



**Groundwater Sample Results,
Level 4 Laboratory Report, Electronic Data Deliverable,
Data Validation Report, and the Sample Location Report,
SDG 18-0550**

*Naval Air Station Jacksonville
Jacksonville, Florida*

July 2019

N00207_004461
NAS JACKSONVILLE, FL
SSIC 5000-33c

LABORATORY DATA PACKAGE 18-0550 NAS JACKSONVILLE FL
09/12/2018
BATTELLE

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CTO-SE0375: Naval Air Station Jacksonville
Project No 100119154-SE0375
PFAS by DoD QSM 5.1 Table B-15
GW
Batch 18-0550
Package DP-18-0262

Submitted to:
Tetra Tech
661 Anderson Drive Foster Plaza 7
Pittsburgh, PA 15220 USA

Submitted by:
Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061


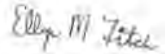



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NELAP Accreditation Number: E87856 (Florida Department of Health)
DoD-ELAP Accreditation Number: 91667

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141 Longwater Drive Suite 202
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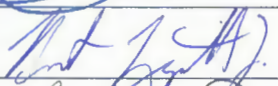



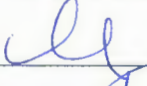
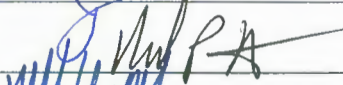

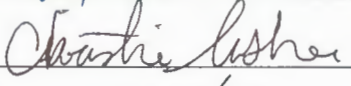
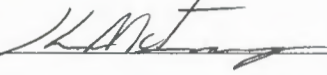
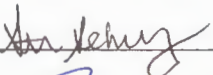

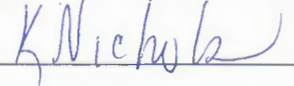

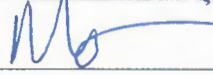
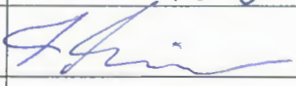
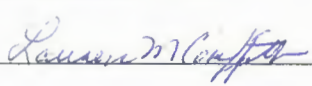
Analyst Approval:		Lauren Griffith 2018.09.11 12:57:51 -04'00'
QC Chemist Approval:		fitch@battelle.org 2018.09.12 10:59:15 -04'00'
Project Manager Approval:		Digitally signed by Jonathan Thorn Date: 2018.09.12 11:14:37 -04'00'



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Signature Page

Battelle 2018 (1 of 2) Signature Page			
Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4-2018
FRANC PALA		FP	4-4-2018
Carla Devine		CRD	4/4/18
Denise Schmitz		DMS	4/4/18
Charles Keenan McLaughlin		CKM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mendez		MM	4/4/2018
Christie Usher		CU	4/4/18
Kevin Matrone		KM	4/4/18
Stephanie Schmitz		SAS	4/4/18
Jordan Tower		JT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimico H Brown		CB	4/4/18
Matt Schmitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

Sample Summary

Client: Tetra Tech, Inc.

SDG: 18-0550

Project/Site: Naval Air Station (NAS) Jacksonville

CTO: SE0375

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CR766PB-FS	Procedural Blank	WATER	9/7/2018	9/7/2018
CR767LCS-FS	Laboratory Control Sample	WATER	9/7/2018	9/7/2018
J7623-FS1	JAX-PSC51-MW-08-08232018	GW	8/23/2018	8/28/2018
J7624-FS1	JAX-PSC51-MW-10D-08232018	GW	8/23/2018	8/28/2018
J7626-FS1	JAX-PSC51-MW-06-08242018	GW	8/24/2018	8/28/2018
J7627-FS1	JAX-PSC51-MW-06-08242018-FD	GW	8/24/2018	8/28/2018
J7628-FS1	JAX-PSC51-MW-04-08242018	GW	8/24/2018	8/28/2018
J7629-FS1	JAX-PSC51-MW-09I-08242018	GW	8/24/2018	8/28/2018

Work Plan



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: Non-Potable Water PFAS Analysis
Project Number: 100119154-SE0375
Client: Tetra Tech
 661 Anderson Drive Foster Plaza 7
 Pittsburgh, PA 15220
 USA
Client Contact Information: Mark Peterson
 NA
 (904) 636-6125(V)
 (904) 636-6165(F)
 mark.peterson@tetrattech.com
Effective Date of QAPP: 5/23/2018
Version Number: 100119154-SE0375(L)-01
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 6/8/2018

2.0 SCOPE OF WORK

Overview: PFAS analysis of groundwater and surface water samples collected from NAS Station Jacksonville.
Matrix: Water

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

The list of samples for this project plan are presented in Attachment 1.

Storage Directions: Store in refrigerator.
Sub_Sampling: None
Procedures: NA
Contact: NA
Comment: NA
Archiving: Dispose of remaining samples 6 months after delivery of final data. Notify client prior to disposal of samples.
Disposal: Dispose of samples in the appropriate waste stream.



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WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

10 groundwater samples, 4 surface water samples, and the associated FRB samples. Matrices will be extracted in separate batches.

Samples Expected:	Samples Per Batch:	Batches Expected:
15	20	1

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

Type:	Description:	Count:	Rgt:	Reference:	Comment:
PB	Laboratory control reagent blank.	1 per batch	--	NA	
LCS	Laboratory Control Sample	1 per batch	No	NA	
MS	Spiked field sample for determining method accuracy in the presence of matrix.	1 per batch	--	NA	background sample will be identified on the COC
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	background sample will be identified on the COC

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	5-370-06
SOP Title:	<i>Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices</i>
Sample Size:	250 ml
SIS and LCS/MS Compounds:	Defined in Table 2.
Deviations:	None
Comments:	<ul style="list-style-type: none"> FRB samples will only be extracted and analyzed if the associated field samples have results above the LOQ.

Table 2: SIS and LCS/MS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Low Level Labelled	JV83 SIS	~ 0.100 ng	50 uL	NA



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Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
Extracted Internal Standards (SIS)					
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 7.5 ng	150 uL	MS/MSD samples
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 2.50 ng	50 uL	LCS sample

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 500

Table 3: RIS Spiking Level

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	JW02	RIS	~ 0.050 ng	25 uL	NA

2.1.4 Instrumental Analysis

The list of analytes along with data quality criteria are presented in Attachment 2.

- SOP_No-Rev: **5-369-06**

SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*

Deviations: None

Comments: Follow QSM 5.1 Table B-15 requirements.



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WORK/QUALITY ASSURANCE PROJECT PLAN

2.2. DELIVERABLES

Deliverables Due:	6/8/2018
LIMS Reports:	No
Histograms:	No
Excel Tables:	Yes
EICs:	No
Chromatograms:	No
EDDs:	Yes
Comments:	<ul style="list-style-type: none"> • 14-day TAT • Level IV validation package, compliant with QSM Table B-15. • Tetra Tech EDD format.

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

The project team is defined in Table 4. Supervisors may make substitutions with Project Manager concurrence.

Table 4: Project Team and Roles

Staff Member	Role	Comment
Jonathan R. Thorn	Project Manager	NA
Stephanie A. Schultz	Sample Preparation	NA
Denise M. Schumitz	LC-MS/MS Analysis	NA
Matt D. Schumitz	Sample Custody	NA
Carla R. Devine	Quality Control Officer	NA
Zachary J. Willenberg	Quality Assurance Officer	NA

4.2 COMMUNICATION

A kick-off meeting will be held to discuss project scope and goals.

5.0 SCHEDULE

The project schedule is presented in Table 5.



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	05/25/2018	05/25/2018	0	NA
Sample Preparation	05/25/2018	05/30/2018	5	NA
Instrument Analysis	05/30/2018	06/05/2018	6	NA
Quality Control Review	06/05/2018	06/06/2018	1	NA
Quality Assurance Review	06/06/2018	06/08/2018	2	NA

6.0 BUDGET

The labor budget for the analytical task is presented in Table 6.

Table 6. Labor Budget (Laboratory Analytical Task)

Labor Activity:	Hours/ Batch:	Batches:	Total Hours:	Comment:
Sample Receipt	2	1	2	Hours are for full batch of 20 samples
Sample Preparation	8	1	8	Hours are for full batch of 20 samples
Instrument Analysis	8	1	8	Hours are for full batch of 20 samples
Quality Control Review	3	1	3	Hours are for full batch of 20 samples
Quality Assurance Review	1	1	1	Hours are for full batch of 20 samples

7.0 STAFF DEVELOPMENT

None anticipated



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-180525-01
Status: Approved
Description: SEO 375
Range: J6241-J6254
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J6241	FFTA-FD01-052418	05/24/2018 11:00 am	SW DUP	R0119 (NA)			
2	J6242	FFTA-SW01-052418	05/24/2018 11:00 am	SW	R0119 (NA)			
3	J6245	FFTA-FB01-052418	05/24/2018 11:20 am	GW QC	R0119 (NA)			
4	J6246	FFTA-EB01-052418	05/24/2018 11:30 am	GW QC	R0119 (NA)			
5	J6247	FFTA-EB02-052418	05/24/2018 11:40 am	GW QC	R0119 (NA)			
6	J6248	DRMO-MW11-052418	05/24/2018 2:05 pm	GW	R0119 (NA)			
7	J6249	DRMO-FB02-052418	05/24/2018 2:00 pm	GW QC	R0119 (NA)			
8	J6250	PSC51-MW14D-052418	05/24/2018 4:10 pm	GW	R0119 (NA)			
9	J6251	PSC51-FB03-052418	05/24/2018 4:15 pm	GW QC	R0119 (NA)			
10	J6252	PSC51-MW13S-052418	05/24/2018 4:55 pm	GW	R0119 (NA)			MS-MSD
11	J6253	DRMO-MW2-052418	05/24/2018 2:55 pm	GW	R0119 (NA)			
12	J6254	DRMO-FD03-052418	05/24/2018 2:05 pm	GW DUP	R0119 (NA)			

Shipment: SHP-180823-02
Status: Pending
Description: NAS JAX PFAS
Range: J7576-J7586
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J7576	JAX-TCC-MWC3-08222018	08/22/2018 12:47 pm	GW	R0119 (NA)			
2	J7577	JAX-TCC-MWI-2-08222018	08/22/2018 1:00 pm	GW	R0119 (NA)			
3	J7578	JAX-TCC-MWI-2-08222018-FD	08/22/2018 1:00 pm	GW	R0119 (NA)			
4	J7579	JAX-TCC-MWB-1-08222018	08/22/2018 2:05 pm	GW	R0119 (NA)			
5	J7580	JAX-TCC-SW01-08222018	08/22/2018 1:40 pm	SW	R0119 (NA)			
6	J7581	JAX-TCC-SW02-08222018	08/22/2018 2:30 pm	SW	R0119 (NA)			
7	J7583	JAX-TCC-EB01-08222018	08/22/2018 1:35 pm	W	R0119 (NA)			
8	J7584	JAX-TCC-FRB-08222018	08/22/2018 2:00 pm	W	R0119 (NA)			

Shipment: SHP-180828-01
Status: Pending
Description: NAS JAX PFAS
Range: J7623-J7630
Comment: NA



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Shipment: SHP-180828-01
Status: Pending
Description: NAS JAX PFAS
Range: J7623-J7630
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J7623	JAX-PSC51-MW-08-08232018	08/23/2018 2:21 pm	GW	R0119	(NA)		
2	J7624	JAX-PSC51-MW-10D-08232018	08/23/2018 3:24 pm	GW	R0119	(NA)		
3	J7626	JAX-PSC51-MW-06-08242018	08/24/2018 11:46 am	GW	R0119	(NA)		
4	J7627	JAX-PSC51-MW-06-08242018-FD	08/24/2018 11:46 am	GW	R0119	(NA)		
5	J7628	JAX-PSC51-MW-04-08242018	08/24/2018 12:36 pm	GW	R0119	(NA)		
6	J7629	JAX-PSC51-MW-09I-08242018	08/24/2018 1:15 pm	GW	R0119	(NA)		
7	J7630	JAX-PSC51-EB-08242018	08/24/2018 12:02 pm	W	R0119	(NA)		



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name:	Master_369
SOP Reference:	5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)
Description:	PFAS by DoD QSM 5.1 Table B-15
Matrix:	L - Liquid Samples, like water or sea water, prepared and analyzed under the same class of detection limits.
Detection Limit Study:	5-369
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

Method Specific Reporting		Holding Times (days)	Data Flags
Result Units:	ng/L	Unit Conversion: (none)	Sample: 14 DL_Flag: U
Weight Basis:	LIQUID	Result Format: Fixed Digits	Frozen: 40 RL_Flag: J
Standard Basis:	SIS	# of Figures/Digits: 2	Extract: 28 PB_Flag: B
Oil Weight Basis:	No	Oil Weight Source: Oil Weight	DIL_Flag: D
U-Value Substitution:	U-Flag=MD	Histograms: No	HT_Flag: T
ECD_Reporting:	No		

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T		13C5-PFHxA	No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T		13C4-PFHpA	No	No
3	Perfluoro-n-octanoic Acid	PFOA	T		13C8-PFOA	No	No
4	Perfluorononanoic Acid	PFNA	T		13C9-PFNA	No	No
5	Perfluoro-n-decanoic Acid	PFDA	T		13C6-PFDA	No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T		13C7-PFUnA	No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T		13C2-PFDoA	No	No
8	Perfluoro-n-tridecanoic acid	PFTTrDA	T		13C2-PFTeDA	No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T		13C2-PFTeDA	No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T		N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	No	No
11	N-ethylperfluoro-octanesulfonamidoacetic acid	NEtFOSAA	T		N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	No	No
12	Perfluoro-1-butanefulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanesulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanesulfonate	PFOS	T		13C8-PFOS	No	No
1	13C5-PFHxA	13C5-PFHxA	SIS	13C2-PFOA		No	No
2	13C4-PFHpA	13C4-PFHpA	SIS	13C2-PFOA		No	No
3	13C8-PFOA	13C8-PFOA	SIS	13C2-PFOA		No	No



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Attachment 2: Test Codes

Project Test Code Name: Master_369

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
4	13C9-PFNA	13C9-PFNA	SIS	13C2-PFOA		No	No
5	13C6-PFDA	13C6-PFDA	SIS	13C2-PFDA		No	No
6	13C7-PFUnA	13C7-PFUnA	SIS	13C2-PFDA		No	No
7	13C2-PFDoA	13C2-PFDoA	SIS	13C2-PFDA		No	No
8	13C2-PFTeDA	13C2-PFTeDA	SIS	13C2-PFDA		No	No
9	N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	d3-MeFOSAA	SIS	13C4-PFOS		No	No
10	N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	d5-EtFOSAA	SIS	13C4-PFOS		No	No
11	13C3-PFBS	13C3-PFBS	SIS	13C4-PFOS		No	No
12	13C3-PFHxS	13C3-PFHxS	SIS	13C4-PFOS		No	No
13	13C8-PFOS	13C8-PFOS	SIS	13C4-PFOS		No	No
Total Analytes:		27					

Subtract Peaks:

None

Sum Peaks:

None



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369

ICAL Acceptance Criteria:

Curve Fit:	Limit Mean(%):	Mean Qual:	Limit Ind.:	Ind. Qual:	Min Points:	Points Qual:	Comments:
Linear	NA	NA	0.99	N	5	N	y = Bx + C
Quadratic	NA	NA	0.99	N	6	N	y = Ax^2 + Bx + C

Continuing Calibration Verification Criteria:

CCV Name: 5-369

Frequency Hrs:	Mean PD(%):	Individual PD(%):	RIS/SIS RT Window (min):	Area Limit Low(%):	Area Limit High(%):	Comment:
12 (N)	30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA

Independent Calibration Verification:

ICC Name: 5-369

Mean PD Limit(%):	Ind. PD Limit(%):	RIS/SIS Window Limit (Secs):	Area Limit High(%):	Area Limit Low(%):	Comment:
30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA

Mass Discrimination Criteria:

None

Degradation Check Criteria:

None



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Attachment 3: Method Quality Objectives

MQO Application	<i>Universal_LC</i>		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Procedural Blank	Samples must be greater than five times the blank concentration (>5xPB).	B	Review with Project Manager; re-analyze or justify results in project records.
PB Measurement Quality Objective	Organic results in the Procedural Blank are less than 1/2 times the LOQ (<1/2xLOQ)	N	Review with Project Manager; re-analyze or justify results in project records.
Laboratory Control Sample	Recovery values 70-130%.	N	Review with project manager; re-analyze or justify reporting the results in project records.
Matrix Spike / Matrix Spike Duplicate Recovery	Organics 70-130%. Analyte concentration in MS/MSD must be greater than five times reported background concentration. Organics Results in the Target is less than 5 times the Original	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Matrix Spike/Spike Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration in MS/MSD must be greater than five times reported background concentration. Organics Results in the Target is less than 5 times the Original	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Standard Reference Material Accuracy	Organics Percent Difference less than 30% from a range of certified values on average. Analyte concentration must be greater than five times the Method Detection Limit (>5xMDL). Organics Results in the Target is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Analytical Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.



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Attachment 3: Method Quality Objectives

MQO Application	<i>Universal_LC</i>		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-6: R-squared greater than or equal to 0.990		Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-369-6: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-369-6: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.

ShpNo SHP-180828-01

It can be done

Battelle Project No: _____

Sample Receipt Form

Approved: Authorized: Project Number: 112G08005-SE0375Client: Tetra TechReceived by: Schumitz, MattDate/Time Received: Tuesday, August 28, 2018 9:45 AMNo. of Shipping Containers: 1**SHIPMENT**Method of Delivery: Commercial CarrierTracking Number: 7824 8988 3194COC Forms: Shipped with samples No Forms**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	7824 8988 3194	Custody Seal	Intact	Intact	Therm_1	0.1	8

Samples

Sample Labels: Sample labels agree with COC forms
 Discrepancies (see Sample Custody Corrective Action Form)

Container Seals: Tape Custody Seals Other Seals (See sample Log)
 Seals intact for each shipping container
 Seals broken (See sample log for impacted samples)

Condition of Samples: Sample containers intact
 Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 0.1 Temperature Blank used Yes No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: Yes No Unknown

Initial pH 5-9?: Yes No NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: Yes No NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: Yes No NA
Individual sample deviations noted on sample log

Samples Containers:
 Samples returned in PC-grade jars: Yes No Unknown /Lot No.: Unknown

Storage Location: Custody: Refrigerator - R0119 (NA) BDO IDs Assigned: J7623 - J7630

Samples logged in by: Schumitz, Matt Date/Time: 08/28/2018 9:45 AM

Approved By: _____ Approved On: _____

Authorized By: _____ Authorized On: _____



It can be done

ShpNo SHP-180828-01


Battelle Project No: _____

Sample Receipt Form Details

Approved: Authorized Project Number: 112G08005-SE0375Client: Tetra TechReceived by: Schumitz, MattDate/Time Received: Tuesday, August 28, 2018 9:45 AMNo. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J7623	JAX-PSC51-MW-08-08232018	08/23/18 14:21	08/28/18 10:09	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7624	JAX-PSC51-MW-10D-08232018	08/23/18 15:24	08/28/18 10:09	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7625	JAX-PSC51-FRB-08242018	08/24/18 15:24	08/28/18 10:10	1	GW	0.1	NA	NA	NA	R0119 (NA)			
J7626	JAX-PSC51-MW-06-08242018	08/24/18 11:46	08/28/18 10:10	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7627	JAX-PSC51-MW-06-08242018-FD	08/24/18 11:46	08/28/18 10:11	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7628	JAX-PSC51-MW-04-08242018	08/24/18 12:36	08/28/18 10:11	4	GW	0.1	NA	NA	NA	R0119 (NA)			
J7629	JAX-PSC51-MW-09I-08242018	08/24/18 13:15	08/28/18 10:11	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7630	JAX-PSC51-EB-08242018	08/24/18 12:02	08/28/18 10:12	1	W	0.1	NA	NA	NA	R0119 (NA)			

Total Samples: 8

 It can be done		Chain-of-Custody					
Client Contact Information Tetra Tech 8540 Philips Hwy Suite 1C Jackson, IL, IL 3226		Project Manager: <u>Mark Peterson</u> Sampler Information (print name): <u>Mike Groom</u> Phone: <u>9046366128</u> Email:		Sampling Site: <u>NAS JAR</u>		Site Information: <u>PSC51</u>	
Project Name: <u>NAS JAR PAs Env</u> Project No.: <u>112G08005-5E0375</u>		Turnaround Time (TAT) Requested: <u>14 day TAT</u> Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>		Preservative: <u>N/A</u>		COC # <u>007</u>	
Time Zone:		Analysis: <u>PAS ST</u>		Page# <u>1 of 1</u>			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	
J7623	JAX-PSC51-MW-08-08232018	8/23	1421	G	GW	2	X
J7624	JAX-PSC51-MW-10D-08232018	8/23	1524	G	GW	2	X
J7625	JAX-PSC51-FRB-08242018	8/24	1100	G	W	1	X
J7626	JAX-PSC51-MW-06-08242018	8/24	1146	G	GW	2	X
J7627	JAX-PSC51-MW-06-08242018	8/24	1146	G	GW	2	X
J7628	JAX-PSC51-MW-04-08242018	8/24	1236	G	GW	2	X
J7629	JAX-PSC51-MW-08E-08242018	8/24	1315	G	GW	2	X
J7630	JAX-PSC51-E-08242018	8/24	1202	G	W	1	X
Receipt Temperature: (°C) <u>0.1c</u>		Samples Intact: <u>Yes</u> / No		Samples on Ice: <u>Yes</u> / No		Receipt Comments:	
Relinquished by (Print/Sign): <u>Mike Groom</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>8/23/2018 1300</u>		Received by (Print/Sign): <u>Fed Ex</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign): <u>NO</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign): <u>Battelle</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):	
Comments:							

ORIGIN ID:NRBA (904) 636-6125
TETRA TECH
8640 PHILIPS HWY STE 16
JACKSONVILLE, FL 32256
UNITED STATES US

SHIP DATE: 27AUG18
ACTWGT: 51.50 LB
CAD: 006994659/SSFE1922
DIMS: 28x18x12 IN
BILL THIRD PARTY

Part # 150297
SOP/9006/1719

TO **SAMPLE RECIEVING**
BATTELLE
141 LONGWATER DR
STE 202
NORWELL MA 02061

Therm-1 TB✓
0.1 MDS
9:45 8-28-18

(781) 681-6588 REF:
INU: DEPT:
PO:



FedEx
Express



J1121 18001501 ny

TRK# 7824 8988 3194
0201

TUE - 28 AUG 10:30A
PRIORITY OVERNIGHT

XE XPUA

02061
MA-US BOS



Data Tables



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-08-08232018				
Battelle ID	J7623-FS1				
Sample Type	SA				
Collection Date	08/23/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.275				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.45 UT	0.17	0.45	4.55
PFHpA	375-85-9	0.45 UT	0.15	0.45	4.55
PFOA	335-67-1	1.18 JT	0.16	0.45	4.55
PFNA	375-95-1	0.91 UT	0.24	0.91	4.55
PFDA	335-76-2	0.45 UT	0.15	0.45	4.55
PFUnA	2058-94-8	0.91 UT	0.26	0.91	4.55
PFDoA	307-55-1	0.45 UT	0.16	0.45	4.55
PFTeDA	72629-94-8	0.45 UT	0.14	0.45	4.55
PFTeDA	376-06-7	0.91 UT	0.23	0.91	4.55
NMeFOSAA	2355-31-9	1.82 UT	0.51	1.82	4.55
NEtFOSAA	2991-50-6	0.91 UT	0.45	0.91	4.55
PFBS	375-73-5	0.45 UT	0.12	0.45	4.55
PFHxS	355-46-4	0.51 JT	0.10	0.36	4.55
PFOS	1763-23-1	0.42 JT	0.17	0.45	4.55

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	103
13C8-PFOA	93
13C9-PFNA	82
13C6-PFDA	92
13C7-PFUnA	98
13C2-PFDoA	85
13C2-PFTeDA	94
d3-MeFOSAA	78
d5-EtFOSAA	82
13C3-PFBS	79
13C3-PFHxS	98
13C8-PFOS	92



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-10D-08232018				
Battelle ID	J7624-FS1				
Sample Type	SA				
Collection Date	08/23/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 UT	0.18	0.46	4.63
PFHpA	375-85-9	0.46 UT	0.15	0.46	4.63
PFOA	335-67-1	1.48 JT	0.17	0.46	4.63
PFNA	375-95-1	0.93 UT	0.24	0.93	4.63
PFDA	335-76-2	0.46 UT	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 UT	0.27	0.93	4.63
PFDoA	307-55-1	0.46 UT	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 UT	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 UT	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 UT	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 UT	0.45	0.93	4.63
PFBS	375-73-5	0.46 UT	0.12	0.46	4.63
PFHxS	355-46-4	0.39 JT	0.10	0.37	4.63
PFOS	1763-23-1	1.10 JT	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	92
13C4-PFHpA	93
13C8-PFOA	88
13C9-PFNA	97
13C6-PFDA	92
13C7-PFUnA	94
13C2-PFDoA	84
13C2-PFTeDA	87
d3-MeFOSAA	92
d5-EtFOSAA	73
13C3-PFBS	81
13C3-PFHxS	101
13C8-PFOS	88



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-06-08242018				
Battelle ID	J7626-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.01 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.20 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	107
13C8-PFOA	98
13C9-PFNA	91
13C6-PFDA	85
13C7-PFUnA	82
13C2-PFDoA	73
13C2-PFTeDA	82
d3-MeFOSAA	78
d5-EtFOSAA	77
13C3-PFBS	72
13C3-PFHxS	98
13C8-PFOS	76



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-06-08242018-FD				
Battelle ID	J7627-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.13 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.91 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	108
13C8-PFOA	95
13C9-PFNA	106
13C6-PFDA	92
13C7-PFUnA	90
13C2-PFDoA	95
13C2-PFTeDA	90
d3-MeFOSAA	87
d5-EtFOSAA	91
13C3-PFBS	69
13C3-PFHxS	89
13C8-PFOS	98



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-04-08242018				
Battelle ID	J7628-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.61 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.55 J	0.12	0.46	4.63
PFHxS	355-46-4	0.90 J	0.10	0.37	4.63
PFOS	1763-23-1	1.99 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	96
13C4-PFHpA	106
13C8-PFOA	96
13C9-PFNA	91
13C6-PFDA	87
13C7-PFUnA	87
13C2-PFDoA	66
13C2-PFTeDA	65
d3-MeFOSAA	55
d5-EtFOSAA	64
13C3-PFBS	88
13C3-PFHxS	97
13C8-PFOS	82



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-09I-08242018				
Battelle ID	J7629-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.17 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.57 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	88
13C4-PFHpA	95
13C8-PFOA	82
13C9-PFNA	84
13C6-PFDA	92
13C7-PFUnA	87
13C2-PFDoA	88
13C2-PFTeDA	82
d3-MeFOSAA	78
d5-EtFOSAA	88
13C3-PFBS	85
13C3-PFHxS	104
13C8-PFOS	85



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JY46 IB				
Battelle ID	JY46 IB_09/10/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Water				
Sample Size	0.250				
Size Unit-Basis	NA				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	0.50 U	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDoA	307-55-1	0.50 U	0.18	0.50	5.00
PFTeDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	105
13C4-PFHpA	111
13C8-PFOA	113
13C9-PFNA	106
13C6-PFDA	103
13C7-PFUnA	99
13C2-PFDoA	95
13C2-PFTeDA	97
d3-MeFOSAA	82
d5-EtFOSAA	85
13C3-PFBS	76
13C3-PFHxS	87
13C8-PFOS	80



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Procedural Blank				
Battelle ID	CR766PB-FS				
Sample Type	PB				
Collection Date	09/07/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	WATER				
Sample Size	0.250				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	1.21 J	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	102
13C4-PFHpA	100
13C8-PFOA	106
13C9-PFNA	88
13C6-PFDA	91
13C7-PFUnA	98
13C2-PFDaA	86
13C2-PFTeDA	85
d3-MeFOSAA	89
d5-EtFOSAA	112
13C3-PFBS	90
13C3-PFHxS	99
13C8-PFOS	96



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID		Laboratory Control Sample				
Battelle ID		CR767LCS-FS				
Sample Type		LCS				
Collection Date		09/07/2018				
Extraction Date		09/07/2018				
Analysis Date		09/10/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		WATER				
Sample Size		0.250				
Size Unit-Basis		L				
Units		ng/L	Target	Recovery	Qual	Control Limits Lower Upper
PFHxA	307-24-4	8.61	10.10	85		51 137
PFHpA	375-85-9	8.47	10.00	85		48 136
PFOA	335-67-1	10.01 B	10.00	100		49 141
PFNA	375-95-1	8.66	10.00	87		58 122
PFDA	335-76-2	8.76	10.00	88		59 135
PFUnA	2058-94-8	8.93	10.00	89		64 134
PFDoA	307-55-1	9.84	10.00	98		75 131
PFTrDA	72629-94-8	9.68	10.00	97		42 148
PFTeDA	376-06-7	9.95	10.00	100		42 158
NMeFOSAA	2355-31-9	9.81	10.00	98		50 146
NEtFOSAA	2991-50-6	8.74	10.00	87		51 131
PFBS	375-73-5	8.77	10.10	87		56 134
PFHxS	355-46-4	9.34	10.10	92		52 128
PFOS	1763-23-1	9.66	10.00	97		40 144

Surrogate Recoveries (%)

13C5-PFHxA	93
13C4-PFHpA	94
13C8-PFOA	93
13C9-PFNA	95
13C6-PFDA	101
13C7-PFUnA	101
13C2-PFDoA	93
13C2-PFTeDA	93
d3-MeFOSAA	97
d5-EtFOSAA	100
13C3-PFBS	98
13C3-PFHxS	91
13C8-PFOS	91



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
N	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO)
NA	Not Applicable
T	Holding Time (HT) exceeded
U	Analyte not detected or detected below the Method detection limit (MDL) value, Limit of Detection (LOD) reported

Miscellaneous Documentation

QA/QC Summary
Batch 18-0550

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW
Data Set:	DP-18-0262
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
8/23/2018 and 8/24/2018	8/28/2018	0.1
Corrective Actions	None.	
Sample Storage	The water samples were stored refrigerated until extraction.	
Related samples	The FRB sample associated with these field samples was not needed as the samples did not have PFAS compounds detected above the LOQ.	

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with 0.4% NH ₃ in methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	<p>All samples were pre-screened prior to SPE extraction (with SDG 18-0533). This was done by removing 500 µL from the second bottle of each sample, adding internal standards and surrogates, and diluting to 1 mL with methanol.</p> <p>Sample extract were not split in ½ post SPE extraction. Extracts were brought to a PIV of 1 mL (versus 0.5 mL) to account for not splitting the extracts.</p> <p>Samples J7623-FS (JAX-PSC51-MW-08-08232018), J7626-FS (JAX-PSC51-MW-06-08242018), J7627-FS (JAX-PSC51-MW-06-08242018-FD), and J7628-FS (JAX-PSC51-MW-04-08242018) contained floating particulate matter in the original sample containers.</p>
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.

QA/QC Summary
Batch 18-0550

Analysis Comments	<p>Samples analyzed on Sciex 5500 LC-MS/MS.</p> <p>This SDG is a re-extract of SDG 18-0533 and was re-extracted due to the PB results in 18-0533. The exceedances related to 18-0533 appear to have only impacted the PB and LCS samples in the original SDG.</p> <p>Samples J7623-FS1 (JAX-PSC51-MW-08-08232018) and J7624-FS1 (JAX-PSC51-MW-10D-08232018) were extracted on day 15, exceeding the 14-day holding time. The results of these samples are consistent with the original extraction results in SDG 18-0533 and are appropriately "T" qualified for this exceedance)</p>	
Holding Times	Extraction Date(s)	Analysis Date(s)
	9/7/2018	9/10/2018
Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.	
≤ ½ the LOQ Samples >10x PB	<p>One exceedance (sample >10x PB) noted.</p> <p>PFOA in the LCS is "B" qualified as it was fortified at 10 ng/L, which is less than 10 times the amount found in the blank (1.21 ng/L). Both the PB and the LCS recovery pass criteria.</p>	
Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.	
Laboratory derived control limits for recovery	<p>No exceedances noted.</p> <p>No comments.</p>	
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.	
Laboratory derived control limits for recovery and <30% RPD	<p>Not applicable.</p> <p>The MS/MSD is reported in SDG 18-0533.</p>	
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.	
50-150% of true value	<p>No exceedances noted.</p> <p>No comments.</p>	
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.	
+/- 50% of the area of the L5 calibration point.	<p>No exceedances noted.</p> <p>No comments.</p>	

QA/QC Summary
Batch 18-0550

Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, R ² ≥0.99	No exceedances noted.
	No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
≤ ½ the LOQ	No exceedances noted.
	No comments.



It can be done

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project Number: 100119154-SE0375
 Preparation Batch: 18-0550
 Data Set: DP-18-0262
 Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	1	PFOA is B-flagged in the LCS because it was spiked at a low level and so was recovered at less than ten times the blank concentration. LMG 09/11/18
Laboratory Control Sample	0	
Matrix Spike / Matrix Spike Duplicate Recovery	NA	NA
Matrix Spike / Matrix Spike Duplicate Precision	NA	NA
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

Project Title: CTO-SE0375: Naval Air Station Jackson **Data Set Number:** DP-18-0262
Project Number: 100119154-SE0375 **Prep Batch Number:** 18-0550
Entered By: Lauren Griffith **Entered On:** 09/11/2018
Test Code (Matrix Type): Master_369(L)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
LMG 09/11/18

JY38 is not being used in method 18-0550_BASE for PFHpA. There is no impact on the data once this point is removed from the calibration curve.
LMG 09/11/18

Samples J7623 and J7624 were re-extracted outside of holding time. The results confirm the original analyses from batch 18-0533, which were extracted in hold. The data is appropriately flagged.
LMG 09/11/18

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan Thorn
Date: 2018.09.11 13:17:37 -04'00'



Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

- PA = Area of target / area of internal standard
- b = y intercept from calibration curve
- CIS = concentration of internal standard (ng/L)
- m = slope of calibration
- DF = dilution factor
- S = Sample Size
- PIV = Pre-injection volume (L)

Sample ID: J7626-FS1(0)
 Client Sample ID: JAX-PSC51-MW-06-08242018
 Sample Size: 0.27
 Units: L
 Dilution Factor: 1.000
 PIV (L): 0.001
 Target Analyte: PFOS
 MRM Transition: 499.0 / 80.0
 Data file: 18-0550.wiff
 Result table: 18-0550_BASE
 Area: 16,228.66
 IS Name: 13C8-PFOS
 IS Area: 22,072.29
 IS Amount (ng/L): 239.25
 y-intercept: -0.36483
 slope: 4.76291

$$\text{Concentration} = \frac{[(16228.66/22072.29) - -0.36483]}{4.76291} * 239.25 * 0.001 * 1 / 0.27$$

ng/L = 0.20



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375
 Preparation Batch: 18-0550
 Data Set: DP-18-0262

		CR766PB-FS (Procedural Blank)	CR767LCS-FS (Laboratory Control Sample)	J7623-FS1 (JAX-PSC51-MW-08-08232018)	J7624-FS1 (JAX-PSC51-MW-10D-08232018)	J7626-FS1 (JAX-PSC51-MW-06-08242018)	J7627-FS1 (JAX-PSC51-MW-06-08242018-FD)
PFHxA	307-24-4	-	L	-	-	-	-
PFHpA	375-85-9	-	L	-	-	-	-
PFOA	335-67-1	-	L	-	-	-	-
PFNA	375-95-1	-	L	-	-	-	-
PFDA	335-76-2	-	L	-	-	-	-
PFUnA	2058-94-8	-	L	-	-	-	-
PFDaA	307-55-1	-	L	-	-	-	-
PFTrDA	72629-94-8	-	L	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	-	-	-	-
PFBS	375-73-5	-	L	-	-	-	-
PFHxS	355-46-4	-	L/Br	-	-	-	-
PFOS	1763-23-1	-	L/Br	-	-	-	-

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375
 Preparation Batch:
 Data Set: DP-18-

	J7628-FS1 (JAX-PSC51-MW-04-08242018)	J7629-FS1 (JAX-PSC51-MW-09I-08242018)
PFHxA	-	-
PFHpA	-	-
PFOA	-	-
PFNA	-	-
PFDA	-	-
PFUnA	-	-
PFDaA	-	-
PFTrDA	-	-
PFTeDA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
PFBS	-	-
PFHxS	-	-
PFOS	-	-

"L": Linear

"Br": branched

"L/Br": Linear/Bra

"-": Not detected

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JY42	L5	9/10/18 17:34	13C2-PFOA	72,240.04	36,120.02	108,360.06

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JY38	L1	9/10/18 16:51	13C2-PFOA	78,030.05	36,120.02	108,360.06	
JY39	L2	9/10/18 17:02	13C2-PFOA	84,272.09	36,120.02	108,360.06	
JY40	L3	9/10/18 17:13	13C2-PFOA	78,044.48	36,120.02	108,360.06	
JY41	L4	9/10/18 17:23	13C2-PFOA	82,927.54	36,120.02	108,360.06	
JY42	L5	9/10/18 17:34	13C2-PFOA	72,240.04	36,120.02	108,360.06	
KA32	L6	9/10/18 17:45	13C2-PFOA	76,124.90	36,120.02	108,360.06	
KA33	L7	9/10/18 17:56	13C2-PFOA	79,349.29	36,120.02	108,360.06	
JY46 IB	IB	9/10/18 18:07	13C2-PFOA	73,262.57	36,120.02	108,360.06	
JY45 ICC	ICC	9/10/18 18:18	13C2-PFOA	79,878.58	36,120.02	108,360.06	
CR766PB-FS(0)	Procedural Blank	9/10/18 19:12	13C2-PFOA	76,986.08	36,120.02	108,360.06	
CR767LCS-FS(0)	Laboratory Control Sample	9/10/18 19:23	13C2-PFOA	74,115.29	36,120.02	108,360.06	
J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/18 19:34	13C2-PFOA	79,765.43	36,120.02	108,360.06	
JY41	L4	9/10/18 19:45	13C2-PFOA	83,195.82	36,120.02	108,360.06	
J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/18 20:06	13C2-PFOA	81,324.76	36,120.02	108,360.06	
J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/18 20:17	13C2-PFOA	70,878.93	36,120.02	108,360.06	
J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/18 20:28	13C2-PFOA	72,358.50	36,120.02	108,360.06	
J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/18 20:39	13C2-PFOA	66,666.02	36,120.02	108,360.06	
J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/18 20:50	13C2-PFOA	72,236.95	36,120.02	108,360.06	
JY42	L5	9/10/18 21:01	13C2-PFOA	82,843.04	36,120.02	108,360.06	

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JY42	L5	9/10/18 17:34	13C2-PFDA	80,852.53	40,426.27	121,278.80

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JY38	L1	9/10/18 16:51	13C2-PFDA	82,816.49	40,426.27	121,278.80	
JY39	L2	9/10/18 17:02	13C2-PFDA	88,307.48	40,426.27	121,278.80	
JY40	L3	9/10/18 17:13	13C2-PFDA	84,486.12	40,426.27	121,278.80	
JY41	L4	9/10/18 17:23	13C2-PFDA	90,952.21	40,426.27	121,278.80	
JY42	L5	9/10/18 17:34	13C2-PFDA	80,852.53	40,426.27	121,278.80	
KA32	L6	9/10/18 17:45	13C2-PFDA	81,895.75	40,426.27	121,278.80	
KA33	L7	9/10/18 17:56	13C2-PFDA	86,543.22	40,426.27	121,278.80	
JY46 IB	IB	9/10/18 18:07	13C2-PFDA	80,875.71	40,426.27	121,278.80	
JY45 ICC	ICC	9/10/18 18:18	13C2-PFDA	79,763.55	40,426.27	121,278.80	
CR766PB-FS(0)	Procedural Blank	9/10/18 19:12	13C2-PFDA	85,361.10	40,426.27	121,278.80	
CR767LCS-FS(0)	Laboratory Control Sample	9/10/18 19:23	13C2-PFDA	74,238.29	40,426.27	121,278.80	
J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/18 19:34	13C2-PFDA	78,245.91	40,426.27	121,278.80	
JY41	L4	9/10/18 19:45	13C2-PFDA	94,262.22	40,426.27	121,278.80	
J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/18 20:06	13C2-PFDA	84,147.32	40,426.27	121,278.80	
J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/18 20:17	13C2-PFDA	83,651.56	40,426.27	121,278.80	
J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/18 20:28	13C2-PFDA	82,340.82	40,426.27	121,278.80	
J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/18 20:39	13C2-PFDA	67,325.83	40,426.27	121,278.80	
J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/18 20:50	13C2-PFDA	70,567.88	40,426.27	121,278.80	
JY42	L5	9/10/18 21:01	13C2-PFDA	92,136.70	40,426.27	121,278.80	

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JY42	L5	9/10/18 17:34	13C4-PFOS	26,784.61	13,392.31	40,176.92

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JY38	L1	9/10/18 16:51	13C4-PFOS	26,049.56	13,392.31	40,176.92	
JY39	L2	9/10/18 17:02	13C4-PFOS	28,788.55	13,392.31	40,176.92	
JY40	L3	9/10/18 17:13	13C4-PFOS	29,081.88	13,392.31	40,176.92	
JY41	L4	9/10/18 17:23	13C4-PFOS	30,251.44	13,392.31	40,176.92	
JY42	L5	9/10/18 17:34	13C4-PFOS	26,784.61	13,392.31	40,176.92	
KA32	L6	9/10/18 17:45	13C4-PFOS	24,078.22	13,392.31	40,176.92	
KA33	L7	9/10/18 17:56	13C4-PFOS	24,131.03	13,392.31	40,176.92	
JY46 IB	IB	9/10/18 18:07	13C4-PFOS	30,634.45	13,392.31	40,176.92	
JY45 ICC	ICC	9/10/18 18:18	13C4-PFOS	28,244.53	13,392.31	40,176.92	
CR766PB-FS(0)	Procedural Blank	9/10/18 19:12	13C4-PFOS	26,883.98	13,392.31	40,176.92	
CR767LCS-FS(0)	Laboratory Control Sample	9/10/18 19:23	13C4-PFOS	24,652.51	13,392.31	40,176.92	
J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/18 19:34	13C4-PFOS	28,061.29	13,392.31	40,176.92	
JY41	L4	9/10/18 19:45	13C4-PFOS	28,375.59	13,392.31	40,176.92	
J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/18 20:06	13C4-PFOS	26,967.65	13,392.31	40,176.92	
J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/18 20:17	13C4-PFOS	25,678.56	13,392.31	40,176.92	
J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/18 20:28	13C4-PFOS	25,778.24	13,392.31	40,176.92	
J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/18 20:39	13C4-PFOS	22,865.78	13,392.31	40,176.92	
J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/18 20:50	13C4-PFOS	23,961.29	13,392.31	40,176.92	
JY42	L5	9/10/18 21:01	13C4-PFOS	31,904.56	13,392.31	40,176.92	

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 5:56:27 PM	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.53	53	>10
PFBS_2	298.9 / 99.0	1.53	69	>10
PFHxA_1	313.0 / 269.0	1.84	25	>10
PFHxA_2	313.0 / 119.0	1.84	26	>10
PFHpA_1	363.0 / 319.0	2.25	30	>10
PFHpA_2	363.0 / 169.0	2.25	28	>10
PFHxS_1	399.0 / 80.0	2.27	50	>10
PFHxS_2	399.0 / 99.0	2.27	62	>10
PFOA_1	413.0 / 369.0	2.66	34	>10
PFOA_2	413.0 / 169.0	2.65	33	>10
PFNA_1	463.0 / 419.0	3.05	29	>10
PFNA_2	463.0 / 219.0	3.05	29	>10
PFOS_1	499.0 / 80.0	3.04	38	>10
PFOS_2	499.0 / 99.0	3.04	47	>10
PFDA_1	513.0 / 469.0	3.40	30	>10
PFDA_2	513.0 / 219.0	3.40	32	>10
PFUnA_1	563.0 / 519.0	3.72	31	>10
PFUnA_2	563.0 / 269.0	3.72	35	>10
PFDaA_1	613.0 / 569.0	4.00	33	>10
PFDaA_2	613.0 / 319.0	4.00	37	>10
PFTrDA_1	663.0 / 619.0	4.24	40	>10
PFTrDA_2	663.0 / 169.0	4.24	45	>10
PFTeDA_1	713.0 / 669.0	4.46	62	>10
PFTeDA_2	713.0 / 169.0	4.46	69	>10
NMeFOSAA_1	570.0 / 419.0	3.55	52	>10
NMeFOSAA_2	570.0 / 512.0	3.55	38	>10
NEtFOSAA_1	584.0 / 419.0	3.72	35	>10
NEtFOSAA_2	584.0 / 483.0	3.72	27	>10

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 5:56:27 PM	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.99	31	>10
d3-MeFOSAA	573.0 / 419.0	3.54	31	>10
d5-EtFOSAA	589.0 / 419.0	3.71	18	>10
13C5-PFHxA	318.0 / 273.0	1.83	42	>10
13C4-PFHpA	367.0 / 322.0	2.24	36	>10
13C8-PFOA	421.0 / 376.0	2.65	29	>10
13C9-PFNA	472.0 / 427.0	3.03	30	>10
13C6-PFDA	519.0 / 474.0	3.38	38	>10
13C7-PFUnA	570.0 / 525.0	3.70	28	>10
13C2-PFTeDA	715.0 / 670.0	4.45	42	>10
13C3-PFBS	302.0 / 99.0	1.52	31	>10
13C3-PFHxS	402.0 / 99.0	2.26	36	>10
13C8-PFOS	507.0 / 99.0	3.03	22	>10



Precision and Bias at the LOQ for PFAS in non-potable Water

Analyte	CAS No.	Average (ng/L)	ST DEV	2 Sigma	n
PFBA	375-22-4	12.29	2.02	4.04	13
PFPeA	2706-90-3	10.73	1.51	3.02	9
PFHxA	307-24-4	9.96	1.30	2.60	38
PFHpA	375-85-9	9.45	1.58	3.16	38
PFOA	335-67-1	10.18	1.49	2.98	39
PFNA	375-95-1	9.66	1.16	2.32	38
PFDA	335-76-2	9.89	1.34	2.68	38
PFUnA	2058-94-8	9.84	1.32	2.64	38
PFDoA	307-55-1	10.77	1.30	2.60	38
PFTTrDA	72629-94-8	11.22	1.54	3.08	38
PFTeDA	376-06-7	10.72	1.93	3.86	38
NMeFOSAA	2355-31-9	10.22	1.88	3.76	38
NEtFOSAA	2991-50-6	9.64	1.56	3.12	38
PFOSA	754-91-6	9.74	1.14	2.28	4
PFBS	375-73-5	10.06	1.46	2.92	39
PFPeS	BDO-2114	9.80	0.96	1.92	5
PFHxS	355-46-4	9.79	1.41	2.82	38
PFHpS	375-99-6	10.96	0.96	1.92	10
PFOS	1763-23-1	10.09	1.38	2.76	37
PFNS	98789-57-2	9.34	1.10	2.20	4
PFDS	2806-15-7	10.13	1.88	3.76	9
4:2FTS	BDO-2205	11.03	1.26	2.52	9
6:2FTS	27619-97-2	12.52	2.91	5.82	9
8:2FTS	39108-34-4	12.11	2.54	5.08	9

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

Analytical SOP 5-369
Extraction SOP 5-370

PFAS by LC-MS/MS Compliant with QSM 5.1 Compliant Table B-15

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
PFBA	375-22-4	0.14	0.5	5.0
PFPeA	2706-90-3	0.31	1.0	5.0
PFHxA	307-24-4	0.19	0.5	5.0
PFHpA	375-85-9	0.16	0.5	5.0
PFOA	335-67-1	0.18	0.5	5.0
PFNA	375-95-1	0.26	1.0	5.0
PFDA	335-76-2	0.16	0.5	5.0
PFUnA	2058-94-8	0.29	1.0	5.0
PFDoA	307-55-1	0.18	0.5	5.0
PFTTrDA	72629-94-8	0.15	0.5	5.0
PFTeDA	376-06-7	0.25	1.0	5.0
NMeFOSAA	2355-31-9	0.56	2.0	5.0
NEtFOSAA	2991-50-6	0.49	1.0	5.0
PFOSA	754-91-6	TBD	TBD	TBD
PFBS	375-73-5	0.13	0.5	5.0
PFPeS	BDO-2114	0.67	2.5	5.0
PFHxS	355-46-4	0.11	0.4	5.0
PFHpS	375-99-6	0.20	0.5	5.0
PFOS	1763-23-1	0.19	0.5	5.0
PFNS	98789-57-2	0.46	1.0	5.0
PFDS	2806-15-7	0.17	0.5	5.0
4:2FTS	BDO-2205	0.14	0.5	5.0
6:2FTS	27619-97-2	1.36	2.5	5.0
8:2FTS	39108-34-4	0.22	0.5	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

Analytical Transitions for PFAS in non-potable water, solid, and tissue

EPA 537 MOD DoD QSM 5.1 compliant with Table B-15 requirements

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDaA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS ¹	318.0 / 273.0	NA

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFH _p A	BDO-2218	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	BDO-2219	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	BDO-2221	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	BDO-2222	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	BDO-2223	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	BDO-2112	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	BDO-2224	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	BDO-1838	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	BDO-1839	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	BDO-2225	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	BDO-2226	SIS ¹	302.0 / 99.0	NA
13C3-PFH _x S	BDO-2227	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	BDO-2228	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	BDO-2229	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	BDO-2230	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	BDO-2220	SIS ¹	529.0 / 81.0	NA
13C3-PFBA	BDO-2231	IS ²	216.0 / 172.0	NA
13C2-PFOA	BDO-2107	IS ²	415.0 / 370.0	NA
13C2-PFDA	BDO-2110	IS ²	515.0 / 470.0	NA
13C4-PFOS	BDO-2121	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard



Non-Potable Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (L)	Sample Equivalent (ng/L) ²
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
10,000	1	1	0.250	40.0
20,000	1	1	0.250	80.0

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

- Consult Customer concerning the unit overall performance.
- Check Logbook for Services recently performed.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.6	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop
- Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop

Pre PM PPG Test: Perform each of the following tests. Optimize ion source position only. The specifications listed for these Pre PM tests are guidelines only, not required to be met.

