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 1700875

Naval Air Warfare Center Trenton
Trenton, New Jersey

August 2019

N62376.SF.001174
NAWC TRENTON
5090.3c

LABORATORY DATA PACKAGE, 1700856, NAWC TRENTON, NJ
08/07/2017
VISTA ANALYTICAL LABORATORY

August 07, 2017

Vista Work Order No. 1700856

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

Dear Ms. Mang,

Enclosed are the amended results for the sample set received at Vista Analytical Laboratory on July 12, 2017. This sample set was analyzed on a standard turn-around time, under your Project Name 'NAWC Trenton'. The SDG Number is WE08.

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.

SDG Number WE08
Vista Work Order No. 1700856
Case Narrative

Sample Condition on Receipt:

Twelve 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. This report was amended on August 7, 2017 to include an anomaly regarding a sample ID discrepancy for sample "ERB-01-20170711" and revise the labeled standard compound recovery statement.

Analytical Notes:

Modified EPA Method 537

Sample "LF-MW-54BR-20170710" contained particulate and was centrifuged prior to extraction.

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

Holding Times

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

Quality Control

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

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

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

As requested, an MS/MSD was performed on sample "EFFLUENT-20170710".

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1700856-03	MID-POINT-20170710	Modified EPA Method 537	13C3-PFBS	H	181
1700856-04	EFFLUENT-20170710	Modified EPA Method 537	13C3-PFBS	H	160
1700856-05	MW-37S-20170711	Modified EPA Method 537	13C2-PFTeDA	H	42.5
1700856-06	ERB-01-20170711	Modified EPA Method 537	13C3-PFBS	H	169
1700856-07	11-MW-1-20170710	Modified EPA Method 537	13C3-PFBS	H	168
1700856-08	LF-MW-54BR-20170710	Modified EPA Method 537	13C3-PFBS	H	173
1700856-09	MW-48BR-20170711	Modified EPA Method 537	13C3-PFBS	H	164
1700856-10	MW-34S-20170711	Modified EPA Method 537	13C3-PFBS	H	155
1700856-11	MW-31BR-20170711	Modified EPA Method 537	13C3-PFBS	H	159
B7G0108-BLK1	B7G0108-BLK1	Modified EPA Method 537	13C3-PFBS	H	172
B7G0108-BS1	B7G0108-BS1	Modified EPA Method 537	13C3-PFBS	H	158
B7G0108-BS1	B7G0108-BS1	Modified EPA Method 537	13C2-PFTeDA	H	47.2
B7G0108-MS1	B7G0108-MS1	Modified EPA Method 537	13C3-PFBS	H	162
B7G0108-MSD1	B7G0108-MSD1	Modified EPA Method 537	13C3-PFBS	H	154

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: _____ Title: QA Manager Date: 08/03/2017

Revision 9
ISG
08/18/16

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700856-01	INFLUENT-20170710		10-Jul-17 12:05	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-02	DUP05-20170710		10-Jul-17 12:00	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-03	MID-POINT-20170710		10-Jul-17 12:30	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-04	EFFLUENT-20170710	MS/MSD	10-Jul-17 12:45	12-Jul-17 09:12	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1700856-05	MW-37S-20170711		11-Jul-17 15:00	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-06	ERB-01-20170711		11-Jul-17 13:50	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-07	11-MW-1-20170710		10-Jul-17 15:35	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-08	LF-MW-54BR-20170710		10-Jul-17 15:10	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-09	MW-48BR-20170711		11-Jul-17 09:55	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-10	MW-34S-20170711		11-Jul-17 14:40	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-11	MW-31BR-20170711		11-Jul-17 11:50	12-Jul-17 09:12	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700856-12	MW-31S-20170711		11-Jul-17 12:00	12-Jul-17 09:12	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: B7G0108
Date Extracted: 24-Jul-2017 10:51

Lab Sample: B7G0108-BLK1
Date Analyzed: 25-Jul-17 20:43 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	172	50 - 150	H
IS	13C2-PFHxA	134	50 - 150	
IS	13C4-PFHpA	111	50 - 150	
IS	18O2-PFHxS	136	50 - 150	
IS	13C2-PFOA	123	50 - 150	
IS	13C8-PFOS	131	50 - 150	
IS	13C5-PFNA	111	50 - 150	
IS	13C2-PFDA	116	50 - 150	
IS	d3-MeFOSAA	123	50 - 150	
IS	13C2-PFUnA	110	50 - 150	
IS	d5-EtFOSAA	127	50 - 150	
IS	13C2-PFDoA	103	50 - 150	
IS	13C2-PFTeDA	75.0	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:	B7G0108	Lab Sample:	B7G0108-BS1
Sample Size:	0.125 L	Date Extracted:	24-Jul-2017 10:51	Date Analyzed:	25-Jul-17 20:21 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	78.2	80.0	97.8	70 - 130
PFHxA	74.3	80.0	92.8	70 - 130
PFHpA	75.1	80.0	93.9	70 - 130
PFHxS	80.3	80.0	100	70 - 130
PFOA	75.7	80.0	94.6	70 - 130
PFOS	67.4	80.0	84.3	70 - 130
PFNA	71.7	80.0	89.7	70 - 130
PFDA	75.5	80.0	94.3	70 - 130
MeFOSAA	74.0	80.0	92.5	70 - 130
PFUnA	71.3	80.0	89.1	70 - 130
EtFOSAA	82.6	80.0	103	70 - 130
PFDoA	77.1	80.0	96.4	70 - 130
PFTrDA	64.1	80.0	80.1	60 - 130
PFTeDA	77.2	80.0	96.5	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	158	50 - 150
IS	13C2-PFHxA	121	50 - 150
IS	13C4-PFHpA	106	50 - 150
IS	18O2-PFHxS	130	50 - 150
IS	13C2-PFOA	125	50 - 150
IS	13C8-PFOS	121	50 - 150
IS	13C5-PFNA	110	50 - 150
IS	13C2-PFDA	108	50 - 150
IS	d3-MeFOSAA	106	50 - 150
IS	13C2-PFUnA	95.1	50 - 150
IS	d5-EtFOSAA	96.7	50 - 150
IS	13C2-PFDoA	86.2	50 - 150
IS	13C2-PFTeDA	47.2	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: INFLUENT-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:05
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700856-01 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 20:53 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	14.4	1.85	5.17	8.26	
PFHxA	63.1	2.25	5.17	8.26	
PFHpA	21.7	0.611	5.17	8.26	
PFHxS	58.6	0.978	5.17	8.26	
PFOA	10.8	0.673	5.17	8.26	
PFOS	62.0	0.834	5.17	8.26	
PFNA	ND	0.837	5.17	8.26	
PFDA	ND	1.54	5.17	8.26	
MeFOSAA	ND	1.70	5.17	8.26	
PFUnA	ND	1.08	5.17	8.26	
EtFOSAA	ND	1.42	5.17	8.26	
PFDoA	ND	0.818	5.17	8.26	
PFTrDA	ND	0.510	5.17	8.26	
PFTeDA	ND	0.780	5.17	8.26	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	148	50 - 150	
IS	13C2-PFHxA	120	50 - 150	
IS	13C4-PFHpA	102	50 - 150	
IS	18O2-PFHxS	150	50 - 150	
IS	13C2-PFOA	135	50 - 150	
IS	13C8-PFOS	134	50 - 150	
IS	13C5-PFNA	125	50 - 150	
IS	13C2-PFDA	126	50 - 150	
IS	d3-MeFOSAA	99.9	50 - 150	
IS	13C2-PFUnA	86.5	50 - 150	
IS	d5-EtFOSAA	98.6	50 - 150	
IS	13C2-PFDoA	111	50 - 150	
IS	13C2-PFTeDA	103	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: DUP05-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:00
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.116 L

Laboratory Data

Lab Sample: 1700856-02 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:04 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	14.3	1.92	5.39	8.59	
PFHxA	63.9	2.34	5.39	8.59	
PFHpA	21.3	0.634	5.39	8.59	
PFHxS	62.8	1.02	5.39	8.59	
PFOA	11.5	0.699	5.39	8.59	
PFOS	63.5	0.866	5.39	8.59	
PFNA	0.887	0.869	5.39	8.59	J
PFDA	ND	1.60	5.39	8.59	
MeFOSAA	ND	1.77	5.39	8.59	
PFUnA	ND	1.13	5.39	8.59	
EtFOSAA	ND	1.47	5.39	8.59	
PFDoA	ND	0.850	5.39	8.59	
PFTrDA	ND	0.530	5.39	8.59	
PFTeDA	ND	0.810	5.39	8.59	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	149	50 - 150	
IS	13C2-PFHxA	116	50 - 150	
IS	13C4-PFHpA	102	50 - 150	
IS	18O2-PFHxS	138	50 - 150	
IS	13C2-PFOA	110	50 - 150	
IS	13C8-PFOS	131	50 - 150	
IS	13C5-PFNA	116	50 - 150	
IS	13C2-PFDA	125	50 - 150	
IS	d3-MeFOSAA	120	50 - 150	
IS	13C2-PFUnA	95.7	50 - 150	
IS	d5-EtFOSAA	119	50 - 150	
IS	13C2-PFDoA	130	50 - 150	
IS	13C2-PFTeDA	112	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: MID-POINT-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:30
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-03 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:14 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.91	5.34	8.52	
PFHxA	ND	2.32	5.34	8.52	
PFHpA	ND	0.630	5.34	8.52	
PFHxS	ND	1.01	5.34	8.52	
PFOA	ND	0.694	5.34	8.52	
PFOS	ND	0.860	5.34	8.52	
PFNA	ND	0.863	5.34	8.52	
PFDA	ND	1.59	5.34	8.52	
MeFOSAA	ND	1.76	5.34	8.52	
PFUnA	ND	1.12	5.34	8.52	
EtFOSAA	ND	1.46	5.34	8.52	
PFDoA	ND	0.844	5.34	8.52	
PFTrDA	ND	0.526	5.34	8.52	
PFTeDA	ND	0.804	5.34	8.52	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	181	50 - 150	H
IS	13C2-PFHxA	135	50 - 150	
IS	13C4-PFHpA	113	50 - 150	
IS	18O2-PFHxS	121	50 - 150	
IS	13C2-PFOA	125	50 - 150	
IS	13C8-PFOS	139	50 - 150	
IS	13C5-PFNA	119	50 - 150	
IS	13C2-PFDA	121	50 - 150	
IS	d3-MeFOSAA	124	50 - 150	
IS	13C2-PFUnA	113	50 - 150	
IS	d5-EtFOSAA	124	50 - 150	
IS	13C2-PFDoA	106	50 - 150	
IS	13C2-PFTeDA	64.9	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: EFFLUENT-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:45
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700856-04 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:25 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.85	5.17	8.28	
PFHxA	ND	2.26	5.17	8.28	
PFHpA	ND	0.611	5.17	8.28	
PFHxS	ND	0.980	5.17	8.28	
PFOA	ND	0.673	5.17	8.28	
PFOS	ND	0.835	5.17	8.28	
PFNA	ND	0.838	5.17	8.28	
PFDA	ND	1.54	5.17	8.28	
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	160	50 - 150	H
IS	13C2-PFHxA	122	50 - 150	
IS	13C4-PFHpA	103	50 - 150	
IS	18O2-PFHxS	118	50 - 150	
IS	13C2-PFOA	109	50 - 150	
IS	13C8-PFOS	129	50 - 150	
IS	13C5-PFNA	113	50 - 150	
IS	13C2-PFDA	122	50 - 150	
IS	d3-MeFOSAA	106	50 - 150	
IS	13C2-PFUnA	95.9	50 - 150	
IS	d5-EtFOSAA	102	50 - 150	
IS	13C2-PFDoA	112	50 - 150	
IS	13C2-PFTeDA	102	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.

Matrix Spike Results

Modified EPA Method 537

Source Client ID: EFFLUENT-20170710
Source LabNumber: 1700856-04
Matrix: Aqueous
Sample Size: 0.122/0.118 L

QC Batch: B7G0108
Date Extracted: 24-Jul-2017 10:51

Lab Sample: B7G0108-MS1/B7G0108-MSD1
Date Analyzed: 25-Jul-17 21:36 Column: BEH C18
25-Jul-17 21:47 Column: BEH C18

Analyte	Spike-MS (ng/L)	MS %R	MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit
PFBS	82.2	99.2		84.4	97.8	1.42		70 - 130	25
PFHxA	82.2	95.8		84.4	92.2	3.83		70 - 130	25
PFHpA	82.2	95.1		84.4	89.0	6.63		70 - 130	25
PFHxS	82.2	95.2		84.4	87.7	8.20		70 - 130	25
PFOA	82.2	97.4		84.4	103	5.59		70 - 130	25
PFOS	82.2	80.4		84.4	80.3	0.124		70 - 130	25
PFNA	82.2	96.7		84.4	98.9	2.25		70 - 130	25
PFDA	82.2	95.2		84.4	88.6	7.18		70 - 130	25
MeFOSAA	82.2	97.9		84.4	103	5.08		70 - 130	25
PFUnA	82.2	93.1		84.4	96.7	3.79		70 - 130	25
EtFOSAA	82.2	89.7		84.4	97.2	8.03		70 - 130	25
PFDoA	82.2	93.8		84.4	89.6	4.58		70 - 130	25
PFTrDA	82.2	81.1		84.4	78.7	3.00		60 - 130	25
PFTeDA	82.2	94.0		84.4	93.5	0.533		70 - 130	25

	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
IS	13C3-PFBS	162	H	154	H
IS	13C2-PFHxA	125		131	
IS	13C4-PFHpA	104		104	
IS	18O2-PFHxS	135		140	
IS	13C2-PFOA	118		116	
IS	13C8-PFOS	145		132	
IS	13C5-PFNA	114		111	
IS	13C2-PFDA	122		116	
IS	d3-MeFOSAA	124		119	
IS	13C2-PFUnA	105		103	
IS	d5-EtFOSAA	125		119	
IS	13C2-PFDoA	107		106	
IS	13C2-PFTeDA	56.8		58.2	

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-37S-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 15:00
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-05 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:57 Column: BEH C18
28-Jul-17 07:00 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	161	1.91	5.34	8.55	
PFHxA	691	2.33	5.34	8.55	
PFHpA	189	0.632	5.34	8.55	
PFHxS	1450	10.1	53.4	85.5	D
PFOA	146	0.696	5.34	8.55	
PFOS	2180	8.62	53.4	85.5	D
PFNA	8.29	0.866	5.34	8.55	J
PFDA	ND	1.59	5.34	8.55	
MeFOSAA	ND	1.76	5.34	8.55	
PFUnA	ND	1.12	5.34	8.55	
EtFOSAA	ND	1.46	5.34	8.55	
PFDoA	ND	0.846	5.34	8.55	
PFTrDA	ND	0.528	5.34	8.55	
PFTeDA	ND	0.807	5.34	8.55	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	141	50 - 150	
IS	13C2-PFHxA	107	50 - 150	
IS	13C4-PFHpA	92.0	50 - 150	
IS	18O2-PFHxS	97.7	50 - 150	D
IS	13C2-PFOA	89.7	50 - 150	
IS	13C8-PFOS	95.3	50 - 150	D
IS	13C5-PFNA	88.2	50 - 150	
IS	13C2-PFDA	102	50 - 150	
IS	d3-MeFOSAA	117	50 - 150	
IS	13C2-PFUnA	102	50 - 150	
IS	d5-EtFOSAA	121	50 - 150	
IS	13C2-PFDoA	102	50 - 150	
IS	13C2-PFTeDA	42.5	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: ERB-01-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 13:50
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1700856-06 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:08 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.86	5.21	8.30	
PFHxA	ND	2.26	5.21	8.30	
PFHpA	ND	0.613	5.21	8.30	
PFHxS	ND	0.983	5.21	8.30	
PFOA	ND	0.676	5.21	8.30	
PFOS	ND	0.838	5.21	8.30	
PFNA	ND	0.841	5.21	8.30	
PFDA	ND	1.55	5.21	8.30	
MeFOSAA	ND	1.71	5.21	8.30	
PFUnA	ND	1.09	5.21	8.30	
EtFOSAA	ND	1.42	5.21	8.30	
PFDoA	ND	0.822	5.21	8.30	
PFTrDA	ND	0.513	5.21	8.30	
PFTeDA	ND	0.784	5.21	8.30	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	169	50 - 150	H
IS	13C2-PFHxA	141	50 - 150	
IS	13C4-PFHpA	114	50 - 150	
IS	18O2-PFHxS	150	50 - 150	
IS	13C2-PFOA	126	50 - 150	
IS	13C8-PFOS	142	50 - 150	
IS	13C5-PFNA	121	50 - 150	
IS	13C2-PFDA	128	50 - 150	
IS	d3-MeFOSAA	131	50 - 150	
IS	13C2-PFUnA	118	50 - 150	
IS	d5-EtFOSAA	121	50 - 150	
IS	13C2-PFDoA	127	50 - 150	
IS	13C2-PFTeDA	130	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: 11-MW-1-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 15:35
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700856-07 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:19 Column: BEH C18
28-Jul-17 07:11 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	146	1.95	5.43	8.71	
PFHxA	687	2.37	5.43	8.71	
PFHpA	201	0.643	5.43	8.71	
PFHxS	1360	10.3	54.3	87.1	D
PFOA	151	0.709	5.43	8.71	
PFOS	3400	8.79	54.3	87.1	D
PFNA	18.2	0.882	5.43	8.71	
PFDA	4.61	1.62	5.43	8.71	J
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	168	50 - 150	H
IS	13C2-PFHxA	134	50 - 150	
IS	13C4-PFHpA	106	50 - 150	
IS	18O2-PFHxS	141	50 - 150	D
IS	13C2-PFOA	117	50 - 150	
IS	13C8-PFOS	112	50 - 150	D
IS	13C5-PFNA	110	50 - 150	
IS	13C2-PFDA	121	50 - 150	
IS	d3-MeFOSAA	124	50 - 150	
IS	13C2-PFUnA	132	50 - 150	
IS	d5-EtFOSAA	130	50 - 150	
IS	13C2-PFDoA	134	50 - 150	
IS	13C2-PFTeDA	117	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: LF-MW-54BR-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 15:10
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-08 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:30 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	16.7	1.91	5.34	8.54	
PFHxA	35.2	2.33	5.34	8.54	
PFHpA	8.14	0.631	5.34	8.54	J
PFHxS	153	1.01	5.34	8.54	
PFOA	95.9	0.695	5.34	8.54	
PFOS	792	0.861	5.34	8.54	
PFNA	ND	0.864	5.34	8.54	
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	0.845	5.34	8.54	
PFTrDA	ND	0.527	5.34	8.54	
PFTeDA	ND	0.806	5.34	8.54	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	173	50 - 150	H
IS	13C2-PFHxA	136	50 - 150	
IS	13C4-PFHpA	109	50 - 150	
IS	18O2-PFHxS	141	50 - 150	
IS	13C2-PFOA	130	50 - 150	
IS	13C8-PFOS	137	50 - 150	
IS	13C5-PFNA	126	50 - 150	
IS	13C2-PFDA	133	50 - 150	
IS	d3-MeFOSAA	111	50 - 150	
IS	13C2-PFUnA	95.3	50 - 150	
IS	d5-EtFOSAA	108	50 - 150	
IS	13C2-PFDoA	107	50 - 150	
IS	13C2-PFTeDA	77.1	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: MW-48BR-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 9:55
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700856-09 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:40 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	87.6	1.85	5.17	8.28	
PFHxA	247	2.26	5.17	8.28	
PFHpA	74.4	0.611	5.17	8.28	
PFHxS	363	0.980	5.17	8.28	
PFOA	55.3	0.673	5.17	8.28	
PFOS	390	0.835	5.17	8.28	
PFNA	7.45	0.838	5.17	8.28	J
PFDA	ND	1.54	5.17	8.28	
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	164	50 - 150	H
IS	13C2-PFHxA	123	50 - 150	
IS	13C4-PFHpA	108	50 - 150	
IS	18O2-PFHxS	138	50 - 150	
IS	13C2-PFOA	120	50 - 150	
IS	13C8-PFOS	120	50 - 150	
IS	13C5-PFNA	110	50 - 150	
IS	13C2-PFDA	135	50 - 150	
IS	d3-MeFOSAA	98.3	50 - 150	
IS	13C2-PFUnA	95.5	50 - 150	
IS	d5-EtFOSAA	94.8	50 - 150	
IS	13C2-PFDoA	100	50 - 150	
IS	13C2-PFTeDA	88.5	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: MW-34S-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 14:40
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.118 L

Laboratory Data

Lab Sample: 1700856-10
QC Batch: B7G0108
Date Analyzed: 25-Jul-17 22:51 Column: BEH C18
Date Received: 12-Jul-2017 9:12
Date Extracted: 24-Jul-2017 10:51

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	33.1	1.89	5.30	8.47	
PFHxA	49.3	2.31	5.30	8.47	
PFHpA	11.9	0.625	5.30	8.47	
PFHxS	247	1.00	5.30	8.47	
PFOA	108	0.689	5.30	8.47	
PFOS	728	0.854	5.30	8.47	
PFNA	ND	0.857	5.30	8.47	
PFDA	ND	1.58	5.30	8.47	
MeFOSAA	ND	1.75	5.30	8.47	
PFUnA	ND	1.11	5.30	8.47	
EtFOSAA	ND	1.45	5.30	8.47	
PFDoA	ND	0.838	5.30	8.47	
PFTrDA	ND	0.523	5.30	8.47	
PFTeDA	ND	0.799	5.30	8.47	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	155	50 - 150	H
IS	13C2-PFHxA	119	50 - 150	
IS	13C4-PFHpA	98.1	50 - 150	
IS	18O2-PFHxS	129	50 - 150	
IS	13C2-PFOA	109	50 - 150	
IS	13C8-PFOS	112	50 - 150	
IS	13C5-PFNA	107	50 - 150	
IS	13C2-PFDA	108	50 - 150	
IS	d3-MeFOSAA	109	50 - 150	
IS	13C2-PFUnA	109	50 - 150	
IS	d5-EtFOSAA	104	50 - 150	
IS	13C2-PFDoA	109	50 - 150	
IS	13C2-PFTeDA	108	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: MW-31BR-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 11:50
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.118 L

Laboratory Data

Lab Sample: 1700856-11
QC Batch: B7G0108
Date Analyzed: 25-Jul-17 23:34 Column: BEH C18
28-Jul-17 07:22 Column: BEH C18
Date Received: 12-Jul-2017 9:12
Date Extracted: 24-Jul-2017 10:51

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	175	1.90	5.30	8.49	
PFHxA	695	2.31	5.30	8.49	
PFHpA	248	0.627	5.30	8.49	
PFHxS	1300	5.03	26.5	42.5	D
PFOA	123	0.691	5.30	8.49	
PFOS	1830	4.28	26.5	42.5	D
PFNA	27.0	0.860	5.30	8.49	
PFDA	5.80	1.58	5.30	8.49	J
MeFOSAA	ND	1.75	5.30	8.49	
PFUnA	ND	1.11	5.30	8.49	
EtFOSAA	ND	1.45	5.30	8.49	
PFDoA	ND	0.841	5.30	8.49	
PFTrDA	ND	0.524	5.30	8.49	
PFTeDA	ND	0.802	5.30	8.49	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	159	50 - 150	H
IS	13C2-PFHxA	124	50 - 150	
IS	13C4-PFHpA	102	50 - 150	
IS	18O2-PFHxS	127	50 - 150	D
IS	13C2-PFOA	116	50 - 150	
IS	13C8-PFOS	116	50 - 150	D
IS	13C5-PFNA	108	50 - 150	
IS	13C2-PFDA	112	50 - 150	
IS	d3-MeFOSAA	122	50 - 150	
IS	13C2-PFUnA	109	50 - 150	
IS	d5-EtFOSAA	117	50 - 150	
IS	13C2-PFDoA	112	50 - 150	
IS	13C2-PFTeDA	111	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: MW-31S-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 12:00
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-12 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 23:45 Column: BEH C18
31-Jul-17 18:34 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	161	1.91	5.34	8.52	
PFHxA	453	2.32	5.34	8.52	
PFHpA	186	0.630	5.34	8.52	
PFHxS	1040	5.04	26.7	42.6	D
PFOA	118	0.694	5.34	8.52	
PFOS	1470	4.30	26.7	42.6	D
PFNA	31.3	0.863	5.34	8.52	
PFDA	3.22	1.59	5.34	8.52	J
MeFOSAA	ND	1.76	5.34	8.52	
PFUnA	ND	1.12	5.34	8.52	
EtFOSAA	ND	1.46	5.34	8.52	
PFDoA	ND	0.844	5.34	8.52	
PFTrDA	ND	0.526	5.34	8.52	
PFTeDA	ND	0.804	5.34	8.52	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	150	50 - 150	
IS	13C2-PFHxA	130	50 - 150	
IS	13C4-PFHpA	109	50 - 150	
IS	18O2-PFHxS	111	50 - 150	D
IS	13C2-PFOA	117	50 - 150	
IS	13C8-PFOS	106	50 - 150	D
IS	13C5-PFNA	112	50 - 150	
IS	13C2-PFDA	114	50 - 150	
IS	d3-MeFOSAA	120	50 - 150	
IS	13C2-PFUnA	109	50 - 150	
IS	d5-EtFOSAA	111	50 - 150	
IS	13C2-PFDoA	119	50 - 150	
IS	13C2-PFTeDA	91.5	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.

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

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1700856 Temp 0.2 °C
Storage ID: WR-2 Storage Secured: Yes ☒ No ☐

TAT: (Check One)
Standard ◉ 21 days
Rush (surcharge may apply)
◯ 14 days ◯ 7 days Specify:

Project I.D.: **NAWC Trenton** P.O. #: **1132341-WR3** Sampler: **Chuck Myer** (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Tetra Tech	Foster Plaza VII	661 Anderson Drive	Pittsburgh	PA	15220	412-921-7090	412-921-4040

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Chuck Myer	7/11/2017	18:00	Beth Benedict B Benedict	07/12/17	0918
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

See "Sample Log-in Checklist" for additional sample information

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

Method of Shipment: **FedEx**

Tracking No.:

ATTN: **Sample Custodian**

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1614 PBDE	EPA1614 PAH	CARB429 WHO-29	PFOS IIL EPA Method 537
INFLUENT-20170710	7/10/17	12:05	Trenton	2	PJ	AQ															X	
DUP05-20170710	7/10/17	12:00	Trenton	2	PJ	AQ															X	DUP
MID-POINT-20170710	7/10/17	12:30	Trenton	2	PJ	AQ															X	
EFFLUENT-20170710	7/10/17	12:45	Trenton	6	PJ	AQ															X	MSD
MW-37S-20170711	7/11/17	15:00	Trenton	2	PJ	AQ															X	
ERB-01-20170711	7/11/17	13:50	Trenton	2	PJ	AQ															X	
11-MW-1-20170710	7/10/17	15:35	Trenton	2	PJ	AQ															X	
LF-MW-54BR-20170710	7/10/17	15:10	Trenton	2	PJ	AQ															X	
MW-48BR-20170711	7/11/17	09:55	Trenton	2	PJ	AQ															X	
MW-34S-20170711	7/11/17	14:40	Trenton	2	PJ	AQ															X	

Special Instructions/Comments:
FedEx 6612 1992 6853

SEND DOCUMENTATION AND RESULTS TO:

Name: **Mary Mang**
Company: **Tetra Tech**
Address: **234 Mall Blvd Suite 260**
City: **King of Prussia** State: **PA** Zip: **19406**
Phone: **610-382-1174** Fax: **610-491-9645**
Email: **mary.mang@tetratech.com**

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

***Bottle Preservative Type:** ☐ T = Thiosulfate,
☐ O = Other

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

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1700856 Temp 0.2 °C
Storage ID: WR-2 Storage Secured: Yes [X] No [ ]

TAT: (Check One)
Standard (•) 21 days
Rush (surcharge may apply)
( ) 14 days ( ) 7 days Specify:

Project I.D.: **NAWC Trenton** P.O. #: **1132341-WR3** Sampler: **Chuck Myer** (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Tetra Tech	**Foster Plaza VII**	**661 Anderson Drive**	**Pittsburgh**	**PA**	**15220**	**412-921-7090**	**412-921-4040**

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Chuck Myer	**7/11/2017**	**18:00**	Bethanie L. Benedict	07/12/17	0919
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

See "Sample Log-in Checklist" for additional sample information

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

ATTN: **Sample Custodian**

Method of Shipment: **FedEx**

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1614 PBDE	CARB429 PAH	CARB429 WHO-29	PFOS 14 EPA Method 537
MW-31BR-20170711	7/11/17	11:50	Trenton	2	PJ	AQ															X	
MW-31S-20170711	7/11/17	12:00	Trenton	2	PJ	AQ															X	
																					X	

Special Instructions/Comments:
FedEx 6612 1992 6853

SEND DOCUMENTATION AND RESULTS TO:

Name: **Mary Mang**
Company: **Tetra Tech**
Address: **234 Mall Blvd Suite 260**
City: **King of Prussia** State: **PA** Zip: **19406**
Phone: **610-382-1174** Fax: **610-491-9645**
Email: **mary.mang@tetratech.com**

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

***Bottle Preservative Type:** [ ] T = Thiosulfate,
[ ] O = Other

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

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1700856 **TAT** Std

Samples Arrival:	**Date/Time** 07/12/17 0912	**Initials:** JBB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 07/12/17 1322	**Initials:** JBB WWS	**Location:** WR-2 **Shelf/Rack:** A5

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

Temp °C: 0.6 (uncorrected)	**Time:** 0917	**Thermometer ID:** IR-2
Temp °C: 0.2 (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 # 6612 1992 6853	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	

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

Comments: sample label: FRB-01-20170711
COC ID: FRB-01-20170711
sample label: DUP-05-20170710
COC ID: DUP05-20170710
sample labels: Influent-20170710
UPS 7/12/17 ~~Mid-Point~~ Mid-point-20170710
COC ID: INFLUENT-20170710
MIDPOINT-20170710
sample label: Effluent-20170710
COC ID: EFFLUENT-20170710

ID.: LR – SLC *Rev No.: 0* *Rev Date: 05/18/2017* *Page:* 1 of 1

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client:	Tetra Tech	Workorder Number:	1700856
Contact:	Mary Mang	Date Received:	12-Jul-17 09:12
Email:	mary.mang@tetratech.com	Documented by/date:	B.Benedict 08/05/2017
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: **ERB**-01-20170711
Label ID: **FRB**-01-20170711

Client Authorization

Proceed with Analysis: (YES) NO Signature and Date Karen Volpendesta 8-7-17

Client Comments/Instructions proceed with analysis.

Correspondence

Karen Volpendesta

From: Karen Volpendesta
Sent: Wednesday, July 12, 2017 3:22 PM
To: Mang, Mary; Ritchie, Megan
Cc: Martha Maier
Subject: Vista Work Order #1700856; NAWC Trenton
Attachments: WO# 1700856_Acklet.pdf

Mary,

Please find attached the sample receiving acknowledgement for Vista Analytical Work Order: 1700856.

These samples will be analyzed by Modified EPA Method 537 for the list of 14 analytes.

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: 1700856

RX

Prep Expiration: 2017-Jul-24
Client: Tetra Tech

Workorder Due: 02-Aug-17 00:00

TAT: 21

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

Prep Batch: B760108

Prep Data Entered: HB 7/25/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700856-01	☑	INFLUENT-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-02	☑	DUP05-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-03	☑	MID-POINT-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-04	☑	EFFLUENT-20170710	12-Jul-17 09:12	WR-2 A-5	**MS/MSD**
1700856-05	☑	MW-37S-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-06	☑	~~ERB-01-20170711~~ ERB-01-20170711 BP 7.24.17	12-Jul-17 09:12	WR-2 A-5	
1700856-07	☑	11-MW-1-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-08	☑	LF-MW-54BR-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-09	☑	MW-48BR-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-10	☑	MW-34S-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-11	☑	MW-31BR-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-12	☑	MW-31S-20170711	12-Jul-17 09:12	WR-2 A-5	

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

Vista PM: Martha Maier

Vial Box ID: Sofishdioates

Sample Reconciled By: BP 7/24/17

Page 1 of 1

Vista Analytical Laboratory

HRMS - 8

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)
7/19/17	✓	1.00	100.00	2000.00	KBF	Y
7/20/17	✓	1.01	100.01	2000.04	BSS	Y
7/21/17	✓	0.99	100.00	2000.00	EL	Y
7.24.17	✓	1.00	100.01	2000.01	BP	Y
7/24/17	✓	1.00	100.01	2000.00	EL	Y
7/25/17	✓	1.00	99.99	2000.02	HB	Y

Comments:

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mRL)

PREPARATION BENCH SHEET

B7G0108

Chemist: BP

Prep Date/Time: 24-Jul-17 10:51

Prepared using: LCMS - SPE Extraction-LCMS

C7G0086

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g) HB 7/25/17	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☐	B7G0108-BLK1	5	2	0	2	NA	NA NA	(0.125) ✓	BP KBF 7/24/17	BP KBF 7/24/17	BP 7/25/17
☐	B7G0108-BS1	5	2	0	2	↓	↓ ↓	↓ ✓	↓	↓	↓
☐	B7G0108-MS1 1700856-04RE1	6	2	0	2	148.39	26.77	0.12162 ✓			
☐	B7G0108-MSD1 1700856-04RE1	6	2	0	2	145.30	26.81	0.11849 ✓			
☐	1700856-01RE1	6	2	0	2	147.78	26.78	0.12100 ✓			
☐	1700856-02RE1	6	2	0	2	143.32	26.85	0.11647 ✓			
☐	1700856-03RE1	7	2	0	2	144.15	26.84	0.11731 ✓			
☐	1700856-04RE1	6	2	0	2	147.66	26.82	0.12084 ✓			
☐	1700856-05RE1	6	2	0	2	143.56	26.60	0.11696 ✓			
☐	1700856-06RE1	~~6~~ 5 BP 7/24/17	2	0	2	147.29	26.86	0.12043 ✓			
☐	1700856-07RE1	6	2	0	2	141.60	26.78	0.11482 ✓			
☐	1700856-08RE1 (A)	6	2	0	2	144.01	26.88	0.11713 ✓			
☐	1700856-09RE1	6	2	0	2	147.61	26.77	0.12084 ✓			
☐	1700856-10RE1	6	2	0	~~0~~ 2 BP 7/24/17	144.88	26.76	0.11812 ✓			
☐	1700856-11RE1	6	2	0	2	144.44	26.70	0.11774 ✓			
☐	1700856-12RE1	6	2	0	2	144.09	26.77	0.11732 ✓	↓	↓	↓

IS Name (V6) 17G1307, 10mL

NS Name (V1) 17D2705, 10mL

RS Name 17F3038, 10mL (V2)

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

Ele SOLV: MeOH/0.5% NH4OH in MeOH

Final Volume(s) 1mL

Check Out: Chemist/Date: HB 7/29/17

Check In: Chemist/Date: emptyMA

Balance ID: HRMS

pH Adjusted: Chemist/Date: HB 7/24/17

Comments: Assume 1 g = 1 mL (A) sample was centrifuged to remove particulate. HB 7/24/17

Batch: B7G0108

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700856-01RE1	0.121 ✓	NA	NA	1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-02RE1	0.11647 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-03RE1	0.11731 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-04RE1	0.12084 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-05RE1	0.11696 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-06RE1	0.12043 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-07RE1	0.11482 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-08RE1	0.11713 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-09RE1	0.12084 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-10RE1	0.11812 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-11RE1	0.11774 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-12RE1	0.11732 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
B7G0108-BLK1	0.125 ✓			1000	24-Jul-17 10:51	BAP				QC
B7G0108-BS1	0.125 ✓			1000	24-Jul-17 10:51	BAP	17D2705 ✓	10 ✓		QC
B7G0108-MS1	0.12162 ✓			1000	24-Jul-17 10:51	BAP	17D2705 ✓	10 ✓		QC
B7G0108-MSD1	0.11849 ✓			1000	24-Jul-17 10:51	BAP	17D2705 ✓	10 ✓		QC

HB 7/25/17

SAMPLE DATA – MODIFIED EPA METHOD 537

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 15:57:47 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:58:34 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-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	3	PFBS	299 > 79.7		5.26e3	0.1250		2.96				
2	4	PFHxA	313.2 > 268.9		1.46e4	0.1250		3.19				
3	5	PFHpA	363 > 318.9		3.33e4	0.1250		3.45				
4	6	PFHxS	398.9 > 79.6		3.77e3	0.1250		3.56				
5	8	PFOA	413 > 368.7		4.23e4	0.1250		3.65				
6	10	PFNA	462.9 > 418.8		3.43e4	0.1250		3.83				
7	12	PFOS	499 > 79.9		8.47e3	0.1250		3.89				
8	13	PFDA	513 > 468.8	4.37e1	3.45e4	0.1250		4.01	4.04	0.0158		
9	15	N-MeFOSAA	570.1 > 419		7.52e3	0.1250		4.03				
10	16	N-EtFOSAA	584.2 > 419		7.88e3	0.1250		4.10				
11	17	PFUnA	562.9 > 518.9		3.61e4	0.1250		4.17				
12	19	PFDoA	612.9 > 318.8		3.35e3	0.1250		4.34				

GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 15:57:47 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:58:51 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-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	21	PFTrDA	662.9 > 618.9		3.35e3	0.1250		4.50					
2	22	PFTeDA	712.9 > 668.8		1.79e4	0.1250		4.68					
3	30	13C3-PFBS	302 > 98.8	5.26e3	3.93e4	0.1250	0.031	2.96	3.01	0.670	172	172.3	H
4	31	13C2-PFHxA	315 > 269.8	1.46e4	3.93e4	0.1250	0.276	3.19	3.23	1.86	53.7	134.2	
5	32	13C4-PFHpA	367.2 > 321.8	3.33e4	3.93e4	0.1250	0.306	3.45	3.49	4.24	111	110.9	
6	33	18O2-PFHxS	403 > 102.6	3.77e3	7.04e3	0.1250	0.393	3.56	3.56	6.70	136	136.4	
7	35	13C2-PFOA	414.9 > 369.7	4.23e4	3.22e4	0.1250	1.067	3.65	3.69	16.4	123	123.0	
8	36	13C5-PFNA	468.2 > 422.9	3.43e4	3.63e4	0.1250	0.852	3.83	3.86	11.8	111	110.8	
9	38	13C8-PFOS	507 > 79.9	8.47e3	6.93e3	0.1250	0.936	3.89	3.91	15.3	131	130.6	
10	39	13C2-PFDA	515.1 > 469.9	3.45e4	3.68e4	0.1250	0.810	4.01	4.03	11.7	116	115.7	

GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 15:57:47 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:59:12 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-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	41	d3-N-MeFOSAA	573.3 > 419	7.52e3	3.43e4	0.1250	0.014	4.03	4.06	2.74	1600	123.2
2	42	d5-N-EtFOSAA	589.3 > 419	7.88e3	3.43e4	0.1250	0.014	4.12	4.13	2.87	1650	126.7
3	43	13C2-PFUnA	565 > 519.8	3.61e4	3.43e4	0.1250	0.962	4.17	4.20	13.2	110	109.5
4	44	13C2-PFDoA	615 > 569.7	3.35e3	3.43e4	0.1250	0.094	4.34	4.36	1.22	103	103.4
5	46	13C2-PFTeDA	714.8 > 669.6	1.79e4	3.43e4	0.1250	0.694	4.68	4.71	6.51	75.0	75.0
6	52	13C5-PFHxA	318 > 272.9	3.93e4	3.93e4	0.1250	1.000	3.19	3.23	5.00	40.0	100.0
7	53	13C3-PFHxS	401.9 > 79.9	7.04e3	7.04e3	0.1250	1.000	3.56	3.56	12.5	100	100.0
8	54	13C8-PFOA	421.3 > 376	3.22e4	3.22e4	0.1250	1.000	3.65	3.69	12.5	100	100.0
9	55	13C9-PFNA	472.2 > 426.9	3.63e4	3.63e4	0.1250	1.000	3.83	3.86	12.5	100	100.0
10	56	13C4-PFOS	503 > 79.9	6.93e3	6.93e3	0.1250	1.000	3.89	3.91	12.5	100	100.0
11	57	13C6-PFDA	519.1 > 473.7	3.68e4	3.68e4	0.1250	1.000	4.01	4.03	12.5	100	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.43e4	3.43e4	0.1250	1.000	4.17	4.20	12.5	100	100.0
13	59	Total PFBS	299 > 79.7	0.00e0	5.26e3	0.1250		2.96		0.000		
14	60	Total PFHxS	398.9 > 79.6	0.00e0	3.77e3	0.1250		3.52		0.000		
15	61	Total PFOA	413 > 368.7	0.00e0	4.23e4	0.1250		3.65		0.000		
16	62	Total PFOS	499 > 79.9	0.00e0	8.47e3	0.1250		3.89		0.000		
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	7.52e3	0.1250		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	7.88e3	0.1250		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 15:57:47 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:59:12 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-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									

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			42261.785		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9			8471.787		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	16	N-EtFOSAA	584.2 > 419			7879.182		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

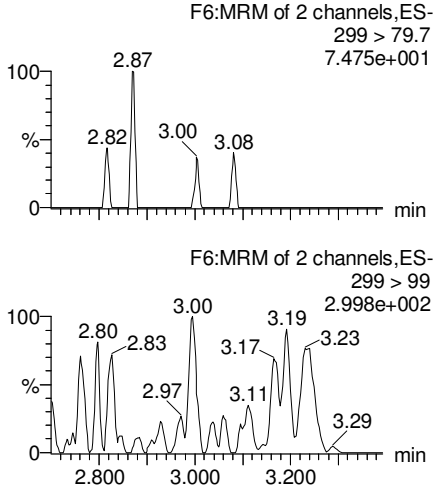
Last Altered: Thursday, July 27, 2017 16:00:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:00:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

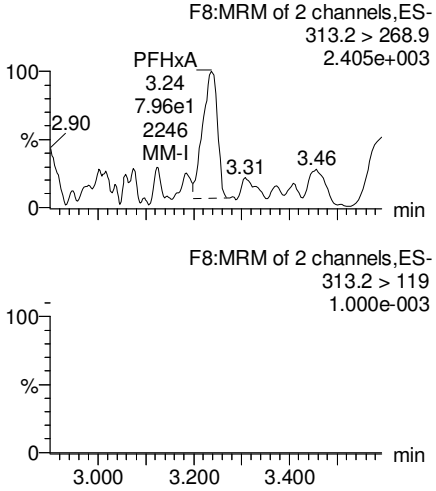
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-BLK1 Method Blank 0.125, Description: Method Blank

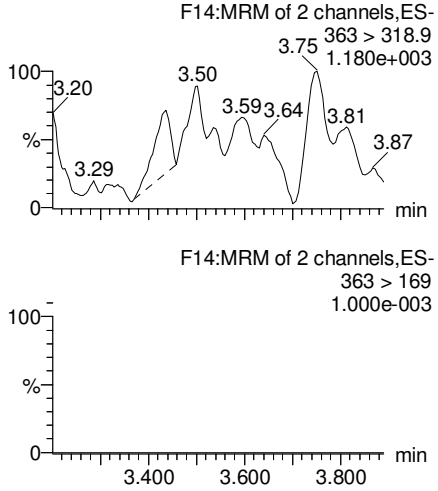
Total PFBS



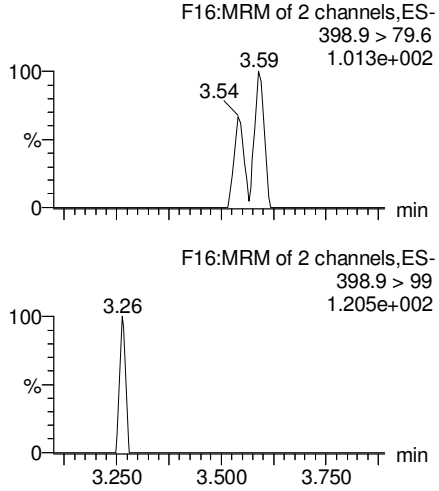
PFHxA



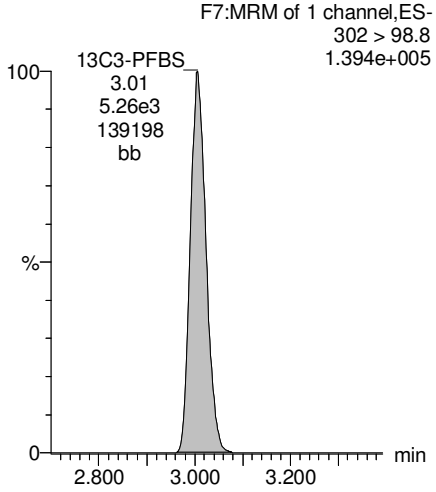
PFHpA



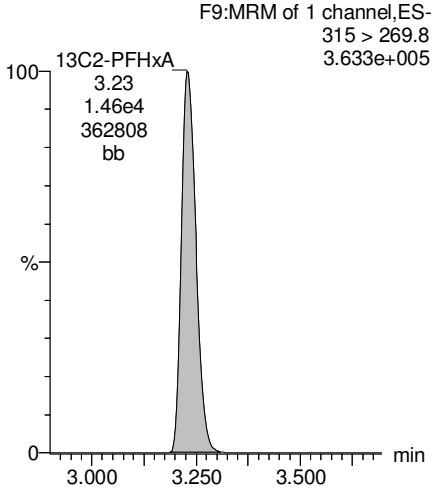
Total PFHxS



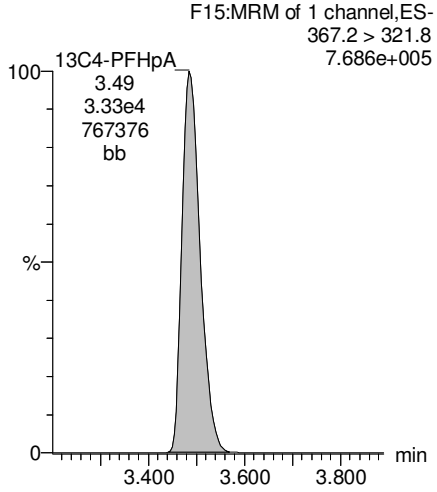
13C3-PFBS



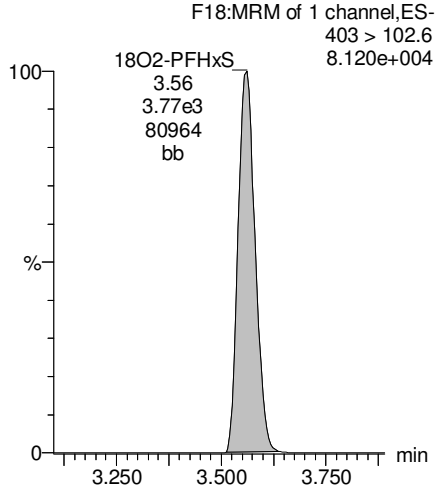
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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Vista Analytical Laboratory

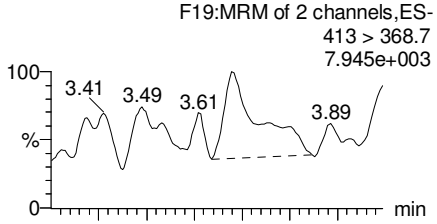
Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

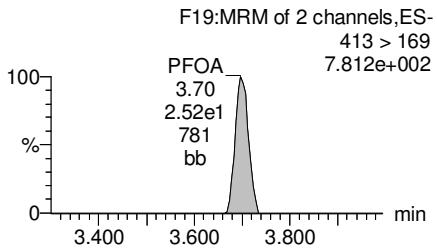
Last Altered: Thursday, July 27, 2017 16:00:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:00:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

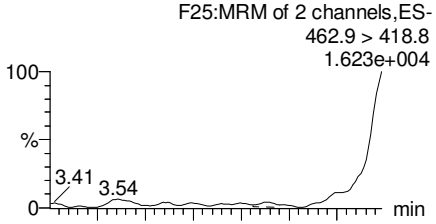
Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-BLK1 Method Blank 0.125, Description: Method Blank

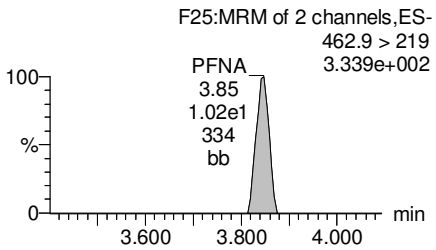
Total PFOA



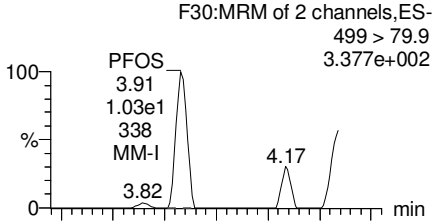


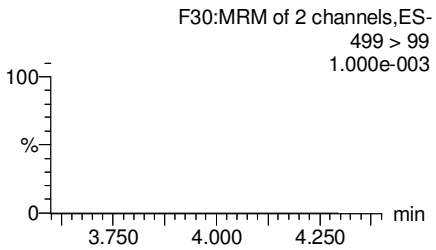
PFNA



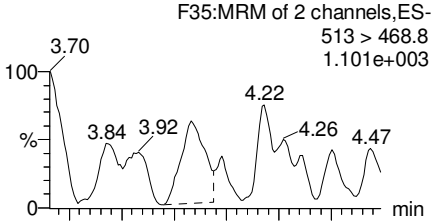


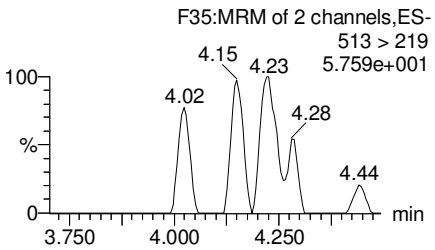
Total PFOS



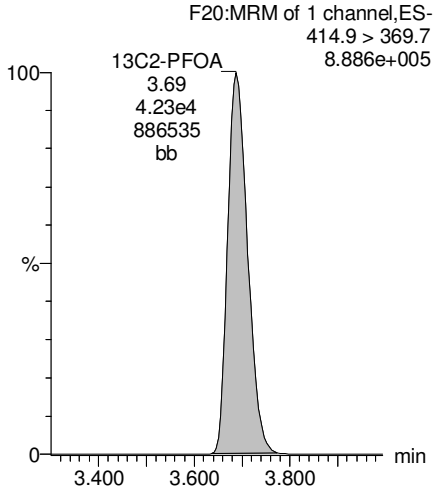


PFDA

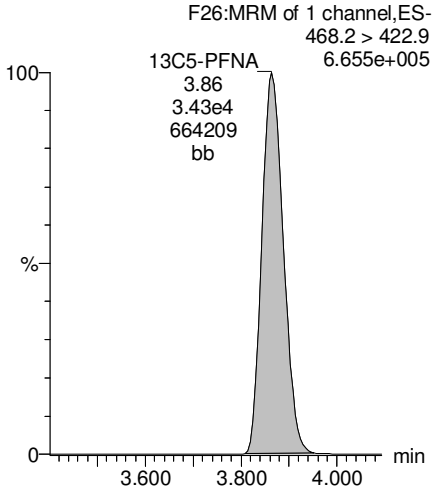




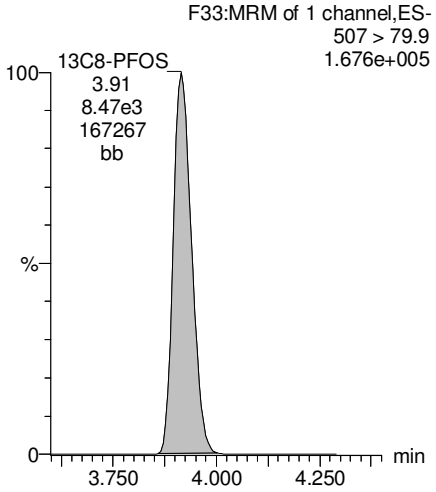
13C2-PFOA



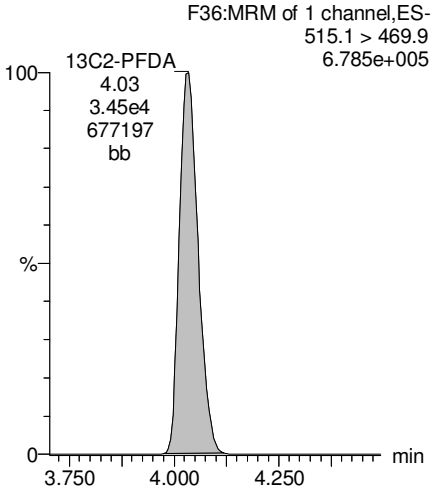
13C5-PFNA



13C8-PFOS



13C2-PFDA



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Vista Analytical Laboratory

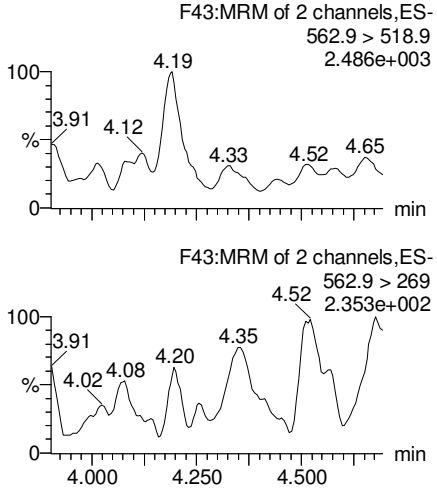
Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 16:00:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:00:16 Pacific Daylight Time

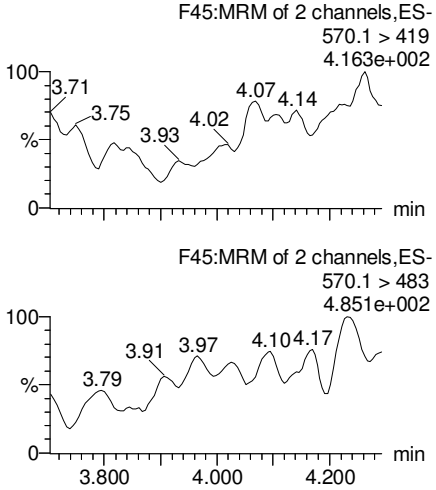
Reviewed: CT 08/03/2017

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-BLK1 Method Blank 0.125, Description: Method Blank

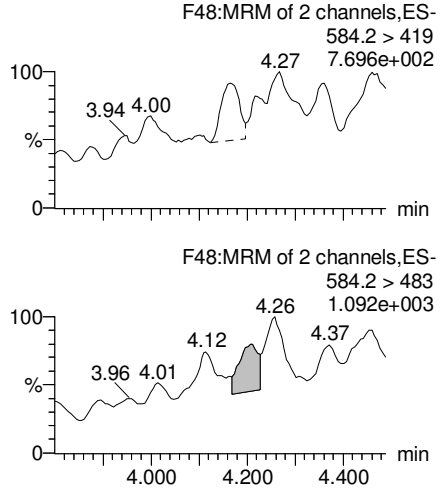
PFUnA



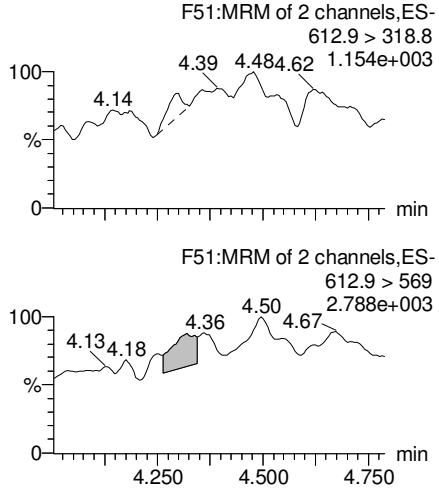
N-MeFOSAA



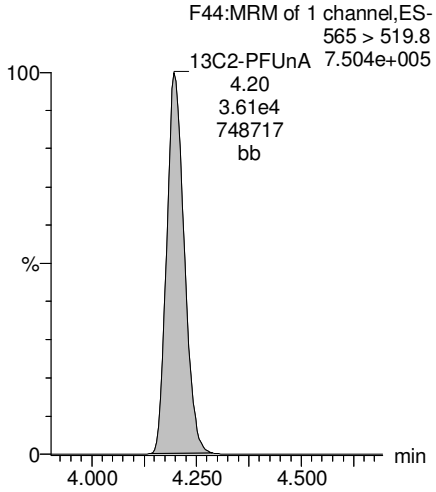
N-EtFOSAA



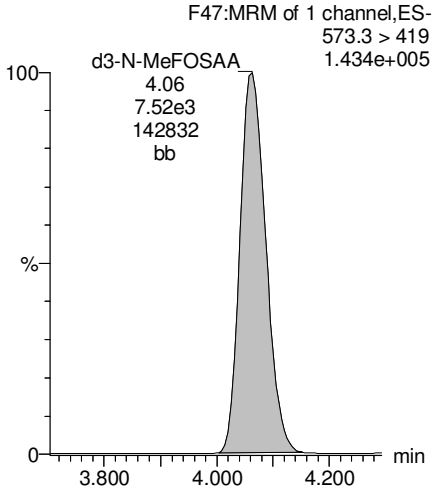
PFDoA



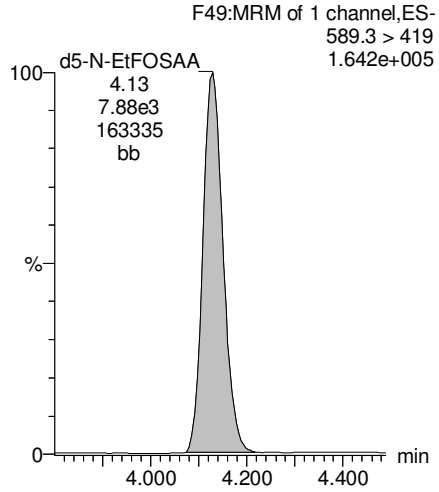
13C2-PFUnA



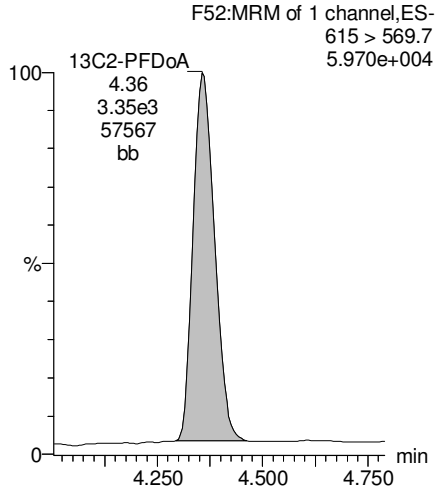
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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Vista Analytical Laboratory

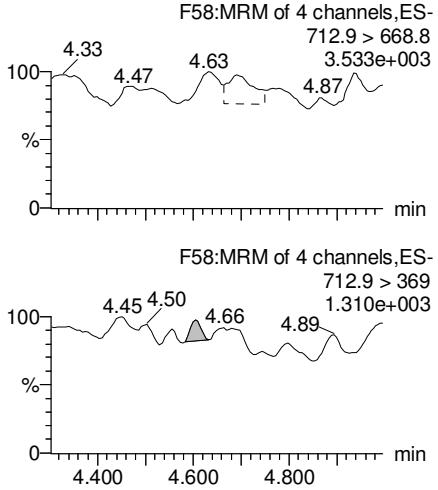
Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 16:00:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:00:16 Pacific Daylight Time

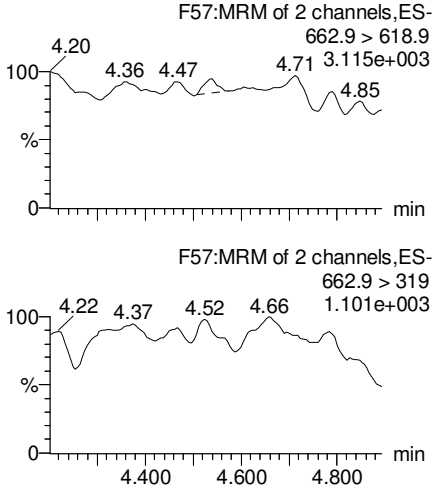
Reviewed: CT 08/03/2017

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-BLK1 Method Blank 0.125, Description: Method Blank

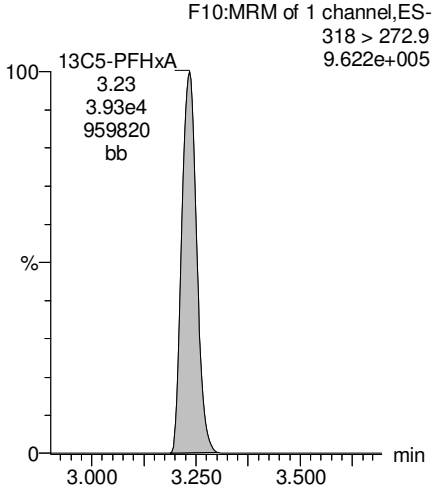
PFTeDA



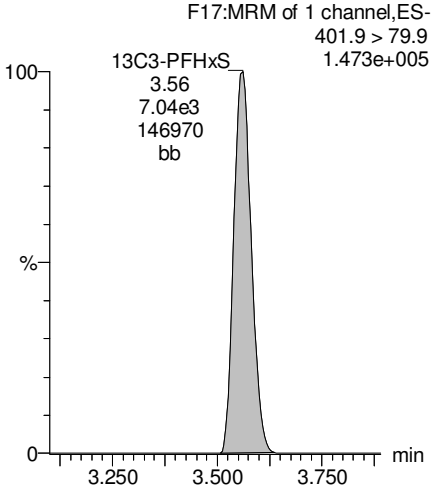
PFTrDA



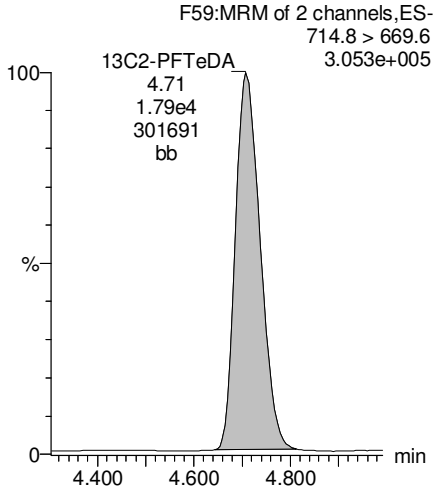
13C5-PFHxA



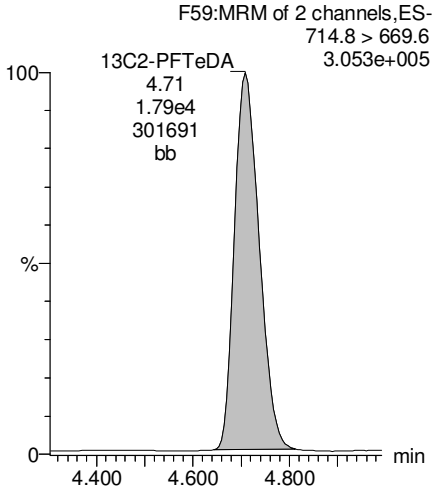
13C3-PFHxS



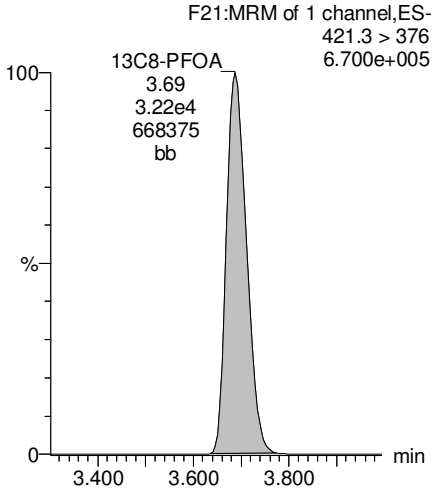
13C2-PFTeDA



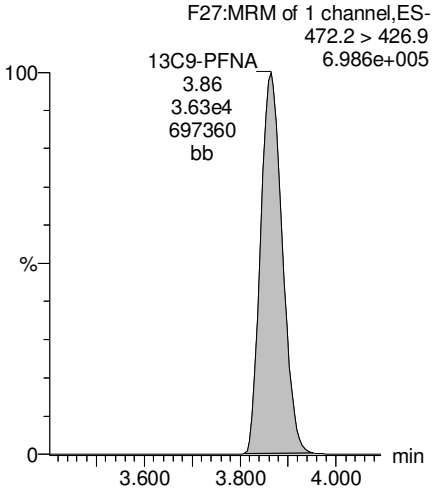
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

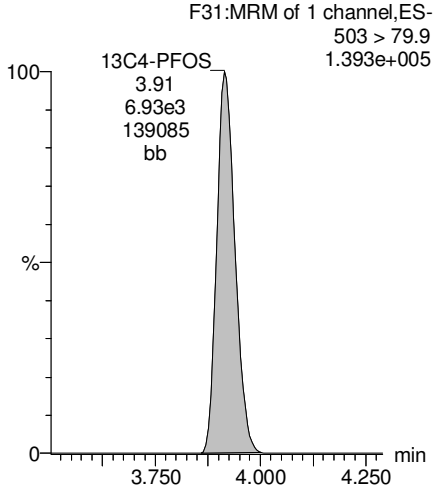
Dataset: U:\Q4.PRO\results\170725M1\170725M1-37.qld

Last Altered: Thursday, July 27, 2017 16:00:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:00:16 Pacific Daylight Time

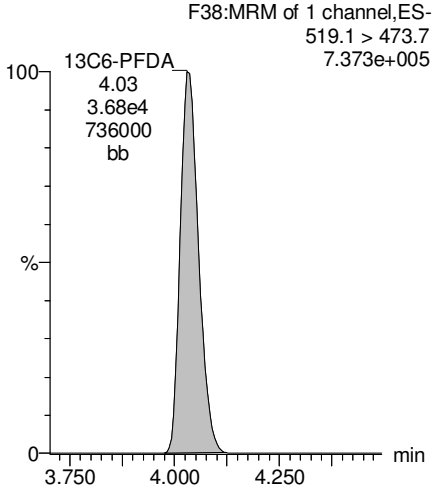
Reviewed: CT 08/03/2017

Name: 170725M1_37, Date: 25-Jul-2017, Time: 20:43:03, ID: B7G0108-BLK1 Method Blank 0.125, Description: Method Blank

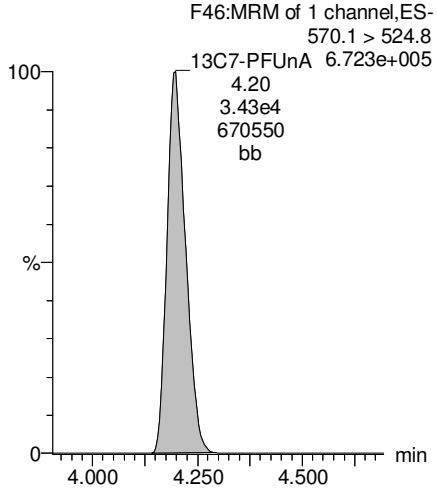
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-35.qld

Last Altered: Thursday, July 27, 2017 15:51:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:54:34 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	6.53e3	4.49e3	0.1250		2.96	3.00	18.2	78.2	97.8
2	4	PFHxA	313.2 > 268.9	3.47e4	1.23e4	0.1250		3.19	3.23	14.2	74.3	92.8
3	5	PFHpA	363 > 318.9	2.80e4	2.95e4	0.1250		3.45	3.49	11.8	75.1	93.9
4	6	PFHxS	398.9 > 79.6	4.18e3	3.07e3	0.1250		3.56	3.56	17.0	80.3	100.4
5	8	PFOA	413 > 368.7	2.95e4	3.93e4	0.1250		3.65	3.69	9.39	75.7	94.6
6	10	PFNA	462.9 > 418.8	2.68e4	3.35e4	0.1250		3.83	3.86	10.0	71.7	89.7
7	12	PFOS	499 > 79.9	5.81e3	7.29e3	0.1250		3.89	3.91	9.97	67.4	84.3
8	13	PFDA	513 > 468.8	2.92e4	2.95e4	0.1250		4.01	4.03	12.4	75.5	94.3
9	15	N-MeFOSAA	570.1 > 419	6.75e3	5.97e3	0.1250		4.03	4.06	184	74.0	92.5
10	16	N-EtFOSAA	584.2 > 419	5.67e3	5.54e3	0.1250		4.10	4.13	166	82.6	103.2
11	17	PFUnA	562.9 > 518.9	1.82e4	2.89e4	0.1250		4.17	4.19	7.88	71.3	89.1
12	19	PFDoA	612.9 > 318.8	1.87e3	2.57e3	0.1250		4.34	4.36	9.09	77.1	96.4

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-35.qld

Last Altered: Thursday, July 27, 2017 15:51:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:54:51 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9	1.84e4	2.57e3	0.1250		4.50	4.52	89.3	64.1	80.1	
2	22	PFTeDA	712.9 > 668.8	9.21e3	1.03e4	0.1250		4.68	4.71	11.1	77.2	96.5	
3	30	13C3-PFBS	302 > 98.8	4.49e3	3.65e4	0.1250	0.031	2.96	3.00	0.614	158	158.0	H
4	31	13C2-PFHxA	315 > 269.8	1.23e4	3.65e4	0.1250	0.276	3.19	3.23	1.68	48.5	121.3	
5	32	13C4-PFHpA	367.2 > 321.8	2.95e4	3.65e4	0.1250	0.306	3.45	3.49	4.04	106	105.8	
6	33	18O2-PFHxS	403 > 102.6	3.07e3	6.03e3	0.1250	0.393	3.56	3.56	6.37	130	129.8	
7	35	13C2-PFOA	414.9 > 369.7	3.93e4	2.95e4	0.1250	1.067	3.65	3.69	16.6	125	124.6	
8	36	13C5-PFNA	468.2 > 422.9	3.35e4	3.59e4	0.1250	0.852	3.83	3.86	11.7	109	109.5	
9	38	13C8-PFOS	507 > 79.9	7.29e3	6.46e3	0.1250	0.936	3.89	3.91	14.1	121	120.6	
10	39	13C2-PFDA	515.1 > 469.9	2.95e4	3.38e4	0.1250	0.810	4.01	4.04	10.9	108	107.7	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-35.qld

Last Altered: Thursday, July 27, 2017 15:51:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:55:07 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	41	d3-N-MeFOSAA	573.3 > 419	5.97e3	3.16e4	0.1250	0.014	4.03	4.06	2.36	1380	106.1	
2	42	d5-N-EtFOSAA	589.3 > 419	5.54e3	3.16e4	0.1250	0.014	4.12	4.12	2.19	1260	96.7	
3	43	13C2-PFUnA	565 > 519.8	2.89e4	3.16e4	0.1250	0.962	4.17	4.20	11.4	95.1	95.1	
4	44	13C2-PFDoA	615 > 569.7	2.57e3	3.16e4	0.1250	0.094	4.34	4.36	1.02	86.2	86.2	
5	46	13C2-PFTeDA	714.8 > 669.6	1.03e4	3.16e4	0.1250	0.694	4.68	4.70	4.09	47.2	47.2	H
6	52	13C5-PFHxA	318 > 272.9	3.65e4	3.65e4	0.1250	1.000	3.19	3.23	5.00	40.0	100.0	
7	53	13C3-PFHxS	401.9 > 79.9	6.03e3	6.03e3	0.1250	1.000	3.56	3.56	12.5	100	100.0	
8	54	13C8-PFOA	421.3 > 376	2.95e4	2.95e4	0.1250	1.000	3.65	3.69	12.5	100	100.0	
9	55	13C9-PFNA	472.2 > 426.9	3.59e4	3.59e4	0.1250	1.000	3.83	3.86	12.5	100	100.0	
10	56	13C4-PFOS	503 > 79.9	6.46e3	6.46e3	0.1250	1.000	3.89	3.91	12.5	100	100.0	
11	57	13C6-PFDA	519.1 > 473.7	3.38e4	3.38e4	0.1250	1.000	4.01	4.03	12.5	100	100.0	
12	58	13C7-PFUnA	570.1 > 524.8	3.16e4	3.16e4	0.1250	1.000	4.17	4.20	12.5	100	100.0	
13	59	Total PFBS	299 > 79.7	6.53e3	4.49e3	0.1250		2.96		18.2	78.2		
14	60	Total PFHxS	398.9 > 79.6	4.18e3	3.07e3	0.1250		3.52		17.0	80.3		
15	61	Total PFOA	413 > 368.7	2.95e4	3.93e4	0.1250		3.65		9.39	75.7		
16	62	Total PFOS	499 > 79.9	5.81e3	7.29e3	0.1250		3.89		9.97	67.4		
17	63	Total N-Me-FOSAA	570.1 > 419	6.75e3	5.97e3	0.1250		4.03		184	74.0		
18	64	Total N-EtFOSAA	584.2 > 419	5.67e3	5.54e3	0.1250		4.17		166	82.6		

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Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	6532.394	4489.121	18.190	bb	78.2

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	4176.180	3073.125	16.987	bb	80.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	29517.063	39300.930	9.388	bb	75.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	5814.498	7292.874	9.966	bb	67.4

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419	4.06	6753.356	5969.343	183.843	bb	74.0

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419	4.13	5671.405	5535.725	166.483	bb	82.6

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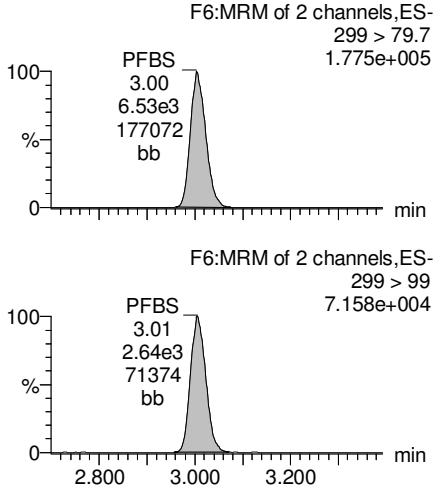
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

Total PFBS



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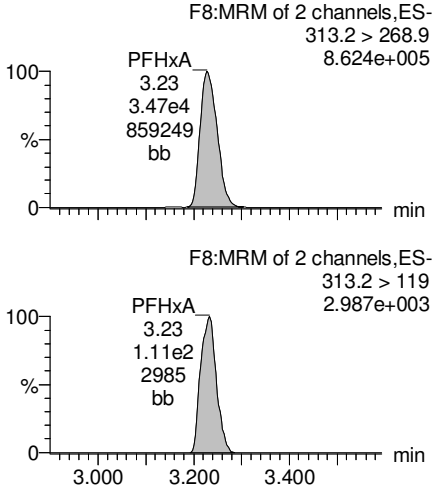

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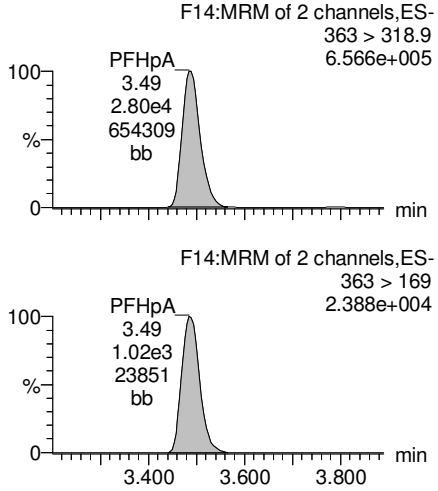

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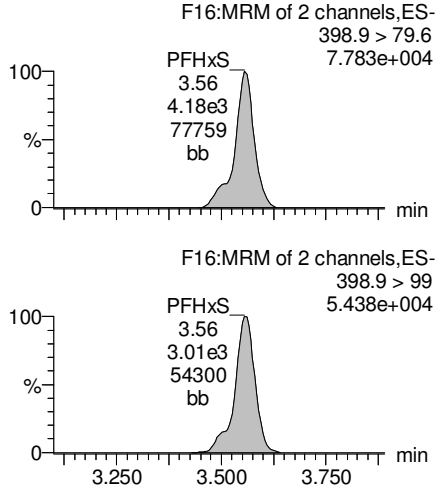

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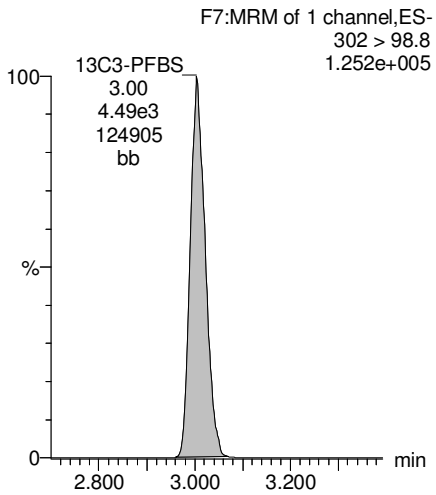

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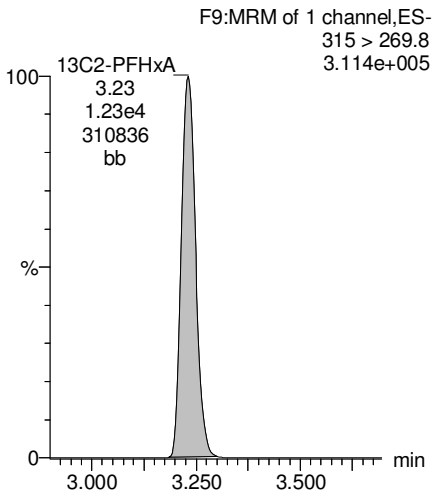

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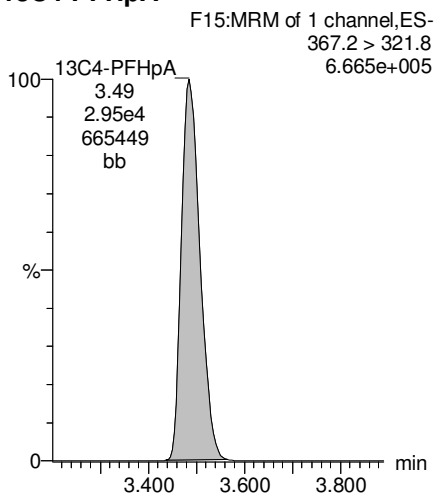

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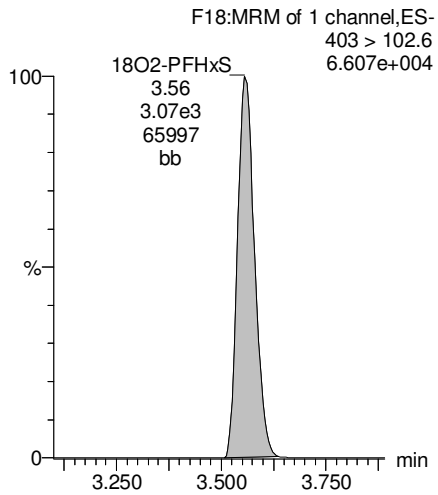

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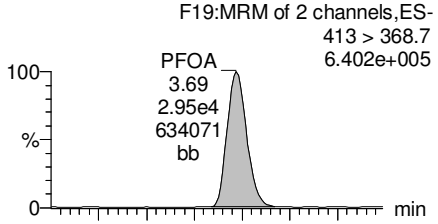
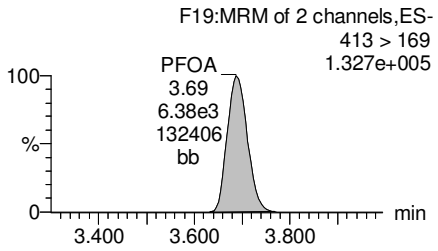
Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

Total PFOA





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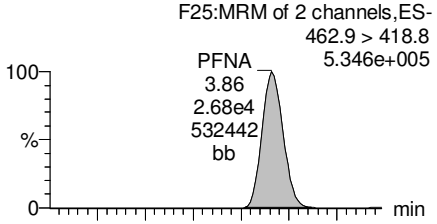
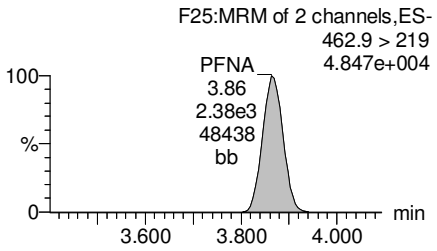
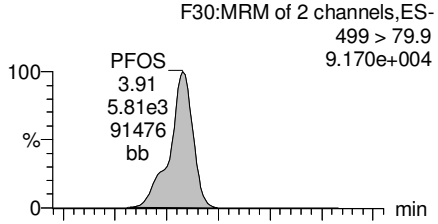
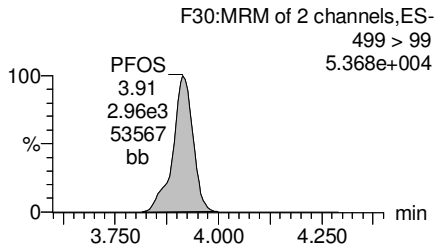




Total PFOS





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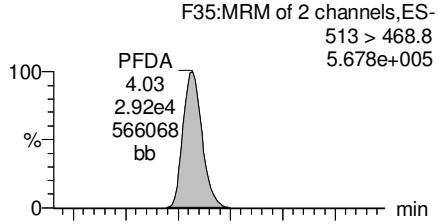

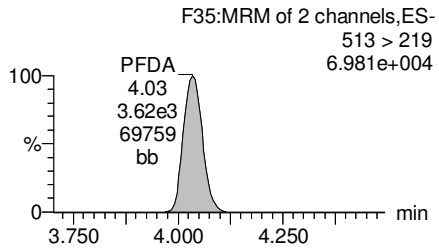

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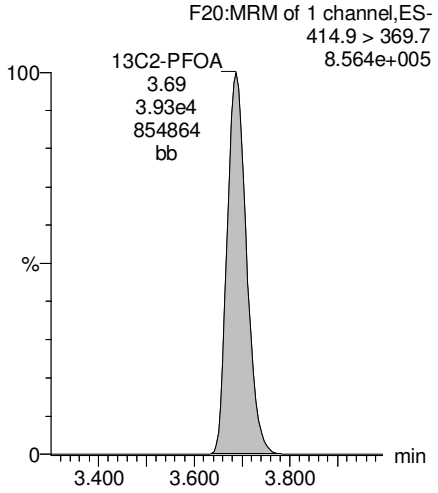

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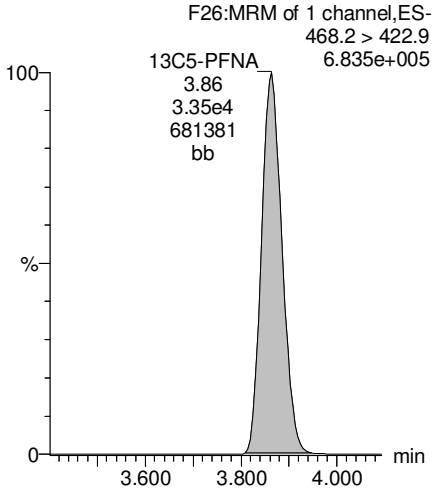

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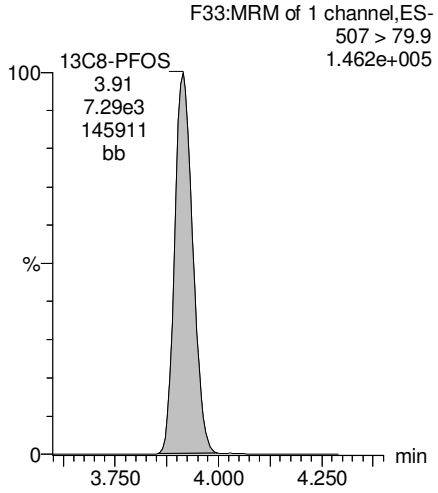

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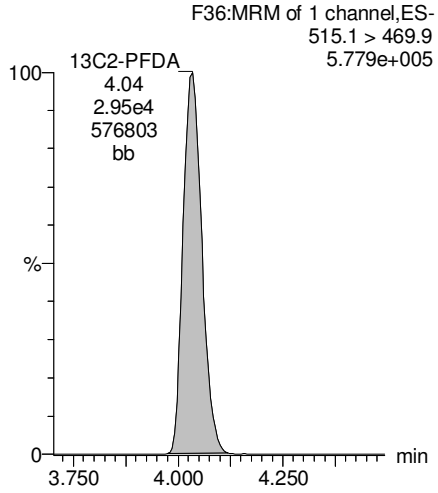

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Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

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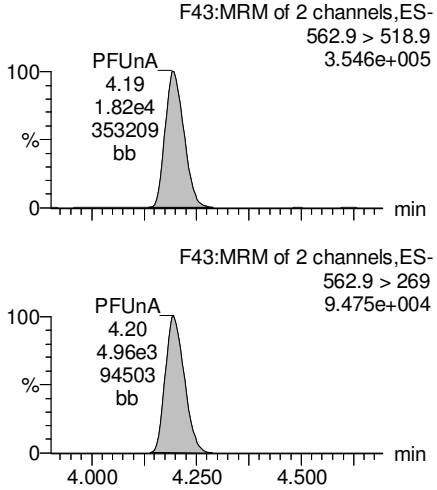

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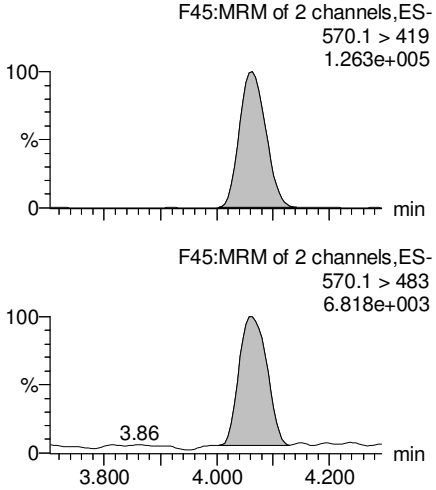

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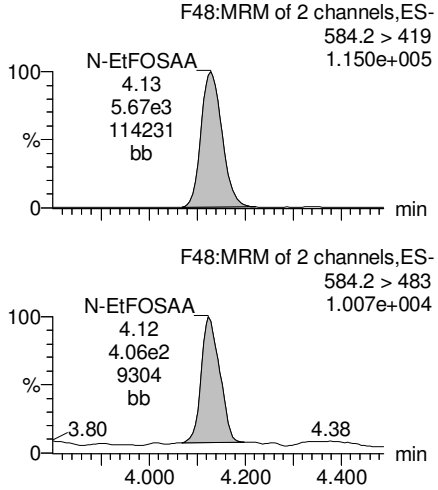

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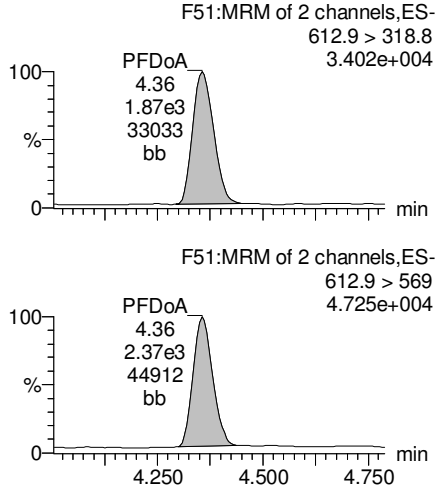

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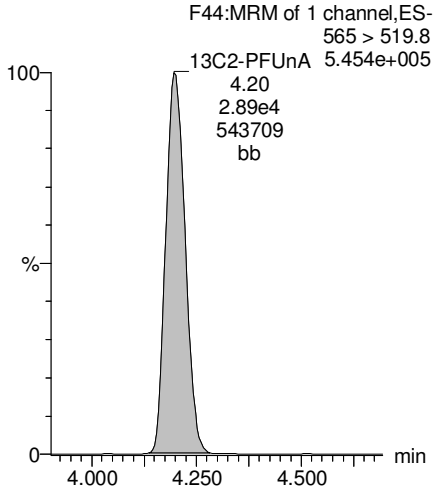

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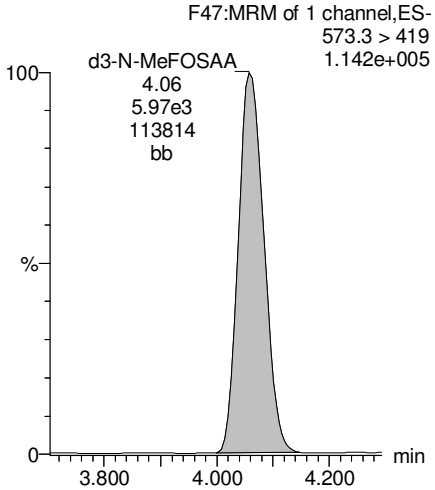

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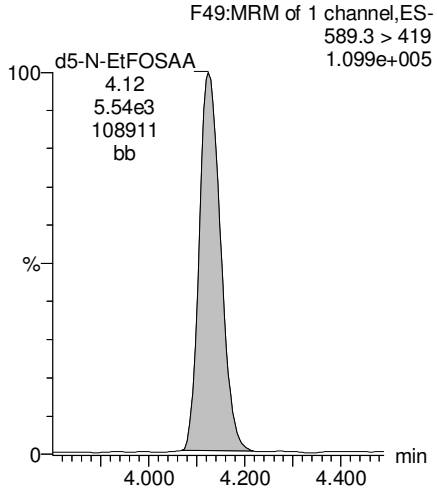

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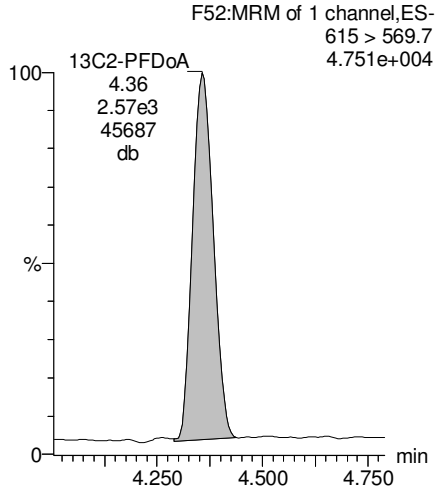

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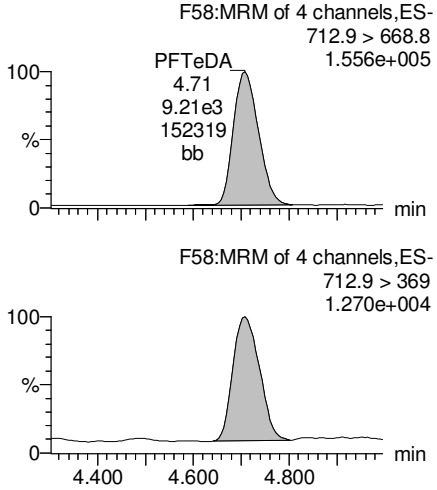
Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

PFTeDA



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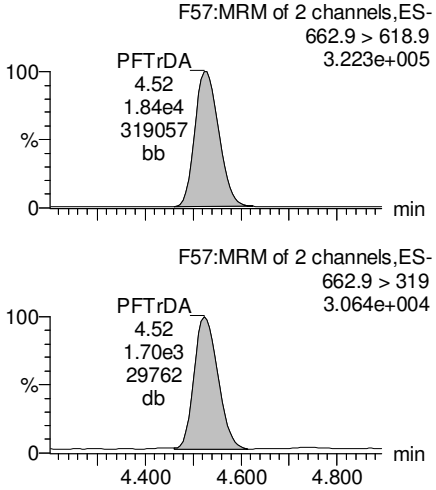

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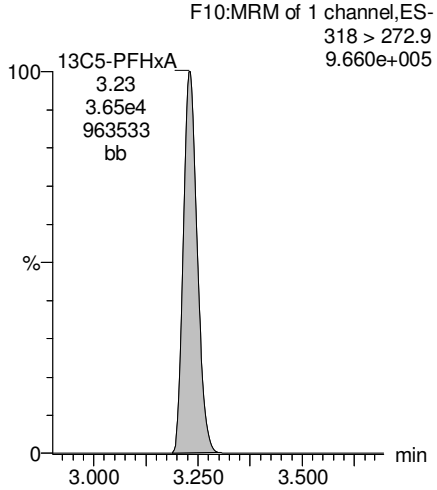

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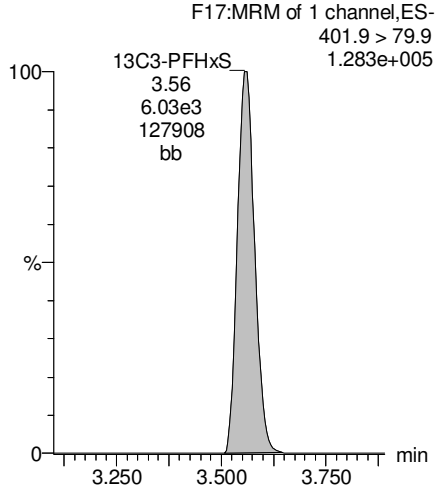

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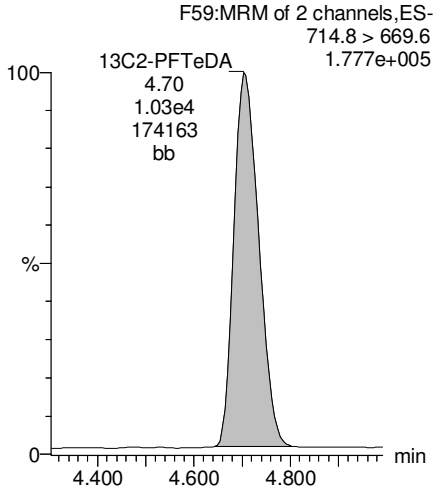

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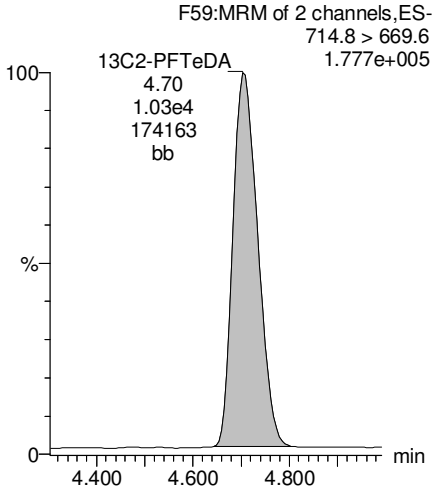

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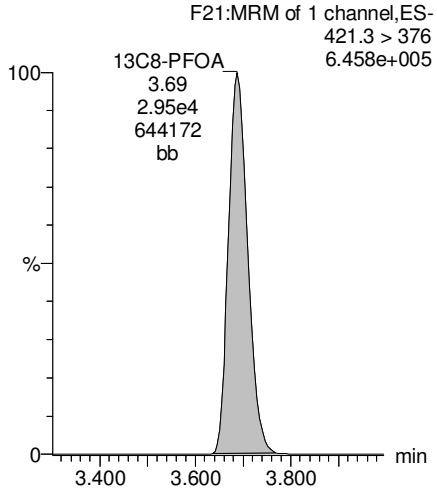

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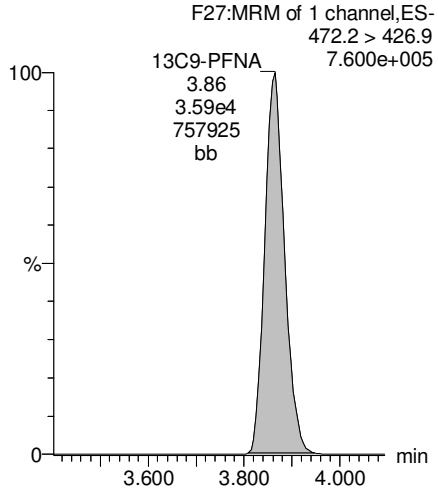

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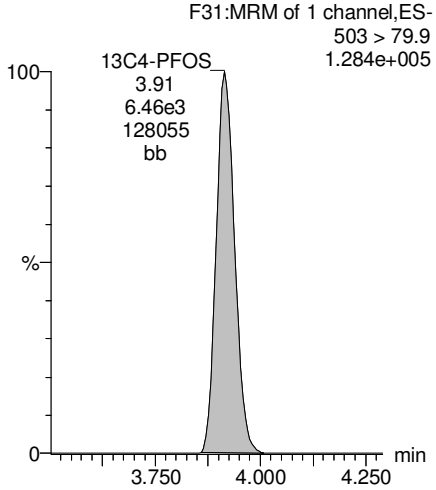
Last Altered: Thursday, July 27, 2017 15:51:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 15:55:07 Pacific Daylight Time

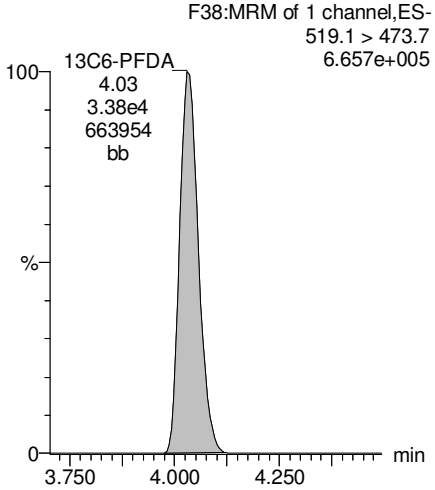
Reviewed: CT 08/03/2017

Name: 170725M1_35, Date: 25-Jul-2017, Time: 20:21:46, ID: B7G0108-BS1 OPR 0.125, Description: OPR

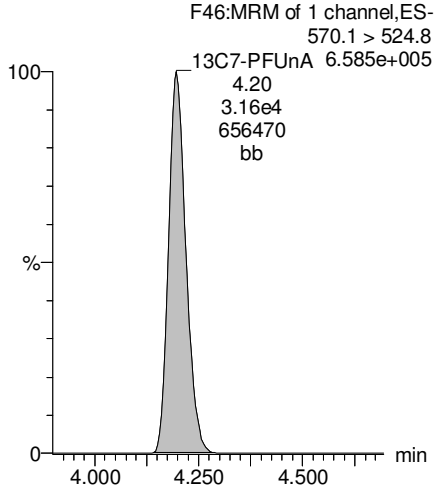
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:16:55 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	7.22e2	2.74e3	0.1210		2.96	3.00	3.30	14.4	
2	4	PFHxA	313.2 > 268.9	1.83e4	7.85e3	0.1210		3.19	3.23	11.7	63.1	
3	5	PFHpA	363 > 318.9	4.95e3	1.84e4	0.1210		3.45	3.49	3.36	21.7	
4	6	PFHxS	398.9 > 79.6	1.94e3	2.02e3	0.1210		3.56	3.56	12.0	58.6	
5	8	PFOA	413 > 368.7	3.03e3	2.59e4	0.1210		3.65	3.69	1.47	10.8	
6	10	PFNA	462.9 > 418.8	3.95e2	2.09e4	0.1210		3.83	3.87	0.236	0.667	
7	12	PFOS	499 > 79.9	3.28e3	4.62e3	0.1210		3.89	3.91	8.88	62.0	
8	13	PFDA	513 > 468.8		1.97e4	0.1210		4.01				
9	15	N-MeFOSAA	570.1 > 419		3.96e3	0.1210		4.03				
10	16	N-EtFOSAA	584.2 > 419		3.98e3	0.1210		4.10				
11	17	PFUnA	562.9 > 518.9		1.85e4	0.1210		4.17				
12	19	PFDoA	612.9 > 318.8		2.33e3	0.1210		4.34				

Reviewed: WJL 8/3/2017 GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:19 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.33e3	0.1210		4.50				
2	22	PFTeDA	712.9 > 668.8		1.59e4	0.1210		4.68				
3	30	13C3-PFBS	302 > 98.8	2.74e3	2.37e4	0.1210	0.031	2.96	3.00	0.577	153	148.4
4	31	13C2-PFHxA	315 > 269.8	7.85e3	2.37e4	0.1210	0.276	3.19	3.23	1.65	49.4	119.6
5	32	13C4-PFHpA	367.2 > 321.8	1.84e4	2.37e4	0.1210	0.306	3.45	3.49	3.88	105	101.5
6	33	18O2-PFHxS	403 > 102.6	2.02e3	3.44e3	0.1210	0.393	3.56	3.56	7.34	155	149.6
7	35	13C2-PFOA	414.9 > 369.7	2.59e4	1.80e4	0.1210	1.067	3.65	3.69	17.9	139	134.5
8	36	13C5-PFNA	468.2 > 422.9	2.09e4	1.96e4	0.1210	0.852	3.83	3.86	13.3	129	125.1
9	38	13C8-PFOS	507 > 79.9	4.62e3	3.68e3	0.1210	0.936	3.89	3.91	15.7	139	134.2
10	39	13C2-PFDA	515.1 > 469.9	1.97e4	1.93e4	0.1210	0.810	4.01	4.03	12.7	130	125.7

Reviewed: WJL 8/3/2017 GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:49 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
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Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	3.96e3	2.23e4	0.1210	0.014	4.03	4.06	2.22	1340	99.9
2	42	d5-N-EtFOSAA	589.3 > 419	3.98e3	2.23e4	0.1210	0.014	4.12	4.12	2.23	1320	98.6
3	43	13C2-PFUnA	565 > 519.8	1.85e4	2.23e4	0.1210	0.962	4.17	4.20	10.4	89.4	86.5
4	44	13C2-PFDoA	615 > 569.7	2.33e3	2.23e4	0.1210	0.094	4.34	4.36	1.31	114	110.7
5	46	13C2-PFTeDA	714.8 > 669.6	1.59e4	2.23e4	0.1210	0.694	4.68	4.71	8.92	106	102.8
6	52	13C5-PFHxA	318 > 272.9	2.37e4	2.37e4	0.1210	1.000	3.19	3.23	5.00	41.3	100.0
7	53	13C3-PFHxS	401.9 > 79.9	3.44e3	3.44e3	0.1210	1.000	3.56	3.56	12.5	103	100.0
8	54	13C8-PFOA	421.3 > 376	1.80e4	1.80e4	0.1210	1.000	3.65	3.69	12.5	103	100.0
9	55	13C9-PFNA	472.2 > 426.9	1.96e4	1.96e4	0.1210	1.000	3.83	3.86	12.5	103	100.0
10	56	13C4-PFOS	503 > 79.9	3.68e3	3.68e3	0.1210	1.000	3.89	3.91	12.5	103	100.0
11	57	13C6-PFDA	519.1 > 473.7	1.93e4	1.93e4	0.1210	1.000	4.01	4.04	12.5	103	100.0
12	58	13C7-PFUnA	570.1 > 524.8	2.23e4	2.23e4	0.1210	1.000	4.17	4.20	12.5	103	100.0
13	59	Total PFBS	299 > 79.7	7.22e2	2.74e3	0.1210		2.96		3.30	14.4	
14	60	Total PFHxS	398.9 > 79.6	1.94e3	2.02e3	0.1210		3.52		12.0	58.6	
15	61	Total PFOA	413 > 368.7	3.38e3	2.59e4	0.1210		3.65		1.47	10.8	
16	62	Total PFOS	499 > 79.9	3.28e3	4.62e3	0.1210		3.89		8.88	62.0	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	3.96e3	0.1210		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	3.98e3	0.1210		4.17		0.000		

Reviewed: WJL 8/3/2017 GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:49 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	722.292	2738.896	3.296	bb	14.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	1942.628	2018.796	12.028	MM	58.6

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	3031.787	25861.203	1.465	MM	10.8
2	61	Total PFOA	413 > 368.7	3.65	344.931	25861.203	0.167	MMI	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	3283.142	4619.651	8.884	MM	62.0

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			3960.287		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			3980.504		MM-I	

Reviewed: WJL 8/3/2017 GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

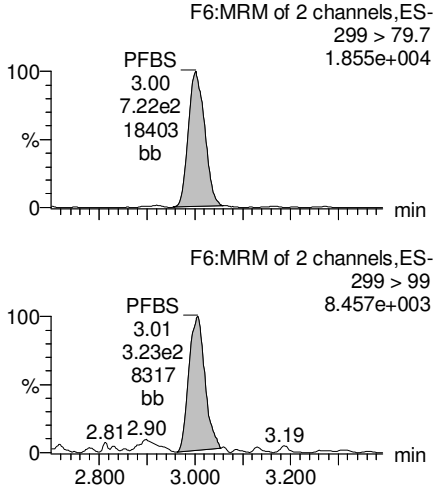
Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:49 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

Total PFBS



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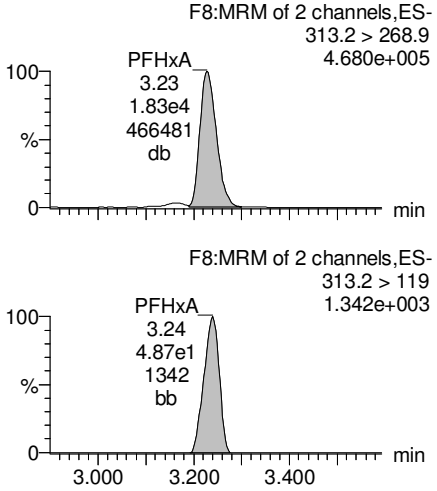

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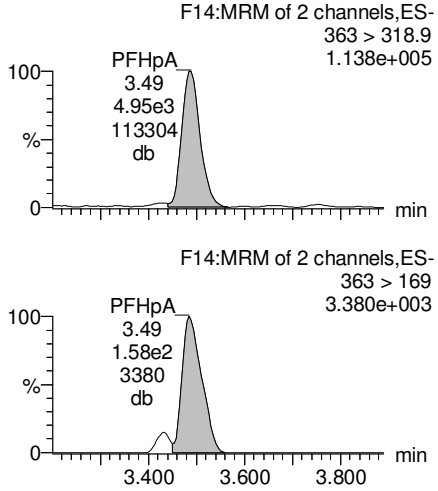
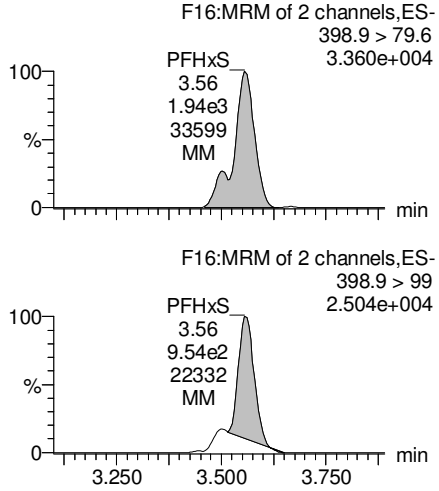


Total PFHxS



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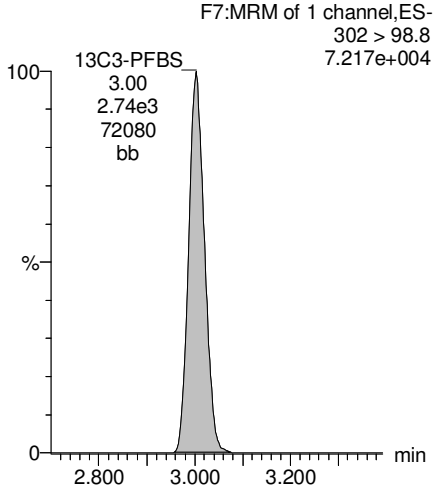

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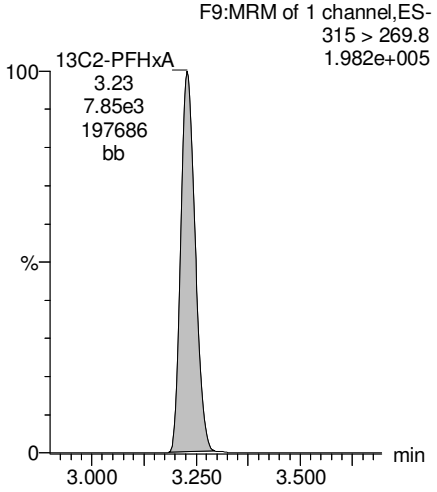

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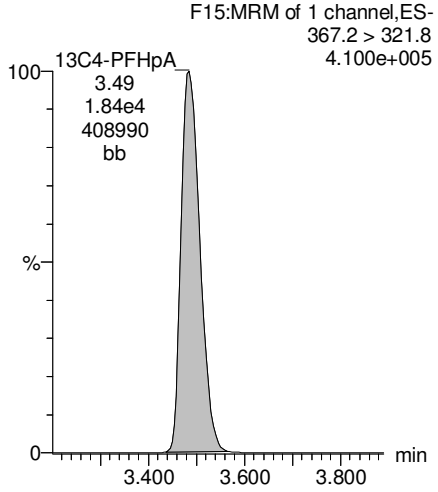

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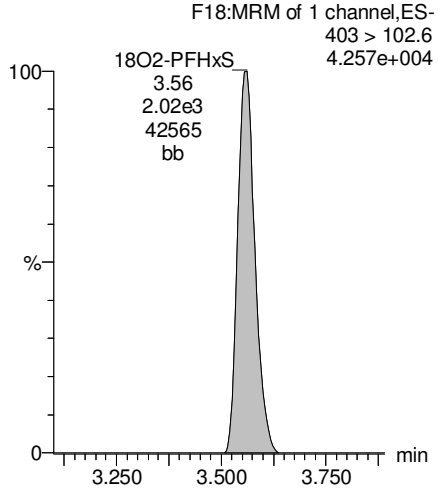


Reviewed: WJL 8/3/2017

GM 7/27/17

Vista Analytical Laboratory

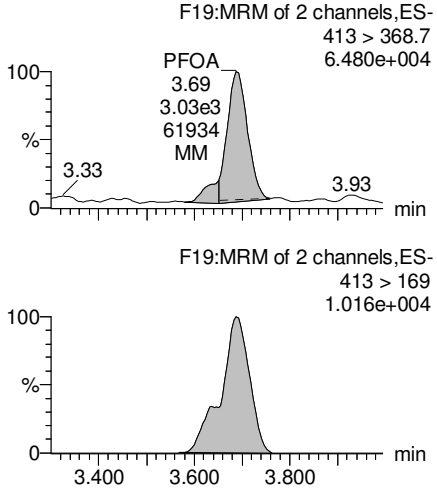
Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:49 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

Total PFOA



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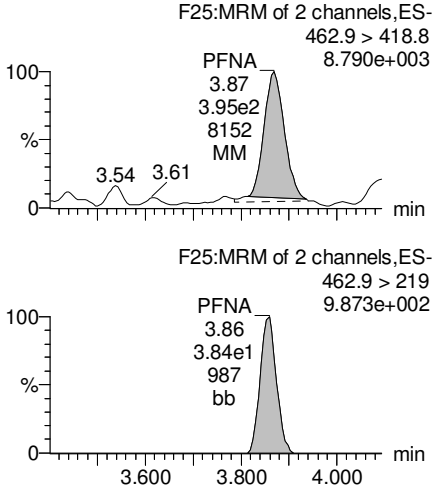
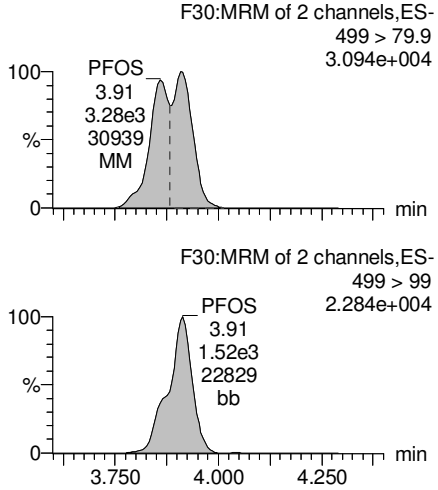


Total PFOS



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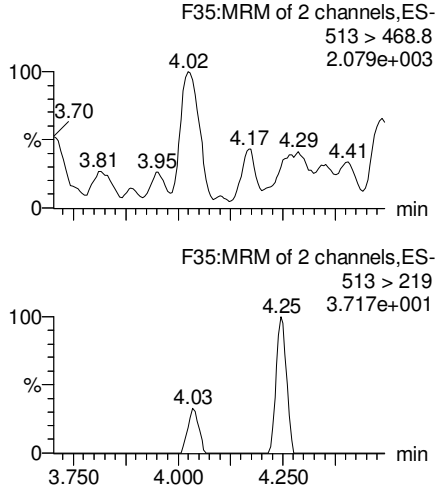

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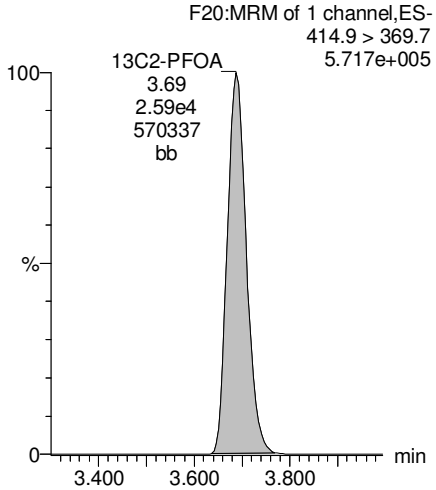

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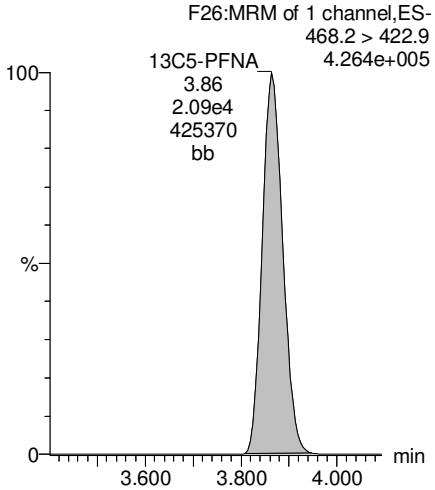

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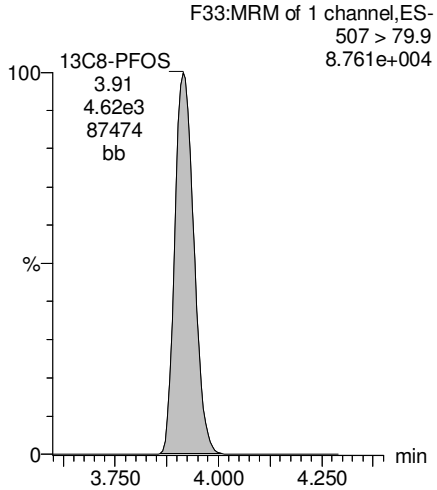

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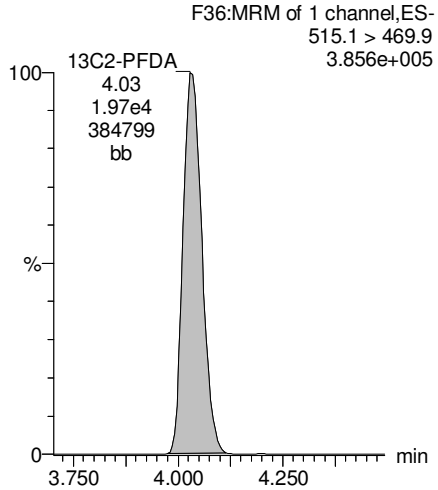

Reviewed: WJL 8/3/2017

GM 7/27/17

Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
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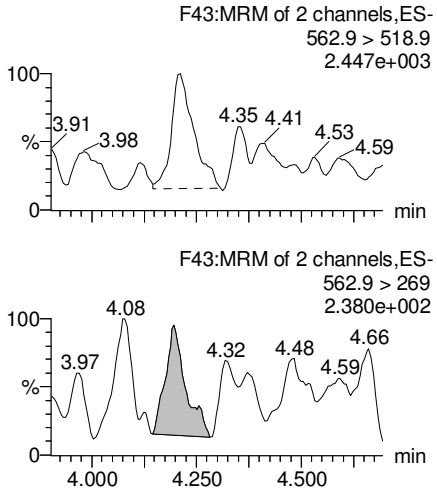
Reviewed: CT 08/03/2017

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

PFUnA



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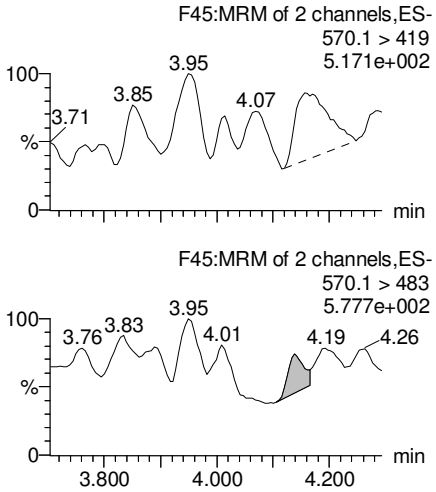

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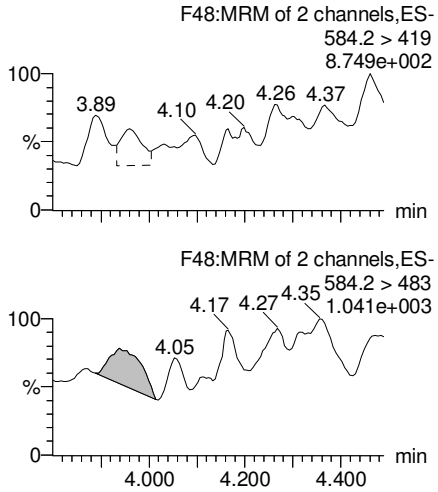

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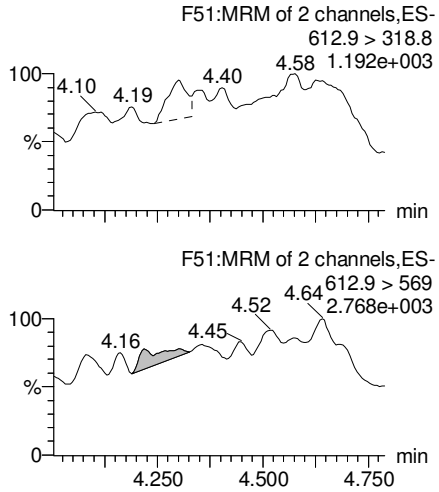

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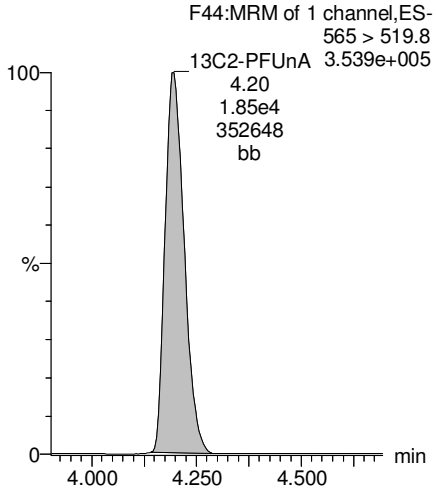

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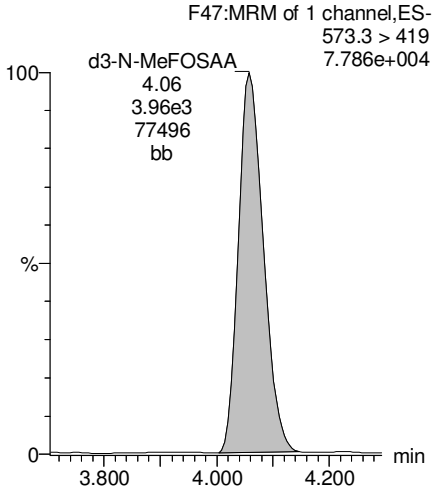

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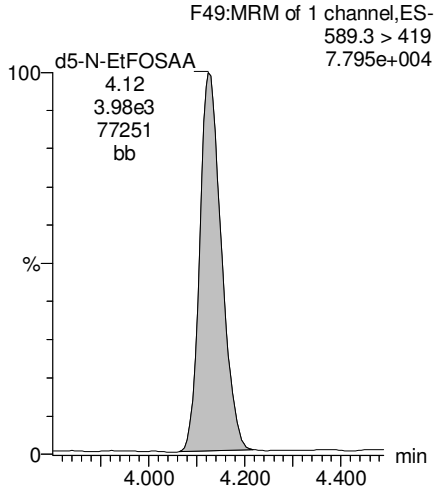

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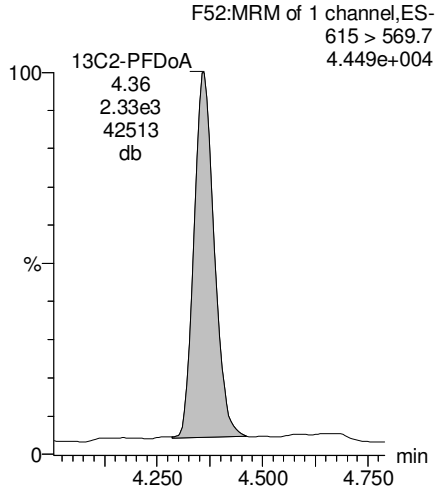


Reviewed: WJL 8/3/2017 GM 7/27/17

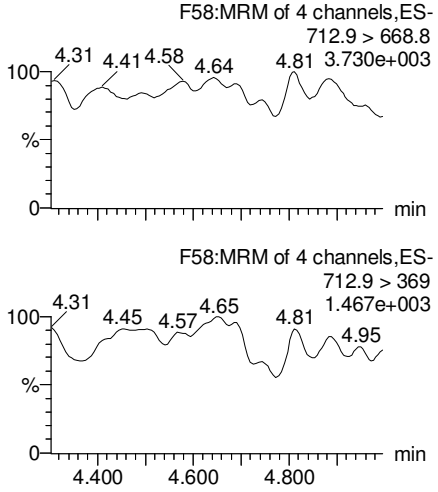
Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:49 Pacific Daylight Time

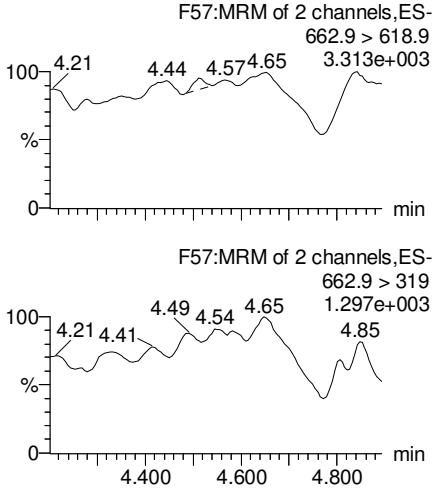
Reviewed: CT 08/03/2017

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

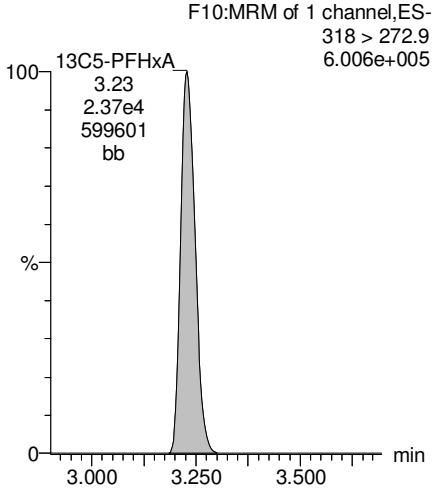
PFTeDA



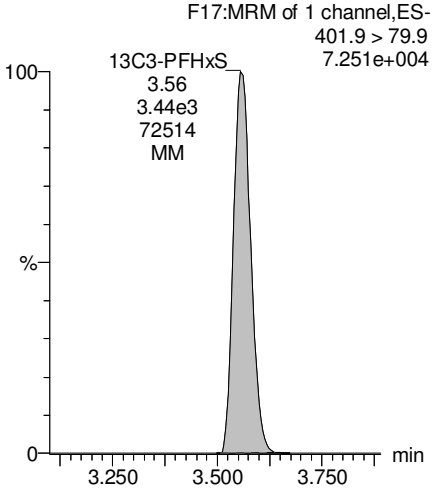
PFTrDA



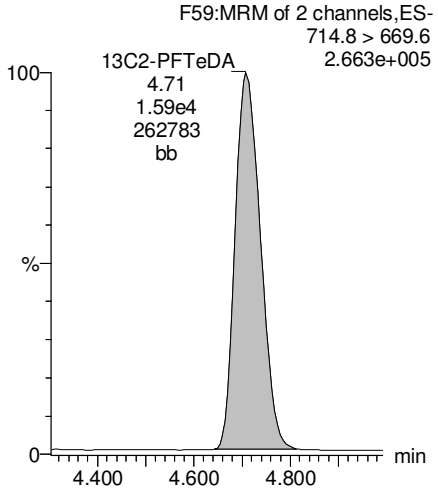
13C5-PFHxA



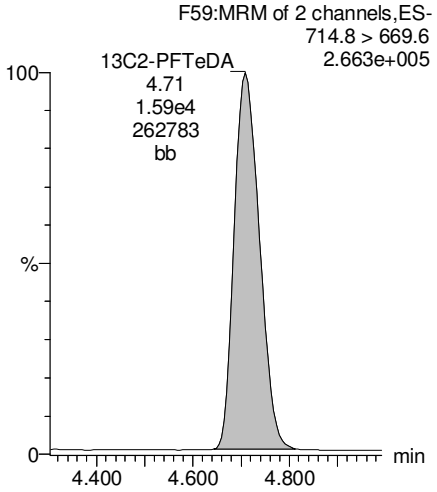
13C3-PFHxS



13C2-PFTeDA



13C2-PFTeDA



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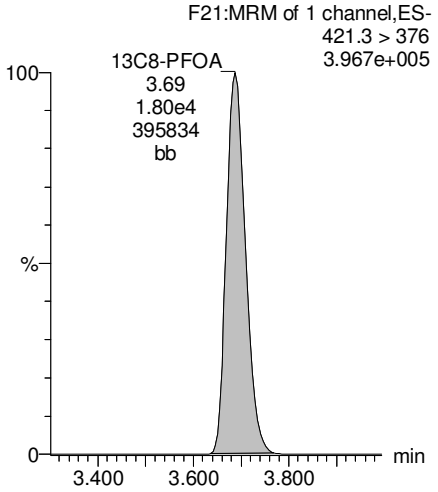
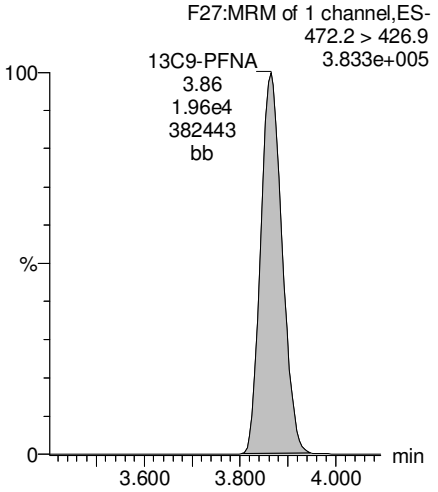


13C9-PFNA



Reviewed: WJL 8/3/2017 GM 7/27/17

Vista Analytical Laboratory

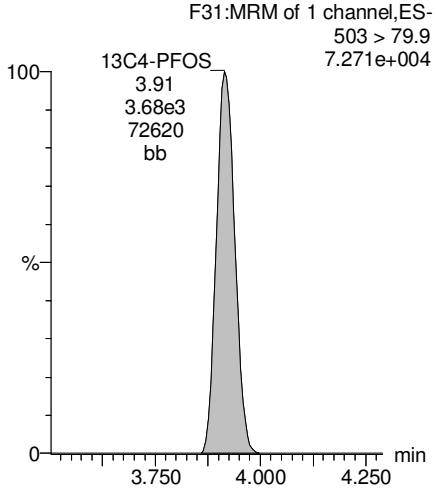
Dataset: U:\Q4.PRO\results\170725M1\170725M1-38.qld

Last Altered: Thursday, July 27, 2017 16:05:40 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:17:49 Pacific Daylight Time

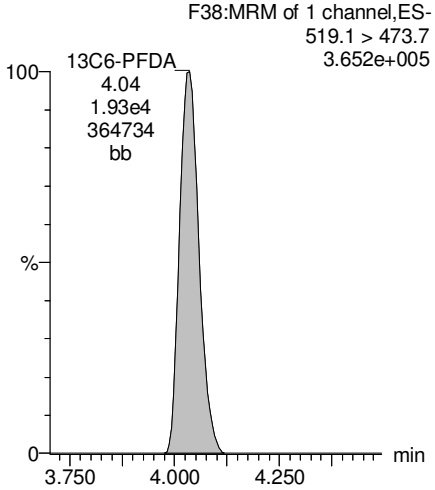
Reviewed: CT 08/03/2017

Name: 170725M1_38, Date: 25-Jul-2017, Time: 20:53:41, ID: 1700856-01RE1 INFLUENT-20170710 0.121, Description: INFLUENT-20170710

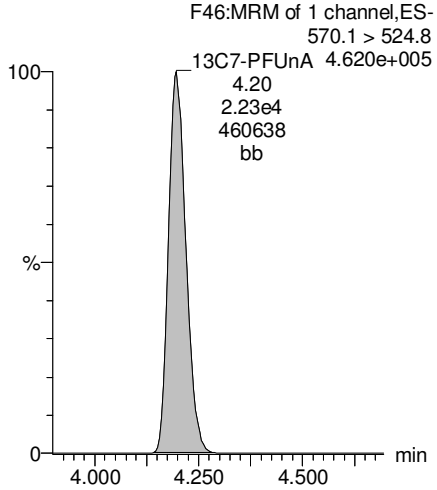
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Reviewed: WJL 8/3/2017 GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

Last Altered: Thursday, July 27, 2017 16:10:56 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:11:31 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	8.30e2	3.29e3	0.1165		2.96	3.00	3.16	14.3	
2	4	PFHxA	313.2 > 268.9	2.07e4	9.06e3	0.1165		3.19	3.23	11.4	63.9	
3	5	PFHpA	363 > 318.9	5.60e3	2.20e4	0.1165		3.45	3.49	3.19	21.3	
4	6	PFHxS	398.9 > 79.6	2.32e3	2.33e3	0.1165		3.56	3.56	12.4	62.8	
5	8	PFOA	413 > 368.7	3.24e3	2.70e4	0.1165		3.65	3.69	1.50	11.5	
6	10	PFNA	462.9 > 418.8	5.30e2	2.54e4	0.1165		3.83	3.86	0.261	0.887	
7	12	PFOS	499 > 79.9	3.72e3	5.31e3	0.1165		3.89	3.91	8.75	63.5	
8	13	PFDA	513 > 468.8		2.19e4	0.1165		4.01				
9	15	N-MeFOSAA	570.1 > 419		4.83e3	0.1165		4.03				
10	16	N-EtFOSAA	584.2 > 419		4.88e3	0.1165		4.10				
11	17	PFUnA	562.9 > 518.9		2.09e4	0.1165		4.17				
12	19	PFDoA	612.9 > 318.8	8.11e0	2.79e3	0.1165		4.34	4.30	0.0364		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

Last Altered: Thursday, July 27, 2017 16:10:56 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:11:46 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.79e3	0.1165		4.50				
2	22	PFTeDA	712.9 > 668.8		1.76e4	0.1165		4.68				
3	30	13C3-PFBS	302 > 98.8	3.29e3	2.83e4	0.1165	0.031	2.96	3.00	0.580	160	149.2
4	31	13C2-PFHxA	315 > 269.8	9.06e3	2.83e4	0.1165	0.276	3.19	3.22	1.60	49.7	115.8
5	32	13C4-PFHpA	367.2 > 321.8	2.20e4	2.83e4	0.1165	0.306	3.45	3.49	3.88	109	101.6
6	33	18O2-PFHxS	403 > 102.6	2.33e3	4.29e3	0.1165	0.393	3.56	3.56	6.79	148	138.3
7	35	13C2-PFOA	414.9 > 369.7	2.70e4	2.30e4	0.1165	1.067	3.65	3.69	14.7	118	109.9
8	36	13C5-PFNA	468.2 > 422.9	2.54e4	2.57e4	0.1165	0.852	3.83	3.86	12.4	125	116.2
9	38	13C8-PFOS	507 > 79.9	5.31e3	4.33e3	0.1165	0.936	3.89	3.91	15.3	141	131.1
10	39	13C2-PFDA	515.1 > 469.9	2.19e4	2.16e4	0.1165	0.810	4.01	4.03	12.6	134	124.8

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

Last Altered: Thursday, July 27, 2017 16:10:56 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:12:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	4.83e3	2.27e4	0.1165	0.014	4.03	4.06	2.66	1670	119.6
2	42	d5-N-EtFOSAA	589.3 > 419	4.88e3	2.27e4	0.1165	0.014	4.12	4.12	2.69	1660	118.6
3	43	13C2-PFUnA	565 > 519.8	2.09e4	2.27e4	0.1165	0.962	4.17	4.19	11.5	103	95.7
4	44	13C2-PFDoA	615 > 569.7	2.79e3	2.27e4	0.1165	0.094	4.34	4.36	1.54	140	130.1
5	46	13C2-PFTeDA	714.8 > 669.6	1.76e4	2.27e4	0.1165	0.694	4.68	4.71	9.71	120	111.9
6	52	13C5-PFHxA	318 > 272.9	2.83e4	2.83e4	0.1165	1.000	3.19	3.23	5.00	42.9	100.0
7	53	13C3-PFHxS	401.9 > 79.9	4.29e3	4.29e3	0.1165	1.000	3.56	3.56	12.5	107	100.0
8	54	13C8-PFOA	421.3 > 376	2.30e4	2.30e4	0.1165	1.000	3.65	3.68	12.5	107	100.0
9	55	13C9-PFNA	472.2 > 426.9	2.57e4	2.57e4	0.1165	1.000	3.83	3.86	12.5	107	100.0
10	56	13C4-PFOS	503 > 79.9	4.33e3	4.33e3	0.1165	1.000	3.89	3.91	12.5	107	100.0
11	57	13C6-PFDA	519.1 > 473.7	2.16e4	2.16e4	0.1165	1.000	4.01	4.03	12.5	107	100.0
12	58	13C7-PFUnA	570.1 > 524.8	2.27e4	2.27e4	0.1165	1.000	4.17	4.19	12.5	107	100.0
13	59	Total PFBS	299 > 79.7	8.30e2	3.29e3	0.1165		2.96		3.16	14.3	
14	60	Total PFHxS	398.9 > 79.6	2.32e3	2.33e3	0.1165		3.52		12.4	62.8	
15	61	Total PFOA	413 > 368.7	3.50e3	2.70e4	0.1165		3.65		1.50	11.5	
16	62	Total PFOS	499 > 79.9	3.72e3	5.31e3	0.1165		3.89		8.75	63.5	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	4.83e3	0.1165		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	4.88e3	0.1165		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

Last Altered: Thursday, July 27, 2017 16:10:56 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:12:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	829.812	3286.767	3.156	bb	14.3

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	2315.210	2331.493	12.413	MM	62.8

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	3242.025	26980.543	1.502	db	11.5
2	61	Total PFOA	413 > 368.7	3.63	255.060	26980.543	0.118	bdl	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	3717.674	5310.273	8.751	MM	63.5

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			4832.591		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			4879.207		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

Last Altered: Thursday, July 27, 2017 16:24:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:24:37 Pacific Daylight Time

Reviewed: CT 08/03/2017

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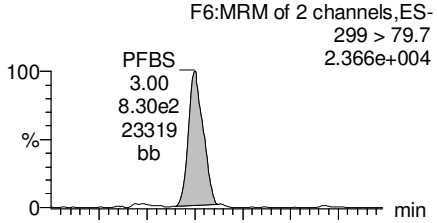
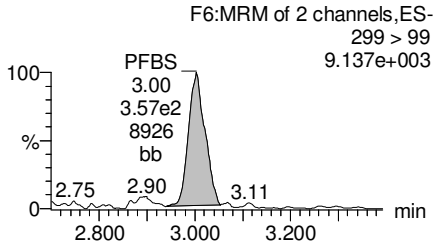
Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

Total PFBS





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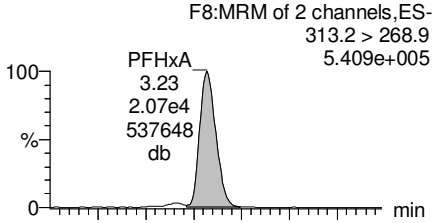

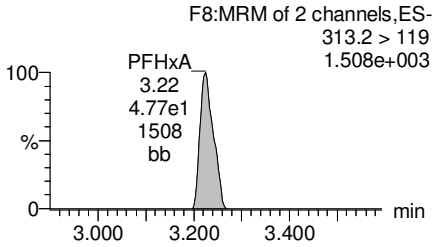

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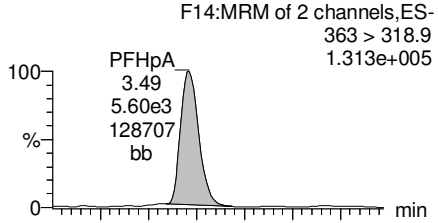
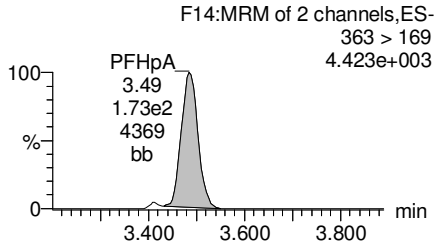
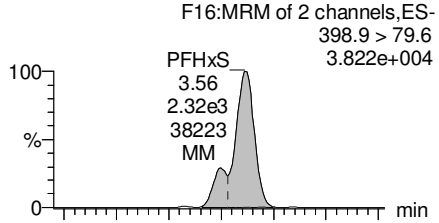
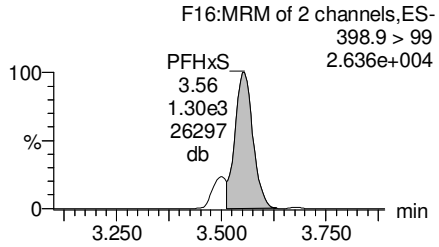


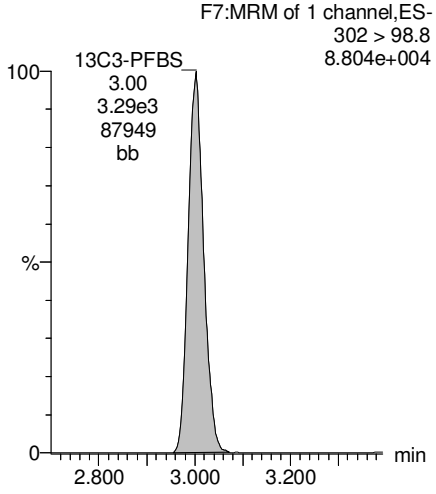


Total PFHxS

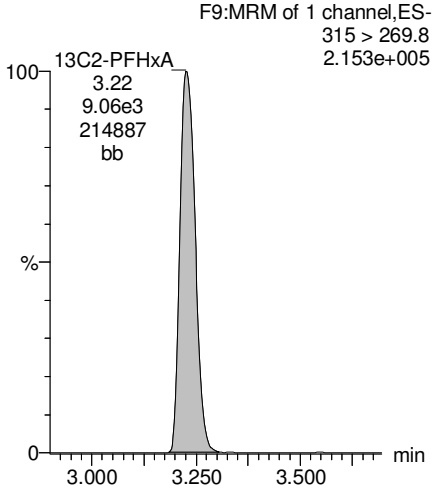




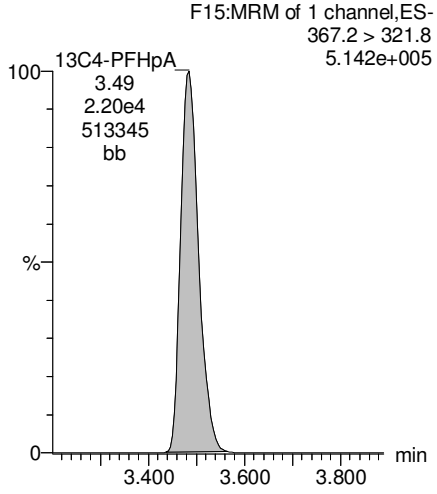
13C3-PFBS



13C2-PFHxA



13C4-PFHpA



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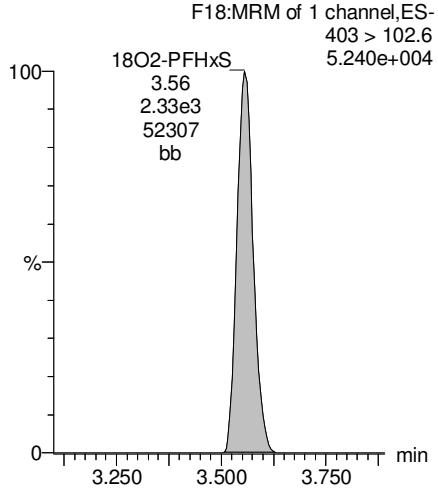


Vista Analytical Laboratory

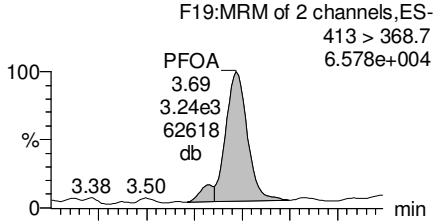
Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

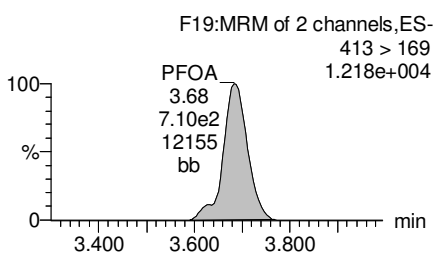
Last Altered: Thursday, July 27, 2017 16:24:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:24:37 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

Total PFOA





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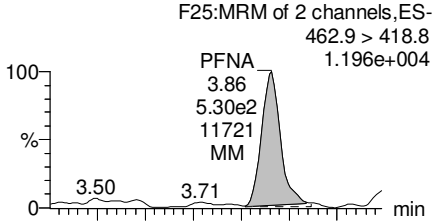
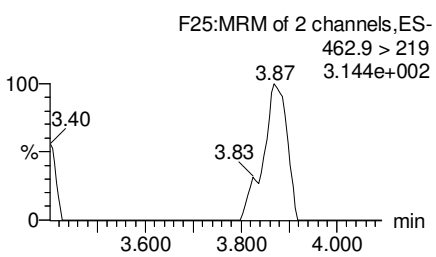
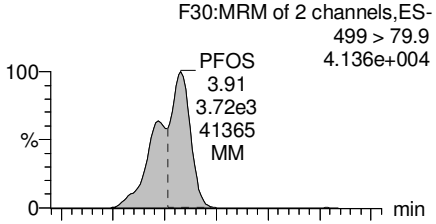
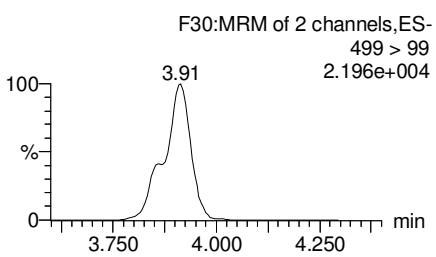


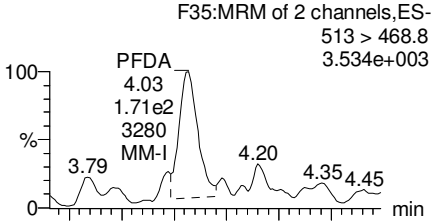


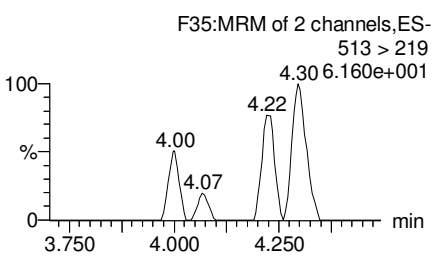
Total PFOS



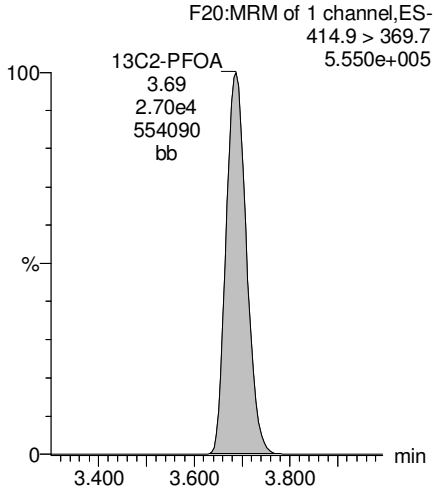


PFDA

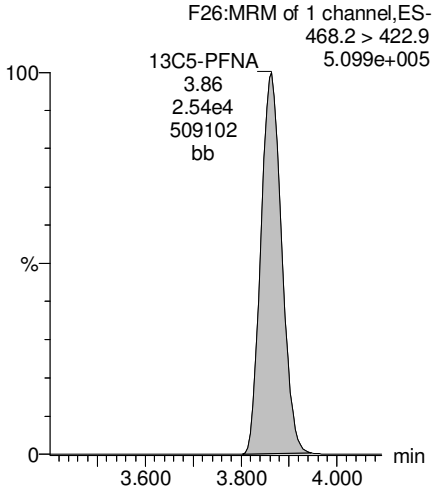




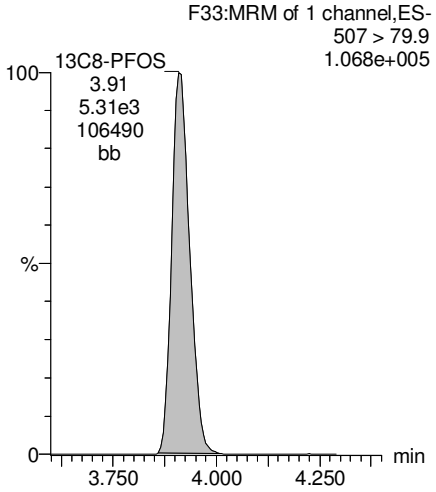
13C2-PFOA



13C5-PFNA



13C8-PFOS



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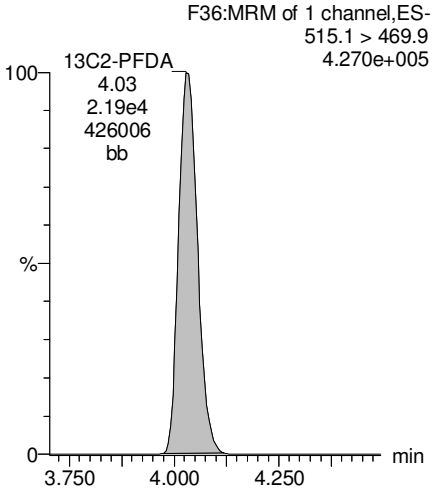

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Last Altered: Thursday, July 27, 2017 16:24:03 Pacific Daylight Time
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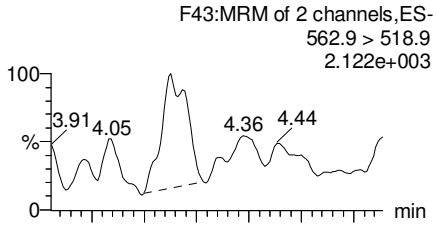
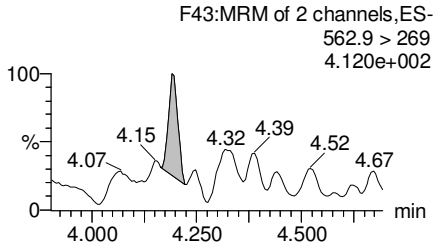
Reviewed: CT 08/03/2017

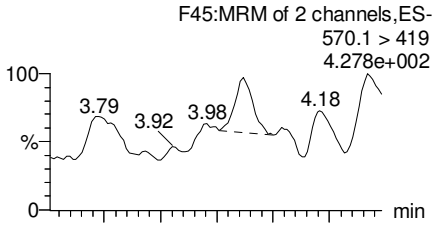
Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

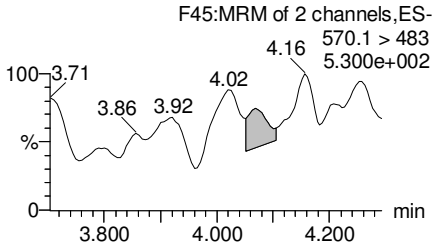
PFUnA



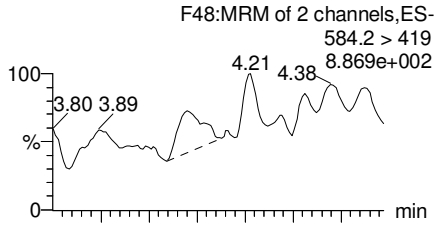


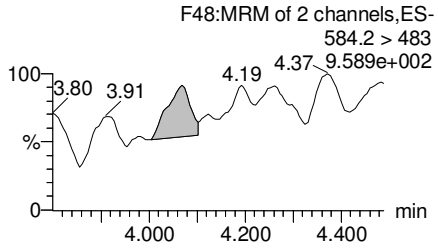
N-MeFOSAA



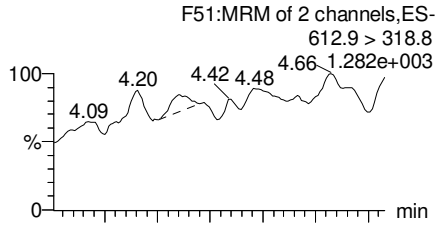


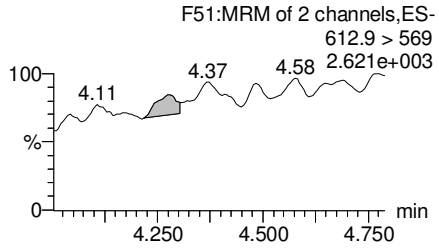
N-EtFOSAA



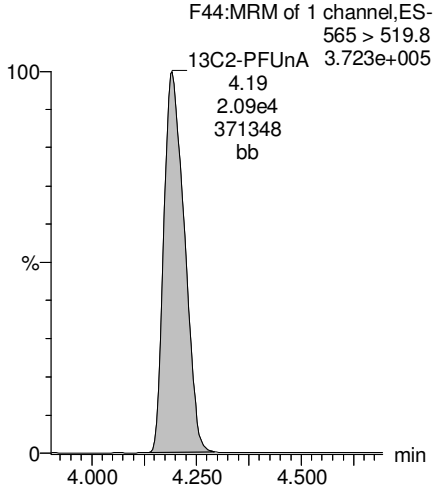


PFDoA

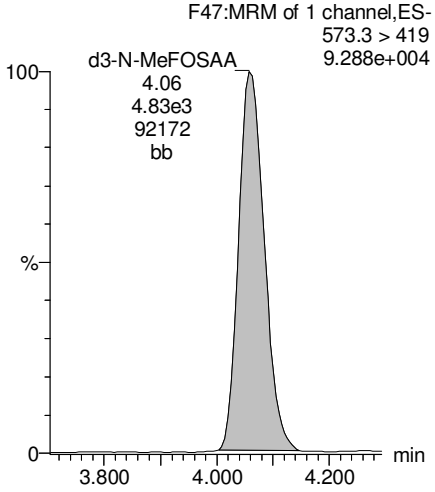




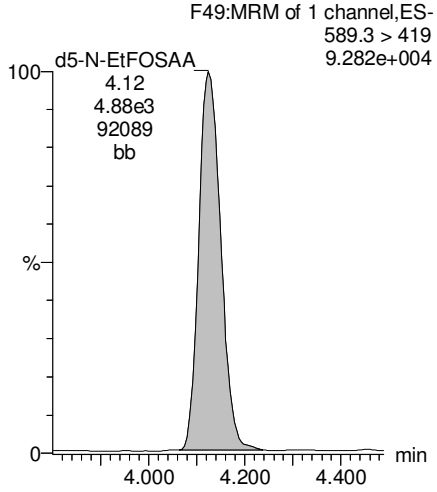
13C2-PFUnA



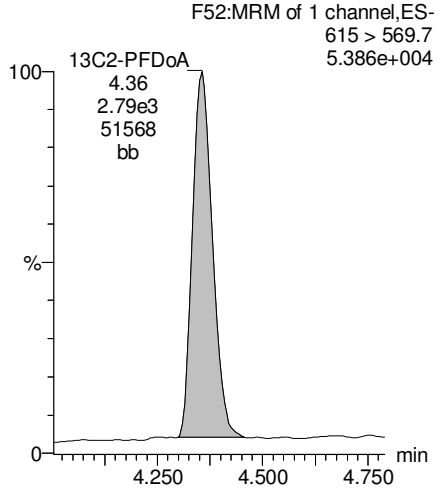
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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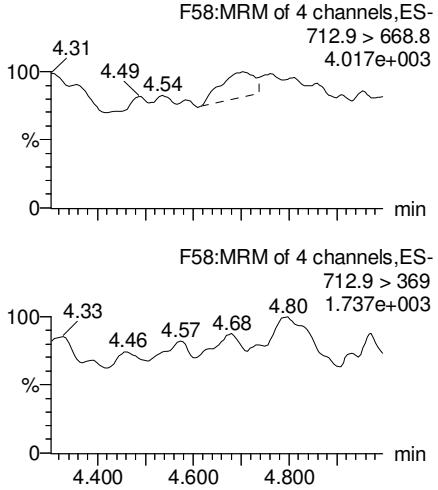
Last Altered: Thursday, July 27, 2017 16:24:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:24:37 Pacific Daylight Time

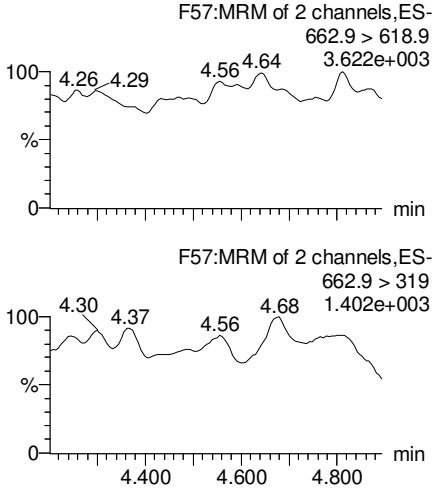
Reviewed: CT 08/03/2017

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

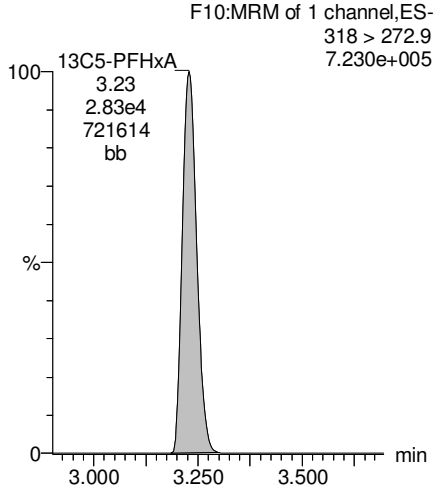
PFTeDA



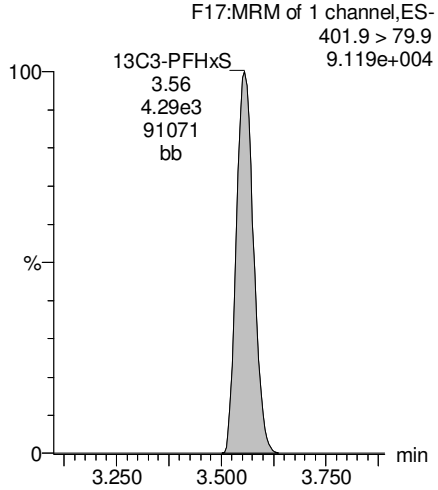
PFTrDA



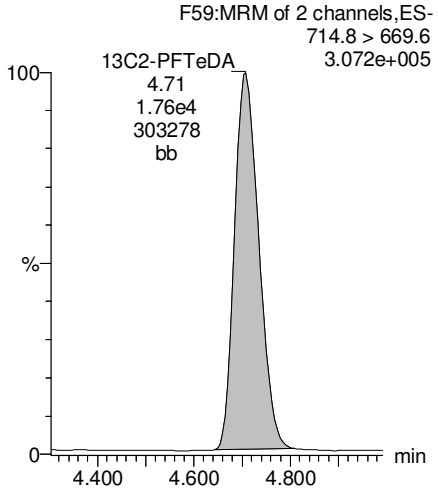
13C5-PFHxA



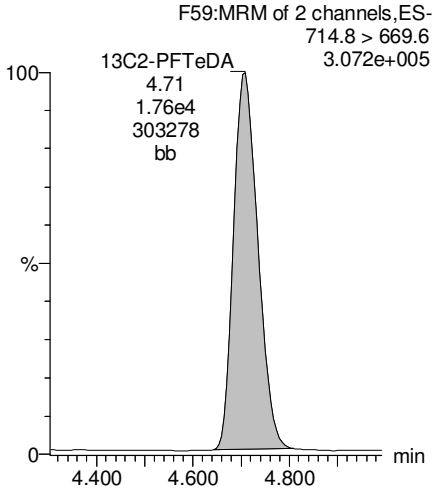
13C3-PFHxS



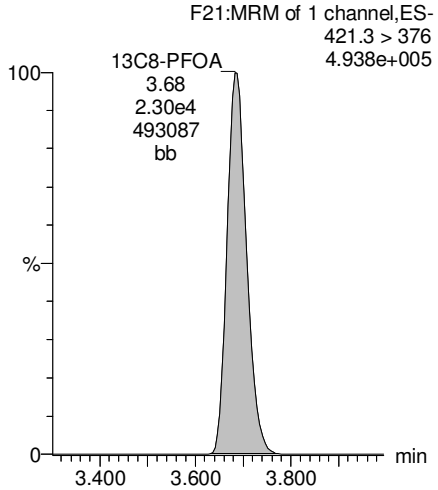
13C2-PFTeDA



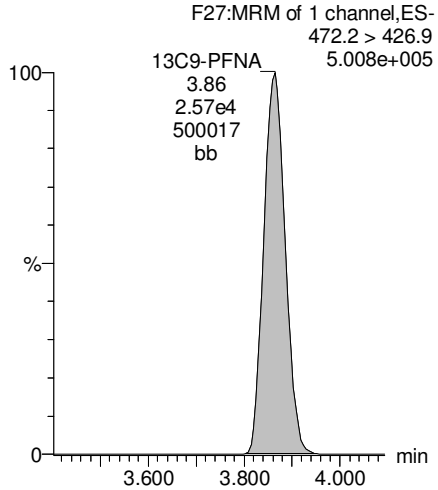
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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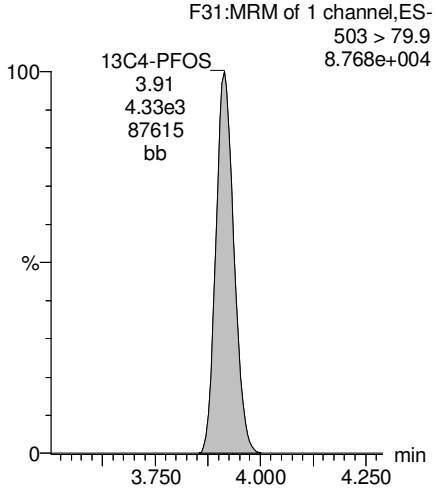
Dataset: U:\Q4.PRO\results\170725M1\170725M1-39.qld

Last Altered: Thursday, July 27, 2017 16:24:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:24:37 Pacific Daylight Time

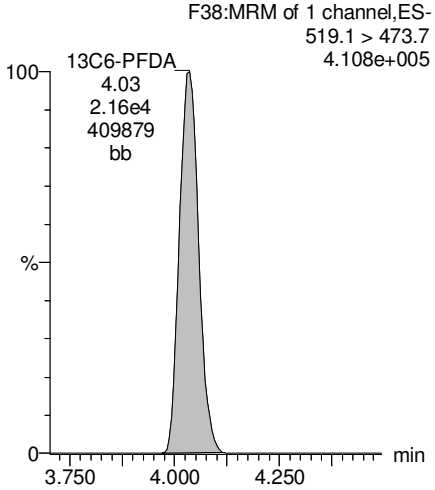
Reviewed: CT 08/03/2017

Name: 170725M1_39, Date: 25-Jul-2017, Time: 21:04:19, ID: 1700856-02RE1 DUP05-20170710 0.11647, Description: DUP05-20170710

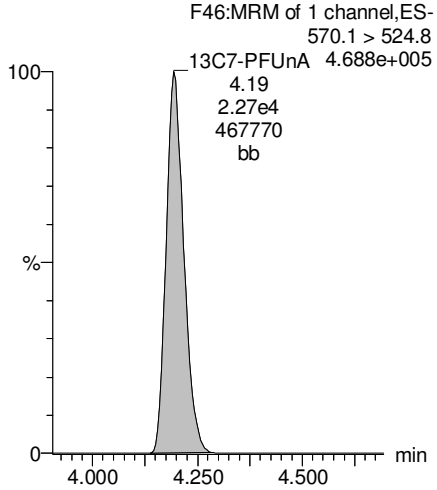
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:14:52 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		5.31e3	0.1173		2.96				
2	4	PFHxA	313.2 > 268.9		1.41e4	0.1173		3.19				
3	5	PFHpA	363 > 318.9		3.26e4	0.1173		3.45				
4	6	PFHxS	398.9 > 79.6	1.17e0	3.58e3	0.1173		3.56	3.55	0.00408	0.0774	
5	8	PFOA	413 > 368.7		4.30e4	0.1173		3.65				
6	10	PFNA	462.9 > 418.8		3.77e4	0.1173		3.83				
7	12	PFOS	499 > 79.9	8.39e0	8.49e3	0.1173		3.89	3.88	0.0124		
8	13	PFDA	513 > 468.8		3.47e4	0.1173		4.01				
9	15	N-MeFOSAA	570.1 > 419		7.12e3	0.1173		4.03				
10	16	N-EtFOSAA	584.2 > 419		7.24e3	0.1173		4.10				
11	17	PFUnA	562.9 > 518.9		3.50e4	0.1173		4.17				
12	19	PFDoA	612.9 > 318.8		3.22e3	0.1173		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:15:05 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		3.22e3	0.1173		4.50					
2	22	PFTeDA	712.9 > 668.8		1.45e4	0.1173		4.68					
3	30	13C3-PFBS	302 > 98.8	5.31e3	3.77e4	0.1173	0.031	2.96	3.00	0.704	193	181.0	H
4	31	13C2-PFHxA	315 > 269.8	1.41e4	3.77e4	0.1173	0.276	3.19	3.23	1.86	57.5	134.9	
5	32	13C4-PFHpA	367.2 > 321.8	3.26e4	3.77e4	0.1173	0.306	3.45	3.49	4.33	121	113.3	
6	33	18O2-PFHxS	403 > 102.6	3.58e3	7.55e3	0.1173	0.393	3.56	3.56	5.92	129	120.6	
7	35	13C2-PFOA	414.9 > 369.7	4.30e4	3.23e4	0.1173	1.067	3.65	3.69	16.7	133	124.8	
8	36	13C5-PFNA	468.2 > 422.9	3.77e4	3.72e4	0.1173	0.852	3.83	3.86	12.6	126	118.7	
9	38	13C8-PFOS	507 > 79.9	8.49e3	6.51e3	0.1173	0.936	3.89	3.91	16.3	148	139.3	
10	39	13C2-PFDA	515.1 > 469.9	3.47e4	3.56e4	0.1173	0.810	4.01	4.03	12.2	128	120.6	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:15:34 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	7.12e3	3.22e4	0.1173	0.014	4.03	4.06	2.76	1720	124.2
2	42	d5-N-EtFOSAA	589.3 > 419	7.24e3	3.22e4	0.1173	0.014	4.12	4.12	2.81	1720	124.1
3	43	13C2-PFUnA	565 > 519.8	3.50e4	3.22e4	0.1173	0.962	4.17	4.20	13.6	121	113.2
4	44	13C2-PFDoA	615 > 569.7	3.22e3	3.22e4	0.1173	0.094	4.34	4.36	1.25	113	105.9
5	46	13C2-PFTeDA	714.8 > 669.6	1.45e4	3.22e4	0.1173	0.694	4.68	4.71	5.64	69.2	64.9
6	52	13C5-PFHxA	318 > 272.9	3.77e4	3.77e4	0.1173	1.000	3.19	3.23	5.00	42.6	100.0
7	53	13C3-PFHxS	401.9 > 79.9	7.55e3	7.55e3	0.1173	1.000	3.56	3.56	12.5	107	100.0
8	54	13C8-PFOA	421.3 > 376	3.23e4	3.23e4	0.1173	1.000	3.65	3.69	12.5	107	100.0
9	55	13C9-PFNA	472.2 > 426.9	3.72e4	3.72e4	0.1173	1.000	3.83	3.86	12.5	107	100.0
10	56	13C4-PFOS	503 > 79.9	6.51e3	6.51e3	0.1173	1.000	3.89	3.91	12.5	107	100.0
11	57	13C6-PFDA	519.1 > 473.7	3.56e4	3.56e4	0.1173	1.000	4.01	4.03	12.5	107	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.22e4	3.22e4	0.1173	1.000	4.17	4.20	12.5	107	100.0
13	59	Total PFBS	299 > 79.7	0.00e0	5.31e3	0.1173		2.96		0.000		
14	60	Total PFHxS	398.9 > 79.6	1.17e0	3.58e3	0.1173		3.52		0.00408	0.0774	
15	61	Total PFOA	413 > 368.7	0.00e0	4.30e4	0.1173		3.65		0.000		
16	62	Total PFOS	499 > 79.9	8.39e0	8.49e3	0.1173		3.89		0.000		
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	7.12e3	0.1173		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	7.24e3	0.1173		4.17		0.000		

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
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Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

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	6	PFHxS	398.9 > 79.6	3.55	1.168	3577.281	0.004	MM	0.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			43037.770		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.88	8.387	8486.026	0.012	bbl	

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	16	N-EtFOSAA	584.2 > 419			7238.100		MM-I	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

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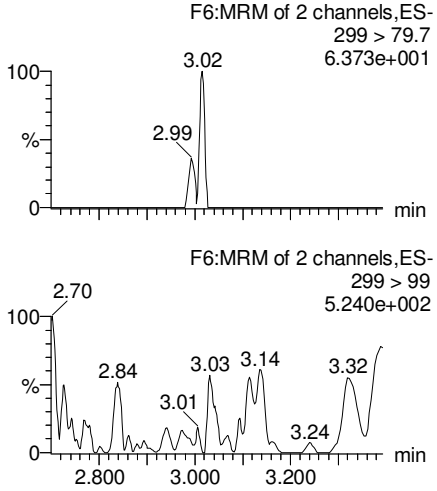
Printed: Thursday, July 27, 2017 16:15:34 Pacific Daylight Time

Reviewed: CT 08/03/2017

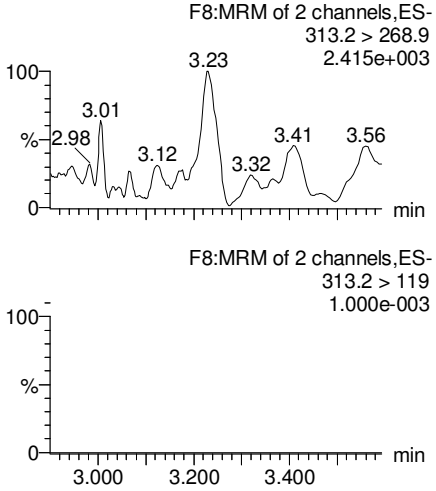
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

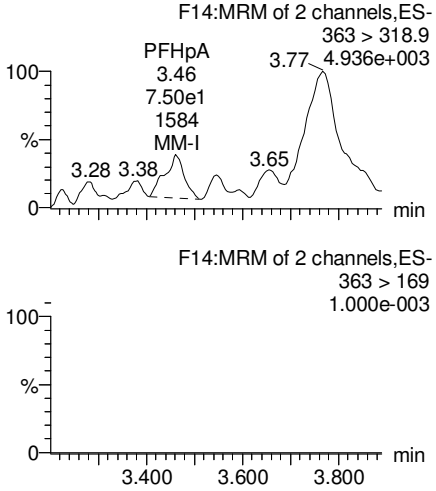
Total PFBS



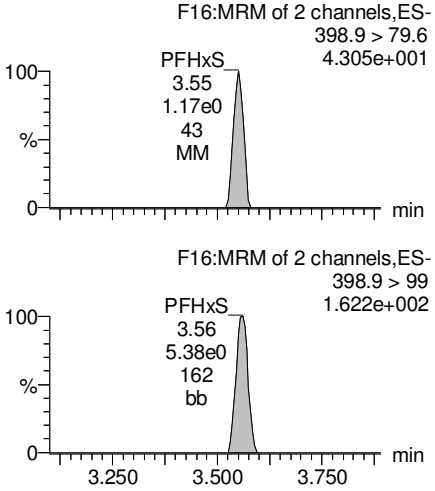
PFHxA



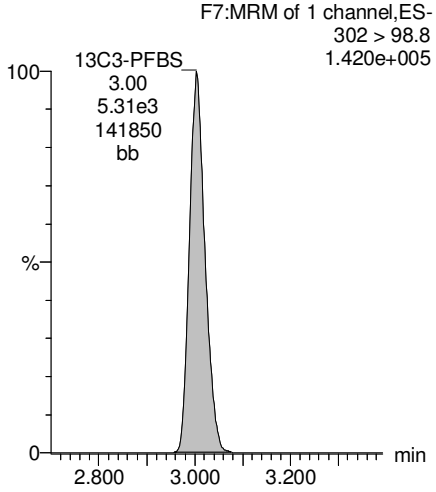
PFHpA



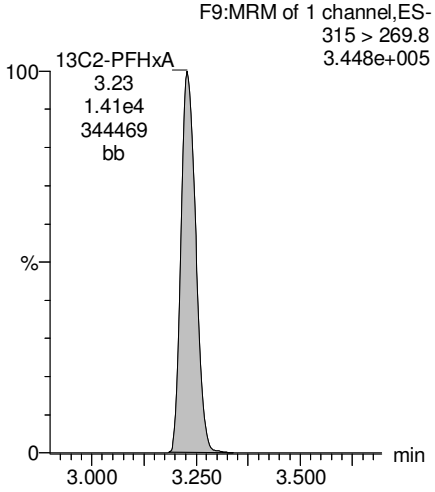
Total PFHxS



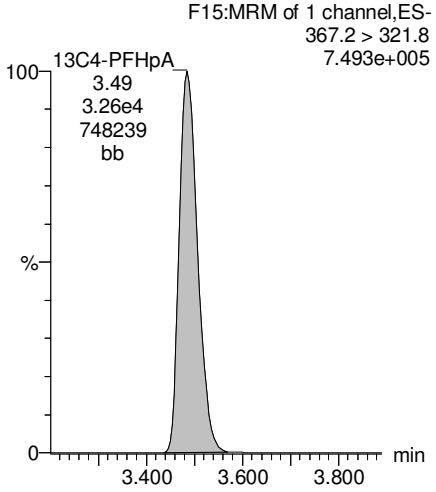
13C3-PFBS



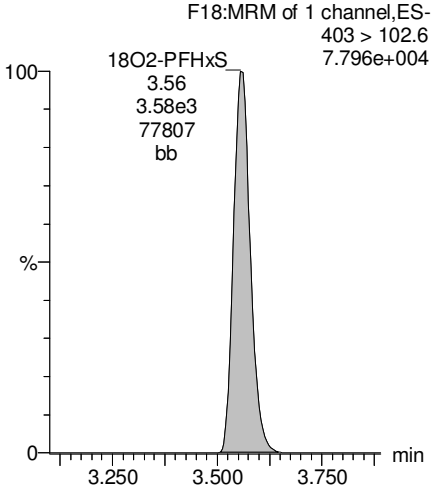
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



GM 7/27/17

Vista Analytical Laboratory

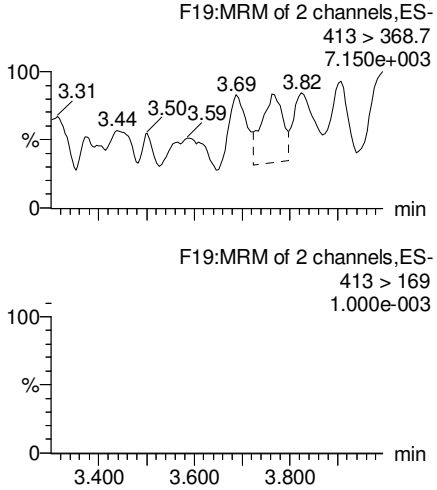
Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:15:34 Pacific Daylight Time

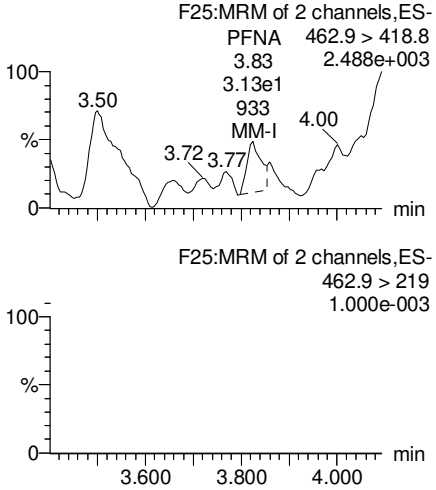
Reviewed: CT 08/03/2017

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

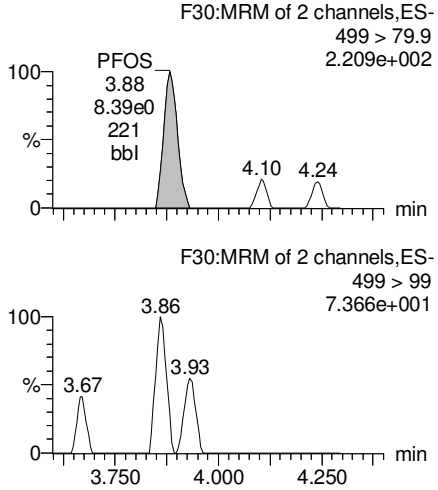
Total PFOA



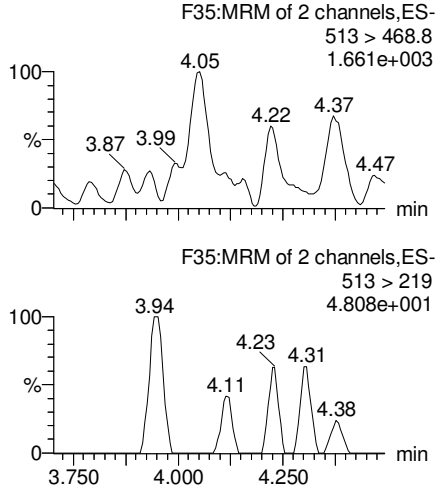
PFNA



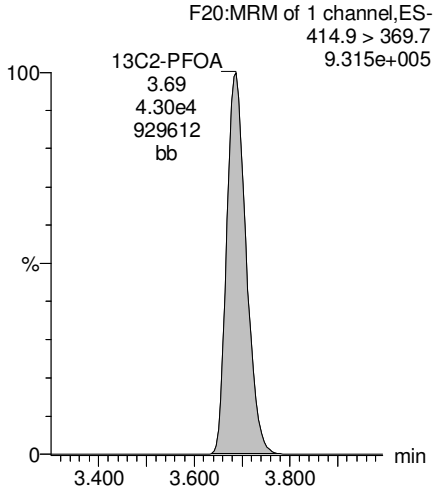
Total PFOS



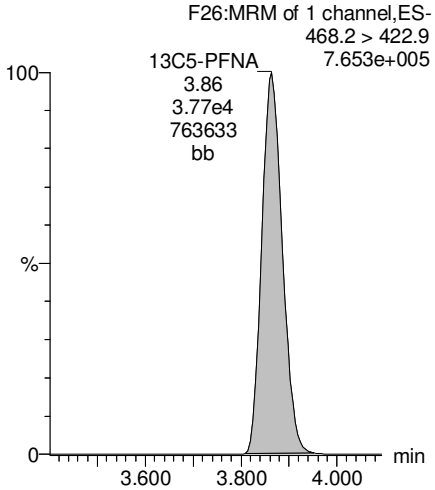
PFDA



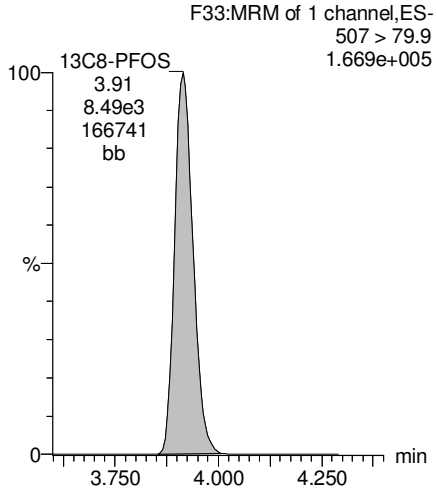
13C2-PFOA



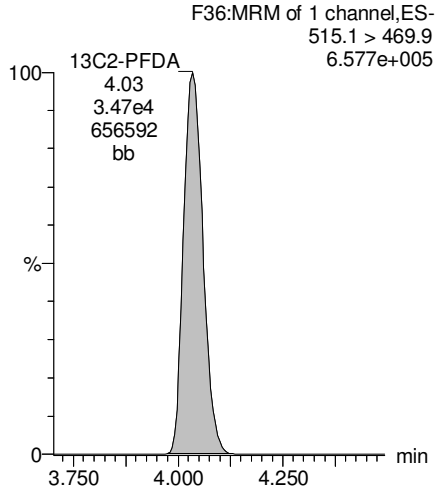
13C5-PFNA



13C8-PFOS



13C2-PFDA



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Vista Analytical Laboratory

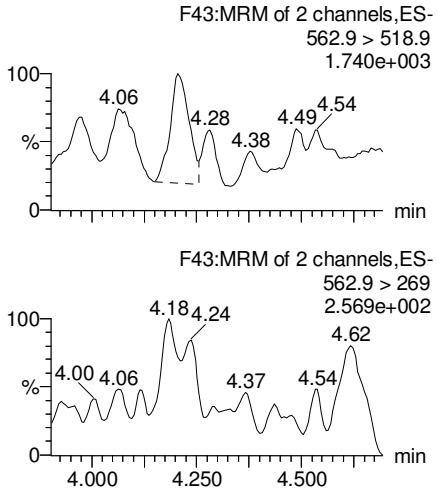
Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:15:34 Pacific Daylight Time

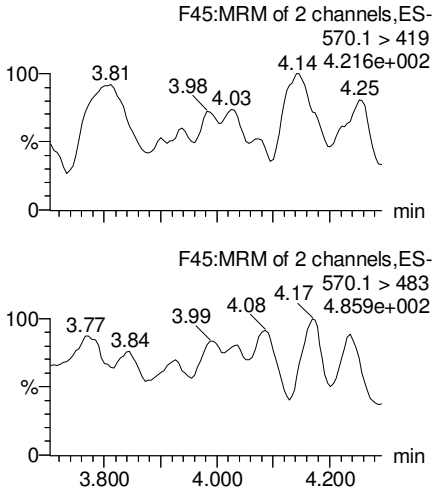
Reviewed: CT 08/03/2017

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

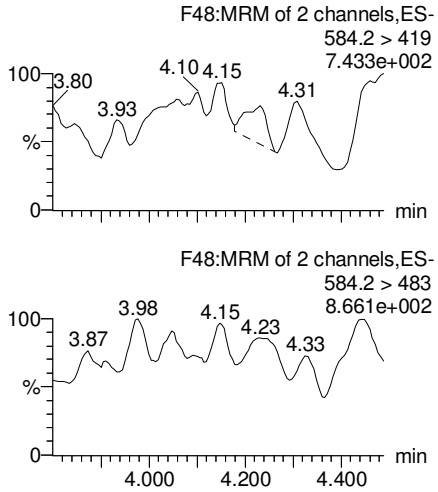
PFUnA



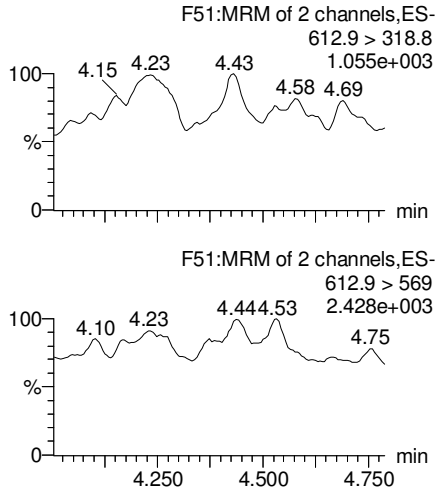
N-MeFOSAA



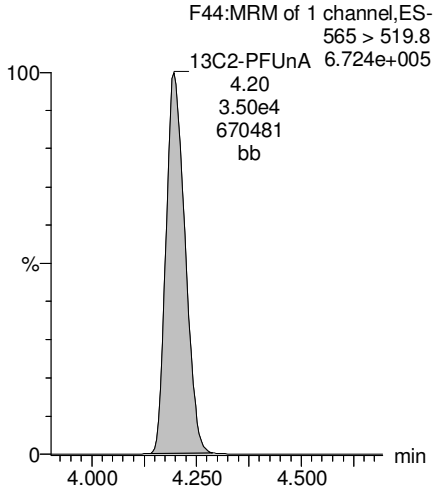
N-EtFOSAA



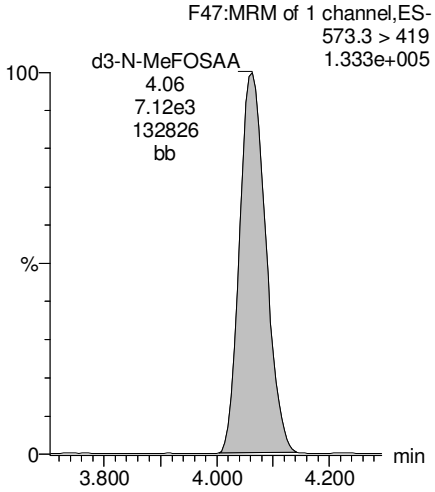
PFDoA



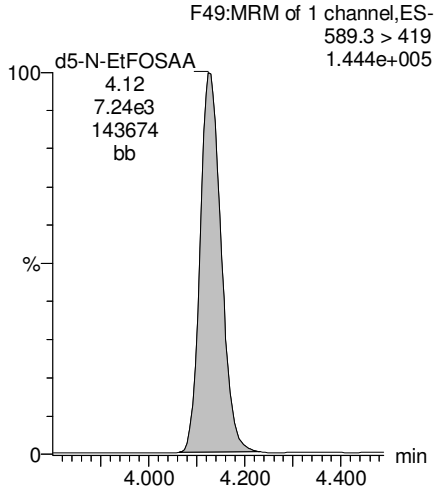
13C2-PFUnA



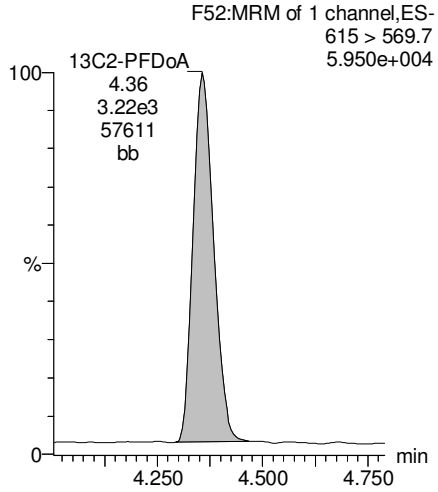
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



GM 7/27/17

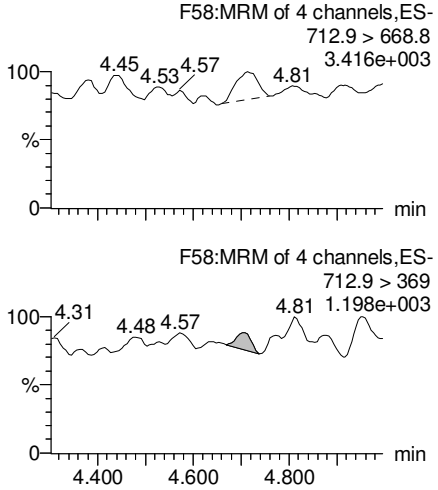
Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:15:34 Pacific Daylight Time

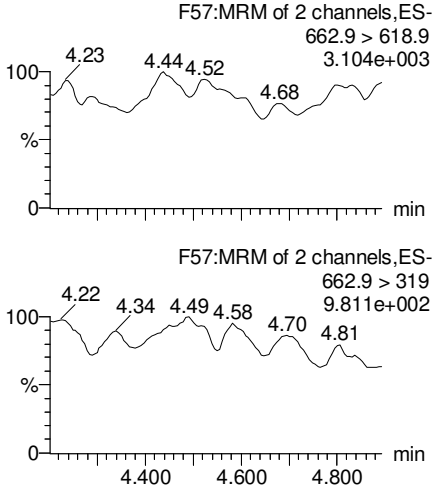
Reviewed: CT 08/03/2017

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

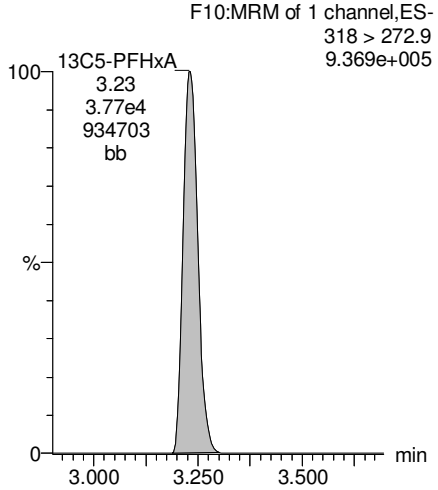
PFTeDA



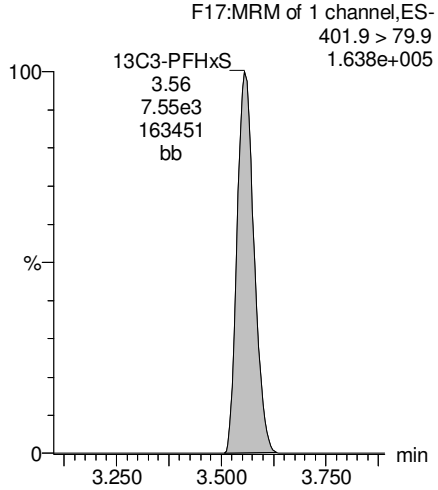
PFTrDA



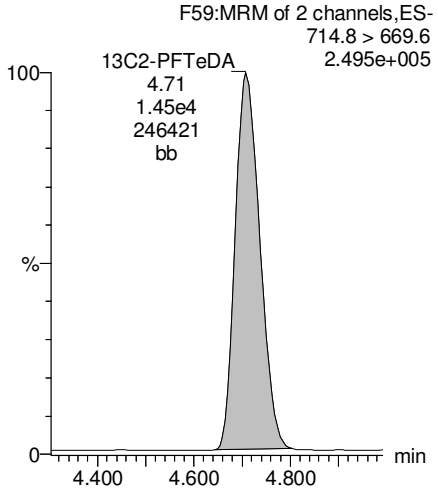
13C5-PFHxA



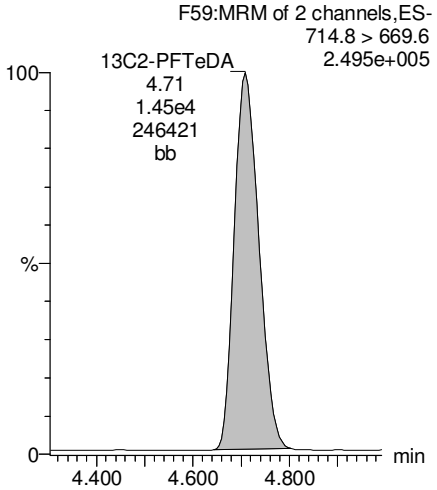
13C3-PFHxS



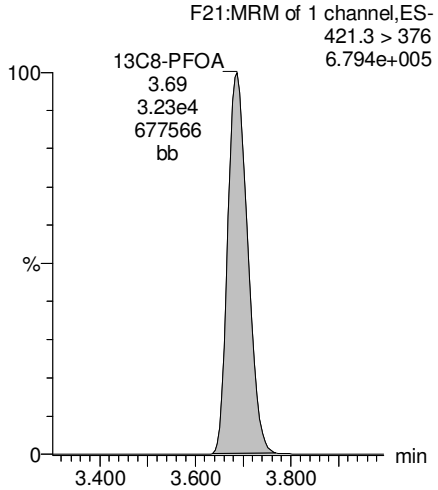
13C2-PFTeDA



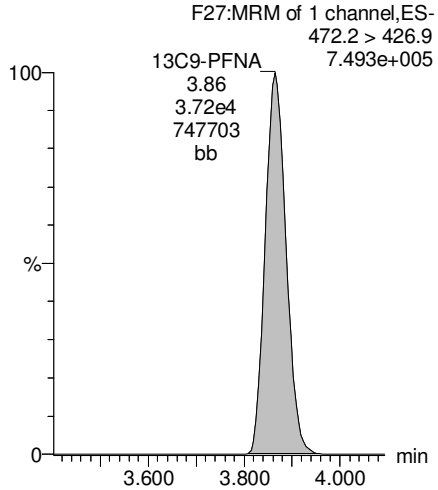
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

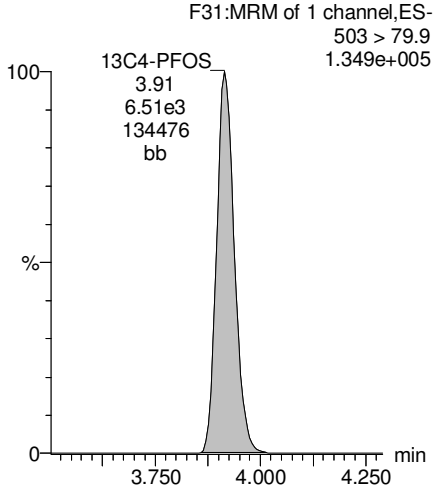
Dataset: U:\Q4.PRO\results\170725M1\170725M1-40.qld

Last Altered: Thursday, July 27, 2017 16:14:12 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:15:34 Pacific Daylight Time

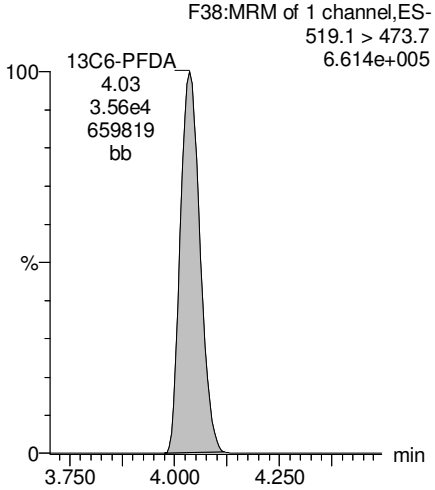
Reviewed: CT 08/03/2017

Name: 170725M1_40, Date: 25-Jul-2017, Time: 21:14:58, ID: 1700856-03RE1 MID-POINT-20170710 0.11731, Description: MID-POINT-20170710

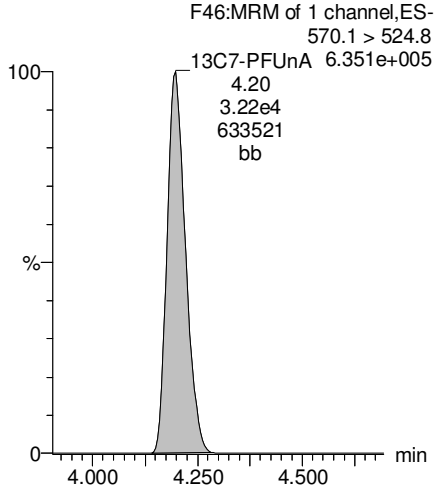
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:21:10 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		5.15e3	0.1208		2.96				
2	4	PFHxA	313.2 > 268.9		1.40e4	0.1208		3.19				
3	5	PFHpA	363 > 318.9		3.26e4	0.1208		3.45				
4	6	PFHxS	398.9 > 79.6	2.28e0	3.52e3	0.1208		3.56	3.58	0.00810	0.0947	
5	8	PFOA	413 > 368.7		4.37e4	0.1208		3.65				
6	10	PFNA	462.9 > 418.8		4.06e4	0.1208		3.83				
7	12	PFOS	499 > 79.9		8.73e3	0.1208		3.89				
8	13	PFDA	513 > 468.8		3.80e4	0.1208		4.01				
9	15	N-MeFOSAA	570.1 > 419		7.51e3	0.1208		4.03				
10	16	N-EtFOSAA	584.2 > 419		7.33e3	0.1208		4.10				
11	17	PFUnA	562.9 > 518.9	1.03e2	3.67e4	0.1208		4.17	4.19	0.0350	0.252	
12	19	PFDoA	612.9 > 318.8		4.19e3	0.1208		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:21:25 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		4.19e3	0.1208		4.50					
2	22	PFTeDA	712.9 > 668.8		2.83e4	0.1208		4.68					
3	30	13C3-PFBS	302 > 98.8	5.15e3	4.15e4	0.1208	0.031	2.96	3.00	0.621	165	159.6	H
4	31	13C2-PFHxA	315 > 269.8	1.40e4	4.15e4	0.1208	0.276	3.19	3.23	1.69	50.5	122.0	
5	32	13C4-PFHpA	367.2 > 321.8	3.26e4	4.15e4	0.1208	0.306	3.45	3.49	3.93	106	102.8	
6	33	18O2-PFHxS	403 > 102.6	3.52e3	7.63e3	0.1208	0.393	3.56	3.56	5.77	122	117.5	
7	35	13C2-PFOA	414.9 > 369.7	4.37e4	3.76e4	0.1208	1.067	3.65	3.69	14.5	113	108.9	
8	36	13C5-PFNA	468.2 > 422.9	4.06e4	4.24e4	0.1208	0.852	3.83	3.86	12.0	116	112.5	
9	38	13C8-PFOS	507 > 79.9	8.73e3	7.26e3	0.1208	0.936	3.89	3.91	15.0	133	128.6	
10	39	13C2-PFDA	515.1 > 469.9	3.80e4	3.84e4	0.1208	0.810	4.01	4.03	12.3	126	121.9	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	7.51e3	3.98e4	0.1208	0.014	4.03	4.06	2.36	1420	105.9
2	42	d5-N-EtFOSAA	589.3 > 419	7.33e3	3.98e4	0.1208	0.014	4.12	4.12	2.30	1370	101.6
3	43	13C2-PFUnA	565 > 519.8	3.67e4	3.98e4	0.1208	0.962	4.17	4.19	11.5	99.2	95.9
4	44	13C2-PFDoA	615 > 569.7	4.19e3	3.98e4	0.1208	0.094	4.34	4.36	1.32	115	111.5
5	46	13C2-PFTeDA	714.8 > 669.6	2.83e4	3.98e4	0.1208	0.694	4.68	4.71	8.88	106	102.3
6	52	13C5-PFHxA	318 > 272.9	4.15e4	4.15e4	0.1208	1.000	3.19	3.23	5.00	41.4	100.0
7	53	13C3-PFHxS	401.9 > 79.9	7.63e3	7.63e3	0.1208	1.000	3.56	3.56	12.5	103	100.0
8	54	13C8-PFOA	421.3 > 376	3.76e4	3.76e4	0.1208	1.000	3.65	3.69	12.5	103	100.0
9	55	13C9-PFNA	472.2 > 426.9	4.24e4	4.24e4	0.1208	1.000	3.83	3.86	12.5	103	100.0
10	56	13C4-PFOS	503 > 79.9	7.26e3	7.26e3	0.1208	1.000	3.89	3.91	12.5	103	100.0
11	57	13C6-PFDA	519.1 > 473.7	3.84e4	3.84e4	0.1208	1.000	4.01	4.03	12.5	103	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.98e4	3.98e4	0.1208	1.000	4.17	4.20	12.5	103	100.0
13	59	Total PFBS	299 > 79.7	0.00e0	5.15e3	0.1208		2.96		0.000		
14	60	Total PFHxS	398.9 > 79.6	2.28e0	3.52e3	0.1208		3.52		0.00810	0.0947	
15	61	Total PFOA	413 > 368.7	0.00e0	4.37e4	0.1208		3.65		0.000		
16	62	Total PFOS	499 > 79.9	0.00e0	8.73e3	0.1208		3.89		0.000		
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	7.51e3	0.1208		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	7.33e3	0.1208		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

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	6	PFHxS	398.9 > 79.6	3.58	2.281	3518.938	0.008	MM	0.1

Total PFOA

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

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9			8733.464		MM-I	

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			7505.243		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			7330.539		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

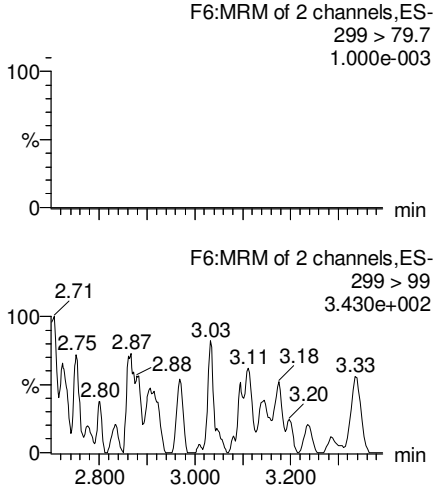
Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

Reviewed: CT 08/03/2017

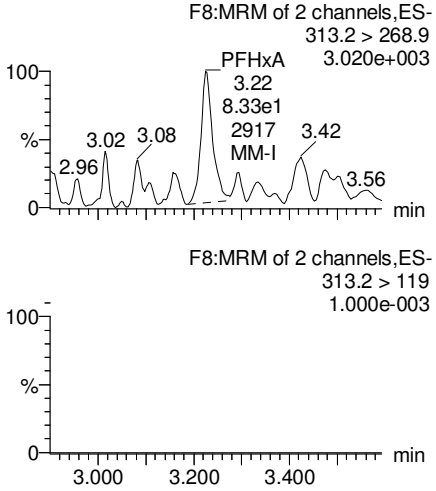
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

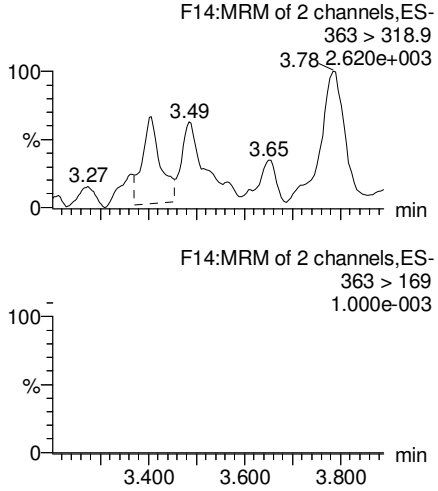
Total PFBS



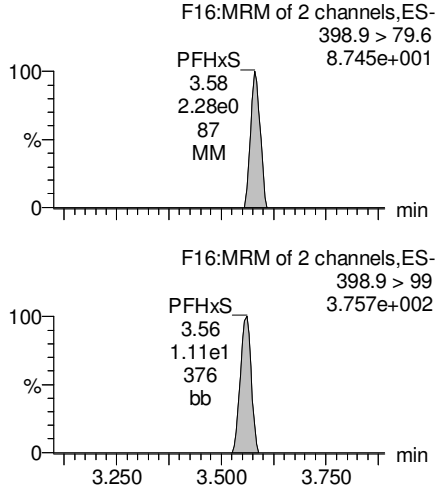
PFHxA



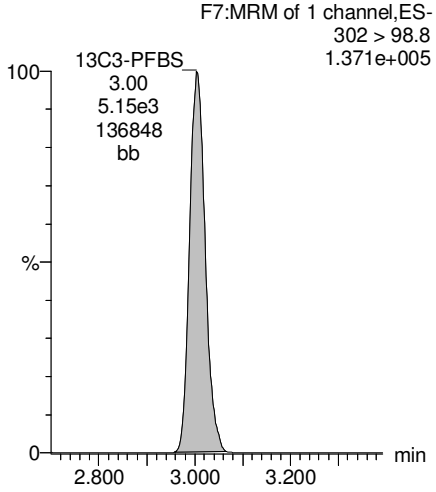
PFHpA



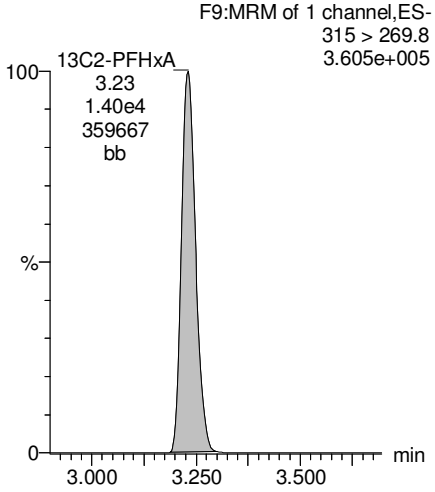
Total PFHxS



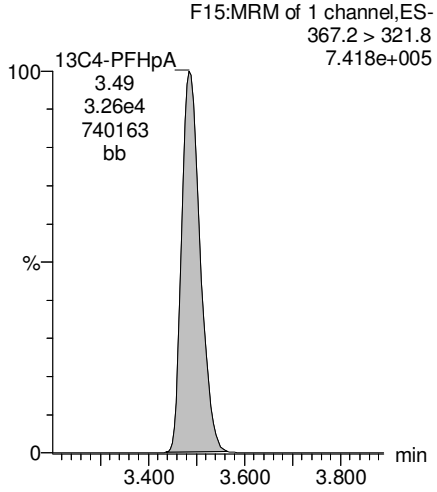
13C3-PFBS



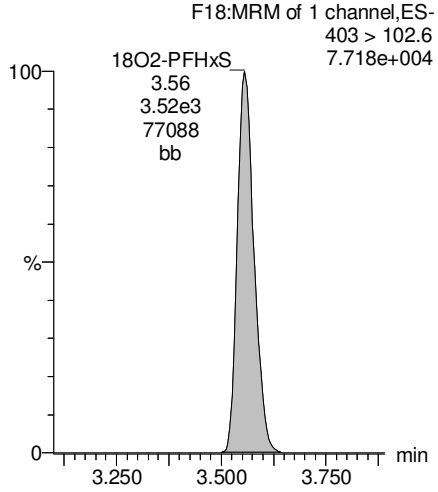
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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Vista Analytical Laboratory

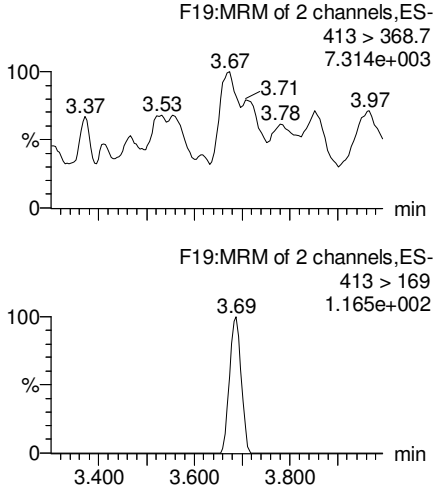
Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

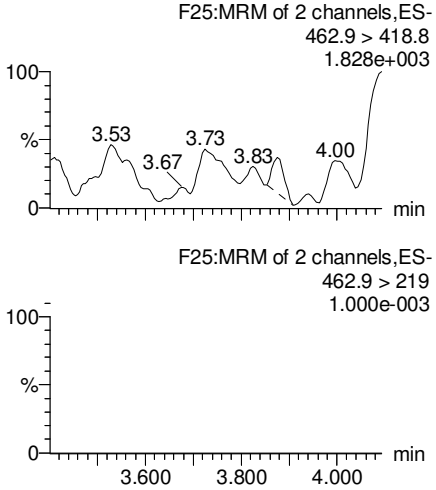
Reviewed: CT 08/03/2017

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

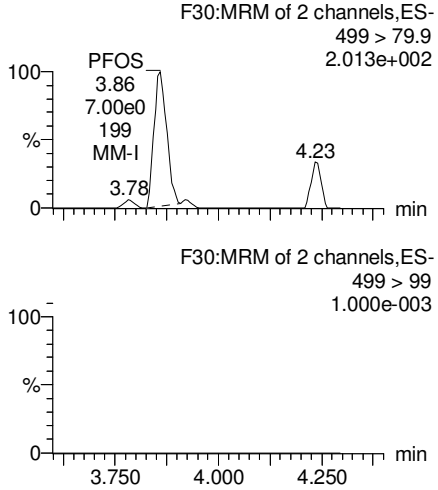
Total PFOA



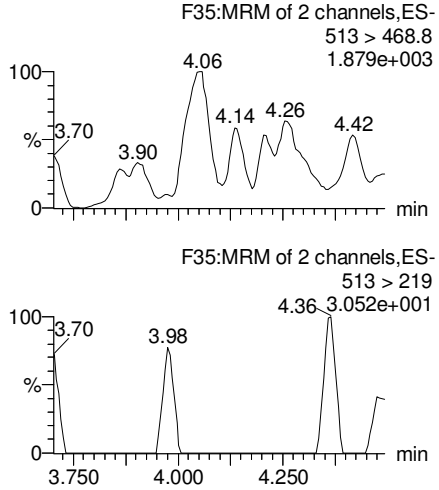
PFNA



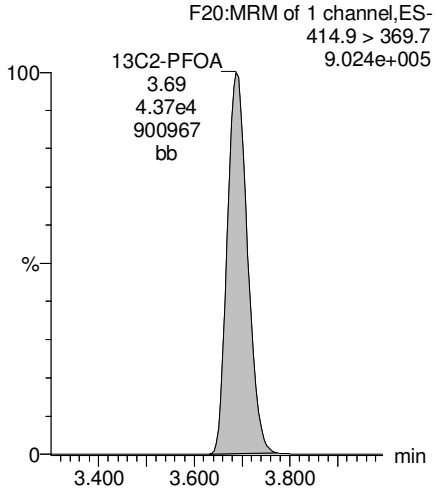
Total PFOS



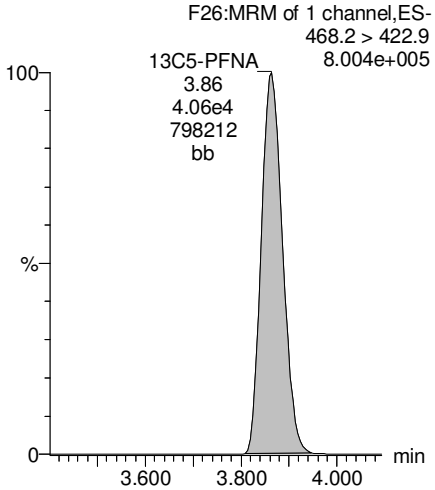
PFDA



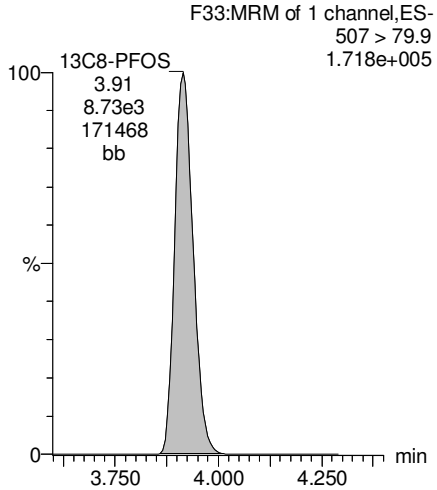
13C2-PFOA



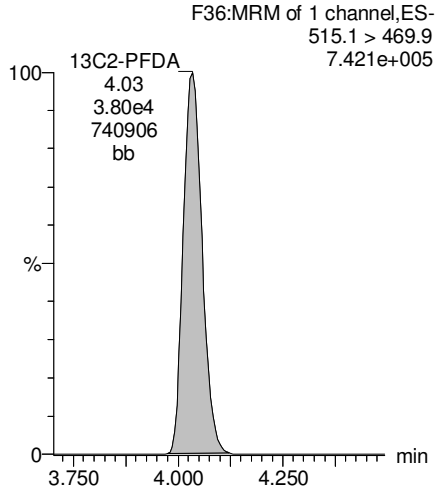
13C5-PFNA



13C8-PFOS



13C2-PFDA



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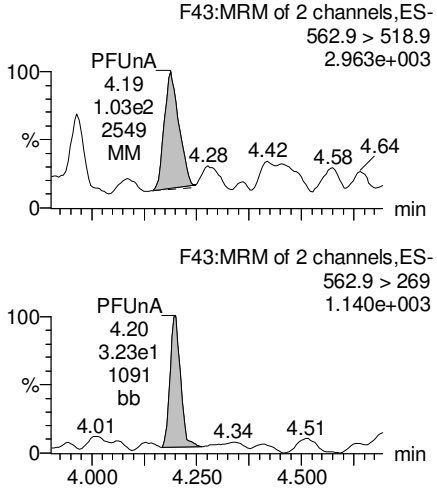
Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

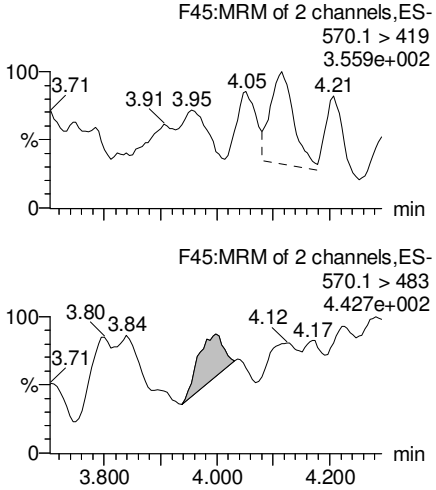
Reviewed: CT 08/03/2017

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

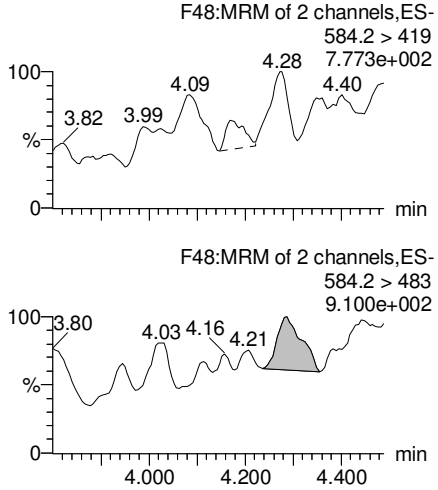
PFUnA



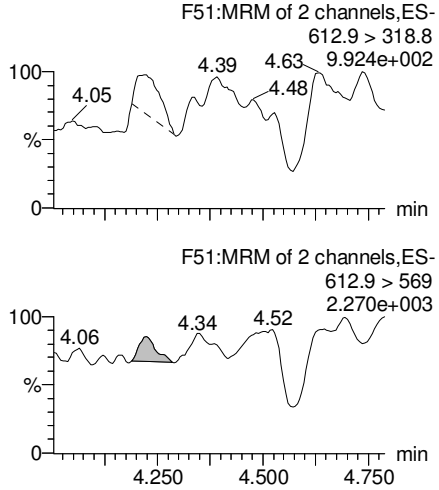
N-MeFOSAA



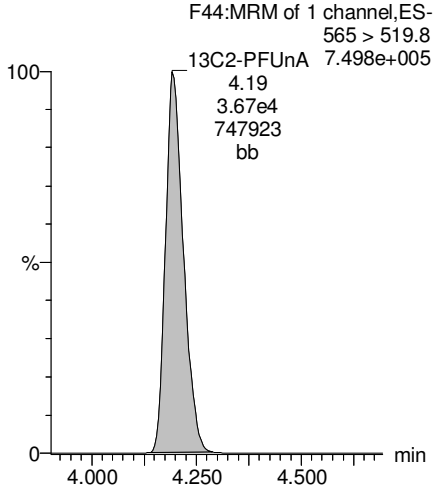
N-EtFOSAA



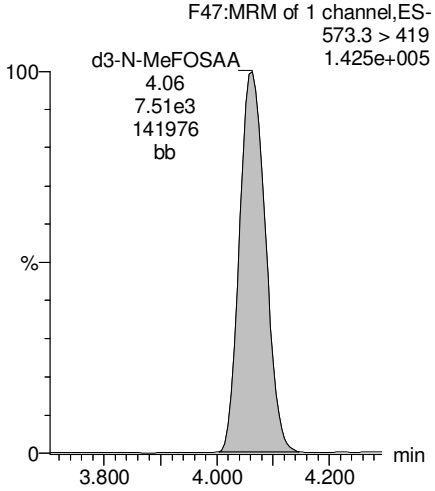
PFDoA



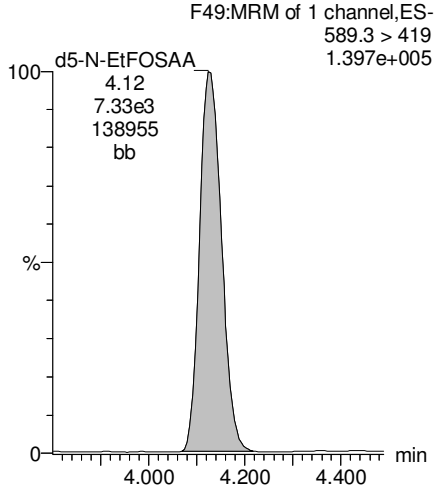
13C2-PFUnA



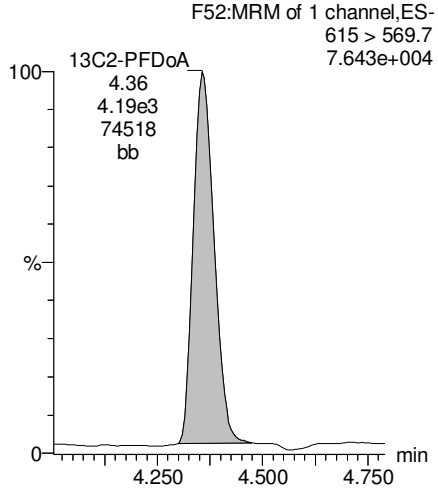
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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Vista Analytical Laboratory

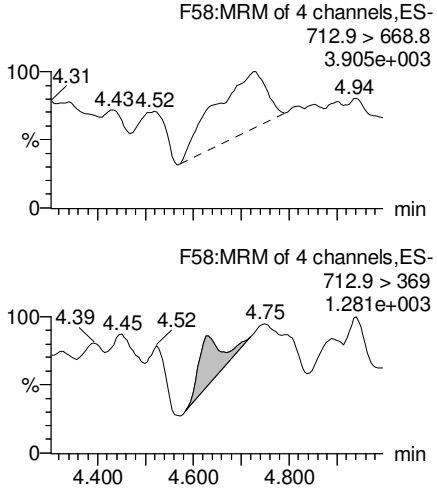
Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

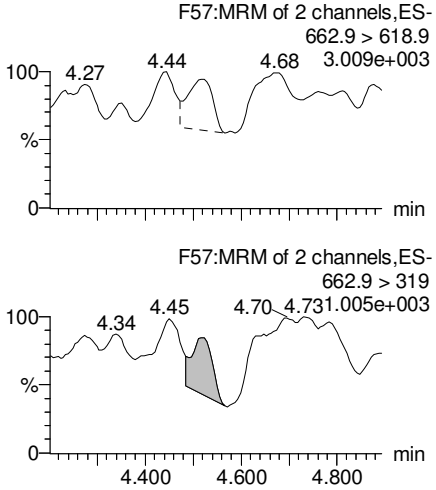
Reviewed: CT 08/03/2017

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

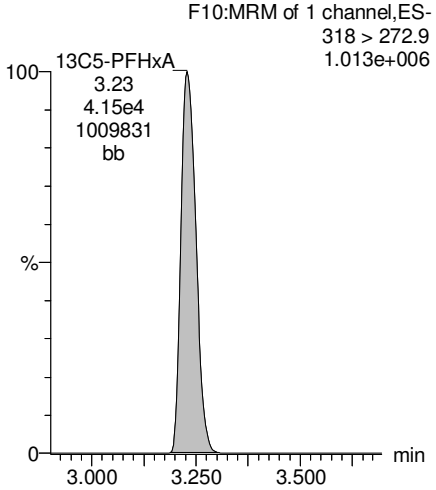
PFTeDA



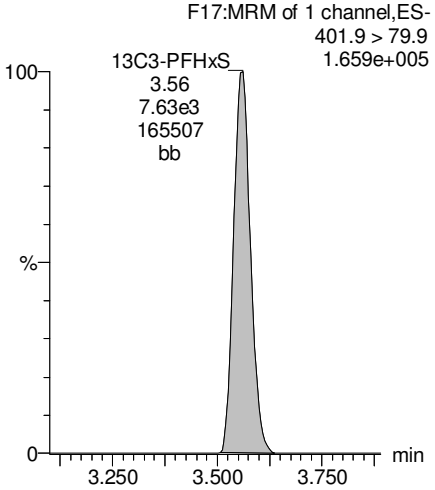
PFTrDA



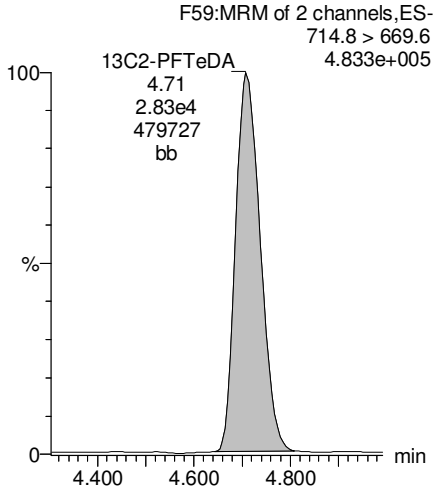
13C5-PFHxA



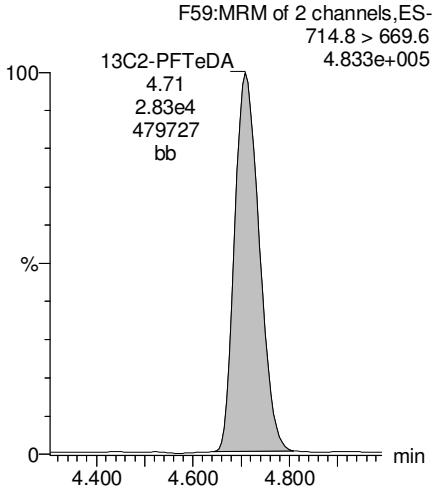
13C3-PFHxS



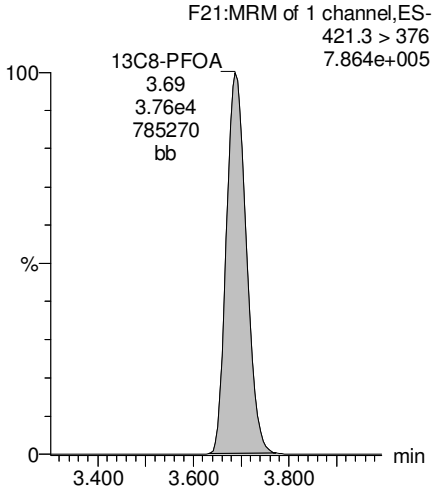
13C2-PFTeDA



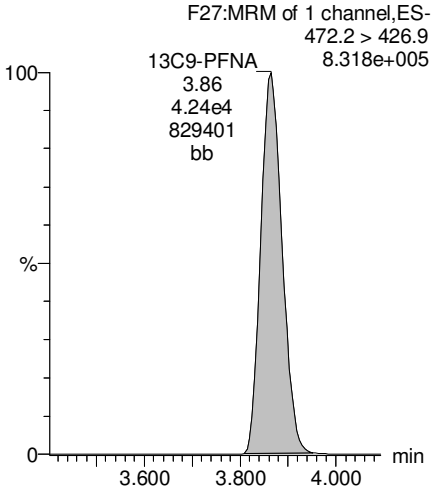
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

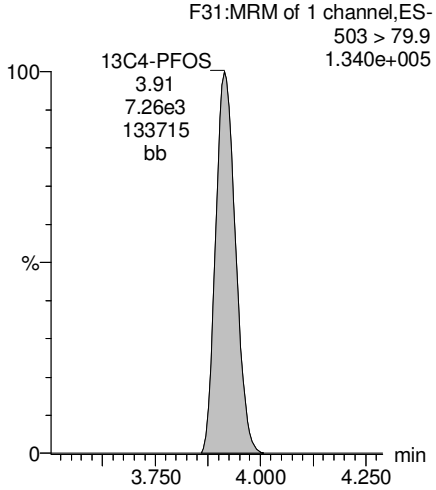
Dataset: U:\Q4.PRO\results\170725M1\170725M1-41.qld

Last Altered: Thursday, July 27, 2017 16:20:22 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:22:02 Pacific Daylight Time

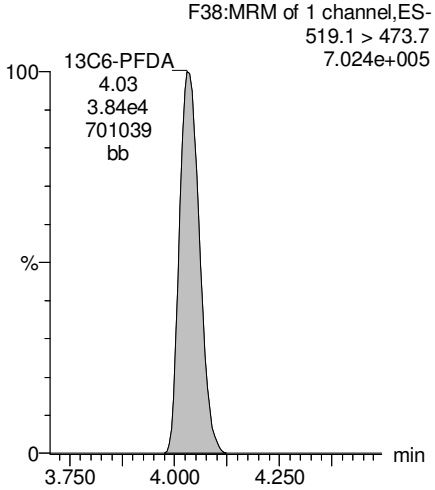
Reviewed: CT 08/03/2017

Name: 170725M1_41, Date: 25-Jul-2017, Time: 21:25:36, ID: 1700856-04RE1 EFFLUENT-20170710 0.12084, Description: EFFLUENT-20170710

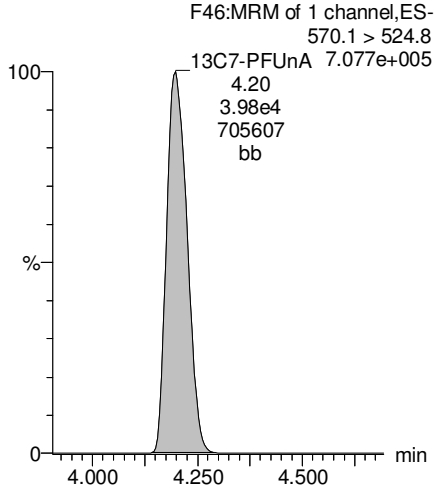
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

Last Altered: Thursday, July 27, 2017 16:27:16 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:28:01 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	1.47e4	9.95e3	0.1216		2.96	3.01	18.4	81.6	
2	4	PFHxA	313.2 > 268.9	7.97e4	2.73e4	0.1216		3.19	3.23	14.6	78.8	
3	5	PFHpA	363 > 318.9	5.99e4	6.24e4	0.1216		3.45	3.49	12.0	78.2	
4	6	PFHxS	398.9 > 79.6	9.02e3	6.99e3	0.1216		3.56	3.56	16.1	78.3	
5	8	PFOA	413 > 368.7	6.55e4	8.48e4	0.1216		3.65	3.69	9.66	80.1	
6	10	PFNA	462.9 > 418.8	6.17e4	7.17e4	0.1216		3.83	3.86	10.8	79.5	
7	12	PFOS	499 > 79.9	1.29e4	1.69e4	0.1216		3.89	3.91	9.51	66.1	
8	13	PFDA	513 > 468.8	6.51e4	6.52e4	0.1216		4.01	4.03	12.5	78.3	
9	15	N-MeFOSAA	570.1 > 419	1.77e4	1.48e4	0.1216		4.03	4.06	195	80.5	
10	16	N-EtFOSAA	584.2 > 419	1.35e4	1.52e4	0.1216		4.10	4.13	145	73.7	
11	17	PFUnA	562.9 > 518.9	4.47e4	6.77e4	0.1216		4.17	4.20	8.25	76.8	
12	19	PFDoA	612.9 > 318.8	4.82e3	6.80e3	0.1216		4.34	4.36	8.85	77.1	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

Last Altered: Thursday, July 27, 2017 16:27:16 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:28:14 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9	4.92e4	6.80e3	0.1216		4.50	4.53	90.4	66.7		
2	22	PFTeDA	712.9 > 668.8	2.29e4	2.65e4	0.1216		4.68	4.71	10.8	77.3		
3	30	13C3-PFBS	302 > 98.8	9.95e3	7.88e4	0.1216	0.031	2.96	3.01	0.631	167	162.3	H
4	31	13C2-PFHxA	315 > 269.8	2.73e4	7.88e4	0.1216	0.276	3.19	3.23	1.73	51.4	125.1	
5	32	13C4-PFHpA	367.2 > 321.8	6.24e4	7.88e4	0.1216	0.306	3.45	3.49	3.96	107	103.6	
6	33	18O2-PFHxS	403 > 102.6	6.99e3	1.32e4	0.1216	0.393	3.56	3.56	6.60	138	134.5	
7	35	13C2-PFOA	414.9 > 369.7	8.48e4	6.75e4	0.1216	1.067	3.65	3.69	15.7	121	117.7	
8	36	13C5-PFNA	468.2 > 422.9	7.17e4	7.40e4	0.1216	0.852	3.83	3.86	12.1	117	113.6	
9	38	13C8-PFOS	507 > 79.9	1.69e4	1.25e4	0.1216	0.936	3.89	3.91	16.9	149	144.6	
10	39	13C2-PFDA	515.1 > 469.9	6.52e4	6.60e4	0.1216	0.810	4.01	4.03	12.4	125	122.0	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

Last Altered: Thursday, July 27, 2017 16:27:16 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:28:33 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	1.48e4	6.71e4	0.1216	0.014	4.03	4.06	2.75	1650	123.5
2	42	d5-N-EtFOSAA	589.3 > 419	1.52e4	6.71e4	0.1216	0.014	4.12	4.12	2.83	1670	124.7
3	43	13C2-PFUnA	565 > 519.8	6.77e4	6.71e4	0.1216	0.962	4.17	4.20	12.6	108	104.9
4	44	13C2-PFDoA	615 > 569.7	6.80e3	6.71e4	0.1216	0.094	4.34	4.36	1.27	110	107.4
5	46	13C2-PFTeDA	714.8 > 669.6	2.65e4	6.71e4	0.1216	0.694	4.68	4.71	4.93	58.4	56.8
6	52	13C5-PFHxA	318 > 272.9	7.88e4	7.88e4	0.1216	1.000	3.19	3.23	5.00	41.1	100.0
7	53	13C3-PFHxS	401.9 > 79.9	1.32e4	1.32e4	0.1216	1.000	3.56	3.56	12.5	103	100.0
8	54	13C8-PFOA	421.3 > 376	6.75e4	6.75e4	0.1216	1.000	3.65	3.69	12.5	103	100.0
9	55	13C9-PFNA	472.2 > 426.9	7.40e4	7.40e4	0.1216	1.000	3.83	3.86	12.5	103	100.0
10	56	13C4-PFOS	503 > 79.9	1.25e4	1.25e4	0.1216	1.000	3.89	3.91	12.5	103	100.0
11	57	13C6-PFDA	519.1 > 473.7	6.60e4	6.60e4	0.1216	1.000	4.01	4.03	12.5	103	100.0
12	58	13C7-PFUnA	570.1 > 524.8	6.71e4	6.71e4	0.1216	1.000	4.17	4.20	12.5	103	100.0
13	59	Total PFBS	299 > 79.7	1.47e4	9.95e3	0.1216		2.96		18.4	81.6	
14	60	Total PFHxS	398.9 > 79.6	9.02e3	6.99e3	0.1216		3.52		16.1	78.3	
15	61	Total PFOA	413 > 368.7	6.56e4	8.48e4	0.1216		3.65		9.66	80.1	
16	62	Total PFOS	499 > 79.9	1.29e4	1.69e4	0.1216		3.89		9.51	66.1	
17	63	Total N-Me-FOSAA	570.1 > 419	1.77e4	1.48e4	0.1216		4.03		195	80.5	
18	64	Total N-EtFOSAA	584.2 > 419	1.35e4	1.52e4	0.1216		4.17		145	73.7	

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Vista Analytical Laboratory

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Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	14682.941	9948.444	18.449	bb	81.6

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	9022.021	6993.258	16.126	MM	78.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	61	Total PFOA	413 > 368.7	3.36	90.109	84784.000	0.013	bbI	
2	8	PFOA	413 > 368.7	3.69	65492.727	84784.000	9.656	bb	80.1

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	12858.301	16904.828	9.508	MM	66.1

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419	4.06	17669.395	14758.991	194.544	bb	80.5

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419	4.13	13508.030	15175.487	144.645	bb	73.7

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Vista Analytical Laboratory

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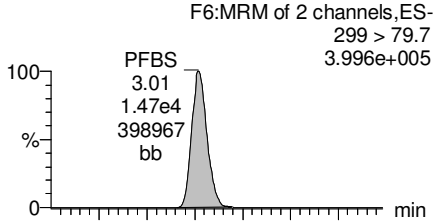
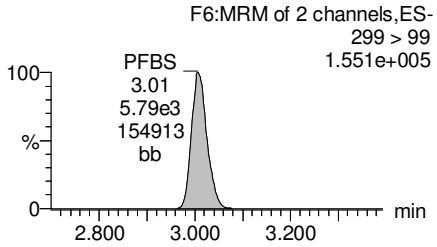
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

Total PFBS





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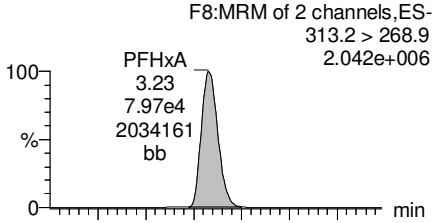

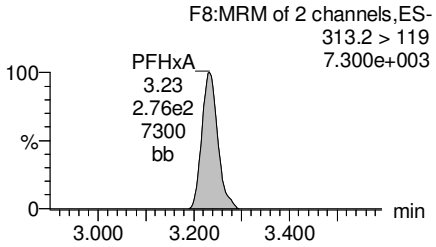

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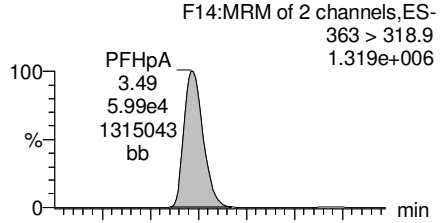

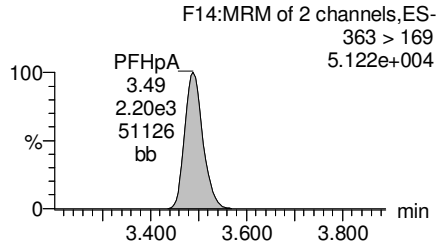

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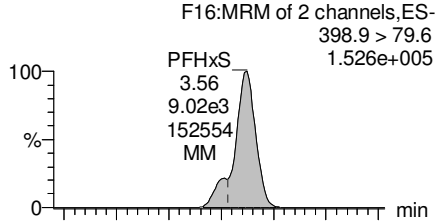
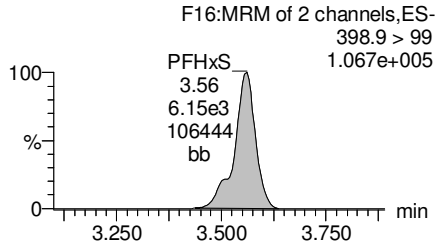
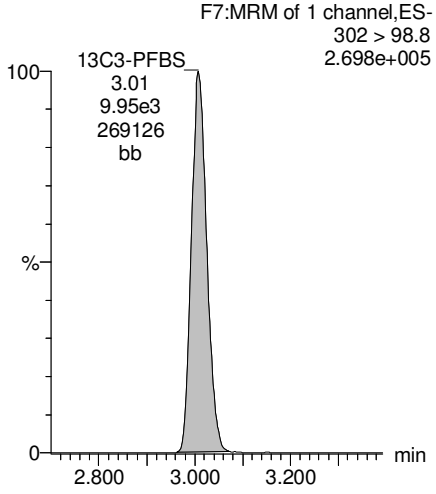




13C3-PFBS



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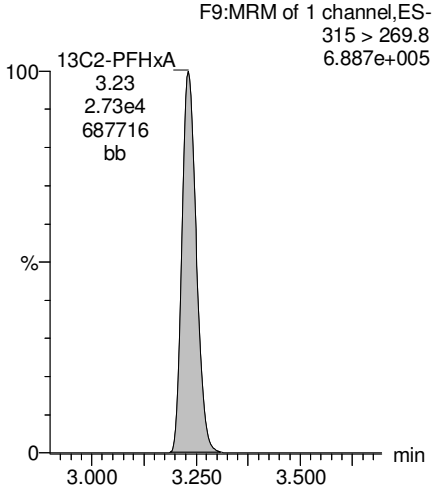

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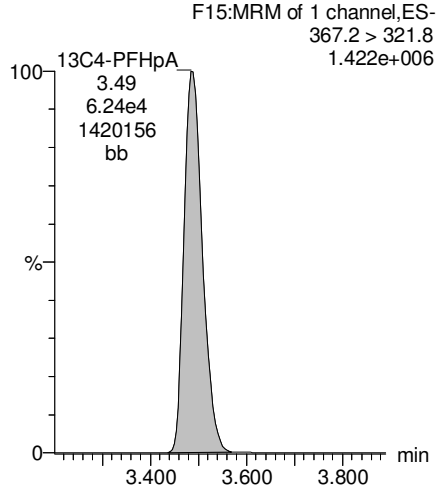

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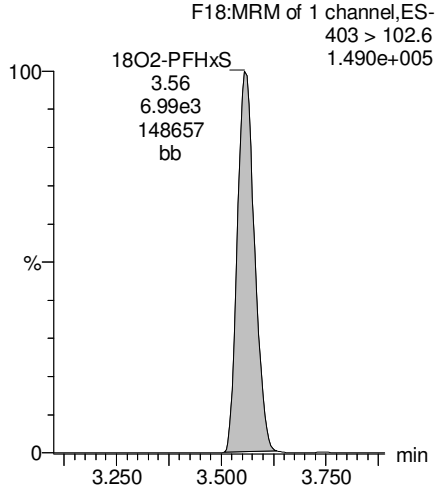

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

Last Altered: Thursday, July 27, 2017 16:27:16 Pacific Daylight Time
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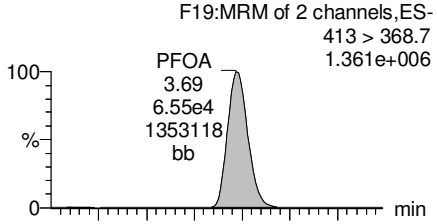
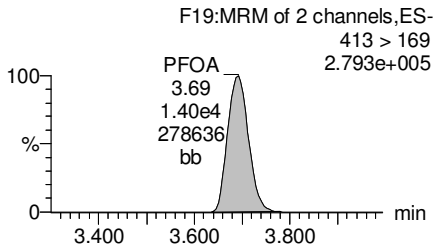
Reviewed: CT 08/03/2017

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

Total PFOA





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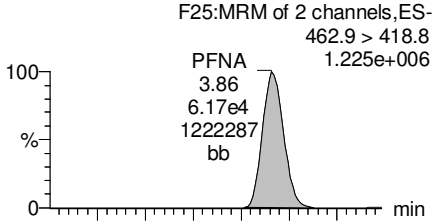
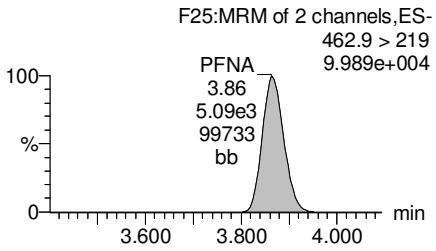
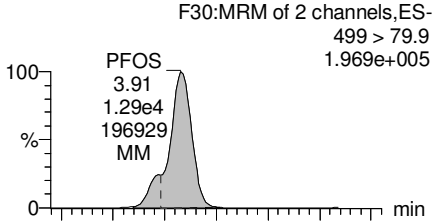
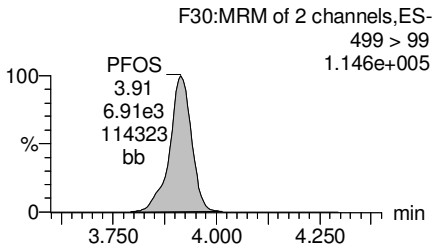




Total PFOS





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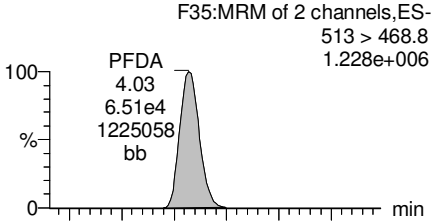
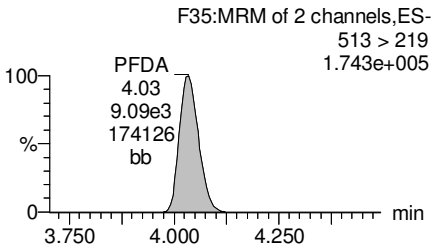
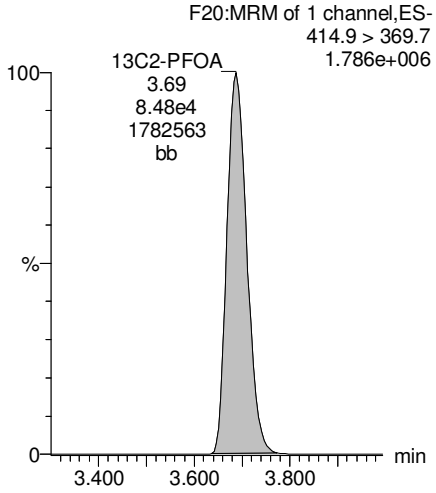




13C2-PFOA



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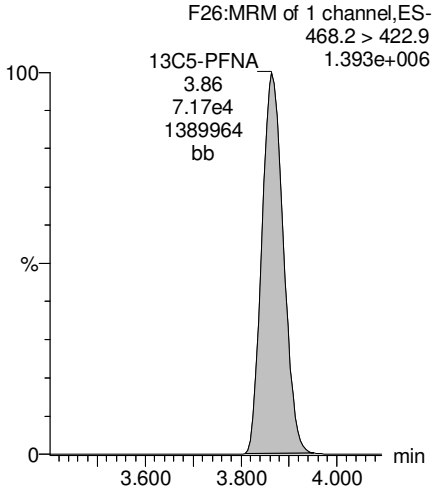

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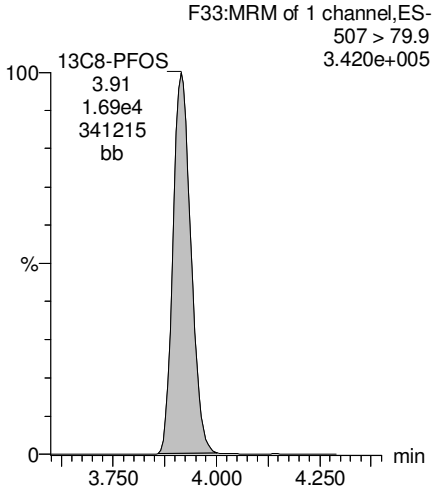

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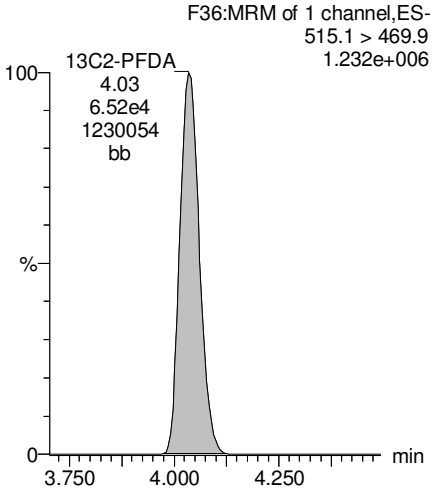

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

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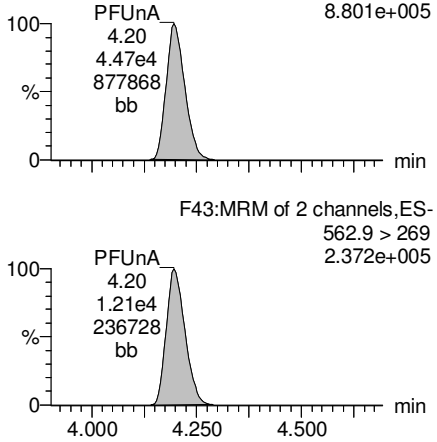
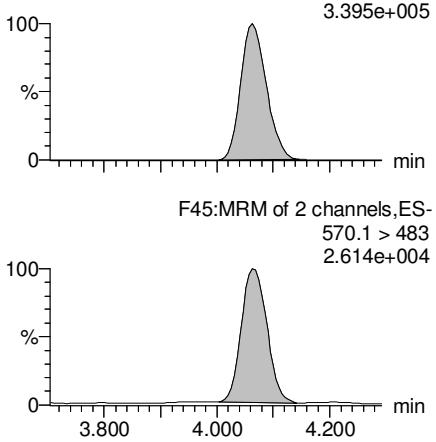
Reviewed: CT 08/03/2017

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

PFUnA



N-MeFOSAA



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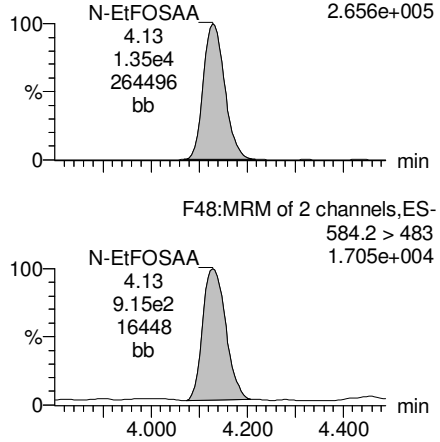
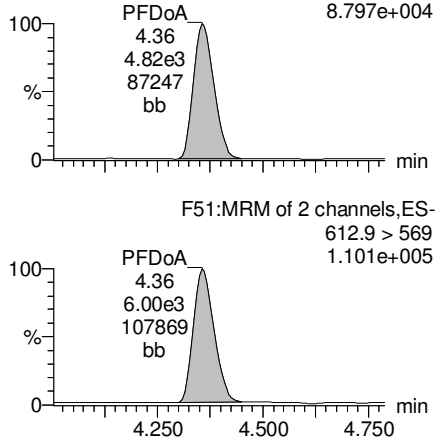


PFDoA



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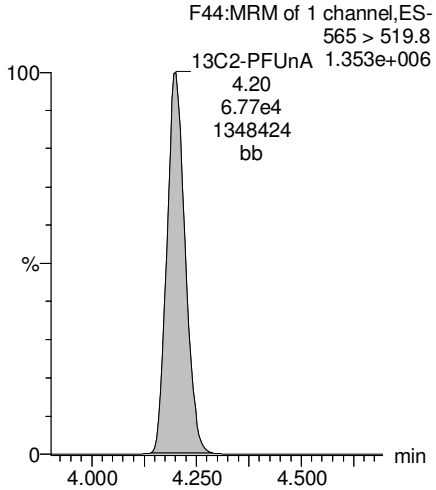

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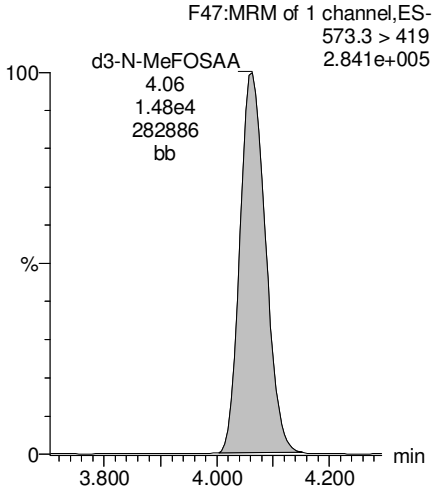

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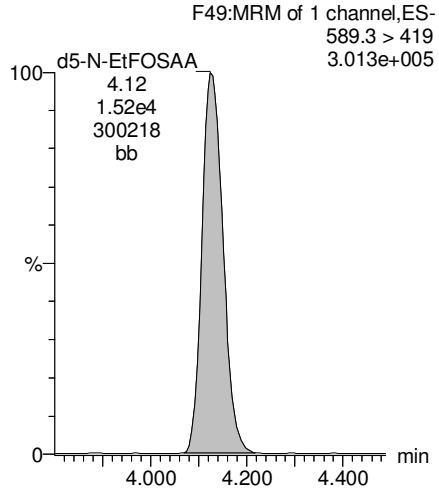

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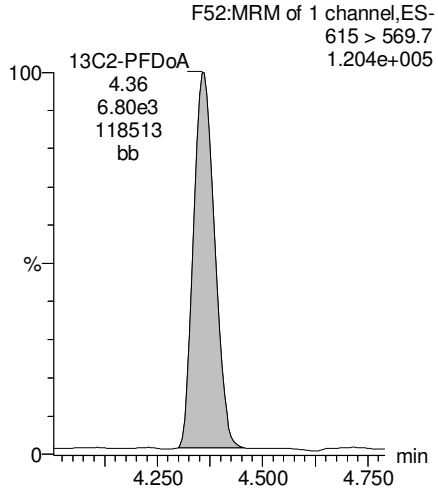

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

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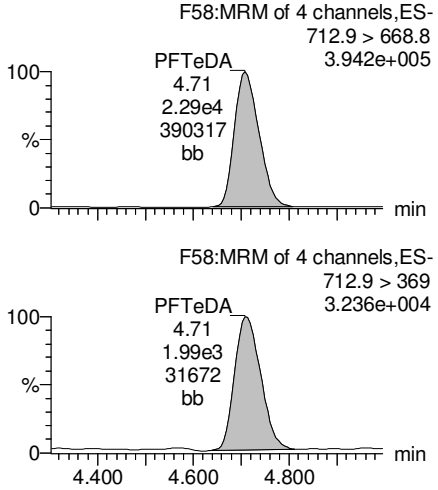
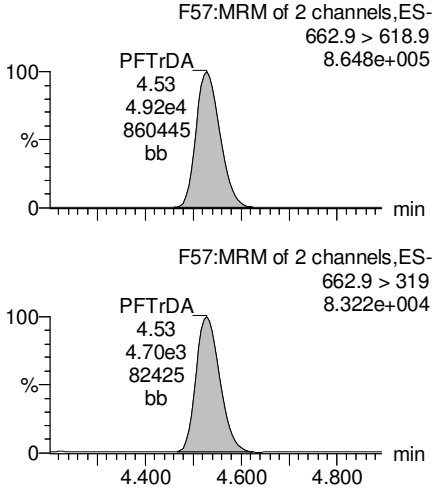
Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

PFTeDA



PFTrDA



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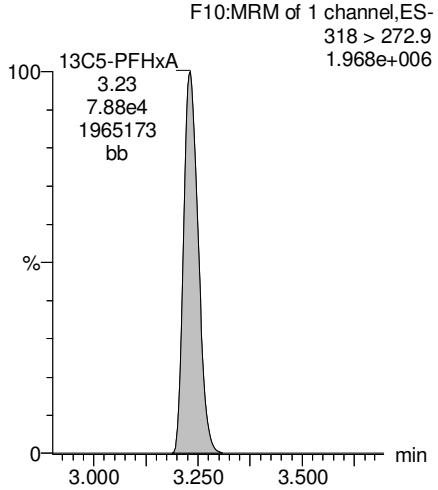

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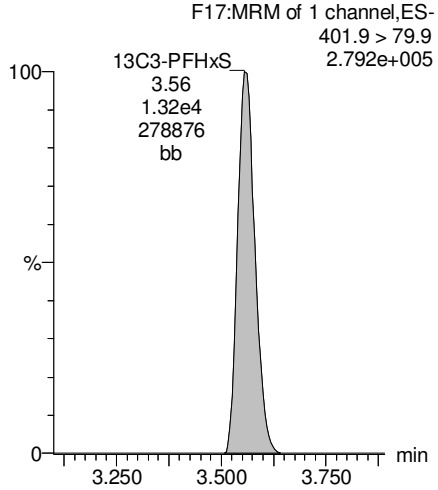

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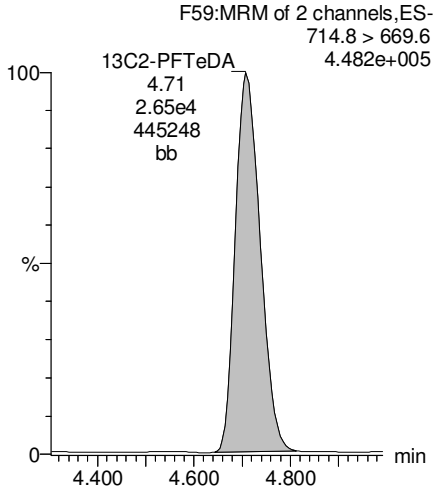
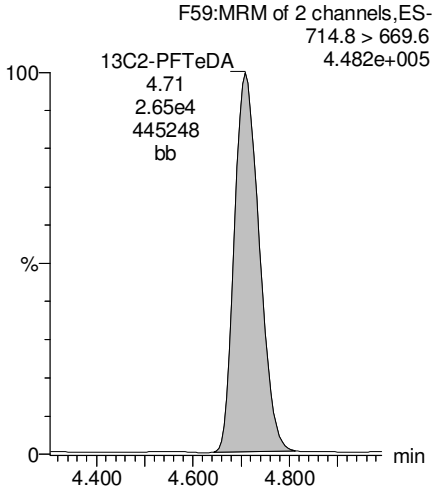
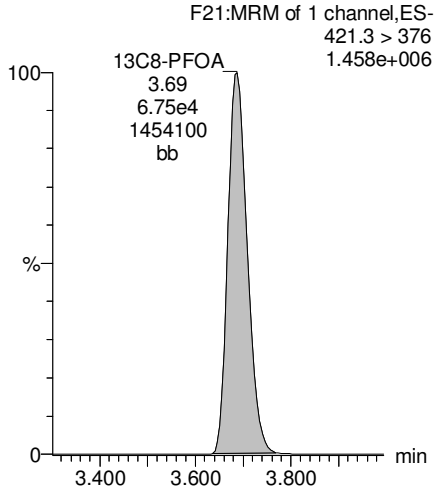


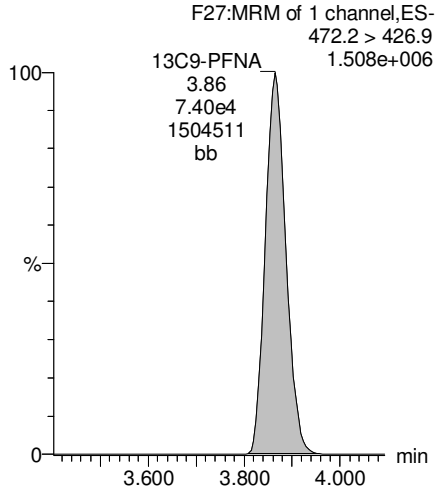
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

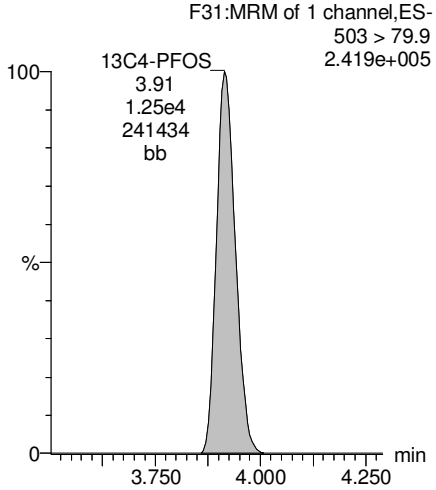
Dataset: U:\Q4.PRO\results\170725M1\170725M1-42.qld

Last Altered: Thursday, July 27, 2017 16:27:16 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:28:33 Pacific Daylight Time

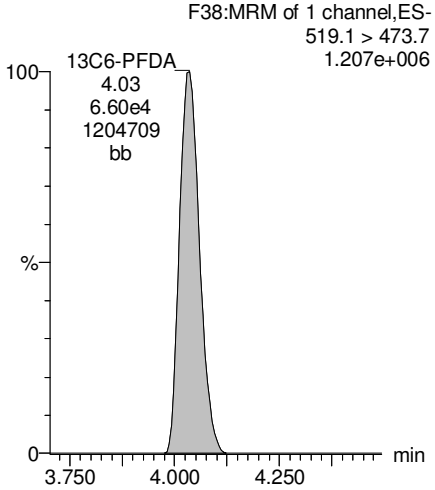
Reviewed: CT 08/03/2017

Name: 170725M1_42, Date: 25-Jul-2017, Time: 21:36:14, ID: B7G0108-MS1 Matrix Spike 0.12162, Description: Matrix Spike

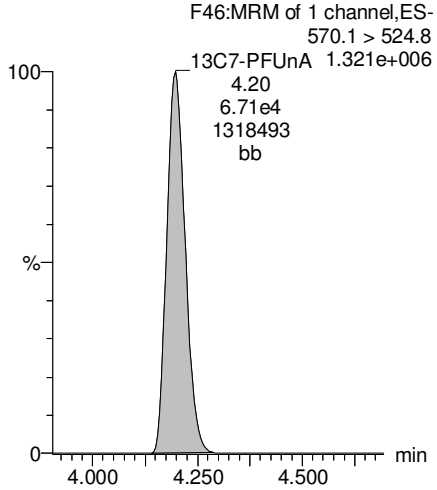
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/27/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:08 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	7.39e3	5.08e3	0.1185		2.96	3.01	18.2	82.5	
2	4	PFHxA	313.2 > 268.9	4.33e4	1.54e4	0.1185		3.19	3.23	14.1	77.8	
3	5	PFHpA	363 > 318.9	3.02e4	3.36e4	0.1185		3.45	3.49	11.2	75.1	
4	6	PFHxS	398.9 > 79.6	4.56e3	3.83e3	0.1185		3.56	3.56	14.9	74.1	
5	8	PFOA	413 > 368.7	3.46e4	4.22e4	0.1185		3.65	3.69	10.2	87.4	
6	10	PFNA	462.9 > 418.8	3.23e4	3.67e4	0.1185		3.83	3.86	11.0	83.4	
7	12	PFOS	499 > 79.9	6.58e3	8.66e3	0.1185		3.89	3.91	9.50	67.8	
8	13	PFDA	513 > 468.8	2.80e4	3.01e4	0.1185		4.01	4.04	11.6	74.8	
9	15	N-MeFOSAA	570.1 > 419	8.38e3	6.69e3	0.1185		4.03	4.07	204	86.5	
10	16	N-EtFOSAA	584.2 > 419	6.54e3	6.78e3	0.1185		4.10	4.13	157	82.0	
11	17	PFUnA	562.9 > 518.9	2.14e4	3.13e4	0.1185		4.17	4.20	8.56	81.9	
12	19	PFDoA	612.9 > 318.8	2.13e3	3.14e3	0.1185		4.34	4.36	8.47	75.6	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:20 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9	2.20e4	3.14e3	0.1185		4.50	4.53	87.8	66.4		
2	22	PFTeDA	712.9 > 668.8	1.10e4	1.27e4	0.1185		4.68	4.71	10.8	78.9		
3	30	13C3-PFBS	302 > 98.8	5.08e3	4.24e4	0.1185	0.031	2.96	3.00	0.599	163	154.1	H
4	31	13C2-PFHxA	315 > 269.8	1.54e4	4.24e4	0.1185	0.276	3.19	3.23	1.81	55.4	131.3	
5	32	13C4-PFHpA	367.2 > 321.8	3.36e4	4.24e4	0.1185	0.306	3.45	3.49	3.96	109	103.7	
6	33	18O2-PFHxS	403 > 102.6	3.83e3	6.96e3	0.1185	0.393	3.56	3.56	6.89	148	140.3	
7	35	13C2-PFOA	414.9 > 369.7	4.22e4	3.42e4	0.1185	1.067	3.65	3.69	15.4	122	115.6	
8	36	13C5-PFNA	468.2 > 422.9	3.67e4	3.90e4	0.1185	0.852	3.83	3.86	11.8	117	110.6	
9	38	13C8-PFOS	507 > 79.9	8.66e3	6.99e3	0.1185	0.936	3.89	3.91	15.5	140	132.4	
10	39	13C2-PFDA	515.1 > 469.9	3.01e4	3.19e4	0.1185	0.810	4.01	4.03	11.8	123	116.3	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:38 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	6.69e3	3.15e4	0.1185	0.014	4.03	4.06	2.65	1630	119.2
2	42	d5-N-EtFOSAA	589.3 > 419	6.78e3	3.15e4	0.1185	0.014	4.12	4.13	2.69	1630	118.7
3	43	13C2-PFUnA	565 > 519.8	3.13e4	3.15e4	0.1185	0.962	4.17	4.20	12.4	109	103.2
4	44	13C2-PFDoA	615 > 569.7	3.14e3	3.15e4	0.1185	0.094	4.34	4.36	1.24	111	105.5
5	46	13C2-PFTeDA	714.8 > 669.6	1.27e4	3.15e4	0.1185	0.694	4.68	4.71	5.05	61.4	58.2
6	52	13C5-PFHxA	318 > 272.9	4.24e4	4.24e4	0.1185	1.000	3.19	3.23	5.00	42.2	100.0
7	53	13C3-PFHxS	401.9 > 79.9	6.96e3	6.96e3	0.1185	1.000	3.56	3.56	12.5	105	100.0
8	54	13C8-PFOA	421.3 > 376	3.42e4	3.42e4	0.1185	1.000	3.65	3.69	12.5	105	100.0
9	55	13C9-PFNA	472.2 > 426.9	3.90e4	3.90e4	0.1185	1.000	3.83	3.86	12.5	105	100.0
10	56	13C4-PFOS	503 > 79.9	6.99e3	6.99e3	0.1185	1.000	3.89	3.91	12.5	105	100.0
11	57	13C6-PFDA	519.1 > 473.7	3.19e4	3.19e4	0.1185	1.000	4.01	4.03	12.5	105	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.15e4	3.15e4	0.1185	1.000	4.17	4.20	12.5	105	100.0
13	59	Total PFBS	299 > 79.7	7.39e3	5.08e3	0.1185		2.96		18.2	82.5	
14	60	Total PFHxS	398.9 > 79.6	4.56e3	3.83e3	0.1185		3.52		14.9	74.1	
15	61	Total PFOA	413 > 368.7	3.46e4	4.22e4	0.1185		3.65		10.2	87.4	
16	62	Total PFOS	499 > 79.9	6.58e3	8.66e3	0.1185		3.89		9.50	67.8	
17	63	Total N-Me-FOSAA	570.1 > 419	8.38e3	6.69e3	0.1185		4.03		204	86.5	
18	64	Total N-EtFOSAA	584.2 > 419	6.56e3	6.78e3	0.1185		4.17		157	82.2	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:32:19 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:32:28 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	7393.923	5081.999	18.187	bb	82.5

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	4563.391	3834.847	14.875	bb	74.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	34601.840	42205.180	10.248	bb	87.4

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	6579.311	8660.243	9.496	MM	67.8

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419	4.07	8382.250	6687.918	203.668	bb	86.5

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419	4.13	6541.069	6780.968	156.751	bb	82.0

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

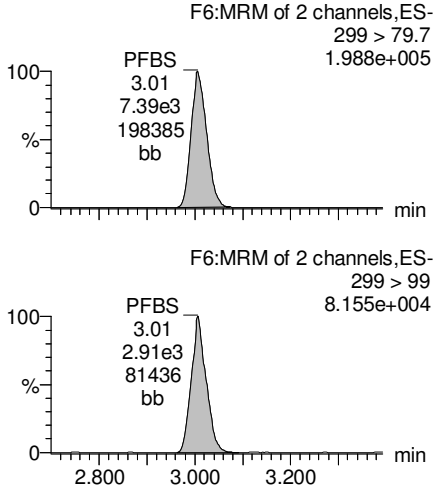
Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:38 Pacific Daylight Time

Reviewed: CT 08/03/2017

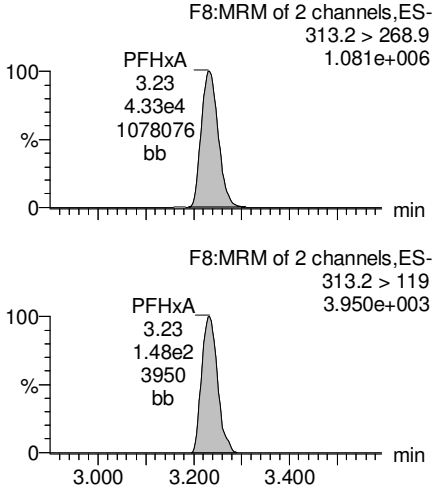
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

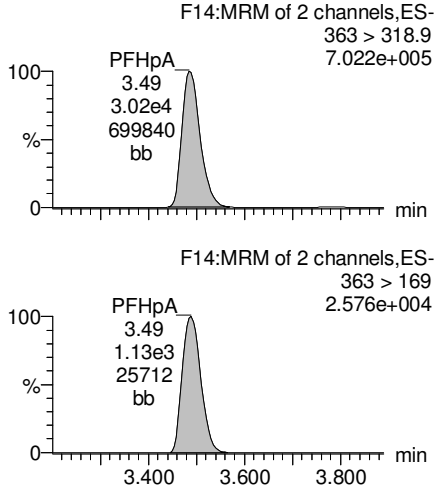
Total PFBS



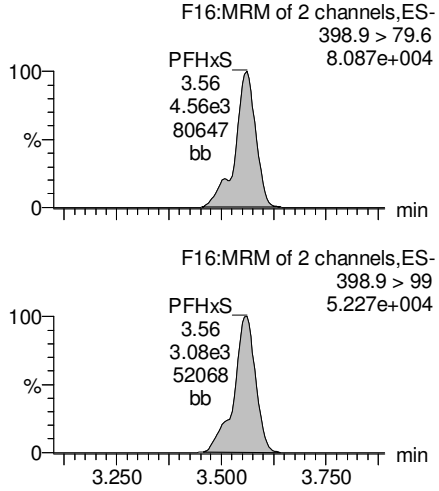
PFHxA



PFHpA



Total PFHxS



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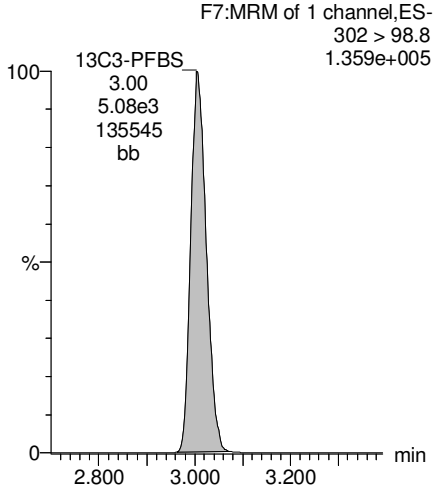

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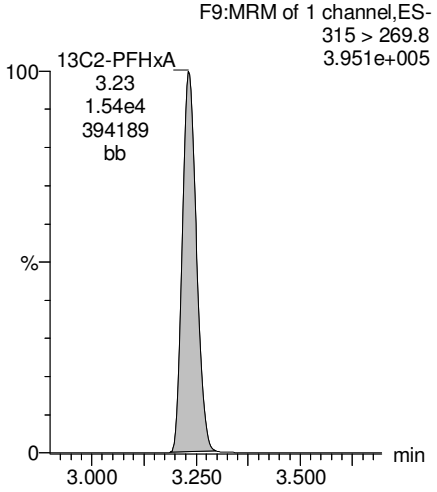

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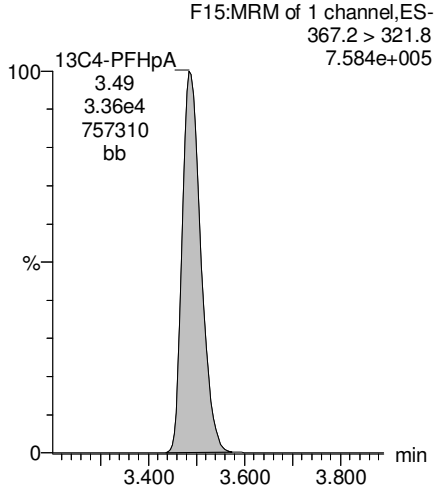

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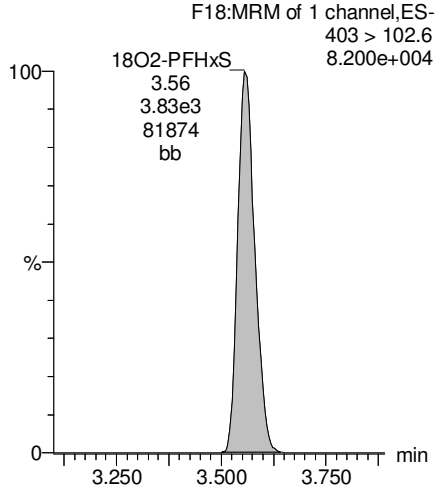


GM 7/27/17

Vista Analytical Laboratory

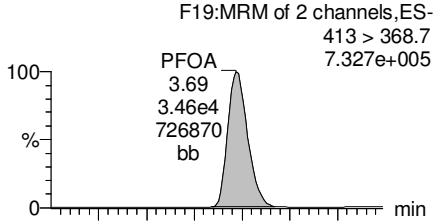
Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

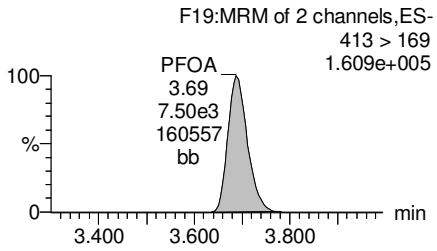
Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:38 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

Total PFOA





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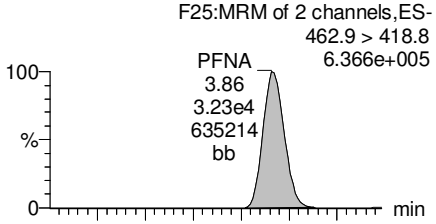
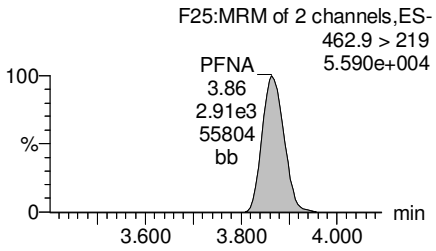
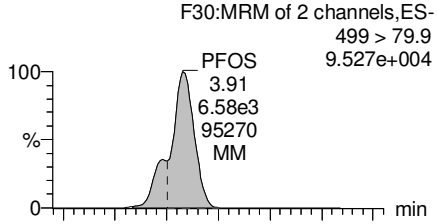
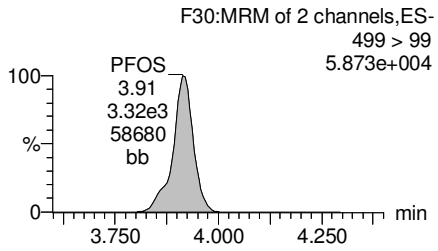


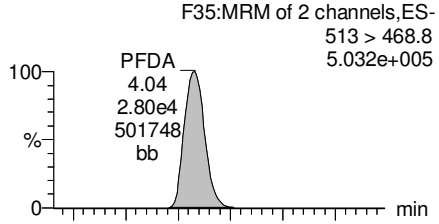


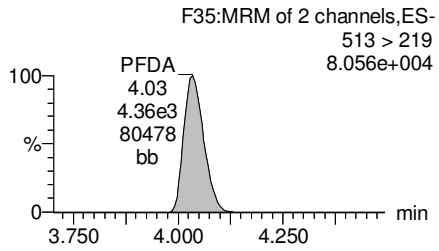
Total PFOS



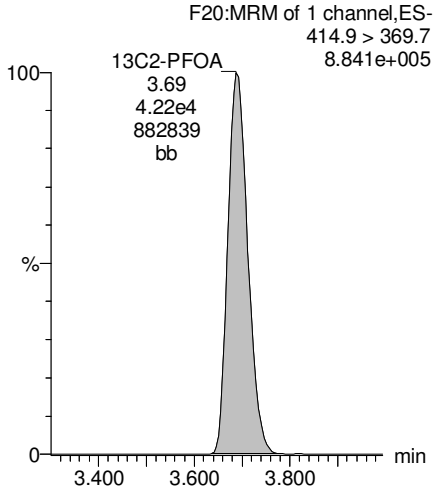


PFDA

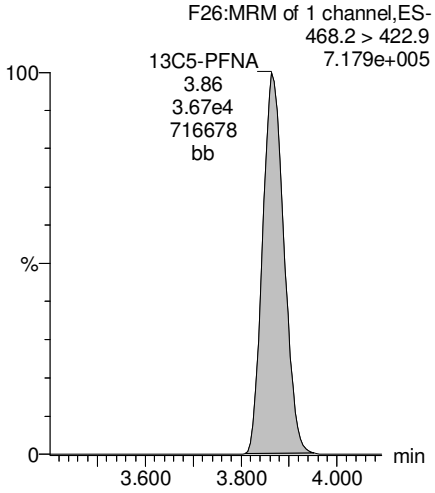




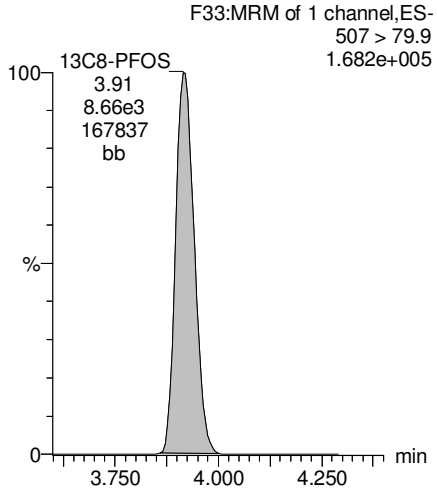
13C2-PFOA



13C5-PFNA



13C8-PFOS



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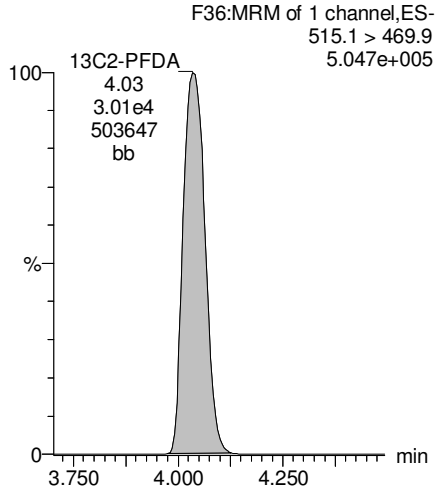


GM 7/27/17

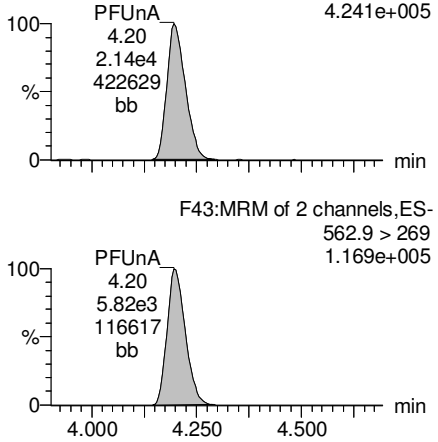
Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:38 Pacific Daylight Time

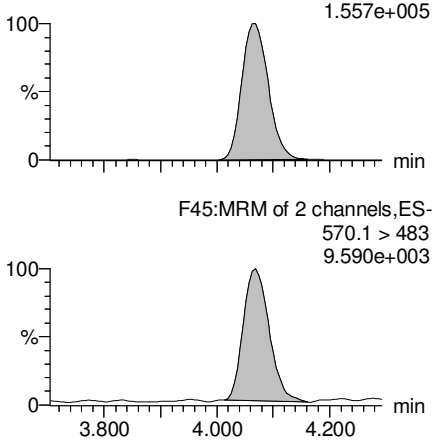
Reviewed: CT 08/03/2017

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

PFUnA



N-MeFOSAA



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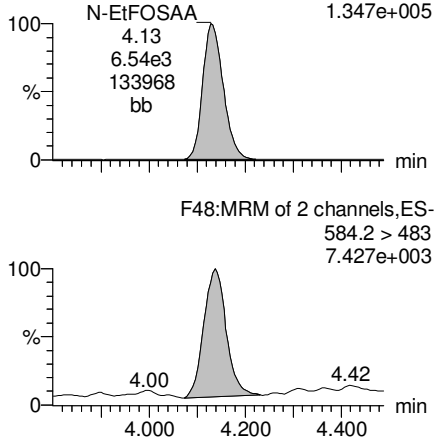
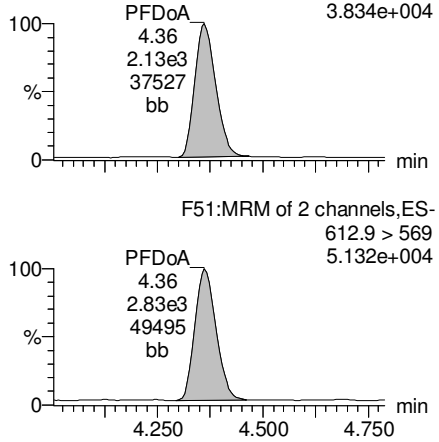
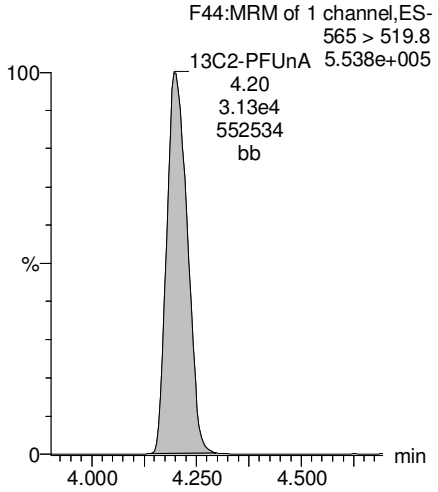


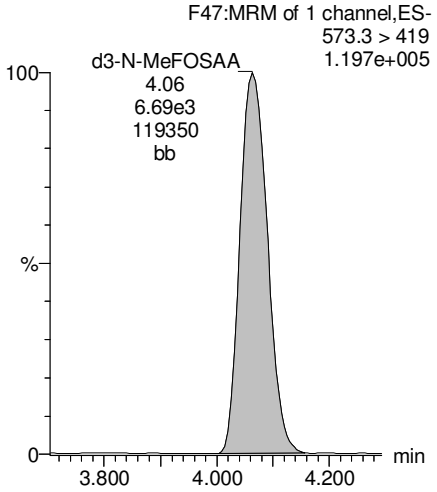
PFDoA



13C2-PFUnA



d3-N-MeFOSAA



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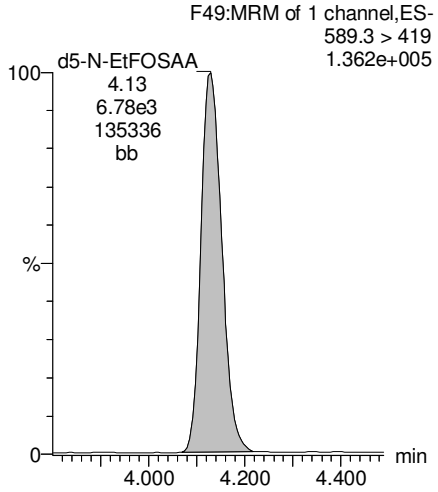

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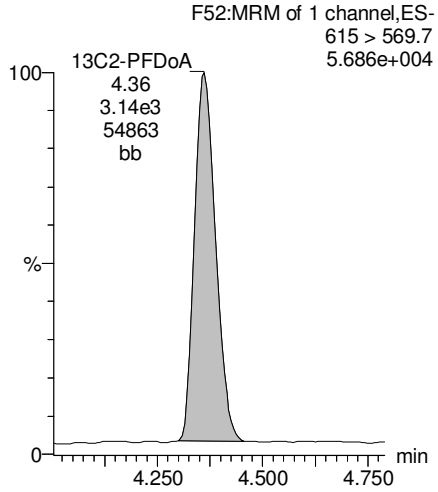

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Vista Analytical Laboratory

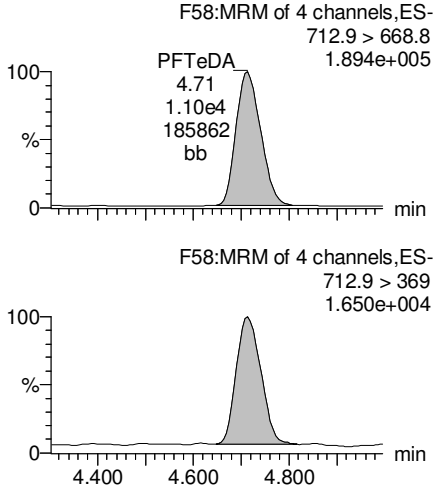
Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:38 Pacific Daylight Time

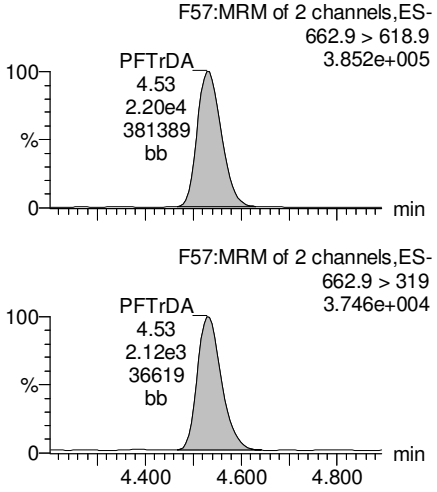
Reviewed: CT 08/03/2017

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

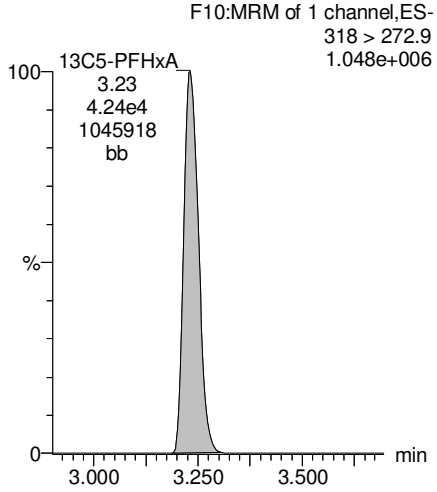
PFTeDA



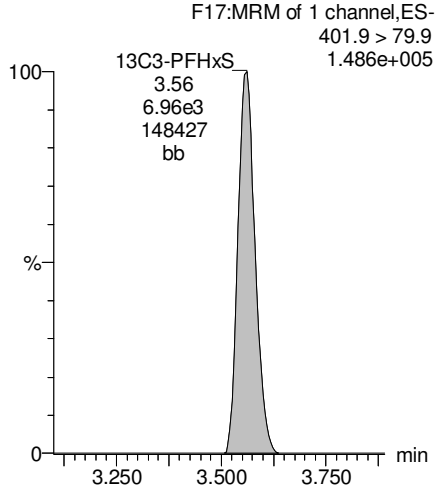
PFTrDA



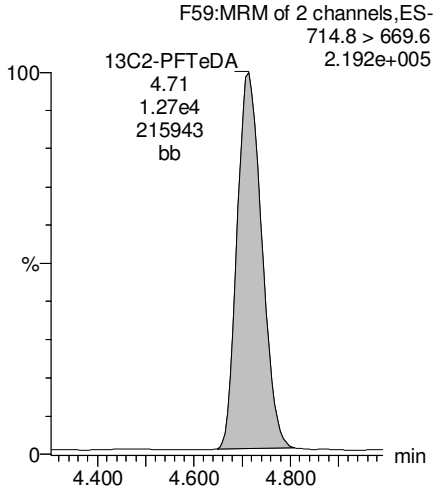
13C5-PFHxA



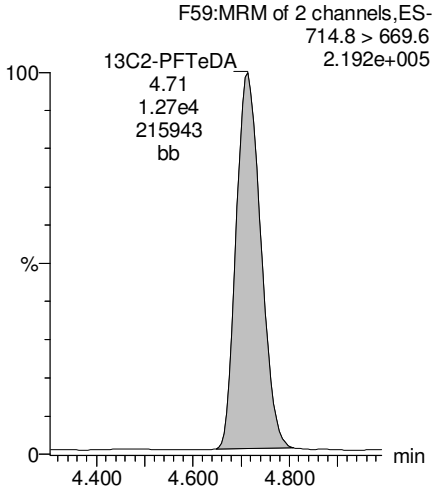
13C3-PFHxS



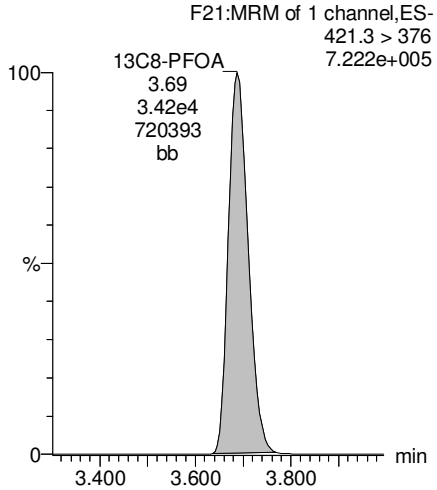
13C2-PFTeDA



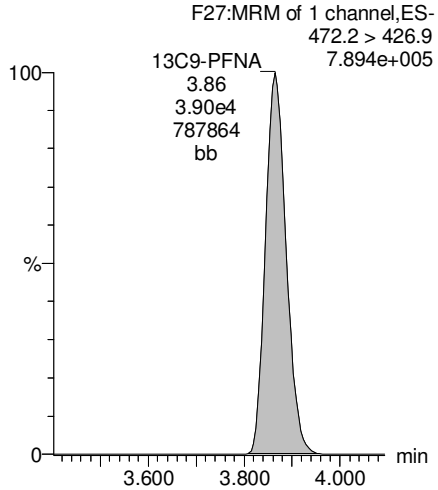
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

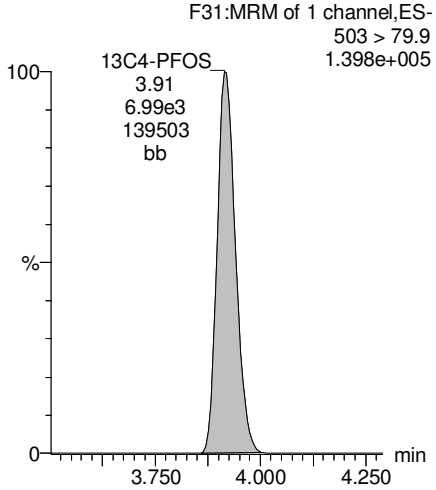
Dataset: U:\Q4.PRO\results\170725M1\170725M1-43.qld

Last Altered: Thursday, July 27, 2017 16:30:03 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:31:38 Pacific Daylight Time

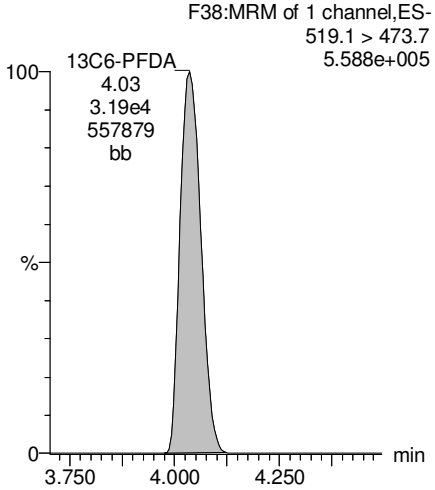
Reviewed: CT 08/03/2017

Name: 170725M1_43, Date: 25-Jul-2017, Time: 21:47:01, ID: B7G0108-MSD1 Matrix Spike Dup 0.11849, Description: Matrix Spike Dup

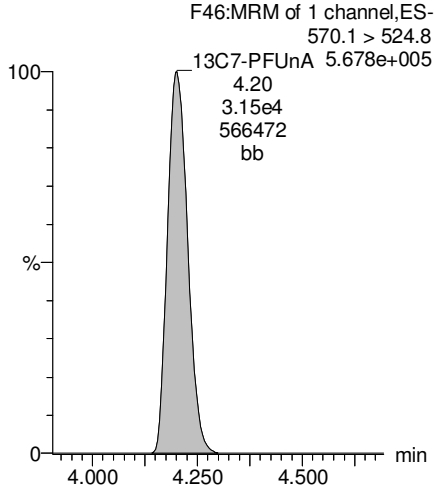
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:36:30 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

*See dilution.

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	2.42e4	8.68e3	0.1170		2.96	3.01	34.9	161	
2	4	PFHxA	313.2 > 268.9	5.74e5	2.35e4	0.1170		3.19	3.23	122	691	
3	5	PFHpA	363 > 318.9	1.24e5	5.57e4	0.1170		3.45	3.49	27.8	189	
4	6	PFHxS	398.9 > 79.6	1.01e5	5.38e3	0.1170		3.56	3.56	235	1370	E*
5	8	PFOA	413 > 368.7	8.19e4	6.56e4	0.1170		3.65	3.69	15.6	136	
6	10	PFNA	462.9 > 418.8	5.48e3	5.65e4	0.1170		3.83	3.87	1.21	8.29	
7	12	PFOS	499 > 79.9	1.84e5	1.28e4	0.1170		3.89	3.91	180	1600	E*
8	13	PFDA	513 > 468.8	1.28e3	5.93e4	0.1170		4.01	4.03	0.271	0.940	
9	15	N-MeFOSAA	570.1 > 419		1.26e4	0.1170		4.03				
10	16	N-EtFOSAA	584.2 > 419		1.32e4	0.1170		4.10				
11	17	PFUnA	562.9 > 518.9	2.46e2	5.92e4	0.1170		4.17	4.21	0.0519	0.421	
12	19	PFDoA	612.9 > 318.8		5.83e3	0.1170		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:36:42 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		5.83e3	0.1170		4.50				
2	22	PFTeDA	712.9 > 668.8		1.78e4	0.1170		4.68				
3	30	13C3-PFBS	302 > 98.8	8.68e3	7.93e4	0.1170	0.031	2.96	3.01	0.548	151	140.8
4	31	13C2-PFHxA	315 > 269.8	2.35e4	7.93e4	0.1170	0.276	3.19	3.23	1.48	45.8	107.2
5	32	13C4-PFHpA	367.2 > 321.8	5.57e4	7.93e4	0.1170	0.306	3.45	3.49	3.52	98.4	92.0
6	33	18O2-PFHxS	403 > 102.6	5.38e3	1.25e4	0.1170	0.393	3.56	3.56	5.36	117	109.3
7	35	13C2-PFOA	414.9 > 369.7	6.56e4	6.85e4	0.1170	1.067	3.65	3.69	12.0	95.9	89.7
8	36	13C5-PFNA	468.2 > 422.9	5.65e4	7.52e4	0.1170	0.852	3.83	3.87	9.40	94.3	88.2
9	38	13C8-PFOS	507 > 79.9	1.28e4	1.17e4	0.1170	0.936	3.89	3.92	13.7	125	117.2
10	39	13C2-PFDA	515.1 > 469.9	5.93e4	7.18e4	0.1170	0.810	4.01	4.03	10.3	109	101.9

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	41	d3-N-MeFOSAA	573.3 > 419	1.26e4	6.05e4	0.1170	0.014	4.03	4.06	2.61	1630	117.3	
2	42	d5-N-EtFOSAA	589.3 > 419	1.32e4	6.05e4	0.1170	0.014	4.12	4.13	2.74	1680	120.8	
3	43	13C2-PFUnA	565 > 519.8	5.92e4	6.05e4	0.1170	0.962	4.17	4.19	12.2	109	101.8	
4	44	13C2-PFDoA	615 > 569.7	5.83e3	6.05e4	0.1170	0.094	4.34	4.36	1.20	109	102.0	
5	46	13C2-PFTeDA	714.8 > 669.6	1.78e4	6.05e4	0.1170	0.694	4.68	4.71	3.69	45.4	42.5	H
6	52	13C5-PFHxA	318 > 272.9	7.93e4	7.93e4	0.1170	1.000	3.19	3.23	5.00	42.7	100.0	
7	53	13C3-PFHxS	401.9 > 79.9	1.25e4	1.25e4	0.1170	1.000	3.56	3.56	12.5	107	100.0	
8	54	13C8-PFOA	421.3 > 376	6.85e4	6.85e4	0.1170	1.000	3.65	3.69	12.5	107	100.0	
9	55	13C9-PFNA	472.2 > 426.9	7.52e4	7.52e4	0.1170	1.000	3.83	3.87	12.5	107	100.0	
10	56	13C4-PFOS	503 > 79.9	1.17e4	1.17e4	0.1170	1.000	3.89	3.92	12.5	107	100.0	
11	57	13C6-PFDA	519.1 > 473.7	7.18e4	7.18e4	0.1170	1.000	4.01	4.04	12.5	107	100.0	
12	58	13C7-PFUnA	570.1 > 524.8	6.05e4	6.05e4	0.1170	1.000	4.17	4.20	12.5	107	100.0	
13	59	Total PFBS	299 > 79.7	2.42e4	8.68e3	0.1170		2.96		34.9	161		
14	60	Total PFHxS	398.9 > 79.6	1.01e5	5.38e3	0.1170		3.52		235	1370		
15	61	Total PFOA	413 > 368.7	8.92e4	6.56e4	0.1170		3.65		17.0	146		
16	62	Total PFOS	499 > 79.9	1.84e5	1.28e4	0.1170		3.89		180	1600		
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	1.26e4	0.1170		4.03		0.000			
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	1.32e4	0.1170		4.17		0.000			

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	24209.141	8681.784	34.856	bb	160.5

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	100925.438	5375.013	234.710	MM	1369.8

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	81869.352	65550.867	15.612	db	135.7
2	61	Total PFOA	413 > 368.7	3.63	7338.069	65550.867	1.399	bd	10.6

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	183774.781	12784.071	179.691	MM	1595.9

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			12639.063		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			13242.798		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

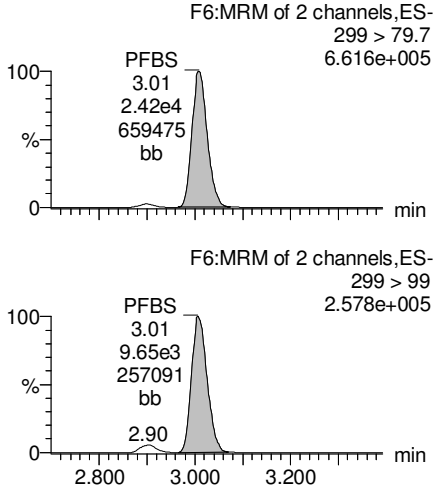
Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

Reviewed: CT 08/03/2017

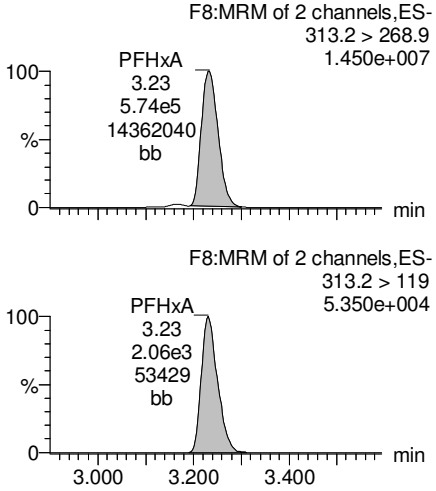
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

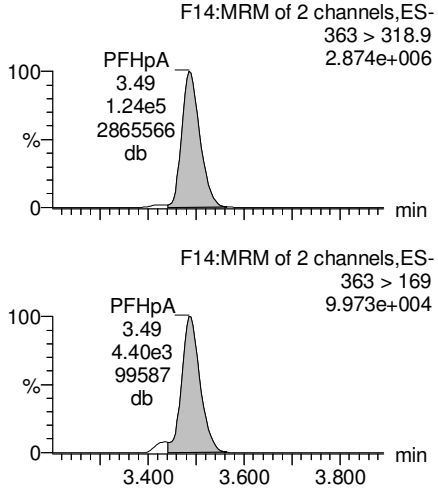
Total PFBS



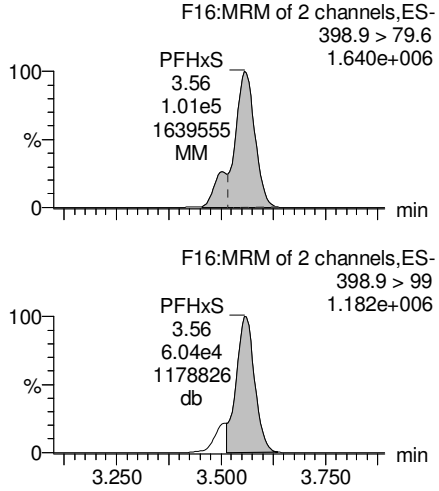
PFHxA



PFHpA



Total PFHxS



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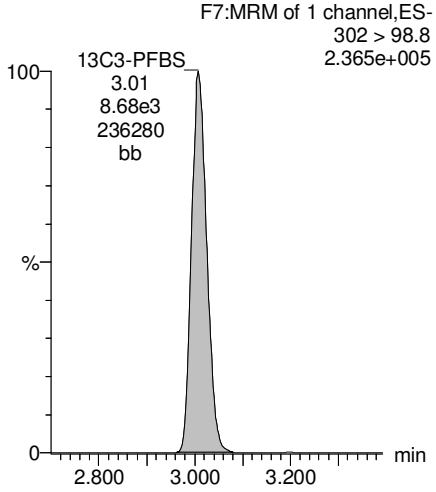

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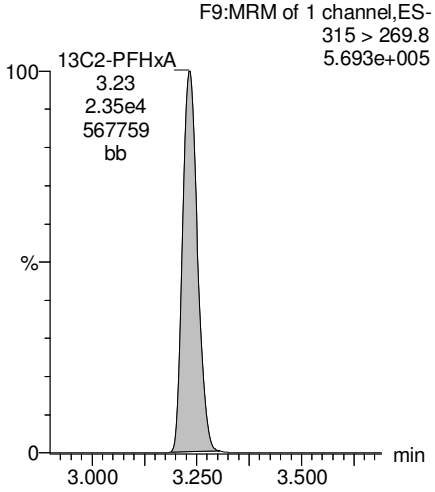

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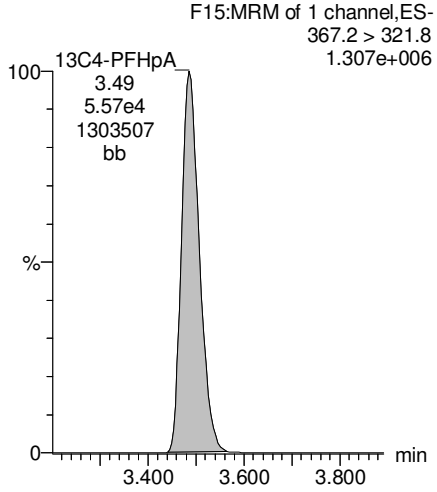
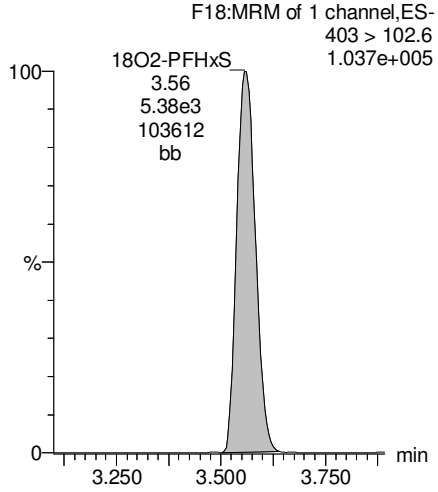


18O2-PFHxS



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Vista Analytical Laboratory

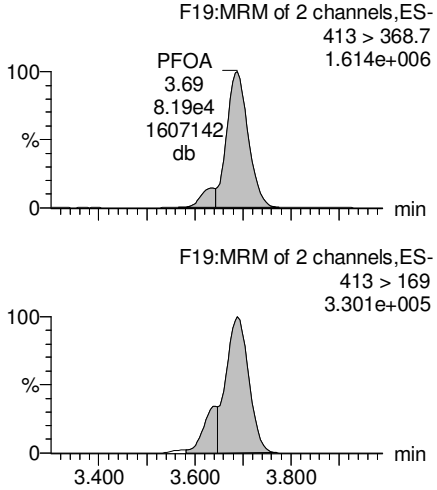
Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

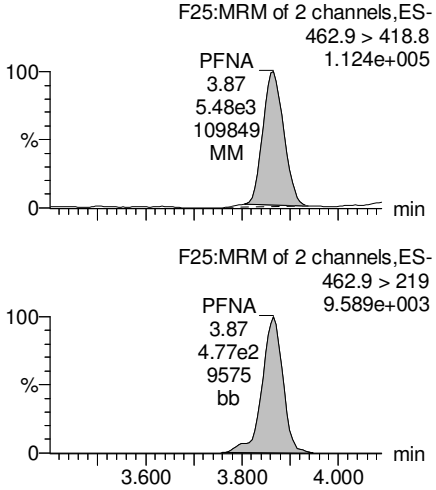
Reviewed: CT 08/03/2017

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

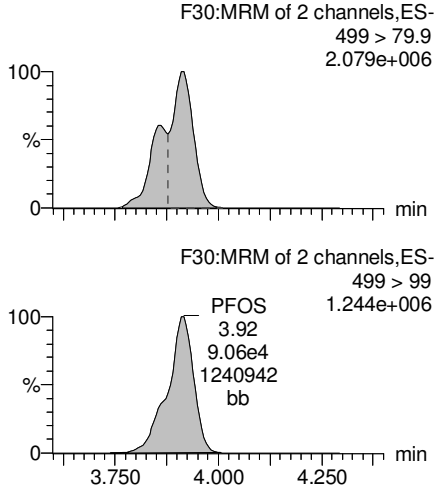
Total PFOA



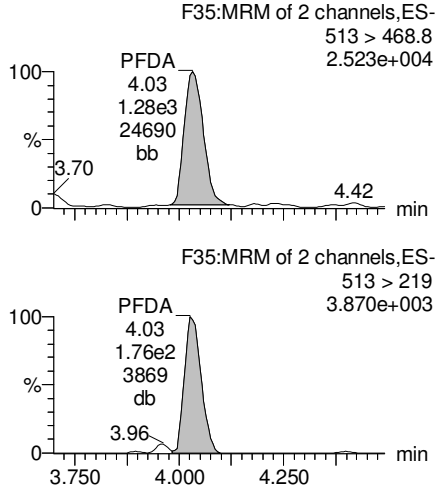
PFNA



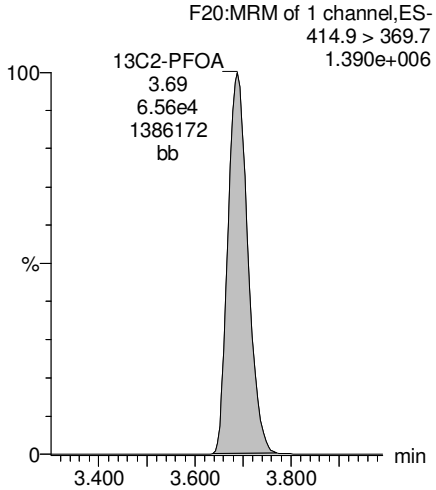
Total PFOS



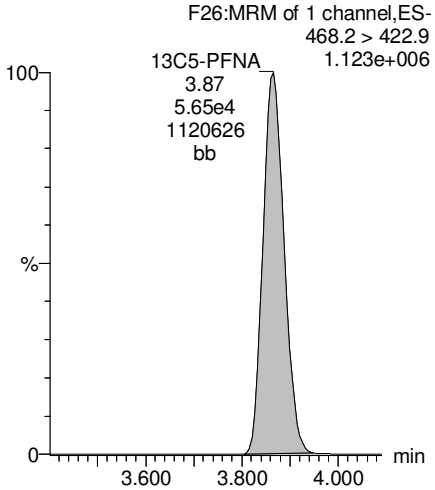
PFDA



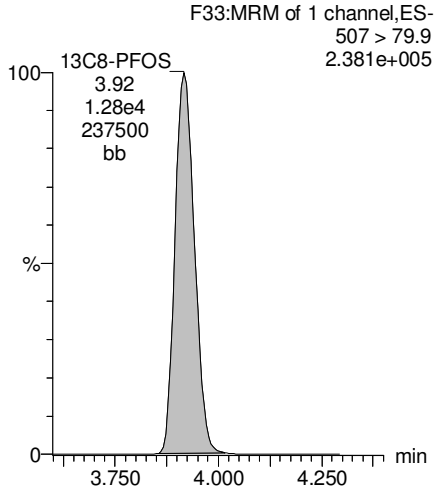
13C2-PFOA



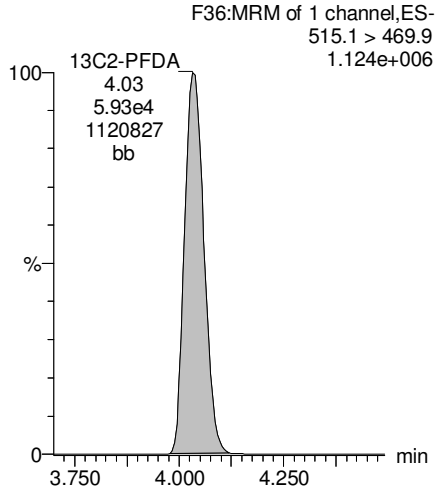
13C5-PFNA



13C8-PFOS



13C2-PFDA



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Vista Analytical Laboratory

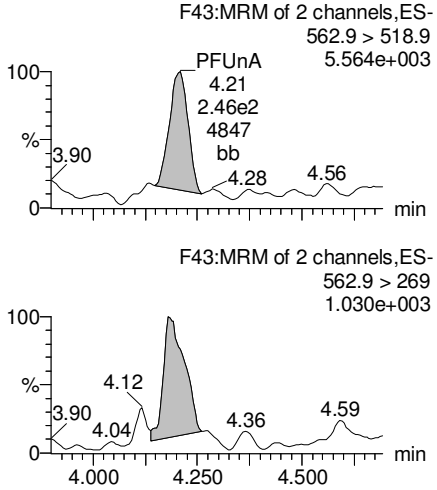
Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

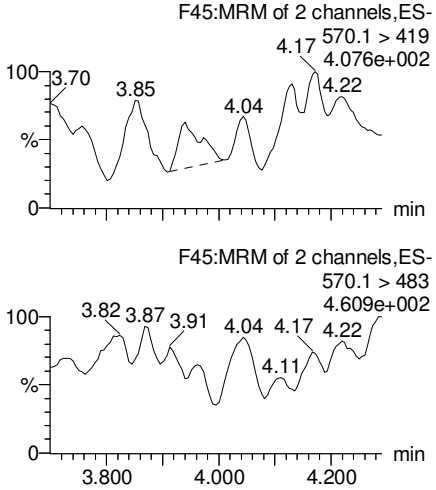
Reviewed: CT 08/03/2017

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

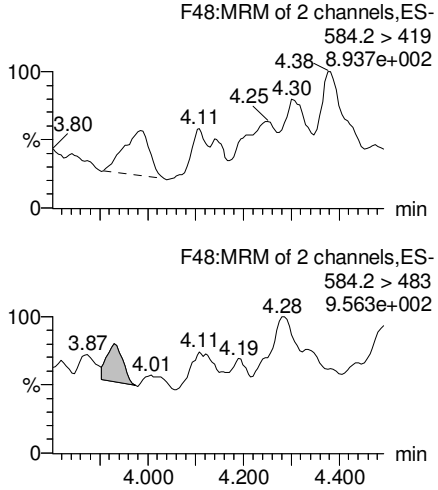
PFUnA



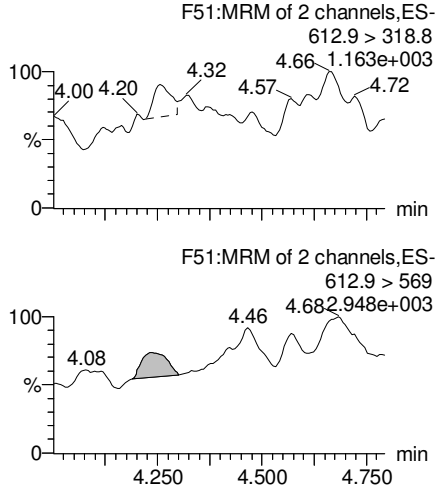
N-MeFOSAA



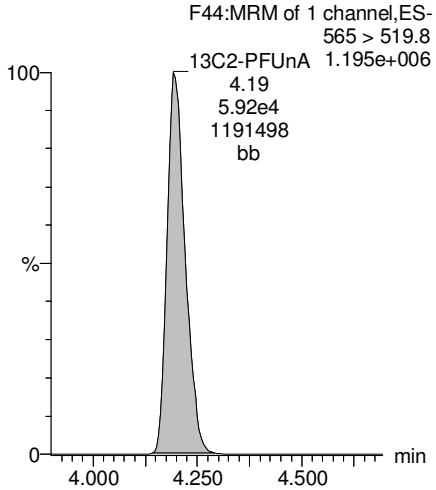
N-EtFOSAA



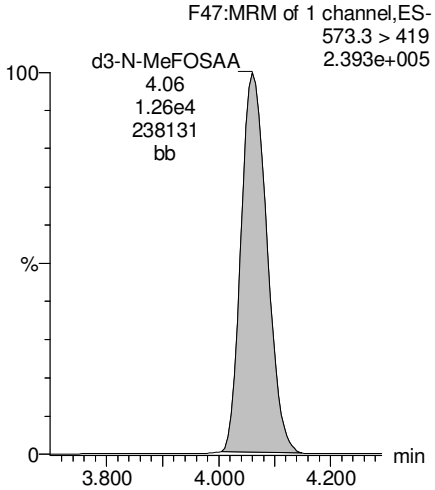
PFDoA



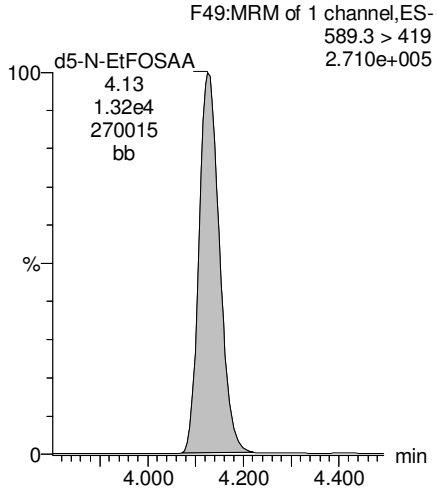
13C2-PFUnA



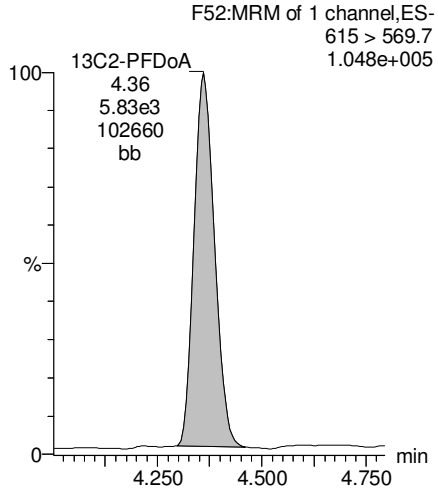
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



GM 7/27/17

Vista Analytical Laboratory

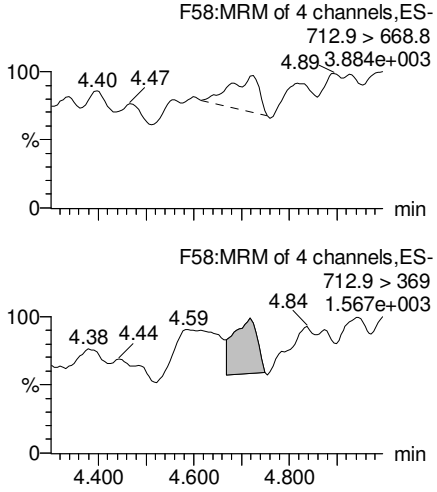
Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

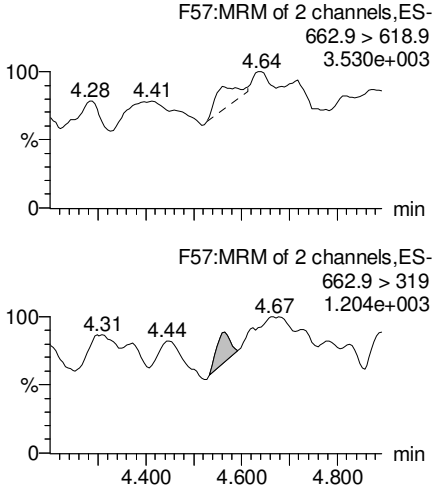
Reviewed: CT 08/03/2017

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

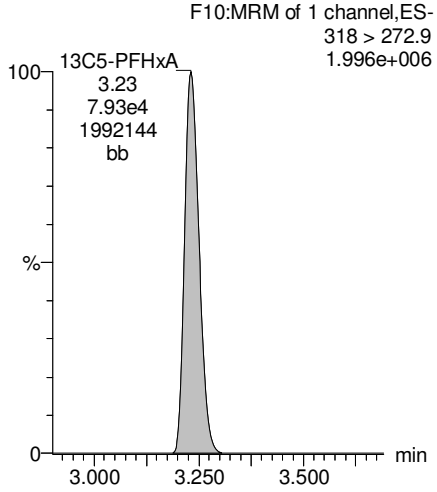
PFTeDA



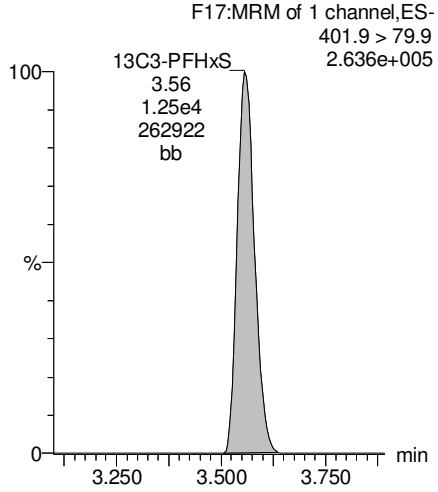
PFTrDA



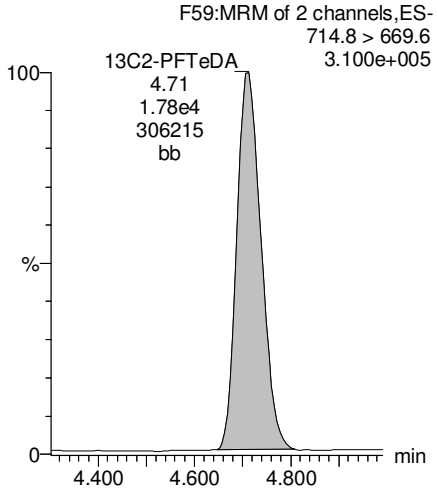
13C5-PFHxA



13C3-PFHxS



13C2-PFTeDA



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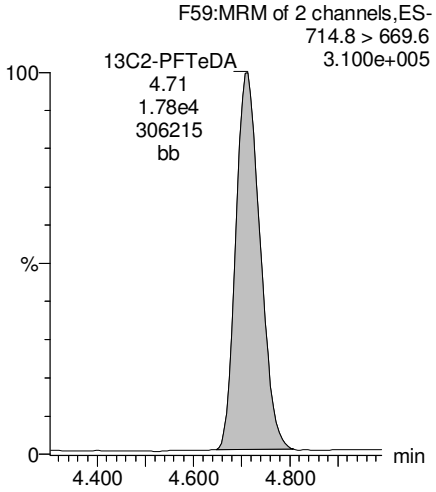
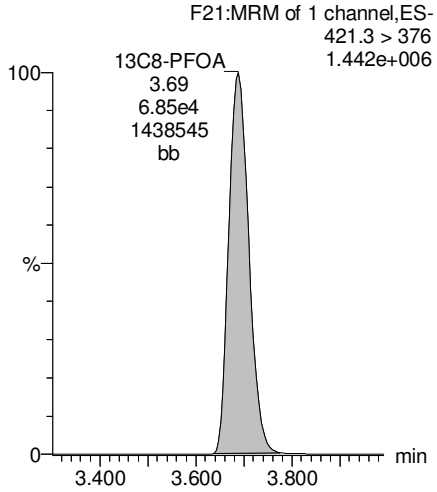
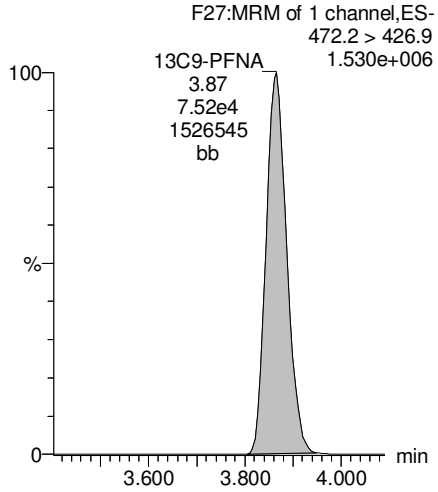


13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

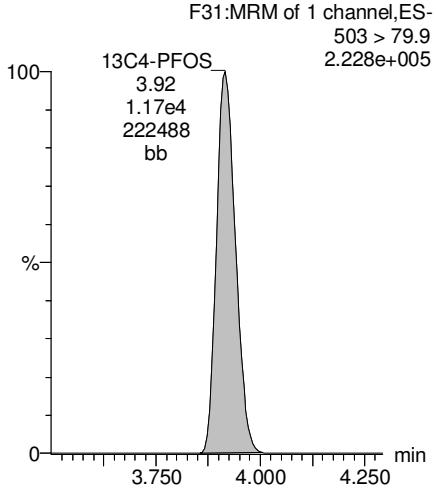
Dataset: U:\Q4.PRO\results\170725M1\170725M1-44.qld

Last Altered: Thursday, July 27, 2017 16:35:41 Pacific Daylight Time
Printed: Thursday, July 27, 2017 16:37:01 Pacific Daylight Time

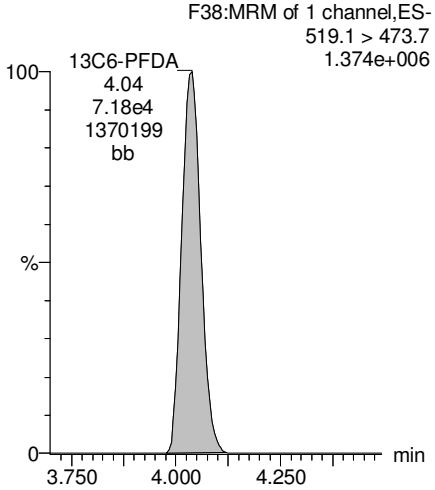
Reviewed: CT 08/03/2017

Name: 170725M1_44, Date: 25-Jul-2017, Time: 21:57:39, ID: 1700856-05RE1 MW-37S-20170711 0.11696, Description: MW-37S-20170711

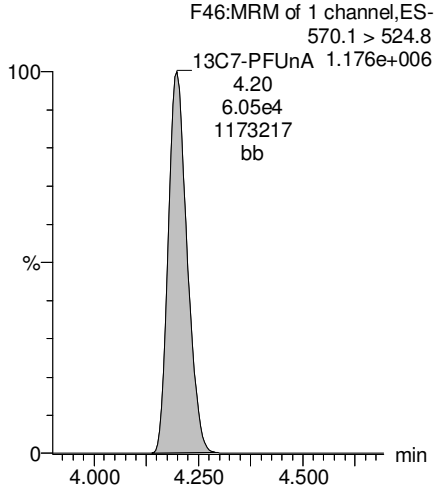
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-109.qld

Last Altered: Friday, July 28, 2017 11:21:18 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:21:49 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_109, Date: 28-Jul-2017, Time: 07:00:38, ID: 1700856-05RE1@10X MW-37S-20170711 0.11696, Description: MW-37S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	6	PFHxS	398.9 > 79.6	6.01e3	2.70e2	0.1170		3.56	3.48	278	1450	
2	11	PFOS	499 > 79.9	9.87e3	5.34e2	0.1170		3.89	3.84	231	2180	
3	25	18O2-PFHxS	403 > 102.6	2.70e2	6.88e2	0.1170	0.402	3.56	3.49	4.91	104	97.7
4	29	13C8-PFOS	507 > 79.9	5.34e2	5.89e2	0.1170	0.951	3.89	3.84	11.3	102	95.3
5	38	13C3-PFHxS	401.9 > 79.9	6.88e2	6.88e2	0.1170	1.000	3.56	3.49	12.5	107	100.0
6	41	13C4-PFOS	503 > 79.9	5.89e2	5.89e2	0.1170	1.000	3.89	3.84	12.5	107	100.0
7	45	Total PFHxS	398.9 > 79.6	6.01e3	2.70e2	0.1170		3.52		278	1450	
8	47	Total PFOS	499 > 79.9	9.87e3	5.34e2	0.1170		3.89		231	2180	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-109.qld

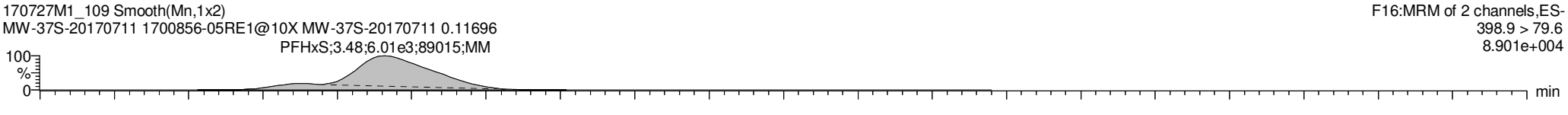
Last Altered: Friday, July 28, 2017 11:21:18 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:21:49 Pacific Daylight Time

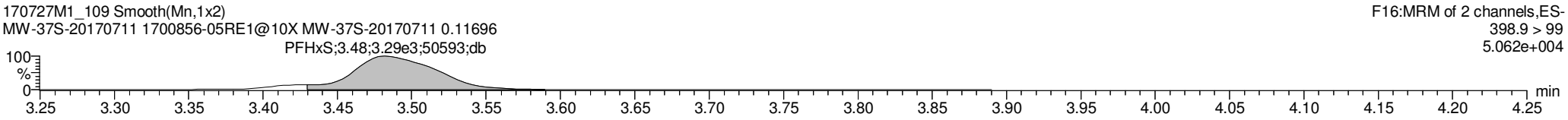
Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

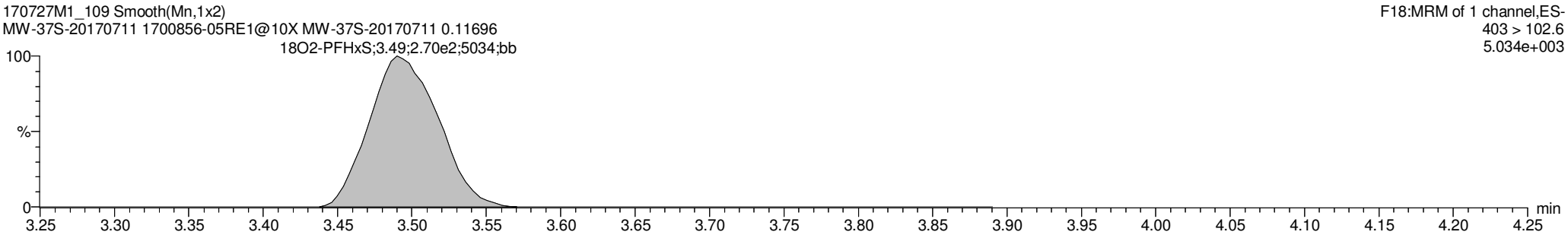
Name: 170727M1_109, Date: 28-Jul-2017, Time: 07:00:38, ID: 1700856-05RE1@10X MW-37S-20170711 0.11696, Description: MW-37S-20170711

Total PFHxS

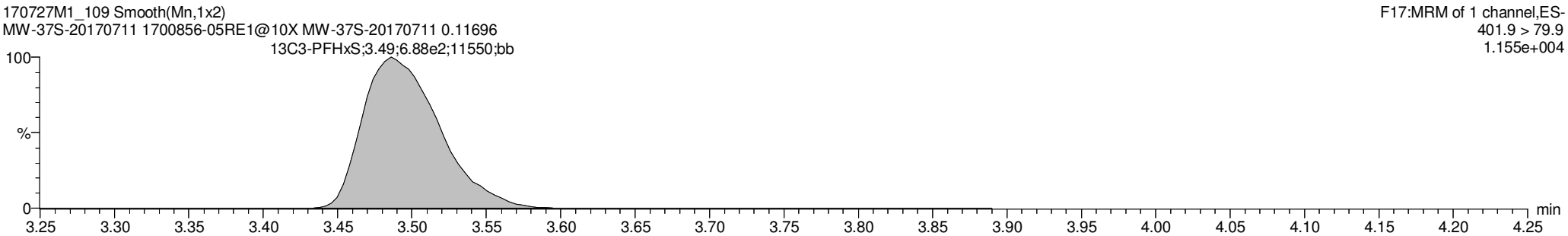




18O2-PFHxS



13C3-PFHxS



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Vista Analytical Laboratory

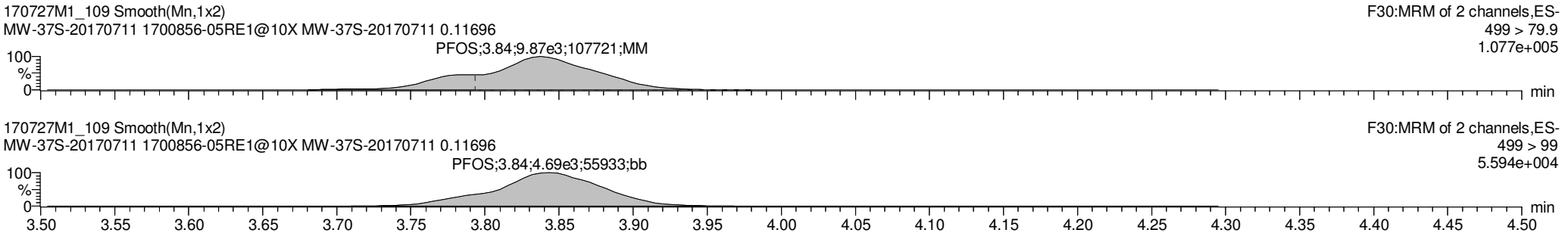
Dataset: U:\Q4.PRO\results\170727M1\170727M1-109.qld

Last Altered: Friday, July 28, 2017 11:21:18 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:21:49 Pacific Daylight Time

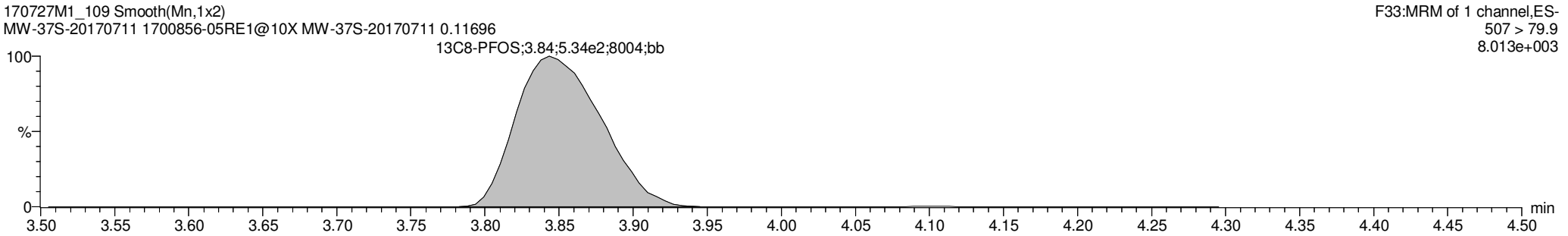
Reviewed: CT 08/03/2017

Name: 170727M1_109, Date: 28-Jul-2017, Time: 07:00:38, ID: 1700856-05RE1@10X MW-37S-20170711 0.11696, Description: MW-37S-20170711

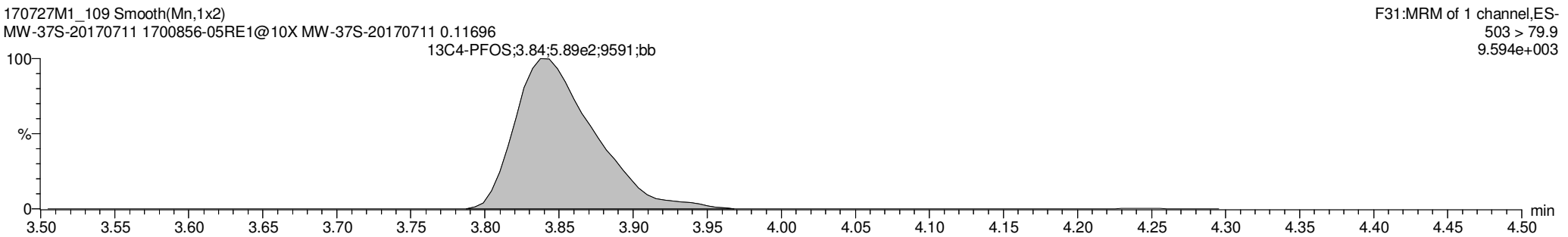
Total PFOS



13C8-PFOS



13C4-PFOS



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:39:39 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		4.02e3	0.1204		2.96				
2	4	PFHxA	313.2 > 268.9		1.19e4	0.1204		3.19				
3	5	PFHpA	363 > 318.9		2.65e4	0.1204		3.45				
4	6	PFHxS	398.9 > 79.6	4.69e0	2.88e3	0.1204		3.56	3.58	0.0204	0.155	
5	8	PFOA	413 > 368.7		3.52e4	0.1204		3.65				
6	10	PFNA	462.9 > 418.8		3.06e4	0.1204		3.83				
7	12	PFOS	499 > 79.9		6.44e3	0.1204		3.89				
8	13	PFDA	513 > 468.8		2.73e4	0.1204		4.01				
9	15	N-MeFOSAA	570.1 > 419		5.31e3	0.1204		4.03				
10	16	N-EtFOSAA	584.2 > 419		5.01e3	0.1204		4.10				
11	17	PFUnA	562.9 > 518.9		2.58e4	0.1204		4.17				
12	19	PFDoA	612.9 > 318.8		2.73e3	0.1204		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:39:55 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		2.73e3	0.1204		4.50					
2	22	PFTeDA	712.9 > 668.8		2.06e4	0.1204		4.68					
3	30	13C3-PFBS	302 > 98.8	4.02e3	3.06e4	0.1204	0.031	2.96	3.00	0.656	175	168.8	H
4	31	13C2-PFHxA	315 > 269.8	1.19e4	3.06e4	0.1204	0.276	3.19	3.23	1.94	58.4	140.6	
5	32	13C4-PFHpA	367.2 > 321.8	2.65e4	3.06e4	0.1204	0.306	3.45	3.49	4.34	118	113.5	
6	33	18O2-PFHxS	403 > 102.6	2.88e3	4.88e3	0.1204	0.393	3.56	3.56	7.38	156	150.3	H
7	35	13C2-PFOA	414.9 > 369.7	3.52e4	2.62e4	0.1204	1.067	3.65	3.69	16.8	131	125.9	
8	36	13C5-PFNA	468.2 > 422.9	3.06e4	2.98e4	0.1204	0.852	3.83	3.86	12.8	125	120.5	
9	38	13C8-PFOS	507 > 79.9	6.44e3	4.85e3	0.1204	0.936	3.89	3.91	16.6	147	142.0	
10	39	13C2-PFDA	515.1 > 469.9	2.73e4	2.64e4	0.1204	0.810	4.01	4.03	12.9	133	127.7	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:40:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	5.31e3	2.28e4	0.1204	0.014	4.03	4.06	2.91	1770	130.9
2	42	d5-N-EtFOSAA	589.3 > 419	5.01e3	2.28e4	0.1204	0.014	4.12	4.12	2.75	1640	121.3
3	43	13C2-PFUnA	565 > 519.8	2.58e4	2.28e4	0.1204	0.962	4.17	4.19	14.2	122	117.8
4	44	13C2-PFDoA	615 > 569.7	2.73e3	2.28e4	0.1204	0.094	4.34	4.36	1.50	132	127.0
5	46	13C2-PFTeDA	714.8 > 669.6	2.06e4	2.28e4	0.1204	0.694	4.68	4.70	11.3	135	130.2
6	52	13C5-PFHxA	318 > 272.9	3.06e4	3.06e4	0.1204	1.000	3.19	3.23	5.00	41.5	100.0
7	53	13C3-PFHxS	401.9 > 79.9	4.88e3	4.88e3	0.1204	1.000	3.56	3.56	12.5	104	100.0
8	54	13C8-PFOA	421.3 > 376	2.62e4	2.62e4	0.1204	1.000	3.65	3.68	12.5	104	100.0
9	55	13C9-PFNA	472.2 > 426.9	2.98e4	2.98e4	0.1204	1.000	3.83	3.86	12.5	104	100.0
10	56	13C4-PFOS	503 > 79.9	4.85e3	4.85e3	0.1204	1.000	3.89	3.91	12.5	104	100.0
11	57	13C6-PFDA	519.1 > 473.7	2.64e4	2.64e4	0.1204	1.000	4.01	4.03	12.5	104	100.0
12	58	13C7-PFUnA	570.1 > 524.8	2.28e4	2.28e4	0.1204	1.000	4.17	4.19	12.5	104	100.0
13	59	Total PFBS	299 > 79.7	0.00e0	4.02e3	0.1204		2.96		0.000		
14	60	Total PFHxS	398.9 > 79.6	4.69e0	2.88e3	0.1204		3.52		0.0204	0.155	
15	61	Total PFOA	413 > 368.7	0.00e0	3.52e4	0.1204		3.65		0.000		
16	62	Total PFOS	499 > 79.9	0.00e0	6.44e3	0.1204		3.89		0.000		
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	5.31e3	0.1204		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	5.01e3	0.1204		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:40:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

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	6	PFHxS	398.9 > 79.6	3.58	4.693	2880.085	0.020	MM	0.2

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			35210.613		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	15	N-MeFOSAA	570.1 > 419			5306.782		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			5005.231		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

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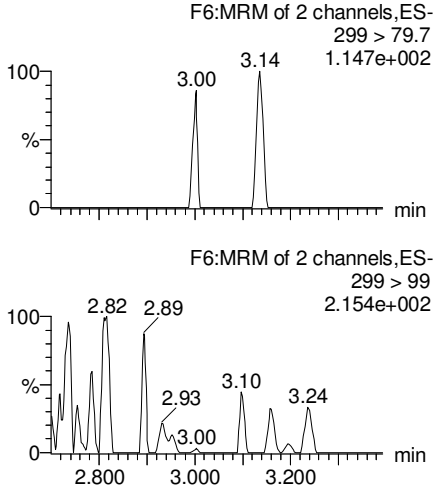
Reviewed: CT 08/03/2017

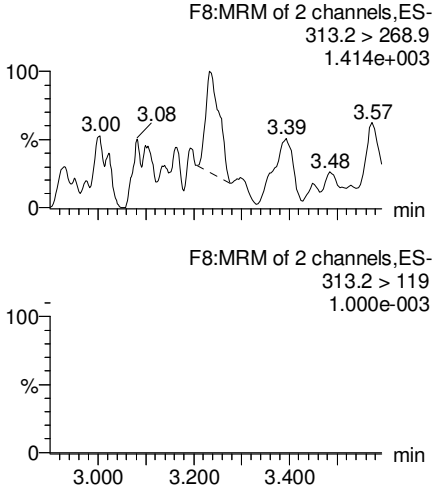
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

Total PFBS



PFHxA



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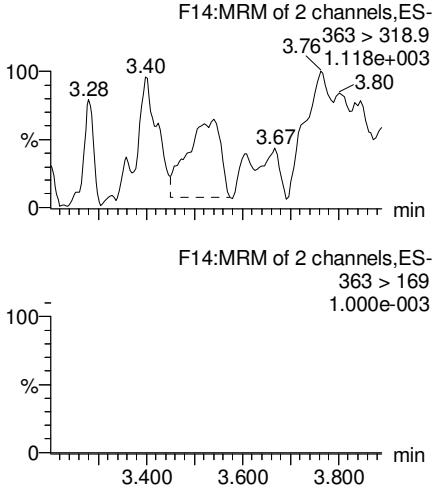
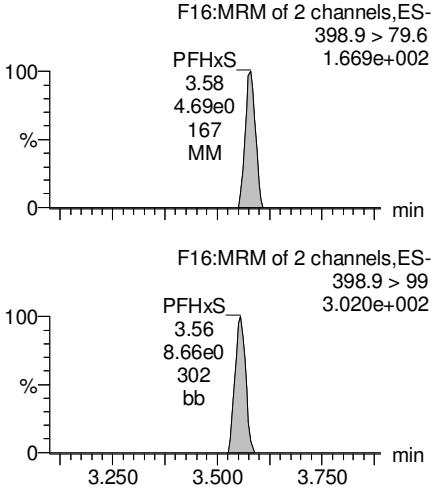
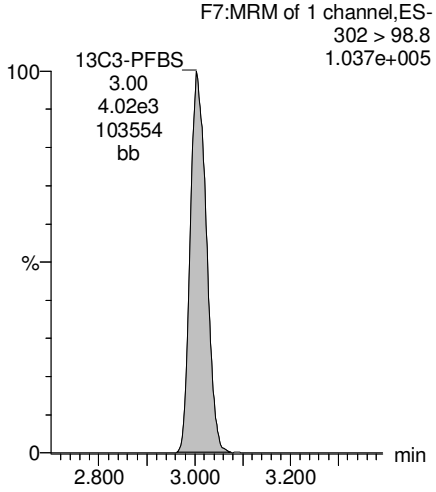


Total PFHxS



13C3-PFBS



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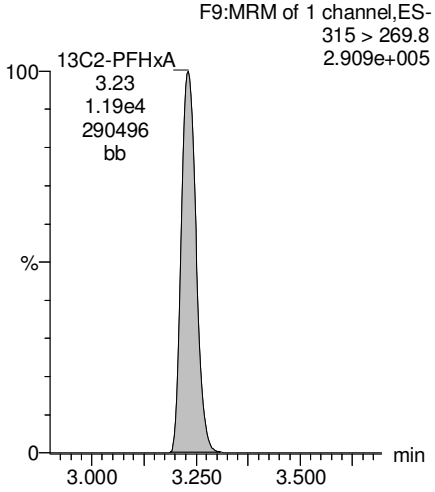

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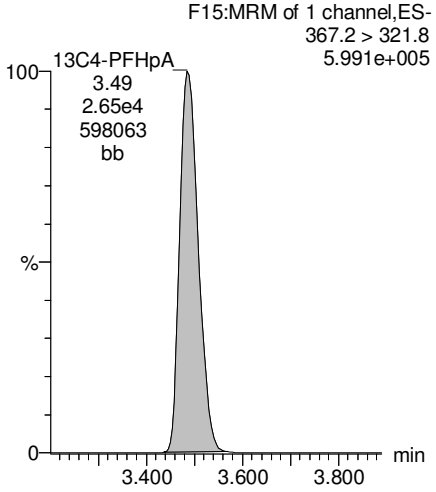

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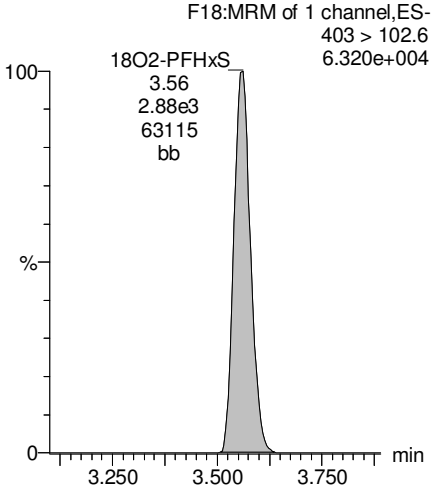

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Vista Analytical Laboratory

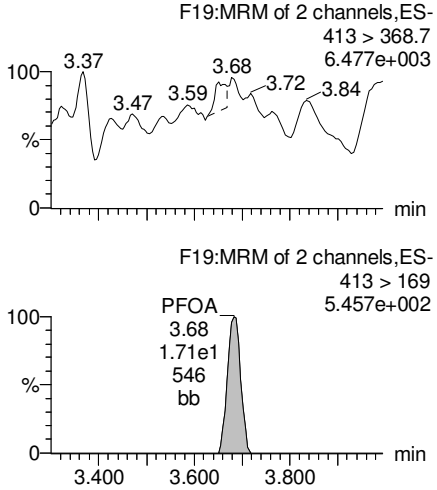
Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:40:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

Total PFOA



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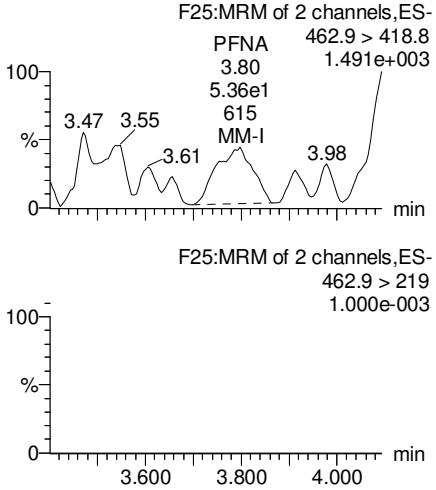
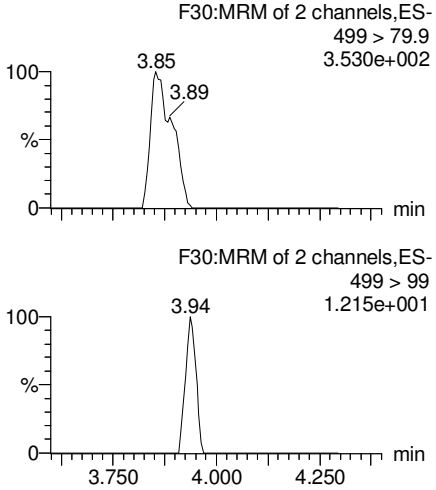


Total PFOS



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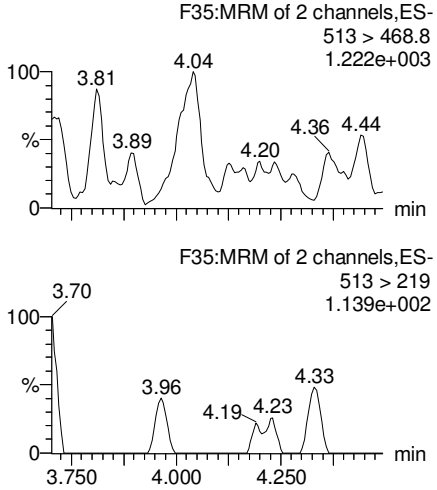
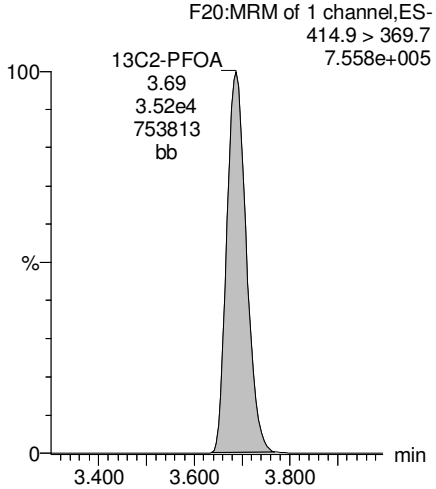
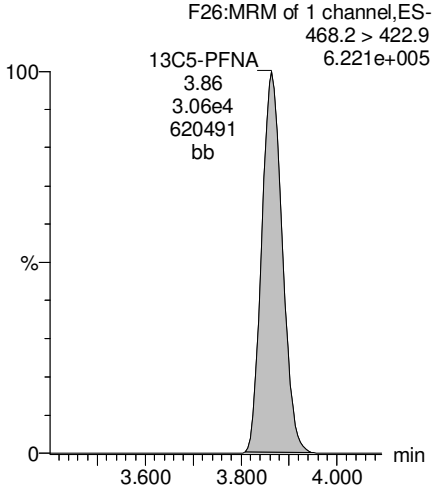


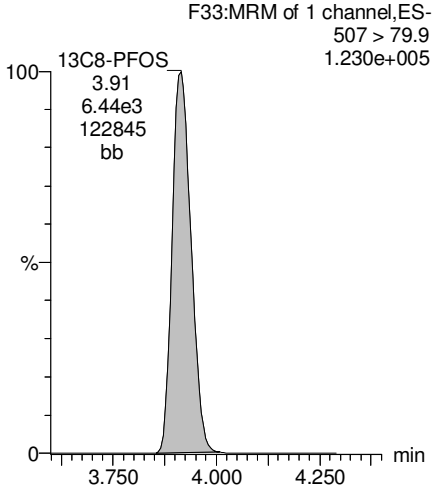
13C2-PFOA



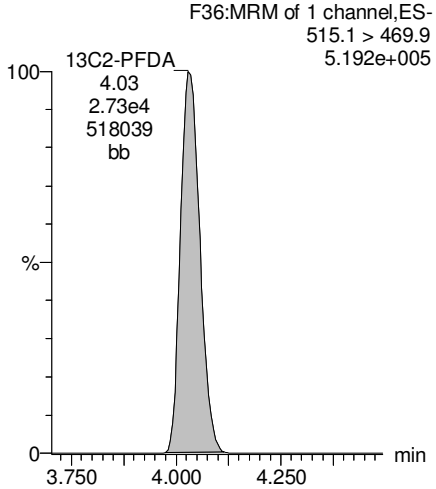
13C5-PFNA



13C8-PFOS



13C2-PFDA



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Vista Analytical Laboratory

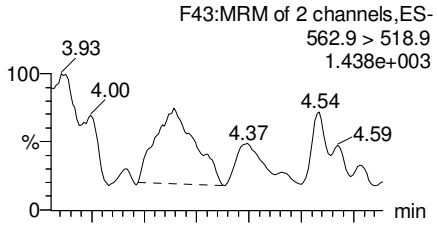
Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

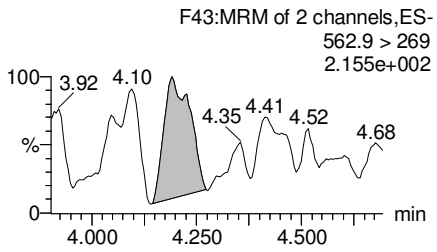
Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:40:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

PFUnA





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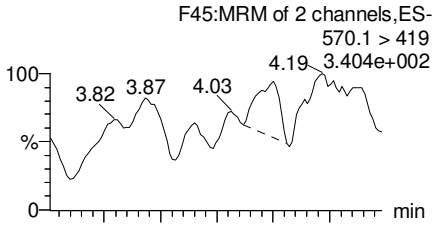
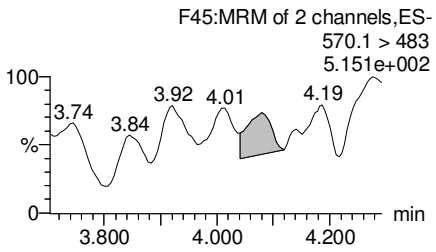
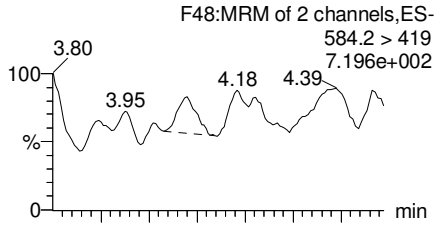
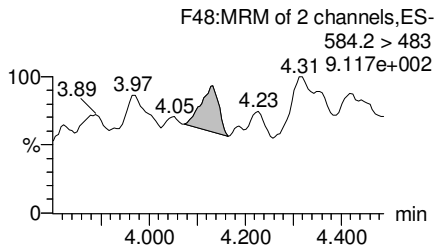


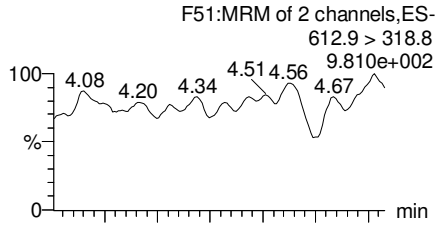


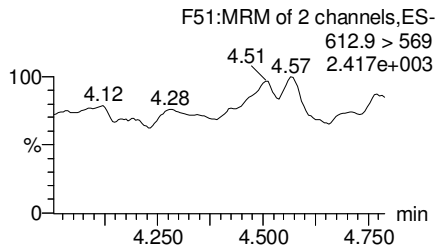
N-EtFOSAA



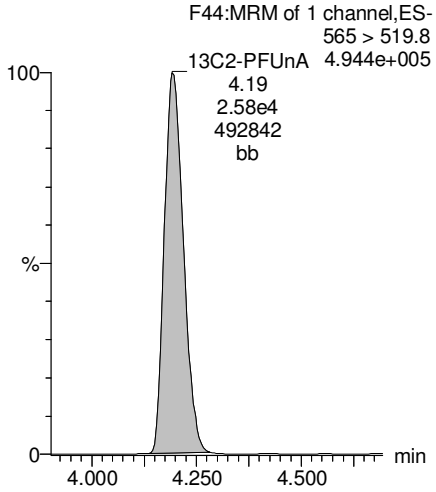


PFDoA

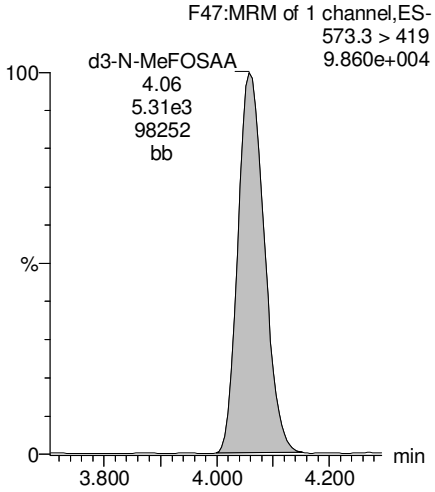




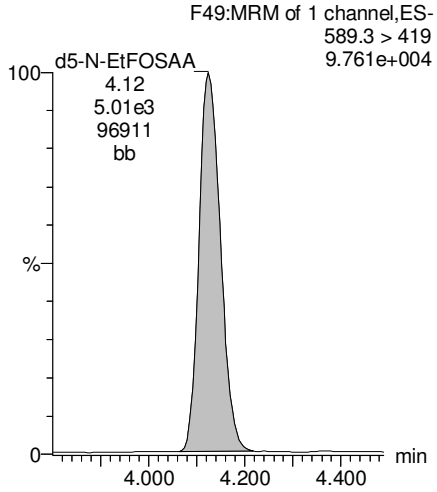
13C2-PFUnA



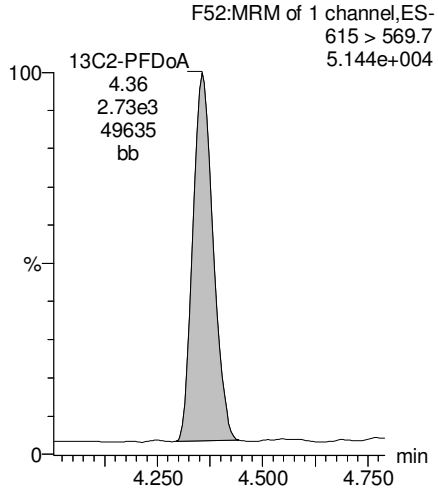
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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Vista Analytical Laboratory

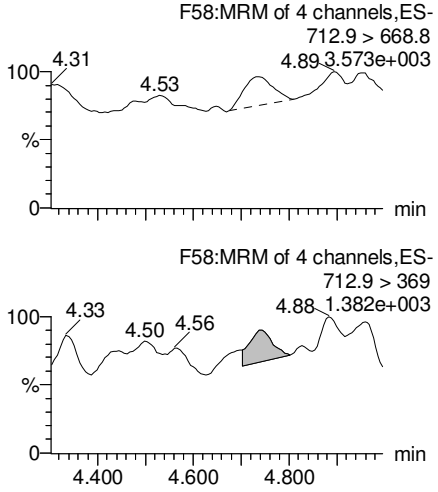
Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:40:16 Pacific Daylight Time

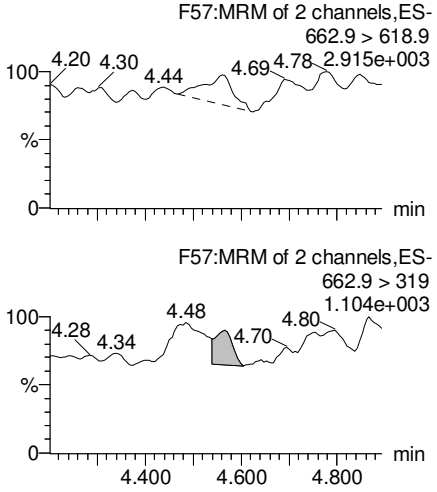
Reviewed: CT 08/03/2017

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

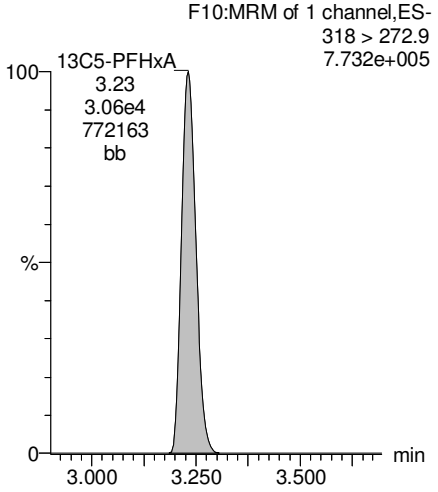
PFTeDA



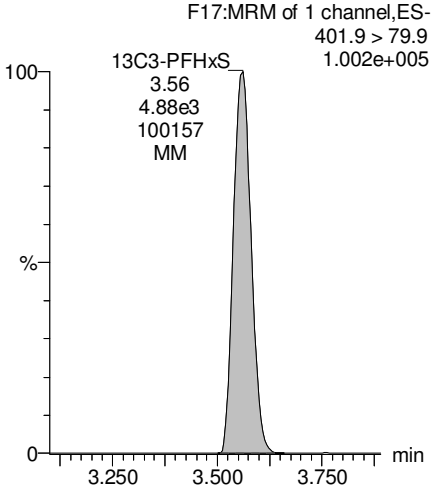
PFTrDA



13C5-PFHxA



13C3-PFHxS



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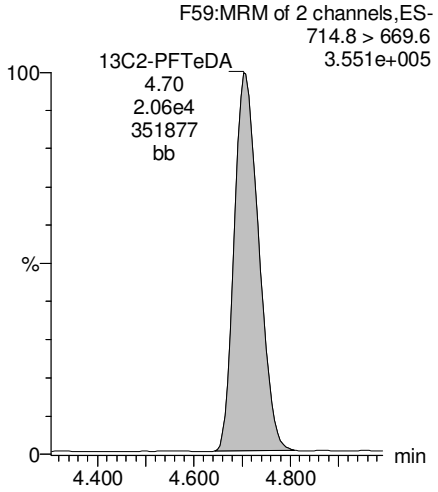

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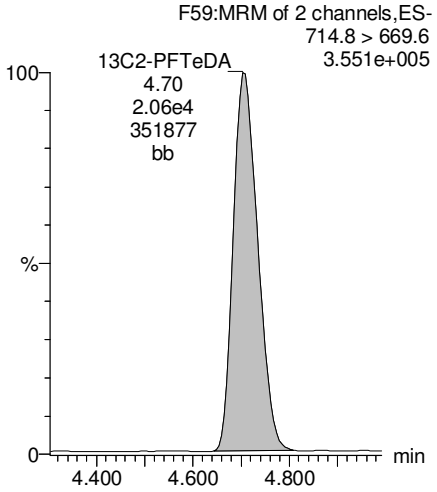
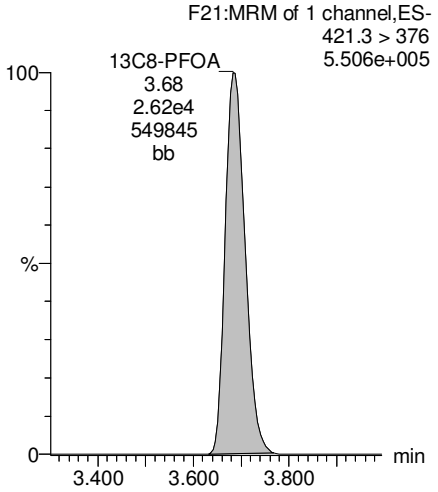
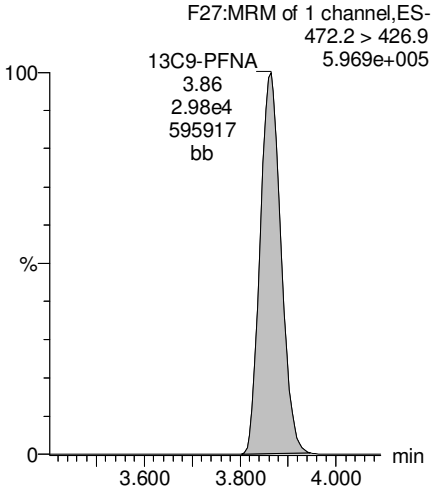


13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

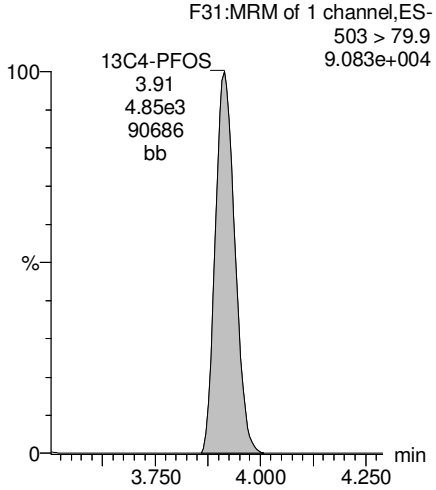
Dataset: U:\Q4.PRO\results\170725M1\170725M1-45.qld

Last Altered: Friday, July 28, 2017 08:39:04 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:40:16 Pacific Daylight Time

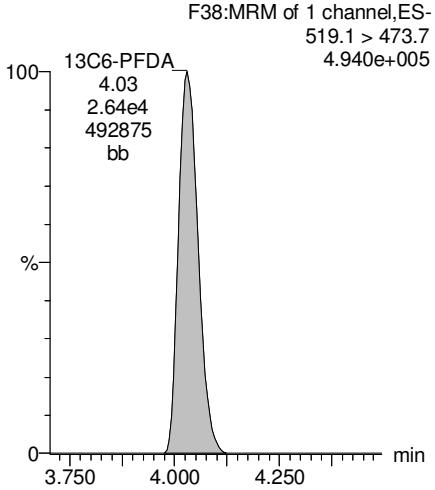
Reviewed: CT 08/03/2017

Name: 170725M1_45, Date: 25-Jul-2017, Time: 22:08:34, ID: 1700856-06RE1 ERB-01-20170711 0.12043, Description: ERB-01-20170711

13C4-PFOS



13C6-PFDA



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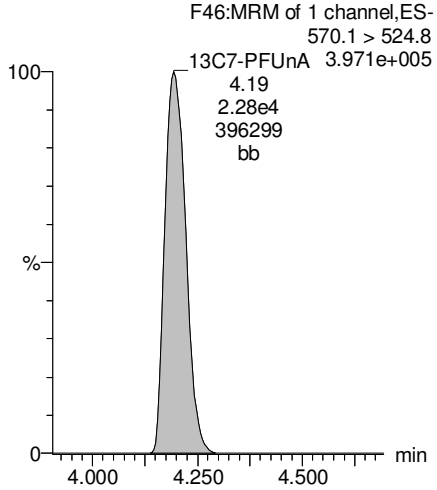

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:44:45 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	8.91e3	3.58e3	0.1148		2.96	3.00	31.1	146	
2	4	PFHxA	313.2 > 268.9	2.42e5	1.01e4	0.1148		3.19	3.23	119	687	
3	5	PFHpA	363 > 318.9	5.12e4	2.21e4	0.1148		3.45	3.49	29.0	201	
4	6	PFHxS	398.9 > 79.6	4.37e4	2.38e3	0.1148		3.56	3.56	229	1360	E*
5	8	PFOA	413 > 368.7	3.77e4	2.94e4	0.1148		3.65	3.69	16.0	142	
6	10	PFNA	462.9 > 418.8	4.71e3	2.41e4	0.1148		3.83	3.86	2.44	18.2	
7	12	PFOS	499 > 79.9	1.12e5	5.23e3	0.1148		3.89	3.91	268	3070	E*
8	13	PFDA	513 > 468.8	1.52e3	2.33e4	0.1148		4.01	4.03	0.815	4.61	
9	15	N-MeFOSAA	570.1 > 419		5.16e3	0.1148		4.03				
10	16	N-EtFOSAA	584.2 > 419		5.53e3	0.1148		4.10				
11	17	PFUnA	562.9 > 518.9		2.97e4	0.1148		4.17				
12	19	PFDoA	612.9 > 318.8		2.96e3	0.1148		4.34				

*See dilution.

