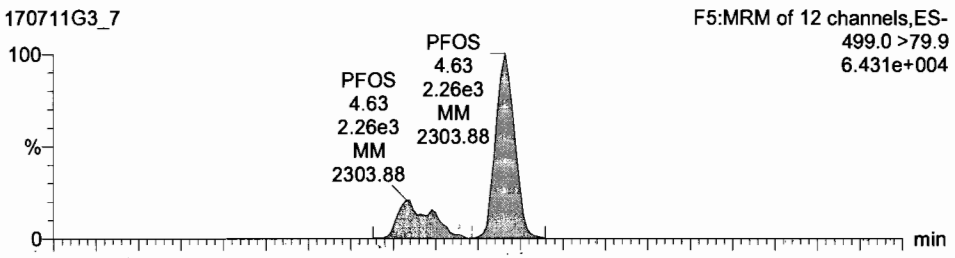

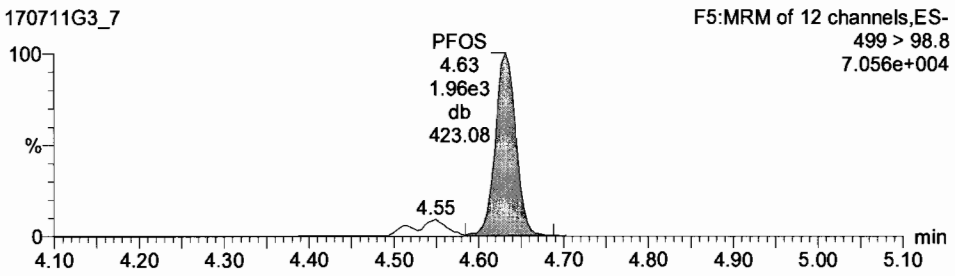

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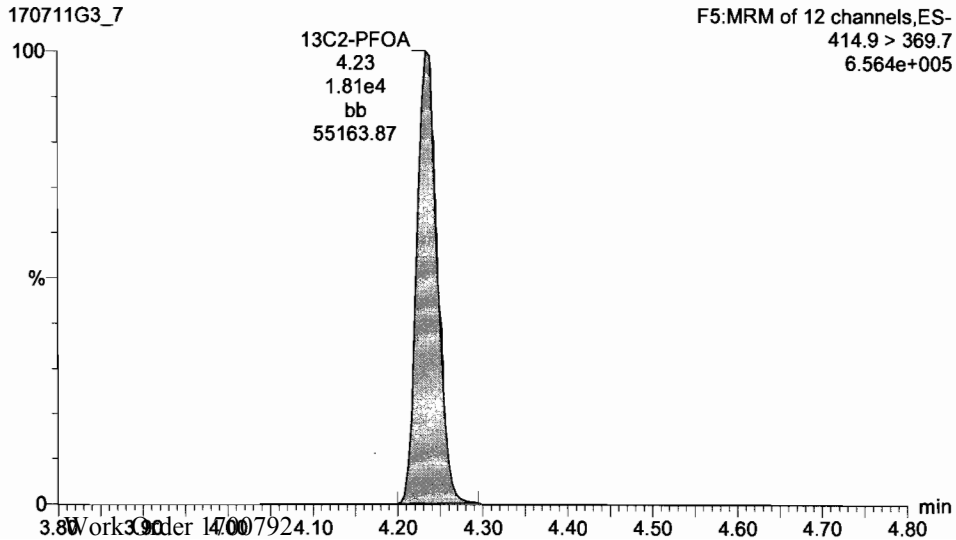
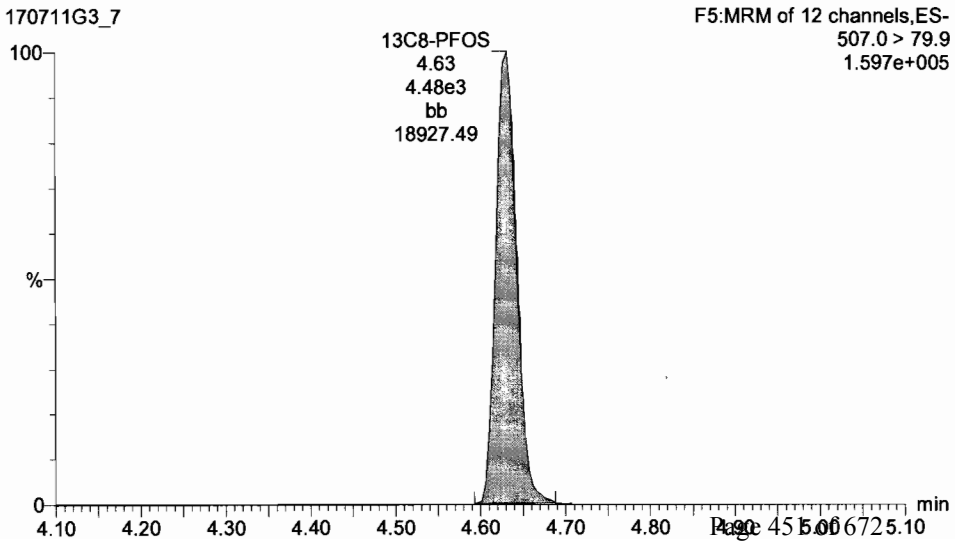


13C8-PFOS



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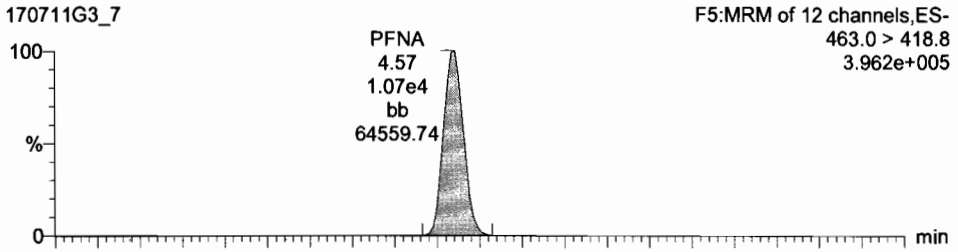
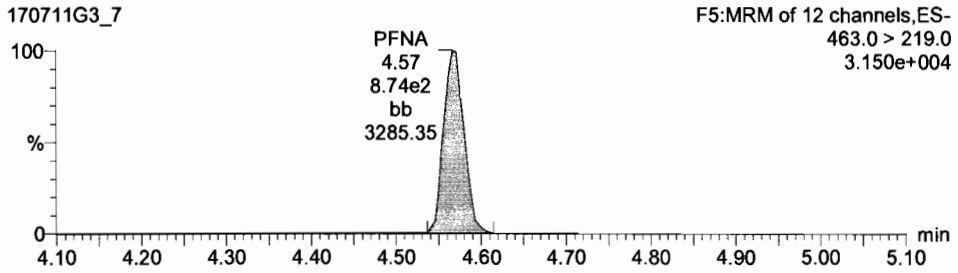
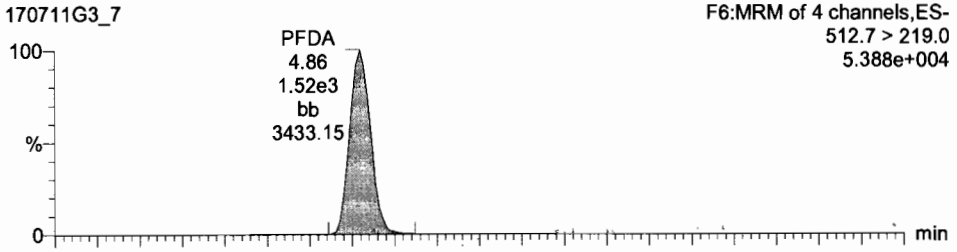
ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

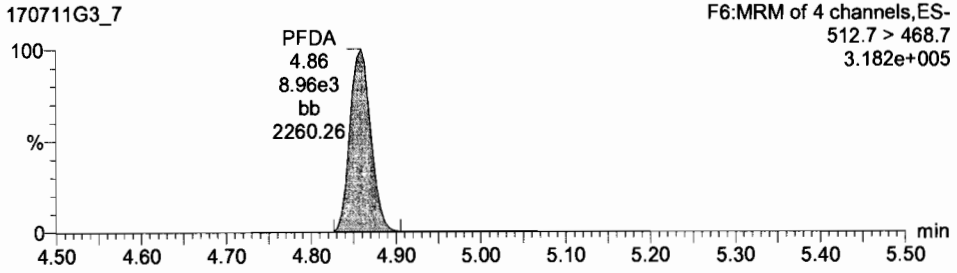
PFNA



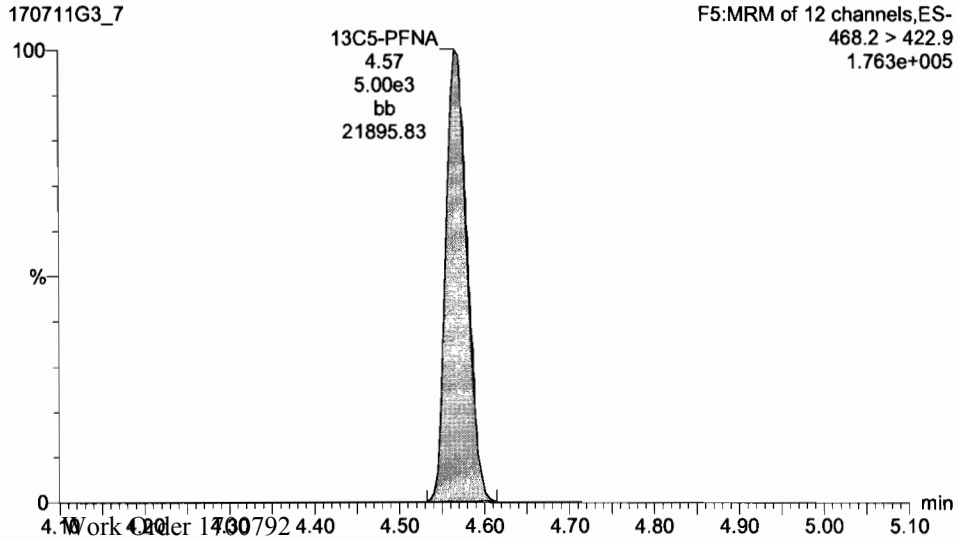


PFDA





13C5-PFNA



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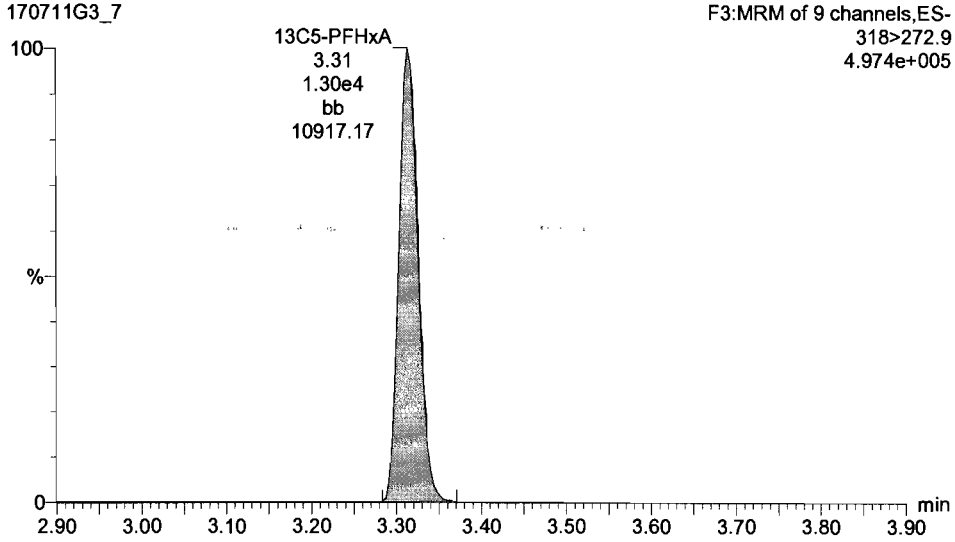
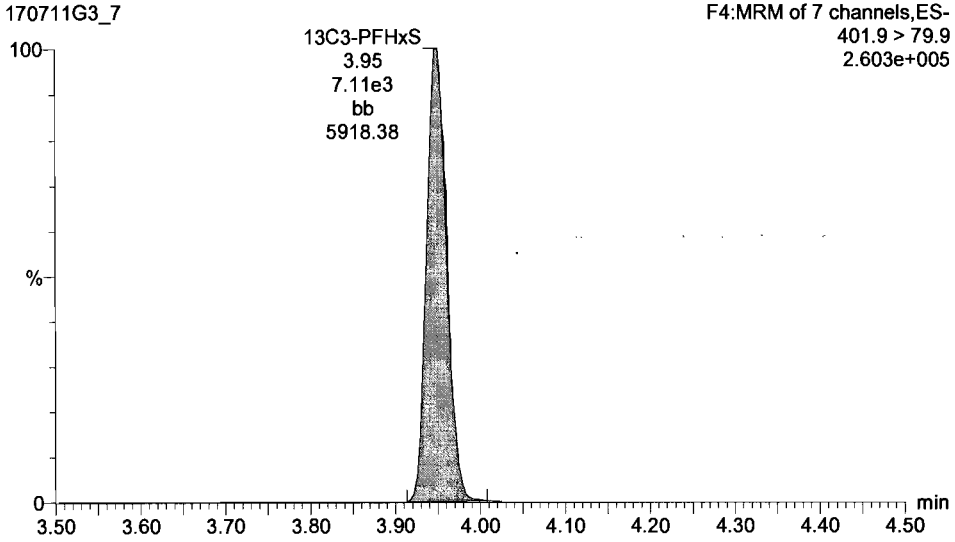
ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

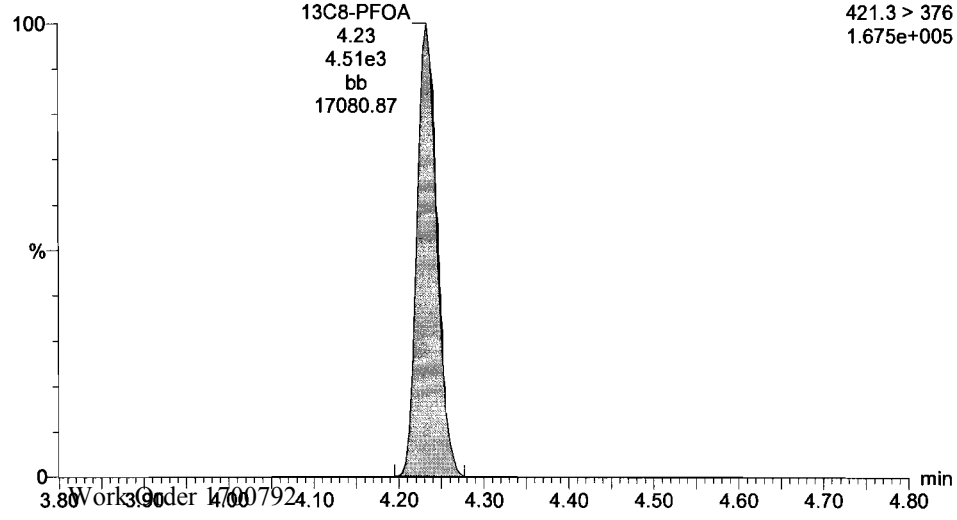
13C5-PFHxA



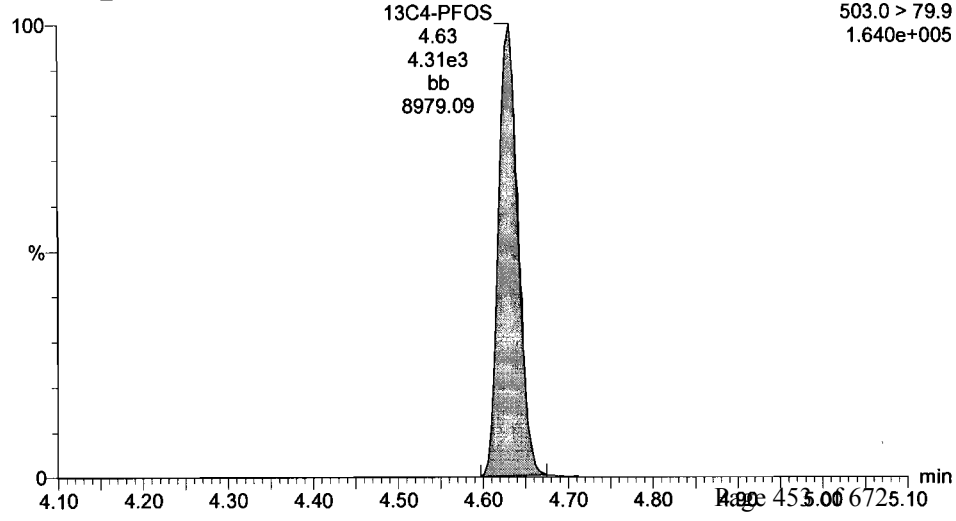
13C3-PFHxS



13C8-PFOA



13C4-PFOS



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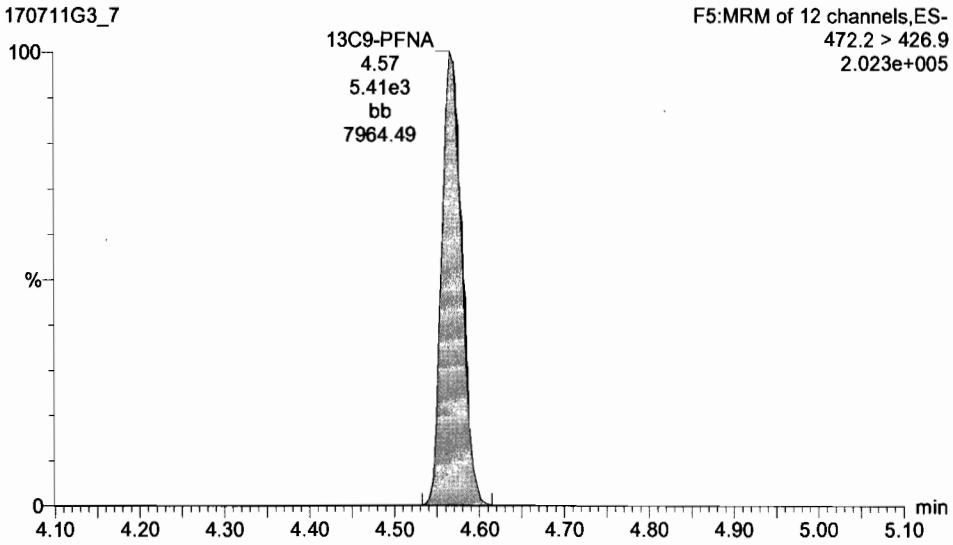
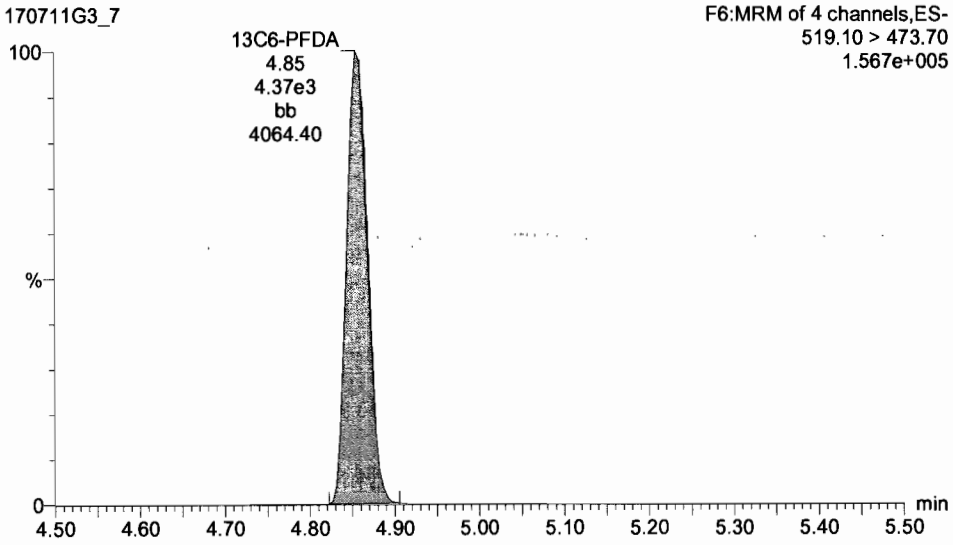
ID: ST170711G3-6 PFC CS3 17G1116, Description: PFC CS3 17G1116, Name: 170711G3_7, Date: 11-Jul-2017, Time: 18:32:12, Instrument: , Lab: , User:

13C9-PFNA



13C6-PFDA



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ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

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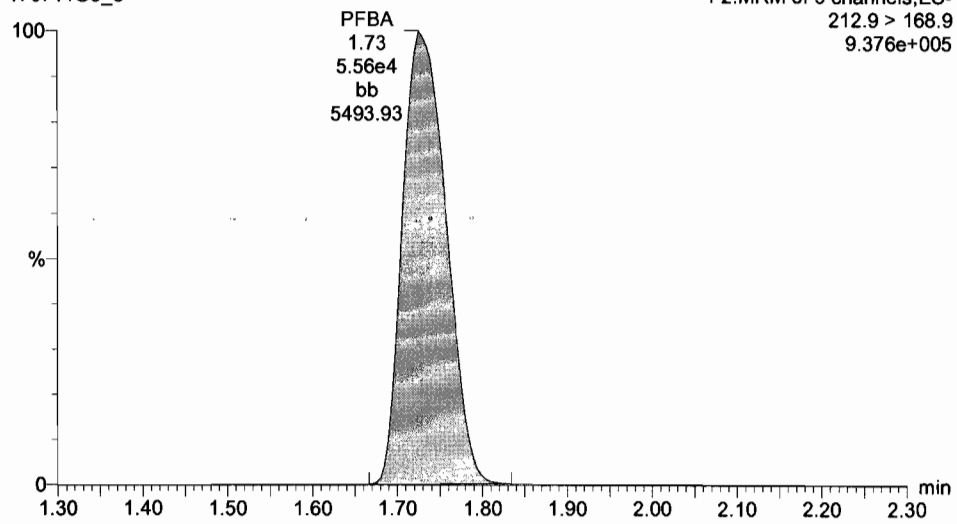

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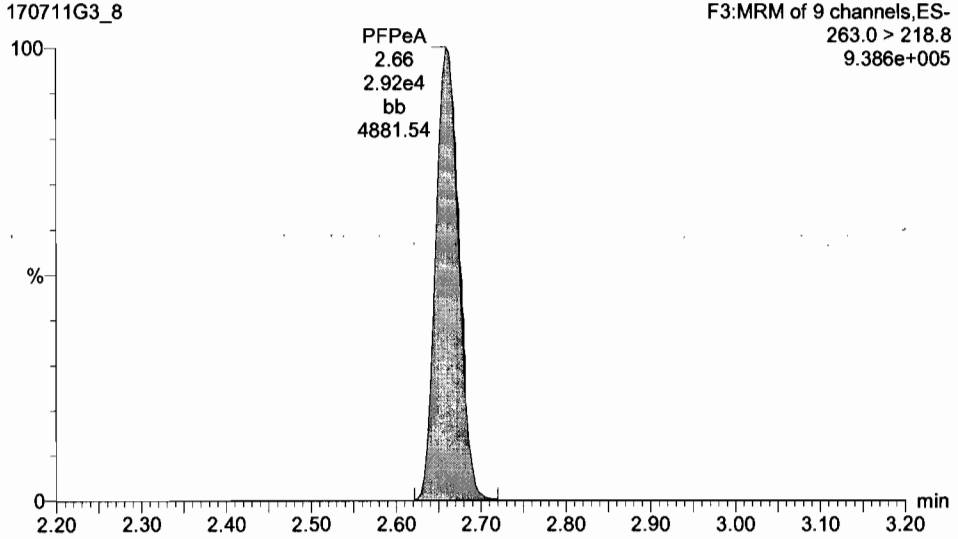

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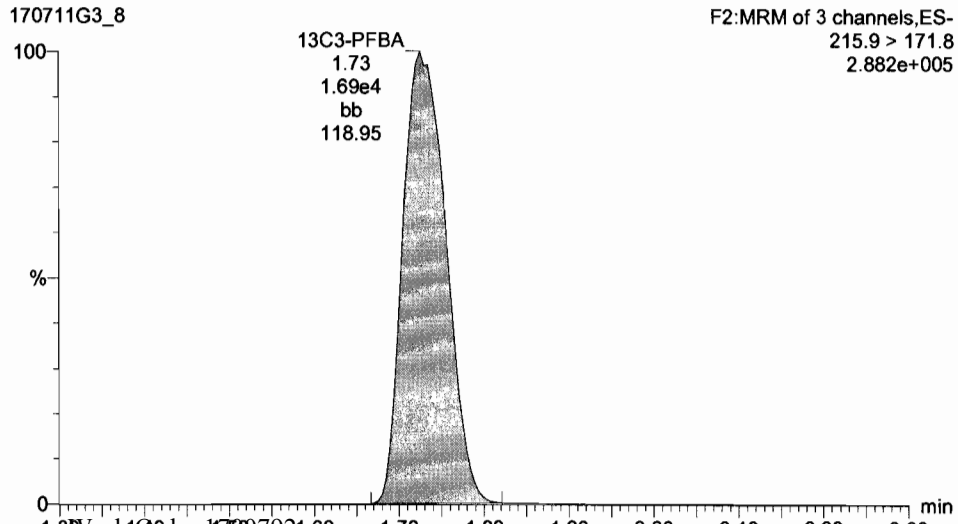

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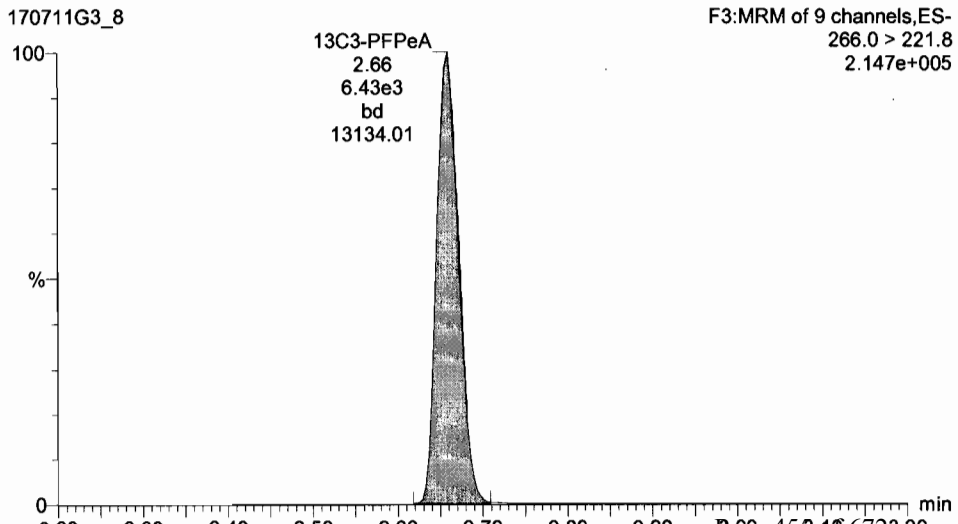

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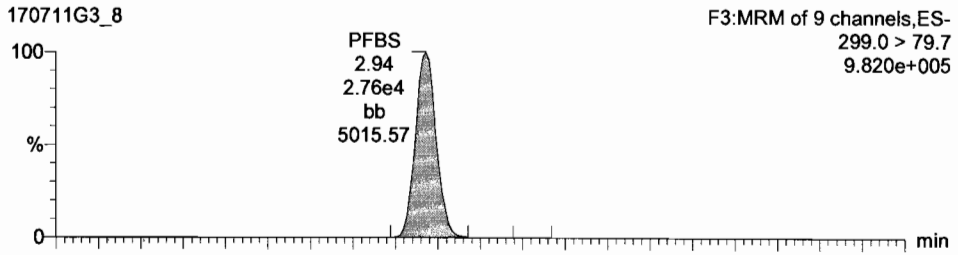
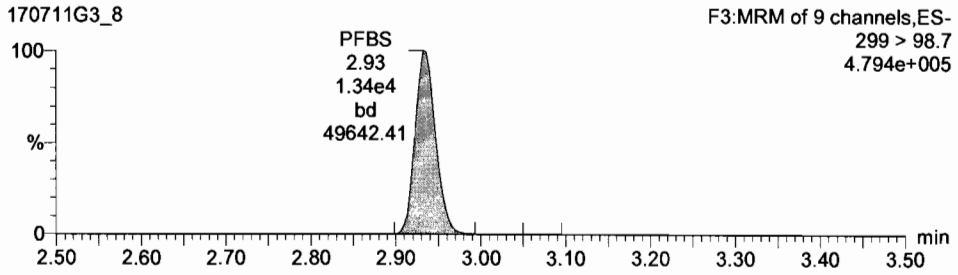
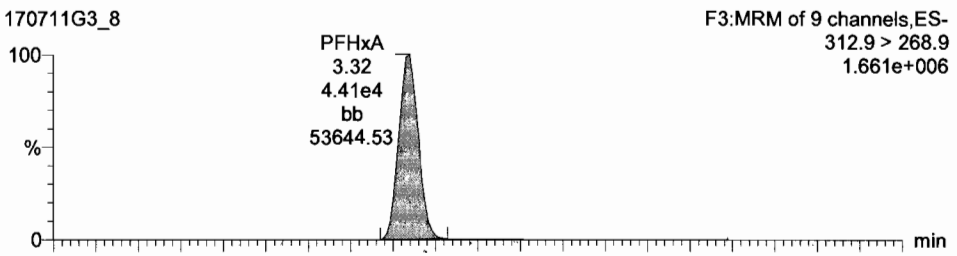
ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

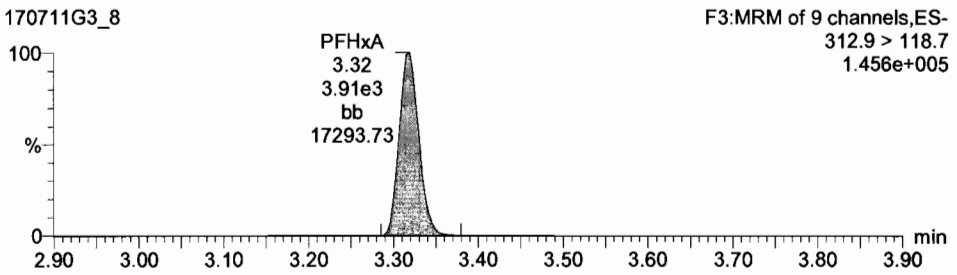
Total PFBS





PFHxA





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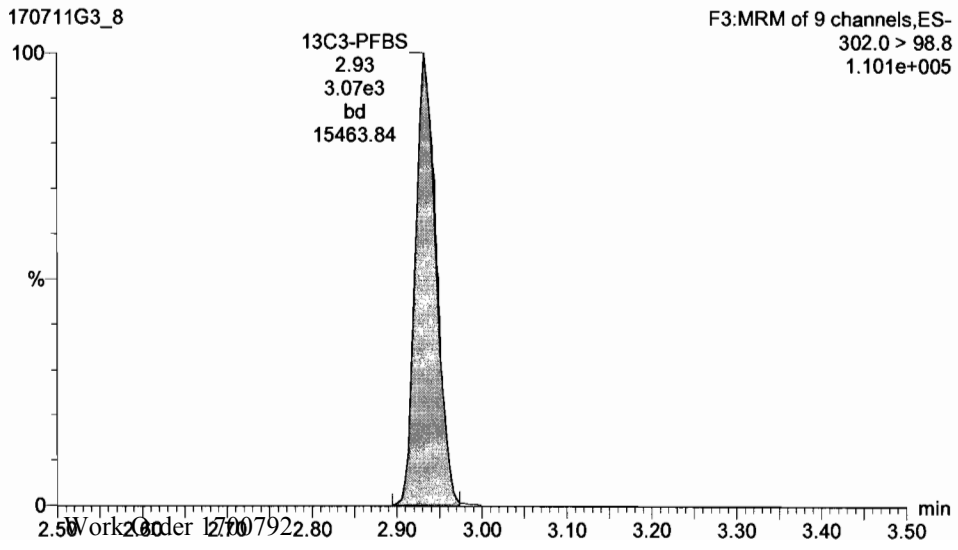
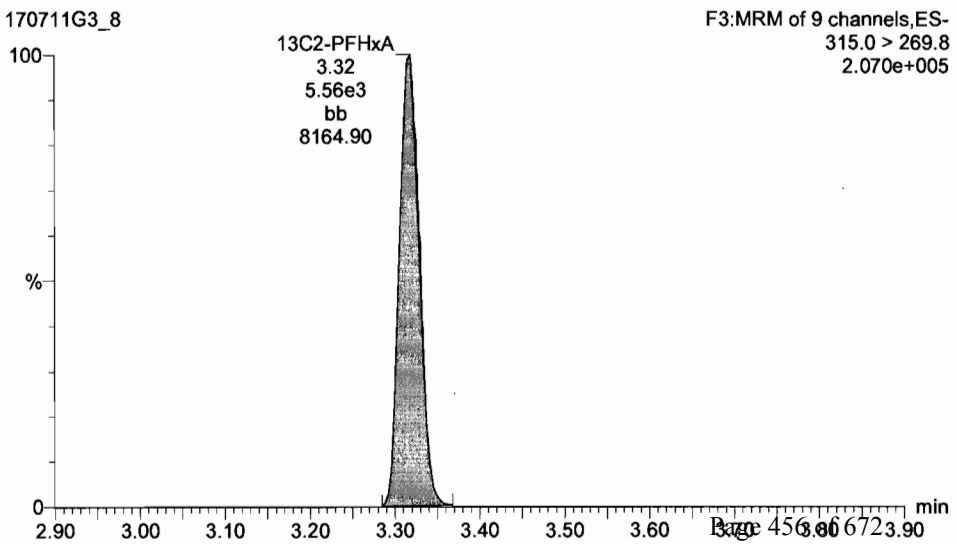


13C2-PFHxA



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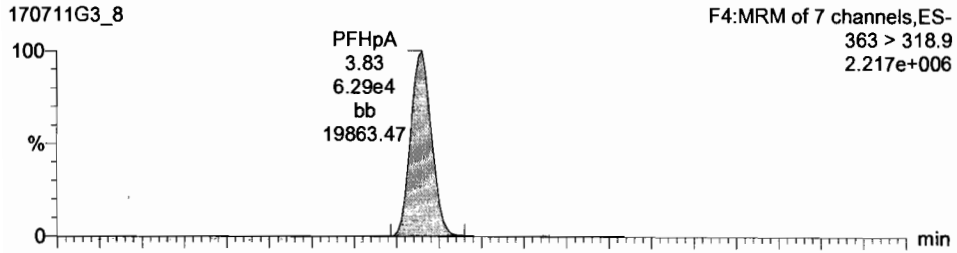
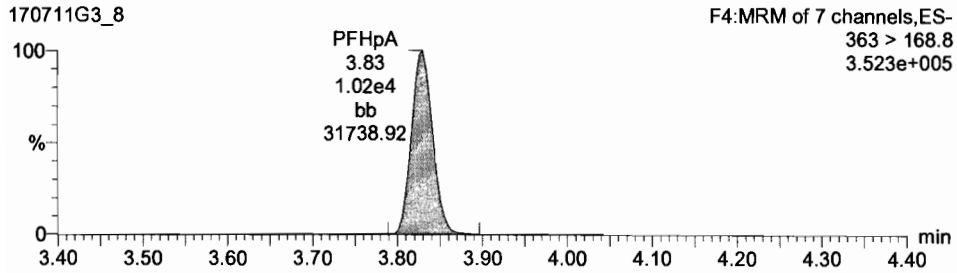
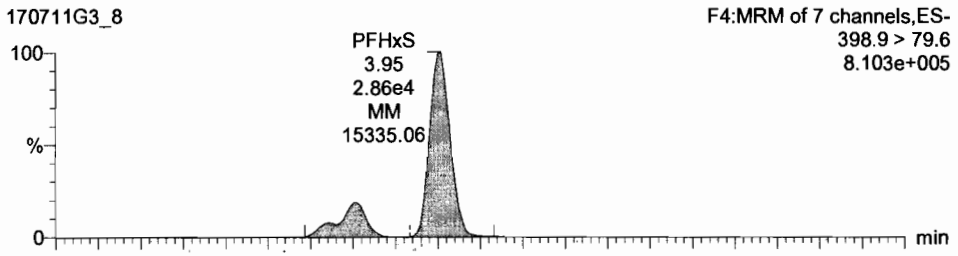
ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

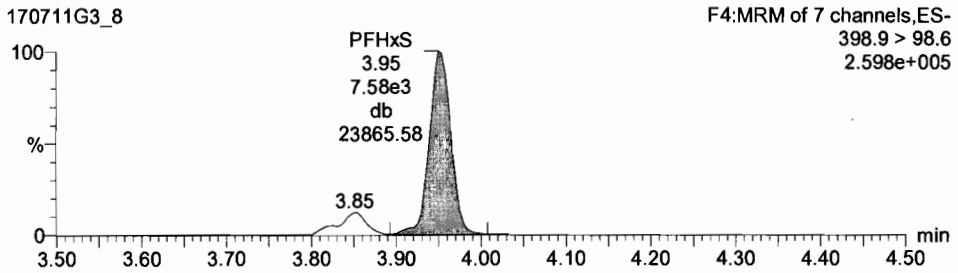
PFHpA



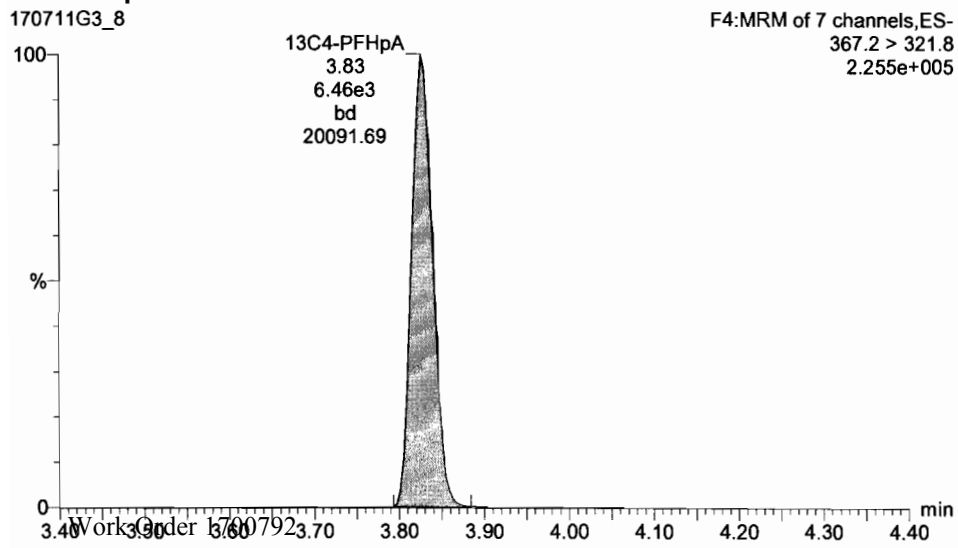


Total PFHxS

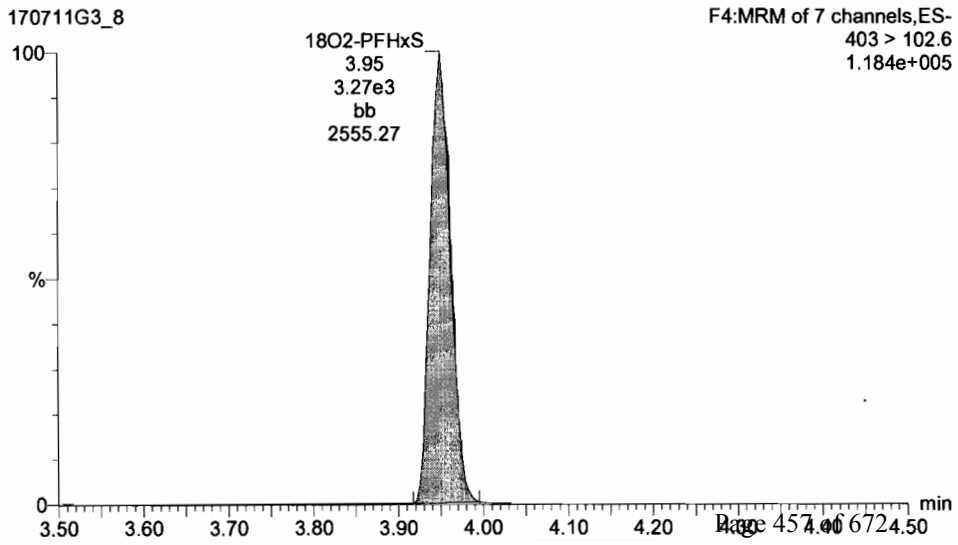




13C4-PFHpA



18O2-PFHxS



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

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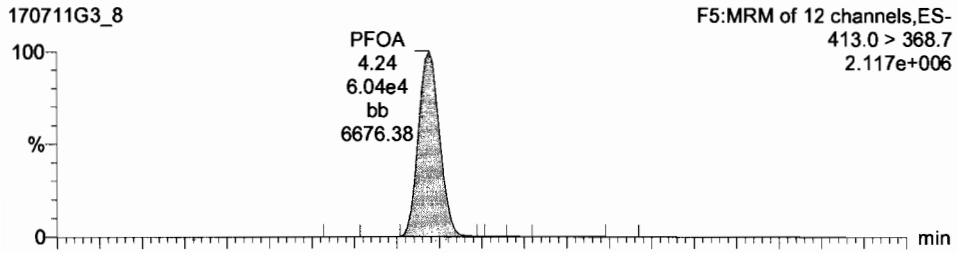

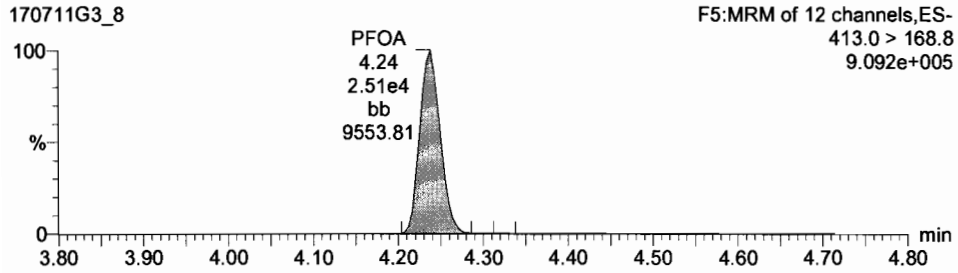

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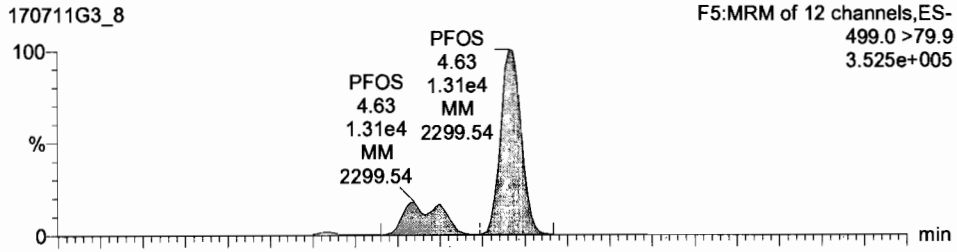
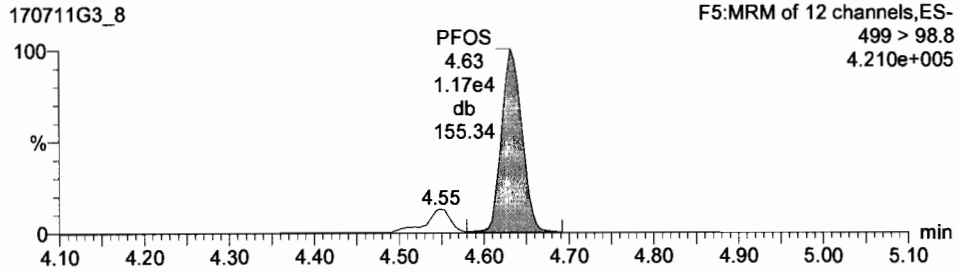
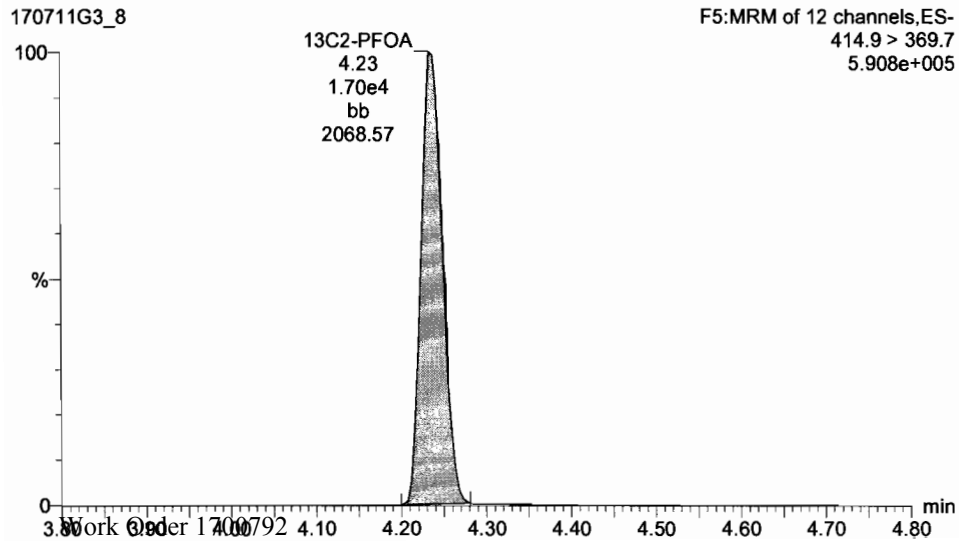
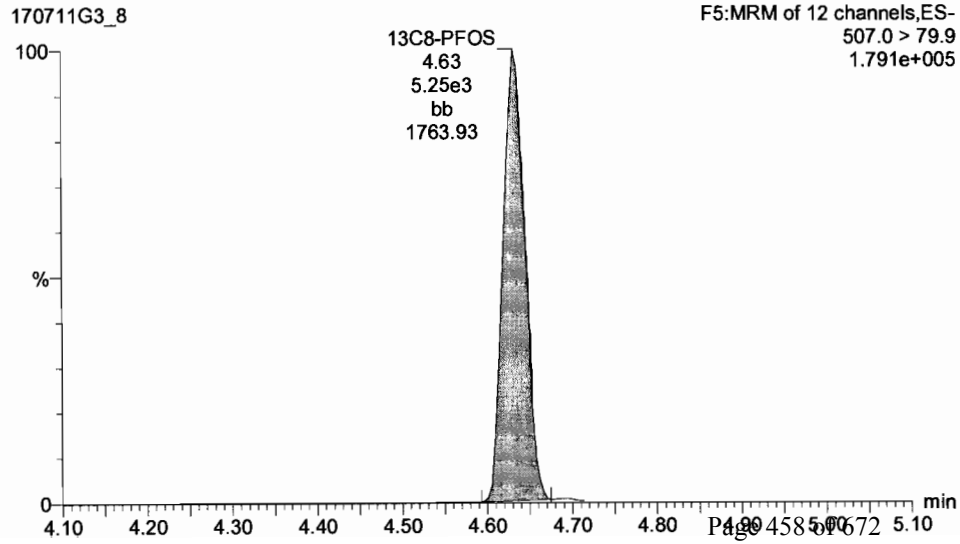




13C2-PFOA



13C8-PFOS



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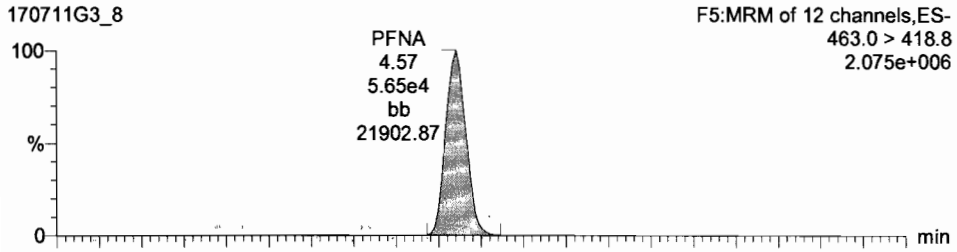
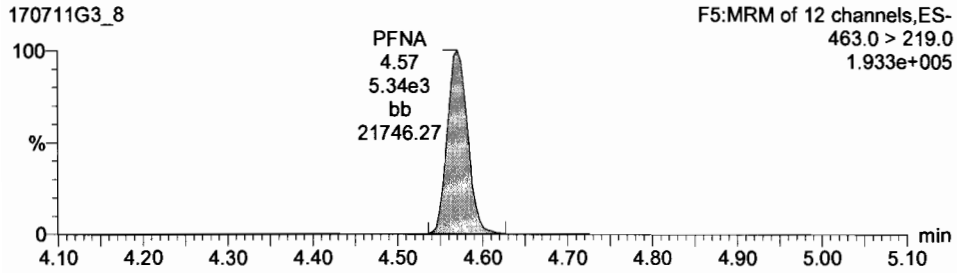
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

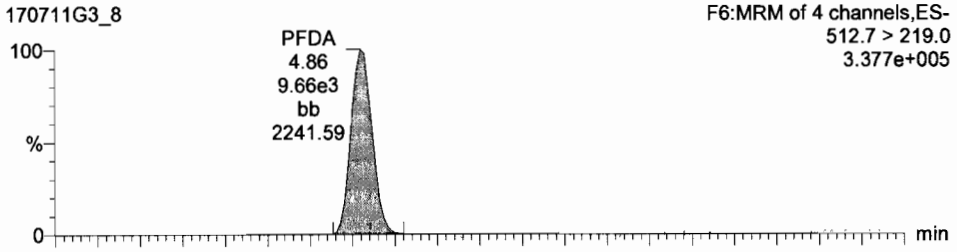
ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

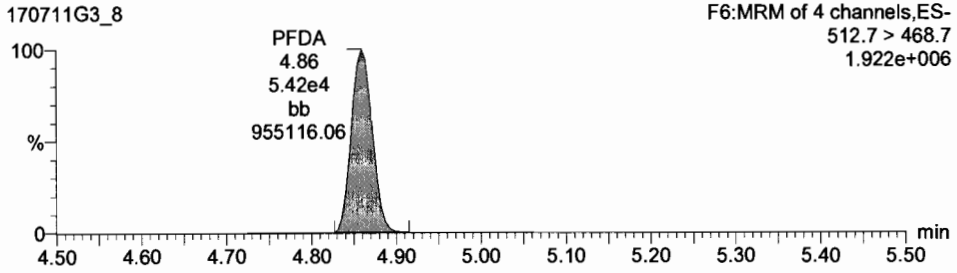
PFNA



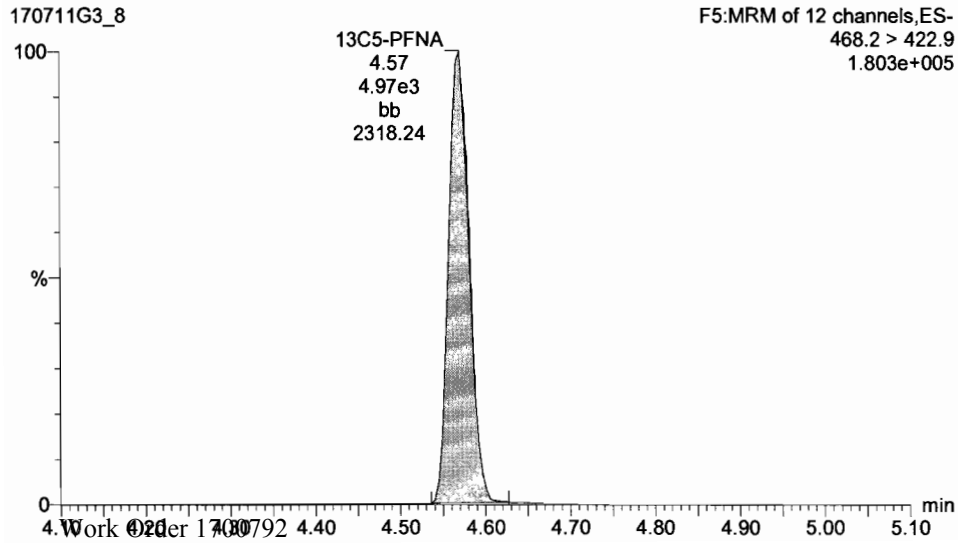


PFDA





13C5-PFNA



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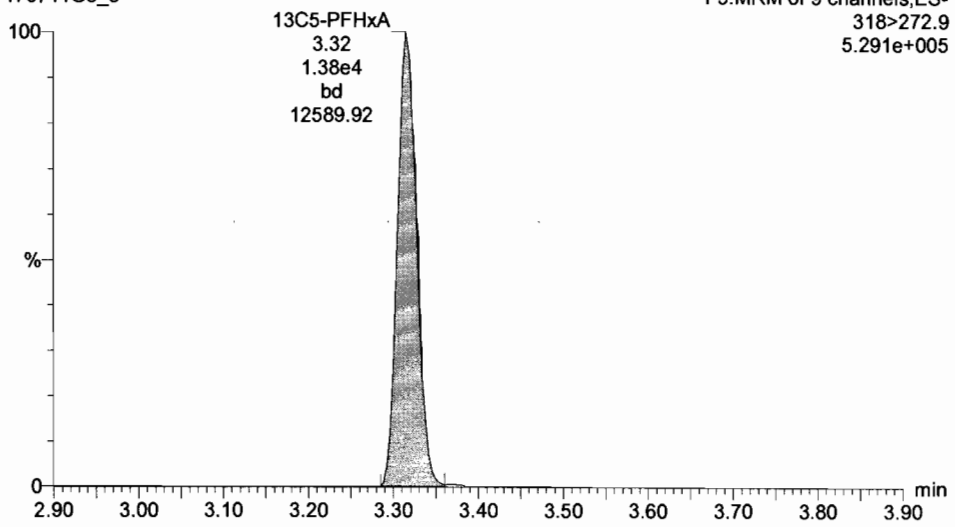
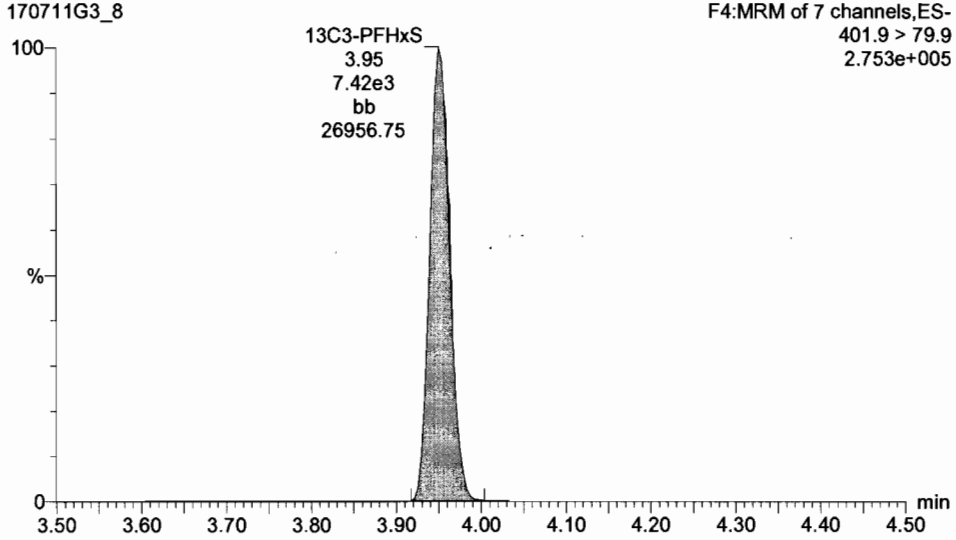
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

13C5-PFHxA



13C3-PFHxS



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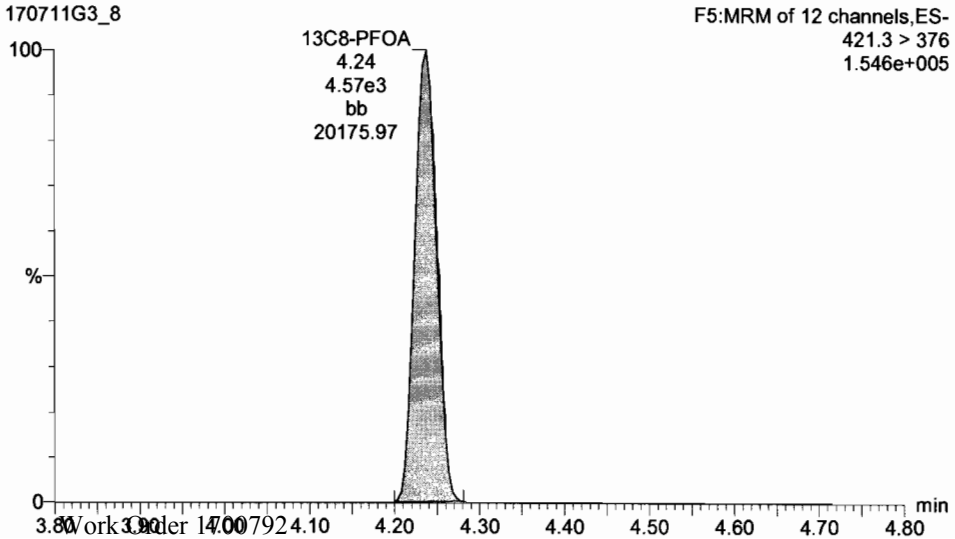
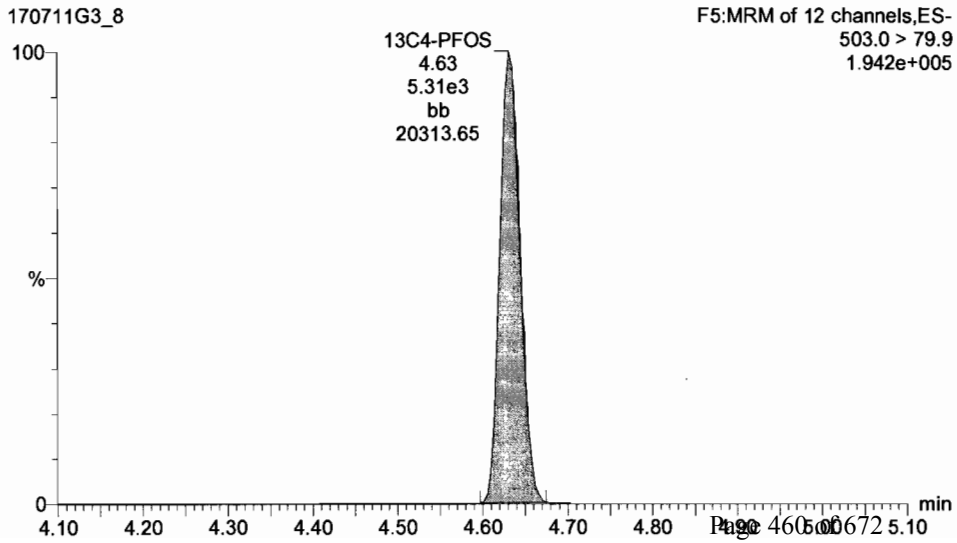


13C4-PFOS



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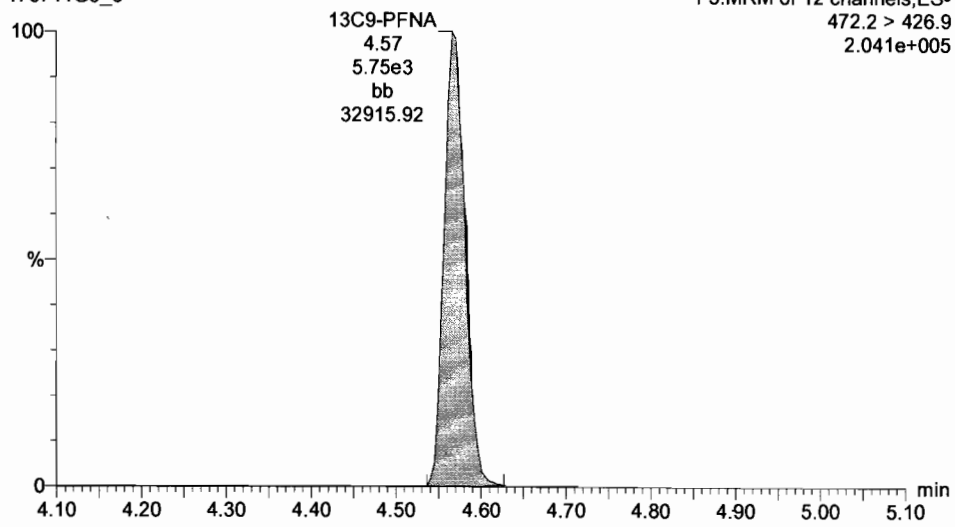
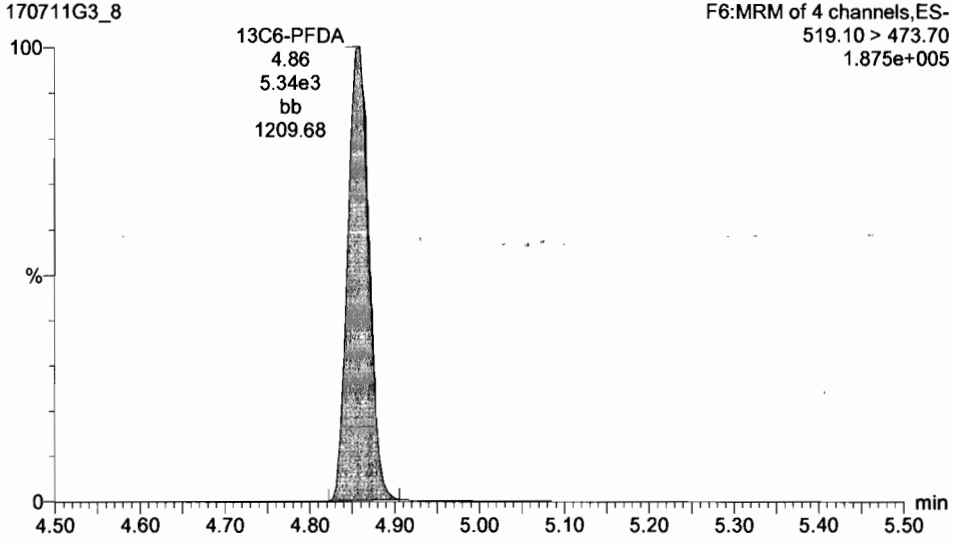
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-7 PFC CS4 17G1117, Description: PFC CS4 17G1117, Name: 170711G3_8, Date: 11-Jul-2017, Time: 18:44:45, Instrument: , Lab: , User:

13C9-PFNA



13C6-PFDA



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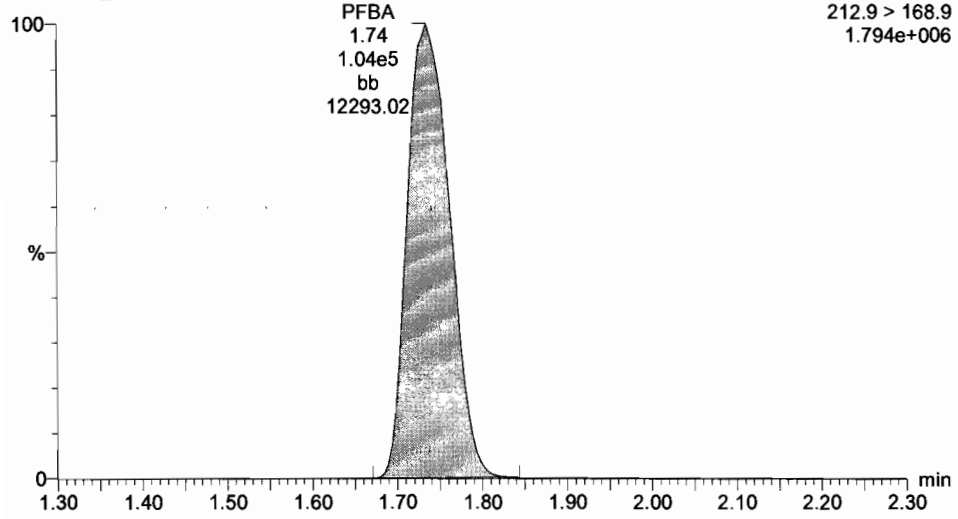
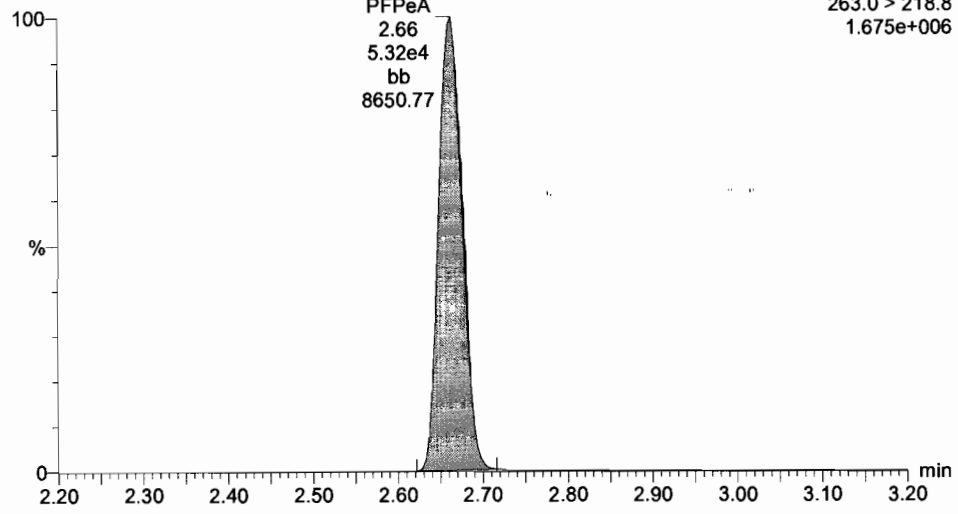
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

PFBA



PFPeA



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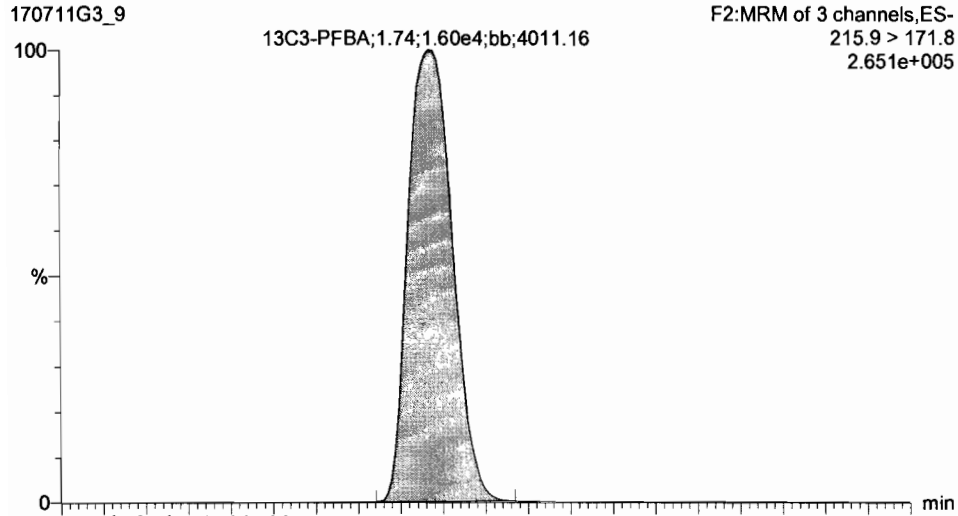

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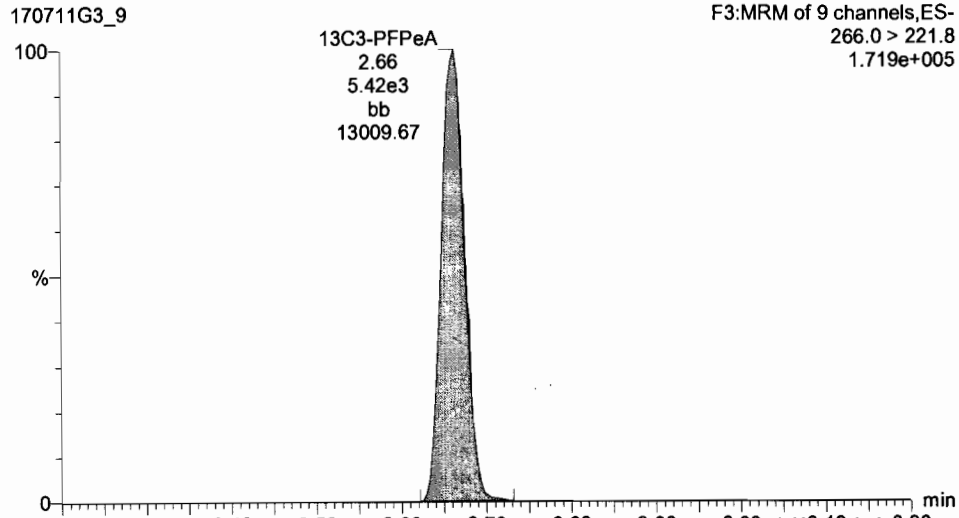

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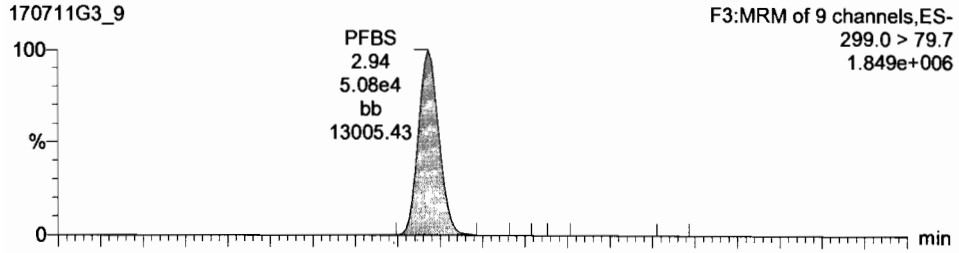
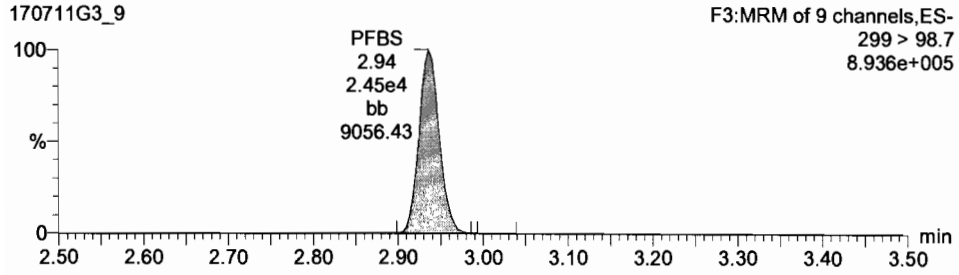
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

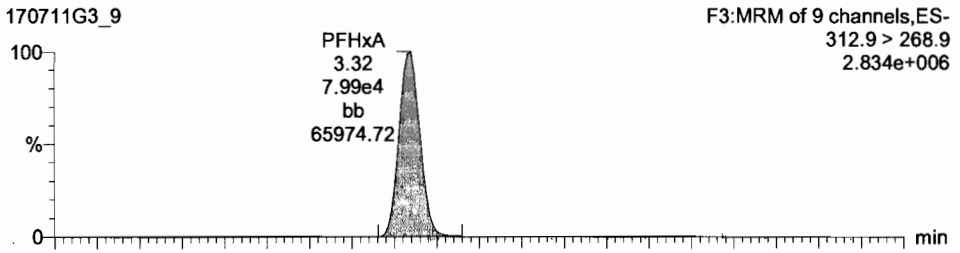
ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

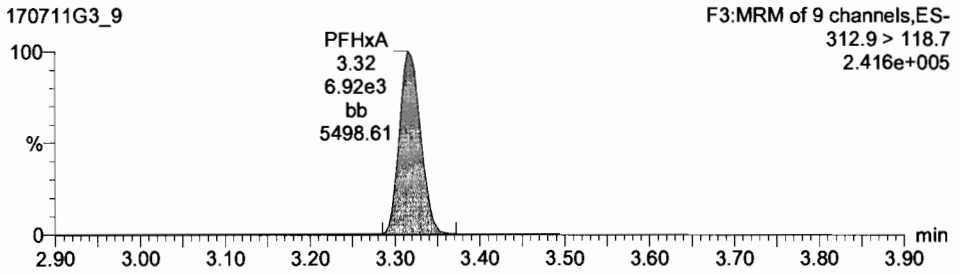
Total PFBS





PFHxA





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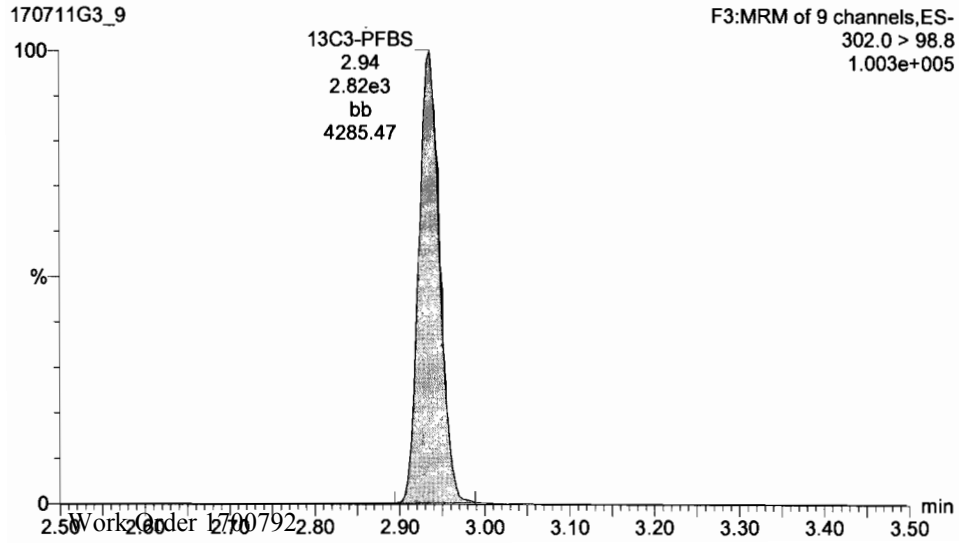
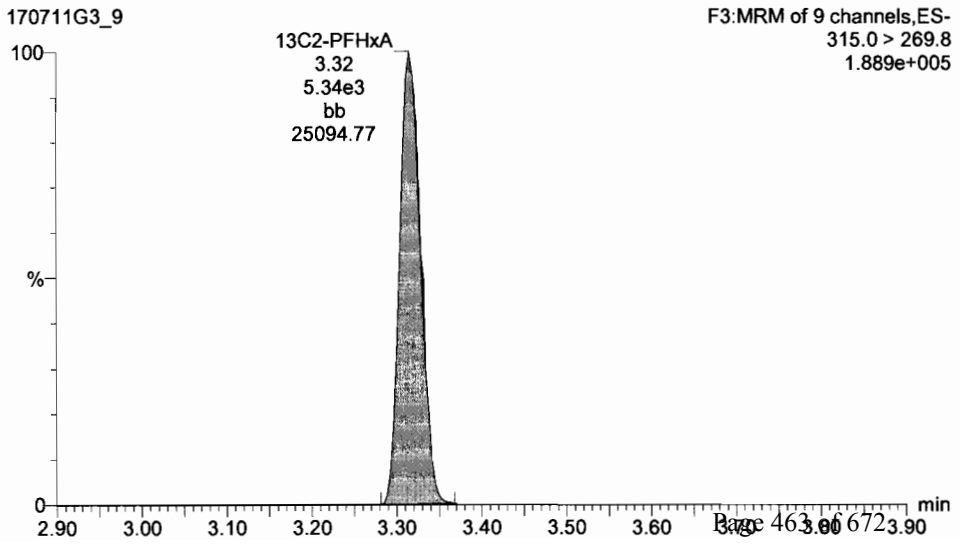


13C2-PFHxA



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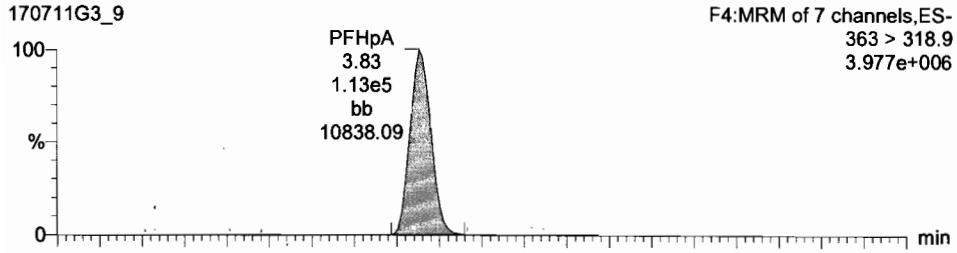
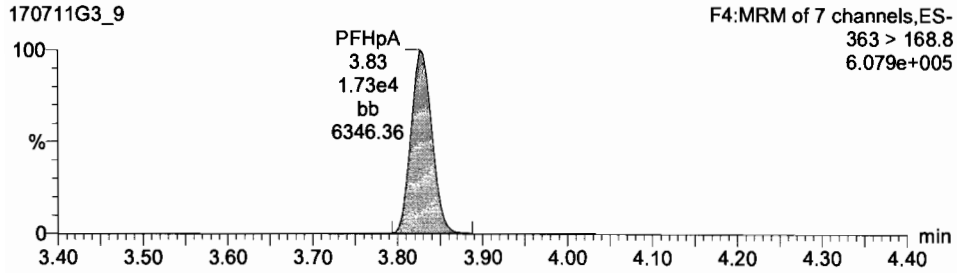
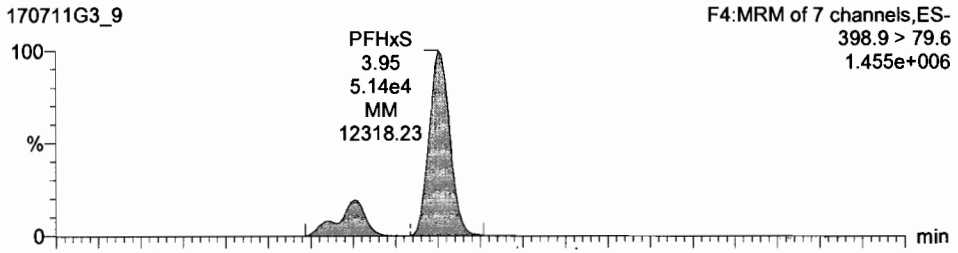
ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

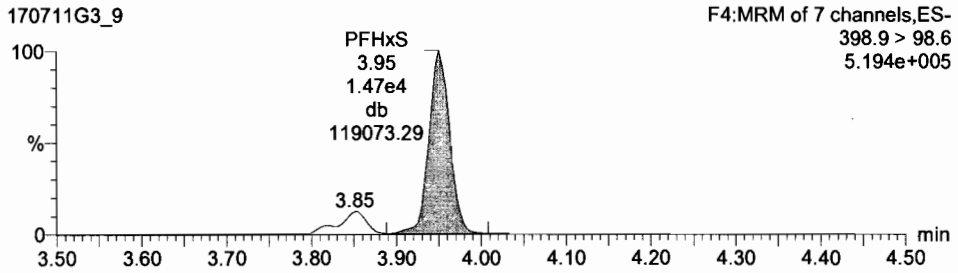
PFHpA





Total PFHxS





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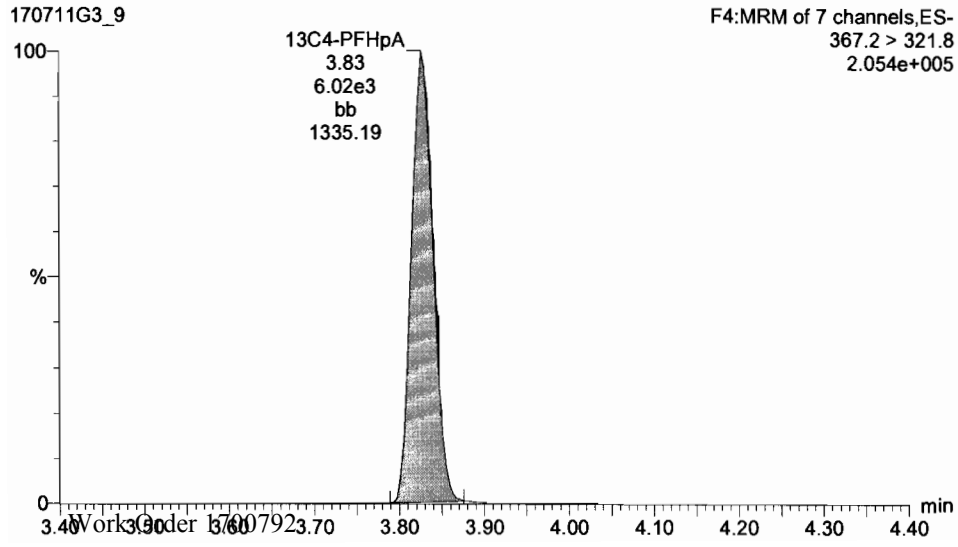
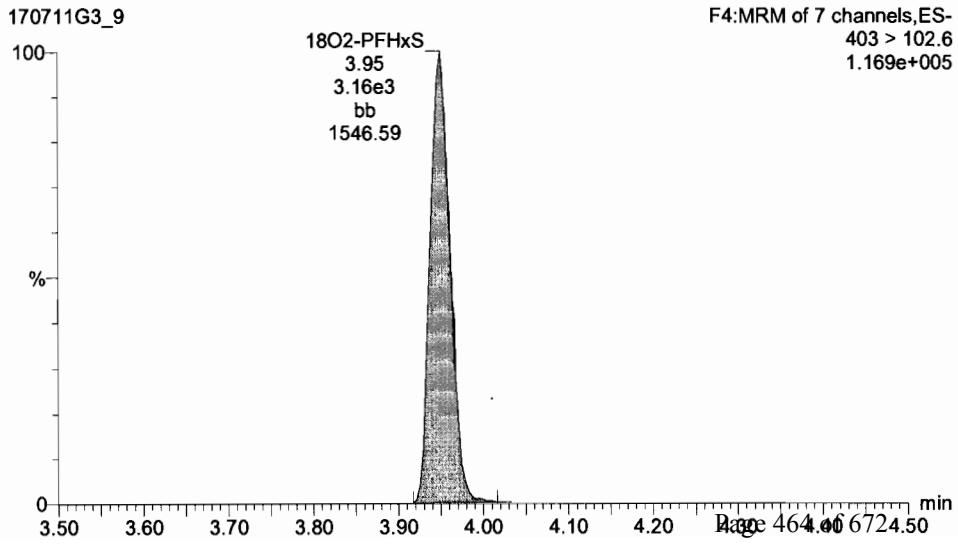


18O2-PFHxS



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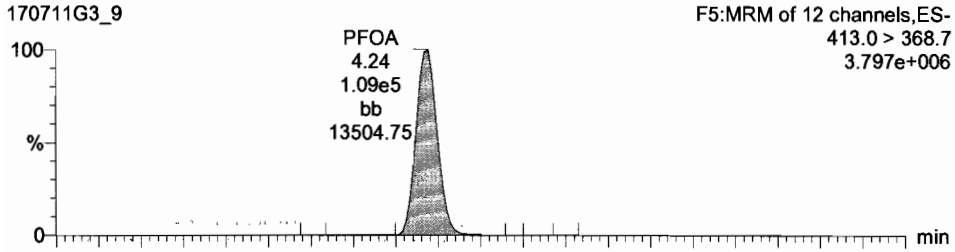
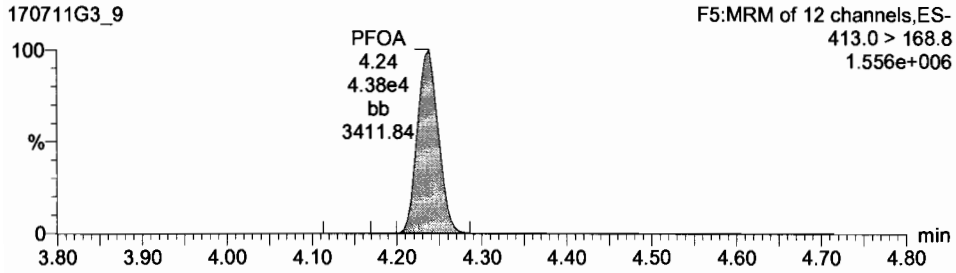
Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

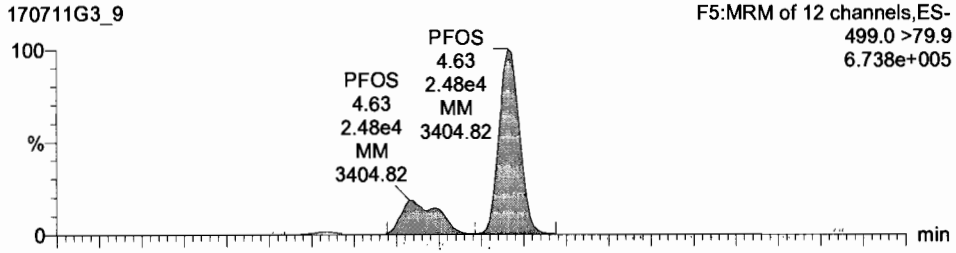
ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

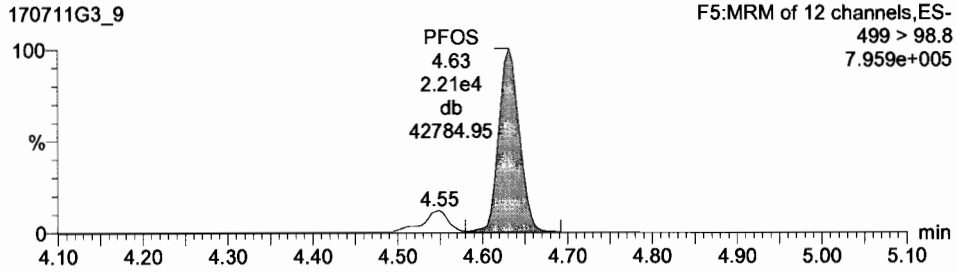
Total PFOA



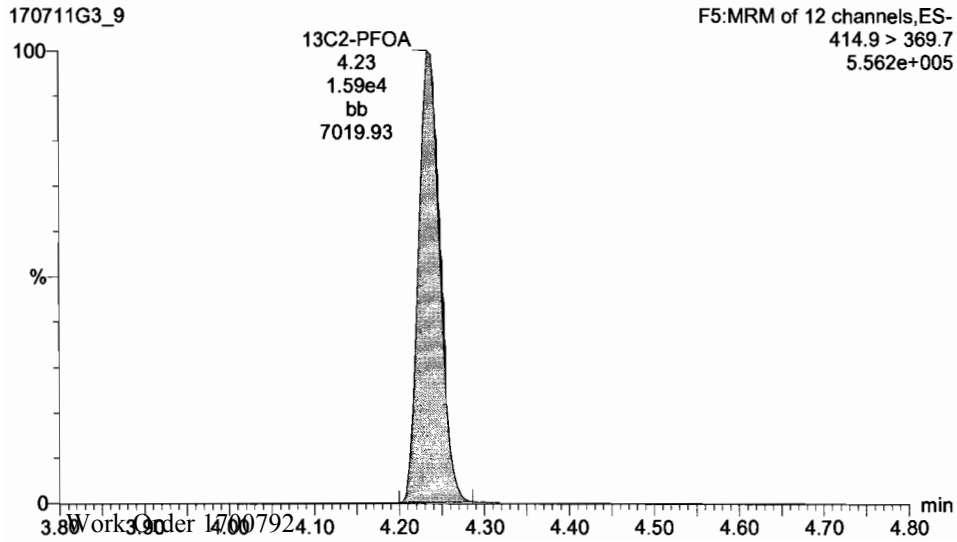


Total PFOS

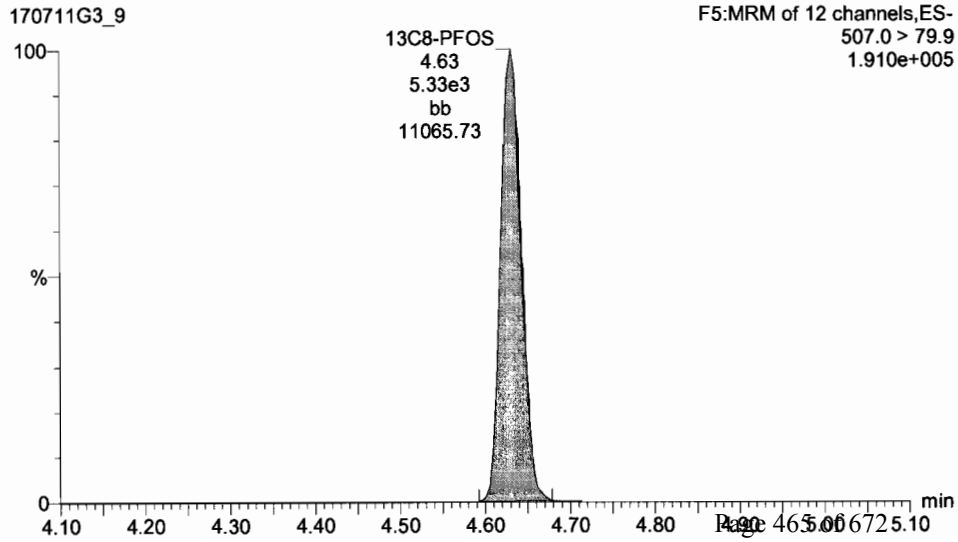




13C2-PFOA



13C8-PFOS



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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

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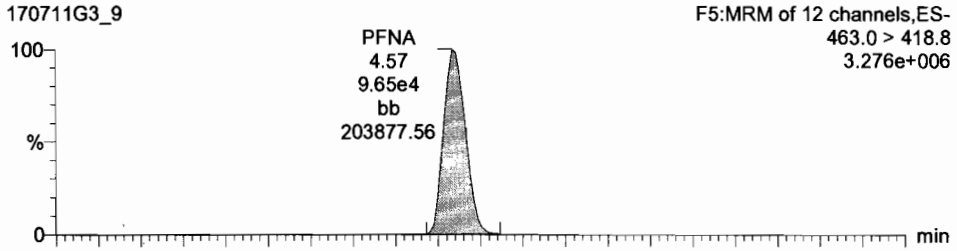

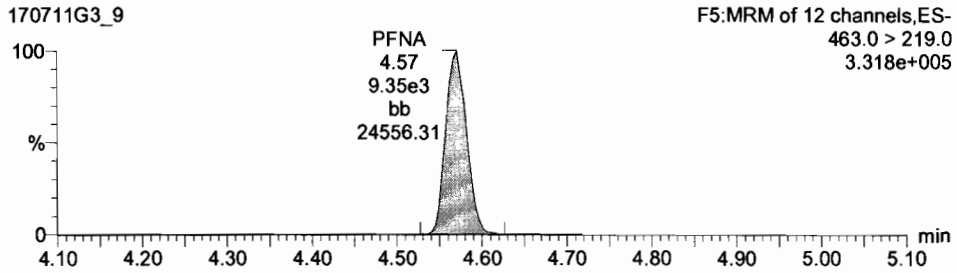

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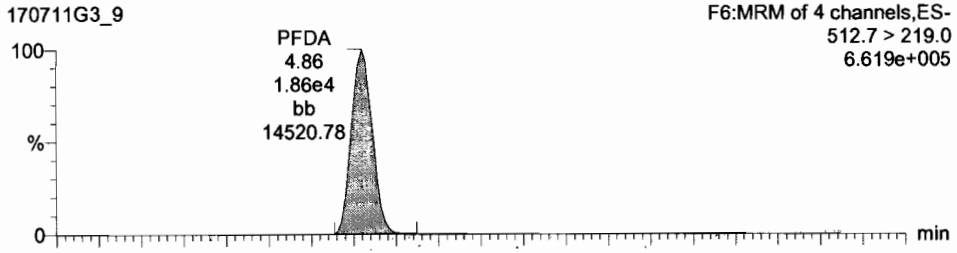
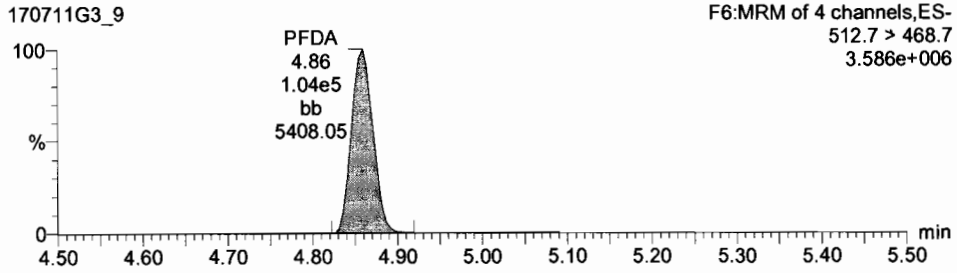
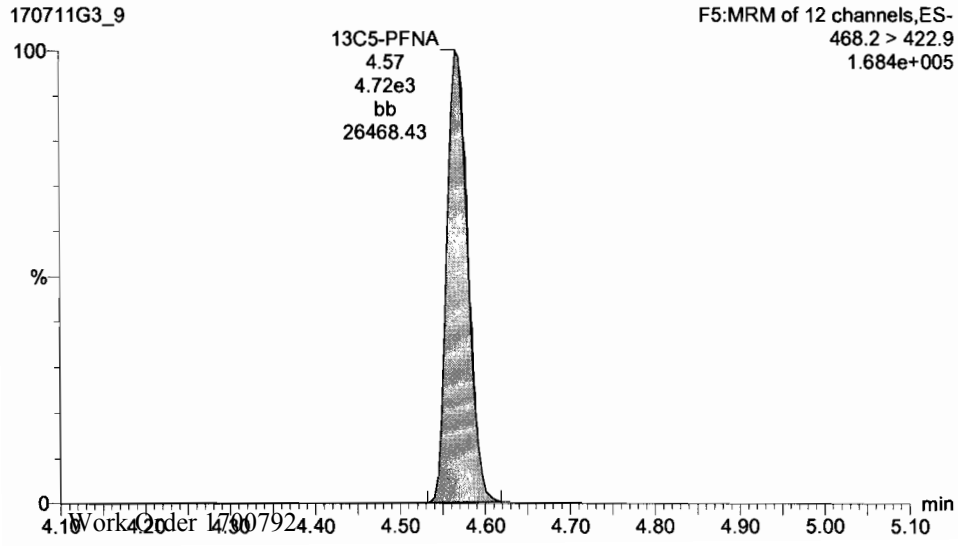




13C5-PFNA



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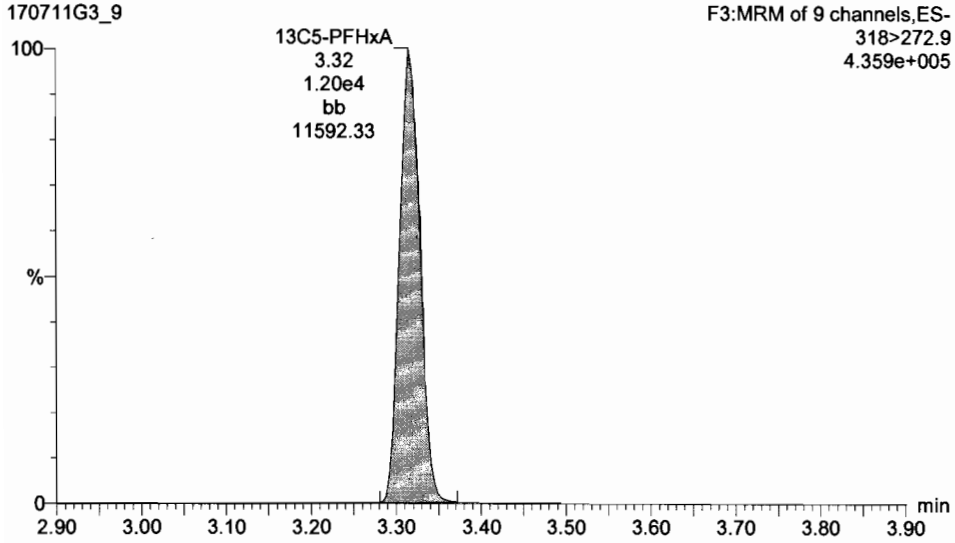
Printed: Wednesday, July 12, 2017 09:17:35 Pacific Daylight Time

ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

13C5-PFHxA



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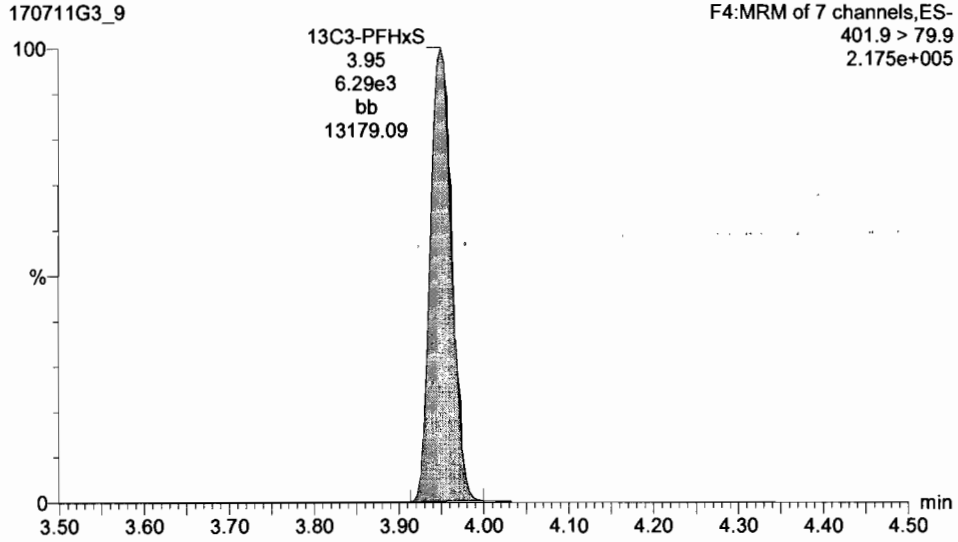

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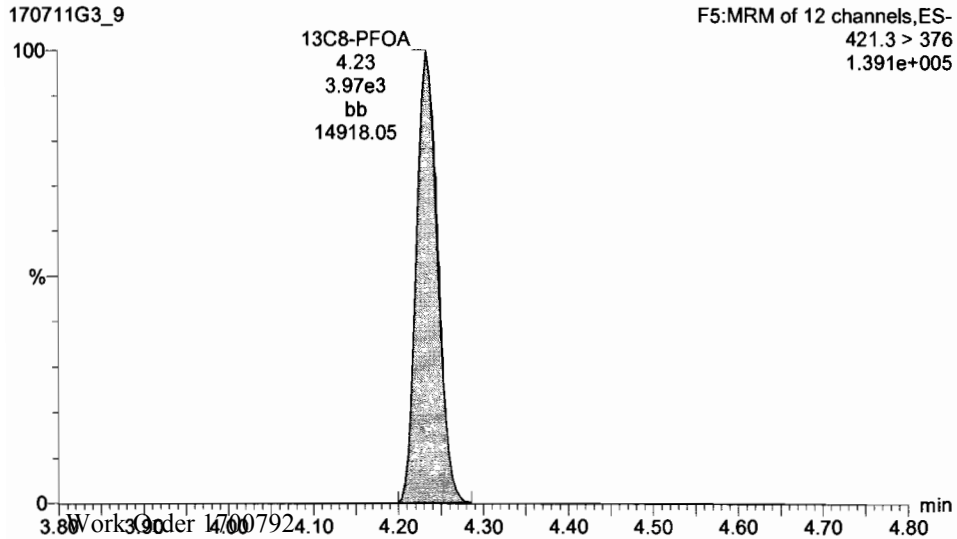

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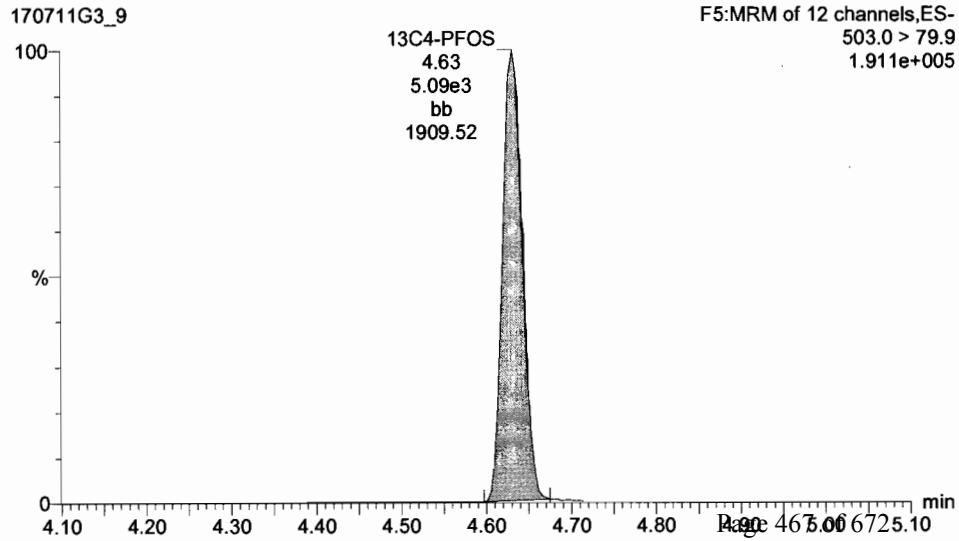

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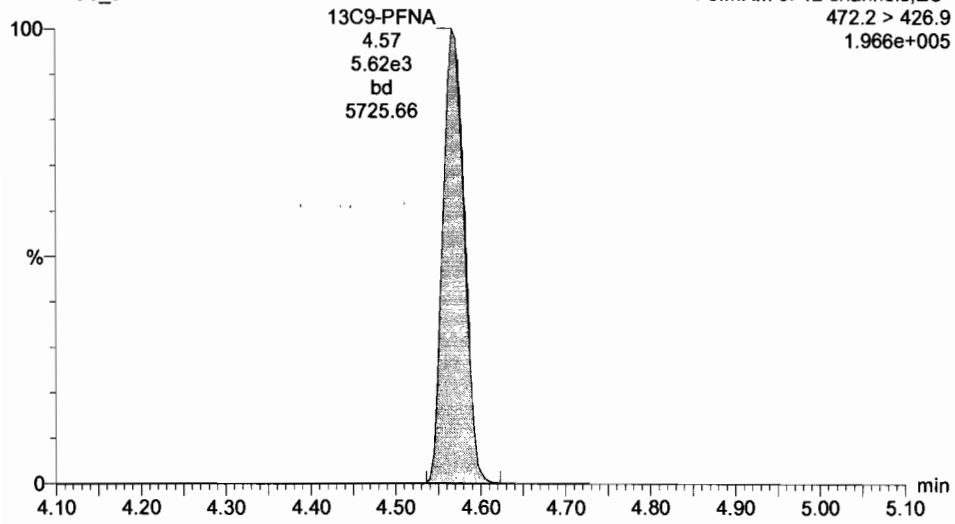
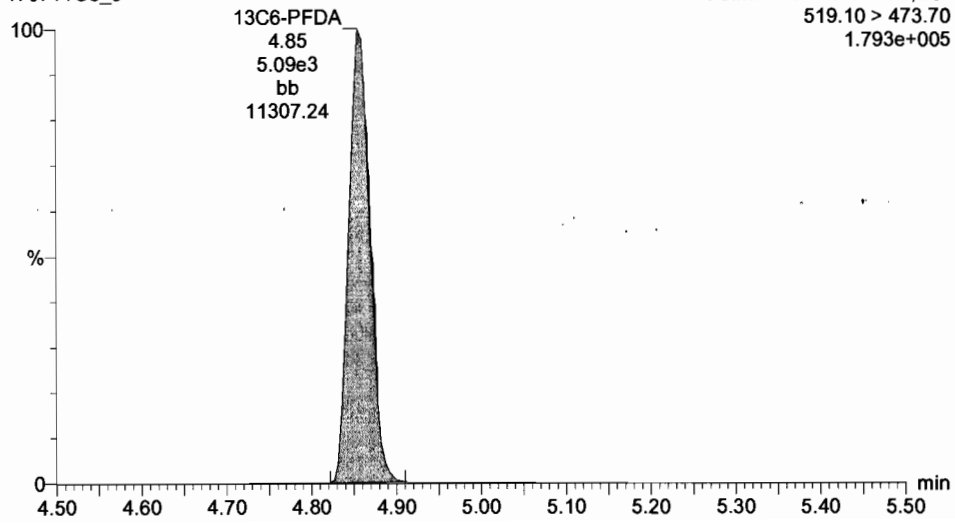
ID: ST170711G3-8 PFC CS5 17G1118, Description: PFC CS5 17G1118, Name: 170711G3_9, Date: 11-Jul-2017, Time: 18:57:37, Instrument: , Lab: , User:

13C9-PFNA



13C6-PFDA



Vista Analytical Laboratory Q1

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Printed: Wednesday, July 12, 2017 09:15:17 Pacific Daylight Time

INSTRUMENT BLANK 20170712117

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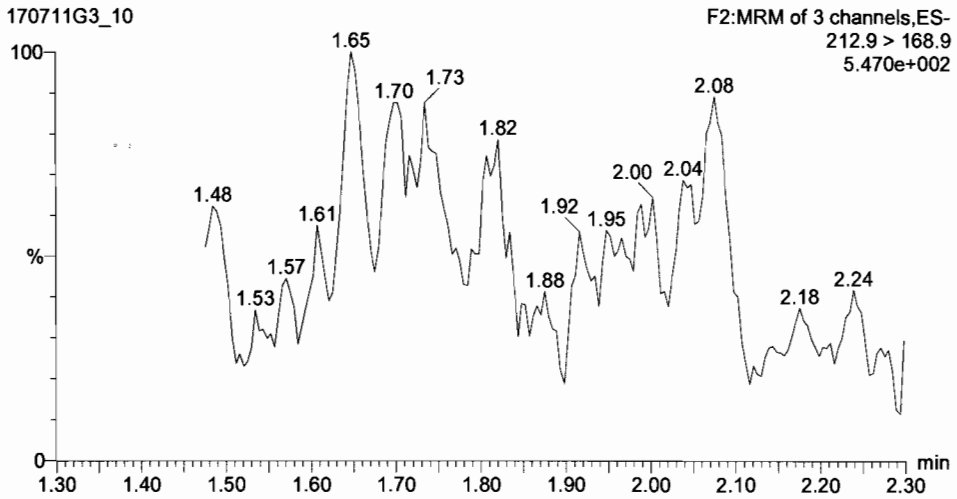
ID: IPA, Description: IPA, Name: 170711G3_10, Date: 11-Jul-2017, Time: 19:10:03, Instrument: , Lab: , User:

PFBA



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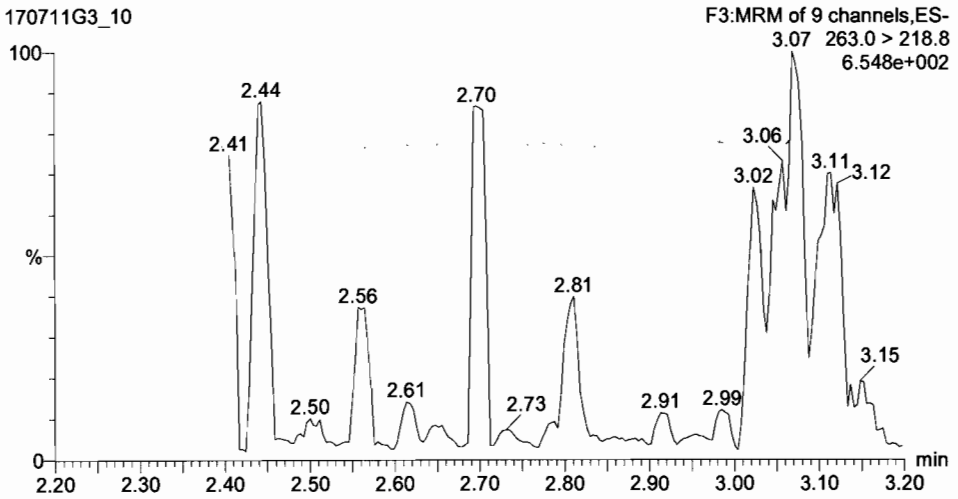

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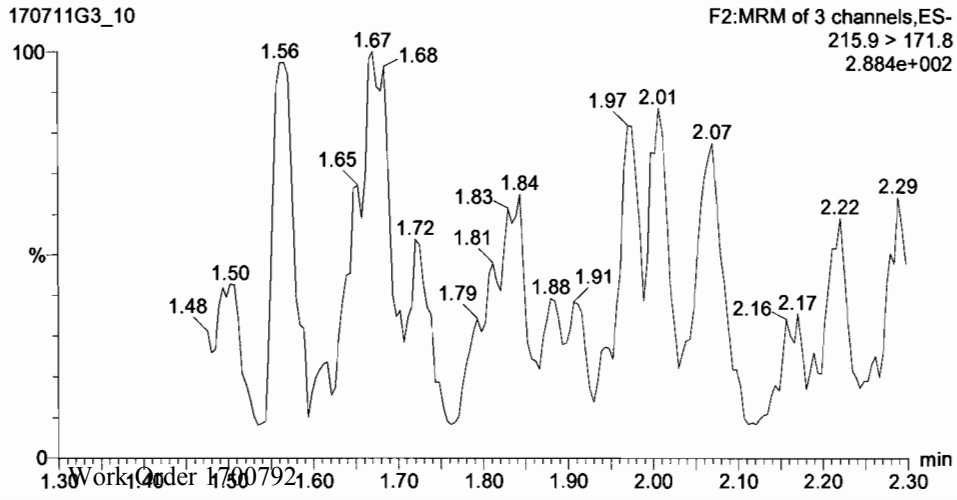

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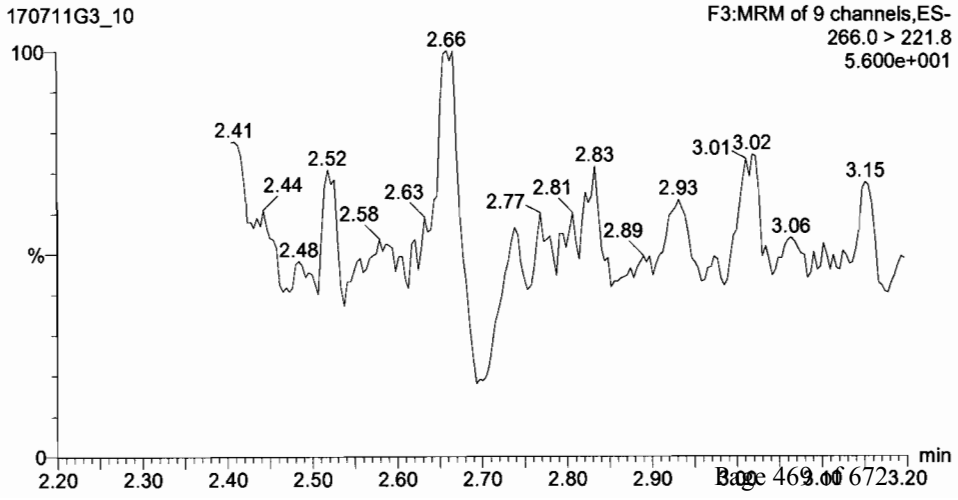

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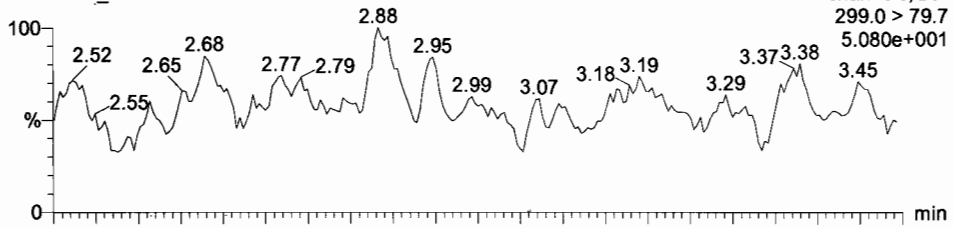
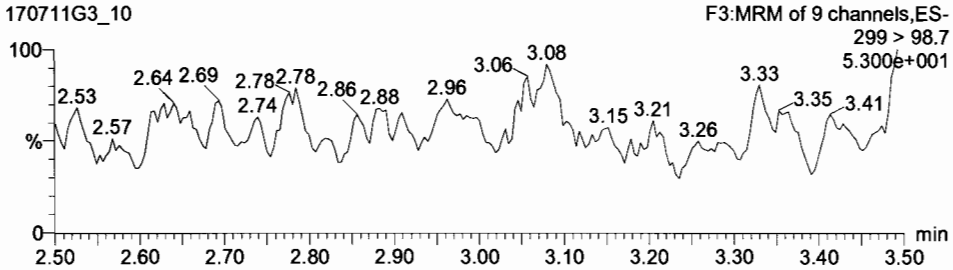
Last Altered: Wednesday, July 12, 2017 09:15:06 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:15:17 Pacific Daylight Time

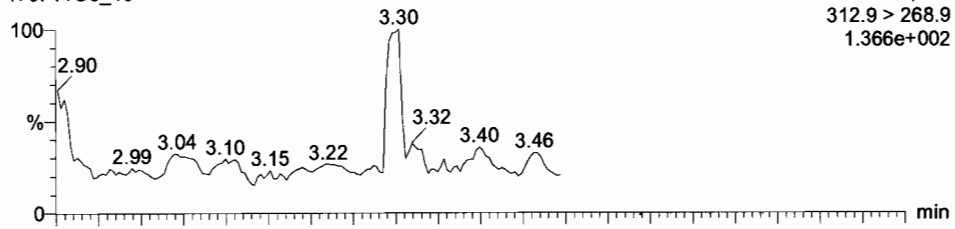
ID: IPA, Description: IPA, Name: 170711G3_10, Date: 11-Jul-2017, Time: 19:10:03, Instrument: , Lab: , User:

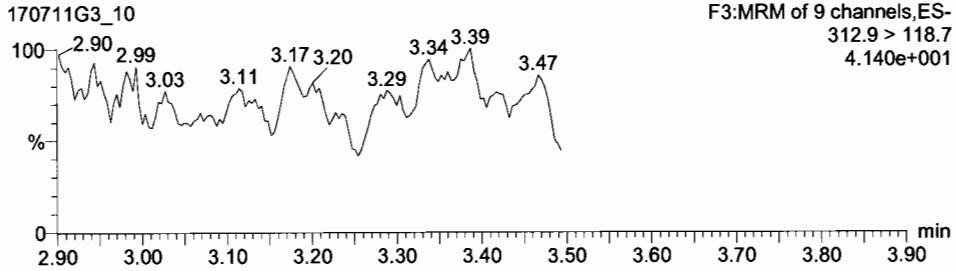
Total PFBS





PFHxA





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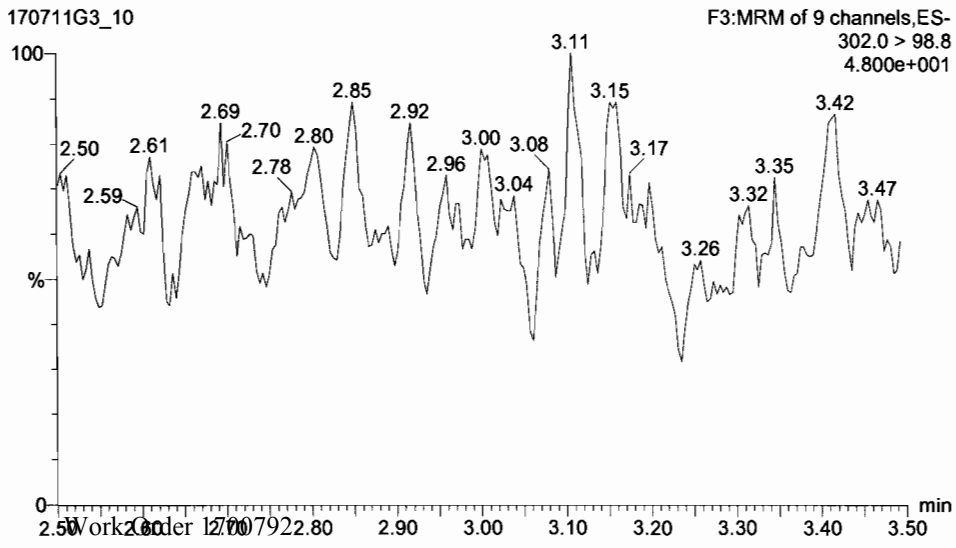

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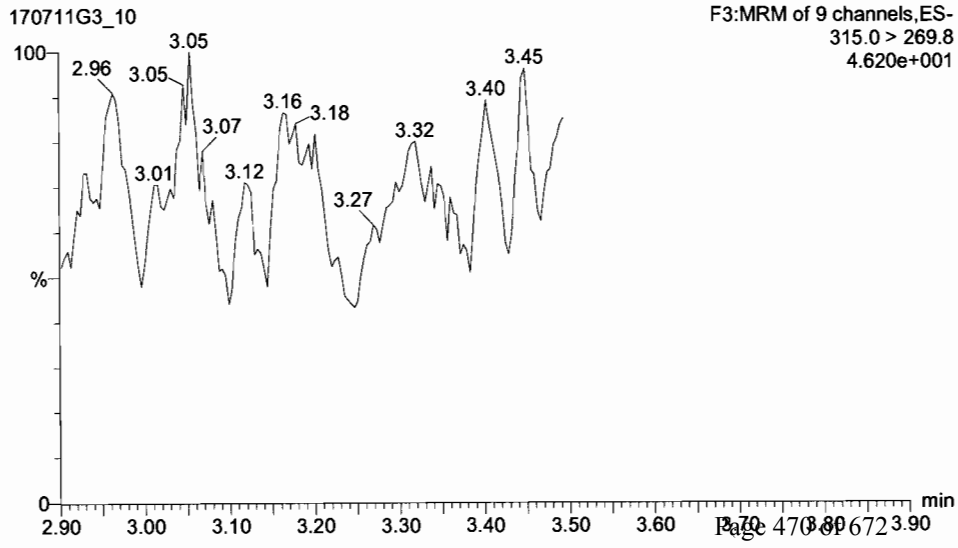

Vista Analytical Laboratory Q1

Dataset: Untitled

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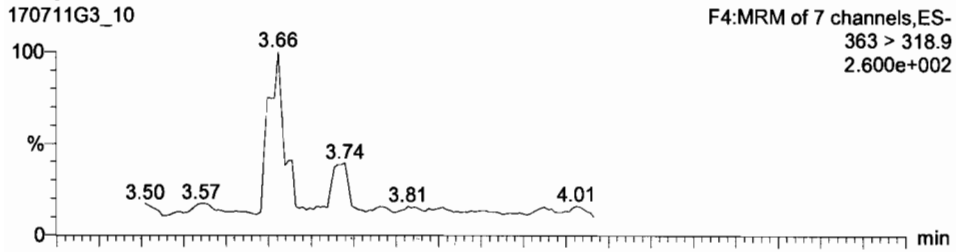
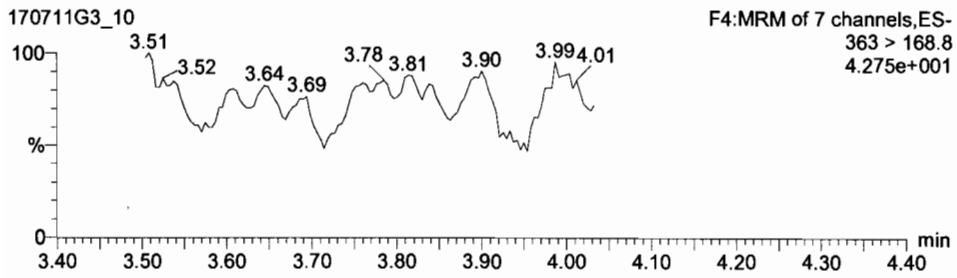
Printed: Wednesday, July 12, 2017 09:15:17 Pacific Daylight Time

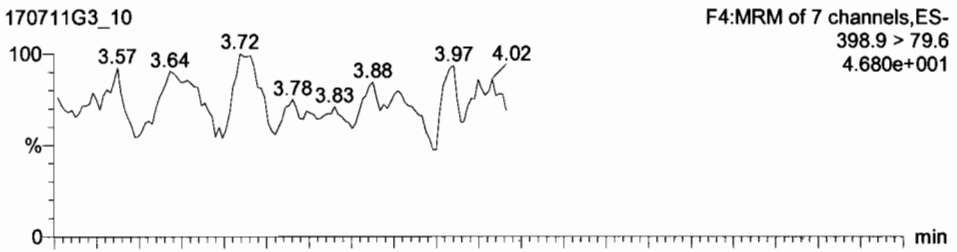
ID: IPA, Description: IPA, Name: 170711G3_10, Date: 11-Jul-2017, Time: 19:10:03, Instrument: , Lab: , User:

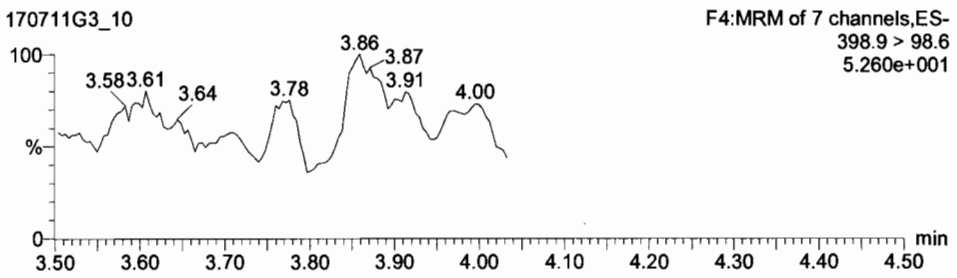
PFHpA



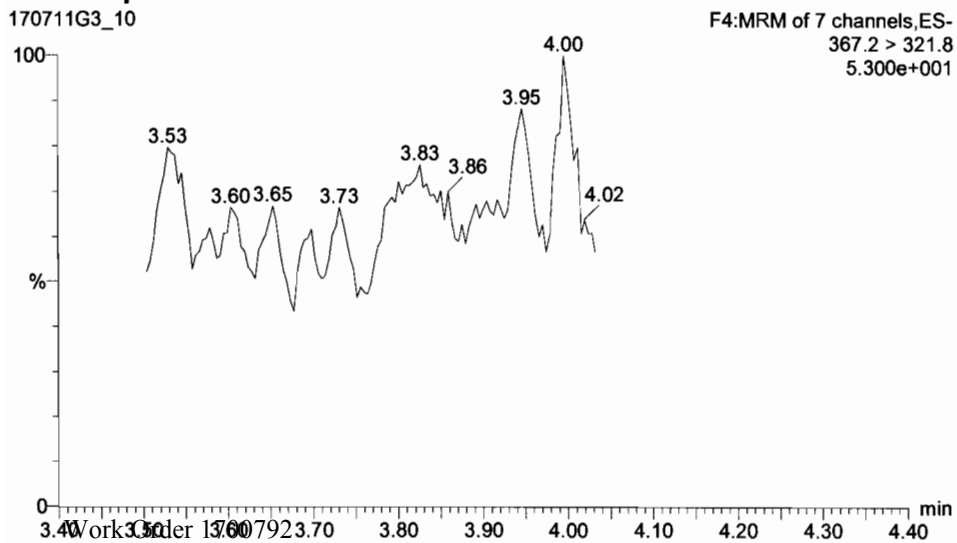


Total PFHxS

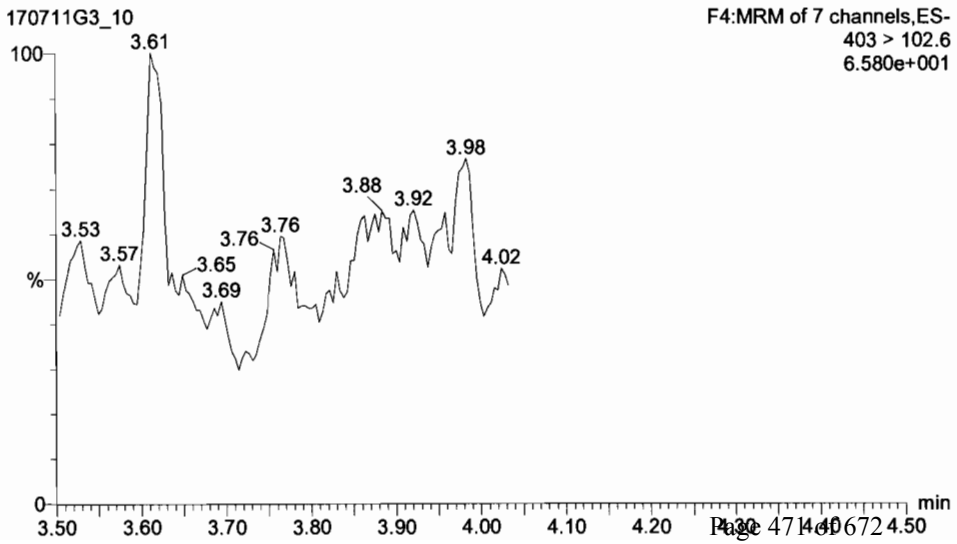




13C4-PFHpA



18O2-PFHxS

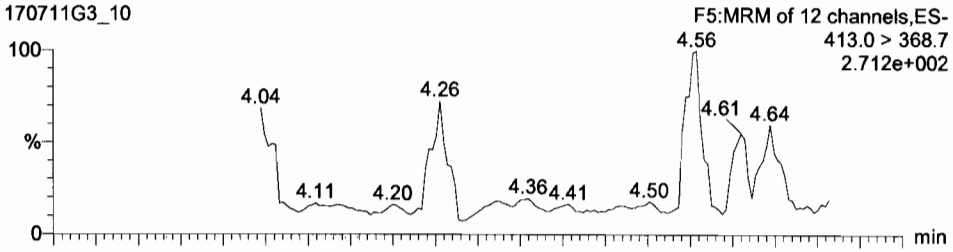


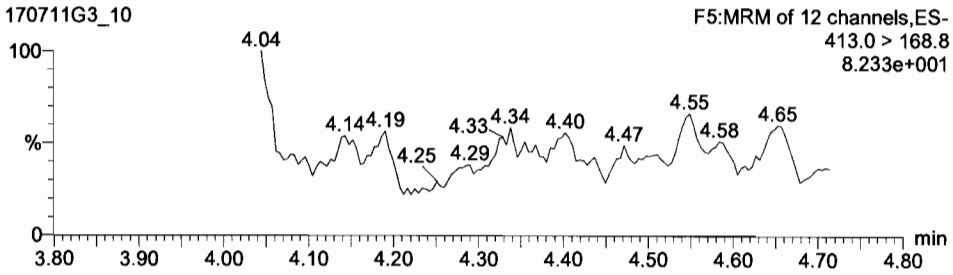
Dataset: Untitled

Last Altered: Wednesday, July 12, 2017 09:15:06 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:15:17 Pacific Daylight Time

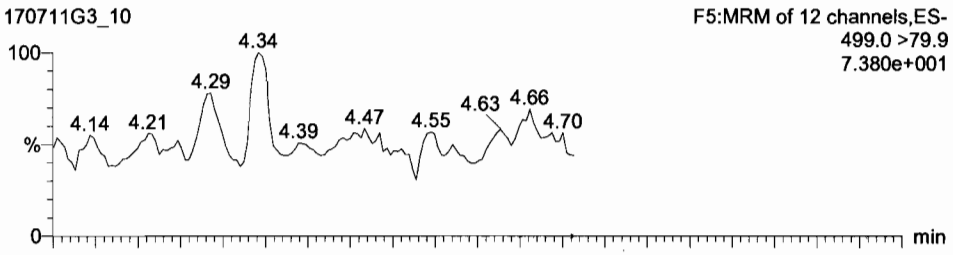
ID: IPA, Description: IPA, Name: 170711G3_10, Date: 11-Jul-2017, Time: 19:10:03, Instrument: , Lab: , User:

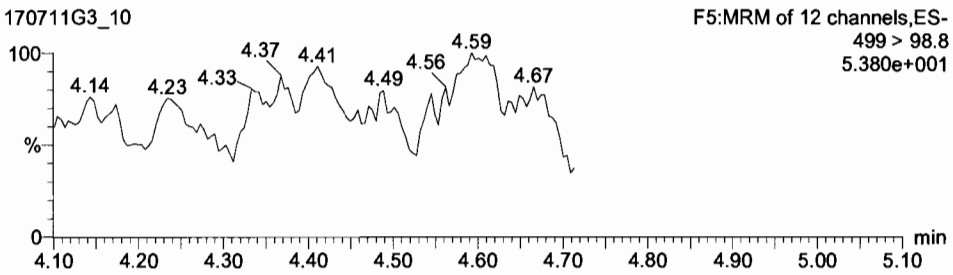
Total PFOA



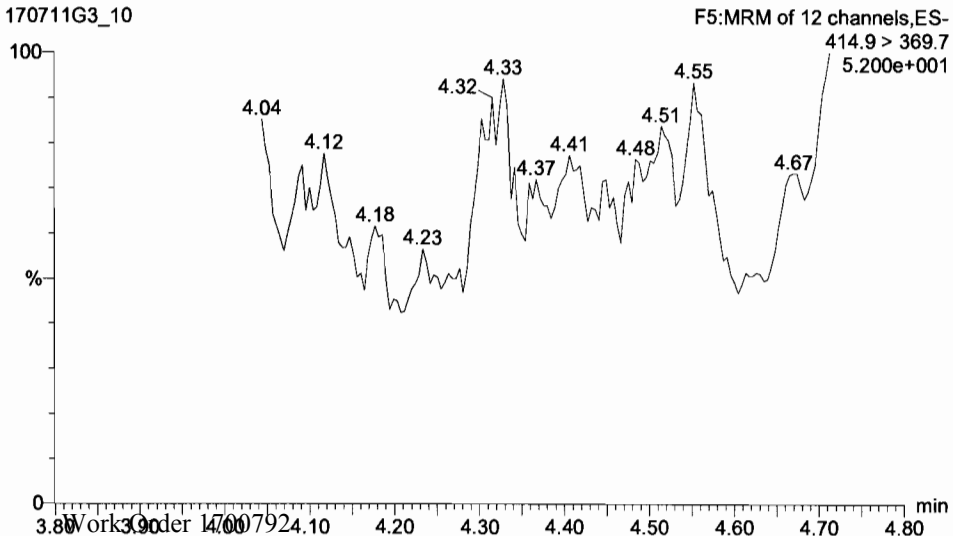


Total PFOS

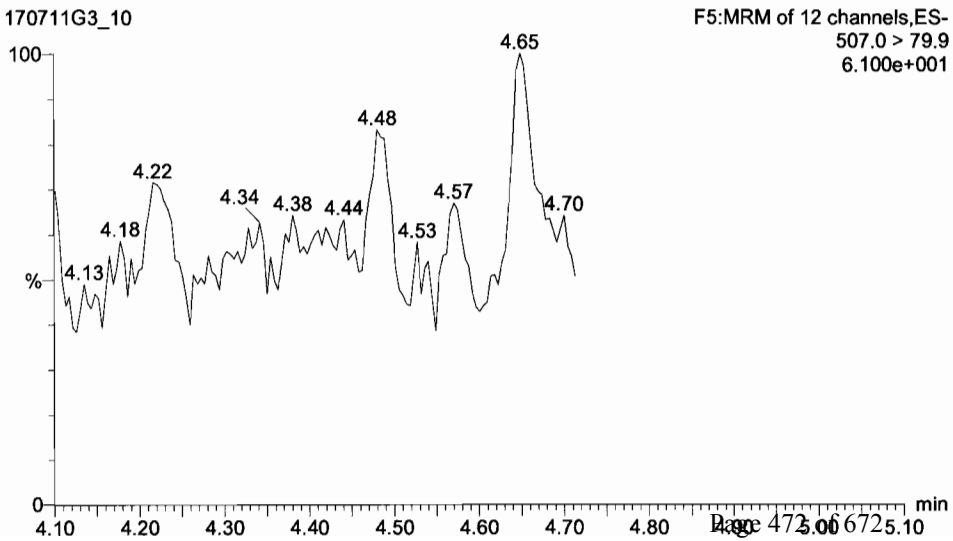




13C2-PFOA



13C8-PFOS



Vista Analytical Laboratory Q1

Dataset: Untitled

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Printed: Wednesday, July 12, 2017 09:15:17 Pacific Daylight Time

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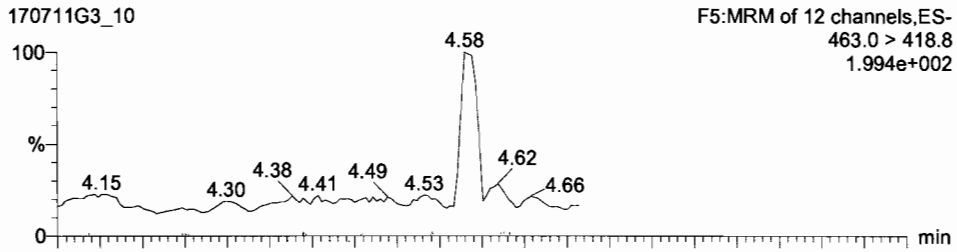

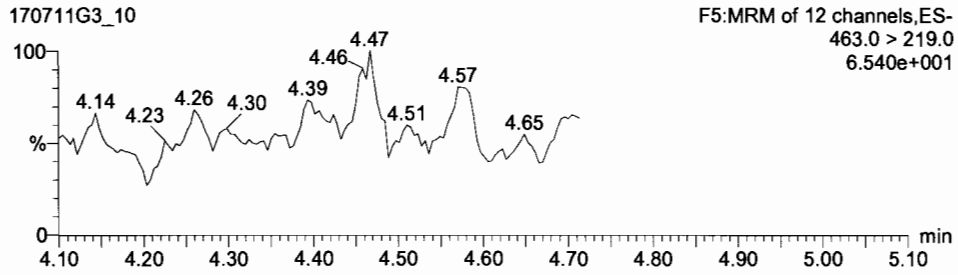

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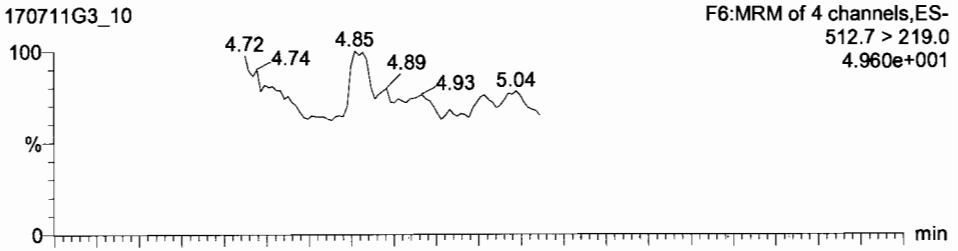
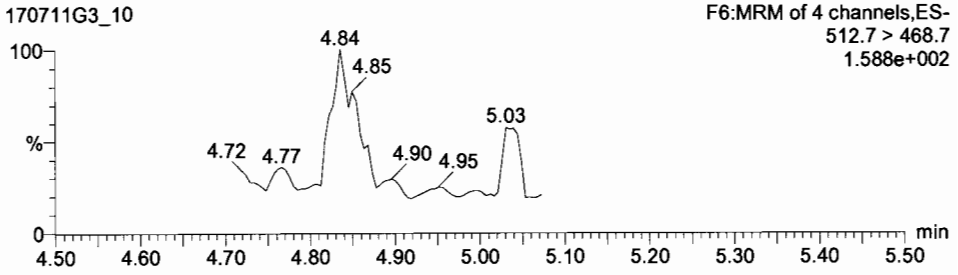
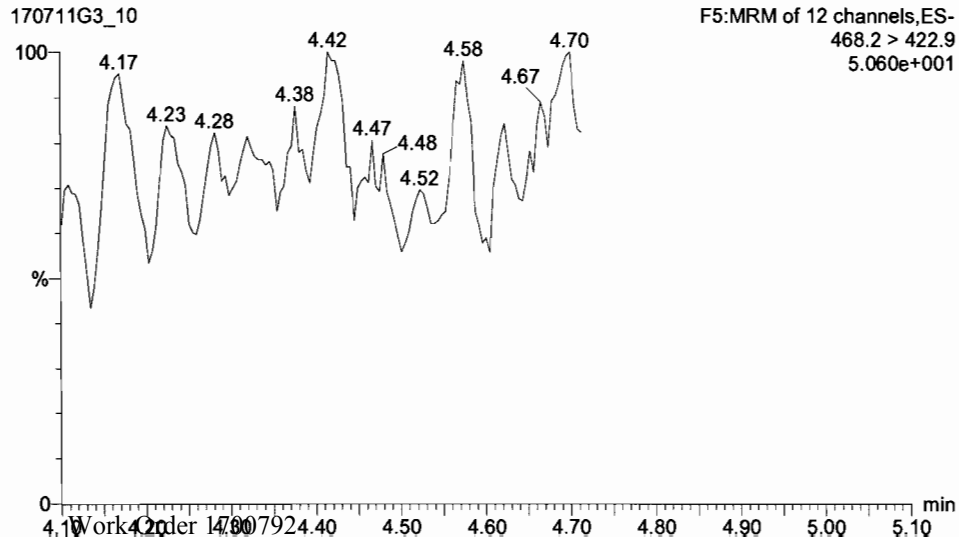




13C5-PFNA



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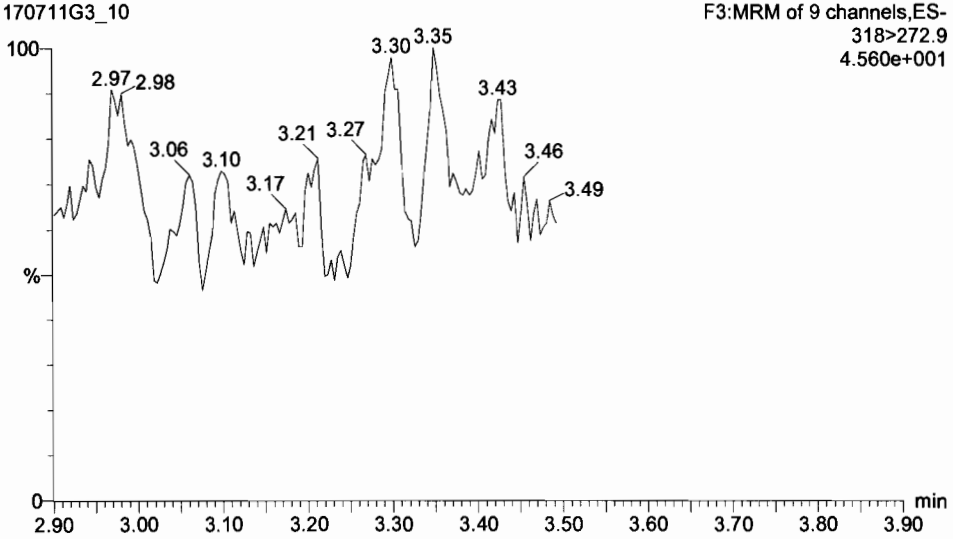
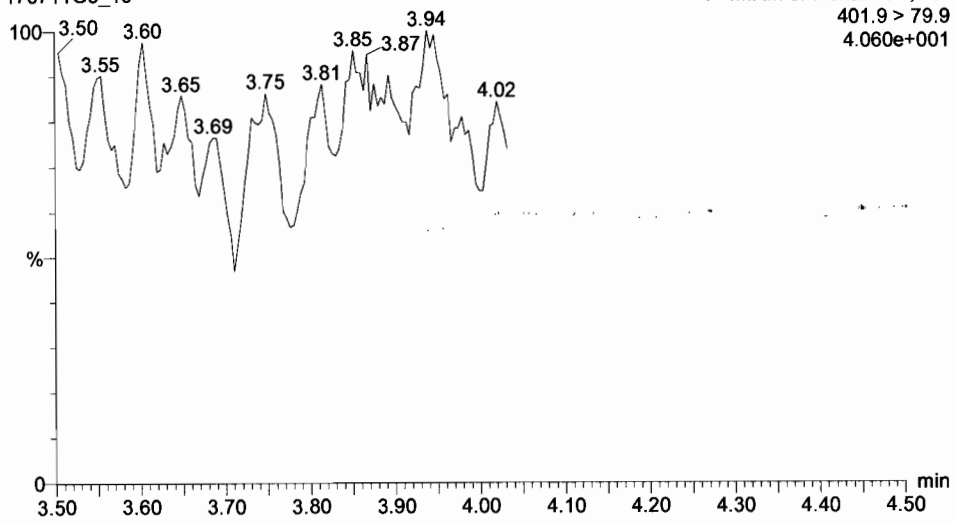
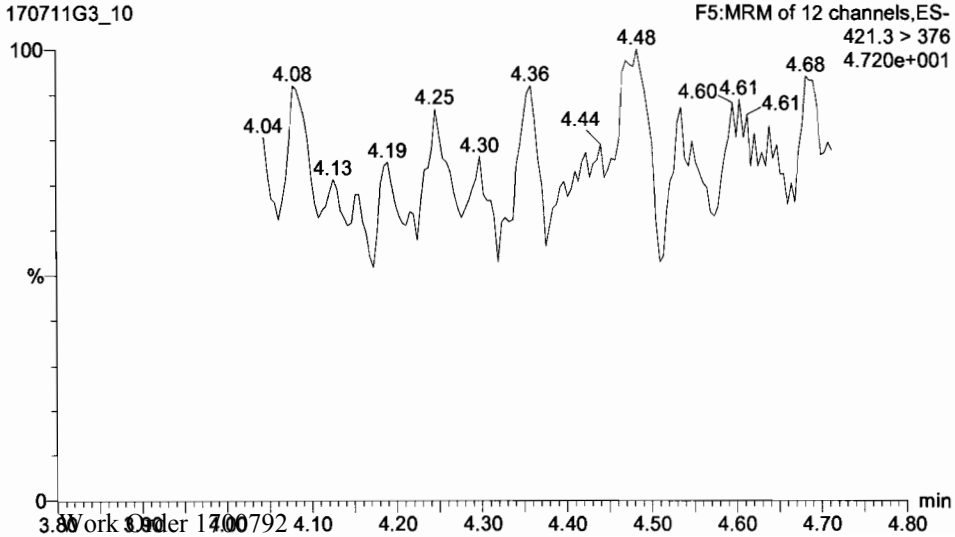
13C5-PFHxA



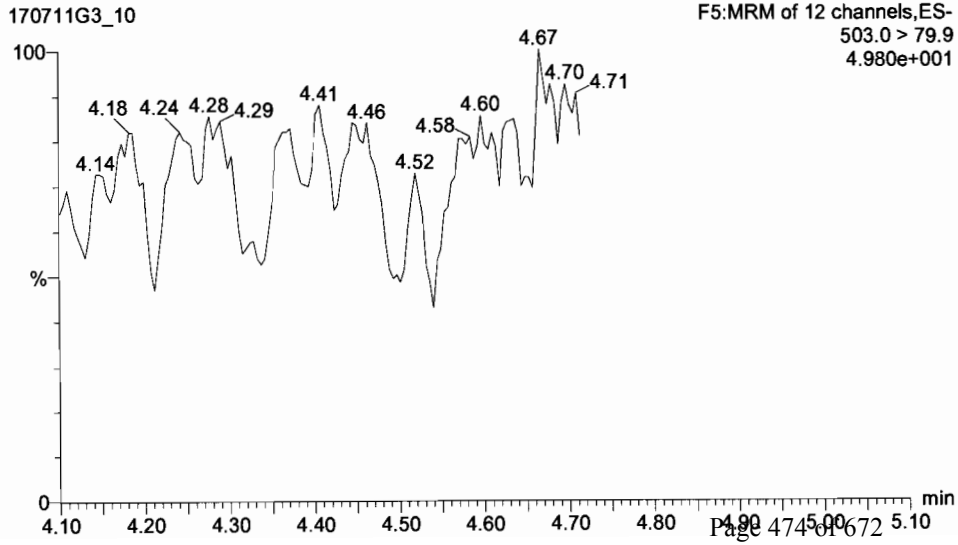
13C3-PFHxS



13C8-PFOA



13C4-PFOS



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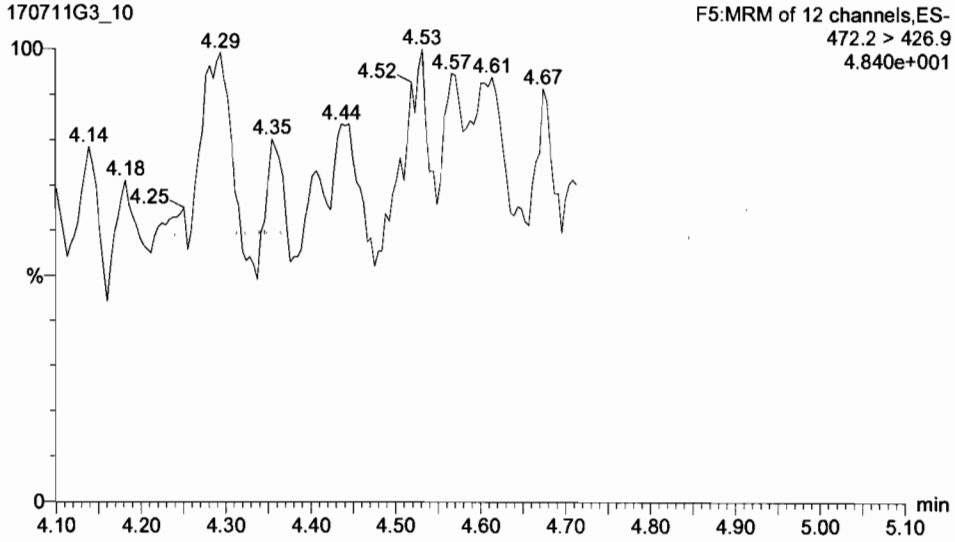
13C9-PFNA



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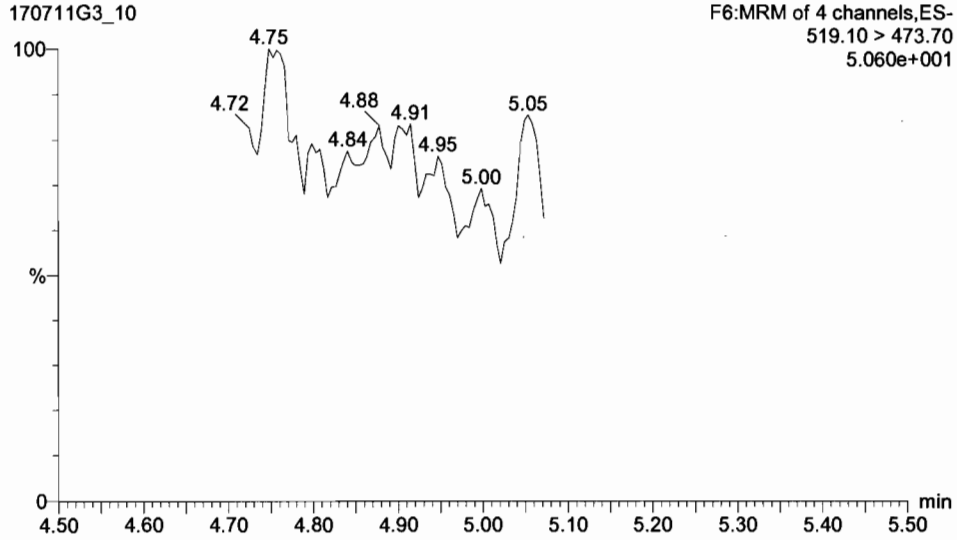

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170711G3\170711G3-11.qld

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Printed: Wednesday, July 12, 2017 09:29:38 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBA	212.9 > 168.9	9.80e3	1.74e4		1.000	1.73	8.58	85.8
2	2	PFPeA	263.0 > 218.8	5.39e3	6.14e3		1.000	2.66	9.20	92.0
3	3	PFBS	299.0 > 79.7	4.90e3	3.17e3		1.000	2.94	8.68	86.8
4	4	PFHxA	312.9 > 268.9	8.48e3	5.62e3		1.000	3.32	9.80	98.0
5	5	PFHpA	363 > 318.9	1.27e4	7.42e3		1.000	3.83	9.04	90.4
6	6	PFHxS	398.9 > 79.6	4.67e3	3.46e3		1.000	3.95	8.03	80.3
7	7	PFOA	413.0 > 368.7	1.10e4	1.60e4		1.000	4.24	9.84	98.4
8	8	PFNA	463.0 > 418.8	9.81e3	4.96e3		1.000	4.57	8.68	86.8
9	9	PFOS	499.0 >79.9	1.66e3	4.95e3		1.000	4.63	7.13	71.3
10	10	PFDA	512.7 > 219.0	1.45e3	1.01e4		1.000	4.86	8.52	85.2
11	11	13C3-PFBA	215.9 > 171.8	1.74e4	1.23e4	1.343	1.000	1.73	13.2	105.3
12	12	13C3-PFBS	302.0 > 98.8	3.17e3	1.46e4	0.260	1.000	2.94	10.5	84.0
13	13	13C3-PFPeA	266.0 > 221.8	6.14e3	1.46e4	0.470	1.000	2.66	11.2	89.8
14	14	13C2-PFHxA	315.0 > 269.8	5.62e3	1.46e4	0.427	1.000	3.32	11.3	90.4
15	15	13C4-PFHpA	367.2 > 321.8	7.42e3	1.46e4	0.538	1.000	3.83	11.8	94.7
16	16	18O2-PFHxS	403 > 102.6	3.46e3	7.03e3	0.465	1.000	3.95	13.2	106.0
17	17	13C2-PFOA	414.9 > 369.7	1.60e4	4.36e3	3.713	1.000	4.24	12.3	98.6
18	18	13C5-PFNA	468.2 > 422.9	4.96e3	5.46e3	0.929	1.000	4.57	12.2	97.8
19	19	13C2- PFDA	514.8 > 469.7	1.01e4	4.43e3	2.043	1.000	4.86	14.0	111.8
20	20	13C8-PFOS	507.0 > 79.9	4.95e3	4.94e3	1.026	1.000	4.63	12.2	97.7
21	21	13C4-PFBA	216.9 > 171.8	1.23e4	1.23e4	1.000	1.000	1.73	12.5	100.0
22	22	13C5-PFHxA	318>272.9	1.46e4	1.46e4	1.000	1.000	3.32	12.5	100.0
23	23	13C3-PFHxS	401.9 > 79.9	7.03e3	7.03e3	1.000	1.000	3.95	12.5	100.0
24	24	13C8-PFOA	421.3 > 376	4.36e3	4.36e3	1.000	1.000	4.23	12.5	100.0
25	25	13C9-PFNA	472.2 > 426.9	5.46e3	5.46e3	1.000	1.000	4.57	12.5	100.0
26	26	13C4-PFOS	503.0 > 79.9	4.94e3	4.94e3	1.000	1.000	4.64	12.5	100.0
27	27	13C6-PFDA	519.10 > 47...	4.43e3	4.43e3	1.000	1.000	4.86	12.5	100.0

70-130

7/12/17

Vista Analytical Laboratory Q1

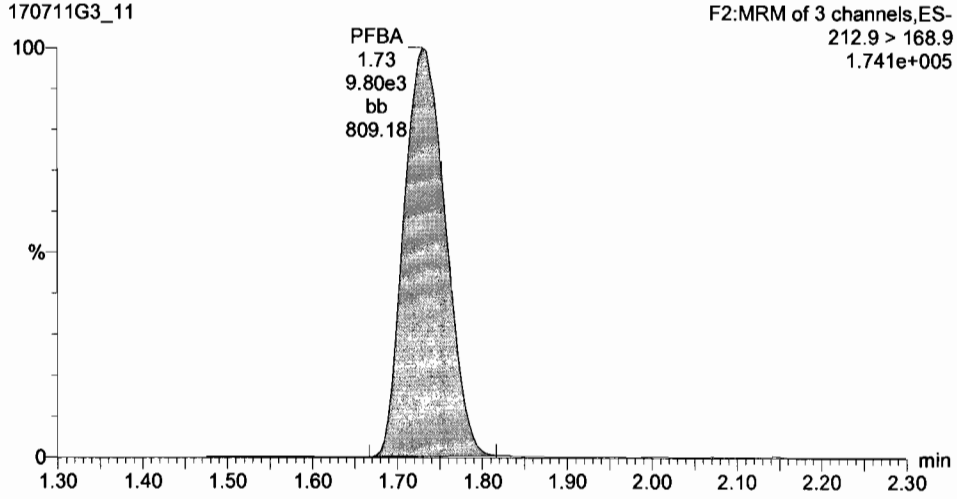
Dataset: U:\G1.PRO\Results\2017\170711G3\170711G3-11.qld

Last Altered: Wednesday, July 12, 2017 09:26:37 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:29:00 Pacific Daylight Time

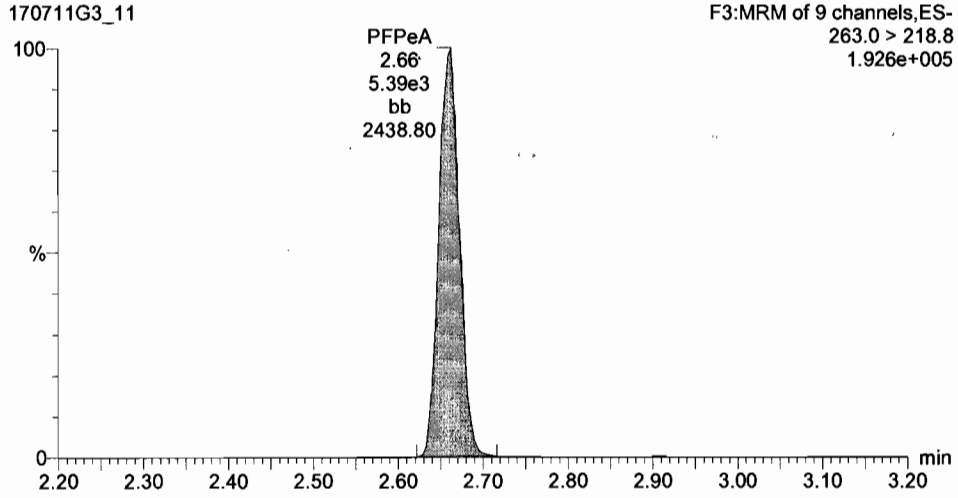
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

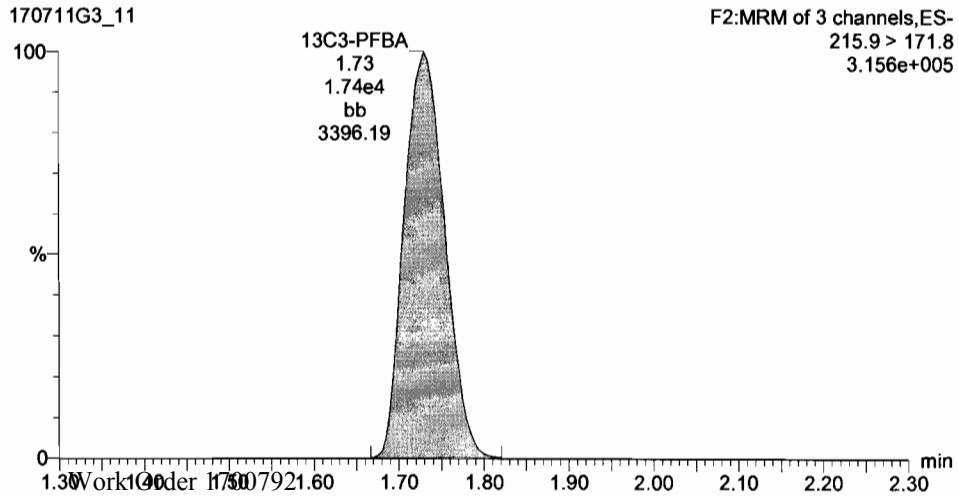
PFBA



PFPeA



13C3-PFBA



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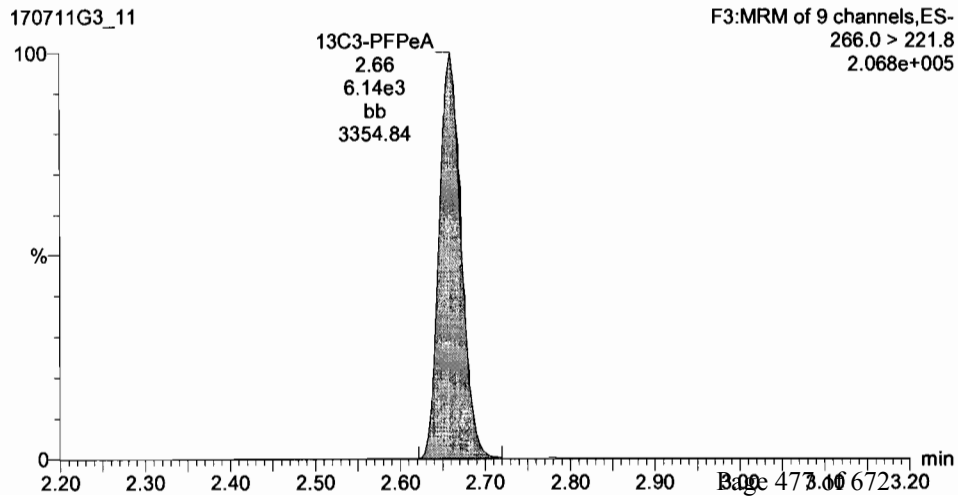

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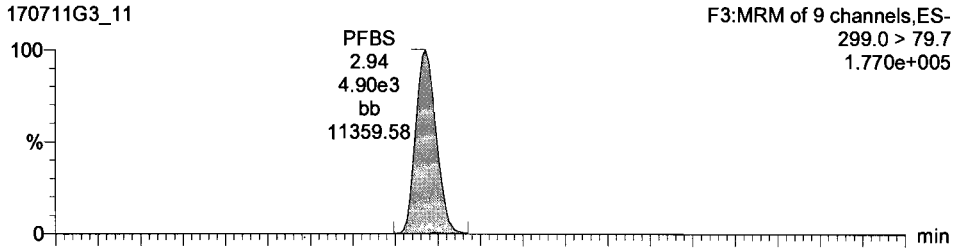
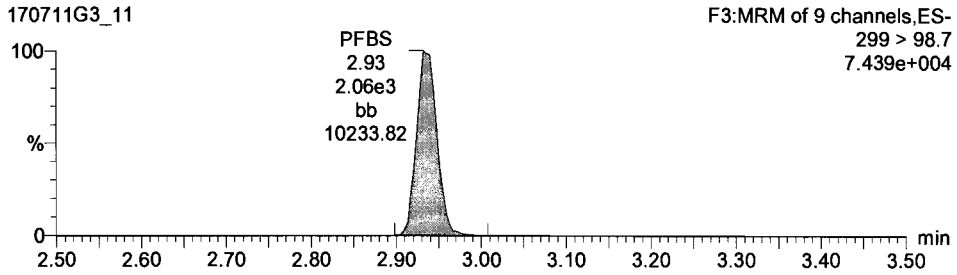
Last Altered: Wednesday, July 12, 2017 09:26:37 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:29:00 Pacific Daylight Time

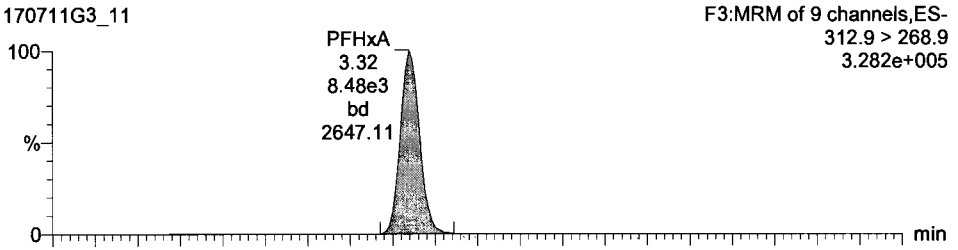
ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

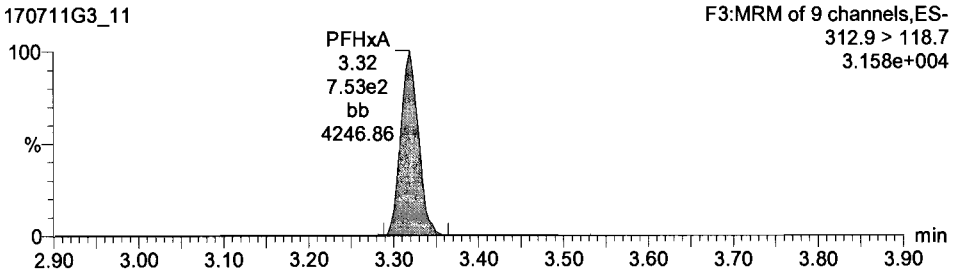
Total PFBS





PFHxA





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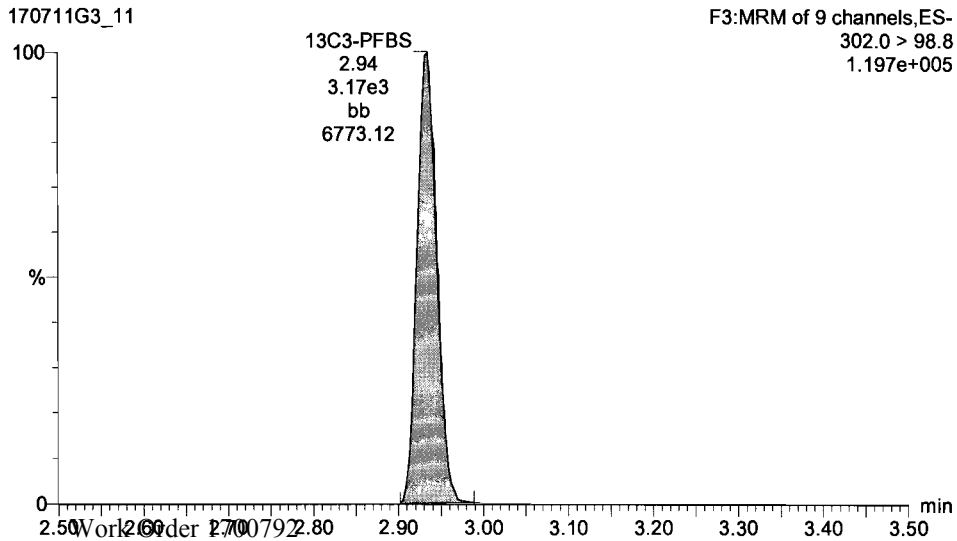

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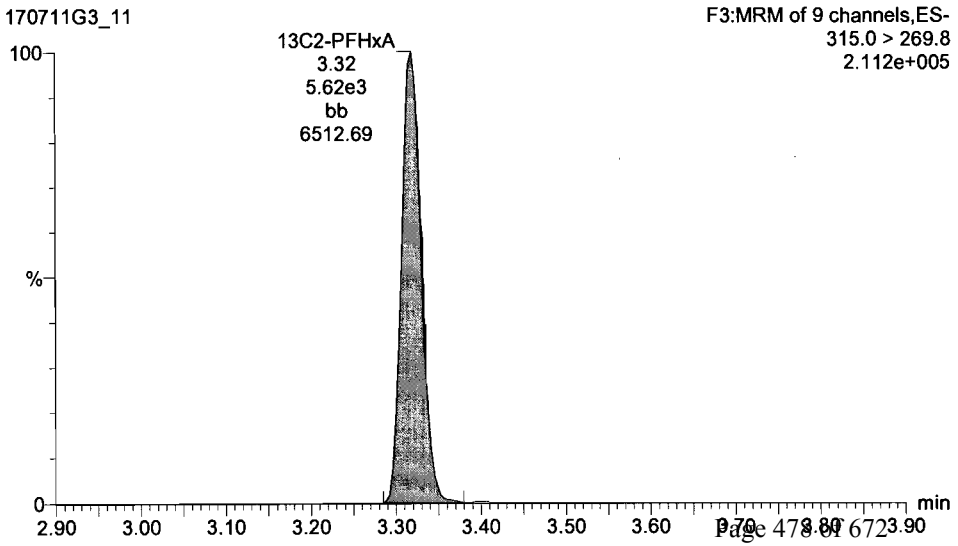

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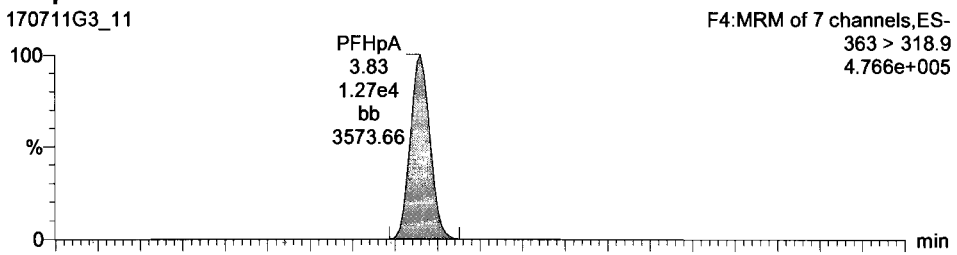
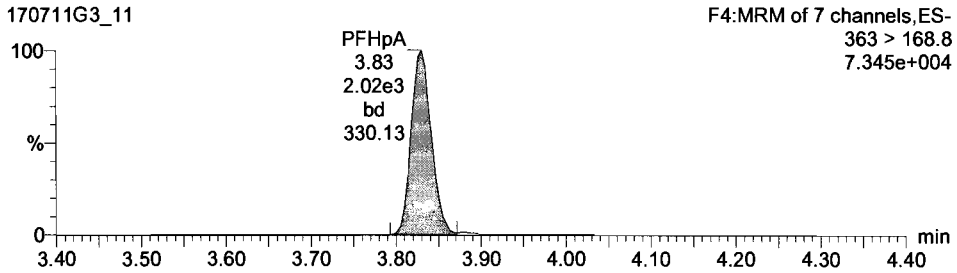
Last Altered: Wednesday, July 12, 2017 09:26:37 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:29:00 Pacific Daylight Time

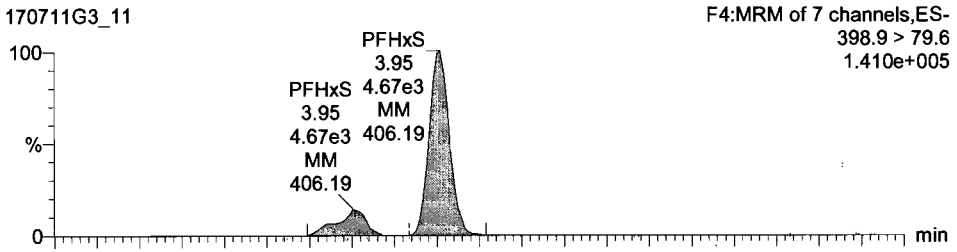
ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

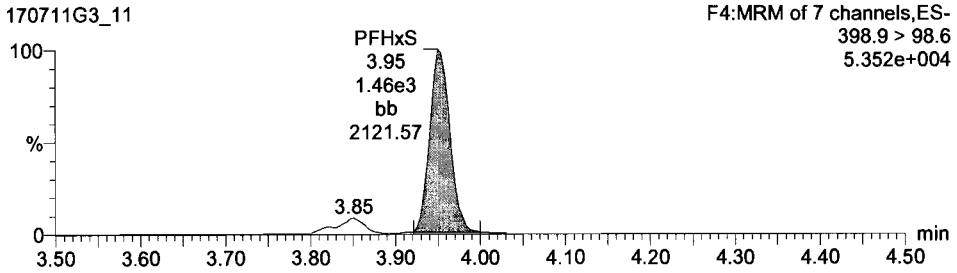
PFHpA





Total PFHxS





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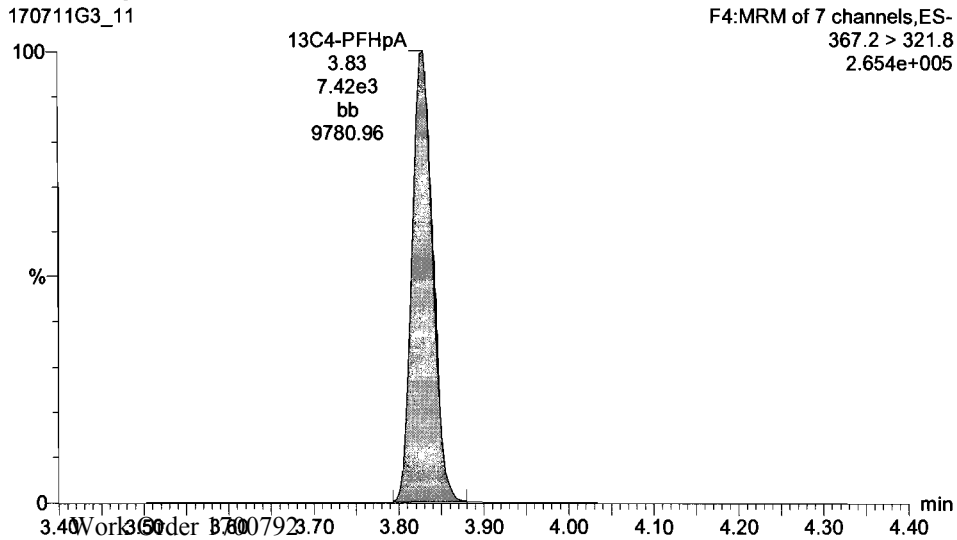
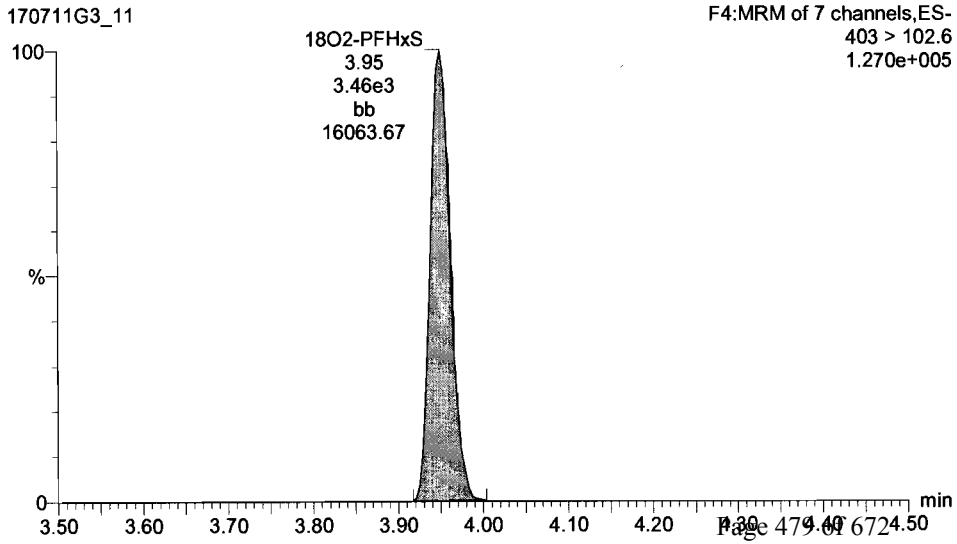


18O2-PFHxS



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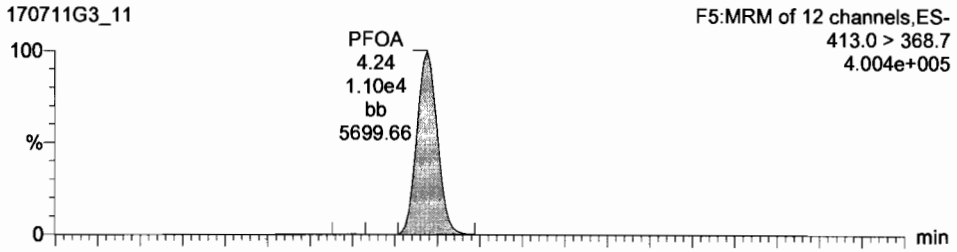
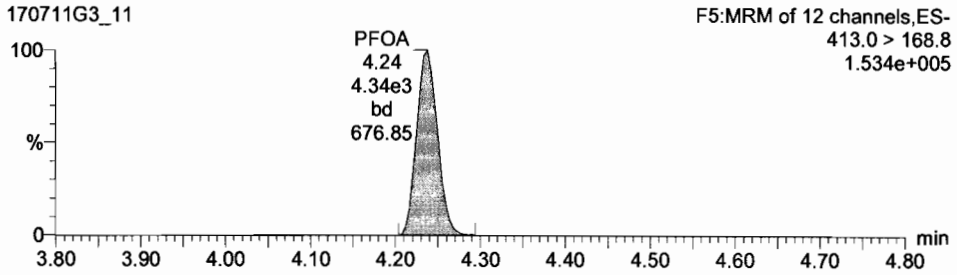
Last Altered: Wednesday, July 12, 2017 09:26:37 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:29:00 Pacific Daylight Time

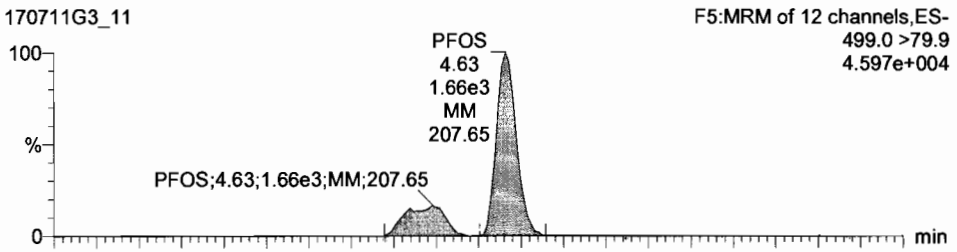
ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

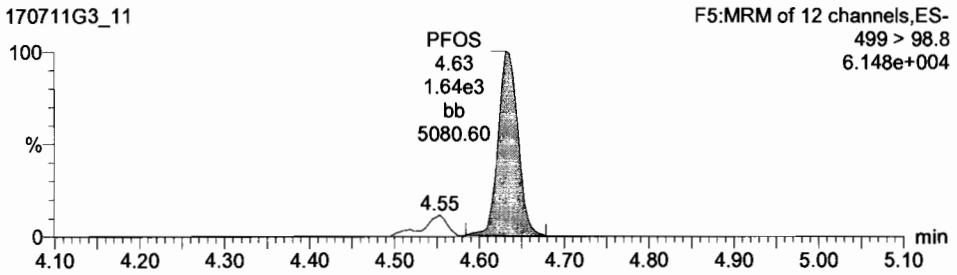
Total PFOA





Total PFOS





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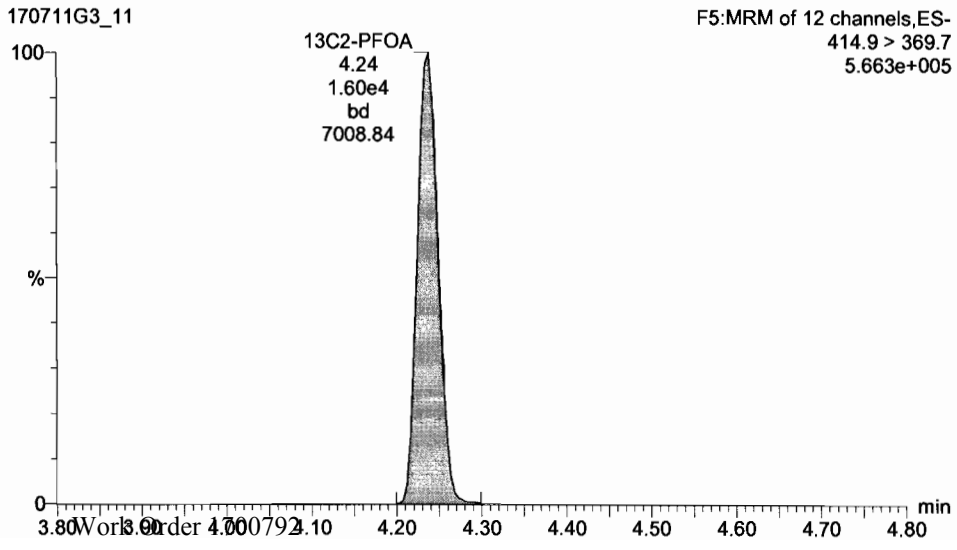
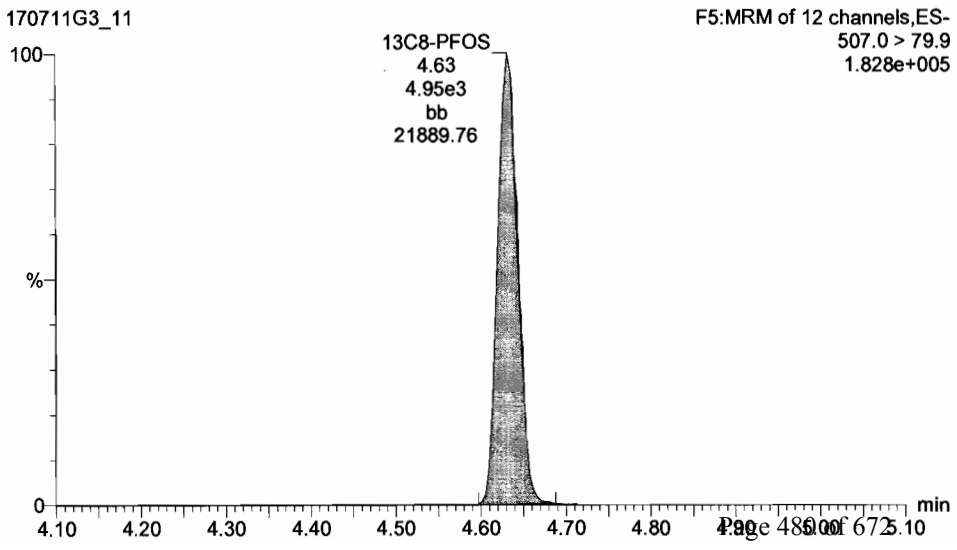


13C8-PFOS



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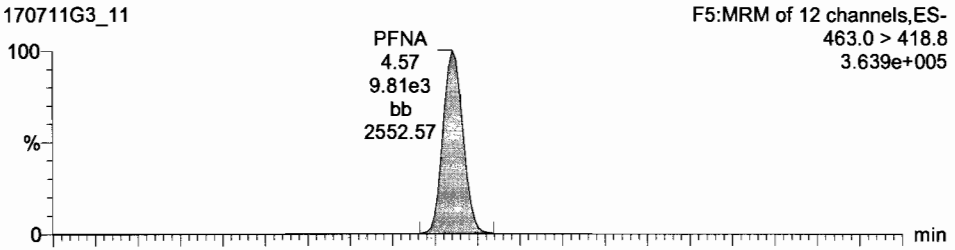
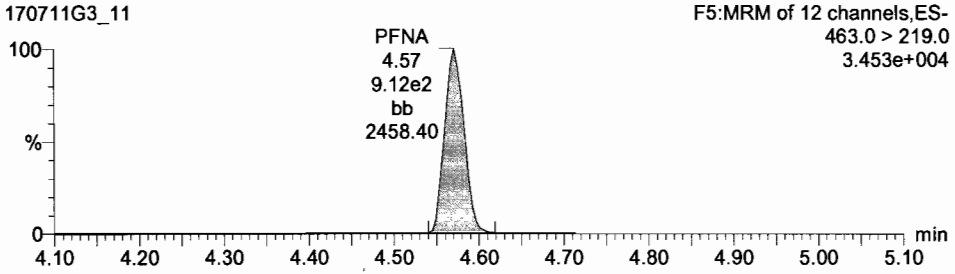
Last Altered: Wednesday, July 12, 2017 09:26:37 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:29:00 Pacific Daylight Time

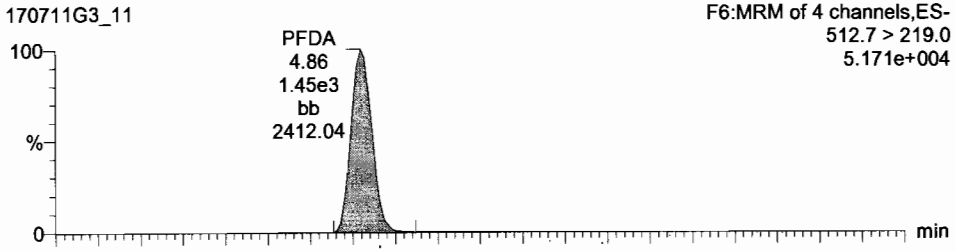
ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

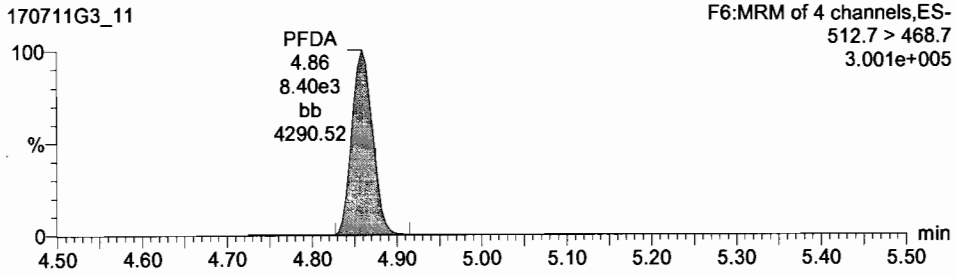
PFNA





PFDA





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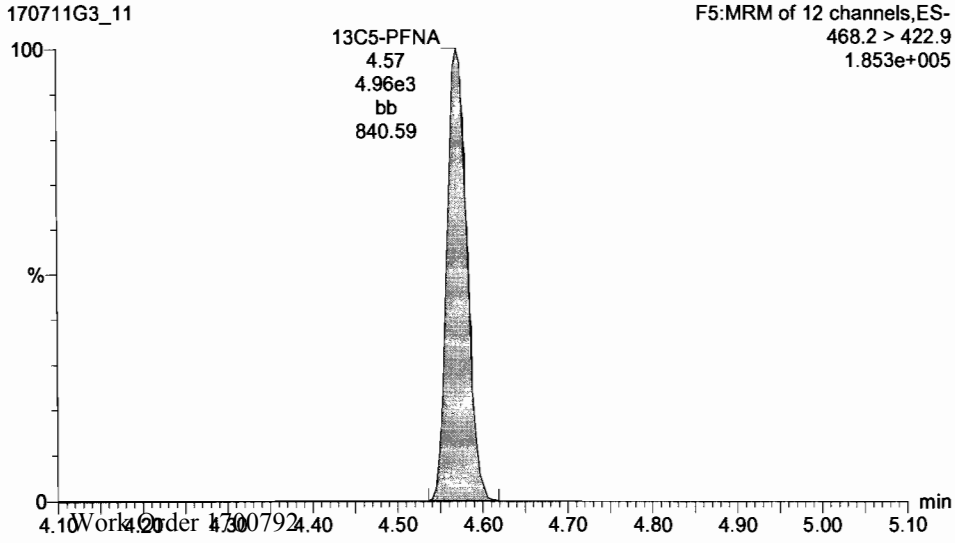

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ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

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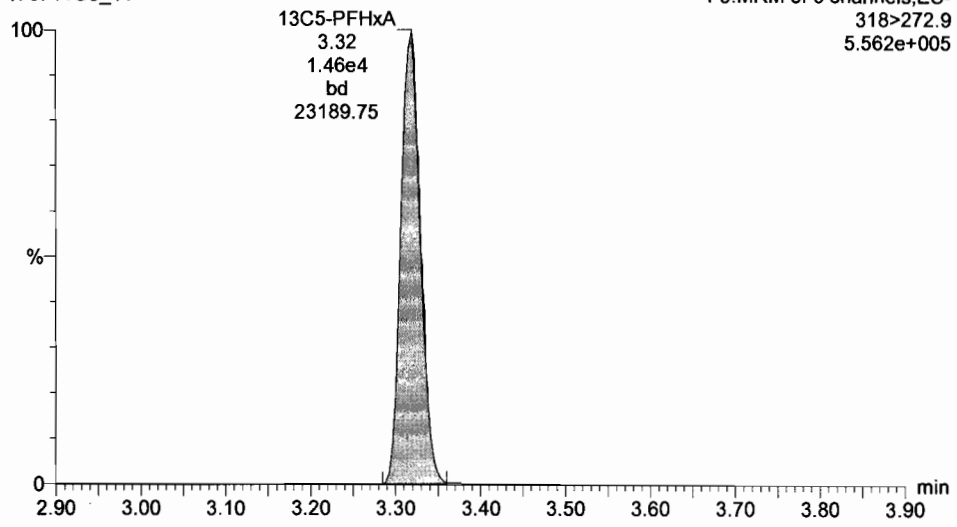

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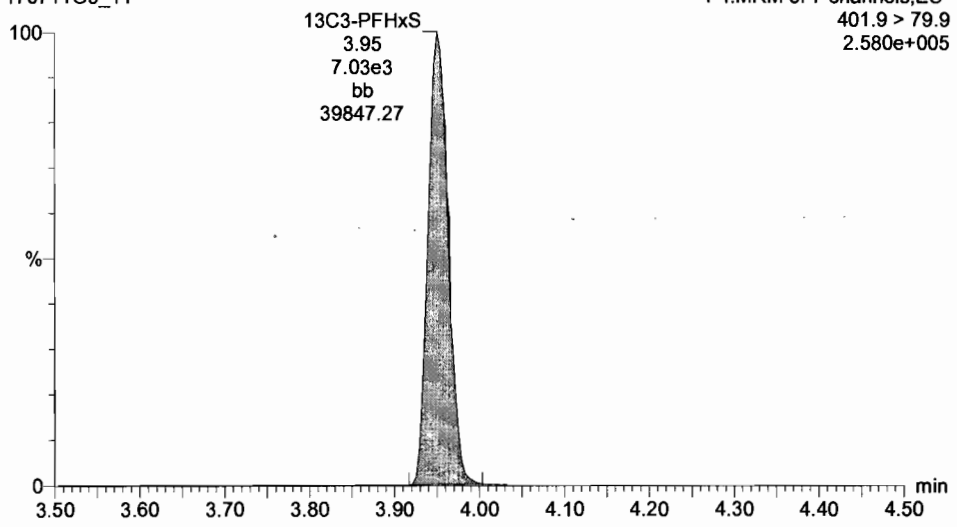

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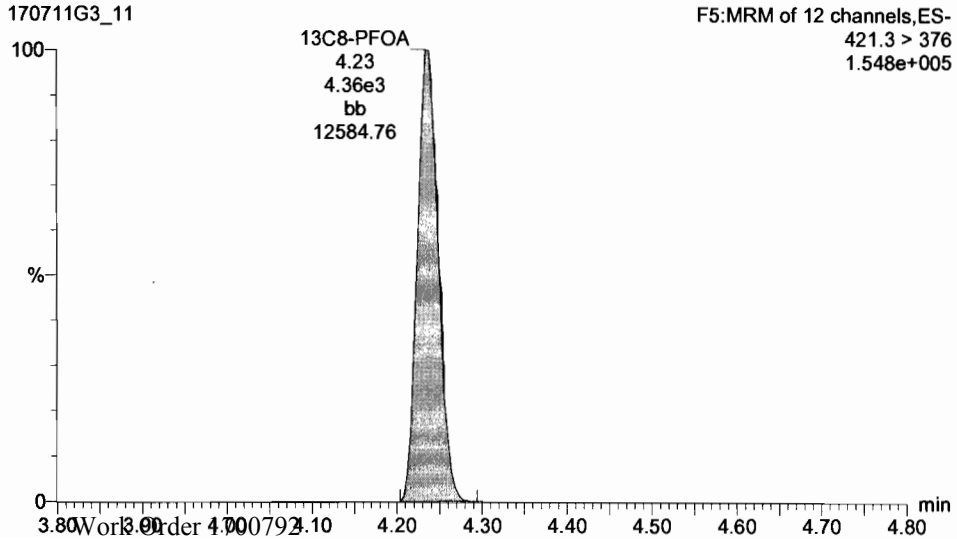

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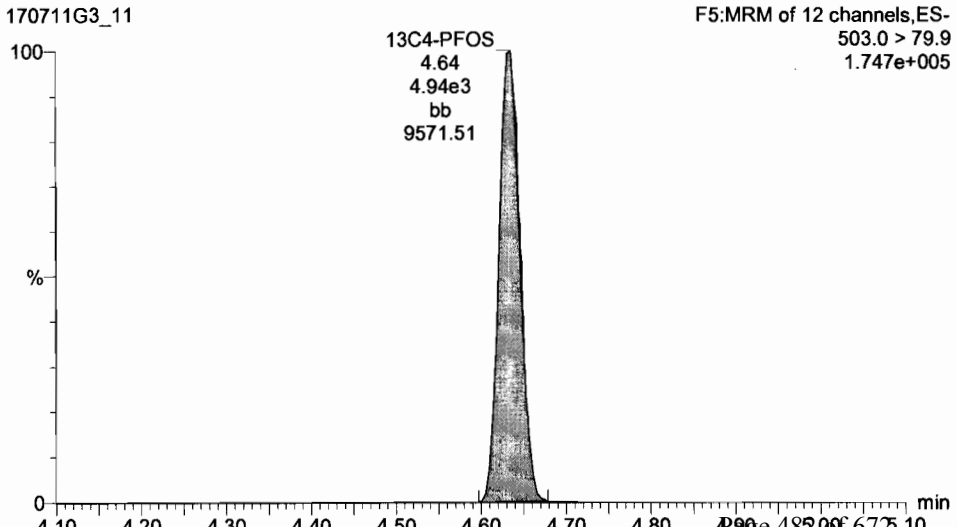

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ID: SS170711G3-1 PFC SSS 17G1119, Description: PFC SSS 17G1119, Name: 170711G3_11, Date: 11-Jul-2017, Time: 19:22:36, Instrument: , Lab: , User:

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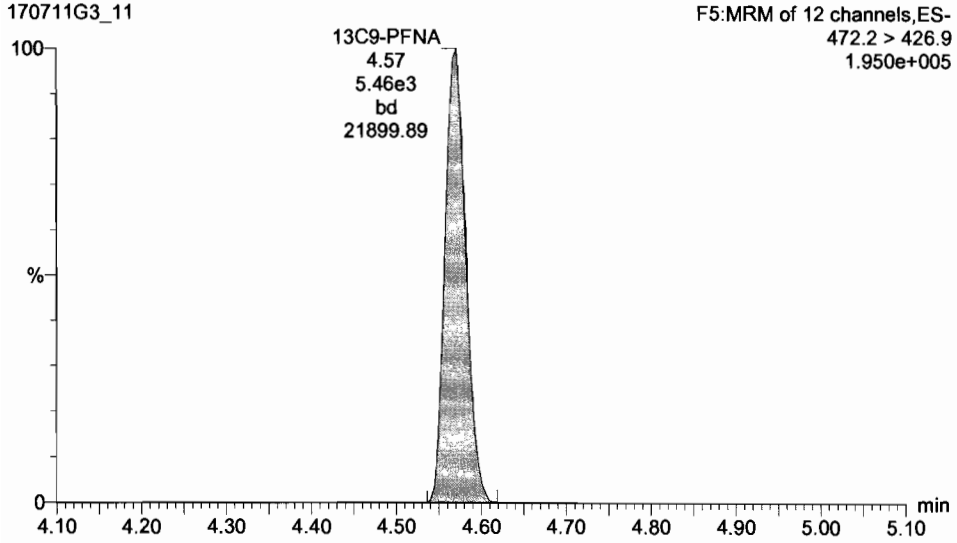

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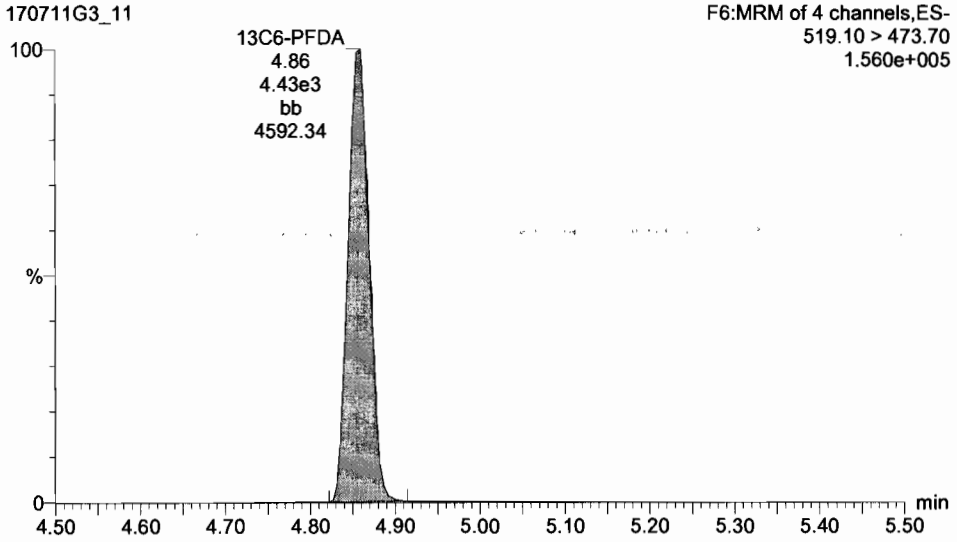


Analytical Standard Record

Vista Analytical Laboratory

17E2617

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1432	13C2-PFHxDA	14-Sep-16	** Vendor **	07-Jan-21	14-Sep-16 14:19 by TLD	0.2
16I1433	13C2-PFHxA	14-Sep-16	** Vendor **	08-Apr-21	14-Sep-16 14:22 by TLD	0.2
17B2809	d3-N-Me-FOSAA	28-Feb-17	** Vendor **	28-Feb-18	28-Feb-17 13:24 by EMS	0.5
17B2811	d5-N-EtFOSAA	28-Feb-17	** Vendor **	22-Nov-21	28-Feb-17 13:33 by EMS	0.5
17D0502	13C3-PFPeA	05-Apr-17	Jamie C. Stockman	12-Feb-21	05-Apr-17 11:20 by JCS	0.5
17D0503	13C2-PFOA	05-Apr-17	Jamie C. Stockman	12-Feb-21	05-Apr-17 11:21 by JCS	0.5
17D0504	13C2-PFDA	05-Apr-17	Jamie C. Stockman	28-Sep-21	05-Apr-17 11:21 by JCS	0.5
17D0505	13C8-FOSA-I	05-Apr-17	Jamie C. Stockman	22-Dec-20	05-Apr-17 11:22 by JCS	0.5
17E2414	13C3-PFBA	24-May-17	** Vendor **	27-May-21	24-May-17 11:20 by INJ	0.5
17E2417	13C5-PFNA	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:22 by INJ	0.5
17E2418	13C2-PFTeDA	24-May-17	** Vendor **	01-Mar-22	24-May-17 11:22 by INJ	0.5
17E2419	13C2-PFUdA	24-May-17	** Vendor **	22-Nov-21	24-May-17 11:23 by INJ	0.5
17E2420	13C4-PFHpA	24-May-17	** Vendor **	27-May-21	24-May-17 11:23 by INJ	0.5
17E2421	13C2-PFDoA	24-May-17	** Vendor **	08-Apr-21	24-May-17 11:24 by INJ	0.5
17E2612	18O2-PFHxS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:53 by INJ	0.624
17E2613	13C2-8:2 FTS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:55 by INJ	0.624
17E2614	13C2-6:2 FTS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:57 by INJ	0.624
17E2615	13C8-PFOS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:59 by INJ	0.624
17E2616	13C3-PFBS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 11:01 by INJ	0.624

Description:	PFC - IS	Expires:	19-Dec-17
Standard Type:	Reagent	Prepared:	26-May-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 13:09 by INJ

Analyte	CAS Number	Concentration	Units
13C3-PFBS		1.25	ug/mL
13C2-8:2 FTS		1.25	ug/mL
13C2-PFDA		1.25	ug/mL
13C2-PFDoA		1.25	ug/mL
13C2-PFHxA		0.5	ug/mL
13C2-PFHxDA		0.5	ug/mL
13C2-PFOA		1.25	ug/mL
13C2-PFTeDA		1.25	ug/mL
13C2-6:2 FTS		1.25	ug/mL
13C3-PFBA		1.25	ug/mL
d5-EtFOSAA		1.25	ug/mL
13C3-PFPeA		1.25	ug/mL
13C4-PFHpA		1.25	ug/mL
13C5-PFNA		1.25	ug/mL
13C8-PFOS		1.25	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17E2617

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1432	13C2-PFHxDA	14-Sep-16	** Vendor **	07-Jan-21	14-Sep-16 14:19 by TLD	0.2
16I1433	13C2-PFHxA	14-Sep-16	** Vendor **	08-Apr-21	14-Sep-16 14:22 by TLD	0.2
17B2809	d3-N-Me-FOSAA	28-Feb-17	** Vendor **	28-Feb-18	28-Feb-17 13:24 by EMS	0.5
17B2811	d5-N-EtFOSAA	28-Feb-17	** Vendor **	22-Nov-21	28-Feb-17 13:33 by EMS	0.5
17D0502	13C3-PFPeA	05-Apr-17	Jamie C. Stockman	12-Feb-21	05-Apr-17 11:20 by JCS	0.5
17D0503	13C2-PFOA	05-Apr-17	Jamie C. Stockman	12-Feb-21	05-Apr-17 11:21 by JCS	0.5
17D0504	13C2-PFDA	05-Apr-17	Jamie C. Stockman	28-Sep-21	05-Apr-17 11:21 by JCS	0.5
17D0505	13C8-FOSA-I	05-Apr-17	Jamie C. Stockman	22-Dec-20	05-Apr-17 11:22 by JCS	0.5
17E2414	13C3-PFBA	24-May-17	** Vendor **	27-May-21	24-May-17 11:20 by INJ	0.5
17E2417	13C5-PFNA	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:22 by INJ	0.5
17E2418	13C2-PFTeDA	24-May-17	** Vendor **	01-Mar-22	24-May-17 11:22 by INJ	0.5
17E2419	13C2-PFUdA	24-May-17	** Vendor **	22-Nov-21	24-May-17 11:23 by INJ	0.5
17E2420	13C4-PFHpA	24-May-17	** Vendor **	27-May-21	24-May-17 11:23 by INJ	0.5
17E2421	13C2-PFDoA	24-May-17	** Vendor **	08-Apr-21	24-May-17 11:24 by INJ	0.5
17E2612	18O2-PFHxS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:53 by INJ	0.624
17E2613	13C2-8:2 FTS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:55 by INJ	0.624
17E2614	13C2-6:2 FTS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:57 by INJ	0.624
17E2615	13C8-PFOS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 10:59 by INJ	0.624
17E2616	13C3-PFBS dil.	26-May-17	Isaac N. Johnson	26-May-18	26-May-17 11:01 by INJ	0.624

Description:	PFC - IS	Expires:	19-Dec-17
Standard Type:	Reagent	Prepared:	26-May-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 13:09 by INJ

Analyte	CAS Number	Concentration	Units
13C8-PFOSA		1.25	ug/mL
18O2-PFHxS		1.25	ug/mL
d3-MeFOSAA		1.25	ug/mL
13C2-PFUnA		1.25	ug/mL

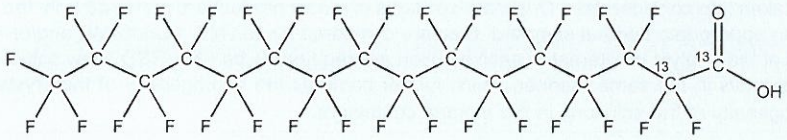
16I1432

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

13C2-PFHxDA

PRODUCT CODE:	M2PFHxDA	**LOT NUMBER:**	M2PFHxDA1112
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexadecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{14}HF_{31}O_2$	**MOLECULAR WEIGHT:**	816.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	01/07/2016		
EXPIRY DATE: (mm/dd/yyyy)	01/07/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of native perfluoro-n-hexadecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ B.G. Chittim **Date:** 01/11/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

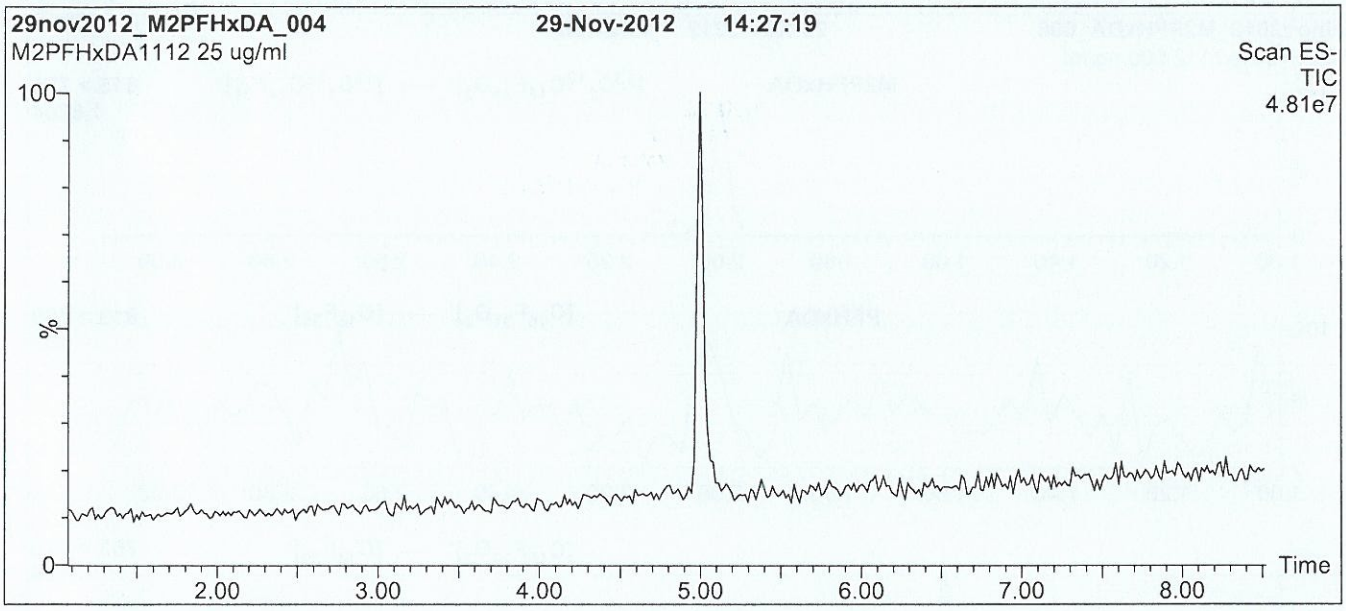
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

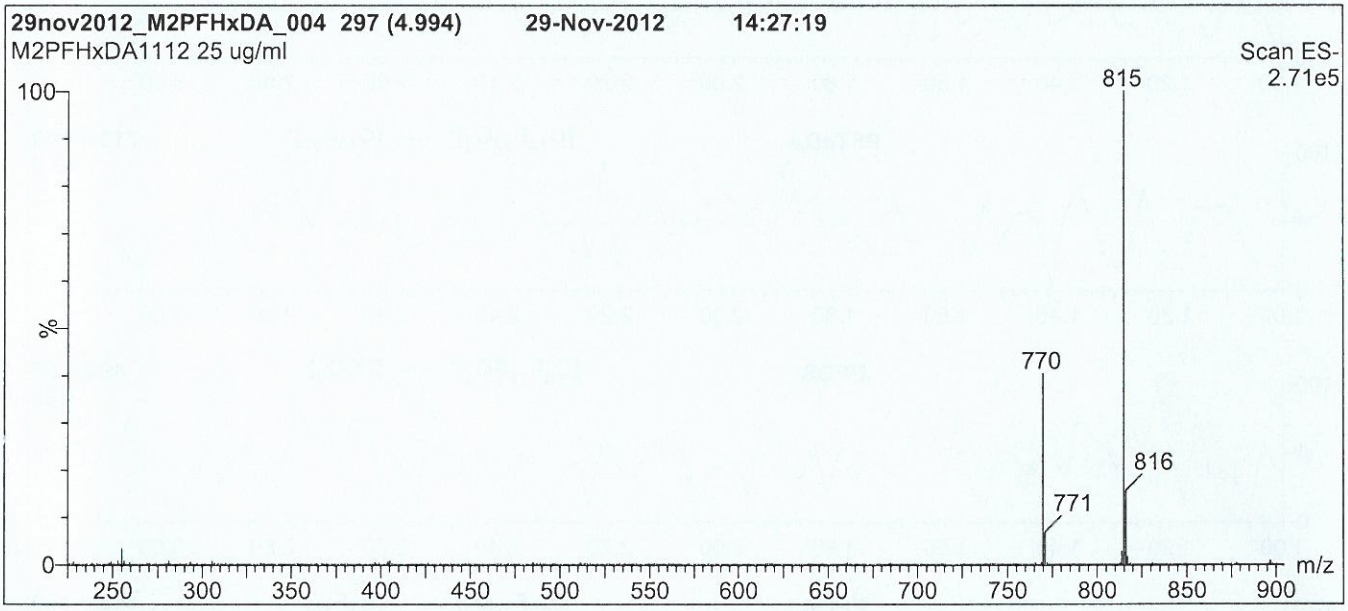
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M2PFHxDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 100% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

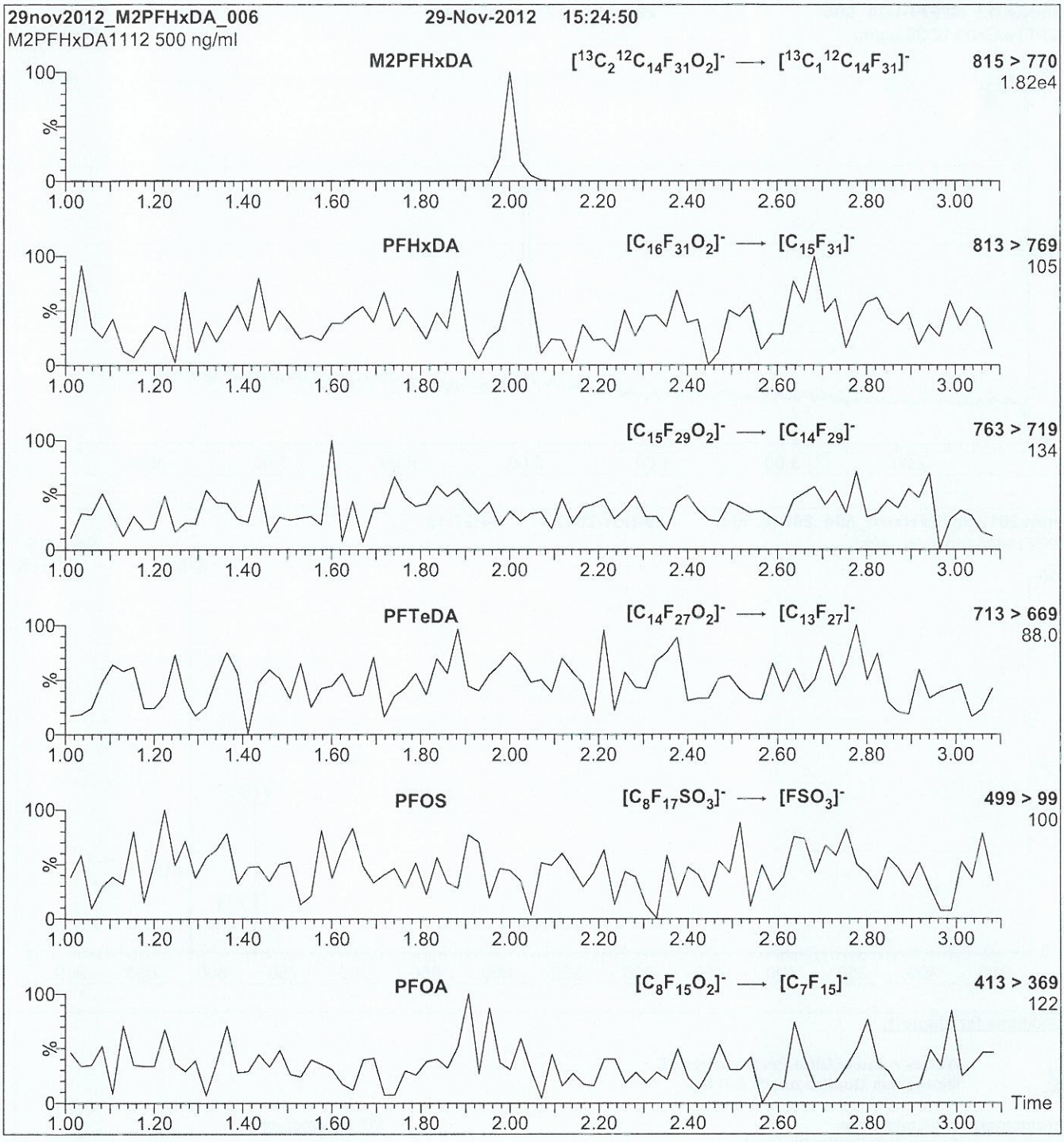
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M2PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml M2PFHxDA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 15