- Perform Q1 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	4.01 e6	Read Only	0.6998	Read Only
Q1 500.380	2.81 e7	Read Only	0.7038	Read Only
Q1 906.673	4.21 e7	Read Only	0.7071	Read Only

- Perform Q3 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	5.45 e6	Read Only	0.6873	Read Only
Q3 500.380	2.69 e7	Read Only	0.7591	Read Only
Q3 906.673	4.50 e7	Read Only	0.7843	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 28.87% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	4.26 e7	Read Only	0.7011	Read Only
MS/MS 195.1	1.23 e7	Read Only	0.7069	Read Only

Perform Q1 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.42 e7	Read Only	0.7686	Read Only

Perform Q3 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.24 e7	Read Only	0.7243	Read Only

Perform Product Ion scan using NEG PPG 3e-5M. Record 10 mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.31 e6	Read Only	0.6746	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

PREVENTIVE MAINTENANCE CHECKLIST:

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: _____(200-240VAC).
If Out-of-Range, notify customer.

- Clean Interface
 - Curtain Plate
 - Orifice Plate
 - QJet
 - Q0 Rods.

- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable. N/A
- Clean and inspect built-in divert valve if used. N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.

- Pump down overnight if possible. N/A

- Perform Maintenance on Turbo V source.

- Replace Electrode, if necessary. N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed. N/A

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

POST PM PPG PERFORMANCE TESTS:

- Set-up Sample for Infusion.
- Check spray and adjust sprayer's position of the TIS source.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.7	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Perform Q1 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.04 e6	≥1.2 ^{e6}	0.6737	0.6 to 0.8
Q1 500.380	1.60 e7	≥9.0 ^{e6}	0.6961	0.6 to 0.8
Q1 906.673	2.84 e7	≥1.4 ^{e7}	0.7179	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 ^{e7}	0.7465	0.6 to 0.8

- Perform Q3 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	5.02 e6	≥1.2 ^{e6}	0.6719	0.6 to 0.8
Q3 500.380	1.72 e7	≥9.0 ^{e6}	0.7443	0.6 to 0.8
Q3 906.673	3.00 e7	≥1.4 ^{e7}	0.7504	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.46 e8	≥6.8 ^{e7}	0.7202	0.6 to 0.8

- Perform "Product of 609.3" POS and record product ion 195.1 using Reserpine 0.167pmol/uL. Record 10 mca. Calculate Transmission efficiency comparing Q1POS 609 intensity.

Transmission Efficiency: 21.10% (≥ 10.0%)

Mass	MSMS Intensity		Width Value	Width Specs
	Value	Spec		
Q1 609.3	5.78 e7	N/A	0.6888	Read Only
MS/MS 195.1	1.22 e7	N/A	0.7003	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform Q1 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.35 e7	$\geq 1.0^{e7}$	0.7486	0.6 to 0.8
Q1 933.636	1000	50	7.52 e7	$\geq 4.0^{e7}$	0.7206	0.6 to 0.8

- Perform Q3 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	2.15 e7	$\geq 8.0^{e6}$	0.7492	0.6 to 0.8
Q3 933.636	1000	50	8.33 e7	$\geq 4.0^{e7}$	0.7299	0.6 to 0.8

- Perform Product Ion scan using NEG PPG 3e-5M.

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

- Perform ER POS 118.087 and 922.01 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.54 e6	$\geq 7.2^{e6}$	0.1473	<0.35
ER 922.010	0.05	4.96 e7	$\geq 2.8^{e6}$	0.2434	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		$\geq 2.4^{e7}$		<0.65
ER 922.010	0.05		$\geq 6.8^{e7}$		<0.65

- Perform ER NEG 431.982 and 601.978 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.81 e8	$\geq 4.4^{e7}$	0.1862	<0.35
ER 601.978	0.05	1.70 e8	$\geq 5.6^{e7}$	0.1809	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	5.72 e8	$\geq 1.2^{e8}$	0.5102	<0.65
ER 601.978	0.05	4.52 e8	$\geq 1.6^{e8}$	0.6187	<0.65

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform EPI POS 397.2 using Reserpine 0.167pmol/uL. Record 20 mca.

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.0 e6	≥2.0 e6	> 7.0 e6	≥6.4 e6

- Perform MS3 POS full scan Fragmentation ON & OFF using Reserpine 0.167pmol/uL. Record 20 mca.

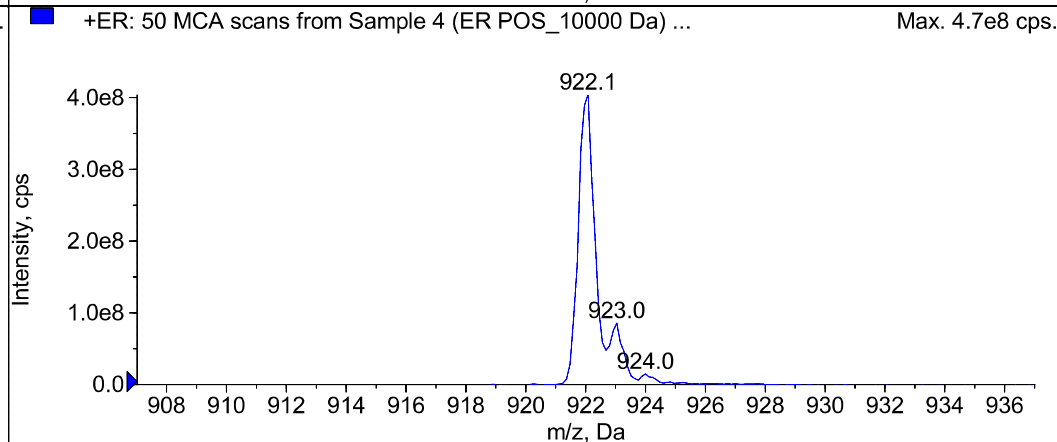
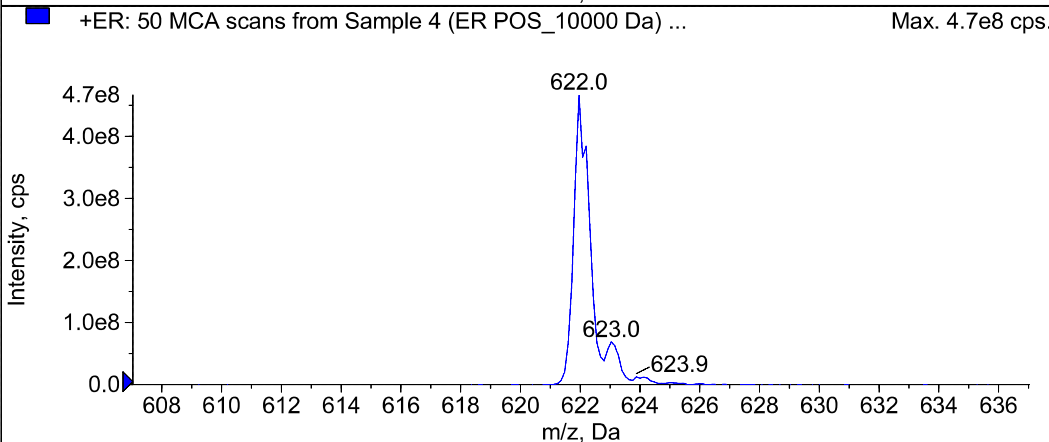
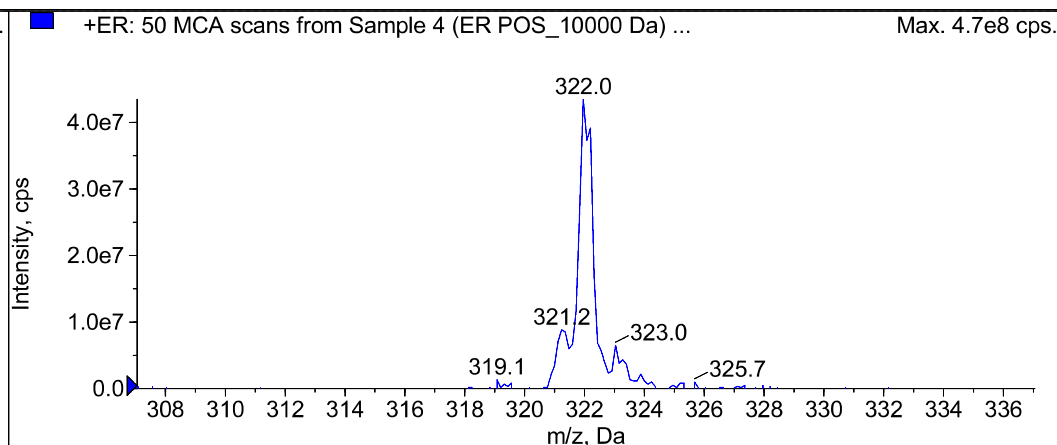
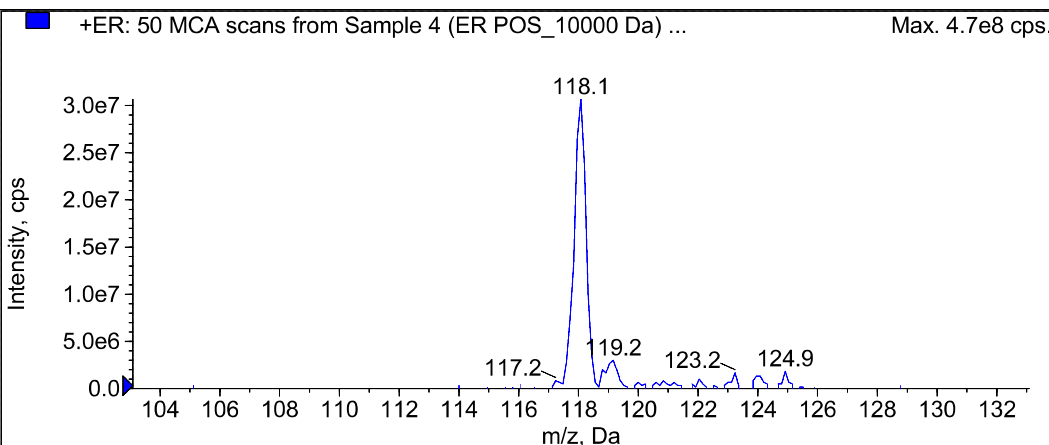
Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	Yes	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	Yes	Fragment Intensity	> 2.0 e6	≥1.6x 10 ^{e6}

REVIEW:

- Attach all spectrums printouts to this procedure.
- If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
- Empty tuning cache folder, if necessary. N/A
- Update Service Work Order status
- Fill and replace PM Label.

END OF PREVENTIVE MAINTENANCE CHECKLIST**Document history:**

06 OCT 2016: Appendix ZEFPM003-2L: Removed requirements to fit Manufacturer's testing criteria.



Peak List for "+ER: 50 MCA scans from Sample 4 (ER POS_10000 Da) of TRAP ER with NEW Pulse Manifold.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	118.0870	118.0702	3.0667e7	0.4146	0.0168
2	322.0490	322.0509	4.3500e7	0.4945	-1.9159e-3
3	622.0290	622.0370	4.6717e8	0.5757	-8.0044e-3
4	922.0100	922.0101	4.0400e8	0.5732	-1.4148e-4

Battelle Standard ID	Description	Intermediate Solutions	Battelle Reagent ID (purchased solutions)
JY26	PFAS - DoD Internal Standard Spiking Solution	JY25	180726-04
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	-	180726-05
JY38	PFAS - DoD Calibration L1	JY27	180726-05
JY38	PFAS - DoD Calibration L1	JY25	180726-04
JY38	PFAS - DoD Calibration L1	JY23	180705-02
JY39	PFAS - DoD Calibration L2	JY23	180705-02
JY39	PFAS - DoD Calibration L2	JY25	180726-04
JY39	PFAS - DoD Calibration L2	JY27	180726-05
JY40	PFAS - DoD Calibration L3	JY25	180726-04
JY40	PFAS - DoD Calibration L3	JY27	180726-05
JY40	PFAS - DoD Calibration L3	JY24	180705-02
JY41	PFAS - DoD Calibration L4	JY24	180705-02
JY41	PFAS - DoD Calibration L4	JY27	180726-05
JY41	PFAS - DoD Calibration L4	JY25	180726-04
JY42	PFAS - DoD Calibration L5	JY25	180726-04
JY42	PFAS - DoD Calibration L5	JY27	180726-05
JY42	PFAS - DoD Calibration L5	JY24	180705-02
KA32	PFAS - DoD Calibration L6	JY24	180705-02
KA32	PFAS - DoD Calibration L6	JY25	180726-04
KA32	PFAS - DoD Calibration L6	JY27	180726-05
KA33	PFAS - DoD Calibration L7	JY27	180726-05
KA33	PFAS - DoD Calibration L7	JY25	180726-04
KA33	PFAS - DoD Calibration L7	JY24	180705-02
JY45	PFAS - DoD ICC	JZ27	171025-01
JY45	PFAS - DoD ICC	JY25	180726-04
JY45	PFAS - DoD ICC	JY27	180726-05
JY46	PFAS - DoD Instrument Blank	JY27	180726-05
JY46	PFAS - DoD Instrument Blank	JY25	180726-04
JZ88	PFAS - DoD Second Source LCS/MS Solution	-	170724-01
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-02
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-03
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-04
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-06
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-07

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JX28**

Description: PFAS Branched Standard Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180618-02	Branched NEtFOSAA Standard (50 µg/mL)	Neat	~50.0000 00	01/17/23	---	---	100 uL	1	10	~0.5000
180618-03	Branched NMeFOSAA Standard (50 µg/mL)	Neat	~50.0000 00	01/17/23	---	---	100 uL	1	10	~0.5000
180618-04	PFOA - Technical Mix	Neat	~50.0000 00	02/16/22	---	---	100 uL	1	10	~0.5000
180618-06	Branched PFHxS Standard (50 µg/mL)	Neat	~50.0000 00	01/04/22	---	---	100 uL	1	10	~0.5000
180618-07	Branched PFOS Standard (50 µg/mL)	Neat	~50.0000 00	01/12/22	---	---	100 uL	1	10	~0.5000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 6/18/2018	Expiration Date: 6/18/2019
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____	Solvent: Methanol (HPLC)	Lot: 179315
Comment: _____ _____ _____		

Approved By: Thorn, Jonathan **Date:** 7/3/2018 8:10:00 AM

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JX28

Description: PFAS Branched Standard Stock

Stock Id: 180618-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-03

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-n-octanoic Acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-hexanesulfonate	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-07

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-octanesulfonate	100	50.00	1	100.000	1	10	0.50000

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.50000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.50000
Perfluoro-1-hexanesulfonate	.50000
Perfluoro-1-octanesulfonate	.50000
Perfluoro-n-octanoic Acid	.50000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180618-02	Pipette	I0793912B
180618-03	Pipette	I0793912B
180618-04	Pipette	I0793912B
180618-06	Pipette	I0793912B
180618-07	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie Date Prepared: 6/18/2018 Expiration Date: 6/18/2019

Solution Volume 25 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: Approved By: Thorn, Jonathan Date: 7/3/2018 8:10:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.00000 0	06/19/23	---	---	500 uL	1	100	~0.0050

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 4 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	100	0.00505
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	100	0.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-butanedisulfonate	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluorononanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-pentanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	100	0.00500
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	100	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00500
(Na) Perfluoro-1-decanesulfonate	.00505
(NA) Perfluoro-1-heptanesulfonate	.00500
(Na) Perfluoro-1-nonanesulfonate	.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-butanedisulfonate	.00505

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Perfluoro-1-hexanesulfonate	.00505
Perfluoro-1-octanesulfonamide	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-butanoic Acid	.00500
Perfluoro-n-decanoic Acid	.00500
Perfluoro-n-dodecanoic acid	.00500
Perfluoro-n-heptanoic Acid	.00500
Perfluoro-n-hexanoic acid	.00505
Perfluoro-n-octanoic Acid	.00500
Perfluorononanoic Acid	.00500
Perfluoro-n-pentanoic acid	.00505
Perfluoro-n-tetradecanoic acid	.00500
Perfluoro-n-tridecanoic acid	.00500
Perfluoro-n-undecanoic acid	.00500
Sodium perfluoro-1-pentanesulfonate	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY24

Description: PFAS - DoD High ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.00000 0	06/19/23	---	---	500 uL	1	10	~0.0500

Solution Prepared By: Schultz, Stephanie

Date Prepared: 7/16/2018

Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID:

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY24

Description: PFAS - DoD High ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	10	0.05050
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	10	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-butanefulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluorononanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-pentanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	10	0.05000
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	10	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefulfonate	.05050

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY24

Description: PFAS - DoD High ICAL Stock

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05050
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JY25**

Description: PFAS - DoD Internal Standard Stock Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-04	Mass-labelled PFAS injection standards	Neat	~2.00000 0	05/02/22	---	---	625 uL	1	25	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY25

Description: PFAS - DoD Internal Standard Stock Solution

Stock ID: 180726-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	625	2.00	1	100.000	1	25	0.05000
13C2-PFOA	625	2.00	1	100.000	1	25	0.05000
13C3-PFBA	625	2.00	1	100.000	1	25	0.05000
13C4-PFOS	625	1.91	1	100.000	1	25	0.04785

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.05000
13C2-PFOA	.05000
13C3-PFBA	.05000
13C4-PFOS	.04785

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-04	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY26

Description: PFAS - DoD Internal Standard Spiking Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	2500 uL	1	25	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:16:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY26

Description: PFAS - DoD Internal Standard Spiking Solution

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	2500	0.05	---	---	1	25	0.00500
13C2-PFOA	2500	0.05	---	---	1	25	0.00500
13C3-PFBA	2500	0.05	---	---	1	25	0.00500
13C4-PFOS	2500	0.05	---	---	1	25	0.00479

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00500
13C2-PFOA	.00500
13C3-PFBA	.00500
13C4-PFOS	.00479

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:16:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY27

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-05	Mass-labelled PFAS Extraction Standard Solution	Neat	~1.00000 0	02/07/23	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie

Date Prepared: 7/16/2018

Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY27

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Stock Id: 180726-05

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	1000	0.94	1	100.000	1	20	0.04675
13C2-6:2FTS	1000	0.95	1	100.000	1	20	0.04745
13C2-8:2FTS	1000	0.96	1	100.000	1	20	0.04790
13C2-PFDoA	1000	1.00	1	100.000	1	20	0.05000
13C2-PFTeDA	1000	1.00	1	100.000	1	20	0.05000
13C3-PFBS	1000	0.93	1	100.000	1	20	0.04645
13C3-PFHxS	1000	0.95	1	100.000	1	20	0.04730
13C4-PFBA	1000	1.00	1	100.000	1	20	0.05000
13C4-PFHpA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFHxA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFPeA	1000	1.00	1	100.000	1	20	0.05000
13C6-PFDA	1000	1.00	1	100.000	1	20	0.05000
13C7-PFUnA	1000	1.00	1	100.000	1	20	0.05000
13C8-FOSA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOS	1000	0.96	1	100.000	1	20	0.04785
13C9-PFNA	1000	1.00	1	100.000	1	20	0.05000
d3-MeFOSAA	1000	1.00	1	100.000	1	20	0.05000
d5-EtFOSAA	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.04675
13C2-6:2FTS	.04745
13C2-8:2FTS	.04790
13C2-PFDoA	.05000
13C2-PFTeDA	.05000
13C3-PFBS	.04645
13C3-PFHxS	.04730
13C4-PFBA	.05000
13C4-PFHpA	.05000
13C5-PFHxA	.05000
13C5-PFPeA	.05000
13C6-PFDA	.05000
13C7-PFUnA	.05000
13C8-FOSA	.05000

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY27

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

13C8-PFOA	.05000
13C8-PFOS	.04785
13C9-PFNA	.05000
d3-MeFOSAA	.05000
d5-EtFOSAA	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-05	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY38

Description: PFAS - DoD Calibration L1

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	200 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:47:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY38

Description: PFAS - DoD Calibration L1

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-decanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-heptanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-nonanesulfonate	200	0.01	---	---	1	10	0.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-1-butanedisulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-hexanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonamide	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-n-butanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-decanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-dodecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-heptanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-hexanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluorononanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-pentanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tetradecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tridecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-undecanoic acid	200	0.01	---	---	1	10	0.00010
Sodium perfluoro-1-pentanesulfonate	200	0.01	---	---	1	10	0.00010

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:47:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY38

Description: PFAS - DoD Calibration L1

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00010
(Na) Perfluoro-1-decanesulfonate	.00010
(NA) Perfluoro-1-heptanesulfonate	.00010
(Na) Perfluoro-1-nonanesulfonate	.00010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:47:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: JY38

Description: PFAS - DoD Calibration L1

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanefulfonate	.00010
Perfluoro-1-hexanesulfonate	.00010
Perfluoro-1-octanesulfonamide	.00010
Perfluoro-1-octanesulfonate	.00010
Perfluoro-n-butyric Acid	.00010
Perfluoro-n-decanoic Acid	.00010
Perfluoro-n-dodecanoic acid	.00010
Perfluoro-n-heptanoic Acid	.00010
Perfluoro-n-hexanoic acid	.00010
Perfluoro-n-octanoic Acid	.00010
Perfluorononanoic Acid	.00010
Perfluoro-n-pentanoic acid	.00010
Perfluoro-n-tetradecanoic acid	.00010
Perfluoro-n-tridecanoic acid	.00010
Perfluoro-n-undecanoic acid	.00010
Sodium perfluoro-1-pentanesulfonate	.00010

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B814657482
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:47:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY39

Description: PFAS - DoD Calibration L2

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	500 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY39

Description: PFAS - DoD Calibration L2

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-decanesulfonate	500	0.01	---	---	1	10	0.00025
(NA) Perfluoro-1-heptanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-nonanesulfonate	500	0.01	---	---	1	10	0.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-1-butanefulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonamide	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-n-butanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-decanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluorononanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanoic acid	500	0.01	---	---	1	10	0.00025
Sodium perfluoro-1-pentanesulfonate	500	0.01	---	---	1	10	0.00025

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY39

Description: PFAS - DoD Calibration L2

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00025
(Na) Perfluoro-1-decanesulfonate	.00025
(NA) Perfluoro-1-heptanesulfonate	.00025
(Na) Perfluoro-1-nonanesulfonate	.00025
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: JY39

Description: PFAS - DoD Calibration L2

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanefulfonate	.00025
Perfluoro-1-hexanesulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
Perfluoro-n-butyric Acid	.00025
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025
Perfluoro-n-octanoic Acid	.00025
Perfluorononanoic Acid	.00025
Perfluoro-n-pentanoic acid	.00025
Perfluoro-n-tetradecanoic acid	.00025
Perfluoro-n-tridecanoic acid	.00025
Perfluoro-n-undecanoic acid	.00025
Sodium perfluoro-1-pentanesulfonate	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B820865811
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY40

Description: PFAS - DoD Calibration L3

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY24	PFAS - DoD High ICAL Stock	Solution	~1	07/16/19	---	---	100 uL	1	10	~0.0100
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY40

Description: PFAS - DoD Calibration L3

Stock Id: JY24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-decanesulfonate	100	0.05	---	---	1	10	0.00051
(NA) Perfluoro-1-heptanesulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-nonanesulfonate	100	0.05	---	---	1	10	0.00051
N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-1-butanedisulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-hexanesulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-octanesulfonamide	100	0.05	---	---	1	10	0.00050
Perfluoro-1-octanesulfonate	100	0.05	---	---	1	10	0.00050
Perfluoro-n-butanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-decanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-octanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluorononanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-pentanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-tetradecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	100	0.05	---	---	1	10	0.00050
Sodium perfluoro-1-pentanesulfonate	100	0.05	---	---	1	10	0.00050

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY40

Description: PFAS - DoD Calibration L3

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00050
(Na) Perfluoro-1-decanesulfonate	.00051
(NA) Perfluoro-1-heptanesulfonate	.00050
(Na) Perfluoro-1-nonanesulfonate	.00051
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: JY40

Description: PFAS - DoD Calibration L3

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanefulfonate	.00051
Perfluoro-1-hexanesulfonate	.00051
Perfluoro-1-octanesulfonamide	.00050
Perfluoro-1-octanesulfonate	.00050
Perfluoro-n-butanefulfonic Acid	.00050
Perfluoro-n-decanefulfonic Acid	.00050
Perfluoro-n-dodecanefulfonic acid	.00050
Perfluoro-n-heptanefulfonic Acid	.00050
Perfluoro-n-hexanefulfonic acid	.00051
Perfluoro-n-octanefulfonic Acid	.00050
Perfluorononanefulfonic Acid	.00050
Perfluoro-n-pentanefulfonic acid	.00051
Perfluoro-n-tetradecanefulfonic acid	.00050
Perfluoro-n-tridecanefulfonic acid	.00050
Perfluoro-n-undecanefulfonic acid	.00050
Sodium perfluoro-1-pentanesulfonate	.00050

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY24	Pipette	I0793912B
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 Methanol/milli-q water		

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY41

Description: PFAS - DoD Calibration L4

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY24	PFAS - DoD High ICAL Stock	Solution	~1	07/16/19	---	---	200 uL	1	10	~0.0200
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: Storage Room: Refrigerator - R0105	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY41

Description: PFAS - DoD Calibration L4

Stock Id: JY24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanefulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: Storage Room: Refrigerator - R0105

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY41

Description: PFAS - DoD Calibration L4

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: Storage Room: Refrigerator - R0105		

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY41

Description: PFAS - DoD Calibration L4

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butyric Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00101
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY24	Pipette	B814657482
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: Storage Room: Refrigerator - R0105	

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY42

Description: PFAS - DoD Calibration L5

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY24	PFAS - DoD High ICAL Stock	Solution	~1	07/16/19	---	---	500 uL	1	10	~0.0500
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY42

Description: PFAS - DoD Calibration L5

Stock Id: JY24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-decanesulfonate	500	0.05	---	---	1	10	0.00253
(Na) Perfluoro-1-heptanesulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-nonanesulfonate	500	0.05	---	---	1	10	0.00253
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-1-butanefluoride	500	0.05	---	---	1	10	0.00253
Perfluoro-1-hexanesulfonate	500	0.05	---	---	1	10	0.00253
Perfluoro-1-octanesulfonamide	500	0.05	---	---	1	10	0.00250
Perfluoro-1-octanesulfonate	500	0.05	---	---	1	10	0.00250
Perfluoro-n-butanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-decanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-dodecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-heptanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-hexanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-octanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluorononanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-pentanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-tetradecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-tridecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-undecanoic acid	500	0.05	---	---	1	10	0.00250
Sodium perfluoro-1-pentanesulfonate	500	0.05	---	---	1	10	0.00250

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY42

Description: PFAS - DoD Calibration L5

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00250
(Na) Perfluoro-1-decanesulfonate	.00253
(NA) Perfluoro-1-heptanesulfonate	.00250
(Na) Perfluoro-1-nonanesulfonate	.00253
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY42

Description: PFAS - DoD Calibration L5

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanefulfonate	.00253
Perfluoro-1-hexanesulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanesulfonate	.00250
Perfluoro-n-butyric Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253
Perfluoro-n-octanoic Acid	.00250
Perfluorononanoic Acid	.00250
Perfluoro-n-pentanoic acid	.00253
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250
Sodium perfluoro-1-pentanesulfonate	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY24	Pipette	B820865811
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY45

Description: PFAS - DoD ICC

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JZ27	PFAS - DoD Second Source LCS/MS Solution	Solution	~0	07/25/19	---	---	200 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY45

Description: PFAS - DoD ICC

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: JZ27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY45

Description: PFAS - DoD ICC

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanefulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: JY45

Description: PFAS - DoD ICC

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butyanoic Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B
JZ27	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY46

Description: PFAS - DoD Instrument Blank

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY46

Description: PFAS - DoD Instrument Blank

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFU _n A	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 8/14/2018 4:48:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: JY46

Description: PFAS - DoD Instrument Blank

13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025
13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	I0793912B
JY27	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise **Date:** 8/14/2018 4:48:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ88**

Description: PFAS - DoD Second Source LCS/MS Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
170724-01	PFOA- 2nd Source	Neat	~1.00000 0	03/22/22	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 8/20/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 8/21/2018 7:17:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ88**

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: **170724-01**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	20	0.05050
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	20	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-butanedisulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-octanesulfonate	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-pentanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Sodium perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanedisulfonate	.05050

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 8/20/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 8/21/2018 7:17:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JZ88

Description: PFAS - DoD Second Source LCS/MS Solution

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
170724-01	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 8/20/2018 **Expiration Date:** 8/20/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan **Date:** 8/21/2018 7:17:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA29

Description: PFAS Branched Solution (~5,000 ng/L)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JX28	PFAS Branched Standard Stock	Solution	~0	06/18/19	---	---	100 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	8/31/2018	Expiration Date	6/18/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:49:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KA29**

Description: PFAS Branched Solution (~5,000 ng/L)

Stock Id: **JX28**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
Perfluoro-1-hexanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-1-octanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-n-octanoic Acid	100	0.50	---	---	1	10	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-hexanesulfonate	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-octanoic Acid	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JX28	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/31/2018 Expiration Date: 6/18/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:49:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA32

Description: PFAS - DoD Calibration L6

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY24	PFAS - DoD High ICAL Stock	Solution	~1	07/16/19	---	---	1000 uL	1	5	~0.2000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/4/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:45:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA32

Description: PFAS - DoD Calibration L6

Stock Id: JY24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-decanesulfonate	1000	0.05	---	---	1	5	0.01010
(Na) Perfluoro-1-heptanesulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-nonanesulfonate	1000	0.05	---	---	1	5	0.01010
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-butanedisulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-octanesulfonamide	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-butanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluorononanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-pentanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	5	0.01000
Sodium perfluoro-1-pentanesulfonate	1000	0.05	---	---	1	5	0.01000

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.05	---	---	1	5	0.00025
13C2-PFOA	25	0.05	---	---	1	5	0.00025
13C3-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFOS	25	0.05	---	---	1	5	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.05	---	---	1	5	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/4/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:45:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KA32**

Description: PFAS - DoD Calibration L6

13C2-6:2FTS	25	0.05	---	---	1	5	0.00024
13C2-8:2FTS	25	0.05	---	---	1	5	0.00024
13C2-PFDoA	25	0.05	---	---	1	5	0.00025
13C2-PFTeDA	25	0.05	---	---	1	5	0.00025
13C3-PFBS	25	0.05	---	---	1	5	0.00023
13C3-PFHxS	25	0.05	---	---	1	5	0.00024
13C4-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFHpA	25	0.05	---	---	1	5	0.00025
13C5-PFHxA	25	0.05	---	---	1	5	0.00025
13C5-PFPeA	25	0.05	---	---	1	5	0.00025
13C6-PFDA	25	0.05	---	---	1	5	0.00025
13C7-PFUnA	25	0.05	---	---	1	5	0.00025
13C8-FOSA	25	0.05	---	---	1	5	0.00025
13C8-PFOA	25	0.05	---	---	1	5	0.00025
13C8-PFOS	25	0.05	---	---	1	5	0.00024
13C9-PFNA	25	0.05	---	---	1	5	0.00025
d3-MeFOSAA	25	0.05	---	---	1	5	0.00025
d5-EtFOSAA	25	0.05	---	---	1	5	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.01000
(Na) Perfluoro-1-decanesulfonate	.01010
(NA) Perfluoro-1-heptanesulfonate	.01000
(Na) Perfluoro-1-nonanesulfonate	.01010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/4/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:45:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA32

Description: PFAS - DoD Calibration L6

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanefulfonate	.01010
Perfluoro-1-hexanesulfonate	.01010
Perfluoro-1-octanesulfonamide	.01000
Perfluoro-1-octanesulfonate	.01000
Perfluoro-n-butyric Acid	.01000
Perfluoro-n-decanoic Acid	.01000
Perfluoro-n-dodecanoic acid	.01000
Perfluoro-n-heptanoic Acid	.01000
Perfluoro-n-hexanoic acid	.01010
Perfluoro-n-octanoic Acid	.01000
Perfluorononanoic Acid	.01000
Perfluoro-n-pentanoic acid	.01010
Perfluoro-n-tetradecanoic acid	.01000
Perfluoro-n-tridecanoic acid	.01000
Perfluoro-n-undecanoic acid	.01000
Sodium perfluoro-1-pentanesulfonate	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY24	Pipette	B820865811
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/4/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:45:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA33

Description: PFAS - DoD Calibration L7

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY24	PFAS - DoD High ICAL Stock	Solution	~1	07/16/19	---	---	2000 uL	1	5	~0.4000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/4/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA33

Description: PFAS - DoD Calibration L7

Stock Id: JY24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-decanesulfonate	2000	0.05	---	---	1	5	0.02020
(NA) Perfluoro-1-heptanesulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-nonanesulfonate	2000	0.05	---	---	1	5	0.02020
N-ethylperfluoro-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-butanefulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-hexanesulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-octanesulfonamide	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-octanesulfonate	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-butanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-decanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-dodecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-heptanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-hexanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-octanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluorononanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-pentanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-tetradecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tridecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-undecanoic acid	2000	0.05	---	---	1	5	0.02000
Sodium perfluoro-1-pentanesulfonate	2000	0.05	---	---	1	5	0.02000

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.05	---	---	1	5	0.00025
13C2-PFOA	25	0.05	---	---	1	5	0.00025
13C3-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFOS	25	0.05	---	---	1	5	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.05	---	---	1	5	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/4/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KA33**

Description: PFAS - DoD Calibration L7

13C2-6:2FTS	25	0.05	---	---	1	5	0.00024
13C2-8:2FTS	25	0.05	---	---	1	5	0.00024
13C2-PFDoA	25	0.05	---	---	1	5	0.00025
13C2-PFTeDA	25	0.05	---	---	1	5	0.00025
13C3-PFBS	25	0.05	---	---	1	5	0.00023
13C3-PFHxS	25	0.05	---	---	1	5	0.00024
13C4-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFHpA	25	0.05	---	---	1	5	0.00025
13C5-PFHxA	25	0.05	---	---	1	5	0.00025
13C5-PFPeA	25	0.05	---	---	1	5	0.00025
13C6-PFDA	25	0.05	---	---	1	5	0.00025
13C7-PFUnA	25	0.05	---	---	1	5	0.00025
13C8-FOSA	25	0.05	---	---	1	5	0.00025
13C8-PFOA	25	0.05	---	---	1	5	0.00025
13C8-PFOS	25	0.05	---	---	1	5	0.00024
13C9-PFNA	25	0.05	---	---	1	5	0.00025
d3-MeFOSAA	25	0.05	---	---	1	5	0.00025
d5-EtFOSAA	25	0.05	---	---	1	5	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.02000
(Na) Perfluoro-1-decanesulfonate	.02020
(NA) Perfluoro-1-heptanesulfonate	.02000
(Na) Perfluoro-1-nonanesulfonate	.02020
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/4/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA33

Description: PFAS - DoD Calibration L7

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.02000
Perfluoro-1-butanefulfonate	.02020
Perfluoro-1-hexanesulfonate	.02020
Perfluoro-1-octanesulfonamide	.02000
Perfluoro-1-octanesulfonate	.02000
Perfluoro-n-butanefulfonic Acid	.02000
Perfluoro-n-decanefulfonic Acid	.02000
Perfluoro-n-dodecanefulfonic acid	.02000
Perfluoro-n-heptanefulfonic Acid	.02000
Perfluoro-n-hexanefulfonic acid	.02020
Perfluoro-n-octanefulfonic Acid	.02000
Perfluorononanefulfonic Acid	.02000
Perfluoro-n-pentanefulfonic acid	.02020
Perfluoro-n-tetradecanefulfonic acid	.02000
Perfluoro-n-tridecanefulfonic acid	.02000
Perfluoro-n-undecanefulfonic acid	.02000
Sodium perfluoro-1-pentanesulfonate	.02000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY24	Pipette	I0400533B
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/4/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: _____ Date: _____

It can be done

BDO Id: 170724-01

Reagent Receipt Report

Approved: Authorized

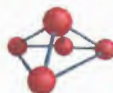
Name: PFOA- 2nd Source Received: 7/24/2017
Vendor: ABSOLUTE STANDARDS Custodian: Schumitz, Matt
Catalogue No: 99207 Expires: 3/22/2022
Type: Solution Consumed: _____
Lot No: 032217 Stored In: LC Laboratory - F0111
Quantity: 5 ea mL % Moisture: _____
Description: PFOA - 2nd Source

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--	<input type="checkbox"/>			
(Na) 1H,1H,2H,2H-Perfluorohexane s	414911-30-1	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) 1H,1H,2H,2H-Perfluorooctane s	27619-97-2	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) Perfluoro-1-decanesulfonate	2806-15-7	1.0100	100.00	--	--	<input type="checkbox"/>			
(NA) Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) Perfluoro-1-nonanesulfonate	98789-57-2	1.0100	100.00	--	--	<input type="checkbox"/>			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-butanefulfonate	375-73-5	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonate	1763-23-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-pentanoic acid	2706-90-3	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Sodium perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 24

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



CERTIFIED WEIGHT REPORT

170254-01

Part Number: 99207
Lot Number: 032217
Description: PFOA - DOD
24 components
Expiration Date: 032222
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 822-275872-11

Solvent(s): Methanol (1 mM KOH)
2-Propanol

Lot#
031317 (98%)
23214 (2%)

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

<i>Paul Barron</i>		032217
Formulated By:	Paul Barron	DATE
<i>Pedro L. Rentas</i>		032217
Reviewed By:	Pedro L. Rentas	DATE

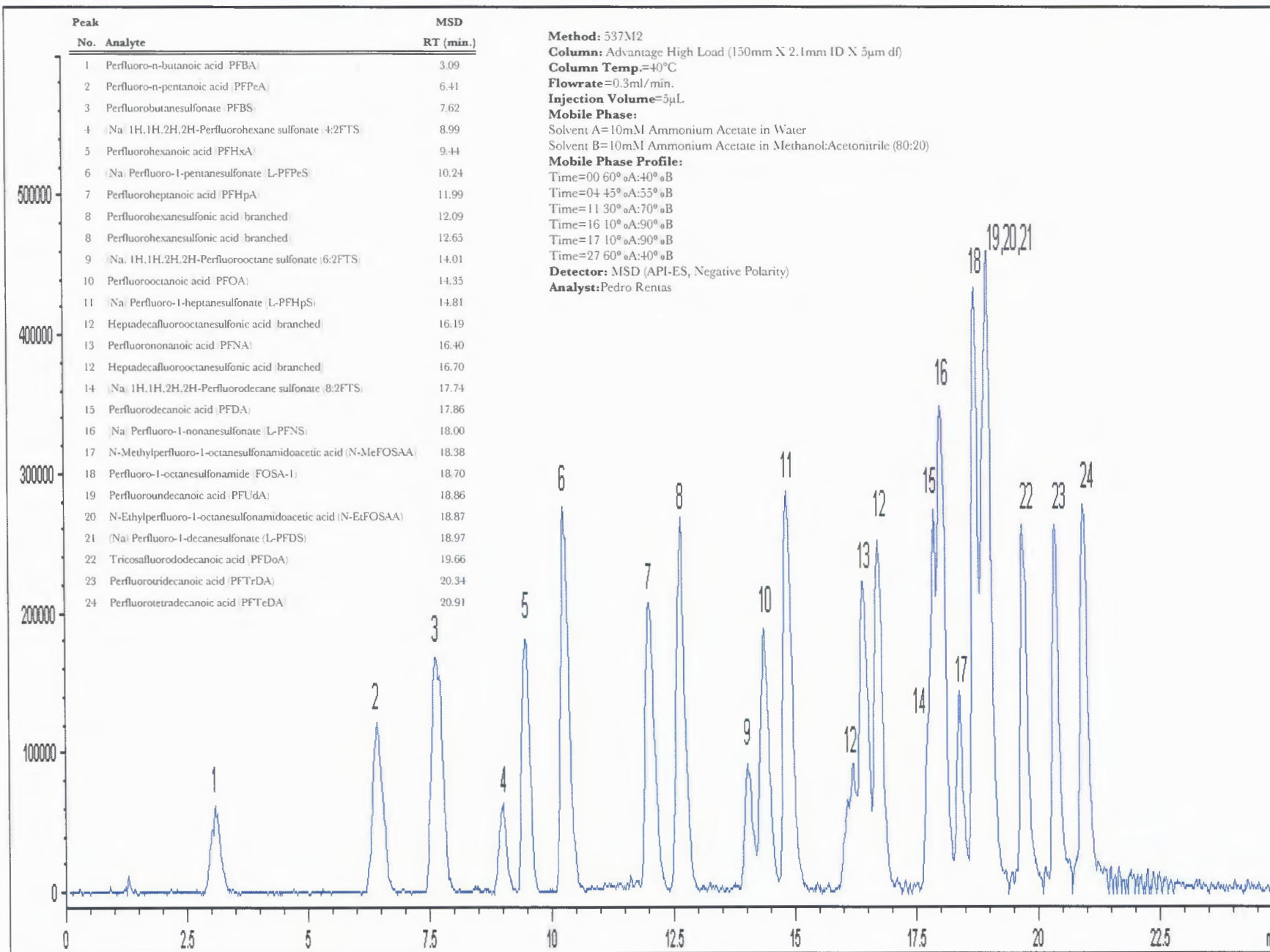
Volume(s) shown below were combined and diluted to (mL): 50.0

Note: All assigned values are anion concentrations.

Expanded SDS Information
(Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0516	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916l	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	00-00-0	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS1016	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



BATTELLE

It can be done

BDO Id: 171025-01

Reagent Receipt Report

Approved:

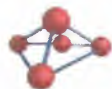
Name: PFOA - 2nd Source Received: 10/25/2017
 Vendor: ABSOLUTE STANDARDS Custodian: Schumitz, Matt
 Catalogue No: 99207 Expires: 3/22/2022
 Type: Solution Consumed: _____
 Lot No: 032217 Stored In: LC Laboratory - F0111
 Quantity: 5 ea ml % Moisture: _____
 Description: PFOA-DOD

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--	<input type="checkbox"/>		
(Na) 1H,1H,2H,2H-Perfluorohexane	BDO-2205	1.0000	100.00	--	--	<input type="checkbox"/>		
(Na) 1H,1H,2H,2H-Perfluorooctane s	27619-97-2	1.0000	100.00	--	--	<input type="checkbox"/>		
(Na) Perfluoro-1-decanesulfonate	2806-15-7	1.0100	100.00	--	--	<input type="checkbox"/>		
(NA) Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	<input type="checkbox"/>		
(Na) Perfluoro-1-nonanesulfonate	98789-57-2	1.0100	100.00	--	--	<input type="checkbox"/>		
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	<input type="checkbox"/>		
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-1-butanefulfonic Acid	375-73-5	1.0100	100.00	--	--	<input type="checkbox"/>		
Perfluoro-1-hexanesulfonic Acid	355-46-4	1.0100	100.00	--	--	<input type="checkbox"/>		
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-1-octanesulphonic Acid	1763-23-1	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-pentanoic acid	2706-90-3	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	<input type="checkbox"/>		
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	<input type="checkbox"/>		
Sodium perfluoro-1-pentanesulfonat	BDO-2114	1.0000	100.00	--	--	<input type="checkbox"/>		

Total Analytes: 24

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____



CERTIFIED WEIGHT REPORT

Part Number: 99207
Lot Number: 101717
Description: PFOA - DOD
24 components
Expiration Date: 101722
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 2506734D

Solvent(s):
Methanol (1 mM KOH) 031317 (98%)
2-Propanol 23214 (2%)

5E-05 Balance Uncertainty
50.0 0.007 Flask Uncertainty

<i>Mario Luis</i>		101717
Formulated By:	Mario Luis	DATE
<i>Pedro L. Rentas</i>		101717
Reviewed By:	Pedro L. Rentas	DATE

Volume(s) shown below were combined and diluted to (mL):
Note: All assigned values are anion concentrations.