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:45:00 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		2.96e3	0.1148		4.50					
2	22	PFTeDA	712.9 > 668.8		1.91e4	0.1148		4.68					
3	30	13C3-PFBS	302 > 98.8	3.58e3	2.74e4	0.1148	0.031	2.96	3.00	0.654	183	168.1	H
4	31	13C2-PFHxA	315 > 269.8	1.01e4	2.74e4	0.1148	0.276	3.19	3.23	1.85	58.4	134.1	
5	32	13C4-PFHpA	367.2 > 321.8	2.21e4	2.74e4	0.1148	0.306	3.45	3.49	4.03	115	105.5	
6	33	18O2-PFHxS	403 > 102.6	2.38e3	4.40e3	0.1148	0.393	3.56	3.56	6.76	150	137.7	
7	35	13C2-PFOA	414.9 > 369.7	2.94e4	2.35e4	0.1148	1.067	3.65	3.69	15.7	128	117.3	
8	36	13C5-PFNA	468.2 > 422.9	2.41e4	2.58e4	0.1148	0.852	3.83	3.86	11.7	119	109.5	
9	38	13C8-PFOS	507 > 79.9	5.23e3	4.02e3	0.1148	0.936	3.89	3.91	16.3	151	139.1	
10	39	13C2-PFDA	515.1 > 469.9	2.33e4	2.39e4	0.1148	0.810	4.01	4.03	12.2	131	120.6	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:49:55 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	5.16e3	2.35e4	0.1148	0.014	4.03	4.06	2.75	1750	123.6
2	42	d5-N-EtFOSAA	589.3 > 419	5.53e3	2.35e4	0.1148	0.014	4.12	4.12	2.95	1840	130.1
3	43	13C2-PFUnA	565 > 519.8	2.97e4	2.35e4	0.1148	0.962	4.17	4.20	15.8	143	131.6
4	44	13C2-PFDoA	615 > 569.7	2.96e3	2.35e4	0.1148	0.094	4.34	4.36	1.58	145	133.6
5	46	13C2-PFTeDA	714.8 > 669.6	1.91e4	2.35e4	0.1148	0.694	4.68	4.71	10.2	127	117.0
6	52	13C5-PFHxA	318 > 272.9	2.74e4	2.74e4	0.1148	1.000	3.19	3.23	5.00	43.5	100.0
7	53	13C3-PFHxS	401.9 > 79.9	4.40e3	4.40e3	0.1148	1.000	3.56	3.56	12.5	109	100.0
8	54	13C8-PFOA	421.3 > 376	2.35e4	2.35e4	0.1148	1.000	3.65	3.69	12.5	109	100.0
9	55	13C9-PFNA	472.2 > 426.9	2.58e4	2.58e4	0.1148	1.000	3.83	3.86	12.5	109	100.0
10	56	13C4-PFOS	503 > 79.9	4.02e3	4.02e3	0.1148	1.000	3.89	3.91	12.5	109	100.0
11	57	13C6-PFDA	519.1 > 473.7	2.39e4	2.39e4	0.1148	1.000	4.01	4.03	12.5	109	100.0
12	58	13C7-PFUnA	570.1 > 524.8	2.35e4	2.35e4	0.1148	1.000	4.17	4.20	12.5	109	100.0
13	59	Total PFBS	299 > 79.7	8.91e3	3.58e3	0.1148		2.96		31.1	146	
14	60	Total PFHxS	398.9 > 79.6	4.37e4	2.38e3	0.1148		3.52		229	1360	
15	61	Total PFOA	413 > 368.7	4.06e4	2.94e4	0.1148		3.65		17.2	151	
16	62	Total PFOS	499 > 79.9	1.12e5	5.23e3	0.1148		3.89		268	3070	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	5.16e3	0.1148		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	5.53e3	0.1148		4.17		0.000		

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Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	8905.508	3576.117	31.128	bb	146.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	43650.215	2378.048	229.444	MM	1357.9

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	37723.840	29430.807	16.022	db	141.9
2	61	Total PFOA	413 > 368.7	3.63	2885.216	29430.807	1.225	bd	9.2

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	112152.555	5228.008	268.153	MM	3074.3

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	16	N-EtFOSAA	584.2 > 419			5533.681		MM-I	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
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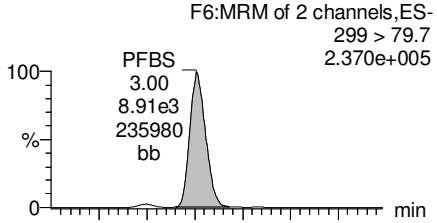
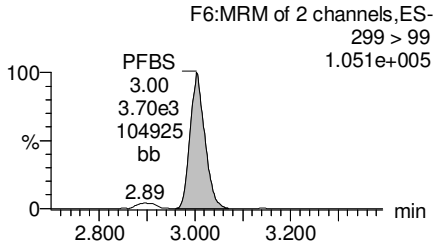
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

Total PFBS





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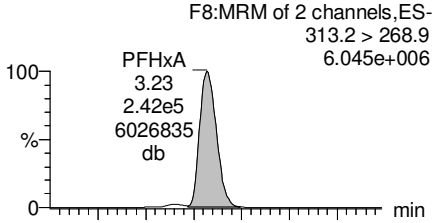

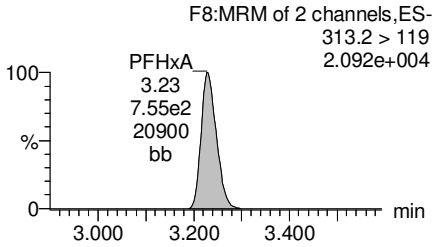

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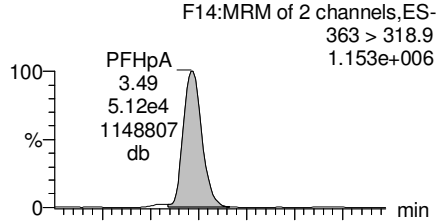

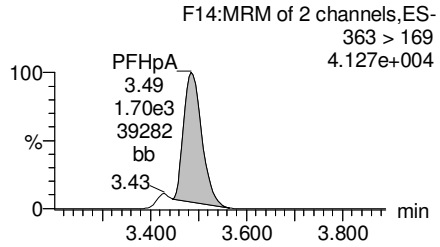

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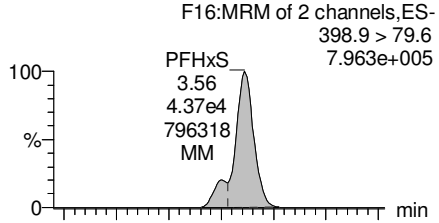

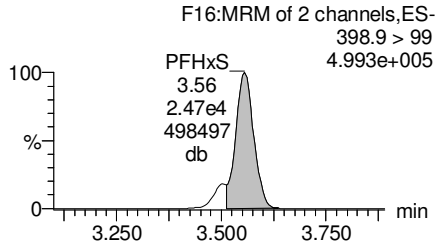

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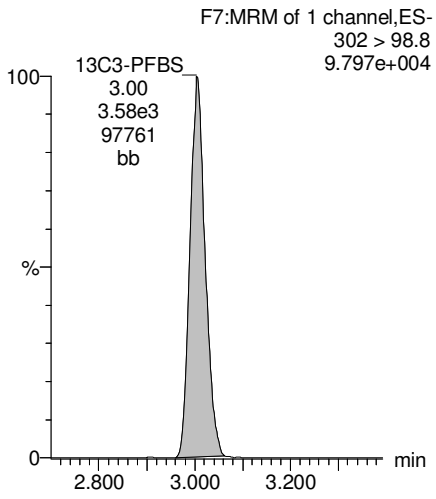

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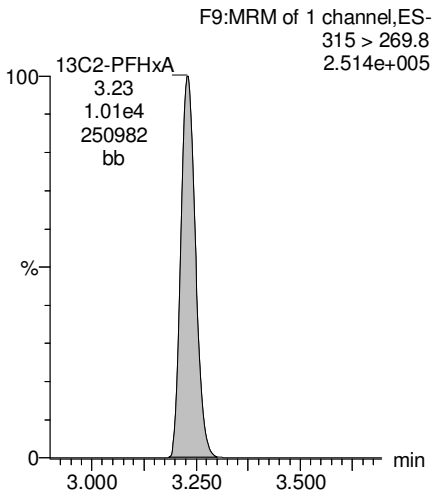

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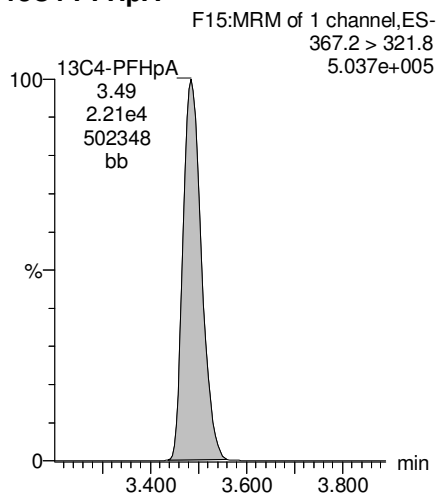

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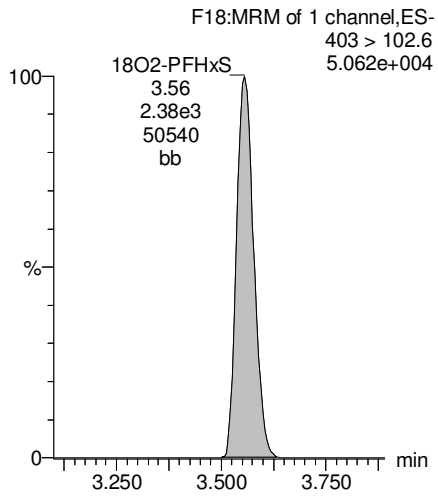

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
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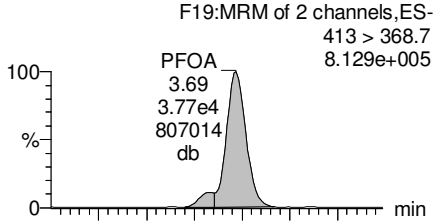
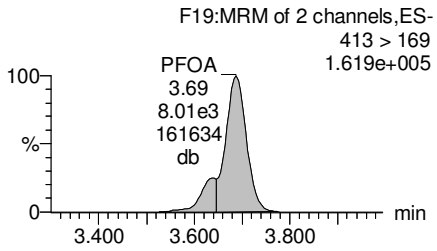
Reviewed: CT 08/03/2017

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

Total PFOA





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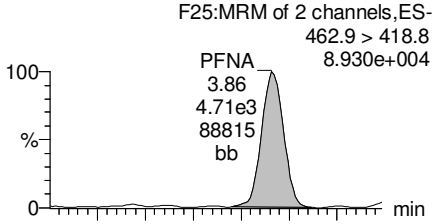
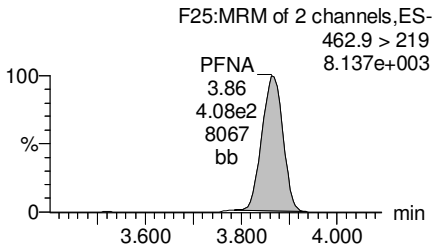
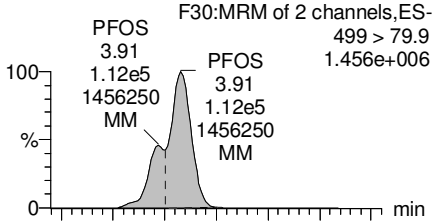
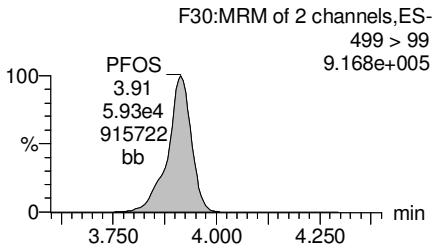




Total PFOS





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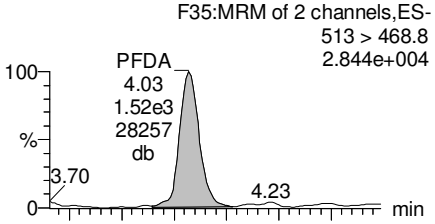

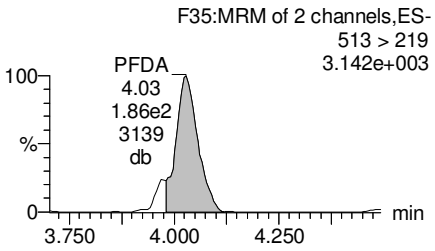

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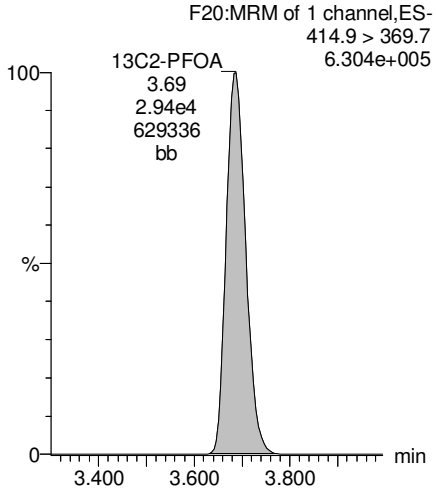

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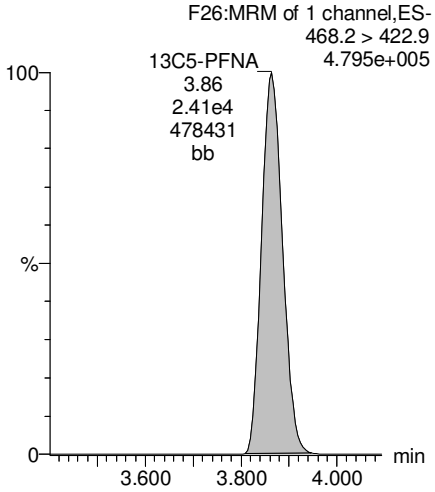

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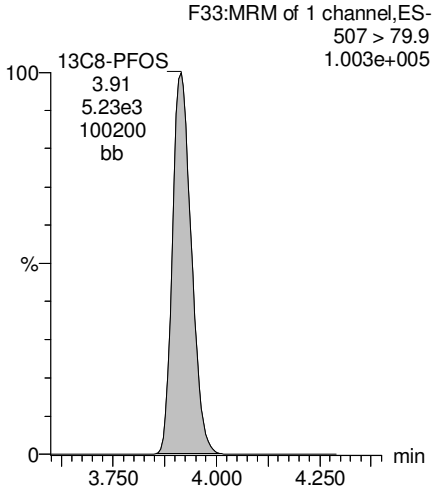

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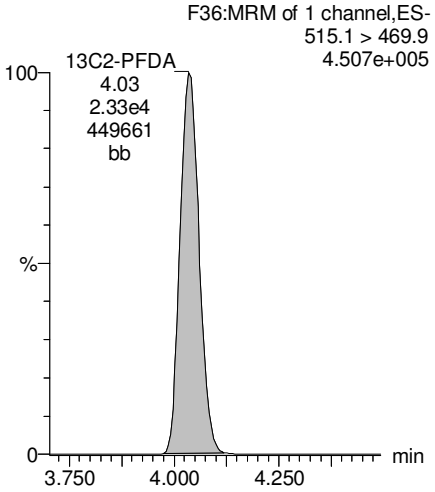

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
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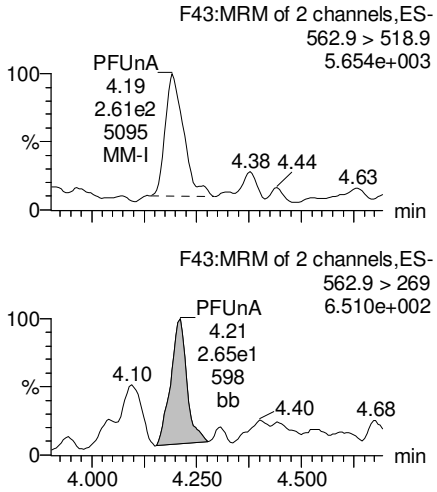
Reviewed: CT 08/03/2017

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

PFUnA



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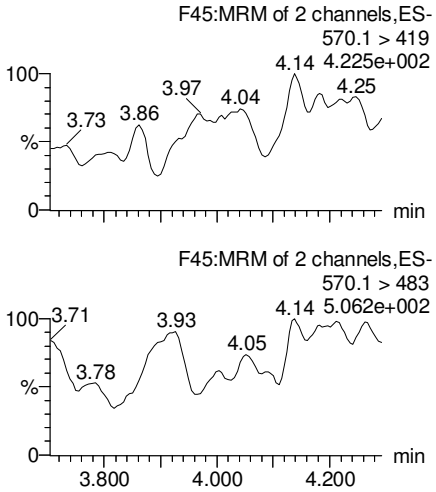

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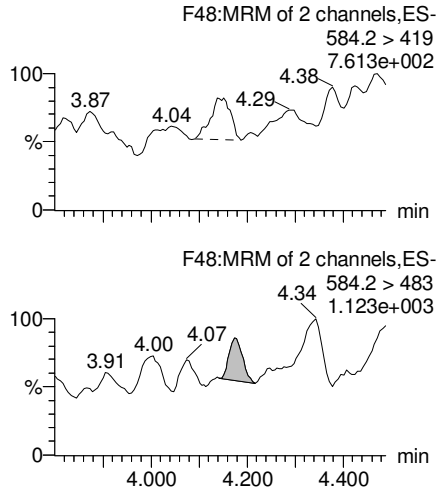

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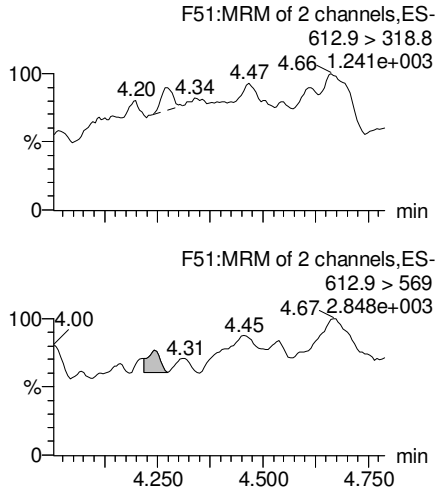

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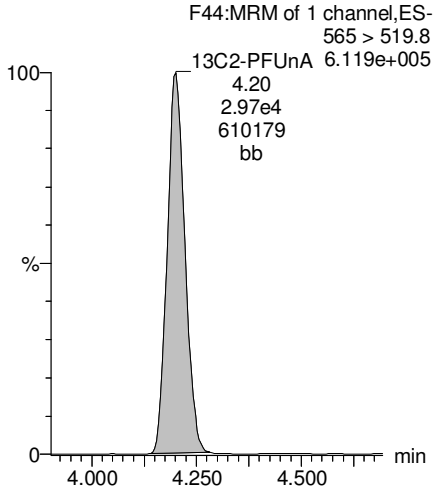

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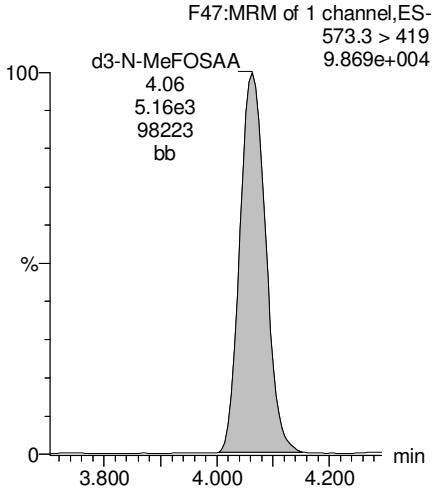
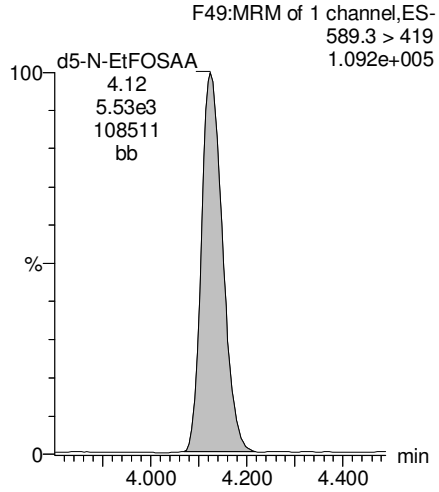
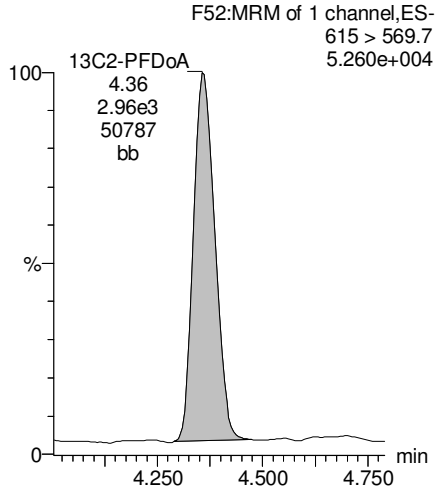


d5-N-EtFOSAA



13C2-PFDoA



GM 7/28/17

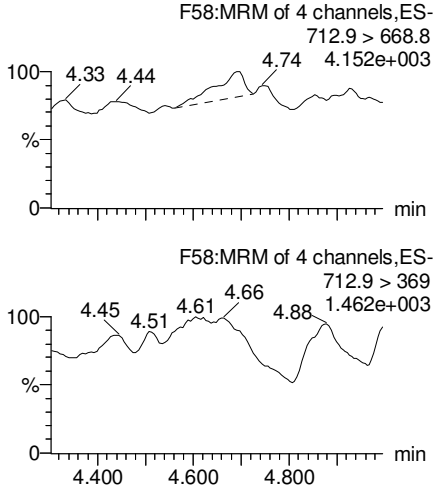
Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:49:55 Pacific Daylight Time

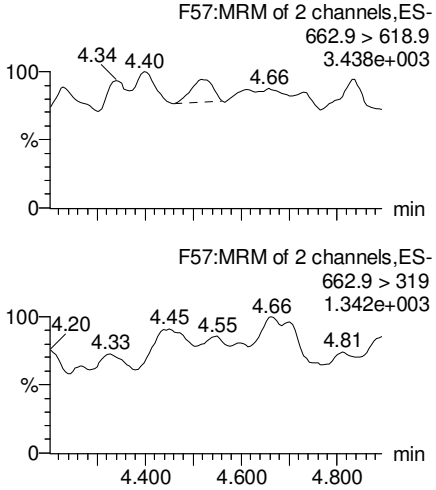
Reviewed: CT 08/03/2017

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

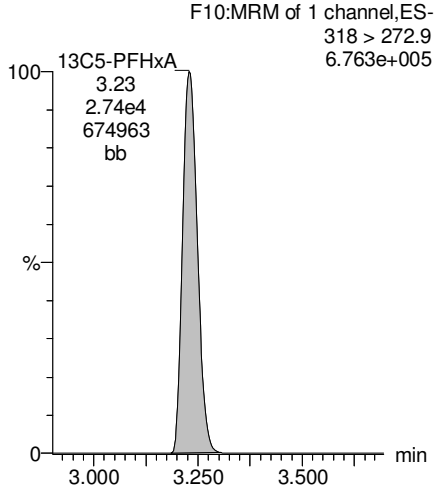
PFTeDA



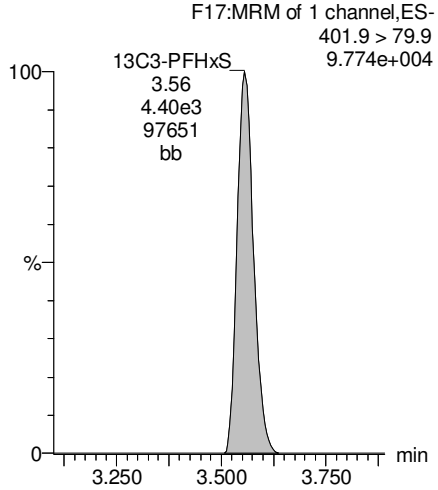
PFTrDA



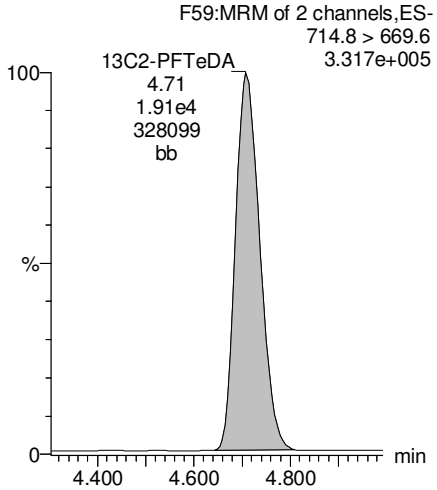
13C5-PFHxA



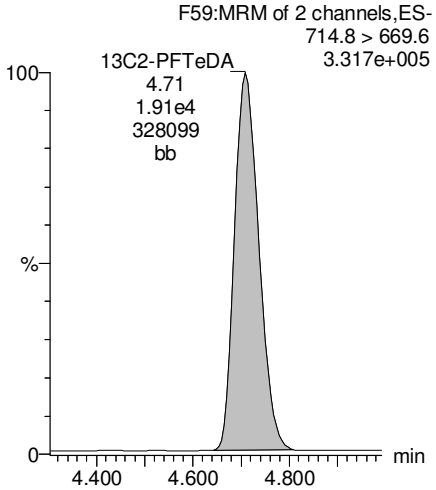
13C3-PFHxS



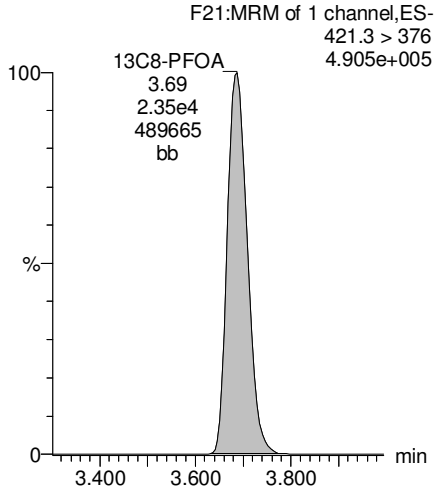
13C2-PFTeDA



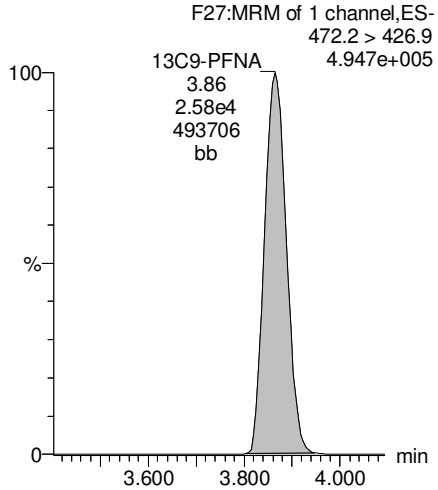
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

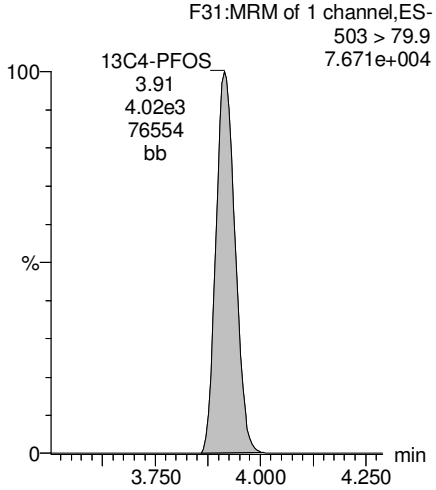
Dataset: U:\Q4.PRO\results\170725M1\170725M1-46.qld

Last Altered: Friday, July 28, 2017 08:44:01 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:49:55 Pacific Daylight Time

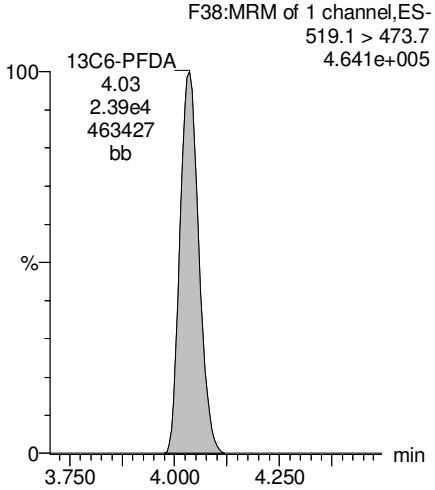
Reviewed: CT 08/03/2017

Name: 170725M1_46, Date: 25-Jul-2017, Time: 22:19:33, ID: 1700856-07RE1 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

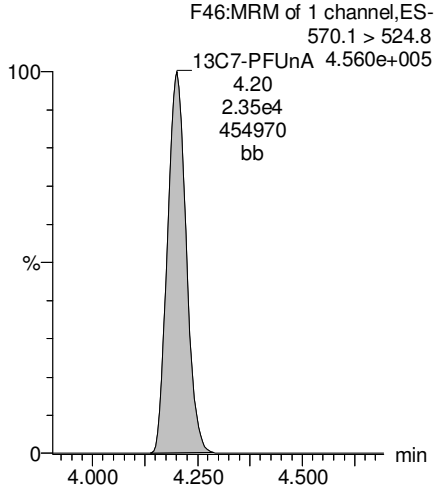
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-110.qld

Last Altered: Friday, July 28, 2017 11:07:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:14:36 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_110, Date: 28-Jul-2017, Time: 07:11:22, ID: 1700856-07RE1@10X 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	6	PFHxS	398.9 > 79.6	4.04e3	1.97e2	0.1148		3.56	3.48	257	1360	
2	11	PFOS	499 > 79.9	1.19e4	4.66e2	0.1148		3.89	3.84	319	3400	
3	25	18O2-PFHxS	403 > 102.6	1.97e2	3.47e2	0.1148	0.402	3.56	3.49	7.10	154	141.3
4	29	13C8-PFOS	507 > 79.9	4.66e2	4.40e2	0.1148	0.951	3.89	3.85	13.3	121	111.5
5	38	13C3-PFHxS	401.9 > 79.9	3.47e2	3.47e2	0.1148	1.000	3.56	3.50	12.5	109	100.0
6	41	13C4-PFOS	503 > 79.9	4.40e2	4.40e2	0.1148	1.000	3.89	3.84	12.5	109	100.0
7	45	Total PFHxS	398.9 > 79.6	4.04e3	1.97e2	0.1148		3.52		257	1360	
8	47	Total PFOS	499 > 79.9	1.19e4	4.66e2	0.1148		3.89		319	3400	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-110.qld

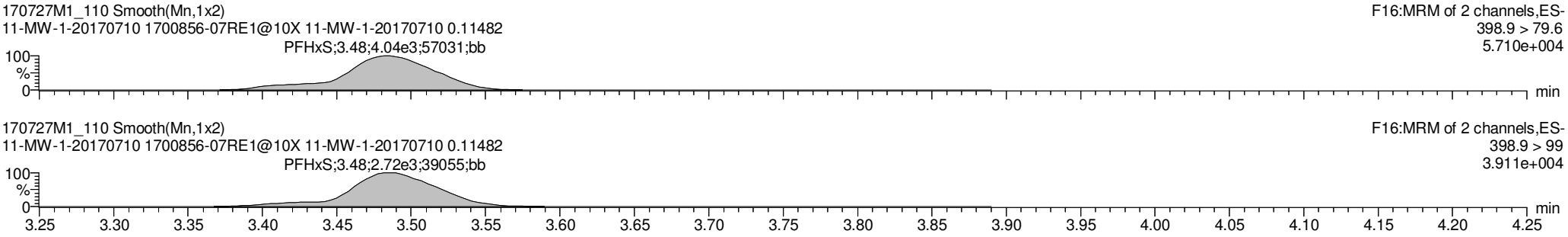
Last Altered: Friday, July 28, 2017 11:07:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:14:36 Pacific Daylight Time

Reviewed: CT 08/03/2017

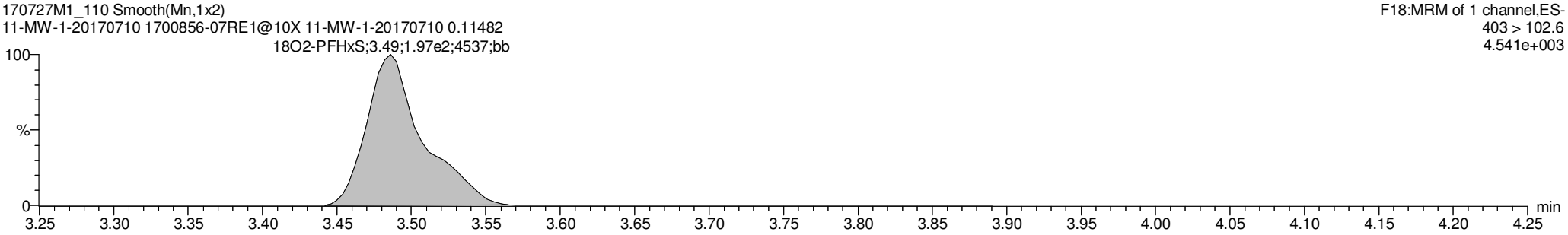
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_110, Date: 28-Jul-2017, Time: 07:11:22, ID: 1700856-07RE1@10X 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

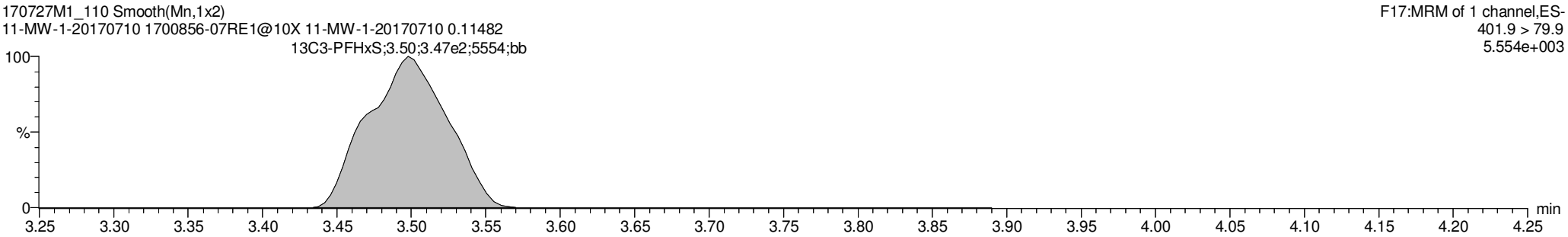
Total PFHxS



18O2-PFHxS



13C3-PFHxS



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Vista Analytical Laboratory

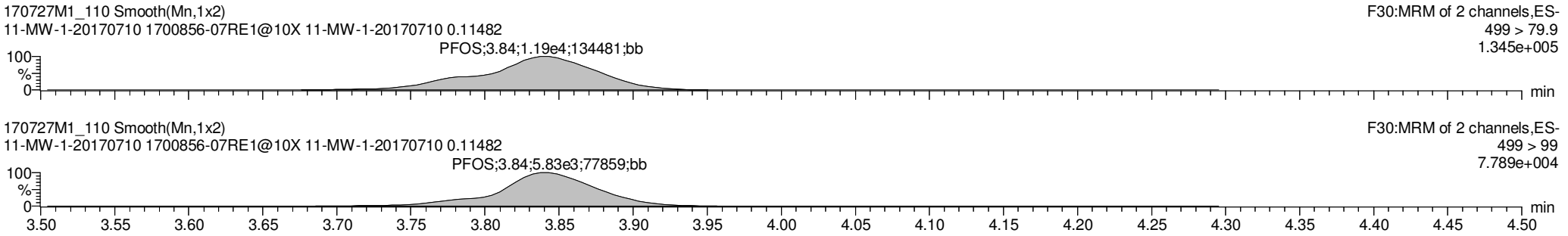
Dataset: U:\Q4.PRO\results\170727M1\170727M1-110.qld

Last Altered: Friday, July 28, 2017 11:07:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:14:36 Pacific Daylight Time

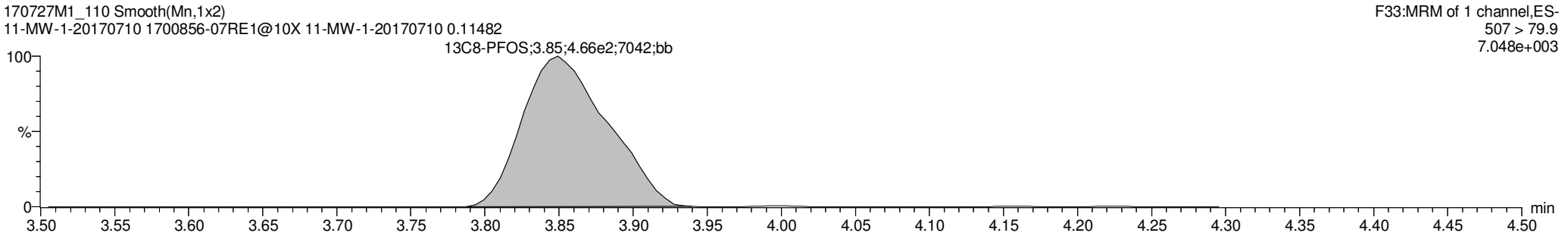
Reviewed: CT 08/03/2017

Name: 170727M1_110, Date: 28-Jul-2017, Time: 07:11:22, ID: 1700856-07RE1@10X 11-MW-1-20170710 0.11482, Description: 11-MW-1-20170710

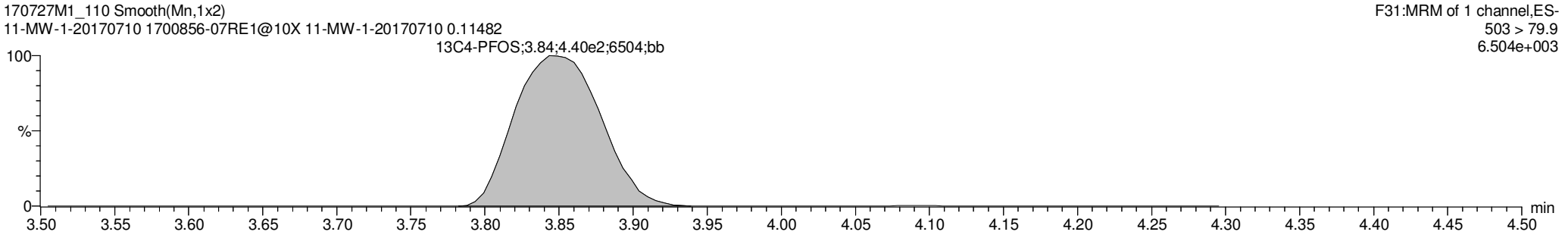
Total PFOS



13C8-PFOS



13C4-PFOS



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:57:06 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	1.41e3	4.78e3	0.1171		2.96	3.01	3.69	16.7	
2	4	PFHxA	313.2 > 268.9	1.70e4	1.33e4	0.1171		3.19	3.23	6.38	35.2	
3	5	PFHpA	363 > 318.9	3.03e3	2.97e4	0.1171		3.45	3.49	1.27	8.14	
4	6	PFHxS	398.9 > 79.6	8.11e3	3.37e3	0.1171		3.56	3.56	30.1	153	
5	8	PFOA	413 > 368.7	3.31e4	3.99e4	0.1171		3.65	3.69	10.4	89.5	
6	10	PFNA	462.9 > 418.8	6.11e2	3.52e4	0.1171		3.83	3.87	0.217	0.543	
7	12	PFOS	499 > 79.9	5.95e4	7.44e3	0.1171		3.89	3.91	99.9	792	
8	13	PFDA	513 > 468.8	3.70e2	3.15e4	0.1171		4.01	4.04	0.147	0.121	
9	15	N-MeFOSAA	570.1 > 419		6.89e3	0.1171		4.03				
10	16	N-EtFOSAA	584.2 > 419		6.80e3	0.1171		4.10				
11	17	PFUnA	562.9 > 518.9		3.19e4	0.1171		4.17				
12	19	PFDoA	612.9 > 318.8		3.52e3	0.1171		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:57:19 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		3.52e3	0.1171		4.50					
2	22	PFTeDA	712.9 > 668.8		1.86e4	0.1171		4.68					
3	30	13C3-PFBS	302 > 98.8	4.78e3	3.55e4	0.1171	0.031	2.96	3.01	0.672	185	172.9	H
4	31	13C2-PFHxA	315 > 269.8	1.33e4	3.55e4	0.1171	0.276	3.19	3.23	1.87	57.9	135.7	
5	32	13C4-PFHpA	367.2 > 321.8	2.97e4	3.55e4	0.1171	0.306	3.45	3.49	4.18	117	109.4	
6	33	18O2-PFHxS	403 > 102.6	3.37e3	6.10e3	0.1171	0.393	3.56	3.56	6.90	150	140.6	
7	35	13C2-PFOA	414.9 > 369.7	3.99e4	2.88e4	0.1171	1.067	3.65	3.69	17.3	139	129.8	
8	36	13C5-PFNA	468.2 > 422.9	3.52e4	3.29e4	0.1171	0.852	3.83	3.86	13.4	134	125.6	
9	38	13C8-PFOS	507 > 79.9	7.44e3	5.81e3	0.1171	0.936	3.89	3.91	16.0	146	136.9	
10	39	13C2-PFDA	515.1 > 469.9	3.15e4	2.93e4	0.1171	0.810	4.01	4.04	13.5	142	132.9	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
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Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	6.89e3	3.47e4	0.1171	0.014	4.03	4.06	2.48	1550	111.4
2	42	d5-N-EtFOSAA	589.3 > 419	6.80e3	3.47e4	0.1171	0.014	4.12	4.12	2.45	1500	108.0
3	43	13C2-PFUnA	565 > 519.8	3.19e4	3.47e4	0.1171	0.962	4.17	4.19	11.5	102	95.3
4	44	13C2-PFDoA	615 > 569.7	3.52e3	3.47e4	0.1171	0.094	4.34	4.36	1.27	114	107.2
5	46	13C2-PFTeDA	714.8 > 669.6	1.86e4	3.47e4	0.1171	0.694	4.68	4.71	6.69	82.2	77.1
6	52	13C5-PFHxA	318 > 272.9	3.55e4	3.55e4	0.1171	1.000	3.19	3.23	5.00	42.7	100.0
7	53	13C3-PFHxS	401.9 > 79.9	6.10e3	6.10e3	0.1171	1.000	3.56	3.56	12.5	107	100.0
8	54	13C8-PFOA	421.3 > 376	2.88e4	2.88e4	0.1171	1.000	3.65	3.69	12.5	107	100.0
9	55	13C9-PFNA	472.2 > 426.9	3.29e4	3.29e4	0.1171	1.000	3.83	3.86	12.5	107	100.0
10	56	13C4-PFOS	503 > 79.9	5.81e3	5.81e3	0.1171	1.000	3.89	3.91	12.5	107	100.0
11	57	13C6-PFDA	519.1 > 473.7	2.93e4	2.93e4	0.1171	1.000	4.01	4.03	12.5	107	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.47e4	3.47e4	0.1171	1.000	4.17	4.19	12.5	107	100.0
13	59	Total PFBS	299 > 79.7	1.41e3	4.78e3	0.1171		2.96		3.69	16.7	
14	60	Total PFHxS	398.9 > 79.6	8.11e3	3.37e3	0.1171		3.52		30.1	153	
15	61	Total PFOA	413 > 368.7	3.61e4	3.99e4	0.1171		3.65		11.3	95.9	
16	62	Total PFOS	499 > 79.9	5.95e4	7.44e3	0.1171		3.89		99.9	792	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	6.89e3	0.1171		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	6.80e3	0.1171		4.17		0.000		

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:57:39 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	1410.075	4779.669	3.688	bb	16.7

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	8111.104	3370.763	30.079	MM	152.8

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	33108.750	39873.367	10.379	db	89.5
2	61	Total PFOA	413 > 368.7	3.63	2957.569	39873.367	0.927	bd	6.4

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	59515.406	7444.957	99.926	MM	791.8

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			6889.878		MM-I	

Total N-EtFOSAA

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

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
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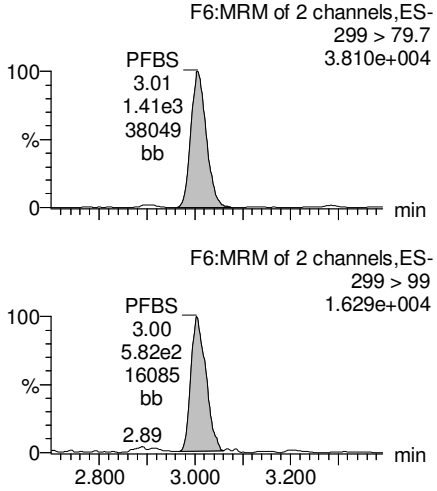
Reviewed: CT 08/03/2017

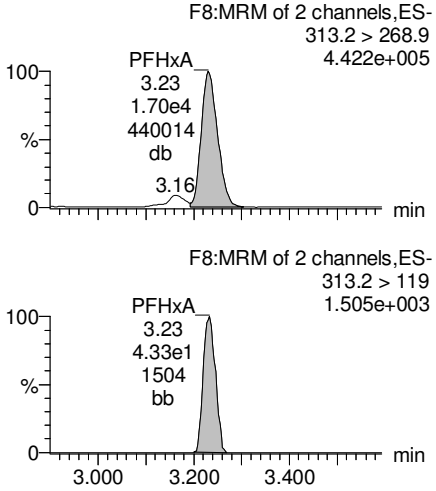
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

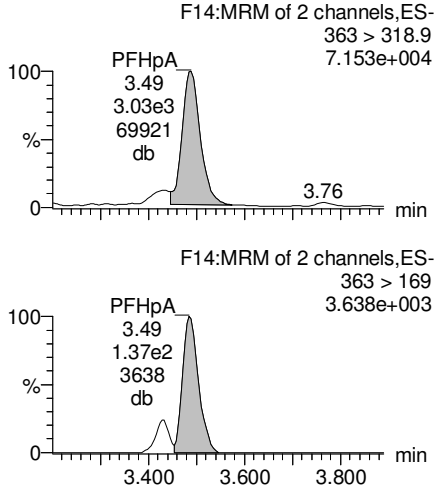
Total PFBS



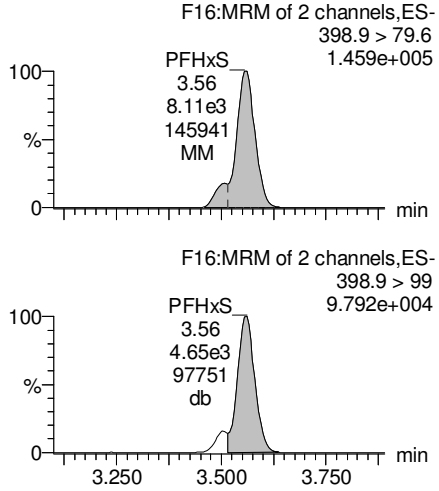
PFHxA



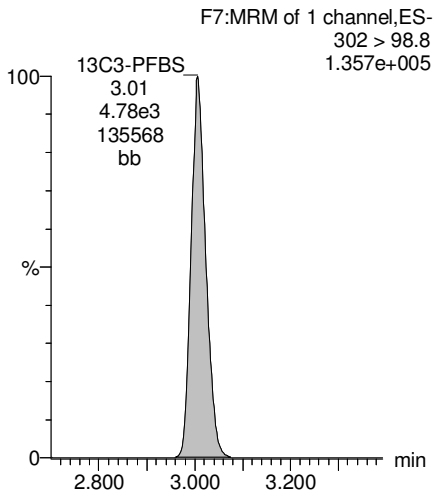
PFHpA



Total PFHxS



13C3-PFBS



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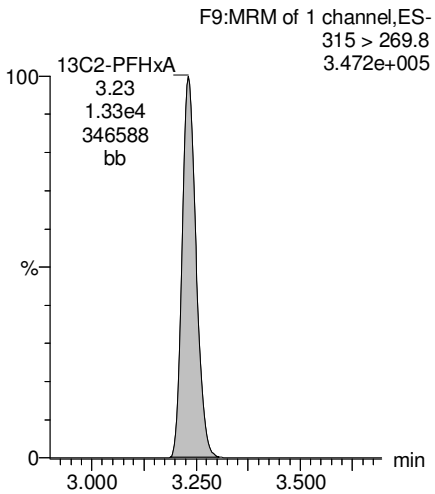
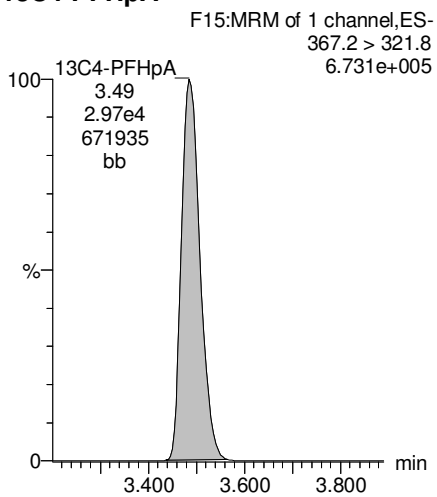


13C4-PFHpA



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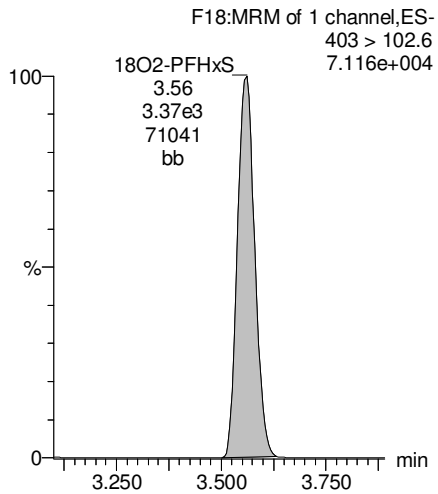

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Vista Analytical Laboratory

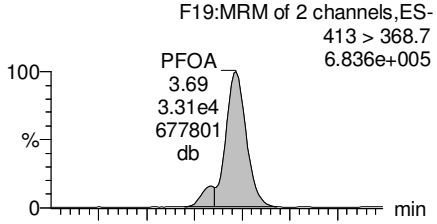
Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

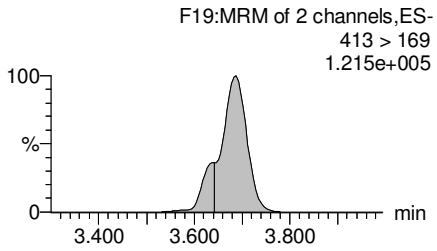
Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:57:39 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

Total PFOA





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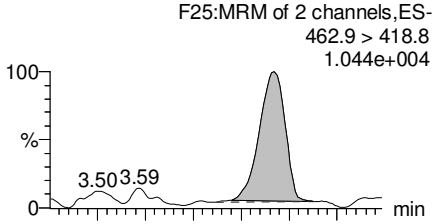
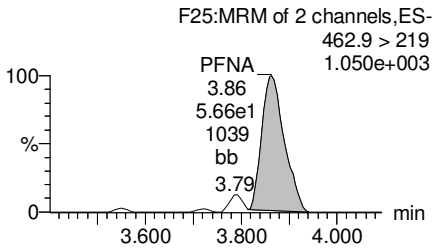
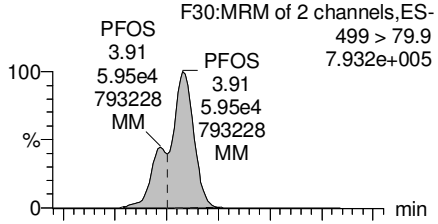
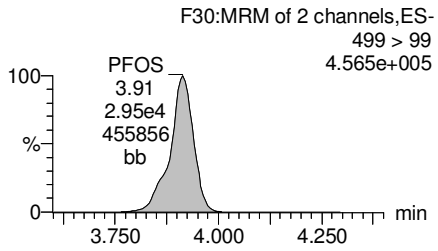


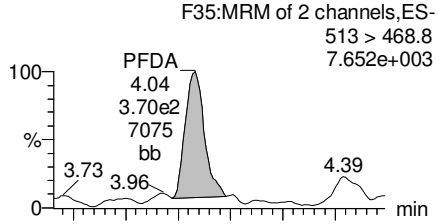


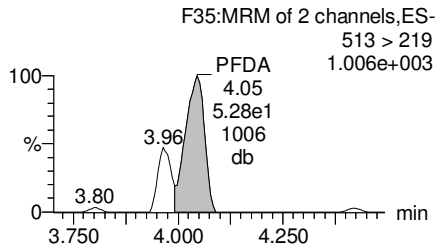
Total PFOS



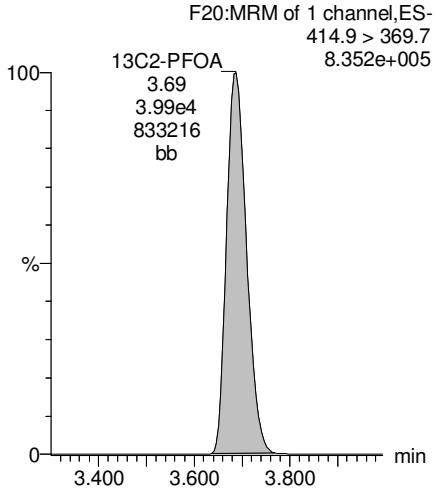


PFDA

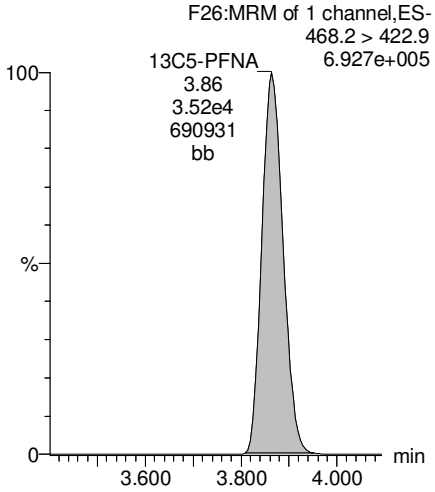




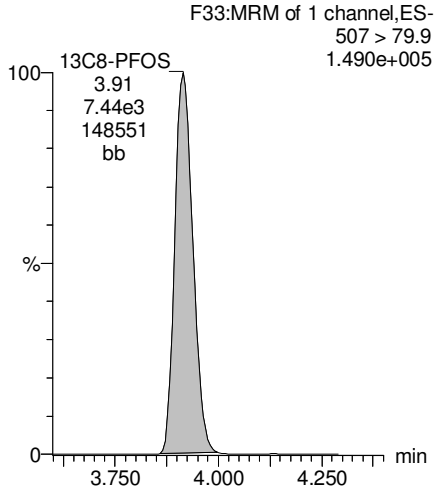
13C2-PFOA



13C5-PFNA



13C8-PFOS



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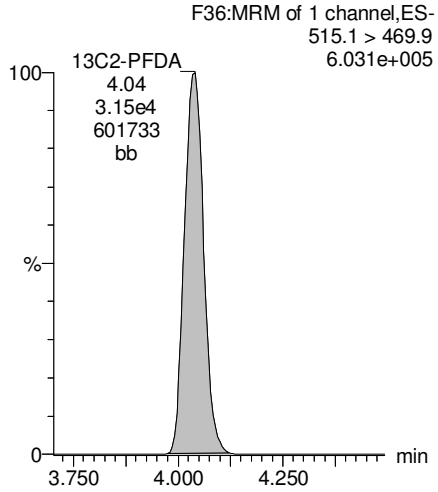

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Vista Analytical Laboratory

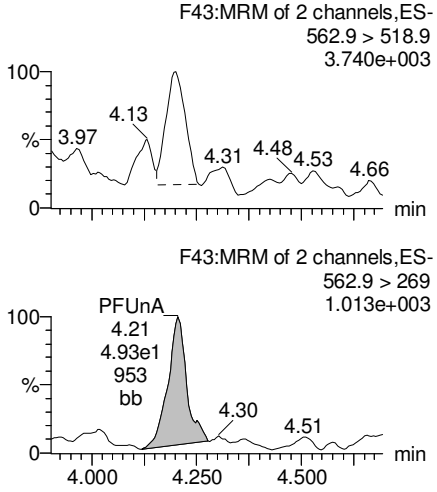
Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:57:39 Pacific Daylight Time

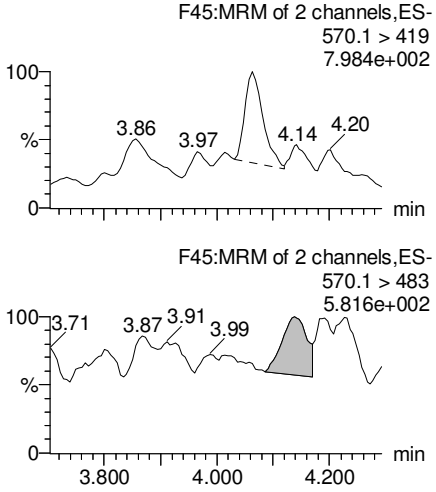
Reviewed: CT 08/03/2017

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

PFUnA



N-MeFOSAA



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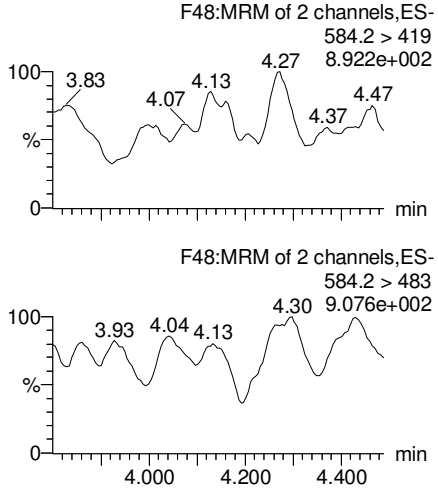
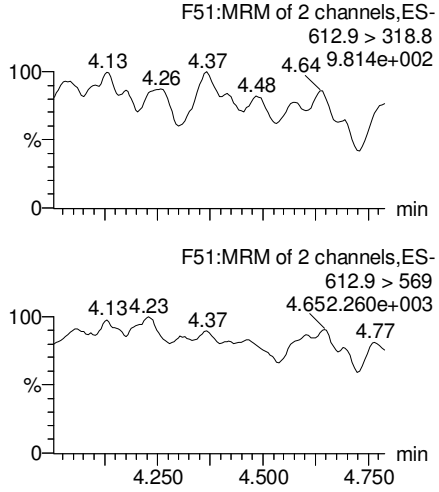


PFDoA



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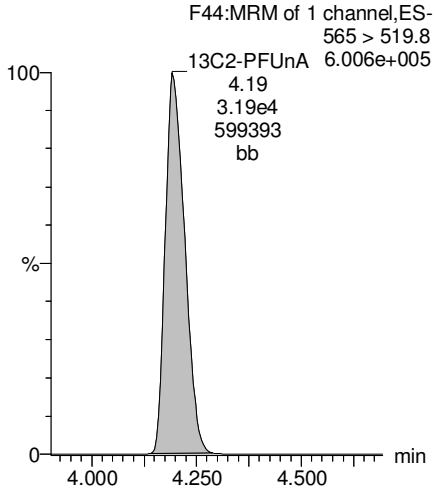

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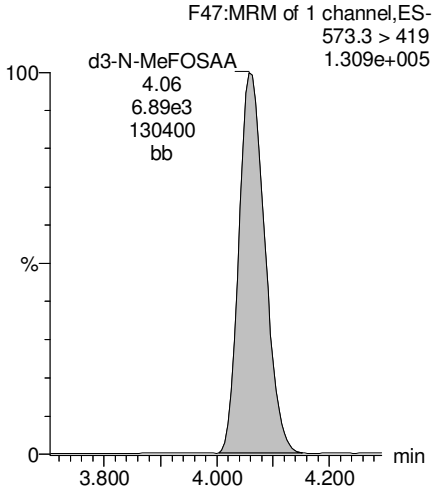

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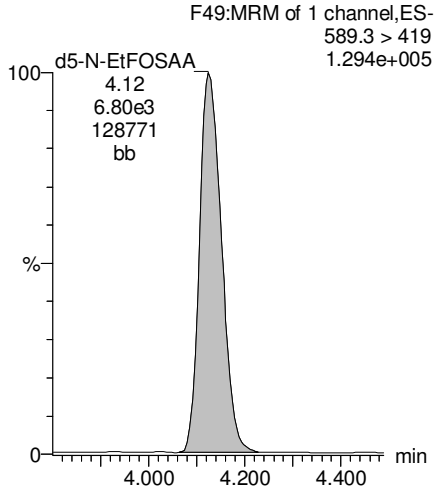
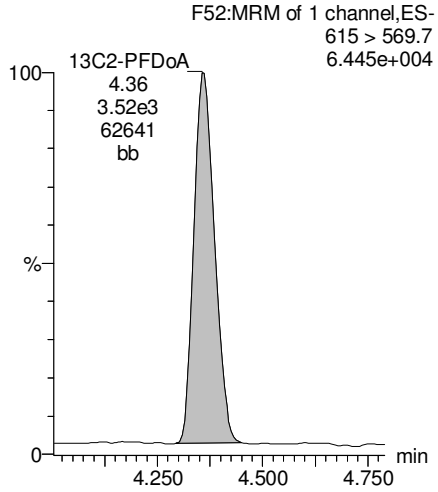


13C2-PFDoA



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Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

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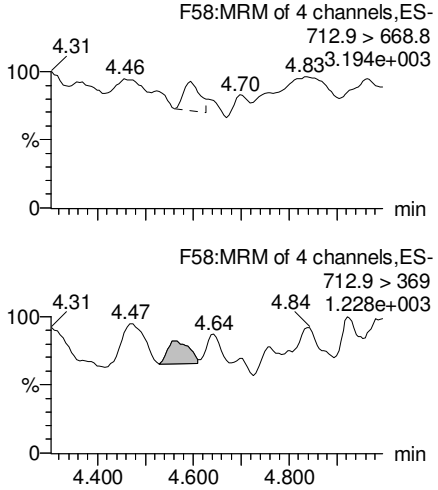
Printed: Friday, July 28, 2017 08:57:39 Pacific Daylight Time

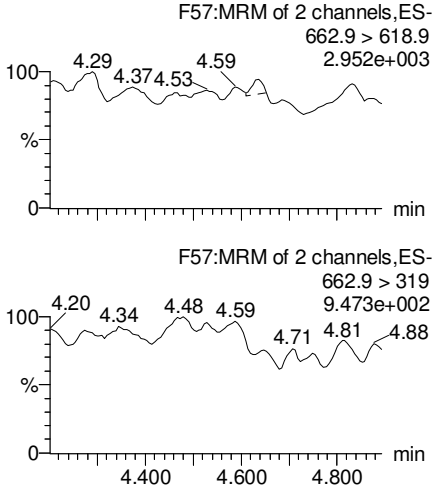
Reviewed: CT 08/03/2017

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

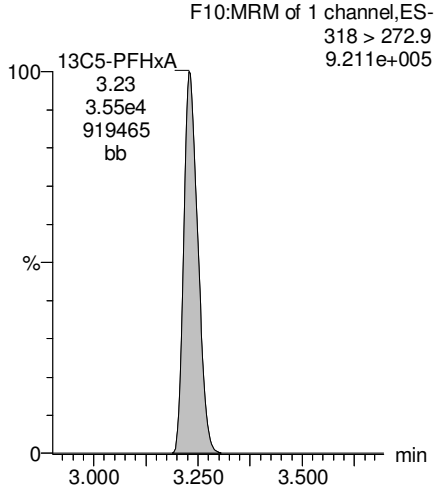
PFTeDA



PFTrDA



13C5-PFHxA



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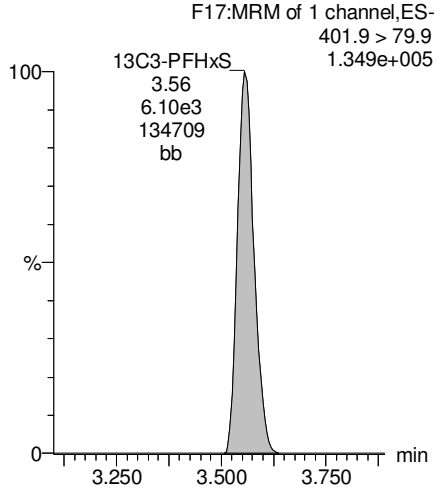

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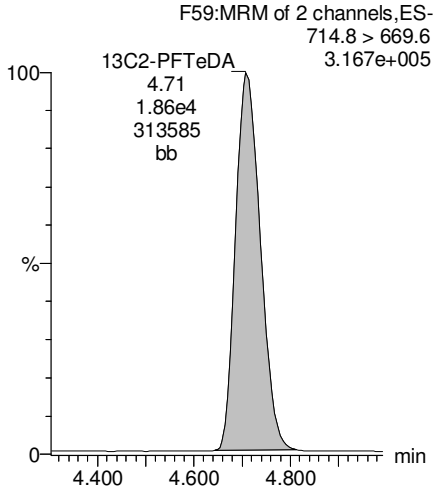

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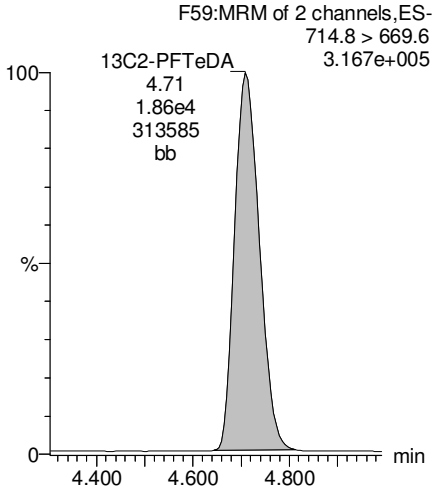
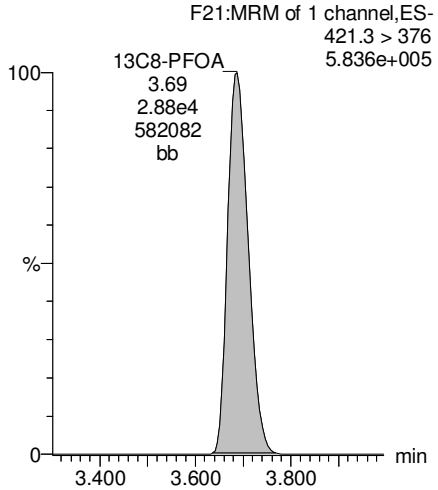
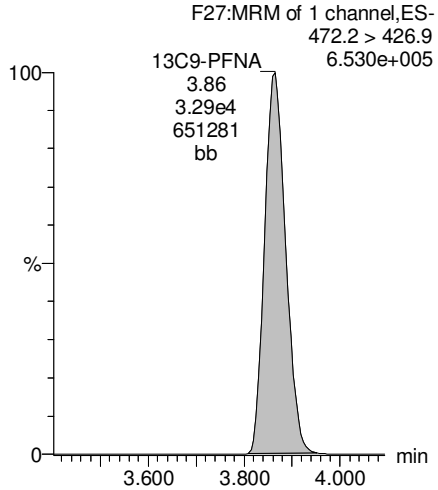


13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

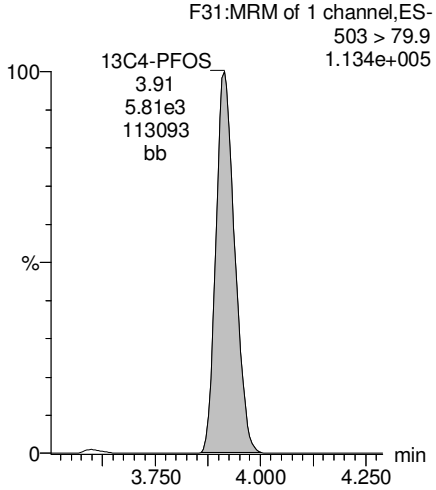
Dataset: U:\Q4.PRO\results\170725M1\170725M1-47.qld

Last Altered: Friday, July 28, 2017 08:56:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 08:57:39 Pacific Daylight Time

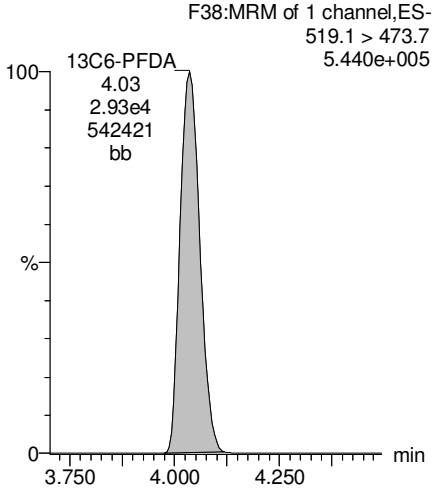
Reviewed: CT 08/03/2017

Name: 170725M1_47, Date: 25-Jul-2017, Time: 22:30:16, ID: 1700856-08RE1 LF-MW-54BR-20170710 0.11713, Description: LF-MW-54BR-20170710

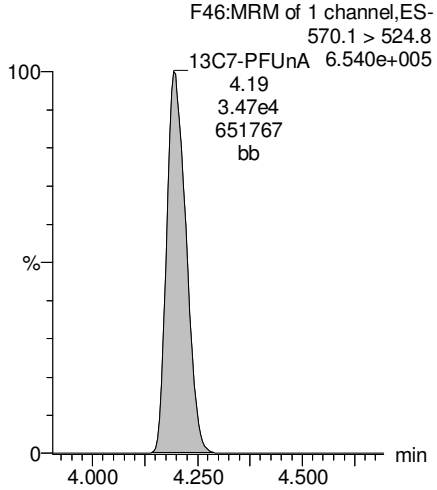
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:02:55 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	4.94e3	3.14e3	0.1208		2.96	3.00	19.7	87.6	
2	4	PFHxA	313.2 > 268.9	7.59e4	8.40e3	0.1208		3.19	3.23	45.2	247	
3	5	PFHpA	363 > 318.9	1.85e4	2.04e4	0.1208		3.45	3.49	11.3	74.4	
4	6	PFHxS	398.9 > 79.6	1.29e4	2.24e3	0.1208		3.56	3.56	71.9	363	
5	8	PFOA	413 > 368.7	1.38e4	2.71e4	0.1208		3.65	3.69	6.37	52.6	
6	10	PFNA	462.9 > 418.8	1.96e3	2.15e4	0.1208		3.83	3.86	1.14	7.45	
7	12	PFOS	499 > 79.9	2.10e4	4.92e3	0.1208		3.89	3.91	53.3	390	
8	13	PFDA	513 > 468.8	3.12e2	2.29e4	0.1208		4.01	4.03	0.171	0.272	
9	15	N-MeFOSAA	570.1 > 419		4.48e3	0.1208		4.03				
10	16	N-EtFOSAA	584.2 > 419		4.39e3	0.1208		4.10				
11	17	PFUnA	562.9 > 518.9		2.35e4	0.1208		4.17				
12	19	PFDoA	612.9 > 318.8		2.42e3	0.1208		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:06 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		2.42e3	0.1208		4.50					
2	22	PFTeDA	712.9 > 668.8		1.57e4	0.1208		4.68					
3	30	13C3-PFBS	302 > 98.8	3.14e3	2.47e4	0.1208	0.031	2.96	3.00	0.637	169	163.8	H
4	31	13C2-PFHxA	315 > 269.8	8.40e3	2.47e4	0.1208	0.276	3.19	3.23	1.70	51.0	123.3	
5	32	13C4-PFHpA	367.2 > 321.8	2.04e4	2.47e4	0.1208	0.306	3.45	3.49	4.14	112	108.3	
6	33	18O2-PFHxS	403 > 102.6	2.24e3	4.14e3	0.1208	0.393	3.56	3.56	6.76	142	137.6	
7	35	13C2-PFOA	414.9 > 369.7	2.71e4	2.12e4	0.1208	1.067	3.65	3.69	16.0	124	119.7	
8	36	13C5-PFNA	468.2 > 422.9	2.15e4	2.30e4	0.1208	0.852	3.83	3.86	11.7	114	109.8	
9	38	13C8-PFOS	507 > 79.9	4.92e3	4.38e3	0.1208	0.936	3.89	3.91	14.0	124	119.8	
10	39	13C2-PFDA	515.1 > 469.9	2.29e4	2.09e4	0.1208	0.810	4.01	4.03	13.7	140	135.2	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	4.48e3	2.56e4	0.1208	0.014	4.03	4.06	2.19	1320	98.3
2	42	d5-N-EtFOSAA	589.3 > 419	4.39e3	2.56e4	0.1208	0.014	4.12	4.12	2.15	1270	94.8
3	43	13C2-PFUnA	565 > 519.8	2.35e4	2.56e4	0.1208	0.962	4.17	4.19	11.5	98.8	95.5
4	44	13C2-PFDoA	615 > 569.7	2.42e3	2.56e4	0.1208	0.094	4.34	4.36	1.18	104	100.4
5	46	13C2-PFTeDA	714.8 > 669.6	1.57e4	2.56e4	0.1208	0.694	4.68	4.70	7.68	91.5	88.5
6	52	13C5-PFHxA	318 > 272.9	2.47e4	2.47e4	0.1208	1.000	3.19	3.23	5.00	41.4	100.0
7	53	13C3-PFHxS	401.9 > 79.9	4.14e3	4.14e3	0.1208	1.000	3.56	3.56	12.5	103	100.0
8	54	13C8-PFOA	421.3 > 376	2.12e4	2.12e4	0.1208	1.000	3.65	3.69	12.5	103	100.0
9	55	13C9-PFNA	472.2 > 426.9	2.30e4	2.30e4	0.1208	1.000	3.83	3.86	12.5	103	100.0
10	56	13C4-PFOS	503 > 79.9	4.38e3	4.38e3	0.1208	1.000	3.89	3.91	12.5	103	100.0
11	57	13C6-PFDA	519.1 > 473.7	2.09e4	2.09e4	0.1208	1.000	4.01	4.03	12.5	103	100.0
12	58	13C7-PFUnA	570.1 > 524.8	2.56e4	2.56e4	0.1208	1.000	4.17	4.20	12.5	103	100.0
13	59	Total PFBS	299 > 79.7	4.94e3	3.14e3	0.1208		2.96		19.7	87.6	
14	60	Total PFHxS	398.9 > 79.6	1.29e4	2.24e3	0.1208		3.52		71.9	363	
15	61	Total PFOA	413 > 368.7	1.49e4	2.71e4	0.1208		3.65		6.89	55.3	
16	62	Total PFOS	499 > 79.9	2.10e4	4.92e3	0.1208		3.89		53.3	390	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	4.48e3	0.1208		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	4.39e3	0.1208		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	4944.716	3140.435	19.682	bb	87.6

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	12873.857	2237.564	71.919	MM	362.5

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	13813.598	27098.896	6.372	dd	52.6
2	61	Total PFOA	413 > 368.7	3.63	1115.376	27098.896	0.514	dd	2.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	20977.412	4915.118	53.349	MM	389.6

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			4476.314		MM-I	

Total N-EtFOSAA

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

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

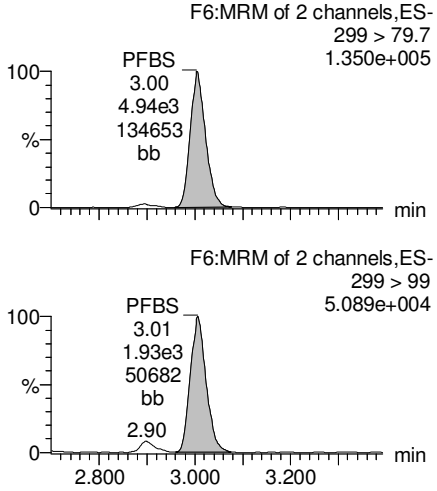
Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

Reviewed: CT 08/03/2017

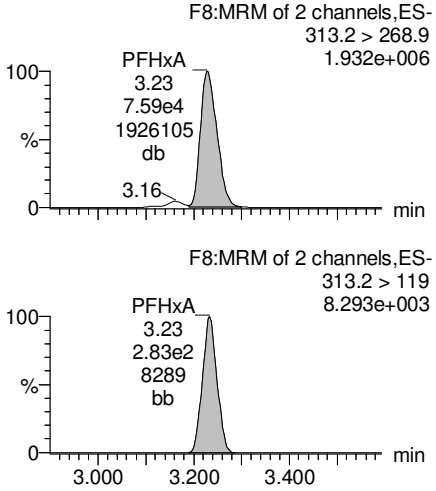
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

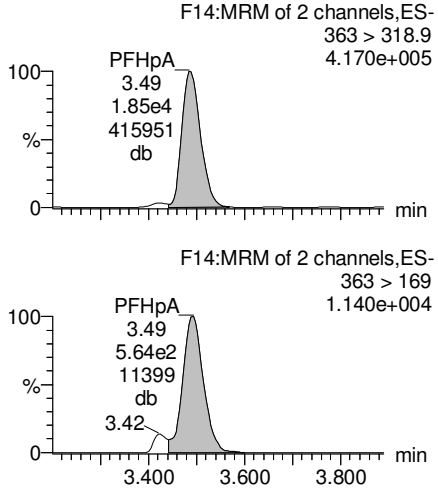
Total PFBS



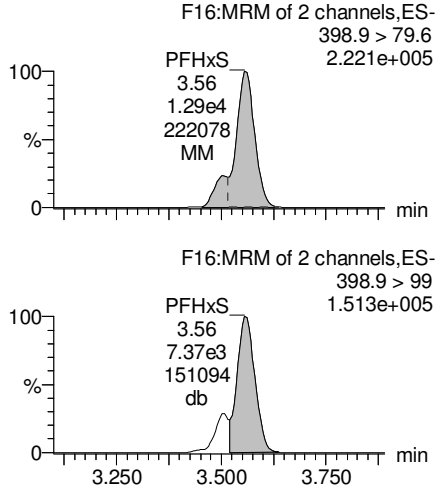
PFHxA



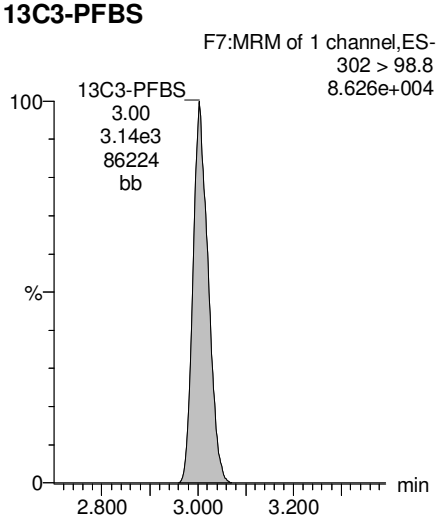
PFHpA



Total PFHxS



13C3-PFBS



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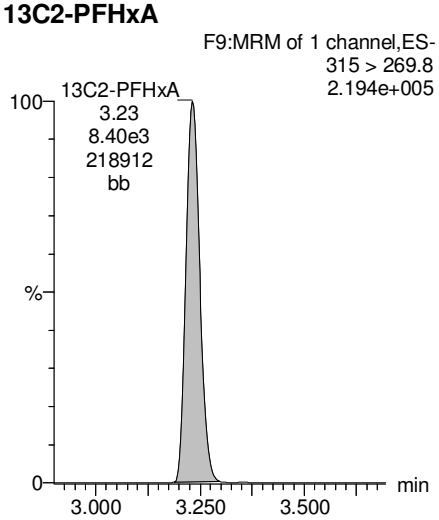
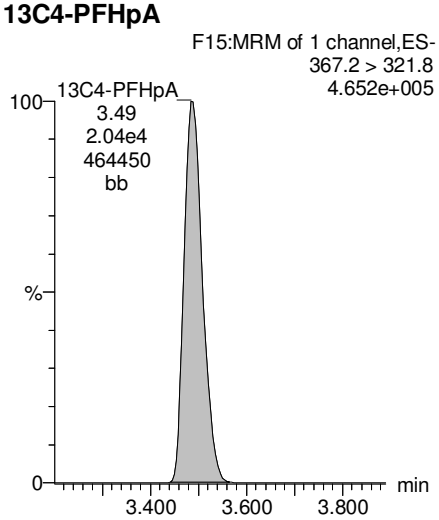


13C4-PFHpA



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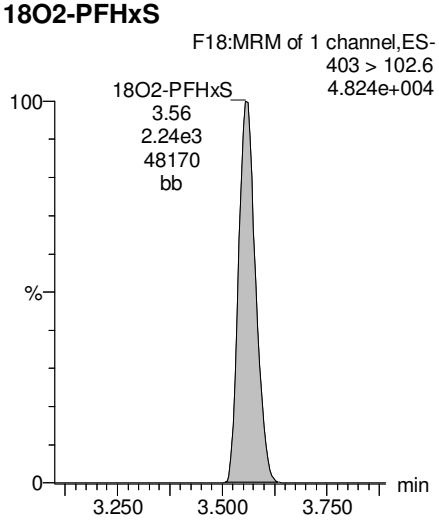

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Vista Analytical Laboratory

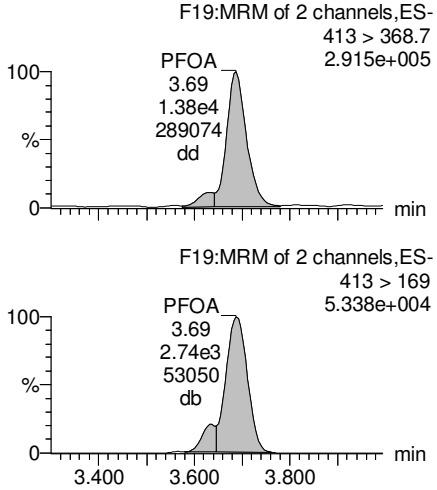
Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

Total PFOA



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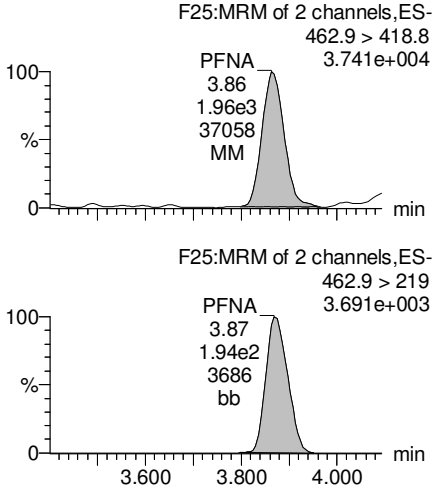
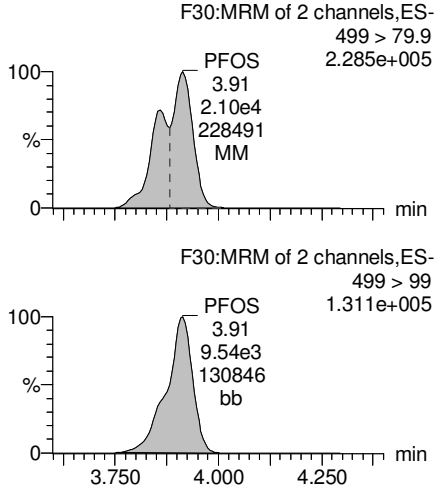
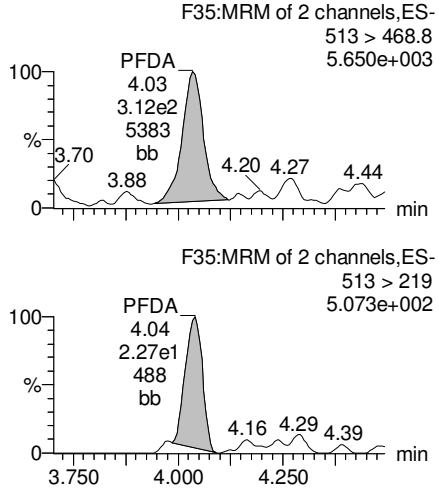


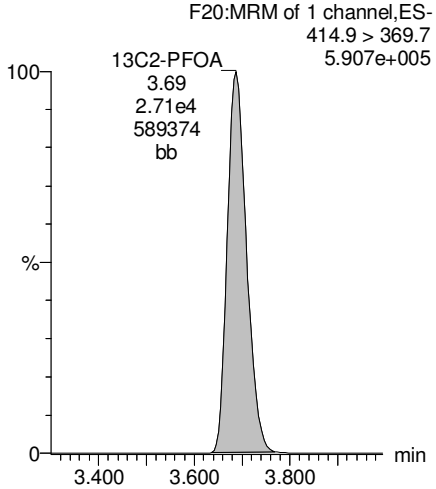
Total PFOS



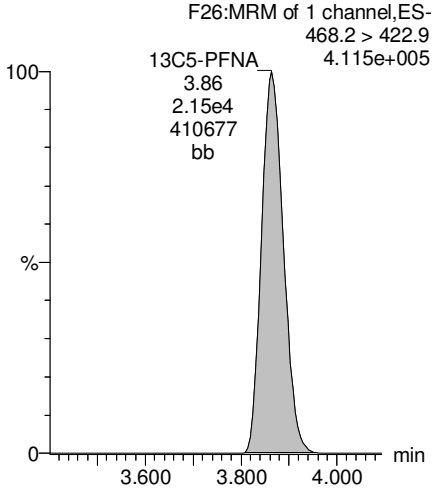
PFDA



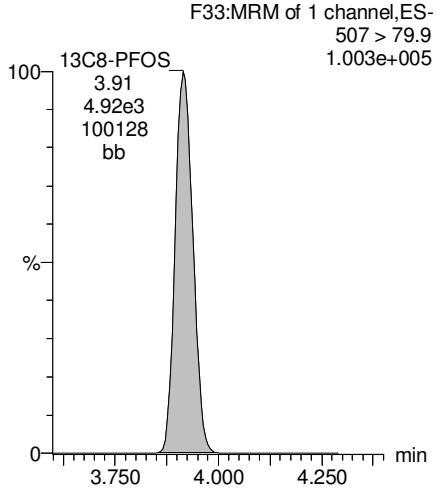
13C2-PFOA



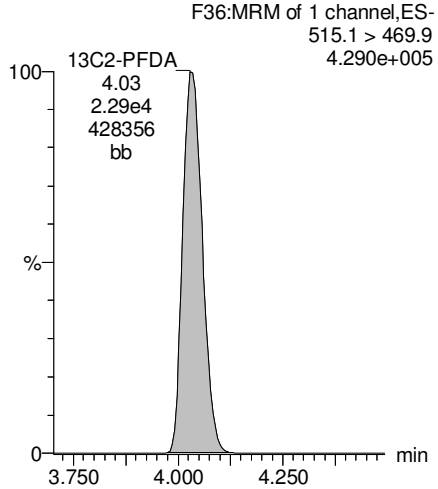
13C5-PFNA



13C8-PFOS



13C2-PFDA



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Vista Analytical Laboratory

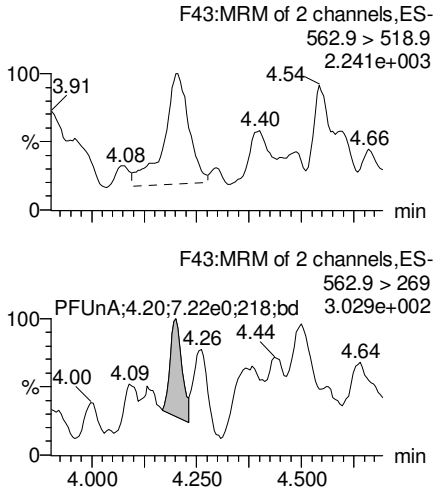
Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

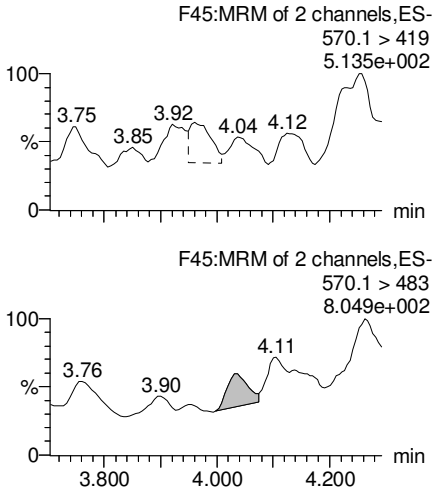
Reviewed: CT 08/03/2017

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

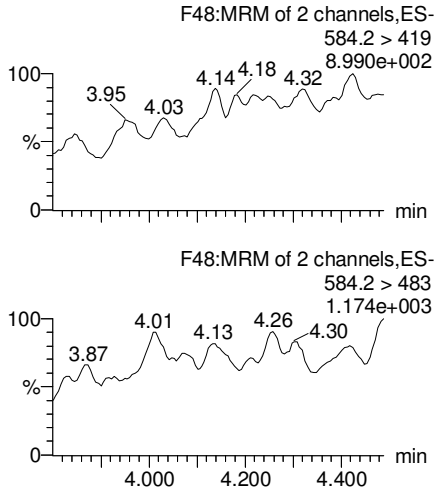
PFUnA



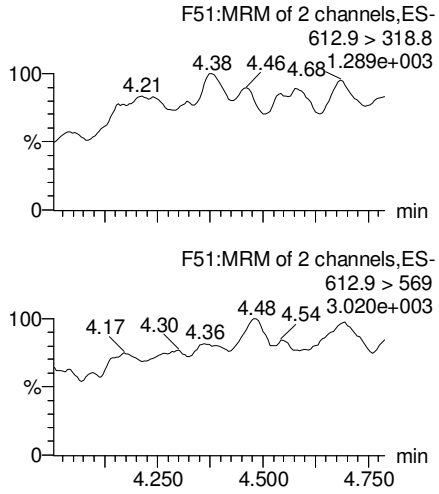
N-MeFOSAA



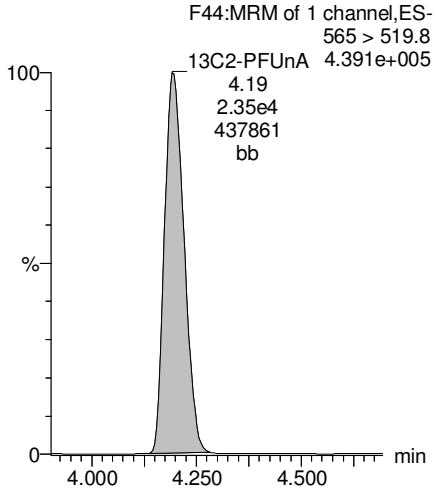
N-EtFOSAA



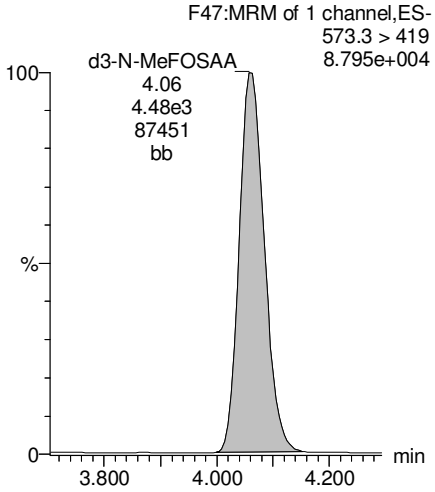
PFDoA



13C2-PFUnA



d3-N-MeFOSAA



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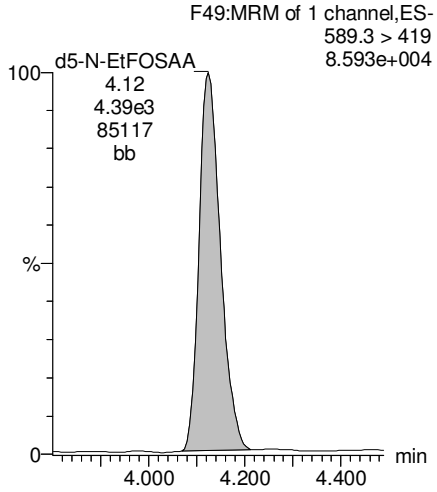
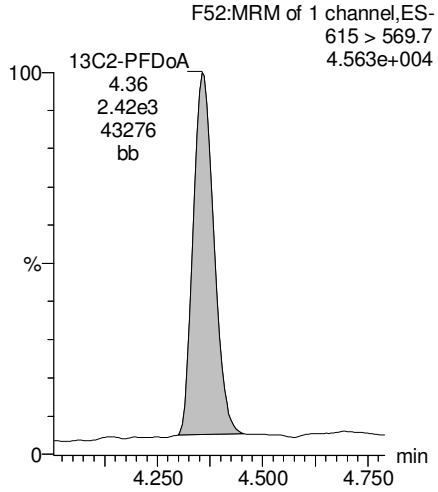


13C2-PFDoA



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Vista Analytical Laboratory

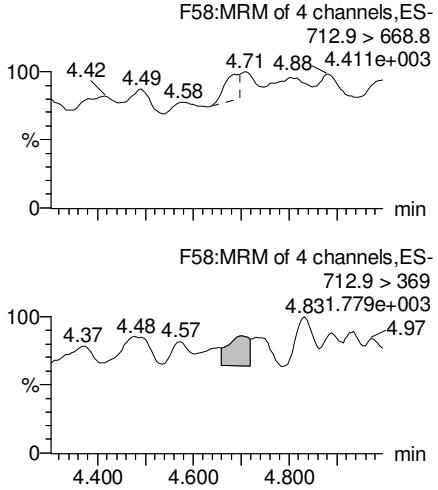
Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

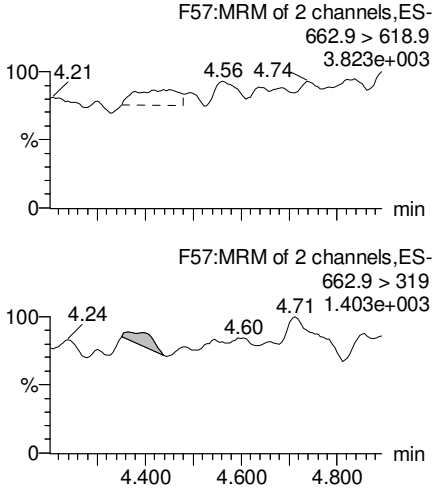
Reviewed: CT 08/03/2017

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

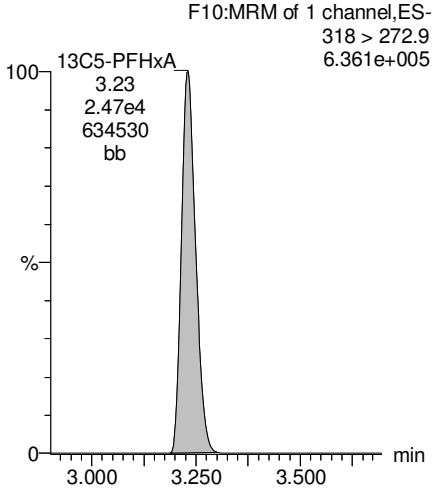
PFTeDA



PFTrDA



13C5-PFHxA



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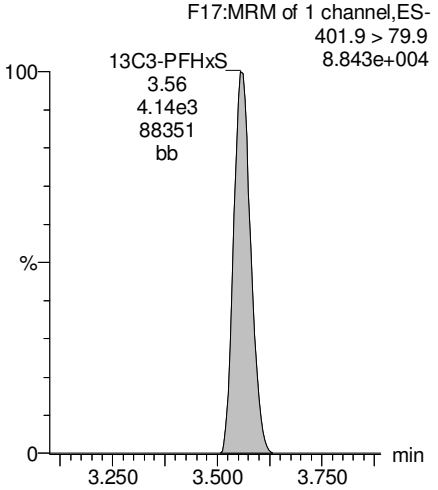

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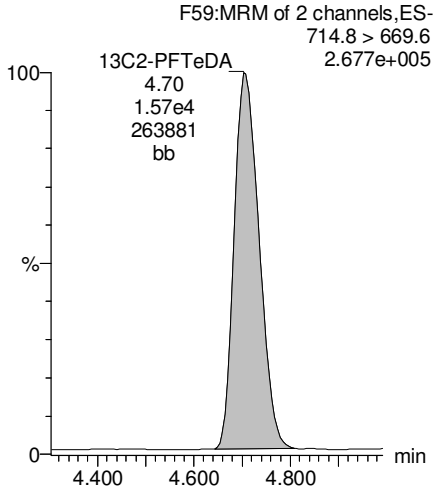

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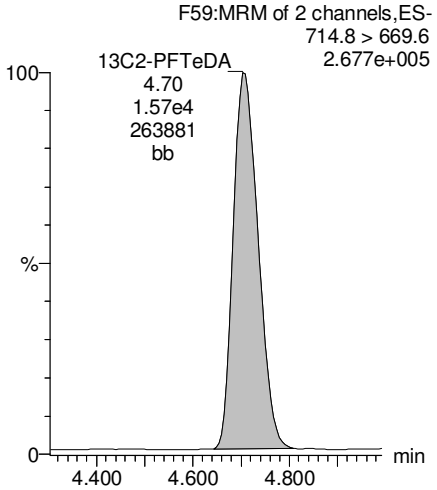
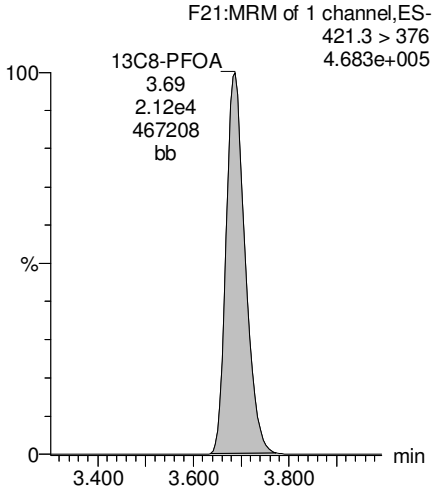
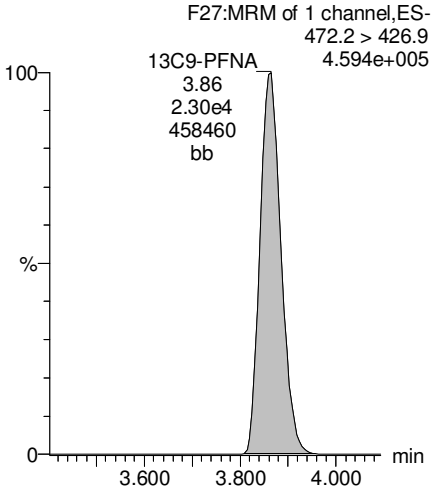


13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

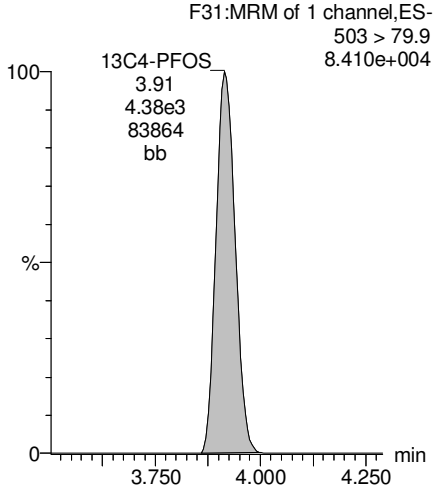
Dataset: U:\Q4.PRO\results\170725M1\170725M1-48.qld

Last Altered: Friday, July 28, 2017 09:01:59 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:31 Pacific Daylight Time

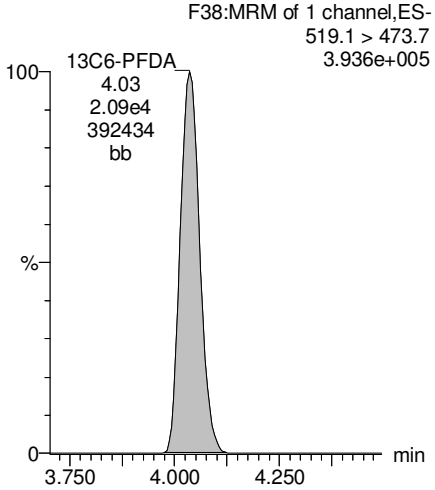
Reviewed: CT 08/03/2017

Name: 170725M1_48, Date: 25-Jul-2017, Time: 22:40:54, ID: 1700856-09RE1 MW-48BR-20170711 0.12084, Description: MW-48BR-20170711

13C4-PFOS



13C6-PFDA



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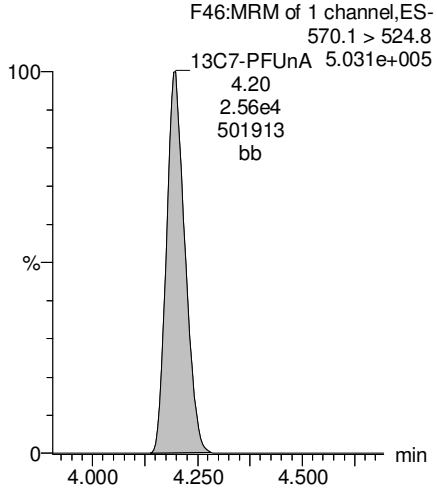

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:07:42 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	1.80e3	3.08e3	0.1181		2.96	3.01	7.31	33.1	
2	4	PFHxA	313.2 > 268.9	1.51e4	8.43e3	0.1181		3.19	3.23	8.95	49.3	
3	5	PFHpA	363 > 318.9	2.84e3	1.92e4	0.1181		3.45	3.49	1.84	11.9	
4	6	PFHxS	398.9 > 79.6	8.17e3	2.10e3	0.1181		3.56	3.56	48.6	247	
5	8	PFOA	413 > 368.7	2.43e4	2.60e4	0.1181		3.65	3.69	11.7	100	
6	10	PFNA	462.9 > 418.8	3.11e2	2.33e4	0.1181		3.83	3.87	0.167	0.152	
7	12	PFOS	499 > 79.9	3.47e4	4.65e3	0.1181		3.89	3.92	93.4	728	
8	13	PFDA	513 > 468.8		2.08e4	0.1181		4.01				
9	15	N-MeFOSAA	570.1 > 419		4.56e3	0.1181		4.03				
10	16	N-EtFOSAA	584.2 > 419		4.43e3	0.1181		4.10				
11	17	PFUnA	562.9 > 518.9		2.48e4	0.1181		4.17				
12	19	PFDoA	612.9 > 318.8		2.43e3	0.1181		4.34				

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:07:55 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		2.43e3	0.1181		4.50					
2	22	PFTeDA	712.9 > 668.8		1.76e4	0.1181		4.68					
3	30	13C3-PFBS	302 > 98.8	3.08e3	2.57e4	0.1181	0.031	2.96	3.01	0.601	164	154.5	H
4	31	13C2-PFHxA	315 > 269.8	8.43e3	2.57e4	0.1181	0.276	3.19	3.23	1.64	50.3	118.9	
5	32	13C4-PFHpA	367.2 > 321.8	1.92e4	2.57e4	0.1181	0.306	3.45	3.49	3.75	104	98.1	
6	33	18O2-PFHxS	403 > 102.6	2.10e3	4.16e3	0.1181	0.393	3.56	3.56	6.31	136	128.5	
7	35	13C2-PFOA	414.9 > 369.7	2.60e4	2.24e4	0.1181	1.067	3.65	3.69	14.5	115	108.6	
8	36	13C5-PFNA	468.2 > 422.9	2.33e4	2.57e4	0.1181	0.852	3.83	3.87	11.3	113	106.5	
9	38	13C8-PFOS	507 > 79.9	4.65e3	4.42e3	0.1181	0.936	3.89	3.92	13.1	119	112.3	
10	39	13C2-PFDA	515.1 > 469.9	2.08e4	2.38e4	0.1181	0.810	4.01	4.04	10.9	114	107.6	

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:08:11 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	4.56e3	2.36e4	0.1181	0.014	4.03	4.07	2.41	1490	108.5
2	42	d5-N-EtFOSAA	589.3 > 419	4.43e3	2.36e4	0.1181	0.014	4.12	4.13	2.35	1420	103.6
3	43	13C2-PFUnA	565 > 519.8	2.48e4	2.36e4	0.1181	0.962	4.17	4.20	13.1	115	109.1
4	44	13C2-PFDoA	615 > 569.7	2.43e3	2.36e4	0.1181	0.094	4.34	4.36	1.29	115	109.1
5	46	13C2-PFTeDA	714.8 > 669.6	1.76e4	2.36e4	0.1181	0.694	4.68	4.71	9.33	114	107.5
6	52	13C5-PFHxA	318 > 272.9	2.57e4	2.57e4	0.1181	1.000	3.19	3.23	5.00	42.3	100.0
7	53	13C3-PFHxS	401.9 > 79.9	4.16e3	4.16e3	0.1181	1.000	3.56	3.56	12.5	106	100.0
8	54	13C8-PFOA	421.3 > 376	2.24e4	2.24e4	0.1181	1.000	3.65	3.69	12.5	106	100.0
9	55	13C9-PFNA	472.2 > 426.9	2.57e4	2.57e4	0.1181	1.000	3.83	3.87	12.5	106	100.0
10	56	13C4-PFOS	503 > 79.9	4.42e3	4.42e3	0.1181	1.000	3.89	3.92	12.5	106	100.0
11	57	13C6-PFDA	519.1 > 473.7	2.38e4	2.38e4	0.1181	1.000	4.01	4.03	12.5	106	100.0
12	58	13C7-PFUnA	570.1 > 524.8	2.36e4	2.36e4	0.1181	1.000	4.17	4.20	12.5	106	100.0
13	59	Total PFBS	299 > 79.7	1.80e3	3.08e3	0.1181		2.96		7.31	33.1	
14	60	Total PFHxS	398.9 > 79.6	8.17e3	2.10e3	0.1181		3.52		48.6	247	
15	61	Total PFOA	413 > 368.7	2.66e4	2.60e4	0.1181		3.65		12.8	108	
16	62	Total PFOS	499 > 79.9	3.47e4	4.65e3	0.1181		3.89		93.4	728	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	4.56e3	0.1181		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	4.43e3	0.1181		4.17		0.000		

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
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Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	1803.416	3082.091	7.314	bb	33.1

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	8174.622	2102.347	48.604	MM	247.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	24322.738	26001.154	11.693	dd	100.2
2	61	Total PFOA	413 > 368.7	3.64	2306.643	26001.154	1.109	bd	7.9

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.92	34724.113	4647.389	93.397	MM	728.3

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			4561.627		MM-I	

Total N-EtFOSAA

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

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
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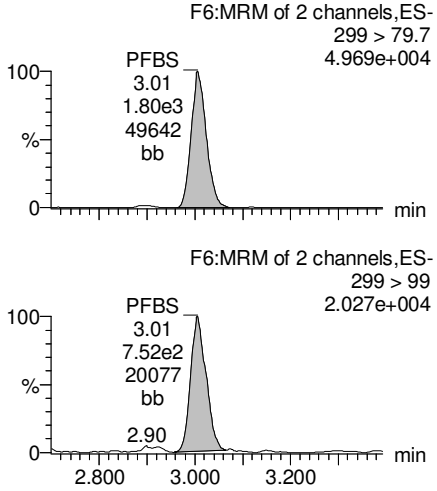
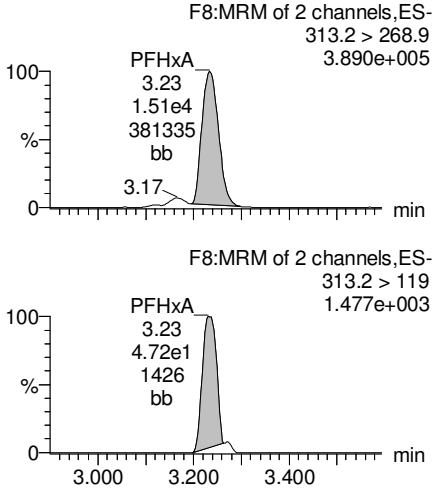
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

Total PFBS



PFHxA



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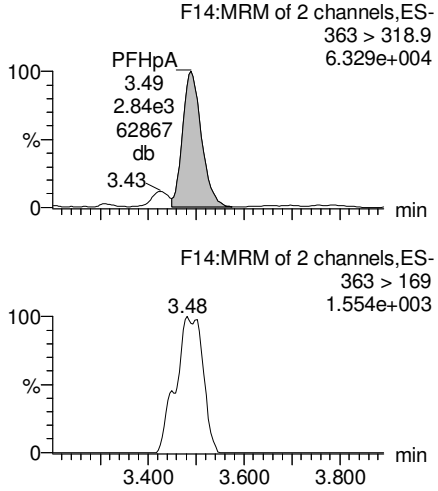

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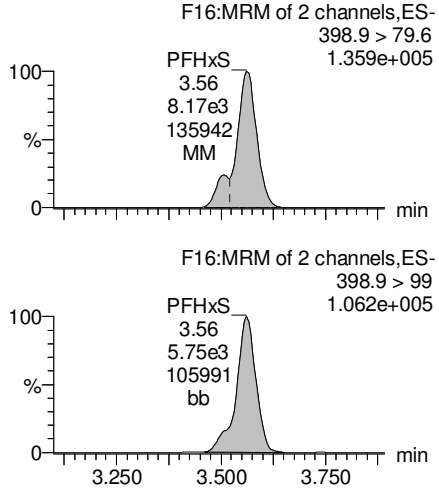

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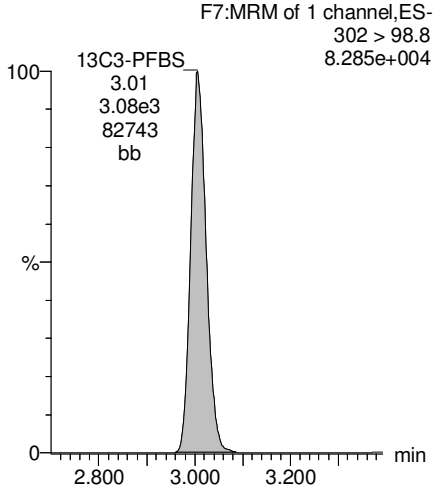

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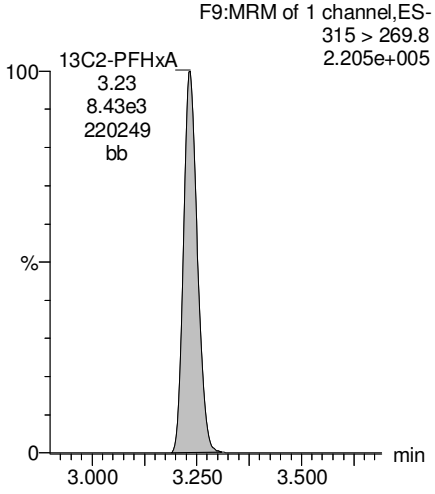

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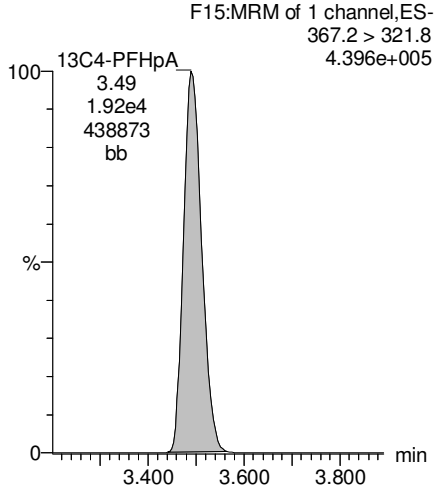

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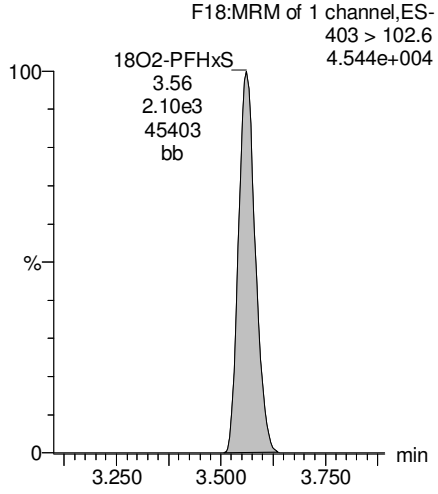

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Vista Analytical Laboratory

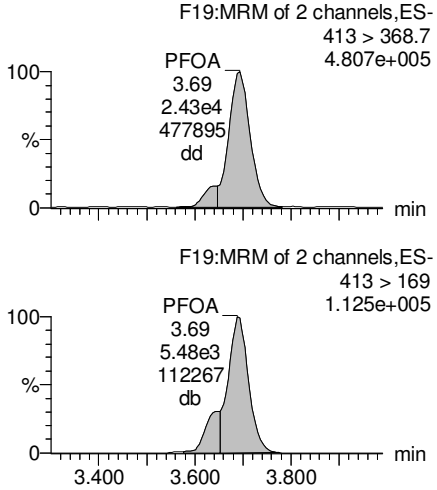
Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:08:11 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

Total PFOA



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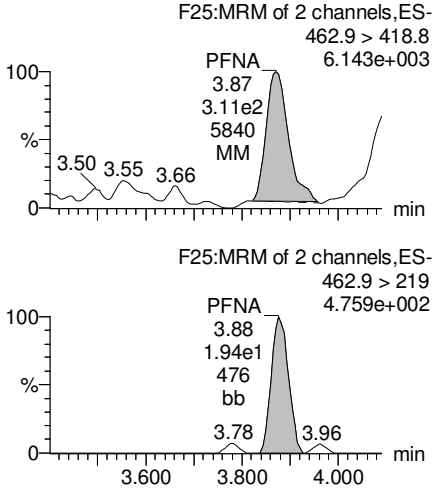

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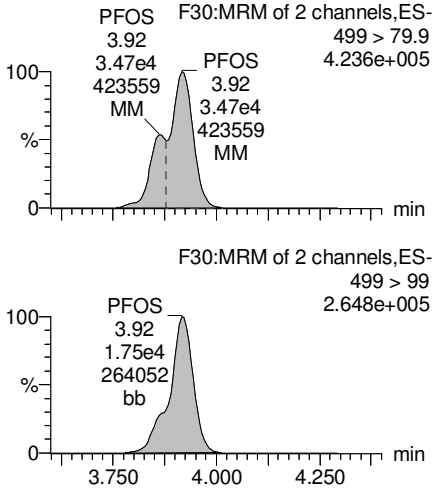
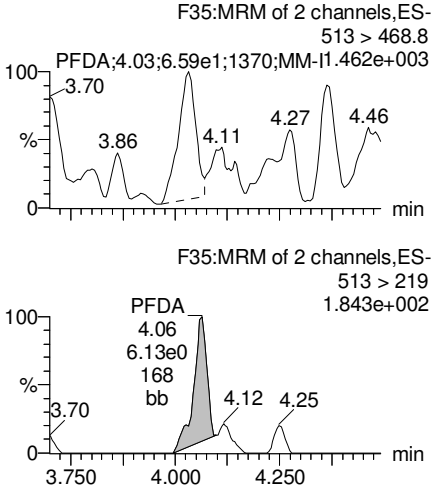


PFDA



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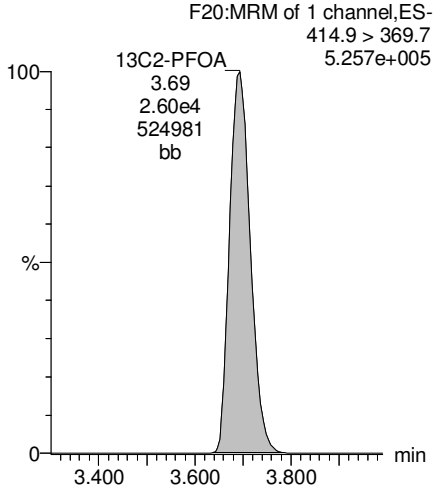

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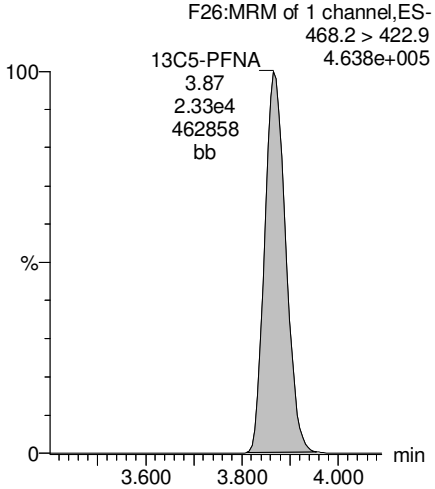

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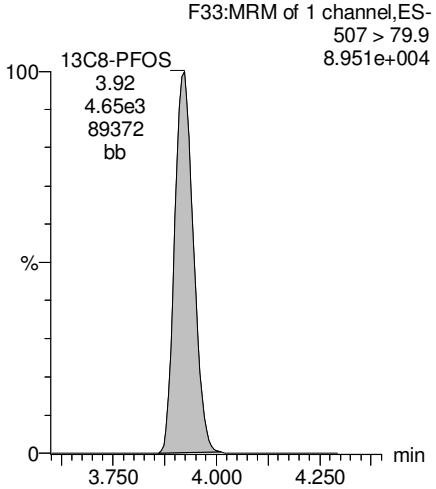

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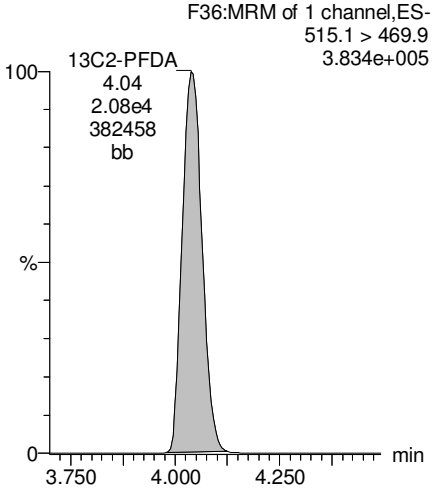

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
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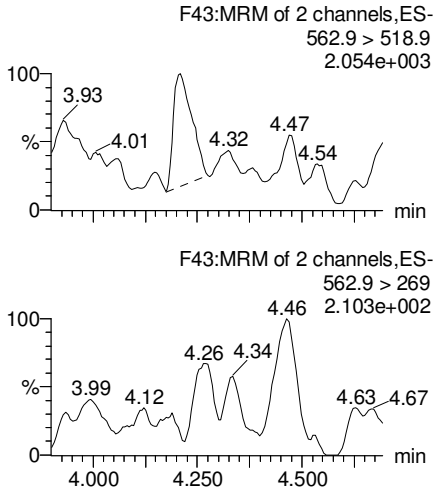
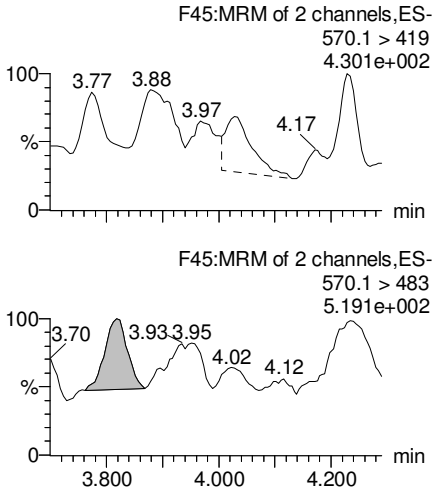
Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

PFUnA



N-MeFOSAA



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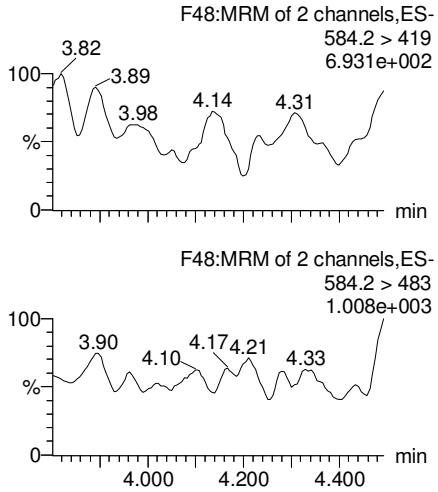

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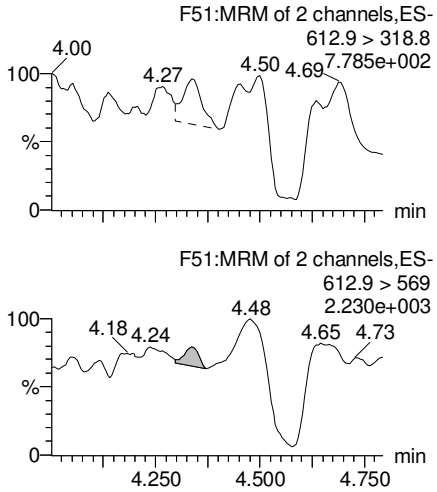

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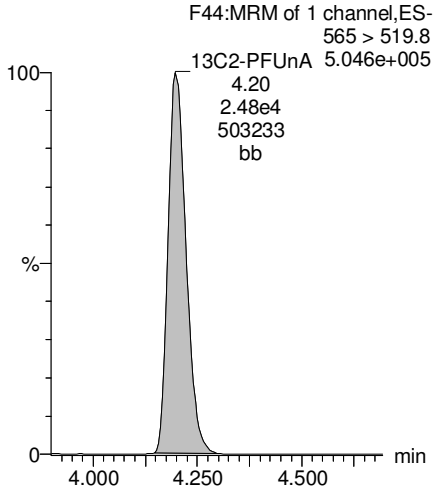

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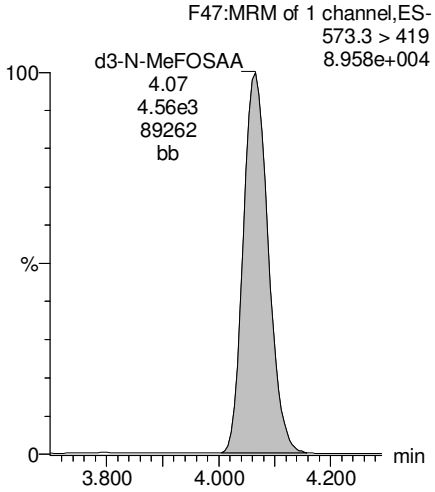

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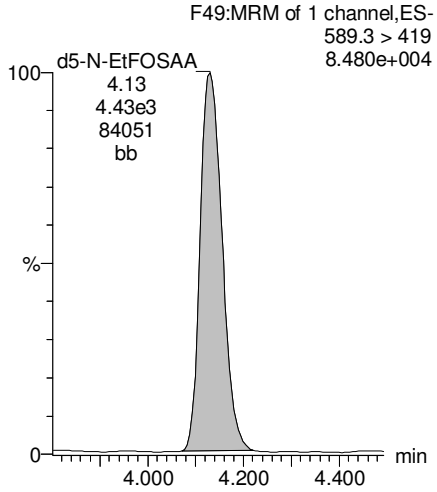

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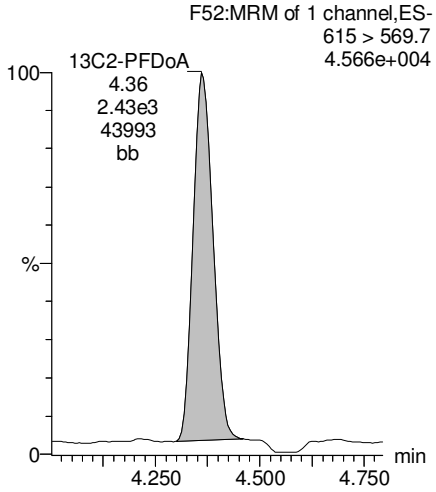

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-49.qld

Last Altered: Friday, July 28, 2017 09:06:39 Pacific Daylight Time
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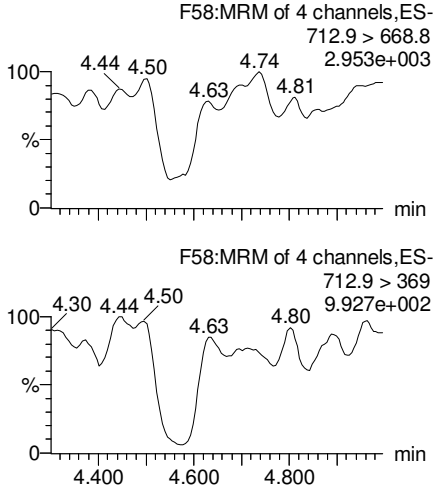
Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

PFTeDA



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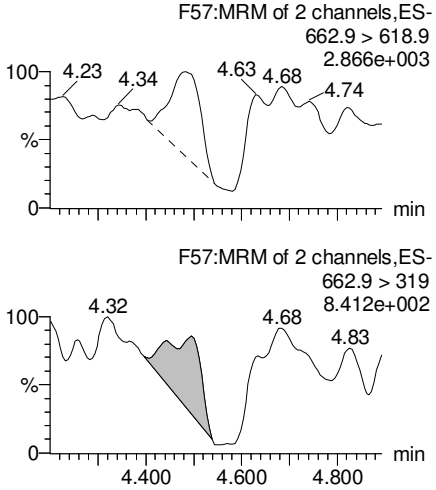

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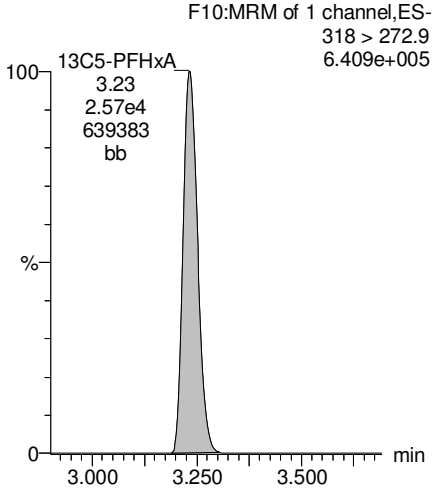

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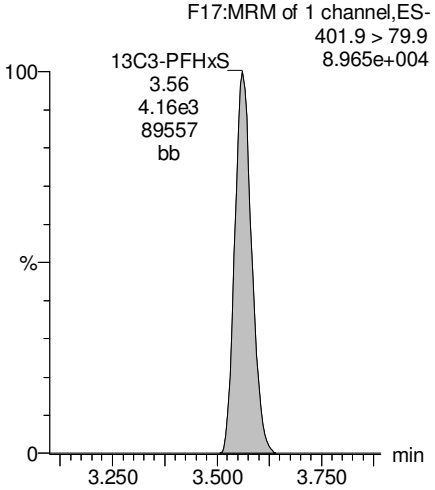

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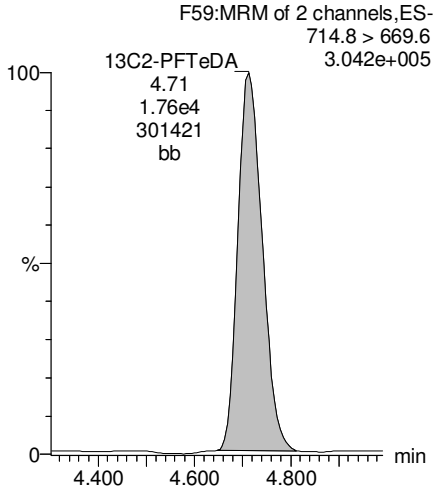

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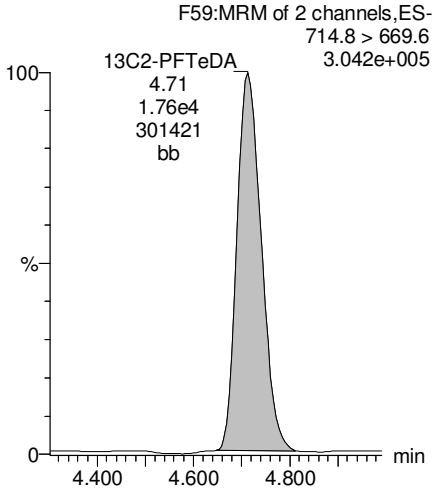
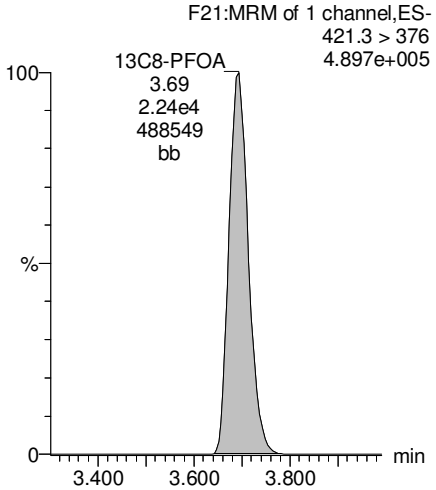
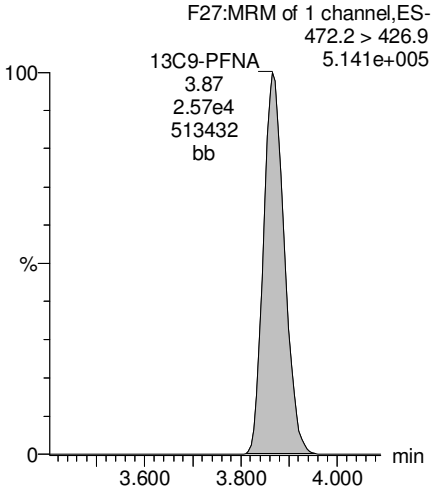


13C8-PFOA



13C9-PFNA



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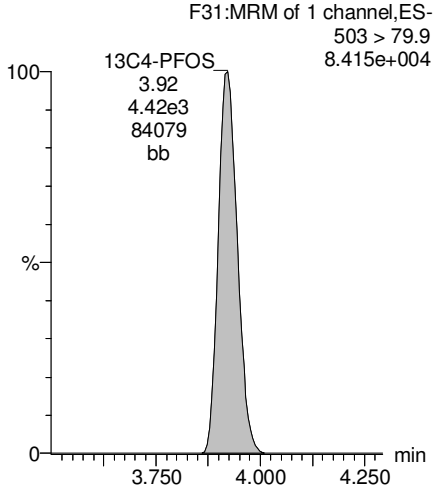
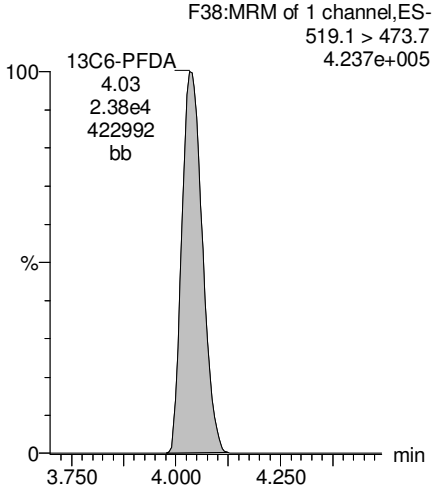
Name: 170725M1_49, Date: 25-Jul-2017, Time: 22:51:33, ID: 1700856-10RE1 MW-34S-20170711 0.11812, Description: MW-34S-20170711

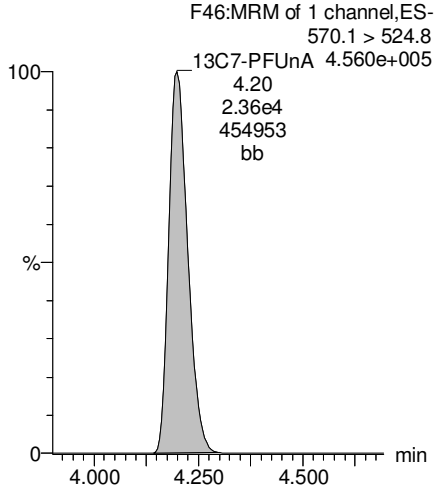
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:19:48 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	1.53e4	4.98e3	0.1177		2.96	3.01	38.3	175	
2	4	PFHxA	313.2 > 268.9	3.43e5	1.39e4	0.1177		3.19	3.23	124	695	
3	5	PFHpA	363 > 318.9	9.22e4	3.15e4	0.1177		3.45	3.49	36.7	248	
4	6	PFHxS	398.9 > 79.6	6.59e4	3.33e3	0.1177		3.56	3.56	247	1450	E*
5	8	PFOA	413 > 368.7	4.28e4	3.88e4	0.1177		3.65	3.69	13.8	119	
6	10	PFNA	462.9 > 418.8	1.05e4	3.59e4	0.1177		3.83	3.87	3.63	27.0	
7	12	PFOS	499 > 79.9	1.14e5	7.85e3	0.1177		3.89	3.92	182	1610	E*
8	13	PFDA	513 > 468.8	2.97e3	3.66e4	0.1177		4.01	4.03	1.01	5.80	
9	15	N-MeFOSAA	570.1 > 419		7.47e3	0.1177		4.03				
10	16	N-EtFOSAA	584.2 > 419		7.25e3	0.1177		4.10				
11	17	PFUnA	562.9 > 518.9		3.60e4	0.1177		4.17				
12	19	PFDoA	612.9 > 318.8		3.63e3	0.1177		4.34				

*See dilution.

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:00 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	21	PFTrDA	662.9 > 618.9		3.63e3	0.1177		4.50					
2	22	PFTeDA	712.9 > 668.8		2.63e4	0.1177		4.68					
3	30	13C3-PFBS	302 > 98.8	4.98e3	4.04e4	0.1177	0.031	2.96	3.01	0.616	168	158.5	H
4	31	13C2-PFHxA	315 > 269.8	1.39e4	4.04e4	0.1177	0.276	3.19	3.23	1.71	52.7	124.1	
5	32	13C4-PFHpA	367.2 > 321.8	3.15e4	4.04e4	0.1177	0.306	3.45	3.49	3.89	108	101.8	
6	33	18O2-PFHxS	403 > 102.6	3.33e3	6.01e3	0.1177	0.393	3.56	3.56	6.93	150	141.1	
7	35	13C2-PFOA	414.9 > 369.7	3.88e4	3.13e4	0.1177	1.067	3.65	3.69	15.5	123	116.2	
8	36	13C5-PFNA	468.2 > 422.9	3.59e4	3.91e4	0.1177	0.852	3.83	3.87	11.5	114	107.8	
9	38	13C8-PFOS	507 > 79.9	7.85e3	6.01e3	0.1177	0.936	3.89	3.92	16.3	148	139.6	
10	39	13C2-PFDA	515.1 > 469.9	3.66e4	4.06e4	0.1177	0.810	4.01	4.03	11.3	118	111.6	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:18 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
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Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	7.47e3	3.43e4	0.1177	0.014	4.03	4.06	2.72	1690	122.3
2	42	d5-N-EtFOSAA	589.3 > 419	7.25e3	3.43e4	0.1177	0.014	4.12	4.13	2.64	1610	116.6
3	43	13C2-PFUnA	565 > 519.8	3.60e4	3.43e4	0.1177	0.962	4.17	4.20	13.1	116	108.9
4	44	13C2-PFDoA	615 > 569.7	3.63e3	3.43e4	0.1177	0.094	4.34	4.36	1.32	119	112.1
5	46	13C2-PFTeDA	714.8 > 669.6	2.63e4	3.43e4	0.1177	0.694	4.68	4.71	9.60	117	110.6
6	52	13C5-PFHxA	318 > 272.9	4.04e4	4.04e4	0.1177	1.000	3.19	3.23	5.00	42.5	100.0
7	53	13C3-PFHxS	401.9 > 79.9	6.01e3	6.01e3	0.1177	1.000	3.56	3.56	12.5	106	100.0
8	54	13C8-PFOA	421.3 > 376	3.13e4	3.13e4	0.1177	1.000	3.65	3.69	12.5	106	100.0
9	55	13C9-PFNA	472.2 > 426.9	3.91e4	3.91e4	0.1177	1.000	3.83	3.86	12.5	106	100.0
10	56	13C4-PFOS	503 > 79.9	6.01e3	6.01e3	0.1177	1.000	3.89	3.92	12.5	106	100.0
11	57	13C6-PFDA	519.1 > 473.7	4.06e4	4.06e4	0.1177	1.000	4.01	4.04	12.5	106	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.43e4	3.43e4	0.1177	1.000	4.17	4.20	12.5	106	100.0
13	59	Total PFBS	299 > 79.7	1.53e4	4.98e3	0.1177		2.96		38.3	175	
14	60	Total PFHxS	398.9 > 79.6	6.59e4	3.33e3	0.1177		3.52		247	1450	
15	61	Total PFOA	413 > 368.7	4.49e4	3.88e4	0.1177		3.65		14.4	123	
16	62	Total PFOS	499 > 79.9	1.14e5	7.85e3	0.1177		3.89		182	1610	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	7.47e3	0.1177		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	7.25e3	0.1177		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:21:17 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:21:45 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	15274.838	4981.104	38.332	bb	175.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	65882.773	3332.734	247.105	MM	1448.0

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	42758.148	38802.523	13.774	db	118.8
2	61	Total PFOA	413 > 368.7	3.64	2026.103	38802.523	0.653	bd	4.0

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.92	114253.789	7846.438	182.015	MM	1612.3

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			7470.190		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			7253.708		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

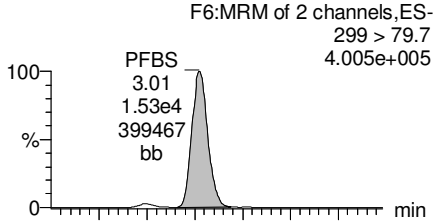
Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:18 Pacific Daylight Time

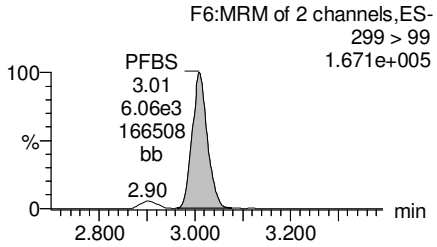
Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

Total PFBS





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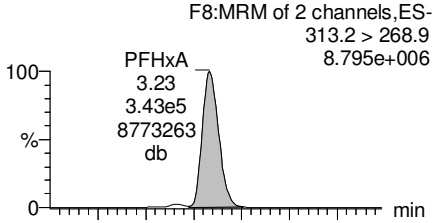

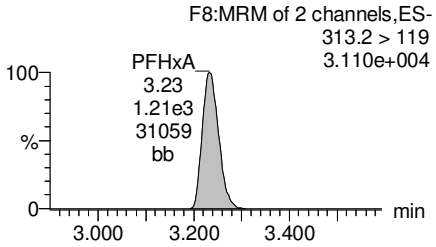

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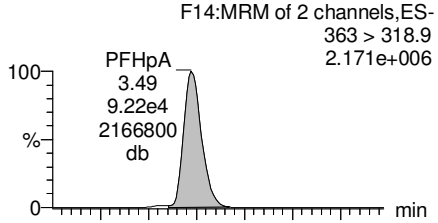

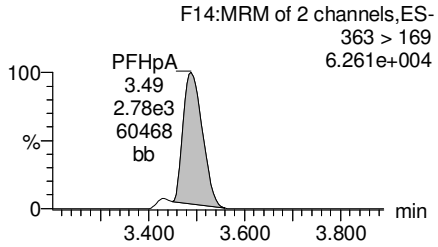

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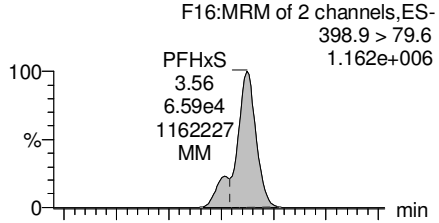

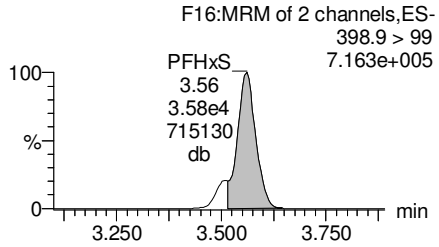

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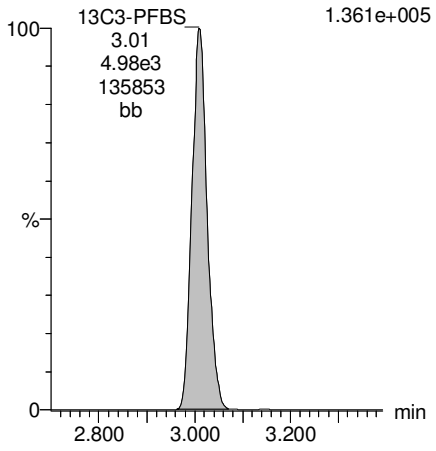

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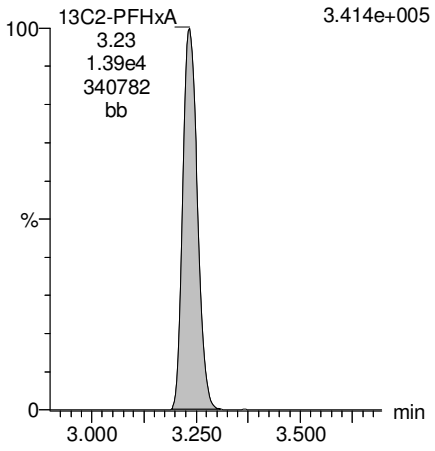

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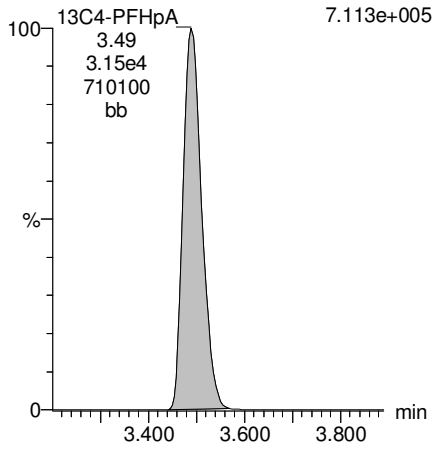

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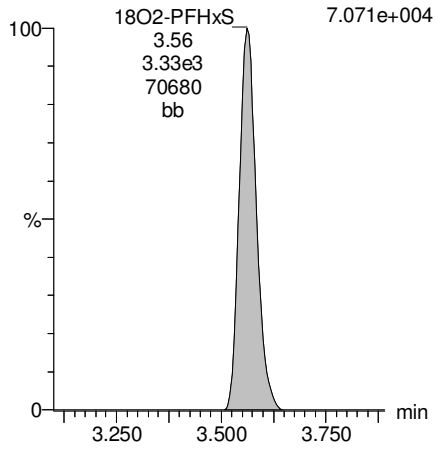

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Vista Analytical Laboratory

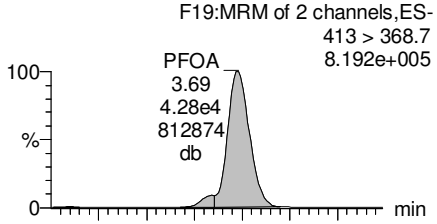
Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

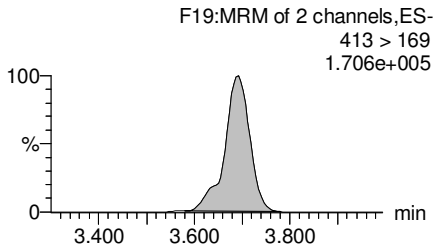
Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:18 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

Total PFOA





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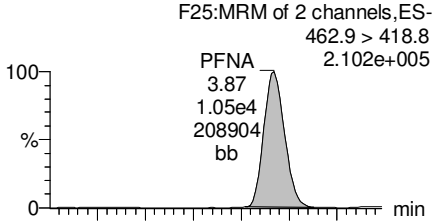
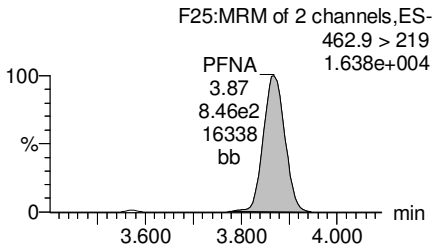
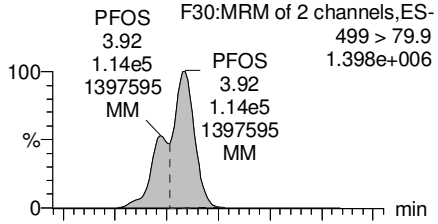
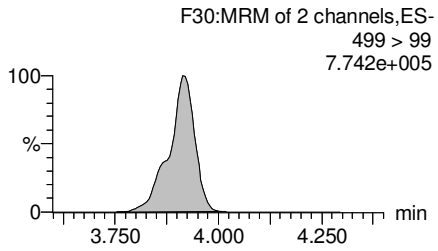




Total PFOS





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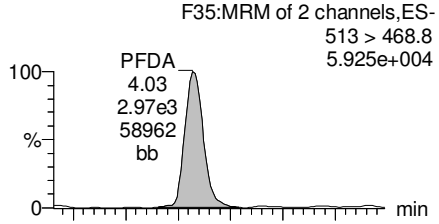

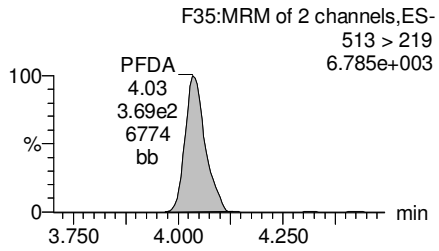

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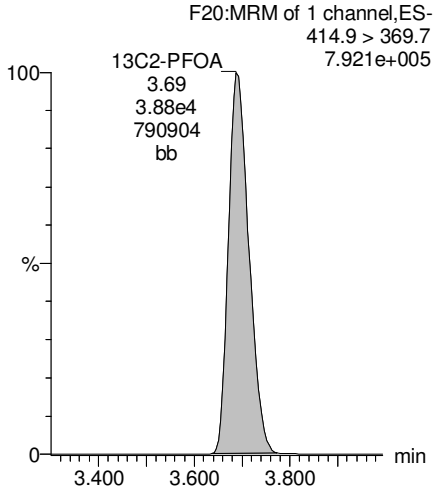

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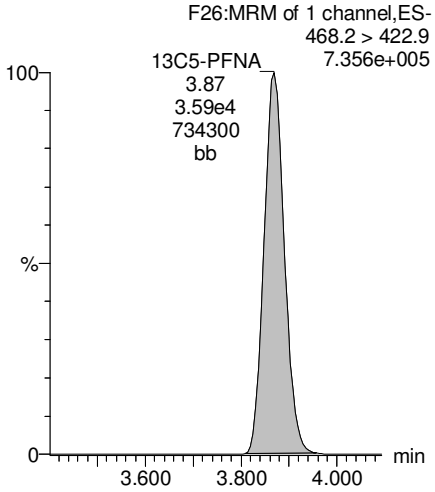

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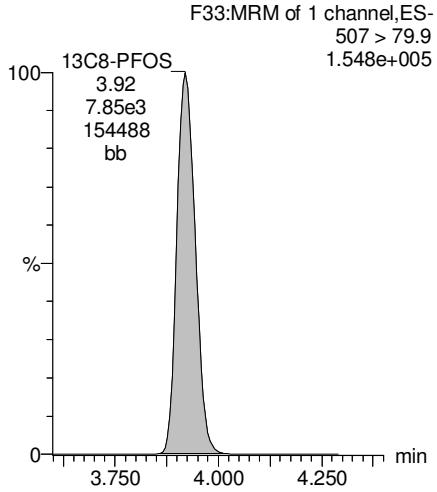

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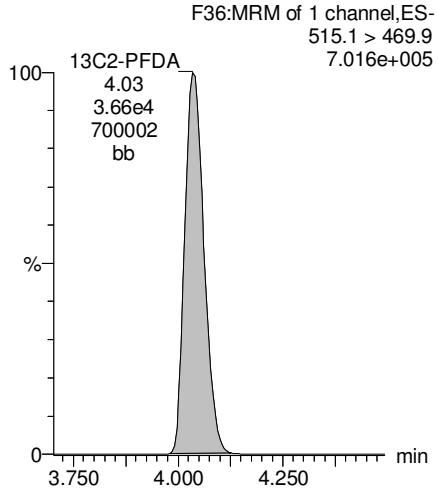

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Vista Analytical Laboratory

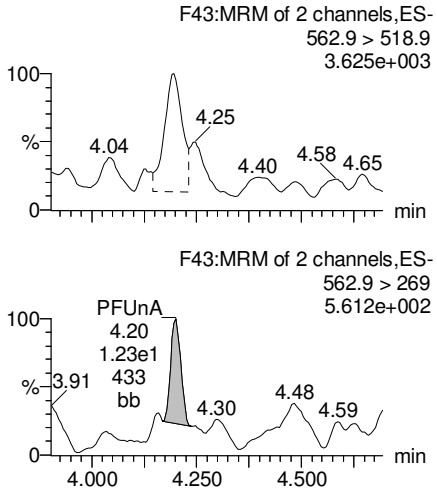
Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:18 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

PFUnA



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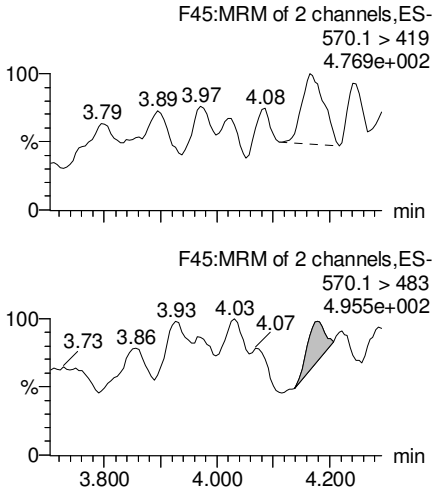
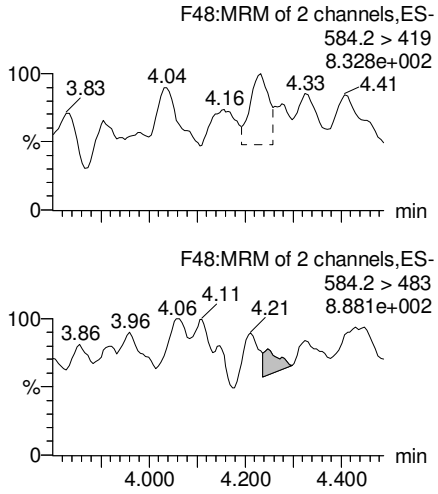
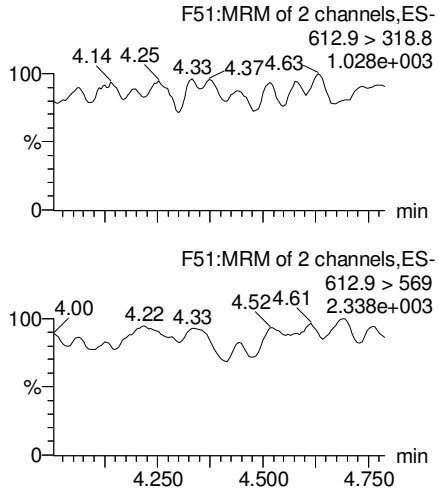


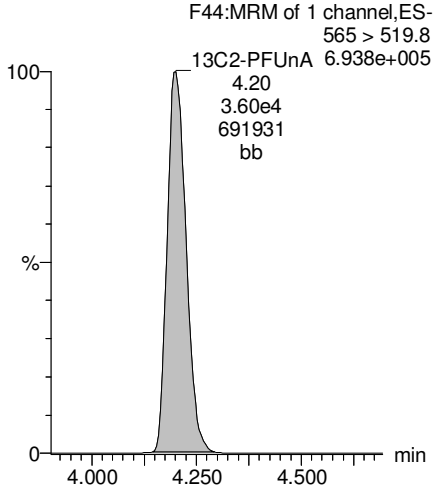
N-EtFOSAA



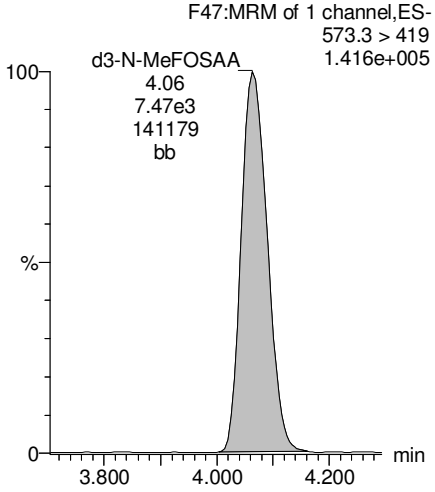
PFDoA



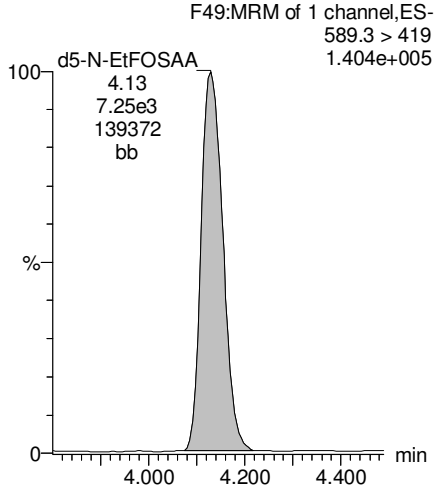
13C2-PFUnA



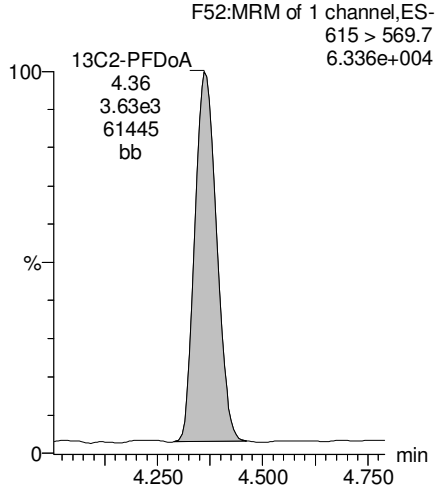
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



GM 7/28/17

Vista Analytical Laboratory

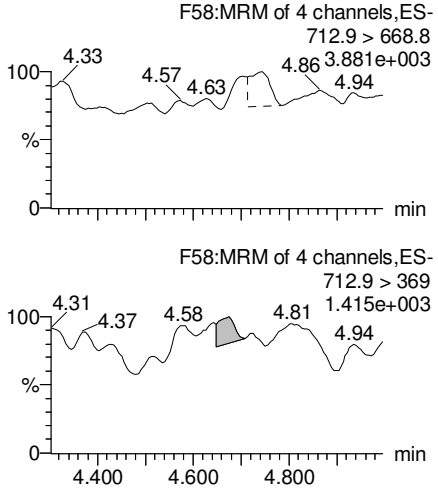
Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:18 Pacific Daylight Time

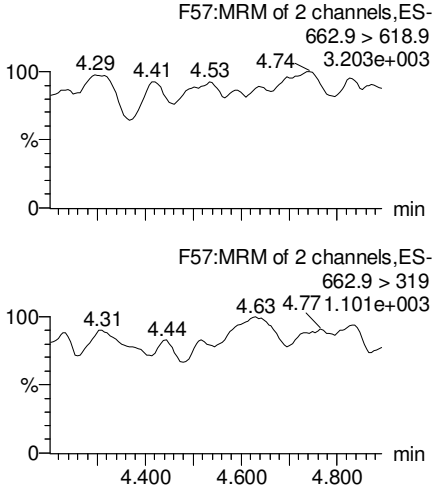
Reviewed: CT 08/03/2017

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

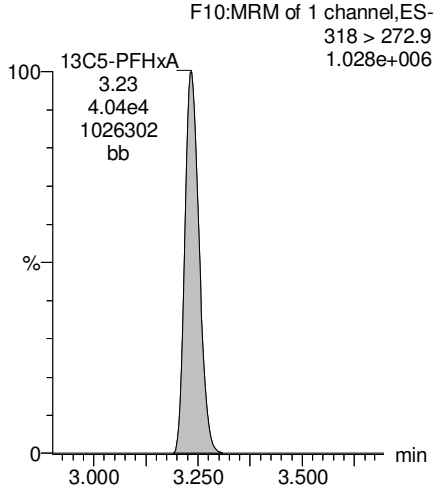
PFTeDA



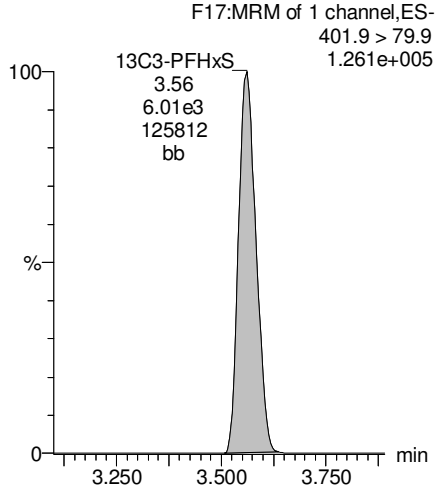
PFTrDA



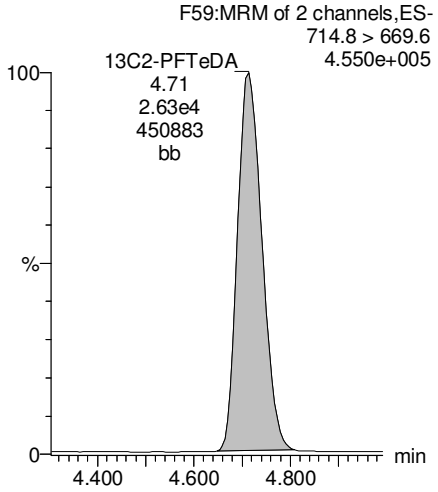
13C5-PFHxA



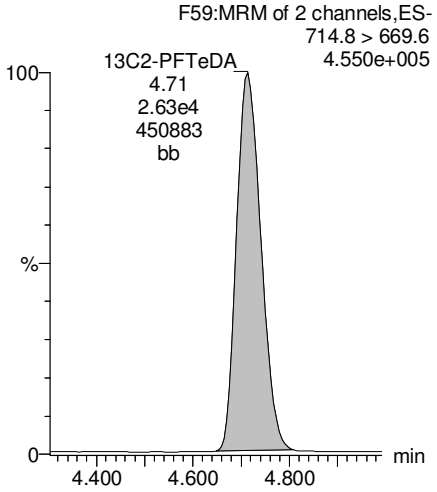
13C3-PFHxS



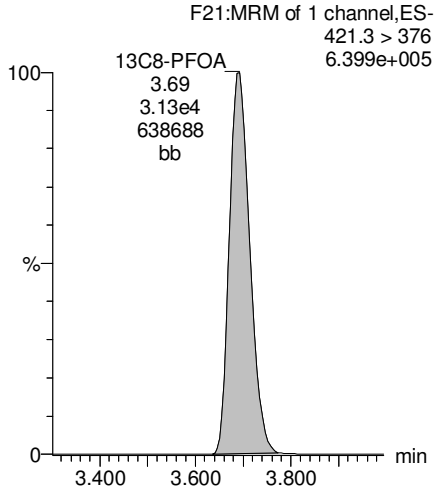
13C2-PFTeDA



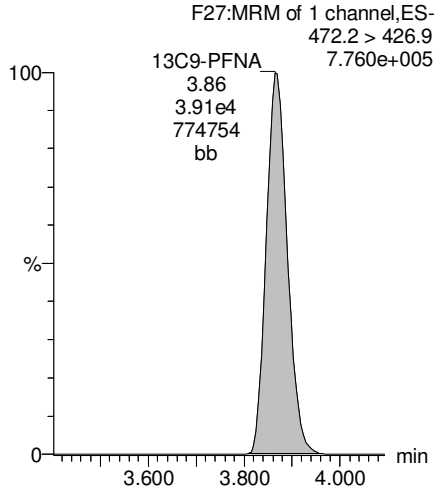
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

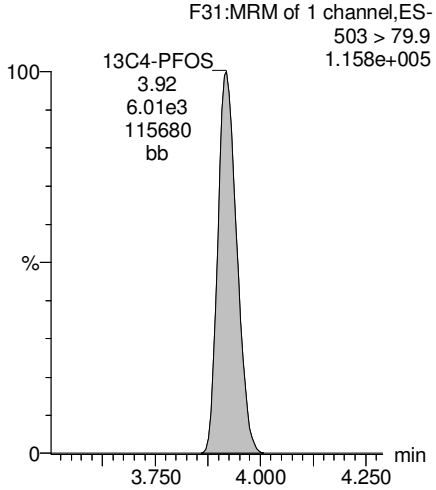
Dataset: U:\Q4.PRO\results\170725M1\170725M1-53.qld

Last Altered: Friday, July 28, 2017 09:19:10 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:18 Pacific Daylight Time

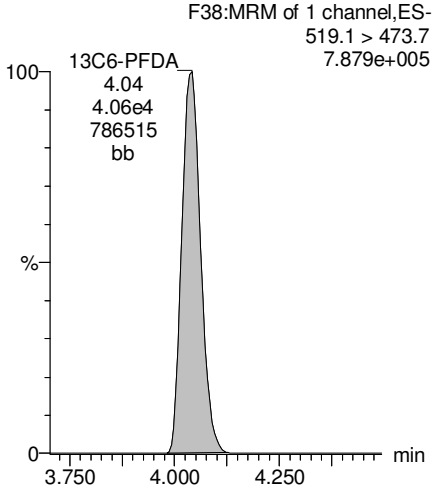
Reviewed: CT 08/03/2017

Name: 170725M1_53, Date: 25-Jul-2017, Time: 23:34:14, ID: 1700856-11RE1 MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

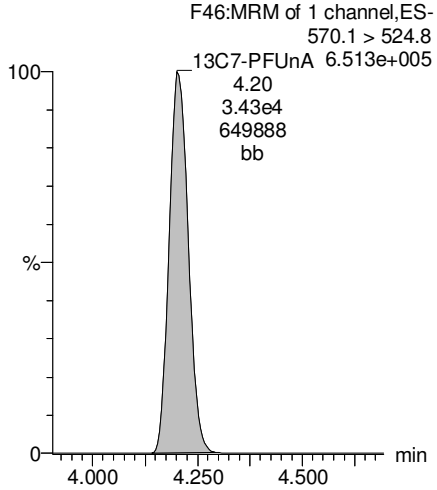
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-111.qld

Last Altered: Friday, July 28, 2017 11:17:42 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:18:07 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_111, Date: 28-Jul-2017, Time: 07:22:03, ID: 1700856-11RE1@5X MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	6	PFHxS	398.9 > 79.6	6.25e3	3.12e2	0.1177		3.56	3.48	250	1300	
2	11	PFOS	499 > 79.9	1.21e4	7.57e2	0.1177		3.89	3.84	201	1830	
3	25	18O2-PFHxS	403 > 102.6	3.12e2	6.11e2	0.1177	0.402	3.56	3.49	6.38	135	127.0
4	29	13C8-PFOS	507 > 79.9	7.57e2	6.89e2	0.1177	0.951	3.89	3.84	13.7	123	115.5
5	38	13C3-PFHxS	401.9 > 79.9	6.11e2	6.11e2	0.1177	1.000	3.56	3.49	12.5	106	100.0
6	41	13C4-PFOS	503 > 79.9	6.89e2	6.89e2	0.1177	1.000	3.89	3.84	12.5	106	100.0
7	45	Total PFHxS	398.9 > 79.6	6.25e3	3.12e2	0.1177		3.52		250	1300	
8	47	Total PFOS	499 > 79.9	1.21e4	7.57e2	0.1177		3.89		201	1830	

GM 7/28/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-111.qld

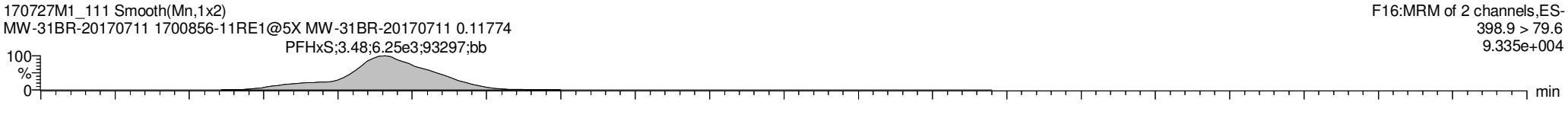
Last Altered: Friday, July 28, 2017 11:17:42 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:18:07 Pacific Daylight Time

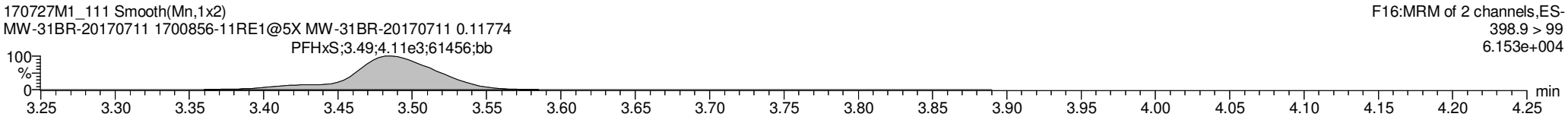
Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

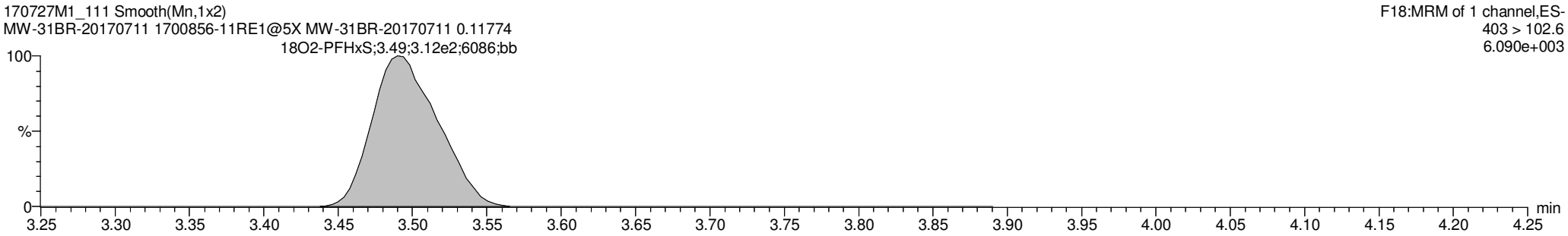
Name: 170727M1_111, Date: 28-Jul-2017, Time: 07:22:03, ID: 1700856-11RE1@5X MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

Total PFHxS

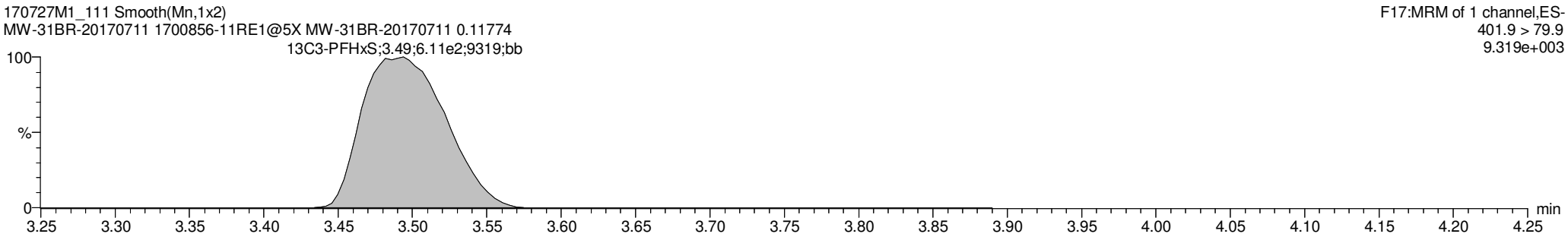




18O2-PFHxS



13C3-PFHxS



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Vista Analytical Laboratory

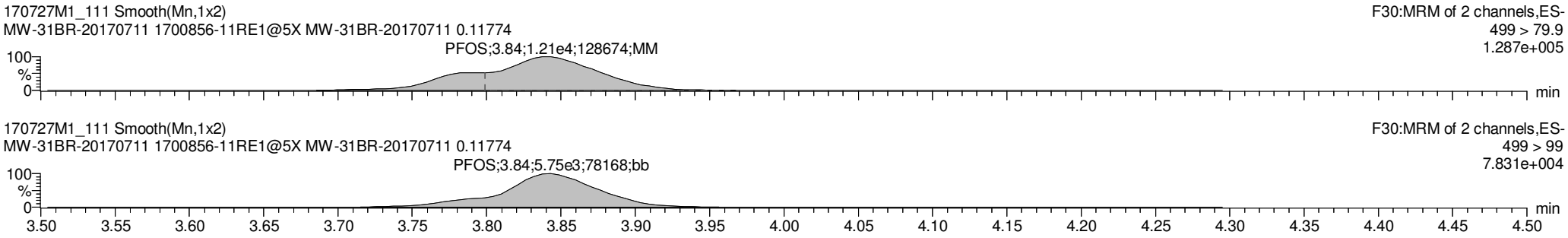
Dataset: U:\Q4.PRO\results\170727M1\170727M1-111.qld

Last Altered: Friday, July 28, 2017 11:17:42 Pacific Daylight Time
Printed: Friday, July 28, 2017 11:18:07 Pacific Daylight Time

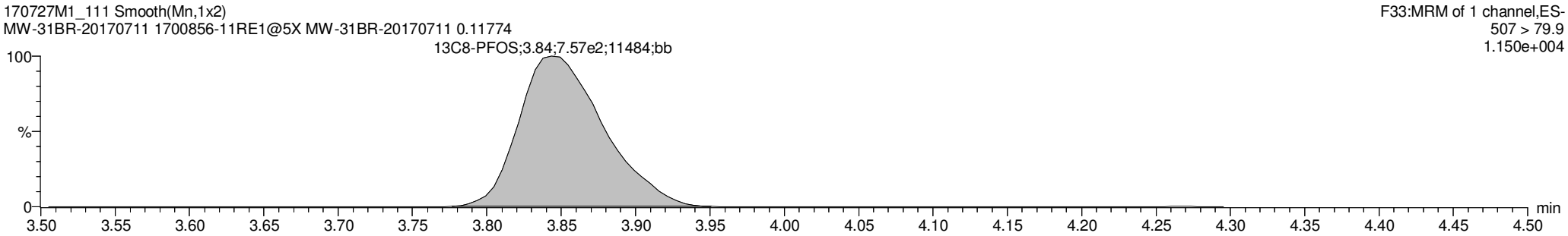
Reviewed: CT 08/03/2017

Name: 170727M1_111, Date: 28-Jul-2017, Time: 07:22:03, ID: 1700856-11RE1@5X MW-31BR-20170711 0.11774, Description: MW-31BR-20170711

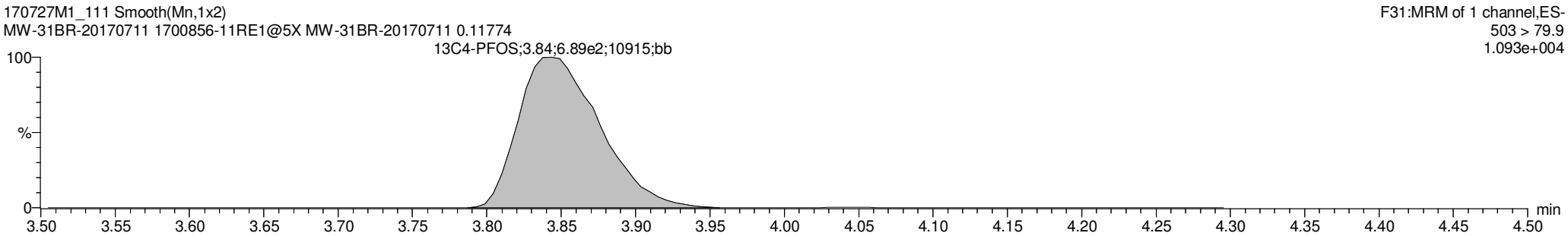
Total PFOS



13C8-PFOS



13C4-PFOS



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:30:44 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	1.76e4	6.44e3	0.1173		2.96	3.01	34.2	157	
2	4	PFHxA	313.2 > 268.9	3.21e5	2.00e4	0.1173		3.19	3.23	80.5	453	
3	5	PFHpA	363 > 318.9	1.01e5	4.61e4	0.1173		3.45	3.49	27.4	186	
4	6	PFHxS	398.9 > 79.6	7.70e4	4.48e3	0.1173		3.56	3.56	215	1230	E*
5	8	PFOA	413 > 368.7	6.23e4	5.71e4	0.1173		3.65	3.69	13.6	118	
6	10	PFNA	462.9 > 418.8	1.66e4	4.97e4	0.1173		3.83	3.86	4.18	31.3	
7	12	PFOS	499 > 79.9	1.36e5	9.71e3	0.1173		3.89	3.91	175	1540	E*
8	13	PFDA	513 > 468.8	2.28e3	4.62e4	0.1173		4.01	4.03	0.618	3.22	
9	15	N-MeFOSAA	570.1 > 419		1.03e4	0.1173		4.03				
10	16	N-EtFOSAA	584.2 > 419		9.70e3	0.1173		4.10				
11	17	PFUnA	562.9 > 518.9		5.07e4	0.1173		4.17				
12	19	PFDoA	612.9 > 318.8		5.40e3	0.1173		4.34				

*See dilution.

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:30:57 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		5.40e3	0.1173		4.50				
2	22	PFTeDA	712.9 > 668.8		3.06e4	0.1173		4.68				
3	30	13C3-PFBS	302 > 98.8	6.44e3	5.54e4	0.1173	0.031	2.96	3.01	0.582	159	149.6
4	31	13C2-PFHxA	315 > 269.8	2.00e4	5.54e4	0.1173	0.276	3.19	3.23	1.80	55.6	130.4
5	32	13C4-PFHpA	367.2 > 321.8	4.61e4	5.54e4	0.1173	0.306	3.45	3.49	4.16	116	108.9
6	33	18O2-PFHxS	403 > 102.6	4.48e3	8.49e3	0.1173	0.393	3.56	3.56	6.59	143	134.3
7	35	13C2-PFOA	414.9 > 369.7	5.71e4	4.57e4	0.1173	1.067	3.65	3.69	15.6	125	117.1
8	36	13C5-PFNA	468.2 > 422.9	4.97e4	5.22e4	0.1173	0.852	3.83	3.86	11.9	119	111.7
9	38	13C8-PFOS	507 > 79.9	9.71e3	8.28e3	0.1173	0.936	3.89	3.91	14.7	133	125.3
10	39	13C2-PFDA	515.1 > 469.9	4.62e4	4.99e4	0.1173	0.810	4.01	4.04	11.6	122	114.2

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	1.03e4	4.82e4	0.1173	0.014	4.03	4.06	2.67	1660	119.8
2	42	d5-N-EtFOSAA	589.3 > 419	9.70e3	4.82e4	0.1173	0.014	4.12	4.13	2.51	1540	111.0
3	43	13C2-PFUnA	565 > 519.8	5.07e4	4.82e4	0.1173	0.962	4.17	4.20	13.2	117	109.3
4	44	13C2-PFDoA	615 > 569.7	5.40e3	4.82e4	0.1173	0.094	4.34	4.36	1.40	127	118.7
5	46	13C2-PFTeDA	714.8 > 669.6	3.06e4	4.82e4	0.1173	0.694	4.68	4.71	7.94	97.5	91.5
6	52	13C5-PFHxA	318 > 272.9	5.54e4	5.54e4	0.1173	1.000	3.19	3.23	5.00	42.6	100.0
7	53	13C3-PFHxS	401.9 > 79.9	8.49e3	8.49e3	0.1173	1.000	3.56	3.56	12.5	107	100.0
8	54	13C8-PFOA	421.3 > 376	4.57e4	4.57e4	0.1173	1.000	3.65	3.69	12.5	107	100.0
9	55	13C9-PFNA	472.2 > 426.9	5.22e4	5.22e4	0.1173	1.000	3.83	3.86	12.5	107	100.0
10	56	13C4-PFOS	503 > 79.9	8.28e3	8.28e3	0.1173	1.000	3.89	3.91	12.5	107	100.0
11	57	13C6-PFDA	519.1 > 473.7	4.99e4	4.99e4	0.1173	1.000	4.01	4.04	12.5	107	100.0
12	58	13C7-PFUnA	570.1 > 524.8	4.82e4	4.82e4	0.1173	1.000	4.17	4.20	12.5	107	100.0
13	59	Total PFBS	299 > 79.7	1.81e4	6.44e3	0.1173		2.96		35.1	161	
14	60	Total PFHxS	398.9 > 79.6	7.70e4	4.48e3	0.1173		3.52		215	1230	
15	61	Total PFOA	413 > 368.7	6.23e4	5.71e4	0.1173		3.65		13.6	118	
16	62	Total PFOS	499 > 79.9	1.36e5	9.71e3	0.1173		3.89		175	1540	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	1.03e4	0.1173		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	9.70e3	0.1173		4.17		0.000		

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.01	17615.197	6443.725	34.171	bb	156.9
2	59	Total PFBS	299 > 79.7	2.90	457.047	6443.725	0.887	MM	3.7

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	77026.383	4480.200	214.908	MM	1230.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	62300.727	57147.980	13.627	MM	117.9

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	135998.469	9706.817	175.133	MM	1538.6

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			10280.650		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			9696.569		MM-I	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

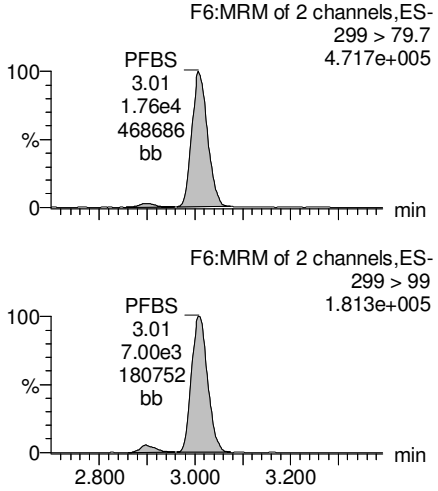
Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

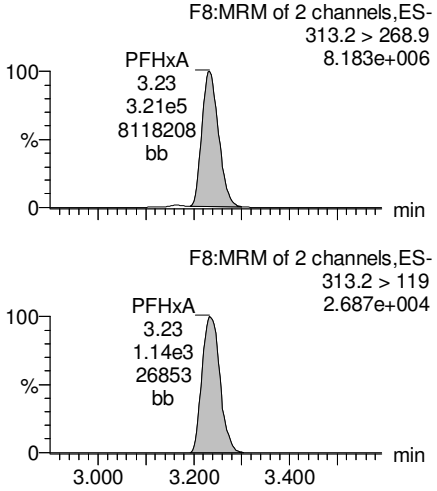
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

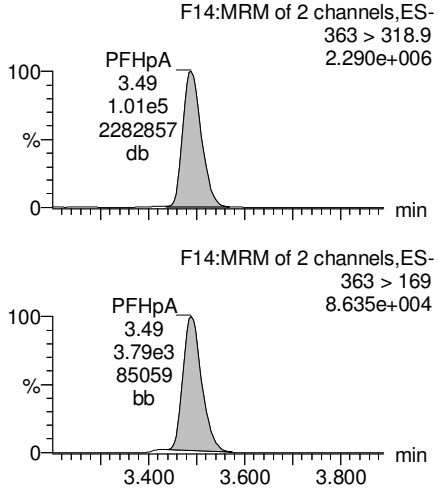
Total PFBS



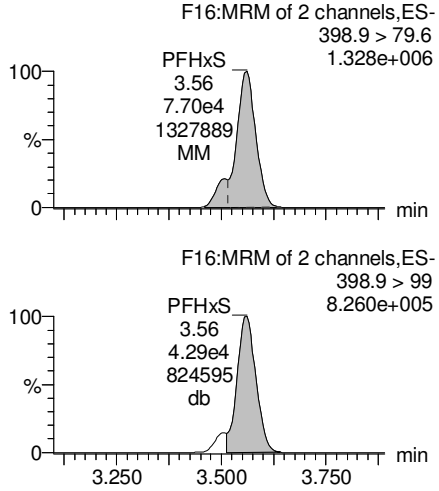
PFHxA



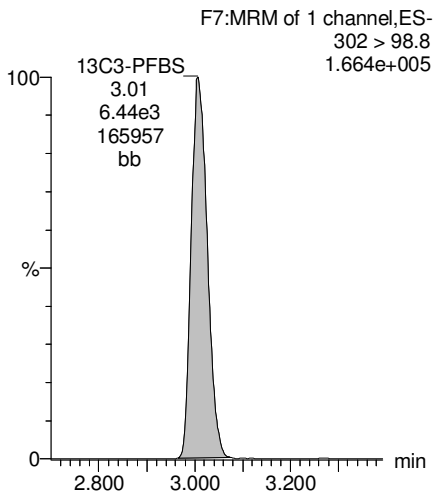
PFHpA



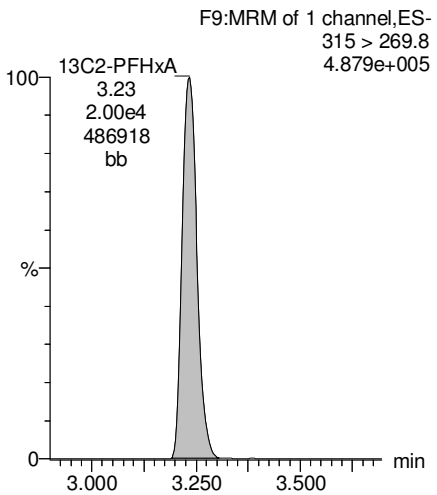
Total PFHxS



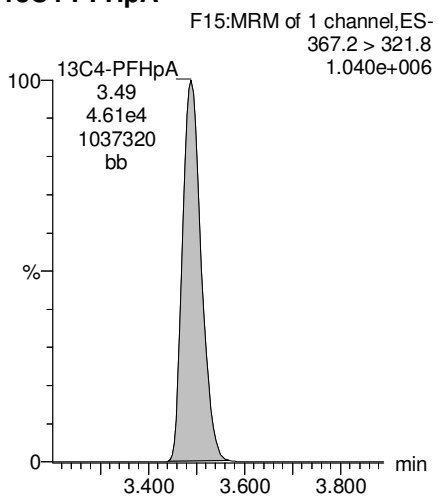
13C3-PFBS



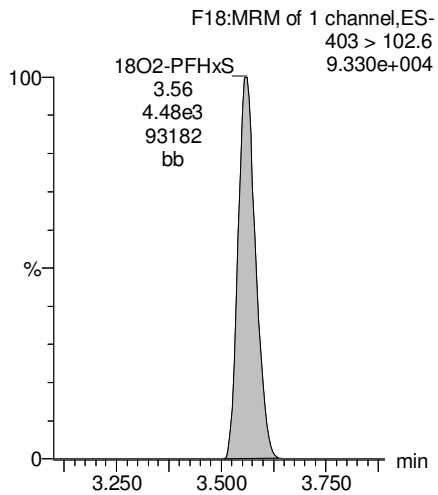
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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Vista Analytical Laboratory

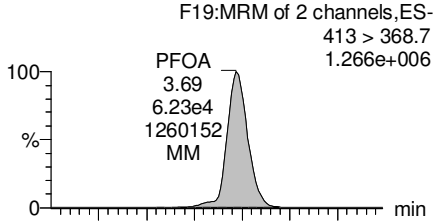
Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

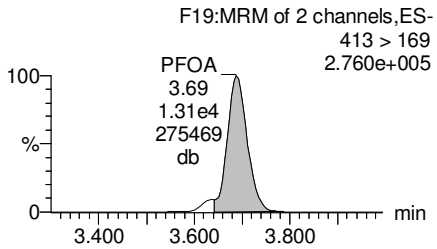
Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

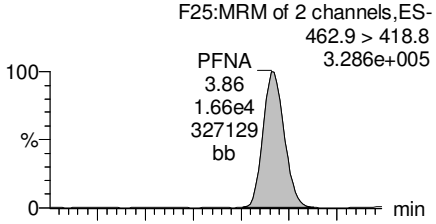
Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

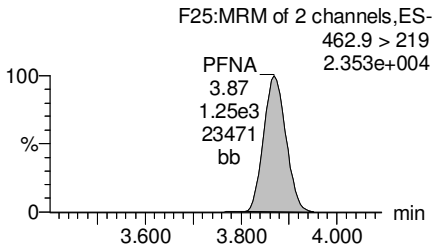
Total PFOA



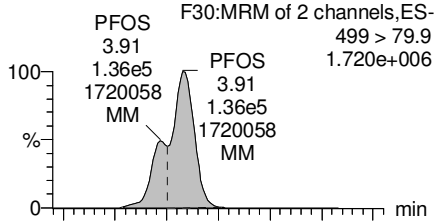


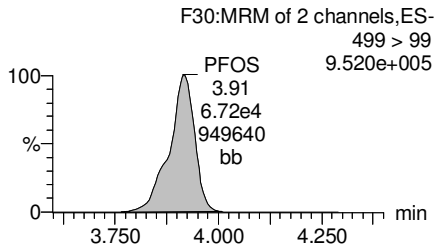
PFNA





Total PFOS





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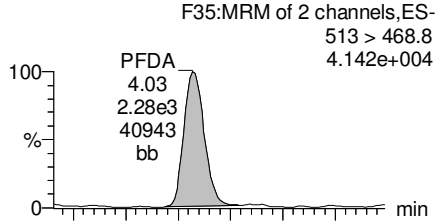
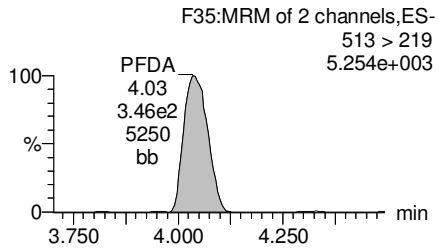
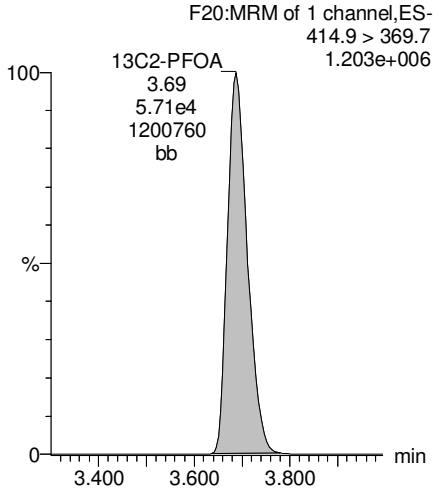
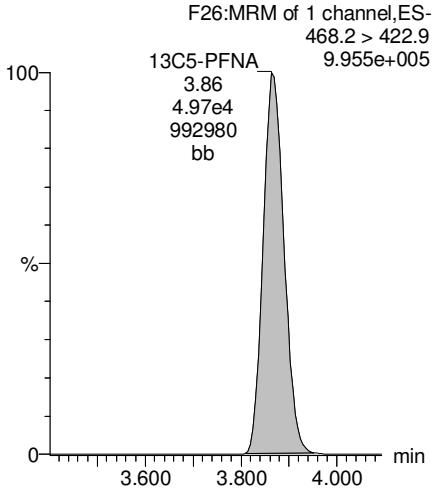




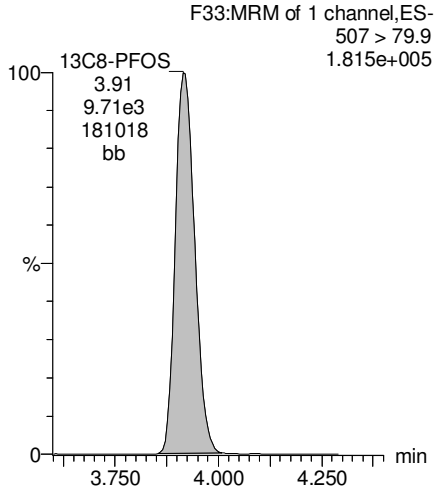
13C2-PFOA



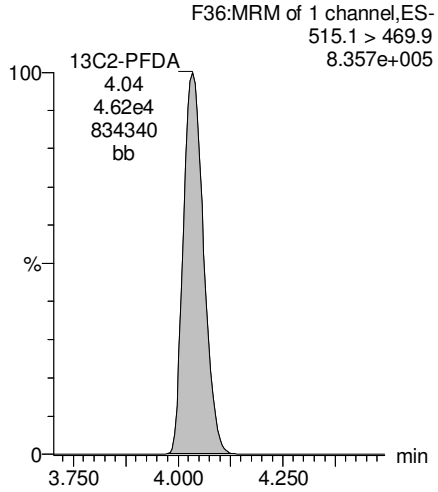
13C5-PFNA



13C8-PFOS



13C2-PFDA



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Vista Analytical Laboratory

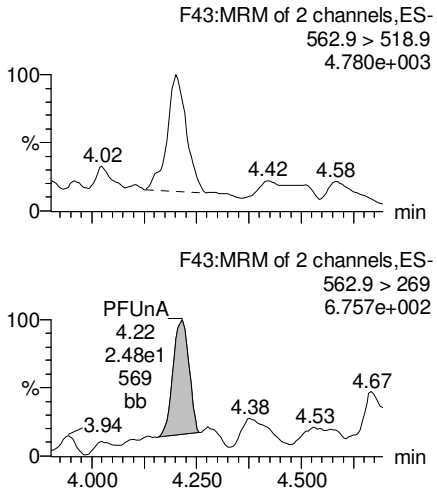
Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

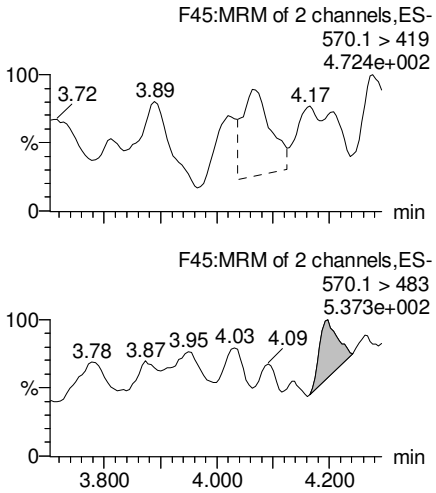
Reviewed: CT 08/03/2017

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

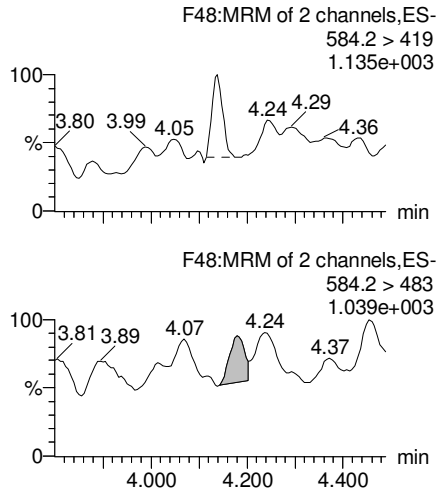
PFUnA



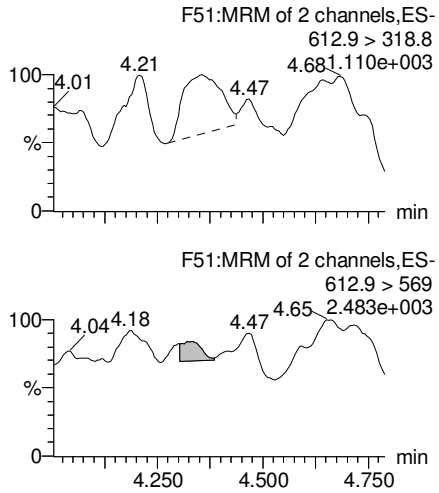
N-MeFOSAA



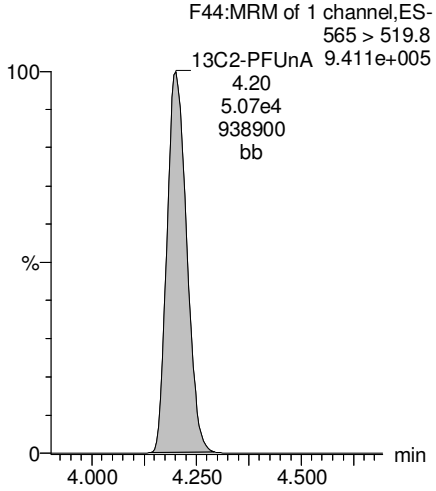
N-EtFOSAA



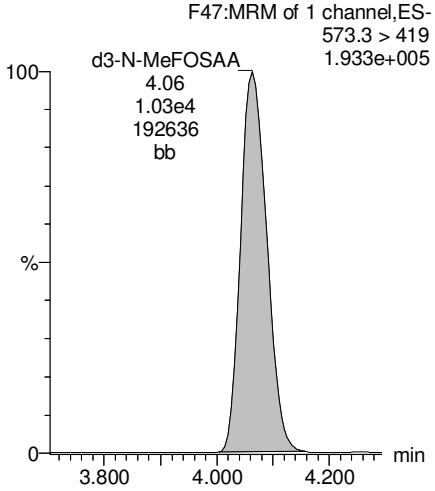
PFDoA



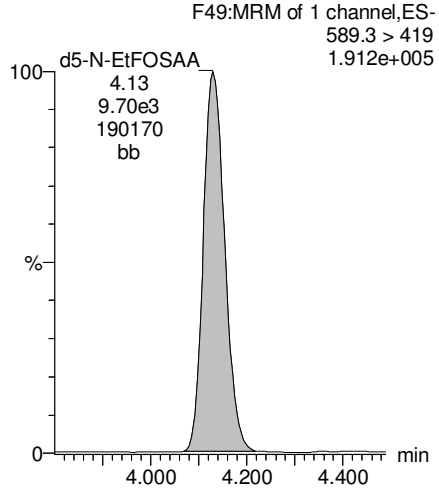
13C2-PFUnA



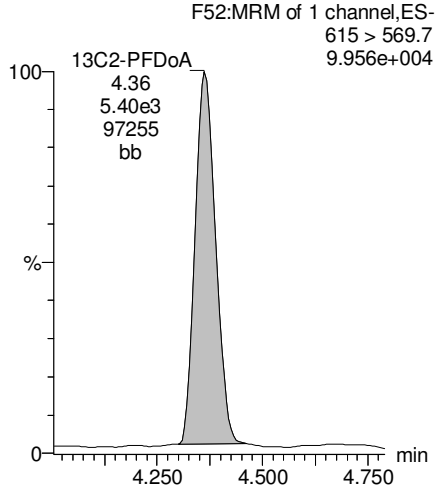
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



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Vista Analytical Laboratory

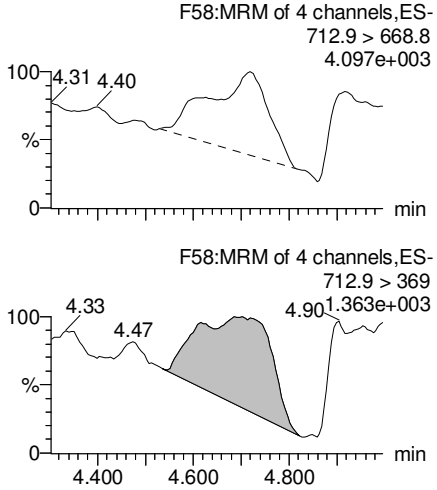
Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

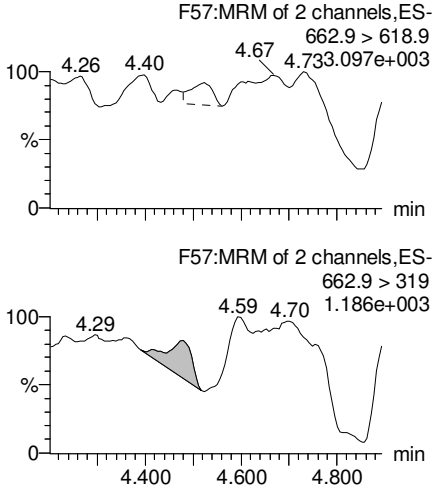
Reviewed: CT 08/03/2017

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

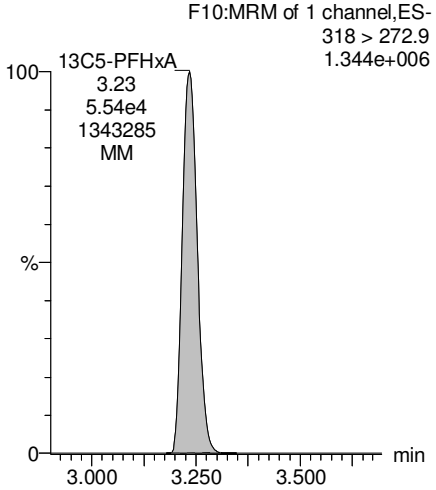
PFTeDA



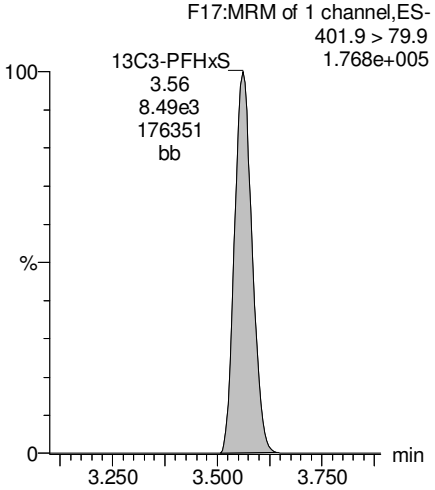
PFTrDA



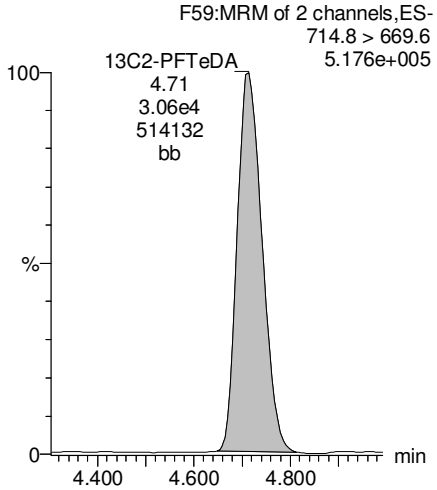
13C5-PFHxA



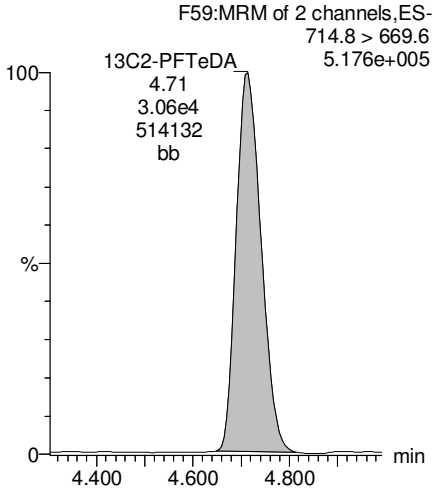
13C3-PFHxS



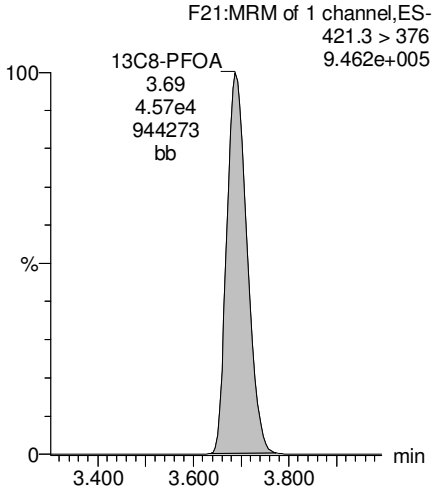
13C2-PFTeDA



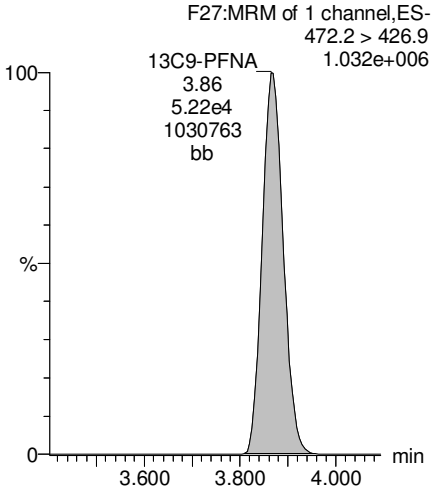
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



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Vista Analytical Laboratory

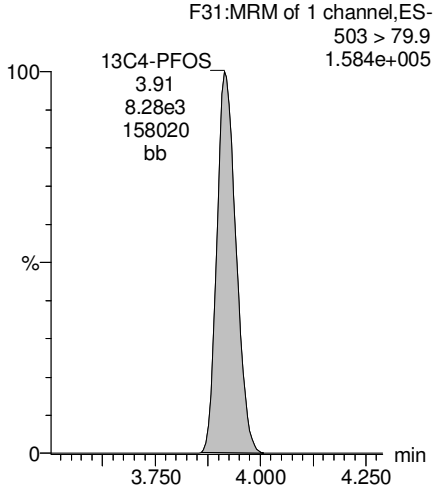
Dataset: U:\Q4.PRO\results\170725M1\170725M1-54.qld

Last Altered: Friday, July 28, 2017 09:30:19 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:31:16 Pacific Daylight Time

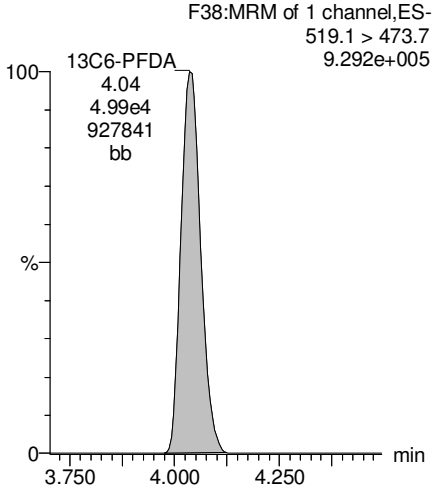
Reviewed: CT 08/03/2017

Name: 170725M1_54, Date: 25-Jul-2017, Time: 23:45:01, ID: 1700856-12RE1 MW-31S-20170711 0.11732, Description: MW-31S-20170711

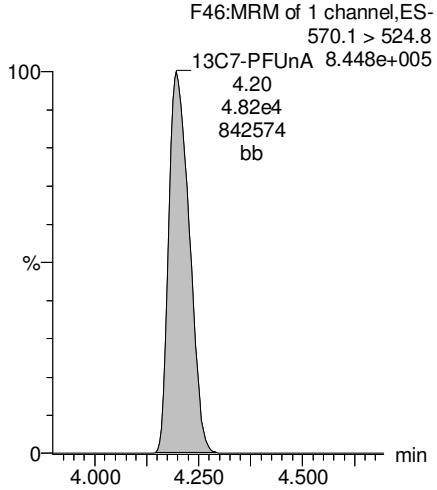
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-36.qld

Last Altered: Wednesday, August 02, 2017 11:09:51 Pacific Daylight Time
Printed: Wednesday, August 02, 2017 11:11:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_36, Date: 31-Jul-2017, Time: 18:34:49, ID: 1700856-12RE1@5X MW-31S-20170711 0.11732, Description: MW-31S-20170711

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	6	PFHxS	398.9 > 79.6	9.51e3	5.84e2	0.1173		3.56	3.50	203	1040	
2	11	PFOS	499 > 79.9	1.81e4	1.34e3	0.1173		3.89	3.86	169	1470	
3	25	18O2-PFHxS	403 > 102.6	5.84e2	1.15e3	0.1173	0.460	3.56	3.51	6.37	118	110.8
4	29	13C8-PFOS	507 > 79.9	1.34e3	1.07e3	0.1173	1.184	3.89	3.86	15.6	113	105.7
5	38	13C3-PFHxS	401.9 > 79.9	1.15e3	1.15e3	0.1173	1.000	3.56	3.50	12.5	107	100.0
6	41	13C4-PFOS	503 > 79.9	1.07e3	1.07e3	0.1173	1.000	3.89	3.86	12.5	107	100.0
7	45	Total PFHxS	398.9 > 79.6	9.51e3	5.84e2	0.1173		3.52		203	1040	
8	47	Total PFOS	499 > 79.9	1.81e4	1.34e3	0.1173		3.89		169	1470	

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-36.qld

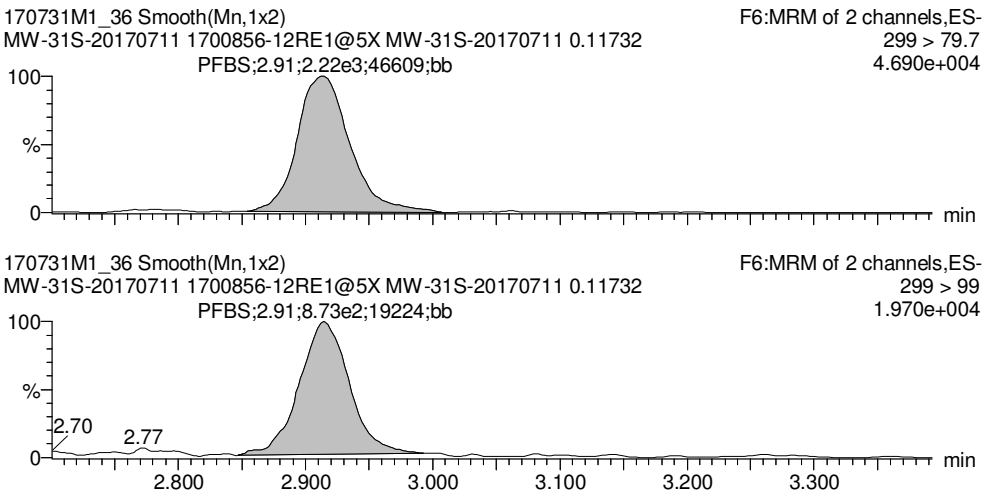
Last Altered: Wednesday, August 02, 2017 11:09:51 Pacific Daylight Time
Printed: Wednesday, August 02, 2017 11:11:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

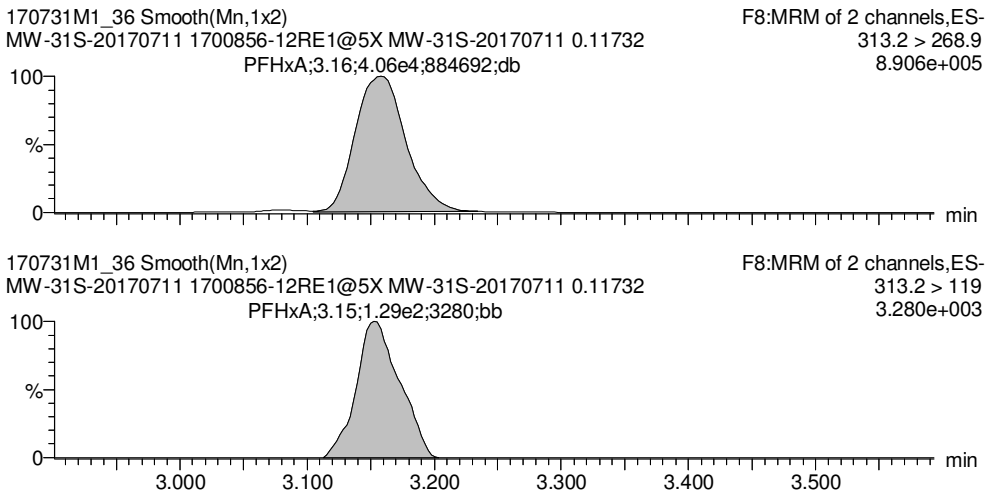
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_36, Date: 31-Jul-2017, Time: 18:34:49, ID: 1700856-12RE1@5X MW-31S-20170711 0.11732, Description: MW-31S-20170711

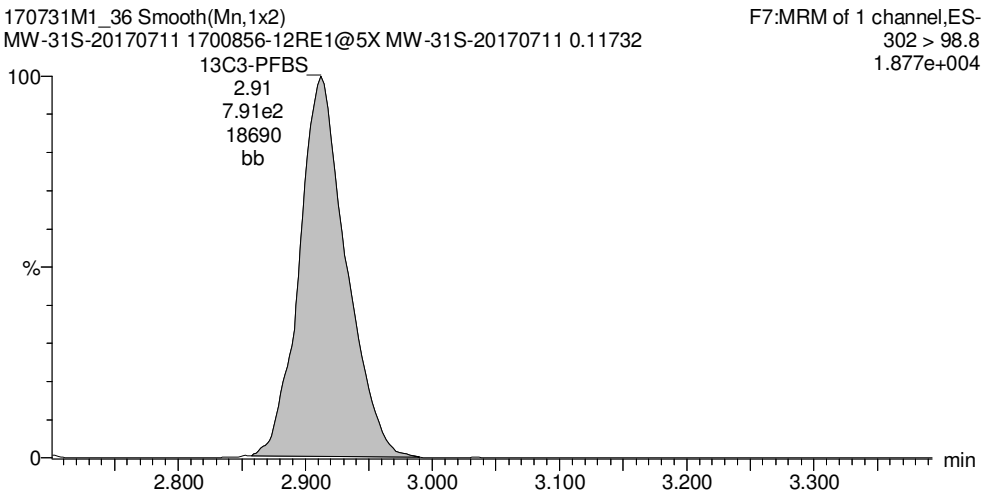
Total PFBS



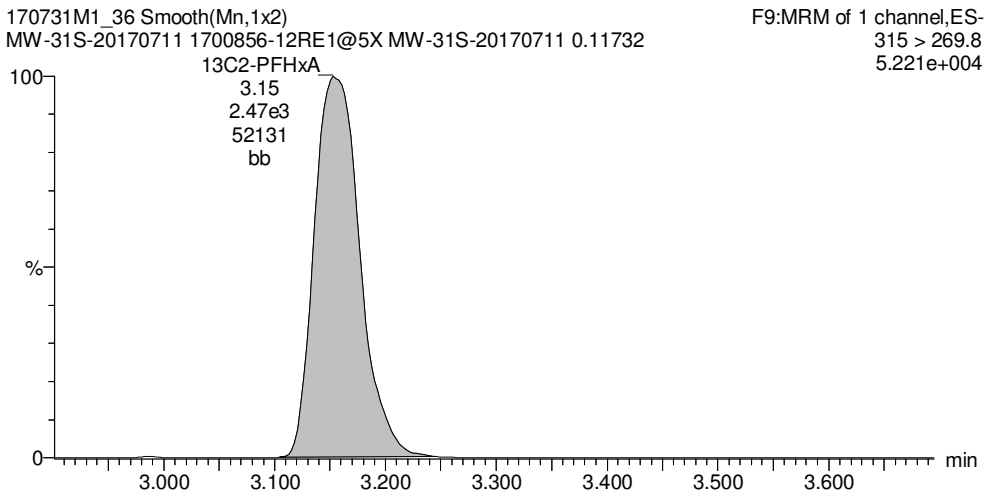
PFHxA



13C3-PFBS



13C2-PFHxA



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Vista Analytical Laboratory

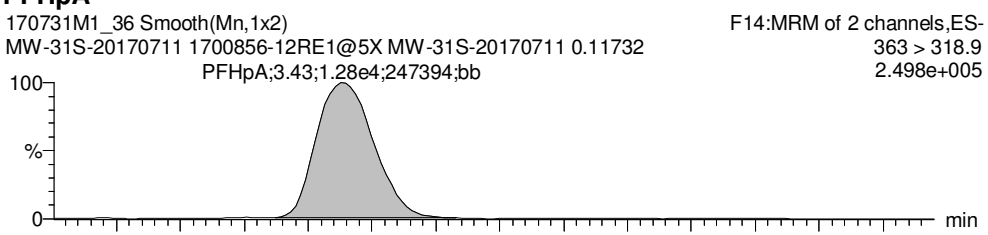
Dataset: U:\Q4.PRO\results\170731M1\170731M1-36.qld

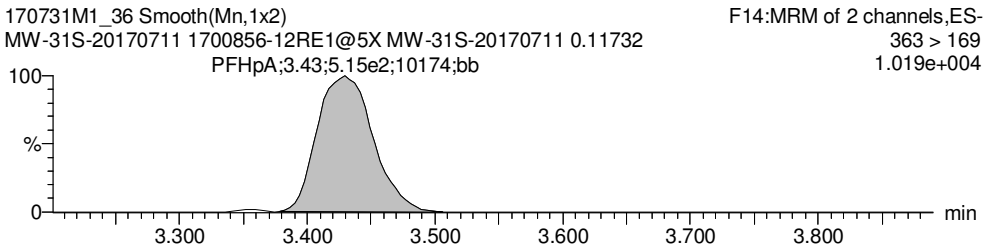
Last Altered: Wednesday, August 02, 2017 11:09:51 Pacific Daylight Time
Printed: Wednesday, August 02, 2017 11:11:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

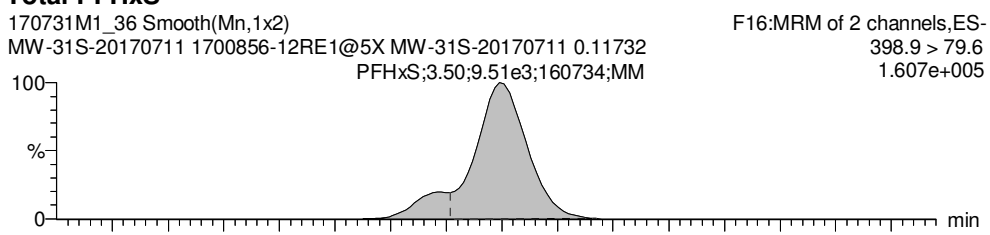
Name: 170731M1_36, Date: 31-Jul-2017, Time: 18:34:49, ID: 1700856-12RE1@5X MW-31S-20170711 0.11732, Description: MW-31S-20170711

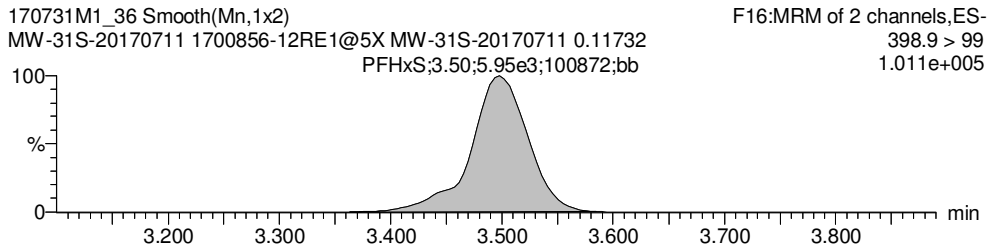
PFHpA





Total PFHxS





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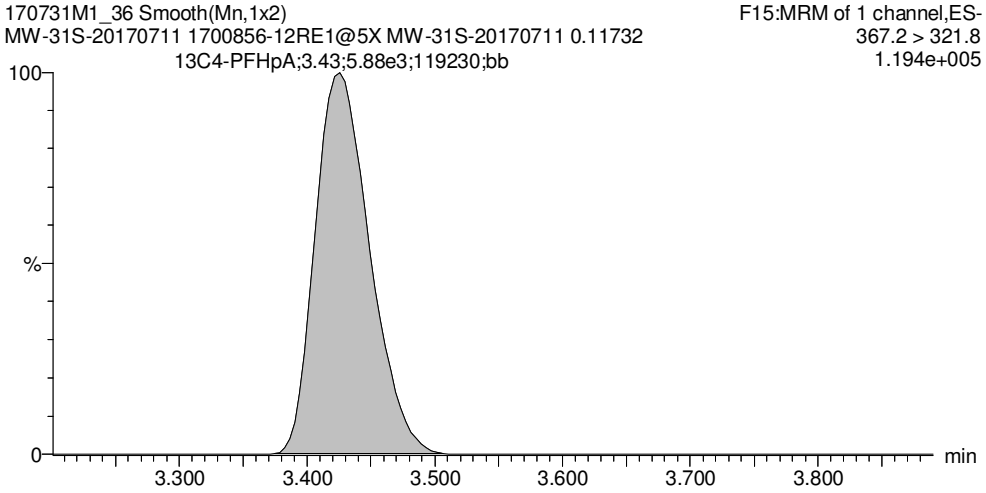

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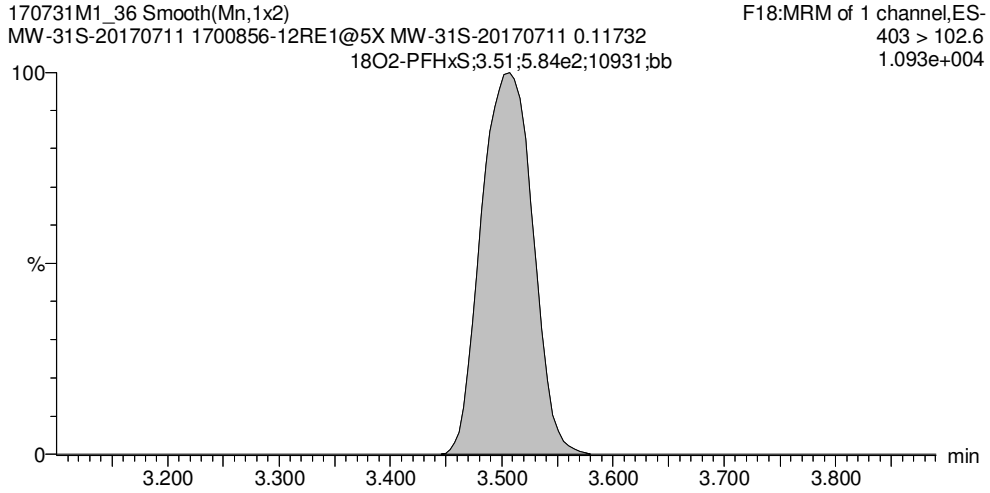

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Vista Analytical Laboratory

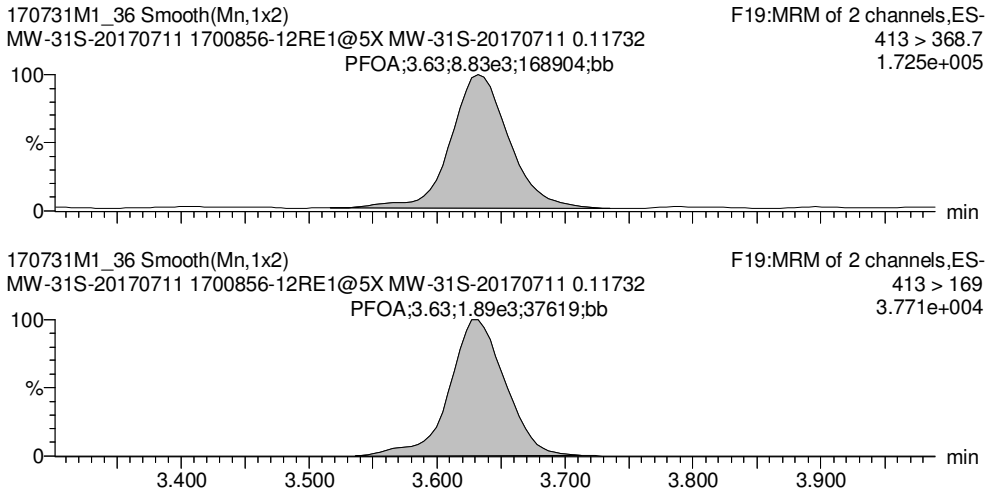
Dataset: U:\Q4.PRO\results\170731M1\170731M1-36.qld

Last Altered: Wednesday, August 02, 2017 11:09:51 Pacific Daylight Time
Printed: Wednesday, August 02, 2017 11:11:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170731M1_36, Date: 31-Jul-2017, Time: 18:34:49, ID: 1700856-12RE1@5X MW-31S-20170711 0.11732, Description: MW-31S-20170711

Total PFOA



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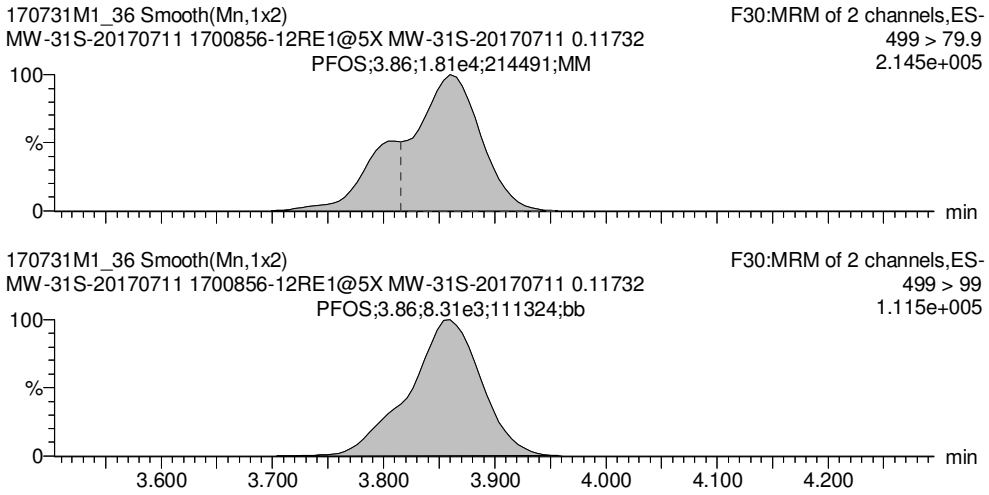

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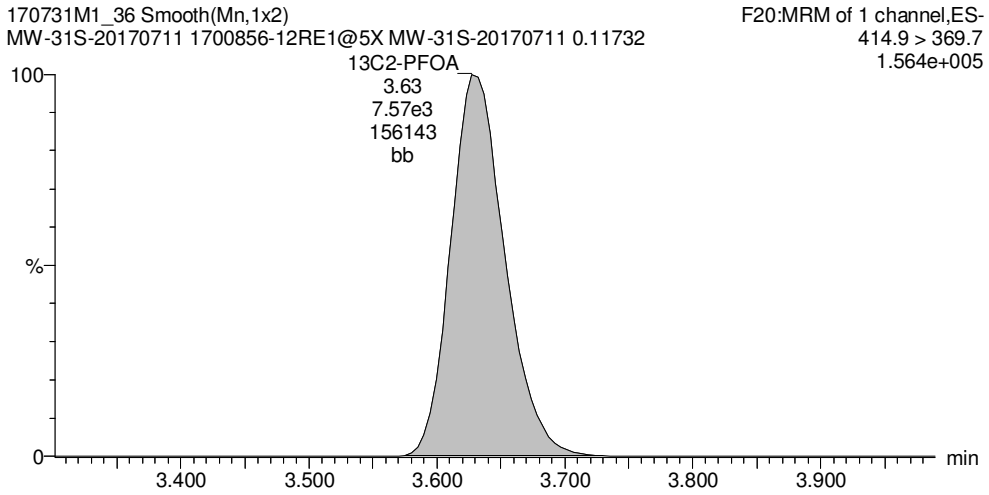

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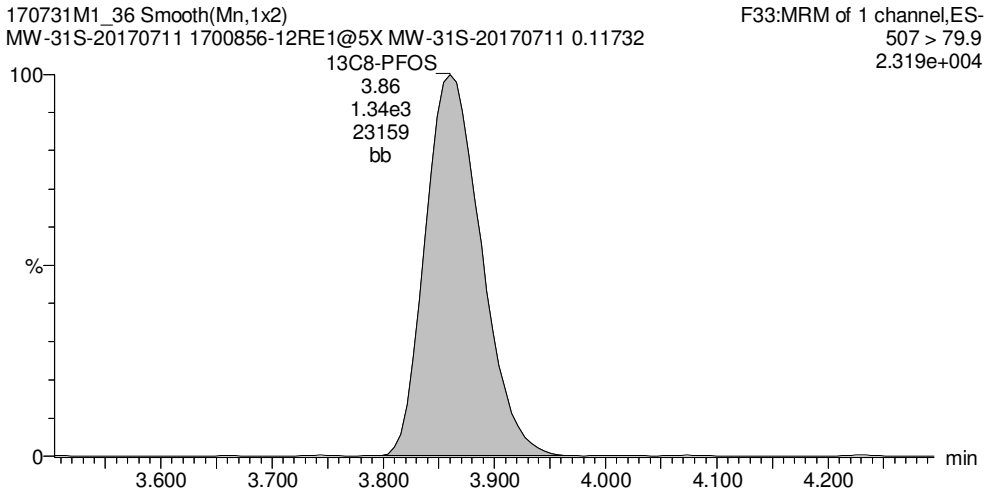

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-36.qld

Last Altered: Wednesday, August 02, 2017 11:09:51 Pacific Daylight Time
Printed: Wednesday, August 02, 2017 11:11:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170731M1_36, Date: 31-Jul-2017, Time: 18:34:49, ID: 1700856-12RE1@5X MW-31S-20170711 0.11732, Description: MW-31S-20170711

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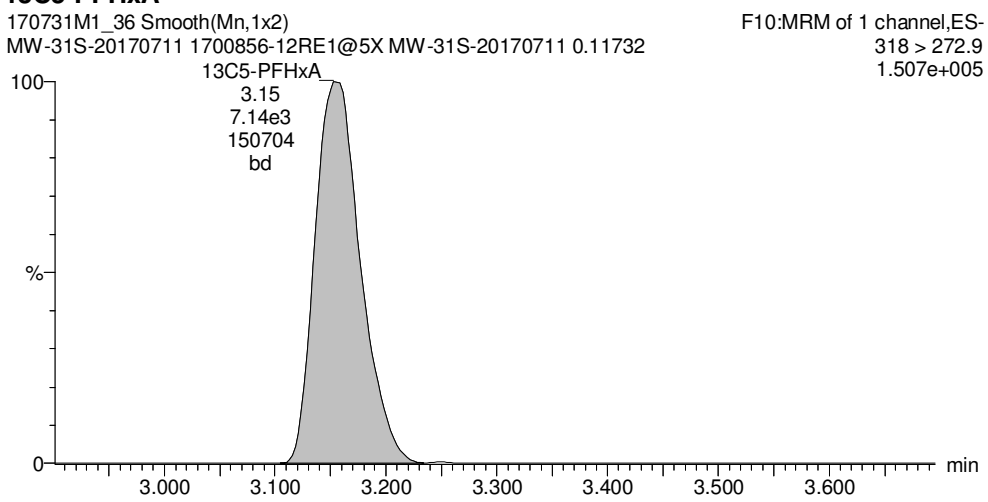

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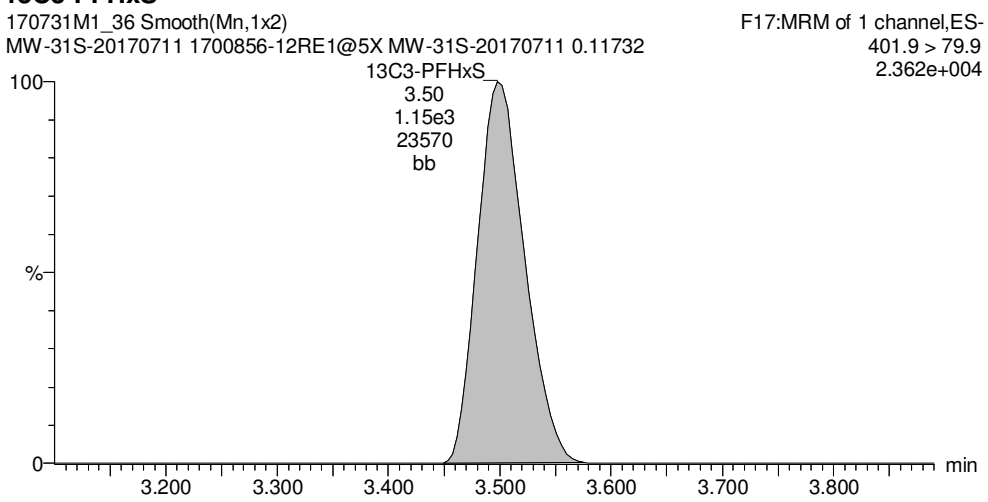

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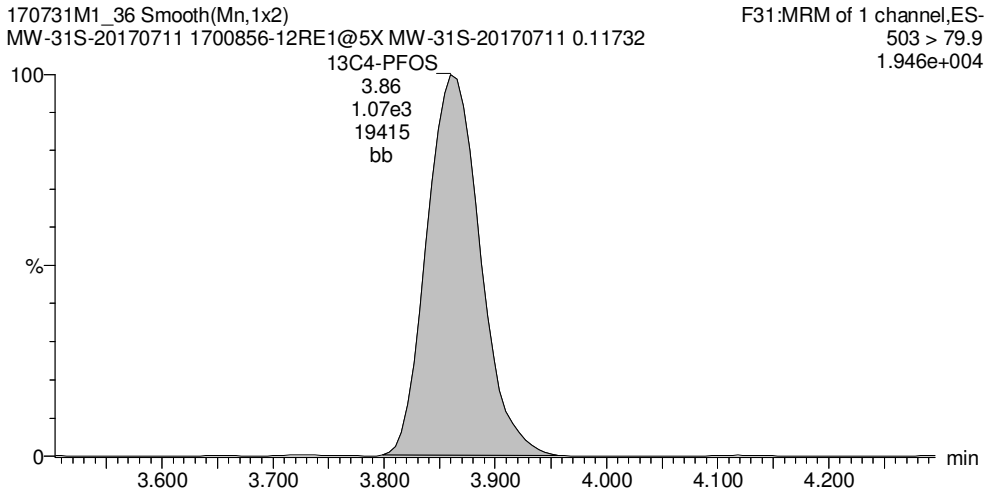

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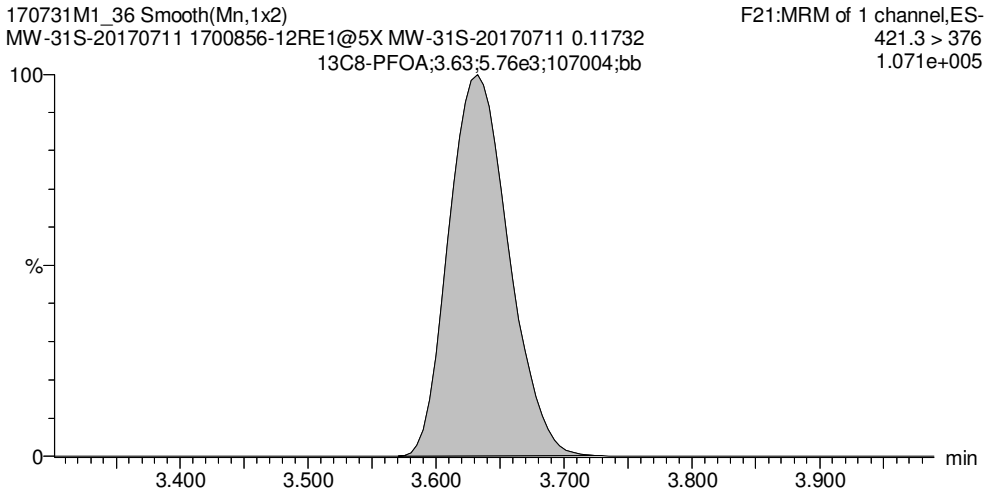

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Vista Analytical Laboratory

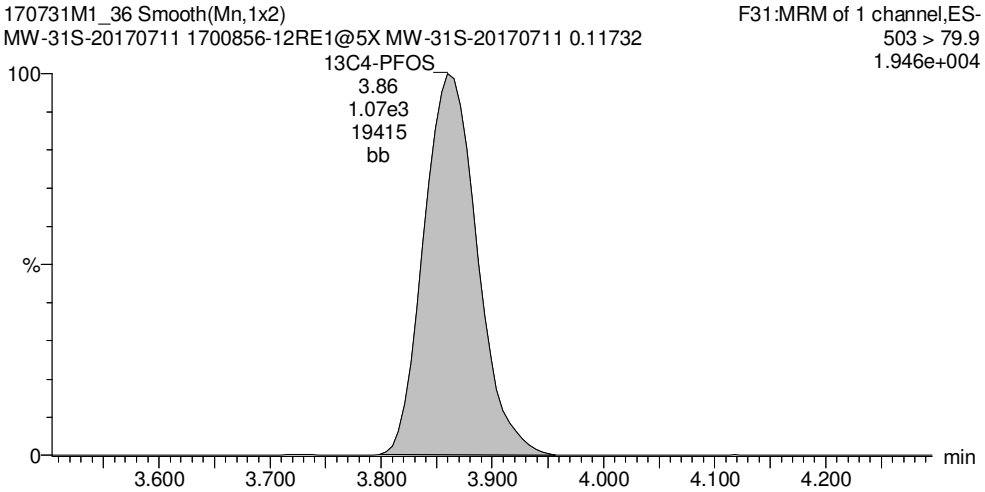
Dataset: U:\Q4.PRO\results\170731M1\170731M1-36.qld

Last Altered: Wednesday, August 02, 2017 11:09:51 Pacific Daylight Time
Printed: Wednesday, August 02, 2017 11:11:16 Pacific Daylight Time

Reviewed: CT 08/03/2017

Name: 170731M1_36, Date: 31-Jul-2017, Time: 18:34:49, ID: 1700856-12RE1@5X MW-31S-20170711 0.11732, Description: MW-31S-20170711

13C4-PFOS



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CONTINUING CALIBRATION

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-33.qld

Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

AC 7/26/17

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.43e4	1.63e4		1.54	1.57	10.9	9.55	95.5
2	2	PFPeA	263.1 > 218.9	2.57e4	3.30e4		2.77	2.81	9.73	9.70	97.0
3	3	PFBS	299 > 79.7	6.10e3	3.98e3		2.96	3.01	19.2	10.3	103.1
4	4	PFHxA	313.2 > 268.9	4.11e4	1.44e4		3.19	3.22	14.2	9.32	93.2
5	5	PFHpA	363 > 318.9	3.95e4	4.12e4		3.45	3.49	12.0	9.50	95.0
6	6	PFHxS	398.9 > 79.6	5.08e3	3.97e3		3.56	3.56	16.0	9.46	94.6
7	7	6:2 FTS	427.1 > 407	8.56e3	9.21e3		3.64	3.67	11.6	11.0	110.3
8	8	PFOA	413 > 368.7	5.55e4	7.29e4		3.65	3.68	9.52	9.60	96.0
9	9	PFHpS	448.9 > 98.8	5.62e3	7.29e4		3.71	3.74	0.963	10.7	106.9
10	10	PFNA	462.9 > 418.8	6.16e4	7.10e4		3.83	3.86	10.8	9.74	97.4
11	11	PFOSA	498.1 > 77.8	6.26e3	7.52e3		3.84	3.86	10.4	9.87	98.7
12	12	PFOS	499 > 79.9	1.16e4	1.42e4		3.89	3.91	10.3	8.68	86.8
13	13	PFDA	513 > 468.8	7.26e4	6.58e4		4.01	4.03	13.8	10.5	105.3
14	14	8:2 FTS	527 > 506.9	8.13e3	7.65e3		4.00	4.02	13.3	9.00	90.0
15	15	N-MeFOSAA	570.1 > 419	1.84e4	1.52e4		4.03	4.06	197	9.92	99.2
16	16	N-EtFOSAA	584.2 > 419	1.48e4	1.60e4		4.10	4.12	151	9.33	93.3
17	17	PFUnA	562.9 > 518.9	5.06e4	7.51e4		4.17	4.19	8.42	9.54	95.4
18	18	PFDS	598.9 > 98.7	5.02e3	7.51e4		4.22	4.24	0.836	9.39	93.9
19	19	PFDoA	612.9 > 318.8	5.65e3	8.10e3		4.34	4.36	8.71	9.23	92.3
20	20	N-MeFOSA	512.1 > 168.9	1.07e4	3.19e4		4.29	4.43	50.5	48.4	96.9
21	21	PFTrDA	662.9 > 618.9	7.23e4	8.10e3		4.50	4.52	112	10.0	100.5
22	22	PFTeDA	712.9 > 668.8	5.07e4	5.79e4		4.68	4.71	10.9	9.49	94.9
23	23	N-EtFOSA	526.1 > 168.9	1.31e4	4.40e4		4.87	5.01	44.9	49.3	98.5
24	24	PFHxDA	812.8 > 768.9	7.13e4	2.76e4		5.06	5.07	12.9	9.43	94.3
25	25	PFODA	912.8 > 868.8	7.00e4	2.76e4		5.43	5.44	12.7	9.85	98.5
26	26	N-MeFOSE	616.1 > 58.9	1.60e4	4.72e4		5.42	5.44	50.7	49.5	99.0
27	27	N-EtFOSE	630.1 > 58.9	1.80e4	4.69e4		5.59	5.61	57.7	49.0	98.1
28	28	13C3-PFBA	216.1 > 171.8	1.63e4	1.99e4	0.820	1.54	1.57	10.3	12.5	100.1
29	29	13C3-PFPeA	266 > 221.8	3.30e4	5.08e4	0.248	2.77	2.81	3.25	13.1	104.6
30	30	13C3-PFBS	302 > 98.8	3.98e3	5.08e4	0.031	2.96	3.00	0.392	12.6	100.8
31	31	13C2-PFHxA	315 > 269.8	1.44e4	5.08e4	0.276	3.19	3.23	1.42	5.14	102.8

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-33.qld

Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.12e4	5.08e4	0.306	3.45	3.48	4.05	13.3	106.1
33	33	18O2-PFHxS	403 > 102.6	3.97e3	9.30e3	0.393	3.56	3.56	5.33	13.6	108.6
34	34	13C2-6:2 FTS	429.1 > 408.9	9.21e3	6.63e4	0.158	3.64	3.67	1.74	11.0	88.1
35	35	13C2-PFOA	414.9 > 369.7	7.29e4	6.63e4	1.067	3.65	3.68	13.7	12.9	103.0
36	36	13C5-PFNA	468.2 > 422.9	7.10e4	8.58e4	0.852	3.83	3.86	10.3	12.1	97.1
37	37	13C8-PFOSA	506.1 > 77.7	7.52e3	6.80e4	0.098	3.84	3.87	1.38	14.1	112.6
38	38	13C8-PFOS	507 > 79.9	1.42e4	1.42e4	0.936	3.89	3.91	12.5	13.3	106.5
39	39	13C2-PFDA	515.1 > 469.9	6.58e4	8.33e4	0.810	4.01	4.03	9.88	12.2	97.6
40	40	13C2-8:2 FTS	529.1 > 508.7	7.65e3	8.33e4	0.086	4.00	4.02	1.15	13.4	107.3
41	41	d3-N-MeFOSAA	573.3 > 419	1.52e4	6.80e4	0.014	4.03	4.06	2.79	204	125.4
42	42	d5-N-EtFOSAA	589.3 > 419	1.60e4	6.80e4	0.014	4.12	4.12	2.94	211	129.7
43	43	13C2-PFUnA	565 > 519.8	7.51e4	6.80e4	0.962	4.17	4.19	13.8	14.3	114.8
44	44	13C2-PFDoA	615 > 569.7	8.10e3	6.80e4	0.094	4.34	4.36	1.49	15.8	126.2
45	45	d3-N-MeFOSA	515.2 > 168.9	3.19e4	6.80e4	0.034	4.29	4.48	5.87	171	113.7
46	46	13C2-PFTeDA	714.8 > 669.6	5.79e4	6.80e4	0.694	4.68	4.70	10.6	15.3	122.7
47	47	d5-N-ETFOSA	531.1 > 168.9	4.40e4	6.80e4	0.049	5.01	5.04	8.08	166	110.7
48	48	13C2-PFHxDA	815 > 769.7	2.76e4	6.80e4	0.843	5.06	5.08	5.08	6.03	120.5
49	49	d7-N-MeFOSE	623.1 > 58.9	4.72e4	6.80e4	0.055	5.42	5.43	8.68	159	105.9
50	50	d9-N-EtFOSE	639.2 > 58.8	4.69e4	6.80e4	0.053	5.59	5.60	8.61	161	107.5
51	51	13C4-PFBA	217 > 171.8	1.99e4	1.99e4	1.000	1.54	1.57	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.08e4	5.08e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	9.30e3	9.30e3	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	6.63e4	6.63e4	1.000	3.65	3.68	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.58e4	8.58e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.42e4	1.42e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.33e4	8.33e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	6.80e4	6.80e4	1.000	4.17	4.20	12.5	12.5	100.0

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Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
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2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
31	170725M1_31	1700852-09RE1 1-GW-02-MW209-20170711 ...	25-Jul-17	19:38:30

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

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Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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66	170725M1_66	B7G0033-MSD1@20X Matrix Spike Dup 0.124	26-Jul-17	01:55:28
67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-33.qld

Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

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Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

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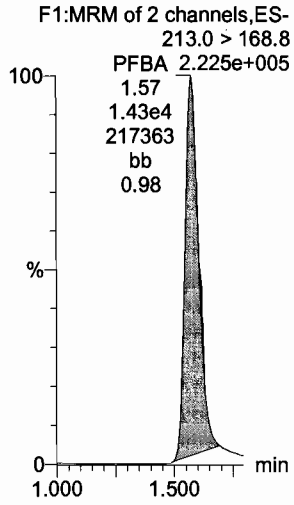

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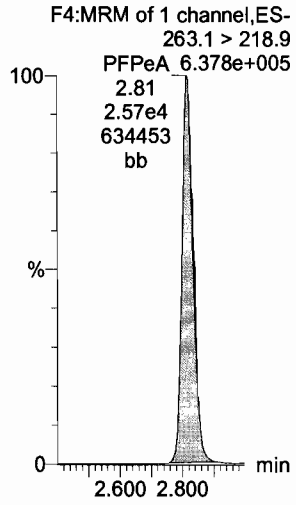

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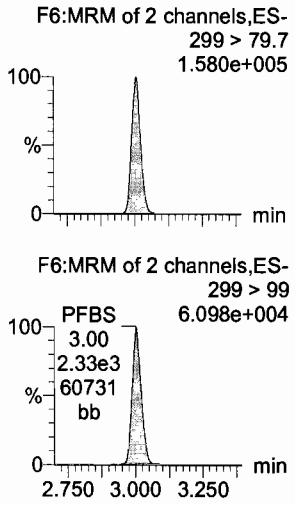

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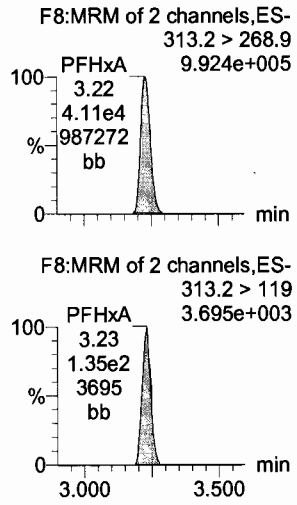

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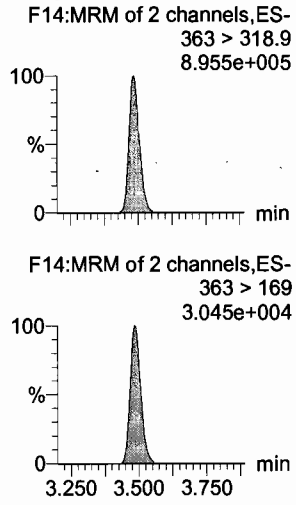

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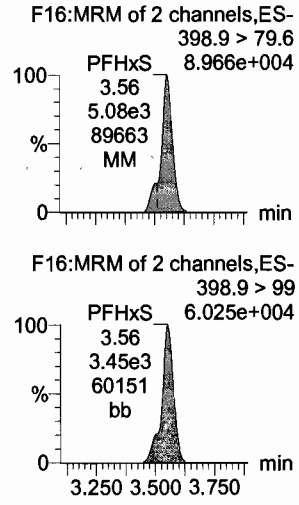

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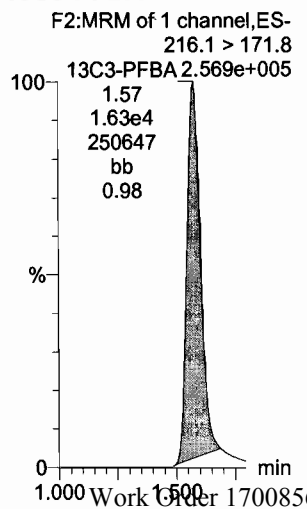

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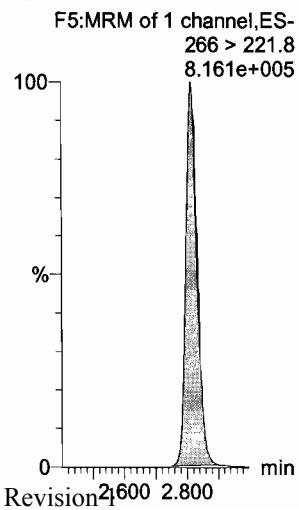

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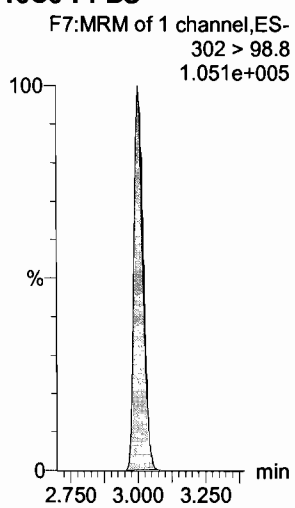

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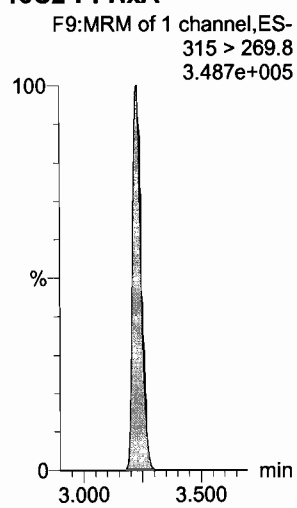

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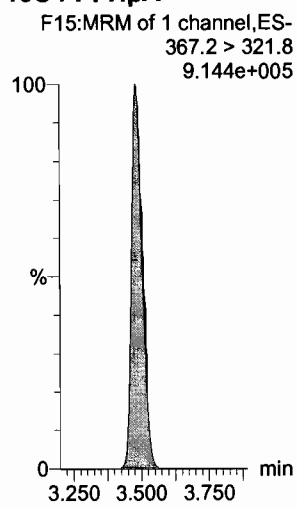
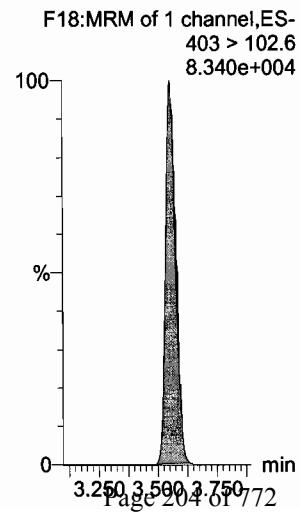


18O2-PFHxS



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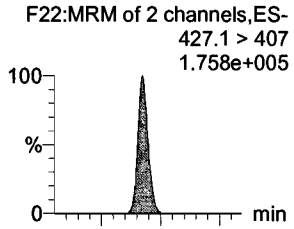
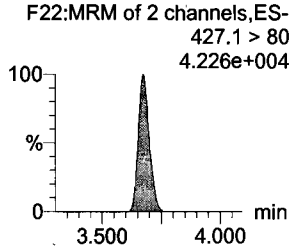
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

6:2 FTS





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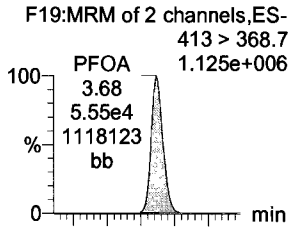

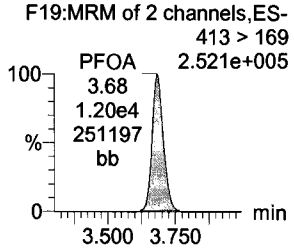

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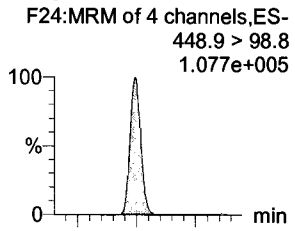

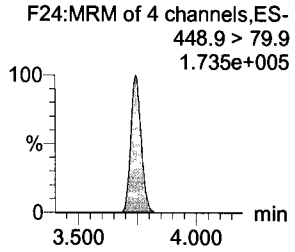

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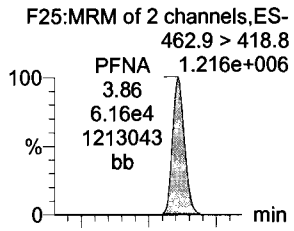

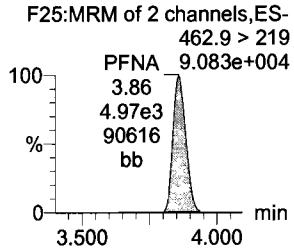

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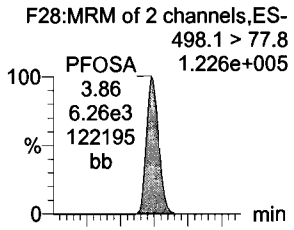

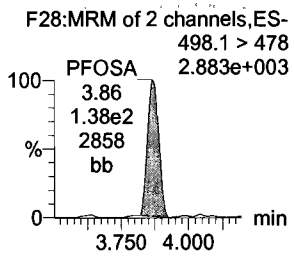

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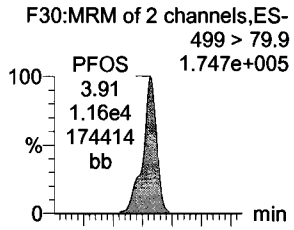

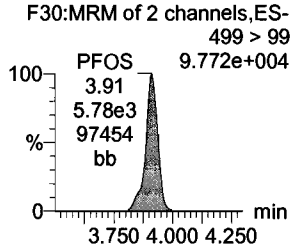

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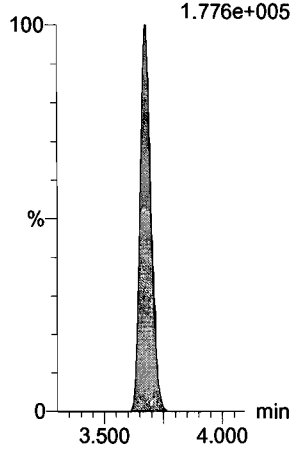

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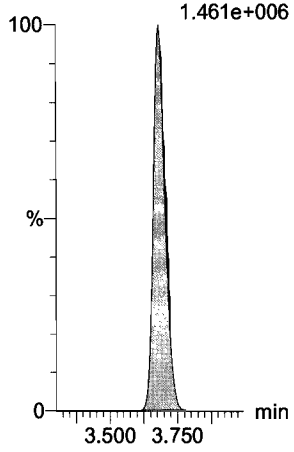

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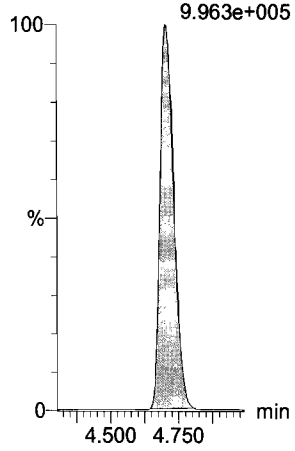

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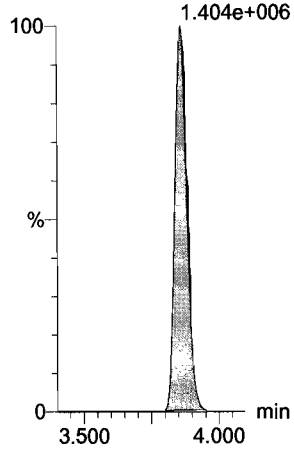

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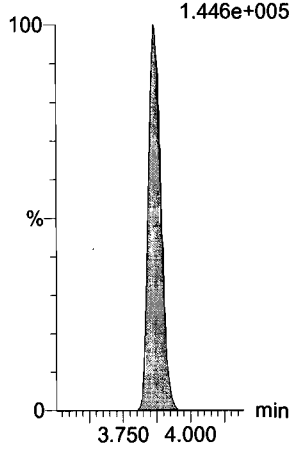

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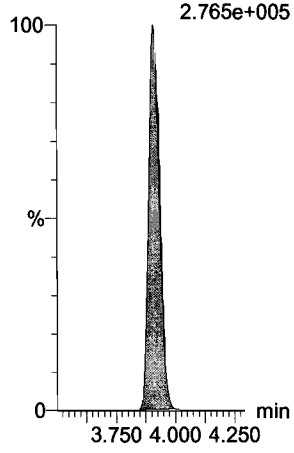

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Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

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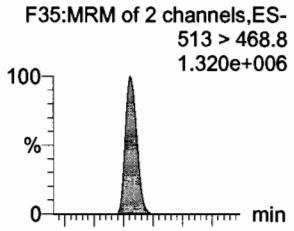
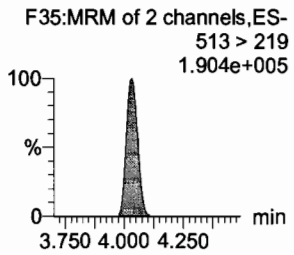
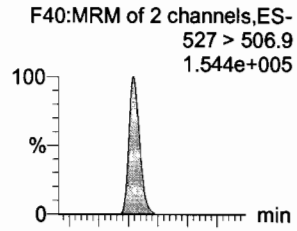
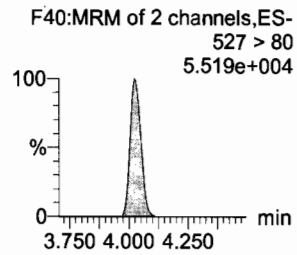




8:2 FTS





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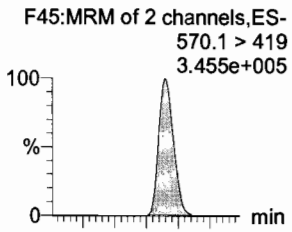

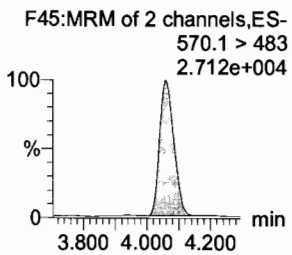

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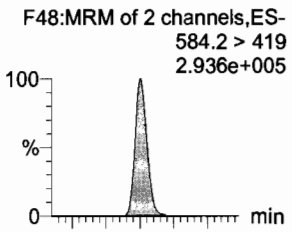

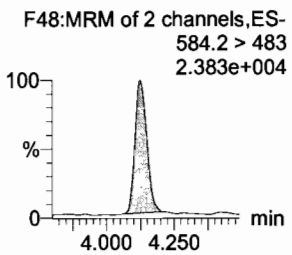

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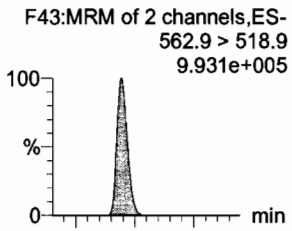

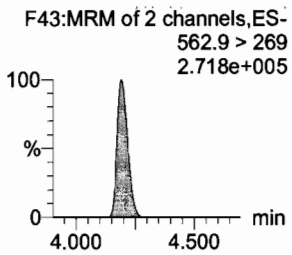

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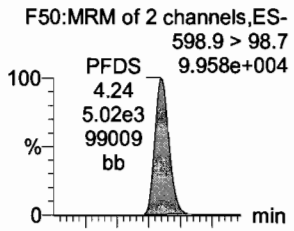

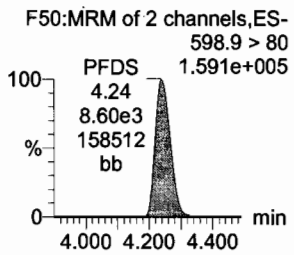

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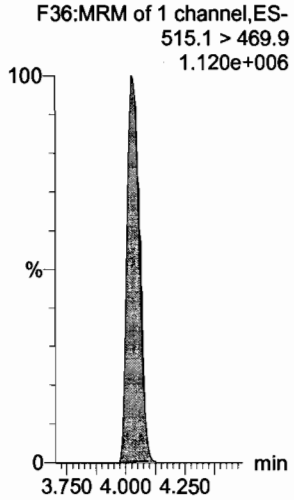

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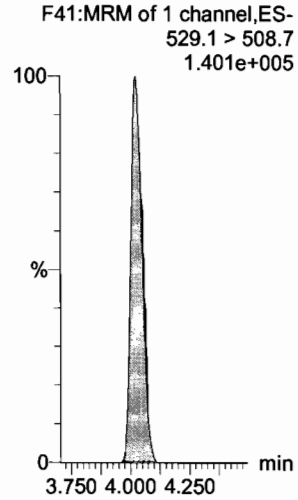

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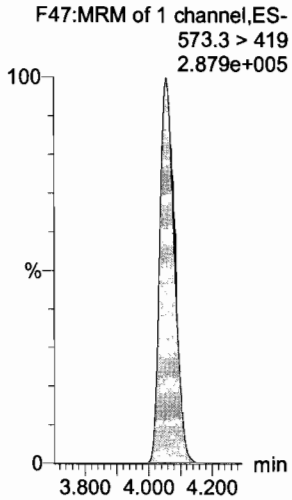

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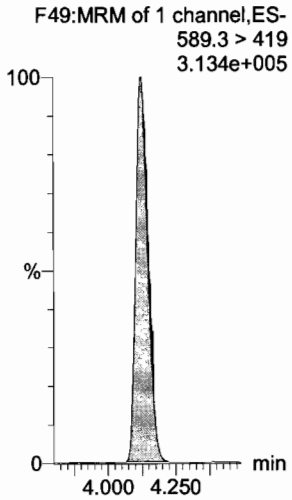
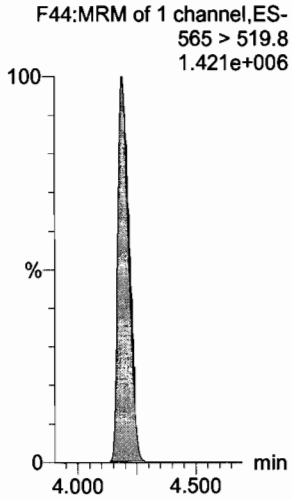
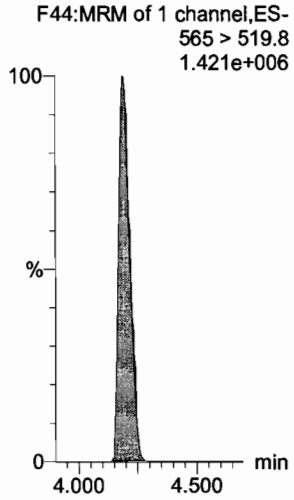


13C2-PFUnA



13C2-PFUnA



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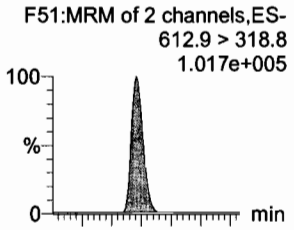
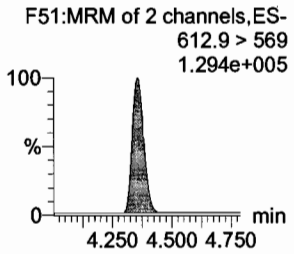
Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

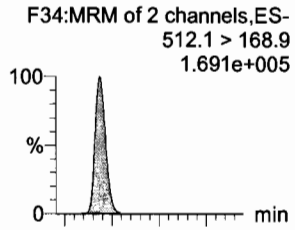
Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

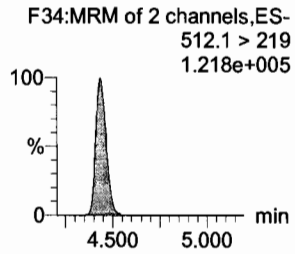
PFDoA



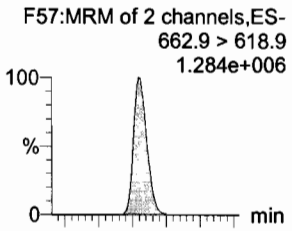


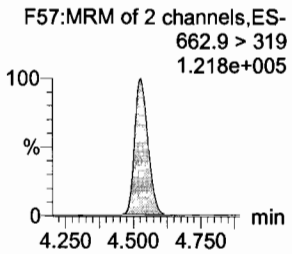
N-MeFOSA



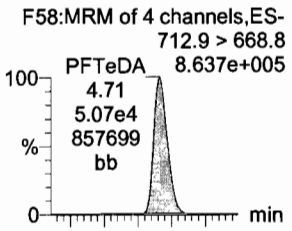


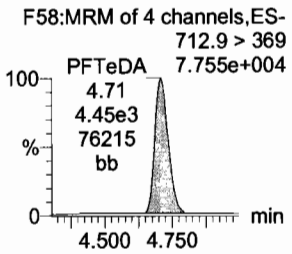
PFTrDA



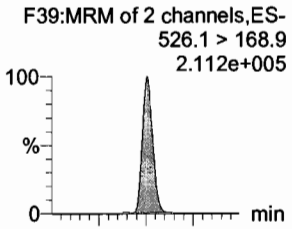


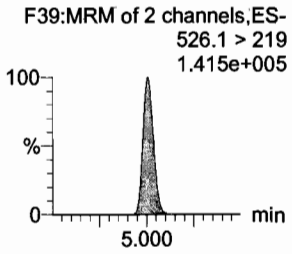
PFTeDA



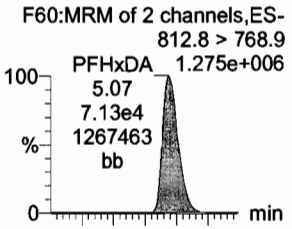


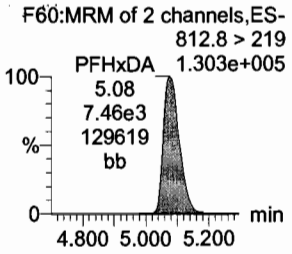
N-EtFOSA



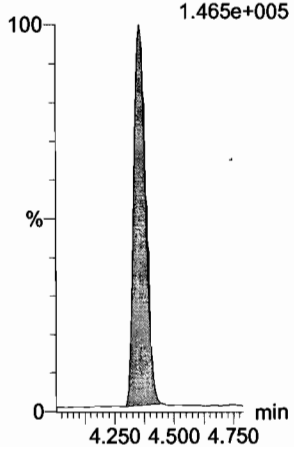


PFHxDA

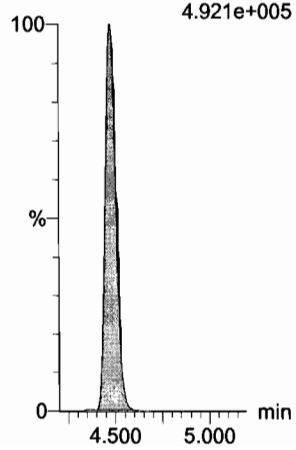




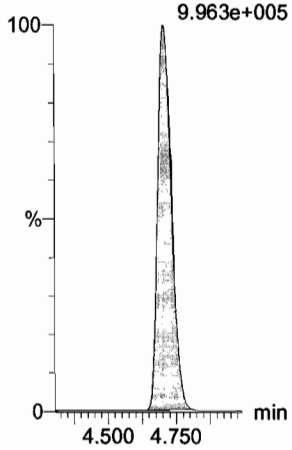
13C2-PFDoA



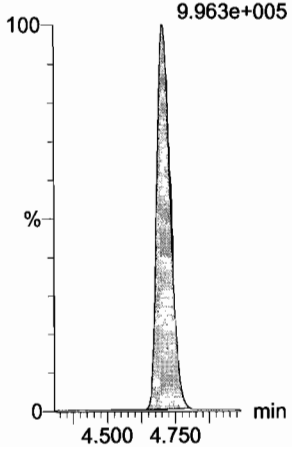
d3-N-MeFOSA



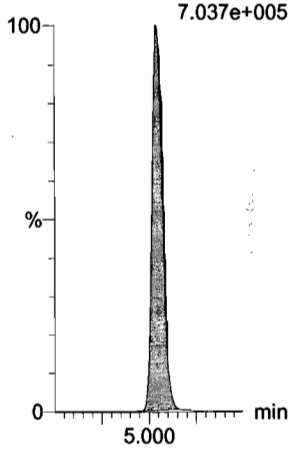
13C2-PFTeDA



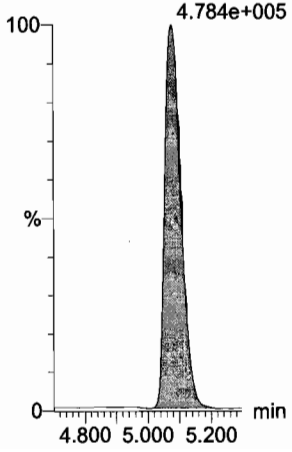
13C2-PFTeDA



d5-N-ETFOSA



13C2-PFHxDA



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Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
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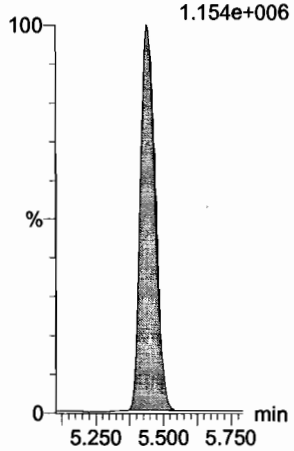
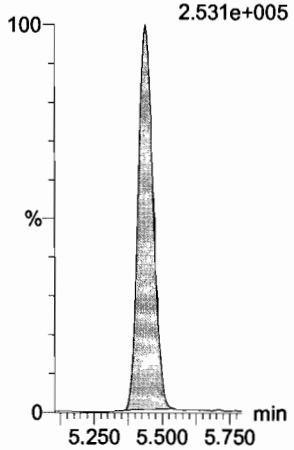
Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

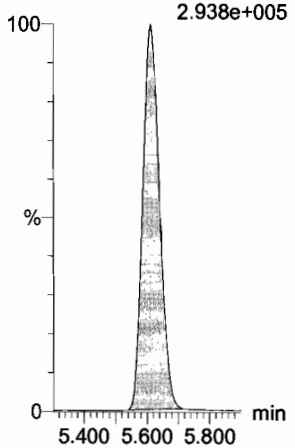
PFODA
F62:MRM of 4 channels,ES-
912.8 > 868.8
1.154e+006



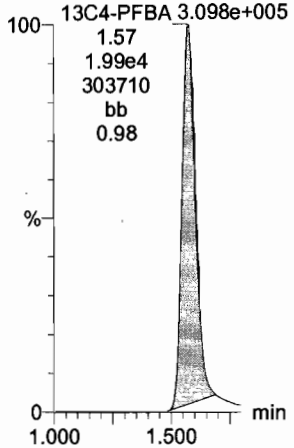
N-MeFOSE
F53:MRM of 1 channel,ES-
616.1 > 58.9
2.531e+005



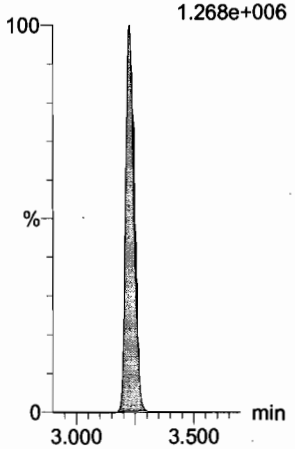
N-EtFOSE
F55:MRM of 1 channel,ES-
630.1 > 58.9
2.938e+005



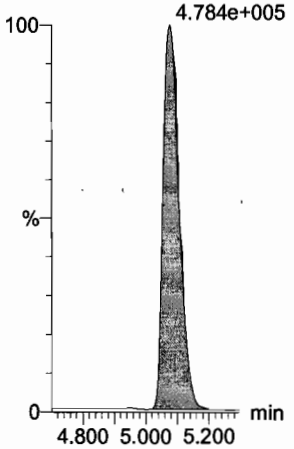
13C4-PFBA
F3:MRM of 1 channel,ES-
217 > 171.8
13C4-PFBA 3.098e+005



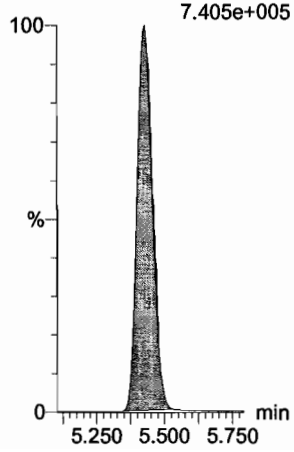
13C5-PFHxA
F10:MRM of 1 channel,ES-
318 > 272.9
1.268e+006



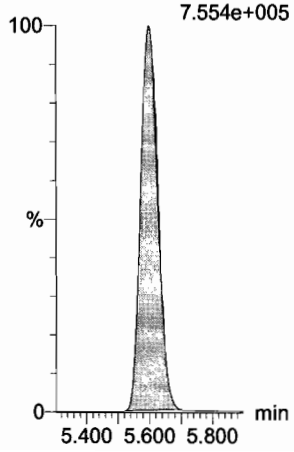
13C2-PFHxDA
F61:MRM of 1 channel,ES-
815 > 769.7
4.784e+005



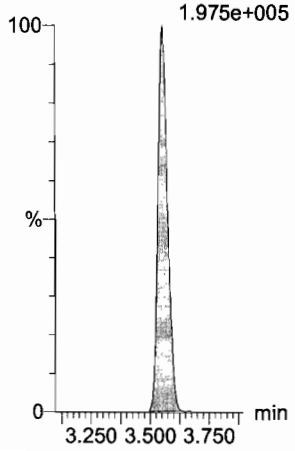
d7-N-MeFOSE
F54:MRM of 1 channel,ES-
623.1 > 58.9
7.405e+005



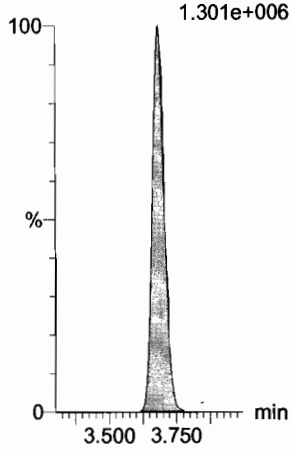
d9-N-EtFOSE
F56:MRM of 1 channel,ES-
639.2 > 58.8
7.554e+005



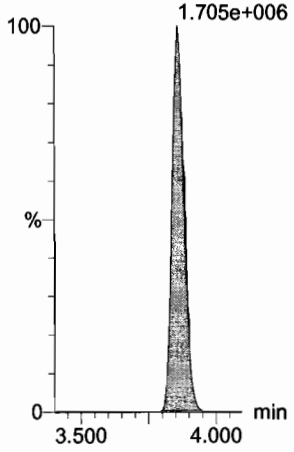
13C3-PFHxS
F17:MRM of 1 channel,ES-
401.9 > 79.9
1.975e+005



13C8-PFOA
F21:MRM of 1 channel,ES-
421.3 > 376
1.301e+006



13C9-PFNA
F27:MRM of 1 channel,ES-
472.2 > 426.9
1.705e+006



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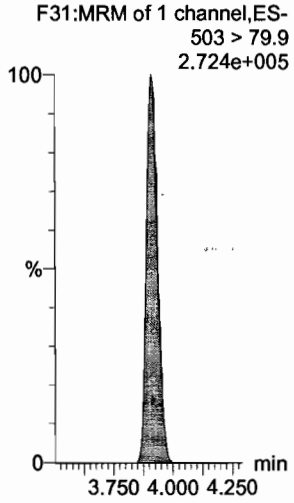
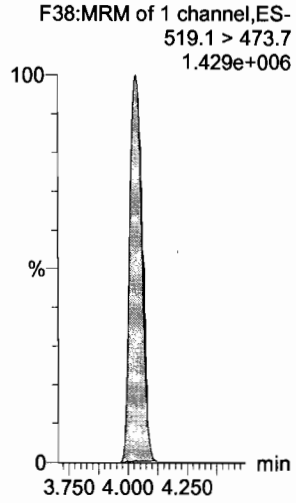
Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

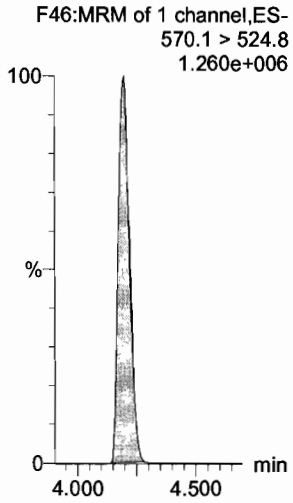
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
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AC 7/26/17

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.49e4	1.71e4		1.54	1.58	10.9	9.52	95.2
2	2	PFPeA	263.1 > 218.9	2.65e4	3.47e4		2.77	2.82	9.57	9.54	95.4
3	3	PFBS	299 > 79.7	6.14e3	4.30e3		2.96	3.01	17.8	9.59	95.9
4	4	PFHxA	313.2 > 268.9	4.45e4	1.57e4		3.19	3.23	14.2	9.32	93.2
5	5	PFHpA	363 > 318.9	4.13e4	4.43e4		3.45	3.49	11.6	9.23	92.3
6	6	PFHxS	398.9 > 79.6	5.59e3	4.02e3		3.56	3.56	17.4	10.3	102.8
7	7	6:2 FTS	427.1 > 407	8.69e3	1.04e4		3.64	3.68	10.4	9.87	98.7
8	8	PFOA	413 > 368.7	6.44e4	7.91e4		3.65	3.69	10.2	10.3	102.9
9	9	PFHpS	448.9 > 98.8	5.87e3	7.91e4		3.71	3.75	0.927	10.3	102.9
10	10	PFNA	462.9 > 418.8	6.72e4	7.16e4		3.83	3.86	11.7	10.6	105.6
11	11	PFOSA	498.1 > 77.8	6.08e3	7.73e3		3.84	3.88	9.84	9.33	93.3
12	12	PFOS	499 > 79.9	1.14e4	1.38e4		3.89	3.91	10.3	8.69	86.9
13	13	PFDA	513 > 468.8	6.75e4	6.64e4		4.01	4.04	12.7	9.69	96.9
14	14	8:2 FTS	527 > 506.9	8.09e3	7.23e3		4.00	4.03	14.0	9.50	95.0
15	15	N-MeFOSAA	570.1 > 419	1.90e4	1.54e4		4.03	4.06	200	10.1	100.9
16	16	N-EtFOSAA	584.2 > 419	1.50e4	1.62e4		4.10	4.13	151	9.35	93.5
17	17	PFUnA	562.9 > 518.9	5.27e4	7.67e4		4.17	4.20	8.58	9.73	97.3
18	18	PFDS	598.9 > 98.7	5.12e3	7.67e4		4.22	4.24	0.835	9.38	93.8
19	19	PFDoA	612.9 > 318.8	5.82e3	8.31e3		4.34	4.36	8.76	9.27	92.7
20	20	N-MeFOSA	512.1 > 168.9	1.09e4	3.26e4		4.29	4.45	50.3	48.2	96.5
21	21	PFTrDA	662.9 > 618.9	7.61e4	8.31e3		4.50	4.53	114	10.3	103.1
22	22	PFTeDA	712.9 > 668.8	5.14e4	5.71e4		4.68	4.71	11.3	9.76	97.6
23	23	N-EtFOSA	526.1 > 168.9	1.37e4	4.48e4		4.87	5.01	45.8	50.3	100.5
24	24	PFHxDA	812.8 > 768.9	7.15e4	2.70e4		5.06	5.08	13.2	9.68	96.8
25	25	PFODA	912.8 > 868.8	6.82e4	2.70e4		5.43	5.44	12.6	9.83	98.3
26	26	N-MeFOSE	616.1 > 58.9	1.61e4	4.83e4		5.42	5.44	49.9	48.7	97.3
27	27	N-EtFOSE	630.1 > 58.9	1.83e4	4.86e4		5.59	5.61	56.5	48.0	96.1
28	28	13C3-PFBA	216.1 > 171.8	1.71e4	2.01e4	0.820	1.54	1.58	10.6	13.0	103.8
29	29	13C3-PFPeA	266 > 221.8	3.47e4	5.52e4	0.248	2.77	2.82	3.14	12.6	101.1
30	30	13C3-PFBS	302 > 98.8	4.30e3	5.52e4	0.031	2.96	3.01	0.389	12.5	100.1
31	31	13C2-PFHxA	315 > 269.8	1.57e4	5.52e4	0.276	3.19	3.23	1.42	5.13	102.6

70-130

50-150

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
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Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.43e4	5.52e4	0.306	3.45	3.49	4.01	13.1	105.0
33	33	18O2-PFHxS	403 > 102.6	4.02e3	1.03e4	0.393	3.56	3.56	4.89	12.5	99.7
34	34	13C2-6:2 FTS	429.1 > 408.9	1.04e4	7.52e4	0.158	3.64	3.68	1.73	11.0	87.8
35	35	13C2-PFOA	414.9 > 369.7	7.91e4	7.52e4	1.067	3.65	3.69	13.1	12.3	98.5
36	36	13C5-PFNA	468.2 > 422.9	7.16e4	8.12e4	0.852	3.83	3.86	11.0	12.9	103.4
37	37	13C8-PFOSA	506.1 > 77.7	7.73e3	7.68e4	0.098	3.84	3.87	1.26	12.8	102.4
38	38	13C8-PFOS	507 > 79.9	1.38e4	1.44e4	0.936	3.89	3.91	12.0	12.8	102.7
39	39	13C2-PFDA	515.1 > 469.9	6.64e4	8.67e4	0.810	4.01	4.04	9.58	11.8	94.6
40	40	13C2-8:2 FTS	529.1 > 508.7	7.23e3	8.67e4	0.086	4.00	4.03	1.04	12.2	97.5
41	41	d3-N-MeFOSAA	573.3 > 419	1.54e4	7.68e4	0.014	4.03	4.06	2.51	183	112.6
42	42	d5-N-EtFOSAA	589.3 > 419	1.62e4	7.68e4	0.014	4.12	4.13	2.63	189	116.1
43	43	13C2-PFUnA	565 > 519.8	7.67e4	7.68e4	0.962	4.17	4.20	12.5	13.0	103.8
44	44	13C2-PFDoA	615 > 569.7	8.31e3	7.68e4	0.094	4.34	4.36	1.35	14.3	114.6
45	45	d3-N-MeFOSA	515.2 > 168.9	3.26e4	7.68e4	0.034	4.29	4.48	5.30	154	102.6
46	46	13C2-PFTeDA	714.8 > 669.6	5.71e4	7.68e4	0.694	4.68	4.71	9.29	13.4	107.0
47	47	d5-N-ETFOSA	531.1 > 168.9	4.48e4	7.68e4	0.049	5.01	5.05	7.29	150	99.8
48	48	13C2-PFHxDA	815 > 769.7	2.70e4	7.68e4	0.843	5.06	5.08	4.39	5.21	104.2
49	49	d7-N-MeFOSE	623.1 > 58.9	4.83e4	7.68e4	0.055	5.42	5.43	7.85	144	95.8
50	50	d9-N-EtFOSE	639.2 > 58.8	4.86e4	7.68e4	0.053	5.59	5.60	7.91	148	98.7
51	51	13C4-PFBA	217 > 171.8	2.01e4	2.01e4	1.000	1.54	1.58	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.52e4	5.52e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	1.03e4	1.03e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.52e4	7.52e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.12e4	8.12e4	1.000	3.83	3.87	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.44e4	1.44e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.67e4	8.67e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	7.68e4	7.68e4	1.000	4.17	4.20	12.5	12.5	100.0

50-150

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

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1	170725M1_1	IPA	25-Jul-17	14:15:31
2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
31	170725M1_31	1700852-09RE1 1-GW-02-MW209-20170711 ...	25-Jul-17	19:38:30

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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33	170725M1_33	ST170725M1-3 PFC CS3 17G2503	25-Jul-17	20:00:29
34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

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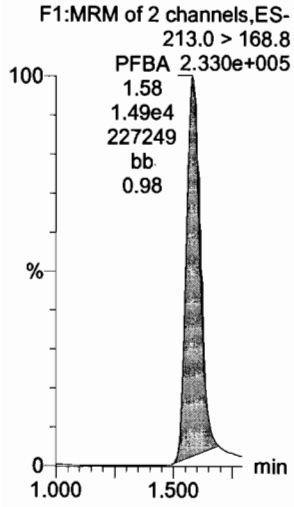

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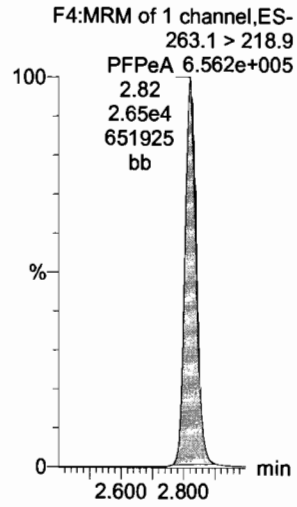

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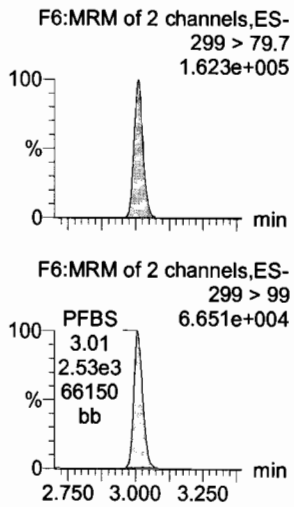

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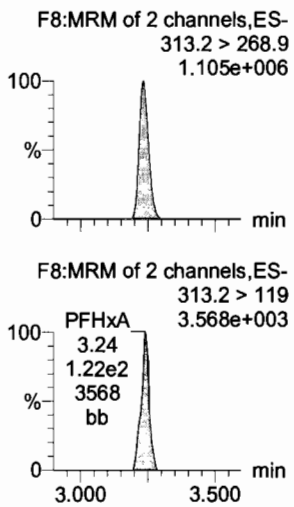

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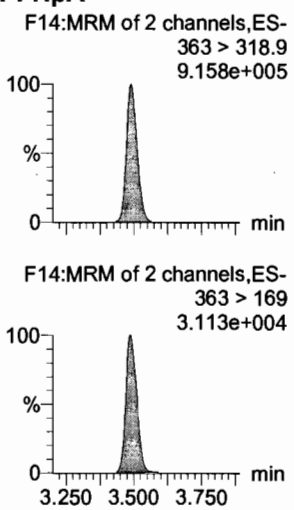

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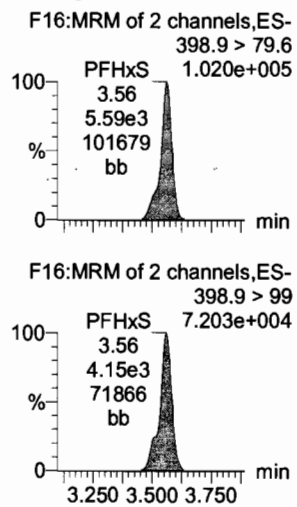

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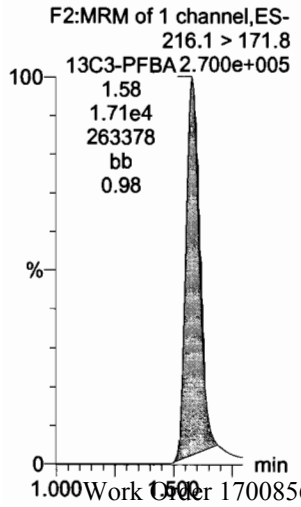

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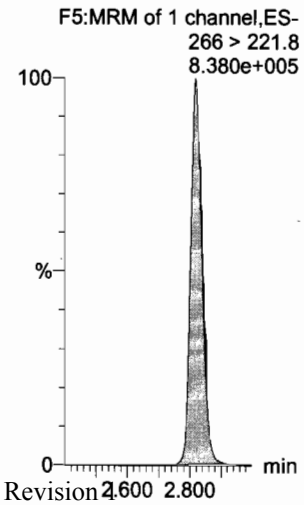

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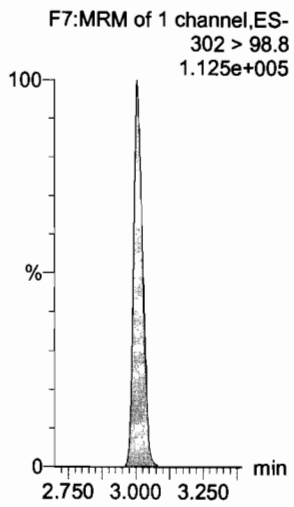

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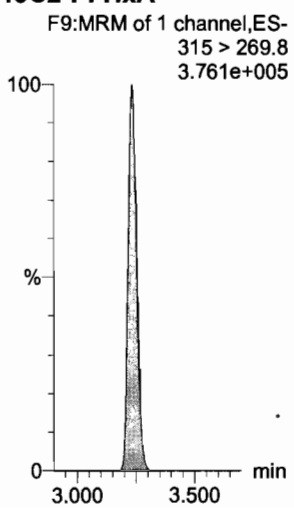

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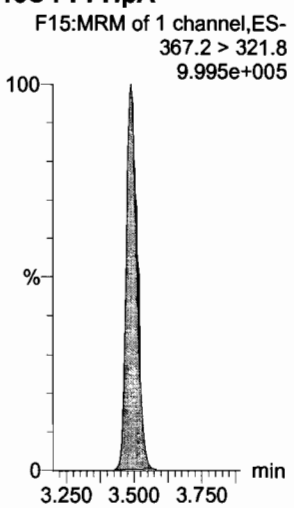
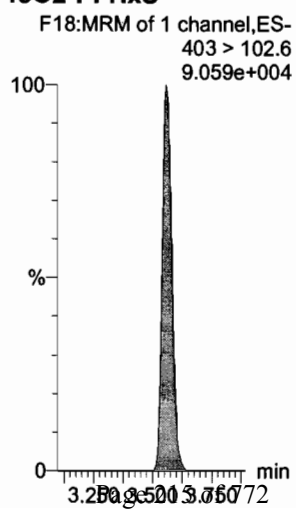


18O2-PFHxS



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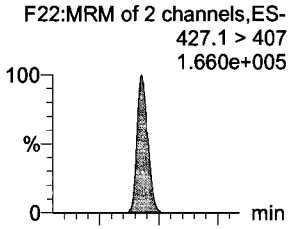
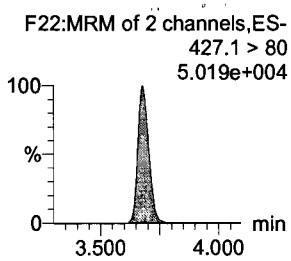
Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

6:2 FTS





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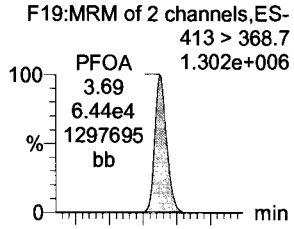

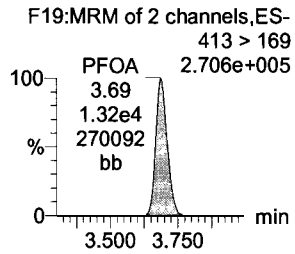

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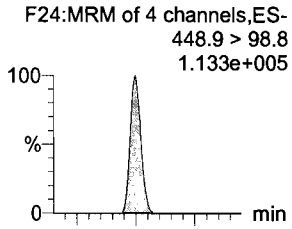

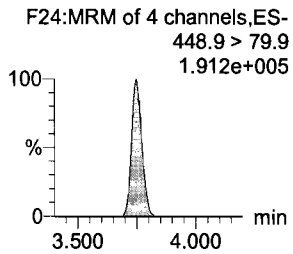

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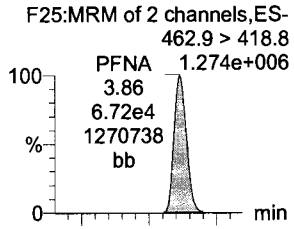

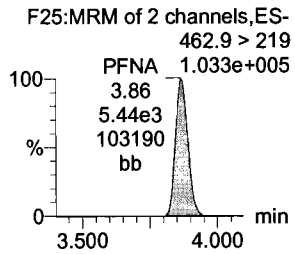

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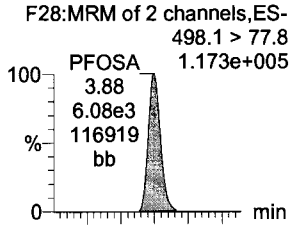

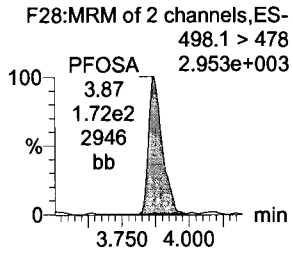

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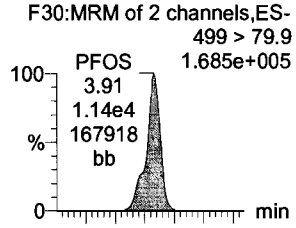

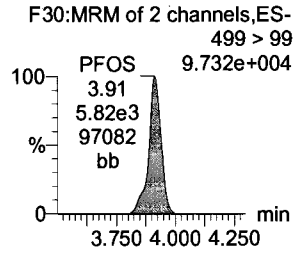

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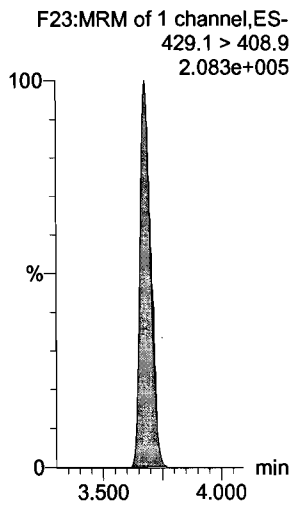

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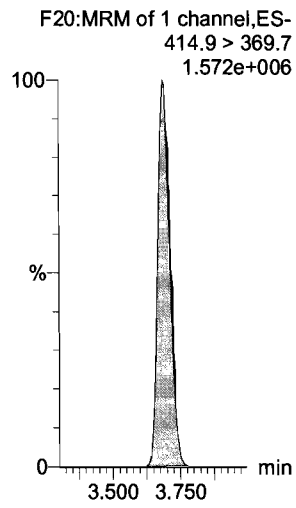

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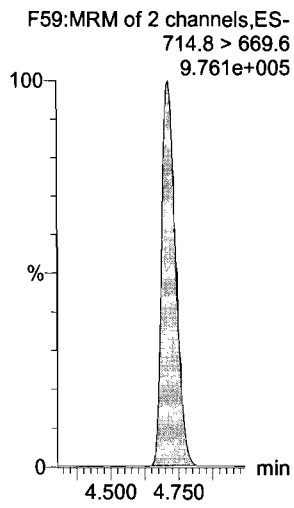
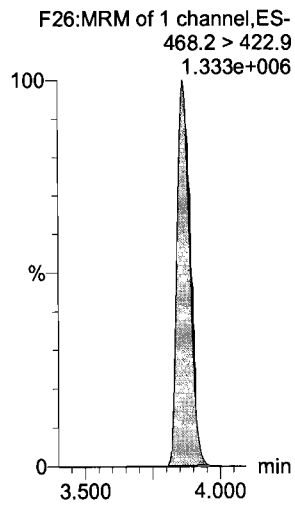


13C5-PFNA



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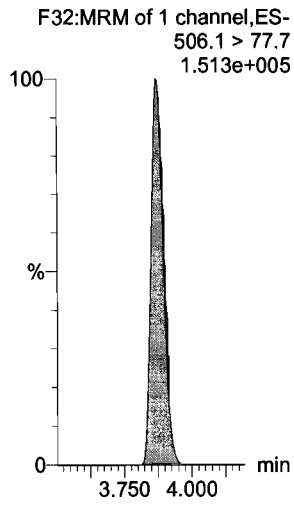

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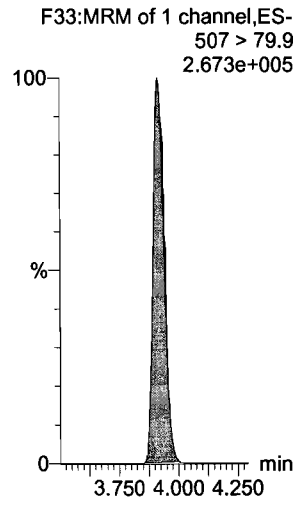

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Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

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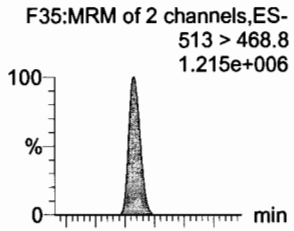

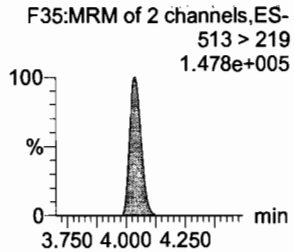

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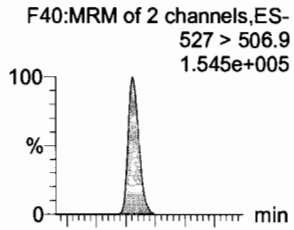

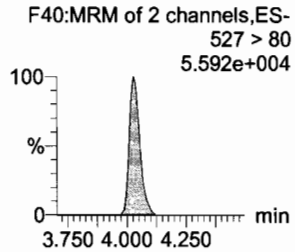

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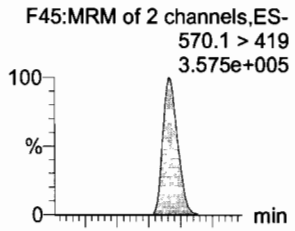

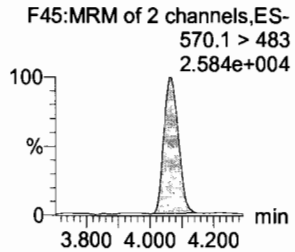

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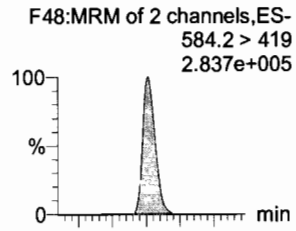

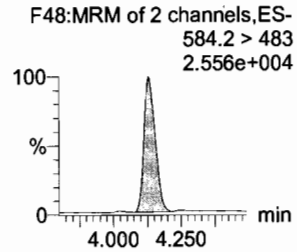

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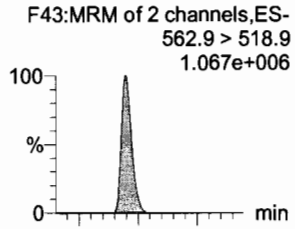

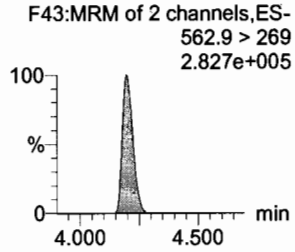

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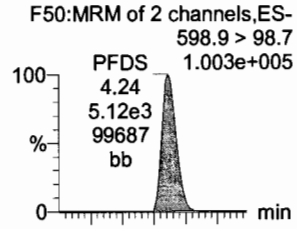

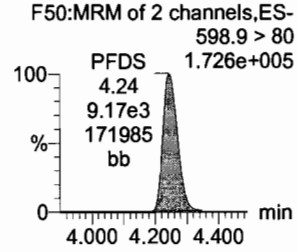

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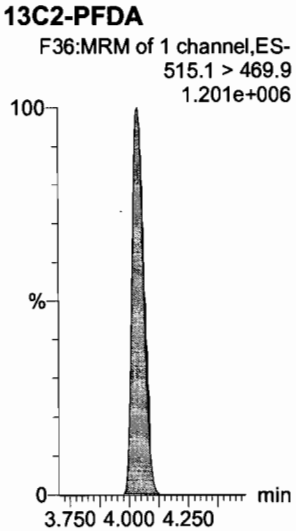

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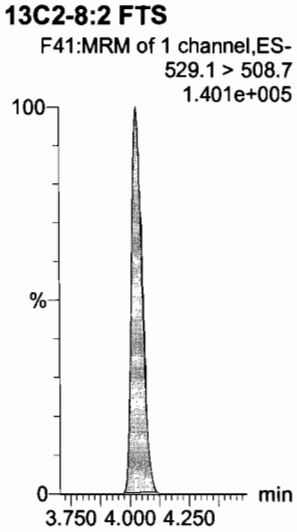

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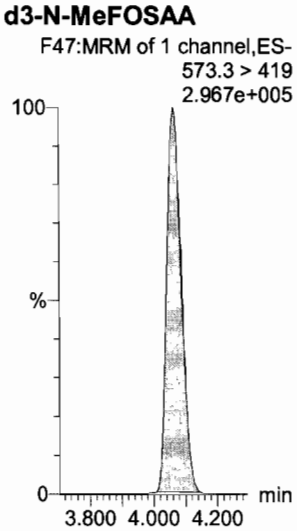

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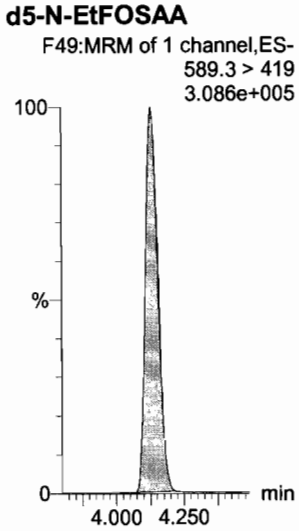

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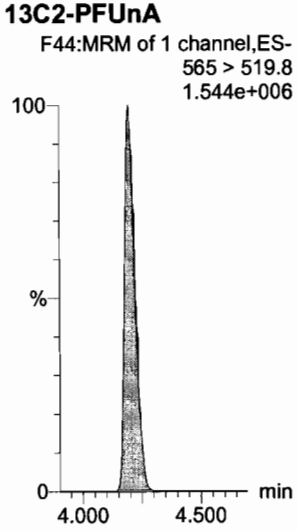

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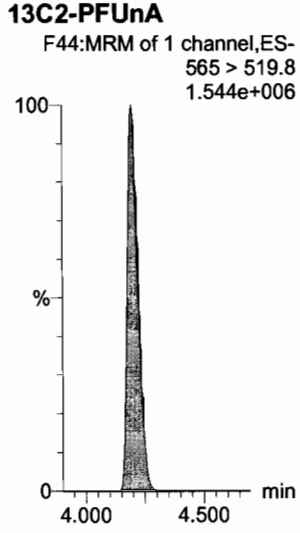

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Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

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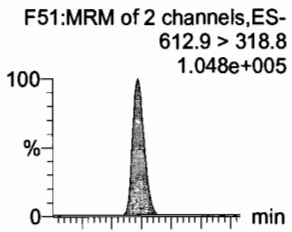

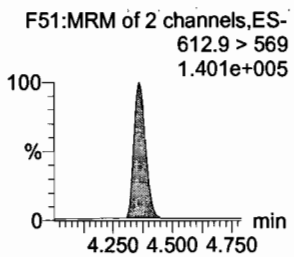

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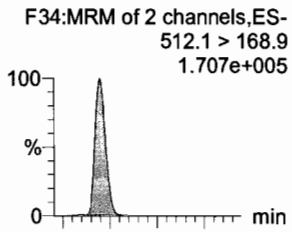

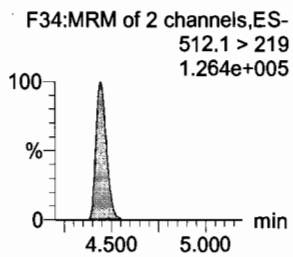

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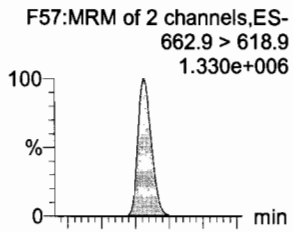

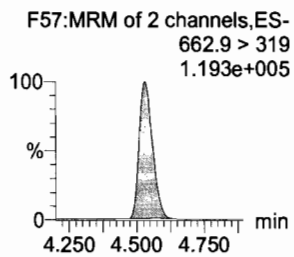

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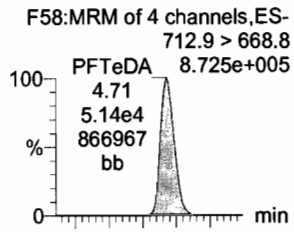

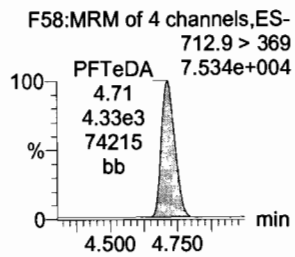

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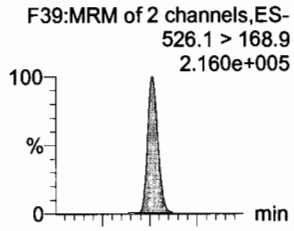

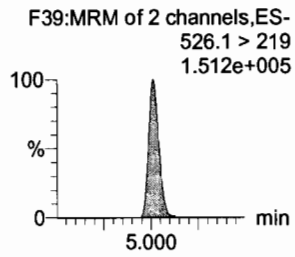

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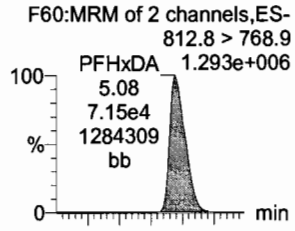

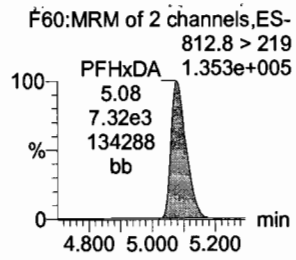

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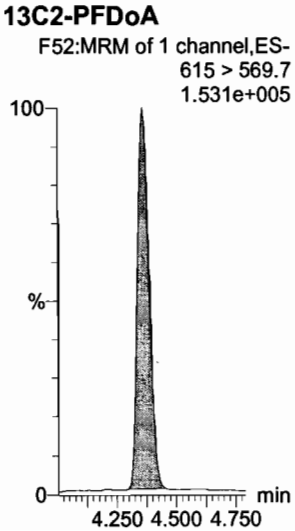

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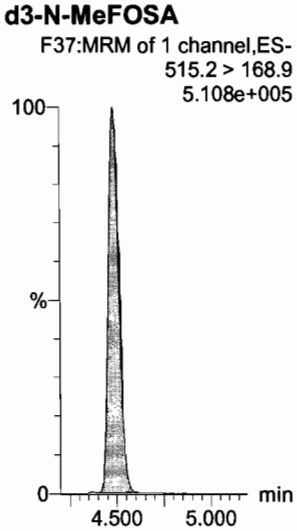

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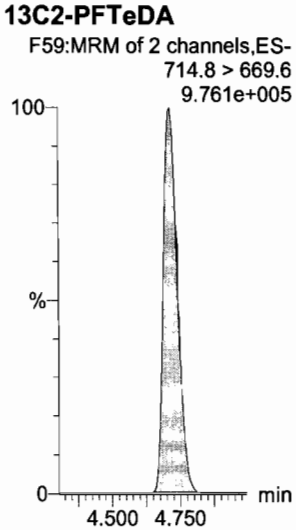

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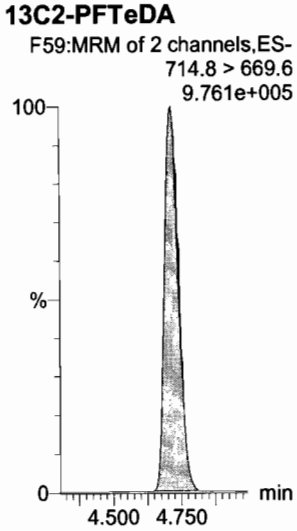

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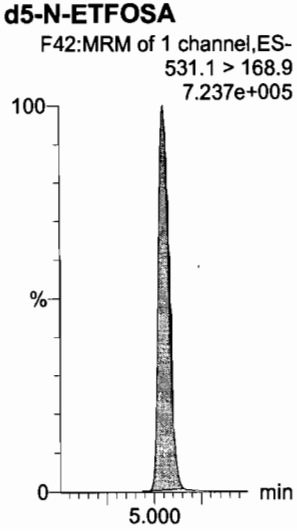

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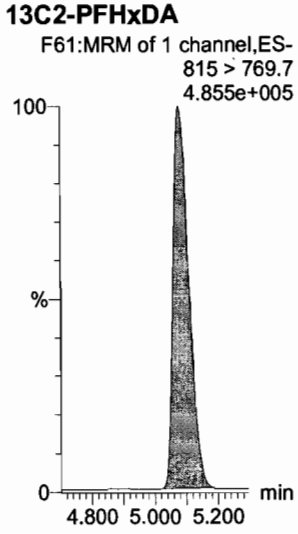

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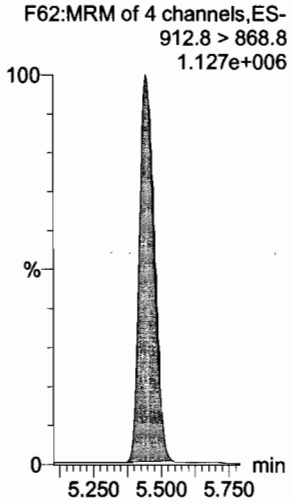

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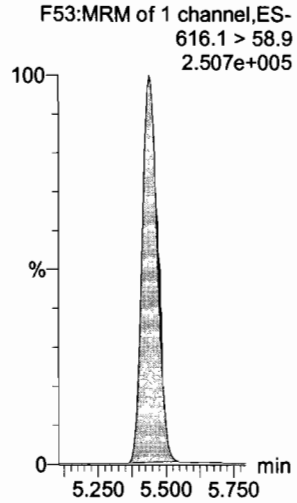

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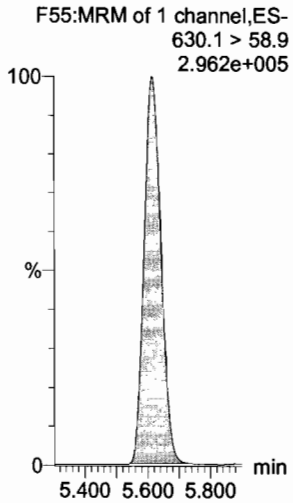

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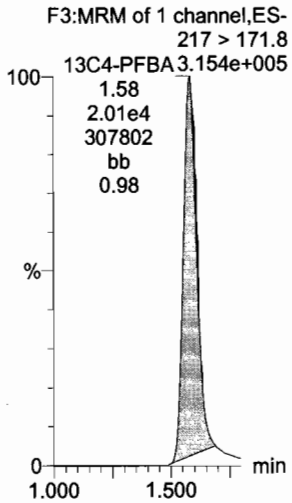

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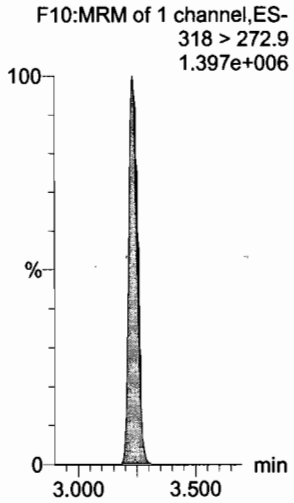

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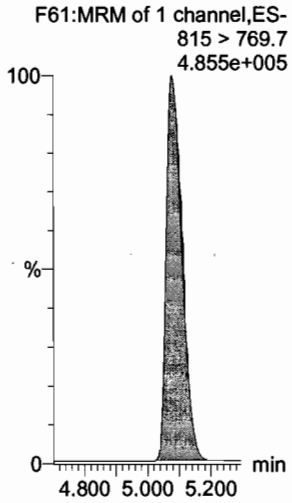

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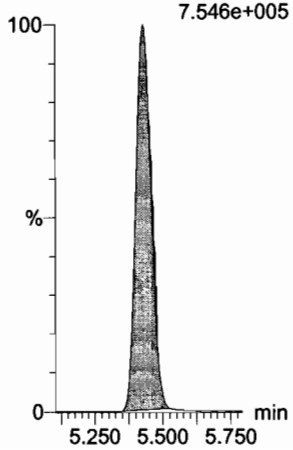

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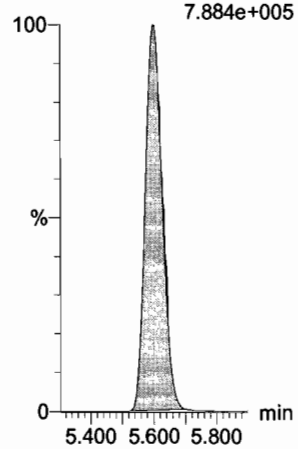

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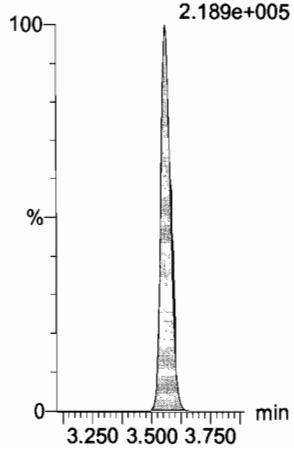

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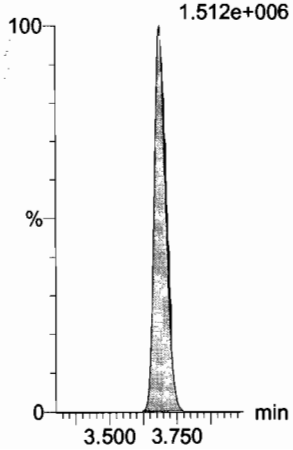

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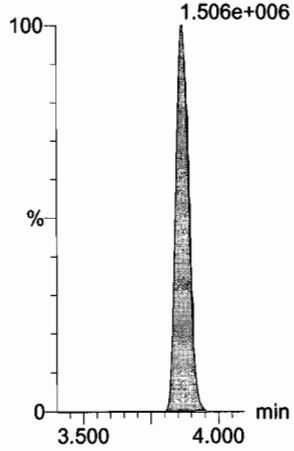

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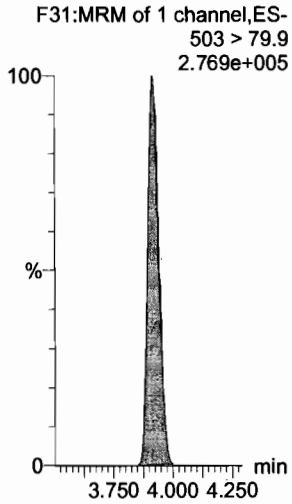

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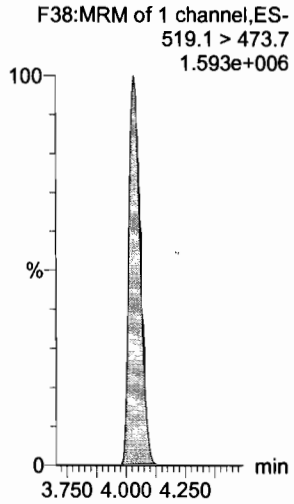

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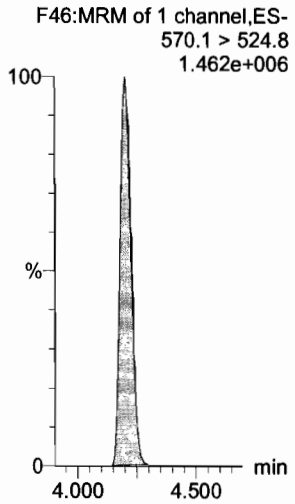

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Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/26/17

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.50e4	1.73e4		1.54	1.59	10.8	9.45	94.5
2	2	PFPeA	263.1 > 218.9	2.79e4	3.61e4		2.77	2.82	9.66	9.63	96.3
3	3	PFBS	299 > 79.7	6.39e3	4.38e3		2.96	3.01	18.2	9.79	97.9
4	4	PFHxA	313.2 > 268.9	4.47e4	1.60e4		3.19	3.23	14.0	9.17	91.7
5	5	PFHpA	363 > 318.9	4.33e4	4.49e4		3.45	3.49	12.0	9.55	95.5
6	6	PFHxS	398.9 > 79.6	5.99e3	4.53e3		3.56	3.56	16.5	9.76	97.6
7	7	6:2 FTS	427.1 > 407	9.91e3	1.07e4		3.64	3.67	11.6	11.0	109.8
8	8	PFOA	413 > 368.7	6.56e4	7.43e4		3.65	3.68	11.0	11.2	111.5
9	9	PFHpS	448.9 > 98.8	6.44e3	7.43e4		3.71	3.75	1.08	12.0	120.4
10	10	PFNA	462.9 > 418.8	6.59e4	7.47e4		3.83	3.86	11.0	9.91	99.1
11	11	PFOSA	498.1 > 77.8	6.45e3	7.86e3		3.84	3.87	10.3	9.72	97.2
12	12	PFOS	499 > 79.9	1.22e4	1.42e4		3.89	3.91	10.7	9.06	90.6
13	13	PFDA	513 > 468.8	7.36e4	7.73e4		4.01	4.03	11.9	9.08	90.8
14	14	8:2 FTS	527 > 506.9	8.88e3	7.56e3		4.00	4.03	14.7	10.0	100.0
15	15	N-MeFOSAA	570.1 > 419	1.98e4	1.69e4		4.03	4.06	191	9.62	96.2
16	16	N-EtFOSAA	584.2 > 419	1.52e4	1.67e4		4.10	4.13	147	9.13	91.3
17	17	PFUnA	562.9 > 518.9	5.38e4	8.83e4		4.17	4.20	7.61	8.60	86.0
18	18	PFDS	598.9 > 98.7	5.33e3	8.83e4		4.22	4.24	0.755	8.46	84.6
19	19	PFDoA	612.9 > 318.8	5.59e3	8.53e3		4.34	4.36	8.19	8.66	86.6
20	20	N-MeFOSA	512.1 > 168.9	1.16e4	3.34e4		4.29	4.45	52.0	49.9	99.7
21	21	PFTrDA	662.9 > 618.9	7.42e4	8.53e3		4.50	4.53	109	9.78	97.8
22	22	PFTeDA	712.9 > 668.8	5.17e4	5.93e4		4.68	4.71	10.9	9.45	94.5
23	23	N-EtFOSA	526.1 > 168.9	1.39e4	4.52e4		4.87	5.02	46.0	50.5	101.0
24	24	PFHxDA	812.8 > 768.9	7.46e4	2.86e4		5.06	5.08	13.0	9.53	95.3
25	25	PFODA	912.8 > 868.8	6.84e4	2.86e4		5.43	5.44	12.0	9.30	93.0
26	26	N-MeFOSE	616.1 > 58.9	1.65e4	4.88e4		5.42	5.44	50.6	49.4	98.7
27	27	N-EtFOSE	630.1 > 58.9	1.87e4	4.91e4		5.59	5.62	57.2	48.6	97.2
28	28	13C3-PFBA	216.1 > 171.8	1.73e4	2.04e4	0.820	1.54	1.59	10.6	12.9	103.2
29	29	13C3-PFPeA	266 > 221.8	3.61e4	5.68e4	0.248	2.77	2.82	3.17	12.8	102.3
30	30	13C3-PFBS	302 > 98.8	4.38e3	5.68e4	0.031	2.96	3.01	0.386	12.4	99.2
31	31	13C2-PFHxA	315 > 269.8	1.60e4	5.68e4	0.276	3.19	3.23	1.41	5.09	101.7

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	# Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32 13C4-PFHpA	367.2 > 321.8	4.49e4	5.68e4	0.306	3.45	3.49	3.96	12.9	103.6
33	33 18O2-PFHxS	403 > 102.6	4.53e3	1.12e4	0.393	3.56	3.56	5.04	12.8	102.6
34	34 13C2-6:2 FTS	429.1 > 408.9	1.07e4	7.14e4	0.158	3.64	3.68	1.88	11.9	95.1
35	35 13C2-PFOA	414.9 > 369.7	7.43e4	7.14e4	1.067	3.65	3.69	13.0	12.2	97.5
36	36 13C5-PFNA	468.2 > 422.9	7.47e4	8.57e4	0.852	3.83	3.86	10.9	12.8	102.3
37	37 13C8-PFOSA	506.1 > 77.7	7.86e3	8.09e4	0.098	3.84	3.87	1.21	12.4	98.8
38	38 13C8-PFOS	507 > 79.9	1.42e4	1.49e4	0.936	3.89	3.91	11.9	12.8	102.1
39	39 13C2-PFDA	515.1 > 469.9	7.73e4	8.93e4	0.810	4.01	4.03	10.8	13.4	106.9
40	40 13C2-8:2 FTS	529.1 > 508.7	7.56e3	8.93e4	0.086	4.00	4.03	1.06	12.4	98.9
41	41 d3-N-MeFOSAA	573.3 > 419	1.69e4	8.09e4	0.014	4.03	4.06	2.60	190	116.9
42	42 d5-N-EtFOSAA	589.3 > 419	1.67e4	8.09e4	0.014	4.12	4.13	2.58	185	114.0
43	43 13C2-PFUnA	565 > 519.8	8.83e4	8.09e4	0.962	4.17	4.20	13.6	14.2	113.4
44	44 13C2-PFDoA	615 > 569.7	8.53e3	8.09e4	0.094	4.34	4.36	1.32	14.0	111.7
45	45 d3-N-MeFOSA	515.2 > 168.9	3.34e4	8.09e4	0.034	4.29	4.49	5.16	150	100.1
46	46 13C2-PFTeDA	714.8 > 669.6	5.93e4	8.09e4	0.694	4.68	4.71	9.15	13.2	105.4
47	47 d5-N-ETFOSA	531.1 > 168.9	4.52e4	8.09e4	0.049	5.01	5.05	6.99	144	95.7
48	48 13C2-PFHxDA	815 > 769.7	2.86e4	8.09e4	0.843	5.06	5.08	4.42	5.24	104.8
49	49 d7-N-MeFOSE	623.1 > 58.9	4.88e4	8.09e4	0.055	5.42	5.43	7.54	138	92.0
50	50 d9-N-EtFOSE	639.2 > 58.8	4.91e4	8.09e4	0.053	5.59	5.60	7.58	142	94.5
51	51 13C4-PFBA	217 > 171.8	2.04e4	2.04e4	1.000	1.54	1.59	12.5	12.5	100.0
52	52 13C5-PFHxA	318 > 272.9	5.68e4	5.68e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53 13C3-PFHxS	401.9 > 79.9	1.12e4	1.12e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54 13C8-PFOA	421.3 > 376	7.14e4	7.14e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55 13C9-PFNA	472.2 > 426.9	8.57e4	8.57e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56 13C4-PFOS	503 > 79.9	1.49e4	1.49e4	1.000	3.89	3.92	12.5	12.5	100.0
57	57 13C6-PFDA	519.1 > 473.7	8.93e4	8.93e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58 13C7-PFUnA	570.1 > 524.8	8.09e4	8.09e4	1.000	4.17	4.20	12.5	12.5	100.0

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170725M1_1	IPA	25-Jul-17	14:15:31
2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
31	170725M1_31	1700852-09RE1 1-GW-02-MW209-20170711 ...	25-Jul-17	19:38:30

Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
32	170725M1_32	IPA	25-Jul-17	19:49:44
33	170725M1_33	ST170725M1-3 PFC CS3 17G2503	25-Jul-17	20:00:29
34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
66	170725M1_66	B7G0033-MSD1@20X Matrix Spike Dup 0.124	26-Jul-17	01:55:28
67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

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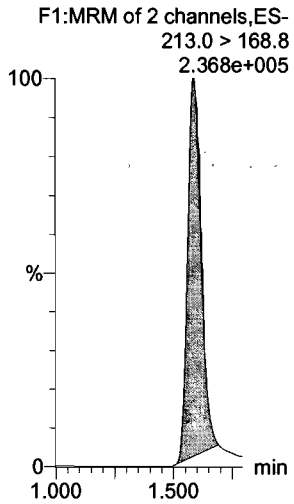
Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

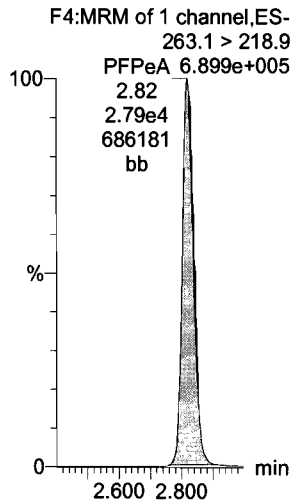
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

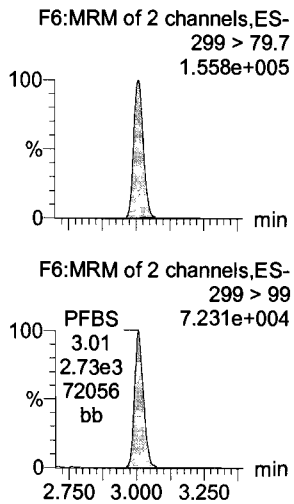
PFBA



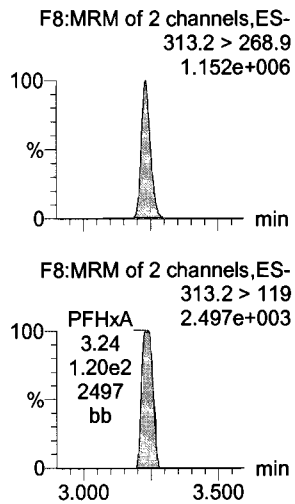
PFPeA



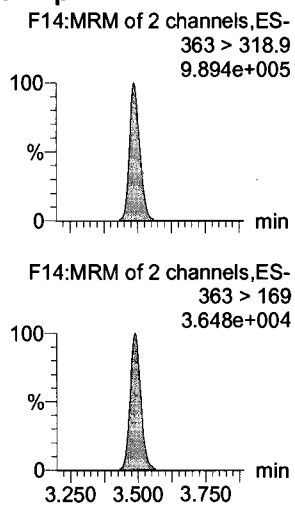
PFBS



PFHxA



PFHpA



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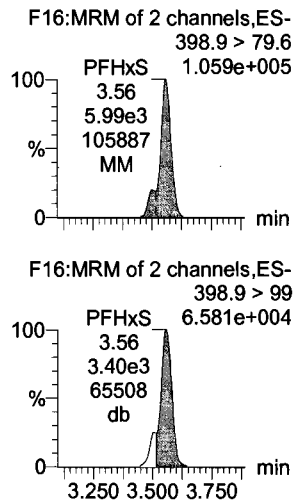

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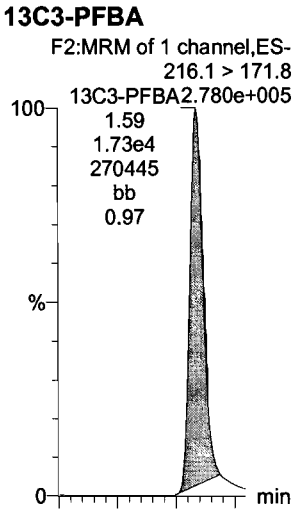

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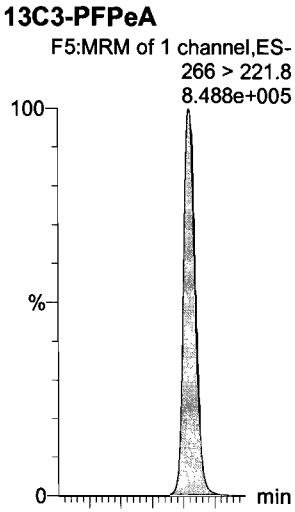

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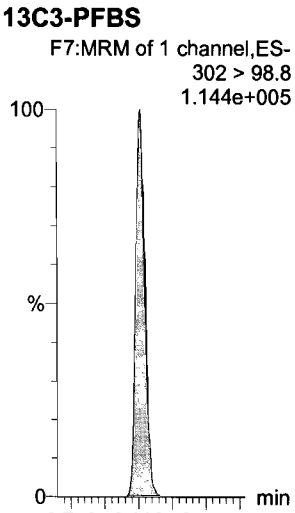
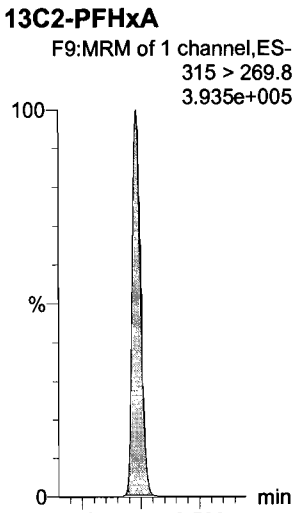


13C2-PFHxA



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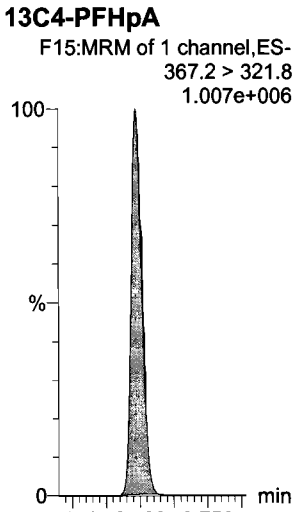
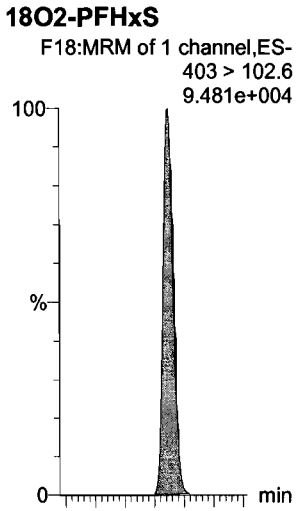


18O2-PFHxS



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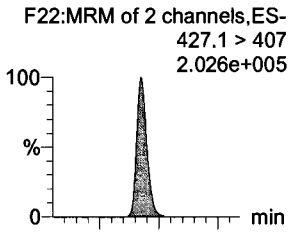
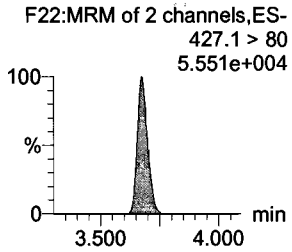
Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

6:2 FTS





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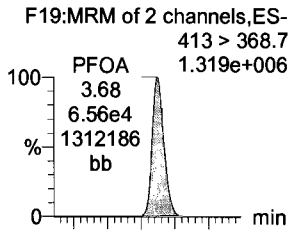

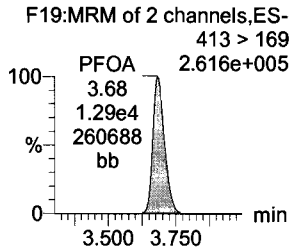

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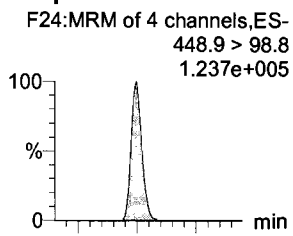

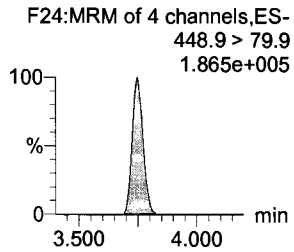

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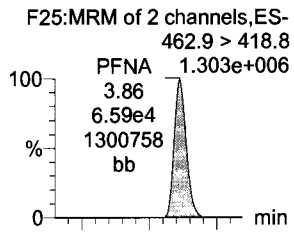

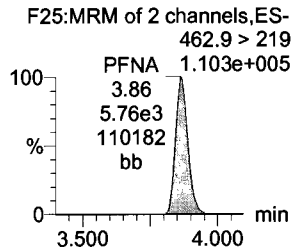

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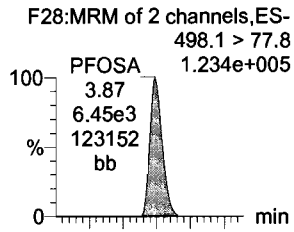

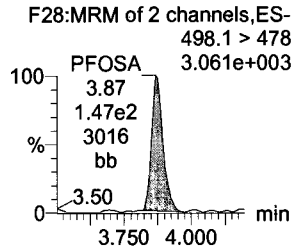

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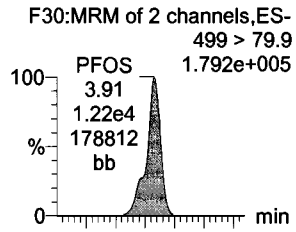

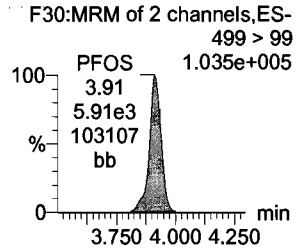

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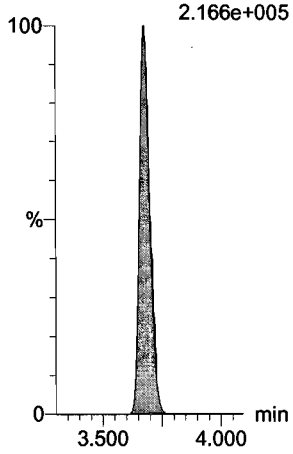

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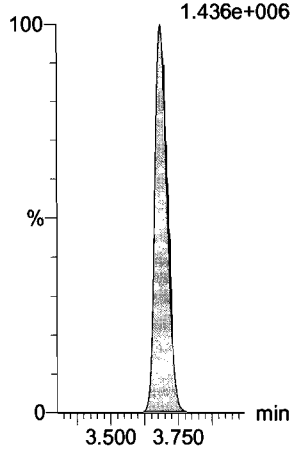
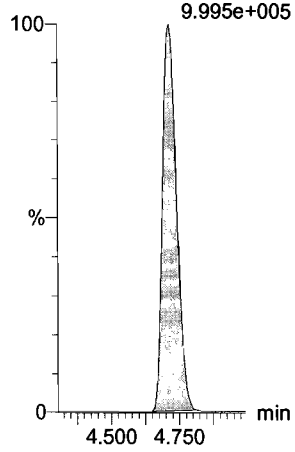


13C2-PFTeDA



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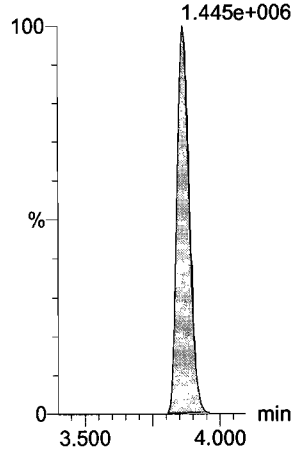

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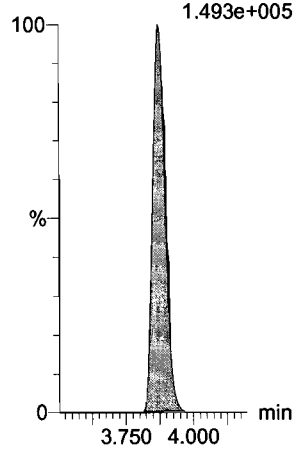

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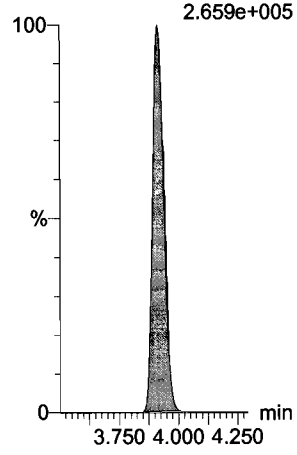

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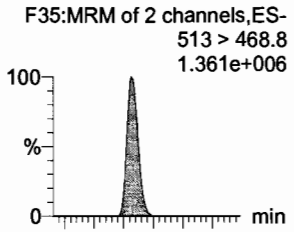
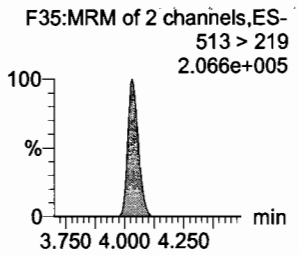
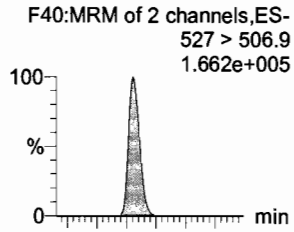
Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

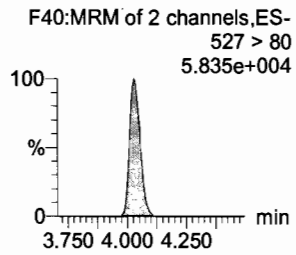
PFDA





8:2 FTS





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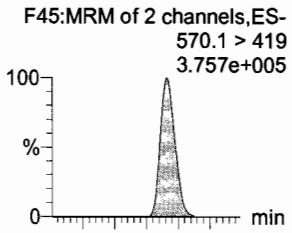

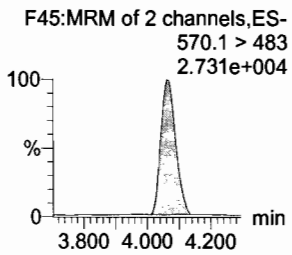

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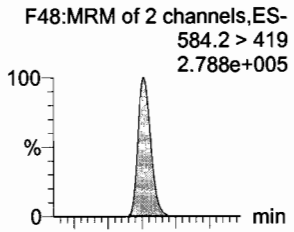

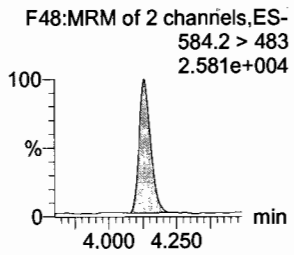

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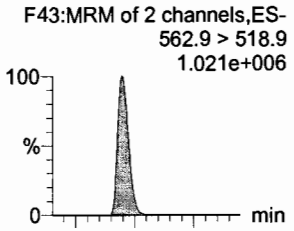

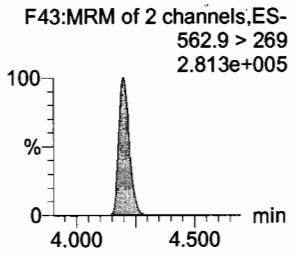

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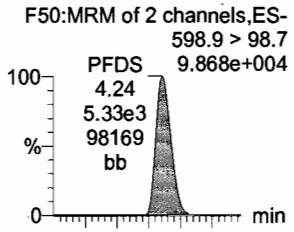

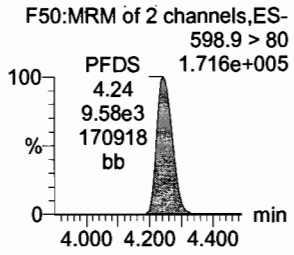

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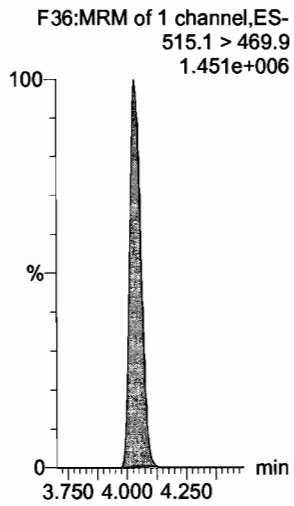
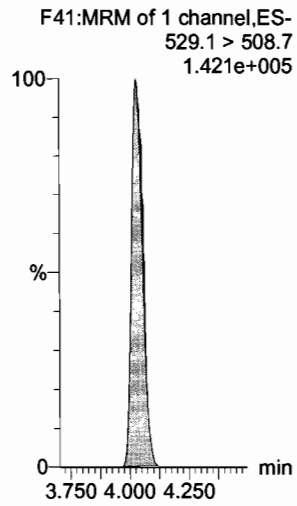


13C2-8:2 FTS



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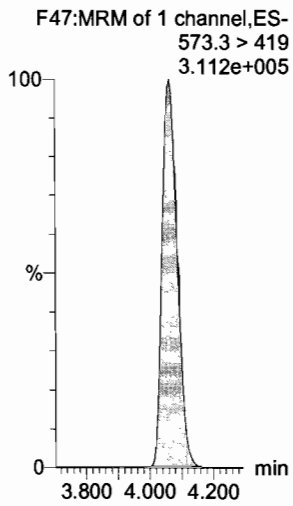

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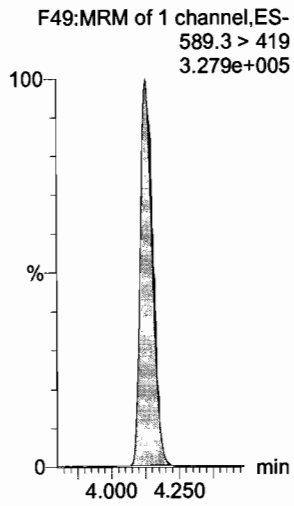

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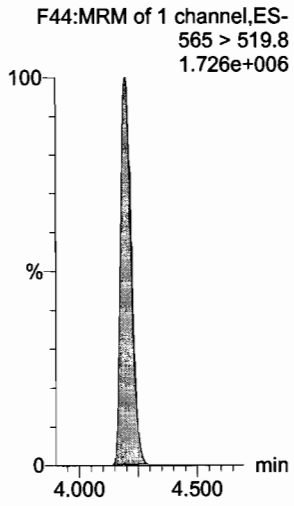

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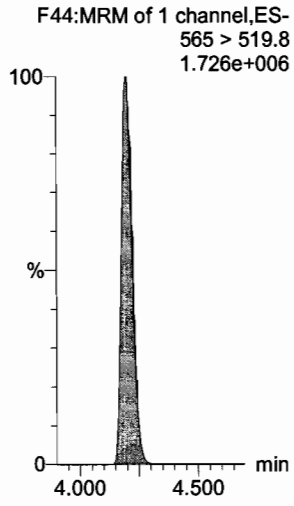

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Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

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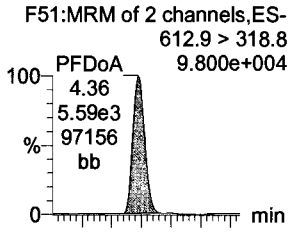

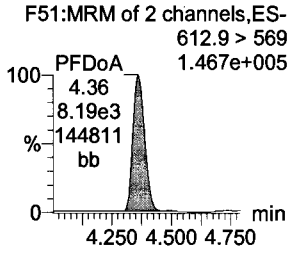

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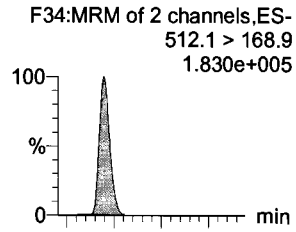

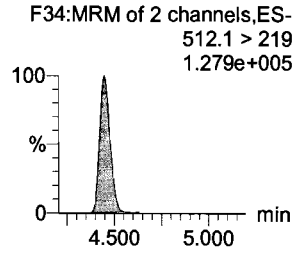

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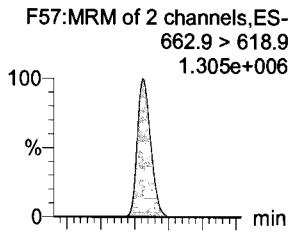

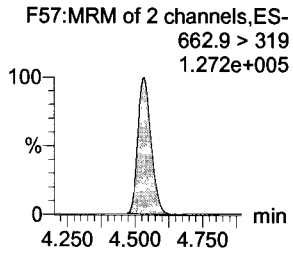

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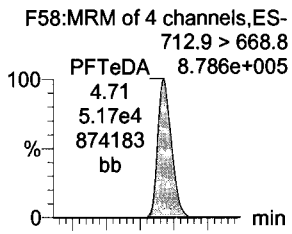

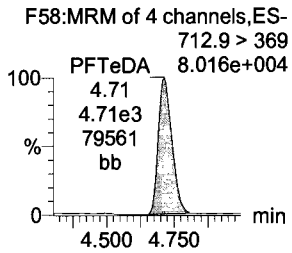

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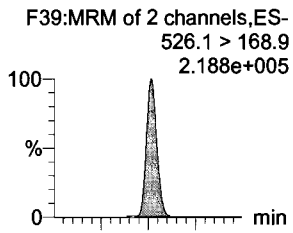

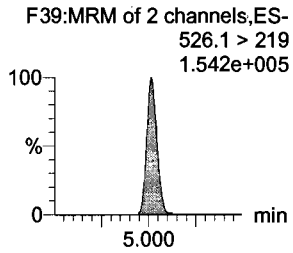

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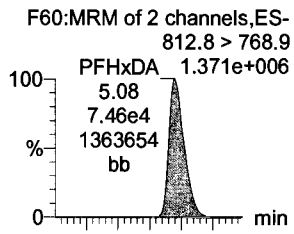

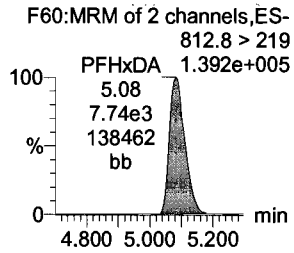

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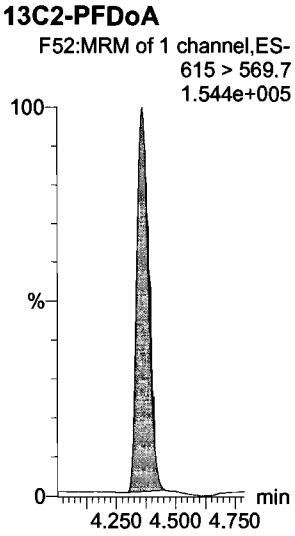

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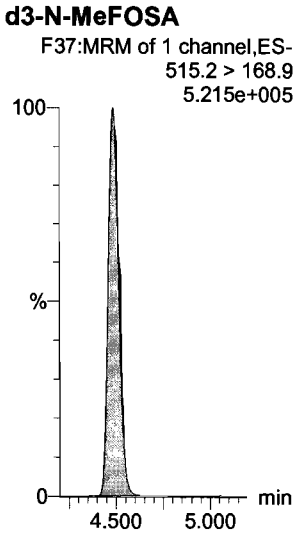

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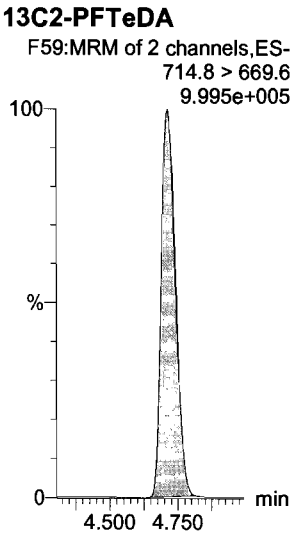

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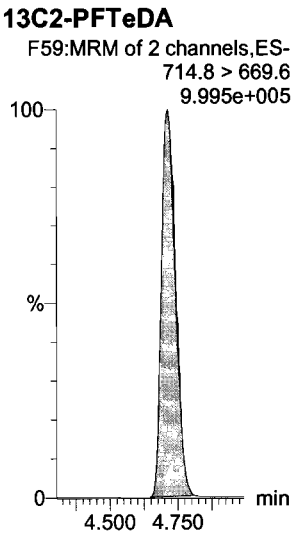

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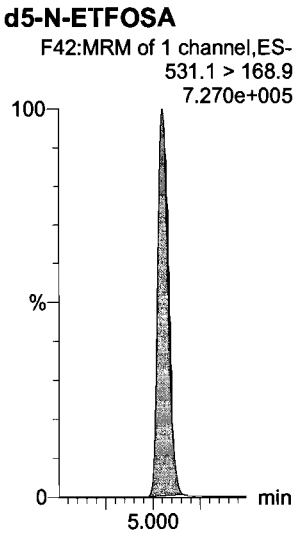
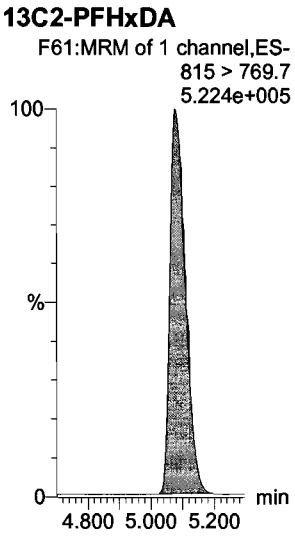


13C2-PFHxDA

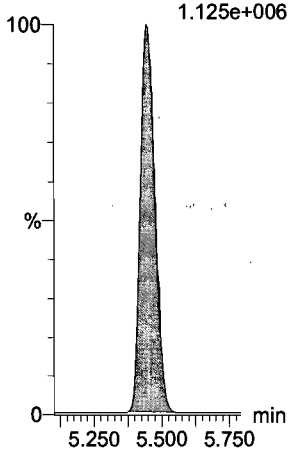


Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

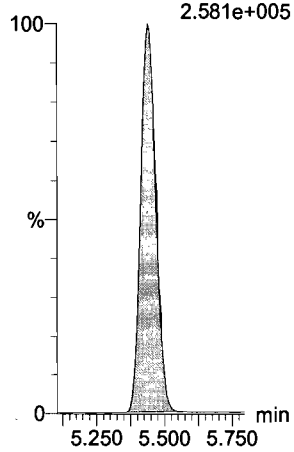
Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

PFODA



N-MeFOSE



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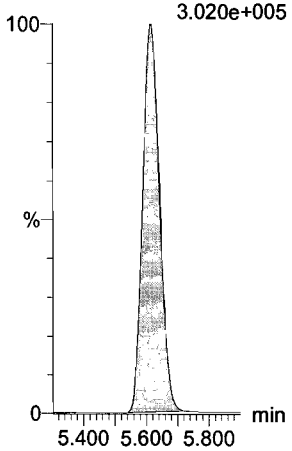
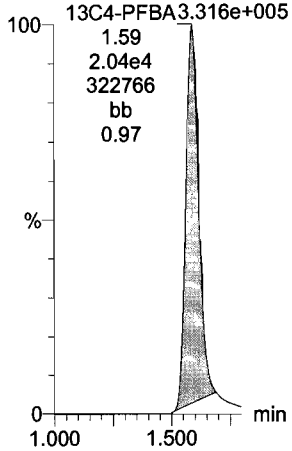


13C4-PFBA



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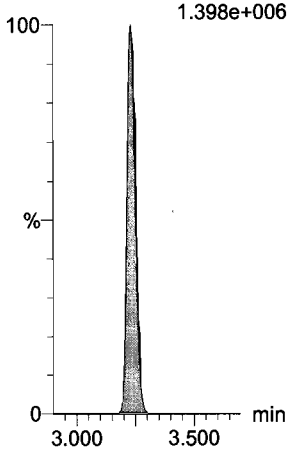
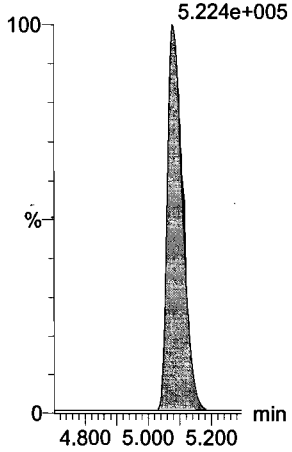
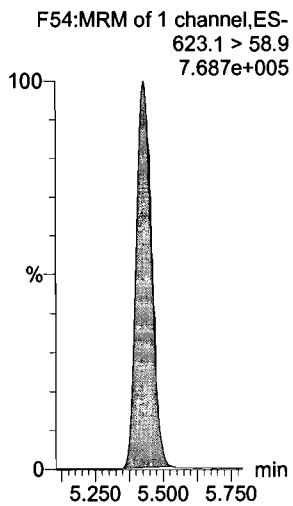


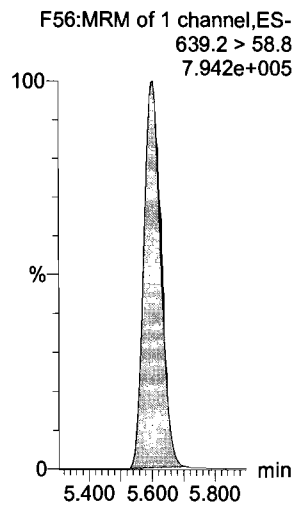
13C2-PFHxDA



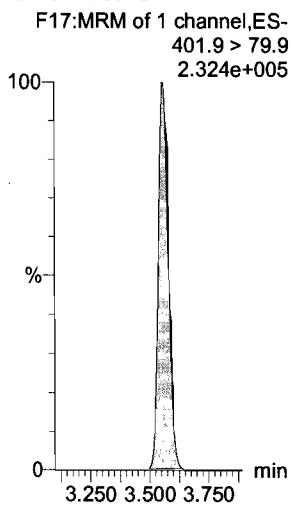
d7-N-MeFOSE



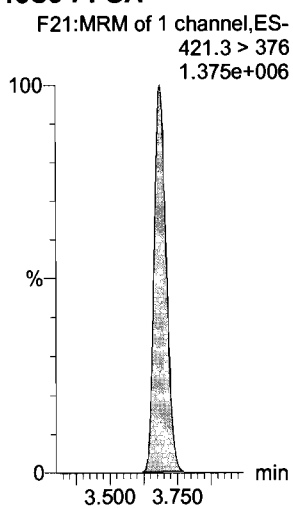
d9-N-EtFOSE



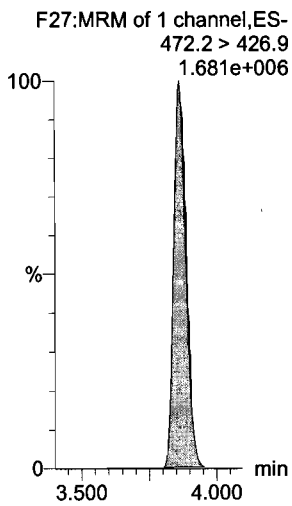
13C3-PFHxS



13C8-PFOA



13C9-PFNA

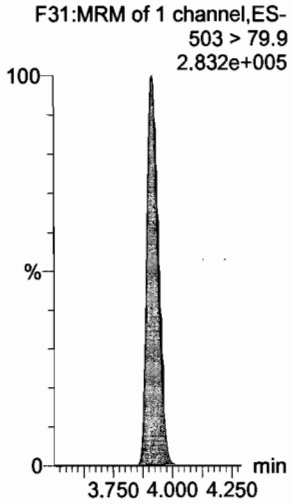


Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

13C4-PFOS



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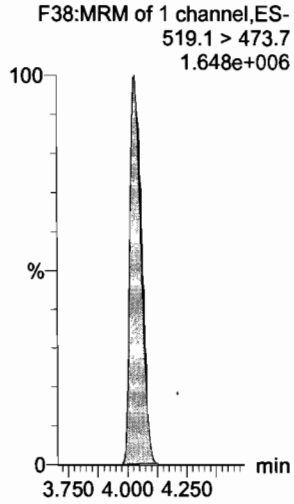
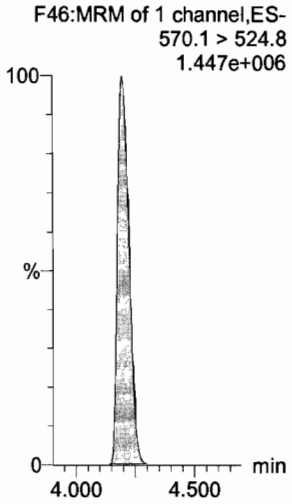


13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-97.qld

Last Altered: Tuesday, August 01, 2017 12:26:31 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:27:14 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

@ out of limit criteria.

Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.89e4	2.11e4	1.000		1.32	1.35	11.2	9.68	96.8
2	2	PFPeA	263.1 > 218.9	3.94e4	5.17e4	1.000		2.77	2.66	9.52	9.45	94.5
3	3	PFBS	299 > 79.7	8.73e3	6.07e3	1.000		2.96	2.90	18.0	9.51	95.1
4	4	PFHxA	313.2 > 268.9	6.09e4	2.13e4	1.000		3.19	3.15	14.3	9.75	97.5
5	5	PFHpA	363 > 318.9	4.76e4	4.63e4	1.000		3.45	3.42	12.8	10.3	103.3
6	6	PFHxS	398.9 > 79.6	5.76e3	4.44e3	1.000		3.56	3.49	16.2	9.72	97.2
7	7	PFOA	413 > 368.7	5.22e4	6.56e4	1.000		3.65	3.62	9.95	9.99	99.9
8	8	PFHpS	448.9 > 98.8	4.59e3	6.56e4	1.000		3.65	3.67	0.875	10.0	100.3
9	9	PFNA	462.9 > 418.8	4.91e4	5.85e4	1.000		3.83	3.80	10.5	9.72	97.2
10	10	PFOSA	498.1 > 77.8	7.02e3	8.03e3	1.000		3.84	3.80	10.9	10.0	100.2
11	11	PFOS	499 > 79.9	8.56e3	1.05e4	1.000		3.89	3.84	10.2	9.50	95.0
12	12	PFDA	513 > 468.8	6.00e4	6.16e4	1.000		4.01	3.96	12.2	9.75	97.5
13	13	N-MeFOSAA	570.1 > 419	1.39e4	1.16e4	1.000		4.03	3.99	194	9.74	97.4
14	14	N-EtFOSAA	584.2 > 419	1.09e4	1.10e4	1.000		4.10	4.06	161	10.5	104.6
15	15	PFUnA	562.9 > 518.9	3.05e4	5.05e4	1.000		4.11	4.12	7.55	11.7	116.7
16	16	PFDS	598.9 > 98.7	2.89e3	5.05e4	1.000		4.22	4.17	0.714	10.5	105.4
17	17	PFDoA	612.9 > 318.8	2.57e3	3.49e3	1.000		4.34	4.29	9.19	9.83	98.3
18	18	PFTrDA	662.9 > 618.9	1.21e4	3.49e3	1.000		4.50	4.45	43.4	5.02	(A) 50.2
19	19	PFTeDA	712.9 > 668.8	2.74e3	3.06e3	1.000		4.68	4.63	11.2	9.28	92.8
20	20	13C3-PFBA	216.1 > 171.8	2.11e4	2.53e4	1.000	0.823	1.32	1.35	10.5	12.7	101.6
21	21	13C3-PFPeA	266 > 221.8	5.17e4	7.53e4	1.000	0.264	2.77	2.66	3.43	13.0	103.9
22	22	13C3-PFBS	302 > 98.8	6.07e3	7.53e4	1.000	0.031	2.96	2.90	0.403	13.1	105.0
23	23	13C2-PFHxA	315 > 269.8	2.13e4	7.53e4	1.000	0.275	3.19	3.15	1.41	5.14	102.8
24	24	13C4-PFHpA	367.2 > 321.8	4.63e4	7.53e4	1.000	0.260	3.45	3.41	3.08	11.8	94.6
25	25	18O2-PFHxS	403 > 102.6	4.44e3	1.07e4	1.000	0.402	3.56	3.49	5.20	12.9	103.4
26	26	13C2-PFOA	414.9 > 369.7	6.56e4	6.43e4	1.000	1.042	3.65	3.62	12.8	12.2	97.9
27	27	13C5-PFNA	468.2 > 422.9	5.85e4	6.88e4	1.000	0.792	3.83	3.80	10.6	13.4	107.4
28	28	13C8-PFOSA	506.1 > 77.7	8.03e3	5.62e4	1.000	0.175	3.84	3.80	1.79	10.2	81.8
29	29	13C8-PFOS	507 > 79.9	1.05e4	1.01e4	1.000	0.951	3.89	3.85	12.9	13.6	108.9
30	30	13C2-PFDA	515.1 > 469.9	6.16e4	6.46e4	1.000	0.869	4.01	3.96	11.9	13.7	109.7
31	31	d3-N-MeFOSAA	573.3 > 419	1.16e4	5.62e4	1.000	0.013	4.03	3.99	2.58	199	122.5

70-130

50-150

OM 8/1/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-97.qld

Last Altered: Tuesday, August 01, 2017 12:26:31 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:27:14 Pacific Daylight Time

Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

(A) out of limit criteria.