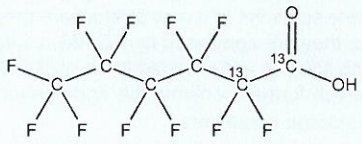
16I1433

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

13C2-PFHxA

PRODUCT CODE:	MPFHxA	**LOT NUMBER:**	MPFHxA0416
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	04/08/2016		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-hexanoic acid and ~ 0.3% of perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 04/29/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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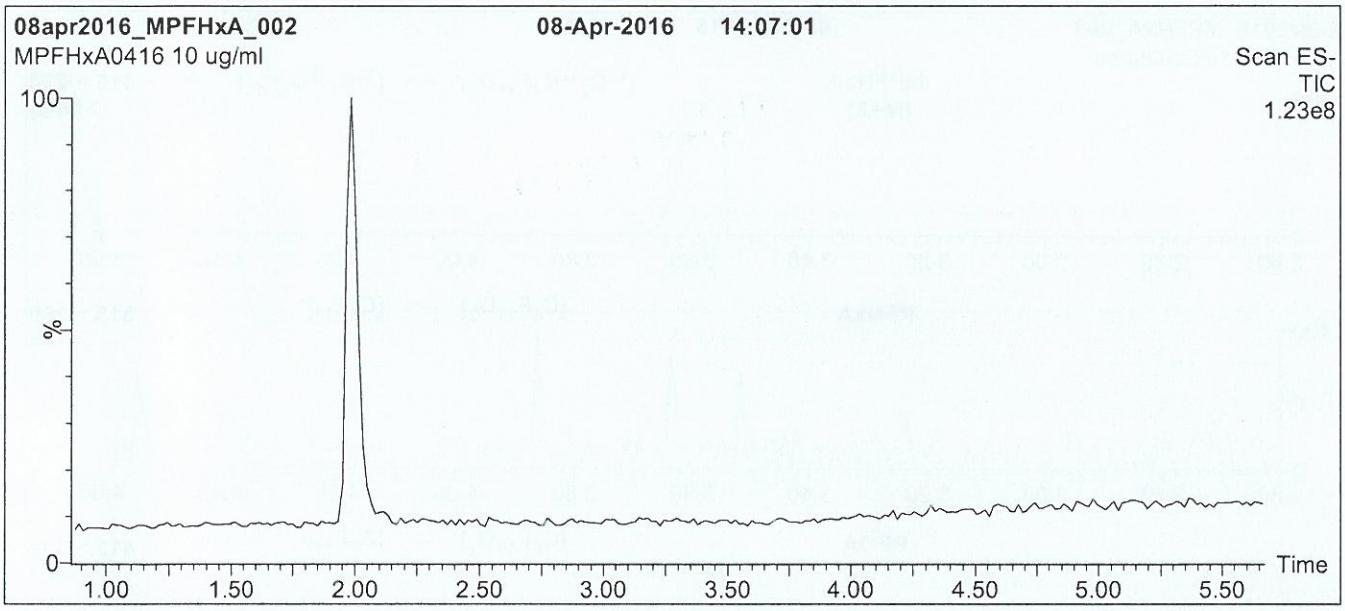
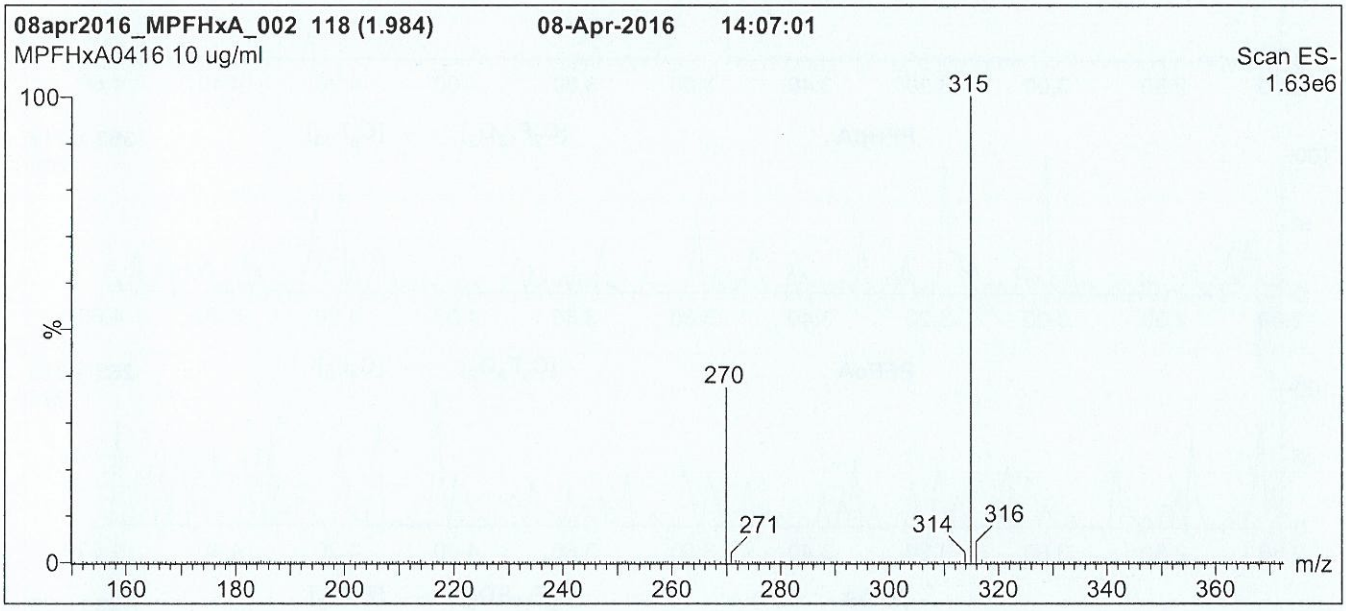
CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions over 0.5 min.
Time: 10 min

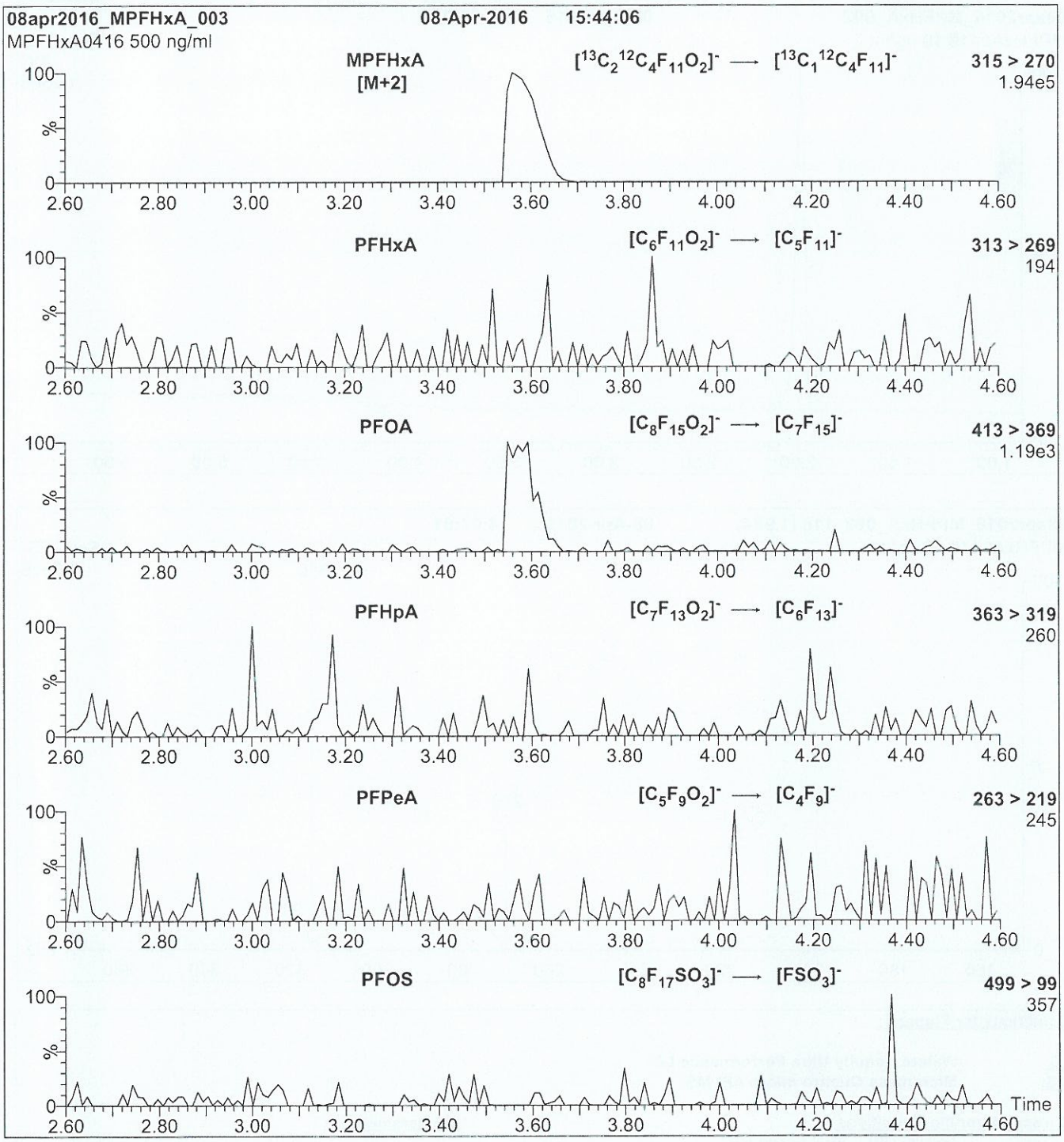
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

17B 2809

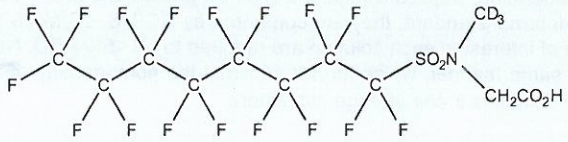
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA1116

COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{11}D_3H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	574.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_3$
LAST TESTED: (mm/dd/yyyy)	11/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/07/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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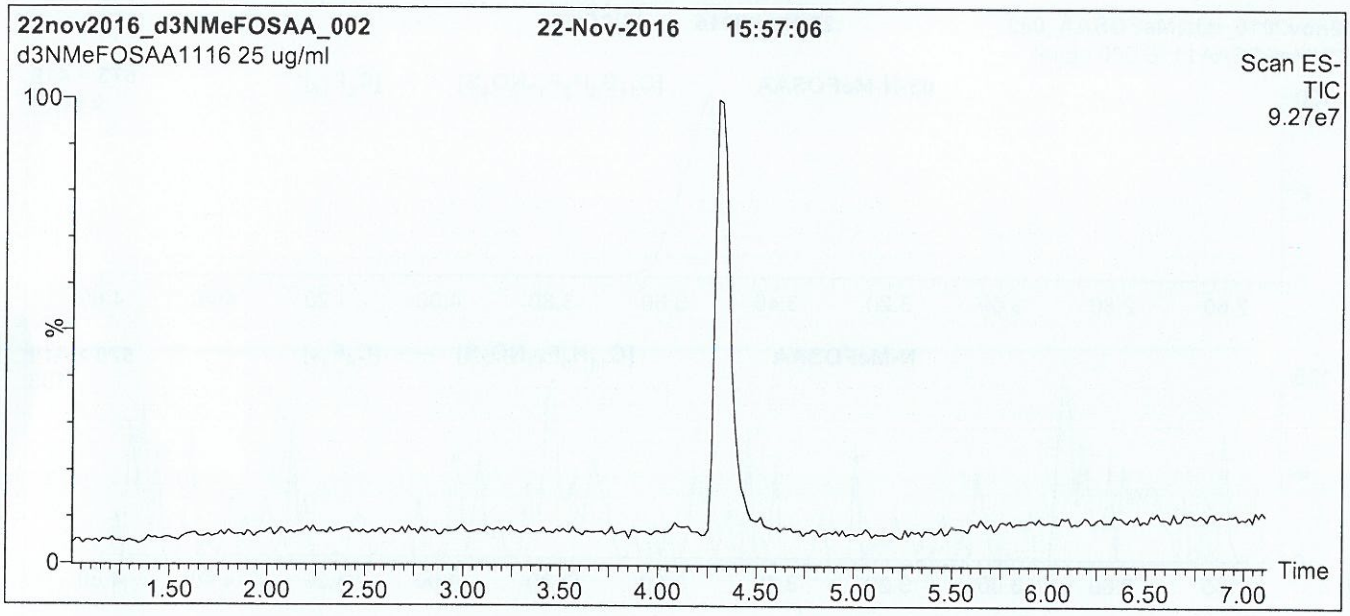
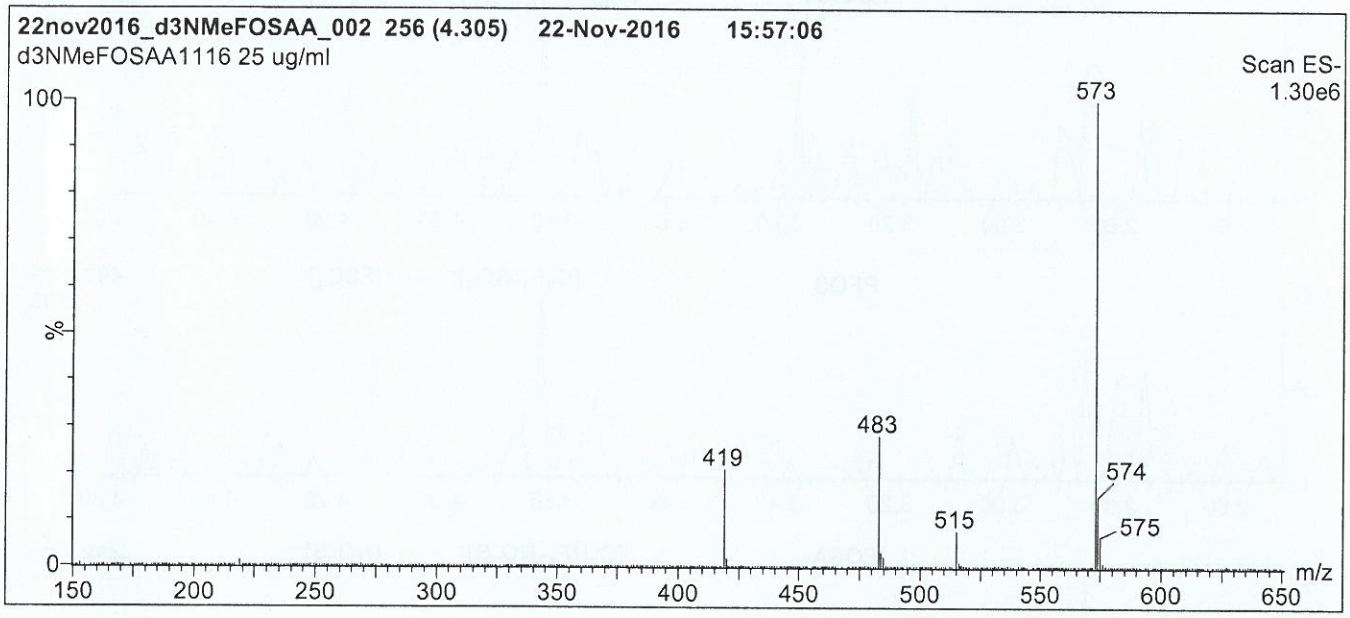
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **d3-N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

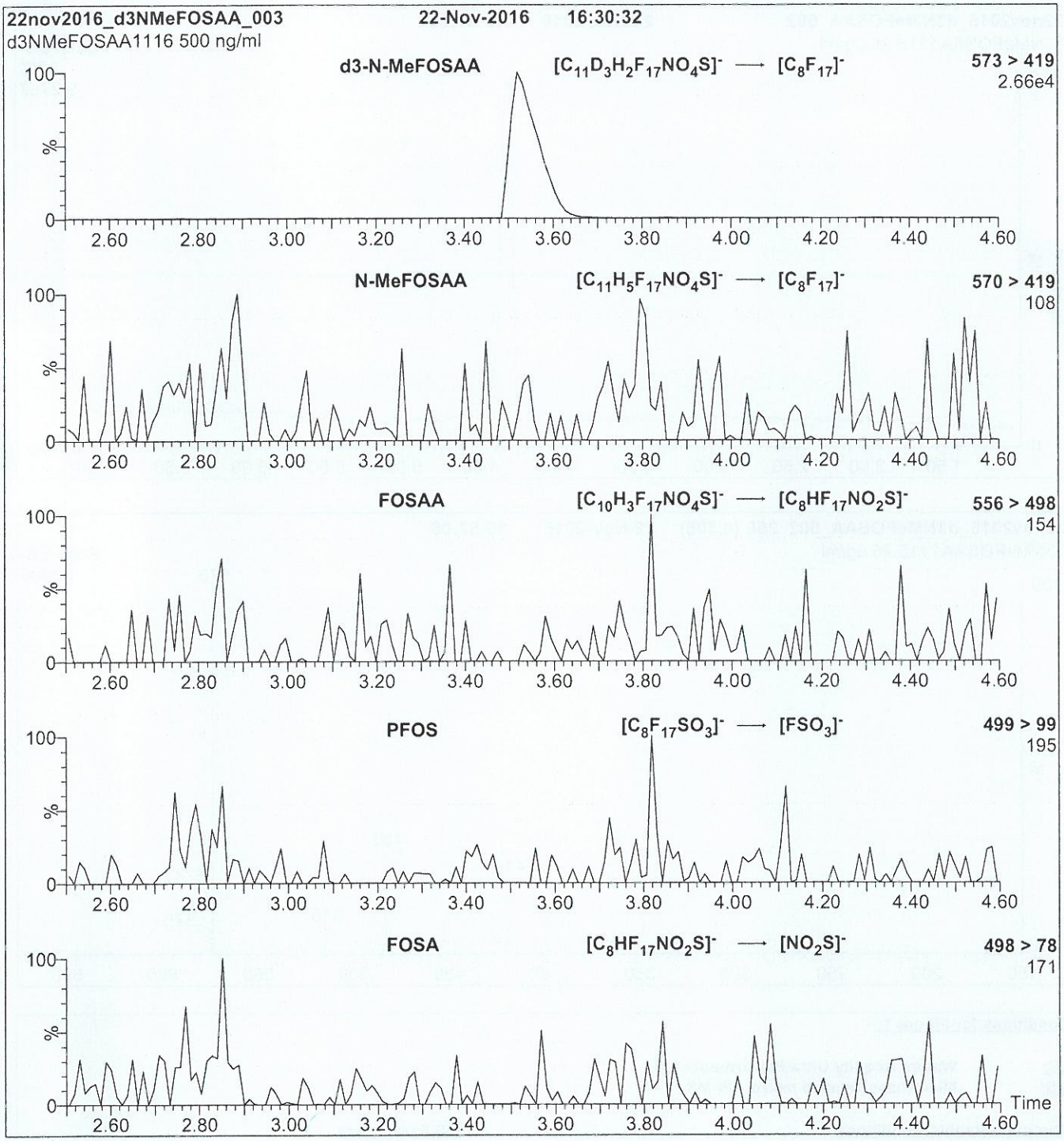
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **d3-N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml d3-N-MeFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 20

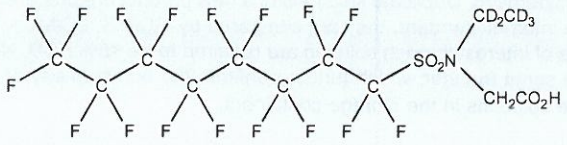
FTB2911

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA
LOT NUMBER: d5NEtFOSAA1116
COMPOUND: N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$C_{12}D_5H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	590.26
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_5$
LAST TESTED: (mm/dd/yyyy)	11/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/01/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17025 & ISO 17034 REFERENCE MATERIAL PRODUCER

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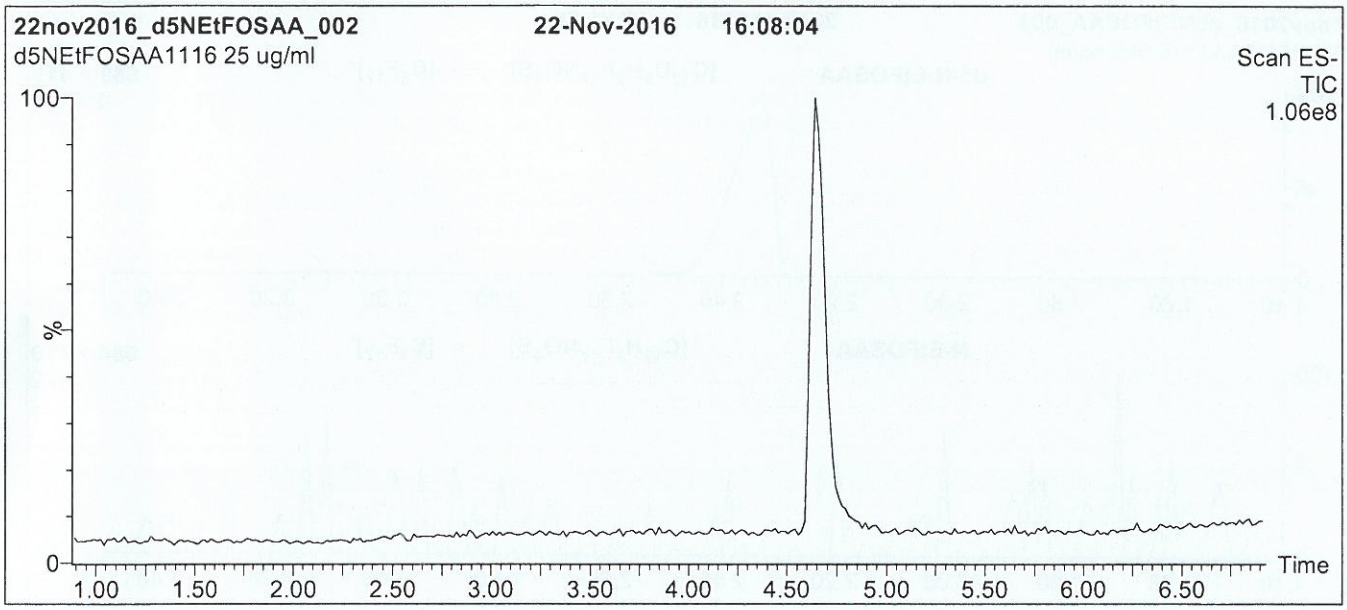
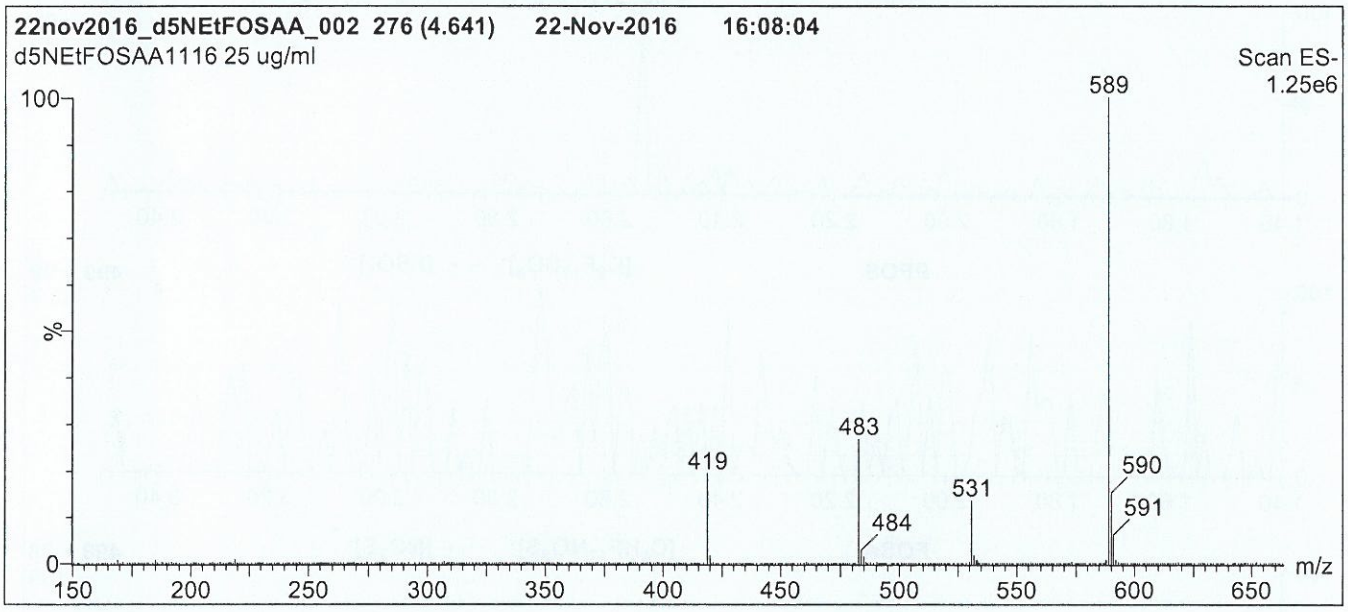
Figure 1: **d5-N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

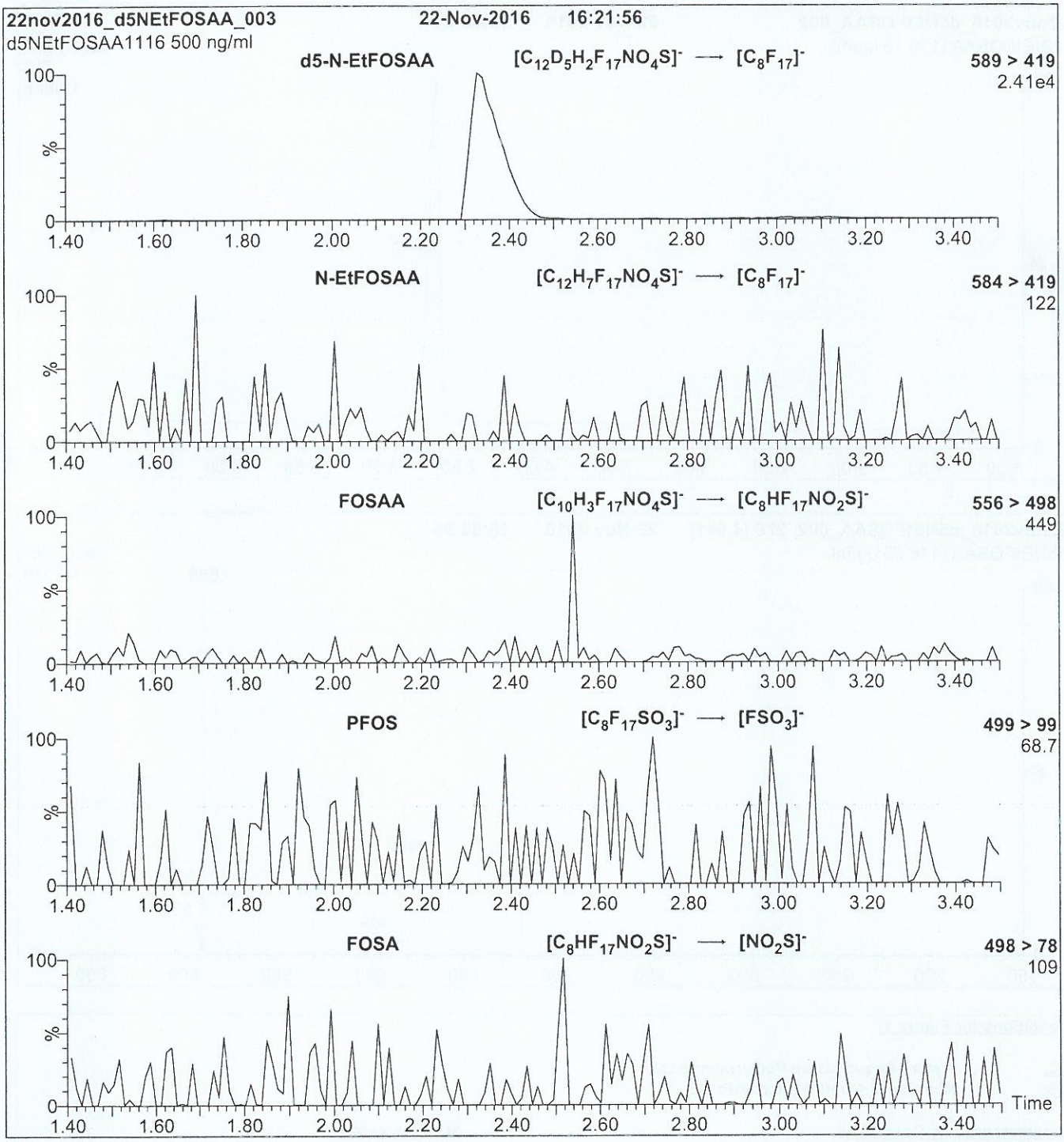
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **d5-N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml d5-N-EtFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

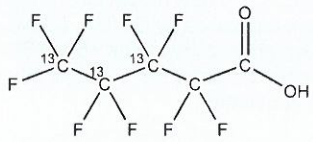
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 20

170502

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFPeA	**LOT NUMBER:**	M3PFPeA0216
COMPOUND:	Perfluoro-n-[3,4,5-$^{13}C_3$]pentanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_2HF_9O_2$	**MOLECULAR WEIGHT:**	267.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($3,4,5$-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.95% of perfluoro-n-[$^{13}C_3$]butanoic acid and 0.05% of perfluoro-1-pentanoic acid.

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Certified By: B.G. Chittim **Date:** 02/24/2016 (mm/dd/yyyy)

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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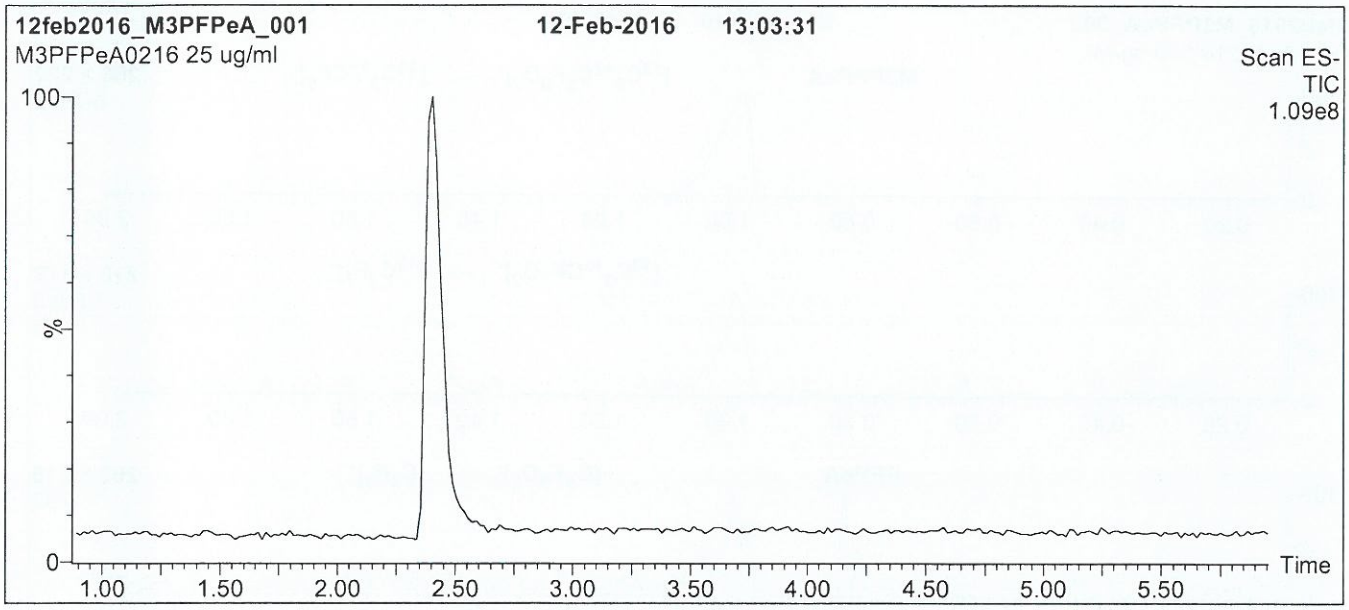
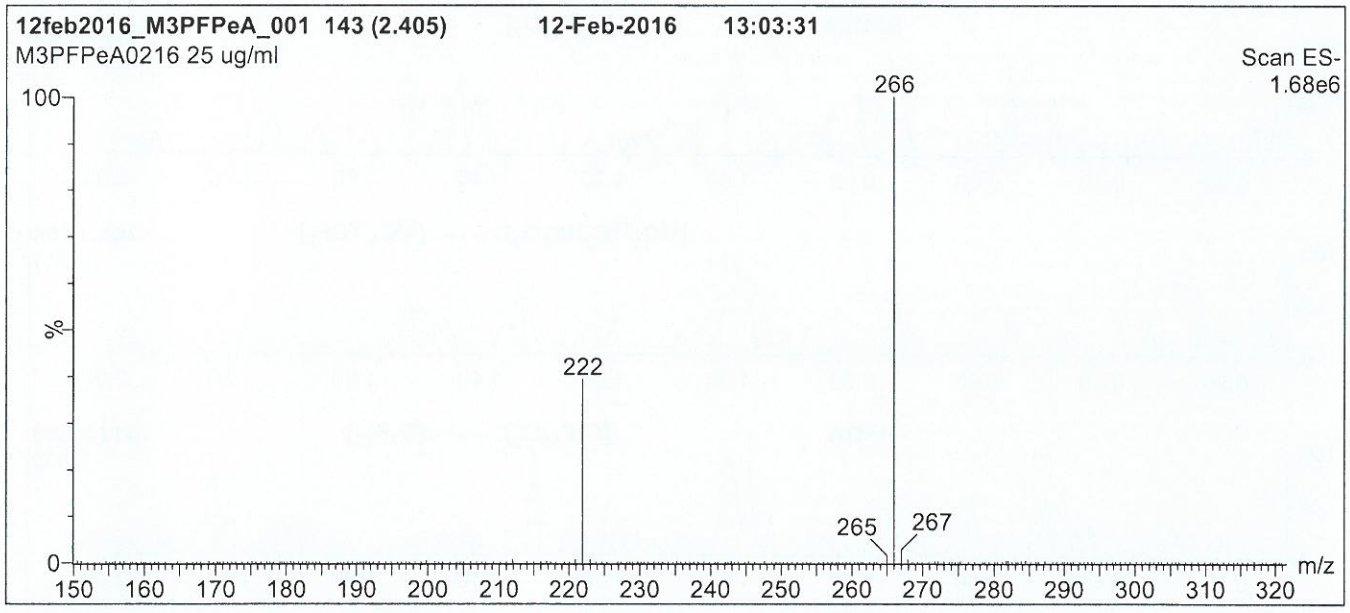
Figure 1: **M3PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

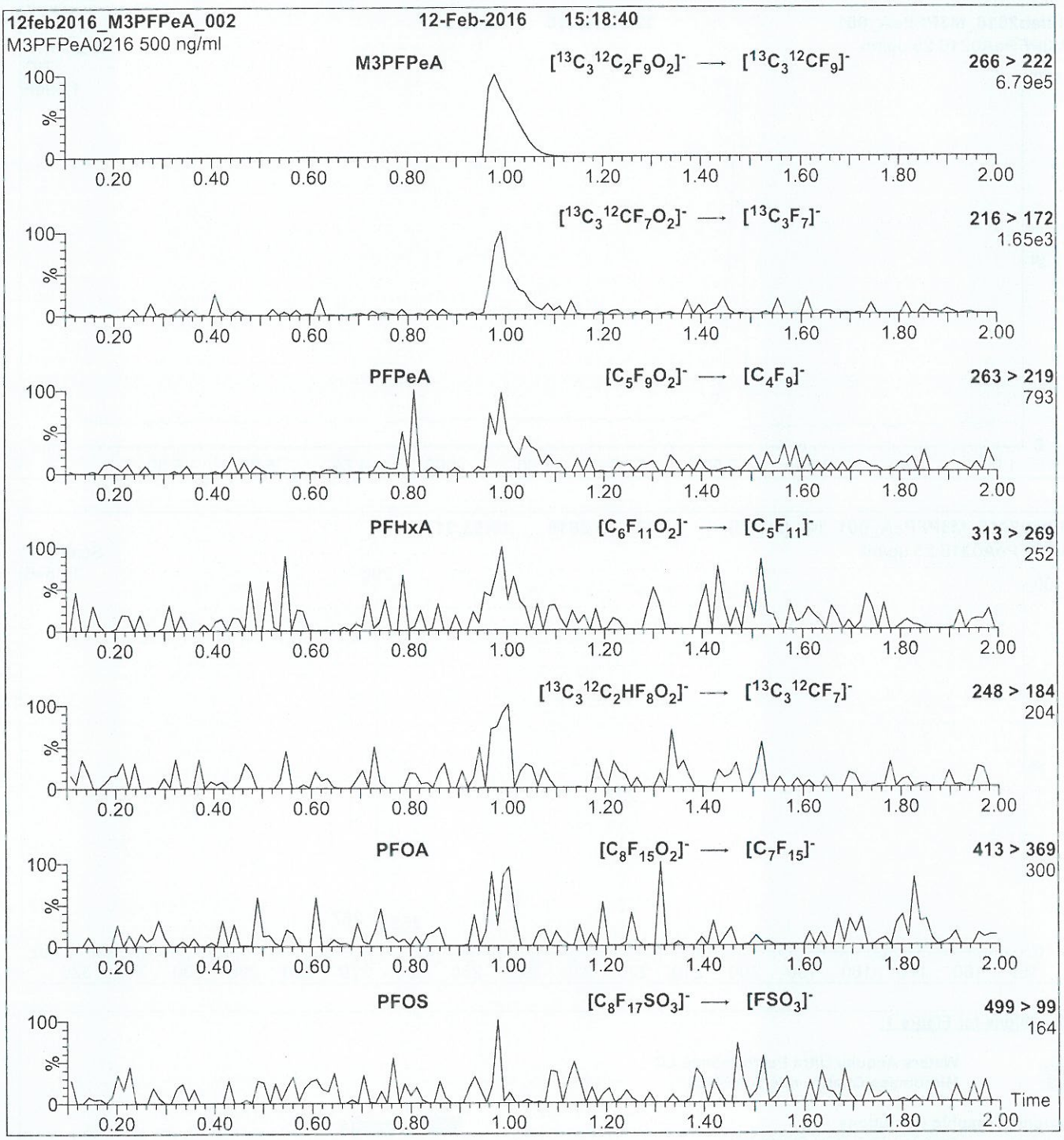
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M3PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M3PFPeA)

Mobile phase: Isocratic 80% MeOH / 20% H_2O

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.20e-3
Collision Energy (eV) = 9

WELLINGTON LABORATORIES

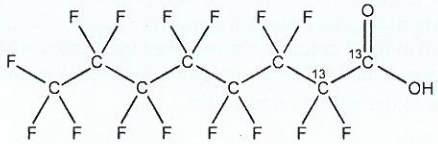
CERTIFICATE OF ANALYSIS DOCUMENTATION

17D0503

PRODUCT CODE: M2PFOA
LOT NUMBER: M2PFOA0216
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

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Figure 1: LC/MS Data (TIC and Mass Spectrum)
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ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim **Date:** 02/24/2016 (mm/dd/yyyy)

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

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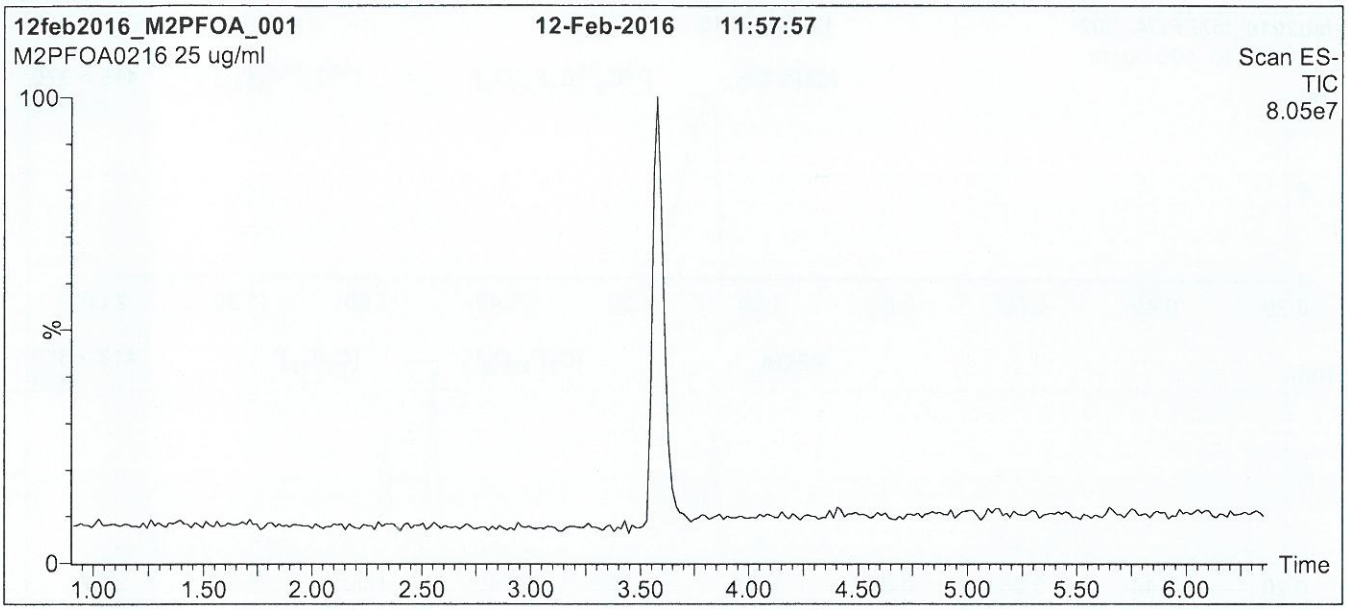
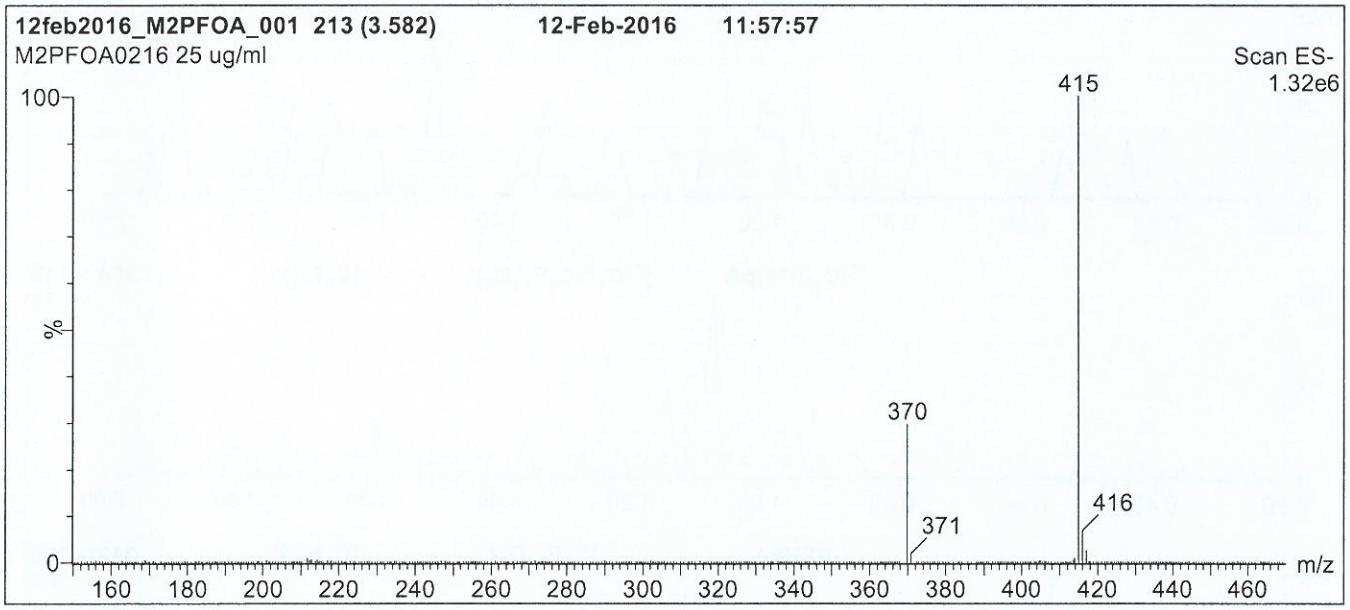
Figure 1: **M2PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

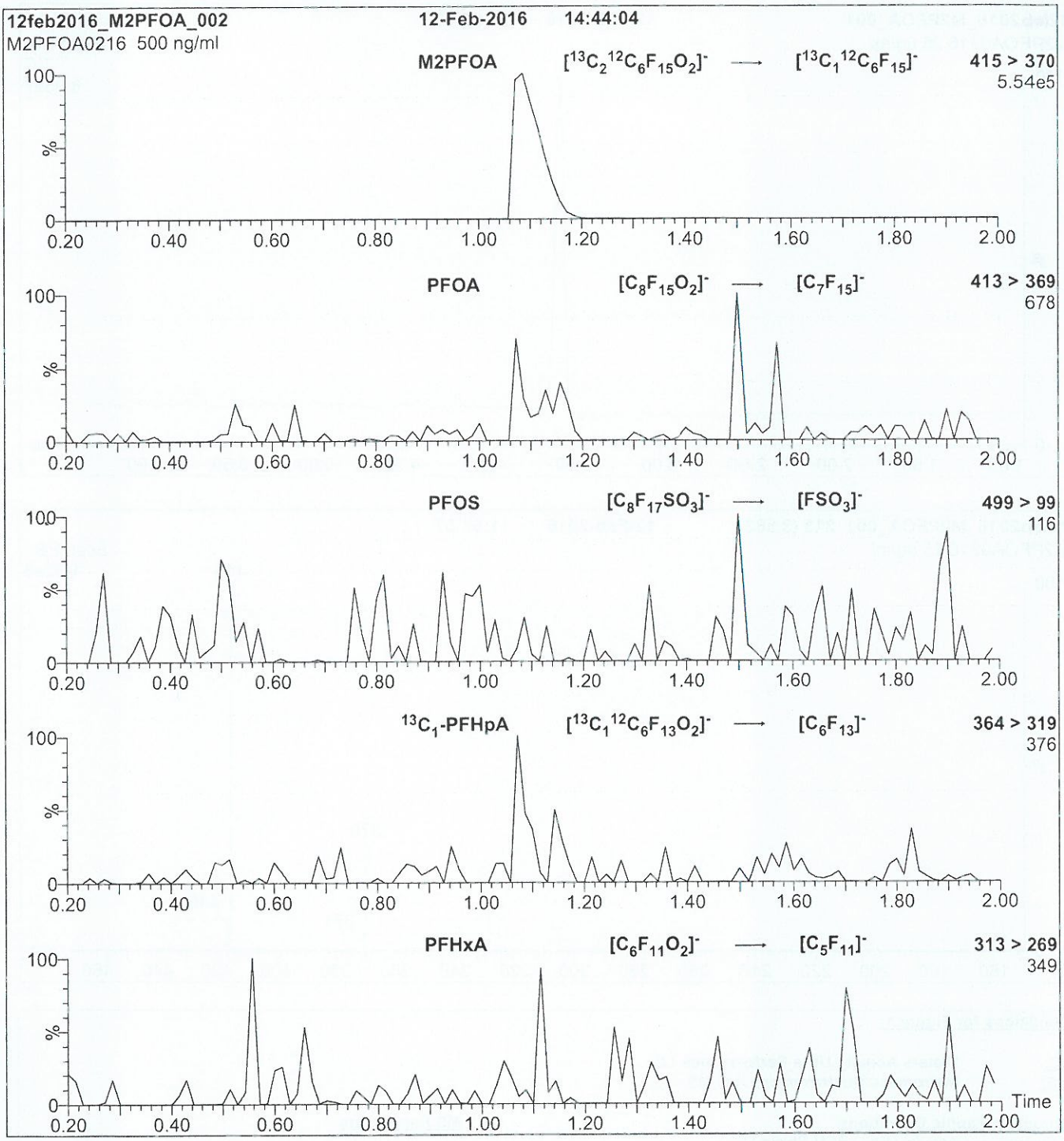
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M2PFOA)

Mobile phase: Isocratic 80% MeOH / 20% H_2O

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

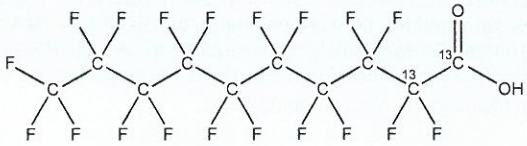
17D0504

PRODUCT CODE: MPFDA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid

LOT NUMBER: MPFDA0916

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of $^{13}C_1$-PFNA.

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Certified By: B.G. Chittim **Date:** 10/07/2016 (mm/dd/yyyy)

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SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

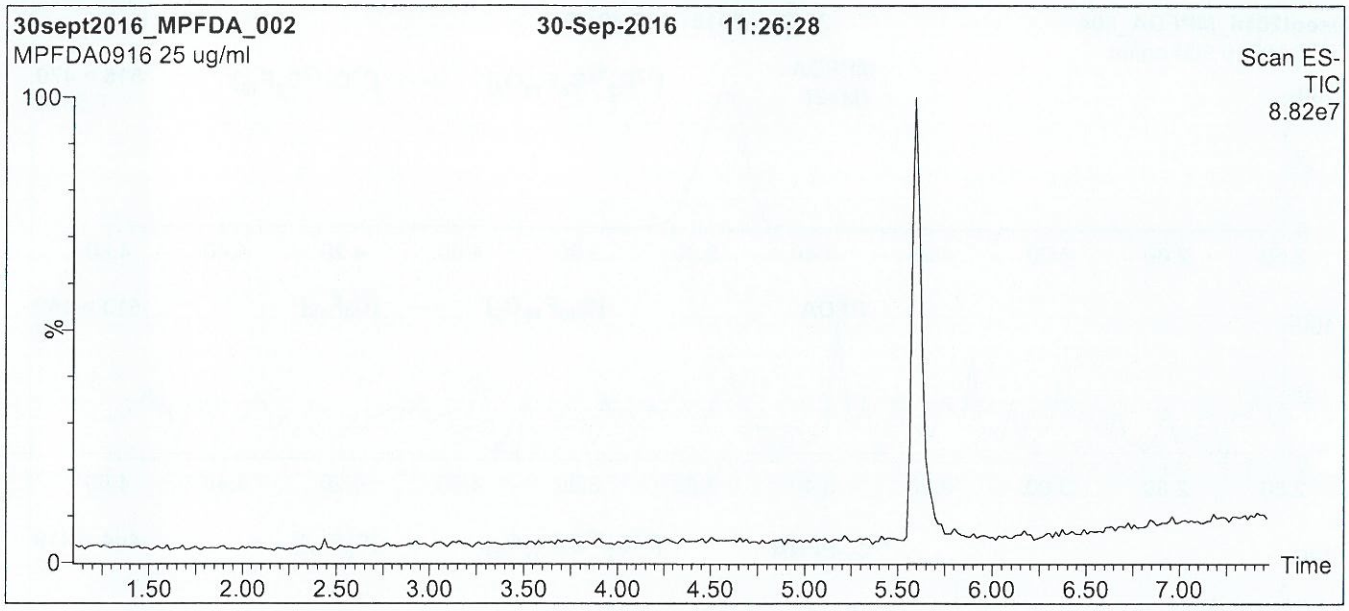
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

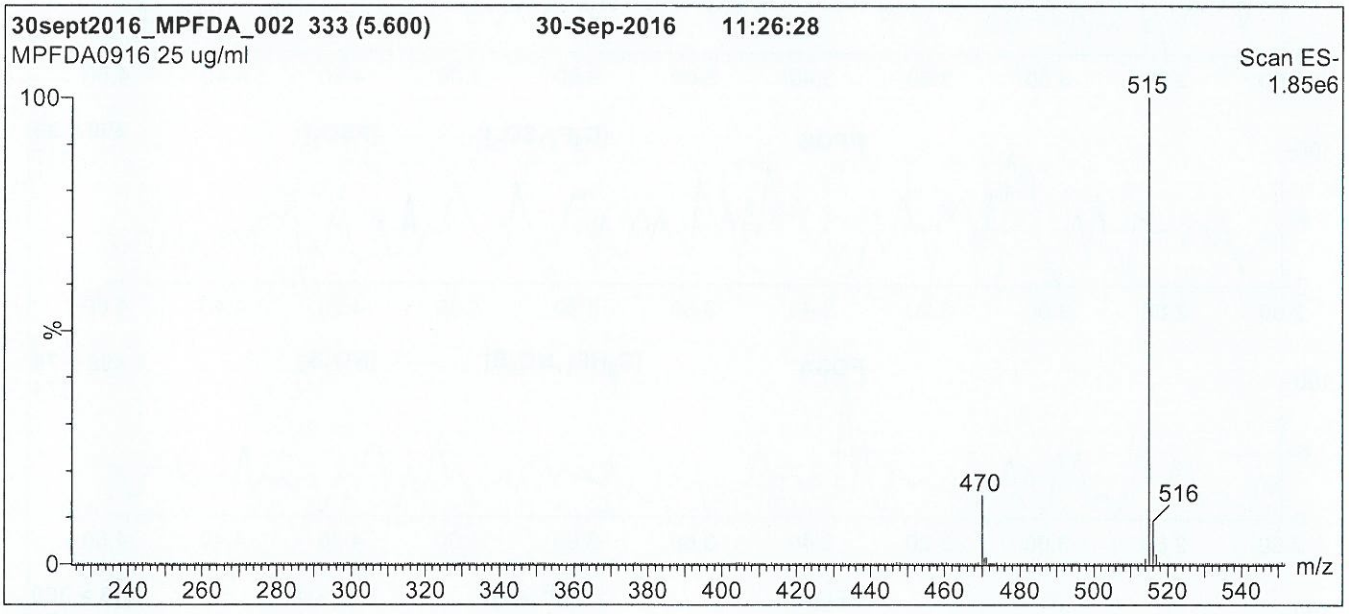
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **MPFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

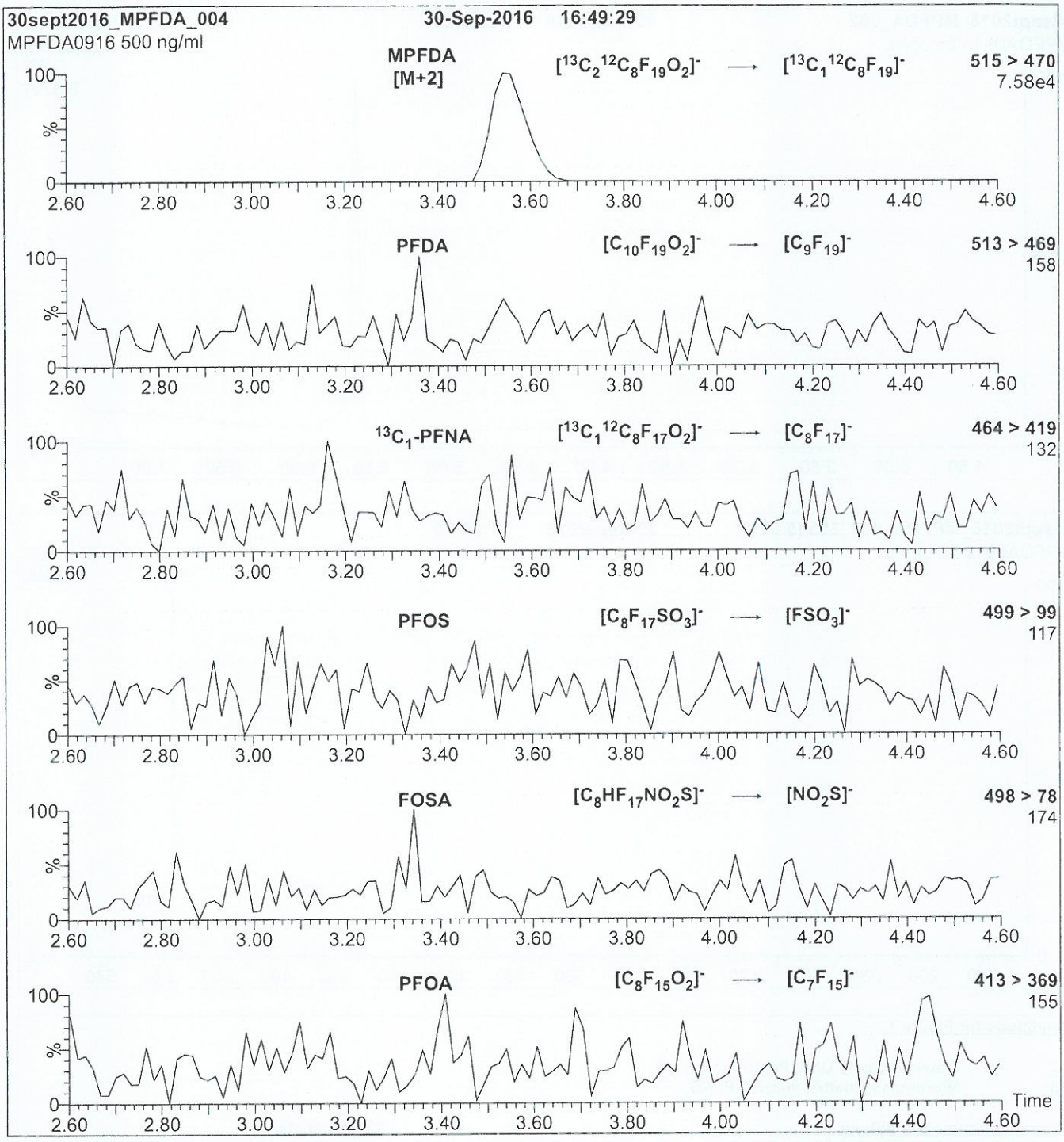
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml MPFDA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 13

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

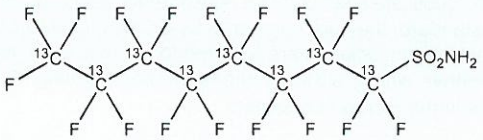
17D0505

PRODUCT CODE: M8FOSA-I
COMPOUND: Perfluoro-1-[$^{13}C_8$]octanesulfonamide

LOT NUMBER: M8FOSA1215I

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	507.09
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	12/22/2015		
EXPIRY DATE: (mm/dd/yyyy)	12/22/2020		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/13/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

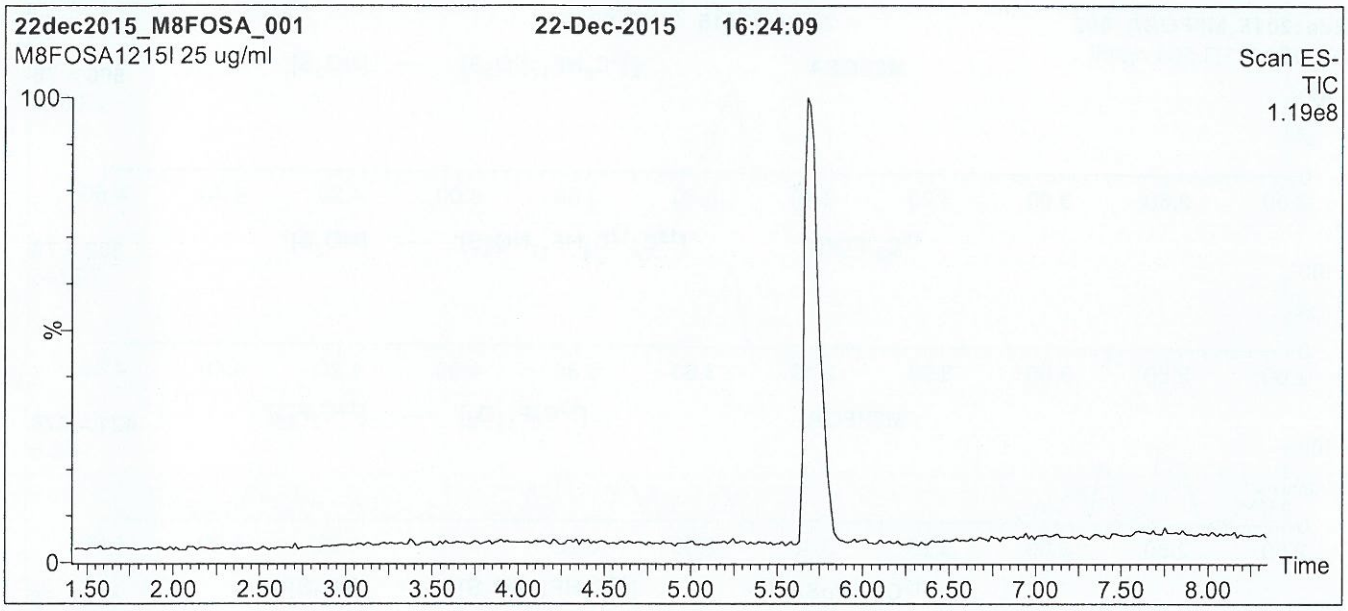
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

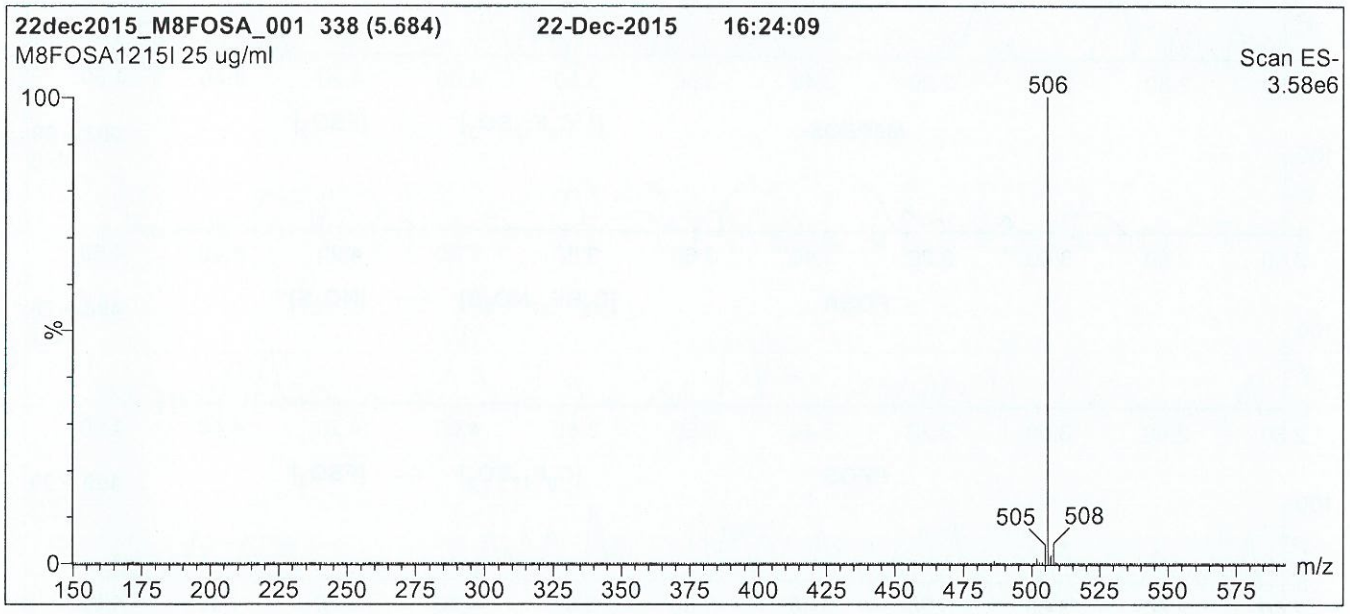
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M8FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

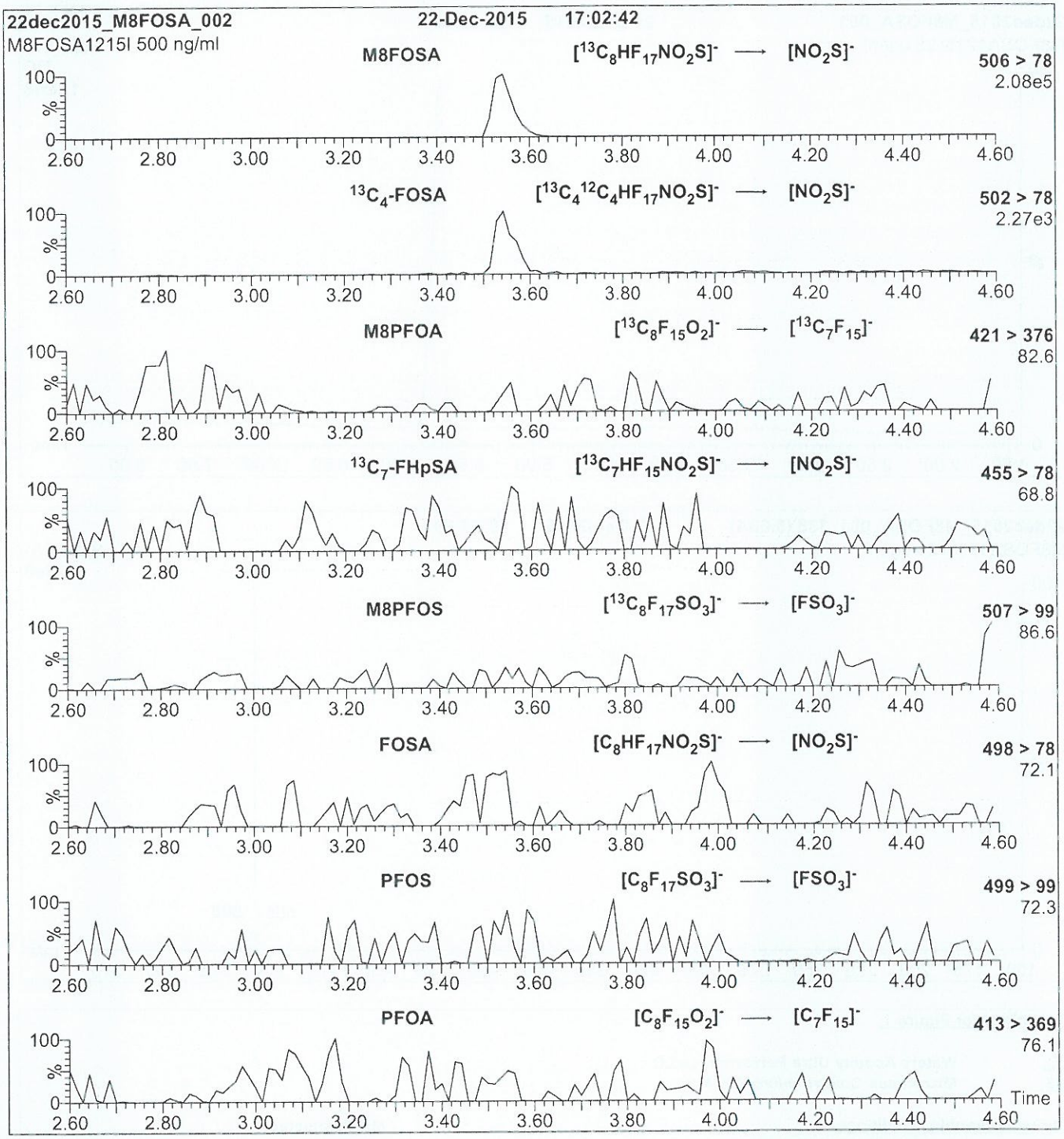
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M8FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M8FOSA-I)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

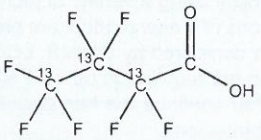
Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 30

17E24-14

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M3PFBA	**LOT NUMBER:**	M3PFBA0516
COMPOUND:	Perfluoro-n-[2,3,4-$^{13}C_3$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CHF_7O_2$	**MOLECULAR WEIGHT:**	217.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($2,3,4\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	05/27/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/27/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[$^{13}C_3$]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid due to the naturally occurring isotopic abundance of ^{13}C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 07/08/2016 (mm/dd/yyyy)

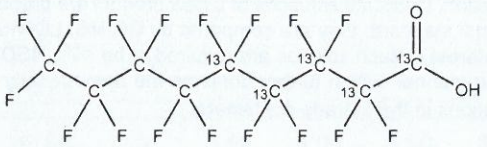
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17E2417

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFNA	**LOT NUMBER:**	MPFNA0916
COMPOUND:	Perfluoro-n-[1,2,3,4,5-$^{13}C_5$]nonanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	**MOLECULAR WEIGHT:**	469.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/11/2016 (mm/dd/yyyy)
B.G. Chittim

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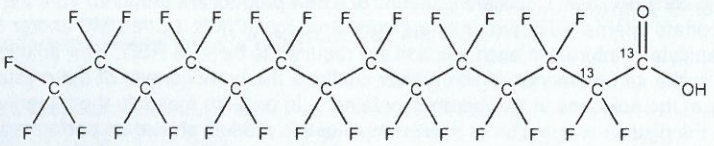
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17E2418

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M2PFTeDA	**LOT NUMBER:**	M2PFTeDA0217
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{12}HF_{27}O_2$	**MOLECULAR WEIGHT:**	716.10
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	03/01/2017		
EXPIRY DATE: (mm/dd/yyyy)	03/01/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/07/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17E2419

WELLINGTON LABORATORIES

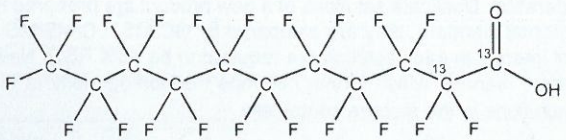
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFUdA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]undecanoic acid

LOT NUMBER: MPFUdA1116

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $^{13}C_2{}^{12}C_9HF_{21}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 566.08
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/22/2016
EXPIRY DATE: (mm/dd/yyyy) 11/22/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

ISOTOPIC PURITY: ≥99% ^{13}C ($1,2\text{-}^{13}C_2$)

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Presence of 1-$^{13}C_1$-PFUdA (~1%; see Figure 2), 2-$^{13}C_1$-PFUdA (~1%), and PFUdA (~0.2%; see Figure 2) are due to the isotopic purity of the ^{13}C-precursor.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/07/2016 (mm/dd/yyyy)

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17E2420

WELLINGTON LABORATORIES

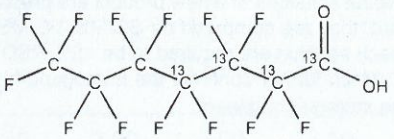
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M4PFHpA
COMPOUND: Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid

LOT NUMBER: M4PFHpA0516

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $^{13}C_4{}^{12}C_3HF_{13}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 368.03
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/27/2016
EXPIRY DATE: (mm/dd/yyyy) 05/27/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

ISOTOPIC PURITY: ≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 07/05/2016 (mm/dd/yyyy)

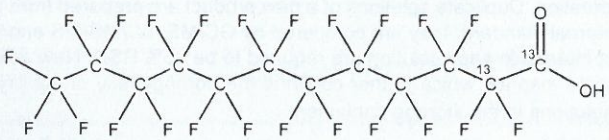
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17E2421

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFDoA	**LOT NUMBER:**	MPFDoA0416
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{10}HF_{23}O_2$	**MOLECULAR WEIGHT:**	616.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	04/08/2016		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
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FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 04/15/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17E2612

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E1718	18O2-PFHxS	17-May-17	** Vendor **	17-Feb-22	17-May-17 12:46 by INJ	0.8

Description:	18O2-PFHxS dil.	Expires:	26-May-18
Standard Type:	Other	Prepared:	26-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.946	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 10:53 by INJ

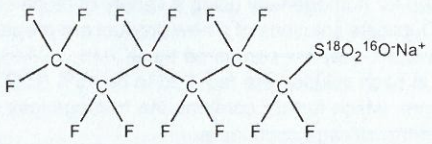
Analyte	CAS Number	Concentration	Units
18O2-PFHxS		40	ug/mL

17E1718

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFHxS	**LOT NUMBER:**	MPFHxS0217
COMPOUND:	Sodium perfluoro-1-hexane[$^{18}O_2$]sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{16}ONa$	**MOLECULAR WEIGHT:**	426.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (MPFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>94% ($^{18}O_2$)
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS ($C_6F_{13}S^{18}O_2{}^{16}O^-$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{16}O_3^-$) when both compounds are injected together. This difference may vary between instruments.
- Contains ~ 1.0% of sodium perfluoro-1-octane[$^{18}O_2$]sulfonate ($^{18}O_2$-PFOS).
- Due to the isotopic purity of the starting material ($^{18}O_2$ >94%), MPFHxS contains ~ 0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/02/2017
B.G. Chittim (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E2613

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2415	13C2-8:2 FTS	24-May-17	** Vendor **	22-Aug-21	24-May-17 11:21 by INJ	0.8

Description:	13C2-8:2 FTS dil.	Expires:	26-May-18
Standard Type:	Other	Prepared:	26-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.958	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 10:55 by INJ

Analyte	CAS Number	Concentration	Units
13C2-8:2 FTS		40	ug/mL

17E2415

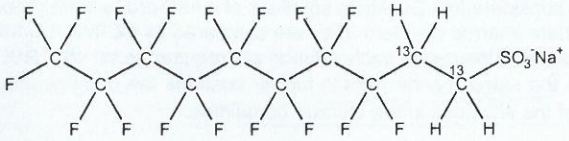
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0816

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	552.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml (M2-8:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	08/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

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Certified By: B.G. Chittim **Date:** 09/02/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E2614

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2416	13C2-6:2 FTS	24-May-17	** Vendor **	17-Feb-22	24-May-17 11:21 by INJ	0.75

Description:	13C2-6:2 FTS dil.	Expires:	26-May-18
Standard Type:	Other	Prepared:	26-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.891	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 10:57 by INJ

Analyte	CAS Number	Concentration	Units
13C2-6:2 FTS		40	ug/mL

17E2416

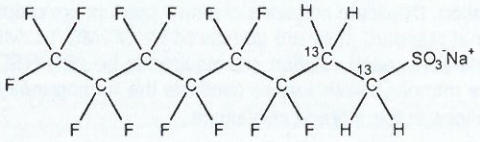
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS0217

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]octane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	452.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.5 ± 2.4 µg/ml (M2-6:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

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Certified By: B.G. Chittim **Date:** 02/24/2017 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E2615

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2412	13C8-PFOS	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:19 by INJ	0.75

Description:	13C8-PFOS dil.	Expires:	26-May-18
Standard Type:	Other	Prepared:	26-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.87	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 10:59 by INJ

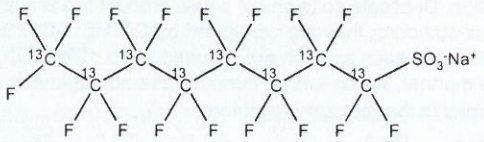
Analyte	CAS Number	Concentration	Units
13C8-PFOS		40	ug/mL

17E2412

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M8PFOS	**LOT NUMBER:**	M8PFOS0916
COMPOUND:	Sodium perfluoro-1-[$^{13}C_8$]octanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_8F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	530.05
CONCENTRATION:	48.5 ± 2.4 µg/ml (Na salt) 46.4 ± 2.3 µg/ml (M8PFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>97%	**ISOTOPIC PURITY:**	>99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.6% of sodium perfluoro-1-[$^{13}C_7$]heptanesulfonate ($^{13}C_7$-PFHpS), ~ 1.0% of chlorohexadecafluoro-1-[$^{13}C_8$]octanesulfonate, and ~ 1.5% of sodium perfluoro-1-[$^{13}C_4$]octanesulfonate (MPFOS).

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Certified By: B.G. Chittim **Date:** 10/11/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E2616

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2413	13C3-PFBS	24-May-17	** Vendor **	02-Aug-21	24-May-17 11:20 by INJ	0.8

Description:	13C3-PFBS dil.	Expires:	26-May-18
Standard Type:	Other	Prepared:	26-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.93	Department:	LCMS
Vials:	1	Last Edit:	26-May-17 11:01 by INJ

Analyte	CAS Number	Concentration	Units
13C3-PFBS		40	ug/mL

17E2413

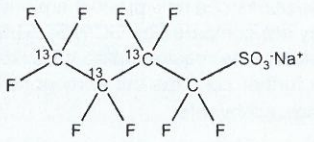
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBS **LOT NUMBER:** M3PFBS0815

COMPOUND: Sodium perfluoro-1-[2,3,4-$^{13}C_3$]butanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CF_9SO_3Na$	**MOLECULAR WEIGHT:**	325.06
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.5 ± 2.3 µg/ml (M3PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($2,3,4\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	08/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/02/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: B.G. Chittim **Date:** 08/05/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
L-PFDS		1	ug/mL
6:2 FTS	27619-97-2	1	ug/mL
L-PFTeDA		1	ug/mL
L-PFPeA		1	ug/mL
L-PFOSA		1	ug/mL
L-PFOS		0.788	ug/mL
L-PFODA		1	ug/mL
L-PFOA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
L-PFNA		1	ug/mL
L-PFHxS		0.812	ug/mL
L-PFHxDA		1	ug/mL
L-PFHxA		1	ug/mL
L-PFUnA		1	ug/mL
L-PFHpA		1	ug/mL
MeFOSA	31506-32-8	5	ug/mL
L-PFDoA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
L-PFDA		1	ug/mL
L-PFBS		1	ug/mL
L-PFBA		1	ug/mL
L-8:2FTS		1	ug/mL
L-6:2 FTS		1	ug/mL
EtFOSE	1691-99-2	5	ug/mL
EtFOSAA	2991-50-6	1	ug/mL
EtFOSA	4151-50-2	5	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
Br-PFHxS	3871-99-6	0.189	ug/mL
8:2 FTS	70887-84-2	1	ug/mL
L-PFHpS		1	ug/mL
PFHxS	355-46-4	1	ug/mL
Total PFHxS		1	ug/mL
Total PFHpS		1	ug/mL
Total PFDS		1	ug/mL
Total 6:2 FTS		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
PFUnA	2058-94-8	1	ug/mL
PFTrDA	72629-94-8	1	ug/mL
PFTeDA	376-06-7	1	ug/mL
PFPeA	2706-90-3	1	ug/mL
PFOSA	754-91-6	1	ug/mL
PFOS	1763-23-1	1	ug/mL
PFODA	16517-11-6	1	ug/mL
L-PFTrDA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
PFNA	375-95-1	1	ug/mL
Total PFUnA		1	ug/mL
PFHxDA	67905-19-5	1	ug/mL
PFHxA	307-24-4	1	ug/mL
PFHpS	375-92-8	1	ug/mL
PFHpA	375-85-9	1	ug/mL
PFDS	335-77-3	1	ug/mL
PFDoA	307-55-1	1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
PFDA	335-76-2	1	ug/mL
PFBS	375-73-5	1	ug/mL
PFBA	375-22-4	1	ug/mL
MeFOSE	24448-09-7	5	ug/mL
MeFOSAA	2355-31-9	1	ug/mL
PFOA	335-67-1	1	ug/mL

16I1414

WELLINGTON LABORATORIES

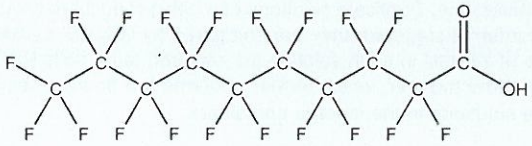
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDA ✓
COMPOUND: Perfluoro-n-decanoic acid

LOT NUMBER: PFDA0516 ✓

STRUCTURE:

CAS #: 335-76-2



MOLECULAR FORMULA: $C_{10}HF_{19}O_2$
MOLECULAR WEIGHT: 514.08
CONCENTRATION: 50 ± 2.5 µg/ml ✓
SOLVENT(S): Methanol ✓
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021 ✓
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of Perfluoro-n-nonanoic acid (PFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/13/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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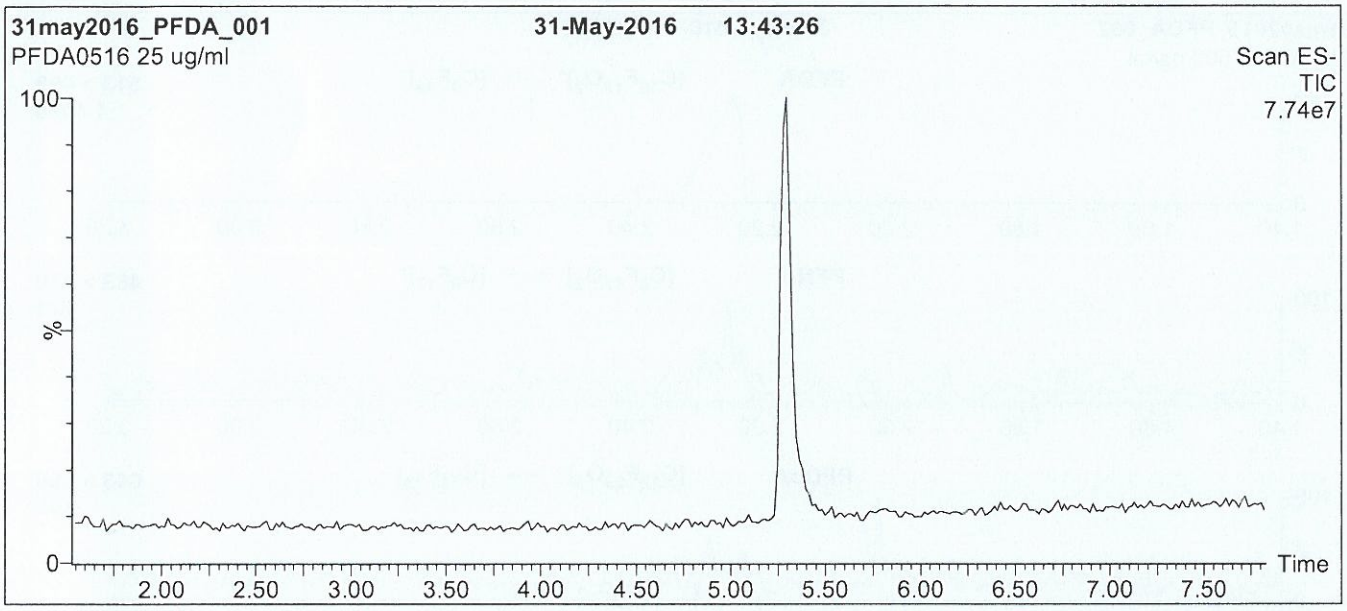
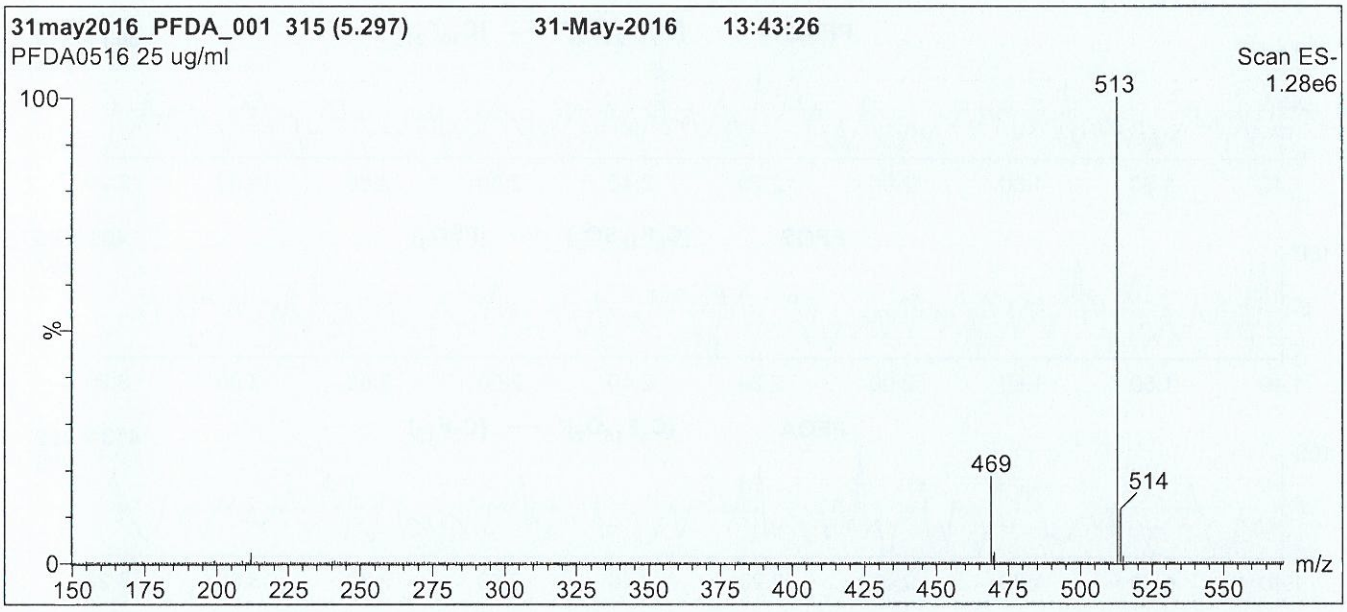
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17025 AR 1523 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

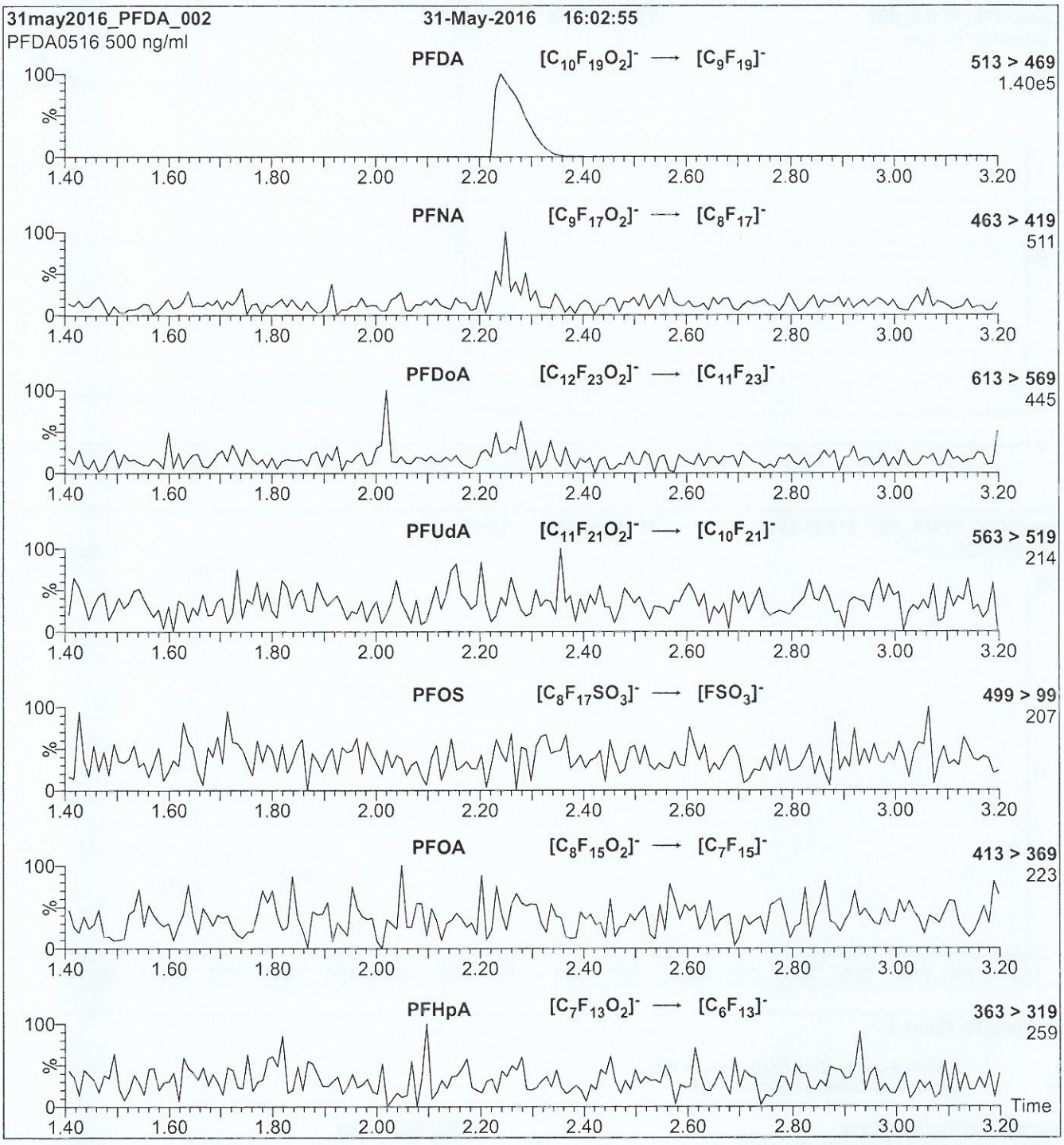
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFDA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 13

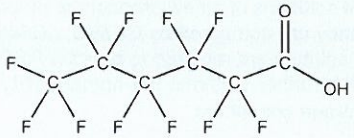
16I1415

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxA ✓ **LOT NUMBER:** PFHxA1215 ✓
COMPOUND: Perfluoro-n-hexanoic acid

STRUCTURE: **CAS #:** 307-24-4



MOLECULAR FORMULA: $C_6HF_{11}O_2$ **MOLECULAR WEIGHT:** 314.05
CONCENTRATION: 50 ± 2.5 µg/ml ✓ **SOLVENT(S):** Methanol ✓
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/22/2015
EXPIRY DATE: (mm/dd/yyyy) 12/22/2020 ✓
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of Perfluoro-n-pentanoic acid (PFPeA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/23/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

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HOMOGENEITY:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17025 / ISO 17034 REFERENCE MATERIAL PRODUCER

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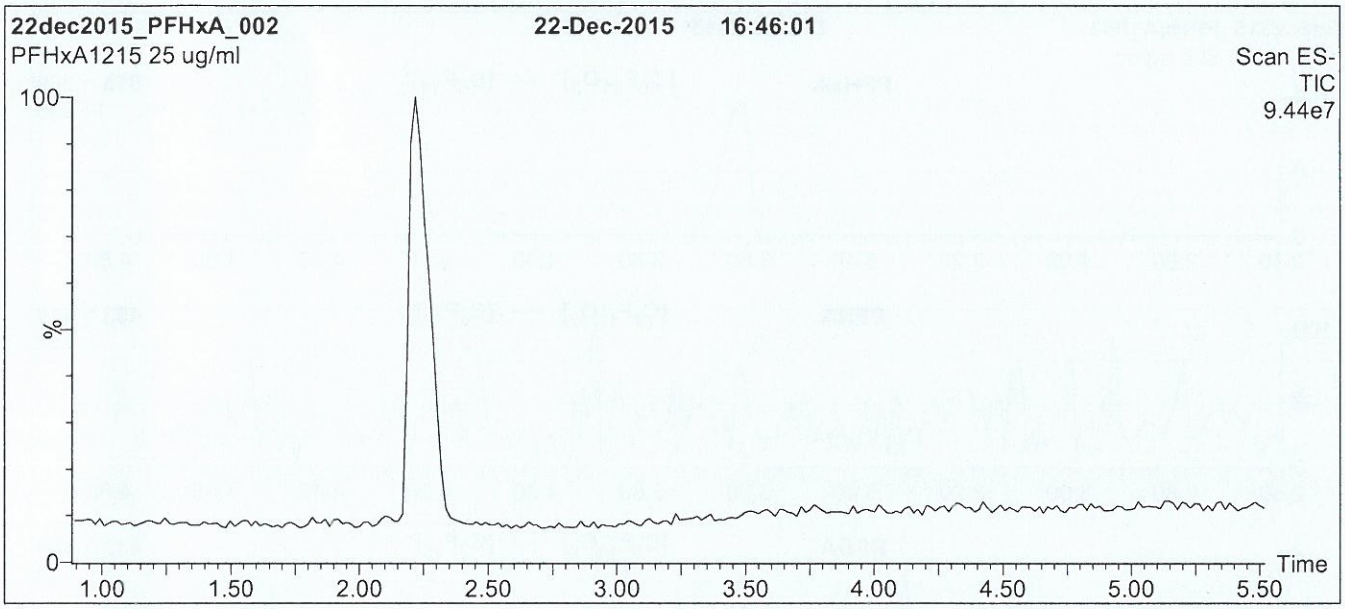
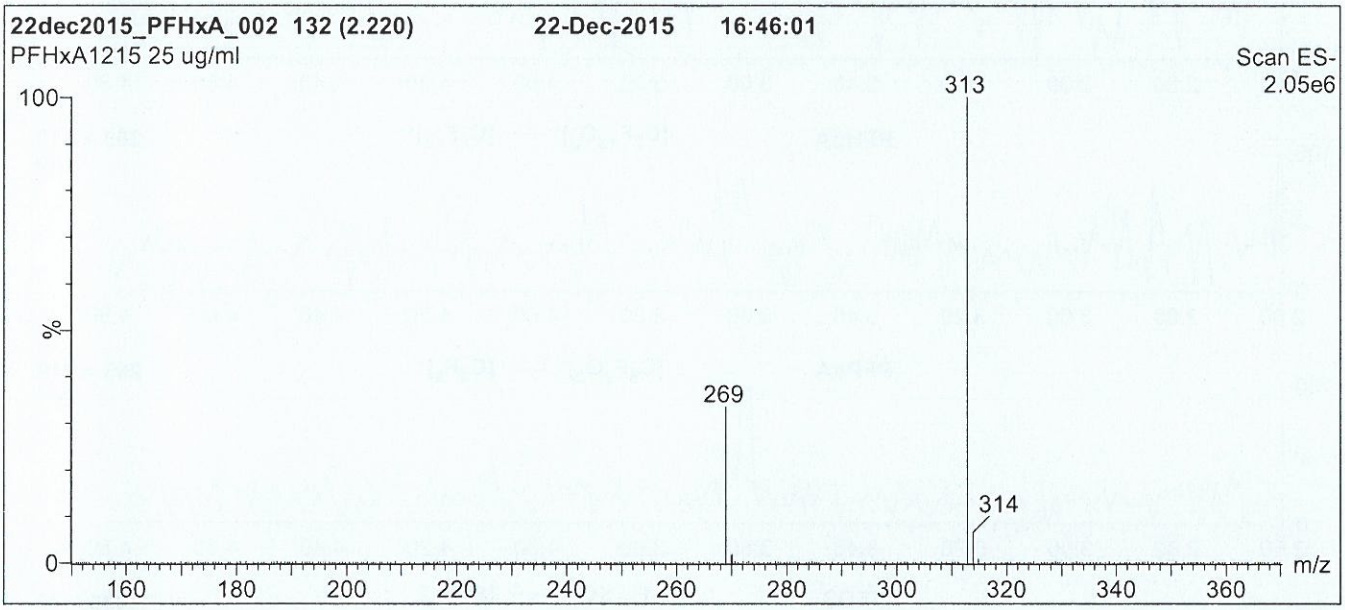
Figure 1: **PFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

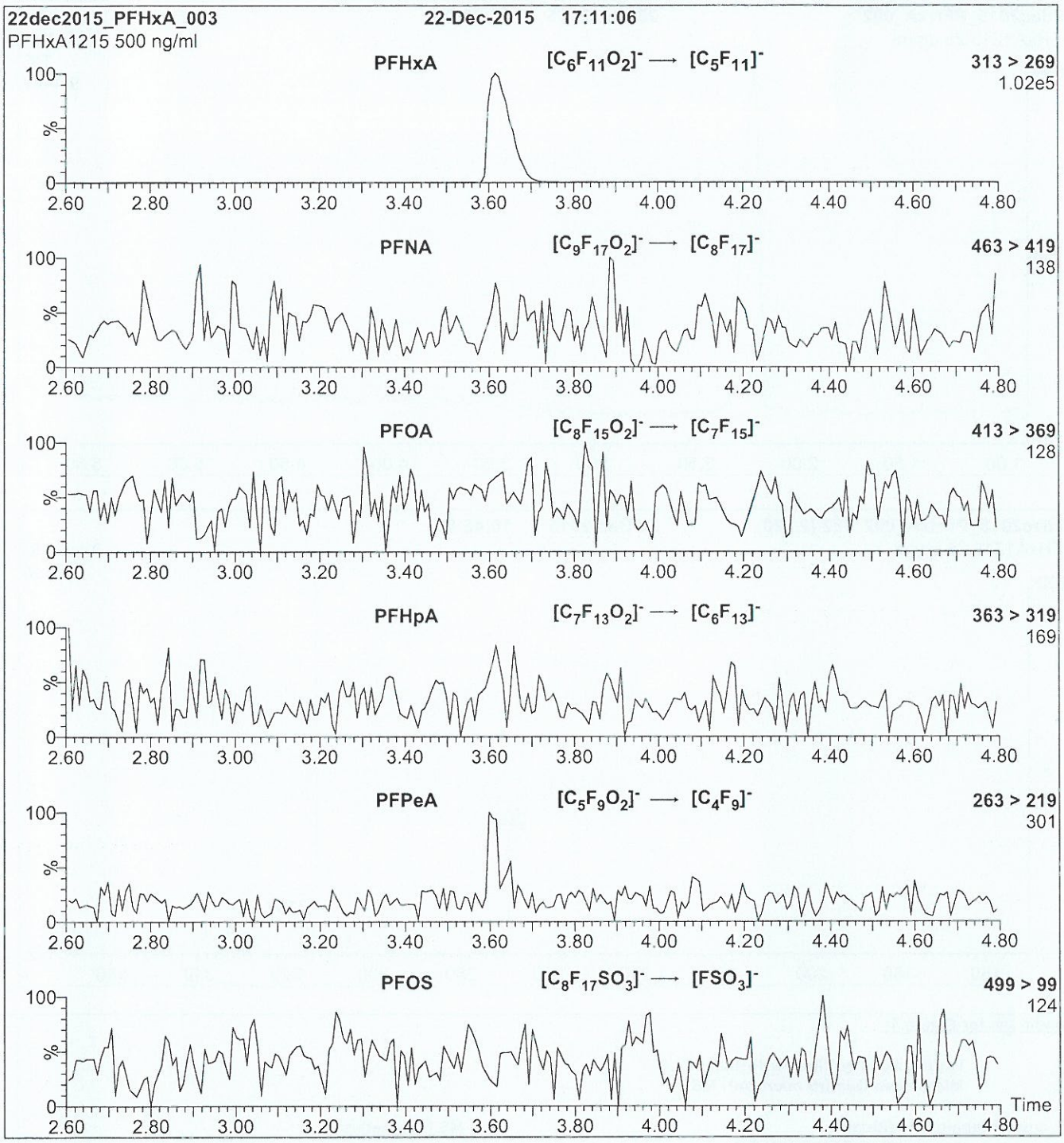
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 10

16I 1416

WELLINGTON LABORATORIES

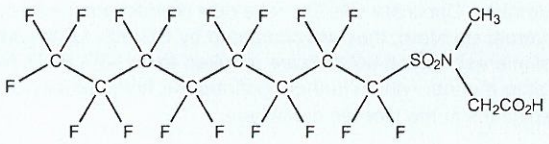
CERTIFICATE OF ANALYSIS DOCUMENTATION

MeFOSAA

PRODUCT CODE: N-MeFOSAA **LOT NUMBER:** NMeFOSAA0116

COMPOUND: N-methylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2355-31-9



MOLECULAR FORMULA: $C_{11}H_6F_{17}NO_4S$ **MOLECULAR WEIGHT:** 571.21

CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol, Water (<1%)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 01/20/2016

EXPIRY DATE: (mm/dd/yyyy) 01/20/2021

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/21/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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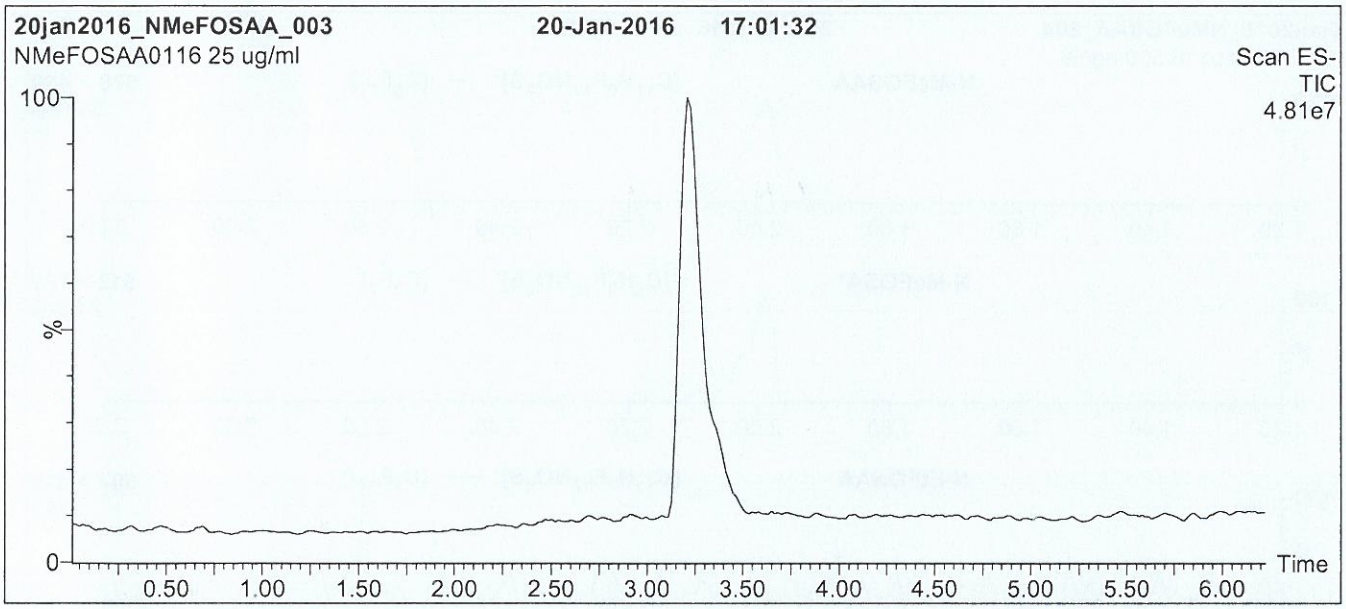
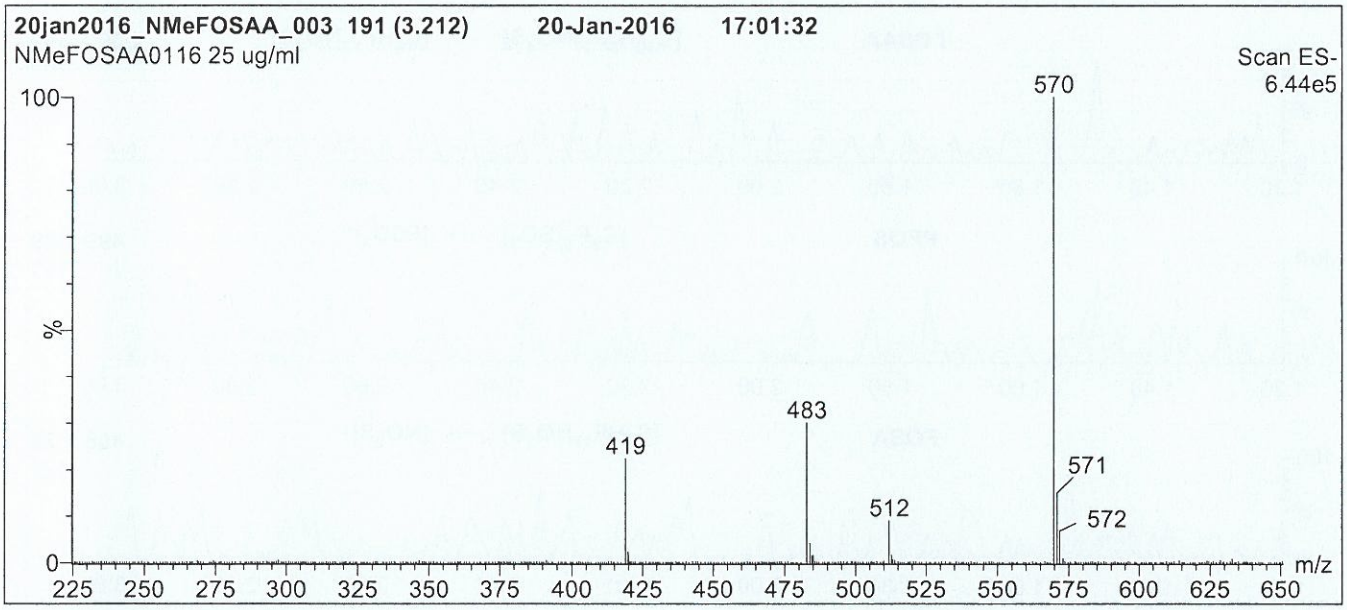
Figure 1: **N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

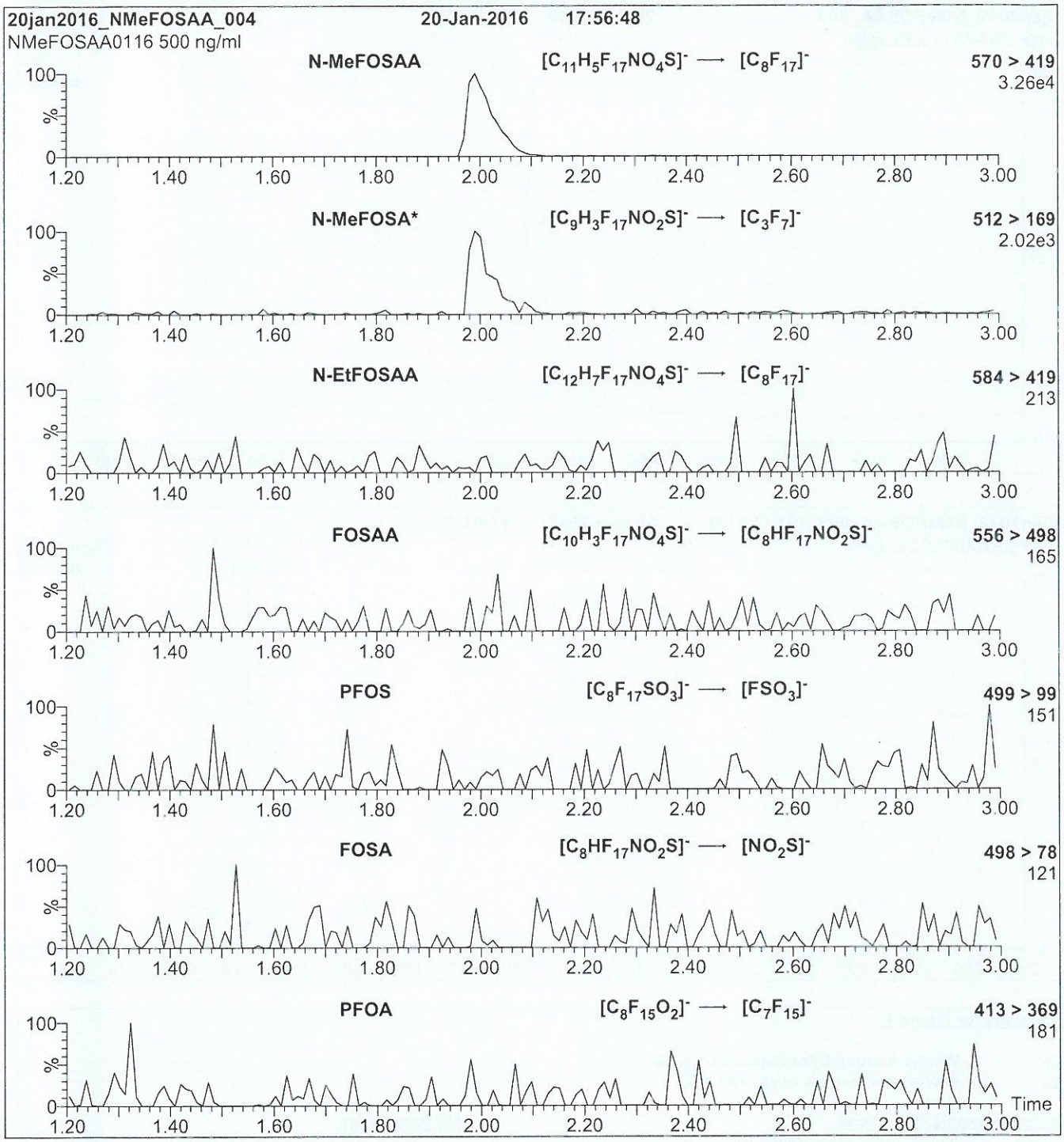
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*__Note__: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml N-MeFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.66e-3
Collision Energy (eV) = 25

16I1417

WELLINGTON LABORATORIES

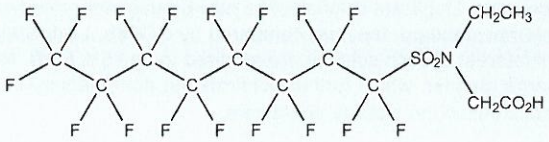
CERTIFICATE OF ANALYSIS DOCUMENTATION

EtFOSAA

PRODUCT CODE: N-EtFOSAA **LOT NUMBER:** NEtFOSAA0116

COMPOUND: N-ethylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2991-50-6



MOLECULAR FORMULA: $C_{12}H_8F_{17}NO_4S$ **MOLECULAR WEIGHT:** 585.23

CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol, Water (<1%)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 01/20/2016

EXPIRY DATE: (mm/dd/yyyy) 01/20/2021

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/21/2016 (mm/dd/yyyy)

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CALA Testing Accreditation No. A 1226

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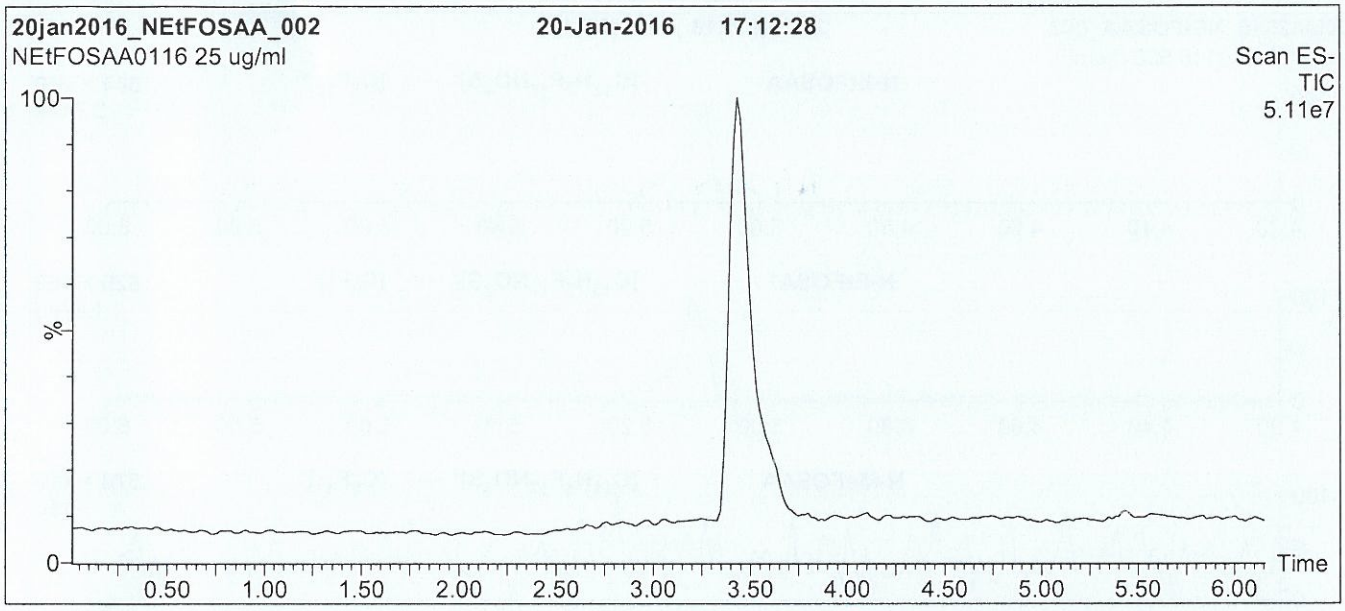

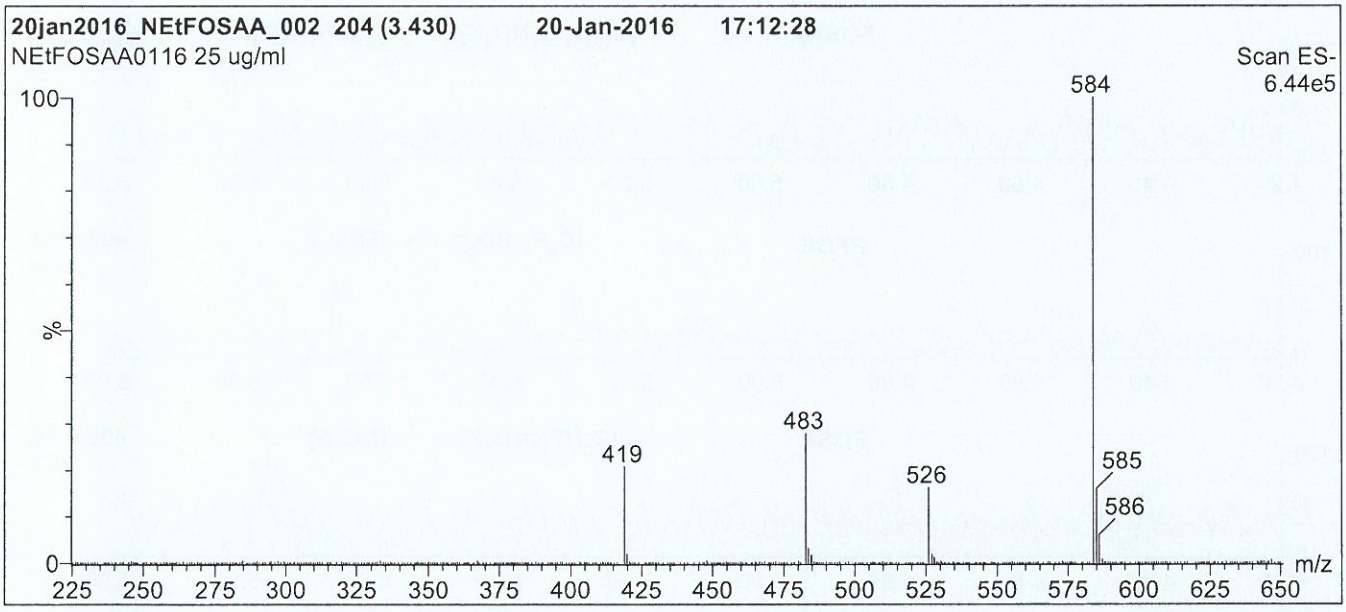

Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

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Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

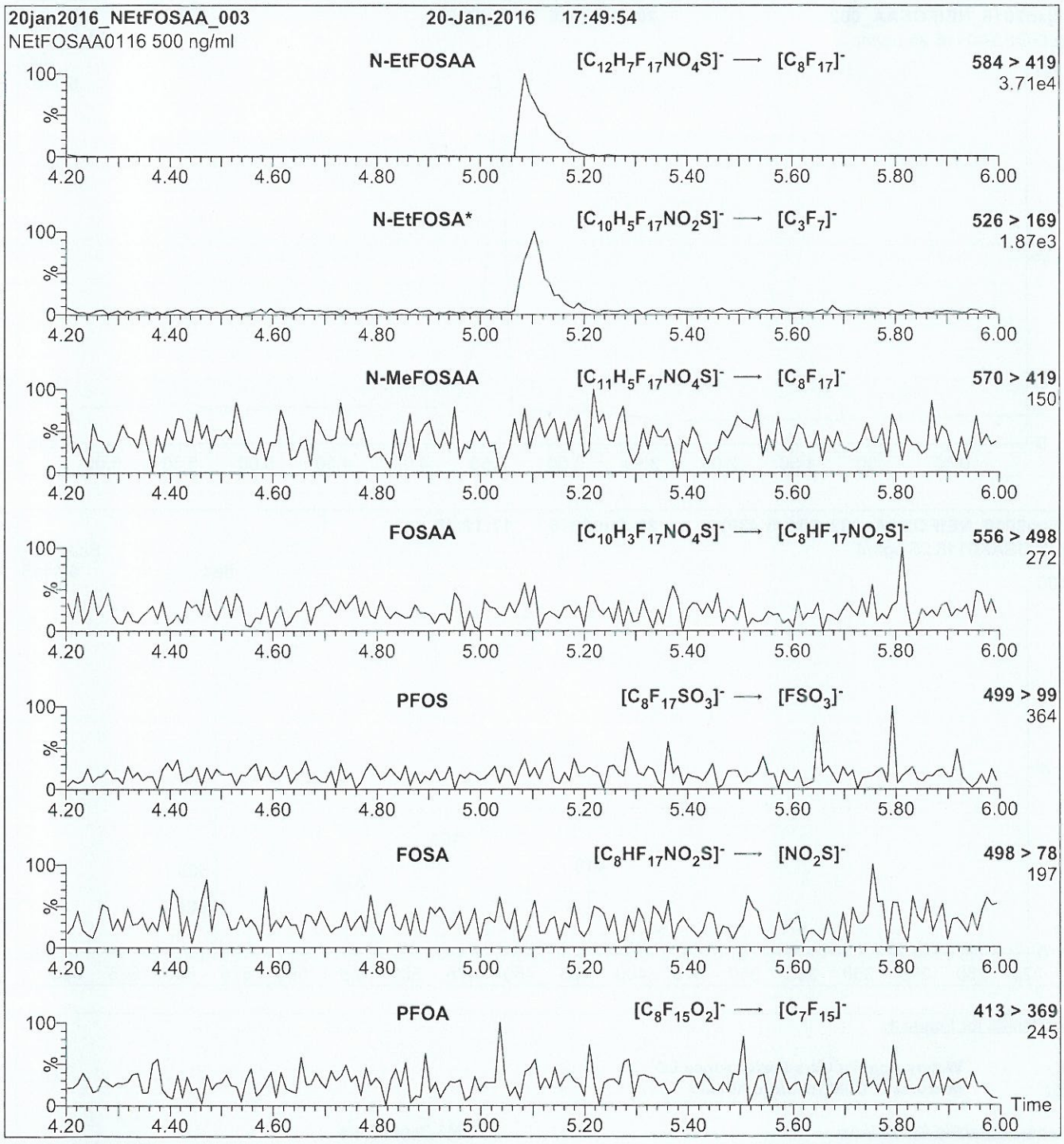
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Note: N-EtFOSA is formed by fragmentation of N-EtFOSAA.

Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml N-EtFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.66e-3
Collision Energy (eV) = 25

16I1418

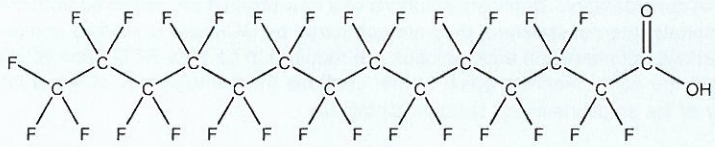
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFTeDA

PRODUCT CODE: PFTeDA
LOT NUMBER: PFTeDA1215
COMPOUND: Perfluoro-n-tetradecanoic acid

STRUCTURE:
CAS #: 376-06-7



MOLECULAR FORMULA: $C_{14}HF_{27}O_2$
MOLECULAR WEIGHT: 714.11
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol, Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/09/2015
EXPIRY DATE: (mm/dd/yyyy) 12/09/2020
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of PFDoA ($C_{12}HF_{23}O_2$) and ~ 0.2% of PFPeDA ($C_{15}HF_{29}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/09/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

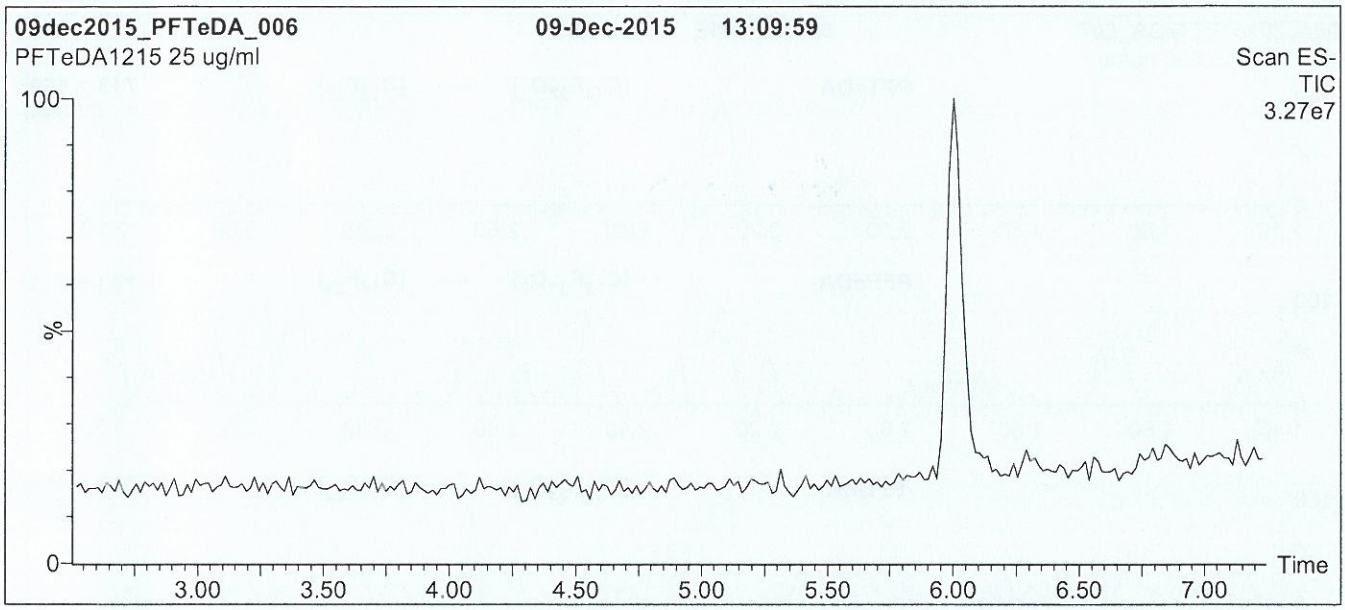
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

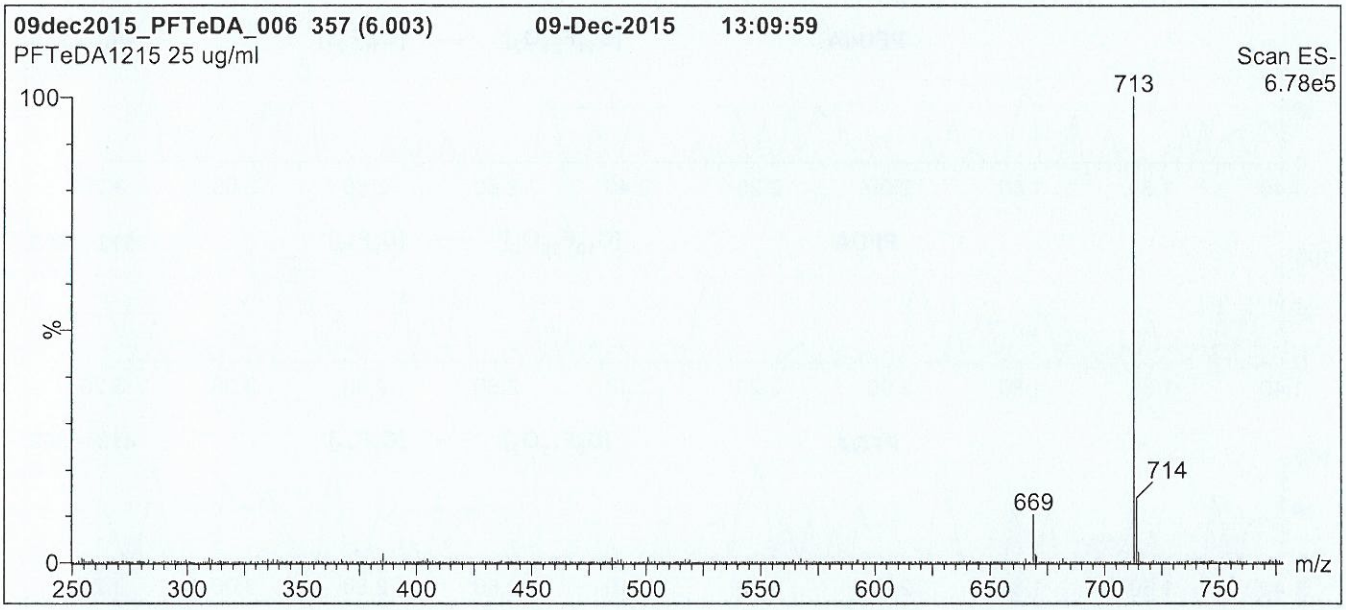
CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: PFTeDA; LC/MS Data (TIC and Mass Spectrum)





Conditions for Figure 1:

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% (80:20 MeOH:ACN) / 35% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

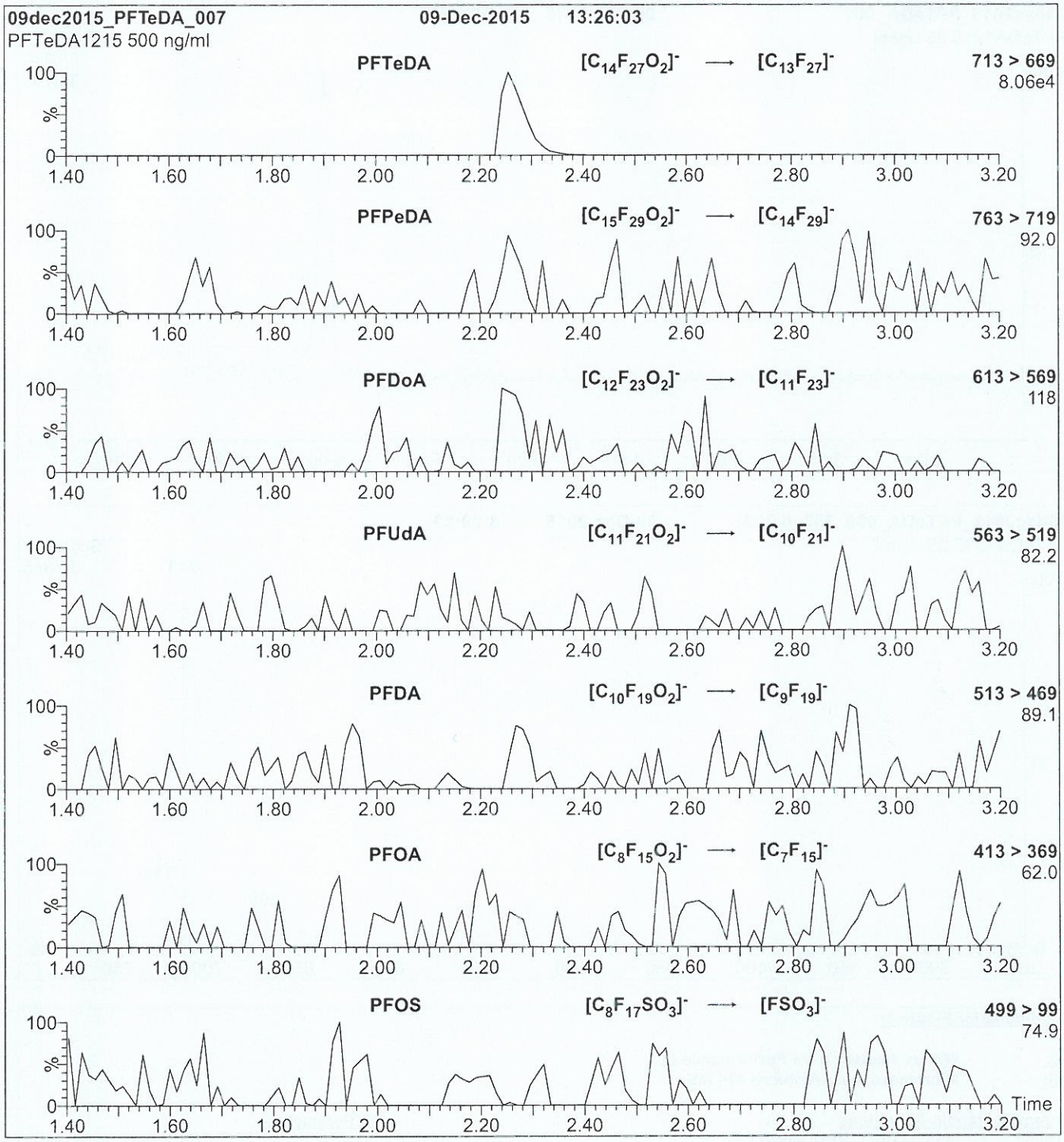
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1250 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFTeDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

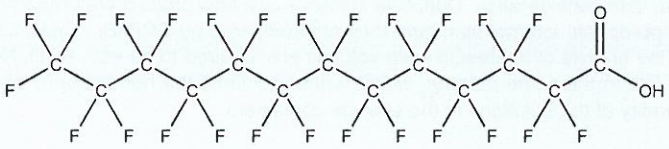
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 14

16I3001

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0216
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of PFUdA ($C_{11}HF_{21}O_2$), ~ 0.4% of PFDoA ($C_{12}HF_{23}O_2$), and ~ 0.1% of PFTeDA ($C_{14}HF_{27}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/16/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

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QUALITY MANAGEMENT:

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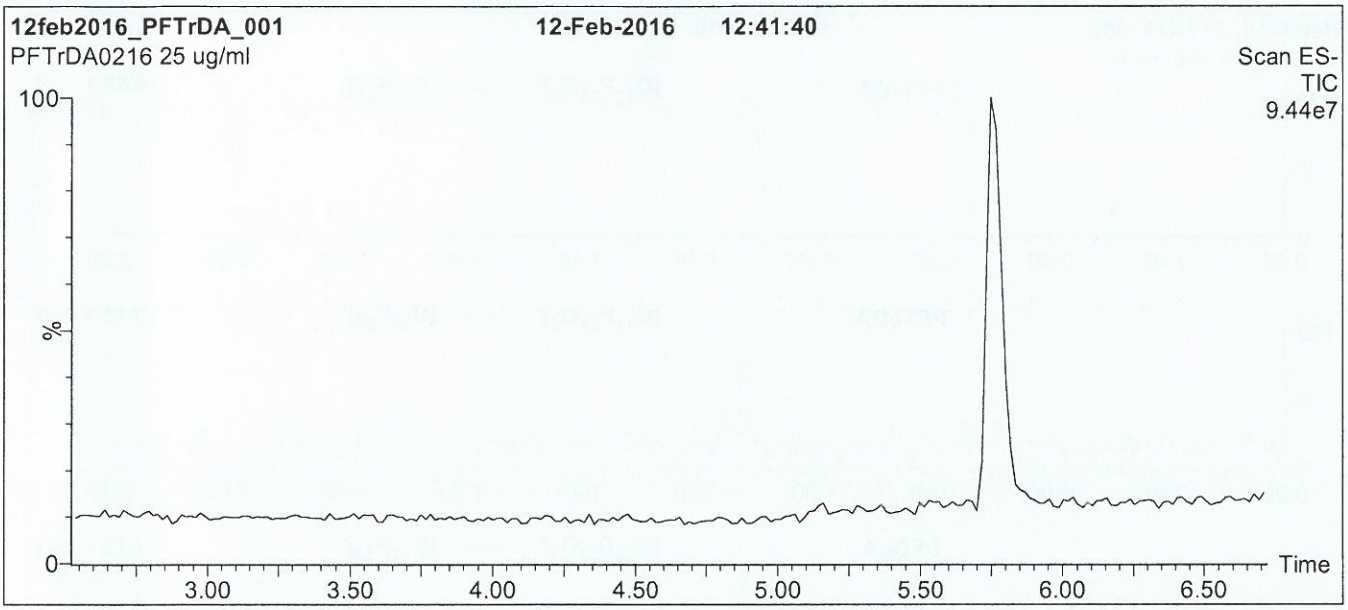
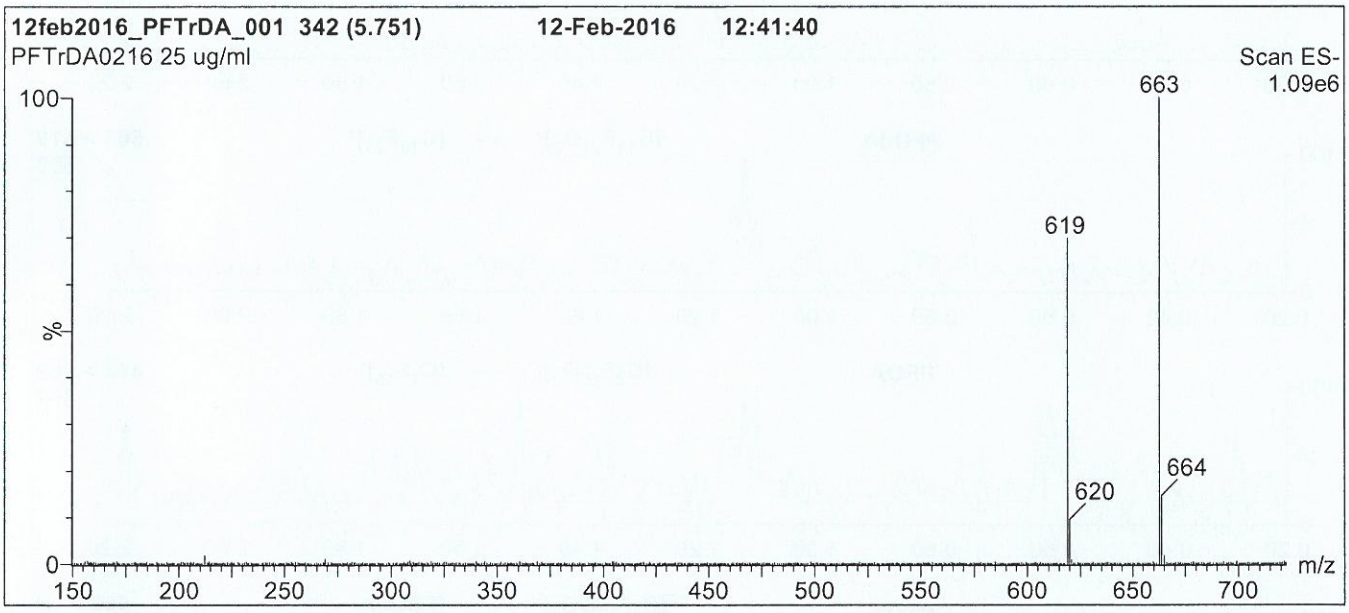
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **PFTrDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

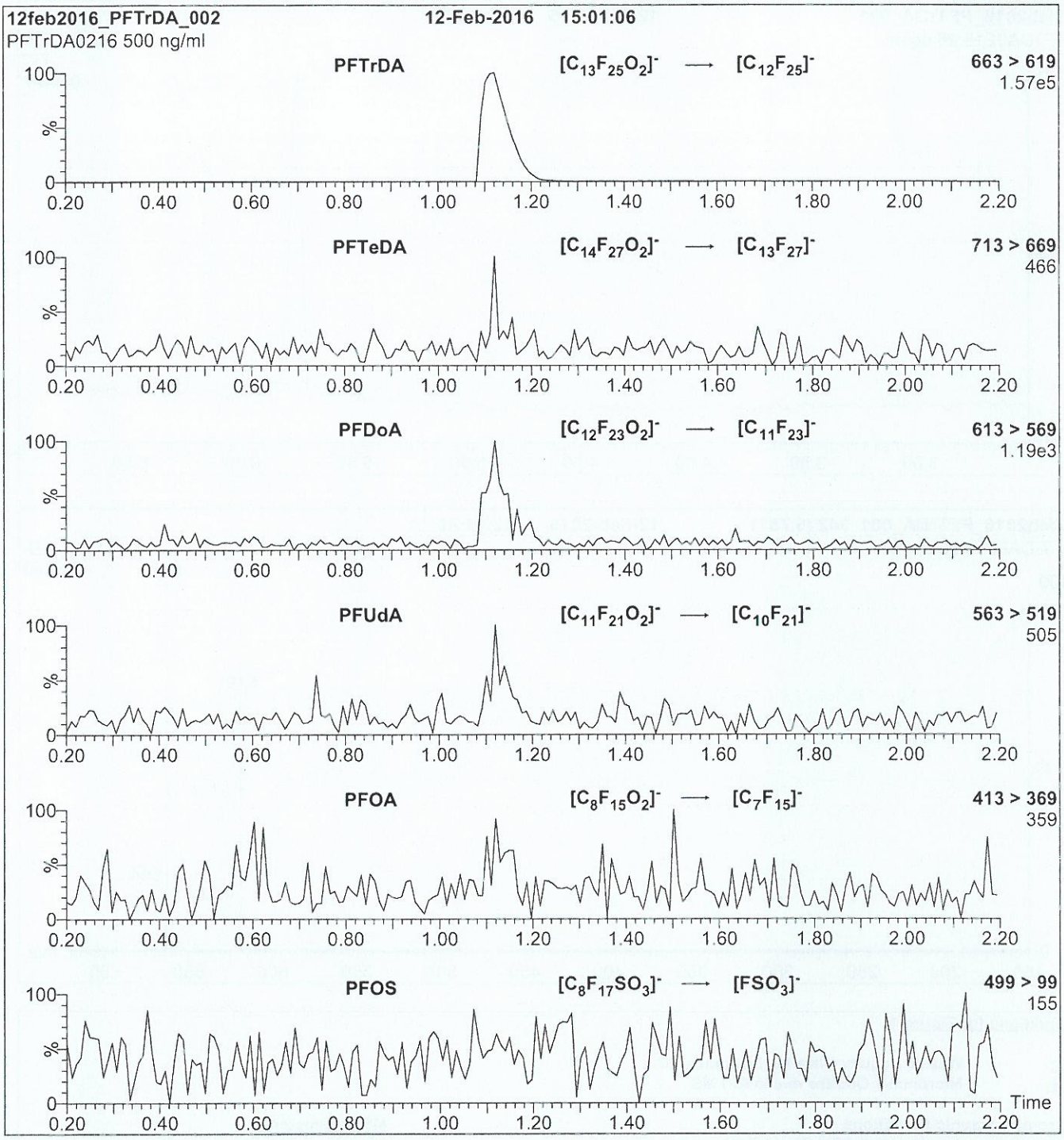
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 22.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 650

Figure 2: **PFTrDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFTrDA)

Mobile phase: Isocratic 80% MeOH / 20% H_2O

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 15

16J0422

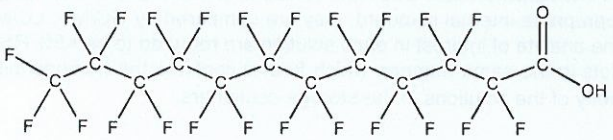
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDoA
LOT NUMBER: PFDoA0516
COMPOUND: Perfluoro-n-dodecanoic acid

STRUCTURE:

CAS #: 307-55-1



MOLECULAR FORMULA: $C_{12}HF_{23}O_2$
MOLECULAR WEIGHT: 614.10
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/02/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

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QUALITY MANAGEMENT:

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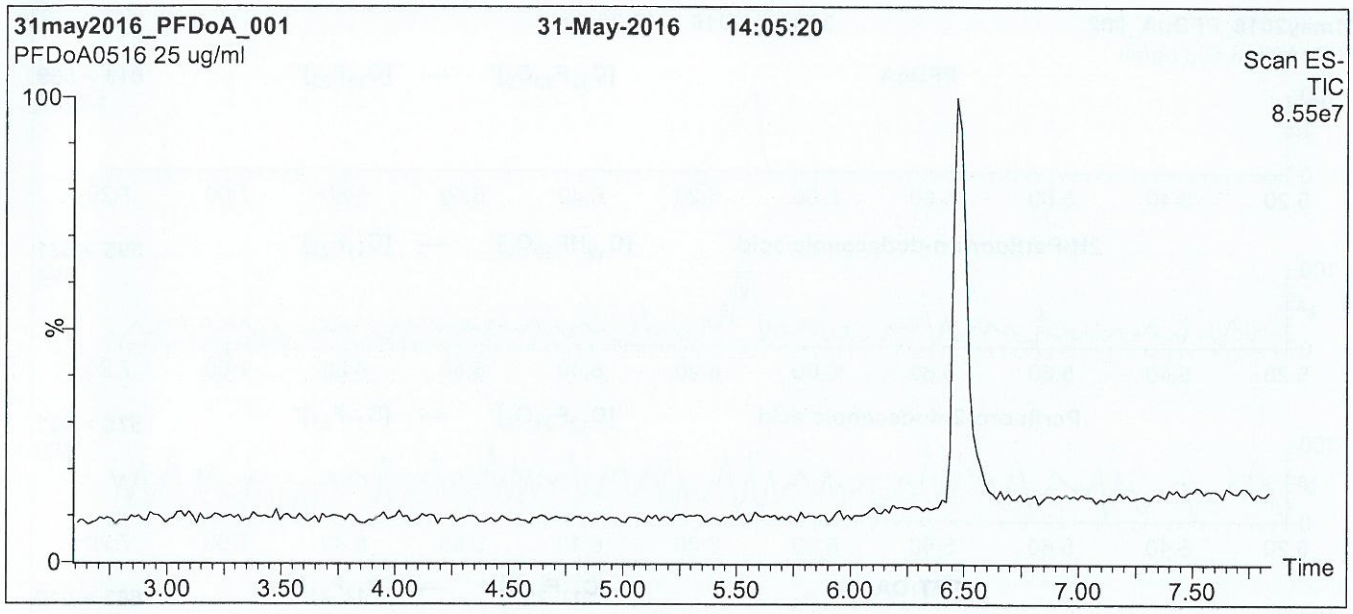
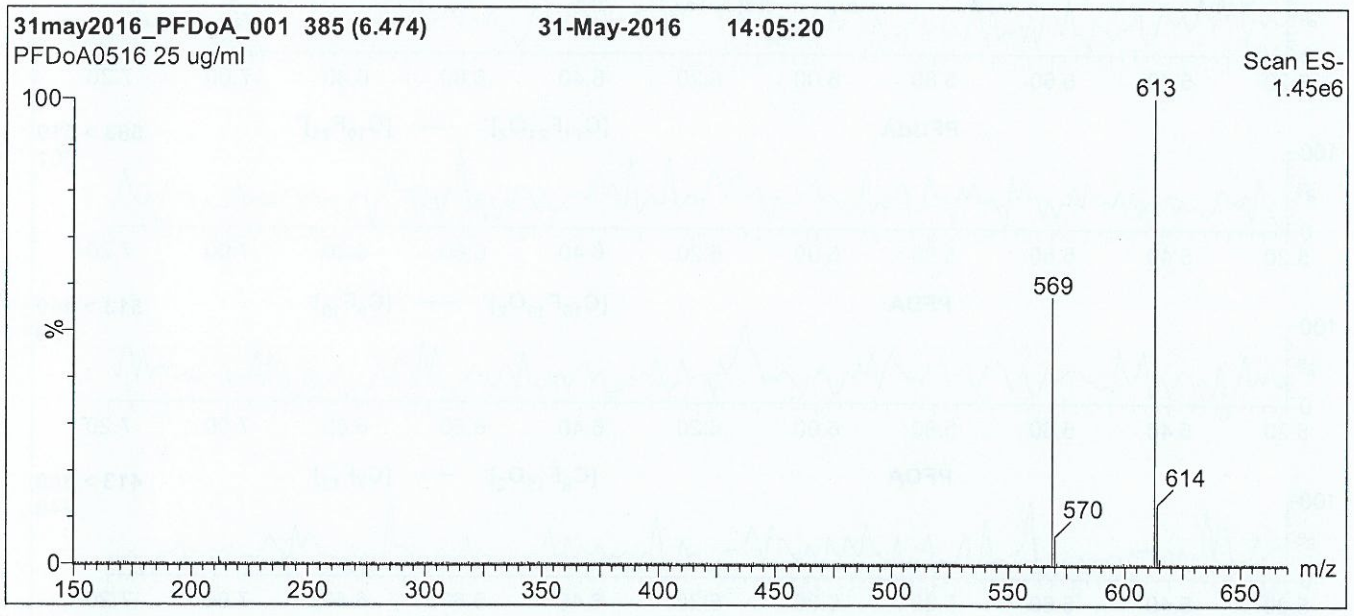
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **PFDoA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for
1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

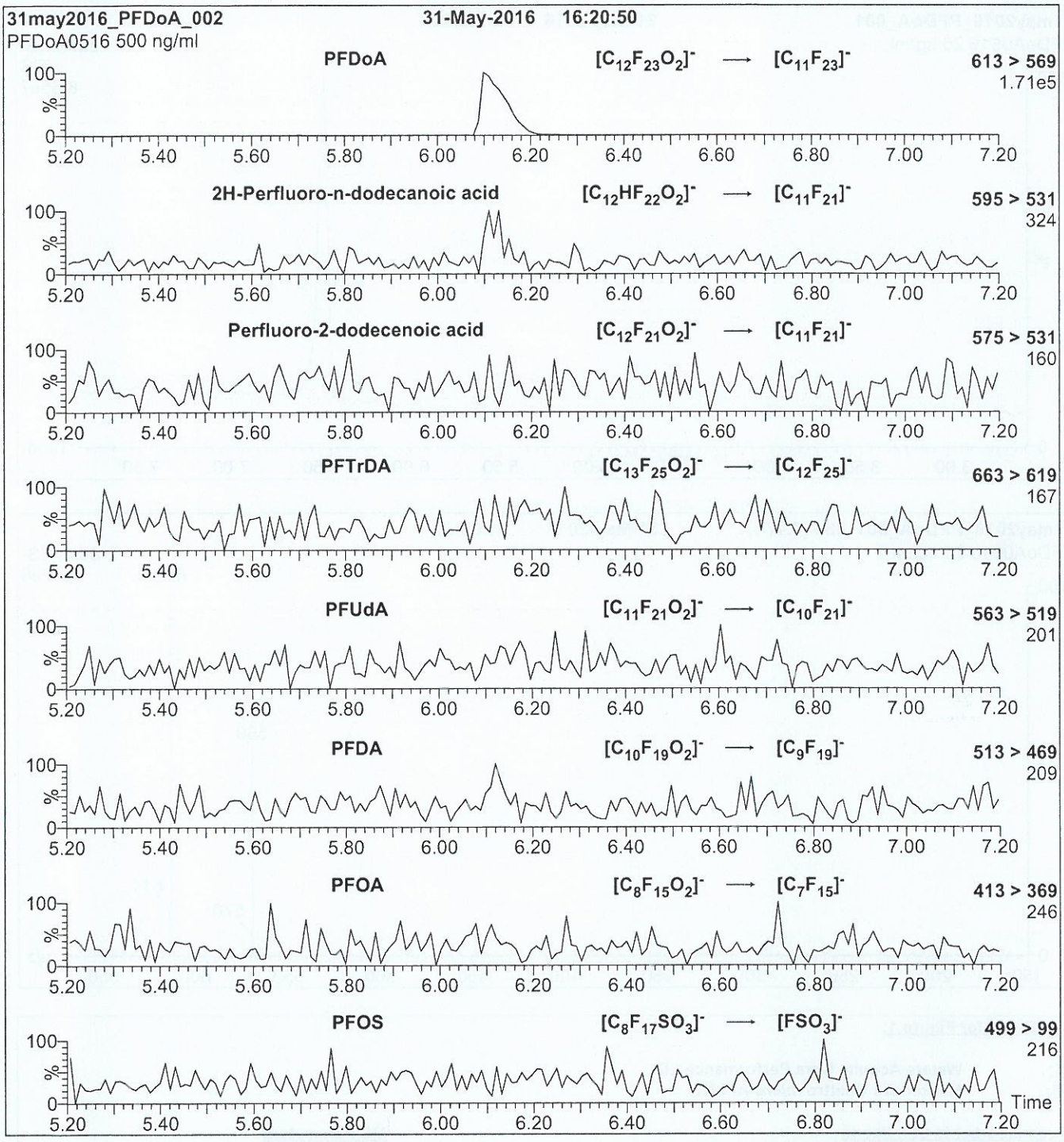
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFDoA)	**MS Parameters**
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)	Collision Gas (mbar) = 3.39e-3 Collision Energy (eV) = 13
Flow:	300 µl/min	

16J0423

WELLINGTON LABORATORIES

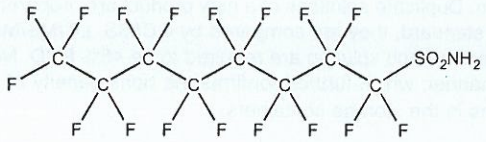
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FOSA-I
COMPOUND: Perfluoro-1-octanesulfonamide

LOT NUMBER: FOSA0815I

STRUCTURE:

CAS #: 754-91-6



MOLECULAR FORMULA:	$C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	499.14
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/02/2015		
EXPIRY DATE: (mm/dd/yyyy)	09/02/2017		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 09/11/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

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HAZARDS:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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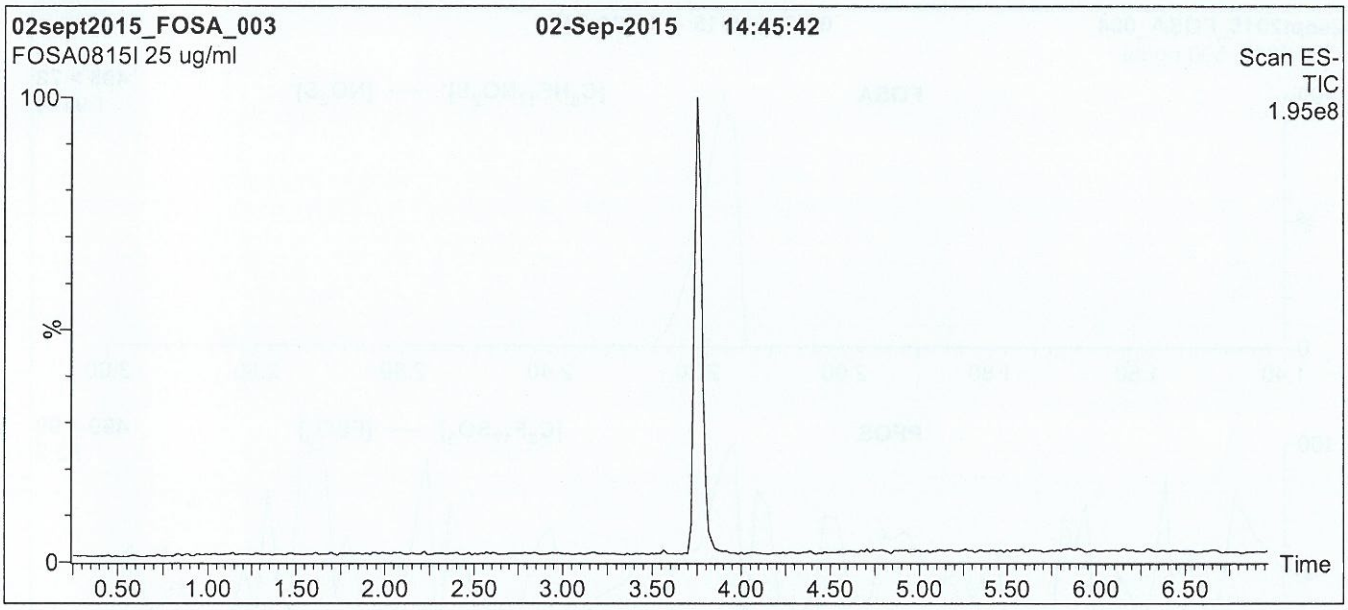
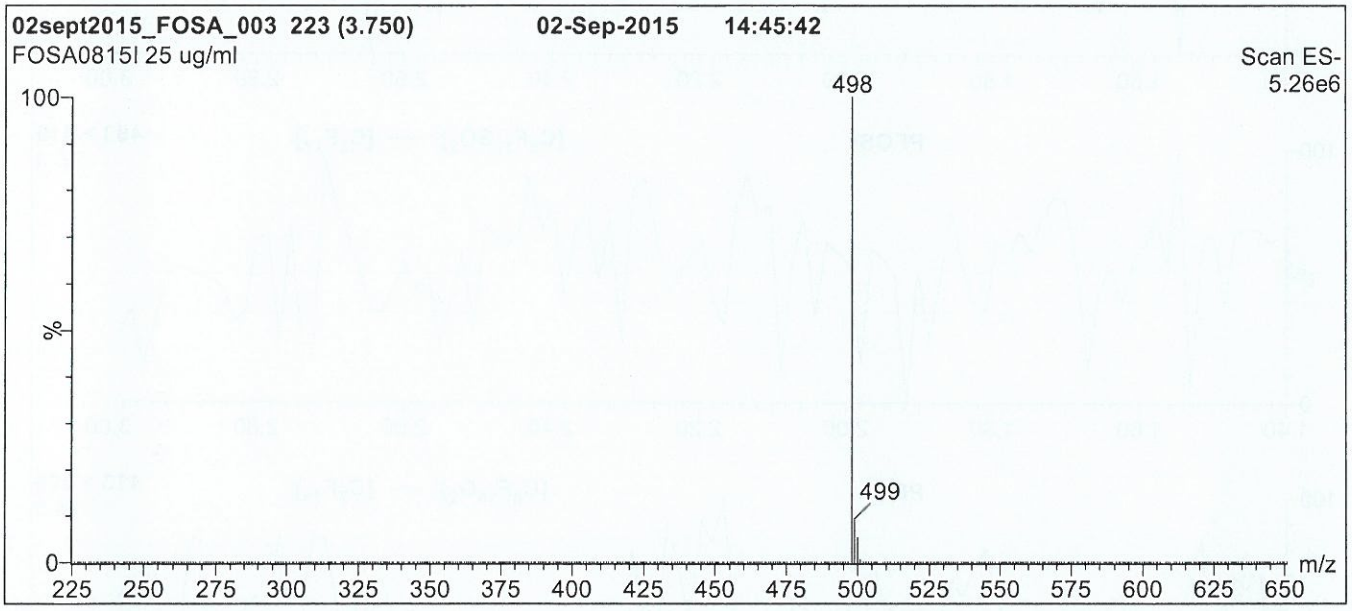
Figure 1: **FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

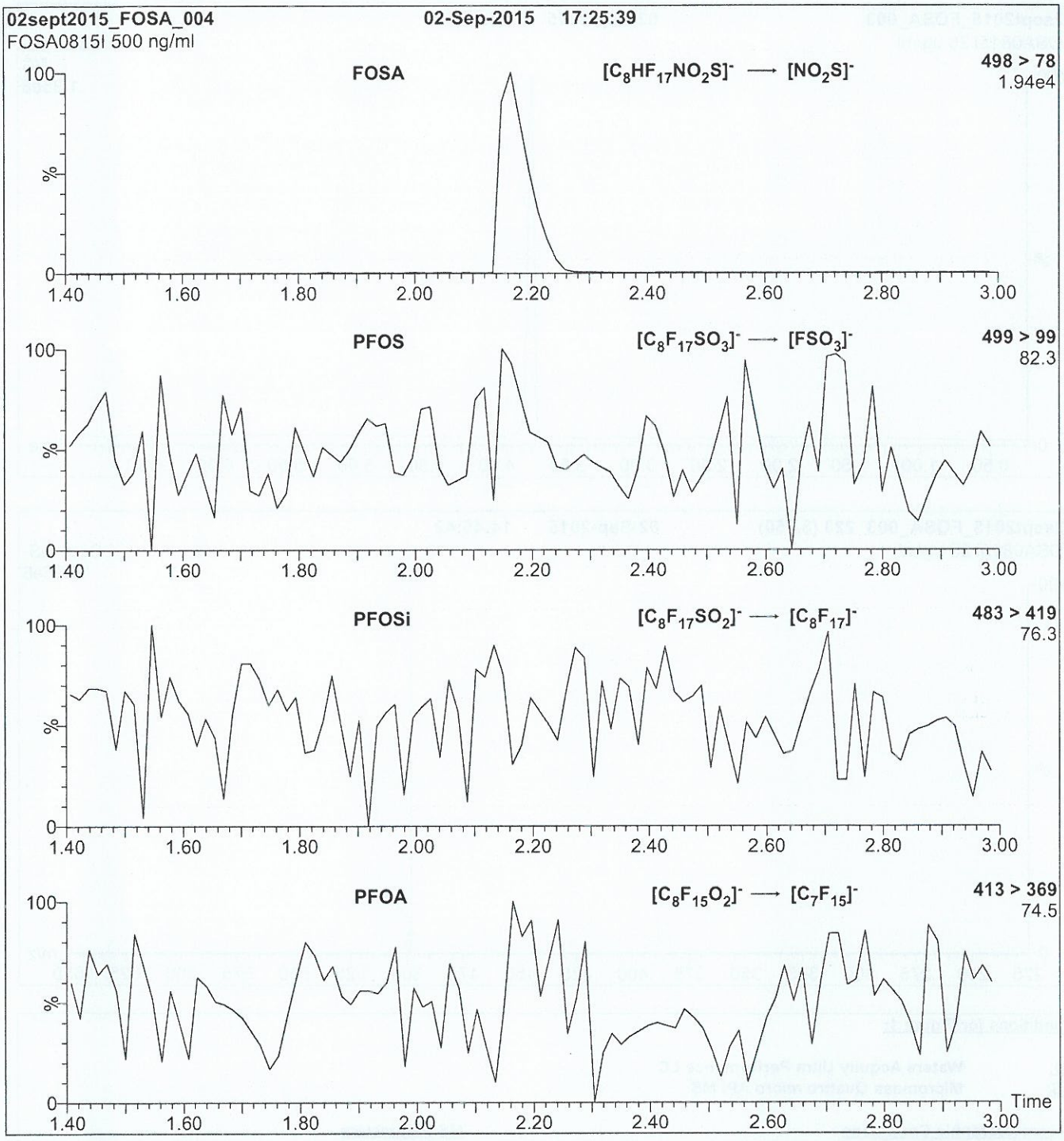
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml FOSA-I)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

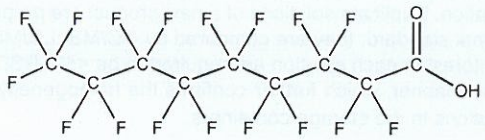
Collision Gas (mbar) = 3.54e-3
Collision Energy (eV) = 30

16J0424

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFNA	**LOT NUMBER:**	PFNA1015
COMPOUND:	Perfluoro-n-nonanoic acid		
STRUCTURE:		**CAS #:**	375-95-1



MOLECULAR FORMULA:	$C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	464.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/23/2015		
EXPIRY DATE: (mm/dd/yyyy)	10/23/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of perfluoro-n-octanoic acid (PFOA) and < 0.1% of perfluoro-n-heptanoic acid (PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/30/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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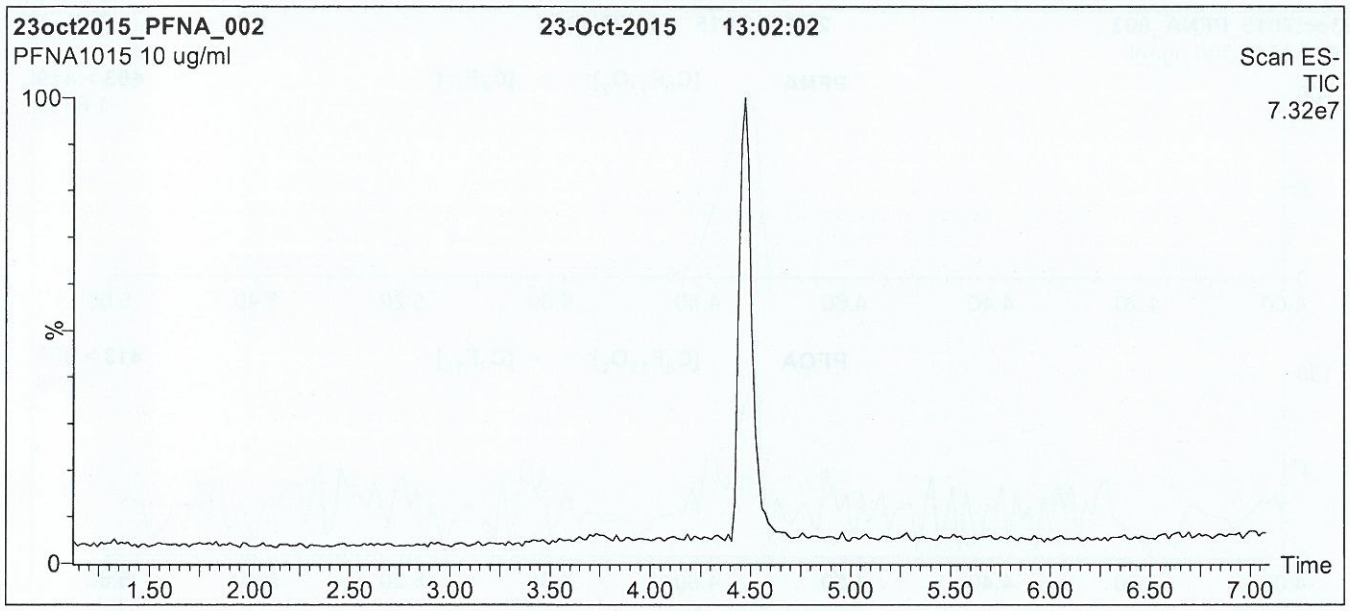
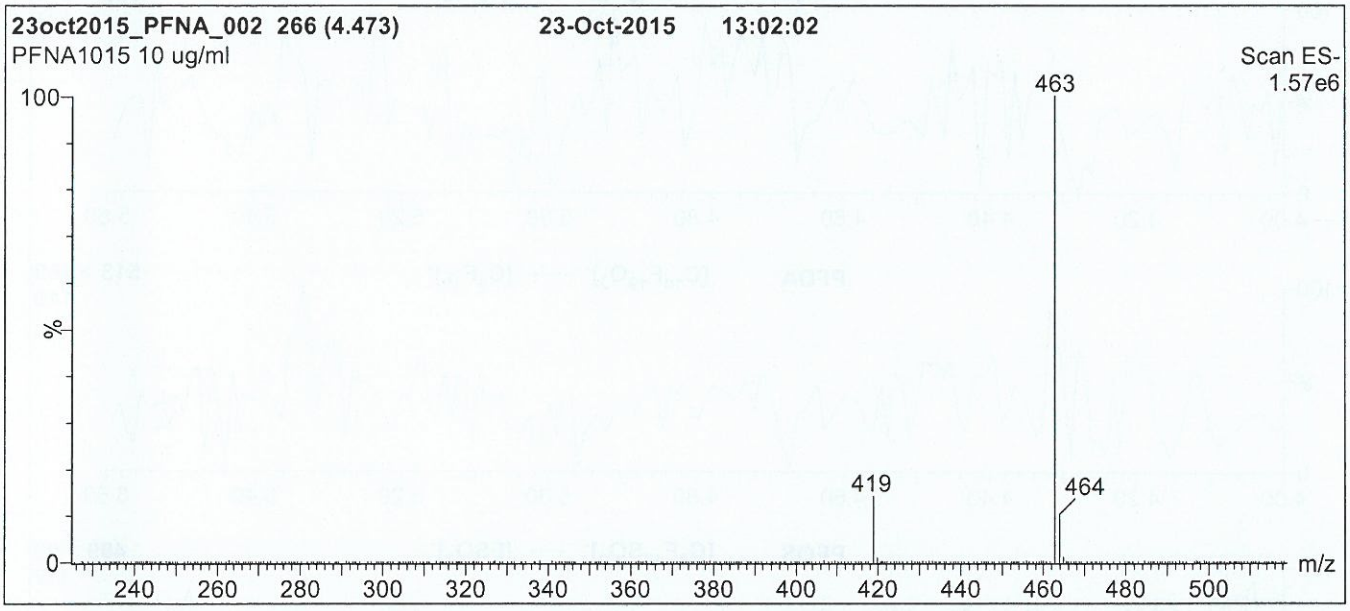
Figure 1: **PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

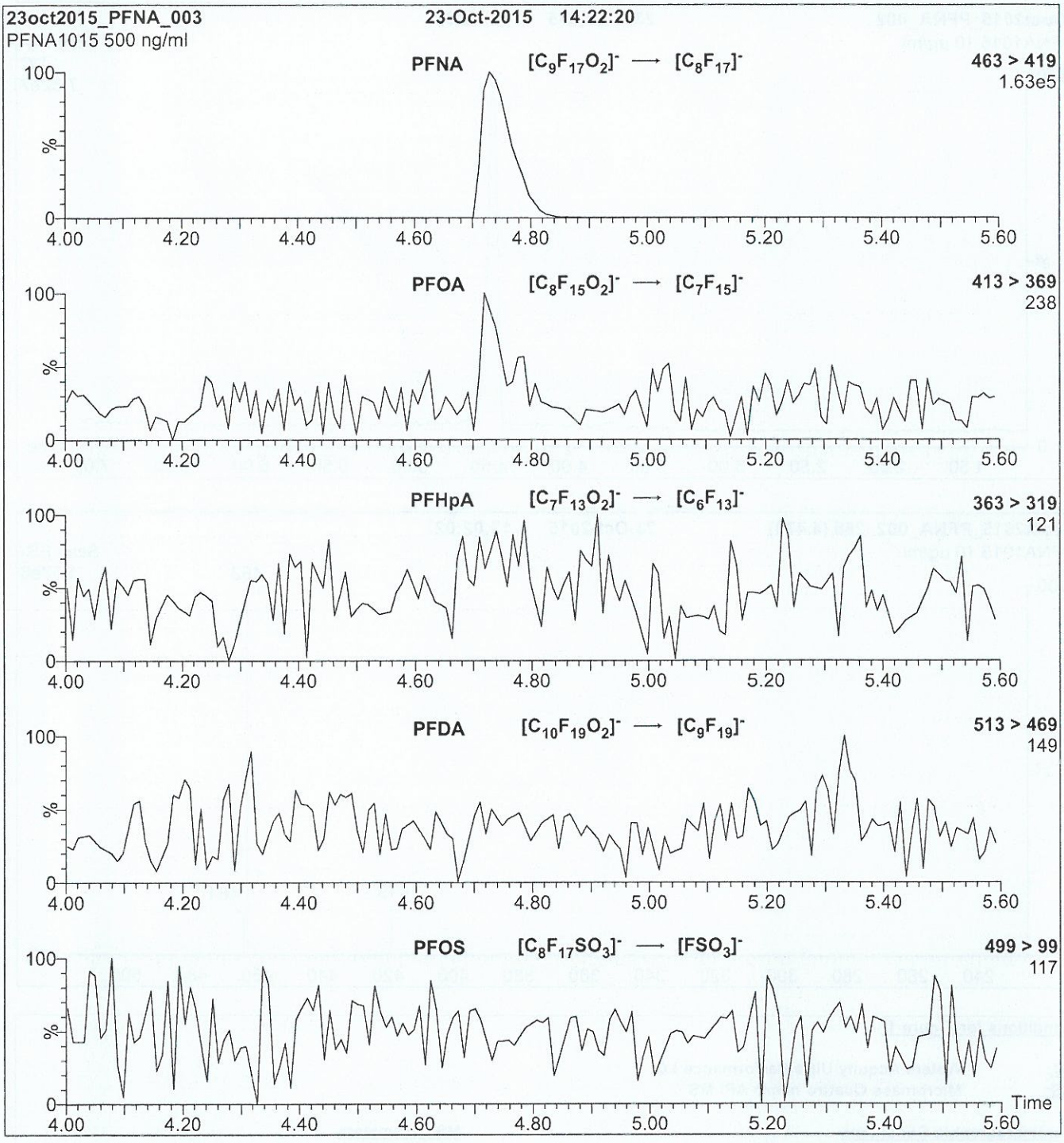
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 11

16 JUN 25

WELLINGTON LABORATORIES

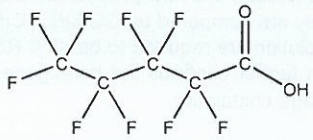
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFPeA
COMPOUND: Perfluoro-n-pentanoic acid

LOT NUMBER: PFPeA0516

STRUCTURE:

CAS #: 2706-90-3



MOLECULAR FORMULA: $C_5HF_9O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 264.05
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of Perfluoro-n-heptanoic acid (PFHpA) and ~ 0.2% of $C_5H_2F_8O_2$ (hydrido - derivative) as measured by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/02/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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CALA Testing Accreditation No. A 1226

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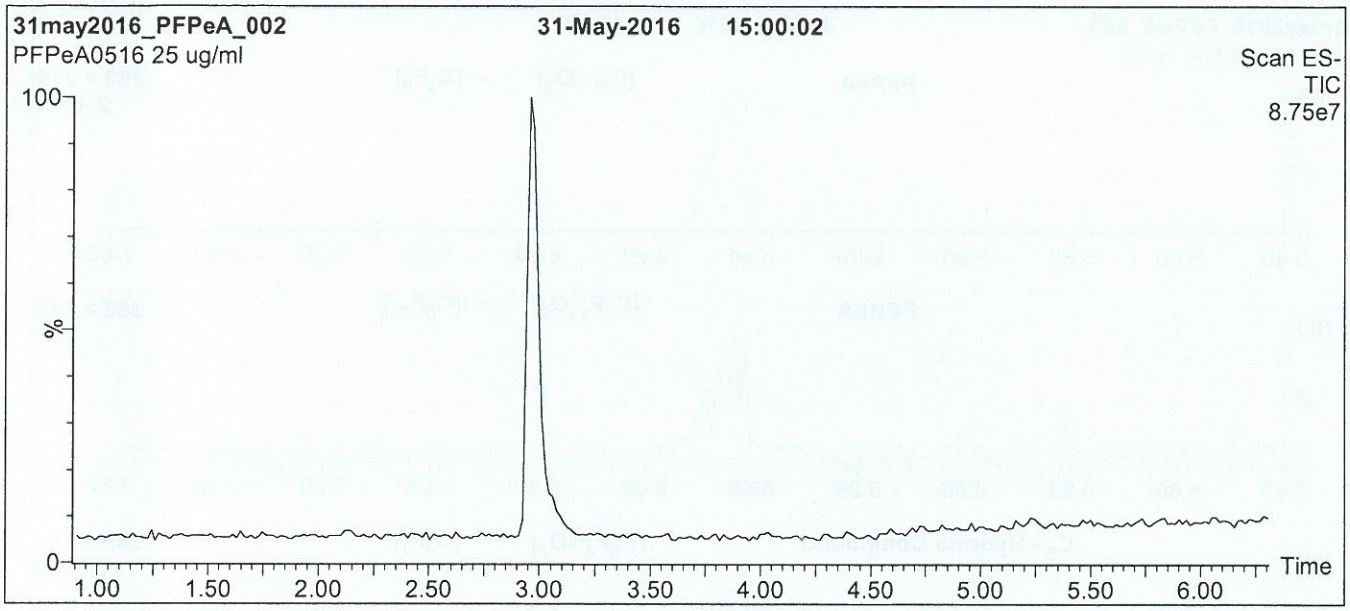
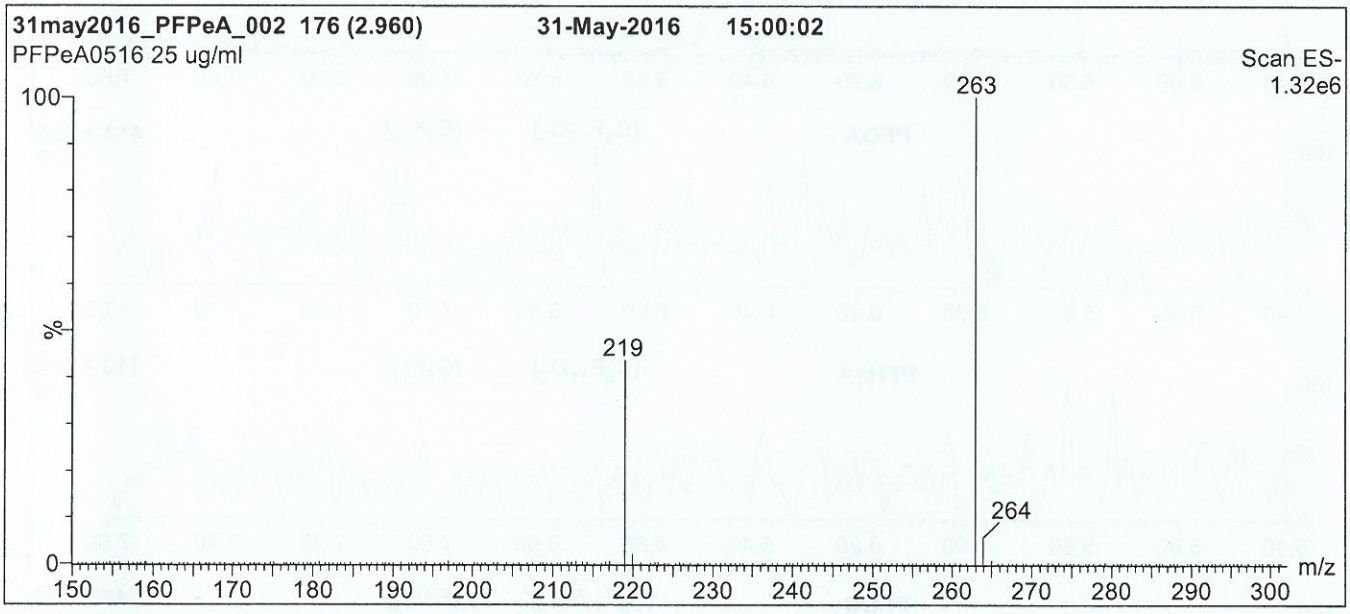
Figure 1: **PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

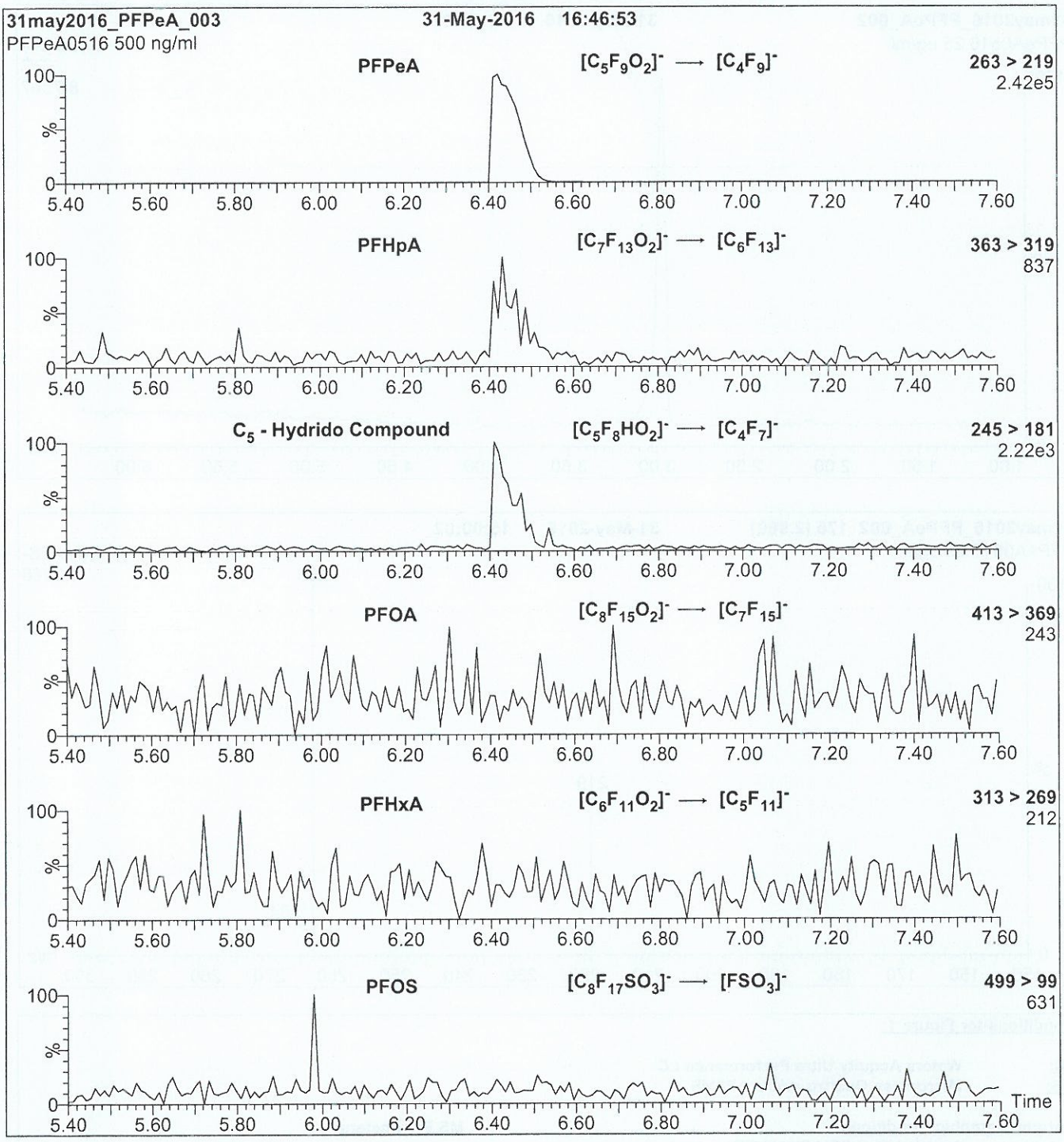
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.20e-3
Collision Energy (eV) = 9

16J0426

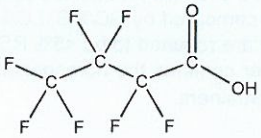
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFBA
COMPOUND: Perfluoro-n-butanoic acid
LOT NUMBER: PFBA0516

STRUCTURE:

CAS #: 375-22-4



MOLECULAR FORMULA: $C_4HF_7O_2$
MOLECULAR WEIGHT: 214.04
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/27/2016
EXPIRY DATE: (mm/dd/yyyy) 05/27/2021
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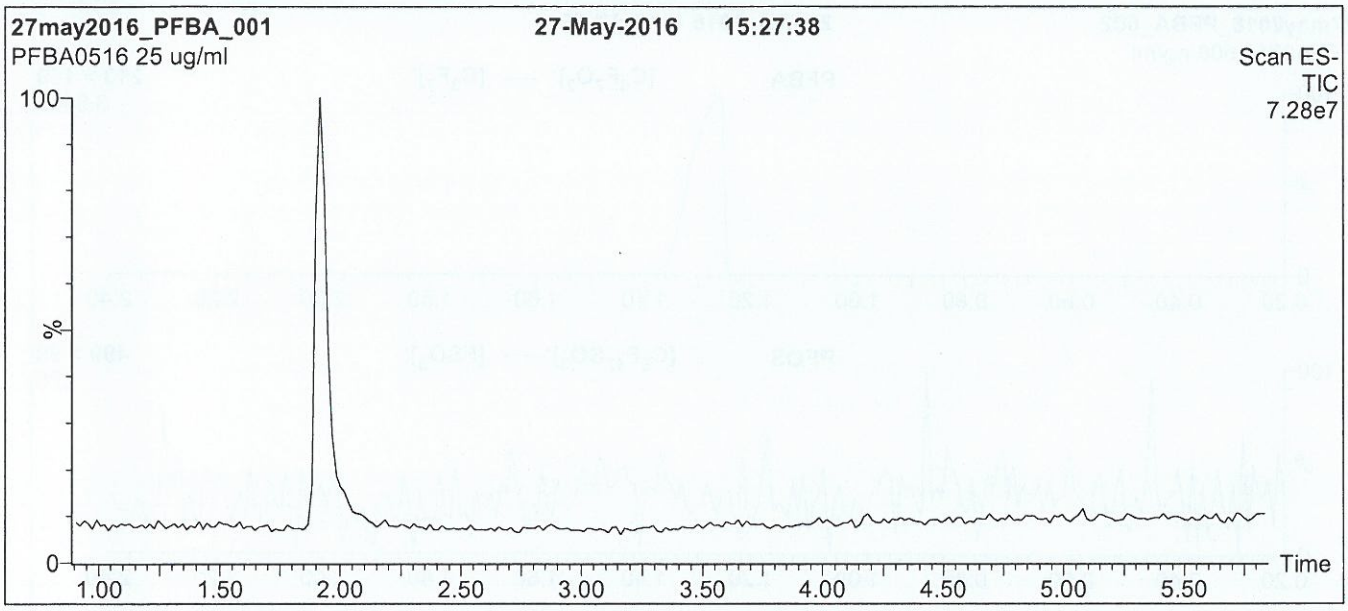
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

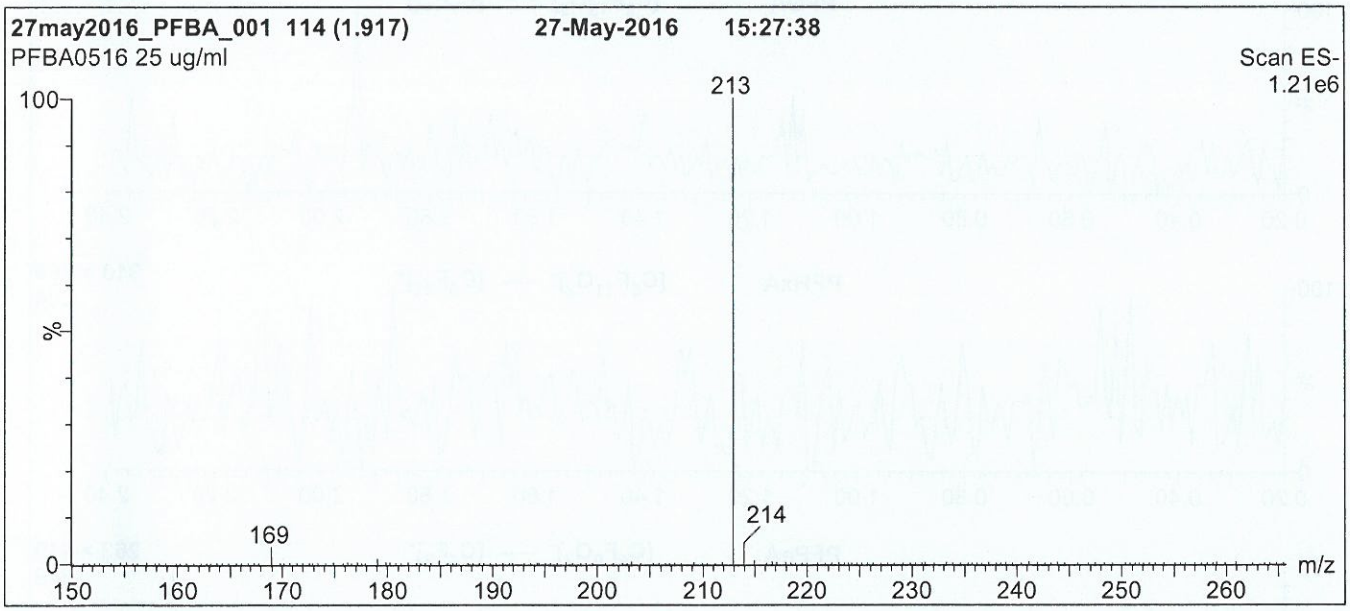
CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **PFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

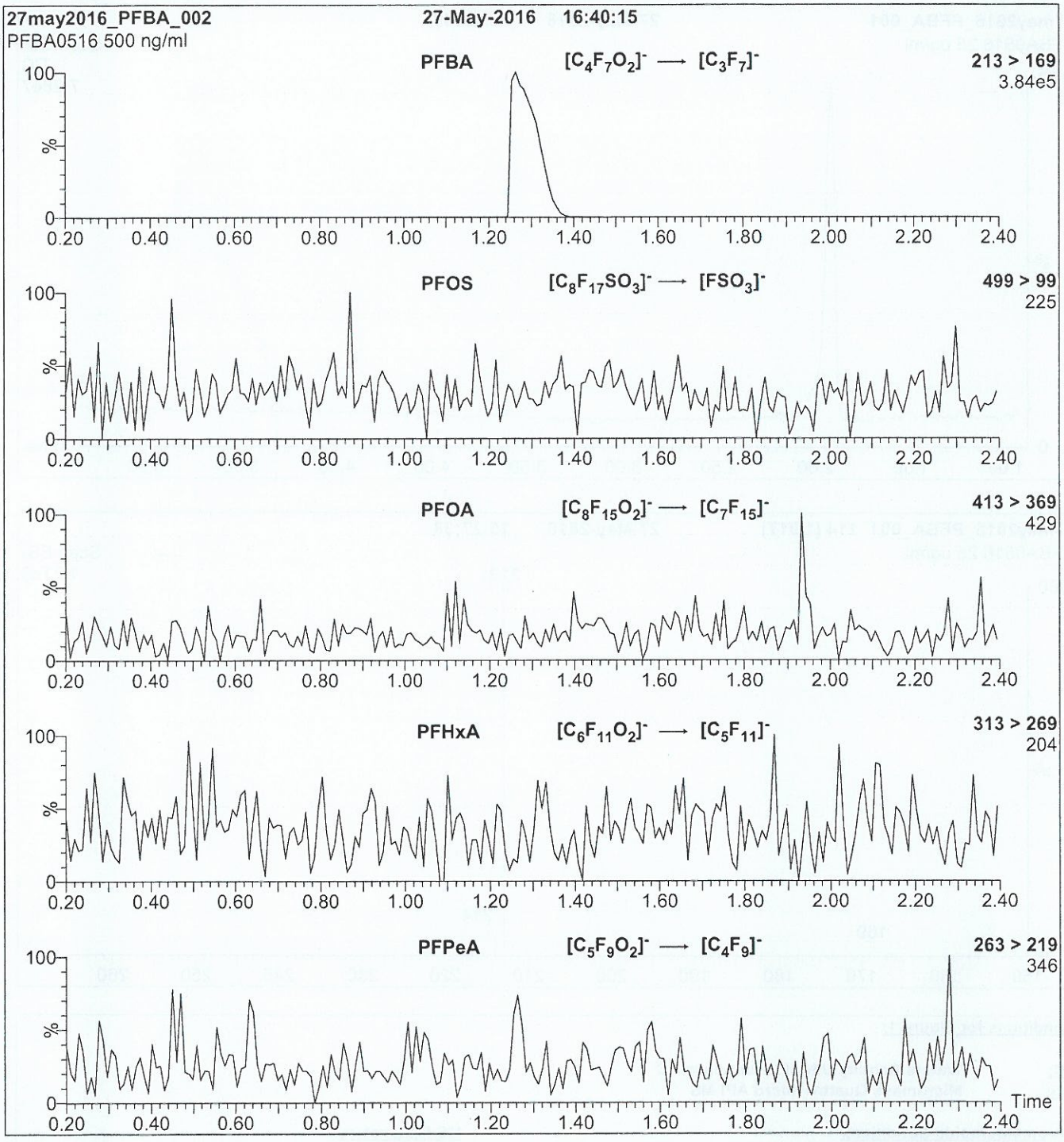
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFBA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.62e-3
Collision Energy (eV) = 10

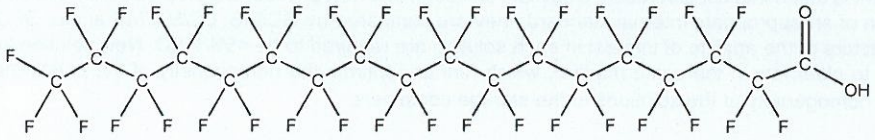
16L0512

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFODA
LOT NUMBER: PFODA0416
COMPOUND: Perfluoro-n-octadecanoic acid

STRUCTURE:
CAS #: 16517-11-6



MOLECULAR FORMULA: $C_{18}HF_{35}O_2$
MOLECULAR WEIGHT: 914.14
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 04/29/2016
EXPIRY DATE: (mm/dd/yyyy) 04/29/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/20/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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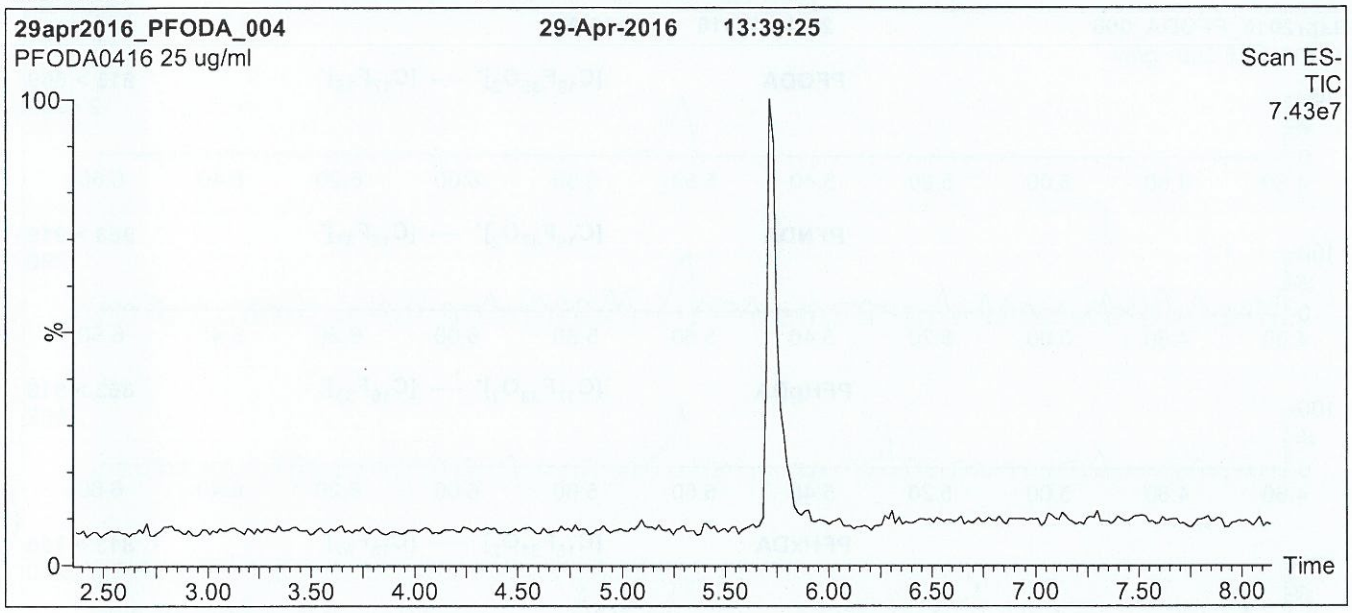
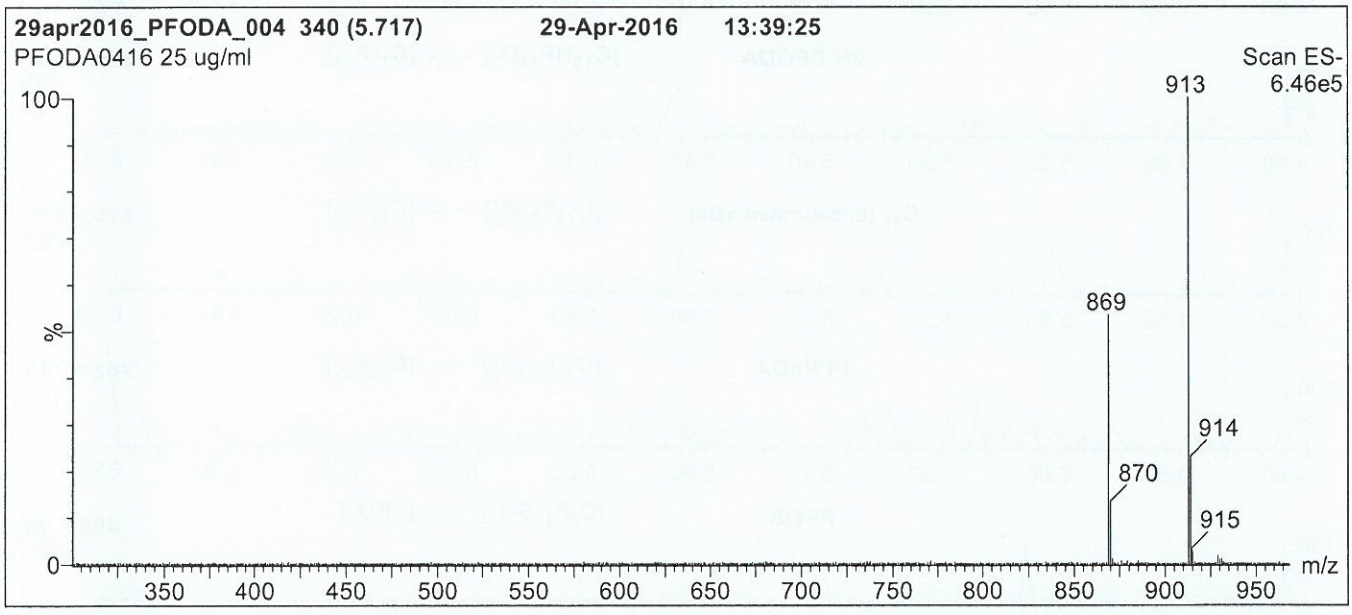
Figure 1: **PFODA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 70% (80:20 MeOH:ACN) / 30% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 95% organic over 6 min and hold for 2.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

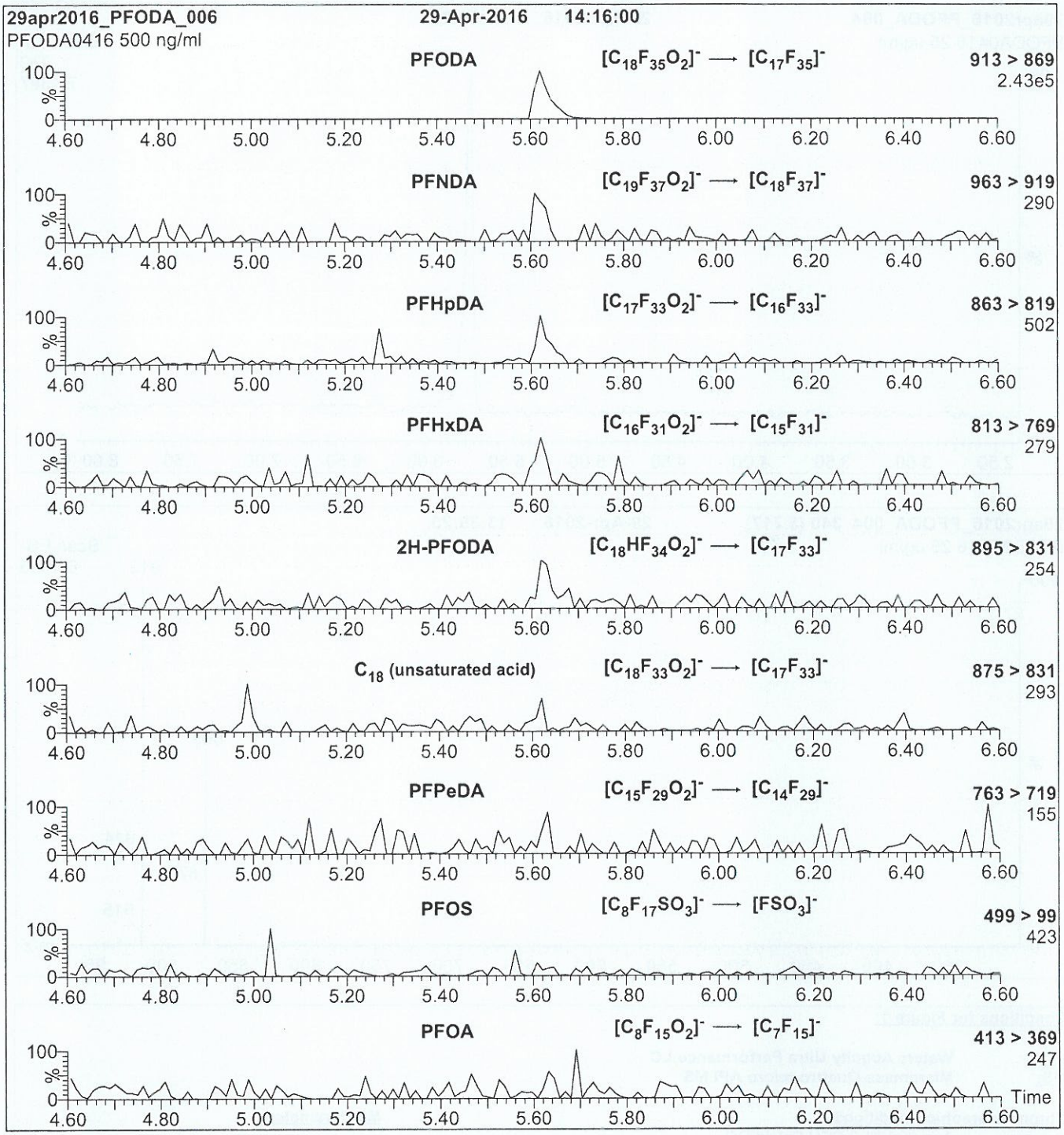
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1000 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFODA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFODA)

Mobile phase: Isocratic 90% (80:20 MeOH:ACN) / 10% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 15

17C1026

WELLINGTON LABORATORIES

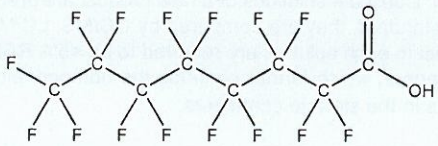
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFOA
COMPOUND: Perfluoro-n-octanoic acid

LOT NUMBER: PFOA0716

STRUCTURE:

CAS #: 335-67-1



MOLECULAR FORMULA: $C_8HF_{15}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 414.07
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/02/2016
EXPIRY DATE: (mm/dd/yyyy) 08/02/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/05/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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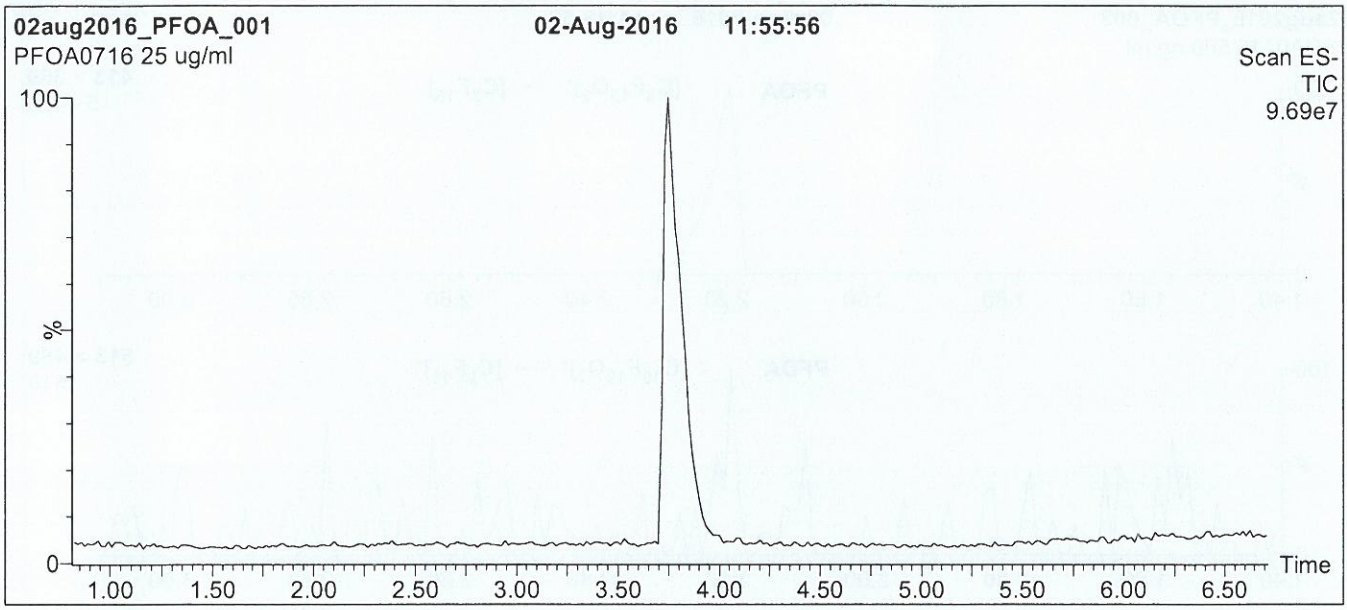
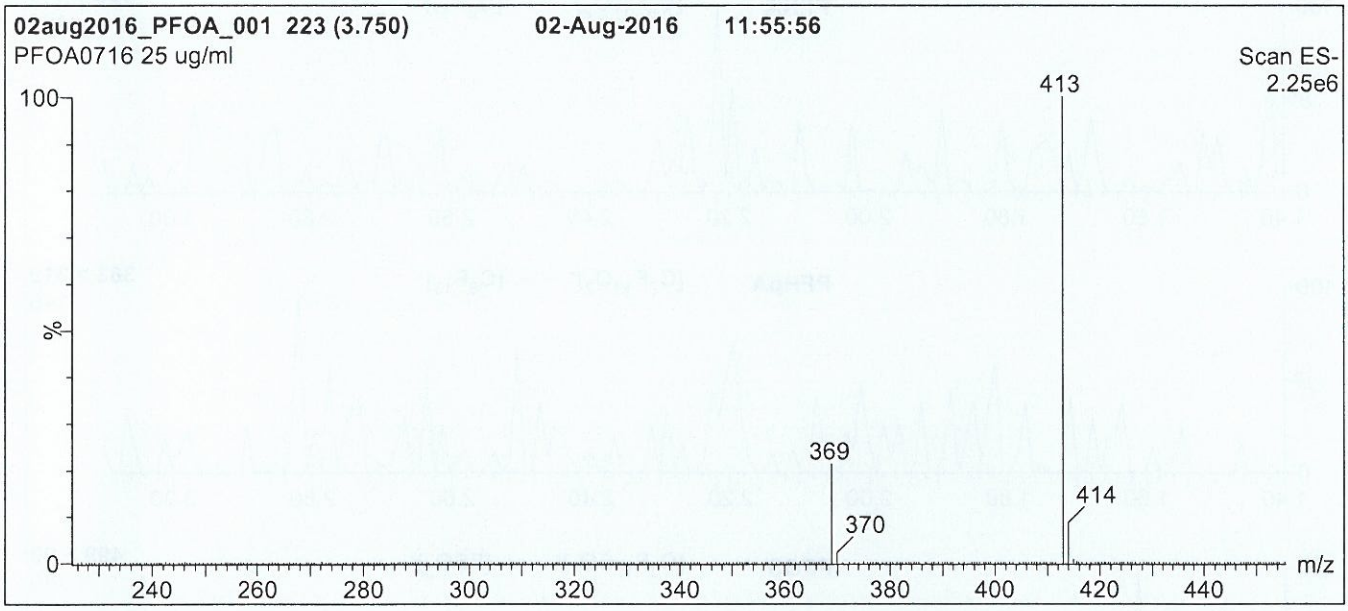
Figure 1: **PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

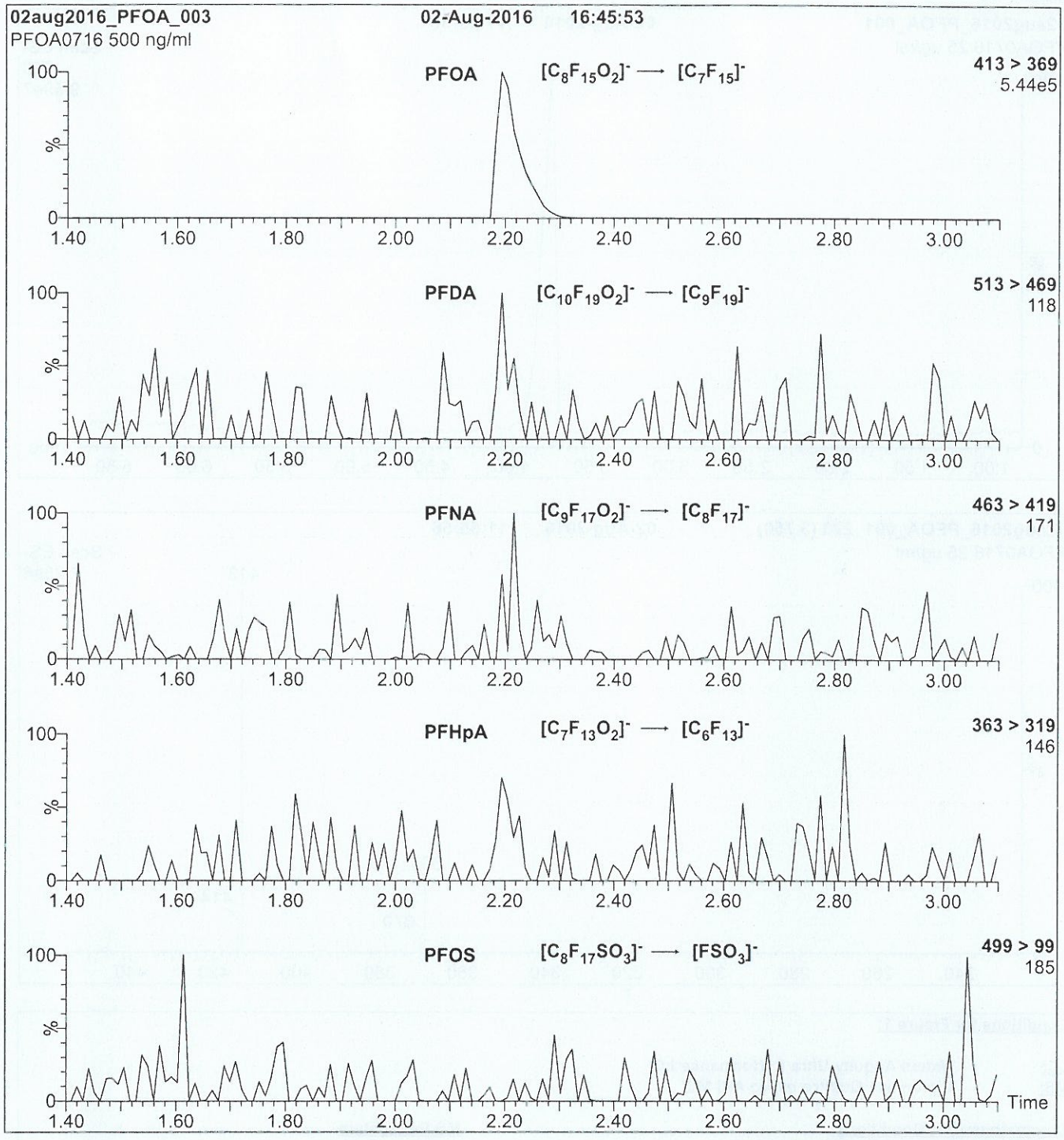
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: PFOA; LC/MS/MS Data (Selected MRM Transitions)



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFOA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

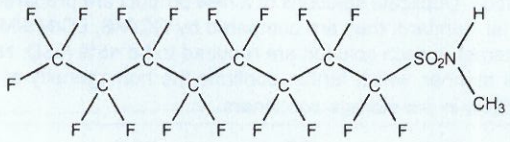
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 10

1702612

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0516M
COMPOUND:	N-methylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	31506-32-8



MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/24/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/26/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Work Order 1700792

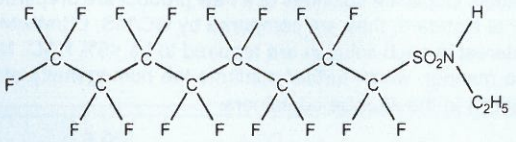
1702613

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M
LOT NUMBER: NEtFOSA0516M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide

STRUCTURE:
CAS #: 4151-50-2



MOLECULAR FORMULA:	$C_{10}H_6F_{17}NO_2S$	**MOLECULAR WEIGHT:**	527.20
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/24/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/27/2016 (mm/dd/yyyy)

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17D2614

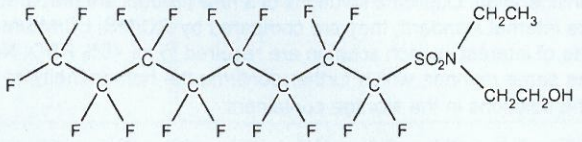
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE1115M

COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 1691-99-2



MOLECULAR FORMULA:	$C_{12}H_{10}F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.25
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/10/2015 (HRGC/LRMS) 11/09/2015 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	11/10/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 11/11/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1702616

WELLINGTON LABORATORIES

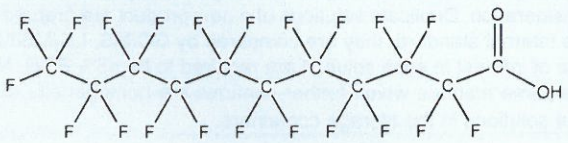
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid

LOT NUMBER: PFUdA1016

STRUCTURE:

CAS #: 2058-94-8



MOLECULAR FORMULA: $C_{11}HF_{21}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 564.09
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 10/18/2016
EXPIRY DATE: (mm/dd/yyyy) 10/18/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/19/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

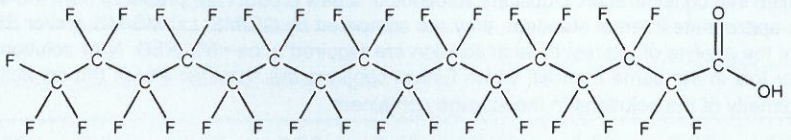
1702617

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxDA
LOT NUMBER: PFHxDA0516
COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE:



CAS #: 67905-19-5

MOLECULAR FORMULA: $C_{16}HF_{31}O_2$
MOLECULAR WEIGHT: 814.13
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/25/2016
EXPIRY DATE: (mm/dd/yyyy) 05/25/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.4% of PFODA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/27/2016 (mm/dd/yyyy)

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1702618

WELLINGTON LABORATORIES

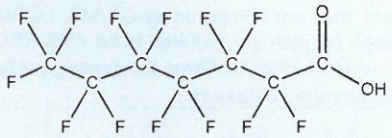
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHpA
COMPOUND: Perfluoro-n-heptanoic acid

LOT NUMBER: PFHpA1216

STRUCTURE:

CAS #: 375-85-9



MOLECULAR FORMULA: $C_7HF_{13}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 364.06
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/02/2016
EXPIRY DATE: (mm/dd/yyyy) 12/02/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/12/2016 (mm/dd/yyyy)

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17D2621

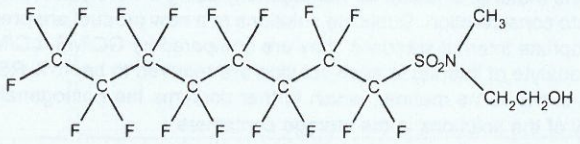
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE1115M

COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/10/2015 (HRGC/LRMS) 11/09/2015 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	11/10/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 11/16/2015 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17D2706

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17C1027	PFBS anion	10-Mar-17	Jamie C. Stockman	02-Dec-21	10-Mar-17 15:27 by JCS	0.75

Description:	L-PFBS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	Methanol	Prepared By:	Emilie Schneider
Final Volume (mls):	1.326	Department:	LCMS
Vials:	1	Last Edit:	27-Apr-17 13:48 by EMS