Expanded
SDS Information
(Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA) LD50

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butyric acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0617	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSAC0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSA00117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSA00117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHps0817	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

171025-02



It can be done

BDO Id: 180618-02

Reagent Receipt Report

 Approved: Authorized:

Name:	<u>Branched NEtFOSAA Standard (50 µ</u>	Received:	<u>6/18/2018</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Thorn, Jonathan</u>
Catalogue No:	<u>br-NEtFOSAAA</u>	Expires:	<u>1/17/2023</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>brNEtFOSAA0118</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea mL</u> % Moisture: <u>0</u>		
Description:	<u>Branched NEtFOSAA Standard (50 µg/mL)</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by:	<u></u>	Approved on:	<u></u>
Authorized by:	<u></u>	Authorized on:	<u></u>

180618-02



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSAA

**N-Ethylperfluorooctanesulfonamidoacetic
Acid Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-NEtFOSAA
LOT NUMBER: brNEtFOSAA0118
CONCENTRATION: 50.0 ± 2.5 µg/ml
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 01/10/2018
LAST TESTED: (mm/dd/yyyy) 01/17/2018
EXPIRY DATE: (mm/dd/yyyy) 01/17/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamidoacetic acid (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 ¹⁹F-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 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

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.

HANDLING:

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:

Our products are synthesized using single-product unambiguous routes whenever possible. 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, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This 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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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 calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. 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 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).




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

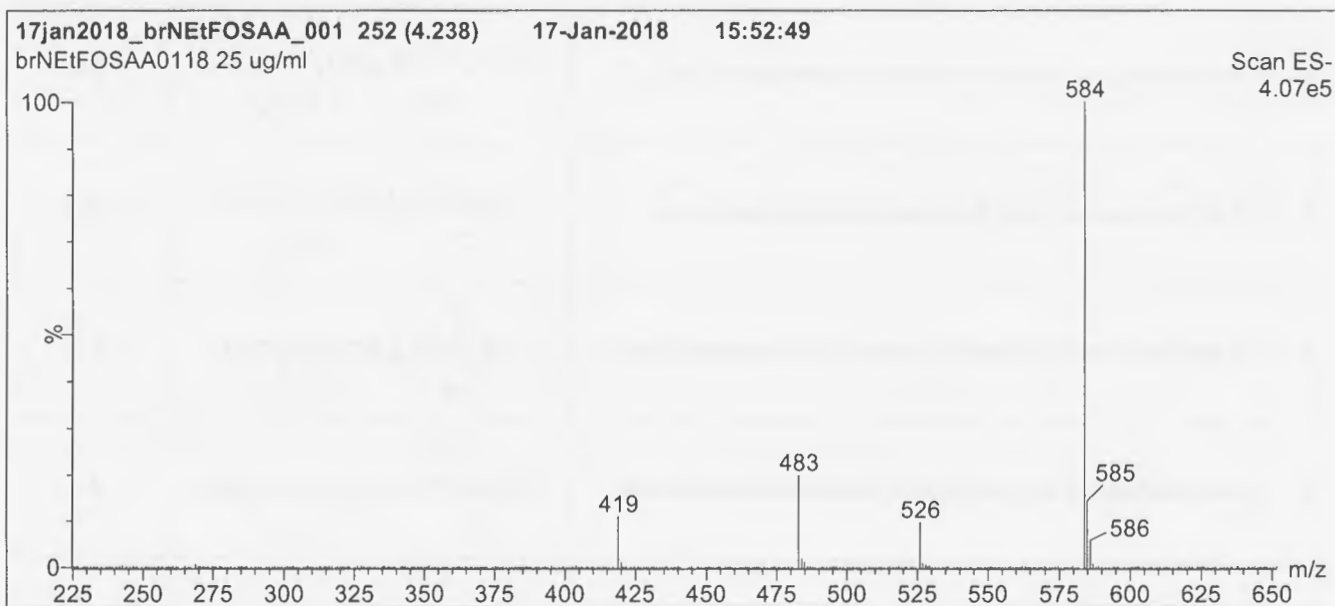
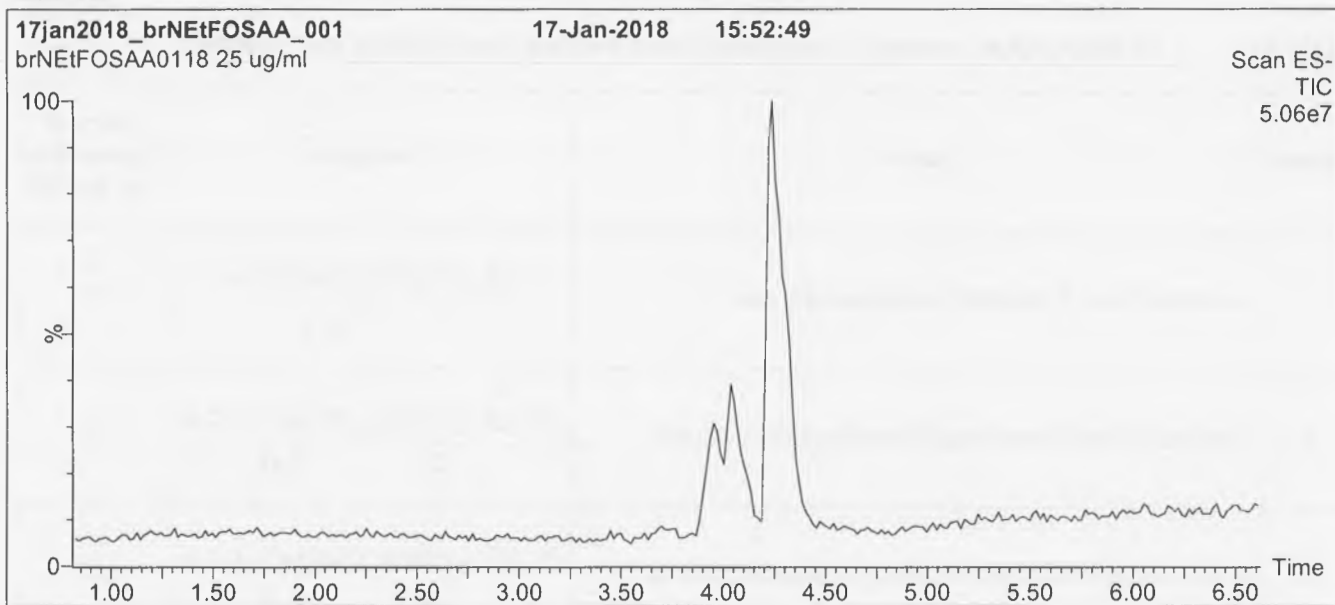
Table A: br-NEtFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ C ₂ H ₅	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	2.3
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	2.2
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	5.4
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	10.4
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	0.3
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	0.3
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ CF ₃ C ₂ H ₅	0.3
9	Other Unidentified Isomers		1.3

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: 
B.G. Chittim, General Manager

Date: 03/22/2018
(mm/dd/yyyy)

Figure 1: br-NEtFOSAA; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

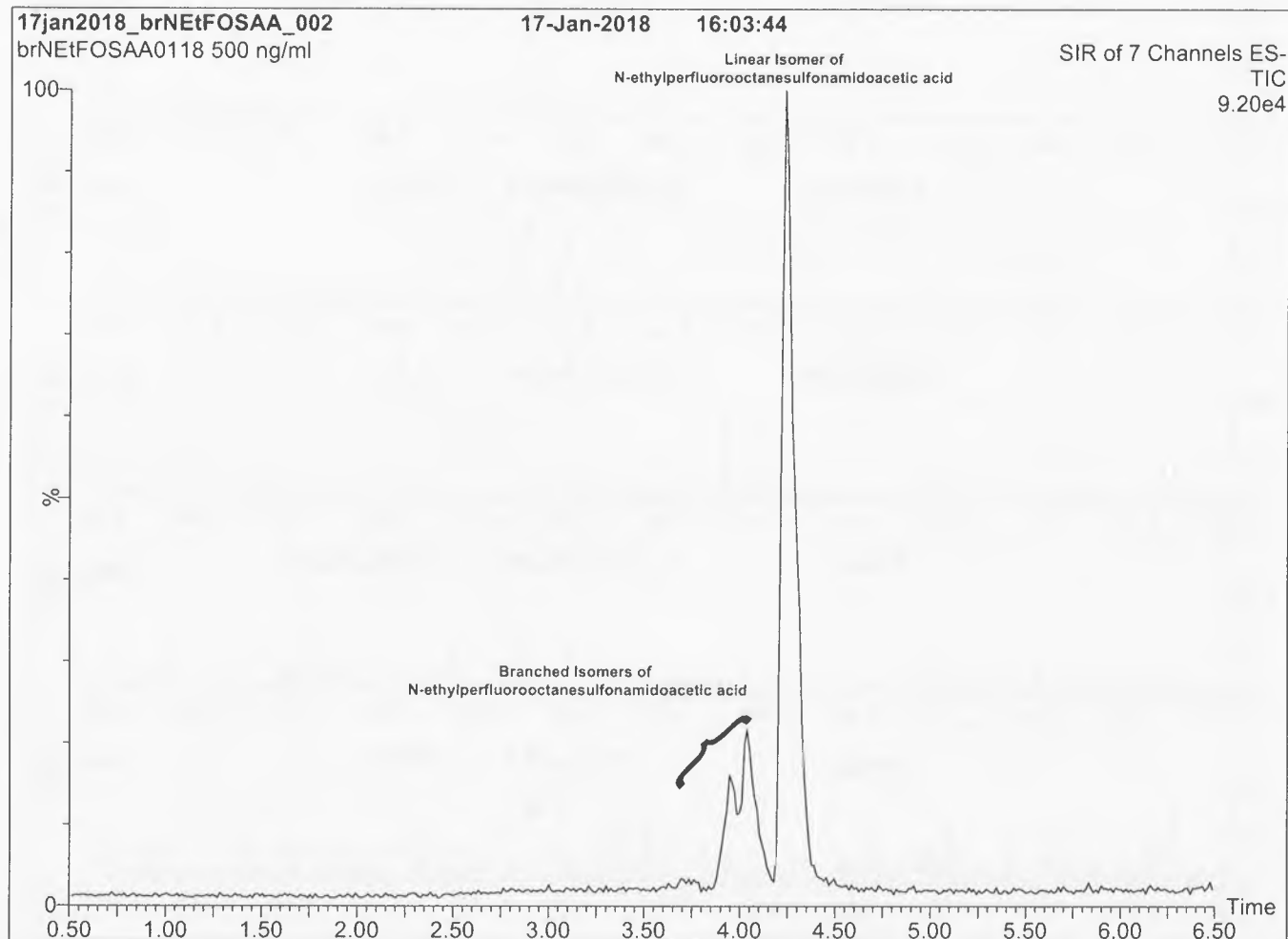
Time: 10 min

Flow: 300 μ l/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

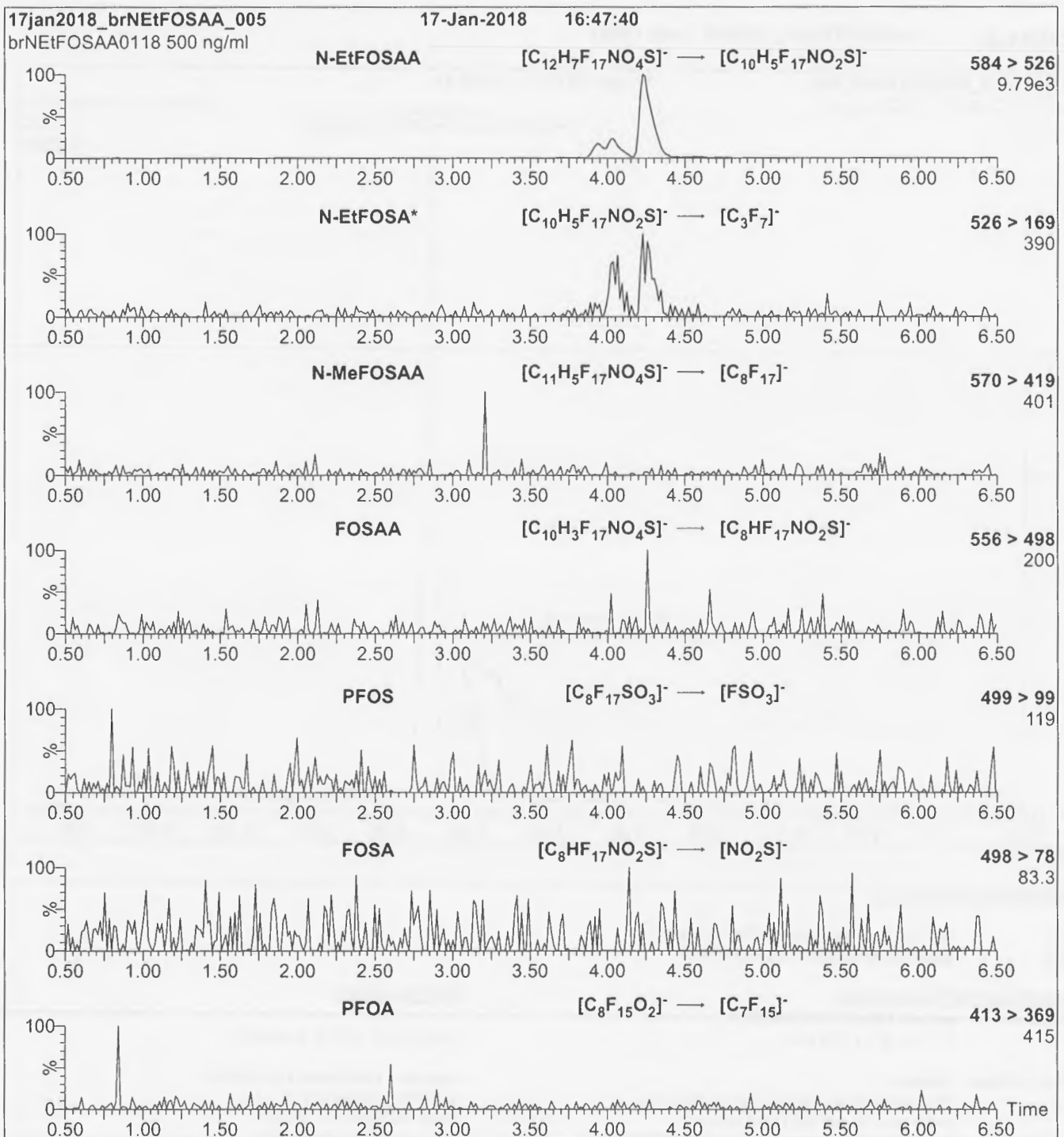
Figure 2: br-NEtFOSAA; LC/MS Data (SIR)**Conditions for Figure 2:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mmMobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc 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 μ l/min**MS Parameters**

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 3: br-NEtFOSAA; LC/MS/MS Data (Selected MRM Transitions)

*Note: N-EtFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

MS Parameters

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

Flow: 300 μ l/min



It can be done

BDO Id: 180618-03

Reagent Receipt Report

Approved: Authorized

Name: Branched NMeFOSAA Standard (50 Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: brNMeFOSAA Expires: 1/17/2023
 Type: Solution Consumed: _____
 Lot No: brNMeFOSAA0118 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: Branched NMeFOSAA Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

180618-03



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSAA

**N-Methylperfluorooctanesulfonamidoacetic
Acid Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-NMeFOSAA
LOT NUMBER: brNMeFOSAA0118
CONCENTRATION: 50.0 ± 2.5 µg/ml
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 01/10/2018
LAST TESTED: (mm/dd/yyyy) 01/17/2018
EXPIRY DATE: (mm/dd/yyyy) 01/17/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamidoacetic acid (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 ¹⁹F-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 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

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.

HANDLING:

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:

Our products are synthesized using single-product unambiguous routes whenever possible. 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, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This 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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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 calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. 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 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

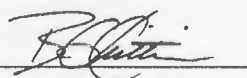


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

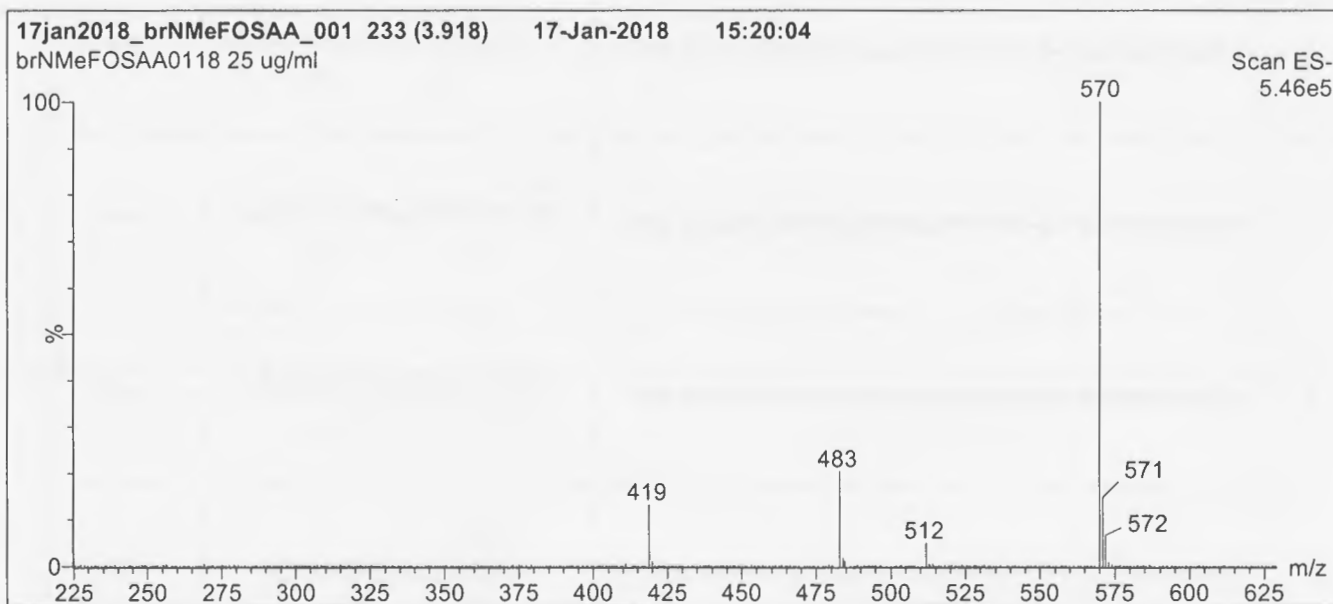
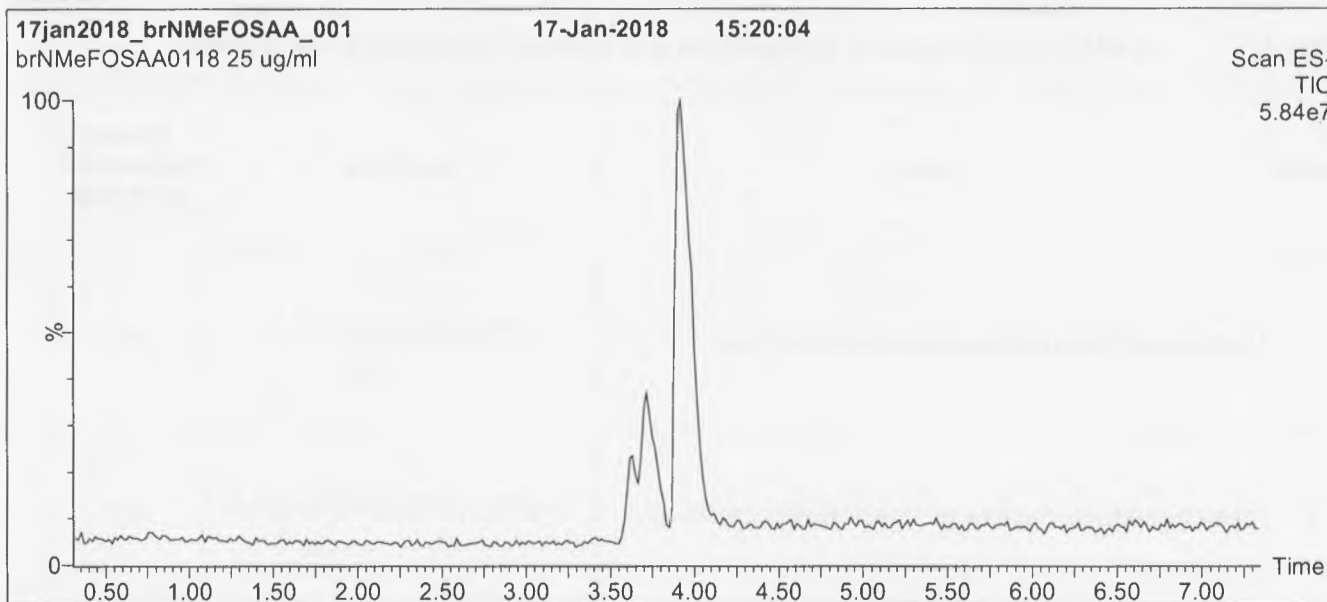
Table A: br-NMeFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad $ $\quad \quad \quad \text{CH}_3$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	2.0
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	6.0
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	14.0
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\quad \quad \quad \text{CF}_3$ $\quad \quad \quad $ $\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	0.2
7	Other Unidentified Isomers		1.1

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: 
B.G. Chittim, General Manager

Date: 03/22/2018
(mm/dd/yyyy)

Figure 1: br-NMeFOSAA; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

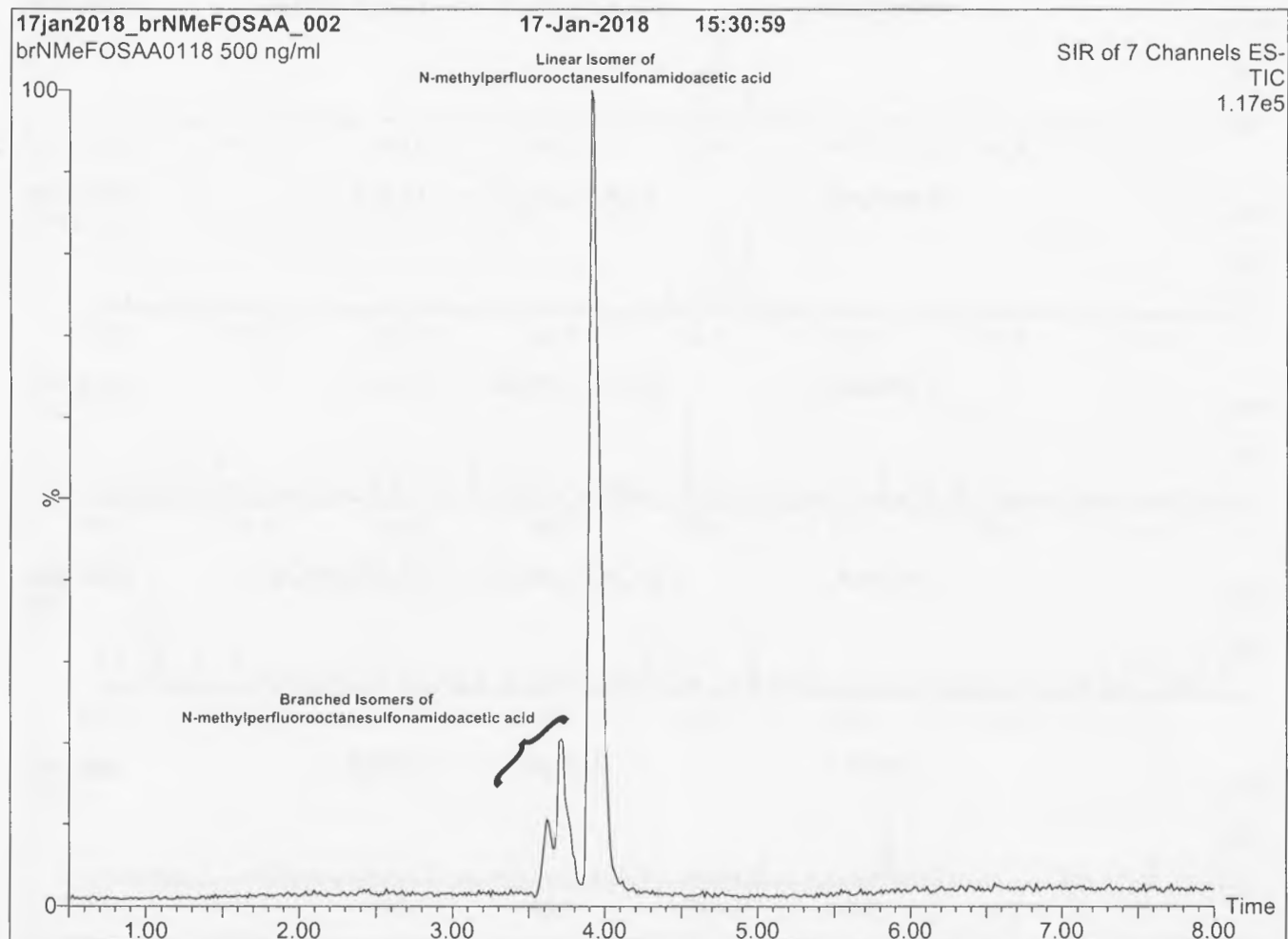
Time: 10 min

Flow: 300 μ l/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: br-NMeFOSAA; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

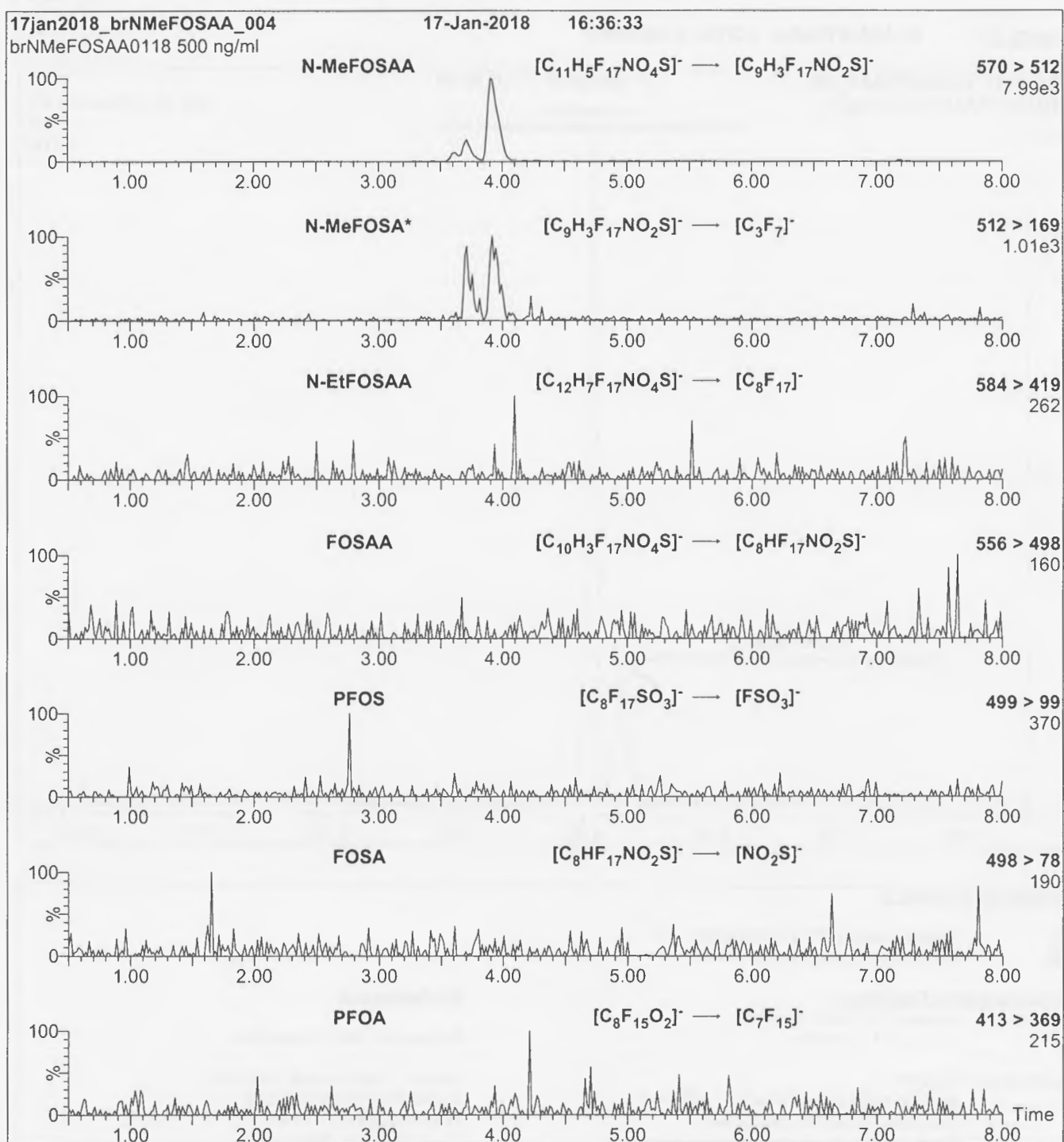
MS Parameters

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Time: 10 min

Flow: 300 μ l/min

Figure 3: br-NMeFOSAA; LC/MS/MS Data (Selected MRM Transitions)

*Note: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

MS Parameters

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

Flow: 300 μ l/min



It can be done

BDO Id: 180618-04

Reagent Receipt Report

 Approved: Authorized:

Name:	<u>PFOA - Technical Mix</u>	Received:	<u>6/18/2018</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Thorn, Jonathan</u>
Catalogue No:	<u>T-PFOA</u>	Expires:	<u>2/16/2022</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>TPFOA0217</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea</u> mL	% Moisture:	<u>0</u>
Description:	<u>PFOA - Technical Mix</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by:	<u></u>	Approved on:	<u></u>
Authorized by:	<u></u>	Authorized on:	<u></u>

180618-04



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: T-PFOA **LOT NUMBER:** TPFOA0217
COMPOUND: Technical Ammonium Perfluorooctanoate

STRUCTURE: (see Table A) **CAS #:** 95328-99-7
 (for linear ammonium perfluorooctanoate)

MOLECULAR FORMULA: $C_8F_{15}O_2NH_4$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$ (gravimetric)
CHEMICAL PURITY: Technical material
SOLVENT(S): Methanol/Water (<1%)
LAST TESTED: (mm/dd/yyyy) 02/16/2017
EXPIRY DATE: (mm/dd/yyyy) 02/16/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition
 Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)
 Figure 4: LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This technical mixture is >97% ammonium perfluorooctanoate (branched and linear isomers). The remaining 3% consists of common impurities such as the perfluoroheptanoic and perfluorohexanoic acids.
- It is recommended that this solution be used as a *qualitative or semi-quantitative standard only*.
- Contains 4 mole eq. of NaOH to prevent conversion of any carboxylic acids to their corresponding methyl esters.
- The molecular weight of perfluoro-n-octanoic acid is 414.07 g/mol.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____

B.G. Chittim

Date: 02/22/2017

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used for the identification and/or semi-quantitative determination of the specific chemical compound(s) 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.

CHARACTERIZATION / HOMOGENEITY:

This product is a technical mixture obtained from an industrial manufacturer. It has been characterized as to its content and components 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. Testing of samples in solution has shown it to be homogeneous. As this product is a technical mixture, it should not be used to quantitate any of the listed components.

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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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.

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).



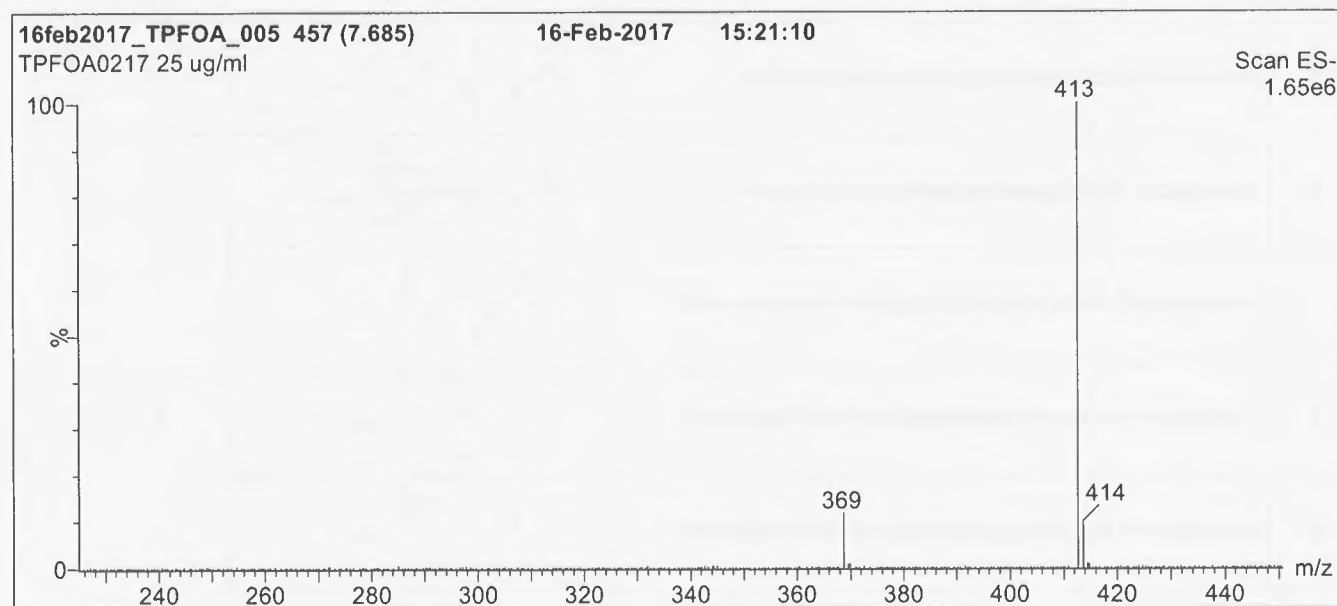
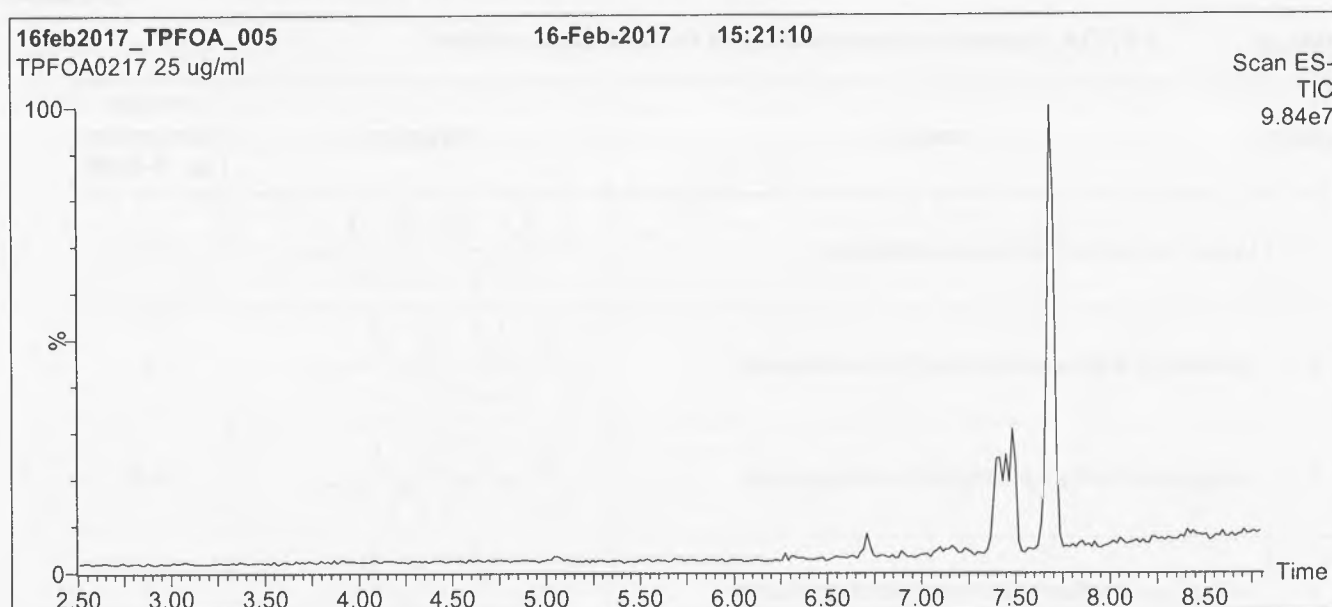
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: T-PFOA; Isomeric Components and Percent Composition*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Linear ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3
6 ^a	Ammonium 2-trifluoromethylperfluoroheptanoate		0.5
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
9 ^a	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ¹⁹F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

^a Presence of this isomer could not be verified by LC/MS due to co-elution.

Figure 1: T-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: Kinetex PFP
2.6 μ m, 4.6 x 100 mm

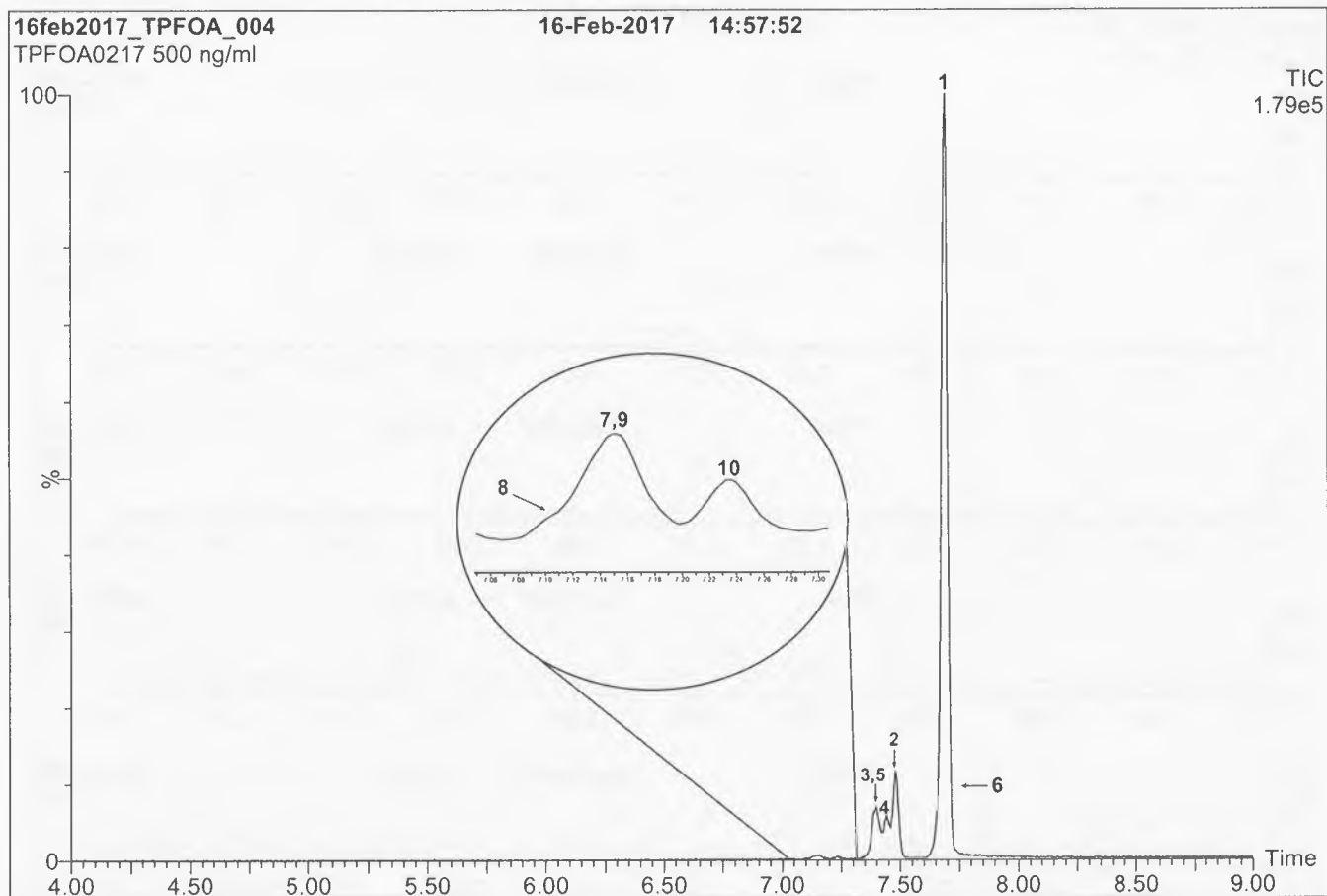
Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

Flow: 1.0 ml/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: T-PFOA; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions:

Column: Kinetex PFP
2.6 μ m, 4.6 x 100 mm

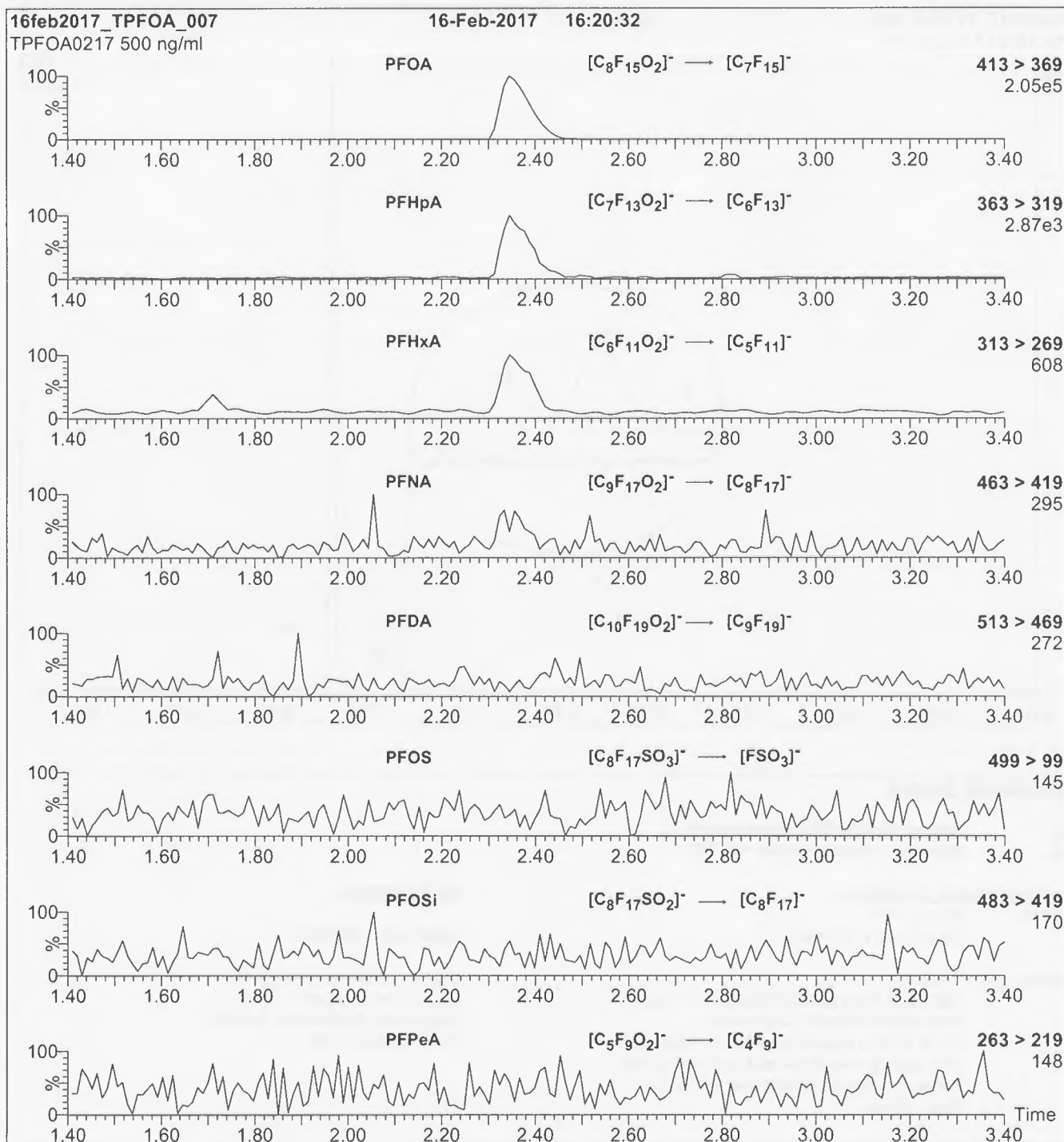
Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

Flow: 1.0 ml/min

MS Parameters:

Experiment: SIR (ES)

Source conditions: see Figure 1
Source Temperature = 110 °C
Desolvation Temperature = 325 °C
Cone Voltage = 15V

Figure 3: T-PFOA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

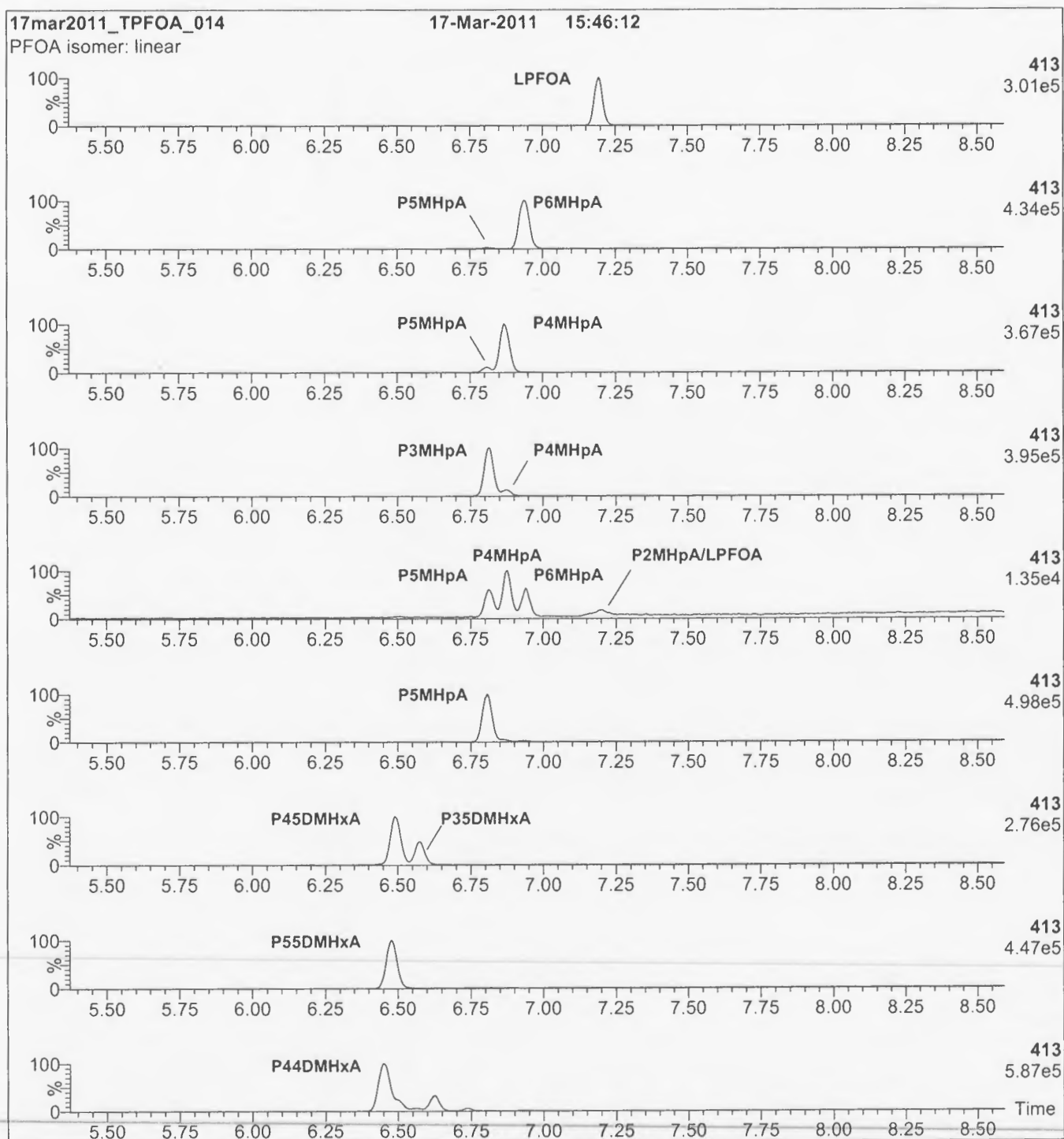
Injection: Direct loop injection
10 μ l (500 ng/ml T-PFOA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O
(both with 10 mM NH₄OAc buffer)

Flow: 300 μ l/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = variable (9-40)

Figure 4: T-PFOA; LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers**Conditions for Figure 4:**

Same as Figure 2.