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	1.10e4	5.62e4	1.000	0.013	4.12	4.05	2.45	193	118.6
33	33	13C2-PFUnA	565 > 519.8	5.05e4	5.62e4	1.000	0.928	4.17	4.13	11.2	12.1	96.8
34	34	13C2-PFDoA	615 > 569.7	3.49e3	5.62e4	1.000	0.071	4.34	4.29	0.777	10.9	87.4
35	35	13C2-PFTeDA	714.8 > 669.6	3.06e3	5.62e4	1.000	0.273	4.68	4.63	0.681	2.49	(A) 19.9
36	36	13C4-PFBA	217 > 171.8	2.53e4	2.53e4	1.000	1.000	1.32	1.35	12.5	12.5	100.0
37	37	13C5-PFHxA	318 > 272.9	7.53e4	7.53e4	1.000	1.000	3.19	3.15	5.00	5.00	100.0
38	38	13C3-PFHxS	401.9 > 79.9	1.07e4	1.07e4	1.000	1.000	3.56	3.49	12.5	12.5	100.0
39	39	13C8-PFOA	421.3 > 376	6.43e4	6.43e4	1.000	1.000	3.65	3.62	12.5	12.5	100.0
40	40	13C9-PFNA	472.2 > 426.9	6.88e4	6.88e4	1.000	1.000	3.83	3.80	12.5	12.5	100.0
41	41	13C4-PFOS	503 > 79.9	1.01e4	1.01e4	1.000	1.000	3.89	3.85	12.5	12.5	100.0
42	42	13C6-PFDA	519.1 > 473.7	6.46e4	6.46e4	1.000	1.000	4.01	3.96	12.5	12.5	100.0
43	43	13C7-PFUnA	570.1 > 524.8	5.62e4	5.62e4	1.000	1.000	4.17	4.13	12.5	12.5	100.0

SD-150

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, August 01, 2017 12:30:23 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:32:43 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Compound name: PFBA

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1	170727M1_47	ST170727M1-10 PFC CS3 17G2709	27-Jul-17	19:53:28
2	170727M1_48	IPA	27-Jul-17	20:04:14
3	170727M1_49	1700848-05RE1 DPH-MW2-17 0.12259	27-Jul-17	20:14:52
4	170727M1_50	1700848-06RE1 DPH-MW8-17 0.12027	27-Jul-17	20:25:31
5	170727M1_51	1700848-07RE1 DPH-MW5-17 0.11998	27-Jul-17	20:36:09
6	170727M1_52	1700848-08RE1 DPH-MW4-17 0.11759	27-Jul-17	20:46:48
7	170727M1_53	IPA	27-Jul-17	20:57:36
8	170727M1_54	B7G0067-BLK1 Method Blank 0.125	27-Jul-17	21:08:21
9	170727M1_55	IPA	27-Jul-17	21:19:00
10	170727M1_56	B7G0067-BS1 OPR 0.125	27-Jul-17	21:29:46
11	170727M1_57	1700855-01 TF5-EB-02 0.27357	27-Jul-17	21:40:25
12	170727M1_58	1700855-02 TF5-MW-987 0.27423	27-Jul-17	21:51:11
13	170727M1_59	1700855-03 TF5-MW-987D 0.27164	27-Jul-17	22:01:49
14	170727M1_60	B7G0067-MS1 Matrix Spike 0.27298	27-Jul-17	22:12:27
15	170727M1_61	B7G0067-MSD1 Matrix Spike Dup 0.2776	27-Jul-17	22:23:06
16	170727M1_62	1700855-04 TF5-MW-987-D 0.26865	27-Jul-17	22:33:52
17	170727M1_63	1700855-05 TF5-MW-991 0.2726	27-Jul-17	22:44:39
18	170727M1_64	1700855-06 TF5-MW-991D 0.27278	27-Jul-17	22:55:17
19	170727M1_65	IPA	27-Jul-17	23:05:56
20	170727M1_66	ST170727M1-11 PFC CS-1 17G2705	27-Jul-17	23:16:34
21	170727M1_67	IPA	27-Jul-17	23:27:21
22	170727M1_68	1700855-07 TF5-MW-993 0.26881	27-Jul-17	23:39:43
23	170727M1_69	1700855-08 TF5-MW-993D 0.2612	27-Jul-17	23:50:22
24	170727M1_70	1700855-09 TF5-MW-994 0.25188	28-Jul-17	00:01:08
25	170727M1_71	1700871-01 EB03-20170712 0.12146	28-Jul-17	00:11:55
26	170727M1_72	1700871-02 5-GW-05_DGMW41B-20170712 ...	28-Jul-17	00:22:44
27	170727M1_73	1700871-03 18-GW-18BGM03E-20170712 0....	28-Jul-17	00:33:31
28	170727M1_74	1700871-04 24-GW-24IN03-20170712 0.11741	28-Jul-17	00:44:15
29	170727M1_75	1700871-05 DUP02-20170712 0.11807	28-Jul-17	00:54:53
30	170727M1_76	1700871-06 24-GW-24EX13A-20170712 0.11...	28-Jul-17	01:05:31
31	170727M1_77	1700871-07 24-GW-24MW15D-20170712 0.1...	28-Jul-17	01:16:10

Dataset: Untitled

Last Altered: Tuesday, August 01, 2017 12:30:23 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:32:43 Pacific Daylight Time

Compound name: PFBA

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33	170727M1_79	ST170727M1-12 PFC CS3 17G2709	28-Jul-17	01:37:35
34	170727M1_80	IPA	28-Jul-17	01:48:13
35	170727M1_81	1700871-08 16-GW-16_MW28-20170712 0.1...	28-Jul-17	01:58:51
36	170727M1_82	1700871-09 16-GW-16_MW19-20170712 0.1...	28-Jul-17	02:09:38
37	170727M1_83	1700871-10 EB04-20170713 0.11646	28-Jul-17	02:20:24
38	170727M1_84	1700871-11 16-GW-16_MW04-20170713 0.1...	28-Jul-17	02:31:03
39	170727M1_85	IPA	28-Jul-17	02:41:41
40	170727M1_86	B7G0108-BS1 OPR 0.125	28-Jul-17	02:52:19
41	170727M1_87	IPA	28-Jul-17	03:02:58
42	170727M1_88	B7G0108-BLK1 Method Blank 0.125	28-Jul-17	03:13:36
43	170727M1_89	1700856-01RE1 INFLUENT-20170710 0.121	28-Jul-17	03:24:15
44	170727M1_90	1700856-02RE1 DUP05-20170710 0.11647	28-Jul-17	03:34:53
45	170727M1_91	1700856-03RE1 MID-POINT-20170710 0.11731	28-Jul-17	03:45:40
46	170727M1_92	1700856-04RE1 EFFLUENT-20170710 0.12084	28-Jul-17	03:56:26
47	170727M1_93	B7G0108-MS1 Matrix Spike 0.12162	28-Jul-17	04:07:38
48	170727M1_94	B7G0108-MSD1 Matrix Spike Dup 0.11849	28-Jul-17	04:18:57
49	170727M1_95	1700856-06RE1 ERB-01-20170711 0.12043	28-Jul-17	04:29:35
50	170727M1_96	IPA	28-Jul-17	04:40:21
51	170727M1_97	ST170727M1-13 PFC CS3 17G2709	28-Jul-17	04:51:00
52	170727M1_98	IPA	28-Jul-17	05:01:38

Vista Analytical Laboratory

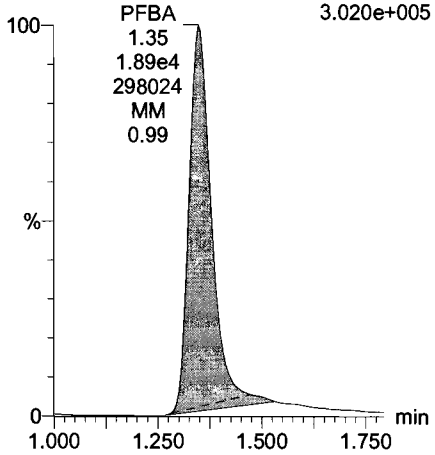
Dataset: U:\Q4.PRO\results\170727M1\170727M1-97.qld

Last Altered: Tuesday, August 01, 2017 12:26:31 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:27:14 Pacific Daylight Time

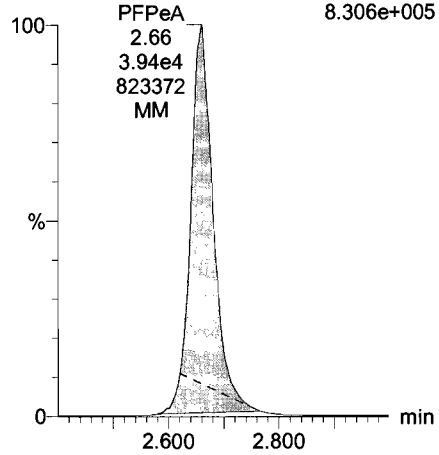
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

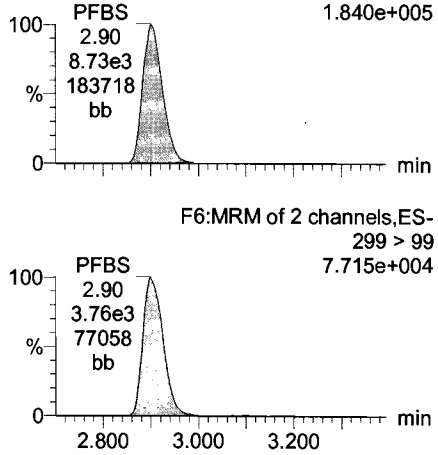
PFBA



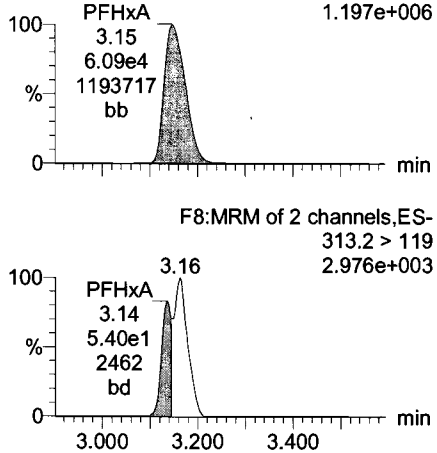
PFPeA



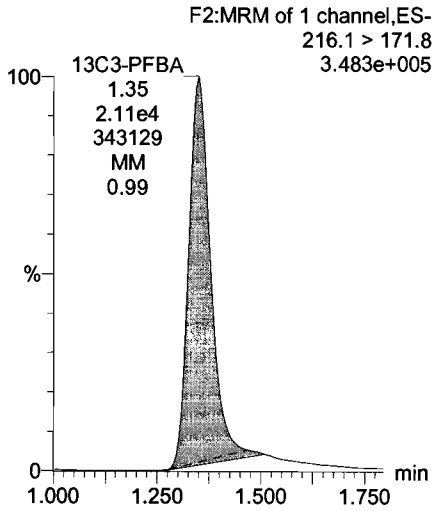
Total PFBS



PFHxA



13C3-PFBA



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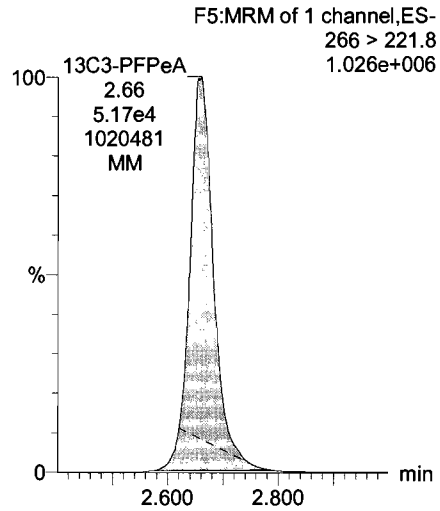

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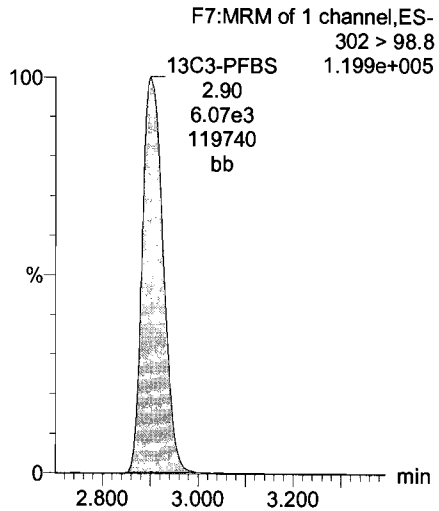
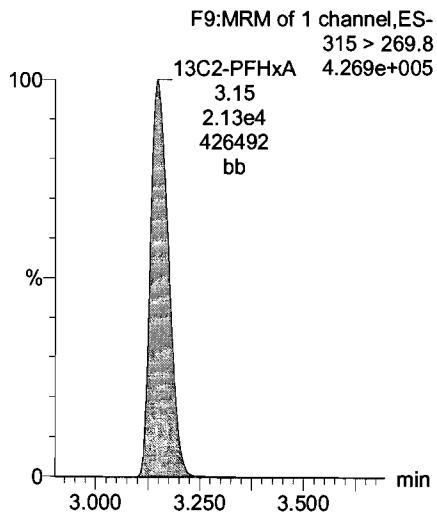


13C2-PFHxA



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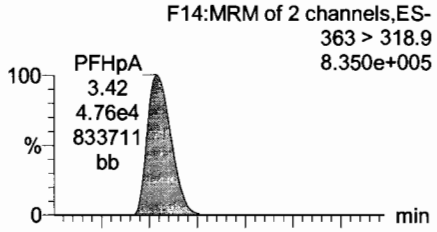
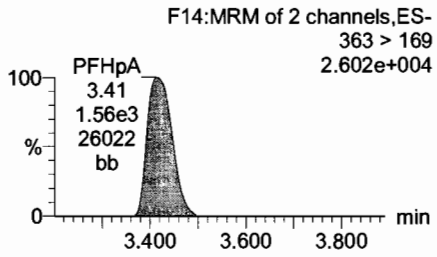
Last Altered: Tuesday, August 01, 2017 12:26:31 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:27:14 Pacific Daylight Time

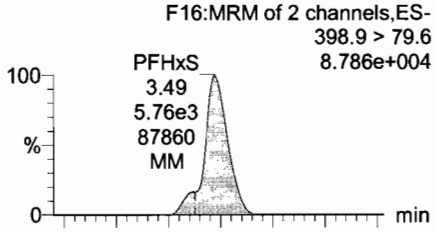
Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

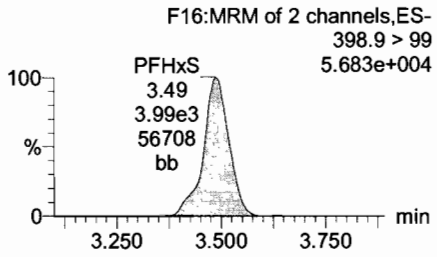
PFHpA





Total PFHxS





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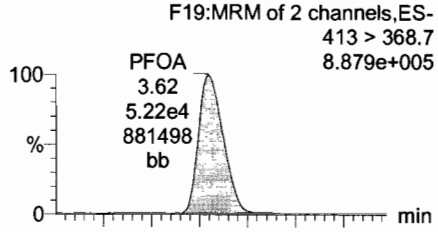

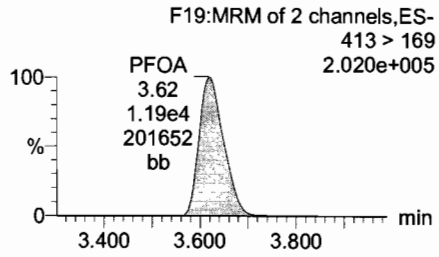

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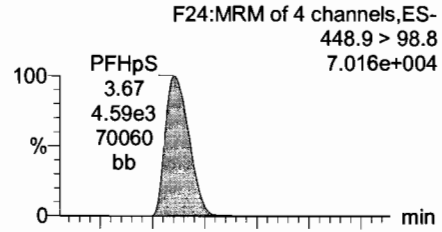
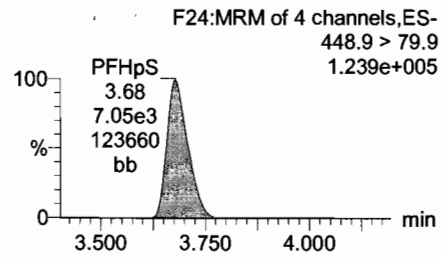
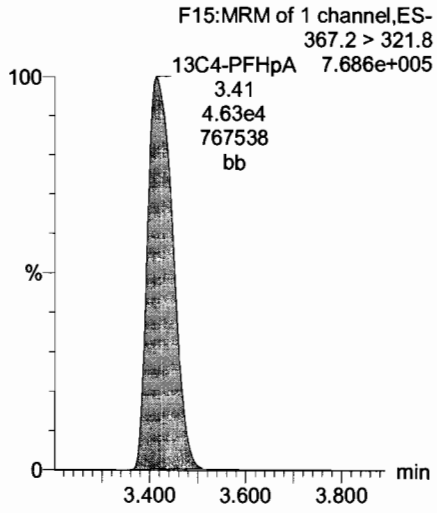
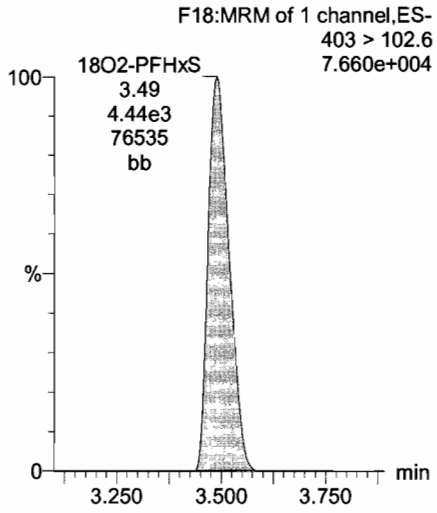




13C4-PFHpA



18O2-PFHxS



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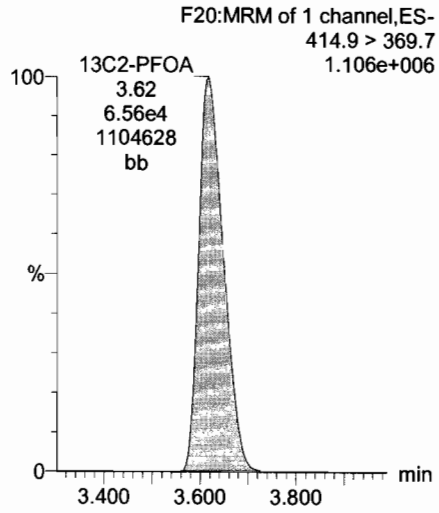

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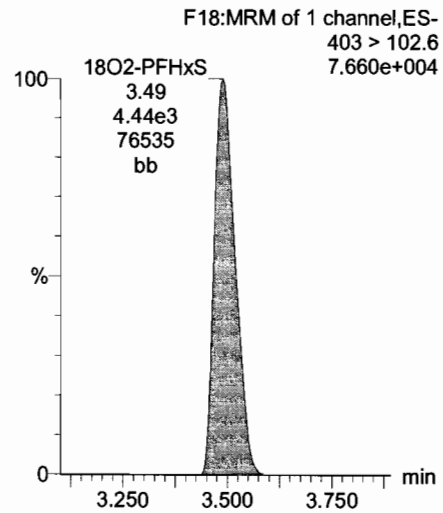

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Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

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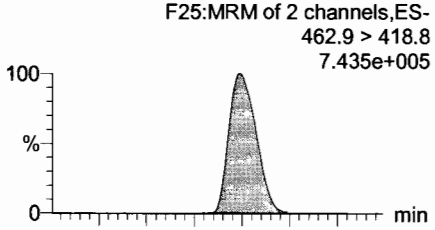
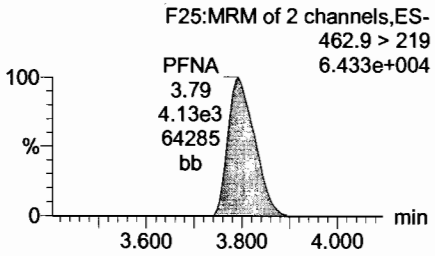
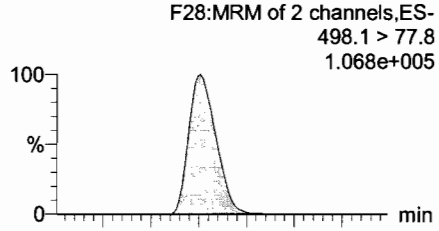
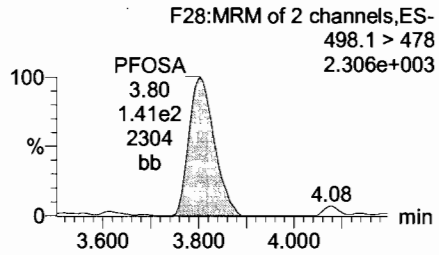


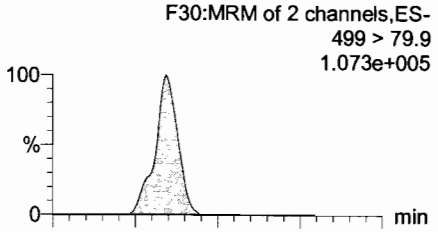


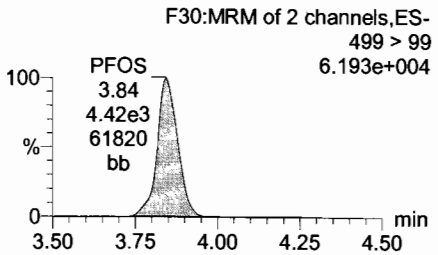
PFOSA





Total PFOS





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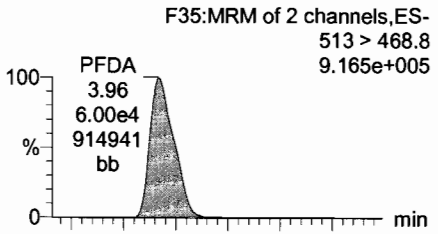
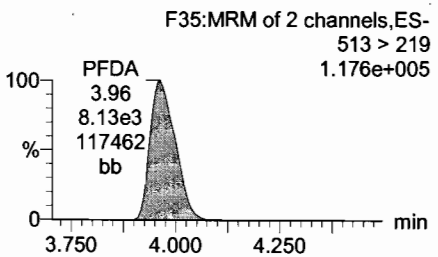
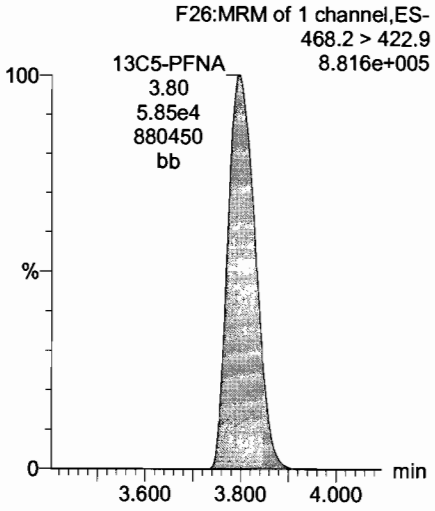
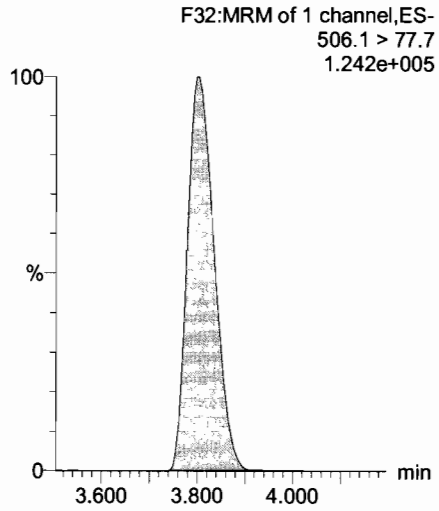




13C5-PFNA



13C8-PFOSA



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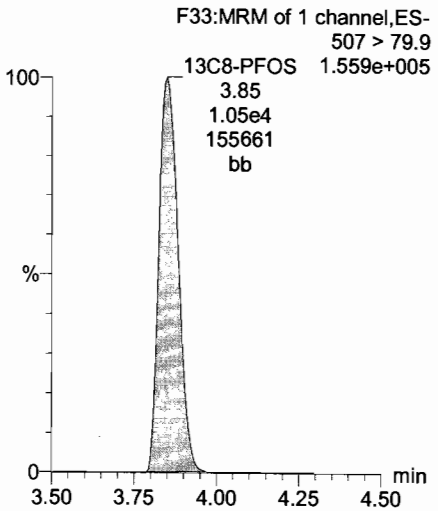
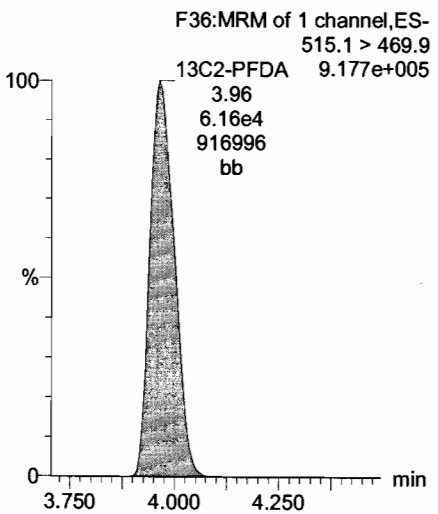


13C2-PFDA



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Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

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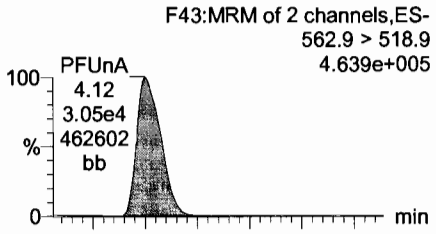

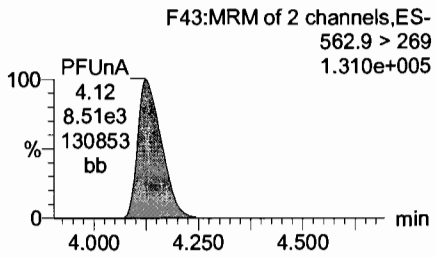

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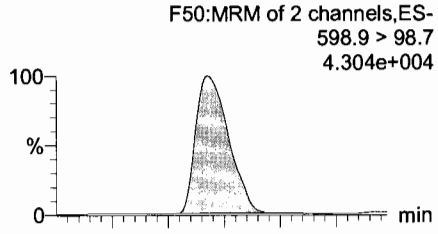
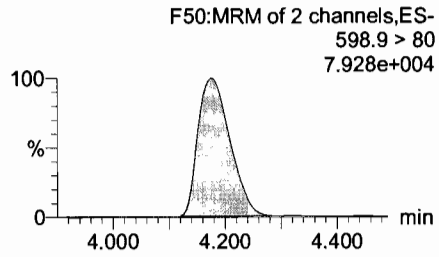
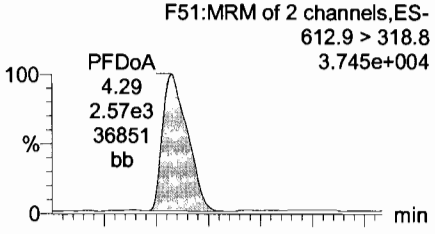
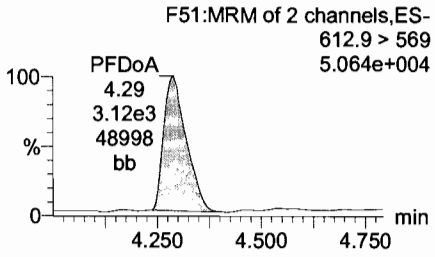




PFDoA





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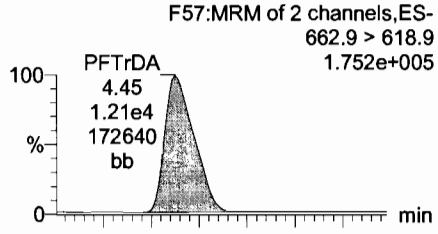
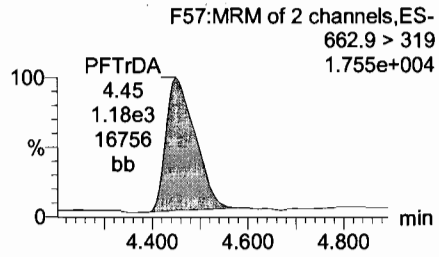
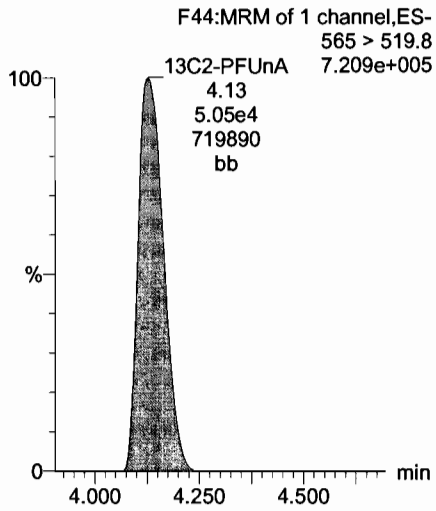




13C2-PFUnA



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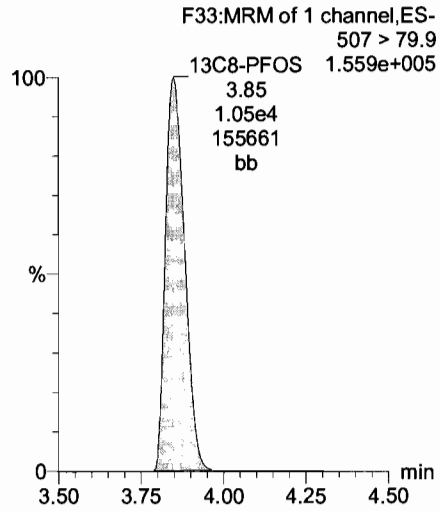

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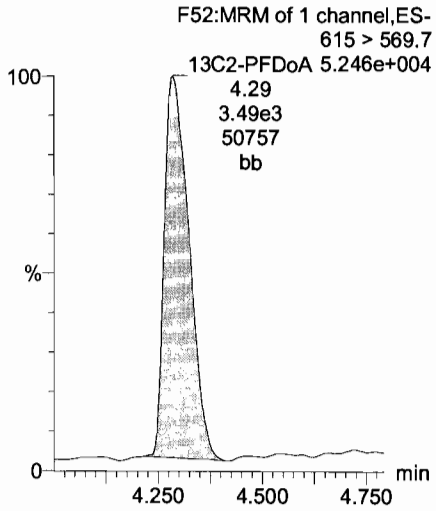

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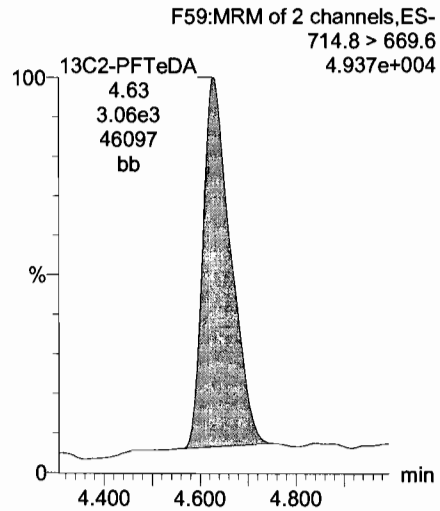

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Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

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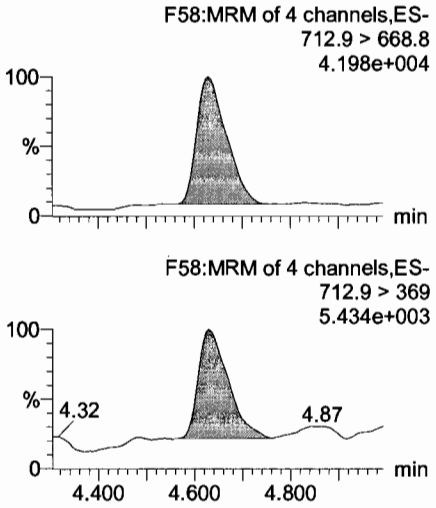

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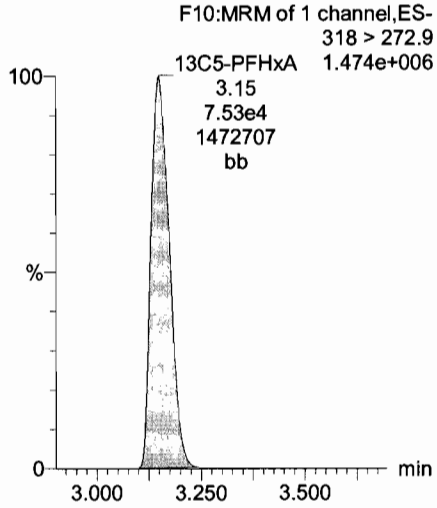

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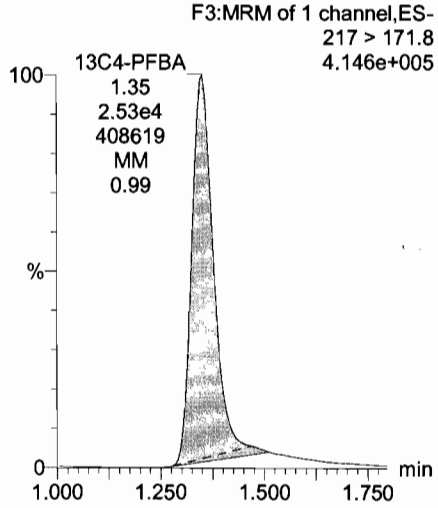

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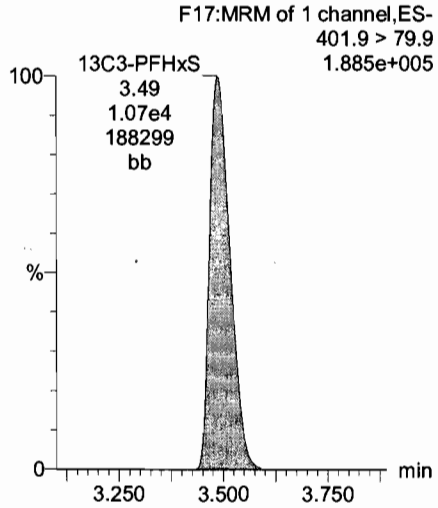

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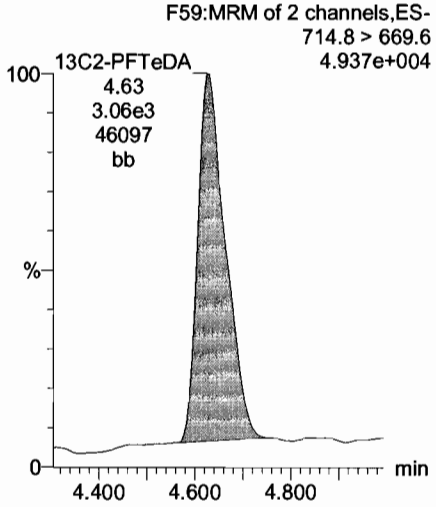

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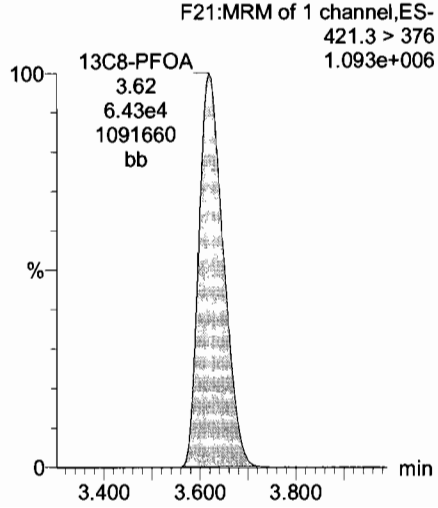

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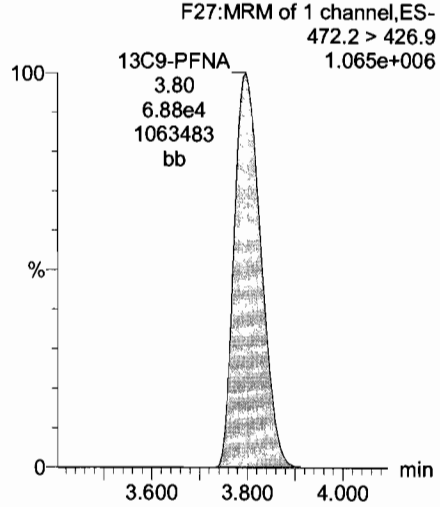

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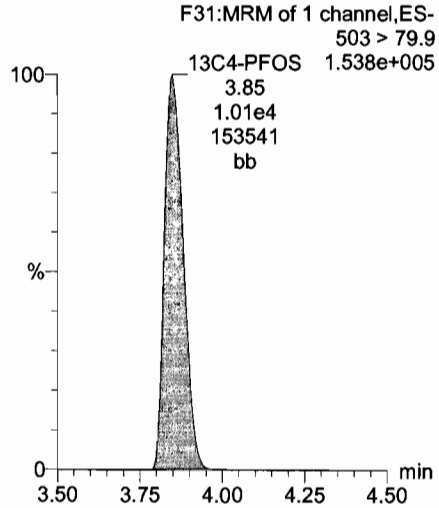

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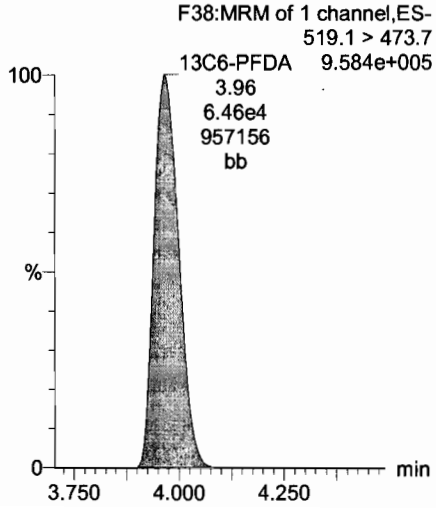
Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

13C6-PFDA



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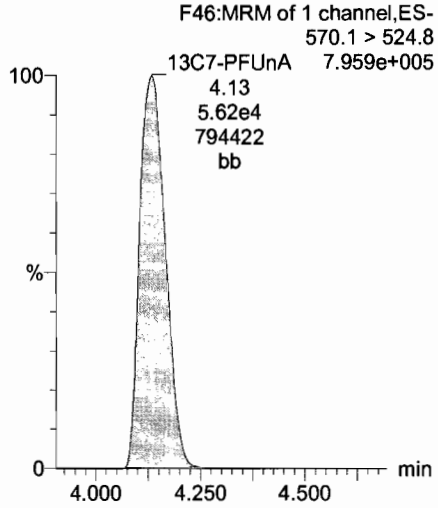

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Dataset: U:\Q4.PRO\results\170727M1\170727M1-113.qld

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Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

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Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-~~13~~ 14 PFC CS3 17G2709, Description: PFC CS3 17G2709

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	2.00e4	2.26e4	1.000		1.32	1.35	11.1	9.59	95.9
2	2	PFPeA	263.1 > 218.9	4.39e4	5.60e4	1.000		2.77	2.66	9.79	9.71	97.1
3	3	PFBS	299 > 79.7	9.14e3	6.36e3	1.000		2.96	2.90	18.0	9.50	95.0
4	4	PFHxA	313.2 > 268.9	6.28e4	2.10e4	1.000		3.19	3.15	14.9	10.2	101.7
5	5	PFHpA	363 > 318.9	5.05e4	5.25e4	1.000		3.45	3.41	12.0	9.66	96.6
6	6	PFHxS	398.9 > 79.6	6.21e3	4.68e3	1.000		3.56	3.48	16.6	9.96	99.6
7	7	PFOA	413 > 368.7	5.51e4	6.63e4	1.000		3.65	3.62	10.4	10.4	104.4
8	8	PFHpS	448.9 > 98.8	4.96e3	6.63e4	1.000		3.65	3.67	0.936	10.7	107.4
9	9	PFNA	462.9 > 418.8	4.93e4	5.90e4	1.000		3.83	3.79	10.4	9.67	96.7
10	10	PFOSA	498.1 > 77.8	6.80e3	8.09e3	1.000		3.84	3.80	10.5	9.62	96.2
11	11	PFOS	499 > 79.9	8.85e3	1.09e4	1.000		3.89	3.84	10.2	9.47	94.7
12	12	PFDA	513 > 468.8	6.01e4	5.95e4	1.000		4.01	3.96	12.6	10.1	101.2
13	13	N-MeFOSAA	570.1 > 419	1.48e4	1.17e4	1.000		4.03	3.99	204	10.2	102.4
14	14	N-EtFOSAA	584.2 > 419	1.07e4	1.18e4	1.000		4.10	4.05	147	9.58	95.8
15	15	PFUnA	562.9 > 518.9	3.20e4	5.61e4	1.000		4.11	4.12	7.14	11.0	110.2
16	16	PFDS	598.9 > 98.7	2.69e3	5.61e4	1.000		4.22	4.17	0.598	8.81	88.1
17	17	PFDoA	612.9 > 318.8	2.27e3	3.25e3	1.000		4.34	4.29	8.76	9.37	93.7
18	18	PFTrDA	662.9 > 618.9	1.09e4	3.25e3	1.000		4.50	4.45	41.8	4.84	(N) 48.4
19	19	PFTeDA	712.9 > 668.8	2.59e3	2.75e3	1.000		4.68	4.63	11.8	9.76	97.6
20	20	13C3-PFBA	216.1 > 171.8	2.26e4	2.73e4	1.000	0.823	1.32	1.35	10.3	12.5	100.4
21	21	13C3-PFPeA	266 > 221.8	5.60e4	7.62e4	1.000	0.264	2.77	2.66	3.67	13.9	111.2
22	22	13C3-PFBS	302 > 98.8	6.36e3	7.62e4	1.000	0.031	2.96	2.90	0.417	13.6	108.7
23	23	13C2-PFHxA	315 > 269.8	2.10e4	7.62e4	1.000	0.275	3.19	3.15	1.38	5.01	100.2
24	24	13C4-PFHpA	367.2 > 321.8	5.25e4	7.62e4	1.000	0.260	3.45	3.42	3.44	13.2	105.9
25	25	18O2-PFHxS	403 > 102.6	4.68e3	1.16e4	1.000	0.402	3.56	3.49	5.03	12.5	100.0
26	26	13C2-PFOA	414.9 > 369.7	6.63e4	6.40e4	1.000	1.042	3.65	3.61	13.0	12.4	99.5
27	27	13C5-PFNA	468.2 > 422.9	5.90e4	6.76e4	1.000	0.792	3.83	3.79	10.9	13.8	110.2
28	28	13C8-PFOSA	506.1 > 77.7	8.09e3	5.36e4	1.000	0.175	3.84	3.80	1.89	10.8	86.3
29	29	13C8-PFOS	507 > 79.9	1.09e4	1.02e4	1.000	0.951	3.89	3.84	13.3	14.0	112.3
30	30	13C2-PFDA	515.1 > 469.9	5.95e4	7.06e4	1.000	0.869	4.01	3.96	10.5	12.1	97.0
31	31	d3-N-MeFOSAA	573.3 > 419	1.17e4	5.36e4	1.000	0.013	4.03	3.99	2.74	211	130.1

70-130

50-150

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-113.qld

Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-~~13~~ 14 PFC CS3 17G2709, Description: PFC CS3 17G2709

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	1.18e4	5.36e4	1.000	0.013	4.12	4.05	2.76	217	133.5
33	33	13C2-PFUnA	565 > 519.8	5.61e4	5.36e4	1.000	0.928	4.17	4.12	13.1	14.1	112.7
34	34	13C2-PFDoA	615 > 569.7	3.25e3	5.36e4	1.000	0.071	4.34	4.28	0.756	10.6	85.1
35	35	13C2-PFTeDA	714.8 > 669.6	2.75e3	5.36e4	1.000	0.273	4.68	4.63	0.641	2.35	(A) 18.8
36	36	13C4-PFBA	217 > 171.8	2.73e4	2.73e4	1.000	1.000	1.32	1.35	12.5	12.5	100.0
37	37	13C5-PFHxA	318 > 272.9	7.62e4	7.62e4	1.000	1.000	3.19	3.15	5.00	5.00	100.0
38	38	13C3-PFHxS	401.9 > 79.9	1.16e4	1.16e4	1.000	1.000	3.56	3.49	12.5	12.5	100.0
39	39	13C8-PFOA	421.3 > 376	6.40e4	6.40e4	1.000	1.000	3.65	3.61	12.5	12.5	100.0
40	40	13C9-PFNA	472.2 > 426.9	6.76e4	6.76e4	1.000	1.000	3.83	3.79	12.5	12.5	100.0
41	41	13C4-PFOS	503 > 79.9	1.02e4	1.02e4	1.000	1.000	3.89	3.84	12.5	12.5	100.0
42	42	13C6-PFDA	519.1 > 473.7	7.06e4	7.06e4	1.000	1.000	4.01	3.96	12.5	12.5	100.0
43	43	13C7-PFUnA	570.1 > 524.8	5.36e4	5.36e4	1.000	1.000	4.17	4.12	12.5	12.5	100.0

50-150 ↓

(A) Not used.

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-113.qld

Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

Total PFBS

	# Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3 PFBS	299 > 79.7	2.90	9141.570	6357.296	17.975	bb	9.5

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6 PFHxS	398.9 > 79.6	3.48	6213.714	4676.338	16.609	MM	10.0

Total PFOA

	# Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	7 PFOA	413 > 368.7	3.62	55137.480	66276.078	10.399	bb	10.4

Total PFOS

	# Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	11 PFOS	499 > 79.9	3.84	8854.648	10879.177	10.174	bb	9.5

Total N-Me-FOSAA

	# Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	13 N-MeFOSAA	570.1 > 419	3.99	14759.433	11738.324	204.323	bb	10.2

Total N-EtFOSAA

	# Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	14 N-EtFOSAA	584.2 > 419	4.05	10728.818	11830.036	147.373	bb	9.6

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, August 03, 2017 13:05:07 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:05:59 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170727M1_97	ST170727M1-13 PFC CS3 17G2709	28-Jul-17	04:51:00
2	170727M1_98	IPA	28-Jul-17	05:01:38
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4	170727M1_100	1700856-09RE1 MW-48BR-20170711 0.12084	28-Jul-17	05:22:55
5	170727M1_101	1700856-10RE1 MW-34S-20170711 0.11812	28-Jul-17	05:33:41
6	170727M1_102	1700856-12RE1 MW-31S-20170711 0.11732	28-Jul-17	05:44:28
7	170727M1_103	1700856-05RE1 MW-37S-20170711 0.11696	28-Jul-17	05:55:14
8	170727M1_104	IPA	28-Jul-17	06:05:53
9	170727M1_105	1700856-07RE1 11-MW-1-20170710 0.11482	28-Jul-17	06:16:42
10	170727M1_106	IPA	28-Jul-17	06:28:27
11	170727M1_107	1700856-11RE1 MW-31BR-20170711 0.11774	28-Jul-17	06:39:17
12	170727M1_108	IPA	28-Jul-17	06:49:56
13	170727M1_109	1700856-05RE1@10X MW-37S-20170711 0.1...	28-Jul-17	07:00:38
14	170727M1_110	1700856-07RE1@10X 11-MW-1-20170710 0....	28-Jul-17	07:11:22
15	170727M1_111	1700856-11RE1@5X MW-31BR-20170711 0....	28-Jul-17	07:22:03
16	170727M1_112	IPA	28-Jul-17	07:32:49
17	170727M1_113	ST170727M1-~~13~~ 14 PFC CS3 17G2709	28-Jul-17	07:43:27

LC Calibration Standards Review Checklist Q4

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID: ST170727MI-14	L (M) H	N/A ☒	☑ (A)	☑	☑	☑	☑	☑
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	☐	☐	☐	☐	☐	☐	☐
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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: ____________________
Initials/Date

Comments:
(A) Not used for PFTrDA or PFTeDA.
AC 8/3/17

Vista Analytical Laboratory

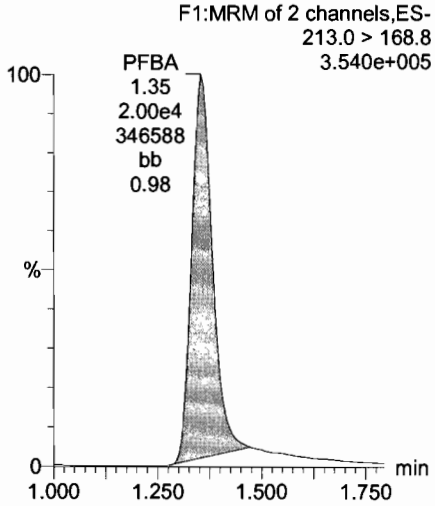
Dataset: U:\Q4.PRO\results\170727M1\170727M1-113.qld

Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

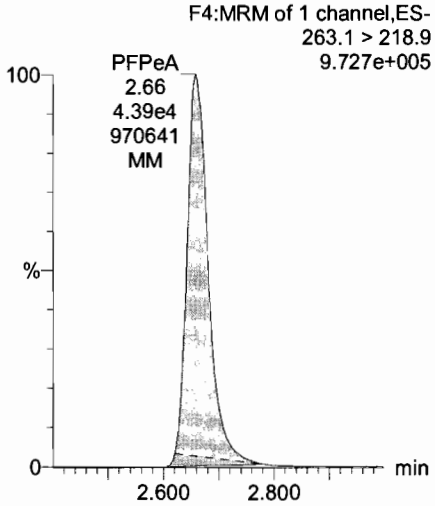
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

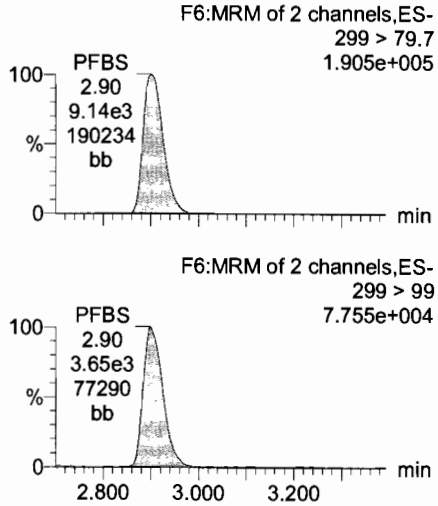
PFBA



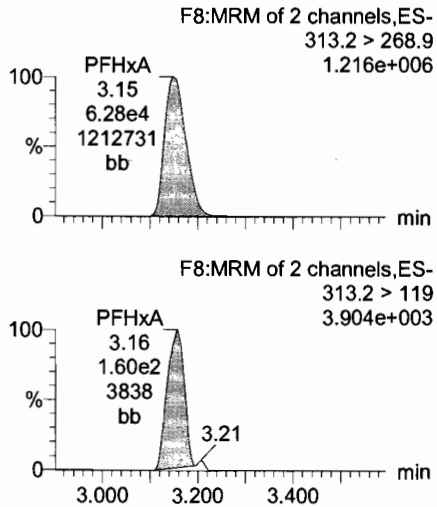
PFPeA



Total PFBS



PFHxA



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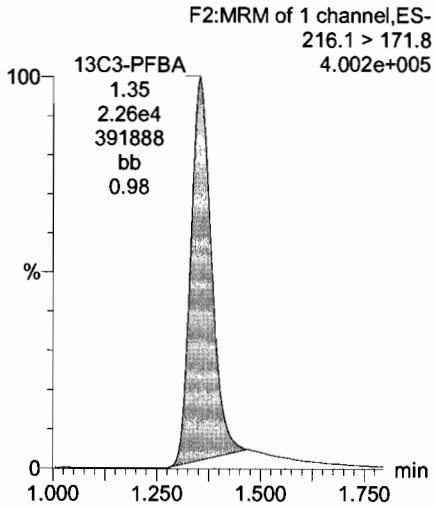

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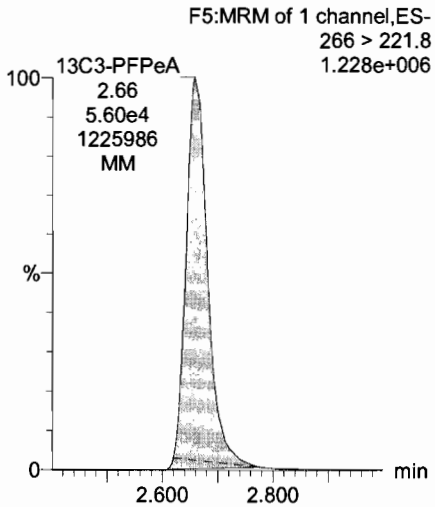

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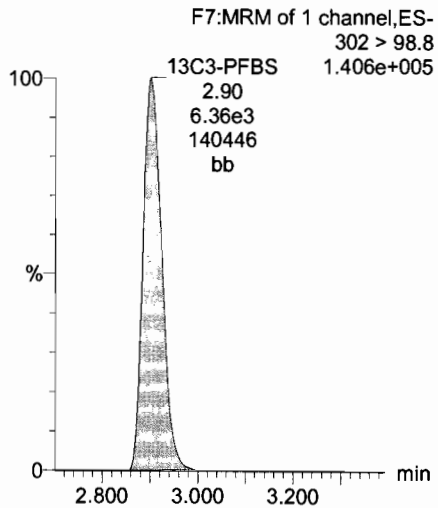

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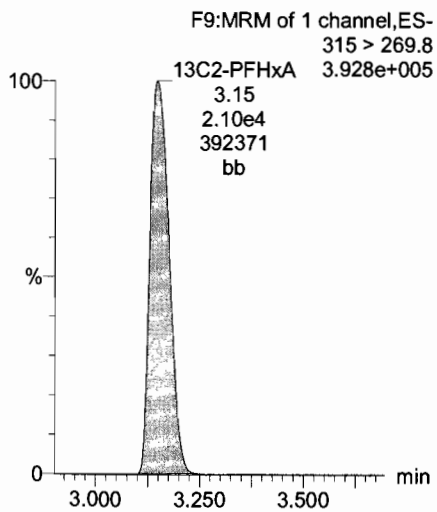

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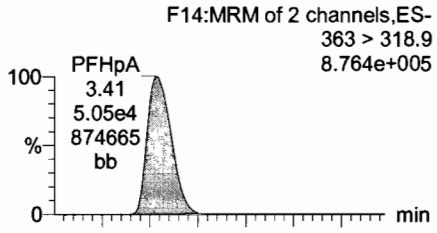
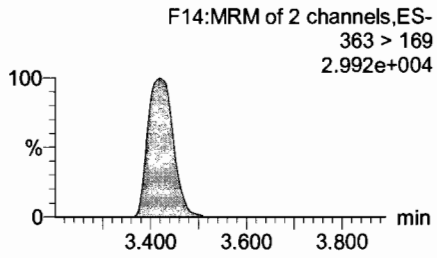
Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

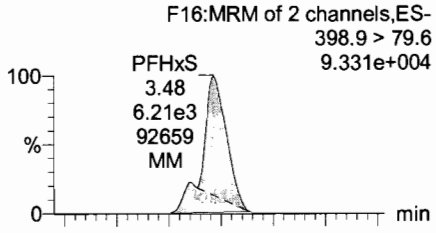
Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

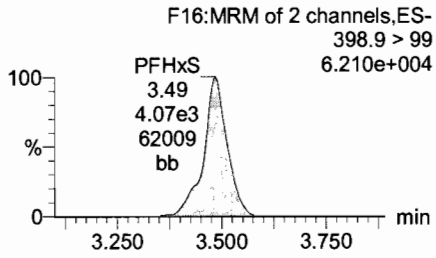
PFHpA



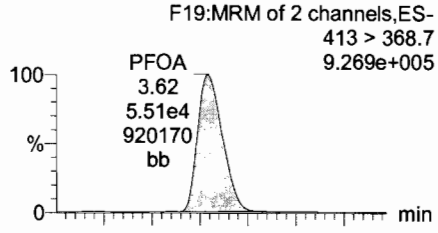


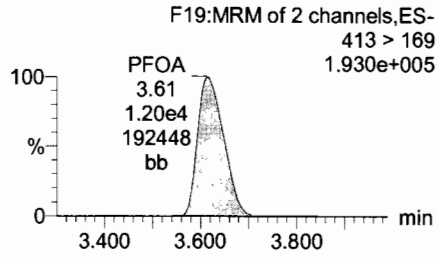
Total PFHxS





Total PFOA





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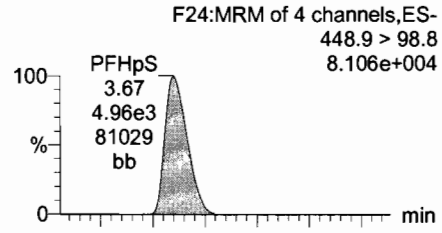

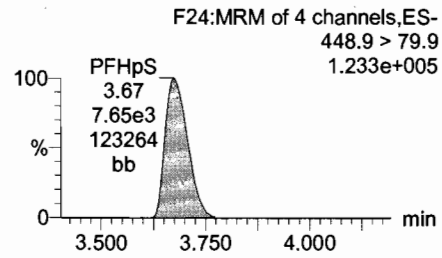

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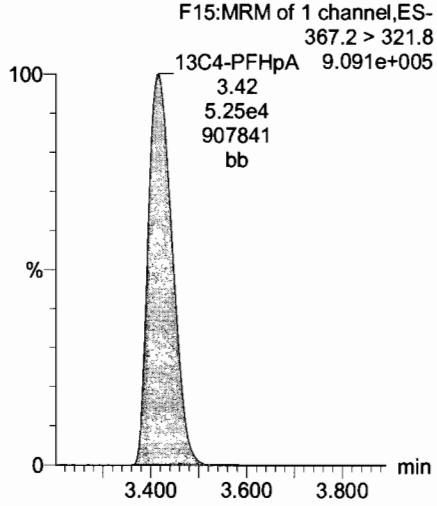

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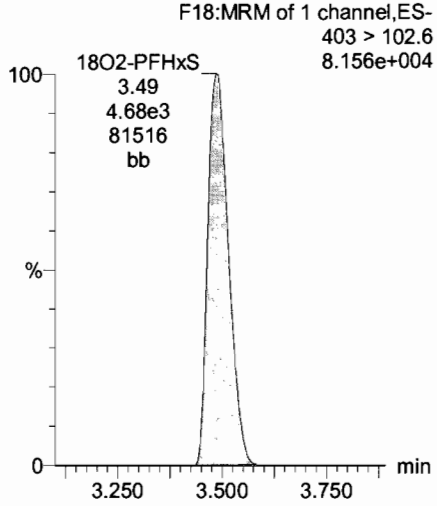

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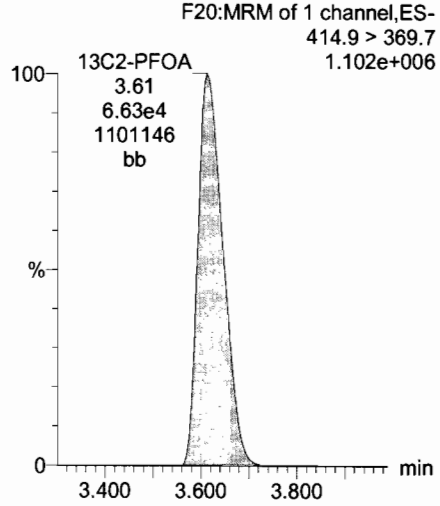
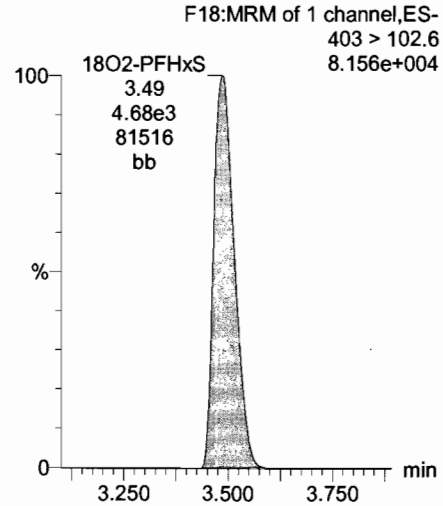


18O2-PFHxS



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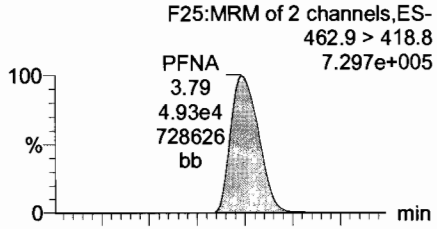
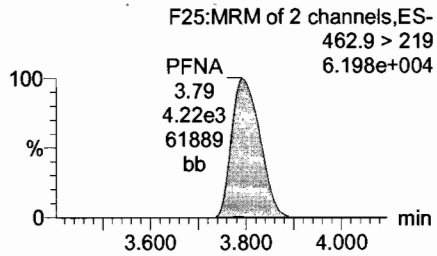
Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

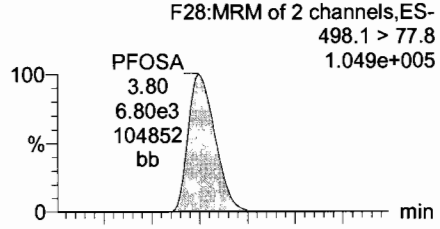
Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

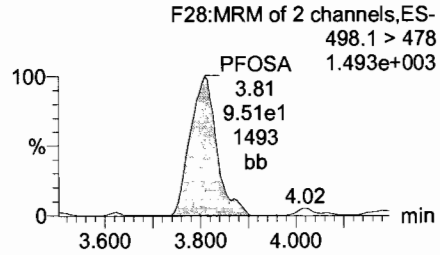
PFNA



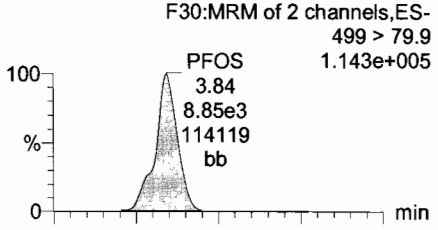


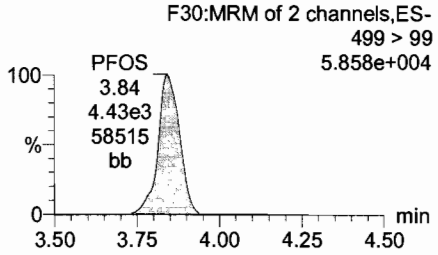
PFOSA



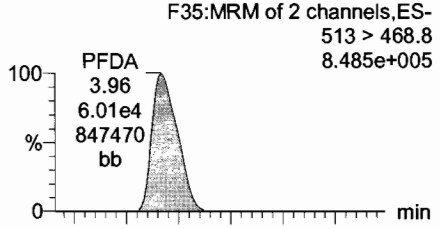


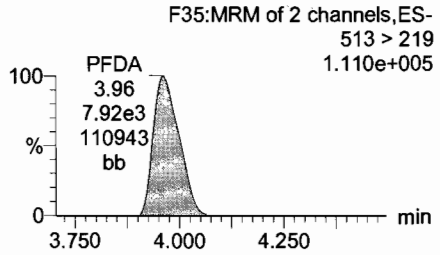
Total PFOS



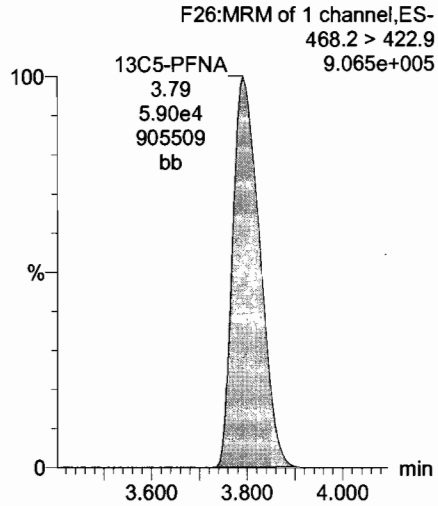


PFDA





13C5-PFNA



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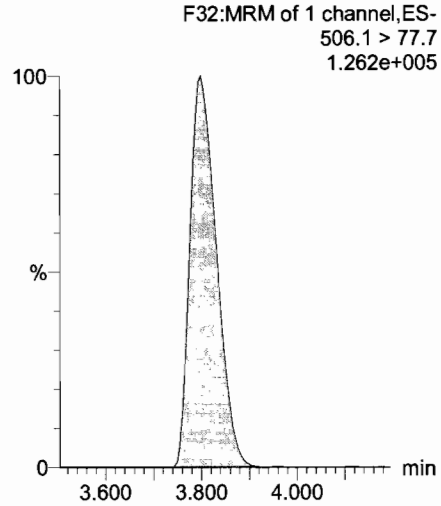

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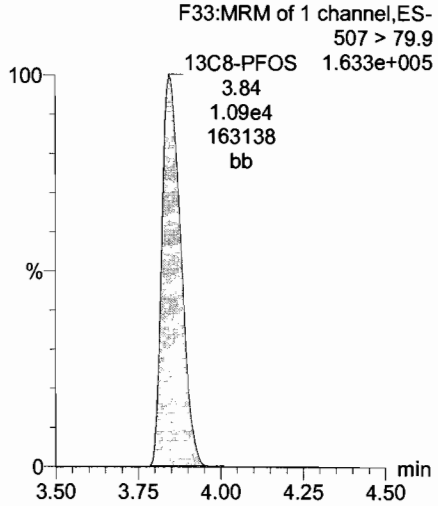

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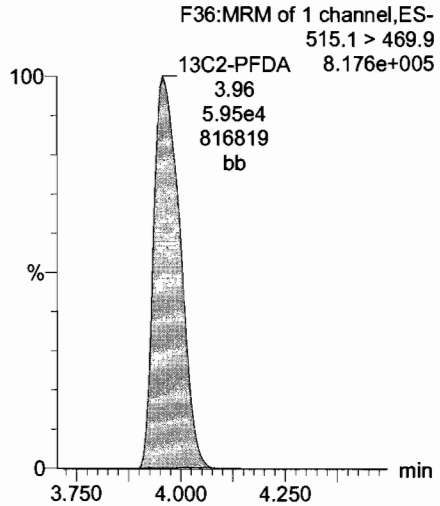

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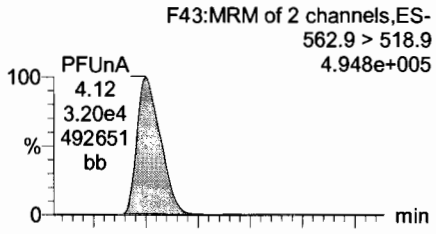
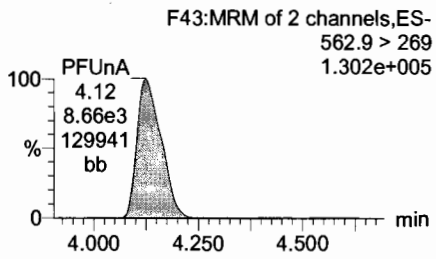
Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

PFUnA





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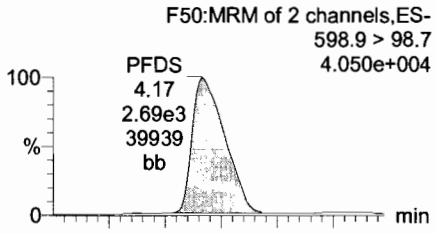
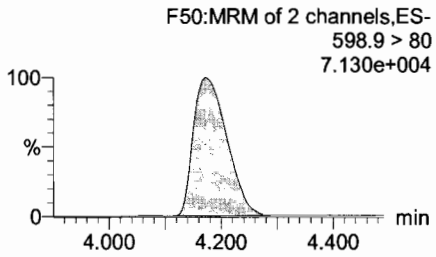
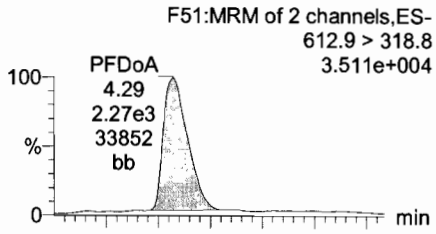
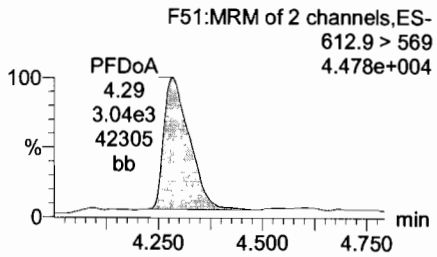


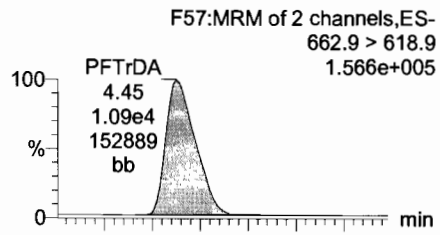


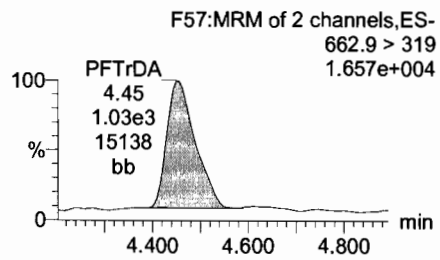
PFDoA





PFTrDA





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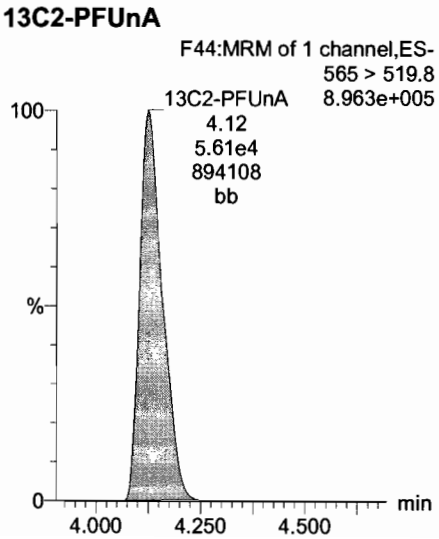

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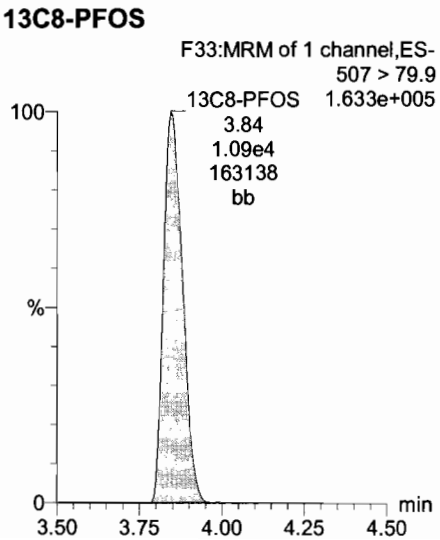

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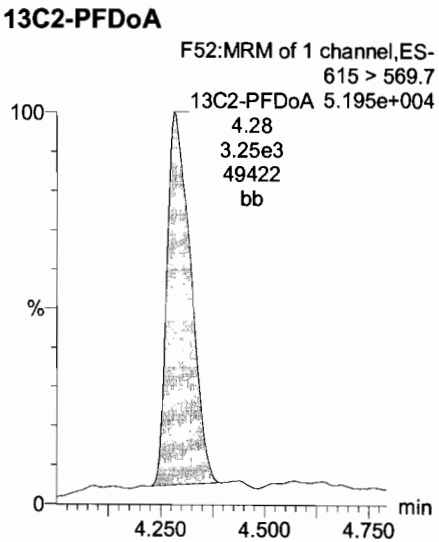
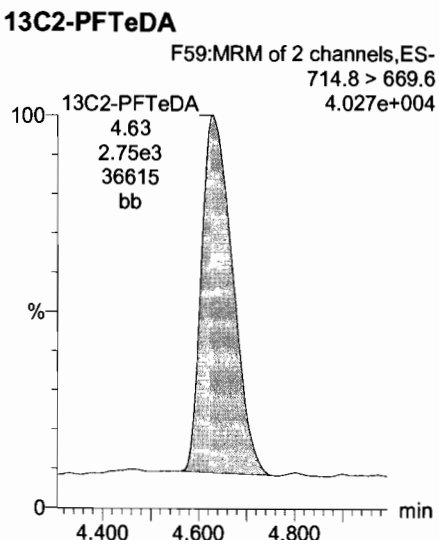


13C2-PFTeDA



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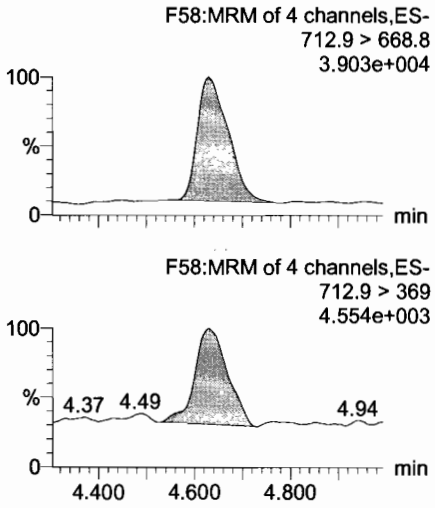
Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

PFTeDA



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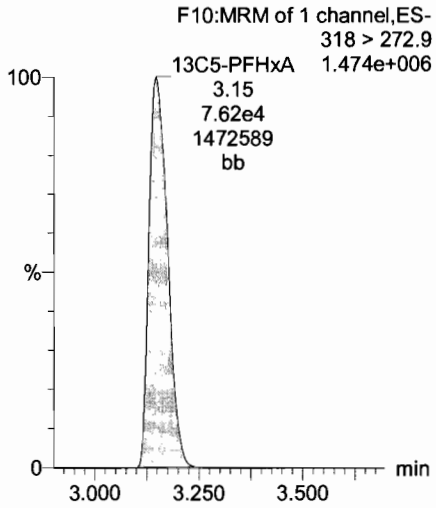

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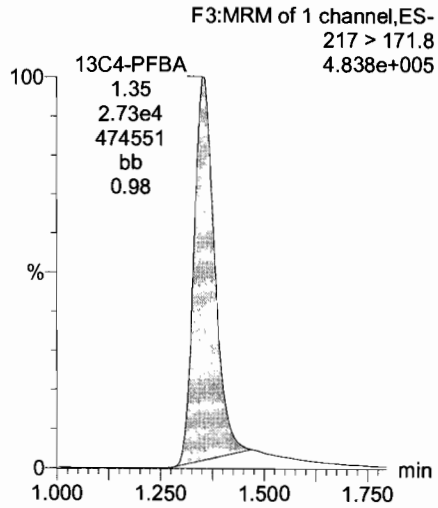

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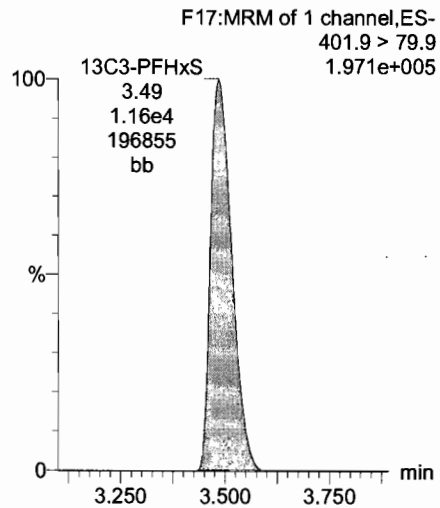

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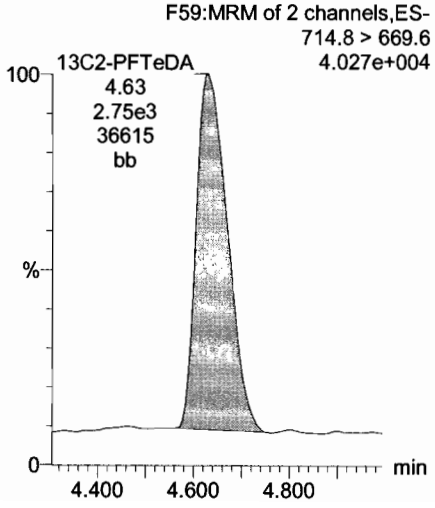
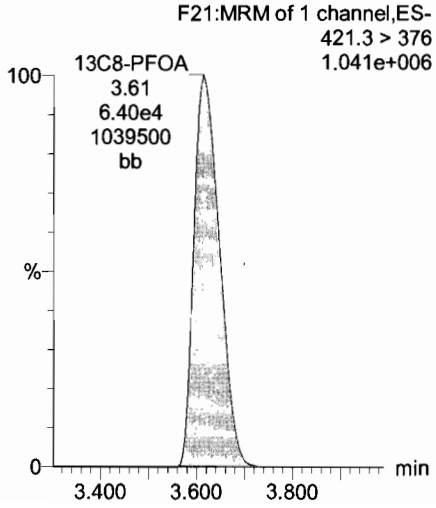


13C8-PFOA



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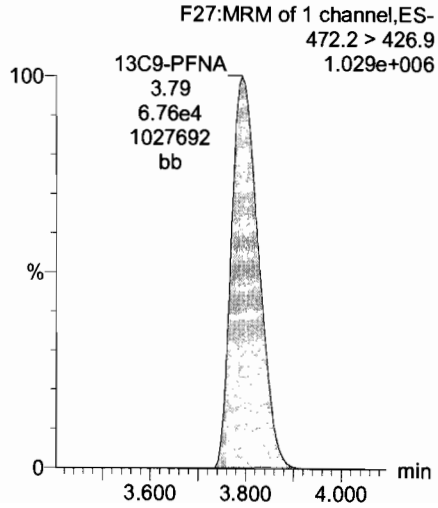
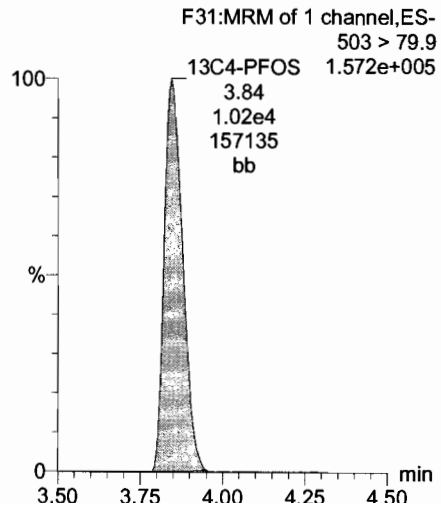


13C4-PFOS



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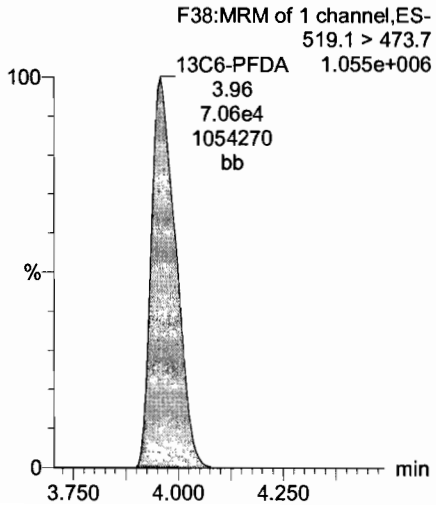
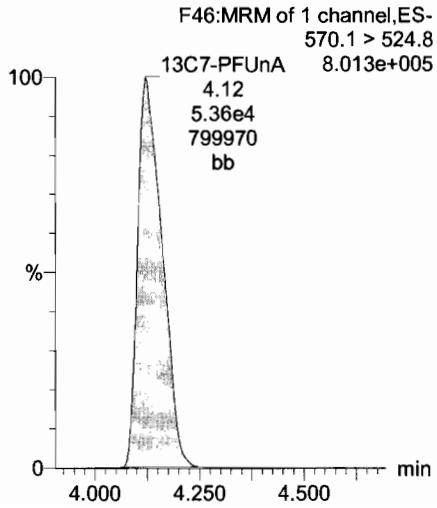
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

Last Altered: Tuesday, August 01, 2017 10:33:51 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:34:05 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	2.36e4	2.73e4	1.000		1.32	1.38	10.8	9.91	99.1
2	2	PFPeA	263.1 > 218.9	4.93e4	6.46e4	1.000		2.77	2.68	9.55	9.90	99.0
3	3	PFBS	299 > 79.7	1.21e4	8.63e3	1.000		2.96	2.91	17.5	9.41	94.1
4	4	PFHxA	313.2 > 268.9	9.41e4	3.34e4	1.000		3.19	3.16	14.1	10.0	100.0
5	5	PFHpA	363 > 318.9	7.42e4	7.62e4	1.000		3.45	3.43	12.2	10.3	102.7
6	6	PFHxS	398.9 > 79.6	8.99e3	7.05e3	1.000		3.56	3.50	15.9	9.53	95.3
7	7	PFOA	413 > 368.7	8.52e4	1.05e5	1.000		3.65	3.63	10.1	10.3	102.6
8	8	PFHpS	448.9 > 98.8	7.70e3	1.05e5	1.000		3.65	3.69	0.913	10.9	109.3
9	9	PFNA	462.9 > 418.8	7.97e4	8.90e4	1.000		3.83	3.81	11.2	10.4	104.0
10	10	PFOSA	498.1 > 77.8	8.89e3	1.09e4	1.000		3.84	3.82	10.2	9.22	92.2
11	11	PFOS	499 > 79.9	1.41e4	1.65e4	1.000		3.89	3.86	10.7	10.8	107.9
12	12	PFDA	513 > 468.8	9.32e4	9.81e4	1.000		4.01	3.98	11.9	9.70	97.0
13	13	N-MeFOSAA	570.1 > 419	2.49e4	2.05e4	1.000		4.03	4.01	198	10.0	100.3
14	14	N-EtFOSAA	584.2 > 419	1.89e4	1.92e4	1.000		4.10	4.08	160	10.5	104.6
15	15	PFUnA	562.9 > 518.9	6.08e4	1.08e5	1.000		4.11	4.15	7.07	9.49	94.9
16	16	PFDS	598.9 > 98.7	6.30e3	1.08e5	1.000		4.22	4.19	0.732	10.3	103.2
17	17	PFDoA	612.9 > 318.8	7.61e3	1.00e4	1.000		4.34	4.30	9.50	11.8	118.0
18	18	PFTrDA	662.9 > 618.9	8.49e4	1.00e4	1.000		4.50	4.47	106	10.8	107.6
19	19	PFTeDA	712.9 > 668.8	5.61e4	6.80e4	1.000		4.68	4.65	10.3	9.82	98.2
20	20	13C3-PFBA	216.1 > 171.8	2.73e4	2.73e4	1.000	1.068	1.32	1.38	12.5	11.7	93.7
21	21	13C3-PFPeA	266 > 221.8	6.46e4	9.98e4	1.000	0.271	2.77	2.68	3.24	11.9	95.4
22	22	13C3-PFBS	302 > 98.8	8.63e3	9.98e4	1.000	0.033	2.96	2.92	0.433	13.1	104.6
23	23	13C2-PFHxA	315 > 269.8	3.34e4	9.98e4	1.000	0.335	3.19	3.15	1.67	4.99	99.8
24	24	13C4-PFHpA	367.2 > 321.8	7.62e4	9.98e4	1.000	0.369	3.45	3.43	3.82	10.3	82.8
25	25	18O2-PFHxS	403 > 102.6	7.05e3	1.42e4	1.000	0.460	3.56	3.50	6.21	13.5	107.8
26	26	13C2-PFOA	414.9 > 369.7	1.05e5	7.70e4	1.000	1.293	3.65	3.63	17.1	13.2	105.9
27	27	13C5-PFNA	468.2 > 422.9	8.90e4	8.64e4	1.000	0.986	3.83	3.81	12.9	13.1	104.5
28	28	13C8-PFOSA	506.1 > 77.7	1.09e4	9.51e4	1.000	0.132	3.84	3.82	1.44	10.8	86.8
29	29	13C8-PFOS	507 > 79.9	1.65e4	1.46e4	1.000	1.184	3.89	3.86	14.1	11.9	95.3
30	30	13C2-PFDA	515.1 > 469.9	9.81e4	8.99e4	1.000	0.998	4.01	3.98	13.6	13.7	109.4
31	31	d3-N-MeFOSAA	573.3 > 419	2.05e4	9.51e4	1.000	0.018	4.03	4.01	2.69	152	93.6
32	32	d5-N-EtFOSAA	589.3 > 419	1.92e4	9.51e4	1.000	0.018	4.12	4.08	2.52	142	87.3

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DM 8/1/17

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Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

Last Altered: Tuesday, August 01, 2017 10:33:51 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:34:05 Pacific Daylight Time

Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33 13C2-PFUnA	565 > 519.8	1.08e5	9.51e4	1.000	1.129	4.17	4.14	14.1	12.5	100.2
34	34 13C2-PFDoA	615 > 569.7	1.00e4	9.51e4	1.000	0.116	4.34	4.30	1.32	11.3	90.8
35	35 13C2-PFTeDA	714.8 > 669.6	6.80e4	9.51e4	1.000	0.762	4.68	4.65	8.94	11.7	93.8
36	36 13C4-PFBA	217 > 171.8	2.73e4	2.73e4	1.000	1.000	1.32	1.38	12.5	12.5	100.0
37	37 13C5-PFHxA	318 > 272.9	9.98e4	9.98e4	1.000	1.000	3.19	3.16	5.00	5.00	100.0
38	38 13C3-PFHxS	401.9 > 79.9	1.42e4	1.42e4	1.000	1.000	3.56	3.50	12.5	12.5	100.0
39	39 13C8-PFOA	421.3 > 376	7.70e4	7.70e4	1.000	1.000	3.65	3.63	12.5	12.5	100.0
40	40 13C9-PFNA	472.2 > 426.9	8.64e4	8.64e4	1.000	1.000	3.83	3.81	12.5	12.5	100.0
41	41 13C4-PFOS	503 > 79.9	1.46e4	1.46e4	1.000	1.000	3.89	3.87	12.5	12.5	100.0
42	42 13C6-PFDA	519.1 > 473.7	8.99e4	8.99e4	1.000	1.000	4.01	3.98	12.5	12.5	100.0
43	43 13C7-PFUnA	570.1 > 524.8	9.51e4	9.51e4	1.000	1.000	4.17	4.15	12.5	12.5	100.0

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Sample List Report **MassLynx MassLynx V4.1 SCN945 SCN960**

Sample List: U:\Q4.PRO\SampleDB\170731M1.SPL
Last Modified: Monday, July 31, 2017 14:34:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:57:00 Pacific Daylight Time

Page Position (1, 1)

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2	170731M1_2	—	ST170731M1-1 PFC CS0 17G2826	PFC CS0 17G2826	1.0000	1:1	Analyte
3	170731M1_3	—	IPA	IPA	1.0000	1:48	Blank
4	170731M1_4	—	B7G0067-BS1 OPR 0.125	OPR	0.1250	1:3	Analyte
5	170731M1_5	—	IPA	IPA	1.0000	1:48	Blank
6	170731M1_6	—	B7G0067-BLK1 Method Blank 0.125	Method Blank	0.1250	1:4	Analyte
7	170731M1_7	—	1700855-01 TF5-EB-02 0.27357	TF5-EB-02	0.2736	1:5	Analyte
8	170731M1_8	—	1700855-02 TF5-MW-987 0.27423	TF5-MW-987	0.2742	1:6	Analyte
9	170731M1_9	—	1700855-03 TF5-MW-987D 0.27164	TF5-MW-987D	0.2716	1:7	Analyte
10	170731M1_10	—	B7G0067-MS1 Matrix Spike 0.27298	Matrix Spike	0.2730	1:8	Analyte
11	170731M1_11	—	B7G0067-MSD1 Matrix Spike Dup 0.2776	Matrix Spike Dup	0.2776	1:9	Analyte
12	170731M1_12	—	1700855-04 TF5-MW-987-D 0.26865	TF5-MW-987-D	0.2687	1:10	Analyte
13	170731M1_13	—	1700855-05 TF5-MW-991 0.2726	TF5-MW-991	0.2726	1:11	Analyte
14	170731M1_14	—	1700855-06 TF5-MW-991D 0.27278	TF5-MW-991D	0.2728	1:12	Analyte
15	170731M1_15	—	1700855-07 TF5-MW-993 0.26881	TF5-MW-993	0.2688	1:13	Analyte
16	170731M1_16	—	1700855-08 TF5-MW-993D 0.2612	TF5-MW-993D	0.2612	1:14	Analyte
17	170731M1_17	—	1700855-09 TF5-MW-994 0.25188	TF5-MW-994	0.2519	1:15	Analyte
18	170731M1_18	—	1700845-03@40X MW-27S-20170707 0.11824	MW-27S-20170707	0.1182	1:16	Analyte
19	170731M1_19	—	IPA	IPA	1.0000	1:48	Blank
20	170731M1_20	—	ST170731M1-2 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
21	170731M1_21	—	IPA	IPA	1.0000	1:48	Blank
22	170731M1_22	—	1700871-01 EB03-20170712 0.12146	EB03-20170712	0.1215	1:17	Analyte
23	170731M1_23	—	1700871-02 5-GW-05_DGMW41B-20170712 0.11547	5-GW-05_DGMW41B-20170712	0.1155	1:18	Analyte
24	170731M1_24	—	1700871-03 18-GW-18BGM03E-20170712 0.11765	18-GW-18BGM03E-20170712	0.1177	1:19	Analyte
25	170731M1_25	—	1700871-04 24-GW-24IN03-20170712 0.11741	24-GW-24IN03-20170712	0.1174	1:20	Analyte
26	170731M1_26	—	1700871-05 DUP02-20170712 0.11807	DUP02-20170712	0.1181	1:21	Analyte
27	170731M1_27	—	1700871-06 24-GW-24EX13A-20170712 0.11851	24-GW-24EX13A-20170712	0.1185	1:22	Analyte
28	170731M1_28	—	1700871-07 24-GW-24MW15D-20170712 0.1193	24-GW-24MW15D-20170712	0.1193	1:23	Analyte
29	170731M1_29	—	1700871-08 16-GW-16_MW28-20170712 0.11899	16-GW-16_MW28-20170712	0.1190	1:24	Analyte
30	170731M1_30	—	1700871-09 16-GW-16_MW19-20170712 0.11913	16-GW-16_MW19-20170712	0.1191	1:25	Analyte
31	170731M1_31	—	1700871-10 EB04-20170713 0.11646	EB04-20170713	0.1165	1:26	Analyte
32	170731M1_32	—	1700871-11 16-GW-16_MW04-20170713 0.12043	16-GW-16_MW04-20170713	0.1204	1:27	Analyte
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34	170731M1_34	—	ST170731M1-3 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
35	170731M1_35	—	IPA	IPA	1.0000	1:48	Blank
36	170731M1_36	—	1700856-12RE1@5X MW-31S-20170711 0.11732	MW-31S-20170711	0.1173	1:28	Analyte
37	170731M1_37	—	1700935-01 RES29-BLK_20170726 0.11182	RES29-BLK_20170726	0.1118	1:29	Analyte
38	170731M1_38	—	1700935-04 RES29-GAC2_20170726 0.12639	RES29-GAC2_20170726	0.1264	1:30	Analyte
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40	170731M1_40	—	ST170731M1-4 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte

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41	170731M1_41	—	IPA	IPA	1.0000	1:48	Blank
42	170731M1_42	—	B7G0122-BS1 OPR 0.25	OPR	0.2500	1:31	Analyte
43	170731M1_43	—	IPA	IPA	1.0000	1:48	Blank
44	170731M1_44	—	B7G0122-BLK1 Method Blank 0.25	Method Blank	0.2500	1:32	Analyte
45	170731M1_45	—	1700891-06RE1 VEL FOAM 0.17113	VEL FOAM	0.1711	1:33	Analyte
46	170731M1_46	—	1700920-01 RCDM-MW-28S-20170719 0.1113	RCDM-MW-28S-20170719	0.1113	1:34	Analyte
47	170731M1_47	—	1700920-02 LF-MW-12S-20170719 0.11113	LF-MW-12S-20170719	0.1111	1:35	Analyte
48	170731M1_48	—	1700920-03 RCDM-MW-14S-20170720 0.11405	RCDM-MW-14S-20170720	0.1141	1:36	Analyte
49	170731M1_49	—	1700920-04 MH-DUP01-20170720 0.12177	MH-DUP01-20170720	0.1218	1:37	Analyte
50	170731M1_50	—	1700920-05 MH-A97-20170720 0.12086	MH-A97-20170720	0.1209	1:38	Analyte
51	170731M1_51	—	1700920-06 MH-H93-20170720 0.11357	MH-H93-20170720	0.1136	1:39	Analyte
52	170731M1_52	—	IPA	IPA	1.0000	1:48	Blank
53	170731M1_53	—	ST170731M1-5 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
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55	170731M1_55	—	1700920-07 RCDM-BLANK-20170720 0.11872	RCDM-BLANK-20170720	0.1187	1:40	Analyte
56	170731M1_56	—	1700920-08 MH-C94-20170720 0.11568	MH-C94-20170720	0.1157	1:41	Analyte
57	170731M1_57	—	1700920-09 RCDM-MW-13S-20170719 0.11866	RCDM-MW-13S-20170719	0.1187	1:42	Analyte
58	170731M1_58	—	1700920-10 LF-MW-14S-20170720 0.11481	LF-MW-14S-20170720	0.1148	1:43	Analyte
59	170731M1_59	—	1700920-11 LF-MW-11BR-20170720 0.11664	LF-MW-11BR-20170720	0.1166	1:44	Analyte
60	170731M1_60	—	1700920-12 LF-MW-13S-20170719 0.11667	LF-MW-13S-20170719	0.1167	1:45	Analyte
61	170731M1_61	—	1700920-13 RCDM-MW-11BR-20170720 0.11813	RCDM-MW-11BR-20170720	0.1181	1:46	Analyte
62	170731M1_62	—	1700920-14 RCDM-MW-12S-20170719 0.11619	RCDM-MW-12S-20170719	0.1162	1:47	Analyte
63	170731M1_63	—	1700920-15 LF-MW-28S-20170719 0.11572	LF-MW-28S-20170719	0.1157	2:1	Analyte
64	170731M1_64	—	1700920-16 DUP-07-20170719 0.12023	DUP-07-20170719	0.1202	2:2	Analyte
65	170731M1_65	—	1700920-17 FRB04-20170719 0.11007	FRB04-20170719	0.1101	2:3	Analyte
66	170731M1_66	—	IPA	IPA	1.0000	1:48	Blank
67	170731M1_67	—	ST170731M1-6 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
68	170731M1_68	—	IPA	IPA	1.0000	1:48	Blank

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

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Printed: Tuesday, August 01, 2017 10:34:05 Pacific Daylight Time

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Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

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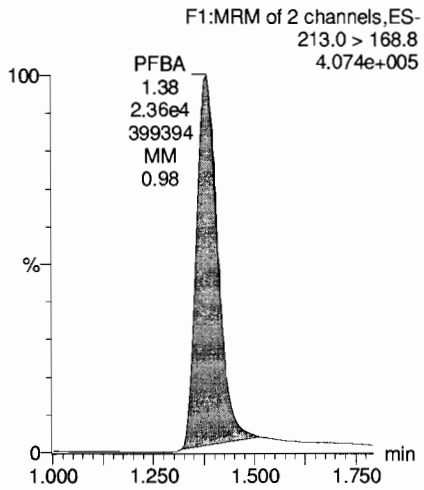

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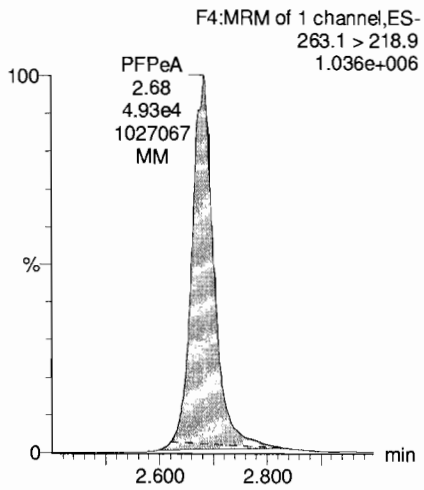

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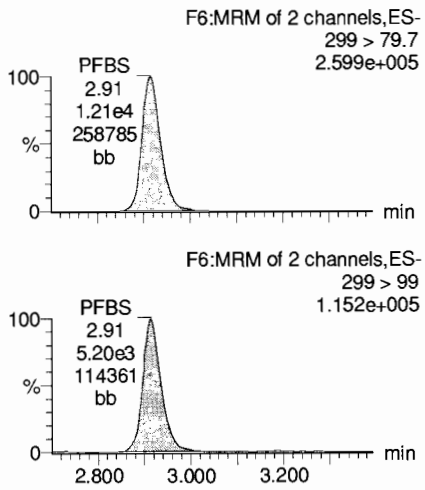

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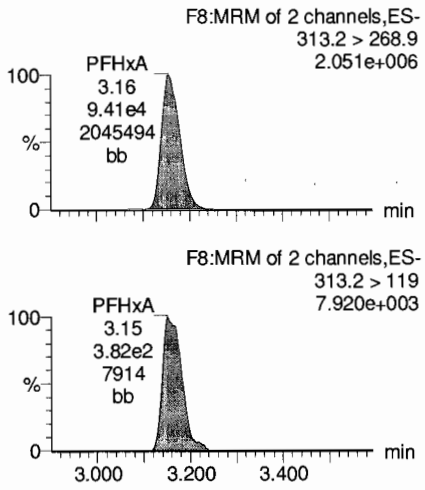

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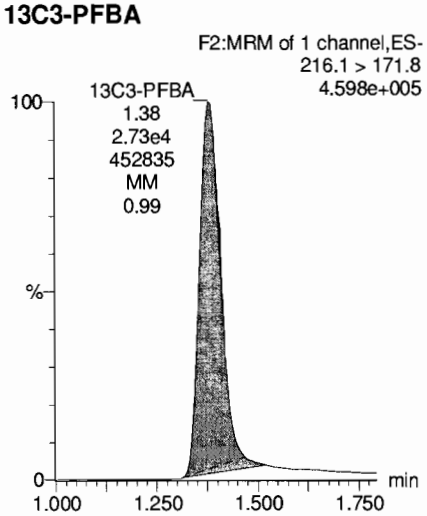

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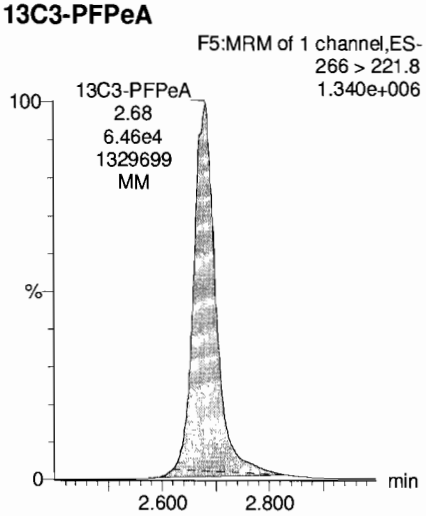

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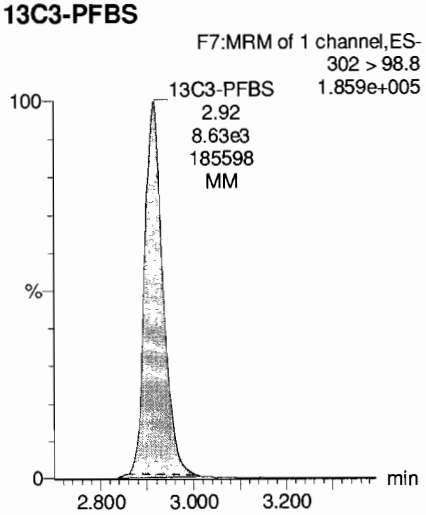

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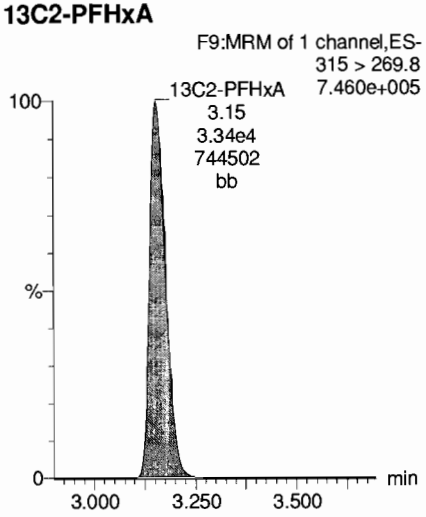

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Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

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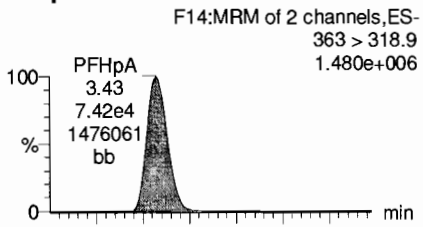

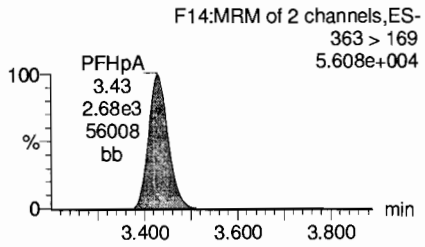

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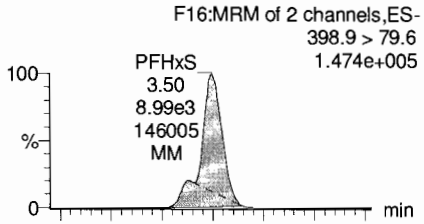

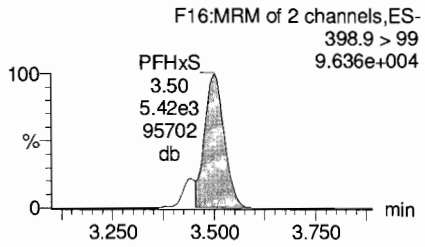

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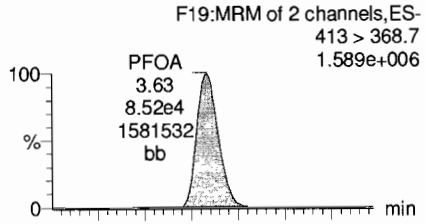

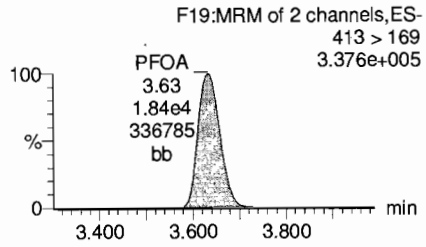

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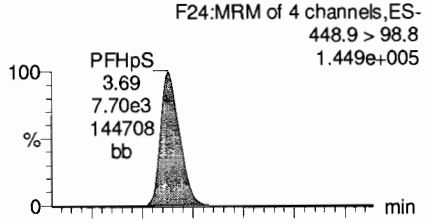

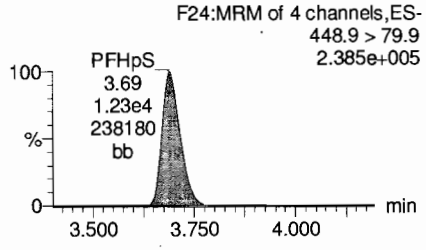

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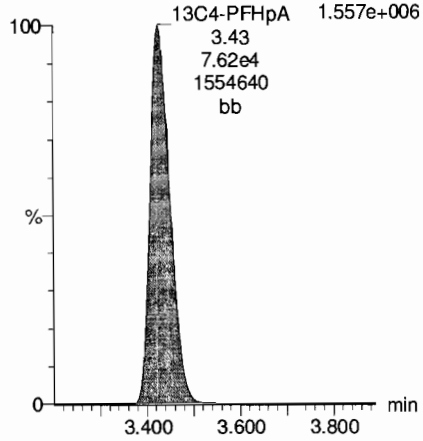

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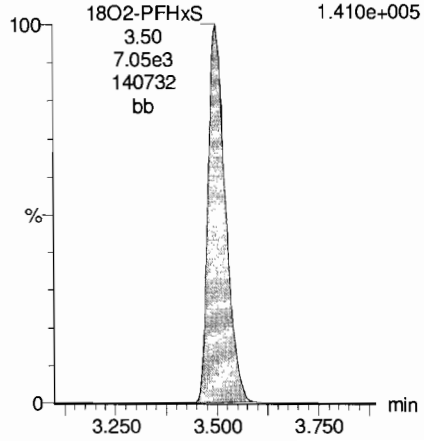

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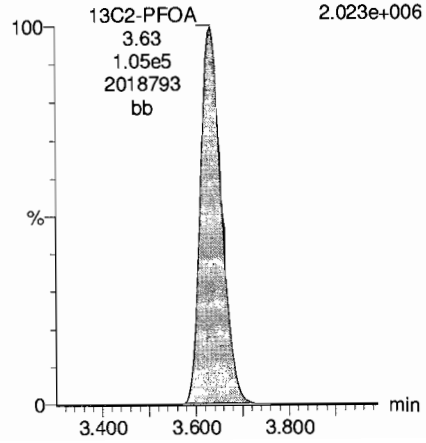

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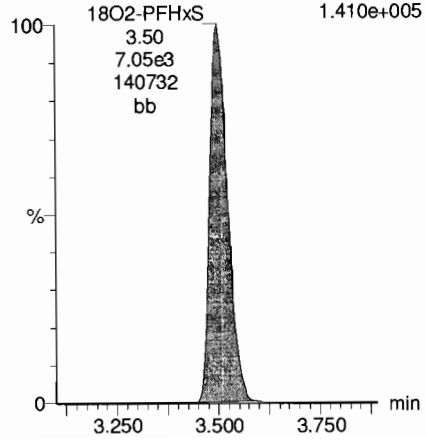

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Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

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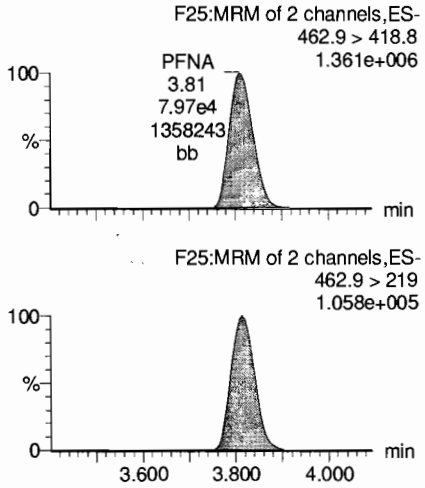

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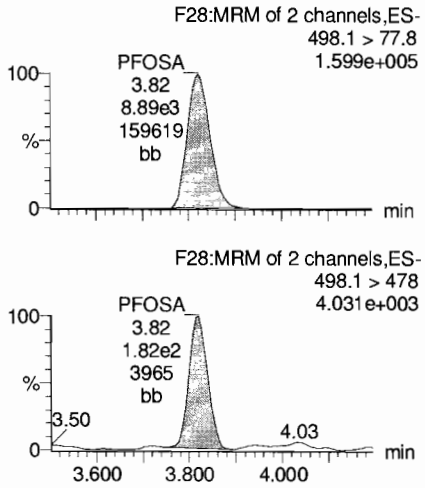

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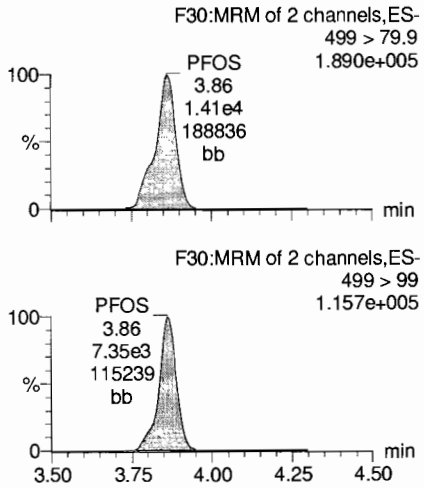

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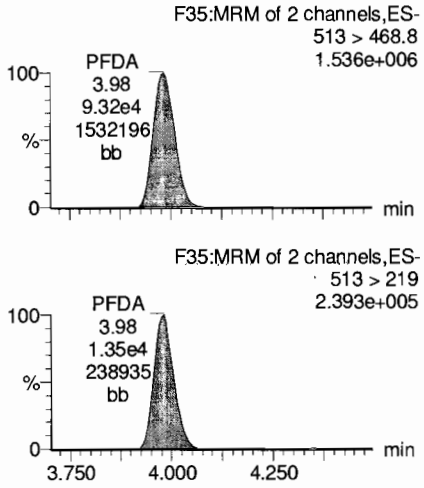

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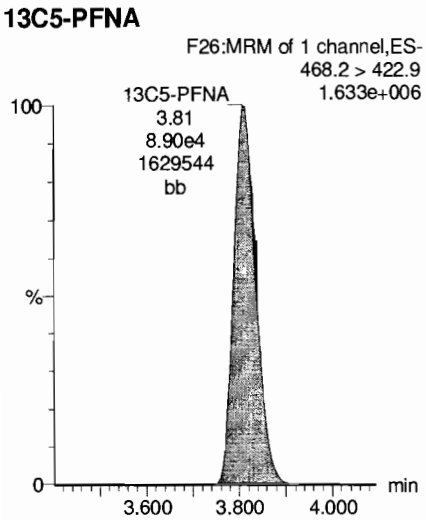

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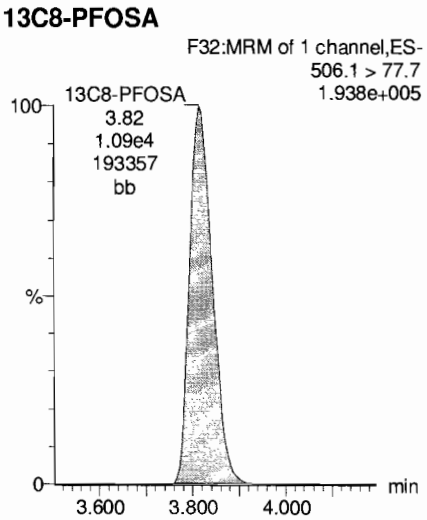

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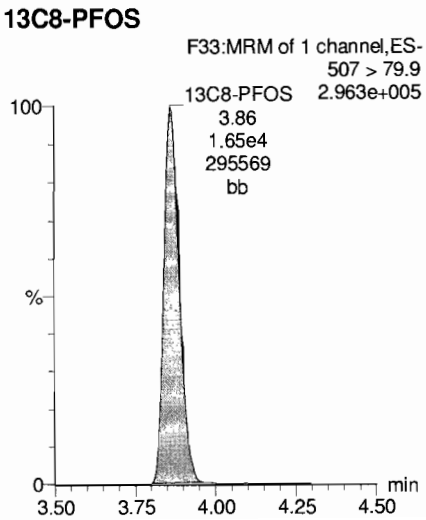

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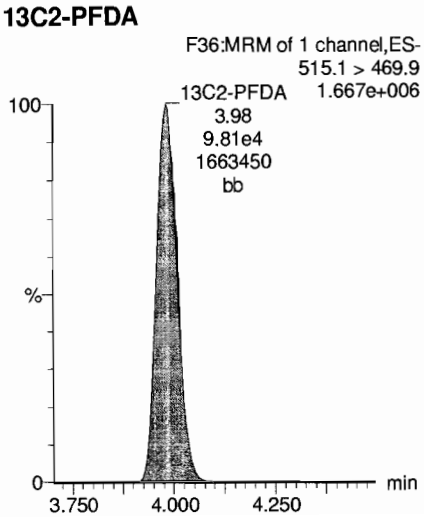

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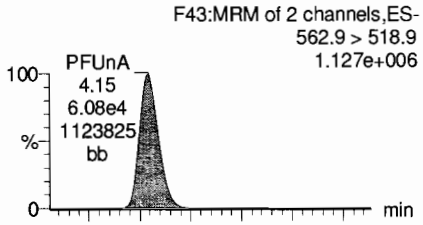

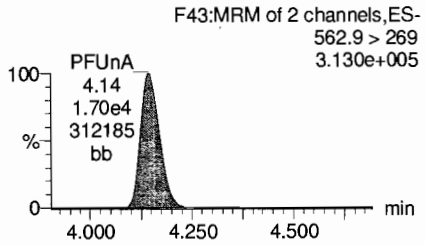

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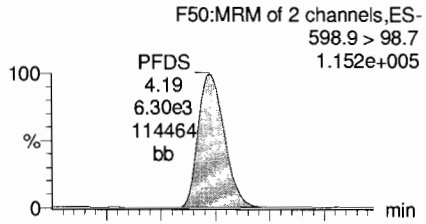
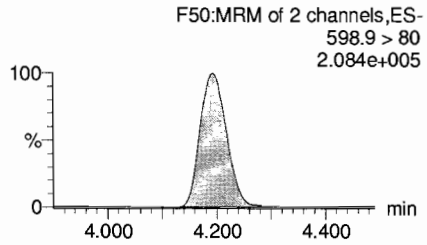
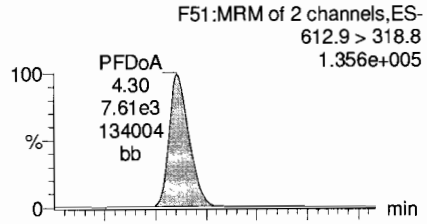
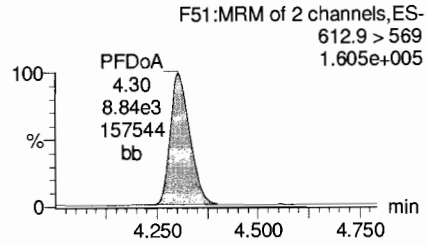


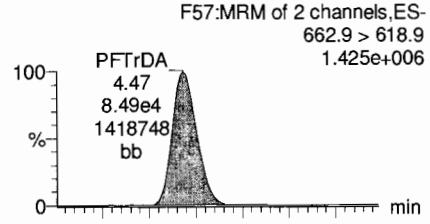


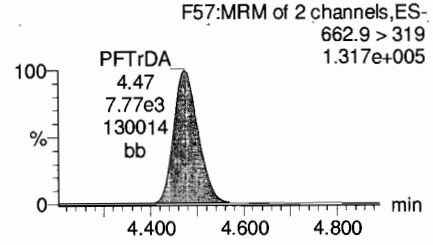
PFDoA



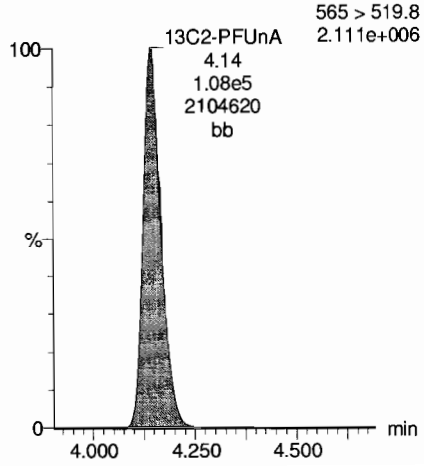


PFTrDA

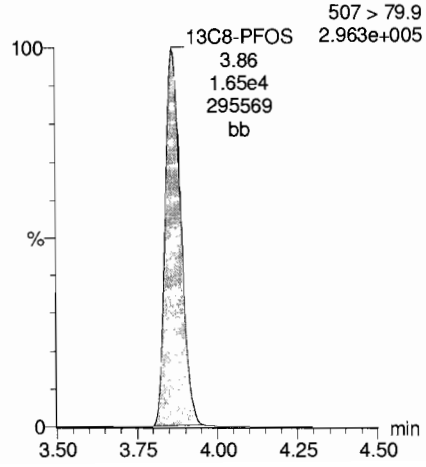




13C2-PFUnA



13C8-PFOS



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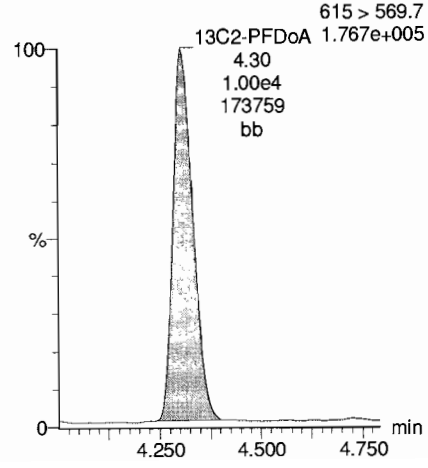
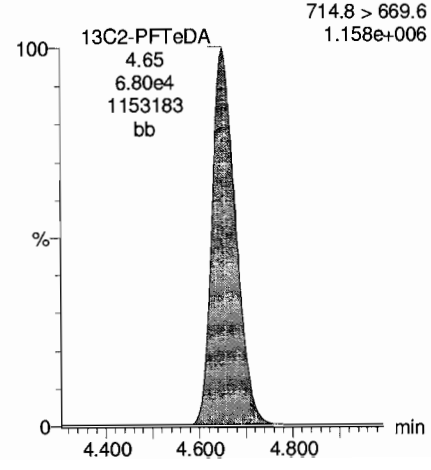


13C2-PFTeDA

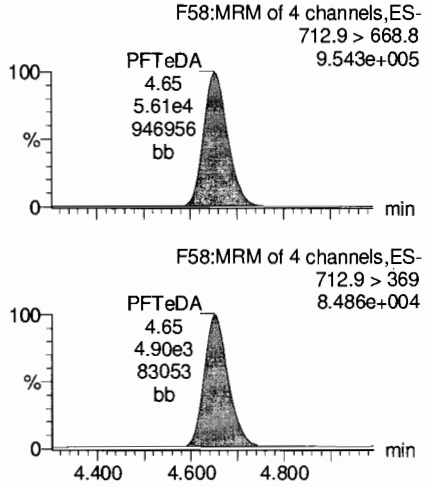


Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

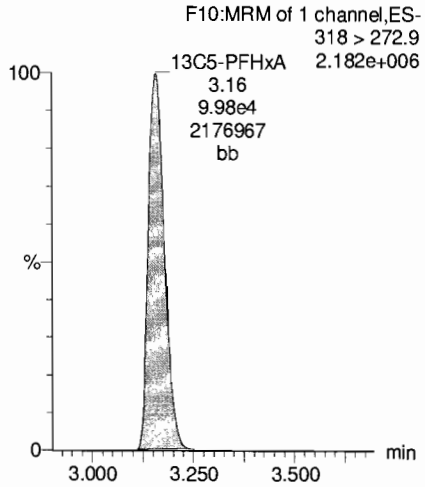
Last Altered: Tuesday, August 01, 2017 10:22:05 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:22:30 Pacific Daylight Time

Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

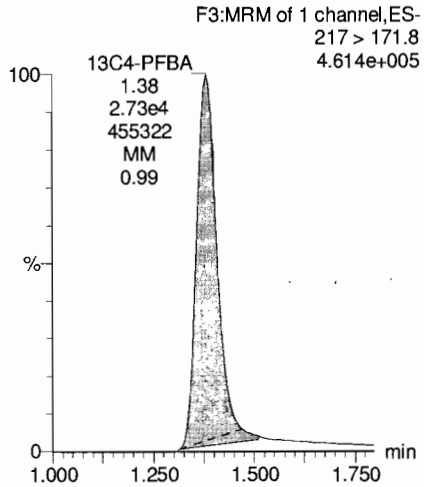
PFTeDA



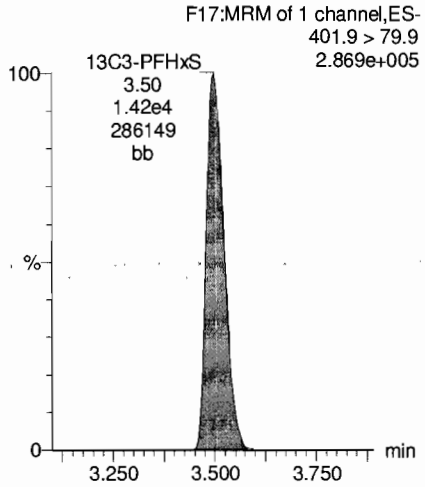
13C5-PFHxA



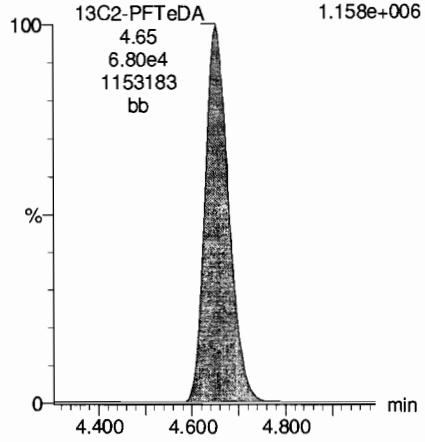
13C4-PFBA



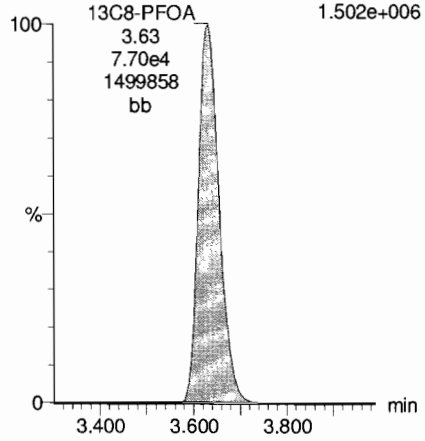
13C3-PFHxS



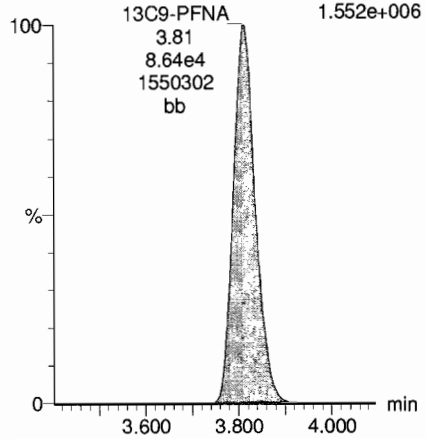
13C2-PFTeDA



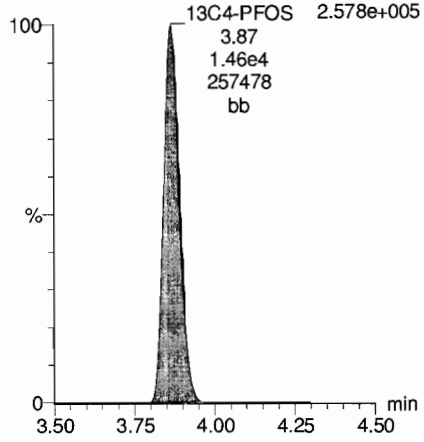
13C8-PFOA



13C9-PFNA



13C4-PFOS



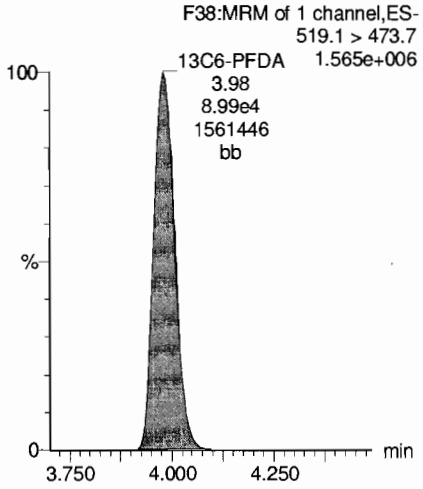
Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

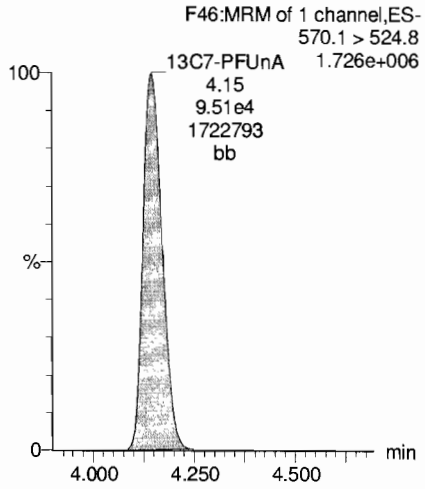
Last Altered: Tuesday, August 01, 2017 10:22:05 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:22:30 Pacific Daylight Time

Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

Last Altered: Tuesday, August 01, 2017 10:35:04 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:35:10 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

	#	Name	Trace	Area	IS Area	Wt/Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	2.37e4	2.80e4	1.000		1.32	1.39	10.6	9.66	96.6
2	2	PFPeA	263.1 > 218.9	5.31e4	6.80e4	1.000		2.77	2.69	9.76	10.1	101.3
3	3	PFBS	299 > 79.7	1.32e4	9.40e3	1.000		2.96	2.92	17.6	9.48	94.8
4	4	PFHxA	313.2 > 268.9	1.00e5	3.52e4	1.000		3.19	3.16	14.3	10.1	101.3
5	5	PFHpA	363 > 318.9	7.17e4	7.78e4	1.000		3.45	3.43	11.5	9.72	97.2
6	6	PFHxS	398.9 > 79.6	8.97e3	6.97e3	1.000		3.56	3.50	16.1	9.63	96.3
7	7	PFOA	413 > 368.7	8.54e4	1.12e5	1.000		3.65	3.63	9.56	9.70	97.0
8	8	PFHpS	448.9 > 98.8	7.99e3	1.12e5	1.000		3.65	3.69	0.893	10.7	106.9
9	9	PFNA	462.9 > 418.8	8.05e4	9.84e4	1.000		3.83	3.81	10.2	9.49	94.9
10	10	PFOSA	498.1 > 77.8	8.92e3	1.06e4	1.000		3.84	3.82	10.5	9.51	95.1
11	11	PFOS	499 > 79.9	1.46e4	1.84e4	1.000		3.89	3.86	9.95	10.0	100.1
12	12	PFDA	513 > 468.8	8.50e4	8.50e4	1.000		4.01	3.98	12.5	10.2	102.3
13	13	N-MeFOSAA	570.1 > 419	2.45e4	2.05e4	1.000		4.03	4.01	195	9.86	98.6
14	14	N-EtFOSAA	584.2 > 419	1.94e4	2.00e4	1.000		4.10	4.08	158	10.3	102.9
15	15	PFUnA	562.9 > 518.9	6.09e4	1.01e5	1.000		4.11	4.15	7.50	10.1	100.8
16	16	PFDS	598.9 > 98.7	6.30e3	1.01e5	1.000		4.22	4.19	0.776	11.0	109.5
17	17	PFDoA	612.9 > 318.8	7.73e3	9.84e3	1.000		4.34	4.30	9.82	12.2	122.1
18	18	PFTrDA	662.9 > 618.9	8.56e4	9.84e3	1.000		4.50	4.47	109	11.0	110.4
19	19	PFTeDA	712.9 > 668.8	5.77e4	6.80e4	1.000		4.68	4.66	10.6	10.1	101.1
20	20	13C3-PFBA	216.1 > 171.8	2.80e4	2.73e4	1.000	1.068	1.32	1.40	12.8	12.0	95.9
21	21	13C3-PFPeA	266 > 221.8	6.80e4	9.67e4	1.000	0.271	2.77	2.69	3.51	13.0	103.6
22	22	13C3-PFBS	302 > 98.8	9.40e3	9.67e4	1.000	0.033	2.96	2.92	0.486	14.7	117.5
23	23	13C2-PFHxA	315 > 269.8	3.52e4	9.67e4	1.000	0.335	3.19	3.16	1.82	5.42	108.4
24	24	13C4-PFHpA	367.2 > 321.8	7.78e4	9.67e4	1.000	0.369	3.45	3.43	4.02	10.9	87.2
25	25	18O2-PFHxS	403 > 102.6	6.97e3	1.39e4	1.000	0.460	3.56	3.50	6.25	13.6	108.6
26	26	13C2-PFOA	414.9 > 369.7	1.12e5	8.09e4	1.000	1.293	3.65	3.63	17.3	13.4	106.8
27	27	13C5-PFNA	468.2 > 422.9	9.84e4	8.92e4	1.000	0.986	3.83	3.81	13.8	14.0	112.0
28	28	13C8-PFOSA	506.1 > 77.7	1.06e4	8.45e4	1.000	0.132	3.84	3.82	1.57	11.9	94.9
29	29	13C8-PFOS	507 > 79.9	1.84e4	1.50e4	1.000	1.184	3.89	3.87	15.3	12.9	103.2
30	30	13C2-PFDA	515.1 > 469.9	8.50e4	8.94e4	1.000	0.998	4.01	3.99	11.9	11.9	95.2
31	31	d3-N-MeFOSAA	573.3 > 419	2.05e4	8.45e4	1.000	0.018	4.03	4.01	3.02	171	105.2
32	32	d5-N-EtFOSAA	589.3 > 419	2.00e4	8.45e4	1.000	0.018	4.12	4.08	2.96	166	102.4

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50-150 DM 8/1/17

DM 8/1/17

50-150

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

Last Altered: Tuesday, August 01, 2017 10:35:04 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:35:10 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33 13C2-PFUnA	565 > 519.8	1.01e5	8.45e4	1.000	1.129	4.17	4.15	15.0	13.3	106.3
34	34 13C2-PFDoA	615 > 569.7	9.84e3	8.45e4	1.000	0.116	4.34	4.30	1.46	12.5	100.4
35	35 13C2-PFTeDA	714.8 > 669.6	6.80e4	8.45e4	1.000	0.762	4.68	4.66	10.1	13.2	105.5
36	36 13C4-PFBA	217 > 171.8	2.73e4	2.73e4	1.000	1.000	1.32	1.40	12.5	12.5	100.0
37	37 13C5-PFHxA	318 > 272.9	9.67e4	9.67e4	1.000	1.000	3.19	3.16	5.00	5.00	100.0
38	38 13C3-PFHxS	401.9 > 79.9	1.39e4	1.39e4	1.000	1.000	3.56	3.50	12.5	12.5	100.0
39	39 13C8-PFOA	421.3 > 376	8.09e4	8.09e4	1.000	1.000	3.65	3.63	12.5	12.5	100.0
40	40 13C9-PFNA	472.2 > 426.9	8.92e4	8.92e4	1.000	1.000	3.83	3.81	12.5	12.5	100.0
41	41 13C4-PFOS	503 > 79.9	1.50e4	1.50e4	1.000	1.000	3.89	3.87	12.5	12.5	100.0
42	42 13C6-PFDA	519.1 > 473.7	8.94e4	8.94e4	1.000	1.000	4.01	3.98	12.5	12.5	100.0
43	43 13C7-PFUnA	570.1 > 524.8	8.45e4	8.45e4	1.000	1.000	4.17	4.14	12.5	12.5	100.0

50-150 ↓

Sample List Report **MassLynx MassLynx V4.1 SCN945 SCN960**

Sample List: U:\Q4.PRO\SampleDB\170731M1.SPL
Last Modified: Monday, July 31, 2017 14:34:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:57:00 Pacific Daylight Time

Page Position (1, 1)

	File Name	RS OK=X	Sample ID	File Text	User Divisor 1	Bottle	Sample Type
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2	170731M1_2	—	ST170731M1-1 PFC CS0 17G2826	PFC CS0 17G2826	1.0000	1:1	Analyte
3	170731M1_3	—	IPA	IPA	1.0000	1:48	Blank
4	170731M1_4	—	B7G0067-BS1 OPR 0.125	OPR	0.1250	1:3	Analyte
5	170731M1_5	—	IPA	IPA	1.0000	1:48	Blank
6	170731M1_6	—	B7G0067-BLK1 Method Blank 0.125	Method Blank	0.1250	1:4	Analyte
7	170731M1_7	—	1700855-01 TF5-EB-02 0.27357	TF5-EB-02	0.2736	1:5	Analyte
8	170731M1_8	—	1700855-02 TF5-MW-987 0.27423	TF5-MW-987	0.2742	1:6	Analyte
9	170731M1_9	—	1700855-03 TF5-MW-987D 0.27164	TF5-MW-987D	0.2716	1:7	Analyte
10	170731M1_10	—	B7G0067-MS1 Matrix Spike 0.27298	Matrix Spike	0.2730	1:8	Analyte
11	170731M1_11	—	B7G0067-MSD1 Matrix Spike Dup 0.2776	Matrix Spike Dup	0.2776	1:9	Analyte
12	170731M1_12	—	1700855-04 TF5-MW-987-D 0.26865	TF5-MW-987-D	0.2687	1:10	Analyte
13	170731M1_13	—	1700855-05 TF5-MW-991 0.2726	TF5-MW-991	0.2726	1:11	Analyte
14	170731M1_14	—	1700855-06 TF5-MW-991D 0.27278	TF5-MW-991D	0.2728	1:12	Analyte
15	170731M1_15	—	1700855-07 TF5-MW-993 0.26881	TF5-MW-993	0.2688	1:13	Analyte
16	170731M1_16	—	1700855-08 TF5-MW-993D 0.2612	TF5-MW-993D	0.2612	1:14	Analyte
17	170731M1_17	—	1700855-09 TF5-MW-994 0.25188	TF5-MW-994	0.2519	1:15	Analyte
18	170731M1_18	—	1700845-03@40X MW-27S-20170707 0.11824	MW-27S-20170707	0.1182	1:16	Analyte
19	170731M1_19	—	IPA	IPA	1.0000	1:48	Blank
20	170731M1_20	—	ST170731M1-2 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
21	170731M1_21	—	IPA	IPA	1.0000	1:48	Blank
22	170731M1_22	—	1700871-01 EB03-20170712 0.12146	EB03-20170712	0.1215	1:17	Analyte
23	170731M1_23	—	1700871-02 5-GW-05_DGMW41B-20170712 0.11547	5-GW-05_DGMW41B-20170712	0.1155	1:18	Analyte
24	170731M1_24	—	1700871-03 18-GW-18BGM03E-20170712 0.11765	18-GW-18BGM03E-20170712	0.1177	1:19	Analyte
25	170731M1_25	—	1700871-04 24-GW-24IN03-20170712 0.11741	24-GW-24IN03-20170712	0.1174	1:20	Analyte
26	170731M1_26	—	1700871-05 DUP02-20170712 0.11807	DUP02-20170712	0.1181	1:21	Analyte
27	170731M1_27	—	1700871-06 24-GW-24EX13A-20170712 0.11851	24-GW-24EX13A-20170712	0.1185	1:22	Analyte
28	170731M1_28	—	1700871-07 24-GW-24MW15D-20170712 0.1193	24-GW-24MW15D-20170712	0.1193	1:23	Analyte
29	170731M1_29	—	1700871-08 16-GW-16_MW28-20170712 0.11899	16-GW-16_MW28-20170712	0.1190	1:24	Analyte
30	170731M1_30	—	1700871-09 16-GW-16_MW19-20170712 0.11913	16-GW-16_MW19-20170712	0.1191	1:25	Analyte
31	170731M1_31	—	1700871-10 EB04-20170713 0.11646	EB04-20170713	0.1165	1:26	Analyte
32	170731M1_32	—	1700871-11 16-GW-16_MW04-20170713 0.12043	16-GW-16_MW04-20170713	0.1204	1:27	Analyte
33	170731M1_33	—	IPA	IPA	1.0000	1:48	Blank
34	170731M1_34	—	ST170731M1-3 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
35	170731M1_35	—	IPA	IPA	1.0000	1:48	Blank
36	170731M1_36	—	1700856-12RE1@5X MW-31S-20170711 0.11732	MW-31S-20170711	0.1173	1:28	Analyte
37	170731M1_37	—	1700935-01 RES29-BLK_20170726 0.11182	RES29-BLK_20170726	0.1118	1:29	Analyte
38	170731M1_38	—	1700935-04 RES29-GAC2_20170726 0.12639	RES29-GAC2_20170726	0.1264	1:30	Analyte
39	170731M1_39	—	IPA	IPA	1.0000	1:48	Blank
40	170731M1_40	—	ST170731M1-4 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte

	File Name	RS OK=X	Sample ID	File Text	User Divisor 1	Bottle	Sample Type
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42	170731M1_42	---	B7G0122-BS1 OPR 0.25	OPR	0.2500	1:31	Analyte
43	170731M1_43	---	IPA	IPA	1.0000	1:48	Blank
44	170731M1_44	---	B7G0122-BLK1 Method Blank 0.25	Method Blank	0.2500	1:32	Analyte
45	170731M1_45	---	1700891-06RE1 VEL FOAM 0.17113	VEL FOAM	0.1711	1:33	Analyte
46	170731M1_46	---	1700920-01 RCDM-MW-28S-20170719 0.1113	RCDM-MW-28S-20170719	0.1113	1:34	Analyte
47	170731M1_47	---	1700920-02 LF-MW-12S-20170719 0.11113	LF-MW-12S-20170719	0.1111	1:35	Analyte
48	170731M1_48	---	1700920-03 RCDM-MW-14S-20170720 0.11405	RCDM-MW-14S-20170720	0.1141	1:36	Analyte
49	170731M1_49	---	1700920-04 MH-DUP01-20170720 0.12177	MH-DUP01-20170720	0.1218	1:37	Analyte
50	170731M1_50	---	1700920-05 MH-A97-20170720 0.12086	MH-A97-20170720	0.1209	1:38	Analyte
51	170731M1_51	---	1700920-06 MH-H93-20170720 0.11357	MH-H93-20170720	0.1136	1:39	Analyte
52	170731M1_52	---	IPA	IPA	1.0000	1:48	Blank
53	170731M1_53	---	ST170731M1-5 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
54	170731M1_54	---	IPA	IPA	1.0000	1:48	Blank
55	170731M1_55	---	1700920-07 RCDM-BLANK-20170720 0.11872	RCDM-BLANK-20170720	0.1187	1:40	Analyte
56	170731M1_56	---	1700920-08 MH-C94-20170720 0.11568	MH-C94-20170720	0.1157	1:41	Analyte
57	170731M1_57	---	1700920-09 RCDM-MW-13S-20170719 0.11866	RCDM-MW-13S-20170719	0.1187	1:42	Analyte
58	170731M1_58	---	1700920-10 LF-MW-14S-20170720 0.11481	LF-MW-14S-20170720	0.1148	1:43	Analyte
59	170731M1_59	---	1700920-11 LF-MW-11BR-20170720 0.11664	LF-MW-11BR-20170720	0.1166	1:44	Analyte
60	170731M1_60	---	1700920-12 LF-MW-13S-20170719 0.11667	LF-MW-13S-20170719	0.1167	1:45	Analyte
61	170731M1_61	---	1700920-13 RCDM-MW-11BR-20170720 0.11813	RCDM-MW-11BR-20170720	0.1181	1:46	Analyte
62	170731M1_62	---	1700920-14 RCDM-MW-12S-20170719 0.11619	RCDM-MW-12S-20170719	0.1162	1:47	Analyte
63	170731M1_63	---	1700920-15 LF-MW-28S-20170719 0.11572	LF-MW-28S-20170719	0.1157	2:1	Analyte
64	170731M1_64	---	1700920-16 DUP-07-20170719 0.12023	DUP-07-20170719	0.1202	2:2	Analyte
65	170731M1_65	---	1700920-17 FRB04-20170719 0.11007	FRB04-20170719	0.1101	2:3	Analyte
66	170731M1_66	---	IPA	IPA	1.0000	1:48	Blank
67	170731M1_67	---	ST170731M1-6 PFC CS3 17G2729	PFC CS3 17G2729	1.0000	1:2	Analyte
68	170731M1_68	---	IPA	IPA	1.0000	1:48	Blank

Vista Analytical Laboratory

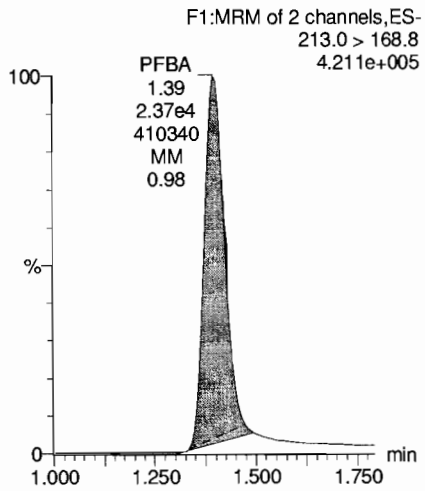
Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

Last Altered: Tuesday, August 01, 2017 10:35:04 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:35:10 Pacific Daylight Time

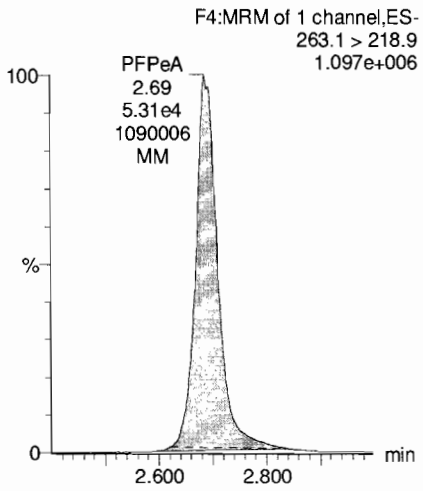
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

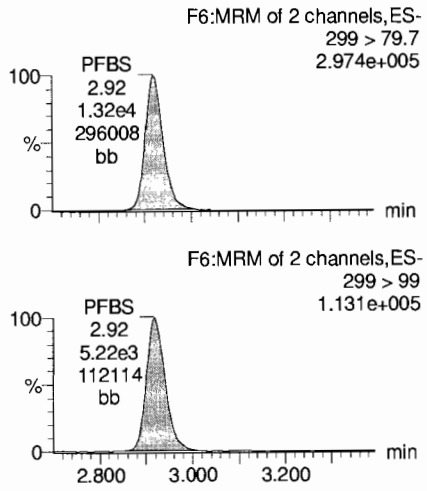
PFBA



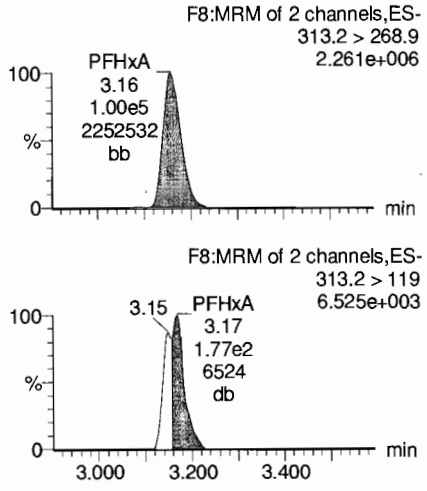
PFPeA



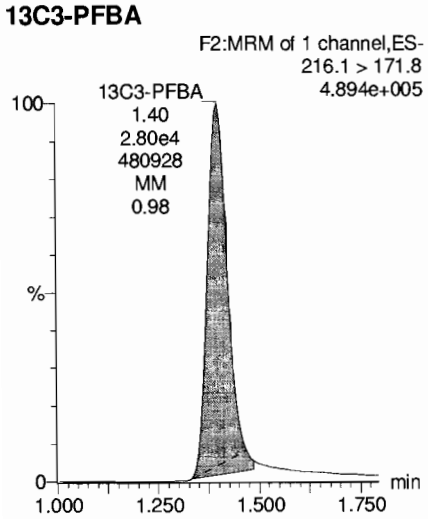
Total PFBS



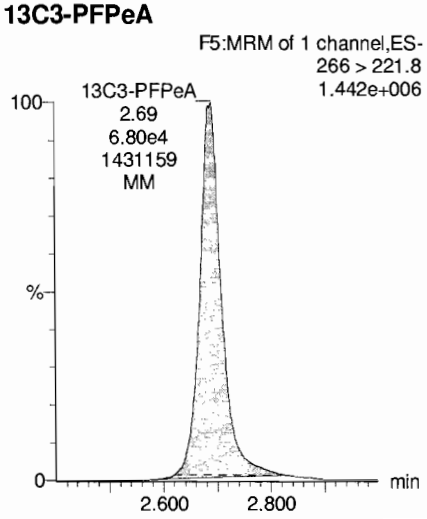
PFHxA



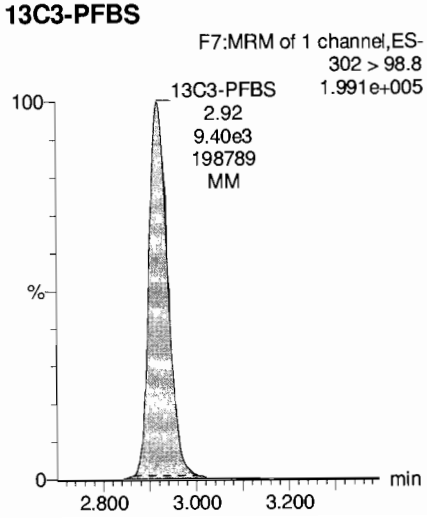
13C3-PFBA



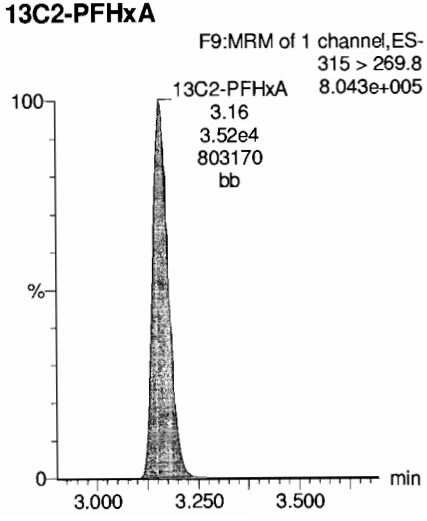
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

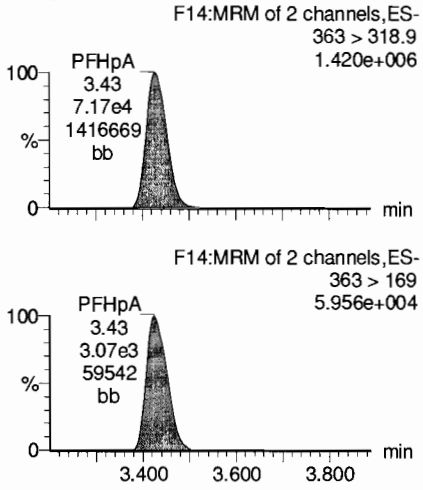


Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

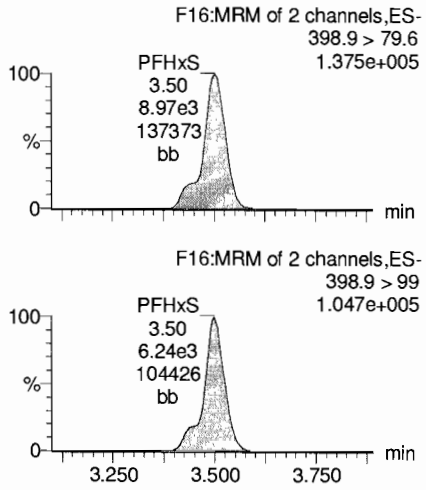
Last Altered: Tuesday, August 01, 2017 10:23:16 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:23:31 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

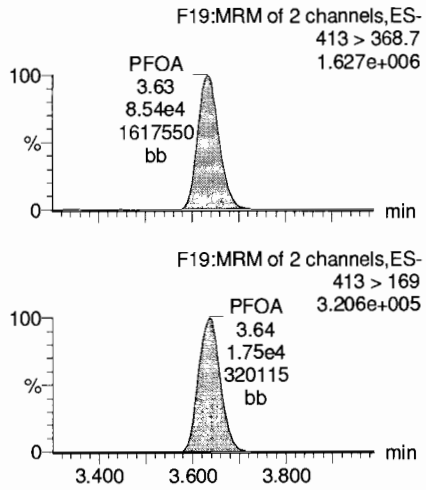
PFHpA



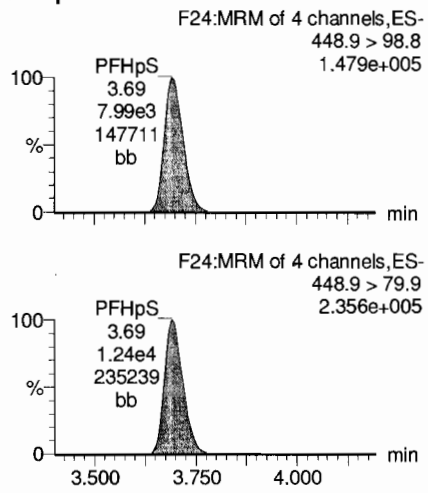
Total PFHxS



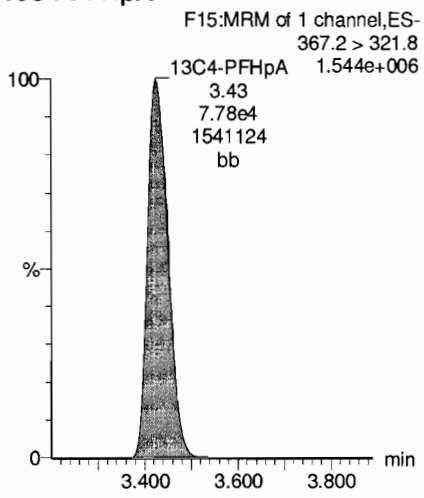
Total PFOA



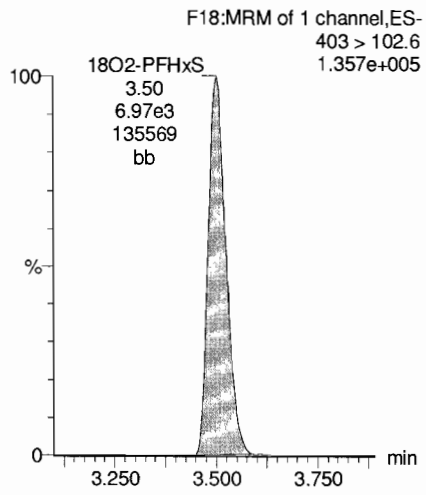
PFHpS



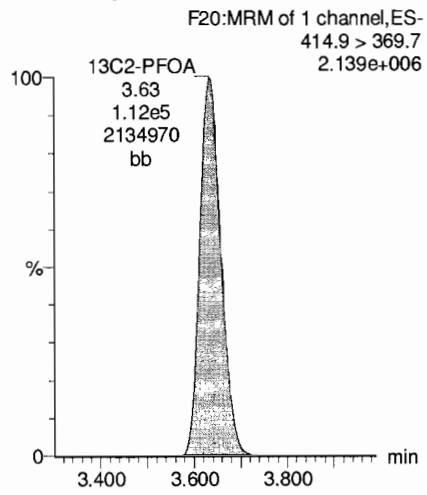
13C4-PFHpA



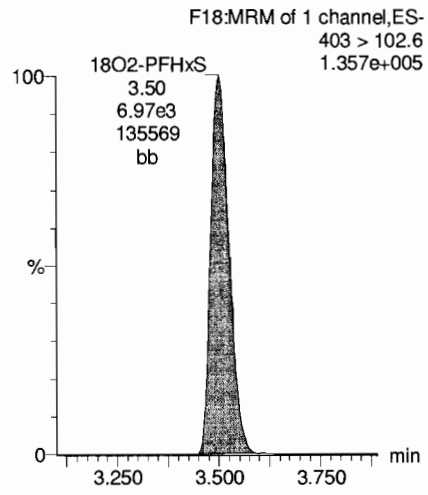
18O2-PFHxS



13C2-PFOA



18O2-PFHxS



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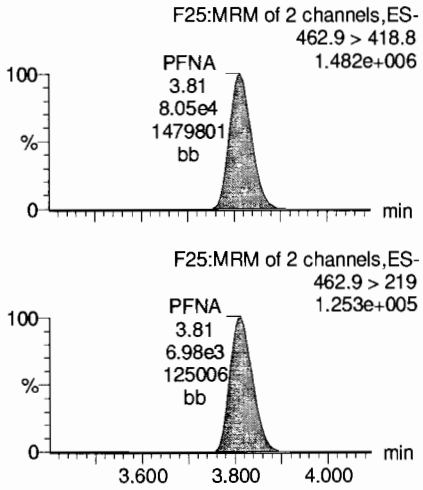
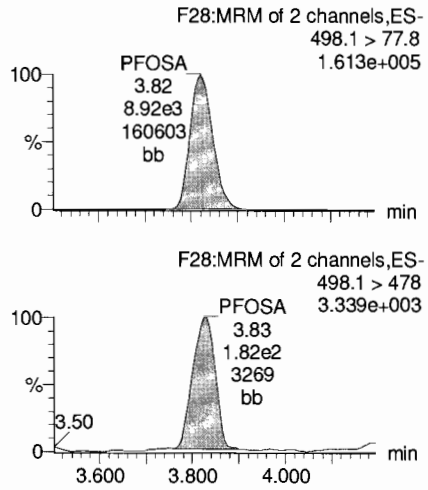
Last Altered: Tuesday, August 01, 2017 10:23:16 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:23:31 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

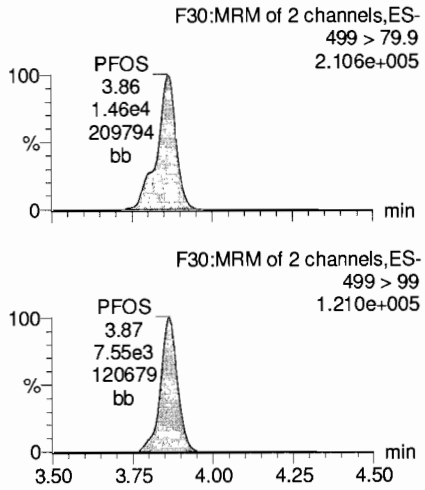
PFNA



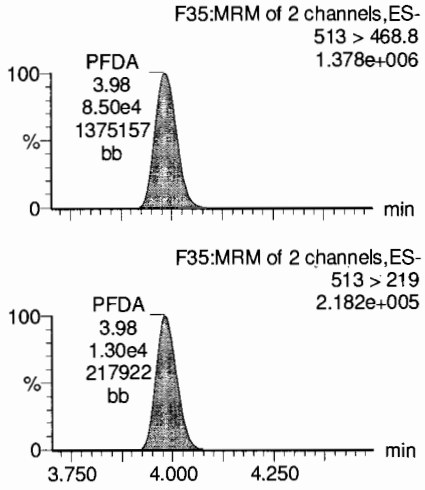
PFOSA



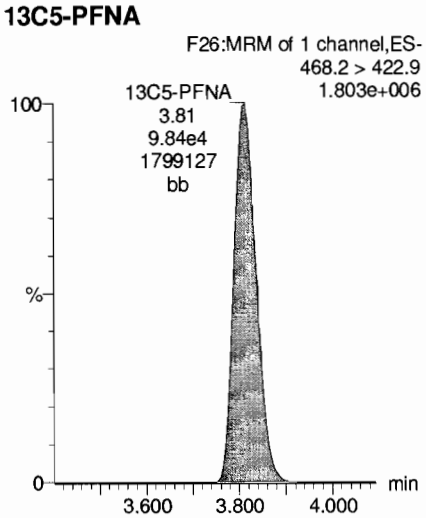
Total PFOS



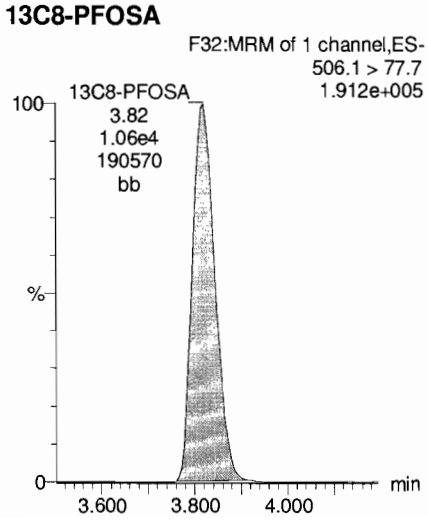
PFDA



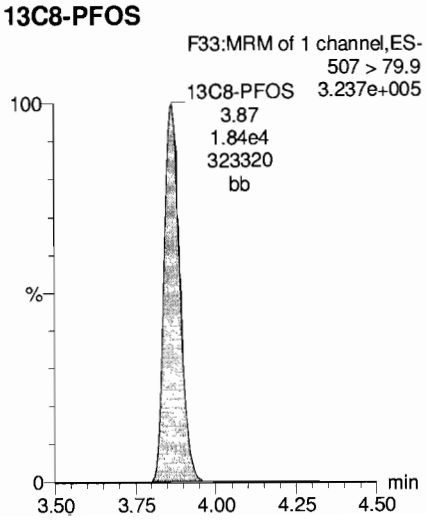
13C5-PFNA



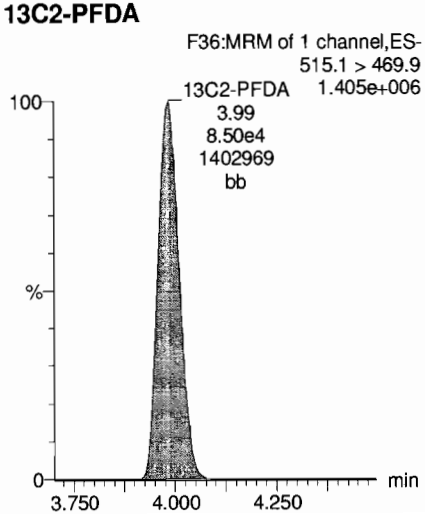
13C8-PFOSA



13C8-PFOS



13C2-PFDA

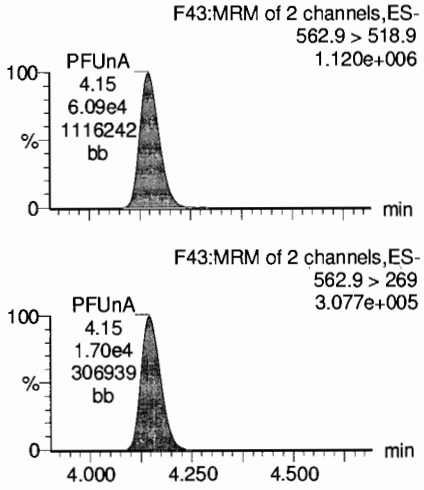


Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

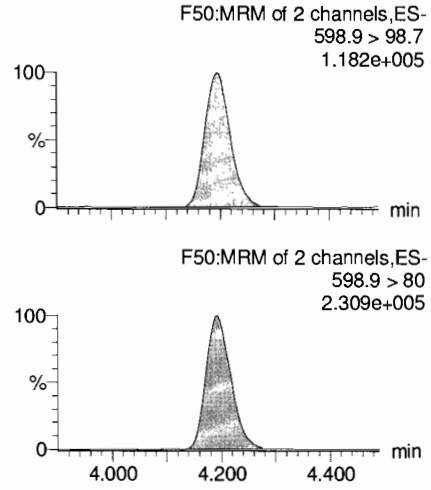
Last Altered: Tuesday, August 01, 2017 10:23:16 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:23:31 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

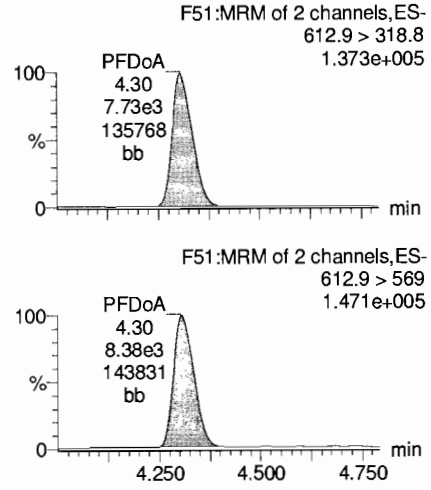
PFUnA



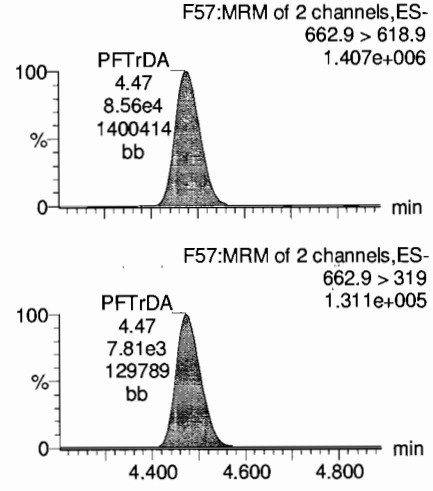
PFDS



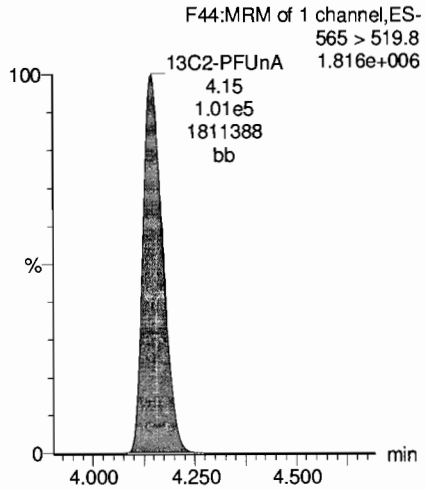
PFDoA



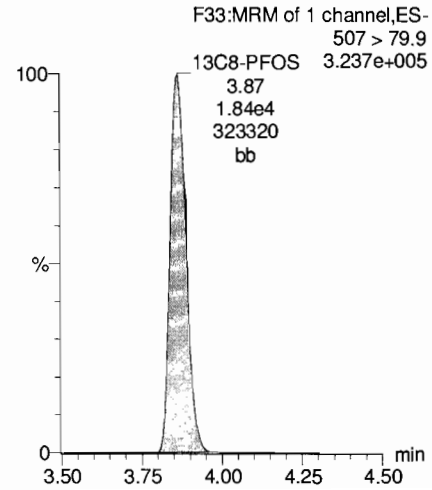
PFTrDA



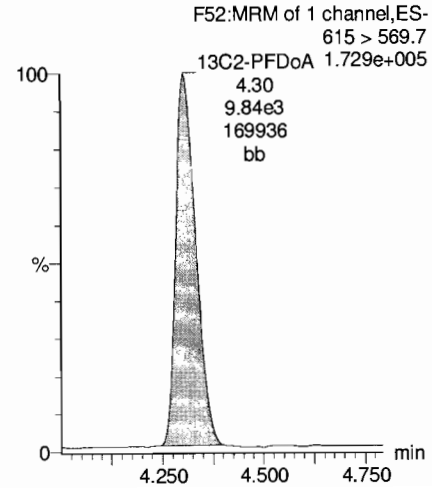
13C2-PFUnA



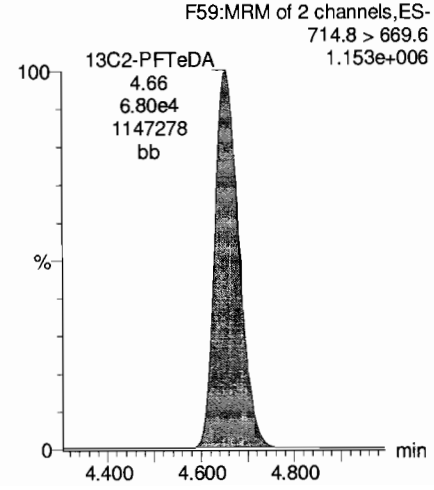
13C8-PFOS



13C2-PFDoA



13C2-PFTeDA



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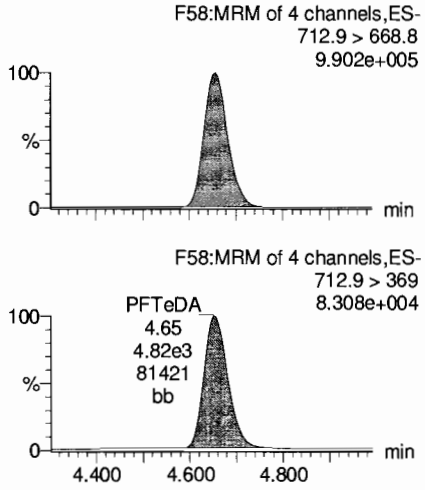
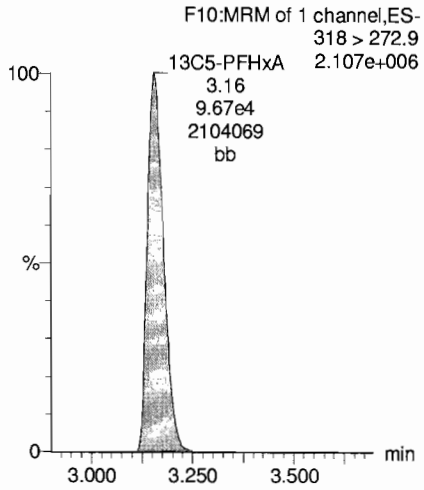
Last Altered: Tuesday, August 01, 2017 10:23:16 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:23:31 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

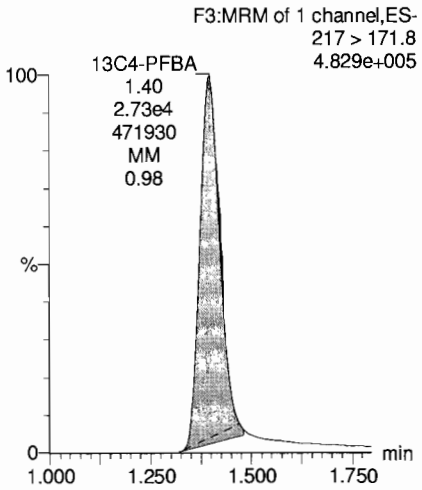
PFTeDA



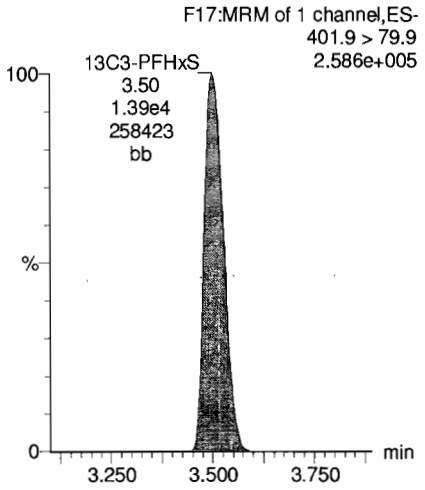
13C5-PFHxA



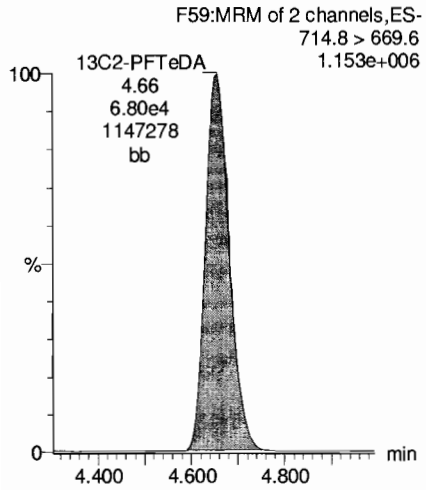
13C4-PFBA



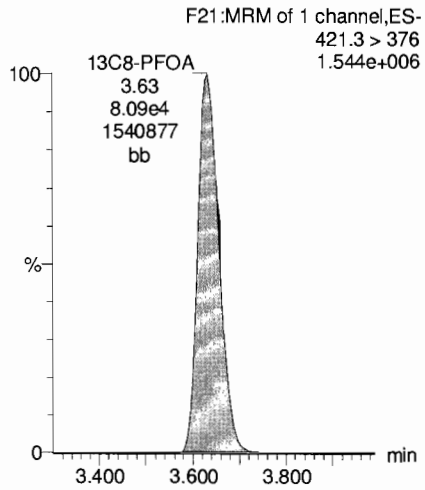
13C3-PFHxS



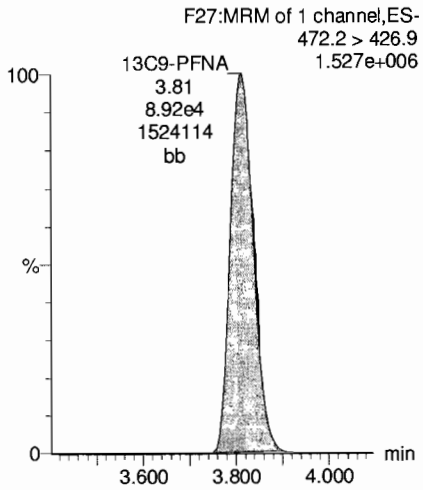
13C2-PFTeDA



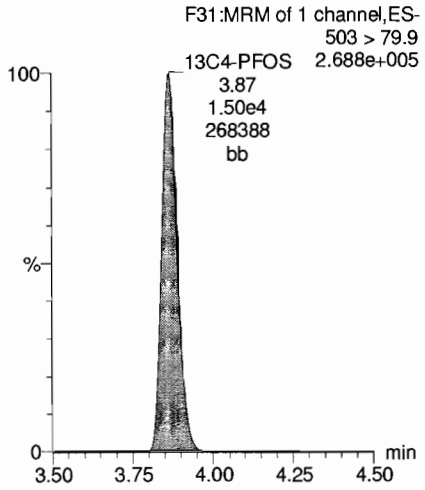
13C8-PFOA



13C9-PFNA



13C4-PFOS

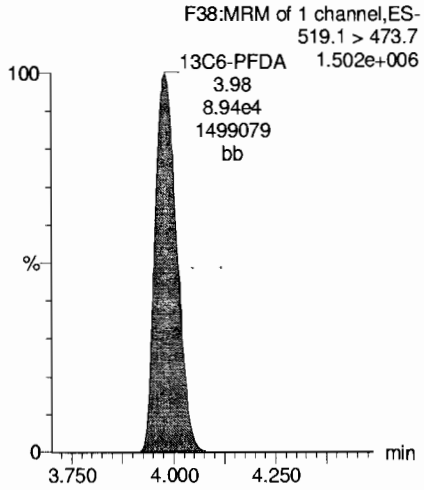


Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

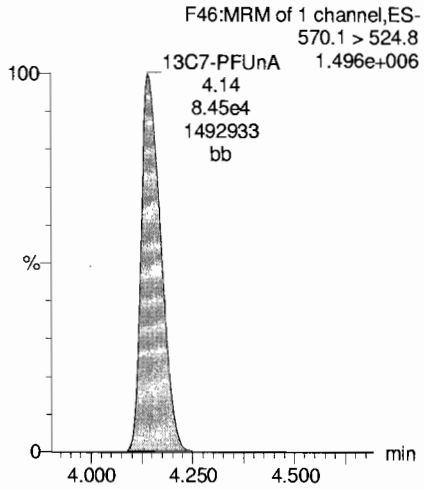
Last Altered: Tuesday, August 01, 2017 10:23:16 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:23:31 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

13C6-PFDA



13C7-PFUnA



INITIAL CALIBRATION

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/24/17

7/24/17

Compound name: PFBA
Correlation coefficient: r = 0.999644, r^2 = 0.999287
Calibration curve: 1.1275 * x + 0.163356
Response type: Internal Std (Ref 28), 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	170724M1_3	Standard	0.250	1.55	407.719	12354.435	0.413	0.2	-11.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	1.55	682.657	12177.060	0.701	0.5	-4.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	1.55	1308.852	12151.235	1.346	1.0	4.9	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	1.55	2608.698	12859.778	2.536	2.1	5.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	1.55	6350.984	12263.796	6.473	5.6	11.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	1.55	11274.906	12983.228	10.855	9.5	-5.2	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	1.55	55148.398	12298.162	56.053	49.6	-0.9	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	1.57	109673.492	12111.065	113.196	100.2	0.2	NO	0.999	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999528, r^2 = 0.999056
Calibration curve: 0.99208 * x + 0.104629
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	170724M1_3	Standard	0.250	2.80	607.592	24708.574	0.307	0.2	-18.3	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	2.80	1138.424	24374.584	0.584	0.5	-3.4	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	2.80	2230.288	24321.555	1.146	1.0	5.0	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	2.80	4575.088	25826.396	2.214	2.1	6.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	2.80	11044.060	24387.125	5.661	5.6	12.0	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	2.81	20066.025	25621.486	9.790	9.8	-2.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	2.80	97100.672	23859.781	50.870	51.2	2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	2.81	190500.000	24378.607	97.678	98.4	-1.6	NO	0.999	NO	bb

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Compound name: PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0752948
Response type: Internal Std (Ref 30), 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	170724M1_3	Standard	0.250	3.00	116.281	3068.403	0.474	0.2	-14.0	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.00	214.965	3020.354	0.890	0.4	-12.1	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	2.99	512.501	3001.774	2.134	1.1	11.2	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.00	1085.602	3295.993	4.117	2.2	9.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.00	2583.207	3132.764	10.307	5.5	10.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.00	4677.829	3302.426	17.706	9.5	-4.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.00	22355.119	2994.649	93.313	50.3	0.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.00	43420.234	2946.134	184.225	99.4	-0.6	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999648, r^2 = 0.999296
Calibration curve: 1.50967 * x + 0.157344
Response type: Internal Std (Ref 31), 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	170724M1_3	Standard	0.250	3.22	1079.404	11341.955	0.476	0.2	-15.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.22	1906.946	10636.292	0.896	0.5	-2.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.22	3807.136	10865.864	1.752	1.1	5.6	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	3.22	7912.540	12006.801	3.295	2.1	3.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.22	18325.188	10585.094	8.656	5.6	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.22	34348.887	11649.966	14.742	9.7	-3.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.22	154915.125	10379.170	74.628	49.3	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.22	320392.531	10569.161	151.570	100.3	0.3	NO	0.999	NO	bb

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Compound name: PFHpA
Correlation coefficient: r = 0.999811, r^2 = 0.999621
Calibration curve: 1.25322 * x + 0.0796155
Response type: Internal Std (Ref 32), 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	170724M1_3	Standard	0.250	3.47	835.892	29540.787	0.354	0.2	-12.5	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	3.48	1686.437	28831.211	0.731	0.5	4.0	NO	1.000	NO	db
3	3	170724M1_5	Standard	1.000	3.48	3129.354	30065.992	1.301	1.0	-2.5	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.48	6923.302	31499.152	2.747	2.1	6.4	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.48	17221.189	31478.633	6.838	5.4	7.9	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	3.48	32050.246	32505.703	12.325	9.8	-2.3	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	3.48	148752.578	30043.684	61.890	49.3	-1.4	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	3.48	294885.219	29270.332	125.932	100.4	0.4	NO	1.000	NO	bb

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999711
Calibration curve: -0.00151846 * x^2 + 1.70838 * x + -0.0114403
Response type: Internal Std (Ref 33), 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	170724M1_3	Standard	0.250	3.56	73.733	2957.523	0.312	0.2	-24.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	3.55	233.030	2945.944	0.989	0.6	17.2	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	3.55	387.605	2882.763	1.681	1.0	-0.9	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.55	883.679	3069.216	3.599	2.1	5.9	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.55	2121.650	3078.477	8.615	5.1	1.4	NO	1.000	NO	MM
6	6	170724M1_8	Standard	10.000	3.55	3757.863	2827.577	16.613	9.8	-1.8	NO	1.000	NO	MM
7	7	170724M1_9	Standard	50.000	3.55	19494.768	2990.466	81.487	49.9	-0.2	NO	1.000	NO	MM
8	8	170724M1_10	Standard	100.000	3.55	36940.883	2965.238	155.725	100.1	0.1	NO	1.000	NO	bb

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Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 34), 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	170724M1_3	Standard	0.250	3.67	204.440	7589.777	0.337	0.2	-24.7	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	400.907	7687.979	0.652	0.5	-3.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	747.740	7427.477	1.258	1.0	4.9	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.66	1573.173	7868.375	2.499	2.2	10.7	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.66	3802.596	7544.070	6.301	5.8	16.7	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.67	6777.476	8079.142	10.486	9.9	-0.8	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	31001.344	8775.410	44.159	47.5	-4.9	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.66	59887.281	9696.150	77.205	102.0	2.0	NO	0.998	NO	bb

Compound name: PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 35), 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	170724M1_3	Standard	0.250	3.67	1654.212	55437.824	0.373	0.2	-28.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	2766.273	52853.566	0.654	0.5	-6.4	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	5264.665	53444.164	1.231	1.1	6.3	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.68	10233.177	55652.324	2.298	2.2	8.1	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.68	26080.451	55510.707	5.873	5.8	16.9	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.68	45105.969	54392.293	10.366	10.5	4.7	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	220048.344	55876.563	49.226	50.5	1.0	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.68	421252.813	55196.383	95.399	98.1	-1.9	NO	0.998	NO	bb

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Compound name: PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 35), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.74	113.671	55437.824	0.026	0.1	-50.5	NO	0.998	NO	bbX
2	2	170724M1_4	Standard	0.500	3.74	222.089	52853.566	0.053	0.4	-14.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.73	522.454	53444.164	0.122	1.2	21.2	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.74	936.558	55652.324	0.210	2.2	10.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.73	2346.630	55510.707	0.528	5.8	15.8	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.74	4004.412	54392.293	0.920	10.2	2.0	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.74	19773.092	55876.563	4.423	49.7	-0.6	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.74	38852.836	55196.383	8.799	99.0	-1.0	NO	0.998	NO	bb

Compound name: PFNA
Correlation coefficient: r = 0.998659, r^2 = 0.997320
Calibration curve: 1.09835 * x + 0.147218
Response type: Internal Std (Ref 36), 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	170724M1_3	Standard	0.250	3.85	1506.464	55001.828	0.342	0.2	-28.9	NO	0.997	NO	MM
2	2	170724M1_4	Standard	0.500	3.85	2694.965	54762.438	0.615	0.4	-14.8	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	5691.902	55321.512	1.286	1.0	3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	3.85	12559.827	59225.996	2.651	2.3	14.0	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	3.85	29286.219	53341.520	6.863	6.1	22.3	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	3.85	53683.984	56161.168	11.949	10.7	7.4	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	3.85	236461.688	55495.742	53.261	48.4	-3.3	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	3.85	475993.000	54308.789	109.557	99.6	-0.4	NO	0.997	NO	bb

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Compound name: PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 37), 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	170724M1_3	Standard	0.250	3.86	163.860	6633.945	0.309	0.2	-1.0	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.85	301.866	6613.513	0.571	0.5	-0.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	477.914	6491.109	0.920	0.8	-17.0	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.86	1315.264	7021.902	2.341	2.2	9.2	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.86	2927.381	6519.732	5.613	5.3	6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.86	5570.263	6576.866	10.587	10.0	0.4	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.86	26459.754	5926.425	55.809	53.1	6.3	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.86	50171.699	6190.267	101.312	96.5	-3.5	NO	0.998	NO	bb

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999148
Calibration curve: -0.00122032 * x^2 + 1.19038 * x + 0.0183073
Response type: Internal Std (Ref 38), 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	170724M1_3	Standard	0.250	3.90	300.610	10711.932	0.351	0.3	11.8	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	3.90	466.042	10010.674	0.582	0.5	-5.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.90	1032.724	10207.536	1.265	1.0	4.8	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	3.90	1981.837	10715.066	2.312	1.9	-3.5	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	3.90	5099.578	10217.659	6.239	5.3	5.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.90	8336.075	9647.514	10.801	9.1	-8.6	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.91	43091.355	9325.974	57.757	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.90	78910.156	9278.883	106.303	99.4	-0.6	NO	0.999	NO	bb

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Compound name: PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998795
Calibration curve: 1.29731 * x + 0.128184
Response type: Internal Std (Ref 39), 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	170724M1_3	Standard	0.250	4.02	1671.759	55156.438	0.379	0.2	-22.7	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.02	3226.587	49449.902	0.816	0.5	6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.02	6606.647	59736.465	1.382	1.0	-3.3	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	4.02	14672.154	61862.684	2.965	2.2	9.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	32741.914	53915.461	7.591	5.8	15.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	60142.156	58734.430	12.800	9.8	-2.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.03	291430.906	57610.250	63.233	48.6	-2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	519240.375	49628.984	130.781	100.7	0.7	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.996738
Calibration curve: -0.00420182 * x^2 + 1.49722 * x + 0.133523
Response type: Internal Std (Ref 40), 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	170724M1_3	Standard	0.250	4.01	116.059	5712.626	0.254	0.1	-67.8	NO	0.997	NO	bbX
2	2	170724M1_4	Standard	0.500	4.02	436.336	5926.817	0.920	0.5	5.2	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	4.01	704.575	5605.082	1.571	1.0	-3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	4.01	1467.688	6033.180	3.041	2.0	-2.4	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	3942.699	5463.454	9.021	6.0	20.8	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	6715.274	5614.961	14.950	10.2	1.9	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	4.02	29821.402	6078.795	61.323	47.1	-5.8	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	56335.957	6441.568	109.321	102.3	2.3	NO	0.997	NO	bb

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999848
Calibration curve: -0.0104077 * x^2 + 19.9194 * x + 0.547687
Response type: Internal Std (Ref 41), 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	170724M1_3	Standard	0.250	4.05	448.925	12099.400	6.029	0.3	10.1	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.05	716.809	11504.973	10.124	0.5	-3.8	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.06	1261.768	11265.637	18.200	0.9	-11.3	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.05	3173.830	12505.027	41.243	2.0	2.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.05	7648.363	12072.939	102.946	5.2	3.1	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.05	14431.390	11803.941	198.671	10.0	-0.0	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.05	69860.063	11737.307	967.195	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.05	130379.672	11210.404	1889.914	100.1	0.1	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999908
Calibration curve: -0.00439744 * x^2 + 16.1657 * x + 0.0580373
Response type: Internal Std (Ref 42), 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	170724M1_3	Standard	0.250	4.12	300.173	12172.007	4.007	0.2	-2.3	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.12	550.297	11615.228	7.699	0.5	-5.5	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.12	1245.830	11653.344	17.372	1.1	7.1	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.12	2483.220	12504.510	32.270	2.0	-0.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.12	6280.812	12228.059	83.466	5.2	3.3	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.12	12176.978	12339.168	160.364	9.9	-0.6	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.12	57061.832	11695.135	792.855	49.7	-0.6	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.12	112917.555	11651.338	1574.849	100.1	0.1	NO	1.000	NO	bb

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 43), 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	170724M1_3	Standard	0.250	4.18	1408.556	65735.461	0.268	0.3	15.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	4.19	2456.148	63870.914	0.481	0.5	5.1	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	4.19	4367.807	64348.984	0.848	0.9	-6.5	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	4.19	9271.418	67160.539	1.726	1.9	-4.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	4.19	22206.646	66089.180	4.200	4.7	-6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	4.19	40104.945	61335.543	8.173	9.3	-7.5	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	4.19	187190.781	55960.629	41.813	52.6	5.2	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	4.19	357250.000	64722.215	68.997	98.3	-1.7	NO	0.998	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998889
Calibration curve: -0.000220781 * x^2 + 0.0914068 * x + -0.00228704
Response type: Internal Std (Ref 43), 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	170724M1_3	Standard	0.250	4.24	125.500	65735.461	0.024	0.3	14.5	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.24	213.650	63870.914	0.042	0.5	-3.4	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	4.23	432.153	64348.984	0.084	0.9	-5.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.24	998.163	67160.539	0.186	2.1	3.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.23	2251.549	66089.180	0.426	4.7	-5.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.23	4080.028	61335.543	0.831	9.3	-6.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.24	18621.564	55960.629	4.160	52.1	4.2	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.23	35549.465	64722.215	6.866	98.6	-1.4	NO	0.999	NO	bb

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Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999700
Calibration curve: -0.000446703 * x^2 + 0.926687 * x + 0.203454
Response type: Internal Std (Ref 44), 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	170724M1_3	Standard	0.250	4.34	212.884	6396.985	0.416	0.2	-8.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	4.35	285.030	5632.353	0.633	0.5	-7.4	NO	1.000	NO	MM
3	3	170724M1_5	Standard	1.000	4.35	576.941	5998.723	1.202	1.1	7.8	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.35	1144.260	6584.378	2.172	2.1	6.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.35	2601.126	6419.244	5.065	5.3	5.2	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.35	4871.013	6690.135	9.101	9.6	-3.5	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.35	21850.346	6031.607	45.283	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.35	43781.789	6184.443	88.492	100.1	0.1	NO	1.000	NO	bb

Compound name: N-MeFOSA
Correlation coefficient: r = 0.999273, r^2 = 0.998546
Calibration curve: 1.0376 * x + 0.213391
Response type: Internal Std (Ref 45), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	4.39	228.733	27834.387	1.233	1.0	-21.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	2.500	4.39	521.665	26795.877	2.920	2.6	4.3	NO	0.999	NO	db
3	3	170724M1_5	Standard	5.000	4.39	1023.477	27001.328	5.686	5.3	5.5	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.39	2219.793	28178.129	11.817	11.2	11.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.39	5367.556	27075.477	29.737	28.5	13.8	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.39	9739.016	27395.363	53.325	51.2	2.4	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.39	46919.371	26470.068	265.882	256.0	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	4.39	92806.148	27480.182	506.580	488.0	-2.4	NO	0.999	NO	bb

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Compound name: PFTrDA
Correlation coefficient: r = 0.999414, r^2 = 0.998828
Calibration curve: 10.9255 * x + 1.79
Response type: Internal Std (Ref 44), 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	170724M1_3	Standard	0.250	4.52	1936.804	6396.985	3.785	0.2	-27.0	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.52	3347.446	5632.353	7.429	0.5	3.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.52	6246.435	5998.723	13.016	1.0	2.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.52	13537.021	6584.378	25.699	2.2	9.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.52	32633.807	6419.244	63.547	5.7	13.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.52	58224.531	6690.135	108.788	9.8	-2.1	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.52	270796.875	6031.607	561.204	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.52	531631.563	6184.443	1074.534	98.2	-1.8	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999057
Calibration curve: -0.000800394 * x^2 + 1.14875 * x + 0.111533
Response type: Internal Std (Ref 46), 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	170724M1_3	Standard	0.250	4.70	1552.113	52611.504	0.369	0.2	-10.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.70	2285.720	43220.855	0.661	0.5	-4.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.70	4798.681	44254.344	1.355	1.1	8.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.70	9477.179	47041.410	2.518	2.1	4.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.70	23144.785	45392.488	6.374	5.5	9.4	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.70	40819.449	48426.250	10.536	9.1	-8.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.70	191033.828	42647.246	55.992	50.4	0.8	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.70	370959.375	43405.691	106.829	99.8	-0.2	NO	0.999	NO	bb

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Compound name: N-EtFOSA
Correlation coefficient: r = 0.999689, r^2 = 0.999377
Calibration curve: 0.904115 * x + 0.326191
Response type: Internal Std (Ref 47), 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	170724M1_3	Standard	1.250	4.96	337.684	39437.277	1.284	1.1	-15.2	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	4.97	613.630	37412.609	2.460	2.4	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	4.97	1267.991	37050.801	5.133	5.3	6.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.96	2697.465	40104.539	10.089	10.8	8.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.97	6431.737	38083.547	25.333	27.7	10.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.97	11627.879	39916.621	43.696	48.0	-4.1	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.96	57443.004	37926.309	227.189	250.9	0.4	NO	0.999	NO	db
8	8	170724M1_10	Standard	500.000	4.97	116042.914	38657.641	450.272	497.7	-0.5	NO	0.999	NO	db

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999358
Calibration curve: -0.000715061 * x^2 + 1.34773 * x + 0.264398
Response type: Internal Std (Ref 48), 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	170724M1_3	Standard	0.250	5.07	2816.818	25428.396	0.554	0.2	-14.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.07	3878.399	21542.566	0.900	0.5	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.07	7068.157	21611.141	1.635	1.0	1.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.07	14417.972	22044.896	3.270	2.2	11.6	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.07	33676.410	22327.822	7.541	5.4	8.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.07	61493.496	22552.494	13.633	10.0	-0.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.07	276231.906	21452.613	64.382	48.8	-2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.07	545977.438	21228.160	128.597	100.6	0.6	NO	0.999	NO	bb

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Compound name: PFODA
Correlation coefficient: r = 0.999378, r^2 = 0.998756
Calibration curve: 1.27561 * x + 0.10098
Response type: Internal Std (Ref 48), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	1893.557	25428.396	0.372	0.2	-14.9	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	5.44	3335.536	21542.566	0.774	0.5	5.5	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.44	6573.281	21611.141	1.521	1.1	11.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.44	13511.143	22044.896	3.064	2.3	16.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.44	32601.881	22327.822	7.301	5.6	12.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.44	59011.938	22552.494	13.083	10.2	1.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	274924.375	21452.613	64.077	50.2	0.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.44	534414.688	21228.160	125.874	98.6	-1.4	NO	0.999	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999476, r^2 = 0.998953
Calibration curve: 1.01603 * x + 0.461771
Response type: Internal Std (Ref 49), 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	170724M1_3	Standard	1.250	5.43	419.747	45355.609	1.388	0.9	-27.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.43	827.391	42298.965	2.934	2.4	-2.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.43	1698.216	42181.715	6.039	5.5	9.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.43	3509.137	44882.496	11.728	11.1	10.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.43	8229.911	42480.406	29.060	28.1	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.43	14647.859	44502.430	49.372	48.1	-3.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.43	72247.016	42011.336	257.955	253.4	1.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.43	142986.313	42682.813	502.496	494.1	-1.2	NO	0.999	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.999680, r^2 = 0.999361
Calibration curve: 1.16673 * x + 0.501898
Response type: Internal Std (Ref 50), 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	170724M1_3	Standard	1.250	5.60	493.408	44922.563	1.648	1.0	-21.4	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.61	917.078	40989.961	3.356	2.4	-2.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.61	1793.908	40752.352	6.603	5.2	4.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.60	3804.083	43177.285	13.216	10.9	9.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.61	9310.704	42231.566	33.070	27.9	11.7	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.61	16671.494	42902.656	58.288	49.5	-0.9	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.60	80911.422	41552.719	292.080	249.9	-0.0	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.61	163300.031	42219.305	580.185	496.8	-0.6	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.820483
RRF SD: 0.00867593, Relative SD: 1.05742
Response type: Internal Std (Ref 51), 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	170724M1_3	Standard	12.500	1.54	12354.435	15090.568	10.234	12.5	-0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	12177.060	14962.116	10.173	12.4	-0.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.54	12151.235	14894.126	10.198	12.4	-0.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	12859.778	15482.658	10.382	12.7	1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	12263.796	15091.931	10.158	12.4	-1.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	12983.228	15599.055	10.404	12.7	1.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	12298.162	14839.394	10.359	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	12111.065	14929.445	10.140	12.4	-1.1	NO		NO	bb

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Compound name: 13C3-PFPeA
Response Factor: 0.248174
RRF SD: 0.00555735, Relative SD: 2.2393
Response type: Internal Std (Ref 52), 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	170724M1_3	Standard	12.500	2.80	24708.574	40367.738	3.060	12.3	-1.3	NO		NO	bb
2	2	170724M1_4	Standard	12.500	2.80	24374.584	38823.406	3.139	12.6	1.2	NO		NO	bb
3	3	170724M1_5	Standard	12.500	2.80	24321.555	37967.629	3.203	12.9	3.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	2.80	25826.396	42133.270	3.065	12.3	-1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	2.80	24387.125	39088.754	3.119	12.6	0.6	NO		NO	bb
6	6	170724M1_8	Standard	12.500	2.81	25621.486	41725.730	3.070	12.4	-1.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	2.80	23859.781	39920.477	2.988	12.0	-3.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	2.81	24378.607	38428.922	3.172	12.8	2.2	NO		NO	bb

Compound name: 13C3-PFBS
Response Factor: 0.0311034
RRF SD: 0.000697979, Relative SD: 2.24406
Response type: Internal Std (Ref 52), 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	170724M1_3	Standard	12.500	3.00	3068.403	40367.738	0.380	12.2	-2.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.00	3020.354	38823.406	0.389	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.00	3001.774	37967.629	0.395	12.7	1.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.00	3295.993	42133.270	0.391	12.6	0.6	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.00	3132.764	39088.754	0.401	12.9	3.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.00	3302.426	41725.730	0.396	12.7	1.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.00	2994.649	39920.477	0.375	12.1	-3.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.00	2946.134	38428.922	0.383	12.3	-1.4	NO		NO	bb

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Compound name: 13C2-PFHxA
Response Factor: 0.27639
RRF SD: 0.00850433, Relative SD: 3.07693
Response type: Internal Std (Ref 52), 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	170724M1_3	Standard	5.000	3.22	11341.955	40367.738	1.405	5.1	1.7	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	10636.292	38823.406	1.370	5.0	-0.9	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	10865.864	37967.629	1.431	5.2	3.5	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	12006.801	42133.270	1.425	5.2	3.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	10585.094	39088.754	1.354	4.9	-2.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	11649.966	41725.730	1.396	5.1	1.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.22	10379.170	39920.477	1.300	4.7	-5.9	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	10569.161	38428.922	1.375	5.0	-0.5	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.305626
RRF SD: 0.0102637, Relative SD: 3.35826
Response type: Internal Std (Ref 52), 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	170724M1_3	Standard	12.500	3.48	29540.787	40367.738	3.659	12.0	-4.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.48	28831.211	38823.406	3.713	12.1	-2.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.48	30065.992	37967.629	3.959	13.0	3.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.48	31499.152	42133.270	3.738	12.2	-2.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.48	31478.633	39088.754	4.027	13.2	5.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.48	32505.703	41725.730	3.895	12.7	2.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.48	30043.684	39920.477	3.763	12.3	-1.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.48	29270.332	38428.922	3.808	12.5	-0.3	NO		NO	bb

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Compound name: 18O2-PFHxS
Response Factor: 0.392715
RRF SD: 0.0177977, Relative SD: 4.53197
Response type: Internal Std (Ref 53), 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	170724M1_3	Standard	12.500	3.55	2957.523	7582.089	4.876	12.4	-0.7	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	2945.944	7322.380	5.029	12.8	2.4	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	2882.763	7368.760	4.890	12.5	-0.4	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	3069.216	7556.806	5.077	12.9	3.4	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	3078.477	7669.834	5.017	12.8	2.2	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	2827.577	8056.833	4.387	11.2	-10.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	2990.466	7531.759	4.963	12.6	1.1	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	2965.238	7365.456	5.032	12.8	2.5	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.157694
RRF SD: 0.0188884, Relative SD: 11.9778
Response type: Internal Std (Ref 54), 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	170724M1_3	Standard	12.500	3.66	7589.777	50417.762	1.882	11.9	-4.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.66	7687.979	52862.527	1.818	11.5	-7.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.66	7427.477	49459.691	1.877	11.9	-4.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	7868.375	51986.957	1.892	12.0	-4.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.66	7544.070	54009.070	1.746	11.1	-11.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.67	8079.142	53144.688	1.900	12.1	-3.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	8775.410	49946.758	2.196	13.9	11.4	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	9696.150	49303.969	2.458	15.6	24.7	NO		NO	bb

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Compound name: 13C2-PFOA
Response Factor: 1.0675
RRF SD: 0.0457168, Relative SD: 4.28261
Response type: Internal Std (Ref 54), 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	170724M1_3	Standard	12.500	3.67	55437.824	50417.762	13.745	12.9	3.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52853.566	52862.527	12.498	11.7	-6.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	53444.164	49459.691	13.507	12.7	1.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	55652.324	51986.957	13.381	12.5	0.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.67	55510.707	54009.070	12.848	12.0	-3.7	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	54392.293	53144.688	12.793	12.0	-4.1	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	55876.563	49946.758	13.984	13.1	4.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	55196.383	49303.969	13.994	13.1	4.9	NO		NO	bb

Compound name: 13C5-PFNA
Response Factor: 0.852128
RRF SD: 0.0623325, Relative SD: 7.31492
Response type: Internal Std (Ref 55), 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	170724M1_3	Standard	12.500	3.85	55001.828	63362.148	10.851	12.7	1.9	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	54762.438	66233.305	10.335	12.1	-3.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.85	55321.512	62897.914	10.994	12.9	3.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.85	59225.996	73098.813	10.128	11.9	-4.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.85	53341.520	71059.133	9.383	11.0	-11.9	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.85	56161.168	60050.086	11.690	13.7	9.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.85	55495.742	67689.273	10.248	12.0	-3.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.85	54308.789	58608.688	11.583	13.6	8.7	NO		NO	bb

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Compound name: 13C8-PFOSA
Response Factor: 0.0982354
RRF SD: 0.00607611, Relative SD: 6.18526
Response type: Internal Std (Ref 58), 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 170724M1_3	Standard	12.500	3.86	6633.945	66110.742	1.254	12.8	2.1	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.85	6613.513	63178.059	1.309	13.3	6.6	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.86	6491.109	65533.590	1.238	12.6	0.8	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.86	7021.902	74336.992	1.181	12.0	-3.8	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.86	6519.732	73722.414	1.105	11.3	-10.0	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.86	6576.866	61426.844	1.338	13.6	9.0	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.86	5926.425	63456.004	1.167	11.9	-4.9	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.86	6190.267	62878.969	1.231	12.5	0.2	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 0.935738
RRF SD: 0.0307604, Relative SD: 3.28729
Response type: Internal Std (Ref 56), 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 170724M1_3	Standard	12.500	3.90	10711.932	10984.350	12.190	13.0	4.2	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.90	10010.674	10756.134	11.634	12.4	-0.5	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.90	10207.536	10707.182	11.917	12.7	1.9	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.90	10715.066	11395.518	11.754	12.6	0.5	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.90	10217.659	10582.909	12.069	12.9	3.2	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.90	9647.514	10701.979	11.268	12.0	-3.7	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.91	9325.974	10546.740	11.053	11.8	-5.5	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.90	9278.883	9922.027	11.690	12.5	-0.1	NO		NO	bb

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Compound name: 13C2-PFDA
Response Factor: 0.809787
RRF SD: 0.0475325, Relative SD: 5.86975
Response type: Internal Std (Ref 57), 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	170724M1_3	Standard	12.500	4.02	55156.438	71538.672	9.638	11.9	-4.8	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	49449.902	67518.039	9.155	11.3	-9.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	59736.465	67946.188	10.990	13.6	8.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	61862.684	75237.898	10.278	12.7	1.5	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	53915.461	68309.617	9.866	12.2	-2.5	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	58734.430	69500.219	10.564	13.0	4.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	57610.250	72719.445	9.903	12.2	-2.2	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	49628.984	58601.402	10.586	13.1	4.6	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.0855752
RRF SD: 0.010191, Relative SD: 11.9089
Response type: Internal Std (Ref 57), 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	170724M1_3	Standard	12.500	4.01	5712.626	71538.672	0.998	11.7	-6.7	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	5926.817	67518.039	1.097	12.8	2.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.01	5605.082	67946.188	1.031	12.0	-3.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.01	6033.180	75237.898	1.002	11.7	-6.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	5463.454	68309.617	1.000	11.7	-6.5	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	5614.961	69500.219	1.010	11.8	-5.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.02	6078.795	72719.445	1.045	12.2	-2.3	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	6441.568	58601.402	1.374	16.1	28.5	NO		NO	bb

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Compound name: d3-N-MeFOSAA
Response Factor: 0.0136964
RRF SD: 0.000727833, Relative SD: 5.31404
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	162.500	4.05	12099.400	66110.742	2.288	167.0	2.8	NO		NO	bb
2	2	170724M1_4	Standard	162.500	4.05	11504.973	63178.059	2.276	166.2	2.3	NO		NO	bb
3	3	170724M1_5	Standard	162.500	4.05	11265.637	65533.590	2.149	156.9	-3.5	NO		NO	bb
4	4	170724M1_6	Standard	162.500	4.05	12505.027	74336.992	2.103	153.5	-5.5	NO		NO	bb
5	5	170724M1_7	Standard	162.500	4.05	12072.939	73722.414	2.047	149.5	-8.0	NO		NO	bb
6	6	170724M1_8	Standard	162.500	4.05	11803.941	61426.844	2.402	175.4	7.9	NO		NO	bb
7	7	170724M1_9	Standard	162.500	4.05	11737.307	63456.004	2.312	168.8	3.9	NO		NO	bb
8	8	170724M1_10	Standard	162.500	4.05	11210.404	62878.969	2.229	162.7	0.1	NO		NO	bb

Compound name: d5-N-EtFOSAA
Response Factor: 0.0139456
RRF SD: 0.000844744, Relative SD: 6.05742
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	162.500	4.12	12172.007	66110.742	2.301	165.0	1.6	NO		NO	bb
2	2	170724M1_4	Standard	162.500	4.12	11615.228	63178.059	2.298	164.8	1.4	NO		NO	bb
3	3	170724M1_5	Standard	162.500	4.12	11653.344	65533.590	2.223	159.4	-1.9	NO		NO	bb
4	4	170724M1_6	Standard	162.500	4.12	12504.510	74336.992	2.103	150.8	-7.2	NO		NO	bb
5	5	170724M1_7	Standard	162.500	4.12	12228.059	73722.414	2.073	148.7	-8.5	NO		NO	bb
6	6	170724M1_8	Standard	162.500	4.12	12339.168	61426.844	2.511	180.1	10.8	NO		NO	bb
7	7	170724M1_9	Standard	162.500	4.12	11695.135	63456.004	2.304	165.2	1.7	NO		NO	bb
8	8	170724M1_10	Standard	162.500	4.12	11651.338	62878.969	2.316	166.1	2.2	NO		NO	bb

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Compound name: 13C2-PFUnA
Response Factor: 0.962105
RRF SD: 0.058365, Relative SD: 6.06639
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	12.500	4.18	65735.461	66110.742	12.429	12.9	3.3	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.18	63870.914	63178.059	12.637	13.1	5.1	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.19	64348.984	65533.590	12.274	12.8	2.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.18	67160.539	74336.992	11.293	11.7	-6.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	66089.180	73722.414	11.206	11.6	-6.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61335.543	61426.844	12.481	13.0	3.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	55960.629	63456.004	11.024	11.5	-8.3	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	64722.215	62878.969	12.866	13.4	7.0	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 0.0944269
RRF SD: 0.00712756, Relative SD: 7.54822
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	12.500	4.34	6396.985	66110.742	1.210	12.8	2.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.35	5632.353	63178.059	1.114	11.8	-5.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.35	5998.723	65533.590	1.144	12.1	-3.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.35	6584.378	74336.992	1.107	11.7	-6.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.35	6419.244	73722.414	1.088	11.5	-7.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.35	6690.135	61426.844	1.361	14.4	15.3	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.35	6031.607	63456.004	1.188	12.6	0.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.35	6184.443	62878.969	1.229	13.0	4.2	NO		NO	bd

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Compound name: d3-N-MeFOSA
Response Factor: 0.0344131
RRF SD: 0.00225283, Relative SD: 6.54642
Response type: Internal Std (Ref 58), 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 170724M1_3	Standard	150.000	4.42	27834.387	66110.742	5.263	152.9	2.0	NO		NO	bb
2	2 170724M1_4	Standard	150.000	4.42	26795.877	63178.059	5.302	154.1	2.7	NO		NO	bb
3	3 170724M1_5	Standard	150.000	4.42	27001.328	65533.590	5.150	149.7	-0.2	NO		NO	bb
4	4 170724M1_6	Standard	150.000	4.42	28178.129	74336.992	4.738	137.7	-8.2	NO		NO	bb
5	5 170724M1_7	Standard	150.000	4.42	27075.477	73722.414	4.591	133.4	-11.1	NO		NO	bb
6	6 170724M1_8	Standard	150.000	4.43	27395.363	61426.844	5.575	162.0	8.0	NO		NO	bb
7	7 170724M1_9	Standard	150.000	4.42	26470.068	63456.004	5.214	151.5	1.0	NO		NO	bb
8	8 170724M1_10	Standard	150.000	4.43	27480.182	62878.969	5.463	158.7	5.8	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.694311
RRF SD: 0.0655535, Relative SD: 9.44152
Response type: Internal Std (Ref 58), 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 170724M1_3	Standard	12.500	4.70	52611.504	66110.742	9.948	14.3	14.6	NO		NO	bb
2	2 170724M1_4	Standard	12.500	4.70	43220.855	63178.059	8.551	12.3	-1.5	NO		NO	bb
3	3 170724M1_5	Standard	12.500	4.70	44254.344	65533.590	8.441	12.2	-2.7	NO		NO	bb
4	4 170724M1_6	Standard	12.500	4.70	47041.410	74336.992	7.910	11.4	-8.9	NO		NO	bb
5	5 170724M1_7	Standard	12.500	4.70	45392.488	73722.414	7.697	11.1	-11.3	NO		NO	bb
6	6 170724M1_8	Standard	12.500	4.70	48426.250	61426.844	9.854	14.2	13.5	NO		NO	bb
7	7 170724M1_9	Standard	12.500	4.70	42647.246	63456.004	8.401	12.1	-3.2	NO		NO	bb
8	8 170724M1_10	Standard	12.500	4.70	43405.691	62878.969	8.629	12.4	-0.6	NO		NO	bb

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Compound name: d5-N-ETFOSA
Response Factor: 0.0486714
RRF SD: 0.00353064, Relative SD: 7.25403
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	150.000	5.00	39437.277	66110.742	7.457	153.2	2.1	NO		NO	MM
2	2	170724M1_4	Standard	150.000	5.01	37412.609	63178.059	7.402	152.1	1.4	NO		NO	MM
3	3	170724M1_5	Standard	150.000	5.01	37050.801	65533.590	7.067	145.2	-3.2	NO		NO	MM
4	4	170724M1_6	Standard	150.000	5.01	40104.539	74336.992	6.744	138.6	-7.6	NO		NO	MM
5	5	170724M1_7	Standard	150.000	5.01	38083.547	73722.414	6.457	132.7	-11.6	NO		NO	MM
6	6	170724M1_8	Standard	150.000	5.01	39916.621	61426.844	8.123	166.9	11.3	NO		NO	MM
7	7	170724M1_9	Standard	150.000	5.01	37926.309	63456.004	7.471	153.5	2.3	NO		NO	MM
8	8	170724M1_10	Standard	150.000	5.01	38657.641	62878.969	7.685	157.9	5.3	NO		NO	MM

Compound name: 13C2-PFHxDA
Response Factor: 0.843007
RRF SD: 0.0734853, Relative SD: 8.71705
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	5.000	5.07	25428.396	66110.742	4.808	5.7	14.1	NO		NO	bb
2	2	170724M1_4	Standard	5.000	5.07	21542.566	63178.059	4.262	5.1	1.1	NO		NO	bb
3	3	170724M1_5	Standard	5.000	5.07	21611.141	65533.590	4.122	4.9	-2.2	NO		NO	bb
4	4	170724M1_6	Standard	5.000	5.07	22044.896	74336.992	3.707	4.4	-12.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	5.07	22327.822	73722.414	3.786	4.5	-10.2	NO		NO	bb
6	6	170724M1_8	Standard	5.000	5.07	22552.494	61426.844	4.589	5.4	8.9	NO		NO	bb
7	7	170724M1_9	Standard	5.000	5.07	21452.613	63456.004	4.226	5.0	0.3	NO		NO	bb
8	8	170724M1_10	Standard	5.000	5.07	21228.160	62878.969	4.220	5.0	0.1	NO		NO	bb

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Compound name: d7-N-MeFOSE
Response Factor: 0.054631
RRF SD: 0.0039309, Relative SD: 7.19536
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	150.000	5.42	45355.609	66110.742	8.576	157.0	4.6	NO		NO	bb
2	2	170724M1_4	Standard	150.000	5.42	42298.965	63178.059	8.369	153.2	2.1	NO		NO	bb
3	3	170724M1_5	Standard	150.000	5.42	42181.715	65533.590	8.046	147.3	-1.8	NO		NO	bb
4	4	170724M1_6	Standard	150.000	5.42	44882.496	74336.992	7.547	138.1	-7.9	NO		NO	bb
5	5	170724M1_7	Standard	150.000	5.42	42480.406	73722.414	7.203	131.8	-12.1	NO		NO	bb
6	6	170724M1_8	Standard	150.000	5.42	44502.430	61426.844	9.056	165.8	10.5	NO		NO	bb
7	7	170724M1_9	Standard	150.000	5.42	42011.336	63456.004	8.276	151.5	1.0	NO		NO	bb
8	8	170724M1_10	Standard	150.000	5.42	42682.813	62878.969	8.485	155.3	3.5	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.0534223
RRF SD: 0.00380471, Relative SD: 7.12196
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	150.000	5.59	44922.563	66110.742	8.494	159.0	6.0	NO		NO	bb
2	2	170724M1_4	Standard	150.000	5.59	40989.961	63178.059	8.110	151.8	1.2	NO		NO	bb
3	3	170724M1_5	Standard	150.000	5.59	40752.352	65533.590	7.773	145.5	-3.0	NO		NO	bb
4	4	170724M1_6	Standard	150.000	5.59	43177.285	74336.992	7.260	135.9	-9.4	NO		NO	bb
5	5	170724M1_7	Standard	150.000	5.59	42231.566	73722.414	7.161	134.0	-10.6	NO		NO	bb
6	6	170724M1_8	Standard	150.000	5.59	42902.656	61426.844	8.730	163.4	8.9	NO		NO	bb
7	7	170724M1_9	Standard	150.000	5.59	41552.719	63456.004	8.185	153.2	2.1	NO		NO	bb
8	8	170724M1_10	Standard	150.000	5.59	42219.305	62878.969	8.393	157.1	4.7	NO		NO	bb

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 1.02787e-016, Relative SD: 1.02787e-014
Response type: Internal Std (Ref 51), 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	170724M1_3	Standard	12.500	1.55	15090.568	15090.568	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	14962.116	14962.116	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.55	14894.126	14894.126	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	15482.658	15482.658	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	15091.931	15091.931	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	15599.055	15599.055	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	14839.394	14839.394	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	14929.445	14929.445	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 52), 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	170724M1_3	Standard	5.000	3.22	40367.738	40367.738	5.000	5.0	0.0	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	38823.406	38823.406	5.000	5.0	0.0	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	37967.629	37967.629	5.000	5.0	0.0	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	42133.270	42133.270	5.000	5.0	0.0	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	39088.754	39088.754	5.000	5.0	0.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	41725.730	41725.730	5.000	5.0	0.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.23	39920.477	39920.477	5.000	5.0	0.0	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	38428.922	38428.922	5.000	5.0	0.0	NO		NO	bb

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Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 7.26812e-017, Relative SD: 7.26812e-015
Response type: Internal Std (Ref 53), 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	170724M1_3	Standard	12.500	3.55	7582.089	7582.089	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	7322.380	7322.380	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	7368.760	7368.760	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	7556.806	7556.806	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	7669.834	7669.834	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	8056.833	8056.833	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	7531.759	7531.759	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	7365.456	7365.456	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 54), 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	170724M1_3	Standard	12.500	3.67	50417.762	50417.762	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52862.527	52862.527	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	49459.691	49459.691	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	51986.957	51986.957	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.68	54009.070	54009.070	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	53144.688	53144.688	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	49946.758	49946.758	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	49303.969	49303.969	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 55), 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	170724M1_3	Standard	12.500	3.85	63362.148	63362.148	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	66233.305	66233.305	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.85	62897.914	62897.914	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.85	73098.813	73098.813	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.85	71059.133	71059.133	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.85	60050.086	60050.086	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.86	67689.273	67689.273	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.85	58608.688	58608.688	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 56), 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	170724M1_3	Standard	12.500	3.90	10984.350	10984.350	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.90	10756.134	10756.134	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.90	10707.182	10707.182	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.90	11395.518	11395.518	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.90	10582.909	10582.909	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.90	10701.979	10701.979	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.91	10546.740	10546.740	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.90	9922.027	9922.027	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 57), 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	170724M1_3	Standard	12.500	4.02	71538.672	71538.672	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	67518.039	67518.039	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	67946.188	67946.188	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	75237.898	75237.898	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	68309.617	68309.617	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	69500.219	69500.219	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	72719.445	72719.445	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	58601.402	58601.402	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.45362e-016, Relative SD: 1.45362e-014
Response type: Internal Std (Ref 58), 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	170724M1_3	Standard	12.500	4.18	66110.742	66110.742	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.19	63178.059	63178.059	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.18	65533.590	65533.590	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.19	74336.992	74336.992	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	73722.414	73722.414	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61426.844	61426.844	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	63456.004	63456.004	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	62878.969	62878.969	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 24, 2017 15:48:17 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:50:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:34:12
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15

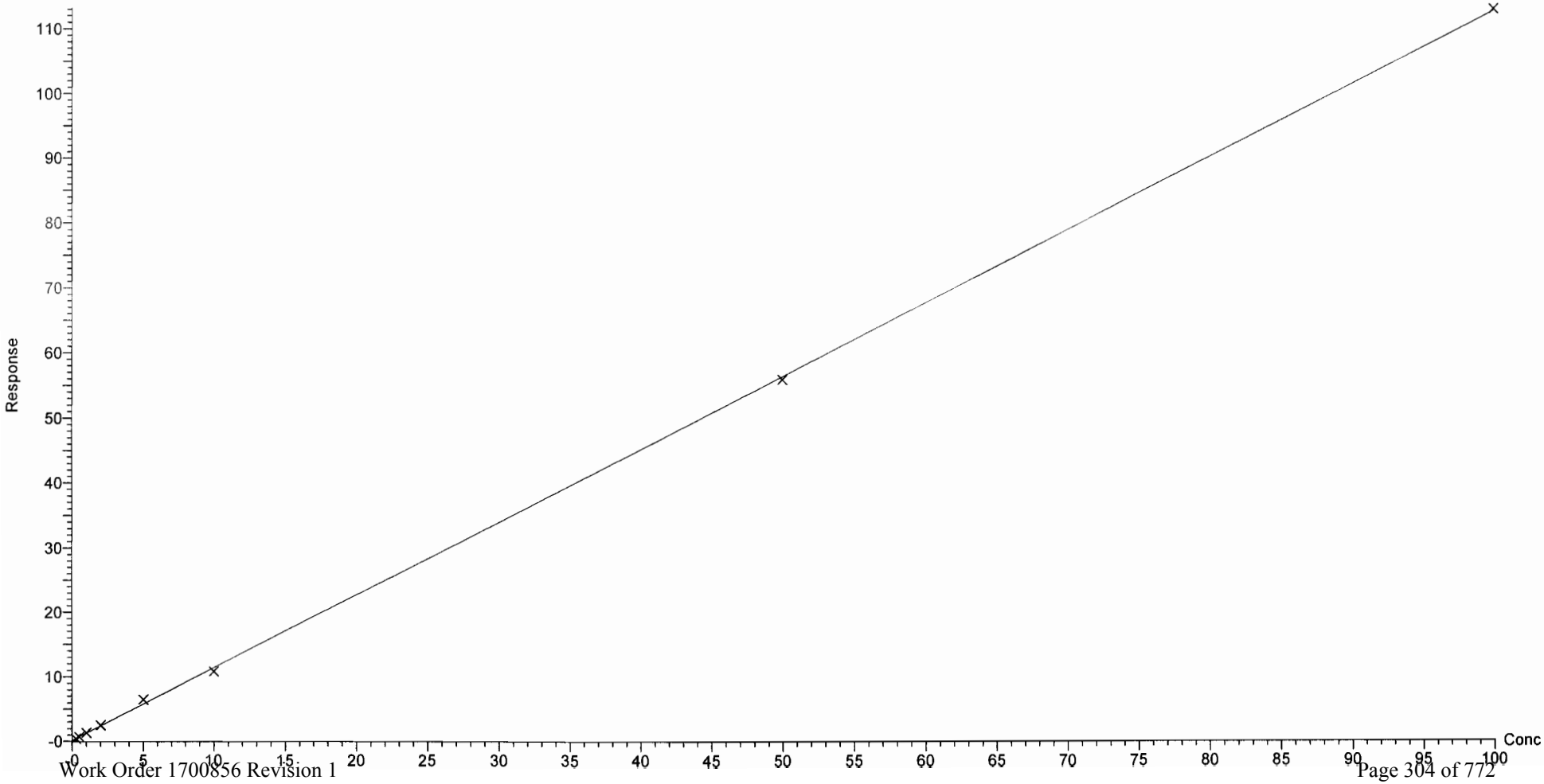
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

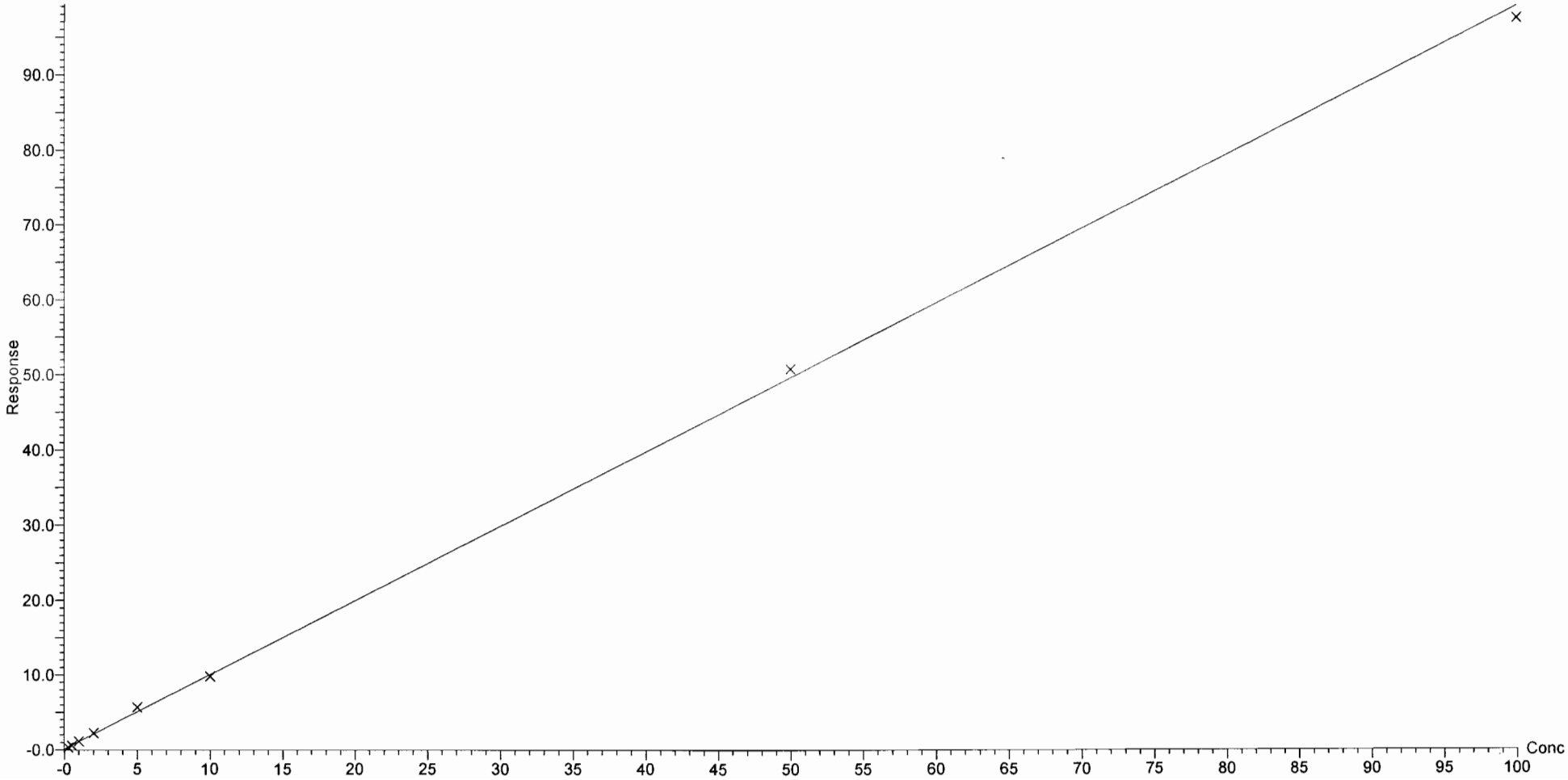
Compound name: PFBA
Correlation coefficient: r = 0.999644, r^2 = 0.999287
Calibration curve: 1.1275 * x + 0.163356
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: PFPeA
Correlation coefficient: r = 0.999528, r^2 = 0.999056
Calibration curve: 0.99208 * x + 0.104629
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\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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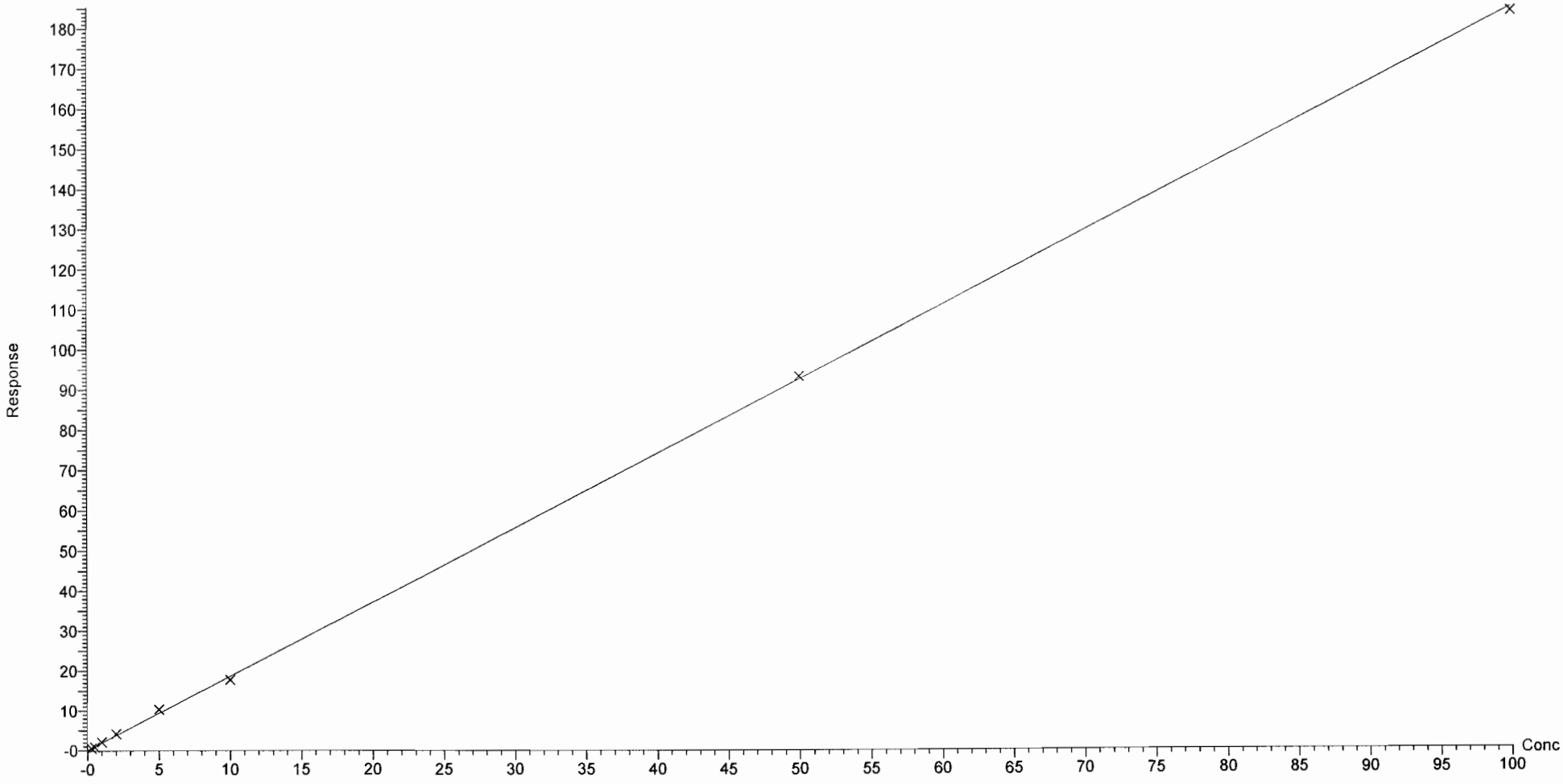
Compound name: PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0752948
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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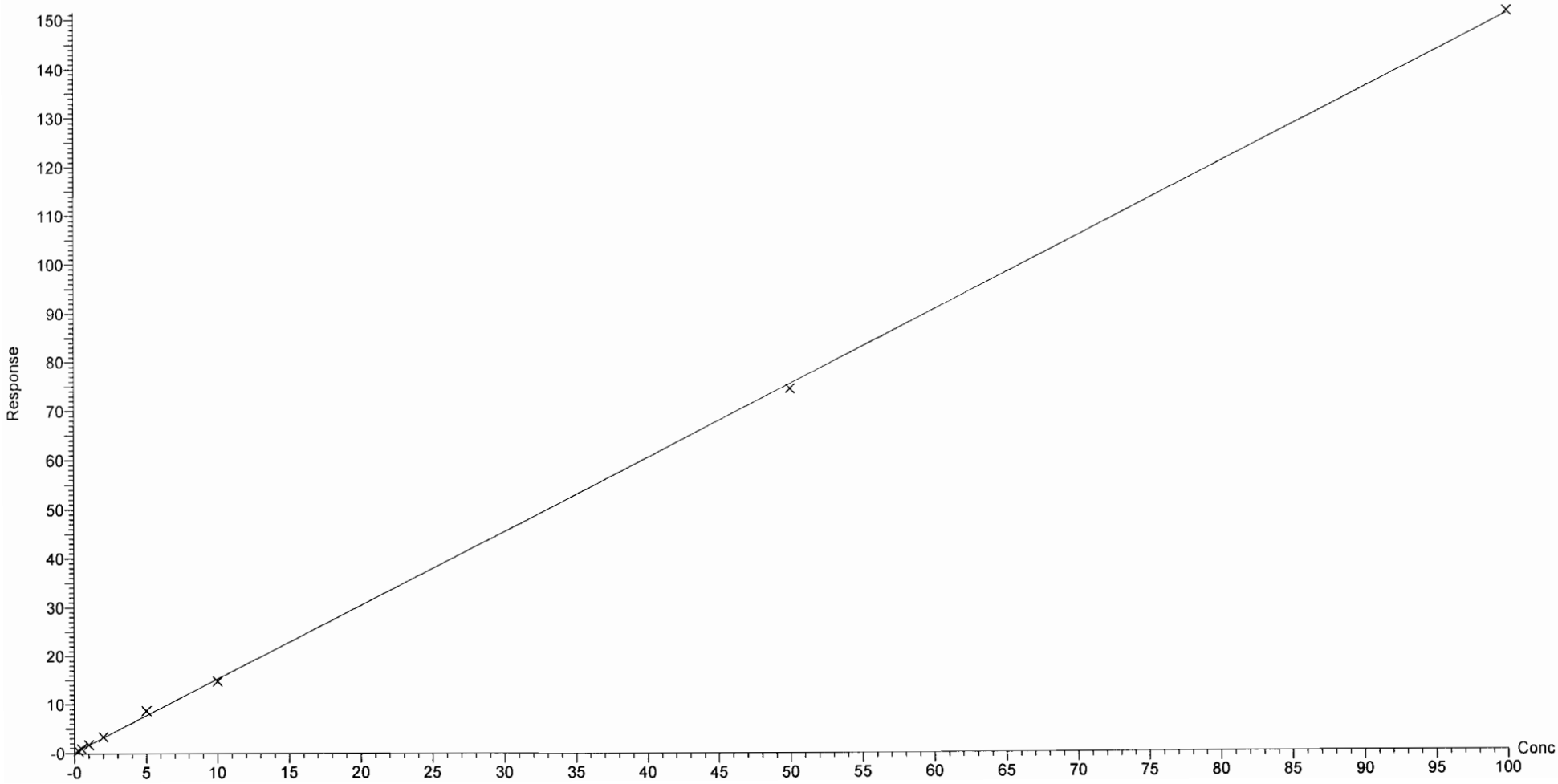
Compound name: PFHxA
Correlation coefficient: r = 0.999648, r^2 = 0.999296
Calibration curve: 1.50967 * x + 0.157344
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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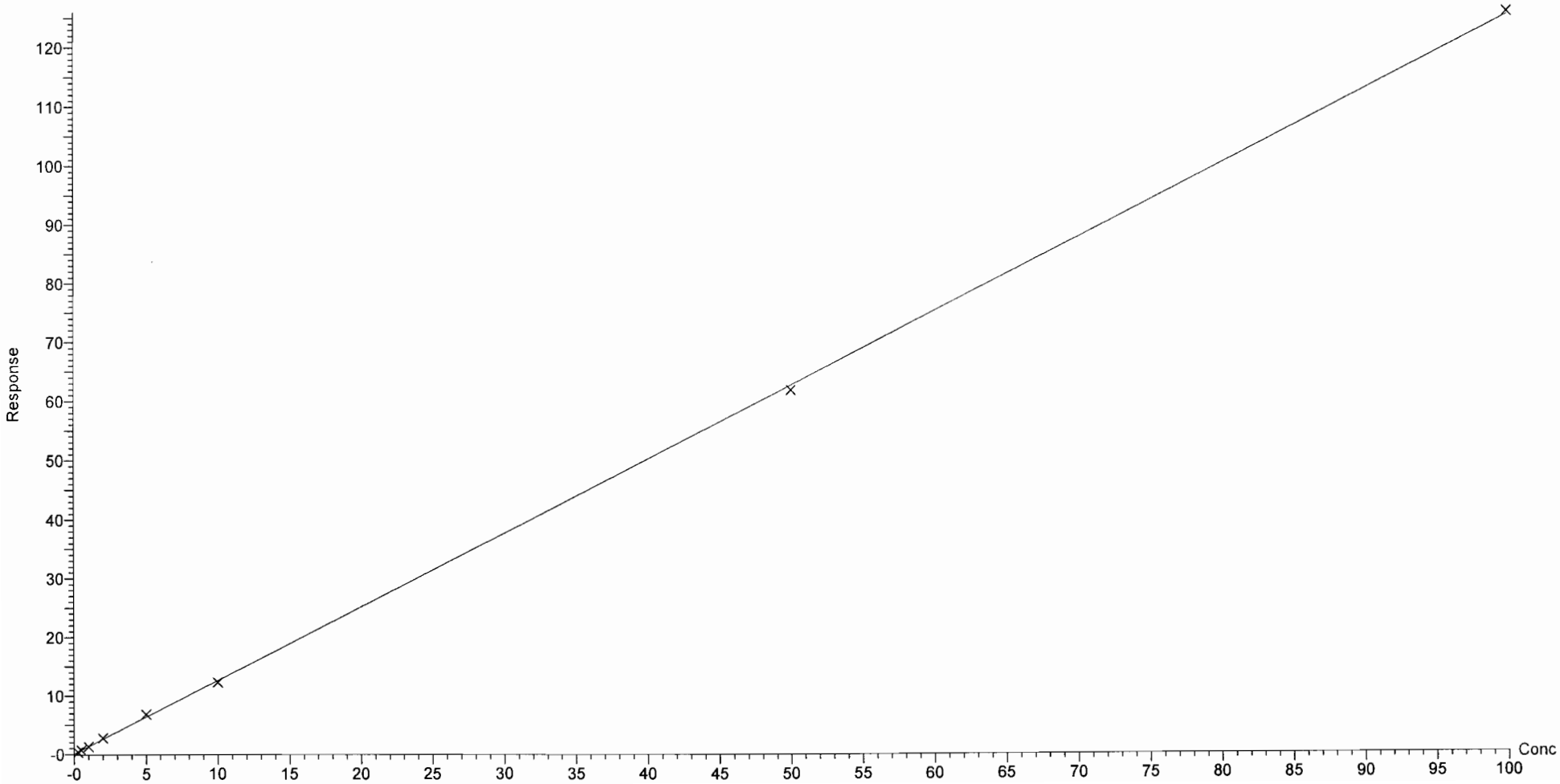
Compound name: PFHpA
Correlation coefficient: r = 0.999811, r^2 = 0.999621
Calibration curve: 1.25322 * x + 0.0796155
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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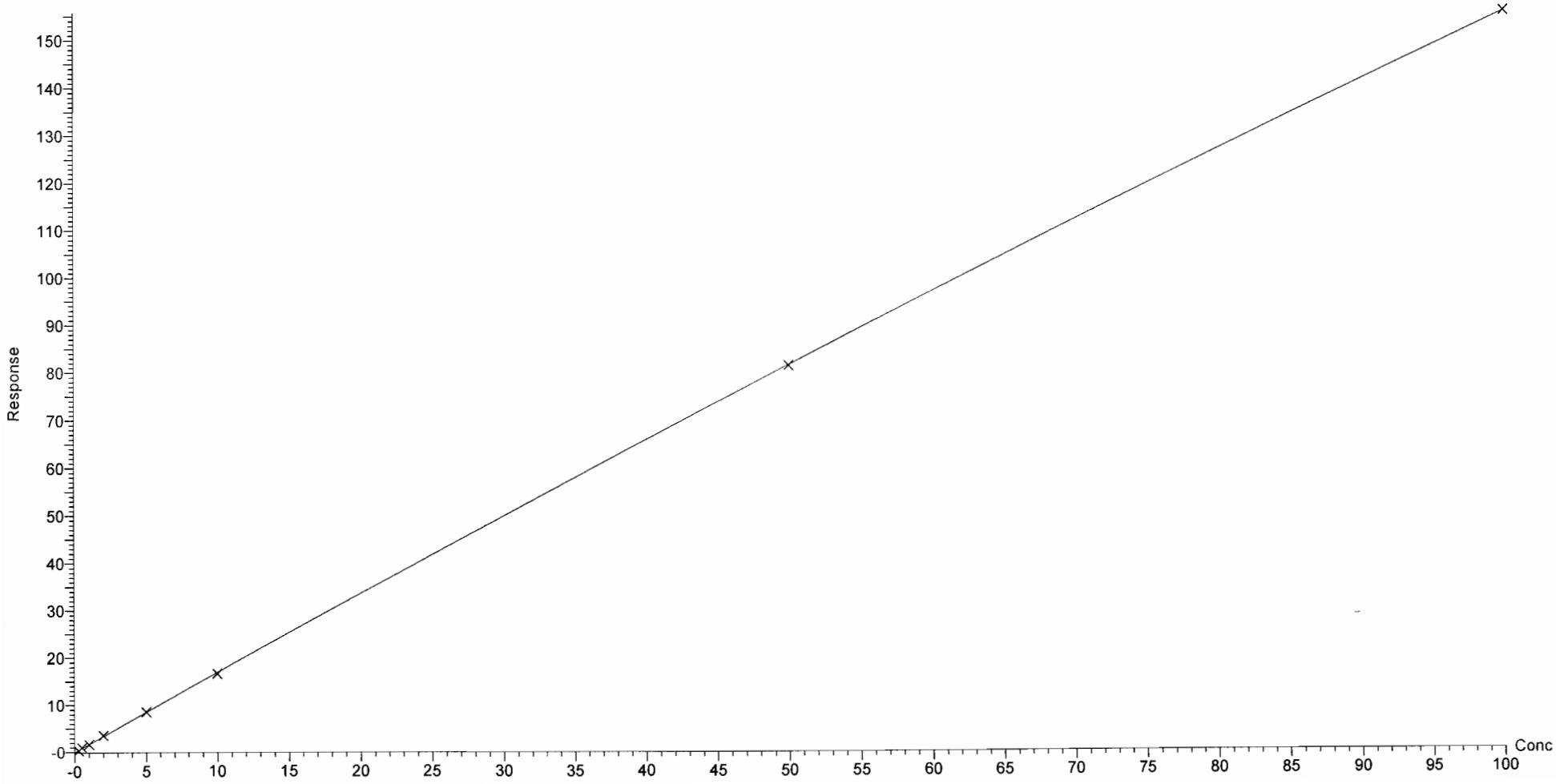
Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999711
Calibration curve: -0.00151846 * x^2 + 1.70838 * x + -0.0114403
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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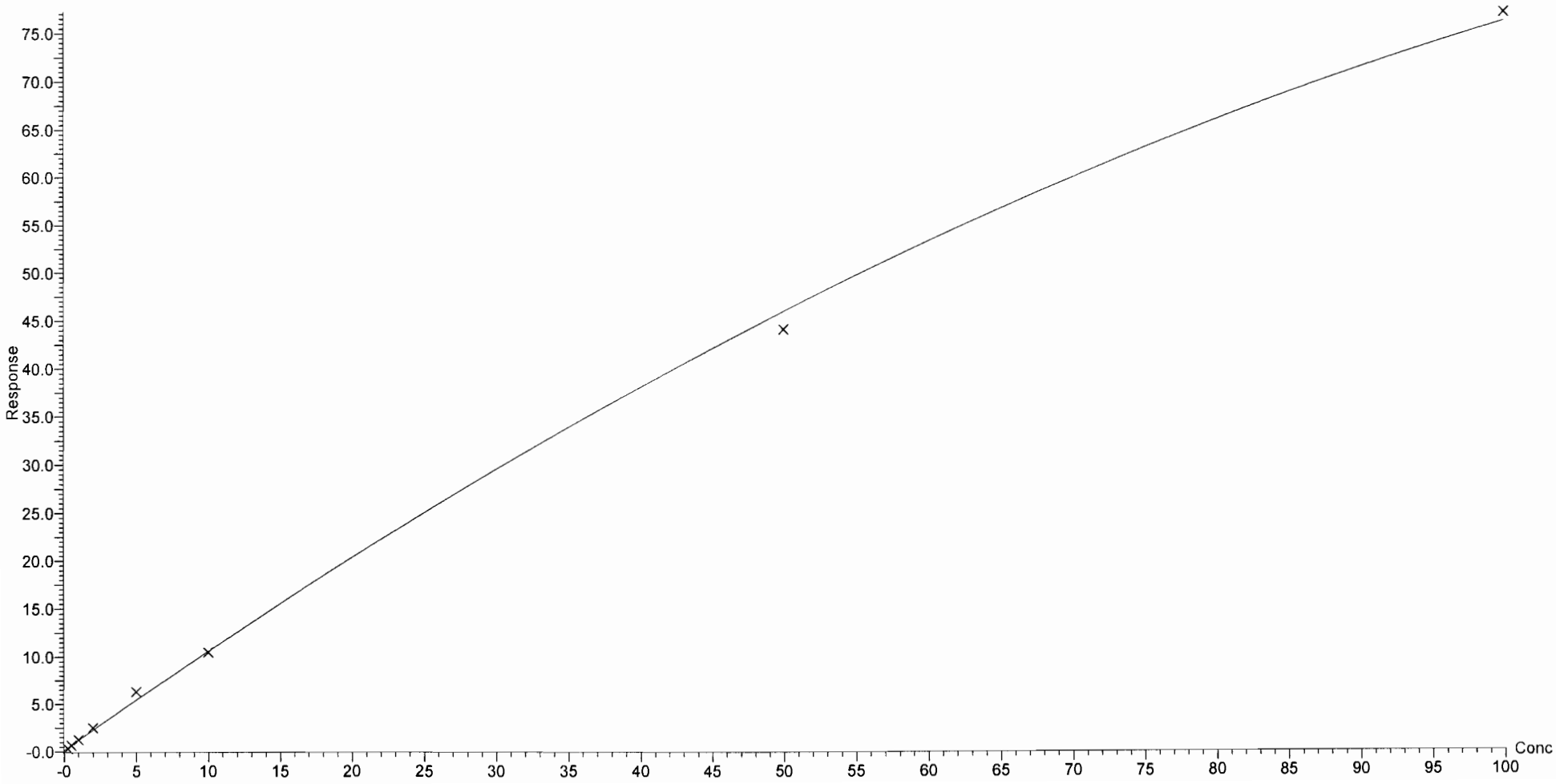
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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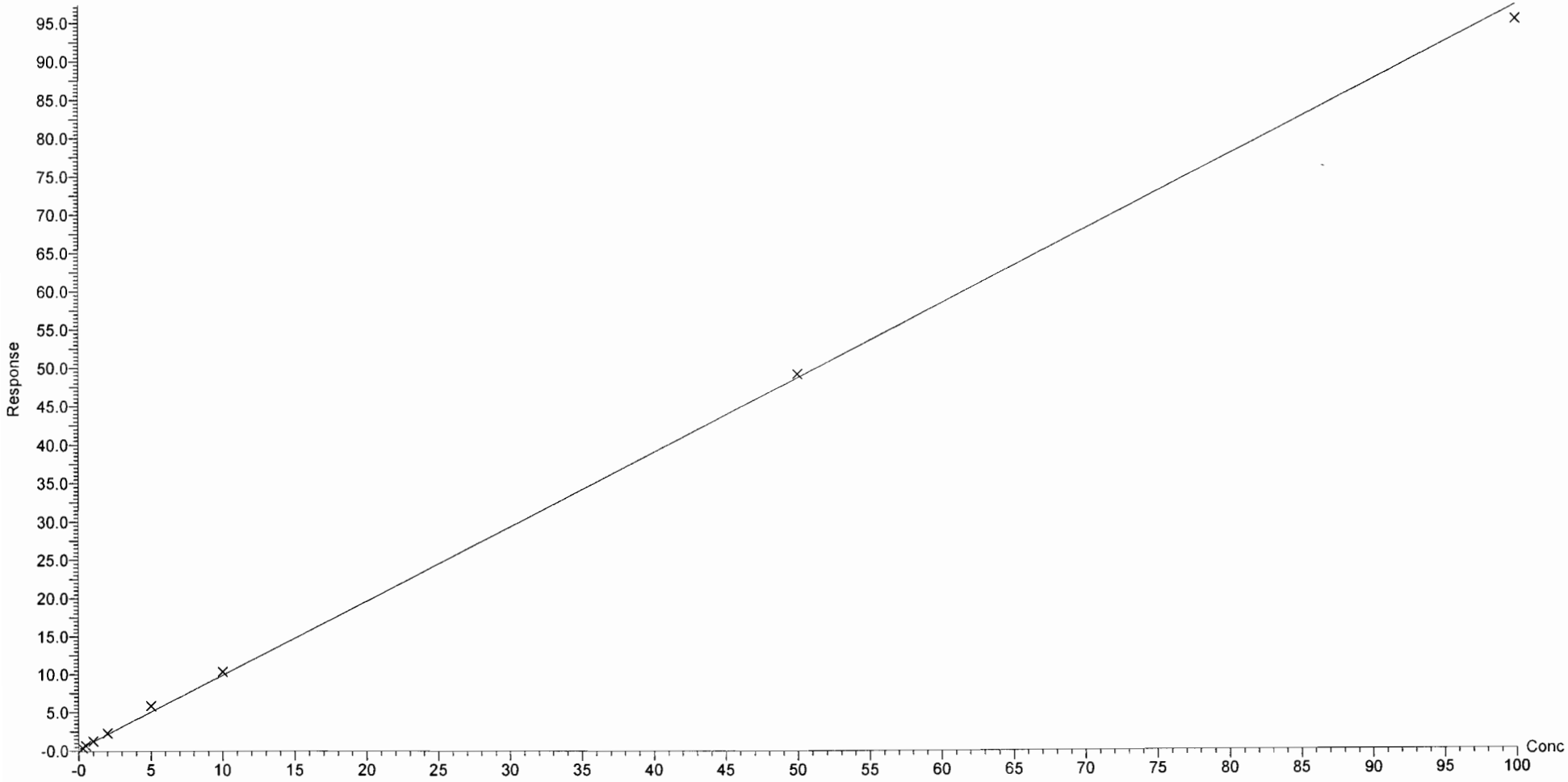
Compound name: PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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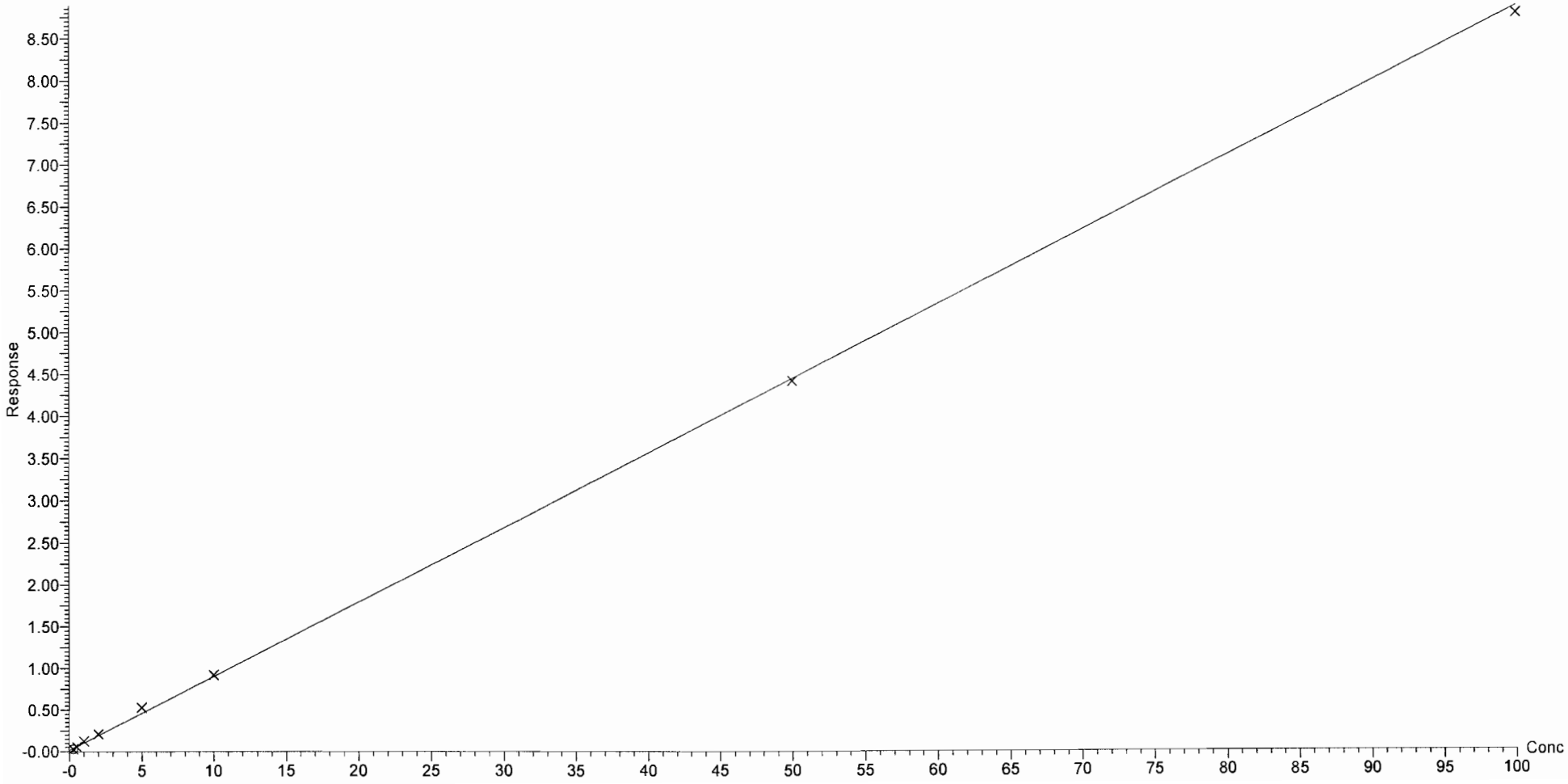
Compound name: PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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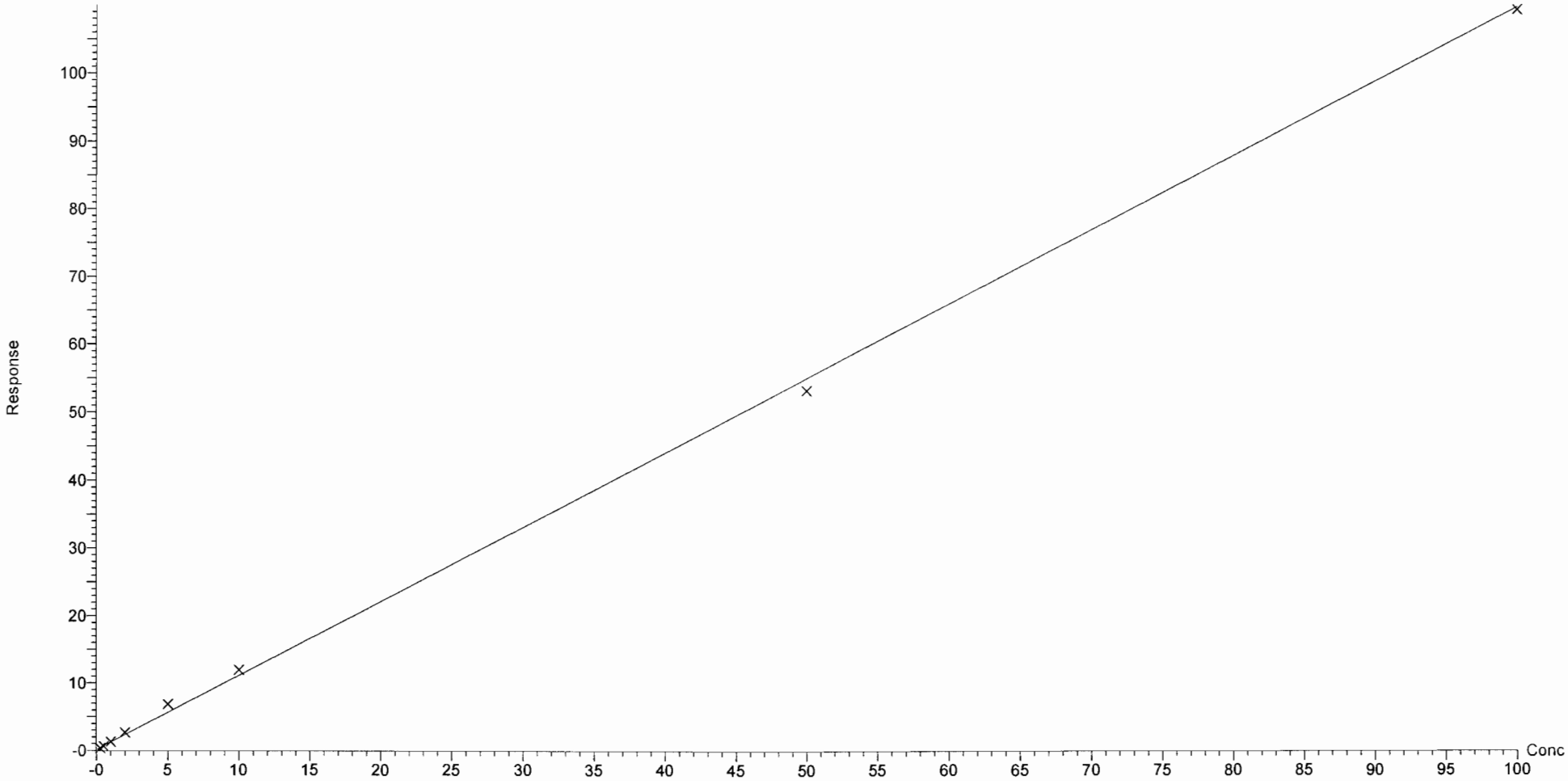
Compound name: PFNA
Correlation coefficient: r = 0.998659, r^2 = 0.997320
Calibration curve: 1.09835 * x + 0.147218
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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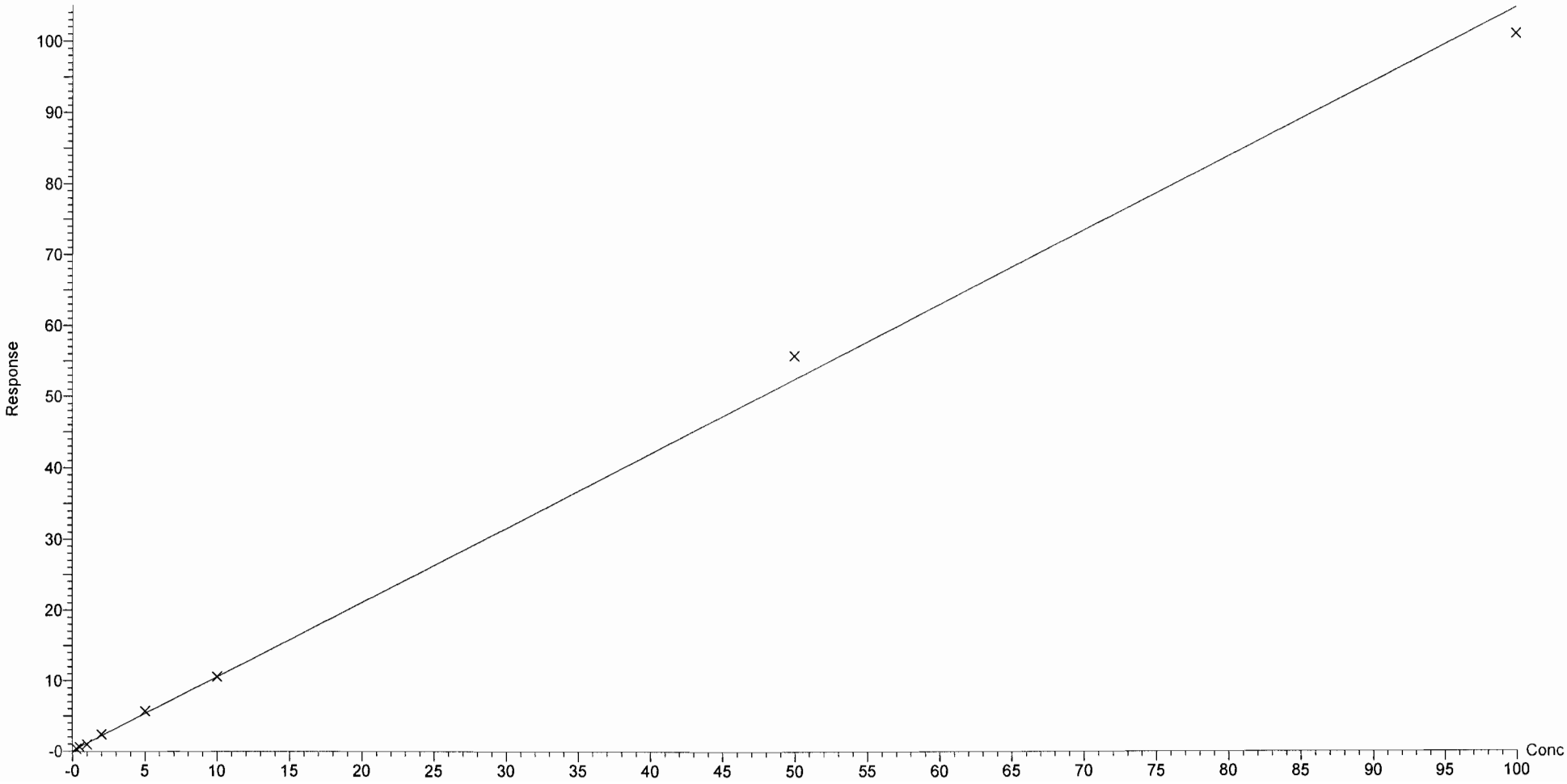
Compound name: PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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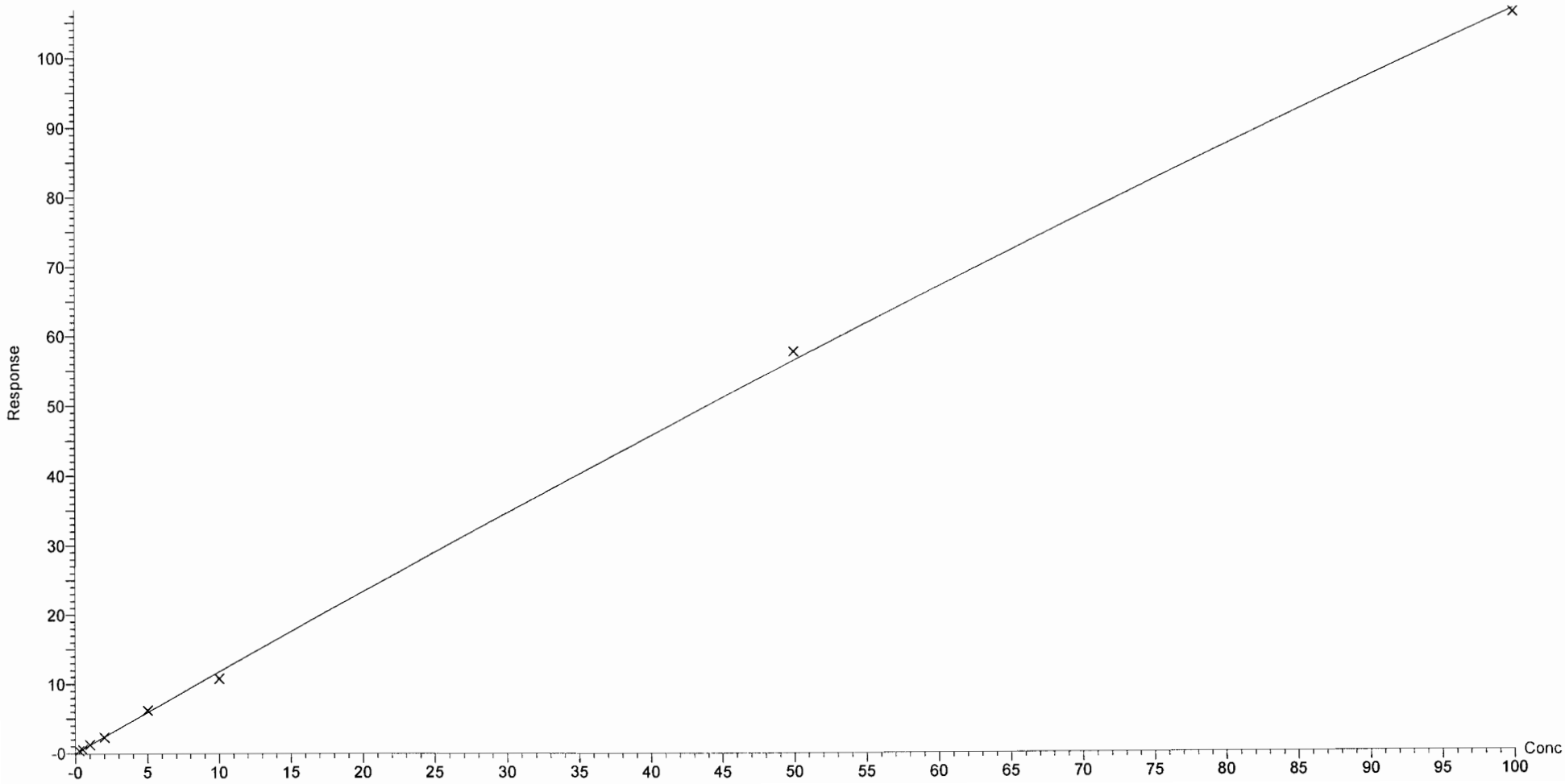
Compound name: PFOS
Coefficient of Determination: R^2 = 0.999148
Calibration curve: -0.00122032 * x^2 + 1.19038 * x + 0.0183073
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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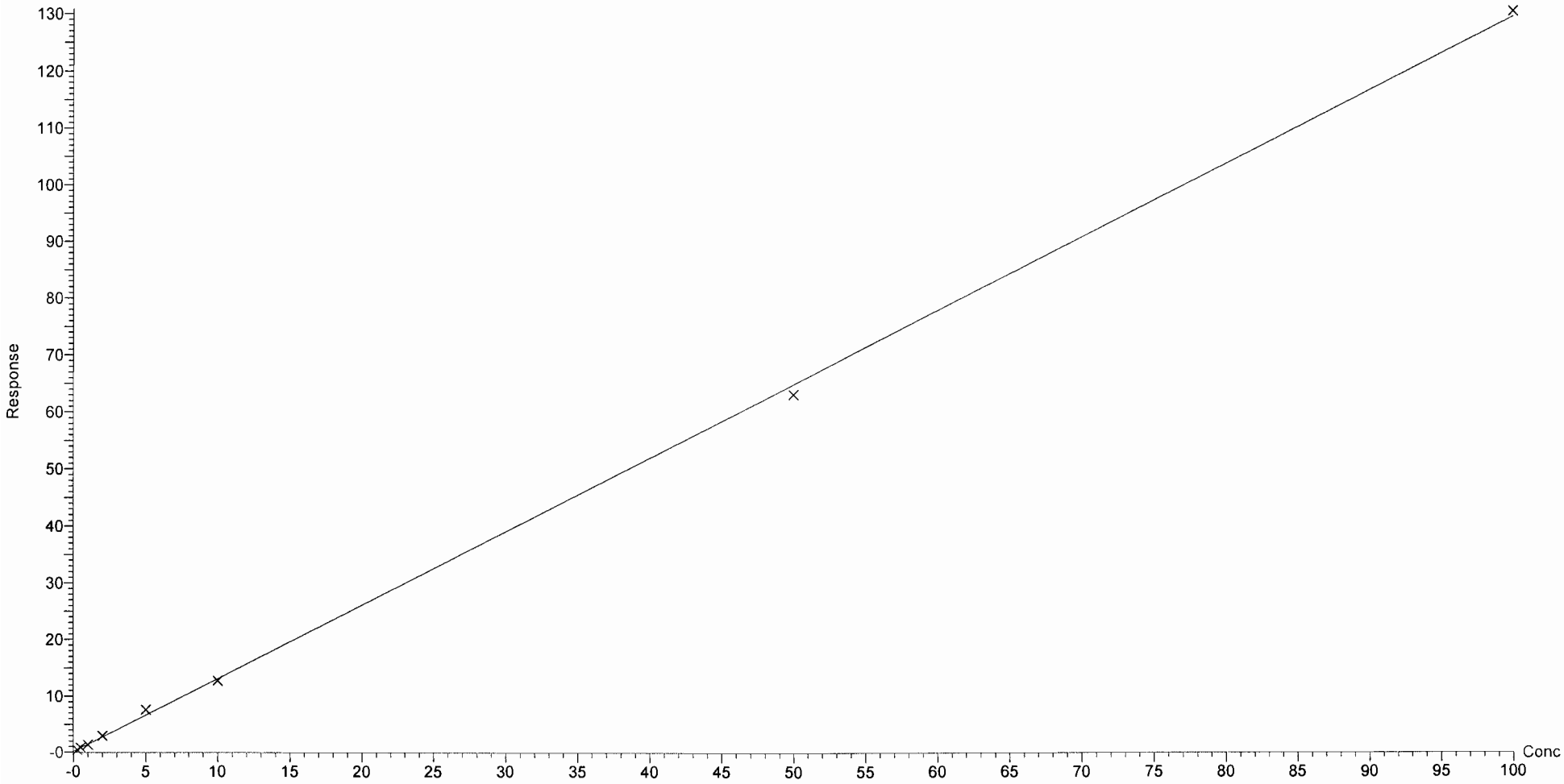
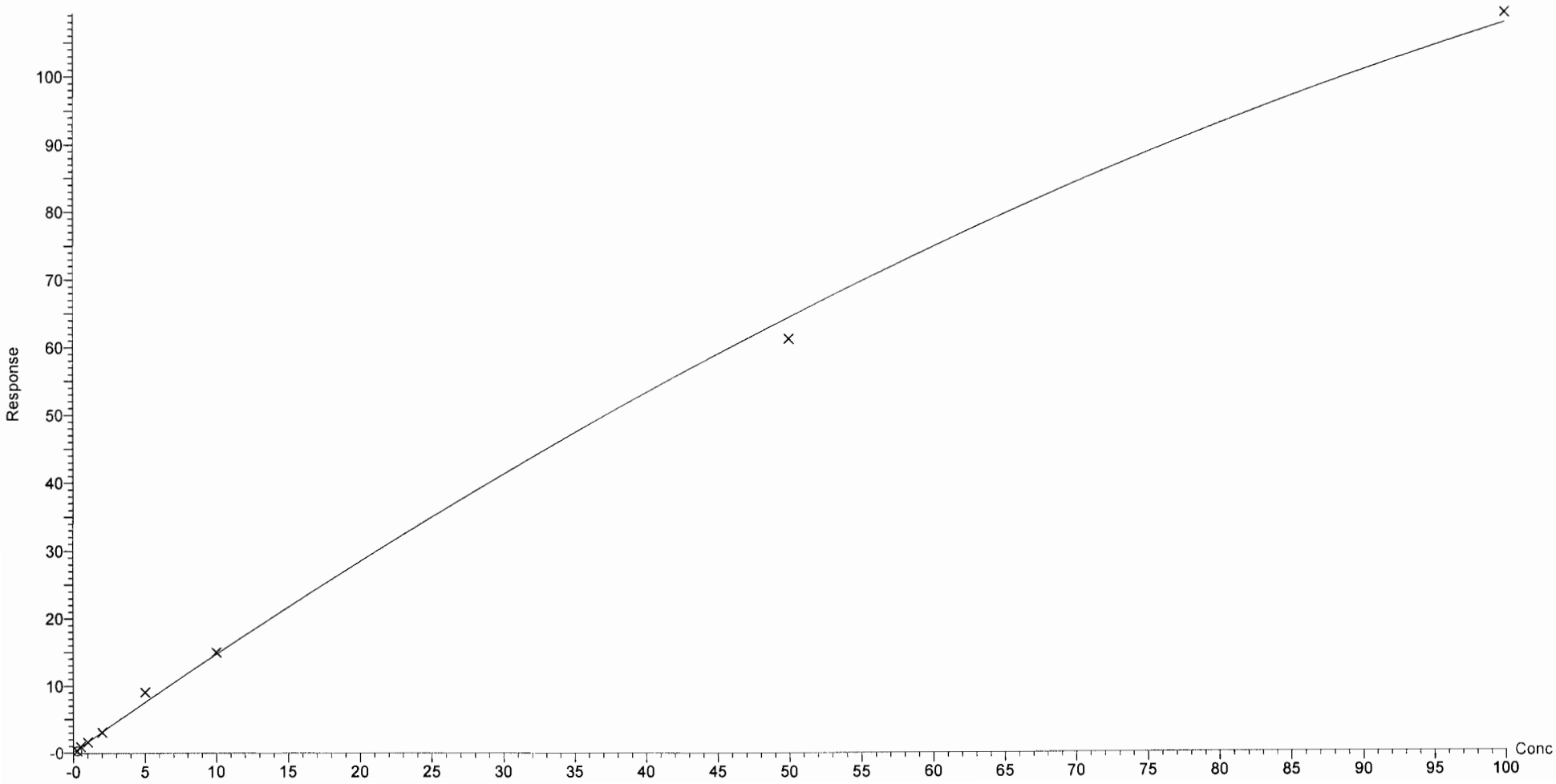
Compound name: PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998795
Calibration curve: 1.29731 * x + 0.128184
Response type: Internal Std (Ref 39), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

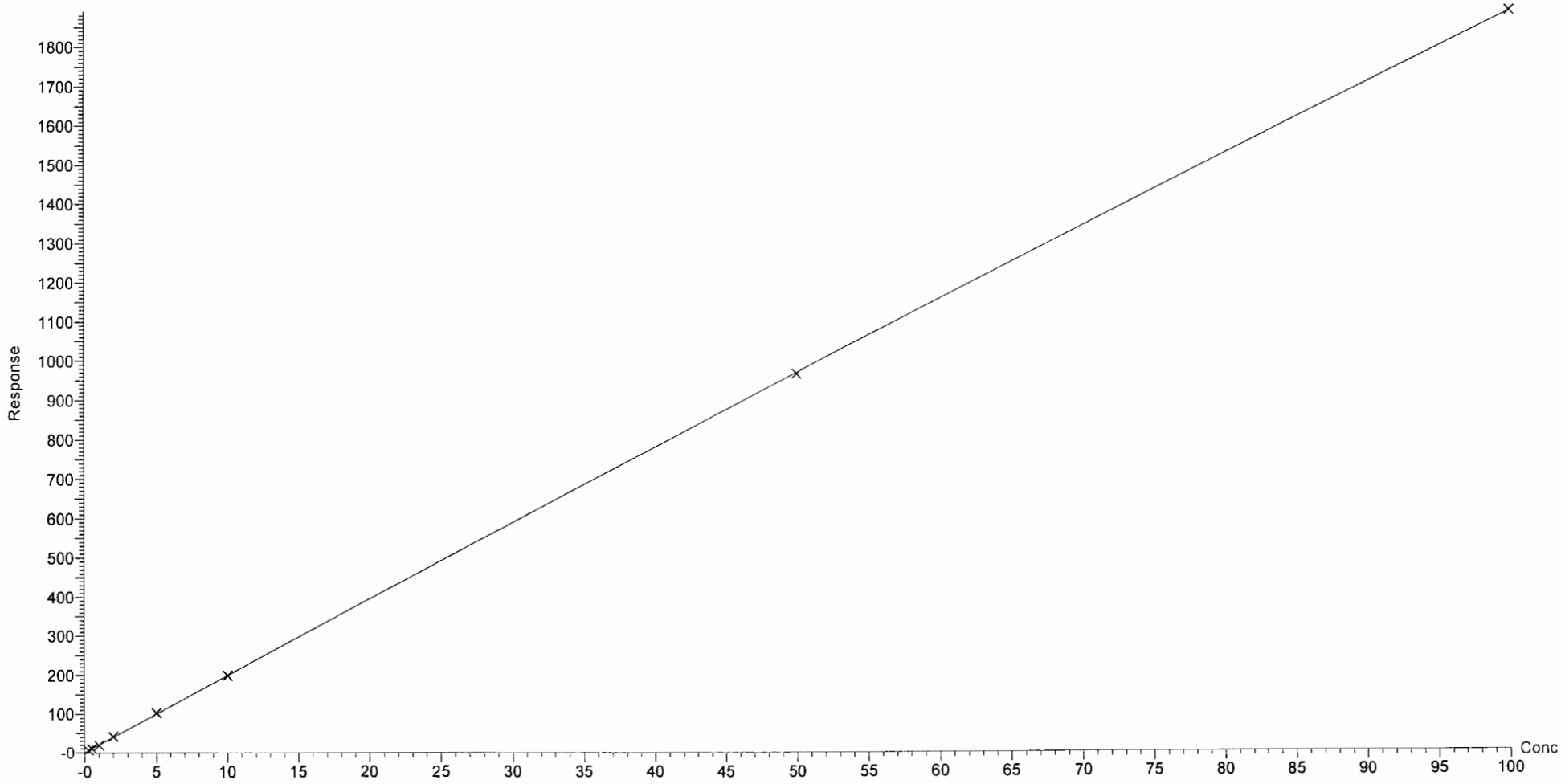
Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.996738
Calibration curve: -0.00420182 * x^2 + 1.49722 * x + 0.133523
Response type: Internal Std (Ref 40), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

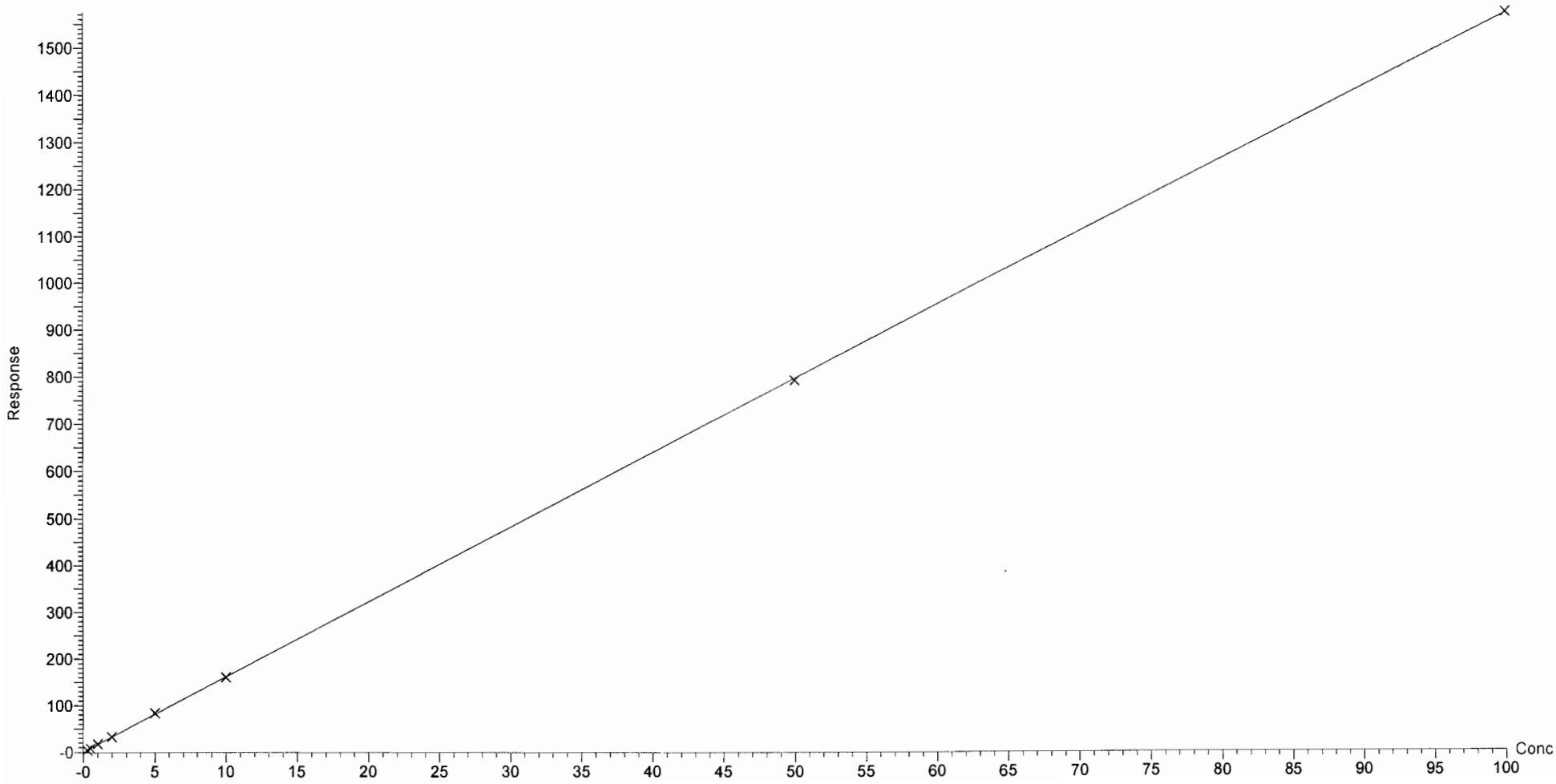
Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999848
Calibration curve: -0.0104077 * x^2 + 19.9194 * x + 0.547687
Response type: Internal Std (Ref 41), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999908
Calibration curve: -0.00439744 * x^2 + 16.1657 * x + 0.0580373
Response type: Internal Std (Ref 42), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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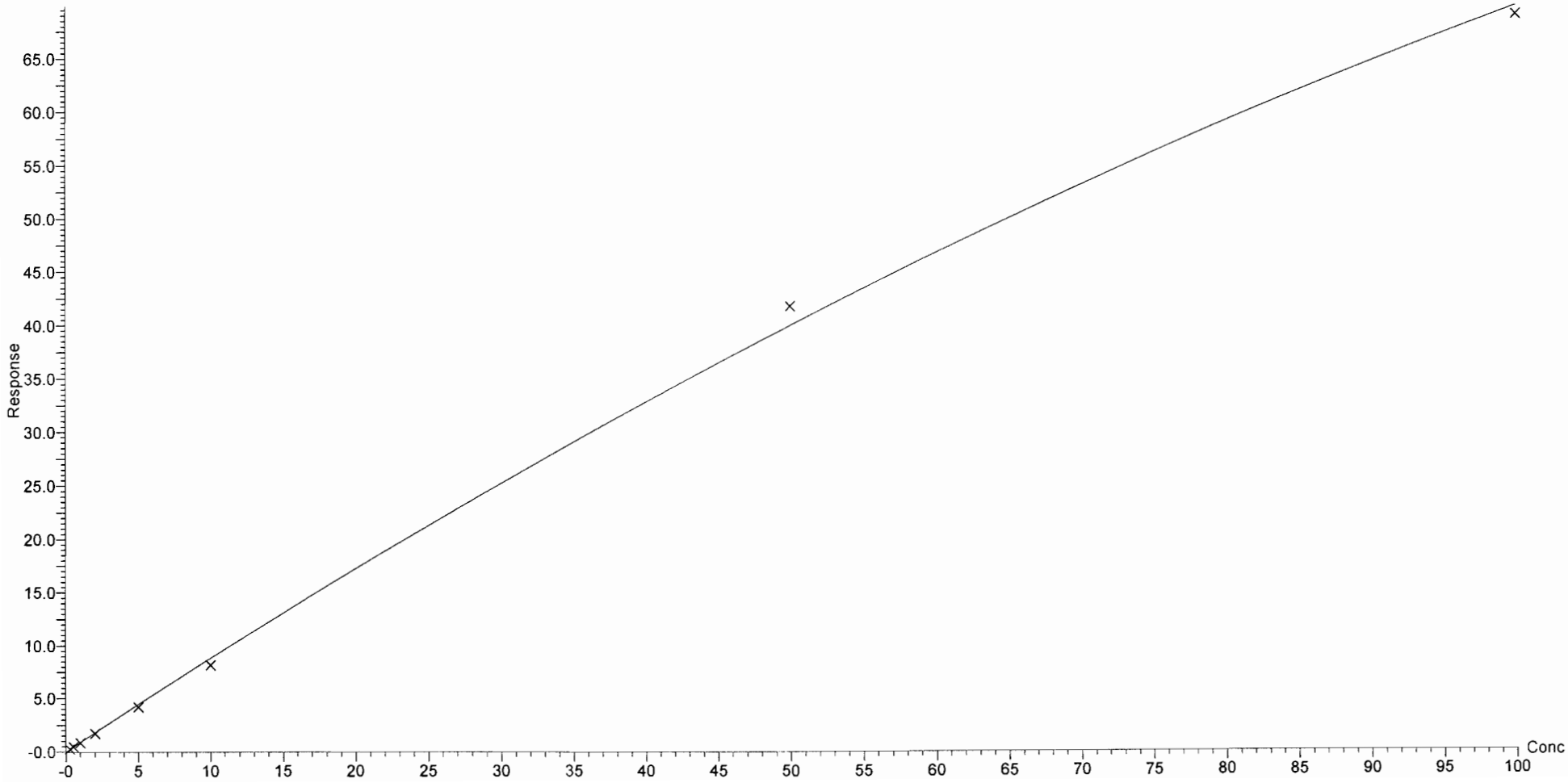
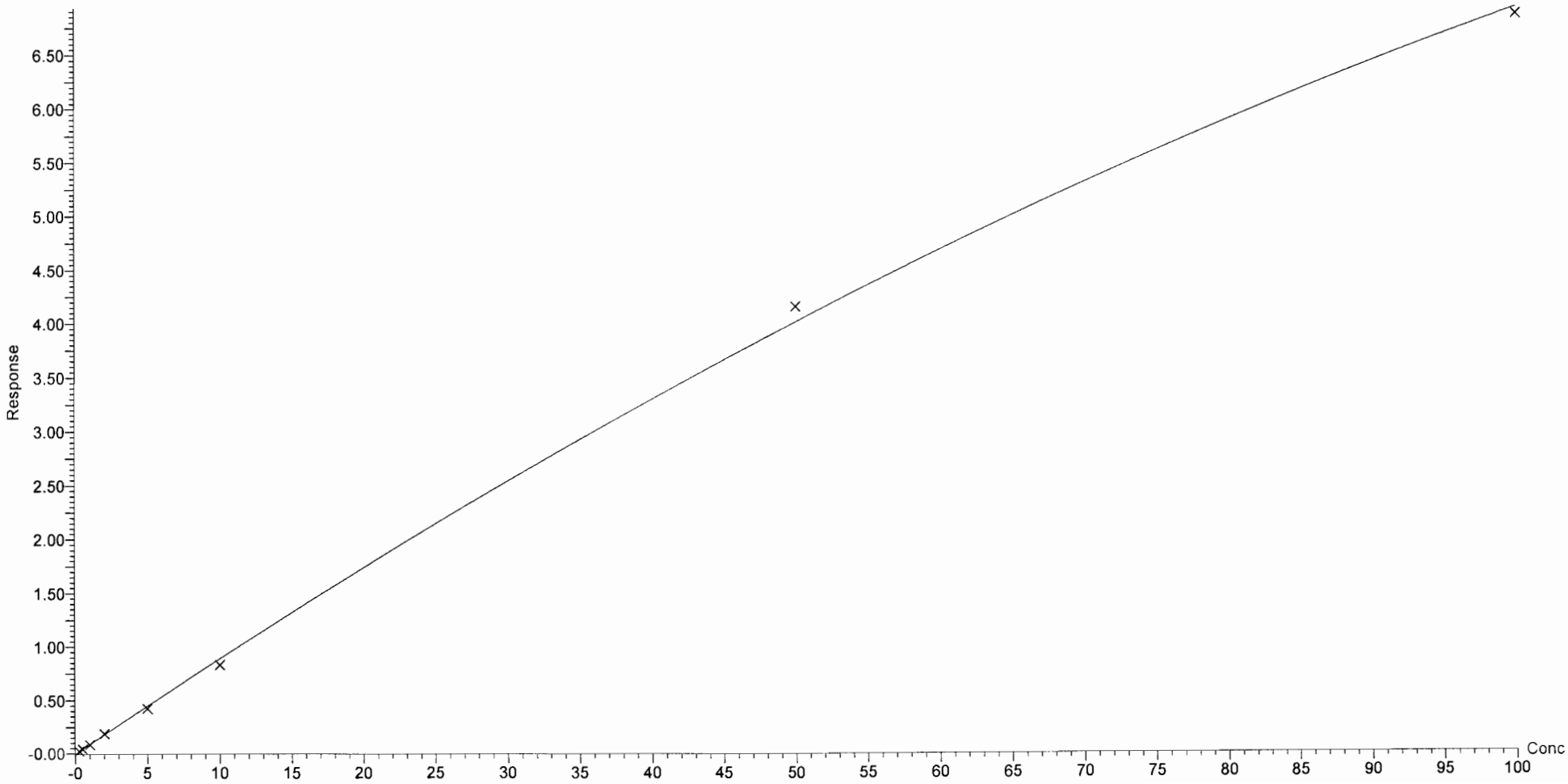
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

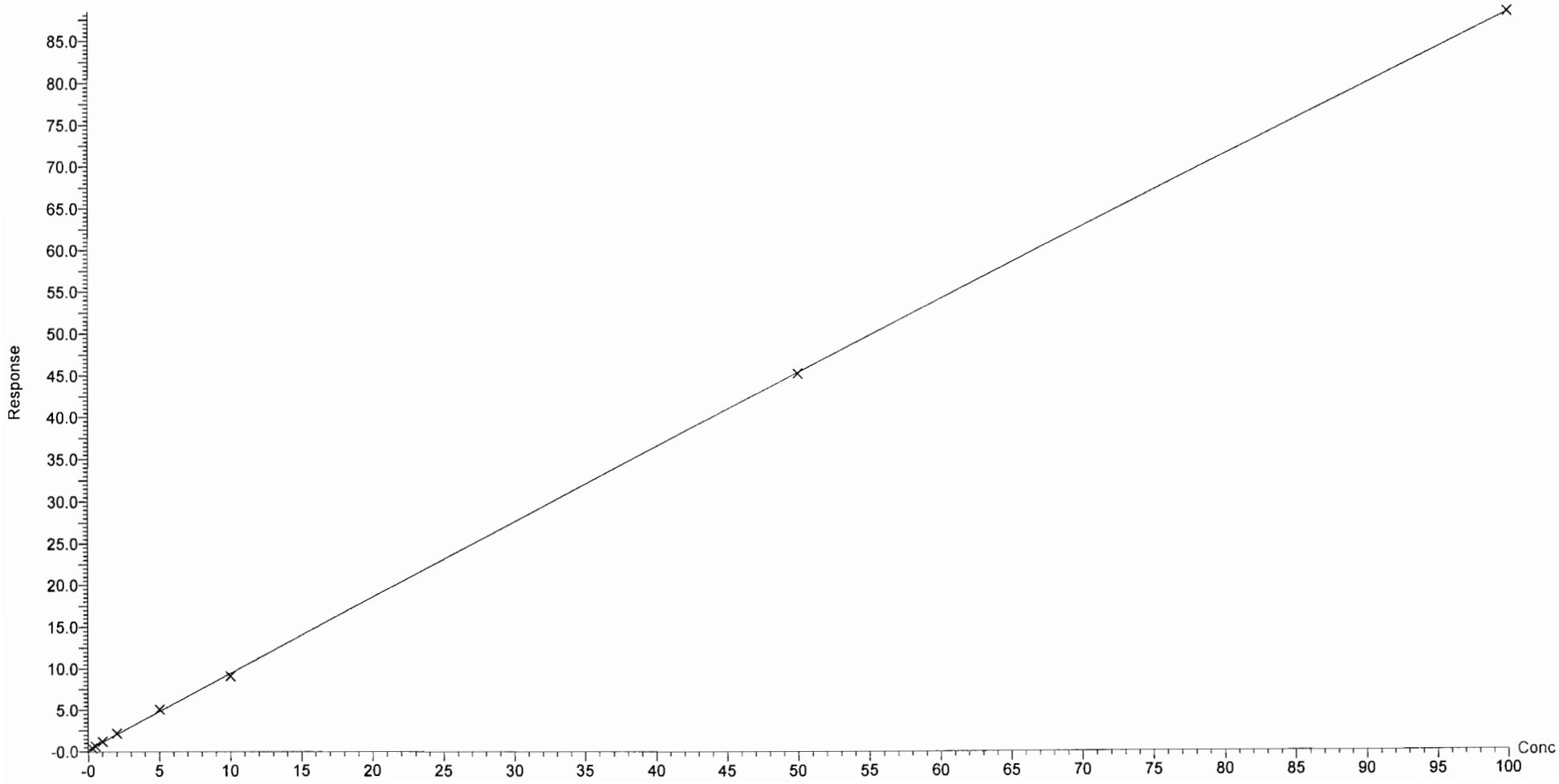
Compound name: PFDS
Coefficient of Determination: R^2 = 0.998889
Calibration curve: -0.000220781 * x^2 + 0.0914068 * x + -0.00228704
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

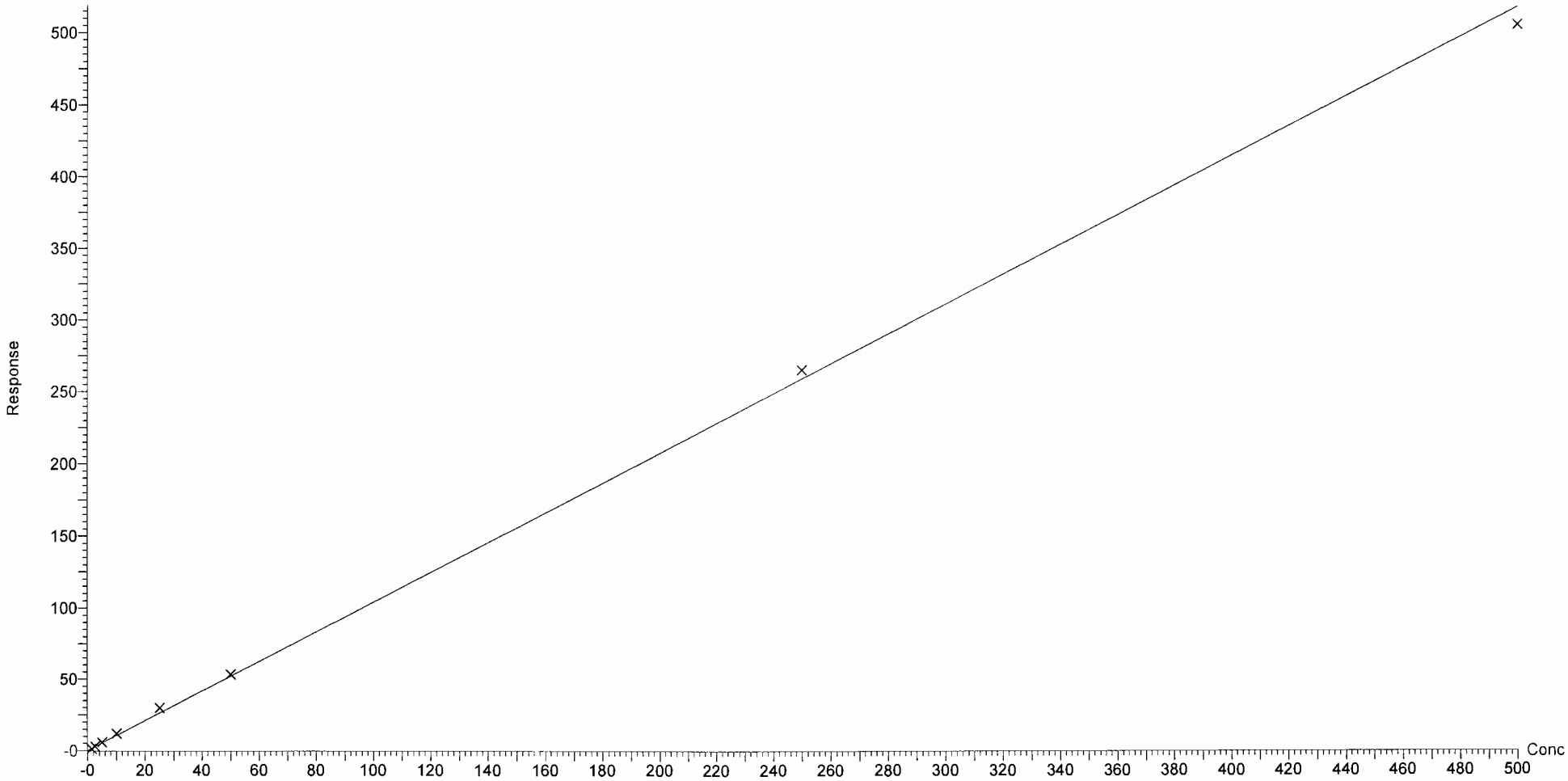
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999700
Calibration curve: -0.000446703 * x^2 + 0.926687 * x + 0.203454
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

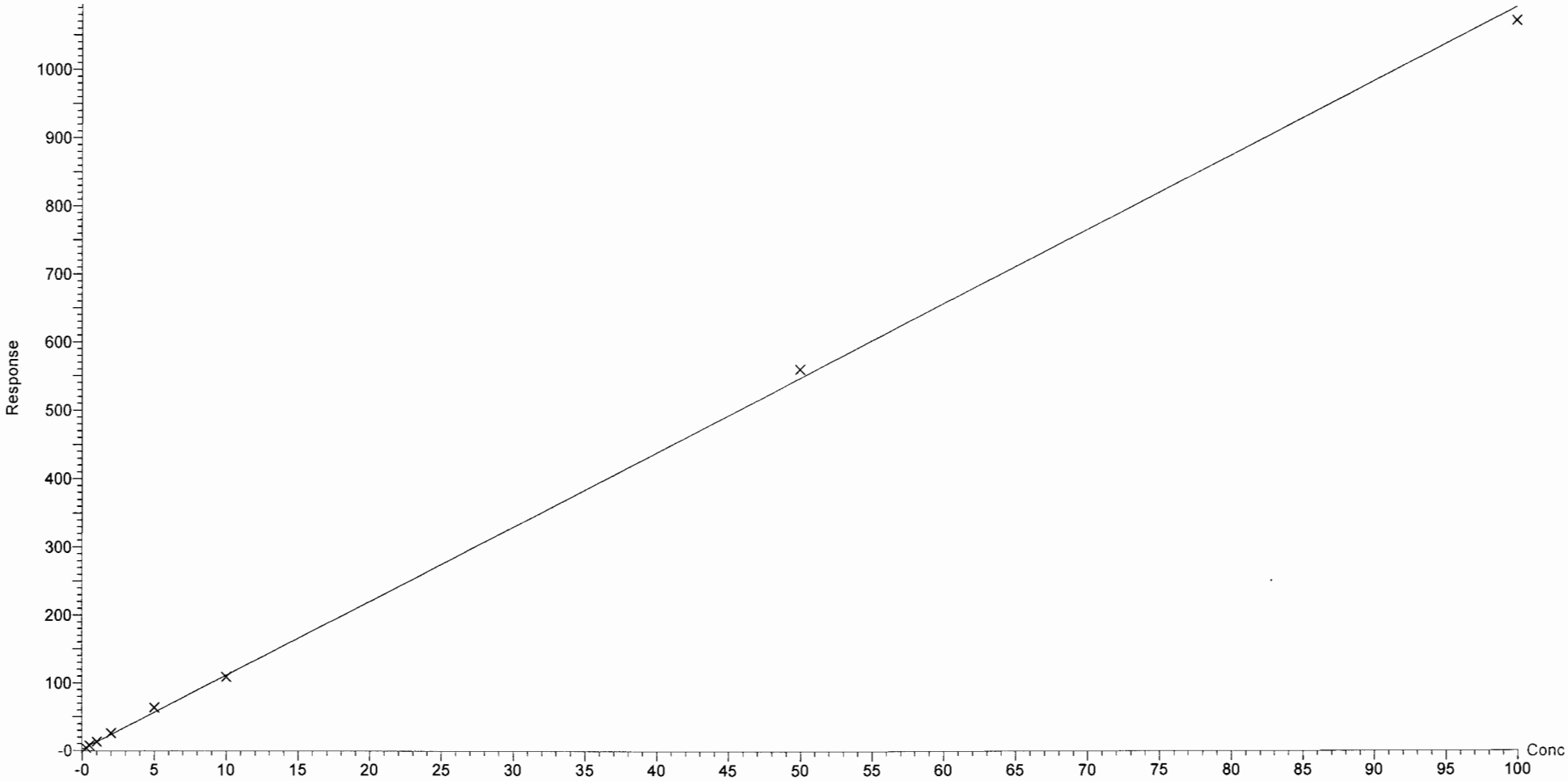
Compound name: N-MeFOSA
Correlation coefficient: r = 0.999273, r^2 = 0.998546
Calibration curve: 1.0376 * x + 0.213391
Response type: Internal Std (Ref 45), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

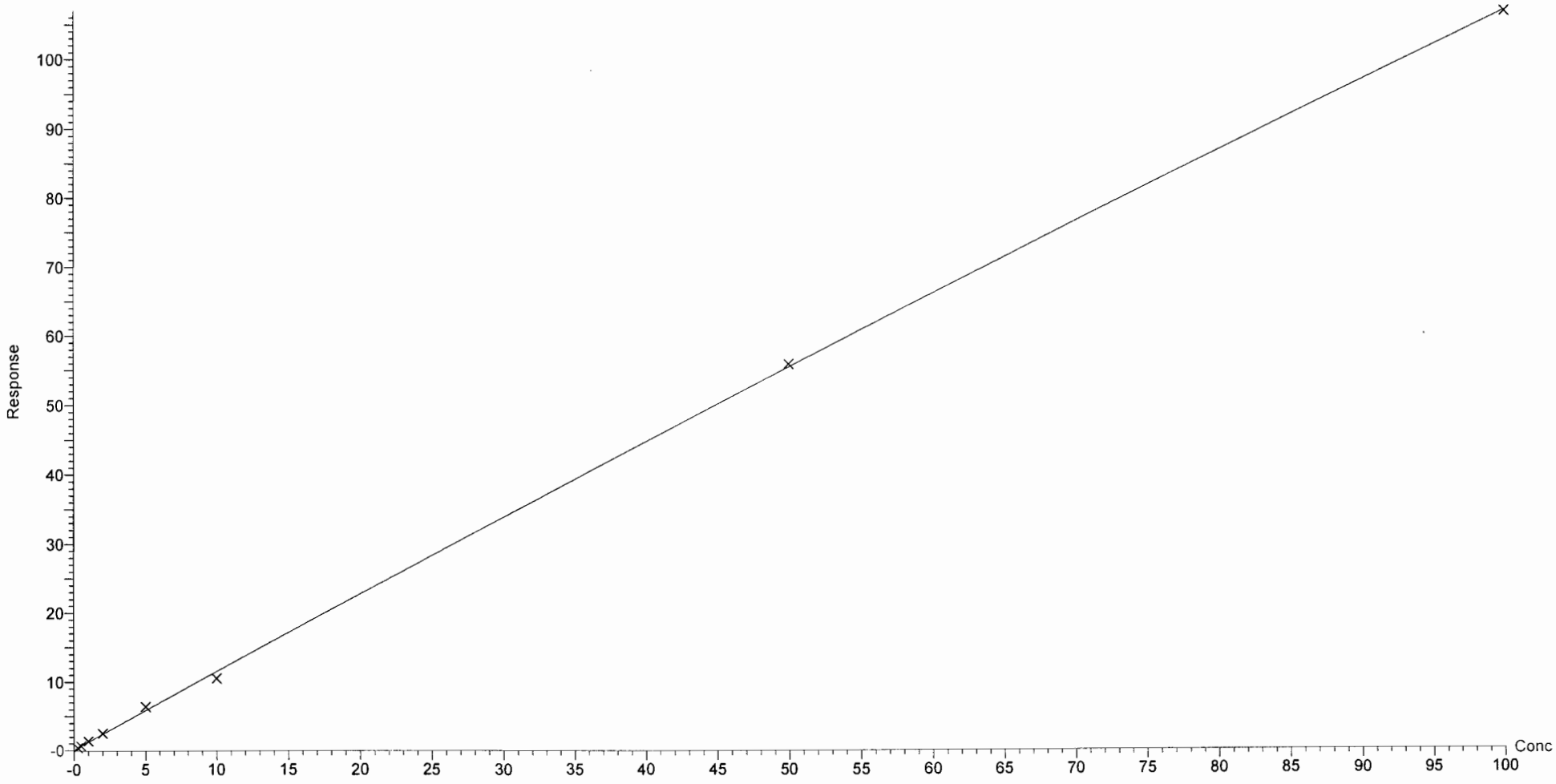
Compound name: PFTrDA
Correlation coefficient: r = 0.999414, r^2 = 0.998828
Calibration curve: 10.9255 * x + 1.79
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

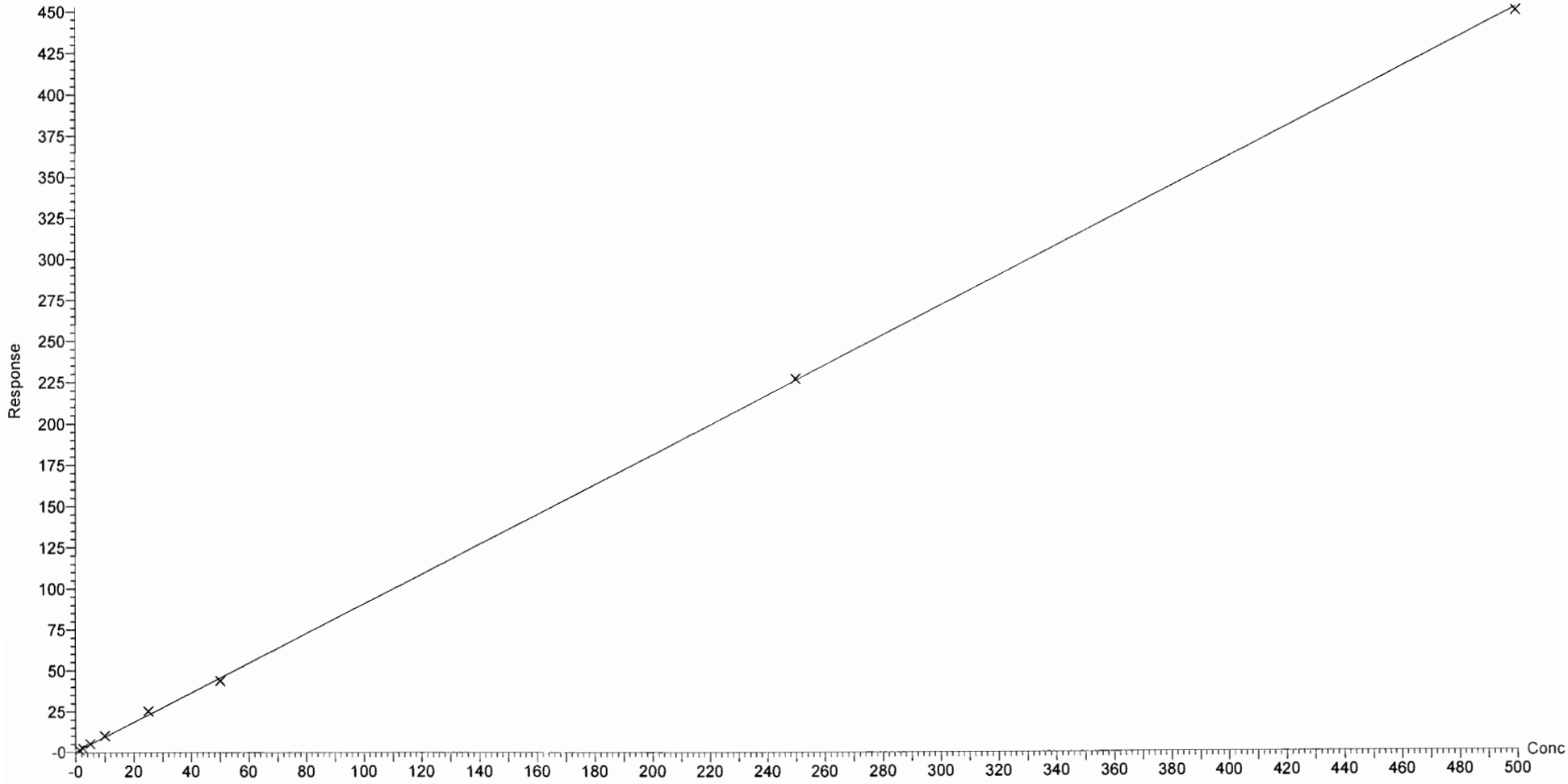
Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999057
Calibration curve: -0.000800394 * x^2 + 1.14875 * x + 0.111533
Response type: Internal Std (Ref 46), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: N-EtFOSA
Correlation coefficient: r = 0.999689, r^2 = 0.999377
Calibration curve: 0.904115 * x + 0.326191
Response type: Internal Std (Ref 47), 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\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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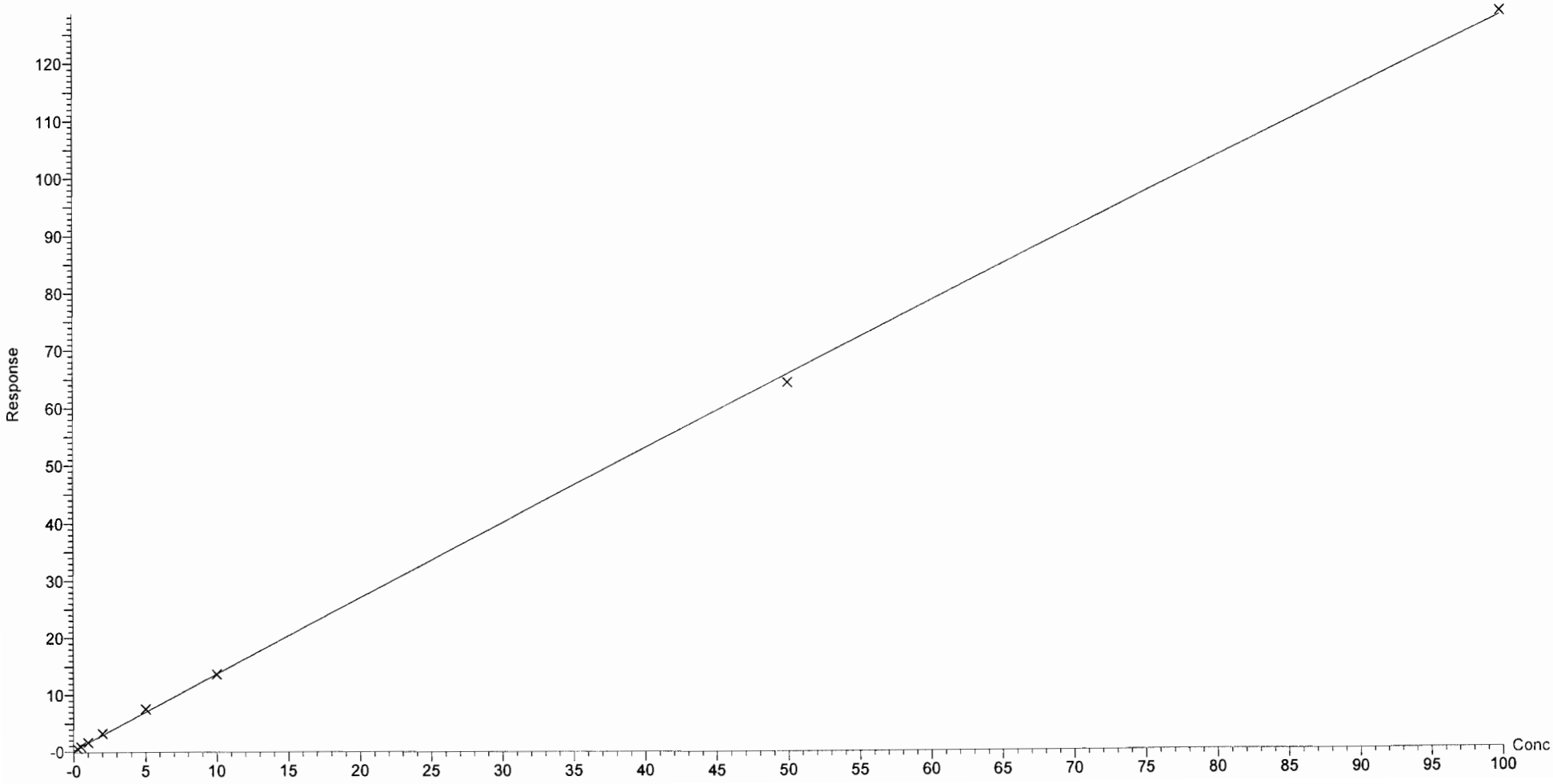
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999358
Calibration curve: -0.000715061 * x^2 + 1.34773 * x + 0.264398
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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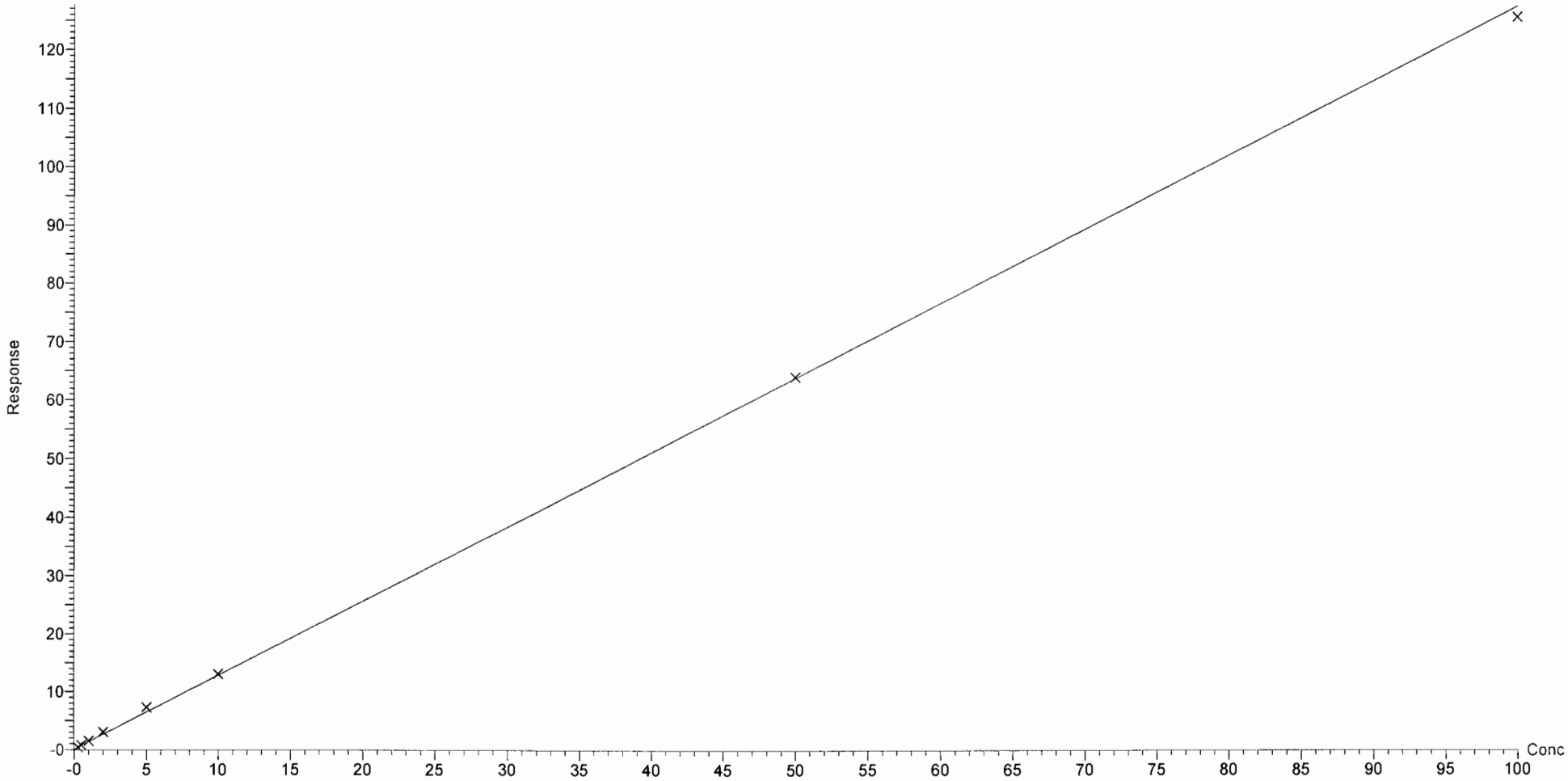
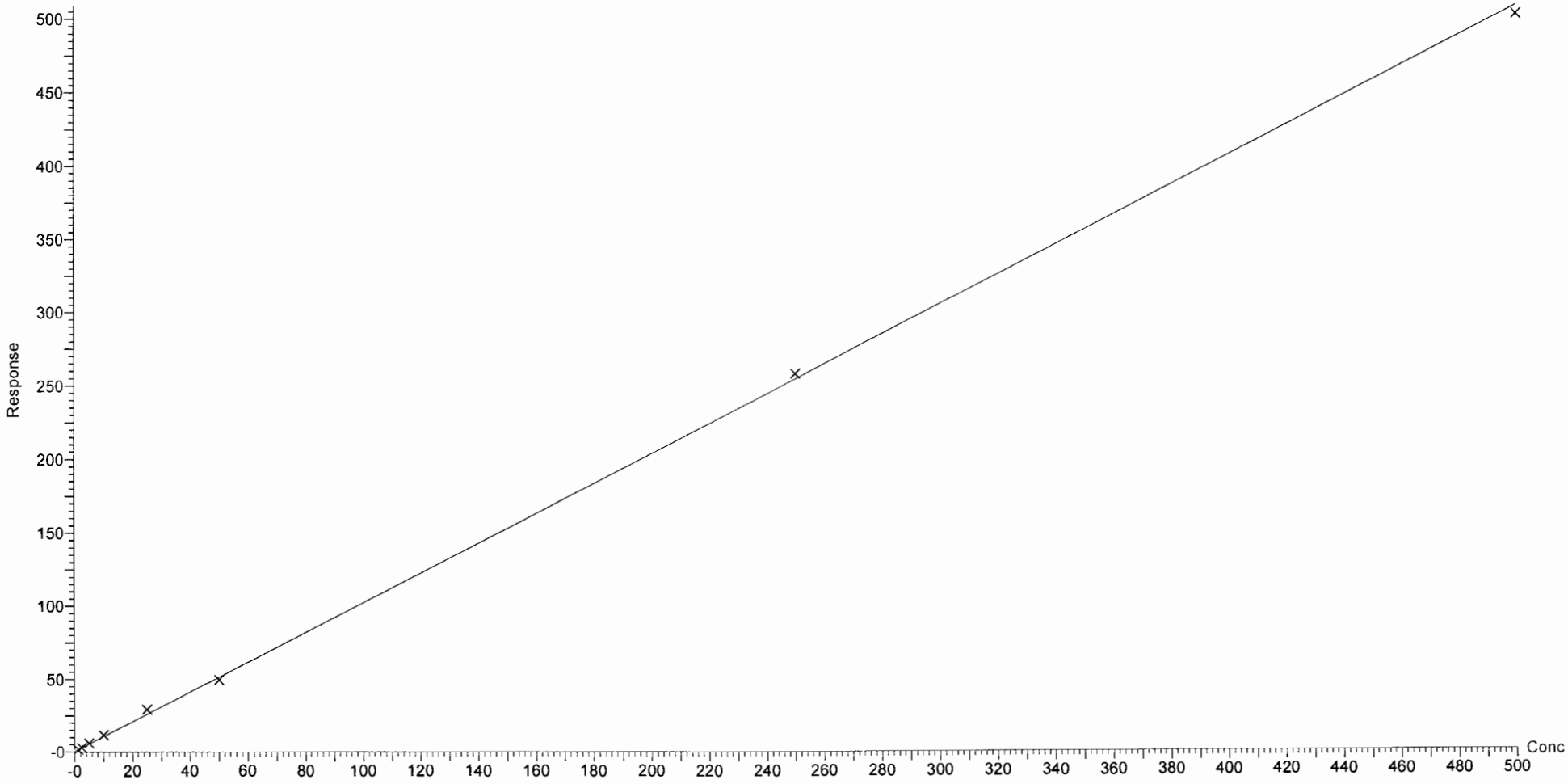
Compound name: PFODA
Correlation coefficient: r = 0.999378, r^2 = 0.998756
Calibration curve: 1.27561 * x + 0.10098
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

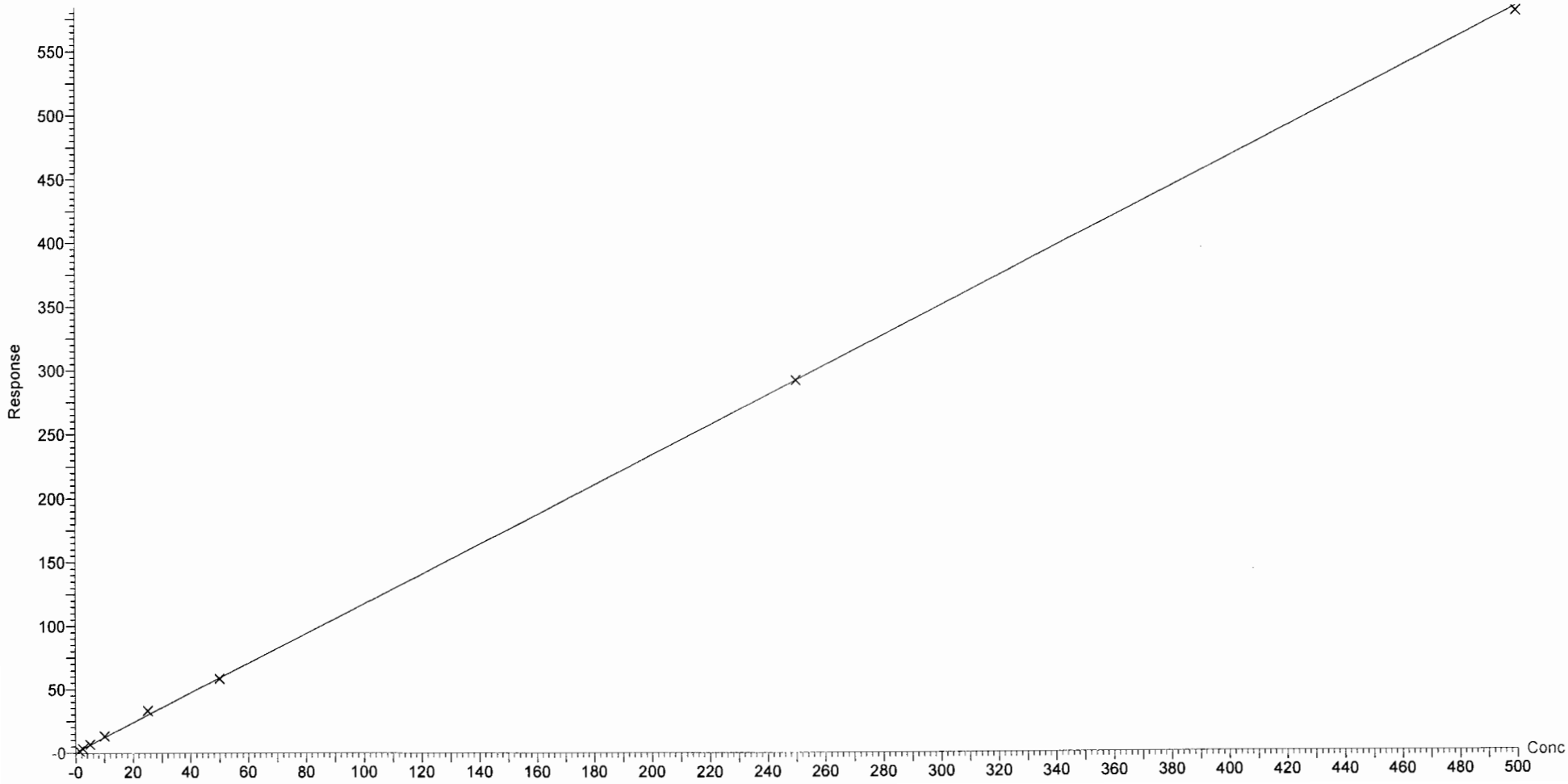
Compound name: N-MeFOSE
Correlation coefficient: r = 0.999476, r^2 = 0.998953
Calibration curve: 1.01603 * x + 0.461771
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999680, r^2 = 0.999361
Calibration curve: 1.16673 * x + 0.501898
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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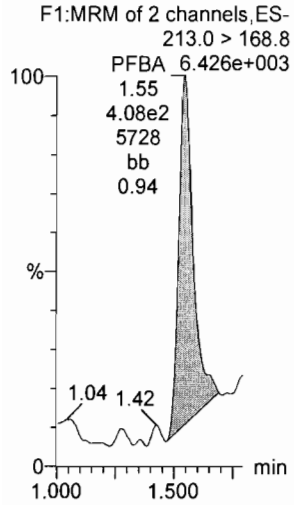
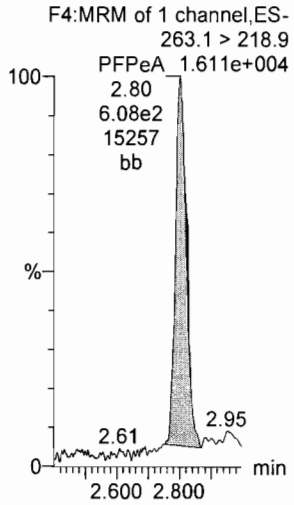
Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

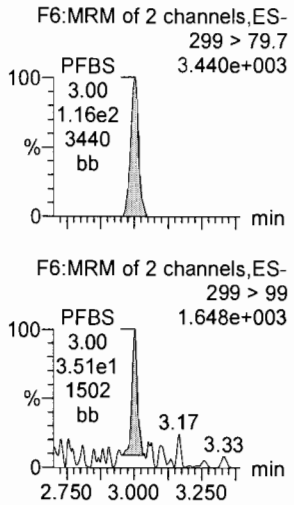
PFBA



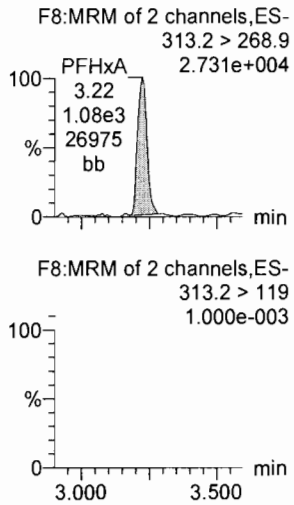
PFPeA



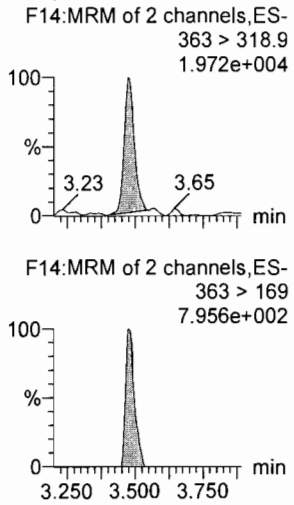
PFBS



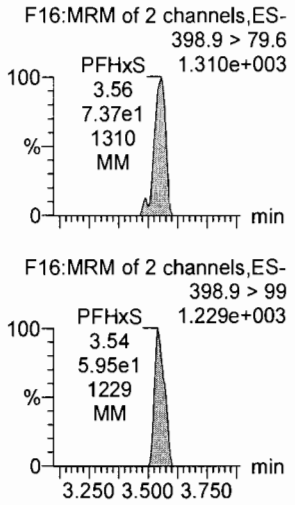
PFHxA



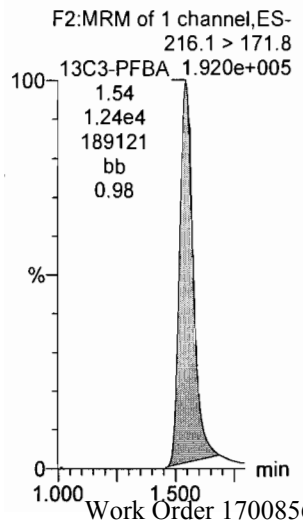
PFHpA



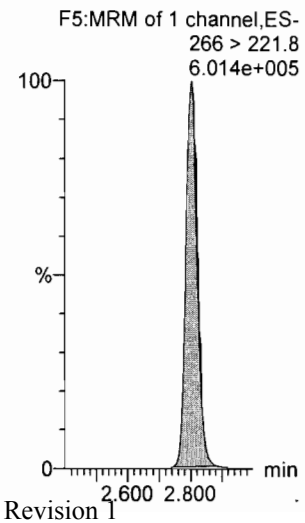
PFHxS



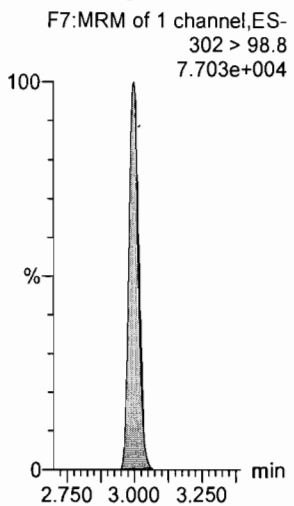
13C3-PFBA



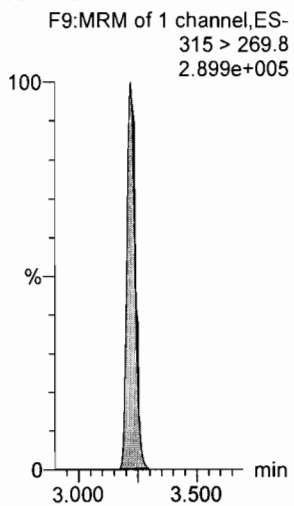
13C3-PFPeA



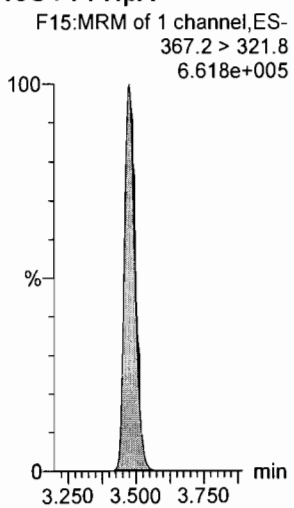
13C3-PFBS



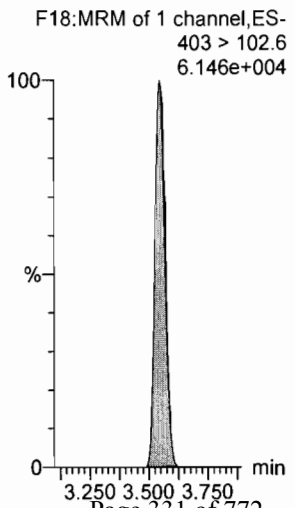
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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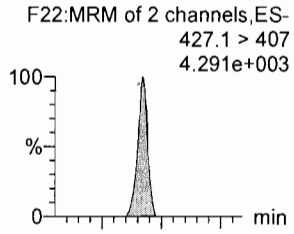
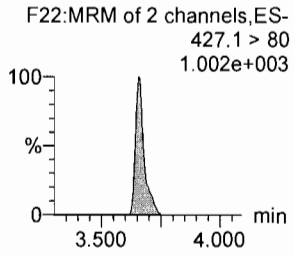
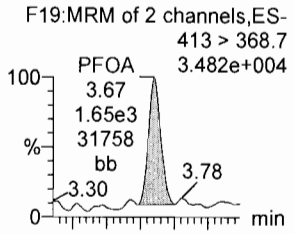
Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

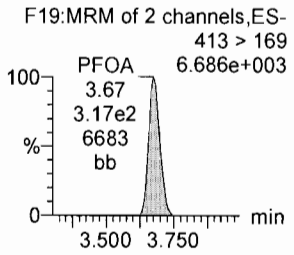
6:2 FTS



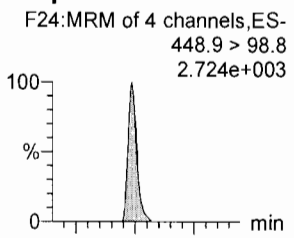


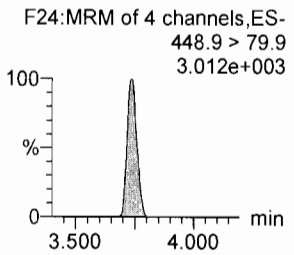
PFOA



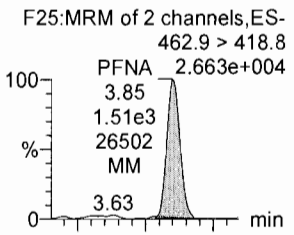


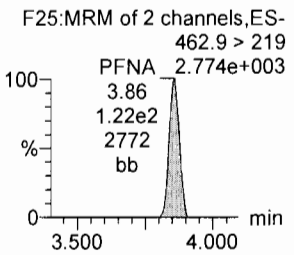
PFHpS



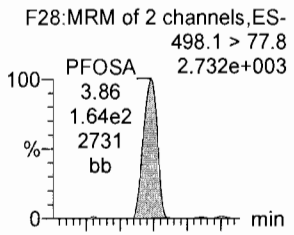


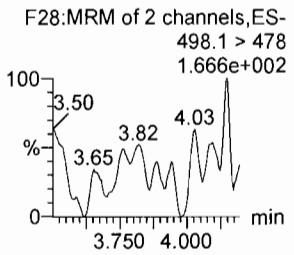
PFNA



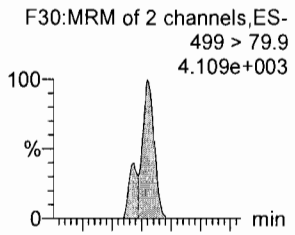


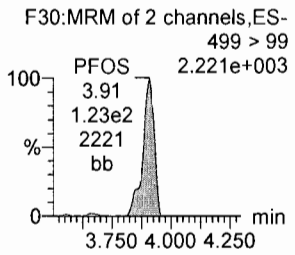
PFOSA



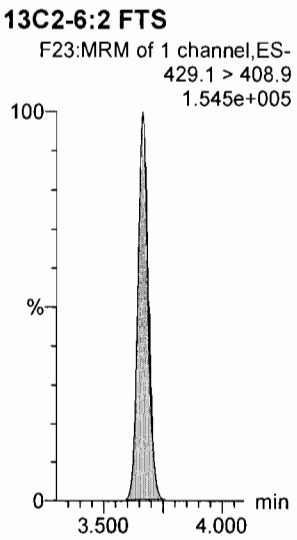


PFOS

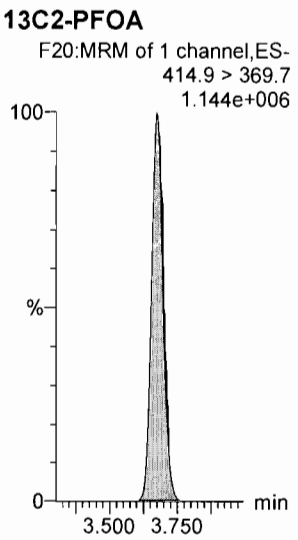




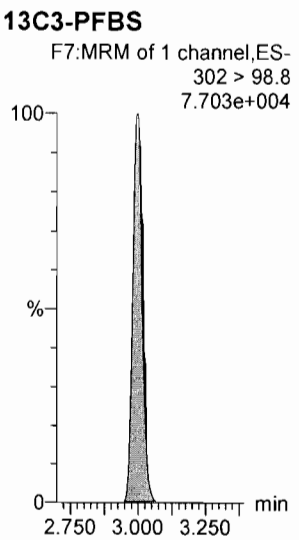
13C2-6:2 FTS



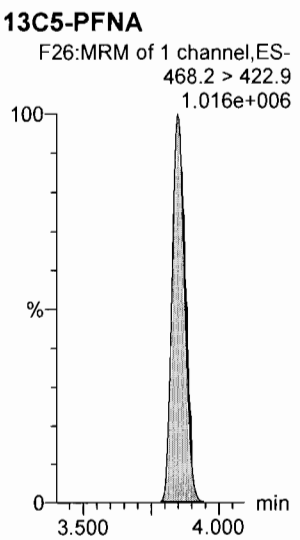
13C2-PFOA



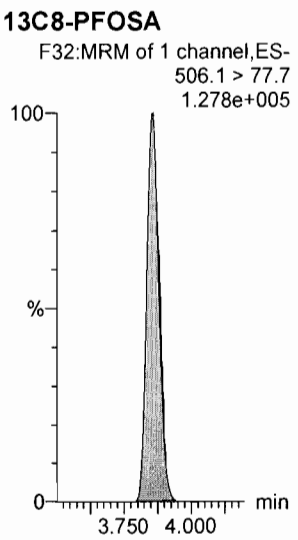
13C3-PFBS



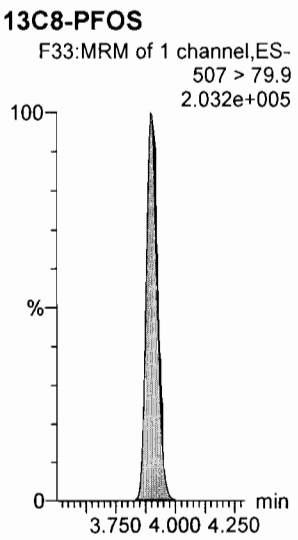
13C5-PFNA



13C8-PFOSA



13C8-PFOS



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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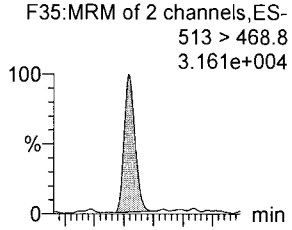
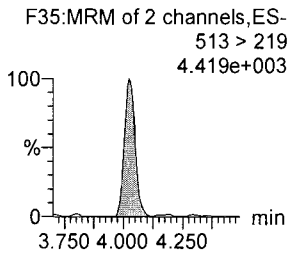
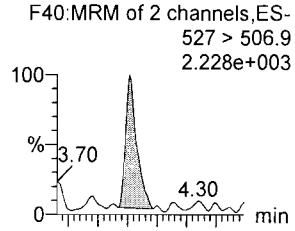
Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

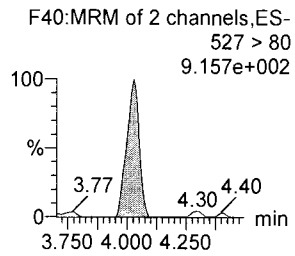
PFDA



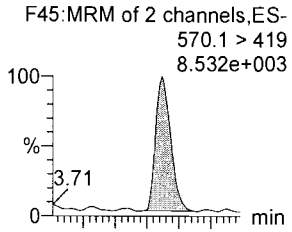


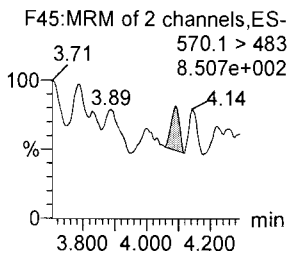
8:2 FTS





N-MeFOSAA





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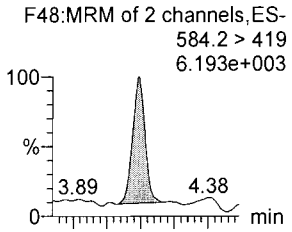

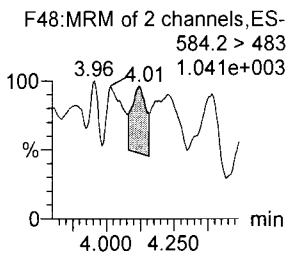

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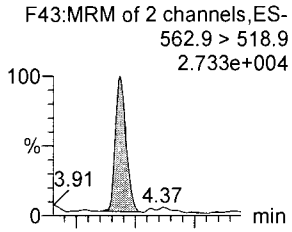
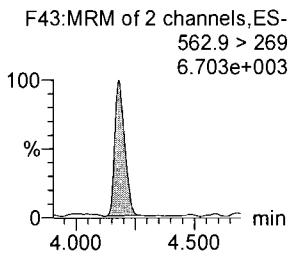
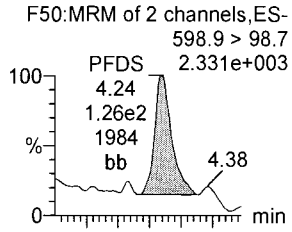
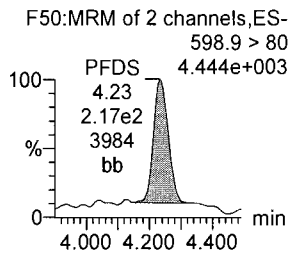


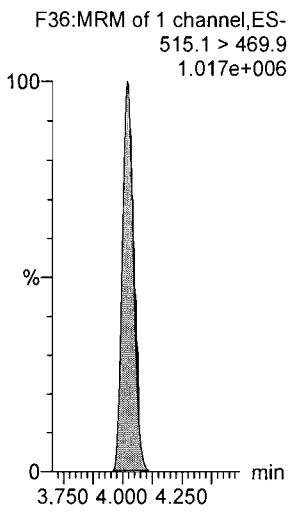


PFDS

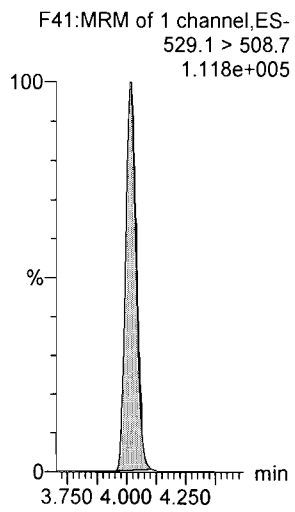




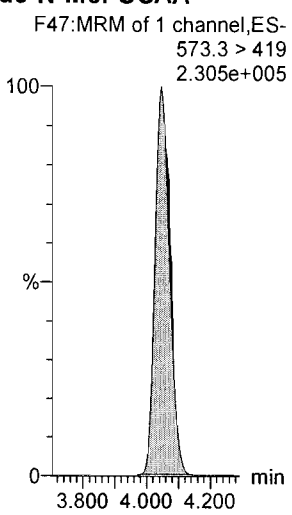
13C2-PFDA



13C2-8:2 FTS



d3-N-MeFOSAA



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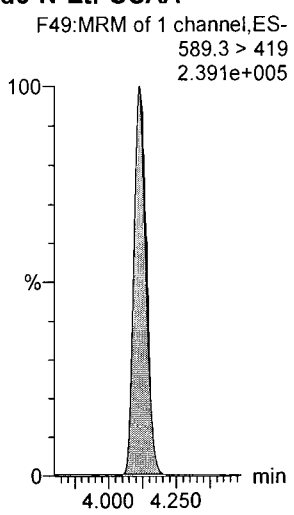

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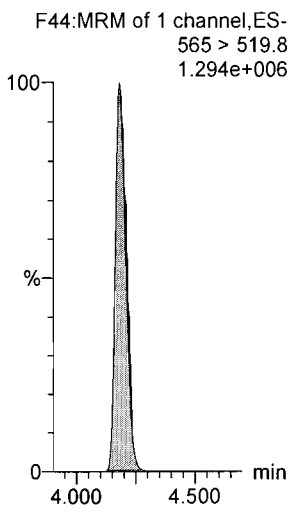

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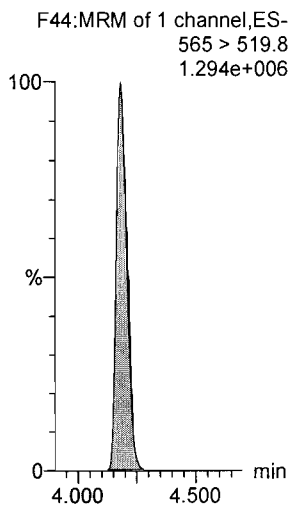

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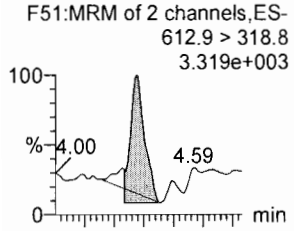
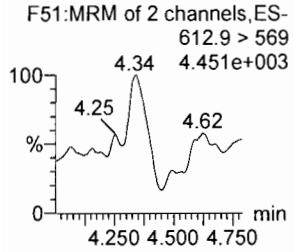
Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:36:37 Pacific Daylight Time

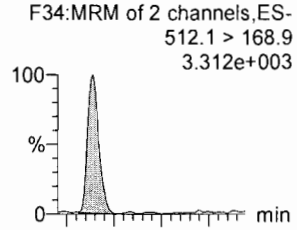
Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

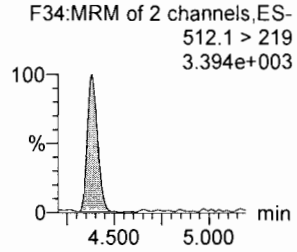
PFDoA



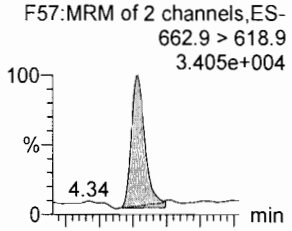


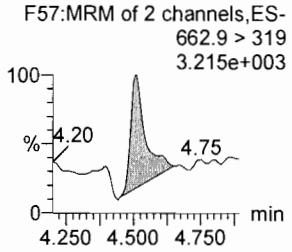
N-MeFOSA





PFTrDA





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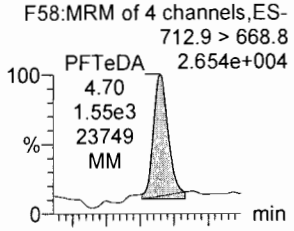
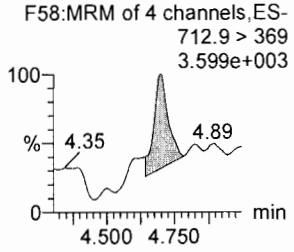
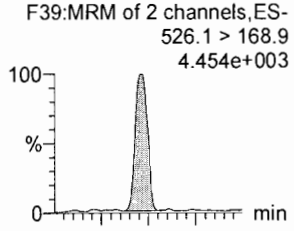
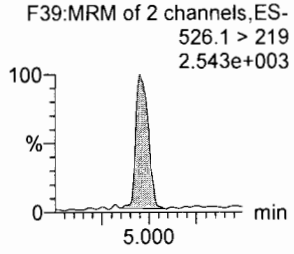




N-EtFOSA





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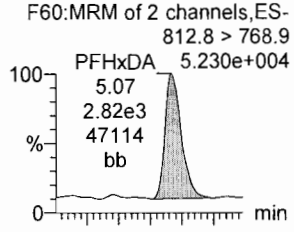
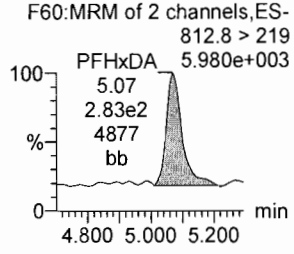
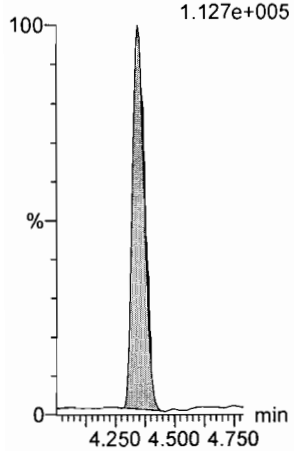
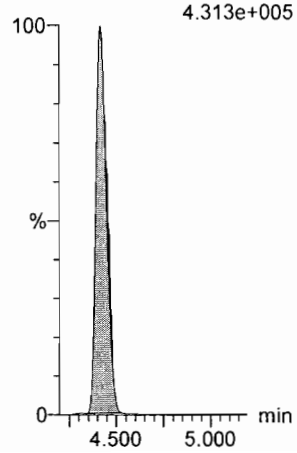




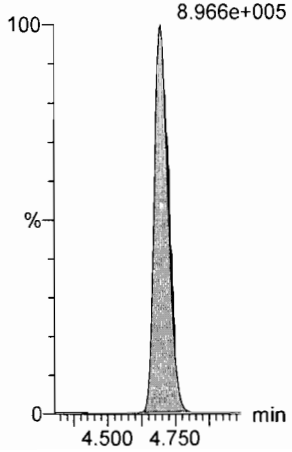
13C2-PFDoA



d3-N-MeFOSA



13C2-PFTeDA



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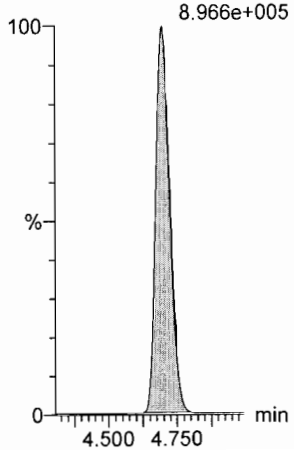
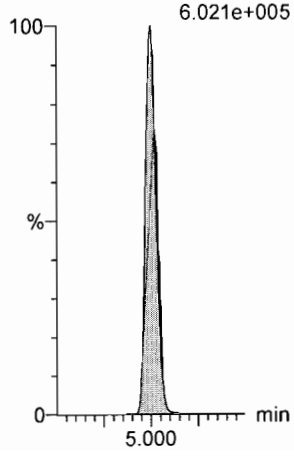


d5-N-ETFOSA



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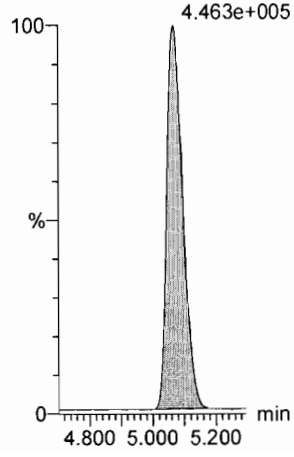

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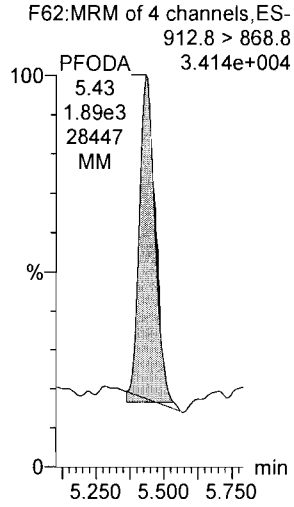
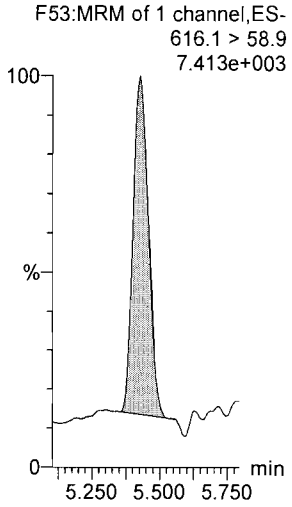
Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

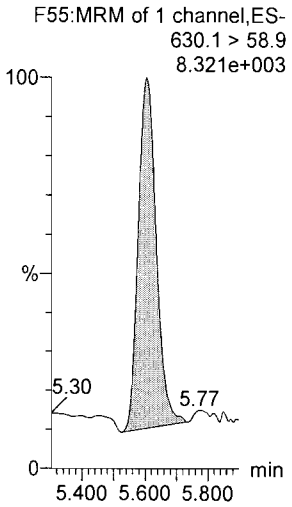
PFODA



N-MeFOSE



N-EtFOSE



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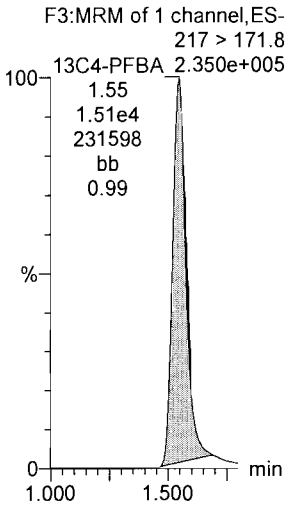

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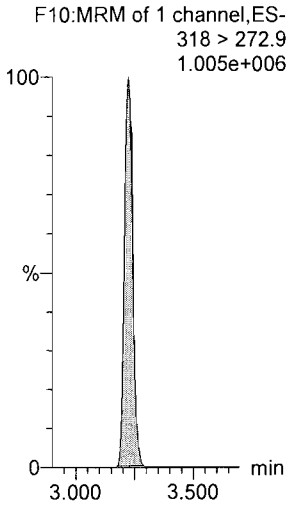

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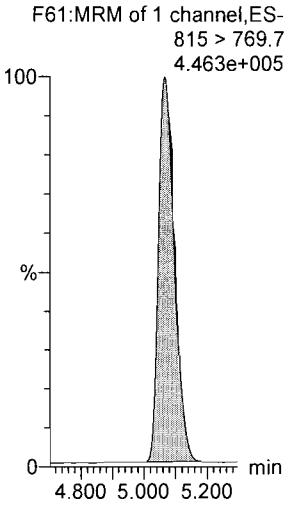

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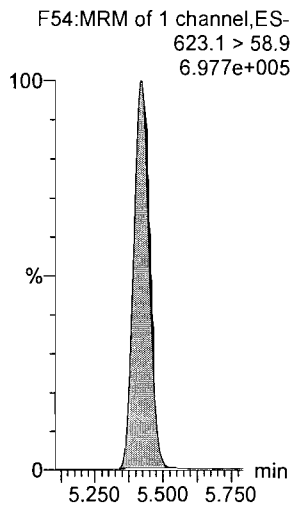

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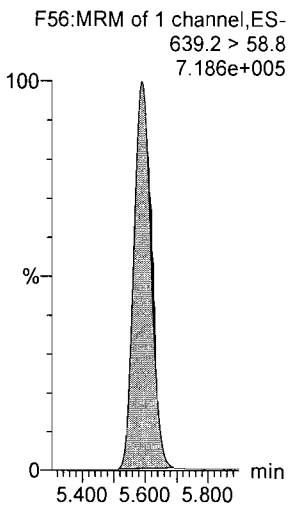

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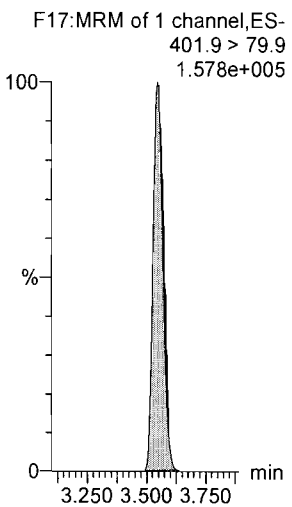
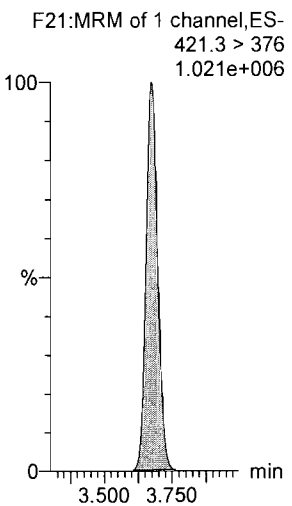


13C8-PFOA



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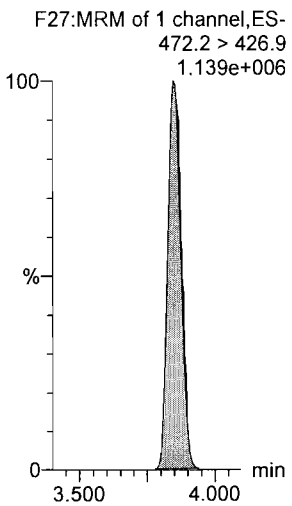

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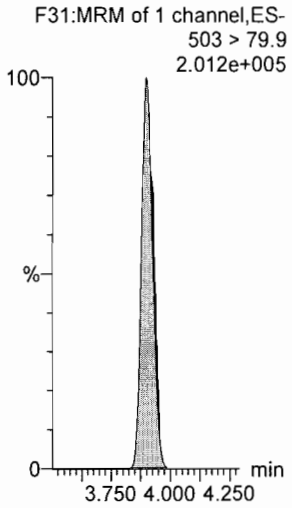
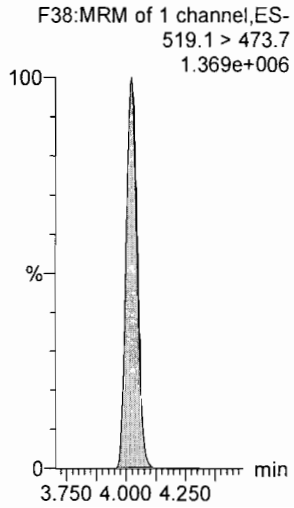
Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

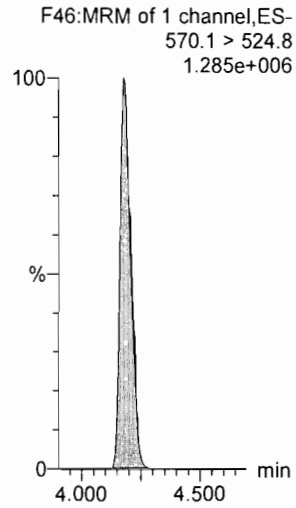
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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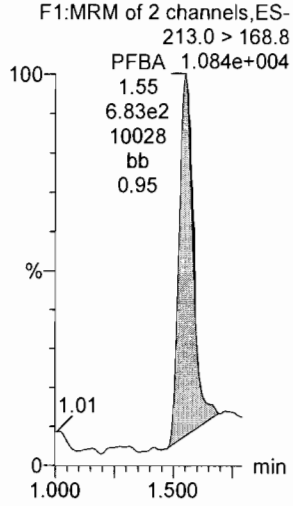
Name: 170724M1_4, Date: 24-Jul-2017, Time: 14:01:50, ID: ST170724M1-2 PFC CS-1 17G2119, Description: PFC CS-1 17G2119

PFBA



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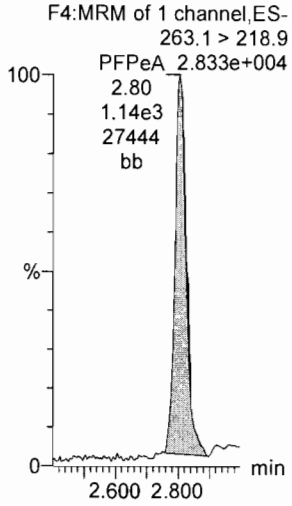

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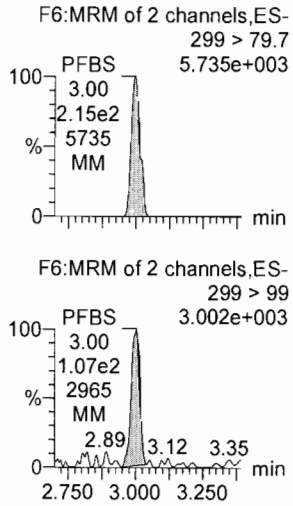

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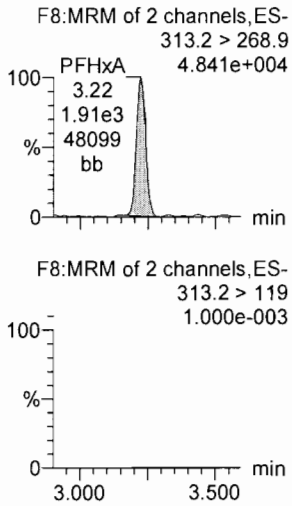

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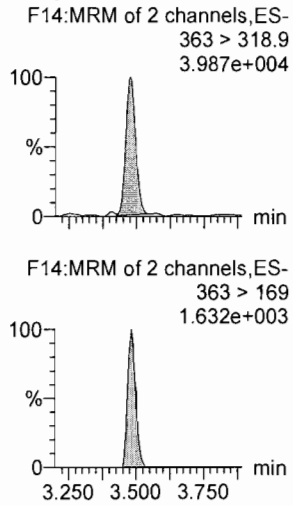

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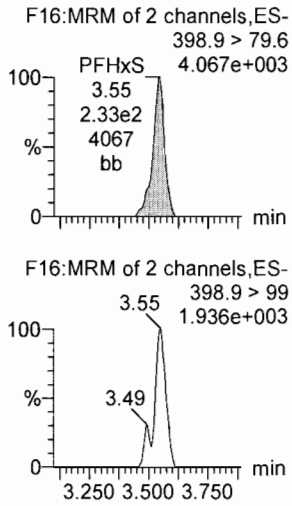

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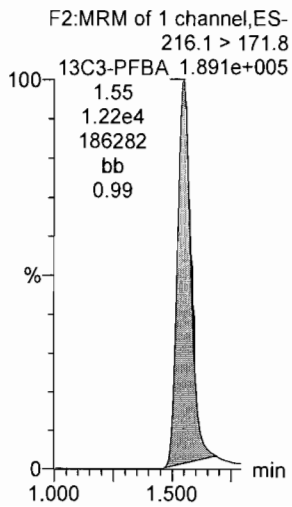

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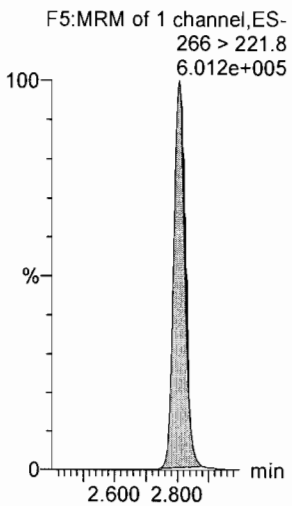

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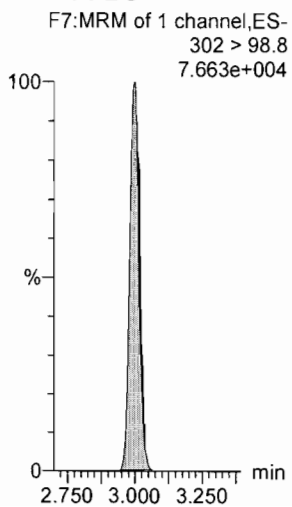
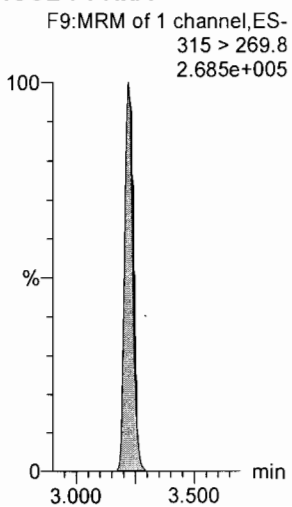


13C2-PFHxA



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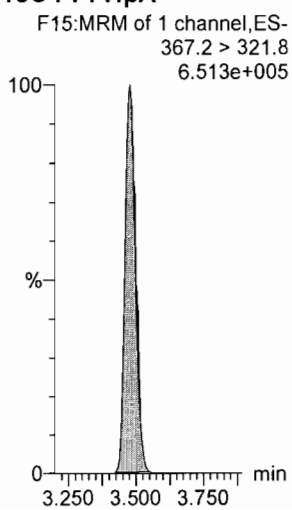
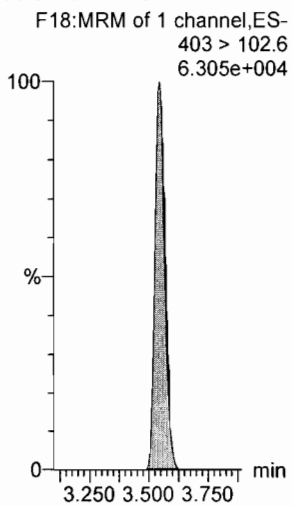


18O2-PFHxS



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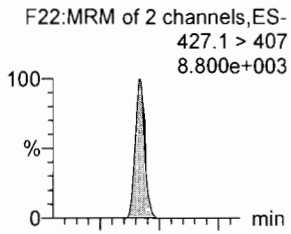
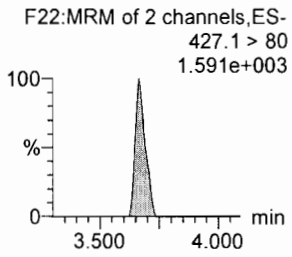
Name: 170724M1_4, Date: 24-Jul-2017, Time: 14:01:50, ID: ST170724M1-2 PFC CS-1 17G2119, Description: PFC CS-1 17G2119

6:2 FTS





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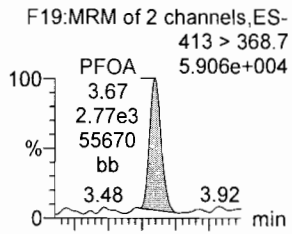

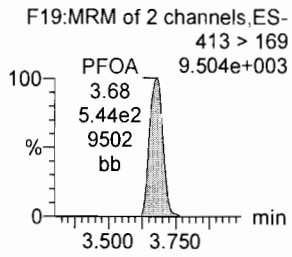

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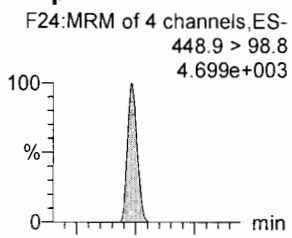

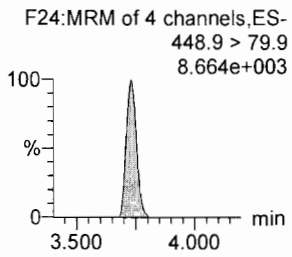

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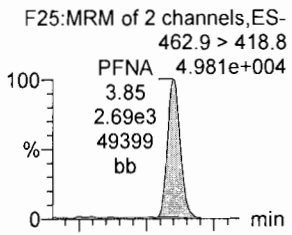

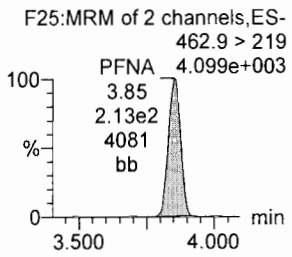

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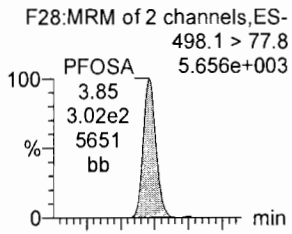

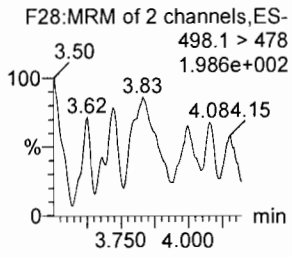

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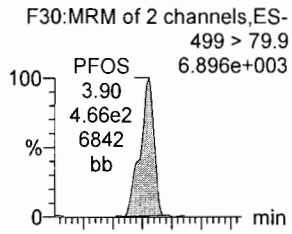
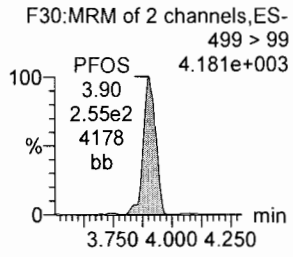
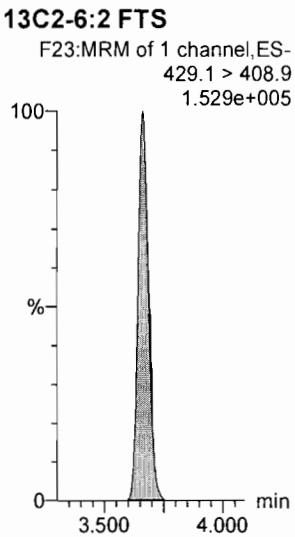
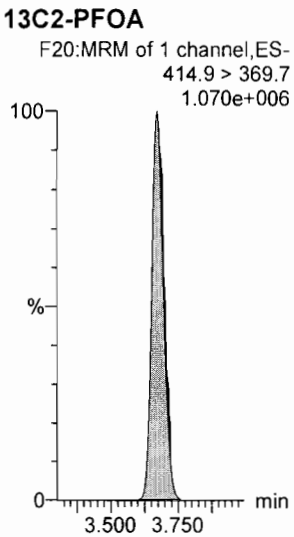