Analyte	CAS Number	Concentration	Units
PFBS	375-73-5	25	ug/mL
L-PFBS		25	ug/mL

17C1027

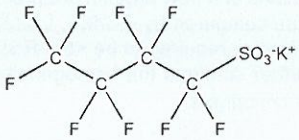
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFBS
LOT NUMBER: LPFBS1116
COMPOUND: Potassium perfluoro-1-butanesulfonate

STRUCTURE:

CAS #: 29420-49-3



MOLECULAR FORMULA:	$C_4F_9SO_3K$	**MOLECULAR WEIGHT:**	338.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 44.2 ± 2.2 µg/ml (PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	12/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	12/02/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/05/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

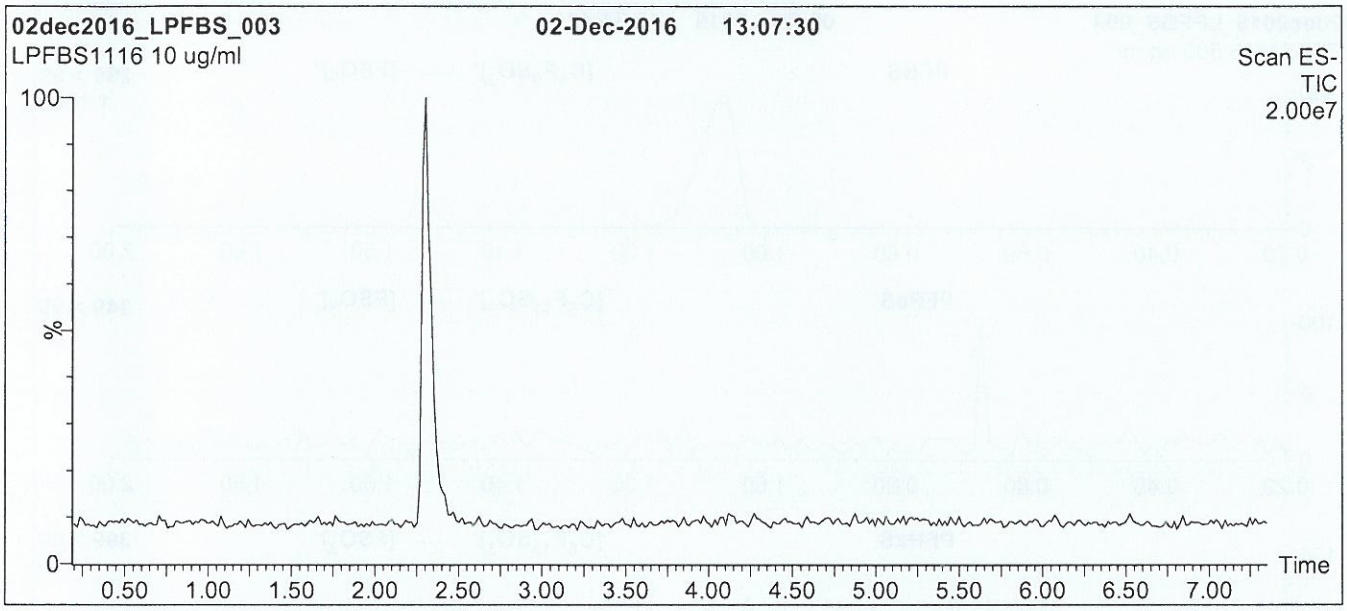
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

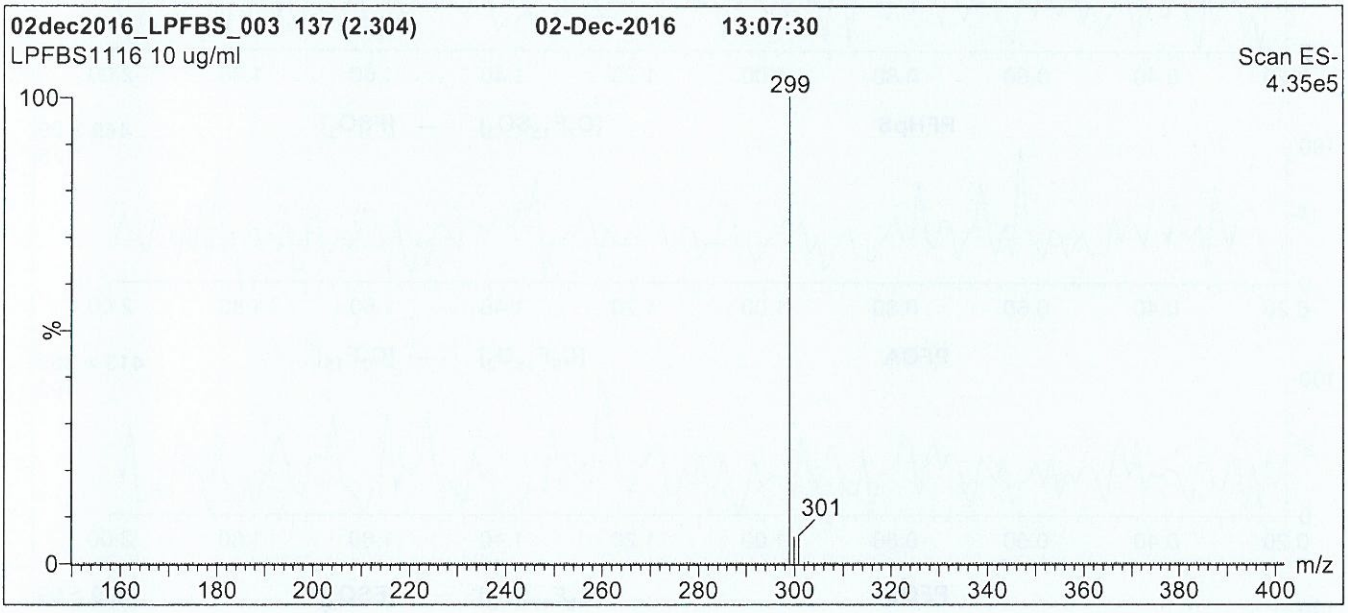
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **L-PFBS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

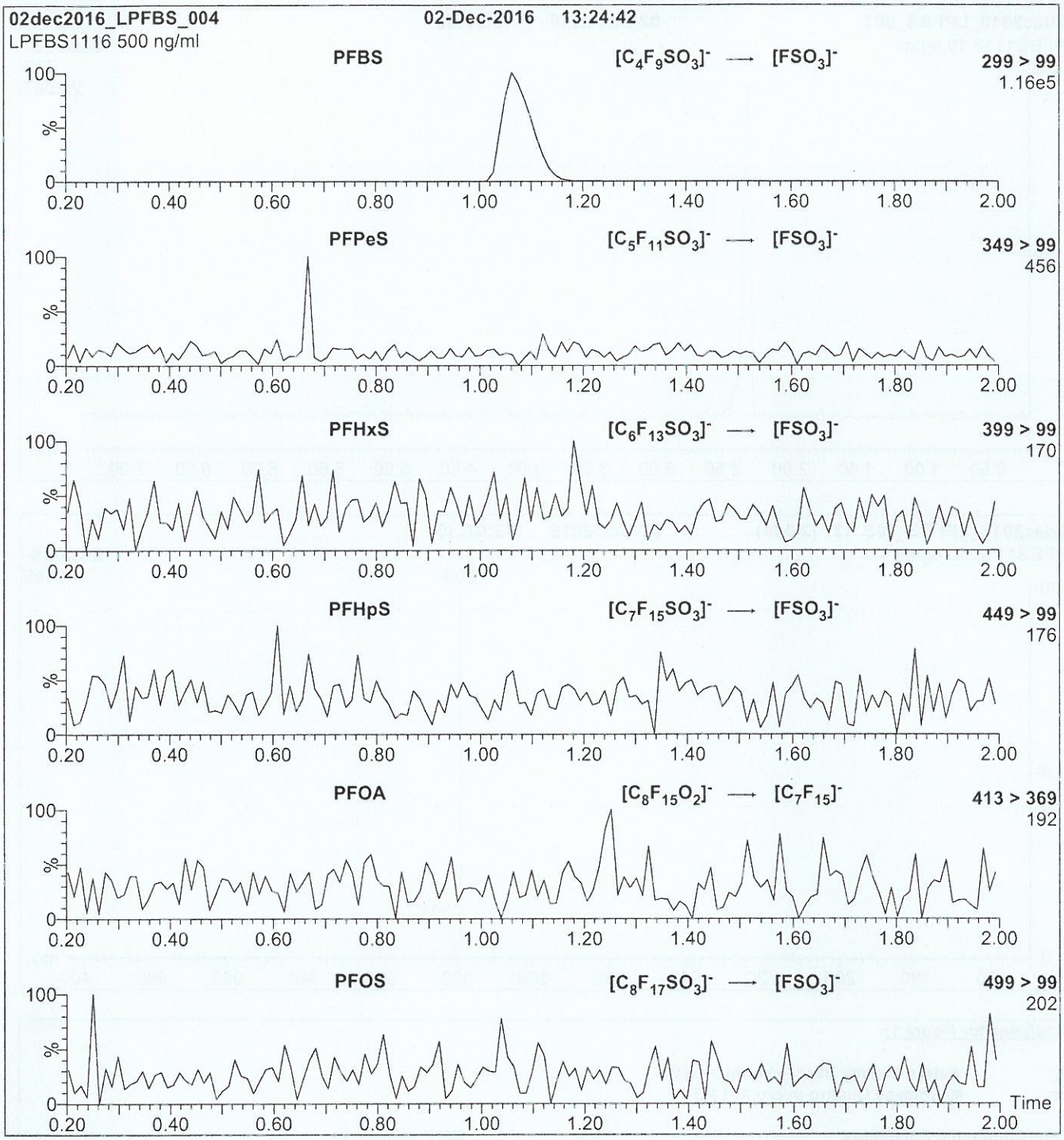
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **L-PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml L-PFBS)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 25

Analytical Standard Record

Vista Analytical Laboratory

17D2709

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1427	8:2 FTS anion	14-Sep-16	** Vendor **	22-Aug-21	15-Dec-16 08:53 by AEW	0.5

Description:	8:2 FTS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.958	Department:	LCMS
Vials:	1	Last Edit:	27-Apr-17 14:28 by INJ

Analyte	CAS Number	Concentration	Units
L-8:2FTS		25	ug/mL
8:2 FTS	70887-84-2	25	ug/mL

16I1427

WELLINGTON LABORATORIES

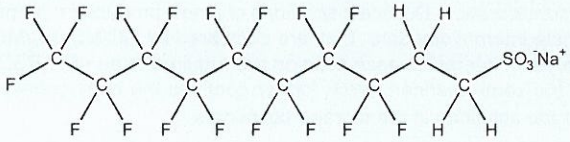
CERTIFICATE OF ANALYSIS DOCUMENTATION

8:2FTS

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS0816

COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{10}H_4F_{17}SO_3Na$		**MOLECULAR WEIGHT:**	550.16
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml	(8:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	08/22/2016			
EXPIRY DATE: (mm/dd/yyyy)	08/22/2021			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/25/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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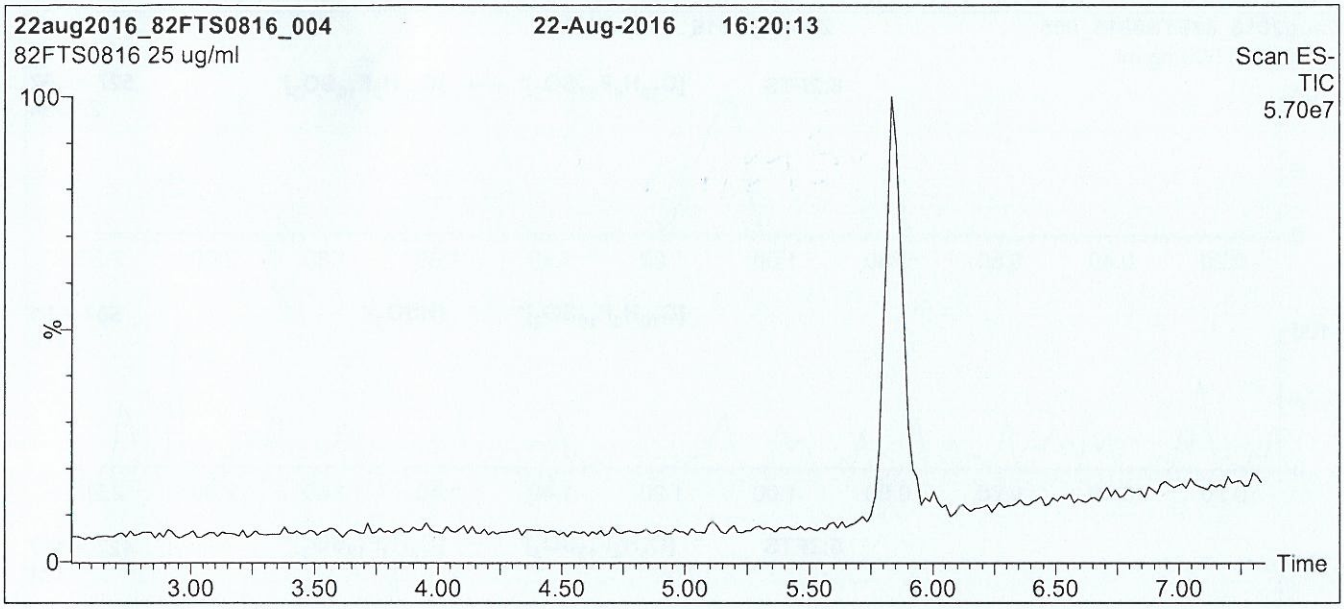
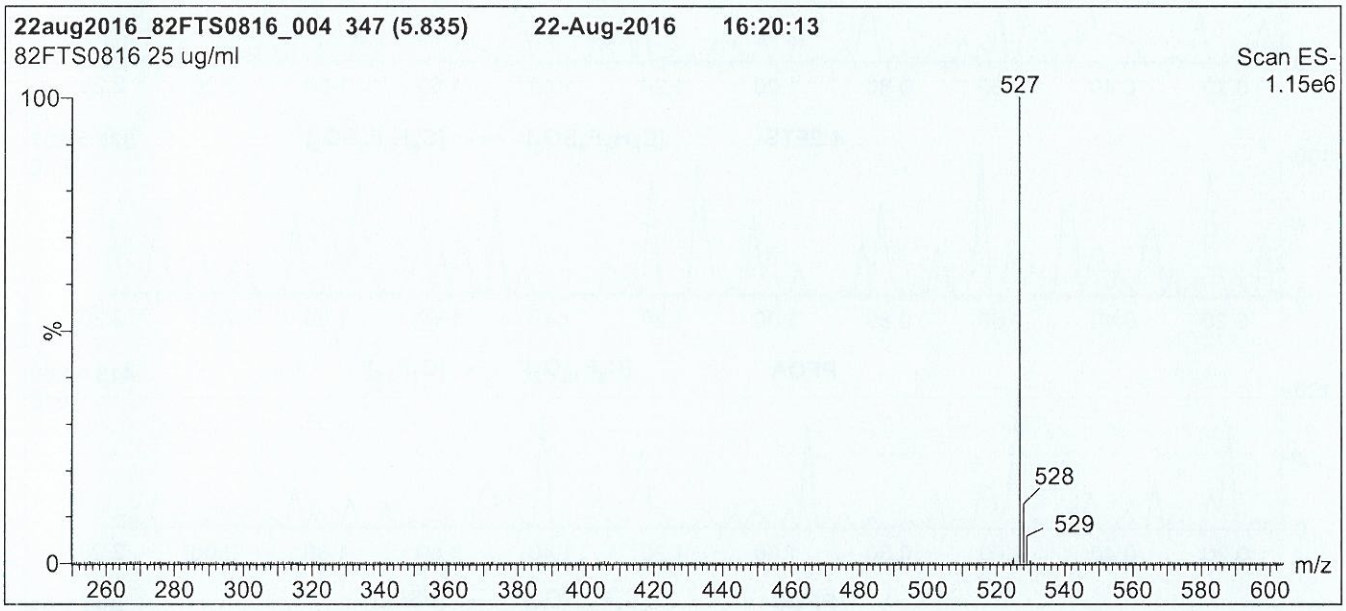
Figure 1: **8:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Agilent Zorbax Bonus-RP
1.8 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH/ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

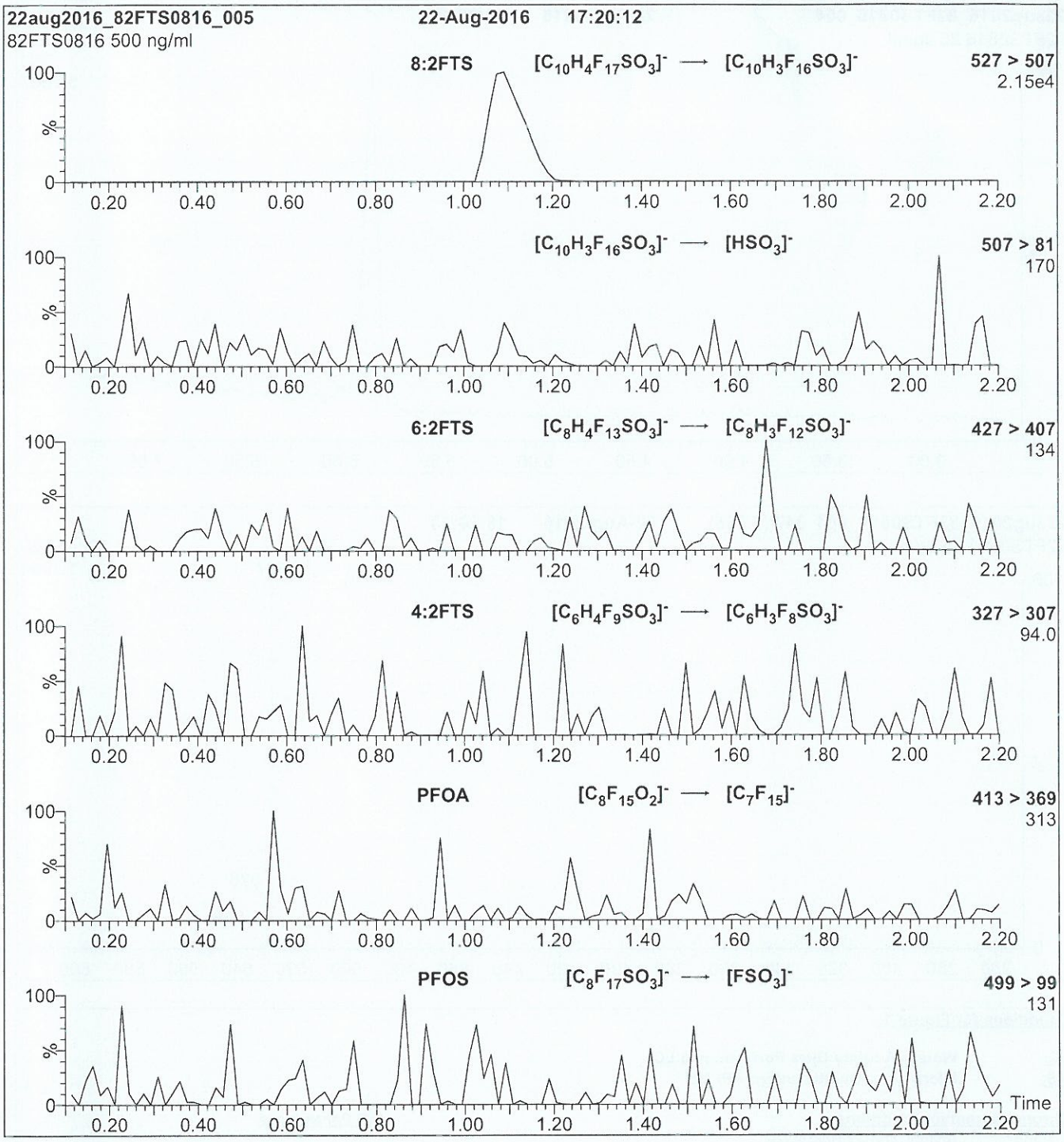
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250- 850 amu)

Source:Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 30.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml 8:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 30

Analytical Standard Record

Vista Analytical Laboratory

17D2715

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2622	6:2FTS	26-Apr-17	** Vendor **	25-Jun-21	12-Jun-17 09:01 by AEW	0.5

Description:	6:2 FTS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.948	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 09:01 by AEW

Analyte	CAS Number	Concentration	Units
Total 6:2 FTS		25	ug/mL
L-6:2 FTS		25	ug/mL
6:2 FTS	27619-97-2	25	ug/mL

1702622

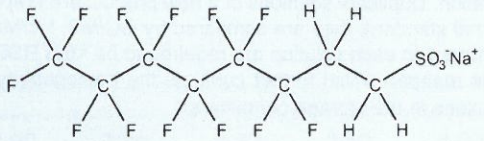
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0616

COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_8H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.4 ± 2.4 µg/ml (6:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	06/25/2016		
EXPIRY DATE: (mm/dd/yyyy)	06/25/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/29/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Analytical Standard Record

Vista Analytical Laboratory

17D2716

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2620	L-PFDS	26-Apr-17	** Vendor **	17-Feb-22	12-Jun-17 09:34 by AEW	0.5

Description:	L-PFDS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.964	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 09:34 by AEW

Analyte	CAS Number	Concentration	Units
Total PFDS		25	ug/mL
PFDS	335-77-3	25	ug/mL
L-PFDS		25	ug/mL

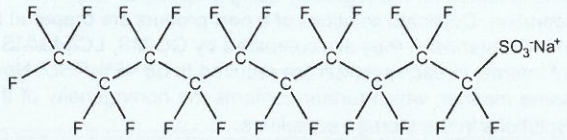
17D2620

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFDS
LOT NUMBER: LPFDS0217
COMPOUND: Sodium perfluoro-1-decanesulfonate

STRUCTURE:



CAS #: 2806-15-7

MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.9% of sodium perfluoro-1-dodecanesulfonate (L-PFDoS).

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Certified By: B.G. Chittim **Date:** 02/22/2017 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17D2717

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16J0431	br-PFOSK	04-Oct-16	** Vendor **	14-Oct-20	03-Feb-17 13:33 by AEW	0.5

Description:	Br-PFOSK anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.928	Department:	LCMS
Vials:	1	Last Edit:	27-Apr-17 14:46 by INJ

Analyte	CAS Number	Concentration	Units
PFOS	1763-23-1	25	ug/mL
L-PFOS		19.7	ug/mL

16J0431

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK1015
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	10/13/2015
LAST TESTED: (mm/dd/yyyy)	10/14/2015
EXPIRY DATE: (mm/dd/yyyy)	10/14/2020
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.
- CAS#: 2795-39-3 (for linear isomer; potassium salt).

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

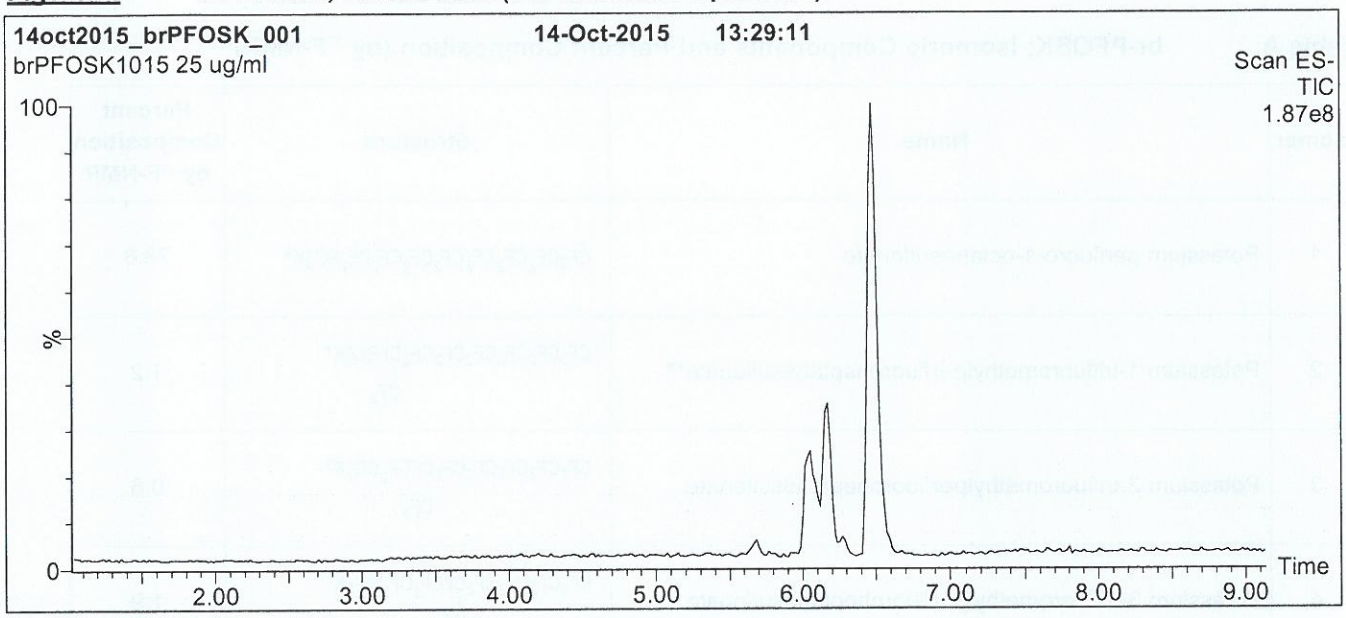
Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

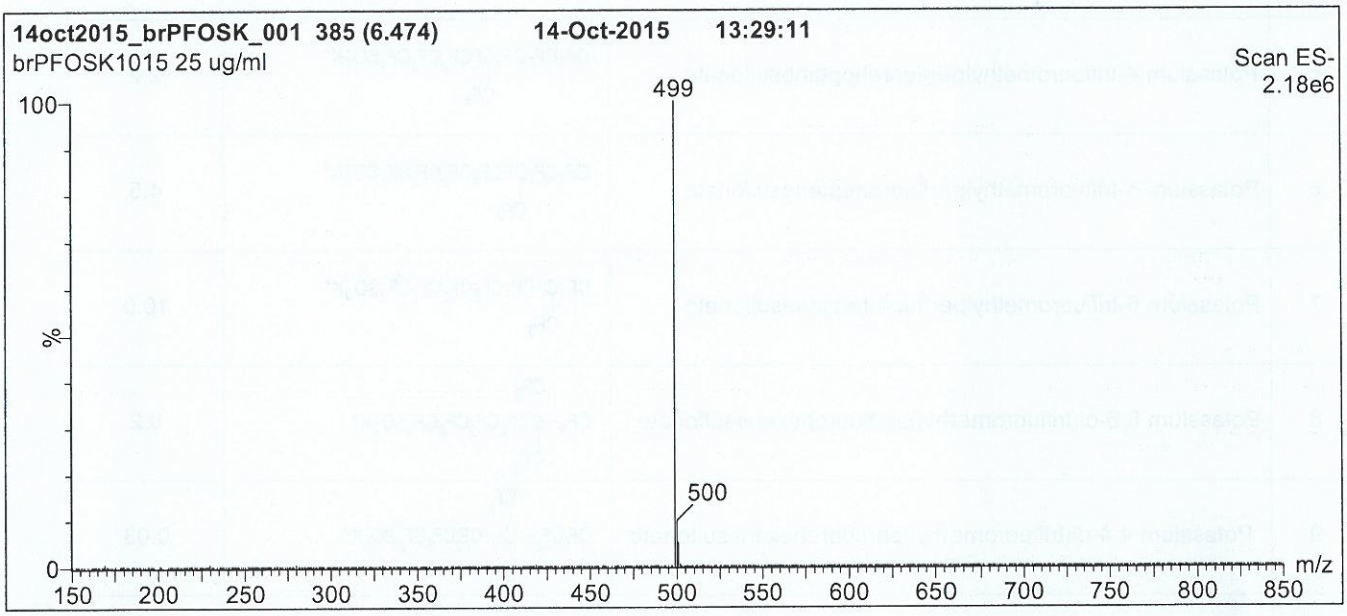
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3-C(CF_3)_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2-C(CF_3)_2-CF_2CF_2CF_2SO_3^-K^+$	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3-CF(CF_3)-CF(CF_3)-CF_2CF_2CF_2SO_3^-K^+$	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3-CF(CF_3)-CF_2-CF(CF_3)-CF_2CF_2SO_3^-K^+$	0.07

* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By: _____ **Date:** 10/15/2015
B.G. Chittim (mm/dd/yyyy)

Figure 1: **br-PFOSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 12 min and hold for 2 min.
Return to initial conditions over 0.5 min.
Time: 16 min

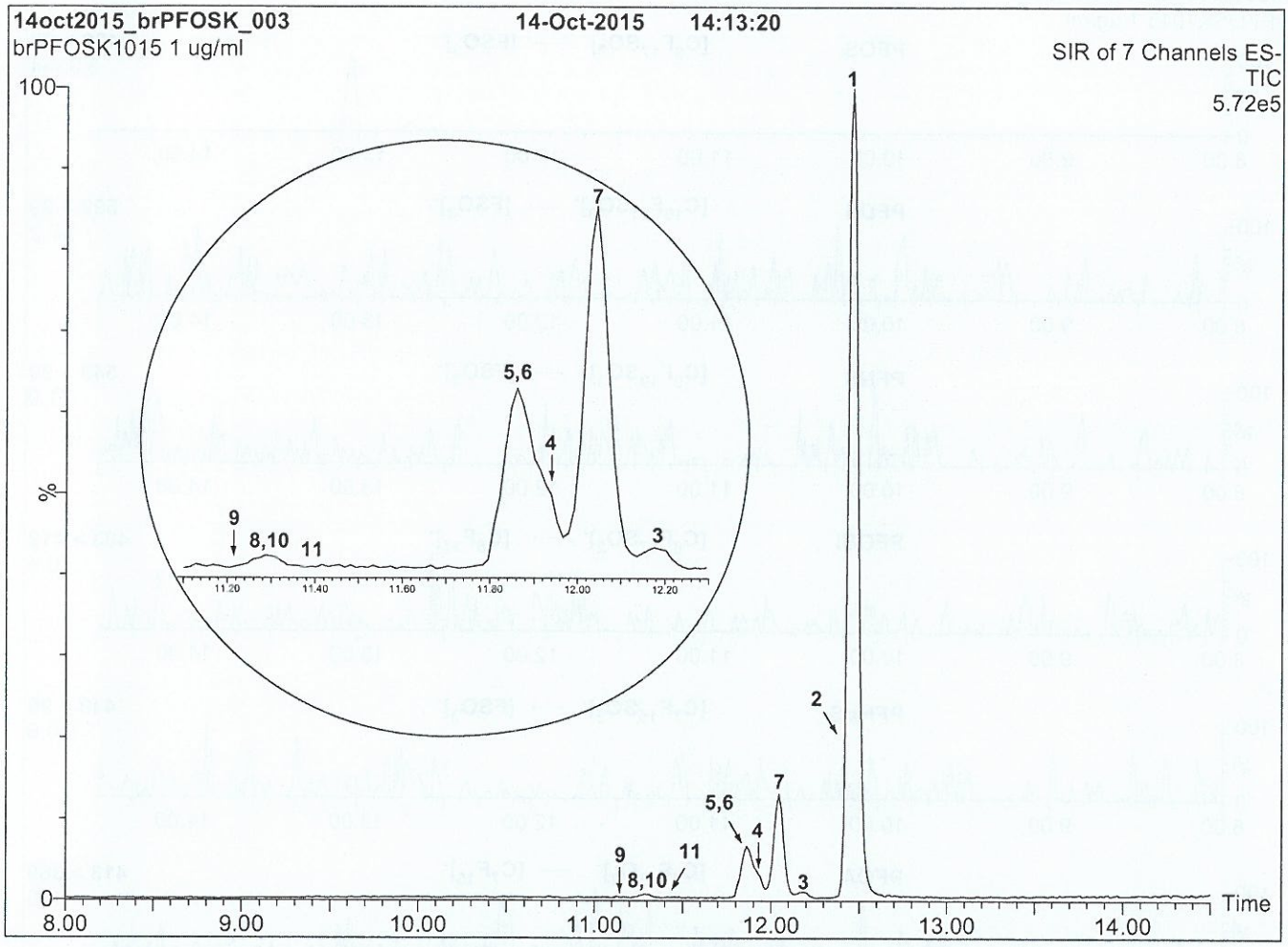
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-PFOSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18} (1.7 µm, 2.1 x 100 mm)

Injection: 1.0 µg/ml of br-PFOSK

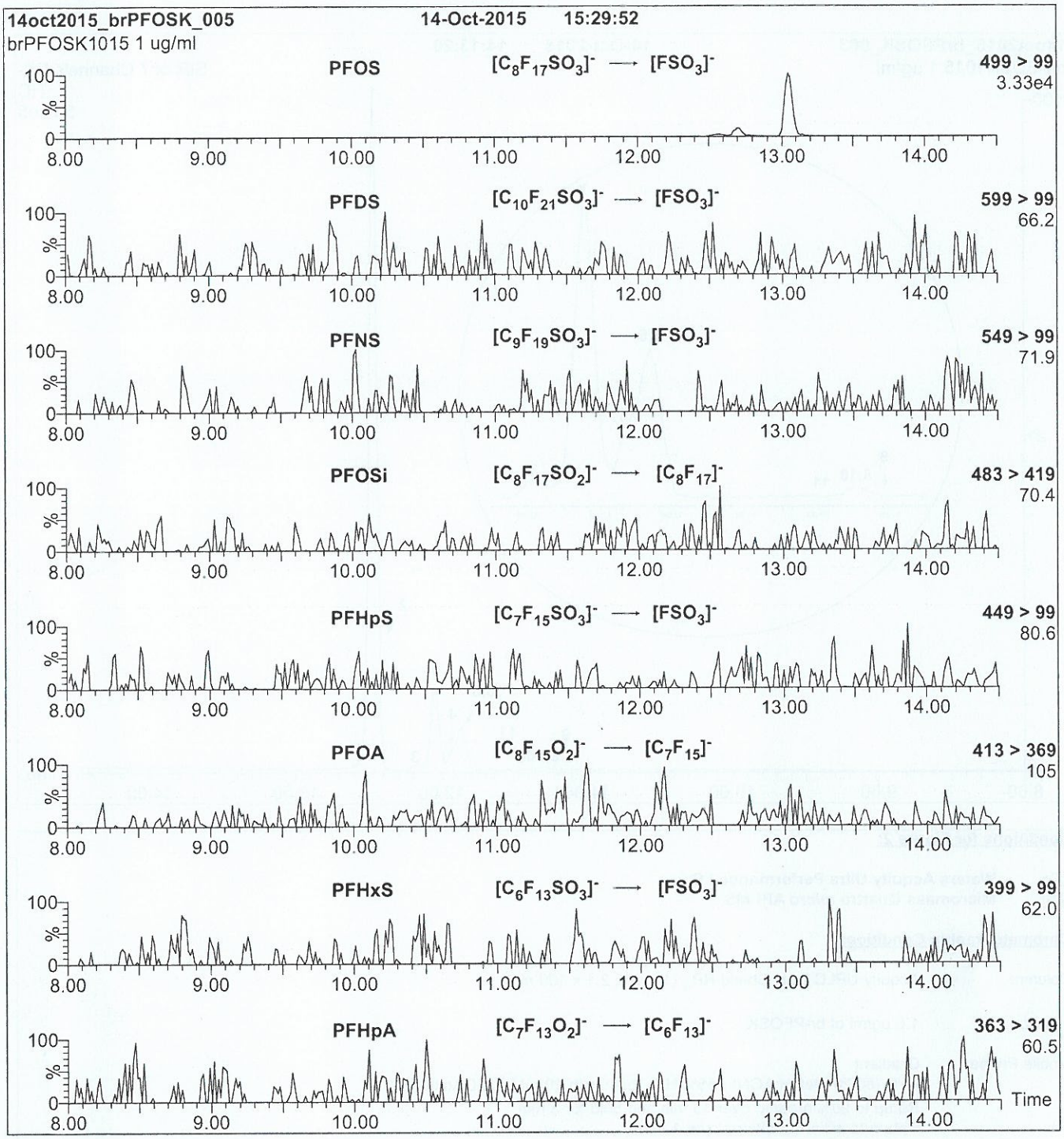
Mobile Phase: Gradient
45% (80:20 MeOH:ACN) / 55% H_2O (both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 15 min and hold for 3 min.
Return to initial conditions over 1 min.
Time: 20 min

Flow: 300 µl/min

MS Conditions:

SIR (ES^-)
Source = 110 °C
Desolvation = 325 °C
Cone Voltage = 60V

Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.06e-3
Collision Energy (eV) = 11-50 (variable)

Analytical Standard Record

Vista Analytical Laboratory

17D2718

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2615	br-PFHxSK	26-Apr-17	** Vendor **	04-Jan-22	12-Jun-17 08:51 by AEW	0.5

Description:	Br-PFHxSK anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.91	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 08:51 by AEW

Analyte	CAS Number	Concentration	Units
Total PFHxS		25	ug/mL
PFHxS	355-46-4	25	ug/mL
L-PFHxS		20.3	ug/mL
Br-PFHxS	3871-99-6	4.72	ug/mL

17D2615

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK0117
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.5 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	01/03/2017
LAST TESTED: (mm/dd/yyyy)	01/04/2017
EXPIRY DATE: (mm/dd/yyyy)	01/04/2022
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

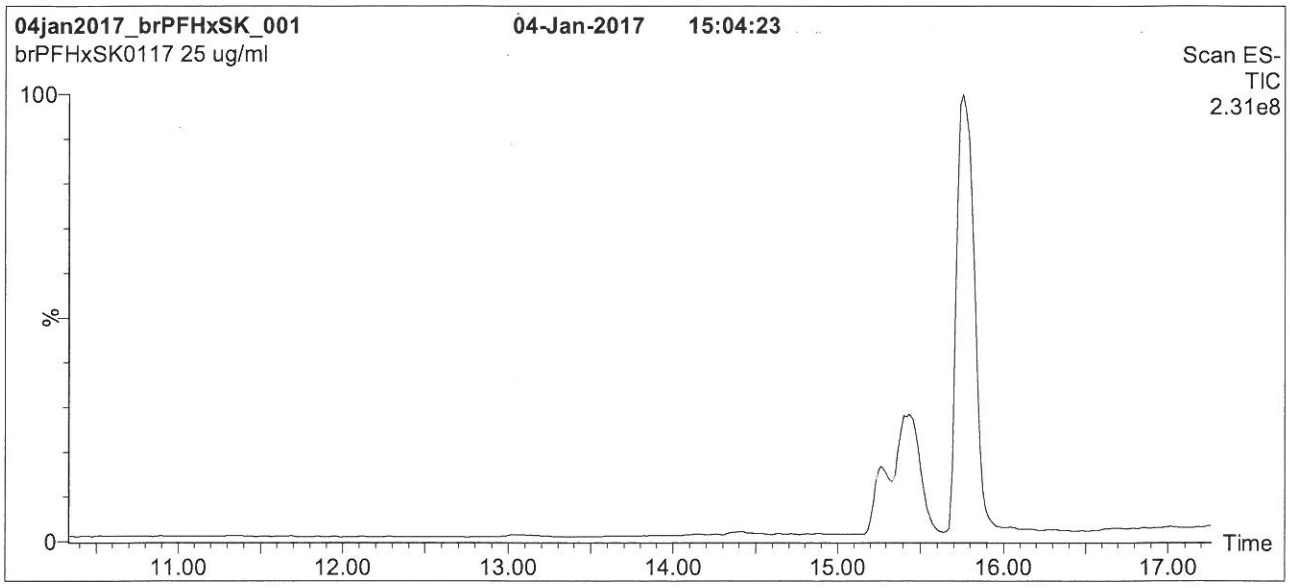
Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

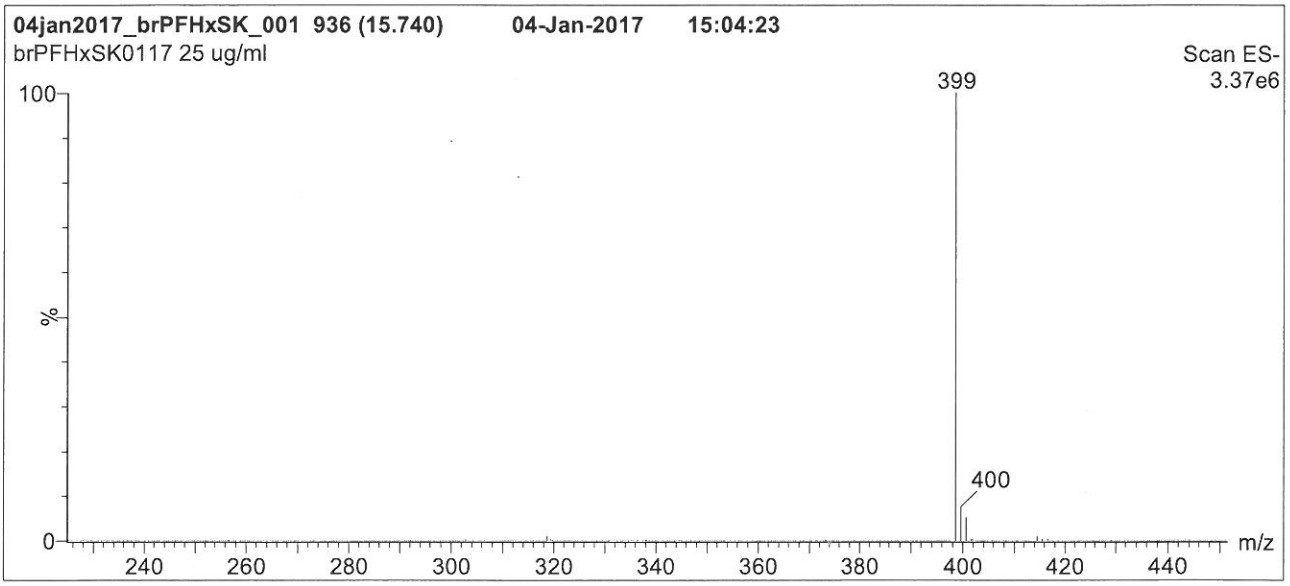
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3C(CF_3)CF_2CF_2SO_3^-K^+$	0.2
7	Other Unidentified Isomers		0.5

* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By: B.G. Chittim **Date:** 01/20/2017 (mm/dd/yyyy)

Figure 1: **br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 14 min. Ramp to
90% organic over 3 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 20 min

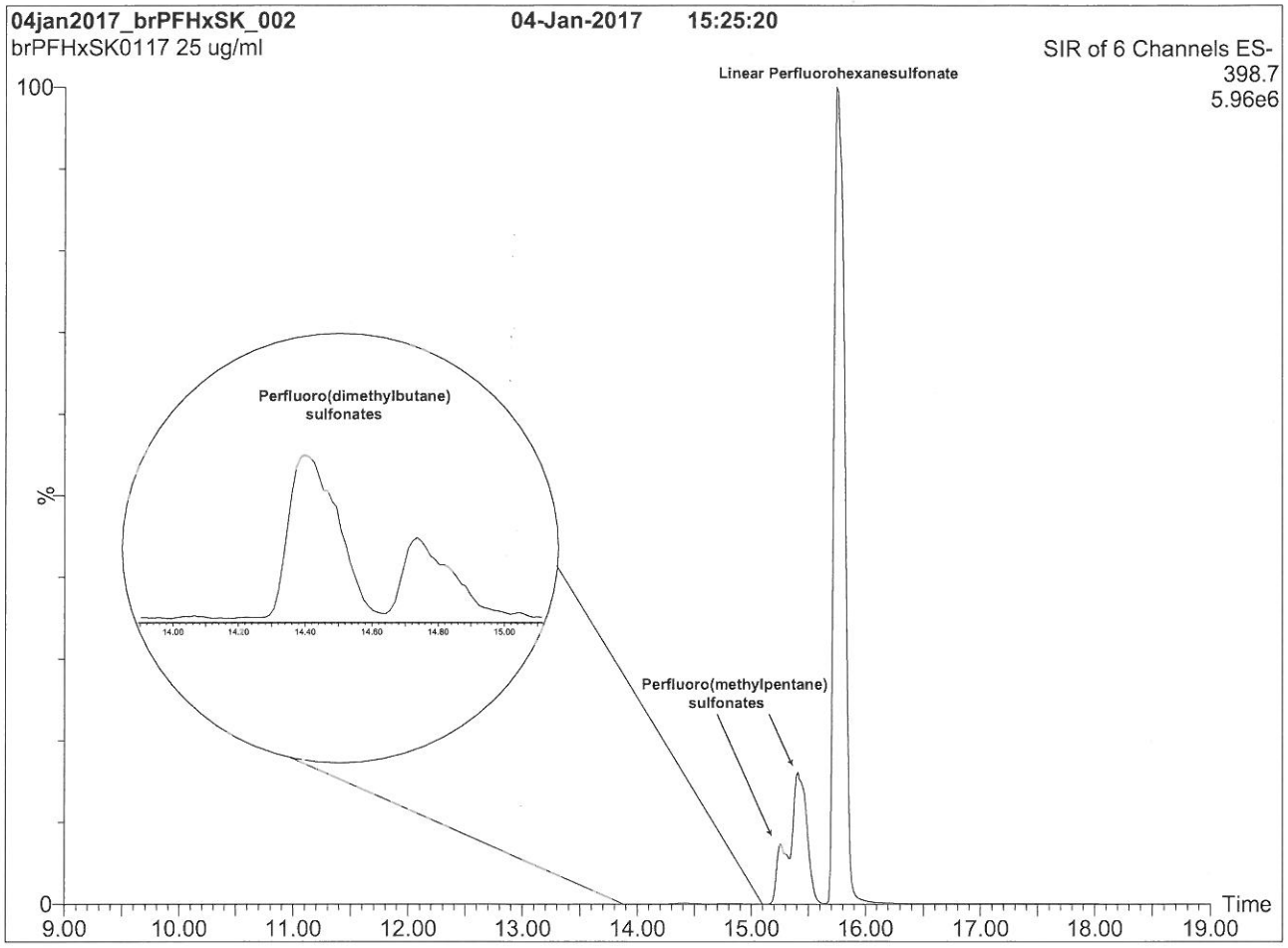
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 50.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-PFHxSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 14 min. Ramp to 90% organic over 3 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 20 min

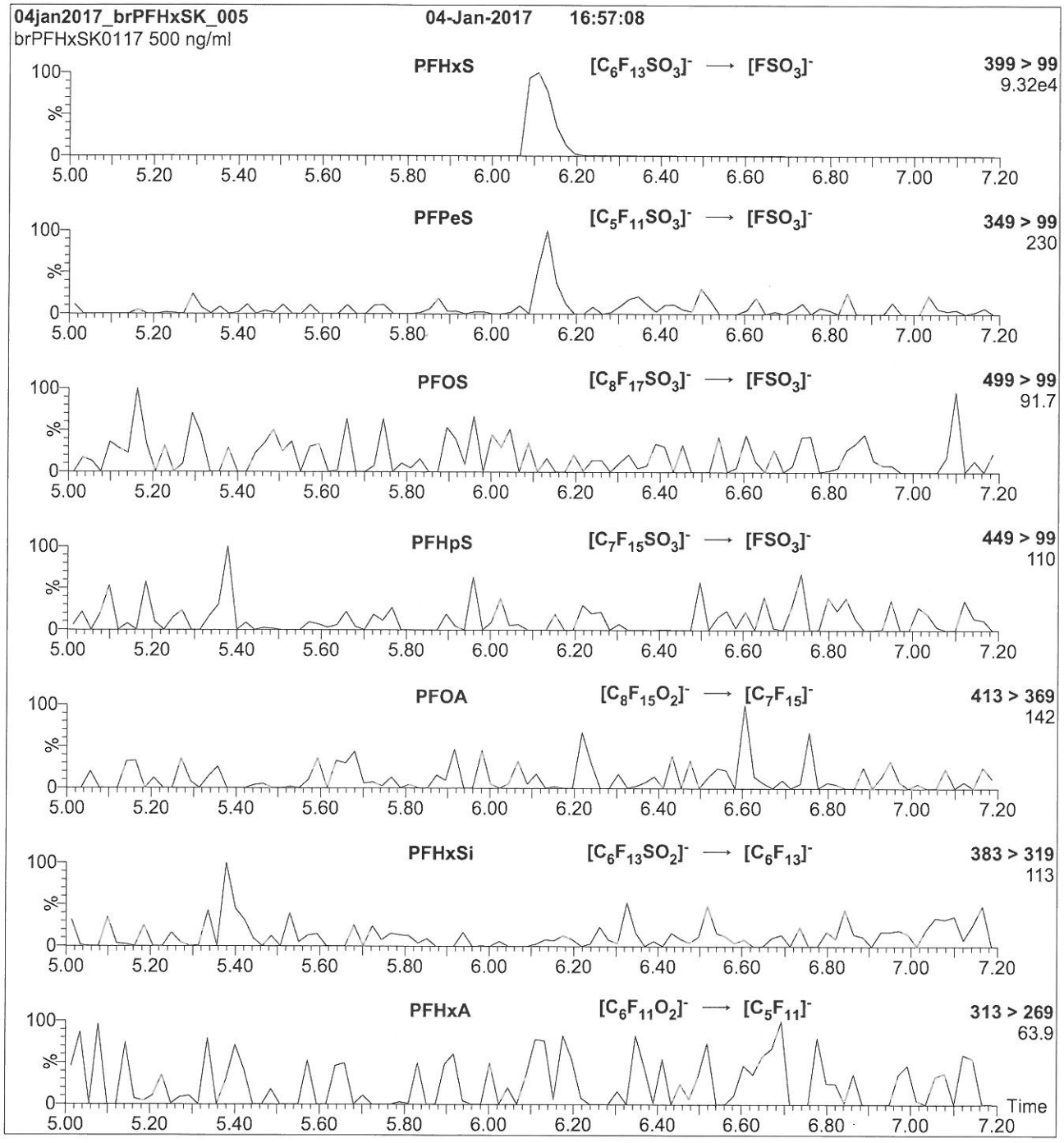
Flow: 300 µl/min

MS Parameters

Experiment: SIR (6 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = variable (15-62)
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection:	Direct loop injection 10 µl (500 ng/ml br-PFHxSK)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 30

Analytical Standard Record

Vista Analytical Laboratory

17D2813

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2619	L-PFHpS	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:07 by AEW	0.5

Description:	L-PFHpS anion DIL	Expires:	28-Apr-18
Standard Type:	Other	Prepared:	28-Apr-17
Solvent:	Methanol/	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.952	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 09:07 by AEW

Analyte	CAS Number	Concentration	Units
Total PFHpS		25	ug/mL
PFHpS	375-92-8	25	ug/mL
L-PFHpS		25	ug/mL

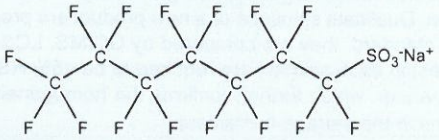
1702619

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFHpS
LOT NUMBER: LPFHpS1016
COMPOUND: Sodium perfluoro-1-heptanesulfonate

STRUCTURE:



CAS #: Not available

MOLECULAR FORMULA:	$C_7F_{15}SO_3Na$	**MOLECULAR WEIGHT:**	472.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.6 ± 2.4 µg/ml (PFHpS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/18/2016		
EXPIRY DATE: (mm/dd/yyyy)	10/18/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of L-PFHxS ($C_6F_{13}SO_3Na$) and ~ 0.1% of L-PFOS ($C_8F_{17}SO_3Na$).

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Certified By: B.G. Chittim **Date:** 10/20/2016 (mm/dd/yyyy)

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17E1907

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17A1206	13C9-PFNA	12-Jan-17	** Vendor **	27-Aug-19	12-Jan-17 10:26 by EMS	0.375
17A1208	13C4-PFBA	12-Jan-17	** Vendor **	24-May-21	12-Jan-17 10:28 by EMS	0.375
17A1209	13C7-PFUdA	12-Jan-17	** Vendor **	22-Jan-21	12-Jan-17 10:31 by EMS	0.375
17D0605	13C6-PFDA	06-Apr-17	Jamie C. Stockman	06-May-21	06-Apr-17 09:43 by JCS	0.375
17E1717	13C2-FOUEA	17-May-17	** Vendor **	02-Aug-18	17-May-17 12:46 by INJ	0.375
17E1906	13C4-PFOS dil.	19-May-17	Isaac N. Johnson	19-May-18	19-May-17 10:32 by INJ	0.468
17E2411	13C5-PFHxA	24-May-17	** Vendor **	27-Aug-19	24-May-17 11:19 by INJ	0.375
17E2422	13C3-PFHxS DIL.	24-May-17	Isaac N. Johnson	24-May-18	24-May-17 11:48 by INJ	0.416
17E2423	13C2-4:2 FTS dil.	24-May-17	Isaac N. Johnson	24-May-18	24-May-17 11:50 by INJ	0.468
17E2424	13C8-PFOA dil.	24-May-17	Isaac N. Johnson	24-May-18	24-May-17 11:52 by INJ	0.468

Description:	PFC-RS	Expires:	06-Apr-18
Standard Type:	Reagent	Prepared:	19-May-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	15	Department:	LCMS
Vials:	1	Last Edit:	24-May-17 11:53 by INJ

Analyte	CAS Number	Concentration	Units
13C9-PFNA		1.25	ug/mL
13C8-PFOA		1.25	ug/mL
13C7-PFUnA		1.25	ug/mL
13C6-PFDA		1.25	ug/mL
13C5-PFHxA		1.25	ug/mL
13C4-PFOS		1.25	ug/mL
13C4-PFBA		1.25	ug/mL
13C3-PFHxS		1.25	ug/mL
13C2-FOUEA		1.25	ug/mL
13C2-4:2 FTS		1.25	ug/mL

17A1206

WELLINGTON LABORATORIES

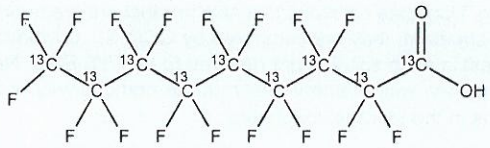
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M9PFNA
COMPOUND: Perfluoro-n-[$^{13}C_9$]nonanoic acid

LOT NUMBER: M9PFNA0814

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	473.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_9$)
LAST TESTED: (mm/dd/yyyy)	08/27/2014		
EXPIRY DATE: (mm/dd/yyyy)	08/27/2019		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.9% of $^{13}C_5{}^{12}C_4HF_{17}O_2$ (MPFNA).

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Certified By: B.G. Chittim **Date:** 04/01/2015 (mm/dd/yyyy)

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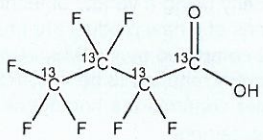
17A1208

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFBA	**LOT NUMBER:**	MPFBA0516
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4HF_7O_2$	**MOLECULAR WEIGHT:**	218.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	05/24/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ B.G. Chittim **Date:** 05/30/2016 (mm/dd/yyyy)

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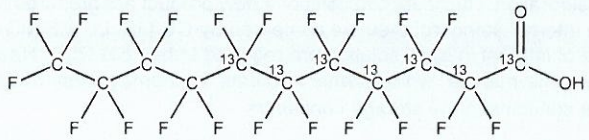
17A1209

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M7PFUdA	**LOT NUMBER:**	M7PFUdA0116
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6,7-$^{13}C_7$]undecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_7{}^{12}C_4HF_{21}O_2$	**MOLECULAR WEIGHT:**	571.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5,6,7-$^{13}C_7$)
LAST TESTED: (mm/dd/yyyy)	01/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	01/22/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/26/2016 (mm/dd/yyyy)

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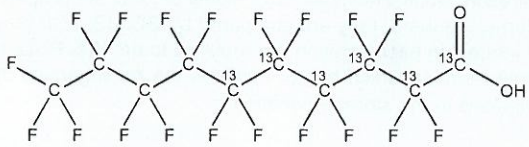
CERTIFICATE OF ANALYSIS DOCUMENTATION

17D0605

PRODUCT CODE:	M6PFDA	**LOT NUMBER:**	M6PFDA0516
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6-$^{13}C_6$]decanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_6{}^{12}C_4HF_{19}O_2$	**MOLECULAR WEIGHT:**	520.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5,6-$^{13}C_6$)
LAST TESTED: (mm/dd/yyyy)	05/31/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/13/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

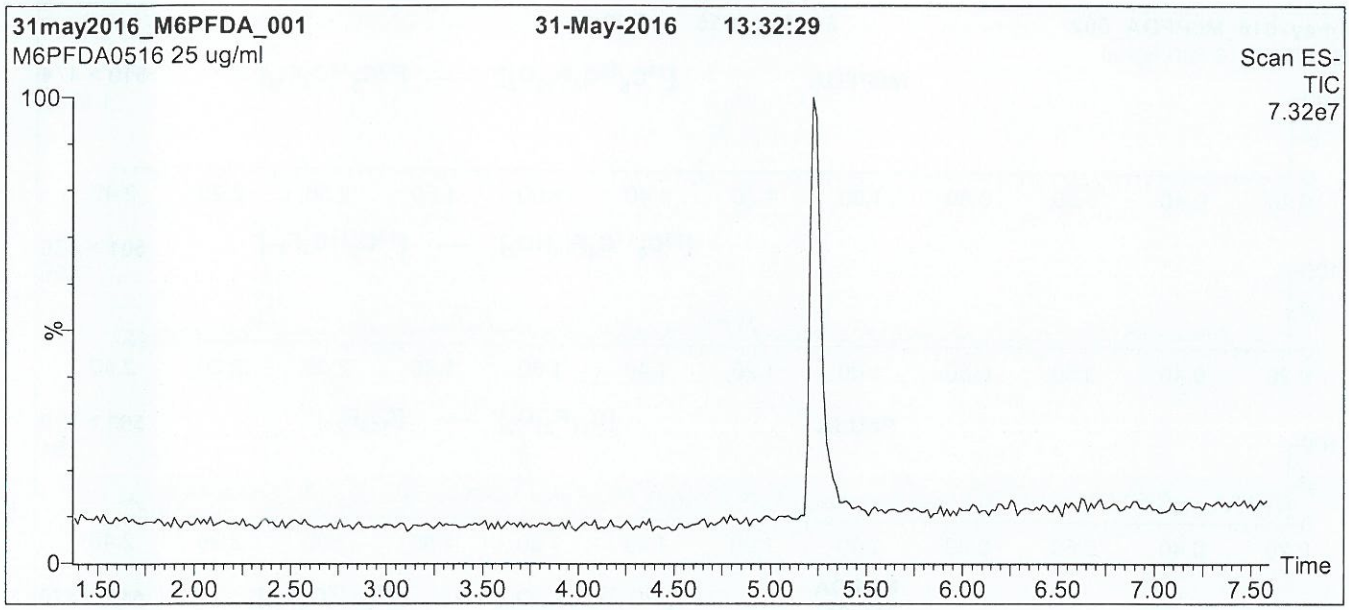
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

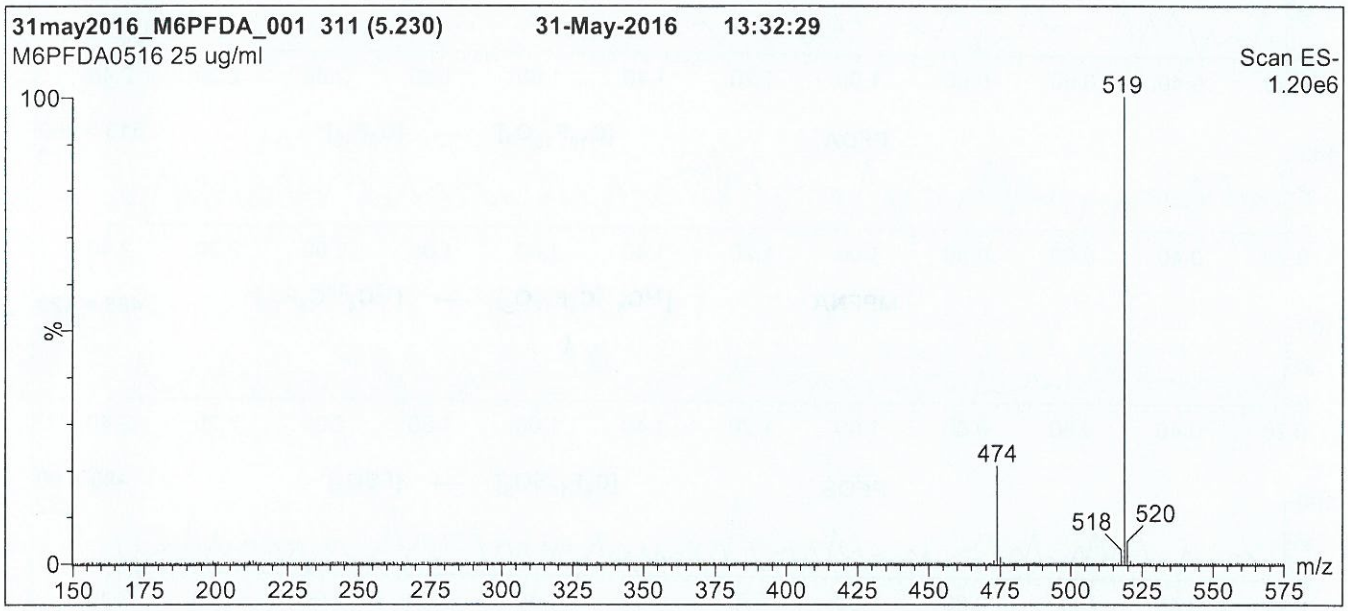
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M6PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

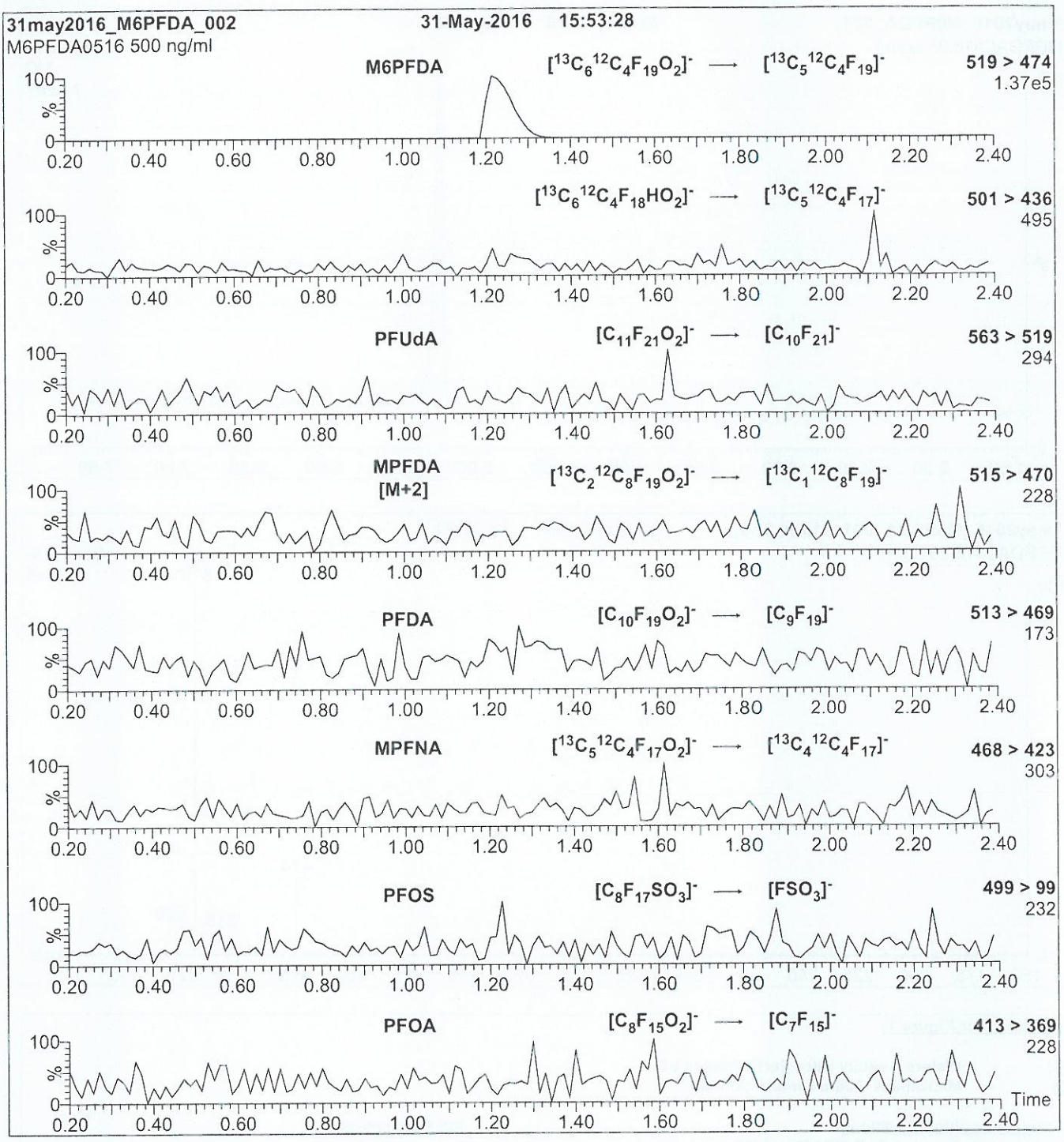
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M6PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml M6PFDA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 13

17E1717

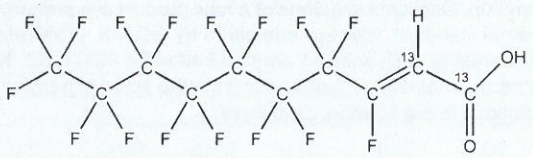
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MFOUEA
COMPOUND: 2H-Perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid

LOT NUMBER: MFOUEA0716
CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_2F_{16}O_2$	**MOLECULAR WEIGHT:**	460.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Anhydrous Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	08/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/02/2018		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Dilution of this standard in methanol may lead to the formation of 2H-3-methoxy-perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid. This reaction can be catalyzed by the presence of acid or base. All dilutions should be routinely checked for degradation.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/19/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E1906

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E1719	13C4-PFOS	17-May-17	** Vendor **	12-Dec-21	17-May-17 12:47 by INJ	0.6

Description:	13C4-PFOS dil.	Expires:	19-May-18
Standard Type:	Other	Prepared:	19-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.717	Department:	LCMS
Vials:	1	Last Edit:	19-May-17 10:32 by INJ

Analyte	CAS Number	Concentration	Units
13C4-PFOS		40	ug/mL

17E1719

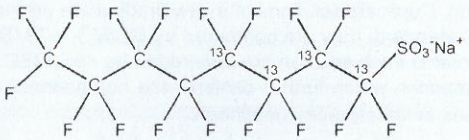
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS1216

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	12/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	12/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.8% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/14/2016 (mm/dd/yyyy)

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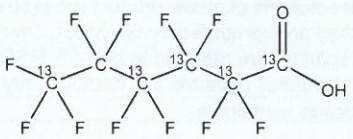
17E2411

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M5PFHxA	**LOT NUMBER:**	M5PFHxA0814
COMPOUND:	Perfluoro-n-[1,2,3,4,6-$^{13}C_5$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_1HF_{11}O_2$	**MOLECULAR WEIGHT:**	319.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,6-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	08/27/2014		
EXPIRY DATE: (mm/dd/yyyy)	08/27/2019		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 03/31/2015 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E2422

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2410	13C3-PFHxS	24-May-17	** Vendor **	31-May-21	24-May-17 11:18 by INJ	0.45

Description:	13C3-PFHxS DIL.	Expires:	24-May-18
Standard Type:	Reagent	Prepared:	24-May-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.473	Department:	LCMS
Vials:	1	Last Edit:	24-May-17 11:48 by INJ

Analyte	CAS Number	Concentration	Units
13C3-PFHxS		45	ug/mL

17E2410

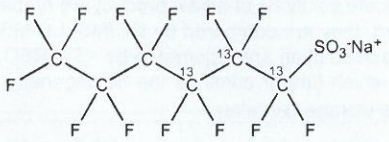
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFHxS **LOT NUMBER:** M3PFHxS0516

COMPOUND: Sodium perfluoro-1-[1,2,3-$^{13}C_3$]hexanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	425.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (M3PFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3$-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	05/31/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: B.G. Chittim **Date:** 07/05/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Analytical Standard Record

Vista Analytical Laboratory

17E2423

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2409	13C2-4:2 FTS	24-May-17	** Vendor **	25-Jun-21	24-May-17 11:18 by INJ	0.75

Description:	13C2-4:2 FTS dil.	Expires:	24-May-18
Standard Type:	Other	Prepared:	24-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.876	Department:	LCMS
Vials:	1	Last Edit:	24-May-17 11:50 by INJ

Analyte	CAS Number	Concentration	Units
13C2-4:2 FTS		40	ug/mL

17E2409

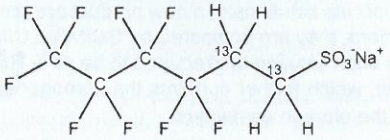
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-4:2FTS **LOT NUMBER:** M242FTS0616

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]hexane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4H_4F_9SO_3Na$	**MOLECULAR WEIGHT:**	352.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	46.7 ± 2.3 µg/ml (M2-4:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	06/25/2016		
EXPIRY DATE: (mm/dd/yyyy)	06/25/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.6% of an unknown impurity.
- The native 4:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 4:2FTS and M2-4:2FTS will produce signals in the m/z 329 to m/z 309 channel during SRM analysis. We recommend using the m/z 329 to m/z 81 transition to monitor for M2-4:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

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Certified By: B.G. Chittim **Date:** 06/29/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17E2424

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2406	13C8-PFOA	24-May-17	** Vendor **	12-Feb-21	24-May-17 11:16 by INJ	0.5

Description:	13C8-PFOA dil.	Expires:	24-May-18
Standard Type:	Other	Prepared:	24-May-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.612	Department:	LCMS
Vials:	1	Last Edit:	24-May-17 11:52 by INJ

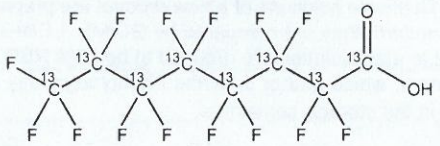
Analyte	CAS Number	Concentration	Units
13C8-PFOA		40	ug/mL

17E2406

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M8PFOA	**LOT NUMBER:**	M8PFOA0216
COMPOUND:	Perfluoro-n-[$^{13}C_8$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	422.01
CONCENTRATION:	49 ± 2.45 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	97.9% (M8PFOA) 2.1% (MPFOA [M+4])	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of native perfluoro-n-octanoic acid (PFOA) and ~ 2.1% of [M+4] perfluoro-n-octanoic acid.

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Certified By: _____ **Date:** 02/24/2016 (mm/dd/yyyy)
B.G. Chittim

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Analytical Standard Record

Vista Analytical Laboratory

17F3038

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D0605	13C6-PFDA	06-Apr-17	Jamie C. Stockman	06-May-21	06-Apr-17 09:43 by JCS	0.375
17E1717	13C2-FOUEA	17-May-17	** Vendor **	02-Aug-18	17-May-17 12:46 by INJ	0.375
17E2411	13C5-PFHxA	24-May-17	** Vendor **	27-Aug-19	24-May-17 11:19 by INJ	0.375
17F3031	13C4-PFOS dil.	30-Jun-17	Isaac N. Johnson	30-Jun-18	30-Jun-17 13:31 by INJ	0.468
17F3032	13C3-PFHxS DIL.	30-Jun-17	Isaac N. Johnson	30-Jun-18	30-Jun-17 13:35 by INJ	0.416
17F3034	13C8-PFOA dil.	30-Jun-17	Isaac N. Johnson	30-Jun-18	30-Jun-17 13:40 by INJ	0.468
17F3035	13C9-PFNA	30-Jun-17	** Vendor **	27-Aug-19	03-Jul-17 13:07 by INJ	0.375
17F3036	13C4-PFBA	30-Jun-17	** Vendor **	12-Apr-22	03-Jul-17 13:08 by INJ	0.375
17F3037	13C7-PFUdA	30-Jun-17	** Vendor **	22-Jan-21	03-Jul-17 13:09 by INJ	0.375

Description:	PFC-RS	Expires:	19-May-18
Standard Type:	Reagent	Prepared:	30-Jun-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	15	Department:	LCMS
Vials:	1	Last Edit:	03-Jul-17 13:09 by INJ

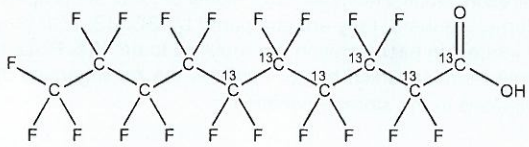
Analyte	CAS Number	Concentration	Units
13C9-PFNA		1.25	ug/mL
13C8-PFOA		1.25	ug/mL
13C7-PFUnA		1.25	ug/mL
13C6-PFDA		1.25	ug/mL
13C5-PFHxA		1.25	ug/mL
13C4-PFOS		1.25	ug/mL
13C4-PFBA		1.25	ug/mL
13C3-PFHxS		1.25	ug/mL
13C2-FOUEA		1.25	ug/mL

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

17D0605

PRODUCT CODE:	M6PFDA	**LOT NUMBER:**	M6PFDA0516
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6-$^{13}C_6$]decanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_6{}^{12}C_4HF_{19}O_2$	**MOLECULAR WEIGHT:**	520.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5,6-$^{13}C_6$)
LAST TESTED: (mm/dd/yyyy)	05/31/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim **Date:** 06/13/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

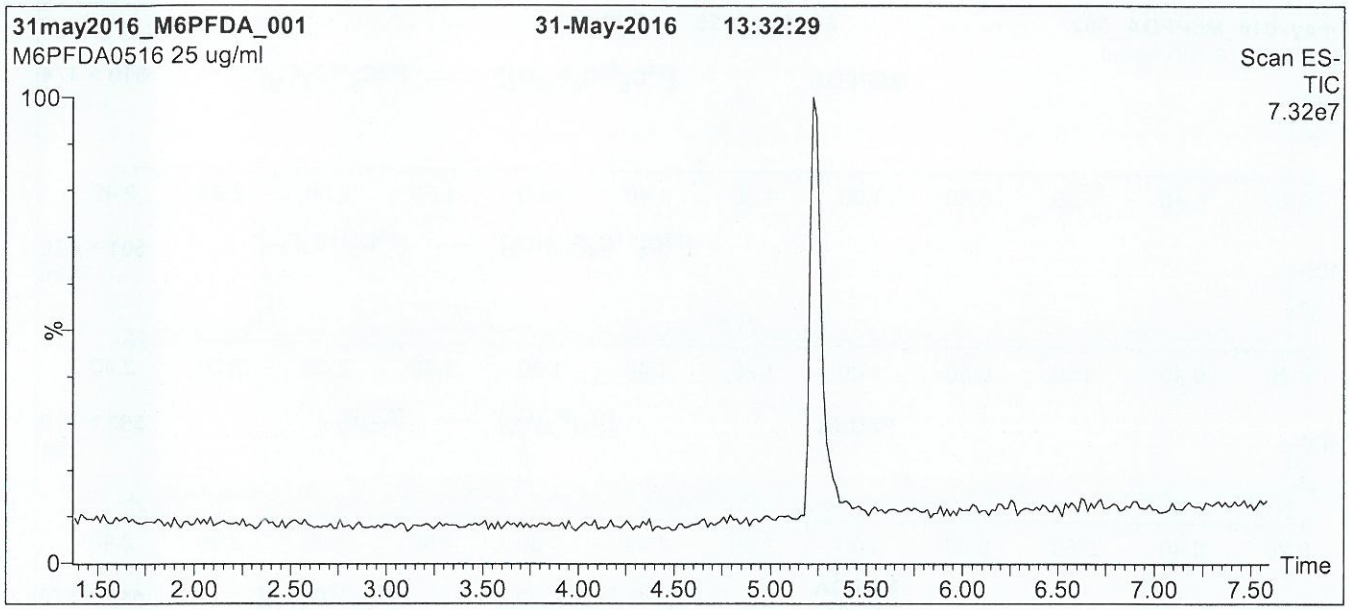
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

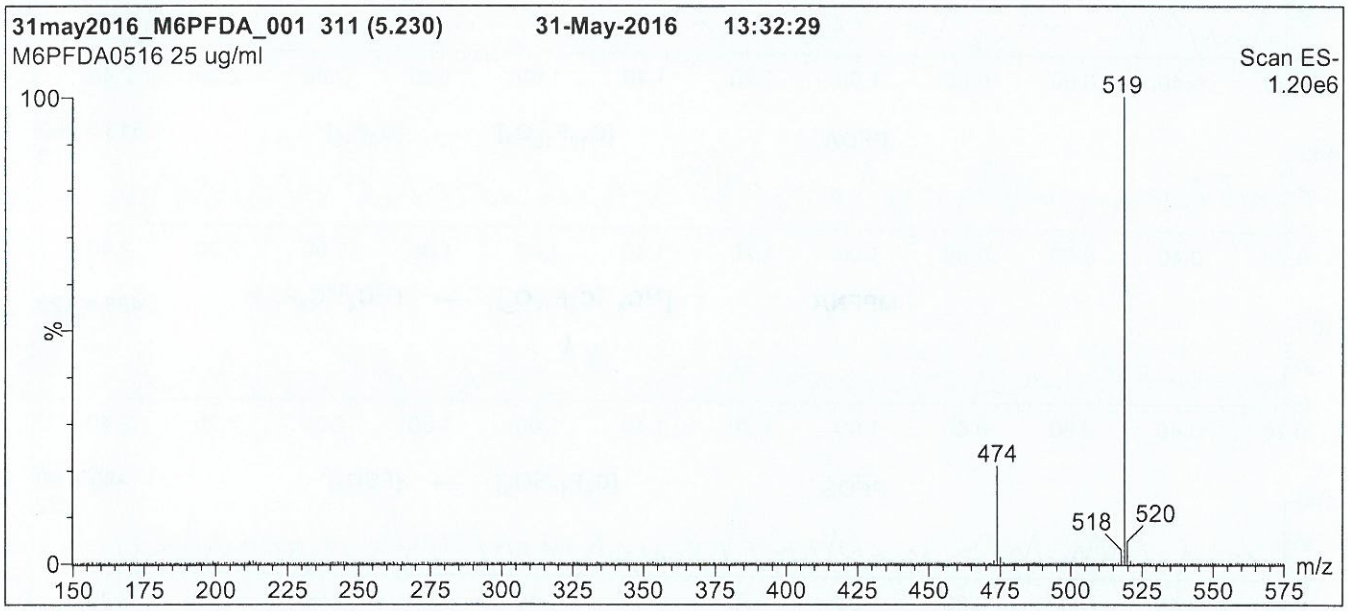
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M6PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

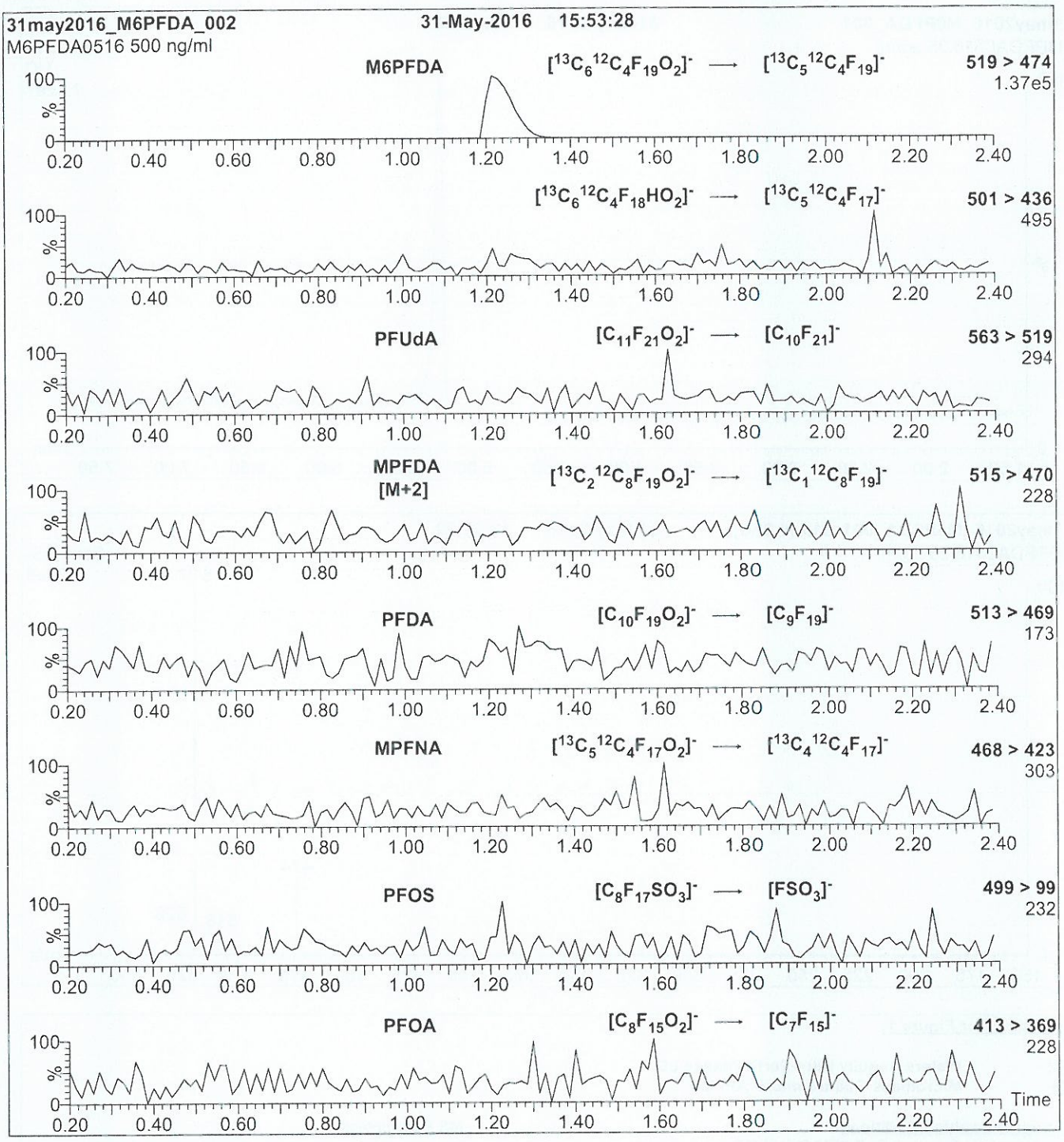
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M6PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M6PFDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 13

17E1717

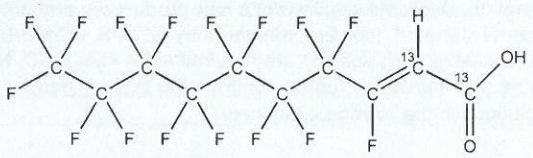
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MFOUEA
COMPOUND: 2H-Perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid

LOT NUMBER: MFOUEA0716
CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_2F_{16}O_2$	**MOLECULAR WEIGHT:**	460.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Anhydrous Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	08/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/02/2018		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Dilution of this standard in methanol may lead to the formation of 2H-3-methoxy-perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid. This reaction can be catalyzed by the presence of acid or base. All dilutions should be routinely checked for degradation.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/19/2016 (mm/dd/yyyy)

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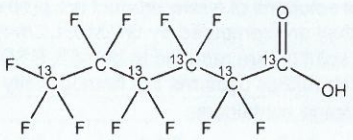
17E2411

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M5PFHxA	**LOT NUMBER:**	M5PFHxA0814
COMPOUND:	Perfluoro-n-[1,2,3,4,6-$^{13}C_5$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_1HF_{11}O_2$	**MOLECULAR WEIGHT:**	319.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,6-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	08/27/2014		
EXPIRY DATE: (mm/dd/yyyy)	08/27/2019		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: _____ **Date:** 03/31/2015
B.G. Chittim (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17F3031

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E1719	13C4-PFOS	17-May-17	** Vendor **	12-Dec-21	17-May-17 12:47 by INJ	0.6

Description:	13C4-PFOS dil.	Expires:	30-Jun-18
Standard Type:	Other	Prepared:	30-Jun-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.717	Department:	LCMS
Vials:	1	Last Edit:	30-Jun-17 13:31 by INJ

Analyte	CAS Number	Concentration	Units
13C4-PFOS		40	ug/mL

17E1719

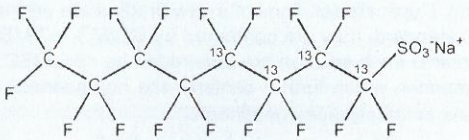
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS1216

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	12/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	12/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.8% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/14/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17F3032

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2410	13C3-PFHxS	24-May-17	** Vendor **	31-May-21	24-May-17 11:18 by INJ	0.45

Description:	13C3-PFHxS DIL.	Expires:	30-Jun-18
Standard Type:	Reagent	Prepared:	30-Jun-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.473	Department:	LCMS
Vials:	1	Last Edit:	30-Jun-17 13:35 by INJ

Analyte	CAS Number	Concentration	Units
13C3-PFHxS		45	ug/mL

17E2410

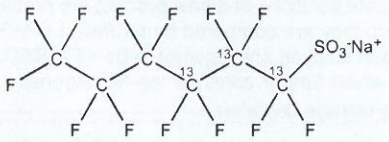
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFHxS **LOT NUMBER:** M3PFHxS0516

COMPOUND: Sodium perfluoro-1-[1,2,3-$^{13}C_3$]hexanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	425.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (M3PFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	05/31/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 07/05/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17F3034

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2406	13C8-PFOA	24-May-17	** Vendor **	12-Feb-21	24-May-17 11:16 by INJ	0.5

Description:	13C8-PFOA dil.	Expires:	30-Jun-18
Standard Type:	Other	Prepared:	30-Jun-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.612	Department:	LCMS
Vials:	1	Last Edit:	30-Jun-17 13:40 by INJ

Analyte	CAS Number	Concentration	Units
13C8-PFOA		40	ug/mL

17E2406

WELLINGTON LABORATORIES

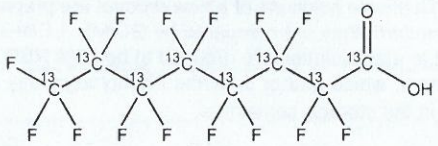
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOA
COMPOUND: Perfluoro-n-[$^{13}C_8$]octanoic acid

LOT NUMBER: M8PFOA0216

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	422.01
CONCENTRATION:	49 ± 2.45 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	97.9% (M8PFOA) 2.1% (MPFOA [M+4])	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of native perfluoro-n-octanoic acid (PFOA) and ~ 2.1% of [M+4] perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/24/2016 (mm/dd/yyyy)

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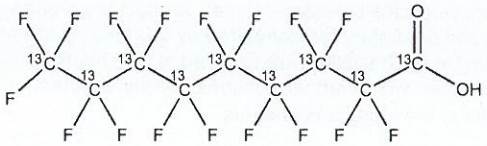
17F3035

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M9PFNA
COMPOUND: Perfluoro-n-[$^{13}C_9$]nonanoic acid
LOT NUMBER: M9PFNA0814
CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA: $^{13}C_9HF_{17}O_2$
MOLECULAR WEIGHT: 473.01
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)
CHEMICAL PURITY: >98%
ISOTOPIC PURITY: ≥99% ^{13}C ($^{13}C_9$)
LAST TESTED: (mm/dd/yyyy) 08/27/2014
EXPIRY DATE: (mm/dd/yyyy) 08/27/2019
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.9% of $^{13}C_5{}^{12}C_4HF_{17}O_2$ (MPFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 04/01/2015 (mm/dd/yyyy)

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17F3035

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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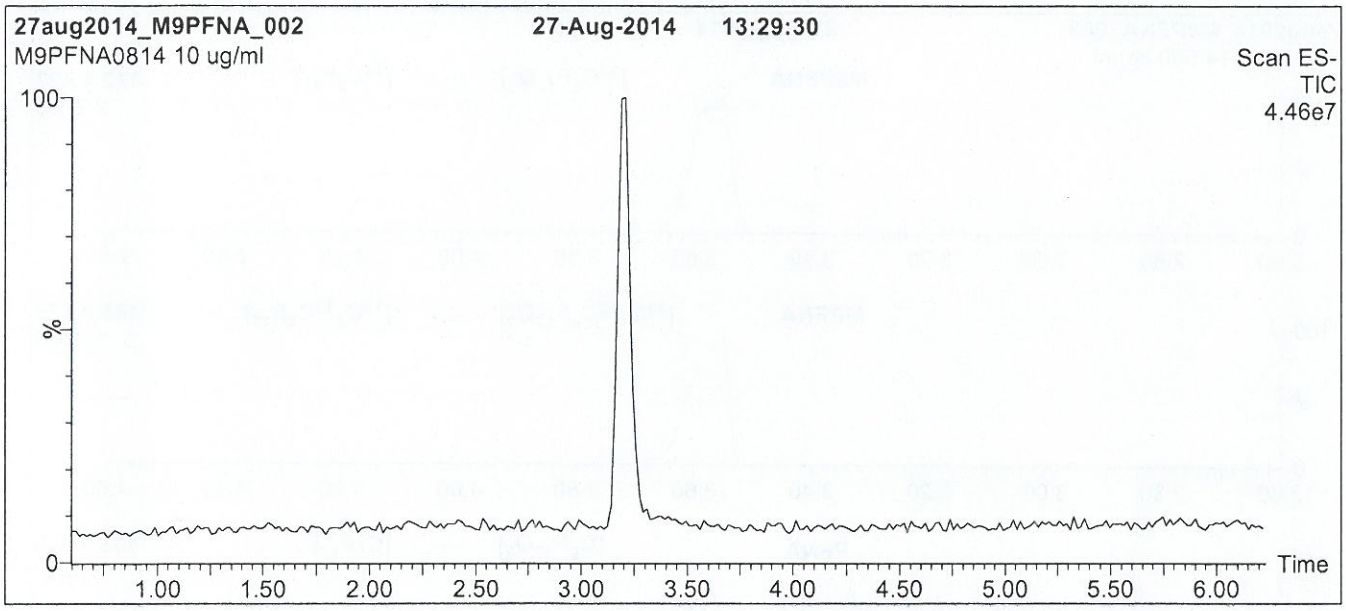
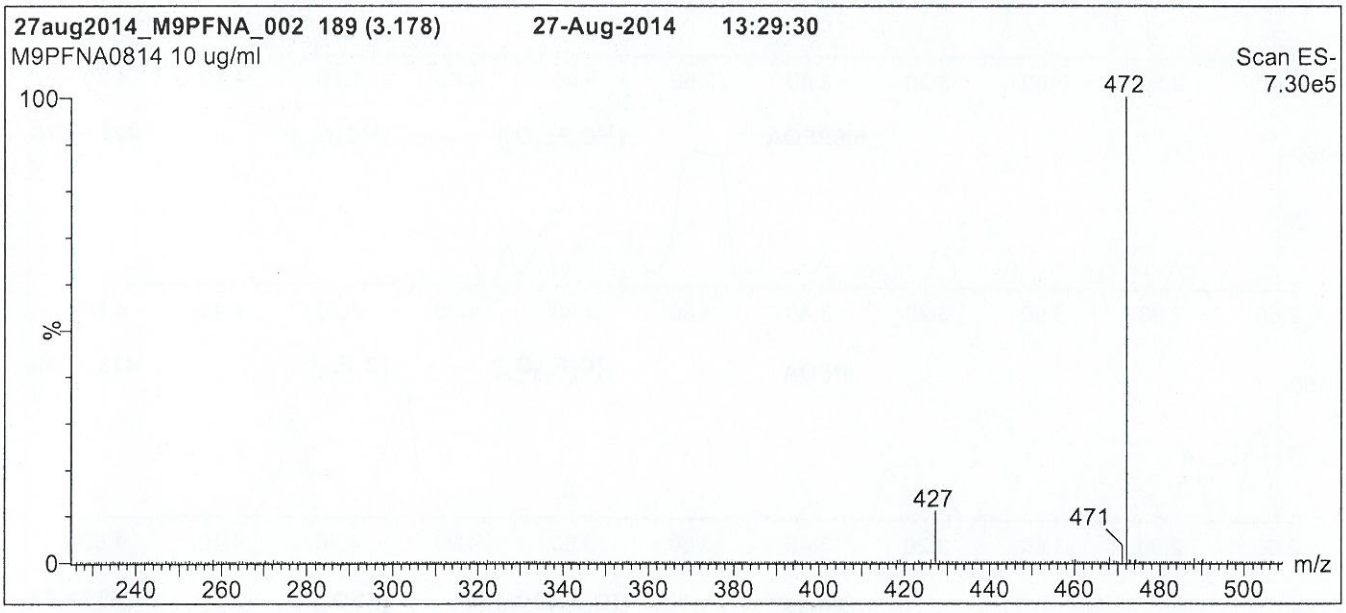
17F3035

Figure 1: **M9PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

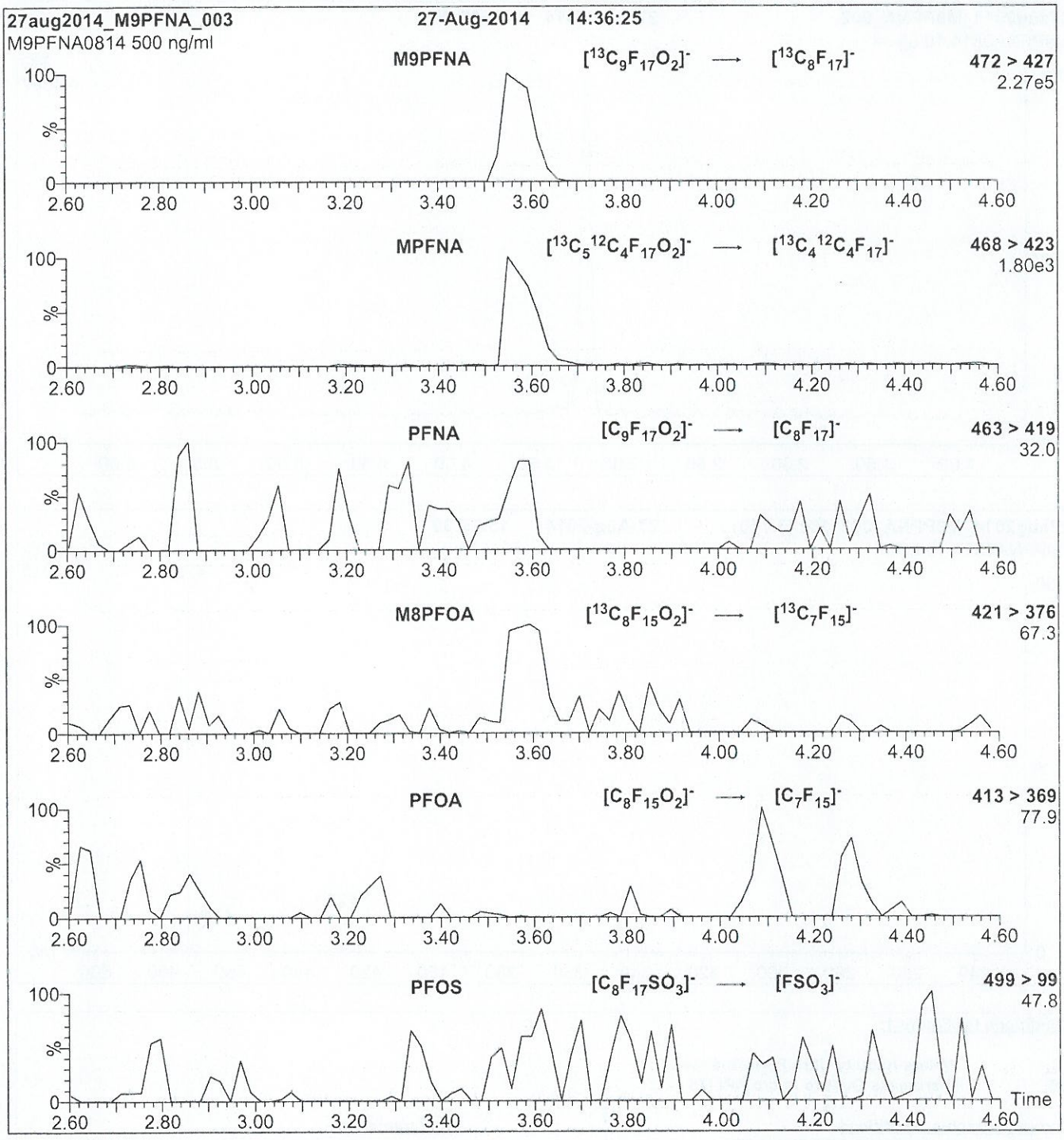
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

17F3035

Figure 2: **M9PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M9PFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

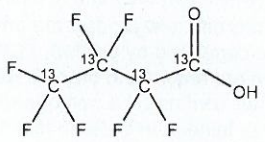
Collision Gas (mbar) = 3.74e-3
Collision Energy (eV) = 11

17F3036

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFBA	**LOT NUMBER:**	MPFBA0417
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4HF_7O_2$	**MOLECULAR WEIGHT:**	218.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	04/12/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/12/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/20/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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17F3037 SN 7/3/17
17F3036

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

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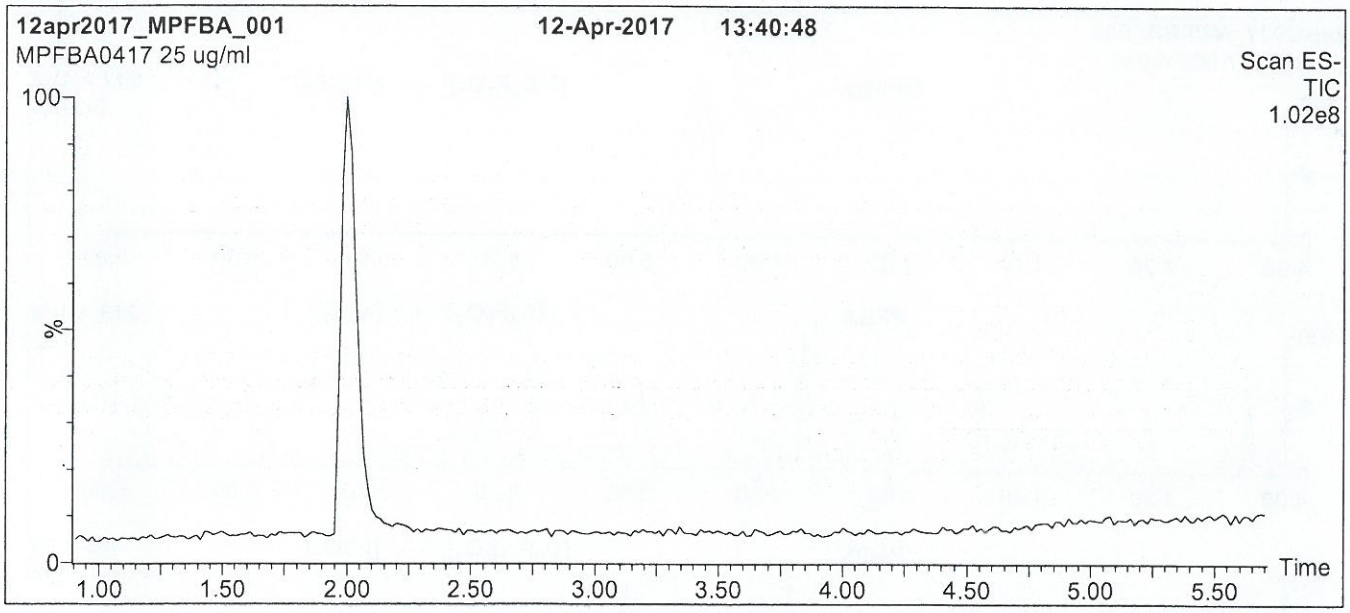
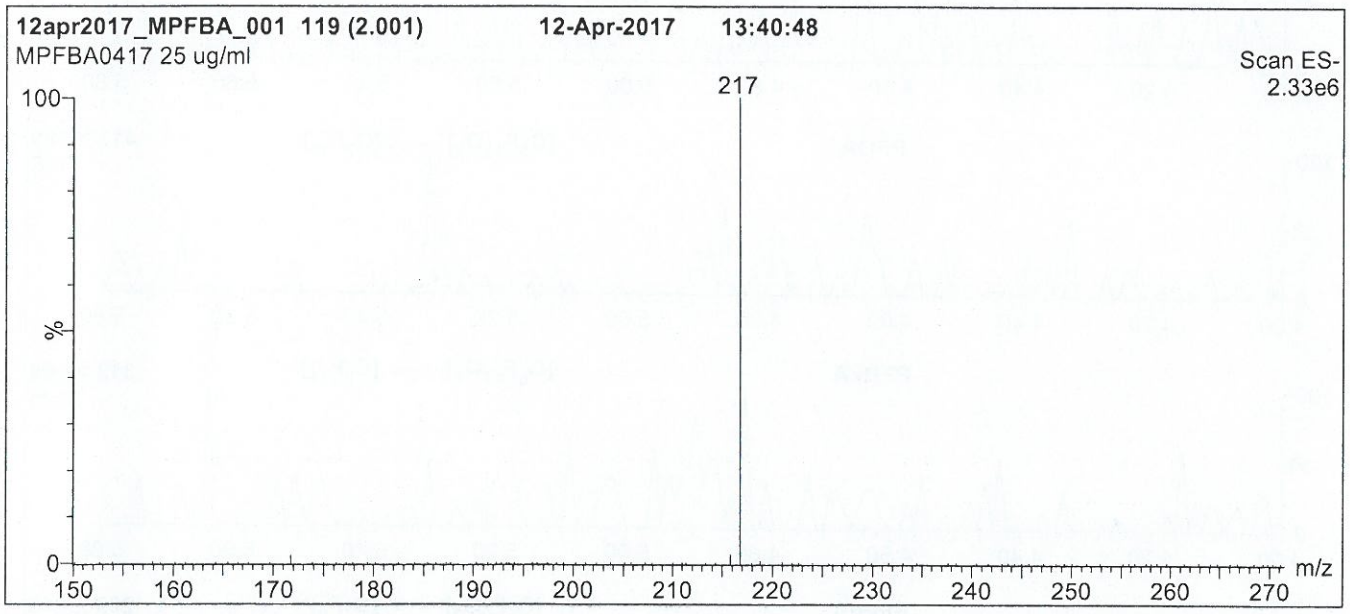
17F3036

Figure 1: **MPFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

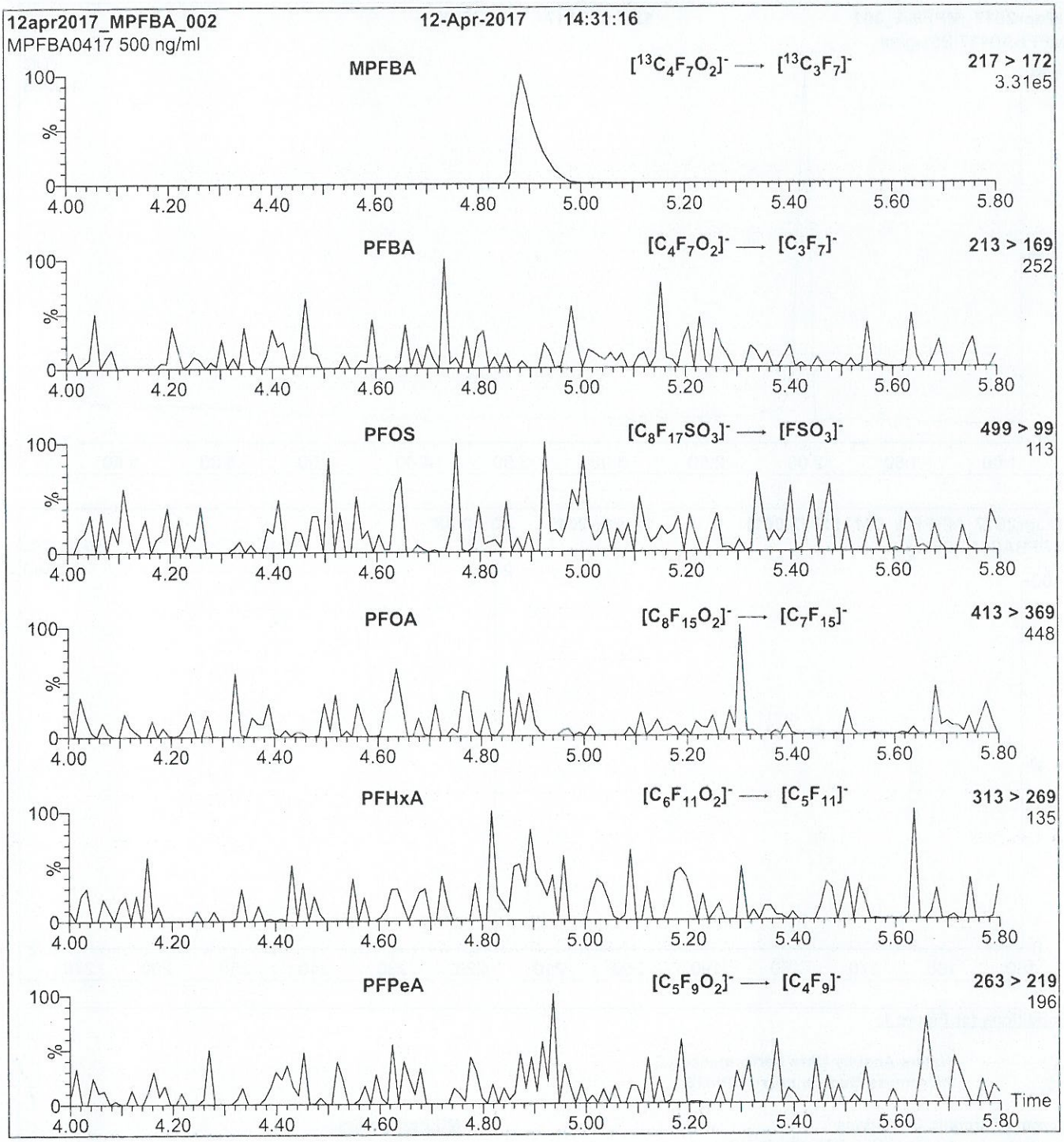
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