BATTELLE

It can be done

BDO Id: 180618-06**Reagent Receipt Report**Approved: Authorized:

Name:	<u>Branched PFHxS Standard (50 µg/m</u>	Received:	<u>6/18/2018</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Thorn, Jonathan</u>
Catalogue No:	<u>br-PFHxSK</u>	Expires:	<u>1/4/2022</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>brPFHxSK0117</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea mL</u> % Moisture: <u>0</u>		
Description:	<u>Branched PFHxS Standard (50 µg/mL)</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by:	<u></u>	Approved on:	<u></u>
Authorized by:	<u></u>	Authorized on:	<u></u>

180618-06



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

<u>PRODUCT CODE:</u>	br-PFHxSK
<u>LOT NUMBER:</u>	brPFHxSK0117
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/ml (total potassium salt) 45.5 ± 2.3 µg/ml (total PFHxS anion)
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/03/2017
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/04/2017
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/04/2022
<u>RECOMMENDED STORAGE:</u>	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 ¹⁹F-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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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).



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

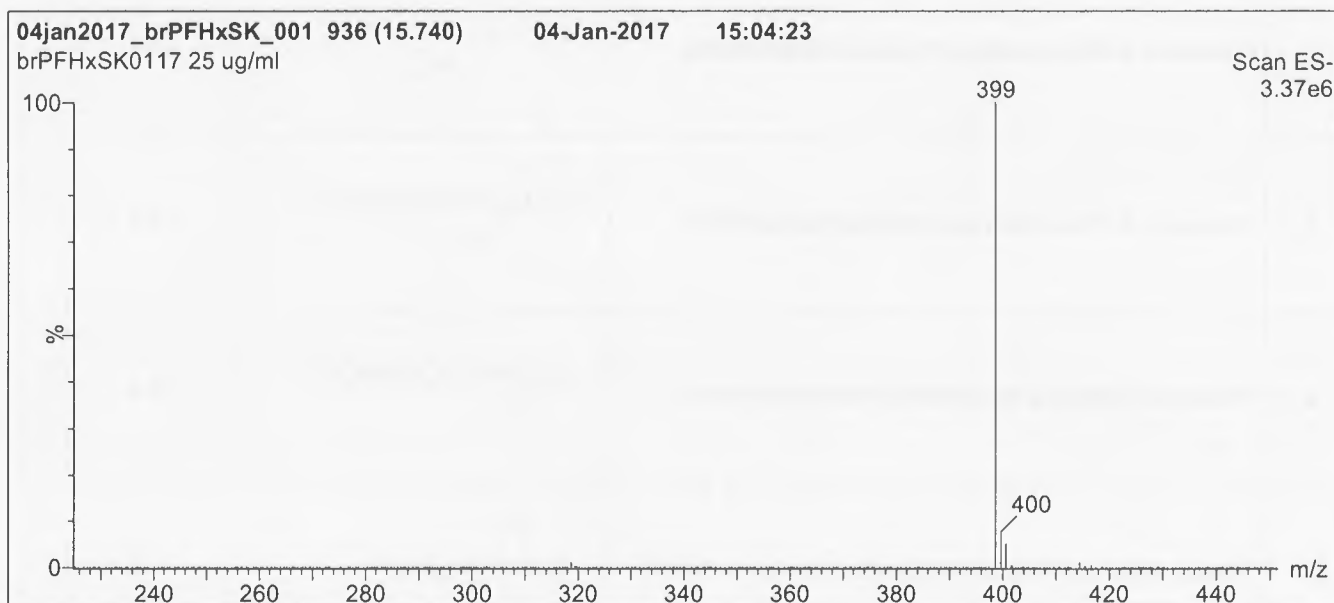
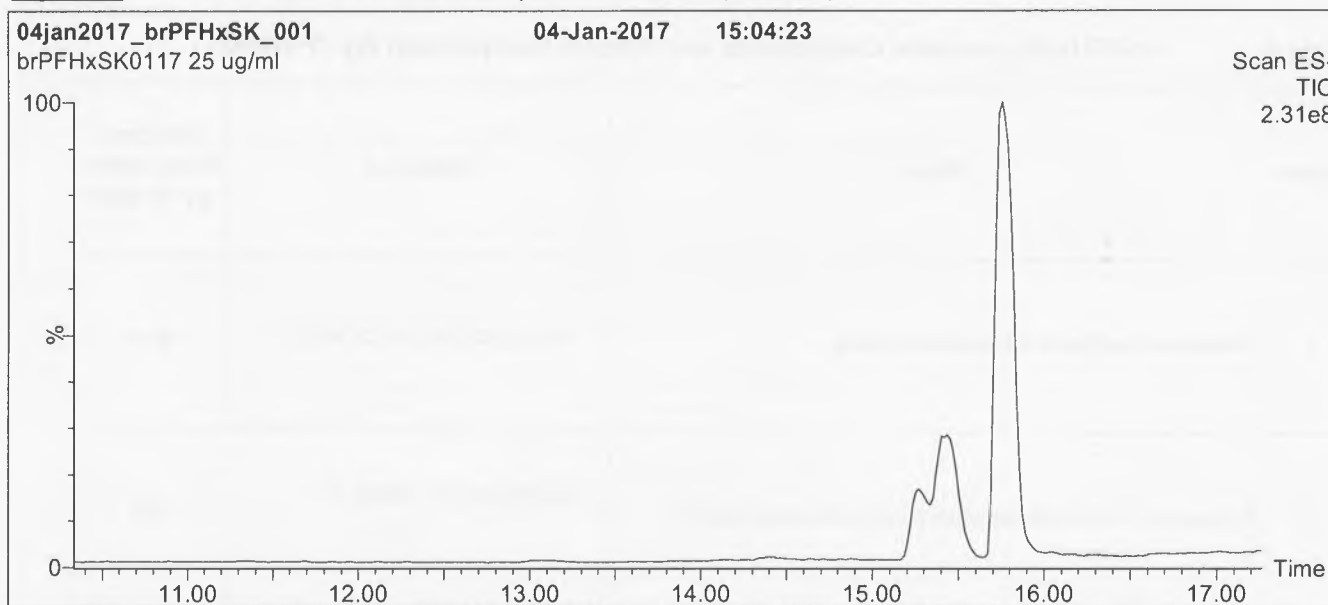
Table A: br-PFHxSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-hexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF(SO ₃ ⁻)K ⁺ CF ₃	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF ₂ CF(CF ₃)CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF(CF ₃)CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	CF ₃ CF(CF ₃)CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	CF ₃ CF ₃ CCF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	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 RP₁₈
1.7 μ m, 2.1 x 100 mm

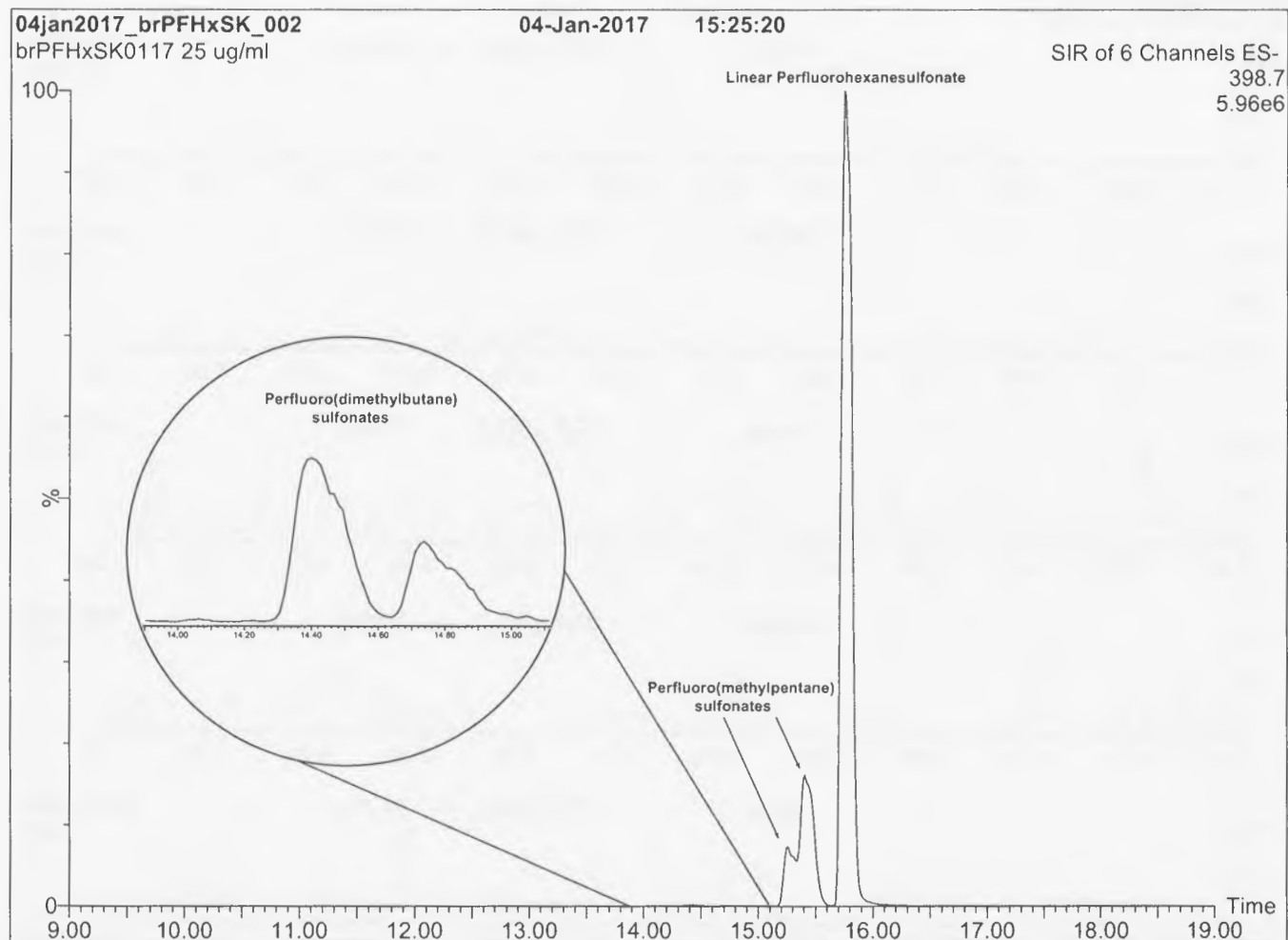
Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 14 min. Ramp to
90% organic over 3 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 20 min

Flow: 300 μ l/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 RP₁₈
 1.7 μ m, 2.1 x 100 mm

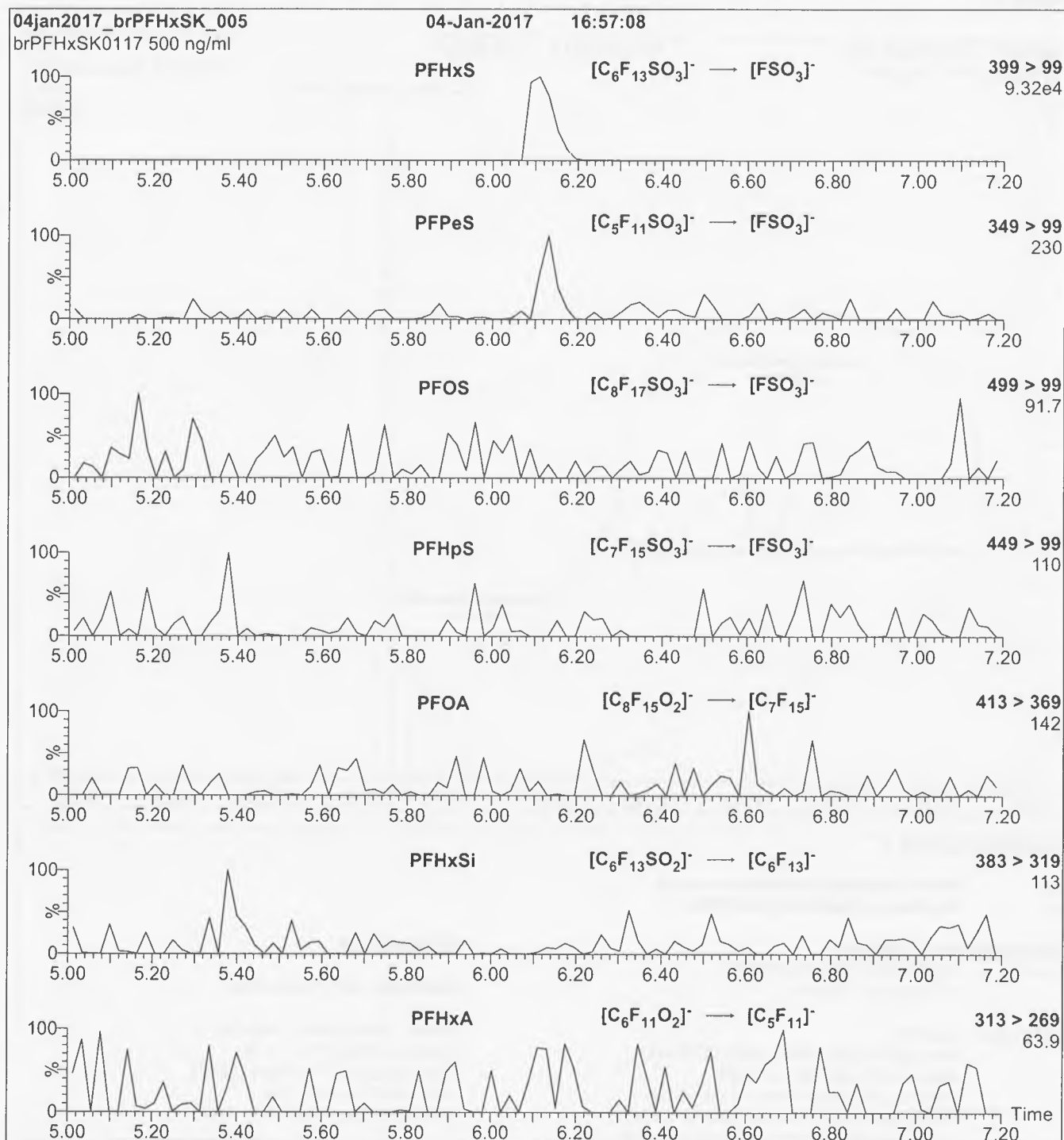
Mobile phase: Gradient
 Start: 20% (80:20 MeOH:ACN) / 80% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 50% organic over 14 min. Ramp to
 90% organic over 3 min and hold for 1.5 min
 before returning to initial conditions in 0.5 min.
 Time: 20 min

Flow: 300 μ l/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 μ l (500 ng/ml br-PFHxSK)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O
(both with 10 mM NH₄OAc buffer)

Flow: 300 μ l/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 30



It can be done

BDO Id: 180618-07

Reagent Receipt Report

Approved: Authorized

Name: Branched PFOS Standard (50 µg/mL) Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: br-PFOSK Expires: 1/12/2022
 Type: Solution Consumed: _____
 Lot No: brPFOSK0117 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: Branched PFOS Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

180618-07



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

**Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

<u>PRODUCT CODE:</u>	br-PFOSK
<u>LOT NUMBER:</u>	brPFOSK0117
<u>CONCENTRATION:</u>	50 ± 2.5 µg/ml (total potassium salt) 46.4 ± 2.3 µg/ml (total PFOS anion)
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/09/2017
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/12/2017
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/12/2022
<u>RECOMMENDED STORAGE:</u>	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 ¹⁹F-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).

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

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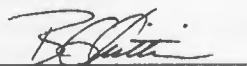
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: br-PFOSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

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1	Potassium perfluoro-1-octanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.07

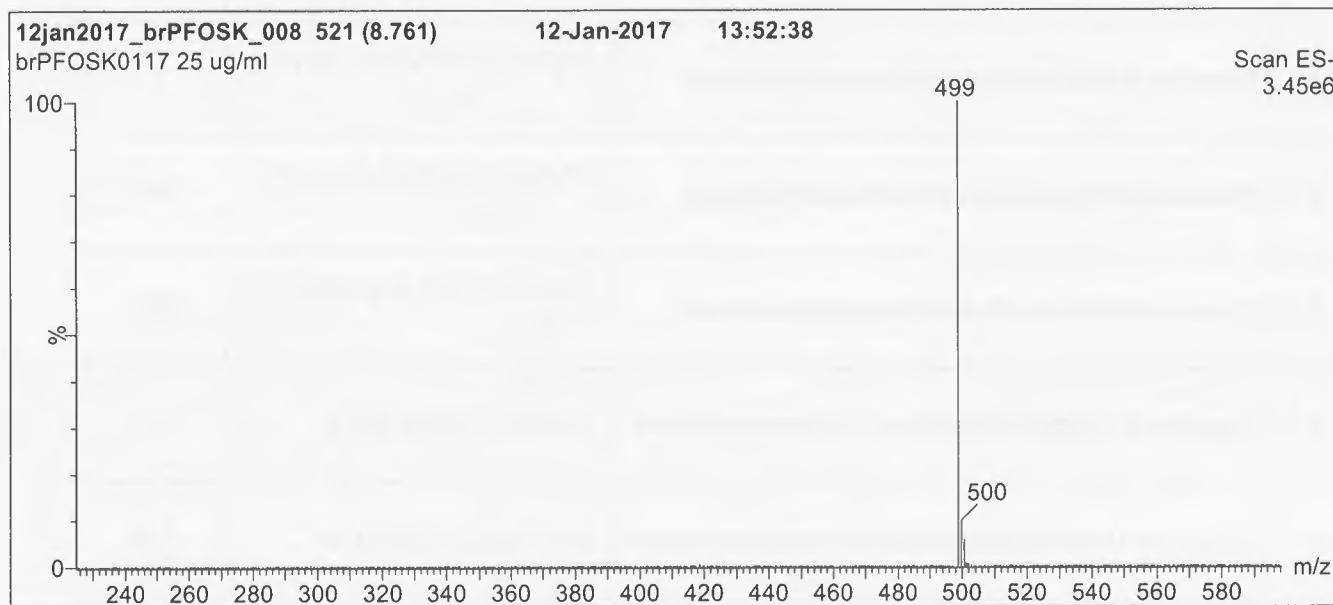
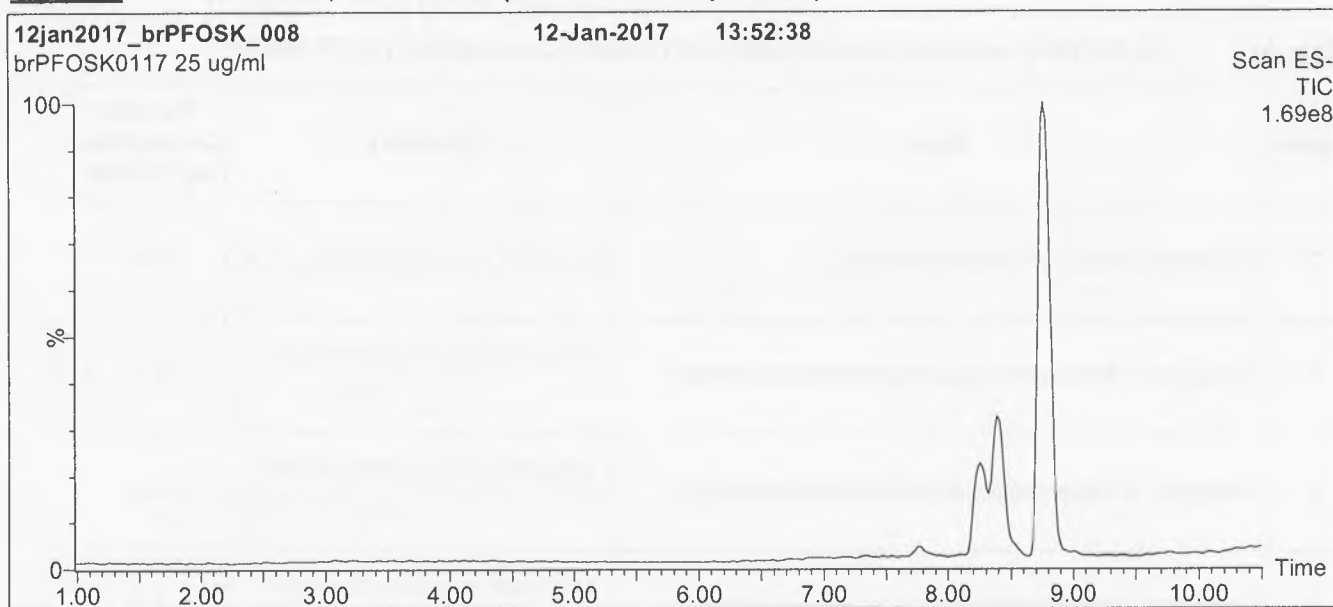
* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
 ** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By:


 B.G. Chittim

Date: 01/20/2017

(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 RP₁₈
1.7 μ m, 2.1 x 100 mm

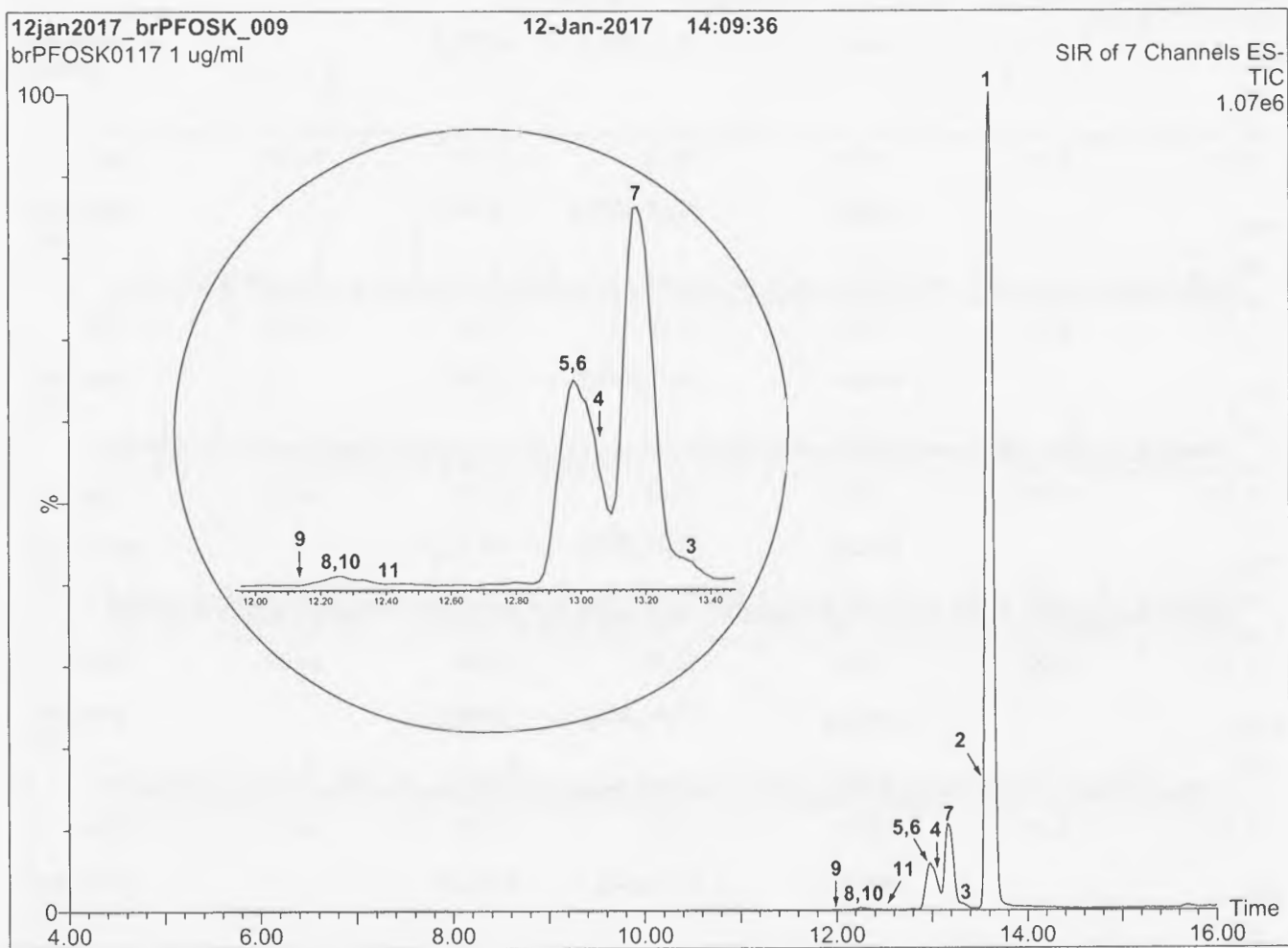
Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 12 min and hold for 2 min.
Return to initial conditions over 0.5 min.
Time: 16 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
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 RP₁₈ (1.7 μ m, 2.1 x 100 mm)

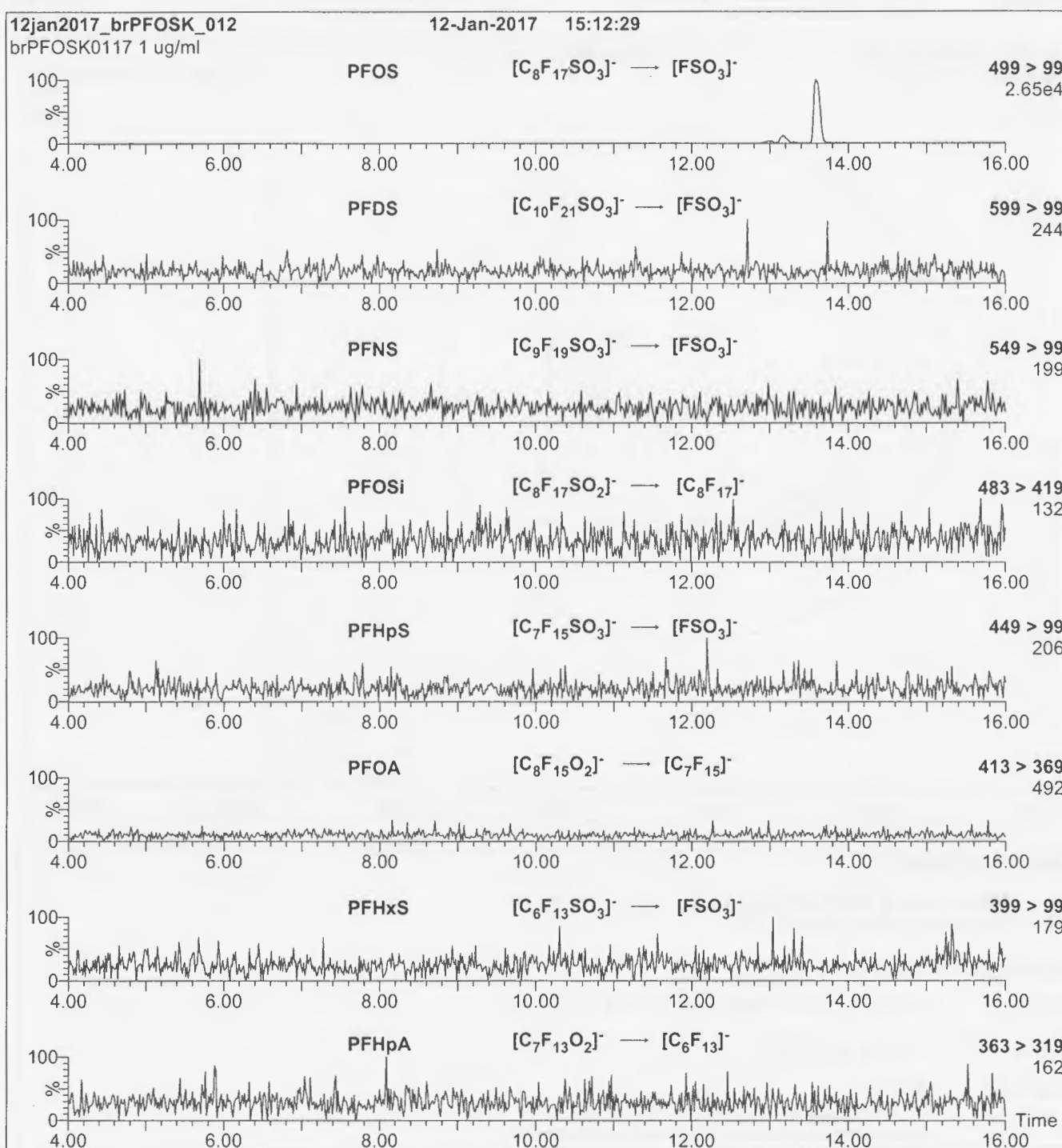
Injection: 1.0 μ g/ml of br-PFOSK

Mobile Phase: Gradient
45% (80:20 MeOH:ACN) / 55% H₂O (both with 10 mM NH₄OAc 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 μ l/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:**

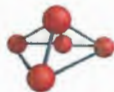
Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 11-50 (variable)



CERTIFIED WEIGHT REPORT

Part Number: 99207
Lot Number: 061918
Description: PFOA - DOD
24 components
Expiration Date: 061923
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 2684186

Solvent(s): Methanol (1 mM KOH)
2-Propanol
Lot# 061918 (98%)
23214 (2%)

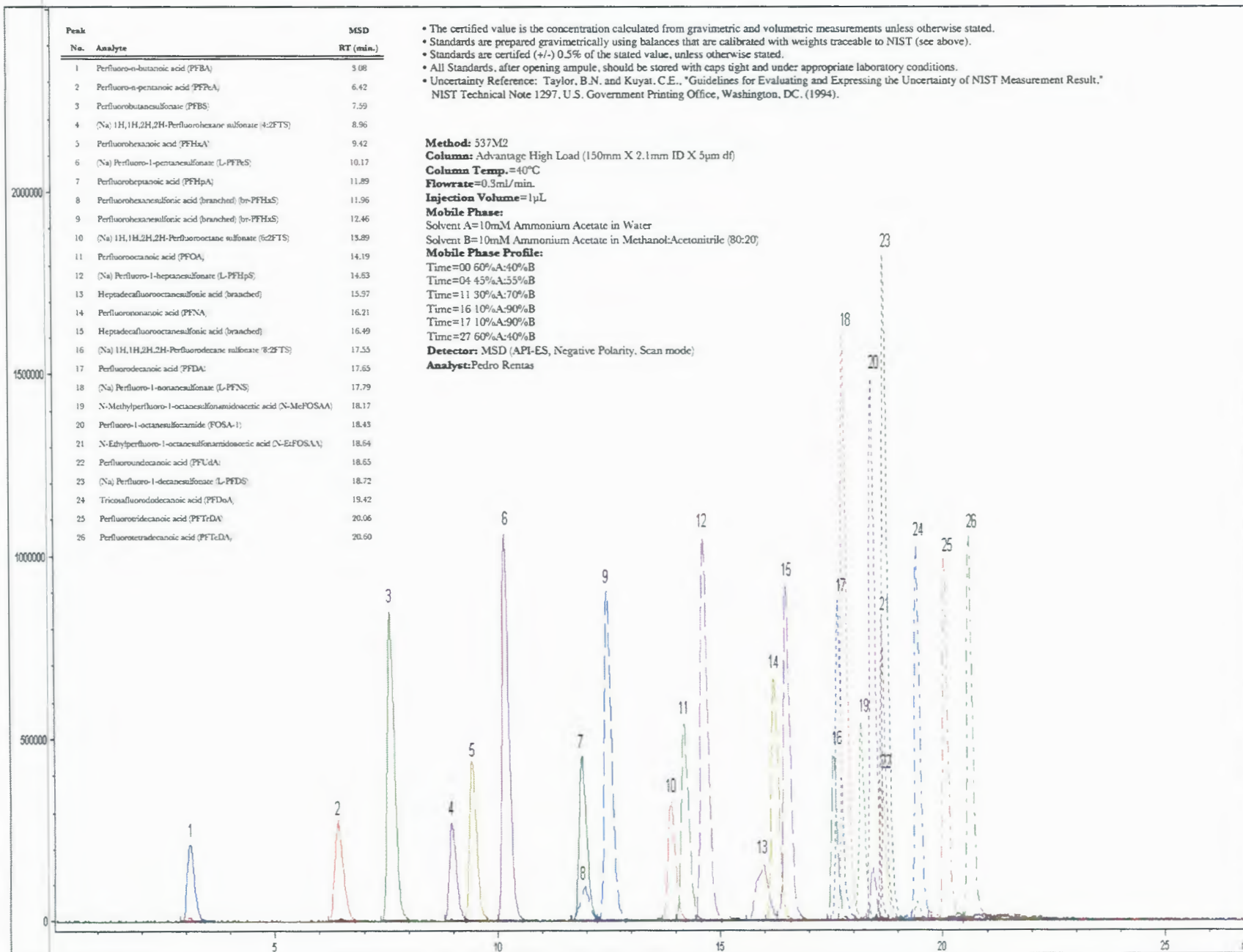
50.0 5E-05 Balance Uncertainty
0.007 Flask Uncertainty

		061918
Formulated By:	Mario Luis	DATE
		061918
Reviewed By:	Pedro L. Rentas	DATE

Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid (linear)	99542	110317	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	99543	110317	0.02	1.00	0.004	50.7	1.01	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0817I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0118	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEFOSAA0118	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonate	99544	111017	0.02	0.98	0.004	51.3	1.00	0.01	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS0817	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0917	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A



It can be done

BDO Id: 180726-04

Reagent Receipt Report

Approved: Authorized

Name: Mass-labelled PFAS injection standar Received: 7/26/2018
Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
Catalogue No: MPFAC-C-IS Expires: 5/2/2022
Type: Solution Consumed: _____
Lot No: MPFACCIS0516 Stored In: LC Laboratory - R0107
Quantity: 2 ea 1.2 mL % Moisture: 0
Description: Mass-labelled PFAS injection standards

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	2.0000	100.00	--	--	<input type="checkbox"/>		
13C2-PFOA	BDO-2107	2.0000	100.00	--	--	<input type="checkbox"/>		
13C3-PFBA	BDO-2231	2.0000	100.00	--	--	<input type="checkbox"/>		
13C4-PFOS	BDO-2121	1.9140	100.00	--	--	<input type="checkbox"/>		

Total Analytes: 4

Notes:

Approved by: Lizotte Jr, Robert Approved on: 7/27/2018 11:10:00 AM
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**MPFAC-C-IS****Mass-Labelled Perfluorinated
Compound Injection Standards Solution**

PRODUCT CODE: MPFAC-C-IS
LOT NUMBER: MPFACCIS0516
SOLVENT(S): Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 05/24/2016
LAST TESTED: (mm/dd/yyyy) 05/02/2017
EXPIRY DATE: (mm/dd/yyyy) 05/02/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

MPFAC-C-IS is a solution/mixture of mass-labelled (¹³C) perfluoroalkylcarboxylic acids and a mass-labelled (¹³C) perfluoroalkylsulfonate. The components and their concentrations are given in Table A.

MPFAC-C-IS was designed for, and prepared to be used with, PFC-CVS-C.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkylsulfonate all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The mass-labelled perfluoroalkylsulfonate compound concentration is reported as the salt.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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, as well as mixtures and calibration solutions, are compared to older lots in a similar 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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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).

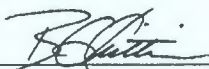


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

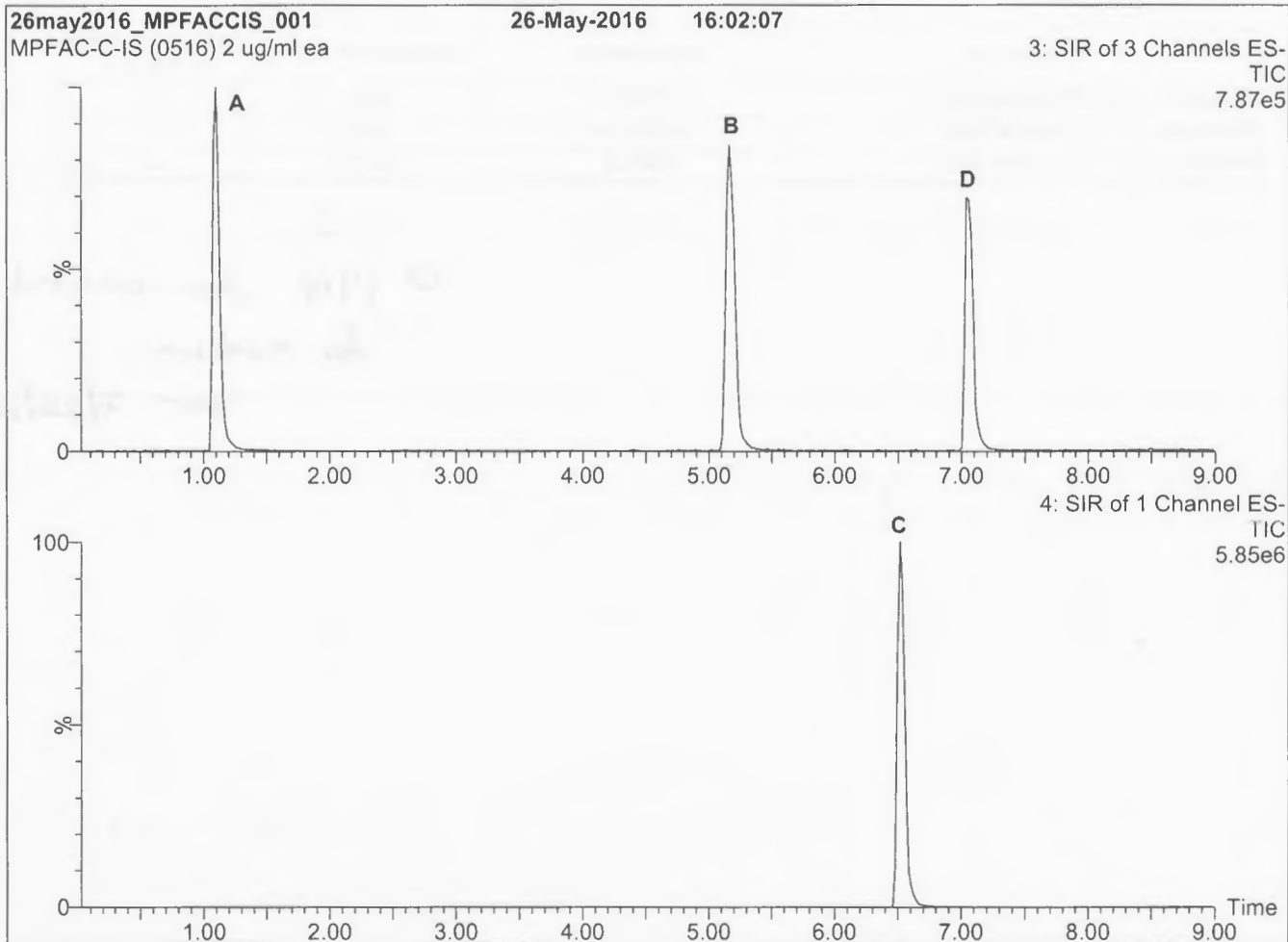
Table A: MPFAC-C-IS; Components and Concentrations (ng/ml; ± 5% in Methanol / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[2,3,4- ¹³ C ₃]butanoic acid	M3PFBA	2000	A
Perfluoro-n-[1,2- ¹³ C ₂]octanoic acid	M2PFOA	2000	B
Perfluoro-n-[1,2- ¹³ C ₂]decanoic acid	MPFDA	2000	D
Sodium perfluoro-1-[1,2,3,4- ¹³ C ₄]octanesulfonate	MPFOS	2000 [Ⓢ]	C

Ⓢ 1914 when corrected
for sodium
JMS 7/26/2017

Certified By: 
B.G. Chittim, General Manager

Date: 05/04/2017
(mm/dd/yyyy)

Figure 1: MPFAC-C-IS; LC/MS Data (Total Ion Current Chromatogram; SIR)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

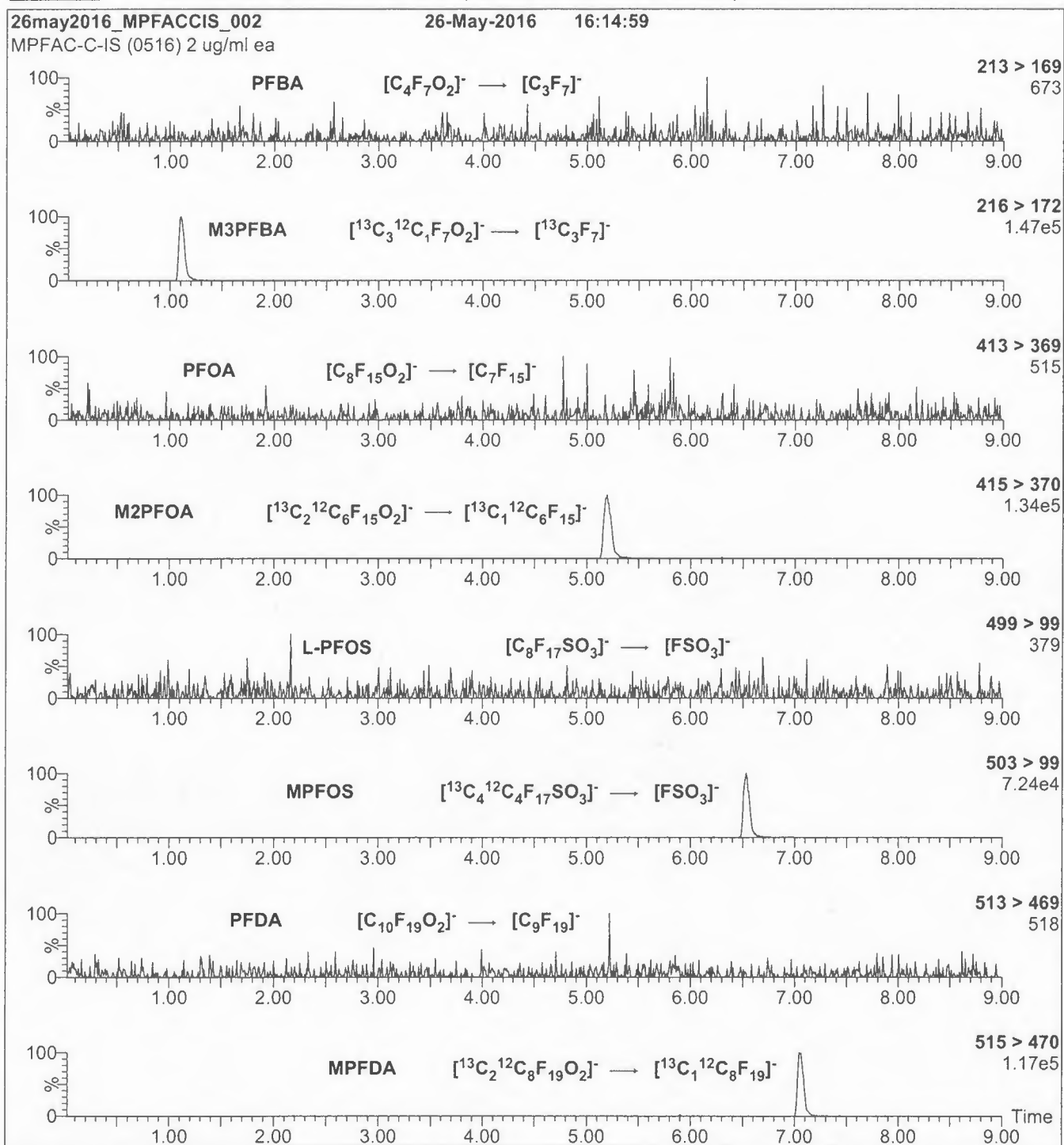
Mobile phase: Gradient
 Start: 50% (80:20 MeOH:ACN) / 50% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 8 min
 and hold for 2 min before returning
 to initial conditions in 1 min.
 Time: 12 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
 Capillary Voltage (kV) = 2.00
 Cone Voltage (V) = variable (10-80)
 Cone Gas Flow (l/hr) = 50
 Desolvation Gas Flow (l/hr) = 750

Figure 2: MPFAC-C-IS; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFAC-C-IS)

Mobile phase: Same as Figure 1

Flow: 300 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.50e-3

Collision Energy (eV) = 8-50 (variable)

It can be done

BDO Id: 180726-05

Reagent Receipt Report

Approved: Authorized

Name: Mass-labelled PFAS Extraction Stand Received: 7/26/2018
Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
Catalogue No: MPFAC-24ES Expires: 2/7/2023
Type: Solution Consumed: _____
Lot No: MPFAC24ES0218 Stored In: LC Laboratory - R0107
Quantity: 2 ea 1.2 mL % Moisture: 0
Description: Mass-labelled PFAS Extraction Standard Solution

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C2-4:2FTS	BDO-2229	0.9350	100.00	--	--	<input type="checkbox"/>			
13C2-6:2FTS	BDO-2230	0.9490	100.00	--	--	<input type="checkbox"/>			
13C2-8:2FTS	BDO-2220	0.9580	100.00	--	--	<input type="checkbox"/>			
13C2-PFDoA	BDO-2112	1.0000	100.00	--	--	<input type="checkbox"/>			
13C2-PFTeDA	BDO-2224	1.0000	100.00	--	--	<input type="checkbox"/>			
13C3-PFBS	BDO-2226	0.9290	100.00	--	--	<input type="checkbox"/>			
13C3-PFHxS	BDO-2227	0.9460	100.00	--	--	<input type="checkbox"/>			
13C4-PFBA	BDO-2105	1.0000	100.00	--	--	<input type="checkbox"/>			
13C4-PFHpA	BDO-2218	1.0000	100.00	--	--	<input type="checkbox"/>			
13C5-PFHxA	BDO-2217	1.0000	100.00	--	--	<input type="checkbox"/>			
13C5-PFPeA	BDO-2216	1.0000	100.00	--	--	<input type="checkbox"/>			
13C6-PFDA	BDO-2222	1.0000	100.00	--	--	<input type="checkbox"/>			
13C7-PFUnA	BDO-2223	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-FOSA	BDO-2225	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-PFOA	BDO-2219	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-PFOS	BDO-2228	0.9570	100.00	--	--	<input type="checkbox"/>			
13C9-PFNA	BDO-2221	1.0000	100.00	--	--	<input type="checkbox"/>			
d3-MeFOSAA	BDO-1838	1.0000	100.00	--	--	<input type="checkbox"/>			
d5-EtFOSAA	BDO-1839	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 19

Notes:

Approved by: Lizotte Jr, Robert Approved on: 7/27/2018 11:10:00 AM
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**MPFAC-24ES****Mass-Labelled Per- and Poly-fluoroalkyl Substance**
Extraction Standard Solution

PRODUCT CODE: MPFAC-24ES
LOT NUMBER: MPFAC24ES0218
SOLVENT(S): Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 02/07/2018
LAST TESTED: (mm/dd/yyyy) 02/07/2018
EXPIRY DATE: (mm/dd/yyyy) 02/07/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

MPFAC-24ES is a solution/mixture of ten mass-labelled (¹³C) perfluoroalkylcarboxylic acids (C₄-C₁₂ and C₁₄), three mass-labelled (¹³C) perfluoroalkylsulfonates (C₄, C₆, and C₈), three mass-labelled (¹³C) telomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (²H) perfluorooctanesulfonamidoacetic acids, and perfluoro-1-[¹³C₈]octanesulfonamide. The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids, mass-labelled perfluoroalkylsulfonates, mass-labelled telomer sulfonates, and perfluoro-1-[¹³C₈]octanesulfonamide all have chemical purities of >98% and isotopic purities of ≥99%. The individual mass-labelled perfluorooctanesulfonamidoacetic acids all have chemical purities of >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
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 acids to their respective methyl esters.