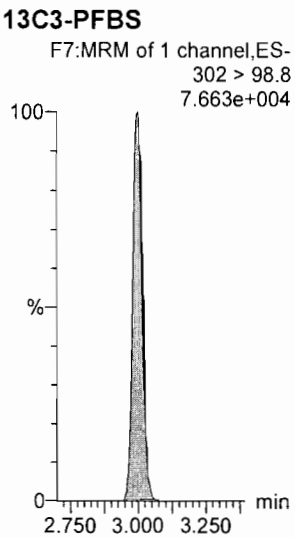
13C2-6:2 FTS



13C2-PFOA



13C3-PFBS



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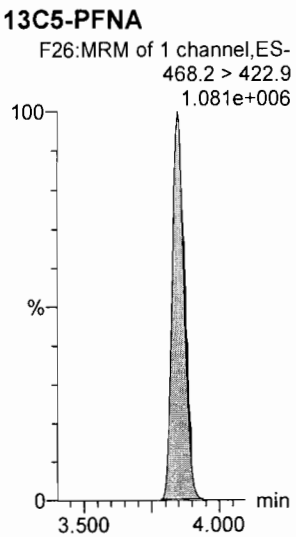

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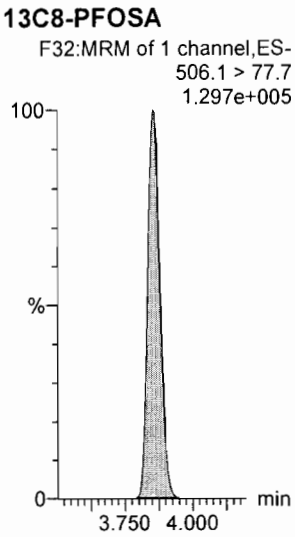

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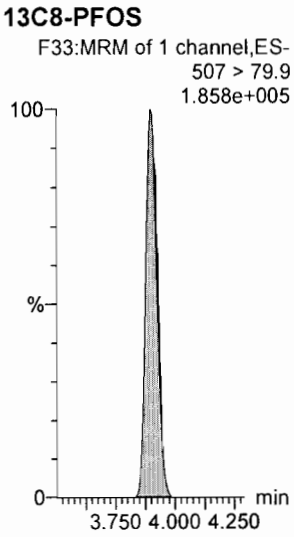

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Name: 170724M1_4, Date: 24-Jul-2017, Time: 14:01:50, ID: ST170724M1-2 PFC CS-1 17G2119, Description: PFC CS-1 17G2119

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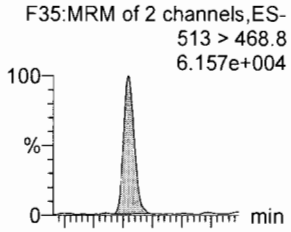
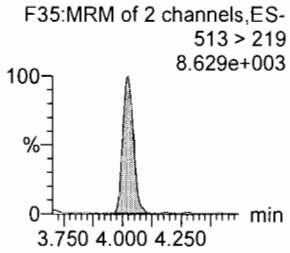
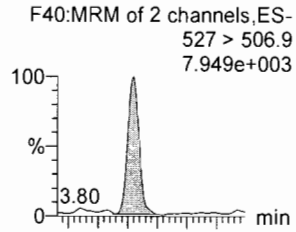
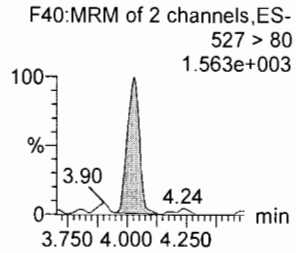




8:2 FTS





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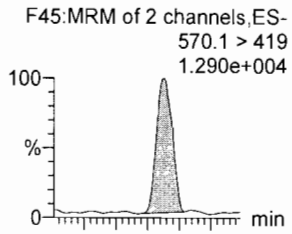

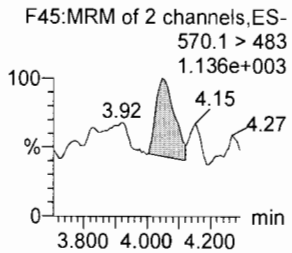

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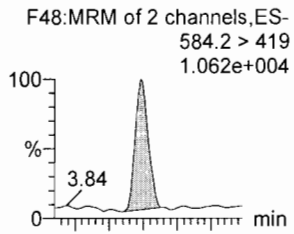

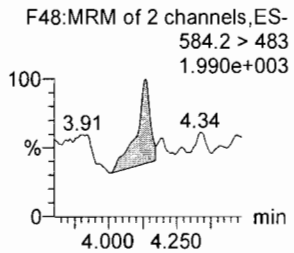

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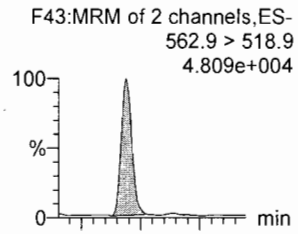

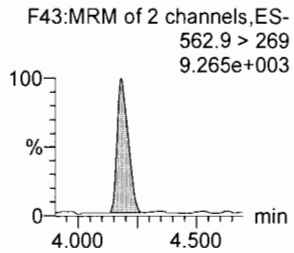

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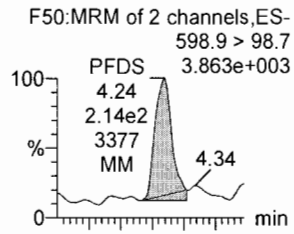
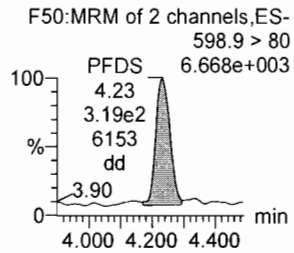
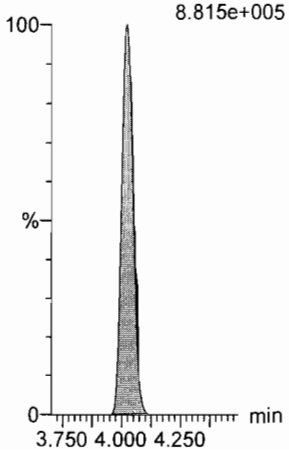
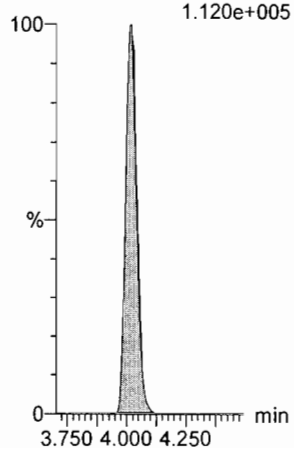




13C2-PFDA



13C2-8:2 FTS



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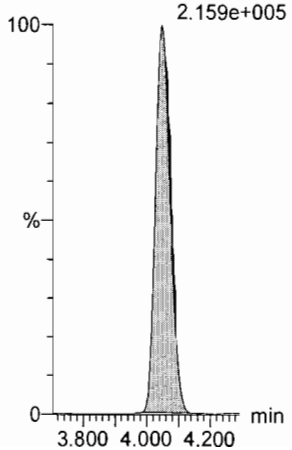

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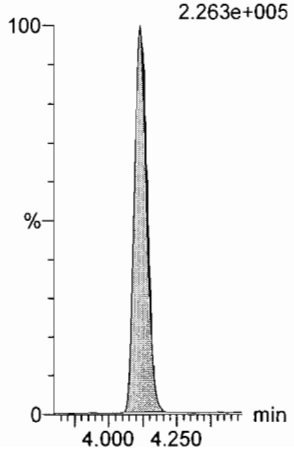

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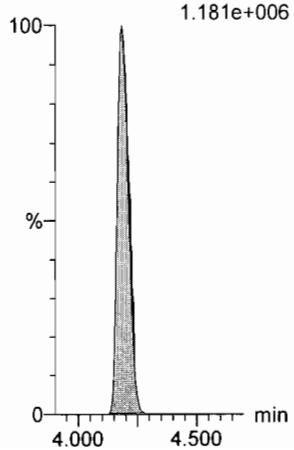

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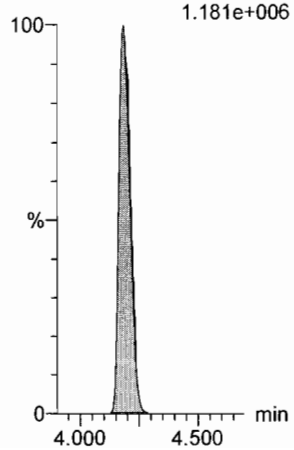

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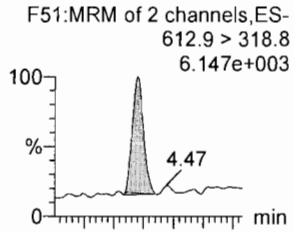
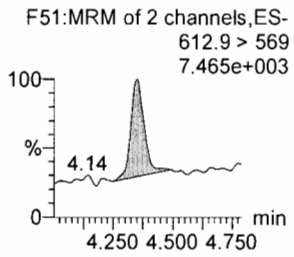
Name: 170724M1_4, Date: 24-Jul-2017, Time: 14:01:50, ID: ST170724M1-2 PFC CS-1 17G2119, Description: PFC CS-1 17G2119

PFDoA





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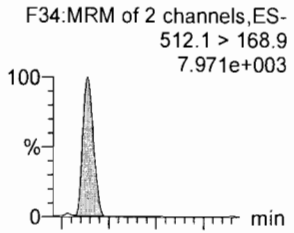

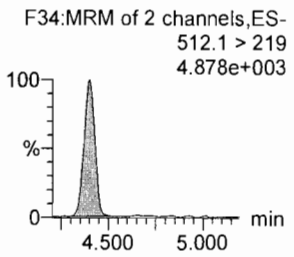

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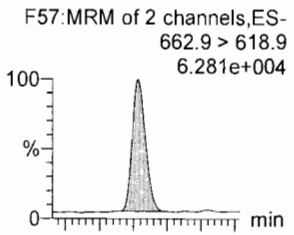

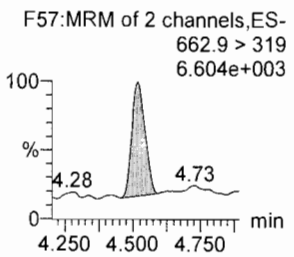

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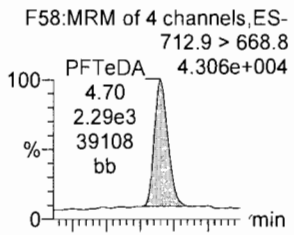

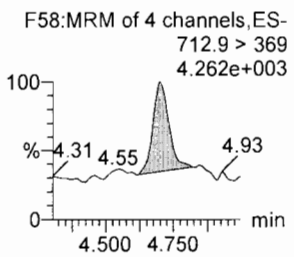

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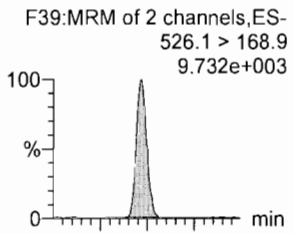

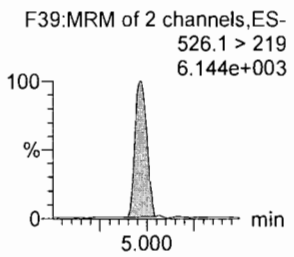

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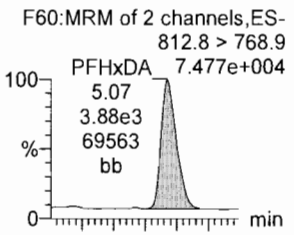

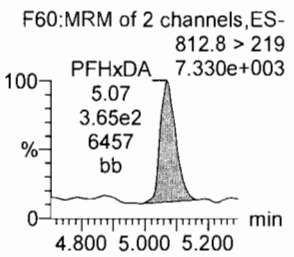

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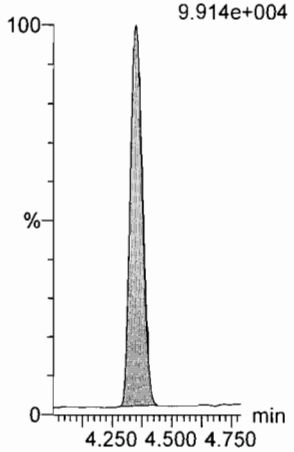

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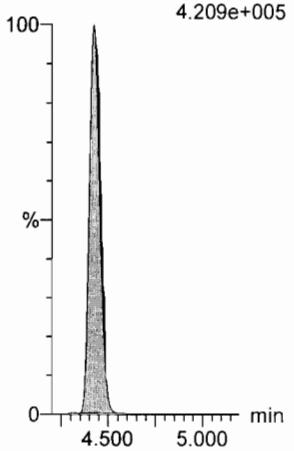

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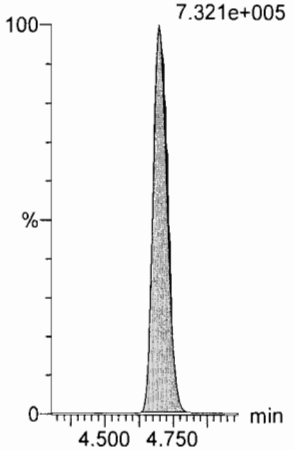

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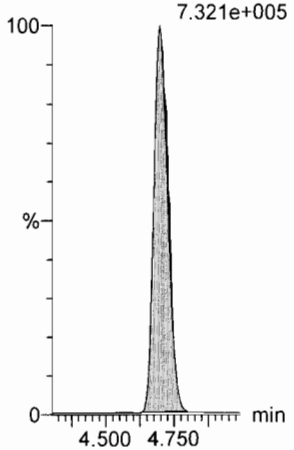

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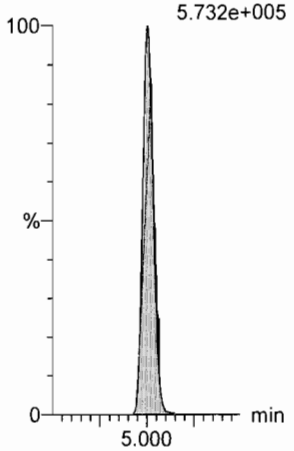
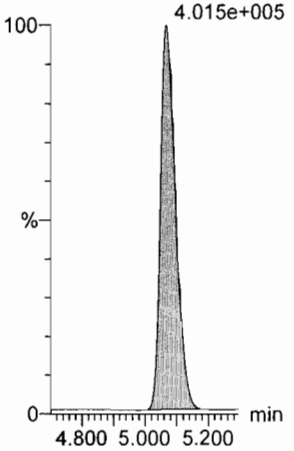


13C2-PFHxDA



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Printed: Monday, July 24, 2017 15:36:37 Pacific Daylight Time

Name: 170724M1_4, Date: 24-Jul-2017, Time: 14:01:50, ID: ST170724M1-2 PFC CS-1 17G2119, Description: PFC CS-1 17G2119

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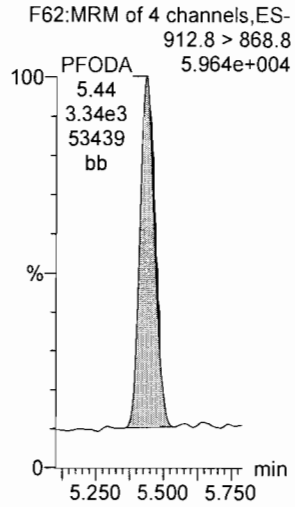

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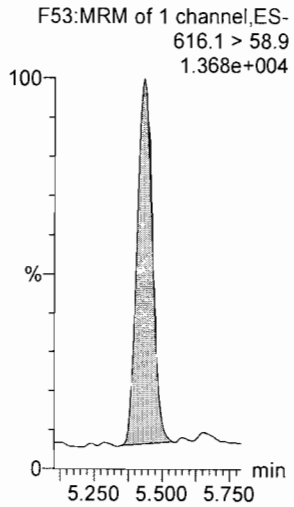

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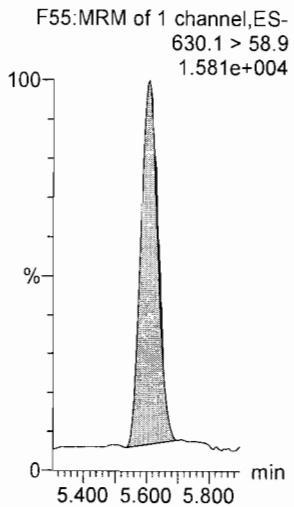

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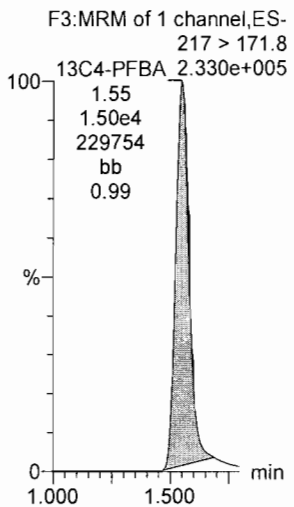

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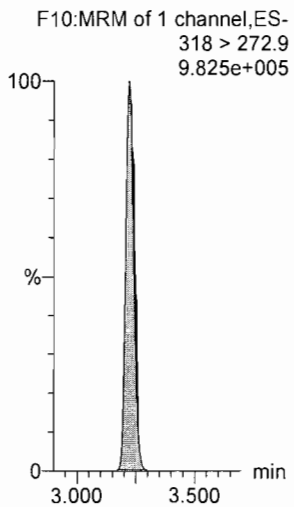

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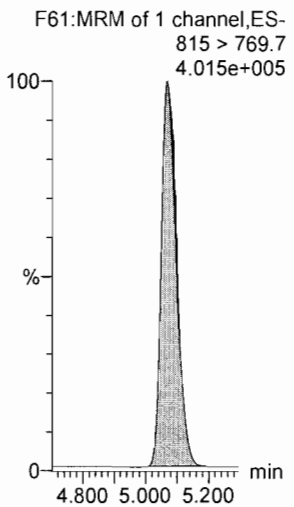

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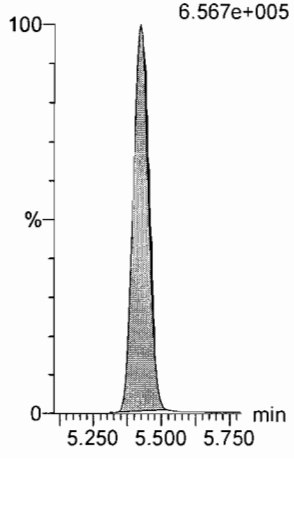

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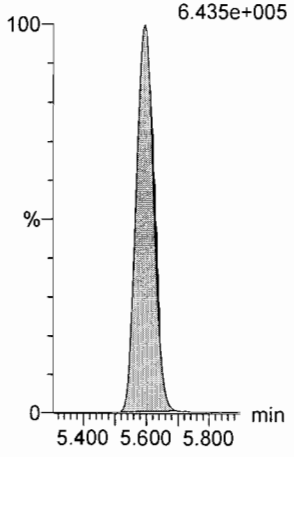

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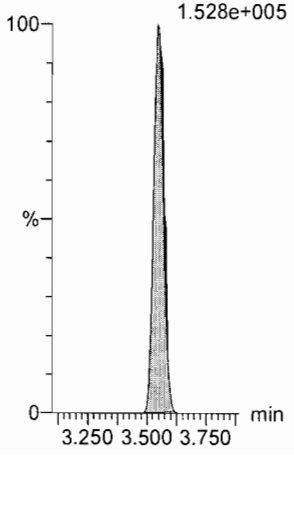

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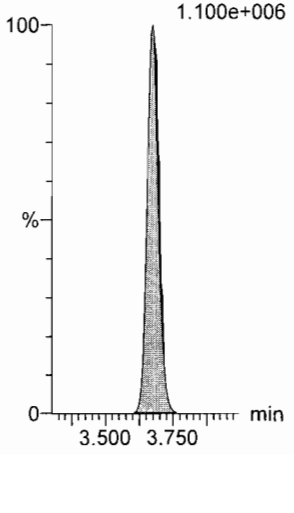
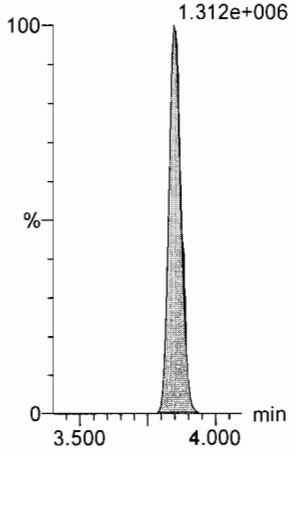


13C9-PFNA



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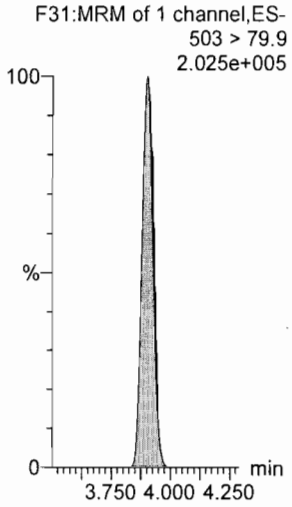
Name: 170724M1_4, Date: 24-Jul-2017, Time: 14:01:50, ID: ST170724M1-2 PFC CS-1 17G2119, Description: PFC CS-1 17G2119

13C4-PFOS



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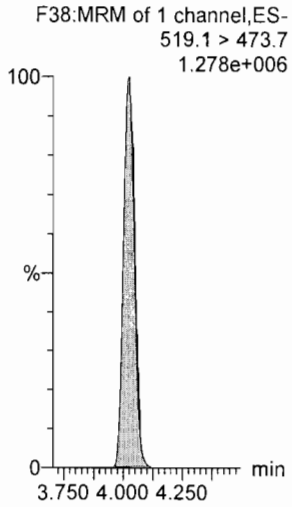

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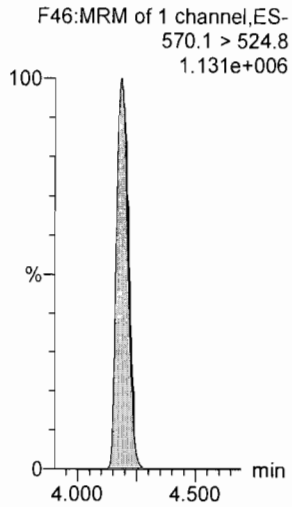

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Name: 170724M1_5, Date: 24-Jul-2017, Time: 14:12:36, ID: ST170724M1-3 PFC CS0 17G2423, Description: PFC CS0 17G2423

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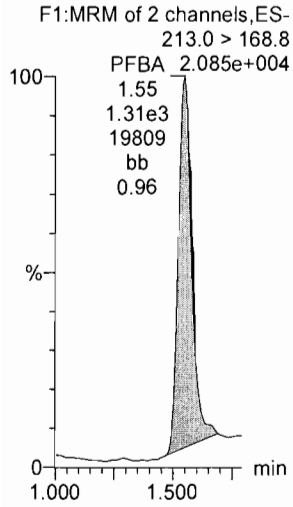

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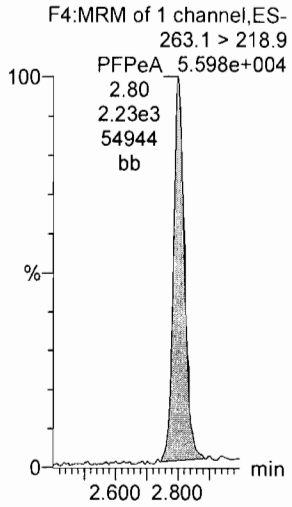

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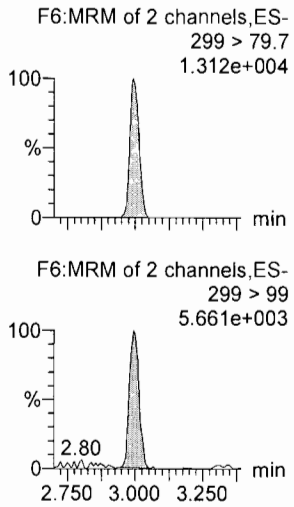

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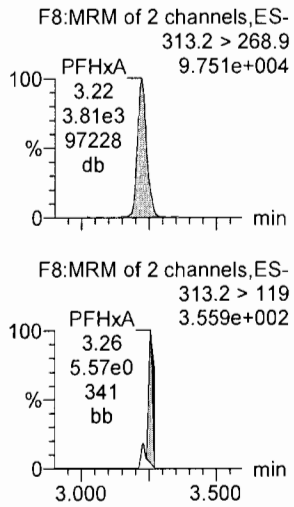

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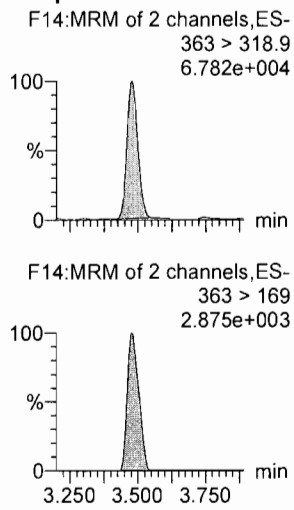

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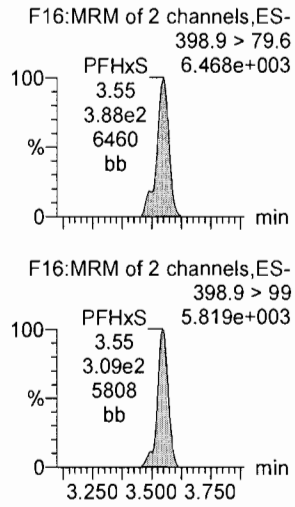

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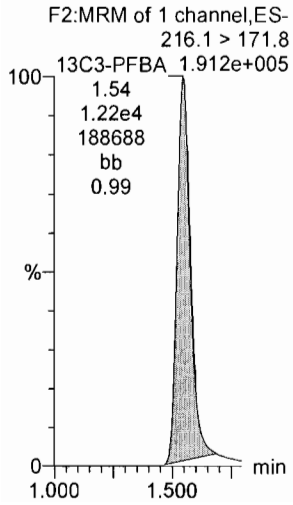

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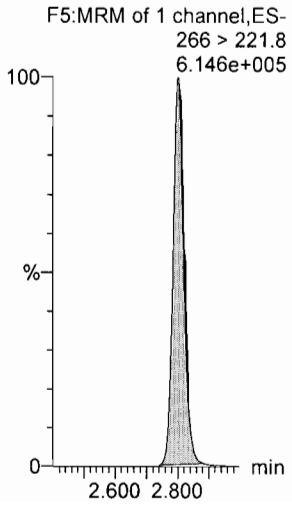

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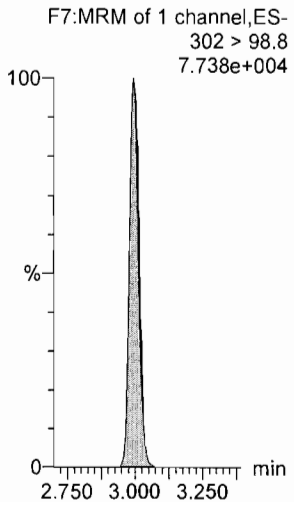

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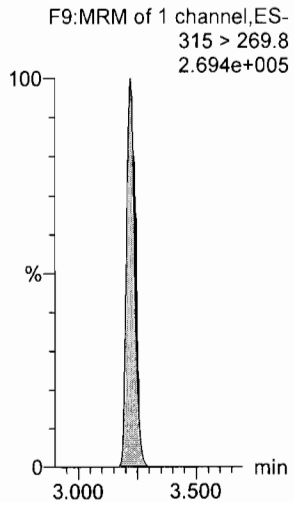
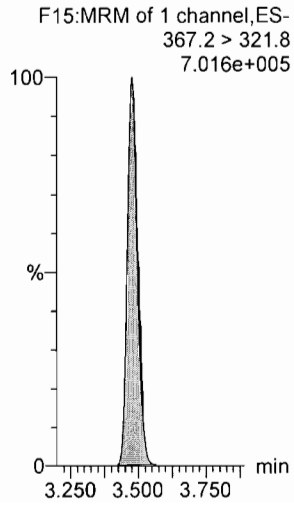


13C4-PFHpA



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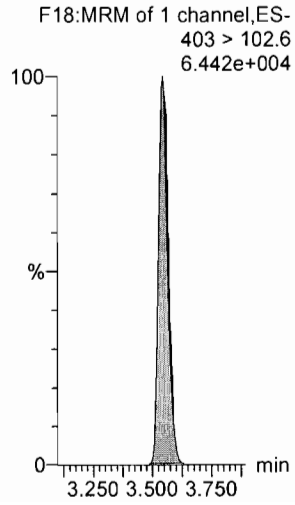

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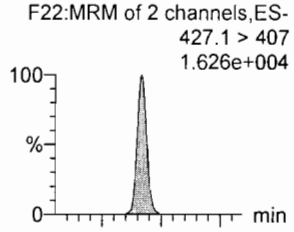
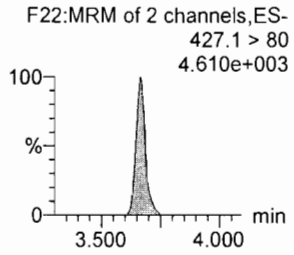
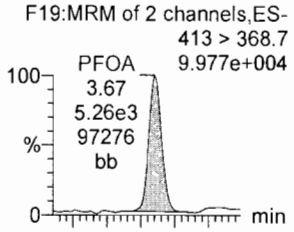
Name: 170724M1_5, Date: 24-Jul-2017, Time: 14:12:36, ID: ST170724M1-3 PFC CS0 17G2423, Description: PFC CS0 17G2423

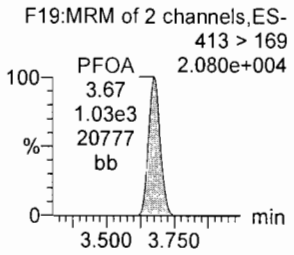
6:2 FTS



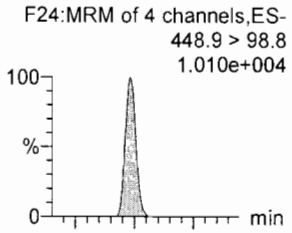


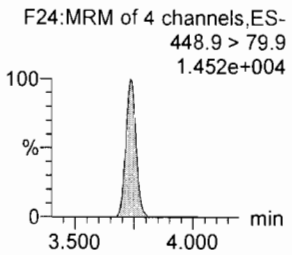
PFOA





PFHpS





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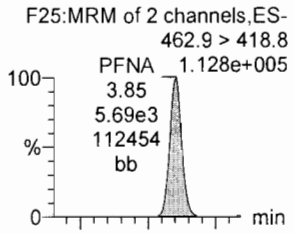
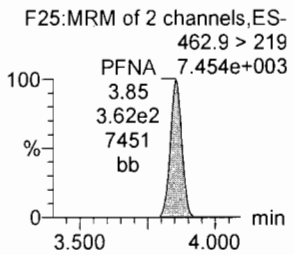
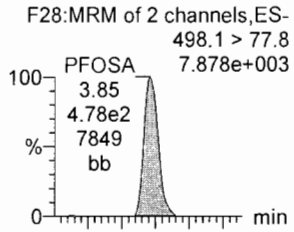
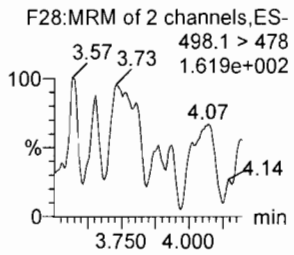




PFOSA





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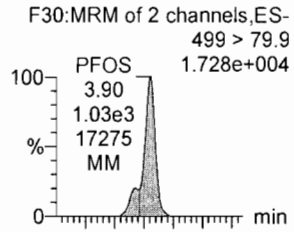

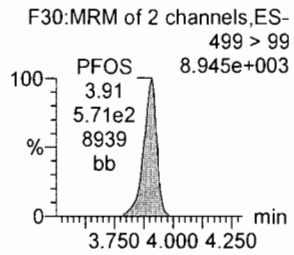

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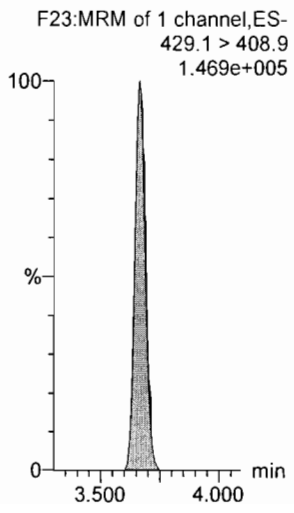

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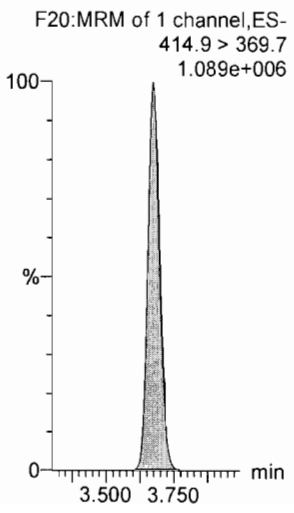
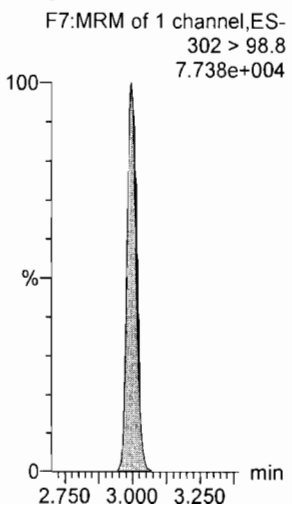
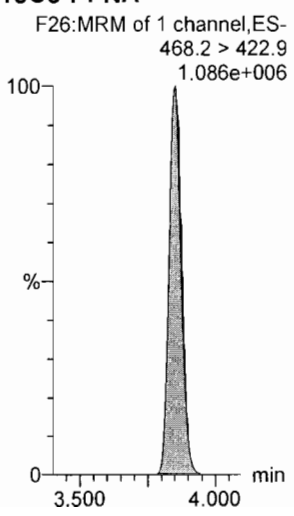


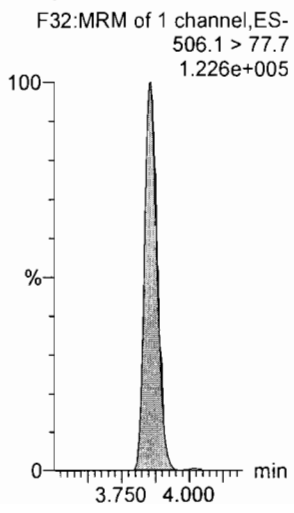
13C3-PFBS



13C5-PFNA



13C8-PFOSA



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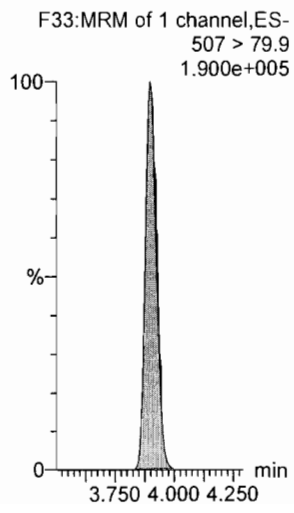

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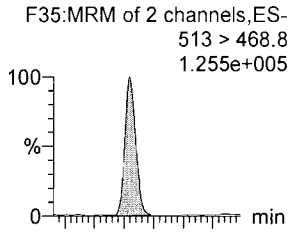
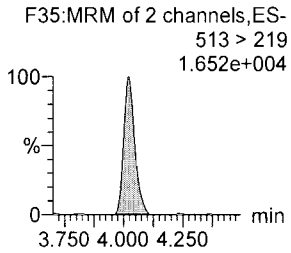
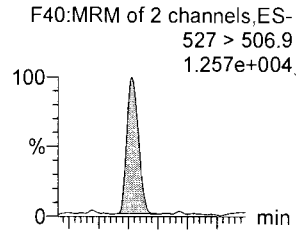
Name: 170724M1_5, Date: 24-Jul-2017, Time: 14:12:36, ID: ST170724M1-3 PFC CS0 17G2423, Description: PFC CS0 17G2423

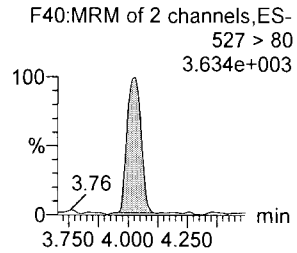
PFDA



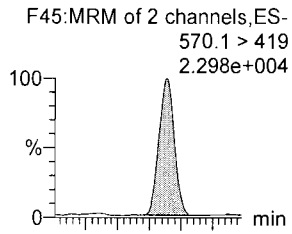


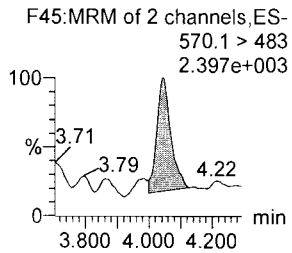
8:2 FTS





N-MeFOSAA





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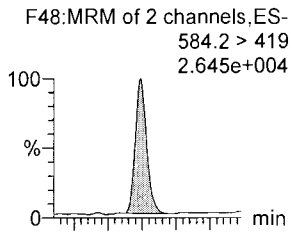

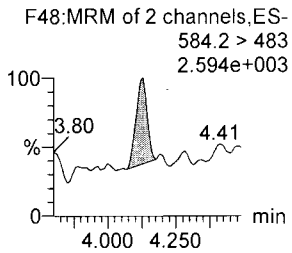

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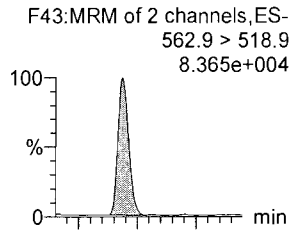
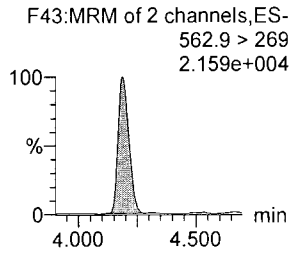
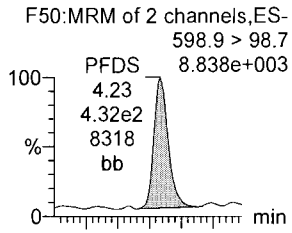
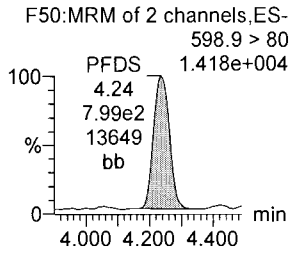


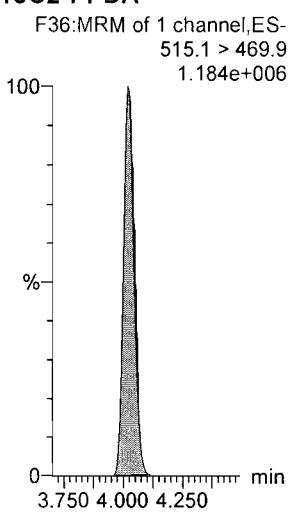


PFDS

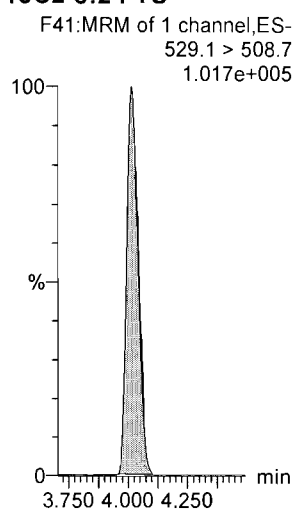




13C2-PFDA



13C2-8:2 FTS



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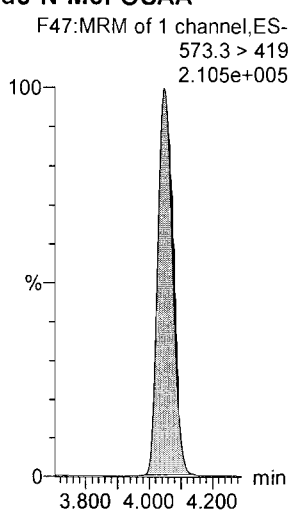

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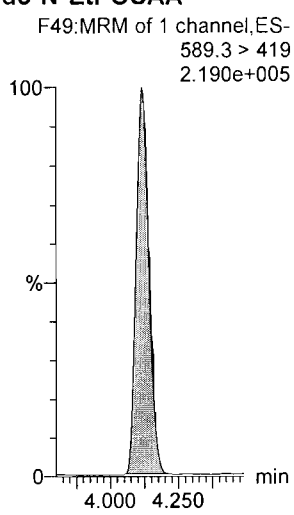

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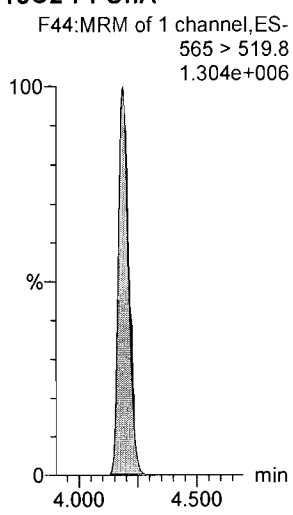

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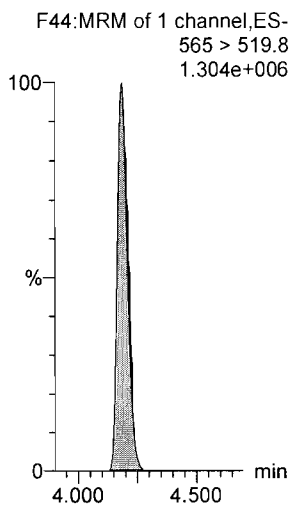

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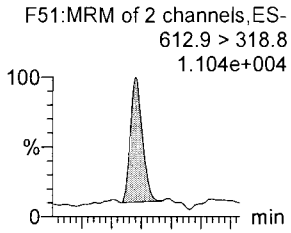
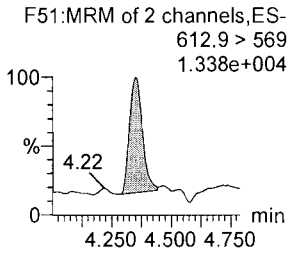
Name: 170724M1_5, Date: 24-Jul-2017, Time: 14:12:36, ID: ST170724M1-3 PFC CS0 17G2423, Description: PFC CS0 17G2423

PFDoA





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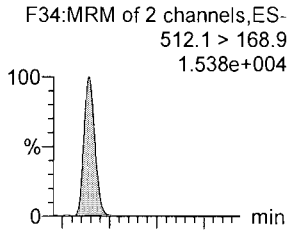

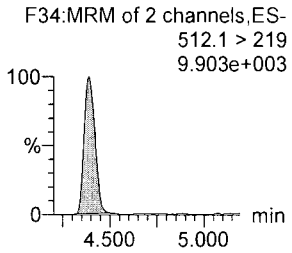

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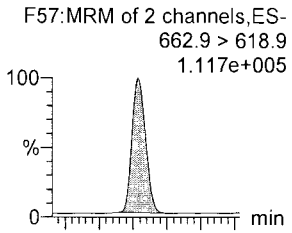

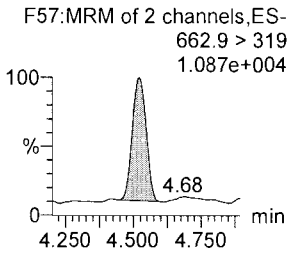

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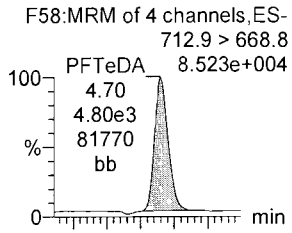

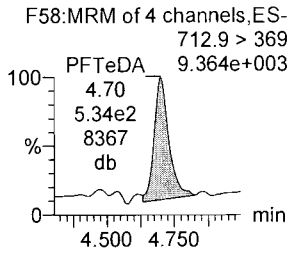

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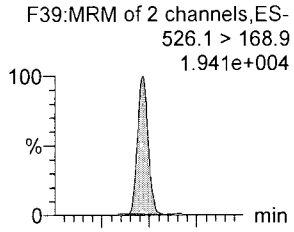

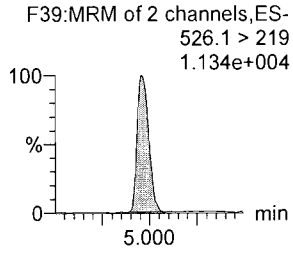

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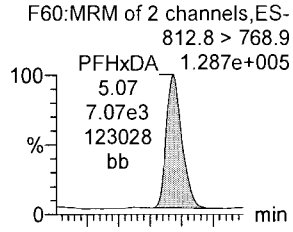

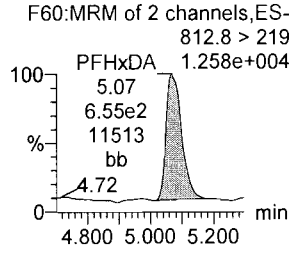

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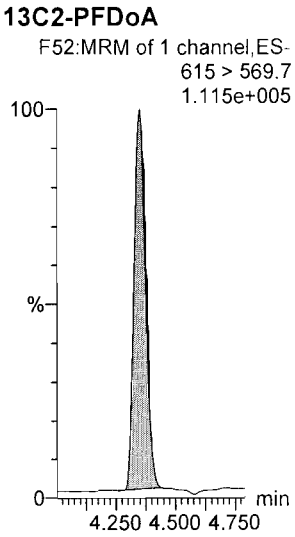

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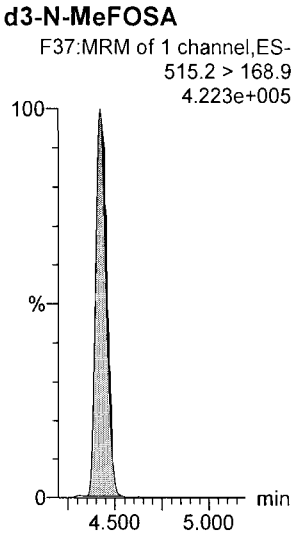
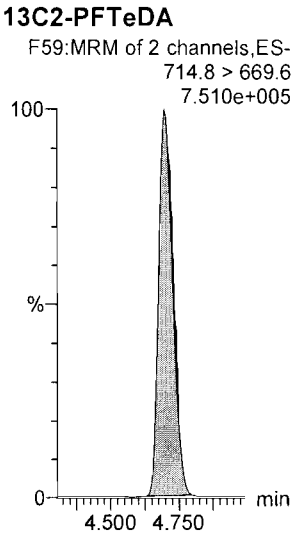


13C2-PFTeDA



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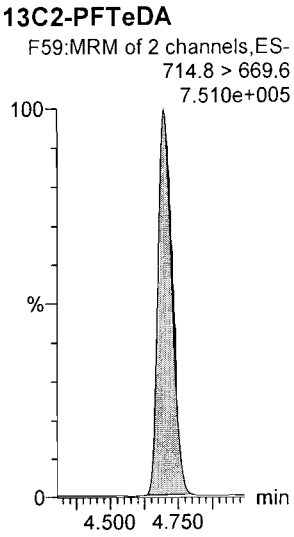
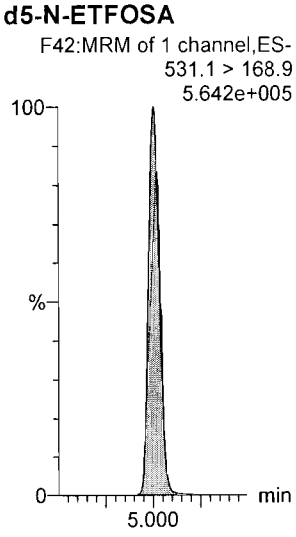


d5-N-ETFOSA



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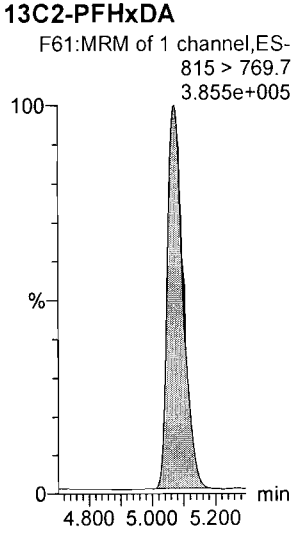

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Name: 170724M1_5, Date: 24-Jul-2017, Time: 14:12:36, ID: ST170724M1-3 PFC CS0 17G2423, Description: PFC CS0 17G2423

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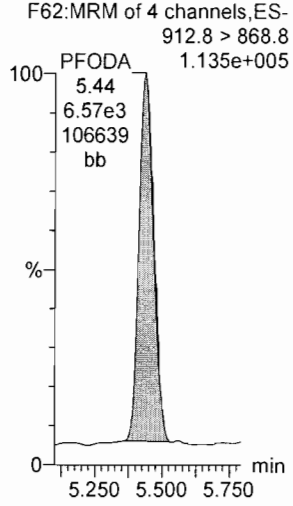

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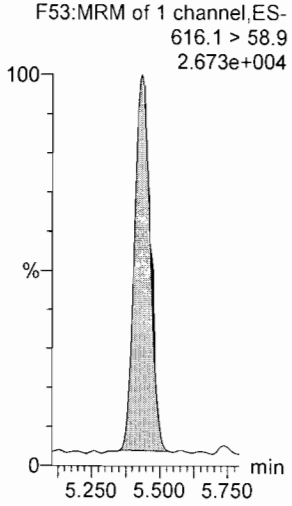

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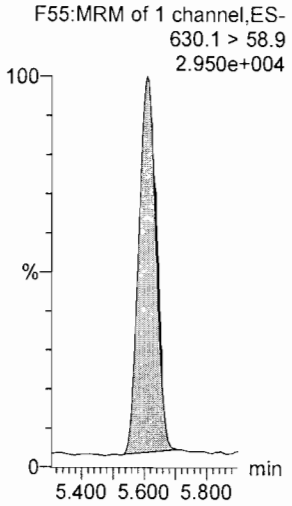

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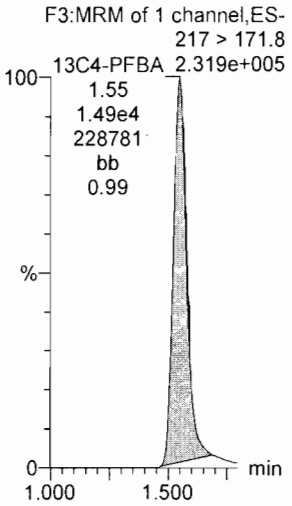

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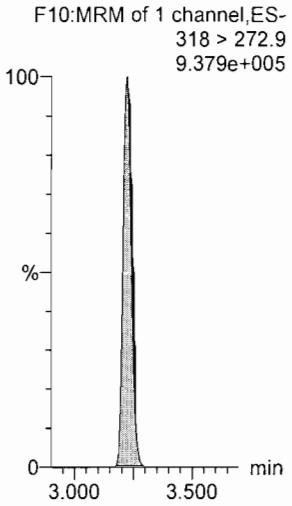
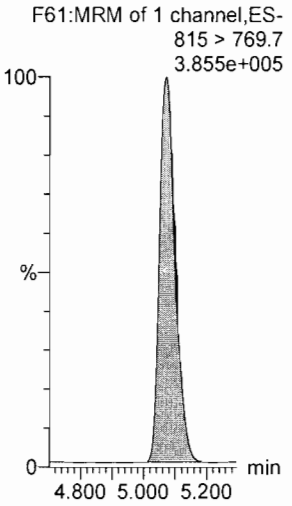
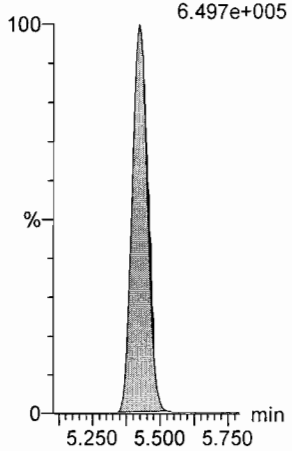


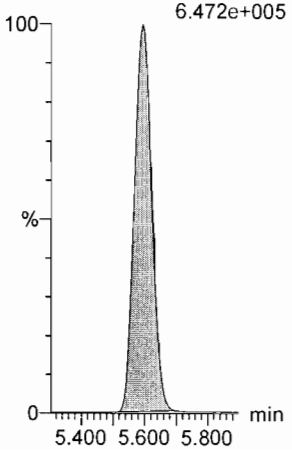
13C2-PFHxDA



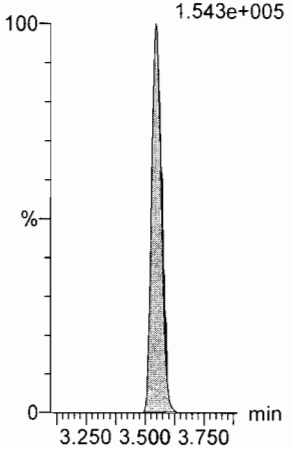
d7-N-MeFOSE



d9-N-EtFOSE



13C3-PFHxS



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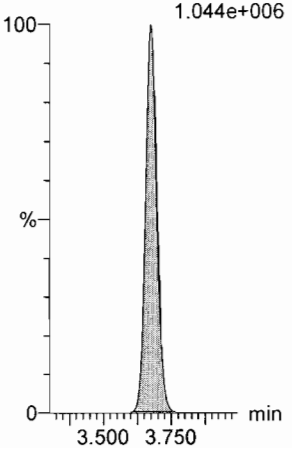

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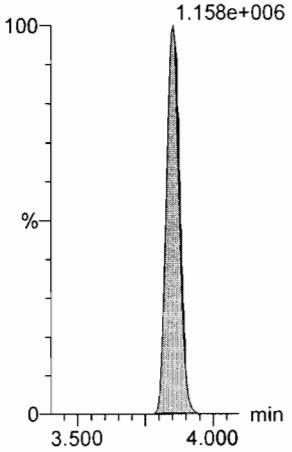

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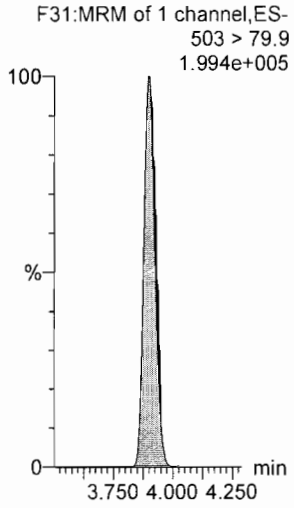
Name: 170724M1_5, Date: 24-Jul-2017, Time: 14:12:36, ID: ST170724M1-3 PFC CS0 17G2423, Description: PFC CS0 17G2423

13C4-PFOS



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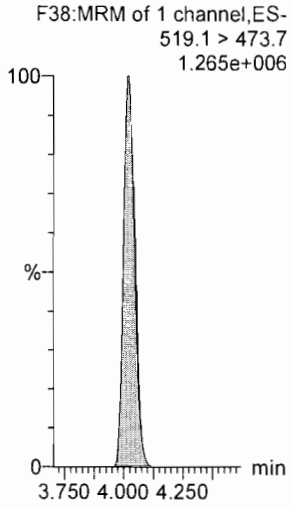

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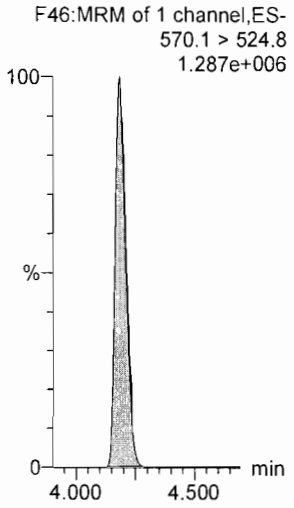

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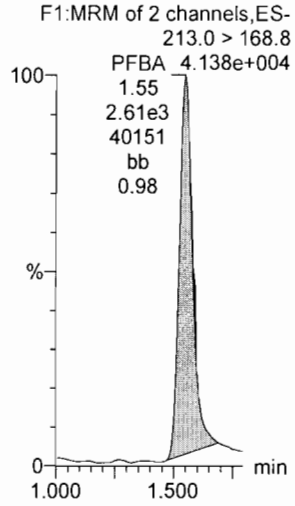
Name: 170724M1_6, Date: 24-Jul-2017, Time: 14:23:23, ID: ST170724M1-4 PFC CS1 17G2424, Description: PFC CS1 17G2424

PFBA



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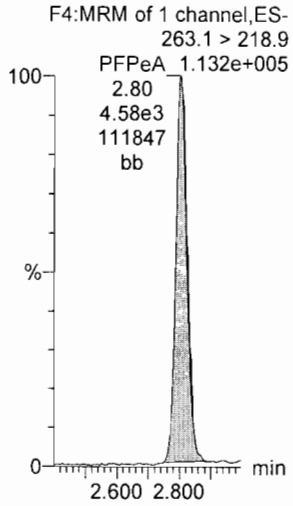

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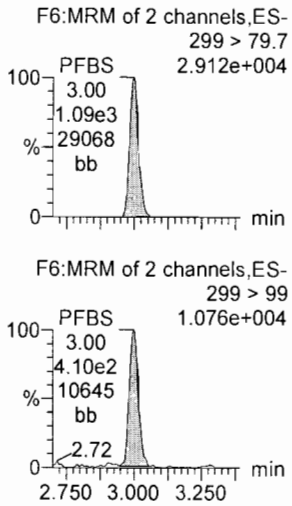

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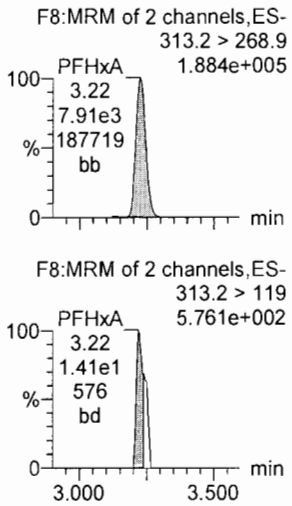

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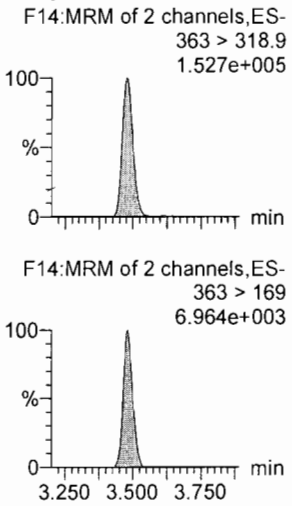
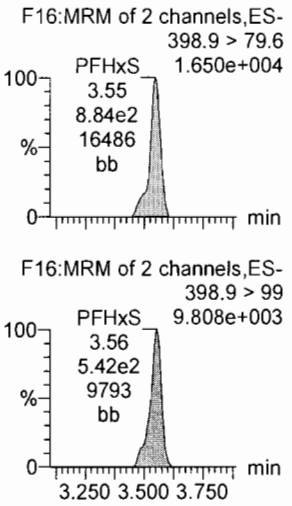


PFHxS



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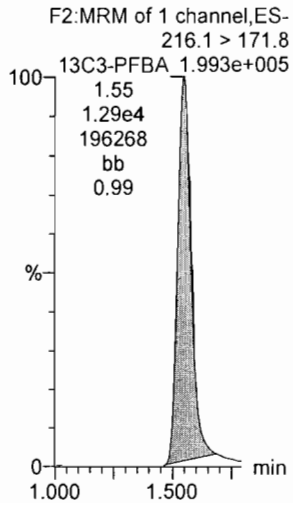

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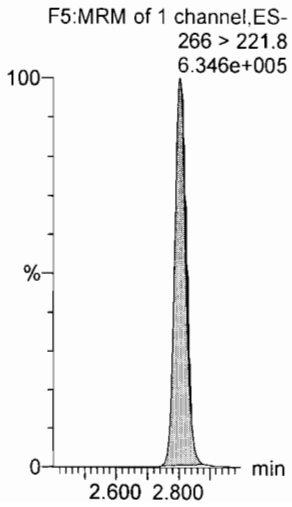

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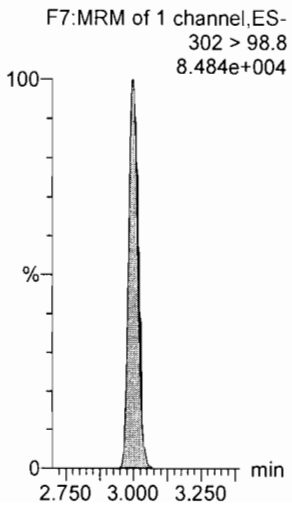
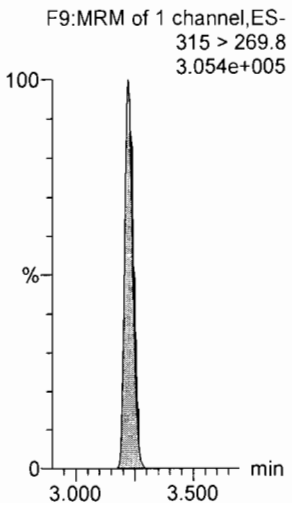


13C2-PFHxA



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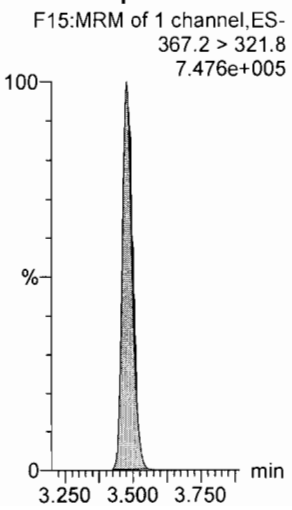
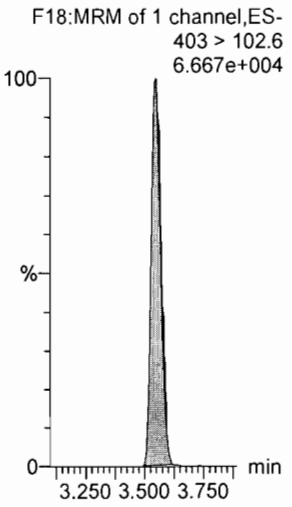


18O2-PFHxS



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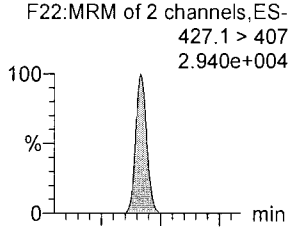
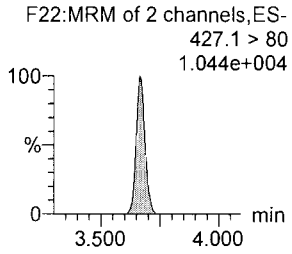
Name: 170724M1_6, Date: 24-Jul-2017, Time: 14:23:23, ID: ST170724M1-4 PFC CS1 17G2424, Description: PFC CS1 17G2424

6:2 FTS





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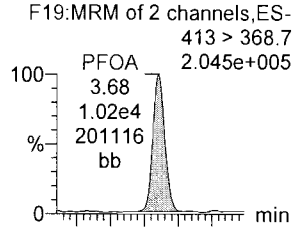

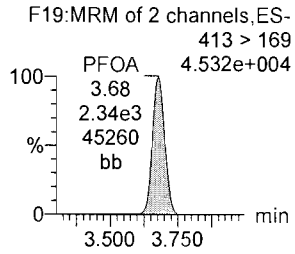

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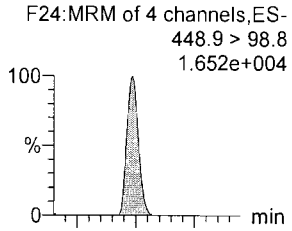

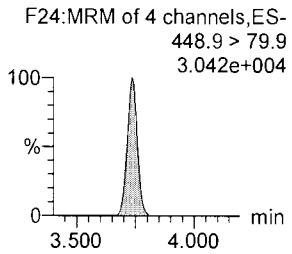

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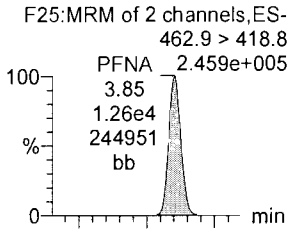

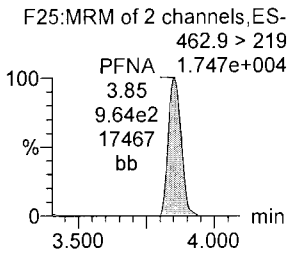

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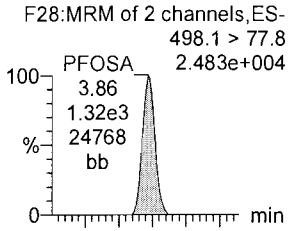

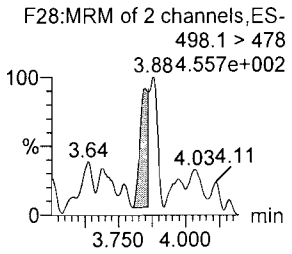

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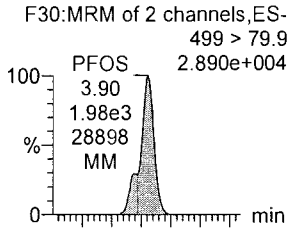
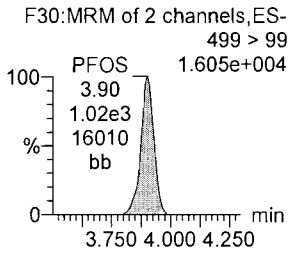
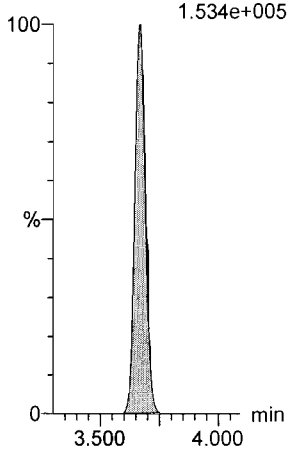




13C2-6:2 FTS



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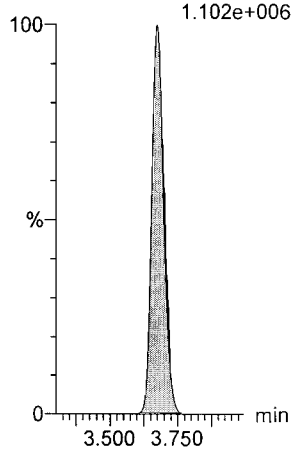

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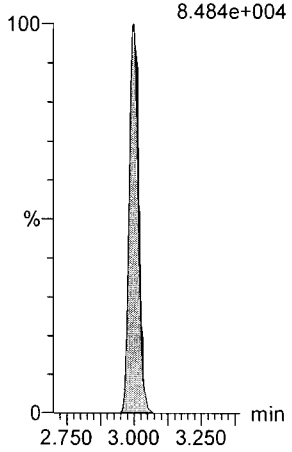

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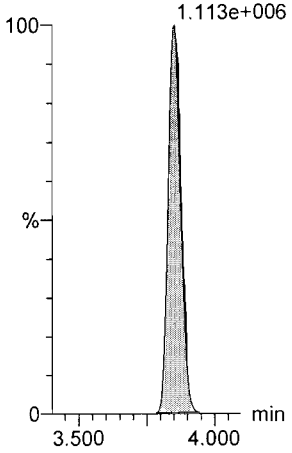

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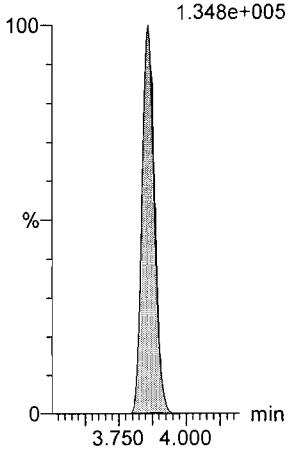

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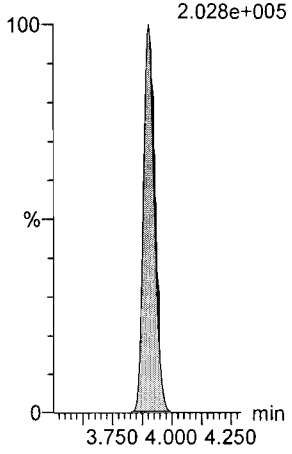

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Printed: Monday, July 24, 2017 15:36:37 Pacific Daylight Time

Name: 170724M1_6, Date: 24-Jul-2017, Time: 14:23:23, ID: ST170724M1-4 PFC CS1 17G2424, Description: PFC CS1 17G2424

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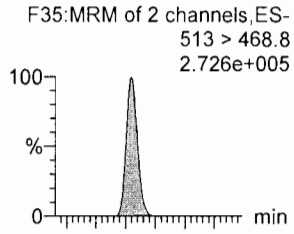
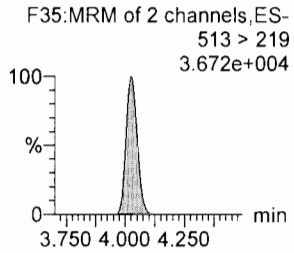
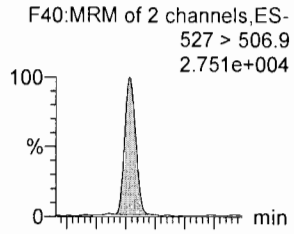
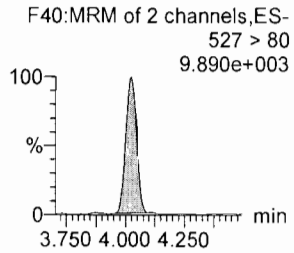




8:2 FTS





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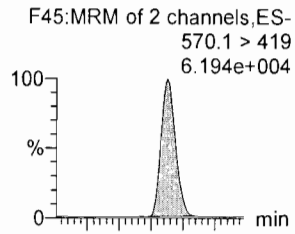

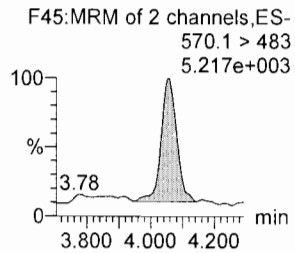

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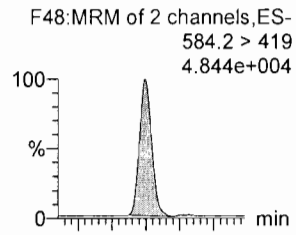

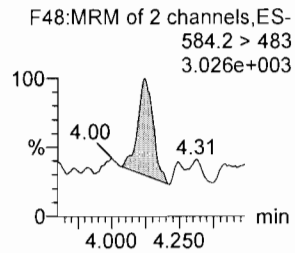

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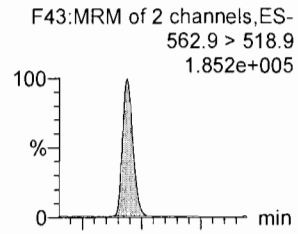

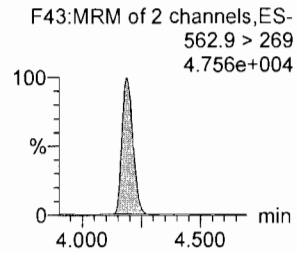

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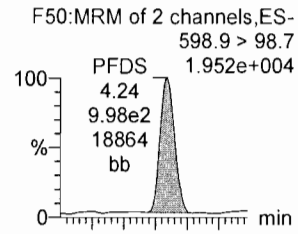

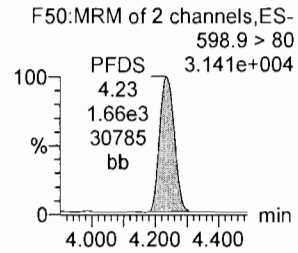

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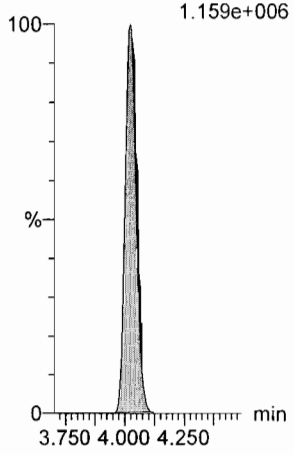
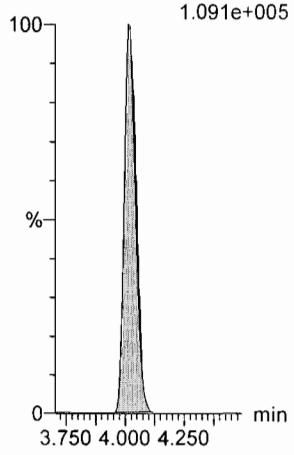


13C2-8:2 FTS



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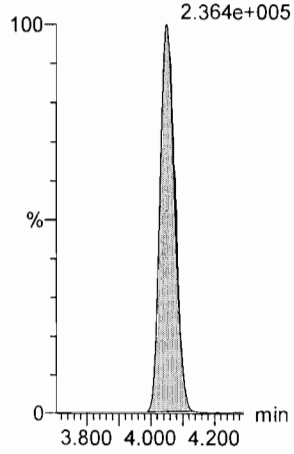

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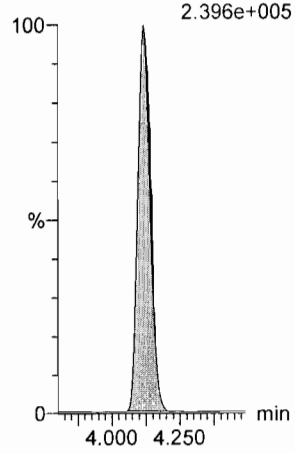

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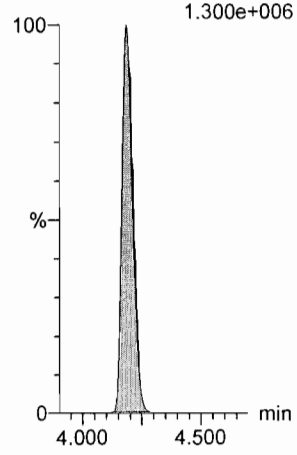

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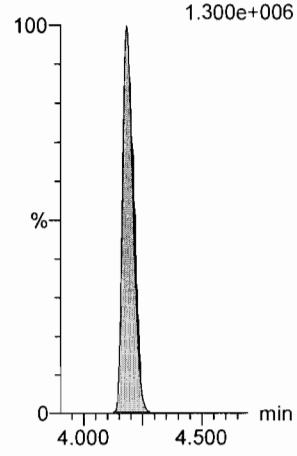

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Name: 170724M1_6, Date: 24-Jul-2017, Time: 14:23:23, ID: ST170724M1-4 PFC CS1 17G2424, Description: PFC CS1 17G2424

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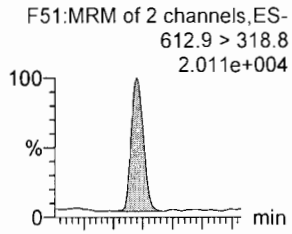

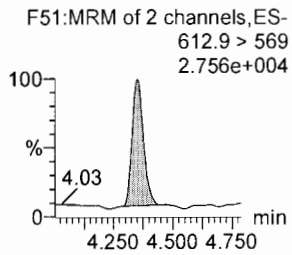

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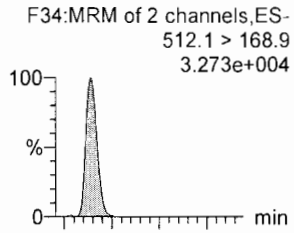

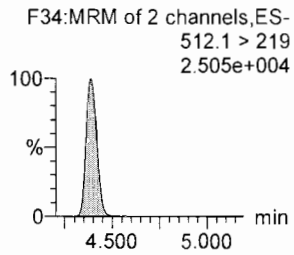

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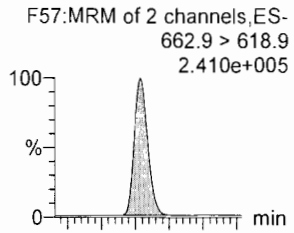

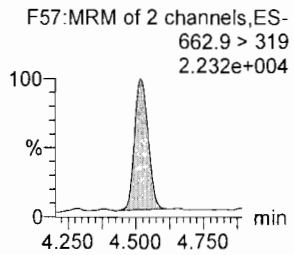

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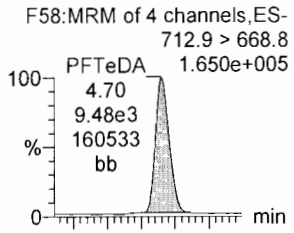

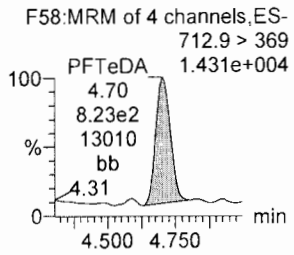

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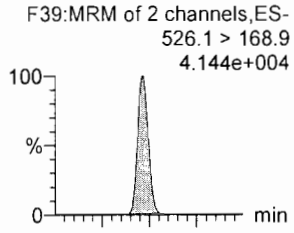

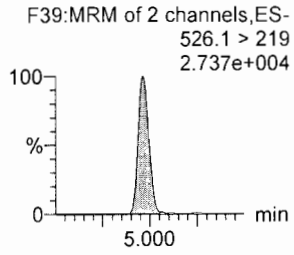

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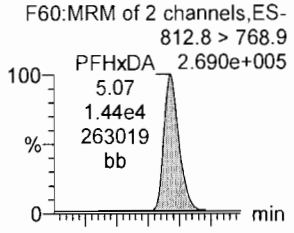

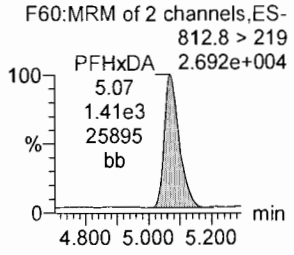

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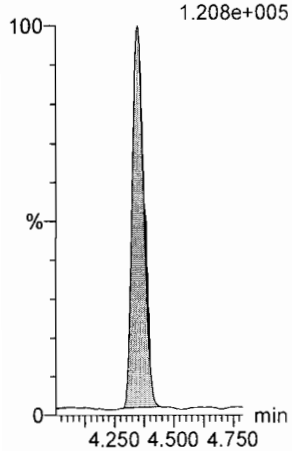

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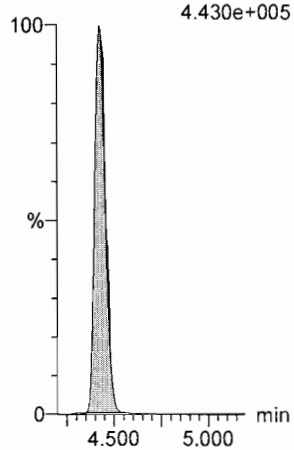

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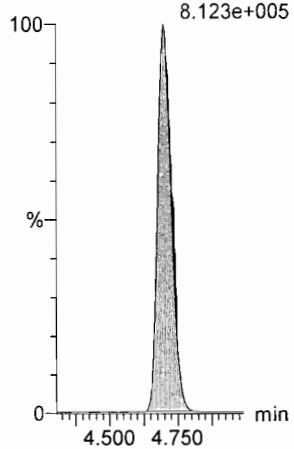

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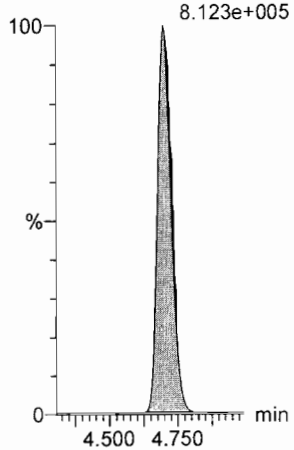

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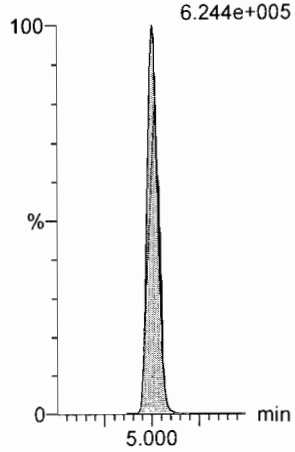

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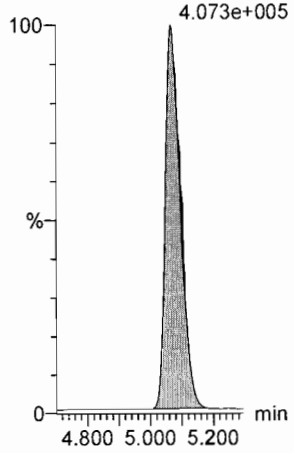

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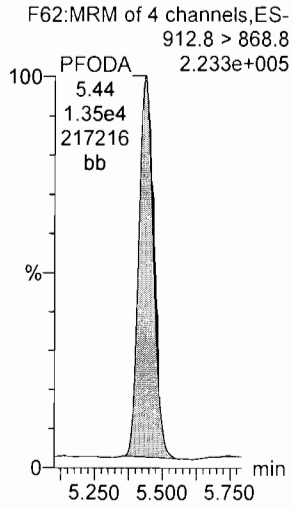
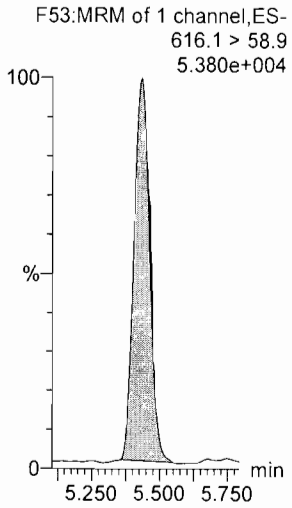


N-MeFOSE



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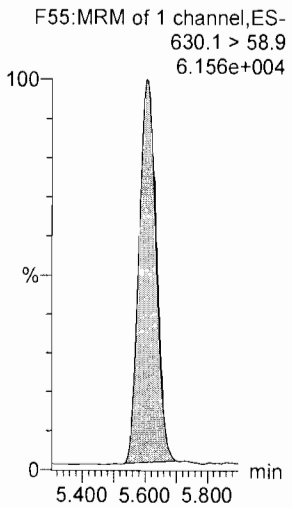
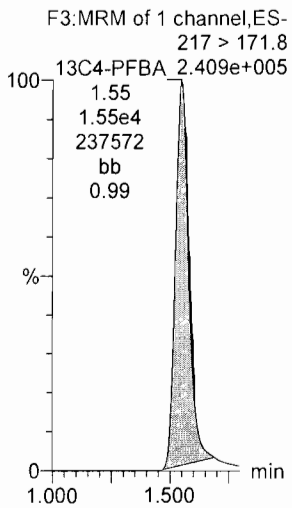
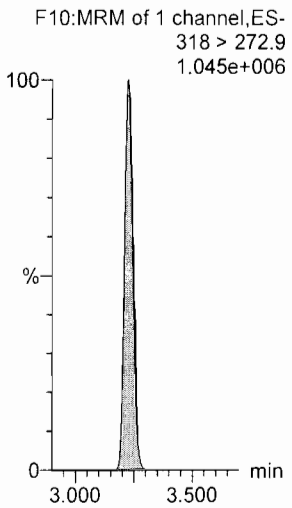


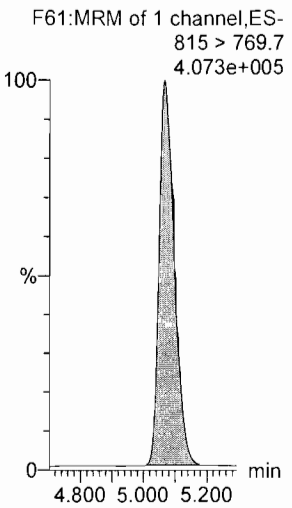
13C4-PFBA



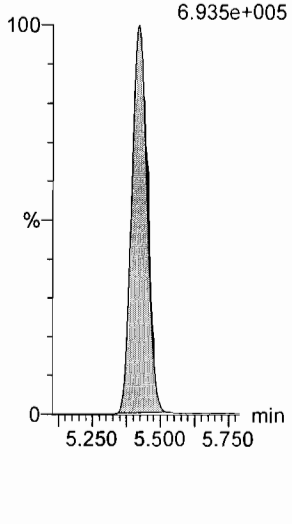
13C5-PFHxA



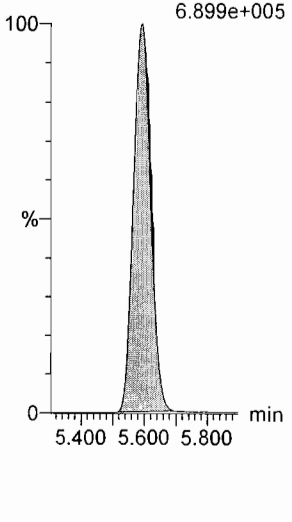
13C2-PFHxDA



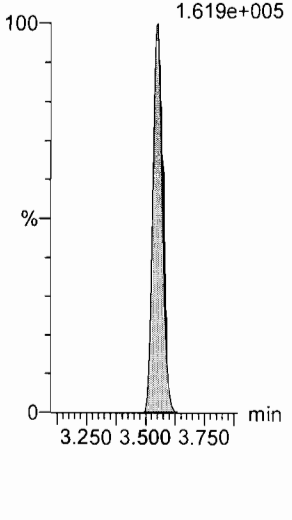
d7-N-MeFOSE



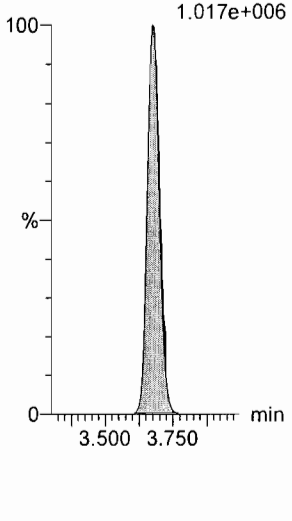
d9-N-EtFOSE



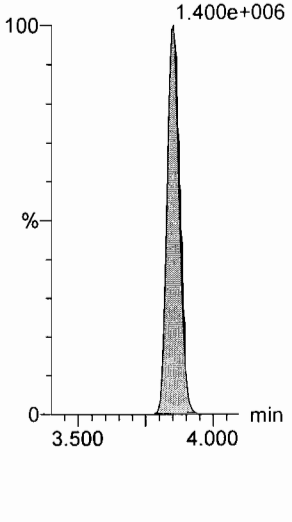
13C3-PFHxS



13C8-PFOA



13C9-PFNA



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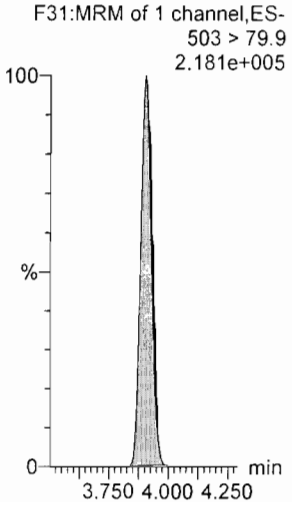
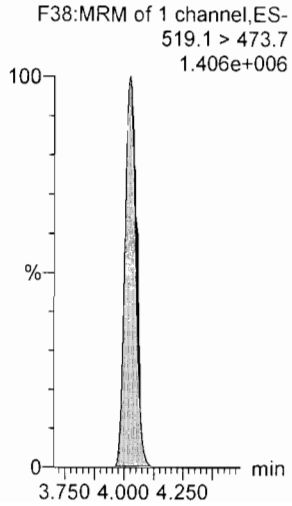
Name: 170724M1_6, Date: 24-Jul-2017, Time: 14:23:23, ID: ST170724M1-4 PFC CS1 17G2424, Description: PFC CS1 17G2424

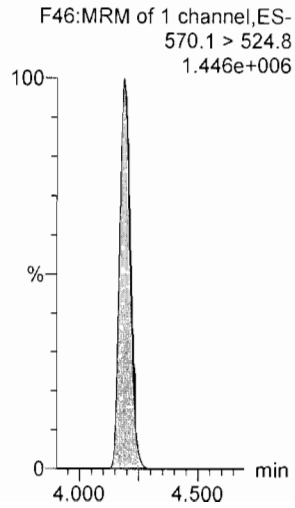
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

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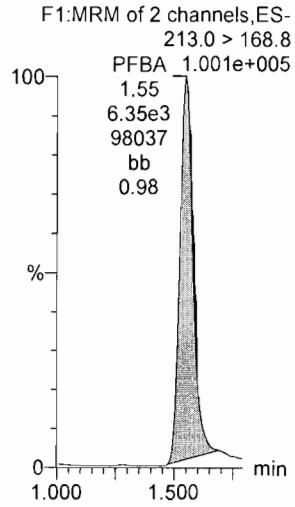

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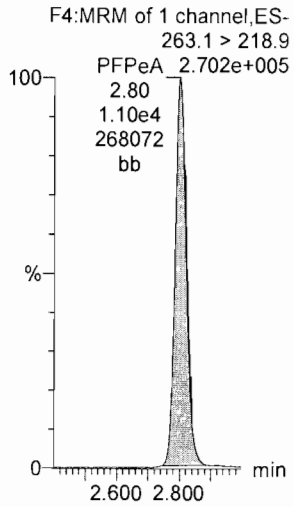
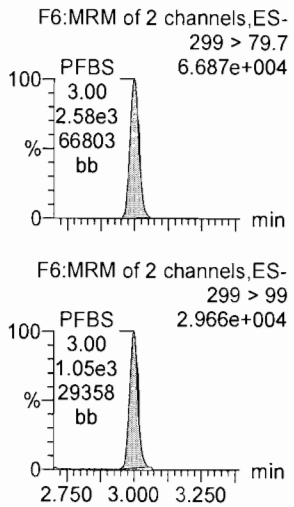
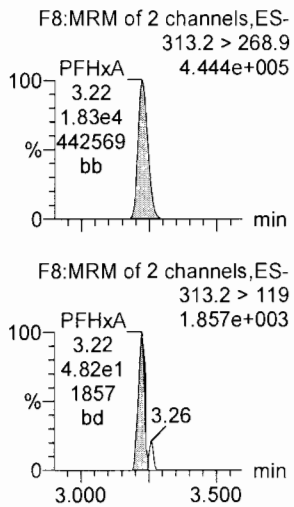


PFBS



PFHxA



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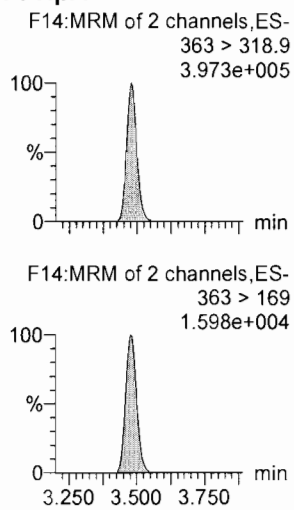

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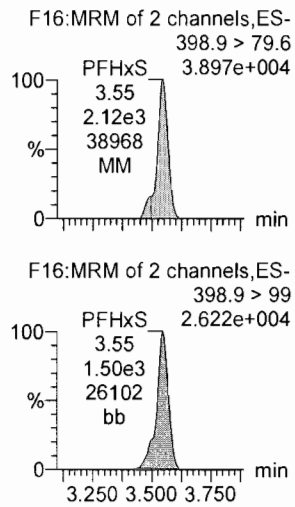

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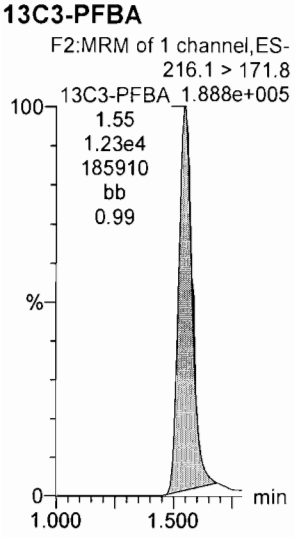

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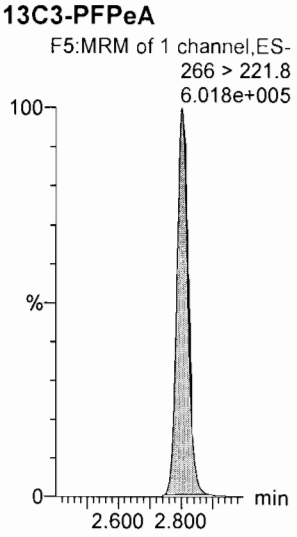

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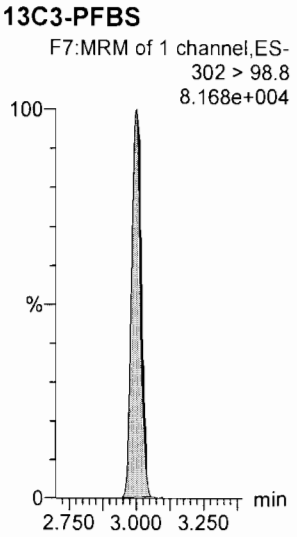
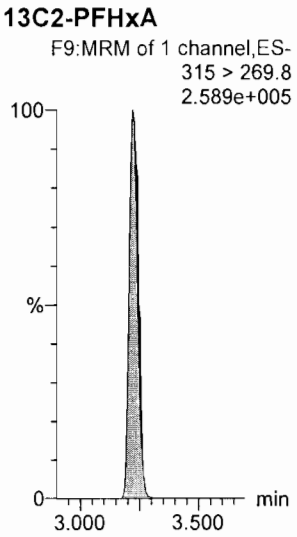
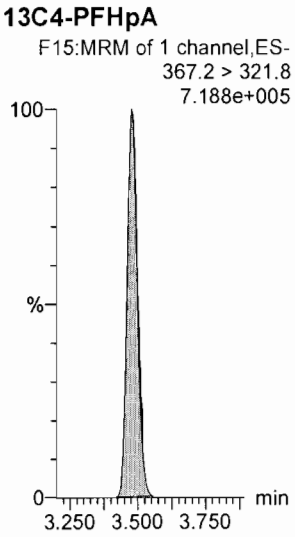


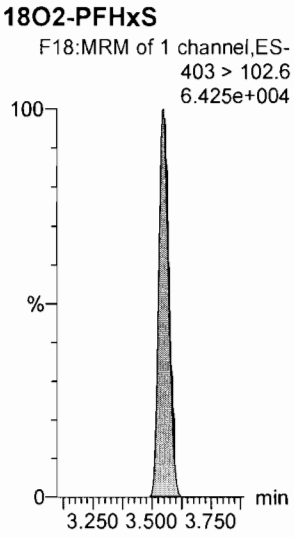
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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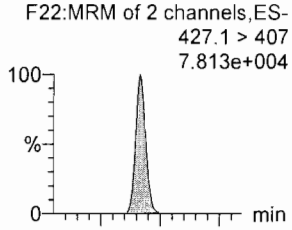
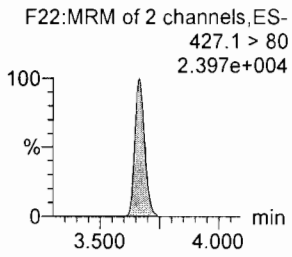
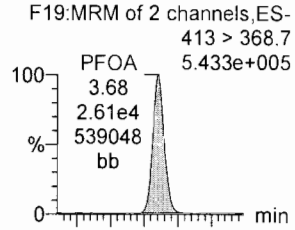
Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

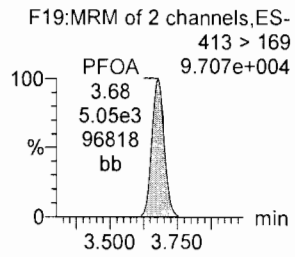
6:2 FTS





PFOA





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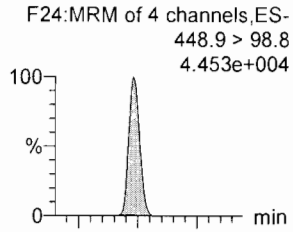

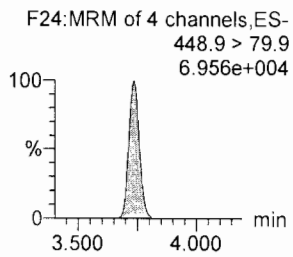

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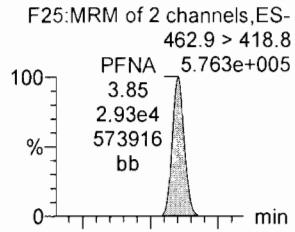
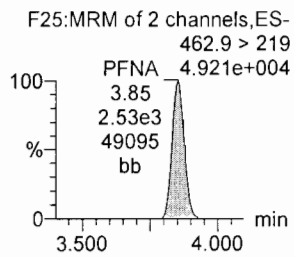
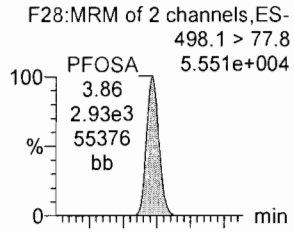
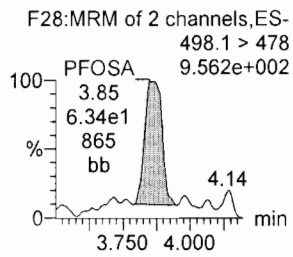


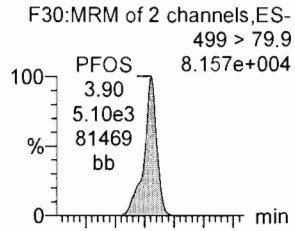


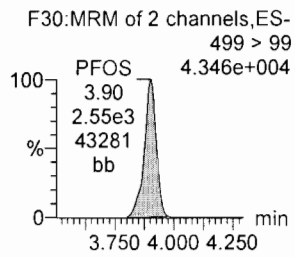
PFOSA



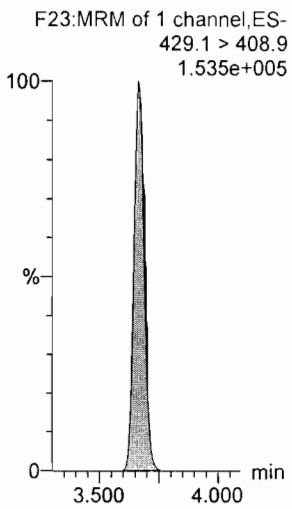


PFOS

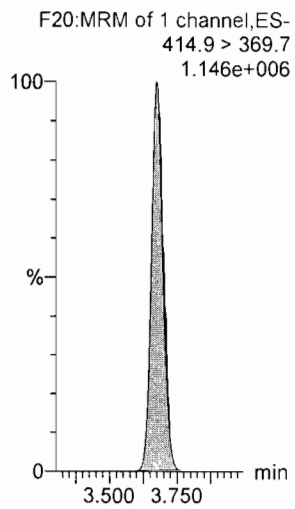




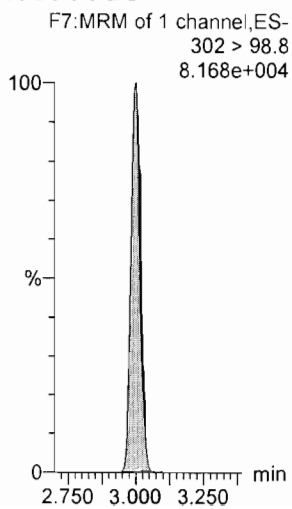
13C2-6:2 FTS



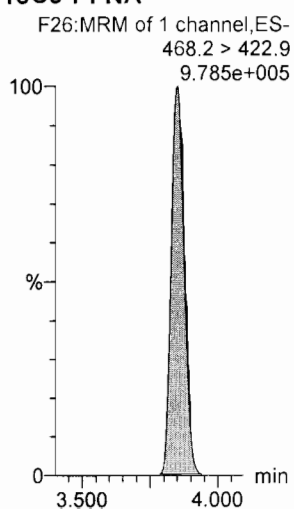
13C2-PFOA



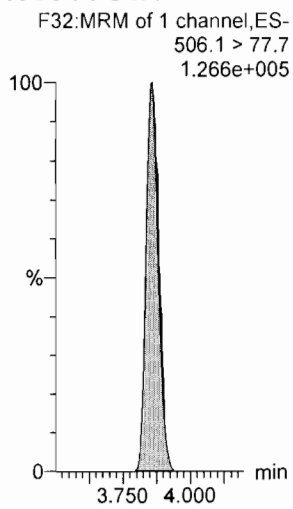
13C3-PFBS



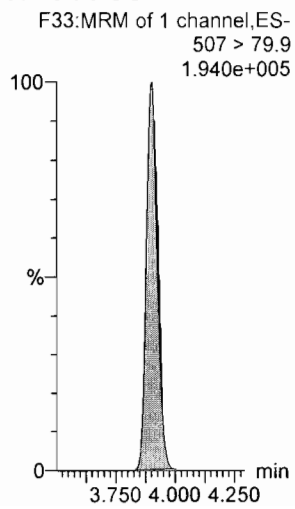
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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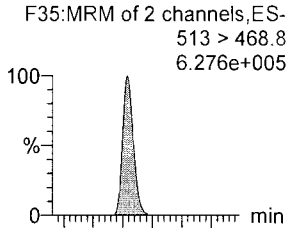
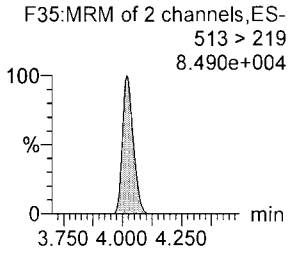
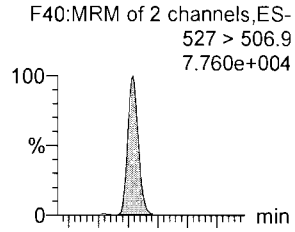
Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

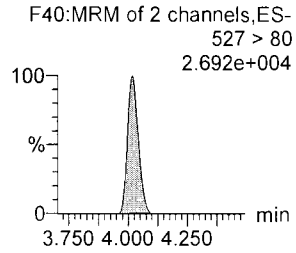
PFDA



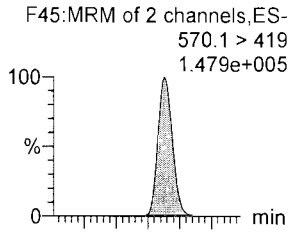


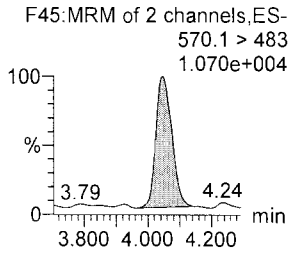
8:2 FTS



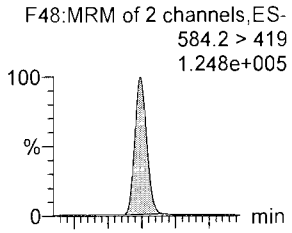


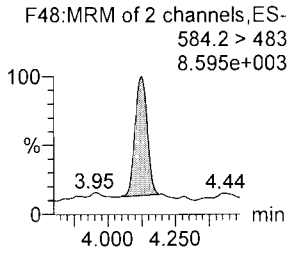
N-MeFOSAA



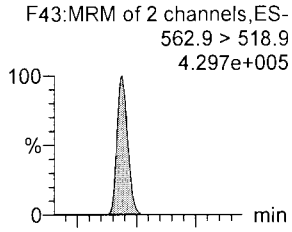


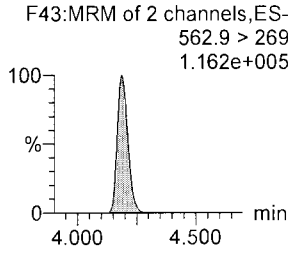
N-EtFOSAA





PFUnA





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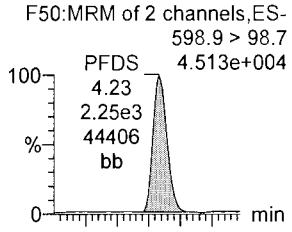
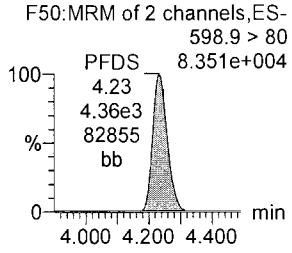
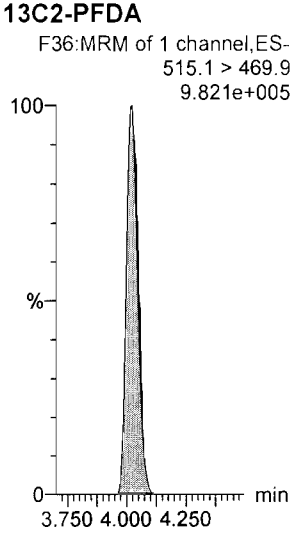
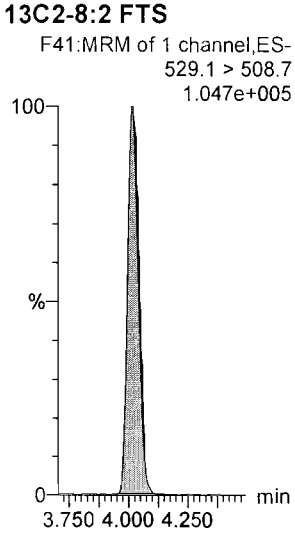




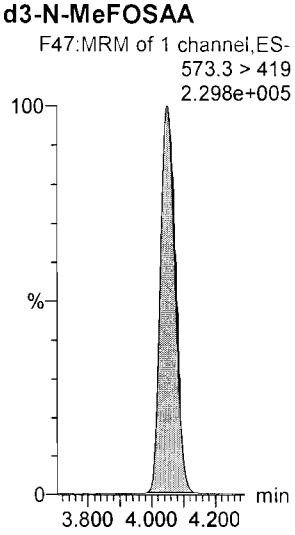
13C2-PFDA



13C2-8:2 FTS



d3-N-MeFOSAA



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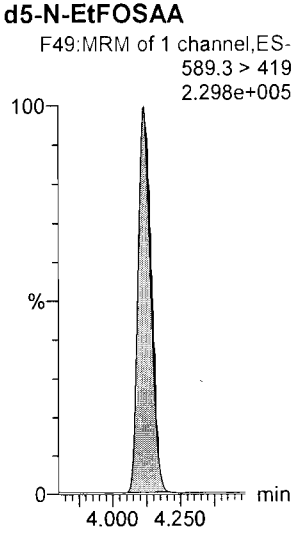

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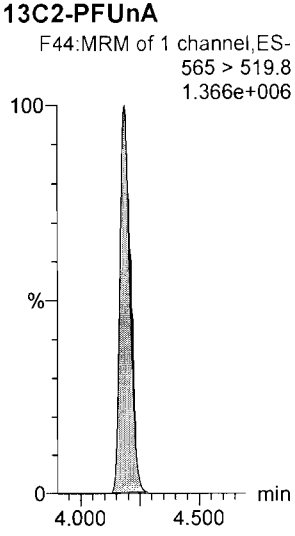

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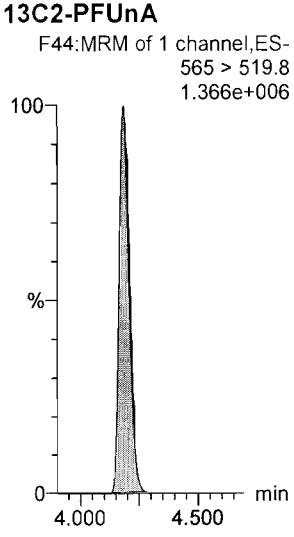

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Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

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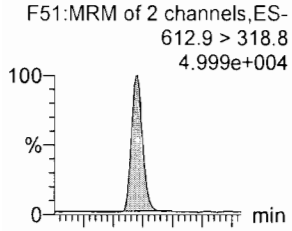

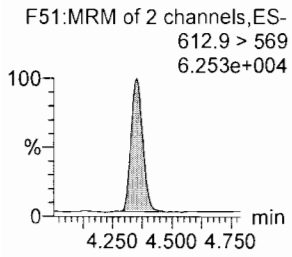

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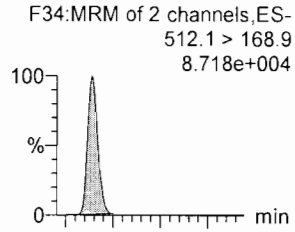

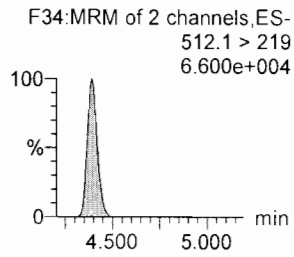

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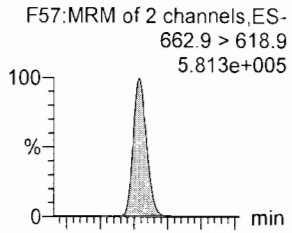

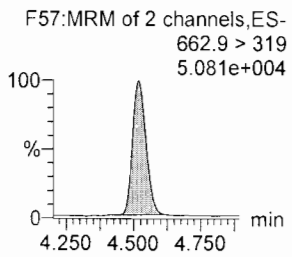

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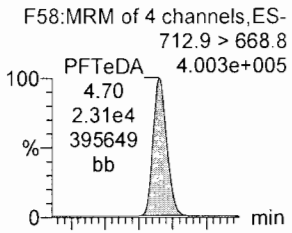

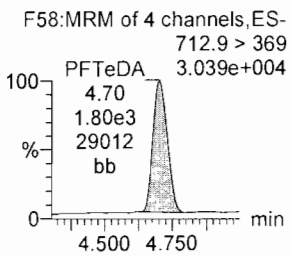

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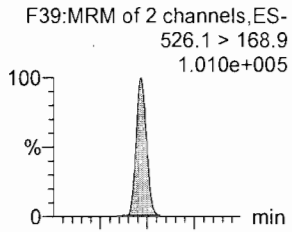

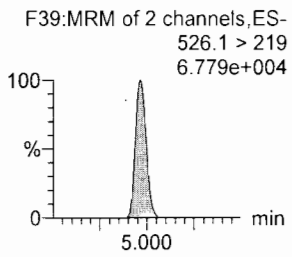

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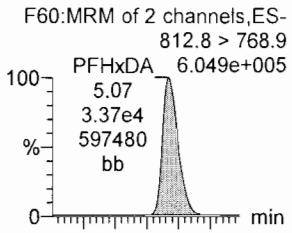

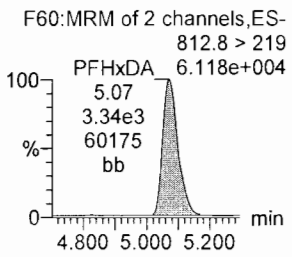

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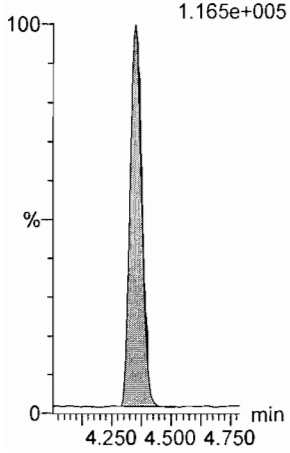
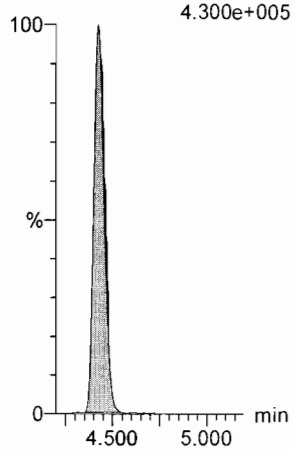


d3-N-MeFOSA



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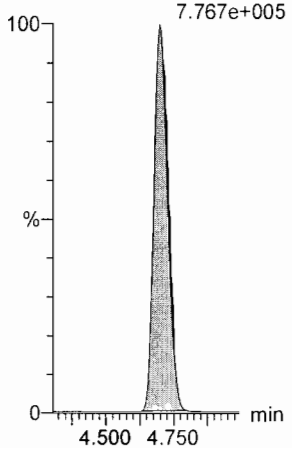

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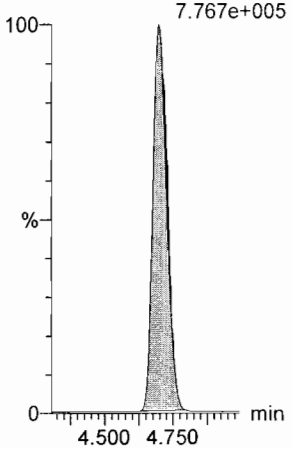

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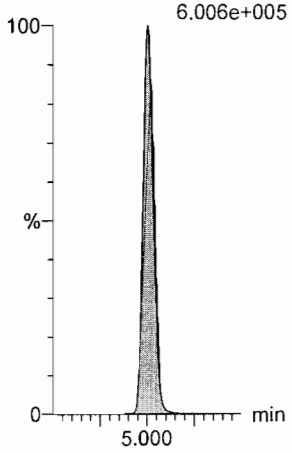

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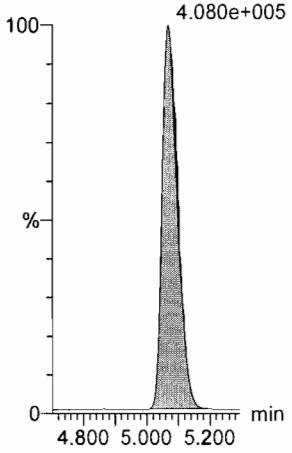

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Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

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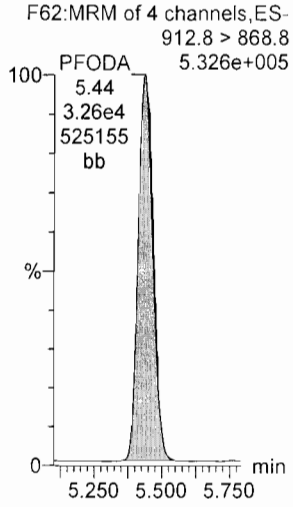

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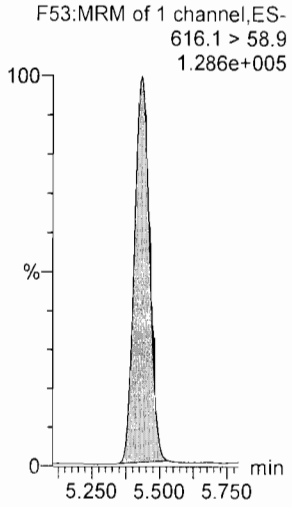

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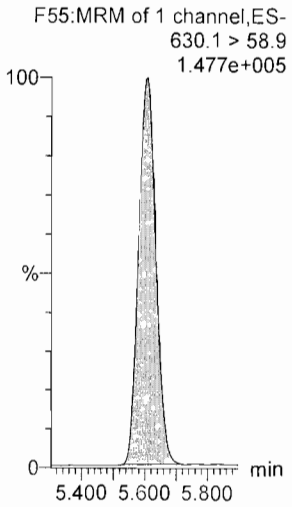

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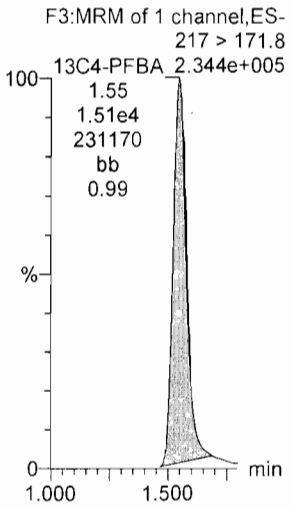

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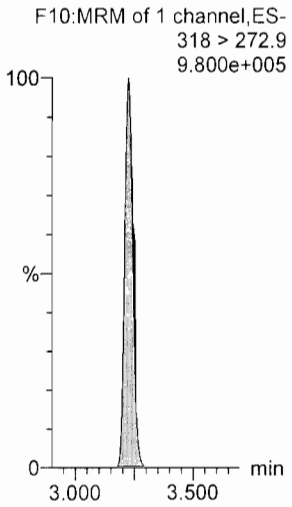

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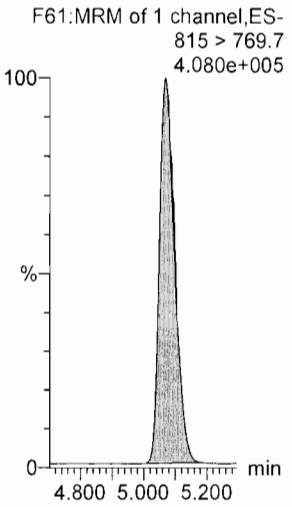

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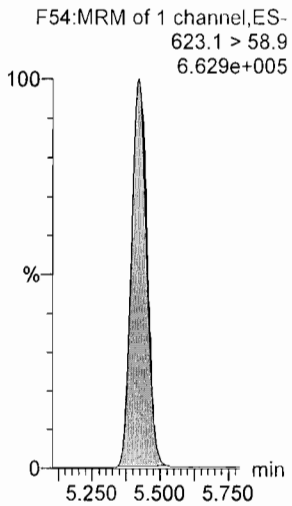

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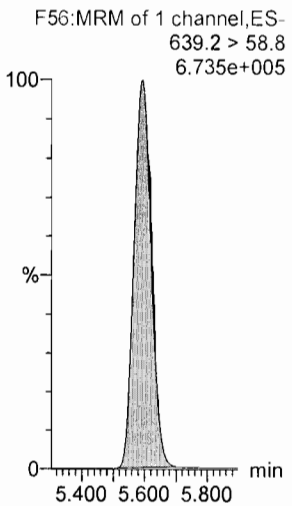

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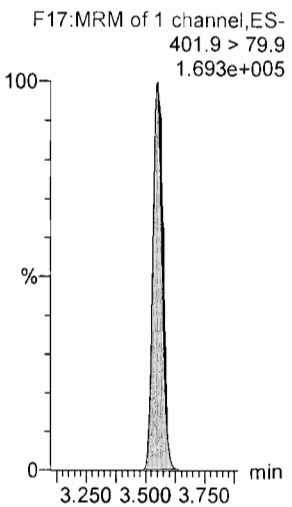

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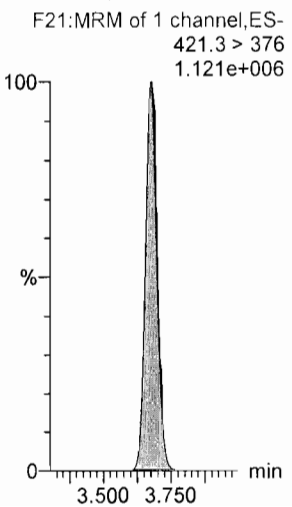

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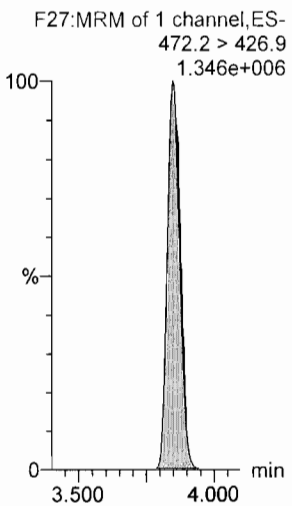

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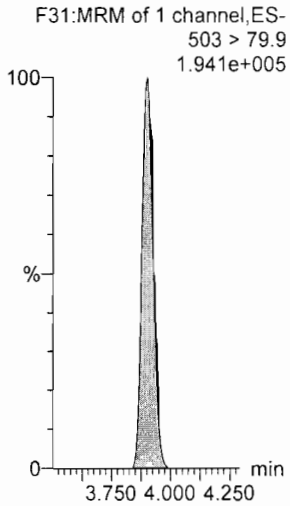
Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

13C4-PFOS



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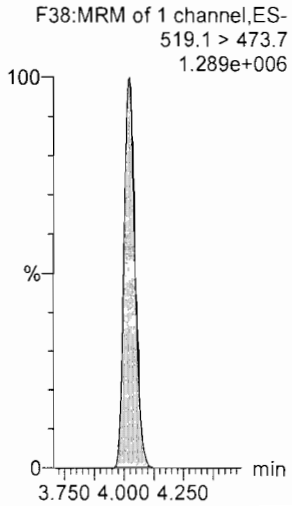

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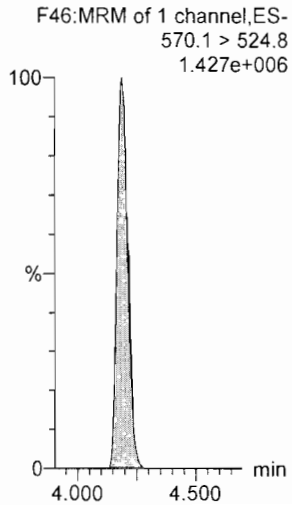

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Name: 170724M1_8, Date: 24-Jul-2017, Time: 14:44:48, ID: ST170724M1-6 PFC CS3 17G2118, Description: PFC CS3 17G2118

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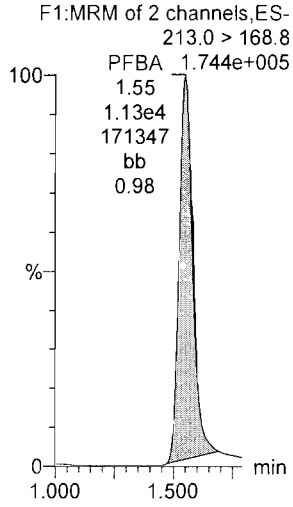

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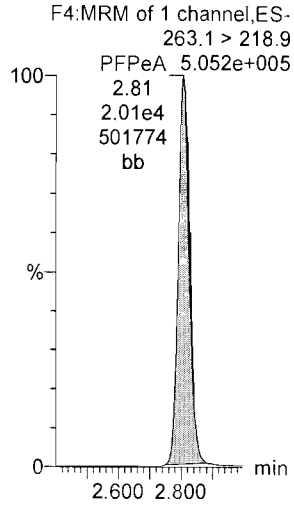

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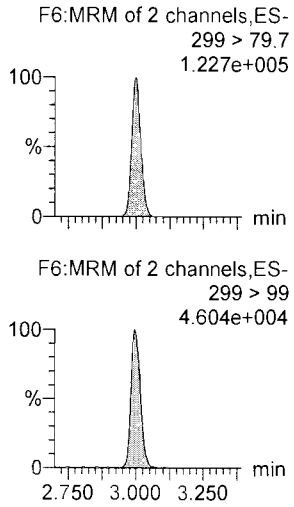

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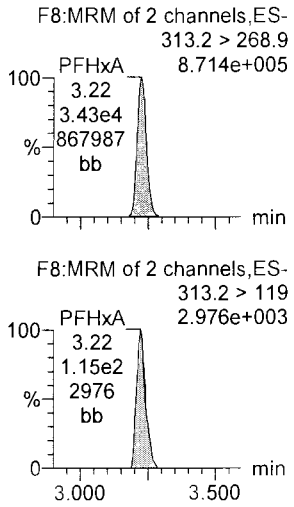

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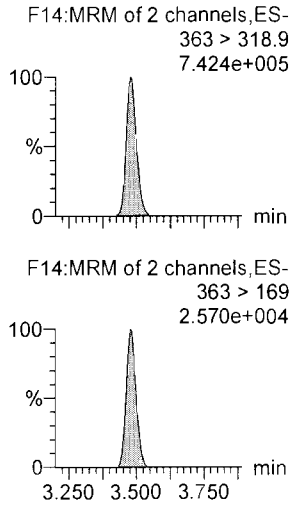

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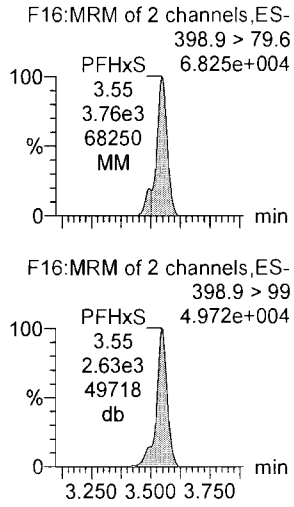

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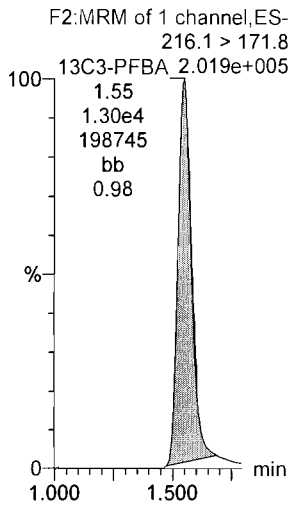

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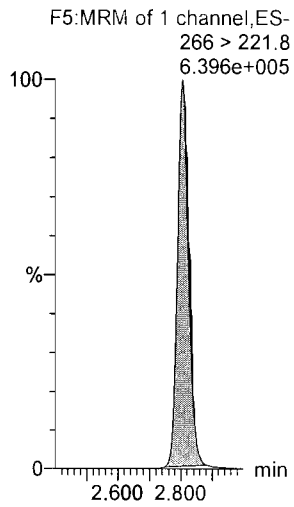

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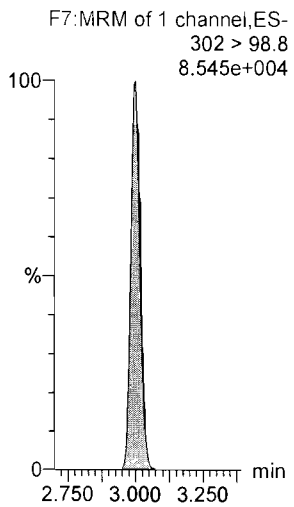

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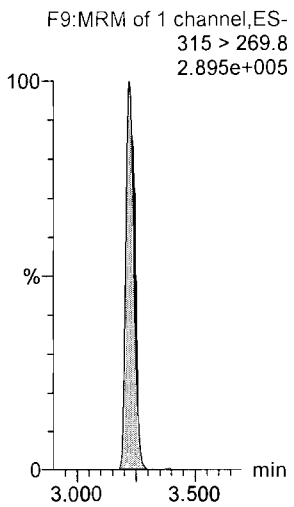

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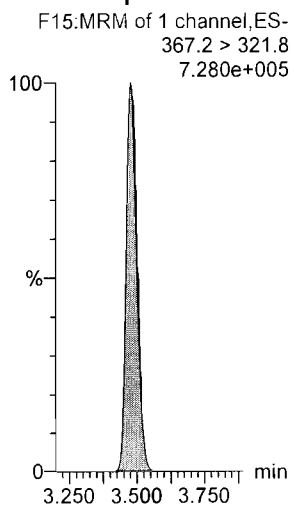
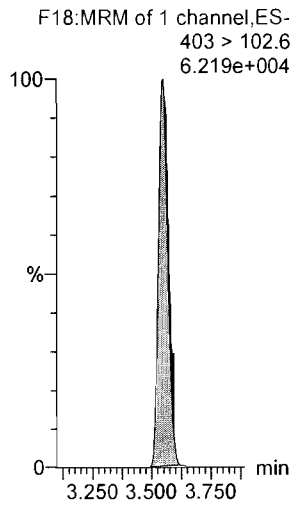


18O2-PFHxS



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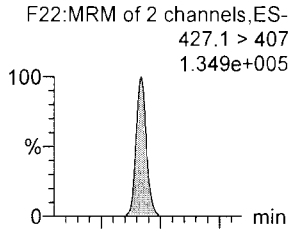
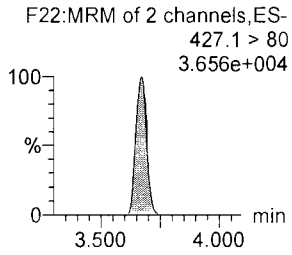
Name: 170724M1_8, Date: 24-Jul-2017, Time: 14:44:48, ID: ST170724M1-6 PFC CS3 17G2118, Description: PFC CS3 17G2118

6:2 FTS





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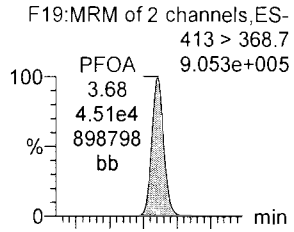

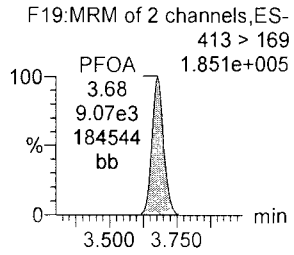

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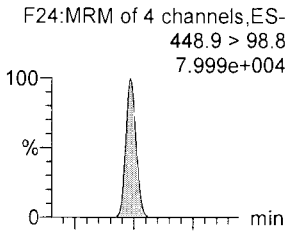

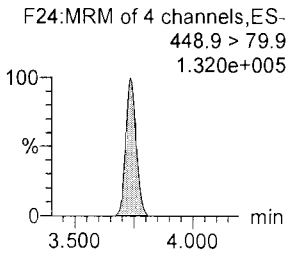

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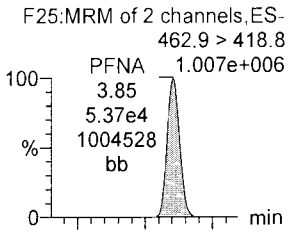

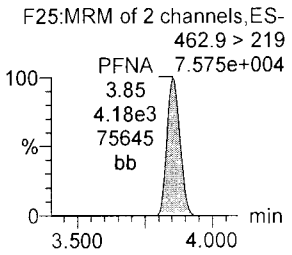

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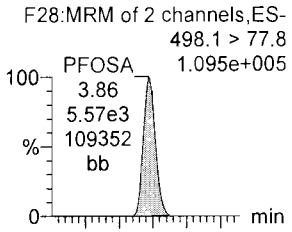

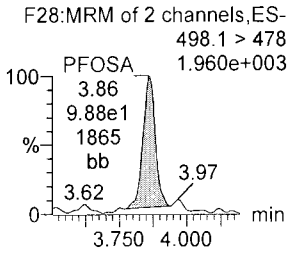

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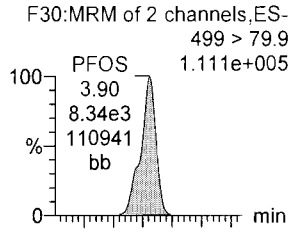
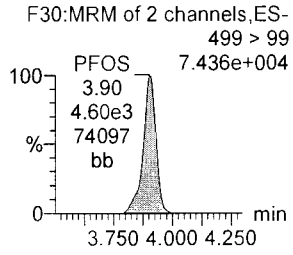
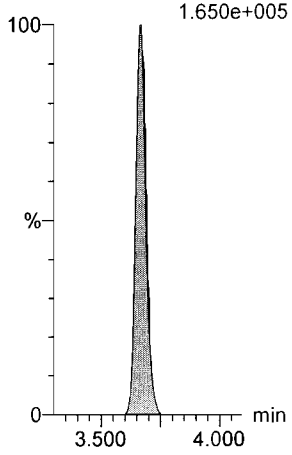
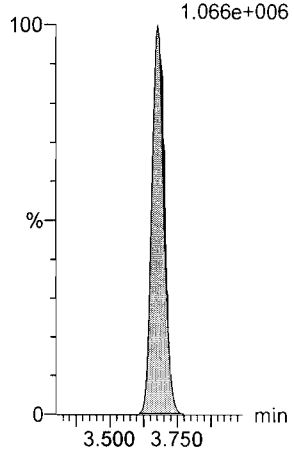




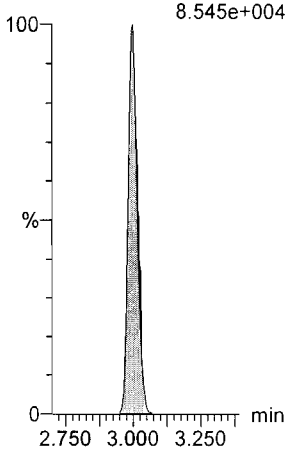
13C2-6:2 FTS



13C2-PFOA



13C3-PFBS



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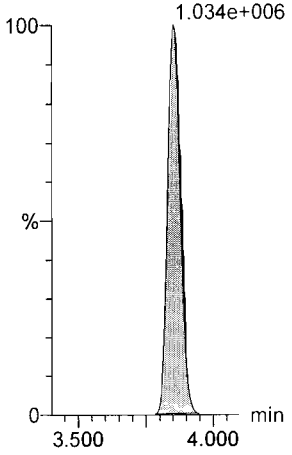

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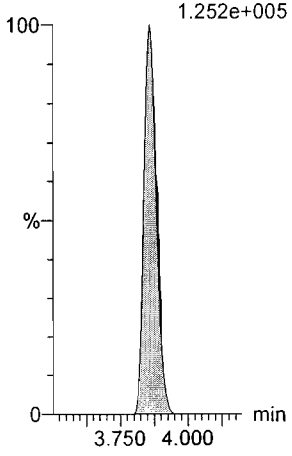

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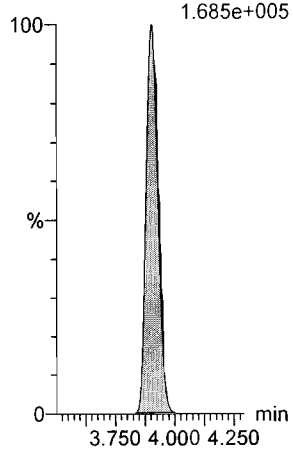

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Name: 170724M1_8, Date: 24-Jul-2017, Time: 14:44:48, ID: ST170724M1-6 PFC CS3 17G2118, Description: PFC CS3 17G2118

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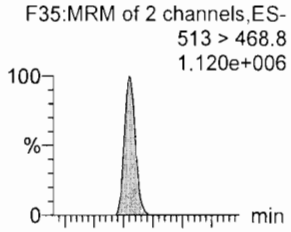
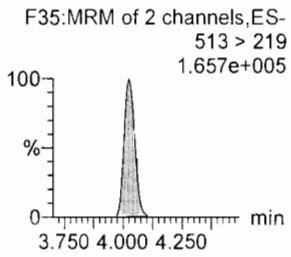
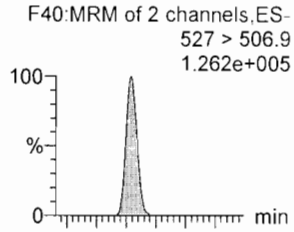
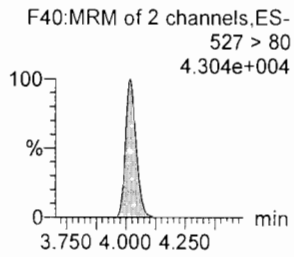




8:2 FTS





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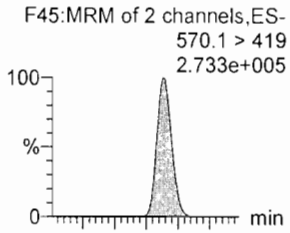

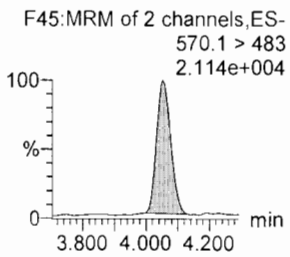

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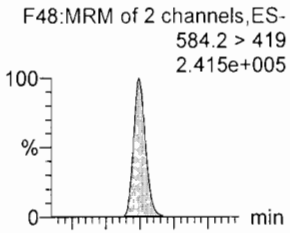

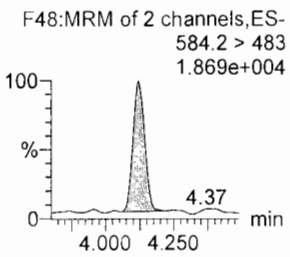

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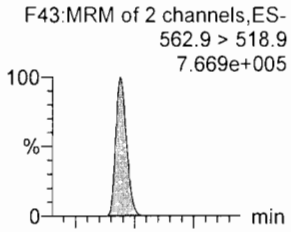

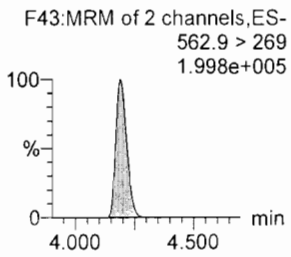

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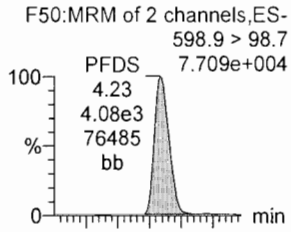
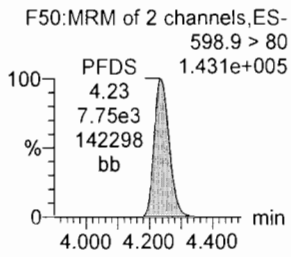
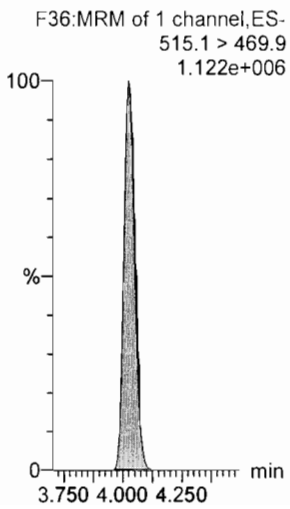
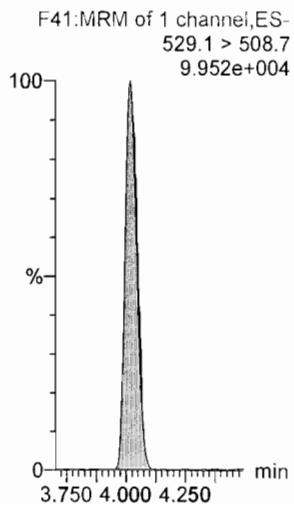




13C2-PFDA



13C2-8:2 FTS



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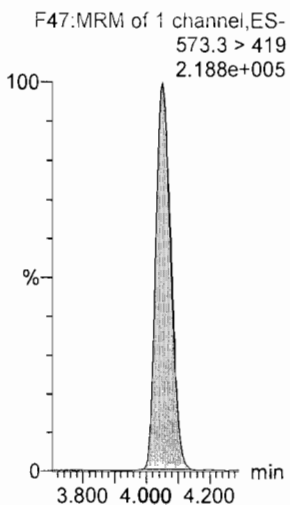

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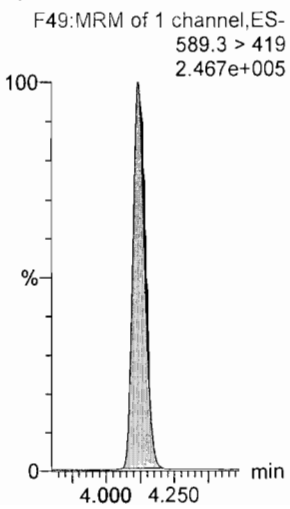

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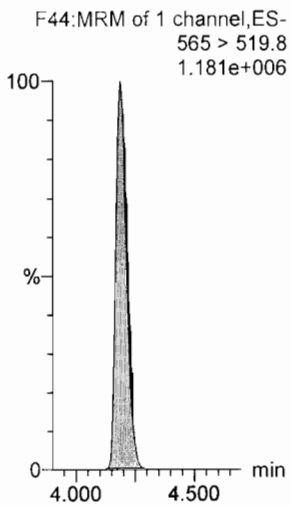

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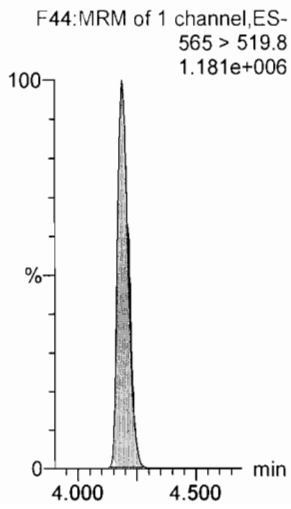

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Name: 170724M1_8, Date: 24-Jul-2017, Time: 14:44:48, ID: ST170724M1-6 PFC CS3 17G2118, Description: PFC CS3 17G2118

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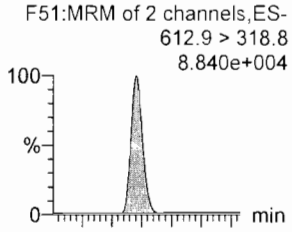

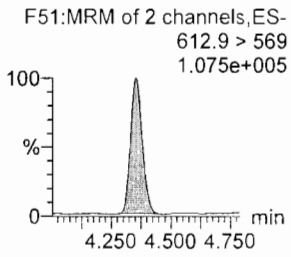

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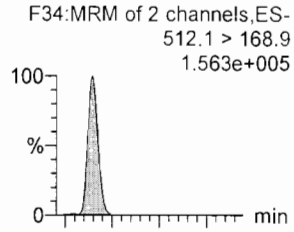

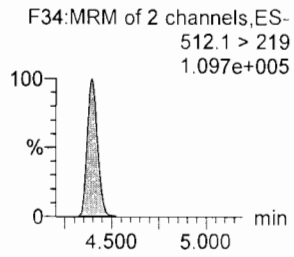

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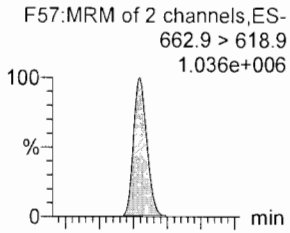

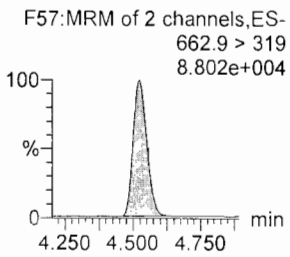

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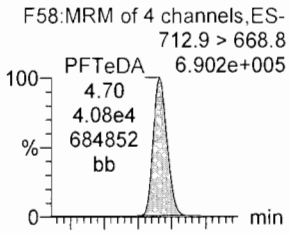

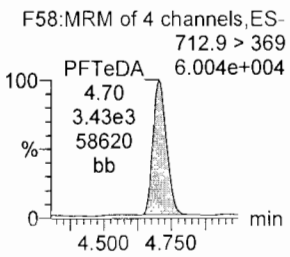

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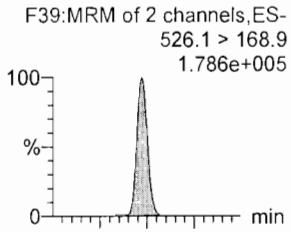

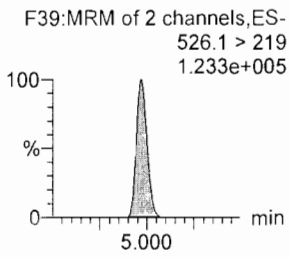

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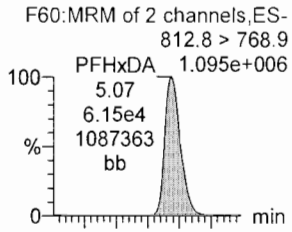

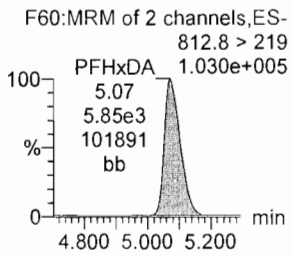

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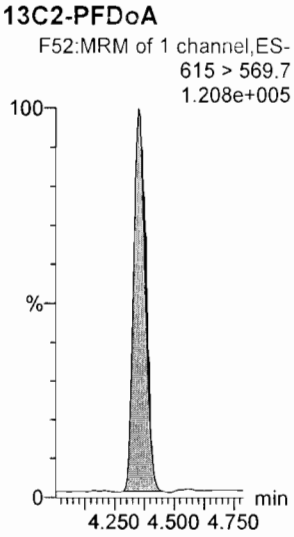

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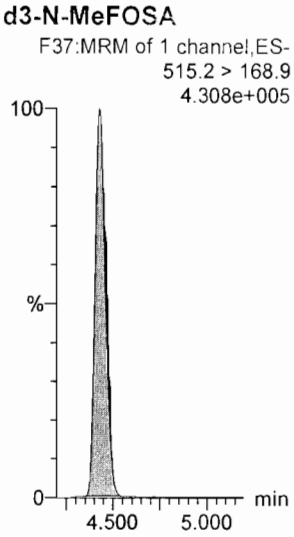

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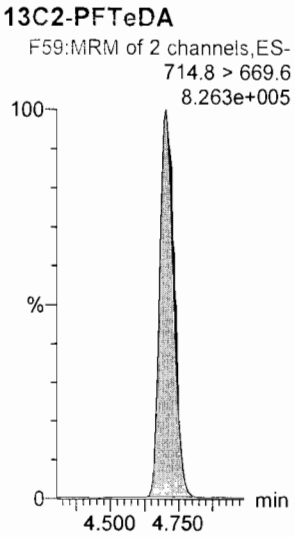

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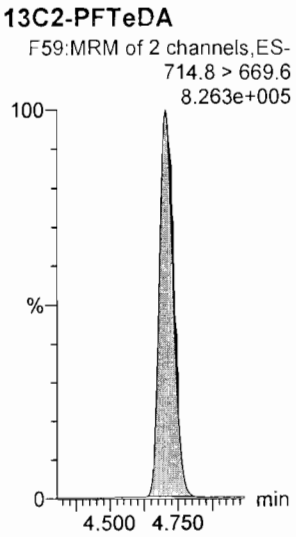

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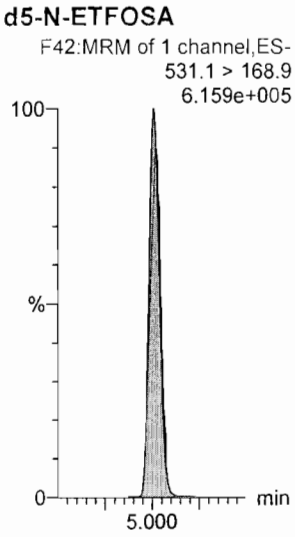

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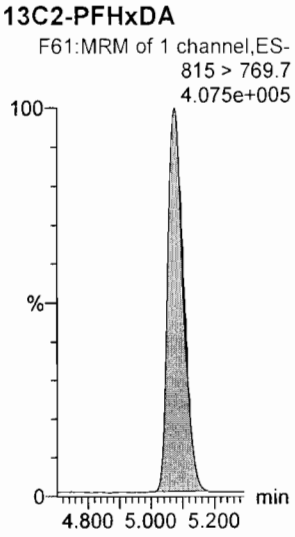

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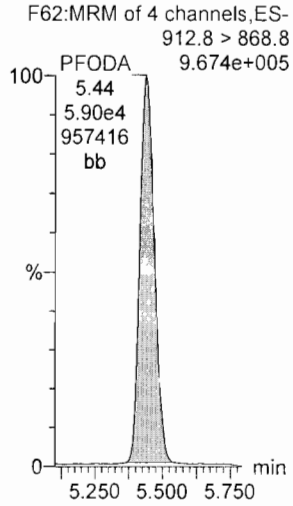

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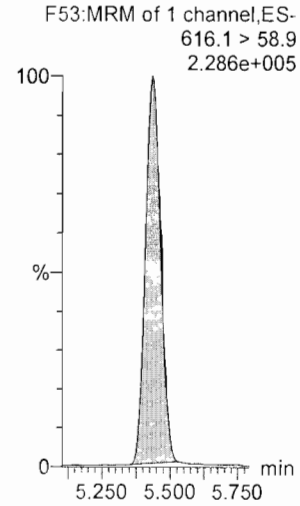

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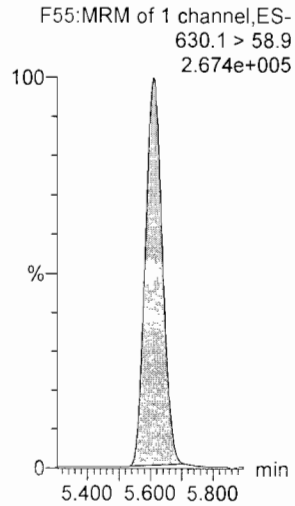

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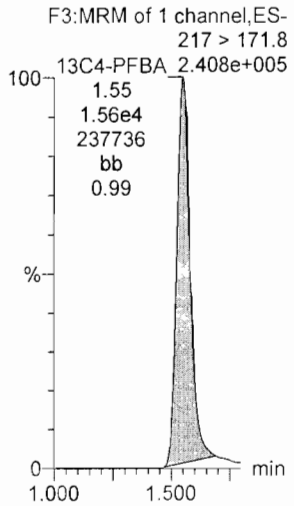

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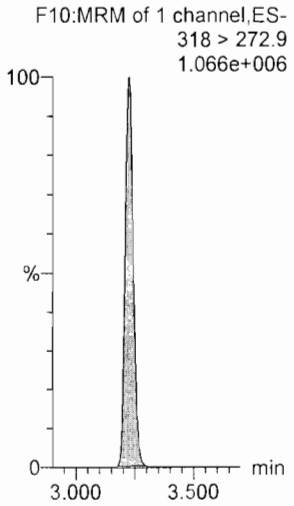

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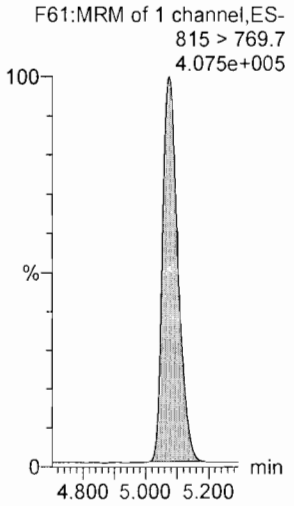
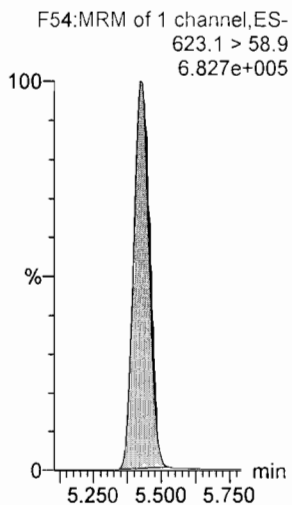
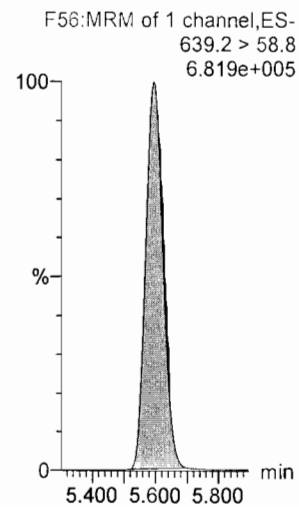


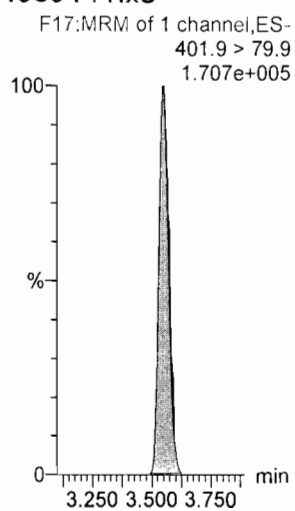
d7-N-MeFOSE



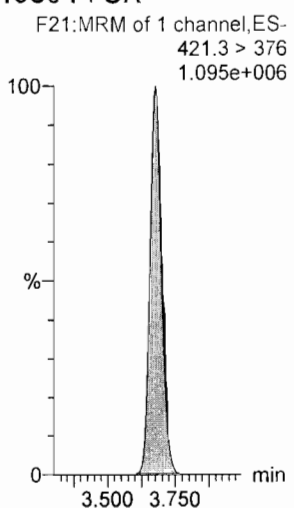
d9-N-EtFOSE



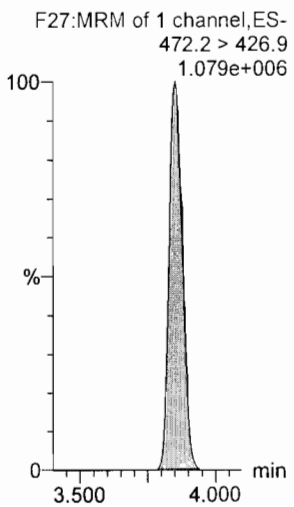
13C3-PFHxS



13C8-PFOA



13C9-PFNA



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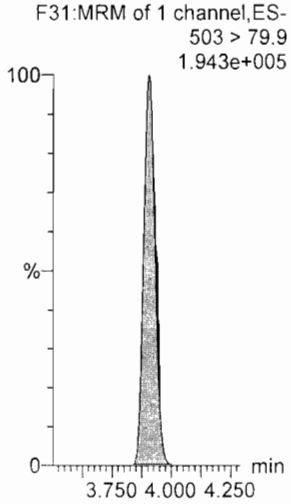
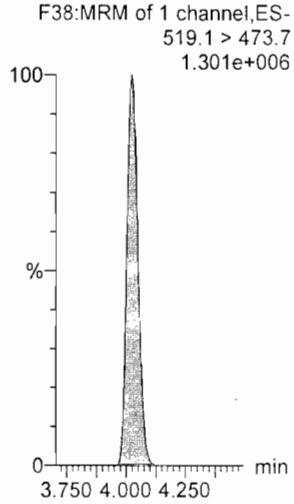
Name: 170724M1_8, Date: 24-Jul-2017, Time: 14:44:48, ID: ST170724M1-6 PFC CS3 17G2118, Description: PFC CS3 17G2118

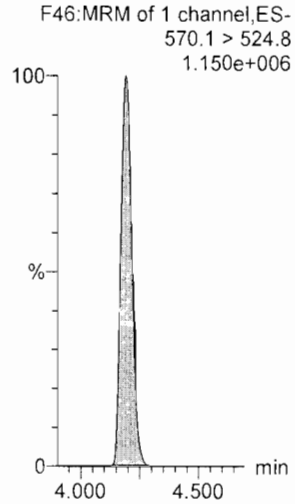
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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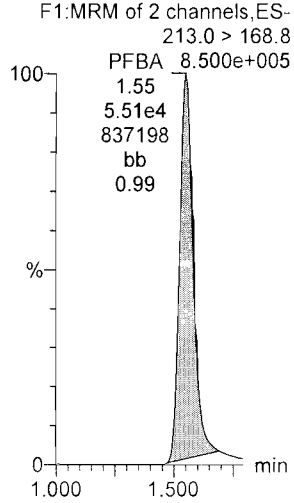
Name: 170724M1_9, Date: 24-Jul-2017, Time: 14:55:34, ID: ST170724M1-7 PFC CS4 17G2426, Description: PFC CS4 17G2426

PFBA



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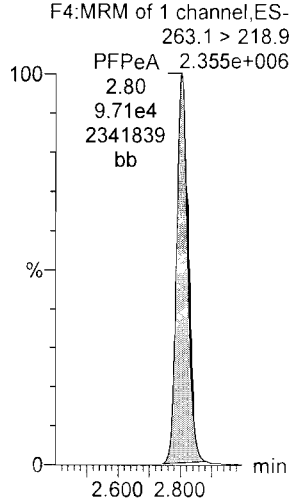

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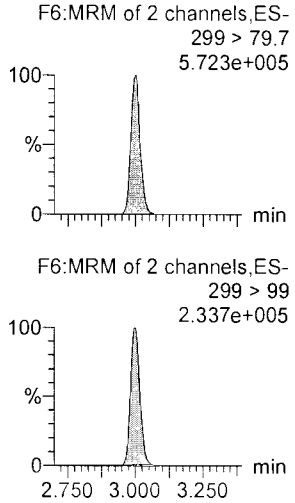
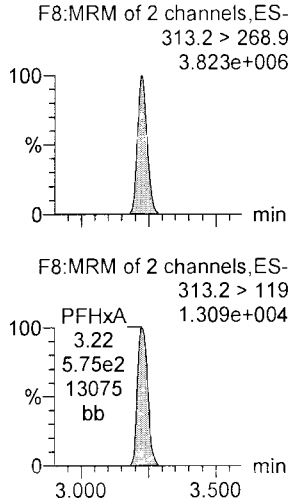


PFHxA



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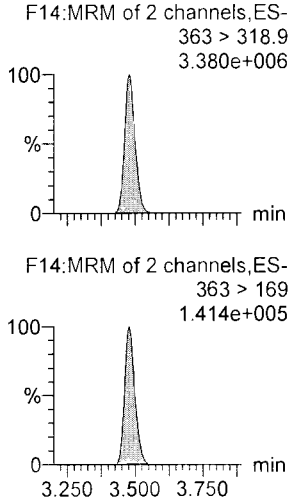
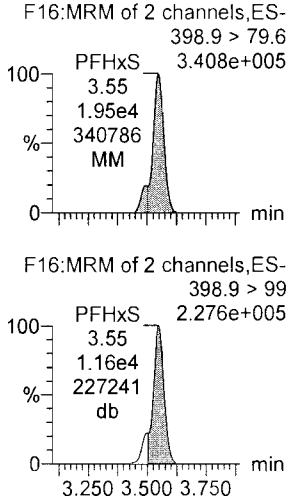
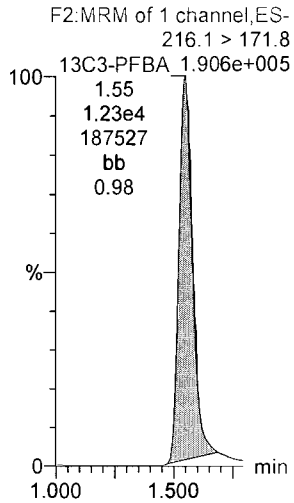


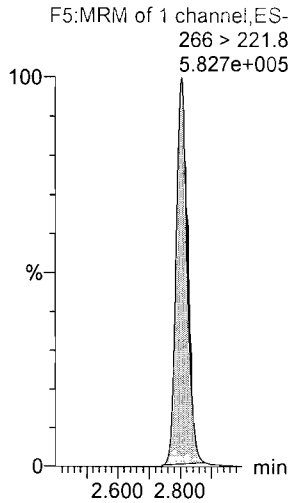
PFHxS



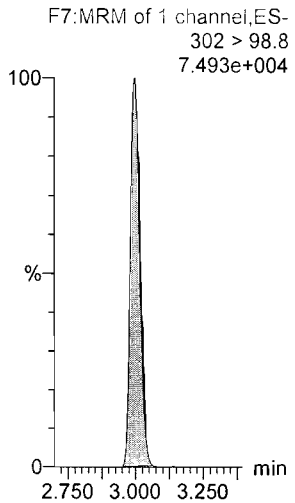
13C3-PFBA



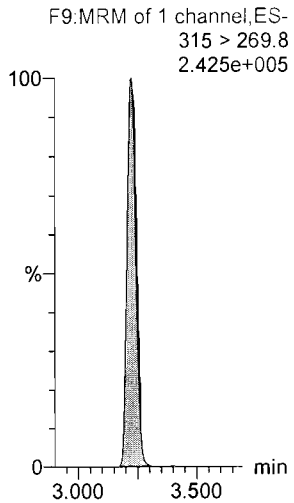
13C3-PFPeA



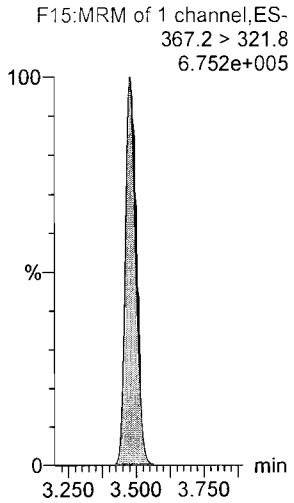
13C3-PFBS



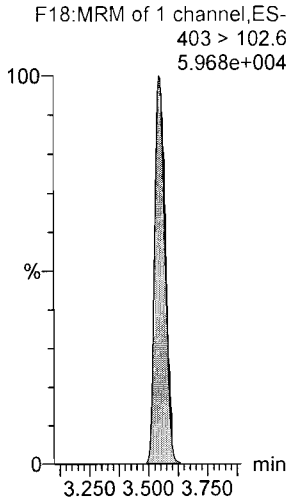
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



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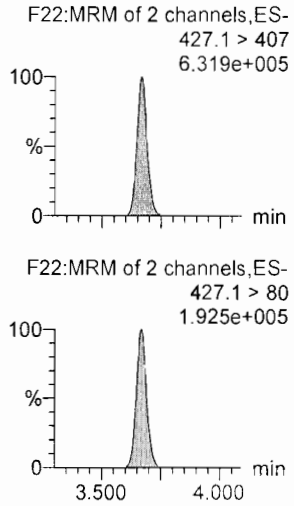
Name: 170724M1_9, Date: 24-Jul-2017, Time: 14:55:34, ID: ST170724M1-7 PFC CS4 17G2426, Description: PFC CS4 17G2426

6:2 FTS



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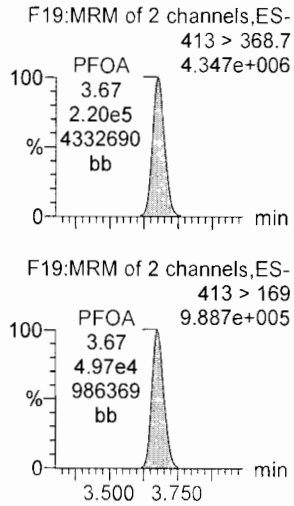
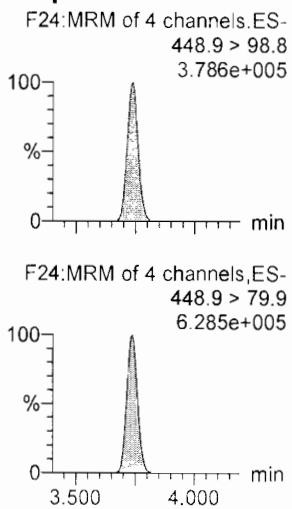


PFHpS



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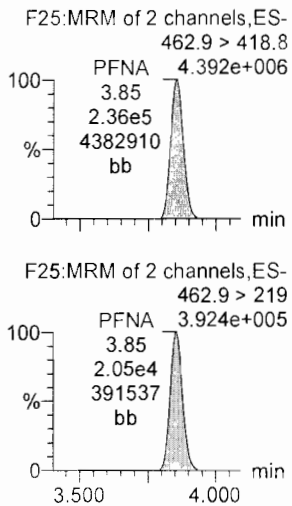
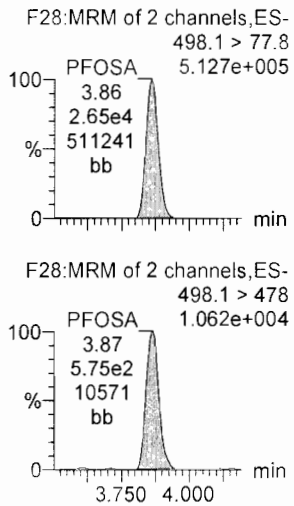
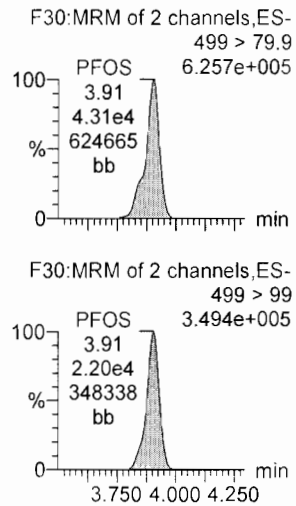


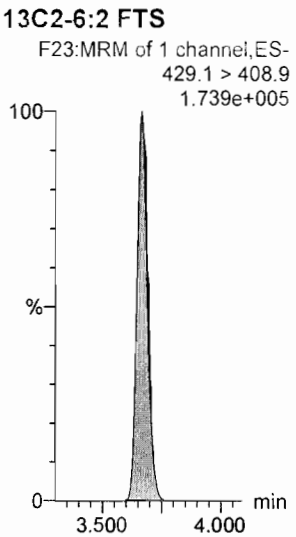
PFOSA



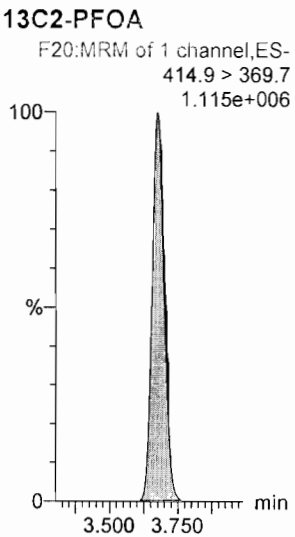
PFOS



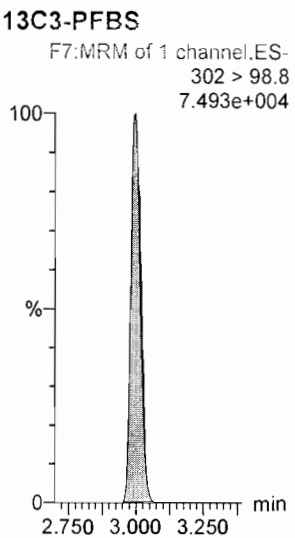
13C2-6:2 FTS



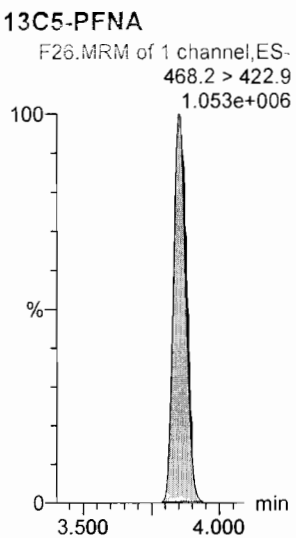
13C2-PFOA



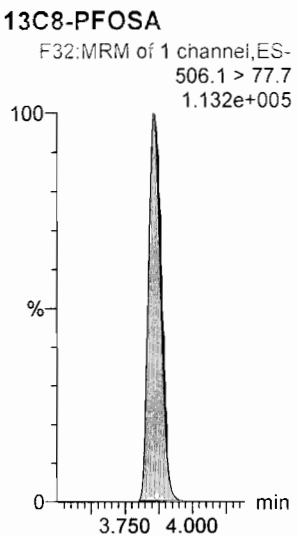
13C3-PFBS



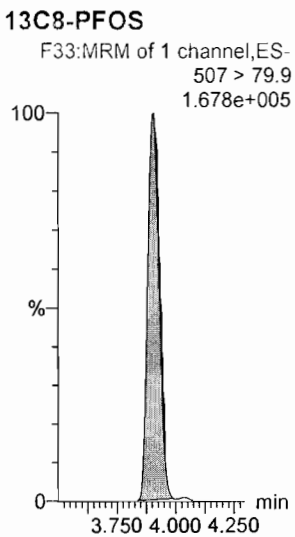
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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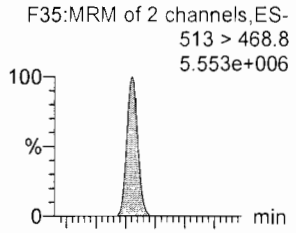
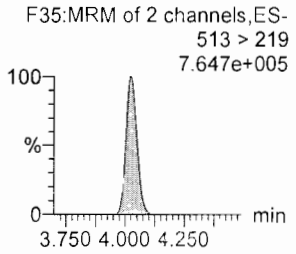
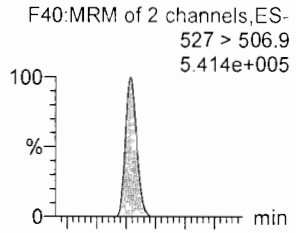
Name: 170724M1_9, Date: 24-Jul-2017, Time: 14:55:34, ID: ST170724M1-7 PFC CS4 17G2426, Description: PFC CS4 17G2426

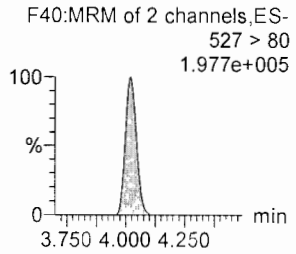
PFDA



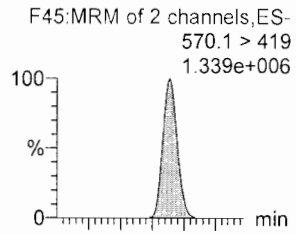


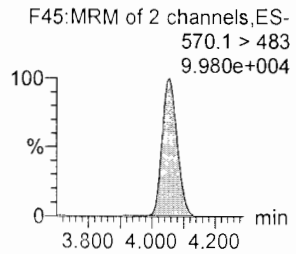
8:2 FTS



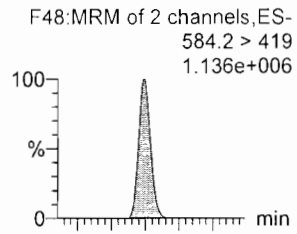


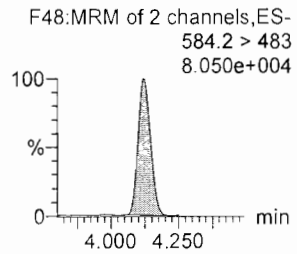
N-MeFOSAA



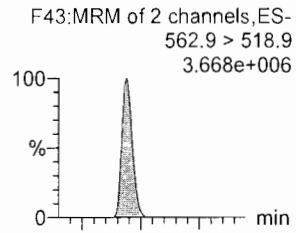


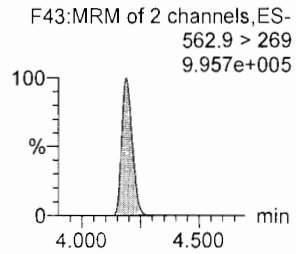
N-EtFOSAA



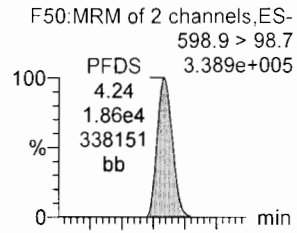


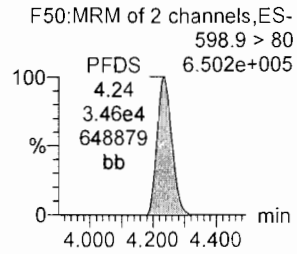
PFUnA



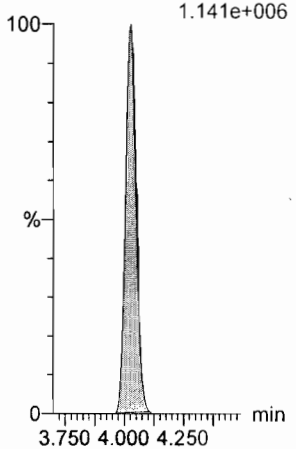


PFDS

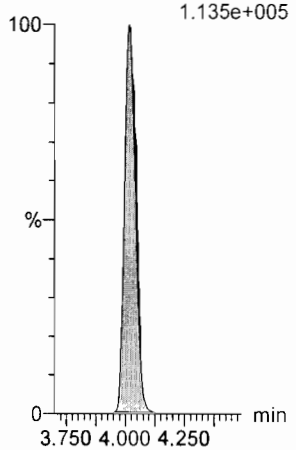




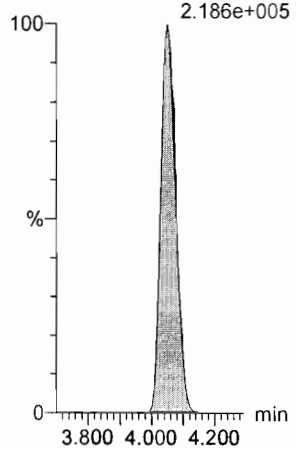
13C2-PFDA



13C2-8:2 FTS



d3-N-MeFOSAA



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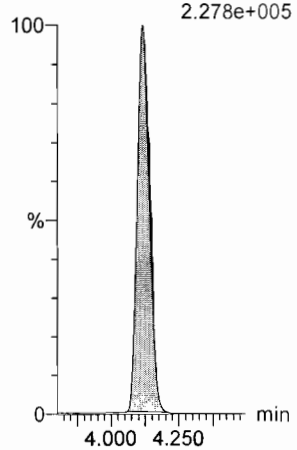
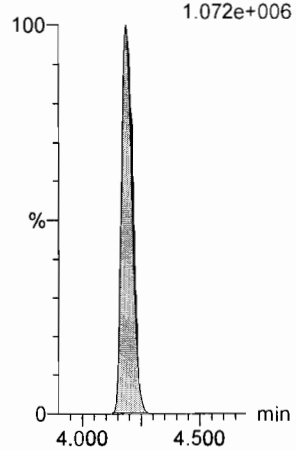


13C2-PFUnA



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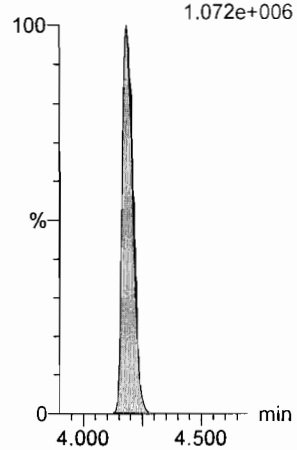

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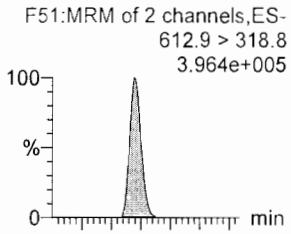
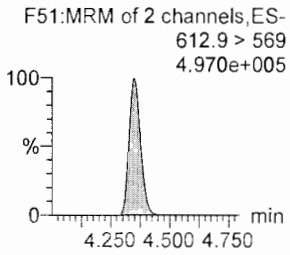
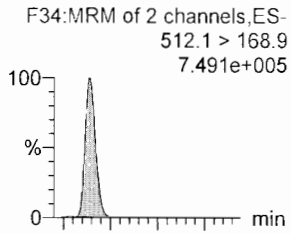
Name: 170724M1_9, Date: 24-Jul-2017, Time: 14:55:34, ID: ST170724M1-7 PFC CS4 17G2426, Description: PFC CS4 17G2426

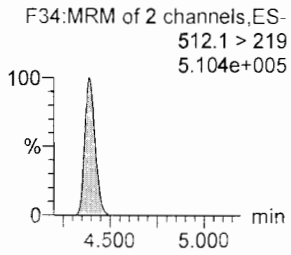
PFDoA



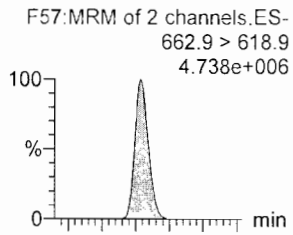


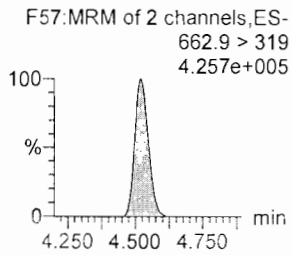
N-MeFOSA





PFTrDA





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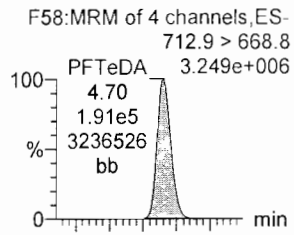

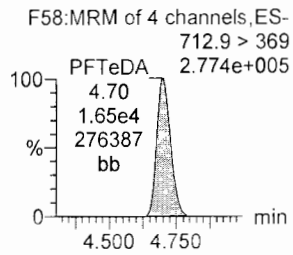

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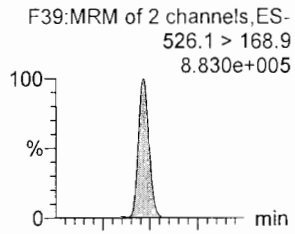

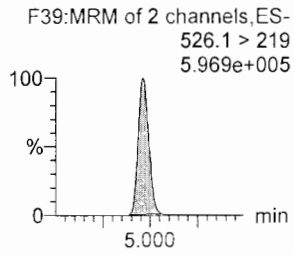

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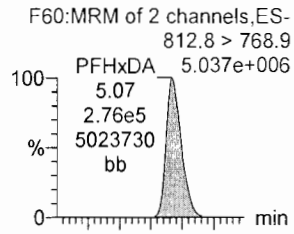

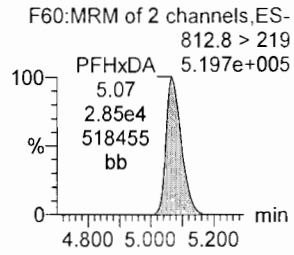

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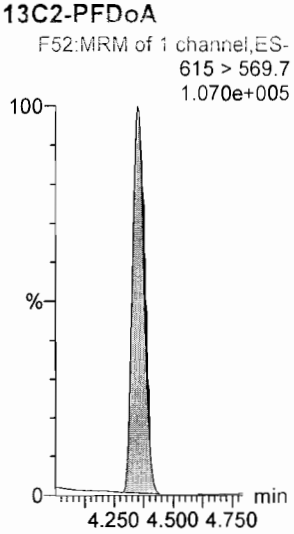

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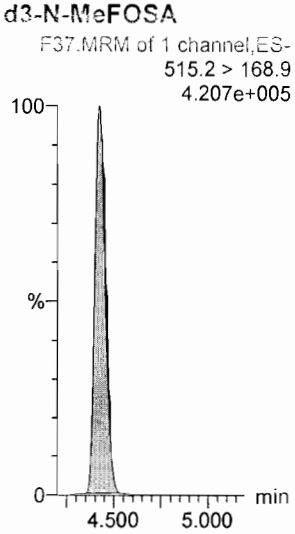

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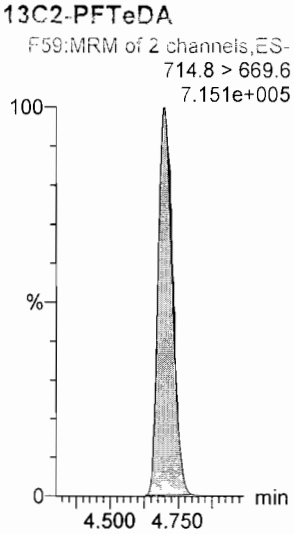

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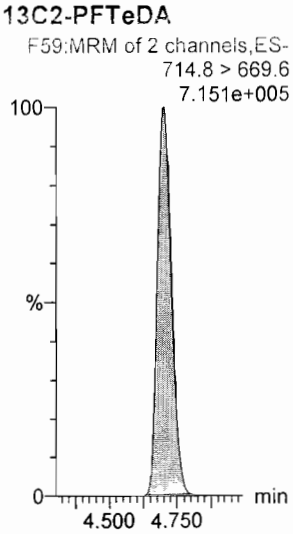

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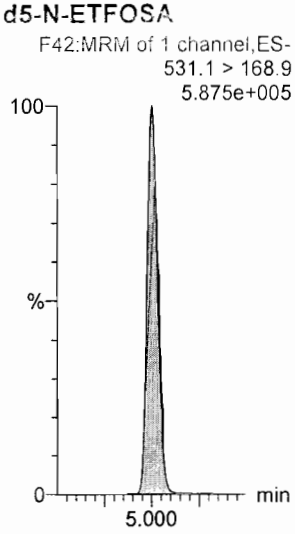

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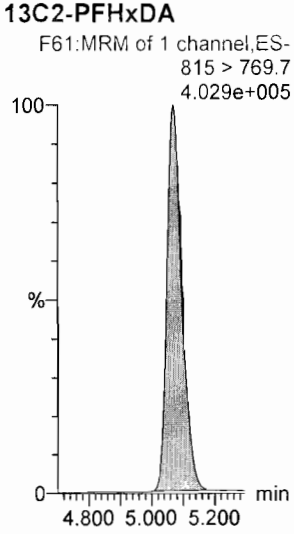

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Name: 170724M1_9, Date: 24-Jul-2017, Time: 14:55:34, ID: ST170724M1-7 PFC CS4 17G2426, Description: PFC CS4 17G2426

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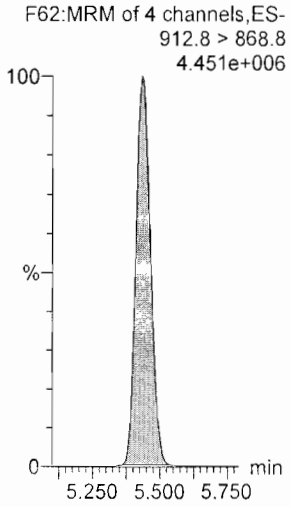

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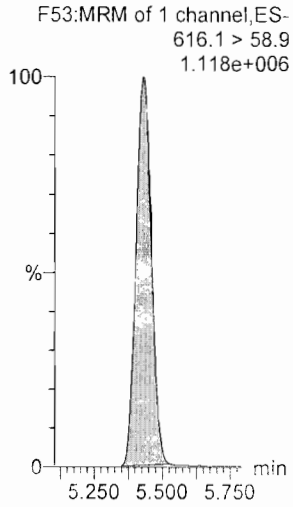

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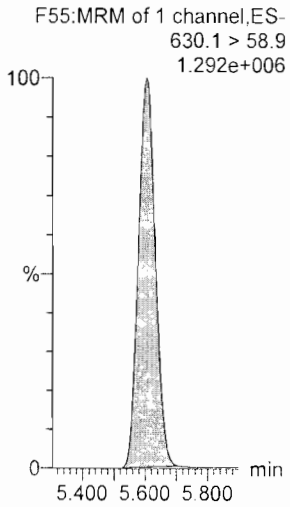

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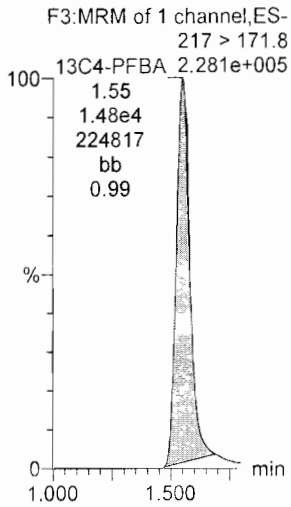

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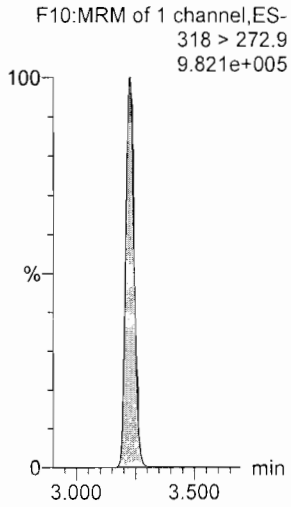

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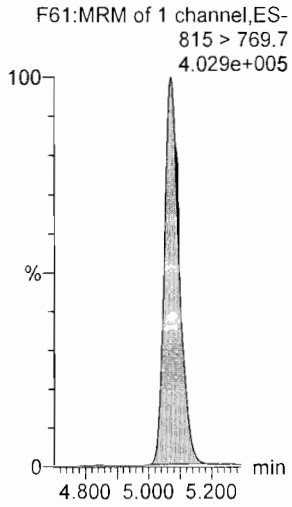

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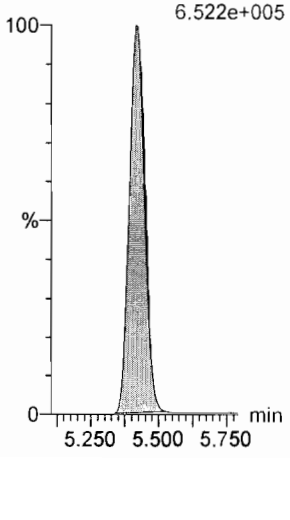
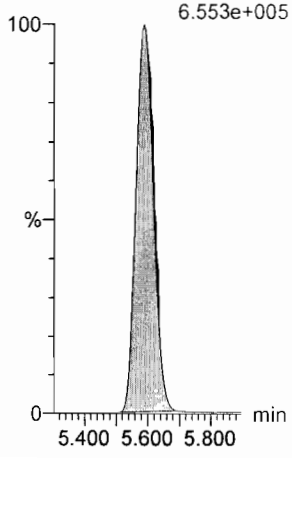


d9-N-EtFOSE



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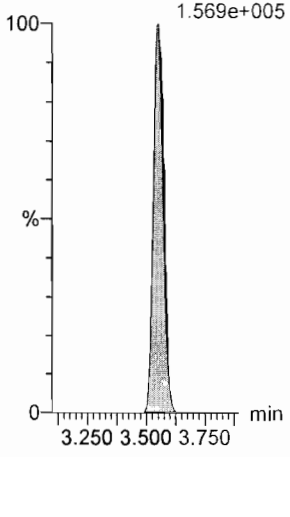

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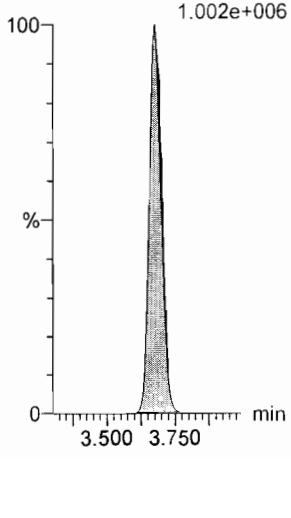

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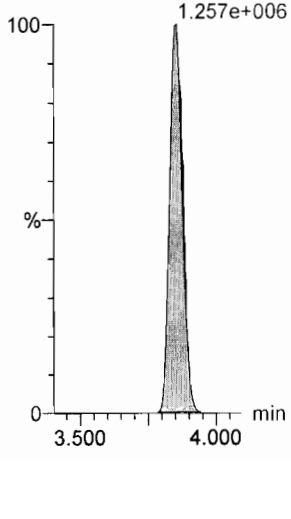

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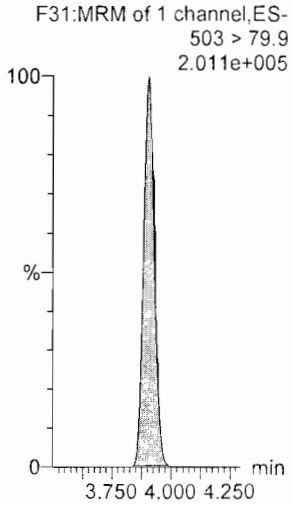
Name: 170724M1_9, Date: 24-Jul-2017, Time: 14:55:34, ID: ST170724M1-7 PFC CS4 17G2426, Description: PFC CS4 17G2426

13C4-PFOS



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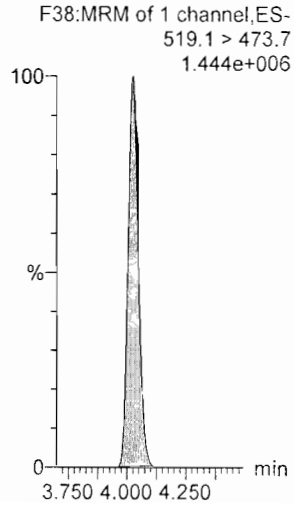

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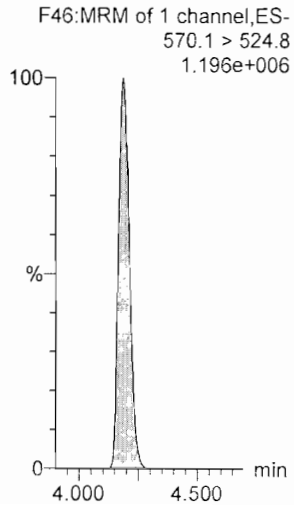

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Name: 170724M1_10, Date: 24-Jul-2017, Time: 15:06:35, ID: ST170724M1-8 PFC CS5 17G2427, Description: PFC CS5 17G2427

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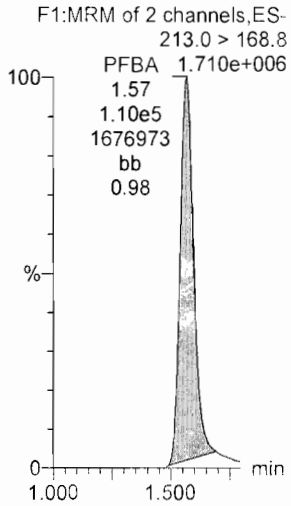

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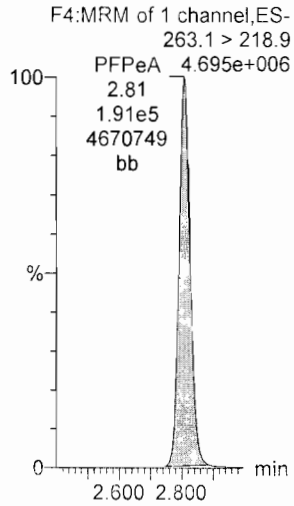

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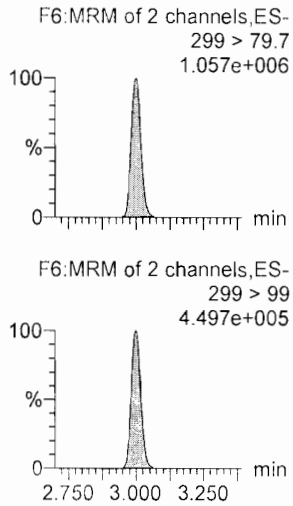
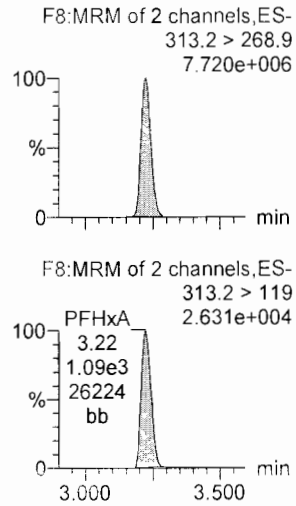


PFHxA



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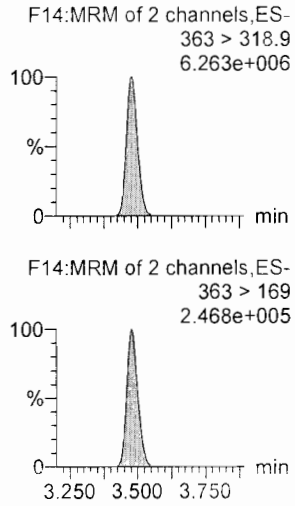

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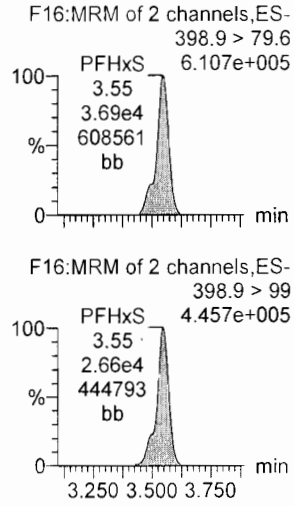

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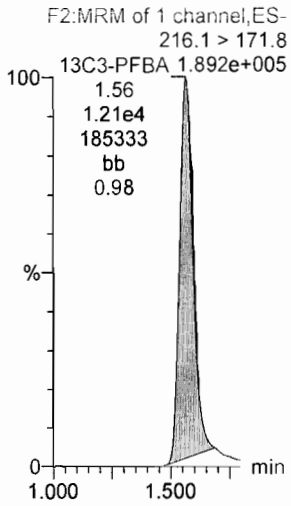

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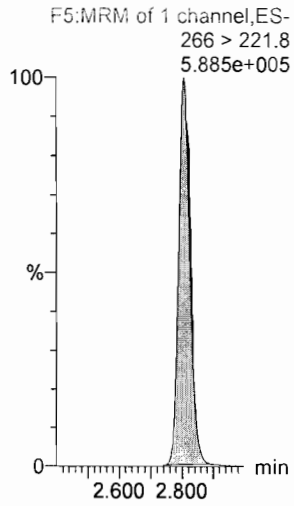

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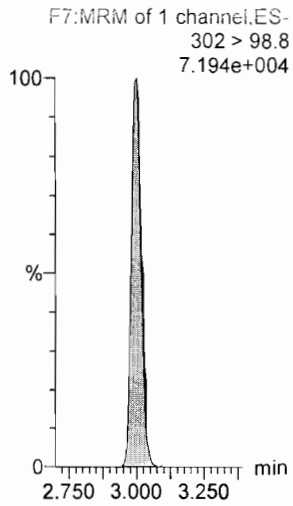

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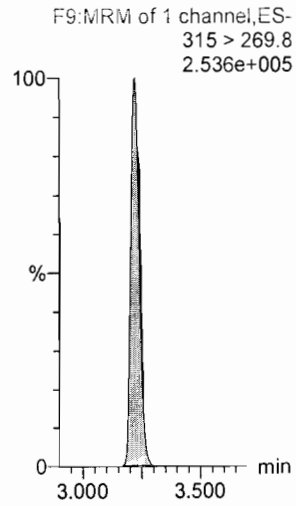

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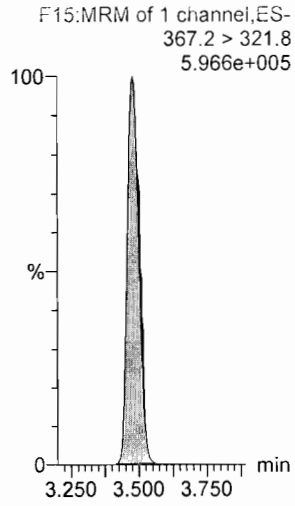

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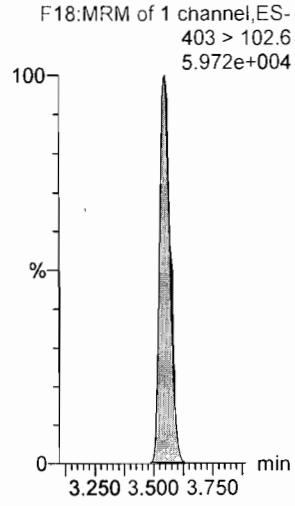

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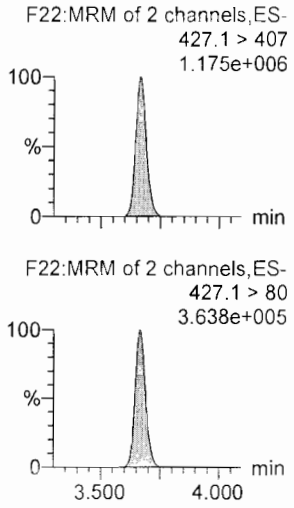
Name: 170724M1_10, Date: 24-Jul-2017, Time: 15:06:35, ID: ST170724M1-8 PFC CS5 17G2427, Description: PFC CS5 17G2427

6:2 FTS



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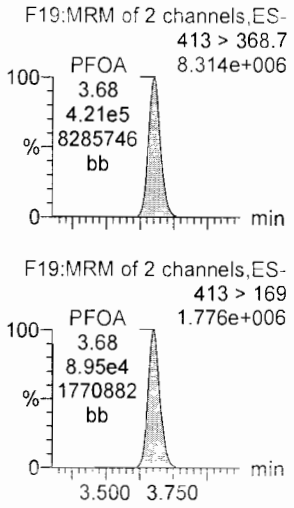
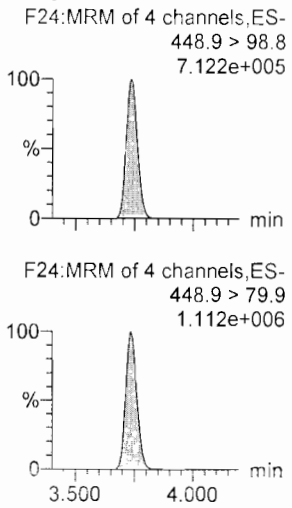


PFHpS



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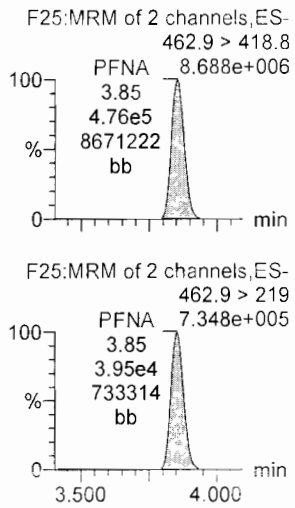

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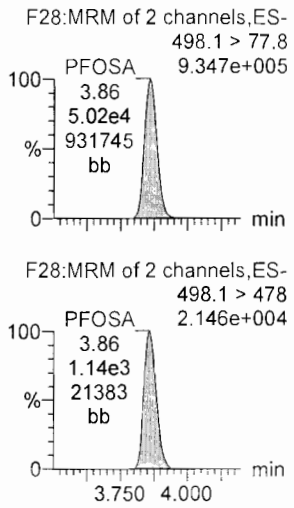

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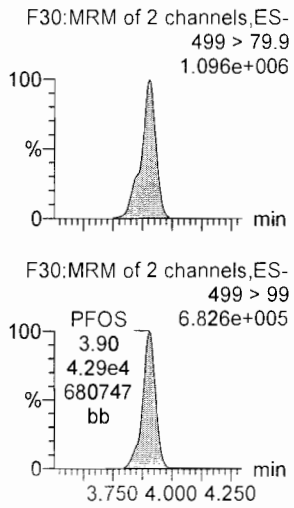
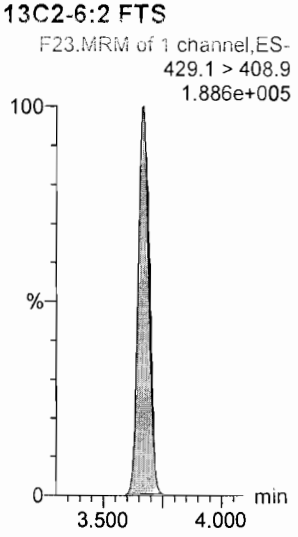
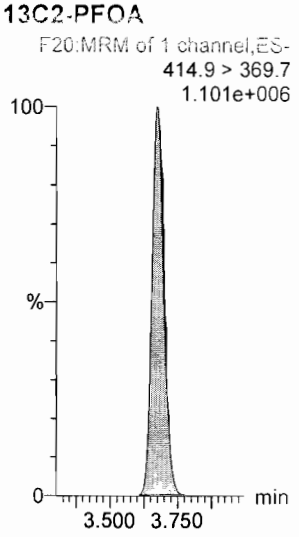


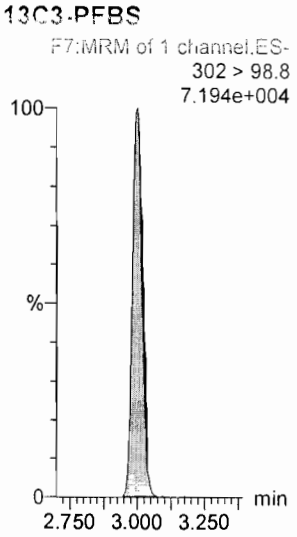
13C2-6:2 FTS



13C2-PFOA



13C3-PFBS



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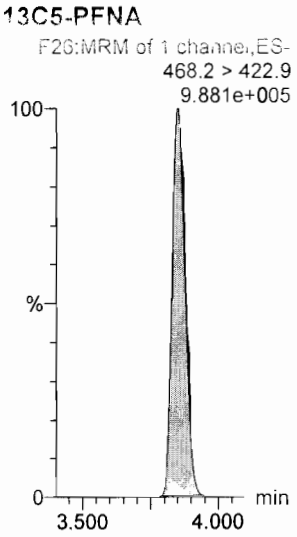

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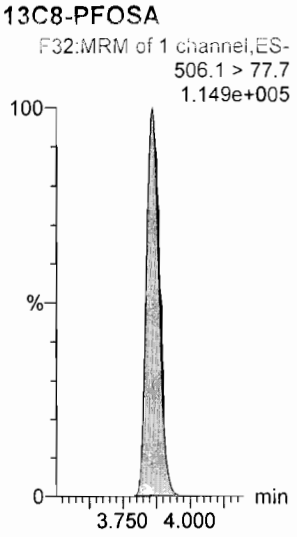

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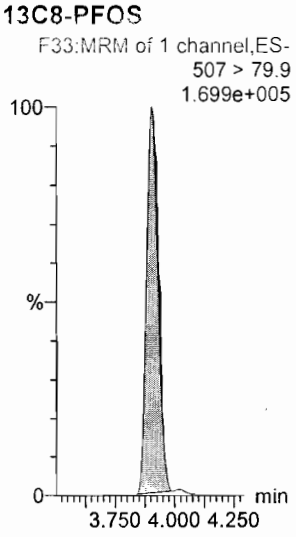

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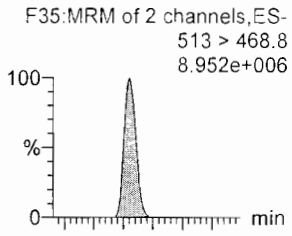
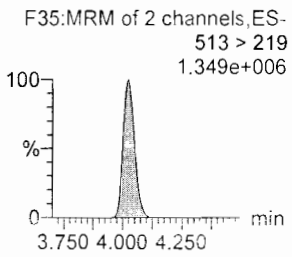
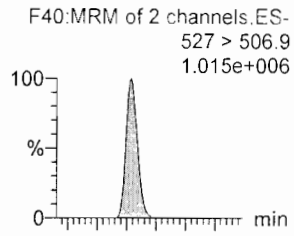
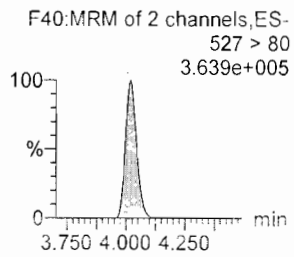




8:2 FTS





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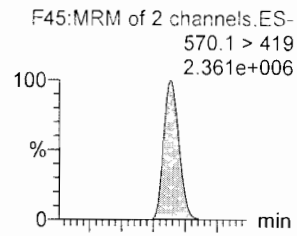

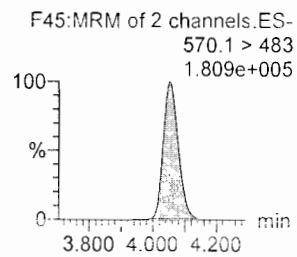

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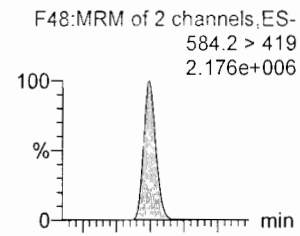

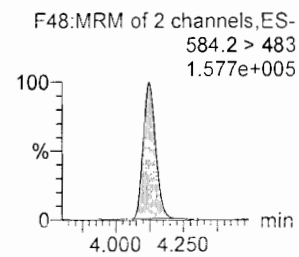

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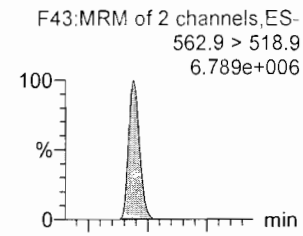

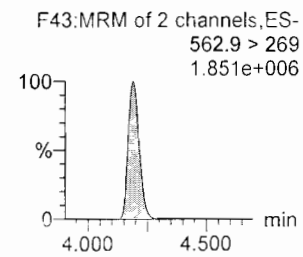

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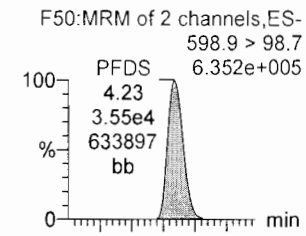
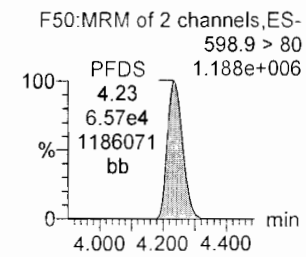
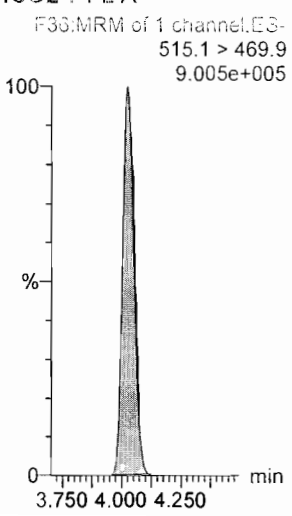
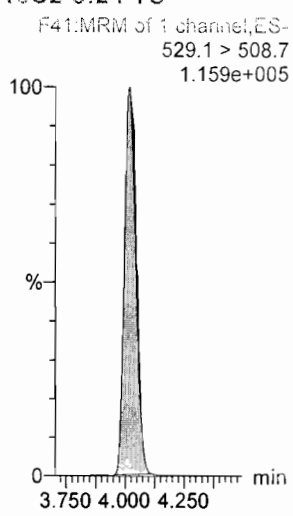




13C2-PFDA



13C2-8:2 FTS



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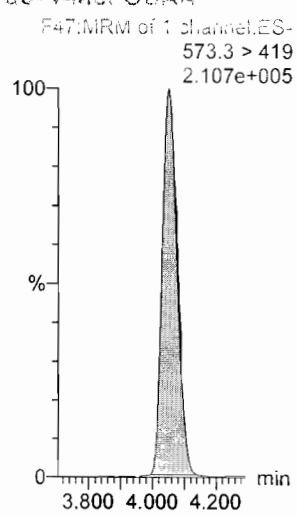

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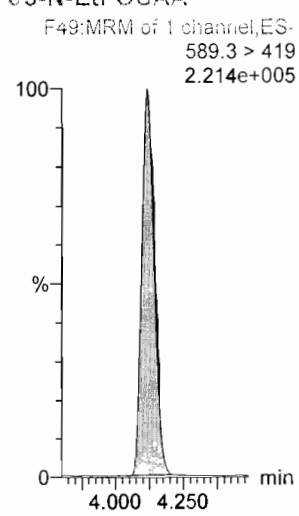

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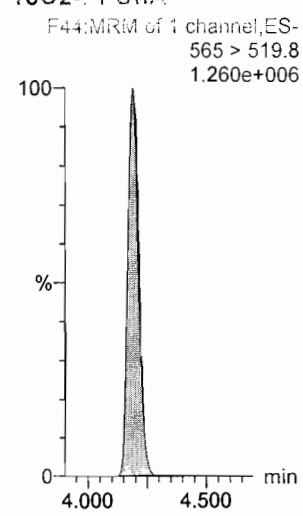

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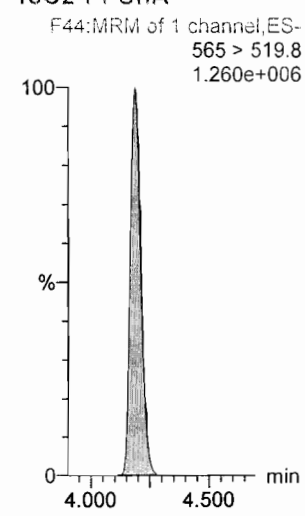

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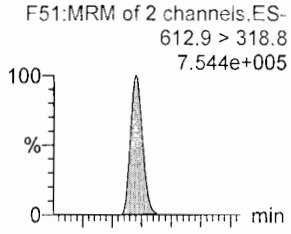
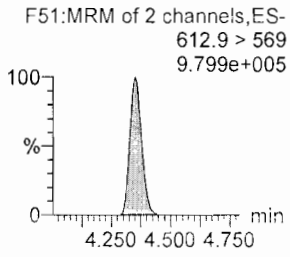
Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:36:37 Pacific Daylight Time

Name: 170724M1_10, Date: 24-Jul-2017, Time: 15:06:35, ID: ST170724M1-8 PFC CS5 17G2427, Description: PFC CS5 17G2427

PFDoA





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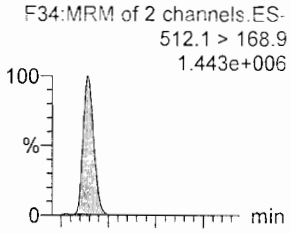

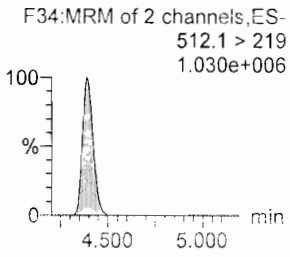

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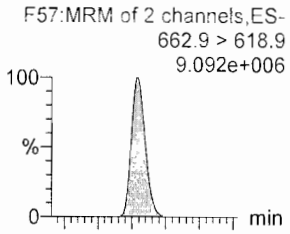
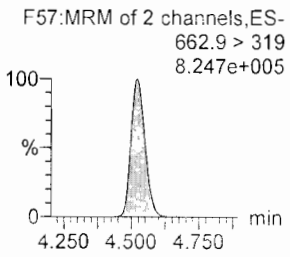
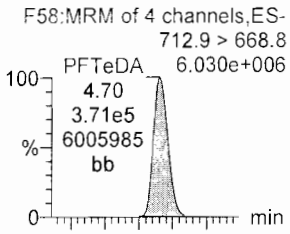
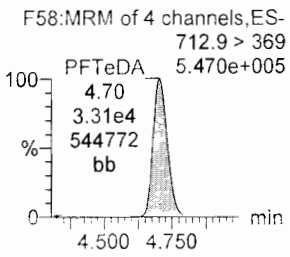


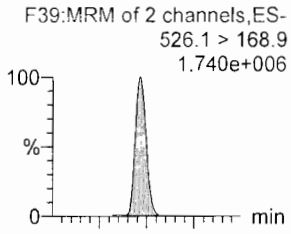


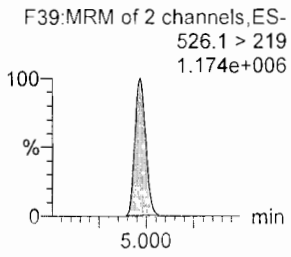
PFTeDA





N-EtFOSA





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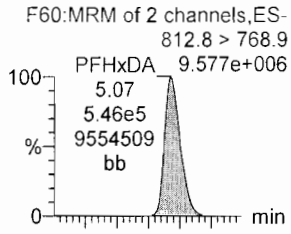

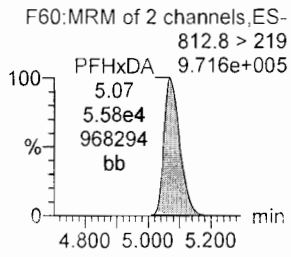

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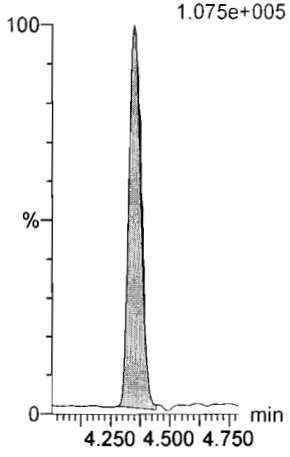
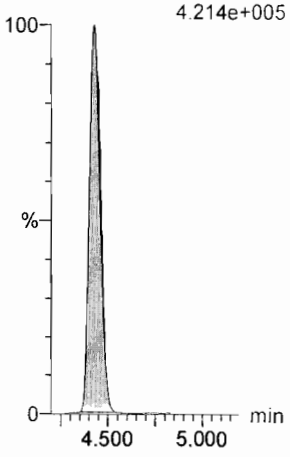


d3-N-MeFOSA



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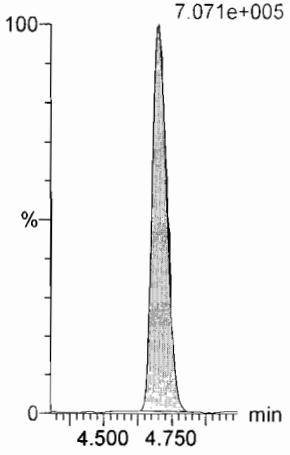

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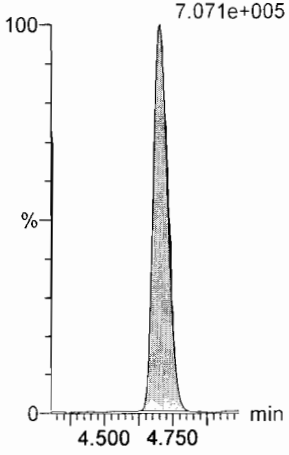
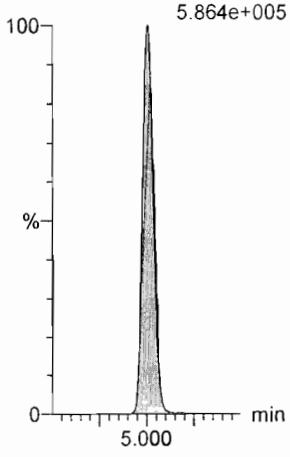


d5-N-ETFOSA



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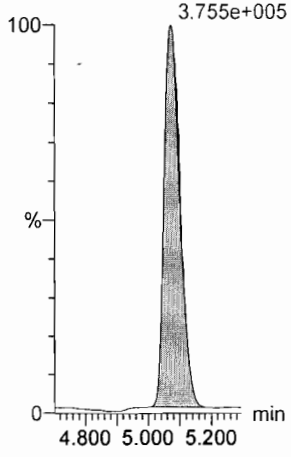

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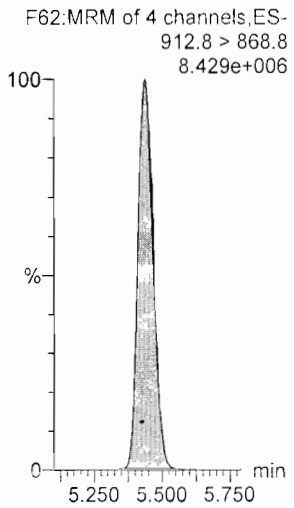
Name: 170724M1_10, Date: 24-Jul-2017, Time: 15:06:35, ID: ST170724M1-8 PFC CS5 17G2427, Description: PFC CS5 17G2427

PFODA



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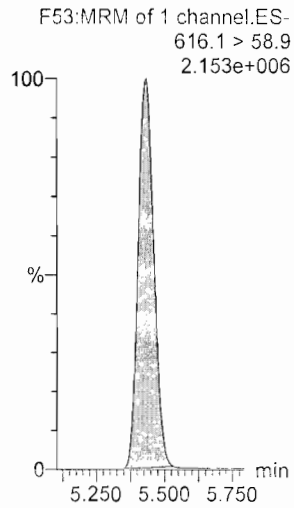

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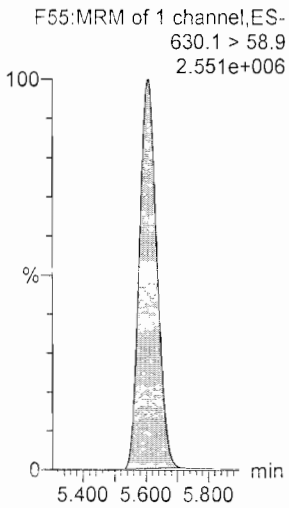

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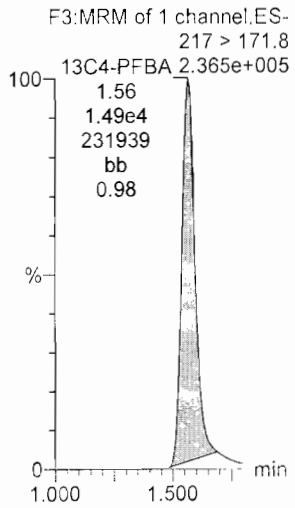

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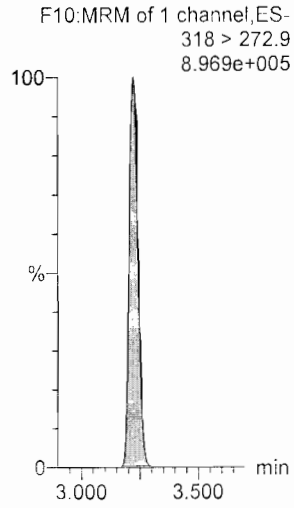

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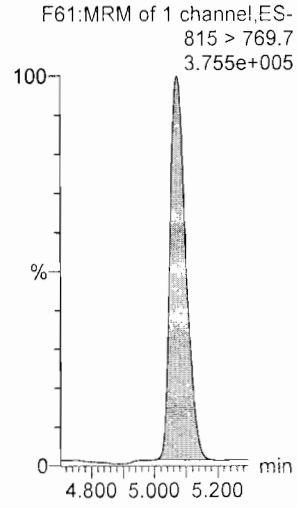

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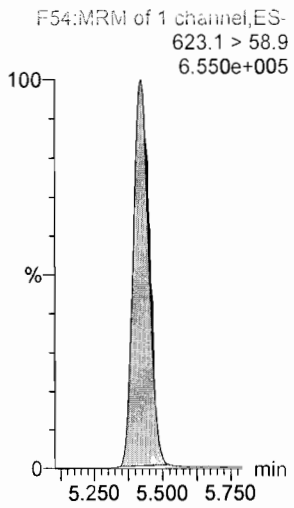
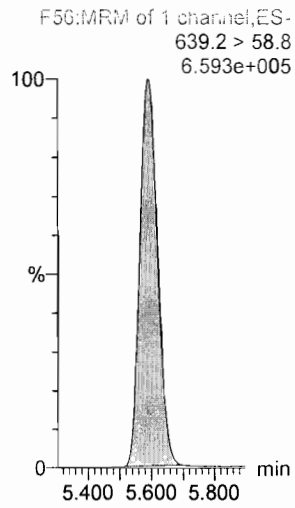


d9-N-EtFOSE



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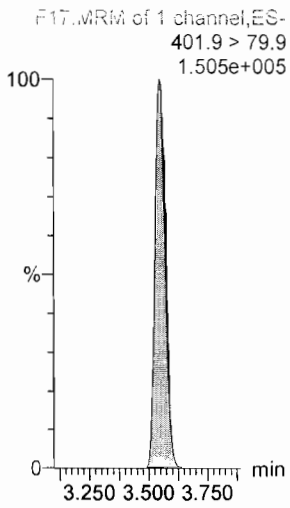

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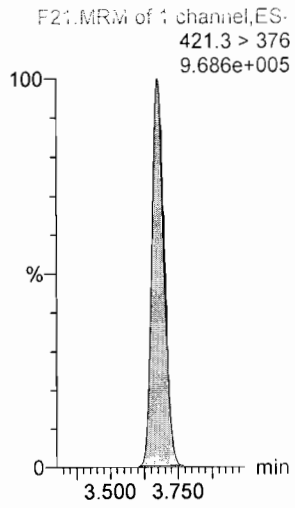

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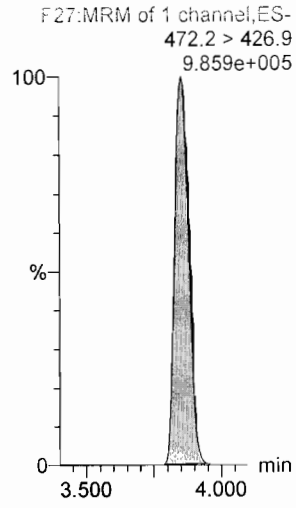

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Name: 170724M1_10, Date: 24-Jul-2017, Time: 15:06:35, ID: ST170724M1-8 PFC CS5 17G2427, Description: PFC CS5 17G2427

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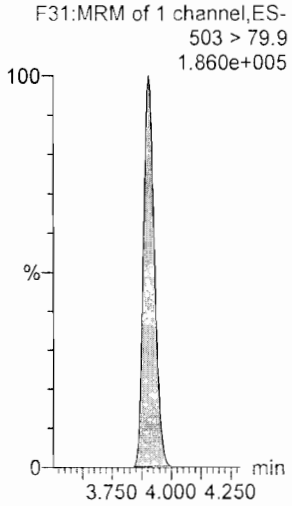

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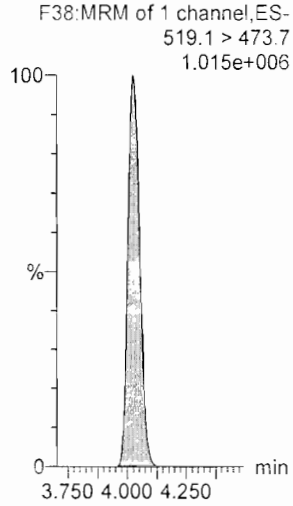
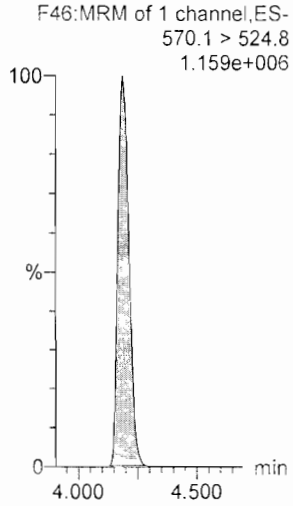


13C7-PFUnA



Vista Analytical Laboratory

Dataset: Untitled

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AC 7/24/17

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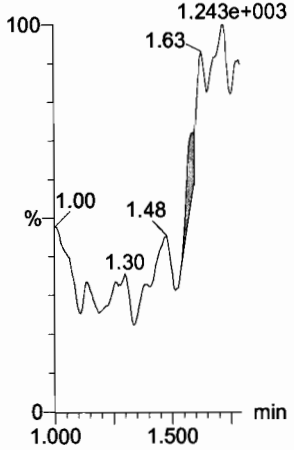
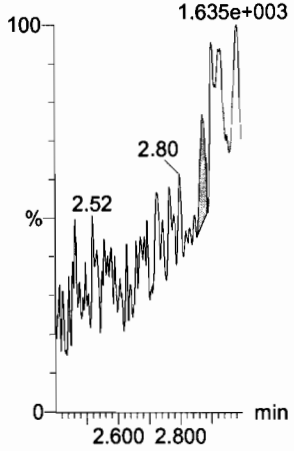
Name: 170724M1_11, Date: 24-Jul-2017, Time: 15:17:30, ID: IPA, Description: IPA

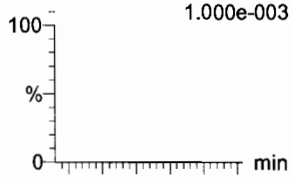
PFBA
F1:MRM of 2 channels,ES-
213.0 > 168.8
1.243e+003



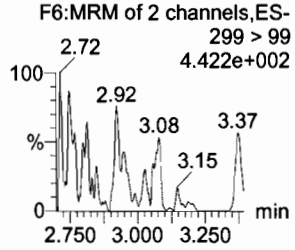
PFPeA
F4:MRM of 1 channel,ES-
263.1 > 218.9
1.635e+003



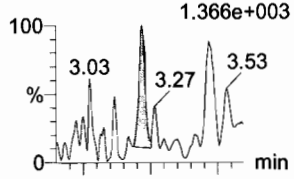
PFBS
F6:MRM of 2 channels,ES-
299 > 79.7
1.000e-003



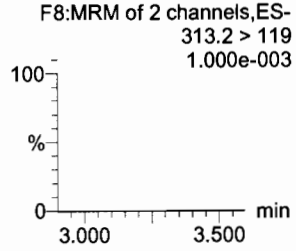
F6:MRM of 2 channels,ES-
299 > 99
4.422e+002



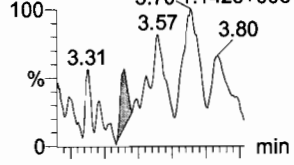
PFHxA
F8:MRM of 2 channels,ES-
313.2 > 268.9
1.366e+003



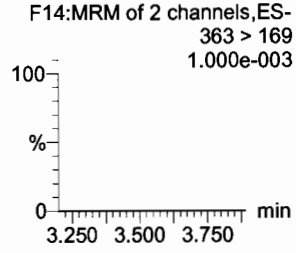
F8:MRM of 2 channels,ES-
313.2 > 119
1.000e-003



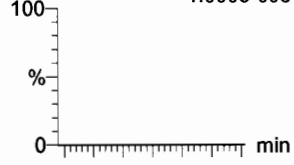
PFHpA
F14:MRM of 2 channels,ES-
363 > 318.9
1.142e+003



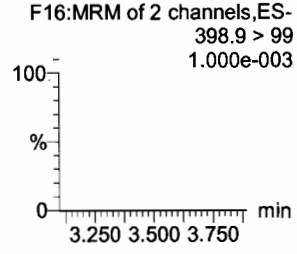
F14:MRM of 2 channels,ES-
363 > 169
1.000e-003



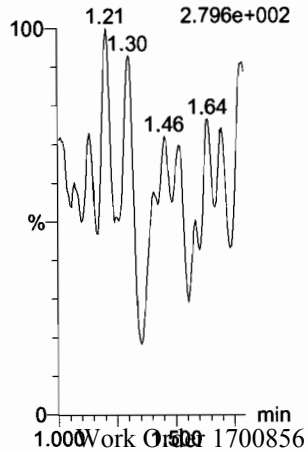
PFHxS
F16:MRM of 2 channels,ES-
398.9 > 79.6
1.000e-003



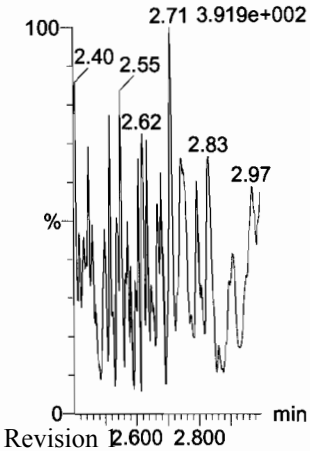
F16:MRM of 2 channels,ES-
398.9 > 99
1.000e-003



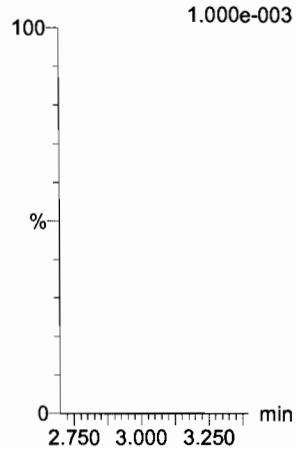
13C3-PFBA
F2:MRM of 1 channel,ES-
216.1 > 171.8
2.796e+002



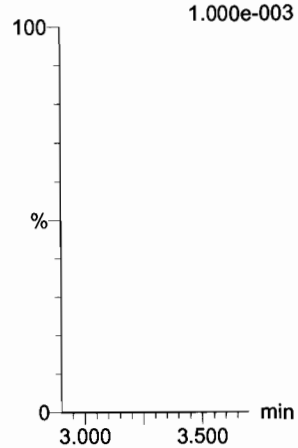
13C3-PFPeA
F5:MRM of 1 channel,ES-
266 > 221.8
2.71 3.919e+002



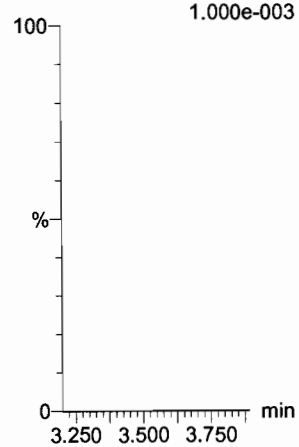
13C3-PFBS
F7:MRM of 1 channel,ES-
302 > 98.8
1.000e-003



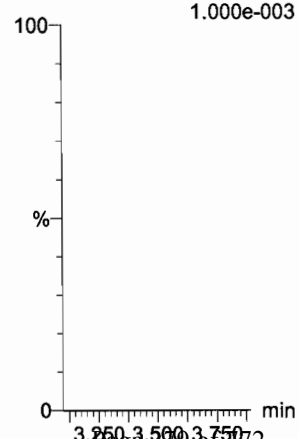
13C2-PFHxA
F9:MRM of 1 channel,ES-
315 > 269.8
1.000e-003



13C4-PFHpA
F15:MRM of 1 channel,ES-
367.2 > 321.8
1.000e-003



18O2-PFHxS
F18:MRM of 1 channel,ES-
403 > 102.6
1.000e-003



Vista Analytical Laboratory

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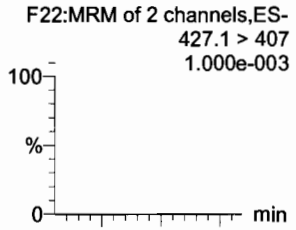
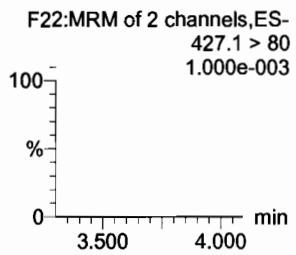
Printed: Monday, July 24, 2017 15:45:24 Pacific Daylight Time

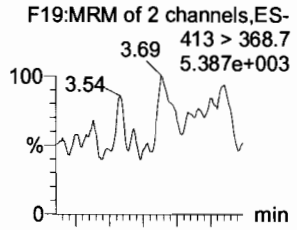
Name: 170724M1_11, Date: 24-Jul-2017, Time: 15:17:30, ID: IPA, Description: IPA

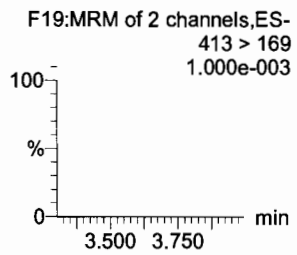
6:2 FTS





PFOA





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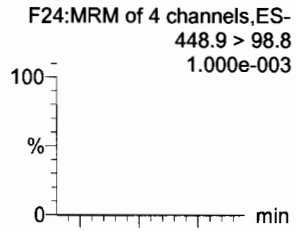

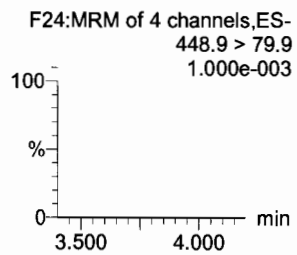

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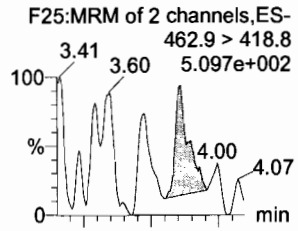

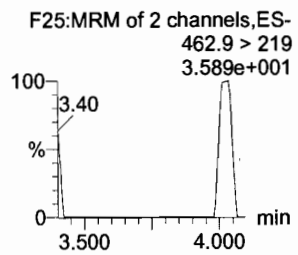

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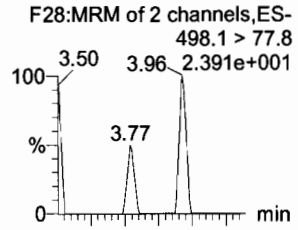

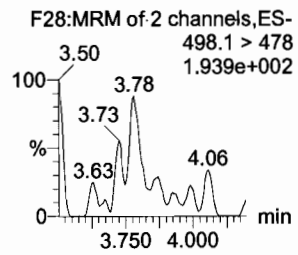

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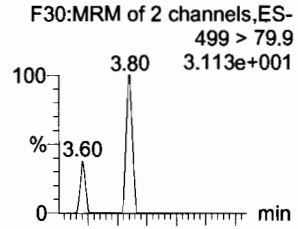

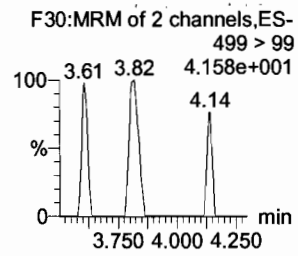

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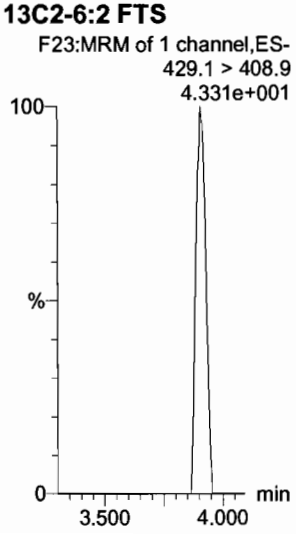

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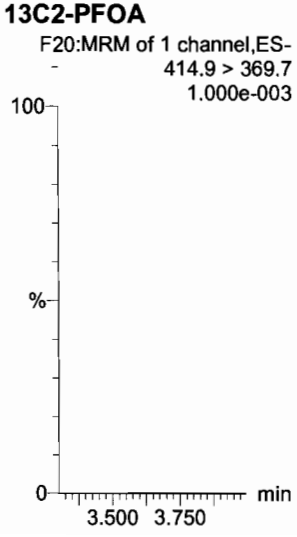

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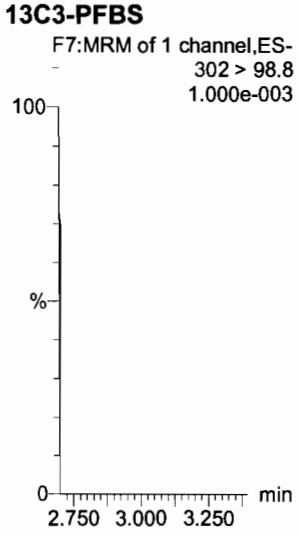

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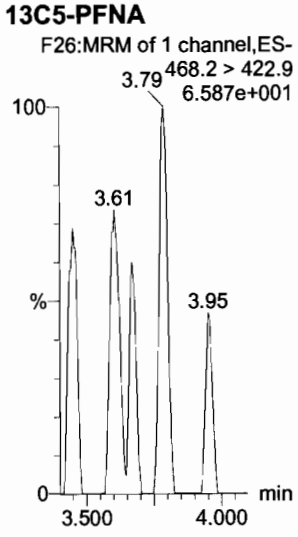

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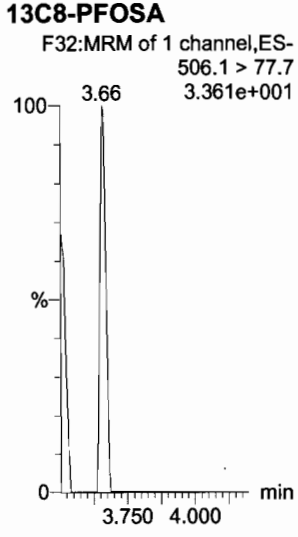

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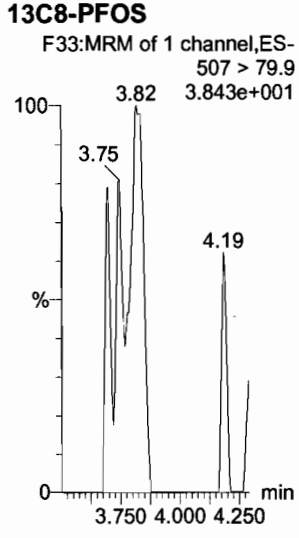

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Last Altered: Monday, July 24, 2017 15:45:04 Pacific Daylight Time
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Name: 170724M1_11, Date: 24-Jul-2017, Time: 15:17:30, ID: IPA, Description: IPA

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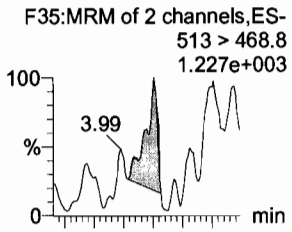
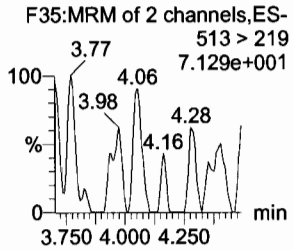
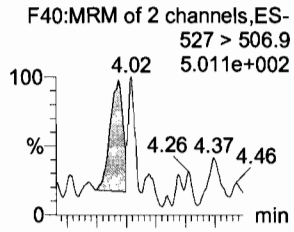
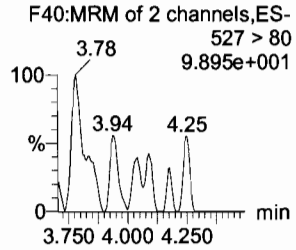




8:2 FTS





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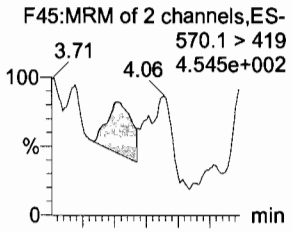

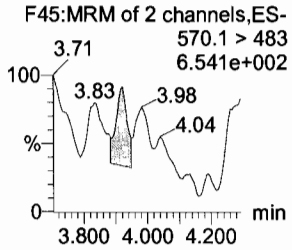

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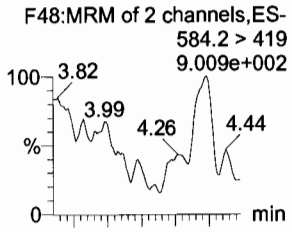

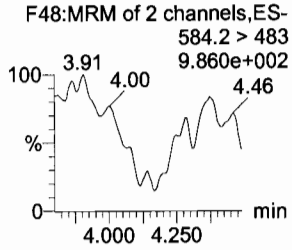

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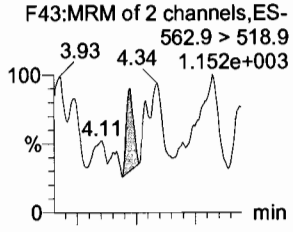

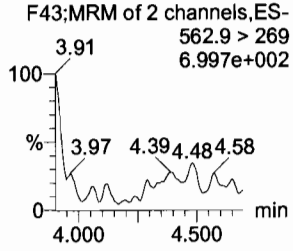

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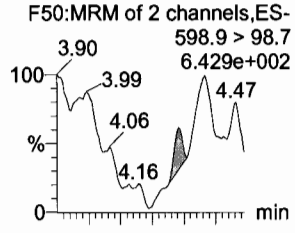

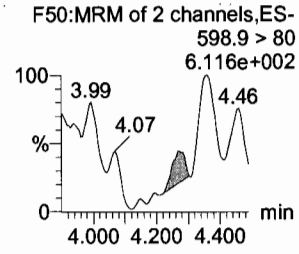

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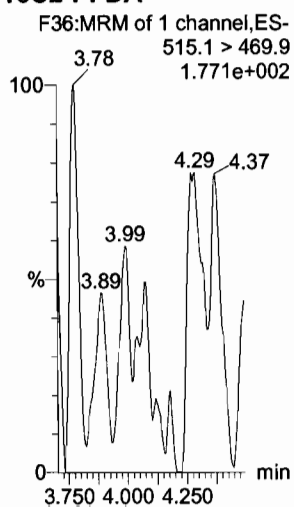
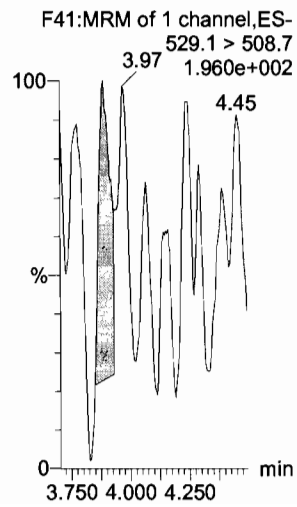


13C2-8:2 FTS



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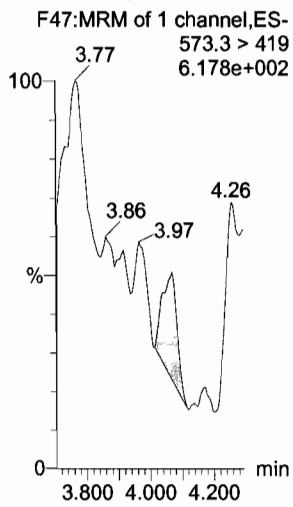

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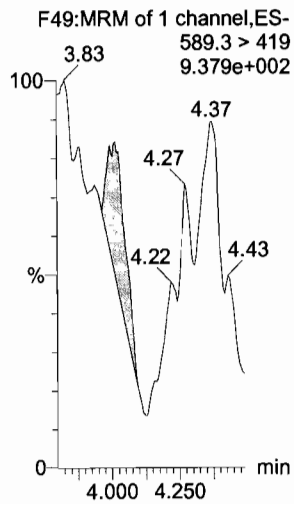

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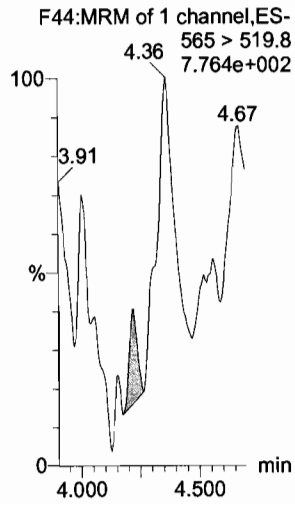

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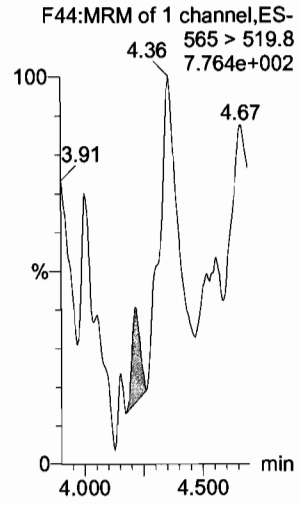

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Name: 170724M1_11, Date: 24-Jul-2017, Time: 15:17:30, ID: IPA, Description: IPA

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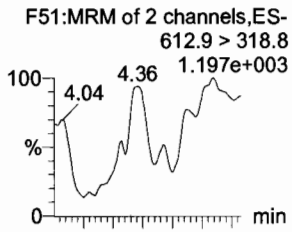

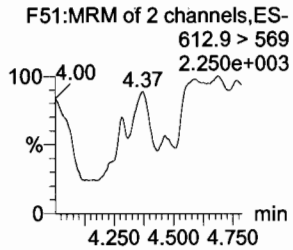

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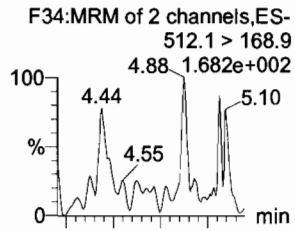

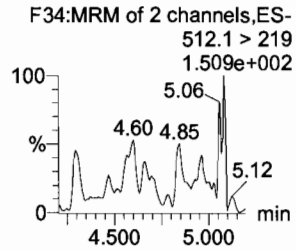

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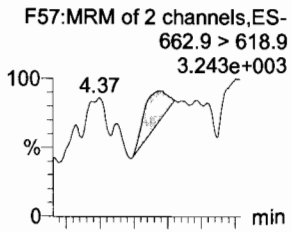

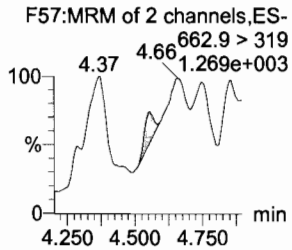

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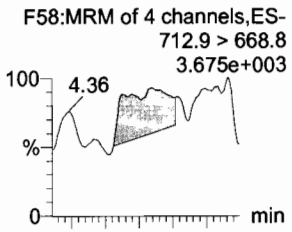
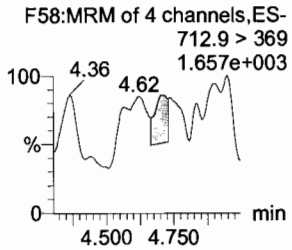
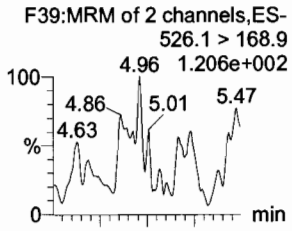
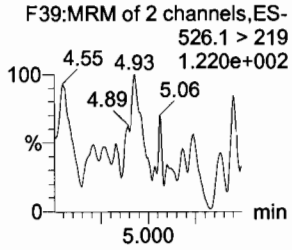




N-EtFOSA





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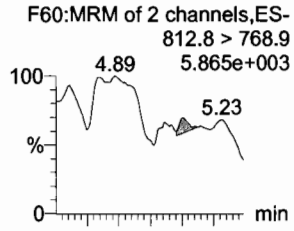

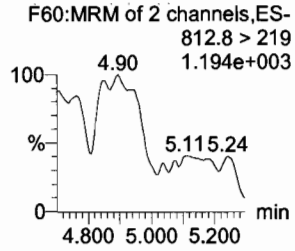

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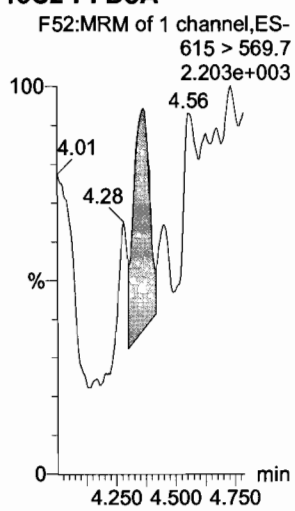

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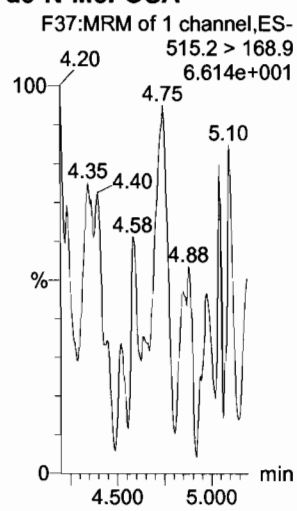

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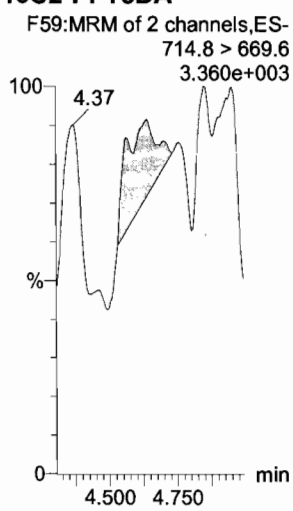

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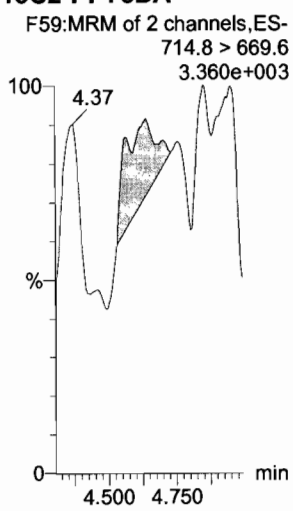

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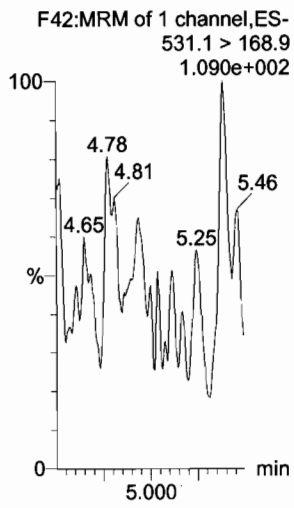

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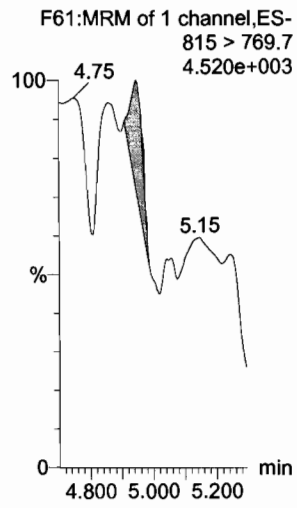

Vista Analytical Laboratory

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Last Altered: Monday, July 24, 2017 15:45:04 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:45:24 Pacific Daylight Time

Name: 170724M1_11, Date: 24-Jul-2017, Time: 15:17:30, ID: IPA, Description: IPA

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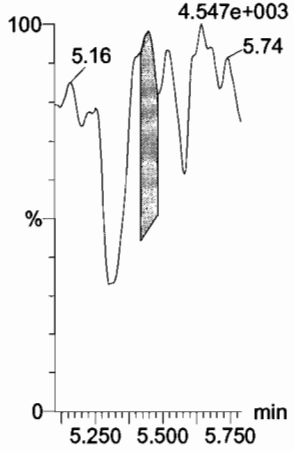

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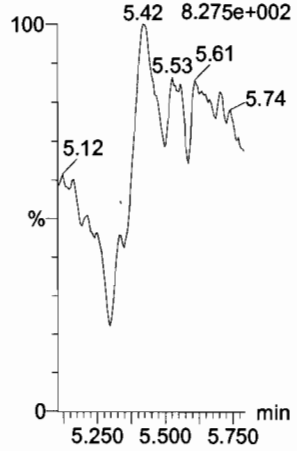

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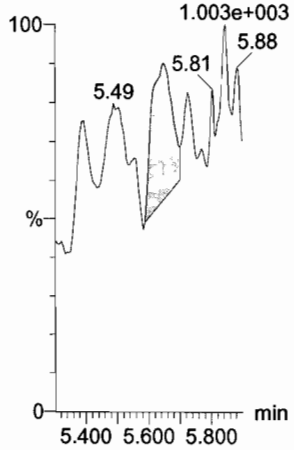

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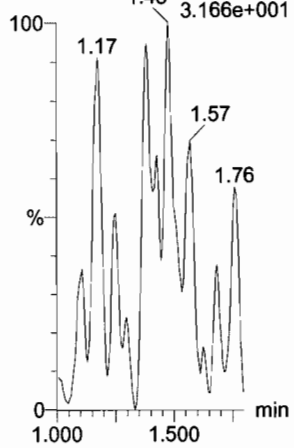

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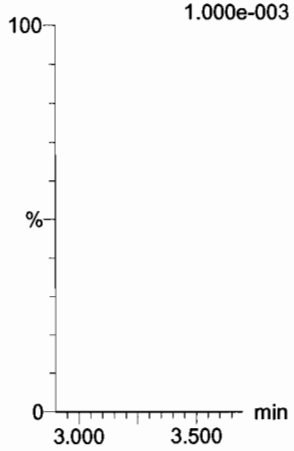

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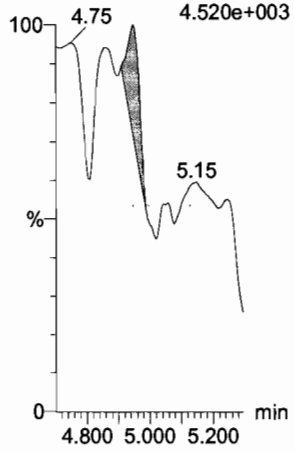
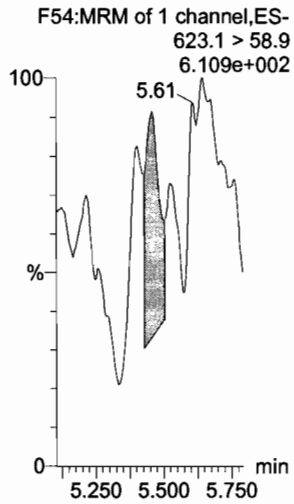


d7-N-MeFOSE



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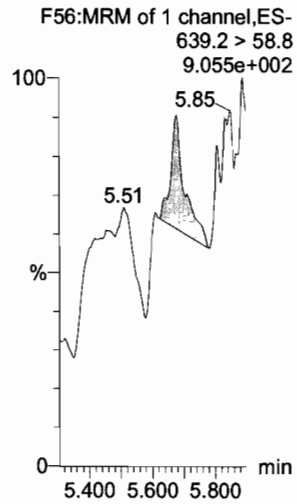

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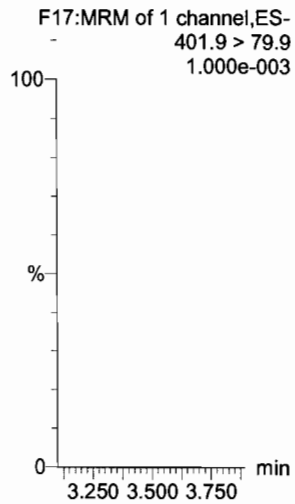

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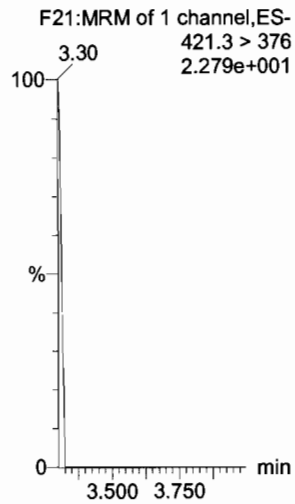

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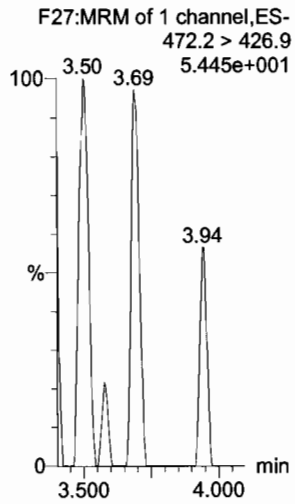

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 24, 2017 15:45:04 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:45:24 Pacific Daylight Time

Name: 170724M1_11, Date: 24-Jul-2017, Time: 15:17:30, ID: IPA, Description: IPA

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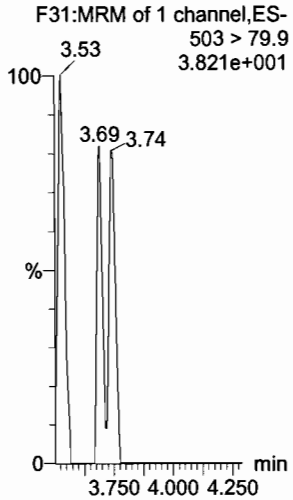

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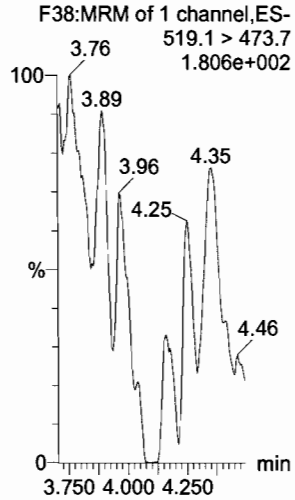

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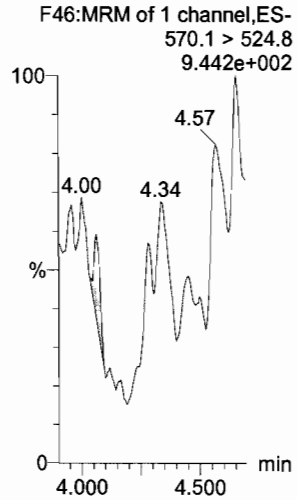

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:47:51 Pacific Daylight Time

Ⓐ Not in SS.

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:34:12
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

AC 7/24/17

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	11377.467	12073.278		1.000	1.56	10.30	103.03
2	2	PFPeA	263.1 > 218.9	19853.004	23925.629		1.000	2.81	10.35	103.50
3	3	PFBS	299 > 79.7	4150.350	2957.477		1.000	3.00	9.43	94.30
4	4	PFHxA	313.2 > 268.9	31616.176	10121.942		1.000	3.23	10.24	102.41
5	5	PFHpA	363 > 318.9	29691.209	29688.498		1.000	3.48	9.91	99.12
6	6	PFHxS	398.9 > 79.6	3522.001	2850.923		1.000	3.55	9.12	91.20
7	7	6:2 FTS	427.1 > 407	6778.936	7715.412		1.000	3.67	10.41	104.10
8	8	PFOA	413 > 368.7	48252.109	57527.922		1.000	3.68	10.59	105.94
9	9	PFHpS	448.9 > 98.8	3857.262	57527.922		1.000	3.74	9.28	92.79
10	10	PFNA	462.9 > 418.8	52020.793	55397.191		1.000	3.85	10.55	105.53
11	11	PFOSA	498.1 > 77.8	5708.063	6500.262		1.000	3.86	10.41	104.14
12	12	PFOS	499 > 79.9	8177.322	10272.242		1.000	3.90	8.42	84.17
13	13	PFDA	513 > 468.8	54158.824	56205.117		1.000	4.02	9.19	91.86
14	14	8:2 FTS	527 > 506.9	6486.744	5254.963		1.000	4.02	10.53	105.28
15	15	N-MeFOSAA	570.1 > 419	14470.231	11971.411		1.000	4.06	9.88	98.84
16	16	N-EtFOSAA	584.2 > 419	12443.312	12068.997		1.000	4.12	10.39	103.90
17	17	PFUnA	562.9 > 518.9	37650.797	59926.145		1.000	4.19	8.88	88.81
18	18	PFDS	598.9 > 98.7	3869.410	59926.145		1.000	4.24	9.05	90.53
19	19	PFDoA	612.9 > 318.8	4450.692	5849.101		1.000	4.35	10.09	100.94
20	20	N-MeFOSA	512.1 > 168.9	9.012	26376.414		1.000	4.39		Ⓐ
21	21	PFTrDA	662.9 > 618.9	52553.016	5849.101		1.000	4.52	10.12	101.16
22	22	PFTeDA	712.9 > 668.8	38350.820	40951.586		1.000	4.70	10.17	101.65
23	23	N-EtFOSA	526.1 > 168.9	12.231	6321.303		1.000	4.97		Ⓐ
24	24	PFHxDA	812.8 > 768.9	616.143	19848.846		1.000	5.07		
25	25	PFODA	912.8 > 868.8	230.613	19848.846		1.000	5.44		
26	26	N-MeFOSE	616.1 > 58.9	26.252	40883.168		1.000	5.45		
27	27	N-EtFOSE	630.1 > 58.9		40456.262		1.000			
28	28	13C3-PFBA	216.1 > 171.8	12073.278	14974.247	0.820	1.000	1.55	12.28	98.27
29	29	13C3-PFPeA	266 > 221.8	23925.629	38341.938	0.248	1.000	2.81	12.57	100.58
30	30	13C3-PFBS	302 > 98.8	2957.477	38341.938	0.031	1.000	3.00	12.40	99.20
31	31	13C2-PFHxA	315 > 269.8	10121.942	38341.938	0.276	1.000	3.23	4.78	95.51

70-130

70-130

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:47:51 Pacific Daylight Time

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	# Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32 13C4-PFHpA	367.2 > 321.8	29688.498	38341.938	0.306	1.000	3.48	12.67	101.34
33	33 18O2-PFHxS	403 > 102.6	2850.923	7151.517	0.393	1.000	3.55	12.69	101.51
34	34 13C2-6:2 FTS	429.1 > 408.9	7715.412	55193.199	0.158	1.000	3.67	11.08	88.65
35	35 13C2-PFOA	414.9 > 369.7	57527.922	55193.199	1.067	1.000	3.68	12.20	97.64
36	36 13C5-PFNA	468.2 > 422.9	55397.191	58314.438	0.852	1.000	3.85	13.94	111.48
37	37 13C8-PFOSA	506.1 > 77.7	6500.262	73602.336	0.098	1.000	3.86	11.24	89.90
38	38 13C8-PFOS	507 > 79.9	10272.242	10242.656	0.936	1.000	3.91	13.40	107.18
39	39 13C2-PFDA	515.1 > 469.9	56205.117	70397.750	0.810	1.000	4.02	12.32	98.59
40	40 13C2-8:2 FTS	529.1 > 508.7	5254.963	70397.750	0.086	1.000	4.02	10.90	87.23
41	41 d3-N-MeFOSAA	573.3 > 419	11971.411	73602.336	0.014	1.000	4.05	148.44	91.35
42	42 d5-N-EtFOSAA	589.3 > 419	12068.997	73602.336	0.014	1.000	4.12	146.98	90.45
43	43 13C2-PFUnA	565 > 519.8	59926.145	73602.336	0.962	1.000	4.19	10.58	84.63
44	44 13C2-PFDoA	615 > 569.7	5849.101	73602.336	0.094	1.000	4.35	10.52	84.16
45	45 d3-N-MeFOSA	515.2 > 168.9	26376.414	73602.336	0.034	1.000	4.43	130.17	86.78
46	46 13C2-PFTeDA	714.8 > 669.6	40951.586	73602.336	0.694	1.000	4.70	10.02	80.14
47	47 d5-N-ETFOSA	531.1 > 168.9	6321.303	73602.336	0.049	1.000	5.01	22.06	14.70
48	48 13C2-PFHxDA	815 > 769.7	19848.846	73602.336	0.843	1.000	5.07	4.00	79.97
49	49 d7-N-MeFOSE	623.1 > 58.9	40883.168	73602.336	0.055	1.000	5.42	127.09	84.73
50	50 d9-N-EtFOSE	639.2 > 58.8	40456.262	73602.336	0.053	1.000	5.59	128.61	85.74
51	51 13C4-PFBA	217 > 171.8	14974.247	14974.247	1.000	1.000	1.55	12.50	100.00
52	52 13C5-PFHxA	318 > 272.9	38341.938	38341.938	1.000	1.000	3.22	5.00	100.00
53	53 13C3-PFHxS	401.9 > 79.9	7151.517	7151.517	1.000	1.000	3.55	12.50	100.00
54	54 13C8-PFOA	421.3 > 376	55193.199	55193.199	1.000	1.000	3.68	12.50	100.00
55	55 13C9-PFNA	472.2 > 426.9	58314.438	58314.438	1.000	1.000	3.85	12.50	100.00
56	56 13C4-PFOS	503 > 79.9	10242.656	10242.656	1.000	1.000	3.91	12.50	100.00
57	57 13C6-PFDA	519.1 > 473.7	70397.750	70397.750	1.000	1.000	4.02	12.50	100.00
58	58 13C7-PFUnA	570.1 > 524.8	73602.336	73602.336	1.000	1.000	4.19	12.50	100.00

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

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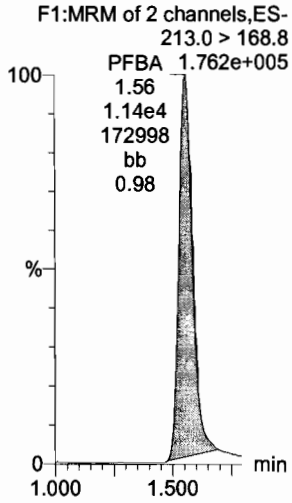

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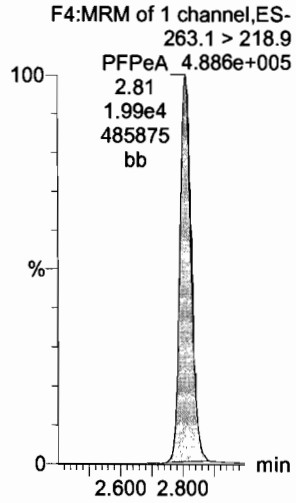

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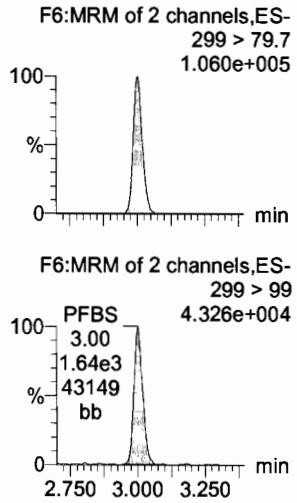

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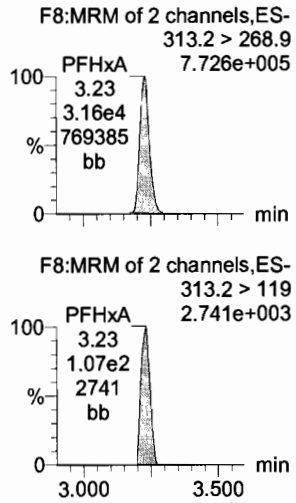

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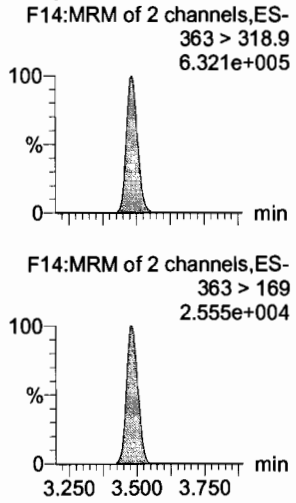

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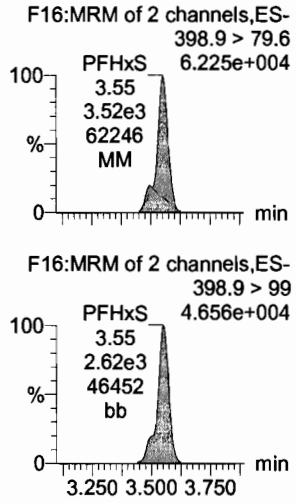

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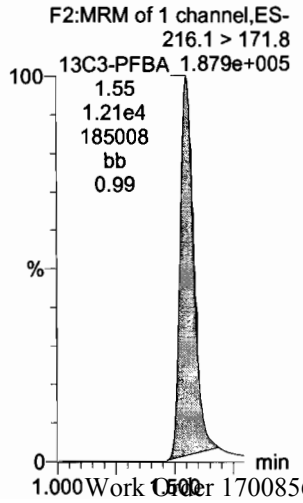

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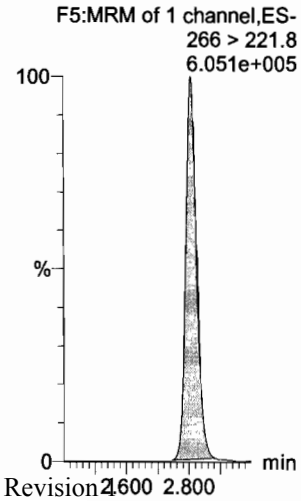
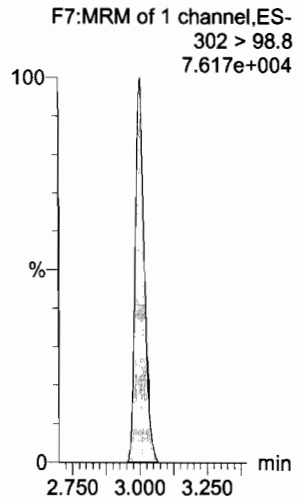


13C3-PFBS



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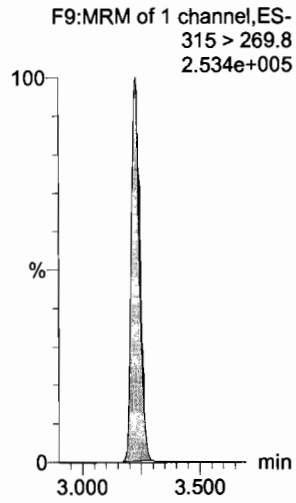

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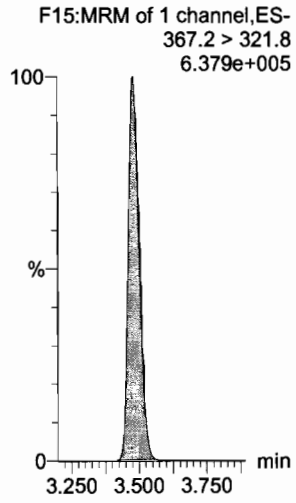

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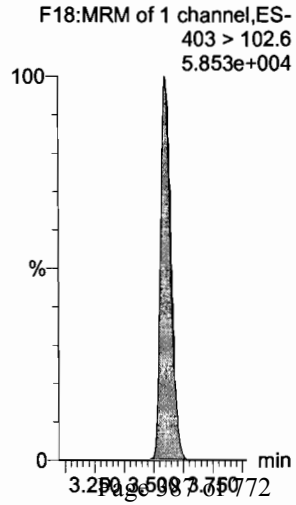

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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

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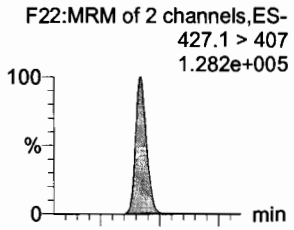

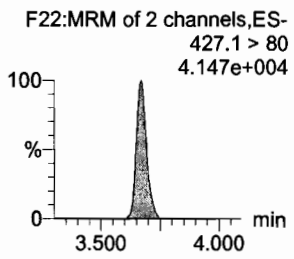

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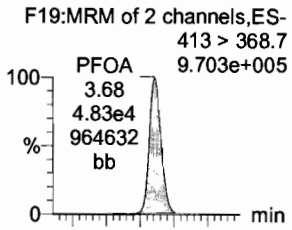

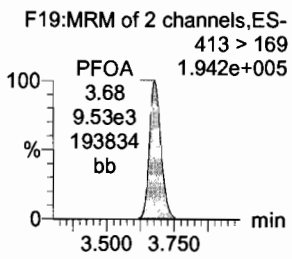

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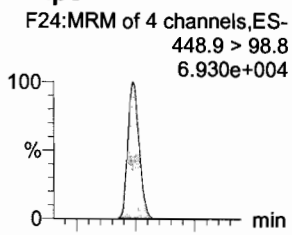

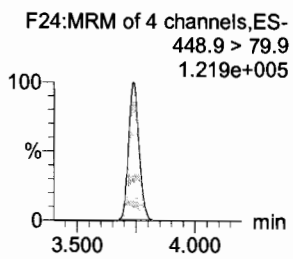

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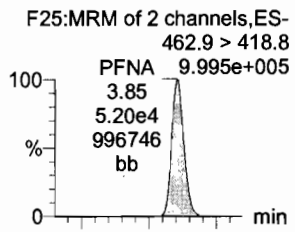

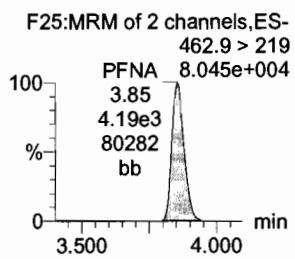

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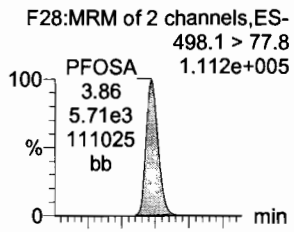

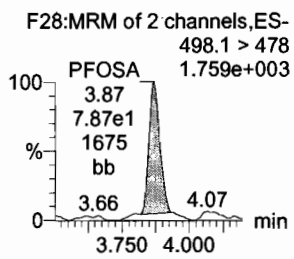

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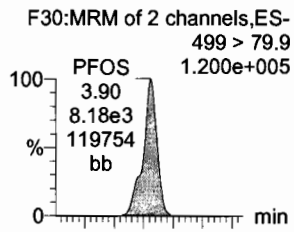

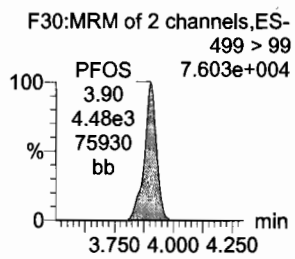

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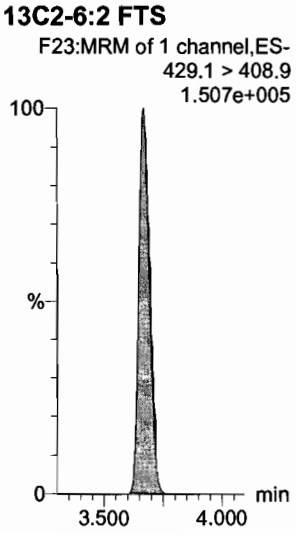

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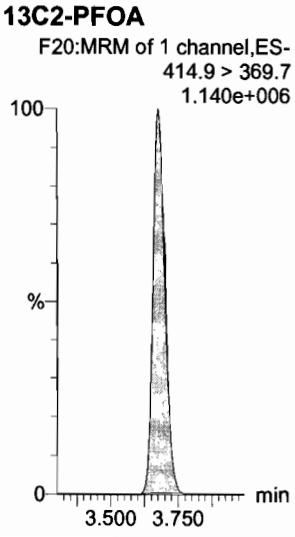

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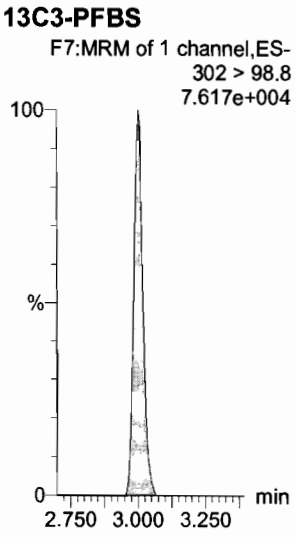

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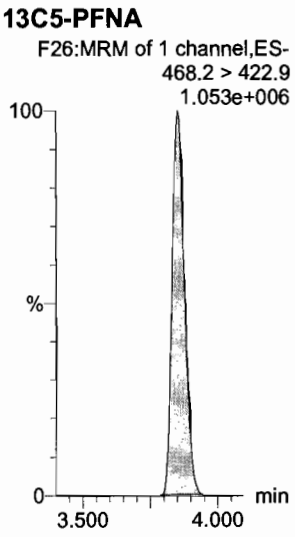

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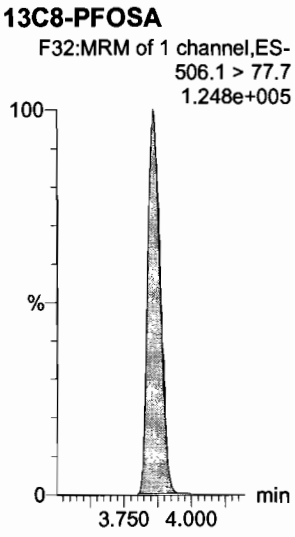

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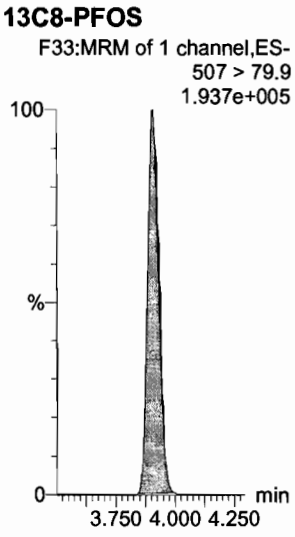

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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

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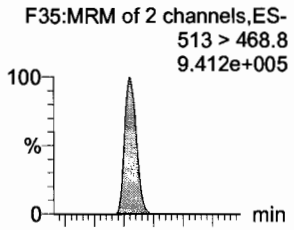
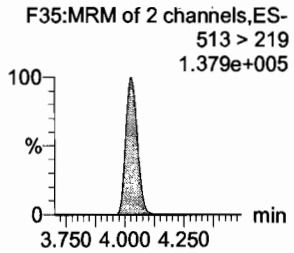
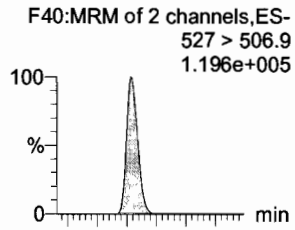
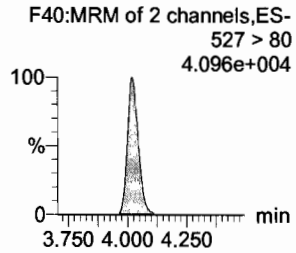




8:2 FTS





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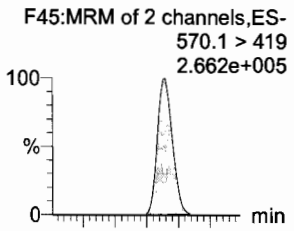

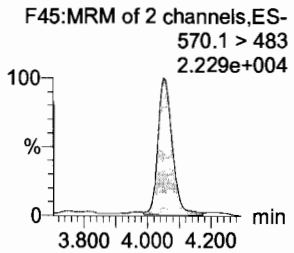

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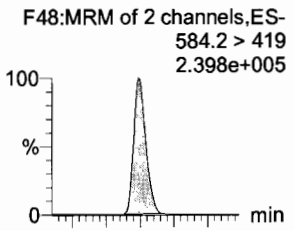

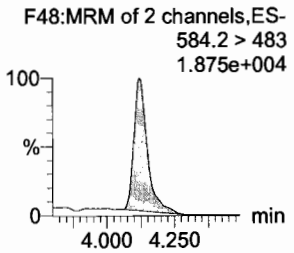

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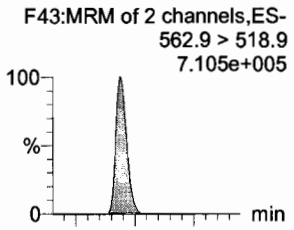

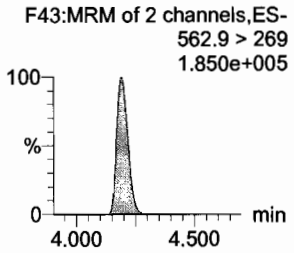

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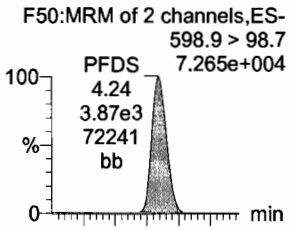

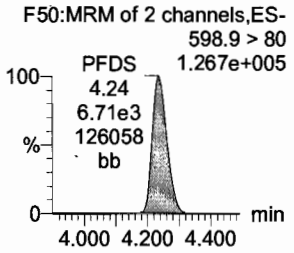

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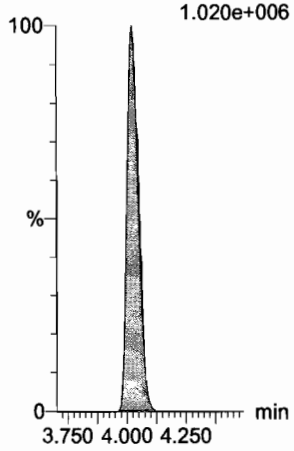

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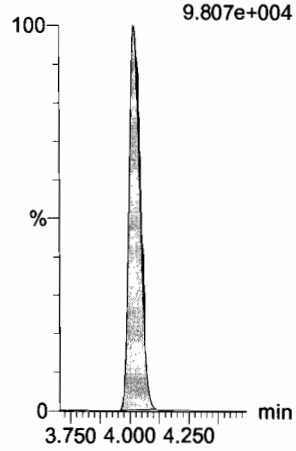

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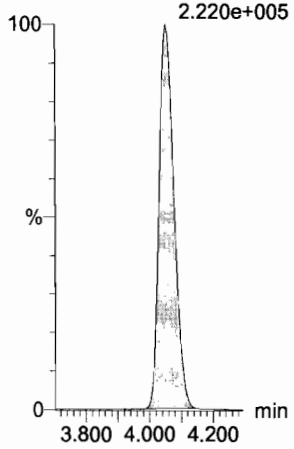

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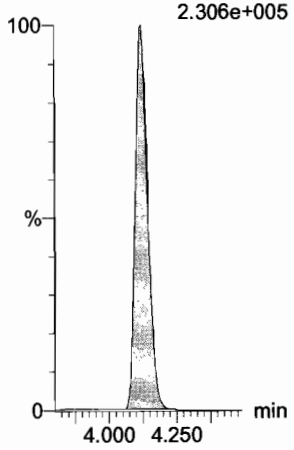

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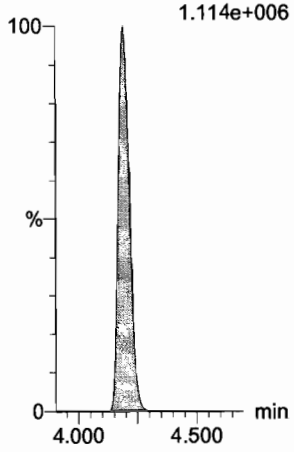

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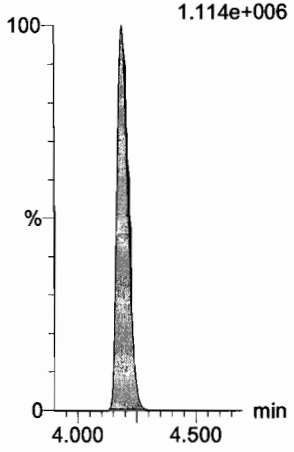

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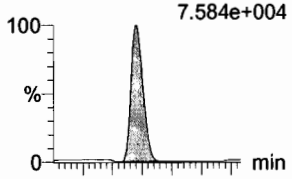

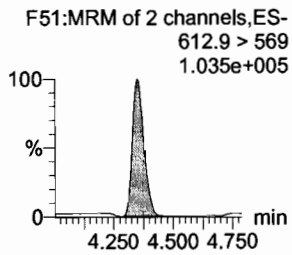

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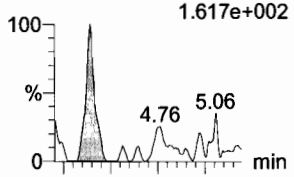

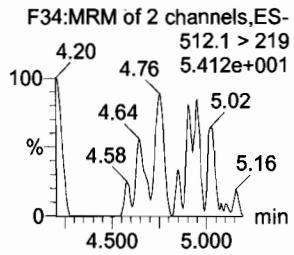

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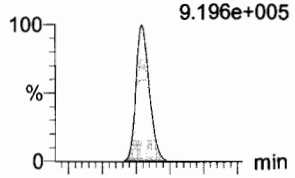

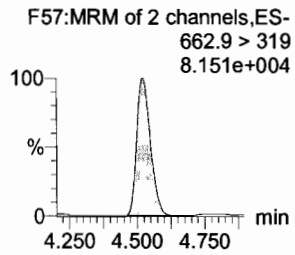

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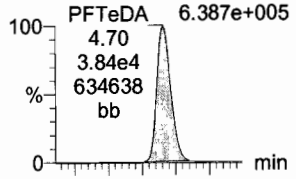

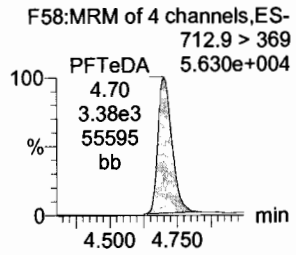

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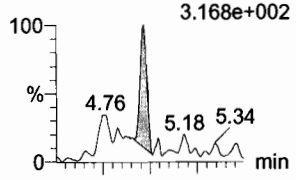

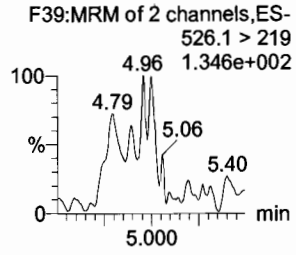

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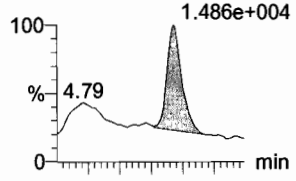

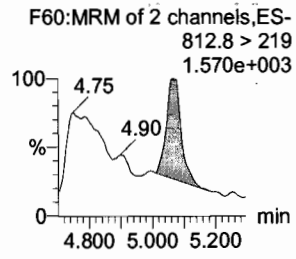

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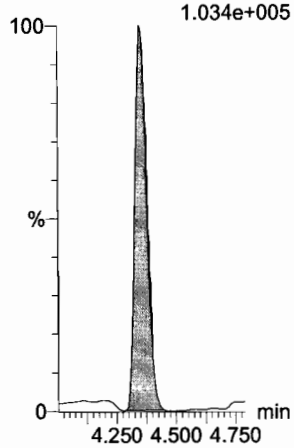

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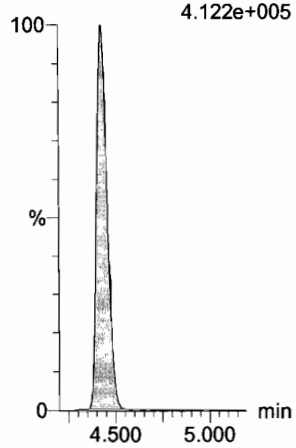

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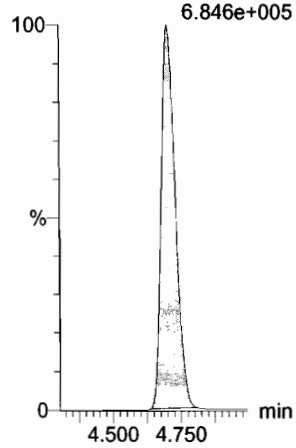

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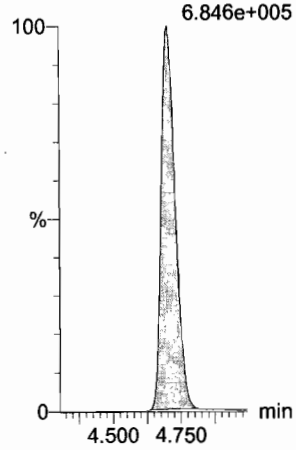
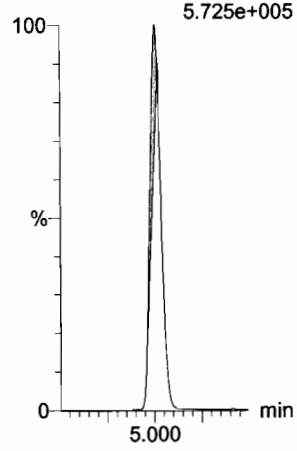
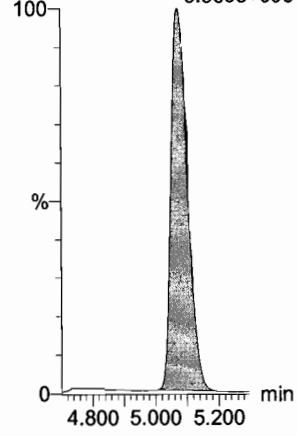


d5-N-ETFOSA



13C2-PFHxDA



Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
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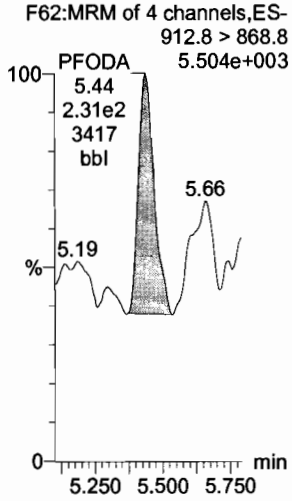
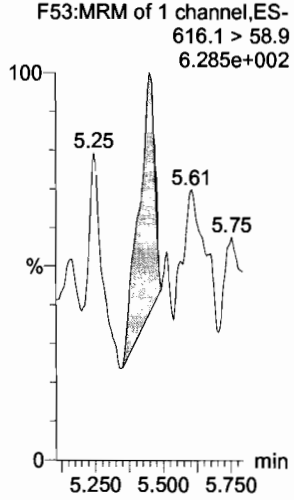
Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

PFODA



N-MeFOSE



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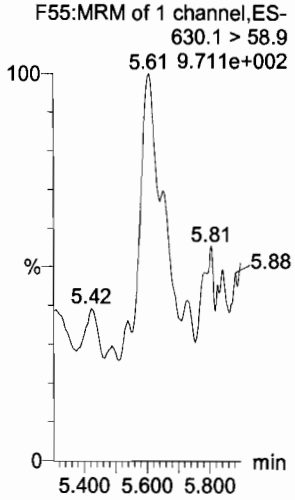
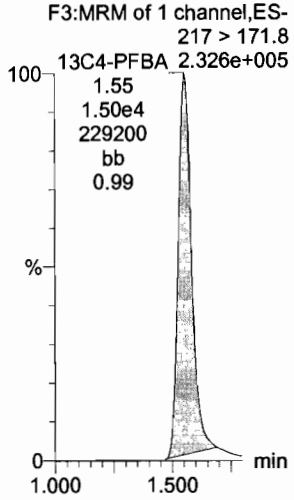
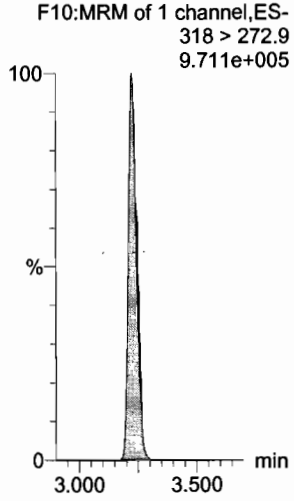


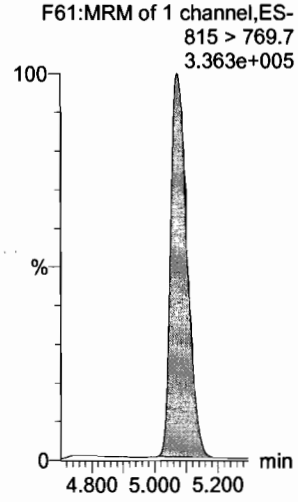
13C4-PFBA



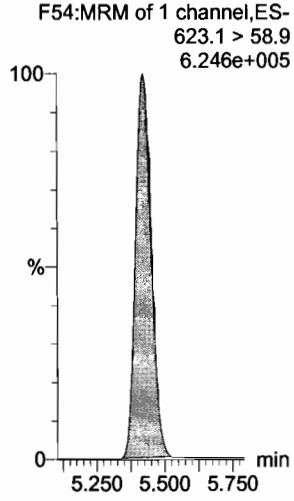
13C5-PFHxA



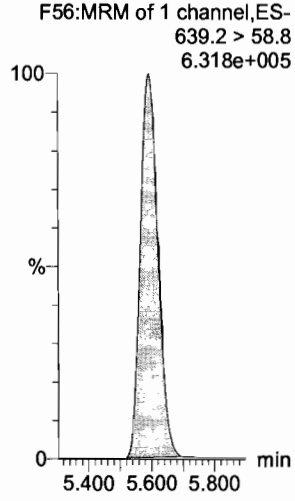
13C2-PFHxDA



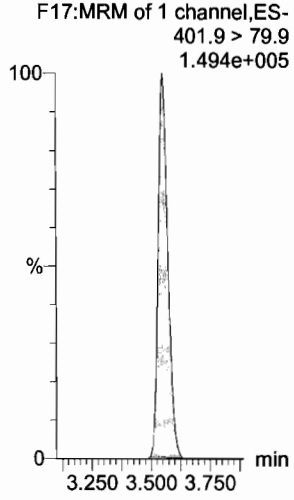
d7-N-MeFOSE



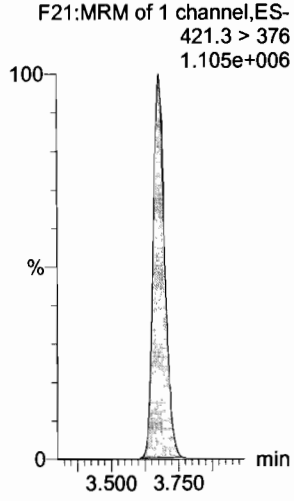
d9-N-EtFOSE



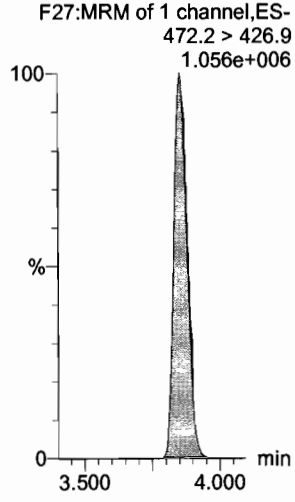
13C3-PFHxS



13C8-PFOA



13C9-PFNA



Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
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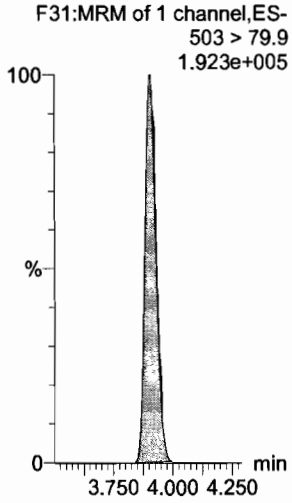
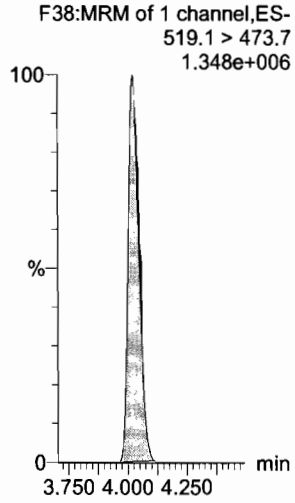
Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

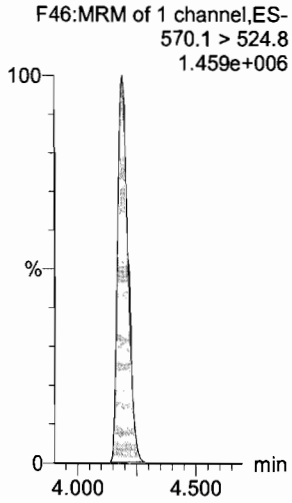
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

AC 7/28/17 7/28/17

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999016
Calibration curve: -0.000148745 * x^2 + 1.144 * x + 0.0934277
Response type: Internal Std (Ref 20), 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	170727M1_6	Standard	0.250	1.32	402.541	13153.632	0.383	0.3	1.1	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	1.32	900.679	16229.239	0.694	0.5	5.0	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	1.32	1532.875	13631.894	1.406	1.1	14.7	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	1.32	3476.482	17379.277	2.500	2.1	5.2	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	1.32	7094.940	13706.406	6.470	5.6	11.6	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	1.32	14607.091	16386.203	11.143	9.7	-3.3	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	1.32	69465.063	15585.783	55.712	48.9	-2.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	1.32	120916.445	13303.807	113.611	100.5	0.5	NO	0.999	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999743, r^2 = 0.999486
Calibration curve: 0.998566 * x + 0.0863273
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	170727M1_6	Standard	0.250	2.62	977.753	42840.023	0.285	0.2	-20.3	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	2.63	2278.154	48017.777	0.593	0.5	1.5	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	2.63	4013.757	44080.910	1.138	1.1	5.3	NO	0.999	NO	MM
4	4	170727M1_9	Standard	2.000	2.63	8123.328	46122.711	2.202	2.1	5.9	NO	0.999	NO	MM
5	5	170727M1_10	Standard	5.000	2.63	19398.813	43342.047	5.595	5.5	10.3	NO	0.999	NO	MM
6	6	170727M1_11	Standard	10.000	2.63	35041.879	44586.609	9.824	9.8	-2.5	NO	0.999	NO	MM
7	7	170727M1_12	Standard	50.000	2.63	167534.391	41776.168	50.129	50.1	0.2	NO	0.999	NO	MM
8	8	170727M1_13	Standard	100.000	2.63	297744.313	37430.172	99.433	99.5	-0.5	NO	0.999	NO	MM

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Compound name: PFBS
Correlation coefficient: r = 0.999583, r^2 = 0.999166
Calibration curve: 1.87908 * x + 0.124036
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	170727M1_6	Standard	0.250	2.86	216.161	5089.555	0.531	0.2	-13.4	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	2.88	430.884	5384.093	1.000	0.5	-6.7	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	2.88	835.393	5220.958	2.000	1.0	-0.2	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	2.88	1775.403	5238.489	4.236	2.2	9.4	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	2.87	4544.860	5270.990	10.778	5.7	13.4	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	2.87	7856.220	5320.907	18.456	9.8	-2.4	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	2.88	35191.227	4634.577	94.915	50.4	0.9	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	2.88	64080.703	4302.573	186.170	99.0	-1.0	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999556, r^2 = 0.999111
Calibration curve: 1.45287 * x + 0.152663
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	170727M1_6	Standard	0.250	3.13	1523.459	18704.734	0.407	0.2	-29.9	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.14	3349.999	19036.875	0.880	0.5	0.1	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.13	6240.815	17953.455	1.738	1.1	9.1	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.14	12461.357	18121.797	3.438	2.3	13.1	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.13	30436.348	18473.457	8.238	5.6	11.3	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.13	54673.695	19237.354	14.210	9.7	-3.2	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.14	251307.063	17235.859	72.902	50.1	0.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.14	465411.344	16095.404	144.579	99.4	-0.6	NO	0.999	NO	bb

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Compound name: PFHpA
Correlation coefficient: r = 0.999612, r^2 = 0.999224
Calibration curve: 1.23238 * x + 0.112392
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	170727M1_6	Standard	0.250	3.40	1192.731	43063.793	0.346	0.2	-24.1	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.41	2552.004	45204.484	0.706	0.5	-3.7	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.40	5112.497	44567.395	1.434	1.1	7.2	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.40	9742.448	43767.641	2.782	2.2	8.3	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.40	25370.670	44912.559	7.061	5.6	12.8	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.40	42822.836	42955.043	12.462	10.0	0.2	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.40	198742.078	40157.961	61.863	50.1	0.2	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.41	369376.406	37780.906	122.210	99.1	-0.9	NO	0.999	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.999353, r^2 = 0.998707
Calibration curve: 1.63949 * x + 0.27697
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	170727M1_6	Standard	0.250	3.47	96.020	3850.929	0.312	0.0	-91.5	NO	0.999	NO	MMX
2	2	170727M1_7	Standard	0.500	3.49	280.310	3764.178	0.931	0.4	-20.2	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	3.47	582.460	3967.092	1.835	1.0	-5.0	NO	0.999	NO	MM
4	4	170727M1_9	Standard	2.000	3.48	1200.082	3867.868	3.878	2.2	9.8	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.47	3145.393	3971.926	9.899	5.9	17.4	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.47	4979.415	3753.762	16.581	9.9	-0.6	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.47	23568.961	3626.088	81.248	49.4	-1.2	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.48	43767.965	3339.629	163.820	99.8	-0.2	NO	0.999	NO	MM

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Compound name: PFOA
Correlation coefficient: r = 0.999168, r^2 = 0.998337
Calibration curve: 0.97941 * x + 0.169979
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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170727M1_6	Standard	0.250	3.60	1650.811	59865.938	0.345	0.2	-28.6	NO	0.998	NO	MM
2	2	170727M1_7	Standard	0.500	3.60	3196.288	59919.949	0.667	0.5	1.4	NO	0.998	NO	bb
3	3	170727M1_8	Standard	1.000	3.60	5374.311	55415.613	1.212	1.1	6.4	NO	0.998	NO	MM
4	4	170727M1_9	Standard	2.000	3.60	10962.036	59868.074	2.289	2.2	8.2	NO	0.998	NO	bb
5	5	170727M1_10	Standard	5.000	3.60	27432.125	58695.875	5.842	5.8	15.8	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	3.60	46826.324	61262.559	9.554	9.6	-4.2	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	3.60	221201.672	54632.066	50.612	51.5	3.0	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	3.60	393668.469	51197.766	96.115	98.0	-2.0	NO	0.998	NO	bb

Compound name: PFHpS
Correlation coefficient: r = 0.999393, r^2 = 0.998786
Calibration curve: 0.0865329 * x + 0.00638428
Response type: Internal Std (Ref 26), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170727M1_6	Standard	0.250	3.65	127.082	59865.938	0.027	0.2	-6.9	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	3.65	220.129	59919.949	0.046	0.5	-8.6	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.66	482.301	55415.613	0.109	1.2	18.3	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.67	979.073	59868.074	0.204	2.3	14.4	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.66	2327.510	58695.875	0.496	5.7	13.1	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.66	4283.730	61262.559	0.874	10.0	0.3	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.66	18917.369	54632.066	4.328	49.9	-0.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.66	35100.156	51197.766	8.570	99.0	-1.0	NO	0.999	NO	bb

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Compound name: PFNA
Correlation coefficient: r = 0.999135, r^2 = 0.998270
Calibration curve: 1.06404 * x + 0.151731
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	170727M1_6	Standard	0.250	3.77	1418.062	51114.008	0.347	0.2	-26.7	NO	0.998	NO	bb
2	2	170727M1_7	Standard	0.500	3.78	2579.519	51529.840	0.626	0.4	-10.9	NO	0.998	NO	bd
3	3	170727M1_8	Standard	1.000	3.78	4744.847	46721.047	1.269	1.1	5.0	NO	0.998	NO	bb
4	4	170727M1_9	Standard	2.000	3.78	10626.438	50271.816	2.642	2.3	17.0	NO	0.998	NO	bb
5	5	170727M1_10	Standard	5.000	3.78	25077.686	48716.914	6.435	5.9	18.1	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	3.78	43029.453	49942.039	10.770	10.0	-0.2	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	3.78	190384.000	45725.195	52.046	48.8	-2.5	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	3.78	355715.094	41697.215	106.636	100.1	0.1	NO	0.998	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.999394, r^2 = 0.998789
Calibration curve: 1.06848 * x + 0.223419
Response type: Internal Std (Ref 28), 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	170727M1_6	Standard	0.250	3.79	250.989	11862.194	0.264	0.0	-84.6	NO	0.999	NO	bbX
2	2	170727M1_7	Standard	0.500	3.78	698.528	11221.438	0.778	0.5	3.8	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.78	996.158	11168.887	1.115	0.8	-16.6	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.79	2339.715	11376.144	2.571	2.2	9.8	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.79	5314.163	10985.451	6.047	5.5	9.0	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.79	9316.069	11154.329	10.440	9.6	-4.4	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.79	38523.172	9284.536	51.865	48.3	-3.3	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.79	69731.266	8012.283	108.788	101.6	1.6	NO	0.999	NO	bb

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.999093
Calibration curve: -0.000652924 * x^2 + 1.07342 * x + 0.0667583
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	170727M1_6	Standard	0.250	3.83	246.486	9351.420	0.329	0.2	-2.1	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.84	477.693	9058.424	0.659	0.6	10.4	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.83	942.525	9156.141	1.287	1.1	13.7	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.83	1601.983	8775.251	2.282	2.1	3.3	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.83	3988.879	8595.392	5.801	5.4	7.2	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.83	7578.040	9601.248	9.866	9.2	-8.2	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.83	34494.703	8226.863	52.412	50.3	0.6	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.83	63517.383	7877.385	100.791	99.9	-0.1	NO	0.999	NO	bb

Compound name: PFDA
Correlation coefficient: r = 0.999716, r^2 = 0.999431
Calibration curve: 1.23228 * x + 0.147279
Response type: Internal Std (Ref 30), 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	170727M1_6	Standard	0.250	3.95	1756.771	52030.340	0.422	0.2	-10.8	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.95	3265.883	57299.637	0.712	0.5	-8.3	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.95	6418.463	54266.875	1.478	1.1	8.0	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.95	12635.267	56721.223	2.785	2.1	7.0	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.95	32229.738	60391.582	6.671	5.3	5.9	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.95	55974.184	56074.902	12.478	10.0	0.1	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.95	250603.625	52224.242	59.983	48.6	-2.9	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.95	494240.344	49584.195	124.596	101.0	1.0	NO	0.999	NO	bb

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999665
Calibration curve: 0.00022775 * x^2 + 19.9472 * x + 0.0898127
Response type: Internal Std (Ref 31), 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 170727M1_6	Standard	0.250	3.98	317.640	10411.437	4.958	0.2	-2.4	NO	1.000	NO	bd
2	2 170727M1_7	Standard	0.500	3.98	642.342	10929.026	9.551	0.5	-5.1	NO	1.000	NO	bb
3	3 170727M1_8	Standard	1.000	3.98	1324.910	11066.396	19.455	1.0	-2.9	NO	1.000	NO	db
4	4 170727M1_9	Standard	2.000	3.98	2637.473	10286.182	41.667	2.1	4.2	NO	1.000	NO	bb
5	5 170727M1_10	Standard	5.000	3.98	6964.148	10429.172	108.510	5.4	8.7	NO	1.000	NO	bb
6	6 170727M1_11	Standard	10.000	3.98	12691.619	10499.821	196.421	9.8	-1.6	NO	1.000	NO	bb
7	7 170727M1_12	Standard	50.000	3.98	57516.633	9475.892	986.340	49.4	-1.2	NO	1.000	NO	bb
8	8 170727M1_13	Standard	100.000	3.98	107056.234	8686.212	2002.788	100.3	0.3	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.998879
Calibration curve: 0.00266631 * x^2 + 15.3353 * x + 0.19972
Response type: Internal Std (Ref 32), 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 170727M1_6	Standard	0.250	4.05	245.777	10212.053	3.911	0.2	-3.2	NO	0.999	NO	bb
2	2 170727M1_7	Standard	0.500	4.05	475.755	10386.629	7.443	0.5	-5.5	NO	0.999	NO	bb
3	3 170727M1_8	Standard	1.000	4.04	999.253	10419.146	15.585	1.0	0.3	NO	0.999	NO	bb
4	4 170727M1_9	Standard	2.000	4.04	1942.696	10087.810	31.294	2.0	1.3	NO	0.999	NO	bb
5	5 170727M1_10	Standard	5.000	4.04	5340.566	9616.642	90.244	5.9	17.3	NO	0.999	NO	bb
6	6 170727M1_11	Standard	10.000	4.04	10039.805	10994.689	148.387	9.6	-3.5	NO	0.999	NO	bb
7	7 170727M1_12	Standard	50.000	4.04	44465.141	9528.352	758.325	49.0	-2.0	NO	0.999	NO	bb
8	8 170727M1_13	Standard	100.000	4.04	86630.938	8978.488	1567.917	100.5	0.5	NO	0.999	NO	bb

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999664
Calibration curve: -0.000726299 * x^2 + 0.648776 * x + 0.0756752
Response type: Internal Std (Ref 33), 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	170727M1_6	Standard	0.250	4.11	937.638	53937.508	0.217	0.2	-12.7	NO	1.000	NO	bb
2	2	170727M1_7	Standard	0.500	4.11	1856.364	57651.277	0.402	0.5	0.8	NO	1.000	NO	bb
3	3	170727M1_8	Standard	1.000	4.11	3381.308	53976.422	0.783	1.1	9.2	NO	1.000	NO	bb
4	4	170727M1_9	Standard	2.000	4.11	6702.618	60891.270	1.376	2.0	0.4	NO	1.000	NO	bb
5	5	170727M1_10	Standard	5.000	4.11	15902.064	56820.336	3.498	5.3	6.1	NO	1.000	NO	bb
6	6	170727M1_11	Standard	10.000	4.11	29007.316	58040.508	6.247	9.6	-3.8	NO	1.000	NO	bb
7	7	170727M1_12	Standard	50.000	4.11	135465.156	55210.184	30.670	50.0	-0.1	NO	1.000	NO	bb
8	8	170727M1_13	Standard	100.000	4.11	249990.313	54140.109	57.718	100.1	0.1	NO	1.000	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998629
Calibration curve: -1.32982e-005 * x^2 + 0.0672039 * x + 0.00706292
Response type: Internal Std (Ref 33), 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	170727M1_6	Standard	0.250	4.16	86.766	53937.508	0.020	0.2	-22.4	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	4.16	172.141	57651.277	0.037	0.5	-9.9	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	4.15	388.743	53976.422	0.090	1.2	23.5	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	4.16	690.005	60891.270	0.142	2.0	0.2	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	4.16	1779.465	56820.336	0.391	5.7	14.5	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	4.16	3001.466	58040.508	0.646	9.5	-4.7	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	4.16	14488.668	55210.184	3.280	49.2	-1.6	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	4.16	28680.693	54140.109	6.622	100.4	0.4	NO	0.999	NO	bb

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Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997867
Calibration curve: 0.000108363 * x^2 + 0.920945 * x + 0.119714
Response type: Internal Std (Ref 34), 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	170727M1_6	Standard	0.250	4.28	107.979	4359.285	0.310	0.2	-17.5	NO	0.998	NO	MM
2	2	170727M1_7	Standard	0.500	4.27	187.376	4725.039	0.496	0.4	-18.4	NO	0.998	NO	MM
3	3	170727M1_8	Standard	1.000	4.28	387.923	4065.133	1.193	1.2	16.5	NO	0.998	NO	bd
4	4	170727M1_9	Standard	2.000	4.27	764.237	4580.176	2.086	2.1	6.7	NO	0.998	NO	bd
5	5	170727M1_10	Standard	5.000	4.27	1877.270	4125.885	5.687	6.0	20.8	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	4.27	2974.082	4254.241	8.739	9.3	-6.5	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	4.28	15238.717	4195.593	45.401	48.9	-2.2	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	4.28	31571.641	4206.188	93.825	100.6	0.6	NO	0.998	NO	bb

Compound name: PFTrDA
Correlation coefficient: r = 0.999051, r^2 = 0.998103
Calibration curve: 8.39255 * x + 1.22744
Response type: Internal Std (Ref 34), 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	170727M1_6	Standard	0.250	4.43	949.985	4359.285	2.724	0.2	-28.7	NO	0.998	NO	bb
2	2	170727M1_7	Standard	0.500	4.44	2085.832	4725.039	5.518	0.5	2.2	NO	0.998	NO	bb
3	3	170727M1_8	Standard	1.000	4.44	3568.302	4065.133	10.972	1.2	16.1	NO	0.998	NO	bb
4	4	170727M1_9	Standard	2.000	4.44	6820.030	4580.176	18.613	2.1	3.6	NO	0.998	NO	bb
5	5	170727M1_10	Standard	5.000	4.44	16192.957	4125.885	49.059	5.7	14.0	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	4.44	27675.627	4254.241	81.318	9.5	-4.6	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	4.43	134870.219	4195.593	401.821	47.7	-4.5	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	4.44	288052.313	4206.188	856.037	101.9	1.9	NO	0.998	NO	bb

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Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999478
Calibration curve: -0.00104256 * x^2 + 1.20262 * x + 0.131178
Response type: Internal Std (Ref 35), 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	170727M1_6	Standard	0.250	4.61	648.233	20264.934	0.400	0.2	-10.6	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	4.62	1160.108	20001.139	0.725	0.5	-1.2	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	4.61	1839.107	16096.357	1.428	1.1	8.0	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	4.61	3400.659	15958.571	2.664	2.1	5.5	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	4.61	7239.503	14196.442	6.374	5.2	4.3	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	4.61	13249.020	14711.492	11.257	9.3	-6.7	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	4.61	64597.203	13866.051	58.233	50.5	1.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	4.61	152598.266	17381.359	109.743	99.8	-0.2	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.823368
RRF SD: 0.0102963, Relative SD: 1.25051
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	170727M1_6	Standard	12.500	1.32	13153.632	15685.795	10.482	12.7	1.8	NO		NO	MM
2	2	170727M1_7	Standard	12.500	1.32	16229.239	19621.338	10.339	12.6	0.5	NO		NO	bb
3	3	170727M1_8	Standard	12.500	1.32	13631.894	16595.234	10.268	12.5	-0.2	NO		NO	bb
4	4	170727M1_9	Standard	12.500	1.33	17379.277	20821.438	10.434	12.7	1.4	NO		NO	bb
5	5	170727M1_10	Standard	12.500	1.32	13706.406	16931.240	10.119	12.3	-1.7	NO		NO	bb
6	6	170727M1_11	Standard	12.500	1.33	16386.203	19933.900	10.275	12.5	-0.2	NO		NO	bb
7	7	170727M1_12	Standard	12.500	1.33	15585.783	18930.279	10.292	12.5	-0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	1.32	13303.807	16419.309	10.128	12.3	-1.6	NO		NO	bb

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Compound name: 13C3-PFPeA
Response Factor: 0.264201
RRF SD: 0.00819028, Relative SD: 3.10002
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	170727M1_6	Standard	12.500	2.63	42840.023	66777.414	3.208	12.1	-2.9	NO		NO	MM
2	2	170727M1_7	Standard	12.500	2.63	48017.777	68960.672	3.482	13.2	5.4	NO		NO	MM
3	3	170727M1_8	Standard	12.500	2.63	44080.910	65807.906	3.349	12.7	1.4	NO		NO	MM
4	4	170727M1_9	Standard	12.500	2.63	46122.711	68399.328	3.372	12.8	2.1	NO		NO	MM
5	5	170727M1_10	Standard	12.500	2.63	43342.047	68240.281	3.176	12.0	-3.8	NO		NO	MM
6	6	170727M1_11	Standard	12.500	2.63	44586.609	67807.313	3.288	12.4	-0.4	NO		NO	MM
7	7	170727M1_12	Standard	12.500	2.63	41776.168	62651.332	3.334	12.6	1.0	NO		NO	MM
8	8	170727M1_13	Standard	12.500	2.63	37430.172	58255.043	3.213	12.2	-2.7	NO		NO	MM

Compound name: 13C3-PFBS
Response Factor: 0.0306879
RRF SD: 0.000800336, Relative SD: 2.60798
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	170727M1_6	Standard	12.500	2.87	5089.555	66777.414	0.381	12.4	-0.7	NO		NO	bb
2	2	170727M1_7	Standard	12.500	2.88	5384.093	68960.672	0.390	12.7	1.8	NO		NO	bb
3	3	170727M1_8	Standard	12.500	2.87	5220.958	65807.906	0.397	12.9	3.4	NO		NO	bb
4	4	170727M1_9	Standard	12.500	2.88	5238.489	68399.328	0.383	12.5	-0.2	NO		NO	bb
5	5	170727M1_10	Standard	12.500	2.88	5270.990	68240.281	0.386	12.6	0.7	NO		NO	bb
6	6	170727M1_11	Standard	12.500	2.88	5320.907	67807.313	0.392	12.8	2.3	NO		NO	bb
7	7	170727M1_12	Standard	12.500	2.88	4634.577	62651.332	0.370	12.1	-3.6	NO		NO	bb
8	8	170727M1_13	Standard	12.500	2.88	4302.573	58255.043	0.369	12.0	-3.7	NO		NO	bd

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Compound name: 13C2-PFHxA
Response Factor: 0.274967
RRF SD: 0.00571947, Relative SD: 2.08006
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	170727M1_6	Standard	5.000	3.13	18704.734	66777.414	1.401	5.1	1.9	NO		NO	bb
2	2	170727M1_7	Standard	5.000	3.14	19036.875	68960.672	1.380	5.0	0.4	NO		NO	bb
3	3	170727M1_8	Standard	5.000	3.14	17953.455	65807.906	1.364	5.0	-0.8	NO		NO	bb
4	4	170727M1_9	Standard	5.000	3.13	18121.797	68399.328	1.325	4.8	-3.6	NO		NO	bb
5	5	170727M1_10	Standard	5.000	3.13	18473.457	68240.281	1.354	4.9	-1.5	NO		NO	bb
6	6	170727M1_11	Standard	5.000	3.14	19237.354	67807.313	1.419	5.2	3.2	NO		NO	bb
7	7	170727M1_12	Standard	5.000	3.13	17235.859	62651.332	1.376	5.0	0.1	NO		NO	bb
8	8	170727M1_13	Standard	5.000	3.14	16095.404	58255.043	1.381	5.0	0.5	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.259934
RRF SD: 0.00549928, Relative SD: 2.11565
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	170727M1_6	Standard	12.500	3.40	43063.793	66777.414	3.224	12.4	-0.8	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.41	45204.484	68960.672	3.278	12.6	0.9	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.40	44567.395	65807.906	3.386	13.0	4.2	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.40	43767.641	68399.328	3.199	12.3	-1.5	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.40	44912.559	68240.281	3.291	12.7	1.3	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.40	42955.043	67807.313	3.167	12.2	-2.5	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.40	40157.961	62651.332	3.205	12.3	-1.4	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.40	37780.906	58255.043	3.243	12.5	-0.2	NO		NO	bb

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Compound name: 18O2-PFHxS
Response Factor: 0.402115
RRF SD: 0.0114628, Relative SD: 2.85063
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	170727M1_6	Standard	12.500	3.47	3850.929	9307.117	5.172	12.9	2.9	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.47	3764.178	9382.290	5.015	12.5	-0.2	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.47	3967.092	9569.128	5.182	12.9	3.1	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.47	3867.868	9630.841	5.020	12.5	-0.1	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.47	3971.926	9691.771	5.123	12.7	1.9	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.48	3753.762	9802.307	4.787	11.9	-4.8	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.47	3626.088	9340.884	4.852	12.1	-3.5	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.48	3339.629	8249.938	5.060	12.6	0.7	NO		NO	bb

Compound name: 13C2-PFOA
Response Factor: 1.04194
RRF SD: 0.027956, Relative SD: 2.68308
Response type: Internal Std (Ref 39), 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	170727M1_6	Standard	12.500	3.60	59865.938	56873.047	13.158	12.6	1.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.60	59919.949	56797.777	13.187	12.7	1.3	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.60	55415.613	53219.633	13.016	12.5	-0.1	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.60	59868.074	57690.141	12.972	12.4	-0.4	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.60	58695.875	59743.707	12.281	11.8	-5.7	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.60	61262.559	59019.414	12.975	12.5	-0.4	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.60	54632.066	52202.523	13.082	12.6	0.4	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.60	51197.766	47323.363	13.523	13.0	3.8	NO		NO	bb

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Compound name: 13C5-PFNA
Response Factor: 0.79204
RRF SD: 0.030586, Relative SD: 3.86168
Response type: Internal Std (Ref 40), 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	170727M1_6	Standard	12.500	3.78	51114.008	61088.508	10.459	13.2	5.6	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.78	51529.840	63082.246	10.211	12.9	3.1	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.78	46721.047	61854.789	9.442	11.9	-4.6	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.78	50271.816	63851.328	9.842	12.4	-0.6	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.78	48716.914	63831.750	9.540	12.0	-3.6	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.78	49942.039	61124.367	10.213	12.9	3.2	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.78	45725.195	57150.492	10.001	12.6	1.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.78	41697.215	54884.840	9.497	12.0	-4.1	NO		NO	bb

Compound name: 13C8-PFOSA
Response Factor: 0.174678
RRF SD: 0.0164608, Relative SD: 9.42349
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	12.500	3.78	11862.194	60651.570	2.445	14.0	12.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.79	11221.438	63780.648	2.199	12.6	0.7	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.78	11168.887	58640.852	2.381	13.6	9.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.79	11376.144	63482.531	2.240	12.8	2.6	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.79	10985.451	63993.852	2.146	12.3	-1.7	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.79	11154.329	61602.465	2.263	13.0	3.7	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.79	9284.536	58621.656	1.980	11.3	-9.3	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.79	8012.283	55207.715	1.814	10.4	-16.9	NO		NO	bb

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Compound name: 13C8-PFOS
Response Factor: 0.950628
RRF SD: 0.0413599, Relative SD: 4.3508
Response type: Internal Std (Ref 41), 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	170727M1_6	Standard	12.500	3.83	9351.420	9521.391	12.277	12.9	3.3	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.83	9058.424	9673.590	11.705	12.3	-1.5	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.83	9156.141	9654.983	11.854	12.5	-0.2	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.83	8775.251	9669.445	11.344	11.9	-4.5	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.83	8595.392	9633.635	11.153	11.7	-6.1	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.83	9601.248	9505.756	12.626	13.3	6.3	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.83	8226.863	8791.099	11.698	12.3	-1.6	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.83	7877.385	7936.742	12.407	13.1	4.4	NO		NO	bd

Compound name: 13C2-PFDA
Response Factor: 0.869042
RRF SD: 0.0152756, Relative SD: 1.75775
Response type: Internal Std (Ref 42), 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	170727M1_6	Standard	12.500	3.94	52030.340	59640.039	10.905	12.5	0.4	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.95	57299.637	64993.883	11.020	12.7	1.4	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.95	54266.875	64060.777	10.589	12.2	-2.5	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.95	56721.223	64542.324	10.985	12.6	1.1	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.95	60391.582	68173.781	11.073	12.7	1.9	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.95	56074.902	65514.582	10.699	12.3	-1.5	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.95	52224.242	61362.461	10.638	12.2	-2.1	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.95	49584.195	56375.438	10.994	12.7	1.2	NO		NO	bb

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Compound name: d3-N-MeFOSAA
Response Factor: 0.0129438
RRF SD: 0.000754884, Relative SD: 5.832
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	162.500	3.97	10411.437	60651.570	2.146	165.8	2.0	NO		NO	bb
2	2	170727M1_7	Standard	162.500	3.98	10929.026	63780.648	2.142	165.5	1.8	NO		NO	bb
3	3	170727M1_8	Standard	162.500	3.97	11066.396	58640.852	2.359	182.2	12.2	NO		NO	bb
4	4	170727M1_9	Standard	162.500	3.98	10286.182	63482.531	2.025	156.5	-3.7	NO		NO	bb
5	5	170727M1_10	Standard	162.500	3.98	10429.172	63993.852	2.037	157.4	-3.1	NO		NO	bb
6	6	170727M1_11	Standard	162.500	3.98	10499.821	61602.465	2.131	164.6	1.3	NO		NO	bb
7	7	170727M1_12	Standard	162.500	3.98	9475.892	58621.656	2.021	156.1	-3.9	NO		NO	bb
8	8	170727M1_13	Standard	162.500	3.98	8686.212	55207.715	1.967	151.9	-6.5	NO		NO	bb

Compound name: d5-N-EtFOSAA
Response Factor: 0.0127089
RRF SD: 0.000726057, Relative SD: 5.71297
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	162.500	4.04	10212.053	60651.570	2.105	165.6	1.9	NO		NO	bb
2	2	170727M1_7	Standard	162.500	4.04	10386.629	63780.648	2.036	160.2	-1.4	NO		NO	bb
3	3	170727M1_8	Standard	162.500	4.04	10419.146	58640.852	2.221	174.8	7.5	NO		NO	bb
4	4	170727M1_9	Standard	162.500	4.04	10087.810	63482.531	1.986	156.3	-3.8	NO		NO	bb
5	5	170727M1_10	Standard	162.500	4.04	9616.642	63993.852	1.878	147.8	-9.0	NO		NO	bb
6	6	170727M1_11	Standard	162.500	4.04	10994.689	61602.465	2.231	175.5	8.0	NO		NO	bb
7	7	170727M1_12	Standard	162.500	4.04	9528.352	58621.656	2.032	159.9	-1.6	NO		NO	bb
8	8	170727M1_13	Standard	162.500	4.04	8978.488	55207.715	2.033	160.0	-1.6	NO		NO	bb

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Compound name: 13C2-PFUnA
Response Factor: 0.928174
RRF SD: 0.0335518, Relative SD: 3.61482
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	12.500	4.11	53937.508	60651.570	11.116	12.0	-4.2	NO		NO	bb
2	2	170727M1_7	Standard	12.500	4.11	57651.277	63780.648	11.299	12.2	-2.6	NO		NO	bb
3	3	170727M1_8	Standard	12.500	4.11	53976.422	58640.852	11.506	12.4	-0.8	NO		NO	bb
4	4	170727M1_9	Standard	12.500	4.11	60891.270	63482.531	11.990	12.9	3.3	NO		NO	bb
5	5	170727M1_10	Standard	12.500	4.12	56820.336	63993.852	11.099	12.0	-4.3	NO		NO	bb
6	6	170727M1_11	Standard	12.500	4.12	58040.508	61602.465	11.777	12.7	1.5	NO		NO	bb
7	7	170727M1_12	Standard	12.500	4.11	55210.184	58621.656	11.773	12.7	1.5	NO		NO	bb
8	8	170727M1_13	Standard	12.500	4.11	54140.109	55207.715	12.258	13.2	5.7	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 0.07109
RRF SD: 0.00354453, Relative SD: 4.98597
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	12.500	4.26	4359.285	60651.570	0.898	12.6	1.1	NO		NO	bb
2	2	170727M1_7	Standard	12.500	4.27	4725.039	63780.648	0.926	13.0	4.2	NO		NO	bb
3	3	170727M1_8	Standard	12.500	4.27	4065.133	58640.852	0.867	12.2	-2.5	NO		NO	bb
4	4	170727M1_9	Standard	12.500	4.27	4580.176	63482.531	0.902	12.7	1.5	NO		NO	bd
5	5	170727M1_10	Standard	12.500	4.27	4125.885	63993.852	0.806	11.3	-9.3	NO		NO	bb
6	6	170727M1_11	Standard	12.500	4.27	4254.241	61602.465	0.863	12.1	-2.9	NO		NO	bb
7	7	170727M1_12	Standard	12.500	4.27	4195.593	58621.656	0.895	12.6	0.7	NO		NO	bb
8	8	170727M1_13	Standard	12.500	4.27	4206.188	55207.715	0.952	13.4	7.2	NO		NO	bb

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Compound name: 13C2-PFTeDA
Response Factor: 0.273202
RRF SD: 0.0426255, Relative SD: 15.6022
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	12.500	4.61	20264.934	60651.570	4.177	15.3	22.3	NO		NO	bb
2	2	170727M1_7	Standard	12.500	4.61	20001.139	63780.648	3.920	14.3	14.8	NO		NO	bb
3	3	170727M1_8	Standard	12.500	4.61	16096.357	58640.852	3.431	12.6	0.5	NO		NO	bb
4	4	170727M1_9	Standard	12.500	4.61	15958.571	63482.531	3.142	11.5	-8.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	4.61	14196.442	63993.852	2.773	10.2	-18.8	NO		NO	bb
6	6	170727M1_11	Standard	12.500	4.61	14711.492	61602.465	2.985	10.9	-12.6	NO		NO	bb
7	7	170727M1_12	Standard	12.500	4.61	13866.051	58621.656	2.957	10.8	-13.4	NO		NO	bb
8	8	170727M1_13	Standard	12.500	4.62	17381.359	55207.715	3.935	14.4	15.2	NO		NO	bb

Compound name: 13C4-PFBA
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	170727M1_6	Standard	12.500	1.31	15685.795	15685.795	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	1.32	19621.338	19621.338	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	1.32	16595.234	16595.234	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	1.32	20821.438	20821.438	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	1.32	16931.240	16931.240	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	1.32	19933.900	19933.900	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	1.32	18930.279	18930.279	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	1.32	16419.309	16419.309	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
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	170727M1_6	Standard	5.000	3.13	66777.414	66777.414	5.000	5.0	0.0	NO		NO	bb
2	2	170727M1_7	Standard	5.000	3.13	68960.672	68960.672	5.000	5.0	0.0	NO		NO	bb
3	3	170727M1_8	Standard	5.000	3.13	65807.906	65807.906	5.000	5.0	0.0	NO		NO	bb
4	4	170727M1_9	Standard	5.000	3.14	68399.328	68399.328	5.000	5.0	0.0	NO		NO	bb
5	5	170727M1_10	Standard	5.000	3.14	68240.281	68240.281	5.000	5.0	0.0	NO		NO	bb
6	6	170727M1_11	Standard	5.000	3.14	67807.313	67807.313	5.000	5.0	0.0	NO		NO	bb
7	7	170727M1_12	Standard	5.000	3.13	62651.332	62651.332	5.000	5.0	0.0	NO		NO	bb
8	8	170727M1_13	Standard	5.000	3.14	58255.043	58255.043	5.000	5.0	0.0	NO		NO	bb

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
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	170727M1_6	Standard	12.500	3.47	9307.117	9307.117	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.47	9382.290	9382.290	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.47	9569.128	9569.128	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.48	9630.841	9630.841	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.47	9691.771	9691.771	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.47	9802.307	9802.307	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.47	9340.884	9340.884	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.47	8249.938	8249.938	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 1.18688e-016, Relative SD: 1.18688e-014
Response type: Internal Std (Ref 39), 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	170727M1_6	Standard	12.500	3.60	56873.047	56873.047	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.60	56797.777	56797.777	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.60	53219.633	53219.633	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.60	57690.141	57690.141	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.60	59743.707	59743.707	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.60	59019.414	59019.414	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.60	52202.523	52202.523	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.60	47323.363	47323.363	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 40), 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	170727M1_6	Standard	12.500	3.78	61088.508	61088.508	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.78	63082.246	63082.246	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.78	61854.789	61854.789	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.78	63851.328	63851.328	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.78	63831.750	63831.750	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.78	61124.367	61124.367	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.78	57150.492	57150.492	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.78	54884.840	54884.840	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 41), 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	170727M1_6	Standard	12.500	3.83	9521.391	9521.391	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.83	9673.590	9673.590	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.83	9654.983	9654.983	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.83	9669.445	9669.445	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.83	9633.635	9633.635	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.83	9505.756	9505.756	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.83	8791.099	8791.099	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.84	7936.742	7936.742	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 42), 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	170727M1_6	Standard	12.500	3.94	59640.039	59640.039	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	3.95	64993.883	64993.883	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	3.95	64060.777	64060.777	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	3.95	64542.324	64542.324	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	3.95	68173.781	68173.781	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	3.95	65514.582	65514.582	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	3.95	61362.461	61362.461	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	3.95	56375.438	56375.438	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.02787e-016, Relative SD: 1.02787e-014
Response type: Internal Std (Ref 43), 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	170727M1_6	Standard	12.500	4.11	60651.570	60651.570	12.500	12.5	0.0	NO		NO	bb
2	2	170727M1_7	Standard	12.500	4.11	63780.648	63780.648	12.500	12.5	0.0	NO		NO	bb
3	3	170727M1_8	Standard	12.500	4.11	58640.852	58640.852	12.500	12.5	0.0	NO		NO	bb
4	4	170727M1_9	Standard	12.500	4.11	63482.531	63482.531	12.500	12.5	0.0	NO		NO	bb
5	5	170727M1_10	Standard	12.500	4.11	63993.852	63993.852	12.500	12.5	0.0	NO		NO	bb
6	6	170727M1_11	Standard	12.500	4.11	61602.465	61602.465	12.500	12.5	0.0	NO		NO	bb
7	7	170727M1_12	Standard	12.500	4.11	58621.656	58621.656	12.500	12.5	0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	4.11	55207.715	55207.715	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 28, 2017 09:09:44 Pacific Daylight Time
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Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170727M1_5	IPA	27-Jul-17	11:37:28
2	170727M1_6	ST170727M1-1 PFC CS-2 17G2704	27-Jul-17	11:48:12
3	170727M1_7	ST170727M1-2 PFC CS-1 17G2705	27-Jul-17	11:58:50
4	170727M1_8	ST170727M1-3 PFC CS0 17G2706	27-Jul-17	12:09:28
5	170727M1_9	ST170727M1-4 PFC CS1 17G2707	27-Jul-17	12:20:15
6	170727M1_10	ST170727M1-5 PFC CS2 17G2708	27-Jul-17	12:30:53
7	170727M1_11	ST170727M1-6 PFC CS3 17G2709	27-Jul-17	12:41:40
8	170727M1_12	ST170727M1-7 PFC CS4 17G2729	27-Jul-17	12:52:18
9	170727M1_13	ST170727M1-8 PFC CS5 17G2710	27-Jul-17	13:02:56
10	170727M1_14	IPA	27-Jul-17	13:13:35
11	170727M1_15	SS170727M1-1 PFC SSS 17G2703	27-Jul-17	13:24:13
12	170727M1_16	IPA	27-Jul-17	13:34:52

Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
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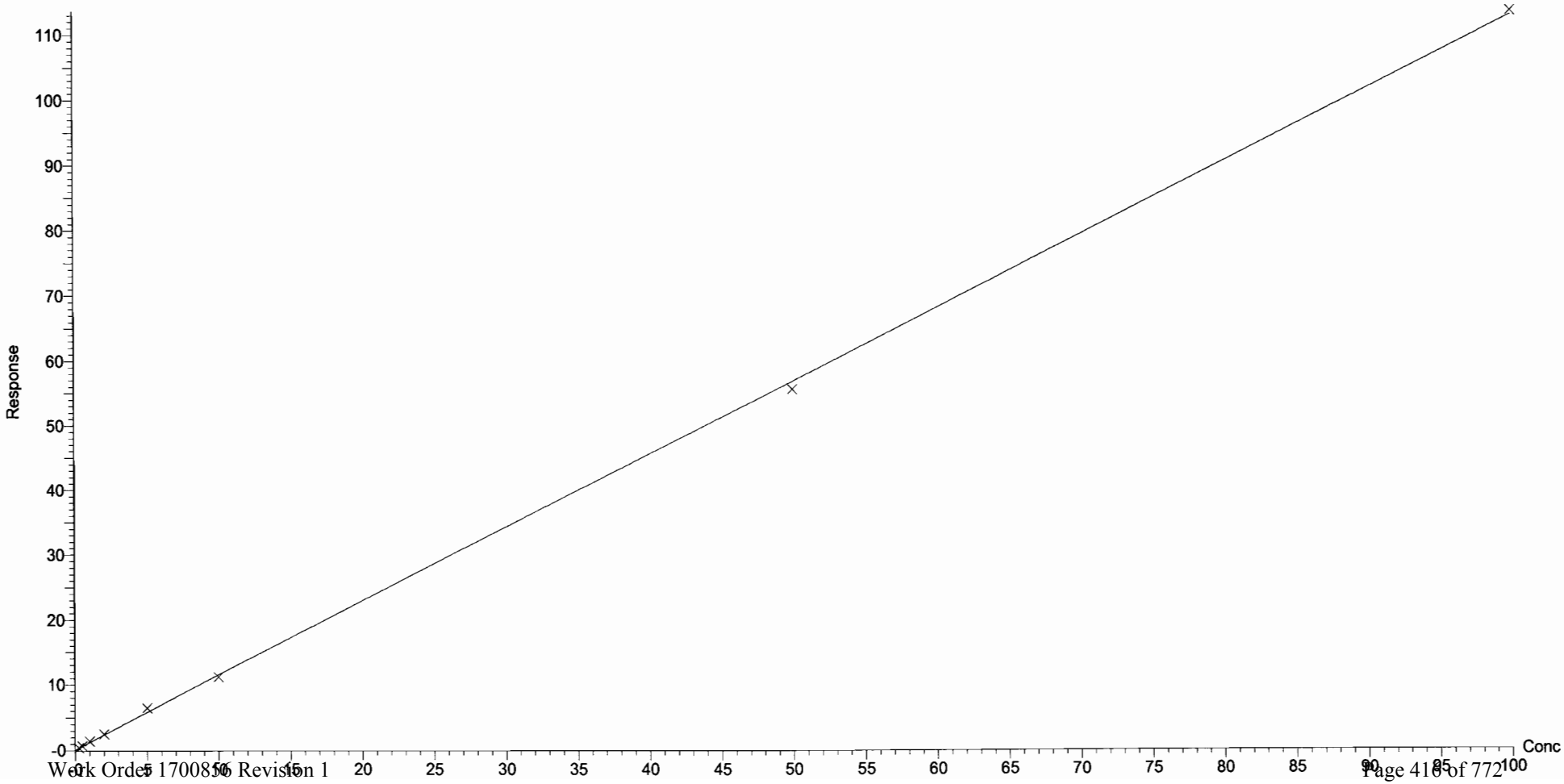
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999016
Calibration curve: -0.000148745 * x^2 + 1.144 * x + 0.0934277
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
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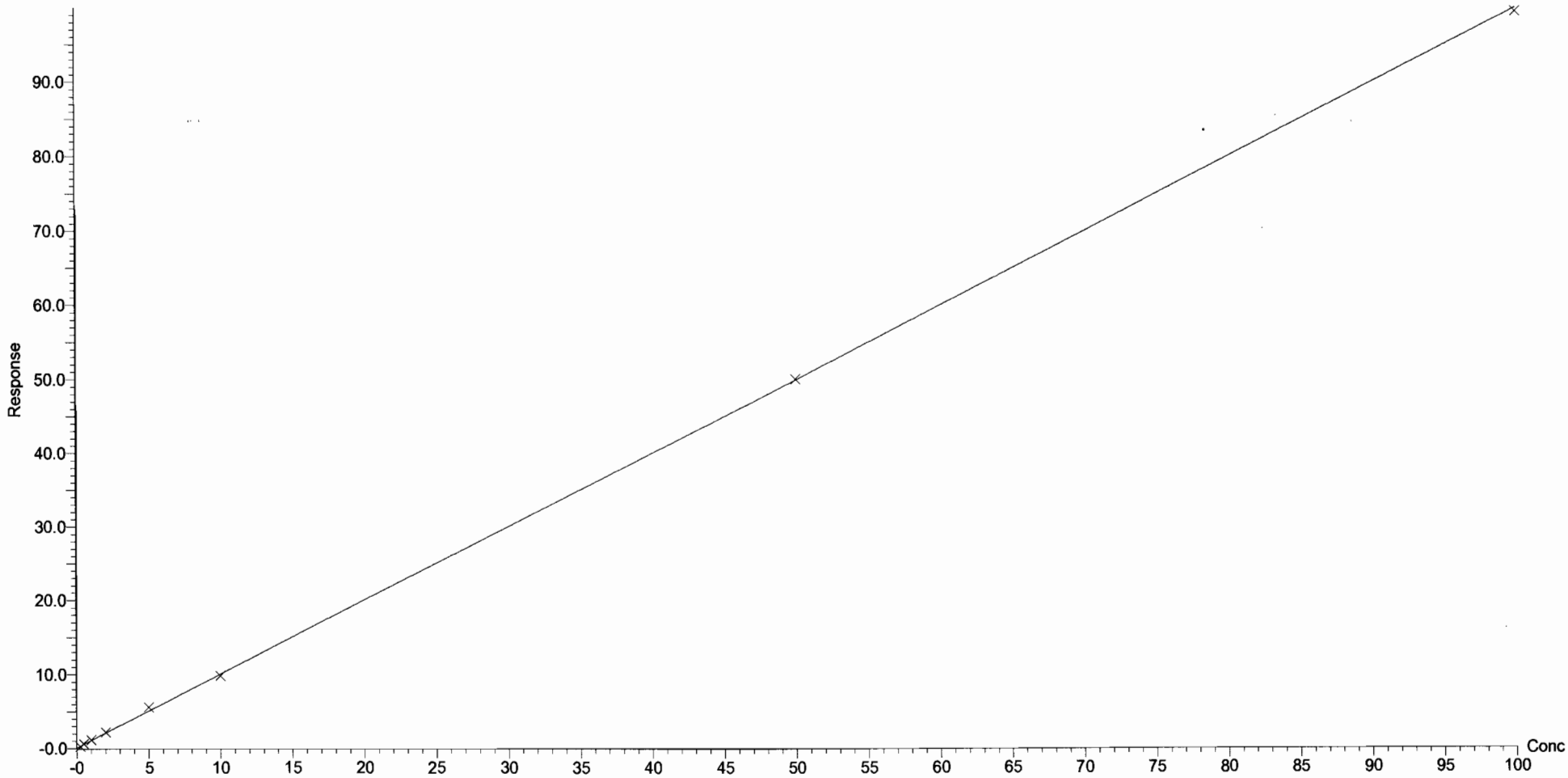
Compound name: PFPeA
Correlation coefficient: r = 0.999743, r^2 = 0.999486
Calibration curve: 0.998566 * x + 0.0863273
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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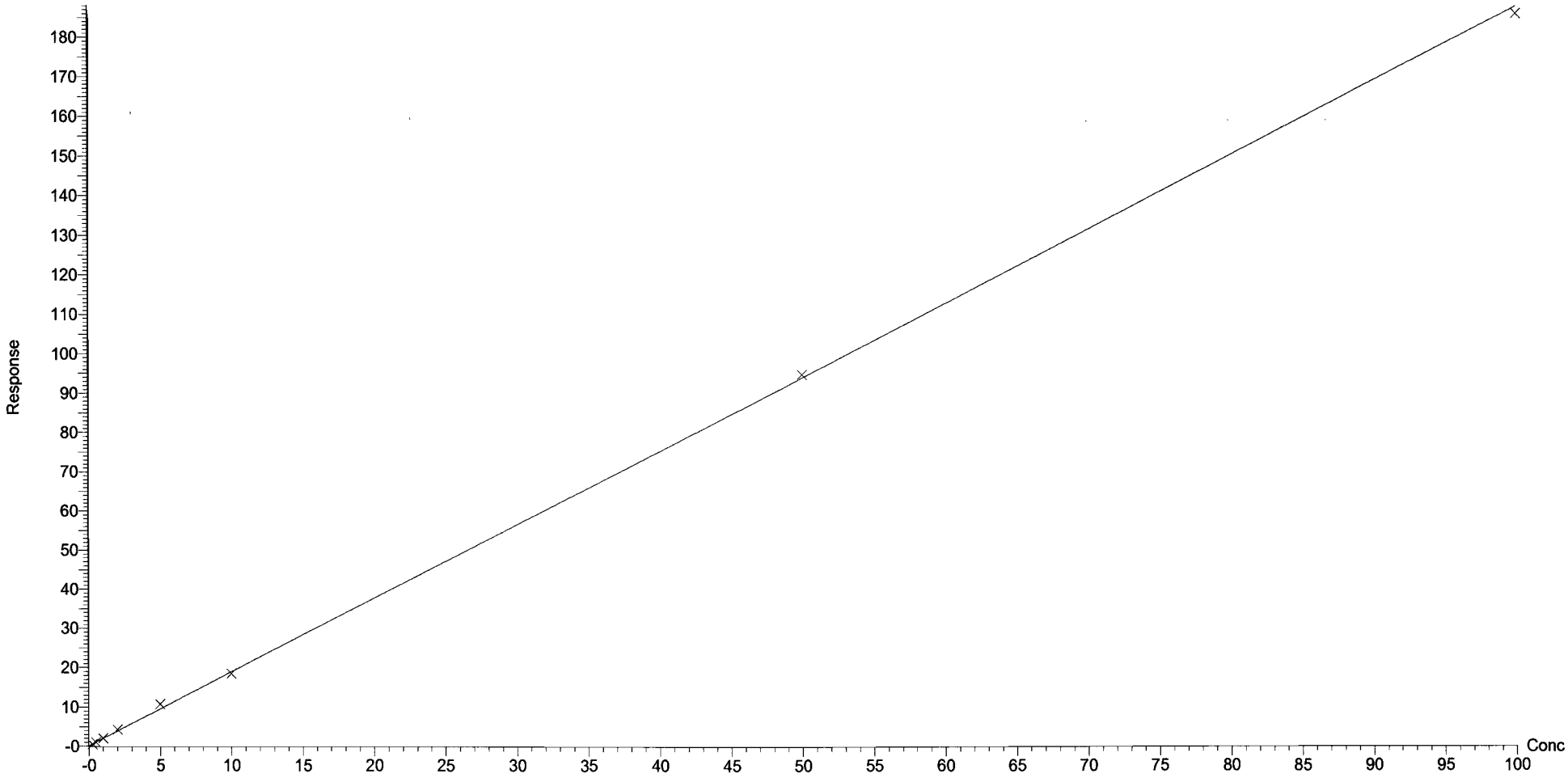
Compound name: PFBS
Correlation coefficient: r = 0.999583, r^2 = 0.999166
Calibration curve: 1.87908 * x + 0.124036
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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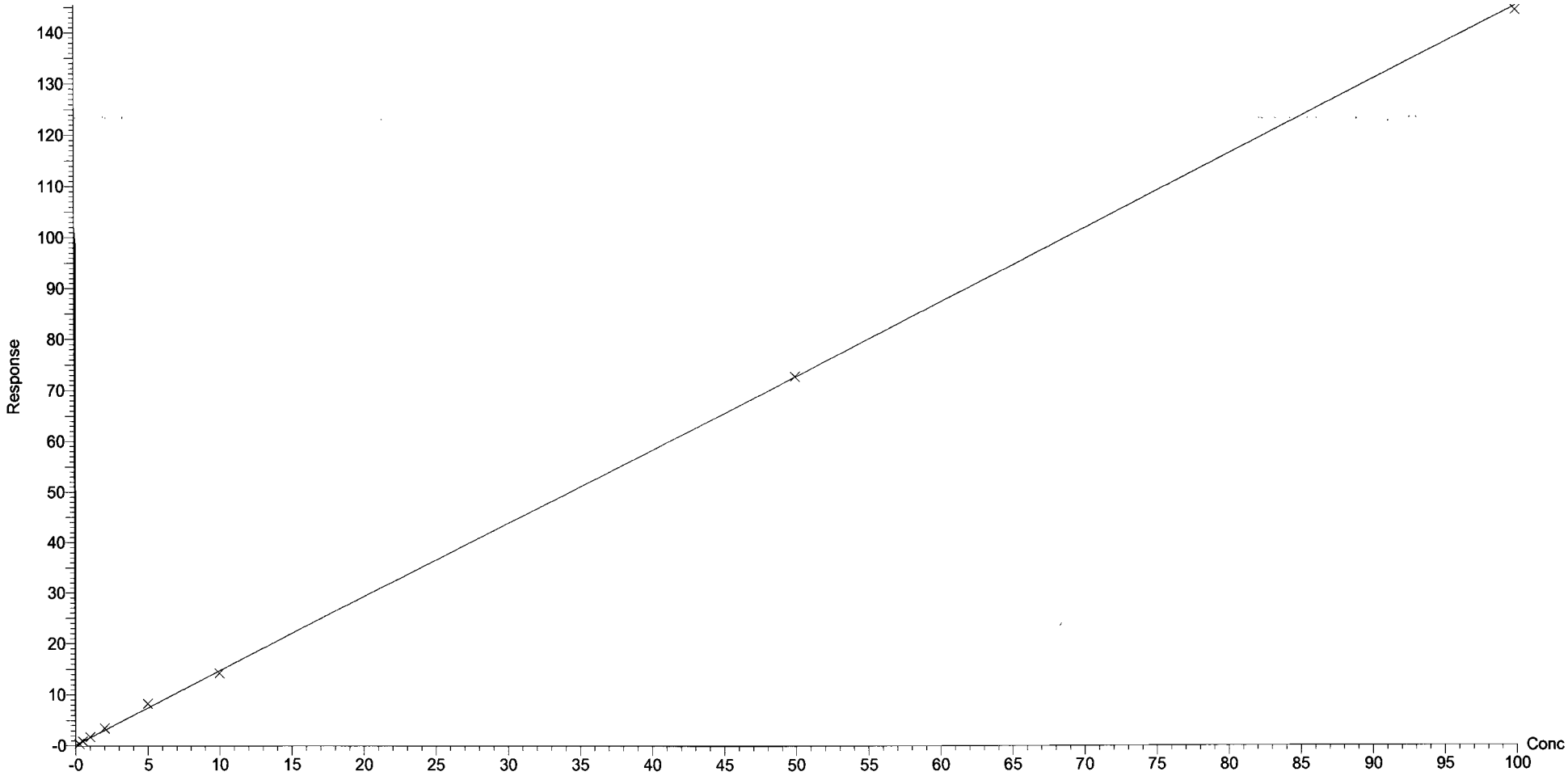
Compound name: PFHxA
Correlation coefficient: r = 0.999556, r^2 = 0.999111
Calibration curve: 1.45287 * x + 0.152663
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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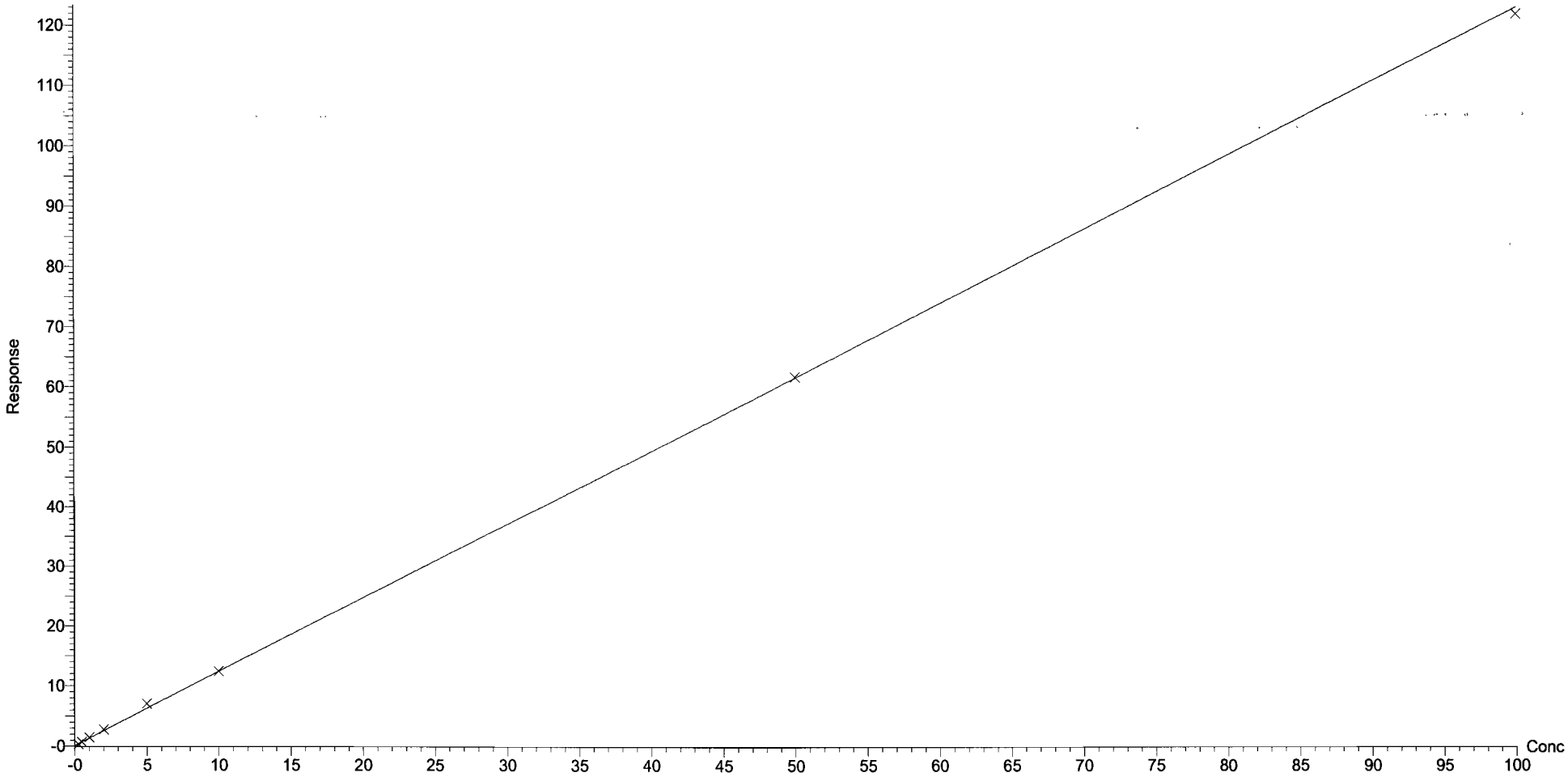
Compound name: PFHpA
Correlation coefficient: r = 0.999612, r^2 = 0.999224
Calibration curve: 1.23238 * x + 0.112392
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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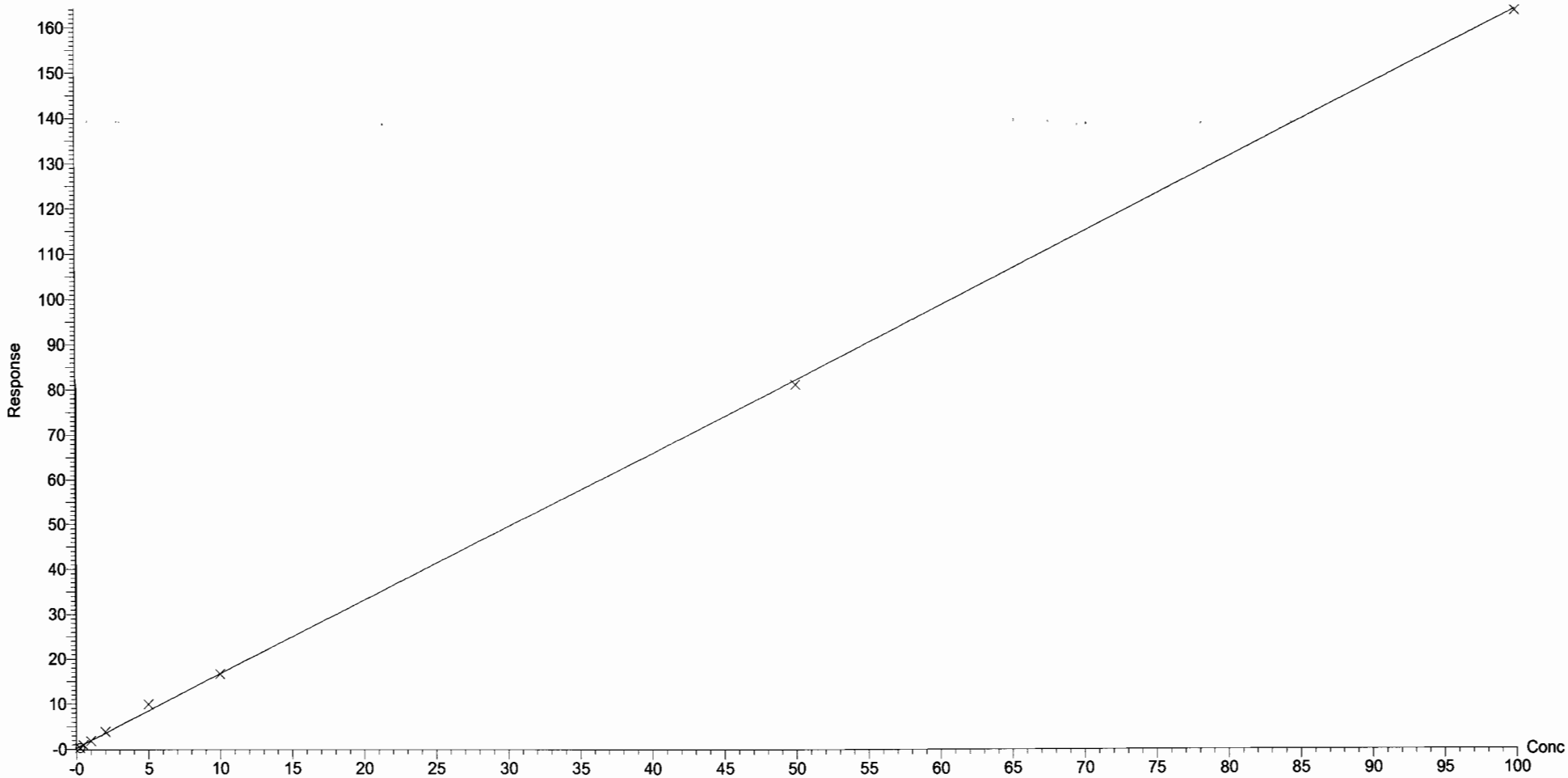
Compound name: PFHxS
Correlation coefficient: r = 0.999353, r^2 = 0.998707
Calibration curve: 1.63949 * x + 0.27697
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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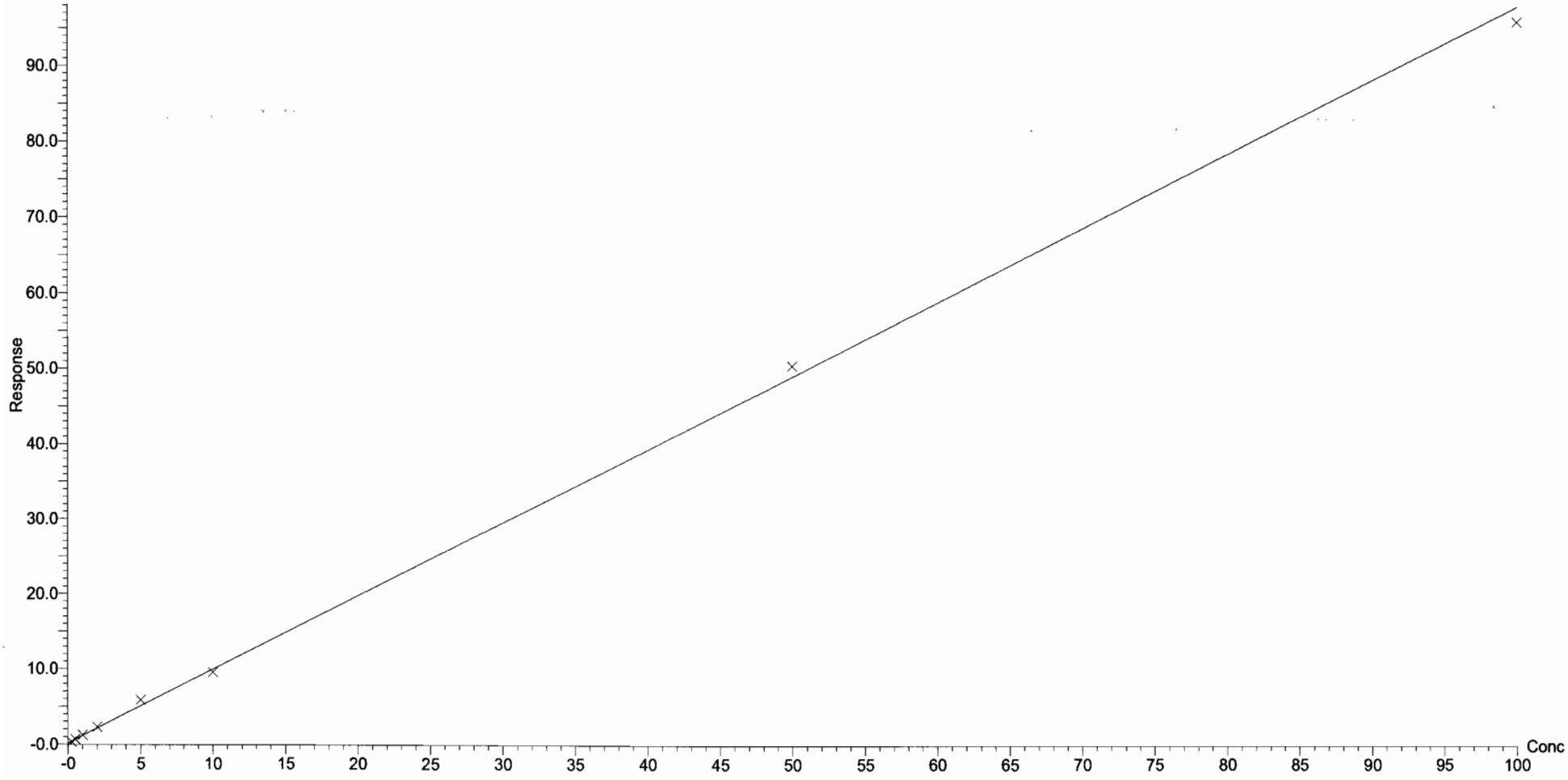
Compound name: PFOA
Correlation coefficient: r = 0.999168, r^2 = 0.998337
Calibration curve: 0.97941 * x + 0.169979
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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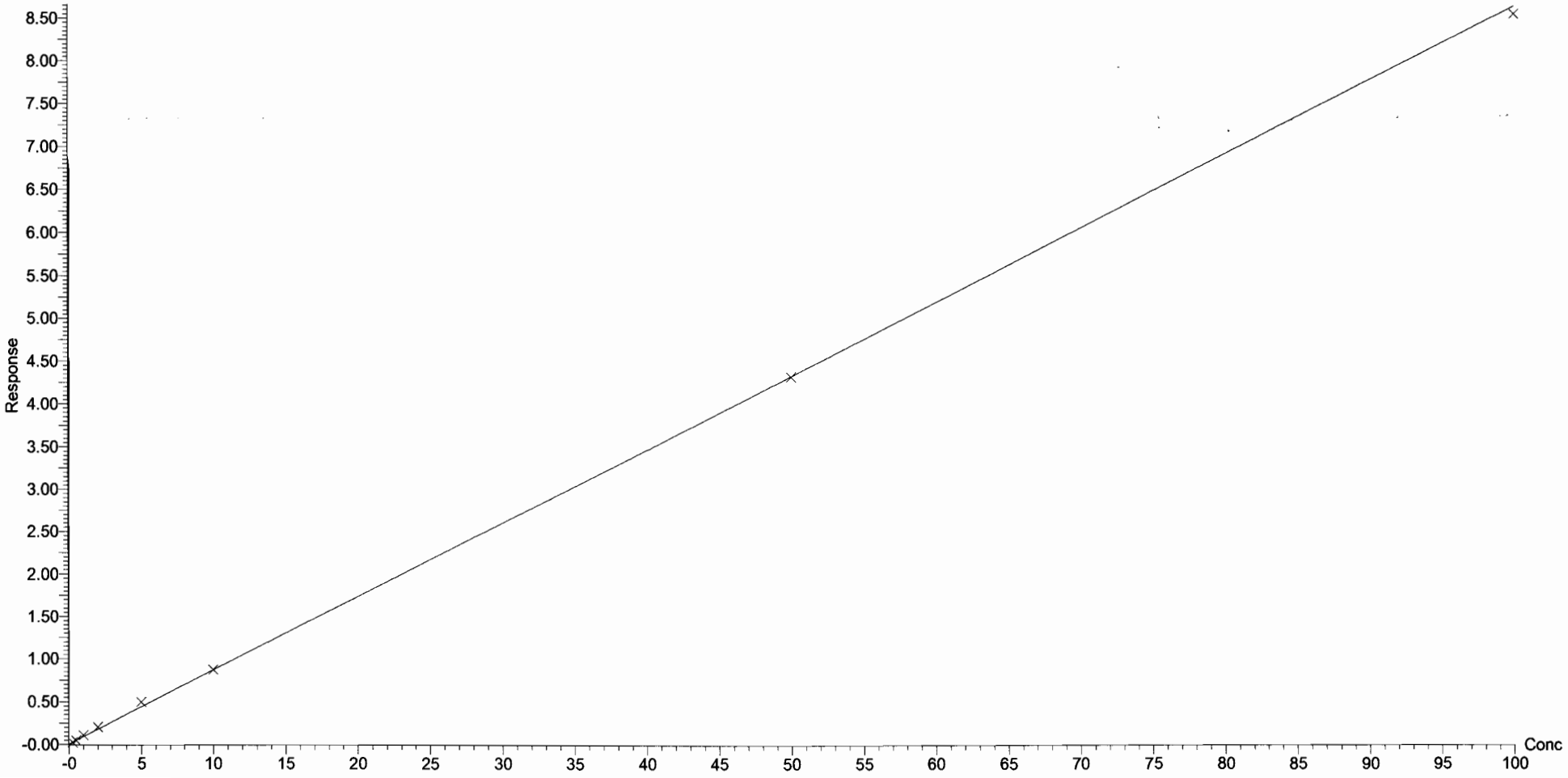
Compound name: PFHpS
Correlation coefficient: r = 0.999393, r^2 = 0.998786
Calibration curve: 0.0865329 * x + 0.00638428
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