17F3036

Figure 2: **MPFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

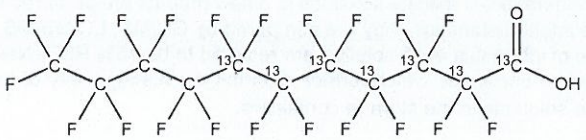
Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 10

17F3037

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M7PFUdA	**LOT NUMBER:**	M7PFUdA0116
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6,7-$^{13}C_7$]undecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_7{}^{12}C_4HF_{21}O_2$	**MOLECULAR WEIGHT:**	571.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C
LAST TESTED: (mm/dd/yyyy)	01/22/2016		(1,2,3,4,5,6,7-$^{13}C_7$)
EXPIRY DATE: (mm/dd/yyyy)	01/22/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/26/2016 (mm/dd/yyyy)
B.G. Chittim

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED AR-1523 REFERENCE MATERIAL PRODUCER

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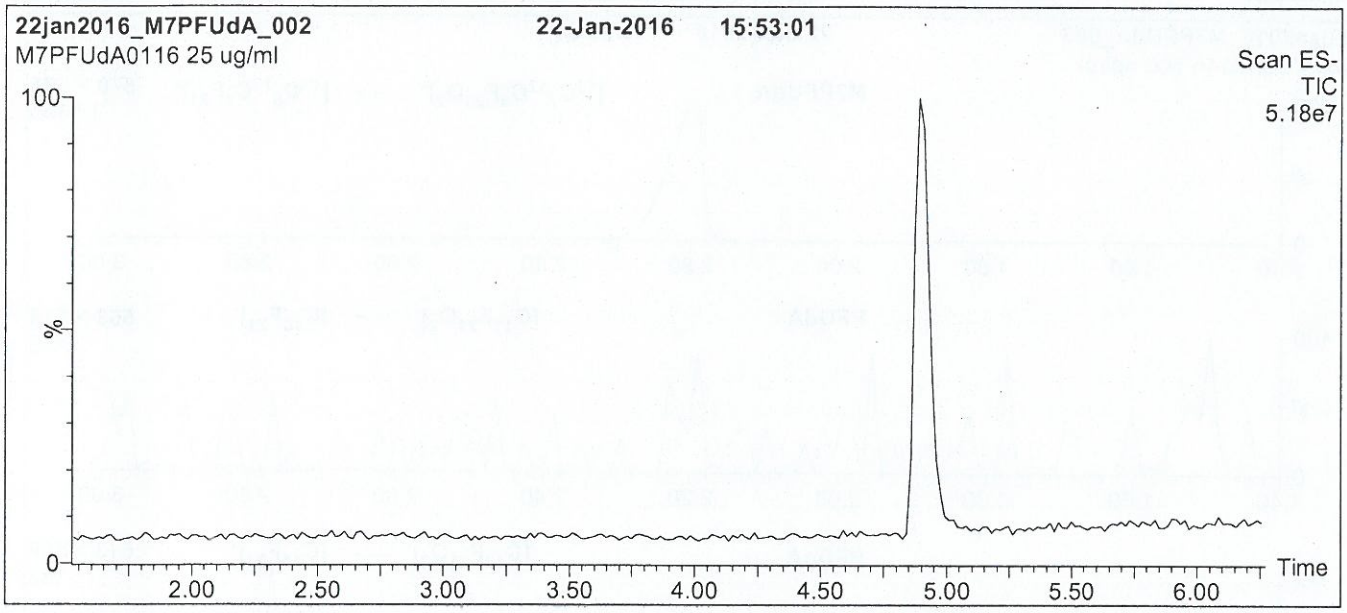
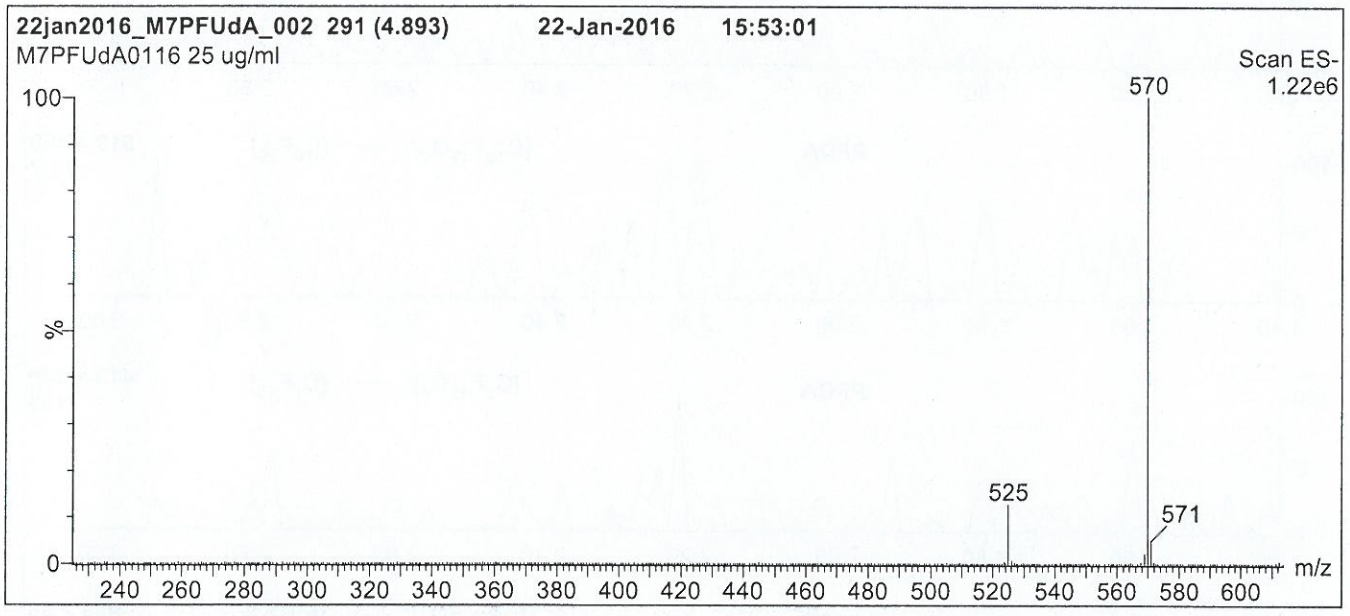
17F3037

Figure 1: **M7PFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 65
Desolvation Gas Flow (l/hr) = 750

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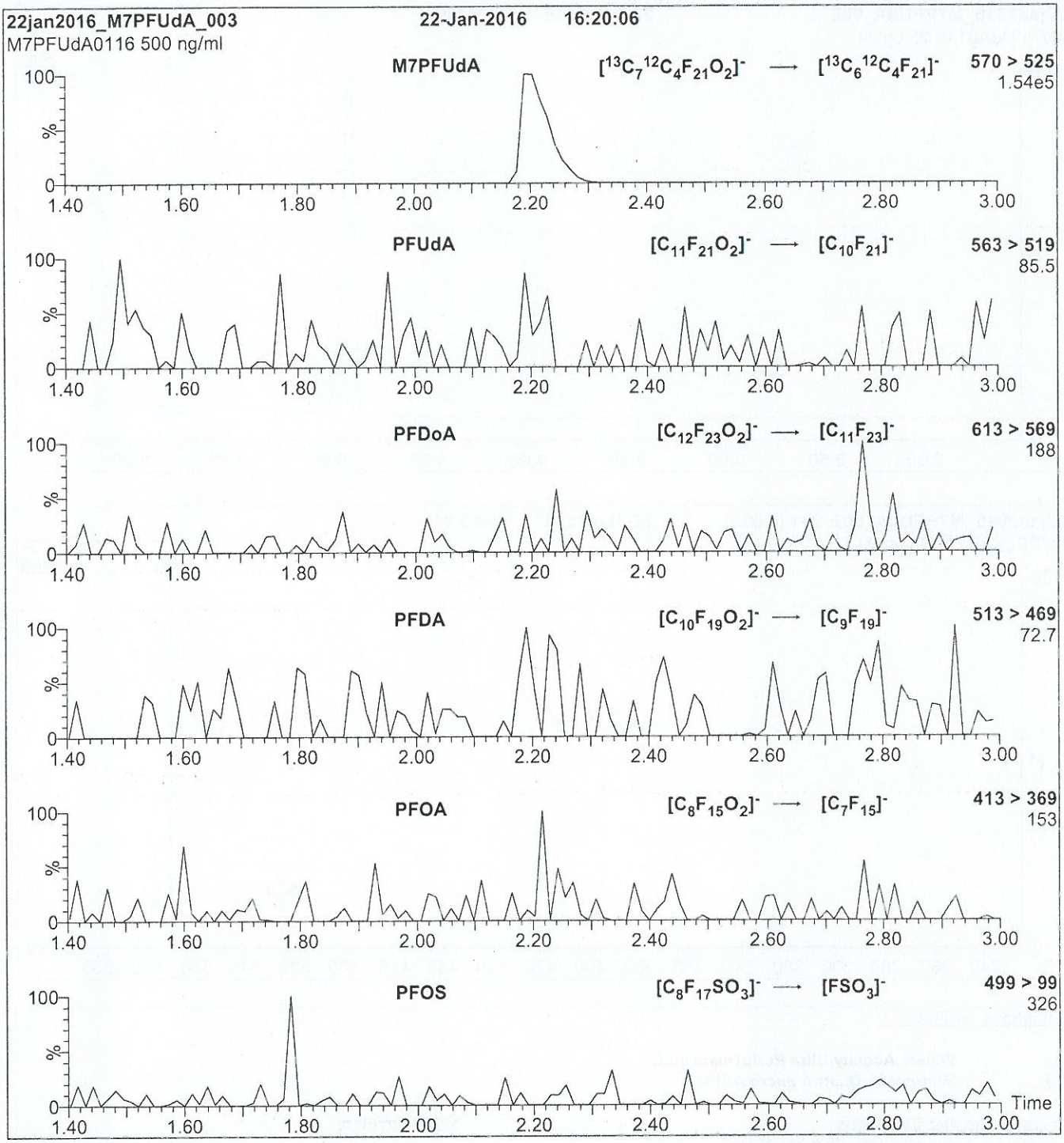
Figure 2: **M7PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M7PFUdA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3
Collision Energy (eV) = 11

"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","375-73-5","PFBS","5.34","ng/L","U","1.92","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","307-24-4","PFHxA","70.8","ng/L","","2.33","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","375-85-9","PFHpA","52.7","ng/L","","0.632","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","355-46-4","PFHxS","3.87","ng/L","J","1.01","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","335-67-1","PFOA","39.8","ng/L","","0.697","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","1763-23-1","PFOS","9.80","ng/L","","0.863","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","375-95-1","PFNA","7.76","ng/L","J","0.867","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","335-76-2","PFDA","5.34","ng/L","U","1.59","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","2355-31-9","MeFOSAA","5.34","ng/L","U","1.77","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34","",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","2058-94-8","PFUnA","5.34","ng/L","U","1.12","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","2991-50-6","EtFOSAA","5.34","ng/L","U","1.47","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","307-55-1","PFDoA","5.17","ng/L","U","0.816","LOD","","TRG","","","8.24","LOQ","YES","-99","","0.121","0.001","5.17",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","72629-94-8","PFTrDA","5.17","ng/L","U","0.509","LOD","","TRG","","","8.24","LOQ","YES","-99","","0.121","0.001","5.17",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","376-06-7","PFTeDA","5.17","ng/L","U","0.778","LOD","","TRG","","","8.24","LOQ","YES","-99","","0.121","0.001","5.17",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C3-PFBS","13C3-PFBS","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C2-PFHxA","13C2-PFHxA","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C4-PFHpA","13C4-PFHpA","84.9","%R","","-99","NA","","IS","84.9","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","18O2-PFHxS","18O2-PFHxS","97.5","%R","","-99","NA","","IS","97.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C2-PFOA","13C2-PFOA","96.8","%R","","-99","NA","","IS","96.8","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C8-PFOS","13C8-PFOS","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C5-PFNA","13C5-PFNA","92.1","%R","","-99","NA","","IS","92.1","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C2-PFDA","13C2-PFDA","86.9","%R","","-99","NA","","IS","86.9","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","d3-MeFOSAA","d3-MeFOSAA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C2-PFUnA","13C2-PFUnA","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","d5-EtFOSAA","d5-

EtFOSAA","60.4","%R","","-99","NA","","IS","60.4","","-99","NA","YES","100","","0.117","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C2-PFDoA","13C2-PFDoA","32.5","%R","H","-99","NA","","IS","32.5","","-99","NA","YES","100","","0.121","0.001","-99",""
"West Ditch In-20170627","Modified EPA Method 537","Initial","1700792-01","Vista","13C2-PFTeDA","13C2-PFTeDA","27.8","%R","H","-99","NA","","IS","27.8","","-99","NA","YES","100","","0.121","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","375-73-5","PFBS","5.43","ng/L","U","1.95","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","307-24-4","PFHxA","70.5","ng/L","","2.37","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","375-85-9","PFHpA","41.8","ng/L","","0.644","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","355-46-4","PFHxS","4.70","ng/L","J","1.03","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","335-67-1","PFOA","37.0","ng/L","","0.709","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","1763-23-1","PFOS","4.73","ng/L","J","0.879","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","375-95-1","PFNA","4.90","ng/L","J","0.882","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","335-76-2","PFDA","5.43","ng/L","U","1.62","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","2355-31-9","MeFOSAA","5.43","ng/L","U","1.80","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43","",""
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"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","2991-50-6","EtFOSAA","5.43","ng/L","U","1.49","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","307-55-1","PFDoA","5.43","ng/L","U","0.863","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","72629-94-8","PFTrDA","5.43","ng/L","U","0.538","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","376-06-7","PFTeDA","5.43","ng/L","U","0.822","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C3-PFBS","13C3-PFBS","129","%R","","-99","NA","","IS","129","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C2-PFHxA","13C2-PFHxA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C4-PFHpA","13C4-PFHpA","98.2","%R","","-99","NA","","IS","98.2","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","18O2-PFHxS","18O2-PFHxS","97.3","%R","","-99","NA","","IS","97.3","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C2-PFOA","13C2-PFOA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C8-PFOS","13C8-PFOS","94.2","%R","","-99","NA","","IS","94.2","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C5-PFNA","13C5-PFNA","88.1","%R","","-99","NA","","IS","88.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C2-PFDA","13C2-PFDA","72.8","%R","","-99","NA","","IS","72.8","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","d3-MeFOSAA","d3-

MeFOSAA","92.8","%R","","-99","NA","","IS","92.8","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C2-PFUnA","13C2-
PFUnA","71.1","%R","","-99","NA","","IS","71.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","d5-EtFOSAA","d5-
EtFOSAA","59.1","%R","","-99","NA","","IS","59.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C2-PFDoA","13C2-
PFDoA","52.1","%R","","-99","NA","","IS","52.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"MH-140-20170628","Modified EPA Method 537","Initial","1700792-02","Vista","13C2-PFTeDA","13C2-
PFTeDA","55.6","%R","","-99","NA","","IS","55.6","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","375-73-
5","PFBS","5.43","ng/L","U","1.95","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","307-24-
4","PFHxA","35.9","ng/L","","2.38","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","375-85-
9","PFHpA","24.2","ng/L","","0.645","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","355-46-
4","PFHxS","4.88","ng/L","J","1.03","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","335-67-
1","PFOA","29.8","ng/L","","0.710","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","1763-23-
1","PFOS","5.89","ng/L","J","0.880","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","375-95-
1","PFNA","4.92","ng/L","J","0.884","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","335-76-
2","PFDA","5.43","ng/L","U","1.63","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","2355-31-
9","MeFOSAA","5.43","ng/L","U","1.80","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43"
,""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","2058-94-
8","PFUnA","5.43","ng/L","U","1.15","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","2991-50-
6","EtFOSAA","5.43","ng/L","U","1.49","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",
""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","307-55-
1","PFDoA","5.43","ng/L","U","0.864","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","72629-94-
8","PFTrDA","5.43","ng/L","U","0.539","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43","
"
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","376-06-
7","PFTeDA","5.43","ng/L","U","0.824","LOD","","TRG","","","8.73","LOQ","YES","-99","","0.115","0.001","5.43",
""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C3-PFBS","13C3-
PFBS","129","%R","","-99","NA","","IS","129","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C2-PFHxA","13C2-
PFHxA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C4-PFHpA","13C4-
PFHpA","98.5","%R","","-99","NA","","IS","98.5","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","18O2-PFHxS","18O2-
PFHxS","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C2-PFOA","13C2-
PFOA","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C8-PFOS","13C8-
PFOS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C5-PFNA","13C5-

PFNA","89.4","%R","","-99","NA","","IS","89.4","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C2-PFDA","13C2-
PFDA","100","%R","","-99","NA","","IS","100","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","d3-MeFOSAA","d3-
MeFOSAA","67.1","%R","","-99","NA","","IS","67.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C2-PFUnA","13C2-
PFUnA","83.7","%R","","-99","NA","","IS","83.7","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","d5-EtFOSAA","d5-
EtFOSAA","46.8","%R","H","-99","NA","","IS","46.8","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C2-PFDoA","13C2-
PFDoA","21.4","%R","H","-99","NA","","IS","21.4","","-99","NA","YES","100","","0.115","0.001","-99",""
"Interceptor-20170628","Modified EPA Method 537","Initial","1700792-03","Vista","13C2-PFTeDA","13C2-
PFTeDA","20.1","%R","H","-99","NA","","IS","20.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","375-73-
5","PFBS","5.43","ng/L","U","1.95","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","307-24-
4","PFHxA","86.4","ng/L","","2.37","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","375-85-
9","PFHpA","64.6","ng/L","","0.643","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","355-46-
4","PFHxS","3.22","ng/L","J","1.03","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","335-67-
1","PFOA","35.8","ng/L","","0.709","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","1763-23-
1","PFOS","3.82","ng/L","J","0.878","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","375-95-
1","PFNA","4.94","ng/L","J","0.882","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","335-76-
2","PFDA","5.43","ng/L","U","1.62","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","2355-31-
9","MeFOSAA","5.43","ng/L","U","1.80","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43"
,""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","2058-94-
8","PFUnA","5.43","ng/L","U","1.14","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","2991-50-
6","EtFOSAA","5.43","ng/L","U","1.49","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",
""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","307-55-
1","PFDoA","5.43","ng/L","U","0.862","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","72629-94-
8","PFTrDA","5.43","ng/L","U","0.538","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43","
"
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","376-06-
7","PFTeDA","5.43","ng/L","U","0.822","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",
""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C3-PFBS","13C3-
PFBS","128","%R","","-99","NA","","IS","128","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C2-PFHxA","13C2-
PFHxA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C4-PFHpA","13C4-
PFHpA","95.1","%R","","-99","NA","","IS","95.1","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","18O2-PFHxS","18O2-
PFHxS","96.8","%R","","-99","NA","","IS","96.8","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C2-PFOA","13C2-

PFOA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C8-PFOS","13C8-
PFOS","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C5-PFNA","13C5-
PFNA","97.9","%R","","-99","NA","","IS","97.9","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C2-PFDA","13C2-
PFDA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","d3-MeFOSAA","d3-
MeFOSAA","90.5","%R","","-99","NA","","IS","90.5","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C2-PFUnA","13C2-
PFUnA","93.6","%R","","-99","NA","","IS","93.6","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","d5-EtFOSAA","d5-
EtFOSAA","61.5","%R","","-99","NA","","IS","61.5","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C2-PFDoA","13C2-
PFDoA","29.8","%R","H","-99","NA","","IS","29.8","","-99","NA","YES","100","","0.115","0.001","-99",""
"Roof Drain-20170628","Modified EPA Method 537","Initial","1700792-04","Vista","13C2-PFTeDA","13C2-
PFTeDA","40.5","%R","H","-99","NA","","IS","40.5","","-99","NA","YES","100","","0.115","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","375-73-
5","PFBS","6.41","ng/L","U","2.29","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","307-24-
4","PFHxA","87.5","ng/L","","2.79","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","375-85-
9","PFHpA","62.9","ng/L","","0.758","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","355-46-
4","PFHxS","2.96","ng/L","J","1.21","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","335-67-
1","PFOA","39.6","ng/L","","0.835","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","1763-23-
1","PFOS","4.28","ng/L","J","1.03","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","375-95-
1","PFNA","8.19","ng/L","J","1.04","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","335-76-
2","PFDA","6.41","ng/L","U","1.91","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","2355-31-
9","MeFOSAA","6.41","ng/L","U","2.12","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41
","",
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","2058-94-
8","PFUnA","6.41","ng/L","U","1.35","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","2991-50-
6","EtFOSAA","6.41","ng/L","U","1.76","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41
","",
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","307-55-
1","PFDoA","6.41","ng/L","U","1.02","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","72629-94-
8","PFTrDA","6.41","ng/L","U","0.633","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41",
""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","376-06-
7","PFTeDA","6.41","ng/L","U","0.968","LOD","","TRG","","","10.3","LOQ","YES","-99","","0.0975","0.001","6.41
","",
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C3-PFBS","13C3-
PFBS","123","%R","","-99","NA","","IS","123","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C2-PFHxA","13C2-
PFHxA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C4-PFHpA","13C4-

PFHpA","89.3","%R","","-99","NA","","IS","89.3","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","18O2-PFHxS","18O2-
PFHxS","97.8","%R","","-99","NA","","IS","97.8","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C2-PFOA","13C2-
PFOA","93.7","%R","","-99","NA","","IS","93.7","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C8-PFOS","13C8-
PFOS","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C5-PFNA","13C5-
PFNA","97.2","%R","","-99","NA","","IS","97.2","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C2-PFDA","13C2-
PFDA","92.0","%R","","-99","NA","","IS","92.0","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","d3-MeFOSAA","d3-
MeFOSAA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C2-PFUnA","13C2-
PFUnA","85.5","%R","","-99","NA","","IS","85.5","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","d5-EtFOSAA","d5-
EtFOSAA","68.5","%R","","-99","NA","","IS","68.5","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C2-PFDoA","13C2-
PFDoA","34.9","%R","H","-99","NA","","IS","34.9","","-99","NA","YES","100","","0.0975","0.001","-99",""
"Spring-20170628","Modified EPA Method 537","Initial","1700792-05","Vista","13C2-PFTeDA","13C2-
PFTeDA","46.6","%R","H","-99","NA","","IS","46.6","","-99","NA","YES","100","","0.0975","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","375-73-
5","PFBS","5.58","ng/L","U","2.00","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","307-24-
4","PFHxA","5.58","ng/L","U","2.43","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","375-85-
9","PFHpA","5.58","ng/L","U","0.659","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","355-46-
4","PFHxS","5.58","ng/L","U","1.06","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","335-67-
1","PFOA","5.58","ng/L","U","0.726","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","1763-23-
1","PFOS","5.58","ng/L","U","0.900","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","375-95-
1","PFNA","5.58","ng/L","U","0.903","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","335-76-
2","PFDA","5.58","ng/L","U","1.66","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","2355-31-
9","MeFOSAA","5.58","ng/L","U","1.84","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58"
,""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","2058-94-
8","PFUnA","5.58","ng/L","U","1.17","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","2991-50-
6","EtFOSAA","5.58","ng/L","U","1.53","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",
""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","307-55-
1","PFDoA","5.58","ng/L","U","0.883","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","72629-94-
8","PFTrDA","5.58","ng/L","U","0.551","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58","
"
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","376-06-
7","PFTeDA","5.58","ng/L","U","0.842","LOD","","TRG","","","8.92","LOQ","YES","-99","","0.112","0.001","5.58",
""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C3-PFBS","13C3-

PFBS","127","%R","","-99","NA","","IS","127","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C2-PFHxA","13C2-
PFHxA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C4-PFHpA","13C4-
PFHpA","95.4","%R","","-99","NA","","IS","95.4","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","18O2-PFHxS","18O2-
PFHxS","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C2-PFOA","13C2-
PFOA","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C8-PFOS","13C8-
PFOS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C5-PFNA","13C5-
PFNA","89.8","%R","","-99","NA","","IS","89.8","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C2-PFDA","13C2-
PFDA","74.7","%R","","-99","NA","","IS","74.7","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","d3-MeFOSAA","d3-
MeFOSAA","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C2-PFUnA","13C2-
PFUnA","70.2","%R","","-99","NA","","IS","70.2","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","d5-EtFOSAA","d5-
EtFOSAA","64.3","%R","","-99","NA","","IS","64.3","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C2-PFDoA","13C2-
PFDoA","32.9","%R","H","-99","NA","","IS","32.9","","-99","NA","YES","100","","0.112","0.001","-99",""
"FRB-20170628","Modified EPA Method 537","Initial","1700792-06","Vista","13C2-PFTeDA","13C2-
PFTeDA","34.8","%R","H","-99","NA","","IS","34.8","","-99","NA","YES","100","","0.112","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","375-73-
5","PFBS","5.25","ng/L","U","1.88","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","307-24-
4","PFHxA","84.8","ng/L","","2.30","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","375-85-
9","PFHpA","54.2","ng/L","","0.622","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","355-46-
4","PFHxS","3.38","ng/L","J","0.997","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","335-67-
1","PFOA","63.4","ng/L","","0.685","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","1763-23-
1","PFOS","6.63","ng/L","J","0.850","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","375-95-
1","PFNA","9.93","ng/L","","0.853","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","335-76-
2","PFDA","3.10","ng/L","J","1.57","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","2355-31-
9","MeFOSAA","5.25","ng/L","U","1.74","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25"
,""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","2058-94-
8","PFUnA","5.25","ng/L","U","1.11","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","2991-50-
6","EtFOSAA","5.25","ng/L","U","1.44","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",
""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","307-55-
1","PFDoA","5.25","ng/L","U","0.834","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","72629-94-
8","PFTrDA","5.25","ng/L","U","0.520","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25","
"

"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","376-06-7","PFTeDA","5.25","ng/L","U","0.795","LOD","","TRG","","","8.42","LOQ","YES","-99","","0.119","0.001","5.25",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C3-PFBS","13C3-PFBS","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C2-PFHxA","13C2-PFHxA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C4-PFHpA","13C4-PFHpA","92.2","%R","","-99","NA","","IS","92.2","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","18O2-PFHxS","18O2-PFHxS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C2-PFOA","13C2-PFOA","100","%R","","-99","NA","","IS","100","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C8-PFOS","13C8-PFOS","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C5-PFNA","13C5-PFNA","91.5","%R","","-99","NA","","IS","91.5","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C2-PFDA","13C2-PFDA","95.5","%R","","-99","NA","","IS","95.5","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","d3-MeFOSAA","d3-MeFOSAA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C2-PFUnA","13C2-PFUnA","88.8","%R","","-99","NA","","IS","88.8","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","d5-EtFOSAA","d5-EtFOSAA","66.3","%R","","-99","NA","","IS","66.3","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C2-PFDoA","13C2-PFDoA","31.8","%R","H","-99","NA","","IS","31.8","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH318.9-20170628","Modified EPA Method 537","Initial","1700792-07","Vista","13C2-PFTeDA","13C2-PFTeDA","24.8","%R","H","-99","NA","","IS","24.8","","-99","NA","YES","100","","0.119","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","375-73-5","PFBS","5.34","ng/L","U","1.91","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","307-24-4","PFHxA","84.6","ng/L","","2.33","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","375-85-9","PFHpA","52.2","ng/L","","0.631","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","355-46-4","PFHxS","2.84","ng/L","J","1.01","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","335-67-1","PFOA","55.2","ng/L","","0.695","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","1763-23-1","PFOS","2.75","ng/L","J","0.861","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","375-95-1","PFNA","5.49","ng/L","J","0.864","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","335-76-2","PFDA","5.34","ng/L","U","1.59","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","2355-31-9","MeFOSAA","5.34","ng/L","U","1.76","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","2058-94-8","PFUnA","5.34","ng/L","U","1.12","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","2991-50-6","EtFOSAA","5.34","ng/L","U","1.46","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","307-55-

1","PFDoA","5.08","ng/L","U","0.803","LOD","","TRG","","","8.11","LOQ","YES","-99","","0.123","0.001","5.08",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","72629-94-
8","PFTrDA","5.08","ng/L","U","0.501","LOD","","TRG","","","8.11","LOQ","YES","-99","","0.123","0.001","5.08","
"
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","376-06-
7","PFTeDA","5.08","ng/L","U","0.766","LOD","","TRG","","","8.11","LOQ","YES","-99","","0.123","0.001","5.08",
""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C3-PFBS","13C3-
PFBS","118","%R","","-99","NA","","IS","118","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C2-PFHxA","13C2-
PFHxA","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C4-PFHpA","13C4-
PFHpA","88.8","%R","","-99","NA","","IS","88.8","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","18O2-PFHxS","18O2-
PFHxS","100","%R","","-99","NA","","IS","100","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C2-PFOA","13C2-
PFOA","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C8-PFOS","13C8-
PFOS","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C5-PFNA","13C5-
PFNA","86.2","%R","","-99","NA","","IS","86.2","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C2-PFDA","13C2-
PFDA","74.5","%R","","-99","NA","","IS","74.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","d3-MeFOSAA","d3-
MeFOSAA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C2-PFUnA","13C2-
PFUnA","86.9","%R","","-99","NA","","IS","86.9","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","d5-EtFOSAA","d5-
EtFOSAA","64.2","%R","","-99","NA","","IS","64.2","","-99","NA","YES","100","","0.117","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C2-PFDoA","13C2-
PFDoA","78.0","%R","","-99","NA","","IS","78.0","","-99","NA","YES","100","","0.123","0.001","-99",""
"MH388.9-20170628","Modified EPA Method 537","Initial","1700792-08","Vista","13C2-PFTeDA","13C2-
PFTeDA","43.3","%R","H","-99","NA","","IS","43.3","","-99","NA","YES","100","","0.123","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","375-73-
5","PFBS","5.30","ng/L","U","1.89","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","307-24-
4","PFHxA","35.2","ng/L","","2.30","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","375-85-
9","PFHpA","26.1","ng/L","","0.625","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","355-46-
4","PFHxS","4.10","ng/L","J","1.00","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","335-67-
1","PFOA","30.6","ng/L","","0.688","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","1763-23-
1","PFOS","6.62","ng/L","J","0.853","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","375-95-
1","PFNA","3.69","ng/L","J","0.856","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","335-76-
2","PFDA","5.30","ng/L","U","1.58","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","2355-31-
9","MeFOSAA","5.30","ng/L","U","1.74","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30"
,""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","2058-94-
8","PFUnA","5.30","ng/L","U","1.11","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""

"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","2991-50-6","EtFOSAA","5.30","ng/L","U","1.45","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","307-55-1","PFDoA","5.30","ng/L","U","0.837","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","72629-94-8","PFTrDA","5.30","ng/L","U","0.522","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","376-06-7","PFTeDA","5.30","ng/L","U","0.798","LOD","","TRG","","","8.46","LOQ","YES","-99","","0.118","0.001","5.30",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C3-PFBS","13C3-PFBS","134","%R","","-99","NA","","IS","134","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C2-PFHxA","13C2-PFHxA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C4-PFHpA","13C4-PFHpA","98.4","%R","","-99","NA","","IS","98.4","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","18O2-PFHxS","18O2-PFHxS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C2-PFOA","13C2-PFOA","98.1","%R","","-99","NA","","IS","98.1","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C8-PFOS","13C8-PFOS","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C5-PFNA","13C5-PFNA","86.0","%R","","-99","NA","","IS","86.0","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C2-PFDA","13C2-PFDA","82.8","%R","","-99","NA","","IS","82.8","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","d3-MeFOSAA","d3-MeFOSAA","75.5","%R","","-99","NA","","IS","75.5","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C2-PFUnA","13C2-PFUnA","81.8","%R","","-99","NA","","IS","81.8","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","d5-EtFOSAA","d5-EtFOSAA","48.3","%R","H","-99","NA","","IS","48.3","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C2-PFDoA","13C2-PFDoA","27.3","%R","H","-99","NA","","IS","27.3","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup03-20170628","Modified EPA Method 537","Initial","1700792-09","Vista","13C2-PFTeDA","13C2-PFTeDA","34.5","%R","H","-99","NA","","IS","34.5","","-99","NA","YES","100","","0.118","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","375-73-5","PFBS","127","ng/L","","1.97","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","307-24-4","PFHxA","612","ng/L","","2.40","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","375-85-9","PFHpA","190","ng/L","","0.652","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","355-46-4","PFHxS","799","ng/L","","1.04","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","335-67-1","PFOA","116","ng/L","","0.718","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Dilution","1700792-10","Vista","1763-23-1","PFOS","1600","ng/L","D","8.90","LOD","","TRG","","","88.2","LOQ","YES","-99","","0.113","0.001","55.3",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","375-95-1","PFNA","10.7","ng/L","","0.893","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","335-76-2","PFDA","3.79","ng/L","J","1.64","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","2355-31-

9","MeFOSAA","5.53","ng/L","U","1.82","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53"
,""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","2058-94-
8","PFUnA","5.53","ng/L","U","1.16","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","2991-50-
6","EtFOSAA","5.53","ng/L","U","1.51","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",
""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","307-55-
1","PFDoA","5.53","ng/L","U","0.873","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","72629-94-
8","PFTrDA","5.53","ng/L","U","0.545","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53","
"
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","376-06-
7","PFTeDA","5.53","ng/L","U","0.832","LOD","","TRG","","","8.82","LOQ","YES","-99","","0.113","0.001","5.53",
""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C3-PFBS","13C3-
PFBS","131","%R","","-99","NA","","IS","131","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C2-PFHxA","13C2-
PFHxA","117","%R","","-99","NA","","IS","117","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C4-PFHpA","13C4-
PFHpA","99.0","%R","","-99","NA","","IS","99.0","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","18O2-PFHxS","18O2-
PFHxS","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C2-PFOA","13C2-
PFOA","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Dilution","1700792-10","Vista","13C8-PFOS","13C8-
PFOS","128","%R","D","-99","NA","","IS","128","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C5-PFNA","13C5-
PFNA","84.1","%R","","-99","NA","","IS","84.1","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C2-PFDA","13C2-
PFDA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","d3-MeFOSAA","d3-
MeFOSAA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C2-PFUnA","13C2-
PFUnA","89.6","%R","","-99","NA","","IS","89.6","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","d5-EtFOSAA","d5-
EtFOSAA","78.7","%R","","-99","NA","","IS","78.7","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C2-PFDoA","13C2-
PFDoA","50.5","%R","","-99","NA","","IS","50.5","","-99","NA","YES","100","","0.113","0.001","-99",""
"Dup01-20170627","Modified EPA Method 537","Initial","1700792-10","Vista","13C2-PFTeDA","13C2-
PFTeDA","34.0","%R","H","-99","NA","","IS","34.0","","-99","NA","YES","100","","0.113","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","375-73-
5","PFBS","5.21","ng/L","U","1.86","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","307-24-
4","PFHxA","5.21","ng/L","U","2.27","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","375-85-
9","PFHpA","5.21","ng/L","U","0.615","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","355-46-
4","PFHxS","5.21","ng/L","U","0.986","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","335-67-
1","PFOA","5.21","ng/L","U","0.678","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","1763-23-
1","PFOS","5.21","ng/L","U","0.840","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","375-95-

1","PFNA","5.21","ng/L","U","0.843","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","335-76-
2","PFDA","5.21","ng/L","U","1.55","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","2355-31-
9","MeFOSAA","5.21","ng/L","U","1.72","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21
",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","2058-94-
8","PFUnA","5.21","ng/L","U","1.09","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","2991-50-
6","EtFOSAA","5.21","ng/L","U","1.43","LOD","","TRG","","","8.33","LOQ","YES","-99","","0.120","0.001","5.21",
""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","307-55-
1","PFDoA","5.08","ng/L","U","0.807","LOD","","TRG","","","8.15","LOQ","YES","-99","","0.123","0.001","5.08",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","72629-94-
8","PFTrDA","5.08","ng/L","U","0.503","LOD","","TRG","","","8.15","LOQ","YES","-99","","0.123","0.001","5.08","
"
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","376-06-
7","PFTeDA","5.08","ng/L","U","0.769","LOD","","TRG","","","8.15","LOQ","YES","-99","","0.123","0.001","5.08",
""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C3-PFBS","13C3-
PFBS","129","%R","","-99","NA","","IS","129","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C2-PFHxA","13C2-
PFHxA","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C4-PFHpA","13C4-
PFHpA","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","18O2-PFHxS","18O2-
PFHxS","93.7","%R","","-99","NA","","IS","93.7","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C2-PFOA","13C2-
PFOA","95.5","%R","","-99","NA","","IS","95.5","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C8-PFOS","13C8-
PFOS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C5-PFNA","13C5-
PFNA","92.6","%R","","-99","NA","","IS","92.6","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C2-PFDA","13C2-
PFDA","87.8","%R","","-99","NA","","IS","87.8","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","d3-MeFOSAA","d3-
MeFOSAA","97.2","%R","","-99","NA","","IS","97.2","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C2-PFUnA","13C2-
PFUnA","62.0","%R","","-99","NA","","IS","62.0","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","d5-EtFOSAA","d5-
EtFOSAA","54.6","%R","","-99","NA","","IS","54.6","","-99","NA","YES","100","","0.120","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C2-PFDoA","13C2-
PFDoA","28.5","%R","H","-99","NA","","IS","28.5","","-99","NA","YES","100","","0.123","0.001","-99",""
"RB01-20170628","Modified EPA Method 537","Initial","1700792-11","Vista","13C2-PFTeDA","13C2-
PFTeDA","36.9","%R","H","-99","NA","","IS","36.9","","-99","NA","YES","100","","0.123","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","375-73-
5","PFBS","5.00","ng/L","U","1.79","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","307-24-
4","PFHxA","5.00","ng/L","U","2.18","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","375-85-
9","PFHpA","5.00","ng/L","U","0.591","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","355-46-
4","PFHxS","5.00","ng/L","U","0.947","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","335-67-

1","PFOA","5.00","ng/L","U","0.651","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","1763-23-
1","PFOS","5.00","ng/L","U","0.807","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","375-95-
1","PFNA","5.00","ng/L","U","0.810","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","335-76-
2","PFDA","5.00","ng/L","U","1.49","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","2355-31-
9","MeFOSAA","5.00","ng/L","U","1.65","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00"
,""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","2058-94-
8","PFUnA","5.00","ng/L","U","1.05","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","2991-50-
6","EtFOSAA","5.00","ng/L","U","1.37","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",
""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","307-55-
1","PFDoA","5.00","ng/L","U","0.792","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","72629-94-
8","PFTrDA","5.00","ng/L","U","0.494","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","
"
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","376-06-
7","PFTeDA","5.00","ng/L","U","0.755","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",
""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C3-PFBS","13C3-
PFBS","120","%R","","-99","NA","","IS","120","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C4-PFHpA","13C4-
PFHpA","99.1","%R","","-99","NA","","IS","99.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","18O2-PFHxS","18O2-
PFHxS","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C2-PFOA","13C2-
PFOA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C8-PFOS","13C8-
PFOS","114","%R","","-99","NA","","IS","114","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C5-PFNA","13C5-
PFNA","90.4","%R","","-99","NA","","IS","90.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C2-PFDA","13C2-
PFDA","76.9","%R","","-99","NA","","IS","76.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","116","%R","","-99","NA","","IS","116","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","77.3","%R","","-99","NA","","IS","77.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","81.3","%R","","-99","NA","","IS","81.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","64.6","%R","","-99","NA","","IS","64.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BLK1","Modified EPA Method 537","Initial","B7F0137-BLK1","Vista","13C2-PFTeDA","13C2-
PFTeDA","53.8","%R","","-99","NA","","IS","53.8","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","375-73-
5","PFBS","80.7","ng/L","","1.79","LOD","","TRG","101","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","307-24-
4","PFHxA","81.7","ng/L","","2.18","LOD","","TRG","102","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""

"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","375-85-9","PFHpA","86.1","ng/L","","0.591","LOD","","TRG","108","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","355-46-4","PFHxS","73.3","ng/L","","0.947","LOD","","TRG","91.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","335-67-1","PFOA","81.7","ng/L","","0.651","LOD","","TRG","102","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","1763-23-1","PFOS","87.7","ng/L","","0.807","LOD","","TRG","110","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","375-95-1","PFNA","83.0","ng/L","","0.810","LOD","","TRG","104","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","335-76-2","PFDA","88.3","ng/L","","1.49","LOD","","TRG","110","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","2355-31-9","MeFOSAA","95.0","ng/L","","1.65","LOD","","TRG","119","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","2058-94-8","PFUnA","71.6","ng/L","","1.05","LOD","","TRG","89.5","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","2991-50-6","EtFOSAA","70.5","ng/L","","1.37","LOD","","TRG","88.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","307-55-1","PFDoA","77.3","ng/L","","0.792","LOD","","TRG","96.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","72629-94-8","PFTrDA","54.1","ng/L","","0.494","LOD","","TRG","67.6","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","376-06-7","PFTeDA","73.5","ng/L","","0.755","LOD","","TRG","91.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C3-PFBS","13C3-PFBS","118","%R","","-99","NA","","IS","118","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C2-PFHxA","13C2-PFHxA","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C4-PFHpA","13C4-PFHpA","92.3","%R","","-99","NA","","IS","92.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","18O2-PFHxS","18O2-PFHxS","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C2-PFOA","13C2-PFOA","93.4","%R","","-99","NA","","IS","93.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C8-PFOS","13C8-PFOS","91.0","%R","","-99","NA","","IS","91.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C5-PFNA","13C5-PFNA","92.5","%R","","-99","NA","","IS","92.5","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C2-PFDA","13C2-PFDA","78.1","%R","","-99","NA","","IS","78.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","d3-MeFOSAA","d3-MeFOSAA","84.7","%R","","-99","NA","","IS","84.7","","-99","NA","YES","100","","0.125","0.001","-99",""

"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C2-PFUnA","13C2-PFUnA","80.5","%R","","-99","NA","","IS","80.5","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","d5-EtFOSAA","d5-EtFOSAA","87.0","%R","","-99","NA","","IS","87.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C2-PFDoA","13C2-PFDoA","44.1","%R","H","-99","NA","","IS","44.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7F0137-BS1","Modified EPA Method 537","Initial","B7F0137-BS1","Vista","13C2-PFTeDA","13C2-PFTeDA","37.9","%R","H","-99","NA","","IS","37.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0033-BLK1","Modified EPA Method 537","Initial","B7G0033-BLK1","Vista","307-55-1","PFDoA","5.00","ng/L","U","0.792","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B7G0033-BLK1","Modified EPA Method 537","Initial","B7G0033-BLK1","Vista","72629-94-8","PFTrDA","5.00","ng/L","U","0.494","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","
"
"B7G0033-BLK1","Modified EPA Method 537","Initial","B7G0033-BLK1","Vista","376-06-7","PFTeDA","5.00","ng/L","U","0.755","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",
""
"B7G0033-BLK1","Modified EPA Method 537","Initial","B7G0033-BLK1","Vista","13C2-PFDoA","13C2-PFDoA","33.9","%R","H","-99","NA","","IS","33.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0033-BLK1","Modified EPA Method 537","Initial","B7G0033-BLK1","Vista","13C2-PFTeDA","13C2-PFTeDA","29.1","%R","H","-99","NA","","IS","29.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0033-BS1","Modified EPA Method 537","Initial","B7G0033-BS1","Vista","307-55-1","PFDoA","81.0","ng/L","","0.792","LOD","","TRG","101","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"
,""
"B7G0033-BS1","Modified EPA Method 537","Initial","B7G0033-BS1","Vista","72629-94-8","PFTrDA","52.2","ng/L","","0.494","LOD","","TRG","65.3","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0
0",""
"B7G0033-BS1","Modified EPA Method 537","Initial","B7G0033-BS1","Vista","376-06-7","PFTeDA","69.4","ng/L","","0.755","LOD","","TRG","86.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0
0",""
"B7G0033-BS1","Modified EPA Method 537","Initial","B7G0033-BS1","Vista","13C2-PFDoA","13C2-PFDoA","50.3","%R","","-99","NA","","IS","50.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0033-BS1","Modified EPA Method 537","Initial","B7G0033-BS1","Vista","13C2-PFTeDA","13C2-PFTeDA","23.8","%R","H","-99","NA","","IS","23.8","","-99","NA","YES","100","","0.125","0.001","-99",""
"NAWC Trenton","NAWC Trenton","West Ditch In-20170627","06/27/2017 14:35","AQ","1700792-01","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017 15:33","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","West Ditch In-20170627","06/27/2017 14:35","AQ","1700792-01","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/10/2017 09:18","07/11/2017 19:19","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0033","B7G0033","NA","S7G0028","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MH-140-20170628","06/28/2017 08:35","AQ","1700792-02","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017 15:43","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","Interceptor-20170628","06/28/2017 08:50","AQ","1700792-03","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017 15:54","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","Roof Drain-20170628","06/28/2017 09:30","AQ","1700792-04","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017 16:05","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","Spring-20170628","06/28/2017 10:05","AQ","1700792-

05","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
16:15","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","FRB-20170628","06/28/2017 12:15","AQ","1700792-
06","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
16:26","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MH318.9-20170628","06/28/2017 10:30","AQ","1700792-
07","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
16:37","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MH388.9-20170628","06/28/2017 10:40","AQ","1700792-
08","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/10/2017 09:18","07/11/2017
19:09","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0033","B7G0033","NA","S7G0028","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MH388.9-20170628","06/28/2017 10:40","AQ","1700792-
08","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
17:20","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","Dup03-20170628","06/28/2017 08:50","AQ","1700792-
09","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
17:31","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","Dup01-20170627","06/27/2017 16:00","AQ","1700792-
10","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
17:41","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","Dup01-20170627","06/27/2017 16:00","AQ","1700792-
10","NM","","4.00","Modified EPA Method 537","METHOD","Dilution","06/30/2017 08:38","07/21/2017
16:16","Vista","COA","WET","NA","10","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","RB01-20170628","06/28/2017 12:15","AQ","1700792-
11","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/10/2017 09:18","07/11/2017
18:58","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0033","B7G0033","NA","S7G0028","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","RB01-20170628","06/28/2017 12:15","AQ","1700792-
11","NM","","4.00","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
17:52","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","06/29/2017 10:09","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7F0137-BLK1","01/01/1900 00:00","AQ","B7F0137-
BLK1","MB","","-99","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
13:56","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7F0137-BS1","01/01/1900 00:00","AQ","B7F0137-
BS1","LCS","","-99","Modified EPA Method 537","METHOD","Initial","06/30/2017 08:38","07/07/2017
14:18","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7F0137","B7F0137","NA","S7G0018","1700792","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0033-BLK1","01/01/1900 00:00","AQ","B7G0033-
BLK1","MB","","-99","Modified EPA Method 537","METHOD","Initial","07/10/2017 09:18","07/11/2017
18:47","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0033","B7G0033","NA","S7G0028","1700792","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0033-BS1","01/01/1900 00:00","AQ","B7G0033-
BS1","LCS","","-99","Modified EPA Method 537","METHOD","Initial","07/10/2017 09:18","07/11/2017
18:15","Vista","COA","WET","NA","1","NA","NA","01/01/1900

00:00","100","B7G0033","B7G0033","NA","S7G0028","1700792","01/01/1900 00:00","01/01/1900 00:00",""

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **MARY MANG** **DATE:** **SEPTEMBER 15, 2017**

FROM: **MEGAN RITCHIE** **COPIES:** **DV FILE/**

SUBJECT: **ORGANIC DATA VALIDATION – POLYFLUOROAKLYL SUBSTANCES (PFAS)**
CTO WE08 - FORMER NAWC TRENTON
SDG 1700792

SAMPLES: 11 / Surface Water / PFAS

West Ditch In-20170627	Spring-20170628	Dup03-20170628
MH-140-20170628	FRB-20170628	Dup01-20170627
Interceptor-20170628	MH318.9-20170628	RB01-20170628
Roof Drain-20170628	MH388.9-20170628	

Overview

The sample set for NAWC Trenton, SDG 17007892 consists of nine (9) surface water environmental samples and two (2) field quality control blank (designated FRB- and RB-). Two field duplicate pairs (Dup01-20170627/MH-118.5N-20170627 [from SDG 1700789] and Dup03-20170628/MH-140-20170628) were included in this SDG. The samples were analyzed for polyfluoroalkyl substances (PFAS).

The samples were collected by Tetra Tech on June 27 and 28, 2017 and analyzed by Vista Analytical of Sheffield, California. The analysis was conducted in accordance with modified EPA Method 537 Rev. 1.1 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters:

* Data Completeness
* Holding Times/Sample Preservation
* GC/MS Instrument Tuning and System Performance
* Initial and Continuing Calibration Verification Results
* Laboratory Method/Preparation Blank Analyses
* Surrogate Recoveries
* Ongoing Precision and Recovery (OPR) Results
* Matrix Spike/Matrix Spike Duplicate Results
* Laboratory Duplicate Sample Results
  Internal Standard Results
  Field Duplicate Precision
* Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Issues affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

PFAS

The recovery of internal standard 13C2-PFTeDA was below the lower QC limit for samples Dup01-20170628 and MH388.9-20170628. The non-detected results for analytes PFTeDA in these samples were qualified as estimated (UJ).

The recoveries of internal standards 13C2-PFDoA and 13C2-PFTeDA were below the lower QC limits for samples Dup03-20170628, FRB-20170628, MH318.9-20170628, RB01-20170628, Roof Drain-20170628, Spring-20170628, and West Ditch In-20170627. The non-detected results for analytes PFDoA, PFTrDA, and PFTeDA in these samples were qualified as estimated (UJ).

The recoveries of internal standards d5-EtFOSAA, 13C2-PFDoA, 13C2-PFTeDA were below the lower QC limits for sample Interceptor-20170628. The non-detected results for analytes EtFOSAA, PFDoA, PFTrDA, and PFTeDA in this sample were qualified as estimated (UJ).

Field duplicate relative percent difference (RPD) for PFOS exceeded the QC criterion of 30% for samples MH-118.5N-20170627 and Dup01-20170627. The positive results for PFOS in these samples were qualified as estimated (J).

Field duplicate RPDs for PFHpA and PFHxA exceeded the QC criterion of 30% for samples MH-140-20170628 and Dup03-20170628. The positive results for PFHpA and PFHxA in these samples were qualified as estimated (J).

Detected results reported below the Limit of Quantitation (LOQ) but above the Detection Limit (DL) were qualified as estimated (J).

Notes

A 10X dilution was required for PFOS for sample Dup01-20170627 because the concentration in the original analysis exceeded the calibration range of the instrument. The field duplicate sample is associated with sample MH-118.5N-20170627 from SDG 1700789.

The field reagent blank (FRB-20170628) and rinsate blank (RB01-20170628) were free of contamination.

All analyses were conducted within the hold times specified by the site specific Sampling and Analysis Plan (SAP) and the analytical method.

Non-detected results were reported to the Limit of Detection (LOD).

Executive Summary

Laboratory Performance: Internal standard recoveries for were below the lower QC limits in several samples.

Other Factors Affecting Data Quality: Field duplicate precision exceeded the QC criterion for two analytes. Positive results below the LOQ were qualified as estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Superfund Organic Methods Data Review" (January 2017). The text of this report has been formulated to address only those areas affecting data quality.

Megan Ritchie

Tetra Tech, Inc.
Megan Ritchie
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

PROJ_NO: 08005-WE08	NSAMPLE	Dup01-20170627			Dup03-20170628			FRB-20170628			Interceptor-20170628		
SDG: 1700792	LAB_ID	1700792-10			1700792-09			1700792-06			1700792-03		
FRACTION: PFAS	SAMP_DATE	6/27/2017			6/28/2017			6/28/2017			6/28/2017		
MEDIA: WATER	QC_TYPE	FD			FD			FB			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF	MH-118.5N-20170627			MH-140-20170628								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.53	U		5.3	U		5.58	U		5.43	UJ	N
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.53	U		5.3	U		5.58	U		5.43	U	
PENTADECAFLUOROOCTANOIC ACID		116			30.6			5.58	U		29.8		
PERFLUOROBUTANESULFONIC ACID		127			5.3	U		5.58	U		5.43	U	
PERFLUORODECANOIC ACID		3.79	J	P	5.3	U		5.58	U		5.43	U	
PERFLUORODODECANOIC ACID		5.53	U		5.3	U		5.58	U		5.43	U	
PERFLUOROHEPTANOIC ACID		190			26.1	J	G	5.58	U		24.2		
PERFLUOROHEXANESULFONIC ACID		799			4.1	J	P	5.58	U		4.88	J	P
PERFLUOROHEXANOIC ACID		612			35.2	J	G	5.58	U		35.9		
PERFLUORONONANOIC ACID		10.7			3.69	J	P	5.58	U		4.92	J	P
PERFLUOROOCTANE SULFONIC ACID		1600	J	G	6.62	J	P	5.58	U		5.89	J	P
PERFLUOROTETRADECANOIC ACID		5.53	UJ	N	5.3	UJ	N	5.58	UJ	N	5.43	UJ	N
PERFLUOROTRIDECANOIC ACID		5.53	U		5.3	UJ	N	5.58	UJ	N	5.43	UJ	N
PERFLUOROUNDECANOIC ACID		5.53	U		5.3	UJ	N	5.58	UJ	N	5.43	UJ	N

PROJ_NO: 08005-WE08	NSAMPLE	MH-140-20170628			MH318.9-20170628			MH388.9-20170628RE			RB01-20170628RE		
SDG: 1700792	LAB_ID	1700792-02			1700792-07			1700792-08			1700792-11		
FRACTION: PFAS	SAMP_DATE	6/28/2017			6/28/2017			6/28/2017			6/28/2017		
MEDIA: WATER	QC_TYPE	NM			NM			NM			RB		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.43	U		5.25	U		5.34	U		5.21	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.43	U		5.25	U		5.34	U		5.21	U	
PENTADECAFLUOROOCTANOIC ACID		37			63.4			55.2			5.21	U	
PERFLUOROBUTANESULFONIC ACID		5.43	U		5.25	U		5.34	U		5.21	U	
PERFLUORODECANOIC ACID		5.43	U		3.1	J	P	5.34	U		5.21	U	
PERFLUORODODECANOIC ACID		5.43	U		5.25	U		5.08	U		5.08	U	
PERFLUOROHEPTANOIC ACID		41.8	J	G	54.2			52.2			5.21	U	
PERFLUOROHEXANESULFONIC ACID		4.7	J	P	3.38	J	P	2.84	J	P	5.21	U	
PERFLUOROHEXANOIC ACID		70.5	J	G	84.8			84.6			5.21	U	
PERFLUORONONANOIC ACID		4.9	J	P	9.93			5.49	J	P	5.21	U	
PERFLUOROOCTANE SULFONIC ACID		4.73	J	P	6.63	J	P	2.75	J	P	5.21	U	
PERFLUOROTETRADECANOIC ACID		5.43	U		5.25	UJ	N	5.08	UJ	N	5.08	UJ	N
PERFLUOROTRIDECANOIC ACID		5.43	U		5.25	UJ	N	5.08	U		5.08	UJ	N
PERFLUOROUNDECANOIC ACID		5.43	U		5.25	UJ	N	5.34	U		5.21	UJ	N

PROJ_NO: 08005-WE08	NSAMPLE	Roof Drain-20170628			Spring-20170628			West Ditch In-20170627RE		
SDG: 1700792	LAB_ID	1700792-04			1700792-05			1700792-01		
FRACTION: PFAS	SAMP_DATE	6/28/2017			6/28/2017			6/27/2017		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.43	U		6.41	U		5.34	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.43	U		6.41	U		5.34	U	
PENTADECAFLUOROOCTANOIC ACID		35.8			39.6			39.8		
PERFLUOROBUTANESULFONIC ACID		5.43	U		6.41	U		5.34	U	
PERFLUORODECANOIC ACID		5.43	U		6.41	U		5.34	U	
PERFLUORODODECANOIC ACID		5.43	U		6.41	U		5.17	U	
PERFLUOROHEPTANOIC ACID		64.6			62.9			52.7		
PERFLUOROHEXANESULFONIC ACID		3.22	J	P	2.96	J	P	3.87	J	P
PERFLUOROHEXANOIC ACID		86.4			87.5			70.8		
PERFLUORONONANOIC ACID		4.94	J	P	8.19	J	P	7.76	J	P
PERFLUOROOCTANE SULFONIC ACID		3.82	J	P	4.28	J	P	9.8		
PERFLUOROTETRADECANOIC ACID		5.43	UJ	N	6.41	UJ	N	5.17	UJ	N
PERFLUOROTRIDECANOIC ACID		5.43	UJ	N	6.41	UJ	N	5.17	UJ	N
PERFLUOROUNDECANOIC ACID		5.43	UJ	N	6.41	UJ	N	5.34	UJ	N

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted method detection limit for sample and method.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's r < 0.995
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

Appendix B

Results as Reported by the Laboratory

Sample ID: West Ditch In-20170627

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 27-Jun-2017 14:35
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700792-01 Date Received: 29-Jun-2017 10:09
QC Batch: B7F0137 Date Extracted: 30-Jun-2017 8:38
Date Analyzed: 07-Jul-17 15:33 Column: BEH C18
11-Jul-17 19:19 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.92	5.34	8.56	
PFHxA	70.8	2.33	5.34	8.56	
PFHpA	52.7	0.632	5.34	8.56	
PFHxS	3.87	1.01	5.34	8.56	J
PFOA	39.8	0.697	5.34	8.56	
PFOS	9.80	0.863	5.34	8.56	
PFNA	7.76	0.867	5.34	8.56	J
PFDA	ND	1.59	5.34	8.56	
MeFOSAA	ND	1.77	5.34	8.56	
PFUnA	ND	1.12	5.34	8.56	
EtFOSAA	ND	1.47	5.34	8.56	
PFDoA	ND	0.816	5.17	8.24	
PFTrDA	ND	0.509	5.17	8.24	
PFTeDA	ND	0.778	5.17	8.24	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	107	50 - 150	
IS	13C2-PFHxA	104	50 - 150	
IS	13C4-PFHpA	84.9	50 - 150	
IS	18O2-PFHxS	97.5	50 - 150	
IS	13C2-PFOA	96.8	50 - 150	
IS	13C8-PFOS	108	50 - 150	
IS	13C5-PFNA	92.1	50 - 150	
IS	13C2-PFDA	86.9	50 - 150	
IS	d3-MeFOSAA	113	50 - 150	
IS	13C2-PFUnA	104	50 - 150	
IS	d5-EtFOSAA	60.4	50 - 150	
IS	13C2-PFDoA	32.5	50 - 150	H
IS	13C2-PFTeDA	27.8	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: MH-140-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 8:35
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700792-02
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 15:43 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.95	5.43	8.71	
PFHxA	70.5	2.37	5.43	8.71	
PFHpA	41.8	0.644	5.43	8.71	
PFHxS	4.70	1.03	5.43	8.71	J
PFOA	37.0	0.709	5.43	8.71	
PFOS	4.73	0.879	5.43	8.71	J
PFNA	4.90	0.882	5.43	8.71	J
PFDA	ND	1.62	5.43	8.71	
MeFOSAA	ND	1.80	5.43	8.71	
PFUnA	ND	1.14	5.43	8.71	
EtFOSAA	ND	1.49	5.43	8.71	
PFDoA	ND	0.863	5.43	8.71	
PFTrDA	ND	0.538	5.43	8.71	
PFTeDA	ND	0.822	5.43	8.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	108	50 - 150	
IS	13C4-PFHpA	98.2	50 - 150	
IS	18O2-PFHxS	97.3	50 - 150	
IS	13C2-PFOA	103	50 - 150	
IS	13C8-PFOS	94.2	50 - 150	
IS	13C5-PFNA	88.1	50 - 150	
IS	13C2-PFDA	72.8	50 - 150	
IS	d3-MeFOSAA	92.8	50 - 150	
IS	13C2-PFUnA	71.1	50 - 150	
IS	d5-EtFOSAA	59.1	50 - 150	
IS	13C2-PFDoA	52.1	50 - 150	
IS	13C2-PFTeDA	55.6	50 - 150	

DL - Detection limit

RL - Reporting limit

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: Interceptor-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 8:50
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700792-03
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 15:54 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.95	5.43	8.73	
PFHxA	35.9	2.38	5.43	8.73	
PFHpA	24.2	0.645	5.43	8.73	
PFHxS	4.88	1.03	5.43	8.73	J
PFOA	29.8	0.710	5.43	8.73	
PFOS	5.89	0.880	5.43	8.73	J
PFNA	4.92	0.884	5.43	8.73	J
PFDA	ND	1.63	5.43	8.73	
MeFOSAA	ND	1.80	5.43	8.73	
PFUnA	ND	1.15	5.43	8.73	
EtFOSAA	ND	1.49	5.43	8.73	
PFDoA	ND	0.864	5.43	8.73	
PFTrDA	ND	0.539	5.43	8.73	
PFTeDA	ND	0.824	5.43	8.73	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	108	50 - 150	
IS	13C4-PFHpA	98.5	50 - 150	
IS	18O2-PFHxS	107	50 - 150	
IS	13C2-PFOA	101	50 - 150	
IS	13C8-PFOS	105	50 - 150	
IS	13C5-PFNA	89.4	50 - 150	
IS	13C2-PFDA	100	50 - 150	
IS	d3-MeFOSAA	67.1	50 - 150	
IS	13C2-PFUnA	83.7	50 - 150	
IS	d5-EtFOSAA	46.8	50 - 150	H
IS	13C2-PFDoA	21.4	50 - 150	H
IS	13C2-PFTeDA	20.1	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Roof Drain-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 9:30
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700792-04 Date Received: 29-Jun-2017 10:09
QC Batch: B7F0137 Date Extracted: 30-Jun-2017 8:38
Date Analyzed: 07-Jul-17 16:05 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.95	5.43	8.71	
PFHxA	86.4	2.37	5.43	8.71	
PFHpA	64.6	0.643	5.43	8.71	
PFHxS	3.22	1.03	5.43	8.71	J
PFOA	35.8	0.709	5.43	8.71	
PFOS	3.82	0.878	5.43	8.71	J
PFNA	4.94	0.882	5.43	8.71	J
PFDA	ND	1.62	5.43	8.71	
MeFOSAA	ND	1.80	5.43	8.71	
PFUnA	ND	1.14	5.43	8.71	
EtFOSAA	ND	1.49	5.43	8.71	
PFDoA	ND	0.862	5.43	8.71	
PFTrDA	ND	0.538	5.43	8.71	
PFTeDA	ND	0.822	5.43	8.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	128	50 - 150	
IS	13C2-PFHxA	108	50 - 150	
IS	13C4-PFHpA	95.1	50 - 150	
IS	18O2-PFHxS	96.8	50 - 150	
IS	13C2-PFOA	113	50 - 150	
IS	13C8-PFOS	103	50 - 150	
IS	13C5-PFNA	97.9	50 - 150	
IS	13C2-PFDA	103	50 - 150	
IS	d3-MeFOSAA	90.5	50 - 150	
IS	13C2-PFUnA	93.6	50 - 150	
IS	d5-EtFOSAA	61.5	50 - 150	
IS	13C2-PFDoA	29.8	50 - 150	H
IS	13C2-PFTeDA	40.5	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Spring-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 10:05
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.0975 L

Laboratory Data

Lab Sample: 1700792-05
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 16:15 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.29	6.41	10.3	
PFHxA	87.5	2.79	6.41	10.3	
PFHpA	62.9	0.758	6.41	10.3	
PFHxS	2.96	1.21	6.41	10.3	J
PFOA	39.6	0.835	6.41	10.3	
PFOS	4.28	1.03	6.41	10.3	J
PFNA	8.19	1.04	6.41	10.3	J
PFDA	ND	1.91	6.41	10.3	
MeFOSAA	ND	2.12	6.41	10.3	
PFUnA	ND	1.35	6.41	10.3	
EtFOSAA	ND	1.76	6.41	10.3	
PFDoA	ND	1.02	6.41	10.3	
PFTrDA	ND	0.633	6.41	10.3	
PFTeDA	ND	0.968	6.41	10.3	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	123	50 - 150	
IS	13C2-PFHxA	111	50 - 150	
IS	13C4-PFHpA	89.3	50 - 150	
IS	18O2-PFHxS	97.8	50 - 150	
IS	13C2-PFOA	93.7	50 - 150	
IS	13C8-PFOS	101	50 - 150	
IS	13C5-PFNA	97.2	50 - 150	
IS	13C2-PFDA	92.0	50 - 150	
IS	d3-MeFOSAA	113	50 - 150	
IS	13C2-PFUnA	85.5	50 - 150	
IS	d5-EtFOSAA	68.5	50 - 150	
IS	13C2-PFDoA	34.9	50 - 150	H
IS	13C2-PFTeDA	46.6	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: FRB-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 12:15
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.112 L

Laboratory Data

Lab Sample: 1700792-06
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 16:26 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.00	5.58	8.92	
PFHxA	ND	2.43	5.58	8.92	
PFHpA	ND	0.659	5.58	8.92	
PFHxS	ND	1.06	5.58	8.92	
PFOA	ND	0.726	5.58	8.92	
PFOS	ND	0.900	5.58	8.92	
PFNA	ND	0.903	5.58	8.92	
PFDA	ND	1.66	5.58	8.92	
MeFOSAA	ND	1.84	5.58	8.92	
PFUnA	ND	1.17	5.58	8.92	
EtFOSAA	ND	1.53	5.58	8.92	
PFDoA	ND	0.883	5.58	8.92	
PFTrDA	ND	0.551	5.58	8.92	
PFTeDA	ND	0.842	5.58	8.92	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	127	50 - 150	
IS	13C2-PFHxA	111	50 - 150	
IS	13C4-PFHpA	95.4	50 - 150	
IS	18O2-PFHxS	112	50 - 150	
IS	13C2-PFOA	112	50 - 150	
IS	13C8-PFOS	105	50 - 150	
IS	13C5-PFNA	89.8	50 - 150	
IS	13C2-PFDA	74.7	50 - 150	
IS	d3-MeFOSAA	101	50 - 150	
IS	13C2-PFUnA	70.2	50 - 150	
IS	d5-EtFOSAA	64.3	50 - 150	
IS	13C2-PFDoA	32.9	50 - 150	H
IS	13C2-PFTeDA	34.8	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: MH318.9-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 10:30
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.119 L

Laboratory Data

Lab Sample: 1700792-07
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 16:37 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.88	5.25	8.42	
PFHxA	84.8	2.30	5.25	8.42	
PFHpA	54.2	0.622	5.25	8.42	
PFHxS	3.38	0.997	5.25	8.42	J
PFOA	63.4	0.685	5.25	8.42	
PFOS	6.63	0.850	5.25	8.42	J
PFNA	9.93	0.853	5.25	8.42	
PFDA	3.10	1.57	5.25	8.42	J
MeFOSAA	ND	1.74	5.25	8.42	
PFUnA	ND	1.11	5.25	8.42	
EtFOSAA	ND	1.44	5.25	8.42	
PFDoA	ND	0.834	5.25	8.42	
PFTrDA	ND	0.520	5.25	8.42	
PFTeDA	ND	0.795	5.25	8.42	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	119	50 - 150	
IS	13C2-PFHxA	102	50 - 150	
IS	13C4-PFHpA	92.2	50 - 150	
IS	18O2-PFHxS	105	50 - 150	
IS	13C2-PFOA	100	50 - 150	
IS	13C8-PFOS	106	50 - 150	
IS	13C5-PFNA	91.5	50 - 150	
IS	13C2-PFDA	95.5	50 - 150	
IS	d3-MeFOSAA	102	50 - 150	
IS	13C2-PFUnA	88.8	50 - 150	
IS	d5-EtFOSAA	66.3	50 - 150	
IS	13C2-PFDoA	31.8	50 - 150	H
IS	13C2-PFTeDA	24.8	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: MH388.9-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 10:40
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700792-08
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 17:20 Column: BEH C18
11-Jul-17 19:09 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.91	5.34	8.54	
PFHxA	84.6	2.33	5.34	8.54	
PFHpA	52.2	0.631	5.34	8.54	
PFHxS	2.84	1.01	5.34	8.54	J
PFOA	55.2	0.695	5.34	8.54	
PFOS	2.75	0.861	5.34	8.54	J
PFNA	5.49	0.864	5.34	8.54	J
PFDA	ND	1.59	5.34	8.54	
MeFOSAA	ND	1.76	5.34	8.54	
PFUnA	ND	1.12	5.34	8.54	
EtFOSAA	ND	1.46	5.34	8.54	
PFDoA	ND	0.803	5.08	8.11	
PFTrDA	ND	0.501	5.08	8.11	
PFTeDA	ND	0.766	5.08	8.11	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	118	50 - 150	
IS	13C2-PFHxA	101	50 - 150	
IS	13C4-PFHpA	88.8	50 - 150	
IS	18O2-PFHxS	100	50 - 150	
IS	13C2-PFOA	105	50 - 150	
IS	13C8-PFOS	111	50 - 150	
IS	13C5-PFNA	86.2	50 - 150	
IS	13C2-PFDA	74.5	50 - 150	
IS	d3-MeFOSAA	108	50 - 150	
IS	13C2-PFUnA	86.9	50 - 150	
IS	d5-EtFOSAA	64.2	50 - 150	
IS	13C2-PFDoA	78.0	50 - 150	
IS	13C2-PFTeDA	43.3	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Dup03-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 8:50
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.118 L

Laboratory Data

Lab Sample: 1700792-09 Date Received: 29-Jun-2017 10:09
QC Batch: B7F0137 Date Extracted: 30-Jun-2017 8:38
Date Analyzed: 07-Jul-17 17:31 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.89	5.30	8.46	
PFHxA	35.2	2.30	5.30	8.46	
PFHpA	26.1	0.625	5.30	8.46	
PFHxS	4.10	1.00	5.30	8.46	J
PFOA	30.6	0.688	5.30	8.46	
PFOS	6.62	0.853	5.30	8.46	J
PFNA	3.69	0.856	5.30	8.46	J
PFDA	ND	1.58	5.30	8.46	
MeFOSAA	ND	1.74	5.30	8.46	
PFUnA	ND	1.11	5.30	8.46	
EtFOSAA	ND	1.45	5.30	8.46	
PFDoA	ND	0.837	5.30	8.46	
PFTrDA	ND	0.522	5.30	8.46	
PFTeDA	ND	0.798	5.30	8.46	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	134	50 - 150	
IS	13C2-PFHxA	113	50 - 150	
IS	13C4-PFHpA	98.4	50 - 150	
IS	18O2-PFHxS	105	50 - 150	
IS	13C2-PFOA	98.1	50 - 150	
IS	13C8-PFOS	102	50 - 150	
IS	13C5-PFNA	86.0	50 - 150	
IS	13C2-PFDA	82.8	50 - 150	
IS	d3-MeFOSAA	75.5	50 - 150	
IS	13C2-PFUnA	81.8	50 - 150	
IS	d5-EtFOSAA	48.3	50 - 150	H
IS	13C2-PFDoA	27.3	50 - 150	H
IS	13C2-PFTeDA	34.5	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: Dup01-20170627

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 27-Jun-2017 16:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.113 L

Laboratory Data

Lab Sample: 1700792-10
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 17:41 Column: BEH C18
21-Jul-17 16:16 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	127	1.97	5.53	8.82	
PFHxA	612	2.40	5.53	8.82	
PFHpA	190	0.652	5.53	8.82	
PFHxS	799	1.04	5.53	8.82	
PFOA	116	0.718	5.53	8.82	
PFOS	1600	8.90	55.3	88.2	D
PFNA	10.7	0.893	5.53	8.82	
PFDA	3.79	1.64	5.53	8.82	J
MeFOSAA	ND	1.82	5.53	8.82	
PFUnA	ND	1.16	5.53	8.82	
EtFOSAA	ND	1.51	5.53	8.82	
PFDoA	ND	0.873	5.53	8.82	
PFTrDA	ND	0.545	5.53	8.82	
PFTeDA	ND	0.832	5.53	8.82	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	131	50 - 150	
IS	13C2-PFHxA	117	50 - 150	
IS	13C4-PFHpA	99.0	50 - 150	
IS	18O2-PFHxS	106	50 - 150	
IS	13C2-PFOA	101	50 - 150	
IS	13C8-PFOS	128	50 - 150	D
IS	13C5-PFNA	84.1	50 - 150	
IS	13C2-PFDA	103	50 - 150	
IS	d3-MeFOSAA	121	50 - 150	
IS	13C2-PFUnA	89.6	50 - 150	
IS	d5-EtFOSAA	78.7	50 - 150	
IS	13C2-PFDoA	50.5	50 - 150	
IS	13C2-PFTeDA	34.0	50 - 150	H

DL - Detection limit

RL - Reporting limit

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: RB01-20170628

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 28-Jun-2017 12:15
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1700792-11
QC Batch: B7F0137
Date Analyzed: 07-Jul-17 17:52 Column: BEH C18
11-Jul-17 18:58 Column: BEH C18
Date Received: 29-Jun-2017 10:09
Date Extracted: 30-Jun-2017 8:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.86	5.21	8.33	
PFHxA	ND	2.27	5.21	8.33	
PFHpA	ND	0.615	5.21	8.33	
PFHxS	ND	0.986	5.21	8.33	
PFOA	ND	0.678	5.21	8.33	
PFOS	ND	0.840	5.21	8.33	
PFNA	ND	0.843	5.21	8.33	
PFDA	ND	1.55	5.21	8.33	
MeFOSAA	ND	1.72	5.21	8.33	
PFUnA	ND	1.09	5.21	8.33	
EtFOSAA	ND	1.43	5.21	8.33	
PFDoA	ND	0.807	5.08	8.15	
PFTrDA	ND	0.503	5.08	8.15	
PFTeDA	ND	0.769	5.08	8.15	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	112	50 - 150	
IS	13C4-PFHpA	101	50 - 150	
IS	18O2-PFHxS	93.7	50 - 150	
IS	13C2-PFOA	95.5	50 - 150	
IS	13C8-PFOS	105	50 - 150	
IS	13C5-PFNA	92.6	50 - 150	
IS	13C2-PFDA	87.8	50 - 150	
IS	d3-MeFOSAA	97.2	50 - 150	
IS	13C2-PFUnA	62.0	50 - 150	
IS	d5-EtFOSAA	54.6	50 - 150	
IS	13C2-PFDoA	28.5	50 - 150	H
IS	13C2-PFTeDA	36.9	50 - 150	H

DL - Detection limit

RL - Reporting limit

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.

Appendix C

Support Documentation

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1700792 Temp: 4.0 °C
Storage ID: WR-2, 3-4 Storage Secured: Yes [X] No [ ]

Project ID: NAWC Trenton PO#: 1132341-WR3 Sampler: Charles Meyer (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#
Tetra Tech Inc	Foster Plaza VII	661 Andersen Drive	Pittsburgh	PA	15220	4129217090 4129214040

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Mary Kay Bond MaryKay Bond	6/28/17	1800	Marissa Sparks MSpark	6/29/17	1030
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

ATTN:

Method of Shipment: Fed Ex

Tracking No.: 661219926143

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/PFOS	UCMR3 PFAS List:6	537 List: 14	Full List of 26	Other: Please List Below PFOA PFOS PFNA	EPA Method 537(DW only): PFOA/PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
West Ditch In-20170627	6/27/17	14:35	West Ditch, In	2	PJ	AQ					X				
MH-140-20170628	6/28/17	08:35	Manhole 140	2	PJ	AQ					X				
Interceptor-20170628	6/28/17	08:50	Interceptor	2	PJ	AQ					X				
Roof Drain-20170628	6/28/17	09:30	Roof Drain	2	PJ	AQ					X				
Spring-20170628	6/28/17	10:05	Spring	2	PJ	AQ					X				
FRB-20170628	6/28/17	12:15		2	PJ	AQ					X				Field Reagent Blank
MH318.9-20170628	6/28/17	10:30	Manhole 318.9	2	PJ	AQ					X				
MH388.9-20170628	6/28/17	10:40	Manhole 388.9	2	PJ	AQ					X				
DUP03-20170628	6/28/17	8:50		2	PJ	AQ					X				
DUP01-20170627	6/27/17	16:00		2	PJ	AQ					X				
RB01-20170628	6/28/17	12:15									X				

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Mary Mang
Company: Tetra Tech
Address: 234 Mall Boulevard Suite 260
City: King of Prussia State: PA Zip: 19406
Phone: 610 382 1174 Fax: 610 981 9645
Email: mary.mang at tetratech.com

Container Types: P= HDPE, PJ= HDPE Jar, O = Other PJ

Bottle Preservation Type: T = Thiosulfate, TZ = Trizma:

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 Work Order No. 1700792
Case Narrative

Sample Condition on Receipt:

Eleven 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. A sample ID for "FRB-20170628" was resolved by following the Chain-of-Custody format, as requested.

Analytical Notes:

Modified EPA Method 537

The aqueous samples were extracted and analyzed for a selected list of 14 PFAS using Modified EPA Method 537.

Samples "West Ditch In-20170627", "MH388.9-20170628" and "RB01-20170628" were re-extracted due to very low recoveries of 13C2-PFDoA and 13C2-PFTeDA in the original extractions. The PFDoA, PFTrDA and PFTeDA results are reported from prep batch B7G0033 for those samples.

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 each preparation batch. No analytes were detected in the Method Blanks 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.

FORMER NAWC TRENTON
1700792

SAMPLE IDENTIFICATION	Dup01-20170627
COMPOUND	PFOS
COMPOUND AREA	151.815
INTERNAL STANDARD AMOUNT (ng/ml)	141
DILUTION FACTOR	10
INTERNAL STANDARD AREA	17.47
AVERAGE RRF	1.026
SAMPLE VOLUME (ml)	113.37
VOLUME EXTRACT (ml)	0.001
VOLUME INJECTED (µl)	15
ml to L	1000
CONCENTRATION =	1580.11 ng/L

152 x 141ng/ml x 15 uL x 1000ml x 10/(17.5 x 0.001 x113ml x 1L)

Sample ID: Method Blank

Modified EPA Method 537

Matrix: Aqueous
Sample Size: 0.125 L

QC Batch: B7F0137
Date Extracted: 30-Jun-2017 8:38

Lab Sample: B7F0137-BLK1
Date Analyzed: 07-Jul-17 13:56 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	5.00	8.00	
PFHxA	ND	2.18	5.00	8.00	
PFHpA	ND	0.591	5.00	8.00	
PFHxS	ND	0.947	5.00	8.00	
PFOA	ND	0.651	5.00	8.00	
PFOS	ND	0.807	5.00	8.00	
PFNA	ND	0.810	5.00	8.00	
PFDA	ND	1.49	5.00	8.00	
MeFOSAA	ND	1.65	5.00	8.00	
PFUnA	ND	1.05	5.00	8.00	
EtFOSAA	ND	1.37	5.00	8.00	
PFDoA	ND	0.792	5.00	8.00	
PFTrDA	ND	0.494	5.00	8.00	
PFTeDA	ND	0.755	5.00	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	120	50 - 150	
IS	13C2-PFHxA	110	50 - 150	
IS	13C4-PFHpA	99.1	50 - 150	
IS	18O2-PFHxS	104	50 - 150	
IS	13C2-PFOA	106	50 - 150	
IS	13C8-PFOS	114	50 - 150	
IS	13C5-PFNA	90.4	50 - 150	
IS	13C2-PFDA	76.9	50 - 150	
IS	d3-MeFOSAA	116	50 - 150	
IS	13C2-PFUnA	77.3	50 - 150	
IS	d5-EtFOSAA	81.3	50 - 150	
IS	13C2-PFDoA	64.6	50 - 150	
IS	13C2-PFTeDA	53.8	50 - 150	

DL - Detection limit
RL - Reporting limit

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:	B7F0137	Lab Sample:	B7F0137-BS1
Sample Size:	0.125 L	Date Extracted:	30-Jun-2017 8:38	Date Analyzed:	07-Jul-17 14:18 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	80.7	80.0	101	70 - 130
PFHxA	81.7	80.0	102	70 - 130
PFHpA	86.1	80.0	108	70 - 130
PFHxS	73.3	80.0	91.7	70 - 130
PFOA	81.7	80.0	102	70 - 130
PFOS	87.7	80.0	110	70 - 130
PFNA	83.0	80.0	104	70 - 130
PFDA	88.3	80.0	110	70 - 130
MeFOSAA	95.0	80.0	119	70 - 130
PFUnA	71.6	80.0	89.5	70 - 130
EtFOSAA	70.5	80.0	88.1	70 - 130
PFDoA	77.3	80.0	96.7	70 - 130
PFTrDA	54.1	80.0	67.6	60 - 130
PFTeDA	73.5	80.0	91.8	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	118	50 - 150
IS	13C2-PFHxA	107	50 - 150
IS	13C4-PFHpA	92.3	50 - 150
IS	18O2-PFHxS	102	50 - 150
IS	13C2-PFOA	93.4	50 - 150
IS	13C8-PFOS	91.0	50 - 150
IS	13C5-PFNA	92.5	50 - 150
IS	13C2-PFDA	78.1	50 - 150
IS	d3-MeFOSAA	84.7	50 - 150
IS	13C2-PFUnA	80.5	50 - 150
IS	d5-EtFOSAA	87.0	50 - 150
IS	13C2-PFDoA	44.1	50 - 150
IS	13C2-PFTeDA	37.9	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank **Modified EPA Method 537**

Matrix:	Aqueous	QC Batch:	B7G0033	Lab Sample:	B7G0033-BLK1
Sample Size:	0.125 L	Date Extracted:	10-Jul-2017 9:18	Date Analyzed:	11-Jul-17 18:47 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFDoA	ND	0.792	5.00	8.00	
PFTrDA	ND	0.494	5.00	8.00	
PFTeDA	ND	0.755	5.00	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C2-PFDoA	33.9	50 - 150	H
IS	13C2-PFTeDA	29.1	50 - 150	H

DL - Detection limit

RL - Reporting limit

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:	B7G0033	Lab Sample:	B7G0033-BS1
Sample Size:	0.125 L	Date Extracted:	10-Jul-2017 9:18	Date Analyzed:	11-Jul-17 18:15 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFDoA	81.0	80.0	101	70 - 130
PFTrDA	52.2	80.0	65.3	60 - 130
PFTeDA	69.4	80.0	86.8	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C2-PFDoA	50.3	50 - 150
IS	13C2-PFTeDA	23.8	50 - 150

LCL-UCL - Lower control limit - upper control limit

Process Sheet

Workorder: 1700792

Prep Expiration: 2017-Jul-11
Client: Tetra Tech

Workorder Due: 21-Jul-17 00:00

TAT: 22

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

Prep Batch: B7F0137

Prep Data Entered: 7.3.17 ZAC
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: STG0018

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700792-01	☒	West Ditch In-20170627	29-Jun-17 10:09	WR-2 A-4	
1700792-02	☒	MH-140-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-03	☒	Interceptor-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-04	☒	Roof Drain-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-05	☒	Spring-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-06	☐	~~FRB-20170628~~ "FRB01-20170628" BS 6/30/17	29-Jun-17 10:09	WR-2 A-4	
1700792-07	☒	MH318.9-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-08	☒	MH388.9-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-09	☒	Dup03-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-10	☒	Dup01-20170627	29-Jun-17 10:09	WR-2 A-4	
1700792-11	☒	RB01-20170628	29-Jun-17 10:09	WR-2 A-4	

WO Comments: **Attach balance check doc.**

Vista PM:Martha Maier

Vial Box ID: Bacon-Nader

Sample Reconciled By: Brenden Schenk 6/30/17

Page 1 of 1

Batch: B7F0137

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700792-01	0.11683	N/A	N/A	1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-02	0.11475			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-03	0.11459			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-04	0.11484			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-05	0.09751			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-06	0.1121			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-07	0.11873			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-08	0.11713			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-09	0.11824			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-10	0.11337			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
1700792-11	0.12005			1000	30-Jun-17 08:38	GM			Aqueous	537M PFAS DOD (LOQ as
B7F0137-BLK1	0.125			1000	30-Jun-17 08:38	GM				QC
B7F0137-BS1	0.125			1000	30-Jun-17 08:38	GM	17D2705	10		QC

7-3-17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mRL)

B7F0137

Chemist: G. Mendiola

Prep Date/Time: 30-Jun-17 08:38

Prepared using: LCMS - SPE Extraction-LCMS

C7 G0007

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☐	B7F0137-BLK1	5	2	0	2	NA	NA	0.25	BSS 6/30/17	BSS 6/30/17	BSS 6/30/17
☐	B7F0137-BS1	5	2	0	2	↓	↓	↓	↓	↓	↓
☐	1700792-01	6	2	0	3	143.54	26.71	0.11683	↓	↓	↓
☐	1700792-02	6	2	0	3	141.52	26.77	0.11475	↓	↓	↓
☐	1700792-03	6	2	0	3	141.27	26.68	0.11459	↓	↓	↓
☐	1700792-04	5	2	0	2	141.63	26.79	0.11484	↓	↓	↓
☐	1700792-05	5	2	0	2	124.37	26.86	0.09751	↓	↓	↓
☐	1700792-06	4	2	0	2	138.93	26.83	0.11210	↓	↓	↓
☐	1700792-07	5	2	0	2	145.57	26.84	0.11873	↓	↓	↓
☐	1700792-08	5	2	0	2	144.00	26.87	0.11713	↓	↓	↓
☐	1700792-09	6	2	0	3	145.05	26.81	0.11824	↓	↓	↓
☐	1700792-10	5	2	0	2	140.25	26.88	0.11337	↓	↓	↓
☐	1700792-11	5	2	0	2	146.77	26.72	0.12005	↓	↓	↓

IS Name (V4) 17E2617, 10µL

NS Name (V2) dm 7/3/17 ~~17E0122, 20µL~~ 17D2705 10µL dm 7/3/17

RS Name (V5) 17E1907, 10µL

SPE Chem: Strata-X-AW 33µm 200mg/6mL

Ele SOLV: Methanol; 0.5% NH_4OH in MeOH

Final Volume(s) 1mL

Check Out: Chemist/Date: BSS 6/30/17

Check In: Chemist/Date: empty

Balance ID: HRMS-8

pH Adjusted: Chemist/Date: BSS 6/30/17

Comments: Assume 1 g = 1 mL

Process Sheet

Workorder: 1700792

RX

Prep Expiration: 2017-Jul-11
Client: Tetra Tech

Workorder Due: 21-Jul-17 00:00

TAT: 22

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

Prep Batch: B7G0033

Prep Data Entered: HB 7/11/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700792-01 B	☑	West Ditch In-20170627	29-Jun-17 10:09	WR-2 A-4	
~~1700792-02~~	☐	~~MH-140-20170628~~	29-Jun-17 10:09	WR-2 A-4	
1700792-03	☐	Interceptor-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-04	☐	Roof Drain-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-05	☐	Spring-20170628	29-Jun-17 10:09	WR-2 A-4	
1700792-06	☐	FRB-20170628	29-Jun-17 10:09	WR-2 A-4	
~~1700792-07~~	☐	~~MH318.9-20170628~~	29-Jun-17 10:09	WR-2 A-4	
1700792-08 B	☑	MH388.9-20170628	29-Jun-17 10:09	WR-2 A-4	
~~1700792-09~~	☐	~~Dup03-20170628~~	29-Jun-17 10:09	WR-2 A-4	
~~1700792-10~~	☐	~~Dup01-20170627~~	29-Jun-17 10:09	WR-2 A-4	
1700792-11 B	☑	RB01-20170628	29-Jun-17 10:09	WR-2 A-4	

WO Comments: **Attach balance check doc.**

Vista PM:Martha Maier

Vial Box ID: Dilliam Shake-Saver

Sample Reconciled By: HB 7/10/17 __/__/__

Page 1 of 1

Batch: B7G0033

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700792-01RE1	0.12136 ✓	NA	NA	1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700792-08RE1	0.12326 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700792-11RE1	0.12273 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700820-01	0.26911 ✓			1000	10-Jul-17 09:18	BAP			Water	537M PFAS
1700836-01	0.1236 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-02	0.1224 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-03	0.1219 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-04	0.12243 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700836-05	0.12319 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700844-01	0.277 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS
1700845-01	0.12034 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700845-02	0.12279 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700845-03	0.11824 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS Static RL
1700845-03	0.11824 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700845-03	0.11824 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS
1700845-04	0.11933 ✓			1000	10-Jul-17 09:18	BAP			Aqueous	537M PFAS DOD (LOQ as
B7G0033-BLK1	0.125 ✓			1000	10-Jul-17 09:18	BAP				QC
B7G0033-BS1	0.125 ✓			1000	10-Jul-17 09:18	BAP	17D2705 ✓	10 ✓		QC
B7G0033-MS1	0.12283 ✓			1000	10-Jul-17 09:18	BAP	17D2705 ✓	10 ✓		QC
B7G0033-MSD1	0.124 ✓	↓	↓	1000	10-Jul-17 09:18	BAP	17D2705 ✓	10 ✓		QC

HB 7/11/17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

Method: 537M PFAS DOD (LOO as mRL)

B7G0033

Chemist: BP

Prep Date/Time: 10-Jul-17 09:18

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	C7G 0034 SPE	RS CHEM/WIT DATE
☐	B7G0033-BLK1	5	2	0	2	NA	NA	(0.125)	BP EL 7-10-17	BP 7-10-17	BP 7-11-17
☐	B7G0033-BS1	5	2	0	2	↓	↓	↓			
☐	1700792-01RE1	7	2	0	2	148.12	26.76	0.12136			
☐	1700792-08RE1	7	2	0	2	150.10	26.84	0.12326			
☐	1700792-11RE1	6	2	0	2	149.56	26.83	0.12273			
☐	1700820-01	6	2	0	5	303.41	34.30	0.26911			

IS Name	NS Name	RS Name
17E2617, 10uL (1)	17D2205, 10uL (2)	17F3038, 10uL (4)

SPE Chem: Strata X-AW 33 cm 200mg/6mL

Ele SOLV: 0.5% NH4OH in MeOH/MeOH

Final Volume(s) 1mL

Check Out: Chemist/Date: HB 7/10/17

Check In: Chemist/Date: empty

Balance ID: HRMS 8

pH Adjusted: Chemist/Date: HB 7/10/17

Comments: Assume 1 g = 1 mL

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.16e3	4.19e3	1.0000		2.92	2.92	18.4	9.76	97.6
2	2	PFHxA	313.2 > 268.9	4.75e4	1.62e4	1.0000		3.16	3.16	14.7	10.4	104.0
3	3	PFHpA	363 > 318.9	4.25e4	4.61e4	1.0000		3.43	3.42	11.5	9.54	95.4
4	4	PFHxS	398.9 > 79.6	5.27e3	4.08e3	1.0000		3.55	3.49	16.2	8.73	87.3
5	5	PFOA	413 > 368.7	7.77e4	9.64e4	1.0000		3.63	3.62	10.1	10.6	105.9
6	6	PFNA	462.9 > 418.8	7.54e4	7.98e4	1.0000		3.82	3.80	11.8	10.6	105.7
7	7	PFOS	499 > 79.9	1.27e4	1.58e4	1.0000		3.86	3.85	10.1	9.53	95.3
8	8	PFDA	513 > 468.8	7.01e4	8.05e4	1.0000		4.00	3.96	10.9	9.39	93.9
9	9	PFUnA	562.9 > 518.9	5.77e4	7.40e4	1.0000		4.13	4.13	9.74	10.7	107.0
10	10	N-MeFOSAA	570.1 > 419	2.12e4	1.80e4	1.0000		4.00	4.00	14.7	9.22	92.2
11	11	N-EtFOSAA	584.2 > 419	1.75e4	1.85e4	1.0000		4.07	4.07	11.8	10.3	103.0
12	12	PFDoA	612.9 > 318.8	6.02e3	1.01e4	1.0000		4.31	4.28	7.42	8.89	88.9
13	13	PFTrDA	662.9 > 618.9	8.91e4	1.01e4	1.0000		4.50	4.45	110	9.90	99.0
14	14	PFTeDA	712.9 > 668.8	6.53e4	7.45e4	1.0000		4.65	4.62	10.9	9.18	91.8
15	15	13C3-PFBS	302 > 98.8	4.19e3	5.15e4	1.0000	0.032	2.92	2.92	0.407	12.7	101.4
16	16	13C2-PFHxA	315 > 269.8	1.62e4	5.15e4	1.0000	0.296	3.15	3.16	1.57	5.31	106.1
17	17	13C4-PFHpA	367.2 > 321.8	4.61e4	5.15e4	1.0000	0.302	3.43	3.42	4.48	14.9	118.9
18	18	18O2-PFHxS	403 > 102.6	4.08e3	1.03e4	1.0000	0.434	3.49	3.49	4.93	11.3	90.8
19	19	13C2-PFOA	414.9 > 369.7	9.64e4	8.32e4	1.0000	1.140	3.62	3.62	14.5	12.7	101.6
20	20	13C5-PFNA	468.2 > 422.9	7.98e4	8.20e4	1.0000	0.958	3.80	3.80	12.2	12.7	101.6
21	21	13C8-PFOS	507 > 79.9	1.58e4	1.53e4	1.0000	1.061	3.85	3.85	12.9	12.1	97.1
22	22	13C2-PFDA	515.1 > 469.9	8.05e4	8.59e4	1.0000	0.942	3.97	3.96	11.7	12.4	99.4
23	23	13C2-PFUnA	565 > 519.8	7.40e4	8.94e4	1.0000	1.084	4.13	4.13	10.3	9.54	76.3
24	24	d3-N-MeFOSAA	573.3 > 419	1.80e4	8.94e4	1.0000	0.240	4.00	4.00	2.52	10.5	83.7
25	25	d5-N-EtFOSAA	589.3 > 419	1.85e4	8.94e4	1.0000	0.247	4.07	4.06	2.59	10.5	83.7
26	26	13C2-PFDoA	615 > 569.7	1.01e4	8.94e4	1.0000	0.127	4.32	4.29	1.42	11.2	89.3
27	27	13C2-PFTeDA	714.8 > 669.6	7.45e4	8.94e4	1.0000	0.883	4.64	4.62	10.4	11.8	94.5
28	28	13C5-PFHxA	318 > 272.9	5.15e4	5.15e4	1.0000	1.000	3.15	3.16	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	1.03e4	1.03e4	1.0000	1.000	3.49	3.49	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	8.32e4	8.32e4	1.0000	1.000	3.62	3.62	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	8.20e4	8.20e4	1.0000	1.000	3.82	3.80	12.5	12.5	100.0

70-130

50-150

OM 7/20/17

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Dataset: U:\Q4.PRO\results\170707M2\170707M2-2.qld

Last Altered: Thursday, July 20, 2017 12:06:04 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:07:25 Pacific Daylight Time

Name: 170707M2_2, Date: 07-Jul-2017, Time: 13:45:44, ID: ST170707M2-1 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	1.53e4	1.53e4	1.0000	1.000	3.85	3.85	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	8.59e4	8.59e4	1.0000	1.000	3.97	3.96	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	8.94e4	8.94e4	1.0000	1.000	4.13	4.13	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 20, 2017 16:34:18 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:38:16 Pacific Daylight Time

Compound name: PFHxA

	Name	ID	Acq.Date	Acq.Time
1	170707M2_2	ST170707M2-1 PFC CS3 17G0508	07-Jul-17	13:45:44
2	170707M2_3	B7F0137-BLK1 Method Blank 0.125	07-Jul-17	13:56:23
3	170707M2_4	IPA	07-Jul-17	14:07:44
4	170707M2_5	B7F0137-BS1 OPR 0.125	07-Jul-17	14:18:24
5	170707M2_6	1700789-01@5X GR-OF-20170627 0.10782	07-Jul-17	14:29:12
6	170707M2_7	1700789-02@5X MH-117T-20170627 0.12311	07-Jul-17	14:39:57
7	170707M2_8	1700789-03@5X MH-117N-20170627 0.12348	07-Jul-17	14:50:35
8	170707M2_9	B7F0136-MS1@5X Matrix Spike 0.12272	07-Jul-17	15:01:14
9	170707M2_10	B7F0136-MSD1@5X Matrix Spike Dup 0.12124	07-Jul-17	15:11:54
10	170707M2_11	1700789-05@10X MH-118.5N-20170627 0.12...	07-Jul-17	15:22:39
11	170707M2_12	1700792-01 West Ditch In-20170627 0.11683	07-Jul-17	15:33:17
12	170707M2_13	1700792-02 MH-140-20170628 0.11475	07-Jul-17	15:43:56
13	170707M2_14	1700792-03 Interceptor-20170628 0.11459	07-Jul-17	15:54:34
14	170707M2_15	1700792-04 Roof Drain-20170628 0.11484	07-Jul-17	16:05:13
15	170707M2_16	1700792-05 Spring-20170628 0.09751	07-Jul-17	16:15:51
16	170707M2_17	1700792-06 FRB-20170628 0.1121	07-Jul-17	16:26:52
17	170707M2_18	1700792-07 MH318.9-20170628 0.11873	07-Jul-17	16:37:41
18	170707M2_19	IPA	07-Jul-17	16:48:19
19	170707M2_20	ST170707M2-2 PFC CS3 17G0508	07-Jul-17	16:58:58
20	170707M2_21	IPA	07-Jul-17	17:09:44
21	170707M2_22	1700792-08 MH388.9-20170628 0.11713	07-Jul-17	17:20:31
22	170707M2_23	1700792-09 Dup03-20170628 0.11824	07-Jul-17	17:31:09
23	170707M2_24	1700792-10 Dup01-20170627 0.11337	07-Jul-17	17:41:47
24	170707M2_25	1700792-11 RB01-20170628 0.12005	07-Jul-17	17:52:26
25	170707M2_26	IPA	07-Jul-17	18:03:04
26	170707M2_27	ST170707M2-3 PFC CS3 17G0508	07-Jul-17	18:13:43

LC Calibration Standards Review Checklist Q4

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	AM 7/20/17 ✓ NA
Calibration ID:	ST170707-M2-1	L (M) H	~~NA~~ ☐	☑	☑	☑	☑	☐	☐
Calibration ID:	-2	L (M) H	☐	☑	☑	☑	☑	☑	☐
Calibration ID:	-3	L (M) H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/21/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Reviewed By: 7/21/17
Initials/Date

Comments:
L14

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.71e3	4.61e3	1.0000		2.92	2.93	18.2	9.67	96.7
2	2	PFHxA	313.2 > 268.9	5.42e4	1.87e4	1.0000		3.16	3.18	14.5	10.3	102.7
3	3	PFHpA	363 > 318.9	5.70e4	5.95e4	1.0000		3.43	3.43	12.0	9.92	99.2
4	4	PFHxS	398.9 > 79.6	7.25e3	5.33e3	1.0000		3.55	3.50	17.0	9.20	92.0
5	5	PFOA	413 > 368.7	8.29e4	1.09e5	1.0000		3.63	3.64	9.52	9.99	99.9
6	6	PFNA	462.9 > 418.8	7.93e4	8.73e4	1.0000		3.82	3.82	11.4	10.2	101.6
7	7	PFOS	499 > 79.9	1.33e4	1.57e4	1.0000		3.86	3.87	10.6	9.99	99.9
8	8	PFDA	513 > 468.8	7.49e4	8.20e4	1.0000		4.00	3.99	11.4	9.85	98.5
9	9	PFUnA	562.9 > 518.9	6.26e4	8.68e4	1.0000		4.13	4.15	9.01	9.88	98.8
10	10	N-MeFOSAA	570.1 > 419	2.08e4	1.76e4	1.0000		4.00	4.02	14.7	9.22	92.2
11	11	N-EtFOSAA	584.2 > 419	1.71e4	1.79e4	1.0000		4.07	4.08	11.9	10.4	103.8
12	12	PFDoA	612.9 > 318.8	6.27e3	1.04e4	1.0000		4.31	4.30	7.57	9.07	90.7
13	13	PFTrDA	662.9 > 618.9	8.89e4	1.04e4	1.0000		4.50	4.47	107	9.67	96.7
14	14	PFTeDA	712.9 > 668.8	6.37e4	7.48e4	1.0000		4.65	4.64	10.6	8.92	89.2
15	15	13C3-PFBS	302 > 98.8	4.61e3	6.14e4	1.0000	0.032	2.92	2.93	0.375	11.7	93.4
16	16	13C2-PFHxA	315 > 269.8	1.87e4	6.14e4	1.0000	0.296	3.15	3.18	1.52	5.14	102.8
17	17	13C4-PFHpA	367.2 > 321.8	5.95e4	6.14e4	1.0000	0.302	3.43	3.43	4.84	16.0	128.4
18	18	18O2-PFHxS	403 > 102.6	5.33e3	1.32e4	1.0000	0.434	3.49	3.50	5.03	11.6	92.6
19	19	13C2-PFOA	414.9 > 369.7	1.09e5	9.20e4	1.0000	1.140	3.62	3.64	14.8	13.0	103.9
20	20	13C5-PFNA	468.2 > 422.9	8.73e4	9.27e4	1.0000	0.958	3.80	3.81	11.8	12.3	98.3
21	21	13C8-PFOS	507 > 79.9	1.57e4	1.44e4	1.0000	1.061	3.85	3.87	13.6	12.8	102.5
22	22	13C2-PFDA	515.1 > 469.9	8.20e4	9.06e4	1.0000	0.942	3.97	3.99	11.3	12.0	96.0
23	23	13C2-PFUnA	565 > 519.8	8.68e4	1.01e5	1.0000	1.084	4.13	4.15	10.8	9.96	79.6
24	24	d3-N-MeFOSAA	573.3 > 419	1.76e4	1.01e5	1.0000	0.240	4.00	4.01	2.19	9.13	73.0
25	25	d5-N-EtFOSAA	589.3 > 419	1.79e4	1.01e5	1.0000	0.247	4.07	4.08	2.23	9.01	72.1
26	26	13C2-PFDoA	615 > 569.7	1.04e4	1.01e5	1.0000	0.127	4.32	4.30	1.29	10.1	81.1
27	27	13C2-PFTeDA	714.8 > 669.6	7.48e4	1.01e5	1.0000	0.883	4.64	4.65	9.30	10.5	84.3
28	28	13C5-PFHxA	318 > 272.9	6.14e4	6.14e4	1.0000	1.000	3.15	3.18	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	1.32e4	1.32e4	1.0000	1.000	3.49	3.50	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	9.20e4	9.20e4	1.0000	1.000	3.62	3.64	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	9.27e4	9.27e4	1.0000	1.000	3.82	3.81	12.5	12.5	100.0

70-130

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AM 7/20/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-20.qld

Last Altered: Thursday, July 20, 2017 12:08:08 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:08:56 Pacific Daylight Time

Name: 170707M2_20, Date: 07-Jul-2017, Time: 16:58:58, ID: ST170707M2-2 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	1.44e4	1.44e4	1.0000	1.000	3.85	3.87	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	9.06e4	9.06e4	1.0000	1.000	3.97	3.99	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	1.01e5	1.01e5	1.0000	1.000	4.13	4.15	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 20, 2017 16:34:18 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:38:16 Pacific Daylight Time