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.

HANDLING:

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:

Our products are synthesized using single-product unambiguous routes whenever possible. 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, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This 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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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 calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. 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 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



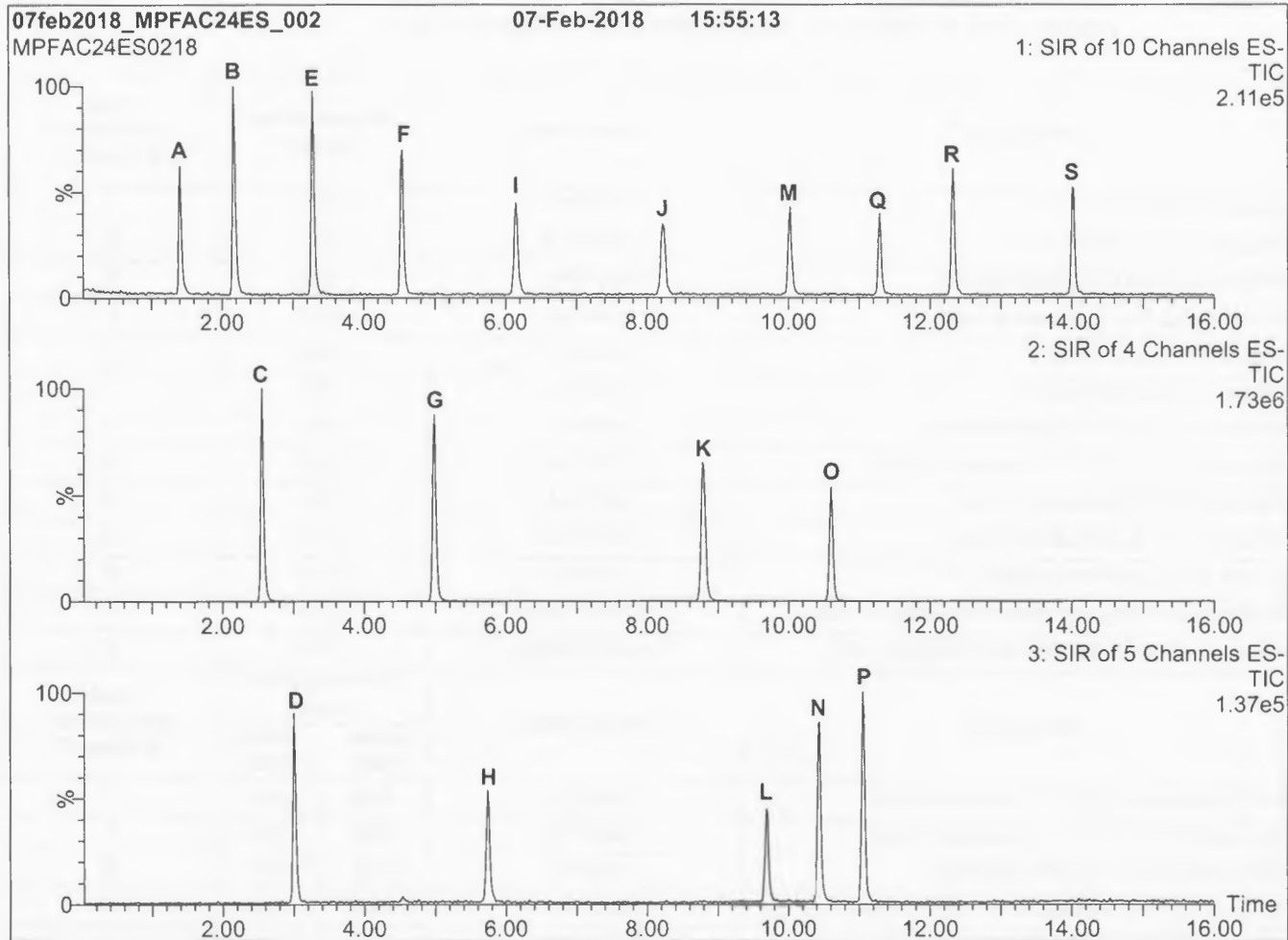
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: MPFAC-24ES; Components and Concentrations
(ng/ml, \pm 5% in Methanol / Isopropanol (2%) / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Perfluoro-n-[$^{13}\text{C}_4$]butanoic acid	MPFBA	1000		A
Perfluoro-n-[$^{13}\text{C}_5$]pentanoic acid	M5PFPeA	1000		B
Perfluoro-n-[1,2,3,4,6- $^{13}\text{C}_5$]hexanoic acid	M5PFHxA	1000		E
Perfluoro-n-[1,2,3,4- $^{13}\text{C}_4$]heptanoic acid	M4PFHpA	1000		F
Perfluoro-n-[$^{13}\text{C}_6$]octanoic acid	M8PFOA	1000		I
Perfluoro-n-[$^{13}\text{C}_7$]nonanoic acid	M9PFNA	1000		J
Perfluoro-n-[1,2,3,4,5,6- $^{13}\text{C}_6$]decanoic acid	M6PFDA	1000		M
Perfluoro-n-[1,2,3,4,5,6,7- $^{13}\text{C}_7$]undecanoic acid	M7PFUdA	1000		Q
Perfluoro-n-[1,2- $^{13}\text{C}_2$]dodecanoic acid	MPFDoA	1000		R
Perfluoro-n-[1,2- $^{13}\text{C}_2$]tetradecanoic acid	M2PFTeDA	1000		S
Perfluoro-1-[$^{13}\text{C}_8$]octanesulfonamide	M8FOSA	1000		O
N-methyl- d_3 -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		N
N-ethyl- d_5 -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		P
Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Sodium perfluoro-1-[2,3,4- $^{13}\text{C}_3$]butanesulfonate	M3PFBS	1000	929	C
Sodium perfluoro-1-[1,2,3- $^{13}\text{C}_3$]hexanesulfonate	M3PFHxS	1000	946	G
Sodium perfluoro-1-[$^{13}\text{C}_8$]octanesulfonate	M8PFOS	1000	957	K
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- $^{13}\text{C}_2$]hexanesulfonate	M2-4:2FTS	1000	935	D
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- $^{13}\text{C}_2$]octanesulfonate	M2-6:2FTS	1000	949	H
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- $^{13}\text{C}_2$]decanesulfonate	M2-8:2FTS	1000	958	L

Certified By: 
B.G. Chittim, General Manager

Date: 02/09/2018
(mm/dd/yyyy)

Figure 1: MPFAC-24ES; LC/MS Data (Total Ion Current Chromatogram; SIR)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
 Start: 40% (80:20 MeOH:ACN) / 60% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 55% organic over 3.5 min.
 Ramp to 70% organic over 6.5 min.
 Ramp to 85% organic over 5 min and hold for
 1 min before returning to initial conditions in 0.5 min.
 Time: 17 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
 Capillary Voltage (kV) = 3.00
 Cone Voltage (V) = variable (10-60)
 Cone Gas Flow (l/hr) = 100
 Desolvation Gas Flow (l/hr) = 750

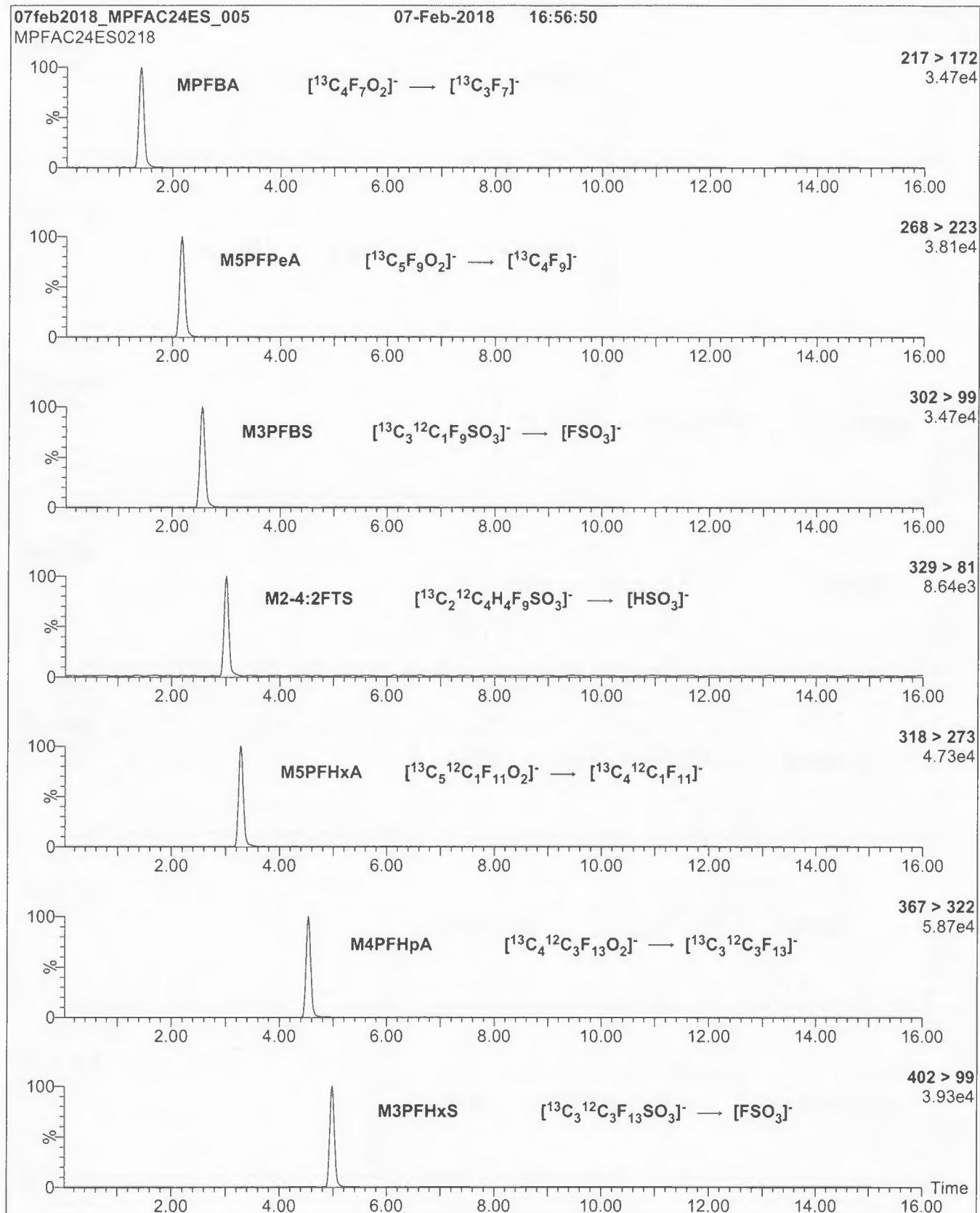
Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)

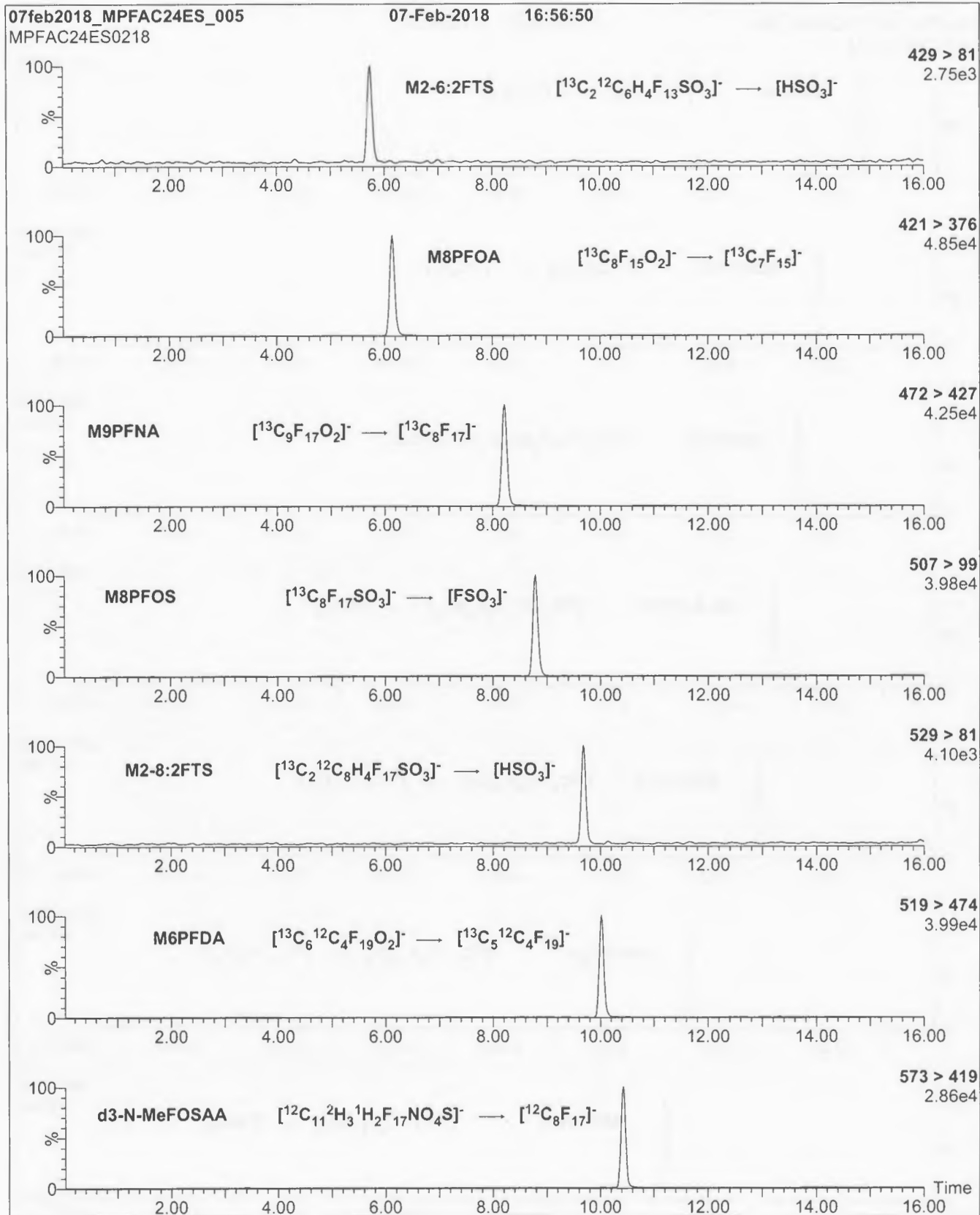
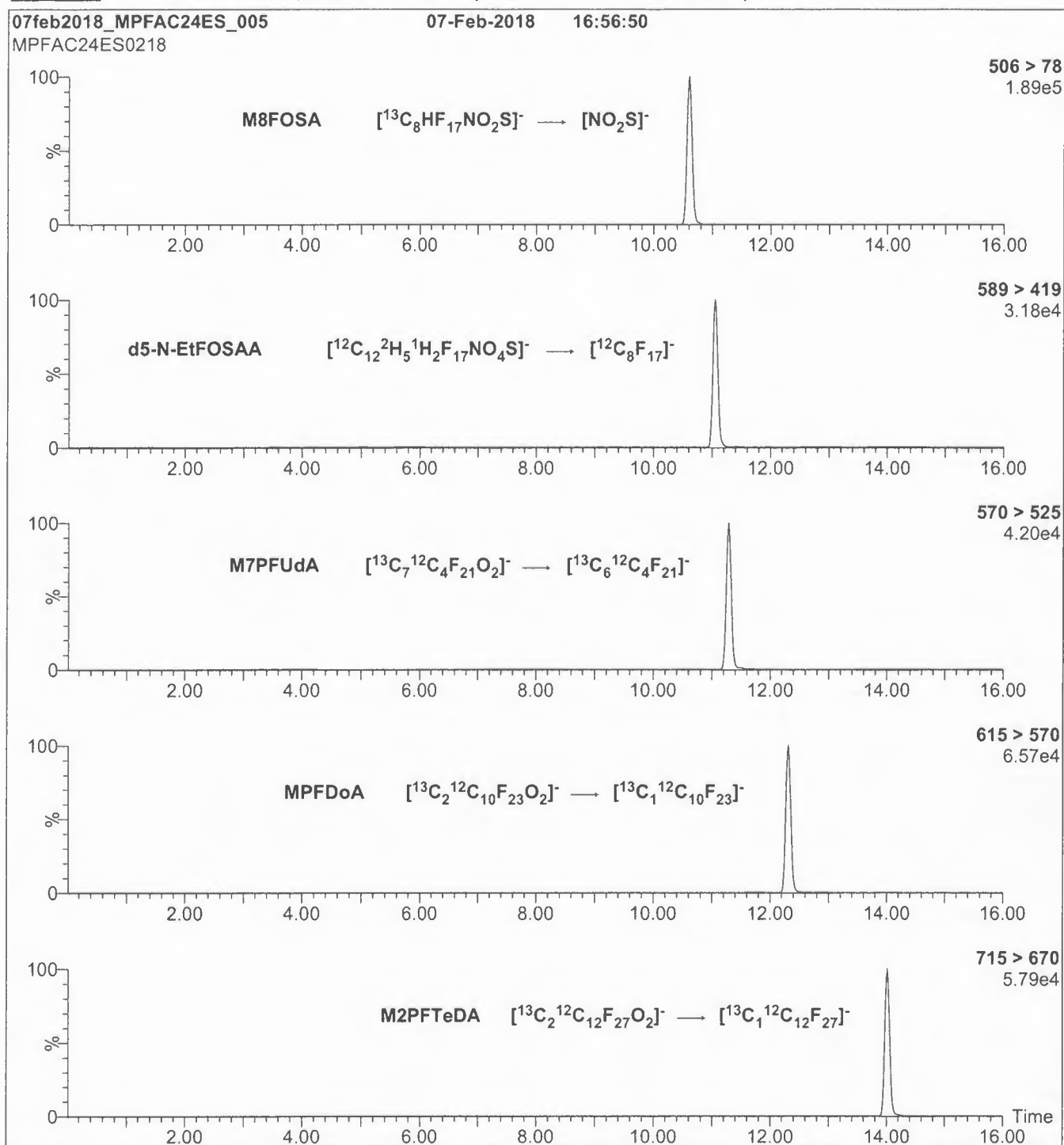
Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)

Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFAC-24ES)

Mobile phase: Same as Figure 1

Flow: 300 $\mu\text{l}/\text{min}$ **MS Parameters**

Collision Gas (mbar) = 3.28e-3

Collision Energy (eV) = 8-40 (variable)

Sample Preparation



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS**

<u>Project Title(s)</u>	<u>Project No.(s)</u>
CTO-SE0375: Naval Air Station Jacksonville	100119154- SE0375
18-0550	
Non-Potable Water PFAS Analysis	
GW	
SOP Numbers (see workplan for modifications)	
ExtractionSOP No.	5-370

This Batch Contains The Following Samples:	
CR766PB-FS	J7628-FS1
CR767LCS-FS	J7629-FS1
J7623-FS1	
J7624-FS1	
J7626-FS1	
J7627-FS1	

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	09/12/2018	DMS



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE IDENTIFICATION PAGE

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID	Description
CR766PB-FS	Procedural Blank
CR767LCS-FS	Laboratory Control Sample
J7623-FS1	JAX-PSC51-MW-08-08232018
J7624-FS1	JAX-PSC51-MW-10D-08232018
J7626-FS1	JAX-PSC51-MW-06-08242018
J7627-FS1	JAX-PSC51-MW-06-08242018-FD
J7628-FS1	JAX-PSC51-MW-04-08242018
J7629-FS1	JAX-PSC51-MW-09I-08242018

Samples Assigned By:

Stephanie Schultz

Date : September 7, 2018

Comments:



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE CUSTODY LOG

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Requested On/By: 09/07/2018 SAS	Purpose: Sample Preparation
Relinquished On/By: 09/07/2018 MDS	Last Activity: Transfer
Accepted On/By: 09/07/2018 SAS Stored In Facility: Sample Preparation Stored Until: 09/07/2018 Stored Comment: NA	Returned On/To: Returned To Facility: Returned Comment: NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:	
1	J7623	2	C	Consumed	NA	
2	J7624	2	C	Consumed	NA	
3	J7626	2	C	Consumed	NA	
4	J7627	2	C	Consumed	NA	
5	J7628	2	C	Consumed	NA	
6	J7629	2	C	Consumed	NA	
Total Samples		6	* "C" = Consumed Container			



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550**

Non-Potable Water PFAS Analysis GW

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR766PB-FS	Procedural Blank	250.0	NA	--	09/07/18 SAS
CR767LCS-FS	Laboratory Control Sample	250.0	NA	--	09/07/18 SAS
J7623-FS1	JAX-PSC51-MW-08-08232018	275.0	2	C	09/07/18 SAS
J7624-FS1	JAX-PSC51-MW-10D-08232018	270.0	2	C	09/07/18 SAS
J7626-FS1	JAX-PSC51-MW-06-08242018	270.0	2	C	09/07/18 SAS
J7627-FS1	JAX-PSC51-MW-06-08242018-FD	270.0	2	C	09/07/18 SAS
J7628-FS1	JAX-PSC51-MW-04-08242018	270.0	2	C	09/07/18 SAS
J7629-FS1	JAX-PSC51-MW-09I-08242018	270.0	2	C	09/07/18 SAS

Comments:

Samples Assigned By

Stephanie Schultz

Date : September 7, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR766PB-FS	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
CR767LCS-FS	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
CR767LCS-FS	JZ88	LCS/MS	1	50	09/07/18 SAS	EMF	NA
J7623-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7624-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7626-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7627-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7628-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7629-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JY28	Pipette	B814659662
JZ88	Pipette	B814659662



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CR766PB-FS	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
CR767LCS-FS	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7623-FS1	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7624-FS1	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7626-FS1	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7627-FS1	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7628-FS1	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7629-FS1	09/07/18 SAS	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH3 in Methanol	RP-180907-1	09/07/18	181704	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
0.4% NH3 in Methanol	RP-180907-1	09/07/18	SHBJ0412	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
Pre-packed SPE Column	RP-180907-6	09/07/18	003537250A	Pre-packed SPE Column	

Solvents/Reagents:



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW****(N/A Fraction)**

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm . (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution*	Date Spiked/ Spiked By	Witn'd By
CR766PB-FS(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
CR767LCS-FS(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7623-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7624-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7626-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7627-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7628-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7629-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JY26	Pipette	B814659662

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR766PB-FS	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
CR767LCS-FS	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7623-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7624-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7626-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7627-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7628-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7629-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Sep 10 2018 4:22PM SAS		Received On/By: Sep 10 2018 4:22PM LMG	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR766PB-FS(0)	1000	1	Intact	NA
2	CR767LCS-FS(0)	1000	1	Intact	NA
3	J7623-FS1(0)	1000	1	Intact	NA
4	J7624-FS1(0)	1000	1	Intact	NA
5	J7626-FS1(0)	1000	1	Intact	NA
6	J7627-FS1(0)	1000	1	Intact	NA
7	J7628-FS1(0)	1000	1	Intact	NA
8	J7629-FS1(0)	1000	1	Intact	NA

Total Extracts:	8
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It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID:	Comment:	Date/Initials:
CR766PB-FS	Extraction for all samples began at 2:08pm	09/07/18 SAS
CR766PB-FS	Sample extraction ended at 3:14pm	09/07/18 SAS
CR767LCS-FS	Sample extraction ended at 3:11pm	09/07/18 SAS
J7623-FS1	Sample contained floating particulates	09/07/18 SAS
J7623-FS1	Sample extraction ended at 3:45pm	09/07/18 SAS
J7624-FS1	Sample extraction ended at 3:25pm	09/07/18 SAS
J7626-FS1	Sample contained floating particulates	09/07/18 SAS
J7626-FS1	Sample extraction ended at 4:03pm	09/07/18 SAS
J7627-FS1	Sample contained floating particulates	09/07/18 SAS
J7627-FS1	Sample extraction ended at 4:02pm	09/07/18 SAS
J7628-FS1	Sample contained floating particulates	09/07/18 SAS
J7628-FS1	Sample extraction ended at 4:18pm	09/07/18 SAS
J7629-FS1	Sample extraction ended at 3:28pm	09/07/18 SAS



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0550

Non-Potable Water PFAS Analysis

GW

Entered By: Stephanie Schultz

On: 09/10/2018

Samples were not split post SPE columns. Sample PIV will be adjusted to 1mL and RIS spike amount will be adjusted to 50uL

Task Leader Approval: Stephanie Schultz

On: 09/10/2018

SupervisorApproval: Denise Schumitz

On: 09/12/2018

PM Approval: Jonathan Thorn

On: 09/12/2018



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0550

Non-Potable Water PFAS Analysis

GW

Task Leader Approval:	Stephanie Schultz	On:	09/10/2018
SupervisorApproval:	Denise Schumitz	On:	09/12/2018
PM Approval:	Jonathan Thorn	On:	09/12/2018

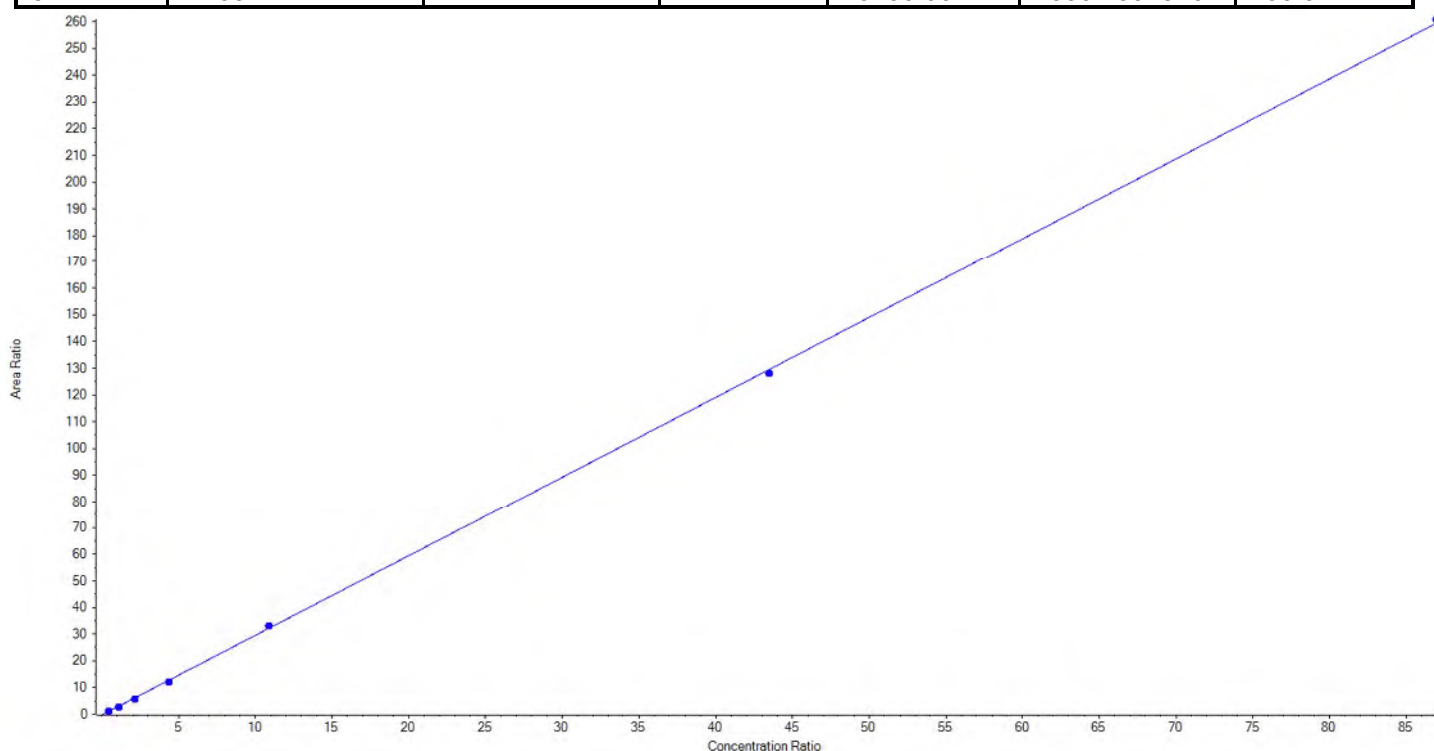
Analytical Calibrations

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
2	JY38	L1	9/10/2018 4:51:14 PM	5-0369.dam	18-0550.wiff
3	JY39	L2	9/10/2018 5:02:08 PM	5-0369.dam	18-0550.wiff
4	JY40	L3	9/10/2018 5:13:01 PM	5-0369.dam	18-0550.wiff
5	JY41	L4	9/10/2018 5:23:52 PM	5-0369.dam	18-0550.wiff
6	JY42	L5	9/10/2018 5:34:44 PM	5-0369.dam	18-0550.wiff
7	KA32	L6	9/10/2018 5:45:36 PM	5-0369.dam	18-0550.wiff
8	KA33	L7	9/10/2018 5:56:27 PM	5-0369.dam	18-0550.wiff
9	JY46 IB	IB	9/10/2018 6:07:17 PM	5-0369.dam	18-0550.wiff
10	JY45 ICC	ICC	9/10/2018 6:18:09 PM	5-0369.dam	18-0550.wiff
11	KA29 BRANCH	BRANCH	9/10/2018 6:29:02 PM	5-0369.dam	18-0550.wiff
1	MEOH		9/10/2018 6:39:54 PM	5-0369.dam	18-0550.wiff
14	CR766PB-FS(0)	Procedural Blank	9/10/2018 7:12:31 PM	5-0369.dam	18-0550.wiff
15	CR767LCS-FS(0)	Laboratory Control Sample	9/10/2018 7:23:23 PM	5-0369.dam	18-0550.wiff
16	J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/2018 7:34:14 PM	5-0369.dam	18-0550.wiff
5	JY41	CCV	9/10/2018 7:45:07 PM	5-0369.dam	18-0550.wiff
1	MEOH		9/10/2018 7:55:59 PM	5-0369.dam	18-0550.wiff
17	J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/2018 8:06:51 PM	5-0369.dam	18-0550.wiff
18	J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/2018 8:17:42 PM	5-0369.dam	18-0550.wiff
19	J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/2018 8:28:33 PM	5-0369.dam	18-0550.wiff
20	J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/2018 8:39:25 PM	5-0369.dam	18-0550.wiff
21	J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/2018 8:50:17 PM	5-0369.dam	18-0550.wiff
6	JY42	CCV	9/10/2018 9:01:09 PM	5-0369.dam	18-0550.wiff

Analyte Name	PFBS_1	Data File	18-0550.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.98626 x + -0.33735$ (r = 0.99980) (weighting: 1 / x)

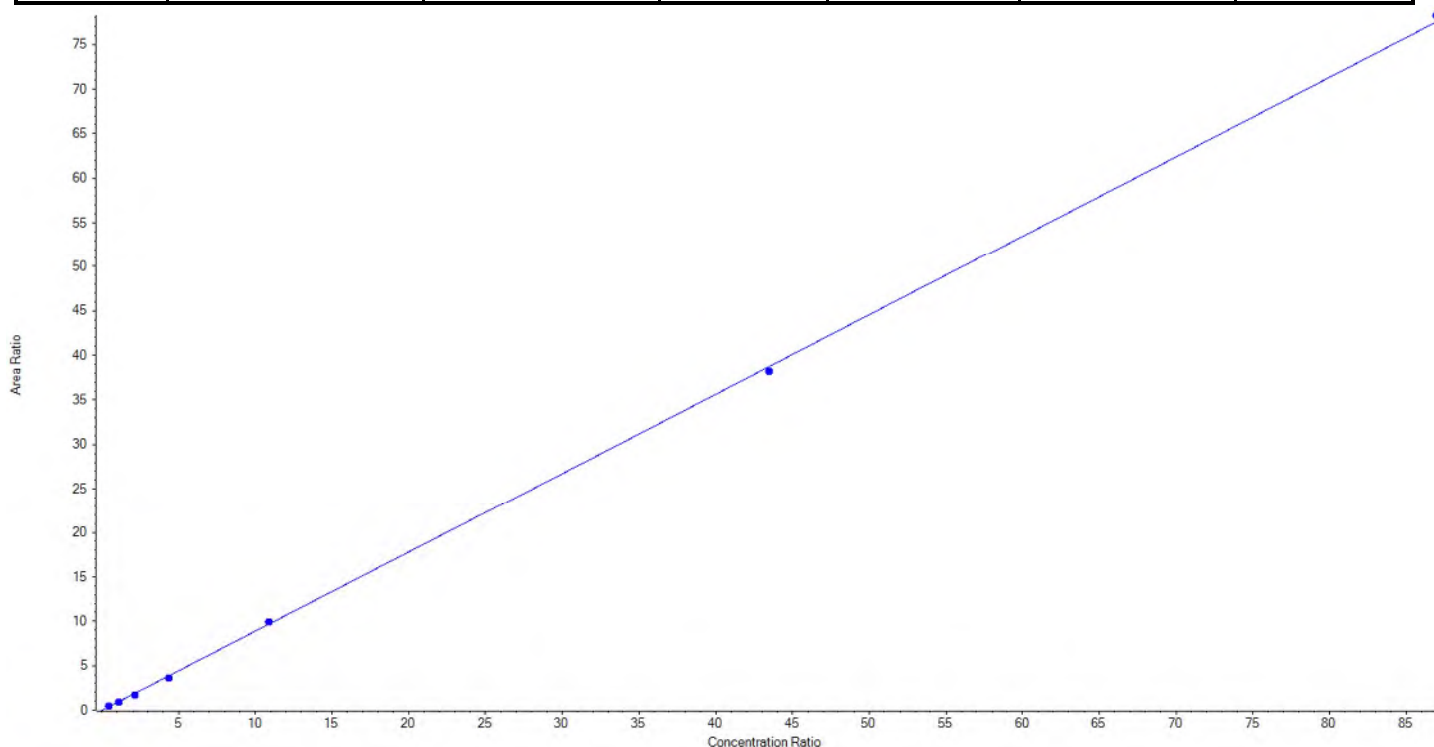
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	117.107304	116.0
3	JY39	L2	True	252.50	235.188123	93.1
4	JY40	L3	True	505.00	463.654572	91.8
5	JY41	L4	True	1010.00	973.243890	96.4
6	JY42	L5	True	2525.00	2607.735714	103.3
7	KA32	L6	True	10100.00	9993.972582	99.0
8	KA33	L7	True	20200.00	20302.597816	100.5



Analyte Name	PFBS_2	Data File	18-0550.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.89177 x + -0.03761$ (r = 0.99965) (weighting: 1 / x)

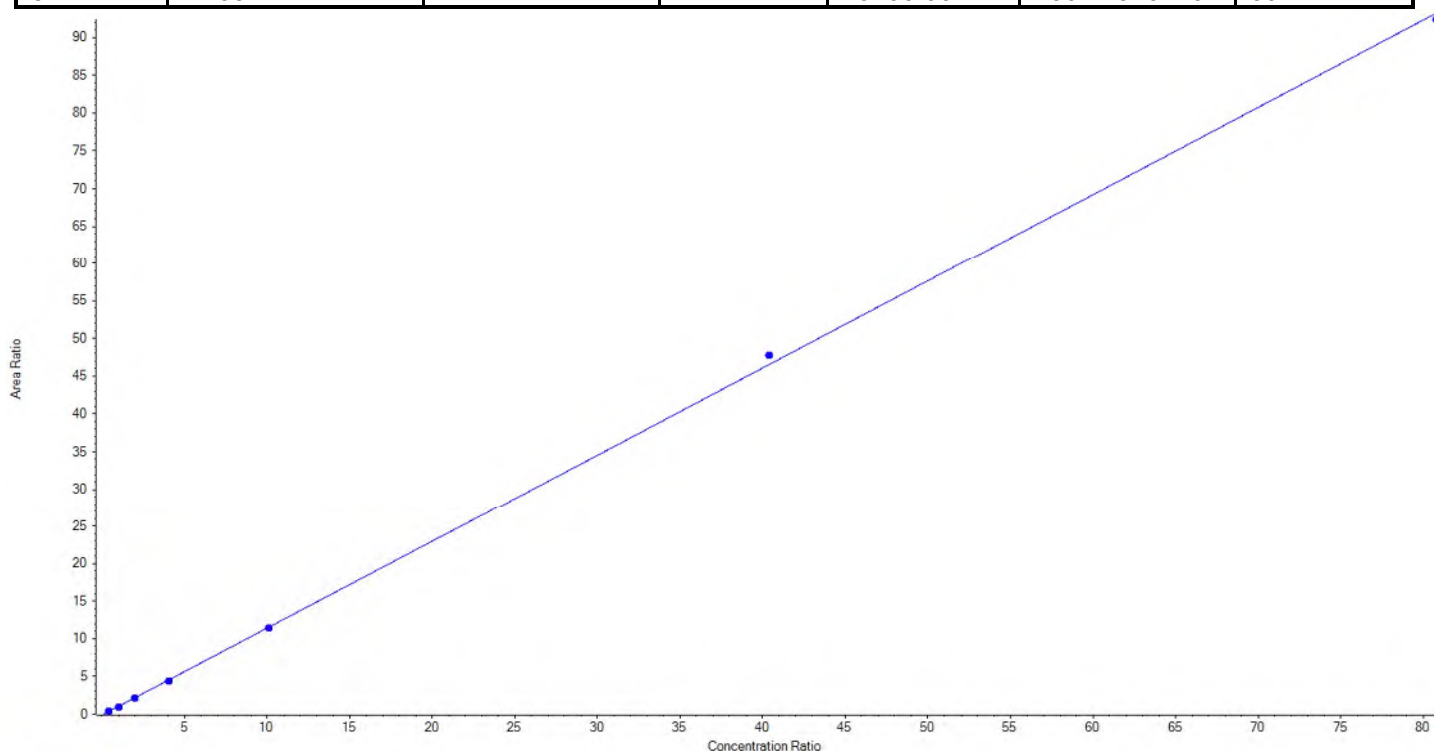
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	121.200976	120.0
3	JY39	L2	True	252.50	243.915745	96.6
4	JY40	L3	True	505.00	442.160151	87.6
5	JY41	L4	True	1010.00	942.752475	93.3
6	JY42	L5	True	2525.00	2599.872266	103.0
7	KA32	L6	True	10100.00	9962.513180	98.6
8	KA33	L7	True	20200.00	20381.085207	100.9



Analyte Name	PFHxA_1	Data File	18-0550.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0550_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.15538x + -0.13871$ ($r = 0.99983$) (weighting: 1 / x)

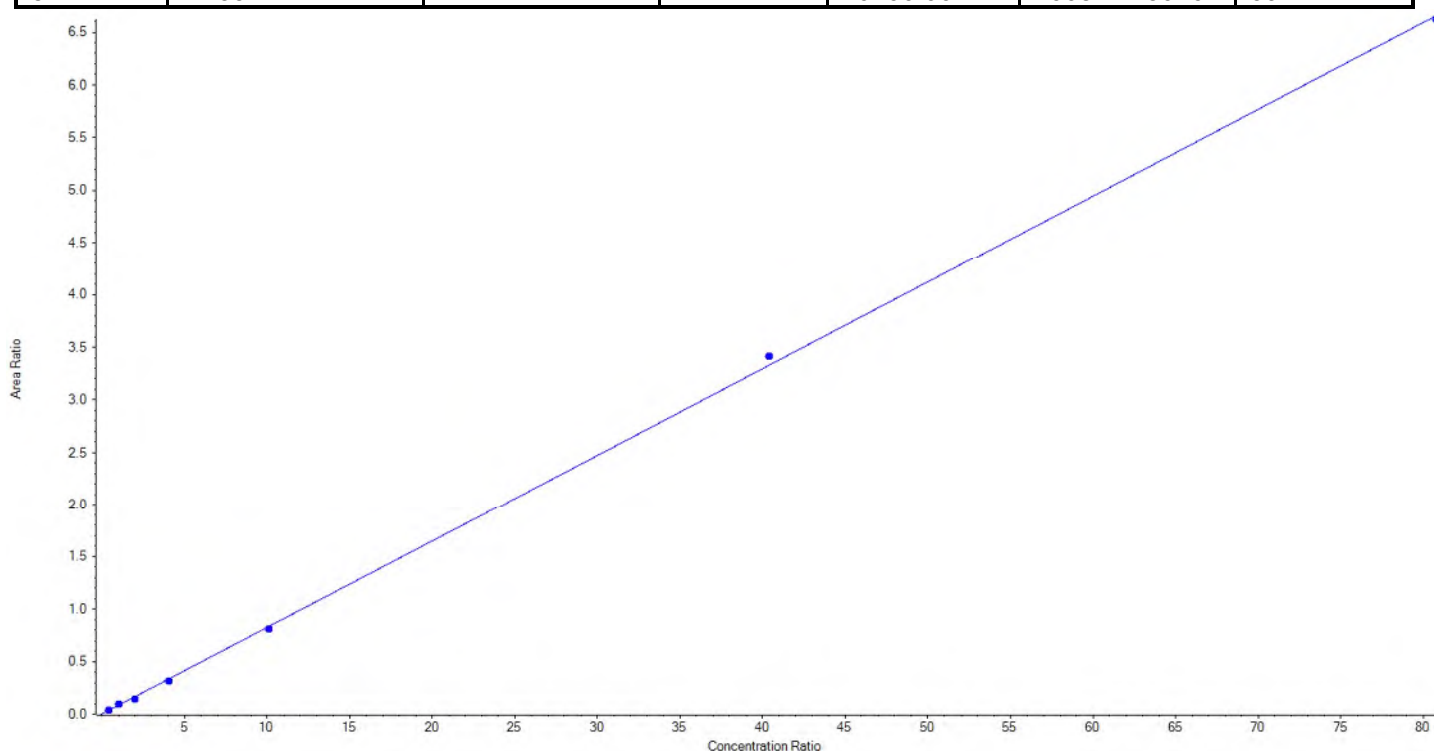
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	110.193801	109.1
3	JY39	L2	True	252.50	245.837554	97.4
4	JY40	L3	True	505.00	477.737517	94.6
5	JY41	L4	True	1010.00	992.671904	98.3
6	JY42	L5	True	2525.00	2501.454063	99.1
7	KA32	L6	True	10100.00	10354.059021	102.5
8	KA33	L7	True	20200.00	20011.546140	99.1



Analyte Name	PFHxA_2	Data File	18-0550.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0550_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.08239x + 9.28618e-4$ ($r = 0.99960$) (weighting: 1 / x)