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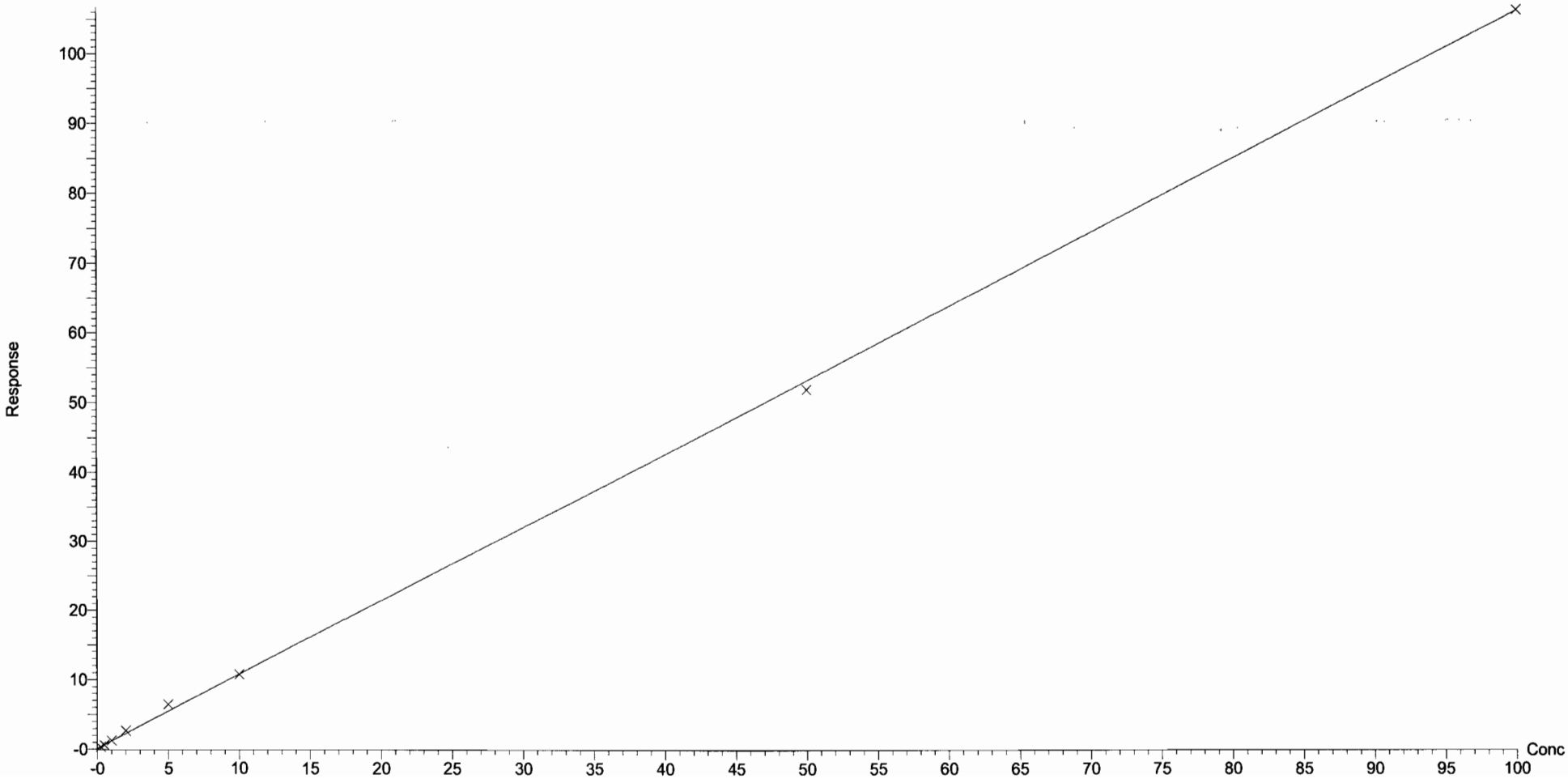
Compound name: PFNA
Correlation coefficient: r = 0.999135, r^2 = 0.998270
Calibration curve: 1.06404 * x + 0.151731
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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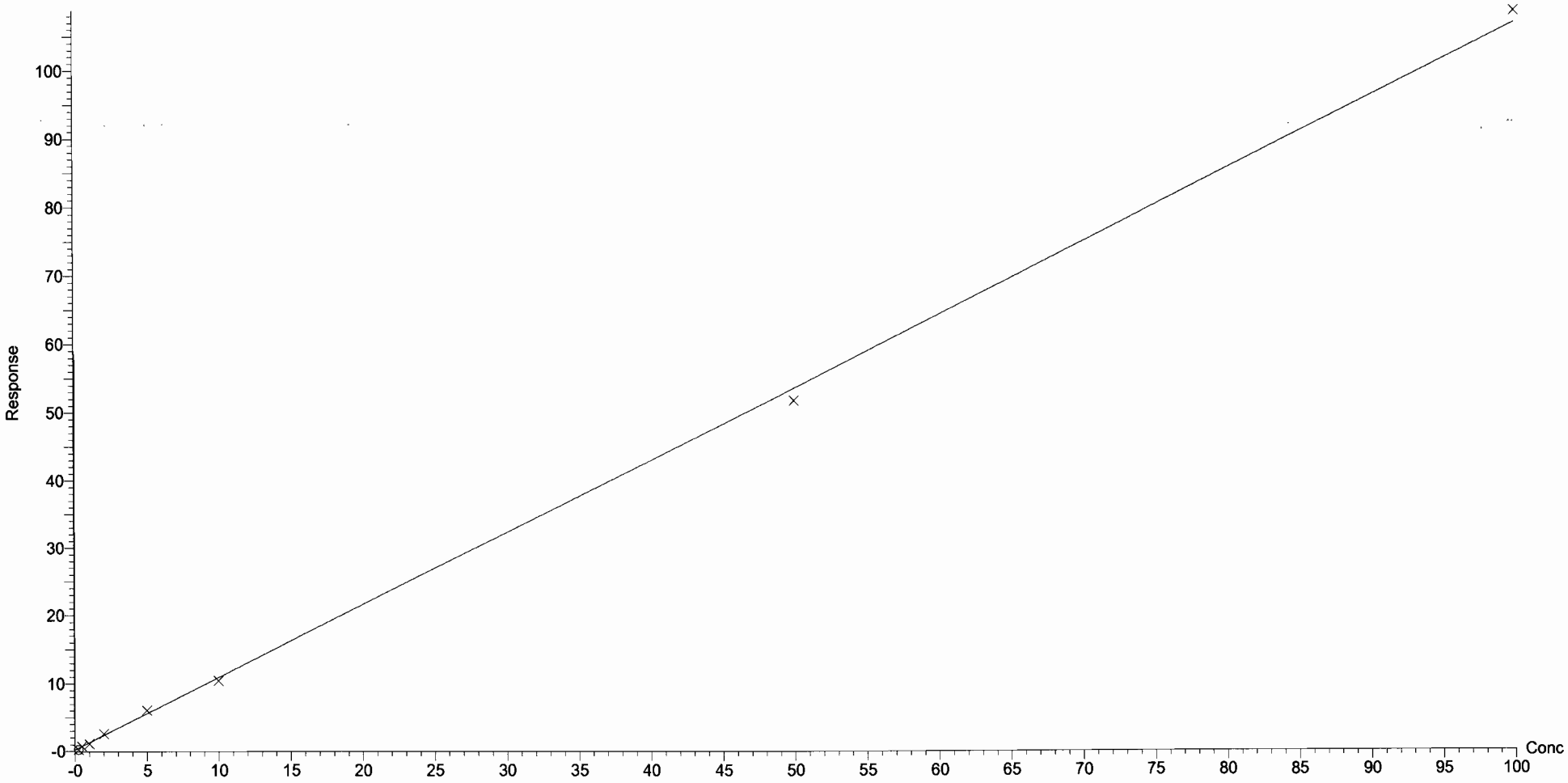
Compound name: PFOSA
Correlation coefficient: r = 0.999394, r^2 = 0.998789
Calibration curve: 1.06848 * x + 0.223419
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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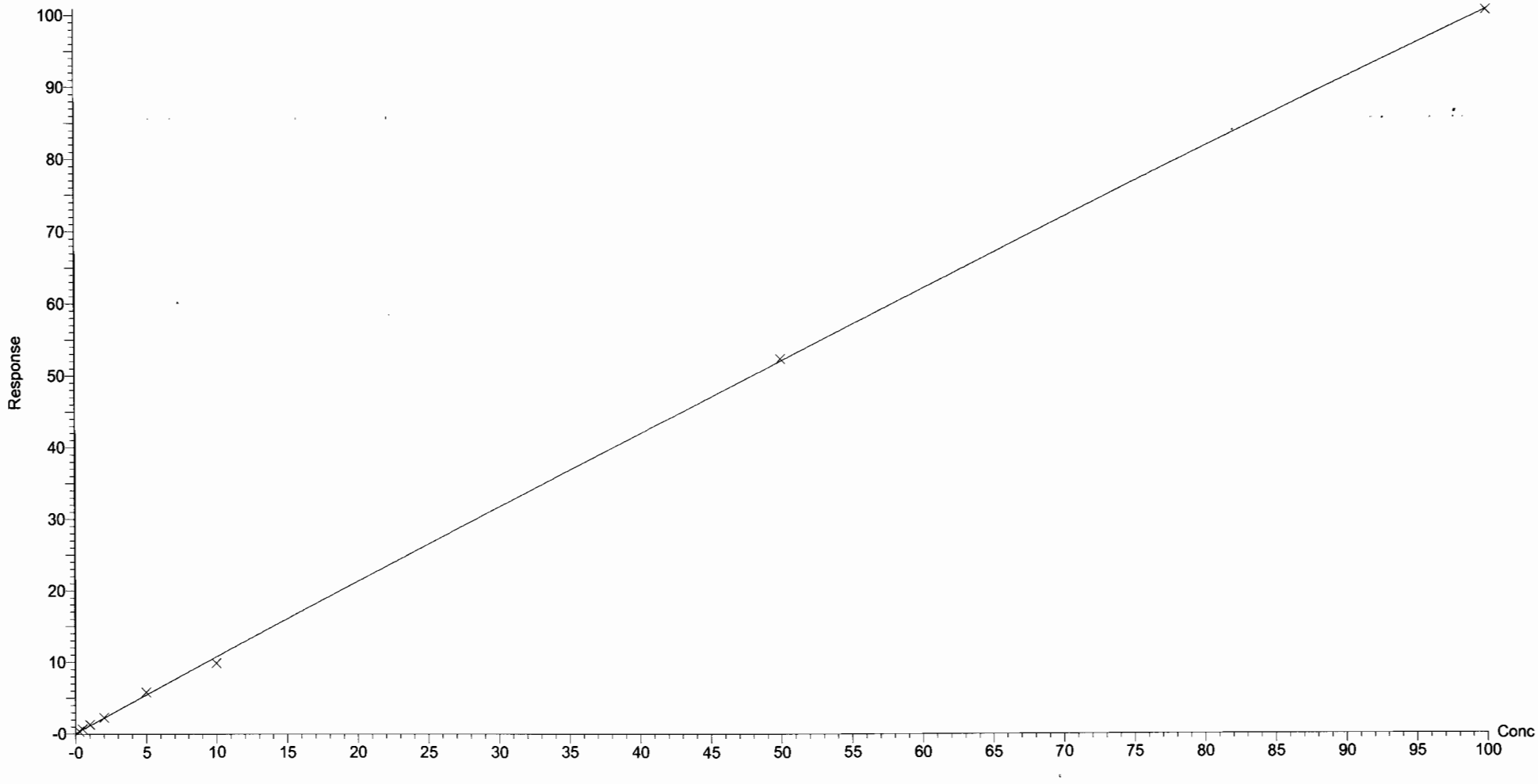
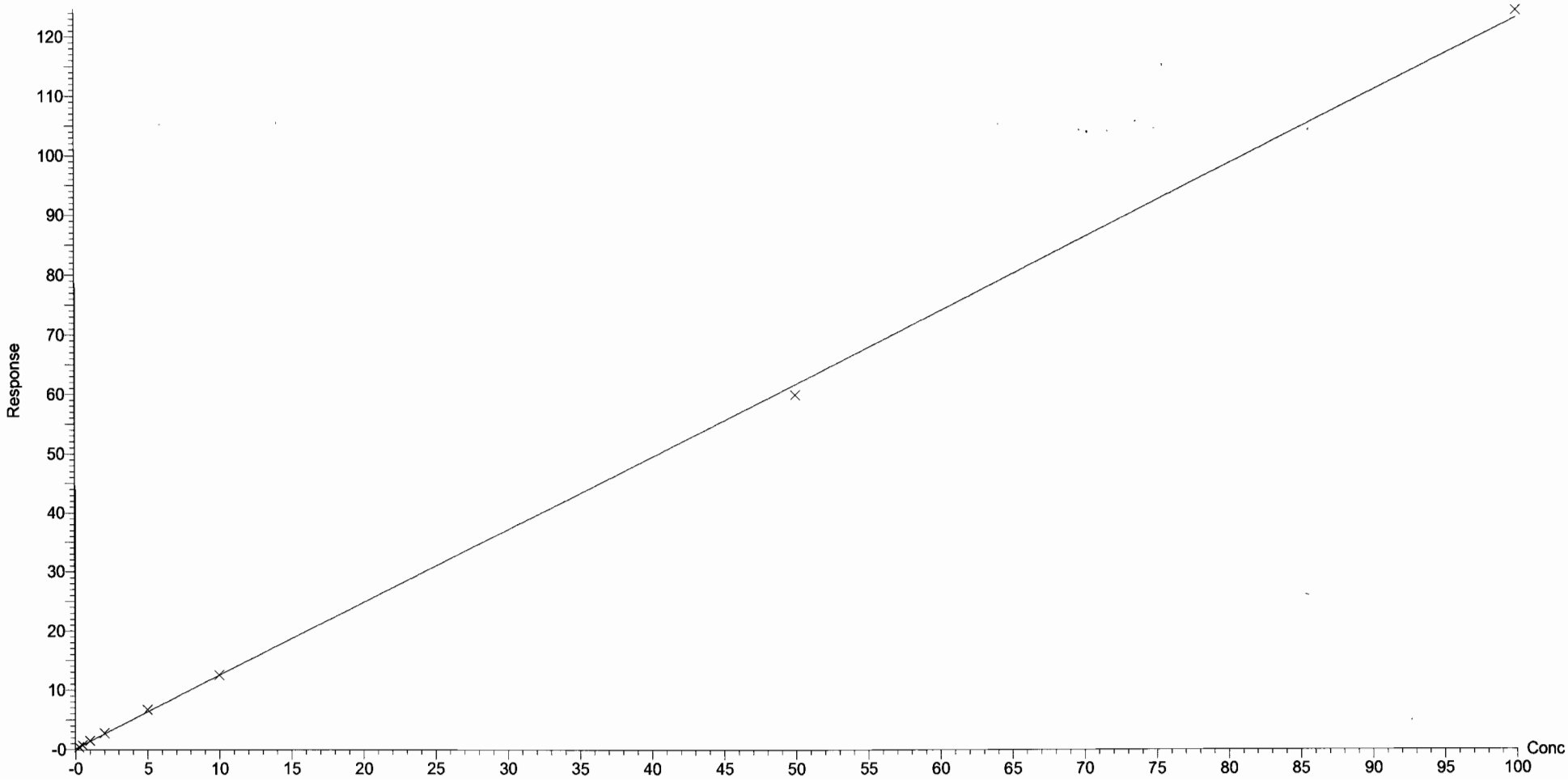
Compound name: PFOS
Coefficient of Determination: R^2 = 0.999093
Calibration curve: -0.000652924 * x^2 + 1.07342 * x + 0.0667583
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

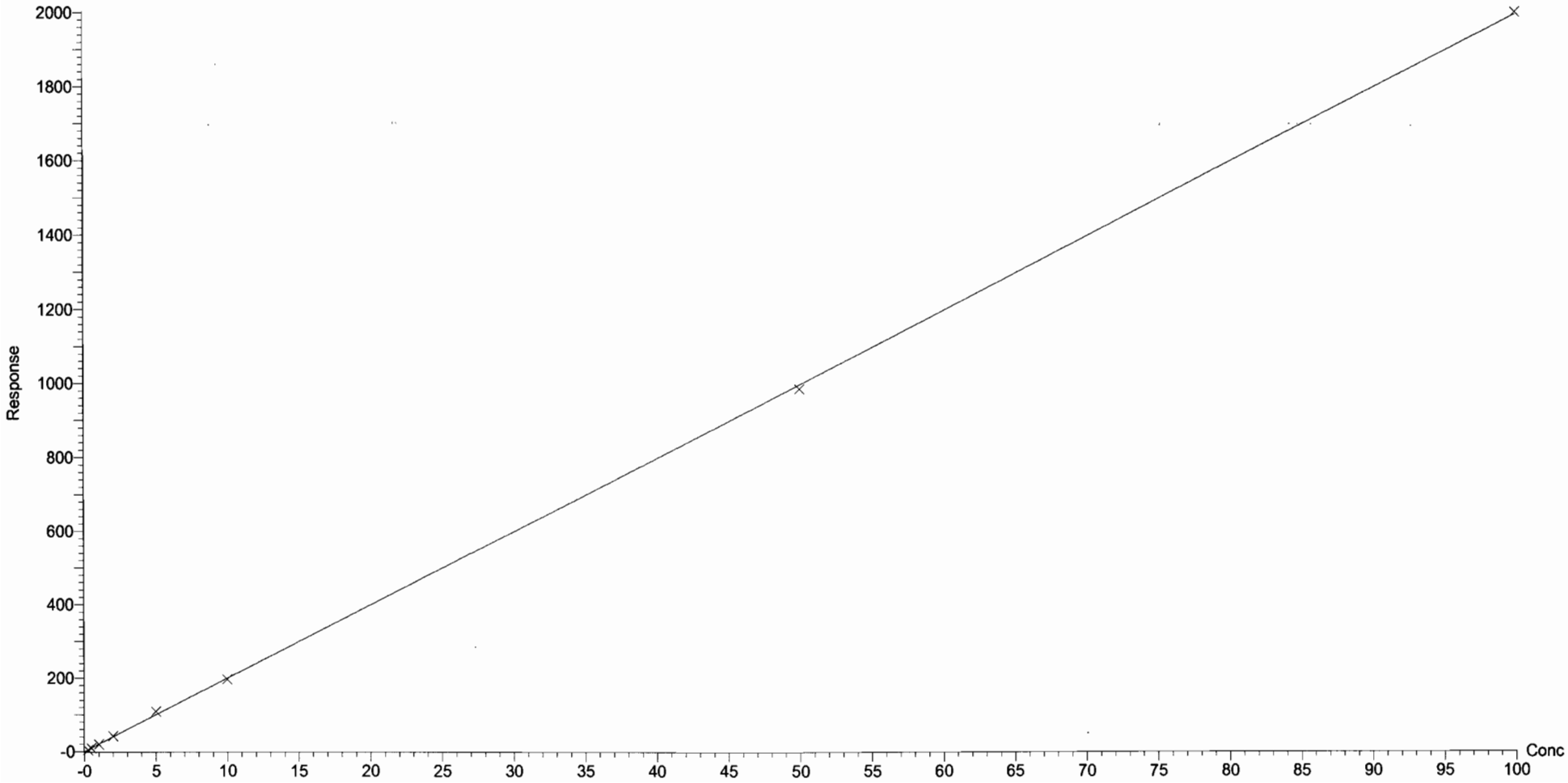
Compound name: PFDA
Correlation coefficient: r = 0.999716, r^2 = 0.999431
Calibration curve: 1.23228 * x + 0.147279
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

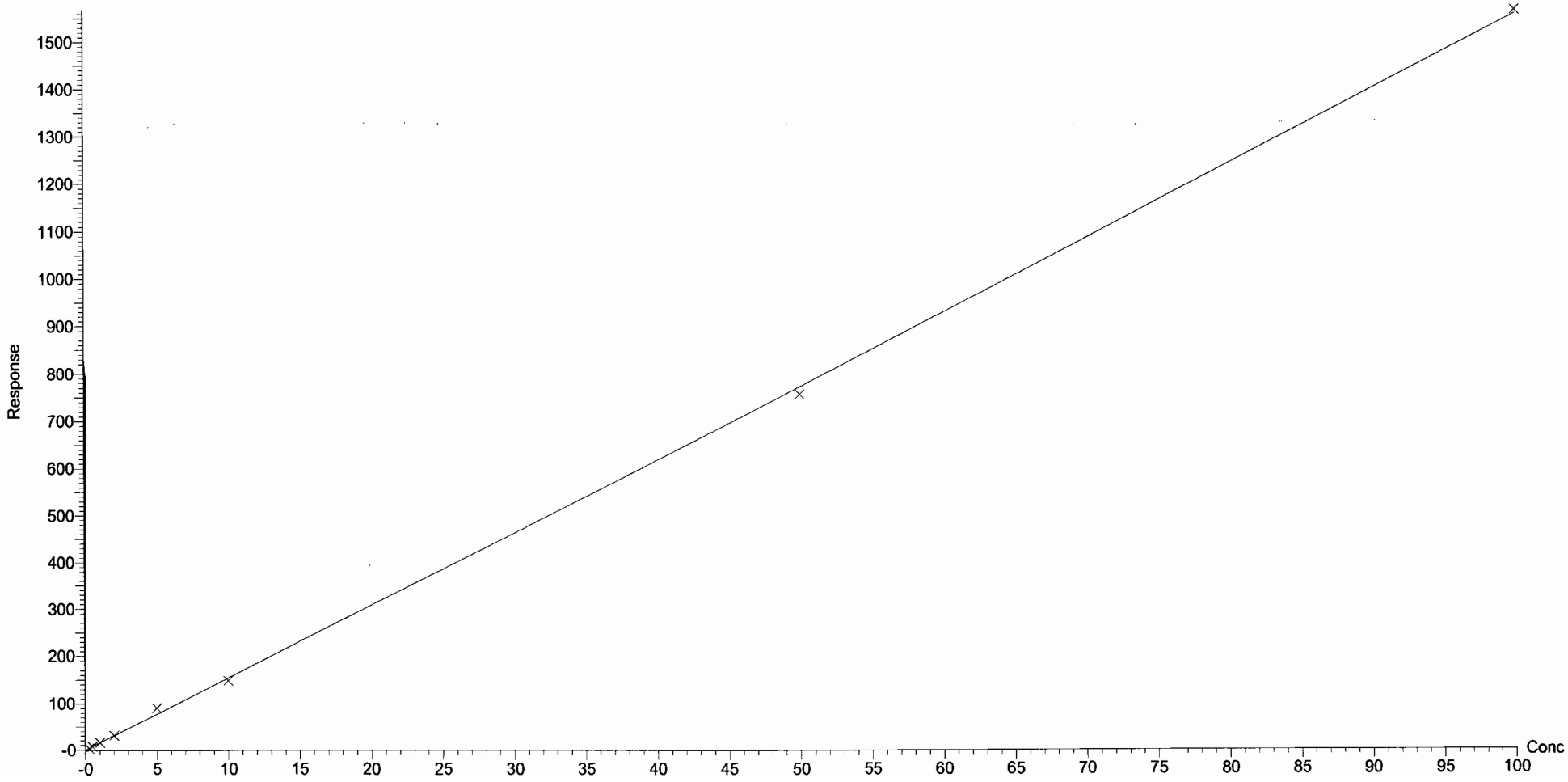
Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999665
Calibration curve: 0.00022775 * x^2 + 19.9472 * x + 0.0898127
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

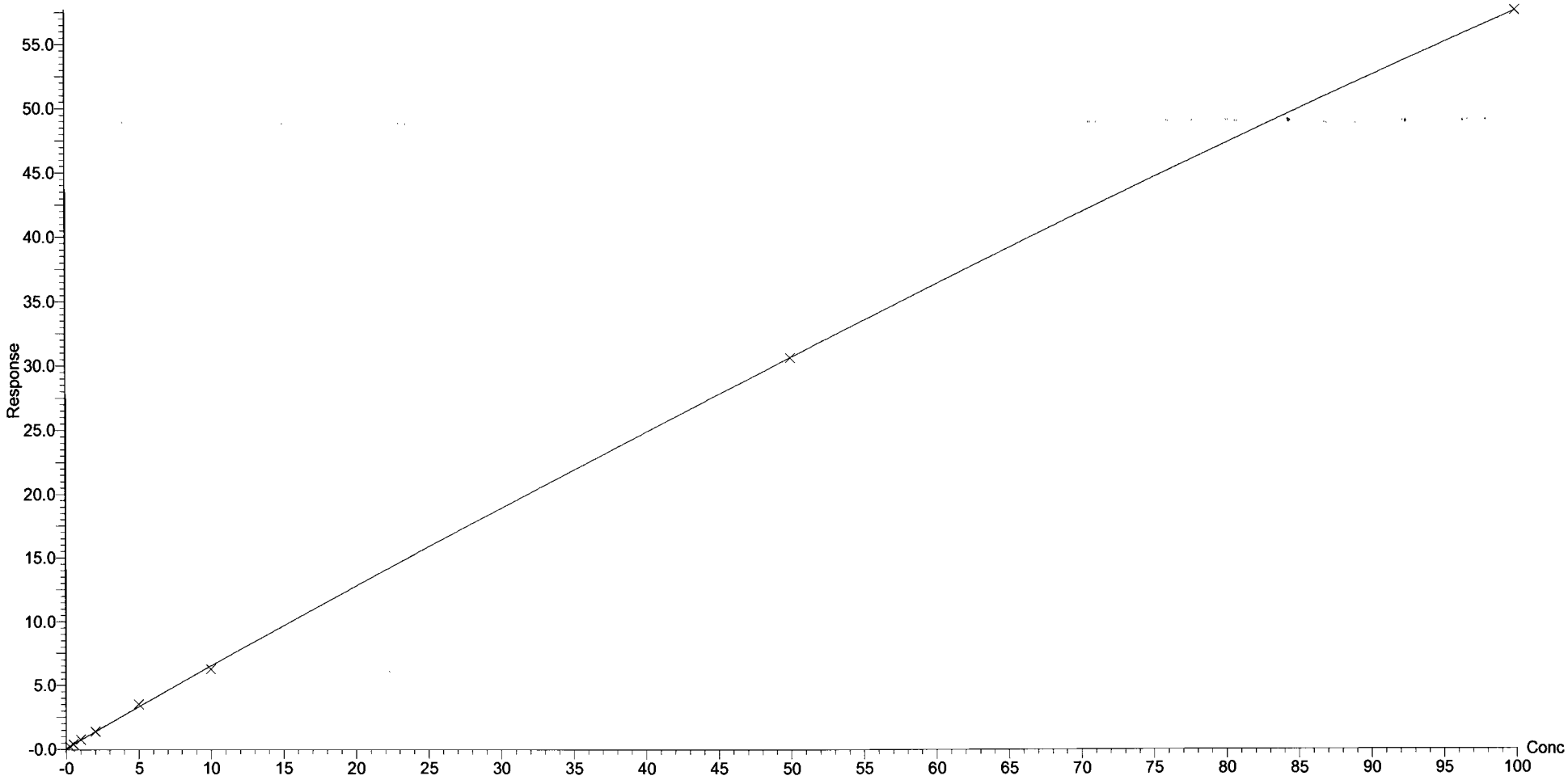
Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.998879
Calibration curve: 0.00266631 * x^2 + 15.3353 * x + 0.19972
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

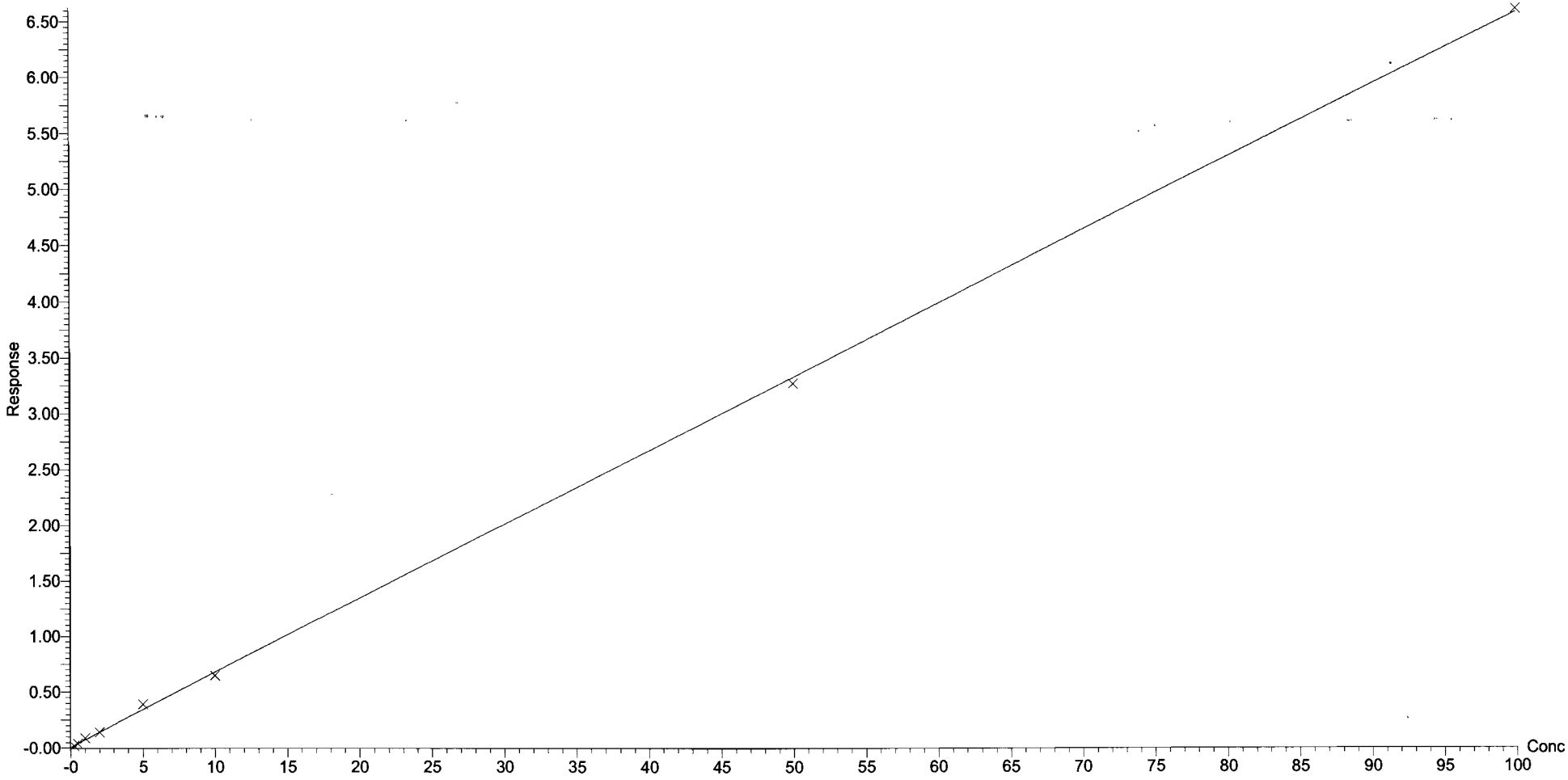
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999664
Calibration curve: -0.000726299 * x^2 + 0.648776 * x + 0.0756752
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

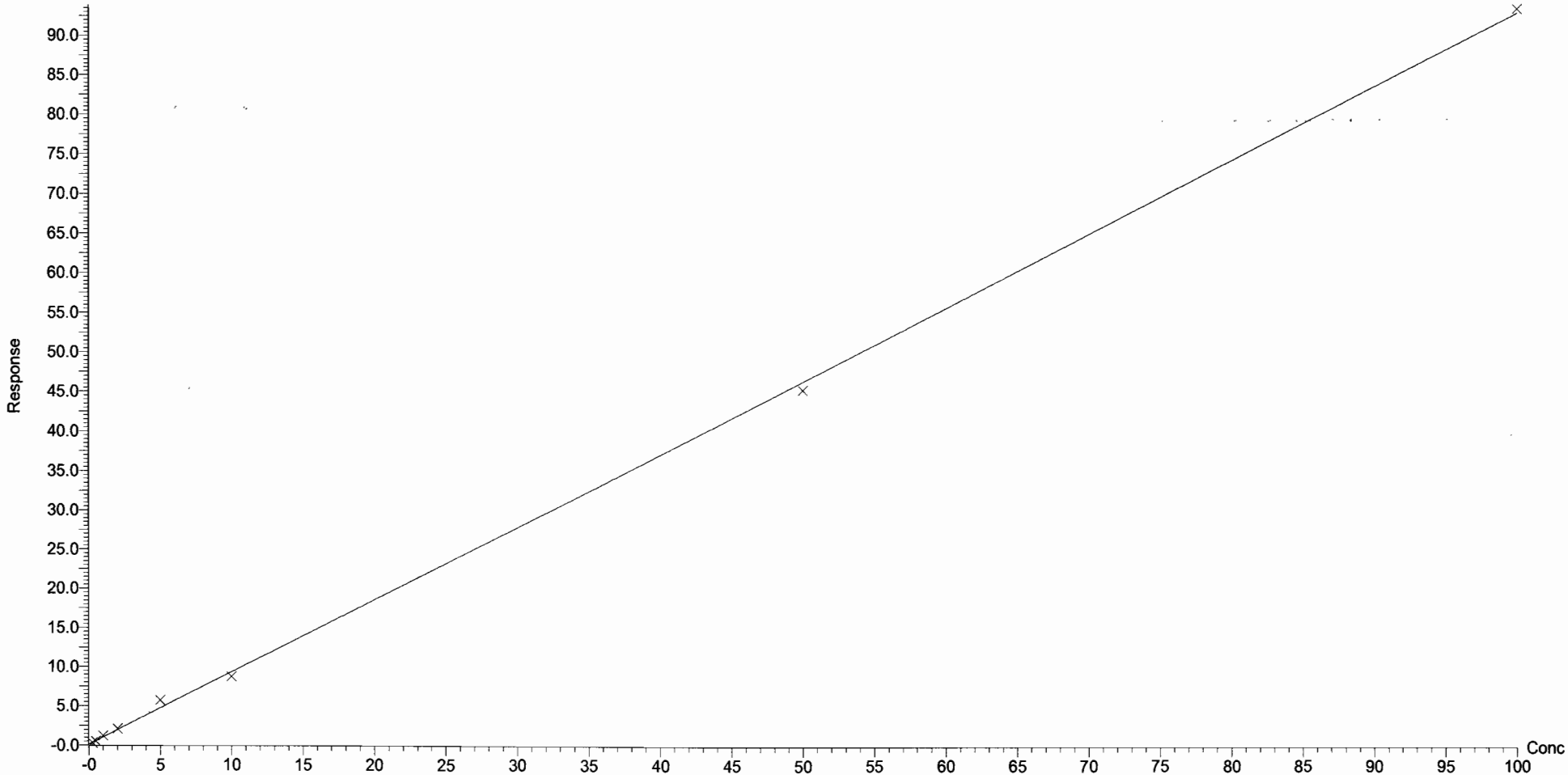
Compound name: PFDS
Coefficient of Determination: R^2 = 0.998629
Calibration curve: -1.32982e-005 * x^2 + 0.0672039 * x + 0.00706292
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

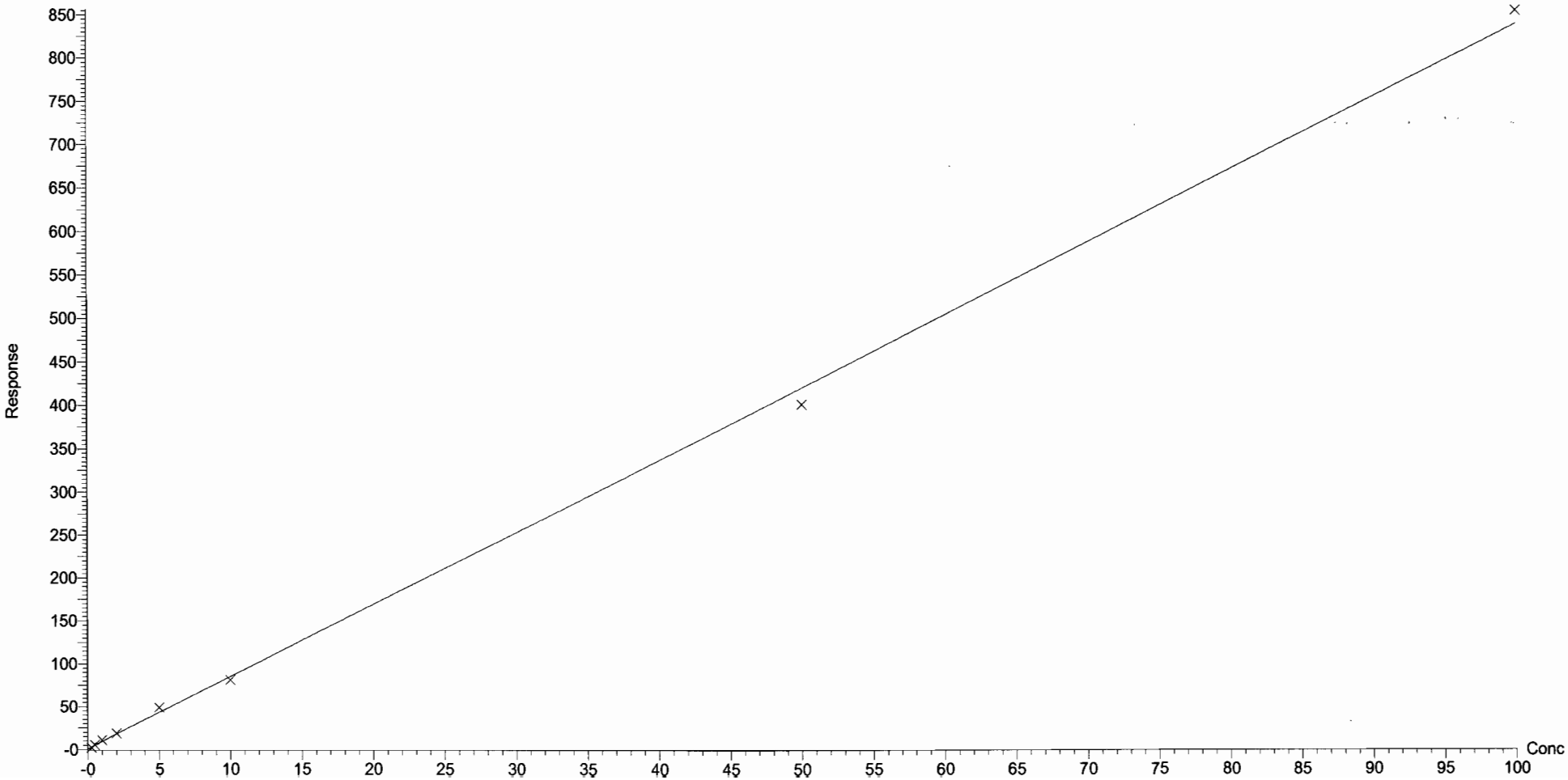
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997867
Calibration curve: 0.000108363 * x^2 + 0.920945 * x + 0.119714
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

Compound name: PFTrDA
Correlation coefficient: r = 0.999051, r^2 = 0.998103
Calibration curve: 8.39255 * x + 1.22744
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

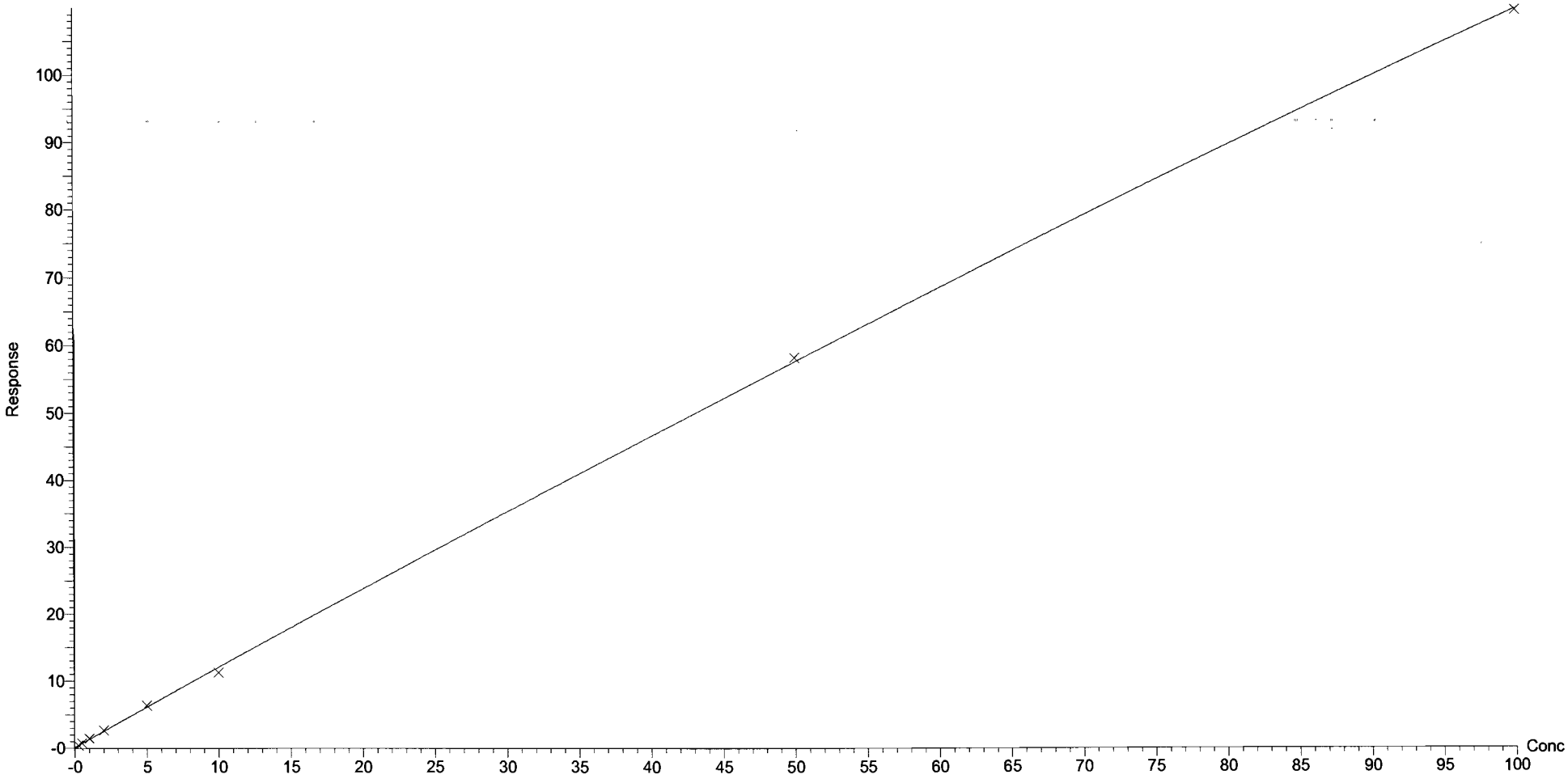


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:06:47 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999478
Calibration curve: -0.00104256 * x^2 + 1.20262 * x + 0.131178
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

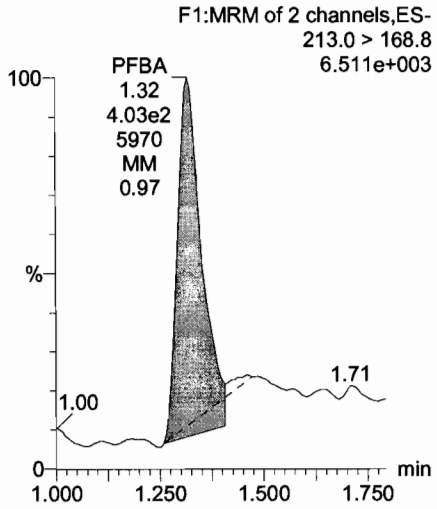
Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

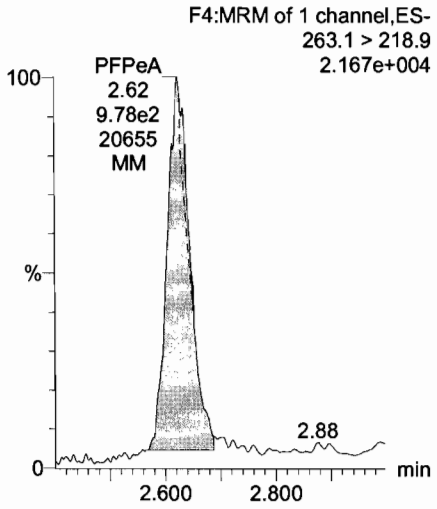
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_6, Date: 27-Jul-2017, Time: 11:48:12, ID: ST170727M1-1 PFC CS-2 17G2704, Description: PFC CS-2 17G2704

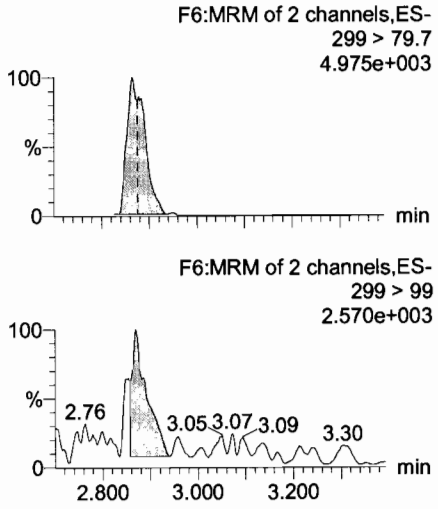
PFBA



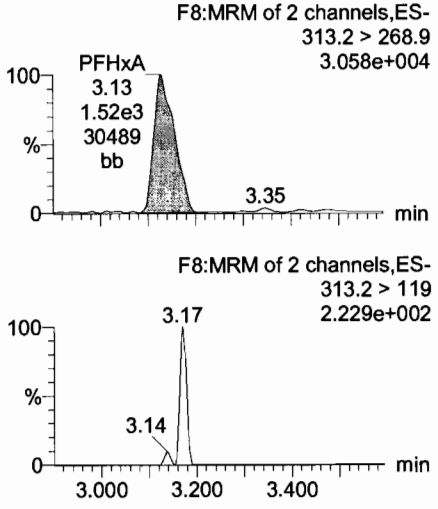
PFPeA



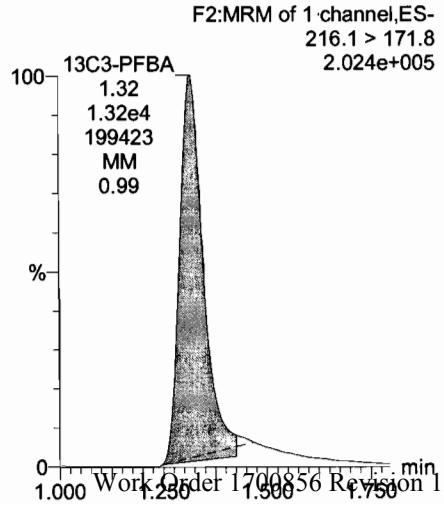
PFBS



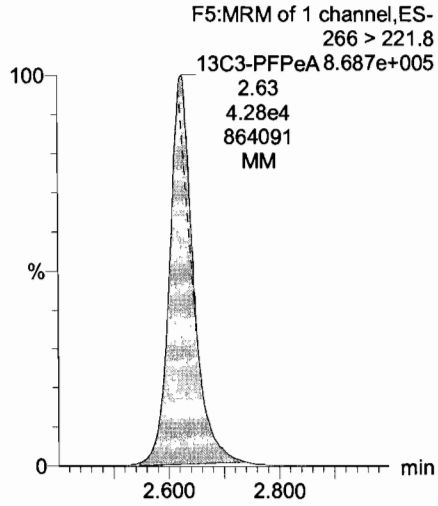
PFHxA



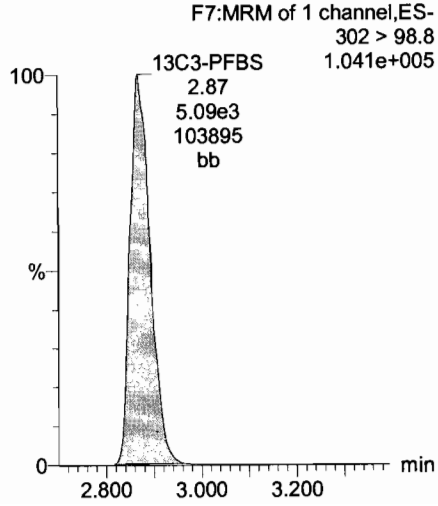
13C3-PFBA



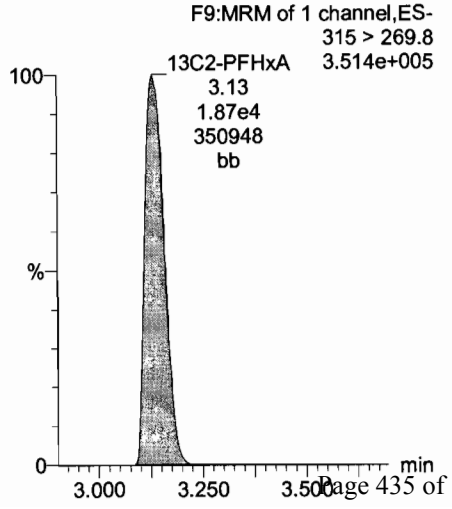
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

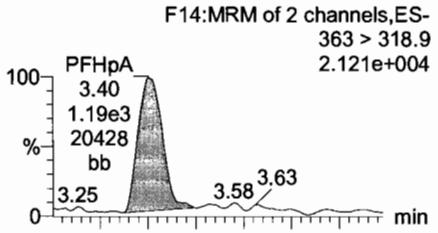


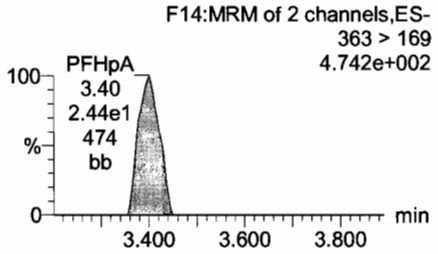
Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

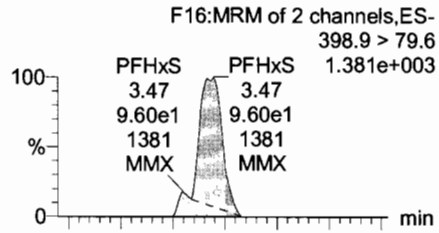
Name: 170727M1_6, Date: 27-Jul-2017, Time: 11:48:12, ID: ST170727M1-1 PFC CS-2 17G2704, Description: PFC CS-2 17G2704

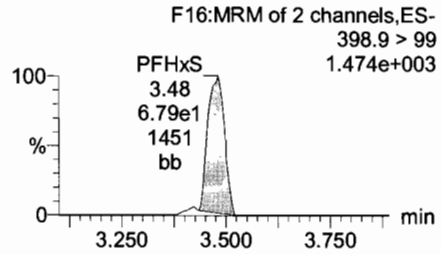
PFHpA



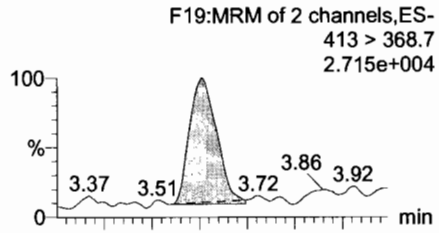


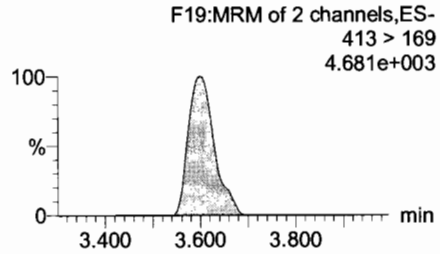
Total PFHxS



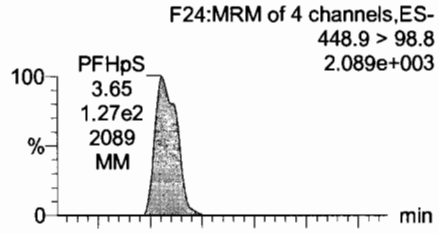


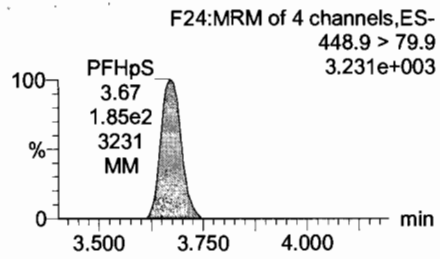
Total PFOA



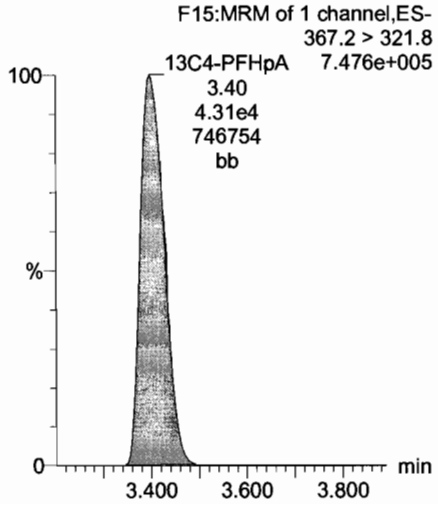


PFHpS

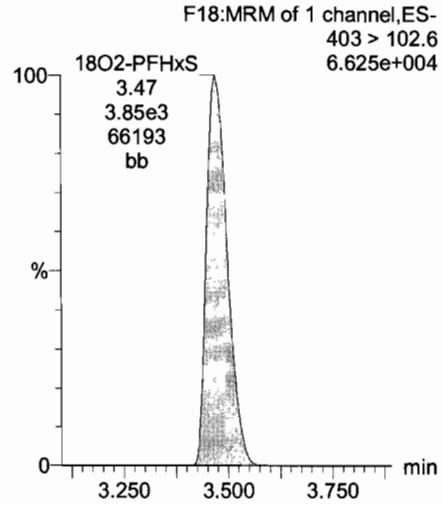




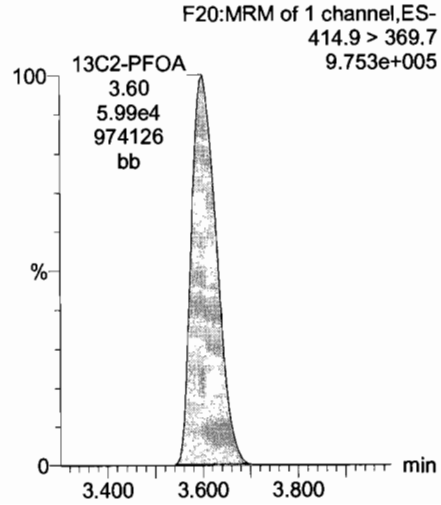
13C4-PFHpA



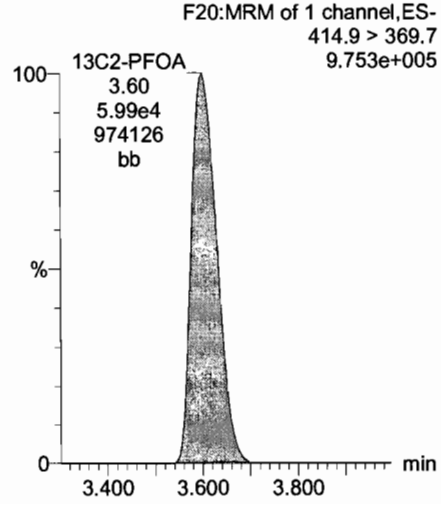
18O2-PFHxS



13C2-PFOA



13C2-PFOA



Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
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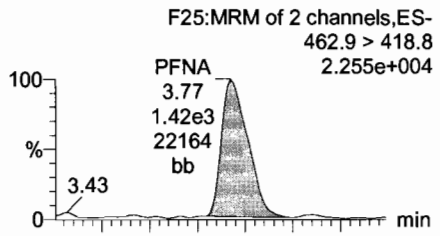
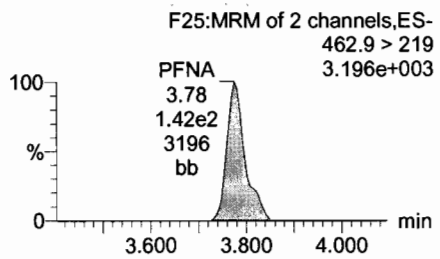
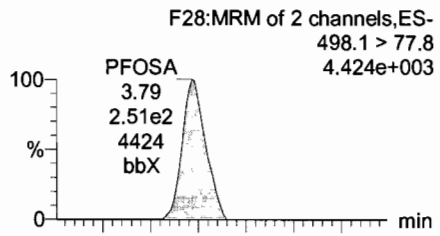
Name: 170727M1_6, Date: 27-Jul-2017, Time: 11:48:12, ID: ST170727M1-1 PFC CS-2 17G2704, Description: PFC CS-2 17G2704

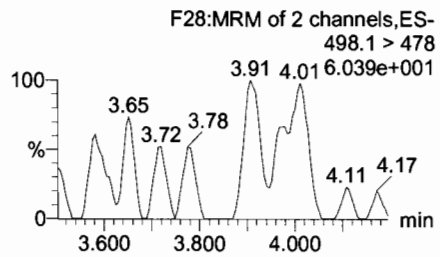
PFNA



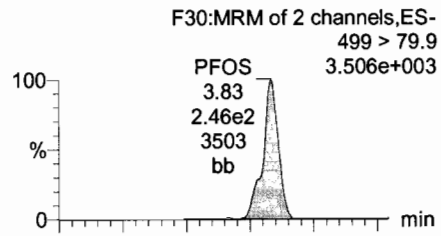


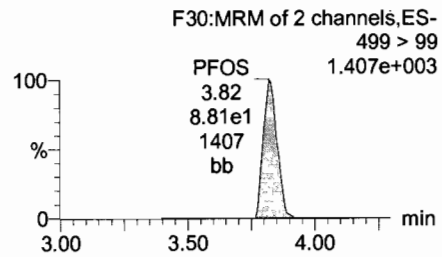
PFOSA



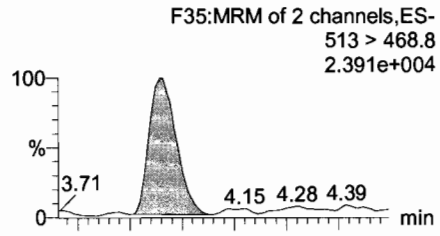


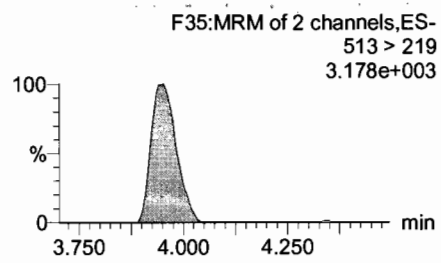
Total PFOS



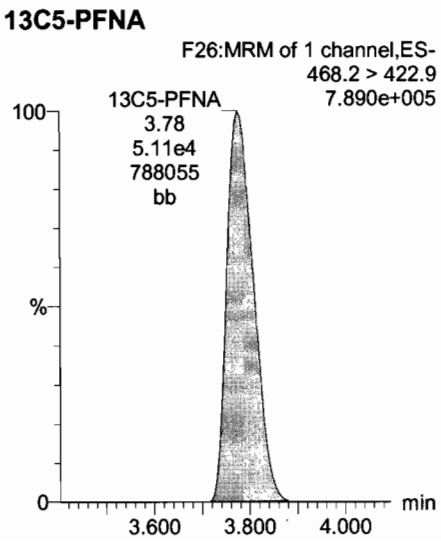


PFDA

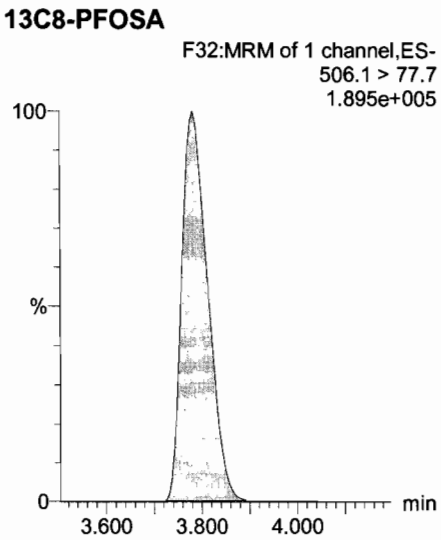




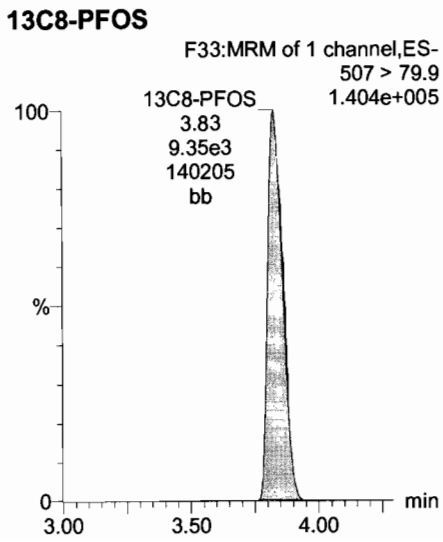
13C5-PFNA



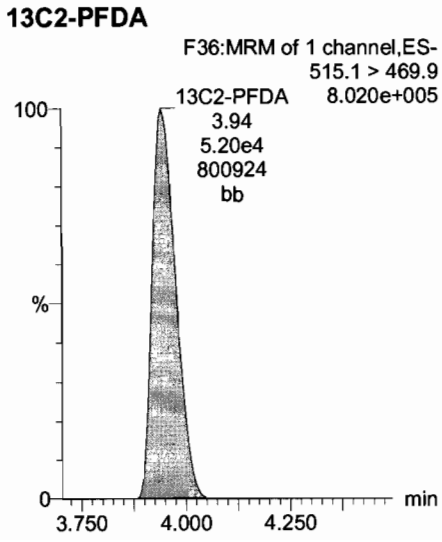
13C8-PFOSA



13C8-PFOS



13C2-PFDA

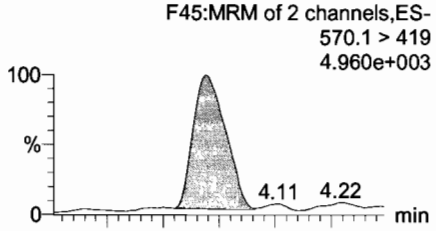


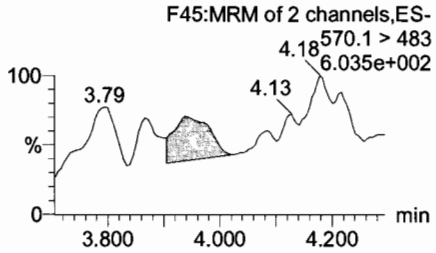
Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

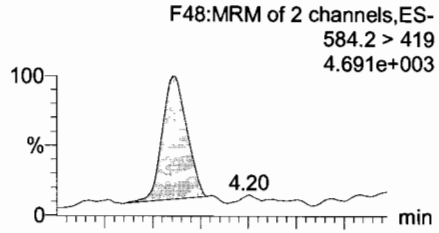
Name: 170727M1_6, Date: 27-Jul-2017, Time: 11:48:12, ID: ST170727M1-1 PFC CS-2 17G2704, Description: PFC CS-2 17G2704

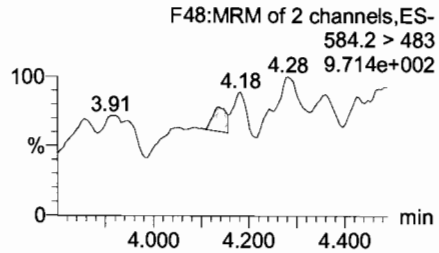
N-MeFOSAA



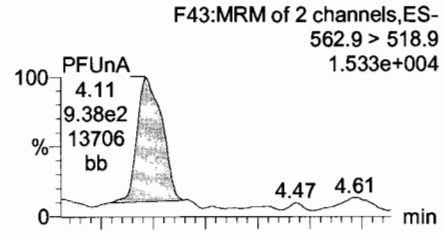


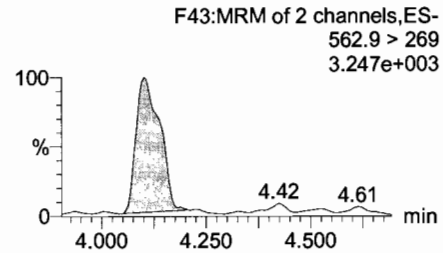
N-EtFOSAA



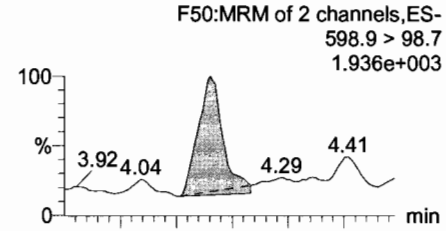


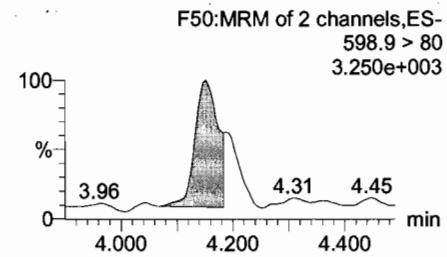
PFUnA





PFDS





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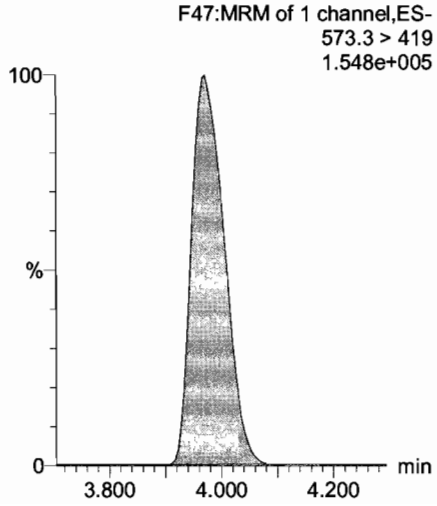

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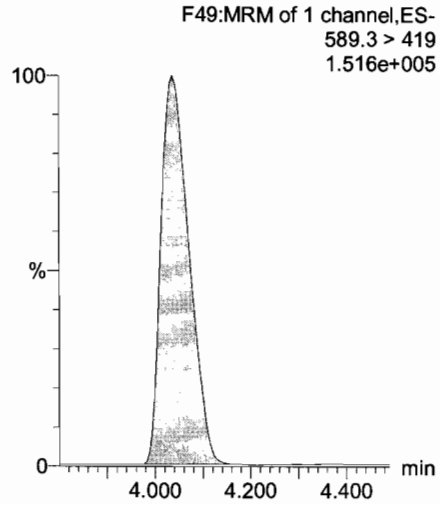
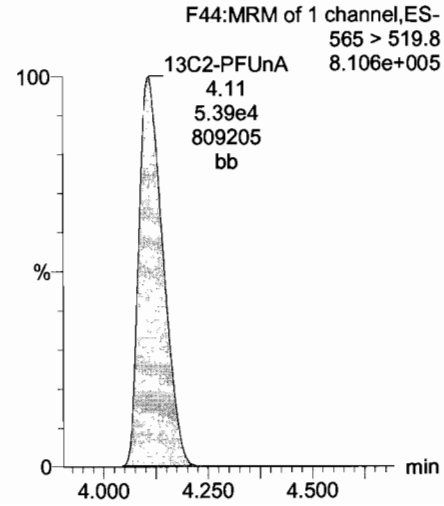


13C2-PFUnA



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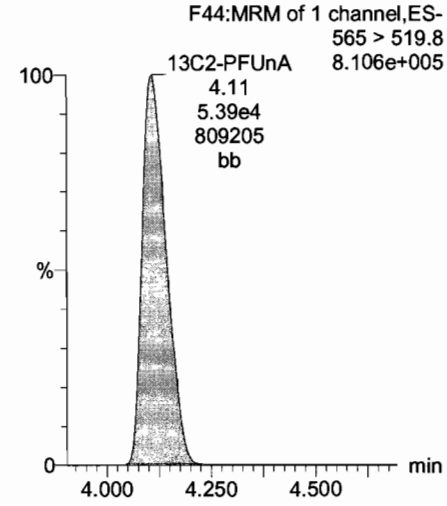

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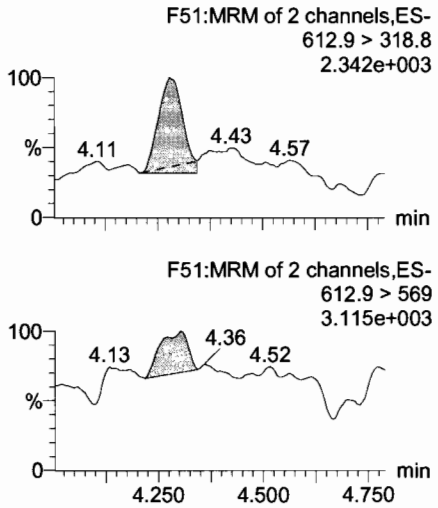
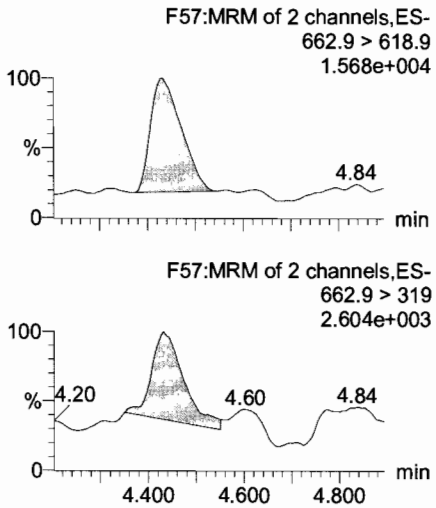
Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

Name: 170727M1_6, Date: 27-Jul-2017, Time: 11:48:12, ID: ST170727M1-1 PFC CS-2 17G2704, Description: PFC CS-2 17G2704

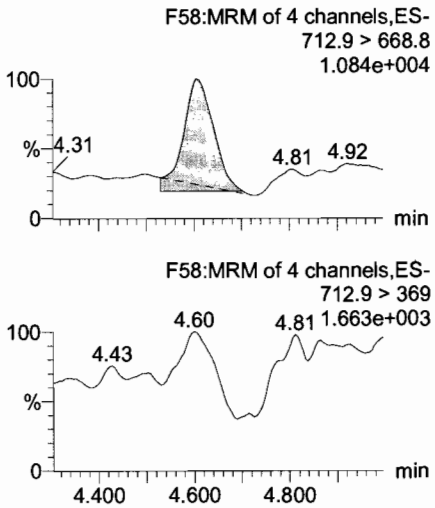
PFDoA



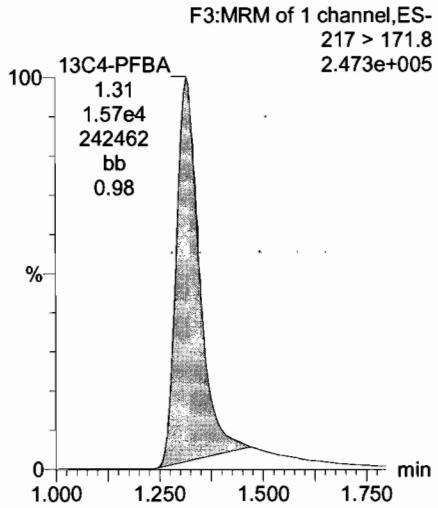
PFTrDA



PFTeDA



13C4-PFBA



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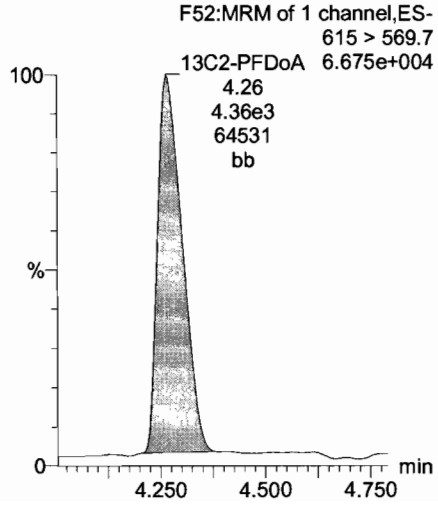

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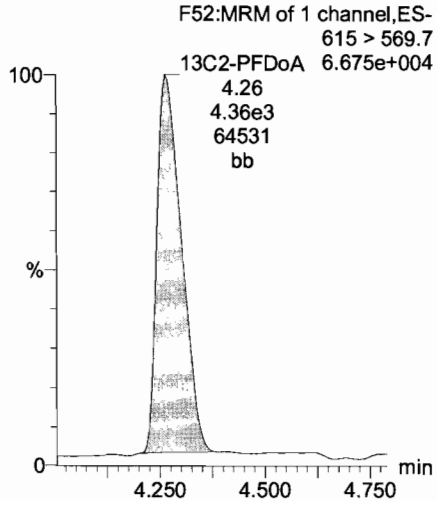

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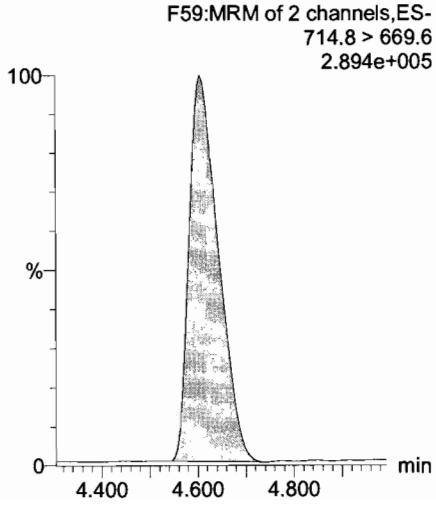
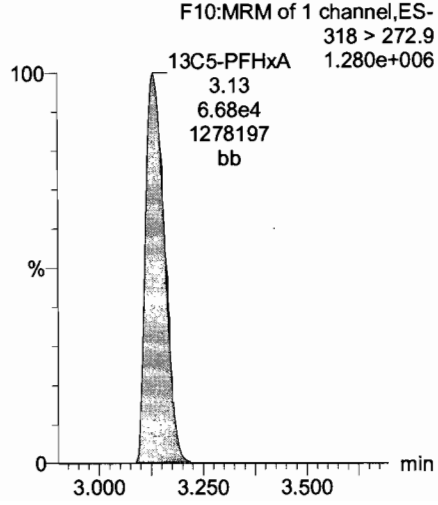


13C5-PFHxA



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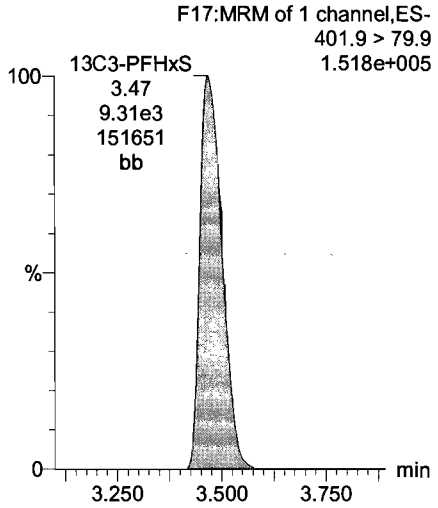
Last Altered: Friday, July 28, 2017 08:49:51 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

Name: 170727M1_6, Date: 27-Jul-2017, Time: 11:48:12, ID: ST170727M1-1 PFC CS-2 17G2704, Description: PFC CS-2 17G2704

13C3-PFHxS



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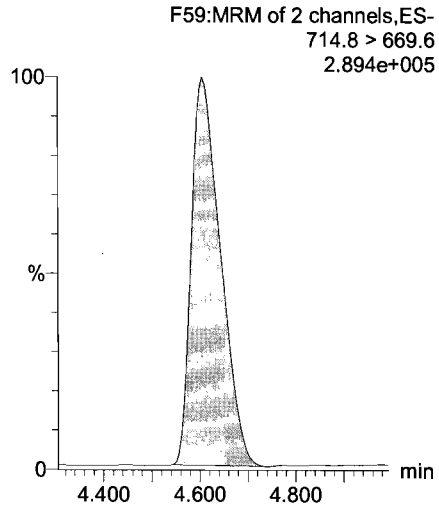

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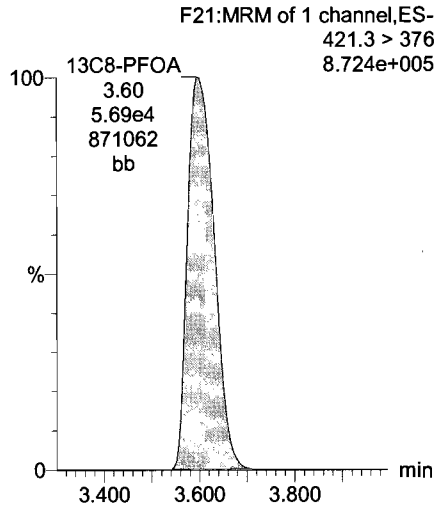
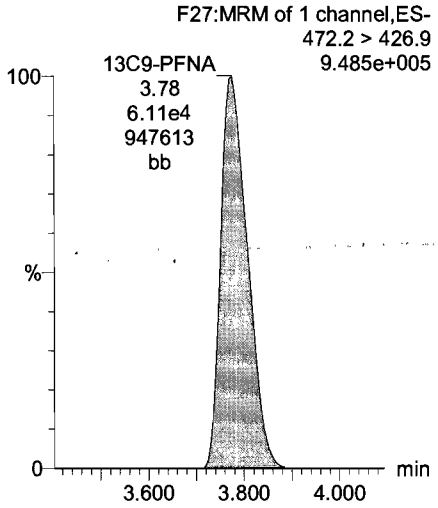
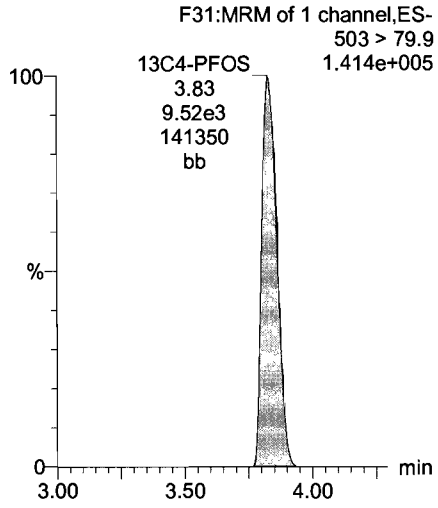


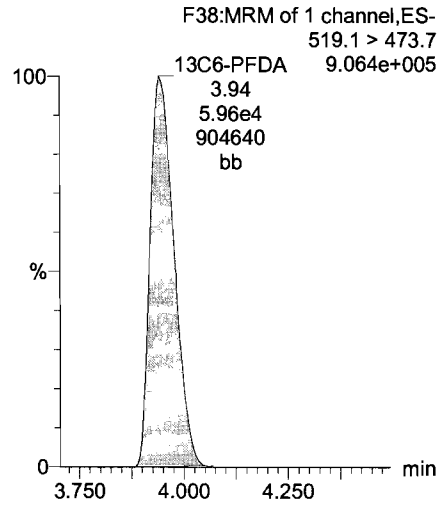
13C9-PFNA



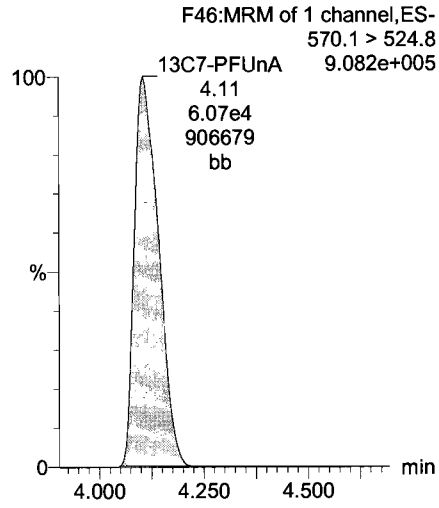
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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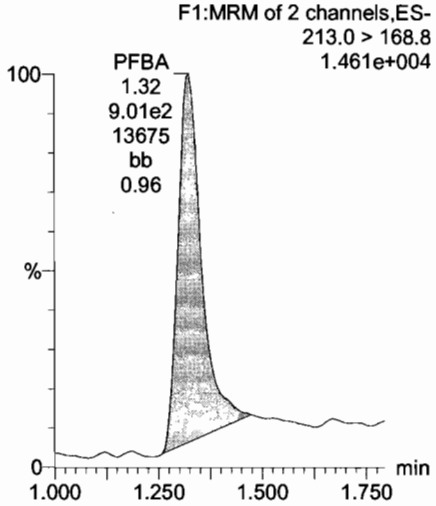
Name: 170727M1_7, Date: 27-Jul-2017, Time: 11:58:50, ID: ST170727M1-2 PFC CS-1 17G2705, Description: PFC CS-1 17G2705

PFBA



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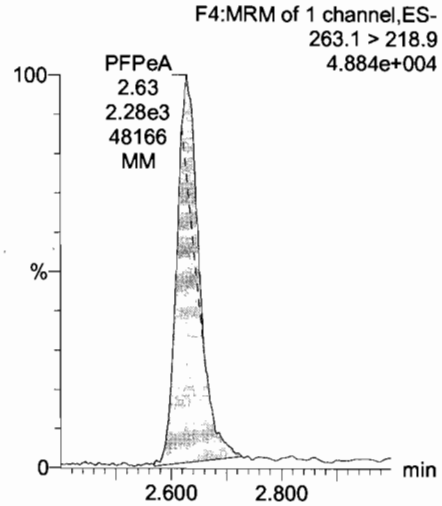

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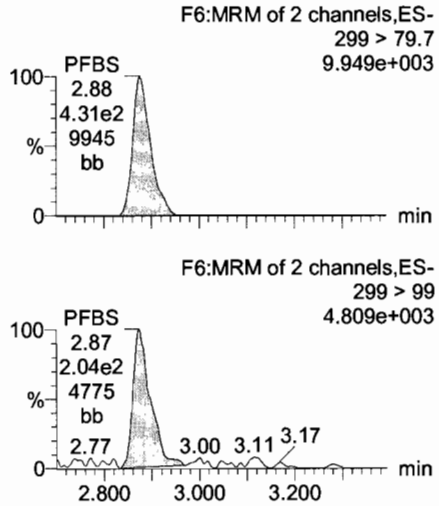
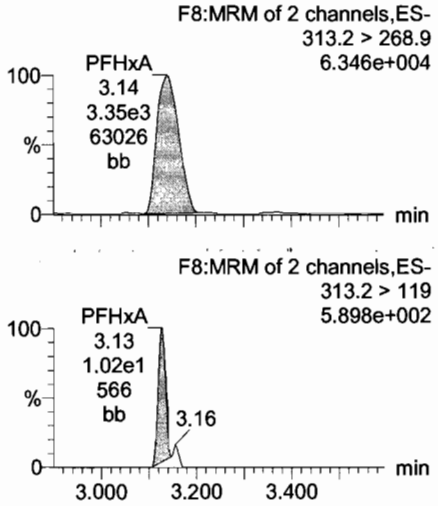
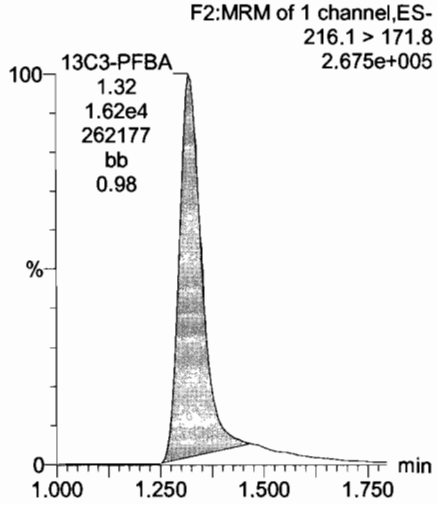


PFHxA



13C3-PFBA



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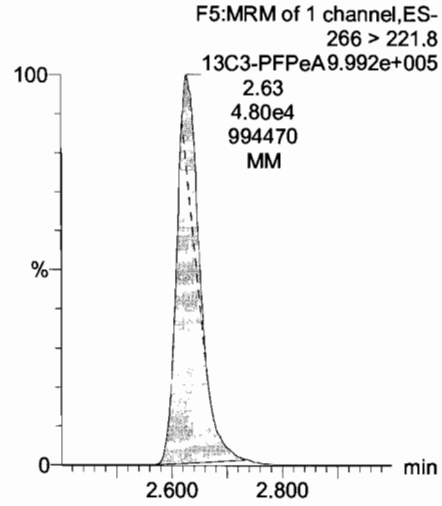

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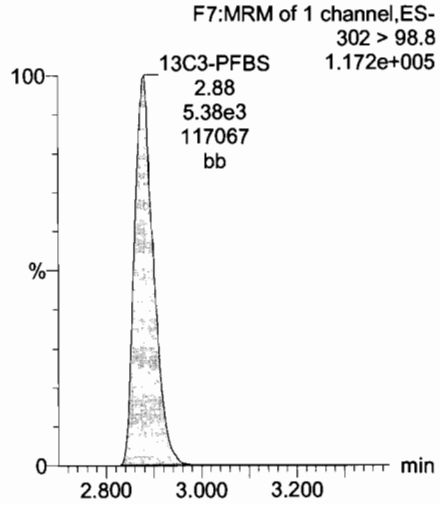
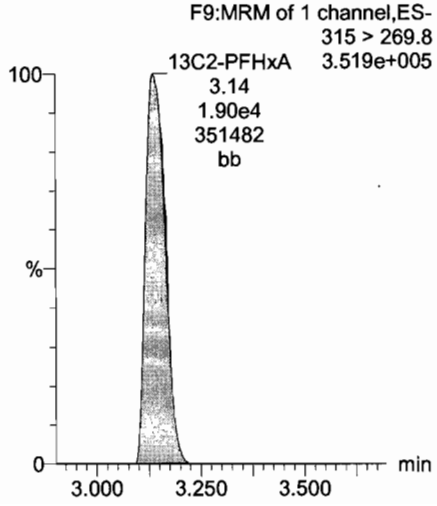


13C2-PFHxA



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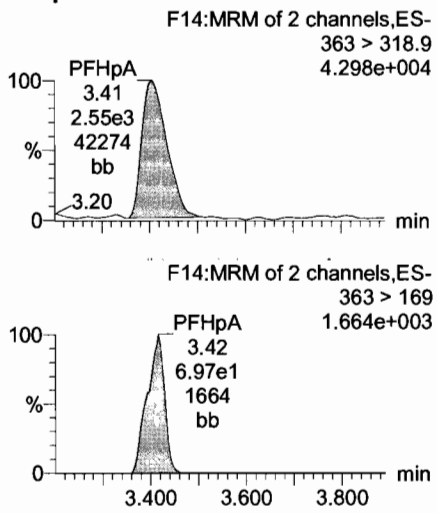
Name: 170727M1_7, Date: 27-Jul-2017, Time: 11:58:50, ID: ST170727M1-2 PFC CS-1 17G2705, Description: PFC CS-1 17G2705

PFHpA



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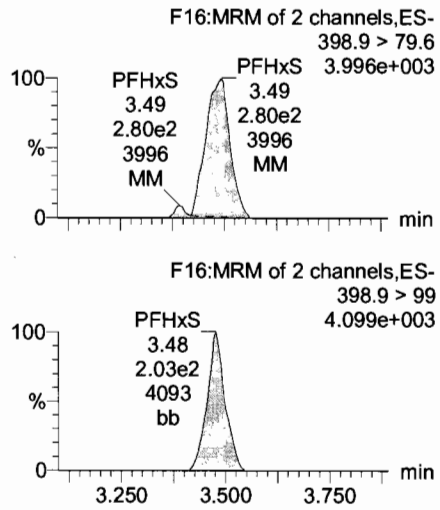
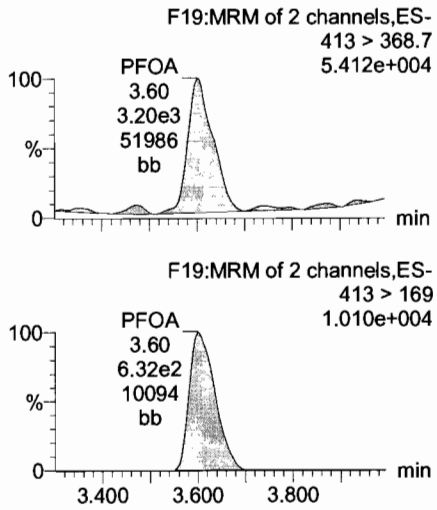
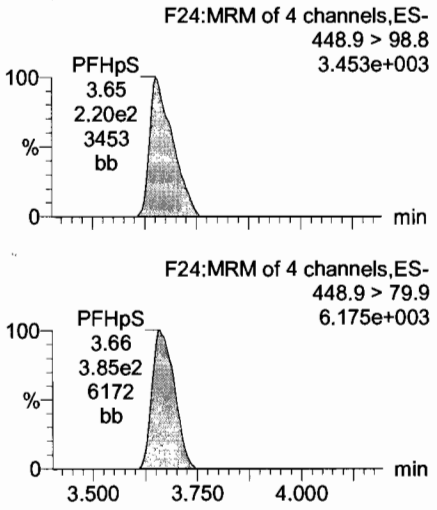


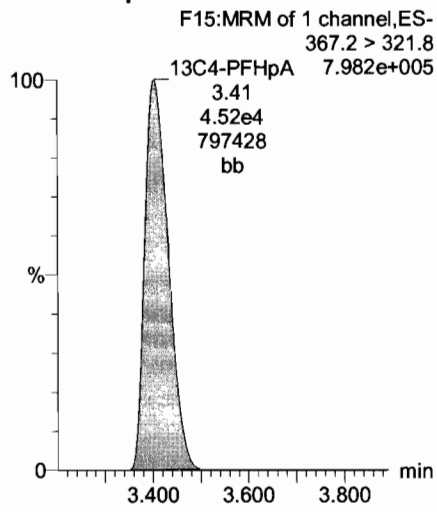
Total PFOA



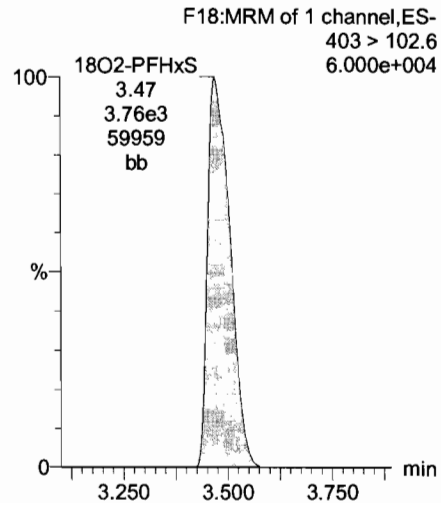
PFHpS



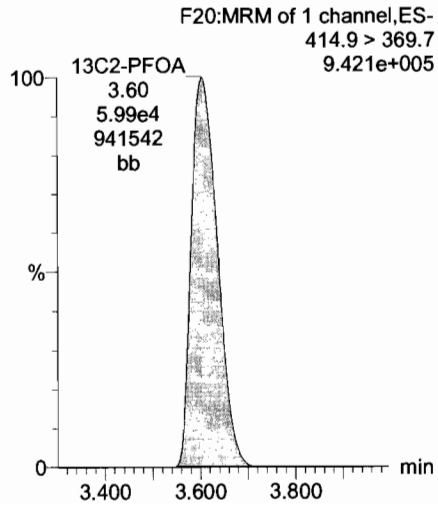
13C4-PFHpA



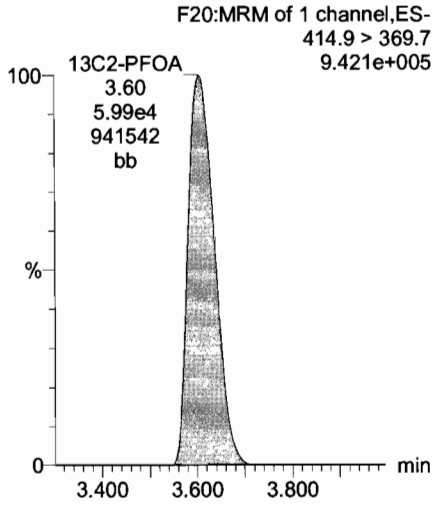
18O2-PFHxS



13C2-PFOA



13C2-PFOA



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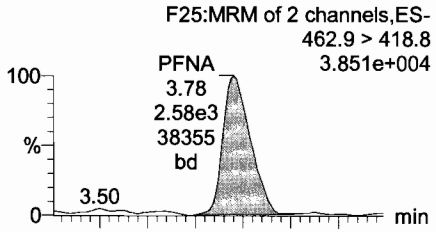
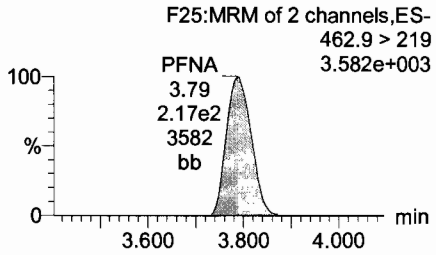
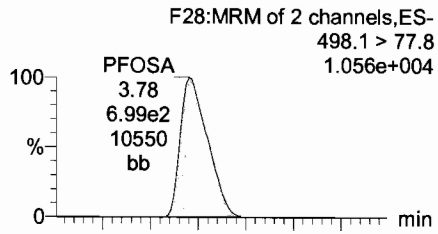
Name: 170727M1_7, Date: 27-Jul-2017, Time: 11:58:50, ID: ST170727M1-2 PFC CS-1 17G2705, Description: PFC CS-1 17G2705

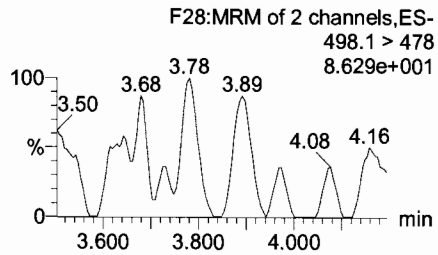
PFNA





PFOSA





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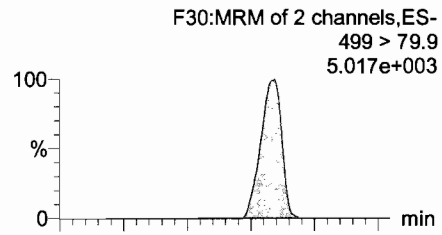

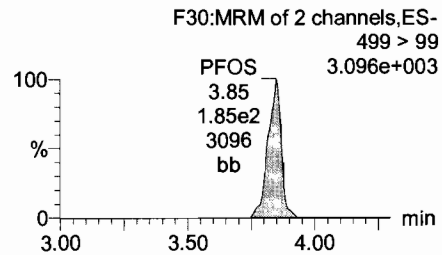

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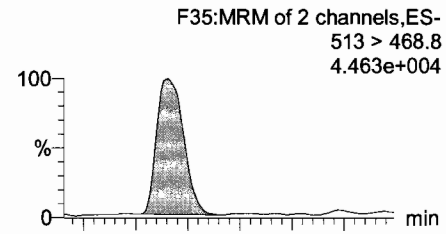
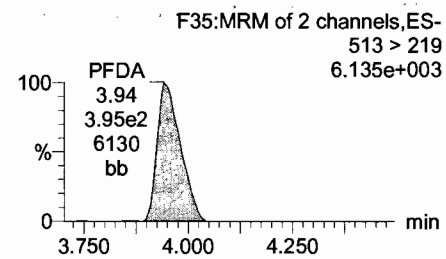
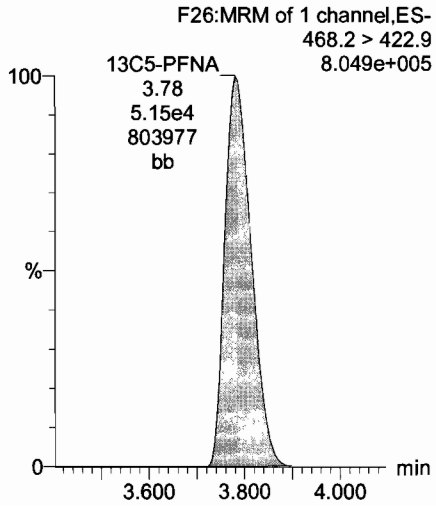
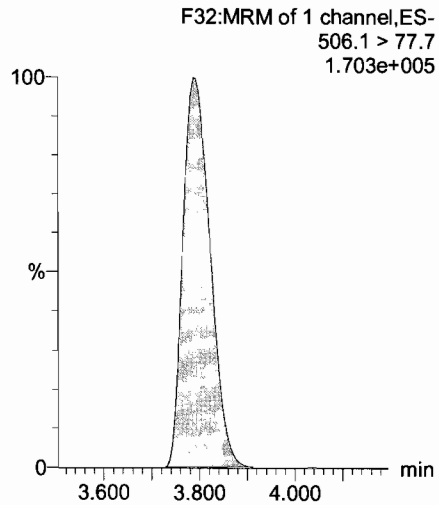




13C5-PFNA



13C8-PFOSA



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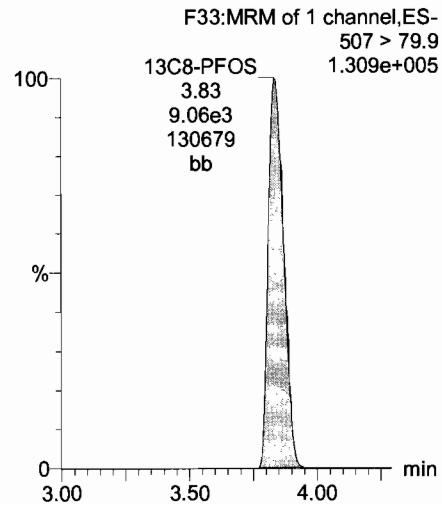

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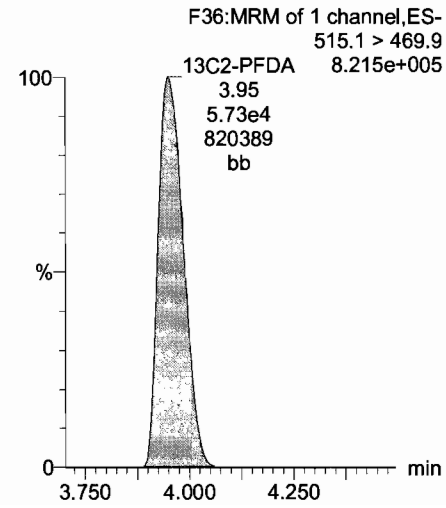

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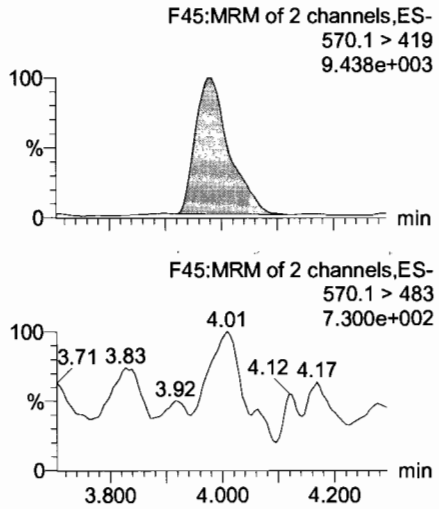
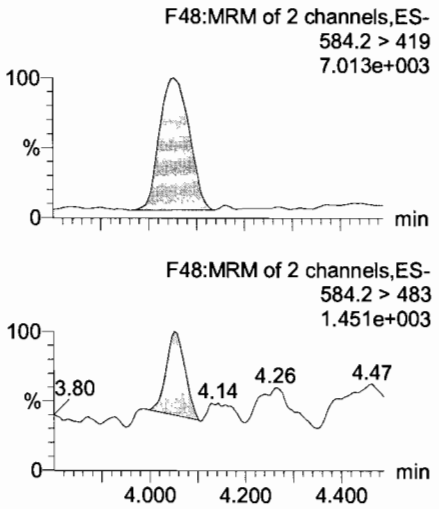
Name: 170727M1_7, Date: 27-Jul-2017, Time: 11:58:50, ID: ST170727M1-2 PFC CS-1 17G2705, Description: PFC CS-1 17G2705

N-MeFOSAA



N-EtFOSAA



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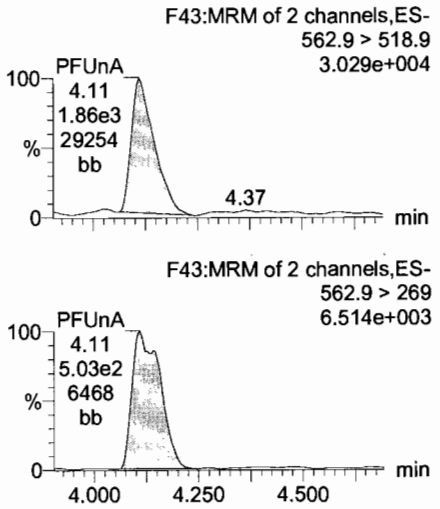
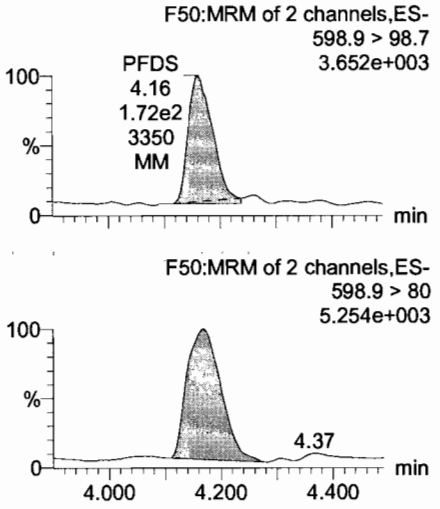
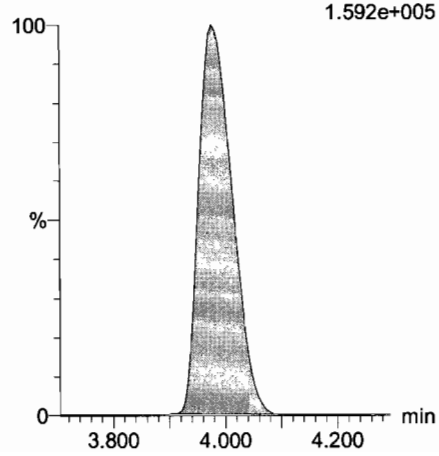


PFDS



d3-N-MeFOSAA



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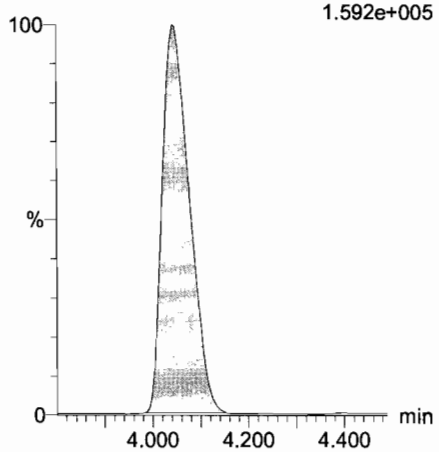
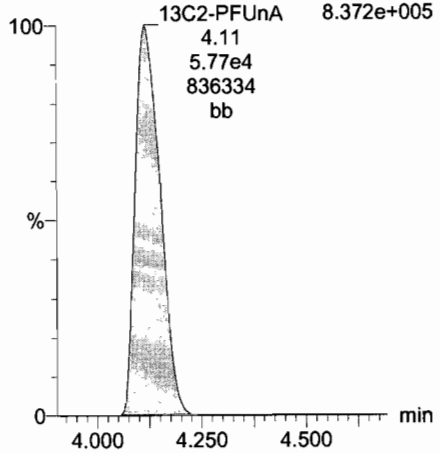


13C2-PFUnA



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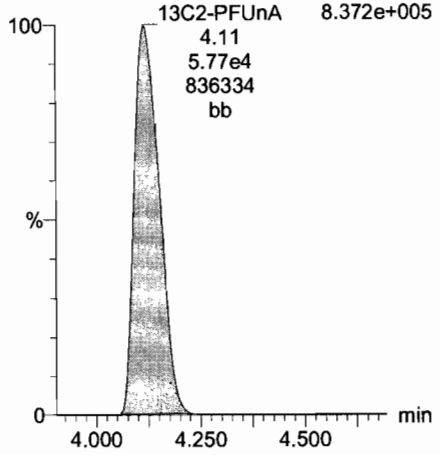

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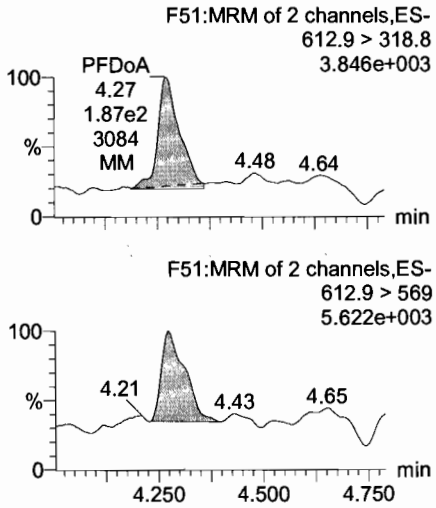
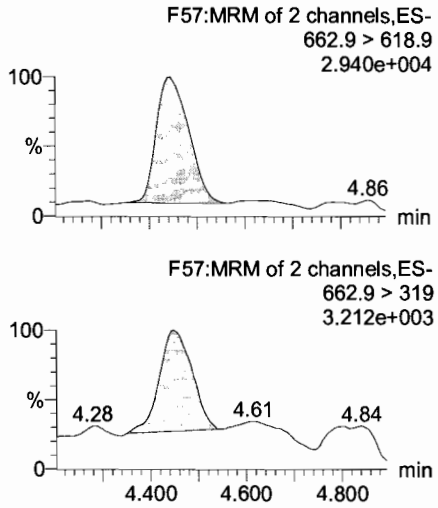
Name: 170727M1_7, Date: 27-Jul-2017, Time: 11:58:50, ID: ST170727M1-2 PFC CS-1 17G2705, Description: PFC CS-1 17G2705

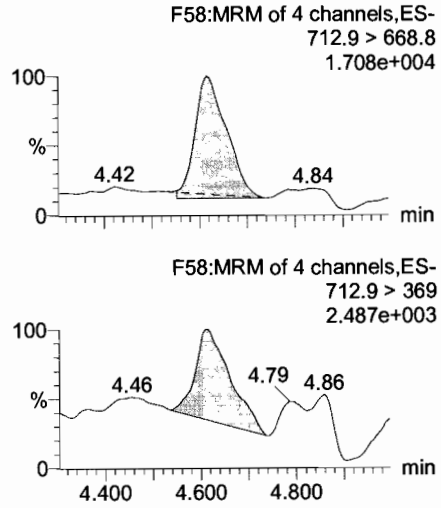
PFDoA



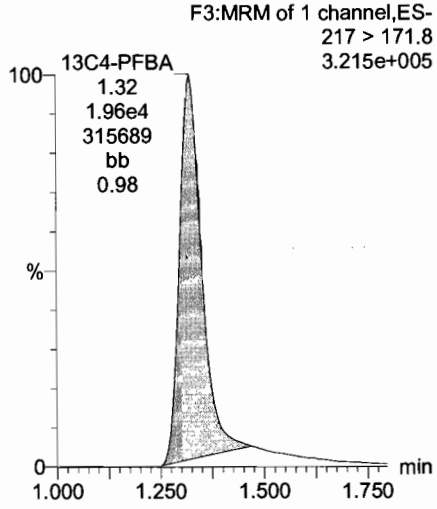
PFTrDA



PFTeDA



13C4-PFBA



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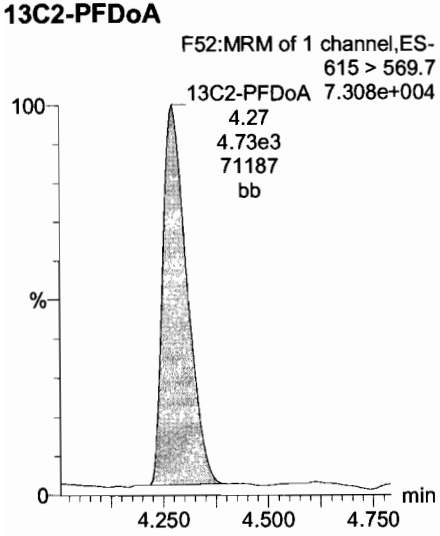

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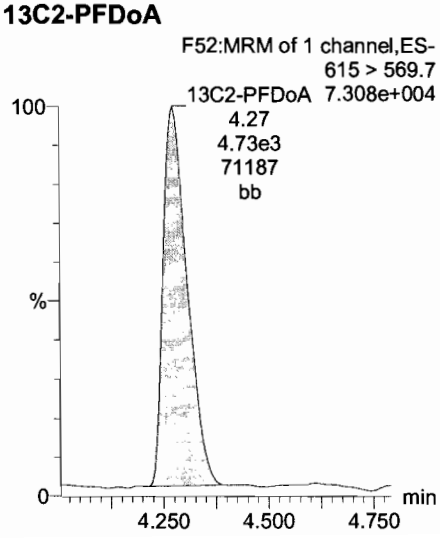

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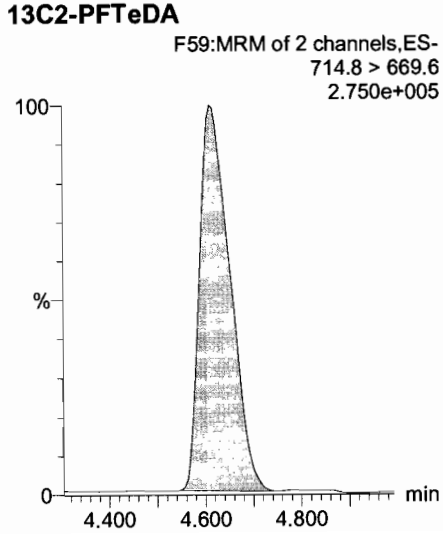
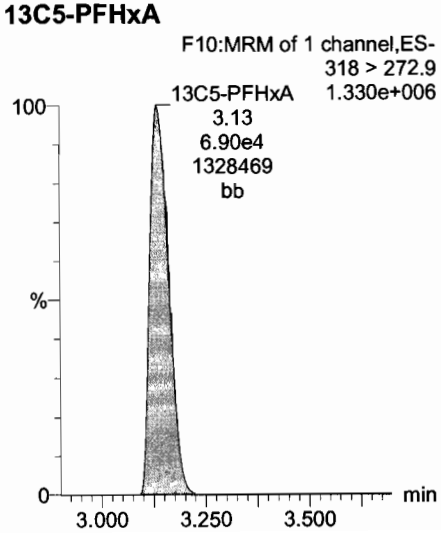


13C5-PFHxA



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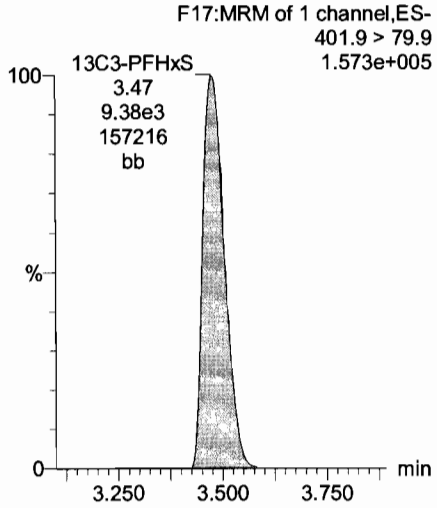
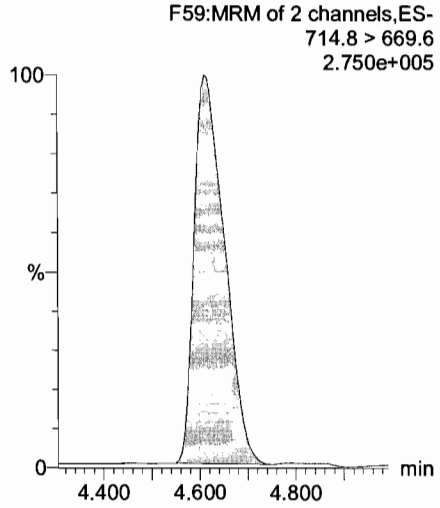
Name: 170727M1_7, Date: 27-Jul-2017, Time: 11:58:50, ID: ST170727M1-2 PFC CS-1 17G2705, Description: PFC CS-1 17G2705

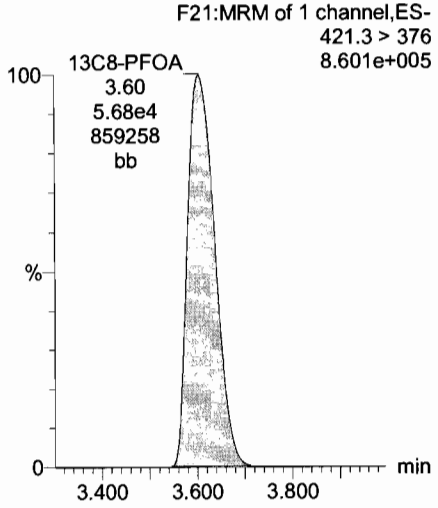
13C3-PFHxS



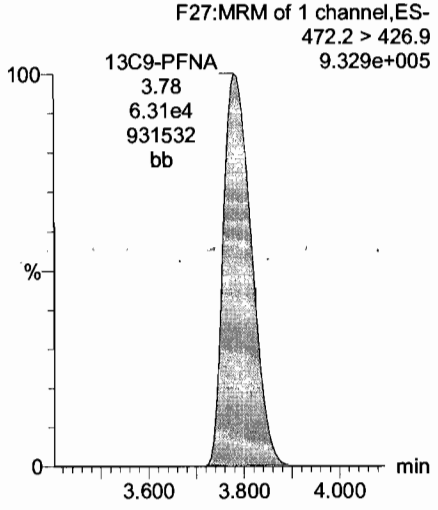
13C2-PFTeDA



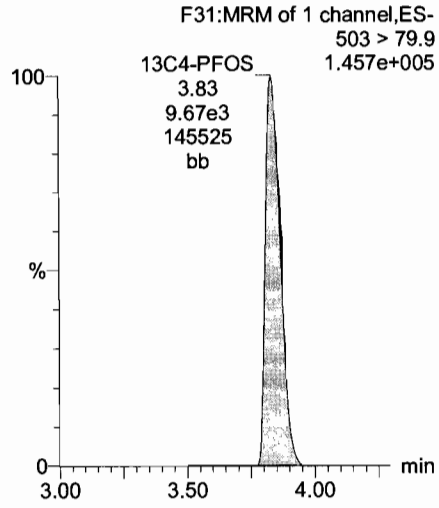
13C8-PFOA



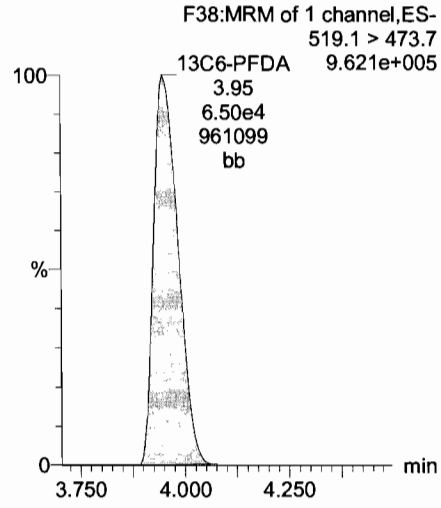
13C9-PFNA



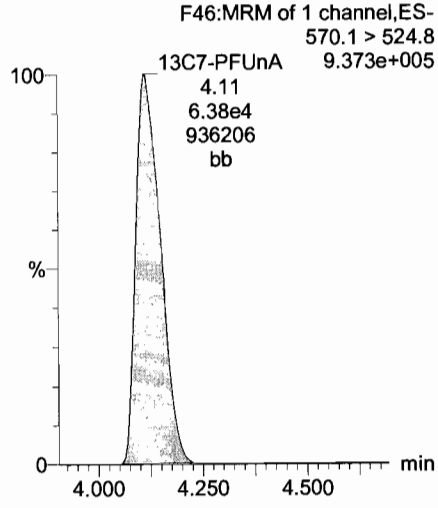
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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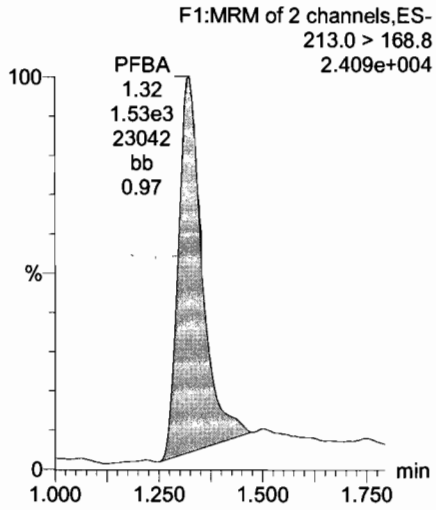
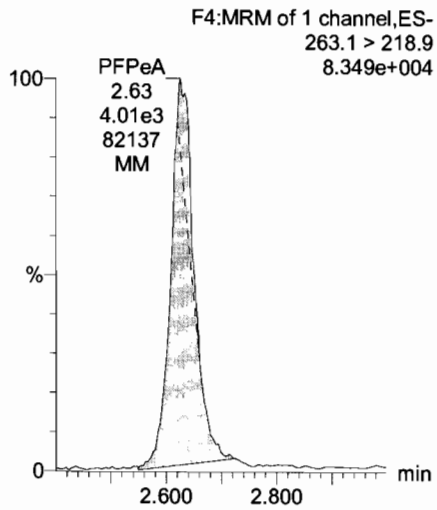
Name: 170727M1_8, Date: 27-Jul-2017, Time: 12:09:28, ID: ST170727M1-3 PFC CS0 17G2706, Description: PFC CS0 17G2706

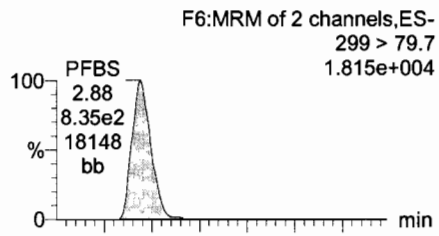
PFBA

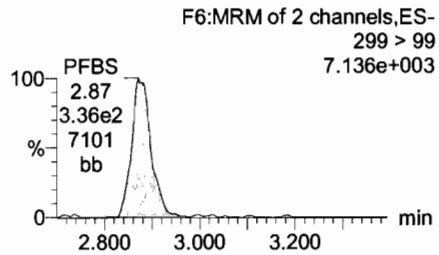


PFPeA



PFBS





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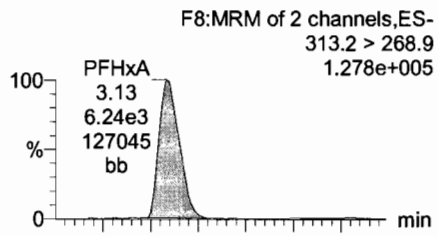

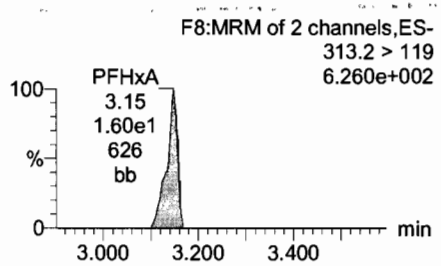

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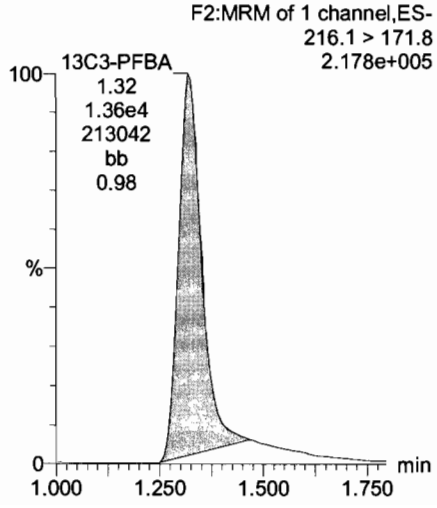
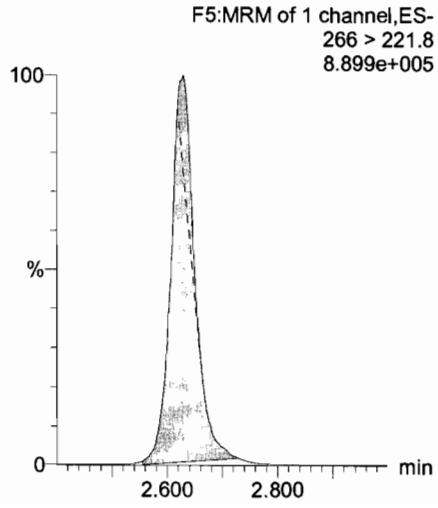
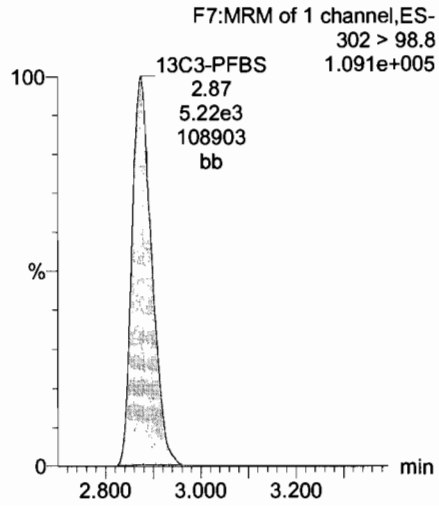


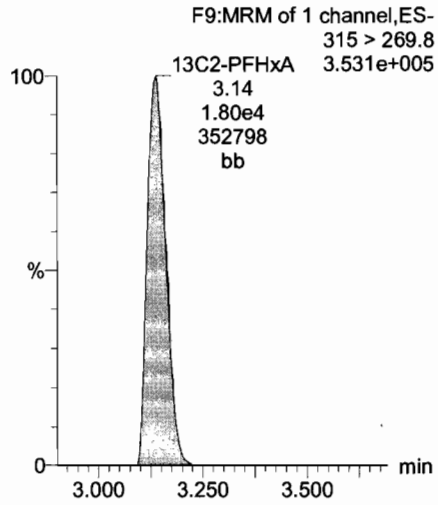
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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Name: 170727M1_8, Date: 27-Jul-2017, Time: 12:09:28, ID: ST170727M1-3 PFC CS0 17G2706, Description: PFC CS0 17G2706

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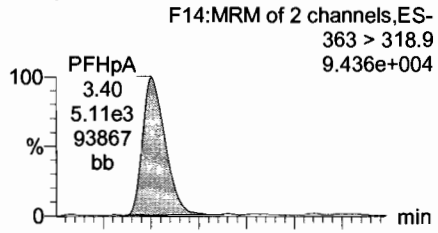

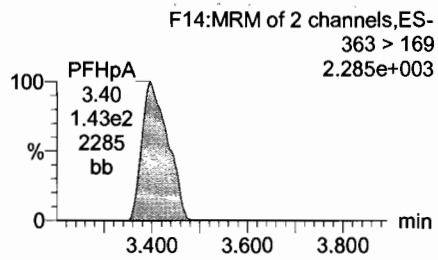

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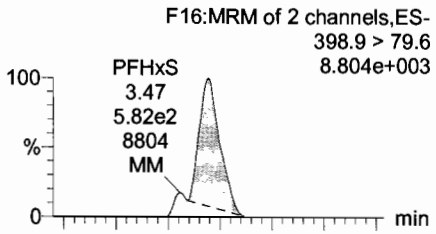
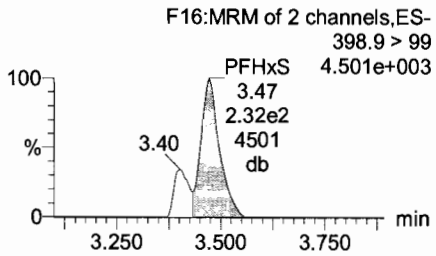
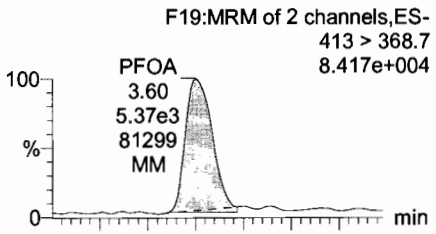
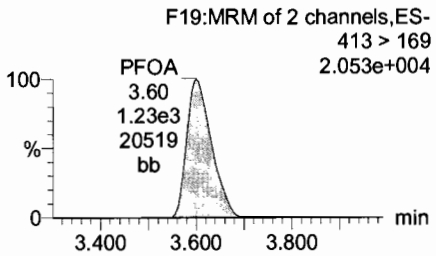


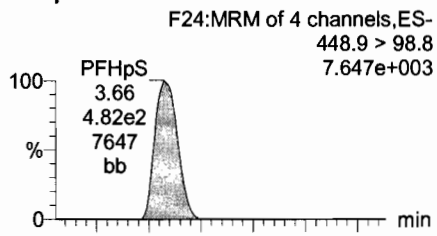


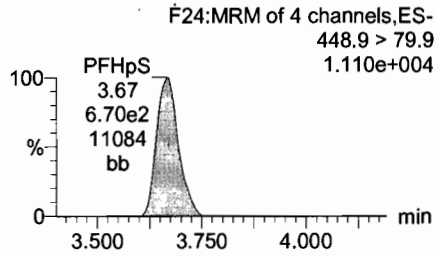
Total PFOA



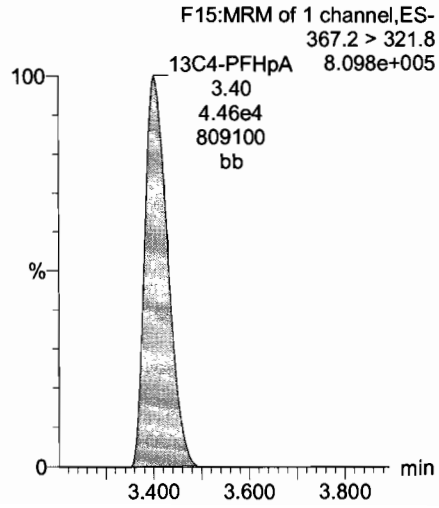


PFHpS

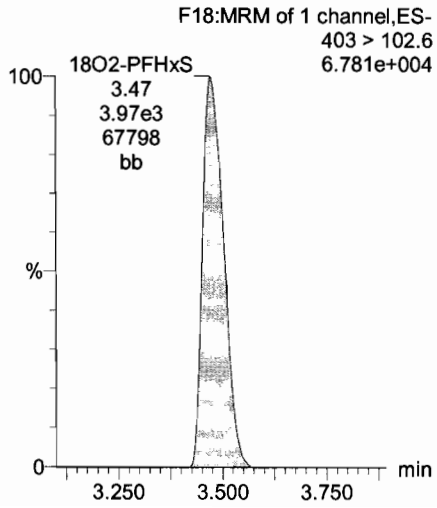




13C4-PFHpA



18O2-PFHxS



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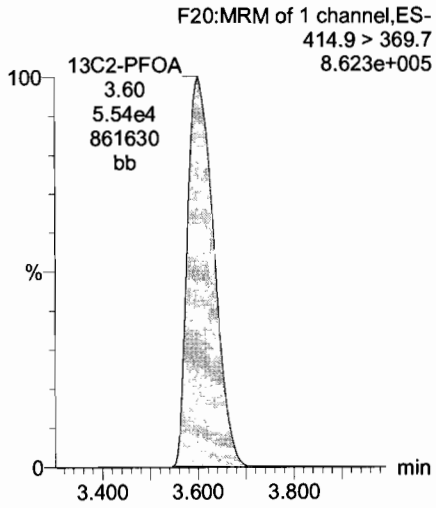

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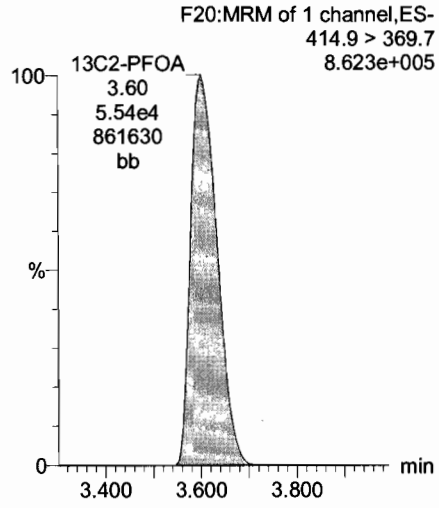

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Name: 170727M1_8, Date: 27-Jul-2017, Time: 12:09:28, ID: ST170727M1-3 PFC CS0 17G2706, Description: PFC CS0 17G2706

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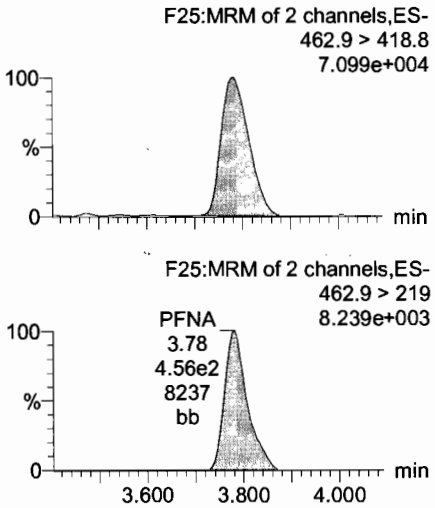
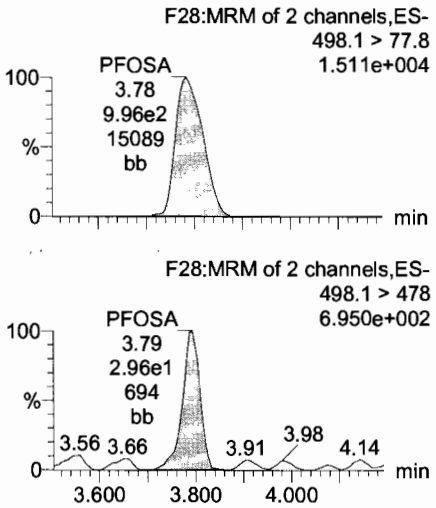


PFOSA



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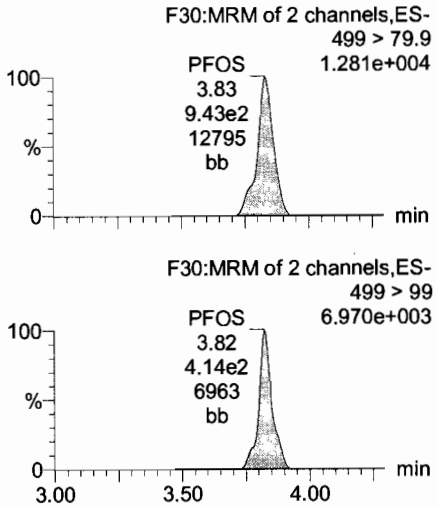
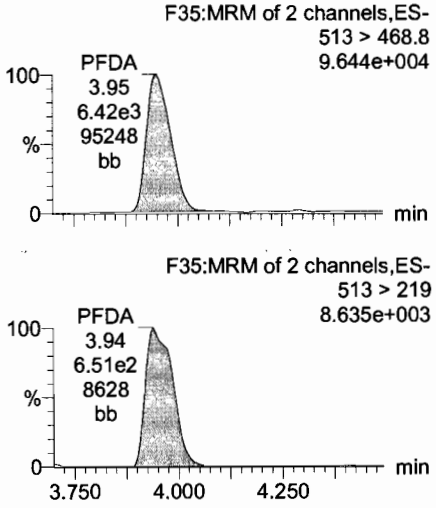
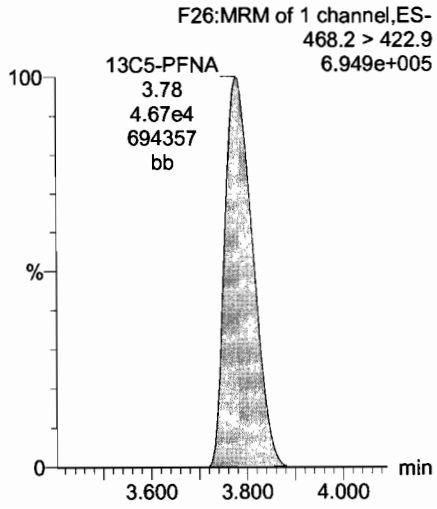


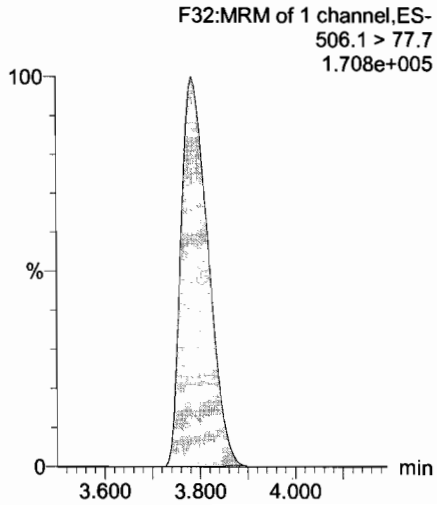
PFDA



13C5-PFNA



13C8-PFOSA



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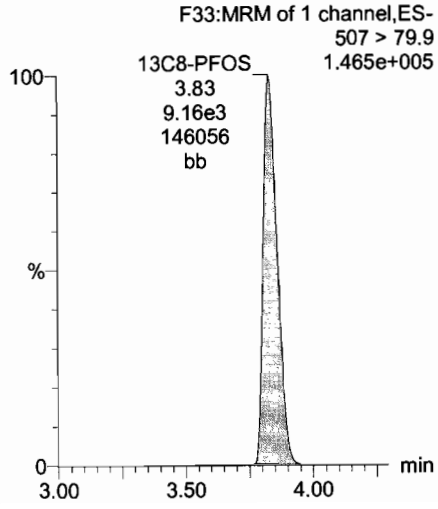

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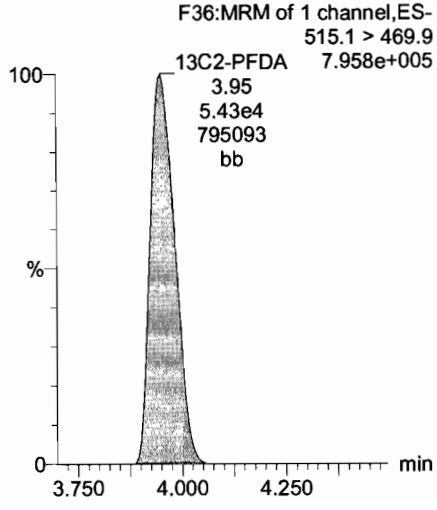

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Name: 170727M1_8, Date: 27-Jul-2017, Time: 12:09:28, ID: ST170727M1-3 PFC CS0 17G2706, Description: PFC CS0 17G2706

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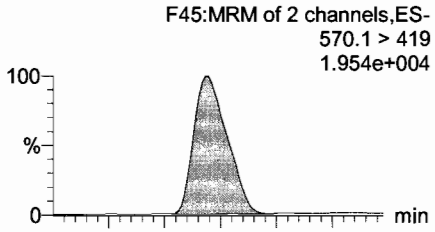
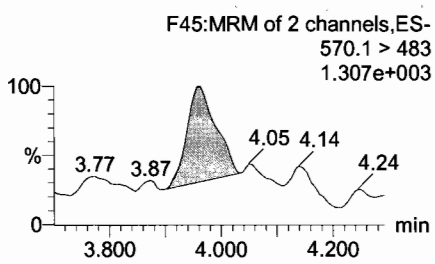
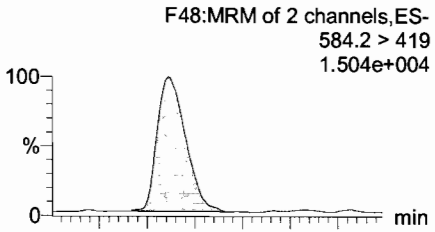
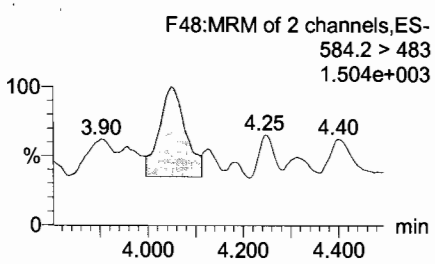


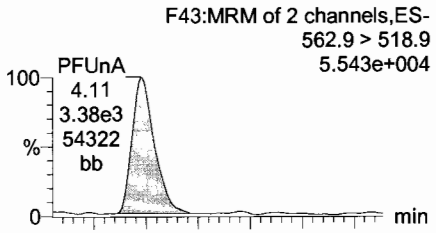


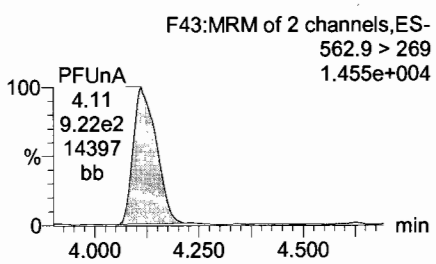
N-EtFOSAA



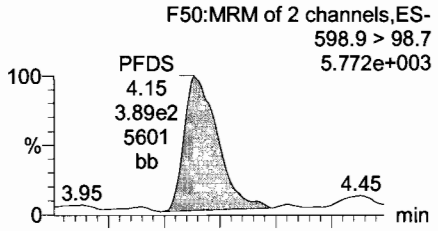


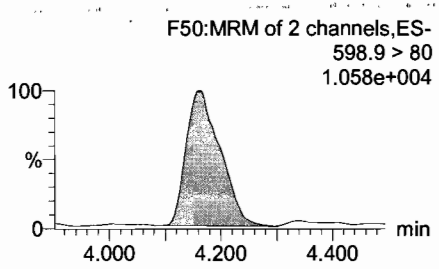
PFUnA



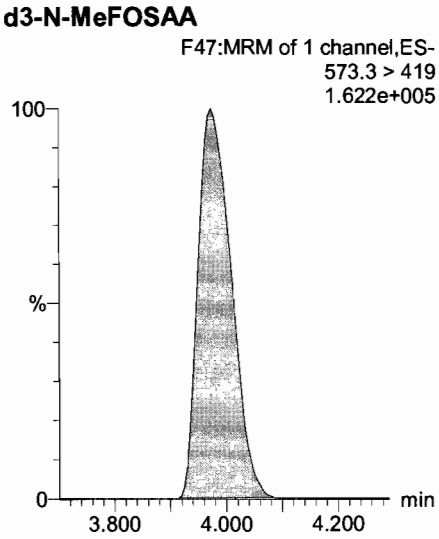


PFDS

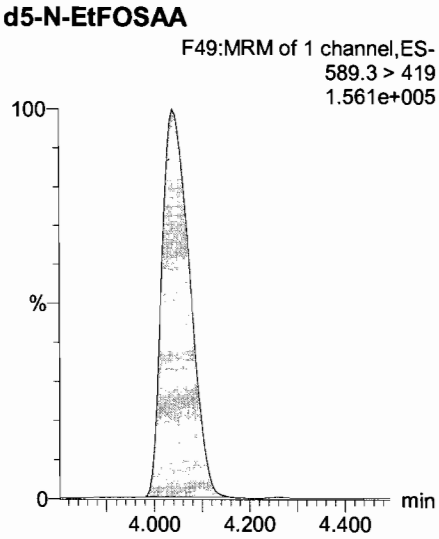




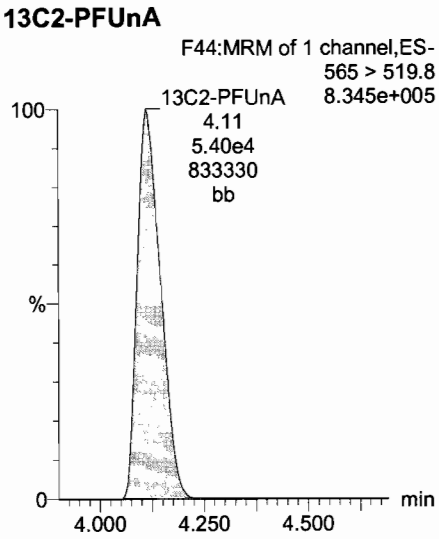
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFUnA



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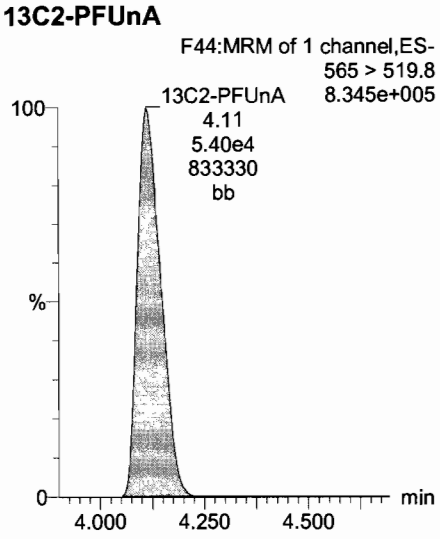

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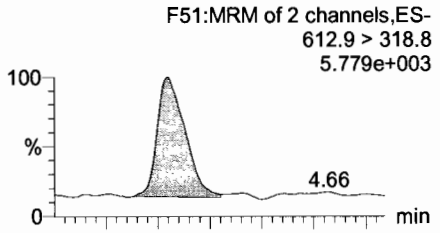
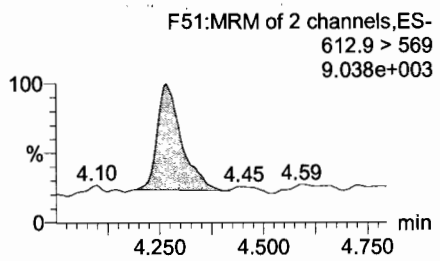
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

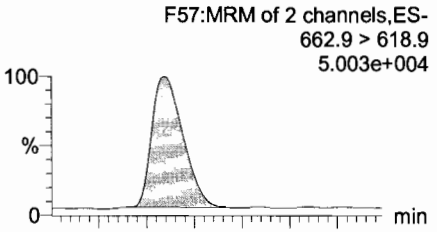
Name: 170727M1_8, Date: 27-Jul-2017, Time: 12:09:28, ID: ST170727M1-3 PFC CS0 17G2706, Description: PFC CS0 17G2706

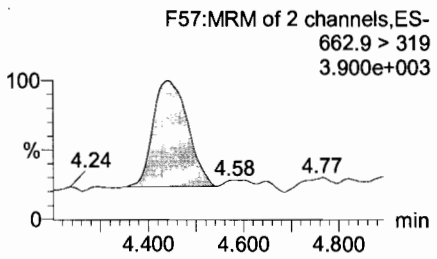
PFDoA



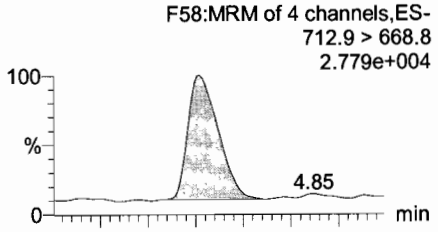


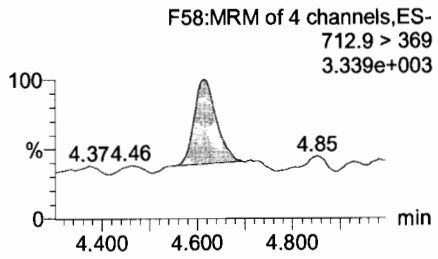
PFTrDA



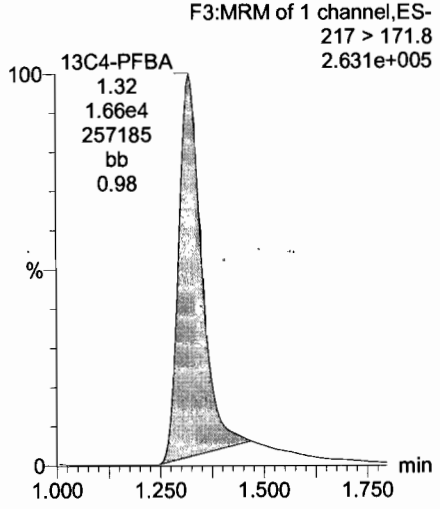


PFTeDA

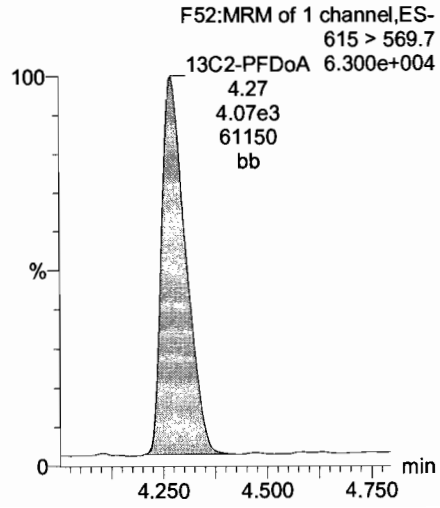




13C4-PFBA



13C2-PFDoA



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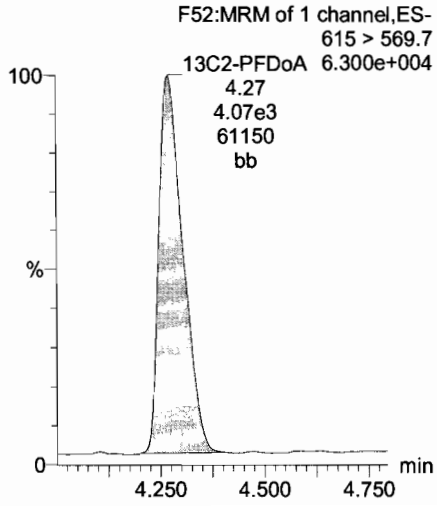

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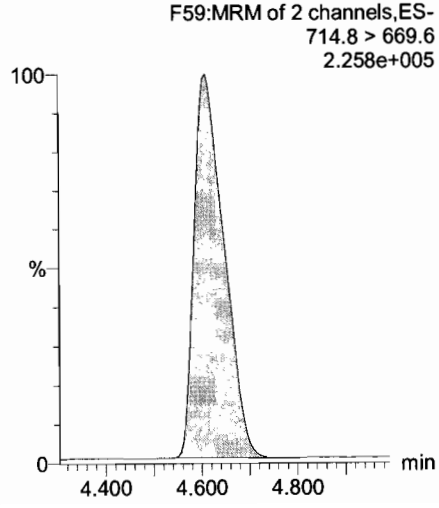
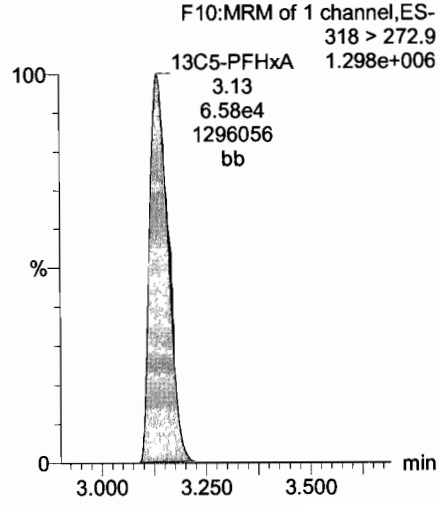


13C5-PFHxA



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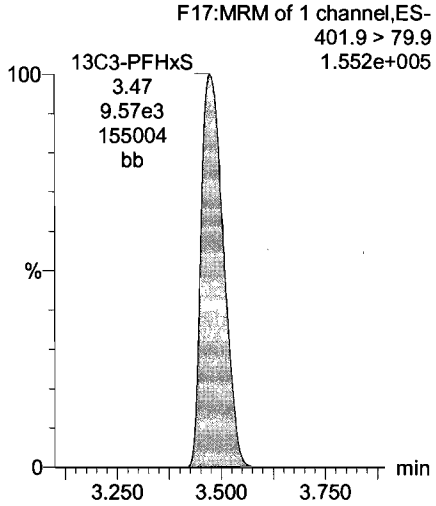
Name: 170727M1_8, Date: 27-Jul-2017, Time: 12:09:28, ID: ST170727M1-3 PFC CS0 17G2706, Description: PFC CS0 17G2706

13C3-PFHxS



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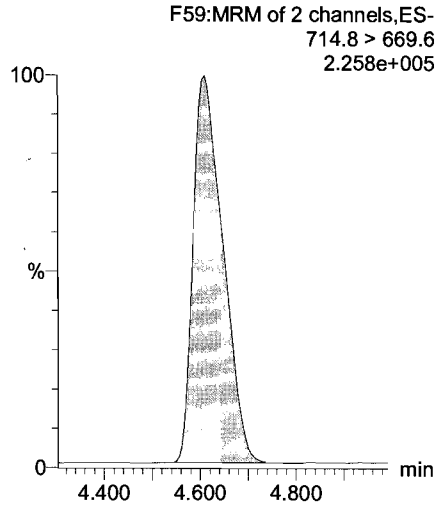
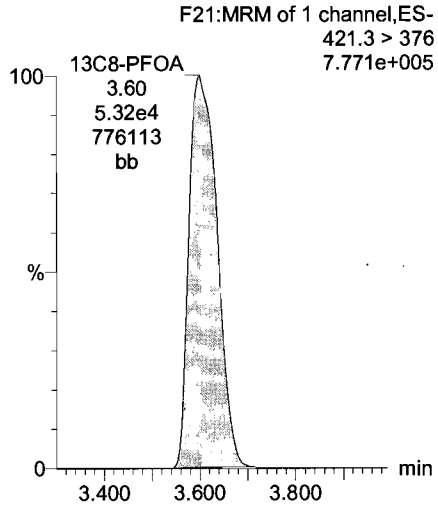


13C8-PFOA



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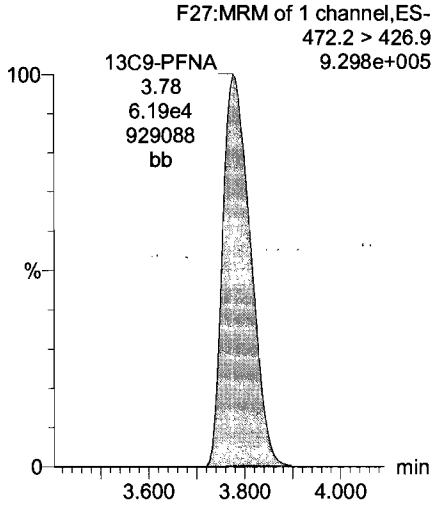
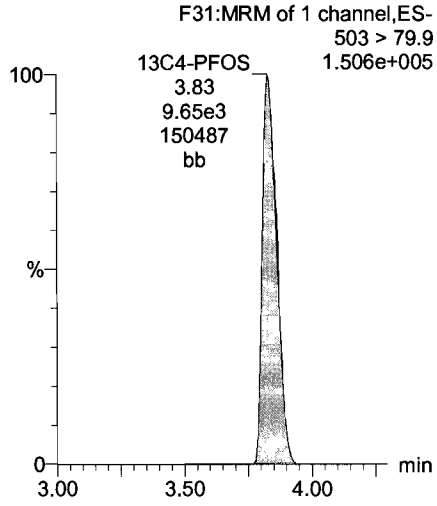
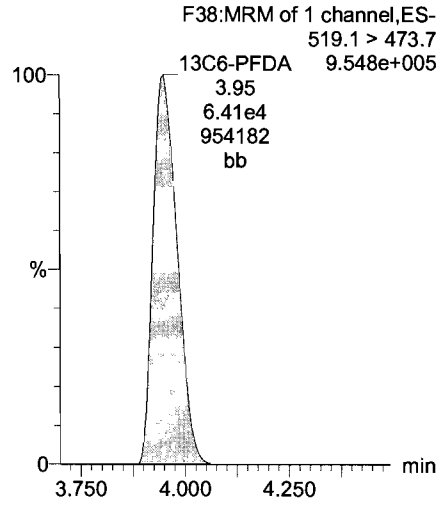


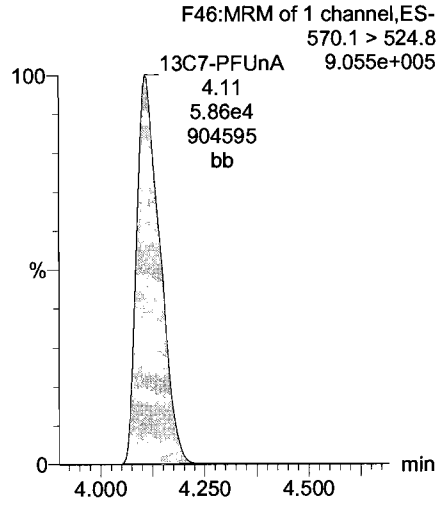
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Name: 170727M1_9, Date: 27-Jul-2017, Time: 12:20:15, ID: ST170727M1-4 PFC CS1 17G2707, Description: PFC CS1 17G2707

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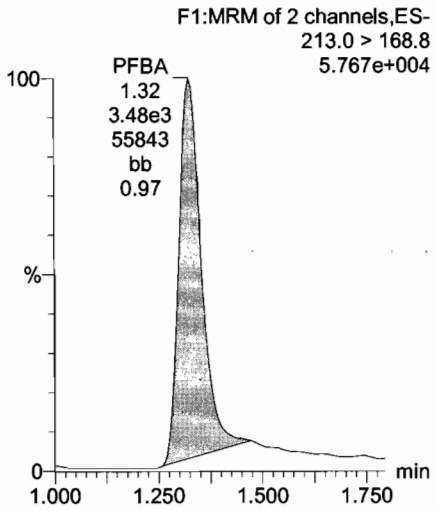

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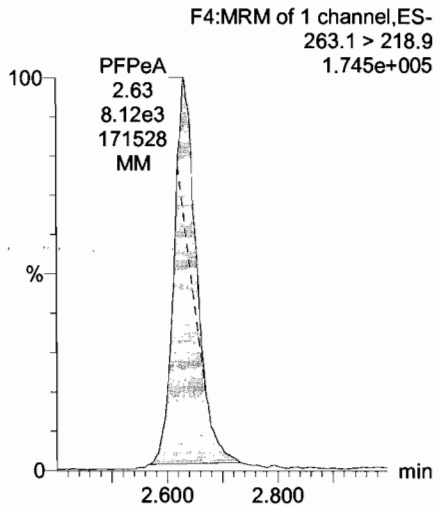
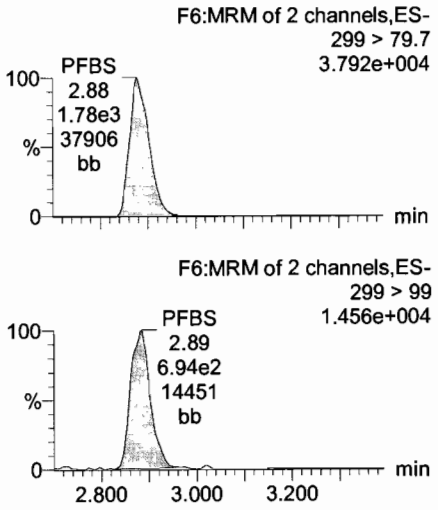
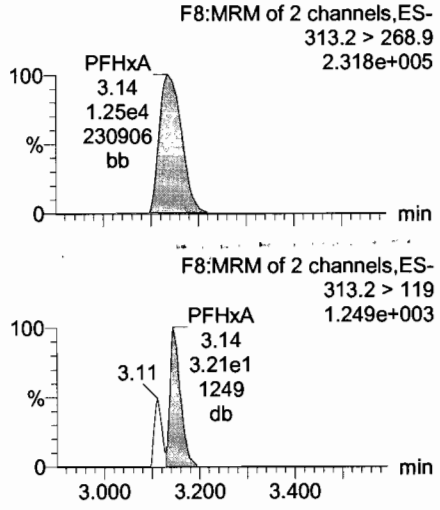


PFBS



PFHxA



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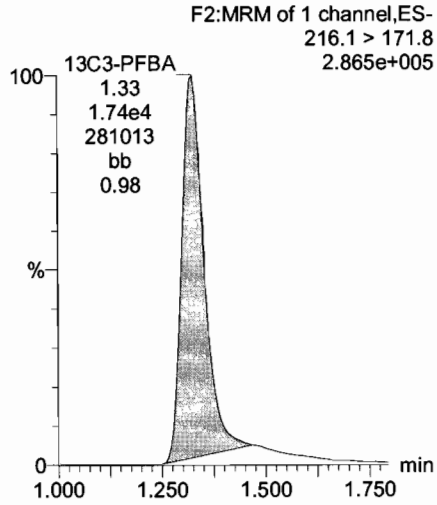

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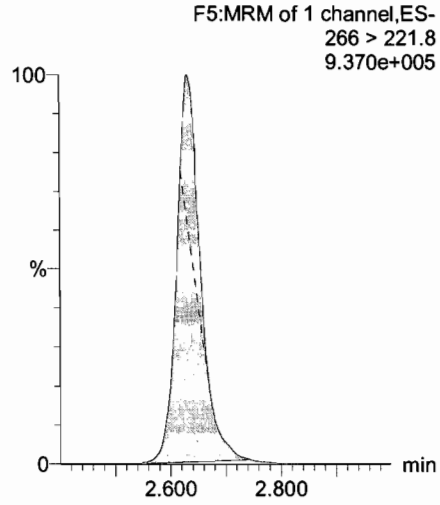

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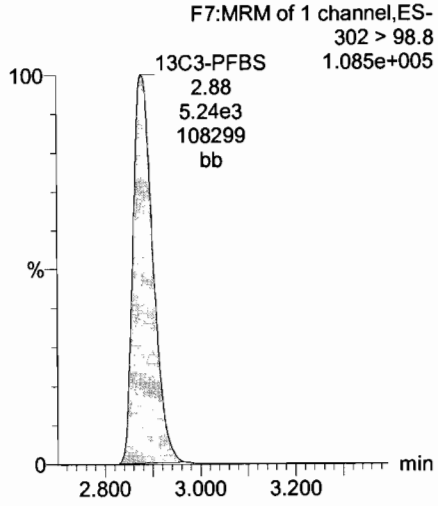
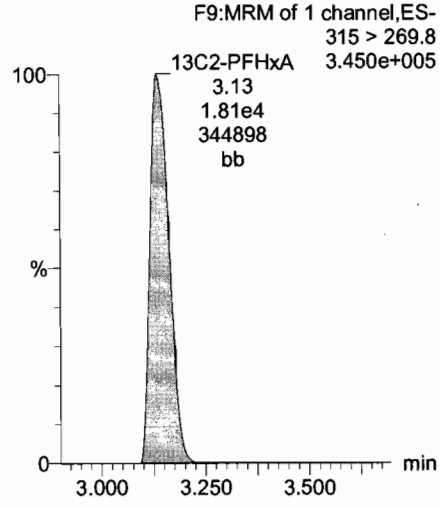


13C2-PFHxA



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Name: 170727M1_9, Date: 27-Jul-2017, Time: 12:20:15, ID: ST170727M1-4 PFC CS1 17G2707, Description: PFC CS1 17G2707

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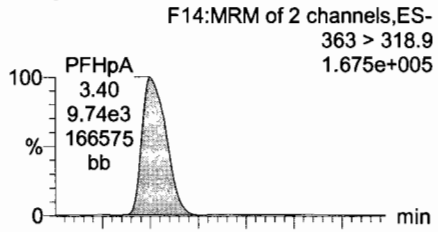

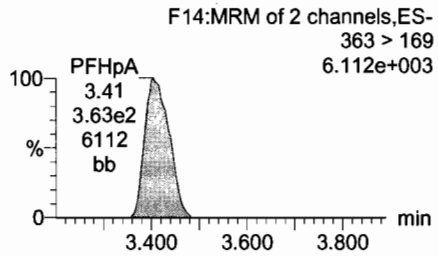

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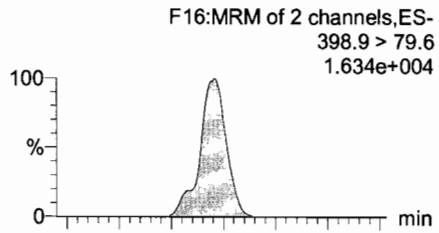
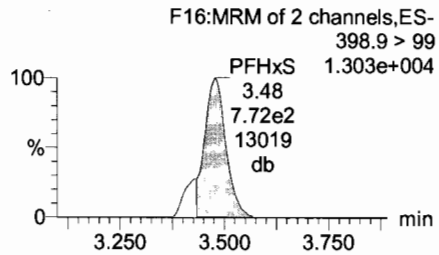
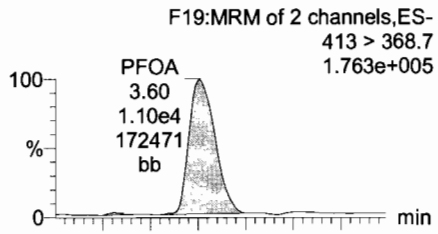
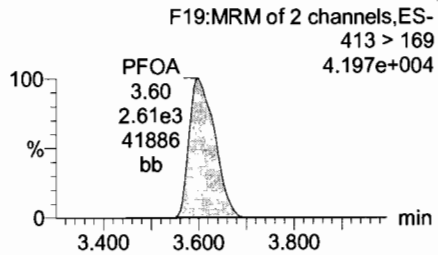


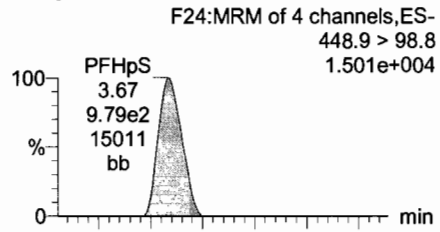


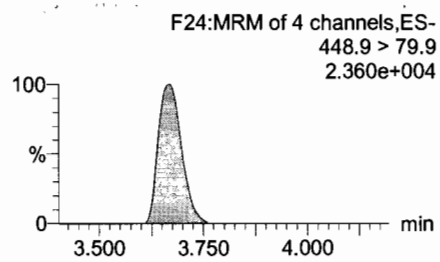
Total PFOA



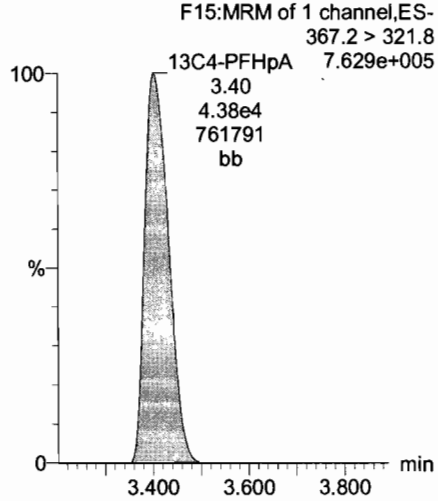


PFHpS

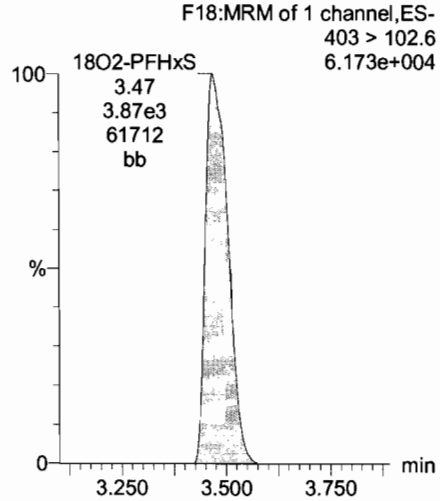




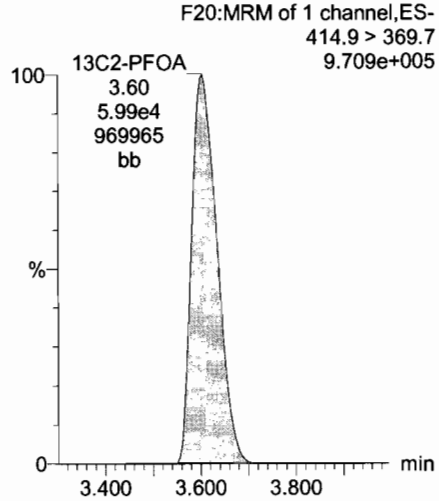
13C4-PFHpA



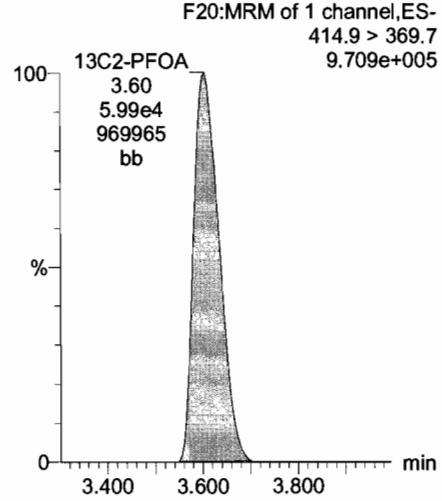
18O2-PFHxS



13C2-PFOA



13C2-PFOA



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Name: 170727M1_9, Date: 27-Jul-2017, Time: 12:20:15, ID: ST170727M1-4 PFC CS1 17G2707, Description: PFC CS1 17G2707

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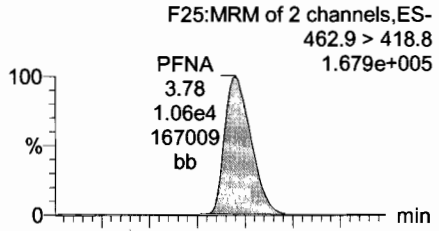

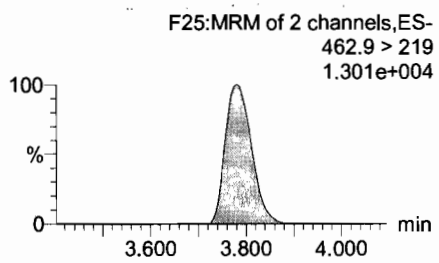

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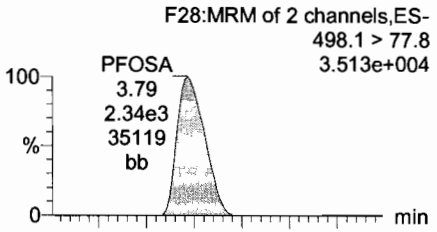

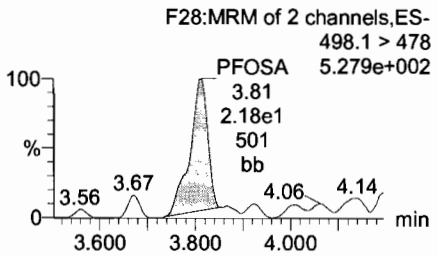

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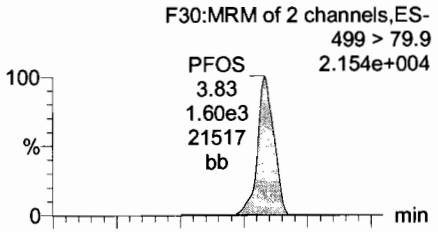

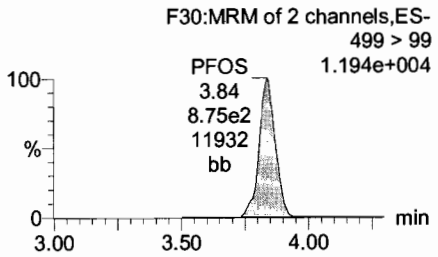

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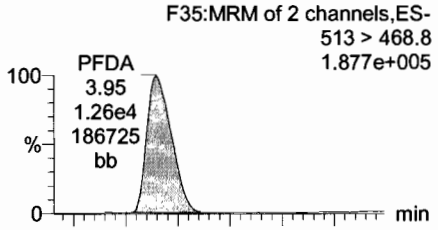
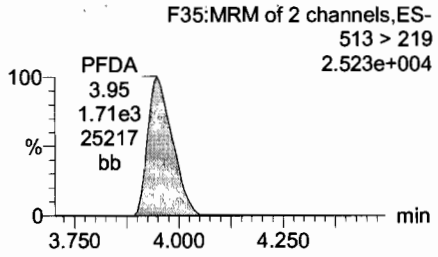
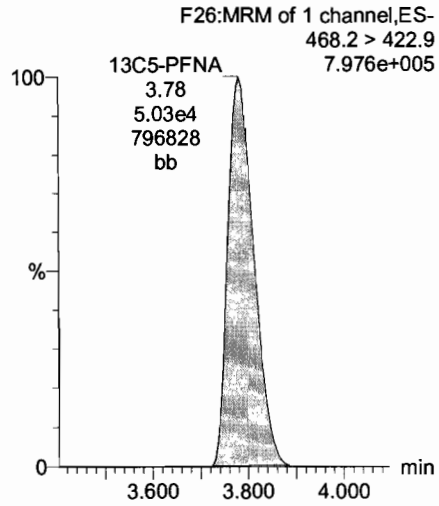




13C5-PFNA



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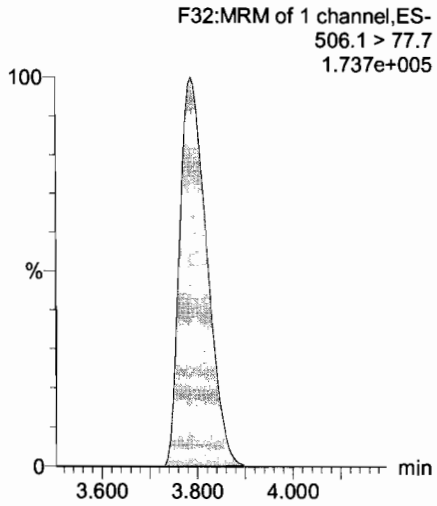

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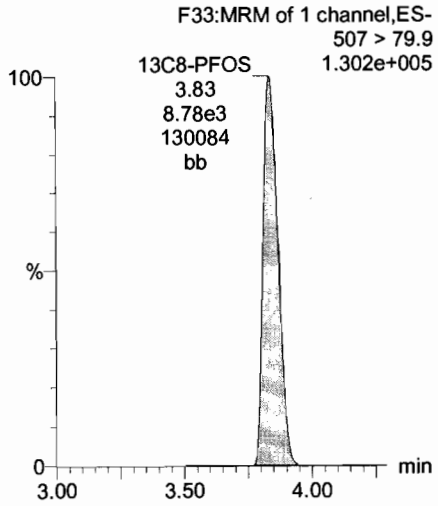

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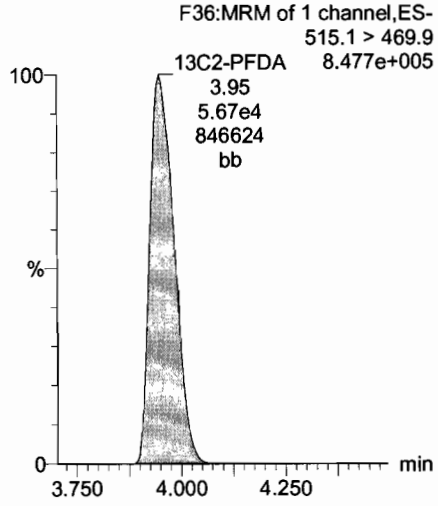

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Name: 170727M1_9, Date: 27-Jul-2017, Time: 12:20:15, ID: ST170727M1-4 PFC CS1 17G2707, Description: PFC CS1 17G2707

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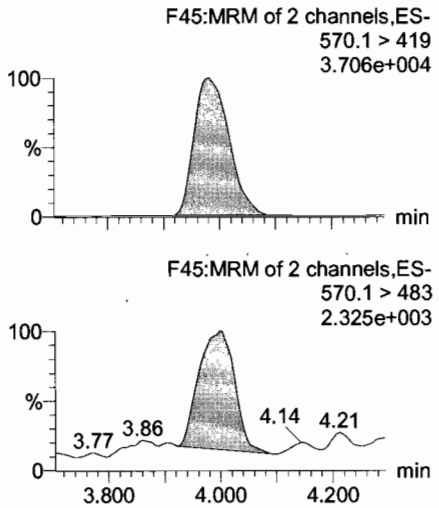

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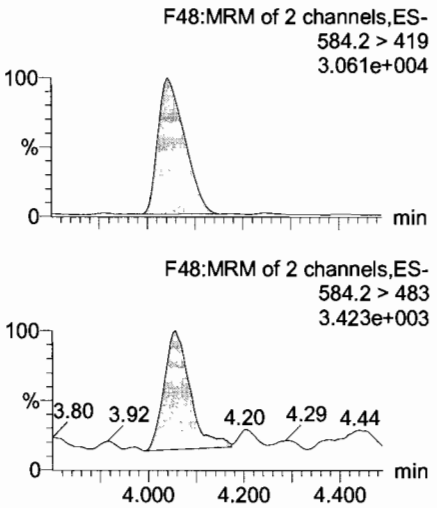

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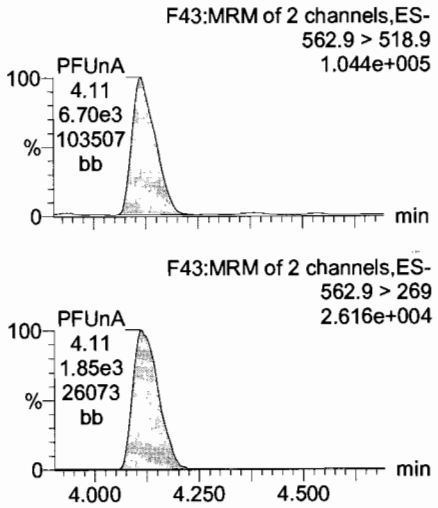

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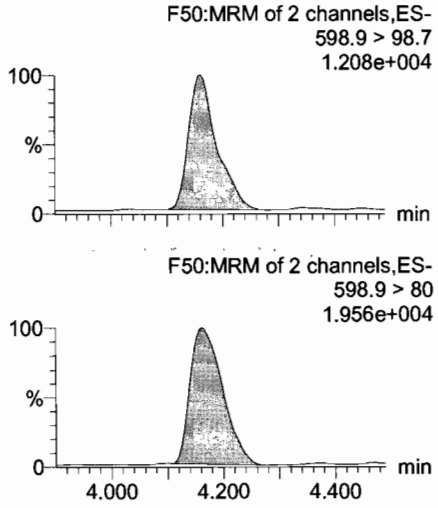

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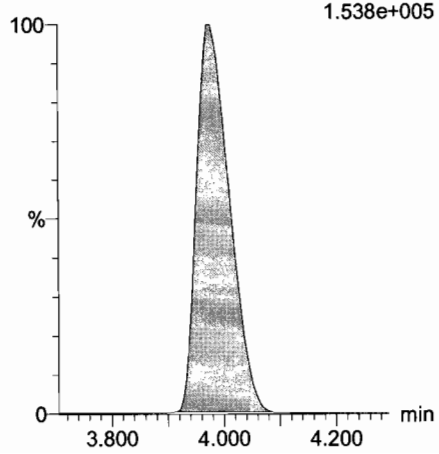

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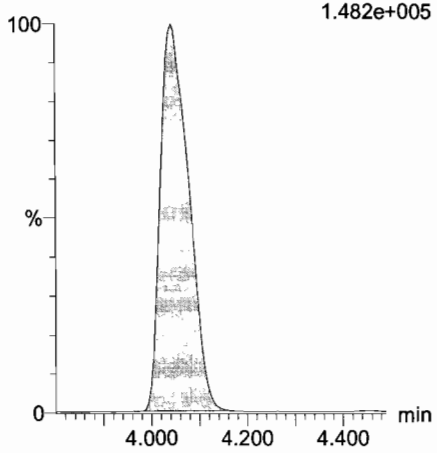
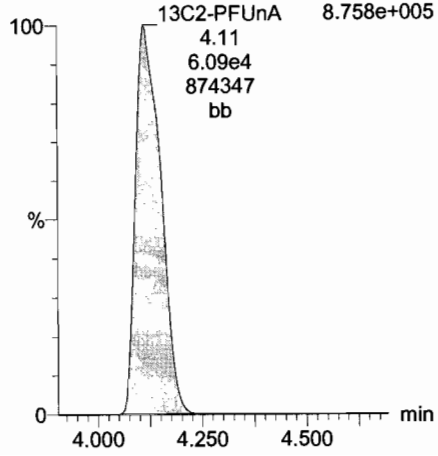


13C2-PFUnA



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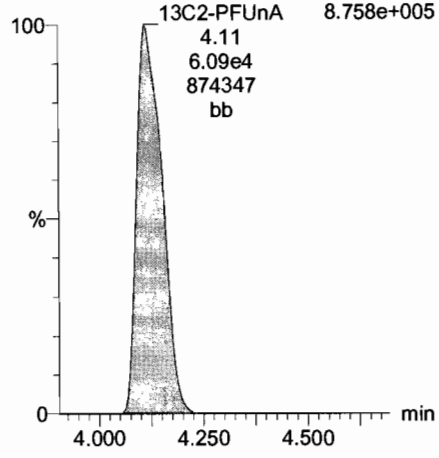

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Name: 170727M1_9, Date: 27-Jul-2017, Time: 12:20:15, ID: ST170727M1-4 PFC CS1 17G2707, Description: PFC CS1 17G2707

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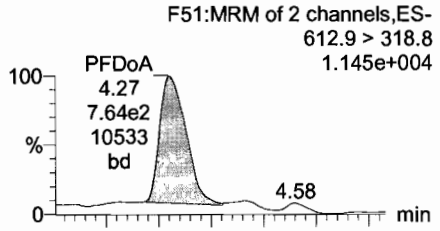

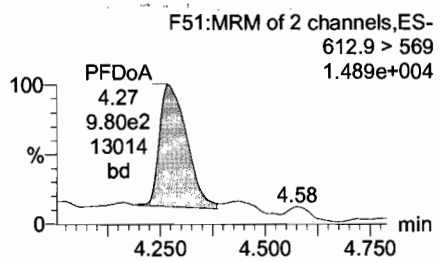

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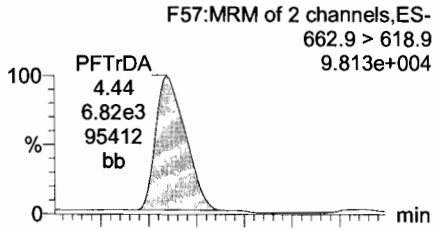

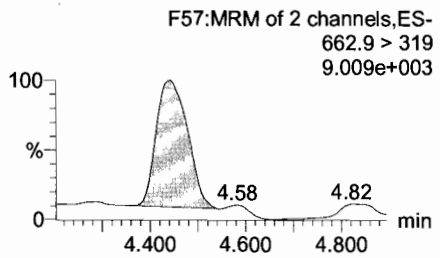

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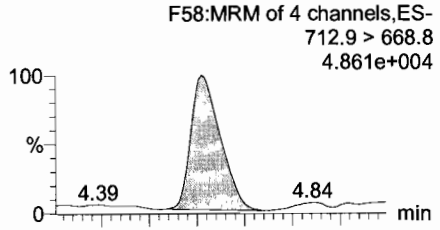
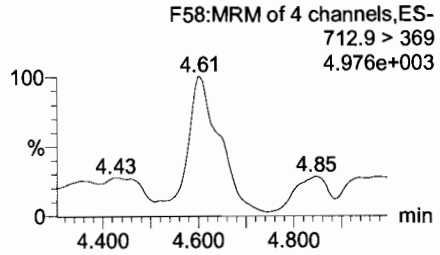
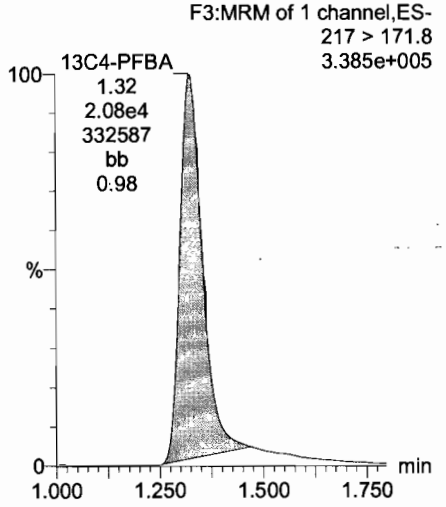
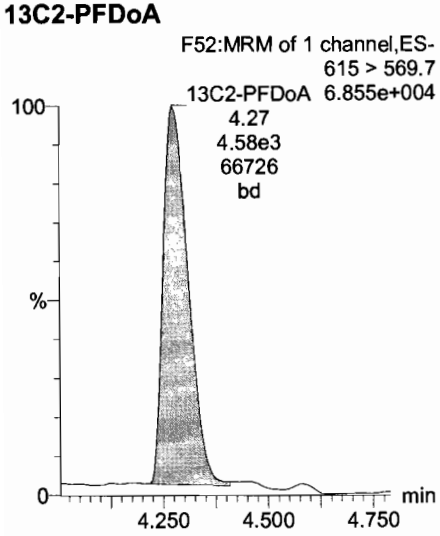




13C4-PFBA



13C2-PFDoA



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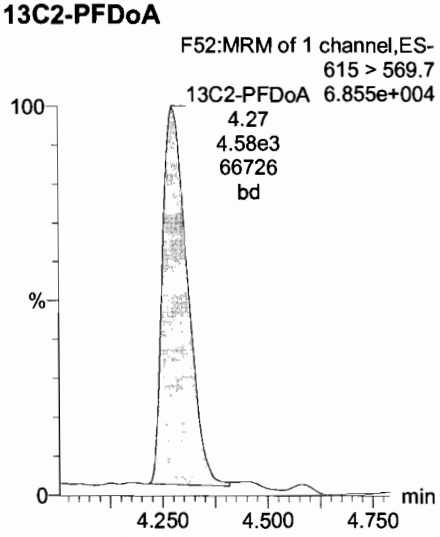

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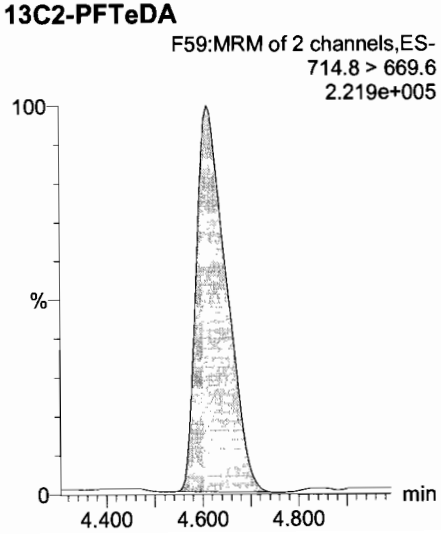
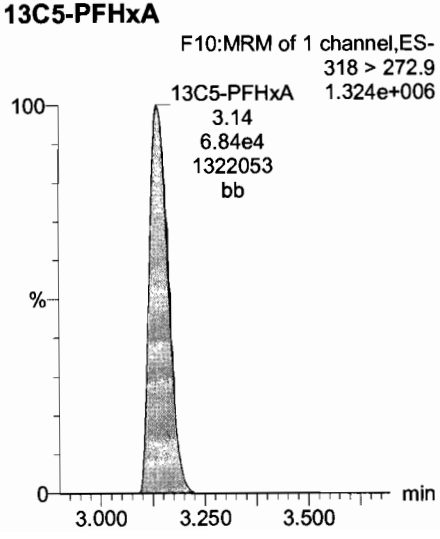


13C5-PFHxA



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Name: 170727M1_9, Date: 27-Jul-2017, Time: 12:20:15, ID: ST170727M1-4 PFC CS1 17G2707, Description: PFC CS1 17G2707

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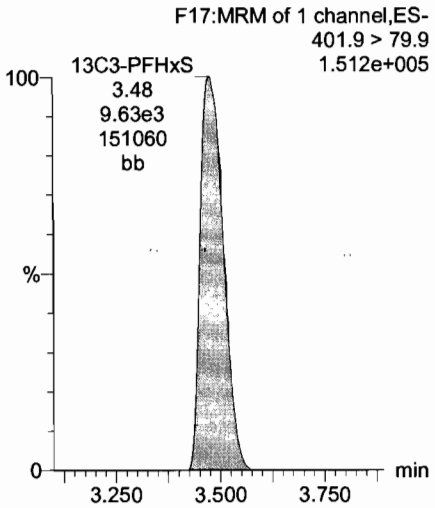

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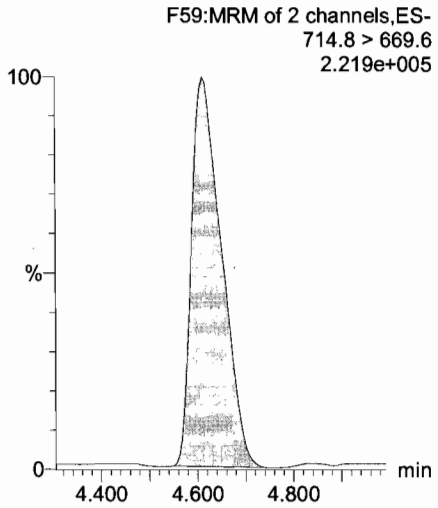

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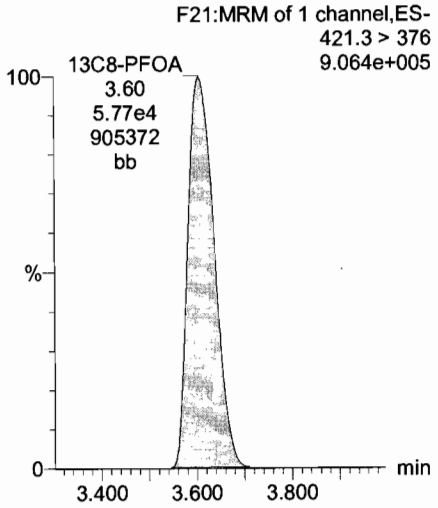
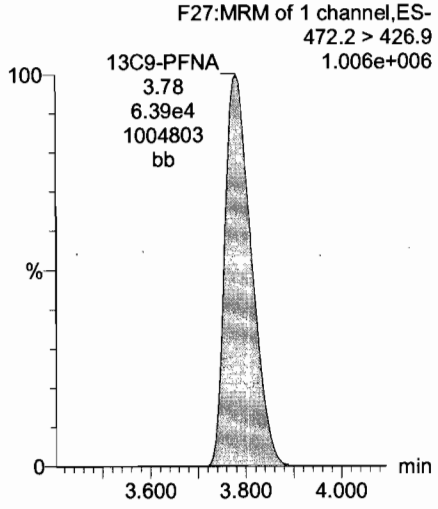
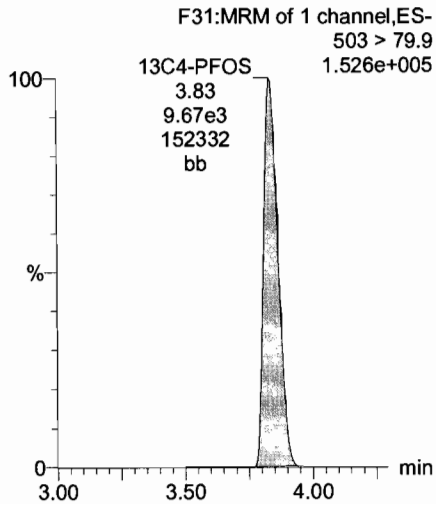


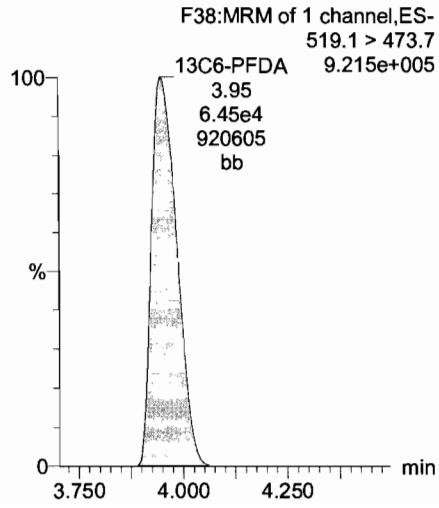
13C9-PFNA



13C4-PFOS



13C6-PFDA



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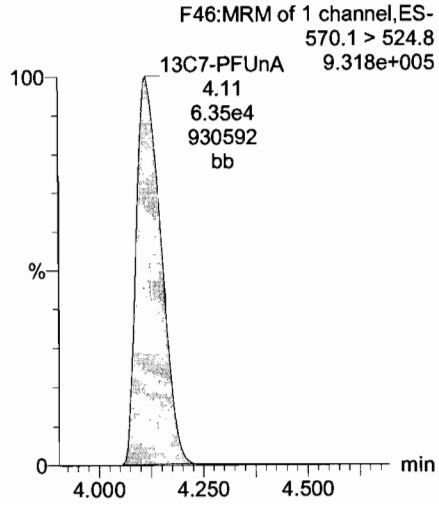

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Name: 170727M1_10, Date: 27-Jul-2017, Time: 12:30:53, ID: ST170727M1-5 PFC CS2 17G2708, Description: PFC CS2 17G2708

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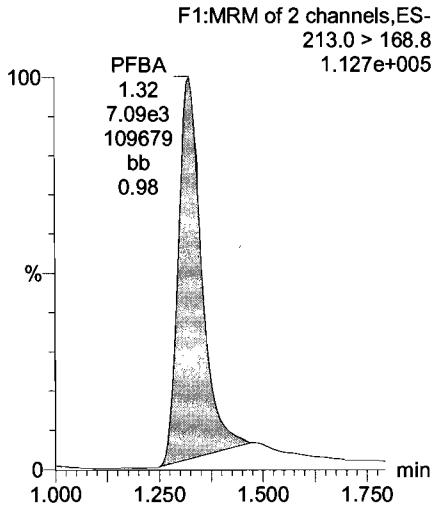

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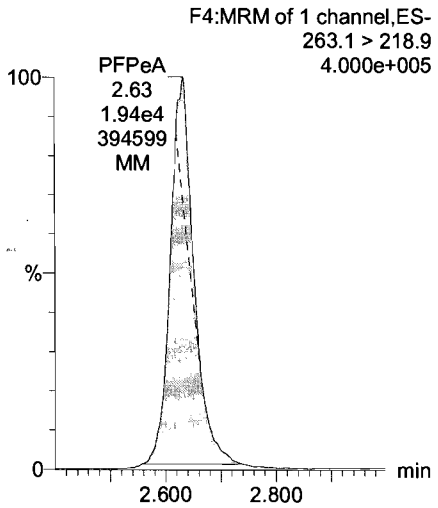
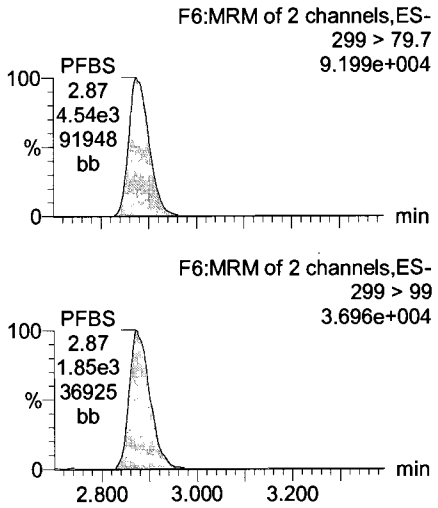
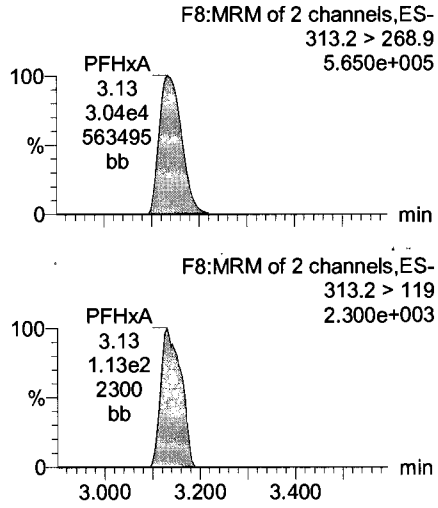


PFBS



PFHxA



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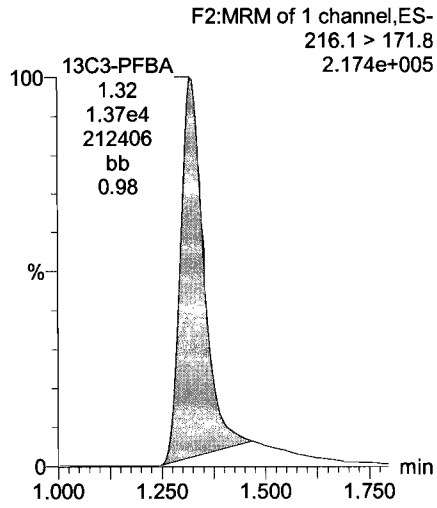

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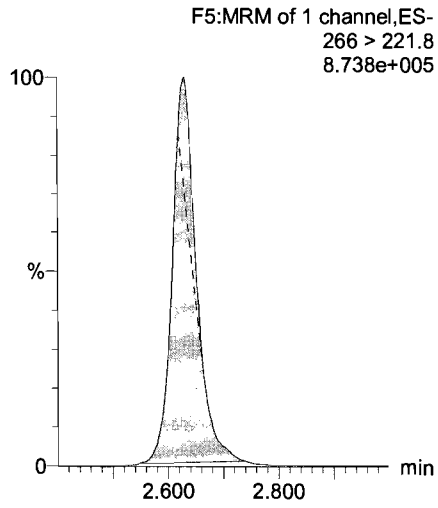

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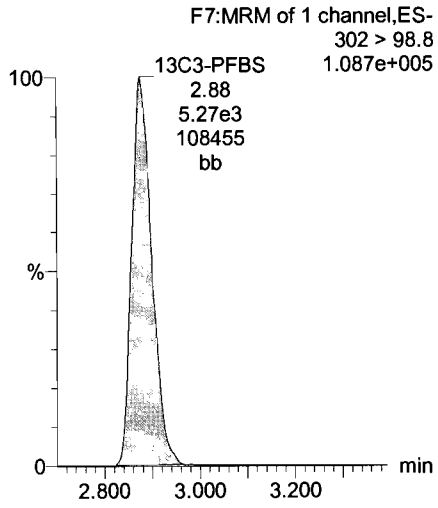

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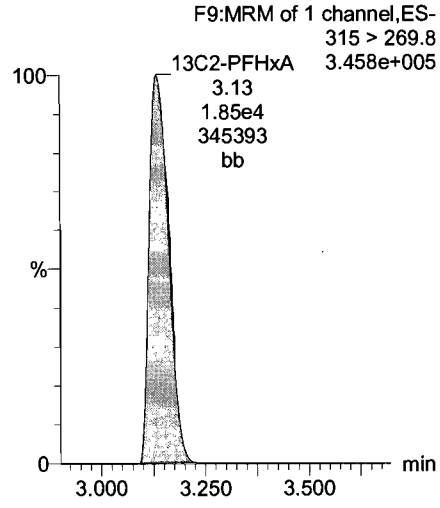

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Name: 170727M1_10, Date: 27-Jul-2017, Time: 12:30:53, ID: ST170727M1-5 PFC CS2 17G2708, Description: PFC CS2 17G2708

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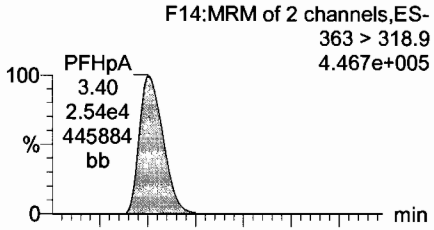

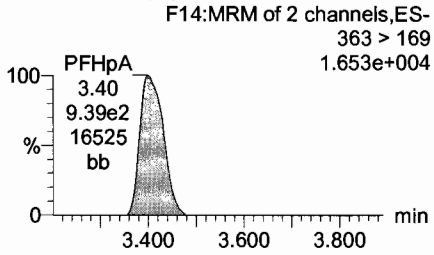

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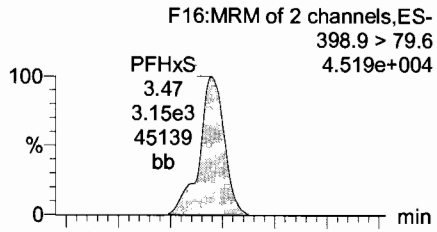

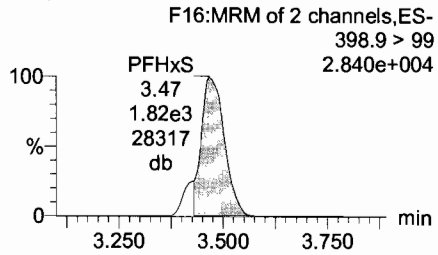

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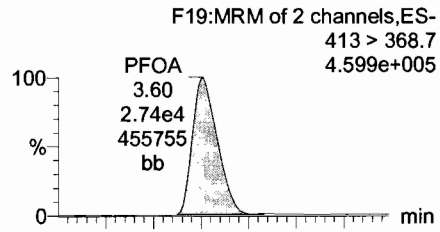

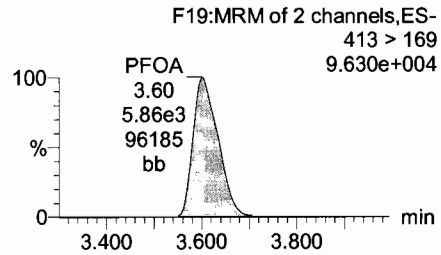

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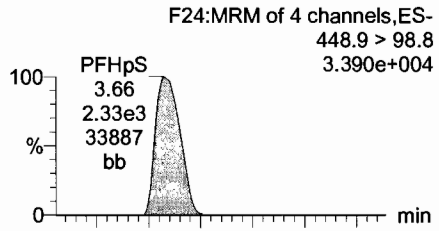
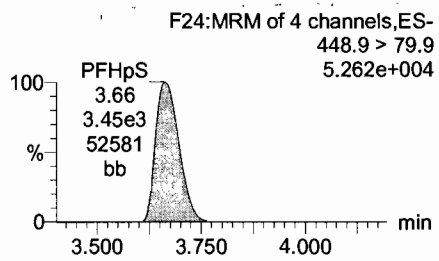
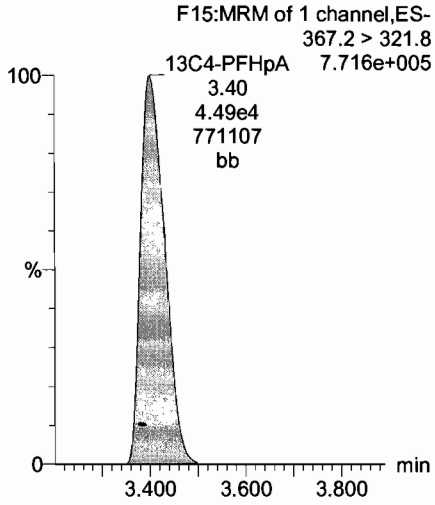
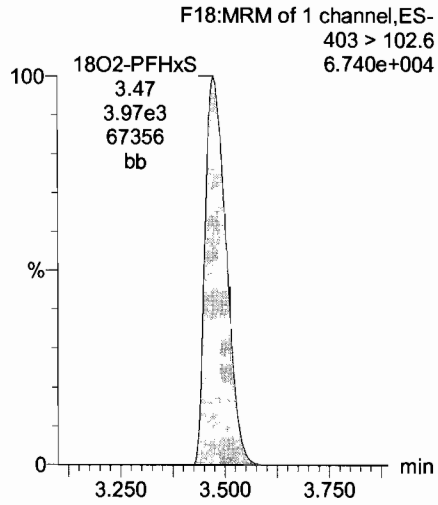




13C4-PFHpA



18O2-PFHxS



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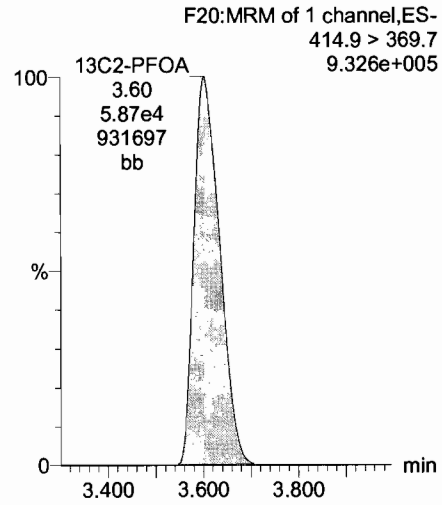

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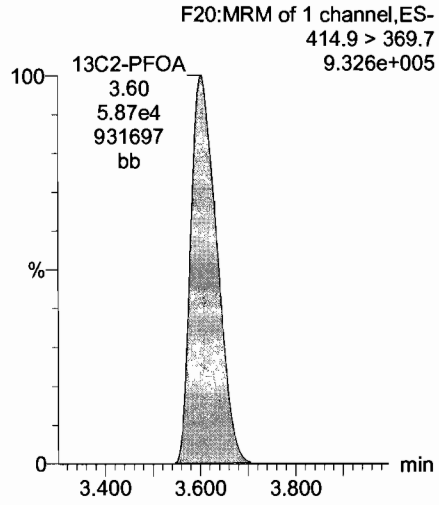

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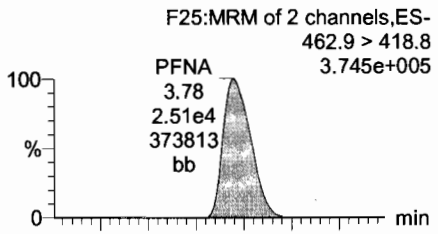
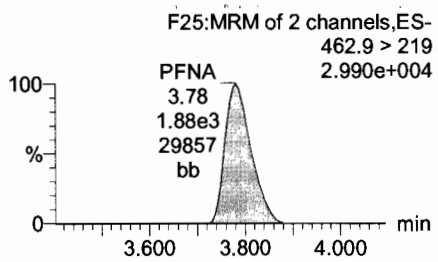
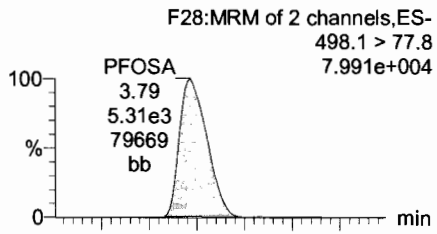
Name: 170727M1_10, Date: 27-Jul-2017, Time: 12:30:53, ID: ST170727M1-5 PFC CS2 17G2708, Description: PFC CS2 17G2708

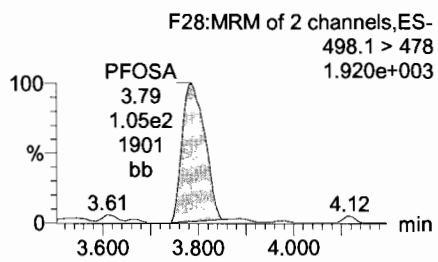
PFNA



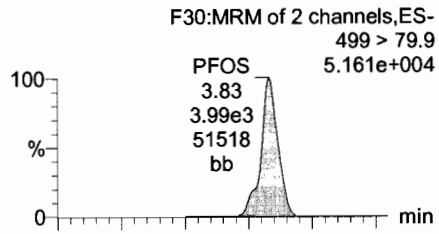


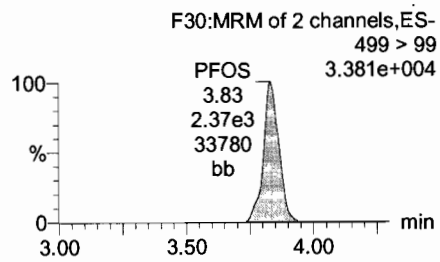
PFOSA



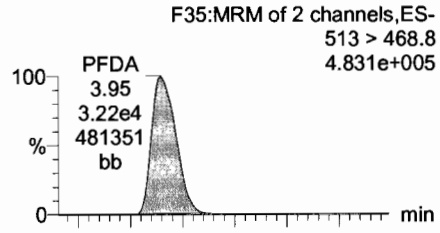


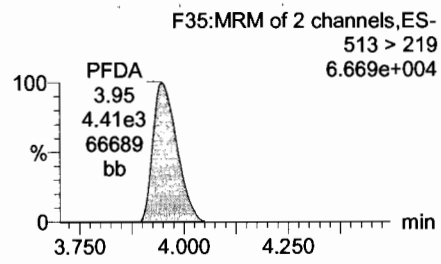
Total PFOS



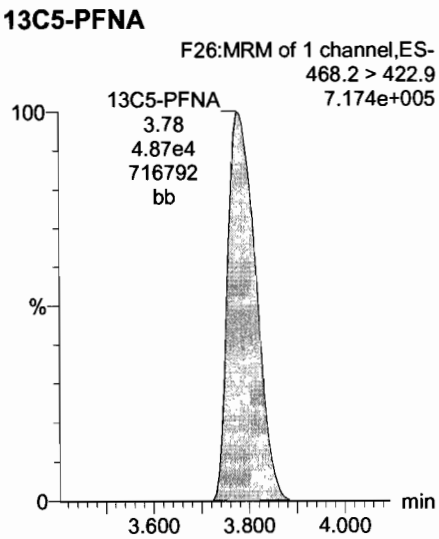


PFDA

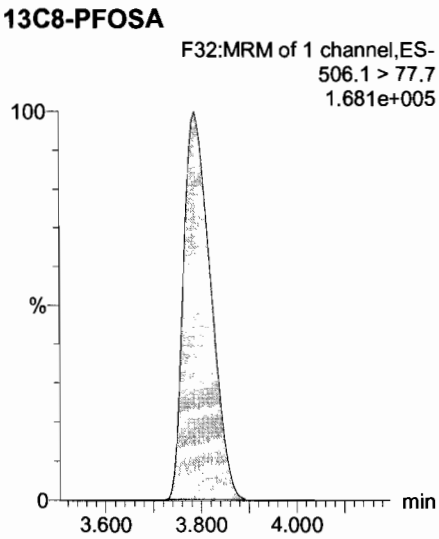




13C5-PFNA



13C8-PFOSA



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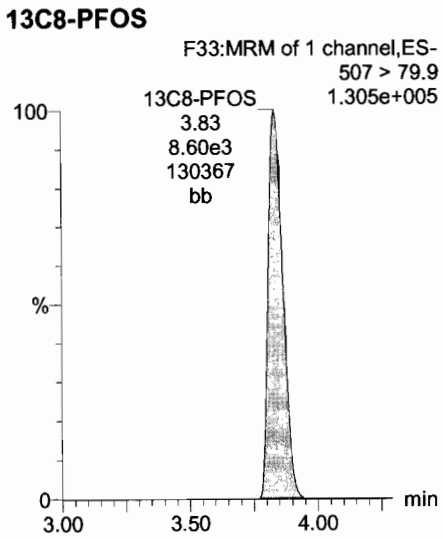
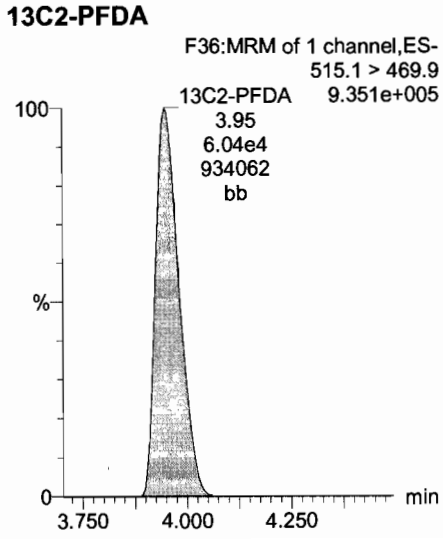


13C2-PFDA



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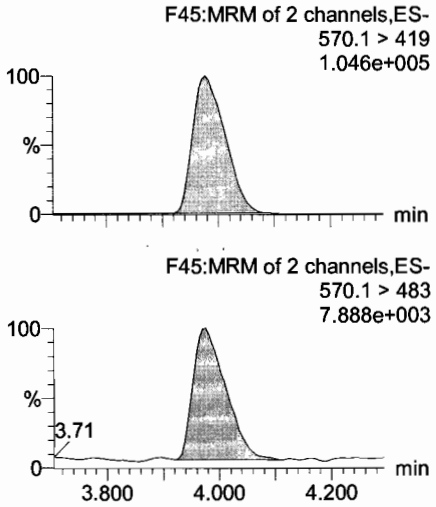
Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

Name: 170727M1_10, Date: 27-Jul-2017, Time: 12:30:53, ID: ST170727M1-5 PFC CS2 17G2708, Description: PFC CS2 17G2708

N-MeFOSAA



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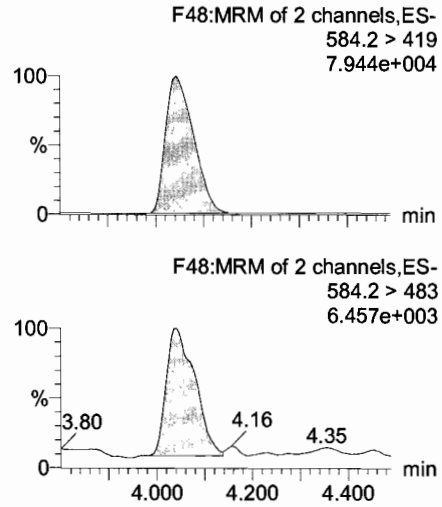
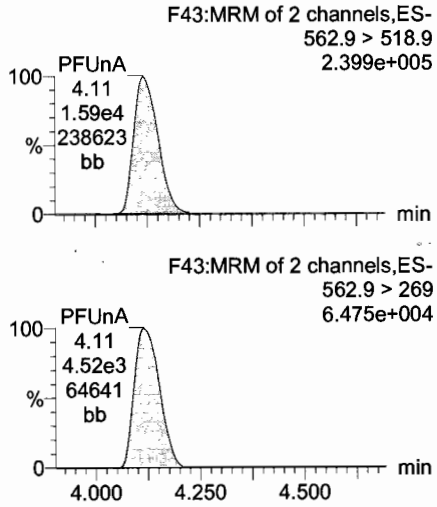
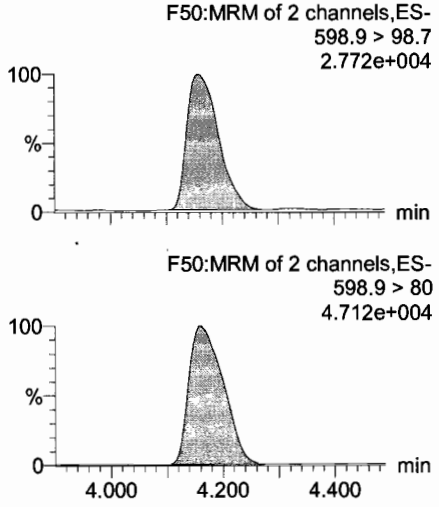


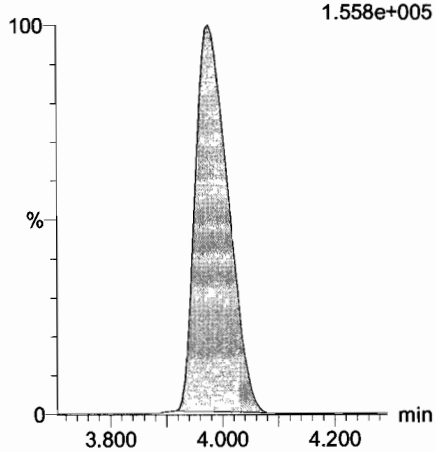
PFUnA



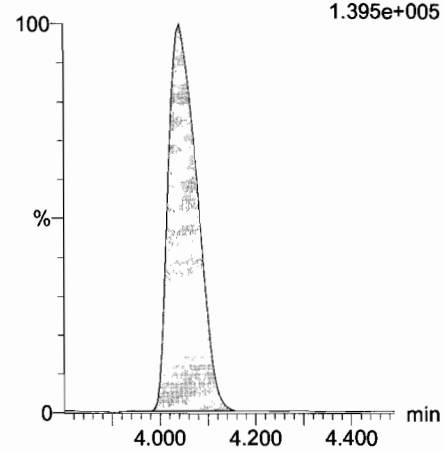
PFDS



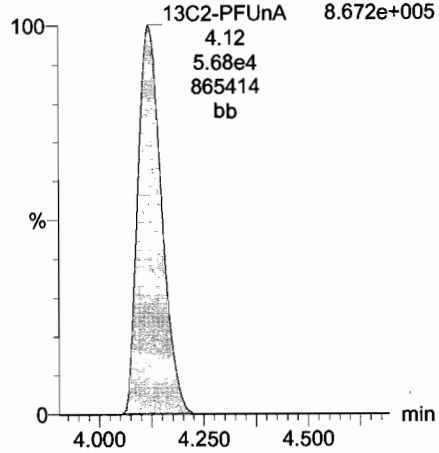
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFUnA



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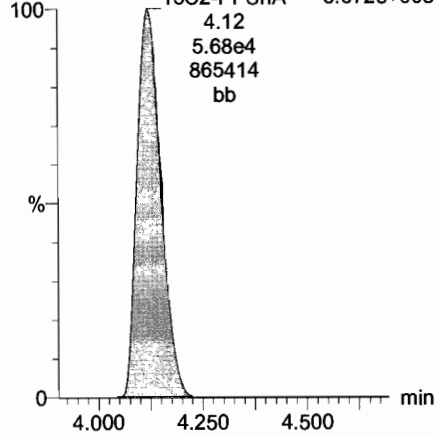

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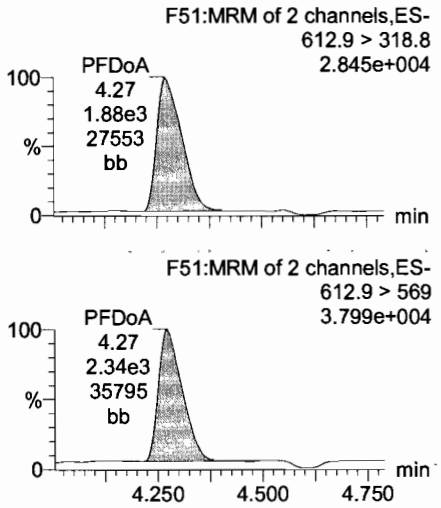
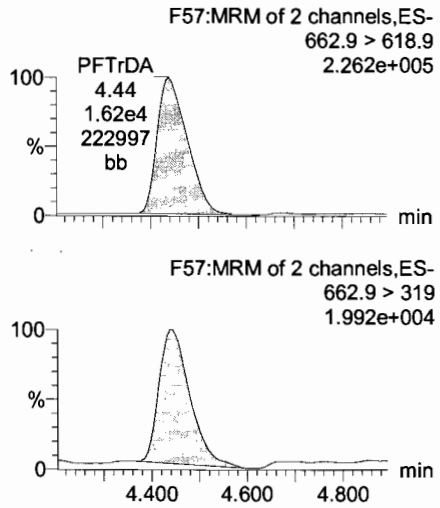
Name: 170727M1_10, Date: 27-Jul-2017, Time: 12:30:53, ID: ST170727M1-5 PFC CS2 17G2708, Description: PFC CS2 17G2708

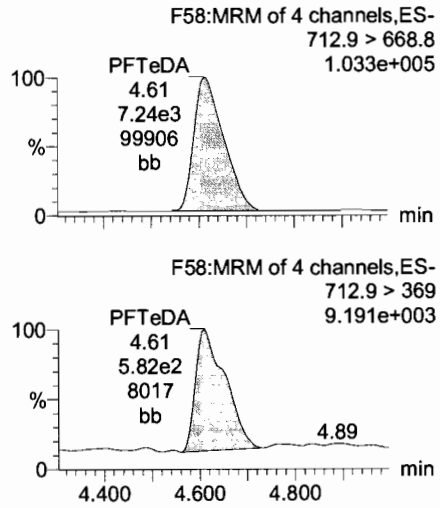
PFDoA



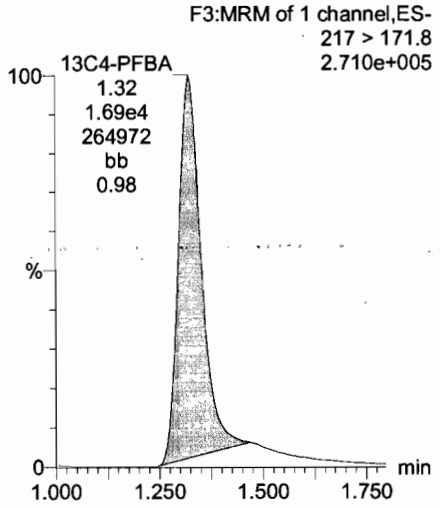
PFTrDA



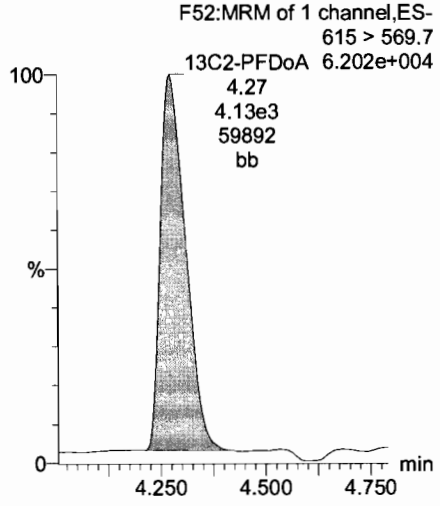
PFTeDA



13C4-PFBA



13C2-PFDoA



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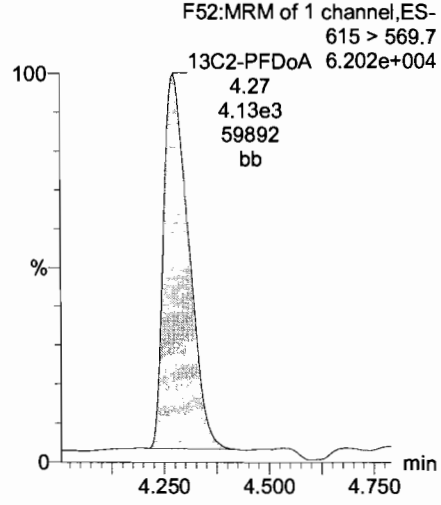
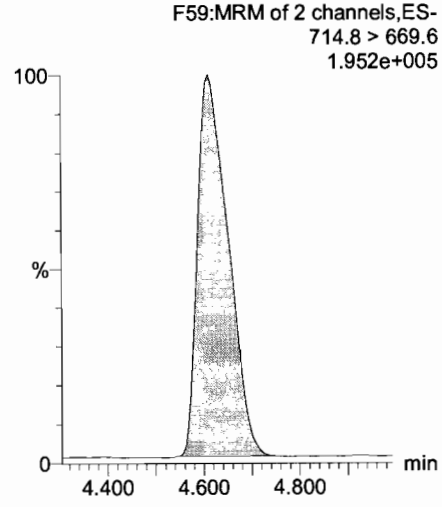
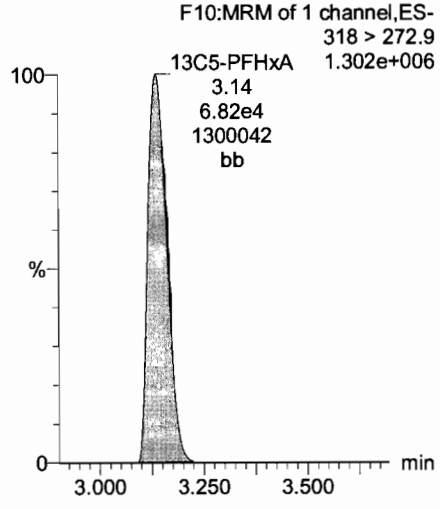


13C2-PFTeDA



13C5-PFHxA



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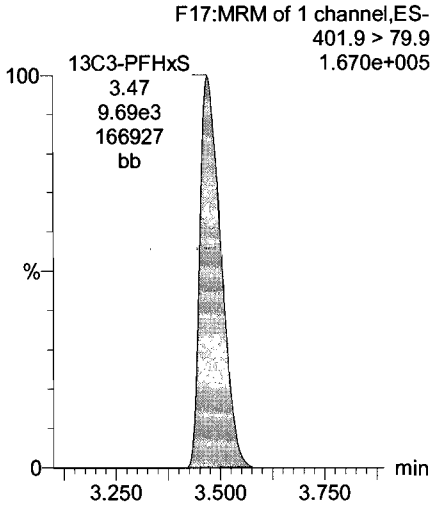
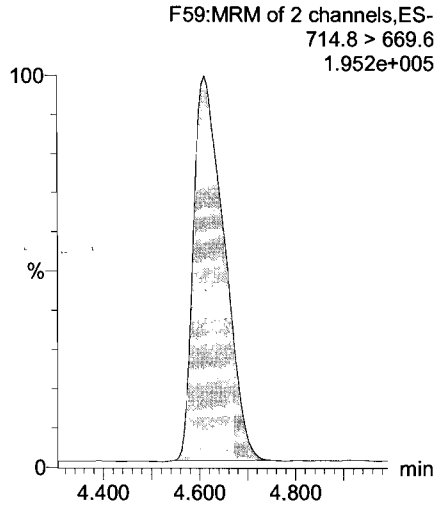
Name: 170727M1_10, Date: 27-Jul-2017, Time: 12:30:53, ID: ST170727M1-5 PFC CS2 17G2708, Description: PFC CS2 17G2708

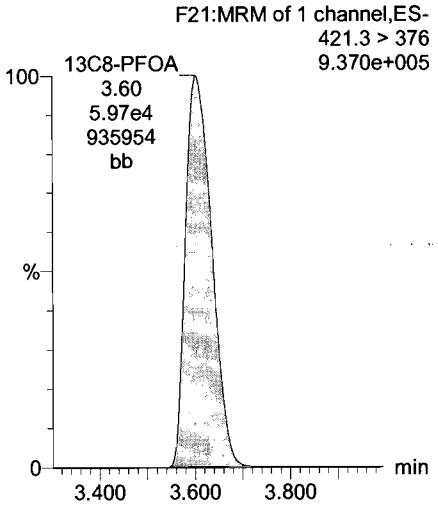
13C3-PFHxS



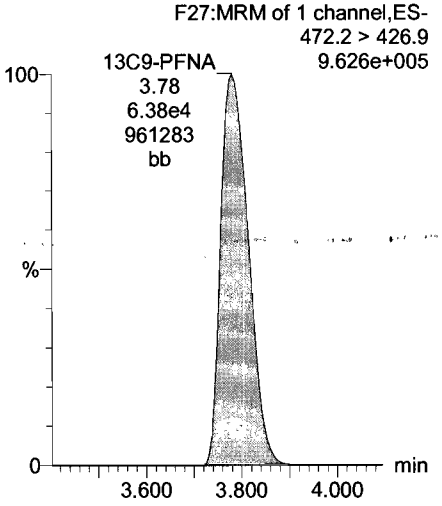
13C2-PFTeDA



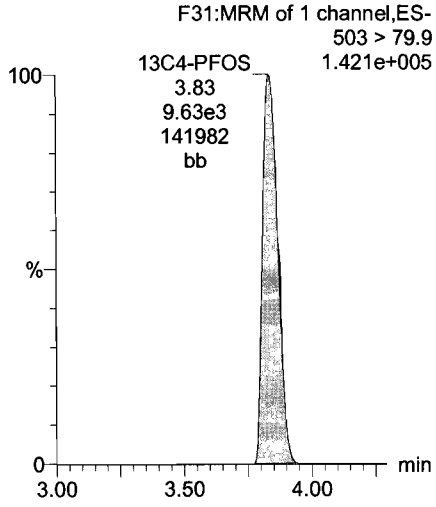
13C8-PFOA



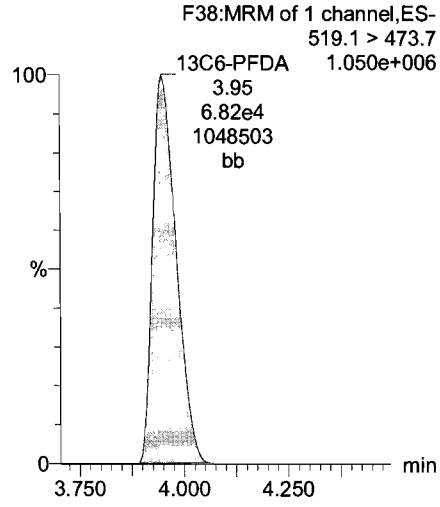
13C9-PFNA



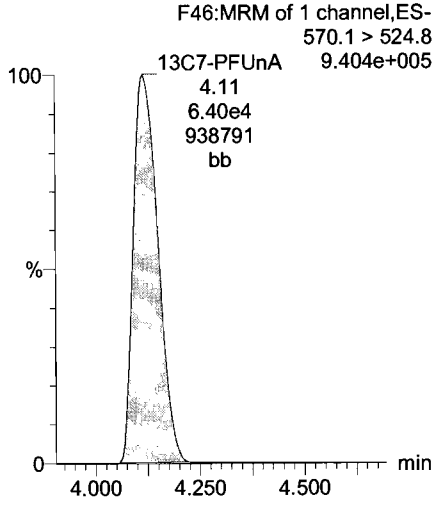
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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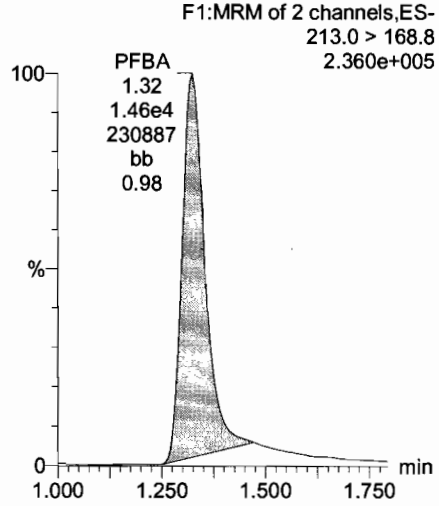
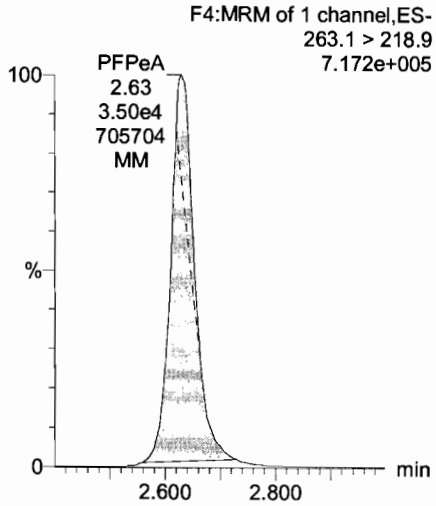
Name: 170727M1_11, Date: 27-Jul-2017, Time: 12:41:40, ID: ST170727M1-6 PFC CS3 17G2709, Description: PFC CS3 17G2709

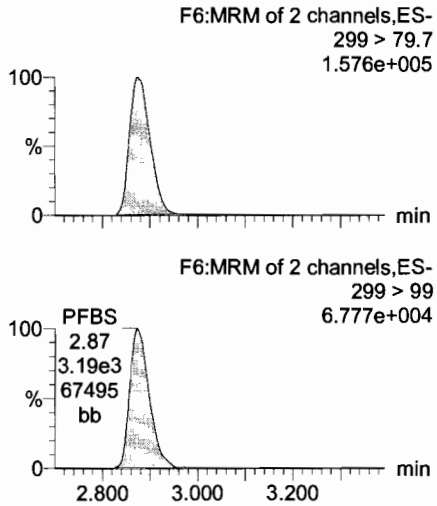
PFBA



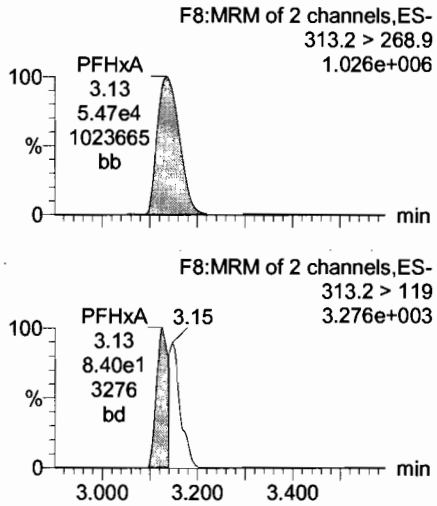
PFPeA



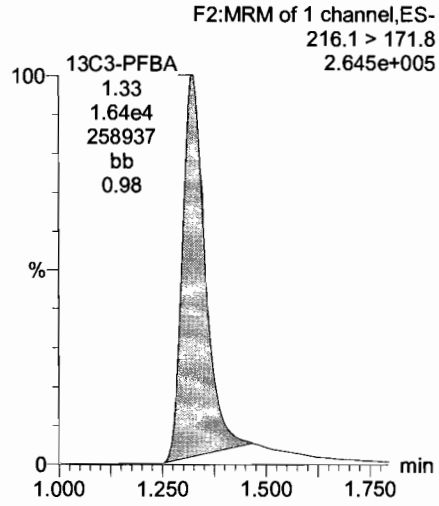
PFBS



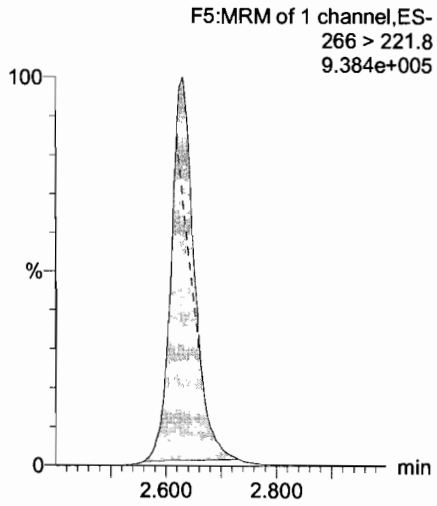
PFHxA



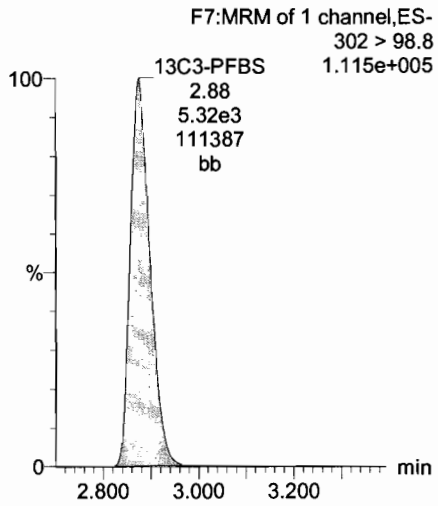
13C3-PFBA



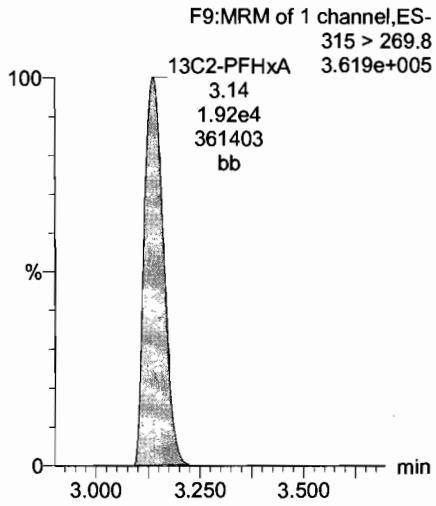
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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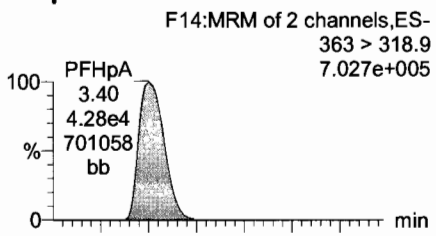
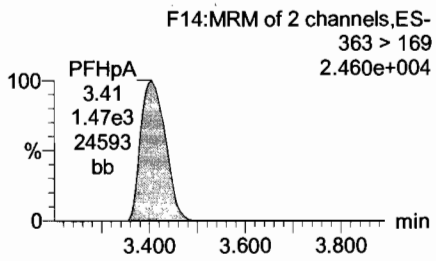
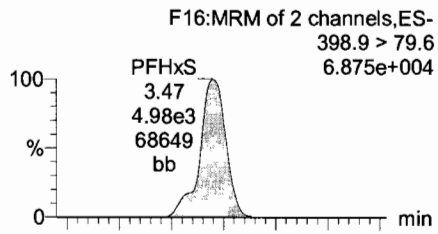
Name: 170727M1_11, Date: 27-Jul-2017, Time: 12:41:40, ID: ST170727M1-6 PFC CS3 17G2709, Description: PFC CS3 17G2709

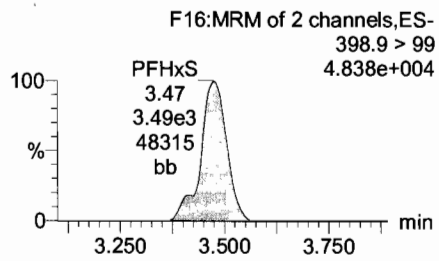
PFHpA



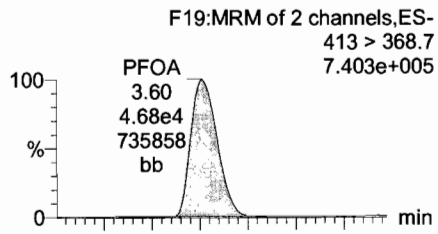


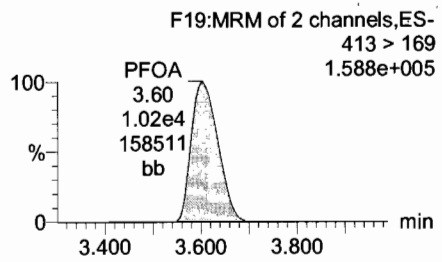
Total PFHxS



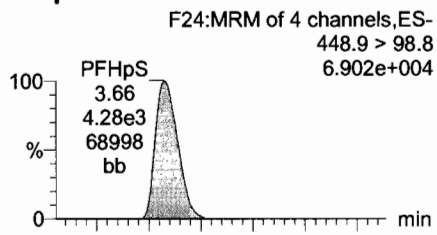


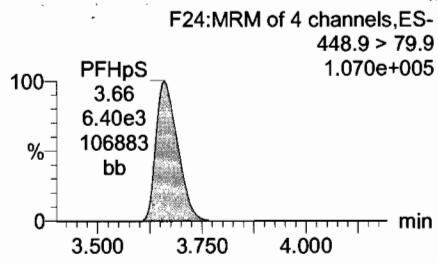
Total PFOA



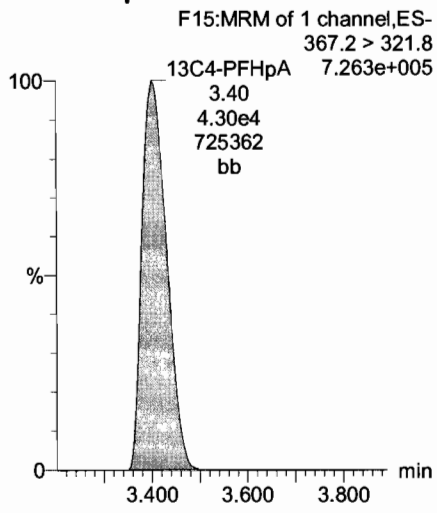


PFHpS

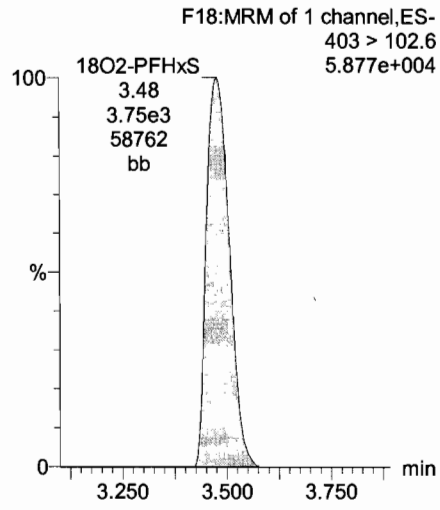




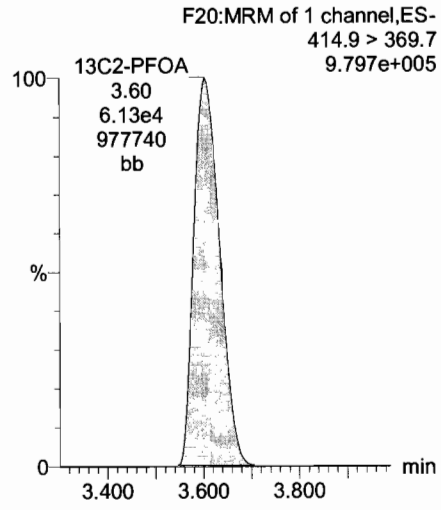
13C4-PFHpA



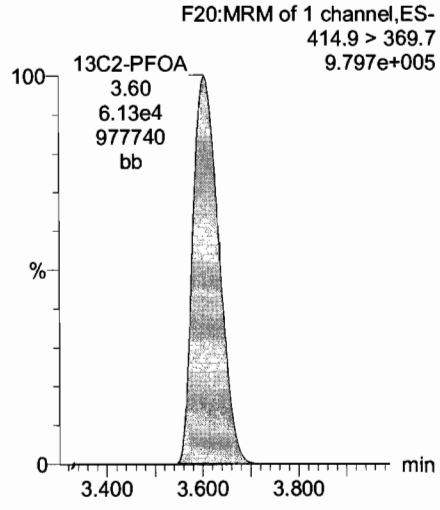
18O2-PFHxS



13C2-PFOA



13C2-PFOA



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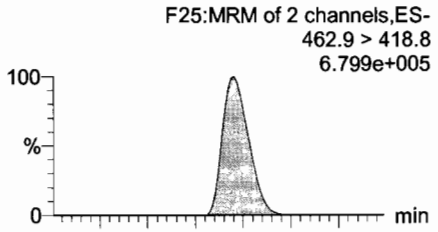
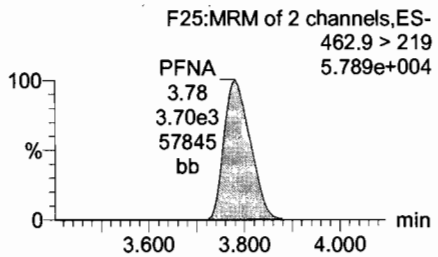
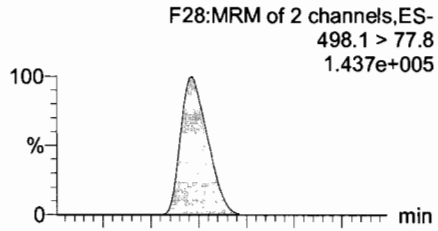
Name: 170727M1_11, Date: 27-Jul-2017, Time: 12:41:40, ID: ST170727M1-6 PFC CS3 17G2709, Description: PFC CS3 17G2709

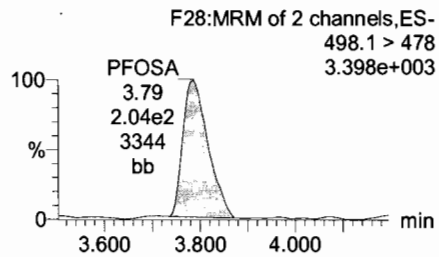
PFNA





PFOSA





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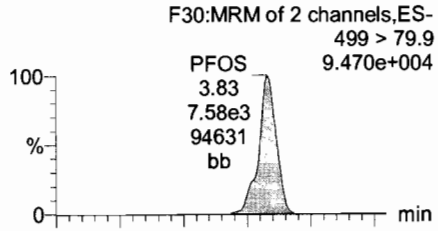

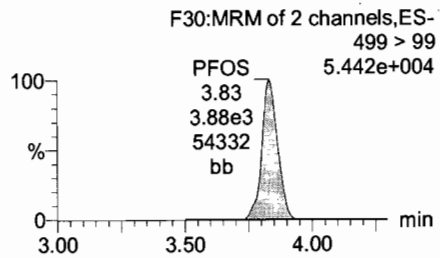

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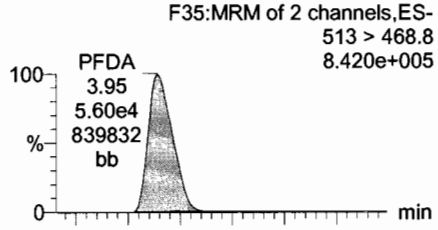
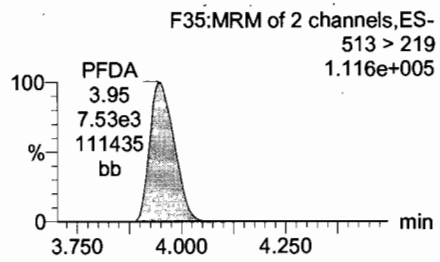
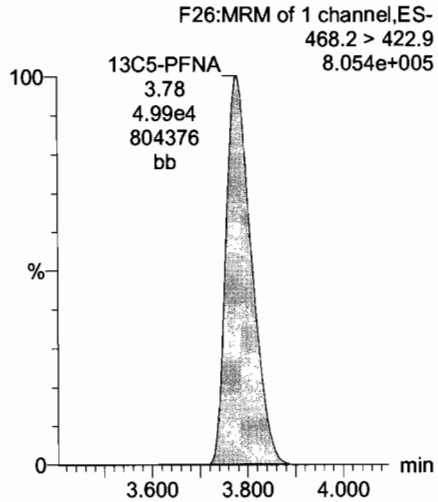




13C5-PFNA



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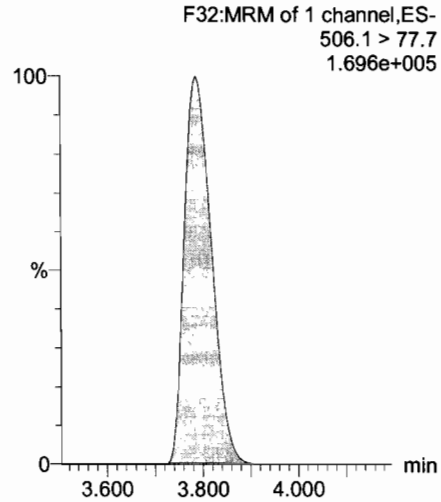
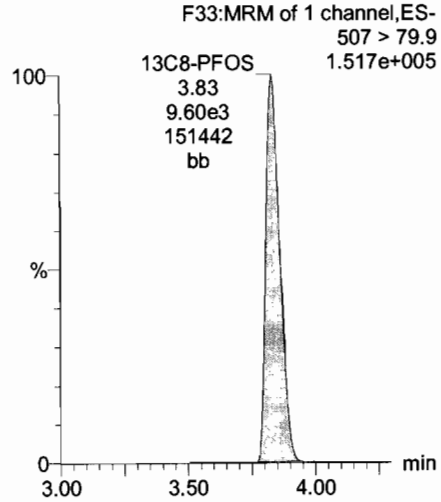
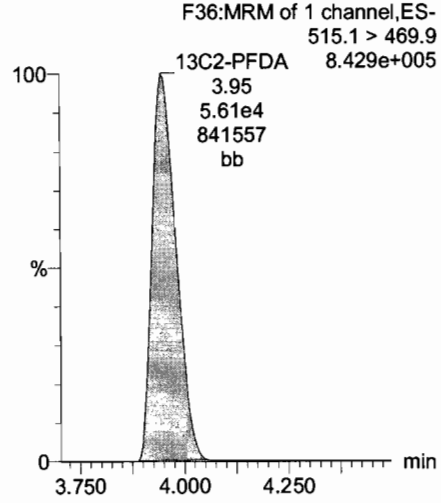


13C8-PFOS



13C2-PFDA



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Name: 170727M1_11, Date: 27-Jul-2017, Time: 12:41:40, ID: ST170727M1-6 PFC CS3 17G2709, Description: PFC CS3 17G2709

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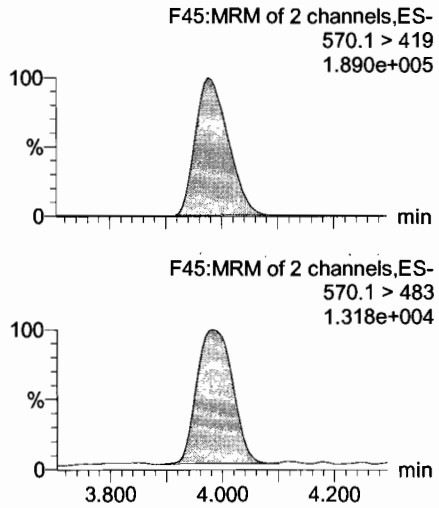

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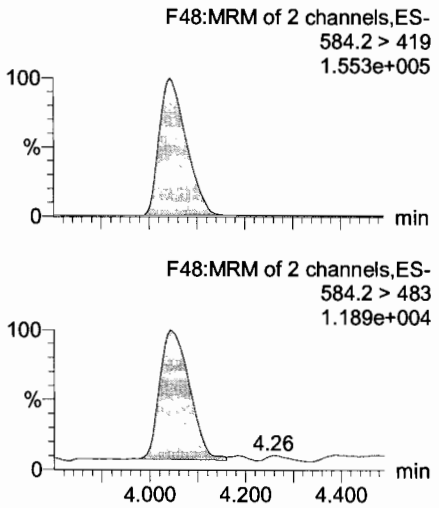
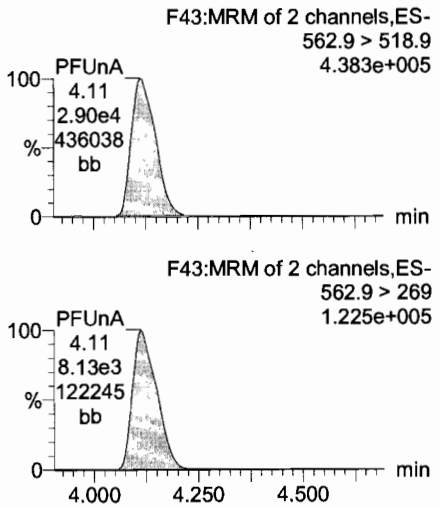
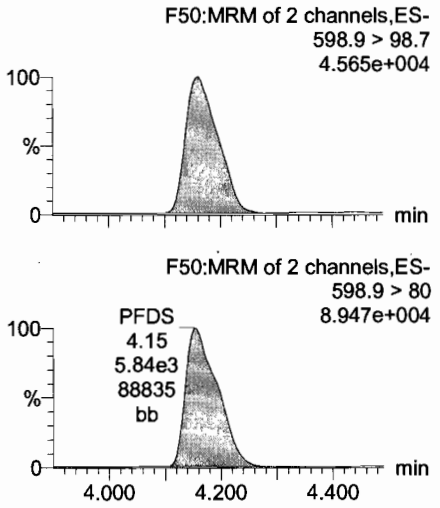


PFUnA



PFDS



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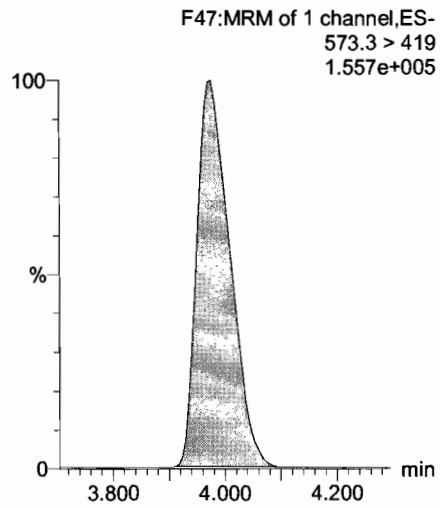

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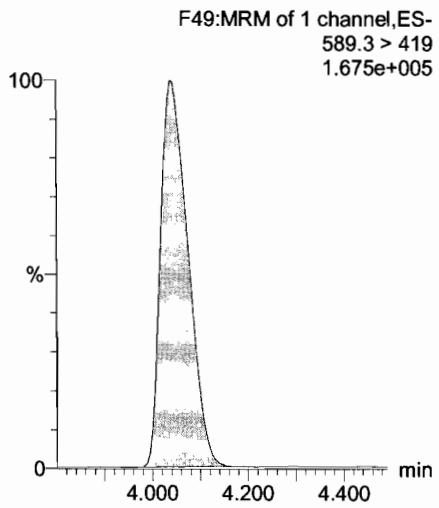

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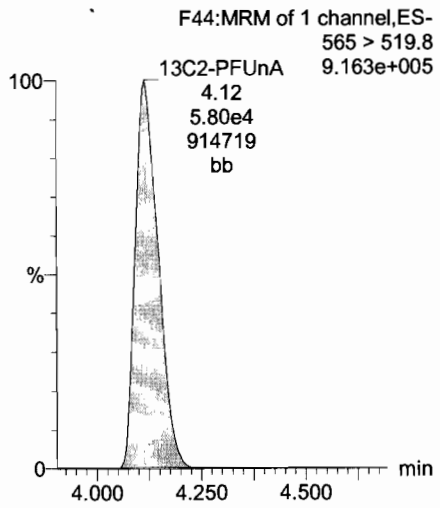

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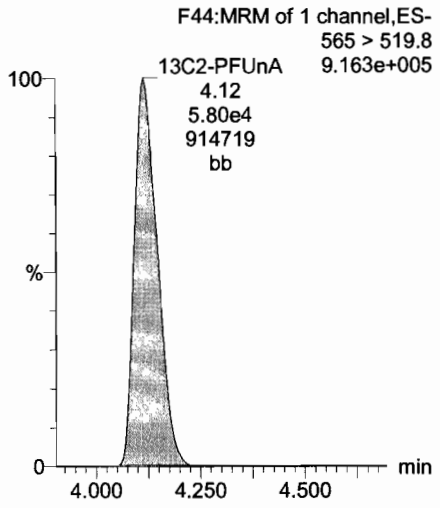

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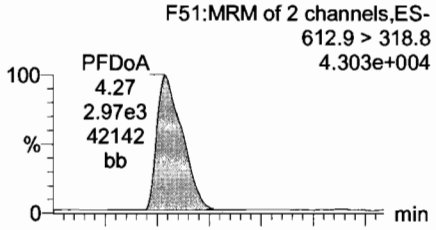
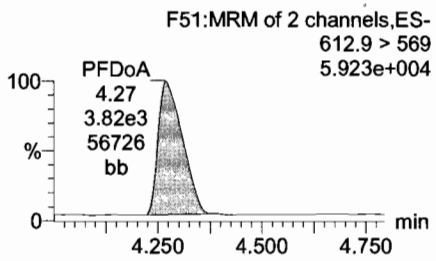
Name: 170727M1_11, Date: 27-Jul-2017, Time: 12:41:40, ID: ST170727M1-6 PFC CS3 17G2709, Description: PFC CS3 17G2709

PFDoA





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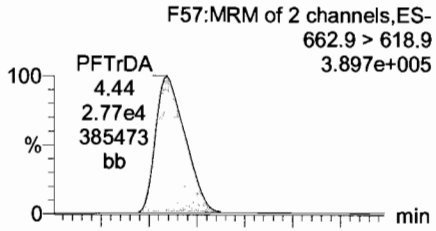

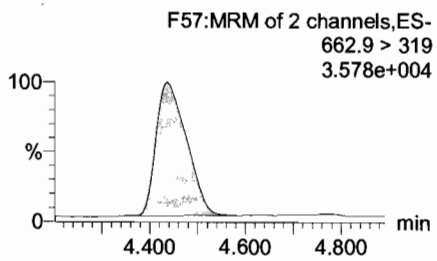

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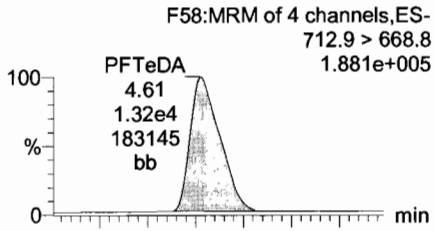

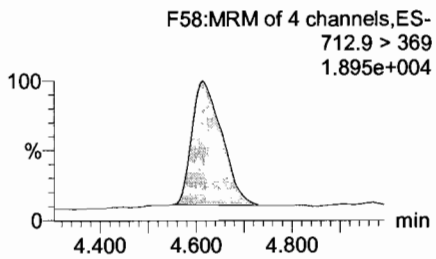

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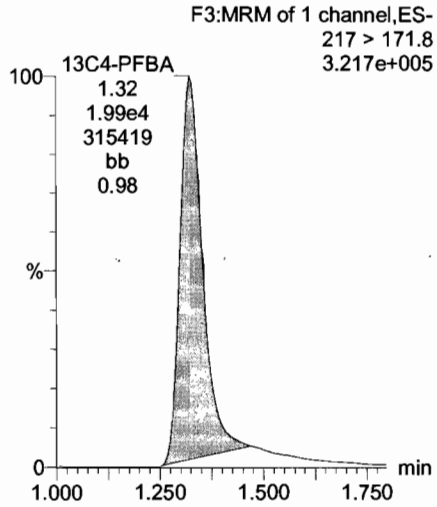
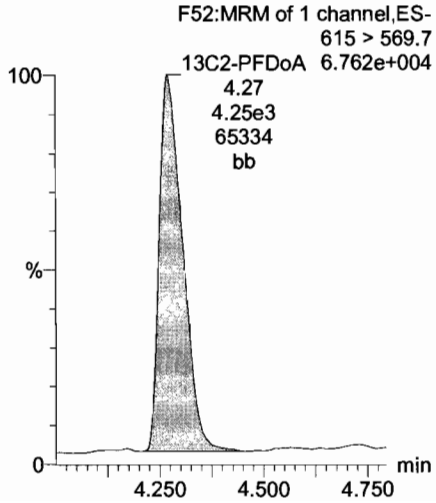


13C2-PFDoA



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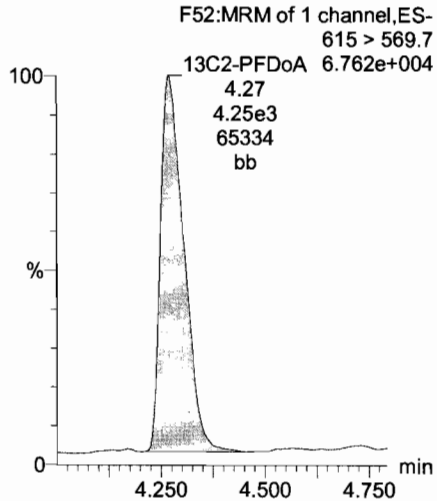
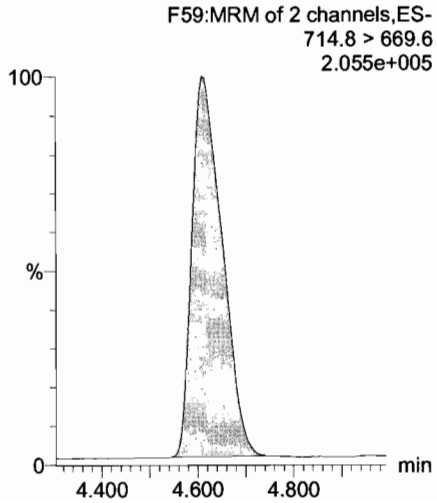
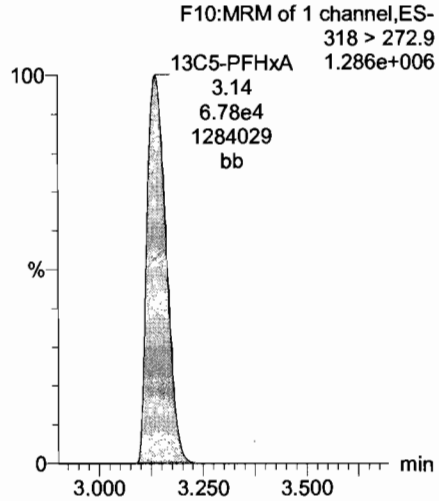


13C2-PFTeDA



13C5-PFHxA



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Name: 170727M1_11, Date: 27-Jul-2017, Time: 12:41:40, ID: ST170727M1-6 PFC CS3 17G2709, Description: PFC CS3 17G2709

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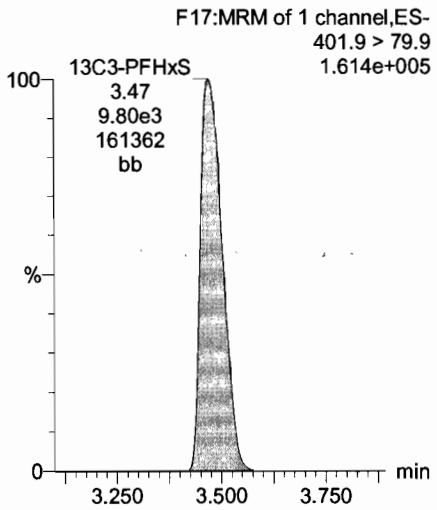
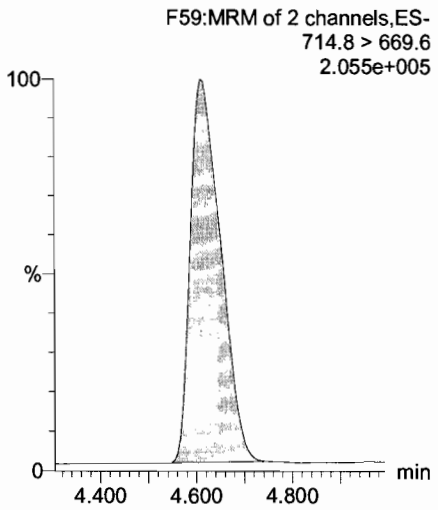


13C2-PFTeDA



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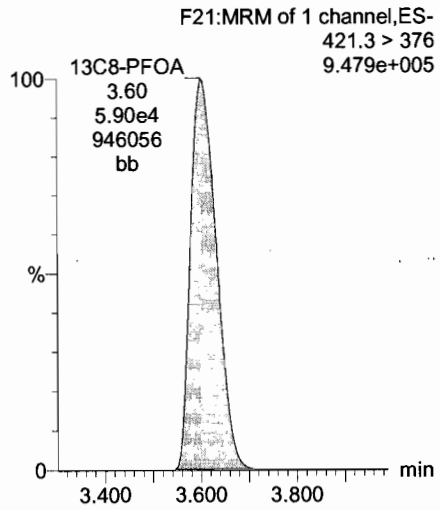
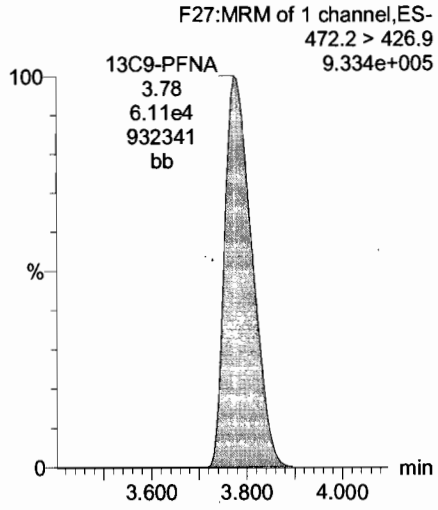
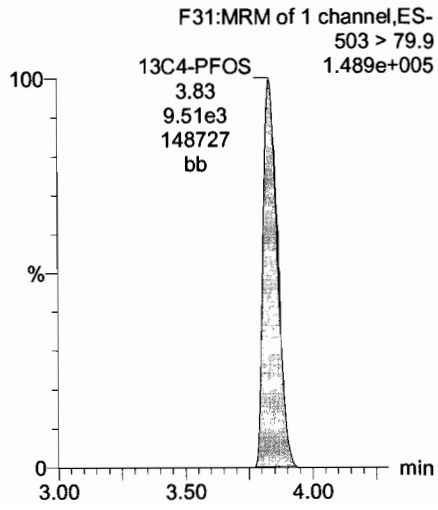


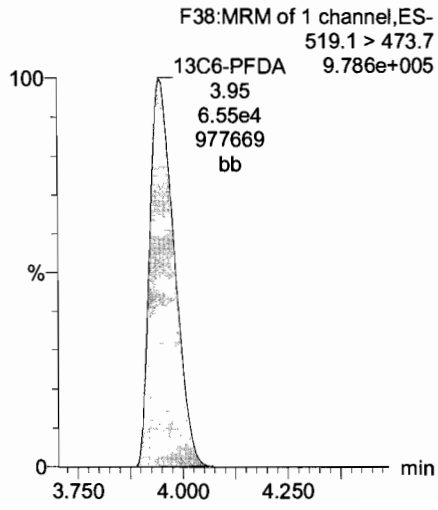
13C9-PFNA



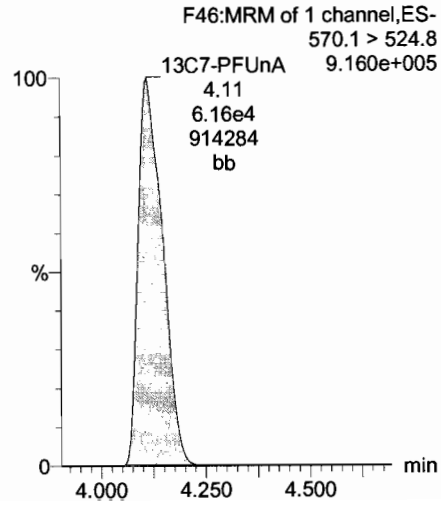
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Name: 170727M1_12, Date: 27-Jul-2017, Time: 12:52:18, ID: ST170727M1-7 PFC CS4 17G2729, Description: PFC CS4 17G2729

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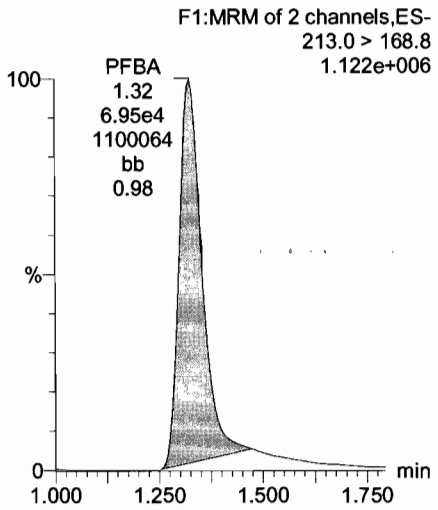

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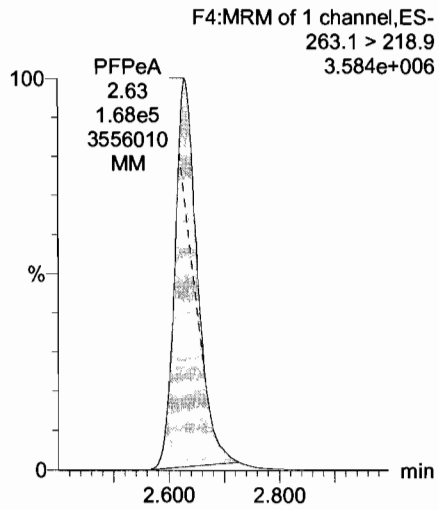
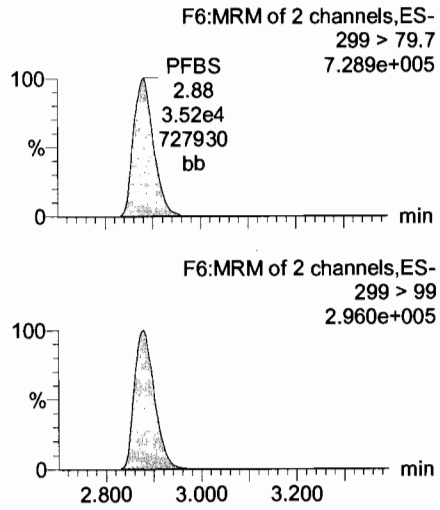
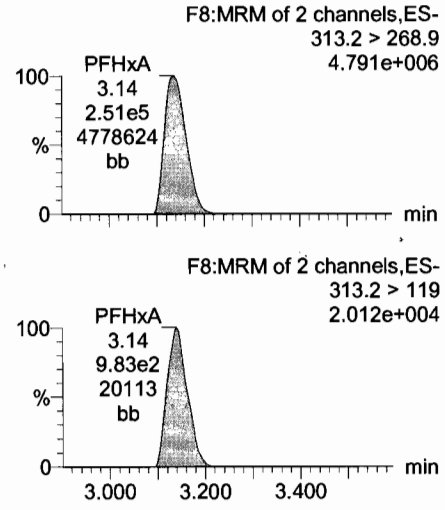


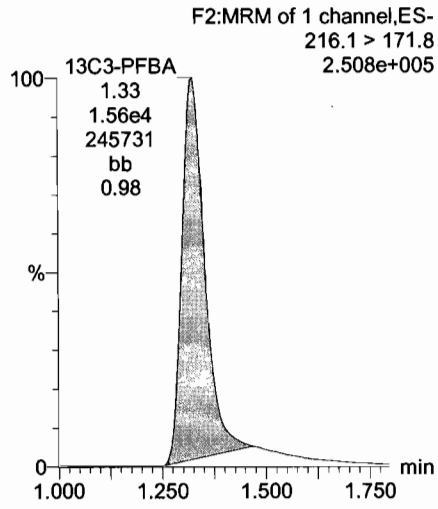
PFBS



PFHxA



13C3-PFBA



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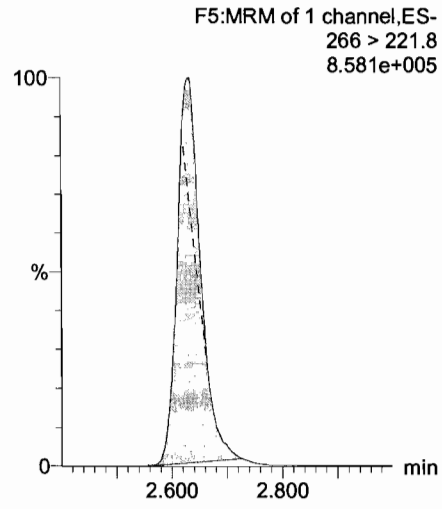

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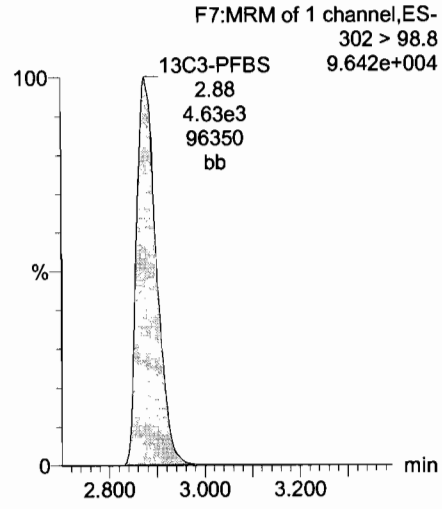

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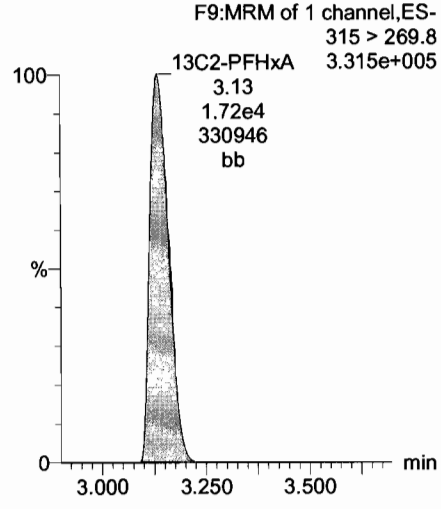

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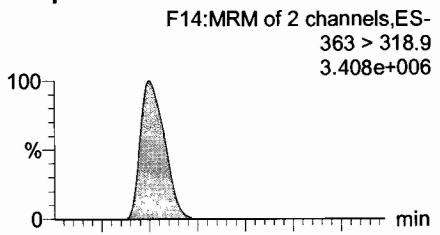
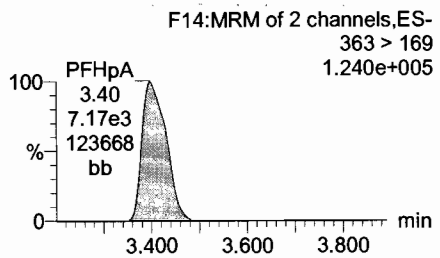
Name: 170727M1_12, Date: 27-Jul-2017, Time: 12:52:18, ID: ST170727M1-7 PFC CS4 17G2729, Description: PFC CS4 17G2729

PFHpA





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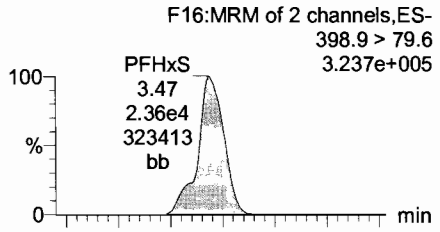
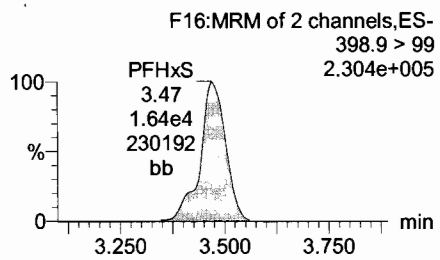
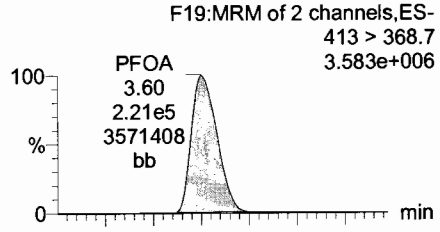
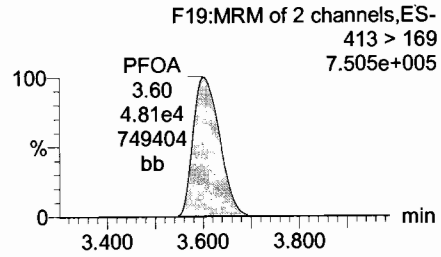


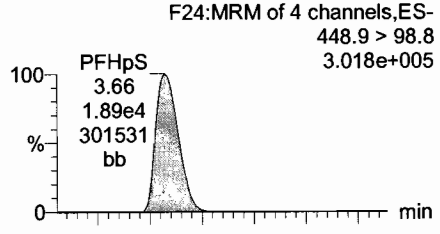


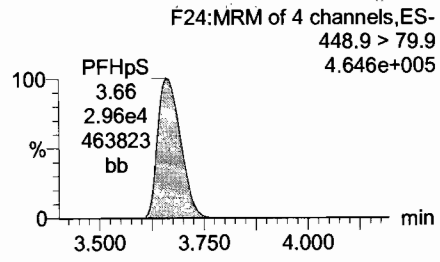
Total PFOA



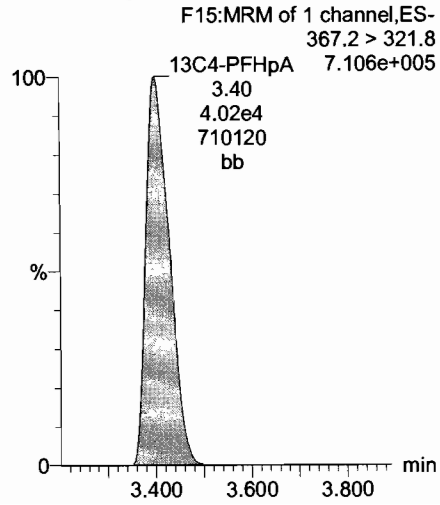


PFHpS

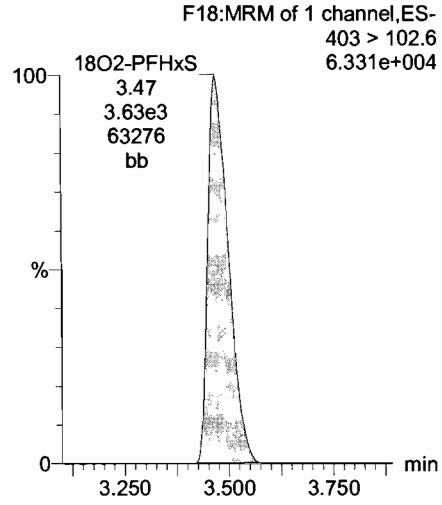




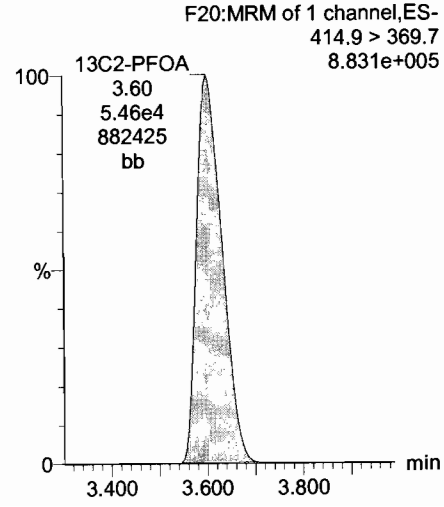
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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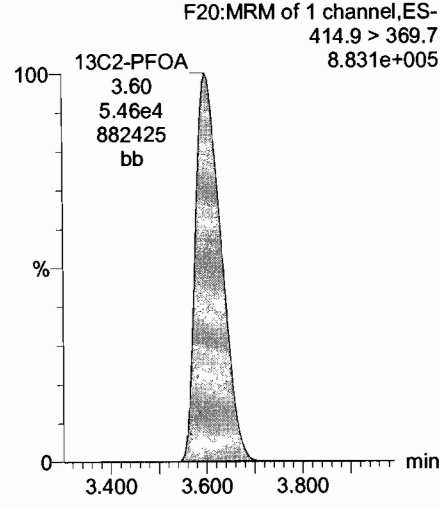

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Name: 170727M1_12, Date: 27-Jul-2017, Time: 12:52:18, ID: ST170727M1-7 PFC CS4 17G2729, Description: PFC CS4 17G2729

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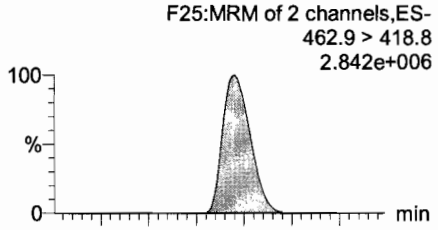
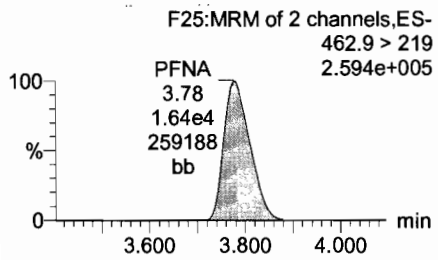
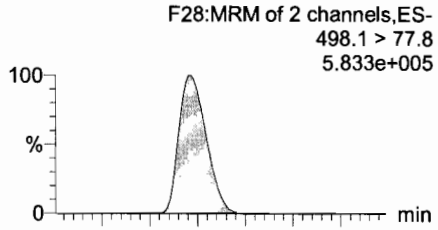
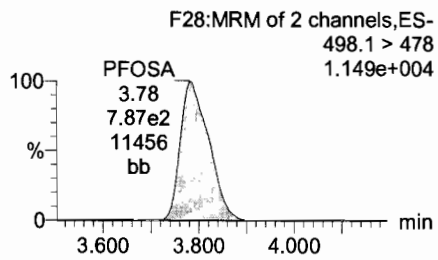


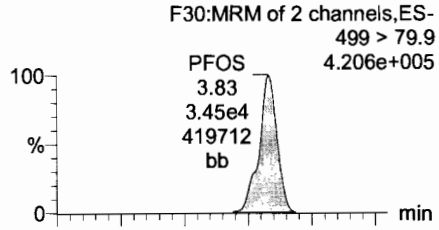


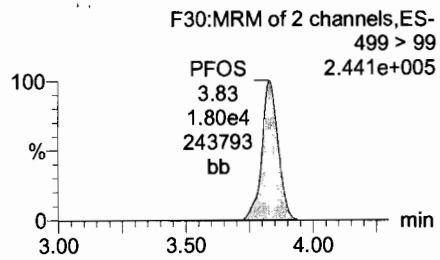
PFOSA





Total PFOS





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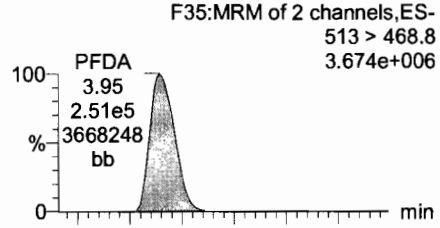
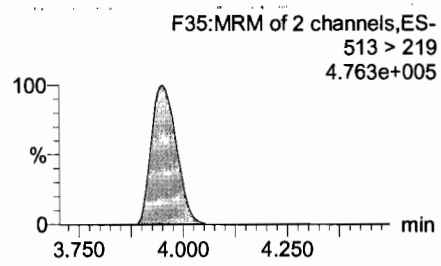
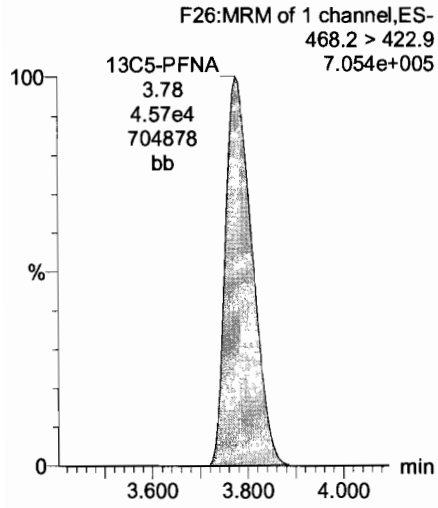
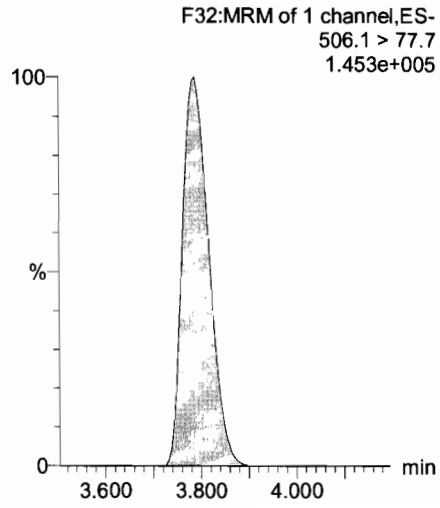




13C5-PFNA



13C8-PFOSA



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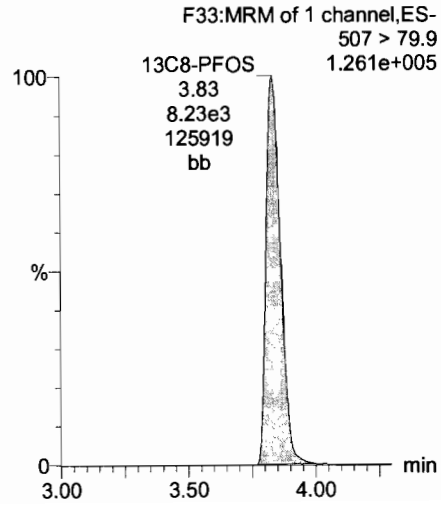
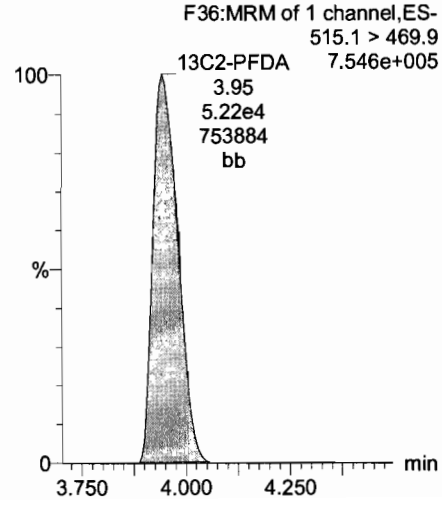


13C2-PFDA



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Name: 170727M1_12, Date: 27-Jul-2017, Time: 12:52:18, ID: ST170727M1-7 PFC CS4 17G2729, Description: PFC CS4 17G2729

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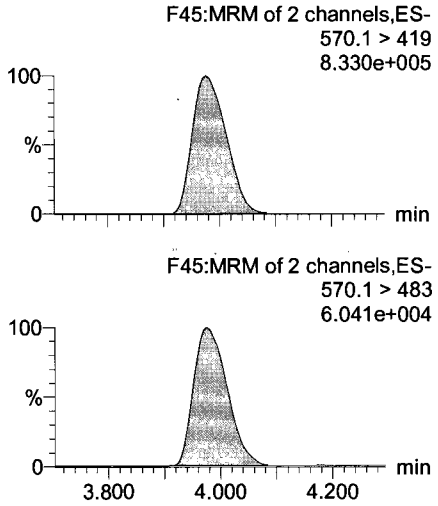

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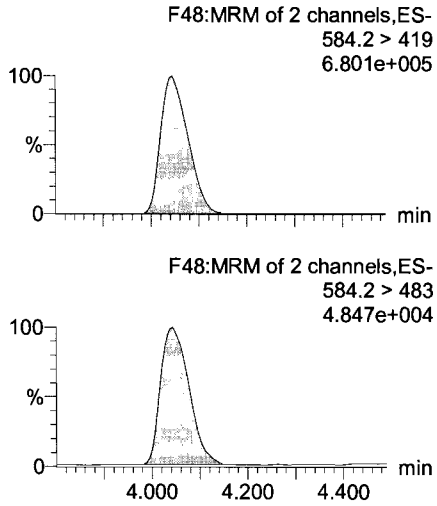

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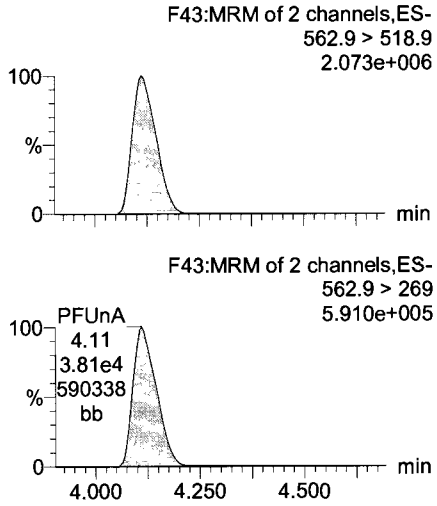

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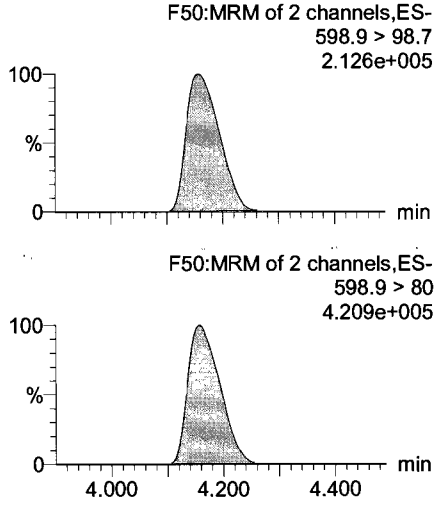

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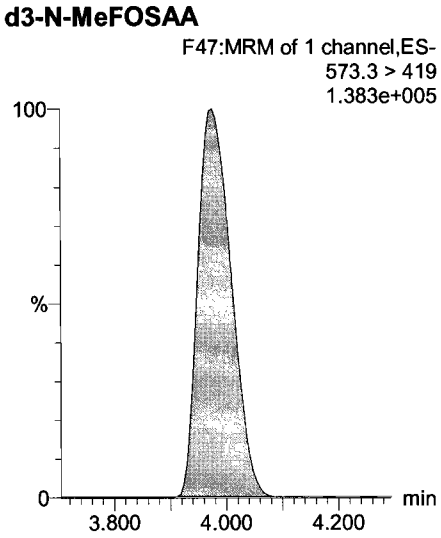

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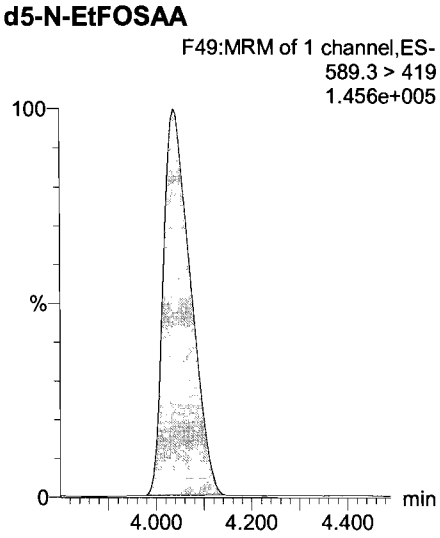

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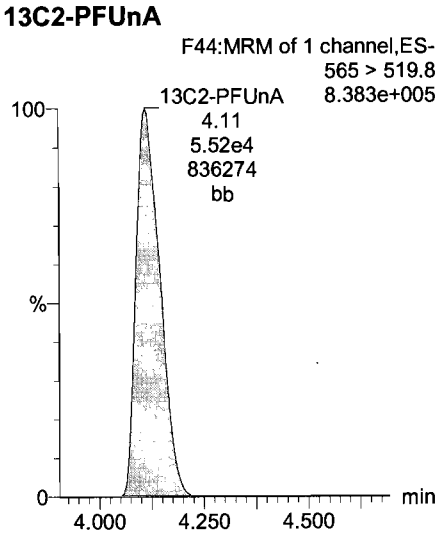

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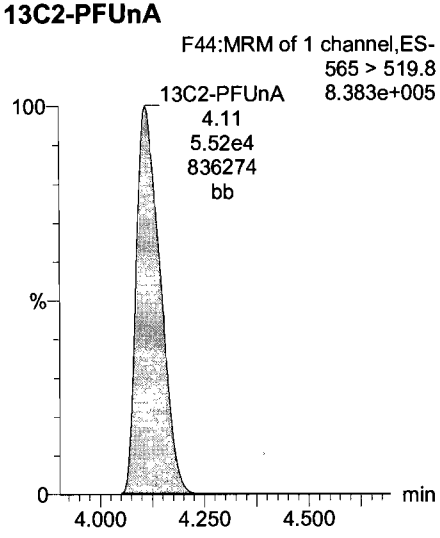

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Name: 170727M1_12, Date: 27-Jul-2017, Time: 12:52:18, ID: ST170727M1-7 PFC CS4 17G2729, Description: PFC CS4 17G2729

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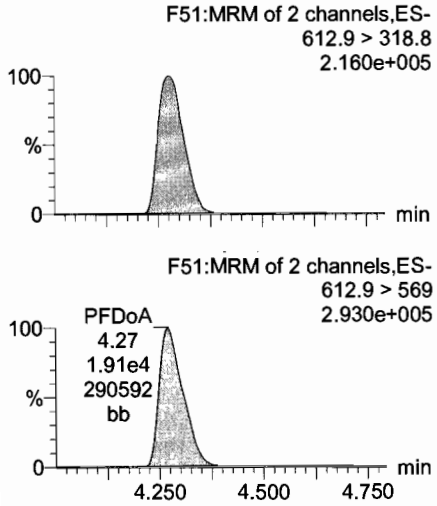

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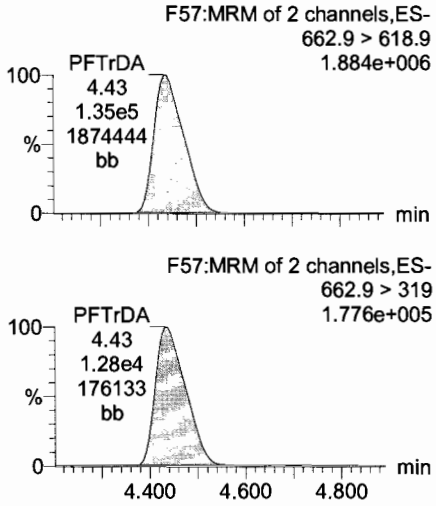

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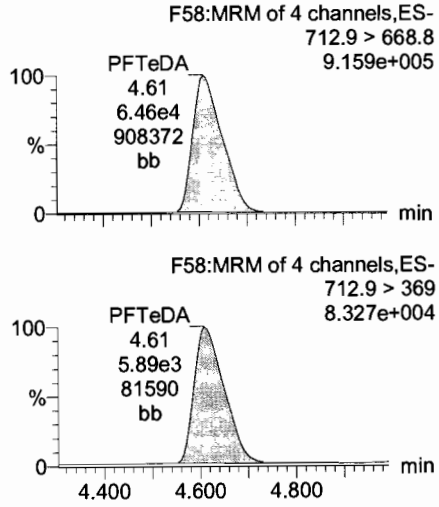
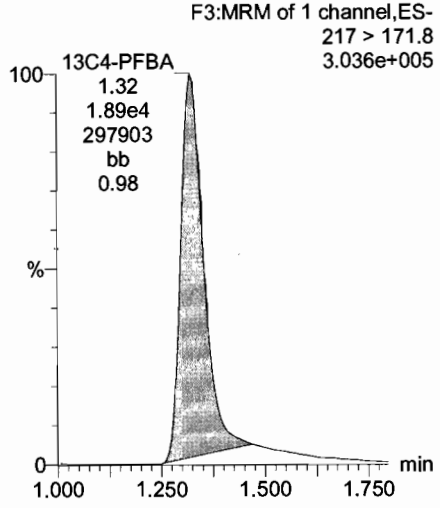


13C4-PFBA



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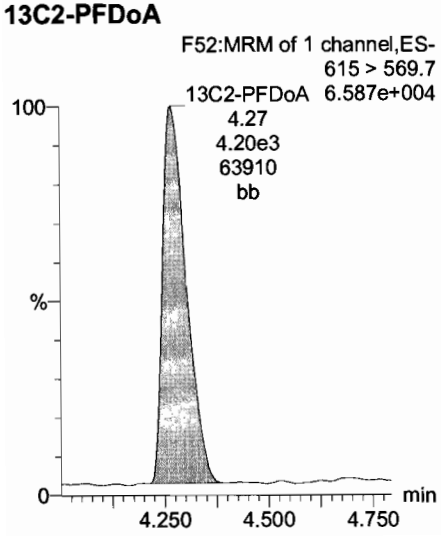

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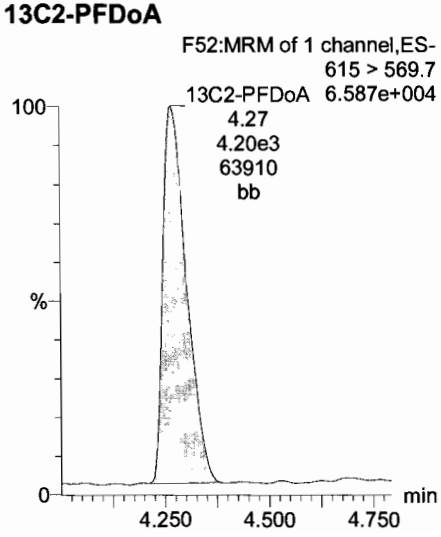

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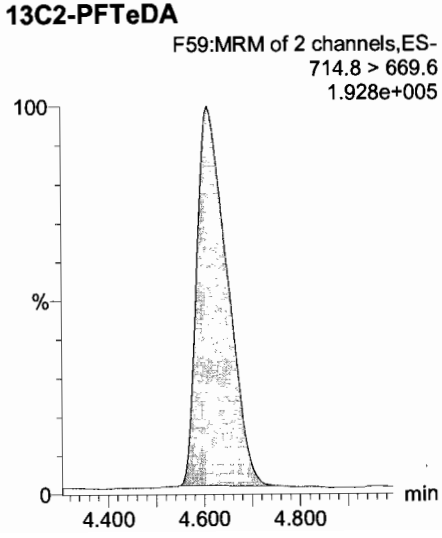
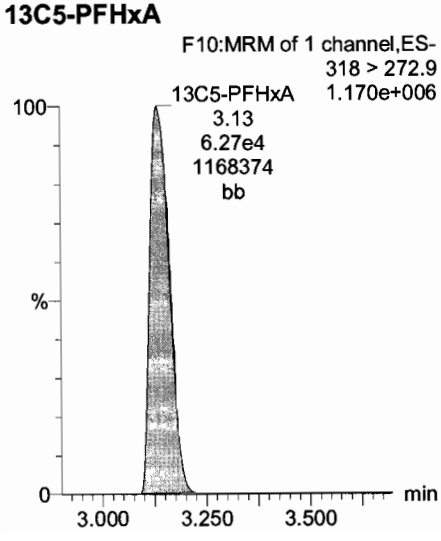


13C5-PFHxA



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Name: 170727M1_12, Date: 27-Jul-2017, Time: 12:52:18, ID: ST170727M1-7 PFC CS4 17G2729, Description: PFC CS4 17G2729

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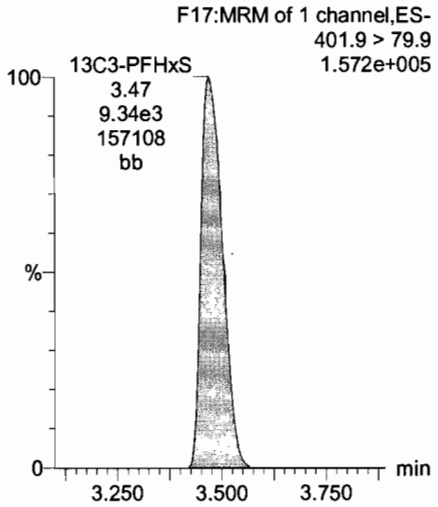

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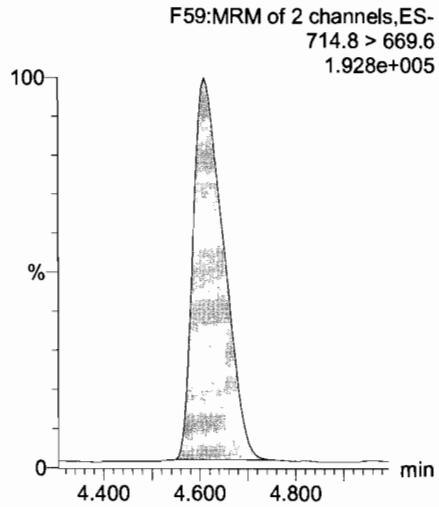

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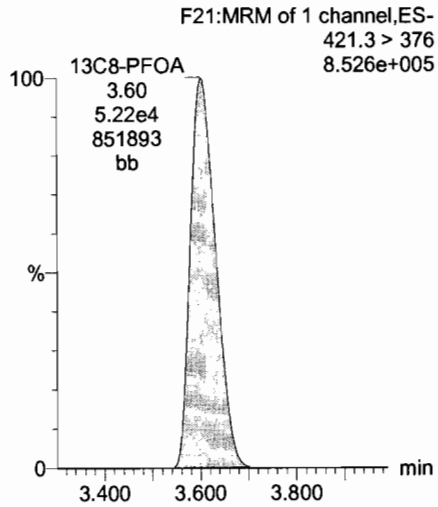
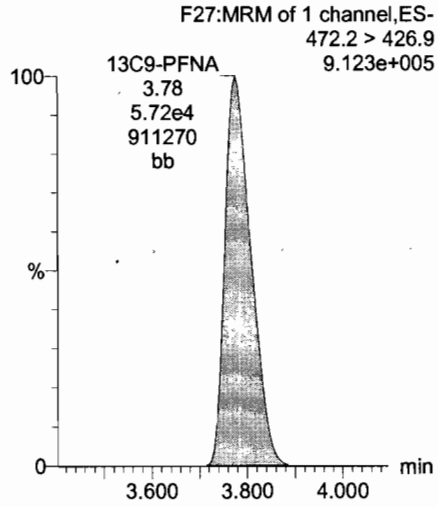
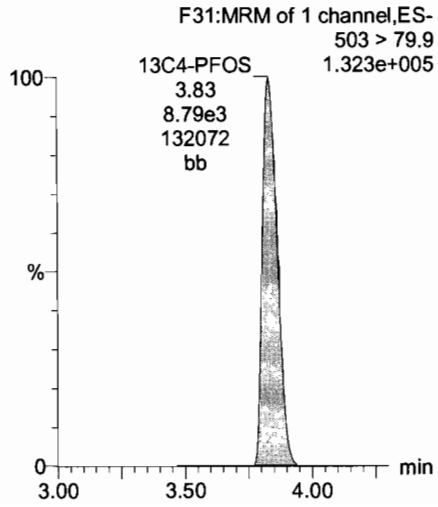


13C9-PFNA



13C4-PFOS



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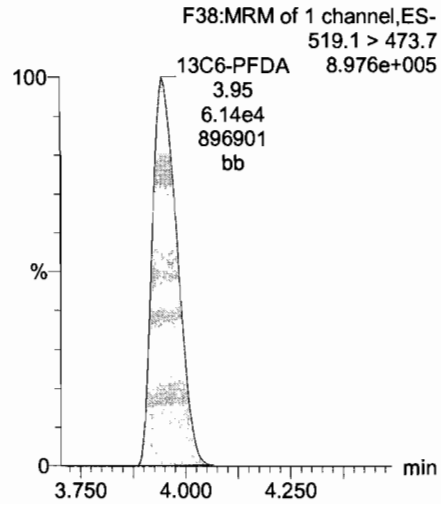

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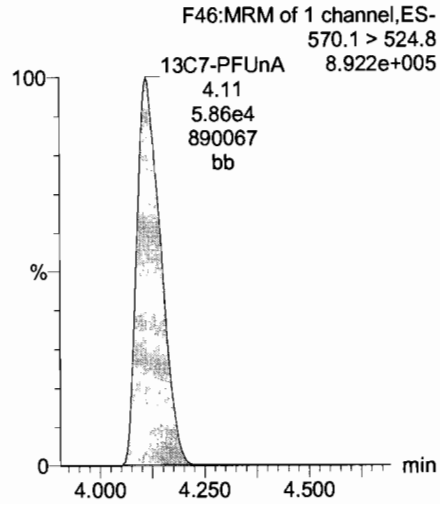

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Name: 170727M1_13, Date: 27-Jul-2017, Time: 13:02:56, ID: ST170727M1-8 PFC CS5 17G2710, Description: PFC CS5 17G2710

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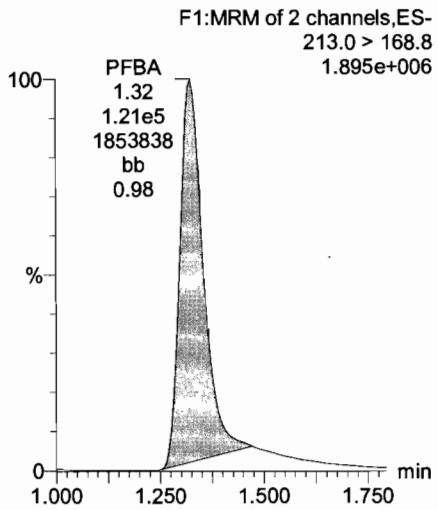

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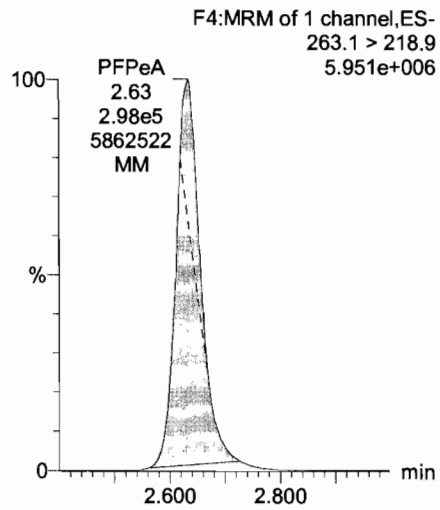

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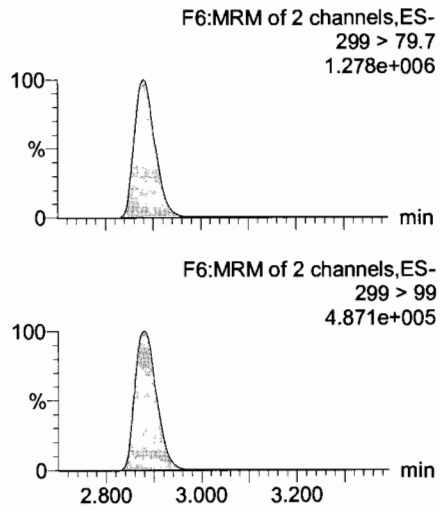
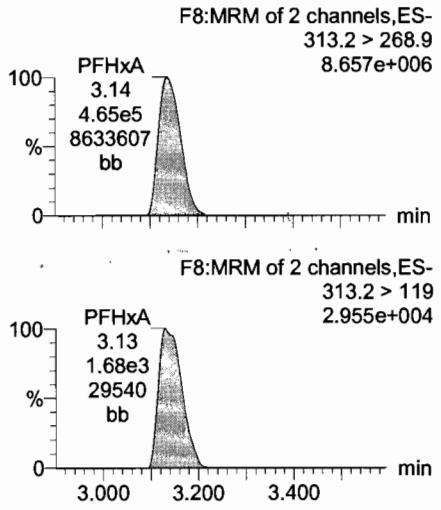


PFHxA



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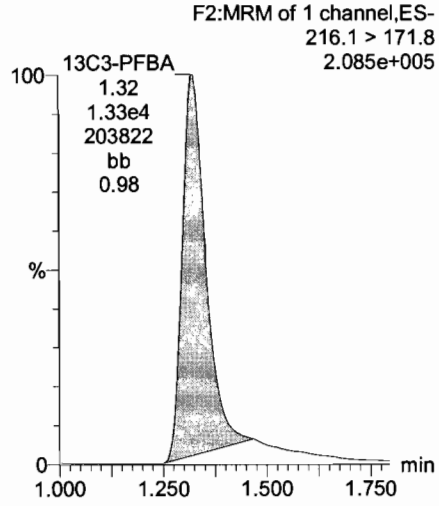

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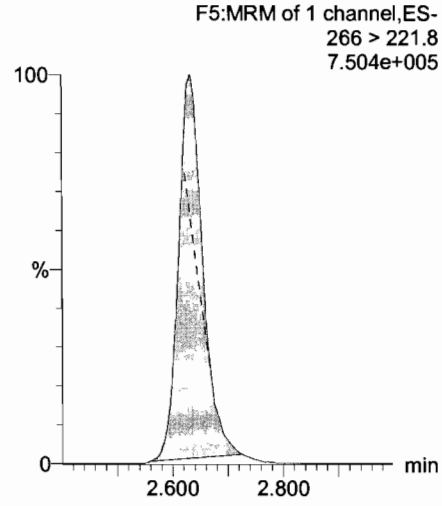

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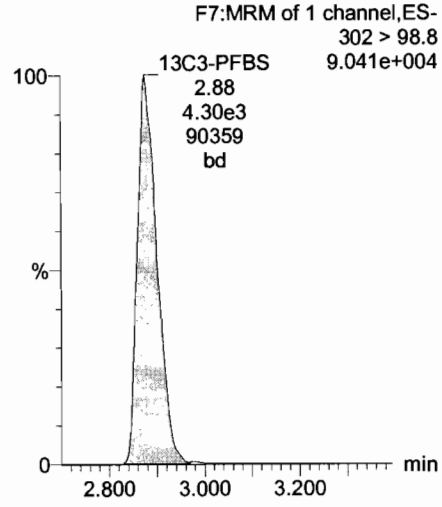

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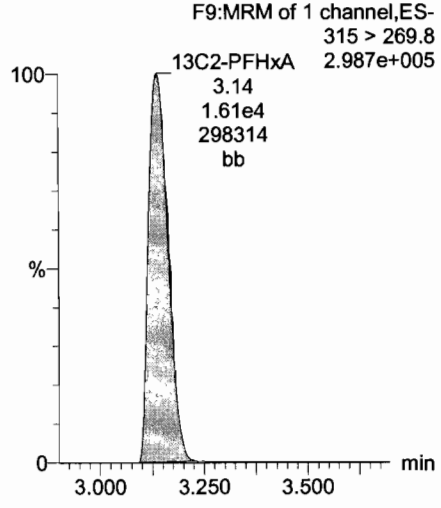

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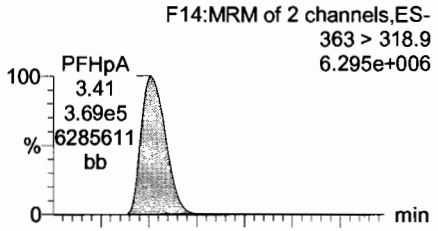
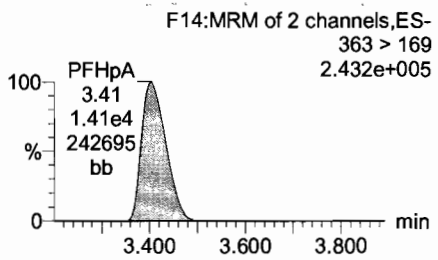
Name: 170727M1_13, Date: 27-Jul-2017, Time: 13:02:56, ID: ST170727M1-8 PFC CS5 17G2710, Description: PFC CS5 17G2710

PFHpA





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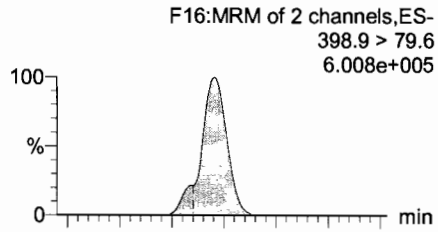

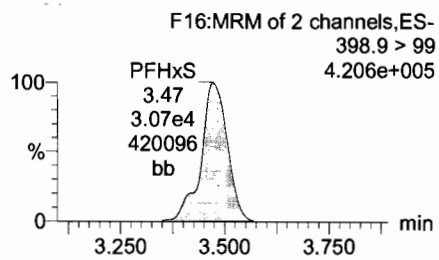

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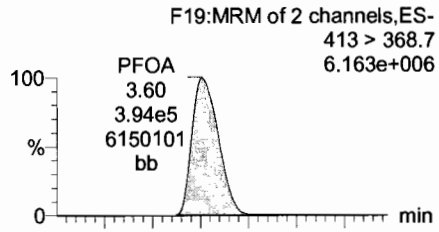

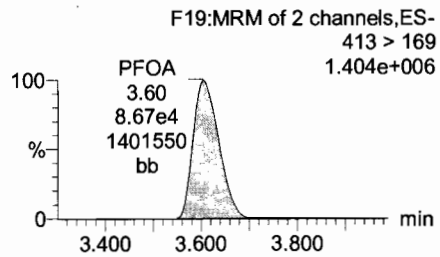

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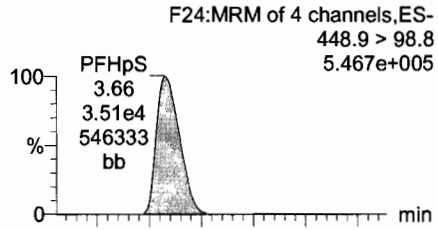

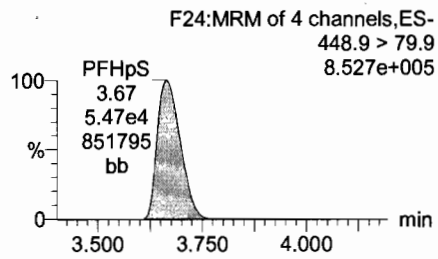

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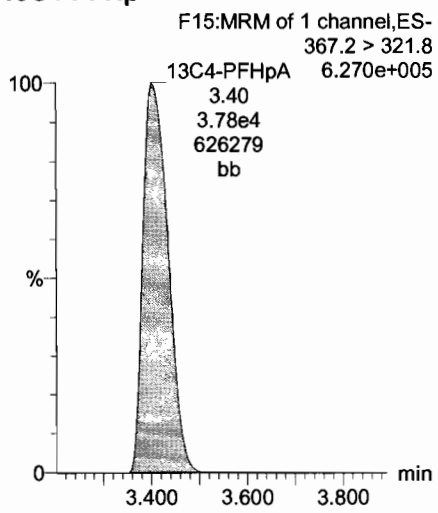

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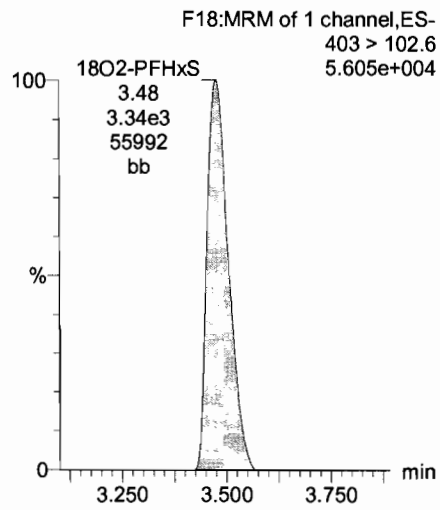

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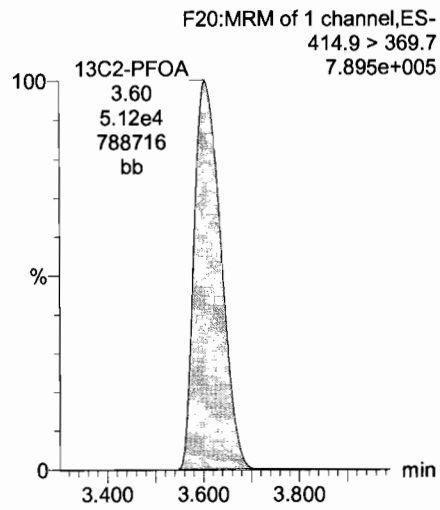

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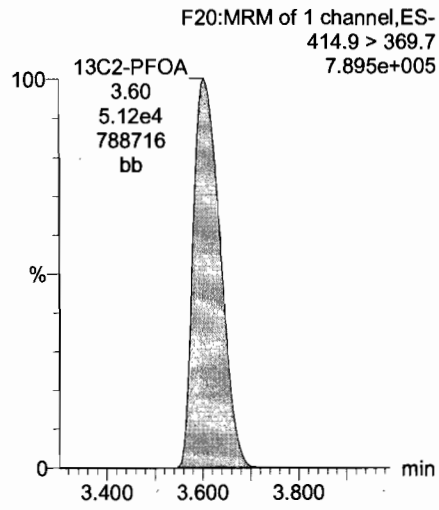

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Printed: Friday, July 28, 2017 09:03:52 Pacific Daylight Time

Name: 170727M1_13, Date: 27-Jul-2017, Time: 13:02:56, ID: ST170727M1-8 PFC CS5 17G2710, Description: PFC CS5 17G2710

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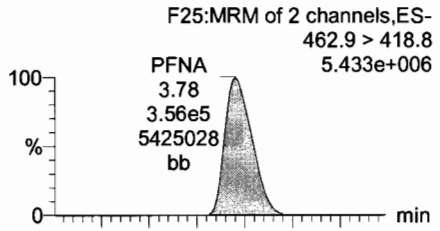

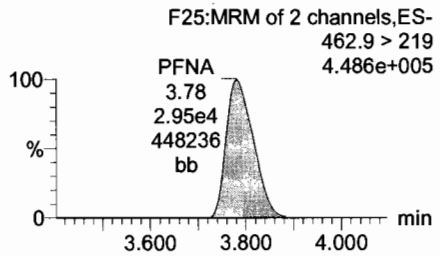

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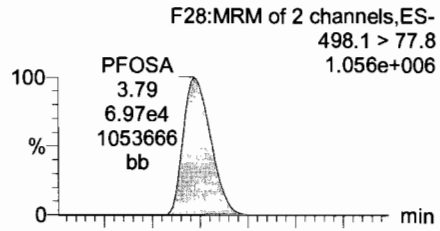

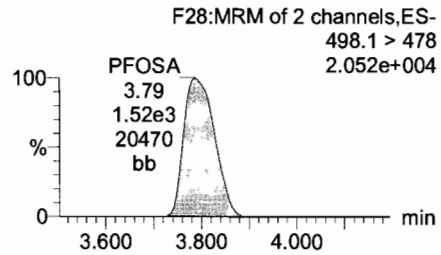

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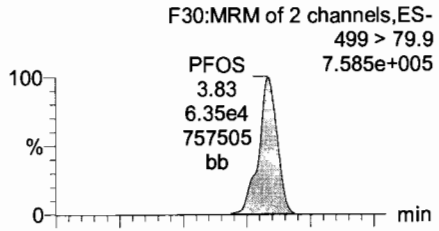

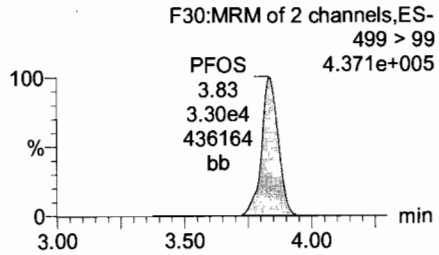

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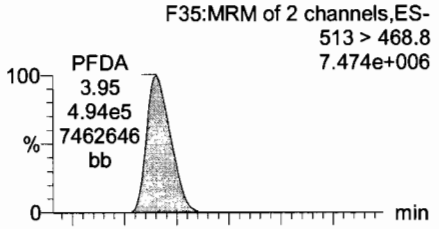

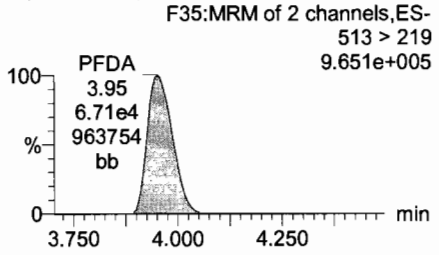

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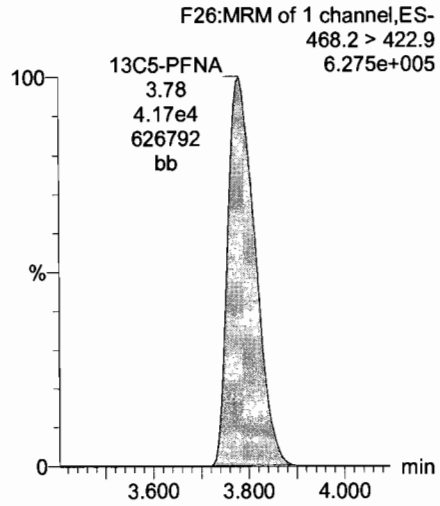

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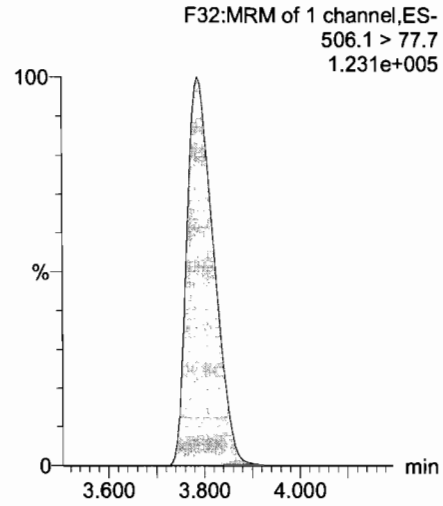

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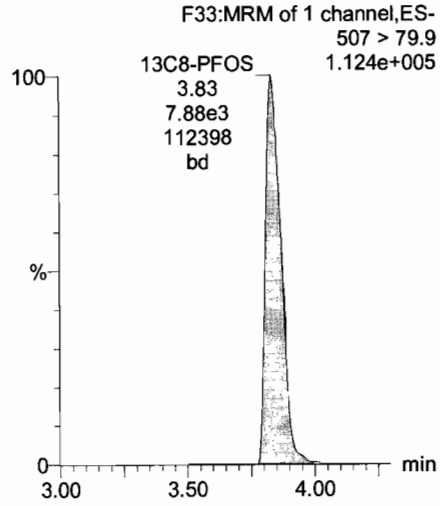

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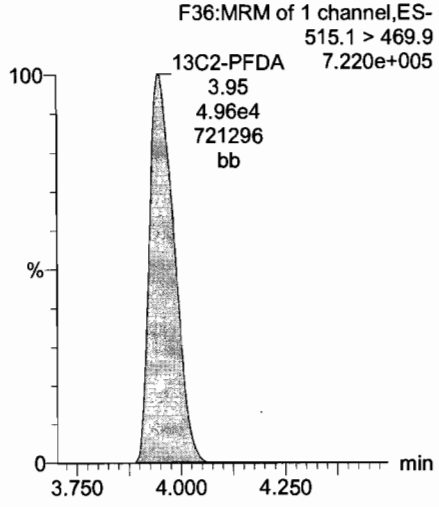

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Name: 170727M1_13, Date: 27-Jul-2017, Time: 13:02:56, ID: ST170727M1-8 PFC CS5 17G2710, Description: PFC CS5 17G2710

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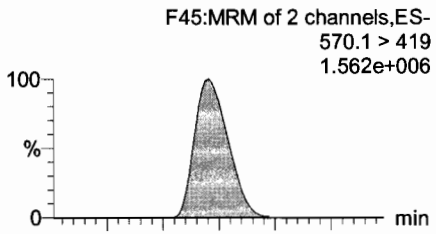

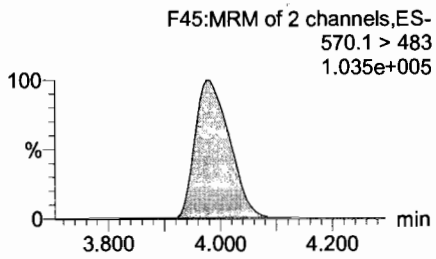

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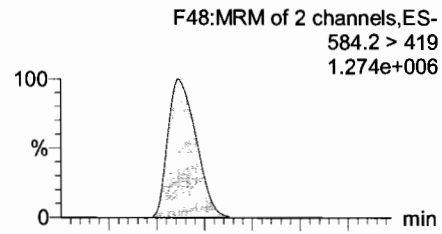

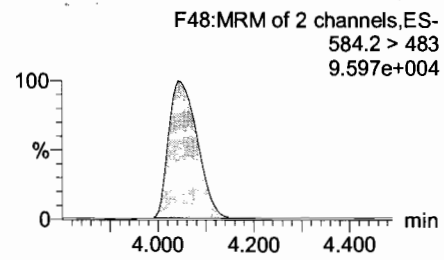

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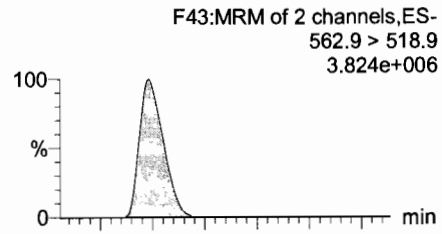

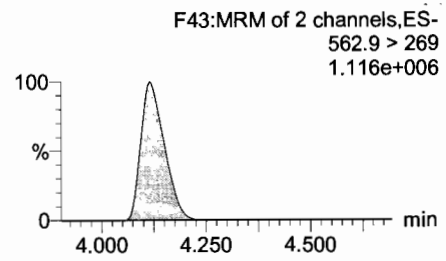

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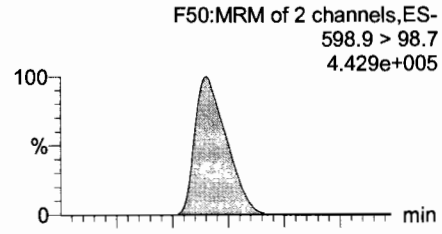

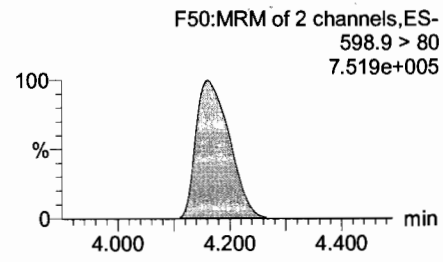

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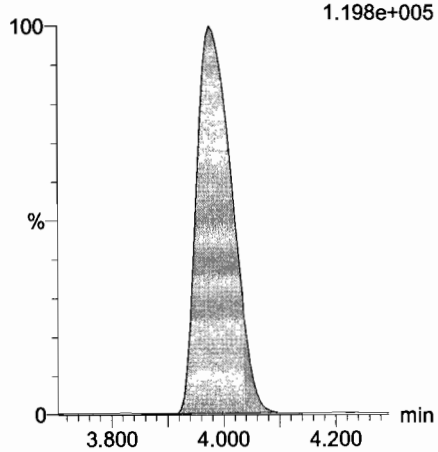

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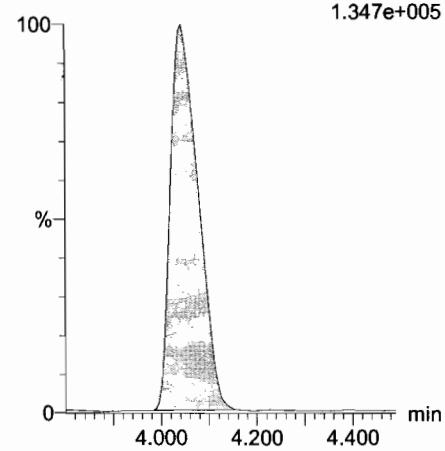

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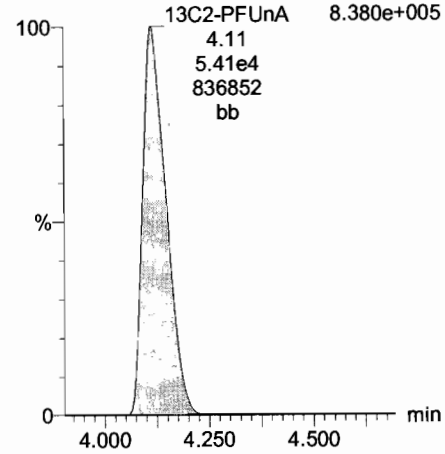

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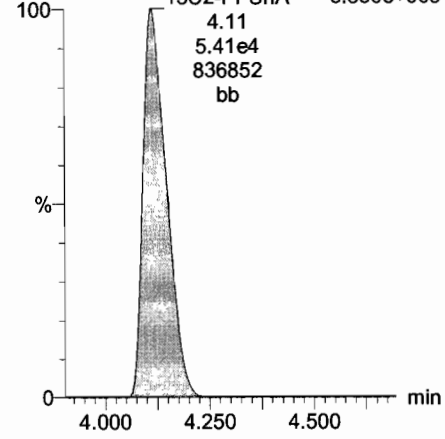

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Name: 170727M1_13, Date: 27-Jul-2017, Time: 13:02:56, ID: ST170727M1-8 PFC CS5 17G2710, Description: PFC CS5 17G2710

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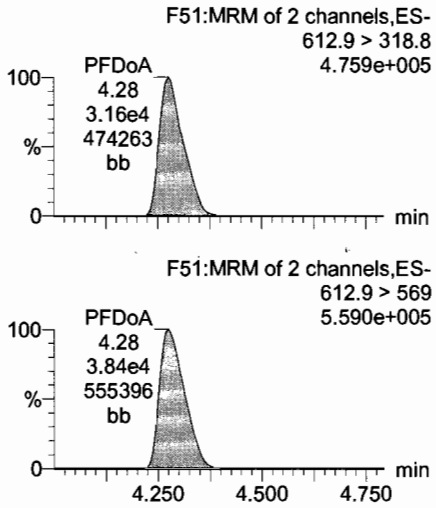

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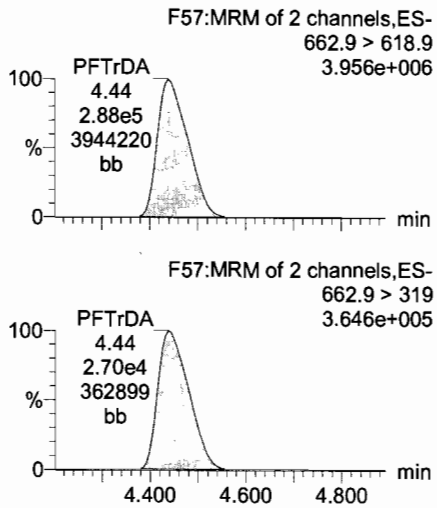

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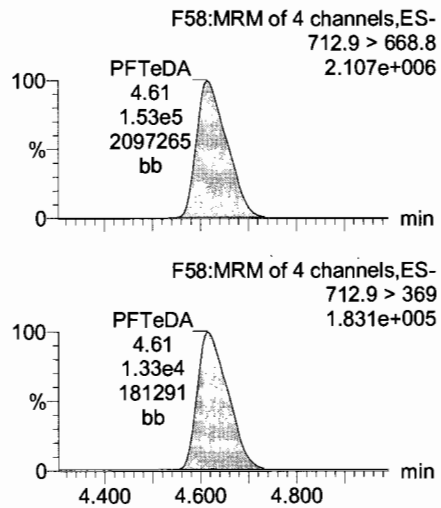

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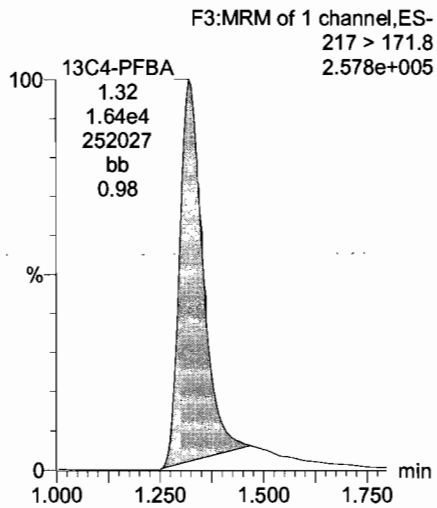

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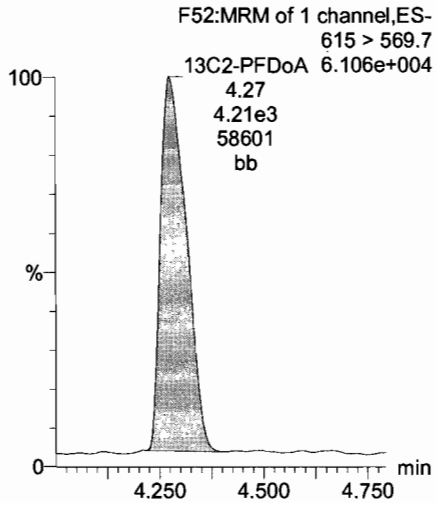

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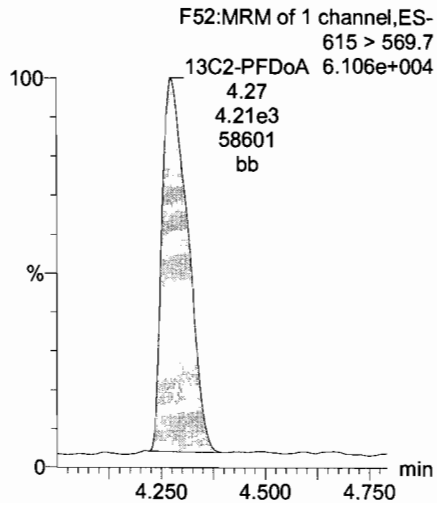

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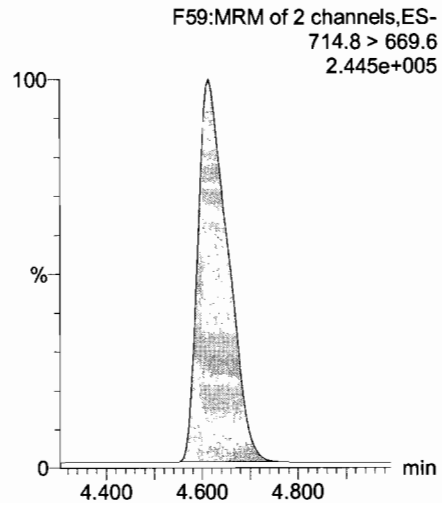

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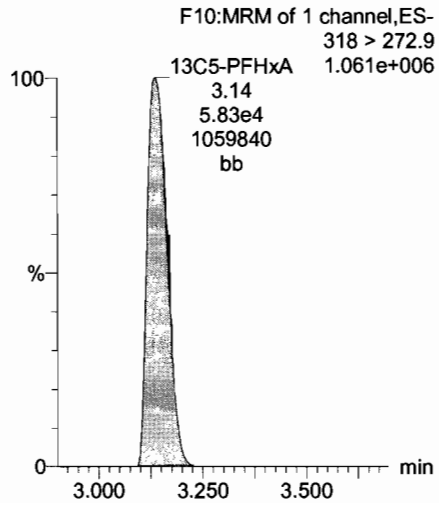

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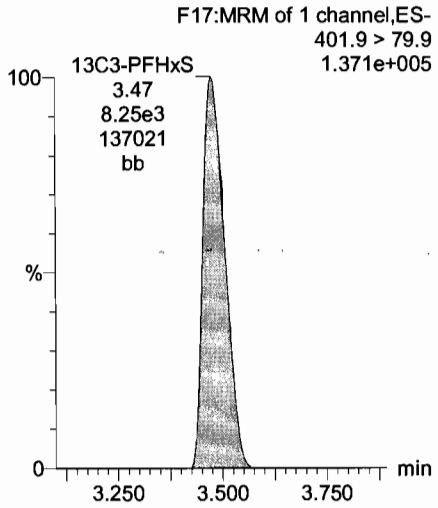

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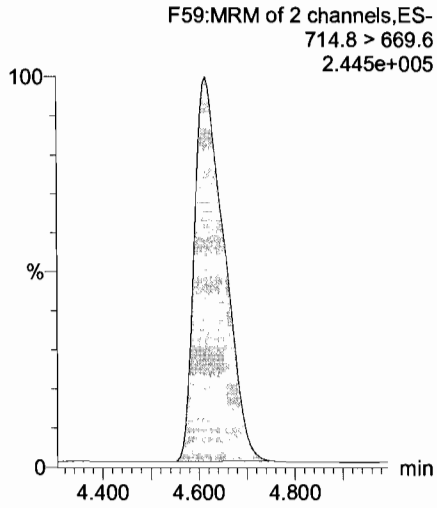

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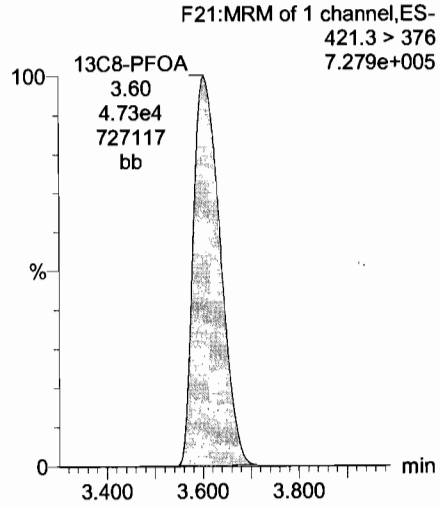

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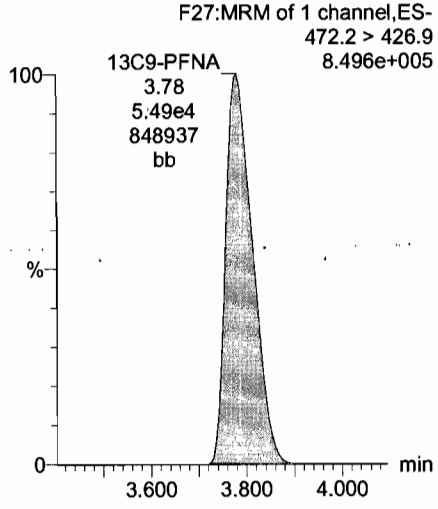

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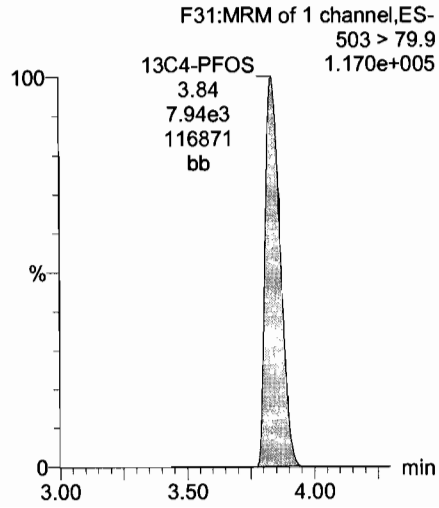

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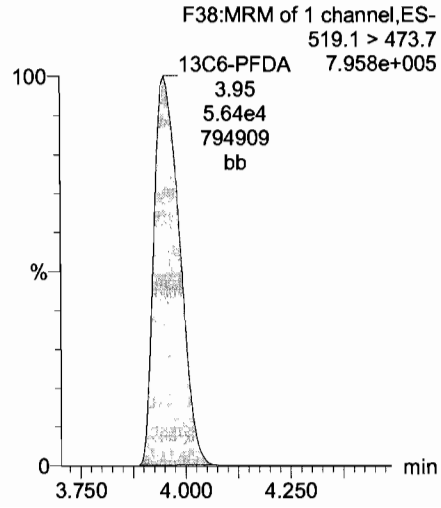

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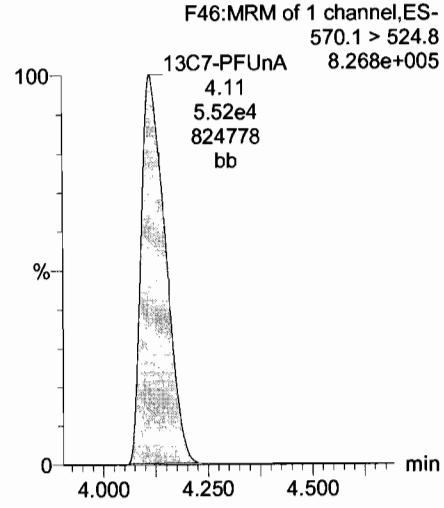

Vista Analytical Laboratory

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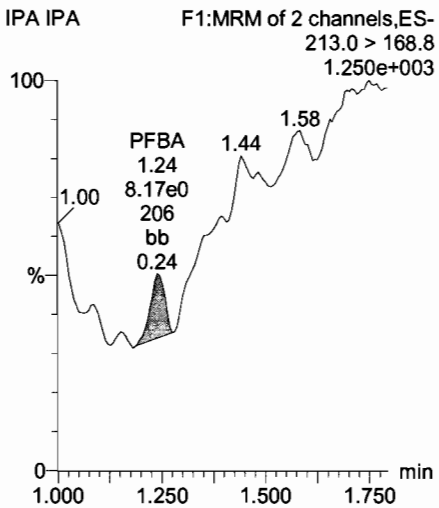

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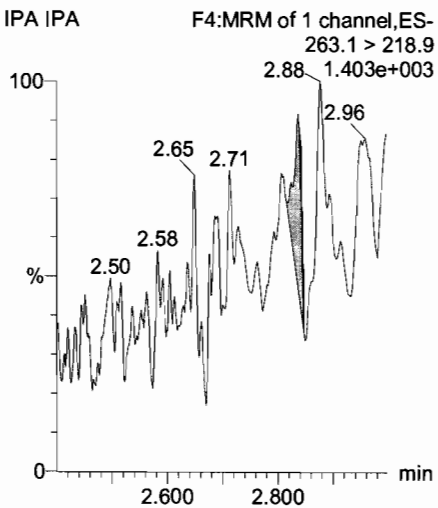

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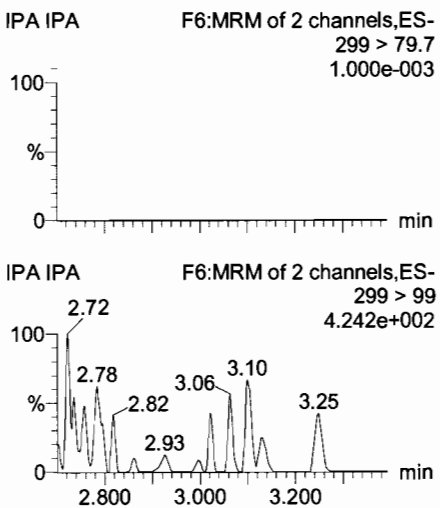

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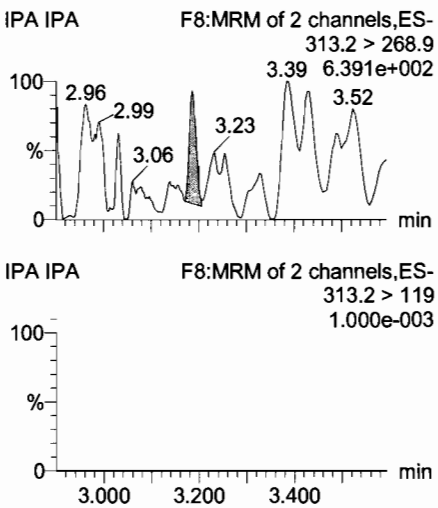

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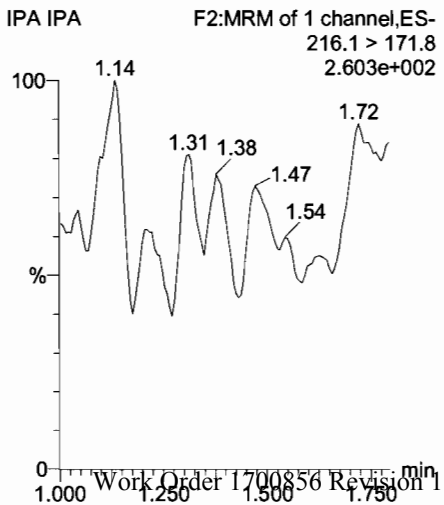

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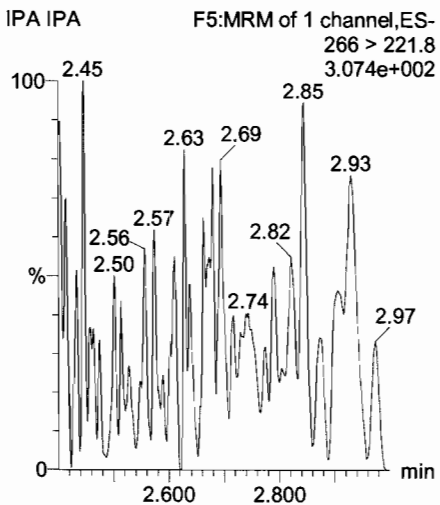

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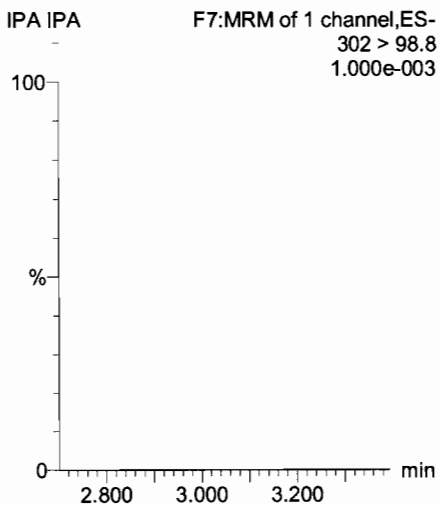

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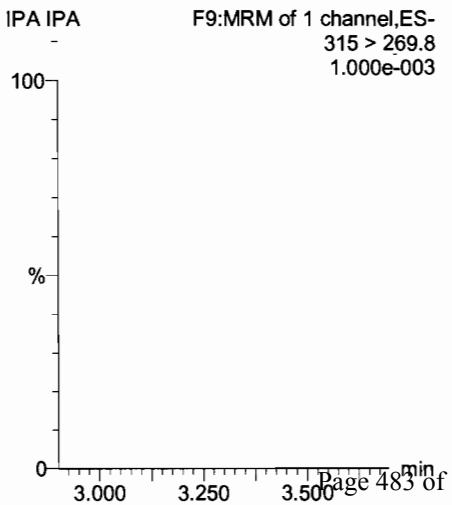

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Name: 170727M1_14, Date: 27-Jul-2017, Time: 13:13:35, ID: IPA, Description: IPA

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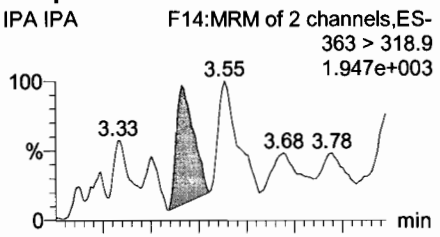

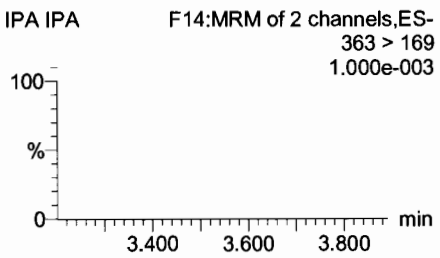

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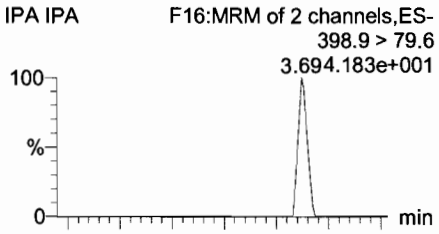

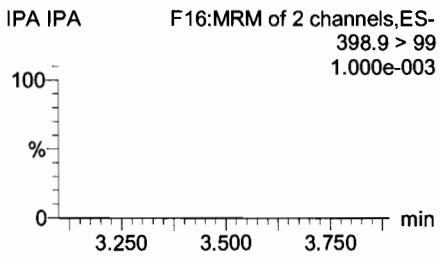

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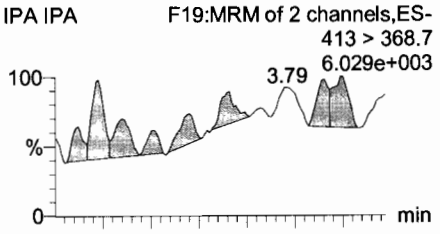

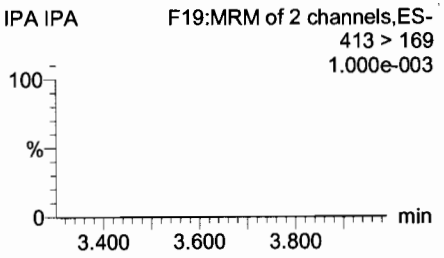

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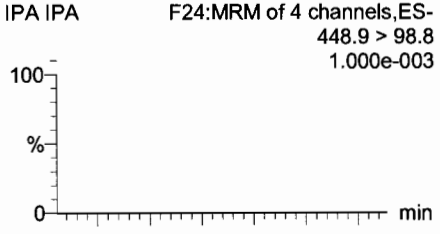

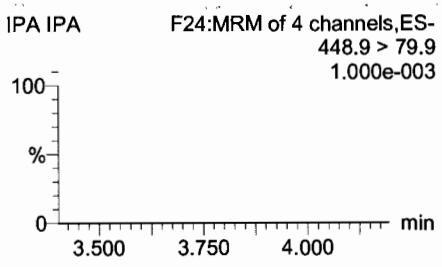

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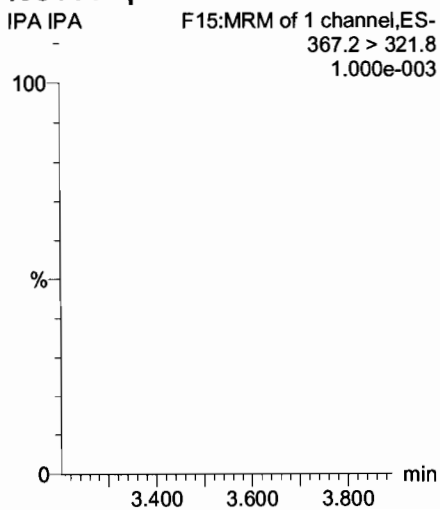

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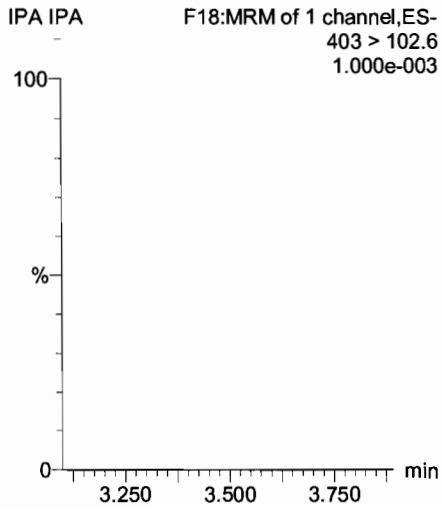

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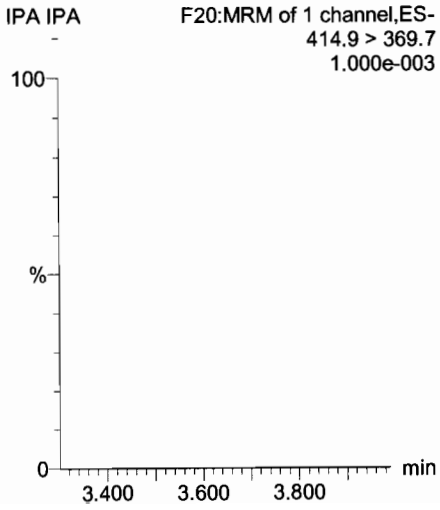

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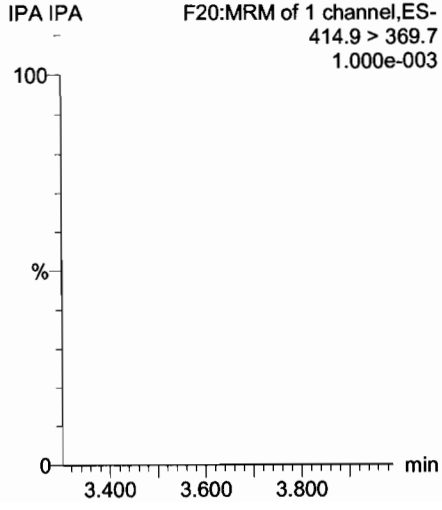

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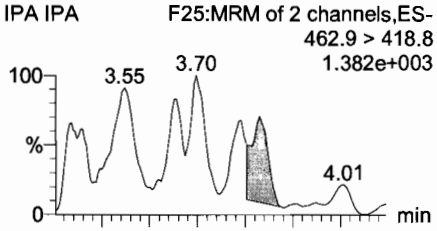

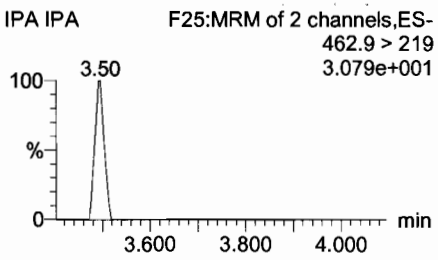

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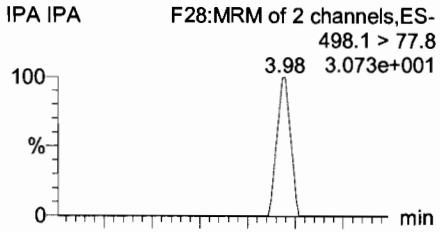

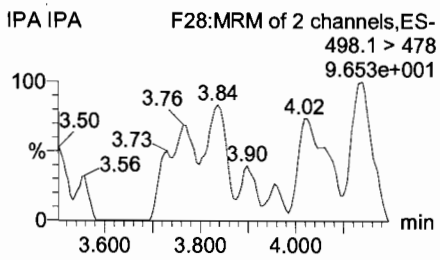

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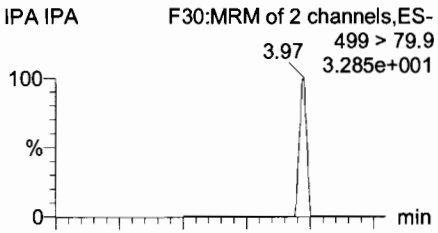

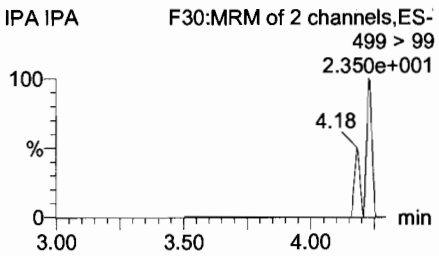

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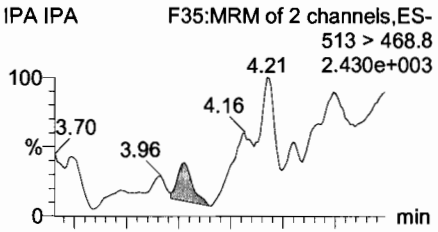

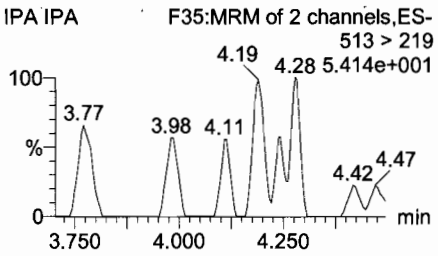

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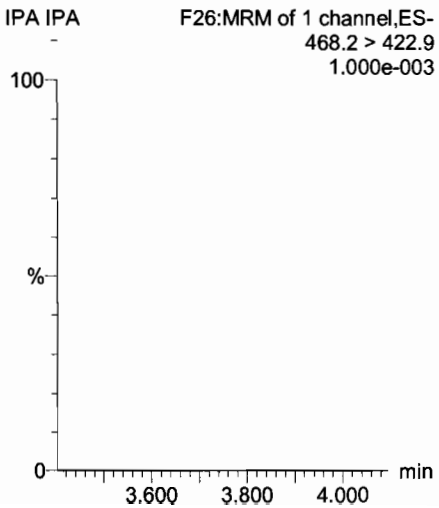

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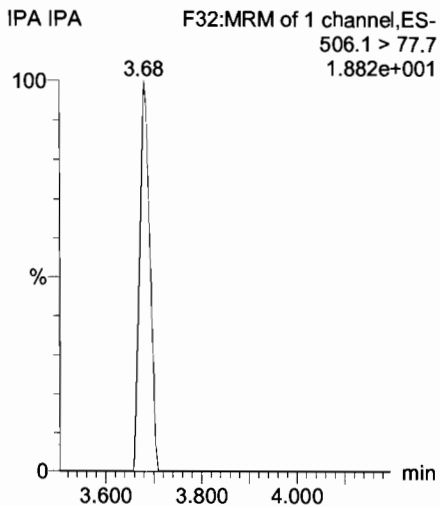

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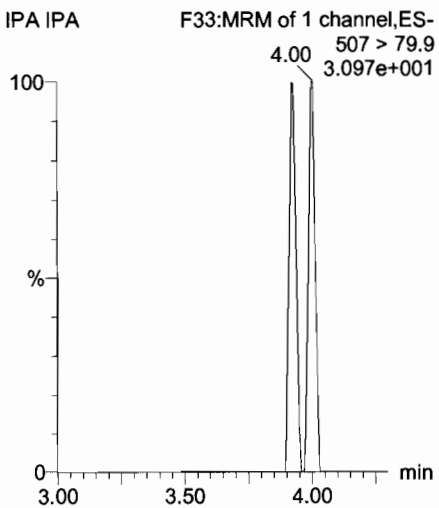

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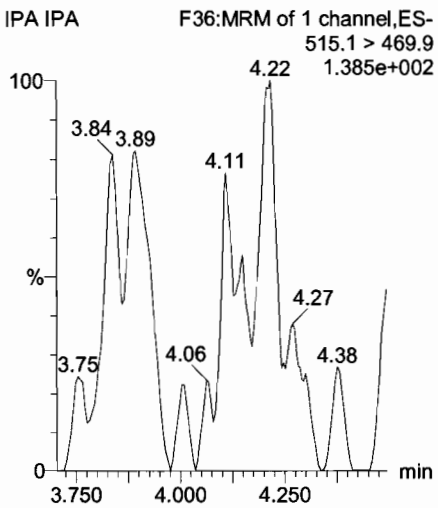

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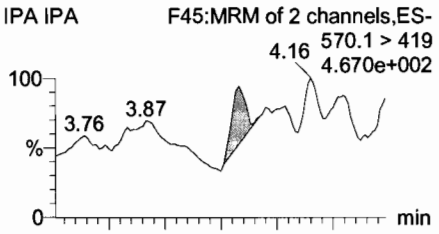

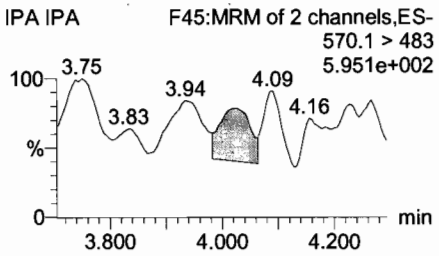

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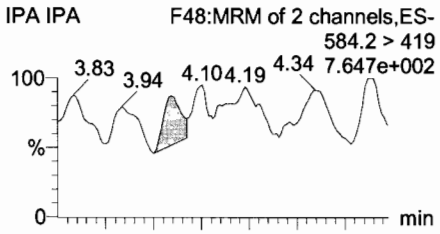

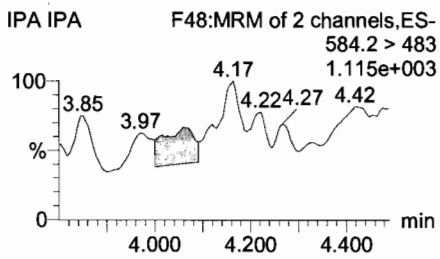

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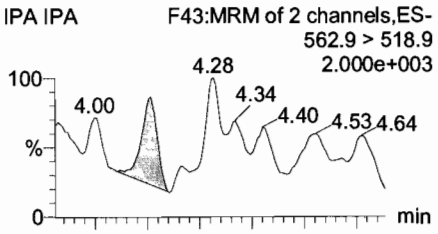

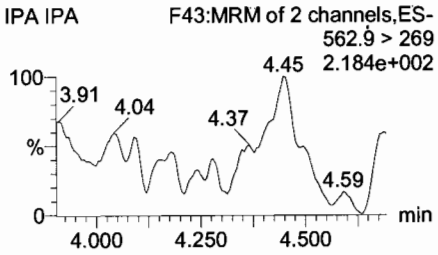

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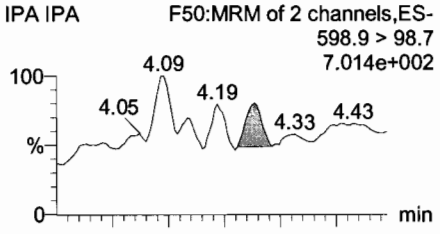

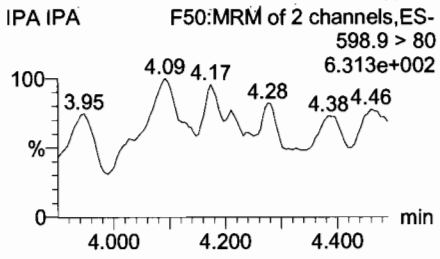

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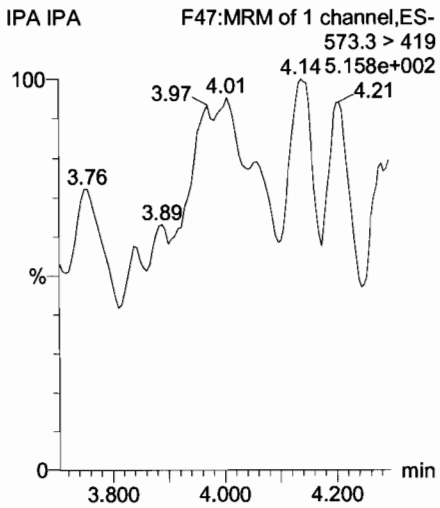