Compound name: PFHxA

	Name	ID	Acq.Date	Acq.Time
1	170707M2_2	ST170707M2-1 PFC CS3 17G0508	07-Jul-17	13:45:44
2	170707M2_3	B7F0137-BLK1 Method Blank 0.125	07-Jul-17	13:56:23
3	170707M2_4	IPA	07-Jul-17	14:07:44
4	170707M2_5	B7F0137-BS1 OPR 0.125	07-Jul-17	14:18:24
5	170707M2_6	1700789-01@5X GR-OF-20170627 0.10782	07-Jul-17	14:29:12
6	170707M2_7	1700789-02@5X MH-117T-20170627 0.12311	07-Jul-17	14:39:57
7	170707M2_8	1700789-03@5X MH-117N-20170627 0.12348	07-Jul-17	14:50:35
8	170707M2_9	B7F0136-MS1@5X Matrix Spike 0.12272	07-Jul-17	15:01:14
9	170707M2_10	B7F0136-MSD1@5X Matrix Spike Dup 0.12124	07-Jul-17	15:11:54
10	170707M2_11	1700789-05@10X MH-118.5N-20170627 0.12...	07-Jul-17	15:22:39
11	170707M2_12	1700792-01 West Ditch In-20170627 0.11683	07-Jul-17	15:33:17
12	170707M2_13	1700792-02 MH-140-20170628 0.11475	07-Jul-17	15:43:56
13	170707M2_14	1700792-03 Interceptor-20170628 0.11459	07-Jul-17	15:54:34
14	170707M2_15	1700792-04 Roof Drain-20170628 0.11484	07-Jul-17	16:05:13
15	170707M2_16	1700792-05 Spring-20170628 0.09751	07-Jul-17	16:15:51
16	170707M2_17	1700792-06 FRB-20170628 0.1121	07-Jul-17	16:26:52
17	170707M2_18	1700792-07 MH318.9-20170628 0.11873	07-Jul-17	16:37:41
18	170707M2_19	IPA	07-Jul-17	16:48:19
19	170707M2_20	ST170707M2-2 PFC CS3 17G0508	07-Jul-17	16:58:58
20	170707M2_21	IPA	07-Jul-17	17:09:44
21	170707M2_22	1700792-08 MH388.9-20170628 0.11713	07-Jul-17	17:20:31
22	170707M2_23	1700792-09 Dup03-20170628 0.11824	07-Jul-17	17:31:09
23	170707M2_24	1700792-10 Dup01-20170627 0.11337	07-Jul-17	17:41:47
24	170707M2_25	1700792-11 RB01-20170628 0.12005	07-Jul-17	17:52:26
25	170707M2_26	IPA	07-Jul-17	18:03:04
26	170707M2_27	ST170707M2-3 PFC CS3 17G0508	07-Jul-17	18:13:43

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170707M2\170707M2-27_L14.qld

Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-6-7-17B.mdb 20 Jul 2017 12:05:34
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-5-17-L14.cdb 19 Jul 2017 13:31:36

Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.46e3	4.79e3	1.0000		2.92	2.94	16.9	8.95	89.5
2	2	PFHxA	313.2 > 268.9	5.11e4	1.82e4	1.0000		3.16	3.17	14.0	9.93	99.3
3	3	PFHpA	363 > 318.9	5.37e4	5.74e4	1.0000		3.43	3.43	11.7	9.69	96.9
4	4	PFHxS	398.9 > 79.6	6.75e3	5.17e3	1.0000		3.55	3.50	16.3	8.82	88.2
5	5	PFOA	413 > 368.7	7.59e4	9.08e4	1.0000		3.63	3.63	10.5	11.0	109.8
6	6	PFNA	462.9 > 418.8	8.30e4	8.73e4	1.0000		3.82	3.81	11.9	10.6	106.4
7	7	PFOS	499 > 79.9	1.31e4	1.67e4	1.0000		3.86	3.87	9.79	9.24	92.4
8	8	PFDA	513 > 468.8	8.81e4	9.02e4	1.0000		4.00	3.99	12.2	10.6	105.6
9	9	PFUnA	562.9 > 518.9	6.36e4	9.20e4	1.0000		4.13	4.15	8.63	9.47	94.7
10	10	N-MeFOSAA	570.1 > 419	2.14e4	1.71e4	1.0000		4.00	4.02	15.7	9.82	98.2
11	11	N-EtFOSAA	584.2 > 419	1.67e4	1.77e4	1.0000		4.07	4.08	11.8	10.3	103.3
12	12	PFDoA	612.9 > 318.8	6.60e3	1.10e4	1.0000		4.31	4.30	7.48	8.97	89.7
13	13	PFTrDA	662.9 > 618.9	8.99e4	1.10e4	1.0000		4.50	4.47	102	9.16	91.6
14	14	PFTeDA	712.9 > 668.8	6.74e4	7.97e4	1.0000		4.65	4.65	10.6	8.86	88.6
15	15	13C3-PFBS	302 > 98.8	4.79e3	5.97e4	1.0000	0.032	2.92	2.94	0.401	12.5	99.9
16	16	13C2-PFHxA	315 > 269.8	1.82e4	5.97e4	1.0000	0.296	3.15	3.17	1.53	5.15	103.1
17	17	13C4-PFHpA	367.2 > 321.8	5.74e4	5.97e4	1.0000	0.302	3.43	3.43	4.80	15.9	127.4
18	18	18O2-PFHxS	403 > 102.6	5.17e3	1.27e4	1.0000	0.434	3.49	3.50	5.08	11.7	93.5
19	19	13C2-PFOA	414.9 > 369.7	9.08e4	8.23e4	1.0000	1.140	3.62	3.63	13.8	12.1	96.7
20	20	13C5-PFNA	468.2 > 422.9	8.73e4	9.09e4	1.0000	0.958	3.80	3.81	12.0	12.5	100.2
21	21	13C8-PFOS	507 > 79.9	1.67e4	1.46e4	1.0000	1.061	3.85	3.87	14.4	13.5	108.2
22	22	13C2-PFDA	515.1 > 469.9	9.02e4	1.02e5	1.0000	0.942	3.97	3.98	11.0	11.7	93.6
23	23	13C2-PFUnA	565 > 519.8	9.20e4	8.27e4	1.0000	1.084	4.13	4.15	13.9	12.8	102.6
24	24	d3-N-MeFOSAA	573.3 > 419	1.71e4	8.27e4	1.0000	0.240	4.00	4.01	2.58	10.7	85.9
25	25	d5-N-EtFOSAA	589.3 > 419	1.77e4	8.27e4	1.0000	0.247	4.07	4.08	2.67	10.8	86.3
26	26	13C2-PFDoA	615 > 569.7	1.10e4	8.27e4	1.0000	0.127	4.32	4.30	1.67	13.1	104.9
27	27	13C2-PFTeDA	714.8 > 669.6	7.97e4	8.27e4	1.0000	0.883	4.64	4.65	12.0	13.6	109.1
28	28	13C5-PFHxA	318 > 272.9	5.97e4	5.97e4	1.0000	1.000	3.15	3.17	5.00	5.00	100.0
29	29	13C3-PFHxS	401.9 > 79.9	1.27e4	1.27e4	1.0000	1.000	3.49	3.50	12.5	12.5	100.0
30	30	13C8-PFOA	421.3 > 376	8.23e4	8.23e4	1.0000	1.000	3.62	3.63	12.5	12.5	100.0
31	31	13C9-PFNA	472.2 > 426.9	9.09e4	9.09e4	1.0000	1.000	3.82	3.81	12.5	12.5	100.0

70-130
50-150
dlm 7/20/17

Dataset: U:\Q4.PRO\results\170707M2\170707M2-27_L14.qld

Last Altered: Thursday, July 20, 2017 12:09:21 Pacific Daylight Time
Printed: Thursday, July 20, 2017 12:10:06 Pacific Daylight Time

Name: 170707M2_27, Date: 07-Jul-2017, Time: 18:13:43, ID: ST170707M2-3 PFC CS3 17G0508, Description: PFC CS3 17G0508

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFOS	503 > 79.9	1.46e4	1.46e4	1.0000	1.000	3.85	3.87	12.5	12.5	100.0
33	33	13C6-PFDA	519.1 > 473.7	1.02e5	1.02e5	1.0000	1.000	3.97	3.98	12.5	12.5	100.0
34	34	13C7-PFUnA	570.1 > 524.8	8.27e4	8.27e4	1.0000	1.000	4.13	4.15	12.5	12.5	100.0

Dataset: Untitled

Last Altered: Thursday, July 20, 2017 16:34:18 Pacific Daylight Time
Printed: Thursday, July 20, 2017 16:38:16 Pacific Daylight Time

Compound name: PFHxA

	Name	ID	Acq.Date	Acq.Time
1	170707M2_2	ST170707M2-1 PFC CS3 17G0508	07-Jul-17	13:45:44
2	170707M2_3	B7F0137-BLK1 Method Blank 0.125	07-Jul-17	13:56:23
3	170707M2_4	IPA	07-Jul-17	14:07:44
4	170707M2_5	B7F0137-BS1 OPR 0.125	07-Jul-17	14:18:24
5	170707M2_6	1700789-01@5X GR-OF-20170627 0.10782	07-Jul-17	14:29:12
6	170707M2_7	1700789-02@5X MH-117T-20170627 0.12311	07-Jul-17	14:39:57
7	170707M2_8	1700789-03@5X MH-117N-20170627 0.12348	07-Jul-17	14:50:35
8	170707M2_9	B7F0136-MS1@5X Matrix Spike 0.12272	07-Jul-17	15:01:14
9	170707M2_10	B7F0136-MSD1@5X Matrix Spike Dup 0.12124	07-Jul-17	15:11:54
10	170707M2_11	1700789-05@10X MH-118.5N-20170627 0.12...	07-Jul-17	15:22:39
11	170707M2_12	1700792-01 West Ditch In-20170627 0.11683	07-Jul-17	15:33:17
12	170707M2_13	1700792-02 MH-140-20170628 0.11475	07-Jul-17	15:43:56
13	170707M2_14	1700792-03 Interceptor-20170628 0.11459	07-Jul-17	15:54:34
14	170707M2_15	1700792-04 Roof Drain-20170628 0.11484	07-Jul-17	16:05:13
15	170707M2_16	1700792-05 Spring-20170628 0.09751	07-Jul-17	16:15:51
16	170707M2_17	1700792-06 FRB-20170628 0.1121	07-Jul-17	16:26:52
17	170707M2_18	1700792-07 MH318.9-20170628 0.11873	07-Jul-17	16:37:41
18	170707M2_19	IPA	07-Jul-17	16:48:19
19	170707M2_20	ST170707M2-2 PFC CS3 17G0508	07-Jul-17	16:58:58
20	170707M2_21	IPA	07-Jul-17	17:09:44
21	170707M2_22	1700792-08 MH388.9-20170628 0.11713	07-Jul-17	17:20:31
22	170707M2_23	1700792-09 Dup03-20170628 0.11824	07-Jul-17	17:31:09
23	170707M2_24	1700792-10 Dup01-20170627 0.11337	07-Jul-17	17:41:47
24	170707M2_25	1700792-11 RB01-20170628 0.12005	07-Jul-17	17:52:26
25	170707M2_26	IPA	07-Jul-17	18:03:04
26	170707M2_27	ST170707M2-3 PFC CS3 17G0508	07-Jul-17	18:13:43

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Dataset: U:\Q4.PRO\results\170711M1\170711M1-41_L14.qld

Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

AC 7/13/17 MJT 7/14/17

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.18e3	2.95e3	1.000		2.92	2.87	21.9	9.67	96.7
2	2	PFHxA	313.2 > 268.9	3.85e4	1.24e4	1.000		3.16	3.11	15.6	9.47	94.7
3	3	PFHpA	363 > 318.9	3.48e4	3.29e4	1.000		3.43	3.38	13.2	9.17	91.7
4	4	PFHxS	398.9 > 79.6	4.41e3	2.80e3	1.000		3.55	3.45	19.6	10.7	106.7
5	5	PFOA	413 > 368.7	5.19e4	5.42e4	1.000		3.63	3.57	12.0	10.4	104.3
6	6	PFNA	462.9 > 418.8	7.23e4	6.33e4	1.000		3.82	3.75	14.3	10.4	104.2
7	7	PFOS	499 > 79.9	1.13e4	1.18e4	1.000		3.86	3.80	11.9	10.6	105.9
8	8	PFDA	513 > 468.8	8.08e4	6.77e4	1.000		4.00	3.91	14.9	9.91	99.1
9	9	PFUnA	562.9 > 518.9	5.44e4	6.60e4	1.000		4.16	4.08	10.3	9.81	98.1
10	10	N-MeFOSAA	570.1 > 419	2.03e4	1.31e4	1.000		4.00	3.95	19.3	10.3	103.5
11	11	N-EtFOSAA	584.2 > 419	1.66e4	1.35e4	1.000		4.08	4.01	15.4	11.3	112.6
12	12	PFDoA	612.9 > 318.8	5.90e3	7.11e3	1.000		4.32	4.24	10.4	10.3	103.4
13	13	PFTrDA	662.9 > 618.9	7.66e4	7.11e3	1.000		4.50	4.40	135	10.0	100.0
14	14	PFTeDA	712.9 > 668.8	5.69e4	5.85e4	1.000		4.66	4.56	12.2	9.62	96.2
15	15	13C3-PFBA	216.1 > 171.8	1.28e4	1.37e4	1.000	0.918	1.43	1.34	11.7	12.8	102.1
16	16	13C3-PFPeA	266 > 221.8	2.54e4	1.37e4	1.000	1.784	2.72	2.64	23.3	13.0	104.3
17	17	13C3-PFBS	302 > 98.8	2.95e3	1.37e4	1.000	0.215	2.92	2.87	2.70	12.6	100.5
18	18	13C2-PFHxA	315 > 269.8	1.24e4	3.81e4	1.000	0.304	3.16	3.11	1.62	5.34	106.8
19	19	13C4-PFHpA	367.2 > 321.8	3.29e4	3.81e4	1.000	0.306	3.43	3.37	4.32	14.1	113.1
20	20	18O2-PFHxS	403 > 102.6	2.80e3	6.46e3	1.000	0.437	3.55	3.45	5.43	12.4	99.3
21	21	13C2-PFOA	414.9 > 369.7	5.42e4	4.16e4	1.000	1.292	3.63	3.58	16.3	12.6	101.0
22	22	13C5-PFNA	468.2 > 422.9	6.33e4	6.25e4	1.000	0.980	3.82	3.75	12.7	12.9	103.4
23	23	13C8-PFOS	507 > 79.9	1.18e4	1.09e4	1.000	1.098	3.86	3.80	13.6	12.3	98.8
24	24	13C2-PFDA	515.1 > 469.9	6.77e4	6.86e4	1.000	0.928	4.00	3.91	12.3	13.3	106.3
25	25	13C2-PFUnA	565 > 519.8	6.60e4	6.95e4	1.000	1.083	4.16	4.08	11.9	11.0	87.6
26	26	d3-N-MeFOSAA	573.3 > 419	1.31e4	6.95e4	1.000	0.224	4.00	3.94	2.36	10.5	84.2
27	27	d5-N-EtFOSAA	589.3 > 419	1.35e4	6.95e4	1.000	0.230	4.08	4.01	2.43	10.6	84.5
28	28	13C2-PFDoA	615 > 569.7	7.11e3	6.95e4	1.000	0.130	4.32	4.23	1.28	9.84	78.7
29	29	13C2-PFTeDA	714.8 > 669.6	5.85e4	6.95e4	1.000	1.018	4.66	4.57	10.5	10.3	82.7
30	30	13C4-PFBA	217 > 171.8	1.37e4	1.37e4	1.000	1.000	1.43	1.34	12.5	12.5	100.0
31	31	13C5-PFHxA	318 > 272.9	3.81e4	3.81e4	1.000	1.000	3.18	3.11	5.00	5.00	100.0

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Dataset: U:\Q4.PRO\results\170711M1\170711M1-41_L14.qld

Last Altered: Thursday, July 13, 2017 10:49:12 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:52:03 Pacific Daylight Time

Name: 170711M1_41, Date: 11-Jul-2017, Time: 17:43:19, ID: ST170711M1-4 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C3-PFHxS	401.9 > 79.9	6.46e3	6.46e3	1.000	1.000	3.55	3.44	12.5	12.5	100.0
33	33	13C8-PFOA	421.3 > 376	4.16e4	4.16e4	1.000	1.000	3.63	3.58	12.5	12.5	100.0
34	34	13C9-PFNA	472.2 > 426.9	6.25e4	6.25e4	1.000	1.000	3.82	3.75	12.5	12.5	100.0
35	35	13C4-PFOS	503 > 79.9	1.09e4	1.09e4	1.000	1.000	3.86	3.80	12.5	12.5	100.0
36	36	13C6-PFDA	519.1 > 473.7	6.86e4	6.86e4	1.000	1.000	4.00	3.91	12.5	12.5	100.0
37	37	13C7-PFUnA	570.1 > 524.8	6.95e4	6.95e4	1.000	1.000	4.16	4.08	12.5	12.5	100.0

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Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170711M1_1	IPA	11-Jul-17	08:51:57
2	170711M1_2	ST170711M1-1 PFC CS3 17G1008	11-Jul-17	09:02:53
3	170711M1_3	IPA	11-Jul-17	09:13:39
4	170711M1_4	B7E0157-BS1 OPR 1	11-Jul-17	09:24:20
5	170711M1_5	IPA	11-Jul-17	09:35:03
6	170711M1_6	B7E0157-BLK1 Method Blank 1	11-Jul-17	09:45:42
7	170711M1_7	1700655-01 Pedigree Chopped Ground Dinne...	11-Jul-17	09:56:20
8	170711M1_8	1700655-02 Purina Friskies Salmon Dinner Cl...	11-Jul-17	10:06:59
9	170711M1_9	IPA	11-Jul-17	10:17:44
10	170711M1_10	B7G0024-BS2 OPR 0.25	11-Jul-17	10:28:24
11	170711M1_11	IPA	11-Jul-17	10:39:03
12	170711M1_12	ST170711M1-2 PFC CS3 17G1008	11-Jul-17	10:49:41
13	170711M1_13	IPA	11-Jul-17	11:00:27
14	170711M1_14	B7G0029-BS1 OPR 0.005	11-Jul-17	12:51:34
15	170711M1_15	IPA	11-Jul-17	13:02:29
16	170711M1_16	B7G0029-BLK1 Method Blank 0.005	11-Jul-17	13:13:07
17	170711M1_17	1700842-01 Shaws/Littleton 0.005	11-Jul-17	13:23:46
18	170711M1_18	1700842-02 Walmart/Gorham 0.005	11-Jul-17	13:34:24
19	170711M1_19	1700842-03 Whole Foods/Nashua 0.005	11-Jul-17	13:45:02
20	170711M1_20	1700842-04 Walmart/Epping 0.005	11-Jul-17	13:57:16
21	170711M1_21	1700842-05 Freshmarket/Portsmouth 0.005	11-Jul-17	14:08:28
22	170711M1_22	1700842-06 Trader Joes/Newington 0.005	11-Jul-17	14:19:07
23	170711M1_23	1700842-07 Market Basket/Dover 0.005	11-Jul-17	14:29:45
24	170711M1_24	1700842-08 Hannaford/Keene 0.005	11-Jul-17	14:40:32
25	170711M1_25	1700842-09 Market Basket /Claremont 0.005	11-Jul-17	14:51:10
26	170711M1_26	1700842-10 Market Basket/Claremont 2 0.005	11-Jul-17	15:01:59
27	170711M1_27	IPA	11-Jul-17	15:12:44
28	170711M1_28	ST170711M1-3 PFC CS3 17G1008	11-Jul-17	15:23:22
29	170711M1_29	IPA	11-Jul-17	15:34:09
30	170711M1_30	1700842-11 Market Basket/Claremont 3 0.005	11-Jul-17	15:44:47
31	170711M1_31	1700842-12 Price Chopper/W.Lebanon 0.005	11-Jul-17	15:55:26

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Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170711M1_32	1700842-13 Market Basket/Concord 0.005	11-Jul-17	16:06:13
33	170711M1_33	1700842-14 Cumberland Farms/Meredith 0.005	11-Jul-17	16:17:42
34	170711M1_34	1700842-15 EM-Heath/Center Harbor 0.005	11-Jul-17	16:28:34
35	170711M1_35	1700842-16 Shaws/North Conway 0.005	11-Jul-17	16:39:13
36	170711M1_36	1700842-17 Milk 1 0.005	11-Jul-17	16:49:59
37	170711M1_37	1700842-18 Milk 2 0.005	11-Jul-17	17:00:38
38	170711M1_38	170711_929	11-Jul-17	17:11:16
39	170711M1_39	170711_972	11-Jul-17	17:21:55
40	170711M1_40	IPA	11-Jul-17	17:32:33
41	170711M1_41	ST170711M1-4 PFC CS3 17G1008 ✓	11-Jul-17	17:43:19
42	170711M1_42	IPA	11-Jul-17	17:54:06
43	170711M1_43	B7G0014-BS1 OPR 0.125	11-Jul-17	18:04:47
44	170711M1_44	B7G0033-BS1 OPR 0.125	11-Jul-17	18:15:31
45	170711M1_45	IPA	11-Jul-17	18:26:18
46	170711M1_46	B7G0014-BLK1 Method Blank 0.125	11-Jul-17	18:37:02
47	170711M1_47	B7G0033-BLK1 Method Blank 0.125	11-Jul-17	18:47:43
48	170711M1_48	1700792-11RE1 RB01-20170628 0.12273	11-Jul-17	18:58:21
49	170711M1_49	1700792-08RE1 MH388.9-20170628 0.12326	11-Jul-17	19:09:07
50	170711M1_50	1700792-01RE1 West Ditch In-20170627 0.12...	11-Jul-17	19:19:46
51	170711M1_51	1700803-01 SB01 0.12033	11-Jul-17	19:30:24
52	170711M1_52	1700803-03 IRPSite7-GW-46GW205-201706...	11-Jul-17	19:41:03
53	170711M1_53	1700803-04 IRPSite7-GW-FD01-20170628 0....	11-Jul-17	19:51:41
54	170711M1_54	1700803-05 IRPSite7-GW-07GW202-201706...	11-Jul-17	20:02:19
55	170711M1_55	1700803-06 IRPSite7-GW-FRB01-20170628 ...	11-Jul-17	20:12:58
56	170711M1_56	1700803-07 IRPSite5-GW-FRB01-20170628 ...	11-Jul-17	20:23:36
57	170711M1_57	1700803-08 IRPSite5-GW-04GW81S-201706...	11-Jul-17	20:34:15
58	170711M1_58	1700803-09 IRPSite5-GW-04GW80-2017062...	11-Jul-17	20:44:53
59	170711M1_59	B7G0014-MS1 Matrix Spike 0.12163	11-Jul-17	20:55:31
60	170711M1_60	B7G0014-MSD1 Matrix Spike Dup 0.1181	11-Jul-17	21:06:22
61	170711M1_61	1700803-10 EB02 0.10956	11-Jul-17	21:17:12
62	170711M1_62	IPA	11-Jul-17	21:27:59
63	170711M1_63	ST170711M1-5 PFC CS3 17G1008 ✓	11-Jul-17	21:38:37
64	170711M1_64	IPA	11-Jul-17	21:49:23
65	170711M1_65	1700820-01 MTBE_5527 0.26911	11-Jul-17	22:00:02

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Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
66	170711M1_66	1700836-01 DPH-MW11 0.1236	11-Jul-17	22:10:40
67	170711M1_67	1700836-02 DPH-B7 0.1224	11-Jul-17	22:21:19
68	170711M1_68	1700836-03 DPH-MW3-17 0.1219	11-Jul-17	22:31:57
69	170711M1_69	1700836-04 DPH-EX4 0.12243	11-Jul-17	22:42:36
70	170711M1_70	1700836-05 DPH-MW6-17 0.12319	11-Jul-17	22:53:14
71	170711M1_71	1700844-01 2041010001 0.277	11-Jul-17	23:03:52
72	170711M1_72	1700845-01 MW-29S-20170707 0.12034	11-Jul-17	23:14:31
73	170711M1_73	1700845-02 DUP04-20170707 0.12279	11-Jul-17	23:25:17
74	170711M1_74	1700845-03 MW-27S-20170707 0.11824	11-Jul-17	23:36:03
75	170711M1_75	B7G0033-MS1 Matrix Spike 0.12283	11-Jul-17	23:46:42
76	170711M1_76	B7G0033-MSD1 Matrix Spike Dup 0.124	11-Jul-17	23:57:29
77	170711M1_77	1700845-04 MW-30S-20170707 0.11933	12-Jul-17	00:08:07
78	170711M1_78	IPA	12-Jul-17	00:18:45
79	170711M1_79	ST170711M1-6 PFC CS3 17G1008	12-Jul-17	00:29:24
80	170711M1_80	IPA	12-Jul-17	00:40:11

LC Calibration Standards Review Checklist Q4

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID:	ST170711M1-4	L (M) H	N/A	☑	☑	☑	☑	☐	☐
Calibration ID:	-5	L (M) H	☐	☑	☑	☑	☑	☐	☐
Calibration ID:	-6	L (M) H	☐	☑	☑	☑	☑	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/21/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☐

Reviewed By: MJT 7/14/17
Initials/Date

Comments:
L14

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

AC 7/13/17 MJT 7/14/17

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.73e3	3.22e3	1.000		2.92	2.87	22.3	9.82	98.2
2	2	PFHxA	313.2 > 268.9	4.37e4	1.35e4	1.000		3.16	3.11	16.2	9.84	98.4
3	3	PFHpA	363 > 318.9	3.67e4	3.35e4	1.000		3.43	3.37	13.7	9.52	95.2
4	4	PFHxS	398.9 > 79.6	4.83e3	3.08e3	1.000		3.55	3.45	19.6	10.6	106.5
5	5	PFOA	413 > 368.7	5.92e4	6.00e4	1.000		3.63	3.57	12.3	10.7	107.5
6	6	PFNA	462.9 > 418.8	7.03e4	6.75e4	1.000		3.82	3.75	13.0	9.48	94.8
7	7	PFOS	499 > 79.9	1.21e4	1.18e4	1.000		3.86	3.80	12.8	11.4	113.5
8	8	PFDA	513 > 468.8	7.57e4	6.27e4	1.000		4.00	3.92	15.1	10.0	100.1
9	9	PFUnA	562.9 > 518.9	5.75e4	7.29e4	1.000		4.16	4.08	9.86	9.38	93.8
10	10	N-MeFOSAA	570.1 > 419	2.11e4	1.47e4	1.000		4.00	3.95	17.9	9.60	96.0
11	11	N-EtFOSAA	584.2 > 419	1.78e4	1.61e4	1.000		4.08	4.01	13.9	10.2	101.8
12	12	PFDoA	612.9 > 318.8	5.59e3	8.39e3	1.000		4.32	4.24	8.33	8.30	83.0
13	13	PFTrDA	662.9 > 618.9	8.09e4	8.39e3	1.000		4.50	4.40	121	8.97	89.7
14	14	PFTeDA	712.9 > 668.8	5.92e4	5.71e4	1.000		4.66	4.57	13.0	10.3	102.6
15	15	13C3-PFBA	216.1 > 171.8	1.32e4	1.44e4	1.000	0.918	1.43	1.34	11.5	12.5	100.1
16	16	13C3-PFPeA	266 > 221.8	2.66e4	1.44e4	1.000	1.784	2.72	2.63	23.1	12.9	103.6
17	17	13C3-PFBS	302 > 98.8	3.22e3	1.44e4	1.000	0.215	2.92	2.87	2.79	12.9	103.6
18	18	13C2-PFHxA	315 > 269.8	1.35e4	4.20e4	1.000	0.304	3.16	3.11	1.61	5.30	106.0
19	19	13C4-PFHpA	367.2 > 321.8	3.35e4	4.20e4	1.000	0.306	3.43	3.37	3.99	13.0	104.4
20	20	18O2-PFHxS	403 > 102.6	3.08e3	7.16e3	1.000	0.437	3.55	3.44	5.37	12.3	98.3
21	21	13C2-PFOA	414.9 > 369.7	6.00e4	4.84e4	1.000	1.292	3.63	3.57	15.5	12.0	95.9
22	22	13C5-PFNA	468.2 > 422.9	6.75e4	6.66e4	1.000	0.980	3.82	3.75	12.7	12.9	103.5
23	23	13C8-PFOS	507 > 79.9	1.18e4	1.16e4	1.000	1.098	3.86	3.80	12.8	11.7	93.2
24	24	13C2-PFDA	515.1 > 469.9	6.27e4	6.86e4	1.000	0.928	4.00	3.92	11.4	12.3	98.6
25	25	13C2-PFUnA	565 > 519.8	7.29e4	5.75e4	1.000	1.083	4.16	4.08	15.8	14.6	117.0
26	26	d3-N-MeFOSAA	573.3 > 419	1.47e4	5.75e4	1.000	0.224	4.00	3.94	3.20	14.3	114.0
27	27	d5-N-EtFOSAA	589.3 > 419	1.61e4	5.75e4	1.000	0.230	4.08	4.01	3.49	15.2	121.6
28	28	13C2-PFDoA	615 > 569.7	8.39e3	5.75e4	1.000	0.130	4.32	4.24	1.82	14.0	112.3
29	29	13C2-PFTeDA	714.8 > 669.6	5.71e4	5.75e4	1.000	1.018	4.66	4.57	12.4	12.2	97.6
30	30	13C4-PFBA	217 > 171.8	1.44e4	1.44e4	1.000	1.000	1.43	1.34	12.5	12.5	100.0
31	31	13C4-PFHxA	318 > 272.9	4.20e4	4.20e4	1.000	1.000	3.18	3.11	5.00	5.00	100.0

70-130

50-150

Dataset: U:\Q4.PRO\results\170711M1\170711M1-63_L14.qld

Last Altered: Thursday, July 13, 2017 10:54:41 Pacific Daylight Time
Printed: Thursday, July 13, 2017 10:55:26 Pacific Daylight Time

Name: 170711M1_63, Date: 11-Jul-2017, Time: 21:38:37, ID: ST170711M1-5 PFC CS3 17G1008, Description: PFC CS3 17G1008

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C3-PFHxS	401.9 > 79.9	7.16e3	7.16e3	1.000	1.000	3.55	3.44	12.5	12.5	100.0
33	33	13C8-PFOA	421.3 > 376	4.84e4	4.84e4	1.000	1.000	3.63	3.57	12.5	12.5	100.0
34	34	13C9-PFNA	472.2 > 426.9	6.66e4	6.66e4	1.000	1.000	3.82	3.75	12.5	12.5	100.0
35	35	13C4-PFOS	503 > 79.9	1.16e4	1.16e4	1.000	1.000	3.86	3.80	12.5	12.5	100.0
36	36	13C6-PFDA	519.1 > 473.7	6.86e4	6.86e4	1.000	1.000	4.00	3.91	12.5	12.5	100.0
37	37	13C7-PFUnA	570.1 > 524.8	5.75e4	5.75e4	1.000	1.000	4.16	4.08	12.5	12.5	100.0

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L14-7-5-17.mdb 10 Jul 2017 08:06:14
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L14.cdb 11 Jul 2017 08:36:22

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170711M1_1	IPA	11-Jul-17	08:51:57
2	170711M1_2	ST170711M1-1 PFC CS3 17G1008	11-Jul-17	09:02:53
3	170711M1_3	IPA	11-Jul-17	09:13:39
4	170711M1_4	B7E0157-BS1 OPR 1	11-Jul-17	09:24:20
5	170711M1_5	IPA	11-Jul-17	09:35:03
6	170711M1_6	B7E0157-BLK1 Method Blank 1	11-Jul-17	09:45:42
7	170711M1_7	1700655-01 Pedigree Chopped Ground Dinne...	11-Jul-17	09:56:20
8	170711M1_8	1700655-02 Purina Friskies Salmon Dinner Cl...	11-Jul-17	10:06:59
9	170711M1_9	IPA	11-Jul-17	10:17:44
10	170711M1_10	B7G0024-BS2 OPR 0.25	11-Jul-17	10:28:24
11	170711M1_11	IPA	11-Jul-17	10:39:03
12	170711M1_12	ST170711M1-2 PFC CS3 17G1008	11-Jul-17	10:49:41
13	170711M1_13	IPA	11-Jul-17	11:00:27
14	170711M1_14	B7G0029-BS1 OPR 0.005	11-Jul-17	12:51:34
15	170711M1_15	IPA	11-Jul-17	13:02:29
16	170711M1_16	B7G0029-BLK1 Method Blank 0.005	11-Jul-17	13:13:07
17	170711M1_17	1700842-01 Shaws/Littleton 0.005	11-Jul-17	13:23:46
18	170711M1_18	1700842-02 Walmart/Gorham 0.005	11-Jul-17	13:34:24
19	170711M1_19	1700842-03 Whole Foods/Nashua 0.005	11-Jul-17	13:45:02
20	170711M1_20	1700842-04 Walmart/Epping 0.005	11-Jul-17	13:57:16
21	170711M1_21	1700842-05 Freshmarket/Portsmouth 0.005	11-Jul-17	14:08:28
22	170711M1_22	1700842-06 Trader Joes/Newington 0.005	11-Jul-17	14:19:07
23	170711M1_23	1700842-07 Market Basket/Dover 0.005	11-Jul-17	14:29:45
24	170711M1_24	1700842-08 Hannaford/Keene 0.005	11-Jul-17	14:40:32
25	170711M1_25	1700842-09 Market Basket /Claremont 0.005	11-Jul-17	14:51:10
26	170711M1_26	1700842-10 Market Basket/Claremont 2 0.005	11-Jul-17	15:01:59
27	170711M1_27	IPA	11-Jul-17	15:12:44
28	170711M1_28	ST170711M1-3 PFC CS3 17G1008	11-Jul-17	15:23:22
29	170711M1_29	IPA	11-Jul-17	15:34:09
30	170711M1_30	1700842-11 Market Basket/Claremont 3 0.005	11-Jul-17	15:44:47
31	170711M1_31	1700842-12 Price Chopper/W.Lebanon 0.005	11-Jul-17	15:55:26

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170711M1_32	1700842-13 Market Basket/Concord 0.005	11-Jul-17	16:06:13
33	170711M1_33	1700842-14 Cumberland Farms/Meredith 0.005	11-Jul-17	16:17:42
34	170711M1_34	1700842-15 EM-Heath/Center Harbor 0.005	11-Jul-17	16:28:34
35	170711M1_35	1700842-16 Shaws/North Conway 0.005	11-Jul-17	16:39:13
36	170711M1_36	1700842-17 Milk 1 0.005	11-Jul-17	16:49:59
37	170711M1_37	1700842-18 Milk 2 0.005	11-Jul-17	17:00:38
38	170711M1_38	170711_929	11-Jul-17	17:11:16
39	170711M1_39	170711_972	11-Jul-17	17:21:55
40	170711M1_40	IPA	11-Jul-17	17:32:33
41	170711M1_41	ST170711M1-4 PFC CS3 17G1008 ✓	11-Jul-17	17:43:19
42	170711M1_42	IPA	11-Jul-17	17:54:06
43	170711M1_43	B7G0014-BS1 OPR 0.125	11-Jul-17	18:04:47
44	170711M1_44	B7G0033-BS1 OPR 0.125	11-Jul-17	18:15:31
45	170711M1_45	IPA	11-Jul-17	18:26:18
46	170711M1_46	B7G0014-BLK1 Method Blank 0.125	11-Jul-17	18:37:02
47	170711M1_47	B7G0033-BLK1 Method Blank 0.125	11-Jul-17	18:47:43
48	170711M1_48	1700792-11RE1 RB01-20170628 0.12273	11-Jul-17	18:58:21
49	170711M1_49	1700792-08RE1 MH388.9-20170628 0.12326	11-Jul-17	19:09:07
50	170711M1_50	1700792-01RE1 West Ditch In-20170627 0.12...	11-Jul-17	19:19:46
51	170711M1_51	1700803-01 SB01 0.12033	11-Jul-17	19:30:24
52	170711M1_52	1700803-03 IRPSite7-GW-46GW205-201706...	11-Jul-17	19:41:03
53	170711M1_53	1700803-04 IRPSite7-GW-FD01-20170628 0....	11-Jul-17	19:51:41
54	170711M1_54	1700803-05 IRPSite7-GW-07GW202-201706...	11-Jul-17	20:02:19
55	170711M1_55	1700803-06 IRPSite7-GW-FRB01-20170628 ...	11-Jul-17	20:12:58
56	170711M1_56	1700803-07 IRPSite5-GW-FRB01-20170628 ...	11-Jul-17	20:23:36
57	170711M1_57	1700803-08 IRPSite5-GW-04GW81S-201706...	11-Jul-17	20:34:15
58	170711M1_58	1700803-09 IRPSite5-GW-04GW80-2017062...	11-Jul-17	20:44:53
59	170711M1_59	B7G0014-MS1 Matrix Spike 0.12163	11-Jul-17	20:55:31
60	170711M1_60	B7G0014-MSD1 Matrix Spike Dup 0.1181	11-Jul-17	21:06:22
61	170711M1_61	1700803-10 EB02 0.10956	11-Jul-17	21:17:12
62	170711M1_62	IPA	11-Jul-17	21:27:59
63	170711M1_63	ST170711M1-5 PFC CS3 17G1008 ✓	11-Jul-17	21:38:37
64	170711M1_64	IPA	11-Jul-17	21:49:23
65	170711M1_65	1700820-01 MTBE_5527 0.26911	11-Jul-17	22:00:02

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 14, 2017 11:59:09 Pacific Daylight Time
Printed: Friday, July 14, 2017 12:00:08 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
66	170711M1_66	1700836-01 DPH-MW11 0.1236	11-Jul-17	22:10:40
67	170711M1_67	1700836-02 DPH-B7 0.1224	11-Jul-17	22:21:19
68	170711M1_68	1700836-03 DPH-MW3-17 0.1219	11-Jul-17	22:31:57
69	170711M1_69	1700836-04 DPH-EX4 0.12243	11-Jul-17	22:42:36
70	170711M1_70	1700836-05 DPH-MW6-17 0.12319	11-Jul-17	22:53:14
71	170711M1_71	1700844-01 2041010001 0.277	11-Jul-17	23:03:52
72	170711M1_72	1700845-01 MW-29S-20170707 0.12034	11-Jul-17	23:14:31
73	170711M1_73	1700845-02 DUP04-20170707 0.12279	11-Jul-17	23:25:17
74	170711M1_74	1700845-03 MW-27S-20170707 0.11824	11-Jul-17	23:36:03
75	170711M1_75	B7G0033-MS1 Matrix Spike 0.12283	11-Jul-17	23:46:42
76	170711M1_76	B7G0033-MSD1 Matrix Spike Dup 0.124	11-Jul-17	23:57:29
77	170711M1_77	1700845-04 MW-30S-20170707 0.11933	12-Jul-17	00:08:07
78	170711M1_78	IPA	12-Jul-17	00:18:45
79	170711M1_79	ST170711M1-6 PFC CS3 17G1008	12-Jul-17	00:29:24
80	170711M1_80	IPA	12-Jul-17	00:40:11

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-2.qld

Last Altered: Saturday, July 22, 2017 09:47:35 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:49:15 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170721G6-1 PFC CS-1 17G2117, Description: PFC CS-1 17G2117, Name: 170721G6_2, Date: 21-Jul-2017, Time: 15:51:03

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	9	PFOS	499.0 >79.9	1.322e2	7.861e3		1.00	4.66	0.489	97.8	70-130
2	20	13C8-PFOS	507.0 > 79.9	7.861e3	8.139e3	1.026	1.00	4.65	11.8	94.1	50-150
3	26	13C4-PFOS	503.0 > 79.9	8.139e3	8.139e3	1.000	1.00	4.65	12.5	100	

AC 7/22/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Saturday, July 22, 2017 09:52:13 Pacific Daylight Time
Printed: Saturday, July 22, 2017 09:52:59 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170721G6_1	IPA	21-Jul-17	15:38:33
2	170721G6_2	ST170721G6-1 PFC CS-1 17G2117	21-Jul-17	15:51:03
3	170721G6_3	IPA	21-Jul-17	16:03:33
4	170721G6_4	1700792-10@10X Dup01-20170627 0.11337	21-Jul-17	16:16:32
5	170721G6_5	IPA	21-Jul-17	16:29:14
6	170721G6_6	ST170721G6-2 PFC CS3 17G1927	21-Jul-17	16:41:30
7	170721G6_7	IPA	21-Jul-17	16:54:01

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170721G6-6.qld

Last Altered: Saturday, July 22, 2017 10:06:10 Pacific Daylight Time
Printed: Saturday, July 22, 2017 10:06:51 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

ID: ST170721G6-2 PFC CS3 17G1927, Description: PFC CS3 17G1927, Name: 170721G6_6, Date: 21-Jul-2017, Time: 16:41:30

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	9	PFOS	499.0 >79.9	3.472e3	7.858e3		1.00	4.66	9.37	93.7	70-130
2	20	13C8-PFOS	507.0 > 79.9	7.858e3	7.400e3	1.026	1.00	4.65	12.9	104	50-150
3	26	13C4-PFOS	503.0 > 79.9	7.400e3	7.400e3	1.000	1.00	4.65	12.5	100	

AC 7/22/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:12 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 14:40:20
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

7/11/17 ✓AC 7/12/17

Compound name: PFBA
Correlation coefficient: r = 0.999893, r^2 = 0.999786
Calibration curve: 1.28141 * x + 0.357618
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	1.54	427.146	7397.170	0.722	0.3	13.7	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	1.53	573.831	7319.772	0.980	0.5	-2.9	NO	1.000	NO	MM
3	3	170710M3_4	Standard	1.000	1.53	882.903	6882.142	1.604	1.0	-2.8	NO	1.000	NO	MM
4	4	170710M3_5	Standard	2.000	1.53	1699.421	7900.523	2.689	1.8	-9.0	NO	1.000	NO	MM
5	5	170710M3_6	Standard	5.000	1.53	4102.863	7407.220	6.924	5.1	2.5	NO	1.000	NO	MM
6	6	170710M3_7	Standard	10.000	1.53	8104.495	7861.154	12.887	9.8	-2.2	NO	1.000	NO	MM
7	7	170710M3_8	Standard	50.000	1.53	39359.148	7569.607	64.995	50.4	0.9	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	1.53	80359.727	7829.357	128.299	99.8	-0.2	NO	1.000	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999846, r^2 = 0.999691
Calibration curve: 1.10816 * x + 0.0226306
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	2.77	360.082	14987.434	0.300	0.3	0.2	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	2.76	656.584	14351.720	0.572	0.5	-0.9	NO	1.000	NO	MM
3	3	170710M3_4	Standard	1.000	2.75	1173.282	13204.935	1.111	1.0	-1.8	NO	1.000	NO	bb
4	4	170710M3_5	Standard	2.000	2.75	2648.726	14397.656	2.300	2.1	2.7	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	2.75	6691.328	14859.215	5.629	5.1	1.2	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	2.75	13251.902	14932.953	11.093	10.0	-0.1	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	2.75	62725.262	14515.980	54.014	48.7	-2.6	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	2.75	138385.234	15422.105	112.165	101.2	1.2	NO	1.000	NO	bb

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Compound name: PFBS
Correlation coefficient: r = 0.999477, r^2 = 0.998954
Calibration curve: 2.28212 * x + -0.143002
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	2.97	64.107	1829.255	0.438	0.3	1.8	NO	0.999	NO	bb
2	2	170710M3_3	Standard	0.500	2.96	174.822	1880.541	1.162	0.6	14.4	NO	0.999	NO	bb
3	3	170710M3_4	Standard	1.000	2.95	250.827	1680.475	1.866	0.9	-12.0	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	2.95	664.245	1678.509	4.947	2.2	11.5	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	2.95	1423.155	1827.422	9.735	4.3	-13.4	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	2.95	3293.945	1863.759	22.092	9.7	-2.6	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	2.95	14448.479	1600.534	112.841	49.5	-1.0	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	2.95	31826.346	1723.074	230.883	101.2	1.2	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999918, r^2 = 0.999836
Calibration curve: 1.63818 * x + 0.0563003
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.19	527.456	6599.234	0.400	0.2	-16.2	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	3.19	1190.925	6260.955	0.951	0.5	9.2	NO	1.000	NO	bb
3	3	170710M3_4	Standard	1.000	3.18	2031.727	5844.579	1.738	1.0	2.7	NO	1.000	NO	bb
4	4	170710M3_5	Standard	2.000	3.18	4143.116	6111.841	3.389	2.0	1.7	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	3.18	11189.350	6584.623	8.497	5.2	3.0	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	3.19	22422.309	6880.506	16.294	9.9	-0.9	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	3.19	107894.484	6517.125	82.778	50.5	1.0	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	3.18	224318.094	6887.408	162.847	99.4	-0.6	NO	1.000	NO	bb

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Compound name: PFHpA
Correlation coefficient: r = 0.999627, r^2 = 0.999254
Calibration curve: 1.43595 * x + 0.0332012
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.46	484.804	16912.918	0.358	0.2	-9.4	NO	0.999	NO	bb
2	2	170710M3_3	Standard	0.500	3.45	1094.714	15983.809	0.856	0.6	14.6	NO	0.999	NO	db
3	3	170710M3_4	Standard	1.000	3.44	1816.426	14729.492	1.541	1.1	5.0	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	3.44	3368.228	16736.117	2.516	1.7	-13.6	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	3.44	9552.159	16831.109	7.094	4.9	-1.7	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	3.45	19620.016	16406.695	14.948	10.4	3.9	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	3.45	91102.258	15463.272	73.644	51.3	2.5	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	3.45	193055.844	17039.475	141.624	98.6	-1.4	NO	0.999	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.998220, r^2 = 0.996443
Calibration curve: 1.95713 * x + -0.172436
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.52	58.724	1651.524	0.444	0.3	26.1	NO	0.996	NO	bb
2	2	170710M3_3	Standard	0.500	3.51	92.843	1720.000	0.675	0.4	-13.4	NO	0.996	NO	MM
3	3	170710M3_4	Standard	1.000	3.51	184.365	1350.057	1.707	1.0	-4.0	NO	0.996	NO	MM
4	4	170710M3_5	Standard	2.000	3.51	444.710	1600.253	3.474	1.9	-6.8	NO	0.996	NO	MM
5	5	170710M3_6	Standard	5.000	3.51	1145.275	1665.698	8.595	4.5	-10.4	NO	0.996	NO	bb
6	6	170710M3_7	Standard	10.000	3.51	2600.573	1486.850	21.863	11.3	12.6	NO	0.996	NO	MM
7	7	170710M3_8	Standard	50.000	3.51	10992.927	1511.473	90.912	46.5	-6.9	NO	0.996	NO	MM
8	8	170710M3_9	Standard	100.000	3.51	25599.898	1590.326	201.216	102.9	2.9	NO	0.996	NO	MM

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Compound name: PFOA
Correlation coefficient: r = 0.999767, r^2 = 0.999534
Calibration curve: 1.13618 * x + 0.150469
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.65	785.839	24338.092	0.404	0.2	-10.9	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	3.65	1540.769	25154.738	0.766	0.5	8.3	NO	1.000	NO	MM
3	3	170710M3_4	Standard	1.000	3.65	2312.138	22319.385	1.295	1.0	0.7	NO	1.000	NO	MM
4	4	170710M3_5	Standard	2.000	3.65	4933.051	25531.586	2.415	2.0	-0.3	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	3.64	12429.696	27012.830	5.752	4.9	-1.4	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	3.65	25517.219	27058.725	11.788	10.2	2.4	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	3.64	123694.688	26424.334	58.514	51.4	2.7	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	3.65	248919.391	27780.598	112.002	98.4	-1.6	NO	1.000	NO	bb

Compound name: PFNA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.36368 * x + 0.0901055
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.83	809.352	23133.879	0.437	0.3	1.8	NO	1.000	NO	bb
2	2	170710M3_3	Standard	0.500	3.82	1465.662	25510.555	0.718	0.5	-7.9	NO	1.000	NO	bb
3	3	170710M3_4	Standard	1.000	3.82	2763.543	25152.525	1.373	0.9	-5.9	NO	1.000	NO	bb
4	4	170710M3_5	Standard	2.000	3.82	6805.311	27896.482	3.049	2.2	8.5	NO	1.000	NO	bb
5	5	170710M3_6	Standard	5.000	3.82	16015.691	27575.711	7.260	5.3	5.2	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	3.82	32890.461	30707.572	13.389	9.8	-2.5	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	3.82	146644.188	26401.301	69.430	50.8	1.7	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	3.82	313277.875	28967.555	135.185	99.1	-0.9	NO	1.000	NO	bb

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Compound name: PFOSA
Correlation coefficient: r = 0.999222, r^2 = 0.998444
Calibration curve: 1.18859 * x + -0.127408
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.85	34.129	1942.804	0.220	0.3	16.8	NO	0.998	NO	bb
2	2	170710M3_3	Standard	0.500	3.84	64.107	2215.917	0.362	0.4	-17.7	NO	0.998	NO	bb
3	3	170710M3_4	Standard	1.000	3.85	137.984	2053.589	0.840	0.8	-18.6	NO	0.998	NO	bb
4	4	170710M3_5	Standard	2.000	3.84	430.613	2071.983	2.598	2.3	14.6	NO	0.998	NO	bb
5	5	170710M3_6	Standard	5.000	3.84	1047.884	2036.011	6.433	5.5	10.4	NO	0.998	NO	bb
6	6	170710M3_7	Standard	10.000	3.84	2150.737	2370.515	11.341	9.6	-3.5	NO	0.998	NO	bb
7	7	170710M3_8	Standard	50.000	3.84	9977.661	2179.217	57.232	48.3	-3.5	NO	0.998	NO	bb
8	8	170710M3_9	Standard	100.000	3.84	21289.654	2207.907	120.531	101.5	1.5	NO	0.998	NO	bb

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999061
Calibration curve: 0.00185446 * x^2 + 1.10476 * x + 0.0290301
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.88	115.763	5370.698	0.269	0.2	-13.0	NO	0.999	NO	bb
2	2	170710M3_3	Standard	0.500	3.87	241.379	5419.104	0.557	0.5	-4.5	NO	0.999	NO	MM
3	3	170710M3_4	Standard	1.000	3.88	500.986	5346.955	1.171	1.0	3.2	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	3.88	1168.767	5508.184	2.652	2.4	18.3	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	3.87	2478.524	5282.377	5.865	5.2	4.7	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	3.88	5348.684	5677.549	11.776	10.4	4.5	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	3.88	26226.332	5678.869	57.728	48.3	-3.4	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	3.88	56412.301	5421.565	130.065	100.7	0.7	NO	0.999	NO	bb

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Compound name: PFDA
Correlation coefficient: r = 0.999516, r^2 = 0.999032
Calibration curve: 1.56384 * x + -0.255433
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	3.99	932.302	28930.936	0.403	0.4	68.4	NO	0.999	NO	MMX
2	2	170710M3_3	Standard	0.500	4.00	1408.826	29747.686	0.592	0.5	8.4	NO	0.999	NO	MM
3	3	170710M3_4	Standard	1.000	3.99	3557.009	31897.771	1.394	1.1	5.5	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	3.99	7354.864	31493.791	2.919	2.0	1.5	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	4.00	16044.657	29596.766	6.776	4.5	-10.1	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	3.99	37473.484	33043.109	14.176	9.2	-7.7	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	3.99	195941.813	30631.795	79.959	51.3	2.6	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	3.99	392413.031	31463.066	155.902	99.9	-0.1	NO	0.999	NO	bb

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999111
Calibration curve: 0.00122021 * x^2 + 0.942287 * x + 0.216781
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.15	1010.402	28555.941	0.442	0.2	-4.3	NO	0.999	NO	MM
2	2	170710M3_3	Standard	0.500	4.15	1647.712	35214.363	0.585	0.4	-21.9	NO	0.999	NO	MM
3	3	170710M3_4	Standard	1.000	4.15	3030.180	29618.668	1.279	1.1	12.5	NO	0.999	NO	bb
4	4	170710M3_5	Standard	2.000	4.15	5814.139	32452.291	2.239	2.1	7.0	NO	0.999	NO	bb
5	5	170710M3_6	Standard	5.000	4.15	14655.979	32879.375	5.572	5.6	12.8	NO	0.999	NO	bb
6	6	170710M3_7	Standard	10.000	4.15	29217.963	39593.965	9.224	9.4	-5.6	NO	0.999	NO	bb
7	7	170710M3_8	Standard	50.000	4.15	137931.563	34542.293	49.914	49.6	-0.9	NO	0.999	NO	bb
8	8	170710M3_9	Standard	100.000	4.15	285394.844	33371.344	106.901	100.2	0.2	NO	0.999	NO	bb

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Compound name: PFDS
Coefficient of Determination: R^2 = 0.998301
Calibration curve: 8.31559e-005 * x^2 + 0.0878672 * x + 0.0164965
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.19	74.979	28555.941	0.033	0.2	-25.7	NO	0.998	NO	MM
2	2	170710M3_3	Standard	0.500	4.19	147.908	35214.363	0.053	0.4	-18.1	NO	0.998	NO	MM
3	3	170710M3_4	Standard	1.000	4.19	278.651	29618.668	0.118	1.1	14.9	NO	0.998	NO	bb
4	4	170710M3_5	Standard	2.000	4.19	594.978	32452.291	0.229	2.4	20.7	NO	0.998	NO	MM
5	5	170710M3_6	Standard	5.000	4.19	1375.311	32879.375	0.523	5.7	14.6	NO	0.998	NO	bb
6	6	170710M3_7	Standard	10.000	4.19	2729.414	39593.965	0.862	9.5	-4.7	NO	0.998	NO	bb
7	7	170710M3_8	Standard	50.000	4.19	12432.069	34542.293	4.499	48.8	-2.5	NO	0.998	NO	bb
8	8	170710M3_9	Standard	100.000	4.19	25881.063	33371.344	9.694	100.6	0.6	NO	0.998	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997169
Calibration curve: 0.00815082 * x^2 + 0.735747 * x + 0.0266157
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.31	51.321	3994.664	0.161	0.2	-27.3	NO	0.997	NO	MM
2	2	170710M3_3	Standard	0.500	4.30	129.734	4336.155	0.374	0.5	-6.1	NO	0.997	NO	MM
3	3	170710M3_4	Standard	1.000	4.31	280.387	3663.755	0.957	1.2	24.7	NO	0.997	NO	MM
4	4	170710M3_5	Standard	2.000	4.31	546.983	3448.438	1.983	2.6	29.2	NO	0.997	NO	MM
5	5	170710M3_6	Standard	5.000	4.31	1402.543	4397.531	3.987	5.1	1.9	NO	0.997	NO	MM
6	6	170710M3_7	Standard	10.000	4.31	2740.511	4609.228	7.432	9.1	-8.6	NO	0.997	NO	MM
7	7	170710M3_8	Standard	50.000	4.31	16155.003	3523.270	57.315	50.1	0.2	NO	0.997	NO	bb
8	8	170710M3_9	Standard	100.000	4.31	30002.807	3866.813	96.988	72.9	-27.1	NO	0.997	NO	bbX

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Compound name: PFTrDA
Correlation coefficient: r = 0.999219, r^2 = 0.998438
Calibration curve: 13.2156 * x + 0.215995
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.47	1086.143	3994.664	3.399	0.2	-3.7	NO	0.998	NO	MM
2	2	170710M3_3	Standard	0.500	4.47	2399.472	4336.155	6.917	0.5	1.4	NO	0.998	NO	bb
3	3	170710M3_4	Standard	1.000	4.47	3940.881	3663.755	13.445	1.0	0.1	NO	0.998	NO	MM
4	4	170710M3_5	Standard	2.000	4.47	8370.897	3448.438	30.343	2.3	14.0	NO	0.998	NO	MM
5	5	170710M3_6	Standard	5.000	4.47	21857.848	4397.531	62.131	4.7	-6.3	NO	0.998	NO	bb
6	6	170710M3_7	Standard	10.000	4.47	44589.504	4609.228	120.925	9.1	-8.7	NO	0.998	NO	bb
7	7	170710M3_8	Standard	50.000	4.47	194608.984	3523.270	690.442	52.2	4.5	NO	0.998	NO	bb
8	8	170710M3_9	Standard	100.000	4.47	403466.813	3866.813	1304.261	98.7	-1.3	NO	0.998	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999934
Calibration curve: -0.000916009 * x^2 + 1.26347 * x + 0.0596778
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	0.250	4.65	1022.516	33198.340	0.385	0.3	3.0	NO	1.000	NO	MM
2	2	170710M3_3	Standard	0.500	4.64	1820.870	32091.508	0.709	0.5	2.9	NO	1.000	NO	bb
3	3	170710M3_4	Standard	1.000	4.64	2762.201	26986.623	1.279	1.0	-3.4	NO	1.000	NO	MM
4	4	170710M3_5	Standard	2.000	4.64	6675.592	32219.420	2.590	2.0	0.3	NO	1.000	NO	MM
5	5	170710M3_6	Standard	5.000	4.64	15829.568	31939.072	6.195	4.9	-2.5	NO	1.000	NO	bb
6	6	170710M3_7	Standard	10.000	4.64	32960.660	32979.863	12.493	9.9	-0.9	NO	1.000	NO	bb
7	7	170710M3_8	Standard	50.000	4.64	144863.203	29463.150	61.459	50.4	0.9	NO	1.000	NO	bb
8	8	170710M3_9	Standard	100.000	4.64	289834.000	30963.135	117.008	99.8	-0.2	NO	1.000	NO	bb

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Compound name: 13C3-PFBA
Response Factor: 0.918451
RRF SD: 0.0228833, Relative SD: 2.49151
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	1.53	7397.170	8045.280	11.493	12.5	0.1	NO		NO	bb
2	2	170710M3_3	Standard	12.500	1.53	7319.772	8103.498	11.291	12.3	-1.7	NO		NO	bb
3	3	170710M3_4	Standard	12.500	1.52	6882.142	7483.426	11.496	12.5	0.1	NO		NO	bb
4	4	170710M3_5	Standard	12.500	1.53	7900.523	8401.936	11.754	12.8	2.4	NO		NO	bd
5	5	170710M3_6	Standard	12.500	1.53	7407.220	8412.924	11.006	12.0	-4.1	NO		NO	bb
6	6	170710M3_7	Standard	12.500	1.52	7861.154	8228.657	11.942	13.0	4.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	1.53	7569.607	8207.246	11.529	12.6	0.4	NO		NO	bd
8	8	170710M3_9	Standard	12.500	1.53	7829.357	8634.025	11.335	12.3	-1.3	NO		NO	bb

Compound name: 13C3-PFPeA
Response Factor: 1.781
RRF SD: 0.0433451, Relative SD: 2.43375
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	2.77	14987.434	8045.280	23.286	13.1	4.6	NO		NO	bb
2	2	170710M3_3	Standard	12.500	2.75	14351.720	8103.498	22.138	12.4	-0.6	NO		NO	MM
3	3	170710M3_4	Standard	12.500	2.75	13204.935	7483.426	22.057	12.4	-0.9	NO		NO	bb
4	4	170710M3_5	Standard	12.500	2.75	14397.656	8401.936	21.420	12.0	-3.8	NO		NO	bb
5	5	170710M3_6	Standard	12.500	2.75	14859.215	8412.924	22.078	12.4	-0.8	NO		NO	bb
6	6	170710M3_7	Standard	12.500	2.75	14932.953	8228.657	22.684	12.7	1.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	2.75	14515.980	8207.246	22.108	12.4	-0.7	NO		NO	bb
8	8	170710M3_9	Standard	12.500	2.75	15422.105	8634.025	22.328	12.5	0.3	NO		NO	bb

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Compound name: 13C3-PFBS
Response Factor: 0.215258
RRF SD: 0.0148395, Relative SD: 6.89383
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	2.97	1829.255	8045.280	2.842	13.2	5.6	NO		NO	bb
2	2	170710M3_3	Standard	12.500	2.96	1880.541	8103.498	2.901	13.5	7.8	NO		NO	bb
3	3	170710M3_4	Standard	12.500	2.96	1680.475	7483.426	2.807	13.0	4.3	NO		NO	bb
4	4	170710M3_5	Standard	12.500	2.95	1678.509	8401.936	2.497	11.6	-7.2	NO		NO	bb
5	5	170710M3_6	Standard	12.500	2.95	1827.422	8412.924	2.715	12.6	0.9	NO		NO	bb
6	6	170710M3_7	Standard	12.500	2.95	1863.759	8228.657	2.831	13.2	5.2	NO		NO	bb
7	7	170710M3_8	Standard	12.500	2.95	1600.534	8207.246	2.438	11.3	-9.4	NO		NO	bb
8	8	170710M3_9	Standard	12.500	2.95	1723.074	8634.025	2.495	11.6	-7.3	NO		NO	bb

Compound name: 13C2-PFHxA
Response Factor: 0.303893
RRF SD: 0.0120463, Relative SD: 3.964
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	5.000	3.20	6599.234	21818.400	1.512	5.0	-0.5	NO		NO	bb
2	2	170710M3_3	Standard	5.000	3.19	6260.955	21557.213	1.452	4.8	-4.4	NO		NO	bb
3	3	170710M3_4	Standard	5.000	3.19	5844.579	19500.141	1.499	4.9	-1.4	NO		NO	bb
4	4	170710M3_5	Standard	5.000	3.18	6111.841	20840.465	1.466	4.8	-3.5	NO		NO	bb
5	5	170710M3_6	Standard	5.000	3.18	6584.623	22435.646	1.467	4.8	-3.4	NO		NO	bb
6	6	170710M3_7	Standard	5.000	3.19	6880.506	21282.260	1.616	5.3	6.4	NO		NO	bb
7	7	170710M3_8	Standard	5.000	3.19	6517.125	20826.820	1.565	5.1	3.0	NO		NO	bb
8	8	170710M3_9	Standard	5.000	3.18	6887.408	21826.197	1.578	5.2	3.8	NO		NO	bb

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Compound name: 13C4-PFHpA
Response Factor: 0.305965
RRF SD: 0.00856155, Relative SD: 2.79821
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.45	16912.918	21818.400	3.876	12.7	1.3	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.45	15983.809	21557.213	3.707	12.1	-3.1	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.45	14729.492	19500.141	3.777	12.3	-1.2	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.45	16736.117	20840.465	4.015	13.1	5.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.44	16831.109	22435.646	3.751	12.3	-1.9	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.45	16406.695	21282.260	3.855	12.6	0.8	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.44	15463.272	20826.820	3.712	12.1	-2.9	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.45	17039.475	21826.197	3.903	12.8	2.1	NO		NO	bb

Compound name: 18O2-PFHxS
Response Factor: 0.437189
RRF SD: 0.0227029, Relative SD: 5.19292
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.52	1651.524	3795.795	5.439	12.4	-0.5	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.52	1720.000	3856.194	5.575	12.8	2.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.52	1350.057	3265.055	5.169	11.8	-5.4	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.52	1600.253	3804.850	5.257	12.0	-3.8	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.52	1665.698	3472.170	5.997	13.7	9.7	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.51	1486.850	3371.803	5.512	12.6	0.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.51	1511.473	3354.416	5.632	12.9	3.1	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.52	1590.326	3869.111	5.138	11.8	-6.0	NO		NO	bb

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Compound name: 13C2-PFOA
Response Factor: 1.29206
RRF SD: 0.0648147, Relative SD: 5.01639
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.65	24338.092	17959.266	16.940	13.1	4.9	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.65	25154.738	19184.902	16.390	12.7	1.5	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.65	22319.385	18247.898	15.289	11.8	-5.3	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.65	25531.586	20935.916	15.244	11.8	-5.6	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.64	27012.830	21746.758	15.527	12.0	-3.9	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.65	27058.725	19624.896	17.235	13.3	6.7	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.65	26424.334	21065.352	15.680	12.1	-2.9	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.65	27780.598	20545.762	16.902	13.1	4.6	NO		NO	bb

Compound name: 13C5-PFNA
Response Factor: 0.980095
RRF SD: 0.0617584, Relative SD: 6.30126
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.83	23133.879	24826.572	11.648	11.9	-4.9	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.82	25510.555	25407.900	12.551	12.8	2.4	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.82	25152.525	26987.840	11.650	11.9	-4.9	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.82	27896.482	30615.023	11.390	11.6	-7.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.82	27575.711	27704.439	12.442	12.7	1.6	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.82	30707.572	28246.664	13.589	13.9	10.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.82	26401.301	25411.732	12.987	13.3	6.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.82	28967.555	30807.039	11.754	12.0	-4.1	NO		NO	bb

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Compound name: 13C8-PFOSA
Response Factor: 0.0697066
RRF SD: 0.00599506, Relative SD: 8.60043
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.85	1942.804	29392.709	0.826	11.9	-5.2	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.84	2215.917	33292.914	0.832	11.9	-4.5	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.84	2053.589	25046.889	1.025	14.7	17.6	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.85	2071.983	31311.639	0.827	11.9	-5.1	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.84	2036.011	32131.605	0.792	11.4	-9.1	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.84	2370.515	33095.688	0.895	12.8	2.8	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.84	2179.217	32101.432	0.849	12.2	-2.6	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.84	2207.907	29853.807	0.924	13.3	6.1	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 1.09812
RRF SD: 0.106578, Relative SD: 9.7055
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.88	5370.698	4072.196	16.486	15.0	20.1	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.88	5419.104	5130.696	13.203	12.0	-3.8	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.87	5346.955	4837.479	13.816	12.6	0.7	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.88	5508.184	5669.458	12.144	11.1	-11.5	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.87	5282.377	5068.695	13.027	11.9	-5.1	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.88	5677.549	5023.010	14.129	12.9	2.9	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.87	5678.869	4963.667	14.301	13.0	4.2	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.88	5421.565	5333.926	12.705	11.6	-7.4	NO		NO	bd

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Compound name: 13C2-PFDA
Response Factor: 0.927939
RRF SD: 0.0650889, Relative SD: 7.01435
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.99	28930.936	30066.424	12.028	13.0	3.7	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.99	29747.686	34644.785	10.733	11.6	-7.5	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.99	31897.771	35483.492	11.237	12.1	-3.1	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.99	31493.791	33241.297	11.843	12.8	2.1	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.00	29596.766	34417.320	10.749	11.6	-7.3	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.99	33043.109	37874.355	10.906	11.8	-6.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.99	30631.795	30816.412	12.425	13.4	7.1	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.99	31463.066	30550.707	12.873	13.9	11.0	NO		NO	bb

Compound name: 13C2-PFUnA
Response Factor: 1.08271
RRF SD: 0.0782079, Relative SD: 7.22335
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.15	28555.941	29392.709	12.144	11.2	-10.3	NO		NO	bb
2	2	170710M3_3	Standard	12.500	4.15	35214.363	33292.914	13.221	12.2	-2.3	NO		NO	db
3	3	170710M3_4	Standard	12.500	4.15	29618.668	25046.889	14.782	13.7	9.2	NO		NO	bb
4	4	170710M3_5	Standard	12.500	4.15	32452.291	31311.639	12.955	12.0	-4.3	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.15	32879.375	32131.605	12.791	11.8	-5.5	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.15	39593.965	33095.688	14.954	13.8	10.5	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.15	34542.293	32101.432	13.450	12.4	-0.6	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.15	33371.344	29853.807	13.973	12.9	3.2	NO		NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: 13C2-PFDoA
Response Factor: 0.129746
RRF SD: 0.0132942, Relative SD: 10.2463
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.31	3994.664	29392.709	1.699	13.1	4.7	NO		NO	MM
2	2	170710M3_3	Standard	12.500	4.31	4336.155	33292.914	1.628	12.5	0.4	NO		NO	MM
3	3	170710M3_4	Standard	12.500	4.30	3663.755	25046.889	1.828	14.1	12.7	NO		NO	MM
4	4	170710M3_5	Standard	12.500	4.31	3448.438	31311.639	1.377	10.6	-15.1	NO		NO	MM
5	5	170710M3_6	Standard	12.500	4.30	4397.531	32131.605	1.711	13.2	5.5	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.31	4609.228	33095.688	1.741	13.4	7.3	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.30	3523.270	32101.432	1.372	10.6	-15.4	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.31	3866.813	29853.807	1.619	12.5	-0.2	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 1.01816
RRF SD: 0.0659527, Relative SD: 6.47762
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.65	33198.340	29392.709	14.118	13.9	10.9	NO		NO	bb
2	2	170710M3_3	Standard	12.500	4.65	32091.508	33292.914	12.049	11.8	-5.3	NO		NO	bb
3	3	170710M3_4	Standard	12.500	4.64	26986.623	25046.889	13.468	13.2	5.8	NO		NO	bb
4	4	170710M3_5	Standard	12.500	4.65	32219.420	31311.639	12.862	12.6	1.1	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.65	31939.072	32131.605	12.425	12.2	-2.4	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.65	32979.863	33095.688	12.456	12.2	-2.1	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.64	29463.150	32101.432	11.473	11.3	-9.9	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.65	30963.135	29853.807	12.964	12.7	1.9	NO		NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	1.53	8045.280	8045.280	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	1.53	8103.498	8103.498	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	1.52	7483.426	7483.426	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	1.53	8401.936	8401.936	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	1.53	8412.924	8412.924	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	1.52	8228.657	8228.657	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	1.53	8207.246	8207.246	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	1.53	8634.025	8634.025	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	5.000	3.19	21818.400	21818.400	5.000	5.0	0.0	NO		NO	bb
2	2	170710M3_3	Standard	5.000	3.19	21557.213	21557.213	5.000	5.0	0.0	NO		NO	bb
3	3	170710M3_4	Standard	5.000	3.18	19500.141	19500.141	5.000	5.0	0.0	NO		NO	bb
4	4	170710M3_5	Standard	5.000	3.19	20840.465	20840.465	5.000	5.0	0.0	NO		NO	bb
5	5	170710M3_6	Standard	5.000	3.18	22435.646	22435.646	5.000	5.0	0.0	NO		NO	bb
6	6	170710M3_7	Standard	5.000	3.19	21282.260	21282.260	5.000	5.0	0.0	NO		NO	bb
7	7	170710M3_8	Standard	5.000	3.19	20826.820	20826.820	5.000	5.0	0.0	NO		NO	bb
8	8	170710M3_9	Standard	5.000	3.18	21826.197	21826.197	5.000	5.0	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.52	3795.795	3795.795	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.52	3856.194	3856.194	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.51	3265.055	3265.055	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.52	3804.850	3804.850	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.51	3472.170	3472.170	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.52	3371.803	3371.803	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.52	3354.416	3354.416	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.52	3869.111	3869.111	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.65	17959.266	17959.266	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.65	19184.902	19184.902	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.64	18247.898	18247.898	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.65	20935.916	20935.916	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.64	21746.758	21746.758	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	3.65	19624.896	19624.896	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.65	21065.352	21065.352	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.65	20545.762	20545.762	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170710M3_2	Standard	12.500	3.82	24826.572	24826.572	12.500	12.5	0.0	NO		NO	bb
2	2 170710M3_3	Standard	12.500	3.82	25407.900	25407.900	12.500	12.5	0.0	NO		NO	bb
3	3 170710M3_4	Standard	12.500	3.82	26987.840	26987.840	12.500	12.5	0.0	NO		NO	bb
4	4 170710M3_5	Standard	12.500	3.82	30615.023	30615.023	12.500	12.5	0.0	NO		NO	bb
5	5 170710M3_6	Standard	12.500	3.82	27704.439	27704.439	12.500	12.5	0.0	NO		NO	bb
6	6 170710M3_7	Standard	12.500	3.82	28246.664	28246.664	12.500	12.5	0.0	NO		NO	bb
7	7 170710M3_8	Standard	12.500	3.82	25411.732	25411.732	12.500	12.5	0.0	NO		NO	bb
8	8 170710M3_9	Standard	12.500	3.82	30807.039	30807.039	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170710M3_2	Standard	12.500	3.88	4072.196	4072.196	12.500	12.5	0.0	NO		NO	bb
2	2 170710M3_3	Standard	12.500	3.88	5130.696	5130.696	12.500	12.5	0.0	NO		NO	bb
3	3 170710M3_4	Standard	12.500	3.87	4837.479	4837.479	12.500	12.5	0.0	NO		NO	bb
4	4 170710M3_5	Standard	12.500	3.87	5669.458	5669.458	12.500	12.5	0.0	NO		NO	bb
5	5 170710M3_6	Standard	12.500	3.88	5068.695	5068.695	12.500	12.5	0.0	NO		NO	bb
6	6 170710M3_7	Standard	12.500	3.87	5023.010	5023.010	12.500	12.5	0.0	NO		NO	bb
7	7 170710M3_8	Standard	12.500	3.87	4963.667	4963.667	12.500	12.5	0.0	NO		NO	bb
8	8 170710M3_9	Standard	12.500	3.88	5333.926	5333.926	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 5.93439e-017, Relative SD: 5.93439e-015
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	3.99	30066.424	30066.424	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	3.99	34644.785	34644.785	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	3.99	35483.492	35483.492	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	3.99	33241.297	33241.297	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	3.99	34417.320	34417.320	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.00	37874.355	37874.355	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	3.99	30816.412	30816.412	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	3.99	30550.707	30550.707	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.18688e-016, Relative SD: 1.18688e-014
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170710M3_2	Standard	12.500	4.15	29392.709	29392.709	12.500	12.5	0.0	NO		NO	bb
2	2	170710M3_3	Standard	12.500	4.15	33292.914	33292.914	12.500	12.5	0.0	NO		NO	bb
3	3	170710M3_4	Standard	12.500	4.15	25046.889	25046.889	12.500	12.5	0.0	NO		NO	bb
4	4	170710M3_5	Standard	12.500	4.15	31311.639	31311.639	12.500	12.5	0.0	NO		NO	bb
5	5	170710M3_6	Standard	12.500	4.15	32131.605	32131.605	12.500	12.5	0.0	NO		NO	bb
6	6	170710M3_7	Standard	12.500	4.15	33095.688	33095.688	12.500	12.5	0.0	NO		NO	bb
7	7	170710M3_8	Standard	12.500	4.15	32101.432	32101.432	12.500	12.5	0.0	NO		NO	bb
8	8	170710M3_9	Standard	12.500	4.15	29853.807	29853.807	12.500	12.5	0.0	NO		NO	bb

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Dataset: Untitled

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Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 17:05:26
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170710M3_1	IPA	10-Jul-17	16:24:39
2	170710M3_2	ST170710M3-1 PFC CS-2 17G1003	10-Jul-17	16:35:25
3	170710M3_3	ST170710M3-2 PFC CS-1 17G1004	10-Jul-17	16:46:13
4	170710M3_4	ST170710M3-3 PFC CS0 17G1005	10-Jul-17	16:56:56
5	170710M3_5	ST170710M3-4 PFC CS1 17G1006	10-Jul-17	17:07:35
6	170710M3_6	ST170710M3-5 PFC CS2 17G1007	10-Jul-17	17:18:21
7	170710M3_7	ST170710M3-6 PFC CS3 17G1008	10-Jul-17	17:28:59
8	170710M3_8	ST170710M3-7 PFC CS4 17G1009	10-Jul-17	17:39:46
9	170710M3_9	ST170710M3-8 PFC CS5 17G1010	10-Jul-17	17:50:33
10	170710M3_10	IPA	10-Jul-17	18:01:19
11	170710M3_11	SS170710M3-1 PFC SSS 17G1011	10-Jul-17	18:11:57
12	170710M3_12	IPA	10-Jul-17	18:22:44
13	170710M3_13	B7G0013-BS1 OPR 0.125	10-Jul-17	18:33:22
14	170710M3_14	B7G0020-BS1 OPR 0.25	10-Jul-17	18:44:08
15	170710M3_15	B7G0024-BS1 OPR 0.25	10-Jul-17	18:54:55
16	170710M3_16	B7G0024-BS2 OPR 0.25	10-Jul-17	19:06:07
17	170710M3_17	IPA	10-Jul-17	19:17:52
18	170710M3_18	B7G0013-BLK1 Method Blank 0.125	10-Jul-17	19:29:17
19	170710M3_19	B7G0020-BLK1 Method Blank 0.25	10-Jul-17	19:40:01
20	170710M3_20	B7G0024-BLK1 Method Blank 0.25	10-Jul-17	19:50:39
21	170710M3_21	1700757-01RE1 DPH-MW6 0.11883	10-Jul-17	20:01:26
22	170710M3_22	1700757-02RE1 DPH-B5 0.12231	10-Jul-17	20:12:04
23	170710M3_23	1700757-03RE1 DPH-105 0.11689	10-Jul-17	20:22:43
24	170710M3_24	1700767-01RE1 1 Main 0.24476	10-Jul-17	20:33:21
25	170710M3_25	1700767-02RE1 2 Keyser 0.2358	10-Jul-17	20:43:59
26	170710M3_26	1700767-03RE1 3 College 0.24414	10-Jul-17	20:54:46
27	170710M3_27	1700767-04RE1 4 College 0.24491	10-Jul-17	21:05:24
28	170710M3_28	1700767-05RE1 5 Sunrise 0.24353	10-Jul-17	21:16:02
29	170710M3_29	1700803-02 EB01 0.11989	10-Jul-17	21:26:41
30	170710M3_30	1700804-01 IRPSite7-GW-07GW41-2017062...	10-Jul-17	21:37:19
31	170710M3_31	1700804-02 IRPSite5-GW-05GW01-2017062...	10-Jul-17	21:48:06

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Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
32	170710M3_32	IPA	10-Jul-17	21:58:44
33	170710M3_33	ST170710M3-9 PFC CS3 17G1008	10-Jul-17	22:09:22
34	170710M3_34	IPA	10-Jul-17	22:20:01
35	170710M3_35	1700804-03 IRPSite5-GW-FD01-20170629 0....	10-Jul-17	22:31:27
36	170710M3_36	1700804-04 IRPSite33-GW-FRB01-20170629...	10-Jul-17	22:42:07
37	170710M3_37	1700804-05 IRPSite33-GW-11MW204D-2017...	10-Jul-17	22:52:45
38	170710M3_38	1700804-06 IRPSite33-GW-11MW204S-2017...	10-Jul-17	23:03:24
39	170710M3_39	1700804-07 Bldg 110-GW-11MW205D-20170...	10-Jul-17	23:14:02
40	170710M3_40	1700804-08 Bldg 110-GW-FRB01-20170629 0...	10-Jul-17	23:24:41
41	170710M3_41	1700804-09 Bldg 110-GW-11MW205S-20170...	10-Jul-17	23:35:19
42	170710M3_42	1700804-10 IRPSite7-GW-07GW102-201706...	10-Jul-17	23:45:57
43	170710M3_43	1700804-11 IRPSite5-GW-04GW82-2017062...	10-Jul-17	23:56:36
44	170710M3_44	1700751-01RE1 NH0100960_I 0.23355	11-Jul-17	00:07:41
45	170710M3_45	IPA	11-Jul-17	00:18:50
46	170710M3_46	ST170710M3-10 PFC CS3 17G1008	11-Jul-17	00:29:28
47	170710M3_47	IPA	11-Jul-17	00:40:16
48	170710M3_48	1700751-02RE1 NH0100960_E 0.24913	11-Jul-17	00:51:03
49	170710M3_49	1700751-03RE1 NH0100901_I 0.25207	11-Jul-17	01:01:51
50	170710M3_50	1700751-04RE1 NH0100901_E 0.24547	11-Jul-17	01:12:29
51	170710M3_51	1700751-05RE1 NH0100668_I 0.22393	11-Jul-17	01:23:08
52	170710M3_52	1700751-06RE1 NH0100668_E 0.24262	11-Jul-17	01:33:46
53	170710M3_53	1700751-07RE1 NH0101303_I 0.05246	11-Jul-17	01:44:33
54	170710M3_54	1700751-08RE1 NH0101303_E 0.24891	11-Jul-17	01:55:11
55	170710M3_55	1700751-09RE1 NH0101311_I 0.23975	11-Jul-17	02:06:00
56	170710M3_56	1700751-10RE1 NH0101311_E 0.25554	11-Jul-17	02:17:45
57	170710M3_57	1700752-01RE1 STP-MW-71-061917 0.11831	11-Jul-17	02:28:31
58	170710M3_58	IPA	11-Jul-17	02:39:10
59	170710M3_59	ST170710M3-11 PFC CS3 17G1008	11-Jul-17	02:49:48

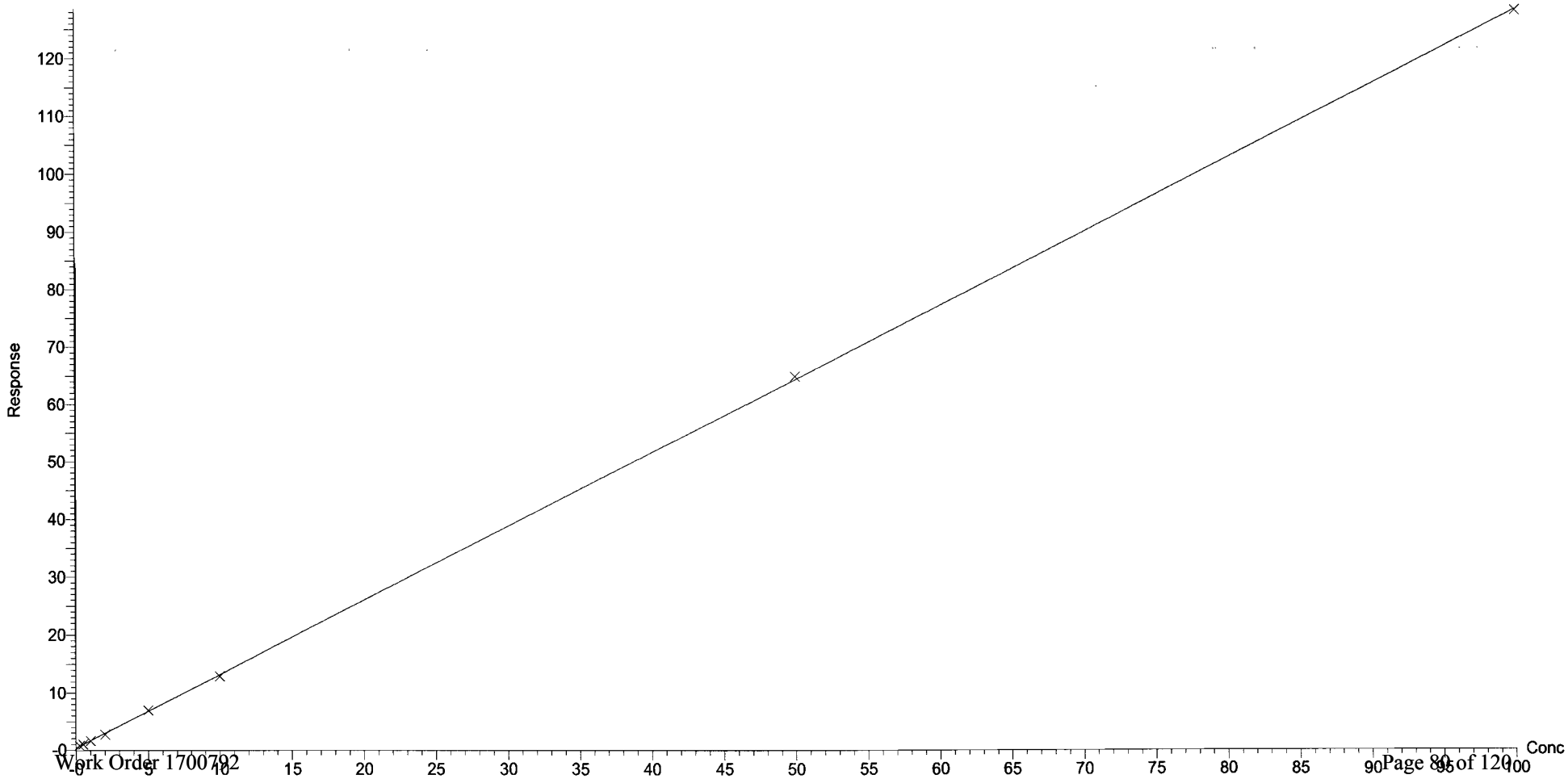
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L16_7-10-17.mdb 11 Jul 2017 14:40:20
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-10-17-L16.cdb 11 Jul 2017 17:05:46

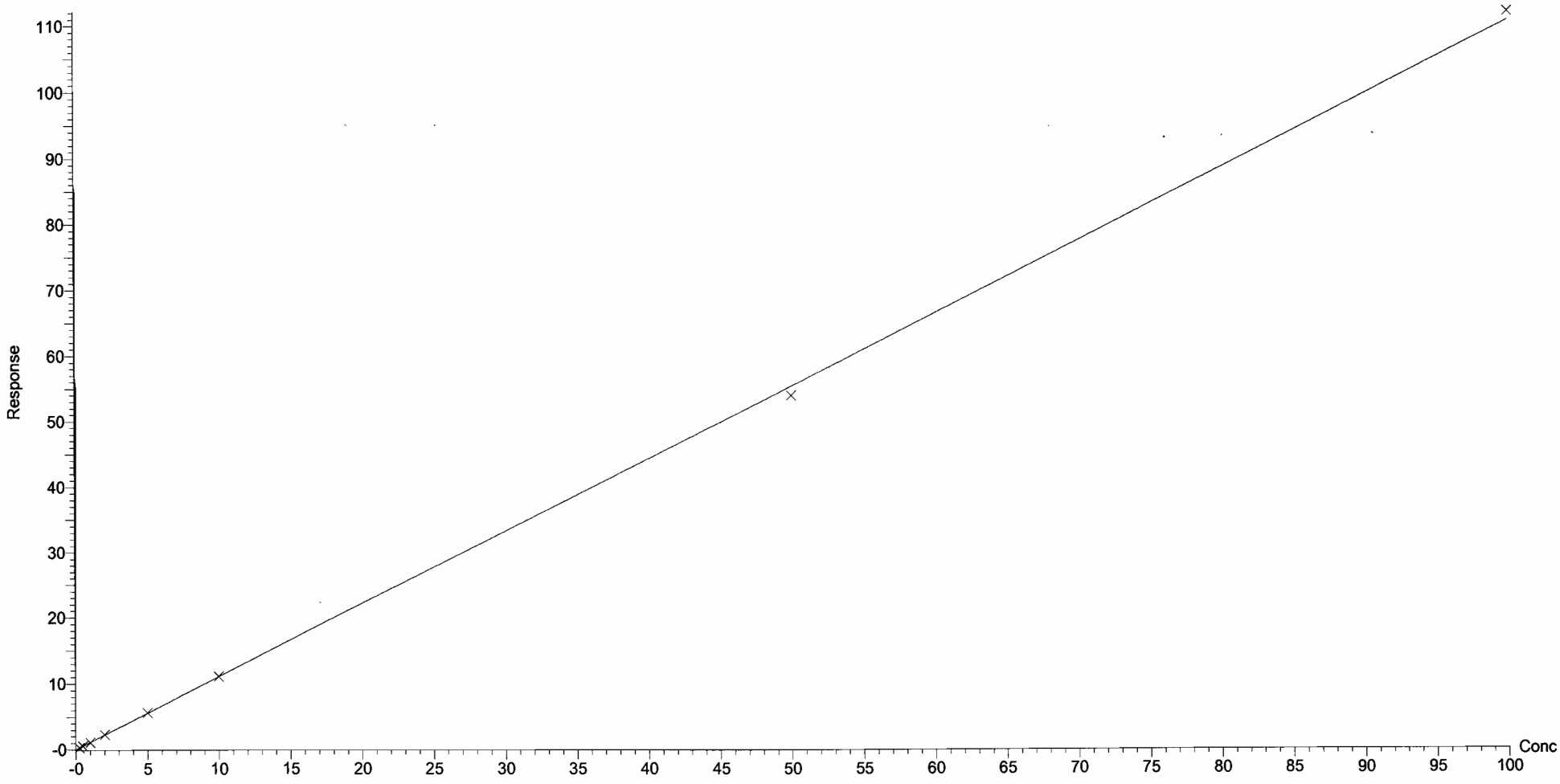
Compound name: PFBA
Correlation coefficient: r = 0.999893, r^2 = 0.999786
Calibration curve: 1.28141 * x + 0.357618
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

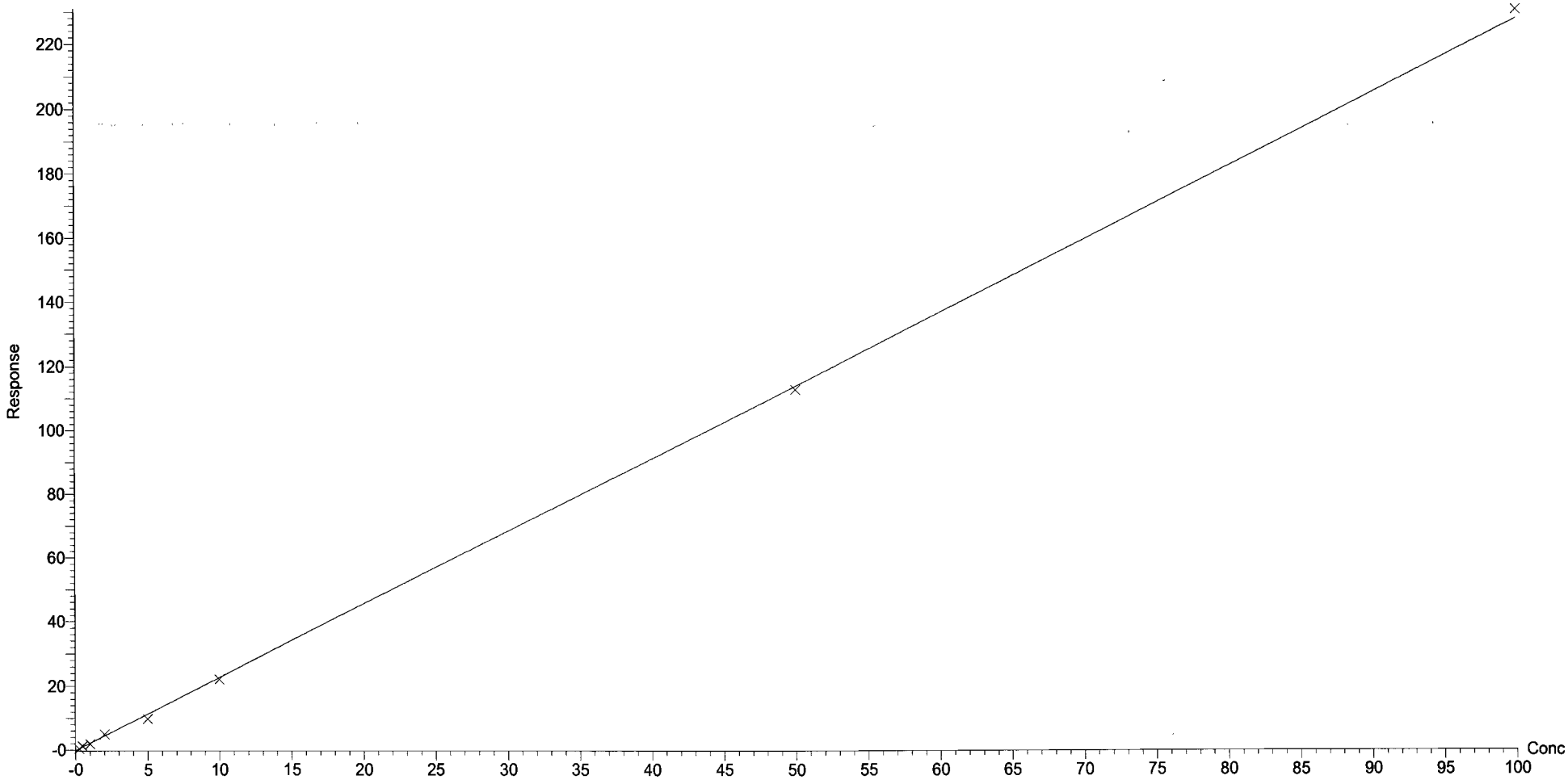
Compound name: PFPeA
Correlation coefficient: r = 0.999846, r^2 = 0.999691
Calibration curve: 1.10816 * x + 0.0226306
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

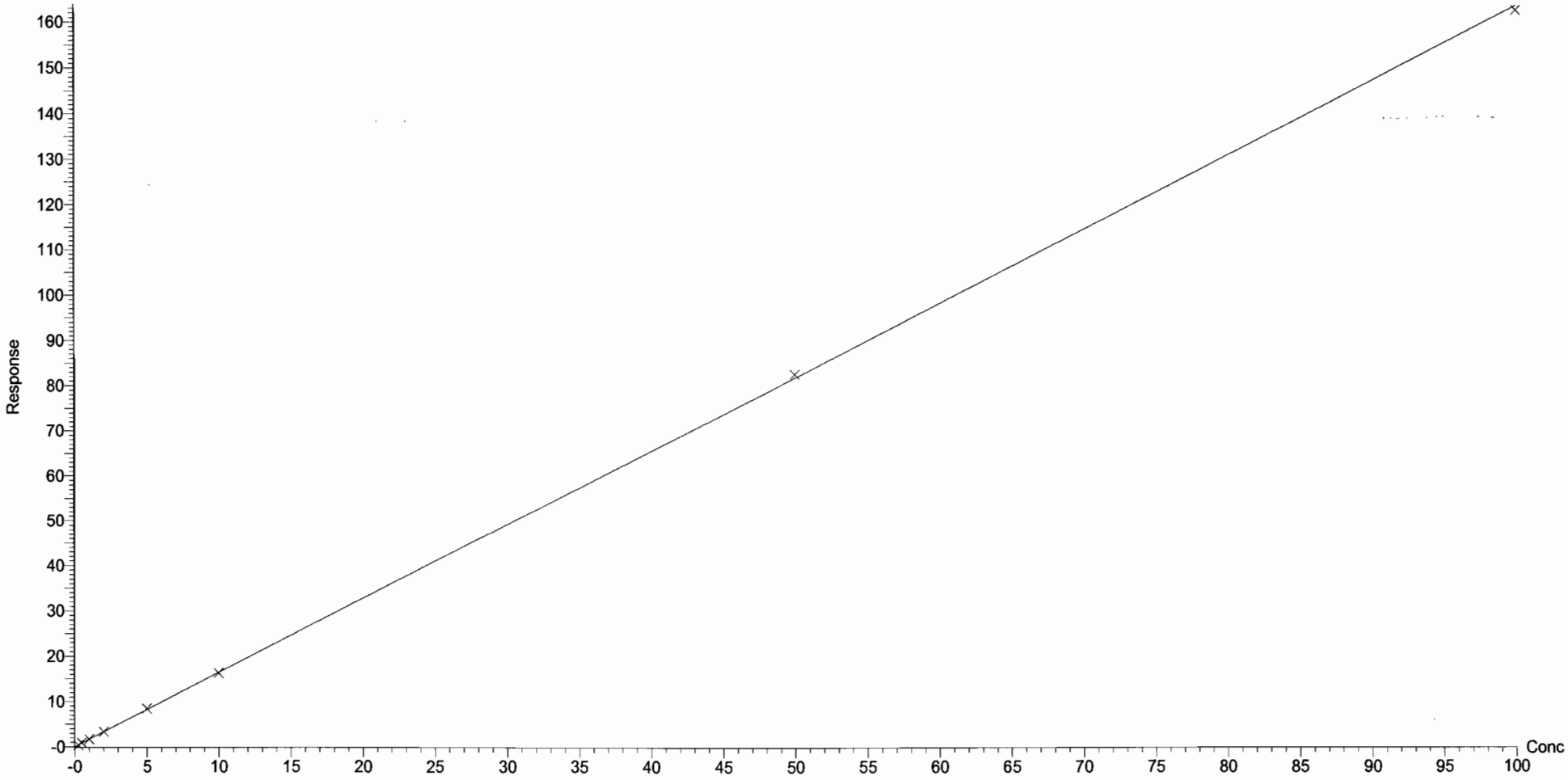
Compound name: PFBS
Correlation coefficient: r = 0.999477, r^2 = 0.998954
Calibration curve: 2.28212 * x + -0.143002
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

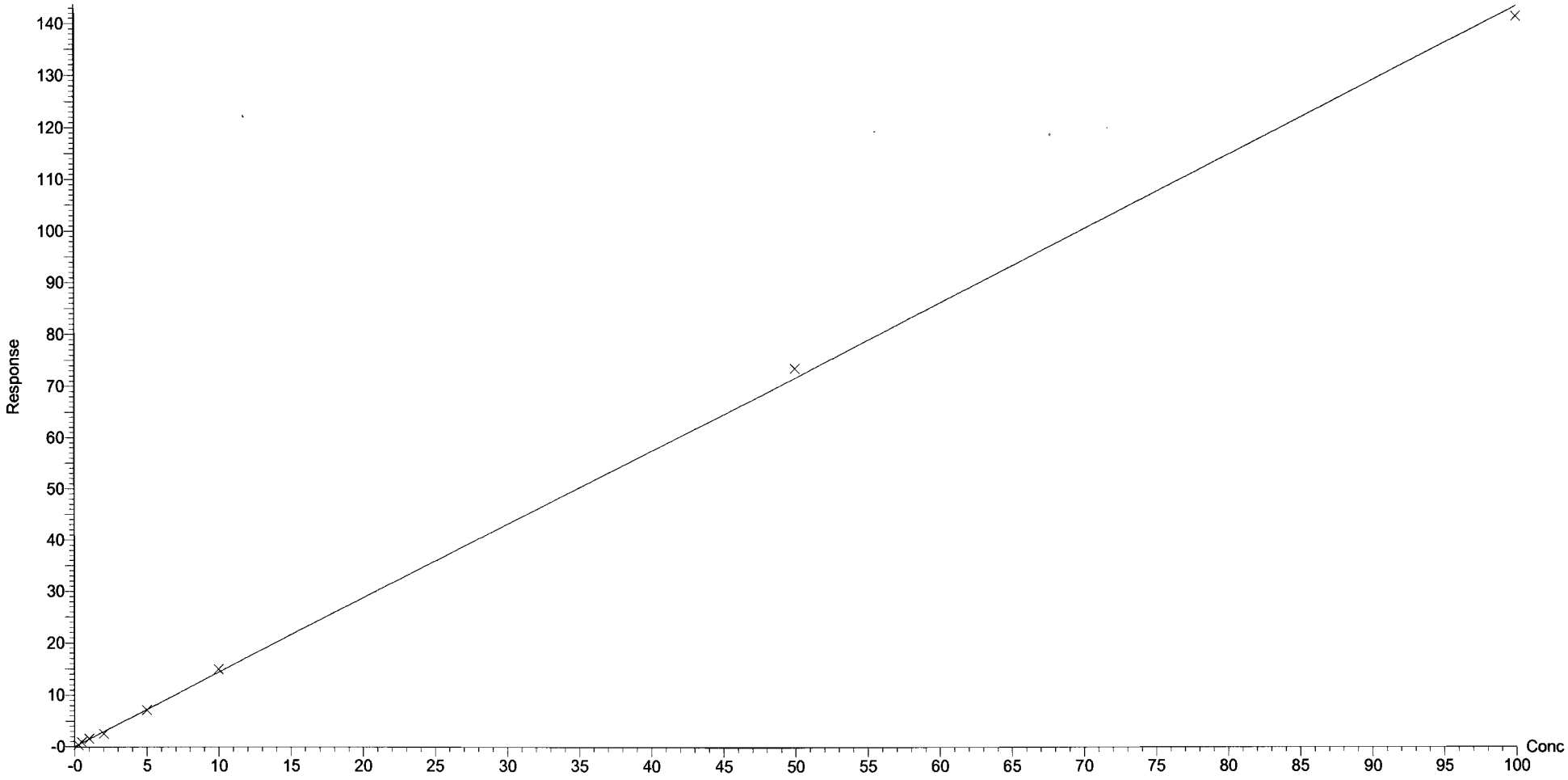
Compound name: PFHxA
Correlation coefficient: r = 0.999918, r^2 = 0.999836
Calibration curve: 1.63818 * x + 0.0563003
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

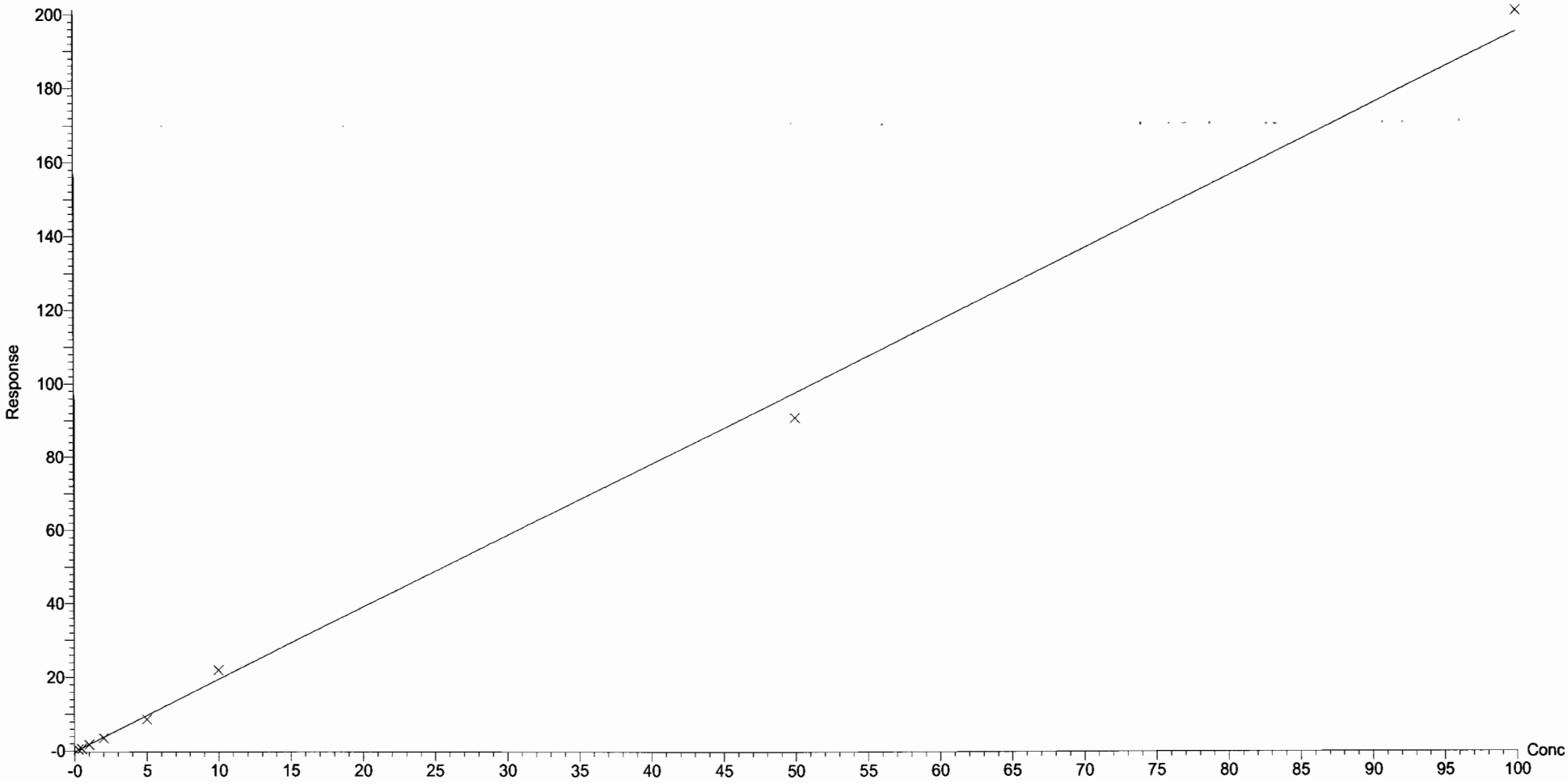
Compound name: PFHpA
Correlation coefficient: r = 0.999627, r^2 = 0.999254
Calibration curve: 1.43595 * x + 0.0332012
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

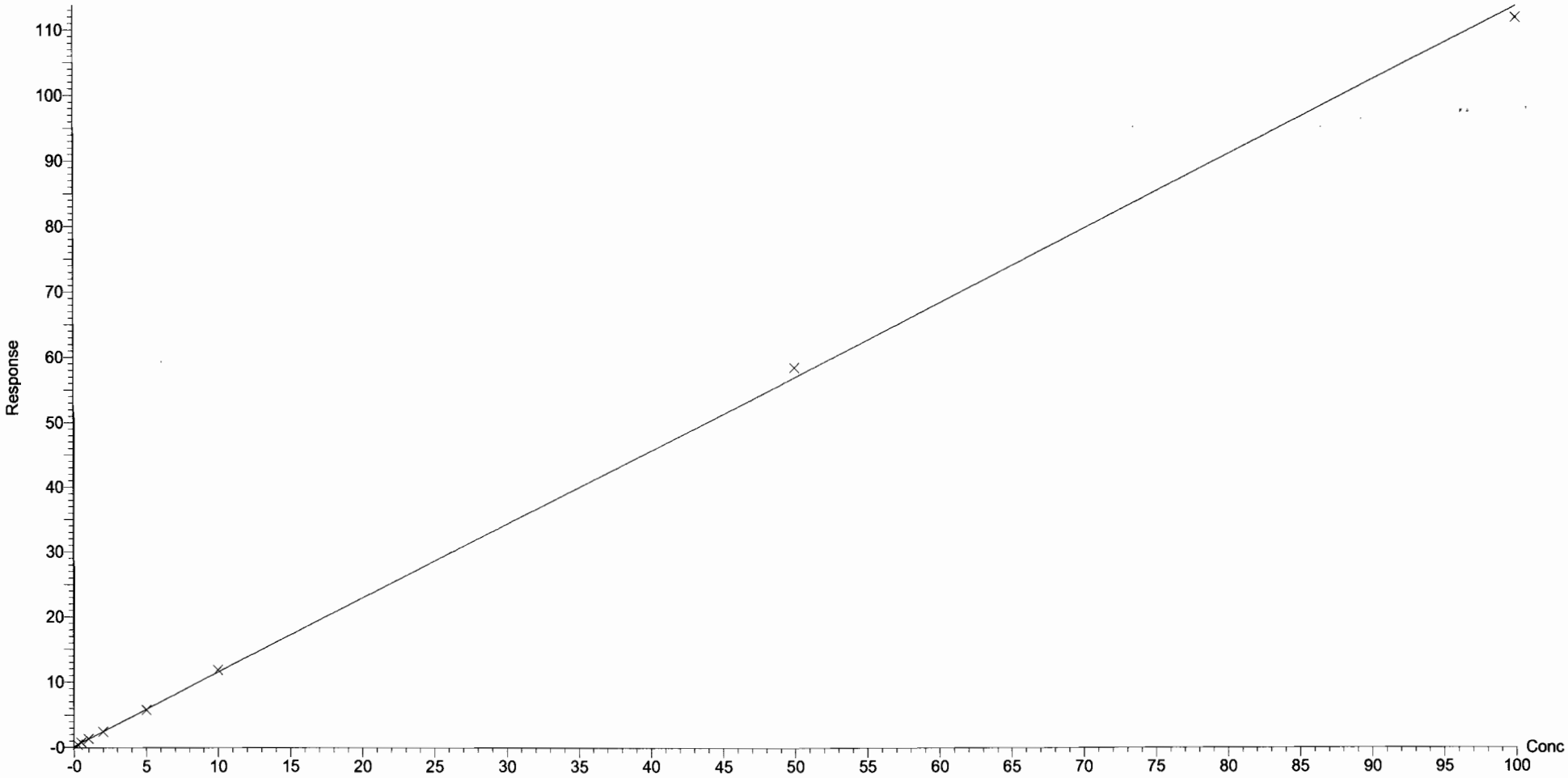
Compound name: PFHxS
Correlation coefficient: r = 0.998220, r^2 = 0.996443
Calibration curve: 1.95713 * x + -0.172436
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