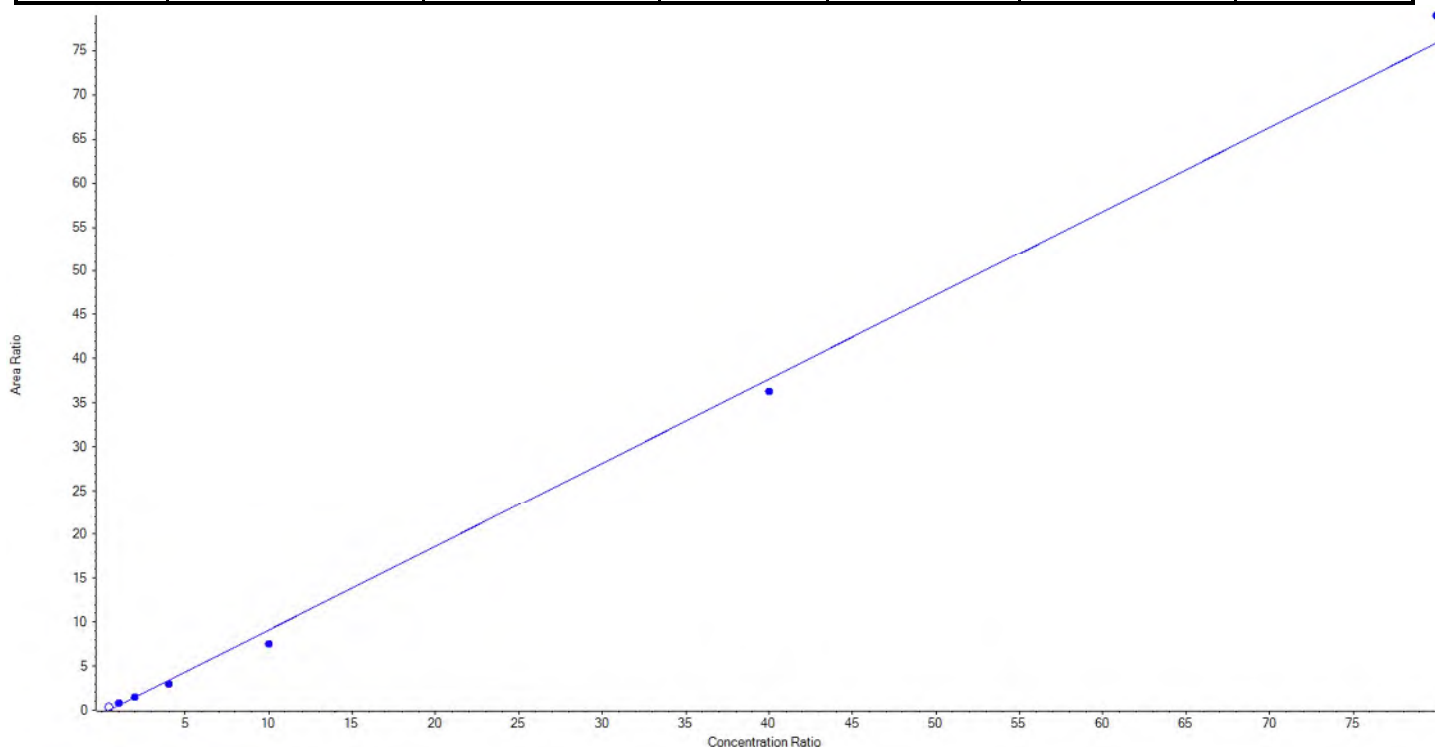
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	106.630980	105.6
3	JY39	L2	True	252.50	286.534468	113.5
4	JY40	L3	True	505.00	439.450482	87.0
5	JY41	L4	True	1010.00	952.499466	94.3
6	JY42	L5	True	2525.00	2464.623956	97.6
7	KA32	L6	True	10100.00	10362.285571	102.6
8	KA33	L7	True	20200.00	20081.475076	99.4



Analyte Name	PFHpA_1	Data File	18-0550.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.95373 x + -0.45126$ (r = 0.99755) (weighting: 1 / x)

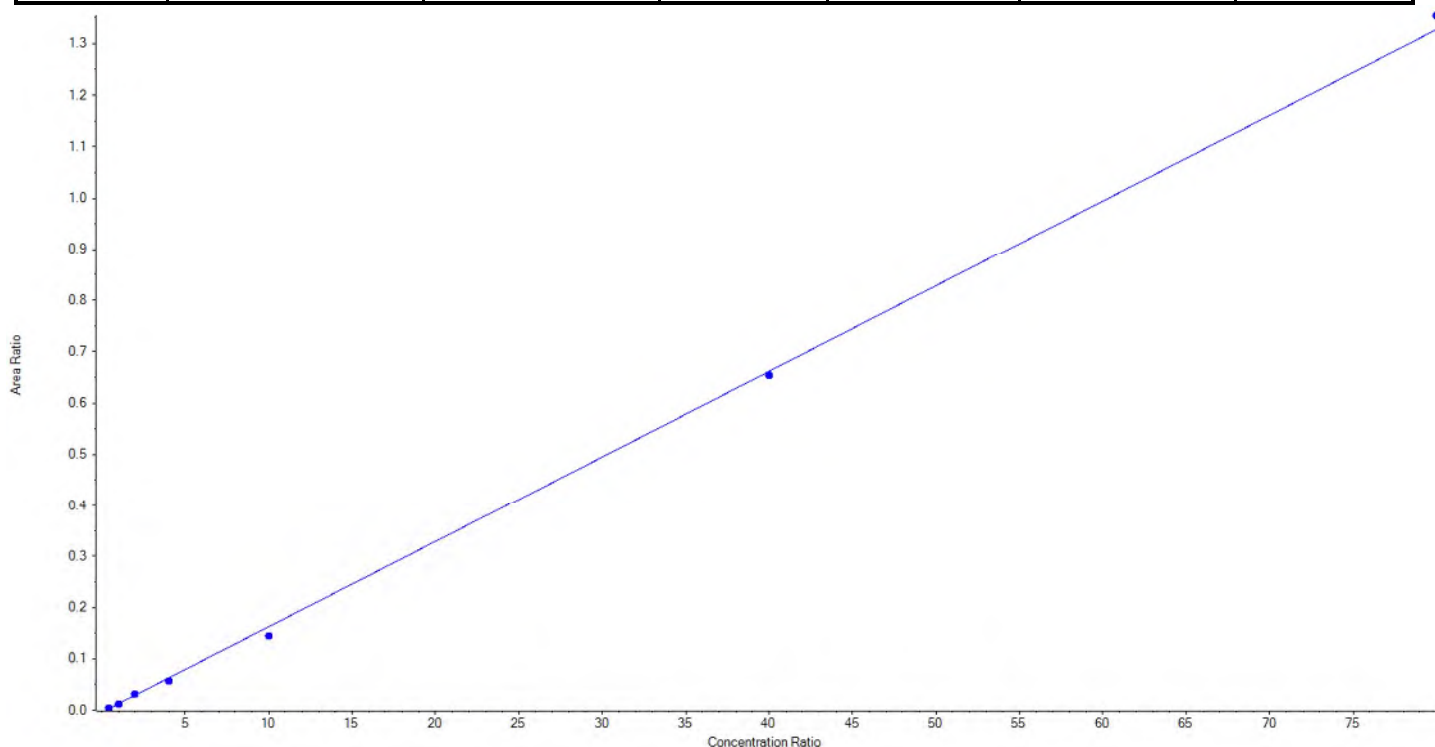
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	False	100.00	200.944834	200.9
3	JY39	L2	True	250.00	316.889959	126.8
4	JY40	L3	True	500.00	499.864122	100.0
5	JY41	L4	True	1000.00	894.927283	89.5
6	JY42	L5	True	2500.00	2082.561643	83.3
7	KA32	L6	True	10000.00	9639.442610	96.4
8	KA33	L7	True	20000.00	20816.314384	104.1



Analyte Name	PFHpA_2	Data File	18-0550.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01664 x + -0.00416$ (r = 0.99923) (weighting: 1 / x)

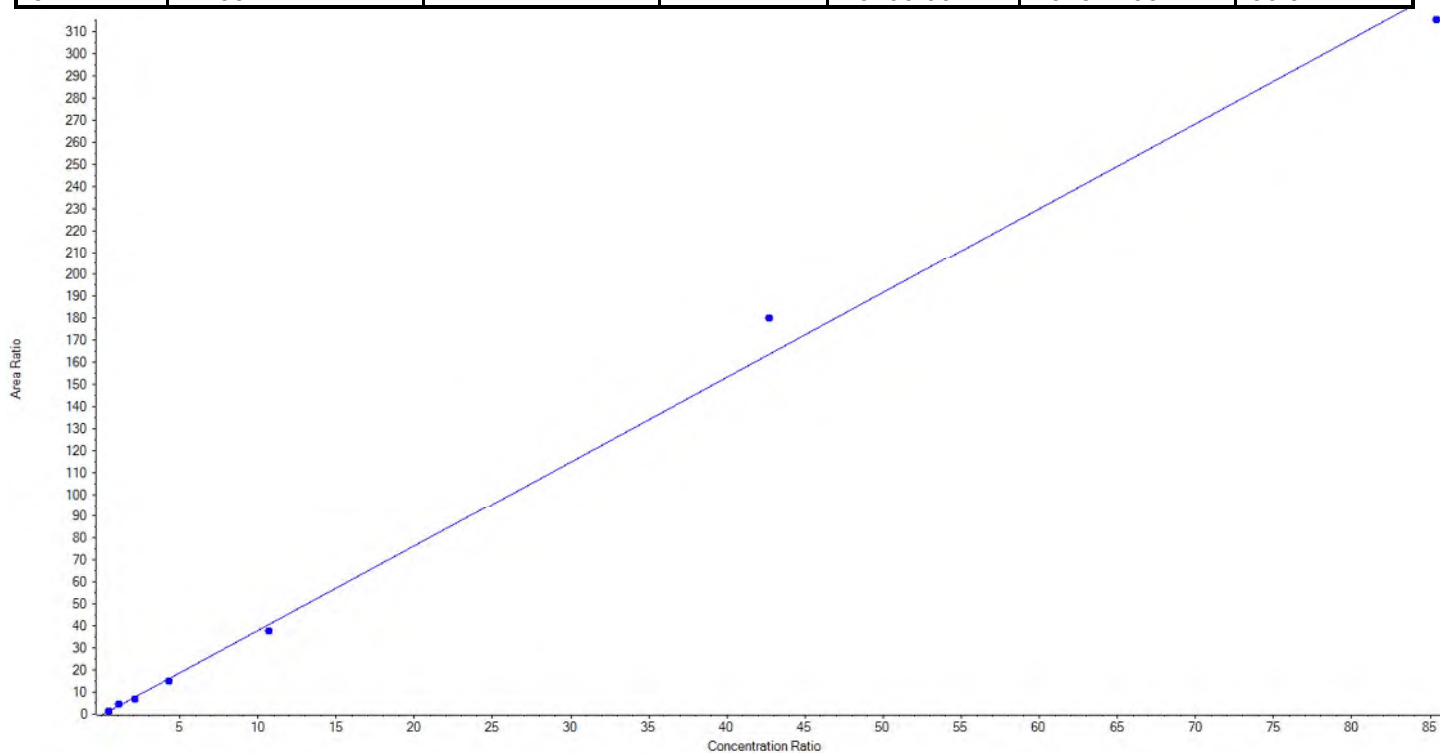
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	117.087788	117.1
3	JY39	L2	True	250.00	231.691327	92.7
4	JY40	L3	True	500.00	535.946605	107.2
5	JY41	L4	True	1000.00	924.484507	92.5
6	JY42	L5	True	2500.00	2240.364031	89.6
7	KA32	L6	True	10000.00	9896.243940	99.0
8	KA33	L7	True	20000.00	20404.181803	102.0



Analyte Name	PFHxS_1	Data File	18-0550.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.84063x + -0.44364$ ($r = 0.99744$) (weighting: 1 / x)

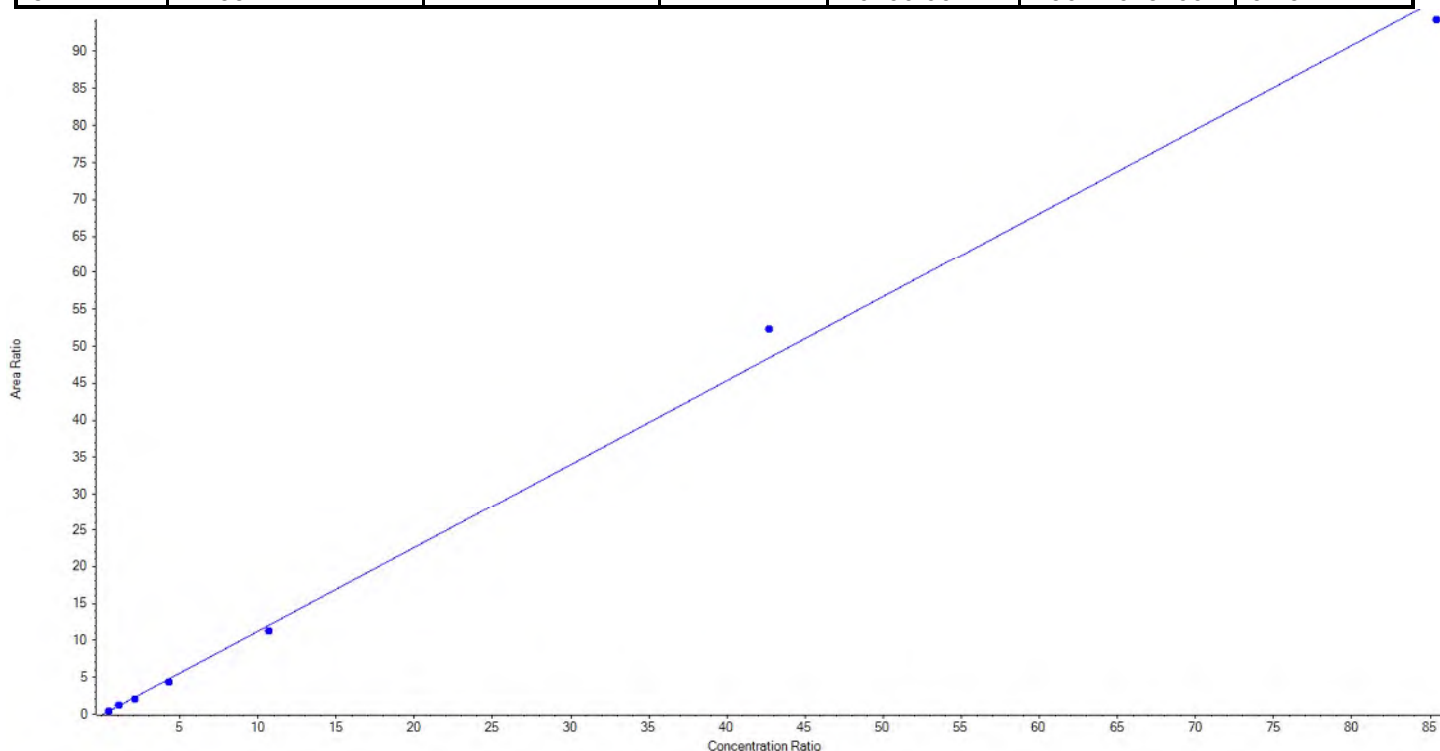
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	104.847343	103.8
3	JY39	L2	True	252.50	294.560170	116.7
4	JY40	L3	True	505.00	441.408780	87.4
5	JY41	L4	True	1010.00	938.564967	92.9
6	JY42	L5	True	2525.00	2343.520473	92.8
7	KA32	L6	True	10100.00	11119.305146	110.1
8	KA33	L7	True	20200.00	19451.293121	96.3



Analyte Name	PFHxS_2	Data File	18-0550.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13645x + -0.11926$ ($r = 0.99831$) (weighting: 1 / x)

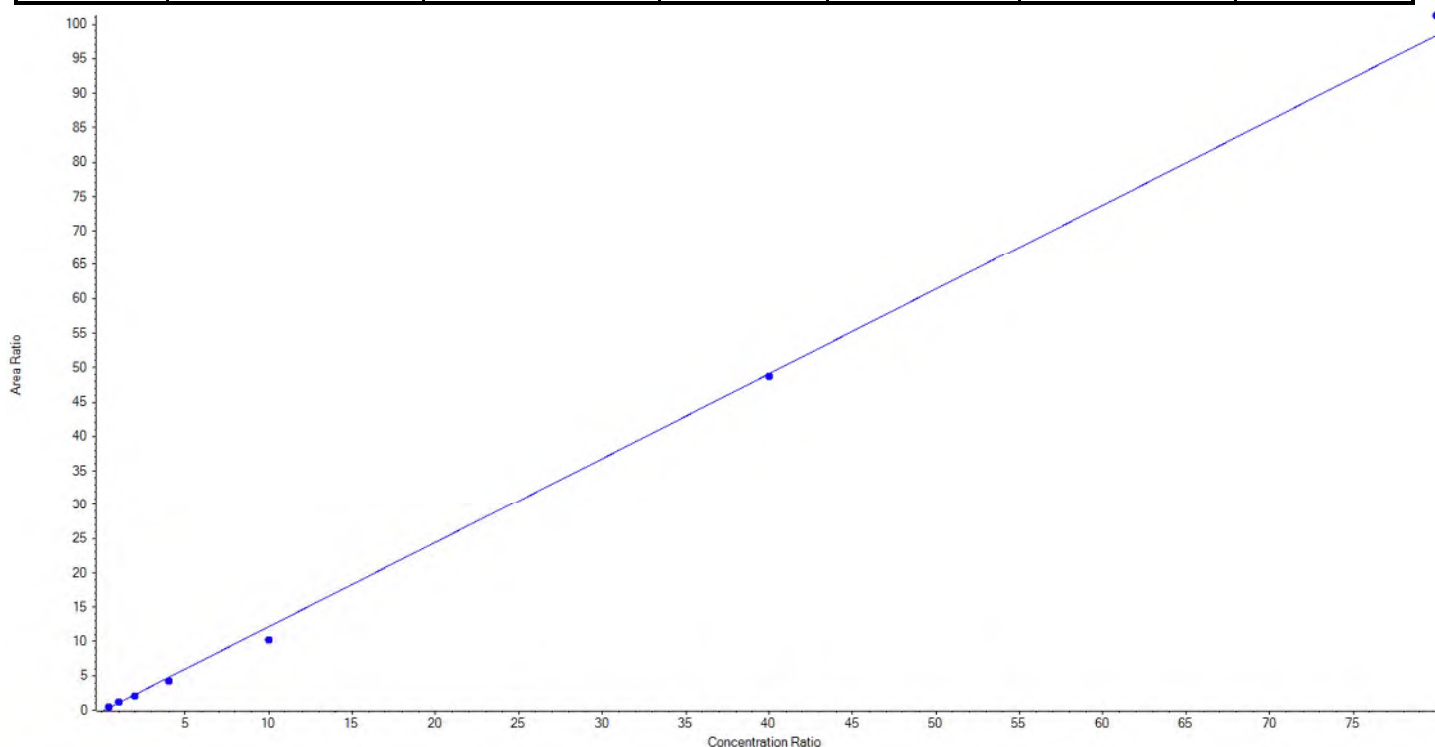
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	108.114909	107.0
3	JY39	L2	True	252.50	285.582798	113.1
4	JY40	L3	True	505.00	446.041733	88.3
5	JY41	L4	True	1010.00	936.039189	92.7
6	JY42	L5	True	2525.00	2362.862393	93.6
7	KA32	L6	True	10100.00	10910.183218	108.0
8	KA33	L7	True	20200.00	19644.675760	97.3



Analyte Name	PFOA_1	Data File	18-0550.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.23234 x + -0.18792$ (r = 0.99837) (weighting: 1 / x)

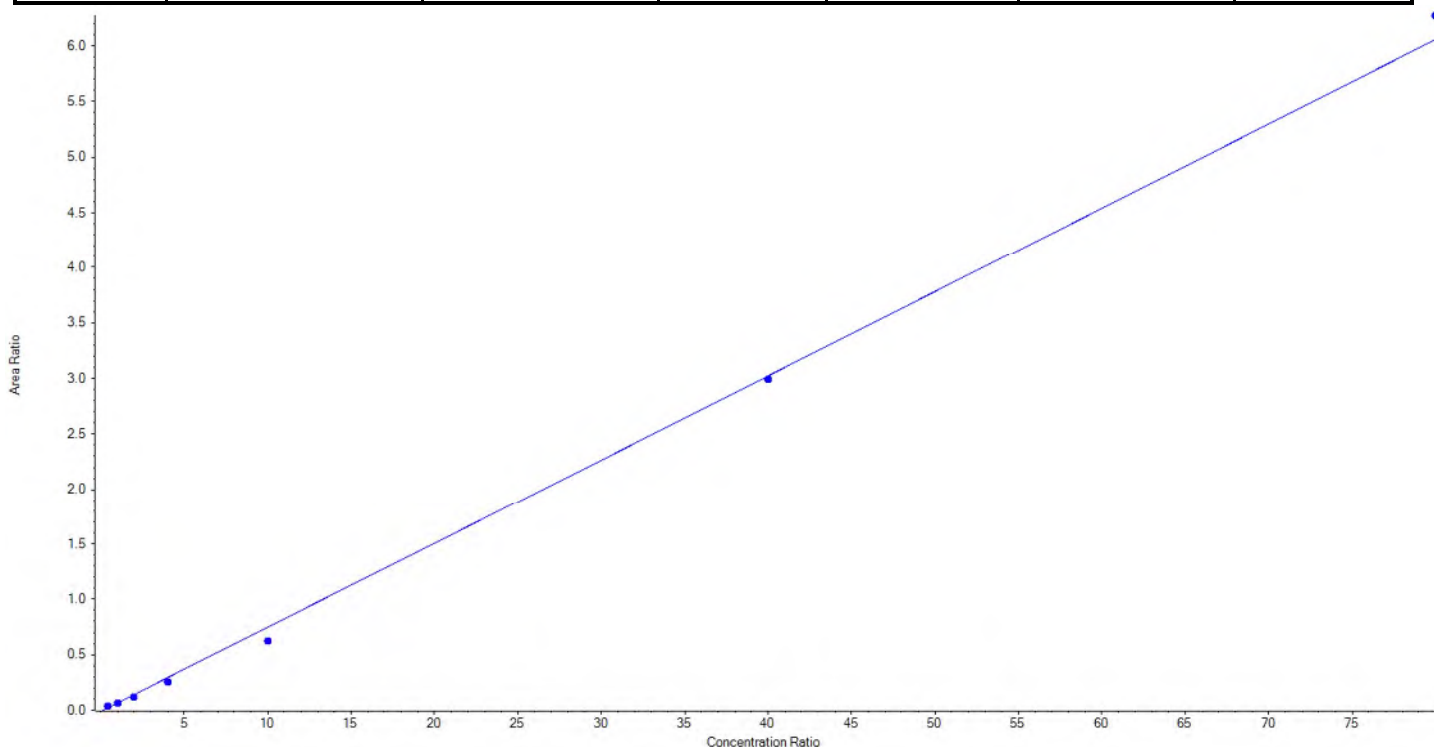
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	128.708092	128.7
3	JY39	L2	True	250.00	265.575508	106.2
4	JY40	L3	True	500.00	443.337065	88.7
5	JY41	L4	True	1000.00	896.764039	89.7
6	JY42	L5	True	2500.00	2115.212035	84.6
7	KA32	L6	True	10000.00	9921.478008	99.2
8	KA33	L7	True	20000.00	20578.925253	102.9



Analyte Name	PFOA_2	Data File	18-0550.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07584 x + -0.01072$ (r = 0.99769) (weighting: 1 / x)

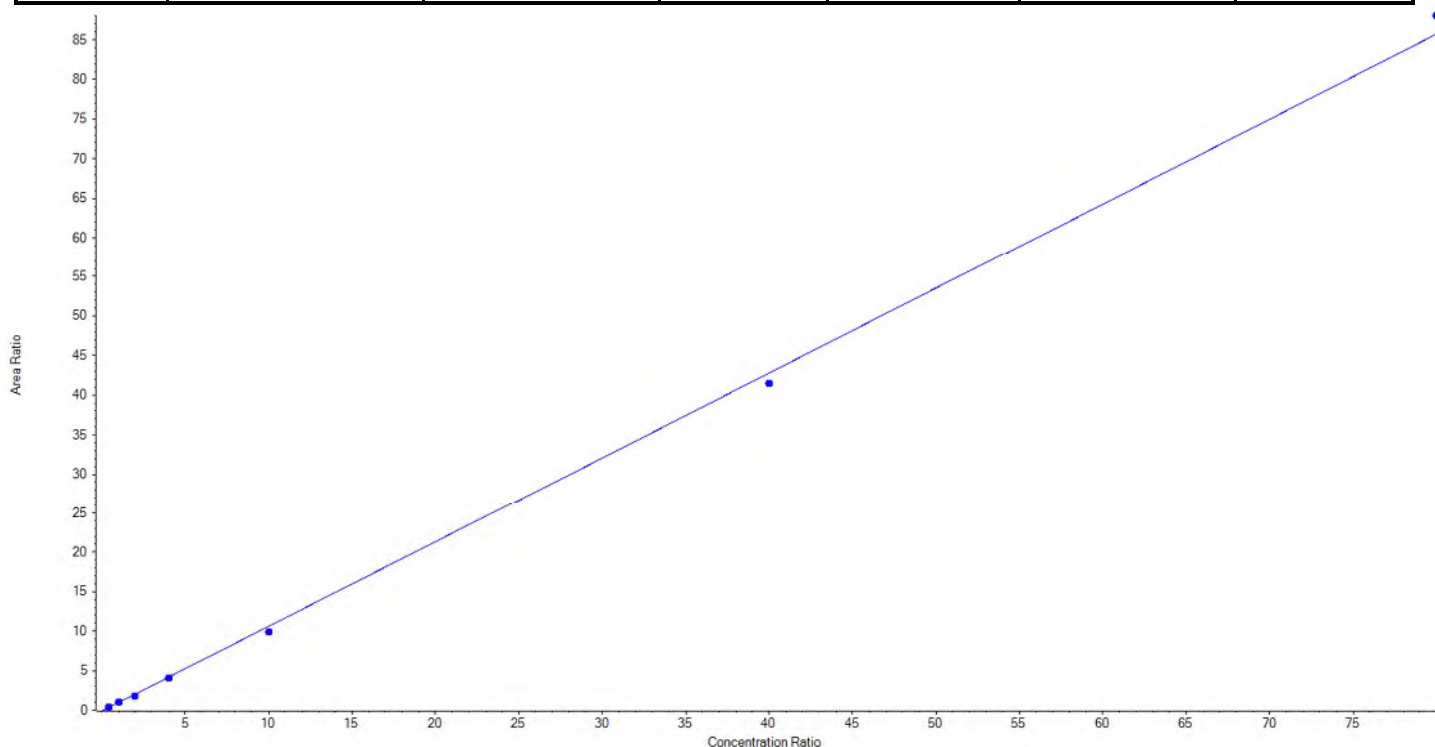
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	142.216136	142.2
3	JY39	L2	True	250.00	251.826900	100.7
4	JY40	L3	True	500.00	429.529489	85.9
5	JY41	L4	True	1000.00	856.494936	85.7
6	JY42	L5	True	2500.00	2078.132107	83.1
7	KA32	L6	True	10000.00	9882.685191	98.8
8	KA33	L7	True	20000.00	20709.115240	103.6



Analyte Name	PFNA_1	Data File	18-0550.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0550_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.07293x + -0.12235$ (r = 0.99928) (weighting: 1 / x)

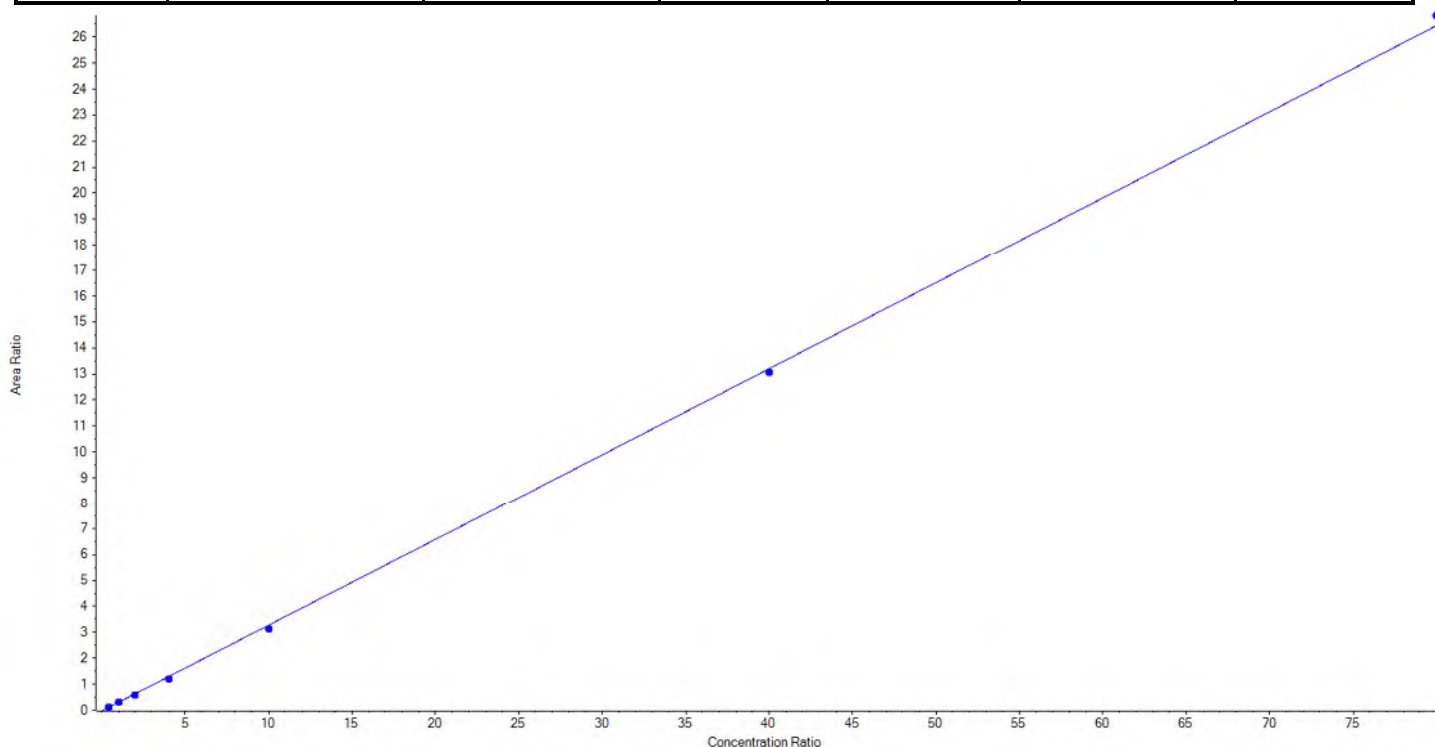
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	118.915936	118.9
3	JY39	L2	True	250.00	253.210453	101.3
4	JY40	L3	True	500.00	454.485124	90.9
5	JY41	L4	True	1000.00	962.904062	96.3
6	JY42	L5	True	2500.00	2324.066173	93.0
7	KA32	L6	True	10000.00	9693.542804	96.9
8	KA33	L7	True	20000.00	20542.875448	102.7



Analyte Name	PFNA_2	Data File	18-0550.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0550_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.33081x + -0.03149$ (r = 0.99972) (weighting: 1 / x)

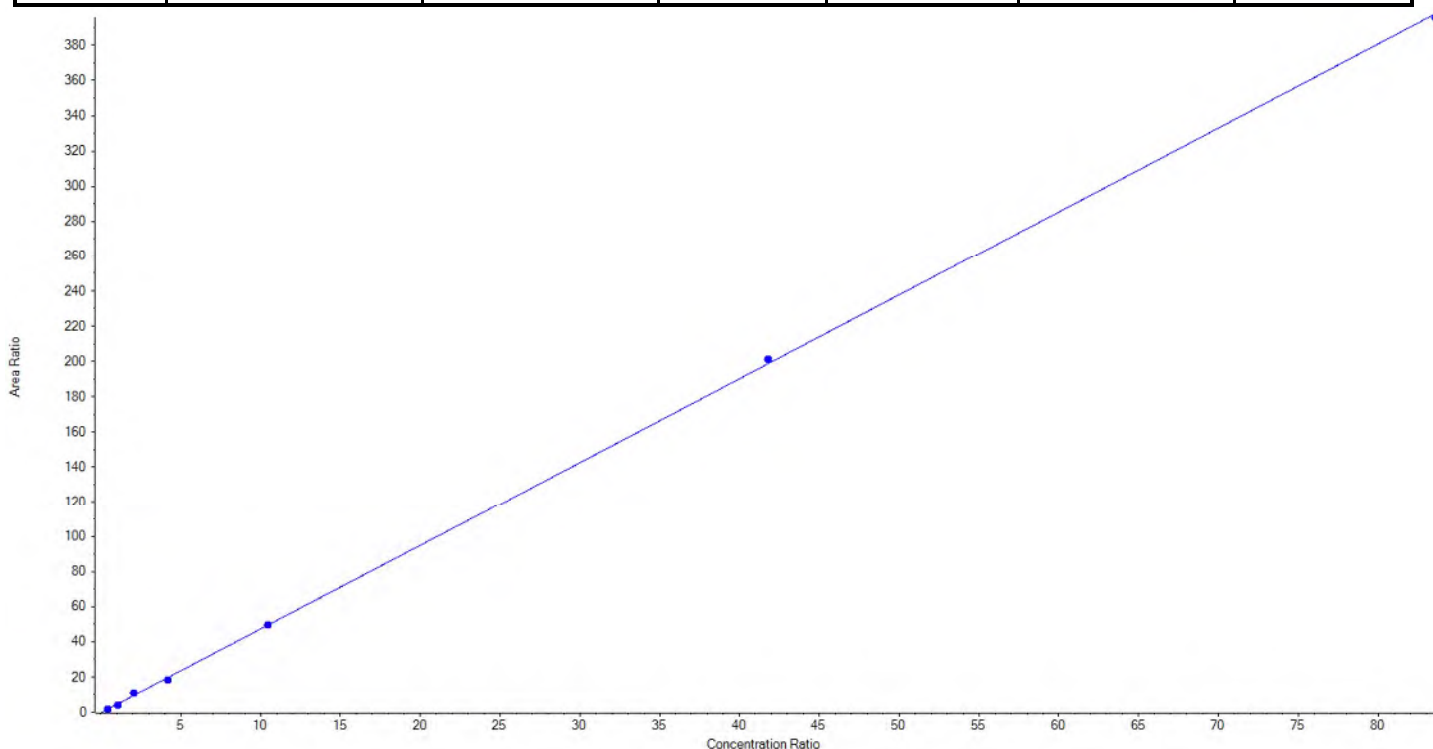
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	114.181470	114.2
3	JY39	L2	True	250.00	252.090659	100.8
4	JY40	L3	True	500.00	476.198064	95.2
5	JY41	L4	True	1000.00	941.888442	94.2
6	JY42	L5	True	2500.00	2378.246356	95.1
7	KA32	L6	True	10000.00	9897.396078	99.0
8	KA33	L7	True	20000.00	20289.998931	101.5



Analyte Name	PFOS_1	Data File	18-0550.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.76291 x + -0.36483$ (r = 0.99981) (weighting: 1 / x)

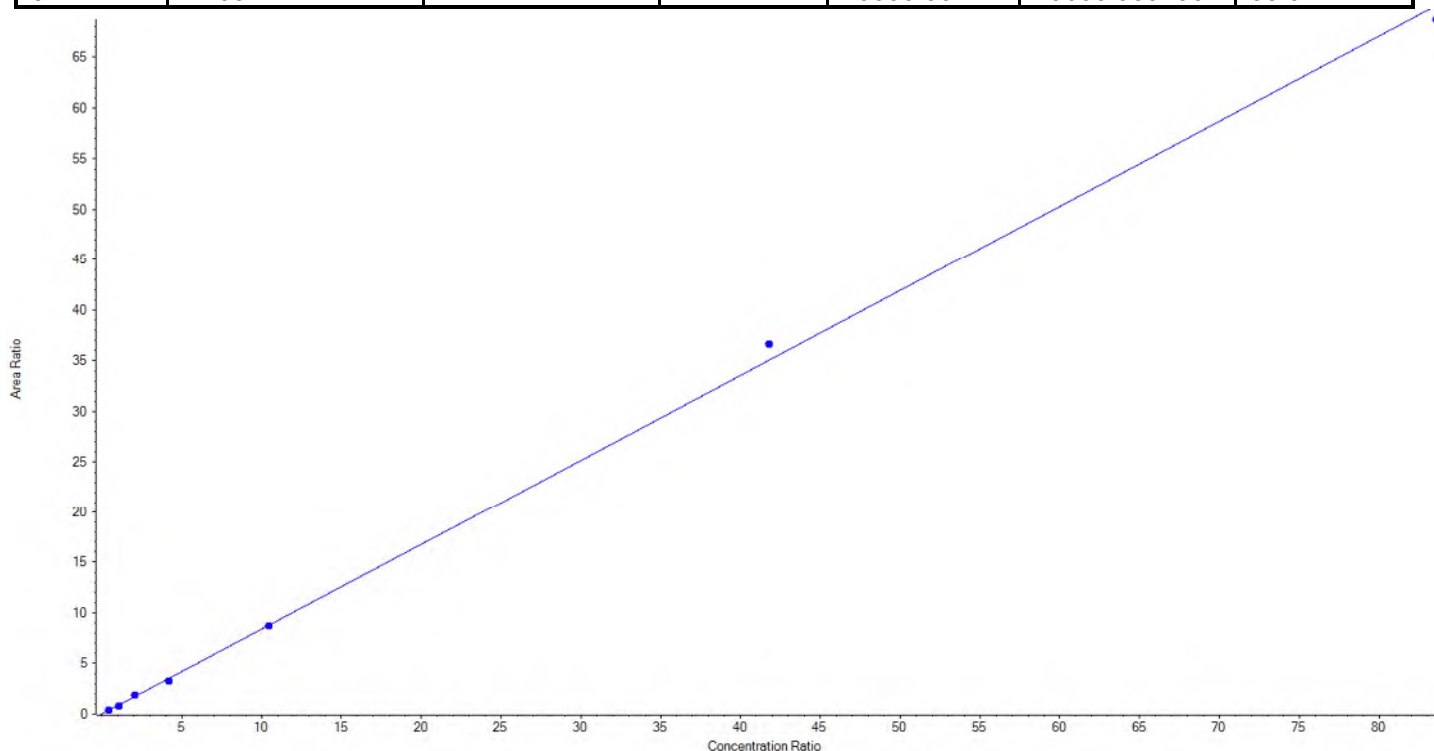
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	101.962819	102.0
3	JY39	L2	True	250.00	232.291204	92.9
4	JY40	L3	True	500.00	549.892820	110.0
5	JY41	L4	True	1000.00	940.071195	94.0
6	JY42	L5	True	2500.00	2510.757468	100.4
7	KA32	L6	True	10000.00	10125.918873	101.3
8	KA33	L7	True	20000.00	19889.105621	99.5



Analyte Name	PFOS_2	Data File	18-0550.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.83860x + 0.00566$ ($r = 0.99942$) (weighting: $1/x$)

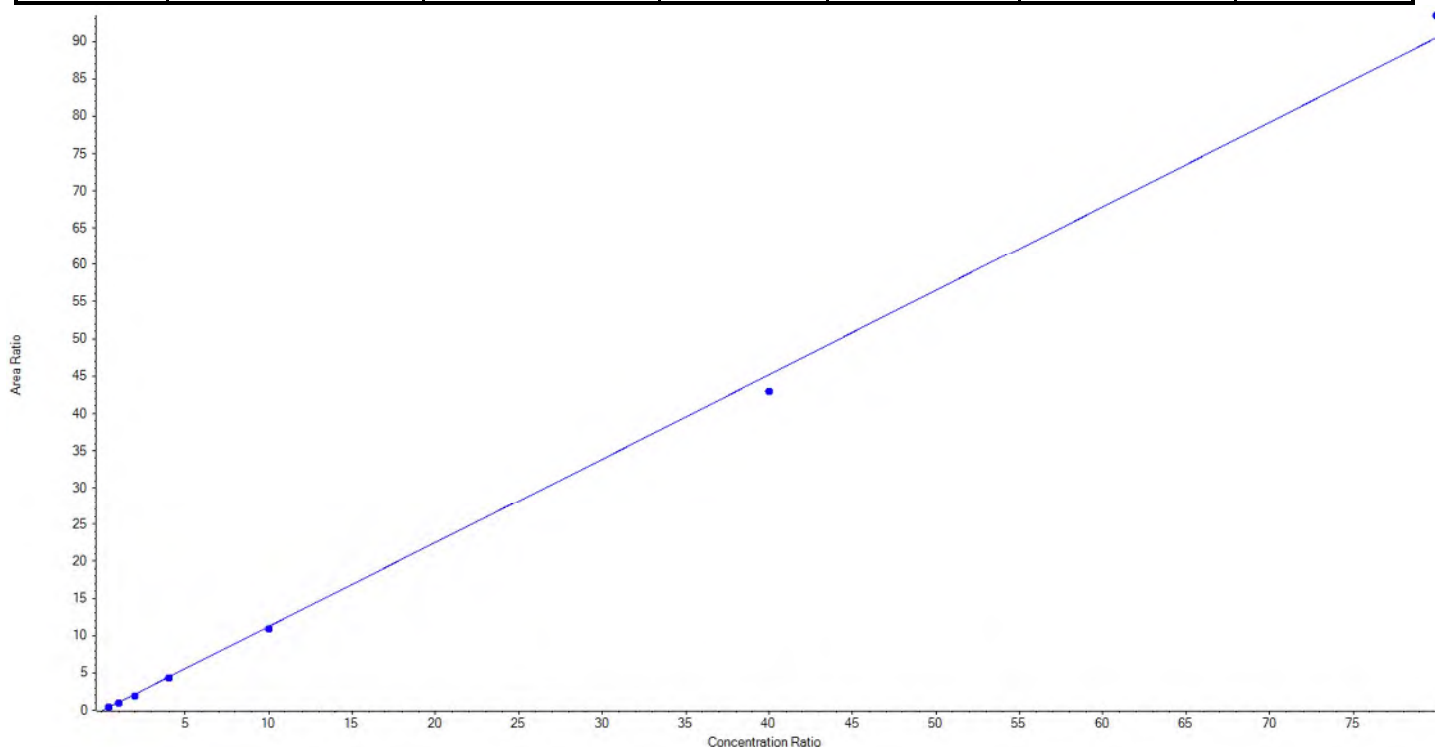
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	105.225121	105.2
3	JY39	L2	True	250.00	235.803353	94.3
4	JY40	L3	True	500.00	526.000002	105.2
5	JY41	L4	True	1000.00	928.202828	92.8
6	JY42	L5	True	2500.00	2496.345448	99.9
7	KA32	L6	True	10000.00	10457.464143	104.6
8	KA33	L7	True	20000.00	19600.959106	98.0



Analyte Name	PFDA_1	Data File	18-0550.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0550_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13234 x + -0.09863$ (r = 0.99904) (weighting: 1 / x)

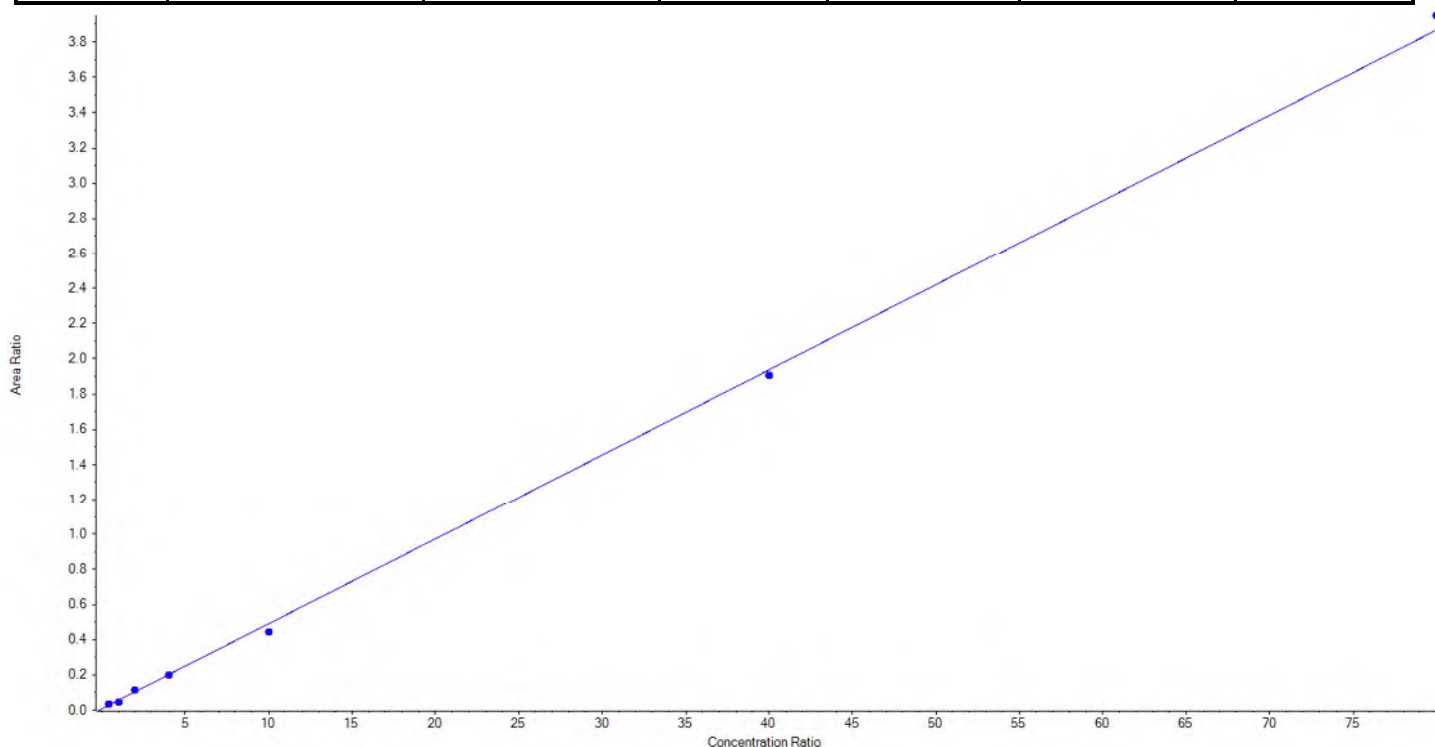
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	122.810381	122.8
3	JY39	L2	True	250.00	239.891954	96.0
4	JY40	L3	True	500.00	450.138494	90.0
5	JY41	L4	True	1000.00	959.855942	96.0
6	JY42	L5	True	2500.00	2423.457877	96.9
7	KA32	L6	True	10000.00	9502.400509	95.0
8	KA33	L7	True	20000.00	20651.444844	103.3



Analyte Name	PFDA_2	Data File	18-0550.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0550_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04823 x + 0.00821$ (r = 0.99904) (weighting: 1 / x)