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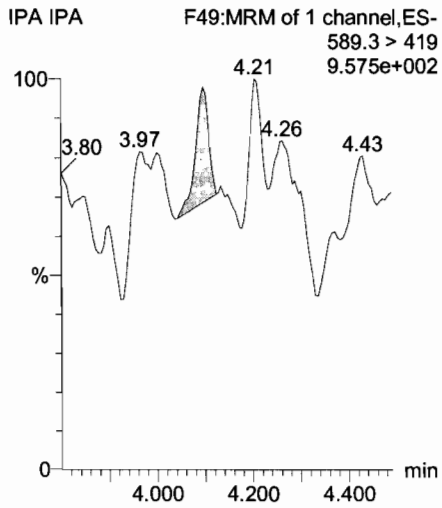

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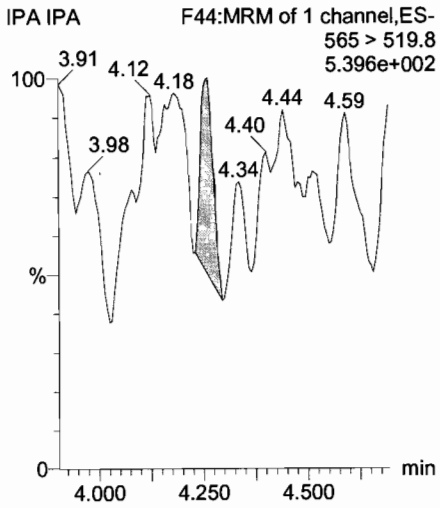

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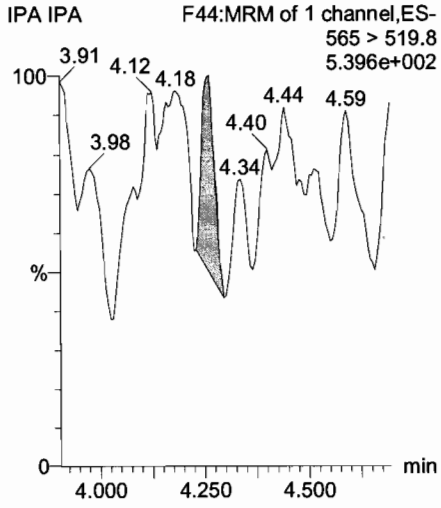

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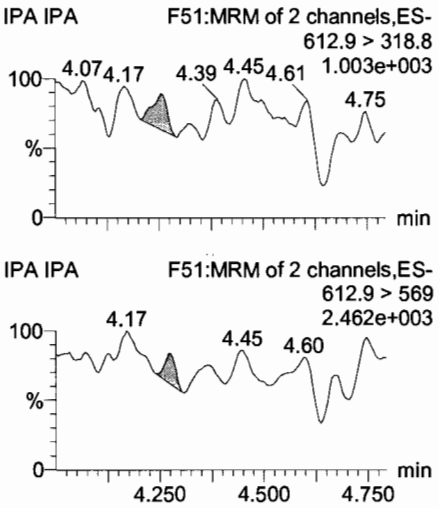

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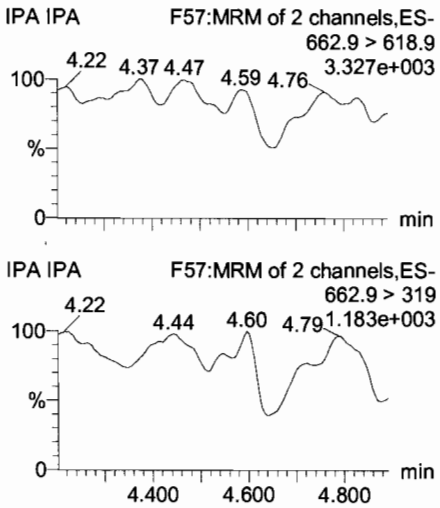

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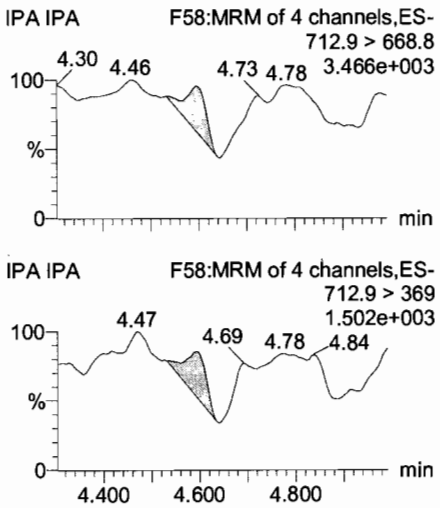

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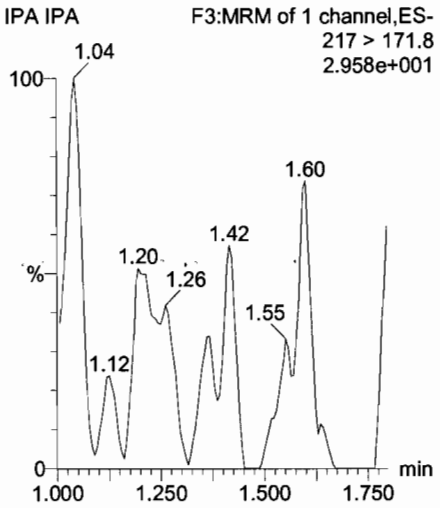

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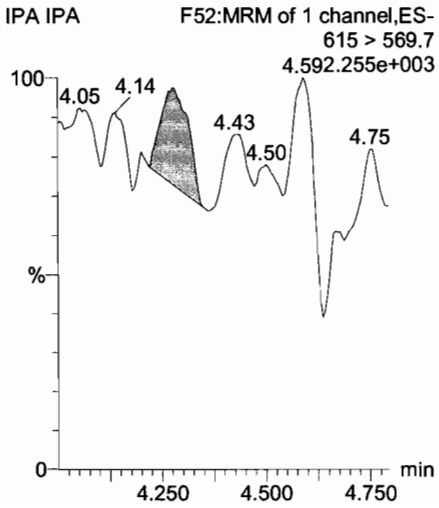

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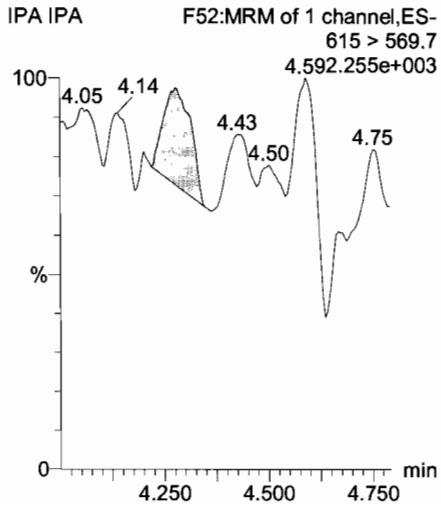

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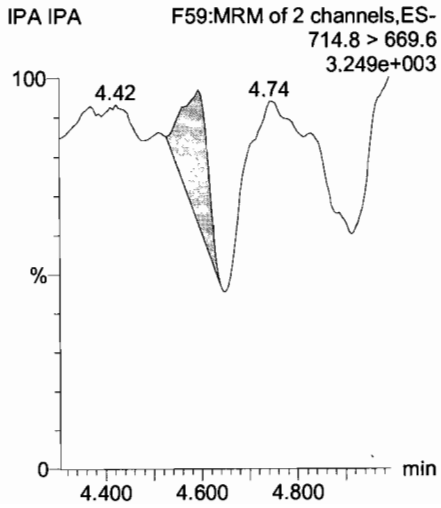

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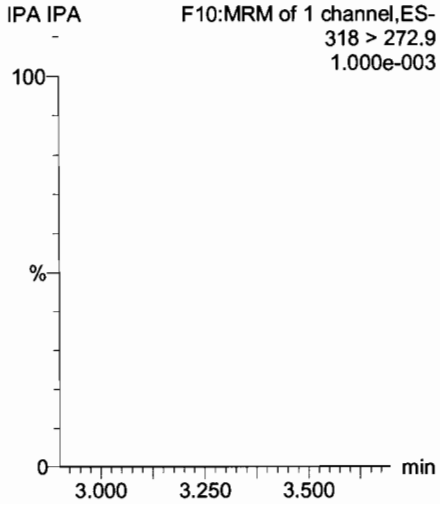

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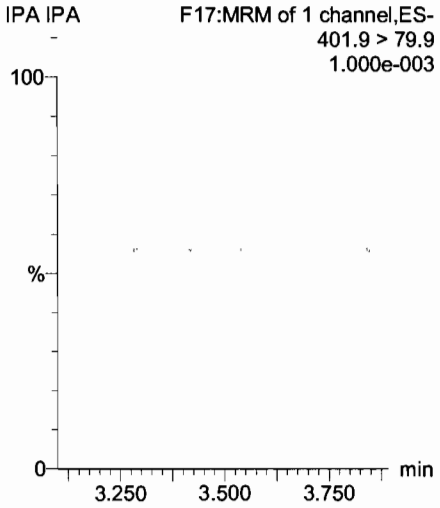

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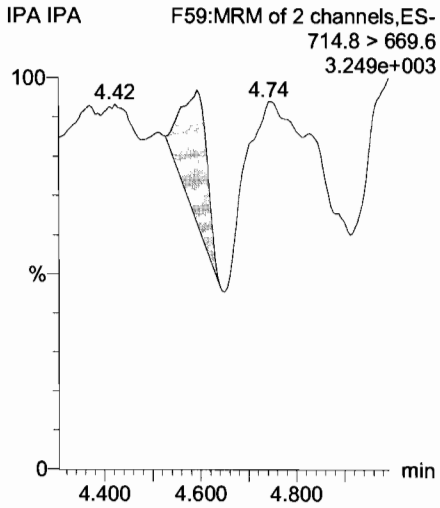

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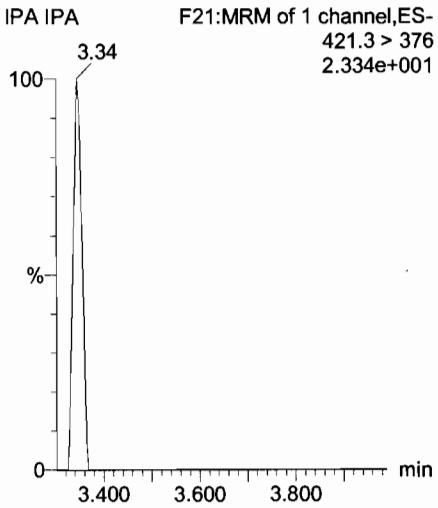

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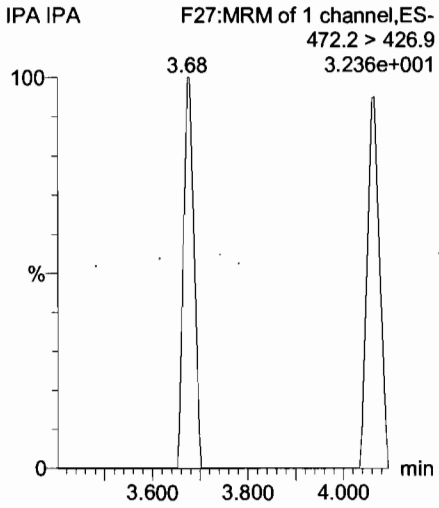

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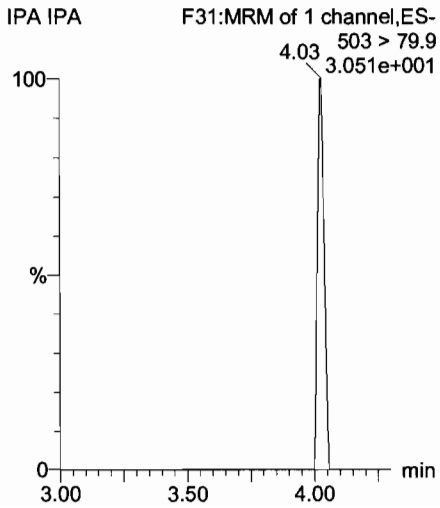

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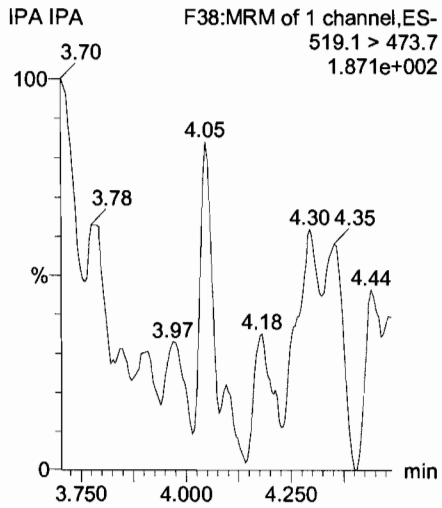

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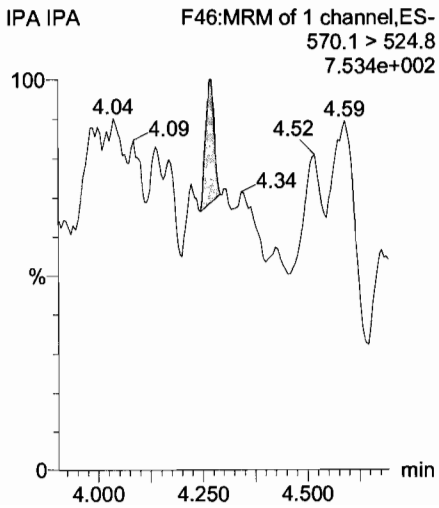

Vista Analytical Laboratory

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AC 7/28/17

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Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	15072.896	16053.381		1.000	1.32	10.19	101.91
2	2	PFPeA	263.1 > 218.9	35956.582	44314.332		1.000	2.63	10.07	100.71
3	3	PFBS	299 > 79.7	6769.659	4858.718		1.000	2.88	9.20	92.03
4	4	PFHxA	313.2 > 268.9	53387.461	17954.670		1.000	3.14	10.13	101.28
5	5	PFHpA	363 > 318.9	44124.266	40823.363		1.000	3.41	10.87	108.72
6	6	PFHxS	398.9 > 79.6	4501.415	3639.156		1.000	3.47	9.26	92.62
7	7	PFOA	413 > 368.7	46273.188	56263.316		1.000	3.61	10.32	103.23
8	8	PFHpS	448.9 > 98.8	3813.298	56263.316		1.000	3.67	9.72	97.17
9	9	PFNA	462.9 > 418.8	44301.281	47976.594		1.000	3.79	10.71	107.05
10	10	PFOSA	498.1 > 77.8	9025.501	10158.539		1.000	3.79	10.18	101.85
11	11	PFOS	499 > 79.9	7022.120	8620.282		1.000	3.83	9.48	94.79
12	12	PFDA	513 > 468.8	53575.969	53813.082		1.000	3.95	9.98	99.80
13	13	N-MeFOSAA	570.1 > 419	12994.350	9958.847		1.000	3.98	10.62	106.24
14	14	N-EtFOSAA	584.2 > 419	9767.218	9591.058		1.000	4.05	10.76	107.58
15	15	PFUnA	562.9 > 518.9	29004.047	53532.066		1.000	4.11	10.44	104.44
16	16	PFDS	598.9 > 98.7	2966.187	53532.066		1.000	4.17	10.22	102.22
17	17	PFDoA	612.9 > 318.8	3426.855	4293.898		1.000	4.29	10.69	106.89
18	18	PFTrDA	662.9 > 618.9	30729.227	4293.898		1.000	4.44	10.51	105.13
19	19	PFTeDA	712.9 > 668.8	13853.436	14573.548		1.000	4.61	9.86	98.55
20	20	13C3-PFBA	216.1 > 171.8	16053.381	19378.115	0.823	1.000	1.33	12.58	100.61
21	21	13C3-PFPeA	266 > 221.8	44314.332	65249.512	0.264	1.000	2.63	12.85	102.82
22	22	13C3-PFBS	302 > 98.8	4858.718	65249.512	0.031	1.000	2.88	12.13	97.06
23	23	13C2-PFHxA	315 > 269.8	17954.670	65249.512	0.275	1.000	3.14	5.00	100.07
24	24	13C4-PFHpA	367.2 > 321.8	40823.363	65249.512	0.260	1.000	3.41	12.03	96.28
25	25	18O2-PFHxS	403 > 102.6	3639.156	9129.876	0.402	1.000	3.47	12.39	99.13
26	26	13C2-PFOA	414.9 > 369.7	56263.316	55490.434	1.042	1.000	3.60	12.16	97.31
27	27	13C5-PFNA	468.2 > 422.9	47976.594	60366.590	0.792	1.000	3.79	12.54	100.34
28	28	13C8-PFOSA	506.1 > 77.7	10158.539	59968.848	0.175	1.000	3.79	12.12	96.98
29	29	13C8-PFOS	507 > 79.9	8620.282	9061.870	0.951	1.000	3.84	12.51	100.07
30	30	13C2-PFDA	515.1 > 469.9	53813.082	64909.809	0.869	1.000	3.95	11.92	95.40
31	31	d3-N-MeFOSAA	573.3 > 419	9958.847	59968.848	0.013	1.000	3.98	160.37	98.69

70-130

Dataset: U:\Q4.PRO\results\170727M1\170727M1-15.qld

Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:31 Pacific Daylight Time

Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	9591.058	59968.848	0.013	1.000	4.04	157.30	96.80
33	33	13C2-PFUnA	565 > 519.8	53532.066	59968.848	0.928	1.000	4.12	12.02	96.17
34	34	13C2-PFDoA	615 > 569.7	4293.898	59968.848	0.071	1.000	4.28	12.59	100.72
35	35	13C2-PFTeDA	714.8 > 669.6	14573.548	59968.848	0.273	1.000	4.62	11.12	88.95
36	36	13C4-PFBA	217 > 171.8	19378.115	19378.115	1.000	1.000	1.32	12.50	100.00
37	37	13C5-PFHxA	318 > 272.9	65249.512	65249.512	1.000	1.000	3.14	5.00	100.00
38	38	13C3-PFHxS	401.9 > 79.9	9129.876	9129.876	1.000	1.000	3.47	12.50	100.00
39	39	13C8-PFOA	421.3 > 376	55490.434	55490.434	1.000	1.000	3.60	12.50	100.00
40	40	13C9-PFNA	472.2 > 426.9	60366.590	60366.590	1.000	1.000	3.79	12.50	100.00
41	41	13C4-PFOS	503 > 79.9	9061.870	9061.870	1.000	1.000	3.84	12.50	100.00
42	42	13C6-PFDA	519.1 > 473.7	64909.809	64909.809	1.000	1.000	3.95	12.50	100.00
43	43	13C7-PFUnA	570.1 > 524.8	59968.848	59968.848	1.000	1.000	4.12	12.50	100.00

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-15.qld

Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:01 Pacific Daylight Time

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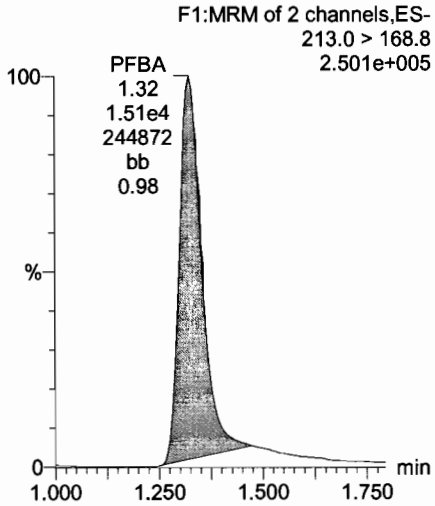
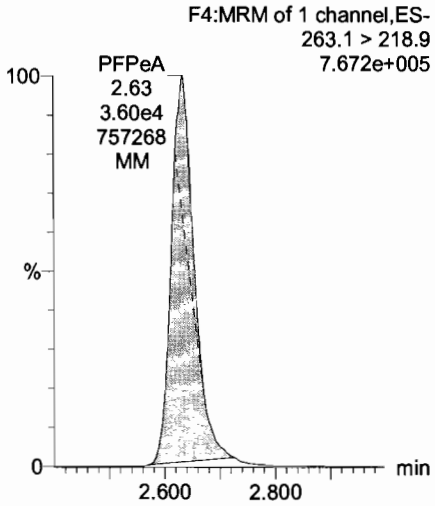
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

PFBA



PFPeA



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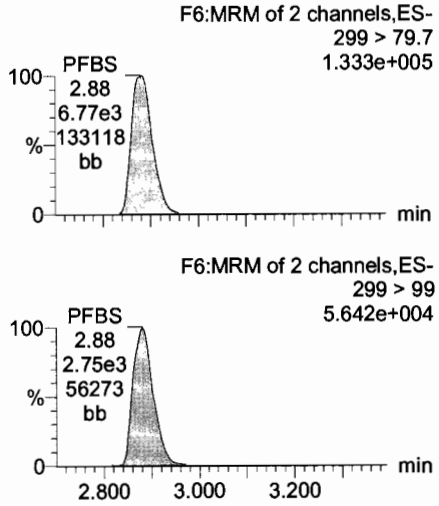
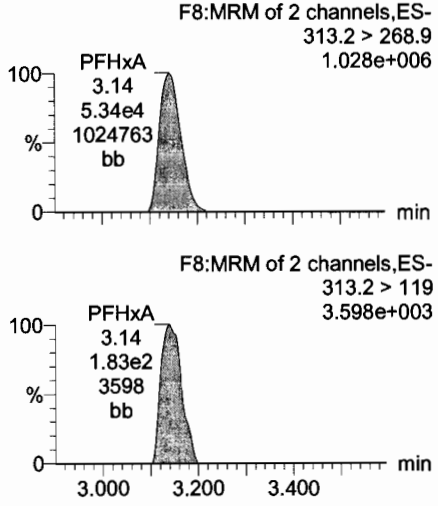
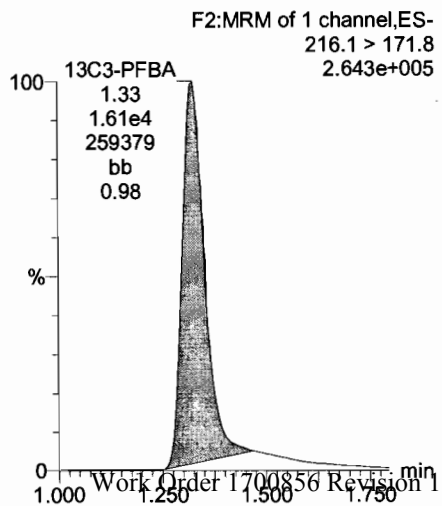


PFHxA



13C3-PFBA



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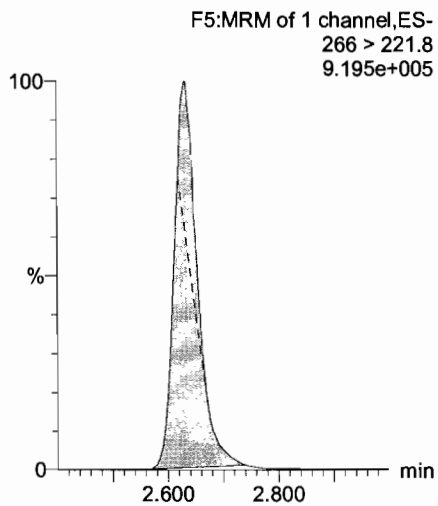

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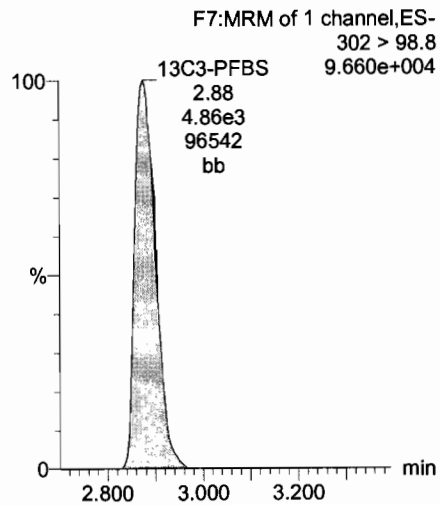
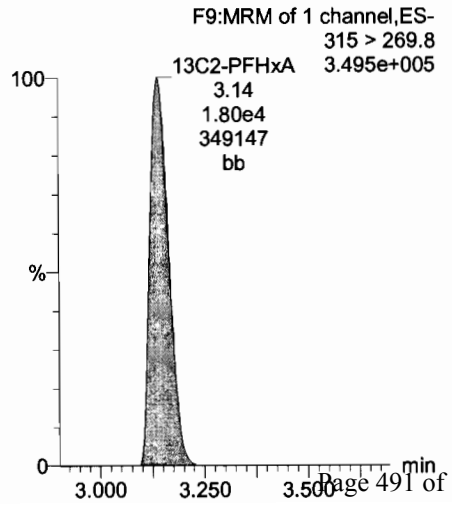


13C2-PFHxA



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Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
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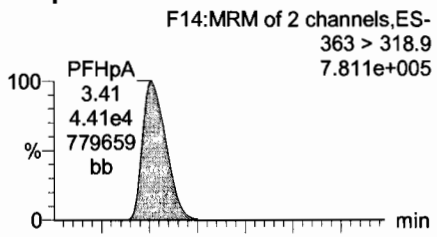
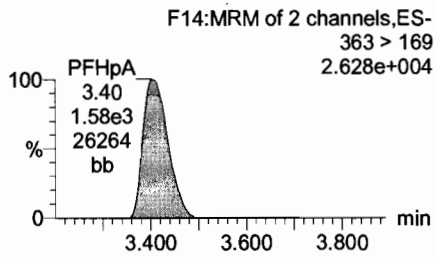
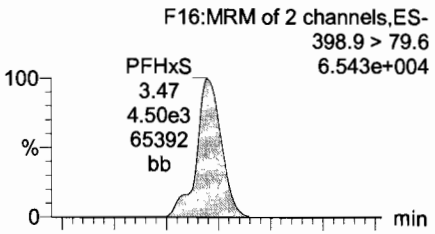
Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

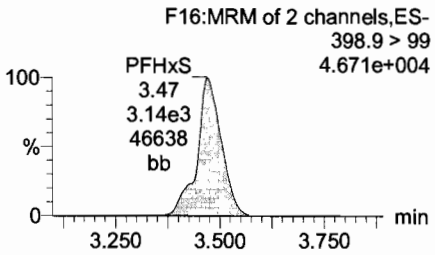
PFHpA



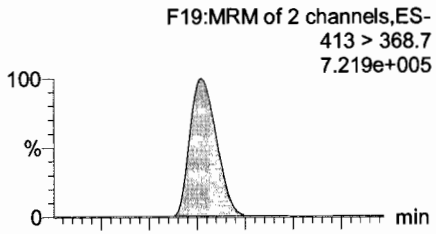


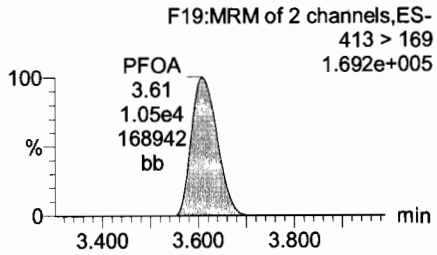
Total PFHxS



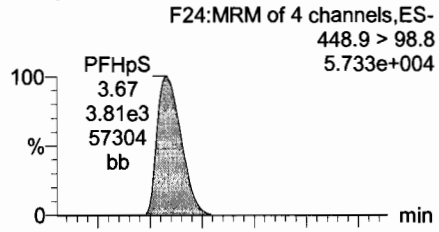


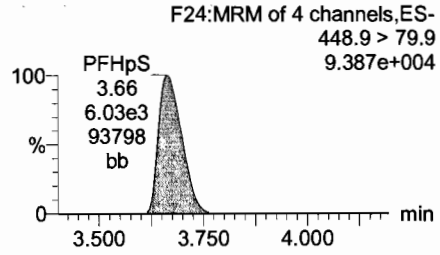
Total PFOA



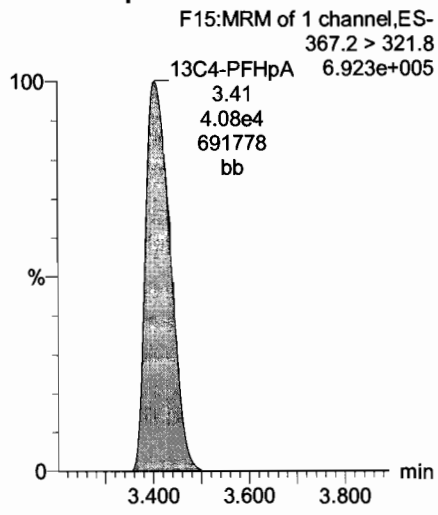


PFHpS

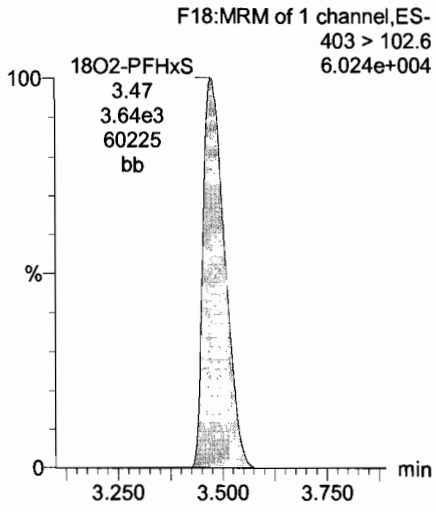




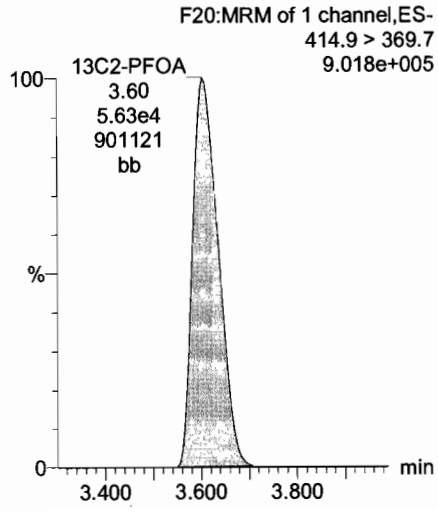
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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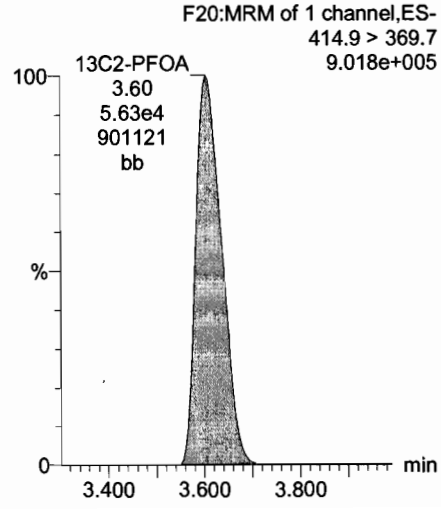

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Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

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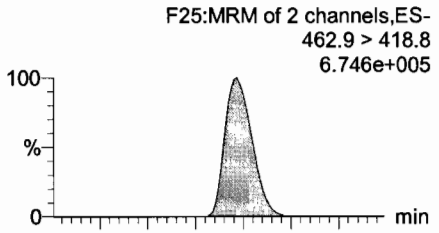
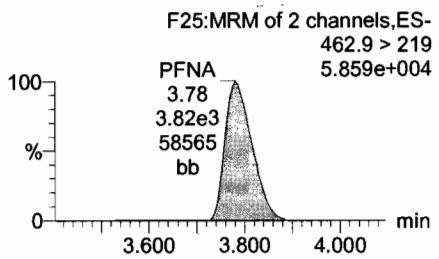
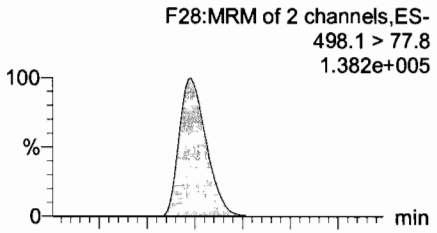
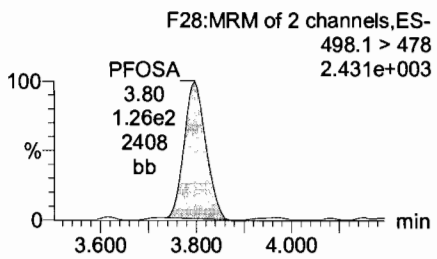


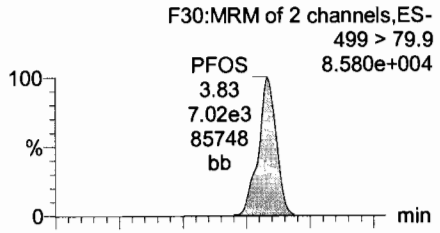


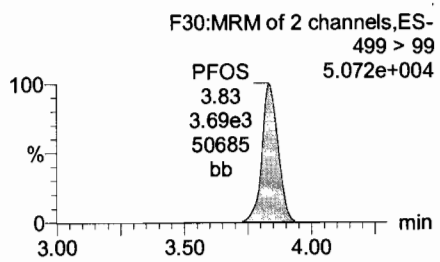
PFOSA



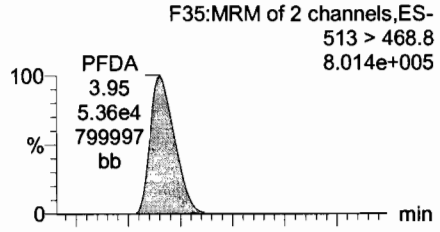


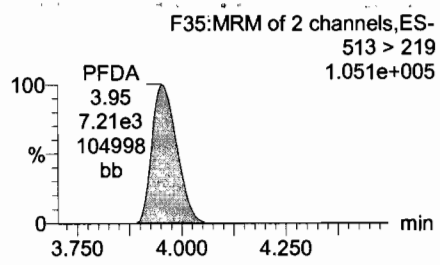
Total PFOS





PFDA





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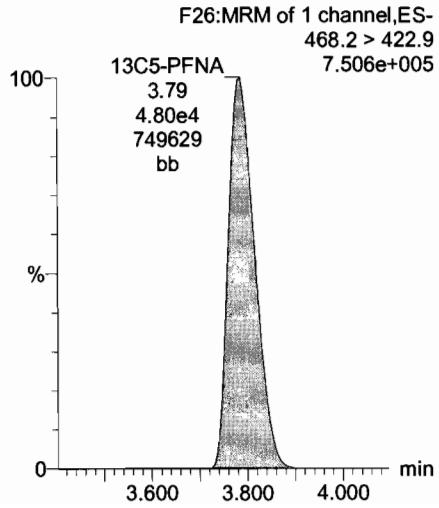
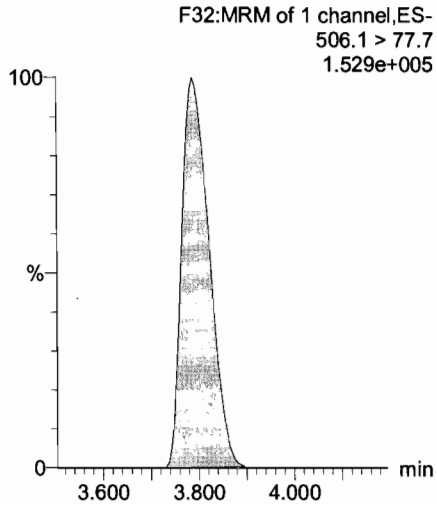
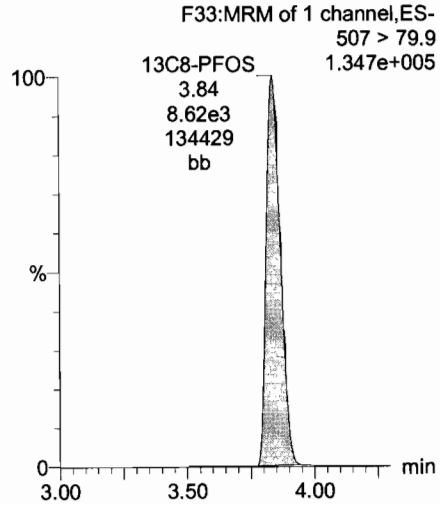


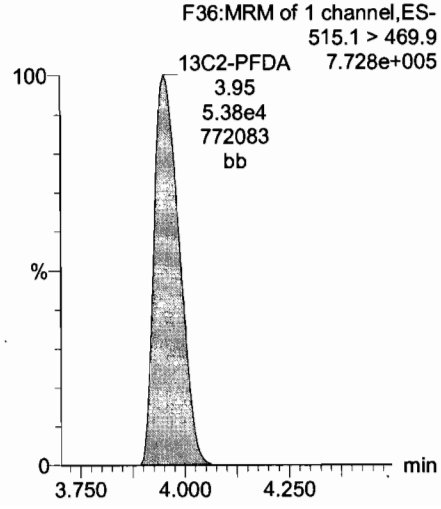
13C8-PFOSA



13C8-PFOS



13C2-PFDA



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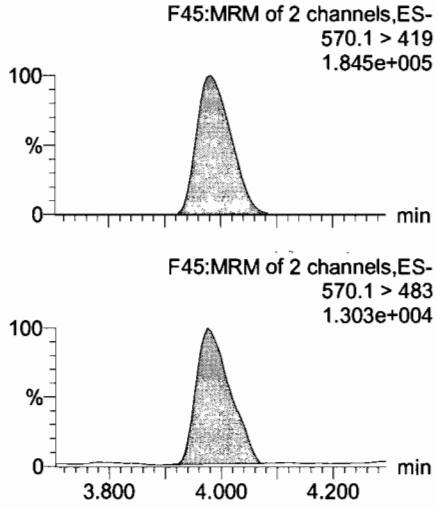
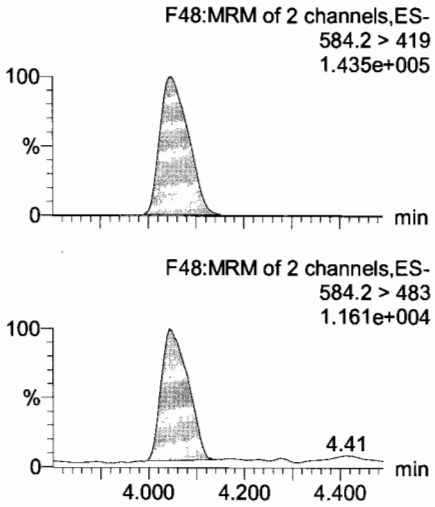
Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:01 Pacific Daylight Time

Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

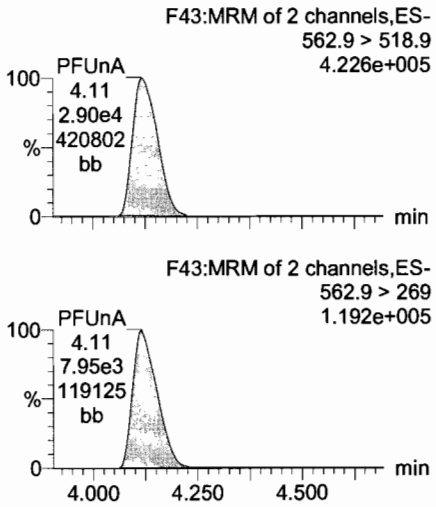
N-MeFOSAA



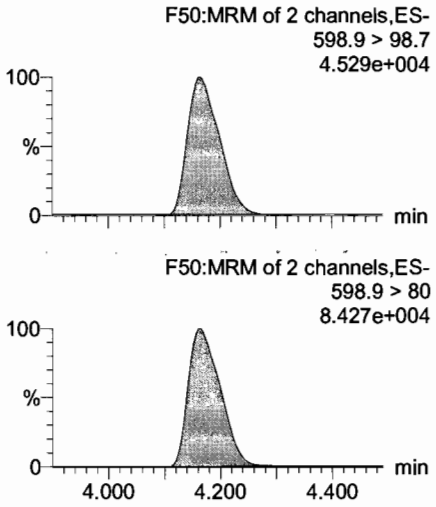
N-EtFOSAA



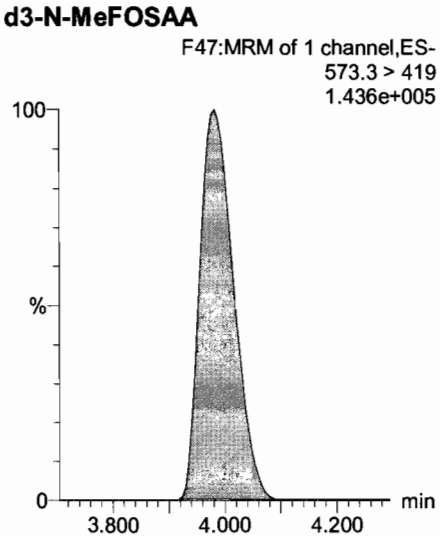
PFUnA



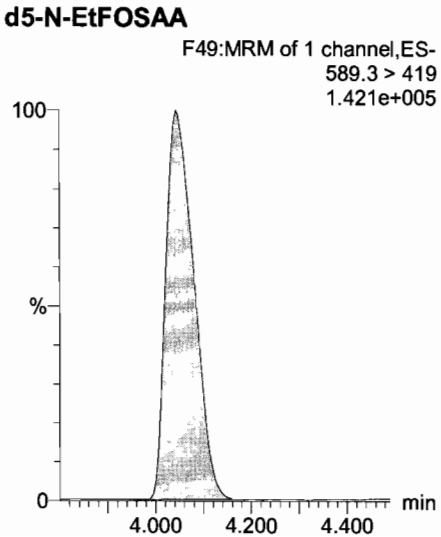
PFDS



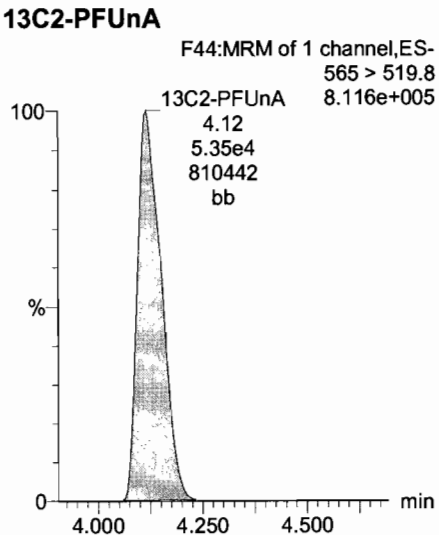
d3-N-MeFOSAA



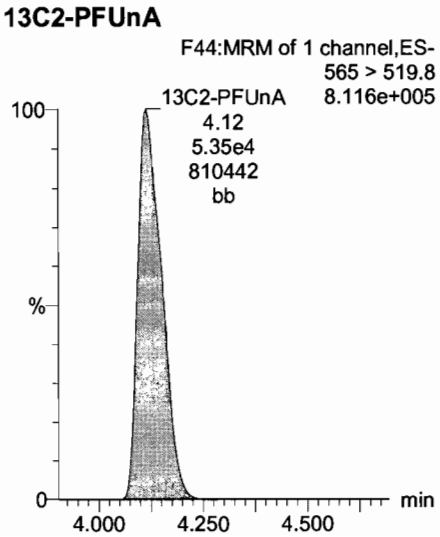
d5-N-EtFOSAA



13C2-PFUnA



13C2-PFUnA

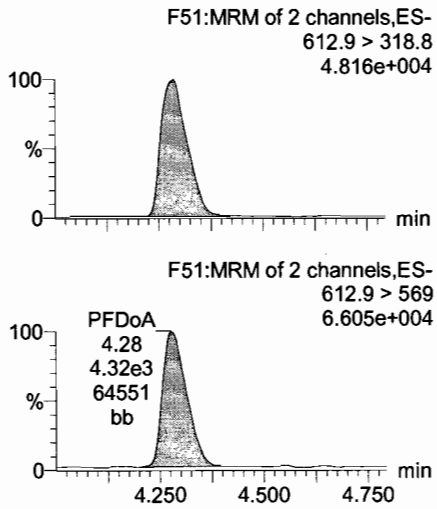


Dataset: U:\Q4.PRO\results\170727M1\170727M1-15.qld

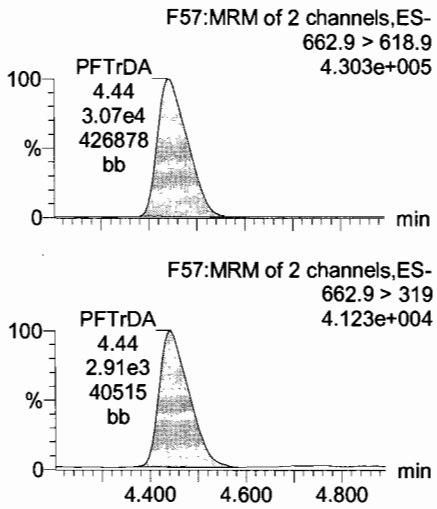
Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:01 Pacific Daylight Time

Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

PFDoA



PFTrDA



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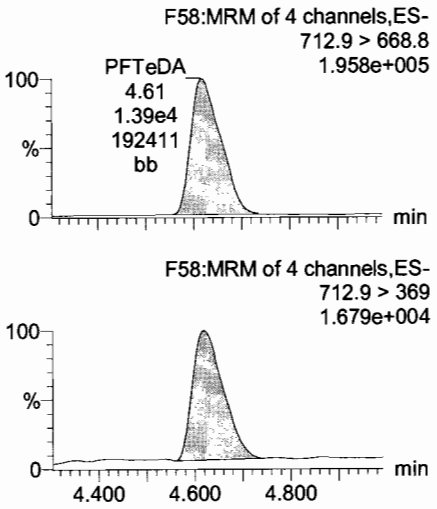
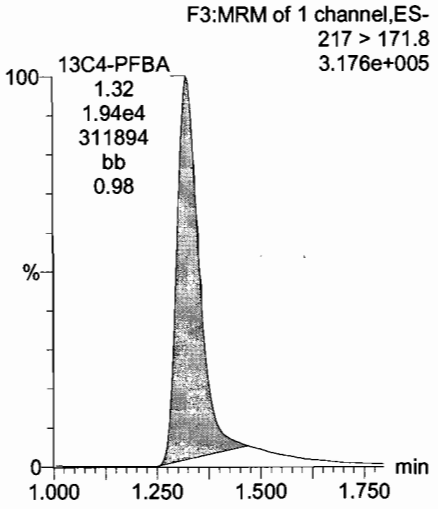


13C4-PFBA



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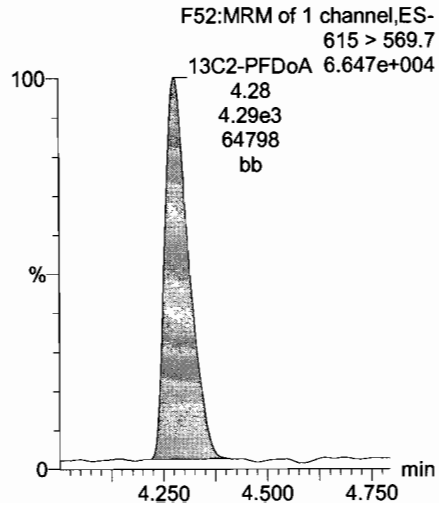

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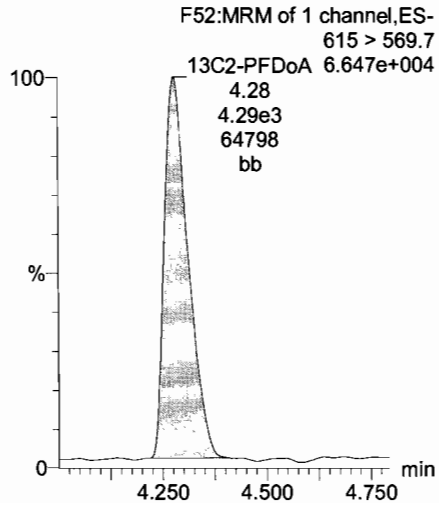
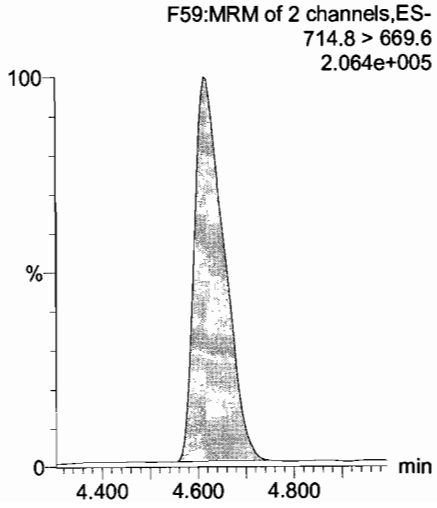
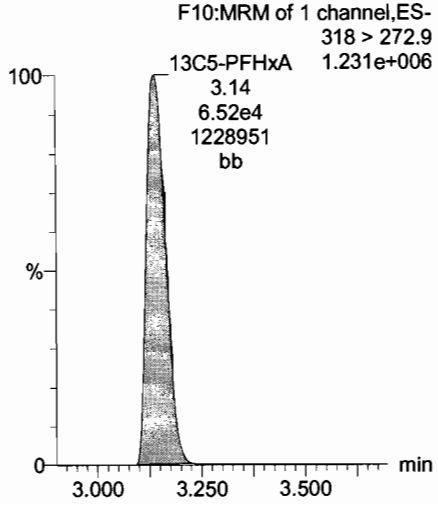


13C2-PFTeDA



13C5-PFHxA



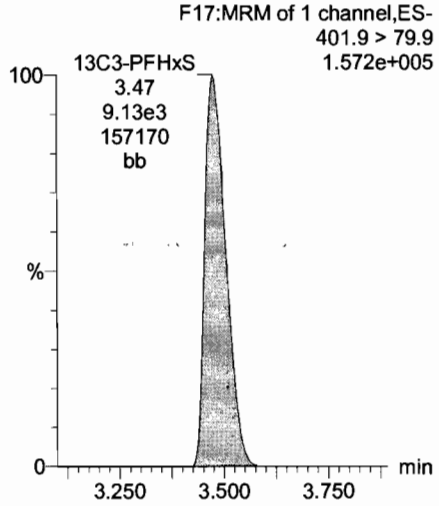
Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-15.qld

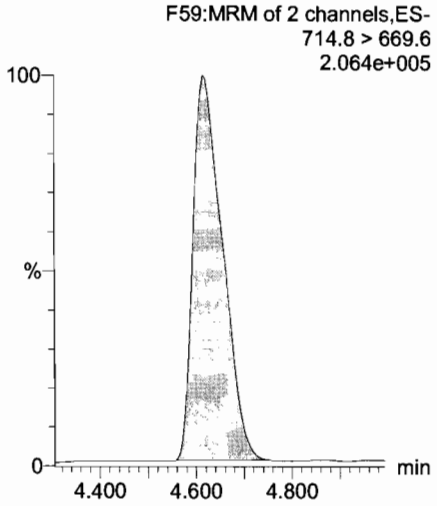
Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
Printed: Friday, July 28, 2017 09:20:01 Pacific Daylight Time

Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

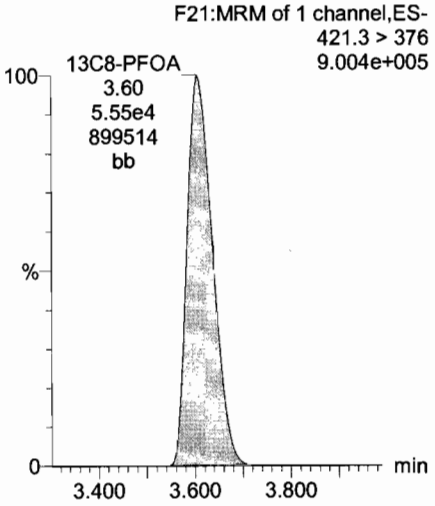
13C3-PFHxS



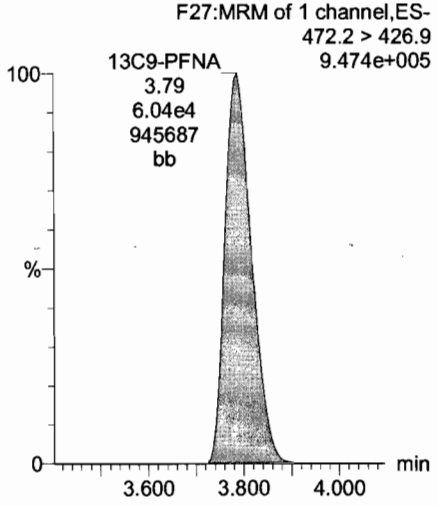
13C2-PFTeDA



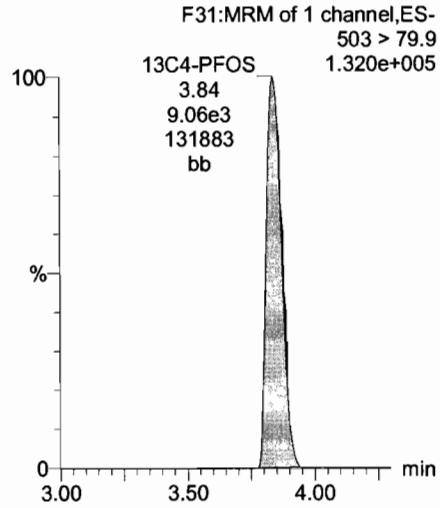
13C8-PFOA



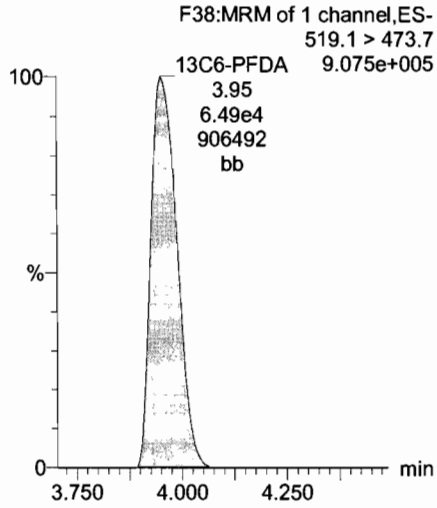
13C9-PFNA



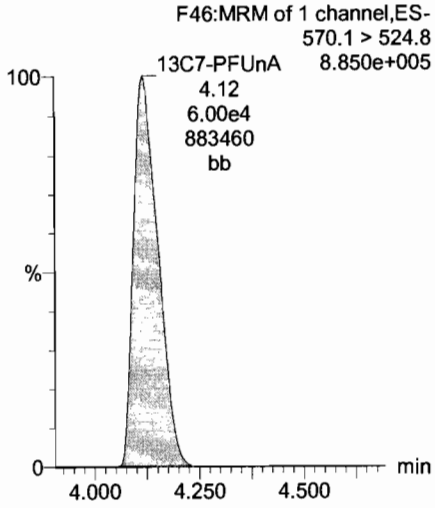
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:10:19 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:11:02 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

AC 7/30/17 AC 7/31/17

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999678
Calibration curve: 0.000110804 * x^2 + 1.07999 * x + 0.11163
Response type: Internal Std (Ref 20), 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	170728M2_2	Standard	0.250	1.35	476.635	15742.173	0.378	0.2	-1.2	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	1.35	899.031	15139.798	0.742	0.6	16.8	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	1.35	1598.174	15315.615	1.304	1.1	10.4	NO	1.000	NO	MM
4	4	170728M2_5	Standard	2.000	1.35	1810.805	8684.454	2.606	2.3	15.5	NO	1.000	NO	MM
5	5	170728M2_6	Standard	5.000	1.35	6713.694	15018.660	5.588	5.1	1.4	NO	1.000	NO	MM
6	6	170728M2_7	Standard	10.000	1.35	13340.125	15259.036	10.928	10.0	0.0	NO	1.000	NO	MM
7	7	170728M2_8	Standard	50.000	1.36	66516.945	15593.523	53.321	49.0	-2.0	NO	1.000	NO	MM
8	8	170728M2_9	Standard	100.000	1.35	137534.000	15681.832	109.628	100.4	0.4	NO	1.000	NO	MM
9	9	170728M2_10	Standard	250.000	1.36	306571.531	13830.456	277.080	250.0	0.0	NO	1.000	NO	MM

Compound name: PFPeA
Correlation coefficient: r = 0.999801, r^2 = 0.999602
Calibration curve: 0.958373 * x + 0.0576289
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	170728M2_2	Standard	0.250	2.65	679.107	29626.736	0.287	0.2	-4.5	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	2.66	1192.443	29534.408	0.505	0.5	-6.7	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	2.65	2536.703	29804.117	1.064	1.0	5.0	NO	1.000	NO	MM
4	4	170728M2_5	Standard	2.000	2.66	2849.220	16510.811	2.157	2.2	9.5	NO	1.000	NO	MM
5	5	170728M2_6	Standard	5.000	2.65	11458.210	28830.305	4.968	5.1	2.5	NO	1.000	NO	MM
6	6	170728M2_7	Standard	10.000	2.66	22812.604	30611.281	9.315	9.7	-3.4	NO	1.000	NO	MM
7	7	170728M2_8	Standard	50.000	2.66	114847.070	30216.350	47.510	49.5	-1.0	NO	1.000	NO	MM
8	8	170728M2_9	Standard	100.000	2.65	225237.328	30196.234	93.239	97.2	-2.8	NO	1.000	NO	MM
9	9	170728M2_10	Standard	250.000	2.66	522885.906	26920.408	242.793	253.3	1.3	NO	1.000	NO	MM

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:10:19 Pacific Daylight Time
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Compound name: PFBS
Correlation coefficient: r = 0.999861, r^2 = 0.999721
Calibration curve: 1.85784 * x + -0.00404936
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	170728M2_2	Standard	0.250	2.90	124.236	3725.665	0.417	0.2	-9.4	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	2.89	287.609	3680.041	0.977	0.5	5.6	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	2.90	605.269	3805.429	1.988	1.1	7.2	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	2.89	650.990	2141.663	3.800	2.0	2.4	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	2.90	2677.018	3529.564	9.481	5.1	2.1	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	2.89	5207.783	3732.698	17.440	9.4	-6.1	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	2.90	25941.150	3533.129	91.778	49.4	-1.2	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	2.90	52001.789	3559.104	182.637	98.3	-1.7	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	2.90	109519.203	2916.369	469.416	252.7	1.1	NO	1.000	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999860, r^2 = 0.999719
Calibration curve: 1.39516 * x + 0.138496
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	170728M2_2	Standard	0.250	3.13	1292.904	14757.339	0.438	0.2	-14.1	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	3.14	2294.264	14439.591	0.794	0.5	-6.0	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.13	4831.556	14702.263	1.643	1.1	7.8	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.14	5353.820	8433.100	3.174	2.2	8.8	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.14	22186.109	14339.198	7.736	5.4	8.9	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.14	41042.371	15042.279	13.642	9.7	-3.2	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.15	200035.875	14657.946	68.235	48.8	-2.4	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.14	411799.281	14800.772	139.114	99.6	-0.4	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.14	927431.500	13222.806	350.694	251.3	0.5	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:10:19 Pacific Daylight Time
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Compound name: PFHpA
Correlation coefficient: r = 0.999957, r^2 = 0.999914
Calibration curve: 1.17847 * x + 0.0681471
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	170728M2_2	Standard	0.250	3.40	1204.282	43061.438	0.350	0.2	-4.5	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	3.40	2014.244	38433.738	0.655	0.5	-0.4	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.40	3878.673	40909.711	1.185	0.9	-5.2	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.40	4962.255	24182.768	2.565	2.1	5.9	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.41	19800.123	39156.566	6.321	5.3	6.1	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.41	37646.004	40354.555	11.661	9.8	-1.6	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.41	183598.906	38873.176	59.038	50.0	0.1	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.41	381024.406	40612.637	117.274	99.5	-0.5	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.41	849145.438	35974.605	295.050	250.3	0.1	NO	1.000	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.999604, r^2 = 0.999209
Calibration curve: 1.66642 * x + 0.0527668
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	170728M2_2	Standard	0.250	3.48	173.816	3693.206	0.588	0.3	28.5	NO	0.999	NO	MM
2	2	170728M2_3	Standard	0.500	3.48	211.907	3400.828	0.779	0.4	-12.9	NO	0.999	NO	MM
3	3	170728M2_4	Standard	1.000	3.47	425.566	3811.290	1.396	0.8	-19.4	NO	0.999	NO	MM
4	4	170728M2_5	Standard	2.000	3.47	583.868	1965.832	3.713	2.2	9.8	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.47	2141.738	3173.995	8.435	5.0	0.6	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.48	4660.597	3599.749	16.184	9.7	-3.2	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.48	23173.209	3541.580	81.790	49.0	-1.9	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.48	46227.219	3591.229	160.903	96.5	-3.5	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.48	96280.008	2835.098	424.500	254.7	1.9	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:10:19 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:11:02 Pacific Daylight Time

Compound name: PFOA
Correlation coefficient: r = 0.999602, r^2 = 0.999203
Calibration curve: 0.972567 * x + 0.119743
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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170728M2_2	Standard	0.250	3.60	1776.834	67432.422	0.329	0.2	-13.8	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	3.60	3428.433	69121.398	0.620	0.5	2.9	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.60	6017.603	65175.223	1.154	1.1	6.4	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	3.60	6766.019	37231.426	2.272	2.2	10.6	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.61	24916.359	65033.895	4.789	4.8	-4.0	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.60	50878.426	65066.762	9.774	9.9	-0.7	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.61	258837.422	65231.879	49.599	50.9	1.8	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.61	477892.000	64313.508	92.883	95.4	-4.6	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.61	1058067.125	53563.473	246.919	253.8	1.5	NO	0.999	NO	bb

Compound name: PFHpS
Correlation coefficient: r = 0.999698, r^2 = 0.999396
Calibration curve: 0.0834866 * x + 0.000361382
Response type: Internal Std (Ref 26), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170728M2_2	Standard	0.250	3.66	129.349	67432.422	0.024	0.3	13.1	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	3.66	184.534	69121.398	0.033	0.4	-20.9	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.65	440.810	65175.223	0.085	1.0	0.8	NO	0.999	NO	MM
4	4	170728M2_5	Standard	2.000	3.67	446.333	37231.426	0.150	1.8	-10.5	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.66	2501.044	65033.895	0.481	5.8	15.1	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.67	4417.773	65066.762	0.849	10.2	1.6	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.67	22320.723	65231.879	4.277	51.2	2.5	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.67	43490.797	64313.508	8.453	101.2	1.2	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.67	88324.172	53563.473	20.612	246.9	-1.2	NO	0.999	NO	bb

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Compound name: PFNA
Correlation coefficient: r = 0.999774, r^2 = 0.999549
Calibration curve: 1.0688 * x + 0.0838738
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	170728M2_2	Standard	0.250	3.78	1355.064	56165.996	0.302	0.2	-18.5	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	3.78	2871.220	57557.055	0.624	0.5	1.0	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.78	5715.737	60117.641	1.188	1.0	3.3	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.78	6187.412	32443.916	2.384	2.2	7.6	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.78	26880.975	59082.828	5.687	5.2	4.9	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.79	51086.453	55947.012	11.414	10.6	6.0	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.79	225656.344	55181.797	51.117	47.7	-4.5	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.79	479043.500	56232.570	106.487	99.6	-0.4	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.79	1056532.875	49074.555	269.114	251.7	0.7	NO	1.000	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.998852, r^2 = 0.997705
Calibration curve: 1.09922 * x + 0.0380461
Response type: Internal Std (Ref 28), 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	170728M2_2	Standard	0.250	3.79	212.952	7534.616	0.353	0.3	14.7	NO	0.998	NO	bb
2	2	170728M2_3	Standard	0.500	3.79	402.743	7838.506	0.642	0.5	9.9	NO	0.998	NO	bb
3	3	170728M2_4	Standard	1.000	3.78	641.875	7863.147	1.020	0.9	-10.6	NO	0.998	NO	bb
4	4	170728M2_5	Standard	2.000	3.79	796.114	4067.927	2.446	2.2	9.5	NO	0.998	NO	bb
5	5	170728M2_6	Standard	5.000	3.79	3167.917	8322.412	4.758	4.3	-14.1	NO	0.998	NO	bb
6	6	170728M2_7	Standard	10.000	3.80	6695.482	7844.739	10.669	9.7	-3.3	NO	0.998	NO	bb
7	7	170728M2_8	Standard	50.000	3.80	31041.506	7294.865	53.191	48.4	-3.3	NO	0.998	NO	bb
8	8	170728M2_9	Standard	100.000	3.79	58226.086	7074.365	102.882	93.6	-6.4	NO	0.998	NO	bb
9	9	170728M2_10	Standard	250.000	3.79	126557.727	5557.022	284.680	258.9	3.6	NO	0.998	NO	bb

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.999381
Calibration curve: -8.2411e-005 * x^2 + 0.991329 * x + 0.038537
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	170728M2_2	Standard	0.250	3.85	185.263	10386.165	0.223	0.2	-25.6	NO	0.999	NO	MM
2	2	170728M2_3	Standard	0.500	3.83	552.121	10949.846	0.630	0.6	19.4	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.83	874.687	11038.252	0.991	1.0	-4.0	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	3.83	1051.018	5675.427	2.315	2.3	14.8	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.83	4488.643	10976.905	5.111	5.1	2.4	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.83	9036.851	10238.276	11.033	11.1	11.0	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.84	40832.254	10447.924	48.852	49.4	-1.1	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.84	80281.375	10381.430	96.665	98.3	-1.7	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.84	173677.109	8917.339	243.454	250.8	0.3	NO	0.999	NO	bb

Compound name: PFDA
Correlation coefficient: r = 0.999404, r^2 = 0.998807
Calibration curve: 1.20688 * x + 0.163006
Response type: Internal Std (Ref 30), 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	170728M2_2	Standard	0.250	3.95	1834.598	60003.141	0.382	0.2	-27.4	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	3.95	3284.270	55549.078	0.739	0.5	-4.5	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.95	6330.603	53618.211	1.476	1.1	8.8	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	3.95	6936.152	30851.922	2.810	2.2	9.7	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.95	31825.025	59808.203	6.651	5.4	7.5	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.96	63066.832	64638.613	12.196	10.0	-0.3	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.96	307105.938	58663.914	65.438	54.1	8.2	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.96	539413.000	55892.832	120.636	99.8	-0.2	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.96	1346063.625	56744.188	296.520	245.6	-1.8	NO	0.999	NO	bb

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999878
Calibration curve: -0.00407341 * x^2 + 19.807 * x + -0.260375
Response type: Internal Std (Ref 31), 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	170728M2_2	Standard	0.250	3.96	435.997	12883.249	5.499	0.3	16.3	NO	1.000	NO	bd
2	2	170728M2_3	Standard	0.500	3.98	741.759	12942.593	9.313	0.5	-3.3	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.98	1500.287	13619.269	17.901	0.9	-8.3	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.98	1869.939	7508.003	40.472	2.1	2.9	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.98	8162.221	14192.388	93.456	4.7	-5.3	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.98	16022.469	13644.029	190.827	9.7	-3.3	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.99	73798.828	12178.927	984.677	50.2	0.5	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.99	144718.797	12044.903	1952.428	100.7	0.7	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.99	311738.625	10798.391	4691.211	249.7	-0.1	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999787
Calibration curve: -0.00107779 * x^2 + 15.2465 * x + 0.807358
Response type: Internal Std (Ref 32), 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	170728M2_2	Standard	0.250	4.04	379.553	13002.753	4.743	0.3	3.3	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	4.04	831.407	13332.326	10.134	0.6	22.3	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	4.04	1236.473	13734.974	14.629	0.9	-9.3	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.04	1479.109	7359.929	32.657	2.1	4.5	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.05	6354.800	13694.013	75.409	4.9	-2.1	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.05	12531.979	12997.170	156.684	10.2	2.3	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.05	60396.695	12723.811	771.346	50.7	1.4	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.05	113763.313	12372.299	1494.188	98.6	-1.4	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.05	260195.766	11272.279	3750.955	250.4	0.2	NO	1.000	NO	bb

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999945
Calibration curve: -0.000352587 * x^2 + 0.738655 * x + 0.0923596
Response type: Internal Std (Ref 33), 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	170728M2_2	Standard	0.250	4.11	1300.977	57359.027	0.284	0.3	3.5	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	4.11	2222.104	62862.797	0.442	0.5	-5.3	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	4.11	4280.404	62925.098	0.850	1.0	2.7	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.11	4679.629	38112.383	1.535	2.0	-2.3	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.11	20068.451	65242.195	3.845	5.1	1.9	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.12	38402.559	64369.324	7.457	10.0	0.2	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.12	181049.781	63436.871	35.675	49.3	-1.3	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.12	354982.063	62525.133	70.968	100.8	0.8	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.12	806806.375	62024.961	162.597	249.8	-0.1	NO	1.000	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.999598
Calibration curve: -4.79281e-005 * x^2 + 0.0714733 * x + -0.00107069
Response type: Internal Std (Ref 33), 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	170728M2_2	Standard	0.250	4.15	96.159	57359.027	0.021	0.3	23.3	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	4.17	132.913	62862.797	0.026	0.4	-23.0	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	4.17	352.819	62925.098	0.070	1.0	-0.4	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.15	460.965	38112.383	0.151	2.1	6.7	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.16	1773.629	65242.195	0.340	4.8	-4.3	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.16	3496.559	64369.324	0.679	9.6	-4.2	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.17	18043.170	63436.871	3.555	51.5	3.1	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.17	32985.578	62525.133	6.594	98.8	-1.2	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.17	73842.891	62024.961	14.882	250.2	0.1	NO	1.000	NO	bb

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Compound name: PFDoA
Coefficient of Determination: R^2 = 0.998624
Calibration curve: 0.000483062 * x^2 + 0.770384 * x + 0.341437
Response type: Internal Std (Ref 34), 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	170728M2_2	Standard	0.250	4.26	92.309	5962.159	0.194			NO	0.999	NO	bbXl
2	2	170728M2_3	Standard	0.500	4.28	429.801	6995.869	0.768	0.6	10.7	NO	0.999	NO	MM
3	3	170728M2_4	Standard	1.000	4.26	454.014	6271.752	0.905	0.7	-26.9	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	4.27	533.506	3674.716	1.815	1.9	-4.5	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	4.27	2461.487	6599.834	4.662	5.6	11.8	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	4.29	4687.078	6719.549	8.719	10.8	8.0	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	4.28	22330.574	6608.889	42.236	52.6	5.3	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	4.28	42539.887	6820.428	77.964	95.1	-4.9	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	4.28	104320.703	5812.105	224.361	251.2	0.5	NO	0.999	NO	bb

Compound name: PFTrDA
Correlation coefficient: r = 0.999451, r^2 = 0.998903
Calibration curve: 9.7472 * x + 1.17215
Response type: Internal Std (Ref 34), 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	170728M2_2	Standard	0.250	4.43	1587.994	5962.159	3.329	0.2	-11.5	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	4.43	3275.602	6995.869	5.853	0.5	-4.0	NO	0.999	NO	MM
3	3	170728M2_4	Standard	1.000	4.43	5908.142	6271.752	11.775	1.1	8.8	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	4.44	6200.105	3674.716	21.090	2.0	2.2	NO	0.999	NO	bd
5	5	170728M2_6	Standard	5.000	4.44	28220.949	6599.834	53.450	5.4	7.3	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	4.44	54049.188	6719.549	100.545	10.2	1.9	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	4.45	253970.109	6608.889	480.357	49.2	-1.7	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	4.45	504655.469	6820.428	924.897	94.8	-5.2	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	4.44	1158187.375	5812.105	2490.895	255.4	2.2	NO	0.999	NO	bb

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Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999781
Calibration curve: -0.000168072 * x^2 + 1.03773 * x + 0.147897
Response type: Internal Std (Ref 35), 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	170728M2_2	Standard	0.250	4.61	1104.568	41761.434	0.331	0.2	-29.6	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	4.61	2480.283	43223.504	0.717	0.5	9.7	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	4.61	4145.502	42342.496	1.224	1.0	3.7	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.61	4391.375	22739.943	2.414	2.2	9.2	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.61	19689.096	43281.676	5.686	5.3	6.8	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.62	37513.137	44255.934	10.596	10.1	0.8	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.62	178771.672	43177.305	51.755	50.1	0.3	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.62	355712.438	44024.184	100.999	98.8	-1.2	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.62	812877.375	40719.973	249.533	250.5	0.2	NO	1.000	NO	bb

Compound name: 13C3-PFBA
Response Factor: 1.06832
RRF SD: 0.0716737, Relative SD: 6.70898
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	170728M2_2	Standard	12.500	1.34	15742.173	14679.223	13.405	12.5	0.4	NO		NO	MM
2	2	170728M2_3	Standard	12.500	1.35	15139.798	14157.839	13.367	12.5	0.1	NO		NO	MM
3	3	170728M2_4	Standard	12.500	1.35	15315.615	13901.761	13.771	12.9	3.1	NO		NO	MM
4	4	170728M2_5	Standard	12.500	1.35	8684.454	7966.370	13.627	12.8	2.0	NO		NO	MM
5	5	170728M2_6	Standard	12.500	1.35	15018.660	13542.045	13.863	13.0	3.8	NO		NO	MM
6	6	170728M2_7	Standard	12.500	1.35	15259.036	14135.810	13.493	12.6	1.0	NO		NO	MM
7	7	170728M2_8	Standard	12.500	1.35	15593.523	13890.406	14.033	13.1	5.1	NO		NO	MM
8	8	170728M2_9	Standard	12.500	1.35	15681.832	14422.259	13.592	12.7	1.8	NO		NO	MM
9	9	170728M2_10	Standard	12.500	1.36	13830.456	15665.605	11.036	10.3	-17.4	NO		NO	MM

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Compound name: 13C3-PFPeA
Response Factor: 0.27137
RRF SD: 0.0158354, Relative SD: 5.83535
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	170728M2_2	Standard	12.500	2.65	29626.736	43858.891	3.378	12.4	-0.4	NO		NO	MM
2	2	170728M2_3	Standard	12.500	2.65	29534.408	43343.379	3.407	12.6	0.4	NO		NO	MM
3	3	170728M2_4	Standard	12.500	2.65	29804.117	42543.984	3.503	12.9	3.3	NO		NO	MM
4	4	170728M2_5	Standard	12.500	2.65	16510.811	24635.240	3.351	12.3	-1.2	NO		NO	MM
5	5	170728M2_6	Standard	12.500	2.65	28830.305	42398.152	3.400	12.5	0.2	NO		NO	MM
6	6	170728M2_7	Standard	12.500	2.65	30611.281	42712.195	3.583	13.2	5.6	NO		NO	MM
7	7	170728M2_8	Standard	12.500	2.66	30216.350	43123.621	3.503	12.9	3.3	NO		NO	MM
8	8	170728M2_9	Standard	12.500	2.65	30196.234	43136.543	3.500	12.9	3.2	NO		NO	MM
9	9	170728M2_10	Standard	12.500	2.66	26920.408	46352.453	2.904	10.7	-14.4	NO		NO	MM

Compound name: 13C3-PFBS
Response Factor: 0.0330768
RRF SD: 0.00312302, Relative SD: 9.44172
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	170728M2_2	Standard	12.500	2.89	3725.665	43858.891	0.425	12.8	2.7	NO		NO	bb
2	2	170728M2_3	Standard	12.500	2.89	3680.041	43343.379	0.425	12.8	2.7	NO		NO	bb
3	3	170728M2_4	Standard	12.500	2.90	3805.429	42543.984	0.447	13.5	8.2	NO		NO	bb
4	4	170728M2_5	Standard	12.500	2.90	2141.663	24635.240	0.435	13.1	5.1	NO		NO	bb
5	5	170728M2_6	Standard	12.500	2.89	3529.564	42398.152	0.416	12.6	0.7	NO		NO	bb
6	6	170728M2_7	Standard	12.500	2.89	3732.698	42712.195	0.437	13.2	5.7	NO		NO	bb
7	7	170728M2_8	Standard	12.500	2.90	3533.129	43123.621	0.410	12.4	-0.9	NO		NO	bb
8	8	170728M2_9	Standard	12.500	2.90	3559.104	43136.543	0.413	12.5	-0.2	NO		NO	bb
9	9	170728M2_10	Standard	12.500	2.90	2916.369	46352.453	0.315	9.5	-23.9	NO		NO	bb

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Compound name: 13C2-PFHxA
Response Factor: 0.335131
RRF SD: 0.0194922, Relative SD: 5.81629
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	170728M2_2	Standard	5.000	3.13	14757.339	43858.891	1.682	5.0	0.4	NO		NO	bb
2	2	170728M2_3	Standard	5.000	3.14	14439.591	43343.379	1.666	5.0	-0.6	NO		NO	bb
3	3	170728M2_4	Standard	5.000	3.13	14702.263	42543.984	1.728	5.2	3.1	NO		NO	bb
4	4	170728M2_5	Standard	5.000	3.13	8433.100	24635.240	1.712	5.1	2.1	NO		NO	bb
5	5	170728M2_6	Standard	5.000	3.14	14339.198	42398.152	1.691	5.0	0.9	NO		NO	bb
6	6	170728M2_7	Standard	5.000	3.14	15042.279	42712.195	1.761	5.3	5.1	NO		NO	bb
7	7	170728M2_8	Standard	5.000	3.14	14657.946	43123.621	1.700	5.1	1.4	NO		NO	bb
8	8	170728M2_9	Standard	5.000	3.14	14800.772	43136.543	1.716	5.1	2.4	NO		NO	bb
9	9	170728M2_10	Standard	5.000	3.14	13222.806	46352.453	1.426	4.3	-14.9	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.368851
RRF SD: 0.0255164, Relative SD: 6.91781
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	170728M2_2	Standard	12.500	3.40	43061.438	43858.891	4.909	13.3	6.5	NO		NO	bb
2	2	170728M2_3	Standard	12.500	3.40	38433.738	43343.379	4.434	12.0	-3.8	NO		NO	bb
3	3	170728M2_4	Standard	12.500	3.41	40909.711	42543.984	4.808	13.0	4.3	NO		NO	bb
4	4	170728M2_5	Standard	12.500	3.40	24182.768	24635.240	4.908	13.3	6.5	NO		NO	bb
5	5	170728M2_6	Standard	12.500	3.41	39156.566	42398.152	4.618	12.5	0.2	NO		NO	bb
6	6	170728M2_7	Standard	12.500	3.41	40354.555	42712.195	4.724	12.8	2.5	NO		NO	bb
7	7	170728M2_8	Standard	12.500	3.41	38873.176	43123.621	4.507	12.2	-2.2	NO		NO	bb
8	8	170728M2_9	Standard	12.500	3.41	40612.637	43136.543	4.707	12.8	2.1	NO		NO	bb
9	9	170728M2_10	Standard	12.500	3.41	35974.605	46352.453	3.881	10.5	-15.8	NO		NO	bb

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Compound name: 18O2-PFHxS
Response Factor: 0.460288
RRF SD: 0.0389674, Relative SD: 8.46587
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 170728M2_2	Standard	12.500	3.47	3693.206	7812.813	5.909	12.8	2.7	NO		NO	bb
2	2 170728M2_3	Standard	12.500	3.47	3400.828	7661.151	5.549	12.1	-3.6	NO		NO	bb
3	3 170728M2_4	Standard	12.500	3.47	3811.290	7158.323	6.655	14.5	15.7	NO		NO	bb
4	4 170728M2_5	Standard	12.500	3.47	1965.832	4300.112	5.714	12.4	-0.7	NO		NO	bb
5	5 170728M2_6	Standard	12.500	3.48	3173.995	6977.436	5.686	12.4	-1.2	NO		NO	bb
6	6 170728M2_7	Standard	12.500	3.47	3599.749	7970.943	5.645	12.3	-1.9	NO		NO	bb
7	7 170728M2_8	Standard	12.500	3.49	3541.580	7411.993	5.973	13.0	3.8	NO		NO	bb
8	8 170728M2_9	Standard	12.500	3.48	3591.229	7651.521	5.867	12.7	2.0	NO		NO	bb
9	9 170728M2_10	Standard	12.500	3.48	2835.098	7407.810	4.784	10.4	-16.9	NO		NO	bb

Compound name: 13C2-PFOA
Response Factor: 1.29343
RRF SD: 0.0978713, Relative SD: 7.56682
Response type: Internal Std (Ref 39), 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 170728M2_2	Standard	12.500	3.60	67432.422	50353.582	16.740	12.9	3.5	NO		NO	bb
2	2 170728M2_3	Standard	12.500	3.60	69121.398	51722.332	16.705	12.9	3.3	NO		NO	bb
3	3 170728M2_4	Standard	12.500	3.60	65175.223	51349.039	15.866	12.3	-1.9	NO		NO	bb
4	4 170728M2_5	Standard	12.500	3.60	37231.426	27008.686	17.231	13.3	6.6	NO		NO	bb
5	5 170728M2_6	Standard	12.500	3.61	65033.895	47128.594	17.249	13.3	6.7	NO		NO	bb
6	6 170728M2_7	Standard	12.500	3.60	65066.762	50246.984	16.187	12.5	0.1	NO		NO	bb
7	7 170728M2_8	Standard	12.500	3.61	65231.879	50282.098	16.216	12.5	0.3	NO		NO	bb
8	8 170728M2_9	Standard	12.500	3.60	64313.508	49800.309	16.143	12.5	-0.2	NO		NO	bb
9	9 170728M2_10	Standard	12.500	3.61	53563.473	50823.395	13.174	10.2	-18.5	NO		NO	bb

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Compound name: 13C5-PFNA
Response Factor: 0.985933
RRF SD: 0.0816002, Relative SD: 8.27645
Response type: Internal Std (Ref 40), 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	170728M2_2	Standard	12.500	3.78	56165.996	55554.719	12.638	12.8	2.5	NO		NO	bb
2	2	170728M2_3	Standard	12.500	3.78	57557.055	59404.484	12.111	12.3	-1.7	NO		NO	bb
3	3	170728M2_4	Standard	12.500	3.78	60117.641	56554.453	13.288	13.5	7.8	NO		NO	bb
4	4	170728M2_5	Standard	12.500	3.78	32443.916	30540.498	13.279	13.5	7.7	NO		NO	bb
5	5	170728M2_6	Standard	12.500	3.78	59082.828	60275.895	12.253	12.4	-0.6	NO		NO	bb
6	6	170728M2_7	Standard	12.500	3.78	55947.012	55392.355	12.625	12.8	2.4	NO		NO	bb
7	7	170728M2_8	Standard	12.500	3.79	55181.797	55075.922	12.524	12.7	1.6	NO		NO	bb
8	8	170728M2_9	Standard	12.500	3.79	56232.570	56839.453	12.367	12.5	0.3	NO		NO	bb
9	9	170728M2_10	Standard	12.500	3.79	49074.555	62380.453	9.834	10.0	-20.2	NO		NO	bb

Compound name: 13C8-PFOSA
Response Factor: 0.132492
RRF SD: 0.0168341, Relative SD: 12.7057
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	12.500	3.79	7534.616	55026.387	1.712	12.9	3.3	NO		NO	bb
2	2	170728M2_3	Standard	12.500	3.79	7838.506	57174.012	1.714	12.9	3.5	NO		NO	bb
3	3	170728M2_4	Standard	12.500	3.78	7863.147	56604.801	1.736	13.1	4.8	NO		NO	bb
4	4	170728M2_5	Standard	12.500	3.79	4067.927	32976.875	1.542	11.6	-6.9	NO		NO	bb
5	5	170728M2_6	Standard	12.500	3.79	8322.412	54183.844	1.920	14.5	15.9	NO		NO	bb
6	6	170728M2_7	Standard	12.500	3.79	7844.739	56154.422	1.746	13.2	5.4	NO		NO	bb
7	7	170728M2_8	Standard	12.500	3.79	7294.865	54787.105	1.664	12.6	0.5	NO		NO	bb
8	8	170728M2_9	Standard	12.500	3.79	7074.365	51641.449	1.712	12.9	3.4	NO		NO	bb
9	9	170728M2_10	Standard	12.500	3.79	5557.022	59947.359	1.159	8.7	-30.0	NO		NO	bb

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Compound name: 13C8-PFOS
Response Factor: 1.18433
RRF SD: 0.0947906, Relative SD: 8.00375
Response type: Internal Std (Ref 41), 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 170728M2_2	Standard	12.500	3.83	10386.165	8684.470	14.949	12.6	1.0	NO		NO	bb
2	2 170728M2_3	Standard	12.500	3.83	10949.846	8914.332	15.354	13.0	3.7	NO		NO	bb
3	3 170728M2_4	Standard	12.500	3.83	11038.252	8566.251	16.107	13.6	8.8	NO		NO	bb
4	4 170728M2_5	Standard	12.500	3.83	5675.427	5073.126	13.984	11.8	-5.5	NO		NO	bb
5	5 170728M2_6	Standard	12.500	3.83	10976.905	9069.241	15.129	12.8	2.2	NO		NO	bb
6	6 170728M2_7	Standard	12.500	3.83	10238.276	9441.893	13.554	11.4	-8.4	NO		NO	bb
7	7 170728M2_8	Standard	12.500	3.84	10447.924	8412.276	15.525	13.1	4.9	NO		NO	bb
8	8 170728M2_9	Standard	12.500	3.84	10381.430	8094.951	16.031	13.5	8.3	NO		NO	bb
9	9 170728M2_10	Standard	12.500	3.84	8917.339	8844.576	12.603	10.6	-14.9	NO		NO	bb

Compound name: 13C2-PFDA
Response Factor: 0.997715
RRF SD: 0.0821401, Relative SD: 8.23282
Response type: Internal Std (Ref 42), 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 170728M2_2	Standard	12.500	3.95	60003.141	60101.680	12.480	12.5	0.1	NO		NO	bb
2	2 170728M2_3	Standard	12.500	3.95	55549.078	61783.742	11.239	11.3	-9.9	NO		NO	bb
3	3 170728M2_4	Standard	12.500	3.95	53618.211	49093.789	13.652	13.7	9.5	NO		NO	bb
4	4 170728M2_5	Standard	12.500	3.95	30851.922	30032.572	12.841	12.9	3.0	NO		NO	bb
5	5 170728M2_6	Standard	12.500	3.95	59808.203	63988.594	11.683	11.7	-6.3	NO		NO	bb
6	6 170728M2_7	Standard	12.500	3.95	64638.613	57573.766	14.034	14.1	12.5	NO		NO	bb
7	7 170728M2_8	Standard	12.500	3.96	58663.914	57140.258	12.833	12.9	2.9	NO		NO	bb
8	8 170728M2_9	Standard	12.500	3.96	55892.832	55938.863	12.490	12.5	0.1	NO		NO	bb
9	9 170728M2_10	Standard	12.500	3.96	56744.188	64531.480	10.992	11.0	-11.9	NO		NO	bb

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Compound name: d3-N-MeFOSAA
Response Factor: 0.0176867
RRF SD: 0.0016968, Relative SD: 9.59363
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	162.500	3.97	12883.249	55026.387	2.927	165.5	1.8	NO		NO	bb
2	2	170728M2_3	Standard	162.500	3.98	12942.593	57174.012	2.830	160.0	-1.5	NO		NO	bb
3	3	170728M2_4	Standard	162.500	3.97	13619.269	56604.801	3.008	170.0	4.6	NO		NO	bb
4	4	170728M2_5	Standard	162.500	3.98	7508.003	32976.875	2.846	160.9	-1.0	NO		NO	bb
5	5	170728M2_6	Standard	162.500	3.98	14192.388	54183.844	3.274	185.1	13.9	NO		NO	bb
6	6	170728M2_7	Standard	162.500	3.98	13644.029	56154.422	3.037	171.7	5.7	NO		NO	bb
7	7	170728M2_8	Standard	162.500	3.99	12178.927	54787.105	2.779	157.1	-3.3	NO		NO	bb
8	8	170728M2_9	Standard	162.500	3.99	12044.903	51641.449	2.916	164.8	1.4	NO		NO	bb
9	9	170728M2_10	Standard	162.500	3.98	10798.391	59947.359	2.252	127.3	-21.7	NO		NO	bb

Compound name: d5-N-EtFOSAA
Response Factor: 0.0177723
RRF SD: 0.00139291, Relative SD: 7.83752
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	162.500	4.04	13002.753	55026.387	2.954	166.2	2.3	NO		NO	bb
2	2	170728M2_3	Standard	162.500	4.04	13332.326	57174.012	2.915	164.0	0.9	NO		NO	bb
3	3	170728M2_4	Standard	162.500	4.04	13734.974	56604.801	3.033	170.7	5.0	NO		NO	bb
4	4	170728M2_5	Standard	162.500	4.04	7359.929	32976.875	2.790	157.0	-3.4	NO		NO	bb
5	5	170728M2_6	Standard	162.500	4.04	13694.013	54183.844	3.159	177.8	9.4	NO		NO	bb
6	6	170728M2_7	Standard	162.500	4.05	12997.170	56154.422	2.893	162.8	0.2	NO		NO	bb
7	7	170728M2_8	Standard	162.500	4.05	12723.811	54787.105	2.903	163.3	0.5	NO		NO	bb
8	8	170728M2_9	Standard	162.500	4.05	12372.299	51641.449	2.995	168.5	3.7	NO		NO	bb
9	9	170728M2_10	Standard	162.500	4.05	11272.279	59947.359	2.350	132.3	-18.6	NO		NO	bb

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Compound name: 13C2-PFUnA
Response Factor: 1.12922
RRF SD: 0.0629902, Relative SD: 5.57822
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	12.500	4.11	57359.027	55026.387	13.030	11.5	-7.7	NO		NO	bb
2	2	170728M2_3	Standard	12.500	4.12	62862.797	57174.012	13.744	12.2	-2.6	NO		NO	bb
3	3	170728M2_4	Standard	12.500	4.11	62925.098	56604.801	13.896	12.3	-1.6	NO		NO	bb
4	4	170728M2_5	Standard	12.500	4.11	38112.383	32976.875	14.447	12.8	2.3	NO		NO	bb
5	5	170728M2_6	Standard	12.500	4.12	65242.195	54183.844	15.051	13.3	6.6	NO		NO	bb
6	6	170728M2_7	Standard	12.500	4.12	64369.324	56154.422	14.329	12.7	1.5	NO		NO	bb
7	7	170728M2_8	Standard	12.500	4.12	63436.871	54787.105	14.473	12.8	2.5	NO		NO	bb
8	8	170728M2_9	Standard	12.500	4.12	62525.133	51641.449	15.134	13.4	7.2	NO		NO	bb
9	9	170728M2_10	Standard	12.500	4.12	62024.961	59947.359	12.933	11.5	-8.4	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 0.116007
RRF SD: 0.0102256, Relative SD: 8.81464
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	12.500	4.27	5962.159	55026.387	1.354	11.7	-6.6	NO		NO	bb
2	2	170728M2_3	Standard	12.500	4.27	6995.869	57174.012	1.530	13.2	5.5	NO		NO	bd
3	3	170728M2_4	Standard	12.500	4.27	6271.752	56604.801	1.385	11.9	-4.5	NO		NO	bb
4	4	170728M2_5	Standard	12.500	4.27	3674.716	32976.875	1.393	12.0	-3.9	NO		NO	bb
5	5	170728M2_6	Standard	12.500	4.27	6599.834	54183.844	1.523	13.1	5.0	NO		NO	bb
6	6	170728M2_7	Standard	12.500	4.28	6719.549	56154.422	1.496	12.9	3.2	NO		NO	bb
7	7	170728M2_8	Standard	12.500	4.28	6608.889	54787.105	1.508	13.0	4.0	NO		NO	bb
8	8	170728M2_9	Standard	12.500	4.28	6820.428	51641.449	1.651	14.2	13.8	NO		NO	bb
9	9	170728M2_10	Standard	12.500	4.28	5812.105	59947.359	1.212	10.4	-16.4	NO		NO	bb

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

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Compound name: 13C2-PFTeDA
Response Factor: 0.762144
RRF SD: 0.0538952, Relative SD: 7.07152
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	12.500	4.60	41761.434	55026.387	9.487	12.4	-0.4	NO		NO	bb
2	2	170728M2_3	Standard	12.500	4.61	43223.504	57174.012	9.450	12.4	-0.8	NO		NO	bb
3	3	170728M2_4	Standard	12.500	4.61	42342.496	56604.801	9.350	12.3	-1.9	NO		NO	bb
4	4	170728M2_5	Standard	12.500	4.61	22739.943	32976.875	8.620	11.3	-9.5	NO		NO	bb
5	5	170728M2_6	Standard	12.500	4.62	43281.676	54183.844	9.985	13.1	4.8	NO		NO	bb
6	6	170728M2_7	Standard	12.500	4.62	44255.934	56154.422	9.851	12.9	3.4	NO		NO	bb
7	7	170728M2_8	Standard	12.500	4.63	43177.305	54787.105	9.851	12.9	3.4	NO		NO	bb
8	8	170728M2_9	Standard	12.500	4.63	44024.184	51641.449	10.656	14.0	11.9	NO		NO	bb
9	9	170728M2_10	Standard	12.500	4.62	40719.973	59947.359	8.491	11.1	-10.9	NO		NO	bb

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 1.30185e-016, Relative SD: 1.30185e-014
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	170728M2_2	Standard	12.500	1.34	14679.223	14679.223	12.500	12.5	0.0	NO		NO	bb
2	2	170728M2_3	Standard	12.500	1.35	14157.839	14157.839	12.500	12.5	0.0	NO		NO	bb
3	3	170728M2_4	Standard	12.500	1.35	13901.761	13901.761	12.500	12.5	0.0	NO		NO	bb
4	4	170728M2_5	Standard	12.500	1.35	7966.370	7966.370	12.500	12.5	0.0	NO		NO	bb
5	5	170728M2_6	Standard	12.500	1.36	13542.045	13542.045	12.500	12.5	0.0	NO		NO	bb
6	6	170728M2_7	Standard	12.500	1.36	14135.810	14135.810	12.500	12.5	0.0	NO		NO	bb
7	7	170728M2_8	Standard	12.500	1.36	13890.406	13890.406	12.500	12.5	0.0	NO		NO	bb
8	8	170728M2_9	Standard	12.500	1.35	14422.259	14422.259	12.500	12.5	0.0	NO		NO	bb
9	9	170728M2_10	Standard	12.500	1.36	15665.605	15665.605	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
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	170728M2_2	Standard	5.000	3.13	43858.891	43858.891	5.000	5.0	0.0	NO		NO	bb
2	2	170728M2_3	Standard	5.000	3.14	43343.379	43343.379	5.000	5.0	0.0	NO		NO	bb
3	3	170728M2_4	Standard	5.000	3.13	42543.984	42543.984	5.000	5.0	0.0	NO		NO	bb
4	4	170728M2_5	Standard	5.000	3.14	24635.240	24635.240	5.000	5.0	0.0	NO		NO	bb
5	5	170728M2_6	Standard	5.000	3.14	42398.152	42398.152	5.000	5.0	0.0	NO		NO	bb
6	6	170728M2_7	Standard	5.000	3.14	42712.195	42712.195	5.000	5.0	0.0	NO		NO	bb
7	7	170728M2_8	Standard	5.000	3.14	43123.621	43123.621	5.000	5.0	0.0	NO		NO	bb
8	8	170728M2_9	Standard	5.000	3.14	43136.543	43136.543	5.000	5.0	0.0	NO		NO	bb
9	9	170728M2_10	Standard	5.000	3.14	46352.453	46352.453	5.000	5.0	0.0	NO		NO	bb

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 3.92523e-017, Relative SD: 3.92523e-015
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	170728M2_2	Standard	12.500	3.47	7812.813	7812.813	12.500	12.5	0.0	NO		NO	bb
2	2	170728M2_3	Standard	12.500	3.47	7661.151	7661.151	12.500	12.5	0.0	NO		NO	bb
3	3	170728M2_4	Standard	12.500	3.48	7158.323	7158.323	12.500	12.5	0.0	NO		NO	bb
4	4	170728M2_5	Standard	12.500	3.47	4300.112	4300.112	12.500	12.5	0.0	NO		NO	bb
5	5	170728M2_6	Standard	12.500	3.48	6977.436	6977.436	12.500	12.5	0.0	NO		NO	bb
6	6	170728M2_7	Standard	12.500	3.48	7970.943	7970.943	12.500	12.5	0.0	NO		NO	bb
7	7	170728M2_8	Standard	12.500	3.48	7411.993	7411.993	12.500	12.5	0.0	NO		NO	bb
8	8	170728M2_9	Standard	12.500	3.48	7651.521	7651.521	12.500	12.5	0.0	NO		NO	bb
9	9	170728M2_10	Standard	12.500	3.49	7407.810	7407.810	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 39), 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	170728M2_2	Standard	12.500	3.60	50353.582	50353.582	12.500	12.5	0.0	NO		NO	bb
2	2	170728M2_3	Standard	12.500	3.60	51722.332	51722.332	12.500	12.5	0.0	NO		NO	bb
3	3	170728M2_4	Standard	12.500	3.60	51349.039	51349.039	12.500	12.5	0.0	NO		NO	bb
4	4	170728M2_5	Standard	12.500	3.60	27008.686	27008.686	12.500	12.5	0.0	NO		NO	bb
5	5	170728M2_6	Standard	12.500	3.60	47128.594	47128.594	12.500	12.5	0.0	NO		NO	bb
6	6	170728M2_7	Standard	12.500	3.61	50246.984	50246.984	12.500	12.5	0.0	NO		NO	bb
7	7	170728M2_8	Standard	12.500	3.61	50282.098	50282.098	12.500	12.5	0.0	NO		NO	bb
8	8	170728M2_9	Standard	12.500	3.60	49800.309	49800.309	12.500	12.5	0.0	NO		NO	bb
9	9	170728M2_10	Standard	12.500	3.61	50823.395	50823.395	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 1.30185e-016, Relative SD: 1.30185e-014
Response type: Internal Std (Ref 40), 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	170728M2_2	Standard	12.500	3.78	55554.719	55554.719	12.500	12.5	0.0	NO		NO	bb
2	2	170728M2_3	Standard	12.500	3.78	59404.484	59404.484	12.500	12.5	0.0	NO		NO	bb
3	3	170728M2_4	Standard	12.500	3.78	56554.453	56554.453	12.500	12.5	0.0	NO		NO	bb
4	4	170728M2_5	Standard	12.500	3.78	30540.498	30540.498	12.500	12.5	0.0	NO		NO	bb
5	5	170728M2_6	Standard	12.500	3.78	60275.895	60275.895	12.500	12.5	0.0	NO		NO	bb
6	6	170728M2_7	Standard	12.500	3.79	55392.355	55392.355	12.500	12.5	0.0	NO		NO	bb
7	7	170728M2_8	Standard	12.500	3.79	55075.922	55075.922	12.500	12.5	0.0	NO		NO	bb
8	8	170728M2_9	Standard	12.500	3.79	56839.453	56839.453	12.500	12.5	0.0	NO		NO	bb
9	9	170728M2_10	Standard	12.500	3.78	62380.453	62380.453	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 41), 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 170728M2_2	Standard	12.500	3.83	8684.470	8684.470	12.500	12.5	0.0	NO		NO	bb
2	2 170728M2_3	Standard	12.500	3.83	8914.332	8914.332	12.500	12.5	0.0	NO		NO	bb
3	3 170728M2_4	Standard	12.500	3.83	8566.251	8566.251	12.500	12.5	0.0	NO		NO	bb
4	4 170728M2_5	Standard	12.500	3.83	5073.126	5073.126	12.500	12.5	0.0	NO		NO	bb
5	5 170728M2_6	Standard	12.500	3.83	9069.241	9069.241	12.500	12.5	0.0	NO		NO	bb
6	6 170728M2_7	Standard	12.500	3.84	9441.893	9441.893	12.500	12.5	0.0	NO		NO	bb
7	7 170728M2_8	Standard	12.500	3.84	8412.276	8412.276	12.500	12.5	0.0	NO		NO	bb
8	8 170728M2_9	Standard	12.500	3.84	8094.951	8094.951	12.500	12.5	0.0	NO		NO	bb
9	9 170728M2_10	Standard	12.500	3.84	8844.576	8844.576	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 8.77708e-017, Relative SD: 8.77708e-015
Response type: Internal Std (Ref 42), 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 170728M2_2	Standard	12.500	3.95	60101.680	60101.680	12.500	12.5	0.0	NO		NO	bb
2	2 170728M2_3	Standard	12.500	3.95	61783.742	61783.742	12.500	12.5	0.0	NO		NO	bb
3	3 170728M2_4	Standard	12.500	3.94	49093.789	49093.789	12.500	12.5	0.0	NO		NO	bb
4	4 170728M2_5	Standard	12.500	3.95	30032.572	30032.572	12.500	12.5	0.0	NO		NO	bb
5	5 170728M2_6	Standard	12.500	3.95	63988.594	63988.594	12.500	12.5	0.0	NO		NO	bb
6	6 170728M2_7	Standard	12.500	3.95	57573.766	57573.766	12.500	12.5	0.0	NO		NO	bb
7	7 170728M2_8	Standard	12.500	3.95	57140.258	57140.258	12.500	12.5	0.0	NO		NO	bb
8	8 170728M2_9	Standard	12.500	3.96	55938.863	55938.863	12.500	12.5	0.0	NO		NO	bb
9	9 170728M2_10	Standard	12.500	3.95	64531.480	64531.480	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 3.92523e-017, Relative SD: 3.92523e-015
Response type: Internal Std (Ref 43), 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	170728M2_2	Standard	12.500	4.11	55026.387	55026.387	12.500	12.5	0.0	NO		NO	MM
2	2	170728M2_3	Standard	12.500	4.12	57174.012	57174.012	12.500	12.5	0.0	NO		NO	bb
3	3	170728M2_4	Standard	12.500	4.11	56604.801	56604.801	12.500	12.5	0.0	NO		NO	bb
4	4	170728M2_5	Standard	12.500	4.11	32976.875	32976.875	12.500	12.5	0.0	NO		NO	bb
5	5	170728M2_6	Standard	12.500	4.12	54183.844	54183.844	12.500	12.5	0.0	NO		NO	bb
6	6	170728M2_7	Standard	12.500	4.12	56154.422	56154.422	12.500	12.5	0.0	NO		NO	bb
7	7	170728M2_8	Standard	12.500	4.12	54787.105	54787.105	12.500	12.5	0.0	NO		NO	bb
8	8	170728M2_9	Standard	12.500	4.12	51641.449	51641.449	12.500	12.5	0.0	NO		NO	bb
9	9	170728M2_10	Standard	12.500	4.12	59947.359	59947.359	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 31, 2017 08:41:44 Pacific Daylight Time
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Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170728M2_1	IPA	28-Jul-17	16:09:52
2	170728M2_2	ST170728M2-1 PFC CS-2 17G2824	28-Jul-17	16:20:47
3	170728M2_3	ST170728M2-2 PFC CS-1 17G2825	28-Jul-17	16:31:32
4	170728M2_4	ST170728M2-3 PFC CS0 17G2826	28-Jul-17	16:42:11
5	170728M2_5	ST170728M2-4 PFC CS1 17G2827	28-Jul-17	16:52:57
6	170728M2_6	ST170728M2-5 PFC CS2 17G2828	28-Jul-17	17:03:36
7	170728M2_7	ST170728M2-6 PFC CS3 17G2829	28-Jul-17	17:14:14
8	170728M2_8	ST170728M2-7 PFC CS4 17G2830	28-Jul-17	17:24:53
9	170728M2_9	ST170728M2-8 PFC CS5 17G2831	28-Jul-17	17:35:31
10	170728M2_10	ST170728M2-9 PFC CS6 17G2801	28-Jul-17	17:46:09
11	170728M2_11	ST170728M2-10 PFC CS7 17G2802	28-Jul-17	17:56:56
12	170728M2_12	IPA	28-Jul-17	18:07:42
13	170728M2_13	SS170728M2-1 PFC SSS 17G2823	28-Jul-17	18:18:40
14	170728M2_14	IPA	28-Jul-17	18:29:24

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Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

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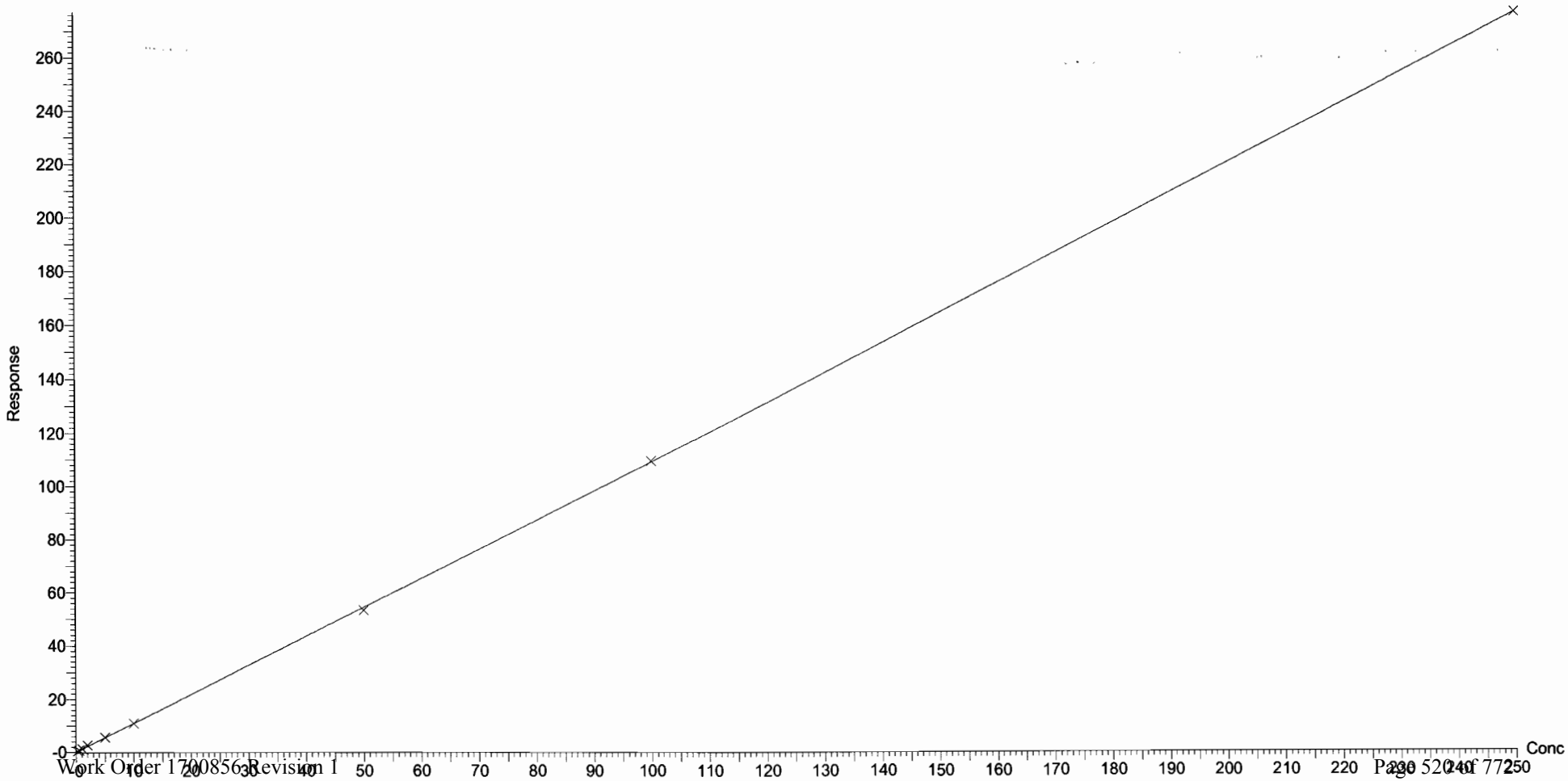
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:05:03

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999678
Calibration curve: 0.000110804 * x^2 + 1.07999 * x + 0.11163
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

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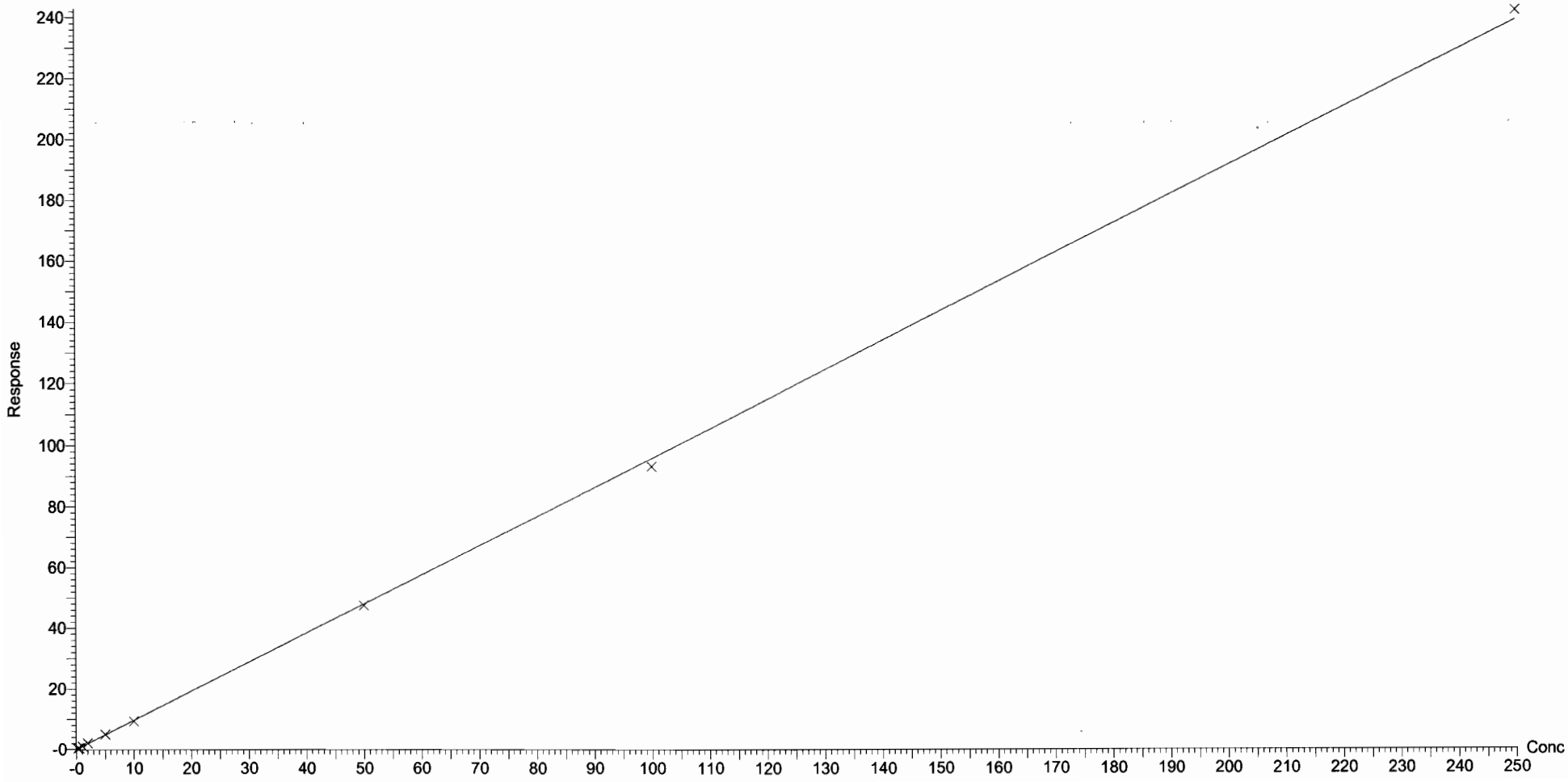
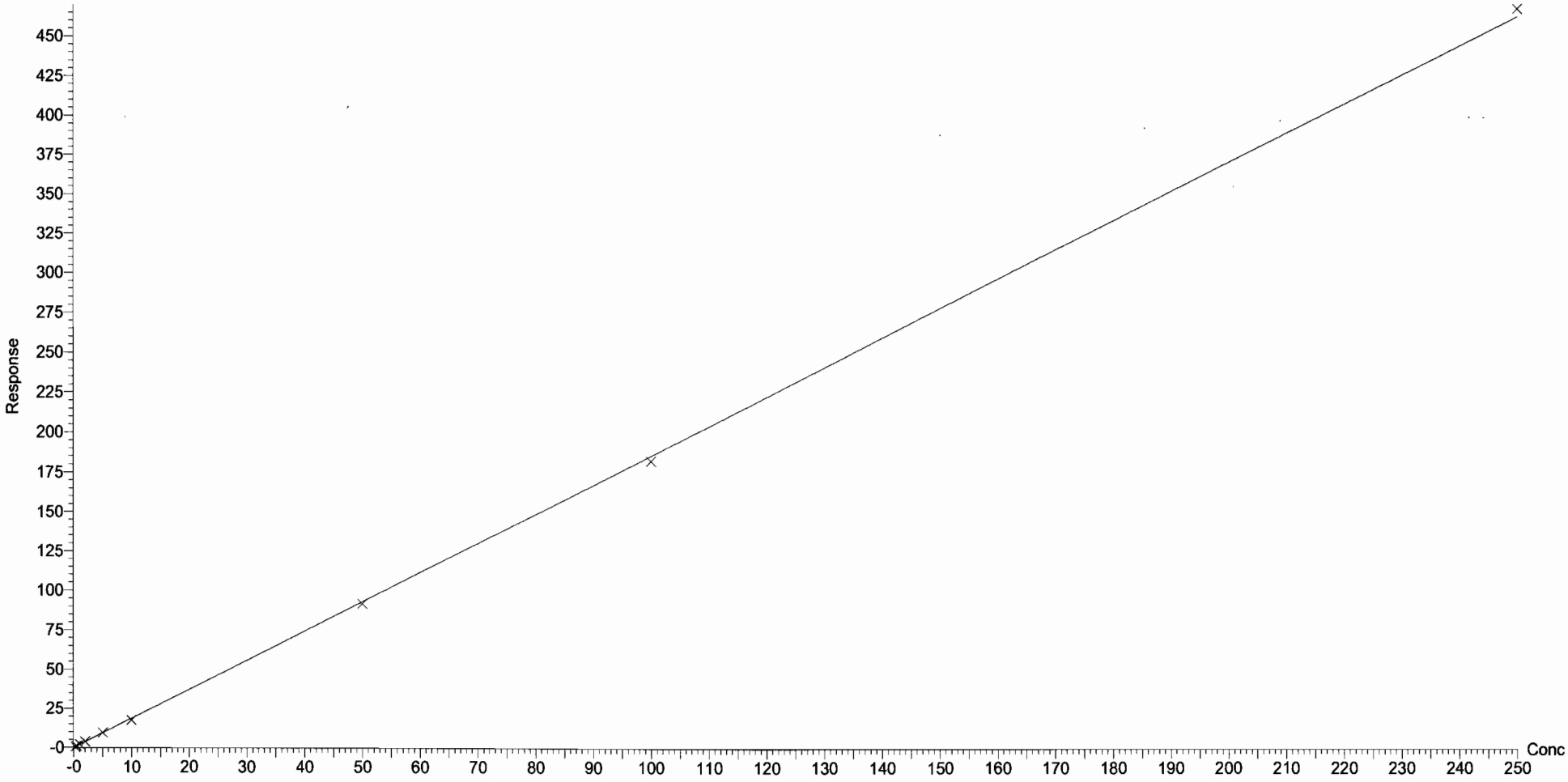
Compound name: PFPeA
Correlation coefficient: r = 0.999801, r^2 = 0.999602
Calibration curve: 0.958373 * x + 0.0576289
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

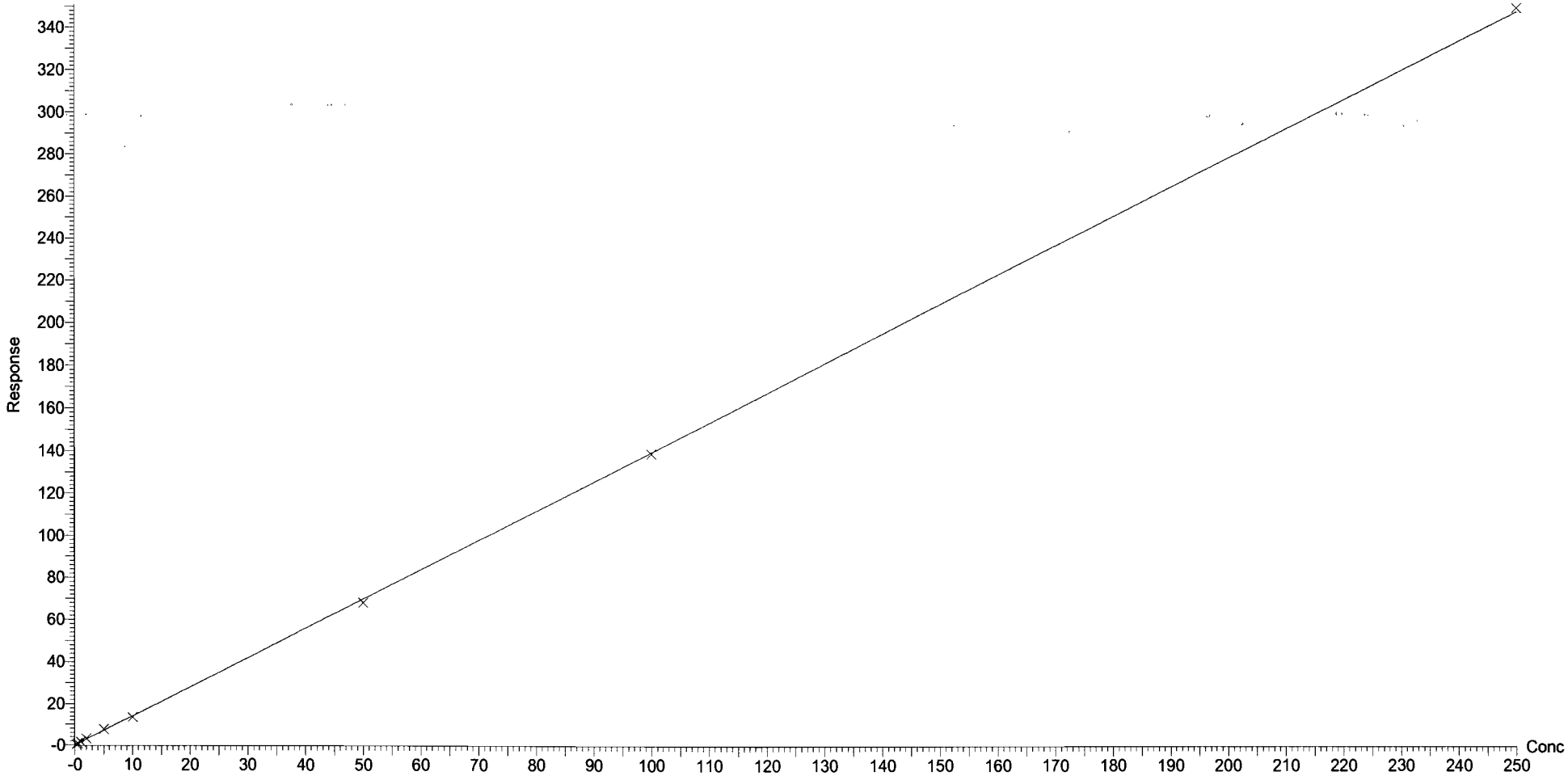
Compound name: PFBS
Correlation coefficient: r = 0.999861, r^2 = 0.999721
Calibration curve: 1.85784 * x + -0.00404936
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

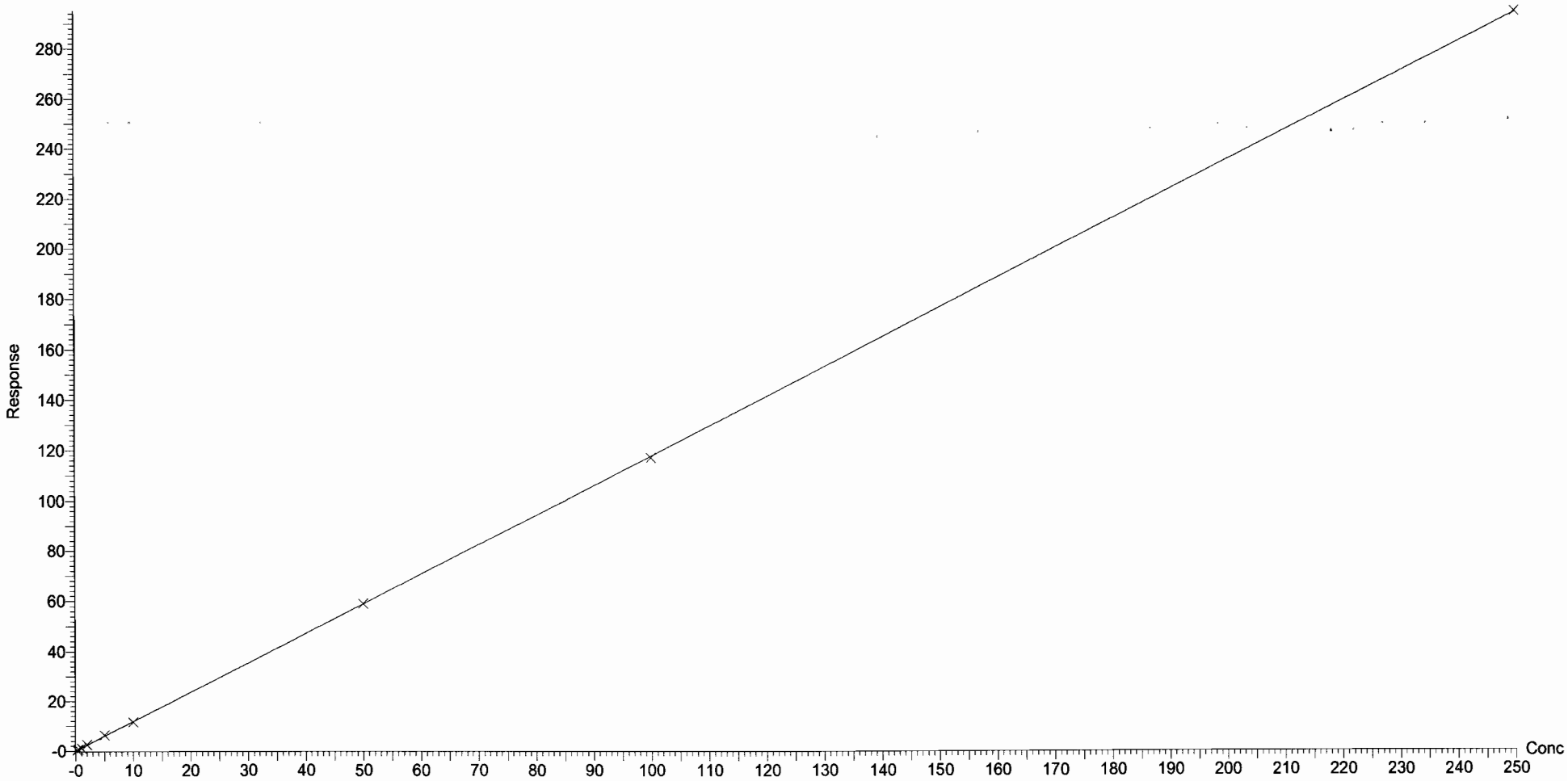
Compound name: PFHxA
Correlation coefficient: r = 0.999860, r^2 = 0.999719
Calibration curve: 1.39516 * x + 0.138496
Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

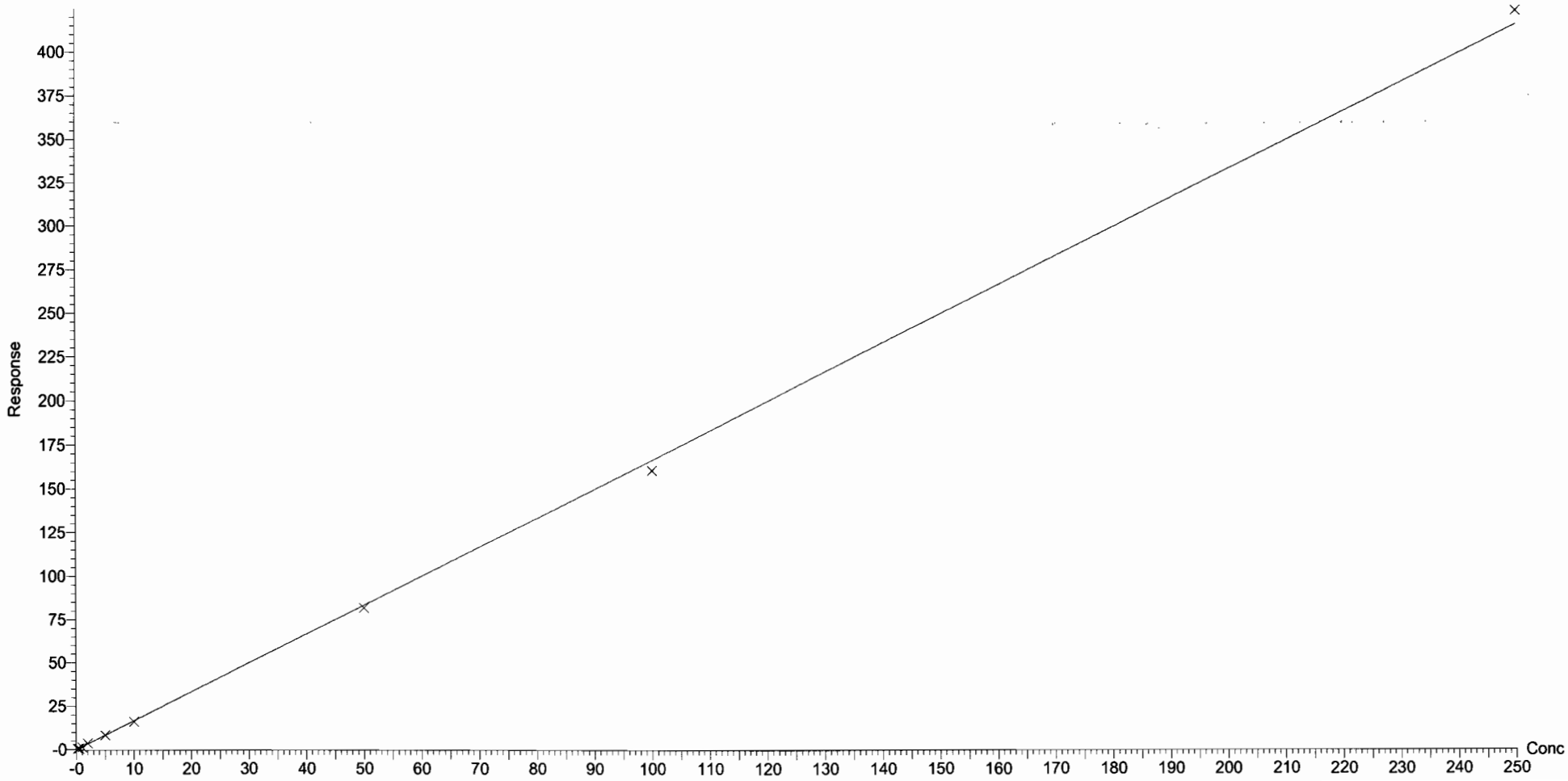
Compound name: PFHpA
Correlation coefficient: r = 0.999957, r^2 = 0.999914
Calibration curve: 1.17847 * x + 0.0681471
Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

Compound name: PFHxS
Correlation coefficient: r = 0.999604, r^2 = 0.999209
Calibration curve: 1.66642 * x + 0.0527668
Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

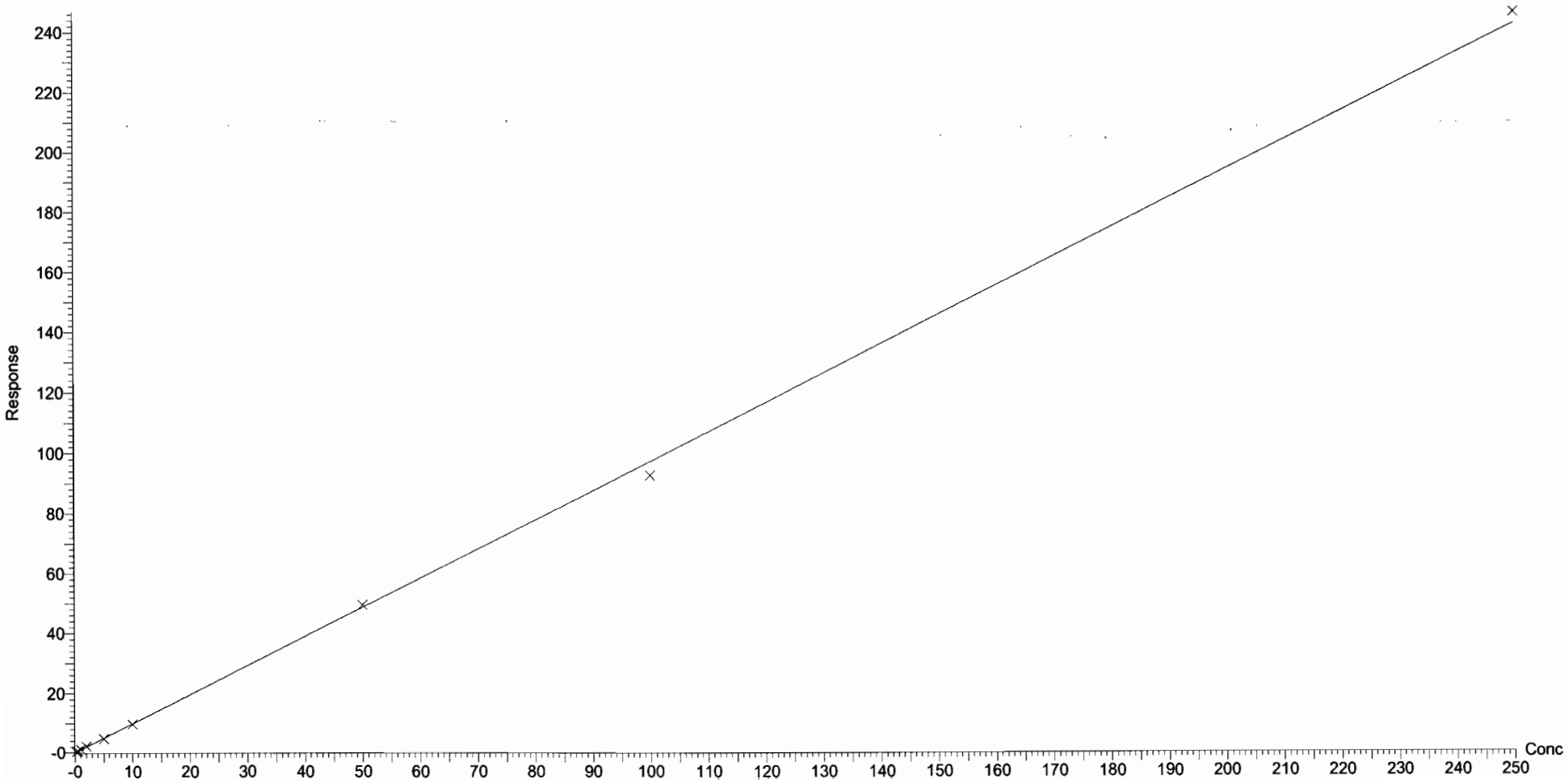


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

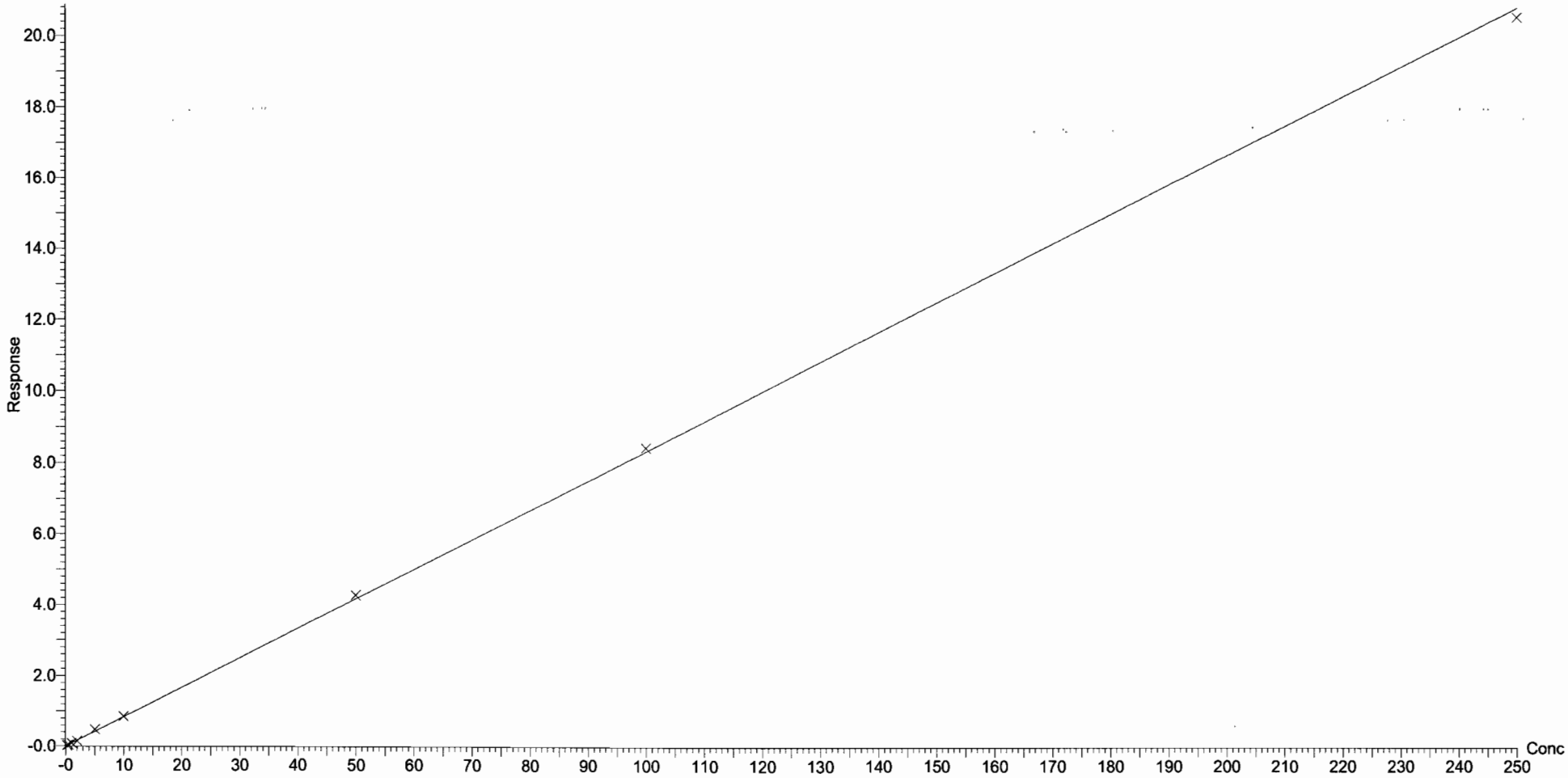
Compound name: PFOA
Correlation coefficient: r = 0.999602, r^2 = 0.999203
Calibration curve: 0.972567 * x + 0.119743
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

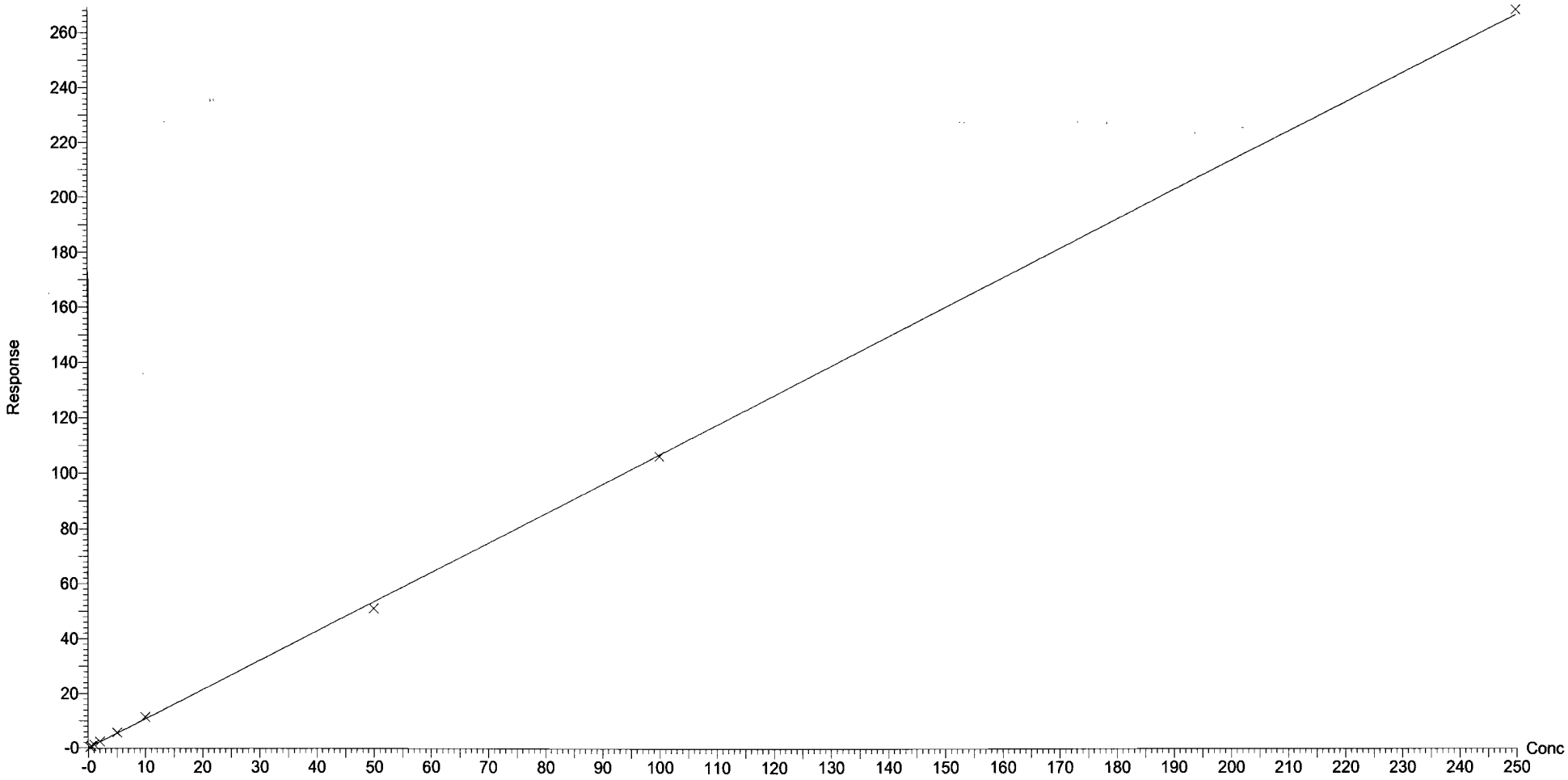
Compound name: PFHpS
Correlation coefficient: r = 0.999698, r^2 = 0.999396
Calibration curve: 0.0834866 * x + 0.000361382
Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

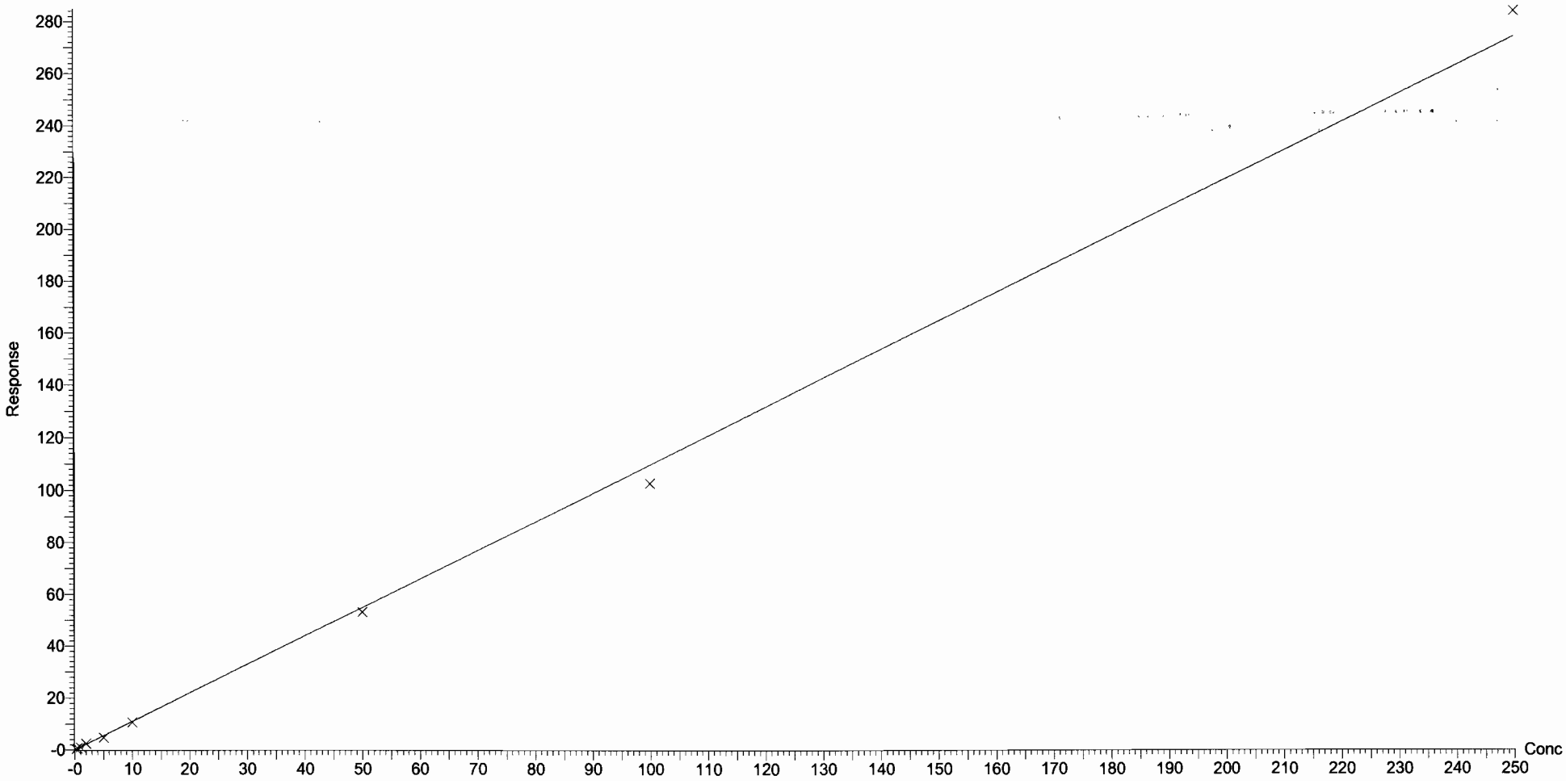
Compound name: PFNA
Correlation coefficient: r = 0.999774, r^2 = 0.999549
Calibration curve: 1.0688 * x + 0.0838738
Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

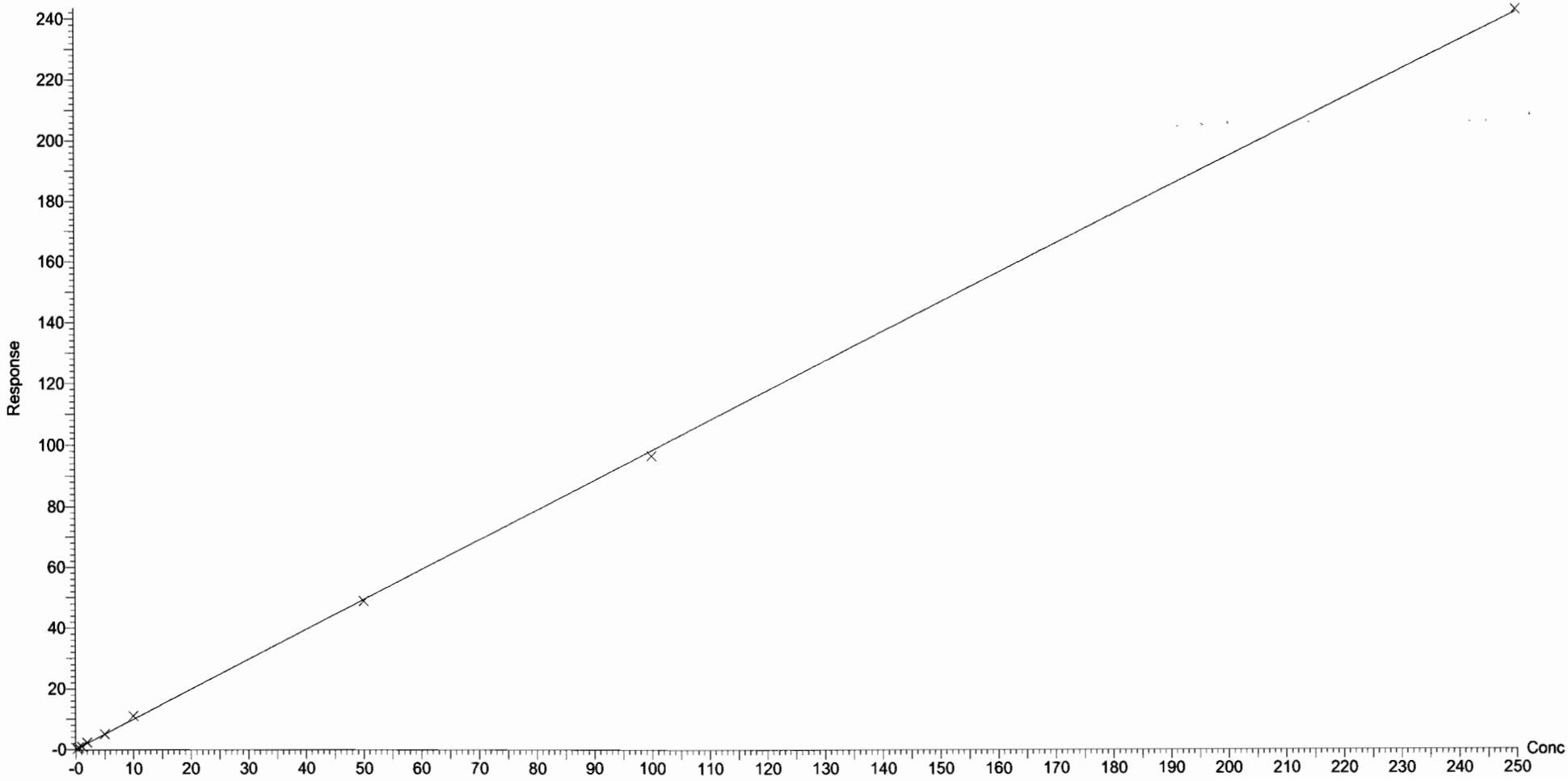
Compound name: PFOSA
Correlation coefficient: r = 0.998852, r^2 = 0.997705
Calibration curve: 1.09922 * x + 0.0380461
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

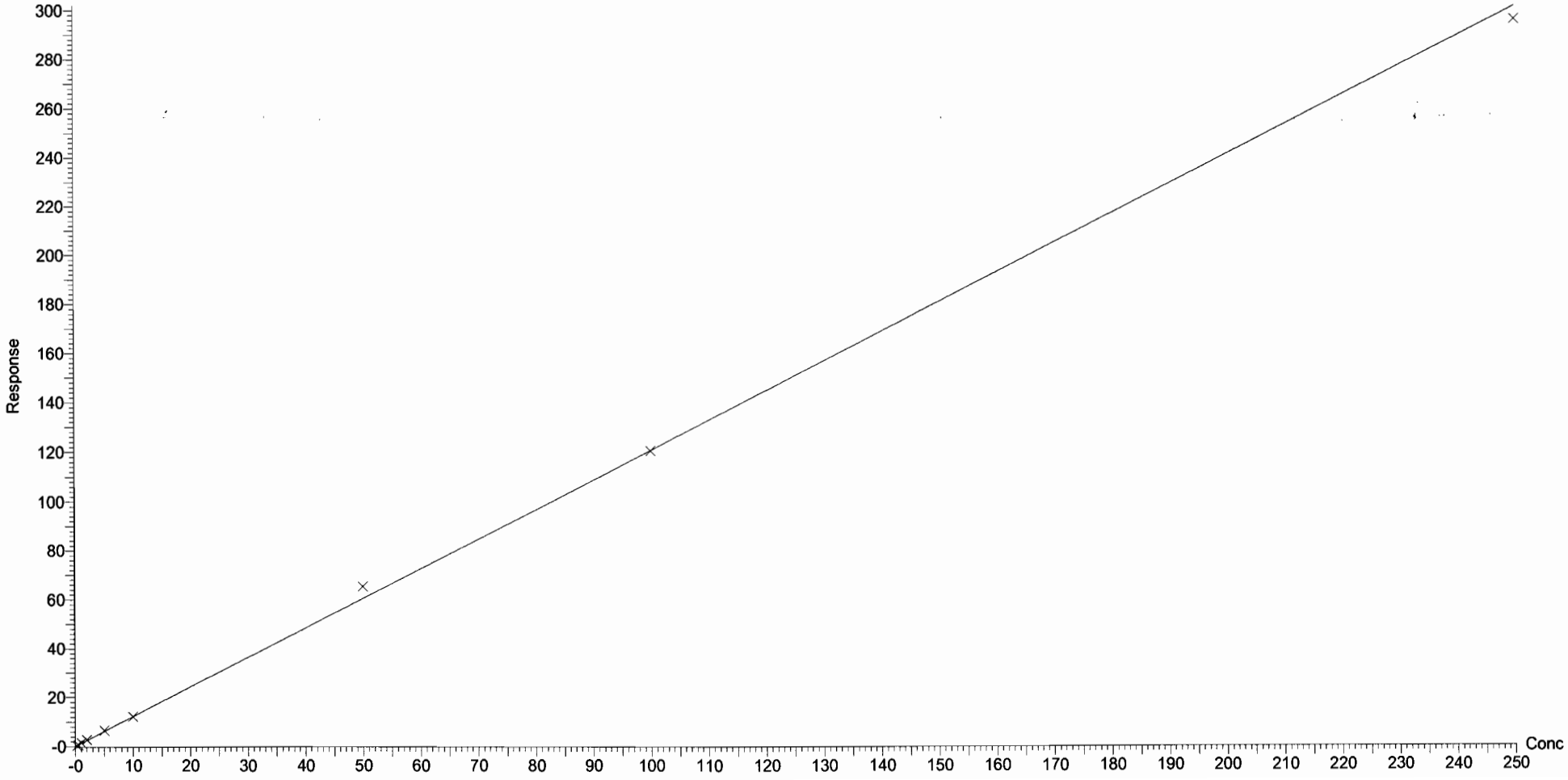
Compound name: PFOS
Coefficient of Determination: R^2 = 0.999381
Calibration curve: -8.2411e-005 * x^2 + 0.991329 * x + 0.038537
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

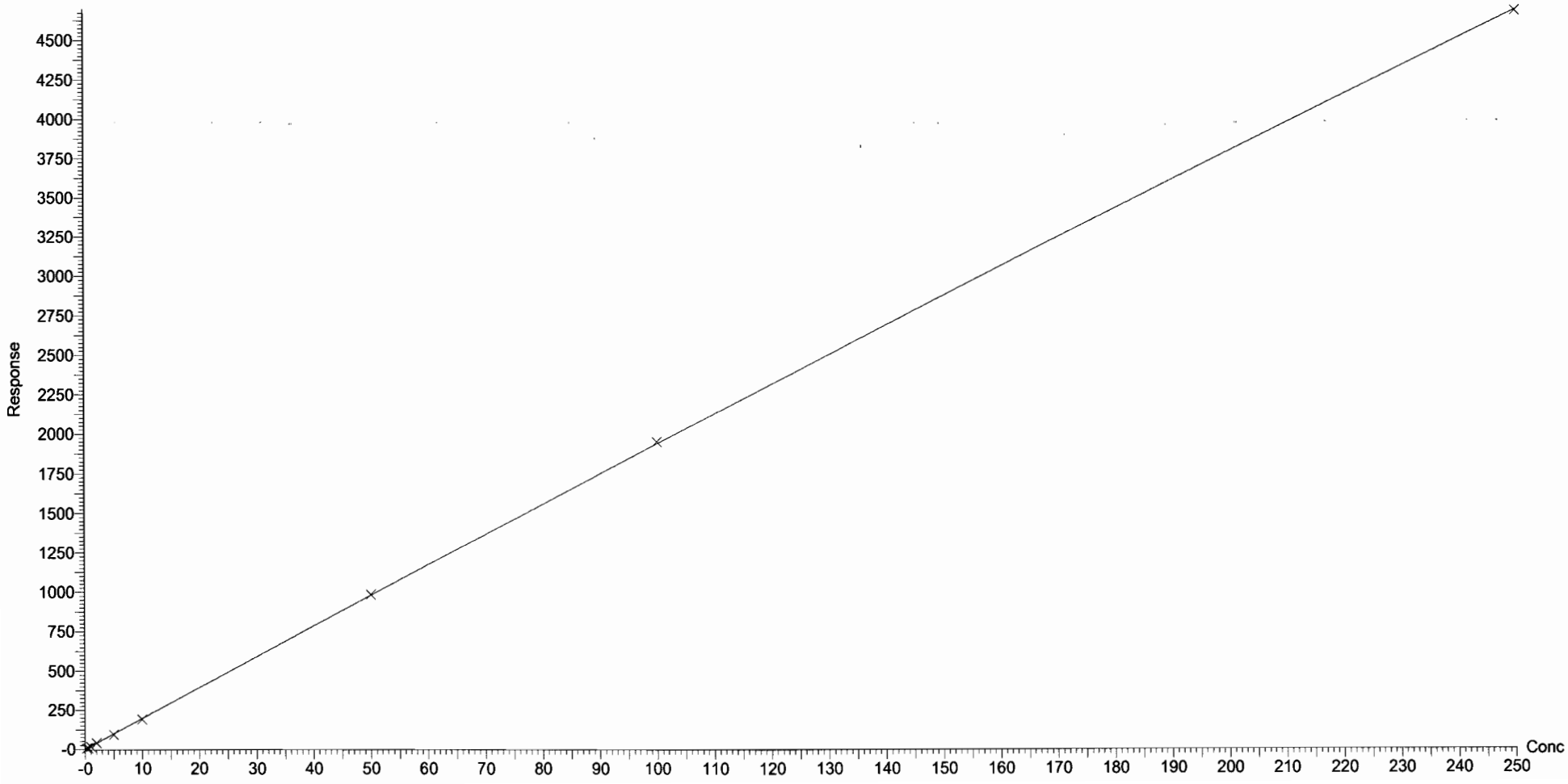
Compound name: PFDA
Correlation coefficient: r = 0.999404, r^2 = 0.998807
Calibration curve: 1.20688 * x + 0.163006
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

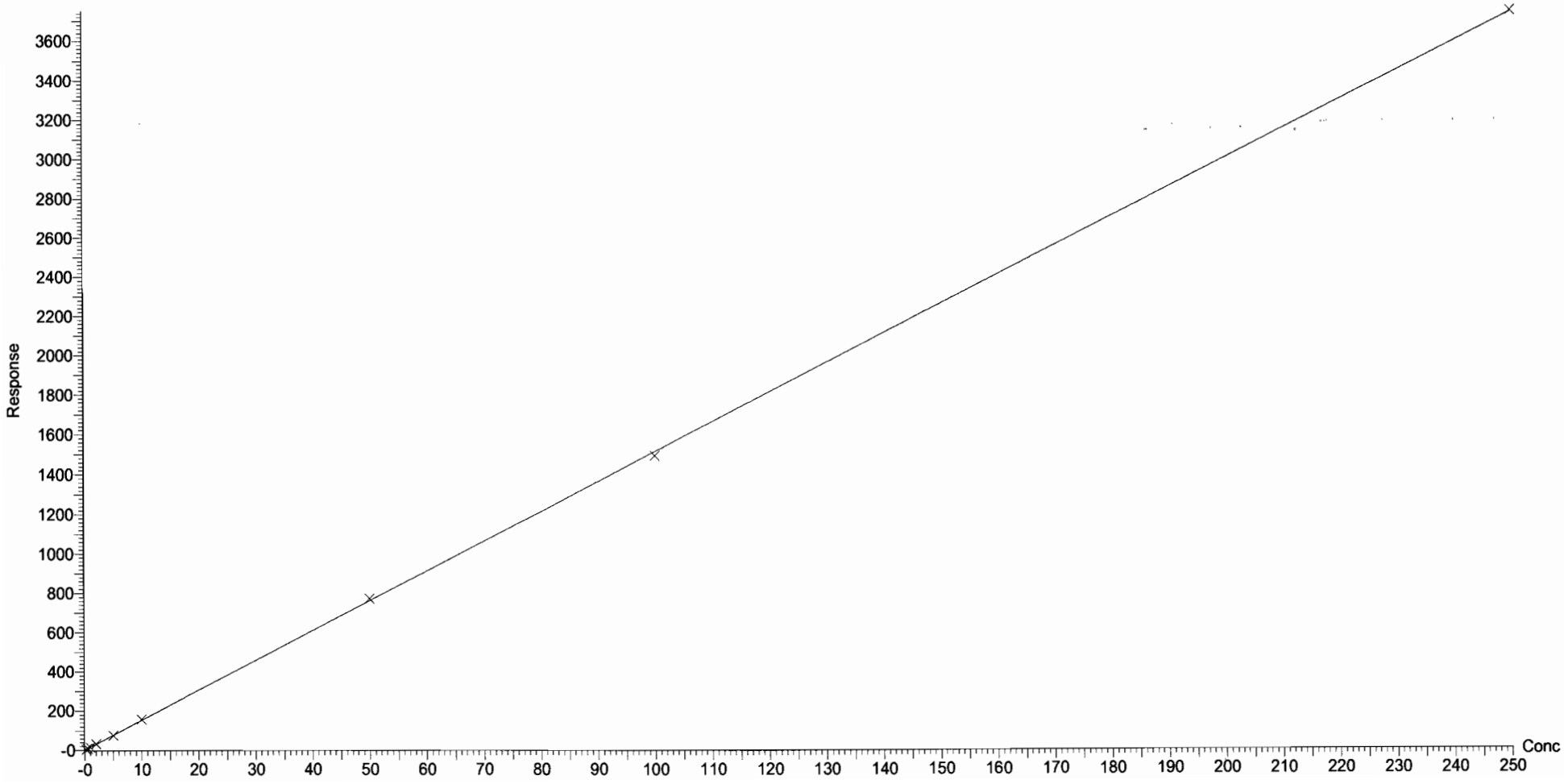
Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999878
Calibration curve: -0.00407341 * x^2 + 19.807 * x + -0.260375
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

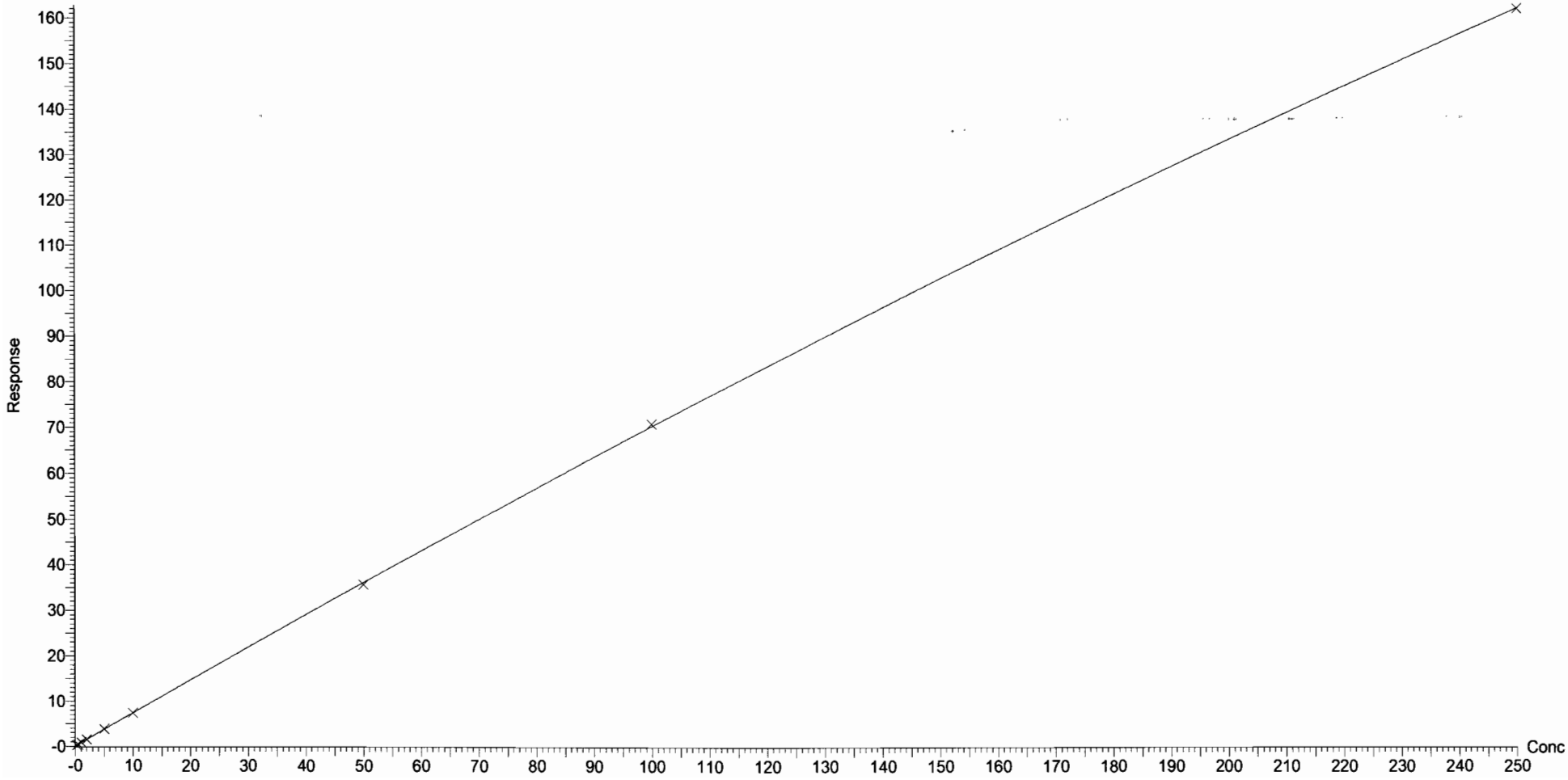
Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999787
Calibration curve: -0.00107779 * x^2 + 15.2465 * x + 0.807358
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

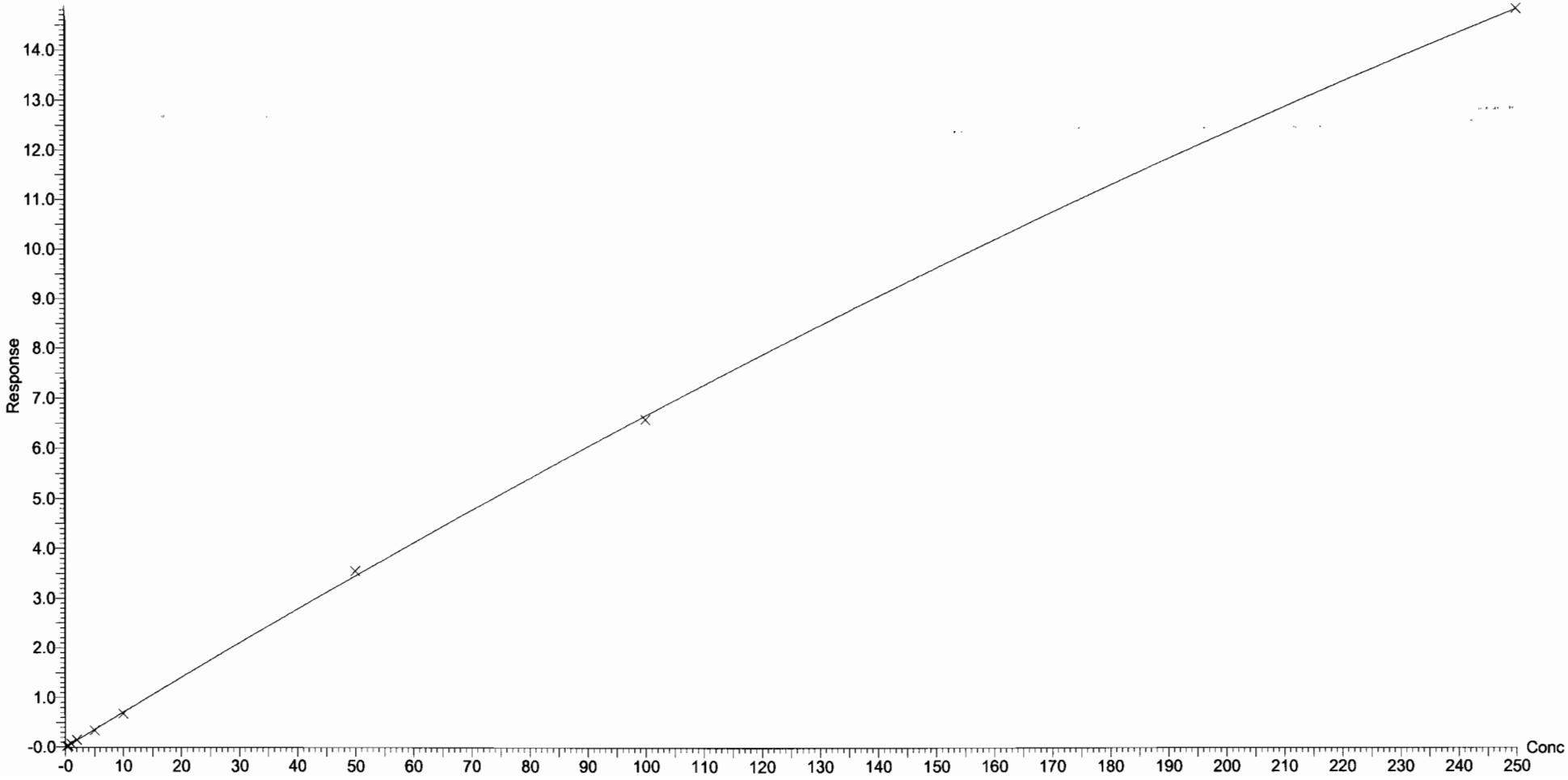
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999945
Calibration curve: -0.000352587 * x^2 + 0.738655 * x + 0.0923596
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

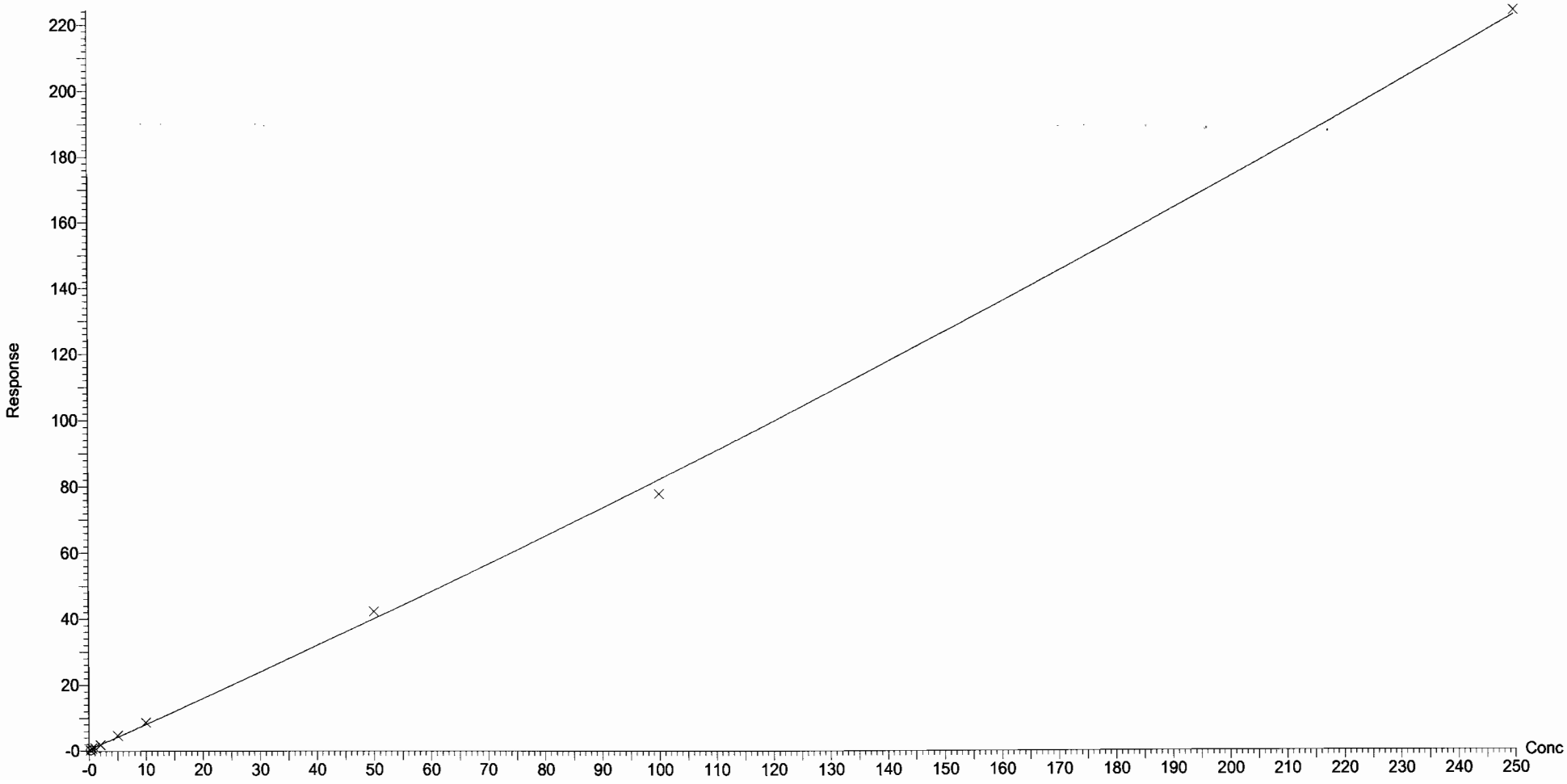
Compound name: PFDS
Coefficient of Determination: R^2 = 0.999598
Calibration curve: -4.79281e-005 * x^2 + 0.0714733 * x + -0.00107069
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.998624
Calibration curve: 0.000483062 * x^2 + 0.770384 * x + 0.341437
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

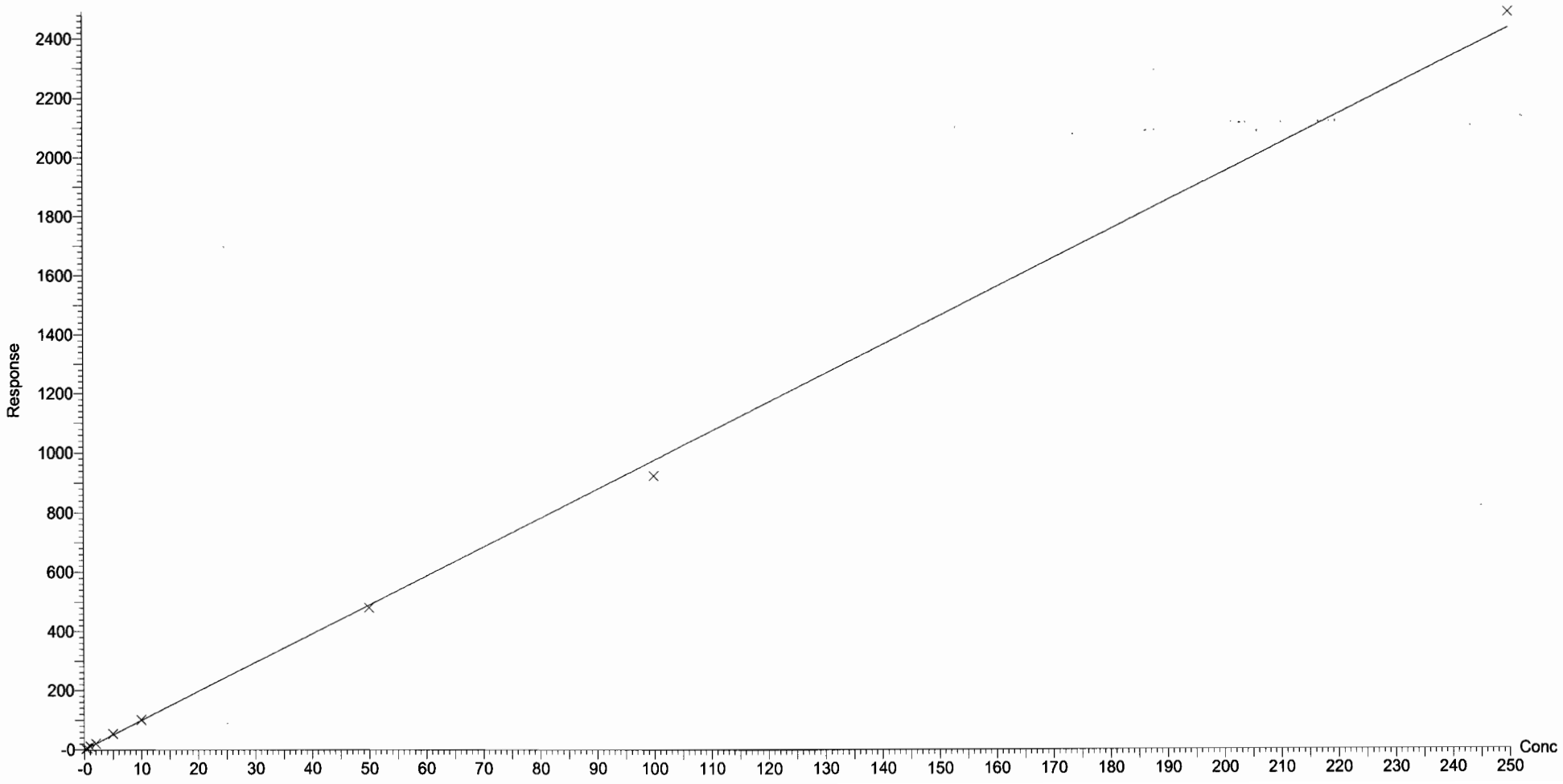


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

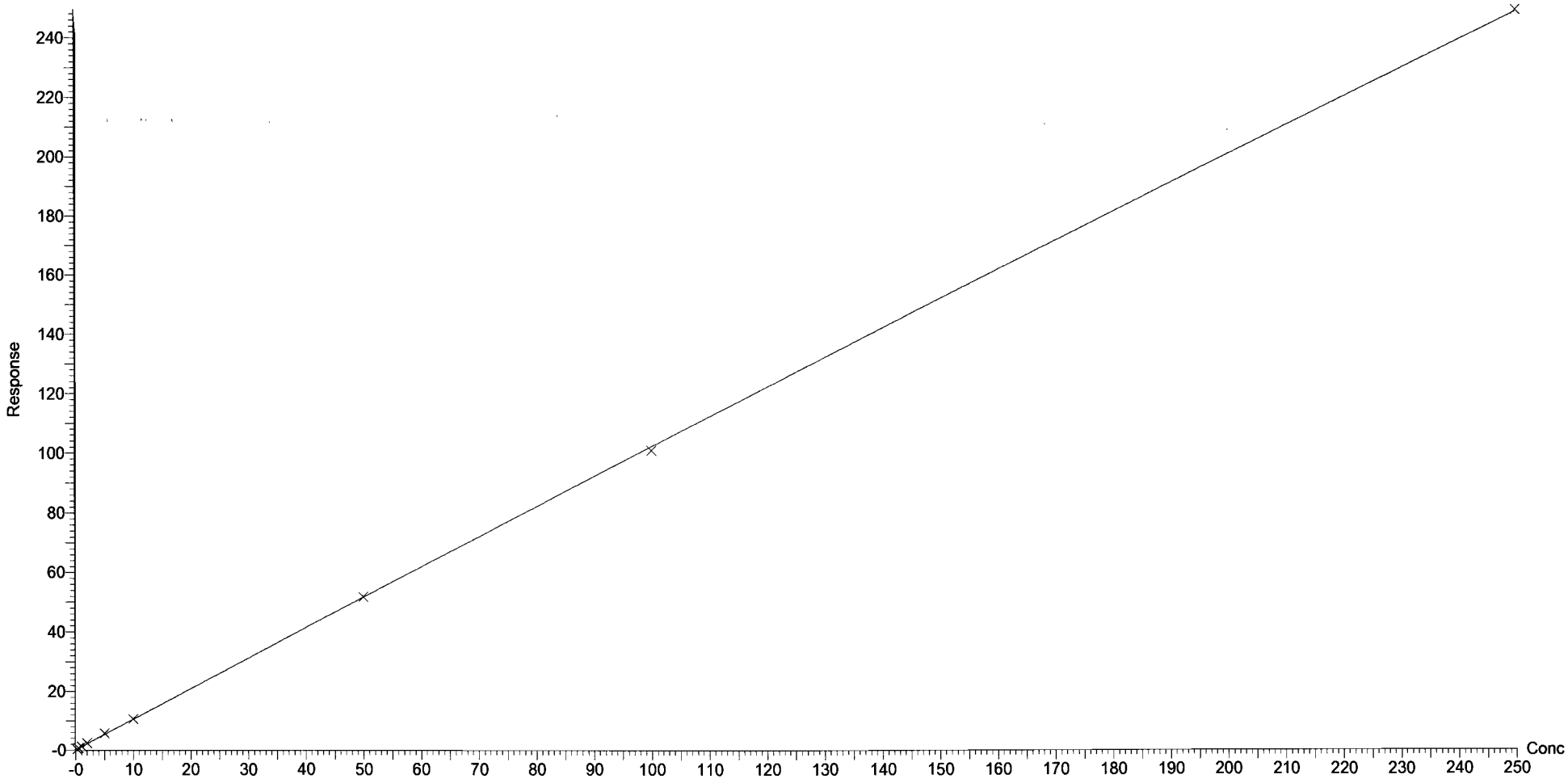
Compound name: PFTrDA
Correlation coefficient: r = 0.999451, r^2 = 0.998903
Calibration curve: 9.7472 * x + 1.17215
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:06:31 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999741
Calibration curve: -0.000171677 * x^2 + 1.03861 * x + 0.13428
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

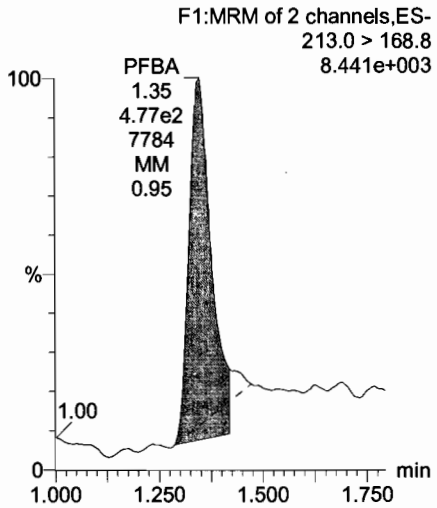
Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:05:49 Pacific Daylight Time

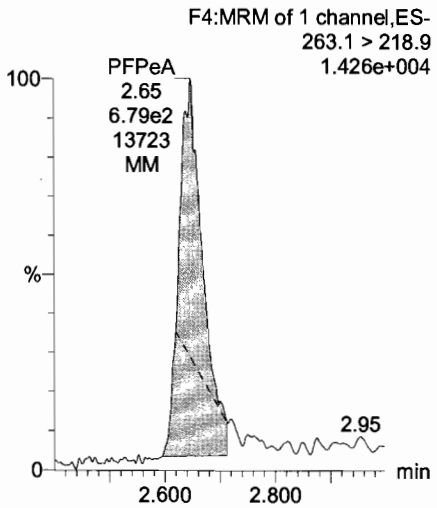
Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:05:03

Name: 170728M2_2, Date: 28-Jul-2017, Time: 16:20:47, ID: ST170728M2-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824

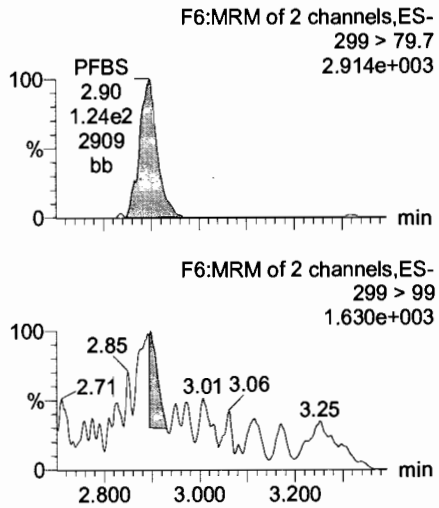
PFBA



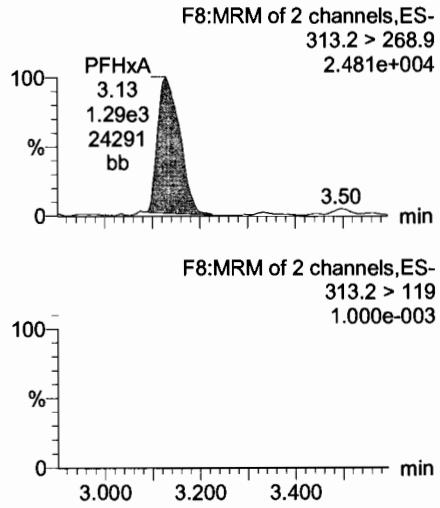
PFPeA



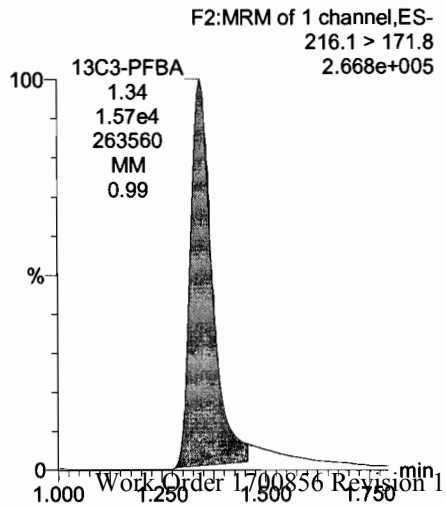
PFBS



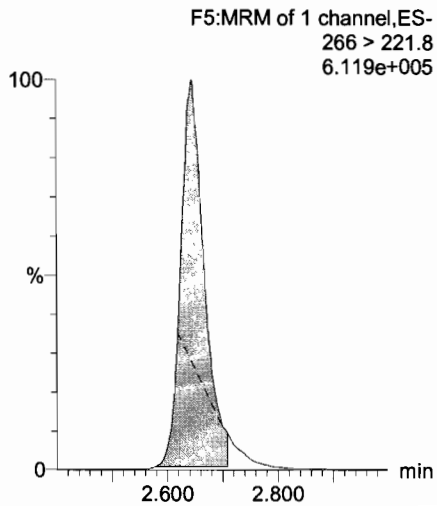
PFHxA



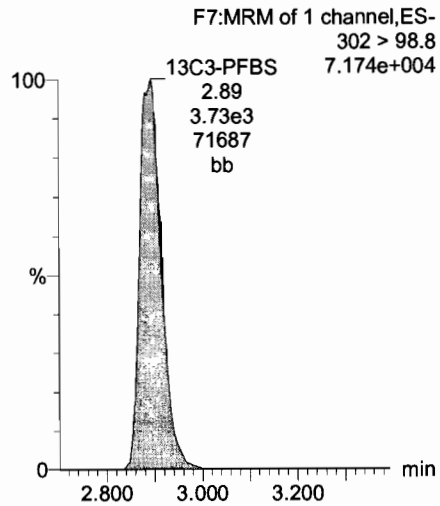
13C3-PFBA



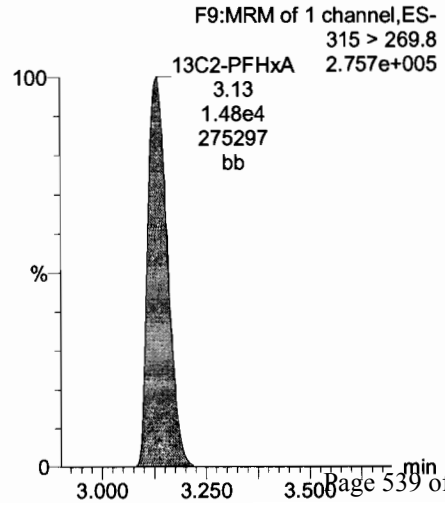
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

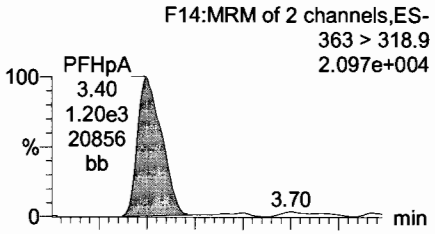


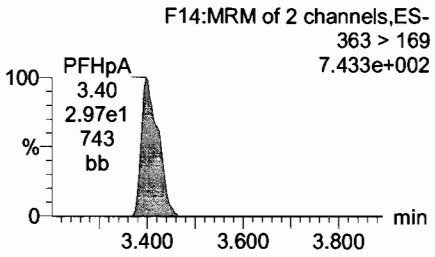
Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:05:49 Pacific Daylight Time

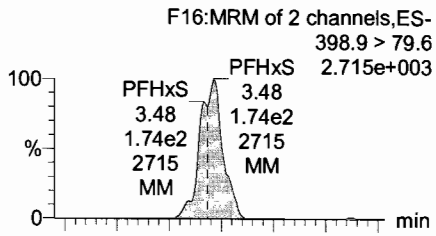
Name: 170728M2_2, Date: 28-Jul-2017, Time: 16:20:47, ID: ST170728M2-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824

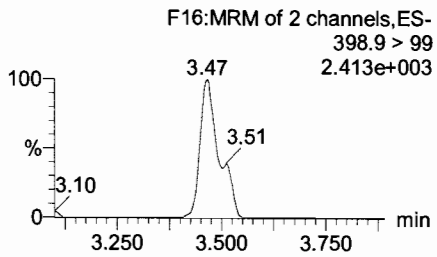
PFHpA



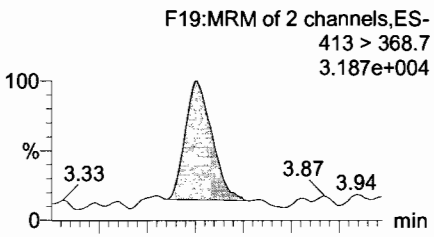


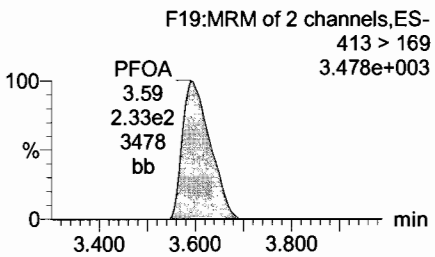
Total PFHxS



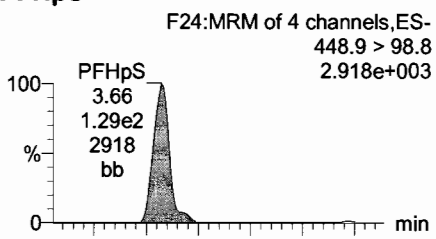


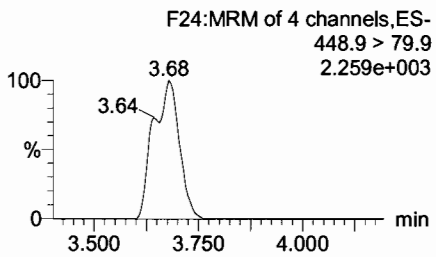
Total PFOA



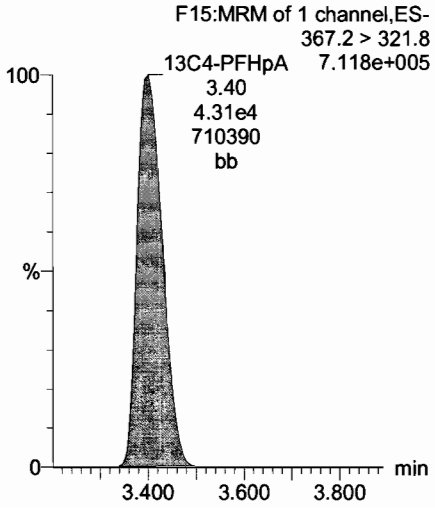


PFHpS

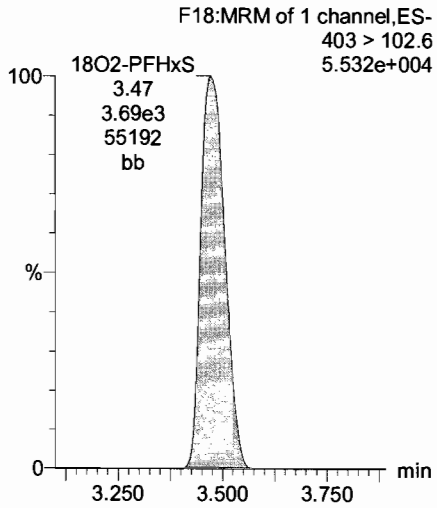




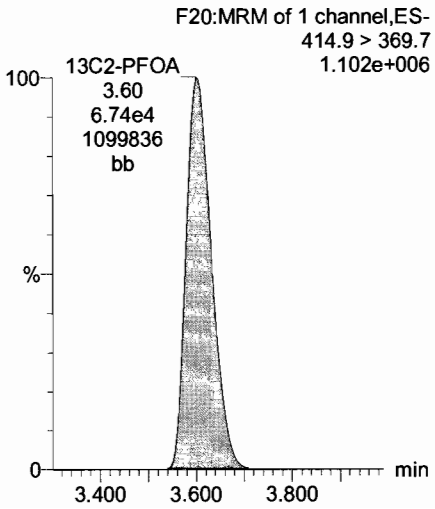
13C4-PFHpA



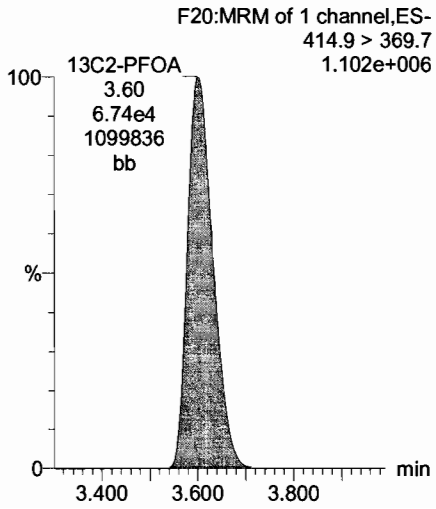
18O2-PFHxS



13C2-PFOA



13C2-PFOA



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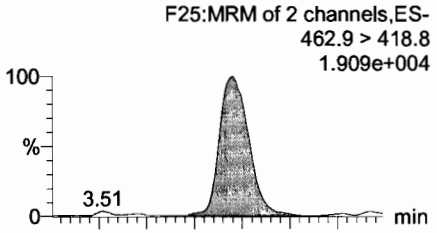
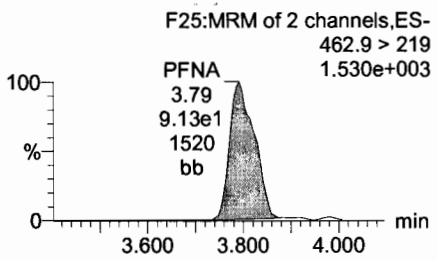
Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:05:49 Pacific Daylight Time

Name: 170728M2_2, Date: 28-Jul-2017, Time: 16:20:47, ID: ST170728M2-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824

PFNA





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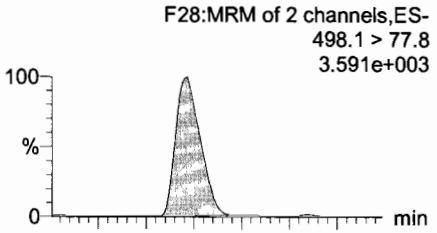

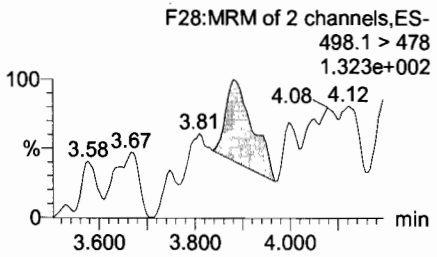

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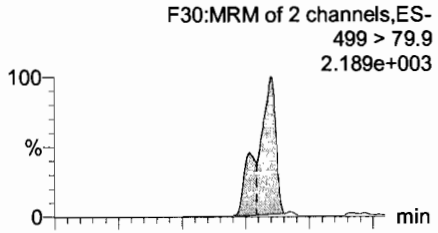

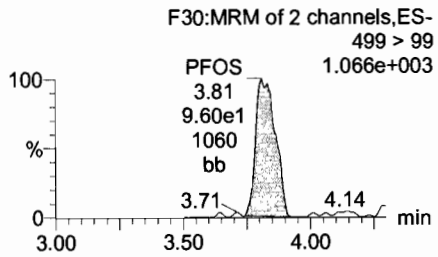

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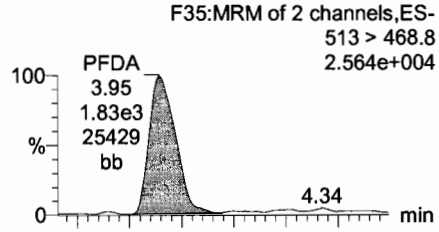
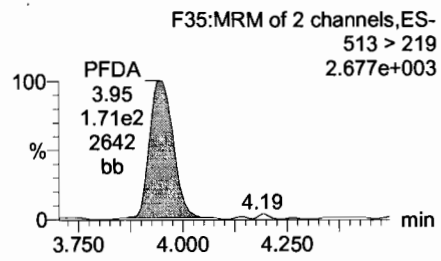
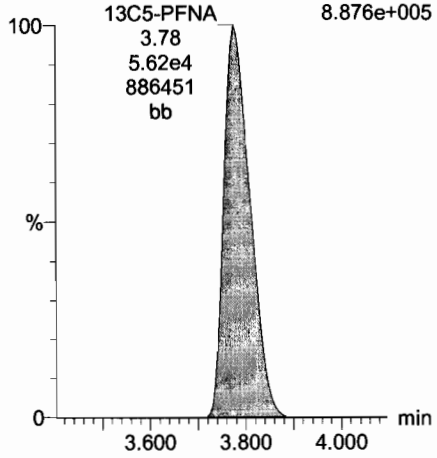
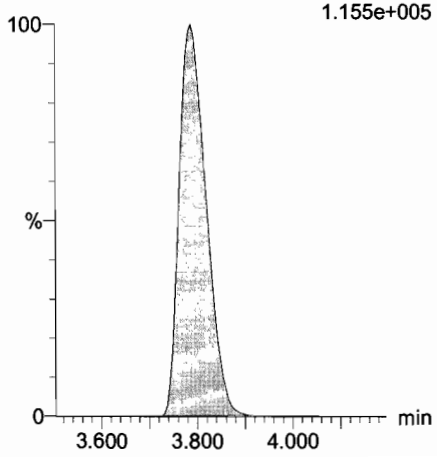




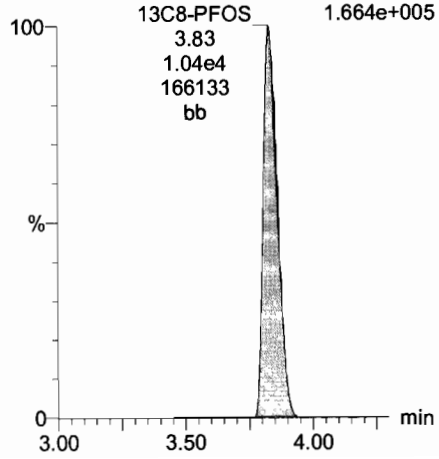
13C5-PFNA



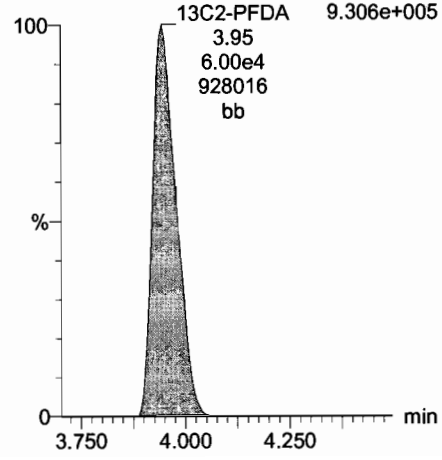
13C8-PFOSA



13C8-PFOS



13C2-PFDA



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Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
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Name: 170728M2_2, Date: 28-Jul-2017, Time: 16:20:47, ID: ST170728M2-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824

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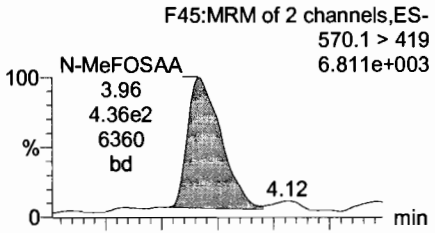

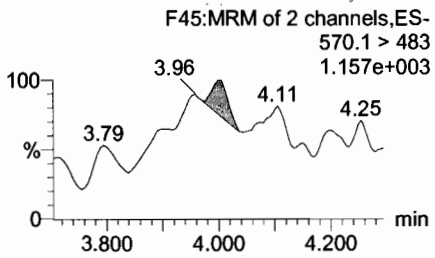

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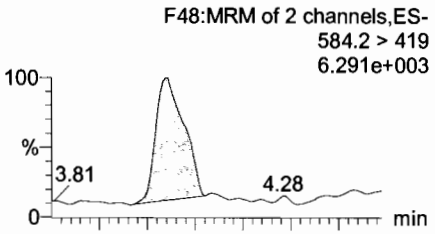

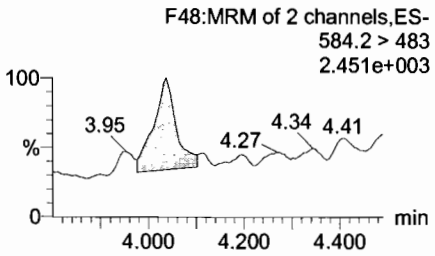

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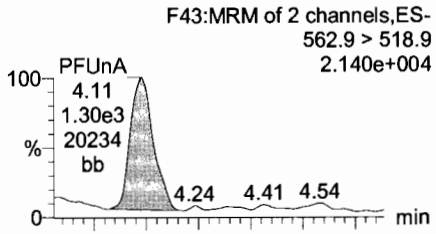

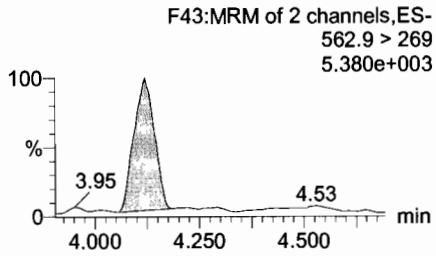

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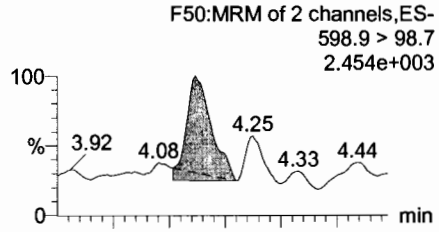

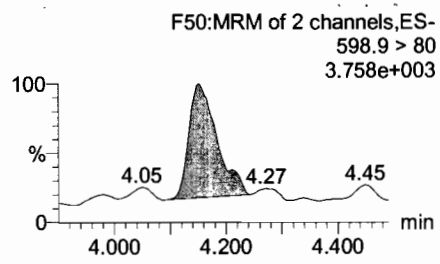

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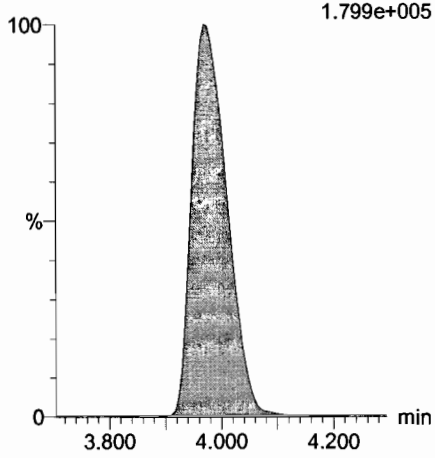
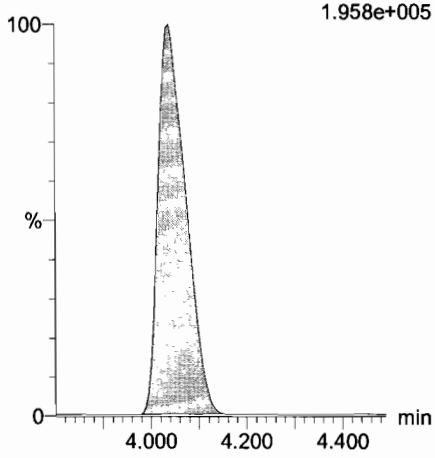
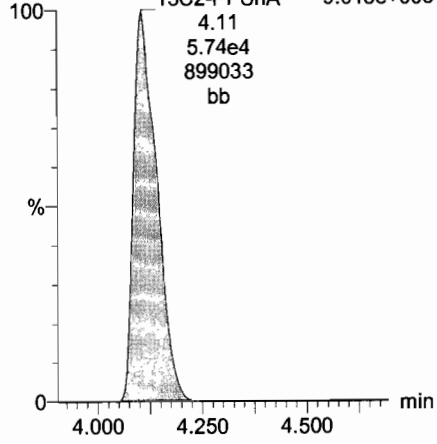


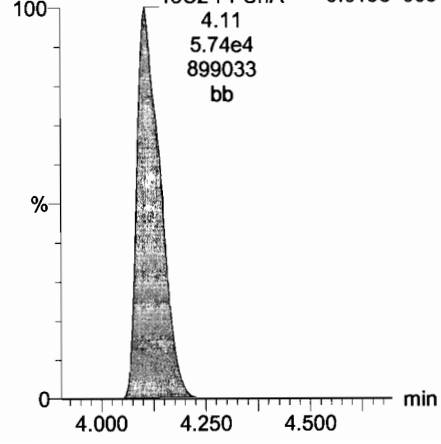
d5-N-EtFOSAA



13C2-PFUnA



13C2-PFUnA



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Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
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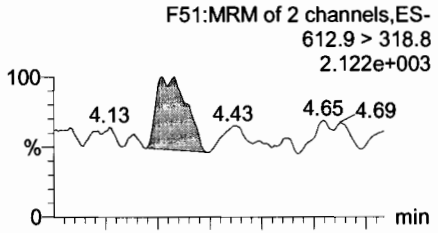
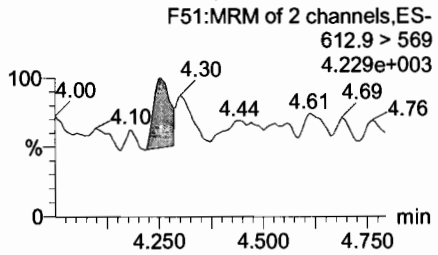
Name: 170728M2_2, Date: 28-Jul-2017, Time: 16:20:47, ID: ST170728M2-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824

PFDoA





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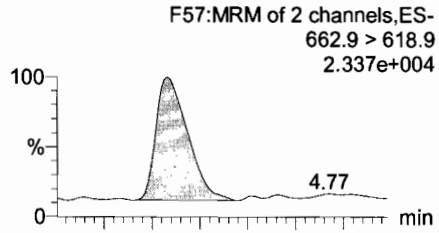

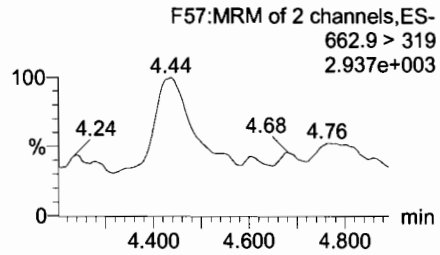

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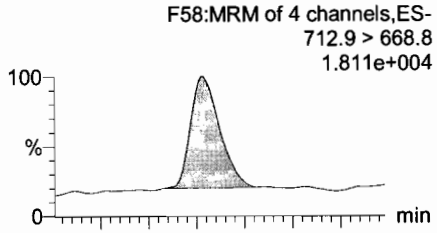
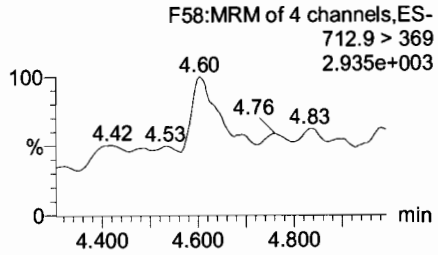
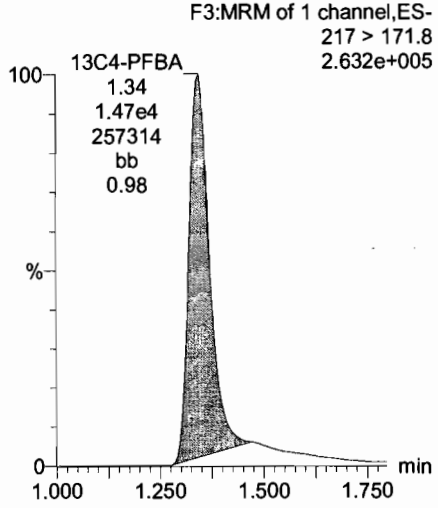
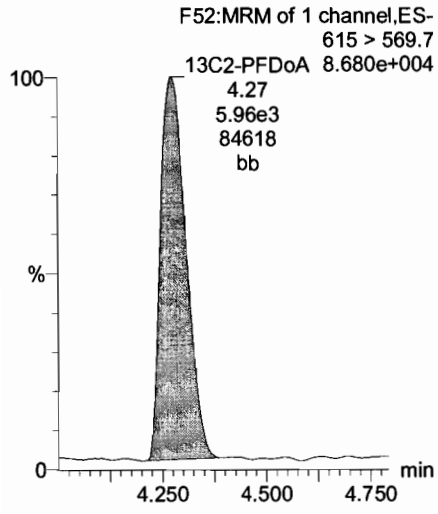




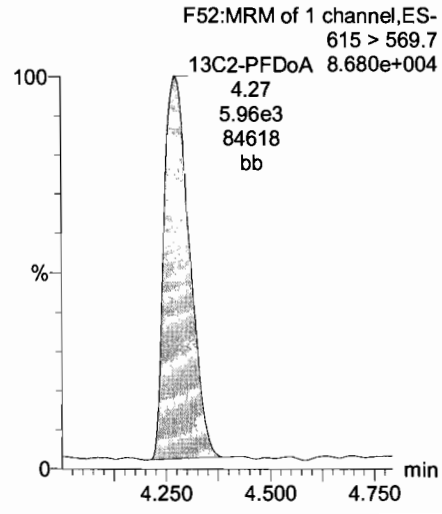
13C4-PFBA



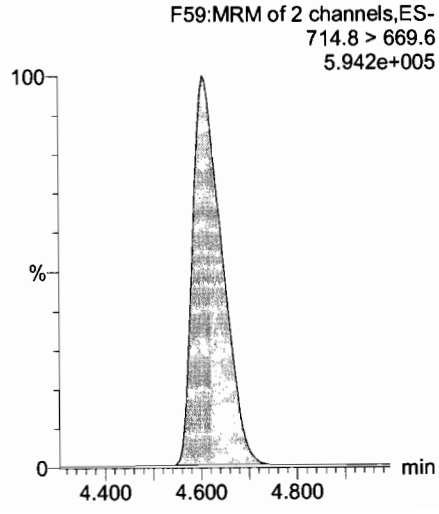
13C2-PFDoA



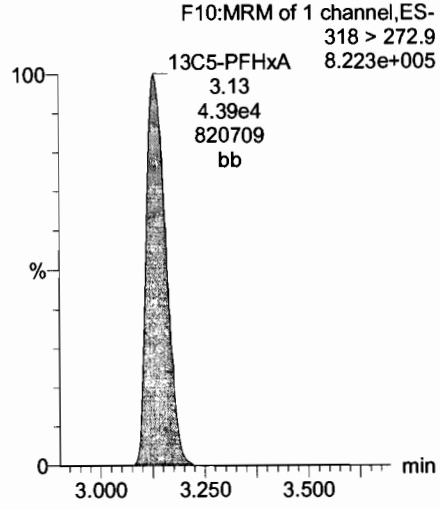
13C2-PFDoA



13C2-PFTeDA



13C5-PFHxA



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Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
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Name: 170728M2_2, Date: 28-Jul-2017, Time: 16:20:47, ID: ST170728M2-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824

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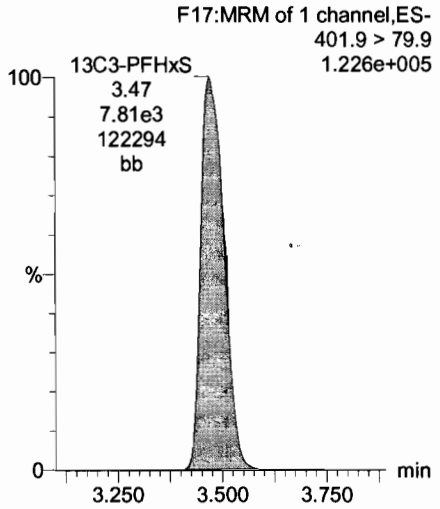

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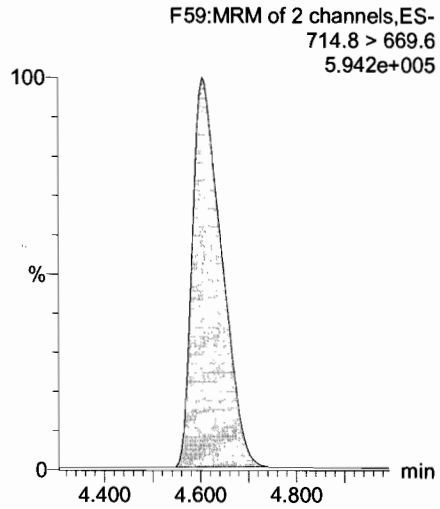
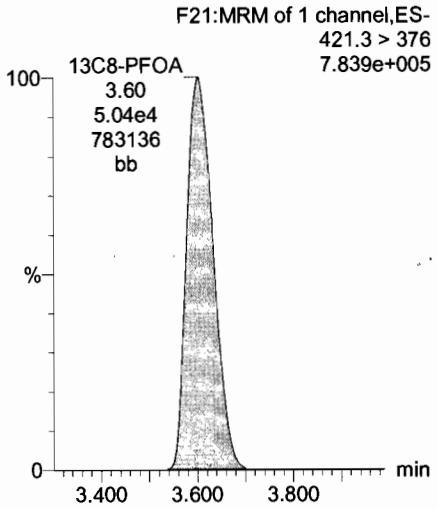
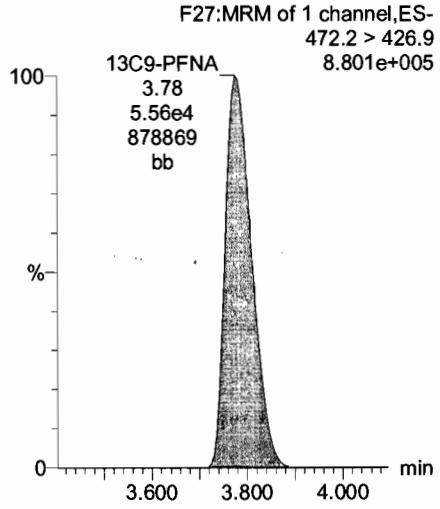


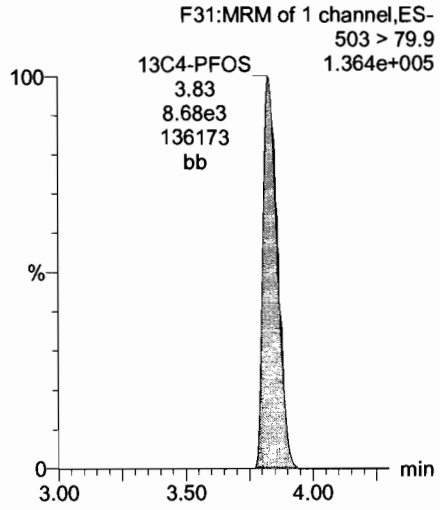
13C8-PFOA



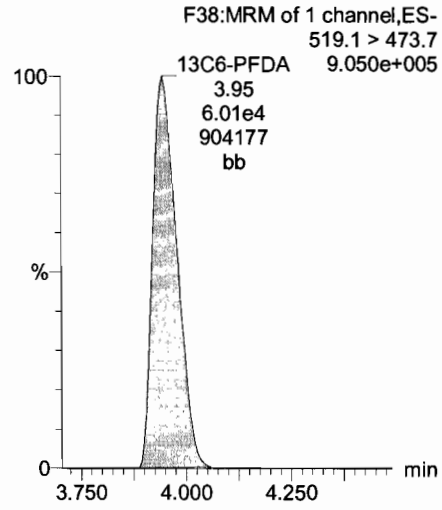
13C9-PFNA



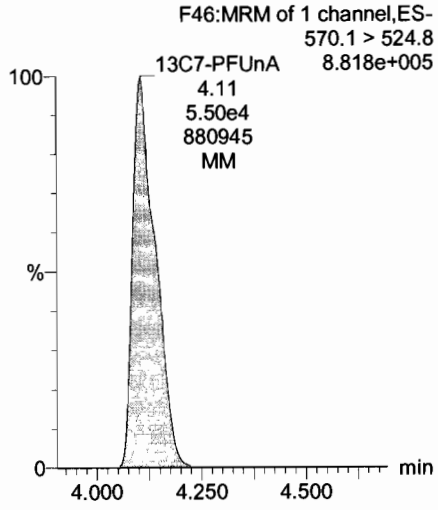
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
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Name: 170728M2_3, Date: 28-Jul-2017, Time: 16:31:32, ID: ST170728M2-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825

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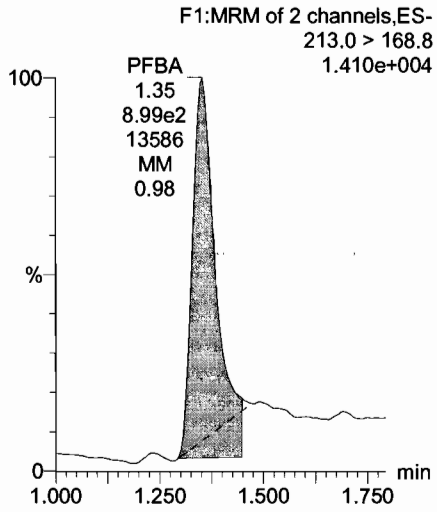

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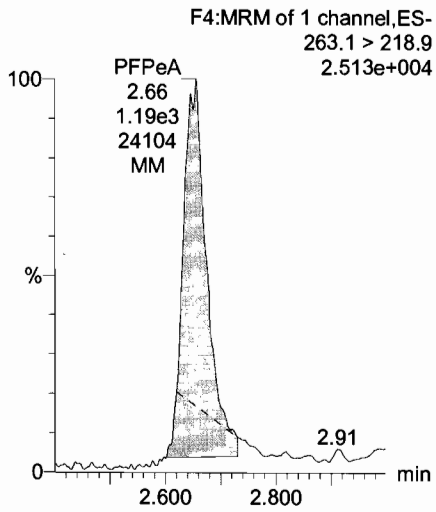

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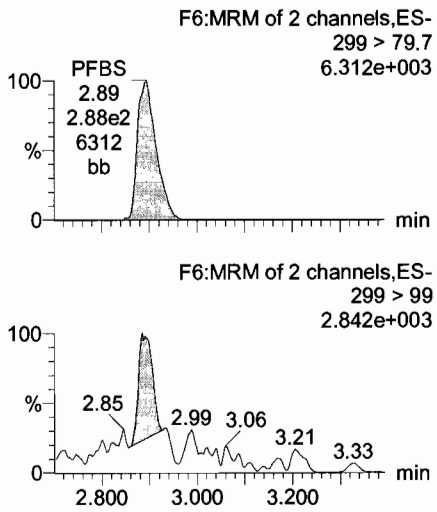

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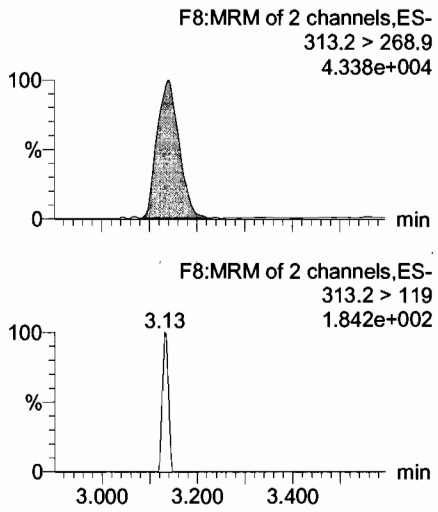

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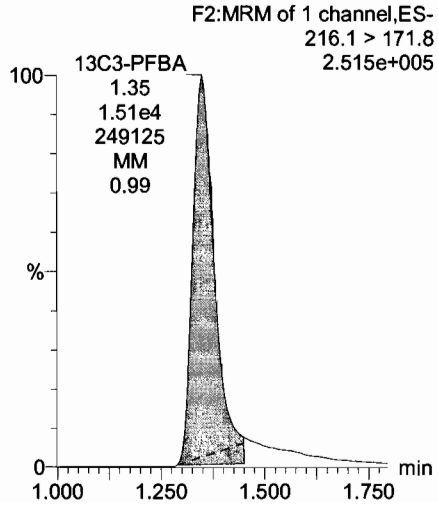

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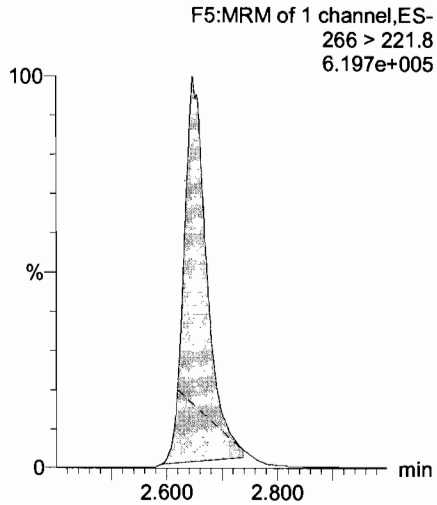

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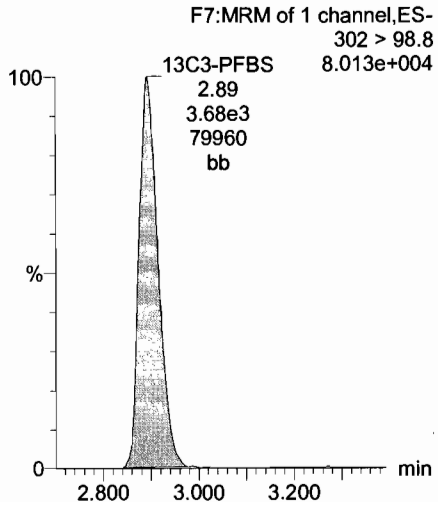
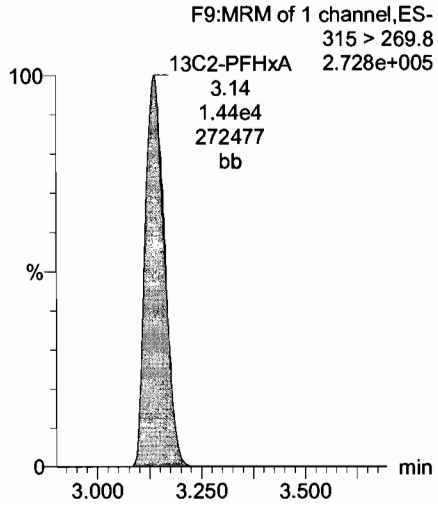


13C2-PFHxA



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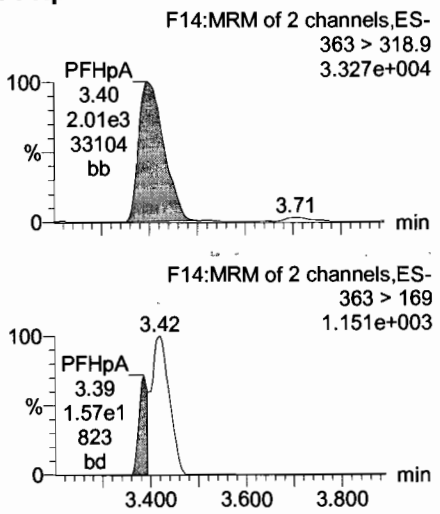
Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:05:49 Pacific Daylight Time

Name: 170728M2_3, Date: 28-Jul-2017, Time: 16:31:32, ID: ST170728M2-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825

PFHpA



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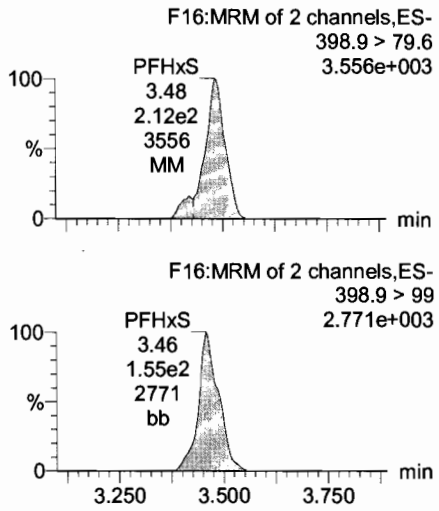
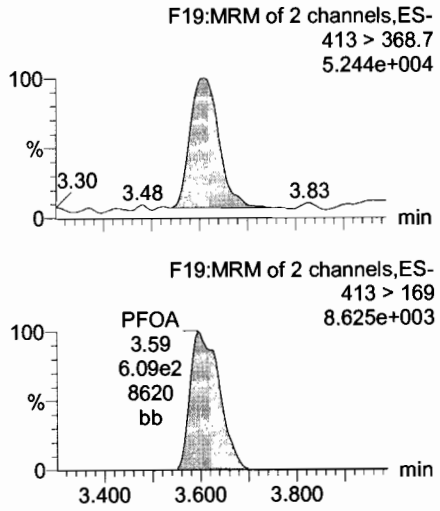
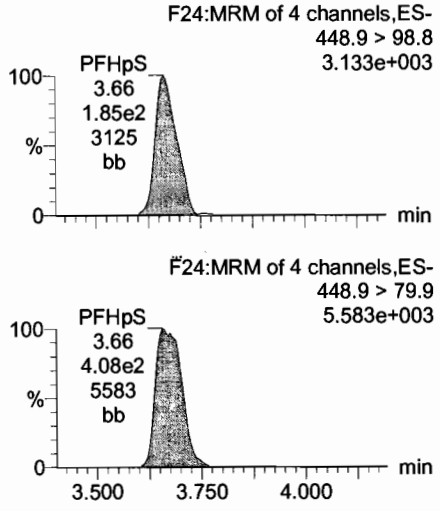


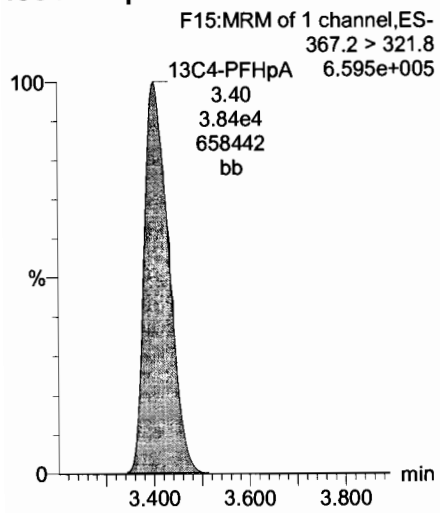
Total PFOA



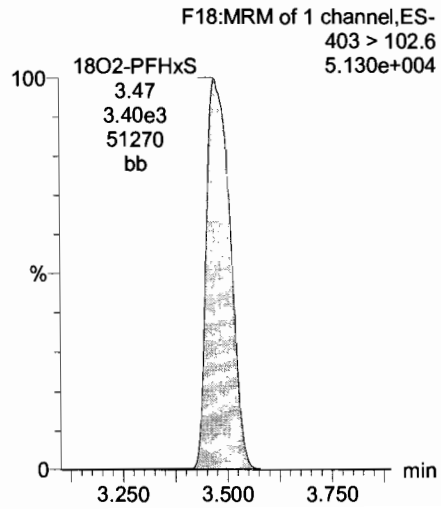
PFHpS



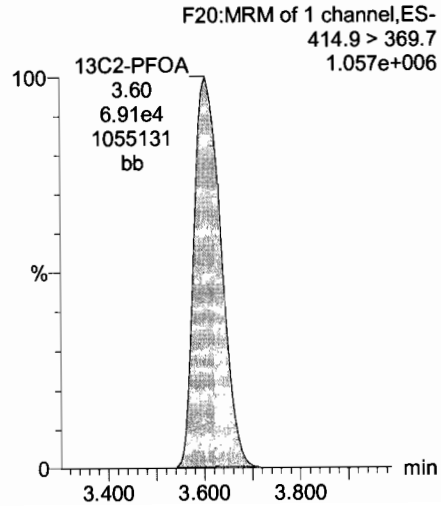
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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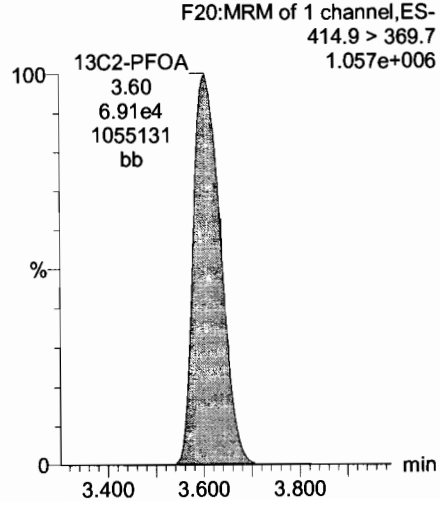

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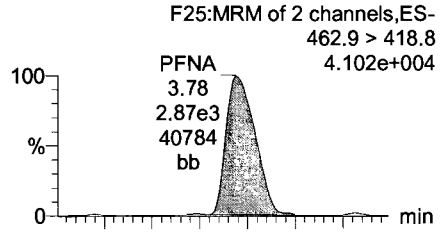
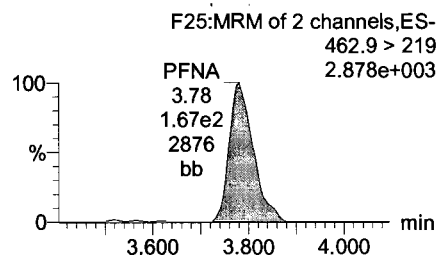
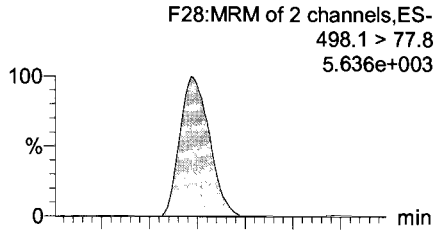
Name: 170728M2_3, Date: 28-Jul-2017, Time: 16:31:32, ID: ST170728M2-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825

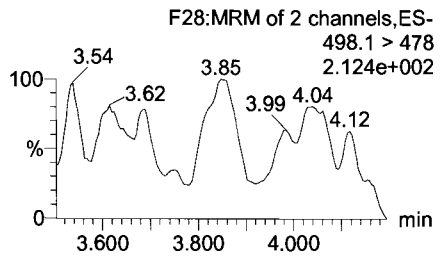
PFNA





PFOSA





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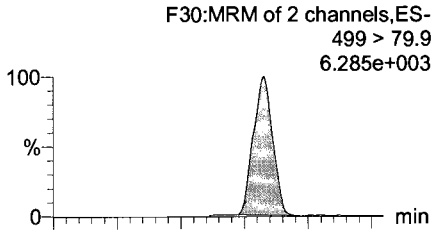

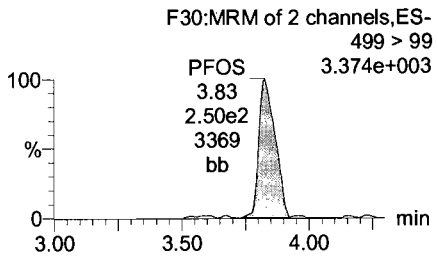

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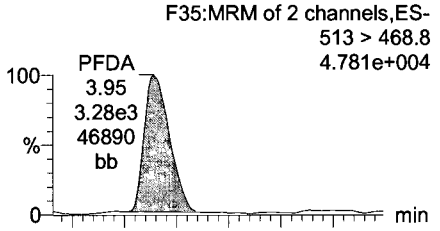
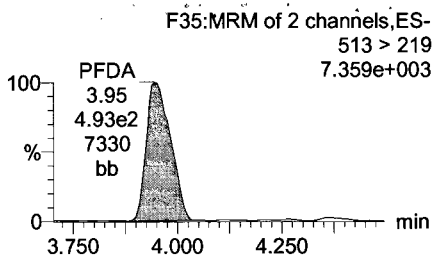
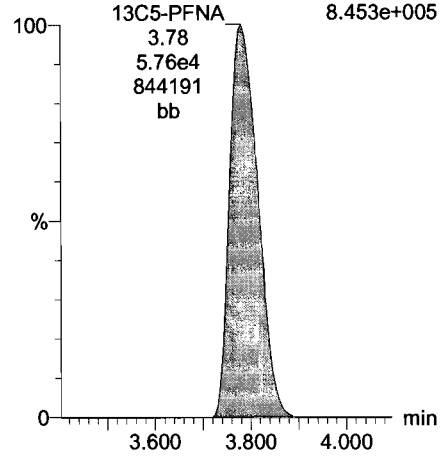
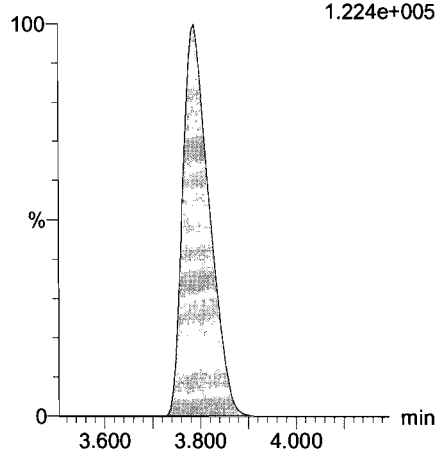




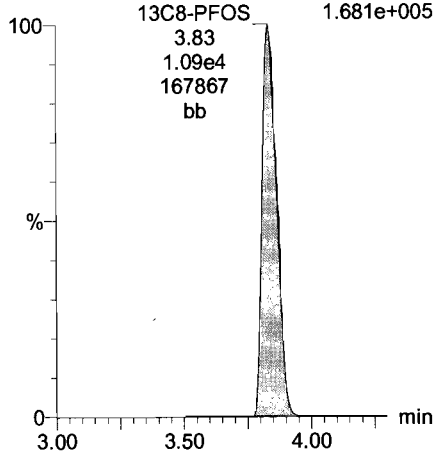
13C5-PFNA



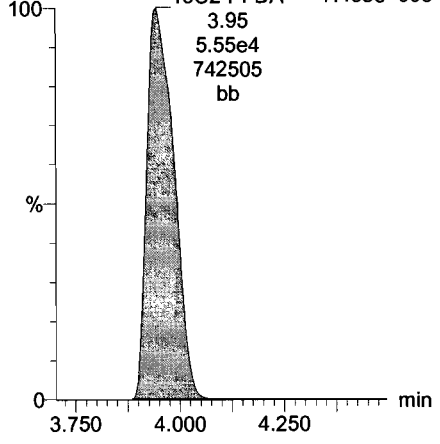
13C8-PFOSA



13C8-PFOS



13C2-PFDA



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Name: 170728M2_3, Date: 28-Jul-2017, Time: 16:31:32, ID: ST170728M2-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825

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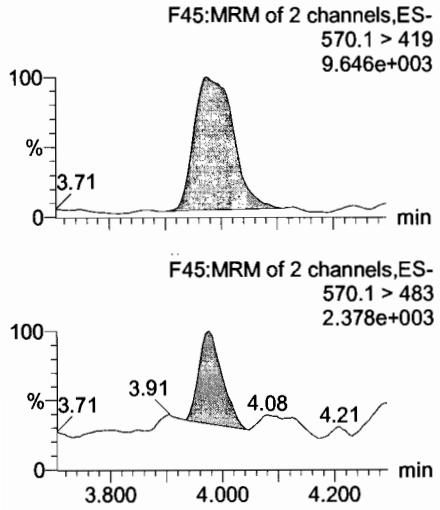

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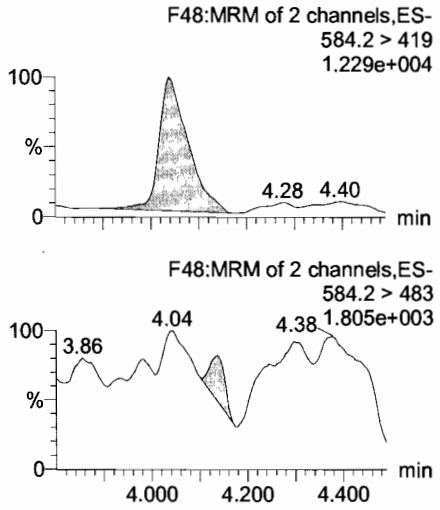
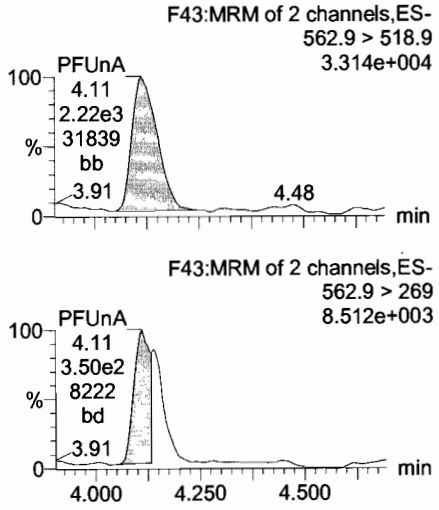


PFUnA



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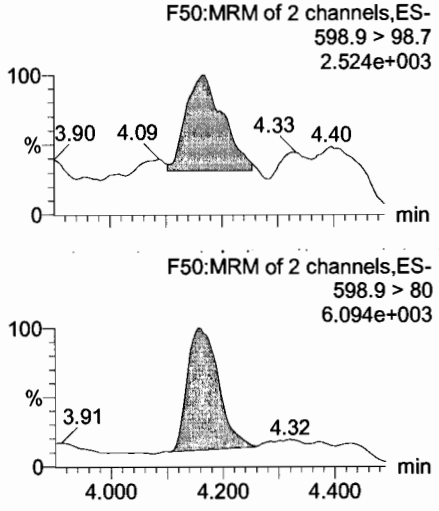

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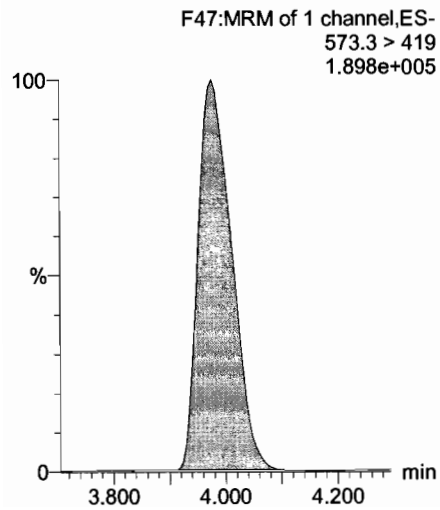

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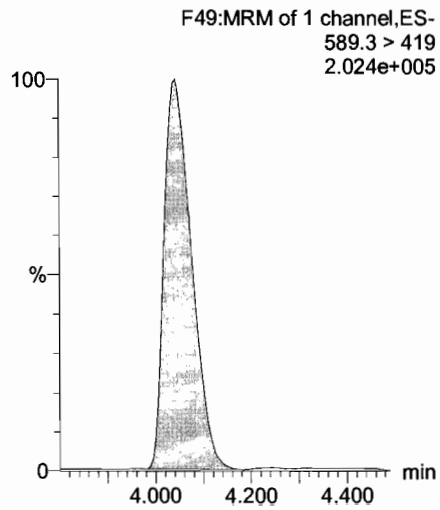
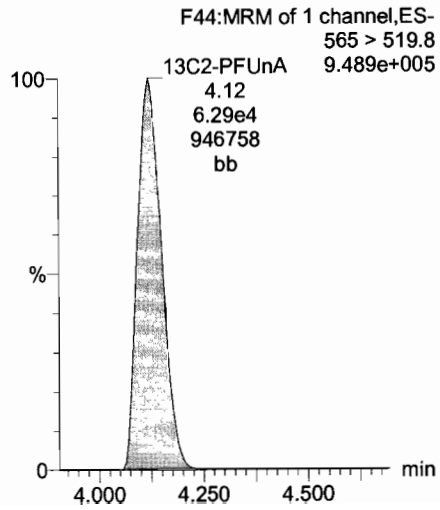


13C2-PFUnA



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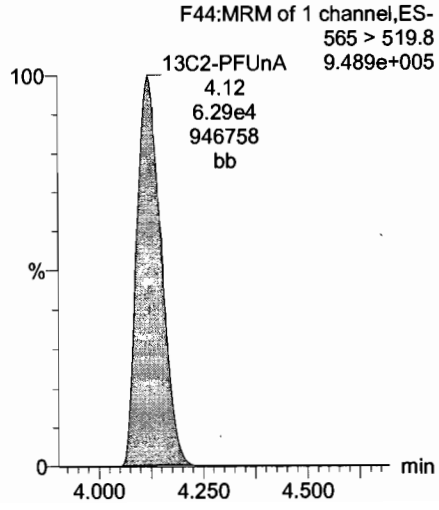

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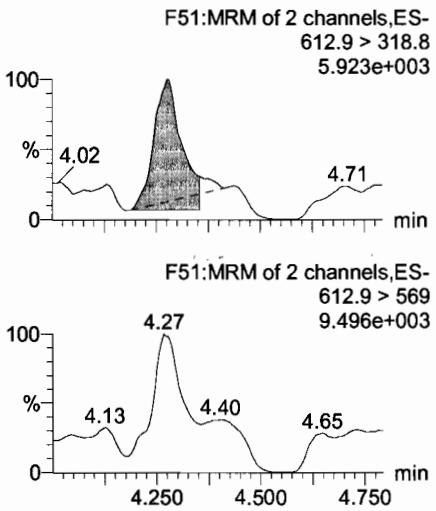
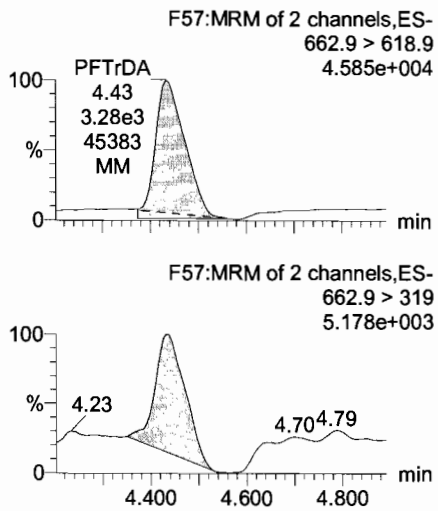
Name: 170728M2_3, Date: 28-Jul-2017, Time: 16:31:32, ID: ST170728M2-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825

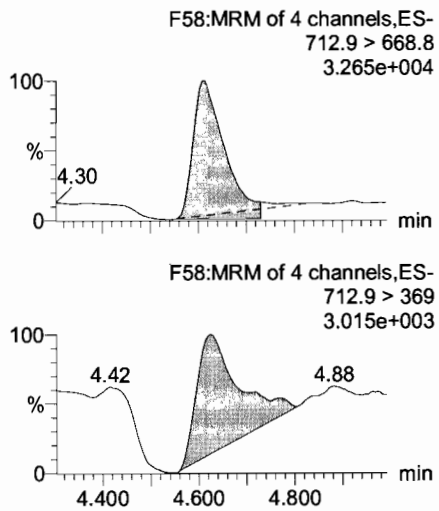
PFDoA



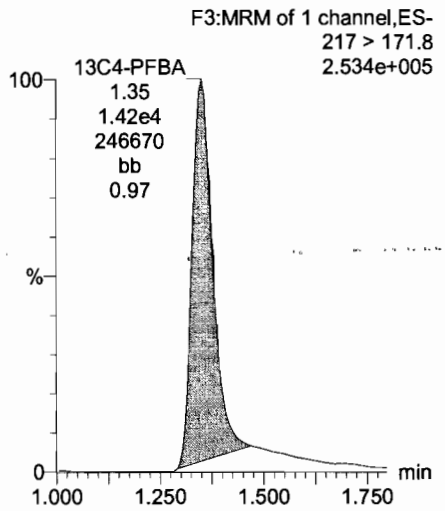
PFTrDA



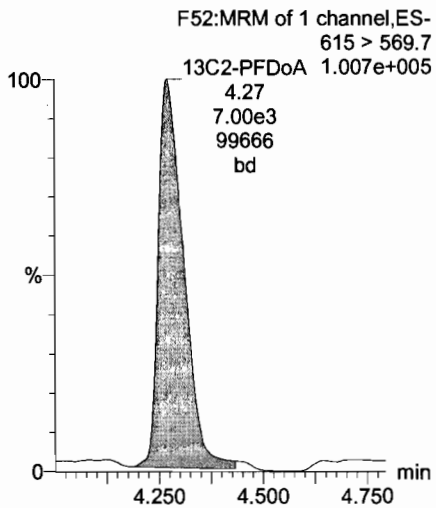
PFTeDA



13C4-PFBA



13C2-PFDoA



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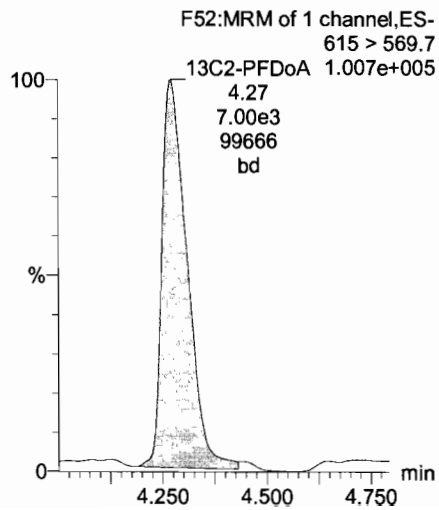
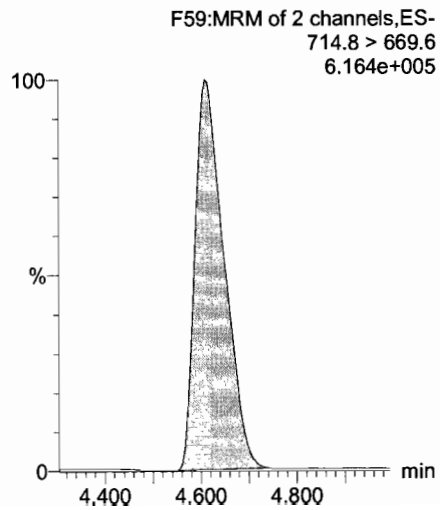
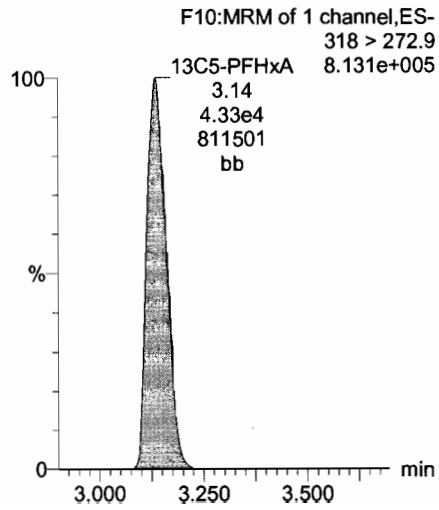


13C2-PFTeDA



13C5-PFHxA



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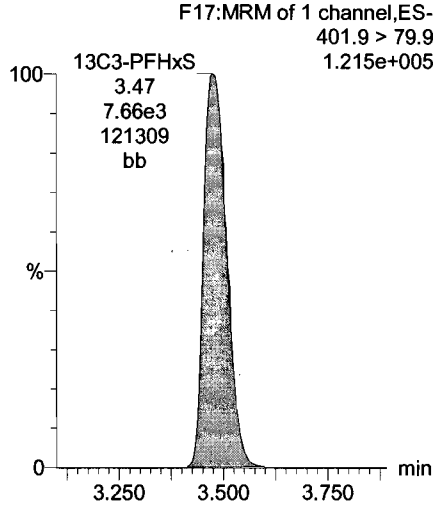
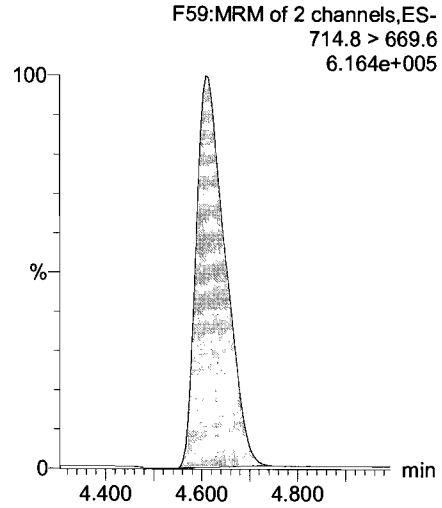
Name: 170728M2_3, Date: 28-Jul-2017, Time: 16:31:32, ID: ST170728M2-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825

13C3-PFHxS



13C2-PFTeDA



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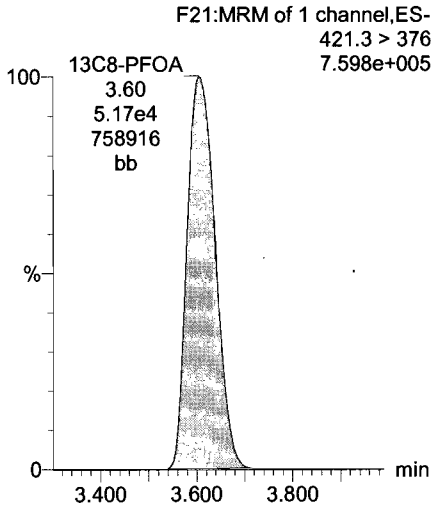
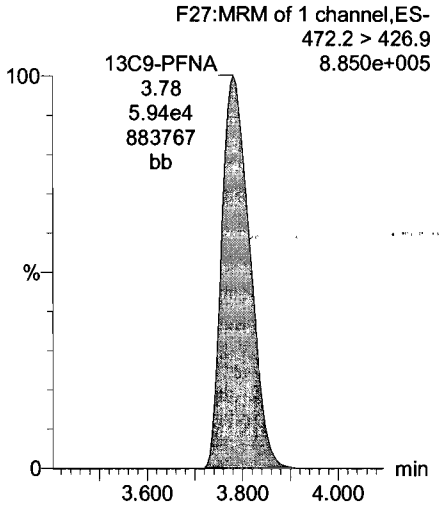
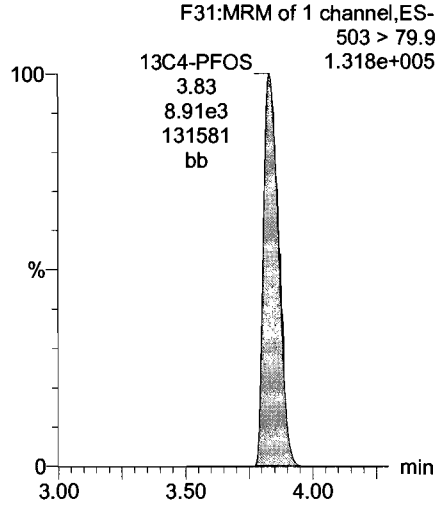


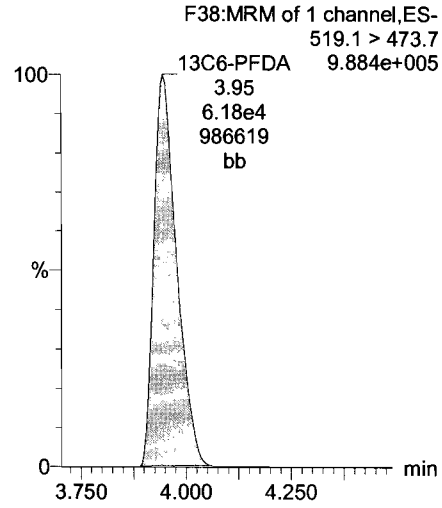
13C9-PFNA



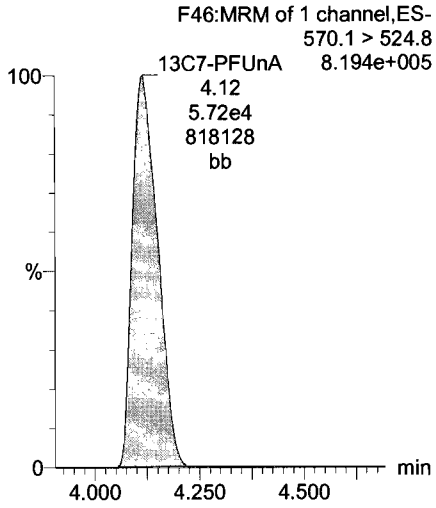
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Name: 170728M2_4, Date: 28-Jul-2017, Time: 16:42:11, ID: ST170728M2-3 PFC CS0 17G2826, Description: PFC CS0 17G2826

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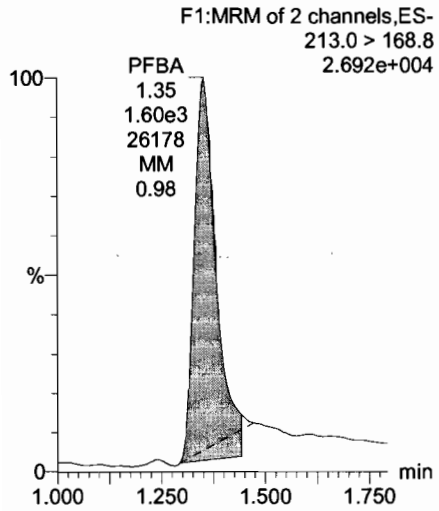

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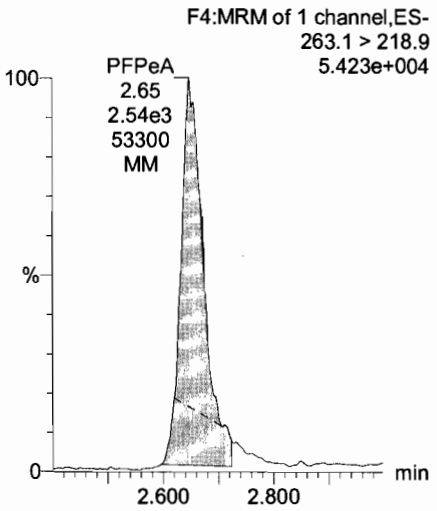

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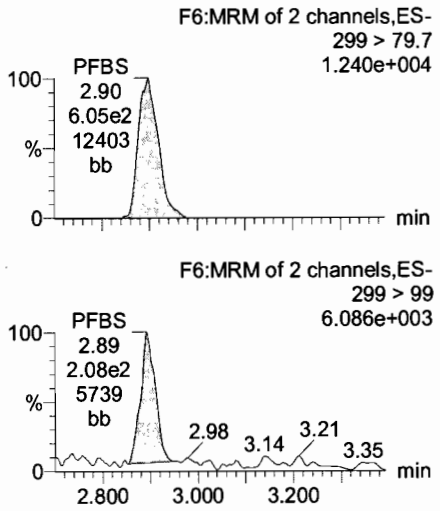
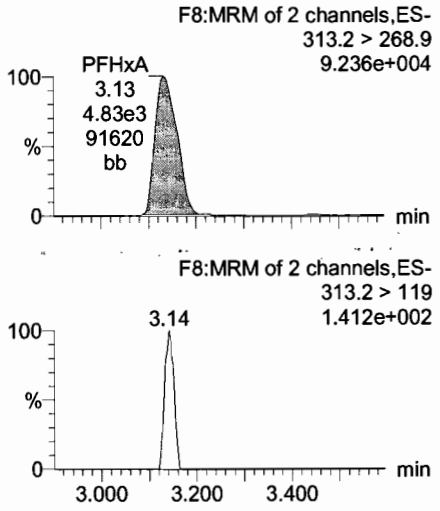
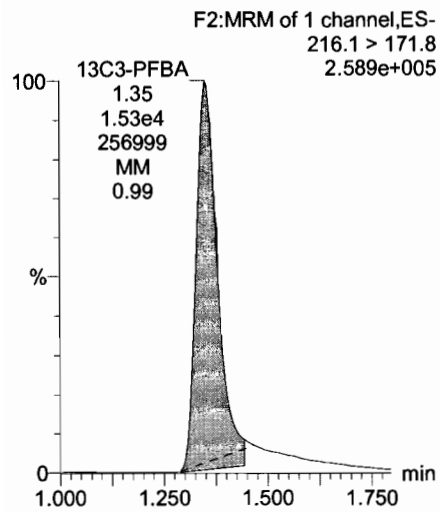


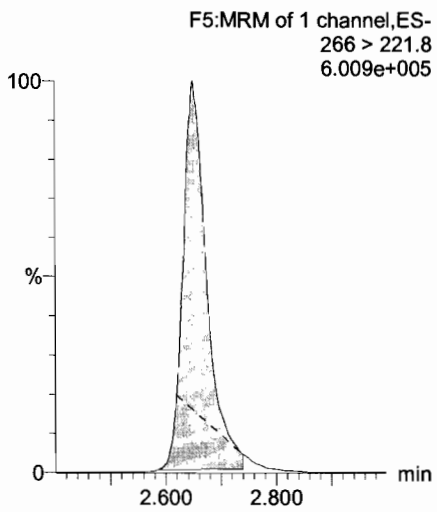
PFHxA



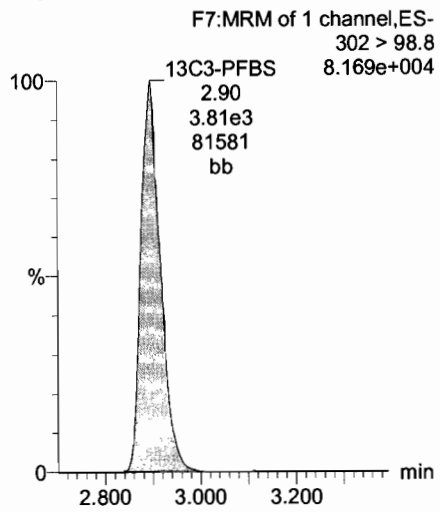
13C3-PFBA



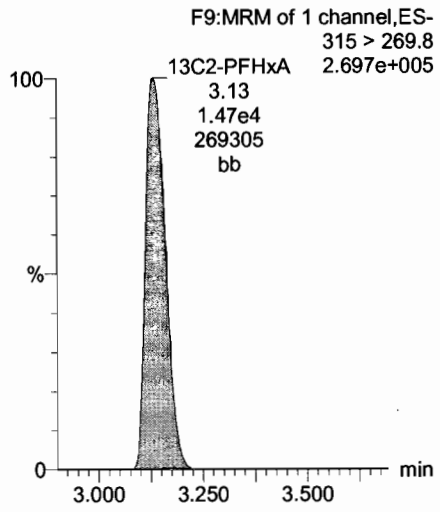
13C3-PFPeA



13C3-PFBS



13C2-PFHxA



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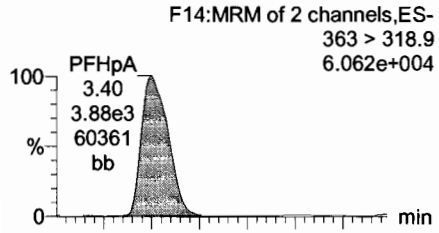
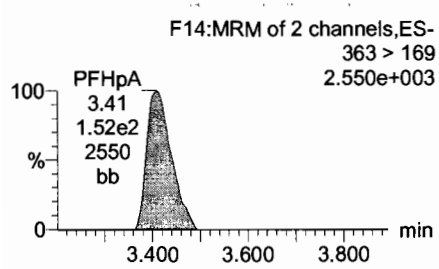
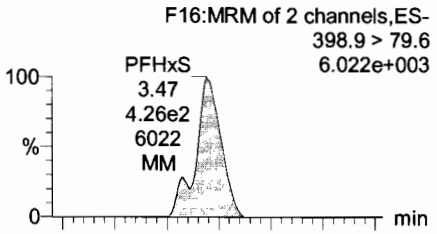
Name: 170728M2_4, Date: 28-Jul-2017, Time: 16:42:11, ID: ST170728M2-3 PFC CS0 17G2826, Description: PFC CS0 17G2826

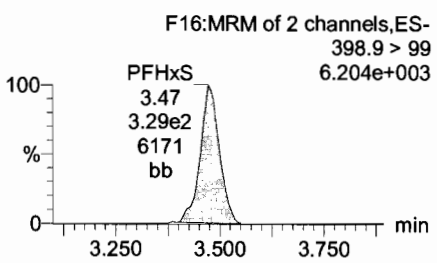
PFHpA



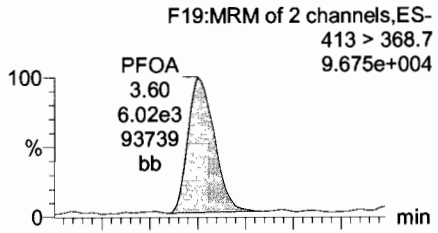


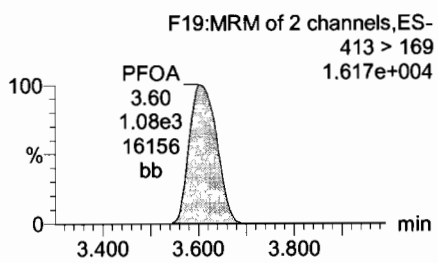
Total PFHxS



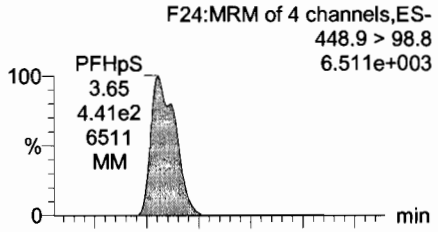


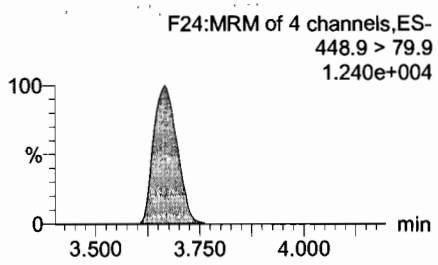
Total PFOA



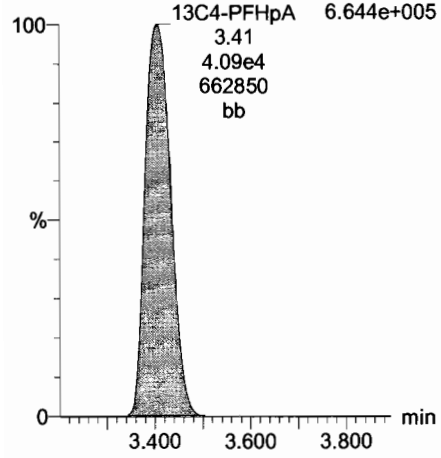


PFHpS

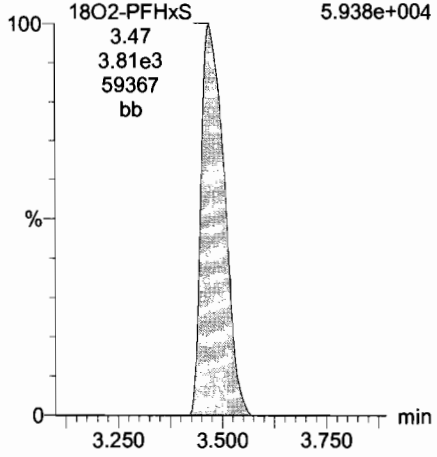




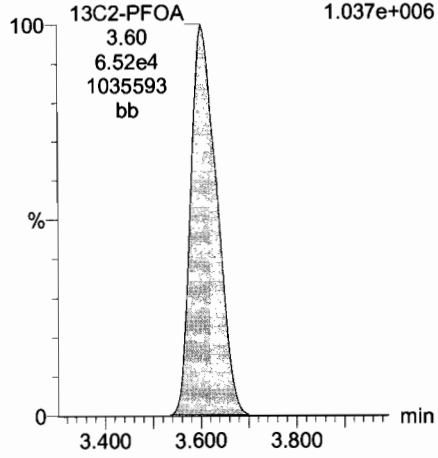
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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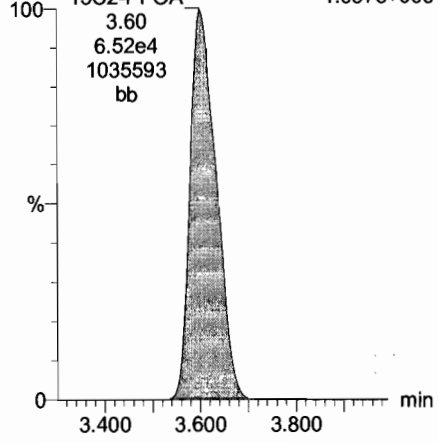

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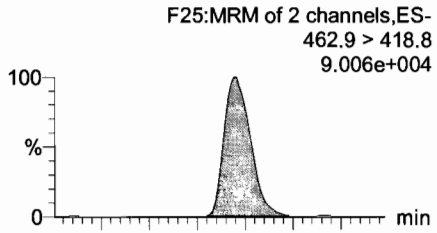
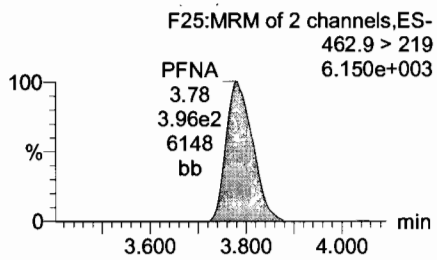
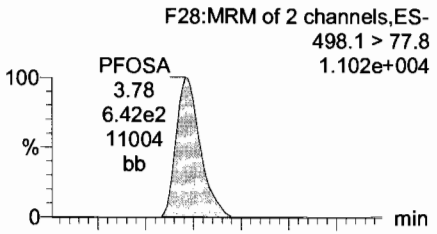
Name: 170728M2_4, Date: 28-Jul-2017, Time: 16:42:11, ID: ST170728M2-3 PFC CS0 17G2826, Description: PFC CS0 17G2826

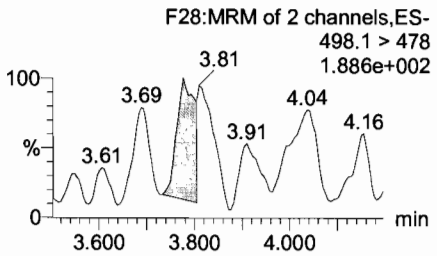
PFNA



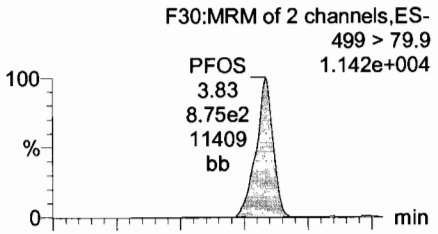


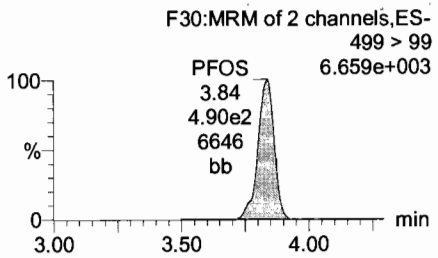
PFOSA



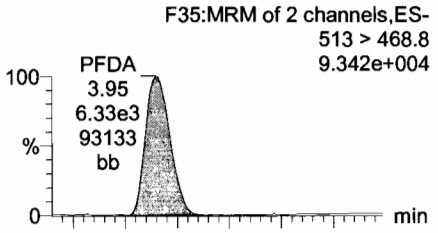


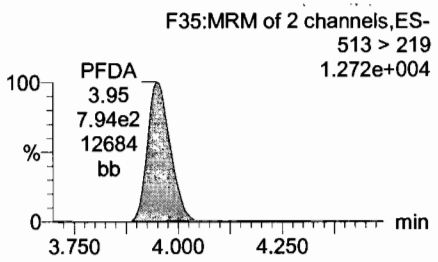
Total PFOS



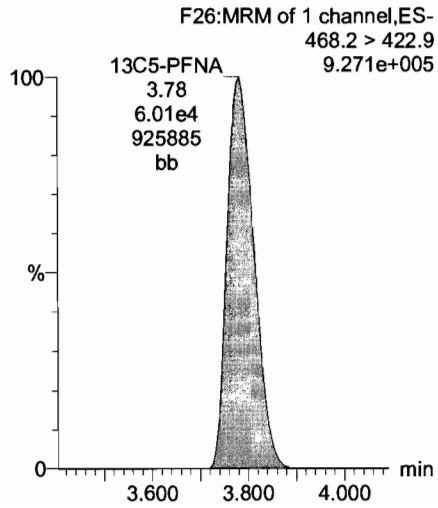


PFDA

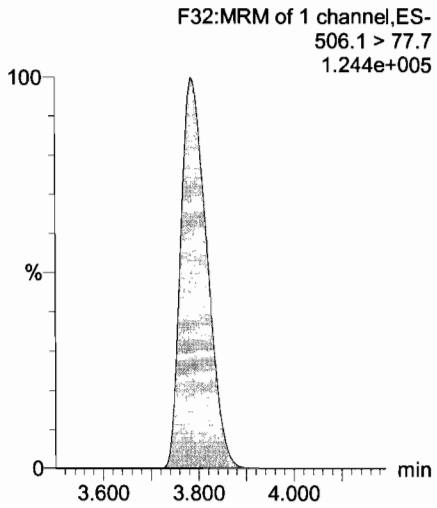




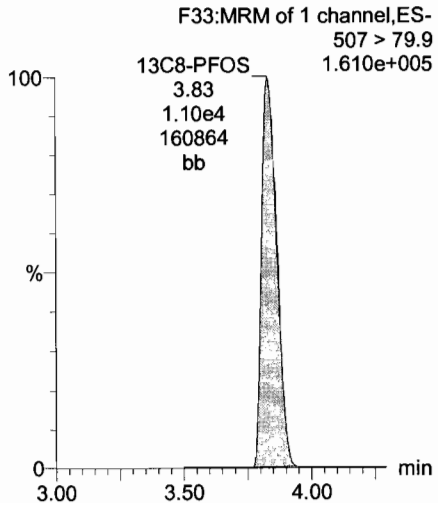
13C5-PFNA



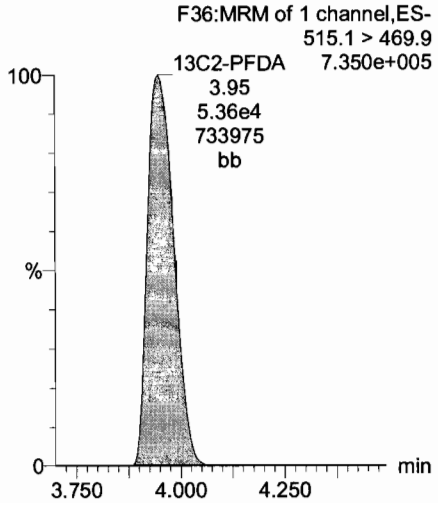
13C8-PFOSA



13C8-PFOS



13C2-PFDA



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Name: 170728M2_4, Date: 28-Jul-2017, Time: 16:42:11, ID: ST170728M2-3 PFC CS0 17G2826, Description: PFC CS0 17G2826

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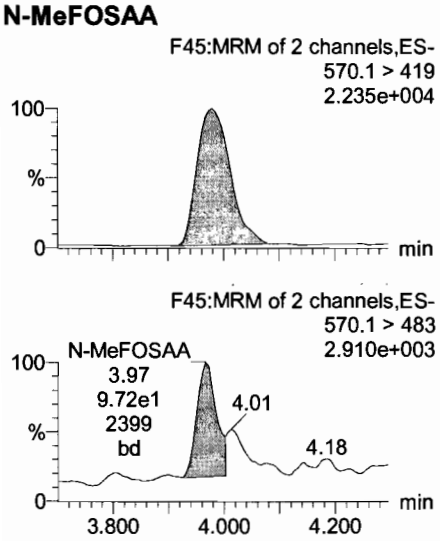

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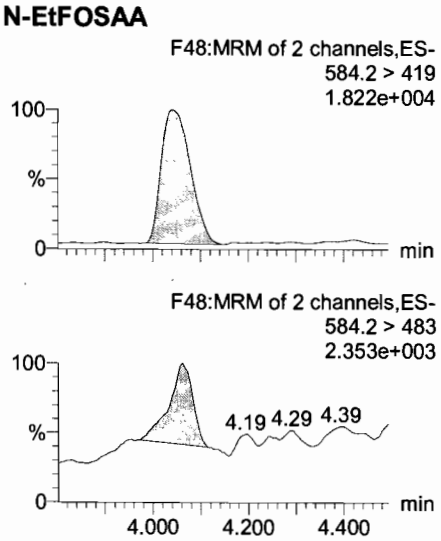
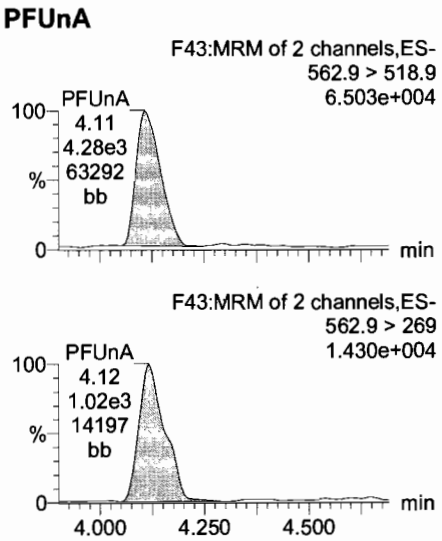
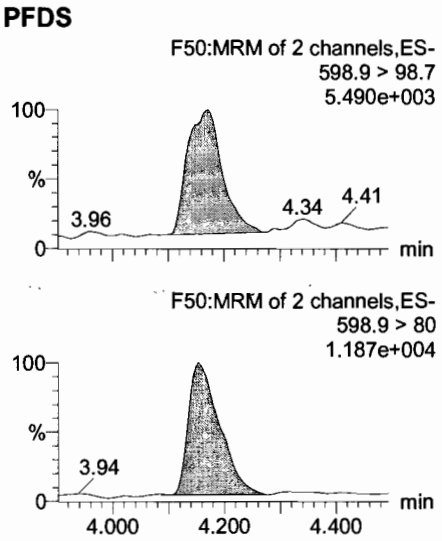


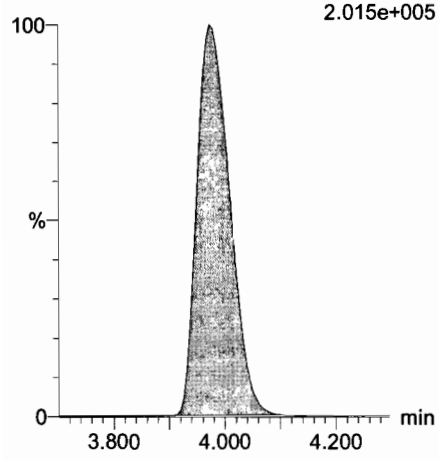
PFUnA



PFDS



d3-N-MeFOSAA



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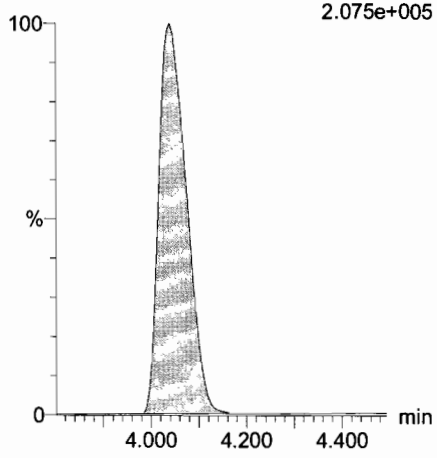
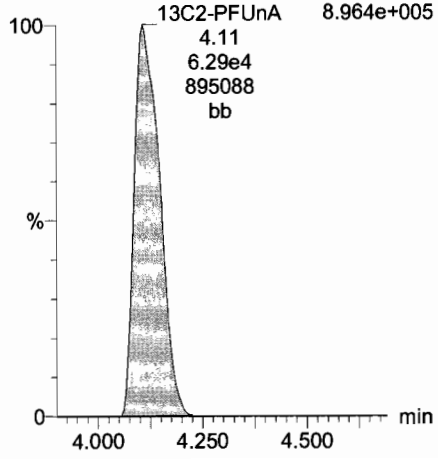


13C2-PFUnA



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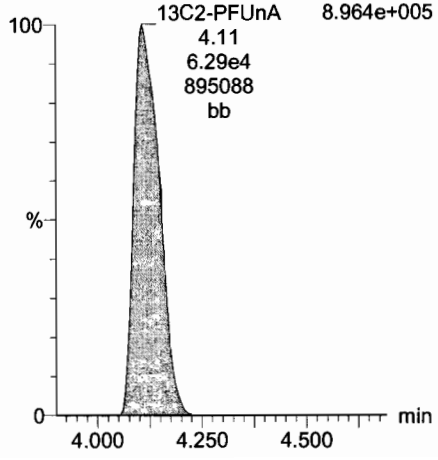

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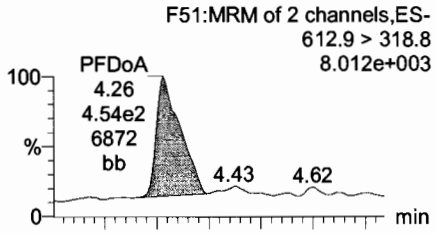
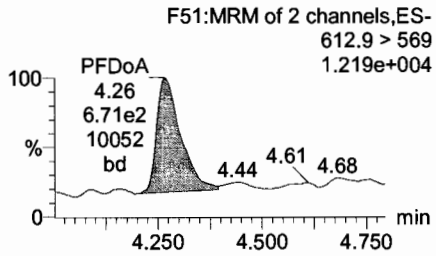
Name: 170728M2_4, Date: 28-Jul-2017, Time: 16:42:11, ID: ST170728M2-3 PFC CS0 17G2826, Description: PFC CS0 17G2826

PFDoA





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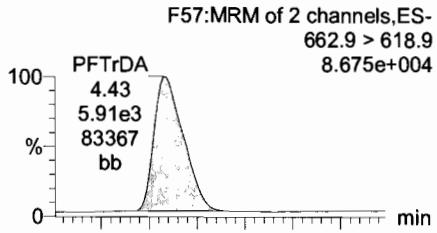
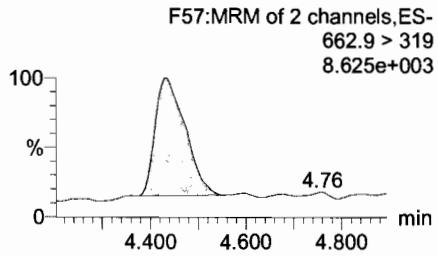
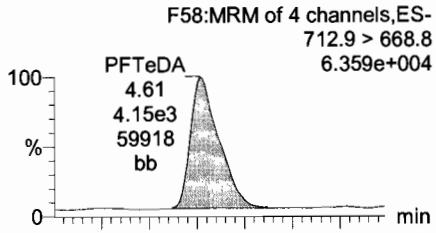
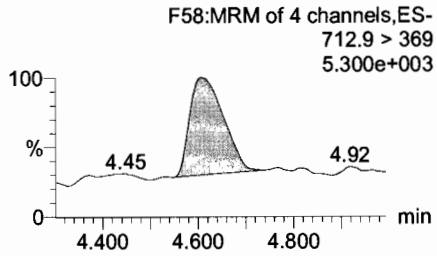


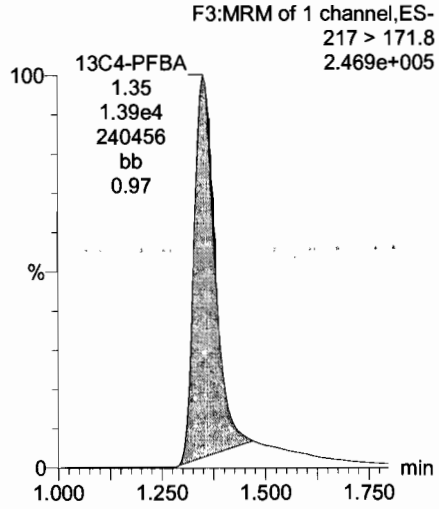


PFTeDA

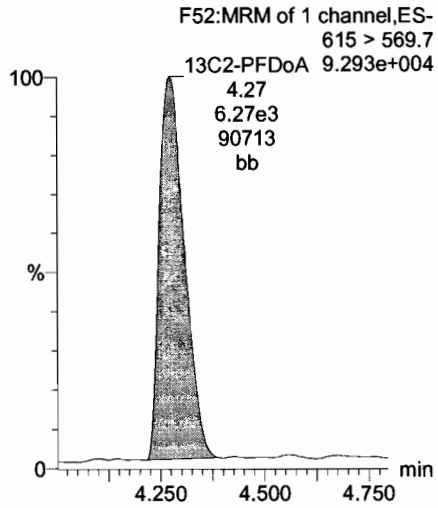




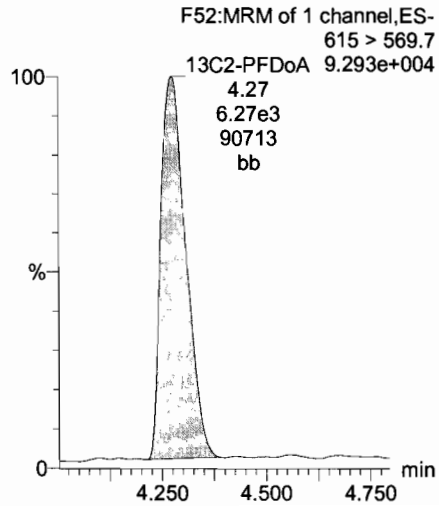
13C4-PFBA



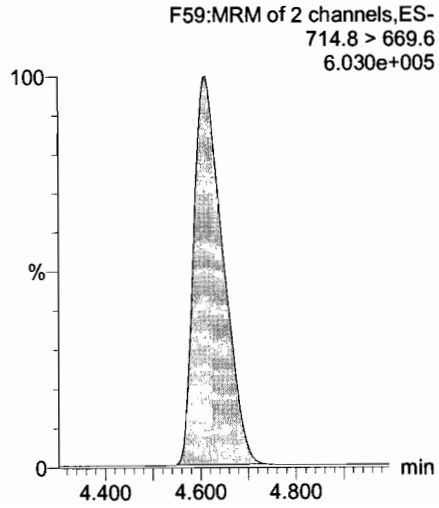
13C2-PFDoA



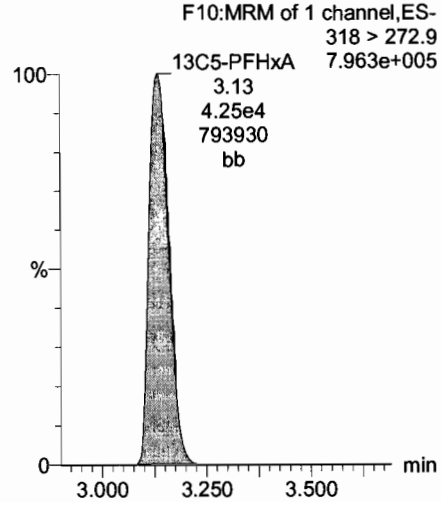
13C2-PFDoA



13C2-PFTeDA



13C5-PFHxA



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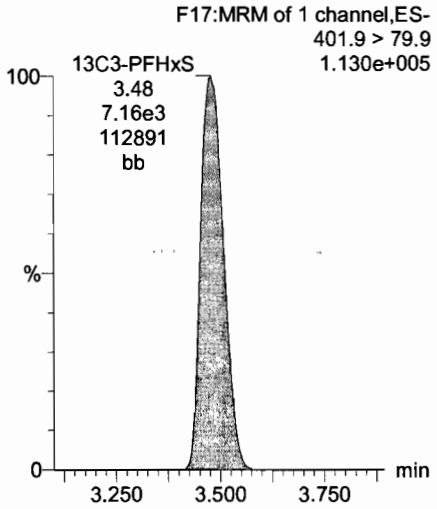
Name: 170728M2_4, Date: 28-Jul-2017, Time: 16:42:11, ID: ST170728M2-3 PFC CS0 17G2826, Description: PFC CS0 17G2826

13C3-PFHxS



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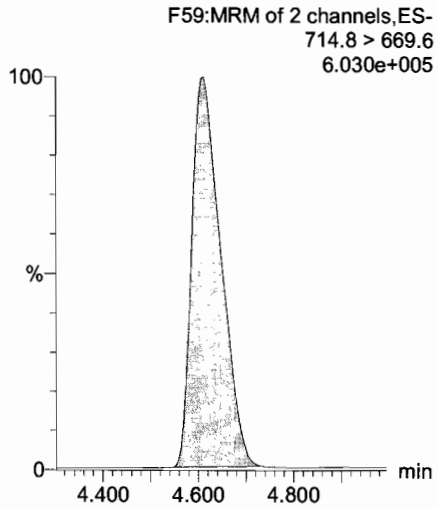
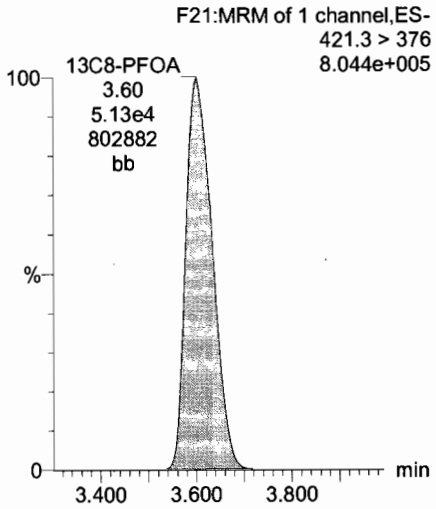
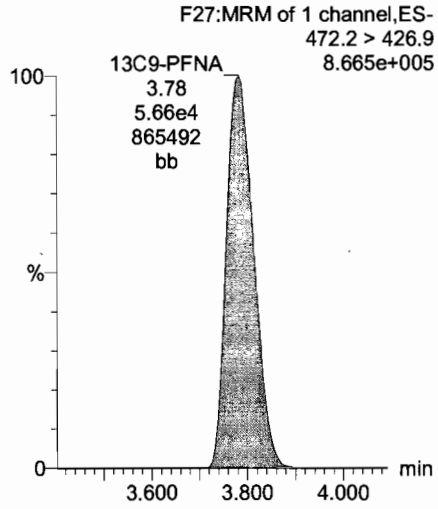


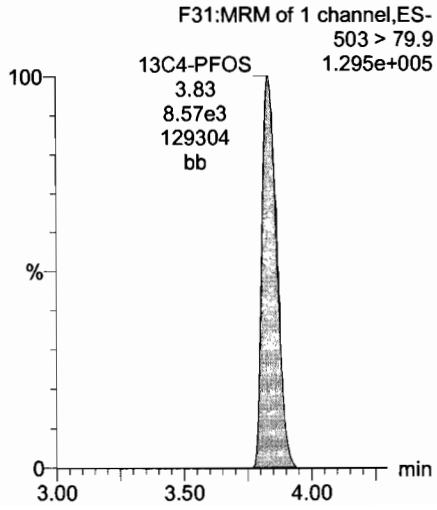
13C8-PFOA



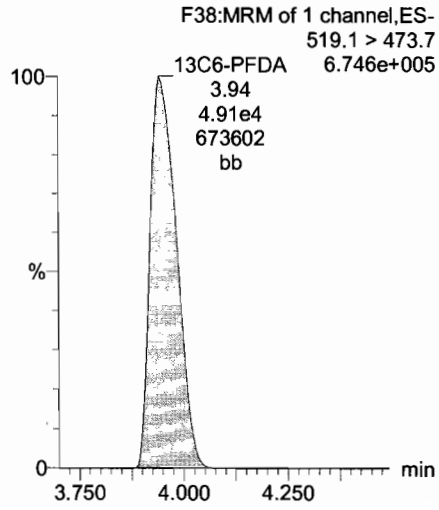
13C9-PFNA



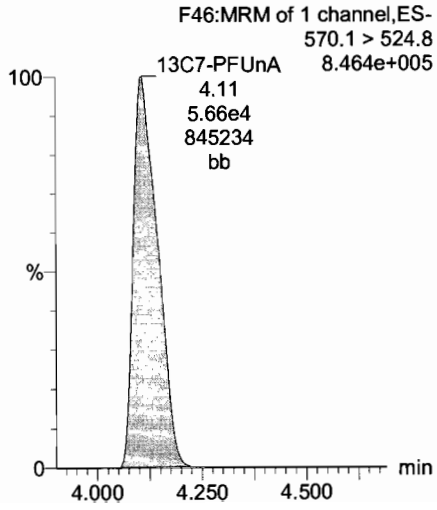
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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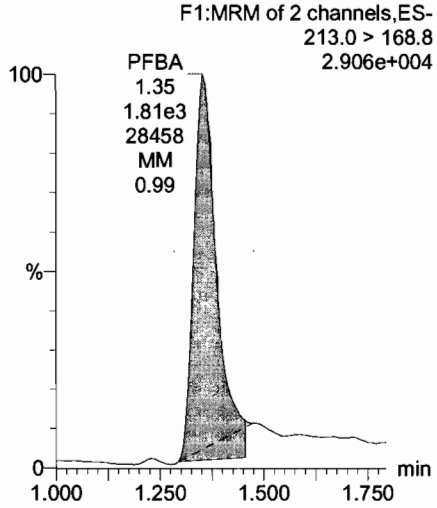
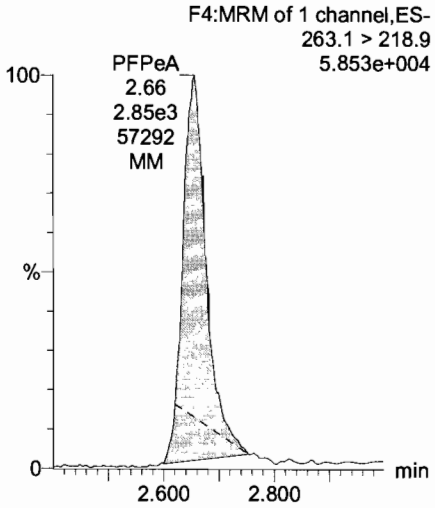
Name: 170728M2_5, Date: 28-Jul-2017, Time: 16:52:57, ID: ST170728M2-4 PFC CS1 17G2827, Description: PFC CS1 17G2827

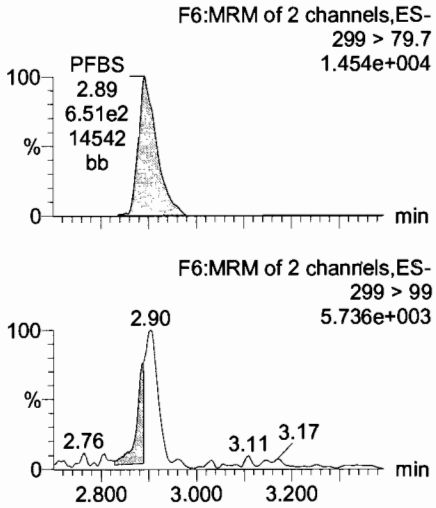
PFBA



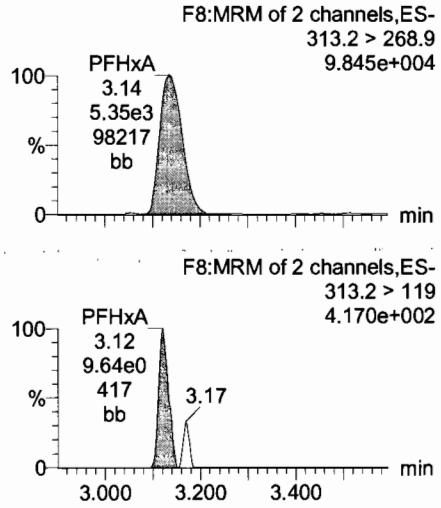
PFPeA



PFBS



PFHxA



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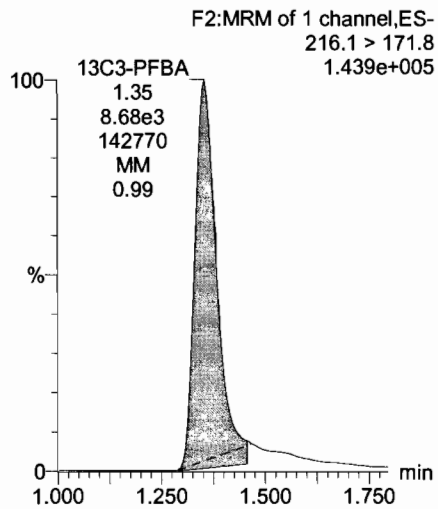
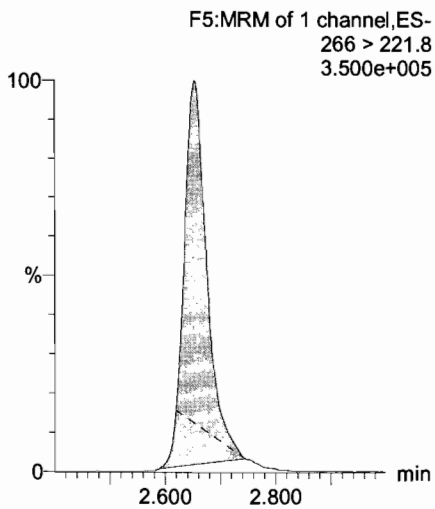


13C3-PFPeA



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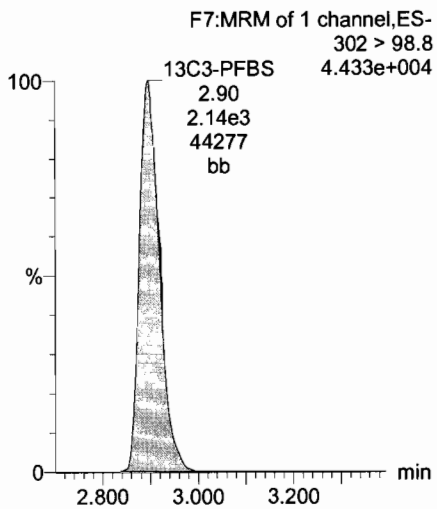
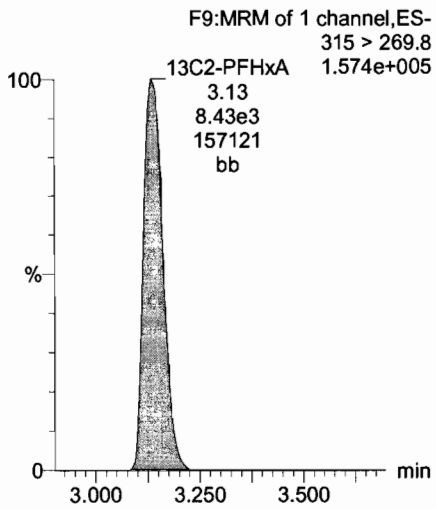


13C2-PFHxA



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Name: 170728M2_5, Date: 28-Jul-2017, Time: 16:52:57, ID: ST170728M2-4 PFC CS1 17G2827, Description: PFC CS1 17G2827

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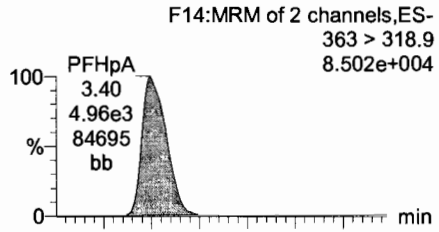

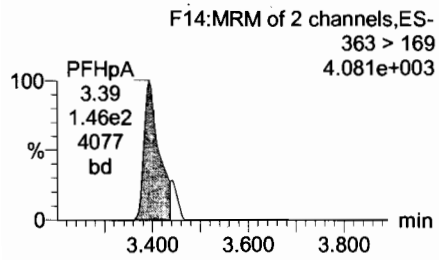

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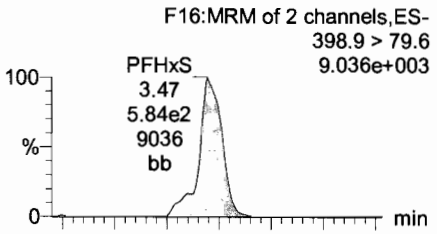

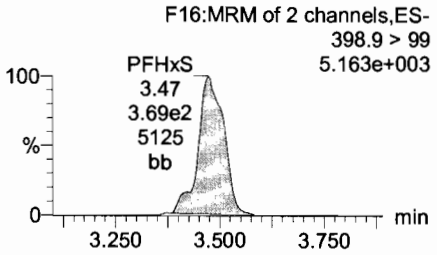

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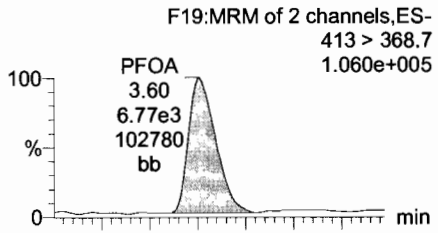

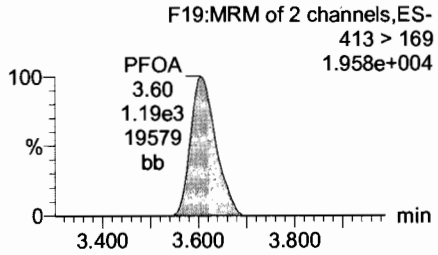

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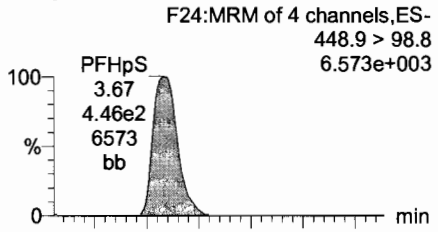

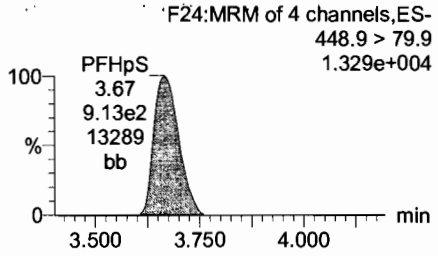

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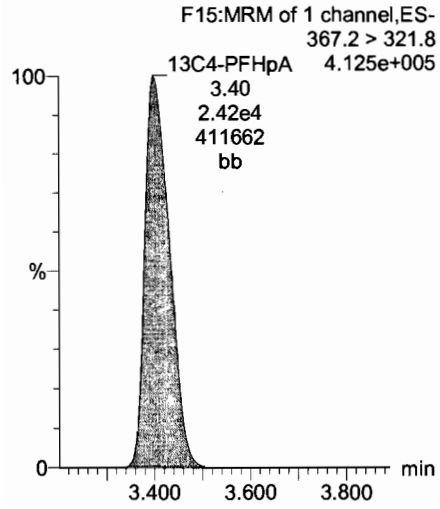

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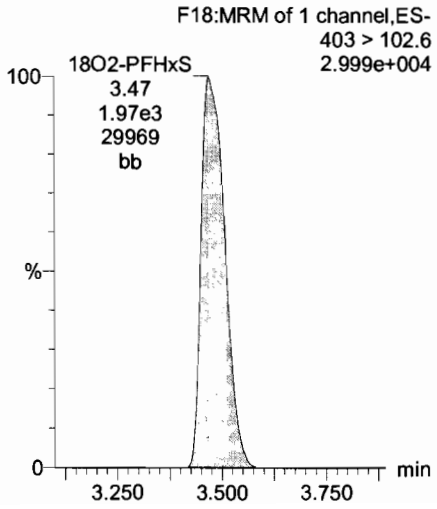
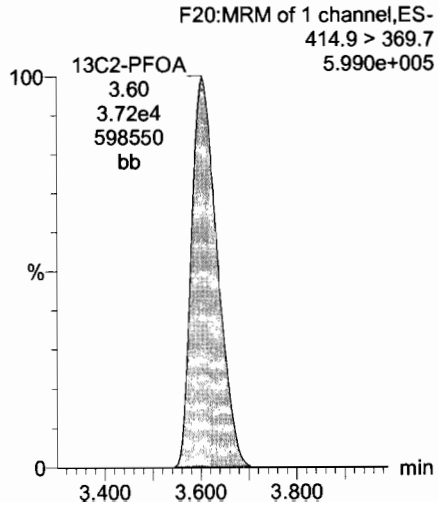


13C2-PFOA



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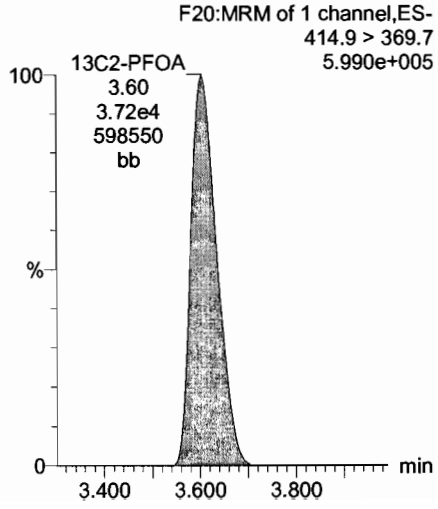

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Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
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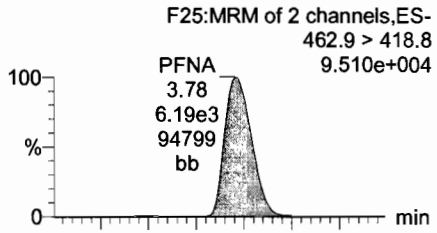
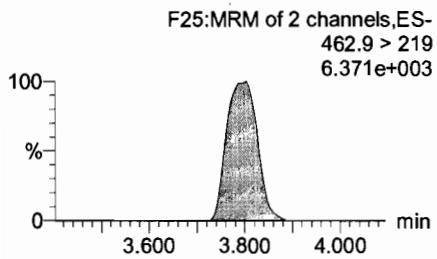
Name: 170728M2_5, Date: 28-Jul-2017, Time: 16:52:57, ID: ST170728M2-4 PFC CS1 17G2827, Description: PFC CS1 17G2827

PFNA





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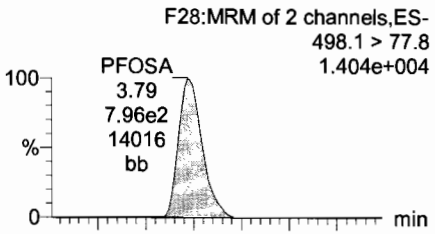

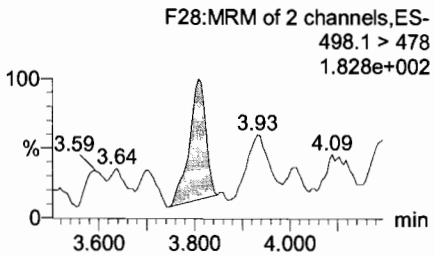

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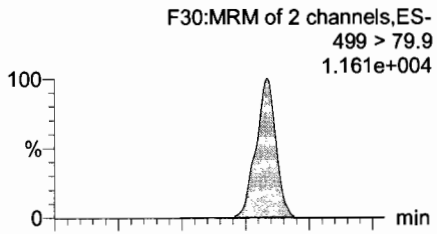

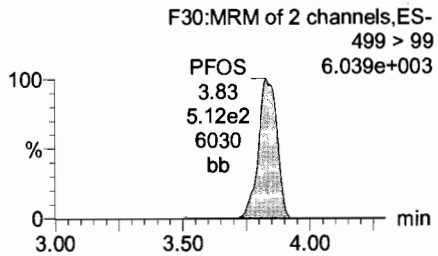

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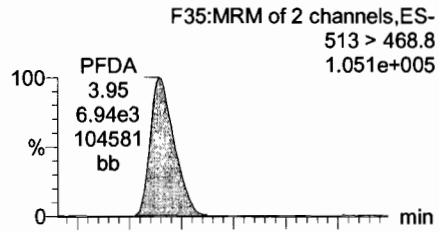

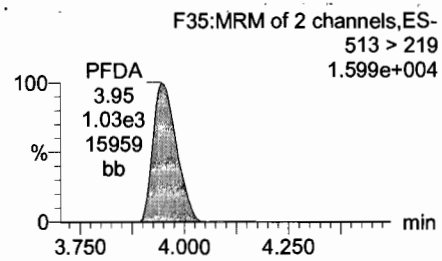

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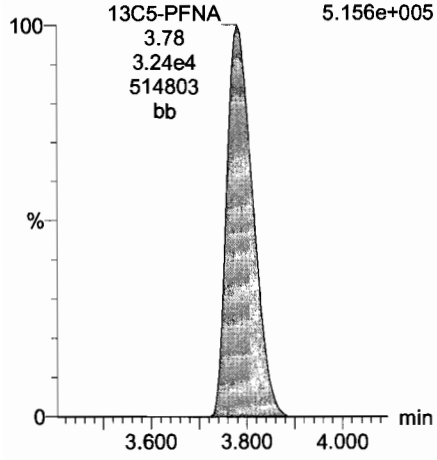
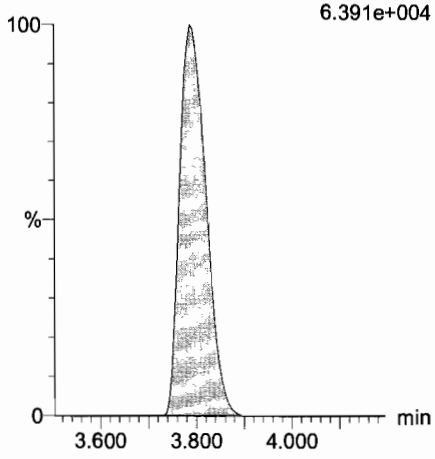


13C8-PFOSA



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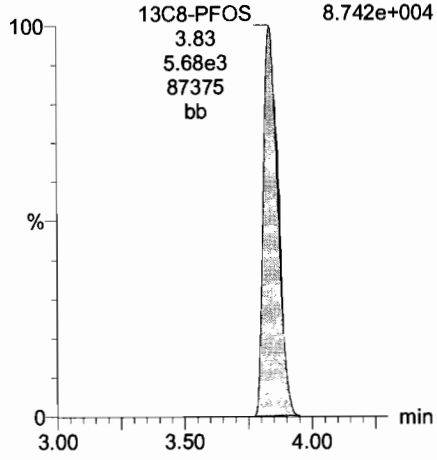

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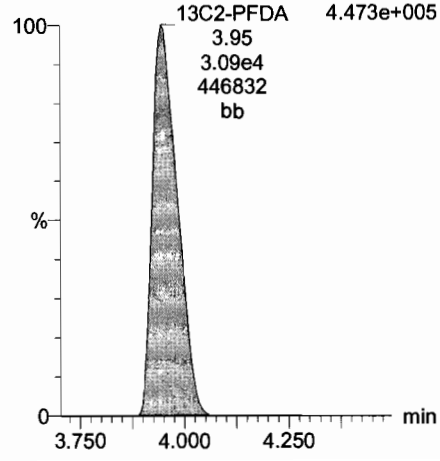

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Name: 170728M2_5, Date: 28-Jul-2017, Time: 16:52:57, ID: ST170728M2-4 PFC CS1 17G2827, Description: PFC CS1 17G2827

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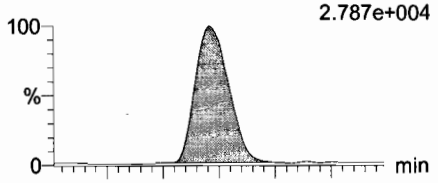

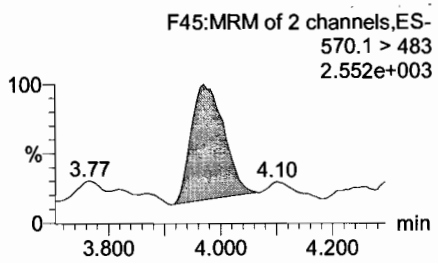

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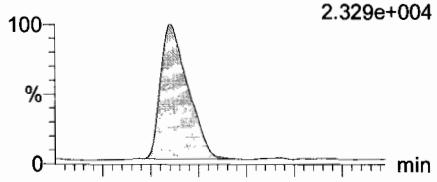

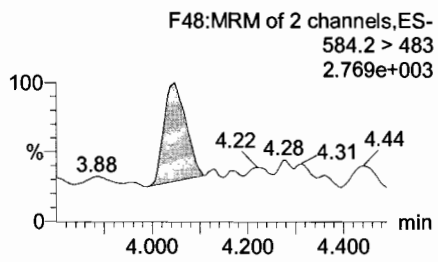

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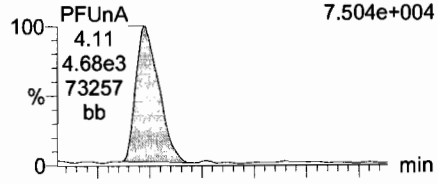

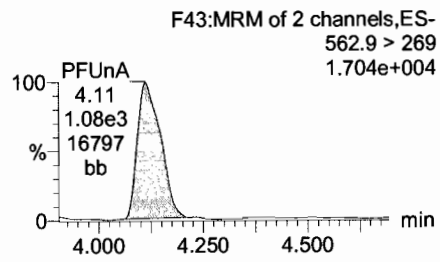

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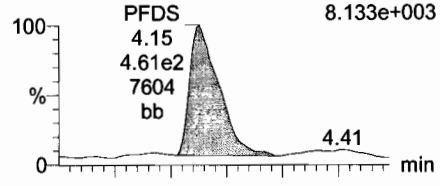

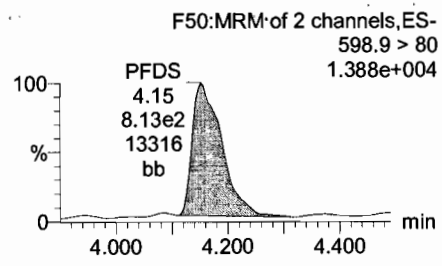

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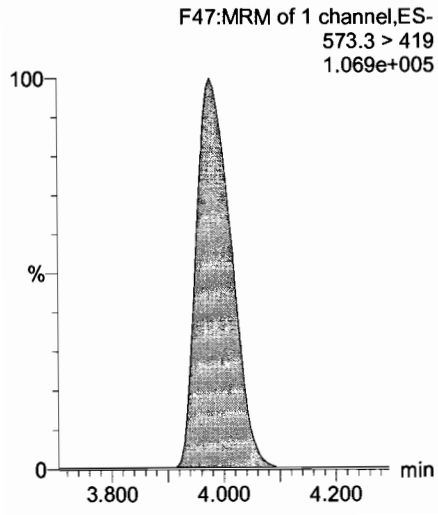

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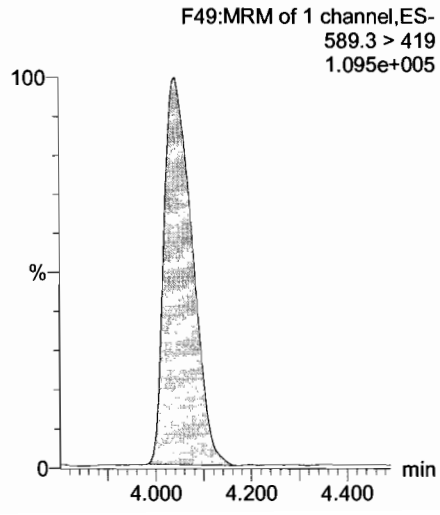
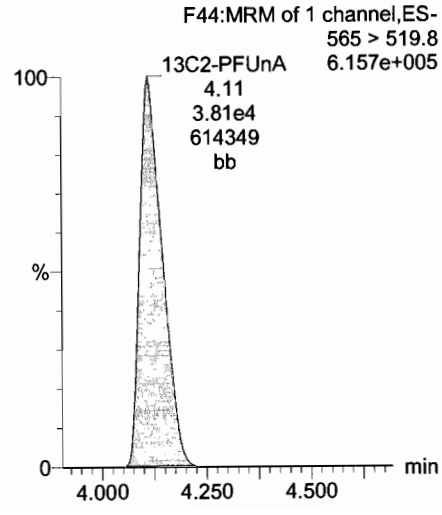


13C2-PFUnA



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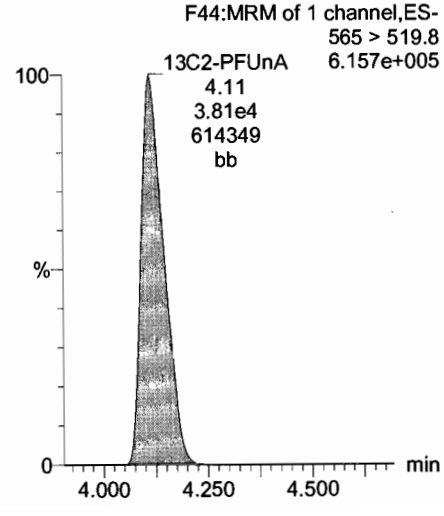

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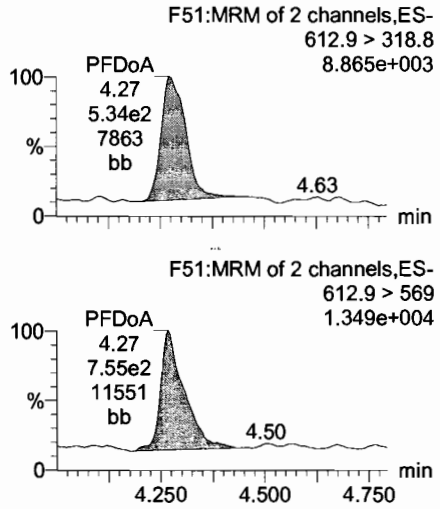
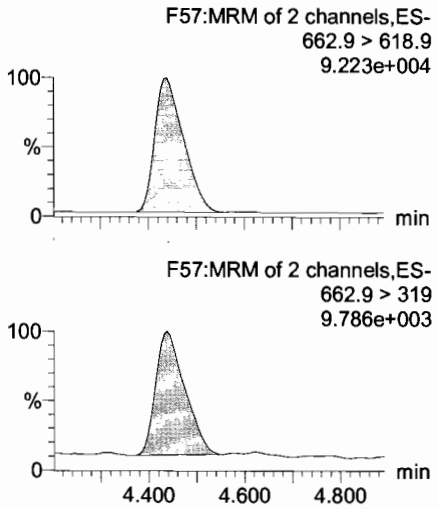
Name: 170728M2_5, Date: 28-Jul-2017, Time: 16:52:57, ID: ST170728M2-4 PFC CS1 17G2827, Description: PFC CS1 17G2827

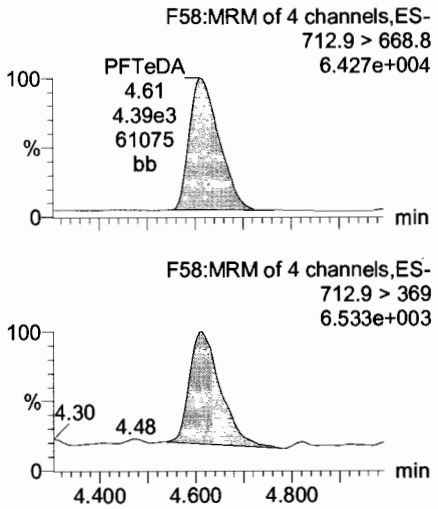
PFDoA



PFTrDA



PFTeDA



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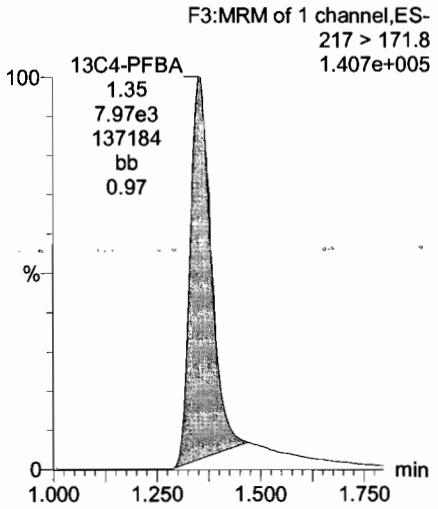

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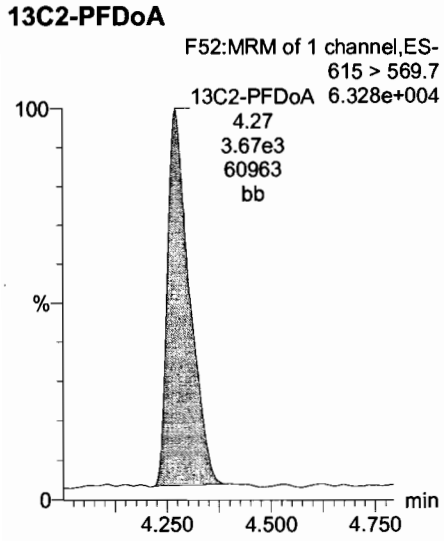

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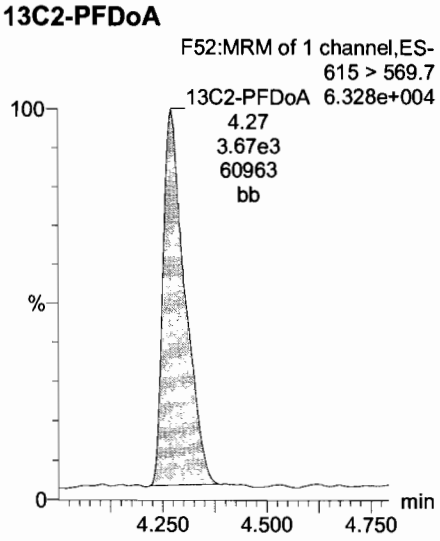

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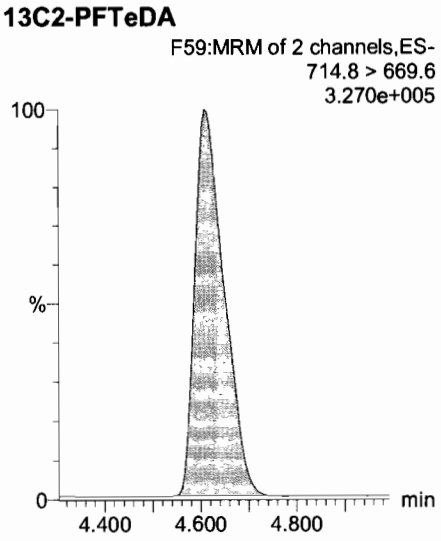
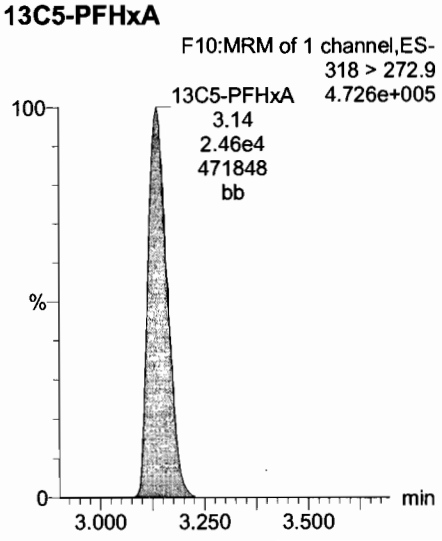


13C5-PFHxA



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Name: 170728M2_5, Date: 28-Jul-2017, Time: 16:52:57, ID: ST170728M2-4 PFC CS1 17G2827, Description: PFC CS1 17G2827

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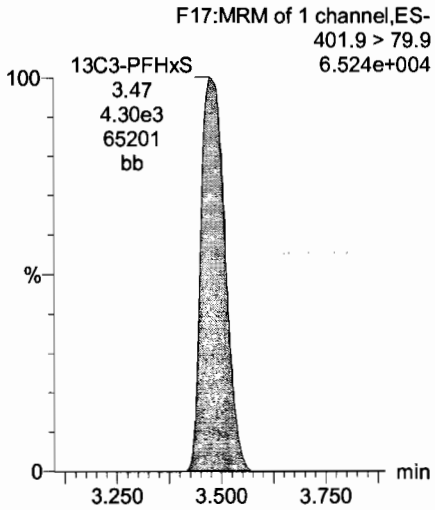

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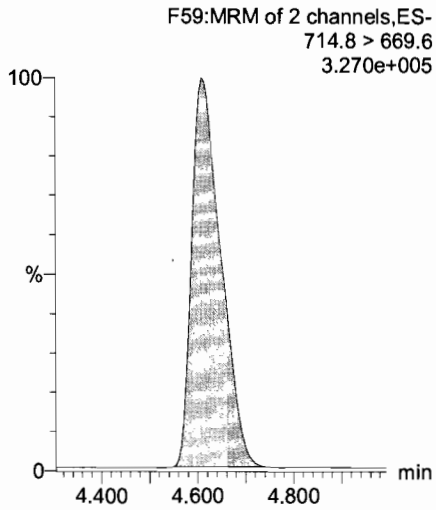

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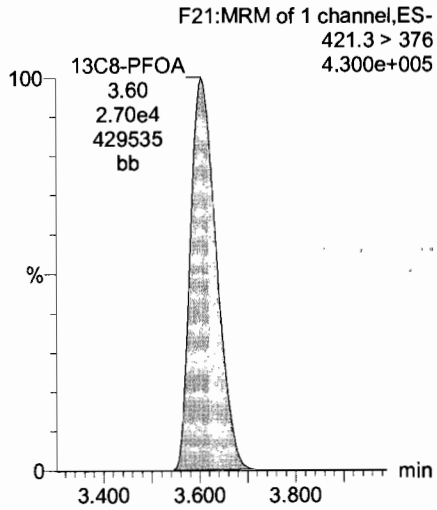

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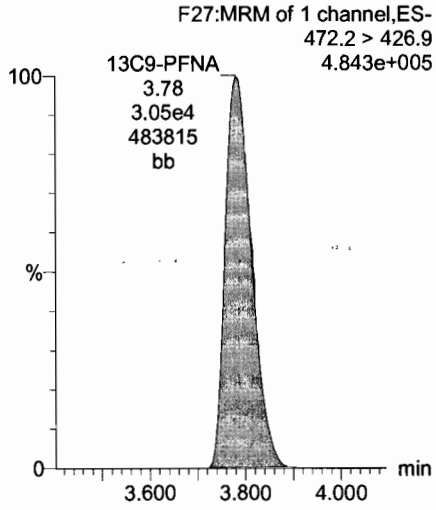
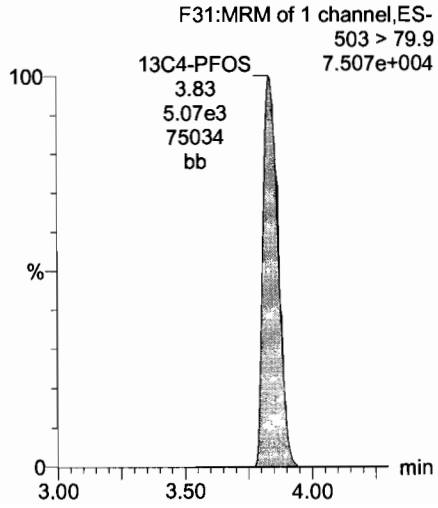


13C4-PFOS



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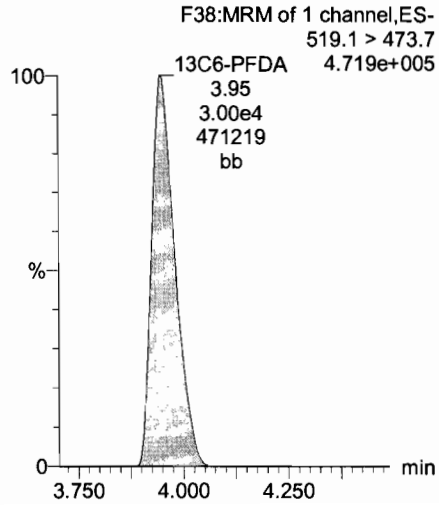

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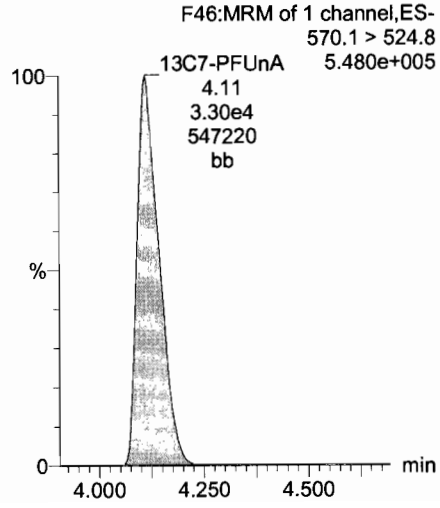

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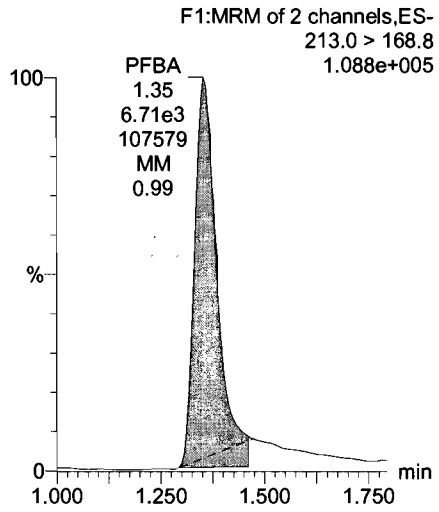
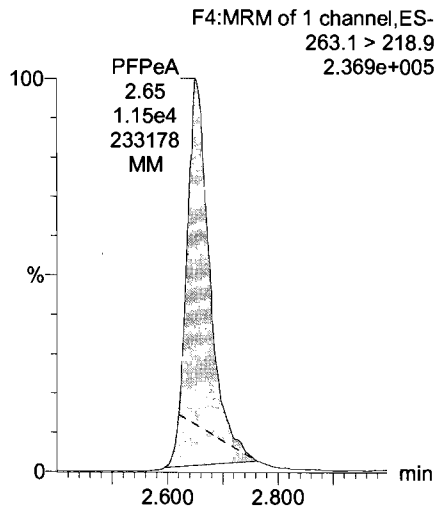
Name: 170728M2_6, Date: 28-Jul-2017, Time: 17:03:36, ID: ST170728M2-5 PFC CS2 17G2828, Description: PFC CS2 17G2828

PFBA



PFPeA



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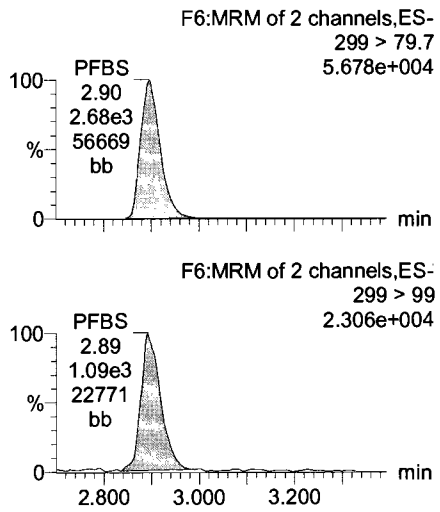

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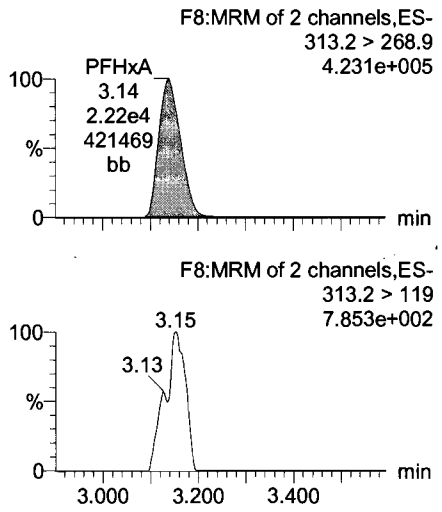

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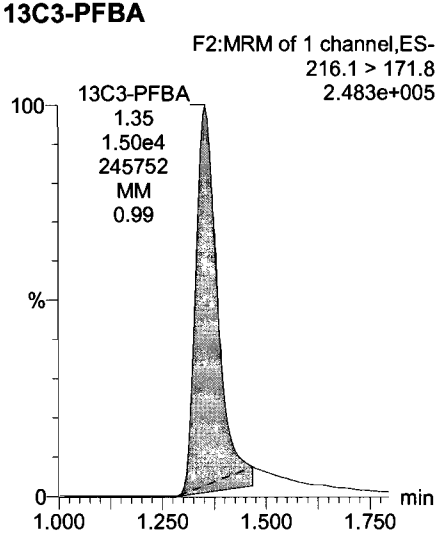

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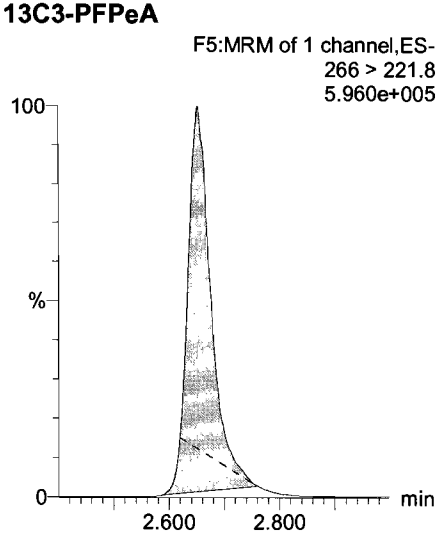

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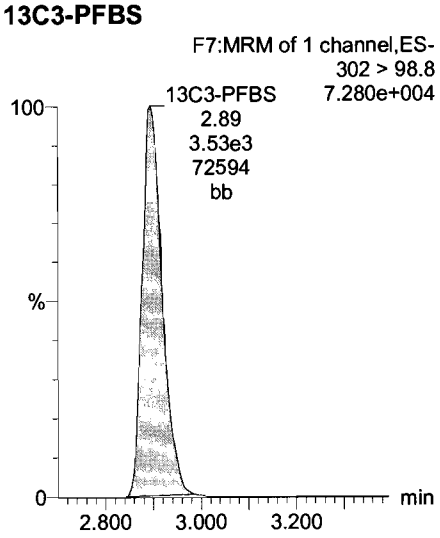

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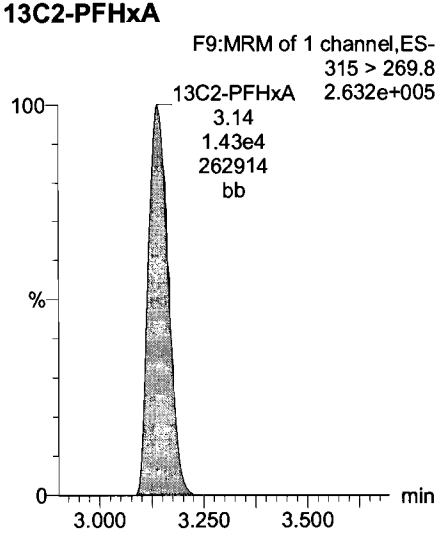

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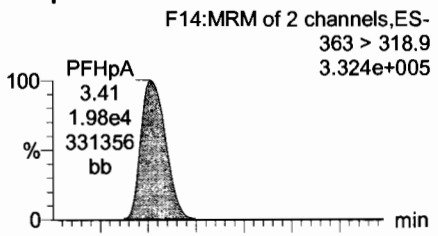
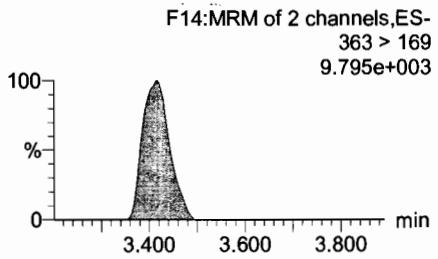
Name: 170728M2_6, Date: 28-Jul-2017, Time: 17:03:36, ID: ST170728M2-5 PFC CS2 17G2828, Description: PFC CS2 17G2828

PFHpA





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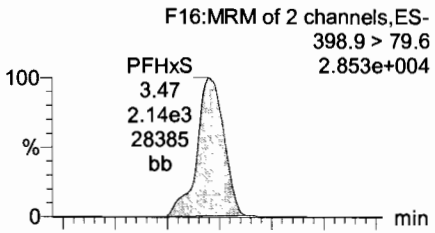

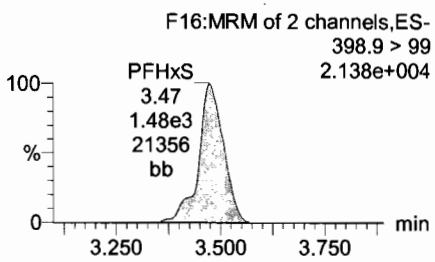

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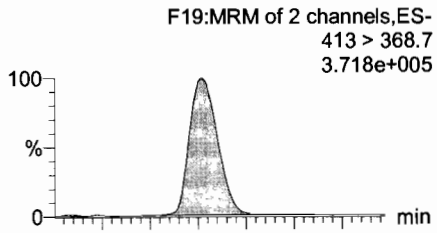

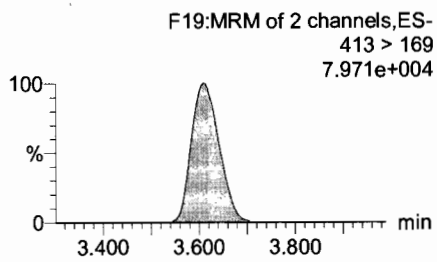

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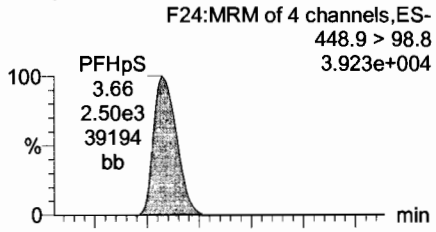
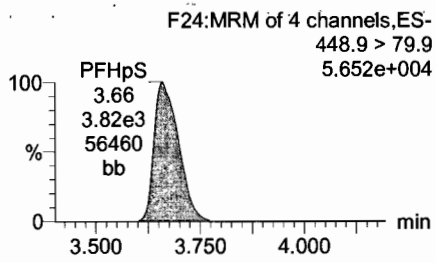
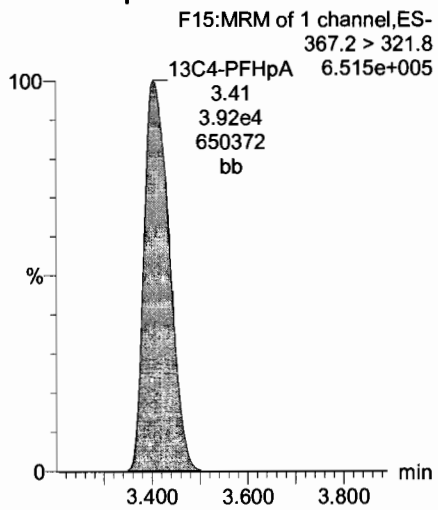
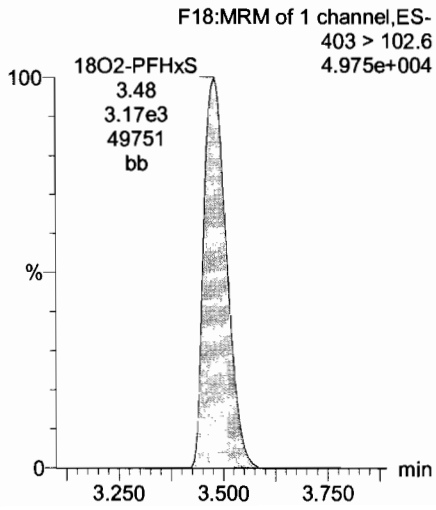




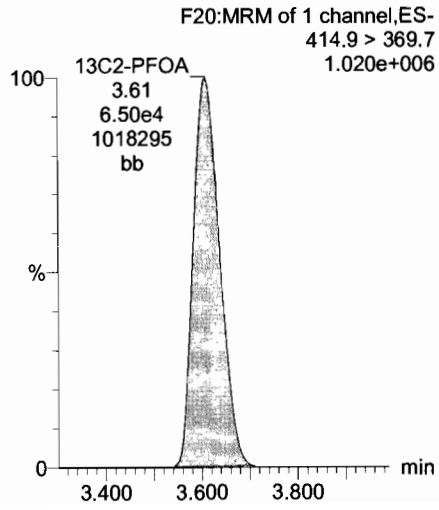
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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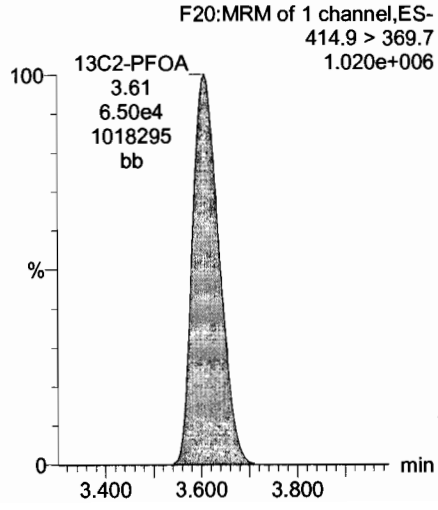

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Last Altered: Sunday, July 30, 2017 08:05:03 Pacific Daylight Time
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Name: 170728M2_6, Date: 28-Jul-2017, Time: 17:03:36, ID: ST170728M2-5 PFC CS2 17G2828, Description: PFC CS2 17G2828

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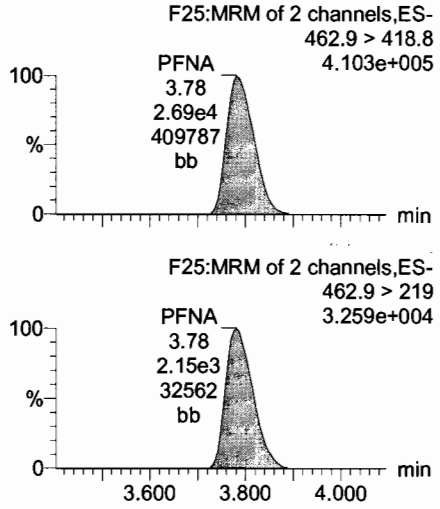

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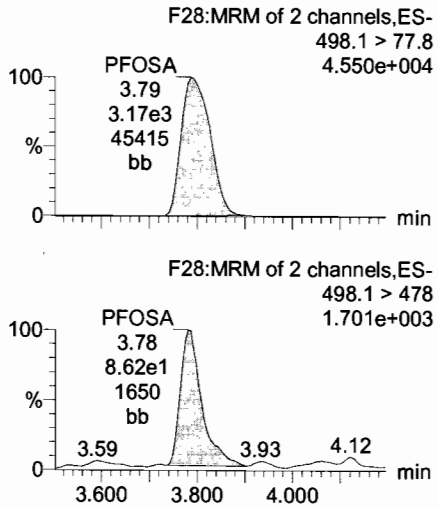

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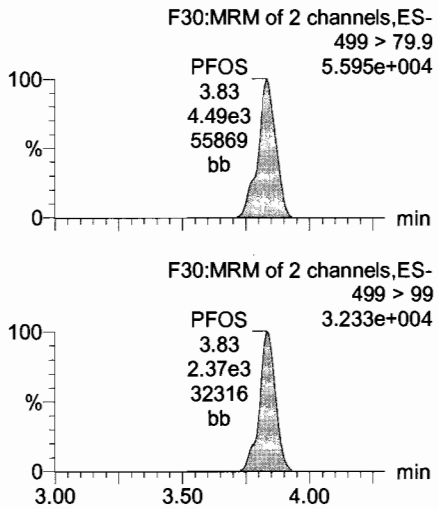
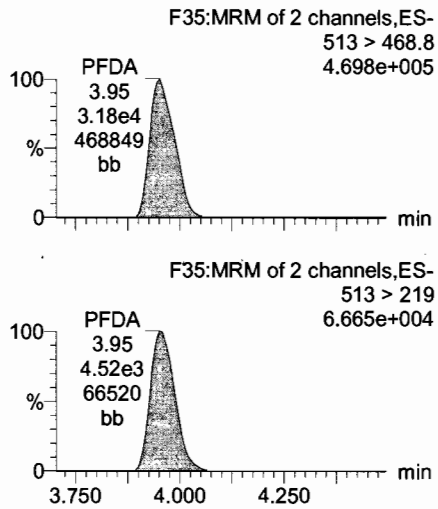
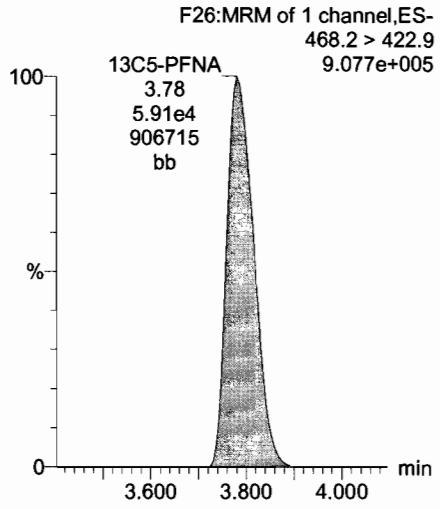


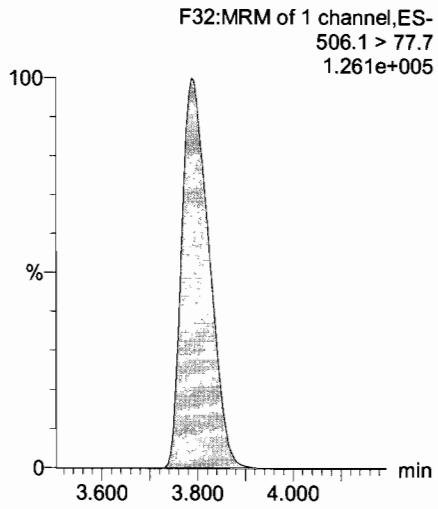
PFDA



13C5-PFNA



13C8-PFOSA



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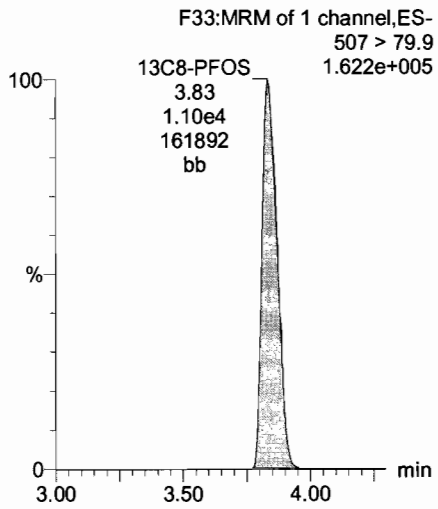
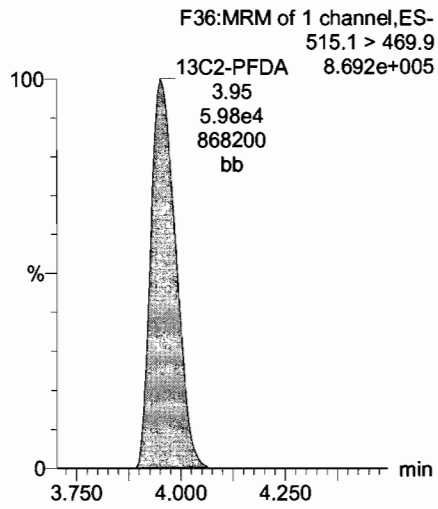


13C2-PFDA



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Name: 170728M2_6, Date: 28-Jul-2017, Time: 17:03:36, ID: ST170728M2-5 PFC CS2 17G2828, Description: PFC CS2 17G2828

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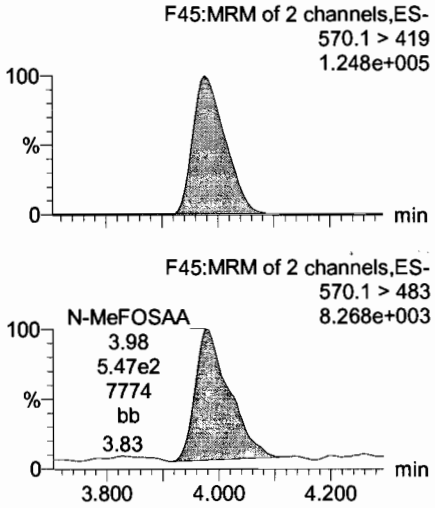

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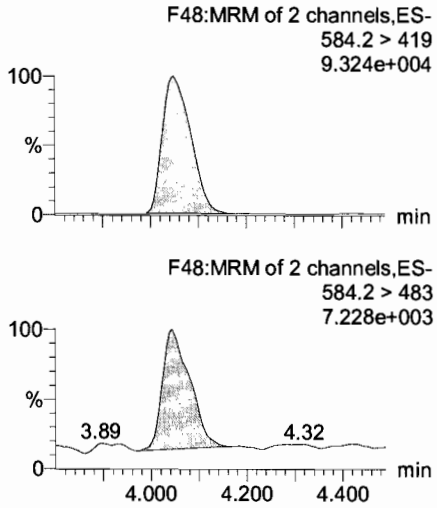
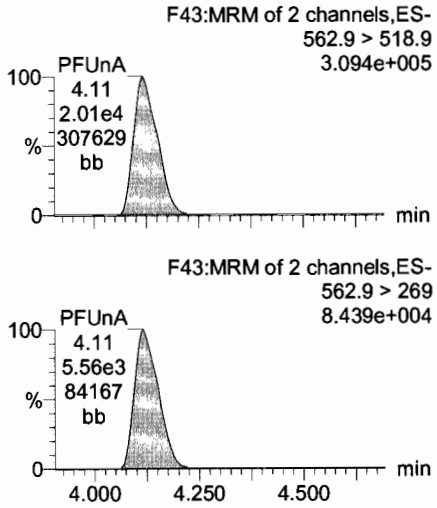
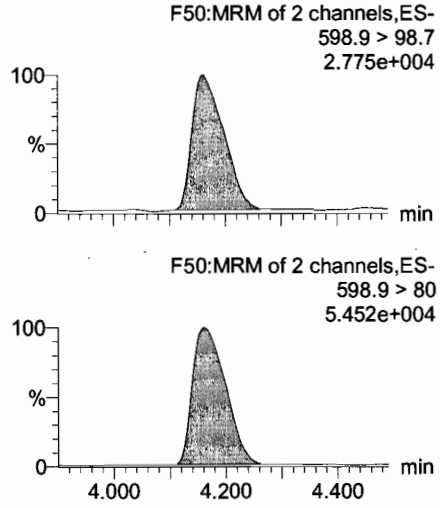


PFUnA



PFDS



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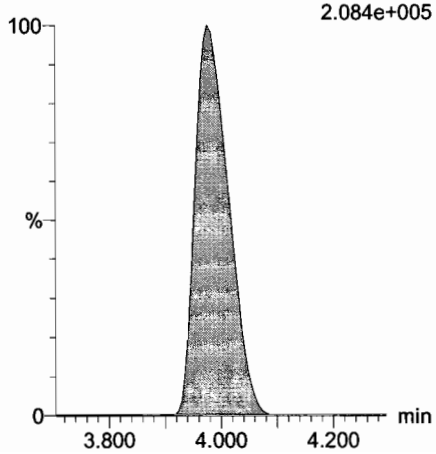

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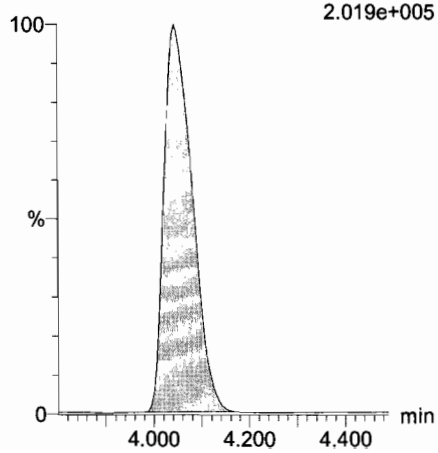

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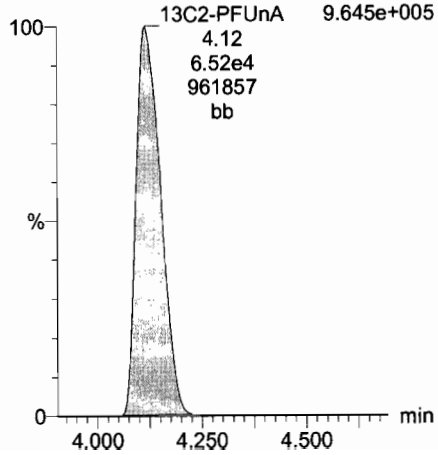

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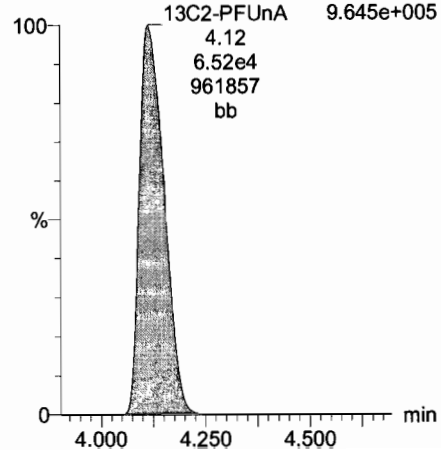

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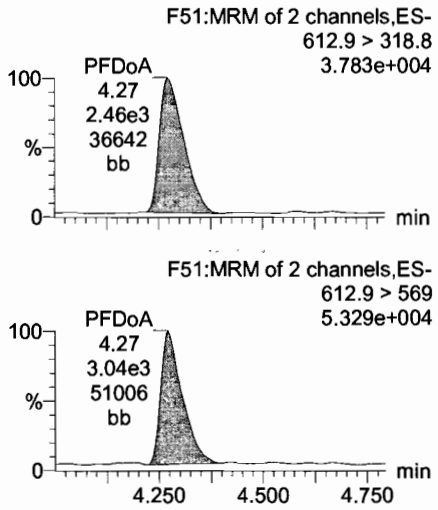
Name: 170728M2_6, Date: 28-Jul-2017, Time: 17:03:36, ID: ST170728M2-5 PFC CS2 17G2828, Description: PFC CS2 17G2828

PFDoA



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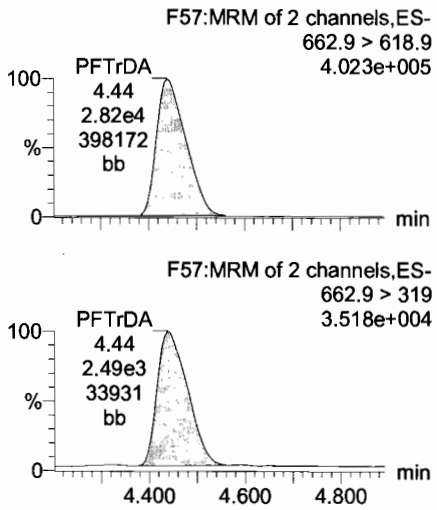

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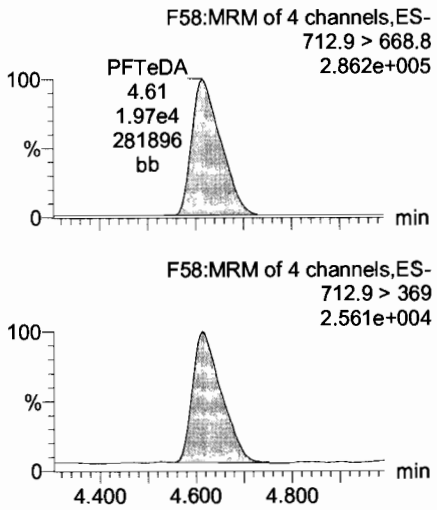
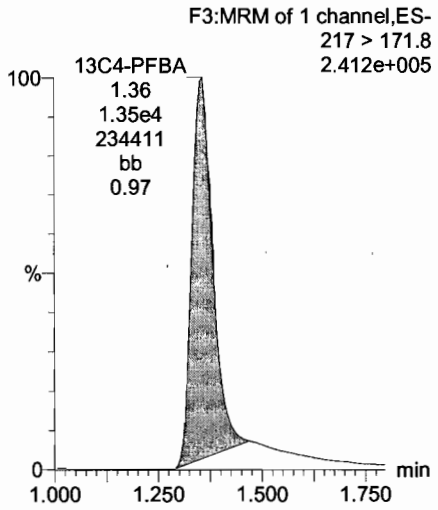


13C4-PFBA



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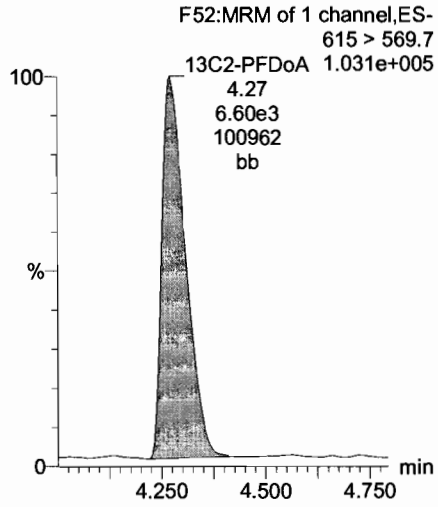

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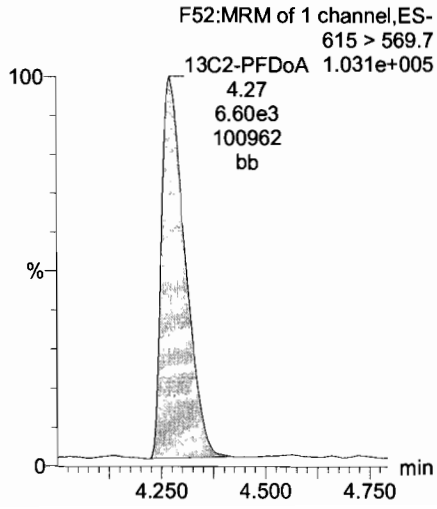

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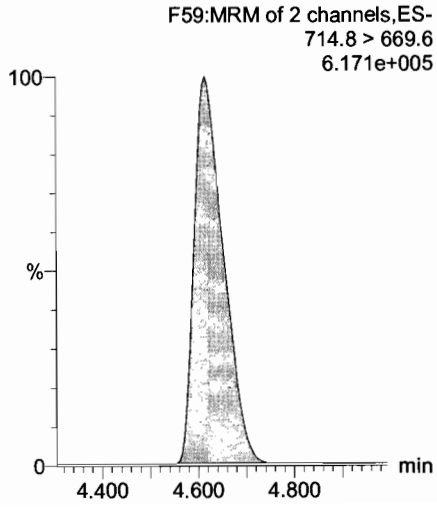
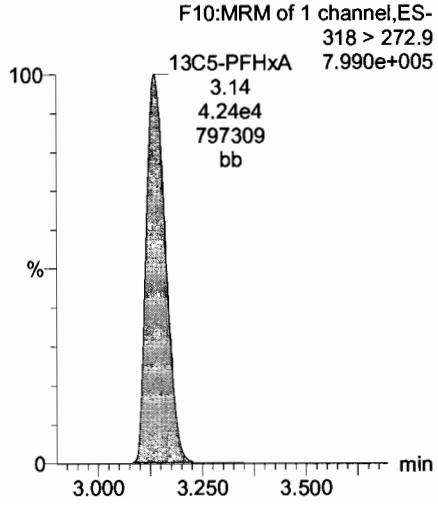


13C5-PFHxA



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Name: 170728M2_6, Date: 28-Jul-2017, Time: 17:03:36, ID: ST170728M2-5 PFC CS2 17G2828, Description: PFC CS2 17G2828

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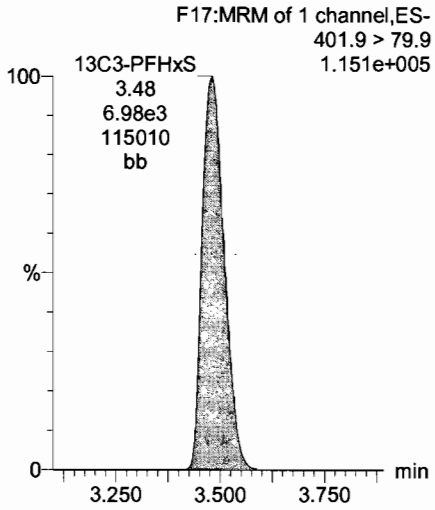

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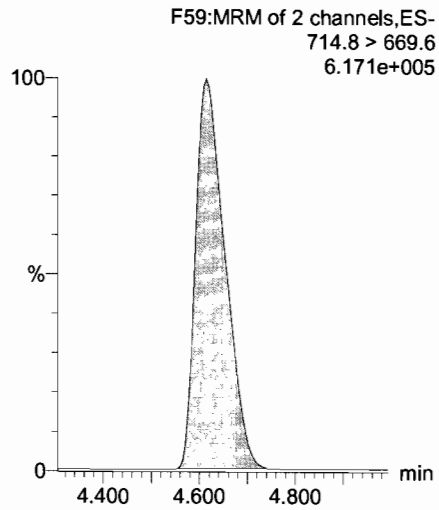

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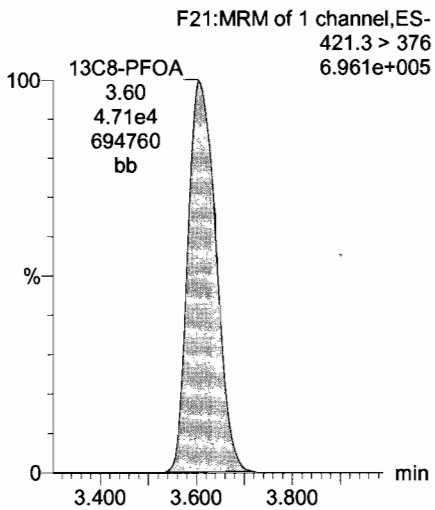

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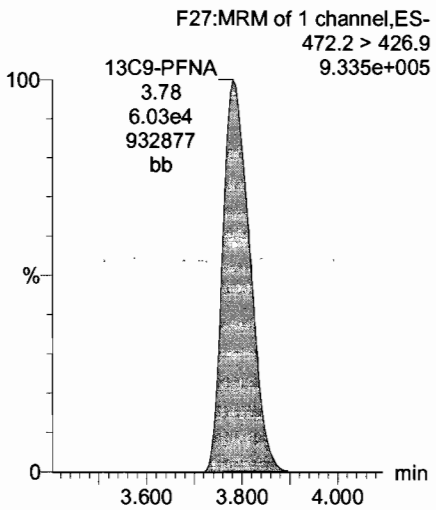
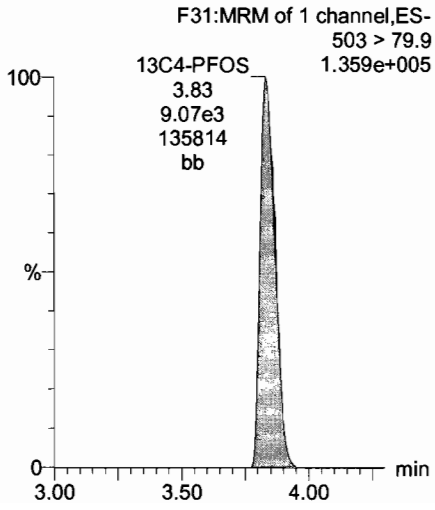
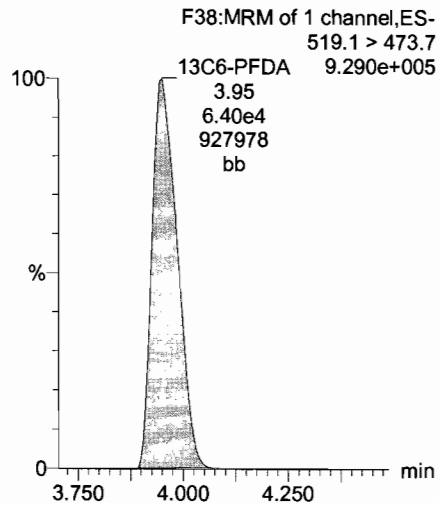


13C4-PFOS



13C6-PFDA



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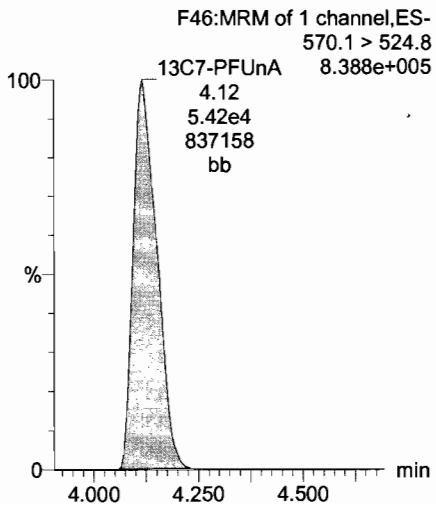