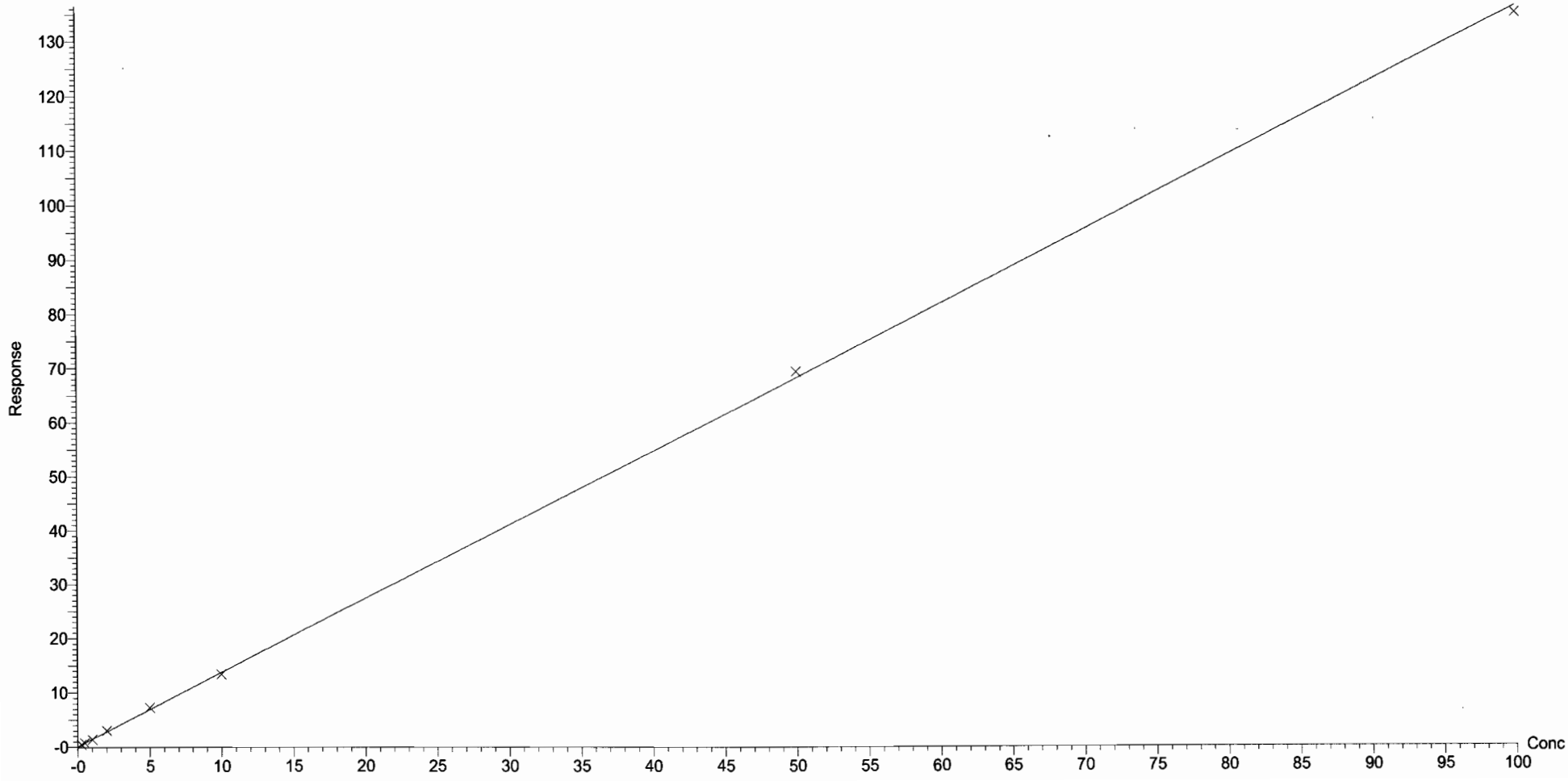
Compound name: PFOA
Correlation coefficient: r = 0.999767, r^2 = 0.999534
Calibration curve: 1.13618 * x + 0.150469
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

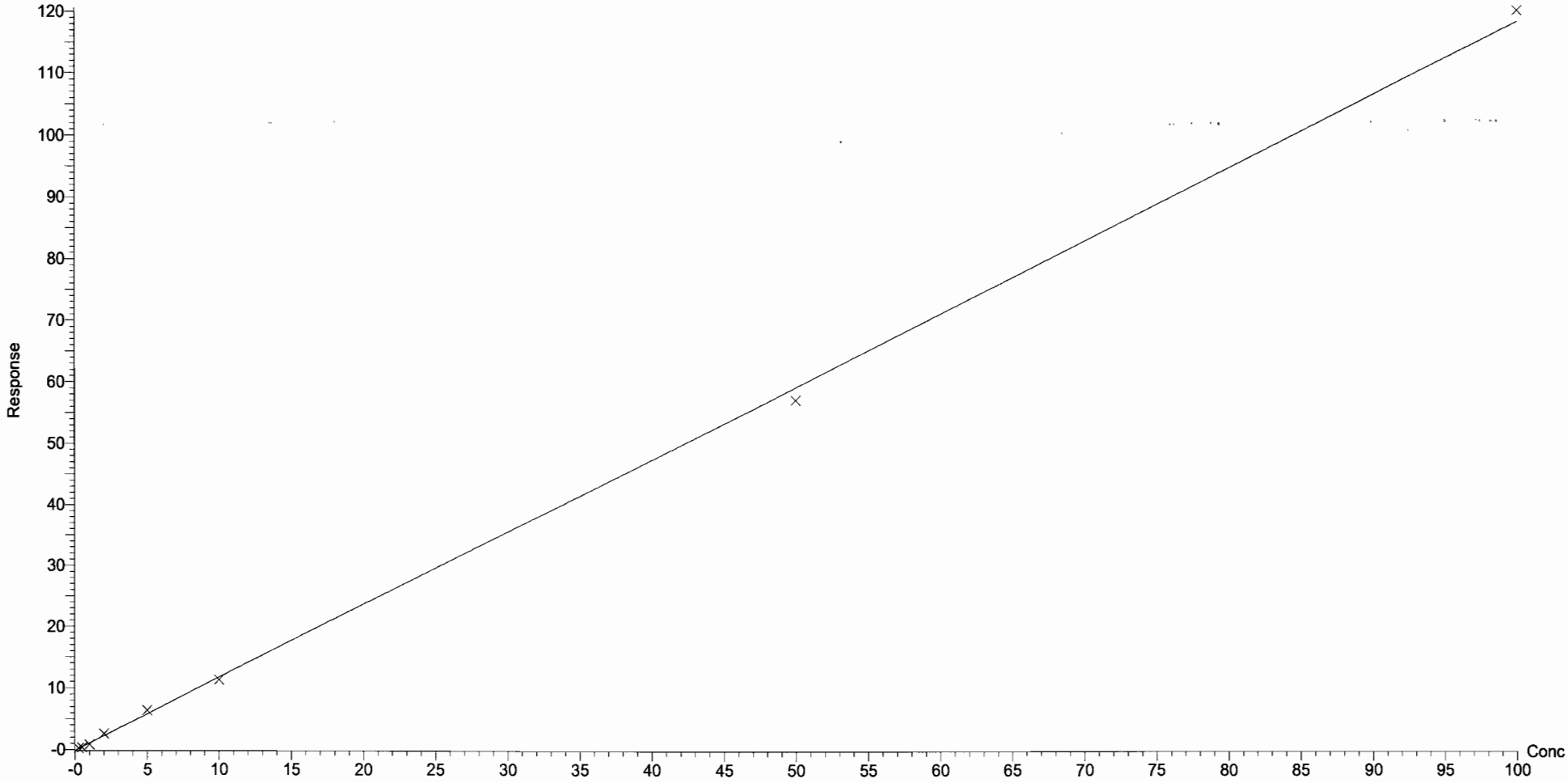
Compound name: PFNA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.36368 * x + 0.0901055
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

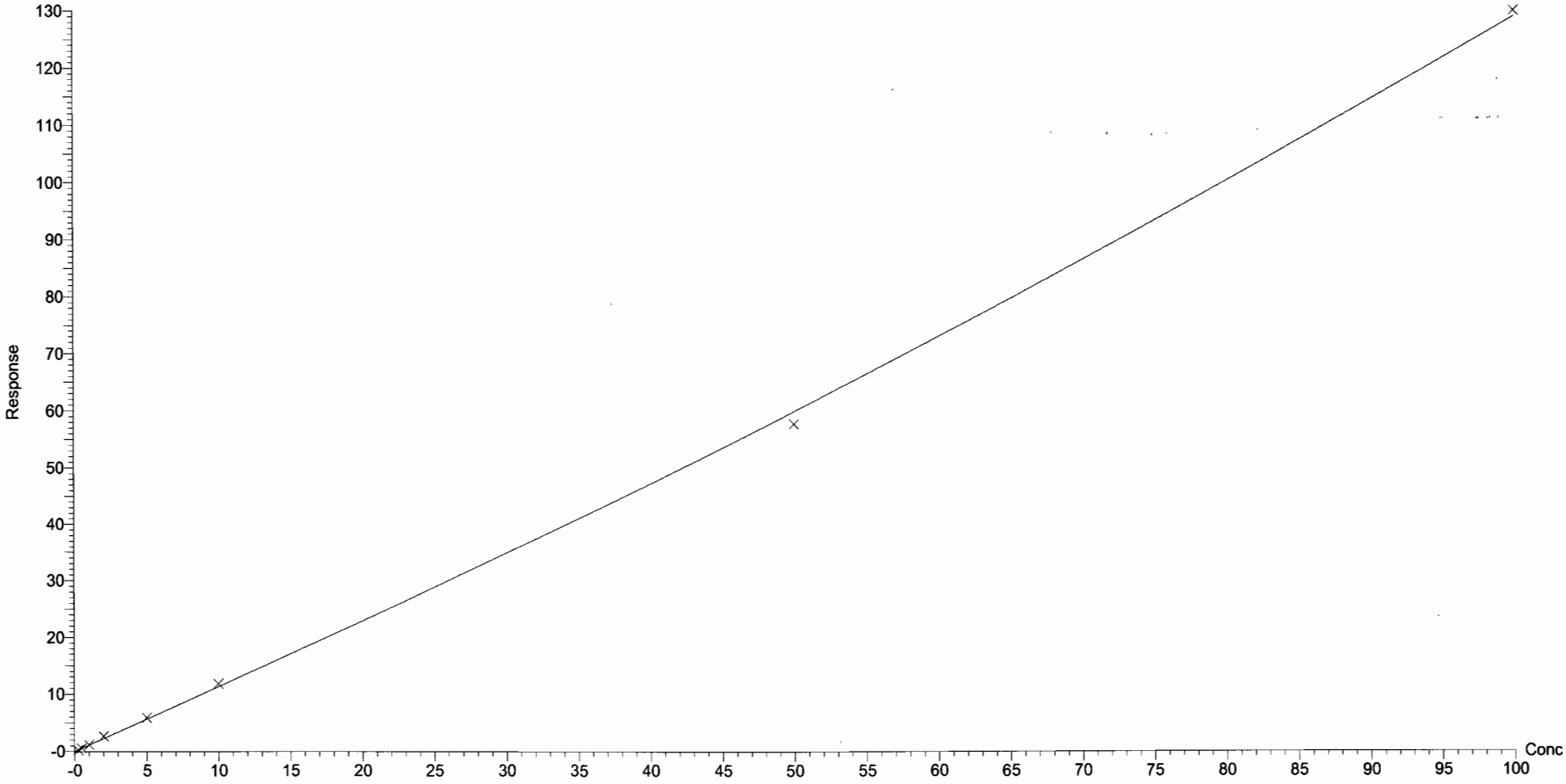
Compound name: PFOSA
Correlation coefficient: r = 0.999222, r^2 = 0.998444
Calibration curve: 1.18859 * x + -0.127408
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

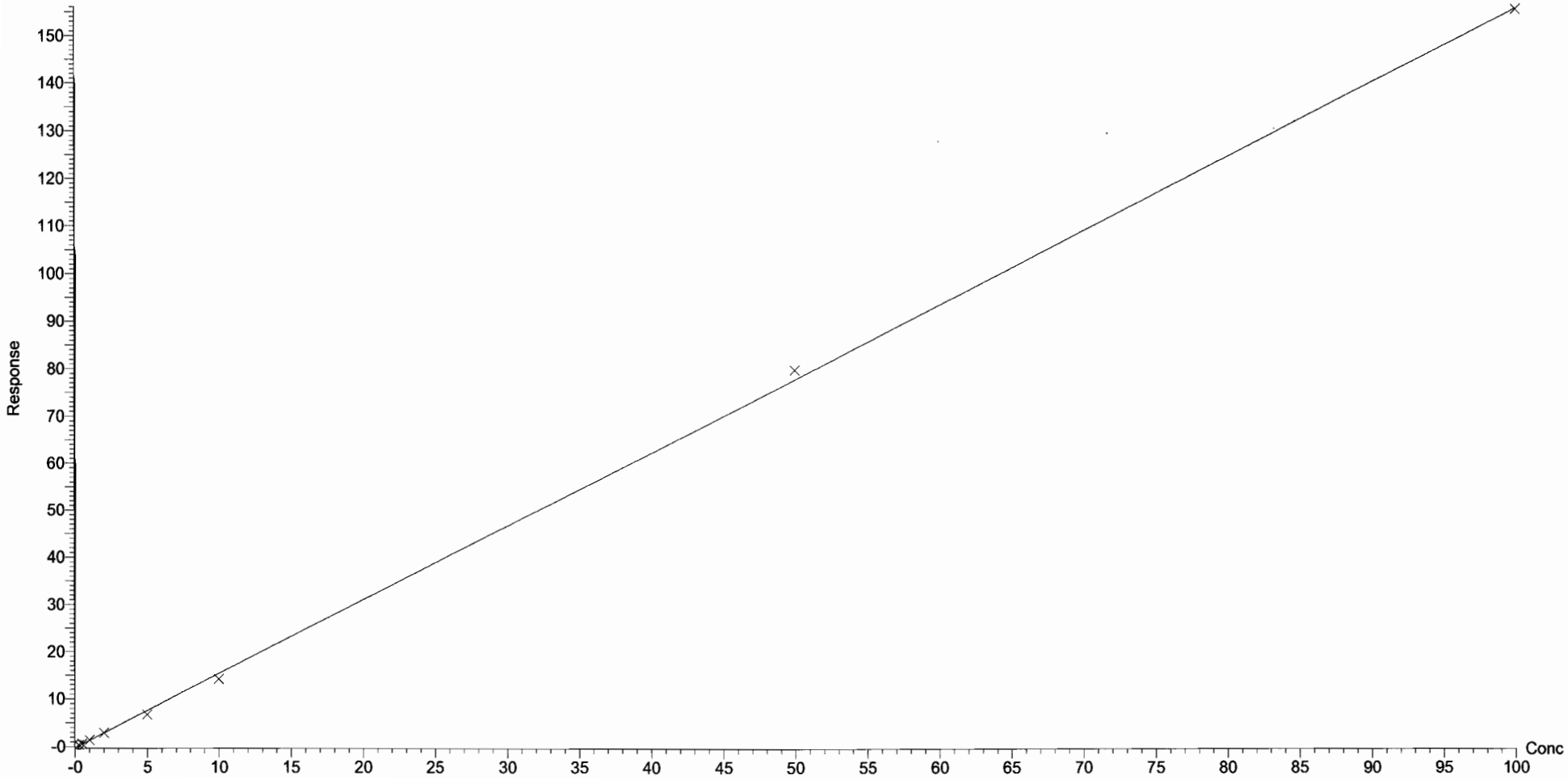
Compound name: PFOS
Coefficient of Determination: R^2 = 0.999061
Calibration curve: 0.00185446 * x^2 + 1.10476 * x + 0.0290301
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

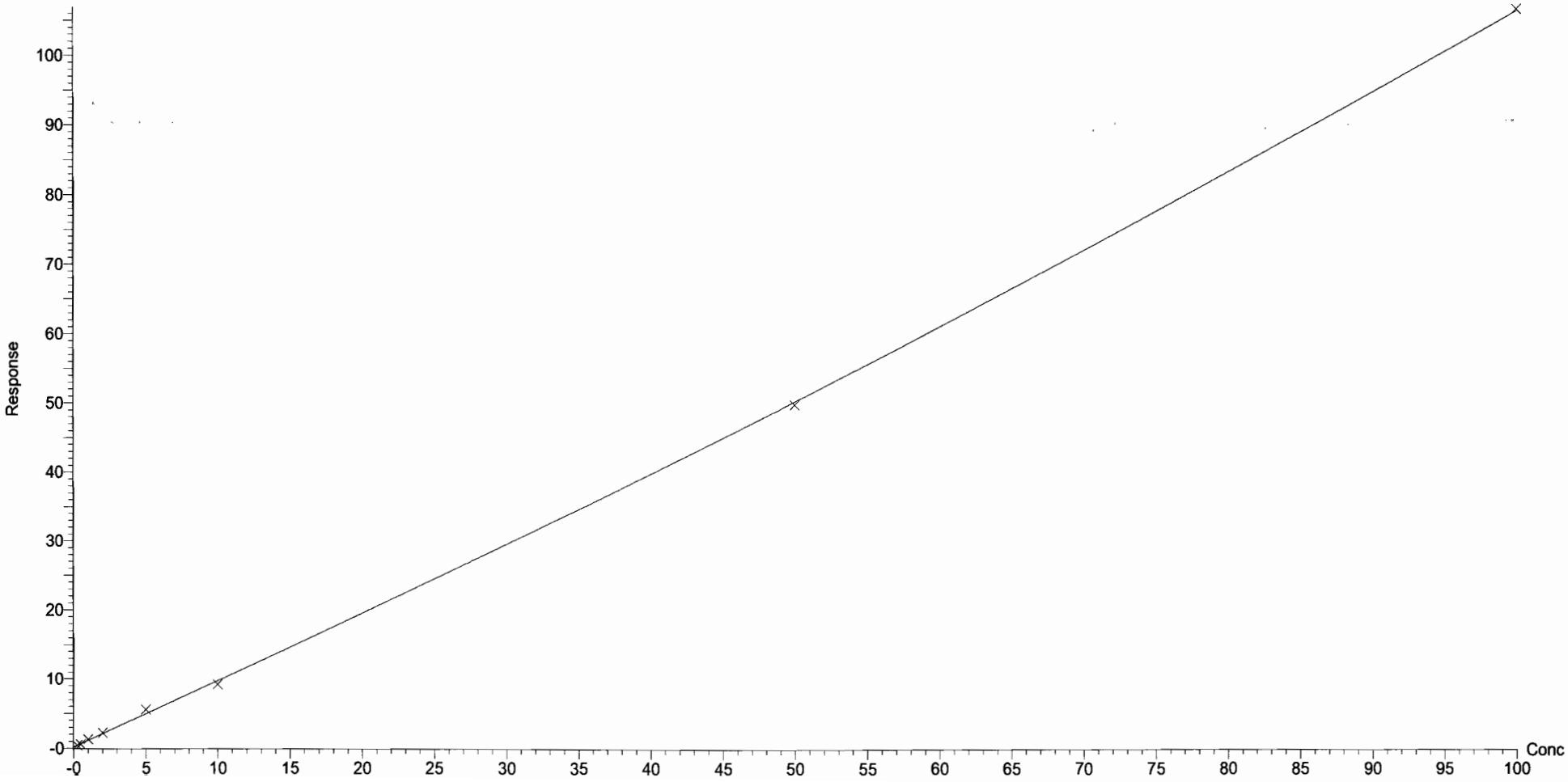
Compound name: PFDA
Correlation coefficient: r = 0.999516, r^2 = 0.999032
Calibration curve: 1.56384 * x + -0.255433
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

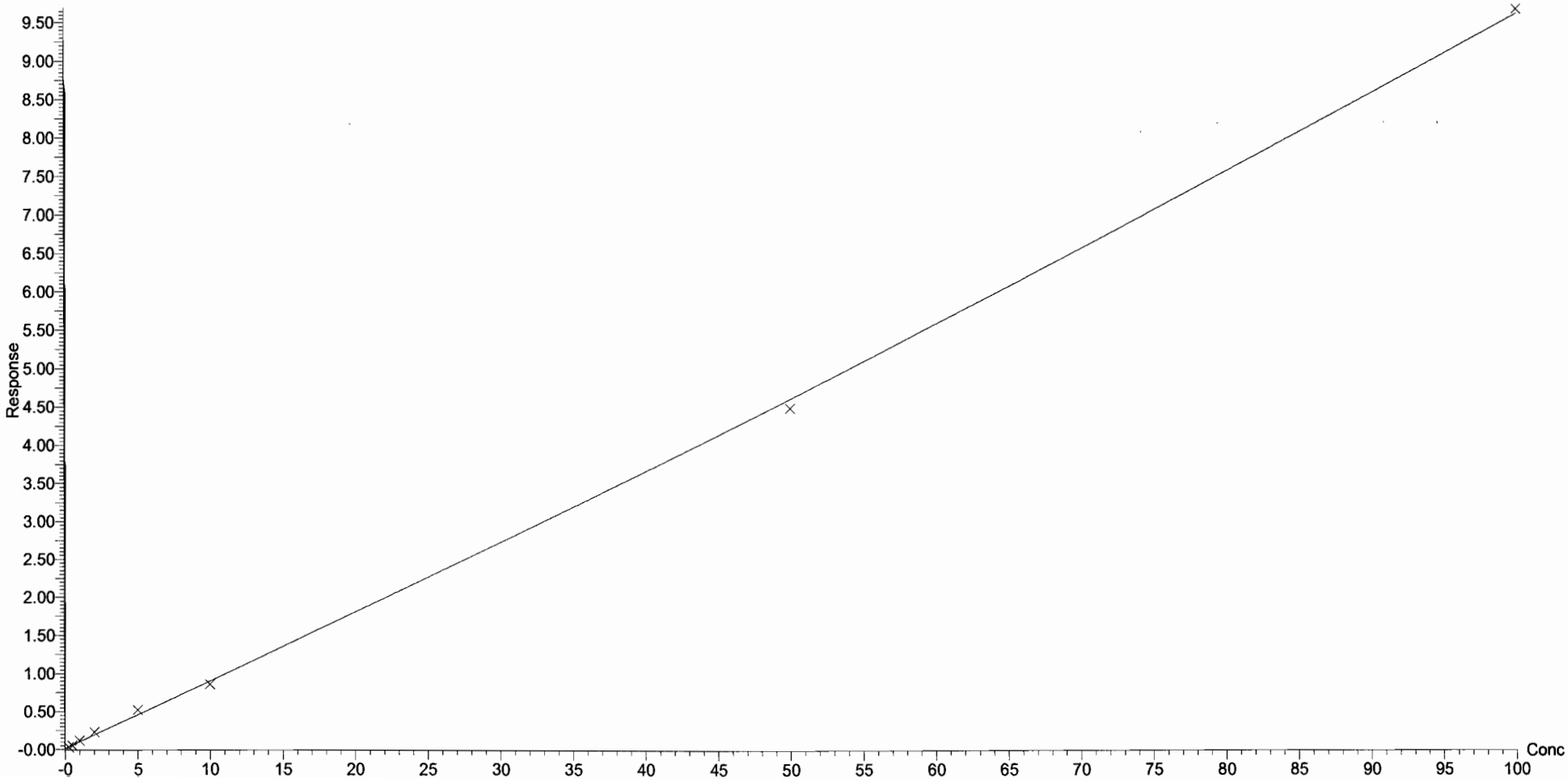
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999111
Calibration curve: 0.00122021 * x^2 + 0.942287 * x + 0.216781
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

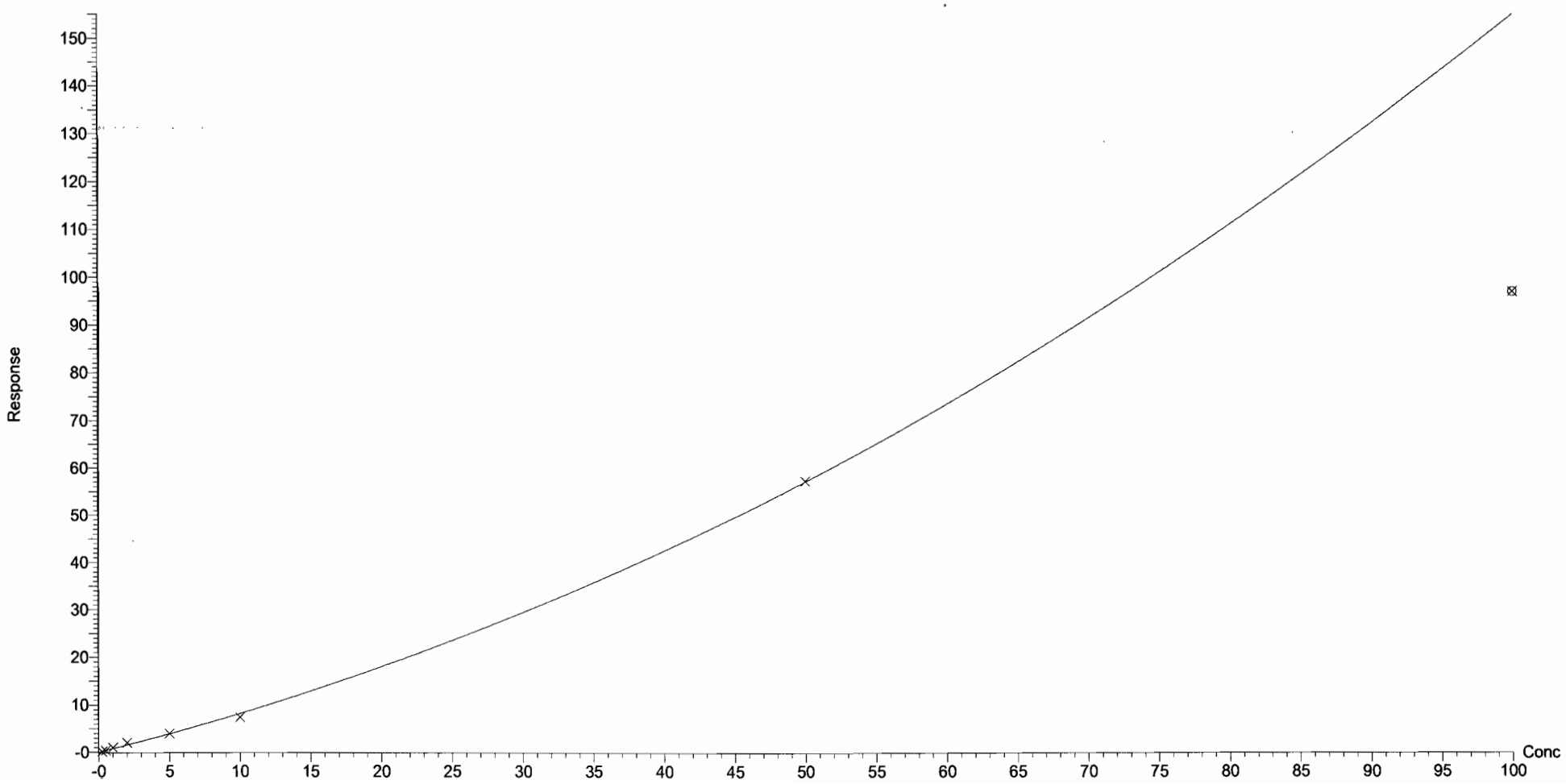
Compound name: PFDS
Coefficient of Determination: R^2 = 0.998301
Calibration curve: 8.31559e-005 * x^2 + 0.0878672 * x + 0.0164965
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-l16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

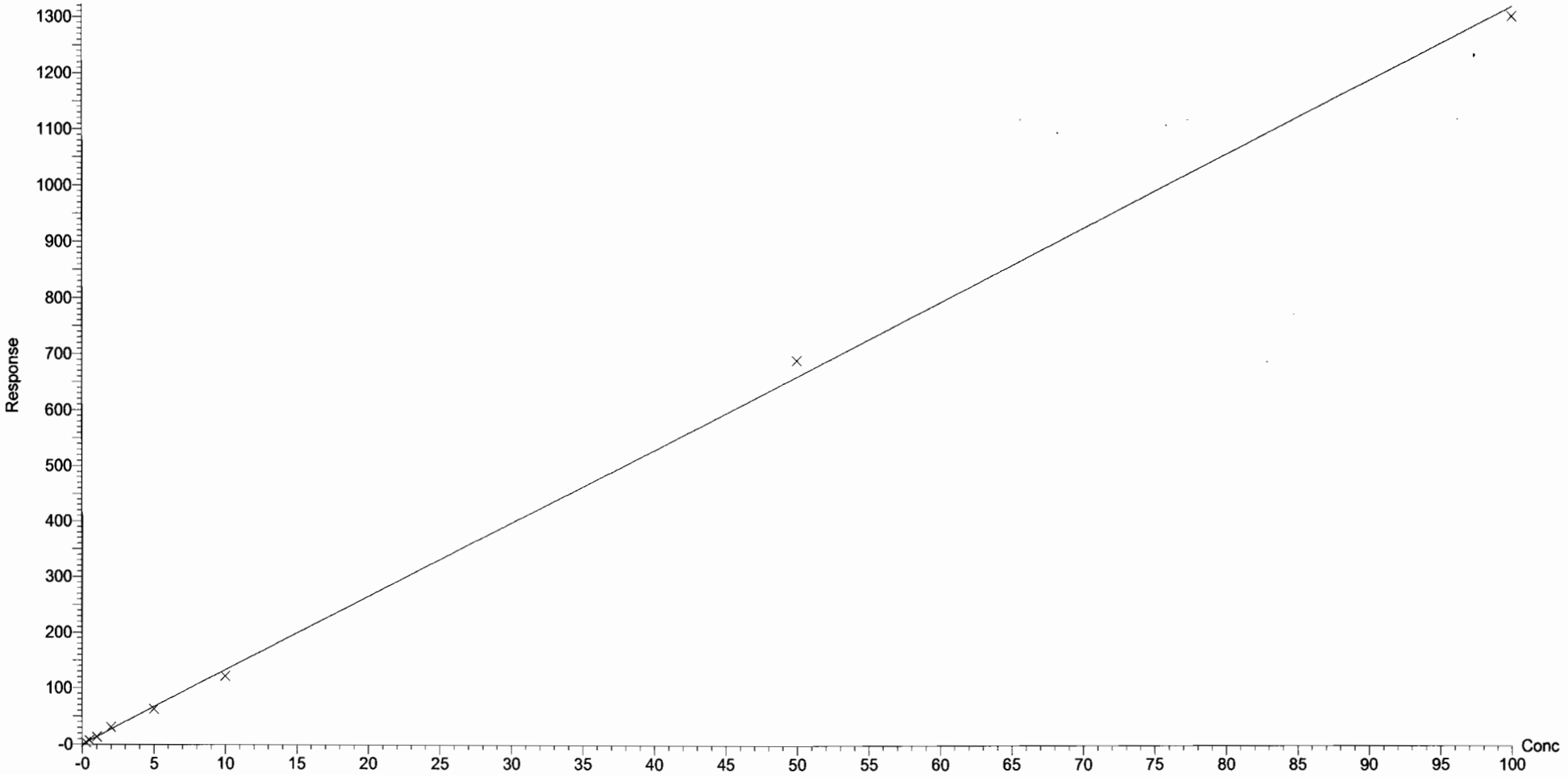
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997169
Calibration curve: 0.00815082 * x^2 + 0.735747 * x + 0.0266157
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

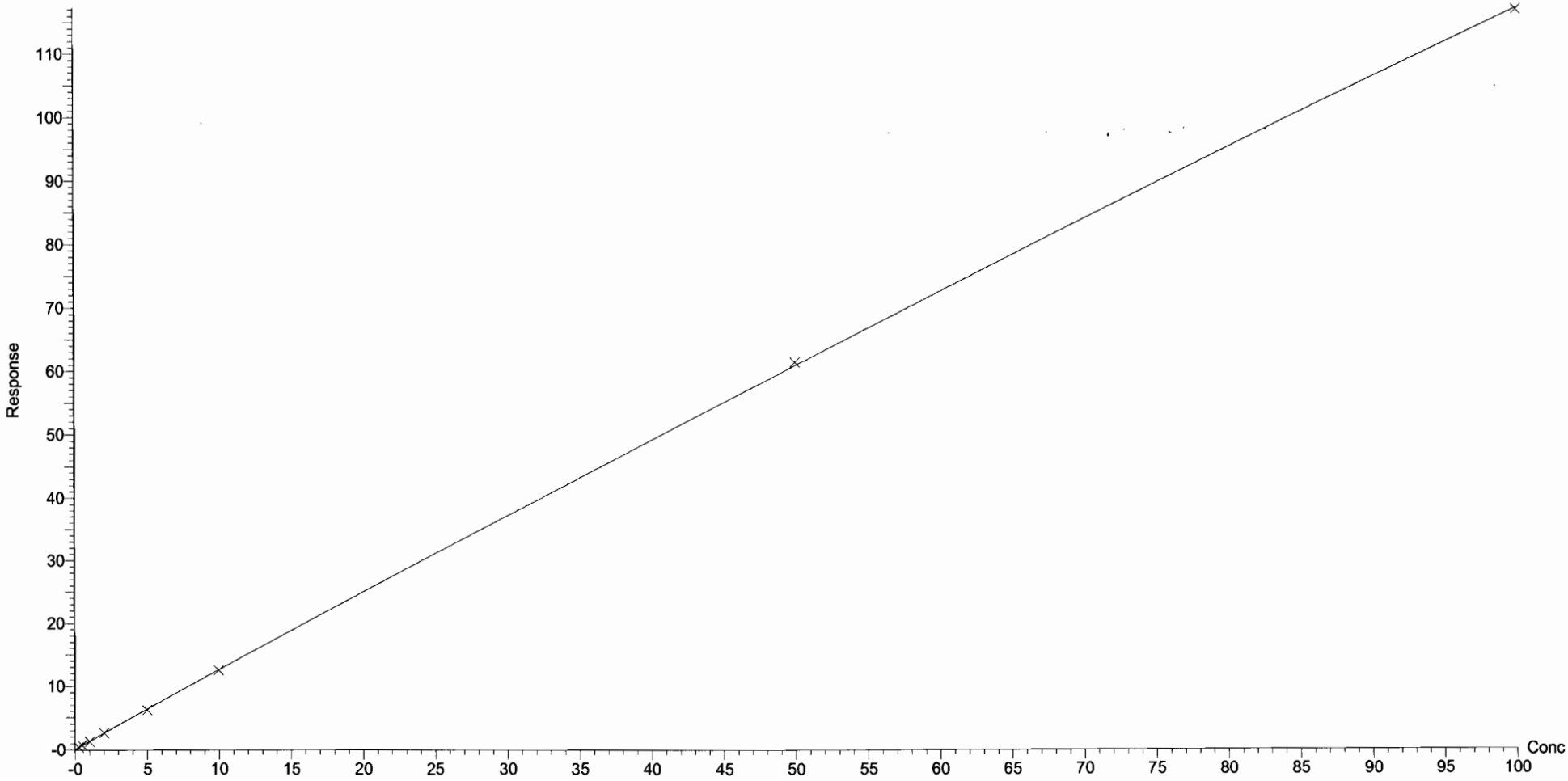
Compound name: PFTrDA
Correlation coefficient: r = 0.999219, r^2 = 0.998438
Calibration curve: 13.2156 * x + 0.215995
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170710M3\170710M3-CRV-I16.qld

Last Altered: Tuesday, July 11, 2017 17:05:48 Pacific Daylight Time
Printed: Tuesday, July 11, 2017 17:07:39 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999934
Calibration curve: -0.000916009 * x^2 + 1.26347 * x + 0.0596778
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFBA
Correlation coefficient: r = 0.999903, r^2 = 0.999805
Calibration curve: 0.812368 * x + 0.0615352
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	1.72	3.49e2	1.58e4	0.264	5.7	1.10
2	2	170711G3_3	0.500	1.74	5.86e2	1.55e4	0.505	1.1	0.944
3	3	170711G3_4	1.00	1.73	1.21e3	1.81e4	0.951	-4.9	0.834
4	4	170711G3_5	2.00	1.73	2.38e3	1.72e4	2.05	2.4	0.863
5	5	170711G3_6	5.00	1.73	5.55e3	1.70e4	4.96	-0.9	0.818
6	6	170711G3_7	10.0	1.73	9.97e3	1.59e4	9.56	-4.4	0.783
7	7	170711G3_8	50.0	1.73	5.56e4	1.69e4	50.6	1.2	0.823
8	8	170711G3_9	100	1.73	1.04e5	1.60e4	99.9	-0.1	0.812

7/12/17

✓ AC 7/12/17

Compound name: PFPeA
Correlation coefficient: r = 0.999205, r^2 = 0.998411
Calibration curve: 1.19919 * x + -0.0457496
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	2.66	1.45e2	6.49e3	0.270	8.1	1.11
2	2	170711G3_3	0.500	2.66	2.85e2	6.41e3	0.502	0.4	1.11
3	3	170711G3_4	1.00	2.66	6.45e2	6.98e3	1.00	0.1	1.15
4	4	170711G3_5	2.00	2.66	1.12e3	6.82e3	1.75	-12.6	1.02
5	5	170711G3_6	5.00	2.66	2.99e3	6.09e3	5.15	3.0	1.23
6	6	170711G3_7	10.0	2.66	6.17e3	6.20e3	10.4	4.1	1.24
7	7	170711G3_8	50.0	2.66	2.92e4	6.43e3	47.3	-5.4	1.13
8	8	170711G3_9	100	2.66	5.32e4	5.42e3	102	2.4	1.23

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999521, r^2 = 0.999042
Calibration curve: 2.23981 * x + -0.119881
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	2.94	1.58e2	3.78e3	0.287	14.9	2.09
2	2	170711G3_3	0.500	2.93	2.53e2	3.62e3	0.444	-11.2	1.75
3	3	170711G3_4	1.00	2.93	6.93e2	4.02e3	1.02	1.7	2.16
4	4	170711G3_5	2.00	2.93	1.40e3	3.91e3	2.05	2.3	2.23
5	5	170711G3_6	5.00	2.93	3.08e3	3.39e3	5.13	2.6	2.27
6	6	170711G3_7	10.0	2.93	5.58e3	3.54e3	8.85	-11.5	1.97
7	7	170711G3_8	50.0	2.94	2.76e4	3.07e3	50.3	0.5	2.25
8	8	170711G3_9	100	2.94	5.08e4	2.82e3	101	0.7	2.25

Compound name: PFHxA
Correlation coefficient: r = 0.999444, r^2 = 0.998888
Calibration curve: 1.90952 * x + 0.14452
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	3.32	2.43e2	6.03e3	0.188	-24.9	2.01
2	2	170711G3_3	0.500	3.32	5.14e2	5.41e3	0.546	9.1	2.37
3	3	170711G3_4	1.00	3.31	1.01e3	6.15e3	0.997	-0.3	2.05
4	4	170711G3_5	2.00	3.32	2.17e3	5.99e3	2.29	14.5	2.26
5	5	170711G3_6	5.00	3.32	4.55e3	5.79e3	5.07	1.5	1.97
6	6	170711G3_7	10.0	3.31	8.97e3	5.92e3	9.85	-1.5	1.89
7	7	170711G3_8	50.0	3.32	4.41e4	5.56e3	51.9	3.8	1.98
8	8	170711G3_9	100	3.32	7.99e4	5.34e3	97.9	-2.1	1.87

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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Compound name: PFHpA
Correlation coefficient: r = 0.999678, r^2 = 0.999357
Calibration curve: 2.37086 * x + 0.00117983
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	3.82	3.62e2	7.37e3	0.259	3.6	2.46
2	2	170711G3_3	0.500	3.82	7.13e2	7.16e3	0.524	4.9	2.49
3	3	170711G3_4	1.00	3.82	1.64e3	8.40e3	1.03	3.0	2.44
4	4	170711G3_5	2.00	3.83	2.94e3	8.04e3	1.93	-3.6	2.29
5	5	170711G3_6	5.00	3.83	6.53e3	7.67e3	4.49	-10.2	2.13
6	6	170711G3_7	10.0	3.83	1.38e4	7.22e3	10.1	0.6	2.39
7	7	170711G3_8	50.0	3.83	6.29e4	6.46e3	51.4	2.7	2.44
8	8	170711G3_9	100	3.83	1.13e5	6.02e3	99.1	-0.9	2.35

Compound name: PFHxS
Correlation coefficient: r = 0.999359, r^2 = 0.998718
Calibration curve: 2.089 * x + 0.0768621
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	3.95	1.52e2	3.62e3	0.214	-14.4	2.10
2	2	170711G3_3	0.500	3.95	3.06e2	3.28e3	0.522	4.4	2.33
3	3	170711G3_4	1.00	3.95	6.74e2	3.99e3	0.975	-2.5	2.11
4	4	170711G3_5	2.00	3.95	1.27e3	3.53e3	2.11	5.7	2.25
5	5	170711G3_6	5.00	3.95	3.06e3	3.54e3	5.14	2.8	2.16
6	6	170711G3_7	10.0	3.95	5.64e3	3.30e3	10.2	2.1	2.14
7	7	170711G3_8	50.0	3.95	2.86e4	3.27e3	52.3	4.7	2.19
8	8	170711G3_9	100	3.95	5.14e4	3.16e3	97.2	-2.8	2.03

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Compound name: PFOA
Correlation coefficient: r = 0.999784, r^2 = 0.999567
Calibration curve: 0.87047 * x + 0.0781634
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	4.24	3.08e2	1.58e4	0.189	-24.2	0.972
2	2	170711G3_3	0.500	4.23	6.61e2	1.55e4	0.523	4.6	1.07
3	3	170711G3_4	1.00	4.23	1.61e3	1.90e4	1.13	12.6	1.06
4	4	170711G3_5	2.00	4.23	2.62e3	1.69e4	2.13	6.5	0.966
5	5	170711G3_6	5.00	4.23	5.77e3	1.62e4	5.04	0.8	0.893
6	6	170711G3_7	10.0	4.23	1.26e4	1.81e4	9.90	-1.0	0.869
7	7	170711G3_8	50.0	4.24	6.04e4	1.70e4	50.9	1.8	0.888
8	8	170711G3_9	100	4.24	1.09e5	1.59e4	98.9	-1.1	0.862

Compound name: PFNA
Coefficient of Determination: R^2 = 0.998825
Calibration curve: -0.00319585 * x^2 + 2.90085 * x + -0.200852
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	170711G3_2	0.250	4.57	2.30e2	5.19e3	0.261	4.3	2.22
2	2	170711G3_3	0.500	4.57	5.05e2	4.82e3	0.520	4.1	2.62
3	3	170711G3_4	1.00	4.57	1.24e3	5.54e3	1.04	3.8	2.81
4	4	170711G3_5	2.00	4.57	2.50e3	5.55e3	2.02	0.9	2.82
5	5	170711G3_6	5.00	4.57	4.65e3	4.55e3	4.49	-10.2	2.55
6	6	170711G3_7	10.0	4.57	1.07e4	5.00e3	9.42	-5.8	2.68
7	7	170711G3_8	50.0	4.57	5.65e4	4.97e3	52.0	4.1	2.84
8	8	170711G3_9	100	4.57	9.65e4	4.72e3	98.9	-1.1	2.56

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Compound name: PFOS
Correlation coefficient: r = 0.999086, r^2 = 0.998172
Calibration curve: 0.598169 * x + -0.0823444
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	0.250	4.62	3.18e1	5.02e3	0.270	7.9	0.316
2	2	170711G3_3	0.500	4.62	8.17e1	5.04e3	0.476	-4.7	0.405
3	3	170711G3_4	1.00	4.63	2.56e2	5.98e3	1.03	3.3	0.536
4	4	170711G3_5	2.00	4.63	4.27e2	5.14e3	1.87	-6.4	0.519
5	5	170711G3_6	5.00	4.63	1.01e3	4.82e3	4.53	-9.3	0.526
6	6	170711G3_7	10.0	4.63	2.26e3	4.48e3	10.7	6.9	0.631
7	7	170711G3_8	50.0	4.63	1.31e4	5.25e3	52.5	5.0	0.626
8	8	170711G3_9	100	4.63	2.48e4	5.33e3	97.4	-2.6	0.582

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998620
Calibration curve: 8.29904e-005 * x^2 + 0.207158 * x + 0.0227635
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	170711G3_2	0.250	4.86	4.10e1	8.43e3	0.184	-26.6	0.243
2	2	170711G3_3	0.500	4.86	7.86e1	8.93e3	0.421	-15.7	0.220
3	3	170711G3_4	1.00	4.86	2.54e2	1.13e4	1.25	24.7	0.281
4	4	170711G3_5	2.00	4.86	3.79e2	9.78e3	2.23	11.3	0.242
5	5	170711G3_6	5.00	4.86	8.46e2	9.56e3	5.22	4.4	0.221
6	6	170711G3_7	10.0	4.86	1.52e3	8.62e3	10.5	5.0	0.221
7	7	170711G3_8	50.0	4.86	9.66e3	1.19e4	48.1	-3.8	0.204
8	8	170711G3_9	100	4.86	1.86e4	1.07e4	101	0.8	0.218

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Compound name: 13C3-PFBA
Response Factor: 1.34288
RRF SD: 0.0418579, Relative SD: 3.11703
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	1.73	1.58e4	1.23e4	12.0	-4.1	1.29
2	2	170711G3_3	12.5	1.73	1.55e4	1.20e4	12.0	-3.7	1.29
3	3	170711G3_4	12.5	1.73	1.81e4	1.33e4	12.6	1.1	1.36
4	4	170711G3_5	12.5	1.73	1.72e4	1.30e4	12.3	-1.7	1.32
5	5	170711G3_6	12.5	1.73	1.70e4	1.22e4	12.9	3.2	1.39
6	6	170711G3_7	12.5	1.73	1.59e4	1.14e4	13.0	3.8	1.39
7	7	170711G3_8	12.5	1.73	1.69e4	1.23e4	12.8	2.6	1.38
8	8	170711G3_9	12.5	1.73	1.60e4	1.20e4	12.3	-1.3	1.33

Compound name: 13C3-PFBS
Response Factor: 0.25962
RRF SD: 0.0207298, Relative SD: 7.98467
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	2.93	3.78e3	1.35e4	13.4	7.6	0.279
2	2	170711G3_3	12.5	2.93	3.62e3	1.34e4	13.0	3.9	0.270
3	3	170711G3_4	12.5	2.93	4.02e3	1.47e4	13.2	5.5	0.274
4	4	170711G3_5	12.5	2.93	3.91e3	1.44e4	13.0	4.3	0.271
5	5	170711G3_6	12.5	2.93	3.39e3	1.34e4	12.2	-2.3	0.254
6	6	170711G3_7	12.5	2.93	3.54e3	1.30e4	13.1	5.0	0.272
7	7	170711G3_8	12.5	2.93	3.07e3	1.38e4	10.7	-14.2	0.223
8	8	170711G3_9	12.5	2.94	2.82e3	1.20e4	11.3	-9.7	0.235

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Compound name: 13C3-PFPeA
Response Factor: 0.469572
RRF SD: 0.0107677, Relative SD: 2.29309
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	2.66	6.49e3	1.35e4	12.8	2.1	0.480
2	2	170711G3_3	12.5	2.66	6.41e3	1.34e4	12.7	1.8	0.478
3	3	170711G3_4	12.5	2.66	6.98e3	1.47e4	12.7	1.3	0.476
4	4	170711G3_5	12.5	2.66	6.82e3	1.44e4	12.6	0.6	0.472
5	5	170711G3_6	12.5	2.66	6.09e3	1.34e4	12.1	-2.9	0.456
6	6	170711G3_7	12.5	2.66	6.20e3	1.30e4	12.7	1.6	0.477
7	7	170711G3_8	12.5	2.66	6.43e3	1.38e4	12.4	-0.5	0.467
8	8	170711G3_9	12.5	2.66	5.42e3	1.20e4	12.0	-4.0	0.451

Compound name: 13C2-PFHxA
Response Factor: 0.427462
RRF SD: 0.019949, Relative SD: 4.66684
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.32	6.03e3	1.35e4	13.0	4.3	0.446
2	2	170711G3_3	12.5	3.32	5.41e3	1.34e4	11.8	-5.6	0.404
3	3	170711G3_4	12.5	3.32	6.15e3	1.47e4	12.3	-2.0	0.419
4	4	170711G3_5	12.5	3.32	5.99e3	1.44e4	12.1	-2.9	0.415
5	5	170711G3_6	12.5	3.32	5.79e3	1.34e4	12.7	1.4	0.434
6	6	170711G3_7	12.5	3.31	5.92e3	1.30e4	13.3	6.5	0.455
7	7	170711G3_8	12.5	3.32	5.56e3	1.38e4	11.8	-5.6	0.404
8	8	170711G3_9	12.5	3.32	5.34e3	1.20e4	13.0	3.9	0.444

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Compound name: 13C4-PFHpA
Response Factor: 0.538432
RRF SD: 0.0364647, Relative SD: 6.77239
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.83	7.37e3	1.35e4	12.6	1.1	0.544
2	2	170711G3_3	12.5	3.82	7.16e3	1.34e4	12.4	-0.9	0.534
3	3	170711G3_4	12.5	3.82	8.40e3	1.47e4	13.3	6.2	0.572
4	4	170711G3_5	12.5	3.83	8.04e3	1.44e4	12.9	3.4	0.557
5	5	170711G3_6	12.5	3.83	7.67e3	1.34e4	13.3	6.7	0.575
6	6	170711G3_7	12.5	3.83	7.22e3	1.30e4	12.9	3.2	0.556
7	7	170711G3_8	12.5	3.83	6.46e3	1.38e4	10.9	-12.9	0.469
8	8	170711G3_9	12.5	3.83	6.02e3	1.20e4	11.6	-6.9	0.501

Compound name: 18O2-PFHxS
Response Factor: 0.465365
RRF SD: 0.020374, Relative SD: 4.37807
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.95	3.62e3	8.05e3	12.1	-3.4	0.449
2	2	170711G3_3	12.5	3.95	3.28e3	7.22e3	12.2	-2.4	0.454
3	3	170711G3_4	12.5	3.95	3.99e3	8.19e3	13.1	4.6	0.487
4	4	170711G3_5	12.5	3.95	3.53e3	7.72e3	12.3	-1.9	0.457
5	5	170711G3_6	12.5	3.95	3.54e3	7.54e3	12.6	0.8	0.469
6	6	170711G3_7	12.5	3.95	3.30e3	7.11e3	12.5	-0.3	0.464
7	7	170711G3_8	12.5	3.95	3.27e3	7.42e3	11.8	-5.3	0.441
8	8	170711G3_9	12.5	3.95	3.16e3	6.29e3	13.5	7.9	0.502

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Compound name: 13C2-PFOA
Response Factor: 3.71264
RRF SD: 0.217223, Relative SD: 5.85091
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	4.23	1.58e4	4.49e3	11.9	-5.0	3.53
2	2	170711G3_3	12.5	4.23	1.55e4	4.55e3	11.5	-8.2	3.41
3	3	170711G3_4	12.5	4.23	1.90e4	5.04e3	12.7	1.4	3.76
4	4	170711G3_5	12.5	4.23	1.69e4	4.57e3	12.5	-0.1	3.71
5	5	170711G3_6	12.5	4.23	1.62e4	4.55e3	12.0	-4.3	3.55
6	6	170711G3_7	12.5	4.23	1.81e4	4.51e3	13.5	8.3	4.02
7	7	170711G3_8	12.5	4.23	1.70e4	4.57e3	12.5	0.3	3.72
8	8	170711G3_9	12.5	4.23	1.59e4	3.97e3	13.5	7.6	4.00

Compound name: 13C5-PFNA
Response Factor: 0.928619
RRF SD: 0.070955, Relative SD: 7.64091
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	170711G3_2	12.5	4.57	5.19e3	5.57e3	12.5	0.2	0.931
2	2	170711G3_3	12.5	4.57	4.82e3	5.04e3	12.9	3.2	0.958
3	3	170711G3_4	12.5	4.57	5.54e3	5.90e3	12.6	1.1	0.939
4	4	170711G3_5	12.5	4.57	5.55e3	5.17e3	14.5	15.7	1.07
5	5	170711G3_6	12.5	4.57	4.55e3	5.05e3	12.1	-3.0	0.900
6	6	170711G3_7	12.5	4.57	5.00e3	5.41e3	12.4	-0.5	0.924
7	7	170711G3_8	12.5	4.57	4.97e3	5.75e3	11.6	-7.0	0.863
8	8	170711G3_9	12.5	4.57	4.72e3	5.62e3	11.3	-9.6	0.839

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Compound name: 13C2- PFDA
Response Factor: 2.04259
RRF SD: 0.105833, Relative SD: 5.18132
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	170711G3_2	12.5	4.86	8.43e3	4.50e3	11.5	-8.2	1.88
2	2	170711G3_3	12.5	4.86	8.93e3	4.25e3	12.9	2.8	2.10
3	3	170711G3_4	12.5	4.85	1.13e4	5.46e3	12.7	1.2	2.07
4	4	170711G3_5	12.5	4.86	9.78e3	4.98e3	12.0	-3.8	1.96
5	5	170711G3_6	12.5	4.86	9.56e3	4.69e3	12.5	-0.2	2.04
6	6	170711G3_7	12.5	4.86	8.62e3	4.37e3	12.1	-3.4	1.97
7	7	170711G3_8	12.5	4.86	1.19e4	5.34e3	13.6	8.8	2.22
8	8	170711G3_9	12.5	4.86	1.07e4	5.09e3	12.8	2.8	2.10

Compound name: 13C8-PFOS
Response Factor: 1.026
RRF SD: 0.0446111, Relative SD: 4.34807
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	170711G3_2	12.5	4.63	5.02e3	5.27e3	11.6	-7.1	0.953
2	2	170711G3_3	12.5	4.63	5.04e3	4.57e3	13.4	7.5	1.10
3	3	170711G3_4	12.5	4.63	5.98e3	5.74e3	12.7	1.6	1.04
4	4	170711G3_5	12.5	4.63	5.14e3	5.02e3	12.5	-0.2	1.02
5	5	170711G3_6	12.5	4.63	4.82e3	4.77e3	12.3	-1.5	1.01
6	6	170711G3_7	12.5	4.63	4.48e3	4.31e3	12.7	1.4	1.04
7	7	170711G3_8	12.5	4.63	5.25e3	5.31e3	12.0	-3.7	0.988
8	8	170711G3_9	12.5	4.63	5.33e3	5.09e3	12.8	2.1	1.05

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170711G3_2	12.5	1.72	1.23e4	1.23e4	12.5	0.0	1.00
2	2 170711G3_3	12.5	1.72	1.20e4	1.20e4	12.5	0.0	1.00
3	3 170711G3_4	12.5	1.72	1.33e4	1.33e4	12.5	0.0	1.00
4	4 170711G3_5	12.5	1.73	1.30e4	1.30e4	12.5	0.0	1.00
5	5 170711G3_6	12.5	1.72	1.22e4	1.22e4	12.5	0.0	1.00
6	6 170711G3_7	12.5	1.73	1.14e4	1.14e4	12.5	0.0	1.00
7	7 170711G3_8	12.5	1.73	1.23e4	1.23e4	12.5	0.0	1.00
8	8 170711G3_9	12.5	1.73	1.20e4	1.20e4	12.5	0.0	1.00

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170711G3_2	12.5	3.32	1.35e4	1.35e4	12.5	0.0	1.00
2	2 170711G3_3	12.5	3.32	1.34e4	1.34e4	12.5	0.0	1.00
3	3 170711G3_4	12.5	3.32	1.47e4	1.47e4	12.5	0.0	1.00
4	4 170711G3_5	12.5	3.32	1.44e4	1.44e4	12.5	0.0	1.00
5	5 170711G3_6	12.5	3.32	1.34e4	1.34e4	12.5	0.0	1.00
6	6 170711G3_7	12.5	3.31	1.30e4	1.30e4	12.5	-0.0	1.00
7	7 170711G3_8	12.5	3.32	1.38e4	1.38e4	12.5	0.0	1.00
8	8 170711G3_9	12.5	3.32	1.20e4	1.20e4	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	3.95	8.05e3	8.05e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	3.95	7.22e3	7.22e3	12.5	-0.0	1.00
3	3	170711G3_4	12.5	3.95	8.19e3	8.19e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	3.95	7.72e3	7.72e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	3.95	7.54e3	7.54e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	3.95	7.11e3	7.11e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	3.95	7.42e3	7.42e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	3.95	6.29e3	6.29e3	12.5	0.0	1.00

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170711G3_2	12.5	4.23	4.49e3	4.49e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.23	4.55e3	4.55e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.23	5.04e3	5.04e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.23	4.57e3	4.57e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.23	4.55e3	4.55e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.23	4.51e3	4.51e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.24	4.57e3	4.57e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.23	3.97e3	3.97e3	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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Compound name: 13C9-PFNA
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	170711G3_2	12.5	4.57	5.57e3	5.57e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.57	5.04e3	5.04e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.57	5.90e3	5.90e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.57	5.17e3	5.17e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.57	5.05e3	5.05e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.57	5.41e3	5.41e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.57	5.75e3	5.75e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.57	5.62e3	5.62e3	12.5	0.0	1.00

Compound name: 13C4-PFOS
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	170711G3_2	12.5	4.63	5.27e3	5.27e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.63	4.57e3	4.57e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.63	5.74e3	5.74e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.63	5.02e3	5.02e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.63	4.77e3	4.77e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.63	4.31e3	4.31e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.63	5.31e3	5.31e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.63	5.09e3	5.09e3	12.5	0.0	1.00

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:10 Pacific Daylight Time

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
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	170711G3_2	12.5	4.86	4.50e3	4.50e3	12.5	0.0	1.00
2	2	170711G3_3	12.5	4.85	4.25e3	4.25e3	12.5	0.0	1.00
3	3	170711G3_4	12.5	4.85	5.46e3	5.46e3	12.5	0.0	1.00
4	4	170711G3_5	12.5	4.85	4.98e3	4.98e3	12.5	0.0	1.00
5	5	170711G3_6	12.5	4.85	4.69e3	4.69e3	12.5	0.0	1.00
6	6	170711G3_7	12.5	4.85	4.37e3	4.37e3	12.5	0.0	1.00
7	7	170711G3_8	12.5	4.86	5.34e3	5.34e3	12.5	0.0	1.00
8	8	170711G3_9	12.5	4.85	5.09e3	5.09e3	12.5	0.0	1.00

Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Wednesday, July 12, 2017 09:21:06 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:21:36 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFOS

	Name	ID	Acq.Date	Acq.Time
1	170711G3_1	IPA	11-Jul-17	17:16:59
2	170711G3_2	ST170711G3-1 PFC CS-2 17G1111	11-Jul-17	17:29:23
3	170711G3_3	ST170711G3-2 PFC CS-1 17G1112	11-Jul-17	17:41:54
4	170711G3_4	ST170711G3-3 PFC CS0 17G1113	11-Jul-17	17:54:28
5	170711G3_5	ST170711G3-4 PFC CS1 17G1114	11-Jul-17	18:07:01
6	170711G3_6	ST170711G3-5 PFC CS2 17G1115	11-Jul-17	18:19:36
7	170711G3_7	ST170711G3-6 PFC CS3 17G1116	11-Jul-17	18:32:12
8	170711G3_8	ST170711G3-7 PFC CS4 17G1117	11-Jul-17	18:44:45
9	170711G3_9	ST170711G3-8 PFC CS5 17G1118	11-Jul-17	18:57:37
10	170711G3_10	IPA	11-Jul-17	19:10:03
11	170711G3_11	SS170711G3-1 PFC SSS 17G1119	11-Jul-17	19:22:36
12	170711G3_12	IPA	11-Jul-17	19:35:06
13	170711G3_13	B7G0031-BS1 OPR 0.125	11-Jul-17	19:47:42
14	170711G3_14	IPA	11-Jul-17	20:00:12
15	170711G3_15	B7G0031-BLK1 Method Blank 0.125	11-Jul-17	20:12:48
16	170711G3_16	1700830-07 MW-6-063017-25 0.12093	11-Jul-17	20:25:18
17	170711G3_17	B7G0031-MS1 Matrix Spike 0.12062	11-Jul-17	20:38:06
18	170711G3_18	B7G0031-MSD1 Matrix Spike Dup 0.12141	11-Jul-17	20:50:26
19	170711G3_19	1700830-11 BARNS-04-GW-TW02-062817-30...	11-Jul-17	21:02:59
20	170711G3_20	1700831-02 BARNS-06-GW-TW01-062817-3...	11-Jul-17	21:15:33
21	170711G3_21	1700831-07 BARNS-01-GW-TW03-062917-3...	11-Jul-17	21:28:06
22	170711G3_22	1700831-12 BARNS-06-GW-TW01-062817-D...	11-Jul-17	21:40:34
23	170711G3_23	1700832-04 BARNS-07-GW-TW05-062917-4...	11-Jul-17	21:53:09
24	170711G3_24	1700832-07 BARNS-EB-03-063017 0.12216	11-Jul-17	22:05:41
25	170711G3_25	1700832-08 BARNS-EB-04-063017 0.12295	11-Jul-17	22:19:37
26	170711G3_26	1700832-09 BARNS-EB-05-063017 0.1174	11-Jul-17	22:31:51
27	170711G3_27	1700832-10 BARNS-08-GW-TW04-063017-3...	11-Jul-17	22:44:20
28	170711G3_28	IPA	11-Jul-17	22:56:54
29	170711G3_29	ST170711G3-9 PFC CS3 17G1116	11-Jul-17	23:09:26
30	170711G3_30	IPA	11-Jul-17	23:21:56

Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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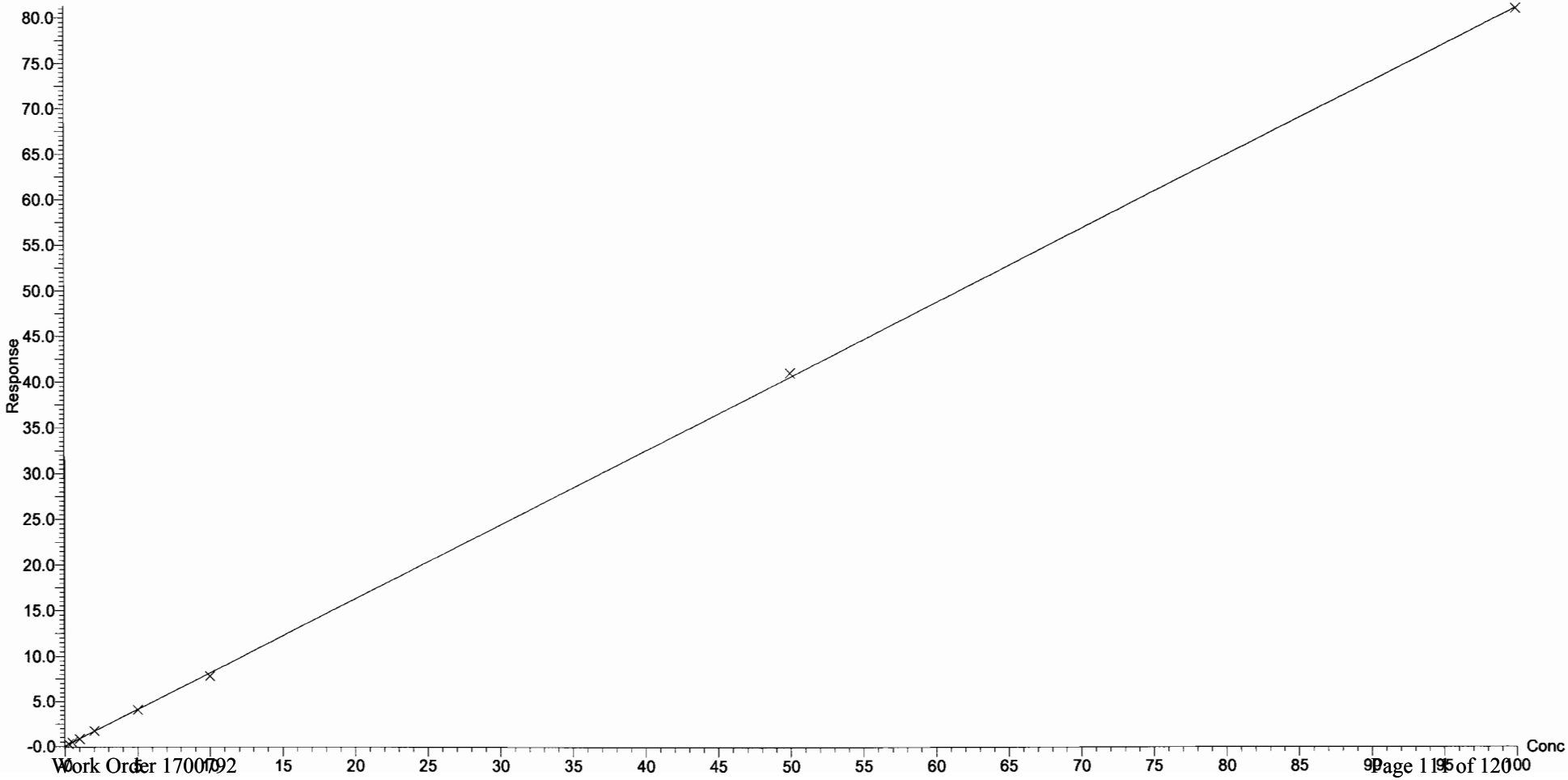
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0630.mdb 10 Jul 2017 16:23:41
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-11-17_L16_2Trans_NEW.cdb 12 Jul 2017 09:08:42

Compound name: PFBA
Correlation coefficient: r = 0.999903, r^2 = 0.999805
Calibration curve: 0.812368 * x + 0.0615352
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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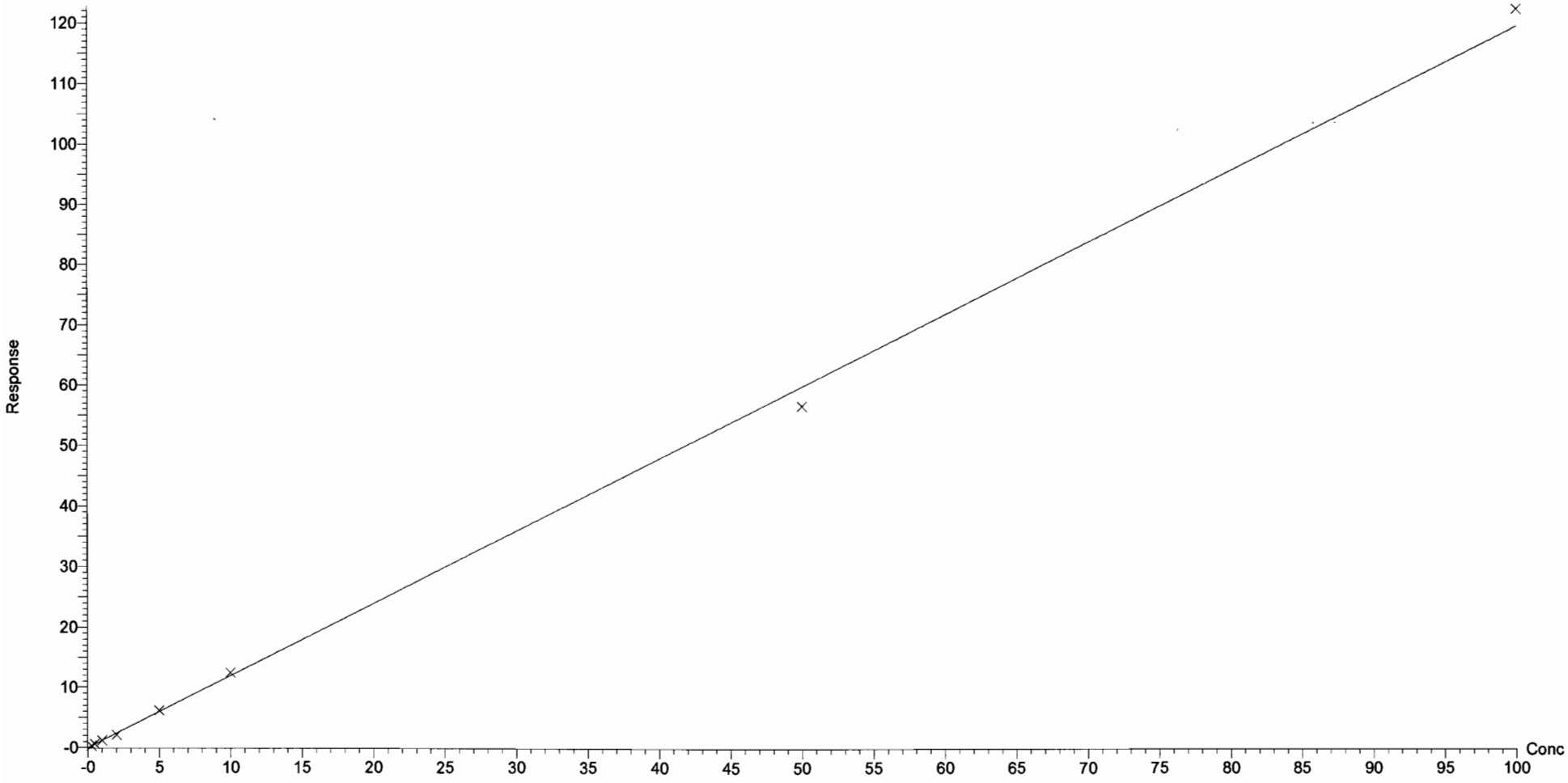
Compound name: PFPeA
Correlation coefficient: r = 0.999205, r^2 = 0.998411
Calibration curve: 1.19919 * x + -0.0457496
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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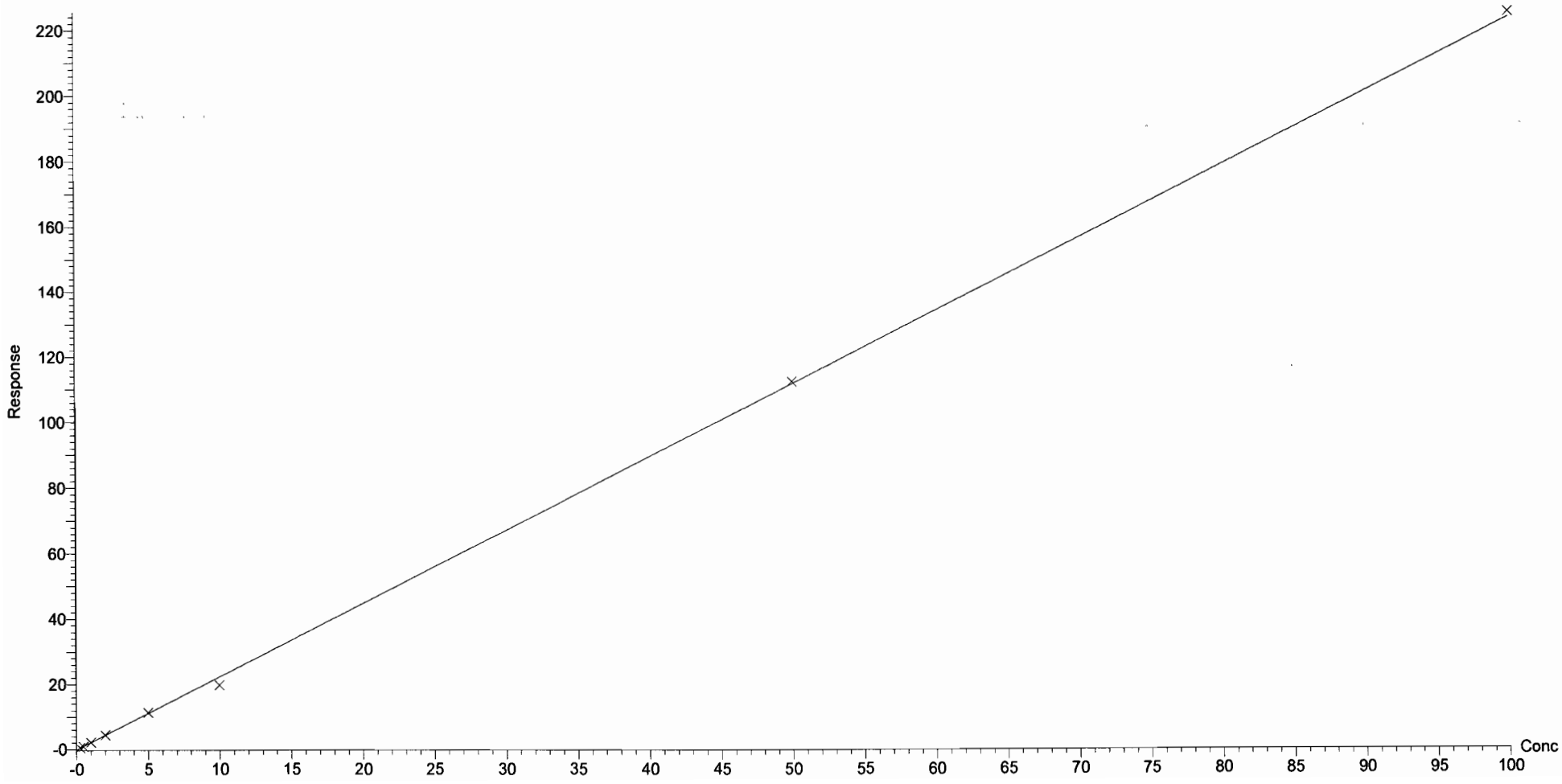
Compound name: PFBS
Correlation coefficient: r = 0.999521, r^2 = 0.999042
Calibration curve: 2.23981 * x + -0.119881
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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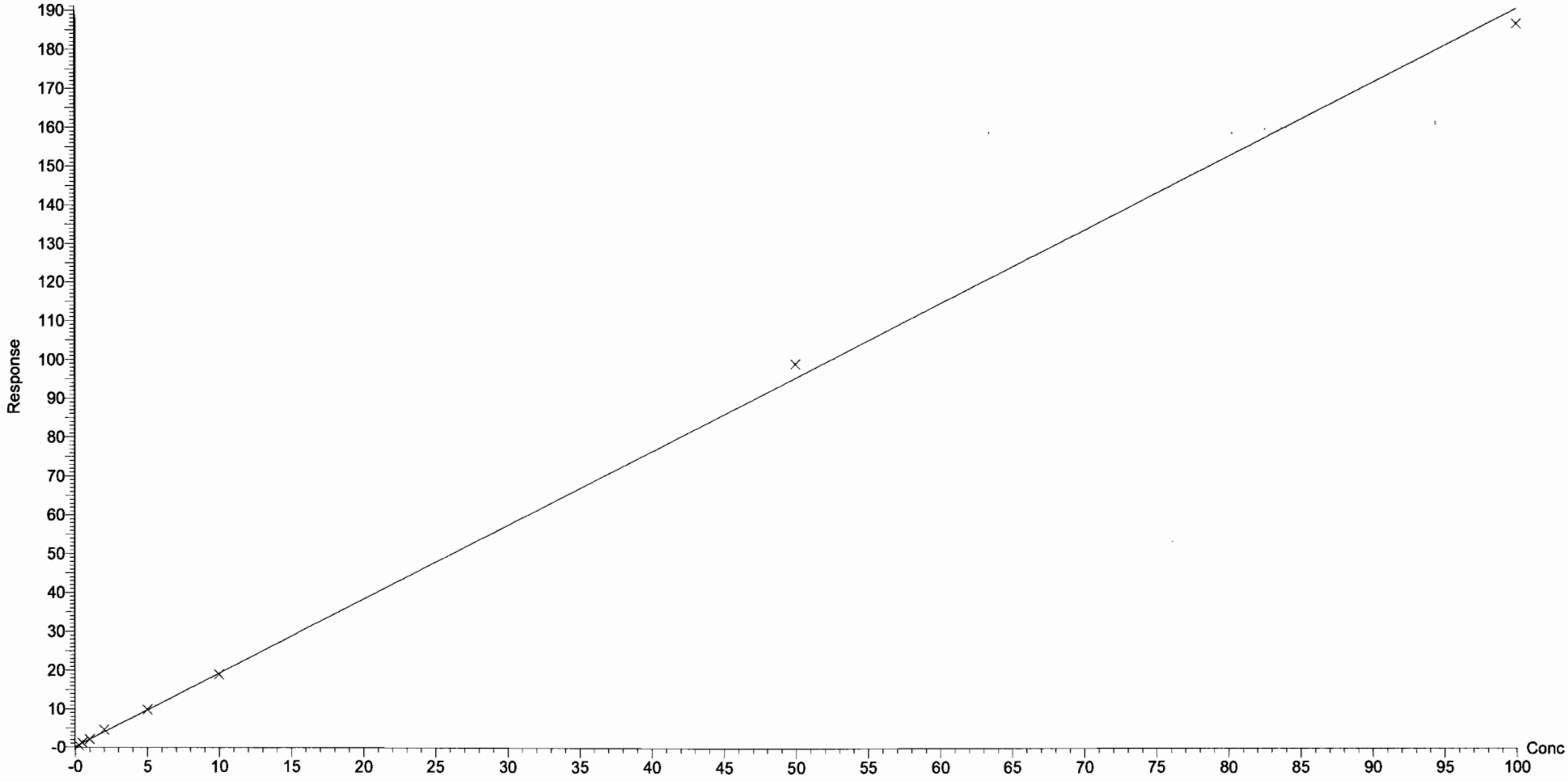
Compound name: PFHxA
Correlation coefficient: r = 0.999444, r^2 = 0.998888
Calibration curve: 1.90952 * x + 0.14452
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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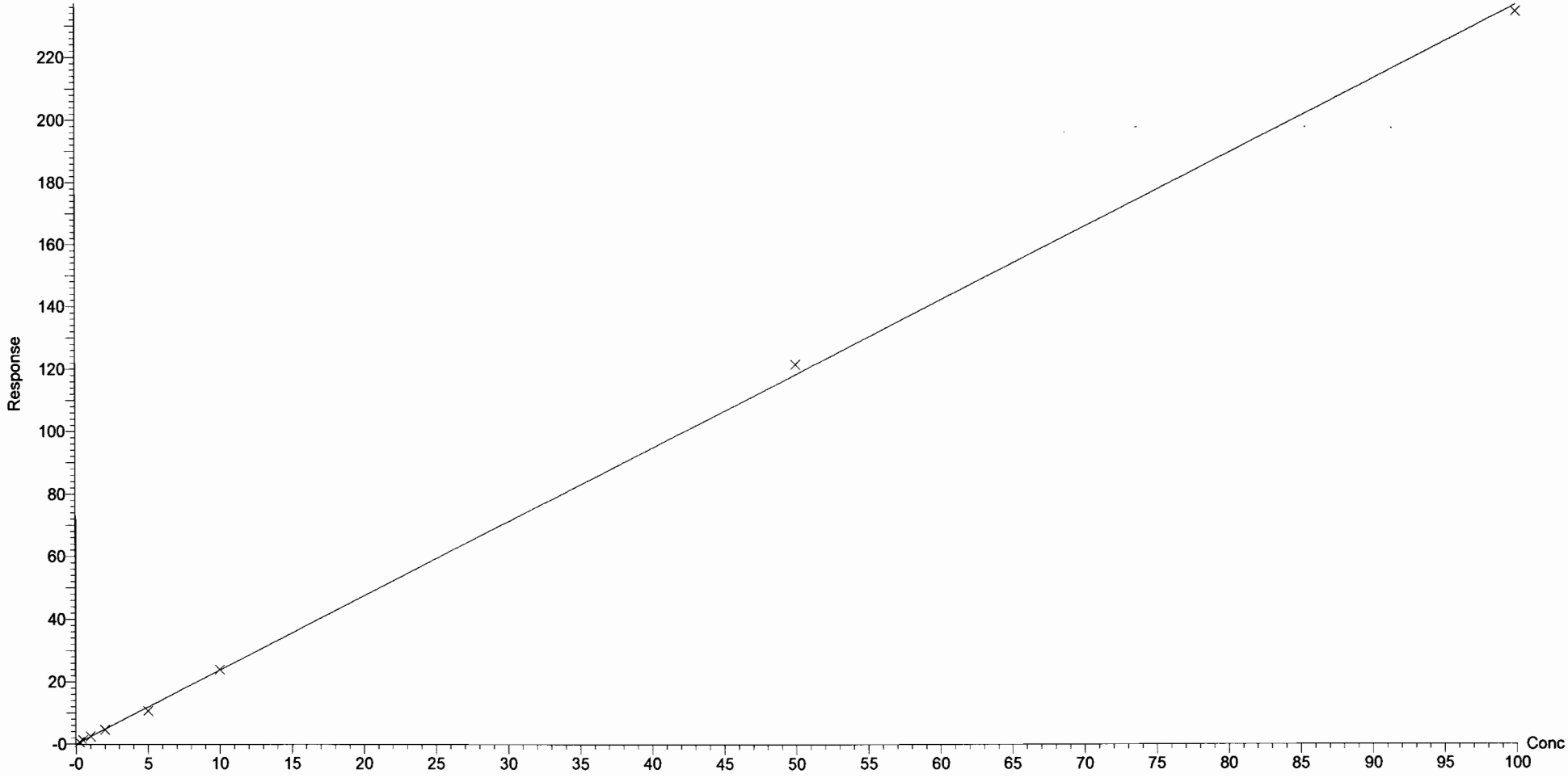
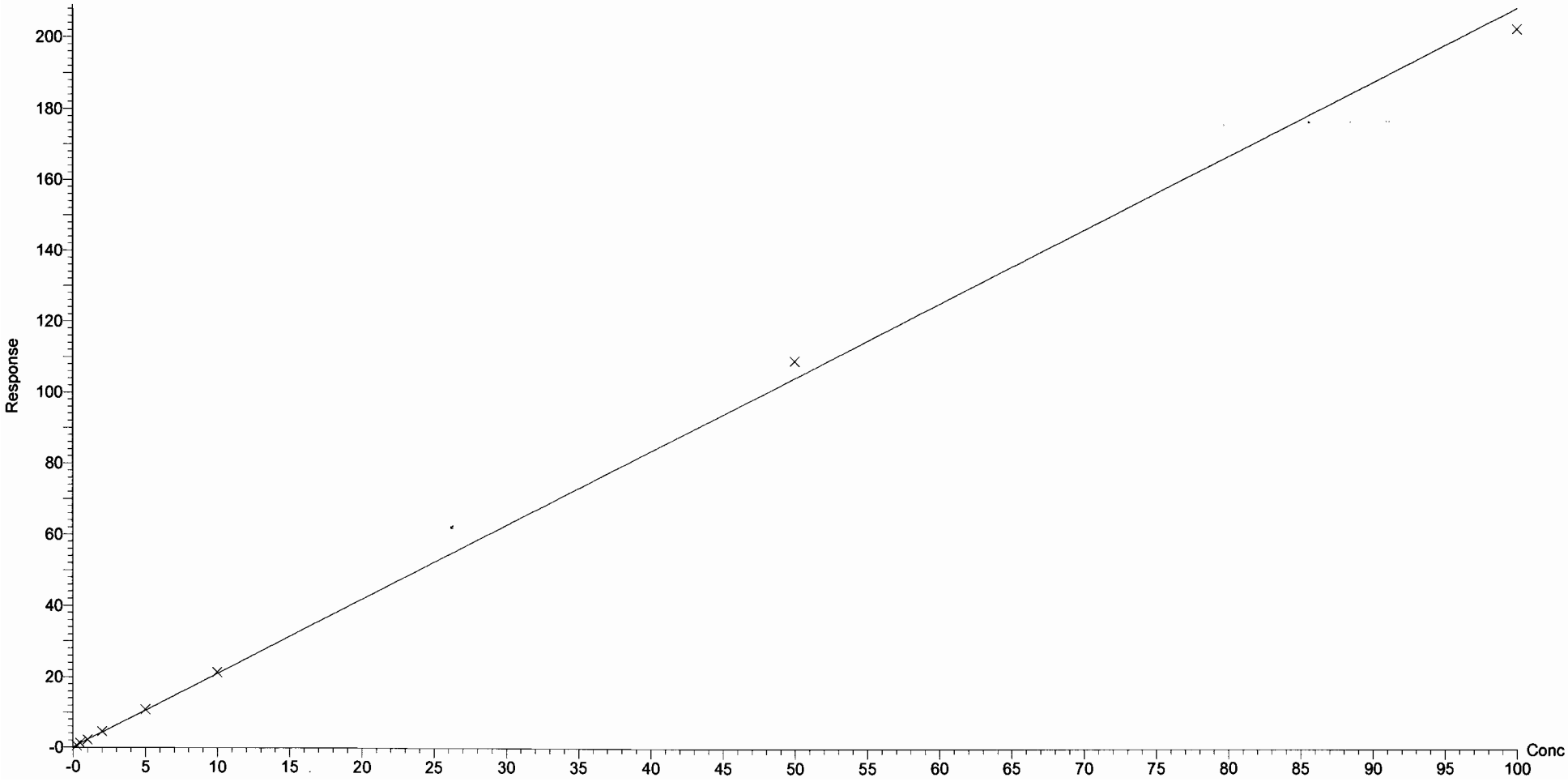
Compound name: PFHpA
Correlation coefficient: r = 0.999678, r^2 = 0.999357
Calibration curve: 2.37086 * x + 0.00117983
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
Printed: Wednesday, July 12, 2017 09:13:41 Pacific Daylight Time

Compound name: PFHxS
Correlation coefficient: r = 0.999359, r^2 = 0.998718
Calibration curve: 2.089 * x + 0.0768621
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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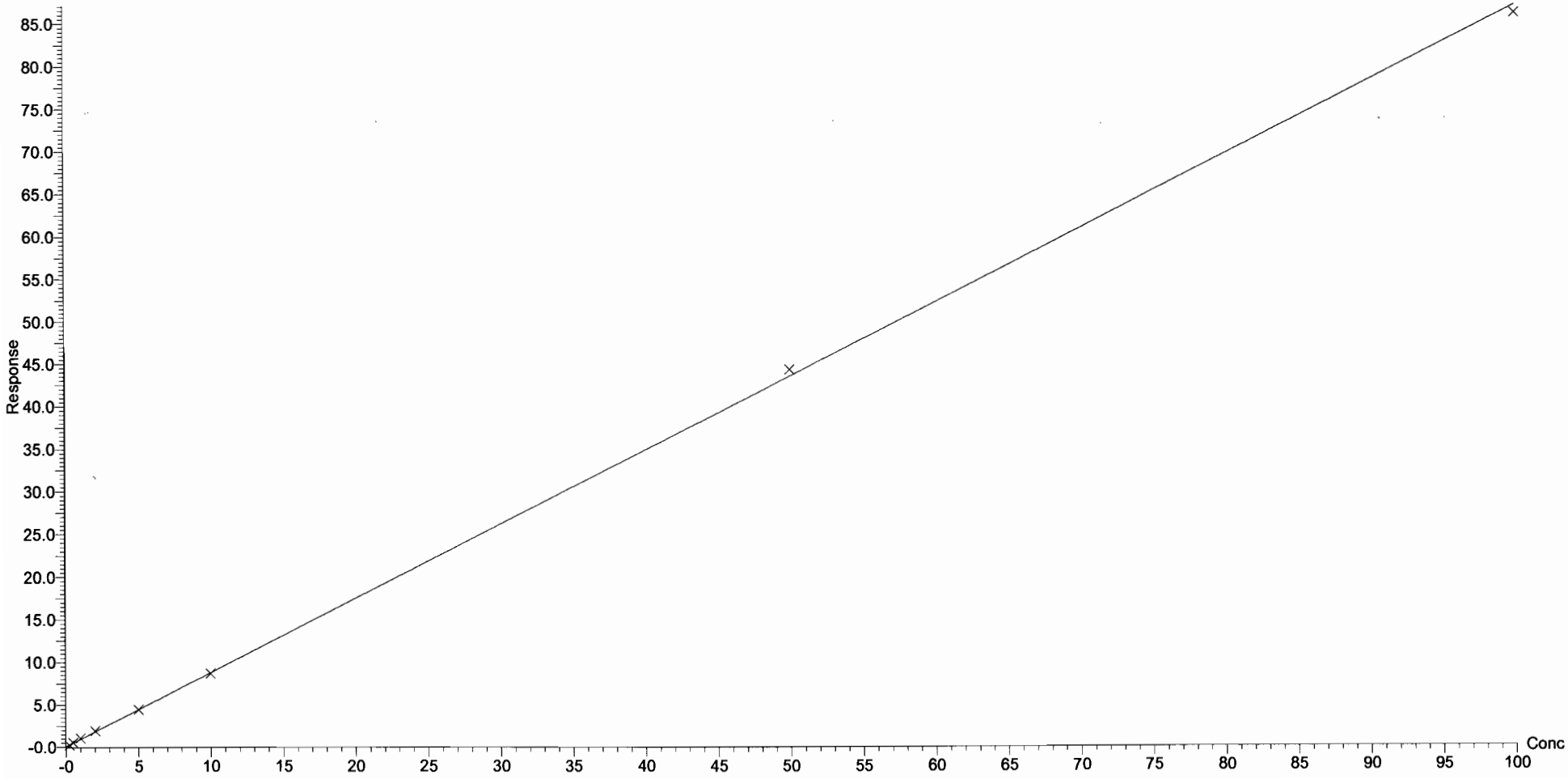
Compound name: PFOA
Correlation coefficient: r = 0.999784, r^2 = 0.999567
Calibration curve: 0.87047 * x + 0.0781634
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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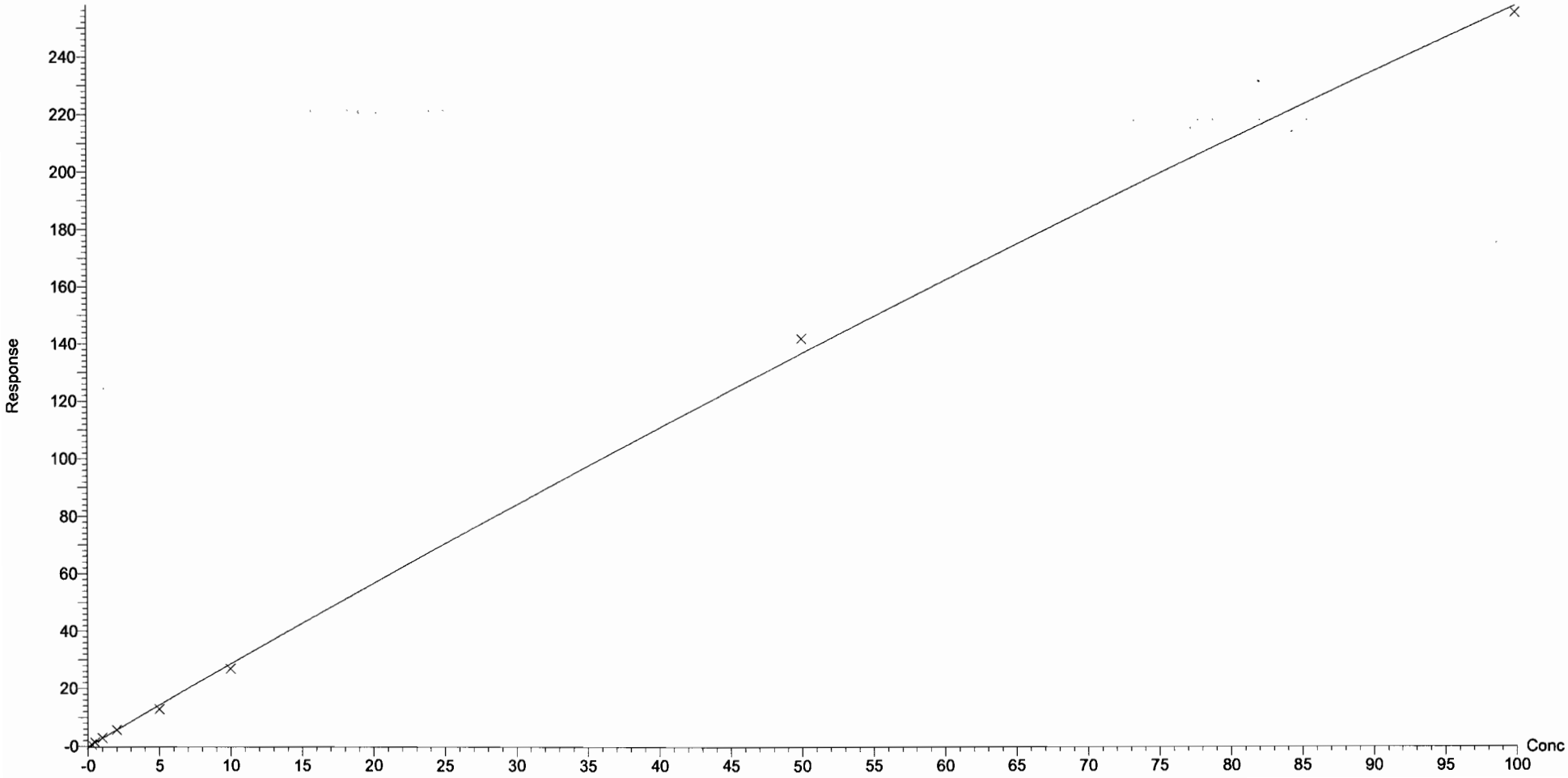
Compound name: PFNA
Coefficient of Determination: R^2 = 0.998825
Calibration curve: -0.00319585 * x^2 + 2.90085 * x + -0.200852
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



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Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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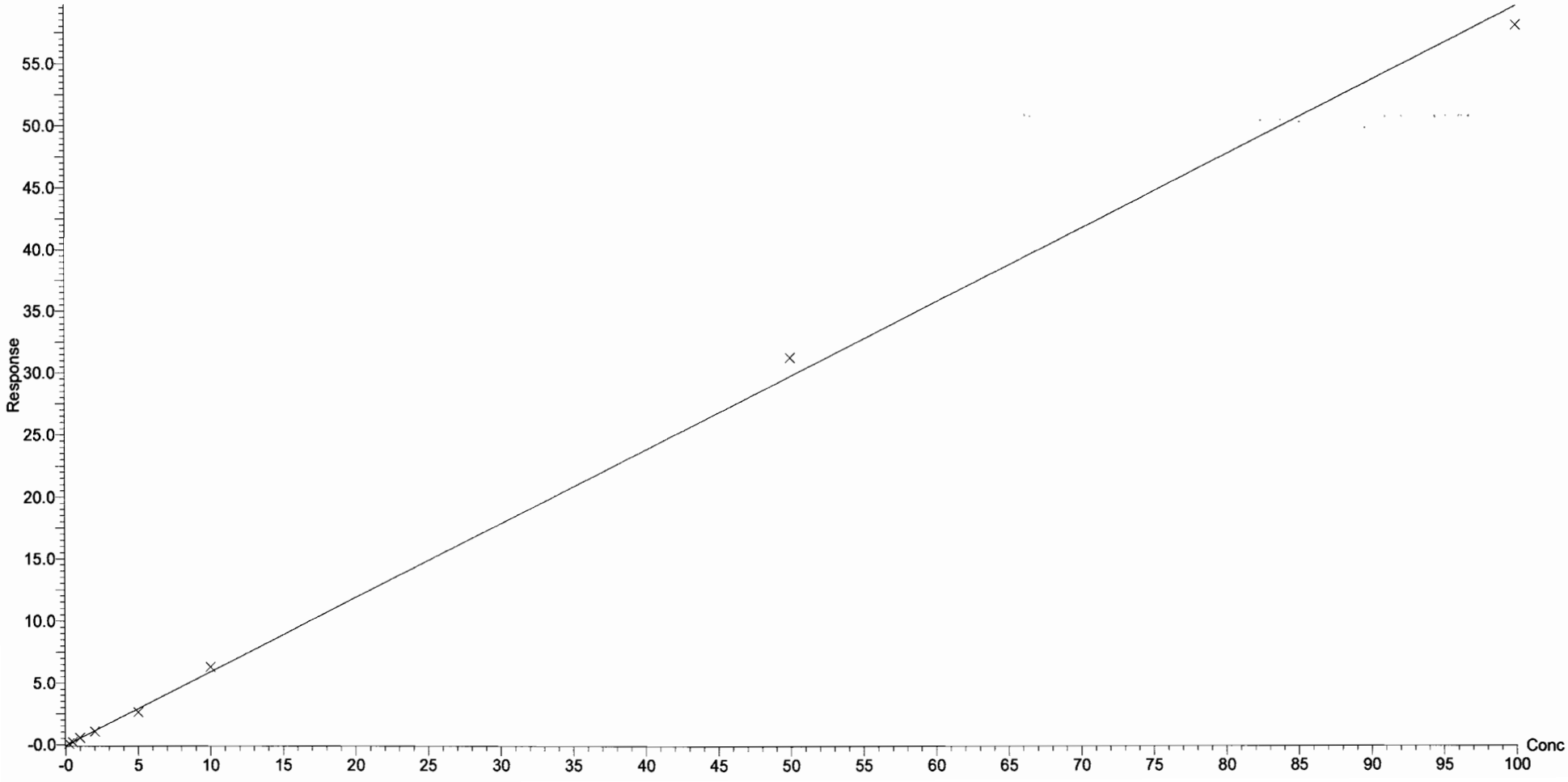
Compound name: PFOS
Correlation coefficient: r = 0.999086, r^2 = 0.998172
Calibration curve: 0.598169 * x + -0.0823444
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\New folder\170711G3-CRV.qld

Last Altered: Wednesday, July 12, 2017 09:08:42 Pacific Daylight Time
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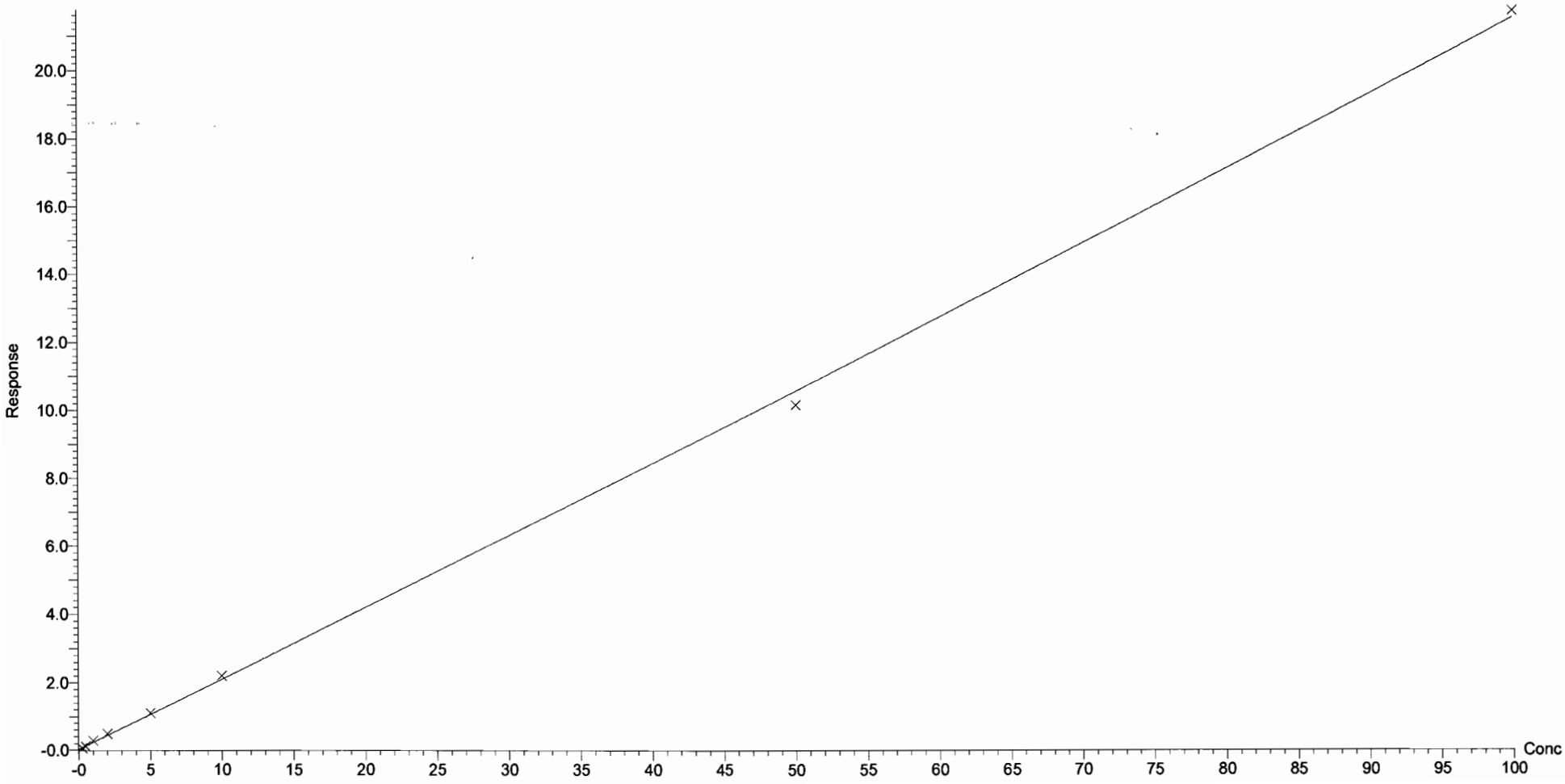
Compound name: PFDA
Coefficient of Determination: R^2 = 0.998620
Calibration curve: 8.29904e-005 * x^2 + 0.207158 * x + 0.0227635
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC
MID_ATLANTIC	TRENTON_NAWC	1700792							N6247016D9008	WE08	TETRA TECH, INC.	FRB-20170628	Water for QC samples	Field Reagent Blank	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	ROOF_DRAIN	Surface water body - nonspecific	404602.0716	523079.4275	N6247016D9008	WE08	TETRA TECH, INC.	ROOF DRAIN-20170628	Surface water	Normal (Regular)	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	MH-140	Monitoring well			N6247016D9008	WE08	TETRA TECH, INC.	MH-140-20170628-PFAS	Surface water	Normal (Regular)	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	WEST_DITCH_IN	Surface water body - nonspecific	404524.5536	522750.5773	N6247016D9008	WE08	TETRA TECH, INC.	WEST DITCH IN-20170627	Surface water	Normal (Regular)	27-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	MH-318.9	Manhole/Catch basin	404321.3831	522751.1993	N6247016D9008	WE08	TETRA TECH, INC.	MH-318.9-20170628	Surface water	Normal (Regular)	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	MH-118.5N	Manhole/Catch basin	405326.26	522550.06	N6247016D9008	WE08	TETRA TECH, INC.	MH-118.5N-20170627-D	Ground water	Field duplicate	27-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792							N6247016D9008	WE08	TETRA TECH, INC.	RB01-20170628-PFAS	Water for QC samples	Equipment blank	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	MH-388.9	Manhole/Catch basin	404337.2375	522821.648	N6247016D9008	WE08	TETRA TECH, INC.	MH-388.9-20170628	Surface water	Normal (Regular)	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	INTERCEPTOR	Surface water body - nonspecific	404609.6716	523022.6633	N6247016D9008	WE08	TETRA TECH, INC.	INTERCEPTOR-20170628	Surface water	Normal (Regular)	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	MH-140	Monitoring well			N6247016D9008	WE08	TETRA TECH, INC.	MH-140-20170628-PFAS-D	Surface water	Field duplicate	28-Jun-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700792	EBS PHASE2	EBS PHASE2	SPRING-GR	Surface water body - nonspecific	404660.5878	523327.6676	N6247016D9008	WE08	TETRA TECH, INC.	SPRING-20170628	Surface water	Normal (Regular)	28-Jun-17	537	Perfluoroalkyl Compounds