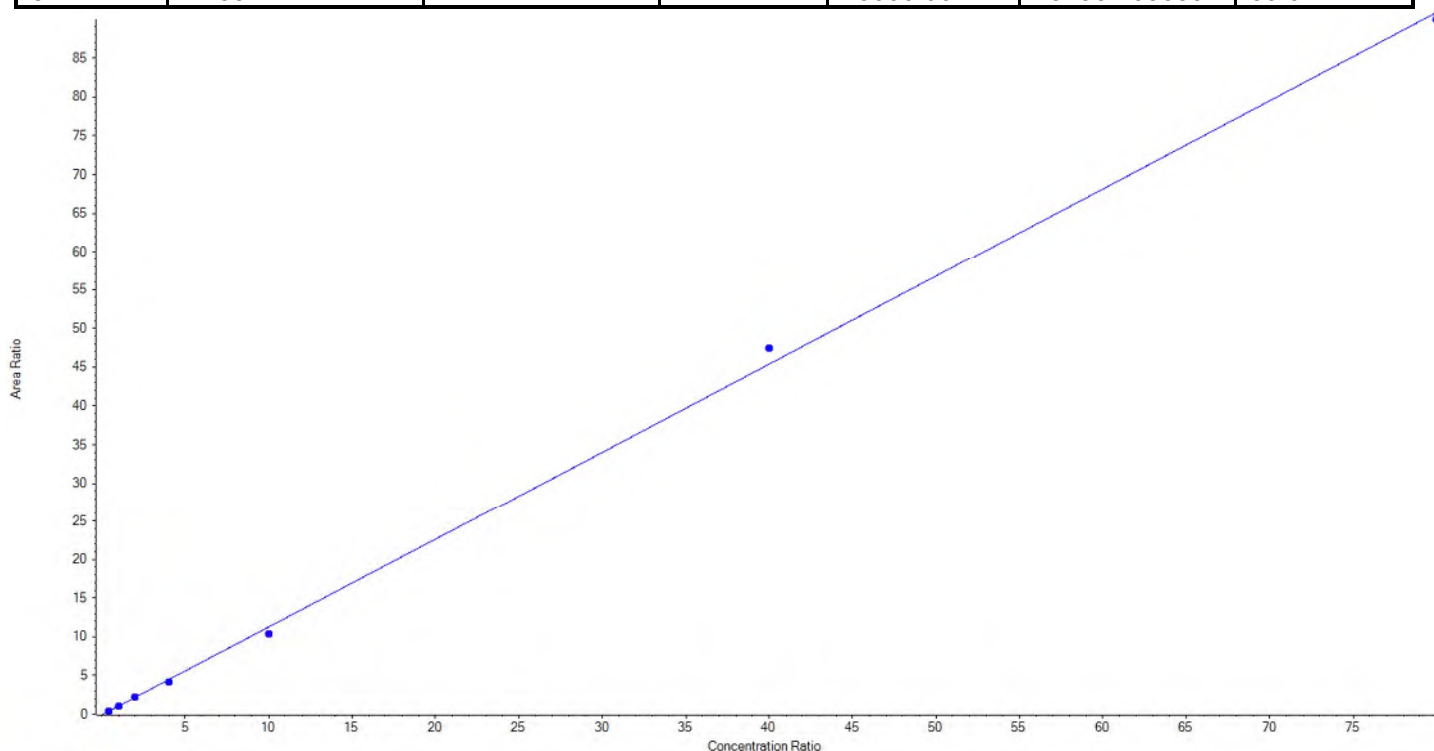
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	126.574641	126.6
3	JY39	L2	True	250.00	190.344140	76.1
4	JY40	L3	True	500.00	540.345382	108.1
5	JY41	L4	True	1000.00	986.825714	98.7
6	JY42	L5	True	2500.00	2252.975826	90.1
7	KA32	L6	True	10000.00	9830.470080	98.3
8	KA33	L7	True	20000.00	20422.464217	102.1



Analyte Name	PFUnA_1	Data File	18-0550.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0550_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13714 x + -0.10205$ (r = 0.99926) (weighting: 1 / x)

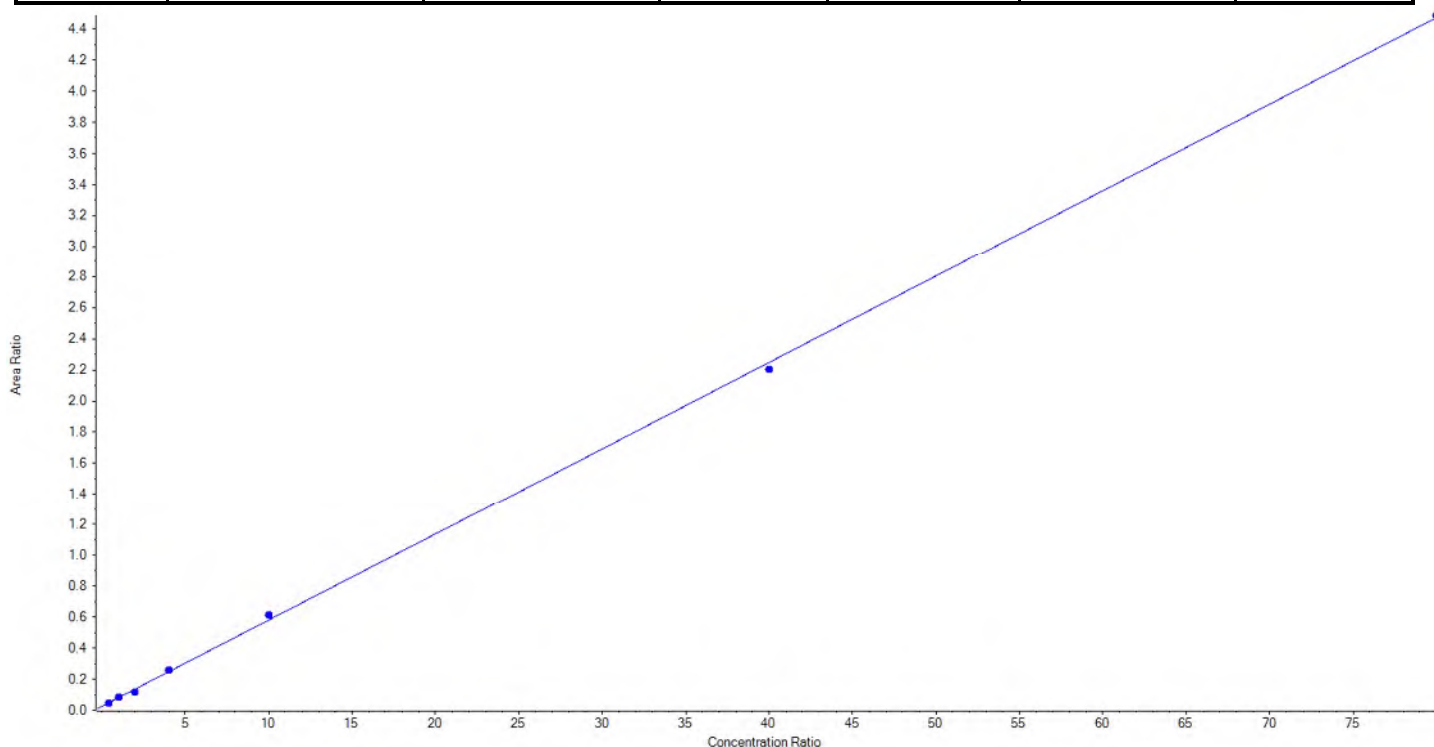
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	114.739913	114.7
3	JY39	L2	True	250.00	236.545538	94.6
4	JY40	L3	True	500.00	506.168813	101.2
5	JY41	L4	True	1000.00	940.273701	94.0
6	JY42	L5	True	2500.00	2294.951247	91.8
7	KA32	L6	True	10000.00	10459.217130	104.6
8	KA33	L7	True	20000.00	19798.103659	99.0



Analyte Name	PFUnA_2	Data File	18-0550.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0550_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05559x + 0.02479$ (r = 0.99946) (weighting: 1 / x)

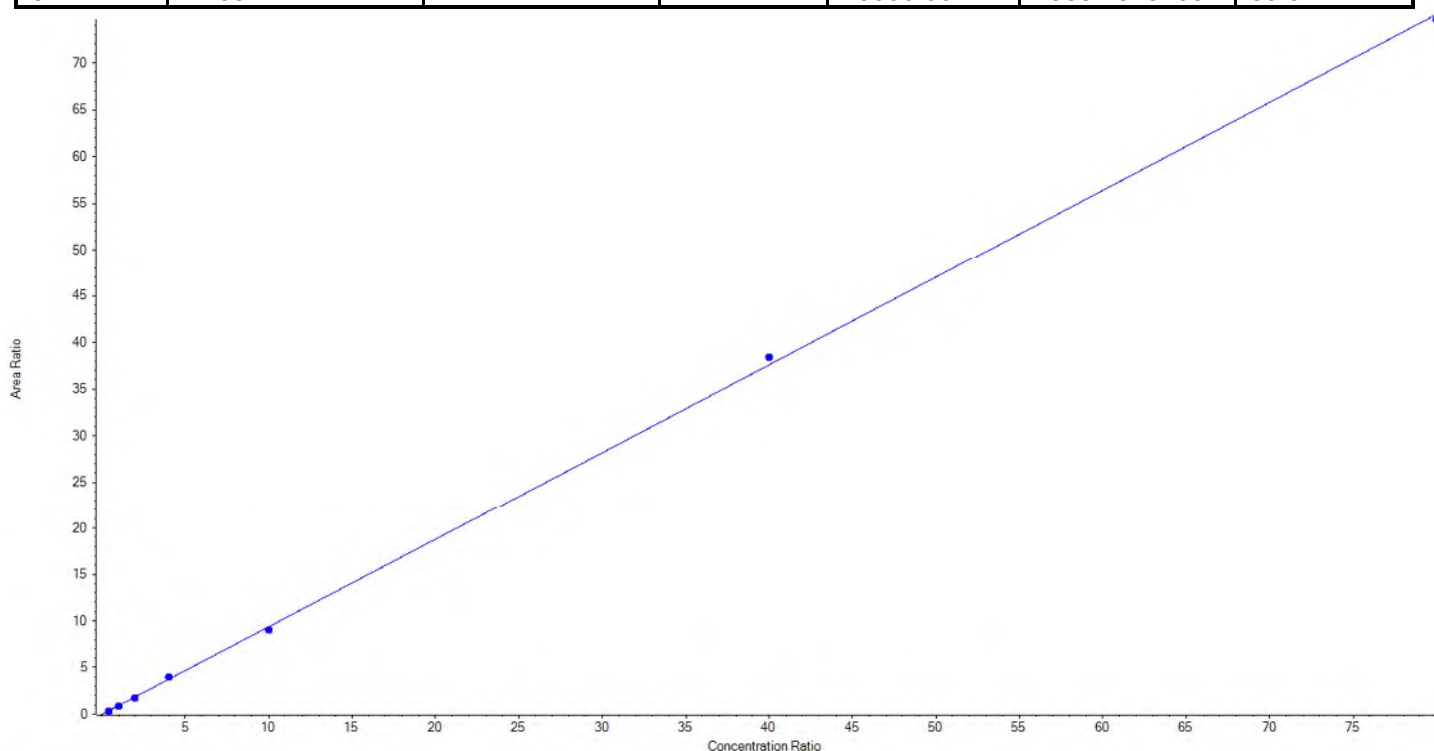
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	101.484368	101.5
3	JY39	L2	True	250.00	264.410049	105.8
4	JY40	L3	True	500.00	410.381823	82.1
5	JY41	L4	True	1000.00	1064.229165	106.4
6	JY42	L5	True	2500.00	2648.272533	105.9
7	KA32	L6	True	10000.00	9803.063836	98.0
8	KA33	L7	True	20000.00	20058.158225	100.3



Analyte Name	PFDoA_1	Data File	18-0550.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFDoA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.94017x + -0.02830$ (r = 0.99976) (weighting: 1 / x)

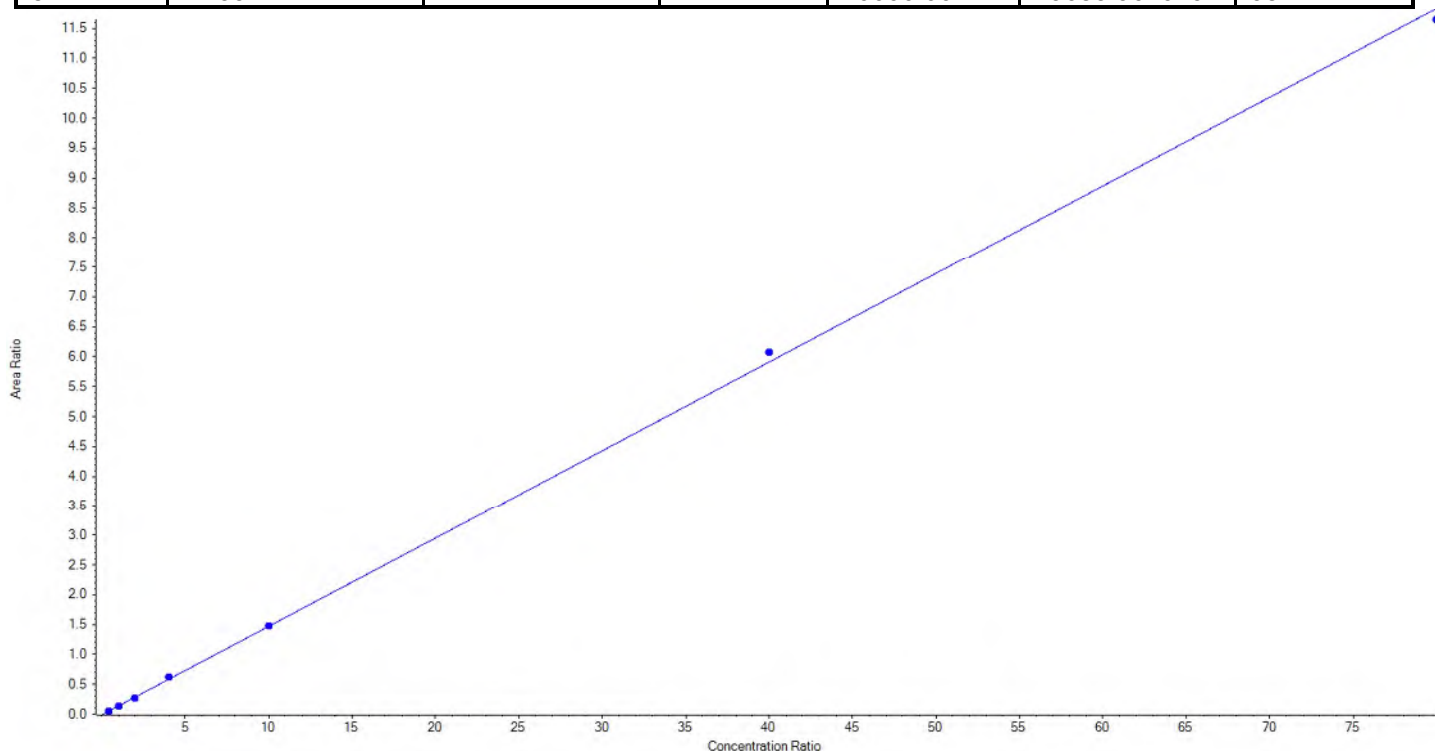
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	106.215026	106.2
3	JY39	L2	True	250.00	243.346813	97.3
4	JY40	L3	True	500.00	463.875151	92.8
5	JY41	L4	True	1000.00	1057.686103	105.8
6	JY42	L5	True	2500.00	2412.357259	96.5
7	KA32	L6	True	10000.00	10215.143884	102.2
8	KA33	L7	True	20000.00	19851.375763	99.3



Analyte Name	PFD _o A_2	Data File	18-0550.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFD _o A	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.14801x + -0.01074$ ($r = 0.99966$) (weighting: 1 / x)

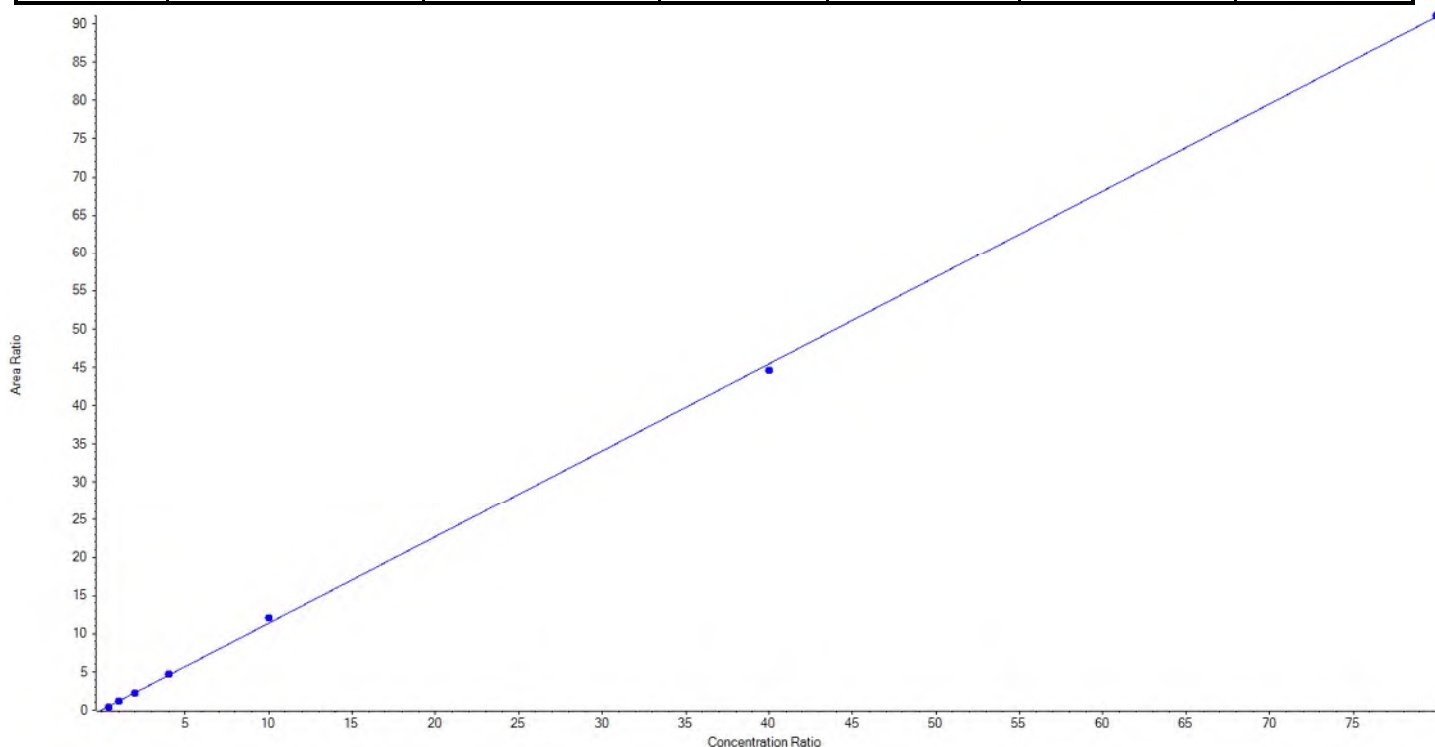
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	100.207079	100.2
3	JY39	L2	True	250.00	247.743959	99.1
4	JY40	L3	True	500.00	460.117072	92.0
5	JY41	L4	True	1000.00	1072.883385	107.3
6	JY42	L5	True	2500.00	2504.097828	100.2
7	KA32	L6	True	10000.00	10278.983658	102.8
8	KA33	L7	True	20000.00	19685.967019	98.4



Analyte Name	PFTTrDA_1	Data File	18-0550.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13629x + 0.01262$ (r = 0.99974) (weighting: 1 / x)

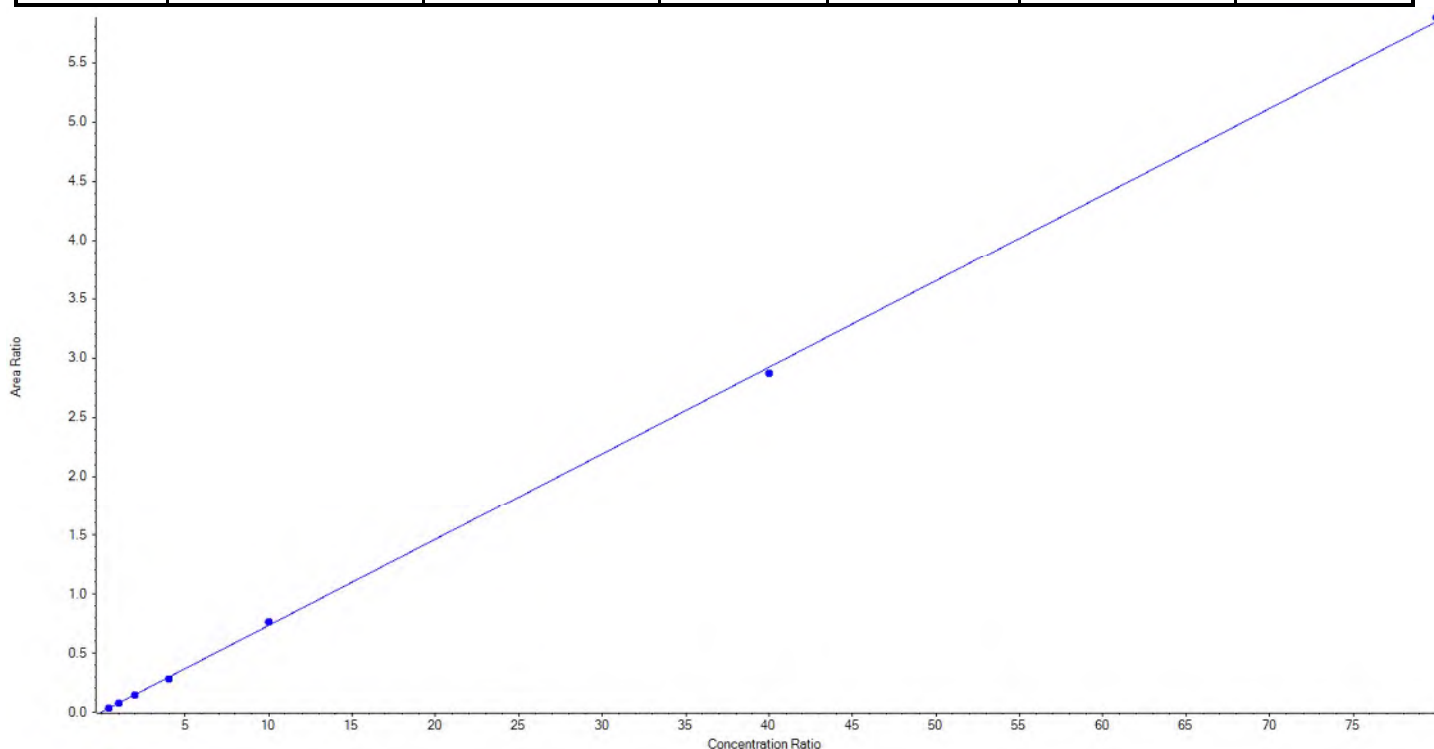
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	97.932238	97.9
3	JY39	L2	True	250.00	246.342782	98.5
4	JY40	L3	True	500.00	477.473941	95.5
5	JY41	L4	True	1000.00	1034.751339	103.5
6	JY42	L5	True	2500.00	2659.460418	106.4
7	KA32	L6	True	10000.00	9802.422818	98.0
8	KA33	L7	True	20000.00	20031.616464	100.2



Analyte Name	PFTTrDA_2	Data File	18-0550.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07302 x + 0.00245$ (r = 0.99979) (weighting: 1 / x)

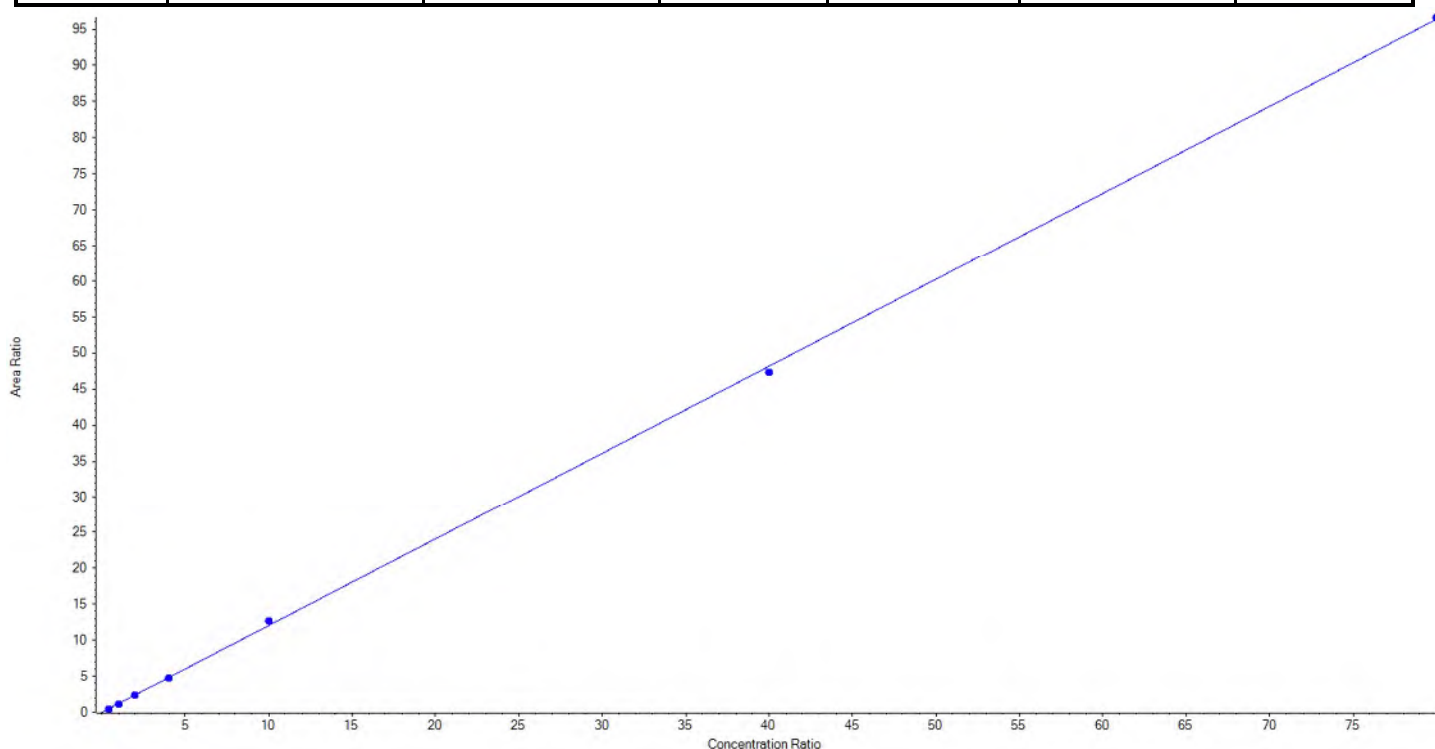
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	95.954287	96.0
3	JY39	L2	True	250.00	266.928482	106.8
4	JY40	L3	True	500.00	498.915290	99.8
5	JY41	L4	True	1000.00	943.796943	94.4
6	JY42	L5	True	2500.00	2608.551168	104.3
7	KA32	L6	True	10000.00	9818.050400	98.2
8	KA33	L7	True	20000.00	20117.803431	100.6



Analyte Name	PFTeDA_1	Data File	18-0550.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.20513x + -0.02442$ (r = 0.99982) (weighting: 1 / x)

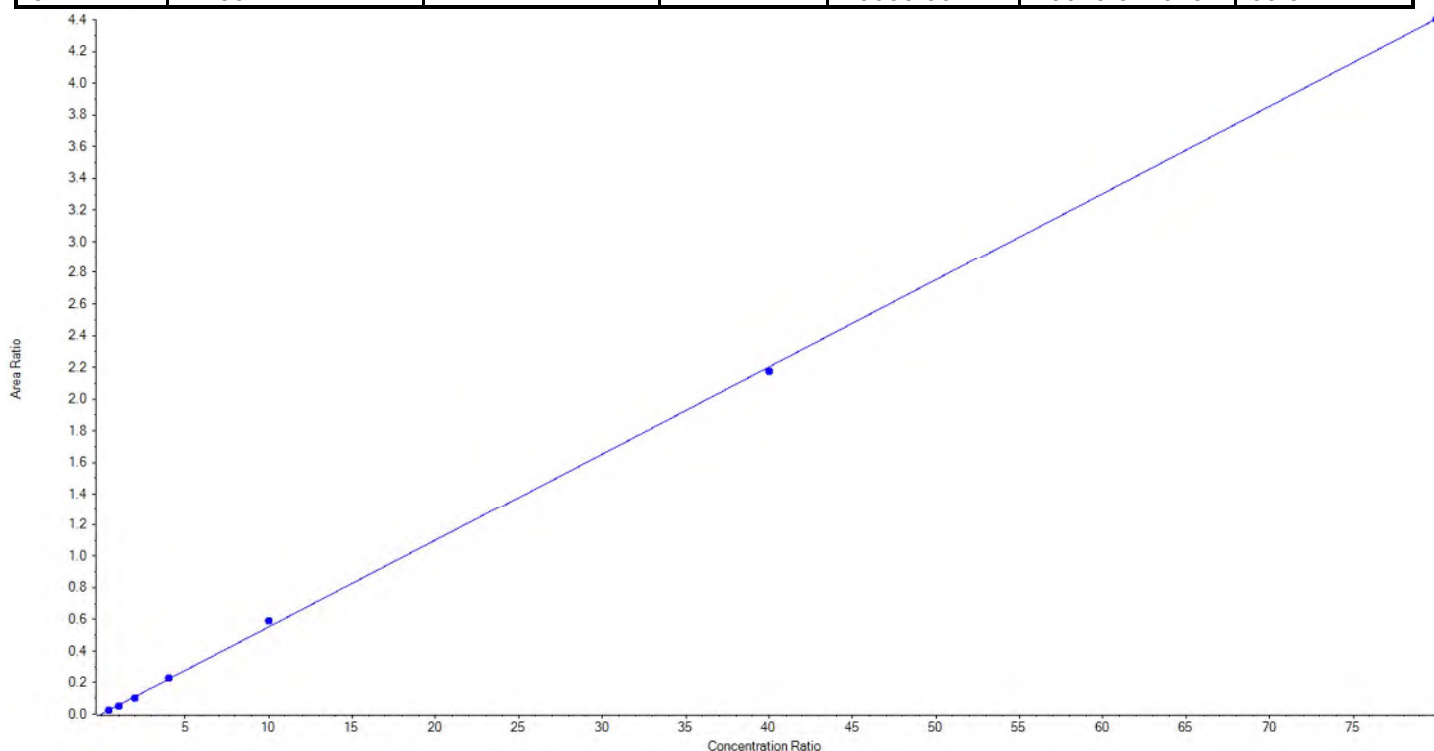
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	101.545736	101.6
3	JY39	L2	True	250.00	239.893854	96.0
4	JY40	L3	True	500.00	495.544882	99.1
5	JY41	L4	True	1000.00	991.442302	99.1
6	JY42	L5	True	2500.00	2641.907099	105.7
7	KA32	L6	True	10000.00	9833.780330	98.3
8	KA33	L7	True	20000.00	20045.885797	100.2



Analyte Name	PFTeDA_2	Data File	18-0550.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05506 x + 0.00114$ (r = 0.99970) (weighting: 1 / x)

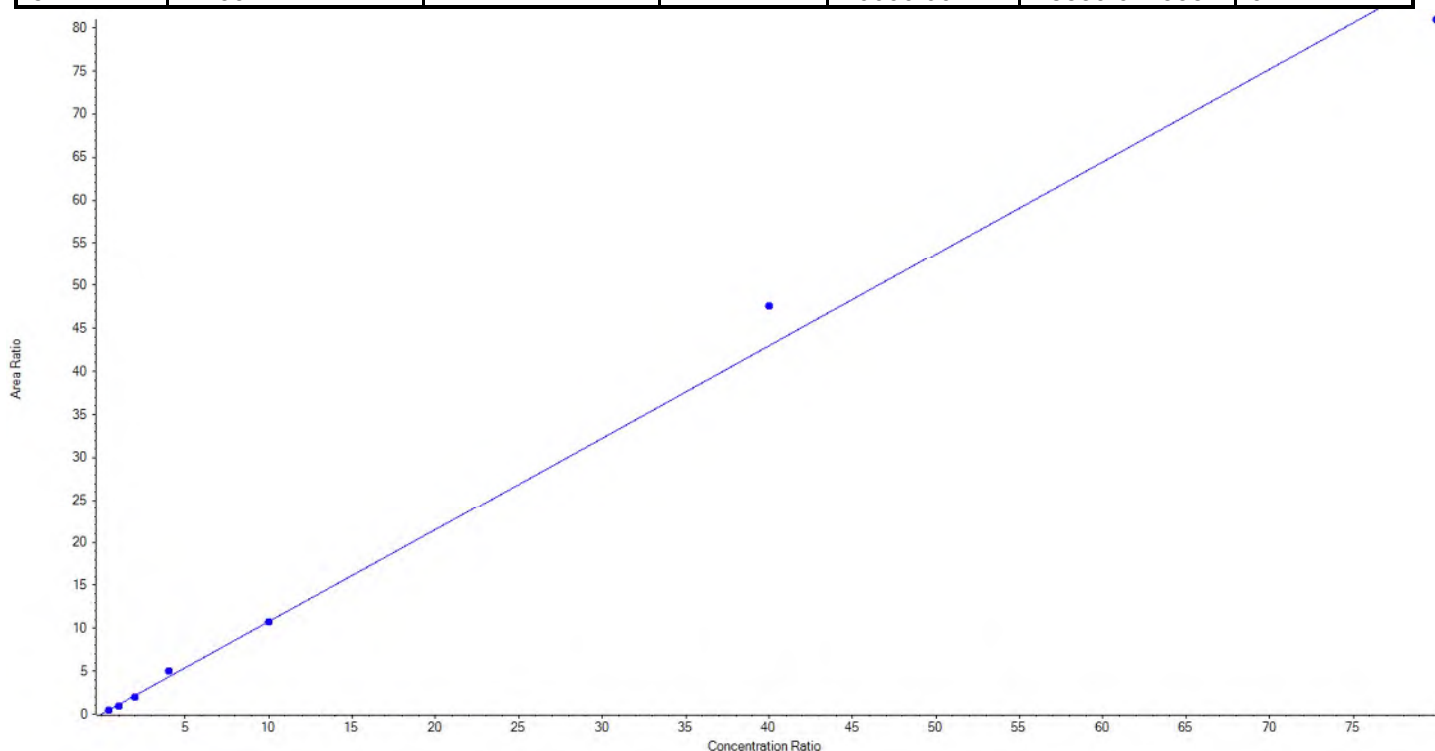
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	105.326849	105.3
3	JY39	L2	True	250.00	235.281561	94.1
4	JY40	L3	True	500.00	462.598549	92.5
5	JY41	L4	True	1000.00	1023.695107	102.4
6	JY42	L5	True	2500.00	2677.934577	107.1
7	KA32	L6	True	10000.00	9865.621285	98.7
8	KA33	L7	True	20000.00	19979.542073	99.9



Analyte Name	NMeFOSAA_1	Data File	18-0550.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0550_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.07385x + 0.02734$ (r = 0.99662) (weighting: 1 / x)

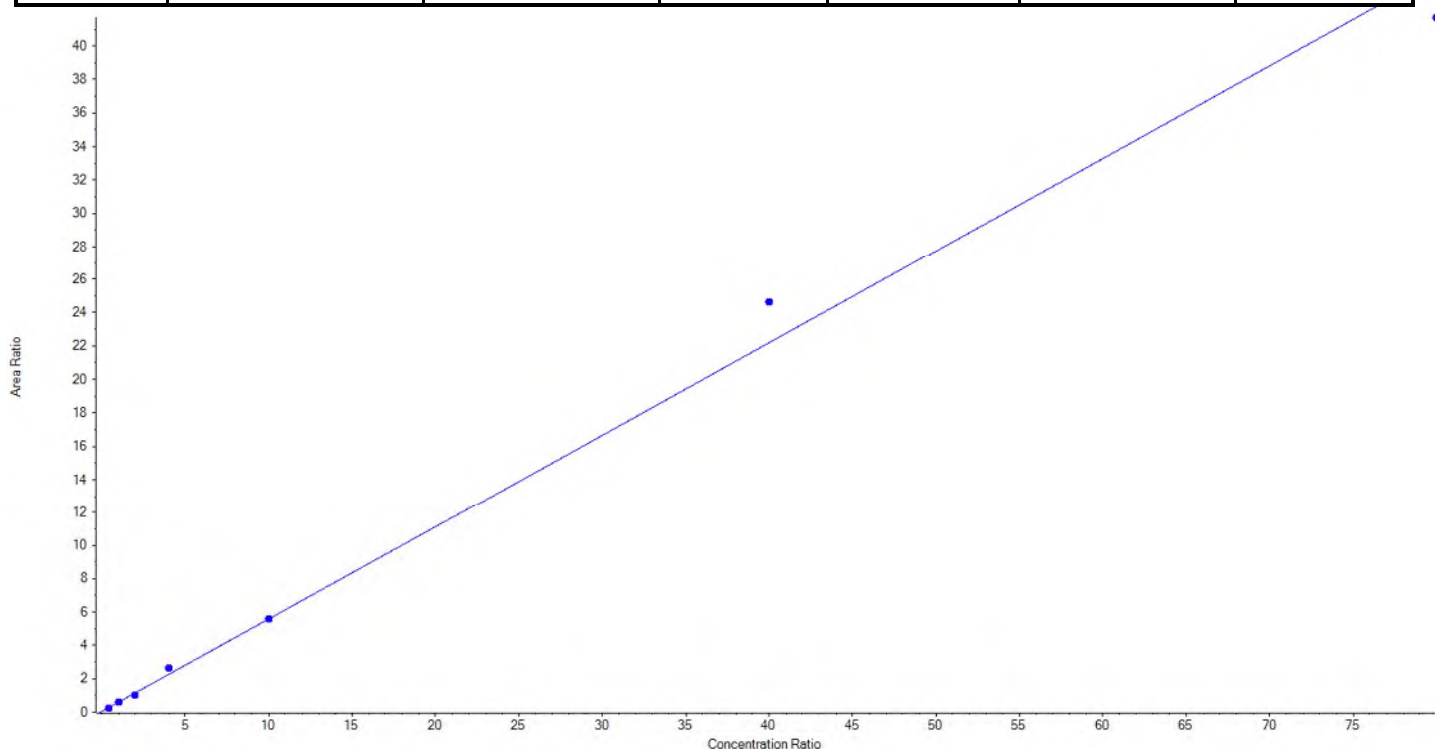
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	99.343964	99.3
3	JY39	L2	True	250.00	222.092905	88.8
4	JY40	L3	True	500.00	455.170792	91.0
5	JY41	L4	True	1000.00	1157.039271	115.7
6	JY42	L5	True	2500.00	2503.743863	100.2
7	KA32	L6	True	10000.00	11073.597668	110.7
8	KA33	L7	True	20000.00	18839.011538	94.2



Analyte Name	NMeFOSAA_2	Data File	18-0550.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0550_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.55384 x + 0.04405$ (r = 0.99642) (weighting: 1 / x)

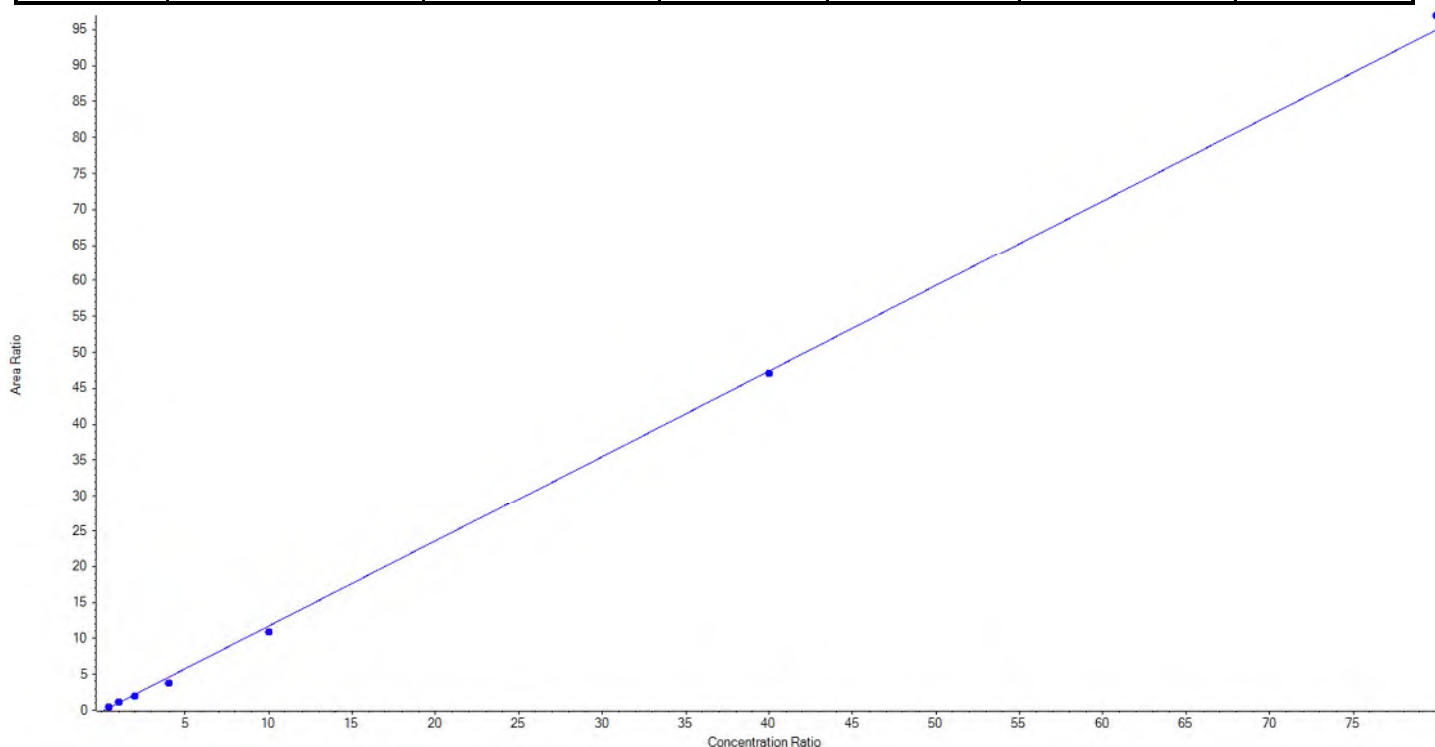
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	93.137446	93.1
3	JY39	L2	True	250.00	238.334544	95.3
4	JY40	L3	True	500.00	452.370660	90.5
5	JY41	L4	True	1000.00	1162.073972	116.2
6	JY42	L5	True	2500.00	2493.450960	99.7
7	KA32	L6	True	10000.00	11111.201315	111.1
8	KA33	L7	True	20000.00	18799.431103	94.0



Analyte Name	NEtFOSAA_1	Data File	18-0550.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0550_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.18940x + -0.18201$ (r = 0.99902) (weighting: 1 / x)

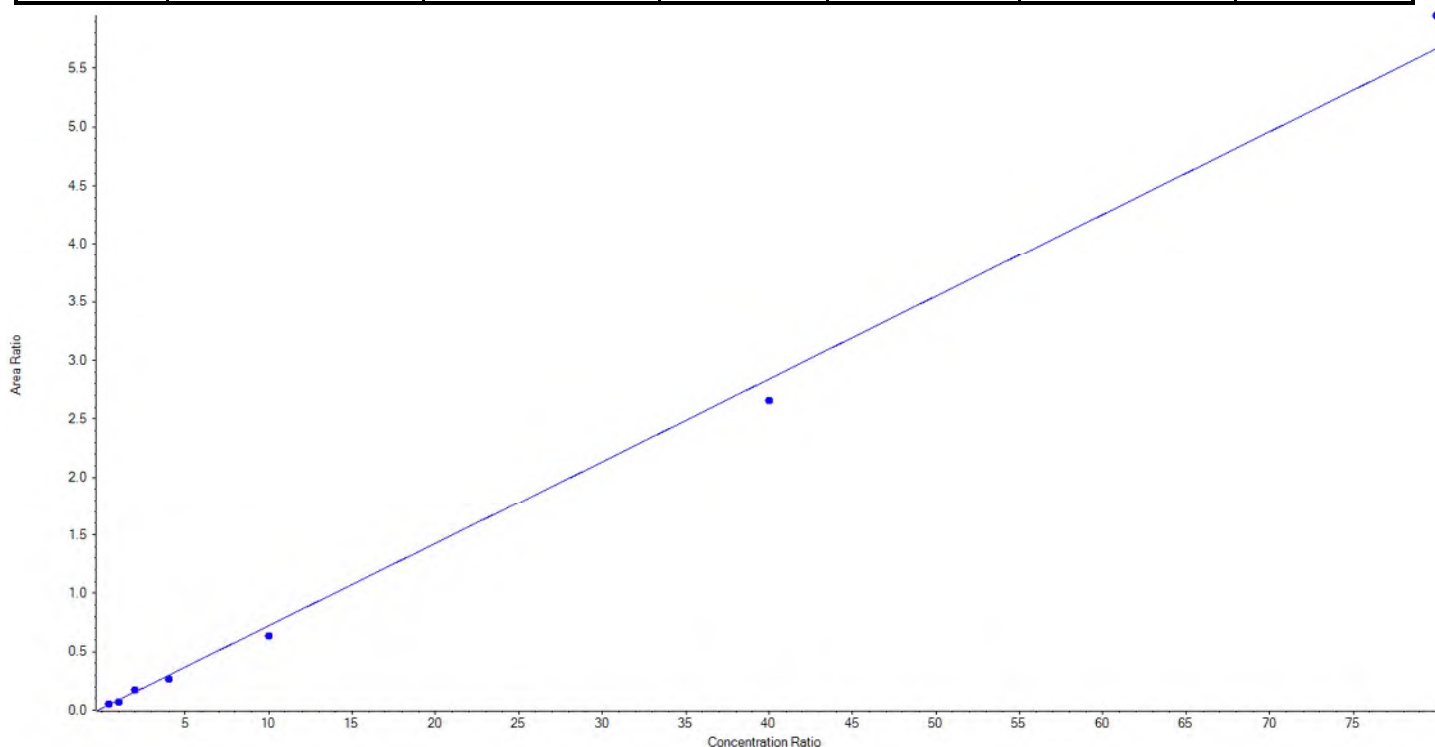
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	124.693027	124.7
3	JY39	L2	True	250.00	272.906560	109.2
4	JY40	L3	True	500.00	437.635171	87.5
5	JY41	L4	True	1000.00	844.007470	84.4
6	JY42	L5	True	2500.00	2318.895889	92.8
7	KA32	L6	True	10000.00	9940.284642	99.4
8	KA33	L7	True	20000.00	20411.577241	102.1



Analyte Name	NEtFOSAA_2	Data File	18-0550.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0550_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07066 x + 0.01487$ (r = 0.99746) (weighting: 1 / x)