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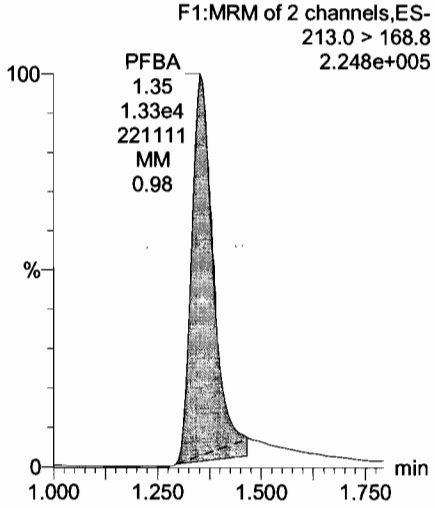
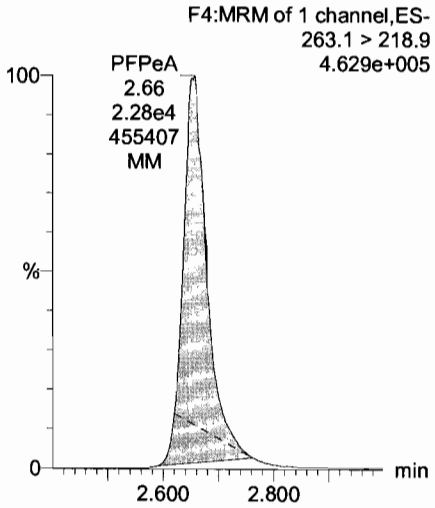
Name: 170728M2_7, Date: 28-Jul-2017, Time: 17:14:14, ID: ST170728M2-6 PFC CS3 17G2829, Description: PFC CS3 17G2829

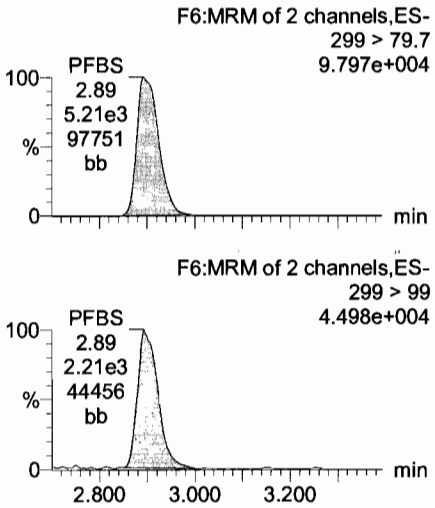
PFBA



PFPeA



PFBS



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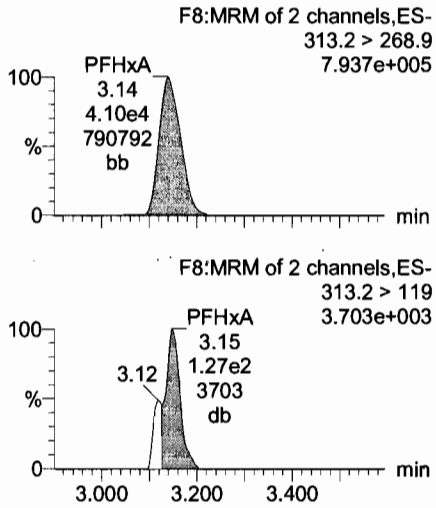
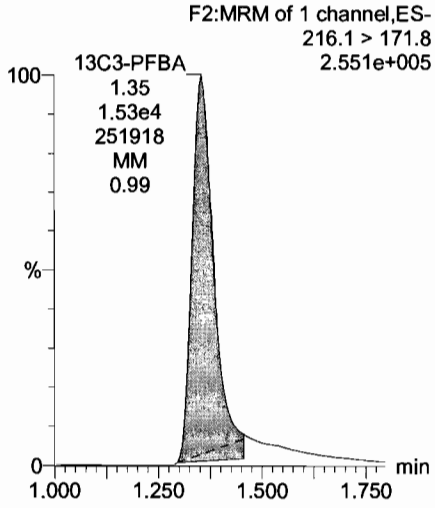


13C3-PFBA



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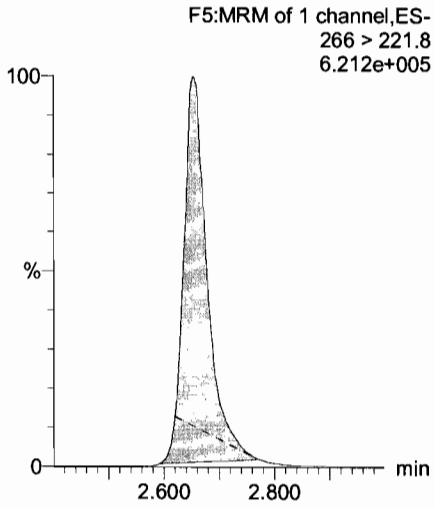

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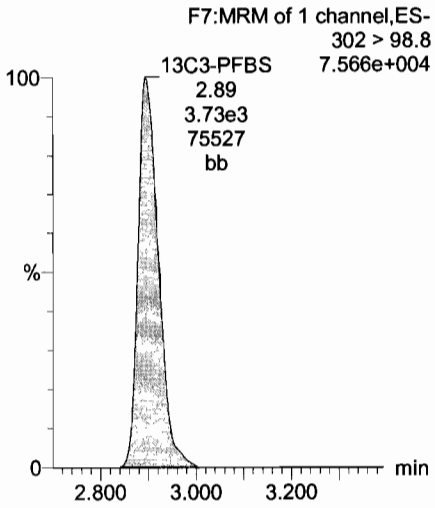

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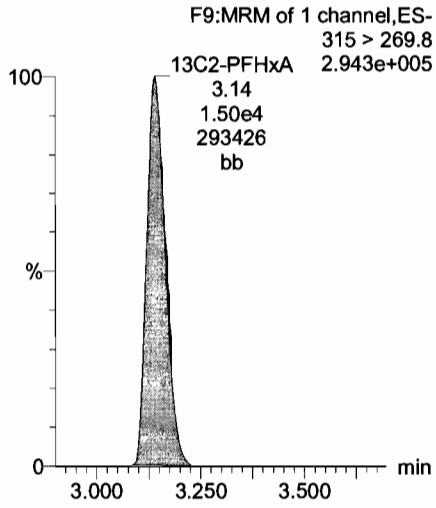

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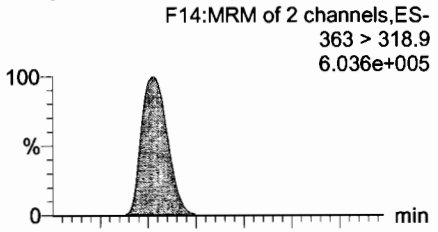
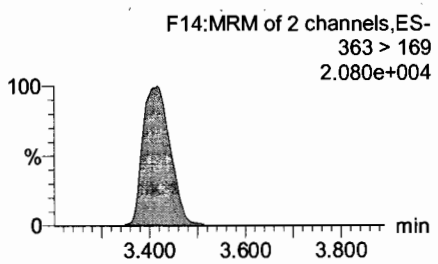
Name: 170728M2_7, Date: 28-Jul-2017, Time: 17:14:14, ID: ST170728M2-6 PFC CS3 17G2829, Description: PFC CS3 17G2829

PFHpA





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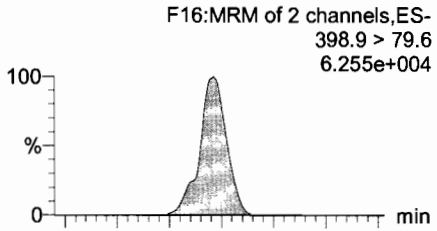

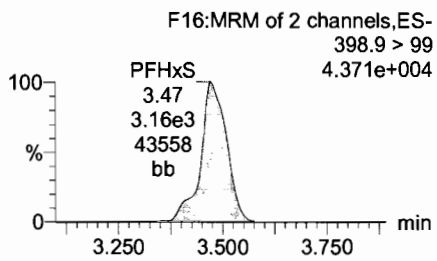

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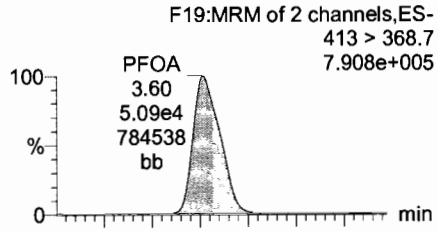

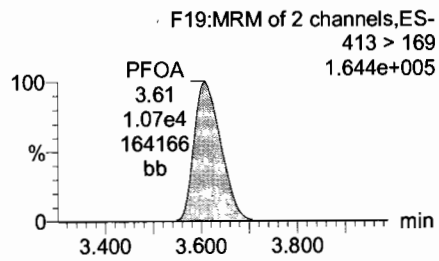

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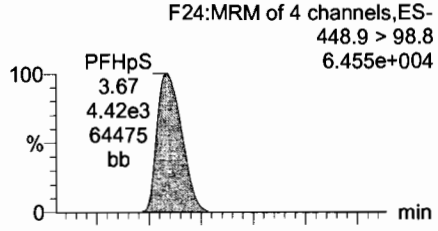
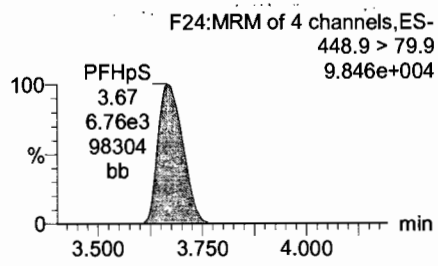
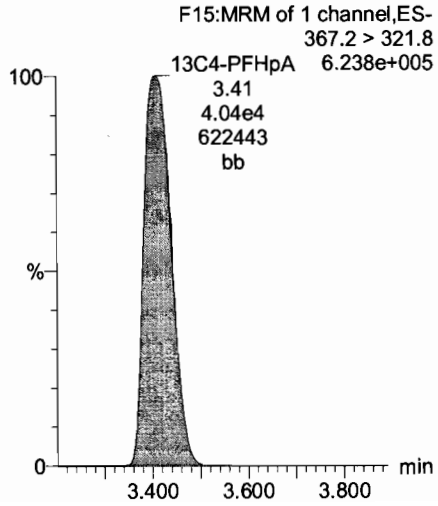
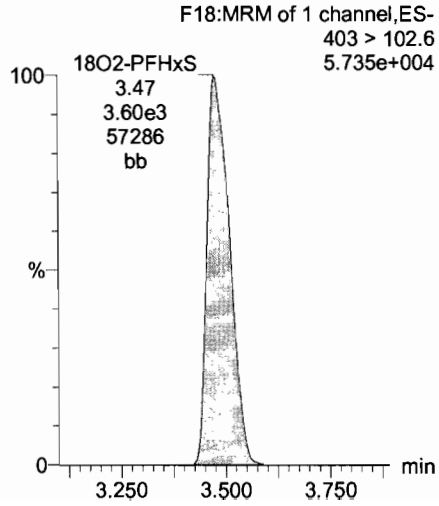




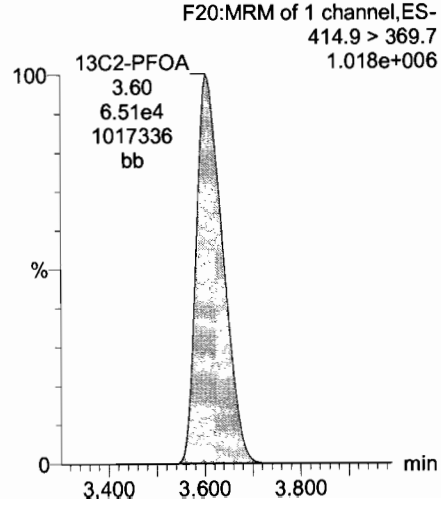
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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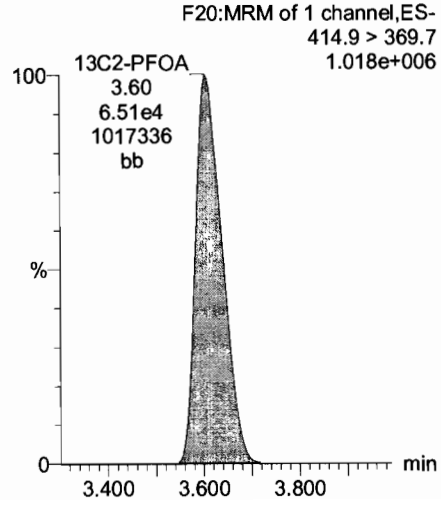

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Name: 170728M2_7, Date: 28-Jul-2017, Time: 17:14:14, ID: ST170728M2-6 PFC CS3 17G2829, Description: PFC CS3 17G2829

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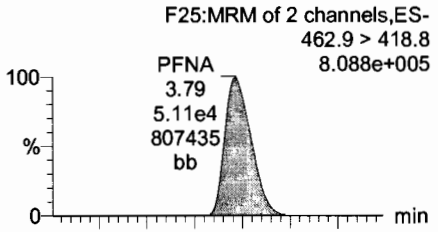
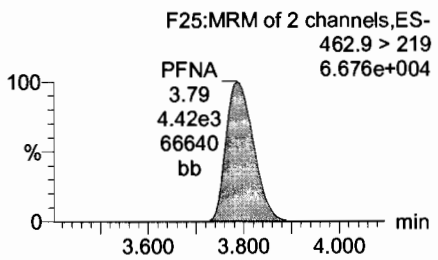
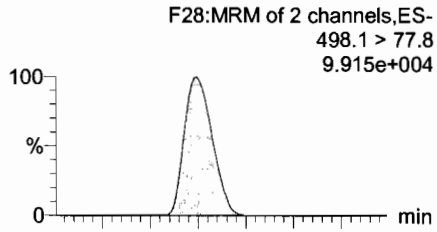
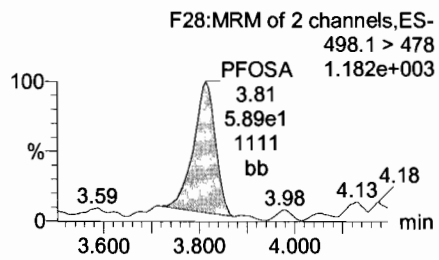




PFOSA





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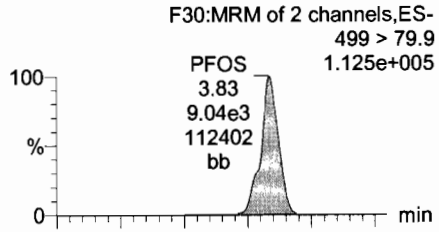

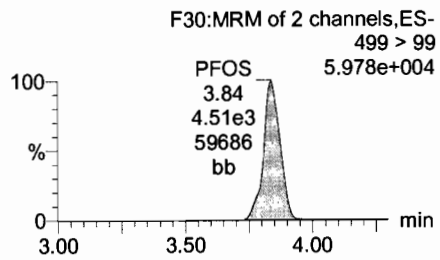

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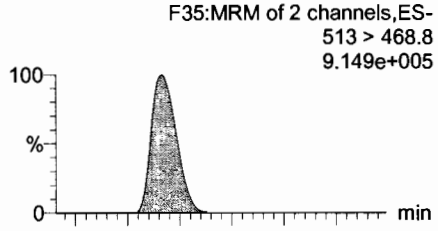

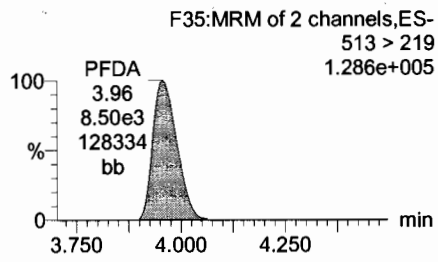

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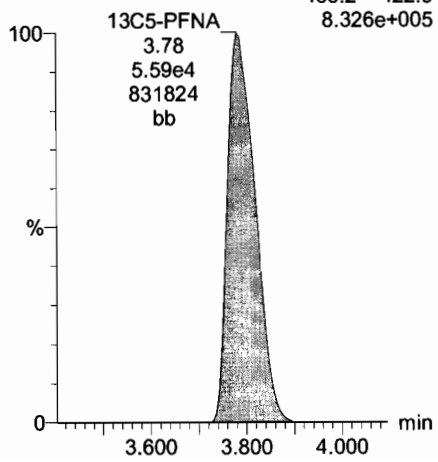
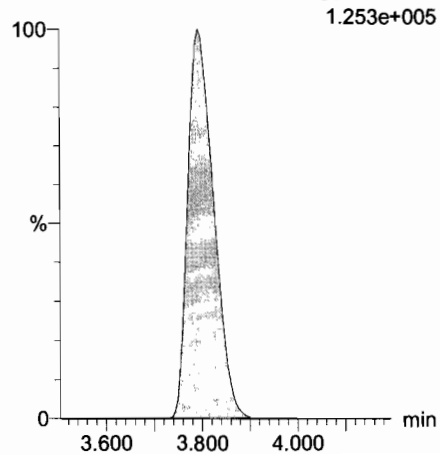


13C8-PFOSA



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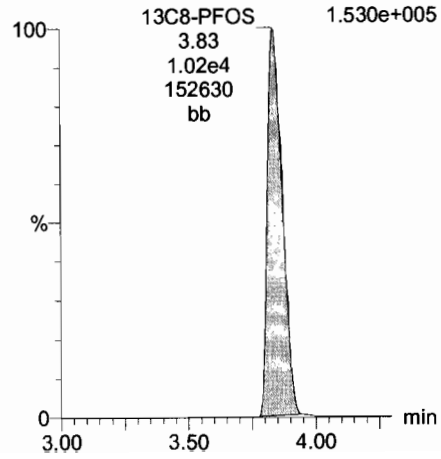
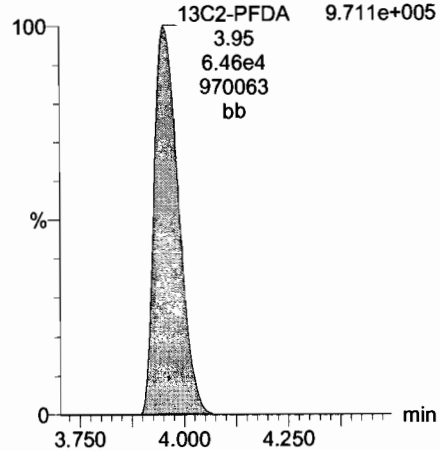


13C2-PFDA



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Name: 170728M2_7, Date: 28-Jul-2017, Time: 17:14:14, ID: ST170728M2-6 PFC CS3 17G2829, Description: PFC CS3 17G2829

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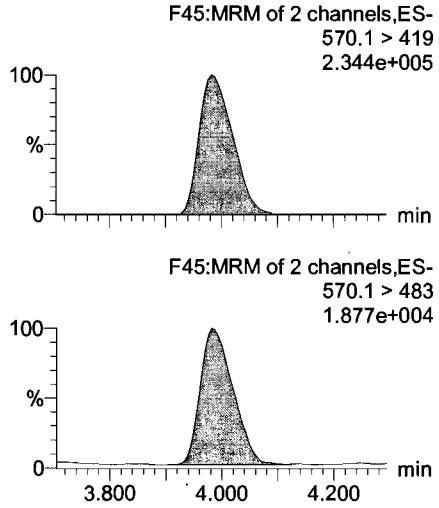

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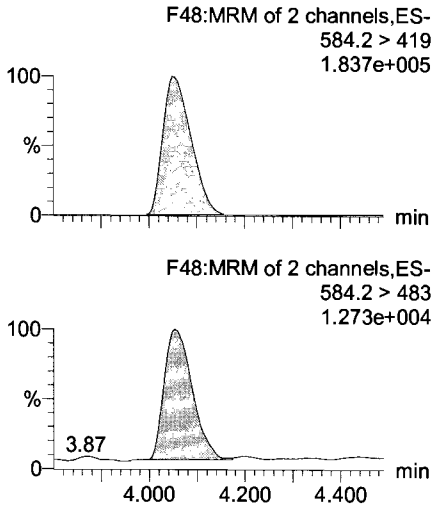

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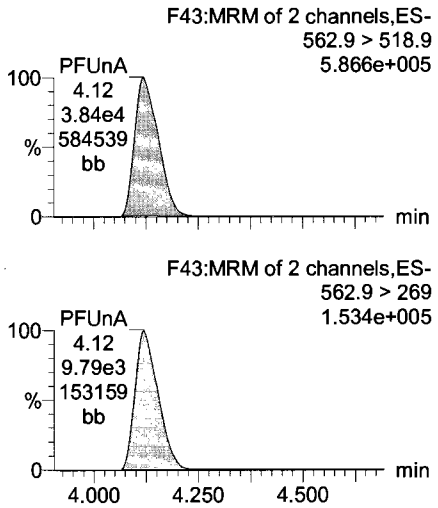

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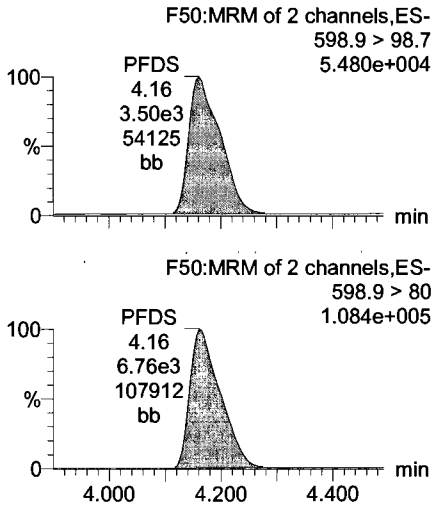

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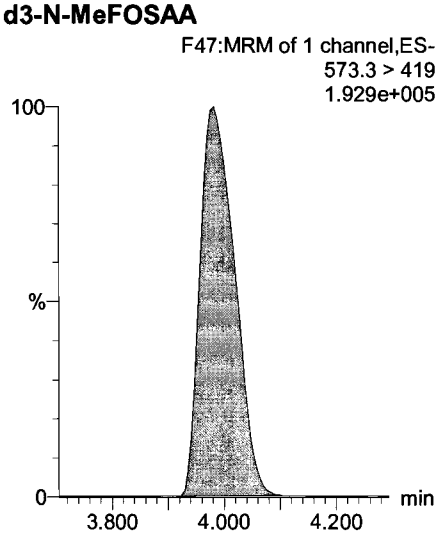
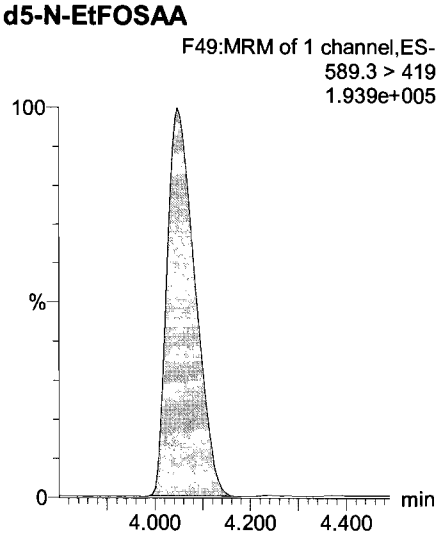
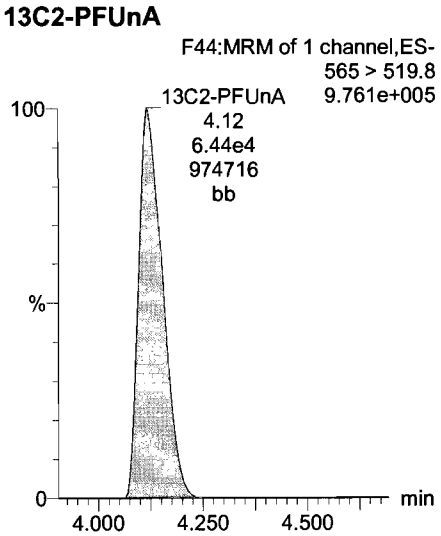


d5-N-EtFOSAA



13C2-PFUnA



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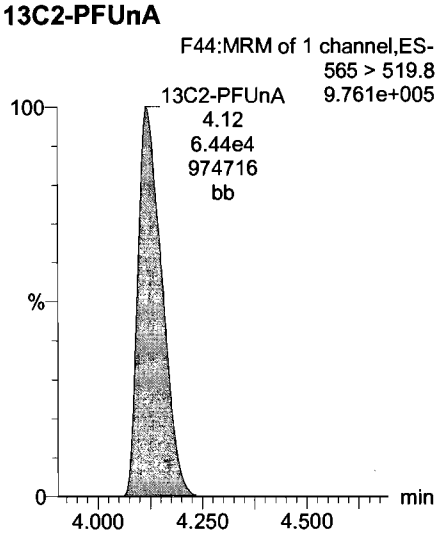

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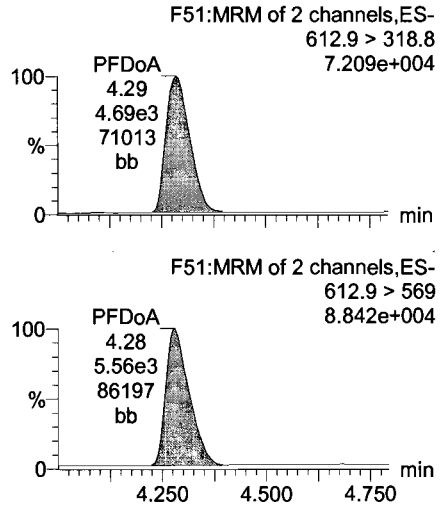
Name: 170728M2_7, Date: 28-Jul-2017, Time: 17:14:14, ID: ST170728M2-6 PFC CS3 17G2829, Description: PFC CS3 17G2829

PFDoA



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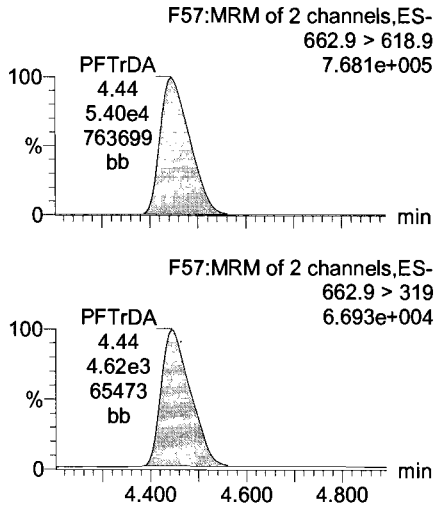
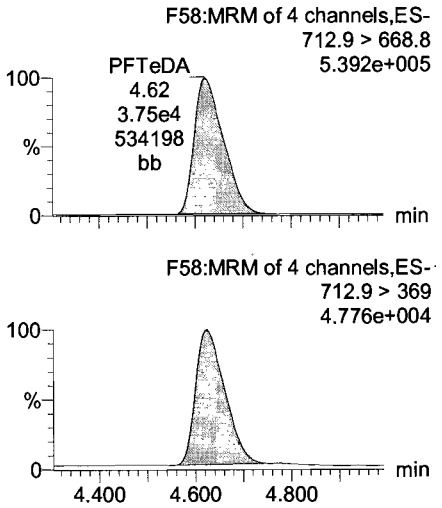
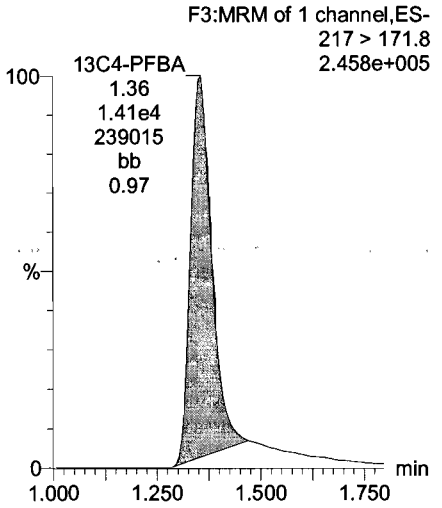


PFTeDA



13C4-PFBA



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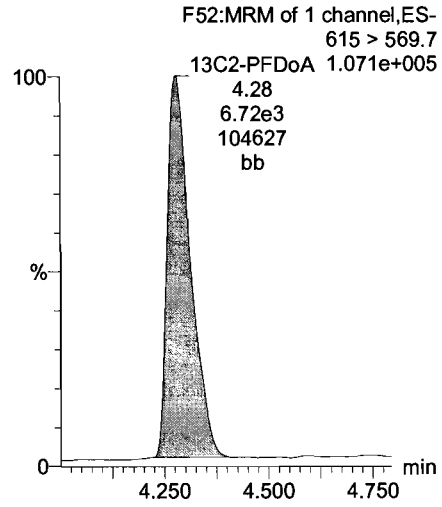

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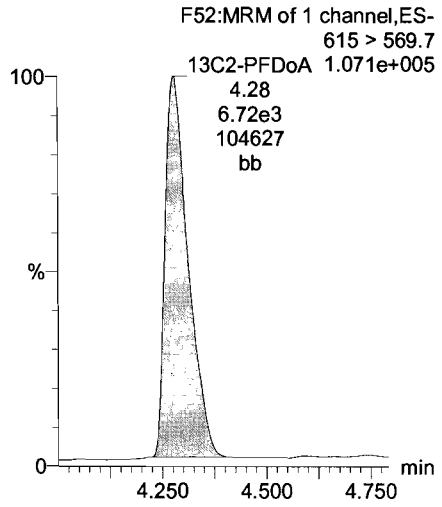

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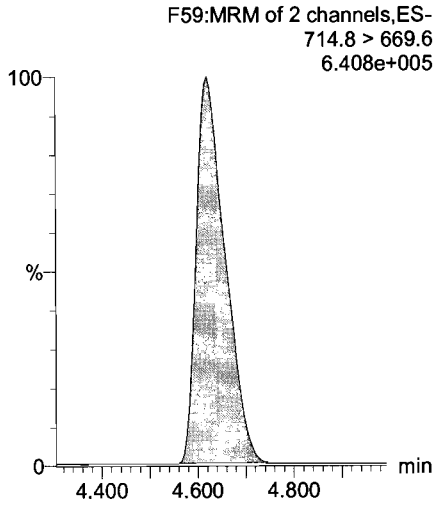

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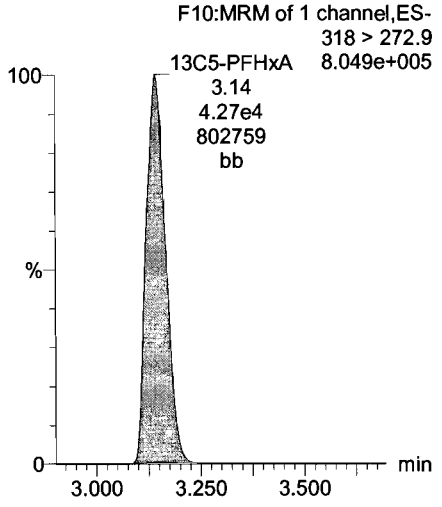

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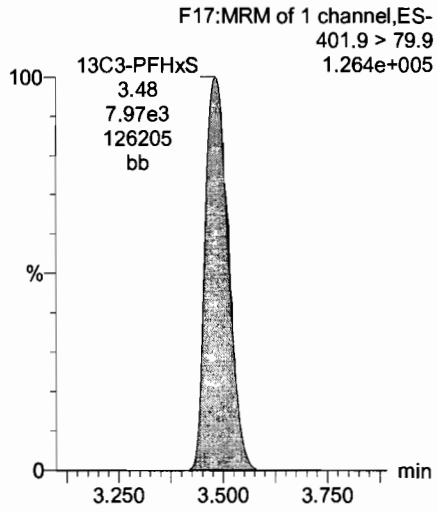
Name: 170728M2_7, Date: 28-Jul-2017, Time: 17:14:14, ID: ST170728M2-6 PFC CS3 17G2829, Description: PFC CS3 17G2829

13C3-PFHxS



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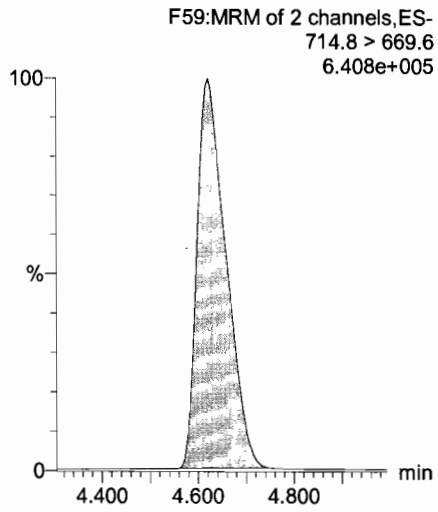
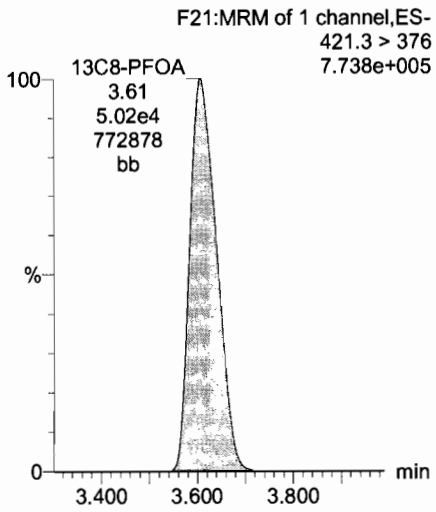


13C8-PFOA



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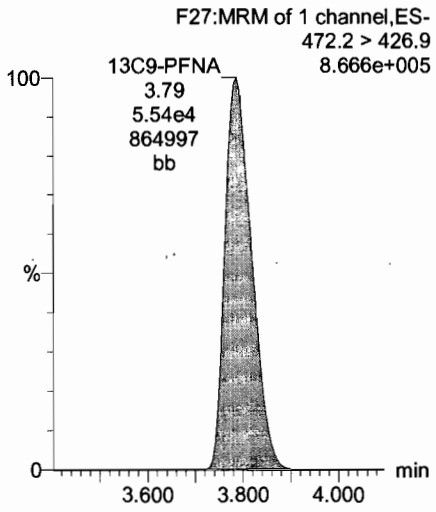
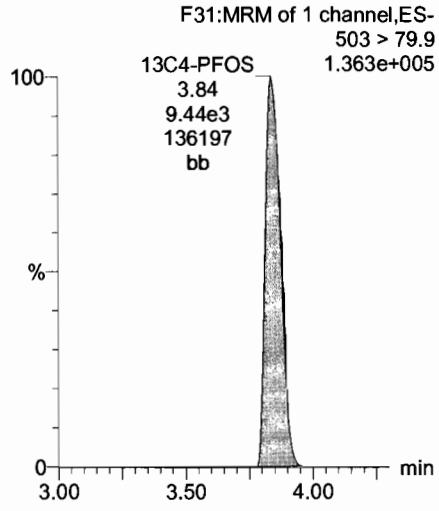


13C4-PFOS



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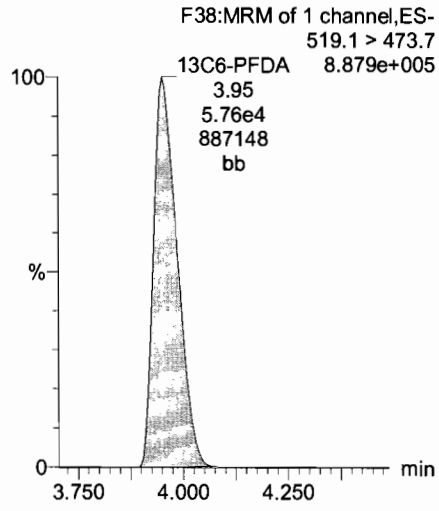

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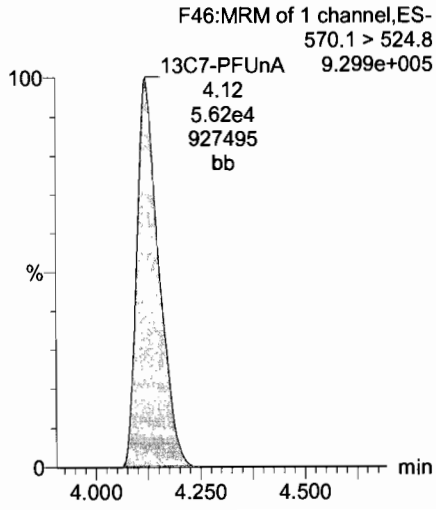

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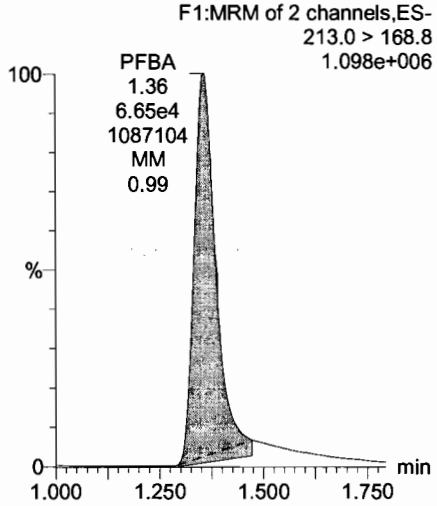
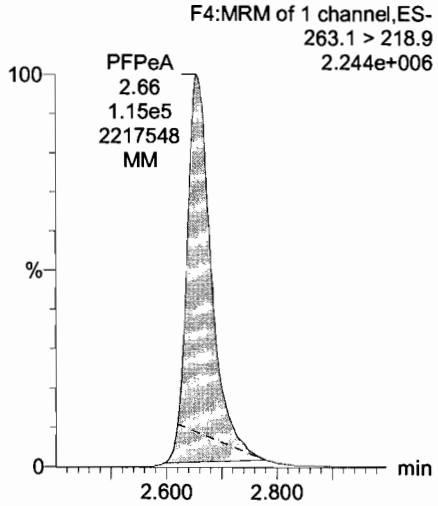
Name: 170728M2_8, Date: 28-Jul-2017, Time: 17:24:53, ID: ST170728M2-7 PFC CS4 17G2830, Description: PFC CS4 17G2830

PFBA



PFPeA



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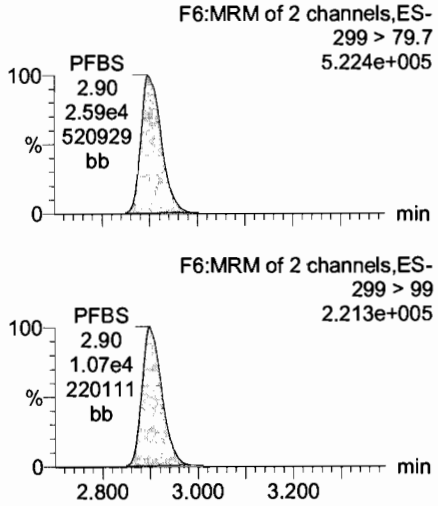

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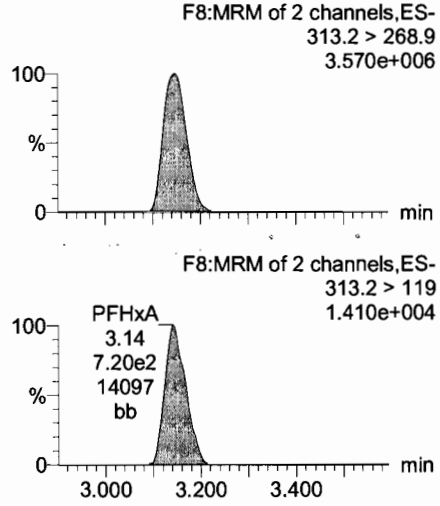
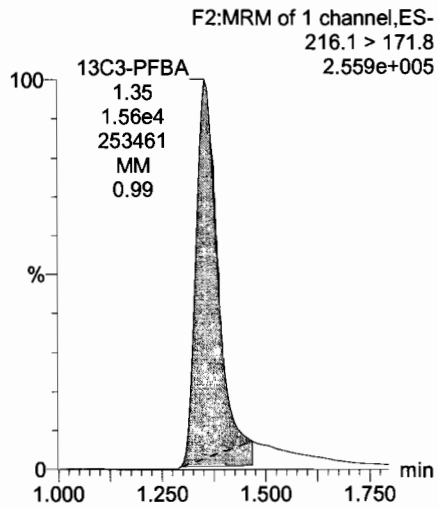


13C3-PFBA



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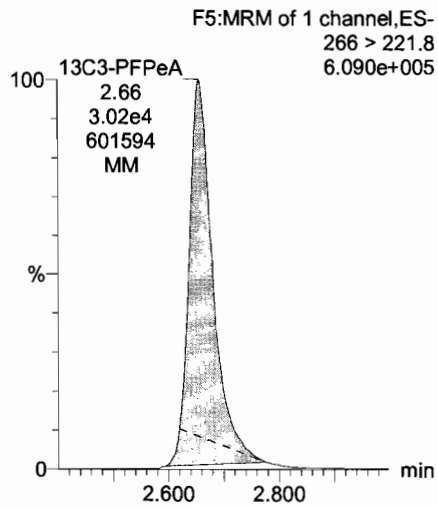

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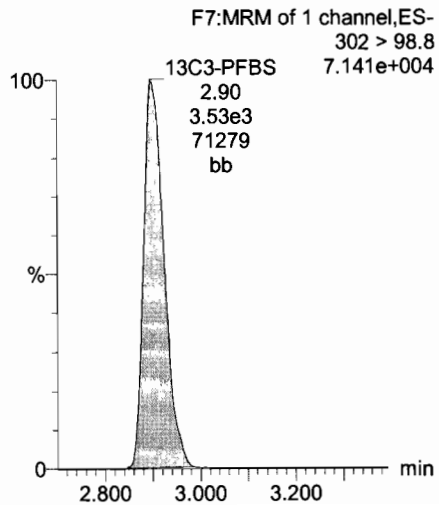

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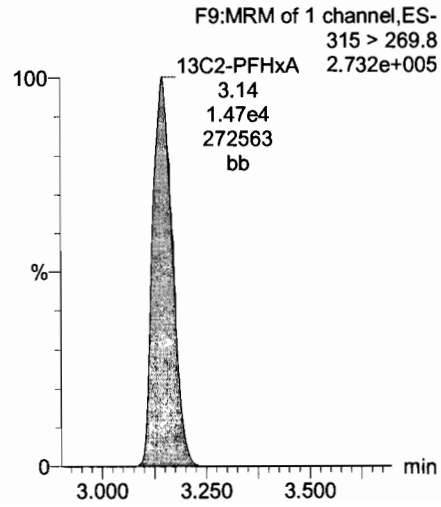

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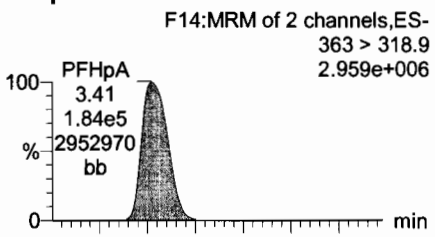
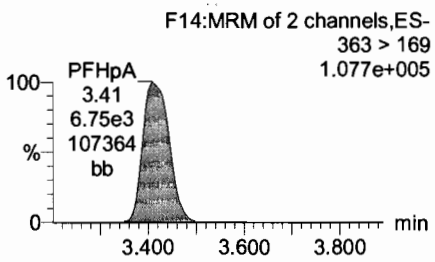
Name: 170728M2_8, Date: 28-Jul-2017, Time: 17:24:53, ID: ST170728M2-7 PFC CS4 17G2830, Description: PFC CS4 17G2830

PFHpA





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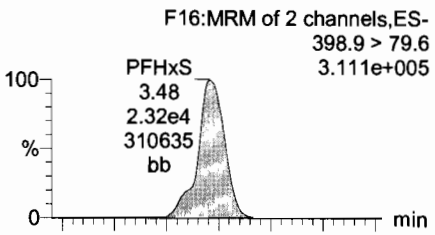

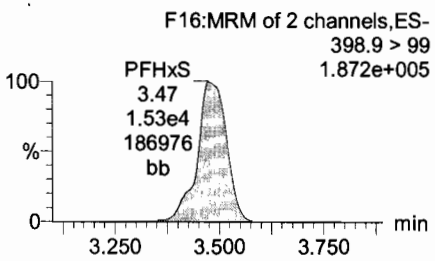

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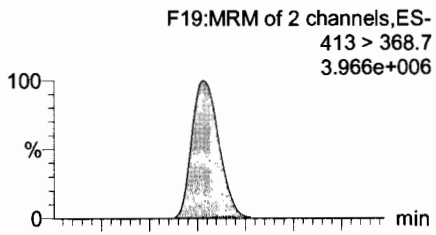

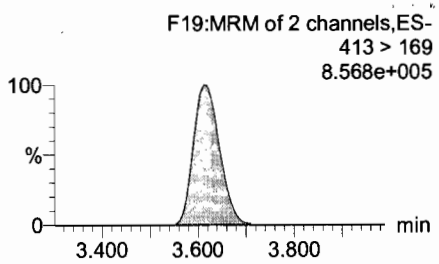

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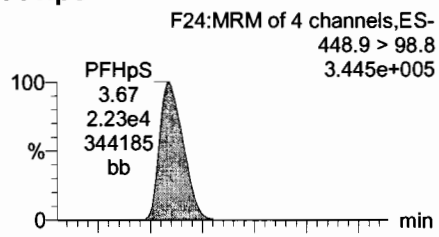
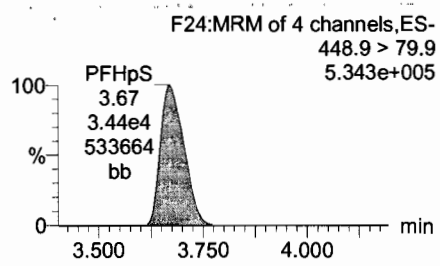
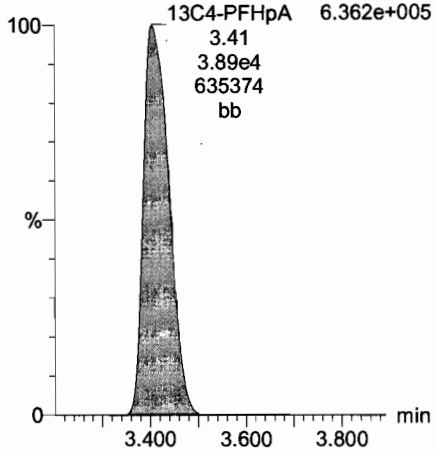
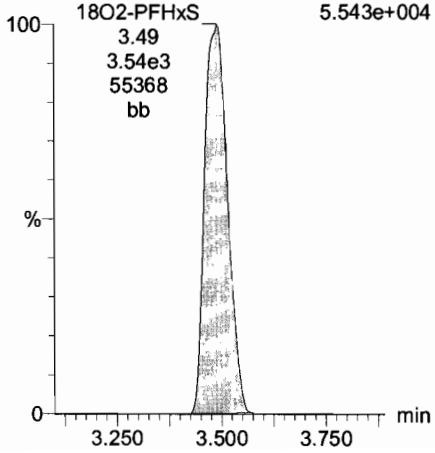




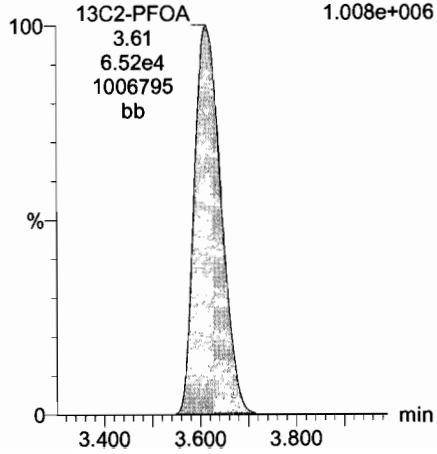
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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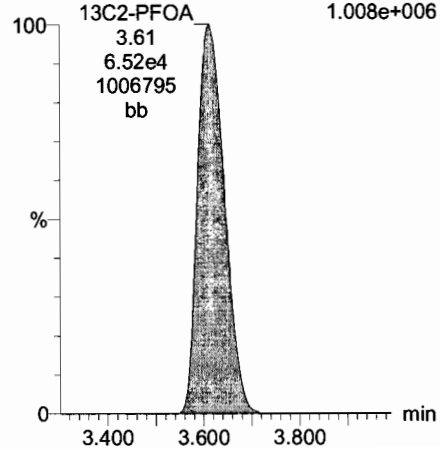

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Name: 170728M2_8, Date: 28-Jul-2017, Time: 17:24:53, ID: ST170728M2-7 PFC CS4 17G2830, Description: PFC CS4 17G2830

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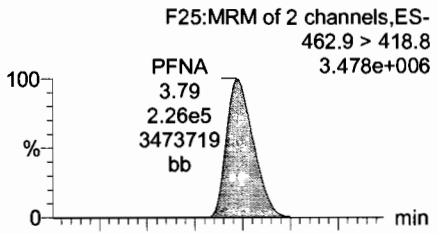
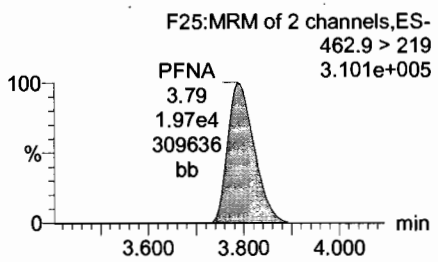
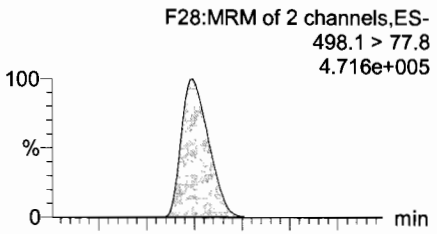
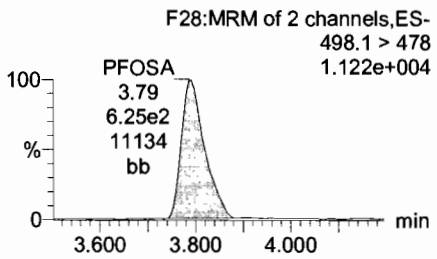




PFOSA





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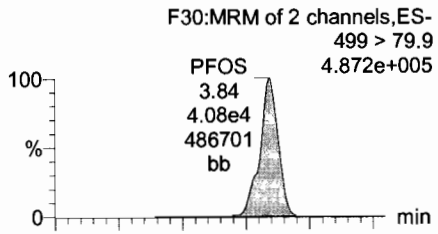

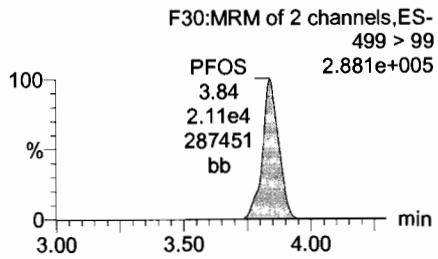

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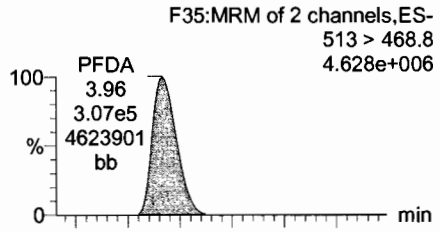
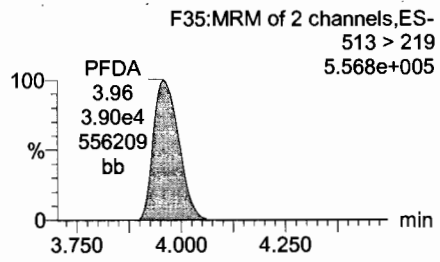
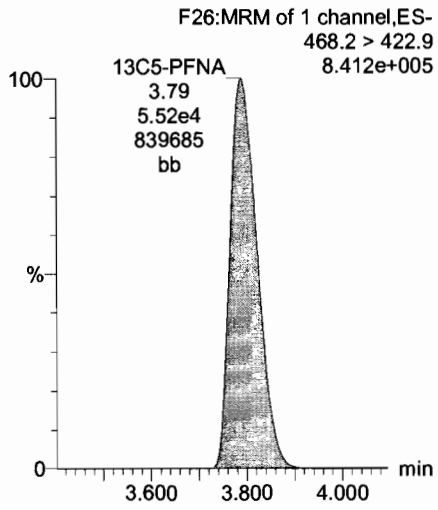
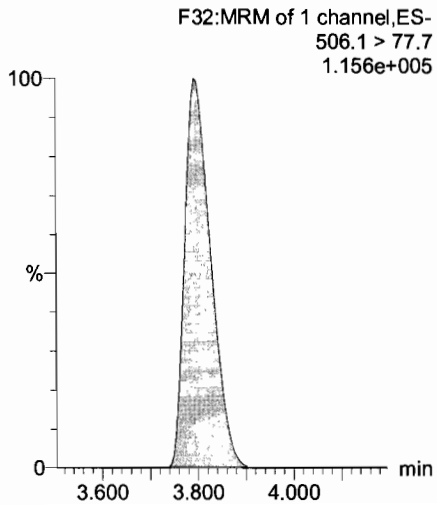




13C5-PFNA



13C8-PFOSA



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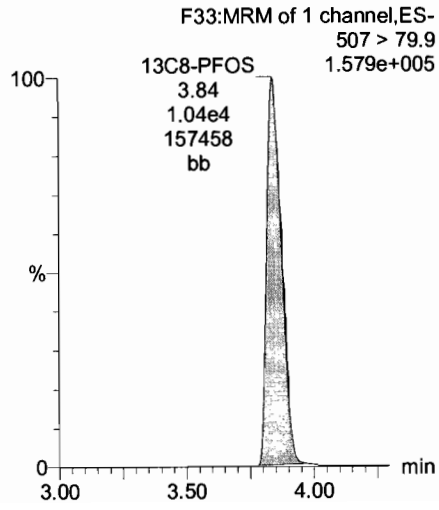
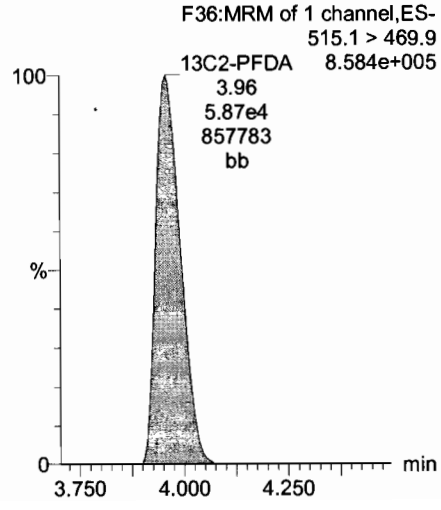


13C2-PFDA



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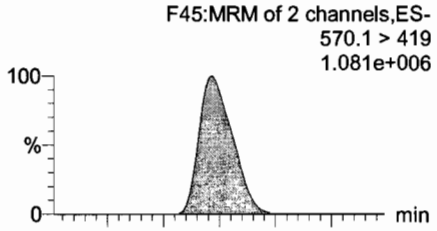
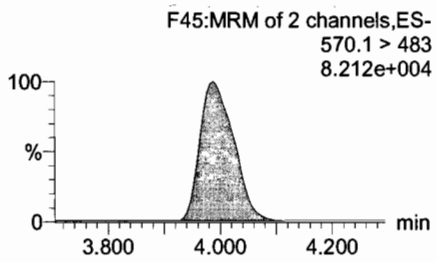
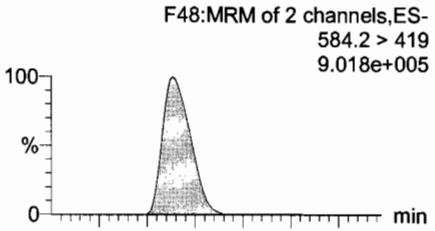
Name: 170728M2_8, Date: 28-Jul-2017, Time: 17:24:53, ID: ST170728M2-7 PFC CS4 17G2830, Description: PFC CS4 17G2830

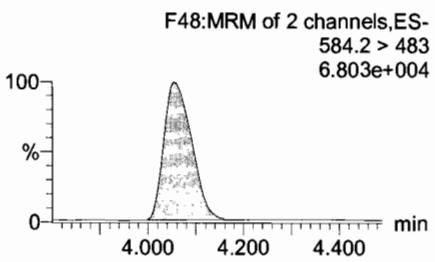
N-MeFOSAA





N-EtFOSAA





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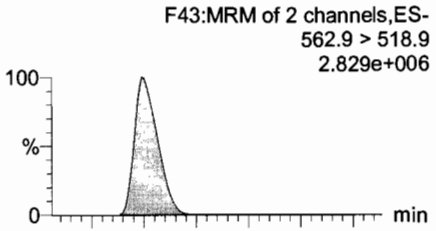
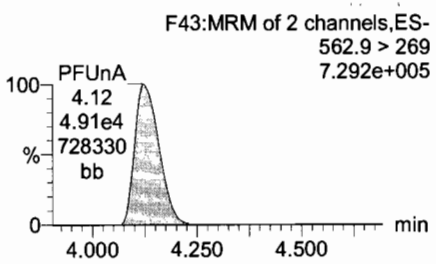
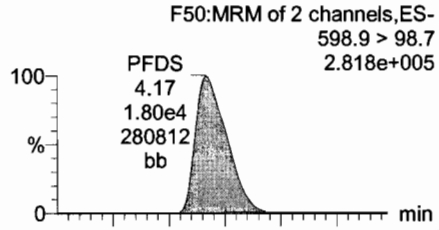
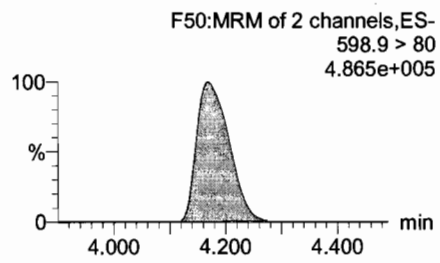




PFDS





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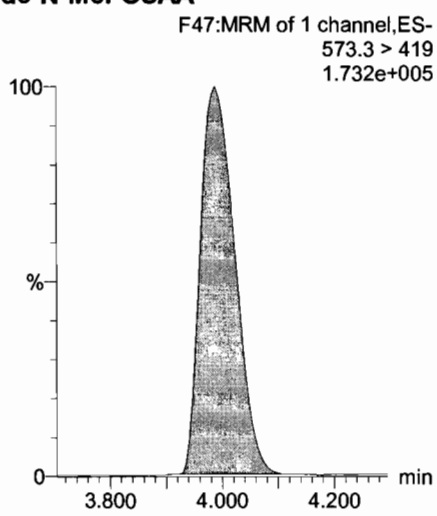

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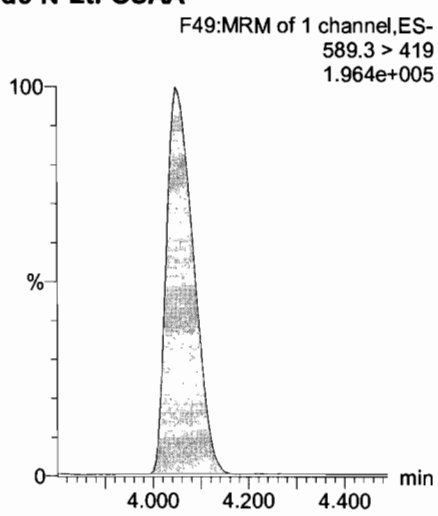
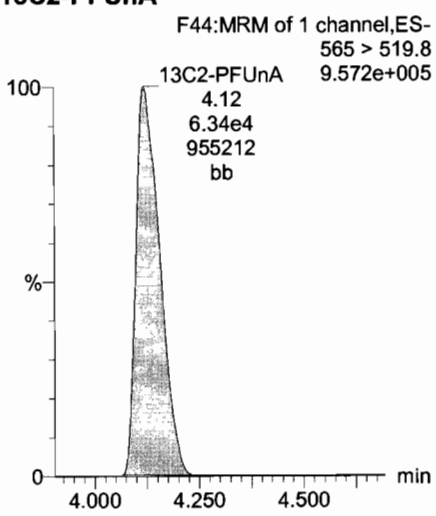


13C2-PFUnA



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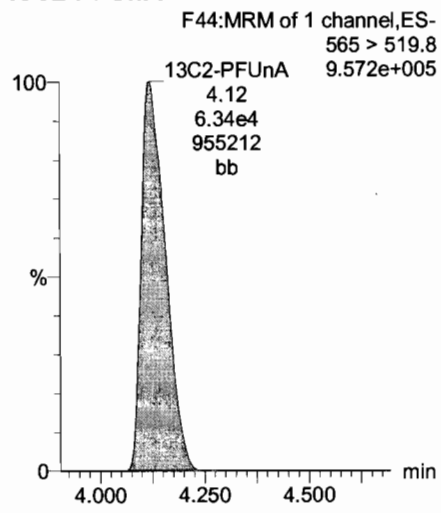

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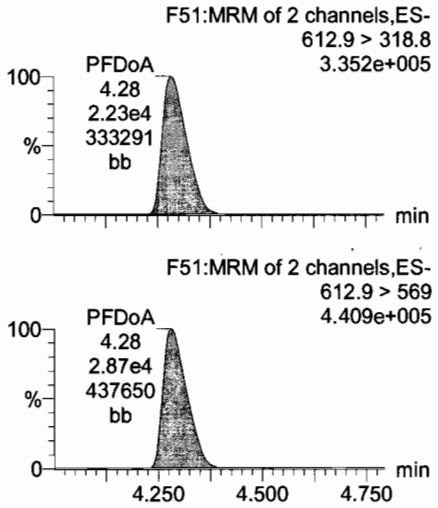
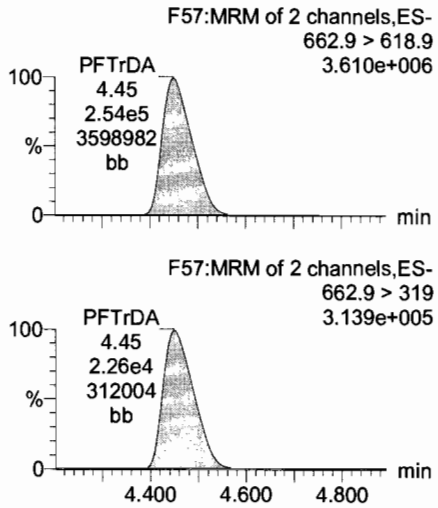
Name: 170728M2_8, Date: 28-Jul-2017, Time: 17:24:53, ID: ST170728M2-7 PFC CS4 17G2830, Description: PFC CS4 17G2830

PFDoA



PFTrDA



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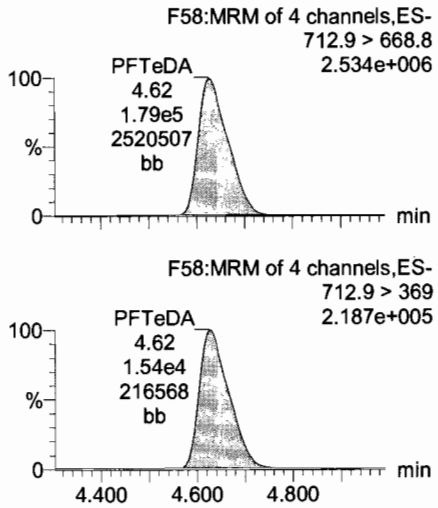

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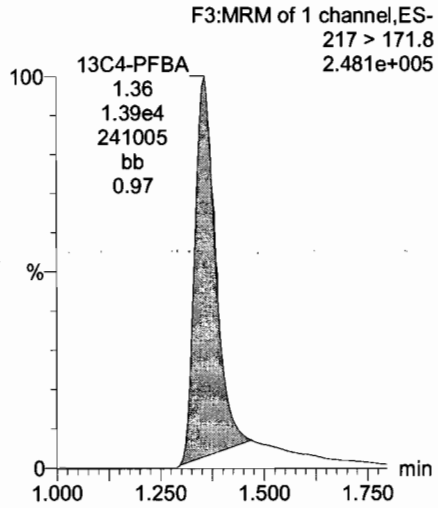
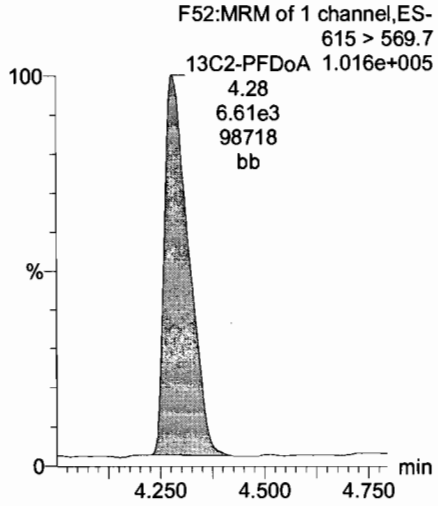


13C2-PFDoA



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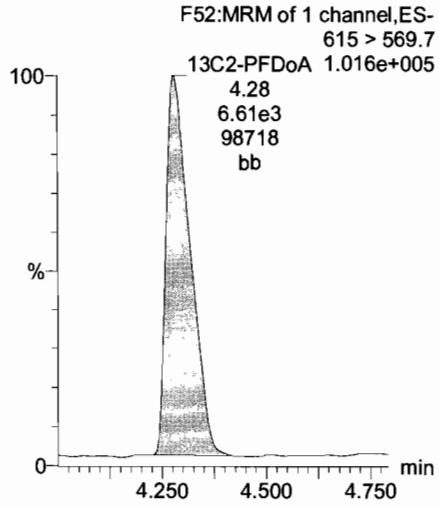
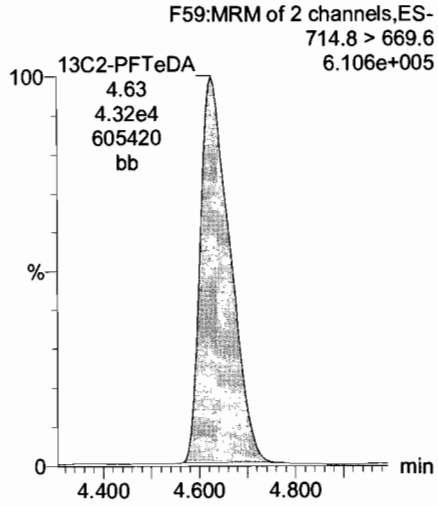
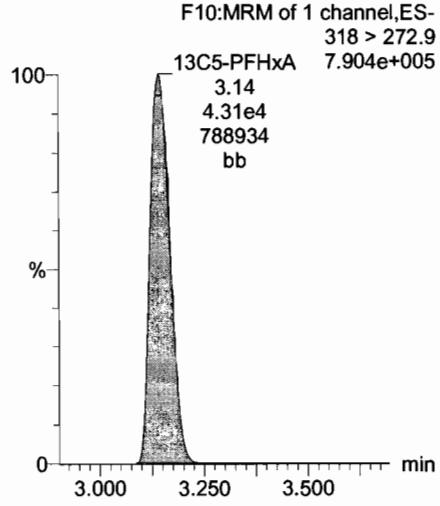


13C2-PFTeDA



13C5-PFHxA



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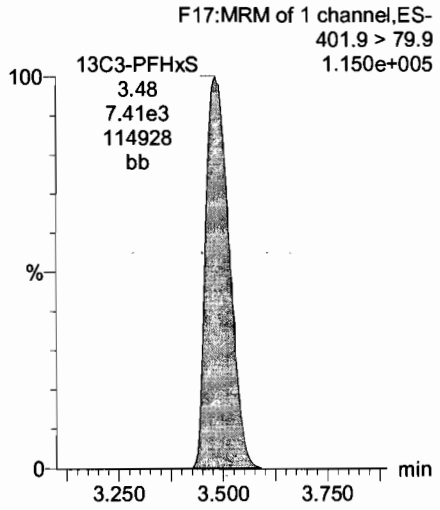
Name: 170728M2_8, Date: 28-Jul-2017, Time: 17:24:53, ID: ST170728M2-7 PFC CS4 17G2830, Description: PFC CS4 17G2830

13C3-PFHxS



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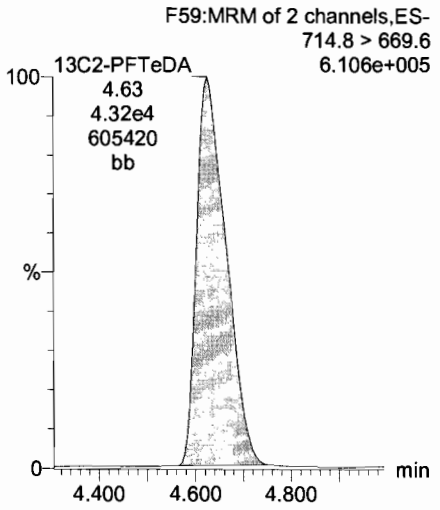
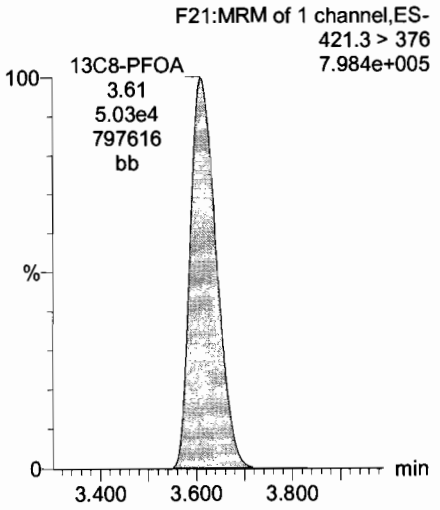
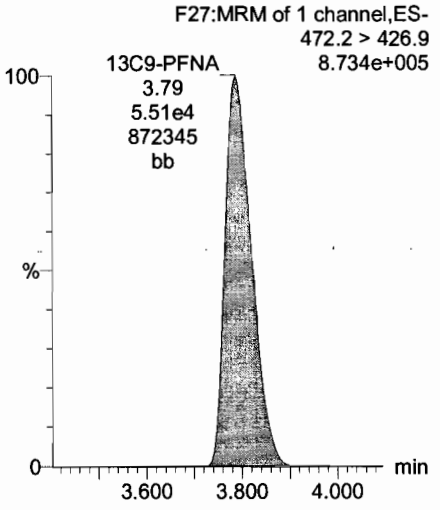


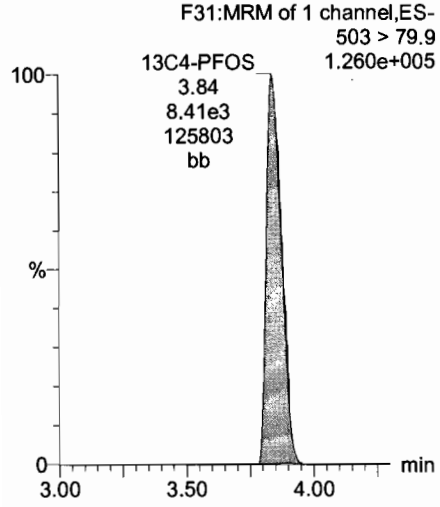
13C8-PFOA



13C9-PFNA



13C4-PFOS



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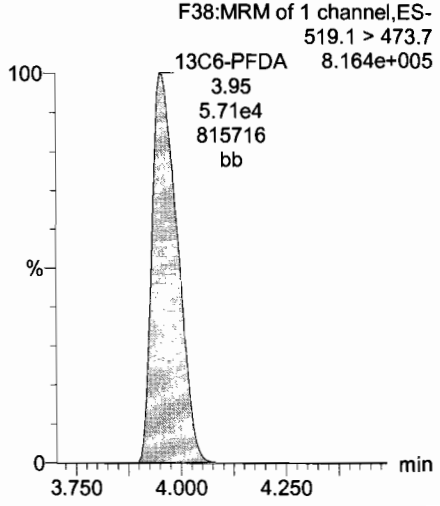
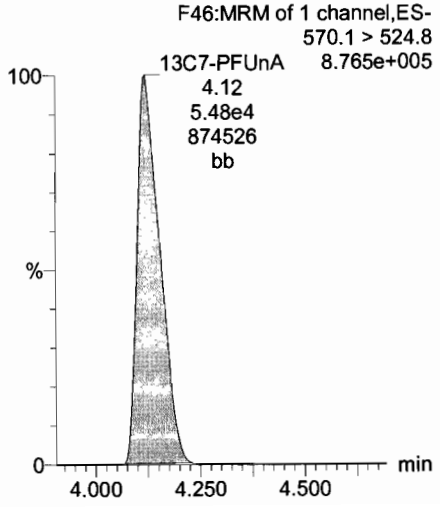


13C7-PFUnA



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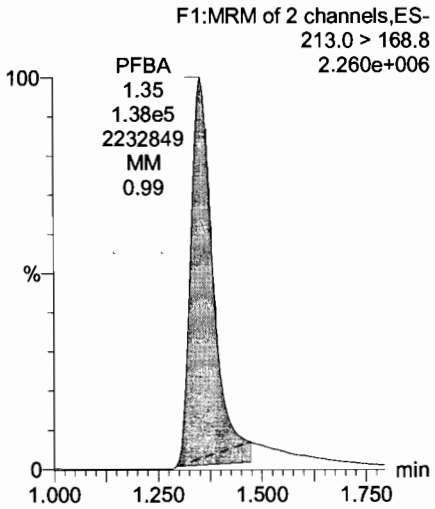
Name: 170728M2_9, Date: 28-Jul-2017, Time: 17:35:31, ID: ST170728M2-8 PFC CS5 17G2831, Description: PFC CS5 17G2831

PFBA



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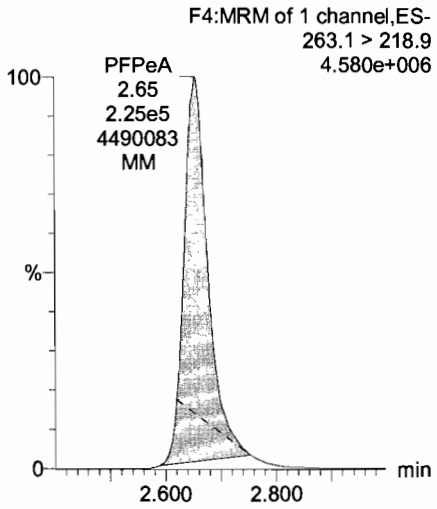

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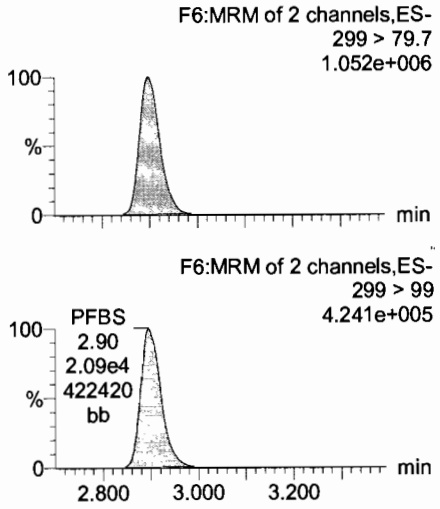

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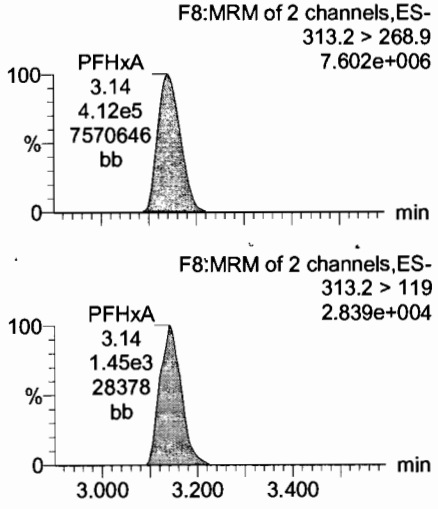

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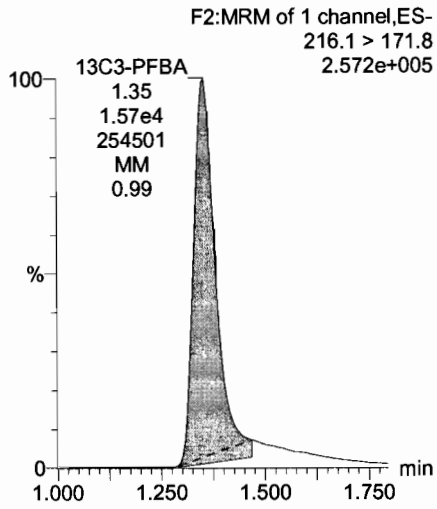

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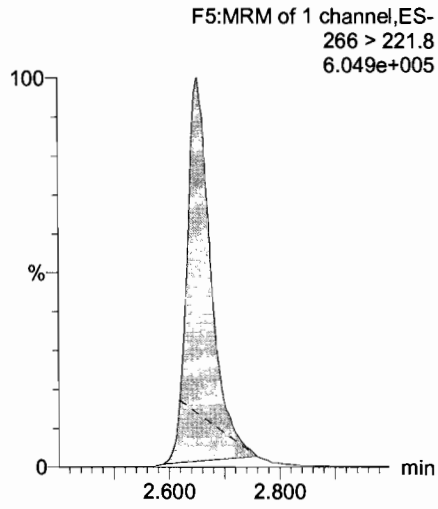

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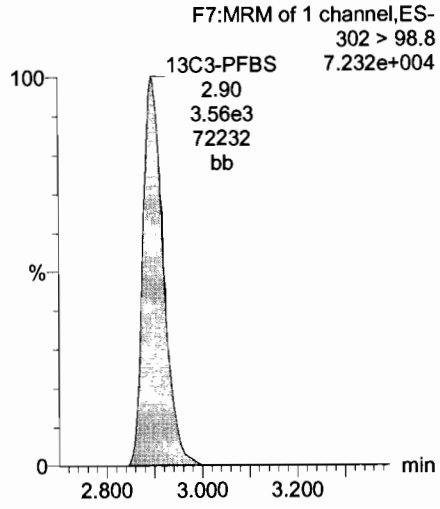

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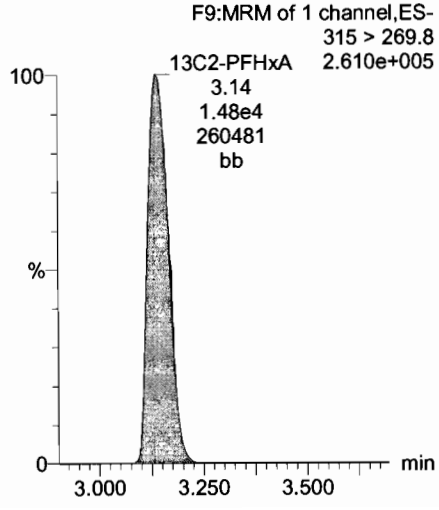

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Name: 170728M2_9, Date: 28-Jul-2017, Time: 17:35:31, ID: ST170728M2-8 PFC CS5 17G2831, Description: PFC CS5 17G2831

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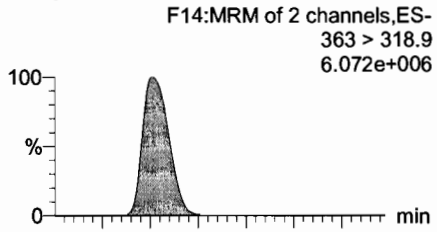

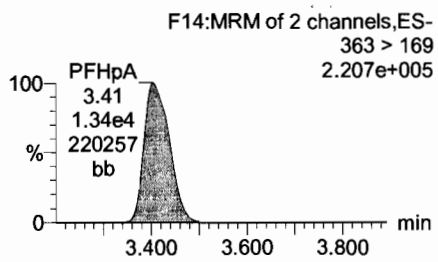

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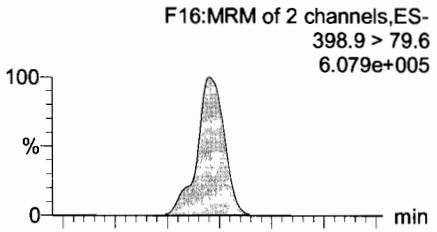

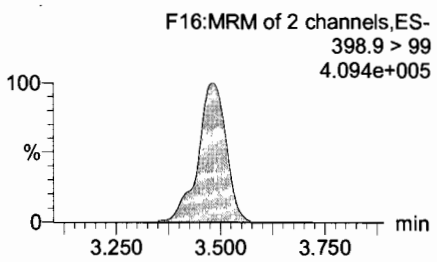

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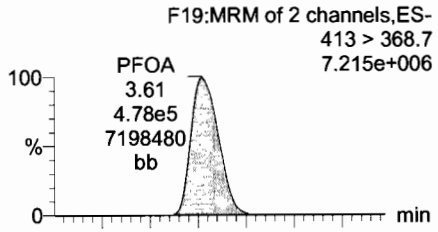

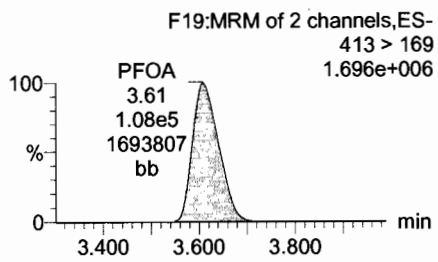

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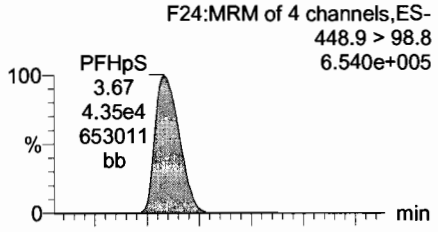
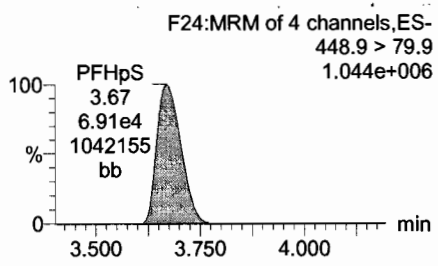
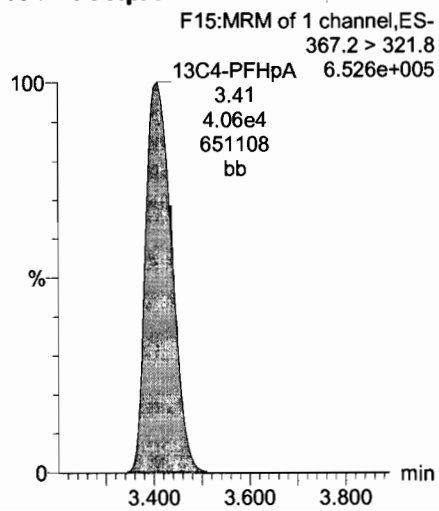
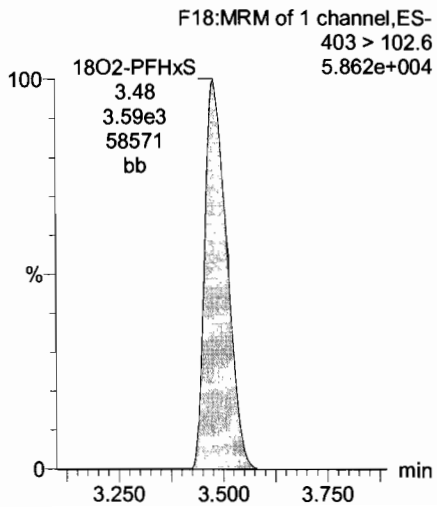




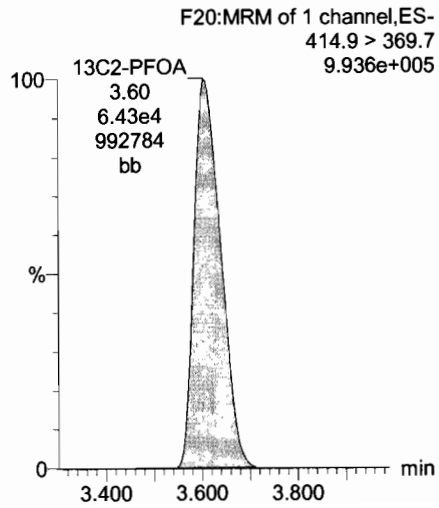
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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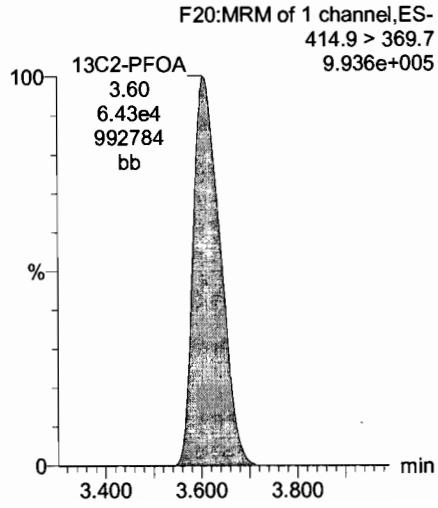

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Name: 170728M2_9, Date: 28-Jul-2017, Time: 17:35:31, ID: ST170728M2-8 PFC CS5 17G2831, Description: PFC CS5 17G2831

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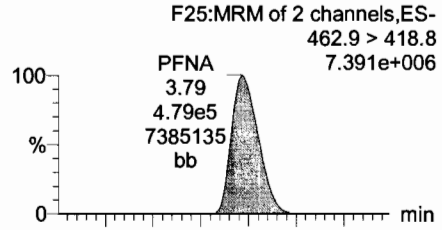

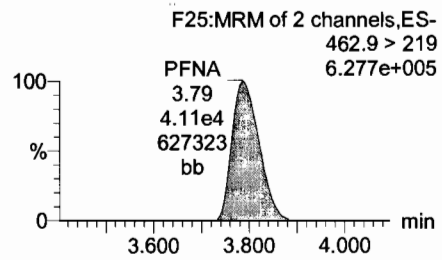

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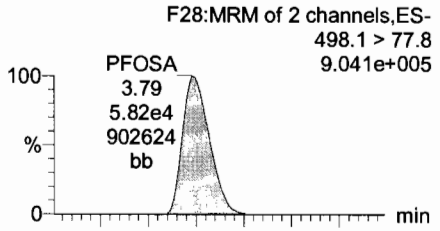

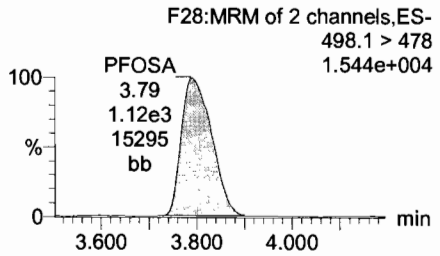

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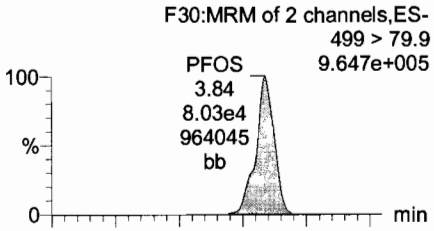

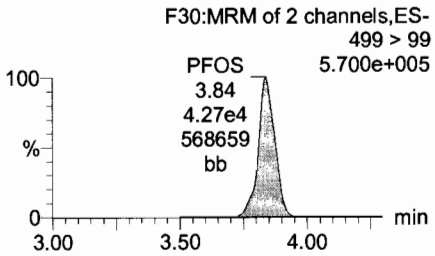

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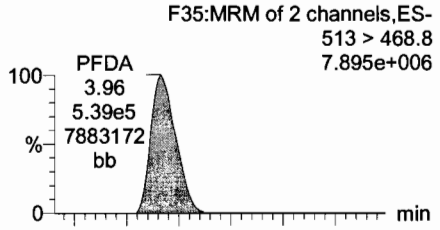

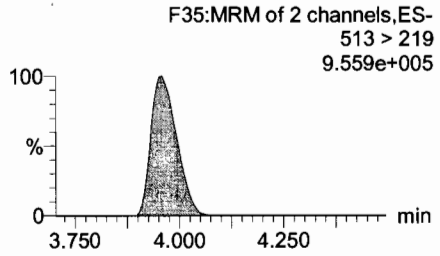

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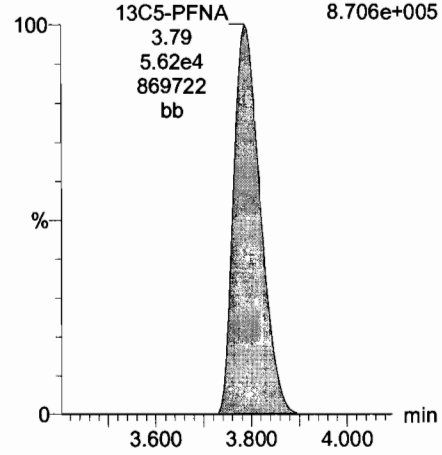
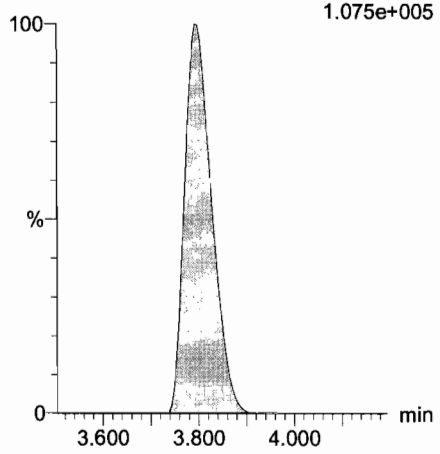
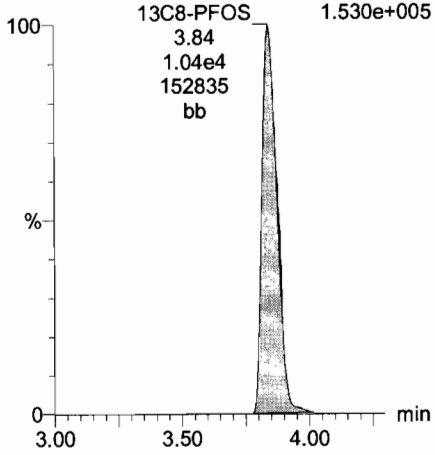


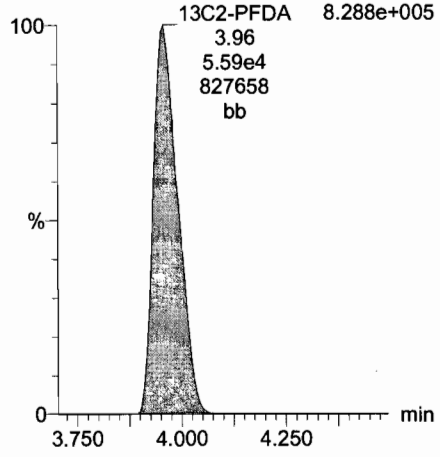
13C8-PFOSA



13C8-PFOS



13C2-PFDA



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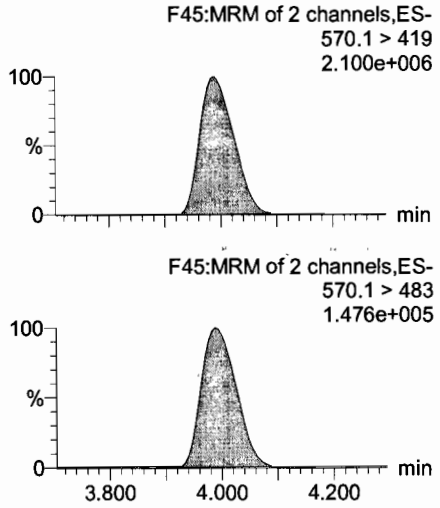

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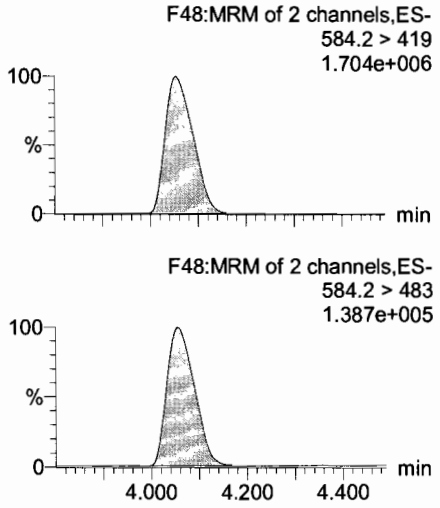

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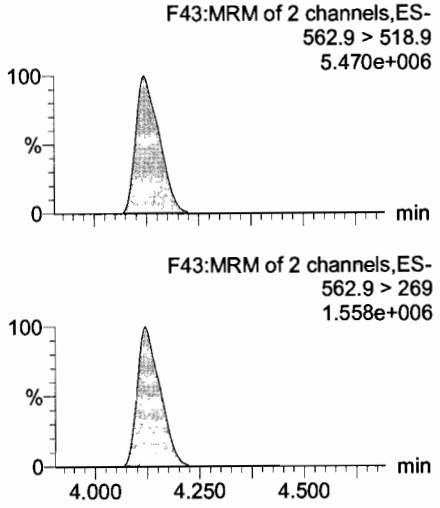

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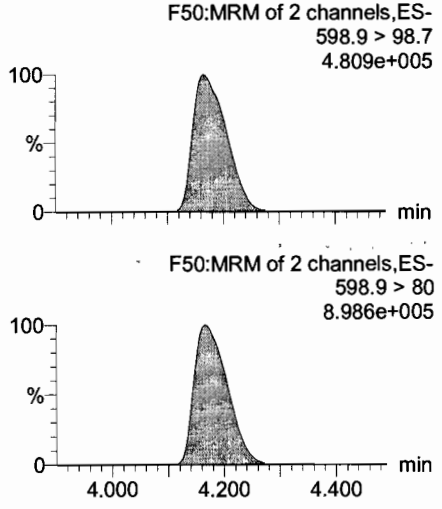

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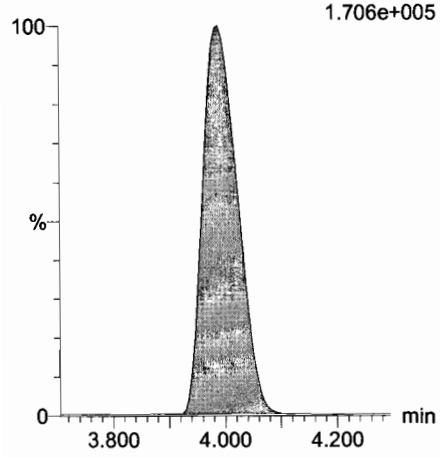

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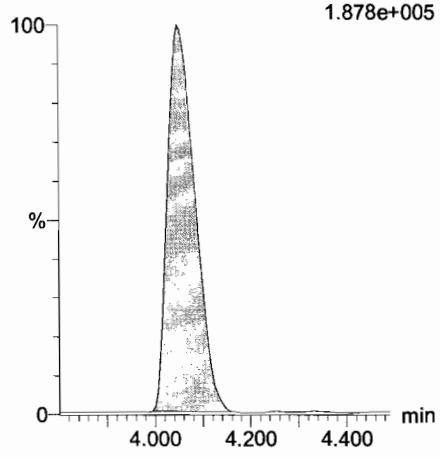

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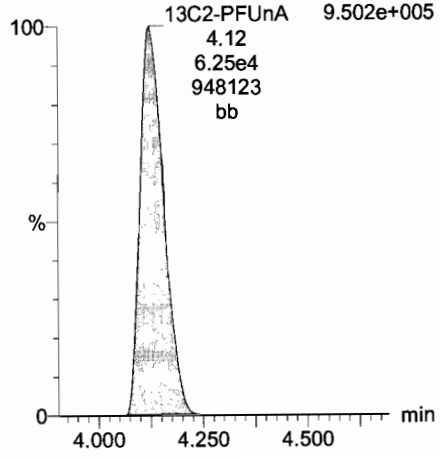

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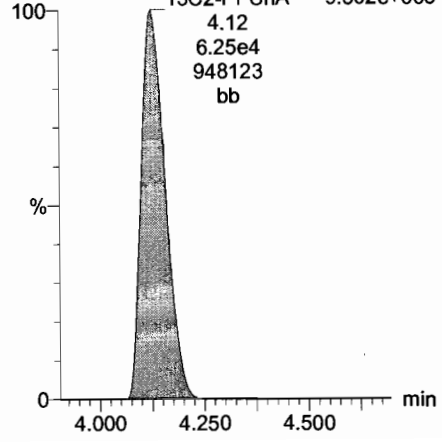

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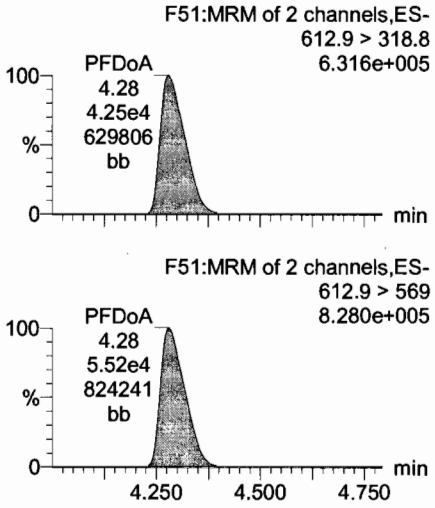

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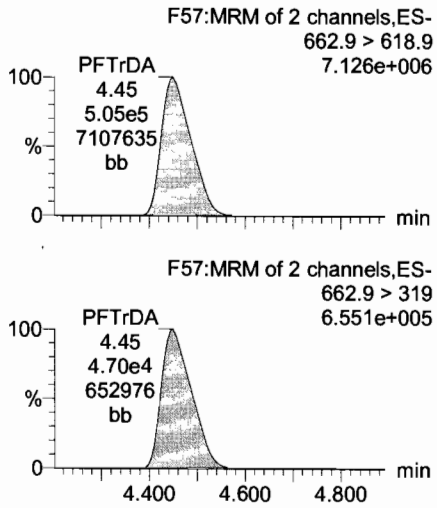

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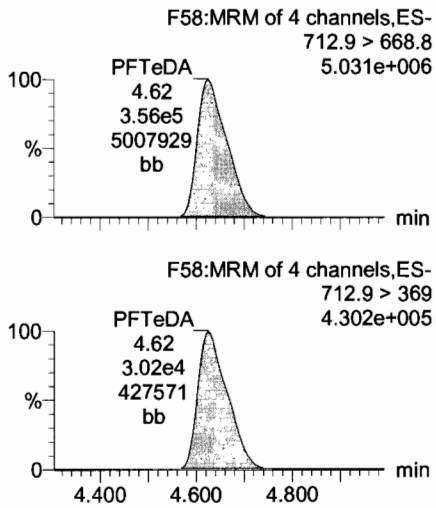

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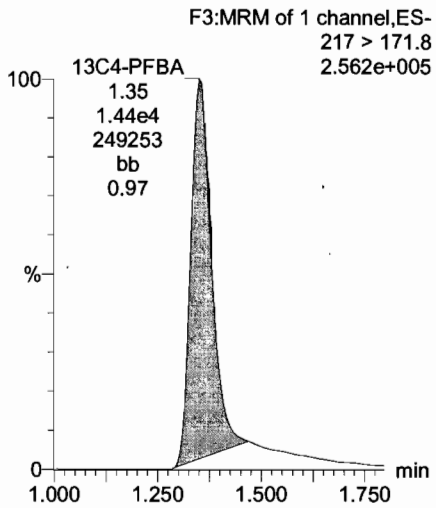

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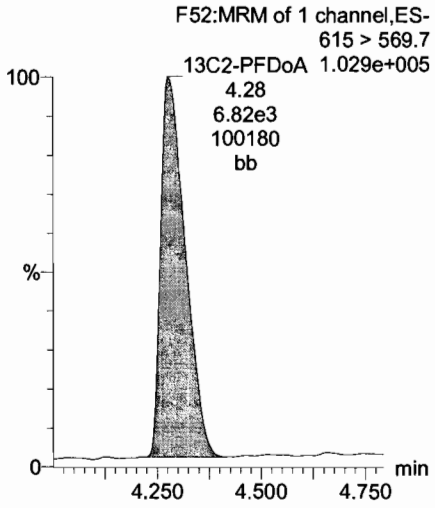

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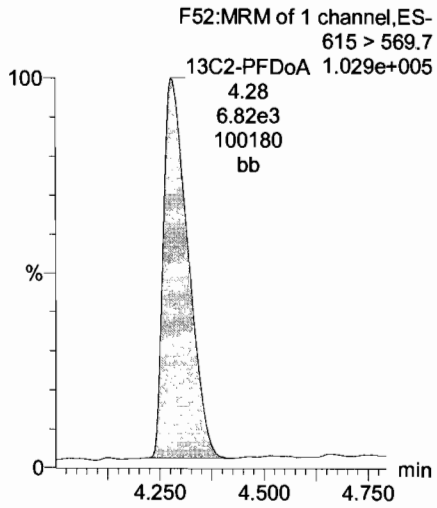

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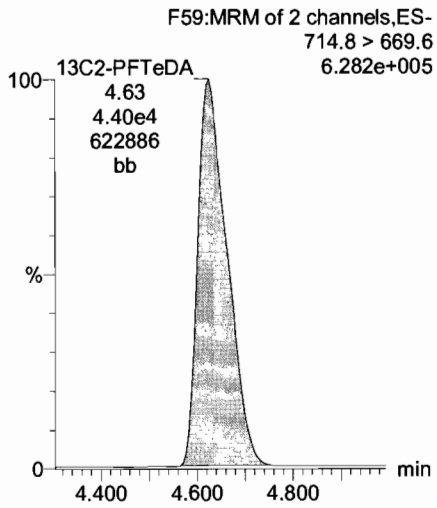

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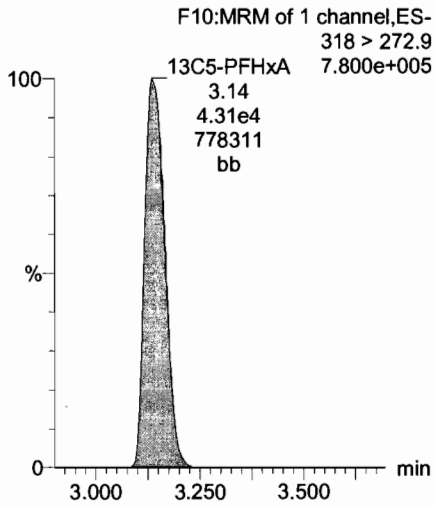

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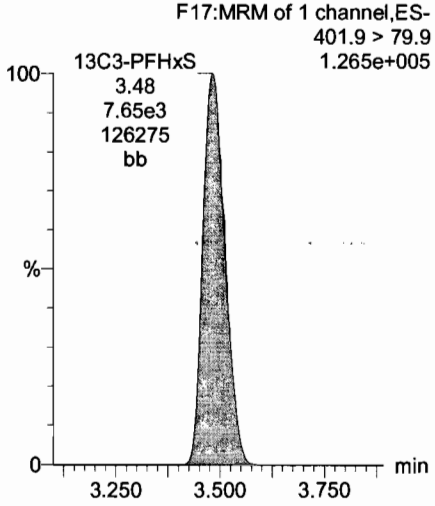
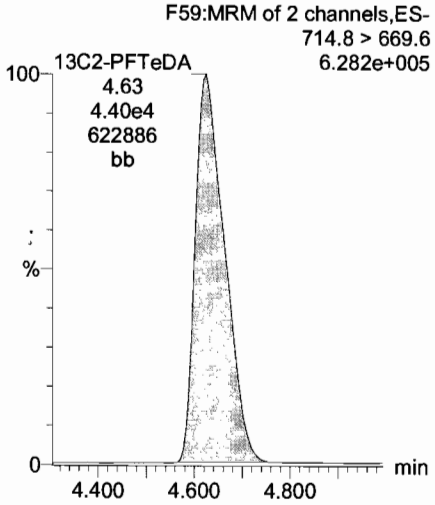
Name: 170728M2_9, Date: 28-Jul-2017, Time: 17:35:31, ID: ST170728M2-8 PFC CS5 17G2831, Description: PFC CS5 17G2831

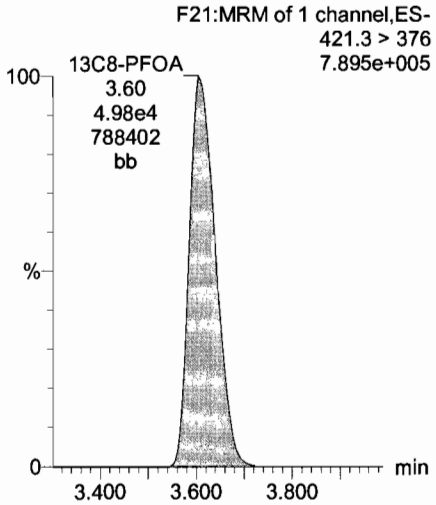
13C3-PFHxS



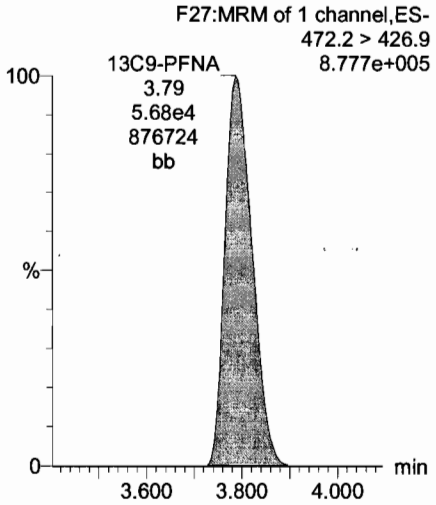
13C2-PFTeDA



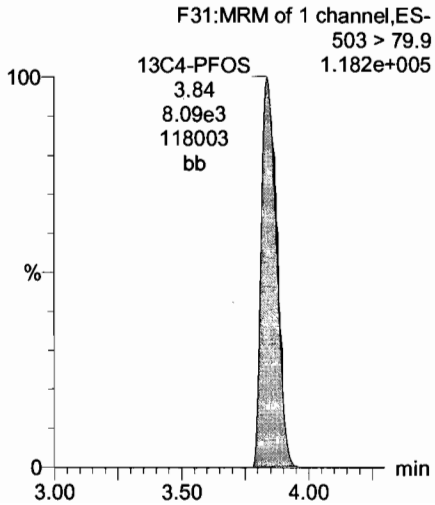
13C8-PFOA



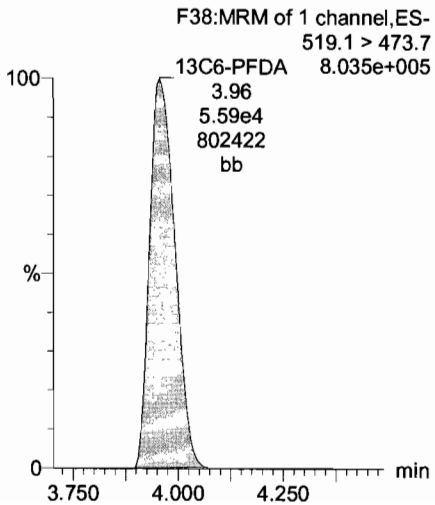
13C9-PFNA



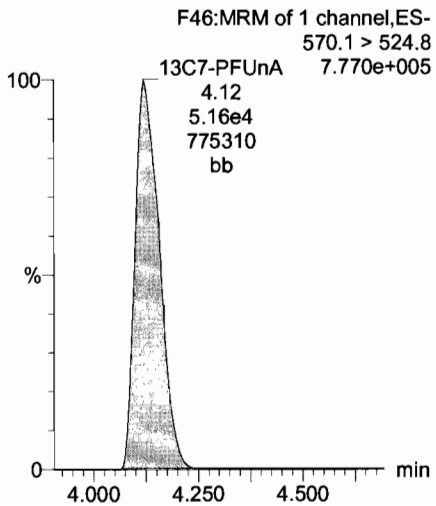
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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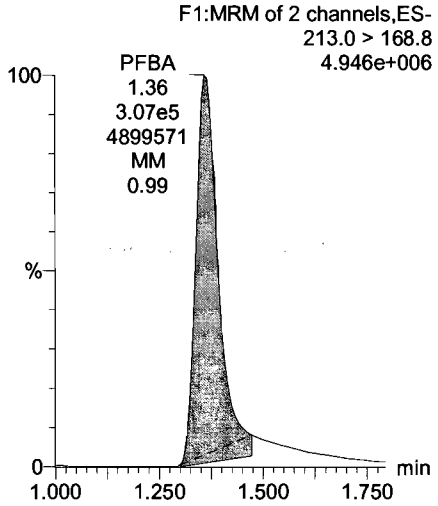
Name: 170728M2_10, Date: 28-Jul-2017, Time: 17:46:09, ID: ST170728M2-9 PFC CS6 17G2801, Description: PFC CS5 17G2801

PFBA



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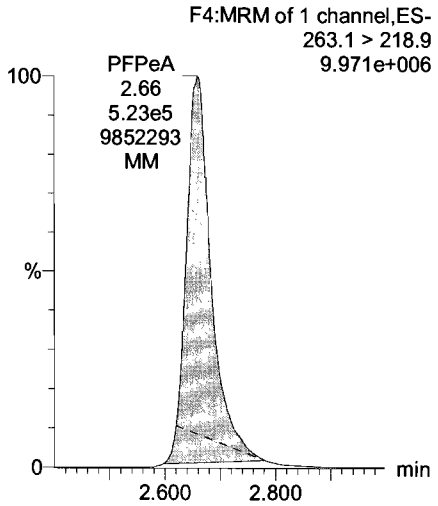
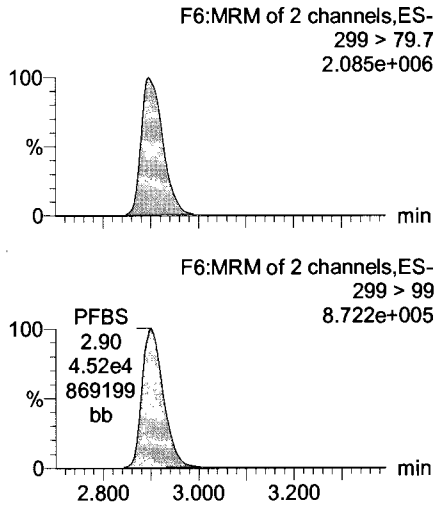
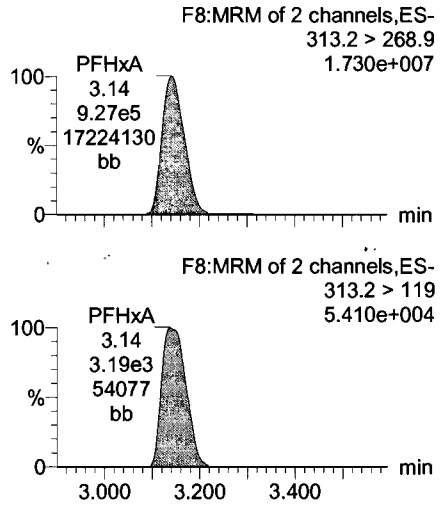


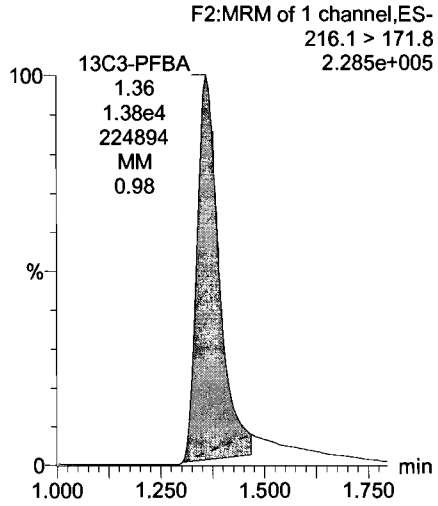
PFBS



PFHxA



13C3-PFBA



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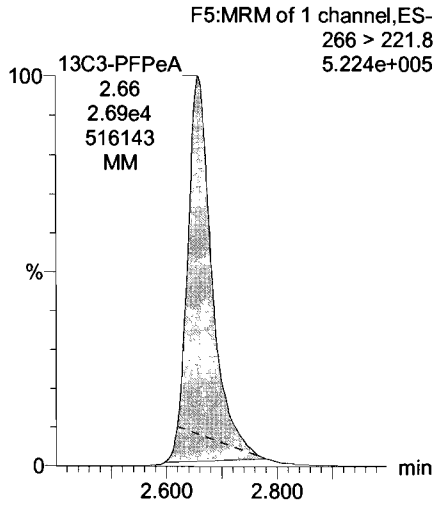

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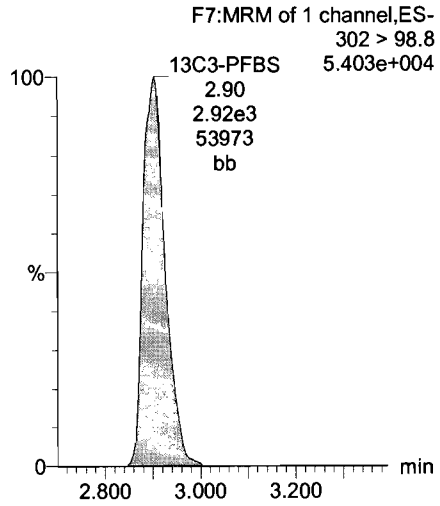

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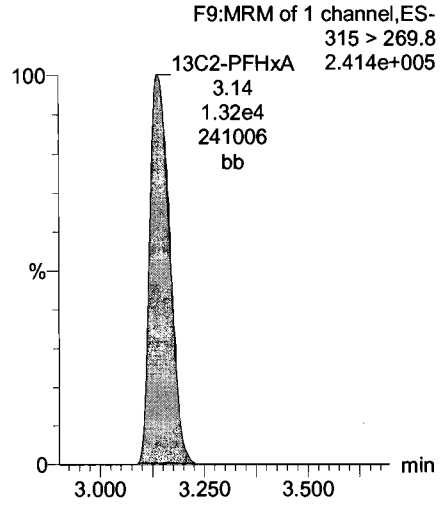

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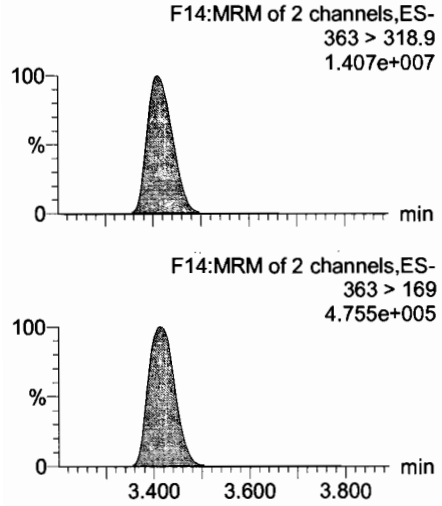
Name: 170728M2_10, Date: 28-Jul-2017, Time: 17:46:09, ID: ST170728M2-9 PFC CS6 17G2801, Description: PFC CS5 17G2801

PFHpA



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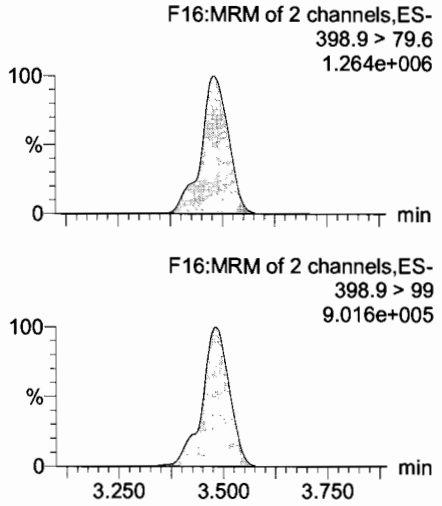
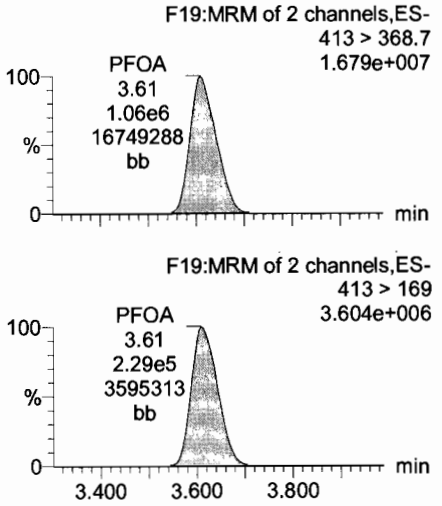


Total PFOA



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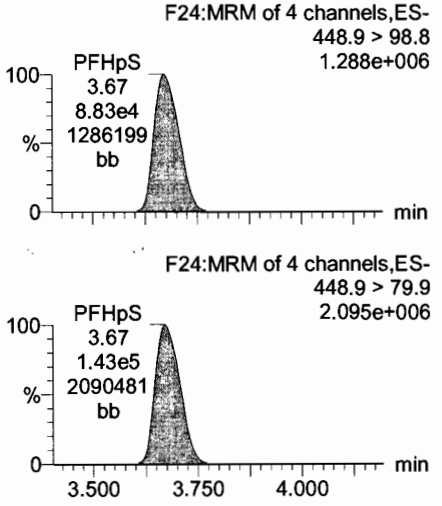
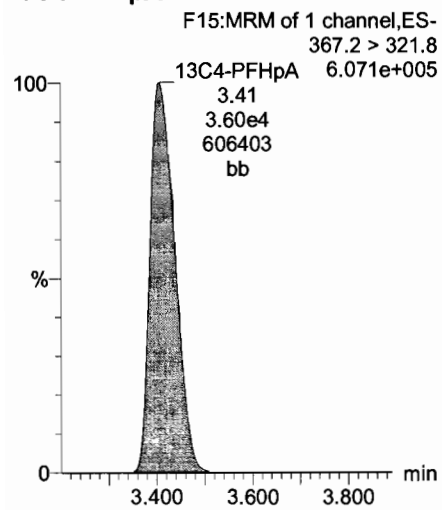
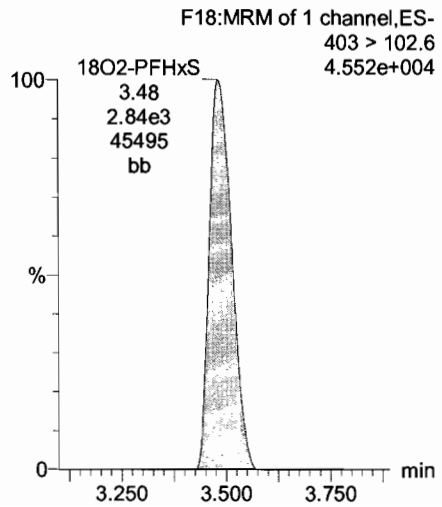


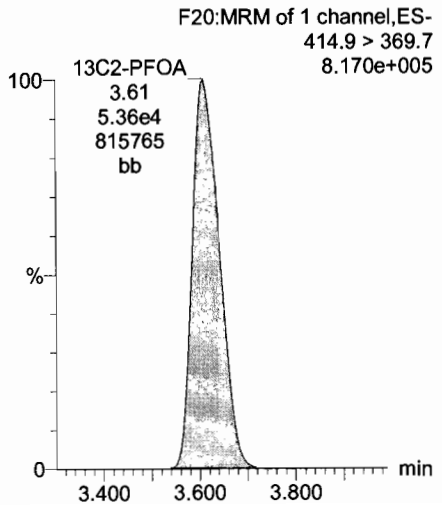
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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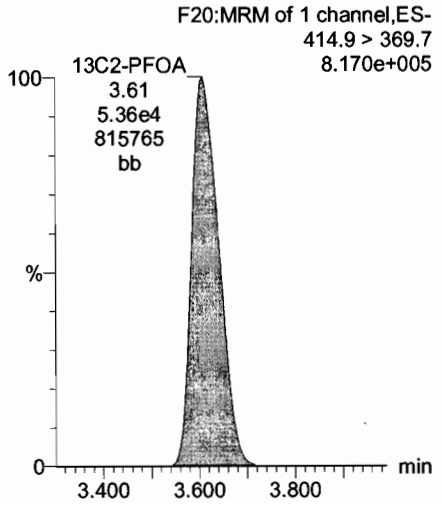

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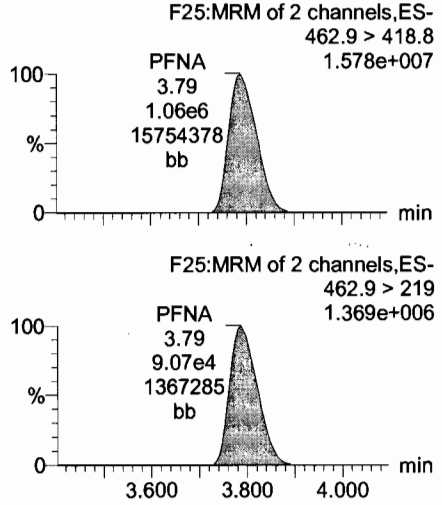
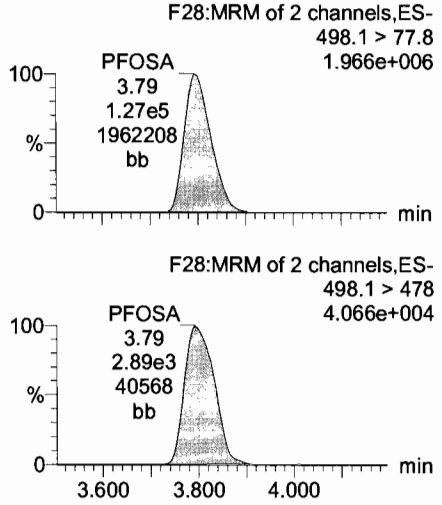
Name: 170728M2_10, Date: 28-Jul-2017, Time: 17:46:09, ID: ST170728M2-9 PFC CS6 17G2801, Description: PFC CS5 17G2801

PFNA



PFOSA



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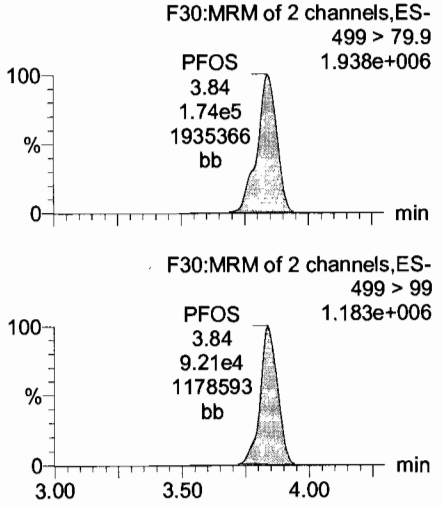

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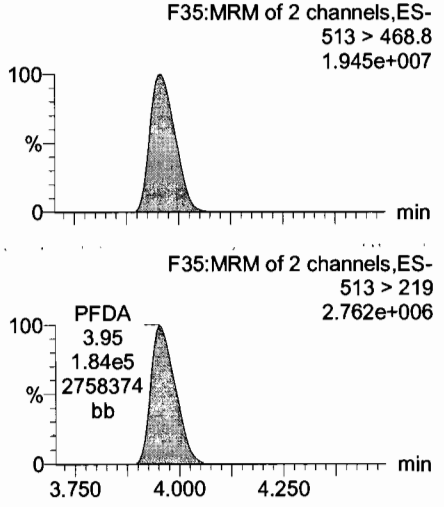

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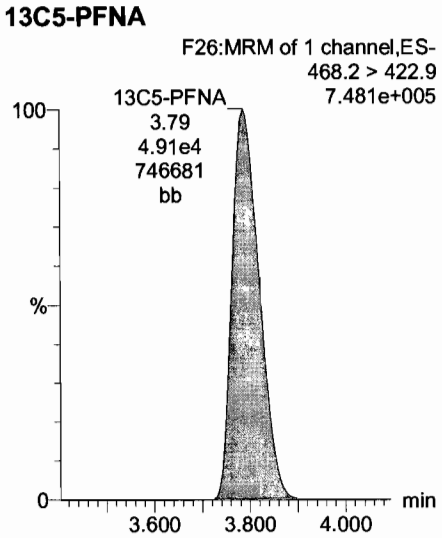

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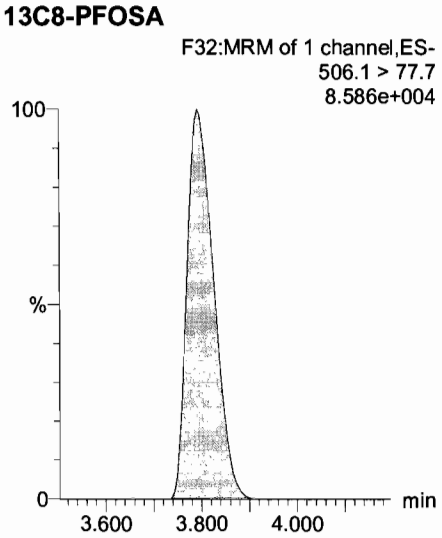

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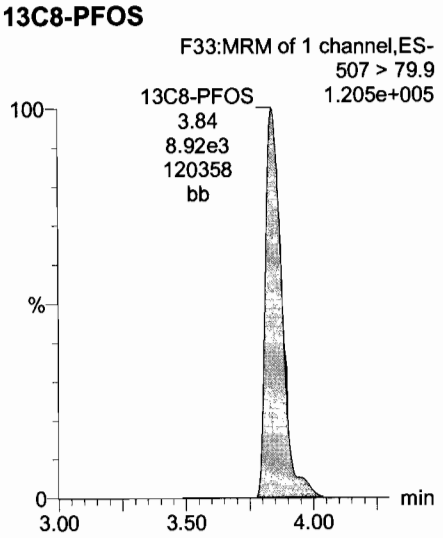
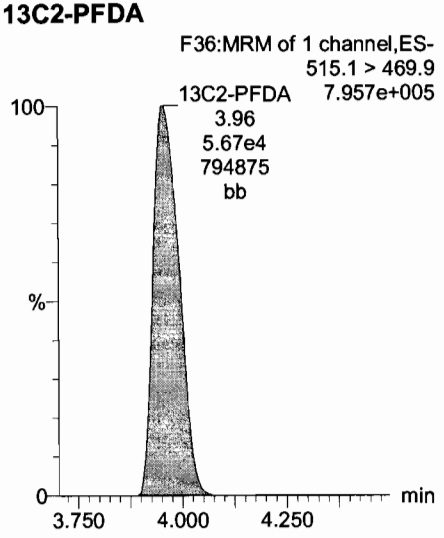


13C2-PFDA



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Name: 170728M2_10, Date: 28-Jul-2017, Time: 17:46:09, ID: ST170728M2-9 PFC CS6 17G2801, Description: PFC CS5 17G2801

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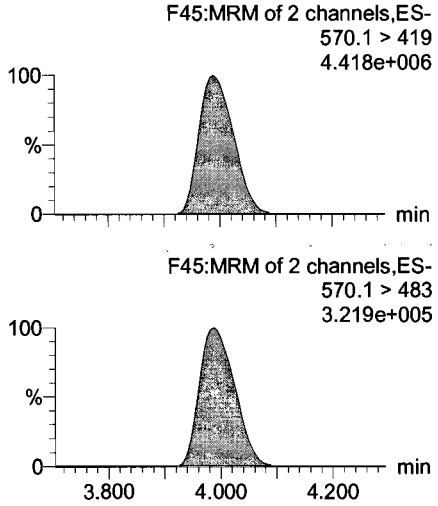
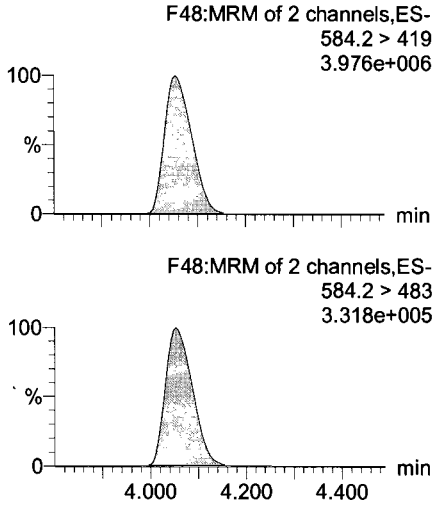
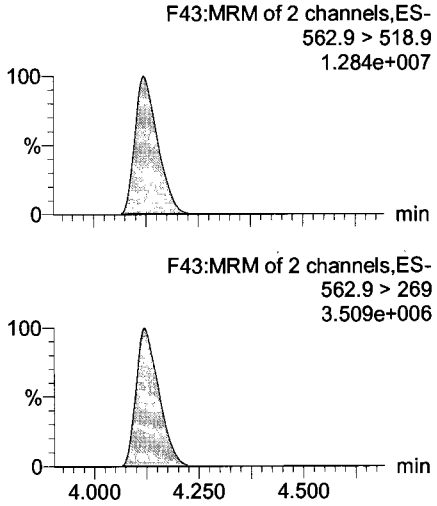


N-EtFOSAA



PFUnA



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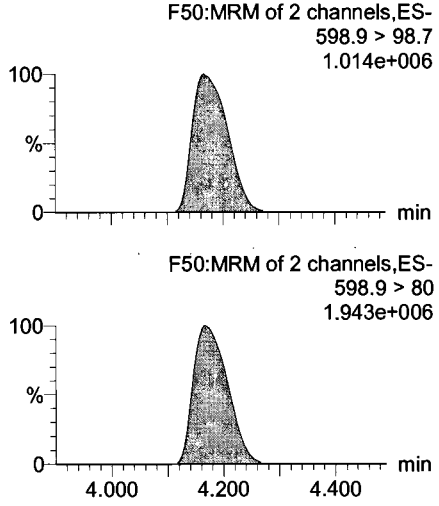

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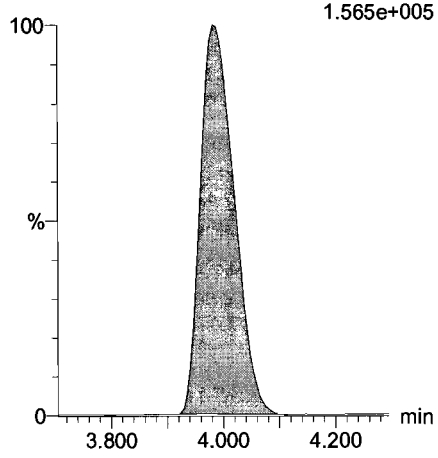

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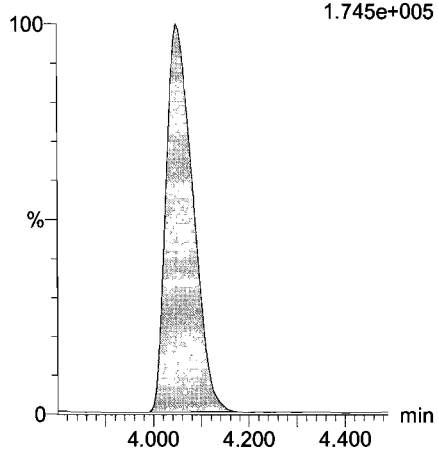
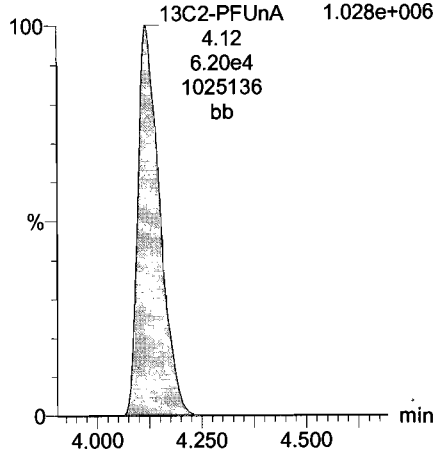


13C2-PFUnA



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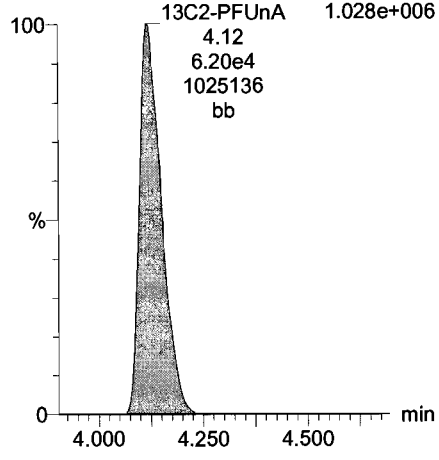

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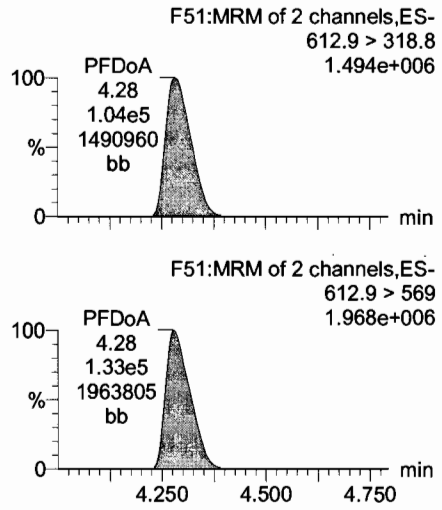
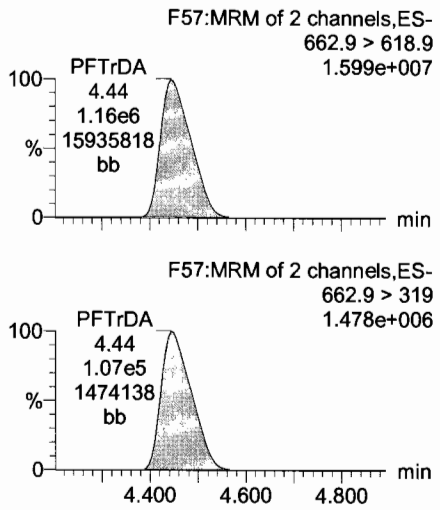
Name: 170728M2_10, Date: 28-Jul-2017, Time: 17:46:09, ID: ST170728M2-9 PFC CS6 17G2801, Description: PFC CS5 17G2801

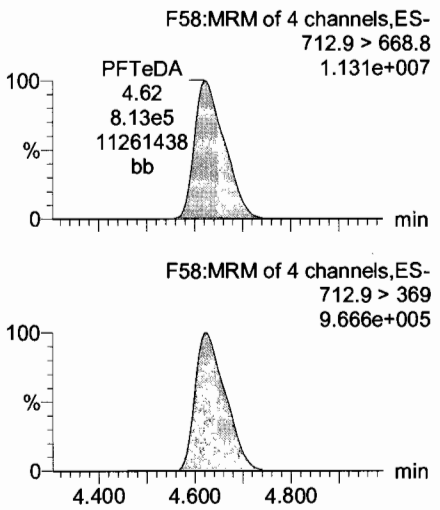
PFDoA



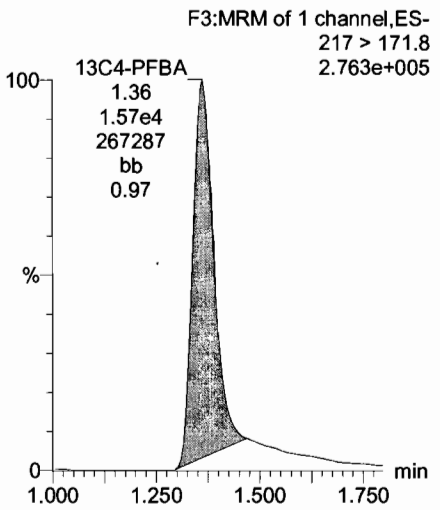
PFTrDA



PFTeDA



13C4-PFBA



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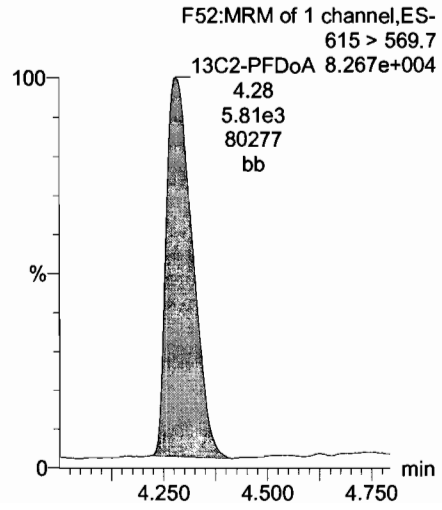

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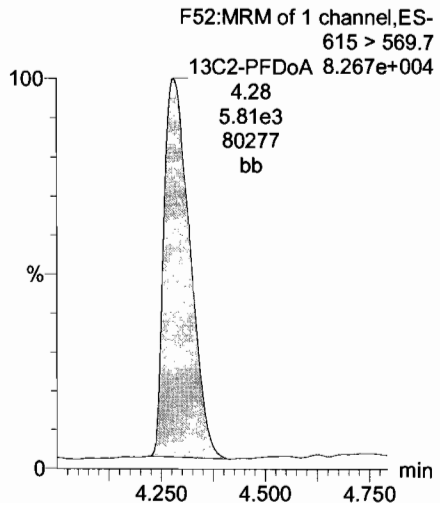
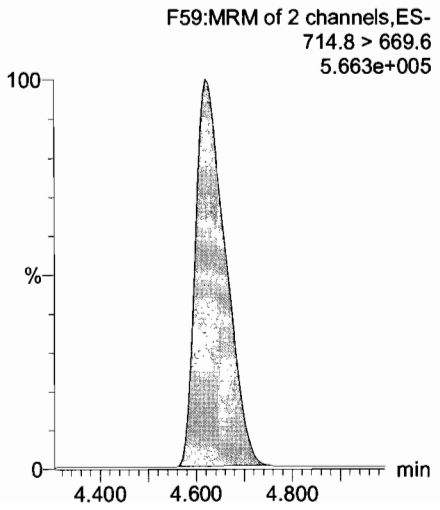


13C2-PFTeDA



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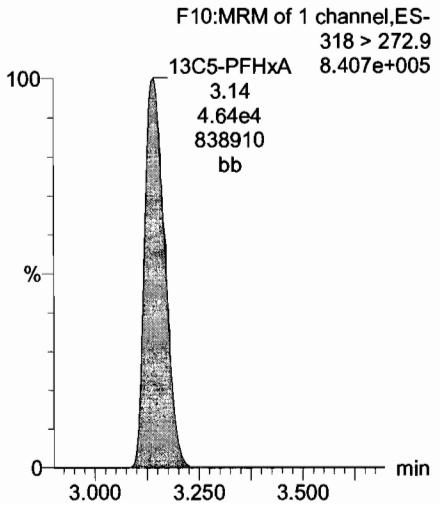

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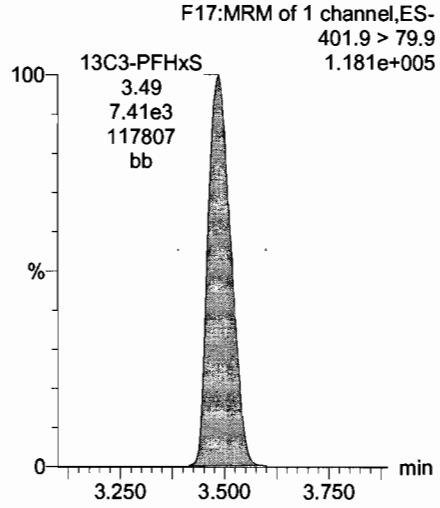
Name: 170728M2_10, Date: 28-Jul-2017, Time: 17:46:09, ID: ST170728M2-9 PFC CS6 17G2801, Description: PFC CS5 17G2801

13C3-PFHxS



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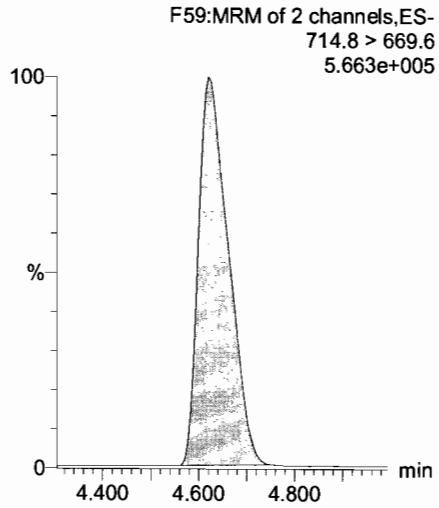

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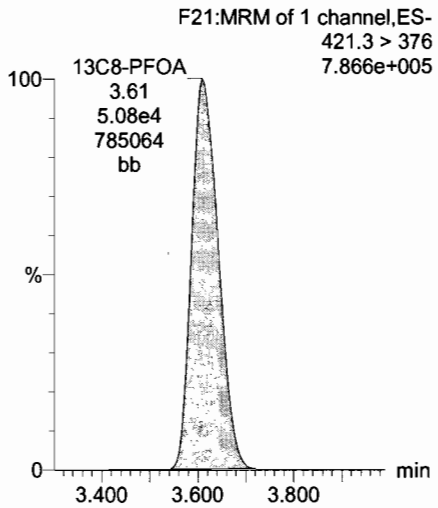

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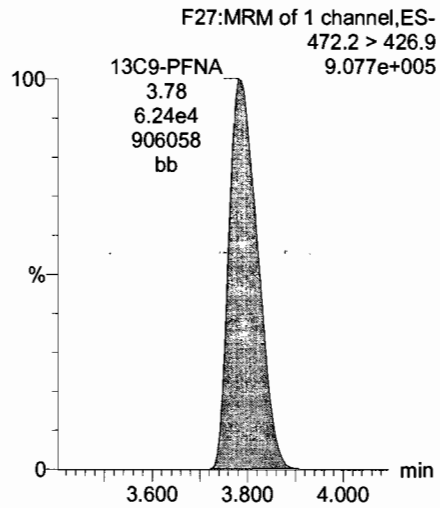
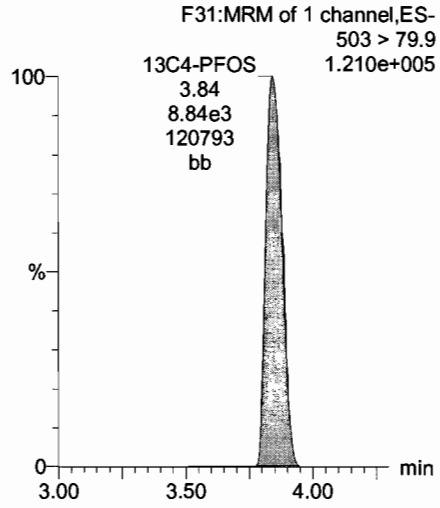
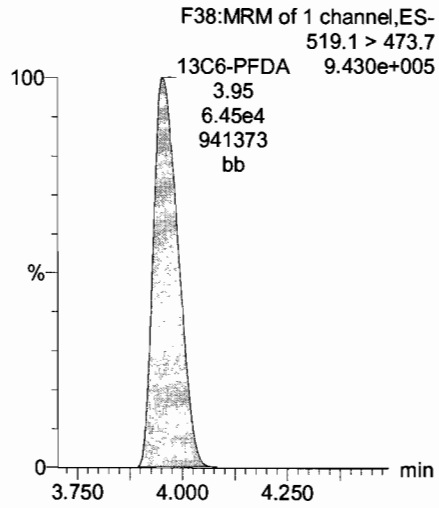


13C4-PFOS



13C6-PFDA



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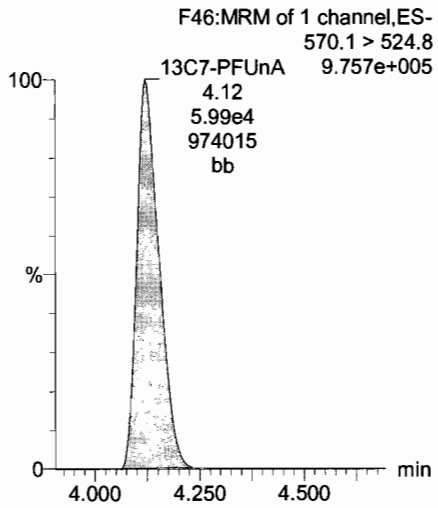

Vista Analytical Laboratory

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AC 7/30/17

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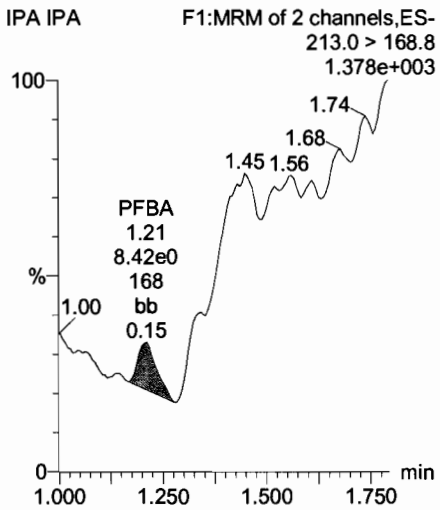

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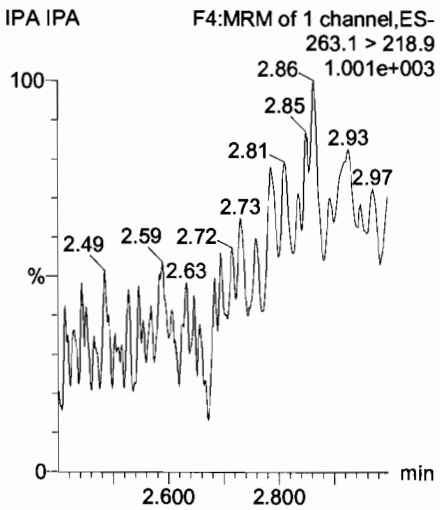

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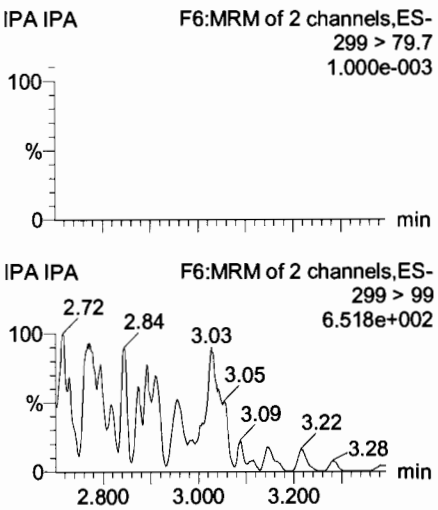

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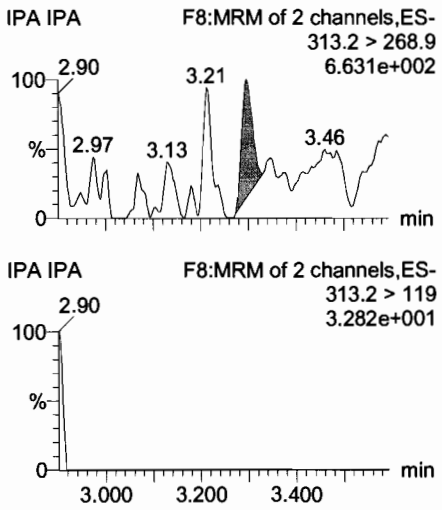

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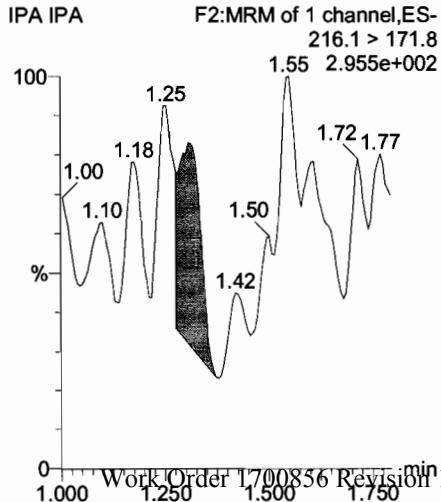

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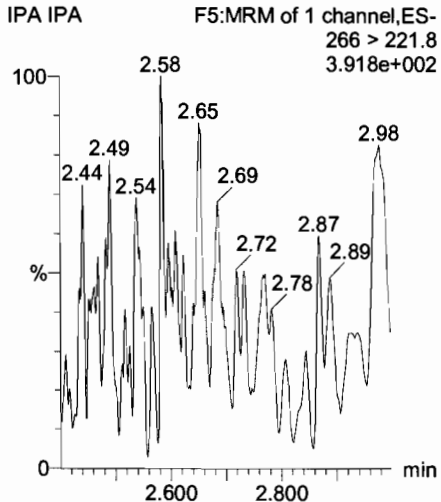

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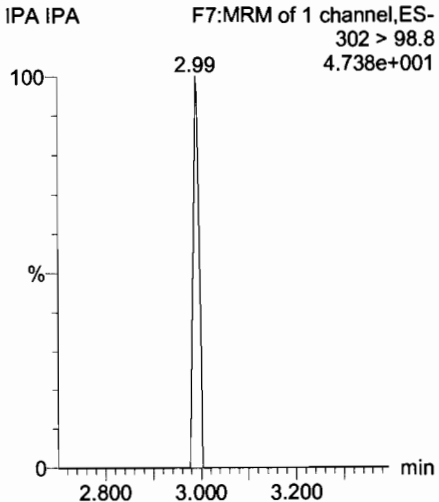

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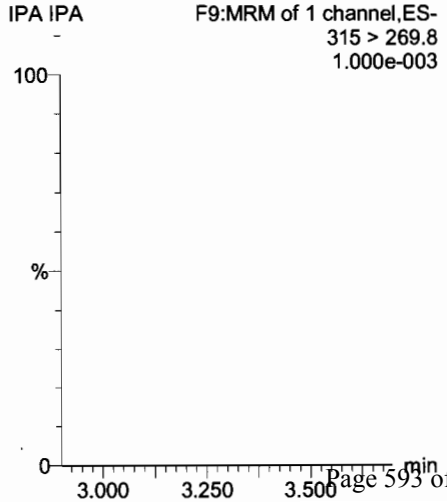

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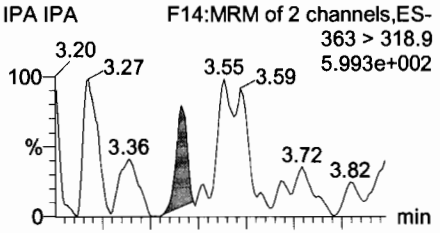

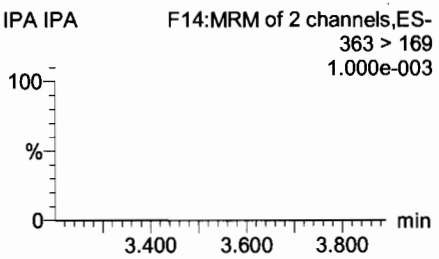

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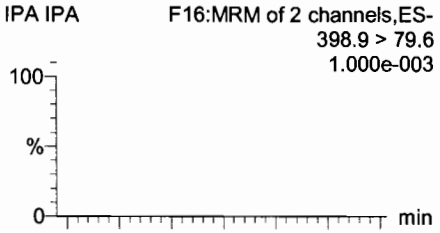

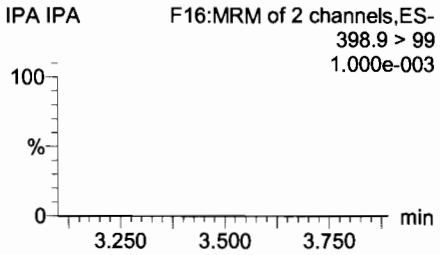

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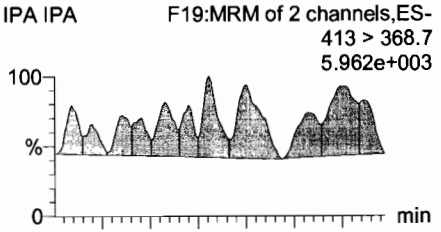

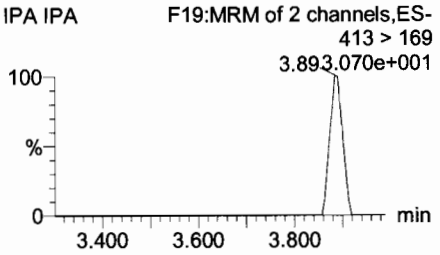

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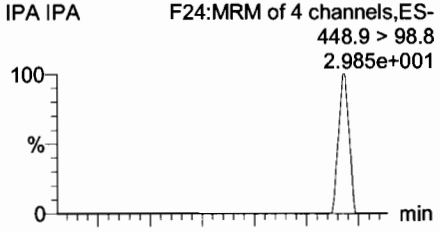

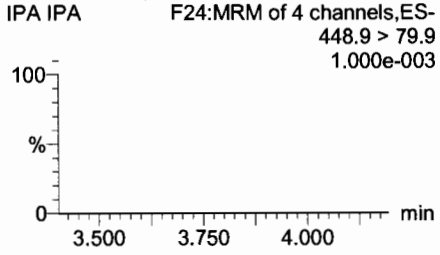

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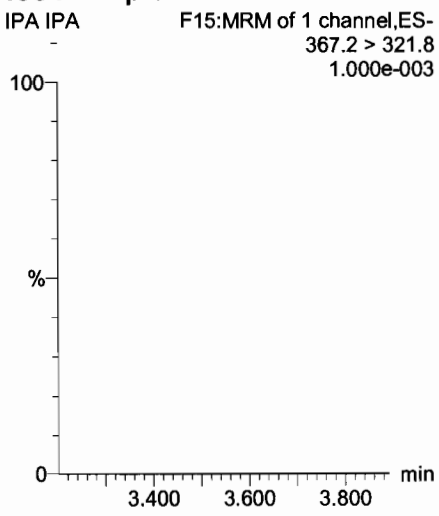

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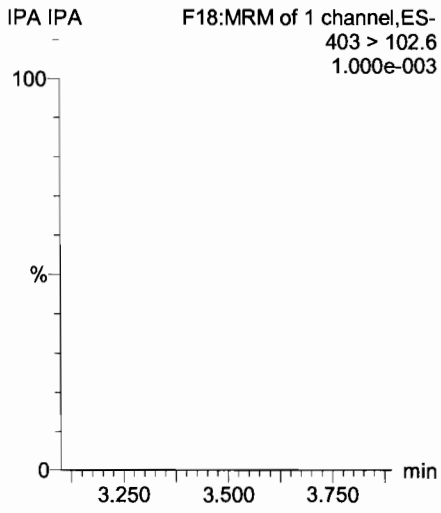

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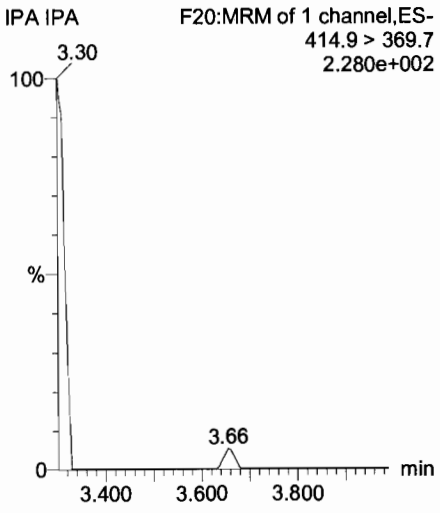

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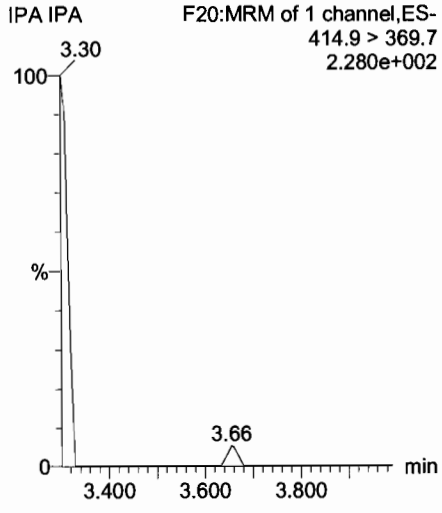

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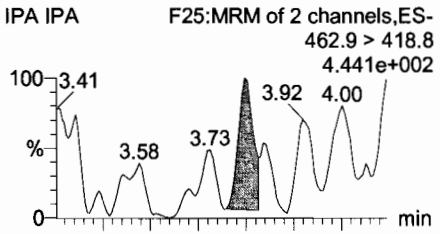

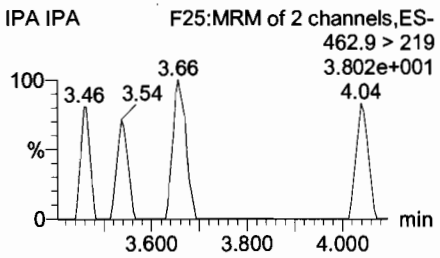

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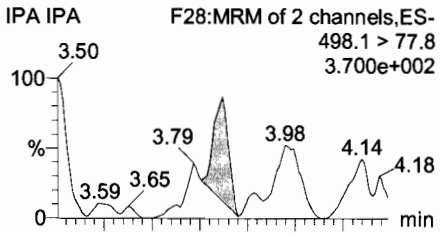

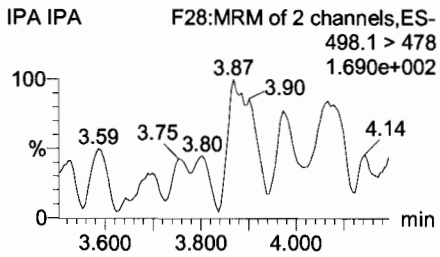

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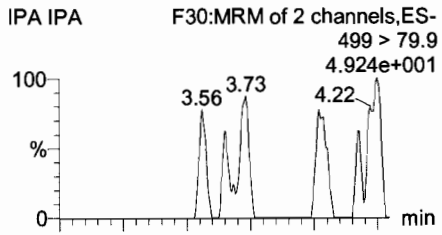

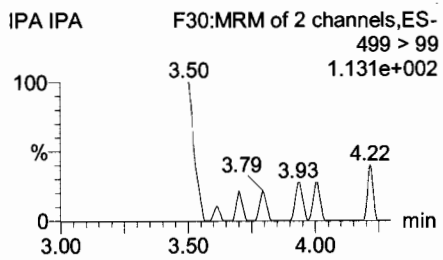

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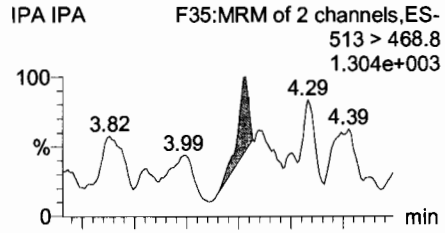

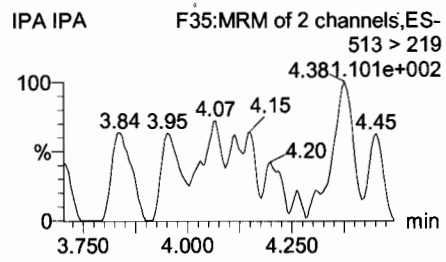

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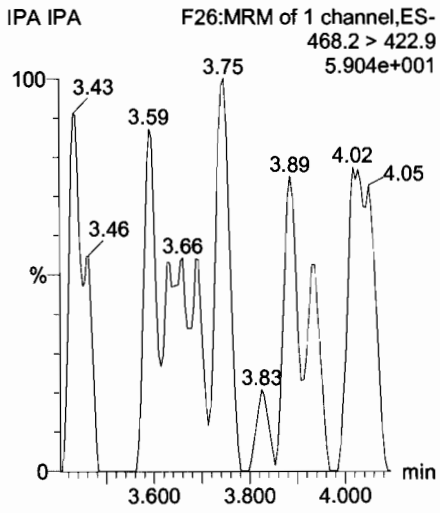

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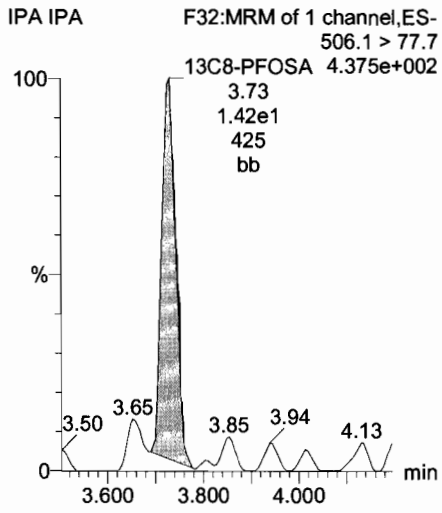

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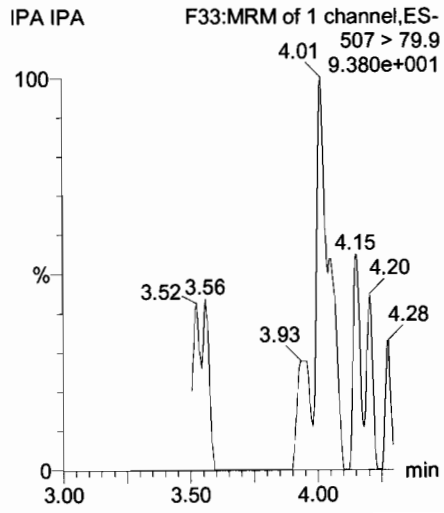

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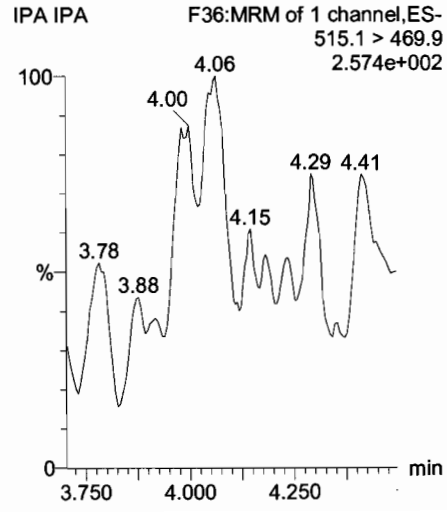

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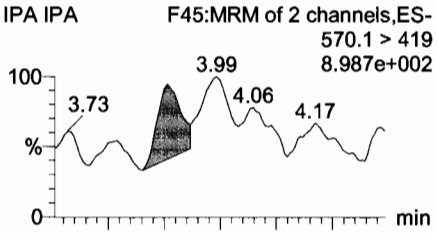

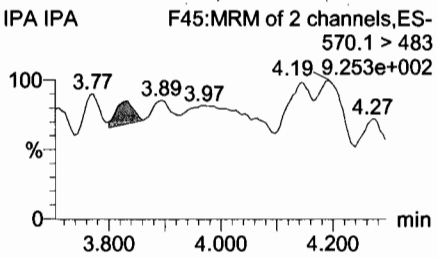

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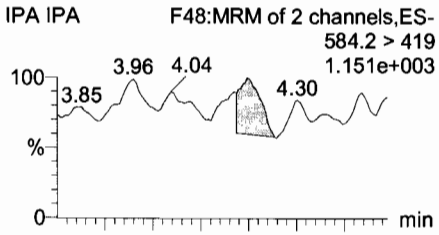

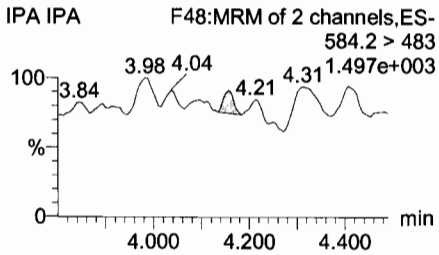

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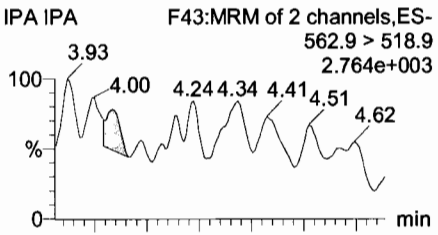

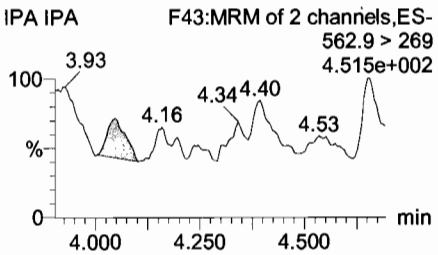

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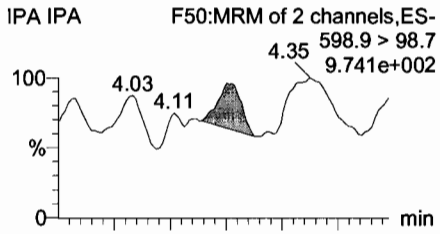

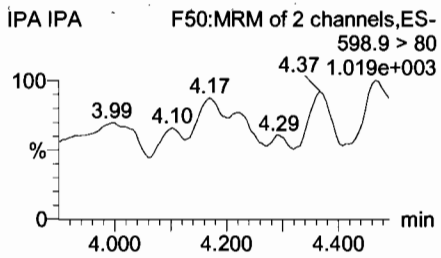

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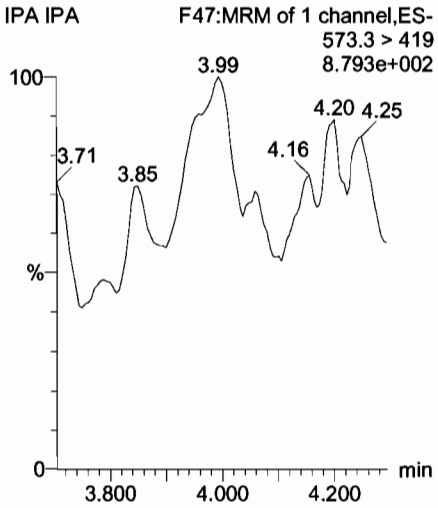

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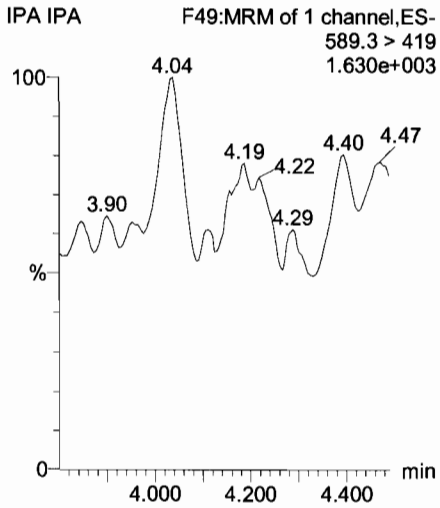

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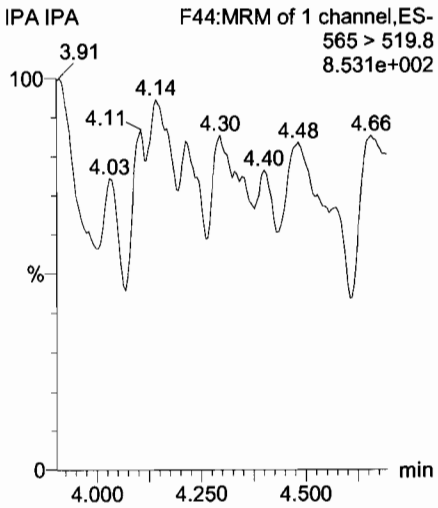

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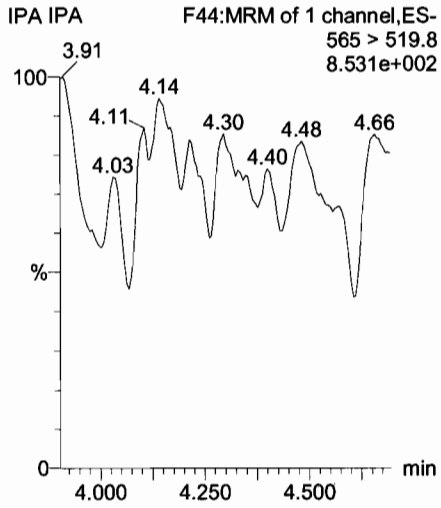

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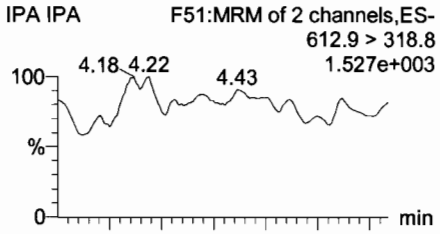

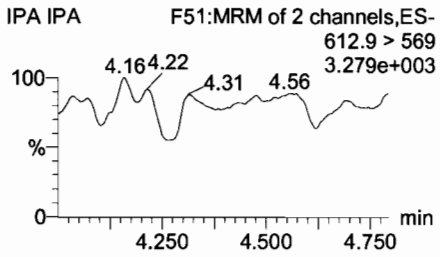

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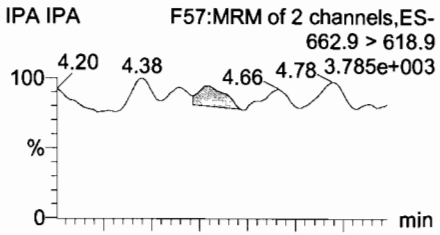

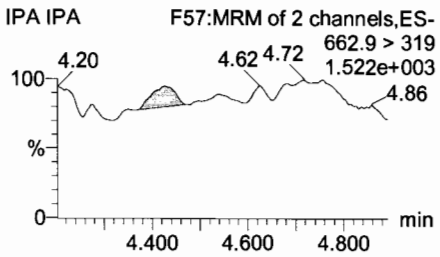

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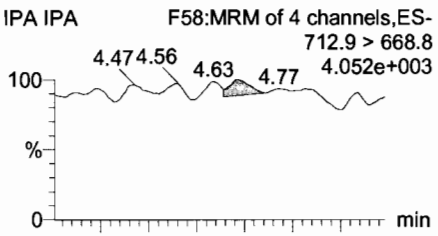

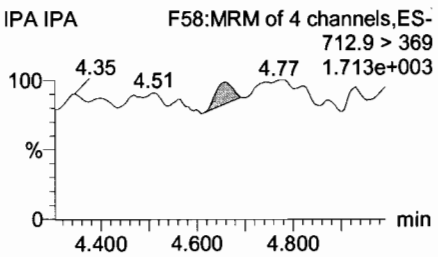

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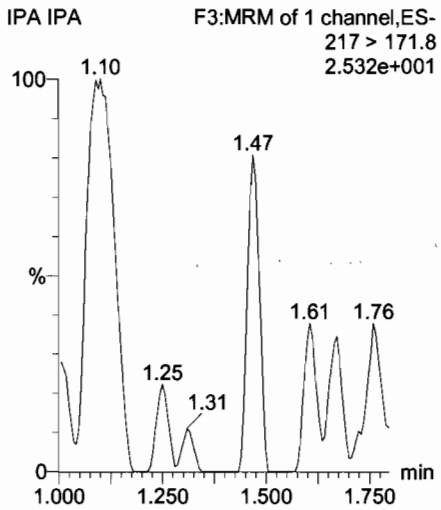

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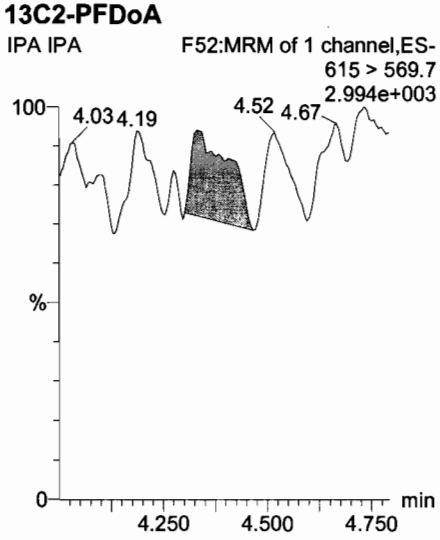

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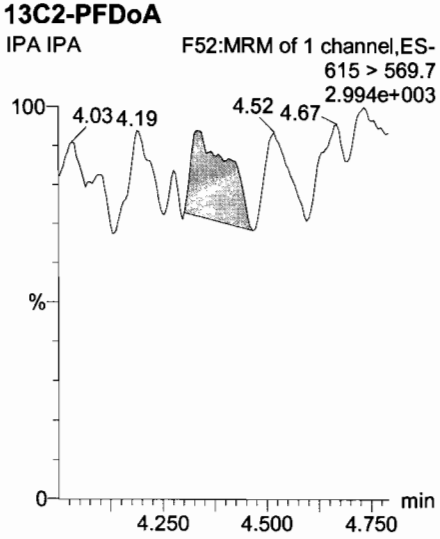

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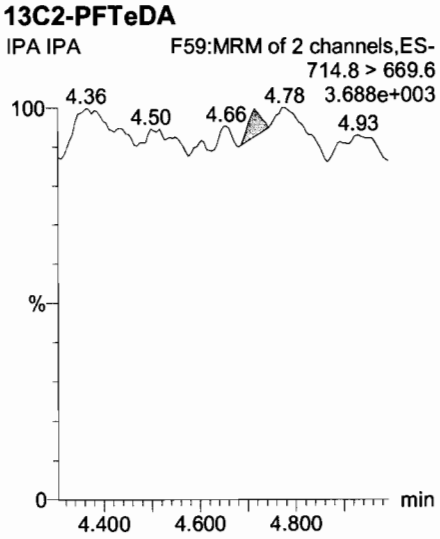
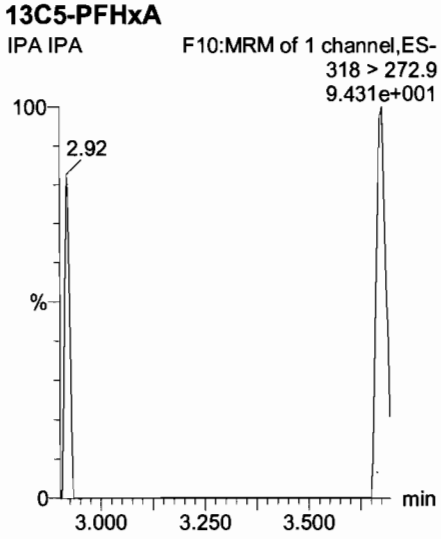


13C5-PFHxA



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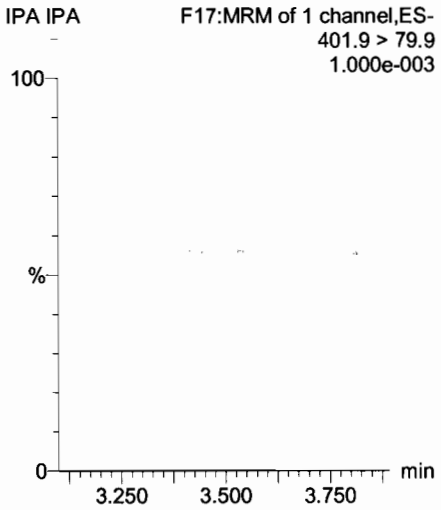
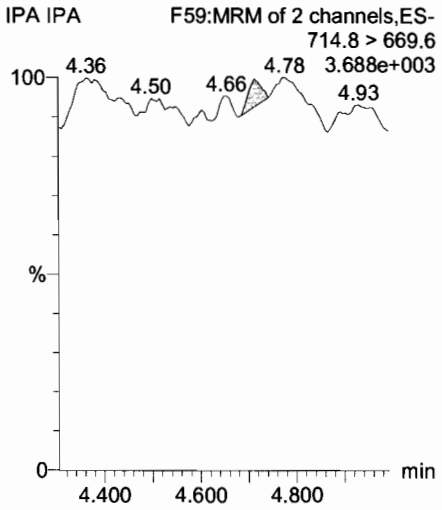
Printed: Sunday, July 30, 2017 08:13:11 Pacific Daylight Time

Name: 170728M2_12, Date: 28-Jul-2017, Time: 18:07:42, ID: IPA, Description: IPA

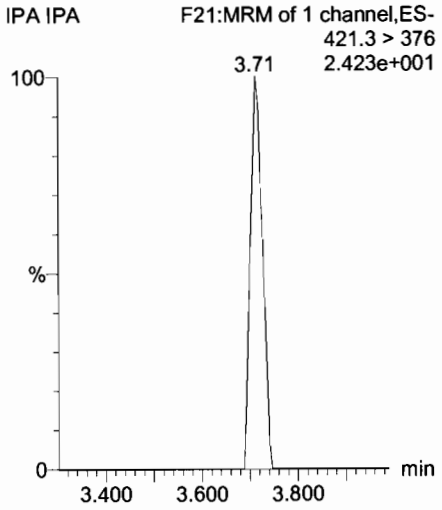
13C3-PFHxS



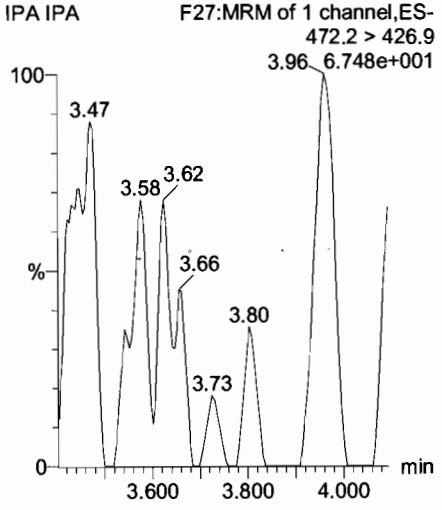
13C2-PFTeDA



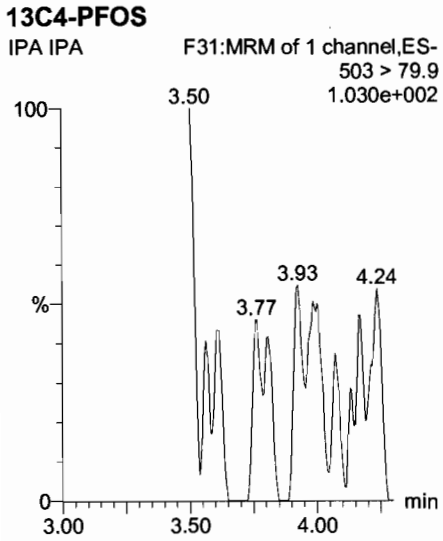
13C8-PFOA



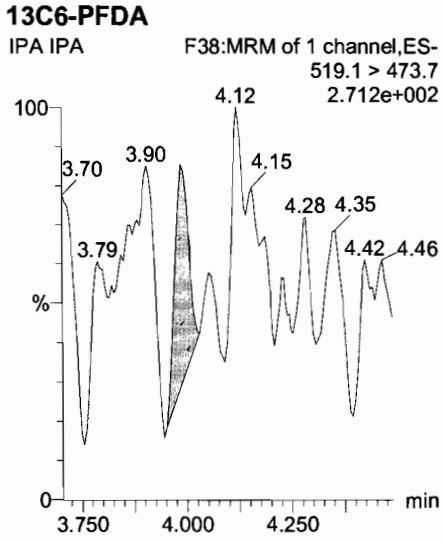
13C9-PFNA



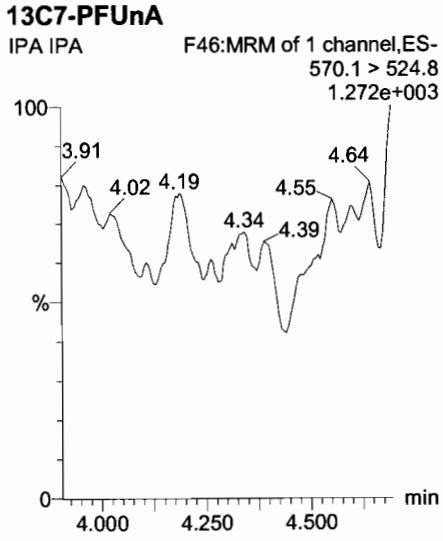
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170728M2\170728M2-13.qld

Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:16:04 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

AC 7/30/17

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	12431.708	14876.151		1.000	1.37	9.56	95.60
2	2	PFPeA	263.1 > 218.9	21549.439	29165.430		1.000	2.66	9.58	95.77
3	3	PFBS	299 > 79.7	4272.150	3628.166		1.000	2.90	7.92	79.25
4	4	PFHxA	313.2 > 268.9	38927.918	14593.648		1.000	3.14	9.46	94.60
5	5	PFHpA	363 > 318.9	35487.621	39363.383		1.000	3.42	9.50	95.05
6	6	PFHxS	398.9 > 79.6	3976.645	3740.827		1.000	3.49	7.94	79.42
7	7	PFOA	413 > 368.7	48296.703	63936.551		1.000	3.61	9.59	95.86
8	8	PFHpS	448.9 > 98.8	4024.521	63936.551		1.000	3.67	9.42	94.20
9	9	PFNA	462.9 > 418.8	45019.000	52666.078		1.000	3.79	9.92	99.19
10	10	PFOSA	498.1 > 77.8	5913.732	7621.226		1.000	3.80	8.79	87.89
11	11	PFOS	499 > 79.9	7491.657	10206.083		1.000	3.84	9.22	92.24
12	12	PFDA	513 > 468.8	52188.531	60487.246		1.000	3.96	8.80	88.01
13	13	N-MeFOSAA	570.1 > 419	14215.682	12875.874		1.000	3.99	9.09	90.88
14	14	N-EtFOSAA	584.2 > 419	10735.359	12473.139		1.000	4.05	9.13	91.26
15	15	PFUnA	562.9 > 518.9	35744.629	63778.582		1.000	4.12	9.40	94.01
16	16	PFDS	598.9 > 98.7	3193.330	63778.582		1.000	4.17	8.82	88.24
17	17	PFDoA	612.9 > 318.8	4108.420	6412.423		1.000	4.29	9.89	98.91
18	18	PFTrDA	662.9 > 618.9	48836.297	6412.423		1.000	4.45	9.65	96.47
19	19	PFTeDA	712.9 > 668.8	34028.941	42185.617		1.000	4.62	9.59	95.89
20	20	13C3-PFBA	216.1 > 171.8	14876.151	13338.616	1.068	1.000	1.37	13.05	104.39
21	21	13C3-PFPeA	266 > 221.8	29165.430	41541.566	0.271	1.000	2.67	12.94	103.49
22	22	13C3-PFBS	302 > 98.8	3628.166	41541.566	0.033	1.000	2.90	13.20	105.62
23	23	13C2-PFHxA	315 > 269.8	14593.648	41541.566	0.335	1.000	3.14	5.24	104.83
24	24	13C4-PFHpA	367.2 > 321.8	39363.383	41541.566	0.369	1.000	3.41	12.84	102.76
25	25	18O2-PFHxS	403 > 102.6	3740.827	7683.510	0.460	1.000	3.48	13.22	105.77
26	26	13C2-PFOA	414.9 > 369.7	63936.551	47325.004	1.293	1.000	3.61	13.06	104.45
27	27	13C5-PFNA	468.2 > 422.9	52666.078	52466.008	0.986	1.000	3.80	12.73	101.81
28	28	13C8-PFOSA	506.1 > 77.7	7621.226	56361.164	0.132	1.000	3.80	12.76	102.06
29	29	13C8-PFOS	507 > 79.9	10206.083	8480.035	1.184	1.000	3.84	12.70	101.62
30	30	13C2-PFDA	515.1 > 469.9	60487.246	53553.129	0.998	1.000	3.96	14.15	113.21
31	31	d3-N-MeFOSAA	573.3 > 419	12875.874	56361.164	0.018	1.000	3.99	161.46	99.36

70-130

Dataset: U:\Q4.PRO\results\170728M2\170728M2-13.qld

Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:16:04 Pacific Daylight Time

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	12473.139	56361.164	0.018	1.000	4.05	155.65	95.79
33	33	13C2-PFUnA	565 > 519.8	63778.582	56361.164	1.129	1.000	4.12	12.53	100.21
34	34	13C2-PFDoA	615 > 569.7	6412.423	56361.164	0.116	1.000	4.28	12.26	98.07
35	35	13C2-PFTeDA	714.8 > 669.6	42185.617	56361.164	0.762	1.000	4.63	12.28	98.21
36	36	13C4-PFBA	217 > 171.8	13338.616	13338.616	1.000	1.000	1.37	12.50	100.00
37	37	13C5-PFHxA	318 > 272.9	41541.566	41541.566	1.000	1.000	3.15	5.00	100.00
38	38	13C3-PFHxS	401.9 > 79.9	7683.510	7683.510	1.000	1.000	3.49	12.50	100.00
39	39	13C8-PFOA	421.3 > 376	47325.004	47325.004	1.000	1.000	3.61	12.50	100.00
40	40	13C9-PFNA	472.2 > 426.9	52466.008	52466.008	1.000	1.000	3.79	12.50	100.00
41	41	13C4-PFOS	503 > 79.9	8480.035	8480.035	1.000	1.000	3.84	12.50	100.00
42	42	13C6-PFDA	519.1 > 473.7	53553.129	53553.129	1.000	1.000	3.96	12.50	100.00
43	43	13C7-PFUnA	570.1 > 524.8	56361.164	56361.164	1.000	1.000	4.13	12.50	100.00

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170728M2\170728M2-13.qld

Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
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Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

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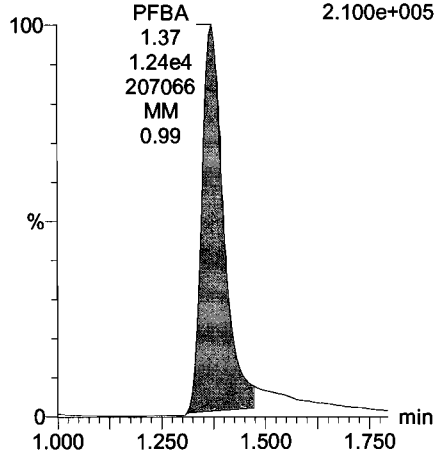

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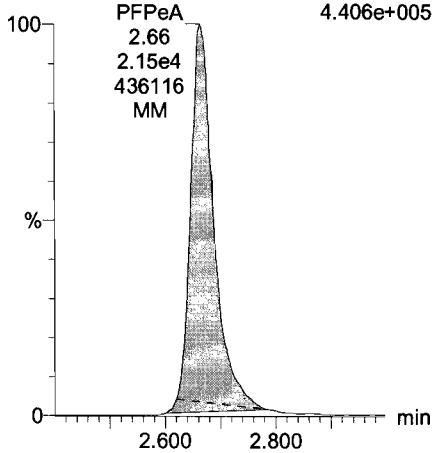

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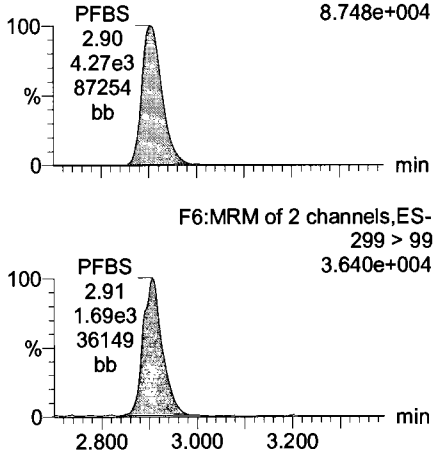
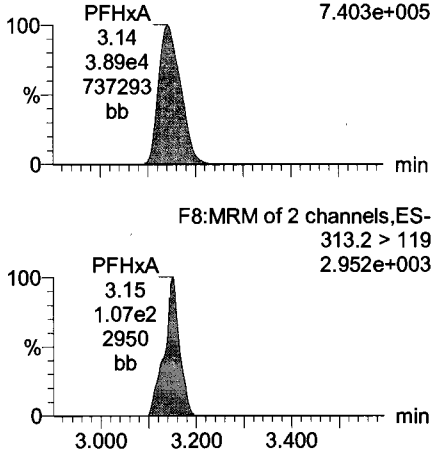
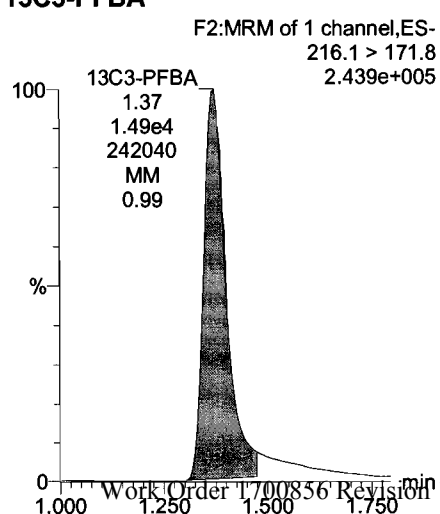


PFHxA



13C3-PFBA



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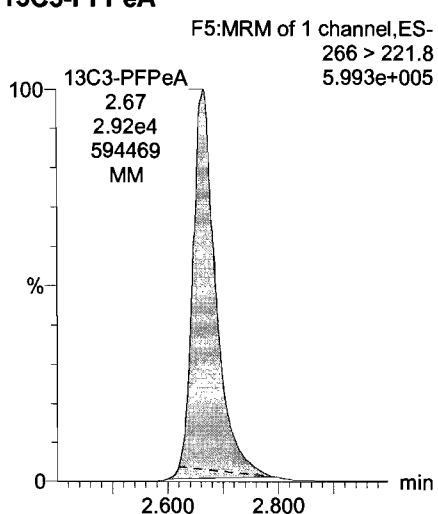

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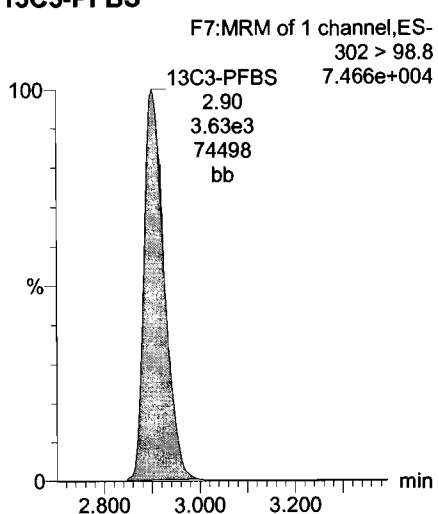
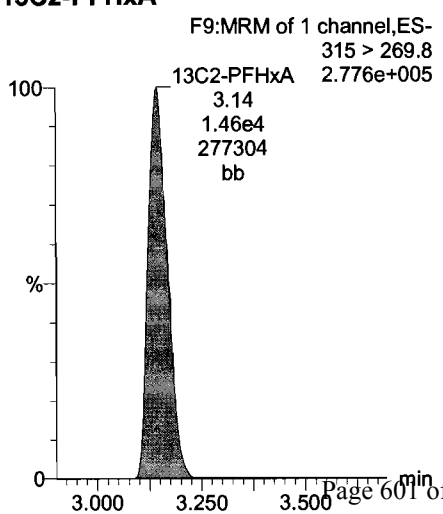


13C2-PFHxA



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Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
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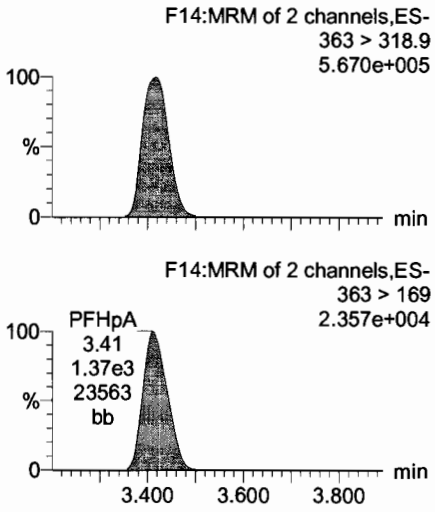
Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

PFHpA



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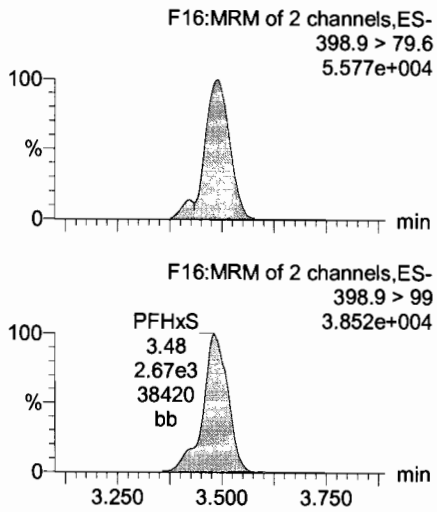
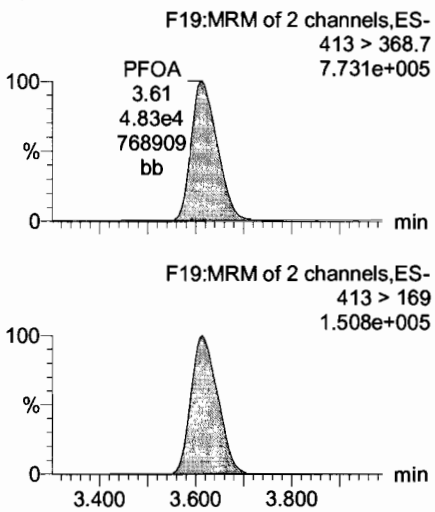
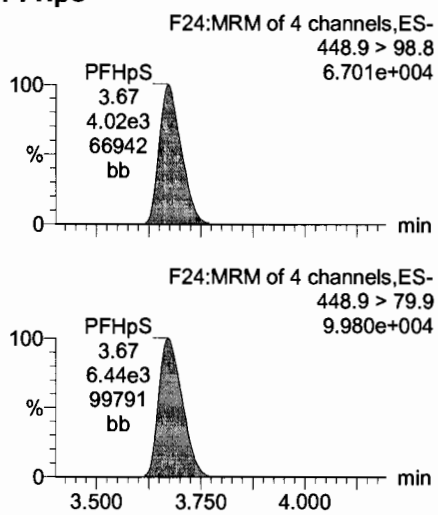


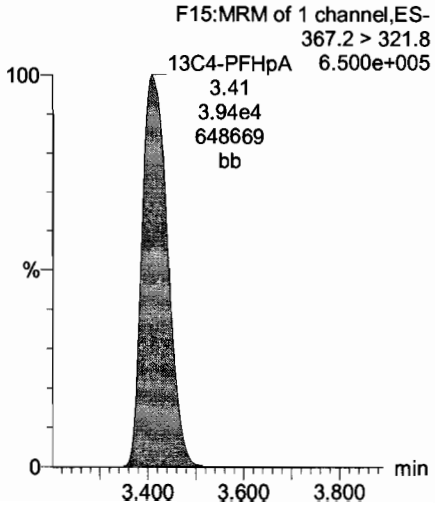
Total PFOA



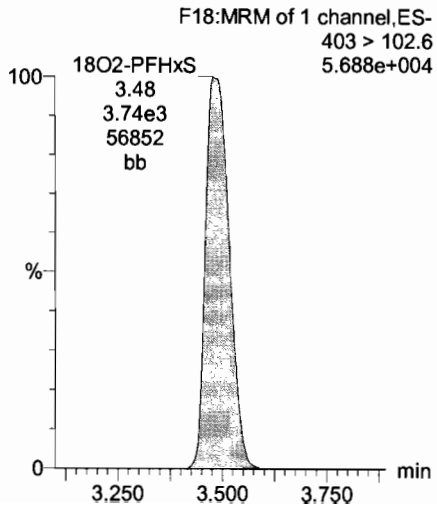
PFHpS



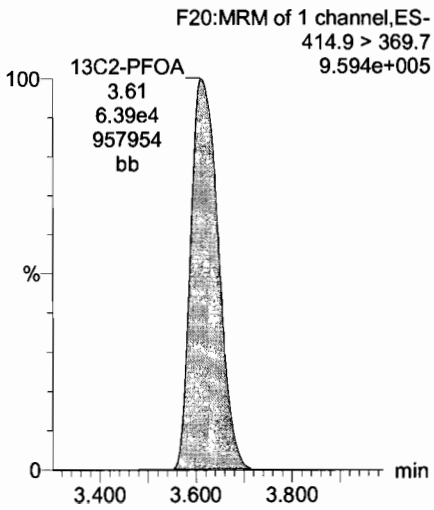
13C4-PFHpA



18O2-PFHxS



13C2-PFOA



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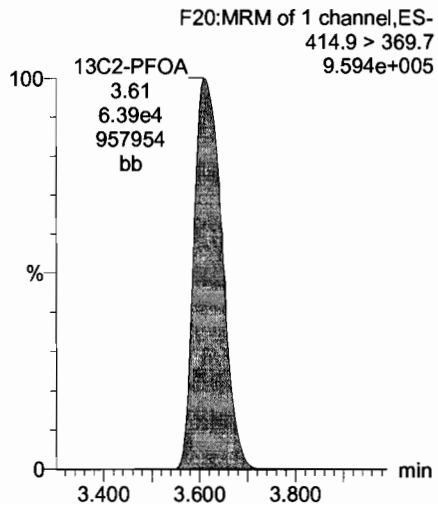

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Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

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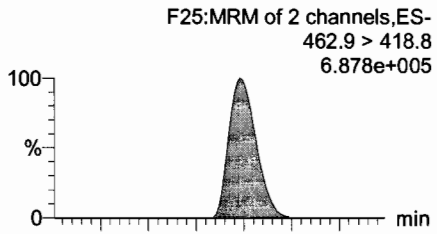

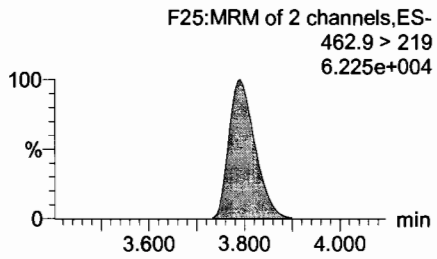

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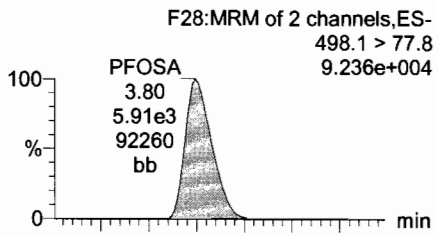

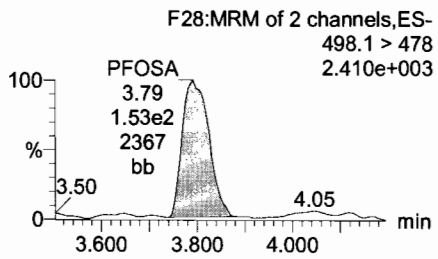

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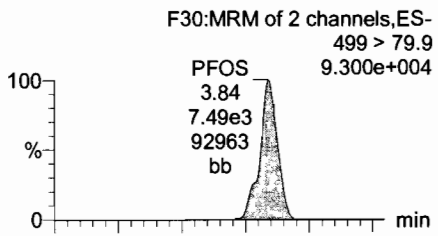

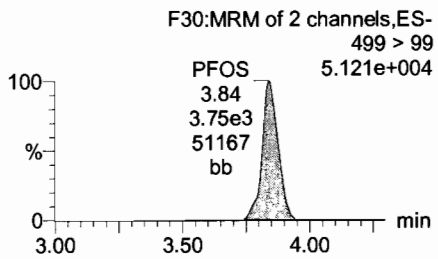

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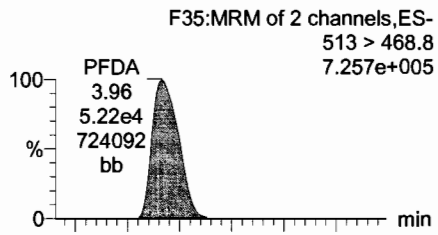

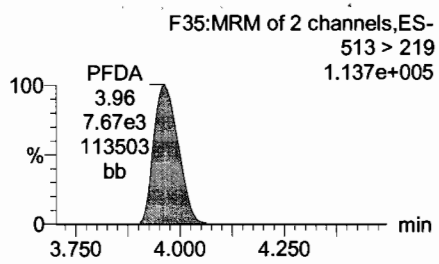

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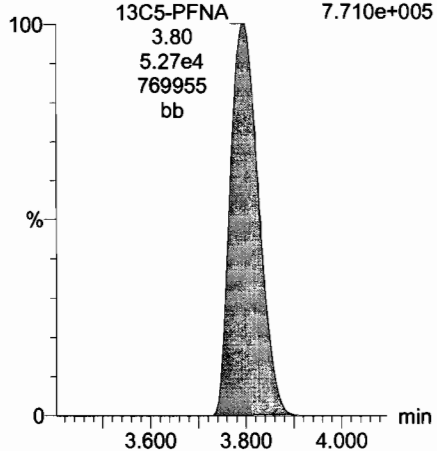
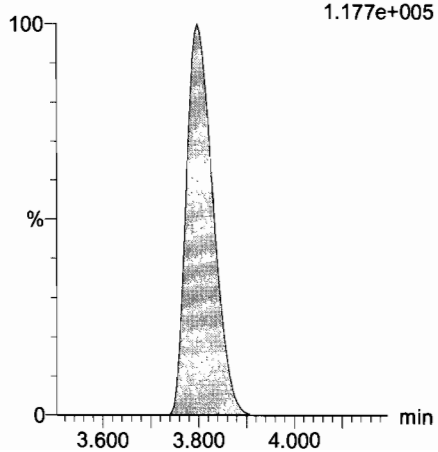


13C8-PFOSA



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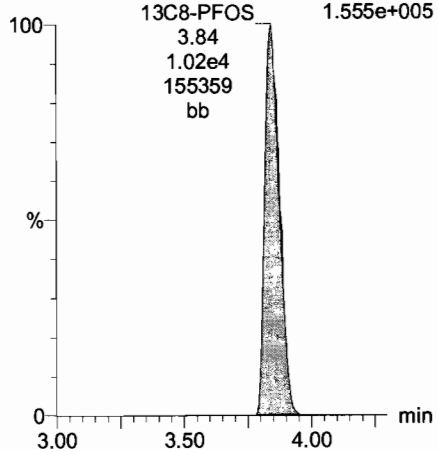

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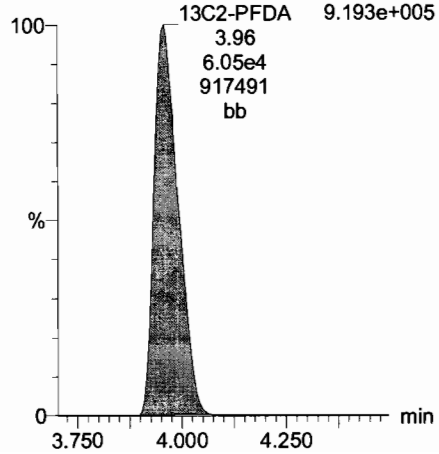

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Dataset: U:\Q4.PRO\results\170728M2\170728M2-13.qld

Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:15:41 Pacific Daylight Time

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

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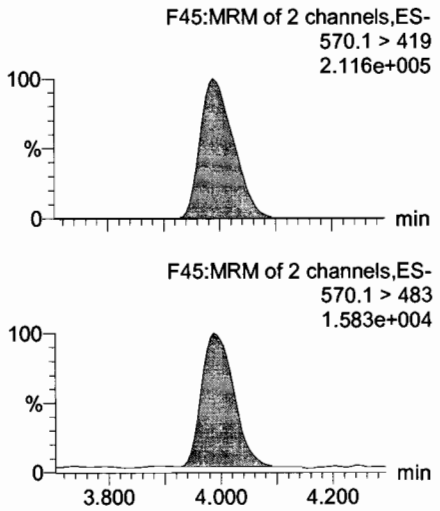

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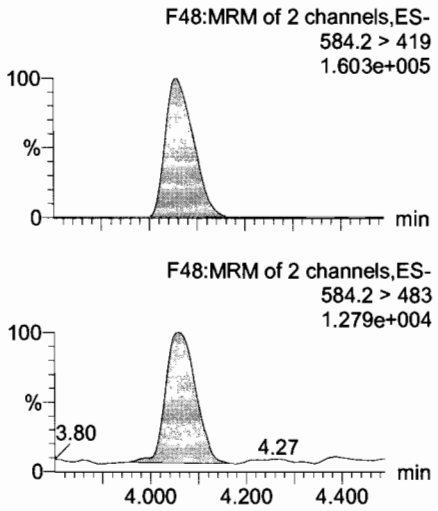
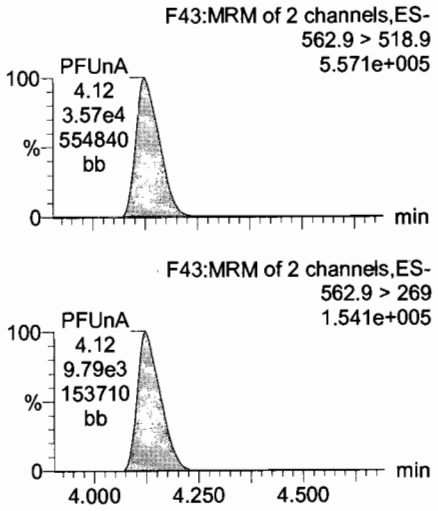
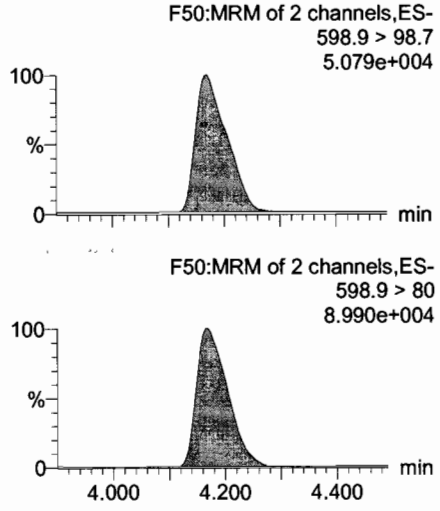


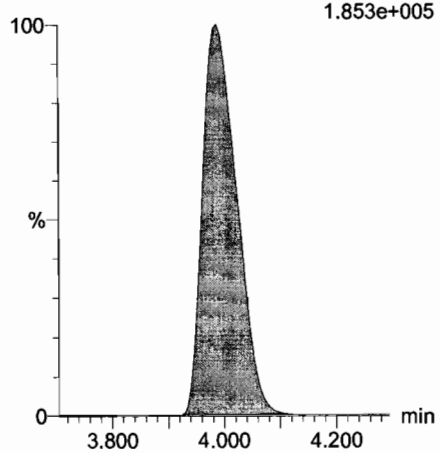
PFUnA



PFDS



d3-N-MeFOSAA



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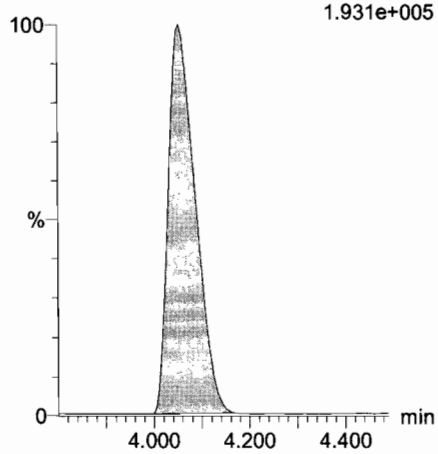

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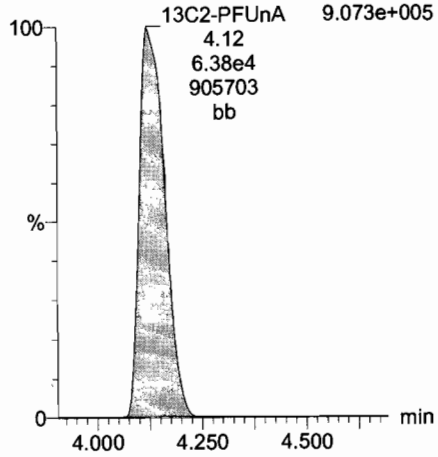

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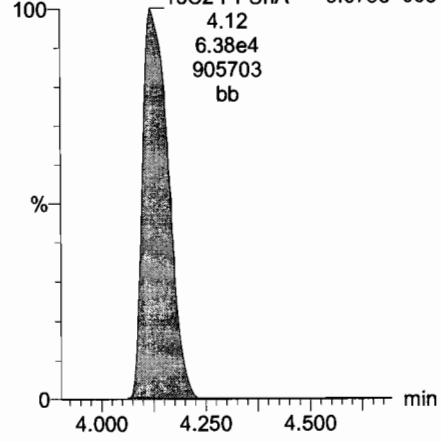
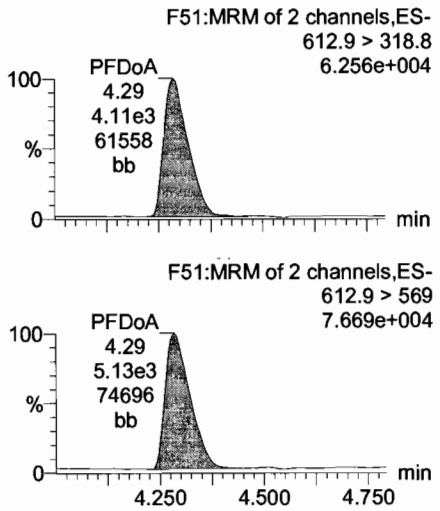


Dataset: U:\Q4.PRO\results\170728M2\170728M2-13.qld

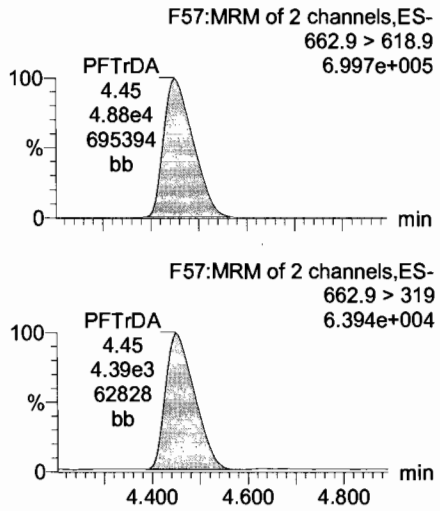
Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:15:41 Pacific Daylight Time

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

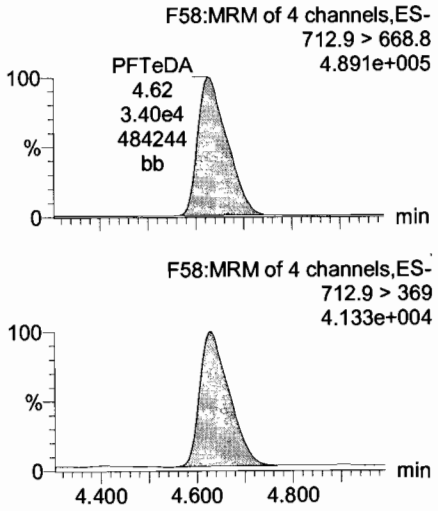
PFDoA



PFTrDA



PFTeDA



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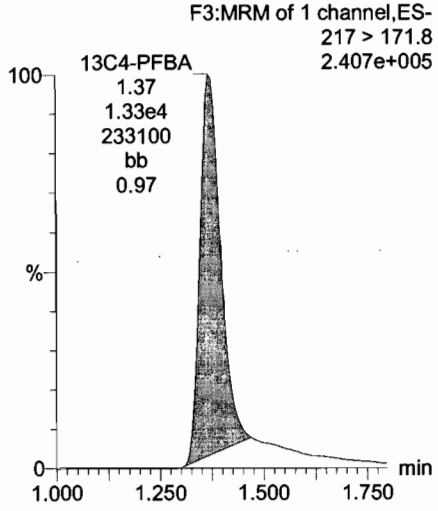

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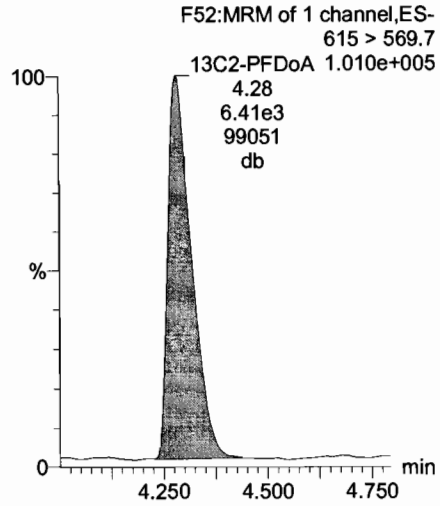

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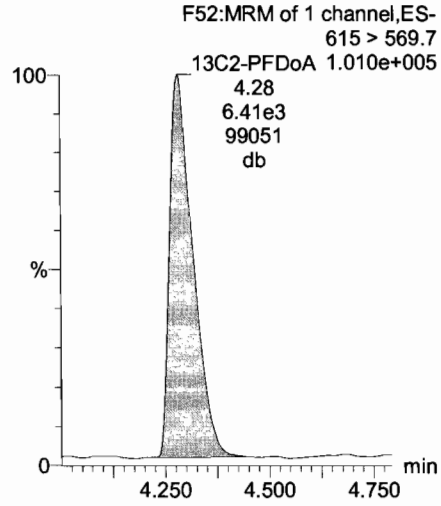

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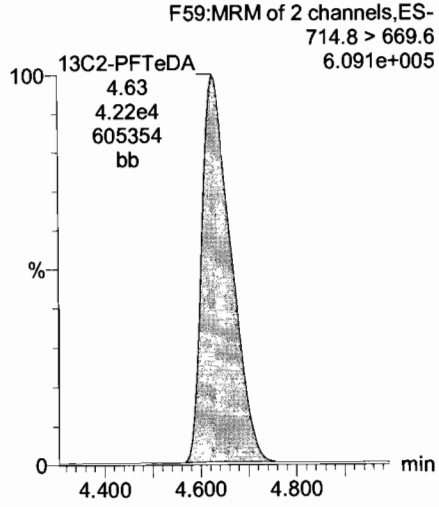
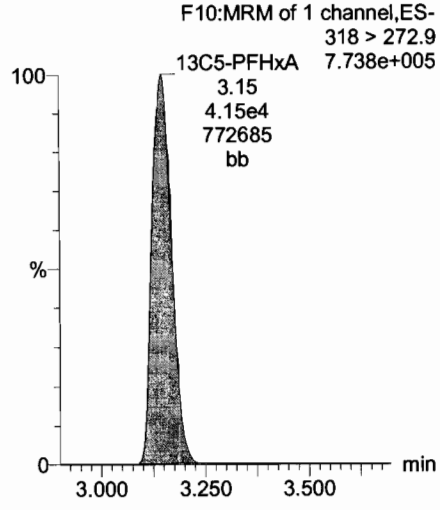


13C5-PFHxA



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Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:15:41 Pacific Daylight Time

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

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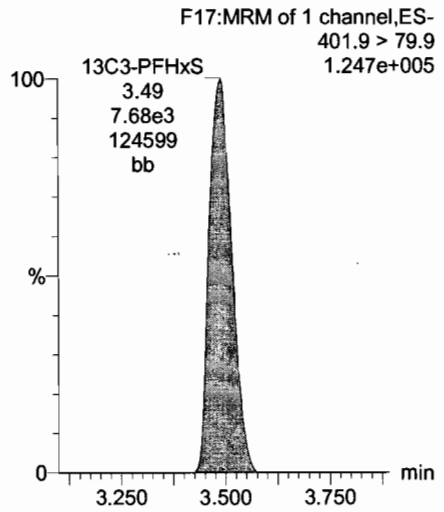
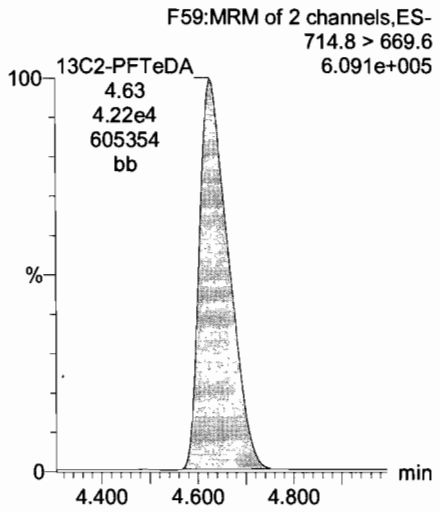
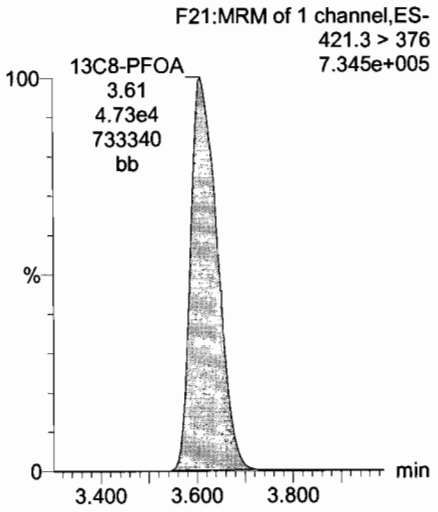


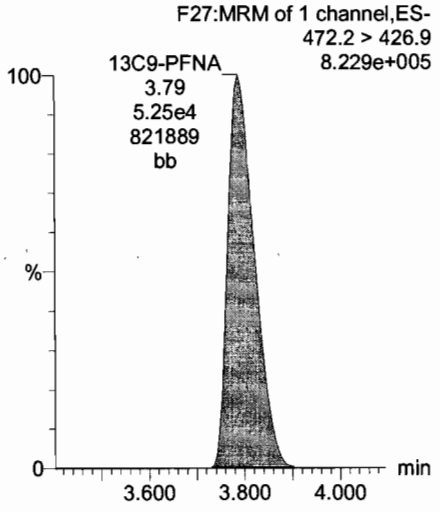
13C2-PFTeDA



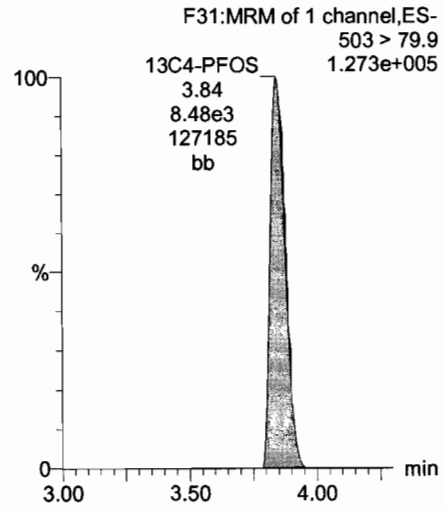
13C8-PFOA



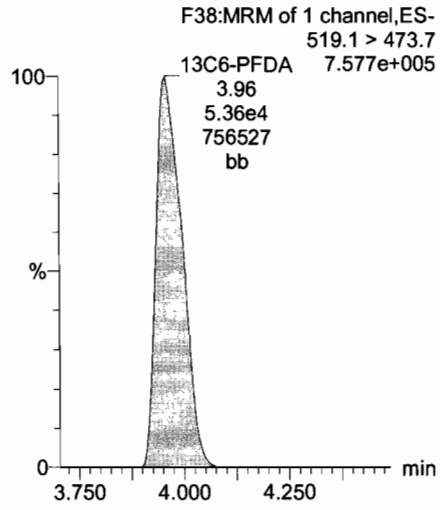
13C9-PFNA



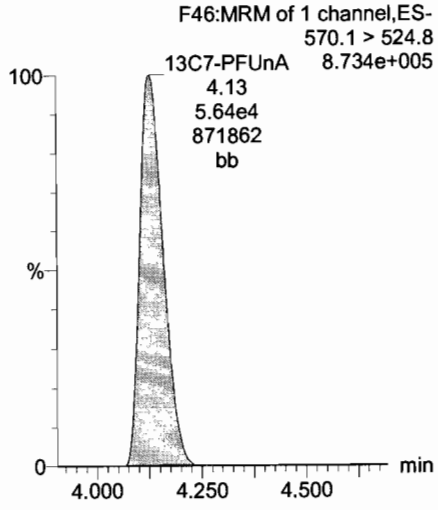
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Analytical Standard Record

Vista Analytical Laboratory

17G1307

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
17E1718	18O2-PFHxS	17-May-17	** Vendor **	17-Feb-22	17-May-17 12:46 by INJ	0.529
17E2412	13C8-PFOS	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:19 by INJ	0.539
17E2413	13C3-PFBS	24-May-17	** Vendor **	02-Aug-21	24-May-17 11:20 by INJ	0.538
17E2414	13C3-PFBA	24-May-17	** Vendor **	27-May-21	24-May-17 11:20 by INJ	0.5
17E2415	13C2-8:2 FTS	24-May-17	** Vendor **	22-Aug-21	24-May-17 11:21 by INJ	0.522
17E2416	13C2-6:2 FTS	24-May-17	** Vendor **	17-Feb-22	24-May-17 11:21 by INJ	0.526
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
17G1303	13C3-PFPeA	13-Jul-17	** Vendor **	20-Apr-22	13-Jul-17 09:18 by INJ	0.5
17G1304	13C2-PFOA	13-Jul-17	** Vendor **	12-Feb-21	13-Jul-17 09:25 by INJ	0.5
17G1305	13C8-FOSA-I	13-Jul-17	** Vendor **	20-Apr-22	13-Jul-17 09:33 by INJ	0.5
17G1306	13C2-PFDA	13-Jul-17	** Vendor **	30-Sep-21	13-Jul-17 09:36 by INJ	0.5

Description:	PFC - IS	Expires:	28-Feb-18
Standard Type:	Reagent	Prepared:	13-Jul-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	13-Jul-17 09:58 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

17G1307

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
17E1718	18O2-PFHxS	17-May-17	** Vendor **	17-Feb-22	17-May-17 12:46 by INJ	0.529
17E2412	13C8-PFOS	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:19 by INJ	0.539
17E2413	13C3-PFBS	24-May-17	** Vendor **	02-Aug-21	24-May-17 11:20 by INJ	0.538
17E2414	13C3-PFBA	24-May-17	** Vendor **	27-May-21	24-May-17 11:20 by INJ	0.5
17E2415	13C2-8:2 FTS	24-May-17	** Vendor **	22-Aug-21	24-May-17 11:21 by INJ	0.522
17E2416	13C2-6:2 FTS	24-May-17	** Vendor **	17-Feb-22	24-May-17 11:21 by INJ	0.526
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
17G1303	13C3-PFPeA	13-Jul-17	** Vendor **	20-Apr-22	13-Jul-17 09:18 by INJ	0.5
17G1304	13C2-PFOA	13-Jul-17	** Vendor **	12-Feb-21	13-Jul-17 09:25 by INJ	0.5
17G1305	13C8-FOSA-I	13-Jul-17	** Vendor **	20-Apr-22	13-Jul-17 09:33 by INJ	0.5
17G1306	13C2-PFDA	13-Jul-17	** Vendor **	30-Sep-21	13-Jul-17 09:36 by INJ	0.5

Description:	PFC - IS	Expires:	28-Feb-18
Standard Type:	Reagent	Prepared:	13-Jul-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	13-Jul-17 09:58 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

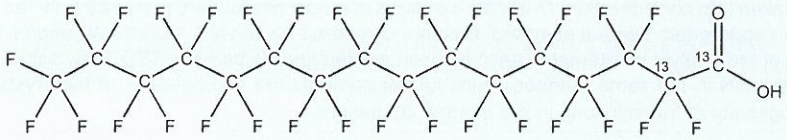
16I1432

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

$^{13}C_2$-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 ($1,2$-$^{13}C_2$)
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:

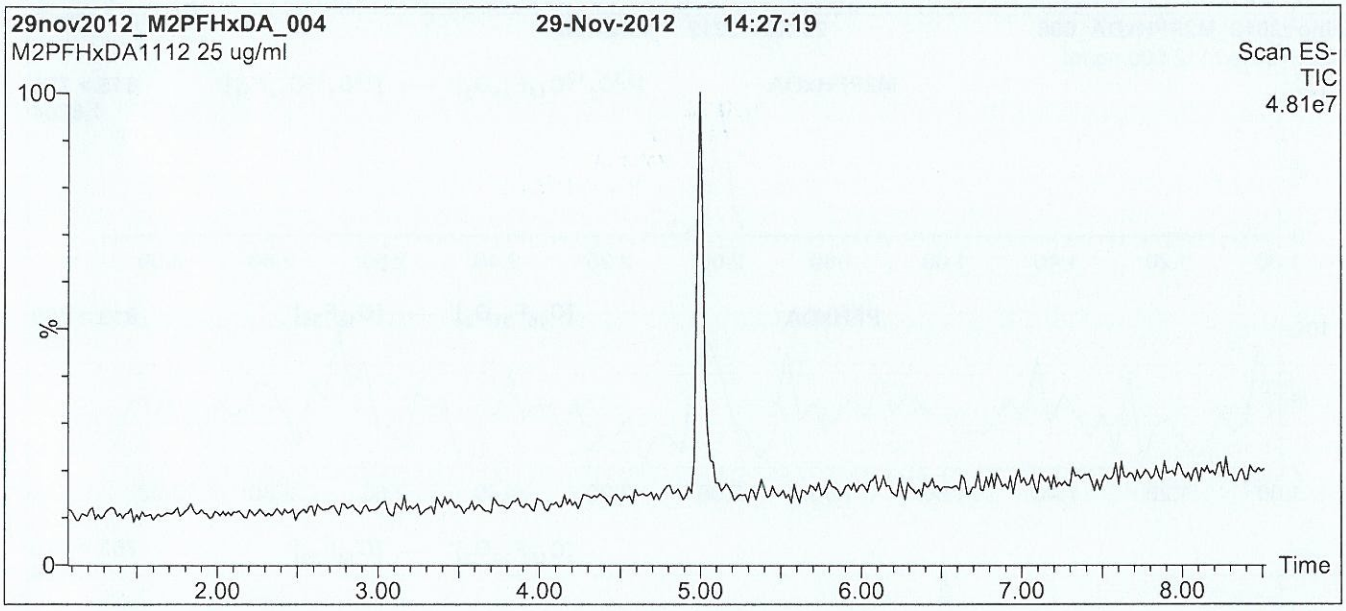
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

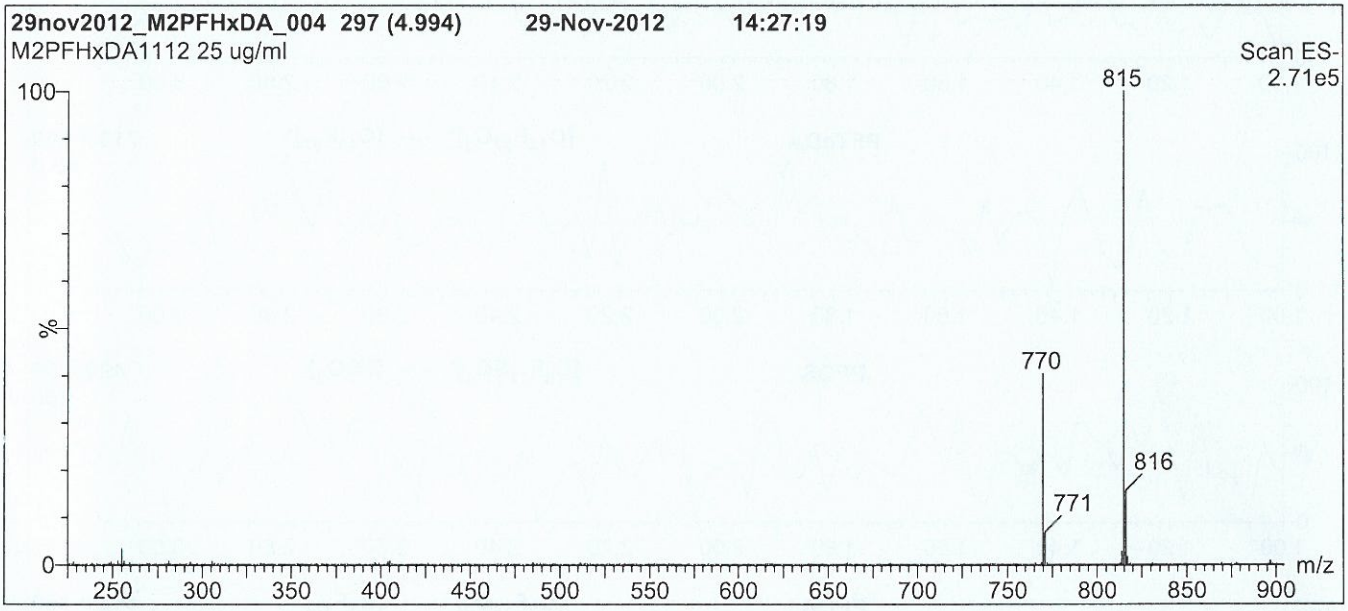
CALA Testing Accreditation No. A 1226

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

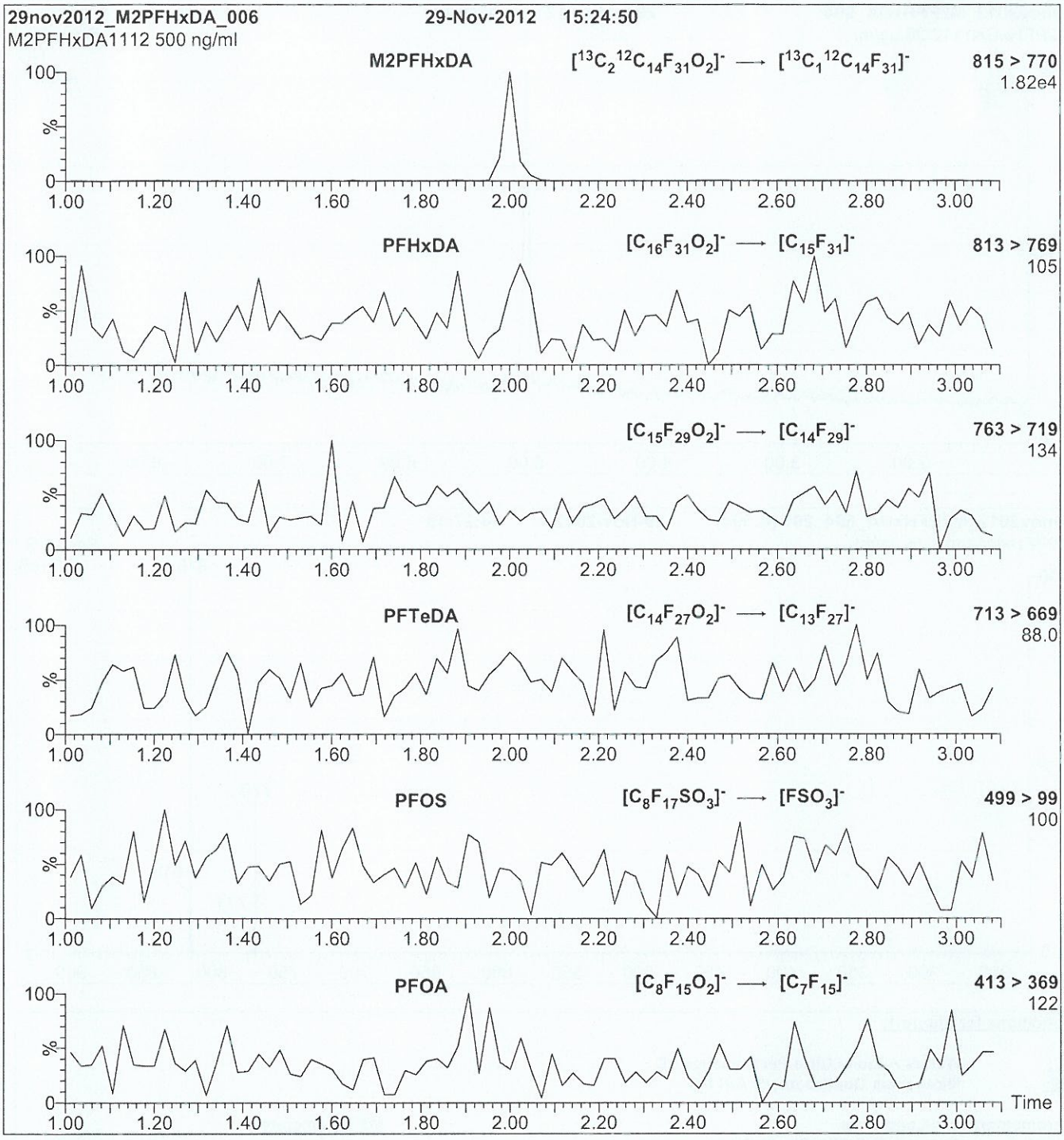
Flow: 300 µl/min

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

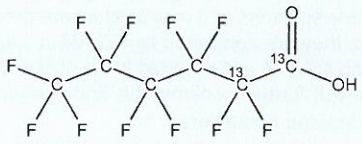
16I1433

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-$^{13}C_2$)
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:

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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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:

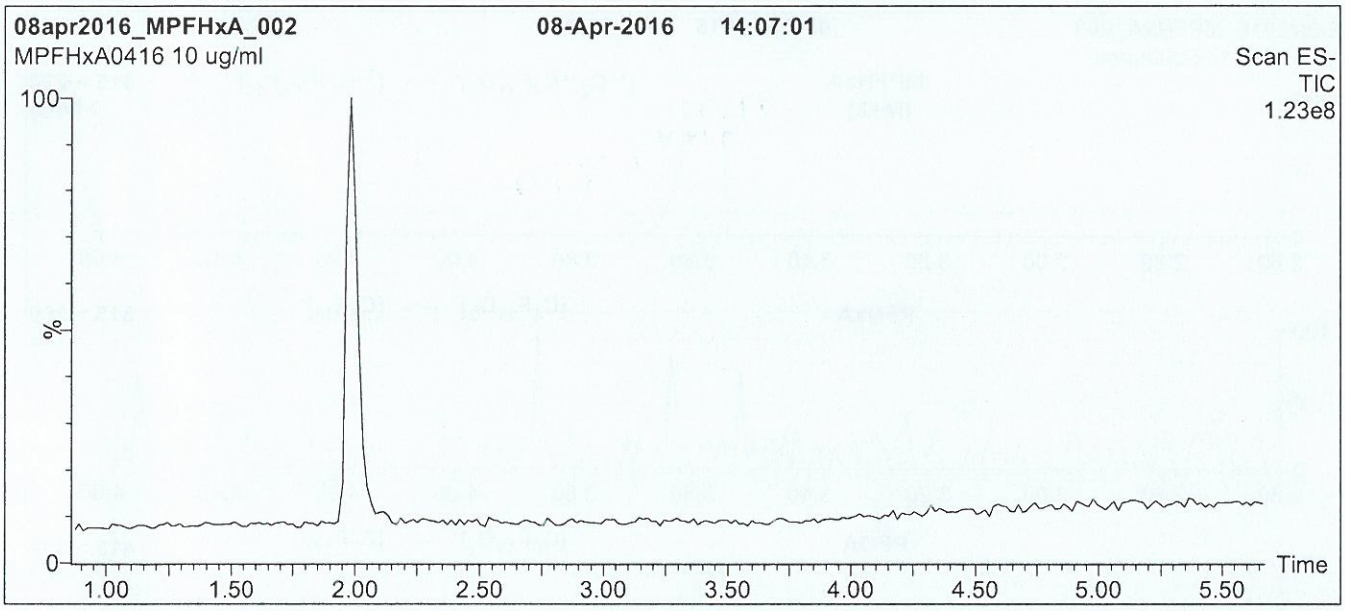
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

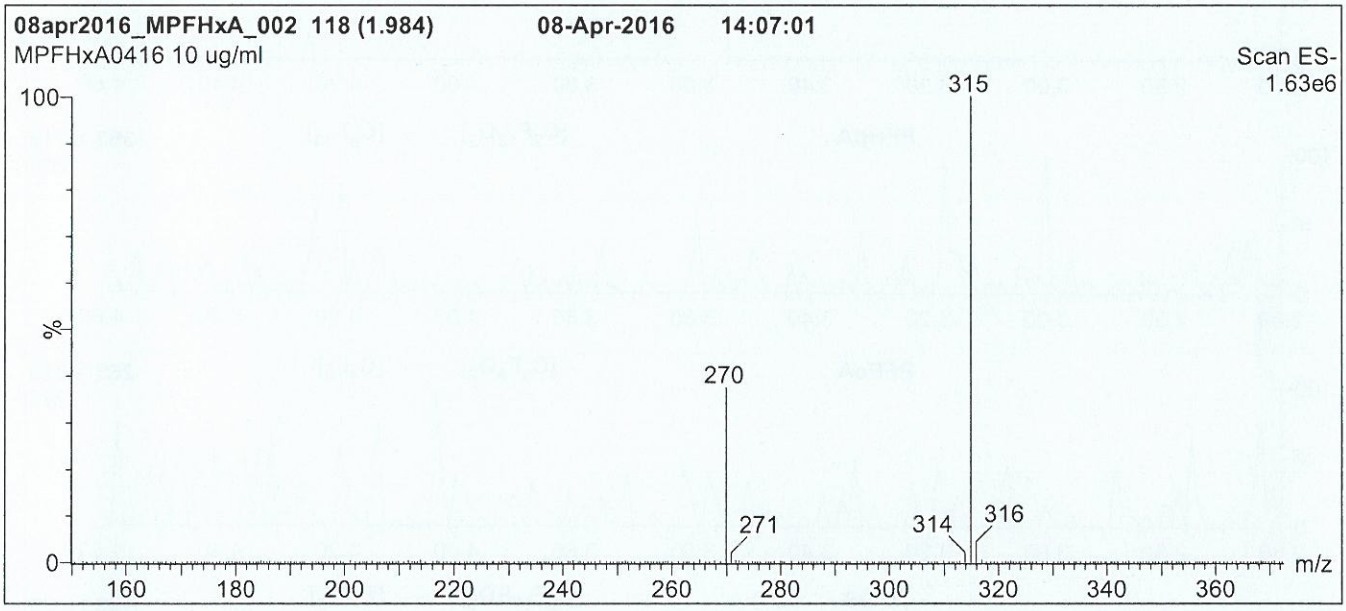
CALA Testing Accreditation No. A1226

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

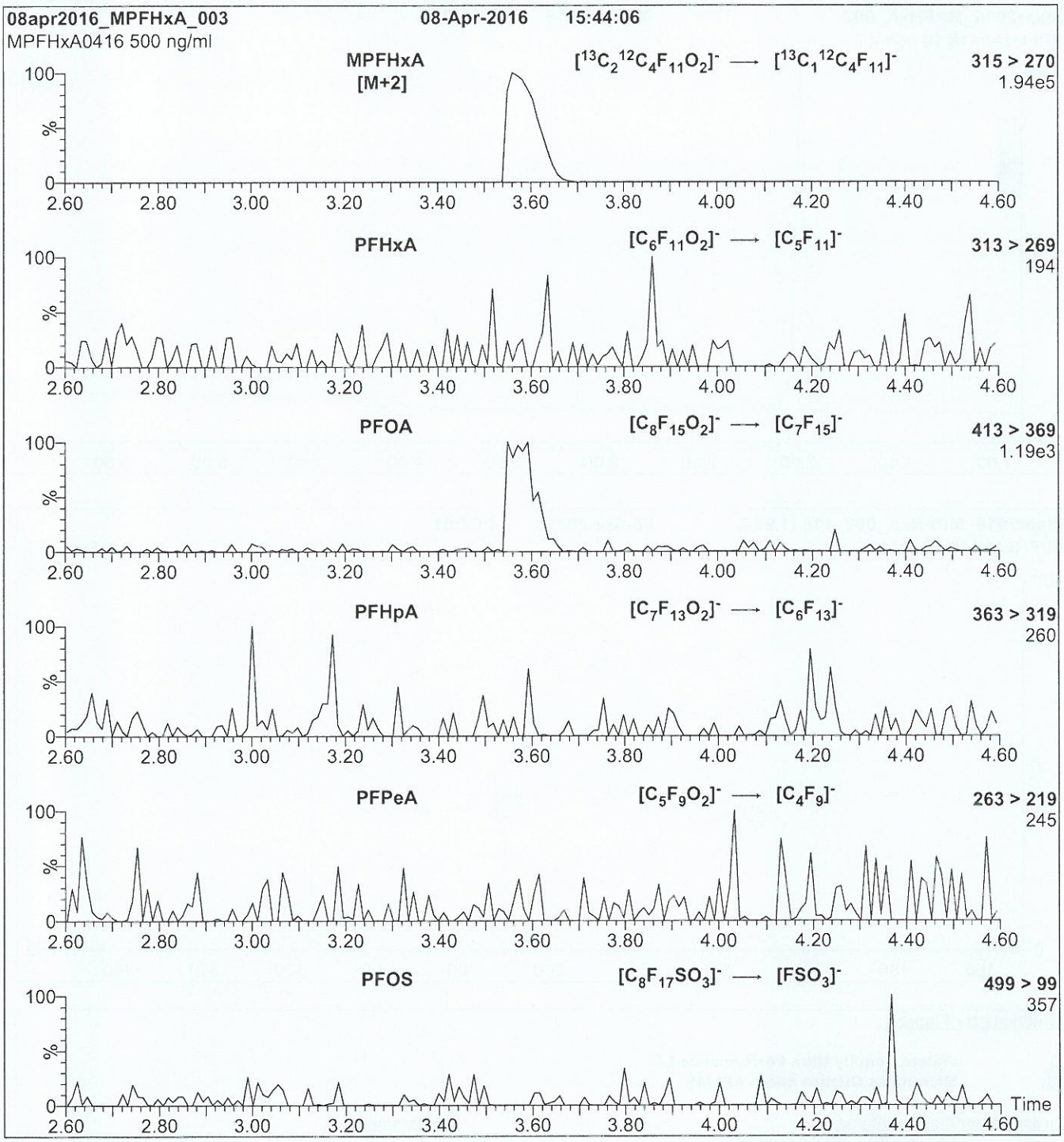
Flow: 300 µl/min

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

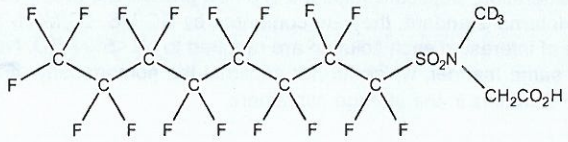
WELLINGTON LABORATORIES

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

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.

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The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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QUALITY MANAGEMENT:

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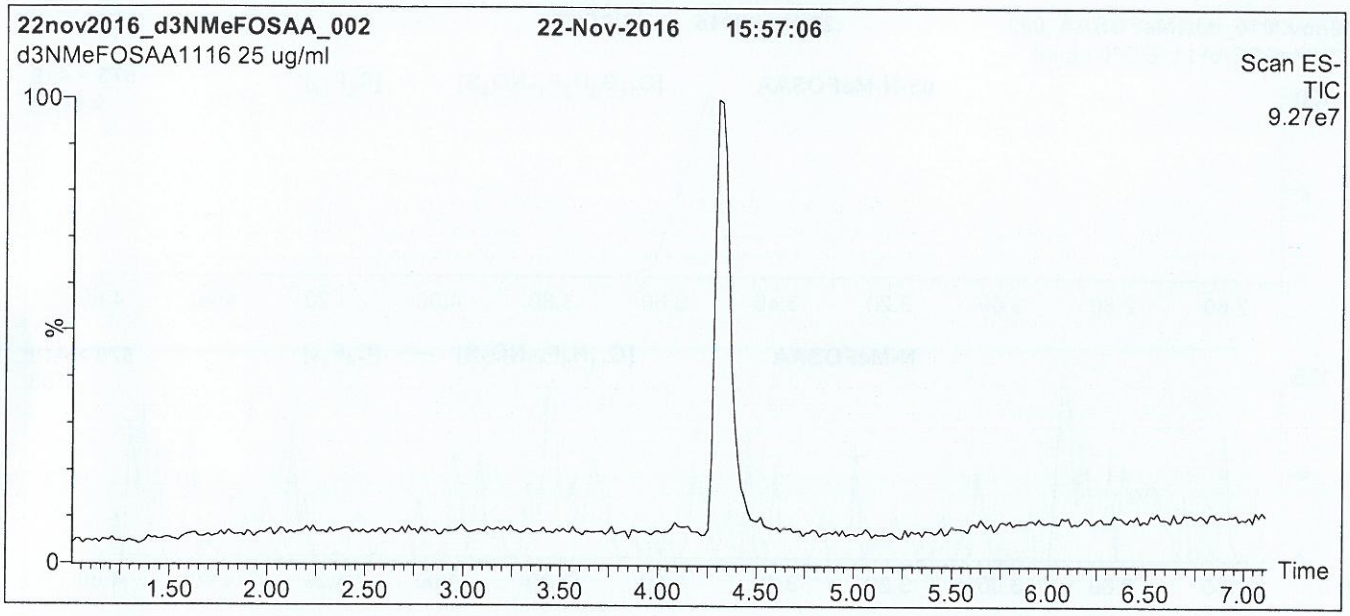
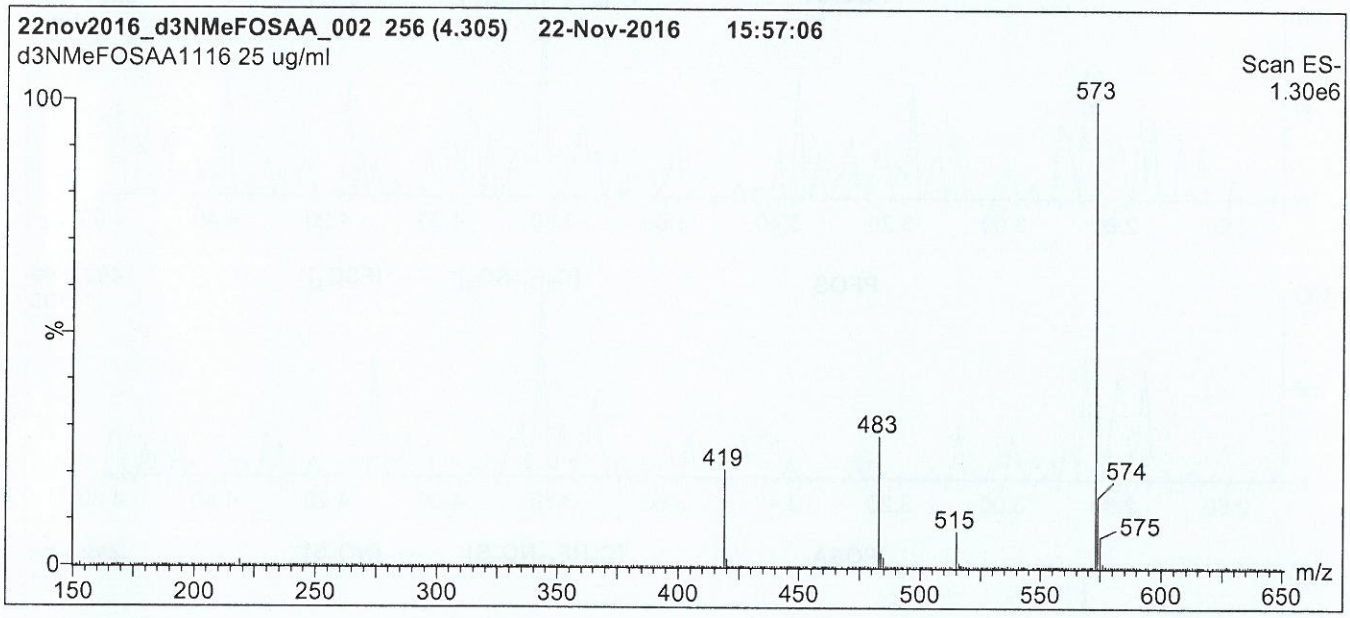
CALA Testing Accreditation No. A 1226

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: **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

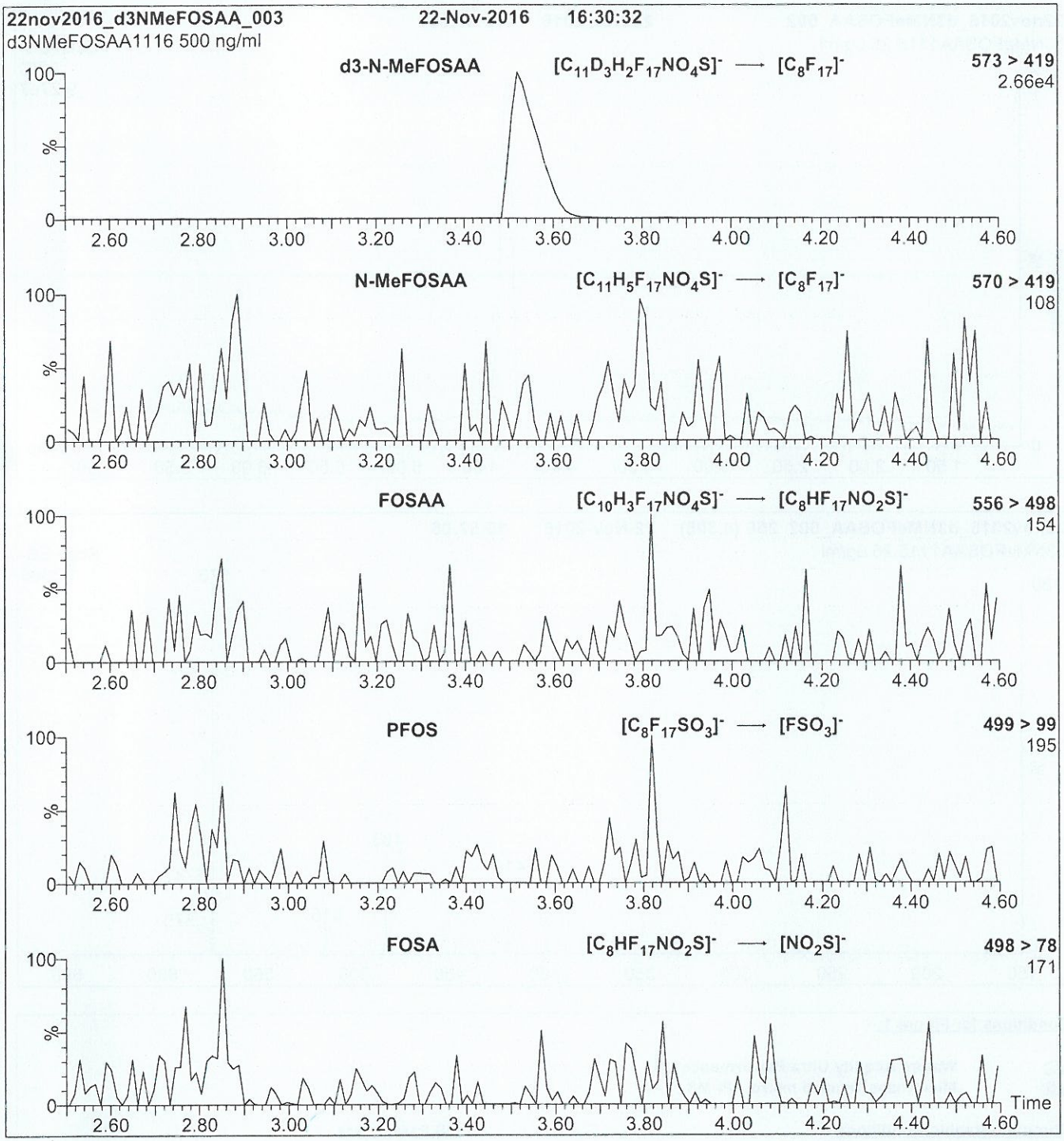
Flow: 300 µl/min

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

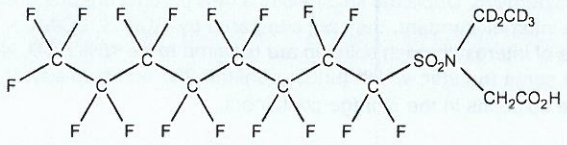
FTB2911

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

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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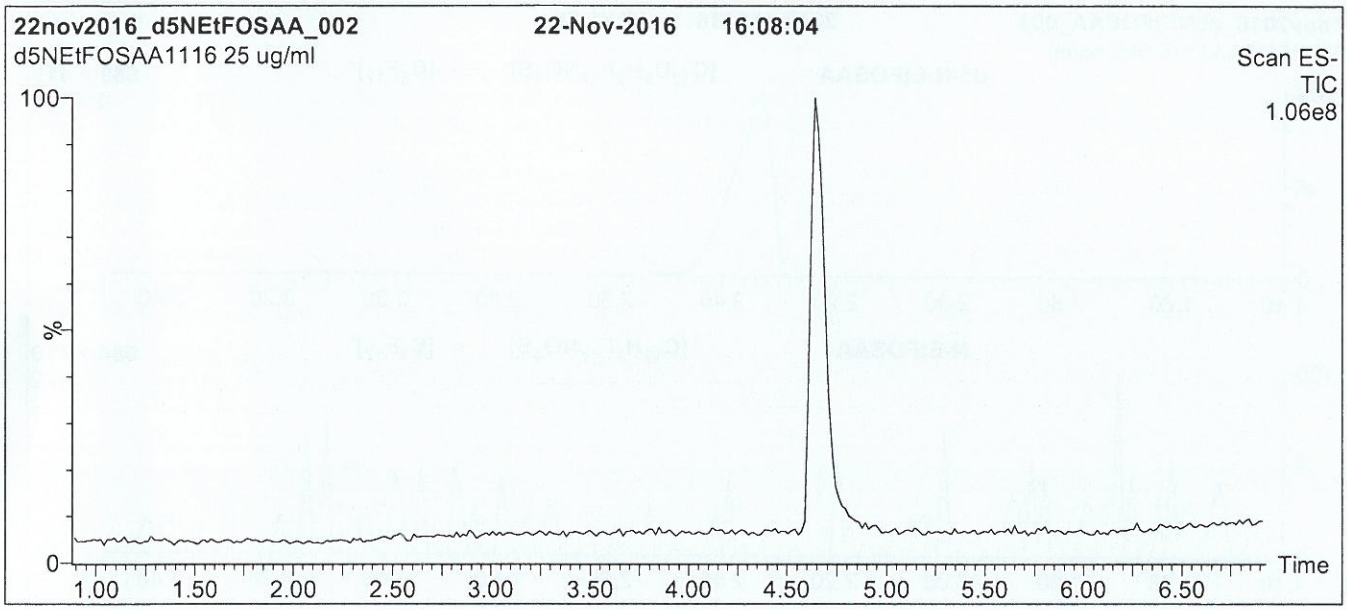
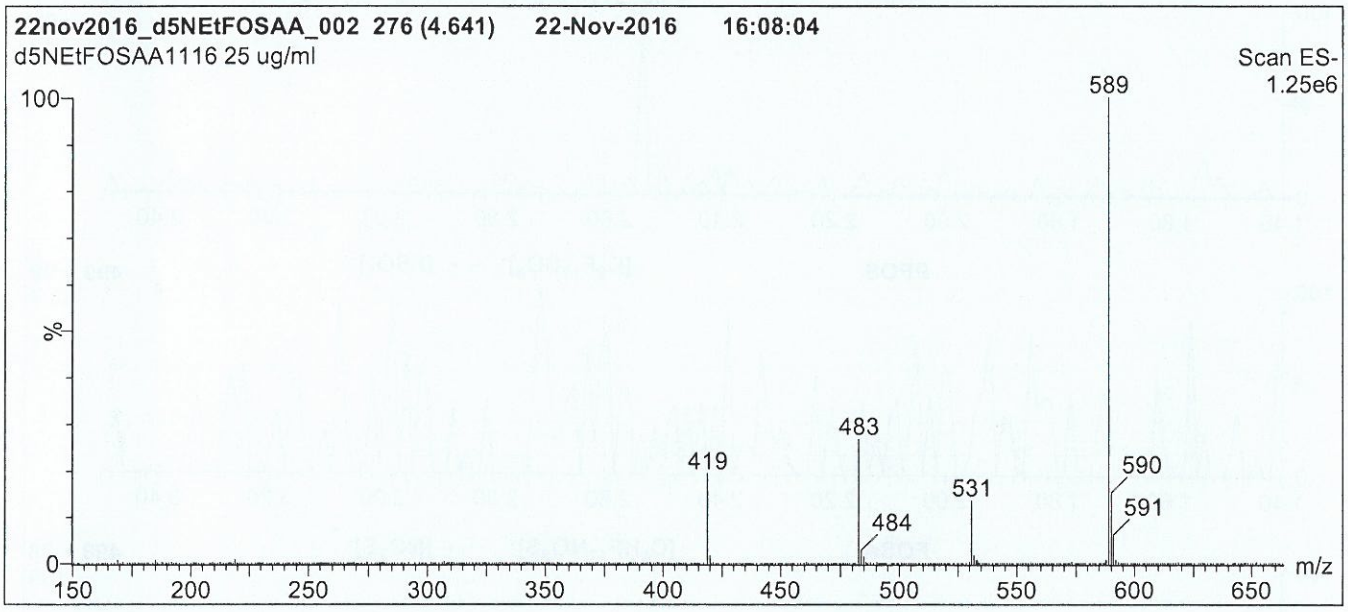
Figure 1: **d5-N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





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

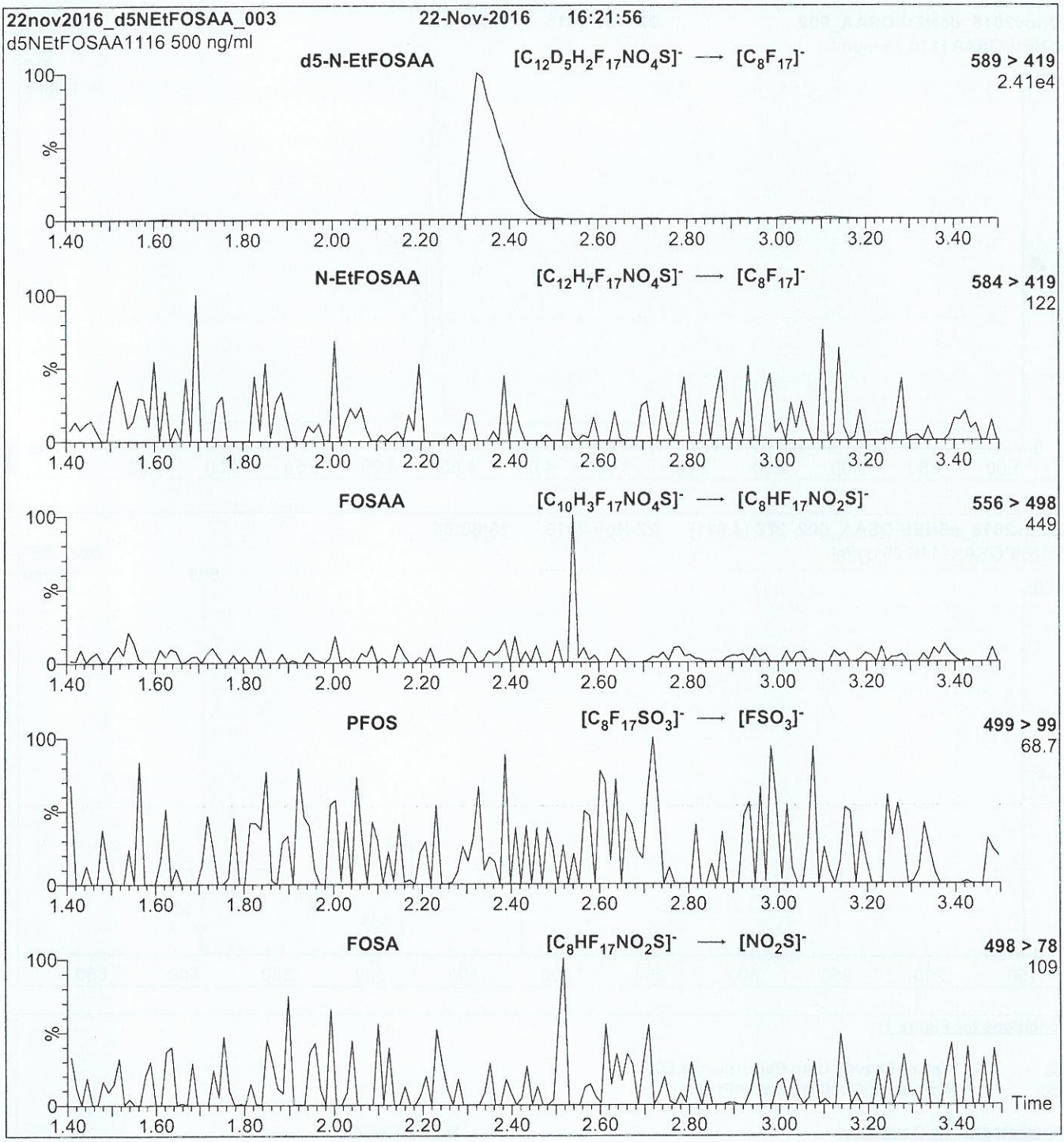
Flow: 300 µl/min

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

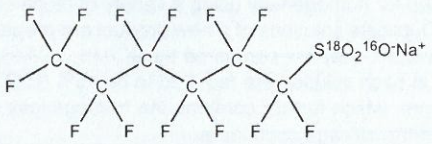
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 20

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.

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Certified By: _____ **Date:** 03/02/2017
B.G. Chittim (mm/dd/yyyy)

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17E2412

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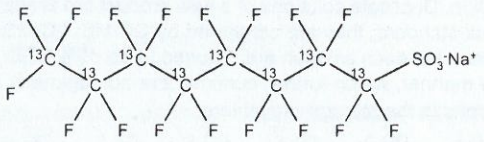
CERTIFICATE OF ANALYSIS DOCUMENTATION

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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17E2413

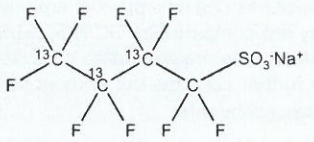
WELLINGTON LABORATORIES

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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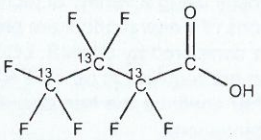
17E24-14

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.

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Certified By: B.G. Chittim **Date:** 07/08/2016 (mm/dd/yyyy)

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17E2415

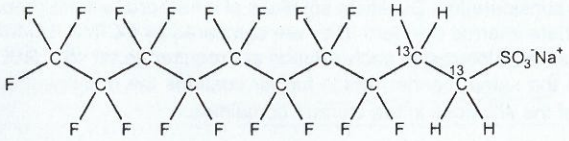
WELLINGTON LABORATORIES

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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17E2416

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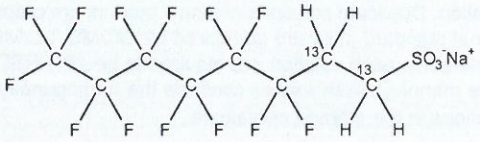
CERTIFICATE OF ANALYSIS DOCUMENTATION

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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17E2417

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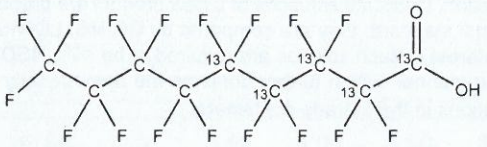
CERTIFICATE OF ANALYSIS DOCUMENTATION

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.

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Certified By: _____ **Date:** 10/11/2016 (mm/dd/yyyy)
B.G. Chittim

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17E2418

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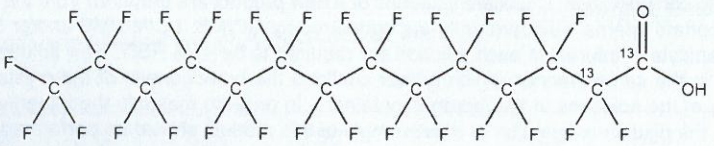
CERTIFICATE OF ANALYSIS DOCUMENTATION

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.

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Certified By: _____ **Date:** 03/07/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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17E2419

WELLINGTON LABORATORIES

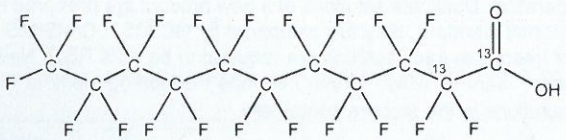
CERTIFICATE OF ANALYSIS DOCUMENTATION

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.

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Certified By: B.G. Chittim **Date:** 12/07/2016 (mm/dd/yyyy)

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17E2420

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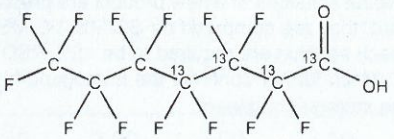
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M4PFHpA	**LOT NUMBER:**	M4PFHpA0516
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_3HF_{13}O_2$	**MOLECULAR WEIGHT:**	368.03
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)	05/27/2016		
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.

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Certified By: _____ B.G. Chittim **Date:** 07/05/2016 (mm/dd/yyyy)

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17E2421

WELLINGTON LABORATORIES

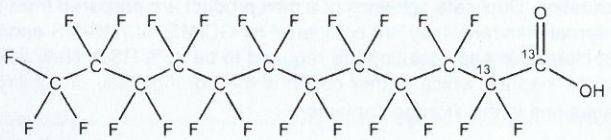
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDoA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid

LOT NUMBER: MPFDoA0416

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.
- 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:** 04/15/2016 (mm/dd/yyyy)

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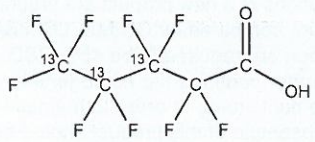
17G1303

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFPeA	**LOT NUMBER:**	M3PFPeA0417
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
LAST TESTED: (mm/dd/yyyy)	04/20/2017		(3,4,5-$^{13}C_3$)
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
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.
- Contains ~ 0.95% of perfluoro-n-[$^{13}C_3$]butanoic acid and 0.05% of perfluoro-1-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/24/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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17G1303

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:

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).

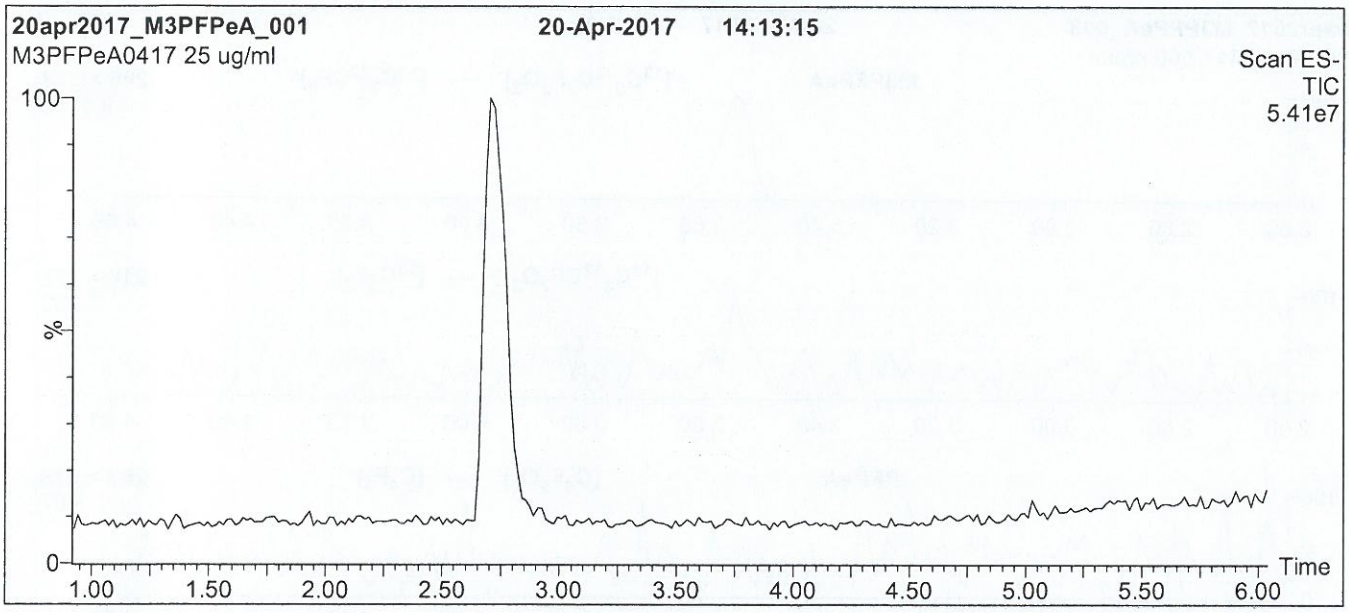
CALA Testing Accreditation No. A 1226

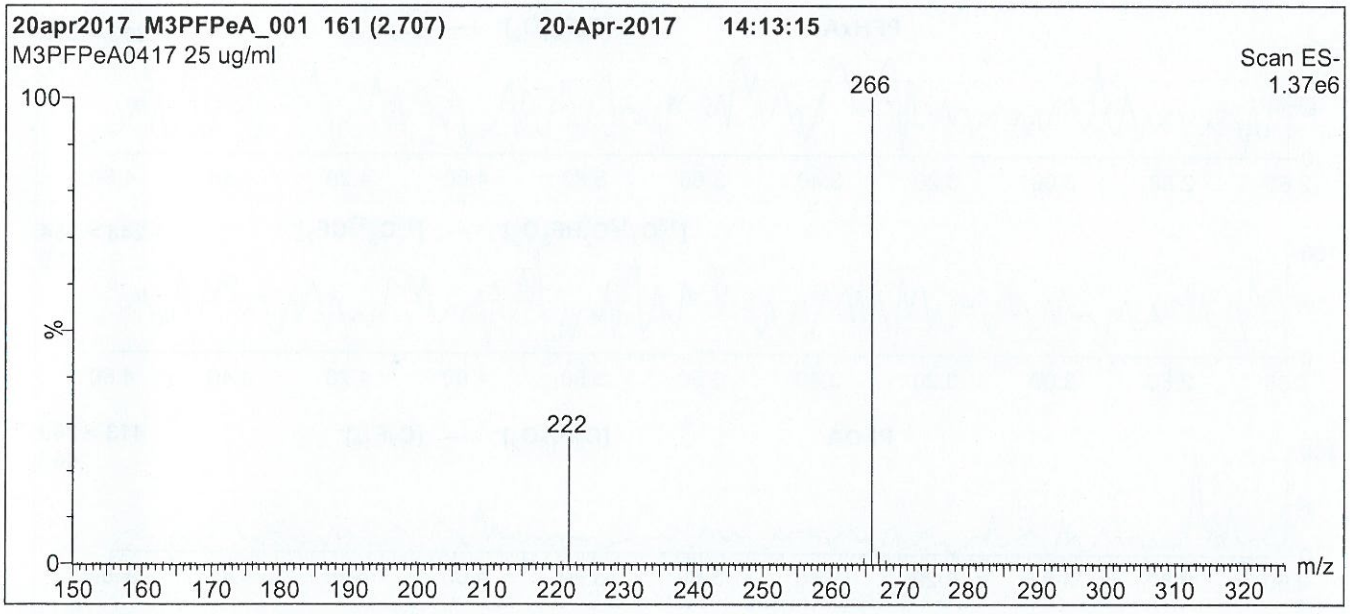
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

17G1303

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
2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

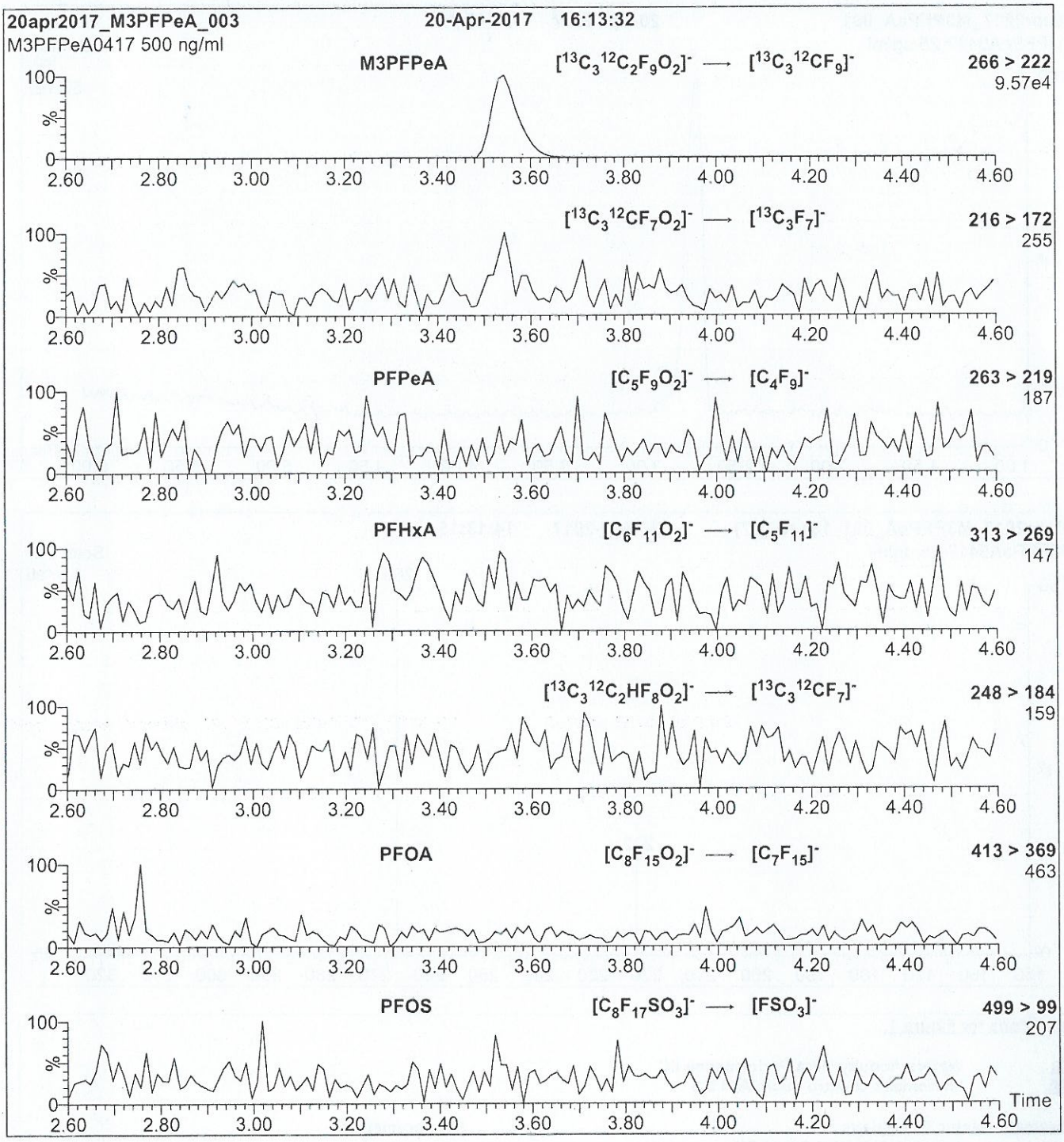
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

17G1303

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% (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) = 9

17G1304

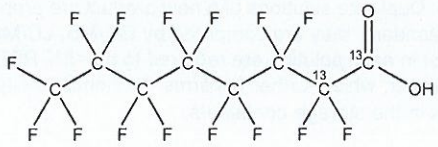
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

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		

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:** 02/24/2016 (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

17G1304

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 ISO 17034 REFERENCE MATERIAL PRODUCER

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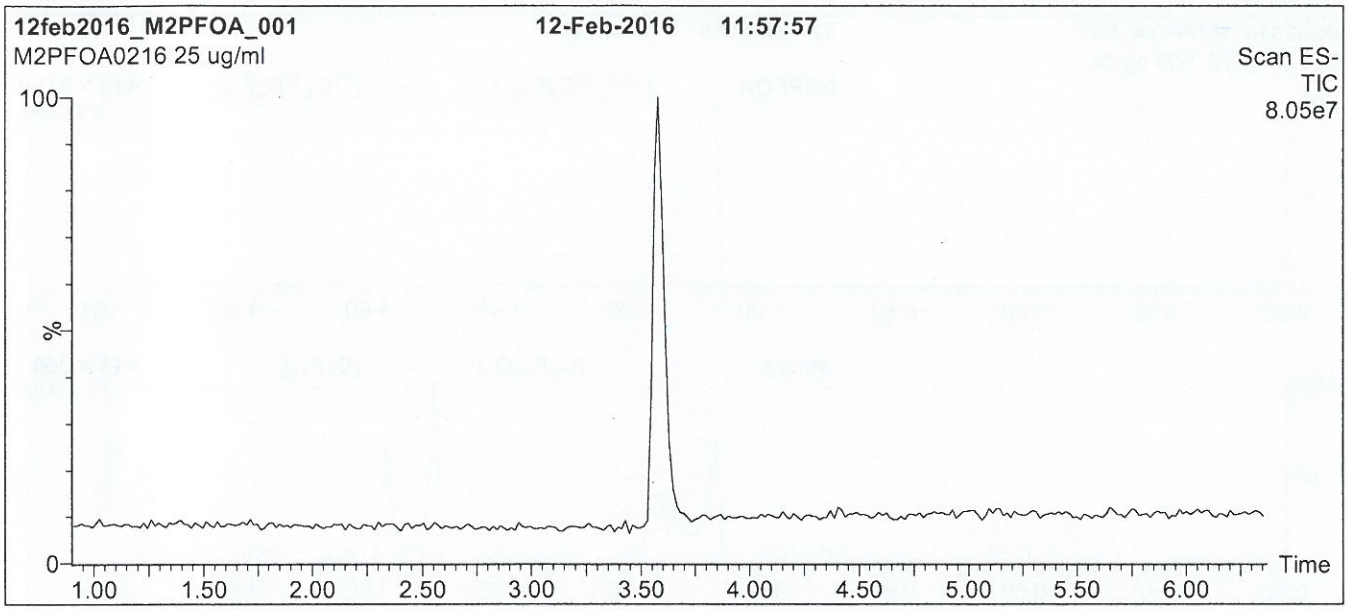
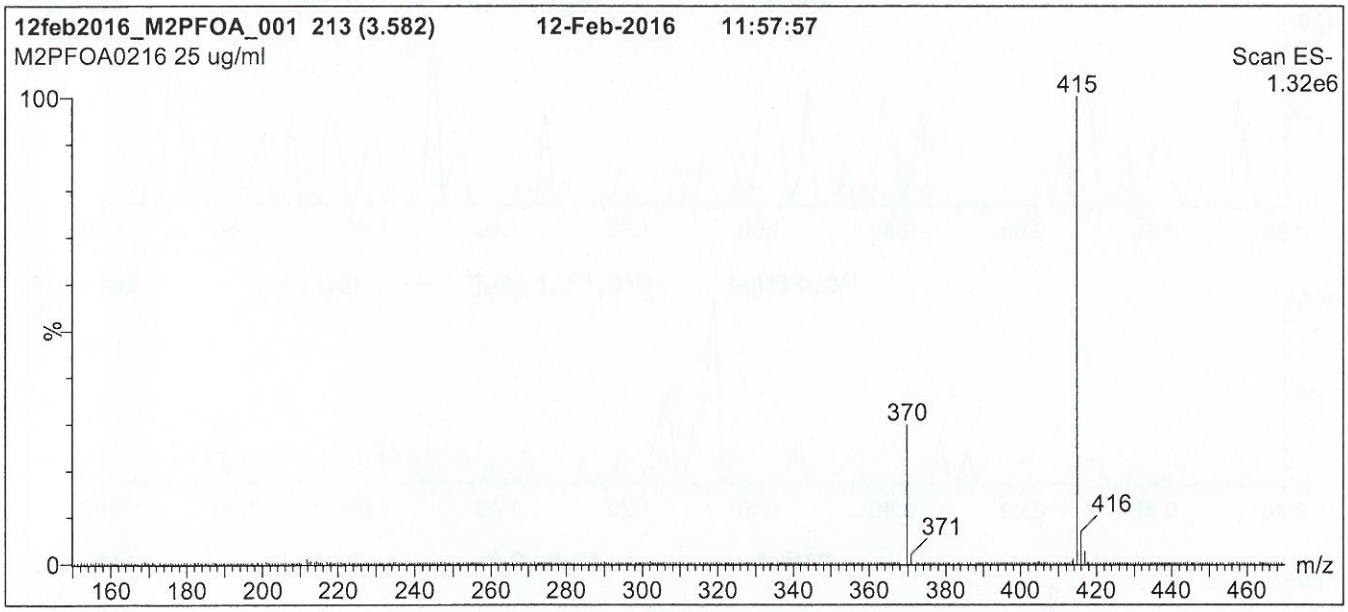
17G1304

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

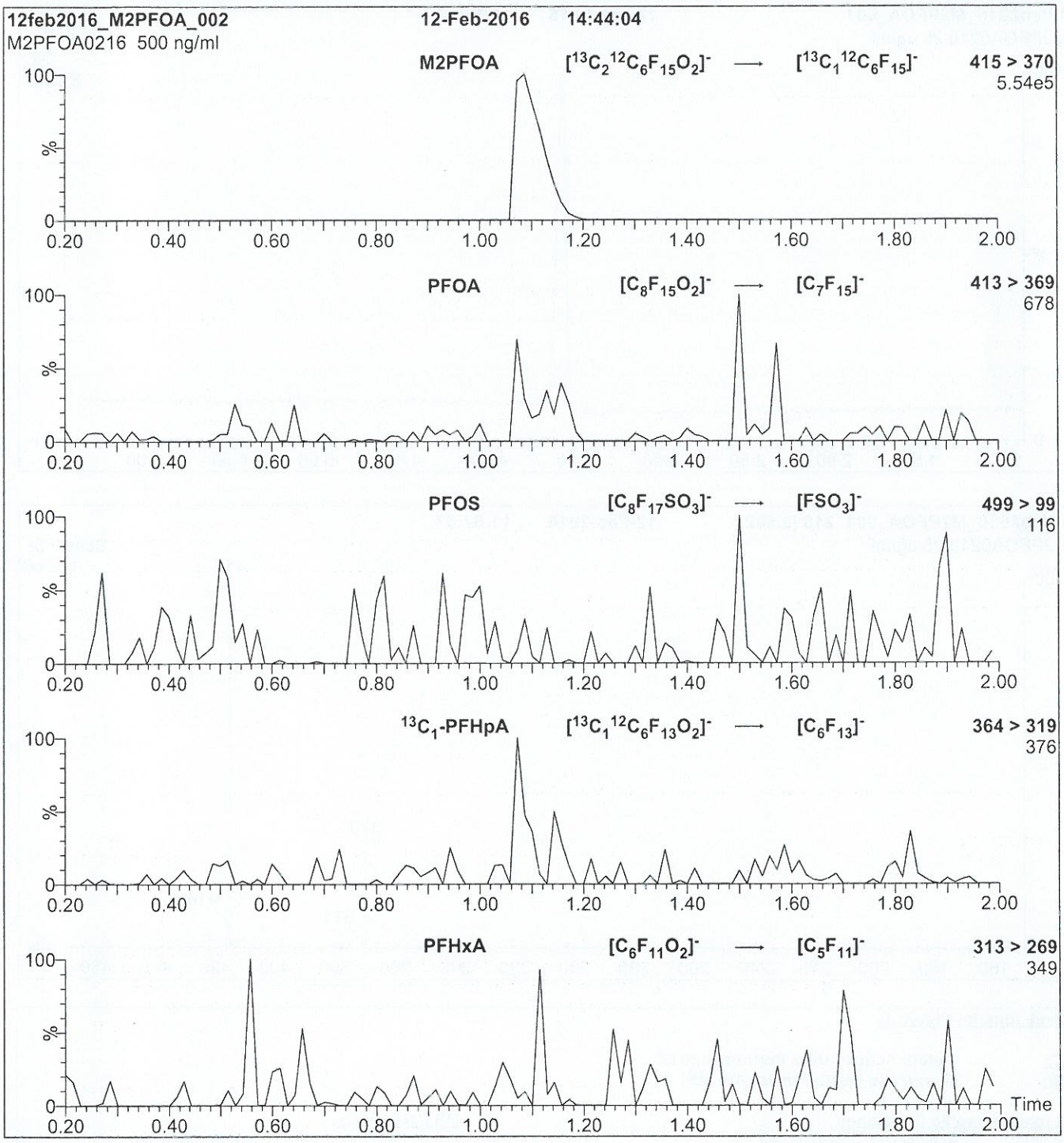
MS Parameters

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

17G1304

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

17G1305

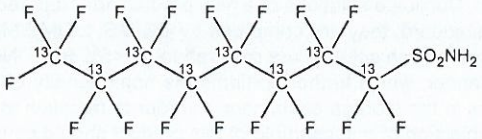
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8FOSA-I
LOT NUMBER: M8FOSA0417I
COMPOUND: Perfluoro-1-[$^{13}C_8$]octanesulfonamide

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)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
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.
- Contains ~ 1.1% of perfluoro-1-[$^{13}C_4$]octanesulfonamide and ~ 0.01% of perfluoro-1-[$^{13}C_7$]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/04/2017 (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

17G1305

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:

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).

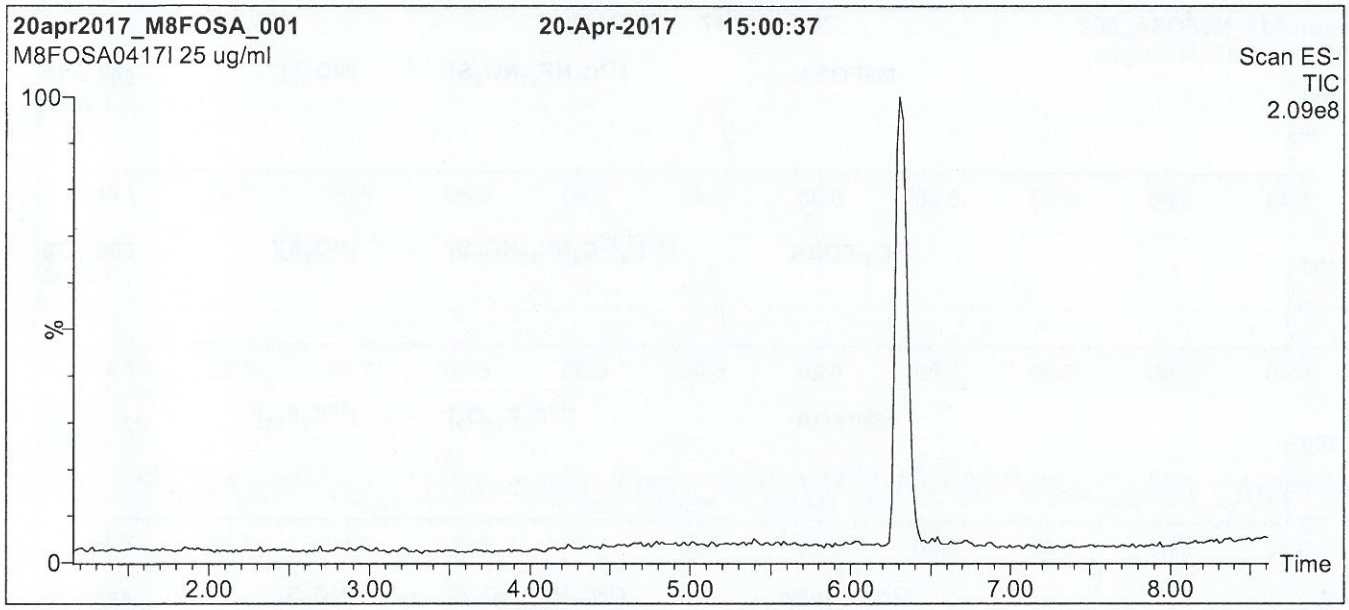
CALA Testing Accreditation No. A 1226

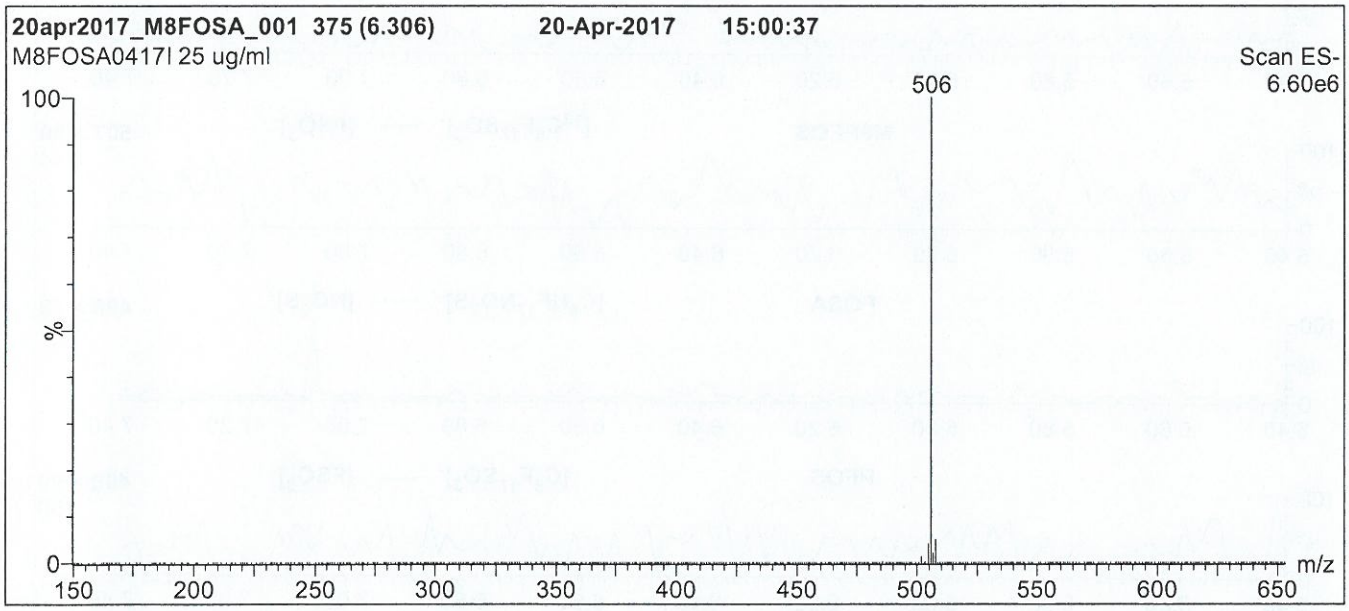
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

#2 17G1305

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 85% 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

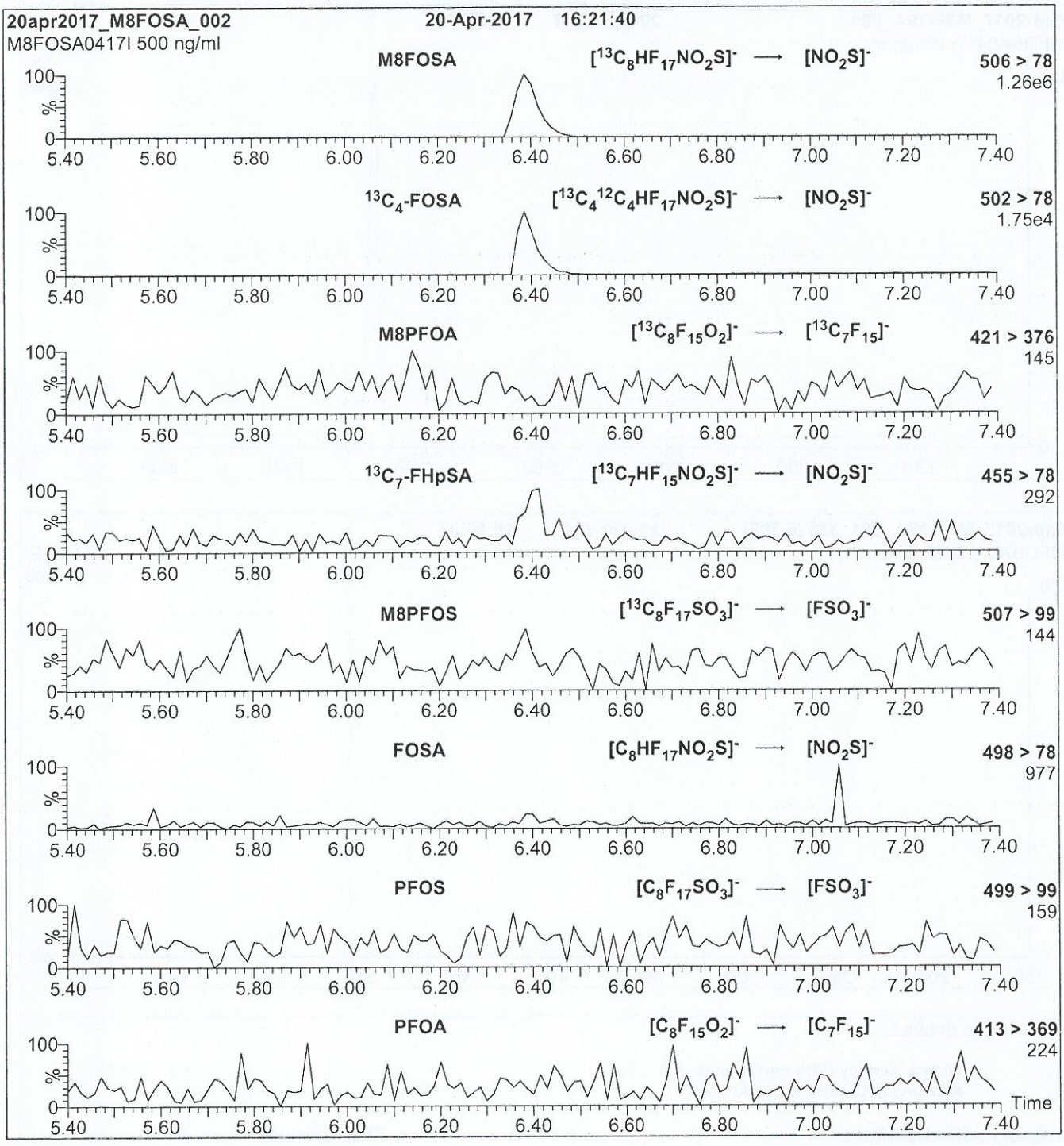
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

17G1305

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) = 3.17e-3
Collision Energy (eV) = 30

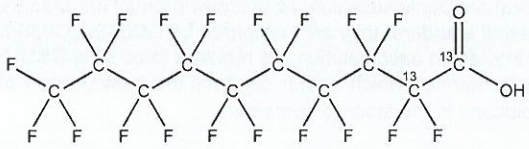
17G1306

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDA
LOT NUMBER: MPFDA0916
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/07/2016 (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

17G1306

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. A1226

ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

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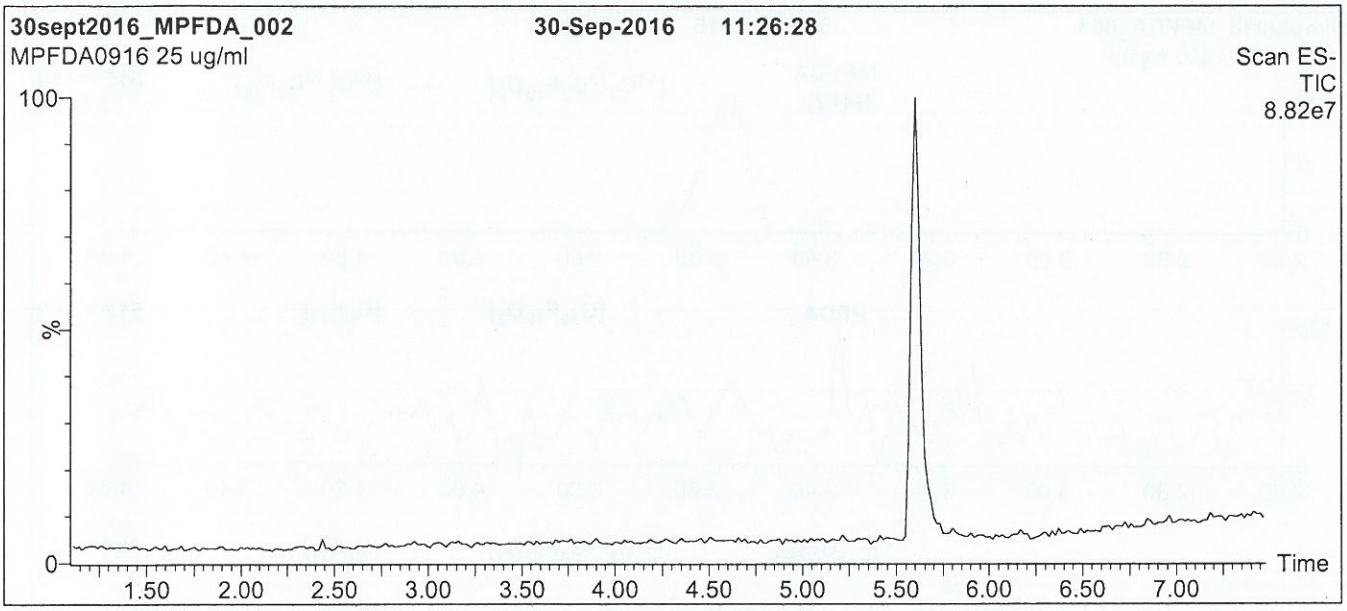
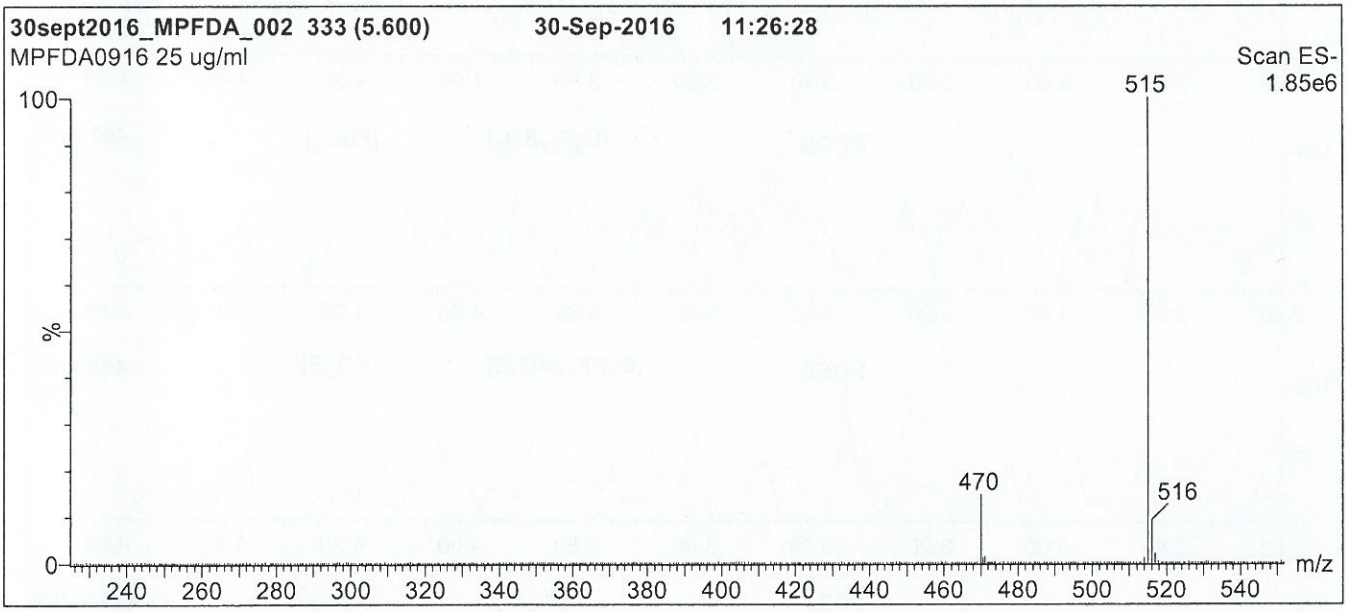
17G1306

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

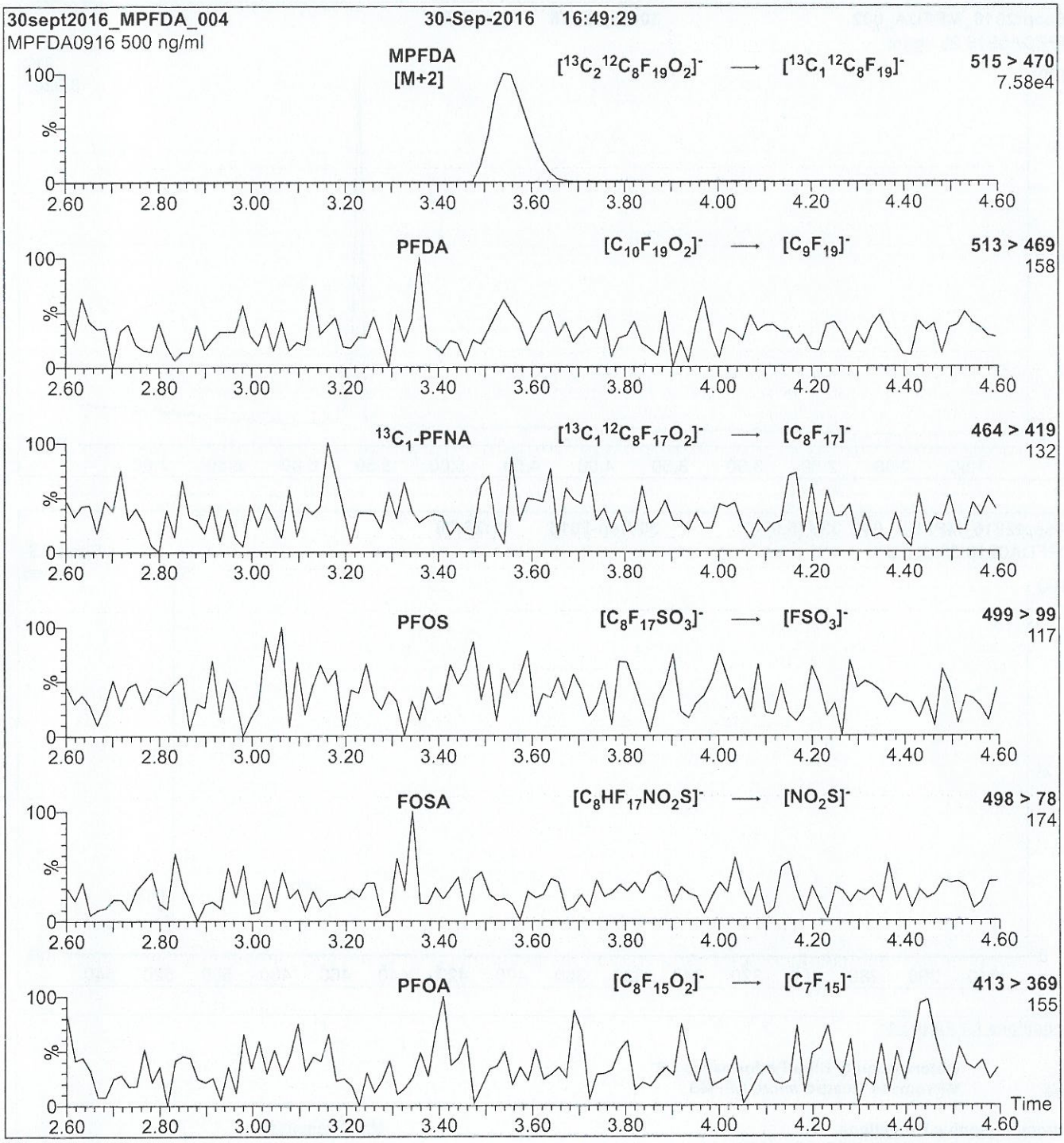
MS Parameters

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

17G1306

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

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

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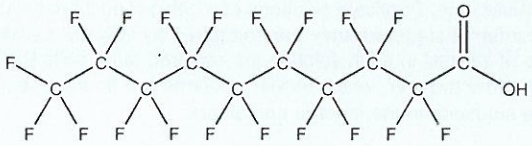
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

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:

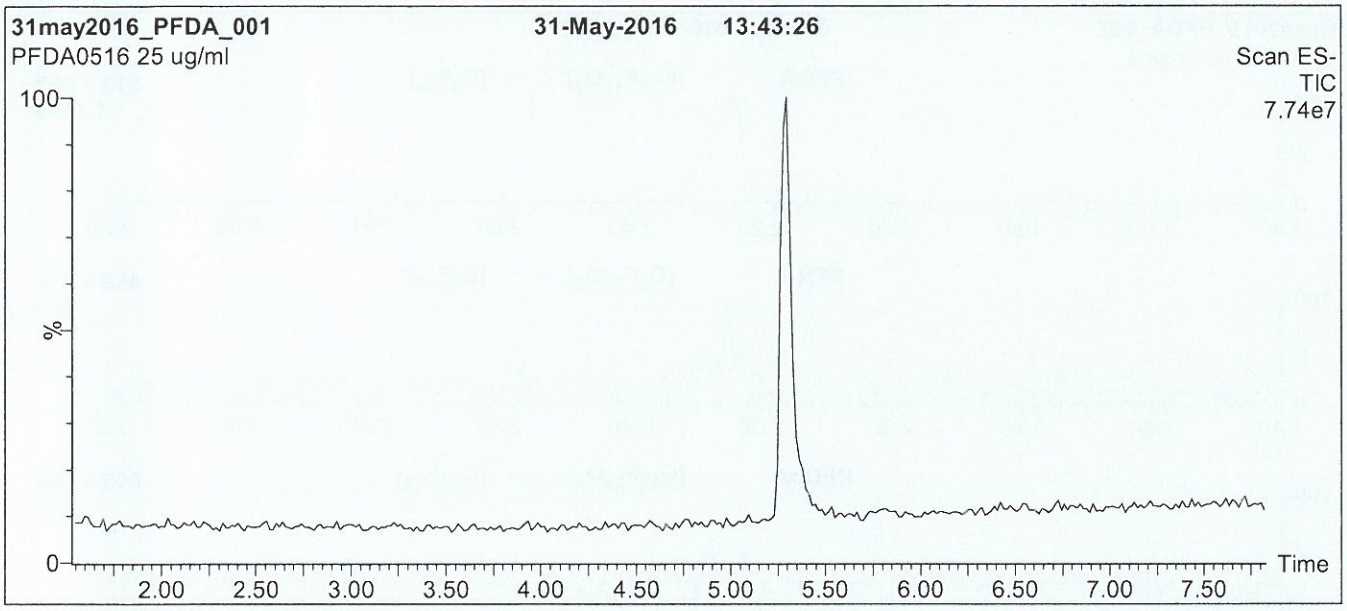
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

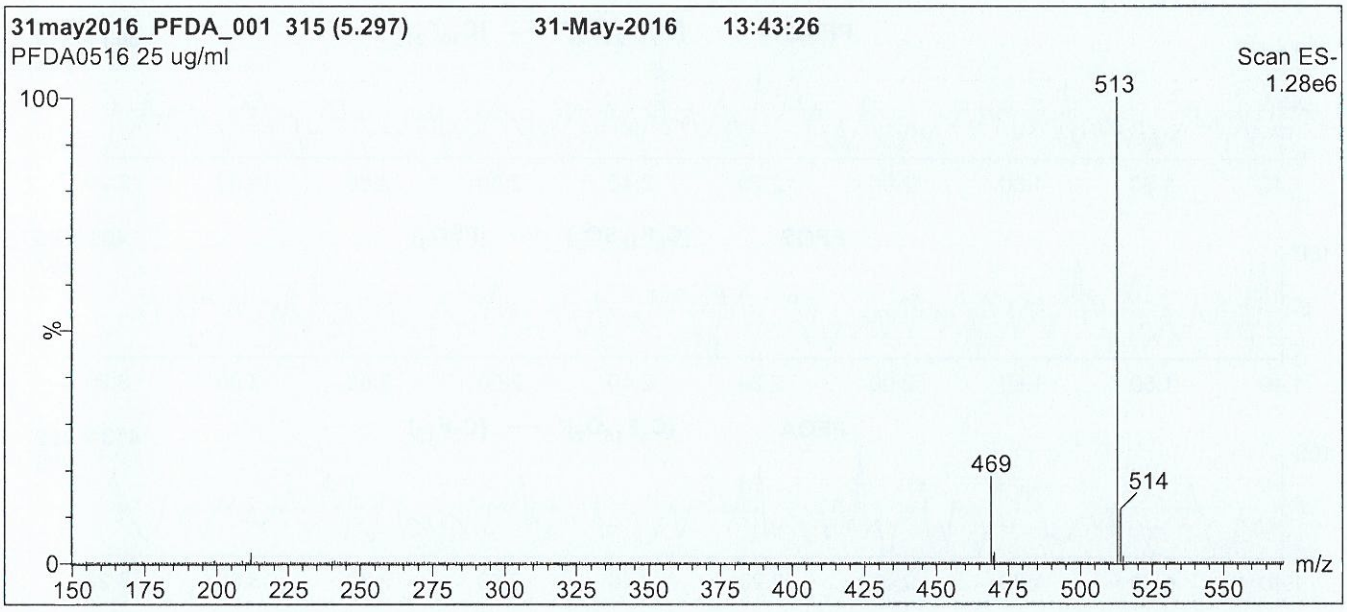
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17025 ISO 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: **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

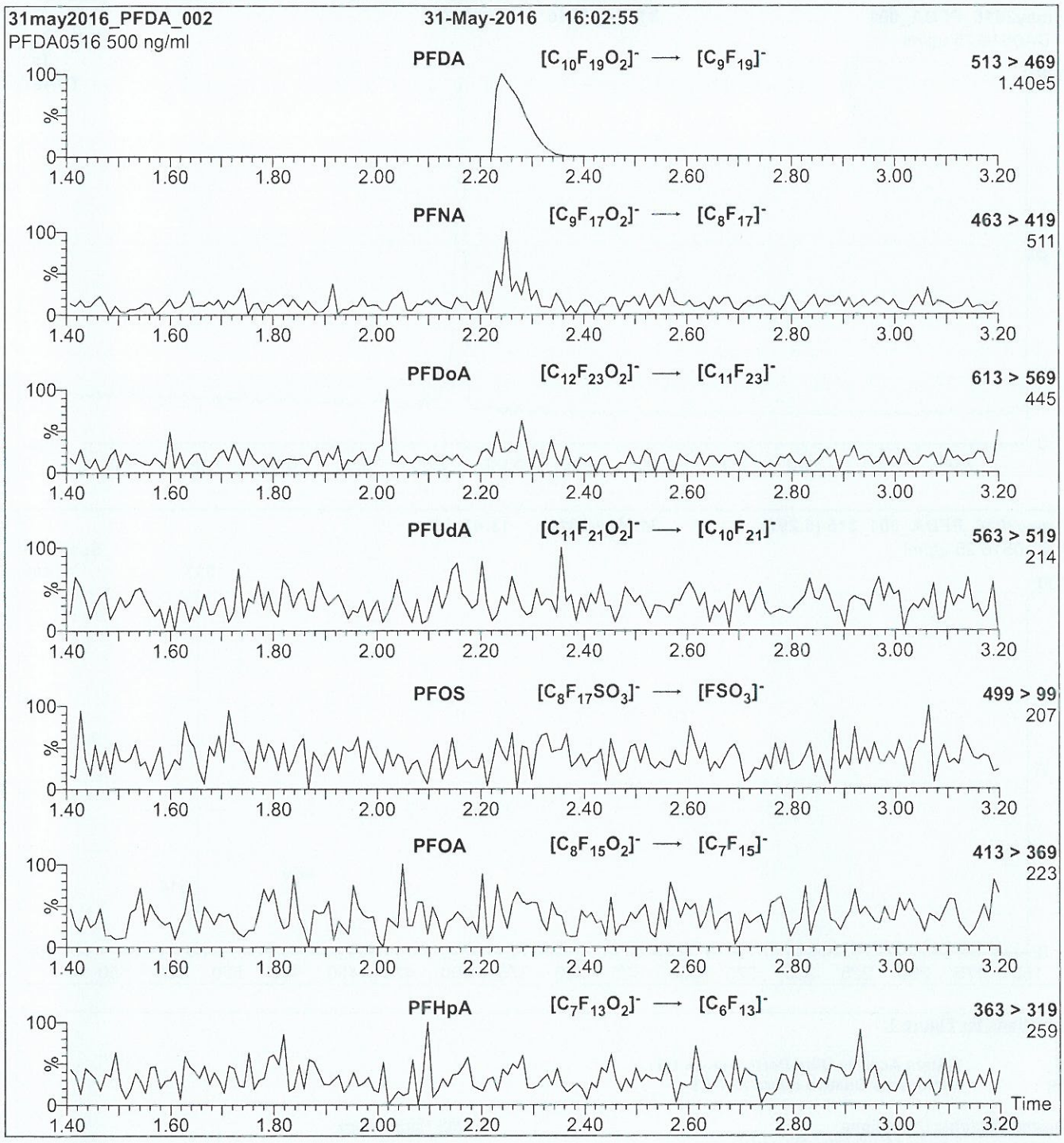
Flow: 300 µl/min

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

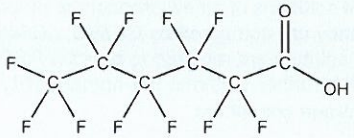
16I1415

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.

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:

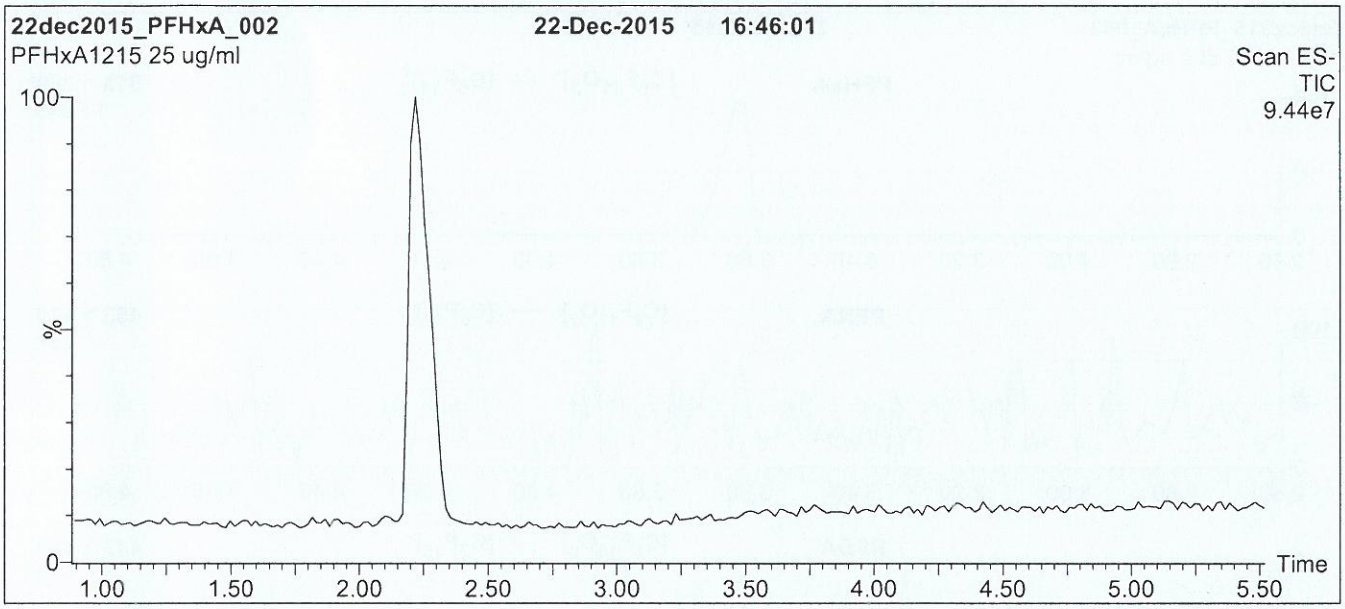
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

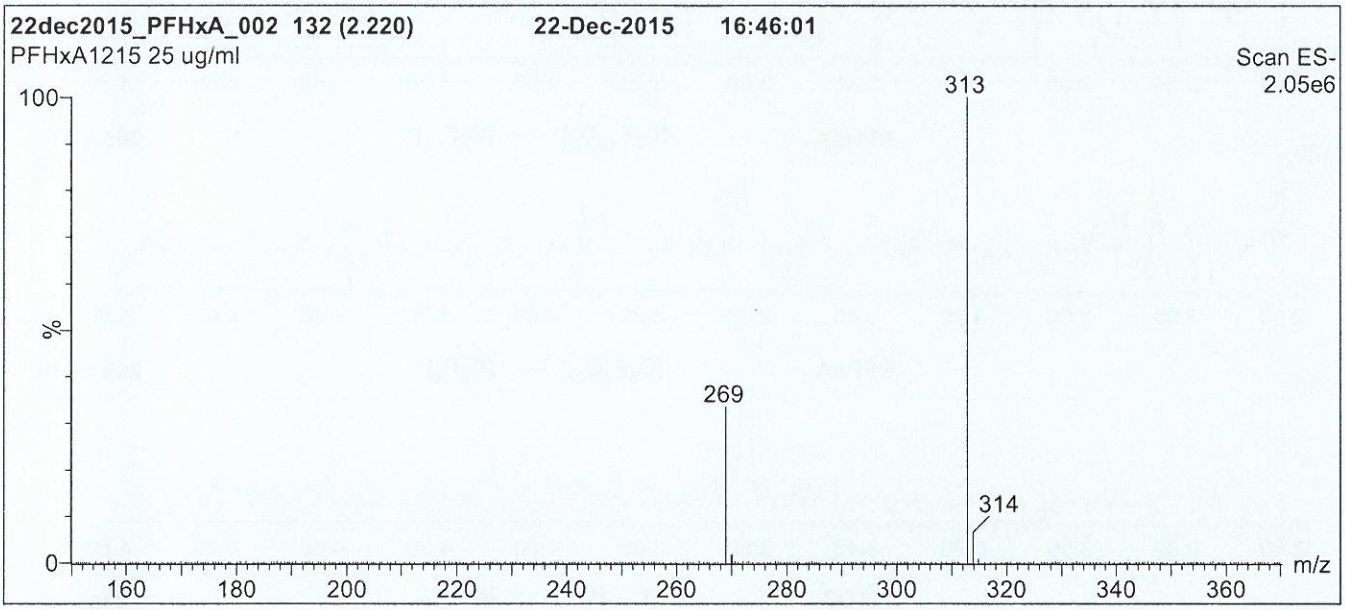
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 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: **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

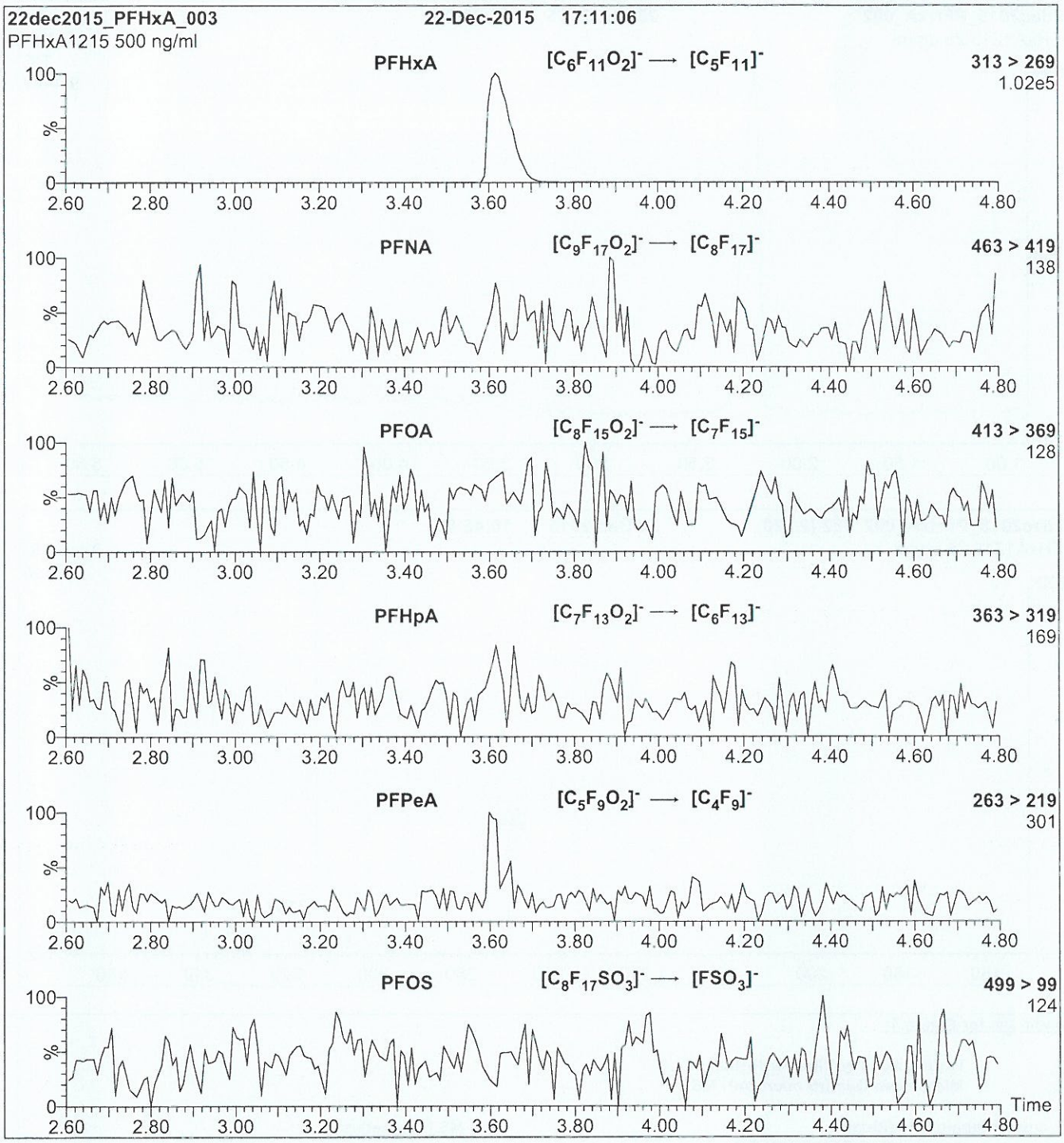
Flow: 300 µl/min

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

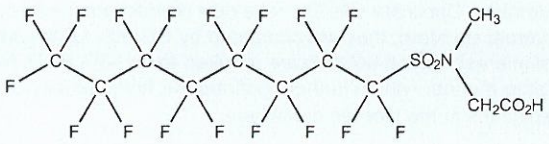
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

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.

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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

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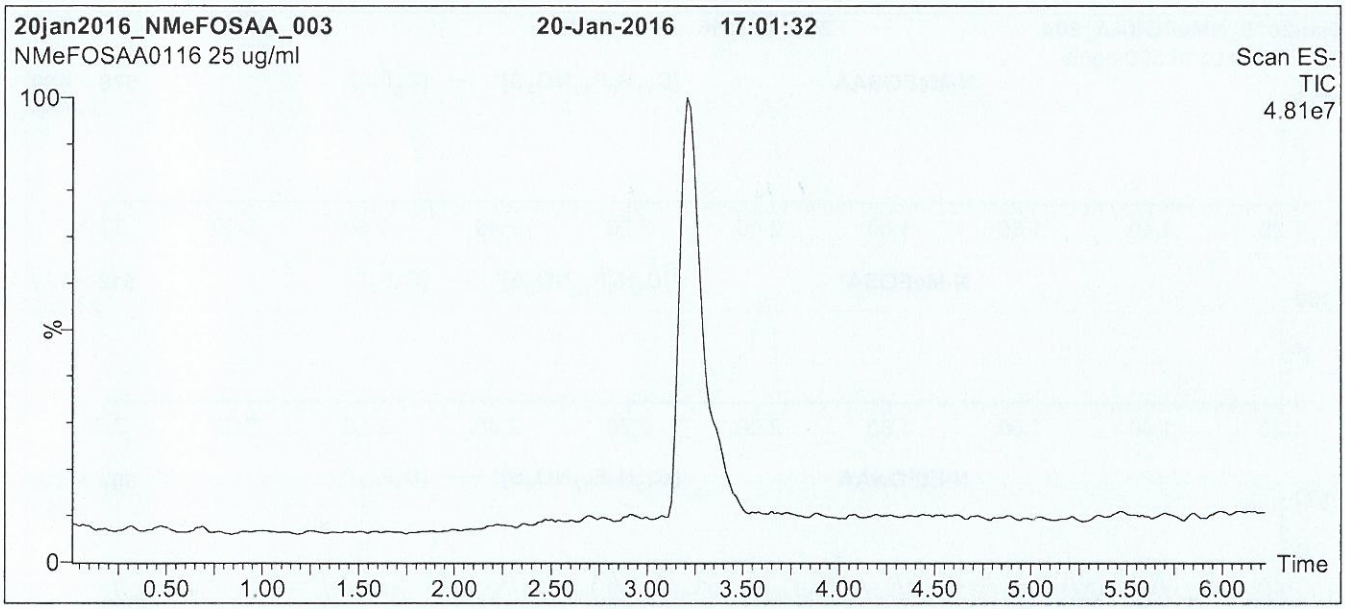
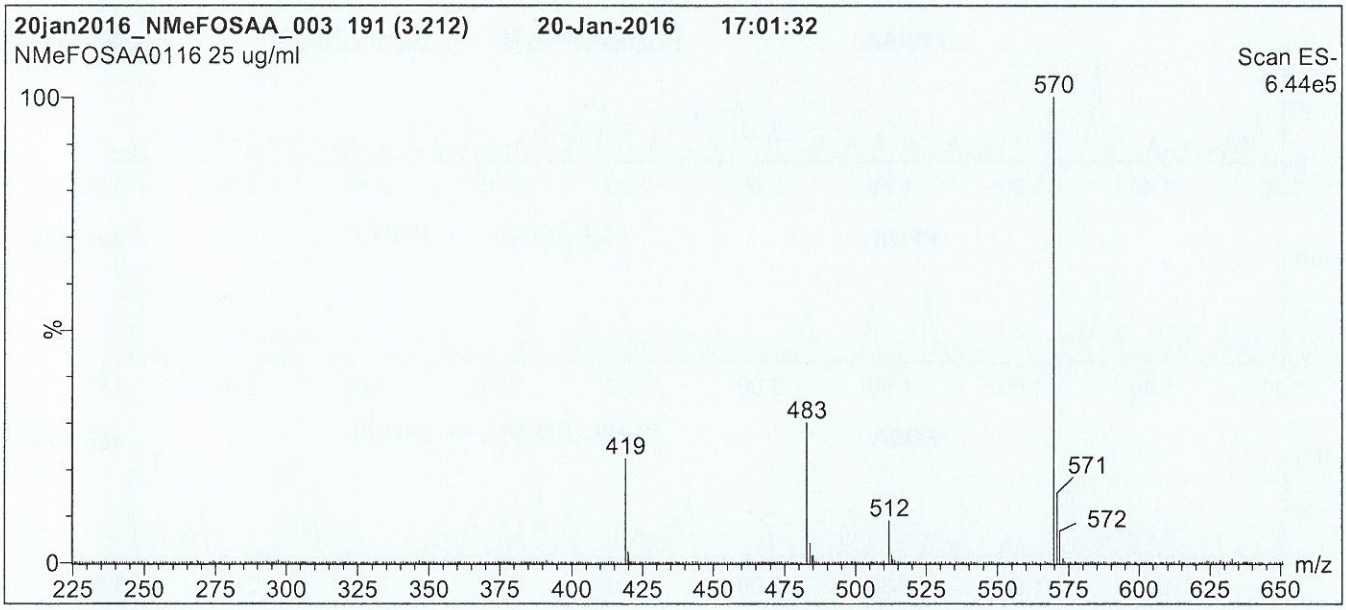
Figure 1: **N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





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

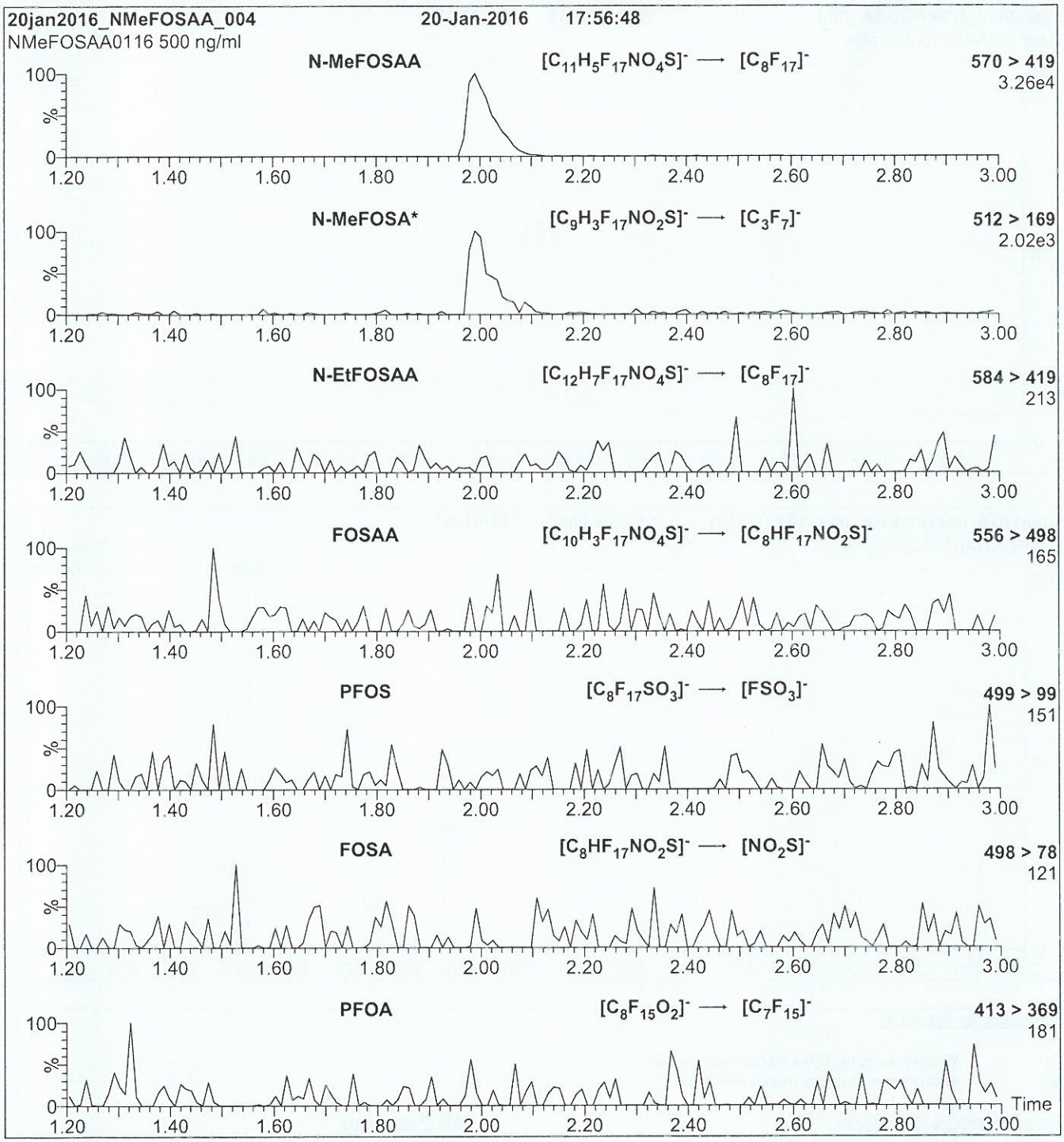
Flow: 300 µl/min

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

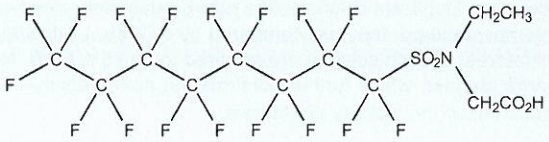
CERTIFICATE OF ANALYSIS DOCUMENTATION

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.

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

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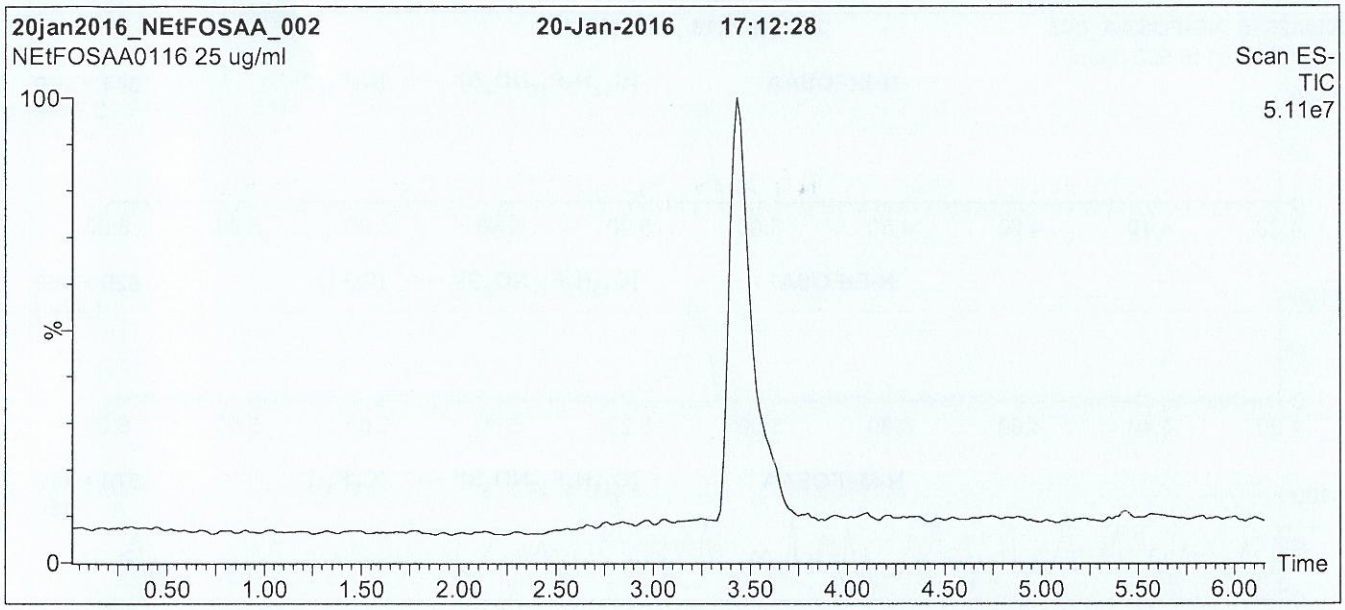
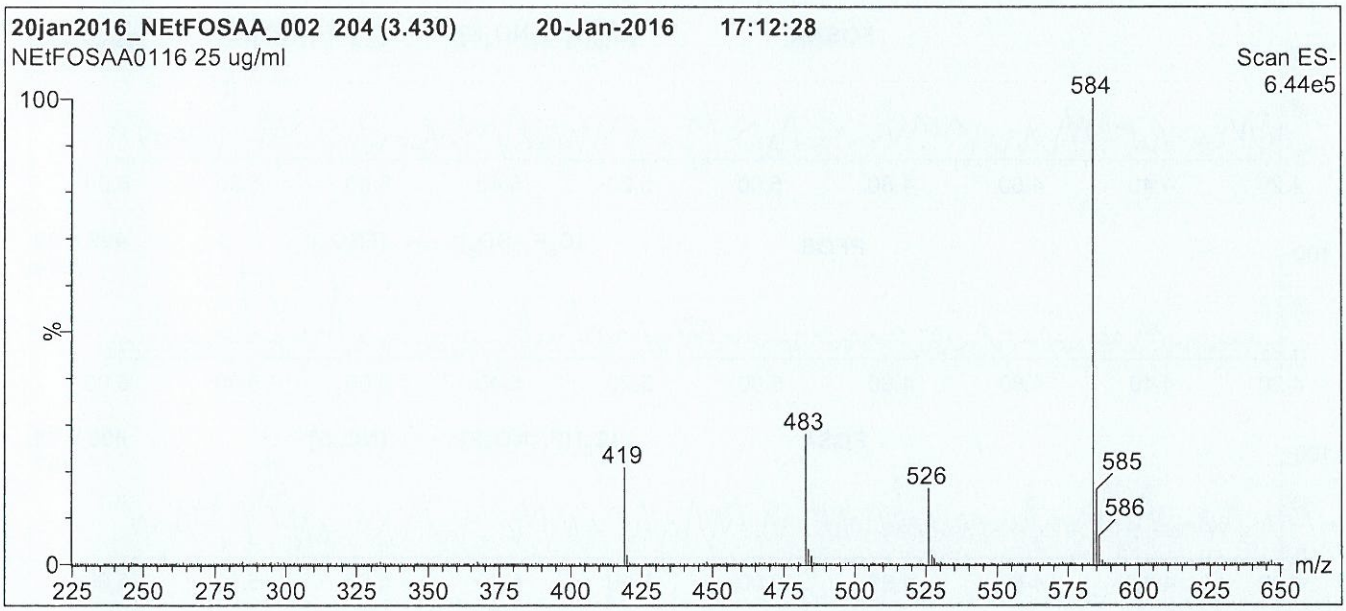
Figure 1: **N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





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

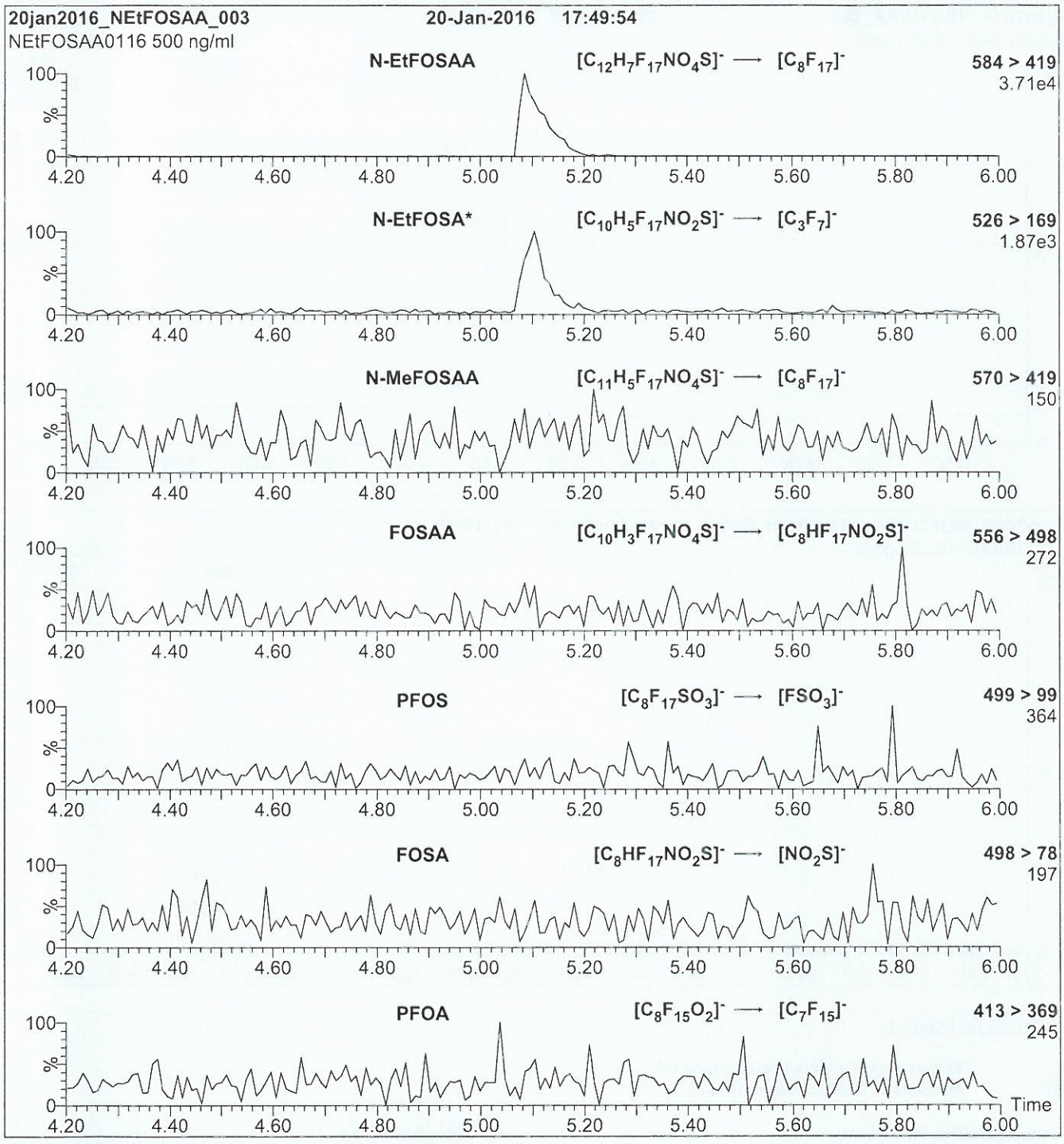
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (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

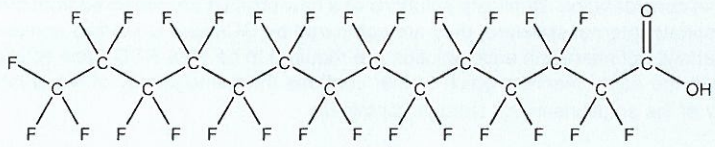
WELLINGTON LABORATORIES

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

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

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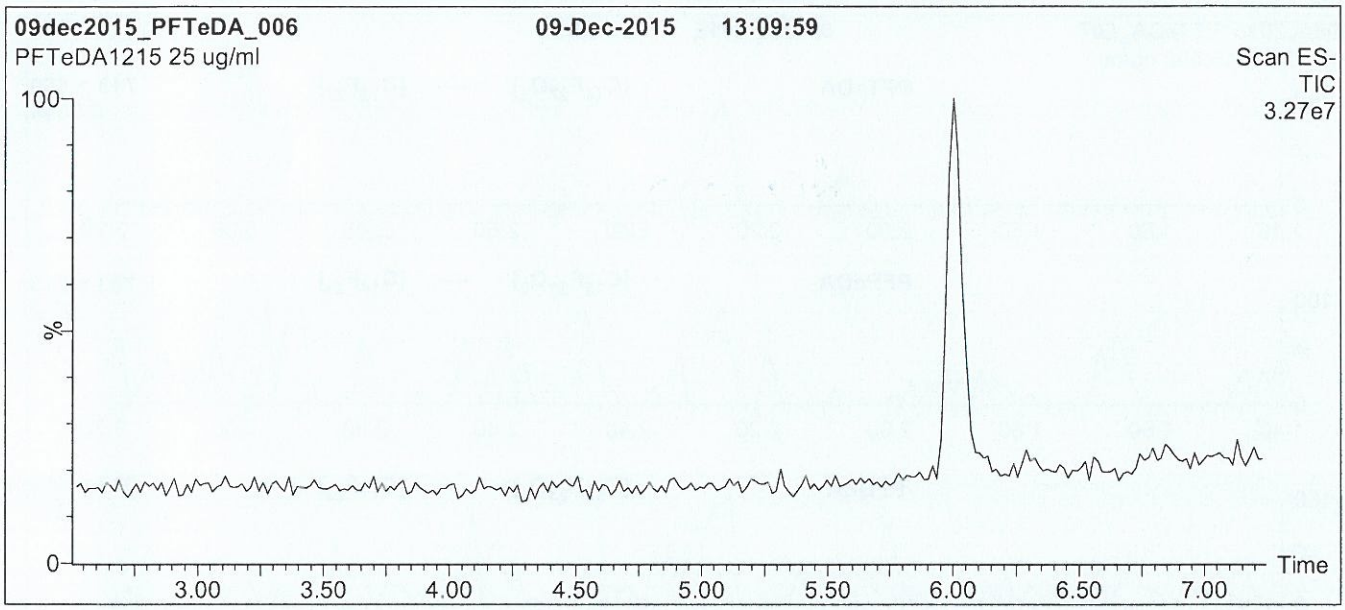
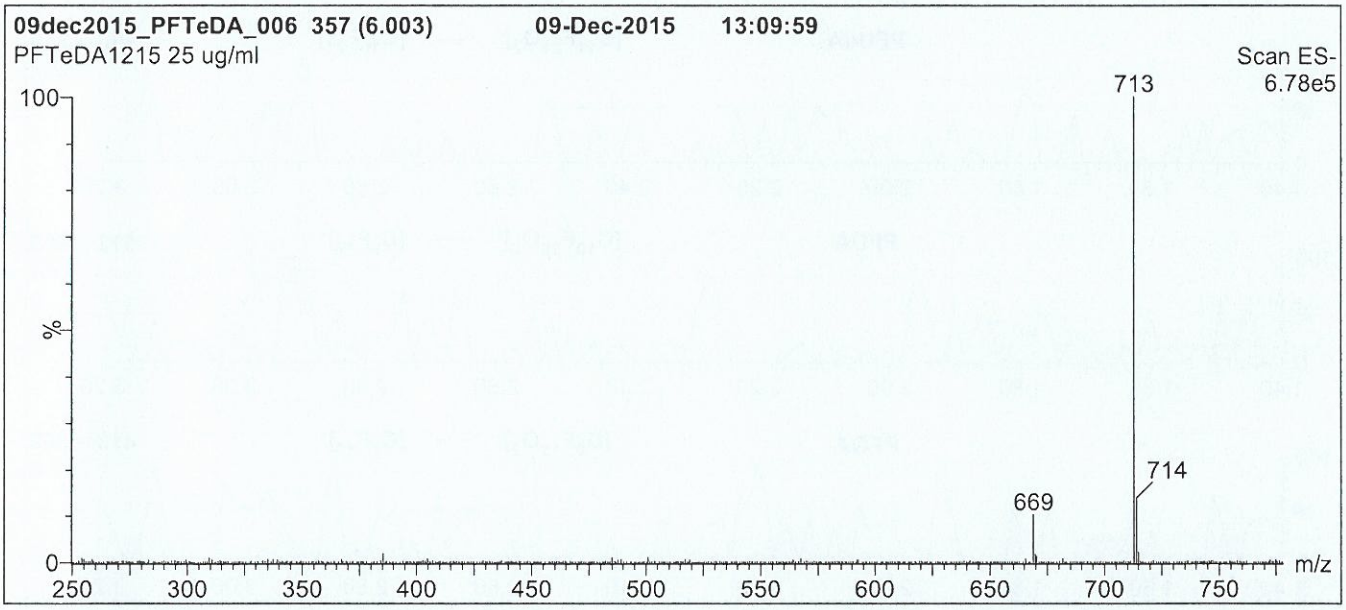
Figure 1: **PFTeDA; LC/MS Data (TIC and Mass Spectrum)**





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

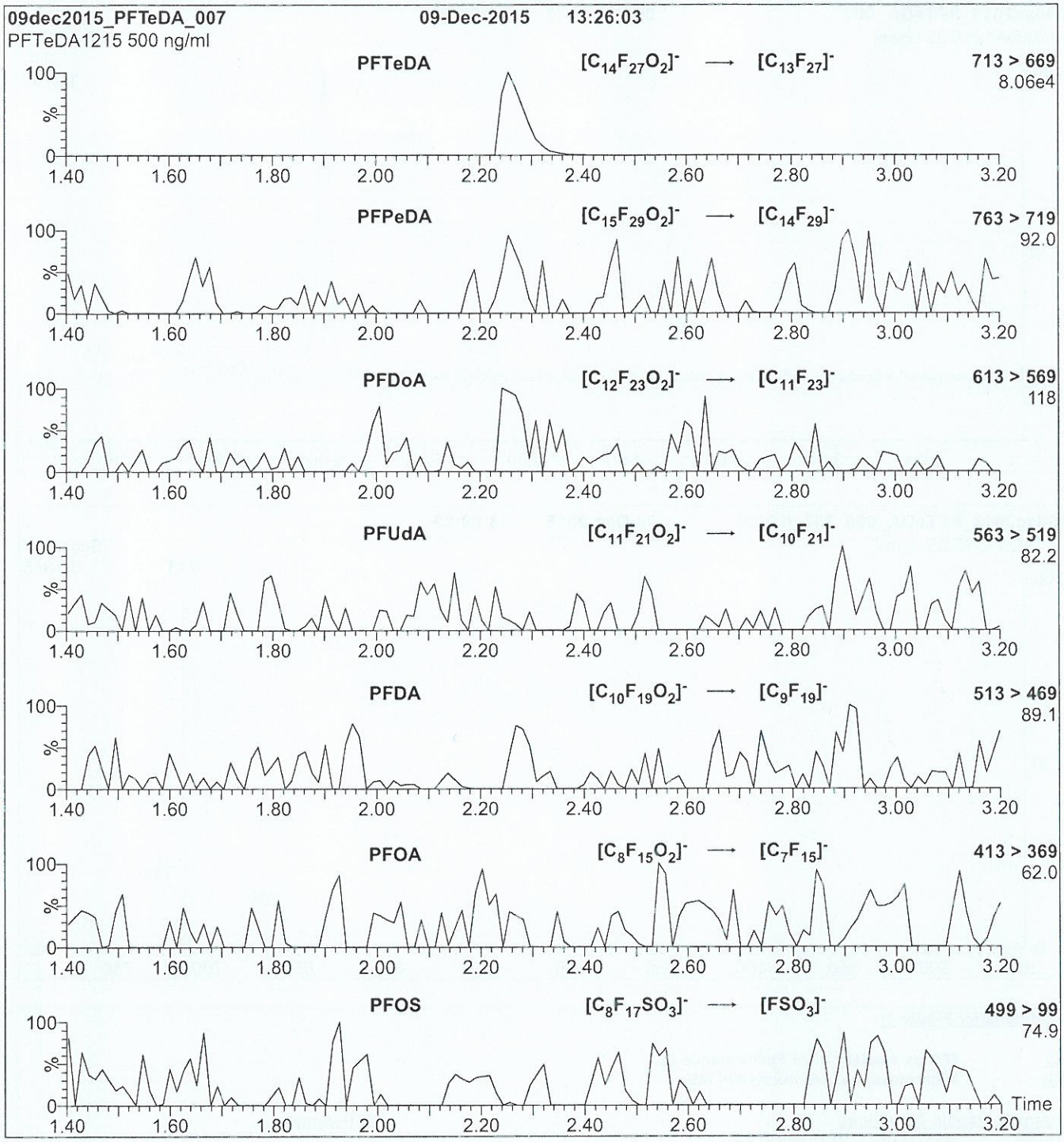
Flow: 300 µl/min

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

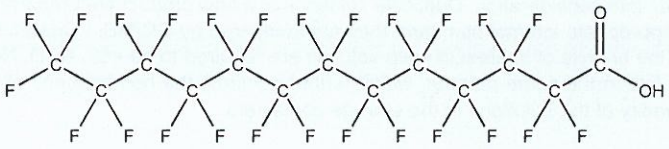
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 14

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		

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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.
- 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 ($C_{14}HF_{27}O_2$).

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Certified By: B.G. Chittim **Date:** 02/16/2016 (mm/dd/yyyy)

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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:

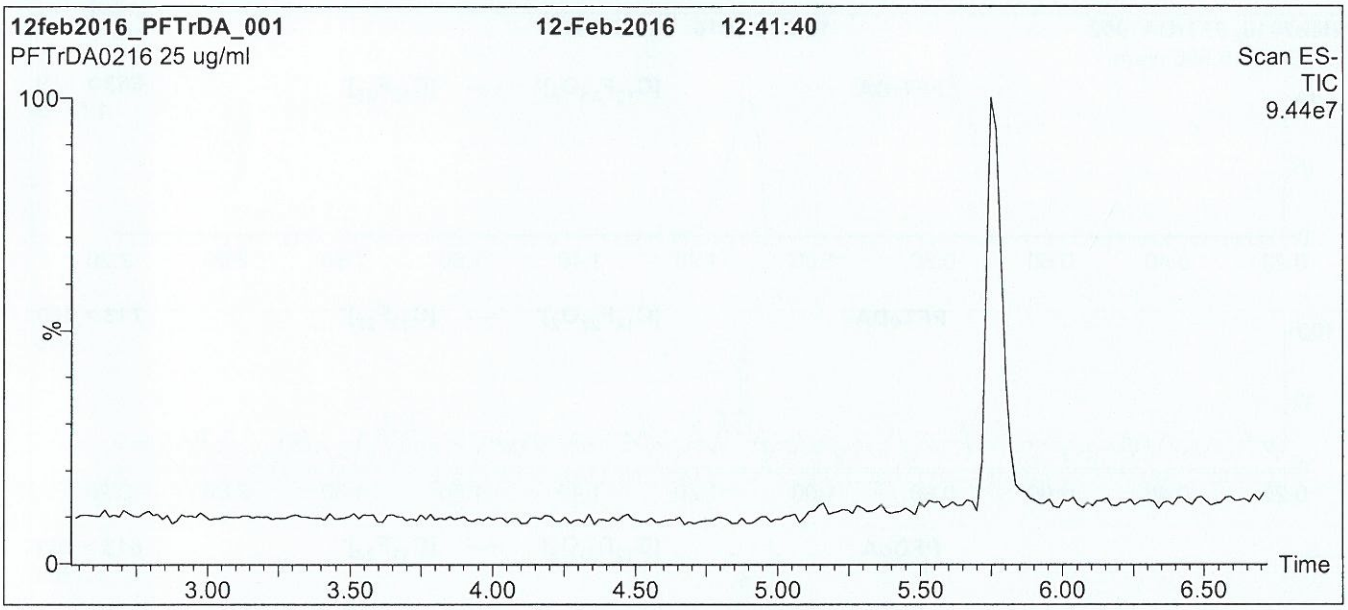
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

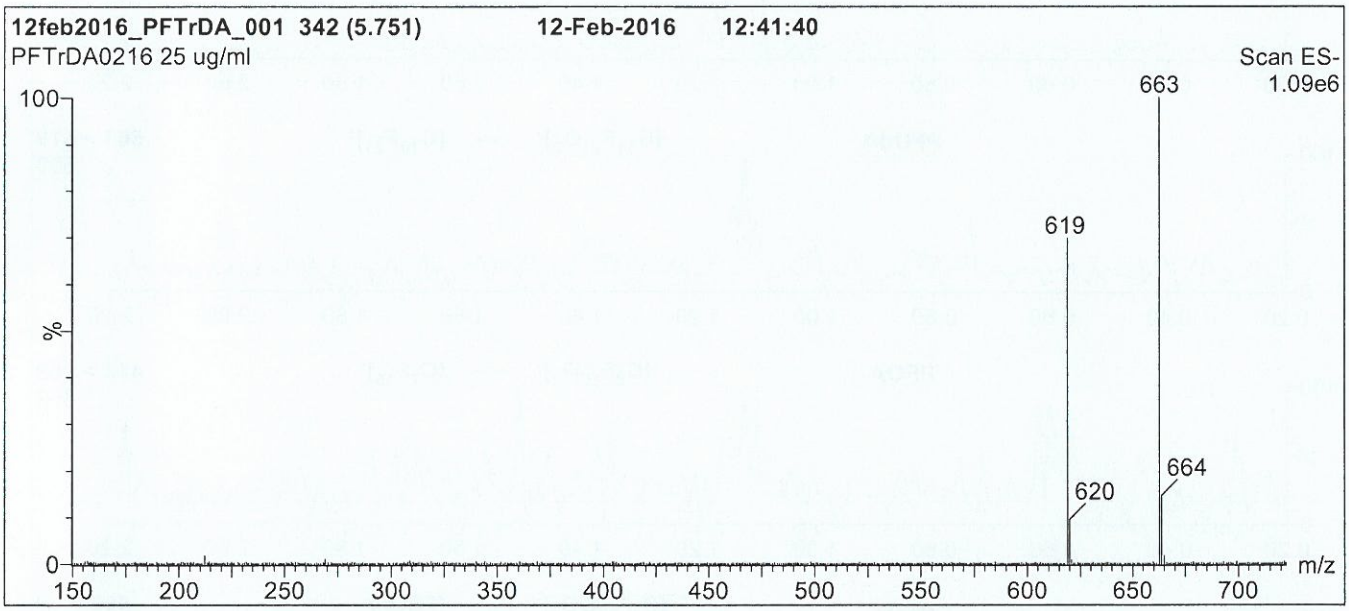
CALA Testing Accreditation No. A 1226

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

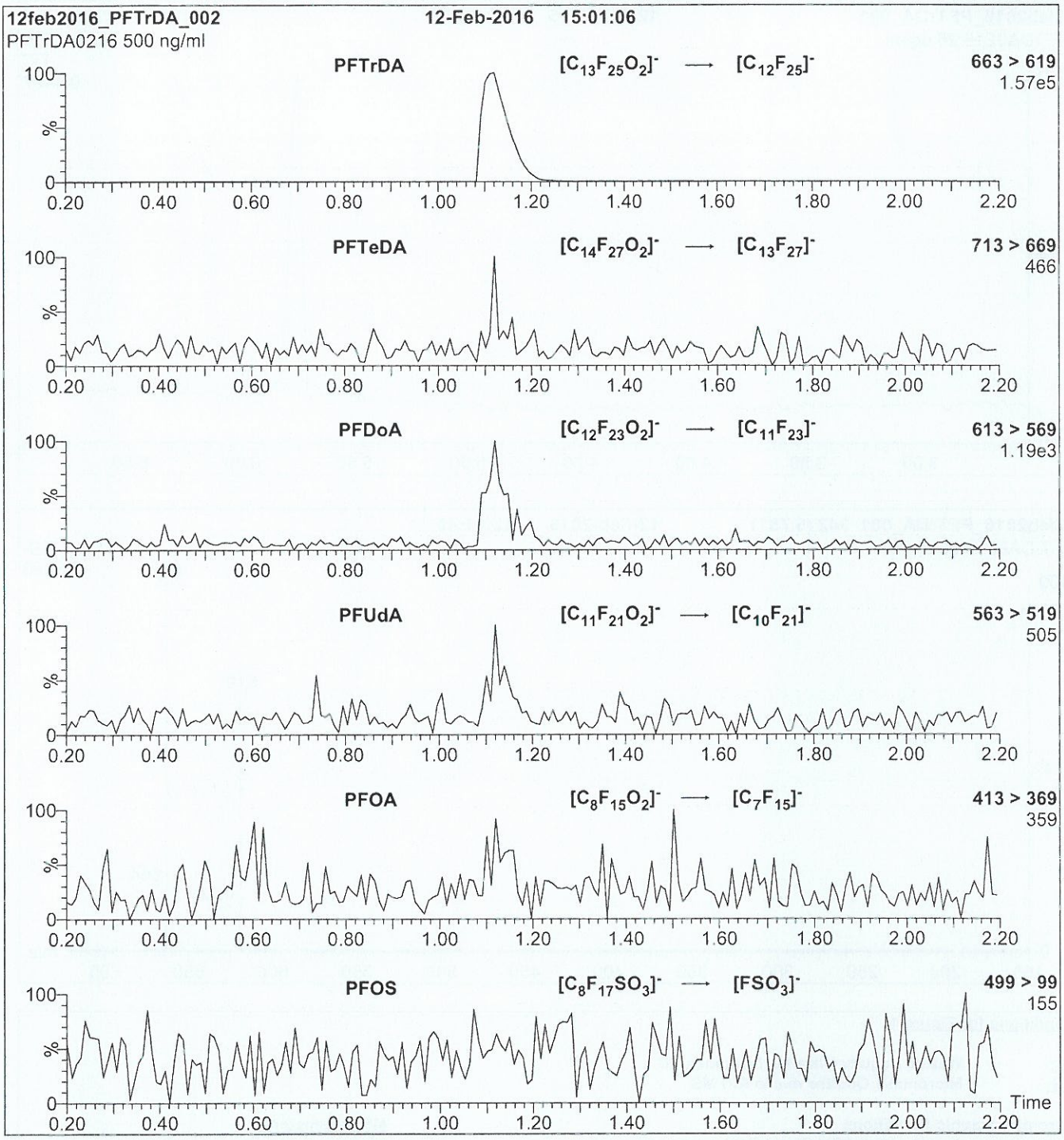
Flow: 300 µl/min

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

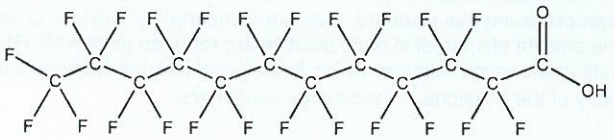
Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 15

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: _____ **Date:** 06/02/2016 (mm/dd/yyyy)
B.G. Chittim

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:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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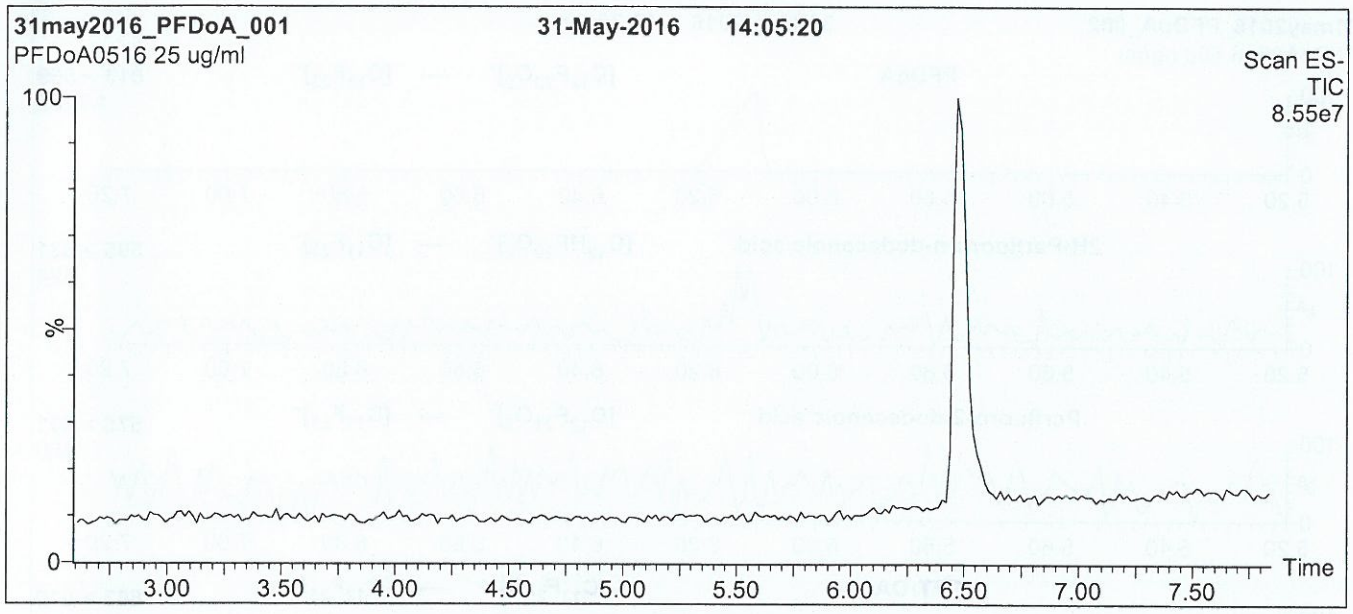
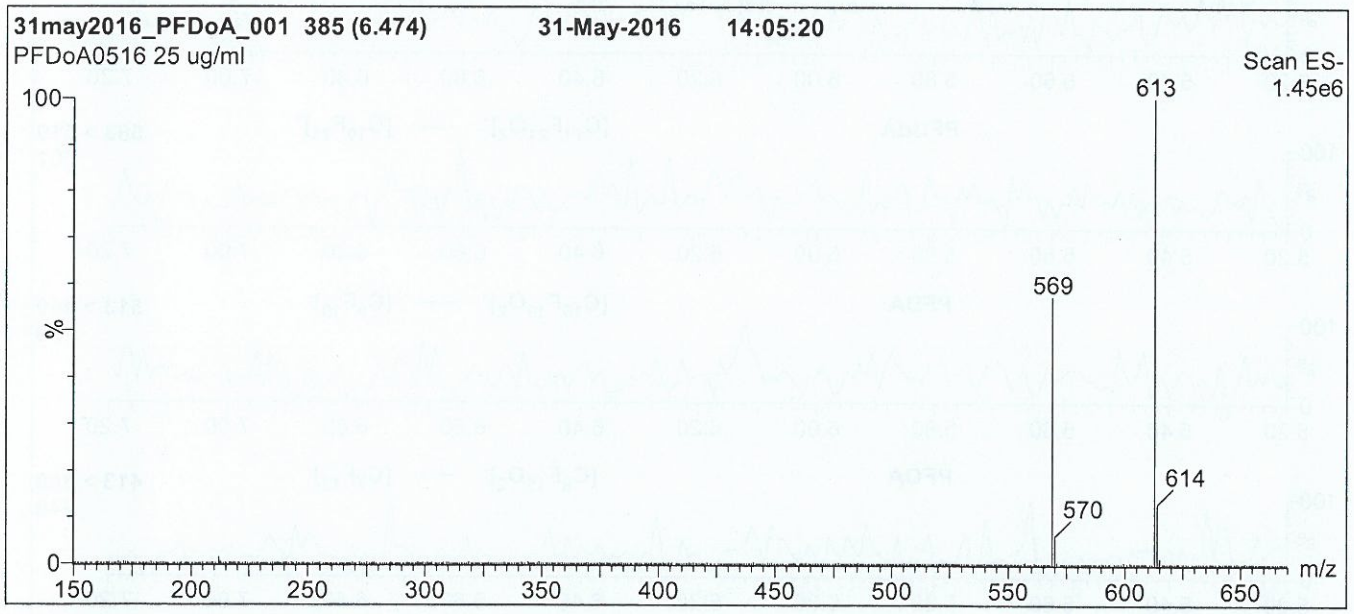
Figure 1: **PFDoA; LC/MS Data (TIC and Mass Spectrum)**





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

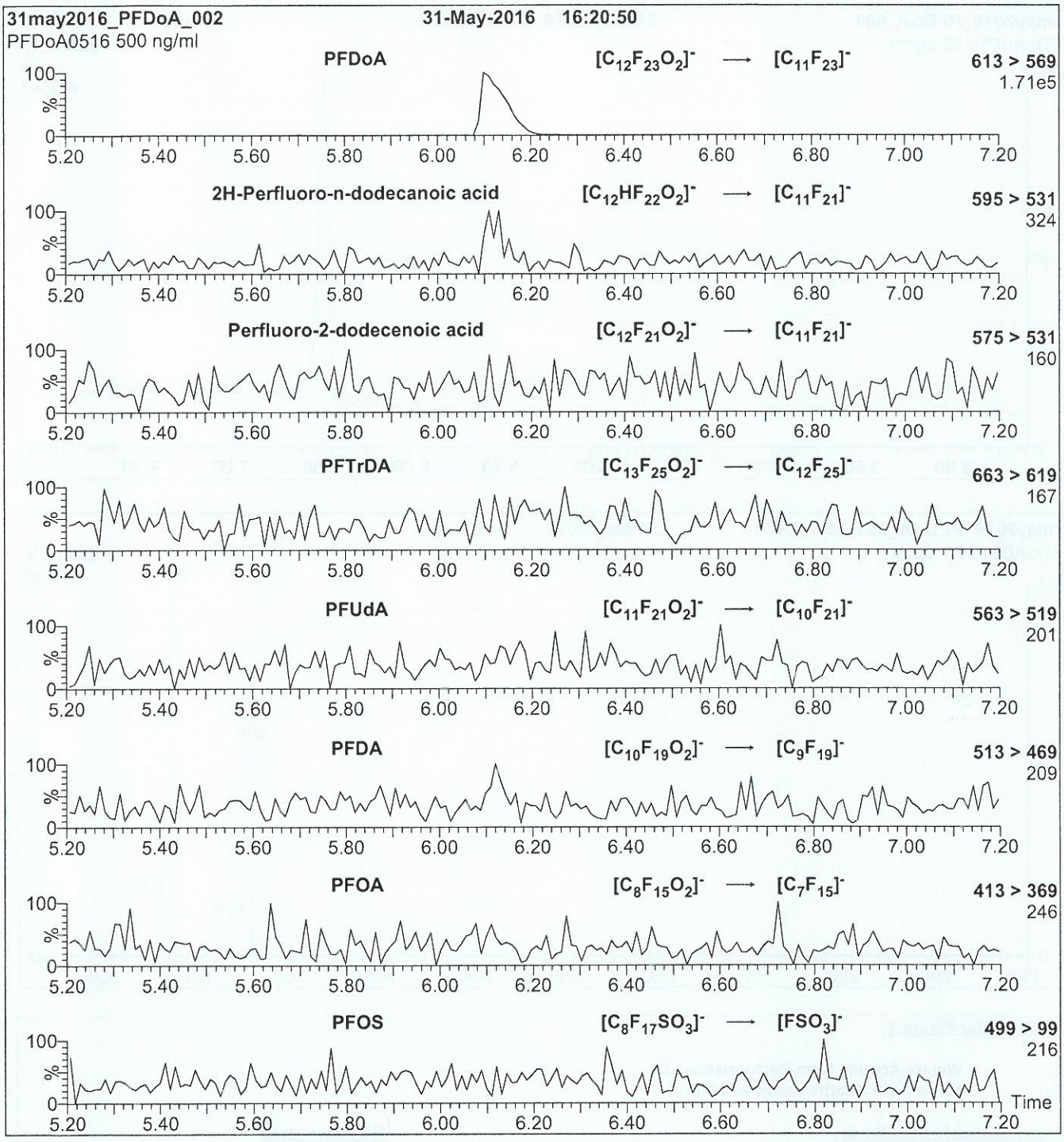
Flow: 300 µl/min

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)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

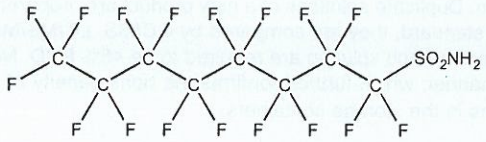
Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 13

16J0423

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FOSA-I	**LOT NUMBER:**	FOSA0815I
COMPOUND:	Perfluoro-1-octanesulfonamide		
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:

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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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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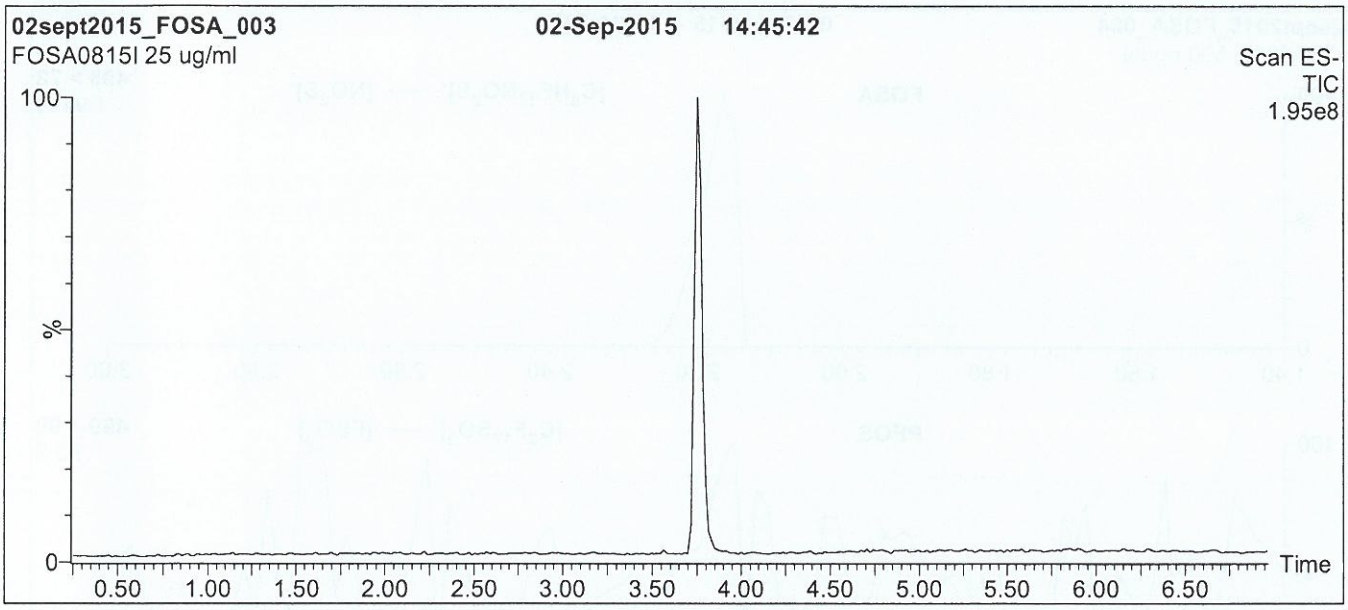
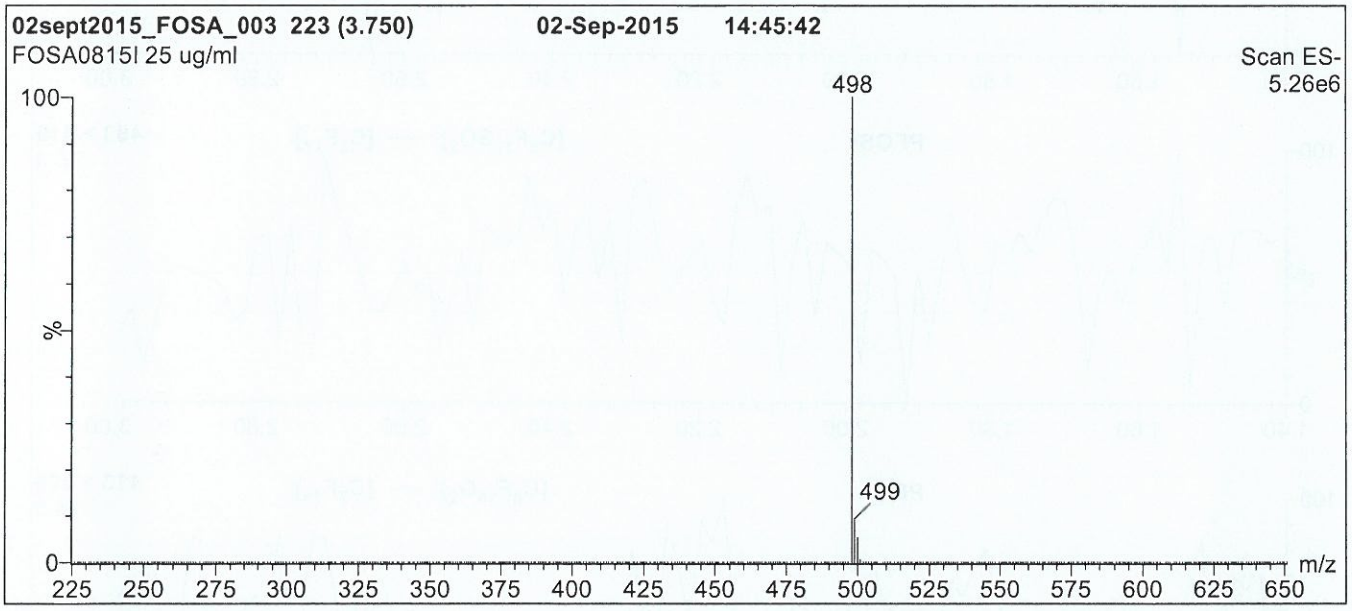
Figure 1: **FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





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

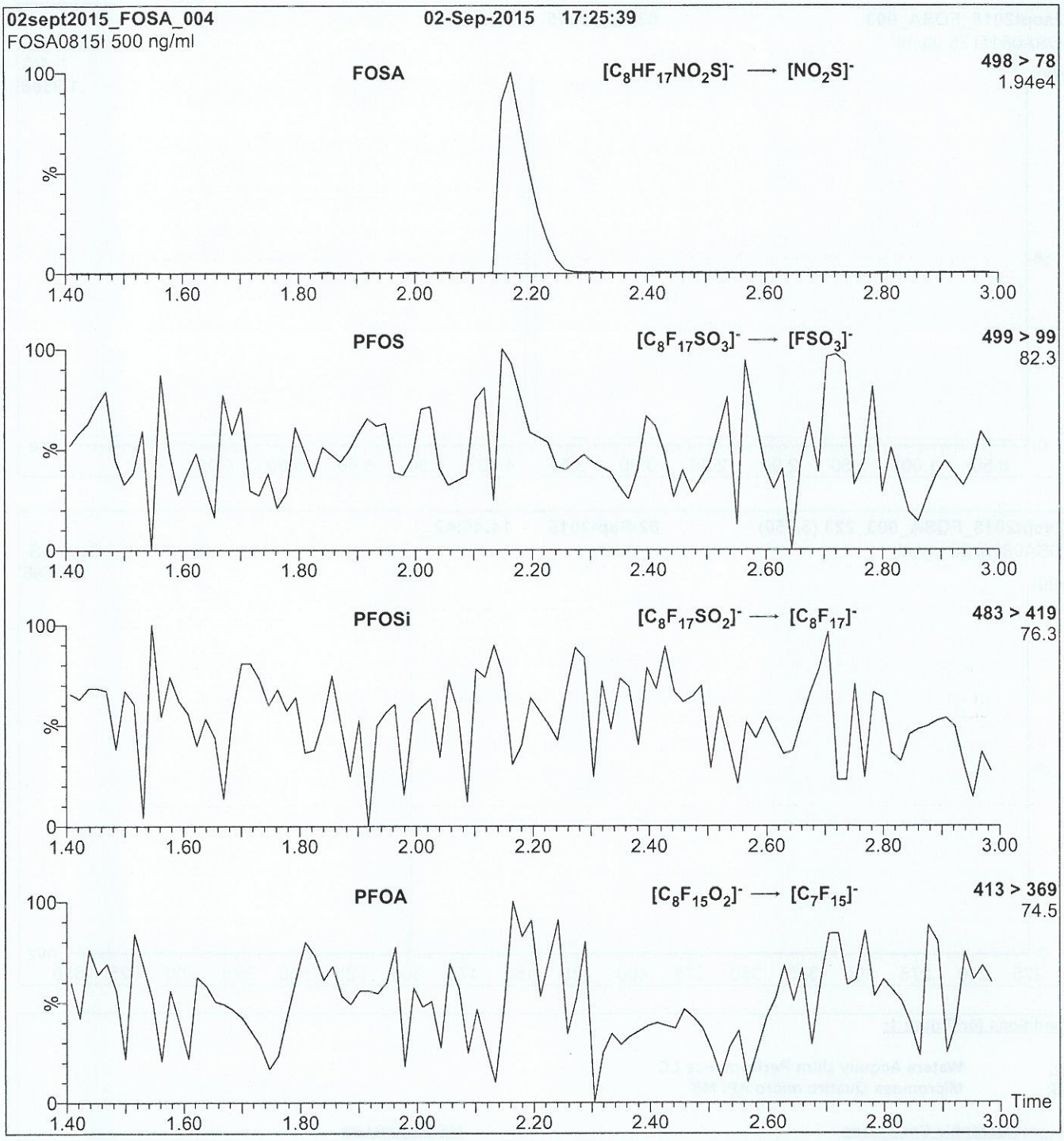
Flow: 300 µl/min

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

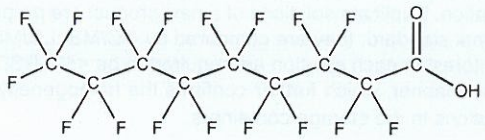
Collision Gas (mbar) = 3.54e-3
Collision Energy (eV) = 30

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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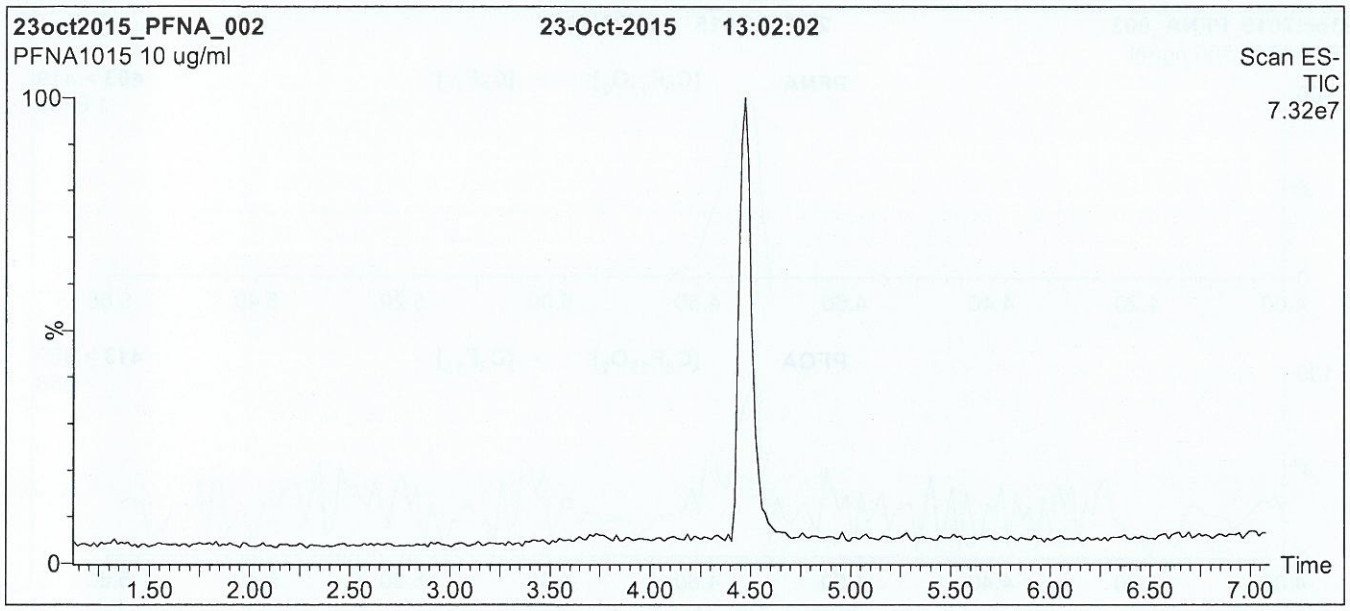
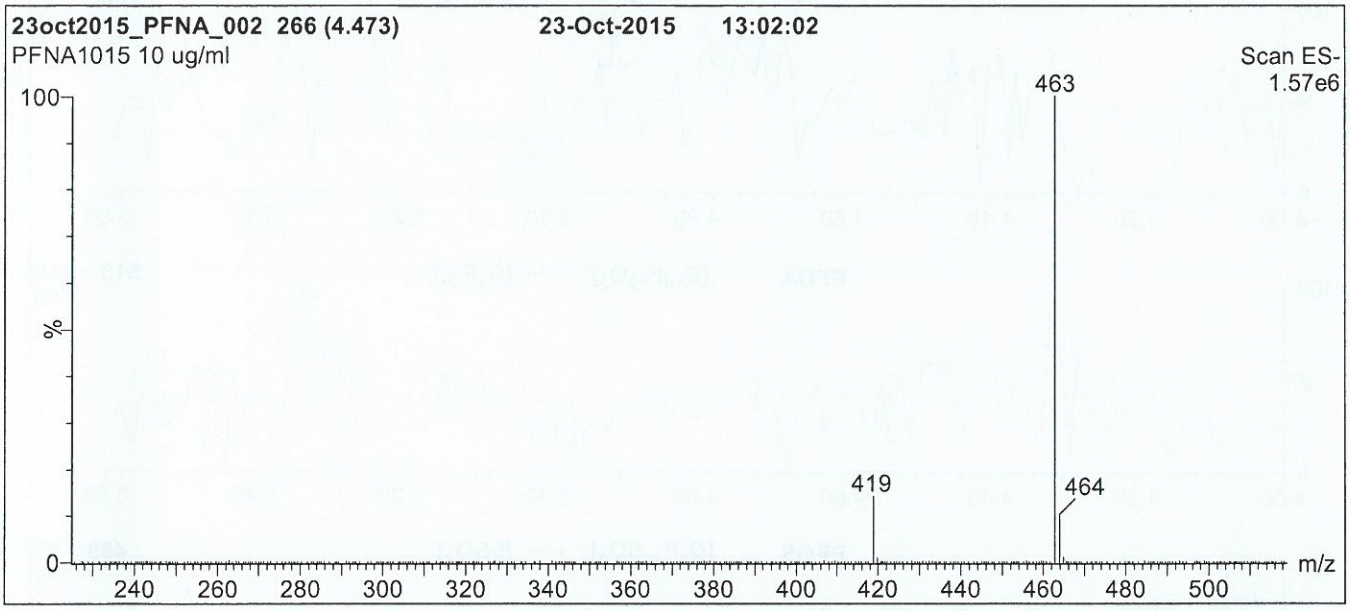
Figure 1: **PFNA; LC/MS Data (TIC and Mass Spectrum)**





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

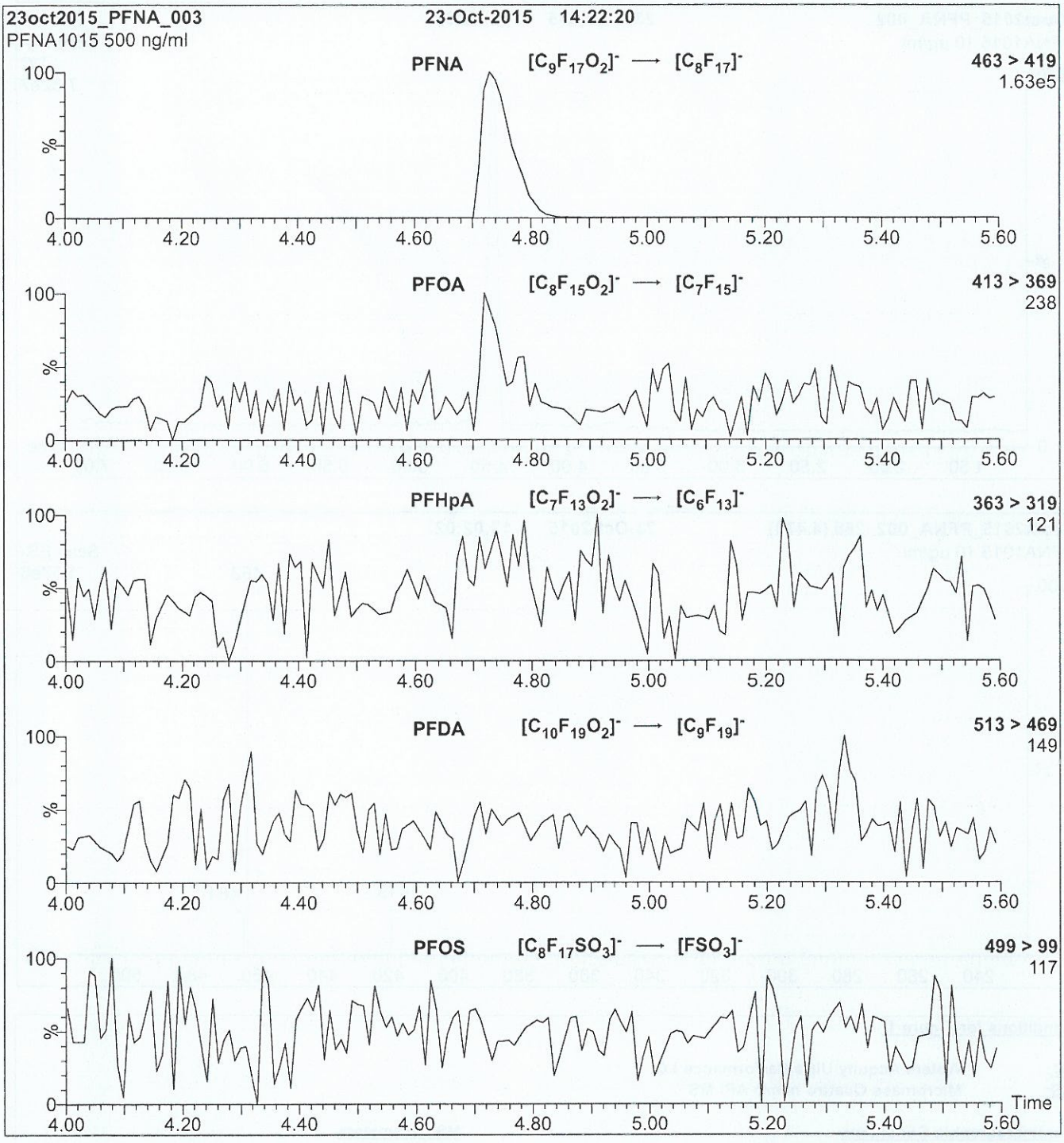
Flow: 300 µl/min

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

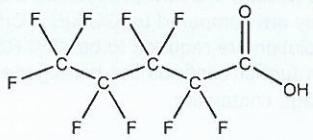
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFPeA
COMPOUND: Perfluoro-n-pentanoic acid
LOT NUMBER: PFPeA0516

STRUCTURE:

CAS #: 2706-90-3



MOLECULAR FORMULA: $C_5HF_9O_2$
MOLECULAR WEIGHT: 264.05
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 ~ 0.3% 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
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:

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HOMOGENEITY:

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UNCERTAINTY:

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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:

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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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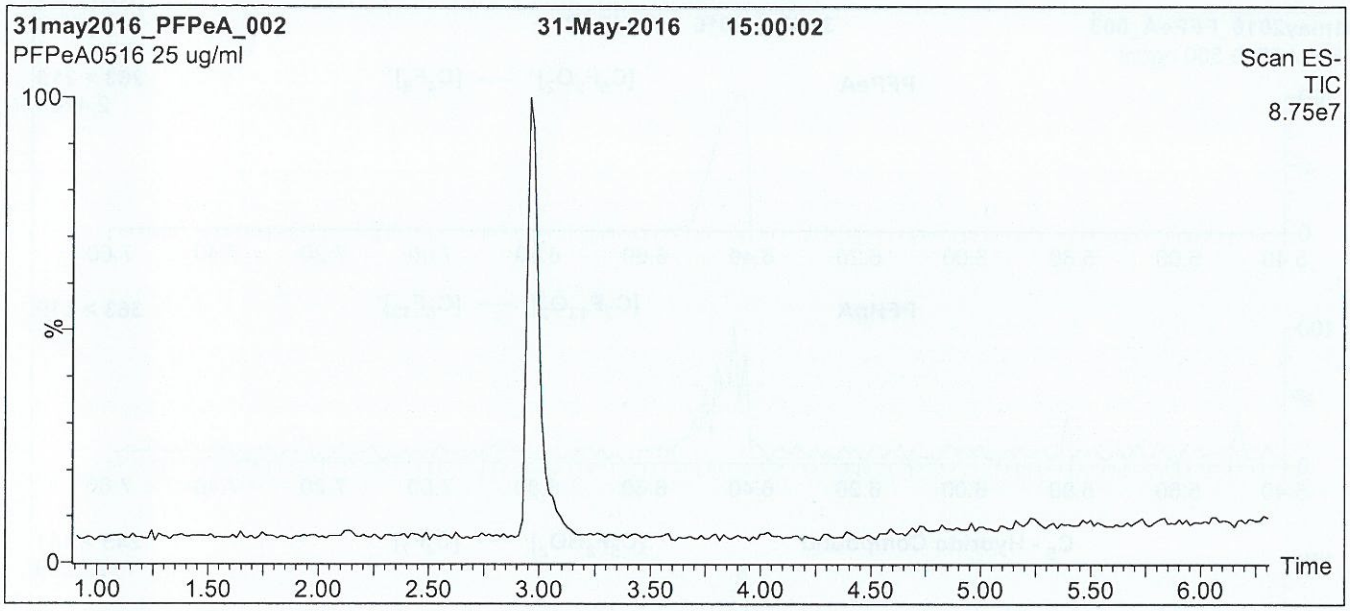
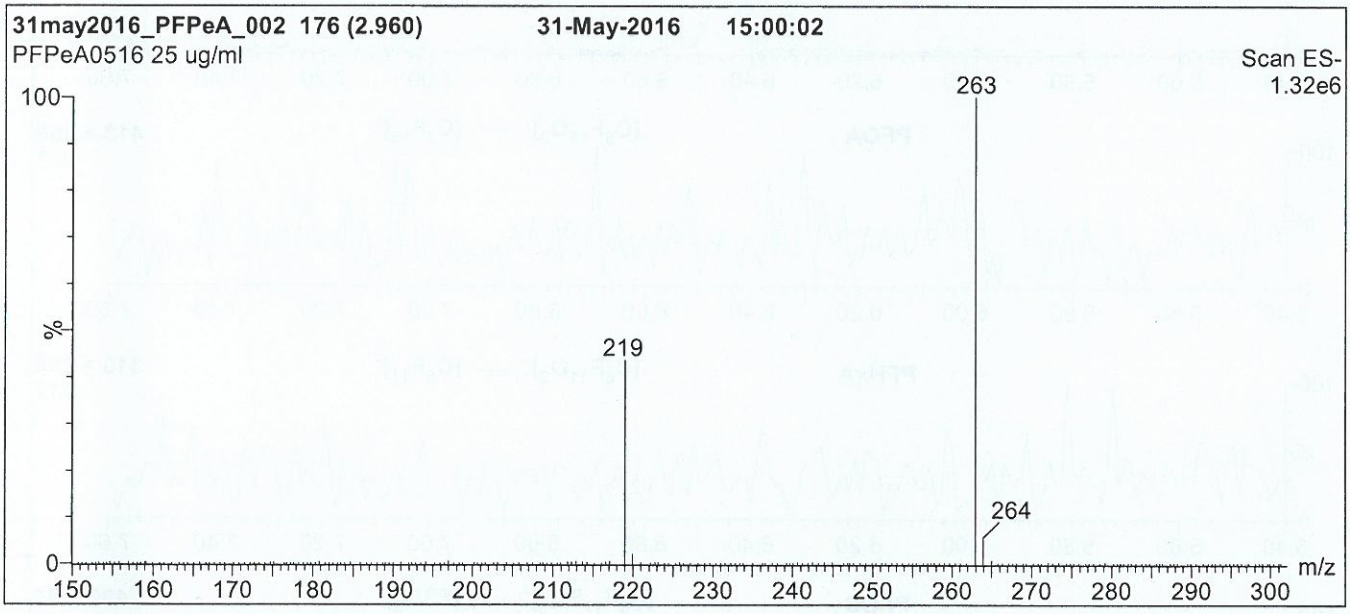
Figure 1: **PFPeA; LC/MS Data (TIC and Mass Spectrum)**





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

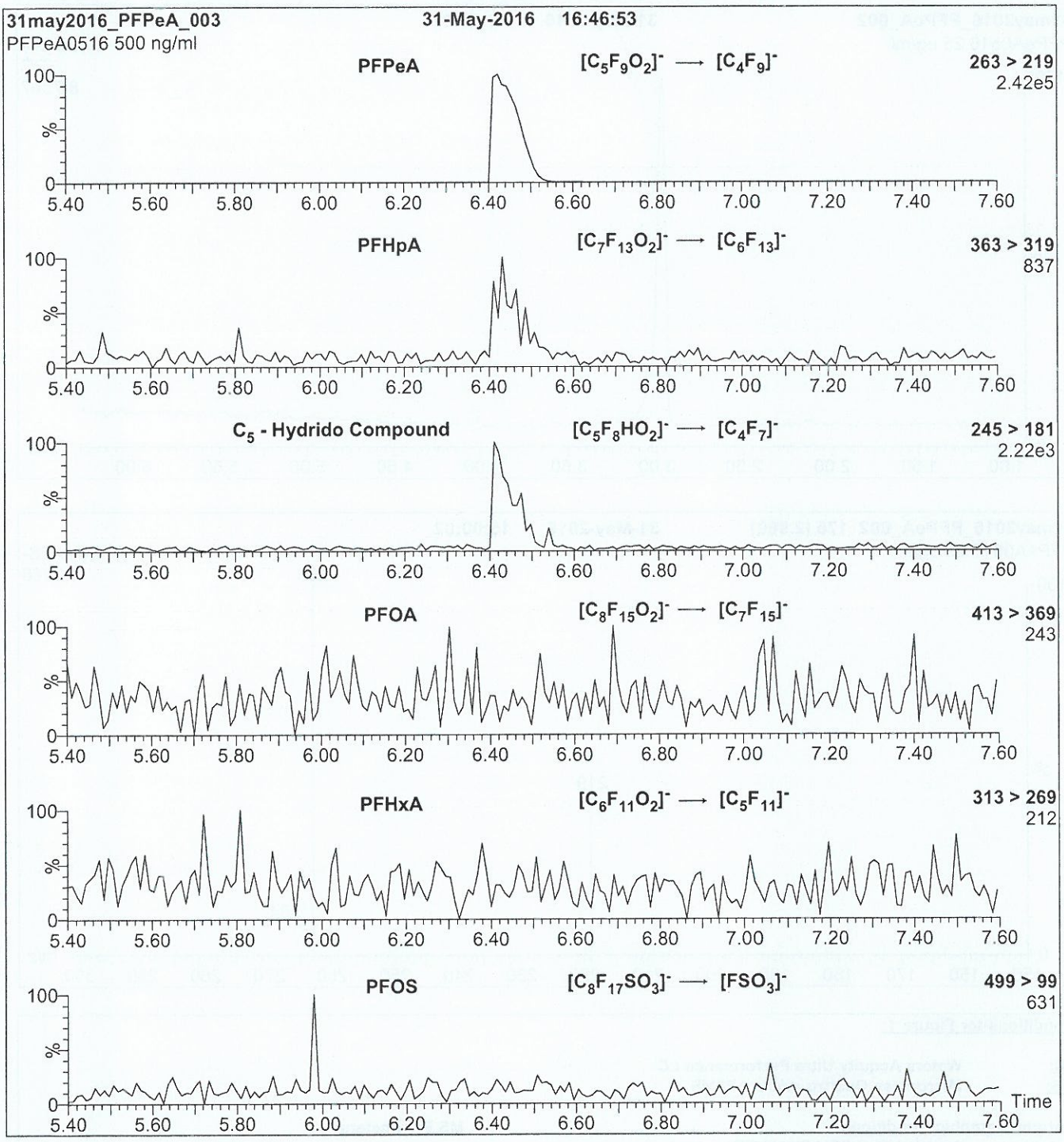
Flow: 300 µl/min

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

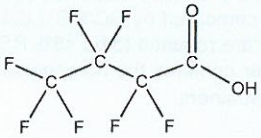
WELLINGTON LABORATORIES

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
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:** 05/31/2016 (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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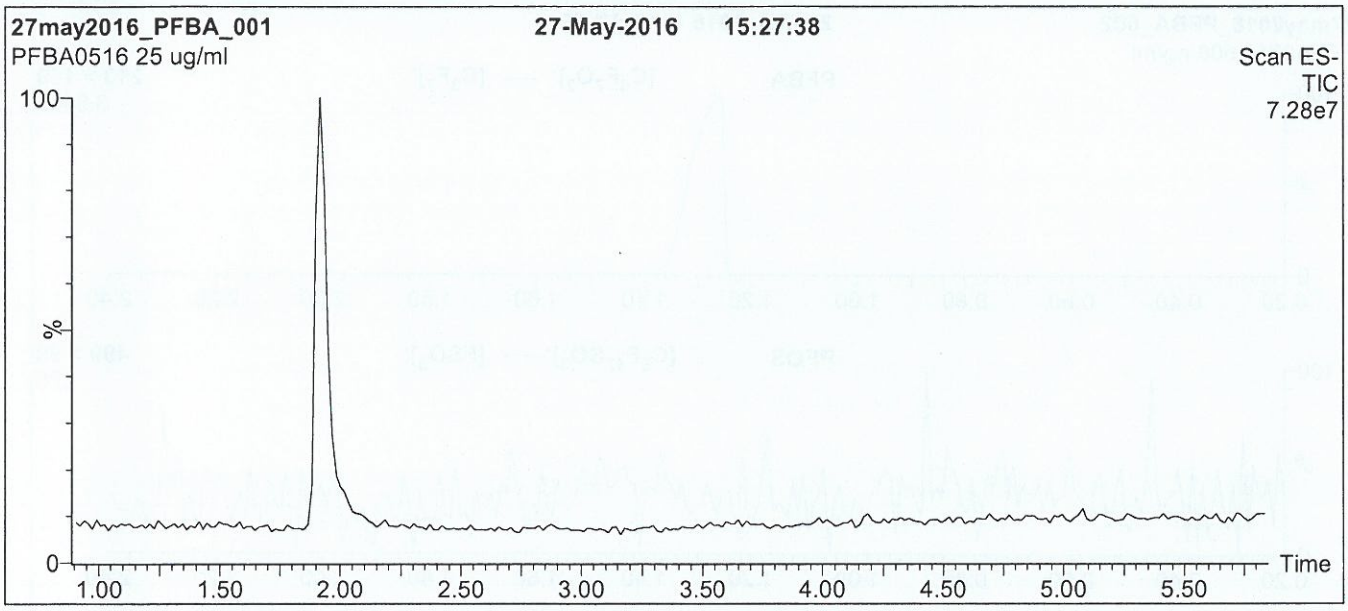
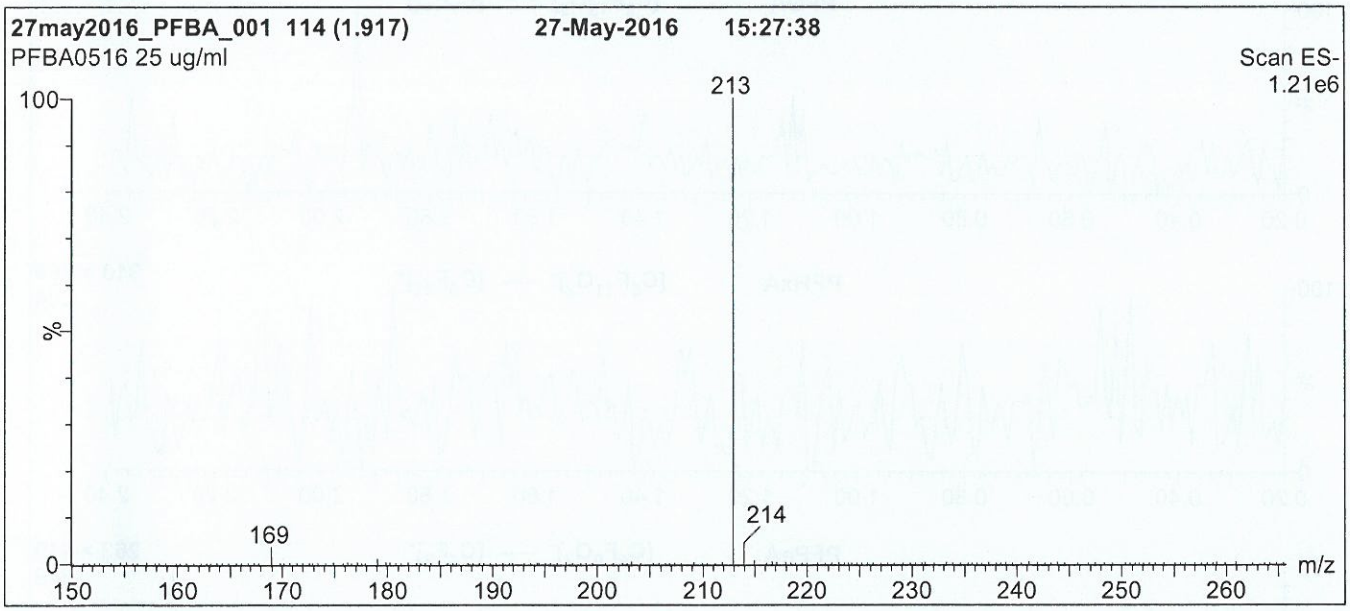
Figure 1: **PFBA; LC/MS Data (TIC and Mass Spectrum)**





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

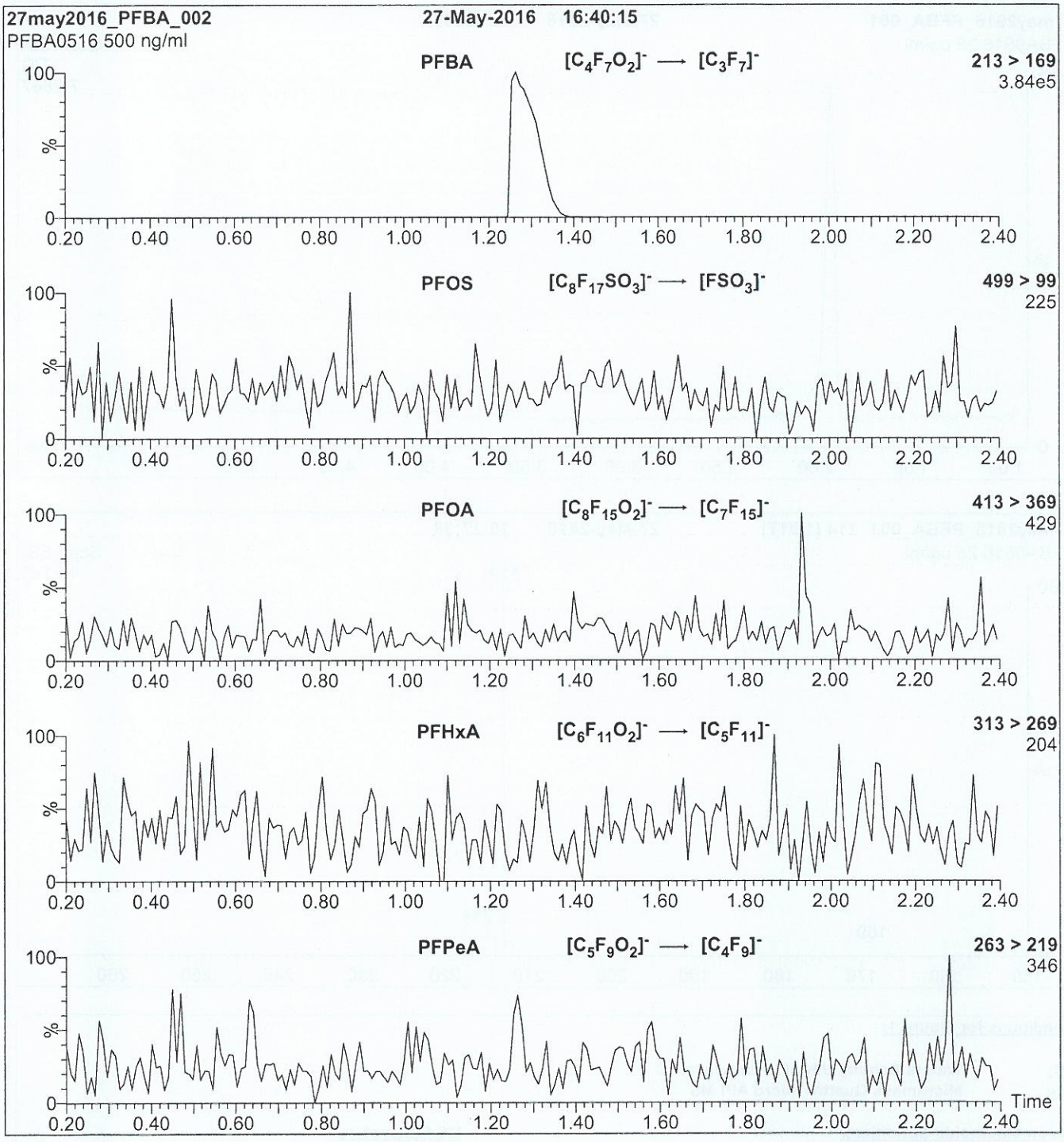
Flow: 300 µl/min

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

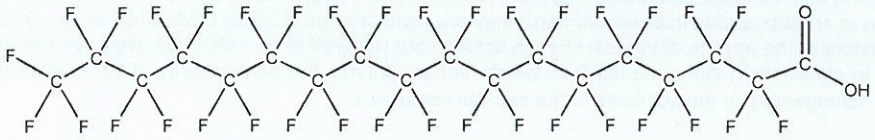
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFODA
COMPOUND: Perfluoro-n-octadecanoic acid

LOT NUMBER: PFODA0416

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

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CALA Testing Accreditation No. A 1226

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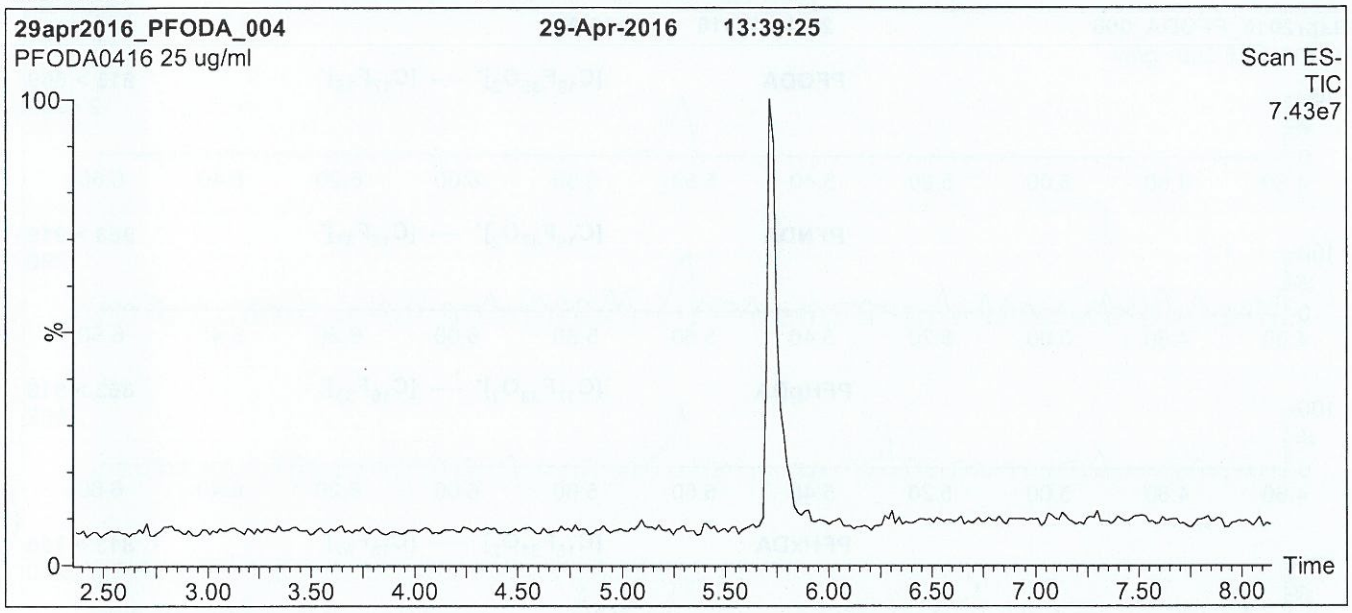
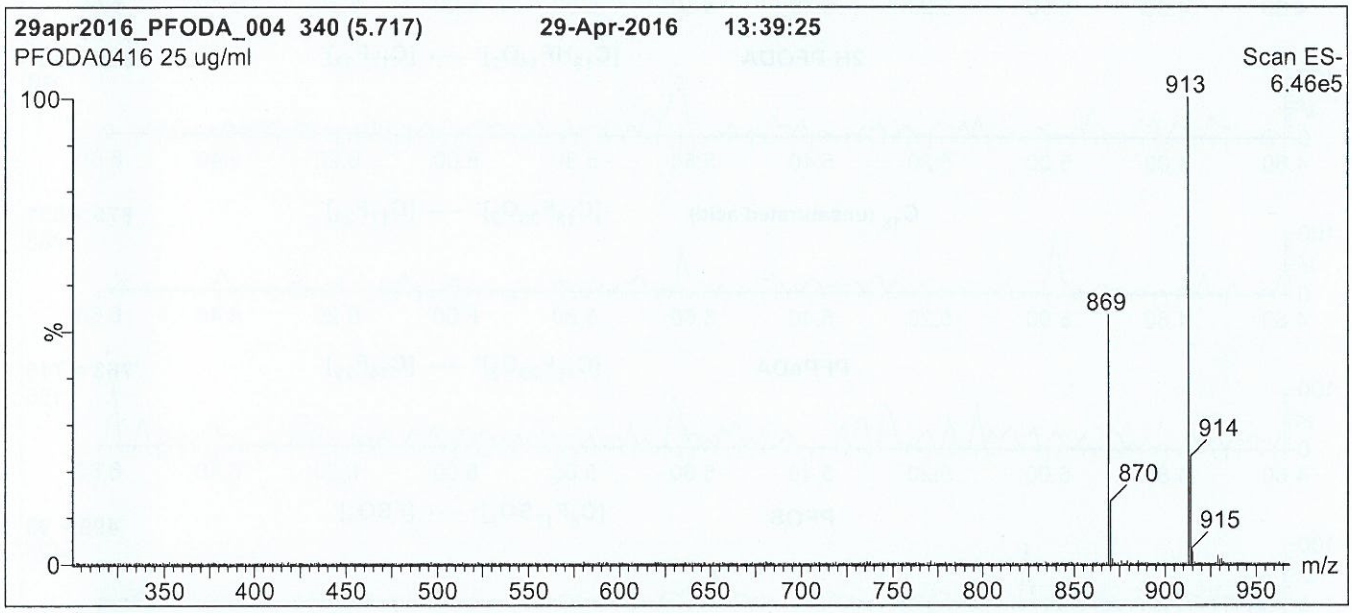




Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

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

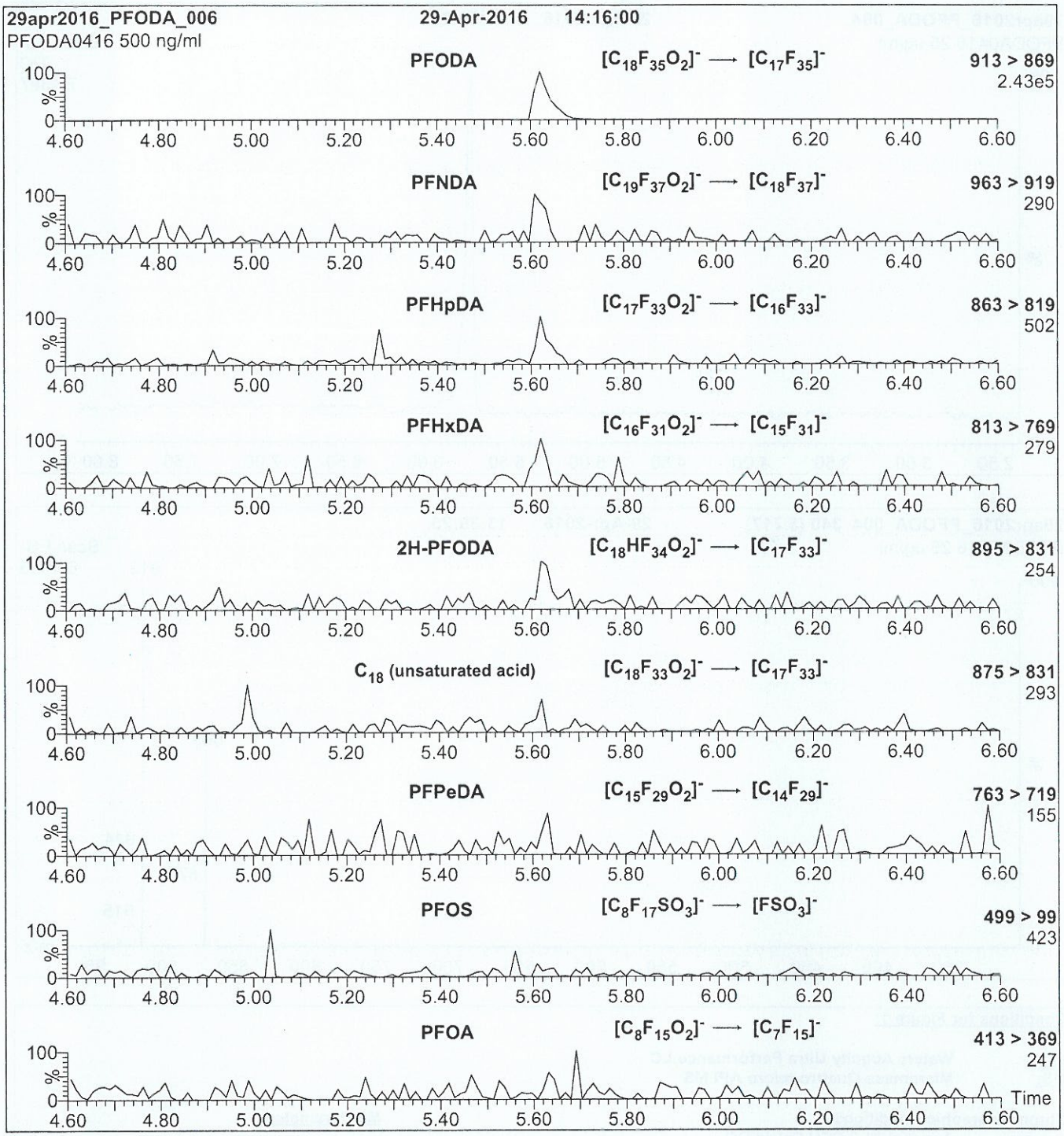
Flow: 300 µl/min

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

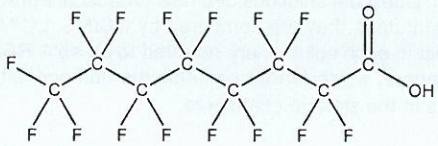
CERTIFICATE OF ANALYSIS DOCUMENTATION

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.

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Certified By: B.G. Chittim **Date:** 08/05/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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:

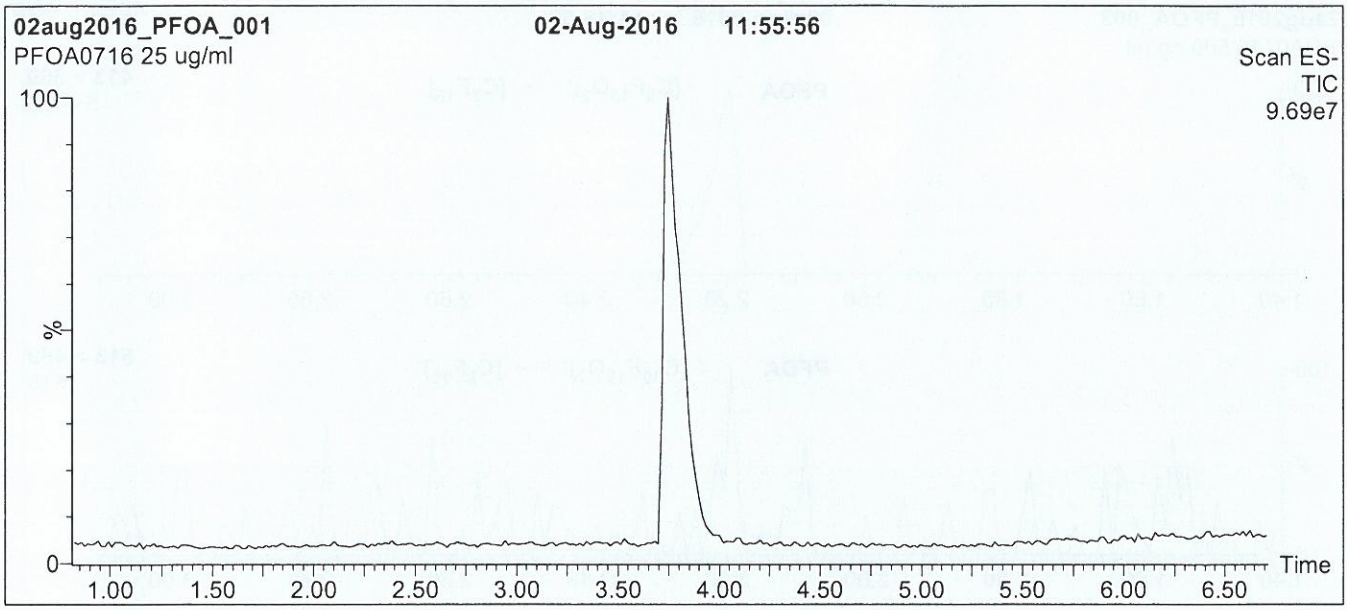
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

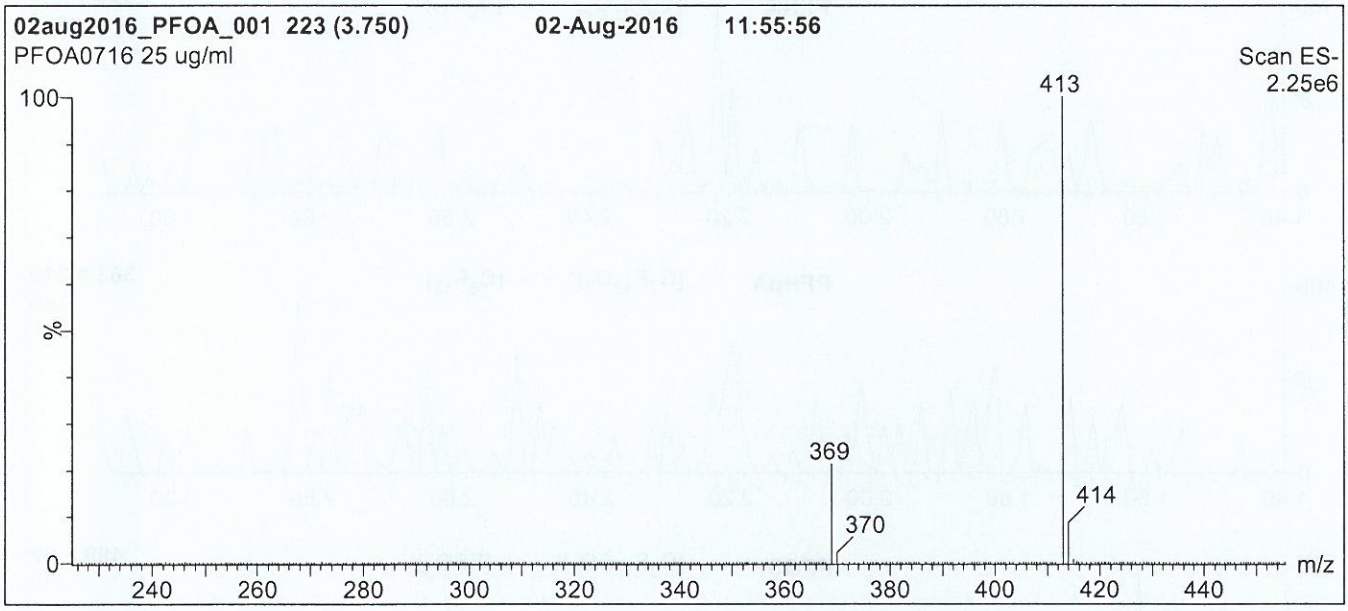
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED 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: **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

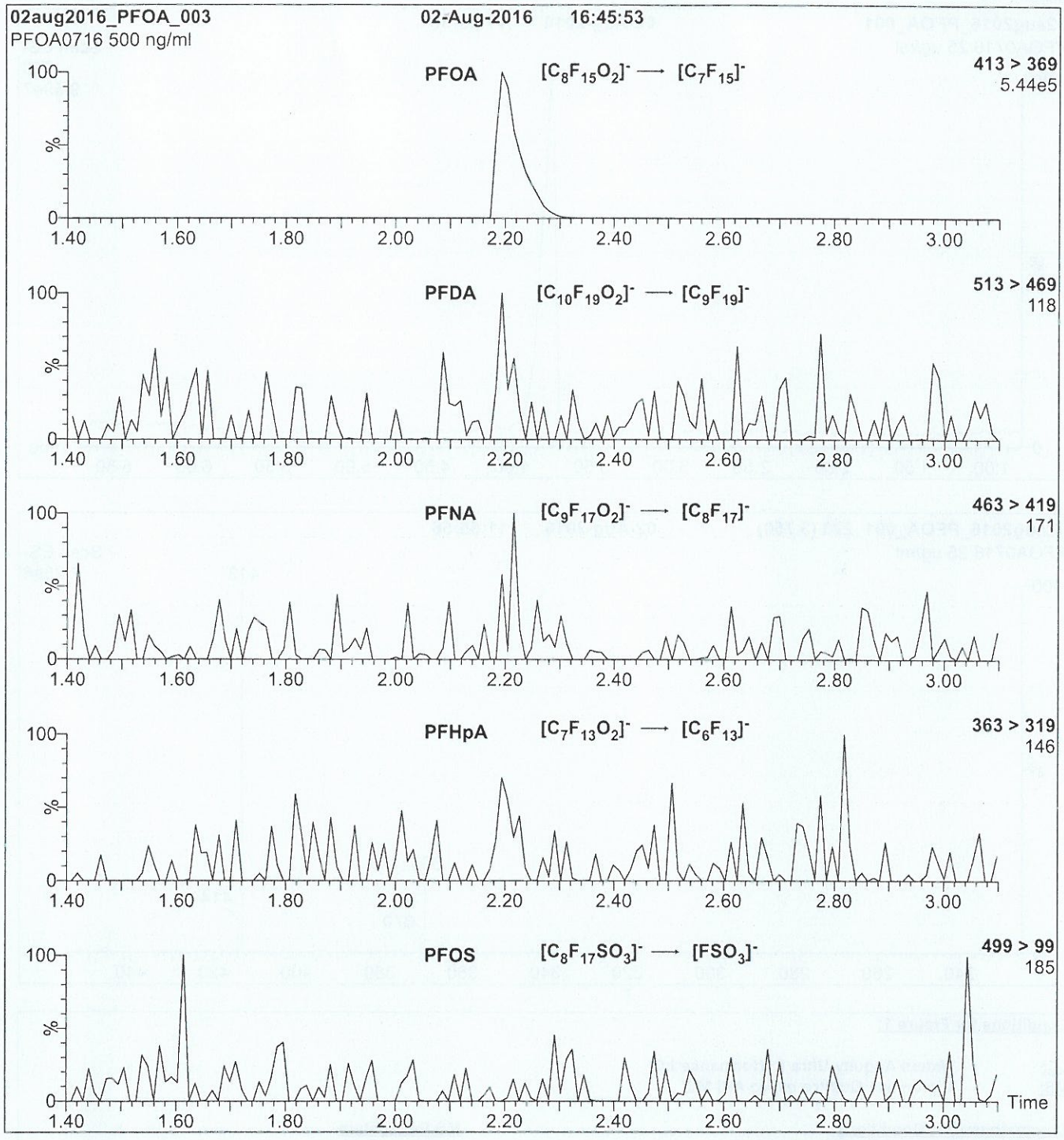
Flow: 300 µl/min

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

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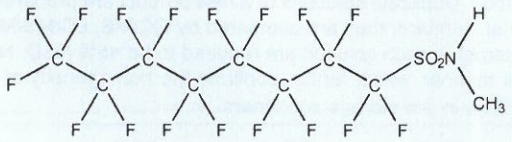
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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)

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1702613

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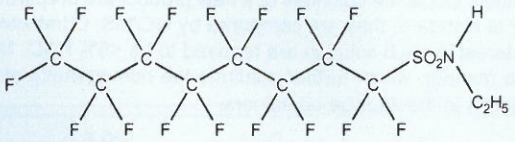
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

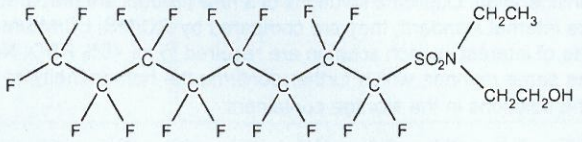
WELLINGTON LABORATORIES

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)

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1702616

WELLINGTON LABORATORIES

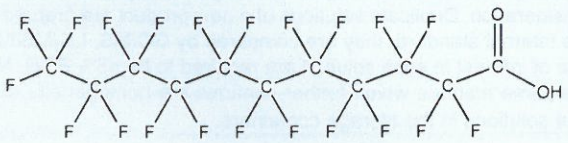
CERTIFICATE OF ANALYSIS DOCUMENTATION

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.

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Certified By: B.G. Chittim **Date:** 10/19/2016 (mm/dd/yyyy)

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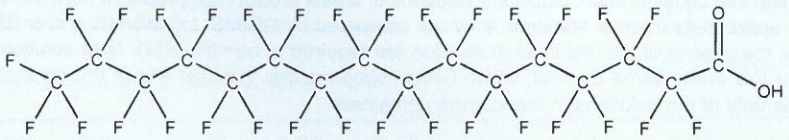
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

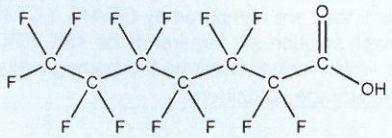
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

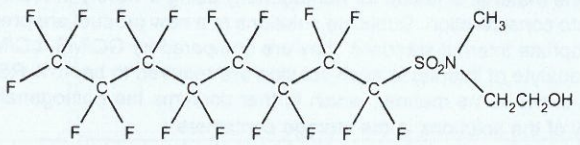
WELLINGTON LABORATORIES

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

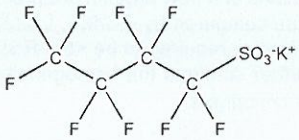
WELLINGTON LABORATORIES

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:

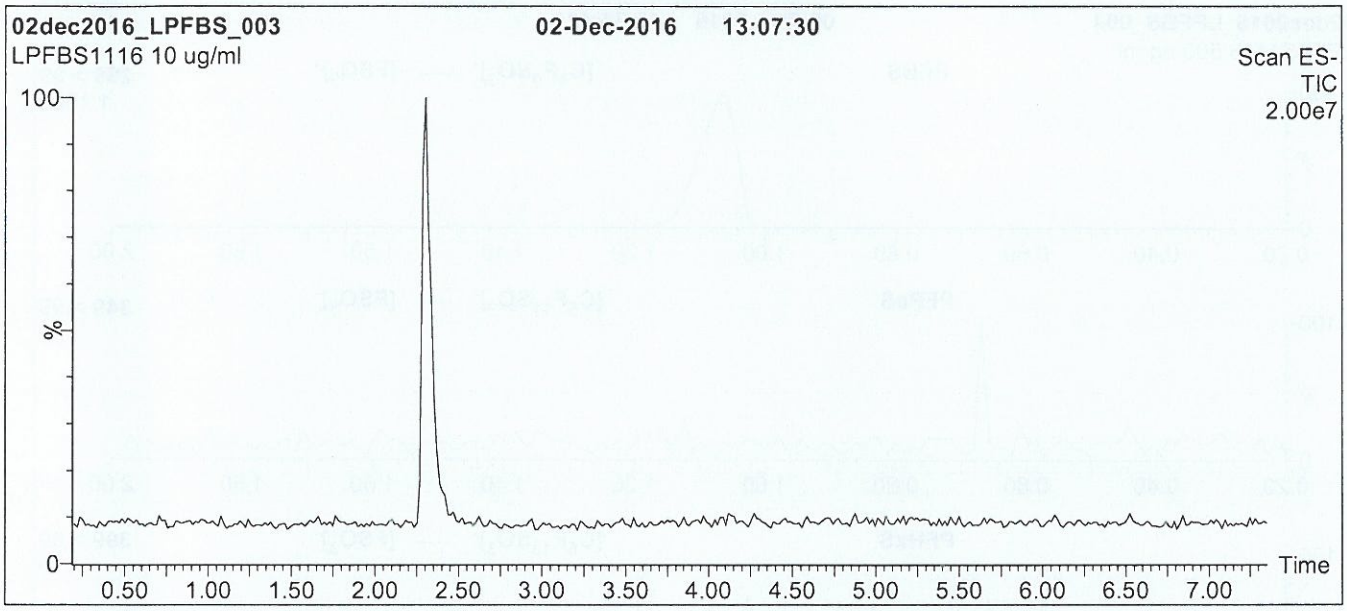
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

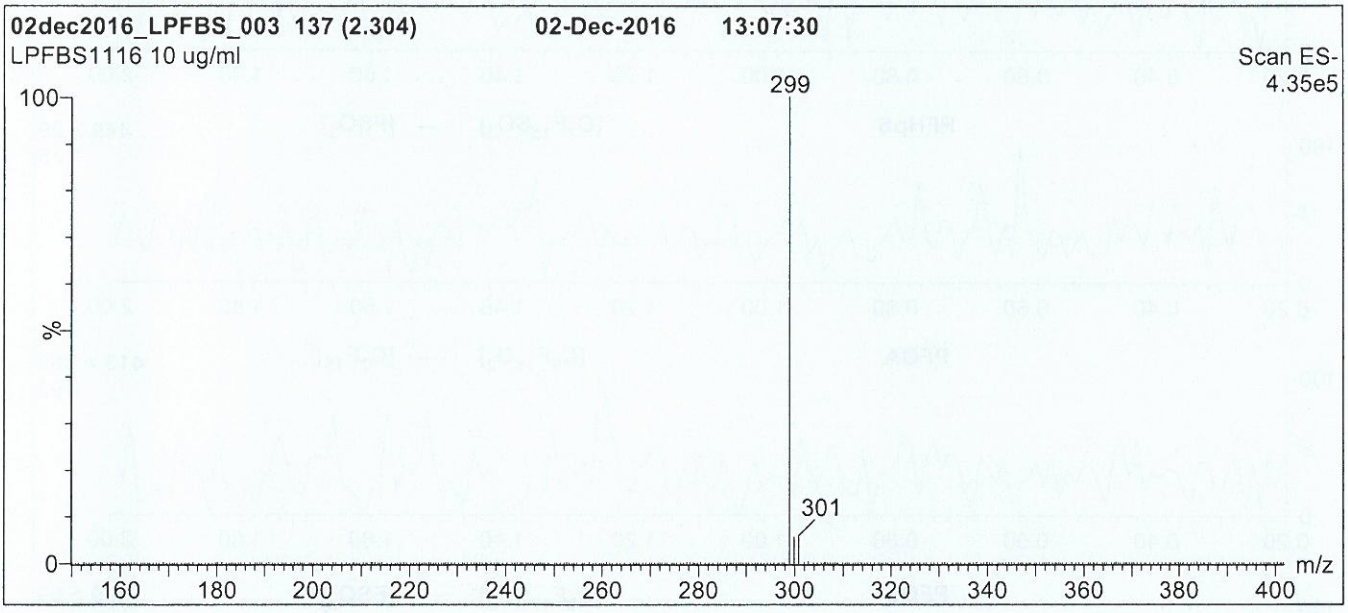
CALA Testing Accreditation No. A 1226

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

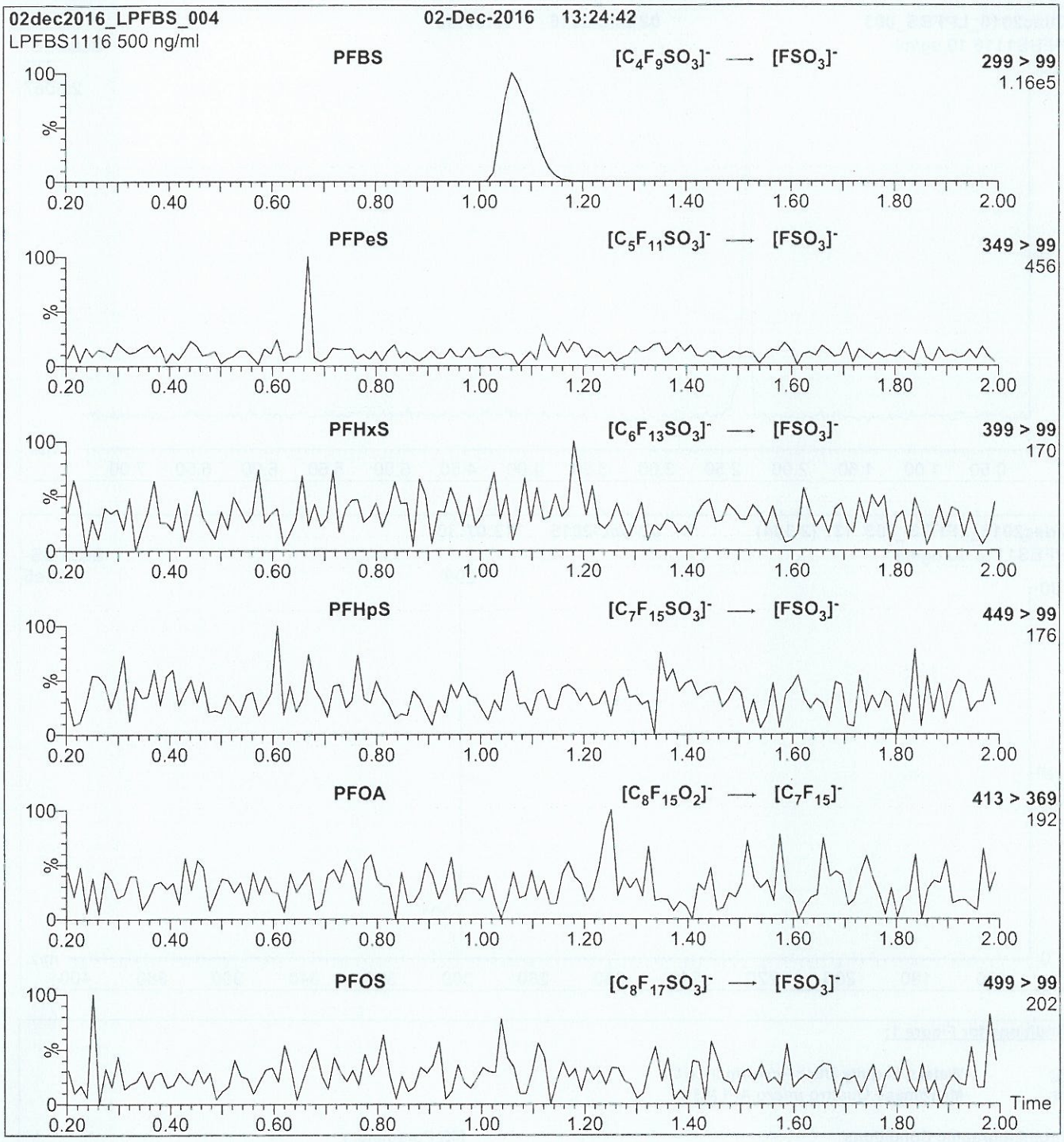
Flow: 300 µl/min

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

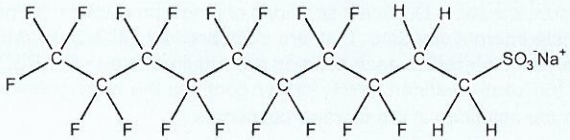
CERTIFICATE OF ANALYSIS DOCUMENTATION

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
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:

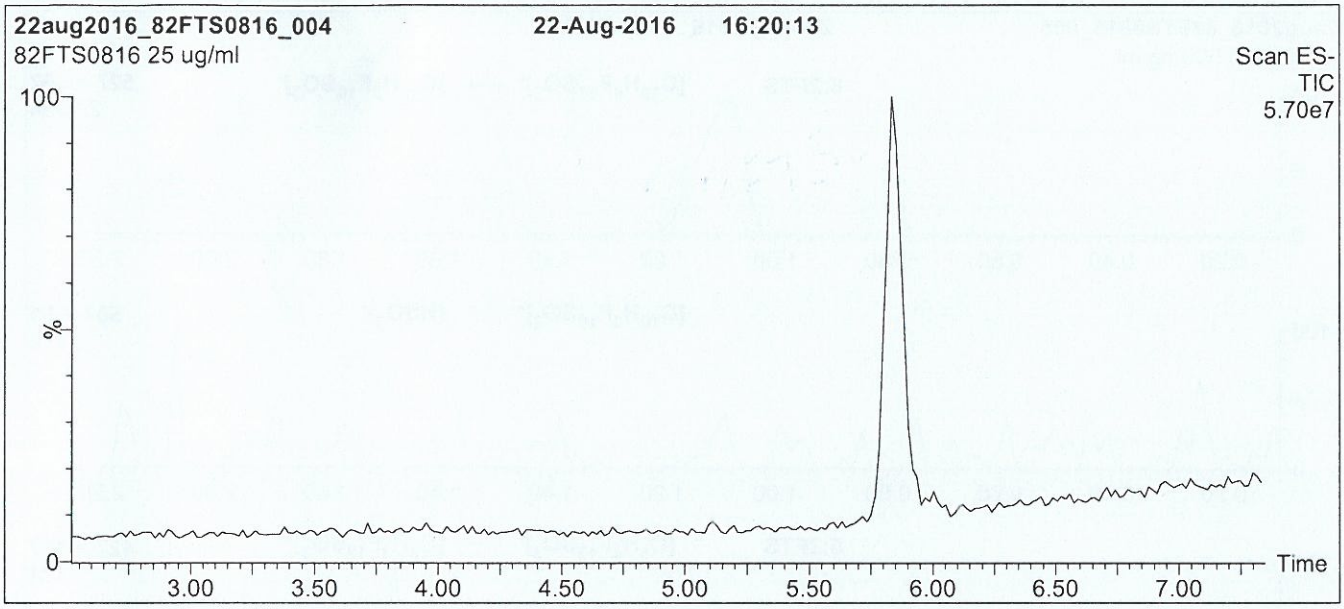
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

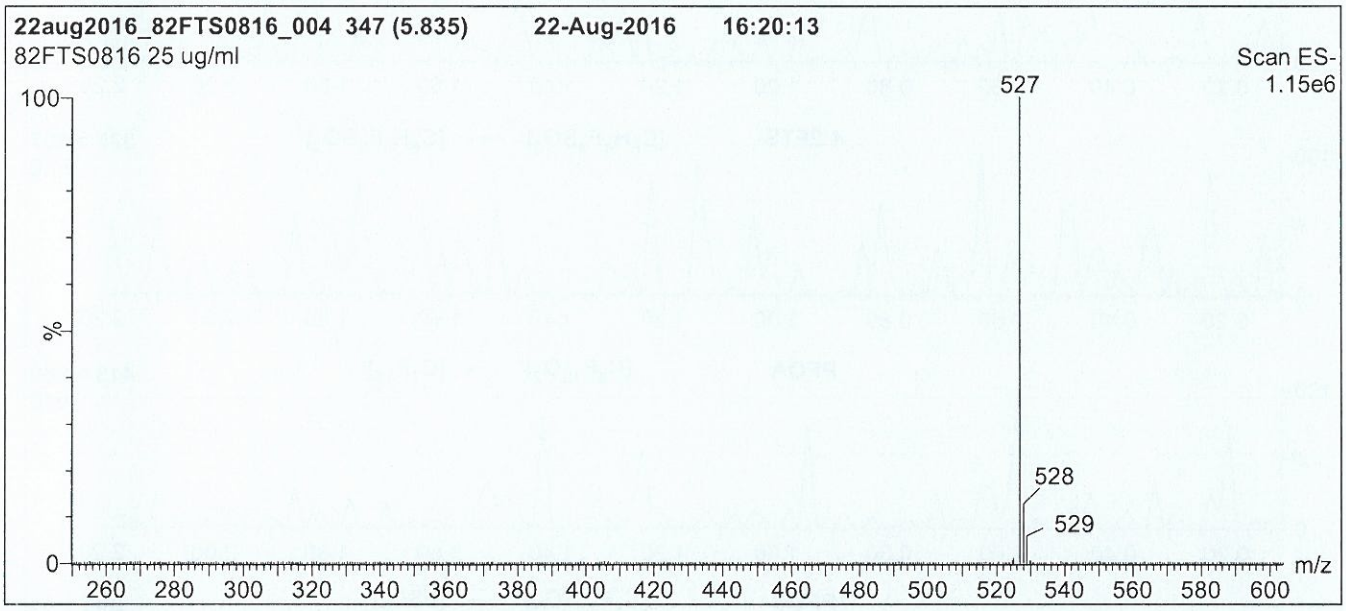
CALA Testing Accreditation No. A 1226

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: **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

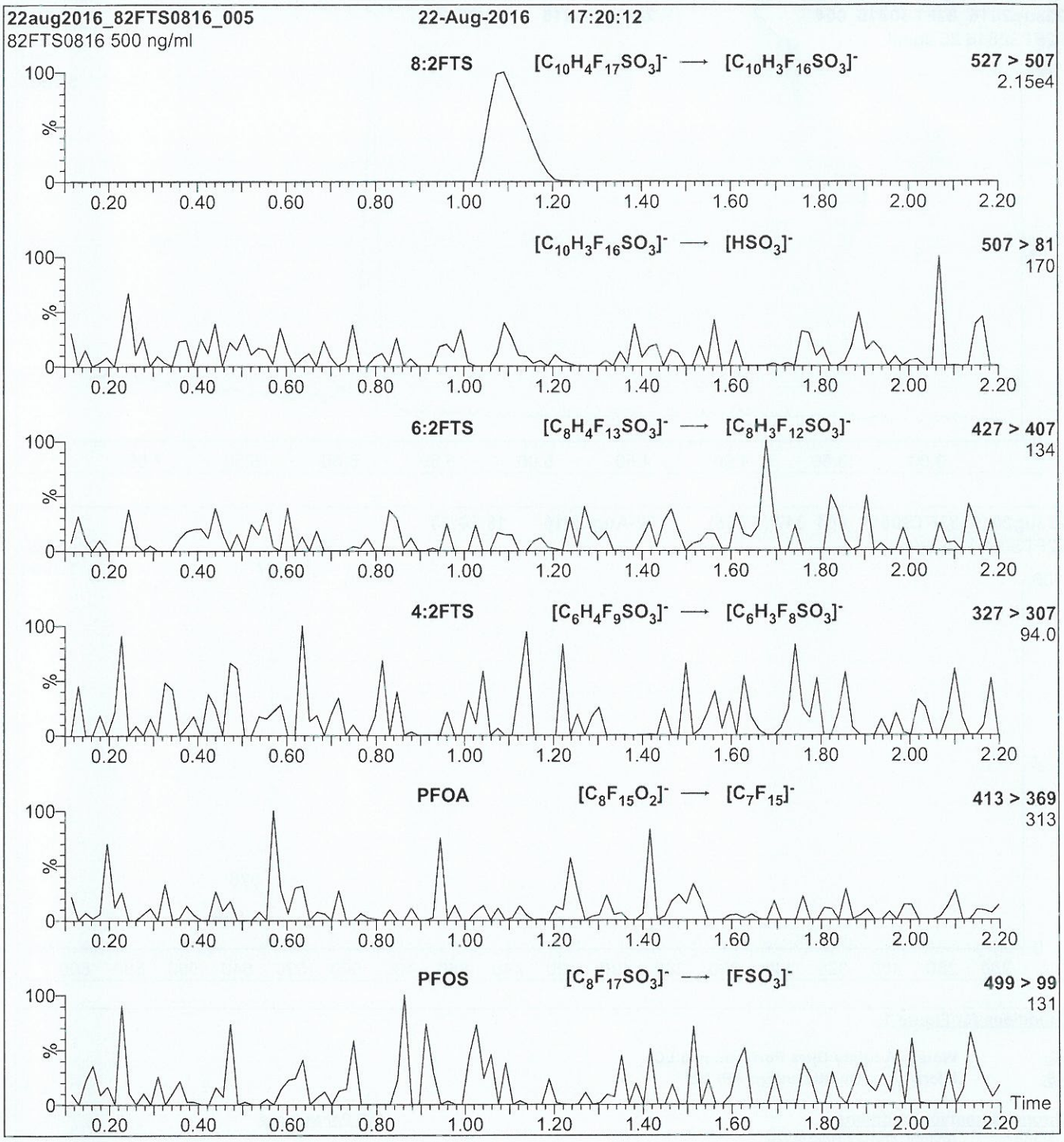
Flow: 300 µl/min

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

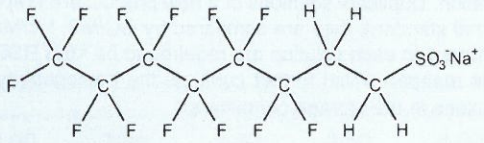
WELLINGTON LABORATORIES

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.

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Certified By: B.G. Chittim **Date:** 06/29/2016 (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

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

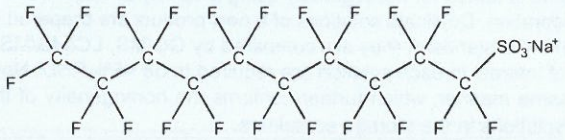
17D2620

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)

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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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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 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

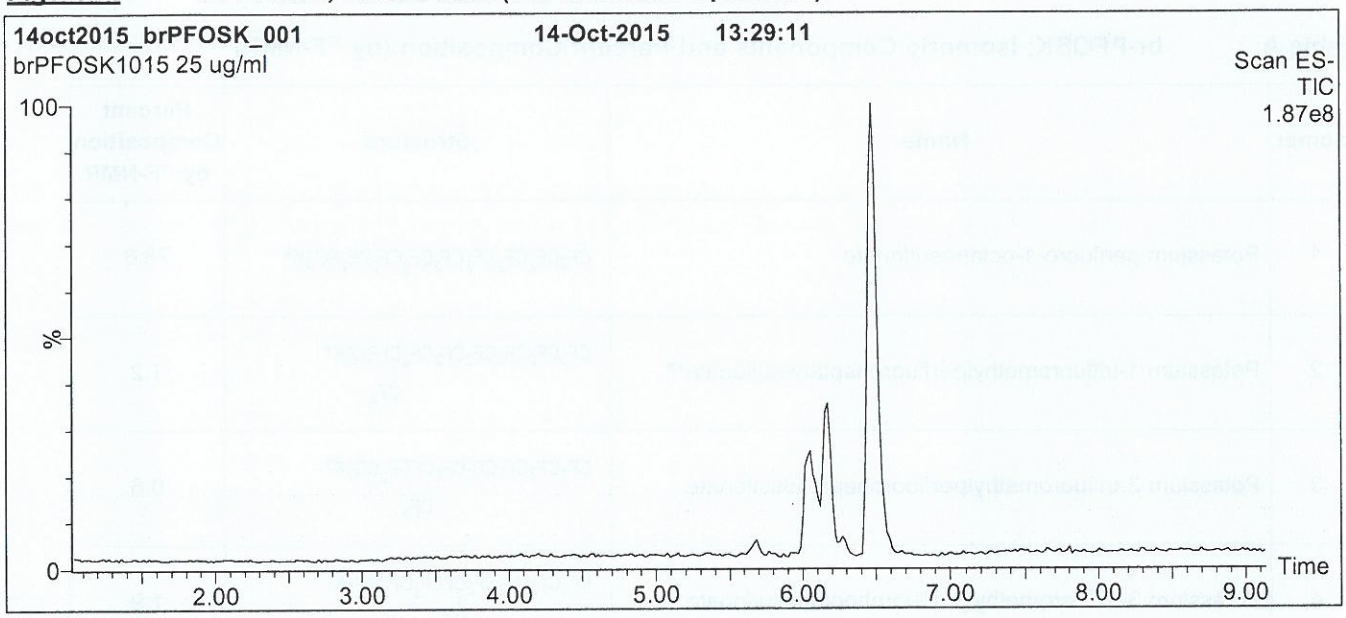
Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

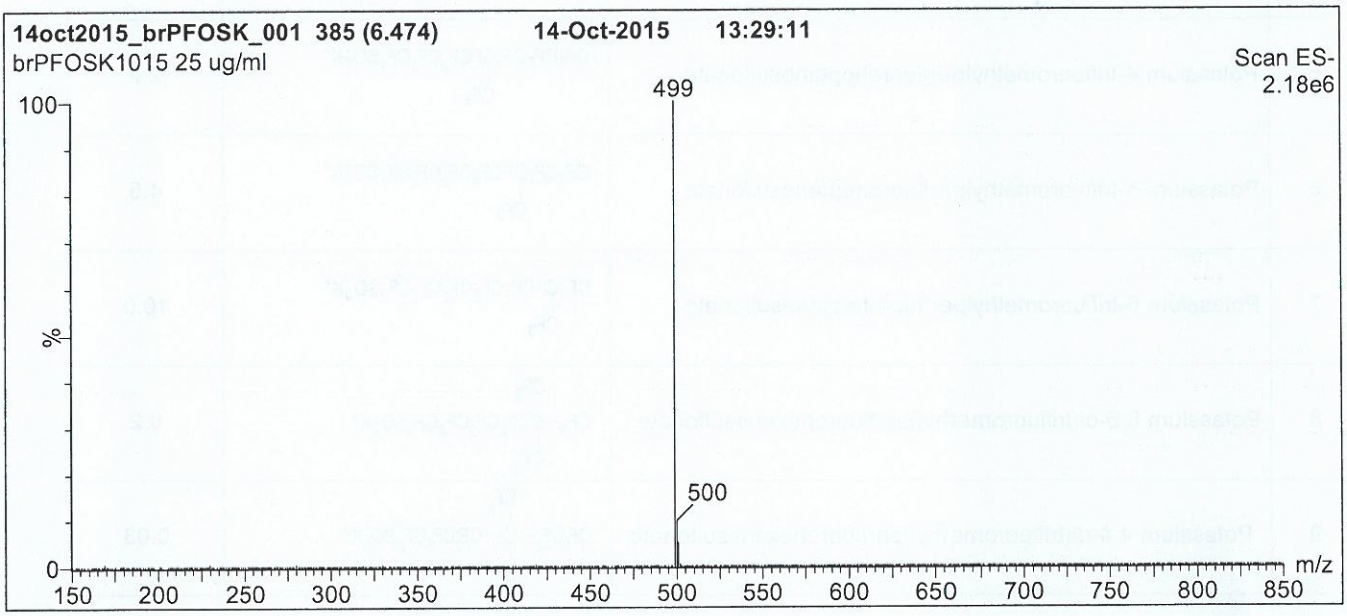
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	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	$CF_3-C(CF_3)(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2-C(CF_3)(CF_3)-CF_2CF_2CF_2SO_3^-K^+$	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

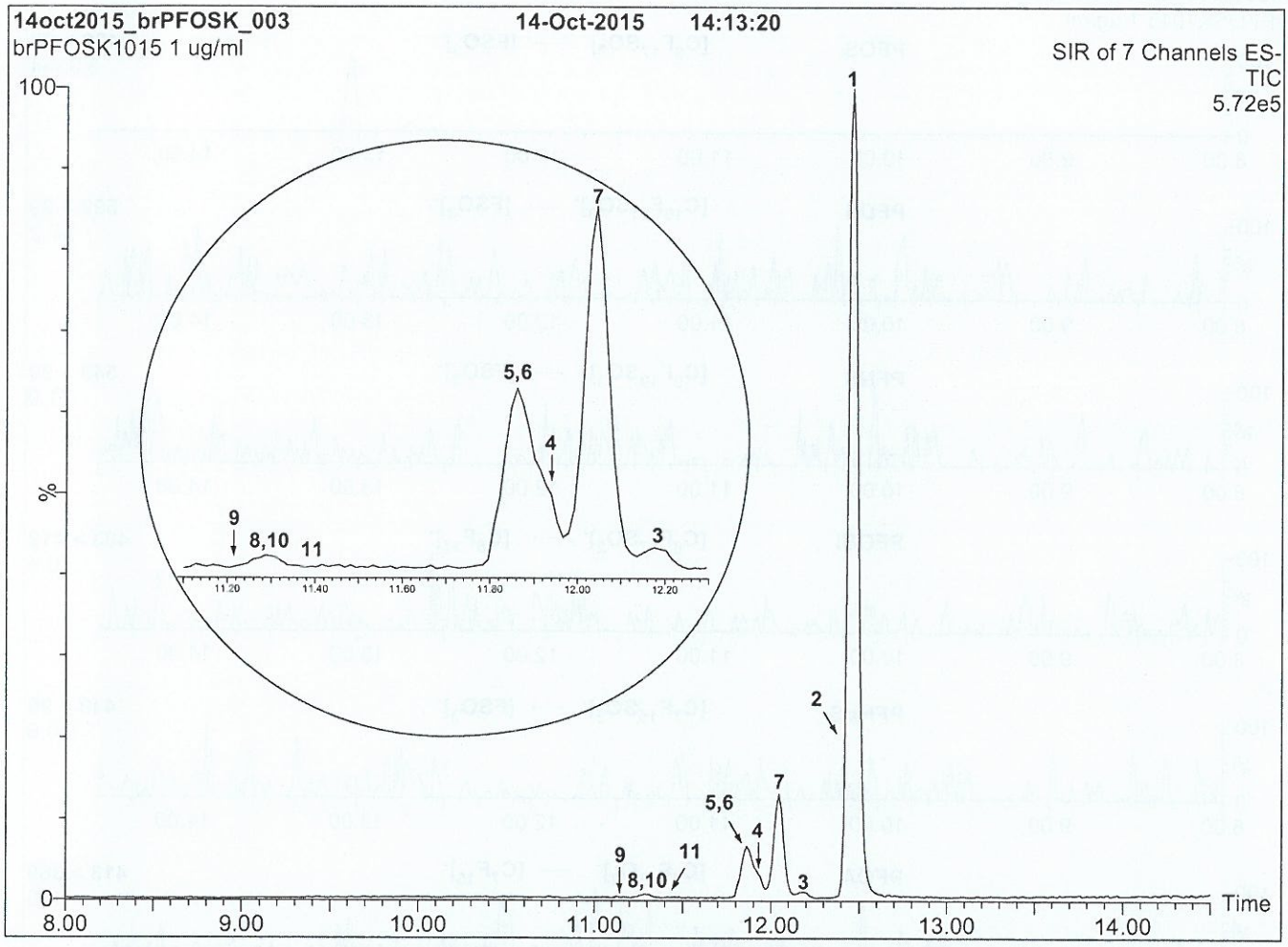
Flow: 300 µl/min

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

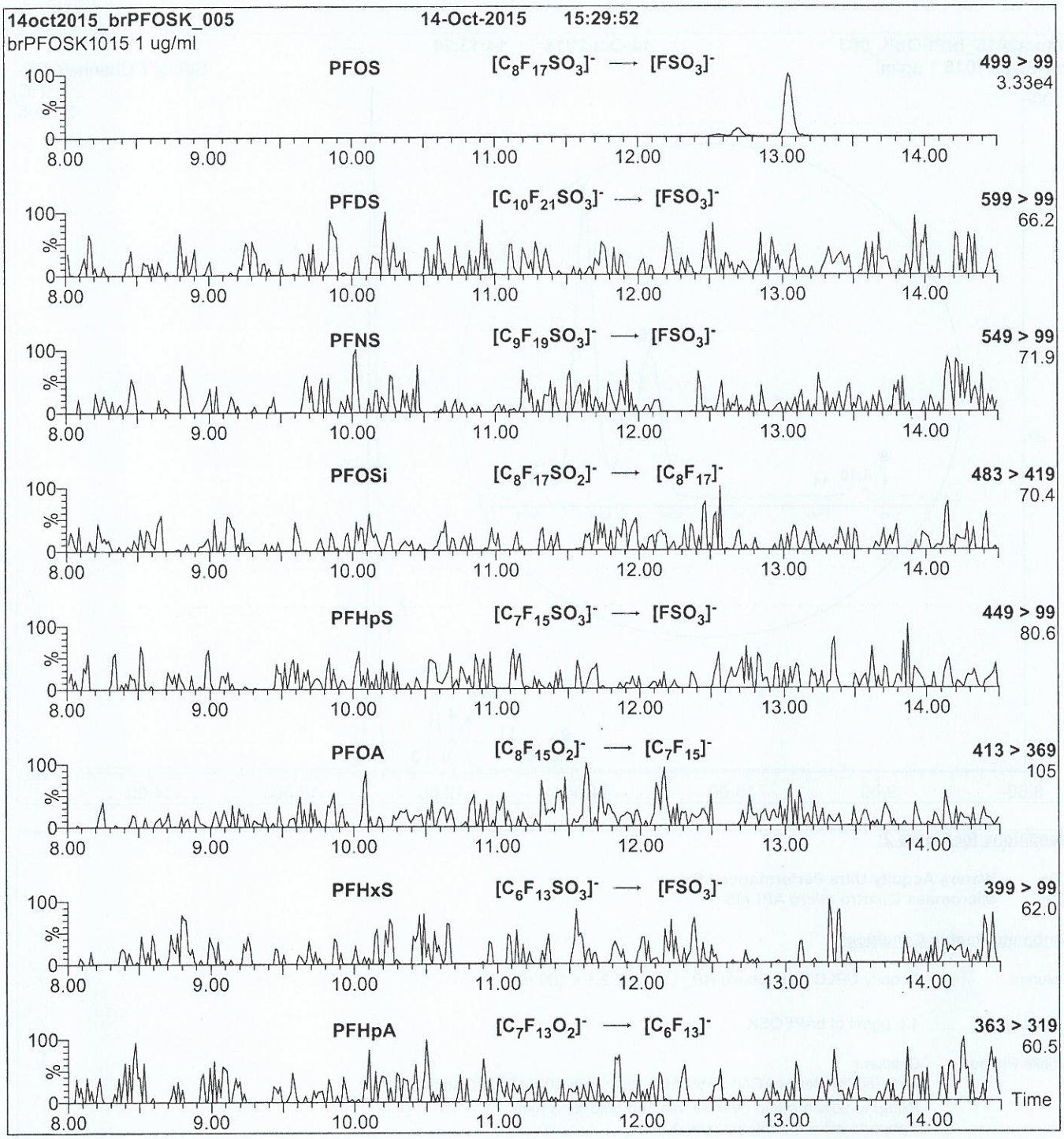
Mobile Phase: Gradient
45% (80:20 MeOH:ACN) / 55% H_2O (both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 15 min and hold for 3 min.
Return to initial conditions over 1 min.
Time: 20 min

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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 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

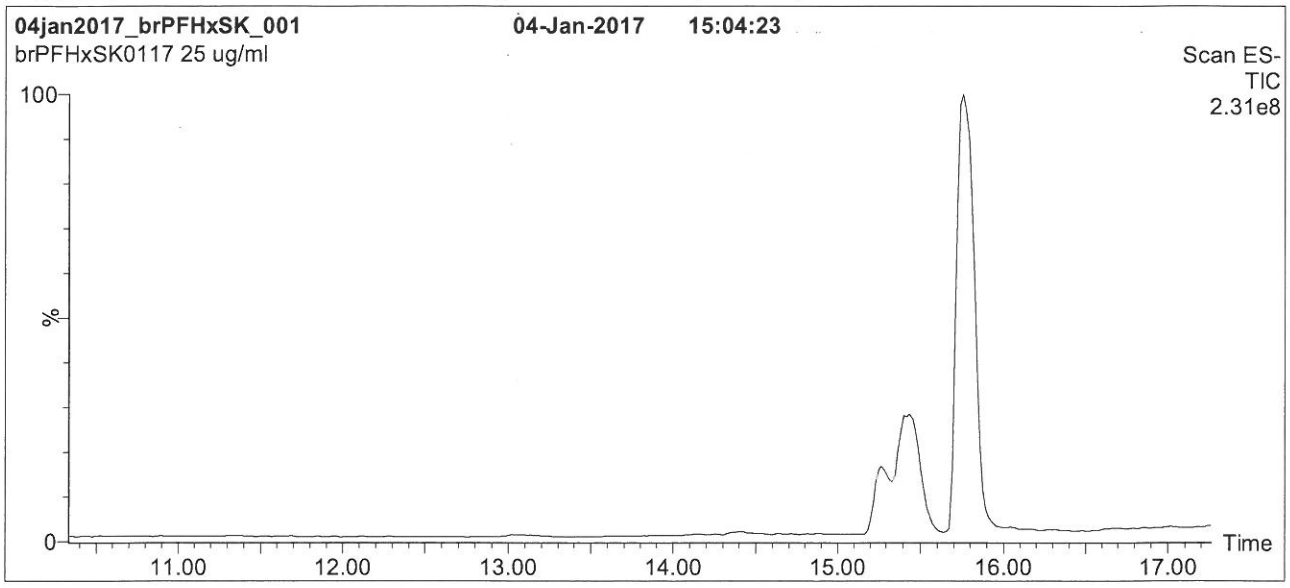
Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

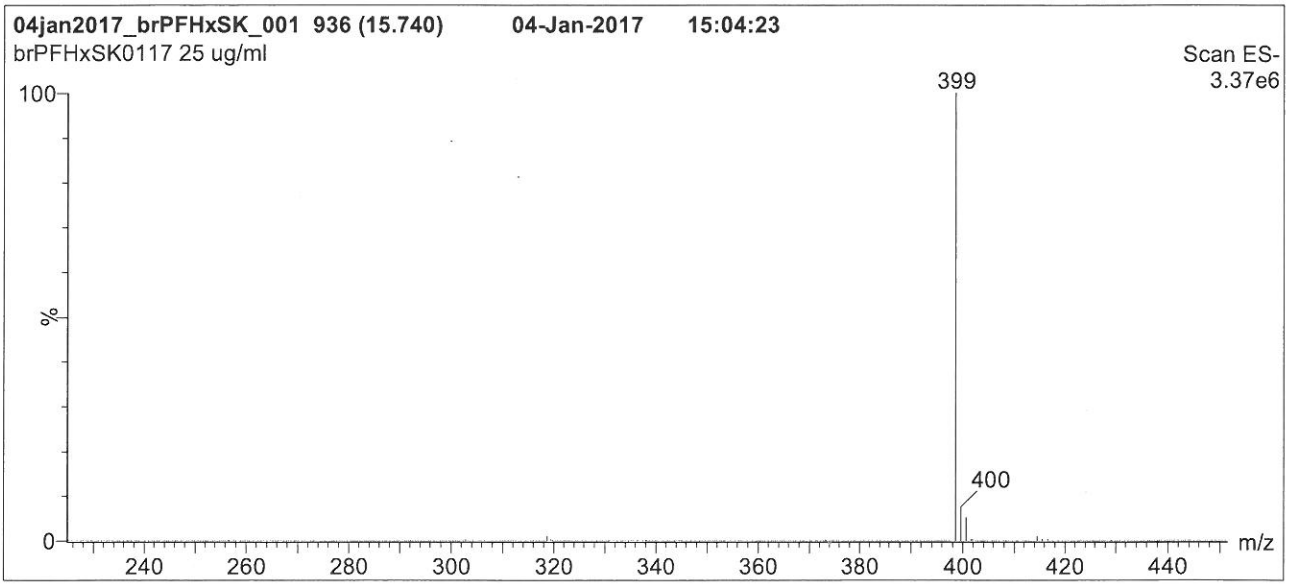
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	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

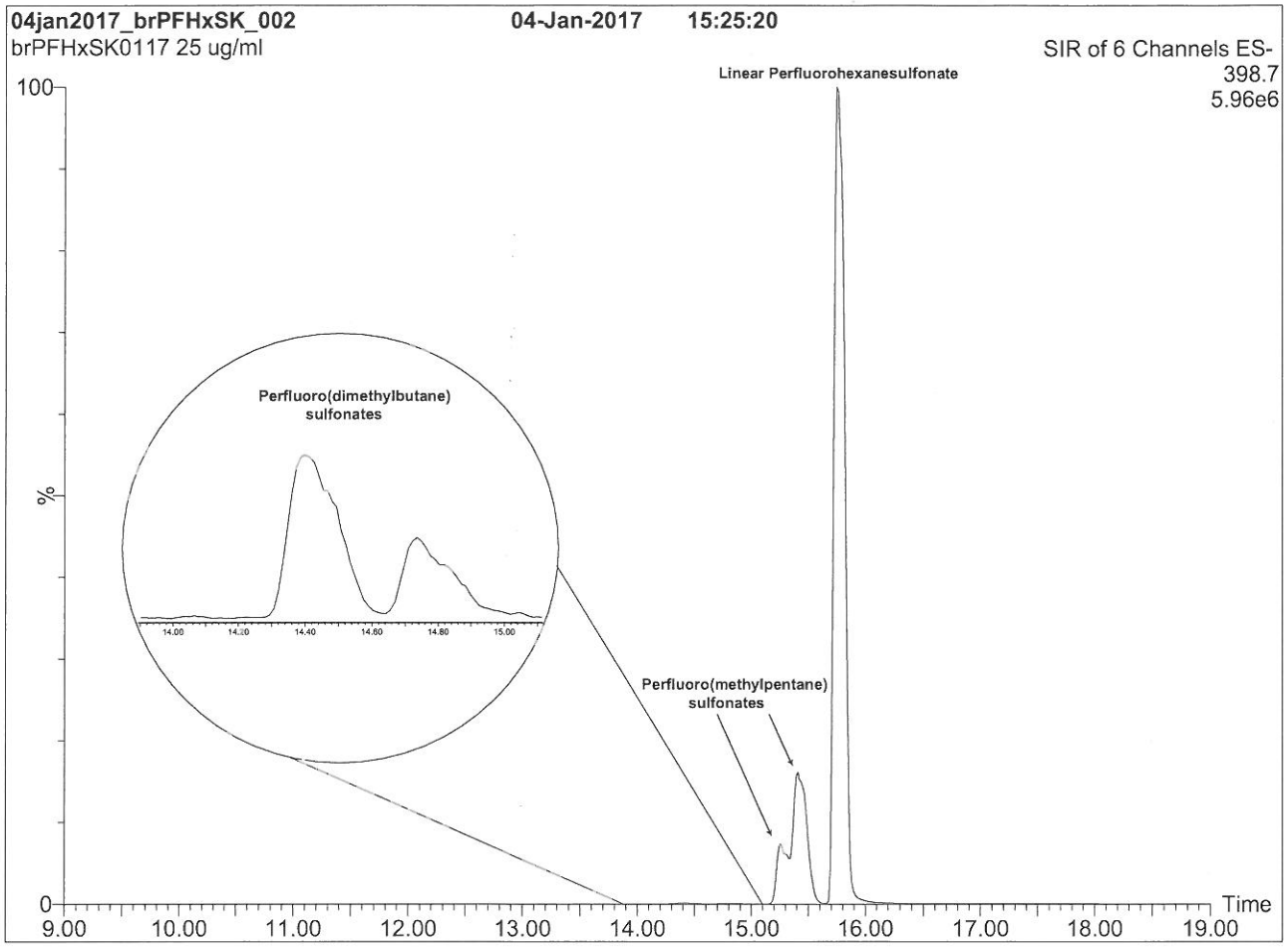
Flow: 300 µl/min

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

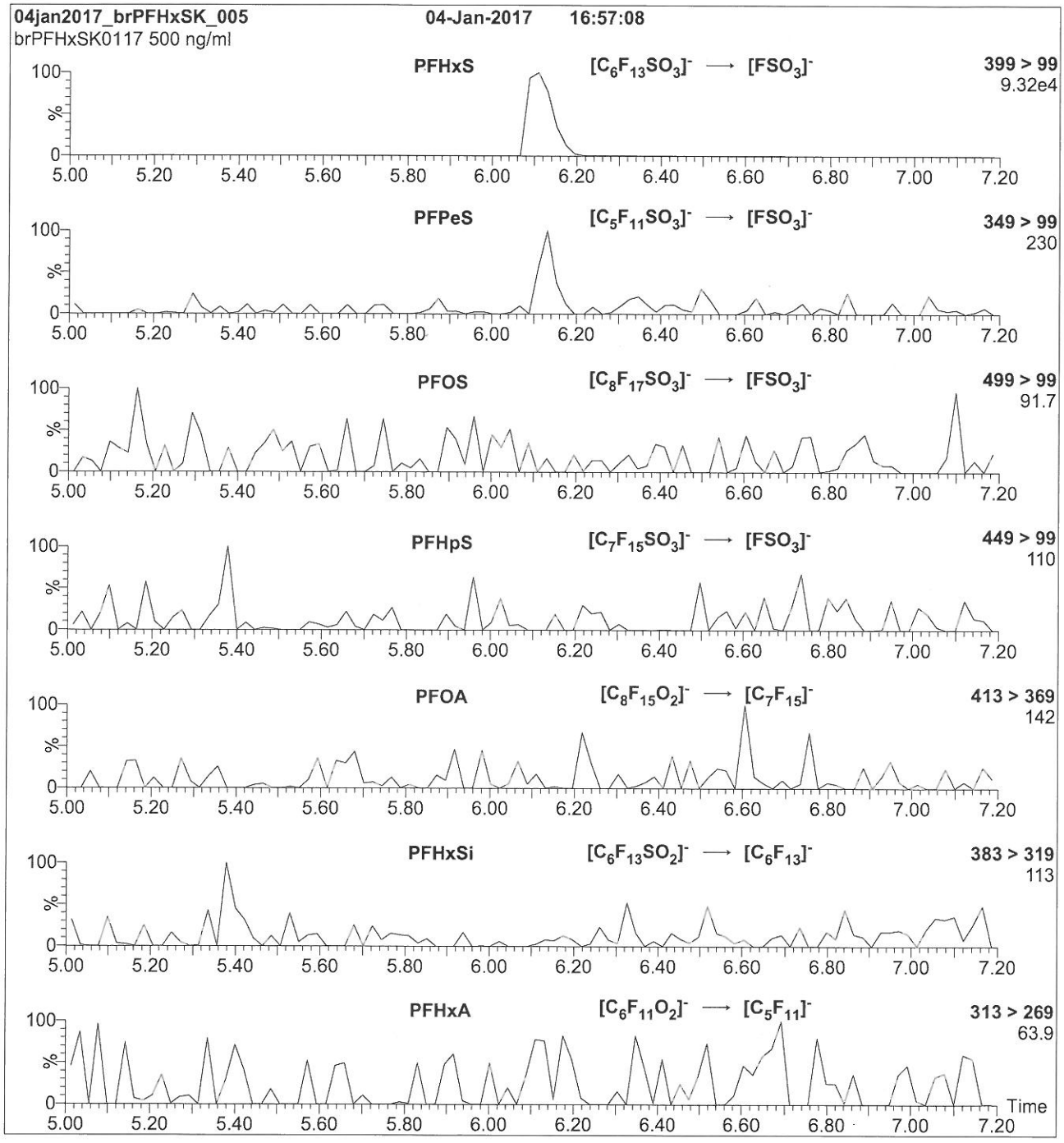
Flow: 300 µl/min

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

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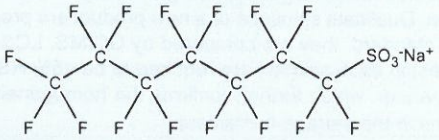
CERTIFICATE OF ANALYSIS DOCUMENTATION

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 ($C_8F_{17}SO_3Na$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/20/2016 (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

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

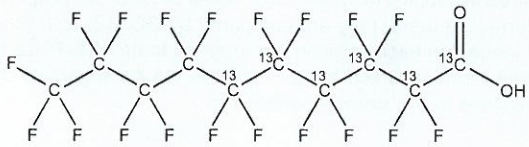
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

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
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:

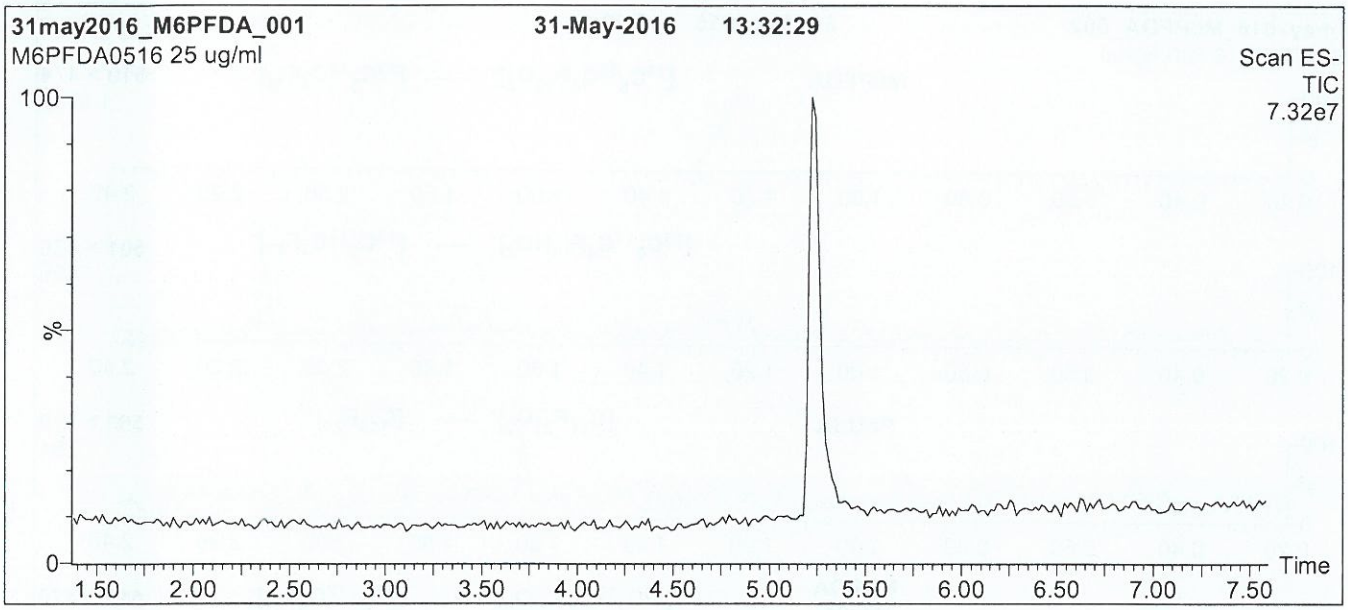
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

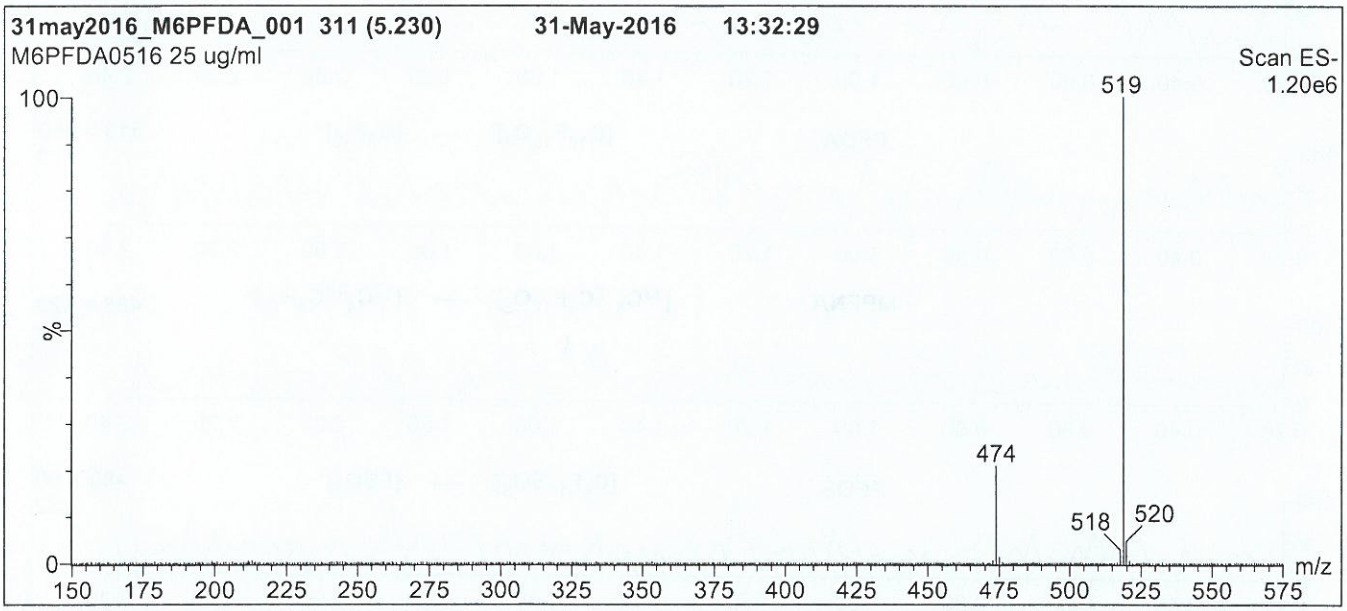
CALA Testing Accreditation No. A 1226

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: **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

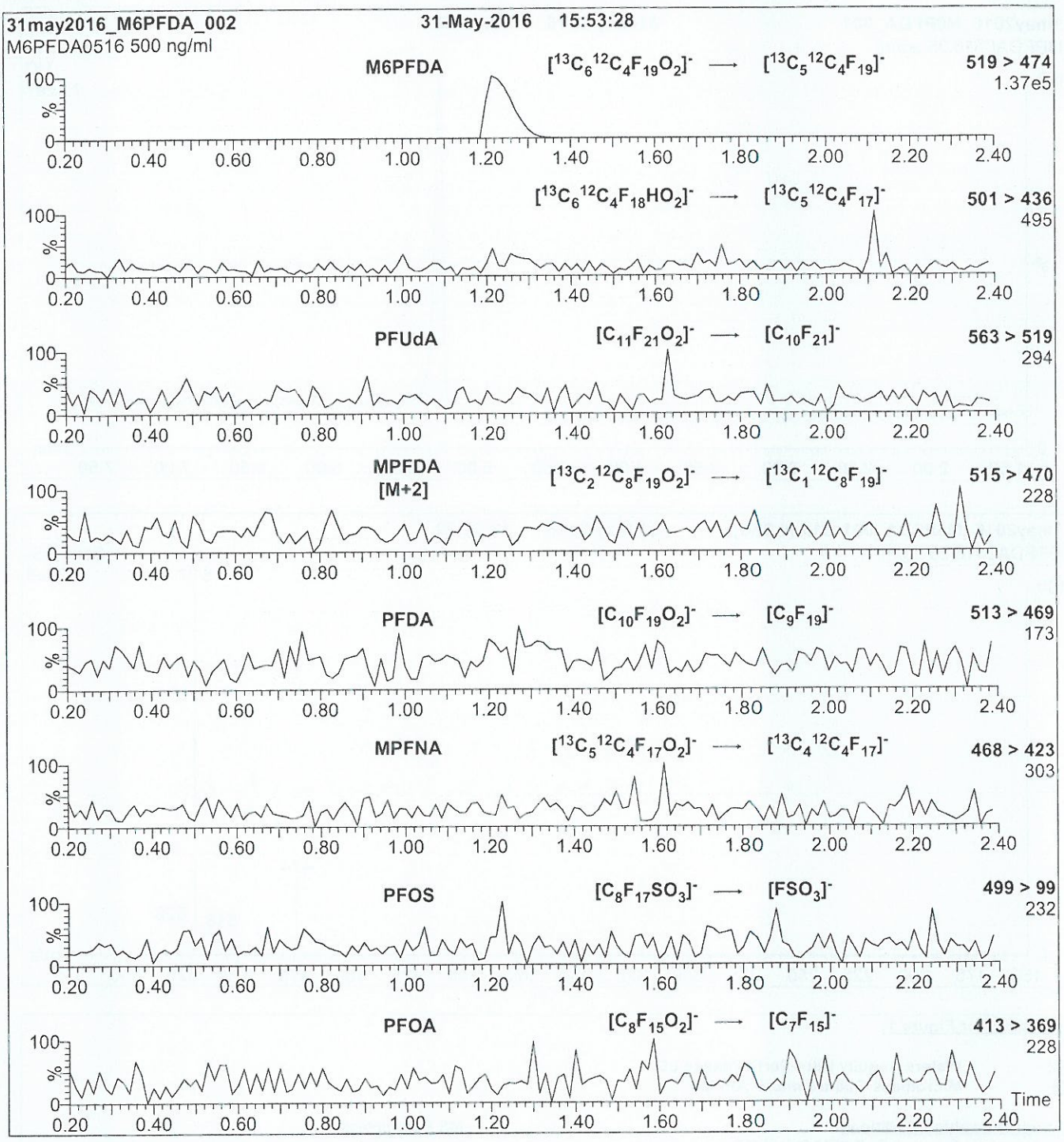
Flow: 300 µl/min

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

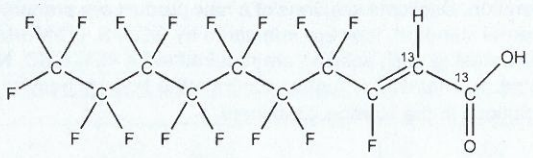
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 13

17E1717

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MFOUEA	**LOT NUMBER:**	MFOUEA0716
COMPOUND:	2H-Perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid		
STRUCTURE:		**CAS #:**	Not available



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)

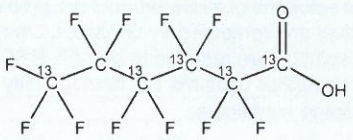
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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)

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

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

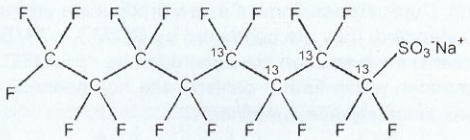
WELLINGTON LABORATORIES

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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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

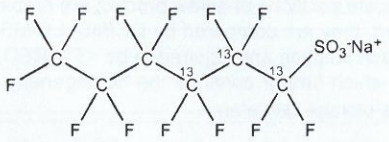
WELLINGTON LABORATORIES

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

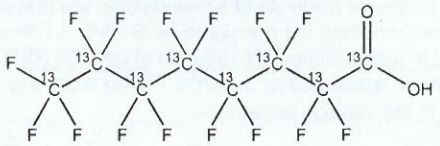
Analyte	CAS Number	Concentration	Units
13C8-PFOA		40	ug/mL

17E2406

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M8PFOA	**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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/24/2016 (mm/dd/yyyy)
B.G. Chittim

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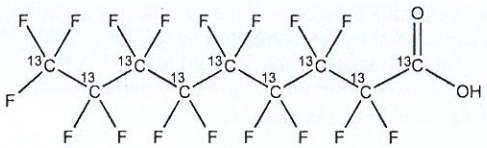
17F3035

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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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).

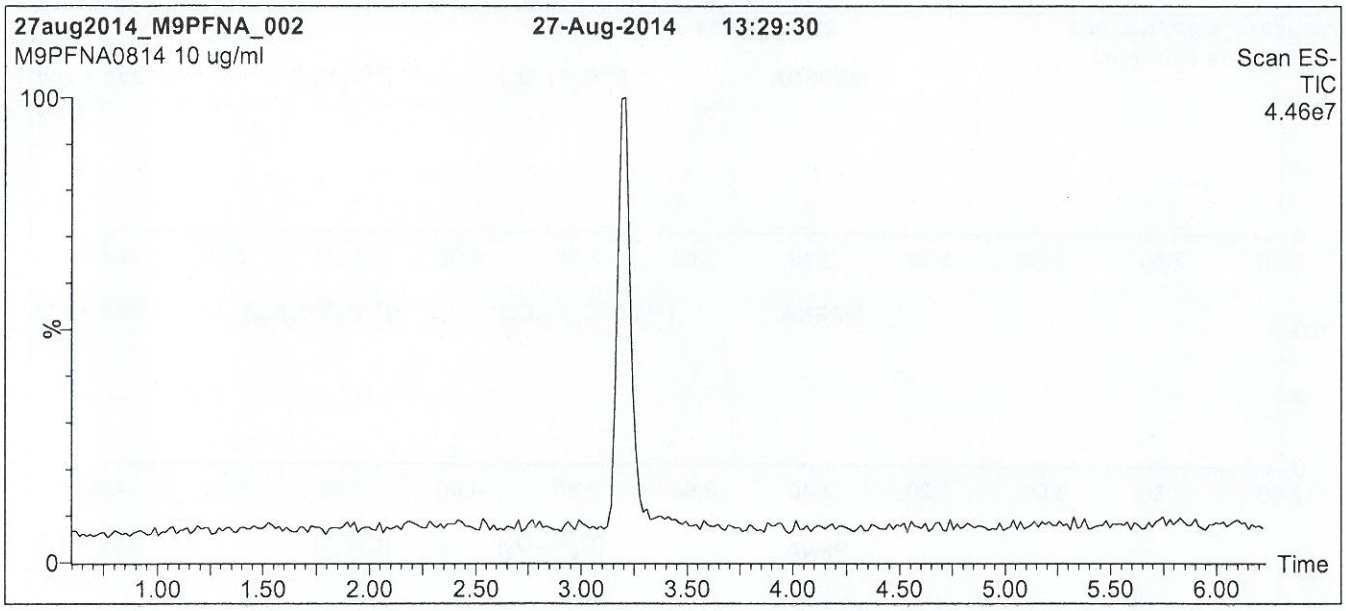
CALA Testing Accreditation No. A 1226

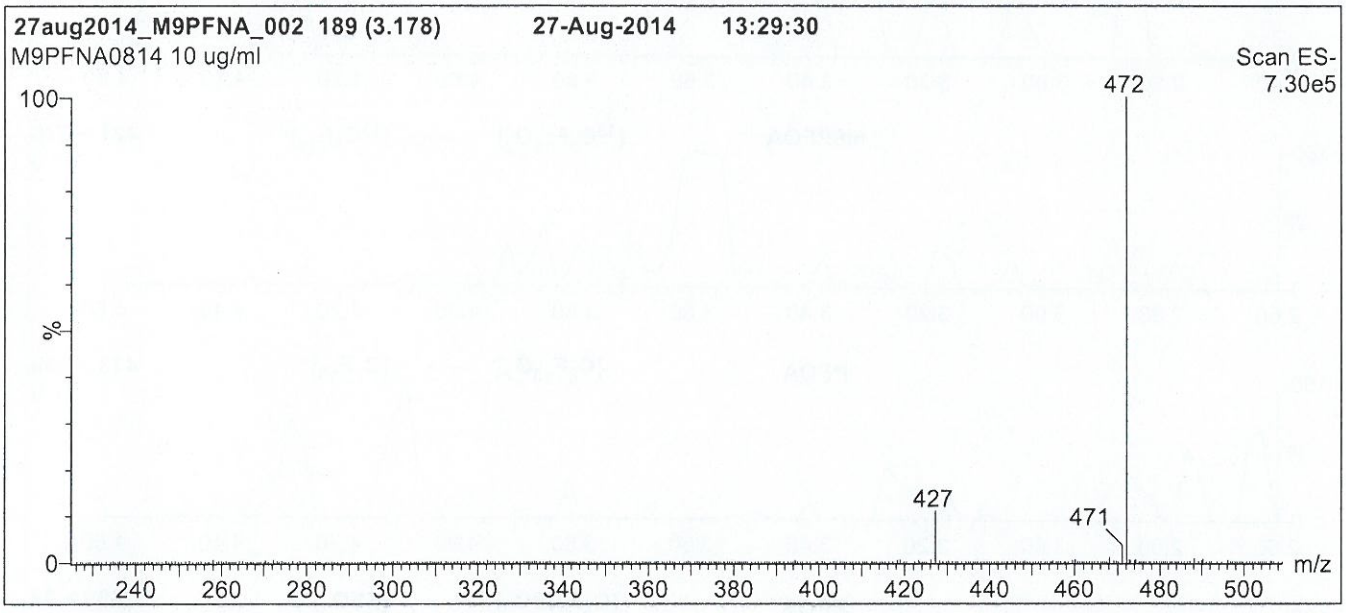
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

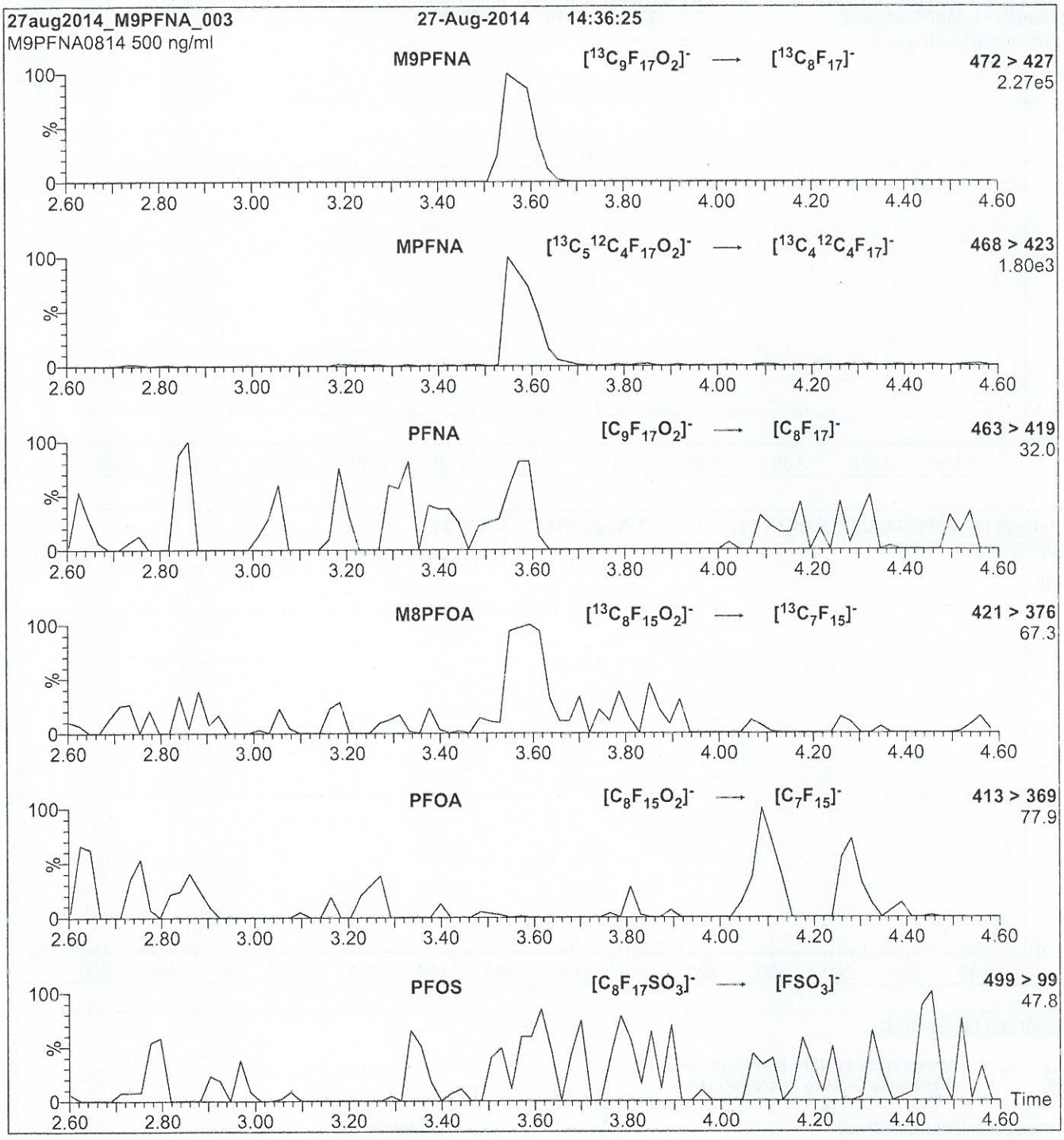
MS Parameters

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

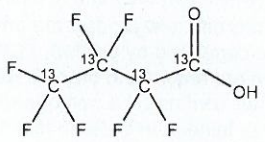
Collision Gas (mbar) = 3.74e-3
Collision Energy (eV) = 11

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~~ SNT 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:

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).

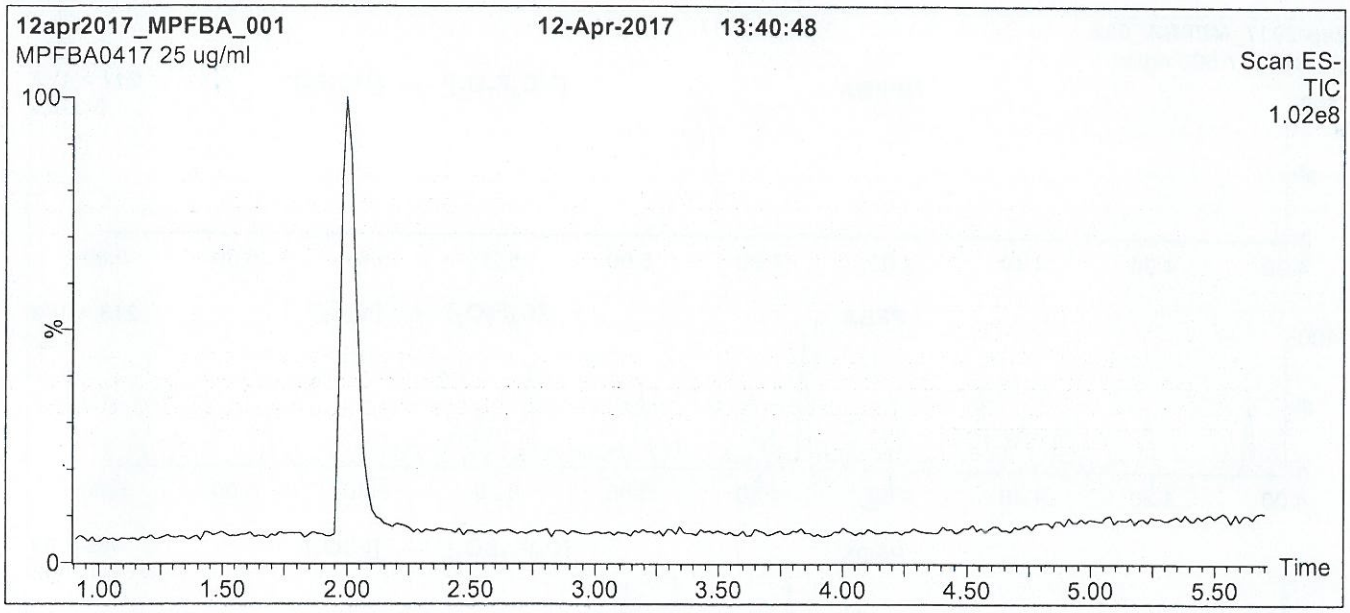
CALA Testing Accreditation No. A 1226

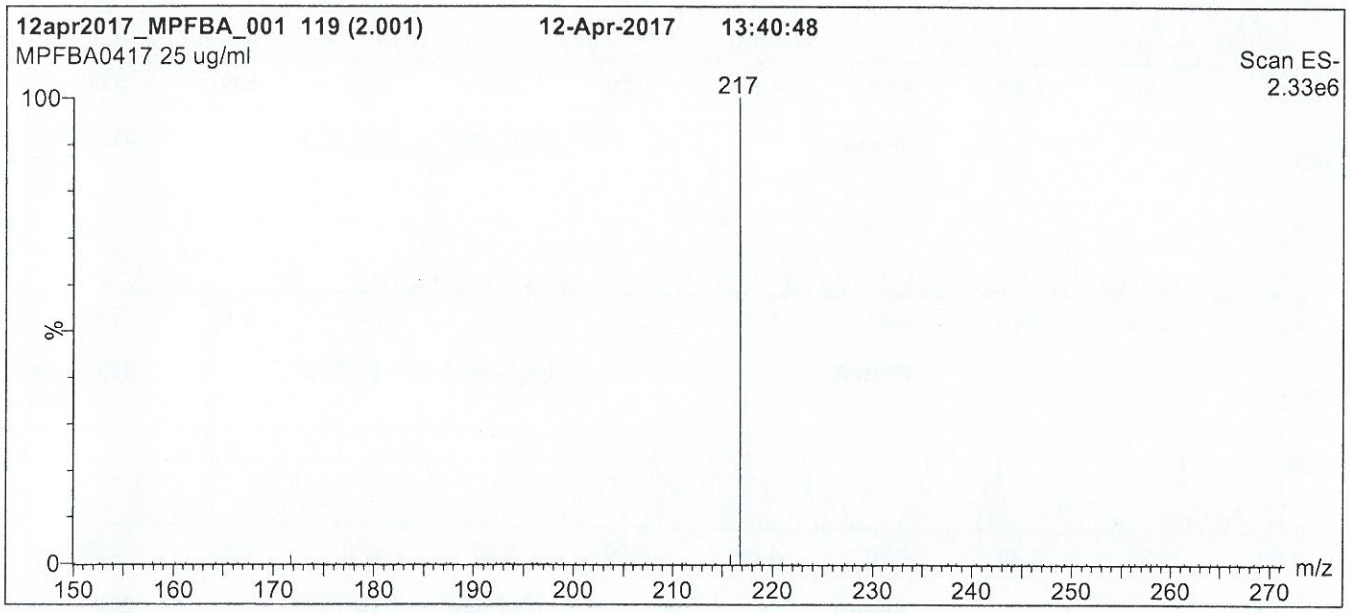
ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

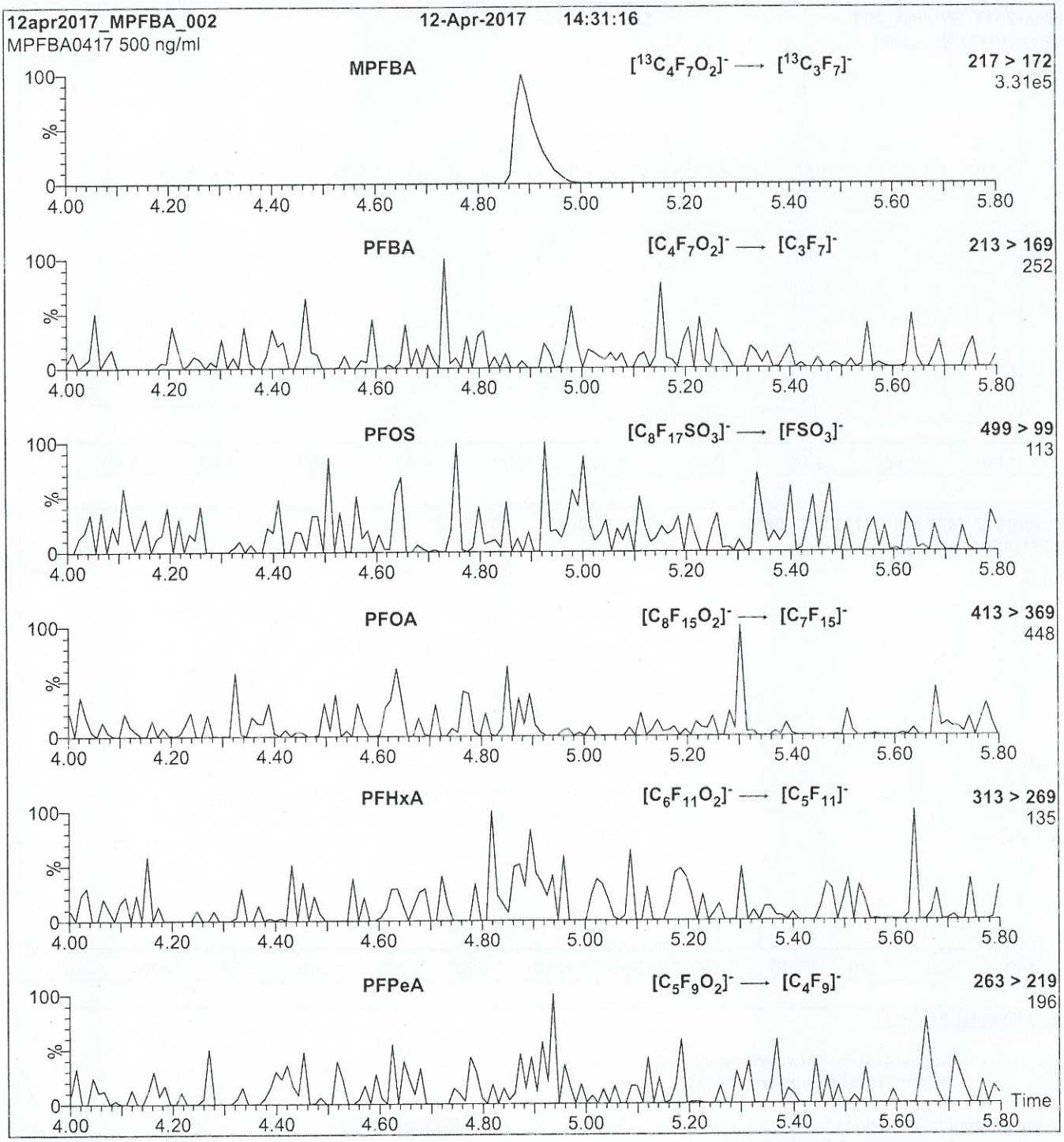
MS Parameters

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

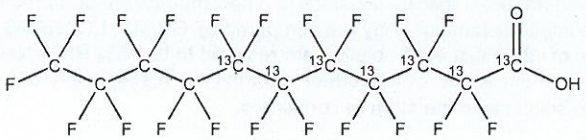
Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 10

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

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 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

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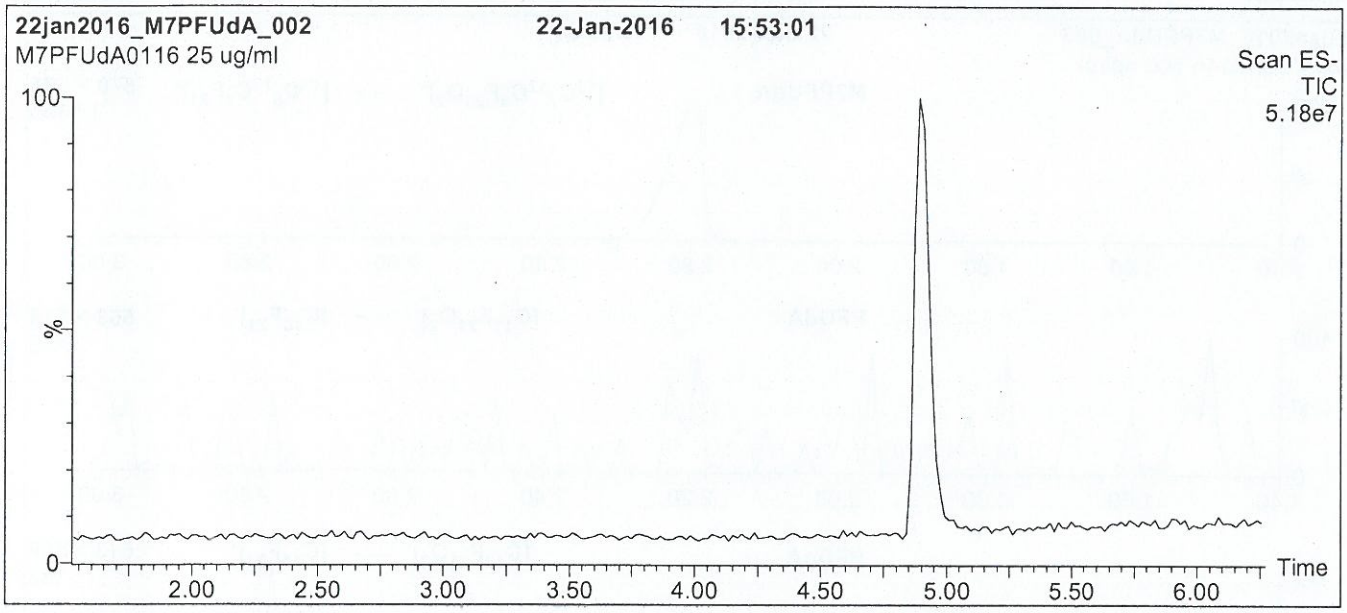
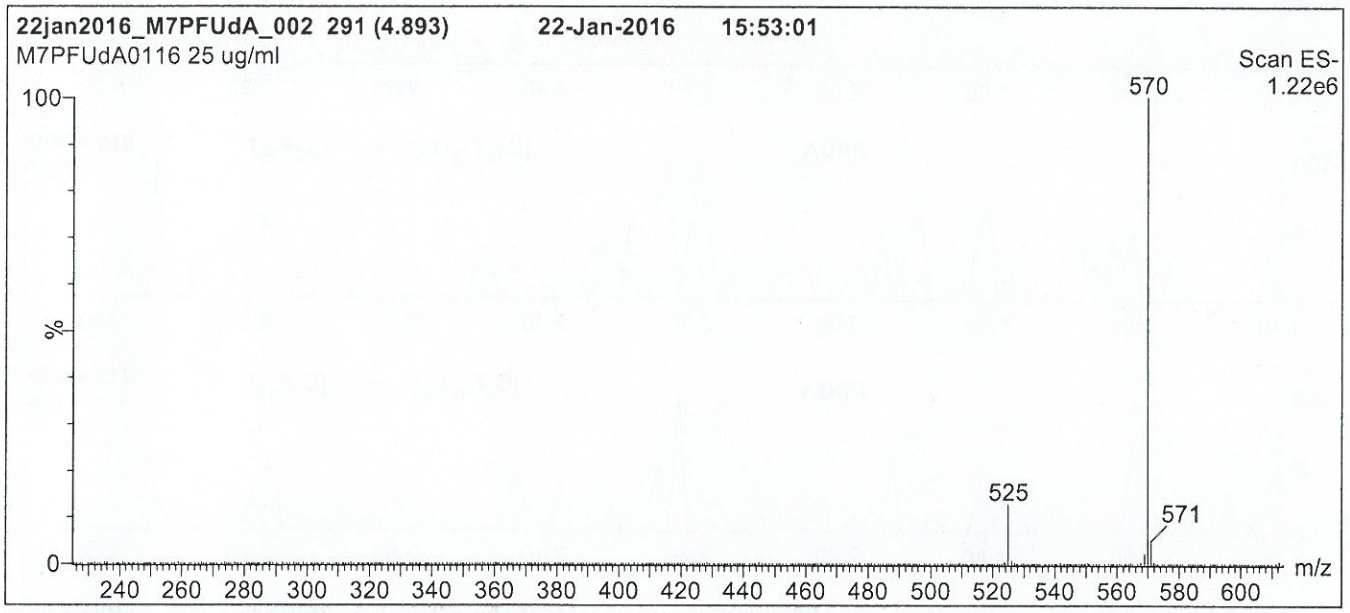
Figure 1: **M7PFUdA; LC/MS Data (TIC and Mass Spectrum)**





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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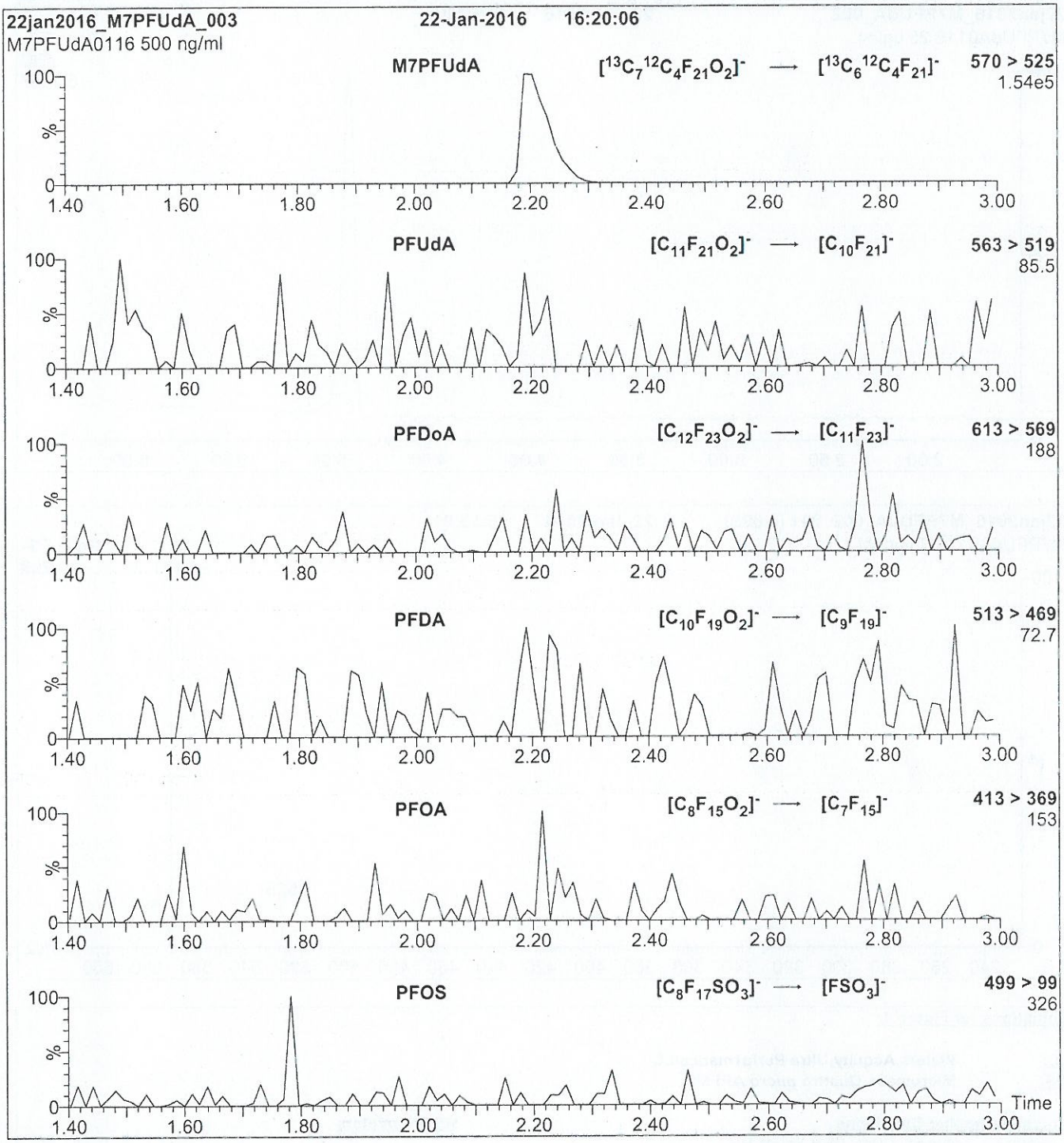
Figure 2: **M7PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



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

"INFLUENT-20170710","Modified EPA Method 537","Initial","1700856-01","Vista","375-73-5","PFBS","14.4","ng/L","","1.85","LOD","","TRG","","","8.26","LOQ","YES","-99","","0.121","0.001","5.17",""
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9","PFHpA","21.3","ng/L","","0.634","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39",""
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PFHxS","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C2-PFOA","13C2-
PFOA","125","%R","","-99","NA","","IS","125","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C8-PFOS","13C8-
PFOS","139","%R","","-99","NA","","IS","139","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C5-PFNA","13C5-

PFNA","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C2-PFDA","13C2-
PFDA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","d3-MeFOSAA","d3-
MeFOSAA","124","%R","","-99","NA","","IS","124","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C2-PFUnA","13C2-
PFUnA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","d5-EtFOSAA","d5-
EtFOSAA","124","%R","","-99","NA","","IS","124","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C2-PFDoA","13C2-
PFDoA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.117","0.001","-99",""
"MID-POINT-20170710","Modified EPA Method 537","Initial","1700856-03","Vista","13C2-PFTeDA","13C2-
PFTeDA","64.9","%R","","-99","NA","","IS","64.9","","-99","NA","YES","100","","0.117","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","375-73-
5","PFBS","5.17","ng/L","U","1.85","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","307-24-
4","PFHxA","5.17","ng/L","U","2.26","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","375-85-
9","PFHpA","5.17","ng/L","U","0.611","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","355-46-
4","PFHxS","5.17","ng/L","U","0.980","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","335-67-
1","PFOA","5.17","ng/L","U","0.673","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","1763-23-
1","PFOS","5.17","ng/L","U","0.835","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","375-95-
1","PFNA","5.17","ng/L","U","0.838","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","335-76-
2","PFDA","5.17","ng/L","U","1.54","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","2355-31-
9","MeFOSAA","5.17","ng/L","U","1.71","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17
","",
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","2058-94-
8","PFUnA","5.17","ng/L","U","1.09","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","2991-50-
6","EtFOSAA","5.17","ng/L","U","1.42","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",
""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","307-55-
1","PFDoA","5.17","ng/L","U","0.819","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","72629-94-
8","PFTrDA","5.17","ng/L","U","0.511","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17","
"
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","376-06-
7","PFTeDA","5.17","ng/L","U","0.781","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",
""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C3-PFBS","13C3-
PFBS","160","%R","H","-99","NA","","IS","160","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C2-PFHxA","13C2-
PFHxA","122","%R","","-99","NA","","IS","122","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C4-PFHpA","13C4-
PFHpA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","18O2-PFHxS","18O2-
PFHxS","118","%R","","-99","NA","","IS","118","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C2-PFOA","13C2-

PFOA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C8-PFOS","13C8-PFOS","129","%R","","-99","NA","","IS","129","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C5-PFNA","13C5-PFNA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C2-PFDA","13C2-PFDA","122","%R","","-99","NA","","IS","122","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","d3-MeFOSAA","d3-MeFOSAA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C2-PFUnA","13C2-PFUnA","95.9","%R","","-99","NA","","IS","95.9","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","d5-EtFOSAA","d5-EtFOSAA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C2-PFDoA","13C2-PFDoA","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.121","0.001","-99",""
"EFFLUENT-20170710","Modified EPA Method 537","Initial","1700856-04","Vista","13C2-PFTeDA","13C2-PFTeDA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","375-73-5","PFBS","161","ng/L","","1.91","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","307-24-4","PFHxA","691","ng/L","","2.33","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","375-85-9","PFHpA","189","ng/L","","0.632","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Dilution","1700856-05","Vista","355-46-4","PFHxS","1450","ng/L","D","10.1","LOD","","TRG","","","85.5","LOQ","YES","-99","","0.117","0.001","53.4",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","335-67-1","PFOA","146","ng/L","","0.696","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Dilution","1700856-05","Vista","1763-23-1","PFOS","2180","ng/L","D","8.62","LOD","","TRG","","","85.5","LOQ","YES","-99","","0.117","0.001","53.4",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","375-95-1","PFNA","8.29","ng/L","J","0.866","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","335-76-2","PFDA","5.34","ng/L","U","1.59","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","2355-31-9","MeFOSAA","5.34","ng/L","U","1.76","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34","",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","2058-94-8","PFUnA","5.34","ng/L","U","1.12","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","2991-50-6","EtFOSAA","5.34","ng/L","U","1.46","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","307-55-1","PFDoA","5.34","ng/L","U","0.846","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","72629-94-8","PFTrDA","5.34","ng/L","U","0.528","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","376-06-7","PFTeDA","5.34","ng/L","U","0.807","LOD","","TRG","","","8.55","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C3-PFBS","13C3-PFBS","141","%R","","-99","NA","","IS","141","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C2-PFHxA","13C2-PFHxA","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C4-PFHpA","13C4-

PFHpA","92.0","%R","","-99","NA","","IS","92.0","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Dilution","1700856-05","Vista","18O2-PFHxS","18O2-PFHxS","97.7","%R","D","-99","NA","","IS","97.7","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C2-PFOA","13C2-PFOA","89.7","%R","","-99","NA","","IS","89.7","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Dilution","1700856-05","Vista","13C8-PFOS","13C8-PFOS","95.3","%R","D","-99","NA","","IS","95.3","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C5-PFNA","13C5-PFNA","88.2","%R","","-99","NA","","IS","88.2","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C2-PFDA","13C2-PFDA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","d3-MeFOSAA","d3-MeFOSAA","117","%R","","-99","NA","","IS","117","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C2-PFUnA","13C2-PFUnA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","d5-EtFOSAA","d5-EtFOSAA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C2-PFDoA","13C2-PFDoA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-37S-20170711","Modified EPA Method 537","Initial","1700856-05","Vista","13C2-PFTeDA","13C2-PFTeDA","42.5","%R","H","-99","NA","","IS","42.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","375-73-5","PFBS","5.21","ng/L","U","1.86","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","307-24-4","PFHxA","5.21","ng/L","U","2.26","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","375-85-9","PFHpA","5.21","ng/L","U","0.613","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","355-46-4","PFHxS","5.21","ng/L","U","0.983","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","335-67-1","PFOA","5.21","ng/L","U","0.676","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","1763-23-1","PFOS","5.21","ng/L","U","0.838","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","375-95-1","PFNA","5.21","ng/L","U","0.841","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","335-76-2","PFDA","5.21","ng/L","U","1.55","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","2355-31-9","MeFOSAA","5.21","ng/L","U","1.71","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","2058-94-8","PFUnA","5.21","ng/L","U","1.09","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","2991-50-6","EtFOSAA","5.21","ng/L","U","1.42","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","307-55-1","PFDoA","5.21","ng/L","U","0.822","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","72629-94-8","PFTrDA","5.21","ng/L","U","0.513","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","376-06-7","PFTeDA","5.21","ng/L","U","0.784","LOD","","TRG","","","8.30","LOQ","YES","-99","","0.120","0.001","5.21",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C3-PFBS","13C3-

PFBS","169","%R","H","-99","NA","","IS","169","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C2-PFHxA","13C2-
PFHxA","141","%R","","-99","NA","","IS","141","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C4-PFHpA","13C4-
PFHpA","114","%R","","-99","NA","","IS","114","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","18O2-PFHxS","18O2-
PFHxS","150","%R","","-99","NA","","IS","150","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C2-PFOA","13C2-
PFOA","126","%R","","-99","NA","","IS","126","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C8-PFOS","13C8-
PFOS","142","%R","","-99","NA","","IS","142","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C5-PFNA","13C5-
PFNA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C2-PFDA","13C2-
PFDA","128","%R","","-99","NA","","IS","128","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","d3-MeFOSAA","d3-
MeFOSAA","131","%R","","-99","NA","","IS","131","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C2-PFUnA","13C2-
PFUnA","118","%R","","-99","NA","","IS","118","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","d5-EtFOSAA","d5-
EtFOSAA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C2-PFDoA","13C2-
PFDoA","127","%R","","-99","NA","","IS","127","","-99","NA","YES","100","","0.120","0.001","-99",""
"ERB-01-20170711","Modified EPA Method 537","Initial","1700856-06","Vista","13C2-PFTeDA","13C2-
PFTeDA","130","%R","","-99","NA","","IS","130","","-99","NA","YES","100","","0.120","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","375-73-
5","PFBS","146","ng/L","","1.95","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","307-24-
4","PFHxA","687","ng/L","","2.37","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","375-85-
9","PFHpA","201","ng/L","","0.643","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"11-MW-1-20170710","Modified EPA Method 537","Dilution","1700856-07","Vista","355-46-
4","PFHxS","1360","ng/L","D","10.3","LOD","","TRG","","","87.1","LOQ","YES","-99","","0.115","0.001","54.3",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","335-67-
1","PFOA","151","ng/L","","0.709","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"11-MW-1-20170710","Modified EPA Method 537","Dilution","1700856-07","Vista","1763-23-
1","PFOS","3400","ng/L","D","8.79","LOD","","TRG","","","87.1","LOQ","YES","-99","","0.115","0.001","54.3",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","375-95-
1","PFNA","18.2","ng/L","","0.882","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","335-76-
2","PFDA","4.61","ng/L","J","1.62","LOD","","TRG","","","8.71","LOQ","YES","-99","","0.115","0.001","5.43",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","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"
,""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","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",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","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",
""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","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",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","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","
"

"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","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",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C3-PFBS","13C3-PFBS","168","%R","H","-99","NA","","IS","168","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C2-PFHxA","13C2-PFHxA","134","%R","","-99","NA","","IS","134","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C4-PFHpA","13C4-PFHpA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Dilution","1700856-07","Vista","18O2-PFHxS","18O2-PFHxS","141","%R","D","-99","NA","","IS","141","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C2-PFOA","13C2-PFOA","117","%R","","-99","NA","","IS","117","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Dilution","1700856-07","Vista","13C8-PFOS","13C8-PFOS","112","%R","D","-99","NA","","IS","112","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C5-PFNA","13C5-PFNA","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C2-PFDA","13C2-PFDA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","d3-MeFOSAA","d3-MeFOSAA","124","%R","","-99","NA","","IS","124","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C2-PFUnA","13C2-PFUnA","132","%R","","-99","NA","","IS","132","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","d5-EtFOSAA","d5-EtFOSAA","130","%R","","-99","NA","","IS","130","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C2-PFDoA","13C2-PFDoA","134","%R","","-99","NA","","IS","134","","-99","NA","YES","100","","0.115","0.001","-99",""
"11-MW-1-20170710","Modified EPA Method 537","Initial","1700856-07","Vista","13C2-PFTeDA","13C2-PFTeDA","117","%R","","-99","NA","","IS","117","","-99","NA","YES","100","","0.115","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","375-73-5","PFBS","16.7","ng/L","","1.91","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","307-24-4","PFHxA","35.2","ng/L","","2.33","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","375-85-9","PFHpA","8.14","ng/L","J","0.631","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","355-46-4","PFHxS","153","ng/L","","1.01","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","335-67-1","PFOA","95.9","ng/L","","0.695","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","1763-23-1","PFOS","792","ng/L","","0.861","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","375-95-1","PFNA","5.34","ng/L","U","0.864","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","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",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","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",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","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",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","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",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","307-55-

1","PFDoA","5.34","ng/L","U","0.845","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","72629-94-
8","PFTrDA","5.34","ng/L","U","0.527","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34","
"
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","376-06-
7","PFTeDA","5.34","ng/L","U","0.806","LOD","","TRG","","","8.54","LOQ","YES","-99","","0.117","0.001","5.34",
""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C3-PFBS","13C3-
PFBS","173","%R","H","-99","NA","","IS","173","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C2-PFHxA","13C2-
PFHxA","136","%R","","-99","NA","","IS","136","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C4-PFHpA","13C4-
PFHpA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","18O2-PFHxS","18O2-
PFHxS","141","%R","","-99","NA","","IS","141","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C2-PFOA","13C2-
PFOA","130","%R","","-99","NA","","IS","130","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C8-PFOS","13C8-
PFOS","137","%R","","-99","NA","","IS","137","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C5-PFNA","13C5-
PFNA","126","%R","","-99","NA","","IS","126","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C2-PFDA","13C2-
PFDA","133","%R","","-99","NA","","IS","133","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","d3-MeFOSAA","d3-
MeFOSAA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C2-PFUnA","13C2-
PFUnA","95.3","%R","","-99","NA","","IS","95.3","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","d5-EtFOSAA","d5-
EtFOSAA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C2-PFDoA","13C2-
PFDoA","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.117","0.001","-99",""
"LF-MW-54BR-20170710","Modified EPA Method 537","Initial","1700856-08","Vista","13C2-PFTeDA","13C2-
PFTeDA","77.1","%R","","-99","NA","","IS","77.1","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","375-73-
5","PFBS","87.6","ng/L","","1.85","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","307-24-
4","PFHxA","247","ng/L","","2.26","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","375-85-
9","PFHpA","74.4","ng/L","","0.611","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","355-46-
4","PFHxS","363","ng/L","","0.980","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","335-67-
1","PFOA","55.3","ng/L","","0.673","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","1763-23-
1","PFOS","390","ng/L","","0.835","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","375-95-
1","PFNA","7.45","ng/L","J","0.838","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","335-76-
2","PFDA","5.17","ng/L","U","1.54","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","2355-31-
9","MeFOSAA","5.17","ng/L","U","1.71","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17
","",
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","2058-94-
8","PFUnA","5.17","ng/L","U","1.09","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""

"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","2991-50-6","EtFOSAA","5.17","ng/L","U","1.42","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","307-55-1","PFDoA","5.17","ng/L","U","0.819","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","72629-94-8","PFTrDA","5.17","ng/L","U","0.511","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","376-06-7","PFTeDA","5.17","ng/L","U","0.781","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C3-PFBS","13C3-PFBS","164","%R","H","-99","NA","","IS","164","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C2-PFHxA","13C2-PFHxA","123","%R","","-99","NA","","IS","123","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C4-PFHpA","13C4-PFHpA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","18O2-PFHxS","18O2-PFHxS","138","%R","","-99","NA","","IS","138","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C2-PFOA","13C2-PFOA","120","%R","","-99","NA","","IS","120","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C8-PFOS","13C8-PFOS","120","%R","","-99","NA","","IS","120","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C5-PFNA","13C5-PFNA","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C2-PFDA","13C2-PFDA","135","%R","","-99","NA","","IS","135","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","d3-MeFOSAA","d3-MeFOSAA","98.3","%R","","-99","NA","","IS","98.3","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C2-PFUnA","13C2-PFUnA","95.5","%R","","-99","NA","","IS","95.5","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","d5-EtFOSAA","d5-EtFOSAA","94.8","%R","","-99","NA","","IS","94.8","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C2-PFDoA","13C2-PFDoA","100","%R","","-99","NA","","IS","100","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-48BR-20170711","Modified EPA Method 537","Initial","1700856-09","Vista","13C2-PFTeDA","13C2-PFTeDA","88.5","%R","","-99","NA","","IS","88.5","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","375-73-5","PFBS","33.1","ng/L","","1.89","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","307-24-4","PFHxA","49.3","ng/L","","2.31","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","375-85-9","PFHpA","11.9","ng/L","","0.625","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","355-46-4","PFHxS","247","ng/L","","1.00","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","335-67-1","PFOA","108","ng/L","","0.689","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","1763-23-1","PFOS","728","ng/L","","0.854","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","375-95-1","PFNA","5.30","ng/L","U","0.857","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","335-76-2","PFDA","5.30","ng/L","U","1.58","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","2355-31-

9","MeFOSAA","5.30","ng/L","U","1.75","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30"
,""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","2058-94-
8","PFUnA","5.30","ng/L","U","1.11","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","2991-50-
6","EtFOSAA","5.30","ng/L","U","1.45","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",
""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","307-55-
1","PFDoA","5.30","ng/L","U","0.838","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","72629-94-
8","PFTrDA","5.30","ng/L","U","0.523","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30","
"
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","376-06-
7","PFTeDA","5.30","ng/L","U","0.799","LOD","","TRG","","","8.47","LOQ","YES","-99","","0.118","0.001","5.30",
""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C3-PFBS","13C3-
PFBS","155","%R","H","-99","NA","","IS","155","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C2-PFHxA","13C2-
PFHxA","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C4-PFHpA","13C4-
PFHpA","98.1","%R","","-99","NA","","IS","98.1","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","18O2-PFHxS","18O2-
PFHxS","129","%R","","-99","NA","","IS","129","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C2-PFOA","13C2-
PFOA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C8-PFOS","13C8-
PFOS","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C5-PFNA","13C5-
PFNA","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C2-PFDA","13C2-
PFDA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","d3-MeFOSAA","d3-
MeFOSAA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C2-PFUnA","13C2-
PFUnA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","d5-EtFOSAA","d5-
EtFOSAA","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C2-PFDoA","13C2-
PFDoA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-34S-20170711","Modified EPA Method 537","Initial","1700856-10","Vista","13C2-PFTeDA","13C2-
PFTeDA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","375-73-
5","PFBS","175","ng/L","","1.90","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","307-24-
4","PFHxA","695","ng/L","","2.31","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","375-85-
9","PFHpA","248","ng/L","","0.627","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Dilution","1700856-11","Vista","355-46-
4","PFHxS","1300","ng/L","D","5.03","LOD","","TRG","","","42.5","LOQ","YES","-99","","0.118","0.001","26.5",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","335-67-
1","PFOA","123","ng/L","","0.691","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Dilution","1700856-11","Vista","1763-23-
1","PFOS","1830","ng/L","D","4.28","LOD","","TRG","","","42.5","LOQ","YES","-99","","0.118","0.001","26.5",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","375-95-

1","PFNA","27.0","ng/L","","0.860","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","335-76-
2","PFDA","5.80","ng/L","J","1.58","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","2355-31-
9","MeFOSAA","5.30","ng/L","U","1.75","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30"
,""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","2058-94-
8","PFUnA","5.30","ng/L","U","1.11","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","2991-50-
6","EtFOSAA","5.30","ng/L","U","1.45","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",
""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","307-55-
1","PFDoA","5.30","ng/L","U","0.841","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","72629-94-
8","PFTrDA","5.30","ng/L","U","0.524","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","
"
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","376-06-
7","PFTeDA","5.30","ng/L","U","0.802","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",
""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C3-PFBS","13C3-
PFBS","159","%R","H","-99","NA","","IS","159","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C2-PFHxA","13C2-
PFHxA","124","%R","","-99","NA","","IS","124","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C4-PFHpA","13C4-
PFHpA","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Dilution","1700856-11","Vista","18O2-PFHxS","18O2-
PFHxS","127","%R","D","-99","NA","","IS","127","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C2-PFOA","13C2-
PFOA","116","%R","","-99","NA","","IS","116","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Dilution","1700856-11","Vista","13C8-PFOS","13C8-
PFOS","116","%R","D","-99","NA","","IS","116","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C5-PFNA","13C5-
PFNA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C2-PFDA","13C2-
PFDA","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","d3-MeFOSAA","d3-
MeFOSAA","122","%R","","-99","NA","","IS","122","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C2-PFUnA","13C2-
PFUnA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","d5-EtFOSAA","d5-
EtFOSAA","117","%R","","-99","NA","","IS","117","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C2-PFDoA","13C2-
PFDoA","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31BR-20170711","Modified EPA Method 537","Initial","1700856-11","Vista","13C2-PFTeDA","13C2-
PFTeDA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.118","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","375-73-
5","PFBS","161","ng/L","","1.91","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","307-24-
4","PFHxA","453","ng/L","","2.32","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","375-85-
9","PFHpA","186","ng/L","","0.630","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Dilution","1700856-12","Vista","355-46-
4","PFHxS","1040","ng/L","D","5.04","LOD","","TRG","","","42.6","LOQ","YES","-99","","0.117","0.001","26.7",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","335-67-

1","PFOA","118","ng/L","","0.694","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Dilution","1700856-12","Vista","1763-23-
1","PFOS","1470","ng/L","D","4.30","LOD","","TRG","","","42.6","LOQ","YES","-99","","0.117","0.001","26.7",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","375-95-
1","PFNA","31.3","ng/L","","0.863","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","335-76-
2","PFDA","3.22","ng/L","J","1.59","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","2355-31-
9","MeFOSAA","5.34","ng/L","U","1.76","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34"
,""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","2058-94-
8","PFUnA","5.34","ng/L","U","1.12","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","2991-50-
6","EtFOSAA","5.34","ng/L","U","1.46","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",
""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","307-55-
1","PFDoA","5.34","ng/L","U","0.844","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","72629-94-
8","PFTrDA","5.34","ng/L","U","0.526","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34","
"
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","376-06-
7","PFTeDA","5.34","ng/L","U","0.804","LOD","","TRG","","","8.52","LOQ","YES","-99","","0.117","0.001","5.34",
""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C3-PFBS","13C3-
PFBS","150","%R","","-99","NA","","IS","150","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C2-PFHxA","13C2-
PFHxA","130","%R","","-99","NA","","IS","130","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C4-PFHpA","13C4-
PFHpA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Dilution","1700856-12","Vista","18O2-PFHxS","18O2-
PFHxS","111","%R","D","-99","NA","","IS","111","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C2-PFOA","13C2-
PFOA","117","%R","","-99","NA","","IS","117","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Dilution","1700856-12","Vista","13C8-PFOS","13C8-
PFOS","106","%R","D","-99","NA","","IS","106","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C5-PFNA","13C5-
PFNA","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C2-PFDA","13C2-
PFDA","114","%R","","-99","NA","","IS","114","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","d3-MeFOSAA","d3-
MeFOSAA","120","%R","","-99","NA","","IS","120","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C2-PFUnA","13C2-
PFUnA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","d5-EtFOSAA","d5-
EtFOSAA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C2-PFDoA","13C2-
PFDoA","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","","0.117","0.001","-99",""
"MW-31S-20170711","Modified EPA Method 537","Initial","1700856-12","Vista","13C2-PFTeDA","13C2-
PFTeDA","91.5","%R","","-99","NA","","IS","91.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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"
,""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",
""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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","
"
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-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",
""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C3-PFBS","13C3-
PFBS","172","%R","H","-99","NA","","IS","172","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","134","%R","","-99","NA","","IS","134","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C4-PFHpA","13C4-
PFHpA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","18O2-PFHxS","18O2-
PFHxS","136","%R","","-99","NA","","IS","136","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C2-PFOA","13C2-
PFOA","123","%R","","-99","NA","","IS","123","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C8-PFOS","13C8-
PFOS","131","%R","","-99","NA","","IS","131","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C5-PFNA","13C5-
PFNA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C2-PFDA","13C2-
PFDA","116","%R","","-99","NA","","IS","116","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","123","%R","","-99","NA","","IS","123","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","127","%R","","-99","NA","","IS","127","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BLK1","Modified EPA Method 537","Initial","B7G0108-BLK1","Vista","13C2-PFTeDA","13C2-
PFTeDA","75.0","%R","","-99","NA","","IS","75.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","375-73-

5","PFBS","78.2","ng/L","","1.79","LOD","","TRG","97.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","307-24-
4","PFHxA","74.3","ng/L","","2.18","LOD","","TRG","92.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","375-85-
9","PFHpA","75.1","ng/L","","0.591","LOD","","TRG","93.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00
","",
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","355-46-
4","PFHxS","80.3","ng/L","","0.947","LOD","","TRG","100","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"
,"",
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","335-67-
1","PFOA","75.7","ng/L","","0.651","LOD","","TRG","94.6","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","1763-23-
1","PFOS","67.4","ng/L","","0.807","LOD","","TRG","84.3","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","375-95-
1","PFNA","71.7","ng/L","","0.810","LOD","","TRG","89.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","335-76-
2","PFDA","75.5","ng/L","","1.49","LOD","","TRG","94.3","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","2355-31-
9","MeFOSAA","74.0","ng/L","","1.65","LOD","","TRG","92.5","","8.00","LOQ","YES","80.0","","0.125","0.001","5.
00",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","2058-94-
8","PFUnA","71.3","ng/L","","1.05","LOD","","TRG","89.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","2991-50-
6","EtFOSAA","82.6","ng/L","","1.37","LOD","","TRG","103","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0
0",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","307-55-
1","PFDoA","77.1","ng/L","","0.792","LOD","","TRG","96.4","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00
","",
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","72629-94-
8","PFTrDA","64.1","ng/L","","0.494","LOD","","TRG","80.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0
0",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","376-06-
7","PFTeDA","77.2","ng/L","","0.755","LOD","","TRG","96.5","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0
0",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C3-PFBS","13C3-
PFBS","158","%R","H","-99","NA","","IS","158","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C4-PFHpA","13C4-
PFHpA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","18O2-PFHxS","18O2-
PFHxS","130","%R","","-99","NA","","IS","130","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C2-PFOA","13C2-
PFOA","125","%R","","-99","NA","","IS","125","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C8-PFOS","13C8-
PFOS","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C5-PFNA","13C5-

PFNA","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C2-PFDA","13C2-
PFDA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C2-PFUnA","13C2-
PFUnA","95.1","%R","","-99","NA","","IS","95.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","96.7","%R","","-99","NA","","IS","96.7","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C2-PFDoA","13C2-
PFDoA","86.2","%R","","-99","NA","","IS","86.2","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-BS1","Modified EPA Method 537","Initial","B7G0108-BS1","Vista","13C2-PFTeDA","13C2-
PFTeDA","47.2","%R","H","-99","NA","","IS","47.2","","-99","NA","YES","100","","0.125","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","375-73-
5","PFBS","81.6","ng/L","","1.84","LOD","","TRG","99.2","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","307-24-
4","PFHxA","78.8","ng/L","","2.24","LOD","","TRG","95.8","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","375-85-
9","PFHpA","78.2","ng/L","","0.607","LOD","","TRG","95.1","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","355-46-
4","PFHxS","78.3","ng/L","","0.973","LOD","","TRG","95.2","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","335-67-
1","PFOA","80.1","ng/L","","0.669","LOD","","TRG","97.4","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","1763-23-
1","PFOS","66.1","ng/L","","0.829","LOD","","TRG","80.4","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","375-95-
1","PFNA","79.5","ng/L","","0.833","LOD","","TRG","96.7","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","335-76-
2","PFDA","78.3","ng/L","","1.53","LOD","","TRG","95.2","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","2355-31-
9","MeFOSAA","80.5","ng/L","","1.70","LOD","","TRG","97.9","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","2058-94-
8","PFUnA","76.8","ng/L","","1.08","LOD","","TRG","93.1","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","2991-50-
6","EtFOSAA","73.7","ng/L","","1.41","LOD","","TRG","89.7","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","307-55-
1","PFDoA","77.1","ng/L","","0.814","LOD","","TRG","93.8","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","72629-94-
8","PFTrDA","66.7","ng/L","","0.508","LOD","","TRG","81.1","","8.22","LOQ","YES","82.2","EFFLUENT-
20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","376-06-
7","PFTeDA","77.3","ng/L","","0.776","LOD","","TRG","94.0","","8.22","LOQ","YES","82.2","EFFLUENT-

20170710","0.122","0.001","5.12",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C3-PFBS","13C3-PFBS","162","%R","H","-99","NA","","IS","162","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C2-PFHxA","13C2-PFHxA","125","%R","","-99","NA","","IS","125","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C4-PFHpA","13C4-PFHpA","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","18O2-PFHxS","18O2-PFHxS","135","%R","","-99","NA","","IS","135","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C2-PFOA","13C2-PFOA","118","%R","","-99","NA","","IS","118","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C8-PFOS","13C8-PFOS","145","%R","","-99","NA","","IS","145","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C5-PFNA","13C5-PFNA","114","%R","","-99","NA","","IS","114","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C2-PFDA","13C2-PFDA","122","%R","","-99","NA","","IS","122","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","d3-MeFOSAA","d3-MeFOSAA","124","%R","","-99","NA","","IS","124","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C2-PFUnA","13C2-PFUnA","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","d5-EtFOSAA","d5-EtFOSAA","125","%R","","-99","NA","","IS","125","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C2-PFDoA","13C2-PFDoA","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MS1","Modified EPA Method 537","Initial","B7G0108-MS1","Vista","13C2-PFTeDA","13C2-PFTeDA","56.8","%R","","-99","NA","","IS","56.8","","-99","NA","YES","100","EFFLUENT-20170710","0.122","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","375-73-5","PFBS","82.5","ng/L","","1.89","LOD","","TRG","97.8","1.42","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","307-24-4","PFHxA","77.8","ng/L","","2.30","LOD","","TRG","92.2","3.83","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","375-85-9","PFHpA","75.1","ng/L","","0.623","LOD","","TRG","89.0","6.63","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","355-46-4","PFHxS","74.1","ng/L","","0.999","LOD","","TRG","87.7","8.20","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","335-67-1","PFOA","87.4","ng/L","","0.687","LOD","","TRG","103","5.59","8.44","LOQ","YES","84.4","EFFLUENT-

20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","1763-23-1","PFOS","67.8","ng/L","","0.851","LOD","","TRG","80.3","0.124","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","375-95-1","PFNA","83.4","ng/L","","0.855","LOD","","TRG","98.9","2.25","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","335-76-2","PFDA","74.8","ng/L","","1.57","LOD","","TRG","88.6","7.18","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","2355-31-9","MeFOSAA","86.5","ng/L","","1.74","LOD","","TRG","103","5.08","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","2058-94-8","PFUnA","81.9","ng/L","","1.11","LOD","","TRG","96.7","3.79","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","2991-50-6","EtFOSAA","82.0","ng/L","","1.45","LOD","","TRG","97.2","8.03","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","307-55-1","PFDoA","75.6","ng/L","","0.836","LOD","","TRG","89.6","4.58","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","72629-94-8","PFTrDA","66.4","ng/L","","0.521","LOD","","TRG","78.7","3.00","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","376-06-7","PFTeDA","78.9","ng/L","","0.796","LOD","","TRG","93.5","0.533","8.44","LOQ","YES","84.4","EFFLUENT-20170710","0.118","0.001","5.30",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C3-PFBS","13C3-PFBS","154","%R","H","-99","NA","","IS","154","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C2-PFHxA","13C2-PFHxA","131","%R","","-99","NA","","IS","131","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C4-PFHpA","13C4-PFHpA","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","18O2-PFHxS","18O2-PFHxS","140","%R","","-99","NA","","IS","140","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C2-PFOA","13C2-PFOA","116","%R","","-99","NA","","IS","116","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C8-PFOS","13C8-PFOS","132","%R","","-99","NA","","IS","132","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C5-PFNA","13C5-PFNA","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C2-PFDA","13C2-PFDA","116","%R","","-99","NA","","IS","116","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","d3-MeFOSAA","d3-MeFOSAA","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","EFFLUENT-

20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C2-PFUnA","13C2-PFUnA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","d5-EtFOSAA","d5-EtFOSAA","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C2-PFDoA","13C2-PFDoA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"B7G0108-MSD1","Modified EPA Method 537","Initial","B7G0108-MSD1","Vista","13C2-PFTeDA","13C2-PFTeDA","58.2","%R","","-99","NA","","IS","58.2","","-99","NA","YES","100","EFFLUENT-20170710","0.118","0.001","-99",""
"NAWC Trenton","NAWC Trenton","INFLUENT-20170710","07/10/2017 12:05","AQ","1700856-01","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 20:53","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","DUP05-20170710","07/10/2017 12:00","AQ","1700856-02","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 21:04","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MID-POINT-20170710","07/10/2017 12:30","AQ","1700856-03","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 21:14","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","EFFLUENT-20170710","07/10/2017 12:45","AQ","1700856-04","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 21:25","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-37S-20170711","07/11/2017 15:00","AQ","1700856-05","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 21:57","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-37S-20170711","07/11/2017 15:00","AQ","1700856-05","NM","","0.20","Modified EPA Method 537","METHOD","Dilution","07/24/2017 10:51","07/28/2017 07:00","Vista","COA","WET","NA","10","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","ERB-01-20170711","07/11/2017 13:50","AQ","1700856-06","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 22:08","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","11-MW-1-20170710","07/10/2017 15:35","AQ","1700856-07","NM","","0.20","Modified EPA Method 537","METHOD","Dilution","07/24/2017 10:51","07/28/2017 07:11","Vista","COA","WET","NA","10","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","11-MW-1-20170710","07/10/2017 15:35","AQ","1700856-07","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 22:19","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","LF-MW-54BR-20170710","07/10/2017 15:10","AQ","1700856-08","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017 22:30","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-48BR-20170711","07/11/2017 09:55","AQ","1700856-

09","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
22:40","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-34S-20170711","07/11/2017 14:40","AQ","1700856-
10","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
22:51","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-31BR-20170711","07/11/2017 11:50","AQ","1700856-
11","NM","","0.20","Modified EPA Method 537","METHOD","Dilution","07/24/2017 10:51","07/28/2017
07:22","Vista","COA","WET","NA","5","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-31BR-20170711","07/11/2017 11:50","AQ","1700856-
11","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
23:34","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-31S-20170711","07/11/2017 12:00","AQ","1700856-
12","NM","","0.20","Modified EPA Method 537","METHOD","Dilution","07/24/2017 10:51","07/31/2017
18:34","Vista","COA","WET","NA","5","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-31S-20170711","07/11/2017 12:00","AQ","1700856-
12","NM","","0.20","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
23:45","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","07/12/2017 09:12","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0108-BLK1","01/01/1900 00:00","AQ","B7G0108-
BLK1","MB","","-99","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
20:43","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0108-BS1","01/01/1900 00:00","AQ","B7G0108-
BS1","LCS","","-99","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
20:21","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0108-MS1","01/01/1900 00:00","AQ","B7G0108-
MS1","MS","","-99","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
21:36","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0108-MSD1","01/01/1900 00:00","AQ","B7G0108-
MSD1","MSD","","-99","Modified EPA Method 537","METHOD","Initial","07/24/2017 10:51","07/25/2017
21:47","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0108","B7G0108","NA","S7G0065","1700856","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 1700856

SAMPLES: 12 / Groundwater / PFAS

11-MW-1-20170710	LF-MW-54BR-20170710	MW-37S-20170711
INFLUENT-20170710	MW-31BR-20170711	MW-48BR-20170711
MID-POINT-20170710	MW-31S-20170711	DUP05-20170710
EFFLUENT-20170710	MW-34S-20170711	ERB-20170711

Overview

The sample set for NAWC Trenton, SDG 1700856 consists of eleven (11) groundwater environmental samples and one (1) field quality control blank (designated ERB-). One field duplicate pair (DUP05-20170710/INFLUENT-20170710) was included in this SDG. The samples were analyzed for polyfluoroalkyl substances (PFAS).

The samples were collected by Tetra Tech on July 10 and 11, 2017 and analyzed by Vista Analytical. 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 sample MW-37S-20170711. The non-detected results for PFTeDA in these samples were qualified as estimated (UJ).

The recovery of internal standard 13C2-PFBS exceeded QC limit for samples 11-MW-1-20170710, LF-MW-54BR-20170711, MW-31BR-20170711, MW-34S-20170711, and MW-48BR-20170711. The positive PFBS results for these samples were qualified as biased high (J+).

Detected results reported below the Limit of Quantitation (LOQ) but above the Detection Limit (DL) were qualified as estimated (J).

Notes

The recovery of internal standard 13C2-PFBS exceeded QC limit for samples EFFLUENT-20170710, ERB-01-20170711, and MID-POINT-20170710. No action was taken because the results for PFBS for these samples were non-detect.

Dilutions were required for the following analytes because the concentration in the original analysis exceeded the calibration range of the instrument.

PFHxS	MW-37S-20170711	10X
	11-MW-1-20170710	10X
	MW-31BR-20170711	5X
	MW-31S-20170711	5X
PFOS	MW-37S-20170711	10X
	11-MW-1-20170710	10X
	MW-31BR-20170711	5X
	MW-31S-20170711	5X

The field reagent blank (ERB-20170710) was free of contamination. Please note that “ERB” was incorrectly listed on the COC and was supposed to be “FRB” for field reagent blank.

All analyses were conducted within the hold times specified by the site specific Sampling and Analysis Plan (SAP) and the analytical method.

Sample LF-MW-54BR-20170710 contained particulate and was centrifuged prior to extraction.

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: 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

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

PROJ_NO: 08005-WE08	NSAMPLE	11-MW-1-20170710			DUP05-20170710			EFFLUENT-20170710			ERB-01-20170711		
SDG: 1700856	LAB_ID	1700856-07			1700856-02			1700856-04			1700856-06		
FRACTION: PFAS	SAMP_DATE	7/10/2017			7/10/2017			7/10/2017			7/11/2017		
MEDIA: WATER	QC_TYPE	NM			FD			NM			FB		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				INFLUENT-20170710								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.43	U		5.39	U		5.17	U		5.21	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.43	U		5.39	U		5.17	U		5.21	U	
PENTADECAFLUOROOCTANOIC ACID		151			11.5			5.17	U		5.21	U	
PERFLUOROBUTANESULFONIC ACID		146	J+	N	14.3			5.17	U		5.21	U	
PERFLUORODECANOIC ACID		4.61	J	P	5.39	U		5.17	U		5.21	U	
PERFLUORODODECANOIC ACID		5.43	U		5.39	U		5.17	U		5.21	U	
PERFLUOROHEPTANOIC ACID		201			21.3			5.17	U		5.21	U	
PERFLUOROHEXANESULFONIC ACID		1360			62.8			5.17	U		5.21	U	
PERFLUOROHEXANOIC ACID		687			63.9			5.17	U		5.21	U	
PERFLUORONONANOIC ACID		18.2			0.887	J	P	5.17	U		5.21	U	
PERFLUOROOCTANE SULFONIC ACID		3400			63.5			5.17	U		5.21	U	
PERFLUOROTETRADECANOIC ACID		5.43	U		5.39	U		5.17	U		5.21	U	
PERFLUOROTRIDECANOIC ACID		5.43	U		5.39	U		5.17	U		5.21	U	
PERFLUOROUNDECANOIC ACID		5.43	U		5.39	U		5.17	U		5.21	U	

PROJ_NO: 08005-WE08	NSAMPLE	INFLUENT-20170710			LF-MW-54BR-20170710			MID-POINT-20170710			MW-31BR-20170711		
SDG: 1700856	LAB_ID	1700856-01			1700856-08			1700856-03			1700856-11		
FRACTION: PFAS	SAMP_DATE	7/10/2017			7/10/2017			7/10/2017			7/11/2017		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	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		5.17	U		5.34	U		5.34	U		5.3	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.17	U		5.34	U		5.34	U		5.3	U	
PENTADECAFLUOROOCTANOIC ACID		10.8			95.9			5.34	U		123		
PERFLUOROBUTANESULFONIC ACID		14.4			16.7	J+	N	5.34	U		175	J+	N
PERFLUORODECANOIC ACID		5.17	U		5.34	U		5.34	U		5.8	J	P
PERFLUORODODECANOIC ACID		5.17	U		5.34	U		5.34	U		5.3	U	
PERFLUOROHEPTANOIC ACID		21.7			8.14	J	P	5.34	U		248		
PERFLUOROHEXANESULFONIC ACID		58.6			153			5.34	U		1300		
PERFLUOROHEXANOIC ACID		63.1			35.2			5.34	U		695		
PERFLUORONONANOIC ACID		5.17	U		5.34	U		5.34	U		27		
PERFLUOROOCTANE SULFONIC ACID		62			792			5.34	U		1830		
PERFLUOROTETRADECANOIC ACID		5.17	U		5.34	U		5.34	U		5.3	U	
PERFLUOROTRIDECANOIC ACID		5.17	U		5.34	U		5.34	U		5.3	U	
PERFLUOROUNDECANOIC ACID		5.17	U		5.34	U		5.34	U		5.3	U	

PROJ_NO: 08005-WE08	NSAMPLE	MW-31S-20170711			MW-34S-20170711			MW-37S-20170711			MW-48BR-20170711		
SDG: 1700856	LAB_ID	1700856-12			1700856-10			1700856-05			1700856-09		
FRACTION: PFAS	SAMP_DATE	7/11/2017			7/11/2017			7/11/2017			7/11/2017		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	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		5.34	U		5.3	U		5.34	U		5.17	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.34	U		5.3	U		5.34	U		5.17	U	
PENTADECAFLUOROOCTANOIC ACID		118			108			146			55.3		
PERFLUOROBUTANESULFONIC ACID		161			33.1	J+	N	161			87.6	J+	N
PERFLUORODECANOIC ACID		3.22	J	P	5.3	U		5.34	U		5.17	U	
PERFLUORODODECANOIC ACID		5.34	U		5.3	U		5.34	U		5.17	U	
PERFLUOROHEPTANOIC ACID		186			11.9			189			74.4		
PERFLUOROHEXANESULFONIC ACID		1040			247			1450			363		
PERFLUOROHEXANOIC ACID		453			49.3			691			247		
PERFLUORONONANOIC ACID		31.3			5.3	U		8.29	J	P	7.45	J	P
PERFLUOROOCTANE SULFONIC ACID		1470			728			2180			390		
PERFLUOROTETRADECANOIC ACID		5.34	U		5.3	U		5.34	UJ	N	5.17	U	
PERFLUOROTRIDECANOIC ACID		5.34	U		5.3	U		5.34	U		5.17	U	
PERFLUOROUNDECANOIC ACID		5.34	U		5.3	U		5.34	U		5.17	U	

Appendix B

Results as Reported by the Laboratory

Sample ID: INFLUENT-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:05
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700856-01 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 20:53 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	14.4	1.85	5.17	8.26	
PFHxA	63.1	2.25	5.17	8.26	
PFHpA	21.7	0.611	5.17	8.26	
PFHxS	58.6	0.978	5.17	8.26	
PFOA	10.8	0.673	5.17	8.26	
PFOS	62.0	0.834	5.17	8.26	
PFNA	ND	0.837	5.17	8.26	
PFDA	ND	1.54	5.17	8.26	
MeFOSAA	ND	1.70	5.17	8.26	
PFUnA	ND	1.08	5.17	8.26	
EtFOSAA	ND	1.42	5.17	8.26	
PFDoA	ND	0.818	5.17	8.26	
PFTrDA	ND	0.510	5.17	8.26	
PFTeDA	ND	0.780	5.17	8.26	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	148	50 - 150	
IS	13C2-PFHxA	120	50 - 150	
IS	13C4-PFHpA	102	50 - 150	
IS	18O2-PFHxS	150	50 - 150	
IS	13C2-PFOA	135	50 - 150	
IS	13C8-PFOS	134	50 - 150	
IS	13C5-PFNA	125	50 - 150	
IS	13C2-PFDA	126	50 - 150	
IS	d3-MeFOSAA	99.9	50 - 150	
IS	13C2-PFUnA	86.5	50 - 150	
IS	d5-EtFOSAA	98.6	50 - 150	
IS	13C2-PFDoA	111	50 - 150	
IS	13C2-PFTeDA	103	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: DUP05-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:00
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.116 L

Laboratory Data

Lab Sample: 1700856-02 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:04 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	14.3	1.92	5.39	8.59	
PFHxA	63.9	2.34	5.39	8.59	
PFHpA	21.3	0.634	5.39	8.59	
PFHxS	62.8	1.02	5.39	8.59	
PFOA	11.5	0.699	5.39	8.59	
PFOS	63.5	0.866	5.39	8.59	
PFNA	0.887	0.869	5.39	8.59	J
PFDA	ND	1.60	5.39	8.59	
MeFOSAA	ND	1.77	5.39	8.59	
PFUnA	ND	1.13	5.39	8.59	
EtFOSAA	ND	1.47	5.39	8.59	
PFDoA	ND	0.850	5.39	8.59	
PFTrDA	ND	0.530	5.39	8.59	
PFTeDA	ND	0.810	5.39	8.59	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	149	50 - 150	
IS	13C2-PFHxA	116	50 - 150	
IS	13C4-PFHpA	102	50 - 150	
IS	18O2-PFHxS	138	50 - 150	
IS	13C2-PFOA	110	50 - 150	
IS	13C8-PFOS	131	50 - 150	
IS	13C5-PFNA	116	50 - 150	
IS	13C2-PFDA	125	50 - 150	
IS	d3-MeFOSAA	120	50 - 150	
IS	13C2-PFUnA	95.7	50 - 150	
IS	d5-EtFOSAA	119	50 - 150	
IS	13C2-PFDoA	130	50 - 150	
IS	13C2-PFTeDA	112	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: MID-POINT-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:30
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-03 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:14 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.91	5.34	8.52	
PFHxA	ND	2.32	5.34	8.52	
PFHpA	ND	0.630	5.34	8.52	
PFHxS	ND	1.01	5.34	8.52	
PFOA	ND	0.694	5.34	8.52	
PFOS	ND	0.860	5.34	8.52	
PFNA	ND	0.863	5.34	8.52	
PFDA	ND	1.59	5.34	8.52	
MeFOSAA	ND	1.76	5.34	8.52	
PFUnA	ND	1.12	5.34	8.52	
EtFOSAA	ND	1.46	5.34	8.52	
PFDoA	ND	0.844	5.34	8.52	
PFTrDA	ND	0.526	5.34	8.52	
PFTeDA	ND	0.804	5.34	8.52	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	181	50 - 150	H
IS	13C2-PFHxA	135	50 - 150	
IS	13C4-PFHpA	113	50 - 150	
IS	18O2-PFHxS	121	50 - 150	
IS	13C2-PFOA	125	50 - 150	
IS	13C8-PFOS	139	50 - 150	
IS	13C5-PFNA	119	50 - 150	
IS	13C2-PFDA	121	50 - 150	
IS	d3-MeFOSAA	124	50 - 150	
IS	13C2-PFUnA	113	50 - 150	
IS	d5-EtFOSAA	124	50 - 150	
IS	13C2-PFDoA	106	50 - 150	
IS	13C2-PFTeDA	64.9	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: EFFLUENT-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 12:45
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700856-04 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:25 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.85	5.17	8.28	
PFHxA	ND	2.26	5.17	8.28	
PFHpA	ND	0.611	5.17	8.28	
PFHxS	ND	0.980	5.17	8.28	
PFOA	ND	0.673	5.17	8.28	
PFOS	ND	0.835	5.17	8.28	
PFNA	ND	0.838	5.17	8.28	
PFDA	ND	1.54	5.17	8.28	
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	160	50 - 150	H
IS	13C2-PFHxA	122	50 - 150	
IS	13C4-PFHpA	103	50 - 150	
IS	18O2-PFHxS	118	50 - 150	
IS	13C2-PFOA	109	50 - 150	
IS	13C8-PFOS	129	50 - 150	
IS	13C5-PFNA	113	50 - 150	
IS	13C2-PFDA	122	50 - 150	
IS	d3-MeFOSAA	106	50 - 150	
IS	13C2-PFUnA	95.9	50 - 150	
IS	d5-EtFOSAA	102	50 - 150	
IS	13C2-PFDoA	112	50 - 150	
IS	13C2-PFTeDA	102	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: MW-37S-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 15:00
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-05 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 21:57 Column: BEH C18
28-Jul-17 07:00 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	161	1.91	5.34	8.55	
PFHxA	691	2.33	5.34	8.55	
PFHpA	189	0.632	5.34	8.55	
PFHxS	1450	10.1	53.4	85.5	D
PFOA	146	0.696	5.34	8.55	
PFOS	2180	8.62	53.4	85.5	D
PFNA	8.29	0.866	5.34	8.55	J
PFDA	ND	1.59	5.34	8.55	
MeFOSAA	ND	1.76	5.34	8.55	
PFUnA	ND	1.12	5.34	8.55	
EtFOSAA	ND	1.46	5.34	8.55	
PFDoA	ND	0.846	5.34	8.55	
PFTrDA	ND	0.528	5.34	8.55	
PFTeDA	ND	0.807	5.34	8.55	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	141	50 - 150	
IS	13C2-PFHxA	107	50 - 150	
IS	13C4-PFHpA	92.0	50 - 150	
IS	18O2-PFHxS	97.7	50 - 150	D
IS	13C2-PFOA	89.7	50 - 150	
IS	13C8-PFOS	95.3	50 - 150	D
IS	13C5-PFNA	88.2	50 - 150	
IS	13C2-PFDA	102	50 - 150	
IS	d3-MeFOSAA	117	50 - 150	
IS	13C2-PFUnA	102	50 - 150	
IS	d5-EtFOSAA	121	50 - 150	
IS	13C2-PFDoA	102	50 - 150	
IS	13C2-PFTeDA	42.5	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: ERB-01-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 13:50
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1700856-06 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:08 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.86	5.21	8.30	
PFHxA	ND	2.26	5.21	8.30	
PFHpA	ND	0.613	5.21	8.30	
PFHxS	ND	0.983	5.21	8.30	
PFOA	ND	0.676	5.21	8.30	
PFOS	ND	0.838	5.21	8.30	
PFNA	ND	0.841	5.21	8.30	
PFDA	ND	1.55	5.21	8.30	
MeFOSAA	ND	1.71	5.21	8.30	
PFUnA	ND	1.09	5.21	8.30	
EtFOSAA	ND	1.42	5.21	8.30	
PFDoA	ND	0.822	5.21	8.30	
PFTrDA	ND	0.513	5.21	8.30	
PFTeDA	ND	0.784	5.21	8.30	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	169	50 - 150	H
IS	13C2-PFHxA	141	50 - 150	
IS	13C4-PFHpA	114	50 - 150	
IS	18O2-PFHxS	150	50 - 150	
IS	13C2-PFOA	126	50 - 150	
IS	13C8-PFOS	142	50 - 150	
IS	13C5-PFNA	121	50 - 150	
IS	13C2-PFDA	128	50 - 150	
IS	d3-MeFOSAA	131	50 - 150	
IS	13C2-PFUnA	118	50 - 150	
IS	d5-EtFOSAA	121	50 - 150	
IS	13C2-PFDoA	127	50 - 150	
IS	13C2-PFTeDA	130	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: 11-MW-1-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 15:35
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.115 L

Laboratory Data

Lab Sample: 1700856-07 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:19 Column: BEH C18
28-Jul-17 07:11 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	146	1.95	5.43	8.71	
PFHxA	687	2.37	5.43	8.71	
PFHpA	201	0.643	5.43	8.71	
PFHxS	1360	10.3	54.3	87.1	D
PFOA	151	0.709	5.43	8.71	
PFOS	3400	8.79	54.3	87.1	D
PFNA	18.2	0.882	5.43	8.71	
PFDA	4.61	1.62	5.43	8.71	J
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	168	50 - 150	H
IS	13C2-PFHxA	134	50 - 150	
IS	13C4-PFHpA	106	50 - 150	
IS	18O2-PFHxS	141	50 - 150	D
IS	13C2-PFOA	117	50 - 150	
IS	13C8-PFOS	112	50 - 150	D
IS	13C5-PFNA	110	50 - 150	
IS	13C2-PFDA	121	50 - 150	
IS	d3-MeFOSAA	124	50 - 150	
IS	13C2-PFUnA	132	50 - 150	
IS	d5-EtFOSAA	130	50 - 150	
IS	13C2-PFDoA	134	50 - 150	
IS	13C2-PFTeDA	117	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: LF-MW-54BR-20170710

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 10-Jul-2017 15:10
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-08 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:30 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	16.7	1.91	5.34	8.54	
PFHxA	35.2	2.33	5.34	8.54	
PFHpA	8.14	0.631	5.34	8.54	J
PFHxS	153	1.01	5.34	8.54	
PFOA	95.9	0.695	5.34	8.54	
PFOS	792	0.861	5.34	8.54	
PFNA	ND	0.864	5.34	8.54	
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	0.845	5.34	8.54	
PFTrDA	ND	0.527	5.34	8.54	
PFTeDA	ND	0.806	5.34	8.54	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	173	50 - 150	H
IS	13C2-PFHxA	136	50 - 150	
IS	13C4-PFHpA	109	50 - 150	
IS	18O2-PFHxS	141	50 - 150	
IS	13C2-PFOA	130	50 - 150	
IS	13C8-PFOS	137	50 - 150	
IS	13C5-PFNA	126	50 - 150	
IS	13C2-PFDA	133	50 - 150	
IS	d3-MeFOSAA	111	50 - 150	
IS	13C2-PFUnA	95.3	50 - 150	
IS	d5-EtFOSAA	108	50 - 150	
IS	13C2-PFDoA	107	50 - 150	
IS	13C2-PFTeDA	77.1	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: MW-48BR-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 9:55
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700856-09 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 22:40 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	87.6	1.85	5.17	8.28	
PFHxA	247	2.26	5.17	8.28	
PFHpA	74.4	0.611	5.17	8.28	
PFHxS	363	0.980	5.17	8.28	
PFOA	55.3	0.673	5.17	8.28	
PFOS	390	0.835	5.17	8.28	
PFNA	7.45	0.838	5.17	8.28	J
PFDA	ND	1.54	5.17	8.28	
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	164	50 - 150	H
IS	13C2-PFHxA	123	50 - 150	
IS	13C4-PFHpA	108	50 - 150	
IS	18O2-PFHxS	138	50 - 150	
IS	13C2-PFOA	120	50 - 150	
IS	13C8-PFOS	120	50 - 150	
IS	13C5-PFNA	110	50 - 150	
IS	13C2-PFDA	135	50 - 150	
IS	d3-MeFOSAA	98.3	50 - 150	
IS	13C2-PFUnA	95.5	50 - 150	
IS	d5-EtFOSAA	94.8	50 - 150	
IS	13C2-PFDoA	100	50 - 150	
IS	13C2-PFTeDA	88.5	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: MW-34S-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 14:40
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.118 L

Laboratory Data

Lab Sample: 1700856-10
QC Batch: B7G0108
Date Analyzed: 25-Jul-17 22:51 Column: BEH C18
Date Received: 12-Jul-2017 9:12
Date Extracted: 24-Jul-2017 10:51

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	33.1	1.89	5.30	8.47	
PFHxA	49.3	2.31	5.30	8.47	
PFHpA	11.9	0.625	5.30	8.47	
PFHxS	247	1.00	5.30	8.47	
PFOA	108	0.689	5.30	8.47	
PFOS	728	0.854	5.30	8.47	
PFNA	ND	0.857	5.30	8.47	
PFDA	ND	1.58	5.30	8.47	
MeFOSAA	ND	1.75	5.30	8.47	
PFUnA	ND	1.11	5.30	8.47	
EtFOSAA	ND	1.45	5.30	8.47	
PFDoA	ND	0.838	5.30	8.47	
PFTrDA	ND	0.523	5.30	8.47	
PFTeDA	ND	0.799	5.30	8.47	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	155	50 - 150	H
IS	13C2-PFHxA	119	50 - 150	
IS	13C4-PFHpA	98.1	50 - 150	
IS	18O2-PFHxS	129	50 - 150	
IS	13C2-PFOA	109	50 - 150	
IS	13C8-PFOS	112	50 - 150	
IS	13C5-PFNA	107	50 - 150	
IS	13C2-PFDA	108	50 - 150	
IS	d3-MeFOSAA	109	50 - 150	
IS	13C2-PFUnA	109	50 - 150	
IS	d5-EtFOSAA	104	50 - 150	
IS	13C2-PFDoA	109	50 - 150	
IS	13C2-PFTeDA	108	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: MW-31BR-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 11:50
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.118 L

Laboratory Data

Lab Sample: 1700856-11
QC Batch: B7G0108
Date Analyzed: 25-Jul-17 23:34 Column: BEH C18
28-Jul-17 07:22 Column: BEH C18
Date Received: 12-Jul-2017 9:12
Date Extracted: 24-Jul-2017 10:51

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	175	1.90	5.30	8.49	
PFHxA	695	2.31	5.30	8.49	
PFHpA	248	0.627	5.30	8.49	
PFHxS	1300	5.03	26.5	42.5	D
PFOA	123	0.691	5.30	8.49	
PFOS	1830	4.28	26.5	42.5	D
PFNA	27.0	0.860	5.30	8.49	
PFDA	5.80	1.58	5.30	8.49	J
MeFOSAA	ND	1.75	5.30	8.49	
PFUnA	ND	1.11	5.30	8.49	
EtFOSAA	ND	1.45	5.30	8.49	
PFDoA	ND	0.841	5.30	8.49	
PFTrDA	ND	0.524	5.30	8.49	
PFTeDA	ND	0.802	5.30	8.49	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	159	50 - 150	H
IS	13C2-PFHxA	124	50 - 150	
IS	13C4-PFHpA	102	50 - 150	
IS	18O2-PFHxS	127	50 - 150	D
IS	13C2-PFOA	116	50 - 150	
IS	13C8-PFOS	116	50 - 150	D
IS	13C5-PFNA	108	50 - 150	
IS	13C2-PFDA	112	50 - 150	
IS	d3-MeFOSAA	122	50 - 150	
IS	13C2-PFUnA	109	50 - 150	
IS	d5-EtFOSAA	117	50 - 150	
IS	13C2-PFDoA	112	50 - 150	
IS	13C2-PFTeDA	111	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: MW-31S-20170711

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 11-Jul-2017 12:00
Location: Trenton

Sample Data

Matrix: Aqueous
Sample Size: 0.117 L

Laboratory Data

Lab Sample: 1700856-12 Date Received: 12-Jul-2017 9:12
QC Batch: B7G0108 Date Extracted: 24-Jul-2017 10:51
Date Analyzed: 25-Jul-17 23:45 Column: BEH C18
31-Jul-17 18:34 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	161	1.91	5.34	8.52	
PFHxA	453	2.32	5.34	8.52	
PFHpA	186	0.630	5.34	8.52	
PFHxS	1040	5.04	26.7	42.6	D
PFOA	118	0.694	5.34	8.52	
PFOS	1470	4.30	26.7	42.6	D
PFNA	31.3	0.863	5.34	8.52	
PFDA	3.22	1.59	5.34	8.52	J
MeFOSAA	ND	1.76	5.34	8.52	
PFUnA	ND	1.12	5.34	8.52	
EtFOSAA	ND	1.46	5.34	8.52	
PFDoA	ND	0.844	5.34	8.52	
PFTrDA	ND	0.526	5.34	8.52	
PFTeDA	ND	0.804	5.34	8.52	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	150	50 - 150	
IS	13C2-PFHxA	130	50 - 150	
IS	13C4-PFHpA	109	50 - 150	
IS	18O2-PFHxS	111	50 - 150	D
IS	13C2-PFOA	117	50 - 150	
IS	13C8-PFOS	106	50 - 150	D
IS	13C5-PFNA	112	50 - 150	
IS	13C2-PFDA	114	50 - 150	
IS	d3-MeFOSAA	120	50 - 150	
IS	13C2-PFUnA	109	50 - 150	
IS	d5-EtFOSAA	111	50 - 150	
IS	13C2-PFDoA	119	50 - 150	
IS	13C2-PFTeDA	91.5	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.

Appendix C

Support Documentation

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1700856 Temp 0.2 °C
Storage ID: WR-2 Storage Secured: Yes ☒ No ☐

TAT: (Check One)
Standard ◉ 21 days
Rush (surcharge may apply)
◯ 14 days ◯ 7 days Specify:

Project I.D.: **NAWC Trenton** P.O. #: **1132341-WR3** Sampler: **Chuck Myer** (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Tetra Tech	Foster Plaza VII	661 Anderson Drive	Pittsburgh	PA	15220	412-921-7090	412-921-4040

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Chuck Myer	7/11/2017	18:00	Beth Benedict B Benedict	07/12/17	0918
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

See "Sample Log-in Checklist" for additional sample information

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

Method of Shipment: **FedEx**

Tracking No.:

ATTN: **Sample Custodian**

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1614 PBDE	EPA1614 PAH	CARB429 WHO-29	PFOS IIL EPA Method 537
INFLUENT-20170710	7/10/17	12:05	Trenton	2	PJ	AQ															X	
DUP05-20170710	7/10/17	12:00	Trenton	2	PJ	AQ															X	DUP
MID-POINT-20170710	7/10/17	12:30	Trenton	2	PJ	AQ															X	
EFFLUENT-20170710	7/10/17	12:45	Trenton	6	PJ	AQ															X	MSD
MW-37S-20170711	7/11/17	15:00	Trenton	2	PJ	AQ															X	
ERB-01-20170711	7/11/17	13:50	Trenton	2	PJ	AQ															X	
11-MW-1-20170710	7/10/17	15:35	Trenton	2	PJ	AQ															X	
LF-MW-54BR-20170710	7/10/17	15:10	Trenton	2	PJ	AQ															X	
MW-48BR-20170711	7/11/17	09:55	Trenton	2	PJ	AQ															X	
MW-34S-20170711	7/11/17	14:40	Trenton	2	PJ	AQ															X	

Special Instructions/Comments:
FedEx 6612 1992 6853

SEND DOCUMENTATION AND RESULTS TO:

Name: **Mary Mang**
Company: **Tetra Tech**
Address: **234 Mall Blvd Suite 260**
City: **King of Prussia** State: **PA** Zip: **19406**
Phone: **610-382-1174** Fax: **610-491-9645**
Email: **mary.mang@tetratech.com**

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

***Bottle Preservative Type:** ☐ T = Thiosulfate,
☐ O = Other

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

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1700856 Temp 0.2 °C
Storage ID: WR-2 Storage Secured: Yes [X] No [ ]

TAT: (Check One)
Standard (•) 21 days
Rush (surcharge may apply)
( ) 14 days ( ) 7 days Specify:

Project I.D.: **NAWC Trenton** P.O. #: **1132341-WR3** Sampler: **Chuck Myer** (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Tetra Tech	**Foster Plaza VII**	**661 Anderson Drive**	**Pittsburgh**	**PA**	**15220**	**412-921-7090**	**412-921-4040**

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Chuck Myer	**7/11/2017**	**18:00**	Bethanie L. Benedict	07/12/17	0919
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

See "Sample Log-in Checklist" for additional sample information

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

ATTN: **Sample Custodian**

Method of Shipment: **FedEx**

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1614 PBDE	CARB429 PAH	CARB429 WHO-29	PFOS 14 EPA Method 537
MW-31BR-20170711	7/11/17	11:50	Trenton	2	PJ	AQ															X	
MW-31S-20170711	7/11/17	12:00	Trenton	2	PJ	AQ															X	
																					X	

Special Instructions/Comments:
FedEx 6612 1992 6853

SEND DOCUMENTATION AND RESULTS TO:

Name: **Mary Mang**
Company: **Tetra Tech**
Address: **234 Mall Blvd Suite 260**
City: **King of Prussia** State: **PA** Zip: **19406**
Phone: **610-382-1174** Fax: **610-491-9645**
Email: **mary.mang@tetratech.com**

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

***Bottle Preservative Type:** [ ] T = Thiosulfate,
[ ] O = Other

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

SDG Number WE08
Vista Work Order No. 1700856
Case Narrative

Sample Condition on Receipt:

Twelve 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. This report was amended on August 7, 2017 to include an anomaly regarding a sample ID discrepancy for sample "ERB-01-20170711" and revise the labeled standard compound recovery statement.

Analytical Notes:

Modified EPA Method 537

Sample "LF-MW-54BR-20170710" contained particulate and was centrifuged prior to extraction.

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

Holding Times

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

Quality Control

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

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

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

As requested, an MS/MSD was performed on sample "EFFLUENT-20170710".

FORMER NAWC TRENTON
1700856

SAMPLE IDENTIFICATION	MW-37S-20170711
COMPOUND	PFOS
COMPOUND AREA	9870
INTERNAL STANDARD AMOUNT (ng/ml)	102
DILUTION FACTOR	10
INTERNAL STANDARD AREA	534
AVERAGE RRF	0.951
SAMPLE VOLUME (ml)	117
VOLUME EXTRACT (ml)	0.001
VOLUME INJECTED (µl)	15
ml to L	1000
CONCENTRATION =	2541.56 ng/L

9870 x 102ng/ml x 15 uL x 1000ml x 10/(534 x 0.001 x117ml x 1L)

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

Matrix:	Aqueous	QC Batch:	B7G0108	Lab Sample:	B7G0108-BLK1
Sample Size:	0.125 L	Date Extracted:	24-Jul-2017 10:51	Date Analyzed:	25-Jul-17 20:43 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	172	50 - 150	H
IS	13C2-PFHxA	134	50 - 150	
IS	13C4-PFHpA	111	50 - 150	
IS	18O2-PFHxS	136	50 - 150	
IS	13C2-PFOA	123	50 - 150	
IS	13C8-PFOS	131	50 - 150	
IS	13C5-PFNA	111	50 - 150	
IS	13C2-PFDA	116	50 - 150	
IS	d3-MeFOSAA	123	50 - 150	
IS	13C2-PFUnA	110	50 - 150	
IS	d5-EtFOSAA	127	50 - 150	
IS	13C2-PFDoA	103	50 - 150	
IS	13C2-PFTeDA	75.0	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:	B7G0108	Lab Sample:	B7G0108-BS1
Sample Size:	0.125 L	Date Extracted:	24-Jul-2017 10:51	Date Analyzed:	25-Jul-17 20:21 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	78.2	80.0	97.8	70 - 130
PFHxA	74.3	80.0	92.8	70 - 130
PFHpA	75.1	80.0	93.9	70 - 130
PFHxS	80.3	80.0	100	70 - 130
PFOA	75.7	80.0	94.6	70 - 130
PFOS	67.4	80.0	84.3	70 - 130
PFNA	71.7	80.0	89.7	70 - 130
PFDA	75.5	80.0	94.3	70 - 130
MeFOSAA	74.0	80.0	92.5	70 - 130
PFUnA	71.3	80.0	89.1	70 - 130
EtFOSAA	82.6	80.0	103	70 - 130
PFDoA	77.1	80.0	96.4	70 - 130
PFTrDA	64.1	80.0	80.1	60 - 130
PFTeDA	77.2	80.0	96.5	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	158	50 - 150
IS	13C2-PFHxA	121	50 - 150
IS	13C4-PFHpA	106	50 - 150
IS	18O2-PFHxS	130	50 - 150
IS	13C2-PFOA	125	50 - 150
IS	13C8-PFOS	121	50 - 150
IS	13C5-PFNA	110	50 - 150
IS	13C2-PFDA	108	50 - 150
IS	d3-MeFOSAA	106	50 - 150
IS	13C2-PFUnA	95.1	50 - 150
IS	d5-EtFOSAA	96.7	50 - 150
IS	13C2-PFDoA	86.2	50 - 150
IS	13C2-PFTeDA	47.2	50 - 150

LCL-UCL - Lower control limit - upper control limit

Matrix Spike Results

Modified EPA Method 537

Source Client ID: EFFLUENT-20170710
Source LabNumber: 1700856-04
Matrix: Aqueous
Sample Size: 0.122/0.118 L

QC Batch: B7G0108
Date Extracted: 24-Jul-2017 10:51

Lab Sample: B7G0108-MS1/B7G0108-MSD1
Date Analyzed: 25-Jul-17 21:36 Column: BEH C18
25-Jul-17 21:47 Column: BEH C18

Analyte	Spike-MS (ng/L)	MS %R	MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit
PFBS	82.2	99.2		84.4	97.8	1.42		70 - 130	25
PFHxA	82.2	95.8		84.4	92.2	3.83		70 - 130	25
PFHpA	82.2	95.1		84.4	89.0	6.63		70 - 130	25
PFHxS	82.2	95.2		84.4	87.7	8.20		70 - 130	25
PFOA	82.2	97.4		84.4	103	5.59		70 - 130	25
PFOS	82.2	80.4		84.4	80.3	0.124		70 - 130	25
PFNA	82.2	96.7		84.4	98.9	2.25		70 - 130	25
PFDA	82.2	95.2		84.4	88.6	7.18		70 - 130	25
MeFOSAA	82.2	97.9		84.4	103	5.08		70 - 130	25
PFUnA	82.2	93.1		84.4	96.7	3.79		70 - 130	25
EtFOSAA	82.2	89.7		84.4	97.2	8.03		70 - 130	25
PFDoA	82.2	93.8		84.4	89.6	4.58		70 - 130	25
PFTrDA	82.2	81.1		84.4	78.7	3.00		60 - 130	25
PFTeDA	82.2	94.0		84.4	93.5	0.533		70 - 130	25

	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
IS	13C3-PFBS	162	H	154	H
IS	13C2-PFHxA	125		131	
IS	13C4-PFHpA	104		104	
IS	18O2-PFHxS	135		140	
IS	13C2-PFOA	118		116	
IS	13C8-PFOS	145		132	
IS	13C5-PFNA	114		111	
IS	13C2-PFDA	122		116	
IS	d3-MeFOSAA	124		119	
IS	13C2-PFUnA	105		103	
IS	d5-EtFOSAA	125		119	
IS	13C2-PFDoA	107		106	
IS	13C2-PFTeDA	56.8		58.2	

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Process Sheet

Workorder: 1700856

RX

Prep Expiration: 2017-Jul-24
Client: Tetra Tech

Workorder Due: 02-Aug-17 00:00

TAT: 21

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

Prep Batch: B760108

Prep Data Entered: HB 7/25/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700856-01	☑	INFLUENT-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-02	☑	DUP05-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-03	☑	MID-POINT-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-04	☑	EFFLUENT-20170710	12-Jul-17 09:12	WR-2 A-5	**MS/MSD**
1700856-05	☑	MW-37S-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-06	☑	~~ERB-01-20170711~~ ERB-01-20170711 BP 7.24.17	12-Jul-17 09:12	WR-2 A-5	
1700856-07	☑	11-MW-1-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-08	☑	LF-MW-54BR-20170710	12-Jul-17 09:12	WR-2 A-5	
1700856-09	☑	MW-48BR-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-10	☑	MW-34S-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-11	☑	MW-31BR-20170711	12-Jul-17 09:12	WR-2 A-5	
1700856-12	☑	MW-31S-20170711	12-Jul-17 09:12	WR-2 A-5	

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

Vista PM: Martha Maier

Vial Box ID: Sofishdioates

Sample Reconciled By: BP 7/24/17

Page 1 of 1

Vista Analytical Laboratory

HRMS - 8

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)
7/19/17	✓	1.00	100.00	2000.00	KBF	Y
7/20/17	✓	1.01	100.01	2000.04	BSS	Y
7/21/17	✓	0.99	100.00	2000.00	EL	Y
7.24.17	✓	1.00	100.01	2000.01	BP	Y
7/24/17	✓	1.00	100.01	2000.00	EL	Y
7/25/17	✓	1.00	99.99	2000.02	HB	Y

Comments:

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mRL)

PREPARATION BENCH SHEET

B7G0108

Chemist: BP

Prep Date/Time: 24-Jul-17 10:51

Prepared using: LCMS - SPE Extraction-LCMS

C7G0086

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g) HB 7/25/17	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☐	B7G0108-BLK1	5	2	0	2	NA	NA NA	(0.125) ✓	BP KBF 7/24/17	BP KBF 7/24/17	BP 7/25/17
☐	B7G0108-BS1	5	2	0	2	↓	↓ ↓	↓ ✓	↓	↓	↓
☐	B7G0108-MS1 1700856-04RE1	6	2	0	2	148.39	26.77	0.12162 ✓			
☐	B7G0108-MSD1 1700856-04RE1	6	2	0	2	145.30	26.81	0.11849 ✓			
☐	1700856-01RE1	6	2	0	2	147.78	26.78	0.12100 ✓			
☐	1700856-02RE1	6	2	0	2	143.32	26.85	0.11647 ✓			
☐	1700856-03RE1	7	2	0	2	144.15	26.84	0.11731 ✓			
☐	1700856-04RE1	6	2	0	2	147.66	26.82	0.12084 ✓			
☐	1700856-05RE1	6	2	0	2	143.56	26.60	0.11696 ✓			
☐	1700856-06RE1	~~6~~ 5 BP 7/24/17	2	0	2	147.29	26.86	0.12043 ✓			
☐	1700856-07RE1	6	2	0	2	141.60	26.78	0.11482 ✓			
☐	1700856-08RE1 (A)	6	2	0	2	144.01	26.88	0.11713 ✓			
☐	1700856-09RE1	6	2	0	2	147.61	26.77	0.12084 ✓			
☐	1700856-10RE1	6	2	0	~~0~~ 2 BP 7/24/17	144.88	26.76	0.11812 ✓			
☐	1700856-11RE1	6	2	0	2	144.44	26.70	0.11774 ✓			
☐	1700856-12RE1	6	2	0	2	144.09	26.77	0.11732 ✓	↓	↓	↓

IS Name (V6) 17G1307, 10mL

NS Name (V1) 17D2705, 10mL

RS Name 17F3038, 10mL (V2)

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

Ele SOLV: MeOH/0.5% NH4OH in MeOH

Final Volume(s) 1mL

Check Out: Chemist/Date: HB 7/29/17

Check In: Chemist/Date: emptyMA

Balance ID: HRMS

pH Adjusted: Chemist/Date: HB 7/24/17

Comments: Assume 1 g = 1 mL (A) sample was centrifuged to remove particulate. HB 7/24/17

Batch: B7G0108

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700856-01RE1	0.121 ✓	NA	NA	1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-02RE1	0.11647 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-03RE1	0.11731 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-04RE1	0.12084 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-05RE1	0.11696 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-06RE1	0.12043 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-07RE1	0.11482 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-08RE1	0.11713 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-09RE1	0.12084 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-10RE1	0.11812 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-11RE1	0.11774 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
1700856-12RE1	0.11732 ✓			1000	24-Jul-17 10:51	BAP			Aqueous	537M PFAS DOD (LOQ as
B7G0108-BLK1	0.125 ✓			1000	24-Jul-17 10:51	BAP				QC
B7G0108-BS1	0.125 ✓			1000	24-Jul-17 10:51	BAP	17D2705 ✓	10 ✓		QC
B7G0108-MS1	0.12162 ✓			1000	24-Jul-17 10:51	BAP	17D2705 ✓	10 ✓		QC
B7G0108-MSD1	0.11849 ✓			1000	24-Jul-17 10:51	BAP	17D2705 ✓	10 ✓		QC

HB 7/25/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-33.qld

Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

AC 7/26/17

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.43e4	1.63e4		1.54	1.57	10.9	9.55	95.5
2	2	PFPeA	263.1 > 218.9	2.57e4	3.30e4		2.77	2.81	9.73	9.70	97.0
3	3	PFBS	299 > 79.7	6.10e3	3.98e3		2.96	3.01	19.2	10.3	103.1
4	4	PFHxA	313.2 > 268.9	4.11e4	1.44e4		3.19	3.22	14.2	9.32	93.2
5	5	PFHpA	363 > 318.9	3.95e4	4.12e4		3.45	3.49	12.0	9.50	95.0
6	6	PFHxS	398.9 > 79.6	5.08e3	3.97e3		3.56	3.56	16.0	9.46	94.6
7	7	6:2 FTS	427.1 > 407	8.56e3	9.21e3		3.64	3.67	11.6	11.0	110.3
8	8	PFOA	413 > 368.7	5.55e4	7.29e4		3.65	3.68	9.52	9.60	96.0
9	9	PFHpS	448.9 > 98.8	5.62e3	7.29e4		3.71	3.74	0.963	10.7	106.9
10	10	PFNA	462.9 > 418.8	6.16e4	7.10e4		3.83	3.86	10.8	9.74	97.4
11	11	PFOSA	498.1 > 77.8	6.26e3	7.52e3		3.84	3.86	10.4	9.87	98.7
12	12	PFOS	499 > 79.9	1.16e4	1.42e4		3.89	3.91	10.3	8.68	86.8
13	13	PFDA	513 > 468.8	7.26e4	6.58e4		4.01	4.03	13.8	10.5	105.3
14	14	8:2 FTS	527 > 506.9	8.13e3	7.65e3		4.00	4.02	13.3	9.00	90.0
15	15	N-MeFOSAA	570.1 > 419	1.84e4	1.52e4		4.03	4.06	197	9.92	99.2
16	16	N-EtFOSAA	584.2 > 419	1.48e4	1.60e4		4.10	4.12	151	9.33	93.3
17	17	PFUnA	562.9 > 518.9	5.06e4	7.51e4		4.17	4.19	8.42	9.54	95.4
18	18	PFDS	598.9 > 98.7	5.02e3	7.51e4		4.22	4.24	0.836	9.39	93.9
19	19	PFDoA	612.9 > 318.8	5.65e3	8.10e3		4.34	4.36	8.71	9.23	92.3
20	20	N-MeFOSA	512.1 > 168.9	1.07e4	3.19e4		4.29	4.43	50.5	48.4	96.9
21	21	PFTrDA	662.9 > 618.9	7.23e4	8.10e3		4.50	4.52	112	10.0	100.5
22	22	PFTeDA	712.9 > 668.8	5.07e4	5.79e4		4.68	4.71	10.9	9.49	94.9
23	23	N-EtFOSA	526.1 > 168.9	1.31e4	4.40e4		4.87	5.01	44.9	49.3	98.5
24	24	PFHxDA	812.8 > 768.9	7.13e4	2.76e4		5.06	5.07	12.9	9.43	94.3
25	25	PFODA	912.8 > 868.8	7.00e4	2.76e4		5.43	5.44	12.7	9.85	98.5
26	26	N-MeFOSE	616.1 > 58.9	1.60e4	4.72e4		5.42	5.44	50.7	49.5	99.0
27	27	N-EtFOSE	630.1 > 58.9	1.80e4	4.69e4		5.59	5.61	57.7	49.0	98.1
28	28	13C3-PFBA	216.1 > 171.8	1.63e4	1.99e4	0.820	1.54	1.57	10.3	12.5	100.1
29	29	13C3-PFPeA	266 > 221.8	3.30e4	5.08e4	0.248	2.77	2.81	3.25	13.1	104.6
30	30	13C3-PFBS	302 > 98.8	3.98e3	5.08e4	0.031	2.96	3.00	0.392	12.6	100.8
31	31	13C2-PFHxA	315 > 269.8	1.44e4	5.08e4	0.276	3.19	3.23	1.42	5.14	102.8

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-33.qld

Last Altered: Wednesday, July 26, 2017 09:54:41 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 09:55:08 Pacific Daylight Time

Name: 170725M1_33, Date: 25-Jul-2017, Time: 20:00:29, ID: ST170725M1-3 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.12e4	5.08e4	0.306	3.45	3.48	4.05	13.3	106.1
33	33	18O2-PFHxS	403 > 102.6	3.97e3	9.30e3	0.393	3.56	3.56	5.33	13.6	108.6
34	34	13C2-6:2 FTS	429.1 > 408.9	9.21e3	6.63e4	0.158	3.64	3.67	1.74	11.0	88.1
35	35	13C2-PFOA	414.9 > 369.7	7.29e4	6.63e4	1.067	3.65	3.68	13.7	12.9	103.0
36	36	13C5-PFNA	468.2 > 422.9	7.10e4	8.58e4	0.852	3.83	3.86	10.3	12.1	97.1
37	37	13C8-PFOSA	506.1 > 77.7	7.52e3	6.80e4	0.098	3.84	3.87	1.38	14.1	112.6
38	38	13C8-PFOS	507 > 79.9	1.42e4	1.42e4	0.936	3.89	3.91	12.5	13.3	106.5
39	39	13C2-PFDA	515.1 > 469.9	6.58e4	8.33e4	0.810	4.01	4.03	9.88	12.2	97.6
40	40	13C2-8:2 FTS	529.1 > 508.7	7.65e3	8.33e4	0.086	4.00	4.02	1.15	13.4	107.3
41	41	d3-N-MeFOSAA	573.3 > 419	1.52e4	6.80e4	0.014	4.03	4.06	2.79	204	125.4
42	42	d5-N-EtFOSAA	589.3 > 419	1.60e4	6.80e4	0.014	4.12	4.12	2.94	211	129.7
43	43	13C2-PFUnA	565 > 519.8	7.51e4	6.80e4	0.962	4.17	4.19	13.8	14.3	114.8
44	44	13C2-PFDoA	615 > 569.7	8.10e3	6.80e4	0.094	4.34	4.36	1.49	15.8	126.2
45	45	d3-N-MeFOSA	515.2 > 168.9	3.19e4	6.80e4	0.034	4.29	4.48	5.87	171	113.7
46	46	13C2-PFTeDA	714.8 > 669.6	5.79e4	6.80e4	0.694	4.68	4.70	10.6	15.3	122.7
47	47	d5-N-ETFOSA	531.1 > 168.9	4.40e4	6.80e4	0.049	5.01	5.04	8.08	166	110.7
48	48	13C2-PFHxDA	815 > 769.7	2.76e4	6.80e4	0.843	5.06	5.08	5.08	6.03	120.5
49	49	d7-N-MeFOSE	623.1 > 58.9	4.72e4	6.80e4	0.055	5.42	5.43	8.68	159	105.9
50	50	d9-N-EtFOSE	639.2 > 58.8	4.69e4	6.80e4	0.053	5.59	5.60	8.61	161	107.5
51	51	13C4-PFBA	217 > 171.8	1.99e4	1.99e4	1.000	1.54	1.57	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.08e4	5.08e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	9.30e3	9.30e3	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	6.63e4	6.63e4	1.000	3.65	3.68	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.58e4	8.58e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.42e4	1.42e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.33e4	8.33e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	6.80e4	6.80e4	1.000	4.17	4.20	12.5	12.5	100.0

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

AC 7/26/17

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.49e4	1.71e4		1.54	1.58	10.9	9.52	95.2
2	2	PFPeA	263.1 > 218.9	2.65e4	3.47e4		2.77	2.82	9.57	9.54	95.4
3	3	PFBS	299 > 79.7	6.14e3	4.30e3		2.96	3.01	17.8	9.59	95.9
4	4	PFHxA	313.2 > 268.9	4.45e4	1.57e4		3.19	3.23	14.2	9.32	93.2
5	5	PFHpA	363 > 318.9	4.13e4	4.43e4		3.45	3.49	11.6	9.23	92.3
6	6	PFHxS	398.9 > 79.6	5.59e3	4.02e3		3.56	3.56	17.4	10.3	102.8
7	7	6:2 FTS	427.1 > 407	8.69e3	1.04e4		3.64	3.68	10.4	9.87	98.7
8	8	PFOA	413 > 368.7	6.44e4	7.91e4		3.65	3.69	10.2	10.3	102.9
9	9	PFHpS	448.9 > 98.8	5.87e3	7.91e4		3.71	3.75	0.927	10.3	102.9
10	10	PFNA	462.9 > 418.8	6.72e4	7.16e4		3.83	3.86	11.7	10.6	105.6
11	11	PFOSA	498.1 > 77.8	6.08e3	7.73e3		3.84	3.88	9.84	9.33	93.3
12	12	PFOS	499 > 79.9	1.14e4	1.38e4		3.89	3.91	10.3	8.69	86.9
13	13	PFDA	513 > 468.8	6.75e4	6.64e4		4.01	4.04	12.7	9.69	96.9
14	14	8:2 FTS	527 > 506.9	8.09e3	7.23e3		4.00	4.03	14.0	9.50	95.0
15	15	N-MeFOSAA	570.1 > 419	1.90e4	1.54e4		4.03	4.06	200	10.1	100.9
16	16	N-EtFOSAA	584.2 > 419	1.50e4	1.62e4		4.10	4.13	151	9.35	93.5
17	17	PFUnA	562.9 > 518.9	5.27e4	7.67e4		4.17	4.20	8.58	9.73	97.3
18	18	PFDS	598.9 > 98.7	5.12e3	7.67e4		4.22	4.24	0.835	9.38	93.8
19	19	PFDoA	612.9 > 318.8	5.82e3	8.31e3		4.34	4.36	8.76	9.27	92.7
20	20	N-MeFOSA	512.1 > 168.9	1.09e4	3.26e4		4.29	4.45	50.3	48.2	96.5
21	21	PFTrDA	662.9 > 618.9	7.61e4	8.31e3		4.50	4.53	114	10.3	103.1
22	22	PFTeDA	712.9 > 668.8	5.14e4	5.71e4		4.68	4.71	11.3	9.76	97.6
23	23	N-EtFOSA	526.1 > 168.9	1.37e4	4.48e4		4.87	5.01	45.8	50.3	100.5
24	24	PFHxDA	812.8 > 768.9	7.15e4	2.70e4		5.06	5.08	13.2	9.68	96.8
25	25	PFODA	912.8 > 868.8	6.82e4	2.70e4		5.43	5.44	12.6	9.83	98.3
26	26	N-MeFOSE	616.1 > 58.9	1.61e4	4.83e4		5.42	5.44	49.9	48.7	97.3
27	27	N-EtFOSE	630.1 > 58.9	1.83e4	4.86e4		5.59	5.61	56.5	48.0	96.1
28	28	13C3-PFBA	216.1 > 171.8	1.71e4	2.01e4	0.820	1.54	1.58	10.6	13.0	103.8
29	29	13C3-PFPeA	266 > 221.8	3.47e4	5.52e4	0.248	2.77	2.82	3.14	12.6	101.1
30	30	13C3-PFBS	302 > 98.8	4.30e3	5.52e4	0.031	2.96	3.01	0.389	12.5	100.1
31	31	13C2-PFHxA	315 > 269.8	1.57e4	5.52e4	0.276	3.19	3.23	1.42	5.13	102.6

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.43e4	5.52e4	0.306	3.45	3.49	4.01	13.1	105.0
33	33	18O2-PFHxS	403 > 102.6	4.02e3	1.03e4	0.393	3.56	3.56	4.89	12.5	99.7
34	34	13C2-6:2 FTS	429.1 > 408.9	1.04e4	7.52e4	0.158	3.64	3.68	1.73	11.0	87.8
35	35	13C2-PFOA	414.9 > 369.7	7.91e4	7.52e4	1.067	3.65	3.69	13.1	12.3	98.5
36	36	13C5-PFNA	468.2 > 422.9	7.16e4	8.12e4	0.852	3.83	3.86	11.0	12.9	103.4
37	37	13C8-PFOSA	506.1 > 77.7	7.73e3	7.68e4	0.098	3.84	3.87	1.26	12.8	102.4
38	38	13C8-PFOS	507 > 79.9	1.38e4	1.44e4	0.936	3.89	3.91	12.0	12.8	102.7
39	39	13C2-PFDA	515.1 > 469.9	6.64e4	8.67e4	0.810	4.01	4.04	9.58	11.8	94.6
40	40	13C2-8:2 FTS	529.1 > 508.7	7.23e3	8.67e4	0.086	4.00	4.03	1.04	12.2	97.5
41	41	d3-N-MeFOSAA	573.3 > 419	1.54e4	7.68e4	0.014	4.03	4.06	2.51	183	112.6
42	42	d5-N-EtFOSAA	589.3 > 419	1.62e4	7.68e4	0.014	4.12	4.13	2.63	189	116.1
43	43	13C2-PFUnA	565 > 519.8	7.67e4	7.68e4	0.962	4.17	4.20	12.5	13.0	103.8
44	44	13C2-PFDoA	615 > 569.7	8.31e3	7.68e4	0.094	4.34	4.36	1.35	14.3	114.6
45	45	d3-N-MeFOSA	515.2 > 168.9	3.26e4	7.68e4	0.034	4.29	4.48	5.30	154	102.6
46	46	13C2-PFTeDA	714.8 > 669.6	5.71e4	7.68e4	0.694	4.68	4.71	9.29	13.4	107.0
47	47	d5-N-ETFOSA	531.1 > 168.9	4.48e4	7.68e4	0.049	5.01	5.05	7.29	150	99.8
48	48	13C2-PFHxDA	815 > 769.7	2.70e4	7.68e4	0.843	5.06	5.08	4.39	5.21	104.2
49	49	d7-N-MeFOSE	623.1 > 58.9	4.83e4	7.68e4	0.055	5.42	5.43	7.85	144	95.8
50	50	d9-N-EtFOSE	639.2 > 58.8	4.86e4	7.68e4	0.053	5.59	5.60	7.91	148	98.7
51	51	13C4-PFBA	217 > 171.8	2.01e4	2.01e4	1.000	1.54	1.58	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.52e4	5.52e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	1.03e4	1.03e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.52e4	7.52e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.12e4	8.12e4	1.000	3.83	3.87	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.44e4	1.44e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.67e4	8.67e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	7.68e4	7.68e4	1.000	4.17	4.20	12.5	12.5	100.0

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/26/17

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.50e4	1.73e4		1.54	1.59	10.8	9.45	94.5
2	2	PFPeA	263.1 > 218.9	2.79e4	3.61e4		2.77	2.82	9.66	9.63	96.3
3	3	PFBS	299 > 79.7	6.39e3	4.38e3		2.96	3.01	18.2	9.79	97.9
4	4	PFHxA	313.2 > 268.9	4.47e4	1.60e4		3.19	3.23	14.0	9.17	91.7
5	5	PFHpA	363 > 318.9	4.33e4	4.49e4		3.45	3.49	12.0	9.55	95.5
6	6	PFHxS	398.9 > 79.6	5.99e3	4.53e3		3.56	3.56	16.5	9.76	97.6
7	7	6:2 FTS	427.1 > 407	9.91e3	1.07e4		3.64	3.67	11.6	11.0	109.8
8	8	PFOA	413 > 368.7	6.56e4	7.43e4		3.65	3.68	11.0	11.2	111.5
9	9	PFHpS	448.9 > 98.8	6.44e3	7.43e4		3.71	3.75	1.08	12.0	120.4
10	10	PFNA	462.9 > 418.8	6.59e4	7.47e4		3.83	3.86	11.0	9.91	99.1
11	11	PFOSA	498.1 > 77.8	6.45e3	7.86e3		3.84	3.87	10.3	9.72	97.2
12	12	PFOS	499 > 79.9	1.22e4	1.42e4		3.89	3.91	10.7	9.06	90.6
13	13	PFDA	513 > 468.8	7.36e4	7.73e4		4.01	4.03	11.9	9.08	90.8
14	14	8:2 FTS	527 > 506.9	8.88e3	7.56e3		4.00	4.03	14.7	10.0	100.0
15	15	N-MeFOSAA	570.1 > 419	1.98e4	1.69e4		4.03	4.06	191	9.62	96.2
16	16	N-EtFOSAA	584.2 > 419	1.52e4	1.67e4		4.10	4.13	147	9.13	91.3
17	17	PFUnA	562.9 > 518.9	5.38e4	8.83e4		4.17	4.20	7.61	8.60	86.0
18	18	PFDS	598.9 > 98.7	5.33e3	8.83e4		4.22	4.24	0.755	8.46	84.6
19	19	PFDoA	612.9 > 318.8	5.59e3	8.53e3		4.34	4.36	8.19	8.66	86.6
20	20	N-MeFOSA	512.1 > 168.9	1.16e4	3.34e4		4.29	4.45	52.0	49.9	99.7
21	21	PFTrDA	662.9 > 618.9	7.42e4	8.53e3		4.50	4.53	109	9.78	97.8
22	22	PFTeDA	712.9 > 668.8	5.17e4	5.93e4		4.68	4.71	10.9	9.45	94.5
23	23	N-EtFOSA	526.1 > 168.9	1.39e4	4.52e4		4.87	5.02	46.0	50.5	101.0
24	24	PFHxDA	812.8 > 768.9	7.46e4	2.86e4		5.06	5.08	13.0	9.53	95.3
25	25	PFODA	912.8 > 868.8	6.84e4	2.86e4		5.43	5.44	12.0	9.30	93.0
26	26	N-MeFOSE	616.1 > 58.9	1.65e4	4.88e4		5.42	5.44	50.6	49.4	98.7
27	27	N-EtFOSE	630.1 > 58.9	1.87e4	4.91e4		5.59	5.62	57.2	48.6	97.2
28	28	13C3-PFBA	216.1 > 171.8	1.73e4	2.04e4	0.820	1.54	1.59	10.6	12.9	103.2
29	29	13C3-PFPeA	266 > 221.8	3.61e4	5.68e4	0.248	2.77	2.82	3.17	12.8	102.3
30	30	13C3-PFBS	302 > 98.8	4.38e3	5.68e4	0.031	2.96	3.01	0.386	12.4	99.2
31	31	13C2-PFHxA	315 > 269.8	1.60e4	5.68e4	0.276	3.19	3.23	1.41	5.09	101.7

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	# Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32 13C4-PFHpA	367.2 > 321.8	4.49e4	5.68e4	0.306	3.45	3.49	3.96	12.9	103.6
33	33 18O2-PFHxS	403 > 102.6	4.53e3	1.12e4	0.393	3.56	3.56	5.04	12.8	102.6
34	34 13C2-6:2 FTS	429.1 > 408.9	1.07e4	7.14e4	0.158	3.64	3.68	1.88	11.9	95.1
35	35 13C2-PFOA	414.9 > 369.7	7.43e4	7.14e4	1.067	3.65	3.69	13.0	12.2	97.5
36	36 13C5-PFNA	468.2 > 422.9	7.47e4	8.57e4	0.852	3.83	3.86	10.9	12.8	102.3
37	37 13C8-PFOSA	506.1 > 77.7	7.86e3	8.09e4	0.098	3.84	3.87	1.21	12.4	98.8
38	38 13C8-PFOS	507 > 79.9	1.42e4	1.49e4	0.936	3.89	3.91	11.9	12.8	102.1
39	39 13C2-PFDA	515.1 > 469.9	7.73e4	8.93e4	0.810	4.01	4.03	10.8	13.4	106.9
40	40 13C2-8:2 FTS	529.1 > 508.7	7.56e3	8.93e4	0.086	4.00	4.03	1.06	12.4	98.9
41	41 d3-N-MeFOSAA	573.3 > 419	1.69e4	8.09e4	0.014	4.03	4.06	2.60	190	116.9
42	42 d5-N-EtFOSAA	589.3 > 419	1.67e4	8.09e4	0.014	4.12	4.13	2.58	185	114.0
43	43 13C2-PFUnA	565 > 519.8	8.83e4	8.09e4	0.962	4.17	4.20	13.6	14.2	113.4
44	44 13C2-PFDoA	615 > 569.7	8.53e3	8.09e4	0.094	4.34	4.36	1.32	14.0	111.7
45	45 d3-N-MeFOSA	515.2 > 168.9	3.34e4	8.09e4	0.034	4.29	4.49	5.16	150	100.1
46	46 13C2-PFTeDA	714.8 > 669.6	5.93e4	8.09e4	0.694	4.68	4.71	9.15	13.2	105.4
47	47 d5-N-ETFOSA	531.1 > 168.9	4.52e4	8.09e4	0.049	5.01	5.05	6.99	144	95.7
48	48 13C2-PFHxDA	815 > 769.7	2.86e4	8.09e4	0.843	5.06	5.08	4.42	5.24	104.8
49	49 d7-N-MeFOSE	623.1 > 58.9	4.88e4	8.09e4	0.055	5.42	5.43	7.54	138	92.0
50	50 d9-N-EtFOSE	639.2 > 58.8	4.91e4	8.09e4	0.053	5.59	5.60	7.58	142	94.5
51	51 13C4-PFBA	217 > 171.8	2.04e4	2.04e4	1.000	1.54	1.59	12.5	12.5	100.0
52	52 13C5-PFHxA	318 > 272.9	5.68e4	5.68e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53 13C3-PFHxS	401.9 > 79.9	1.12e4	1.12e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54 13C8-PFOA	421.3 > 376	7.14e4	7.14e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55 13C9-PFNA	472.2 > 426.9	8.57e4	8.57e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56 13C4-PFOS	503 > 79.9	1.49e4	1.49e4	1.000	3.89	3.92	12.5	12.5	100.0
57	57 13C6-PFDA	519.1 > 473.7	8.93e4	8.93e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58 13C7-PFUnA	570.1 > 524.8	8.09e4	8.09e4	1.000	4.17	4.20	12.5	12.5	100.0

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-97.qld

Last Altered: Tuesday, August 01, 2017 12:26:31 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:27:14 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

@ out of limit criteria.

Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.89e4	2.11e4	1.000		1.32	1.35	11.2	9.68	96.8
2	2	PFPeA	263.1 > 218.9	3.94e4	5.17e4	1.000		2.77	2.66	9.52	9.45	94.5
3	3	PFBS	299 > 79.7	8.73e3	6.07e3	1.000		2.96	2.90	18.0	9.51	95.1
4	4	PFHxA	313.2 > 268.9	6.09e4	2.13e4	1.000		3.19	3.15	14.3	9.75	97.5
5	5	PFHpA	363 > 318.9	4.76e4	4.63e4	1.000		3.45	3.42	12.8	10.3	103.3
6	6	PFHxS	398.9 > 79.6	5.76e3	4.44e3	1.000		3.56	3.49	16.2	9.72	97.2
7	7	PFOA	413 > 368.7	5.22e4	6.56e4	1.000		3.65	3.62	9.95	9.99	99.9
8	8	PFHpS	448.9 > 98.8	4.59e3	6.56e4	1.000		3.65	3.67	0.875	10.0	100.3
9	9	PFNA	462.9 > 418.8	4.91e4	5.85e4	1.000		3.83	3.80	10.5	9.72	97.2
10	10	PFOSA	498.1 > 77.8	7.02e3	8.03e3	1.000		3.84	3.80	10.9	10.0	100.2
11	11	PFOS	499 > 79.9	8.56e3	1.05e4	1.000		3.89	3.84	10.2	9.50	95.0
12	12	PFDA	513 > 468.8	6.00e4	6.16e4	1.000		4.01	3.96	12.2	9.75	97.5
13	13	N-MeFOSAA	570.1 > 419	1.39e4	1.16e4	1.000		4.03	3.99	194	9.74	97.4
14	14	N-EtFOSAA	584.2 > 419	1.09e4	1.10e4	1.000		4.10	4.06	161	10.5	104.6
15	15	PFUnA	562.9 > 518.9	3.05e4	5.05e4	1.000		4.11	4.12	7.55	11.7	116.7
16	16	PFDS	598.9 > 98.7	2.89e3	5.05e4	1.000		4.22	4.17	0.714	10.5	105.4
17	17	PFDoA	612.9 > 318.8	2.57e3	3.49e3	1.000		4.34	4.29	9.19	9.83	98.3
18	18	PFTrDA	662.9 > 618.9	1.21e4	3.49e3	1.000		4.50	4.45	43.4	5.02	(A) 50.2
19	19	PFTeDA	712.9 > 668.8	2.74e3	3.06e3	1.000		4.68	4.63	11.2	9.28	92.8
20	20	13C3-PFBA	216.1 > 171.8	2.11e4	2.53e4	1.000	0.823	1.32	1.35	10.5	12.7	101.6
21	21	13C3-PFPeA	266 > 221.8	5.17e4	7.53e4	1.000	0.264	2.77	2.66	3.43	13.0	103.9
22	22	13C3-PFBS	302 > 98.8	6.07e3	7.53e4	1.000	0.031	2.96	2.90	0.403	13.1	105.0
23	23	13C2-PFHxA	315 > 269.8	2.13e4	7.53e4	1.000	0.275	3.19	3.15	1.41	5.14	102.8
24	24	13C4-PFHpA	367.2 > 321.8	4.63e4	7.53e4	1.000	0.260	3.45	3.41	3.08	11.8	94.6
25	25	18O2-PFHxS	403 > 102.6	4.44e3	1.07e4	1.000	0.402	3.56	3.49	5.20	12.9	103.4
26	26	13C2-PFOA	414.9 > 369.7	6.56e4	6.43e4	1.000	1.042	3.65	3.62	12.8	12.2	97.9
27	27	13C5-PFNA	468.2 > 422.9	5.85e4	6.88e4	1.000	0.792	3.83	3.80	10.6	13.4	107.4
28	28	13C8-PFOSA	506.1 > 77.7	8.03e3	5.62e4	1.000	0.175	3.84	3.80	1.79	10.2	81.8
29	29	13C8-PFOS	507 > 79.9	1.05e4	1.01e4	1.000	0.951	3.89	3.85	12.9	13.6	108.9
30	30	13C2-PFDA	515.1 > 469.9	6.16e4	6.46e4	1.000	0.869	4.01	3.96	11.9	13.7	109.7
31	31	d3-N-MeFOSAA	573.3 > 419	1.16e4	5.62e4	1.000	0.013	4.03	3.99	2.58	199	122.5

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OM 8/1/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-97.qld

Last Altered: Tuesday, August 01, 2017 12:26:31 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 12:27:14 Pacific Daylight Time

Name: 170727M1_97, Date: 28-Jul-2017, Time: 04:51:00, ID: ST170727M1-13 PFC CS3 17G2709, Description: PFC CS3 17G2709

(A) out of limit criteria.

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	1.10e4	5.62e4	1.000	0.013	4.12	4.05	2.45	193	118.6
33	33	13C2-PFUnA	565 > 519.8	5.05e4	5.62e4	1.000	0.928	4.17	4.13	11.2	12.1	96.8
34	34	13C2-PFDoA	615 > 569.7	3.49e3	5.62e4	1.000	0.071	4.34	4.29	0.777	10.9	87.4
35	35	13C2-PFTeDA	714.8 > 669.6	3.06e3	5.62e4	1.000	0.273	4.68	4.63	0.681	2.49	(A) 19.9
36	36	13C4-PFBA	217 > 171.8	2.53e4	2.53e4	1.000	1.000	1.32	1.35	12.5	12.5	100.0
37	37	13C5-PFHxA	318 > 272.9	7.53e4	7.53e4	1.000	1.000	3.19	3.15	5.00	5.00	100.0
38	38	13C3-PFHxS	401.9 > 79.9	1.07e4	1.07e4	1.000	1.000	3.56	3.49	12.5	12.5	100.0
39	39	13C8-PFOA	421.3 > 376	6.43e4	6.43e4	1.000	1.000	3.65	3.62	12.5	12.5	100.0
40	40	13C9-PFNA	472.2 > 426.9	6.88e4	6.88e4	1.000	1.000	3.83	3.80	12.5	12.5	100.0
41	41	13C4-PFOS	503 > 79.9	1.01e4	1.01e4	1.000	1.000	3.89	3.85	12.5	12.5	100.0
42	42	13C6-PFDA	519.1 > 473.7	6.46e4	6.46e4	1.000	1.000	4.01	3.96	12.5	12.5	100.0
43	43	13C7-PFUnA	570.1 > 524.8	5.62e4	5.62e4	1.000	1.000	4.17	4.13	12.5	12.5	100.0

SD-150

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170727M1\170727M1-113.qld

Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

AC 8/3/17

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

(A) Not used.

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-~~13~~ 14 PFC CS3 17G2709, Description: PFC CS3 17G2709

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	2.00e4	2.26e4	1.000		1.32	1.35	11.1	9.59	95.9
2	2	PFPeA	263.1 > 218.9	4.39e4	5.60e4	1.000		2.77	2.66	9.79	9.71	97.1
3	3	PFBS	299 > 79.7	9.14e3	6.36e3	1.000		2.96	2.90	18.0	9.50	95.0
4	4	PFHxA	313.2 > 268.9	6.28e4	2.10e4	1.000		3.19	3.15	14.9	10.2	101.7
5	5	PFHpA	363 > 318.9	5.05e4	5.25e4	1.000		3.45	3.41	12.0	9.66	96.6
6	6	PFHxS	398.9 > 79.6	6.21e3	4.68e3	1.000		3.56	3.48	16.6	9.96	99.6
7	7	PFOA	413 > 368.7	5.51e4	6.63e4	1.000		3.65	3.62	10.4	10.4	104.4
8	8	PFHpS	448.9 > 98.8	4.96e3	6.63e4	1.000		3.65	3.67	0.936	10.7	107.4
9	9	PFNA	462.9 > 418.8	4.93e4	5.90e4	1.000		3.83	3.79	10.4	9.67	96.7
10	10	PFOSA	498.1 > 77.8	6.80e3	8.09e3	1.000		3.84	3.80	10.5	9.62	96.2
11	11	PFOS	499 > 79.9	8.85e3	1.09e4	1.000		3.89	3.84	10.2	9.47	94.7
12	12	PFDA	513 > 468.8	6.01e4	5.95e4	1.000		4.01	3.96	12.6	10.1	101.2
13	13	N-MeFOSAA	570.1 > 419	1.48e4	1.17e4	1.000		4.03	3.99	204	10.2	102.4
14	14	N-EtFOSAA	584.2 > 419	1.07e4	1.18e4	1.000		4.10	4.05	147	9.58	95.8
15	15	PFUnA	562.9 > 518.9	3.20e4	5.61e4	1.000		4.11	4.12	7.14	11.0	110.2
16	16	PFDS	598.9 > 98.7	2.69e3	5.61e4	1.000		4.22	4.17	0.598	8.81	88.1
17	17	PFDoA	612.9 > 318.8	2.27e3	3.25e3	1.000		4.34	4.29	8.76	9.37	93.7
18	18	PFTrDA	662.9 > 618.9	1.09e4	3.25e3	1.000		4.50	4.45	41.8	4.84	(N) 48.4
19	19	PFTeDA	712.9 > 668.8	2.59e3	2.75e3	1.000		4.68	4.63	11.8	9.76	97.6
20	20	13C3-PFBA	216.1 > 171.8	2.26e4	2.73e4	1.000	0.823	1.32	1.35	10.3	12.5	100.4
21	21	13C3-PFPeA	266 > 221.8	5.60e4	7.62e4	1.000	0.264	2.77	2.66	3.67	13.9	111.2
22	22	13C3-PFBS	302 > 98.8	6.36e3	7.62e4	1.000	0.031	2.96	2.90	0.417	13.6	108.7
23	23	13C2-PFHxA	315 > 269.8	2.10e4	7.62e4	1.000	0.275	3.19	3.15	1.38	5.01	100.2
24	24	13C4-PFHpA	367.2 > 321.8	5.25e4	7.62e4	1.000	0.260	3.45	3.42	3.44	13.2	105.9
25	25	18O2-PFHxS	403 > 102.6	4.68e3	1.16e4	1.000	0.402	3.56	3.49	5.03	12.5	100.0
26	26	13C2-PFOA	414.9 > 369.7	6.63e4	6.40e4	1.000	1.042	3.65	3.61	13.0	12.4	99.5
27	27	13C5-PFNA	468.2 > 422.9	5.90e4	6.76e4	1.000	0.792	3.83	3.79	10.9	13.8	110.2
28	28	13C8-PFOSA	506.1 > 77.7	8.09e3	5.36e4	1.000	0.175	3.84	3.80	1.89	10.8	86.3
29	29	13C8-PFOS	507 > 79.9	1.09e4	1.02e4	1.000	0.951	3.89	3.84	13.3	14.0	112.3
30	30	13C2-PFDA	515.1 > 469.9	5.95e4	7.06e4	1.000	0.869	4.01	3.96	10.5	12.1	97.0
31	31	d3-N-MeFOSAA	573.3 > 419	1.17e4	5.36e4	1.000	0.013	4.03	3.99	2.74	211	130.1

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Dataset: U:\Q4.PRO\results\170727M1\170727M1-113.qld

Last Altered: Thursday, August 03, 2017 13:01:30 Pacific Daylight Time
Printed: Thursday, August 03, 2017 13:02:22 Pacific Daylight Time

Name: 170727M1_113, Date: 28-Jul-2017, Time: 07:43:27, ID: ST170727M1-~~13~~ 14 PFC CS3 17G2709, Description: PFC CS3 17G2709

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	1.18e4	5.36e4	1.000	0.013	4.12	4.05	2.76	217	133.5
33	33	13C2-PFUnA	565 > 519.8	5.61e4	5.36e4	1.000	0.928	4.17	4.12	13.1	14.1	112.7
34	34	13C2-PFDoA	615 > 569.7	3.25e3	5.36e4	1.000	0.071	4.34	4.28	0.756	10.6	85.1
35	35	13C2-PFTeDA	714.8 > 669.6	2.75e3	5.36e4	1.000	0.273	4.68	4.63	0.641	2.35	(A) 18.8
36	36	13C4-PFBA	217 > 171.8	2.73e4	2.73e4	1.000	1.000	1.32	1.35	12.5	12.5	100.0
37	37	13C5-PFHxA	318 > 272.9	7.62e4	7.62e4	1.000	1.000	3.19	3.15	5.00	5.00	100.0
38	38	13C3-PFHxS	401.9 > 79.9	1.16e4	1.16e4	1.000	1.000	3.56	3.49	12.5	12.5	100.0
39	39	13C8-PFOA	421.3 > 376	6.40e4	6.40e4	1.000	1.000	3.65	3.61	12.5	12.5	100.0
40	40	13C9-PFNA	472.2 > 426.9	6.76e4	6.76e4	1.000	1.000	3.83	3.79	12.5	12.5	100.0
41	41	13C4-PFOS	503 > 79.9	1.02e4	1.02e4	1.000	1.000	3.89	3.84	12.5	12.5	100.0
42	42	13C6-PFDA	519.1 > 473.7	7.06e4	7.06e4	1.000	1.000	4.01	3.96	12.5	12.5	100.0
43	43	13C7-PFUnA	570.1 > 524.8	5.36e4	5.36e4	1.000	1.000	4.17	4.12	12.5	12.5	100.0

50-150 ↓

(A) Not used.

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

Last Altered: Tuesday, August 01, 2017 10:33:51 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:34:05 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	2.36e4	2.73e4	1.000		1.32	1.38	10.8	9.91	99.1
2	2	PFPeA	263.1 > 218.9	4.93e4	6.46e4	1.000		2.77	2.68	9.55	9.90	99.0
3	3	PFBS	299 > 79.7	1.21e4	8.63e3	1.000		2.96	2.91	17.5	9.41	94.1
4	4	PFHxA	313.2 > 268.9	9.41e4	3.34e4	1.000		3.19	3.16	14.1	10.0	100.0
5	5	PFHpA	363 > 318.9	7.42e4	7.62e4	1.000		3.45	3.43	12.2	10.3	102.7
6	6	PFHxS	398.9 > 79.6	8.99e3	7.05e3	1.000		3.56	3.50	15.9	9.53	95.3
7	7	PFOA	413 > 368.7	8.52e4	1.05e5	1.000		3.65	3.63	10.1	10.3	102.6
8	8	PFHpS	448.9 > 98.8	7.70e3	1.05e5	1.000		3.65	3.69	0.913	10.9	109.3
9	9	PFNA	462.9 > 418.8	7.97e4	8.90e4	1.000		3.83	3.81	11.2	10.4	104.0
10	10	PFOSA	498.1 > 77.8	8.89e3	1.09e4	1.000		3.84	3.82	10.2	9.22	92.2
11	11	PFOS	499 > 79.9	1.41e4	1.65e4	1.000		3.89	3.86	10.7	10.8	107.9
12	12	PFDA	513 > 468.8	9.32e4	9.81e4	1.000		4.01	3.98	11.9	9.70	97.0
13	13	N-MeFOSAA	570.1 > 419	2.49e4	2.05e4	1.000		4.03	4.01	198	10.0	100.3
14	14	N-EtFOSAA	584.2 > 419	1.89e4	1.92e4	1.000		4.10	4.08	160	10.5	104.6
15	15	PFUnA	562.9 > 518.9	6.08e4	1.08e5	1.000		4.11	4.15	7.07	9.49	94.9
16	16	PFDS	598.9 > 98.7	6.30e3	1.08e5	1.000		4.22	4.19	0.732	10.3	103.2
17	17	PFDoA	612.9 > 318.8	7.61e3	1.00e4	1.000		4.34	4.30	9.50	11.8	118.0
18	18	PFTrDA	662.9 > 618.9	8.49e4	1.00e4	1.000		4.50	4.47	106	10.8	107.6
19	19	PFTeDA	712.9 > 668.8	5.61e4	6.80e4	1.000		4.68	4.65	10.3	9.82	98.2
20	20	13C3-PFBA	216.1 > 171.8	2.73e4	2.73e4	1.000	1.068	1.32	1.38	12.5	11.7	93.7
21	21	13C3-PFPeA	266 > 221.8	6.46e4	9.98e4	1.000	0.271	2.77	2.68	3.24	11.9	95.4
22	22	13C3-PFBS	302 > 98.8	8.63e3	9.98e4	1.000	0.033	2.96	2.92	0.433	13.1	104.6
23	23	13C2-PFHxA	315 > 269.8	3.34e4	9.98e4	1.000	0.335	3.19	3.15	1.67	4.99	99.8
24	24	13C4-PFHpA	367.2 > 321.8	7.62e4	9.98e4	1.000	0.369	3.45	3.43	3.82	10.3	82.8
25	25	18O2-PFHxS	403 > 102.6	7.05e3	1.42e4	1.000	0.460	3.56	3.50	6.21	13.5	107.8
26	26	13C2-PFOA	414.9 > 369.7	1.05e5	7.70e4	1.000	1.293	3.65	3.63	17.1	13.2	105.9
27	27	13C5-PFNA	468.2 > 422.9	8.90e4	8.64e4	1.000	0.986	3.83	3.81	12.9	13.1	104.5
28	28	13C8-PFOSA	506.1 > 77.7	1.09e4	9.51e4	1.000	0.132	3.84	3.82	1.44	10.8	86.8
29	29	13C8-PFOS	507 > 79.9	1.65e4	1.46e4	1.000	1.184	3.89	3.86	14.1	11.9	95.3
30	30	13C2-PFDA	515.1 > 469.9	9.81e4	8.99e4	1.000	0.998	4.01	3.98	13.6	13.7	109.4
31	31	d3-N-MeFOSAA	573.3 > 419	2.05e4	9.51e4	1.000	0.018	4.03	4.01	2.69	152	93.6
32	32	d5-N-EtFOSAA	589.3 > 419	1.92e4	9.51e4	1.000	0.018	4.12	4.08	2.52	142	87.3

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DM 8/1/17

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Dataset: U:\Q4.PRO\results\170731M1\170731M1-34.qld

Last Altered: Tuesday, August 01, 2017 10:33:51 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:34:05 Pacific Daylight Time

Name: 170731M1_34, Date: 31-Jul-2017, Time: 18:13:24, ID: ST170731M1-3 PFC CS3 17G2729, Description: PFC CS3 17G2729

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33 13C2-PFUnA	565 > 519.8	1.08e5	9.51e4	1.000	1.129	4.17	4.14	14.1	12.5	100.2
34	34 13C2-PFDoA	615 > 569.7	1.00e4	9.51e4	1.000	0.116	4.34	4.30	1.32	11.3	90.8
35	35 13C2-PFTeDA	714.8 > 669.6	6.80e4	9.51e4	1.000	0.762	4.68	4.65	8.94	11.7	93.8
36	36 13C4-PFBA	217 > 171.8	2.73e4	2.73e4	1.000	1.000	1.32	1.38	12.5	12.5	100.0
37	37 13C5-PFHxA	318 > 272.9	9.98e4	9.98e4	1.000	1.000	3.19	3.16	5.00	5.00	100.0
38	38 13C3-PFHxS	401.9 > 79.9	1.42e4	1.42e4	1.000	1.000	3.56	3.50	12.5	12.5	100.0
39	39 13C8-PFOA	421.3 > 376	7.70e4	7.70e4	1.000	1.000	3.65	3.63	12.5	12.5	100.0
40	40 13C9-PFNA	472.2 > 426.9	8.64e4	8.64e4	1.000	1.000	3.83	3.81	12.5	12.5	100.0
41	41 13C4-PFOS	503 > 79.9	1.46e4	1.46e4	1.000	1.000	3.89	3.87	12.5	12.5	100.0
42	42 13C6-PFDA	519.1 > 473.7	8.99e4	8.99e4	1.000	1.000	4.01	3.98	12.5	12.5	100.0
43	43 13C7-PFUnA	570.1 > 524.8	9.51e4	9.51e4	1.000	1.000	4.17	4.15	12.5	12.5	100.0

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Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

Last Altered: Tuesday, August 01, 2017 10:35:04 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:35:10 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

	#	Name	Trace	Area	IS Area	Wt/Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	2.37e4	2.80e4	1.000		1.32	1.39	10.6	9.66	96.6
2	2	PFPeA	263.1 > 218.9	5.31e4	6.80e4	1.000		2.77	2.69	9.76	10.1	101.3
3	3	PFBS	299 > 79.7	1.32e4	9.40e3	1.000		2.96	2.92	17.6	9.48	94.8
4	4	PFHxA	313.2 > 268.9	1.00e5	3.52e4	1.000		3.19	3.16	14.3	10.1	101.3
5	5	PFHpA	363 > 318.9	7.17e4	7.78e4	1.000		3.45	3.43	11.5	9.72	97.2
6	6	PFHxS	398.9 > 79.6	8.97e3	6.97e3	1.000		3.56	3.50	16.1	9.63	96.3
7	7	PFOA	413 > 368.7	8.54e4	1.12e5	1.000		3.65	3.63	9.56	9.70	97.0
8	8	PFHpS	448.9 > 98.8	7.99e3	1.12e5	1.000		3.65	3.69	0.893	10.7	106.9
9	9	PFNA	462.9 > 418.8	8.05e4	9.84e4	1.000		3.83	3.81	10.2	9.49	94.9
10	10	PFOSA	498.1 > 77.8	8.92e3	1.06e4	1.000		3.84	3.82	10.5	9.51	95.1
11	11	PFOS	499 > 79.9	1.46e4	1.84e4	1.000		3.89	3.86	9.95	10.0	100.1
12	12	PFDA	513 > 468.8	8.50e4	8.50e4	1.000		4.01	3.98	12.5	10.2	102.3
13	13	N-MeFOSAA	570.1 > 419	2.45e4	2.05e4	1.000		4.03	4.01	195	9.86	98.6
14	14	N-EtFOSAA	584.2 > 419	1.94e4	2.00e4	1.000		4.10	4.08	158	10.3	102.9
15	15	PFUnA	562.9 > 518.9	6.09e4	1.01e5	1.000		4.11	4.15	7.50	10.1	100.8
16	16	PFDS	598.9 > 98.7	6.30e3	1.01e5	1.000		4.22	4.19	0.776	11.0	109.5
17	17	PFDoA	612.9 > 318.8	7.73e3	9.84e3	1.000		4.34	4.30	9.82	12.2	122.1
18	18	PFTrDA	662.9 > 618.9	8.56e4	9.84e3	1.000		4.50	4.47	109	11.0	110.4
19	19	PFTeDA	712.9 > 668.8	5.77e4	6.80e4	1.000		4.68	4.66	10.6	10.1	101.1
20	20	13C3-PFBA	216.1 > 171.8	2.80e4	2.73e4	1.000	1.068	1.32	1.40	12.8	12.0	95.9
21	21	13C3-PFPeA	266 > 221.8	6.80e4	9.67e4	1.000	0.271	2.77	2.69	3.51	13.0	103.6
22	22	13C3-PFBS	302 > 98.8	9.40e3	9.67e4	1.000	0.033	2.96	2.92	0.486	14.7	117.5
23	23	13C2-PFHxA	315 > 269.8	3.52e4	9.67e4	1.000	0.335	3.19	3.16	1.82	5.42	108.4
24	24	13C4-PFHpA	367.2 > 321.8	7.78e4	9.67e4	1.000	0.369	3.45	3.43	4.02	10.9	87.2
25	25	18O2-PFHxS	403 > 102.6	6.97e3	1.39e4	1.000	0.460	3.56	3.50	6.25	13.6	108.6
26	26	13C2-PFOA	414.9 > 369.7	1.12e5	8.09e4	1.000	1.293	3.65	3.63	17.3	13.4	106.8
27	27	13C5-PFNA	468.2 > 422.9	9.84e4	8.92e4	1.000	0.986	3.83	3.81	13.8	14.0	112.0
28	28	13C8-PFOSA	506.1 > 77.7	1.06e4	8.45e4	1.000	0.132	3.84	3.82	1.57	11.9	94.9
29	29	13C8-PFOS	507 > 79.9	1.84e4	1.50e4	1.000	1.184	3.89	3.87	15.3	12.9	103.2
30	30	13C2-PFDA	515.1 > 469.9	8.50e4	8.94e4	1.000	0.998	4.01	3.99	11.9	11.9	95.2
31	31	d3-N-MeFOSAA	573.3 > 419	2.05e4	8.45e4	1.000	0.018	4.03	4.01	3.02	171	105.2
32	32	d5-N-EtFOSAA	589.3 > 419	2.00e4	8.45e4	1.000	0.018	4.12	4.08	2.96	166	102.4

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DM 8/1/17

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Dataset: U:\Q4.PRO\results\170731M1\170731M1-40.qld

Last Altered: Tuesday, August 01, 2017 10:35:04 Pacific Daylight Time
Printed: Tuesday, August 01, 2017 10:35:10 Pacific Daylight Time

Name: 170731M1_40, Date: 31-Jul-2017, Time: 19:17:39, ID: ST170731M1-4 PFC CS3 17G2729, Description: PFC CS3 17G2729

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	33 13C2-PFUnA	565 > 519.8	1.01e5	8.45e4	1.000	1.129	4.17	4.15	15.0	13.3	106.3
34	34 13C2-PFDoA	615 > 569.7	9.84e3	8.45e4	1.000	0.116	4.34	4.30	1.46	12.5	100.4
35	35 13C2-PFTeDA	714.8 > 669.6	6.80e4	8.45e4	1.000	0.762	4.68	4.66	10.1	13.2	105.5
36	36 13C4-PFBA	217 > 171.8	2.73e4	2.73e4	1.000	1.000	1.32	1.40	12.5	12.5	100.0
37	37 13C5-PFHxA	318 > 272.9	9.67e4	9.67e4	1.000	1.000	3.19	3.16	5.00	5.00	100.0
38	38 13C3-PFHxS	401.9 > 79.9	1.39e4	1.39e4	1.000	1.000	3.56	3.50	12.5	12.5	100.0
39	39 13C8-PFOA	421.3 > 376	8.09e4	8.09e4	1.000	1.000	3.65	3.63	12.5	12.5	100.0
40	40 13C9-PFNA	472.2 > 426.9	8.92e4	8.92e4	1.000	1.000	3.83	3.81	12.5	12.5	100.0
41	41 13C4-PFOS	503 > 79.9	1.50e4	1.50e4	1.000	1.000	3.89	3.87	12.5	12.5	100.0
42	42 13C6-PFDA	519.1 > 473.7	8.94e4	8.94e4	1.000	1.000	4.01	3.98	12.5	12.5	100.0
43	43 13C7-PFUnA	570.1 > 524.8	8.45e4	8.45e4	1.000	1.000	4.17	4.14	12.5	12.5	100.0

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/24/17

7/24/17

Compound name: PFBA
Correlation coefficient: r = 0.999644, r^2 = 0.999287
Calibration curve: 1.1275 * x + 0.163356
Response type: Internal Std (Ref 28), 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	170724M1_3	Standard	0.250	1.55	407.719	12354.435	0.413	0.2	-11.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	1.55	682.657	12177.060	0.701	0.5	-4.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	1.55	1308.852	12151.235	1.346	1.0	4.9	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	1.55	2608.698	12859.778	2.536	2.1	5.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	1.55	6350.984	12263.796	6.473	5.6	11.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	1.55	11274.906	12983.228	10.855	9.5	-5.2	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	1.55	55148.398	12298.162	56.053	49.6	-0.9	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	1.57	109673.492	12111.065	113.196	100.2	0.2	NO	0.999	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999528, r^2 = 0.999056
Calibration curve: 0.99208 * x + 0.104629
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	170724M1_3	Standard	0.250	2.80	607.592	24708.574	0.307	0.2	-18.3	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	2.80	1138.424	24374.584	0.584	0.5	-3.4	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	2.80	2230.288	24321.555	1.146	1.0	5.0	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	2.80	4575.088	25826.396	2.214	2.1	6.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	2.80	11044.060	24387.125	5.661	5.6	12.0	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	2.81	20066.025	25621.486	9.790	9.8	-2.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	2.80	97100.672	23859.781	50.870	51.2	2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	2.81	190500.000	24378.607	97.678	98.4	-1.6	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0752948
Response type: Internal Std (Ref 30), 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	170724M1_3	Standard	0.250	3.00	116.281	3068.403	0.474	0.2	-14.0	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.00	214.965	3020.354	0.890	0.4	-12.1	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	2.99	512.501	3001.774	2.134	1.1	11.2	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.00	1085.602	3295.993	4.117	2.2	9.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.00	2583.207	3132.764	10.307	5.5	10.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.00	4677.829	3302.426	17.706	9.5	-4.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.00	22355.119	2994.649	93.313	50.3	0.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.00	43420.234	2946.134	184.225	99.4	-0.6	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999648, r^2 = 0.999296
Calibration curve: 1.50967 * x + 0.157344
Response type: Internal Std (Ref 31), 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	170724M1_3	Standard	0.250	3.22	1079.404	11341.955	0.476	0.2	-15.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.22	1906.946	10636.292	0.896	0.5	-2.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.22	3807.136	10865.864	1.752	1.1	5.6	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	3.22	7912.540	12006.801	3.295	2.1	3.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.22	18325.188	10585.094	8.656	5.6	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.22	34348.887	11649.966	14.742	9.7	-3.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.22	154915.125	10379.170	74.628	49.3	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.22	320392.531	10569.161	151.570	100.3	0.3	NO	0.999	NO	bb

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Compound name: PFHpA
Correlation coefficient: r = 0.999811, r^2 = 0.999621
Calibration curve: 1.25322 * x + 0.0796155
Response type: Internal Std (Ref 32), 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	170724M1_3	Standard	0.250	3.47	835.892	29540.787	0.354	0.2	-12.5	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	3.48	1686.437	28831.211	0.731	0.5	4.0	NO	1.000	NO	db
3	3	170724M1_5	Standard	1.000	3.48	3129.354	30065.992	1.301	1.0	-2.5	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.48	6923.302	31499.152	2.747	2.1	6.4	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.48	17221.189	31478.633	6.838	5.4	7.9	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	3.48	32050.246	32505.703	12.325	9.8	-2.3	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	3.48	148752.578	30043.684	61.890	49.3	-1.4	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	3.48	294885.219	29270.332	125.932	100.4	0.4	NO	1.000	NO	bb

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999711
Calibration curve: -0.00151846 * x^2 + 1.70838 * x + -0.0114403
Response type: Internal Std (Ref 33), 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	170724M1_3	Standard	0.250	3.56	73.733	2957.523	0.312	0.2	-24.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	3.55	233.030	2945.944	0.989	0.6	17.2	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	3.55	387.605	2882.763	1.681	1.0	-0.9	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.55	883.679	3069.216	3.599	2.1	5.9	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.55	2121.650	3078.477	8.615	5.1	1.4	NO	1.000	NO	MM
6	6	170724M1_8	Standard	10.000	3.55	3757.863	2827.577	16.613	9.8	-1.8	NO	1.000	NO	MM
7	7	170724M1_9	Standard	50.000	3.55	19494.768	2990.466	81.487	49.9	-0.2	NO	1.000	NO	MM
8	8	170724M1_10	Standard	100.000	3.55	36940.883	2965.238	155.725	100.1	0.1	NO	1.000	NO	bb

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Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 34), 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	170724M1_3	Standard	0.250	3.67	204.440	7589.777	0.337	0.2	-24.7	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	400.907	7687.979	0.652	0.5	-3.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	747.740	7427.477	1.258	1.0	4.9	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.66	1573.173	7868.375	2.499	2.2	10.7	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.66	3802.596	7544.070	6.301	5.8	16.7	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.67	6777.476	8079.142	10.486	9.9	-0.8	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	31001.344	8775.410	44.159	47.5	-4.9	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.66	59887.281	9696.150	77.205	102.0	2.0	NO	0.998	NO	bb

Compound name: PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 35), 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	170724M1_3	Standard	0.250	3.67	1654.212	55437.824	0.373	0.2	-28.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	2766.273	52853.566	0.654	0.5	-6.4	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	5264.665	53444.164	1.231	1.1	6.3	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.68	10233.177	55652.324	2.298	2.2	8.1	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.68	26080.451	55510.707	5.873	5.8	16.9	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.68	45105.969	54392.293	10.366	10.5	4.7	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	220048.344	55876.563	49.226	50.5	1.0	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.68	421252.813	55196.383	95.399	98.1	-1.9	NO	0.998	NO	bb

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Compound name: PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 35), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.74	113.671	55437.824	0.026	0.1	-50.5	NO	0.998	NO	bbX
2	2	170724M1_4	Standard	0.500	3.74	222.089	52853.566	0.053	0.4	-14.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.73	522.454	53444.164	0.122	1.2	21.2	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.74	936.558	55652.324	0.210	2.2	10.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.73	2346.630	55510.707	0.528	5.8	15.8	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.74	4004.412	54392.293	0.920	10.2	2.0	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.74	19773.092	55876.563	4.423	49.7	-0.6	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.74	38852.836	55196.383	8.799	99.0	-1.0	NO	0.998	NO	bb

Compound name: PFNA
Correlation coefficient: r = 0.998659, r^2 = 0.997320
Calibration curve: 1.09835 * x + 0.147218
Response type: Internal Std (Ref 36), 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	170724M1_3	Standard	0.250	3.85	1506.464	55001.828	0.342	0.2	-28.9	NO	0.997	NO	MM
2	2	170724M1_4	Standard	0.500	3.85	2694.965	54762.438	0.615	0.4	-14.8	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	5691.902	55321.512	1.286	1.0	3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	3.85	12559.827	59225.996	2.651	2.3	14.0	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	3.85	29286.219	53341.520	6.863	6.1	22.3	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	3.85	53683.984	56161.168	11.949	10.7	7.4	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	3.85	236461.688	55495.742	53.261	48.4	-3.3	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	3.85	475993.000	54308.789	109.557	99.6	-0.4	NO	0.997	NO	bb

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Compound name: PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 37), 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	170724M1_3	Standard	0.250	3.86	163.860	6633.945	0.309	0.2	-1.0	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.85	301.866	6613.513	0.571	0.5	-0.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	477.914	6491.109	0.920	0.8	-17.0	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.86	1315.264	7021.902	2.341	2.2	9.2	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.86	2927.381	6519.732	5.613	5.3	6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.86	5570.263	6576.866	10.587	10.0	0.4	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.86	26459.754	5926.425	55.809	53.1	6.3	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.86	50171.699	6190.267	101.312	96.5	-3.5	NO	0.998	NO	bb

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999148
Calibration curve: -0.00122032 * x^2 + 1.19038 * x + 0.0183073
Response type: Internal Std (Ref 38), 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	170724M1_3	Standard	0.250	3.90	300.610	10711.932	0.351	0.3	11.8	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	3.90	466.042	10010.674	0.582	0.5	-5.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.90	1032.724	10207.536	1.265	1.0	4.8	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	3.90	1981.837	10715.066	2.312	1.9	-3.5	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	3.90	5099.578	10217.659	6.239	5.3	5.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.90	8336.075	9647.514	10.801	9.1	-8.6	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.91	43091.355	9325.974	57.757	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.90	78910.156	9278.883	106.303	99.4	-0.6	NO	0.999	NO	bb

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Compound name: PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998795
Calibration curve: 1.29731 * x + 0.128184
Response type: Internal Std (Ref 39), 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	170724M1_3	Standard	0.250	4.02	1671.759	55156.438	0.379	0.2	-22.7	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.02	3226.587	49449.902	0.816	0.5	6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.02	6606.647	59736.465	1.382	1.0	-3.3	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	4.02	14672.154	61862.684	2.965	2.2	9.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	32741.914	53915.461	7.591	5.8	15.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	60142.156	58734.430	12.800	9.8	-2.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.03	291430.906	57610.250	63.233	48.6	-2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	519240.375	49628.984	130.781	100.7	0.7	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.996738
Calibration curve: -0.00420182 * x^2 + 1.49722 * x + 0.133523
Response type: Internal Std (Ref 40), 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	170724M1_3	Standard	0.250	4.01	116.059	5712.626	0.254	0.1	-67.8	NO	0.997	NO	bbX
2	2	170724M1_4	Standard	0.500	4.02	436.336	5926.817	0.920	0.5	5.2	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	4.01	704.575	5605.082	1.571	1.0	-3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	4.01	1467.688	6033.180	3.041	2.0	-2.4	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	3942.699	5463.454	9.021	6.0	20.8	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	6715.274	5614.961	14.950	10.2	1.9	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	4.02	29821.402	6078.795	61.323	47.1	-5.8	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	56335.957	6441.568	109.321	102.3	2.3	NO	0.997	NO	bb

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999848
Calibration curve: -0.0104077 * x^2 + 19.9194 * x + 0.547687
Response type: Internal Std (Ref 41), 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	170724M1_3	Standard	0.250	4.05	448.925	12099.400	6.029	0.3	10.1	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.05	716.809	11504.973	10.124	0.5	-3.8	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.06	1261.768	11265.637	18.200	0.9	-11.3	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.05	3173.830	12505.027	41.243	2.0	2.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.05	7648.363	12072.939	102.946	5.2	3.1	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.05	14431.390	11803.941	198.671	10.0	-0.0	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.05	69860.063	11737.307	967.195	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.05	130379.672	11210.404	1889.914	100.1	0.1	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999908
Calibration curve: -0.00439744 * x^2 + 16.1657 * x + 0.0580373
Response type: Internal Std (Ref 42), 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	170724M1_3	Standard	0.250	4.12	300.173	12172.007	4.007	0.2	-2.3	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.12	550.297	11615.228	7.699	0.5	-5.5	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.12	1245.830	11653.344	17.372	1.1	7.1	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.12	2483.220	12504.510	32.270	2.0	-0.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.12	6280.812	12228.059	83.466	5.2	3.3	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.12	12176.978	12339.168	160.364	9.9	-0.6	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.12	57061.832	11695.135	792.855	49.7	-0.6	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.12	112917.555	11651.338	1574.849	100.1	0.1	NO	1.000	NO	bb

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 43), 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	170724M1_3	Standard	0.250	4.18	1408.556	65735.461	0.268	0.3	15.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	4.19	2456.148	63870.914	0.481	0.5	5.1	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	4.19	4367.807	64348.984	0.848	0.9	-6.5	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	4.19	9271.418	67160.539	1.726	1.9	-4.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	4.19	22206.646	66089.180	4.200	4.7	-6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	4.19	40104.945	61335.543	8.173	9.3	-7.5	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	4.19	187190.781	55960.629	41.813	52.6	5.2	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	4.19	357250.000	64722.215	68.997	98.3	-1.7	NO	0.998	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998889
Calibration curve: -0.000220781 * x^2 + 0.0914068 * x + -0.00228704
Response type: Internal Std (Ref 43), 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	170724M1_3	Standard	0.250	4.24	125.500	65735.461	0.024	0.3	14.5	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.24	213.650	63870.914	0.042	0.5	-3.4	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	4.23	432.153	64348.984	0.084	0.9	-5.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.24	998.163	67160.539	0.186	2.1	3.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.23	2251.549	66089.180	0.426	4.7	-5.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.23	4080.028	61335.543	0.831	9.3	-6.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.24	18621.564	55960.629	4.160	52.1	4.2	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.23	35549.465	64722.215	6.866	98.6	-1.4	NO	0.999	NO	bb

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Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999700
Calibration curve: -0.000446703 * x^2 + 0.926687 * x + 0.203454
Response type: Internal Std (Ref 44), 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	170724M1_3	Standard	0.250	4.34	212.884	6396.985	0.416	0.2	-8.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	4.35	285.030	5632.353	0.633	0.5	-7.4	NO	1.000	NO	MM
3	3	170724M1_5	Standard	1.000	4.35	576.941	5998.723	1.202	1.1	7.8	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.35	1144.260	6584.378	2.172	2.1	6.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.35	2601.126	6419.244	5.065	5.3	5.2	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.35	4871.013	6690.135	9.101	9.6	-3.5	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.35	21850.346	6031.607	45.283	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.35	43781.789	6184.443	88.492	100.1	0.1	NO	1.000	NO	bb

Compound name: N-MeFOSA
Correlation coefficient: r = 0.999273, r^2 = 0.998546
Calibration curve: 1.0376 * x + 0.213391
Response type: Internal Std (Ref 45), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	4.39	228.733	27834.387	1.233	1.0	-21.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	2.500	4.39	521.665	26795.877	2.920	2.6	4.3	NO	0.999	NO	db
3	3	170724M1_5	Standard	5.000	4.39	1023.477	27001.328	5.686	5.3	5.5	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.39	2219.793	28178.129	11.817	11.2	11.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.39	5367.556	27075.477	29.737	28.5	13.8	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.39	9739.016	27395.363	53.325	51.2	2.4	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.39	46919.371	26470.068	265.882	256.0	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	4.39	92806.148	27480.182	506.580	488.0	-2.4	NO	0.999	NO	bb

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Compound name: PFTrDA
Correlation coefficient: r = 0.999414, r^2 = 0.998828
Calibration curve: 10.9255 * x + 1.79
Response type: Internal Std (Ref 44), 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	170724M1_3	Standard	0.250	4.52	1936.804	6396.985	3.785	0.2	-27.0	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.52	3347.446	5632.353	7.429	0.5	3.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.52	6246.435	5998.723	13.016	1.0	2.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.52	13537.021	6584.378	25.699	2.2	9.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.52	32633.807	6419.244	63.547	5.7	13.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.52	58224.531	6690.135	108.788	9.8	-2.1	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.52	270796.875	6031.607	561.204	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.52	531631.563	6184.443	1074.534	98.2	-1.8	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999057
Calibration curve: -0.000800394 * x^2 + 1.14875 * x + 0.111533
Response type: Internal Std (Ref 46), 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	170724M1_3	Standard	0.250	4.70	1552.113	52611.504	0.369	0.2	-10.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.70	2285.720	43220.855	0.661	0.5	-4.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.70	4798.681	44254.344	1.355	1.1	8.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.70	9477.179	47041.410	2.518	2.1	4.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.70	23144.785	45392.488	6.374	5.5	9.4	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.70	40819.449	48426.250	10.536	9.1	-8.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.70	191033.828	42647.246	55.992	50.4	0.8	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.70	370959.375	43405.691	106.829	99.8	-0.2	NO	0.999	NO	bb

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Compound name: N-EtFOSA
Correlation coefficient: r = 0.999689, r^2 = 0.999377
Calibration curve: 0.904115 * x + 0.326191
Response type: Internal Std (Ref 47), 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	170724M1_3	Standard	1.250	4.96	337.684	39437.277	1.284	1.1	-15.2	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	4.97	613.630	37412.609	2.460	2.4	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	4.97	1267.991	37050.801	5.133	5.3	6.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.96	2697.465	40104.539	10.089	10.8	8.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.97	6431.737	38083.547	25.333	27.7	10.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.97	11627.879	39916.621	43.696	48.0	-4.1	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.96	57443.004	37926.309	227.189	250.9	0.4	NO	0.999	NO	db
8	8	170724M1_10	Standard	500.000	4.97	116042.914	38657.641	450.272	497.7	-0.5	NO	0.999	NO	db

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999358
Calibration curve: -0.000715061 * x^2 + 1.34773 * x + 0.264398
Response type: Internal Std (Ref 48), 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	170724M1_3	Standard	0.250	5.07	2816.818	25428.396	0.554	0.2	-14.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.07	3878.399	21542.566	0.900	0.5	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.07	7068.157	21611.141	1.635	1.0	1.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.07	14417.972	22044.896	3.270	2.2	11.6	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.07	33676.410	22327.822	7.541	5.4	8.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.07	61493.496	22552.494	13.633	10.0	-0.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.07	276231.906	21452.613	64.382	48.8	-2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.07	545977.438	21228.160	128.597	100.6	0.6	NO	0.999	NO	bb

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Compound name: PFODA
Correlation coefficient: r = 0.999378, r^2 = 0.998756
Calibration curve: 1.27561 * x + 0.10098
Response type: Internal Std (Ref 48), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	1893.557	25428.396	0.372	0.2	-14.9	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	5.44	3335.536	21542.566	0.774	0.5	5.5	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.44	6573.281	21611.141	1.521	1.1	11.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.44	13511.143	22044.896	3.064	2.3	16.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.44	32601.881	22327.822	7.301	5.6	12.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.44	59011.938	22552.494	13.083	10.2	1.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	274924.375	21452.613	64.077	50.2	0.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.44	534414.688	21228.160	125.874	98.6	-1.4	NO	0.999	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999476, r^2 = 0.998953
Calibration curve: 1.01603 * x + 0.461771
Response type: Internal Std (Ref 49), 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	170724M1_3	Standard	1.250	5.43	419.747	45355.609	1.388	0.9	-27.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.43	827.391	42298.965	2.934	2.4	-2.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.43	1698.216	42181.715	6.039	5.5	9.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.43	3509.137	44882.496	11.728	11.1	10.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.43	8229.911	42480.406	29.060	28.1	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.43	14647.859	44502.430	49.372	48.1	-3.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.43	72247.016	42011.336	257.955	253.4	1.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.43	142986.313	42682.813	502.496	494.1	-1.2	NO	0.999	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.999680, r^2 = 0.999361
Calibration curve: 1.16673 * x + 0.501898
Response type: Internal Std (Ref 50), 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	170724M1_3	Standard	1.250	5.60	493.408	44922.563	1.648	1.0	-21.4	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.61	917.078	40989.961	3.356	2.4	-2.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.61	1793.908	40752.352	6.603	5.2	4.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.60	3804.083	43177.285	13.216	10.9	9.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.61	9310.704	42231.566	33.070	27.9	11.7	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.61	16671.494	42902.656	58.288	49.5	-0.9	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.60	80911.422	41552.719	292.080	249.9	-0.0	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.61	163300.031	42219.305	580.185	496.8	-0.6	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.820483
RRF SD: 0.00867593, Relative SD: 1.05742
Response type: Internal Std (Ref 51), 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	170724M1_3	Standard	12.500	1.54	12354.435	15090.568	10.234	12.5	-0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	12177.060	14962.116	10.173	12.4	-0.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.54	12151.235	14894.126	10.198	12.4	-0.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	12859.778	15482.658	10.382	12.7	1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	12263.796	15091.931	10.158	12.4	-1.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	12983.228	15599.055	10.404	12.7	1.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	12298.162	14839.394	10.359	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	12111.065	14929.445	10.140	12.4	-1.1	NO		NO	bb

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Ⓐ Not in SS.

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:34:12
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

AC 7/24/17

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	11377.467	12073.278		1.000	1.56	10.30	103.03
2	2	PFPeA	263.1 > 218.9	19853.004	23925.629		1.000	2.81	10.35	103.50
3	3	PFBS	299 > 79.7	4150.350	2957.477		1.000	3.00	9.43	94.30
4	4	PFHxA	313.2 > 268.9	31616.176	10121.942		1.000	3.23	10.24	102.41
5	5	PFHpA	363 > 318.9	29691.209	29688.498		1.000	3.48	9.91	99.12
6	6	PFHxS	398.9 > 79.6	3522.001	2850.923		1.000	3.55	9.12	91.20
7	7	6:2 FTS	427.1 > 407	6778.936	7715.412		1.000	3.67	10.41	104.10
8	8	PFOA	413 > 368.7	48252.109	57527.922		1.000	3.68	10.59	105.94
9	9	PFHpS	448.9 > 98.8	3857.262	57527.922		1.000	3.74	9.28	92.79
10	10	PFNA	462.9 > 418.8	52020.793	55397.191		1.000	3.85	10.55	105.53
11	11	PFOSA	498.1 > 77.8	5708.063	6500.262		1.000	3.86	10.41	104.14
12	12	PFOS	499 > 79.9	8177.322	10272.242		1.000	3.90	8.42	84.17
13	13	PFDA	513 > 468.8	54158.824	56205.117		1.000	4.02	9.19	91.86
14	14	8:2 FTS	527 > 506.9	6486.744	5254.963		1.000	4.02	10.53	105.28
15	15	N-MeFOSAA	570.1 > 419	14470.231	11971.411		1.000	4.06	9.88	98.84
16	16	N-EtFOSAA	584.2 > 419	12443.312	12068.997		1.000	4.12	10.39	103.90
17	17	PFUnA	562.9 > 518.9	37650.797	59926.145		1.000	4.19	8.88	88.81
18	18	PFDS	598.9 > 98.7	3869.410	59926.145		1.000	4.24	9.05	90.53
19	19	PFDoA	612.9 > 318.8	4450.692	5849.101		1.000	4.35	10.09	100.94
20	20	N-MeFOSA	512.1 > 168.9	9.012	26376.414		1.000	4.39		Ⓐ
21	21	PFTrDA	662.9 > 618.9	52553.016	5849.101		1.000	4.52	10.12	101.16
22	22	PFTeDA	712.9 > 668.8	38350.820	40951.586		1.000	4.70	10.17	101.65
23	23	N-EtFOSA	526.1 > 168.9	12.231	6321.303		1.000	4.97		Ⓐ
24	24	PFHxDA	812.8 > 768.9	616.143	19848.846		1.000	5.07		
25	25	PFODA	912.8 > 868.8	230.613	19848.846		1.000	5.44		
26	26	N-MeFOSE	616.1 > 58.9	26.252	40883.168		1.000	5.45		
27	27	N-EtFOSE	630.1 > 58.9		40456.262		1.000			
28	28	13C3-PFBA	216.1 > 171.8	12073.278	14974.247	0.820	1.000	1.55	12.28	98.27
29	29	13C3-PFPeA	266 > 221.8	23925.629	38341.938	0.248	1.000	2.81	12.57	100.58
30	30	13C3-PFBS	302 > 98.8	2957.477	38341.938	0.031	1.000	3.00	12.40	99.20
31	31	13C2-PFHxA	315 > 269.8	10121.942	38341.938	0.276	1.000	3.23	4.78	95.51

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	# Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32 13C4-PFHpA	367.2 > 321.8	29688.498	38341.938	0.306	1.000	3.48	12.67	101.34
33	33 18O2-PFHxS	403 > 102.6	2850.923	7151.517	0.393	1.000	3.55	12.69	101.51
34	34 13C2-6:2 FTS	429.1 > 408.9	7715.412	55193.199	0.158	1.000	3.67	11.08	88.65
35	35 13C2-PFOA	414.9 > 369.7	57527.922	55193.199	1.067	1.000	3.68	12.20	97.64
36	36 13C5-PFNA	468.2 > 422.9	55397.191	58314.438	0.852	1.000	3.85	13.94	111.48
37	37 13C8-PFOSA	506.1 > 77.7	6500.262	73602.336	0.098	1.000	3.86	11.24	89.90
38	38 13C8-PFOS	507 > 79.9	10272.242	10242.656	0.936	1.000	3.91	13.40	107.18
39	39 13C2-PFDA	515.1 > 469.9	56205.117	70397.750	0.810	1.000	4.02	12.32	98.59
40	40 13C2-8:2 FTS	529.1 > 508.7	5254.963	70397.750	0.086	1.000	4.02	10.90	87.23
41	41 d3-N-MeFOSAA	573.3 > 419	11971.411	73602.336	0.014	1.000	4.05	148.44	91.35
42	42 d5-N-EtFOSAA	589.3 > 419	12068.997	73602.336	0.014	1.000	4.12	146.98	90.45
43	43 13C2-PFUnA	565 > 519.8	59926.145	73602.336	0.962	1.000	4.19	10.58	84.63
44	44 13C2-PFDoA	615 > 569.7	5849.101	73602.336	0.094	1.000	4.35	10.52	84.16
45	45 d3-N-MeFOSA	515.2 > 168.9	26376.414	73602.336	0.034	1.000	4.43	130.17	86.78
46	46 13C2-PFTeDA	714.8 > 669.6	40951.586	73602.336	0.694	1.000	4.70	10.02	80.14
47	47 d5-N-ETFOSA	531.1 > 168.9	6321.303	73602.336	0.049	1.000	5.01	22.06	14.70
48	48 13C2-PFHxDA	815 > 769.7	19848.846	73602.336	0.843	1.000	5.07	4.00	79.97
49	49 d7-N-MeFOSE	623.1 > 58.9	40883.168	73602.336	0.055	1.000	5.42	127.09	84.73
50	50 d9-N-EtFOSE	639.2 > 58.8	40456.262	73602.336	0.053	1.000	5.59	128.61	85.74
51	51 13C4-PFBA	217 > 171.8	14974.247	14974.247	1.000	1.000	1.55	12.50	100.00
52	52 13C5-PFHxA	318 > 272.9	38341.938	38341.938	1.000	1.000	3.22	5.00	100.00
53	53 13C3-PFHxS	401.9 > 79.9	7151.517	7151.517	1.000	1.000	3.55	12.50	100.00
54	54 13C8-PFOA	421.3 > 376	55193.199	55193.199	1.000	1.000	3.68	12.50	100.00
55	55 13C9-PFNA	472.2 > 426.9	58314.438	58314.438	1.000	1.000	3.85	12.50	100.00
56	56 13C4-PFOS	503 > 79.9	10242.656	10242.656	1.000	1.000	3.91	12.50	100.00
57	57 13C6-PFDA	519.1 > 473.7	70397.750	70397.750	1.000	1.000	4.02	12.50	100.00
58	58 13C7-PFUnA	570.1 > 524.8	73602.336	73602.336	1.000	1.000	4.19	12.50	100.00

Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

AC 7/28/17 7/28/17

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999016
Calibration curve: -0.000148745 * x^2 + 1.144 * x + 0.0934277
Response type: Internal Std (Ref 20), 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	170727M1_6	Standard	0.250	1.32	402.541	13153.632	0.383	0.3	1.1	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	1.32	900.679	16229.239	0.694	0.5	5.0	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	1.32	1532.875	13631.894	1.406	1.1	14.7	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	1.32	3476.482	17379.277	2.500	2.1	5.2	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	1.32	7094.940	13706.406	6.470	5.6	11.6	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	1.32	14607.091	16386.203	11.143	9.7	-3.3	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	1.32	69465.063	15585.783	55.712	48.9	-2.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	1.32	120916.445	13303.807	113.611	100.5	0.5	NO	0.999	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999743, r^2 = 0.999486
Calibration curve: 0.998566 * x + 0.0863273
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	170727M1_6	Standard	0.250	2.62	977.753	42840.023	0.285	0.2	-20.3	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	2.63	2278.154	48017.777	0.593	0.5	1.5	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	2.63	4013.757	44080.910	1.138	1.1	5.3	NO	0.999	NO	MM
4	4	170727M1_9	Standard	2.000	2.63	8123.328	46122.711	2.202	2.1	5.9	NO	0.999	NO	MM
5	5	170727M1_10	Standard	5.000	2.63	19398.813	43342.047	5.595	5.5	10.3	NO	0.999	NO	MM
6	6	170727M1_11	Standard	10.000	2.63	35041.879	44586.609	9.824	9.8	-2.5	NO	0.999	NO	MM
7	7	170727M1_12	Standard	50.000	2.63	167534.391	41776.168	50.129	50.1	0.2	NO	0.999	NO	MM
8	8	170727M1_13	Standard	100.000	2.63	297744.313	37430.172	99.433	99.5	-0.5	NO	0.999	NO	MM

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Dataset: U:\Q4.PRO\results\170727M1\170727M1-CRV.qld

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Compound name: PFBS
Correlation coefficient: r = 0.999583, r^2 = 0.999166
Calibration curve: 1.87908 * x + 0.124036
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	170727M1_6	Standard	0.250	2.86	216.161	5089.555	0.531	0.2	-13.4	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	2.88	430.884	5384.093	1.000	0.5	-6.7	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	2.88	835.393	5220.958	2.000	1.0	-0.2	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	2.88	1775.403	5238.489	4.236	2.2	9.4	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	2.87	4544.860	5270.990	10.778	5.7	13.4	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	2.87	7856.220	5320.907	18.456	9.8	-2.4	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	2.88	35191.227	4634.577	94.915	50.4	0.9	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	2.88	64080.703	4302.573	186.170	99.0	-1.0	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999556, r^2 = 0.999111
Calibration curve: 1.45287 * x + 0.152663
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	170727M1_6	Standard	0.250	3.13	1523.459	18704.734	0.407	0.2	-29.9	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.14	3349.999	19036.875	0.880	0.5	0.1	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.13	6240.815	17953.455	1.738	1.1	9.1	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.14	12461.357	18121.797	3.438	2.3	13.1	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.13	30436.348	18473.457	8.238	5.6	11.3	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.13	54673.695	19237.354	14.210	9.7	-3.2	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.14	251307.063	17235.859	72.902	50.1	0.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.14	465411.344	16095.404	144.579	99.4	-0.6	NO	0.999	NO	bb

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Compound name: PFHpA
Correlation coefficient: r = 0.999612, r^2 = 0.999224
Calibration curve: 1.23238 * x + 0.112392
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	170727M1_6	Standard	0.250	3.40	1192.731	43063.793	0.346	0.2	-24.1	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.41	2552.004	45204.484	0.706	0.5	-3.7	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.40	5112.497	44567.395	1.434	1.1	7.2	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.40	9742.448	43767.641	2.782	2.2	8.3	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.40	25370.670	44912.559	7.061	5.6	12.8	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.40	42822.836	42955.043	12.462	10.0	0.2	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.40	198742.078	40157.961	61.863	50.1	0.2	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.41	369376.406	37780.906	122.210	99.1	-0.9	NO	0.999	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.999353, r^2 = 0.998707
Calibration curve: 1.63949 * x + 0.27697
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	170727M1_6	Standard	0.250	3.47	96.020	3850.929	0.312	0.0	-91.5	NO	0.999	NO	MMX
2	2	170727M1_7	Standard	0.500	3.49	280.310	3764.178	0.931	0.4	-20.2	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	3.47	582.460	3967.092	1.835	1.0	-5.0	NO	0.999	NO	MM
4	4	170727M1_9	Standard	2.000	3.48	1200.082	3867.868	3.878	2.2	9.8	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.47	3145.393	3971.926	9.899	5.9	17.4	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.47	4979.415	3753.762	16.581	9.9	-0.6	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.47	23568.961	3626.088	81.248	49.4	-1.2	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.48	43767.965	3339.629	163.820	99.8	-0.2	NO	0.999	NO	MM

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Compound name: PFOA
Correlation coefficient: r = 0.999168, r^2 = 0.998337
Calibration curve: 0.97941 * x + 0.169979
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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170727M1_6	Standard	0.250	3.60	1650.811	59865.938	0.345	0.2	-28.6	NO	0.998	NO	MM
2	2	170727M1_7	Standard	0.500	3.60	3196.288	59919.949	0.667	0.5	1.4	NO	0.998	NO	bb
3	3	170727M1_8	Standard	1.000	3.60	5374.311	55415.613	1.212	1.1	6.4	NO	0.998	NO	MM
4	4	170727M1_9	Standard	2.000	3.60	10962.036	59868.074	2.289	2.2	8.2	NO	0.998	NO	bb
5	5	170727M1_10	Standard	5.000	3.60	27432.125	58695.875	5.842	5.8	15.8	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	3.60	46826.324	61262.559	9.554	9.6	-4.2	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	3.60	221201.672	54632.066	50.612	51.5	3.0	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	3.60	393668.469	51197.766	96.115	98.0	-2.0	NO	0.998	NO	bb

Compound name: PFHpS
Correlation coefficient: r = 0.999393, r^2 = 0.998786
Calibration curve: 0.0865329 * x + 0.00638428
Response type: Internal Std (Ref 26), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170727M1_6	Standard	0.250	3.65	127.082	59865.938	0.027	0.2	-6.9	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	3.65	220.129	59919.949	0.046	0.5	-8.6	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.66	482.301	55415.613	0.109	1.2	18.3	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.67	979.073	59868.074	0.204	2.3	14.4	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.66	2327.510	58695.875	0.496	5.7	13.1	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.66	4283.730	61262.559	0.874	10.0	0.3	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.66	18917.369	54632.066	4.328	49.9	-0.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.66	35100.156	51197.766	8.570	99.0	-1.0	NO	0.999	NO	bb

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Compound name: PFNA
Correlation coefficient: r = 0.999135, r^2 = 0.998270
Calibration curve: 1.06404 * x + 0.151731
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	170727M1_6	Standard	0.250	3.77	1418.062	51114.008	0.347	0.2	-26.7	NO	0.998	NO	bb
2	2	170727M1_7	Standard	0.500	3.78	2579.519	51529.840	0.626	0.4	-10.9	NO	0.998	NO	bd
3	3	170727M1_8	Standard	1.000	3.78	4744.847	46721.047	1.269	1.1	5.0	NO	0.998	NO	bb
4	4	170727M1_9	Standard	2.000	3.78	10626.438	50271.816	2.642	2.3	17.0	NO	0.998	NO	bb
5	5	170727M1_10	Standard	5.000	3.78	25077.686	48716.914	6.435	5.9	18.1	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	3.78	43029.453	49942.039	10.770	10.0	-0.2	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	3.78	190384.000	45725.195	52.046	48.8	-2.5	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	3.78	355715.094	41697.215	106.636	100.1	0.1	NO	0.998	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.999394, r^2 = 0.998789
Calibration curve: 1.06848 * x + 0.223419
Response type: Internal Std (Ref 28), 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	170727M1_6	Standard	0.250	3.79	250.989	11862.194	0.264	0.0	-84.6	NO	0.999	NO	bbX
2	2	170727M1_7	Standard	0.500	3.78	698.528	11221.438	0.778	0.5	3.8	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.78	996.158	11168.887	1.115	0.8	-16.6	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.79	2339.715	11376.144	2.571	2.2	9.8	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.79	5314.163	10985.451	6.047	5.5	9.0	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.79	9316.069	11154.329	10.440	9.6	-4.4	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.79	38523.172	9284.536	51.865	48.3	-3.3	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.79	69731.266	8012.283	108.788	101.6	1.6	NO	0.999	NO	bb

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.999093
Calibration curve: -0.000652924 * x^2 + 1.07342 * x + 0.0667583
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	170727M1_6	Standard	0.250	3.83	246.486	9351.420	0.329	0.2	-2.1	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.84	477.693	9058.424	0.659	0.6	10.4	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.83	942.525	9156.141	1.287	1.1	13.7	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.83	1601.983	8775.251	2.282	2.1	3.3	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.83	3988.879	8595.392	5.801	5.4	7.2	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.83	7578.040	9601.248	9.866	9.2	-8.2	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.83	34494.703	8226.863	52.412	50.3	0.6	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.83	63517.383	7877.385	100.791	99.9	-0.1	NO	0.999	NO	bb

Compound name: PFDA
Correlation coefficient: r = 0.999716, r^2 = 0.999431
Calibration curve: 1.23228 * x + 0.147279
Response type: Internal Std (Ref 30), 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	170727M1_6	Standard	0.250	3.95	1756.771	52030.340	0.422	0.2	-10.8	NO	0.999	NO	bb
2	2	170727M1_7	Standard	0.500	3.95	3265.883	57299.637	0.712	0.5	-8.3	NO	0.999	NO	bb
3	3	170727M1_8	Standard	1.000	3.95	6418.463	54266.875	1.478	1.1	8.0	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	3.95	12635.267	56721.223	2.785	2.1	7.0	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	3.95	32229.738	60391.582	6.671	5.3	5.9	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	3.95	55974.184	56074.902	12.478	10.0	0.1	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	3.95	250603.625	52224.242	59.983	48.6	-2.9	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	3.95	494240.344	49584.195	124.596	101.0	1.0	NO	0.999	NO	bb

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999665
Calibration curve: 0.00022775 * x^2 + 19.9472 * x + 0.0898127
Response type: Internal Std (Ref 31), 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 170727M1_6	Standard	0.250	3.98	317.640	10411.437	4.958	0.2	-2.4	NO	1.000	NO	bd
2	2 170727M1_7	Standard	0.500	3.98	642.342	10929.026	9.551	0.5	-5.1	NO	1.000	NO	bb
3	3 170727M1_8	Standard	1.000	3.98	1324.910	11066.396	19.455	1.0	-2.9	NO	1.000	NO	db
4	4 170727M1_9	Standard	2.000	3.98	2637.473	10286.182	41.667	2.1	4.2	NO	1.000	NO	bb
5	5 170727M1_10	Standard	5.000	3.98	6964.148	10429.172	108.510	5.4	8.7	NO	1.000	NO	bb
6	6 170727M1_11	Standard	10.000	3.98	12691.619	10499.821	196.421	9.8	-1.6	NO	1.000	NO	bb
7	7 170727M1_12	Standard	50.000	3.98	57516.633	9475.892	986.340	49.4	-1.2	NO	1.000	NO	bb
8	8 170727M1_13	Standard	100.000	3.98	107056.234	8686.212	2002.788	100.3	0.3	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.998879
Calibration curve: 0.00266631 * x^2 + 15.3353 * x + 0.19972
Response type: Internal Std (Ref 32), 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 170727M1_6	Standard	0.250	4.05	245.777	10212.053	3.911	0.2	-3.2	NO	0.999	NO	bb
2	2 170727M1_7	Standard	0.500	4.05	475.755	10386.629	7.443	0.5	-5.5	NO	0.999	NO	bb
3	3 170727M1_8	Standard	1.000	4.04	999.253	10419.146	15.585	1.0	0.3	NO	0.999	NO	bb
4	4 170727M1_9	Standard	2.000	4.04	1942.696	10087.810	31.294	2.0	1.3	NO	0.999	NO	bb
5	5 170727M1_10	Standard	5.000	4.04	5340.566	9616.642	90.244	5.9	17.3	NO	0.999	NO	bb
6	6 170727M1_11	Standard	10.000	4.04	10039.805	10994.689	148.387	9.6	-3.5	NO	0.999	NO	bb
7	7 170727M1_12	Standard	50.000	4.04	44465.141	9528.352	758.325	49.0	-2.0	NO	0.999	NO	bb
8	8 170727M1_13	Standard	100.000	4.04	86630.938	8978.488	1567.917	100.5	0.5	NO	0.999	NO	bb

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999664
Calibration curve: -0.000726299 * x^2 + 0.648776 * x + 0.0756752
Response type: Internal Std (Ref 33), 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	170727M1_6	Standard	0.250	4.11	937.638	53937.508	0.217	0.2	-12.7	NO	1.000	NO	bb
2	2	170727M1_7	Standard	0.500	4.11	1856.364	57651.277	0.402	0.5	0.8	NO	1.000	NO	bb
3	3	170727M1_8	Standard	1.000	4.11	3381.308	53976.422	0.783	1.1	9.2	NO	1.000	NO	bb
4	4	170727M1_9	Standard	2.000	4.11	6702.618	60891.270	1.376	2.0	0.4	NO	1.000	NO	bb
5	5	170727M1_10	Standard	5.000	4.11	15902.064	56820.336	3.498	5.3	6.1	NO	1.000	NO	bb
6	6	170727M1_11	Standard	10.000	4.11	29007.316	58040.508	6.247	9.6	-3.8	NO	1.000	NO	bb
7	7	170727M1_12	Standard	50.000	4.11	135465.156	55210.184	30.670	50.0	-0.1	NO	1.000	NO	bb
8	8	170727M1_13	Standard	100.000	4.11	249990.313	54140.109	57.718	100.1	0.1	NO	1.000	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998629
Calibration curve: -1.32982e-005 * x^2 + 0.0672039 * x + 0.00706292
Response type: Internal Std (Ref 33), 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	170727M1_6	Standard	0.250	4.16	86.766	53937.508	0.020	0.2	-22.4	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	4.16	172.141	57651.277	0.037	0.5	-9.9	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	4.15	388.743	53976.422	0.090	1.2	23.5	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	4.16	690.005	60891.270	0.142	2.0	0.2	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	4.16	1779.465	56820.336	0.391	5.7	14.5	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	4.16	3001.466	58040.508	0.646	9.5	-4.7	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	4.16	14488.668	55210.184	3.280	49.2	-1.6	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	4.16	28680.693	54140.109	6.622	100.4	0.4	NO	0.999	NO	bb

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Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997867
Calibration curve: 0.000108363 * x^2 + 0.920945 * x + 0.119714
Response type: Internal Std (Ref 34), 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	170727M1_6	Standard	0.250	4.28	107.979	4359.285	0.310	0.2	-17.5	NO	0.998	NO	MM
2	2	170727M1_7	Standard	0.500	4.27	187.376	4725.039	0.496	0.4	-18.4	NO	0.998	NO	MM
3	3	170727M1_8	Standard	1.000	4.28	387.923	4065.133	1.193	1.2	16.5	NO	0.998	NO	bd
4	4	170727M1_9	Standard	2.000	4.27	764.237	4580.176	2.086	2.1	6.7	NO	0.998	NO	bd
5	5	170727M1_10	Standard	5.000	4.27	1877.270	4125.885	5.687	6.0	20.8	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	4.27	2974.082	4254.241	8.739	9.3	-6.5	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	4.28	15238.717	4195.593	45.401	48.9	-2.2	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	4.28	31571.641	4206.188	93.825	100.6	0.6	NO	0.998	NO	bb

Compound name: PFTrDA
Correlation coefficient: r = 0.999051, r^2 = 0.998103
Calibration curve: 8.39255 * x + 1.22744
Response type: Internal Std (Ref 34), 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	170727M1_6	Standard	0.250	4.43	949.985	4359.285	2.724	0.2	-28.7	NO	0.998	NO	bb
2	2	170727M1_7	Standard	0.500	4.44	2085.832	4725.039	5.518	0.5	2.2	NO	0.998	NO	bb
3	3	170727M1_8	Standard	1.000	4.44	3568.302	4065.133	10.972	1.2	16.1	NO	0.998	NO	bb
4	4	170727M1_9	Standard	2.000	4.44	6820.030	4580.176	18.613	2.1	3.6	NO	0.998	NO	bb
5	5	170727M1_10	Standard	5.000	4.44	16192.957	4125.885	49.059	5.7	14.0	NO	0.998	NO	bb
6	6	170727M1_11	Standard	10.000	4.44	27675.627	4254.241	81.318	9.5	-4.6	NO	0.998	NO	bb
7	7	170727M1_12	Standard	50.000	4.43	134870.219	4195.593	401.821	47.7	-4.5	NO	0.998	NO	bb
8	8	170727M1_13	Standard	100.000	4.44	288052.313	4206.188	856.037	101.9	1.9	NO	0.998	NO	bb

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Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999478
Calibration curve: -0.00104256 * x^2 + 1.20262 * x + 0.131178
Response type: Internal Std (Ref 35), 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	170727M1_6	Standard	0.250	4.61	648.233	20264.934	0.400	0.2	-10.6	NO	0.999	NO	MM
2	2	170727M1_7	Standard	0.500	4.62	1160.108	20001.139	0.725	0.5	-1.2	NO	0.999	NO	MM
3	3	170727M1_8	Standard	1.000	4.61	1839.107	16096.357	1.428	1.1	8.0	NO	0.999	NO	bb
4	4	170727M1_9	Standard	2.000	4.61	3400.659	15958.571	2.664	2.1	5.5	NO	0.999	NO	bb
5	5	170727M1_10	Standard	5.000	4.61	7239.503	14196.442	6.374	5.2	4.3	NO	0.999	NO	bb
6	6	170727M1_11	Standard	10.000	4.61	13249.020	14711.492	11.257	9.3	-6.7	NO	0.999	NO	bb
7	7	170727M1_12	Standard	50.000	4.61	64597.203	13866.051	58.233	50.5	1.1	NO	0.999	NO	bb
8	8	170727M1_13	Standard	100.000	4.61	152598.266	17381.359	109.743	99.8	-0.2	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.823368
RRF SD: 0.0102963, Relative SD: 1.25051
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	170727M1_6	Standard	12.500	1.32	13153.632	15685.795	10.482	12.7	1.8	NO		NO	MM
2	2	170727M1_7	Standard	12.500	1.32	16229.239	19621.338	10.339	12.6	0.5	NO		NO	bb
3	3	170727M1_8	Standard	12.500	1.32	13631.894	16595.234	10.268	12.5	-0.2	NO		NO	bb
4	4	170727M1_9	Standard	12.500	1.33	17379.277	20821.438	10.434	12.7	1.4	NO		NO	bb
5	5	170727M1_10	Standard	12.500	1.32	13706.406	16931.240	10.119	12.3	-1.7	NO		NO	bb
6	6	170727M1_11	Standard	12.500	1.33	16386.203	19933.900	10.275	12.5	-0.2	NO		NO	bb
7	7	170727M1_12	Standard	12.500	1.33	15585.783	18930.279	10.292	12.5	-0.0	NO		NO	bb
8	8	170727M1_13	Standard	12.500	1.32	13303.807	16419.309	10.128	12.3	-1.6	NO		NO	bb

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AC 7/28/17

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-27-17-L14_L17.cdb 28 Jul 2017 08:49:51

Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	15072.896	16053.381		1.000	1.32	10.19	101.91
2	2	PFPeA	263.1 > 218.9	35956.582	44314.332		1.000	2.63	10.07	100.71
3	3	PFBS	299 > 79.7	6769.659	4858.718		1.000	2.88	9.20	92.03
4	4	PFHxA	313.2 > 268.9	53387.461	17954.670		1.000	3.14	10.13	101.28
5	5	PFHpA	363 > 318.9	44124.266	40823.363		1.000	3.41	10.87	108.72
6	6	PFHxS	398.9 > 79.6	4501.415	3639.156		1.000	3.47	9.26	92.62
7	7	PFOA	413 > 368.7	46273.188	56263.316		1.000	3.61	10.32	103.23
8	8	PFHpS	448.9 > 98.8	3813.298	56263.316		1.000	3.67	9.72	97.17
9	9	PFNA	462.9 > 418.8	44301.281	47976.594		1.000	3.79	10.71	107.05
10	10	PFOSA	498.1 > 77.8	9025.501	10158.539		1.000	3.79	10.18	101.85
11	11	PFOS	499 > 79.9	7022.120	8620.282		1.000	3.83	9.48	94.79
12	12	PFDA	513 > 468.8	53575.969	53813.082		1.000	3.95	9.98	99.80
13	13	N-MeFOSAA	570.1 > 419	12994.350	9958.847		1.000	3.98	10.62	106.24
14	14	N-EtFOSAA	584.2 > 419	9767.218	9591.058		1.000	4.05	10.76	107.58
15	15	PFUnA	562.9 > 518.9	29004.047	53532.066		1.000	4.11	10.44	104.44
16	16	PFDS	598.9 > 98.7	2966.187	53532.066		1.000	4.17	10.22	102.22
17	17	PFDoA	612.9 > 318.8	3426.855	4293.898		1.000	4.29	10.69	106.89
18	18	PFTrDA	662.9 > 618.9	30729.227	4293.898		1.000	4.44	10.51	105.13
19	19	PFTeDA	712.9 > 668.8	13853.436	14573.548		1.000	4.61	9.86	98.55
20	20	13C3-PFBA	216.1 > 171.8	16053.381	19378.115	0.823	1.000	1.33	12.58	100.61
21	21	13C3-PFPeA	266 > 221.8	44314.332	65249.512	0.264	1.000	2.63	12.85	102.82
22	22	13C3-PFBS	302 > 98.8	4858.718	65249.512	0.031	1.000	2.88	12.13	97.06
23	23	13C2-PFHxA	315 > 269.8	17954.670	65249.512	0.275	1.000	3.14	5.00	100.07
24	24	13C4-PFHpA	367.2 > 321.8	40823.363	65249.512	0.260	1.000	3.41	12.03	96.28
25	25	18O2-PFHxS	403 > 102.6	3639.156	9129.876	0.402	1.000	3.47	12.39	99.13
26	26	13C2-PFOA	414.9 > 369.7	56263.316	55490.434	1.042	1.000	3.60	12.16	97.31
27	27	13C5-PFNA	468.2 > 422.9	47976.594	60366.590	0.792	1.000	3.79	12.54	100.34
28	28	13C8-PFOSA	506.1 > 77.7	10158.539	59968.848	0.175	1.000	3.79	12.12	96.98
29	29	13C8-PFOS	507 > 79.9	8620.282	9061.870	0.951	1.000	3.84	12.51	100.07
30	30	13C2-PFDA	515.1 > 469.9	53813.082	64909.809	0.869	1.000	3.95	11.92	95.40
31	31	d3-N-MeFOSAA	573.3 > 419	9958.847	59968.848	0.013	1.000	3.98	160.37	98.69

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Dataset: U:\Q4.PRO\results\170727M1\170727M1-15.qld

Last Altered: Friday, July 28, 2017 09:19:12 Pacific Daylight Time
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Name: 170727M1_15, Date: 27-Jul-2017, Time: 13:24:13, ID: SS170727M1-1 PFC SSS 17G2703, Description: PFC SSS 17G2703

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	9591.058	59968.848	0.013	1.000	4.04	157.30	96.80
33	33	13C2-PFUnA	565 > 519.8	53532.066	59968.848	0.928	1.000	4.12	12.02	96.17
34	34	13C2-PFDoA	615 > 569.7	4293.898	59968.848	0.071	1.000	4.28	12.59	100.72
35	35	13C2-PFTeDA	714.8 > 669.6	14573.548	59968.848	0.273	1.000	4.62	11.12	88.95
36	36	13C4-PFBA	217 > 171.8	19378.115	19378.115	1.000	1.000	1.32	12.50	100.00
37	37	13C5-PFHxA	318 > 272.9	65249.512	65249.512	1.000	1.000	3.14	5.00	100.00
38	38	13C3-PFHxS	401.9 > 79.9	9129.876	9129.876	1.000	1.000	3.47	12.50	100.00
39	39	13C8-PFOA	421.3 > 376	55490.434	55490.434	1.000	1.000	3.60	12.50	100.00
40	40	13C9-PFNA	472.2 > 426.9	60366.590	60366.590	1.000	1.000	3.79	12.50	100.00
41	41	13C4-PFOS	503 > 79.9	9061.870	9061.870	1.000	1.000	3.84	12.50	100.00
42	42	13C6-PFDA	519.1 > 473.7	64909.809	64909.809	1.000	1.000	3.95	12.50	100.00
43	43	13C7-PFUnA	570.1 > 524.8	59968.848	59968.848	1.000	1.000	4.12	12.50	100.00

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

Last Altered: Sunday, July 30, 2017 08:10:19 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:11:02 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 28 Jul 2017 08:40:43
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

AC 7/30/17 AC 7/31/17

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999678
Calibration curve: 0.000110804 * x^2 + 1.07999 * x + 0.11163
Response type: Internal Std (Ref 20), 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	170728M2_2	Standard	0.250	1.35	476.635	15742.173	0.378	0.2	-1.2	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	1.35	899.031	15139.798	0.742	0.6	16.8	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	1.35	1598.174	15315.615	1.304	1.1	10.4	NO	1.000	NO	MM
4	4	170728M2_5	Standard	2.000	1.35	1810.805	8684.454	2.606	2.3	15.5	NO	1.000	NO	MM
5	5	170728M2_6	Standard	5.000	1.35	6713.694	15018.660	5.588	5.1	1.4	NO	1.000	NO	MM
6	6	170728M2_7	Standard	10.000	1.35	13340.125	15259.036	10.928	10.0	0.0	NO	1.000	NO	MM
7	7	170728M2_8	Standard	50.000	1.36	66516.945	15593.523	53.321	49.0	-2.0	NO	1.000	NO	MM
8	8	170728M2_9	Standard	100.000	1.35	137534.000	15681.832	109.628	100.4	0.4	NO	1.000	NO	MM
9	9	170728M2_10	Standard	250.000	1.36	306571.531	13830.456	277.080	250.0	0.0	NO	1.000	NO	MM

Compound name: PFPeA
Correlation coefficient: r = 0.999801, r^2 = 0.999602
Calibration curve: 0.958373 * x + 0.0576289
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	170728M2_2	Standard	0.250	2.65	679.107	29626.736	0.287	0.2	-4.5	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	2.66	1192.443	29534.408	0.505	0.5	-6.7	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	2.65	2536.703	29804.117	1.064	1.0	5.0	NO	1.000	NO	MM
4	4	170728M2_5	Standard	2.000	2.66	2849.220	16510.811	2.157	2.2	9.5	NO	1.000	NO	MM
5	5	170728M2_6	Standard	5.000	2.65	11458.210	28830.305	4.968	5.1	2.5	NO	1.000	NO	MM
6	6	170728M2_7	Standard	10.000	2.66	22812.604	30611.281	9.315	9.7	-3.4	NO	1.000	NO	MM
7	7	170728M2_8	Standard	50.000	2.66	114847.070	30216.350	47.510	49.5	-1.0	NO	1.000	NO	MM
8	8	170728M2_9	Standard	100.000	2.65	225237.328	30196.234	93.239	97.2	-2.8	NO	1.000	NO	MM
9	9	170728M2_10	Standard	250.000	2.66	522885.906	26920.408	242.793	253.3	1.3	NO	1.000	NO	MM

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Last Altered: Sunday, July 30, 2017 08:10:19 Pacific Daylight Time
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Compound name: PFBS
Correlation coefficient: r = 0.999861, r^2 = 0.999721
Calibration curve: 1.85784 * x + -0.00404936
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	170728M2_2	Standard	0.250	2.90	124.236	3725.665	0.417	0.2	-9.4	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	2.89	287.609	3680.041	0.977	0.5	5.6	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	2.90	605.269	3805.429	1.988	1.1	7.2	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	2.89	650.990	2141.663	3.800	2.0	2.4	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	2.90	2677.018	3529.564	9.481	5.1	2.1	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	2.89	5207.783	3732.698	17.440	9.4	-6.1	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	2.90	25941.150	3533.129	91.778	49.4	-1.2	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	2.90	52001.789	3559.104	182.637	98.3	-1.7	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	2.90	109519.203	2916.369	469.416	252.7	1.1	NO	1.000	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999860, r^2 = 0.999719
Calibration curve: 1.39516 * x + 0.138496
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	170728M2_2	Standard	0.250	3.13	1292.904	14757.339	0.438	0.2	-14.1	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	3.14	2294.264	14439.591	0.794	0.5	-6.0	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.13	4831.556	14702.263	1.643	1.1	7.8	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.14	5353.820	8433.100	3.174	2.2	8.8	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.14	22186.109	14339.198	7.736	5.4	8.9	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.14	41042.371	15042.279	13.642	9.7	-3.2	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.15	200035.875	14657.946	68.235	48.8	-2.4	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.14	411799.281	14800.772	139.114	99.6	-0.4	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.14	927431.500	13222.806	350.694	251.3	0.5	NO	1.000	NO	bb

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Compound name: PFHpA
Correlation coefficient: r = 0.999957, r^2 = 0.999914
Calibration curve: 1.17847 * x + 0.0681471
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	170728M2_2	Standard	0.250	3.40	1204.282	43061.438	0.350	0.2	-4.5	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	3.40	2014.244	38433.738	0.655	0.5	-0.4	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.40	3878.673	40909.711	1.185	0.9	-5.2	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.40	4962.255	24182.768	2.565	2.1	5.9	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.41	19800.123	39156.566	6.321	5.3	6.1	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.41	37646.004	40354.555	11.661	9.8	-1.6	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.41	183598.906	38873.176	59.038	50.0	0.1	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.41	381024.406	40612.637	117.274	99.5	-0.5	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.41	849145.438	35974.605	295.050	250.3	0.1	NO	1.000	NO	bb

Compound name: PFHxS
Correlation coefficient: r = 0.999604, r^2 = 0.999209
Calibration curve: 1.66642 * x + 0.0527668
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	170728M2_2	Standard	0.250	3.48	173.816	3693.206	0.588	0.3	28.5	NO	0.999	NO	MM
2	2	170728M2_3	Standard	0.500	3.48	211.907	3400.828	0.779	0.4	-12.9	NO	0.999	NO	MM
3	3	170728M2_4	Standard	1.000	3.47	425.566	3811.290	1.396	0.8	-19.4	NO	0.999	NO	MM
4	4	170728M2_5	Standard	2.000	3.47	583.868	1965.832	3.713	2.2	9.8	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.47	2141.738	3173.995	8.435	5.0	0.6	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.48	4660.597	3599.749	16.184	9.7	-3.2	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.48	23173.209	3541.580	81.790	49.0	-1.9	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.48	46227.219	3591.229	160.903	96.5	-3.5	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.48	96280.008	2835.098	424.500	254.7	1.9	NO	0.999	NO	bb

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Compound name: PFOA
Correlation coefficient: r = 0.999602, r^2 = 0.999203
Calibration curve: 0.972567 * x + 0.119743
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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170728M2_2	Standard	0.250	3.60	1776.834	67432.422	0.329	0.2	-13.8	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	3.60	3428.433	69121.398	0.620	0.5	2.9	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.60	6017.603	65175.223	1.154	1.1	6.4	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	3.60	6766.019	37231.426	2.272	2.2	10.6	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.61	24916.359	65033.895	4.789	4.8	-4.0	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.60	50878.426	65066.762	9.774	9.9	-0.7	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.61	258837.422	65231.879	49.599	50.9	1.8	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.61	477892.000	64313.508	92.883	95.4	-4.6	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.61	1058067.125	53563.473	246.919	253.8	1.5	NO	0.999	NO	bb

Compound name: PFHpS
Correlation coefficient: r = 0.999698, r^2 = 0.999396
Calibration curve: 0.0834866 * x + 0.000361382
Response type: Internal Std (Ref 26), 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	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170728M2_2	Standard	0.250	3.66	129.349	67432.422	0.024	0.3	13.1	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	3.66	184.534	69121.398	0.033	0.4	-20.9	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.65	440.810	65175.223	0.085	1.0	0.8	NO	0.999	NO	MM
4	4	170728M2_5	Standard	2.000	3.67	446.333	37231.426	0.150	1.8	-10.5	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.66	2501.044	65033.895	0.481	5.8	15.1	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.67	4417.773	65066.762	0.849	10.2	1.6	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.67	22320.723	65231.879	4.277	51.2	2.5	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.67	43490.797	64313.508	8.453	101.2	1.2	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.67	88324.172	53563.473	20.612	246.9	-1.2	NO	0.999	NO	bb

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Compound name: PFNA
Correlation coefficient: r = 0.999774, r^2 = 0.999549
Calibration curve: 1.0688 * x + 0.0838738
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	170728M2_2	Standard	0.250	3.78	1355.064	56165.996	0.302	0.2	-18.5	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	3.78	2871.220	57557.055	0.624	0.5	1.0	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.78	5715.737	60117.641	1.188	1.0	3.3	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.78	6187.412	32443.916	2.384	2.2	7.6	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.78	26880.975	59082.828	5.687	5.2	4.9	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.79	51086.453	55947.012	11.414	10.6	6.0	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.79	225656.344	55181.797	51.117	47.7	-4.5	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.79	479043.500	56232.570	106.487	99.6	-0.4	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.79	1056532.875	49074.555	269.114	251.7	0.7	NO	1.000	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.998852, r^2 = 0.997705
Calibration curve: 1.09922 * x + 0.0380461
Response type: Internal Std (Ref 28), 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	170728M2_2	Standard	0.250	3.79	212.952	7534.616	0.353	0.3	14.7	NO	0.998	NO	bb
2	2	170728M2_3	Standard	0.500	3.79	402.743	7838.506	0.642	0.5	9.9	NO	0.998	NO	bb
3	3	170728M2_4	Standard	1.000	3.78	641.875	7863.147	1.020	0.9	-10.6	NO	0.998	NO	bb
4	4	170728M2_5	Standard	2.000	3.79	796.114	4067.927	2.446	2.2	9.5	NO	0.998	NO	bb
5	5	170728M2_6	Standard	5.000	3.79	3167.917	8322.412	4.758	4.3	-14.1	NO	0.998	NO	bb
6	6	170728M2_7	Standard	10.000	3.80	6695.482	7844.739	10.669	9.7	-3.3	NO	0.998	NO	bb
7	7	170728M2_8	Standard	50.000	3.80	31041.506	7294.865	53.191	48.4	-3.3	NO	0.998	NO	bb
8	8	170728M2_9	Standard	100.000	3.79	58226.086	7074.365	102.882	93.6	-6.4	NO	0.998	NO	bb
9	9	170728M2_10	Standard	250.000	3.79	126557.727	5557.022	284.680	258.9	3.6	NO	0.998	NO	bb

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.999381
Calibration curve: -8.2411e-005 * x^2 + 0.991329 * x + 0.038537
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	170728M2_2	Standard	0.250	3.85	185.263	10386.165	0.223	0.2	-25.6	NO	0.999	NO	MM
2	2	170728M2_3	Standard	0.500	3.83	552.121	10949.846	0.630	0.6	19.4	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.83	874.687	11038.252	0.991	1.0	-4.0	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	3.83	1051.018	5675.427	2.315	2.3	14.8	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.83	4488.643	10976.905	5.111	5.1	2.4	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.83	9036.851	10238.276	11.033	11.1	11.0	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.84	40832.254	10447.924	48.852	49.4	-1.1	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.84	80281.375	10381.430	96.665	98.3	-1.7	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.84	173677.109	8917.339	243.454	250.8	0.3	NO	0.999	NO	bb

Compound name: PFDA
Correlation coefficient: r = 0.999404, r^2 = 0.998807
Calibration curve: 1.20688 * x + 0.163006
Response type: Internal Std (Ref 30), 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	170728M2_2	Standard	0.250	3.95	1834.598	60003.141	0.382	0.2	-27.4	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	3.95	3284.270	55549.078	0.739	0.5	-4.5	NO	0.999	NO	bb
3	3	170728M2_4	Standard	1.000	3.95	6330.603	53618.211	1.476	1.1	8.8	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	3.95	6936.152	30851.922	2.810	2.2	9.7	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	3.95	31825.025	59808.203	6.651	5.4	7.5	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	3.96	63066.832	64638.613	12.196	10.0	-0.3	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	3.96	307105.938	58663.914	65.438	54.1	8.2	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	3.96	539413.000	55892.832	120.636	99.8	-0.2	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	3.96	1346063.625	56744.188	296.520	245.6	-1.8	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170728M2\170728M2-CRV.qld

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999878
Calibration curve: -0.00407341 * x^2 + 19.807 * x + -0.260375
Response type: Internal Std (Ref 31), 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	170728M2_2	Standard	0.250	3.96	435.997	12883.249	5.499	0.3	16.3	NO	1.000	NO	bd
2	2	170728M2_3	Standard	0.500	3.98	741.759	12942.593	9.313	0.5	-3.3	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	3.98	1500.287	13619.269	17.901	0.9	-8.3	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	3.98	1869.939	7508.003	40.472	2.1	2.9	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	3.98	8162.221	14192.388	93.456	4.7	-5.3	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	3.98	16022.469	13644.029	190.827	9.7	-3.3	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	3.99	73798.828	12178.927	984.677	50.2	0.5	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	3.99	144718.797	12044.903	1952.428	100.7	0.7	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	3.99	311738.625	10798.391	4691.211	249.7	-0.1	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999787
Calibration curve: -0.00107779 * x^2 + 15.2465 * x + 0.807358
Response type: Internal Std (Ref 32), 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	170728M2_2	Standard	0.250	4.04	379.553	13002.753	4.743	0.3	3.3	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	4.04	831.407	13332.326	10.134	0.6	22.3	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	4.04	1236.473	13734.974	14.629	0.9	-9.3	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.04	1479.109	7359.929	32.657	2.1	4.5	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.05	6354.800	13694.013	75.409	4.9	-2.1	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.05	12531.979	12997.170	156.684	10.2	2.3	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.05	60396.695	12723.811	771.346	50.7	1.4	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.05	113763.313	12372.299	1494.188	98.6	-1.4	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.05	260195.766	11272.279	3750.955	250.4	0.2	NO	1.000	NO	bb

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999945
Calibration curve: -0.000352587 * x^2 + 0.738655 * x + 0.0923596
Response type: Internal Std (Ref 33), 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	170728M2_2	Standard	0.250	4.11	1300.977	57359.027	0.284	0.3	3.5	NO	1.000	NO	bb
2	2	170728M2_3	Standard	0.500	4.11	2222.104	62862.797	0.442	0.5	-5.3	NO	1.000	NO	bb
3	3	170728M2_4	Standard	1.000	4.11	4280.404	62925.098	0.850	1.0	2.7	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.11	4679.629	38112.383	1.535	2.0	-2.3	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.11	20068.451	65242.195	3.845	5.1	1.9	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.12	38402.559	64369.324	7.457	10.0	0.2	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.12	181049.781	63436.871	35.675	49.3	-1.3	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.12	354982.063	62525.133	70.968	100.8	0.8	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.12	806806.375	62024.961	162.597	249.8	-0.1	NO	1.000	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.999598
Calibration curve: -4.79281e-005 * x^2 + 0.0714733 * x + -0.00107069
Response type: Internal Std (Ref 33), 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	170728M2_2	Standard	0.250	4.15	96.159	57359.027	0.021	0.3	23.3	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	4.17	132.913	62862.797	0.026	0.4	-23.0	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	4.17	352.819	62925.098	0.070	1.0	-0.4	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.15	460.965	38112.383	0.151	2.1	6.7	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.16	1773.629	65242.195	0.340	4.8	-4.3	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.16	3496.559	64369.324	0.679	9.6	-4.2	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.17	18043.170	63436.871	3.555	51.5	3.1	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.17	32985.578	62525.133	6.594	98.8	-1.2	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.17	73842.891	62024.961	14.882	250.2	0.1	NO	1.000	NO	bb

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Compound name: PFDoA
Coefficient of Determination: R^2 = 0.998624
Calibration curve: 0.000483062 * x^2 + 0.770384 * x + 0.341437
Response type: Internal Std (Ref 34), 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	170728M2_2	Standard	0.250	4.26	92.309	5962.159	0.194			NO	0.999	NO	bbXl
2	2	170728M2_3	Standard	0.500	4.28	429.801	6995.869	0.768	0.6	10.7	NO	0.999	NO	MM
3	3	170728M2_4	Standard	1.000	4.26	454.014	6271.752	0.905	0.7	-26.9	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	4.27	533.506	3674.716	1.815	1.9	-4.5	NO	0.999	NO	bb
5	5	170728M2_6	Standard	5.000	4.27	2461.487	6599.834	4.662	5.6	11.8	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	4.29	4687.078	6719.549	8.719	10.8	8.0	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	4.28	22330.574	6608.889	42.236	52.6	5.3	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	4.28	42539.887	6820.428	77.964	95.1	-4.9	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	4.28	104320.703	5812.105	224.361	251.2	0.5	NO	0.999	NO	bb

Compound name: PFTrDA
Correlation coefficient: r = 0.999451, r^2 = 0.998903
Calibration curve: 9.7472 * x + 1.17215
Response type: Internal Std (Ref 34), 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	170728M2_2	Standard	0.250	4.43	1587.994	5962.159	3.329	0.2	-11.5	NO	0.999	NO	bb
2	2	170728M2_3	Standard	0.500	4.43	3275.602	6995.869	5.853	0.5	-4.0	NO	0.999	NO	MM
3	3	170728M2_4	Standard	1.000	4.43	5908.142	6271.752	11.775	1.1	8.8	NO	0.999	NO	bb
4	4	170728M2_5	Standard	2.000	4.44	6200.105	3674.716	21.090	2.0	2.2	NO	0.999	NO	bd
5	5	170728M2_6	Standard	5.000	4.44	28220.949	6599.834	53.450	5.4	7.3	NO	0.999	NO	bb
6	6	170728M2_7	Standard	10.000	4.44	54049.188	6719.549	100.545	10.2	1.9	NO	0.999	NO	bb
7	7	170728M2_8	Standard	50.000	4.45	253970.109	6608.889	480.357	49.2	-1.7	NO	0.999	NO	bb
8	8	170728M2_9	Standard	100.000	4.45	504655.469	6820.428	924.897	94.8	-5.2	NO	0.999	NO	bb
9	9	170728M2_10	Standard	250.000	4.44	1158187.375	5812.105	2490.895	255.4	2.2	NO	0.999	NO	bb

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Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999781
Calibration curve: -0.000168072 * x^2 + 1.03773 * x + 0.147897
Response type: Internal Std (Ref 35), 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	170728M2_2	Standard	0.250	4.61	1104.568	41761.434	0.331	0.2	-29.6	NO	1.000	NO	MM
2	2	170728M2_3	Standard	0.500	4.61	2480.283	43223.504	0.717	0.5	9.7	NO	1.000	NO	MM
3	3	170728M2_4	Standard	1.000	4.61	4145.502	42342.496	1.224	1.0	3.7	NO	1.000	NO	bb
4	4	170728M2_5	Standard	2.000	4.61	4391.375	22739.943	2.414	2.2	9.2	NO	1.000	NO	bb
5	5	170728M2_6	Standard	5.000	4.61	19689.096	43281.676	5.686	5.3	6.8	NO	1.000	NO	bb
6	6	170728M2_7	Standard	10.000	4.62	37513.137	44255.934	10.596	10.1	0.8	NO	1.000	NO	bb
7	7	170728M2_8	Standard	50.000	4.62	178771.672	43177.305	51.755	50.1	0.3	NO	1.000	NO	bb
8	8	170728M2_9	Standard	100.000	4.62	355712.438	44024.184	100.999	98.8	-1.2	NO	1.000	NO	bb
9	9	170728M2_10	Standard	250.000	4.62	812877.375	40719.973	249.533	250.5	0.2	NO	1.000	NO	bb

Compound name: 13C3-PFBA
Response Factor: 1.06832
RRF SD: 0.0716737, Relative SD: 6.70898
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	170728M2_2	Standard	12.500	1.34	15742.173	14679.223	13.405	12.5	0.4	NO		NO	MM
2	2	170728M2_3	Standard	12.500	1.35	15139.798	14157.839	13.367	12.5	0.1	NO		NO	MM
3	3	170728M2_4	Standard	12.500	1.35	15315.615	13901.761	13.771	12.9	3.1	NO		NO	MM
4	4	170728M2_5	Standard	12.500	1.35	8684.454	7966.370	13.627	12.8	2.0	NO		NO	MM
5	5	170728M2_6	Standard	12.500	1.35	15018.660	13542.045	13.863	13.0	3.8	NO		NO	MM
6	6	170728M2_7	Standard	12.500	1.35	15259.036	14135.810	13.493	12.6	1.0	NO		NO	MM
7	7	170728M2_8	Standard	12.500	1.35	15593.523	13890.406	14.033	13.1	5.1	NO		NO	MM
8	8	170728M2_9	Standard	12.500	1.35	15681.832	14422.259	13.592	12.7	1.8	NO		NO	MM
9	9	170728M2_10	Standard	12.500	1.36	13830.456	15665.605	11.036	10.3	-17.4	NO		NO	MM

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Method: U:\Q4.PRO\MethDB\PFAS_L17_L14_7-27-17.mdb 30 Jul 2017 07:47:21
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-28-17-L14_L17.cdb 30 Jul 2017 08:10:19

AC 7/30/17

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	12431.708	14876.151		1.000	1.37	9.56	95.60
2	2	PFPeA	263.1 > 218.9	21549.439	29165.430		1.000	2.66	9.58	95.77
3	3	PFBS	299 > 79.7	4272.150	3628.166		1.000	2.90	7.92	79.25
4	4	PFHxA	313.2 > 268.9	38927.918	14593.648		1.000	3.14	9.46	94.60
5	5	PFHpA	363 > 318.9	35487.621	39363.383		1.000	3.42	9.50	95.05
6	6	PFHxS	398.9 > 79.6	3976.645	3740.827		1.000	3.49	7.94	79.42
7	7	PFOA	413 > 368.7	48296.703	63936.551		1.000	3.61	9.59	95.86
8	8	PFHpS	448.9 > 98.8	4024.521	63936.551		1.000	3.67	9.42	94.20
9	9	PFNA	462.9 > 418.8	45019.000	52666.078		1.000	3.79	9.92	99.19
10	10	PFOSA	498.1 > 77.8	5913.732	7621.226		1.000	3.80	8.79	87.89
11	11	PFOS	499 > 79.9	7491.657	10206.083		1.000	3.84	9.22	92.24
12	12	PFDA	513 > 468.8	52188.531	60487.246		1.000	3.96	8.80	88.01
13	13	N-MeFOSAA	570.1 > 419	14215.682	12875.874		1.000	3.99	9.09	90.88
14	14	N-EtFOSAA	584.2 > 419	10735.359	12473.139		1.000	4.05	9.13	91.26
15	15	PFUnA	562.9 > 518.9	35744.629	63778.582		1.000	4.12	9.40	94.01
16	16	PFDS	598.9 > 98.7	3193.330	63778.582		1.000	4.17	8.82	88.24
17	17	PFDoA	612.9 > 318.8	4108.420	6412.423		1.000	4.29	9.89	98.91
18	18	PFTrDA	662.9 > 618.9	48836.297	6412.423		1.000	4.45	9.65	96.47
19	19	PFTeDA	712.9 > 668.8	34028.941	42185.617		1.000	4.62	9.59	95.89
20	20	13C3-PFBA	216.1 > 171.8	14876.151	13338.616	1.068	1.000	1.37	13.05	104.39
21	21	13C3-PFPeA	266 > 221.8	29165.430	41541.566	0.271	1.000	2.67	12.94	103.49
22	22	13C3-PFBS	302 > 98.8	3628.166	41541.566	0.033	1.000	2.90	13.20	105.62
23	23	13C2-PFHxA	315 > 269.8	14593.648	41541.566	0.335	1.000	3.14	5.24	104.83
24	24	13C4-PFHpA	367.2 > 321.8	39363.383	41541.566	0.369	1.000	3.41	12.84	102.76
25	25	18O2-PFHxS	403 > 102.6	3740.827	7683.510	0.460	1.000	3.48	13.22	105.77
26	26	13C2-PFOA	414.9 > 369.7	63936.551	47325.004	1.293	1.000	3.61	13.06	104.45
27	27	13C5-PFNA	468.2 > 422.9	52666.078	52466.008	0.986	1.000	3.80	12.73	101.81
28	28	13C8-PFOSA	506.1 > 77.7	7621.226	56361.164	0.132	1.000	3.80	12.76	102.06
29	29	13C8-PFOS	507 > 79.9	10206.083	8480.035	1.184	1.000	3.84	12.70	101.62
30	30	13C2-PFDA	515.1 > 469.9	60487.246	53553.129	0.998	1.000	3.96	14.15	113.21
31	31	d3-N-MeFOSAA	573.3 > 419	12875.874	56361.164	0.018	1.000	3.99	161.46	99.36

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Dataset: U:\Q4.PRO\results\170728M2\170728M2-13.qld

Last Altered: Sunday, July 30, 2017 08:15:10 Pacific Daylight Time
Printed: Sunday, July 30, 2017 08:16:04 Pacific Daylight Time

Name: 170728M2_13, Date: 28-Jul-2017, Time: 18:18:40, ID: SS170728M2-1 PFC SSS 17G2823, Description: PFC SSS 17G2823

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	d5-N-EtFOSAA	589.3 > 419	12473.139	56361.164	0.018	1.000	4.05	155.65	95.79
33	33	13C2-PFUnA	565 > 519.8	63778.582	56361.164	1.129	1.000	4.12	12.53	100.21
34	34	13C2-PFDoA	615 > 569.7	6412.423	56361.164	0.116	1.000	4.28	12.26	98.07
35	35	13C2-PFTeDA	714.8 > 669.6	42185.617	56361.164	0.762	1.000	4.63	12.28	98.21
36	36	13C4-PFBA	217 > 171.8	13338.616	13338.616	1.000	1.000	1.37	12.50	100.00
37	37	13C5-PFHxA	318 > 272.9	41541.566	41541.566	1.000	1.000	3.15	5.00	100.00
38	38	13C3-PFHxS	401.9 > 79.9	7683.510	7683.510	1.000	1.000	3.49	12.50	100.00
39	39	13C8-PFOA	421.3 > 376	47325.004	47325.004	1.000	1.000	3.61	12.50	100.00
40	40	13C9-PFNA	472.2 > 426.9	52466.008	52466.008	1.000	1.000	3.79	12.50	100.00
41	41	13C4-PFOS	503 > 79.9	8480.035	8480.035	1.000	1.000	3.84	12.50	100.00
42	42	13C6-PFDA	519.1 > 473.7	53553.129	53553.129	1.000	1.000	3.96	12.50	100.00
43	43	13C7-PFUnA	570.1 > 524.8	56361.164	56361.164	1.000	1.000	4.13	12.50	100.00

FIELD DUPLICATE PRECISION
SDG 1700856

ANALYTE	ORIGINAL	DUPLICATE	RL	RPD	RPD > 30%	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >RL
PFOA	10.8	11.5	8.26	6	FALSE	FALSE	FALSE	FALSE
PFBS	14.4	14.3	8.26	1	FALSE	FALSE	FALSE	FALSE
PFHpA	21.7	21.3	8.26	2	FALSE	TRUE	TRUE	FALSE
PFHxS	58.6	62.8	8.26	7	FALSE	TRUE	TRUE	FALSE
PFHxA	63.1	63.9	8.26	1	FALSE	TRUE	TRUE	FALSE
PFOS	62	63.5	8.26	2	FALSE	TRUE	TRUE	FALSE

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	1700856	EBS PHASE2	EBS PHASE2	31BR	Monitoring well	405711.91	523146.69	N6247016D9008	WE08	TETRA TECH, INC.	MW-31BR-20170711	Ground water	Normal (Regular)	11-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	31S	Monitoring well	405705.31	523157.88	N6247016D9008	WE08	TETRA TECH, INC.	MW-31S-20170711	Ground water	Normal (Regular)	11-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	INFLUENT	Surface water body - nonspecific	404545.3238	523048.6706	N6247016D9008	WE08	TETRA TECH, INC.	INFLUENT-20170710	Ground water	Normal (Regular)	10-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	34S	Monitoring well	405608.68	522594.95	N6247016D9008	WE08	TETRA TECH, INC.	MW-34S-20170711	Ground water	Normal (Regular)	11-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	INFLUENT	Surface water body - nonspecific	404545.3238	523048.6706	N6247016D9008	WE08	TETRA TECH, INC.	INFLUENT-20170710-D	Ground water	Field duplicate	10-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856							N6247016D9008	WE08	TETRA TECH, INC.	ERB-01-20170711	Water for QC samples	Equipment blank	11-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	EFFLUENT	Surface water body - nonspecific	404545.3238	523048.6706	N6247016D9008	WE08	TETRA TECH, INC.	EFFLUENT-20170710	Ground water	Normal (Regular)	10-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	11MW1	Monitoring well	405750.93	522938.4	N6247016D9008	WE08	TETRA TECH, INC.	11-MW-1-20170710	Ground water	Normal (Regular)	10-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	54BR	Monitoring well	405743.82	523023.75	N6247016D9008	WE08	TETRA TECH, INC.	LF-MW-54BR-20170710	Ground water	Normal (Regular)	10-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	48BR	Extraction well	405731.48	523255.01	N6247016D9008	WE08	TETRA TECH, INC.	MW-48BR-20170711	Ground water	Normal (Regular)	11-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	MID-POINT	Surface water body - nonspecific	404545.3238	523048.6706	N6247016D9008	WE08	TETRA TECH, INC.	MID-POINT-20170710	Ground water	Normal (Regular)	10-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700856	EBS PHASE2	EBS PHASE2	37S	Monitoring well	405677.04	522769.68	N6247016D9008	WE08	TETRA TECH, INC.	MW-37S-20170711	Ground water	Normal (Regular)	11-Jul-17	537	Perfluoroalkyl Compounds