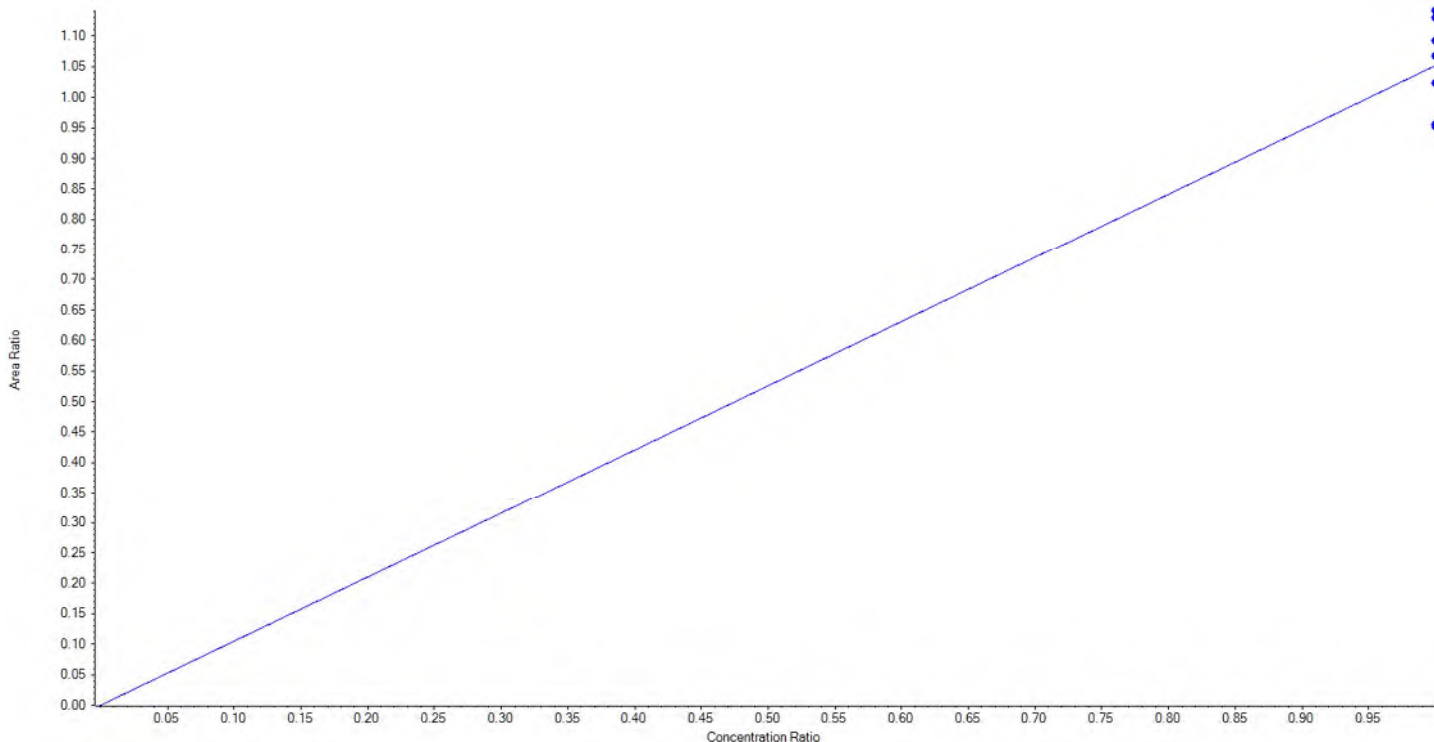
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	130.734508	130.7
3	JY39	L2	True	250.00	204.177868	81.7
4	JY40	L3	True	500.00	556.879038	111.4
5	JY41	L4	True	1000.00	893.486822	89.4
6	JY42	L5	True	2500.00	2206.987258	88.3
7	KA32	L6	True	10000.00	9360.338483	93.6
8	KA33	L7	True	20000.00	20997.396023	105.0



Analyte Name	13C2-PFDoA	Data File	18-0550.wiff
MRM Transition	615.0 / 570.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05190 x$ (std. dev. = 0.07734) (weighting: 1 / x)

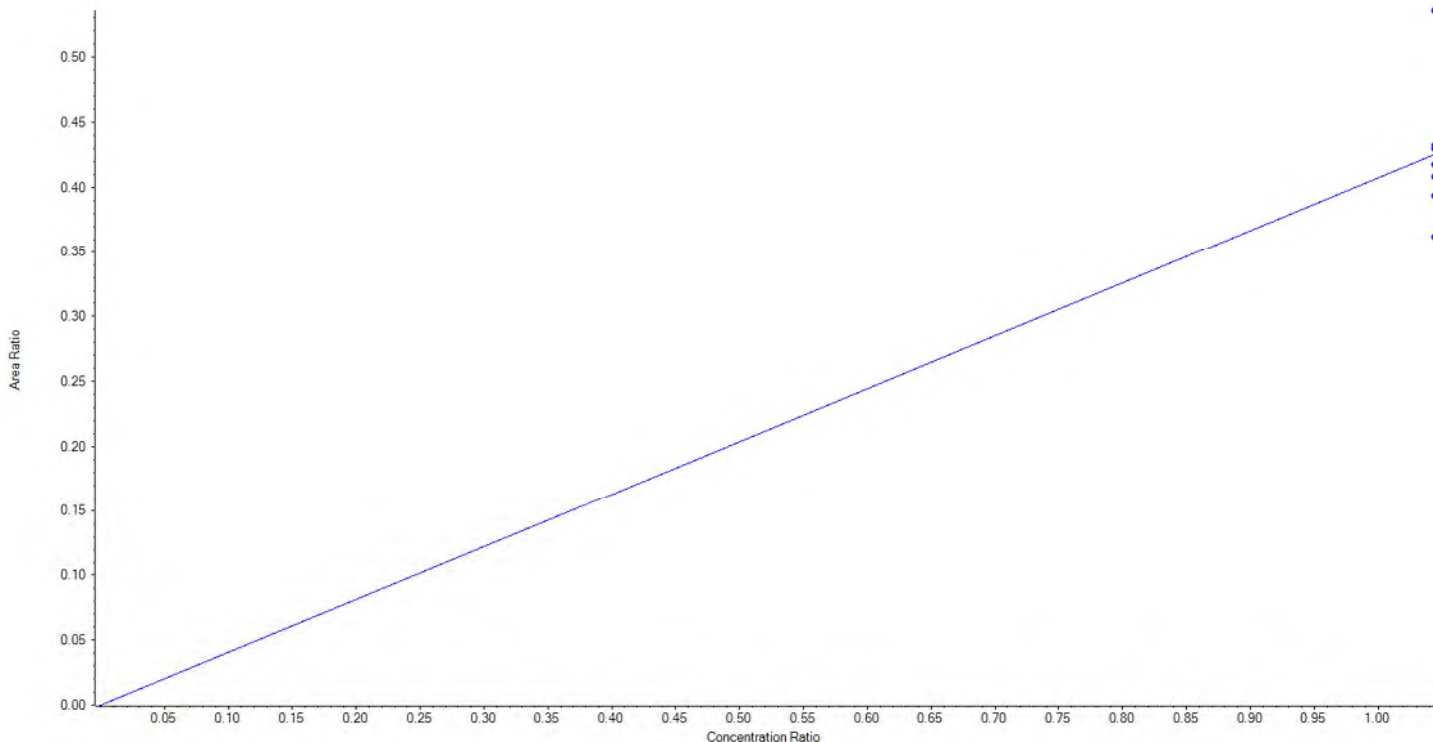
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	226.440918	90.6
3	JY39	L2	True	250.00	243.027928	97.2
4	JY40	L3	True	250.00	268.495578	107.4
5	JY41	L4	True	250.00	227.222108	90.9
6	JY42	L5	True	250.00	253.883910	101.6
7	KA32	L6	True	250.00	259.582543	103.8
8	KA33	L7	True	250.00	271.347015	108.5



Analyte Name	d3-MeFOSAA	Data File	18-0550.wiff
MRM Transition	573.0 / 419.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.40744 x$ (std. dev. = 0.05184) (weighting: 1 / x)

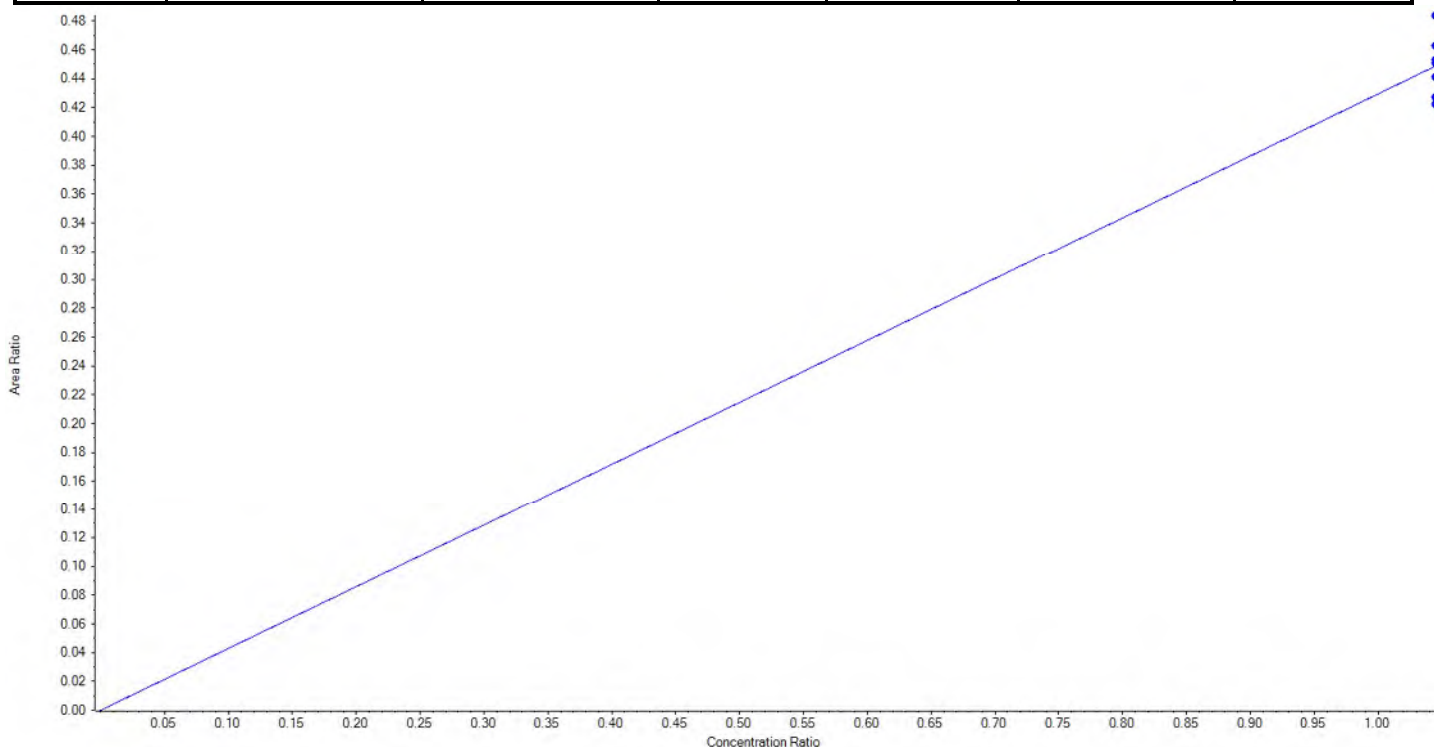
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	231.135775	92.5
3	JY39	L2	True	250.00	245.146497	98.1
4	JY40	L3	True	250.00	252.651644	101.1
5	JY41	L4	True	250.00	212.708180	85.1
6	JY42	L5	True	250.00	239.873534	96.0
7	KA32	L6	True	250.00	253.865886	101.6
8	KA33	L7	True	250.00	314.618483	125.9



Analyte Name	d5-EtFOSAA	Data File	18-0550.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.42946 x$ (std. dev. = 0.02023) (weighting: 1 / x)

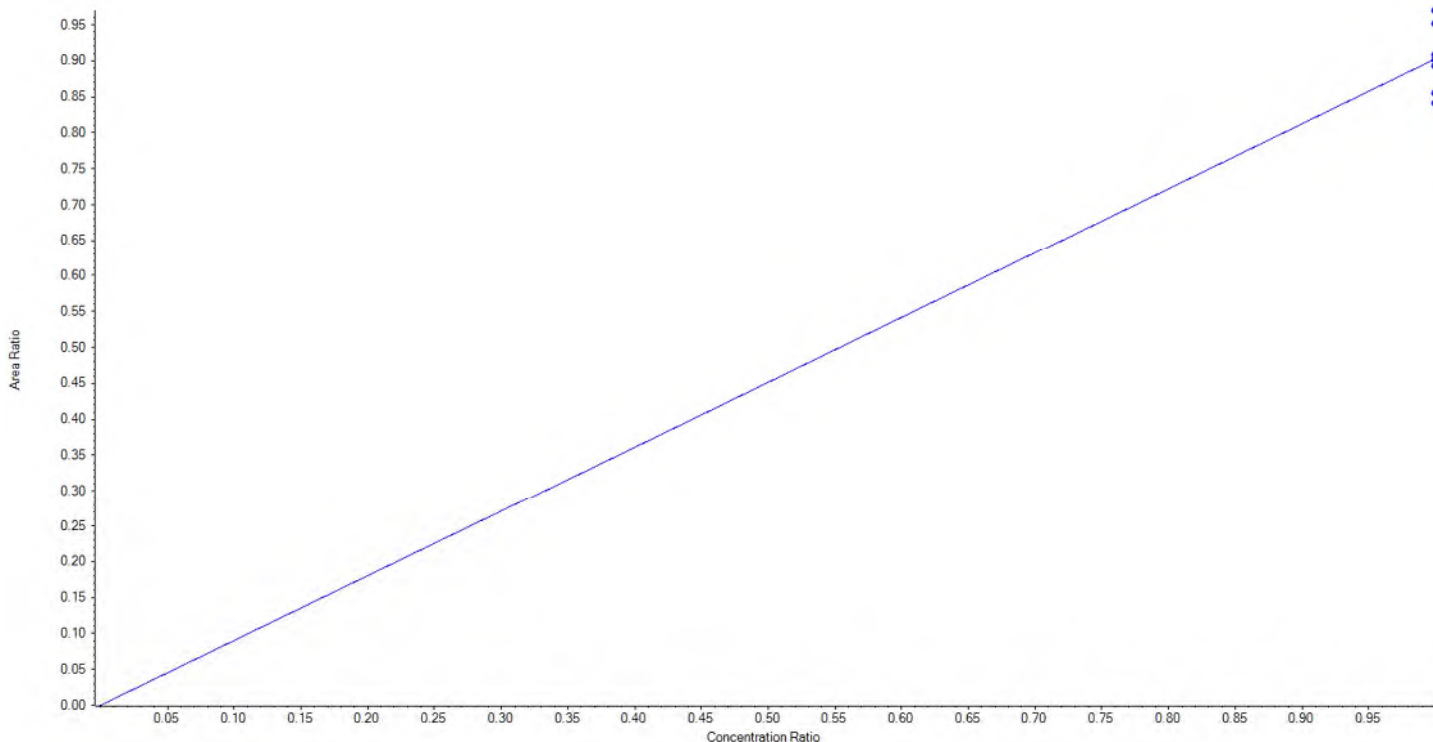
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	235.147186	94.1
3	JY39	L2	True	250.00	237.912223	95.2
4	JY40	L3	True	250.00	269.461520	107.8
5	JY41	L4	True	250.00	257.933679	103.2
6	JY42	L5	True	250.00	252.293044	100.9
7	KA32	L6	True	250.00	251.294053	100.5
8	KA33	L7	True	250.00	245.958295	98.4



Analyte Name	13C5-PFHxA	Data File	18-0550.wiff
MRM Transition	318.0 / 273.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.90269x$ (std. dev. = 0.04633) (weighting: 1 / x)

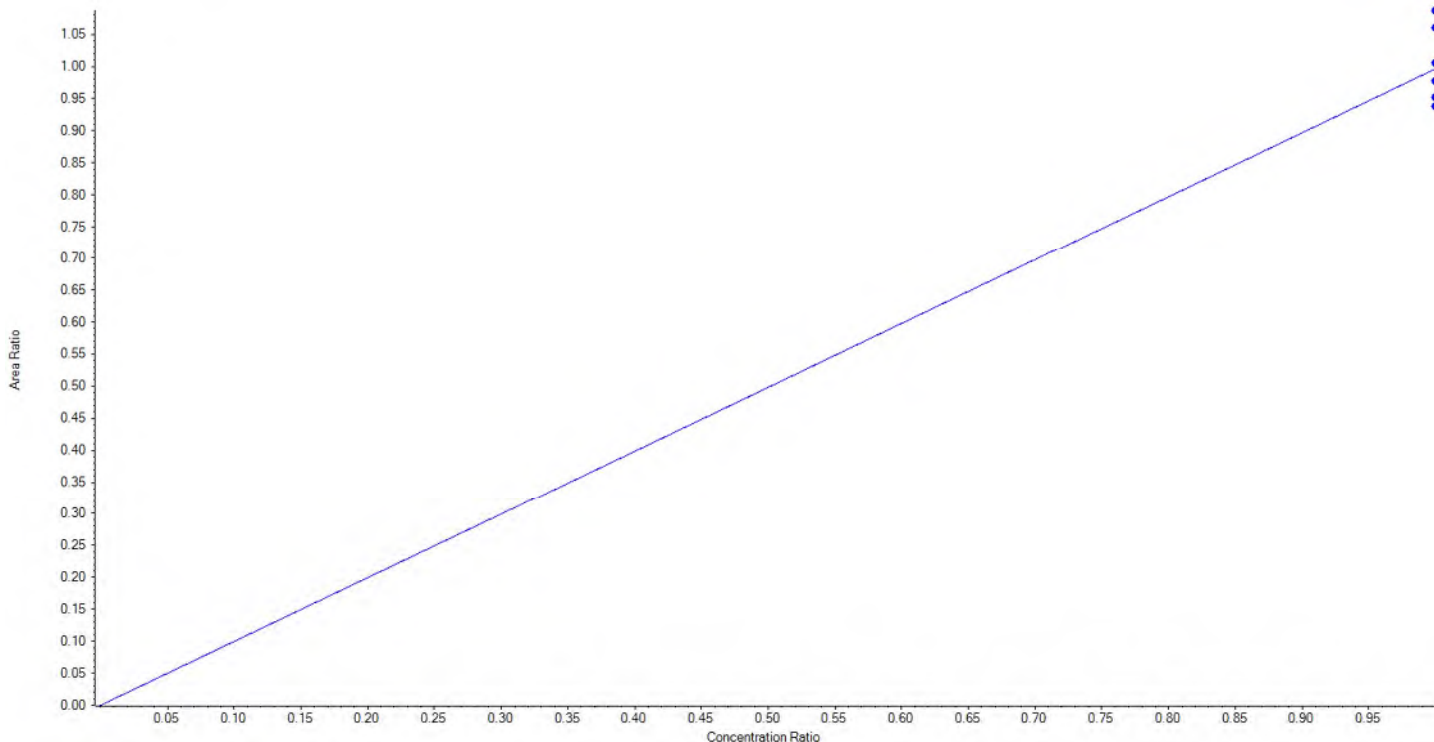
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	236.939876	94.8
3	JY39	L2	True	250.00	233.022990	93.2
4	JY40	L3	True	250.00	268.499073	107.4
5	JY41	L4	True	250.00	247.239463	98.9
6	JY42	L5	True	250.00	251.425316	100.6
7	KA32	L6	True	250.00	249.565826	99.8
8	KA33	L7	True	250.00	263.307456	105.3



Analyte Name	13C4-PFHpA	Data File	18-0550.wiff
MRM Transition	367.0 / 322.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99650 x$ (std. dev. = 0.05767) (weighting: 1 / x)

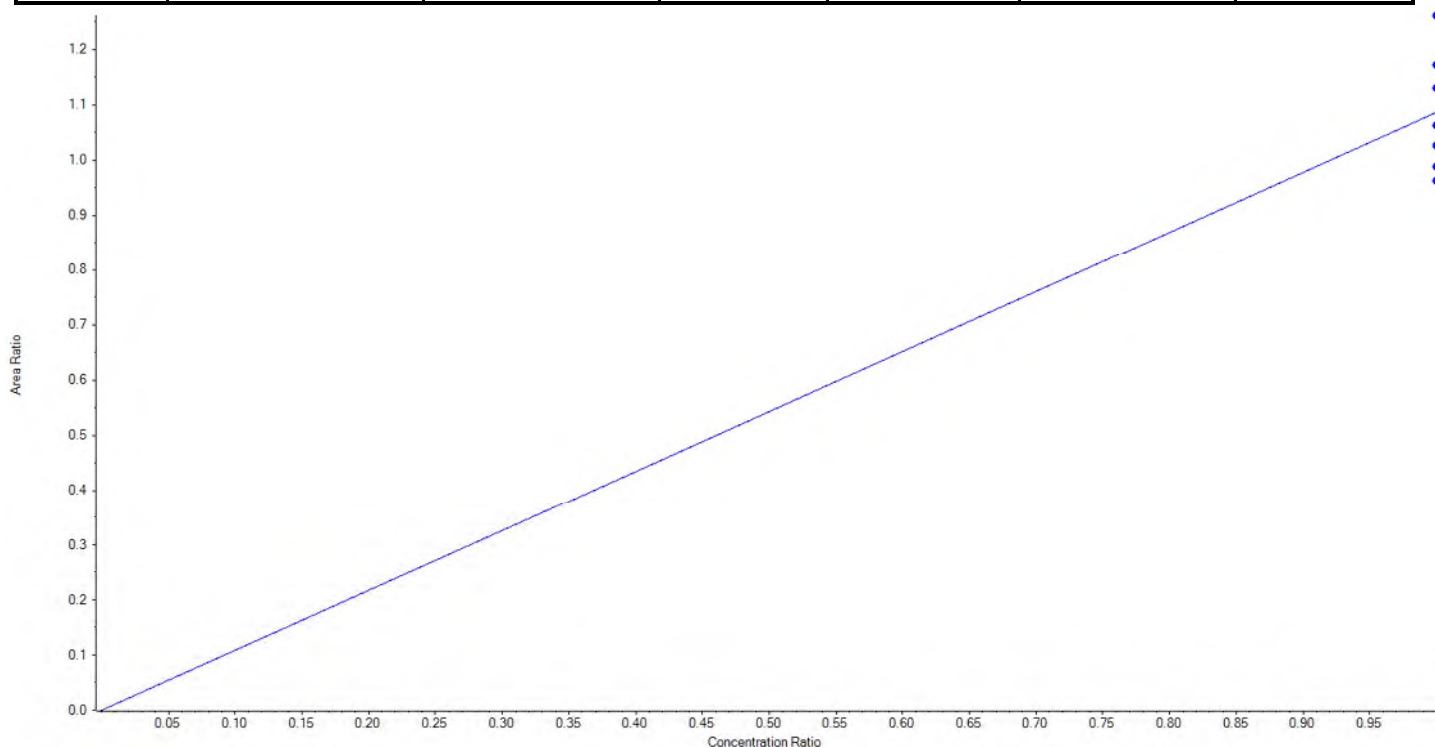
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	245.160729	98.1
3	JY39	L2	True	250.00	239.023101	95.6
4	JY40	L3	True	250.00	272.715088	109.1
5	JY41	L4	True	250.00	252.331126	100.9
6	JY42	L5	True	250.00	266.176368	106.5
7	KA32	L6	True	250.00	239.075690	95.6
8	KA33	L7	True	250.00	235.517897	94.2



Analyte Name	13C8-PFOA	Data File	18-0550.wiff
MRM Transition	421.0 / 376.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.08646 x$ (std. dev. = 0.10705) (weighting: 1 / x)

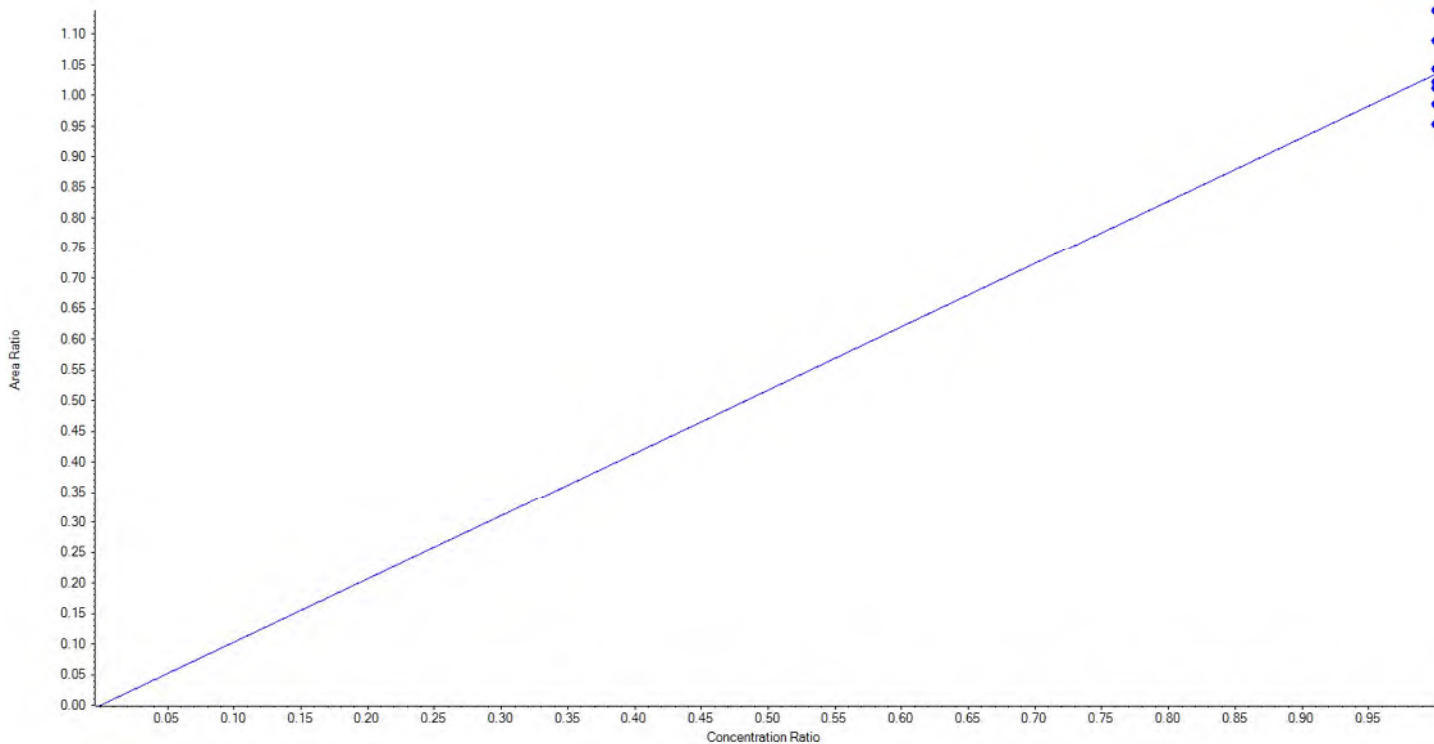
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	244.487173	97.8
3	JY39	L2	True	250.00	236.086555	94.4
4	JY40	L3	True	250.00	290.180942	116.1
5	JY41	L4	True	250.00	260.232968	104.1
6	JY42	L5	True	250.00	269.794826	107.9
7	KA32	L6	True	250.00	227.469795	91.0
8	KA33	L7	True	250.00	221.747740	88.7



Analyte Name	13C9-PFNA	Data File	18-0550.wiff
MRM Transition	472.0 / 427.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.03476 x$ (std. dev. = 0.06275) (weighting: 1 / x)

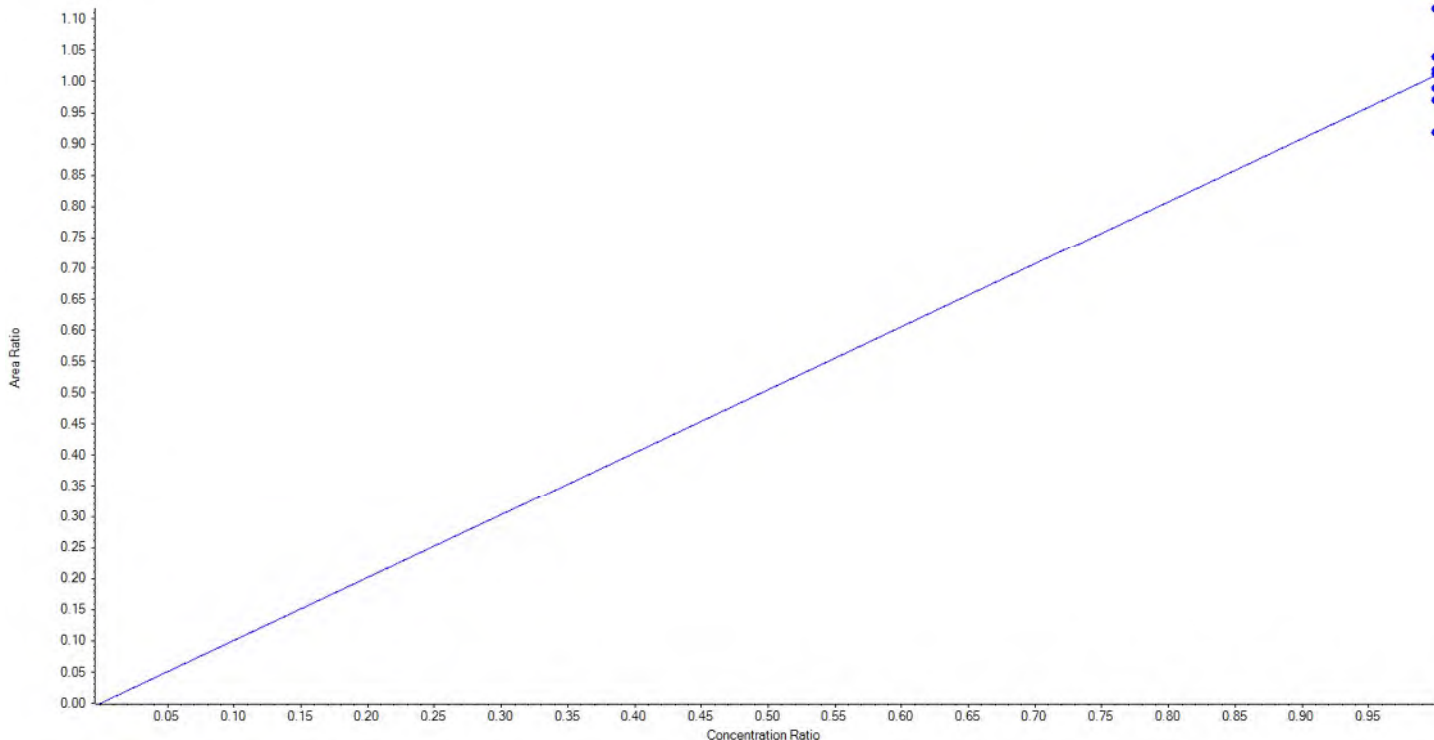
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	230.224891	92.1
3	JY39	L2	True	250.00	238.157341	95.3
4	JY40	L3	True	250.00	263.144001	105.3
5	JY41	L4	True	250.00	252.203691	100.9
6	JY42	L5	True	250.00	275.068377	110.0
7	KA32	L6	True	250.00	246.815321	98.7
8	KA33	L7	True	250.00	244.386379	97.8



Analyte Name	13C6-PFDA	Data File	18-0550.wiff
MRM Transition	519.0 / 474.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.00961 x$ (std. dev. = 0.06123) (weighting: 1 / x)

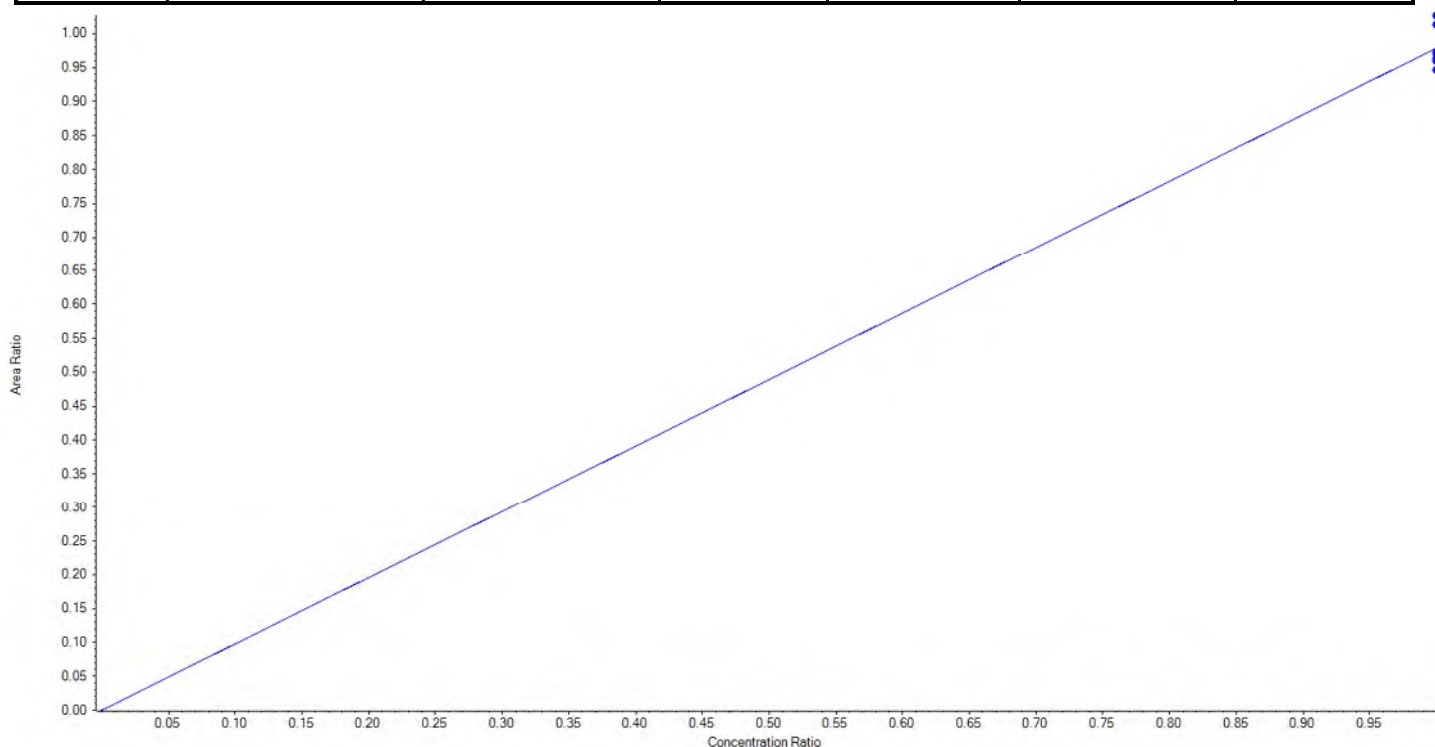
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	244.985212	98.0
3	JY39	L2	True	250.00	257.460095	103.0
4	JY40	L3	True	250.00	276.503415	110.6
5	JY41	L4	True	250.00	250.553924	100.2
6	JY42	L5	True	250.00	252.387041	101.0
7	KA32	L6	True	250.00	240.446405	96.2
8	KA33	L7	True	250.00	227.663906	91.1



Analyte Name	13C7-PFUnA	Data File	18-0550.wiff
MRM Transition	570.0 / 525.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.97866 x$ (std. dev. = 0.02938) (weighting: 1 / x)

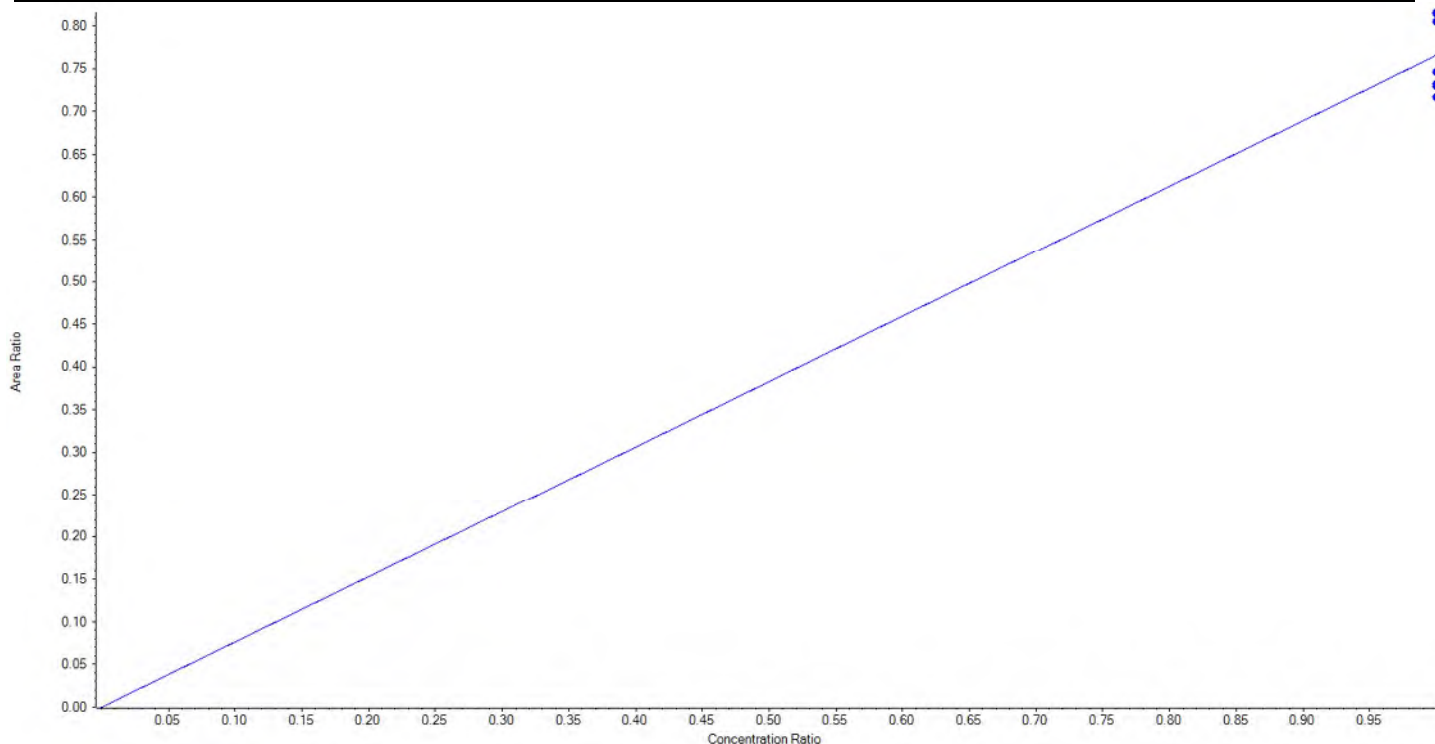
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	245.896516	98.4
3	JY39	L2	True	250.00	247.738807	99.1
4	JY40	L3	True	250.00	258.704011	103.5
5	JY41	L4	True	250.00	245.237554	98.1
6	JY42	L5	True	250.00	262.151546	104.9
7	KA32	L6	True	250.00	241.768763	96.7
8	KA33	L7	True	250.00	248.502804	99.4



Analyte Name	13C2-PFTeDA	Data File	18-0550.wiff
MRM Transition	715.0 / 670.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.76583 x$ (std. dev. = 0.04373) (weighting: 1 / x)

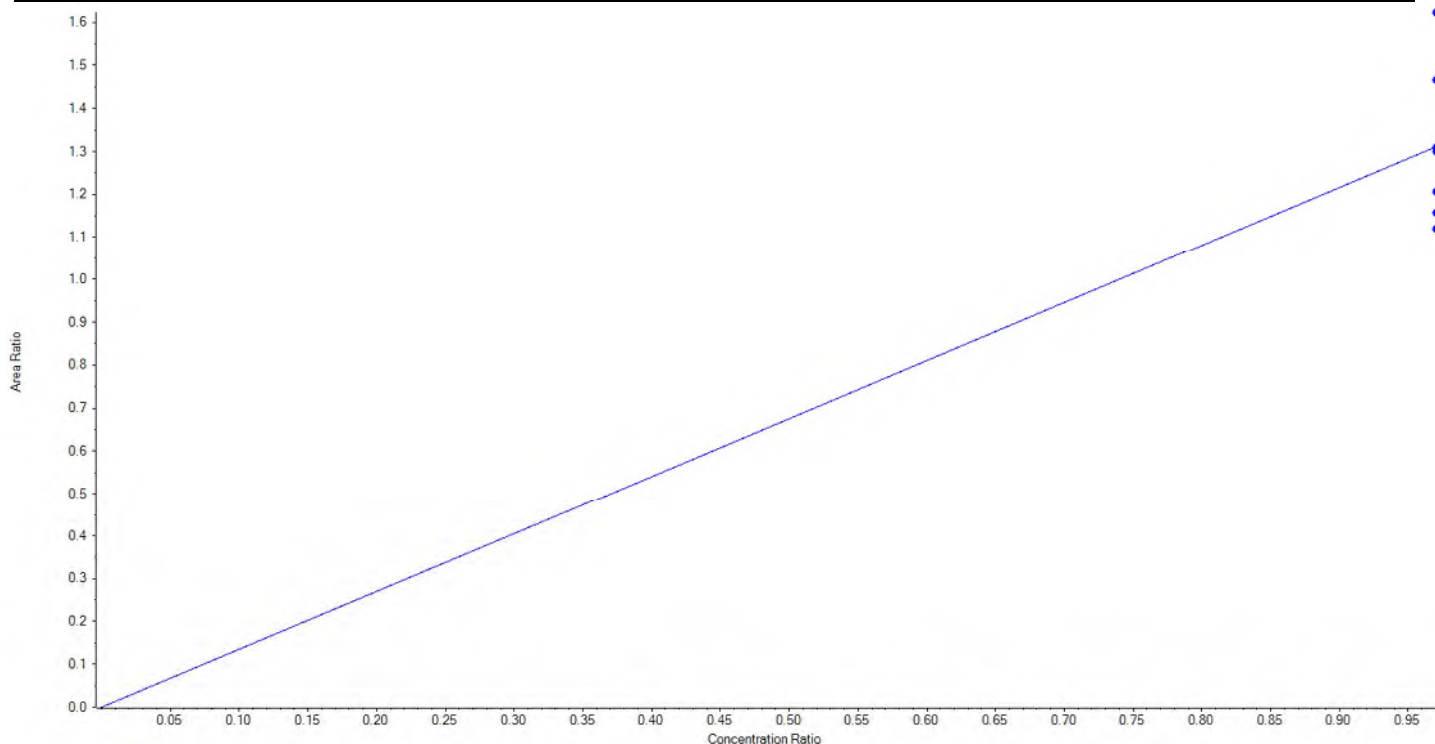
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	234.154688	93.7
3	JY39	L2	True	250.00	243.487789	97.4
4	JY40	L3	True	250.00	262.614863	105.1
5	JY41	L4	True	250.00	238.400940	95.4
6	JY42	L5	True	250.00	239.156568	95.7
7	KA32	L6	True	250.00	266.240400	106.5
8	KA33	L7	True	250.00	265.944753	106.4



Analyte Name	13C3-PFBS	Data File	18-0550.wiff
MRM Transition	302.0 / 99.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.35090 x$ (std. dev. = 0.18459) (weighting: 1 / x)

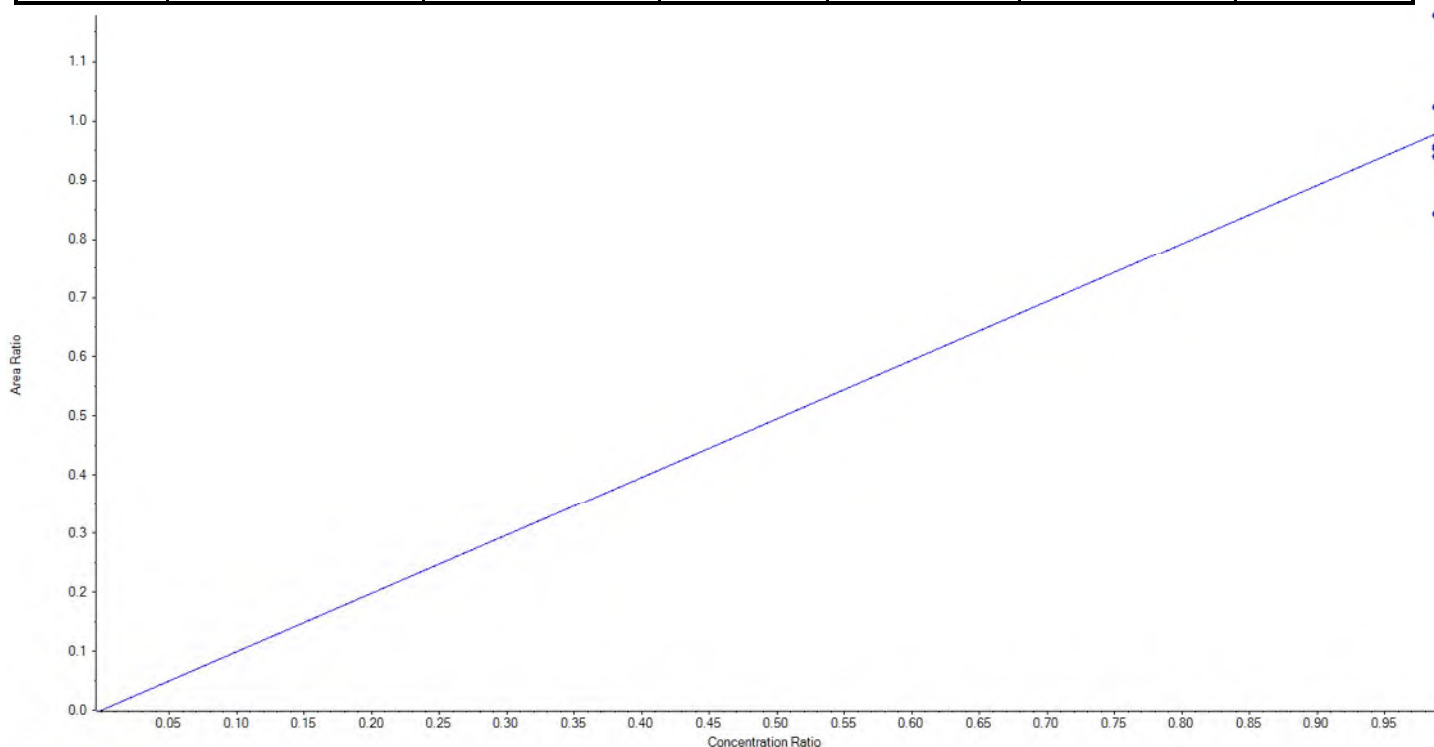
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	232.25	204.789951	88.2
3	JY39	L2	True	232.25	230.142846	99.1
4	JY40	L3	True	232.25	231.715138	99.8
5	JY41	L4	True	232.25	213.627610	92.0
6	JY42	L5	True	232.25	198.393801	85.4
7	KA32	L6	True	232.25	259.738106	111.8
8	KA33	L7	True	232.25	287.342548	123.7



Analyte Name	13C3-PFHxS	Data File	18-0550.wiff
MRM Transition	402.0 / 99.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99034 x$ (std. dev. = 0.10362) (weighting: 1 / x)

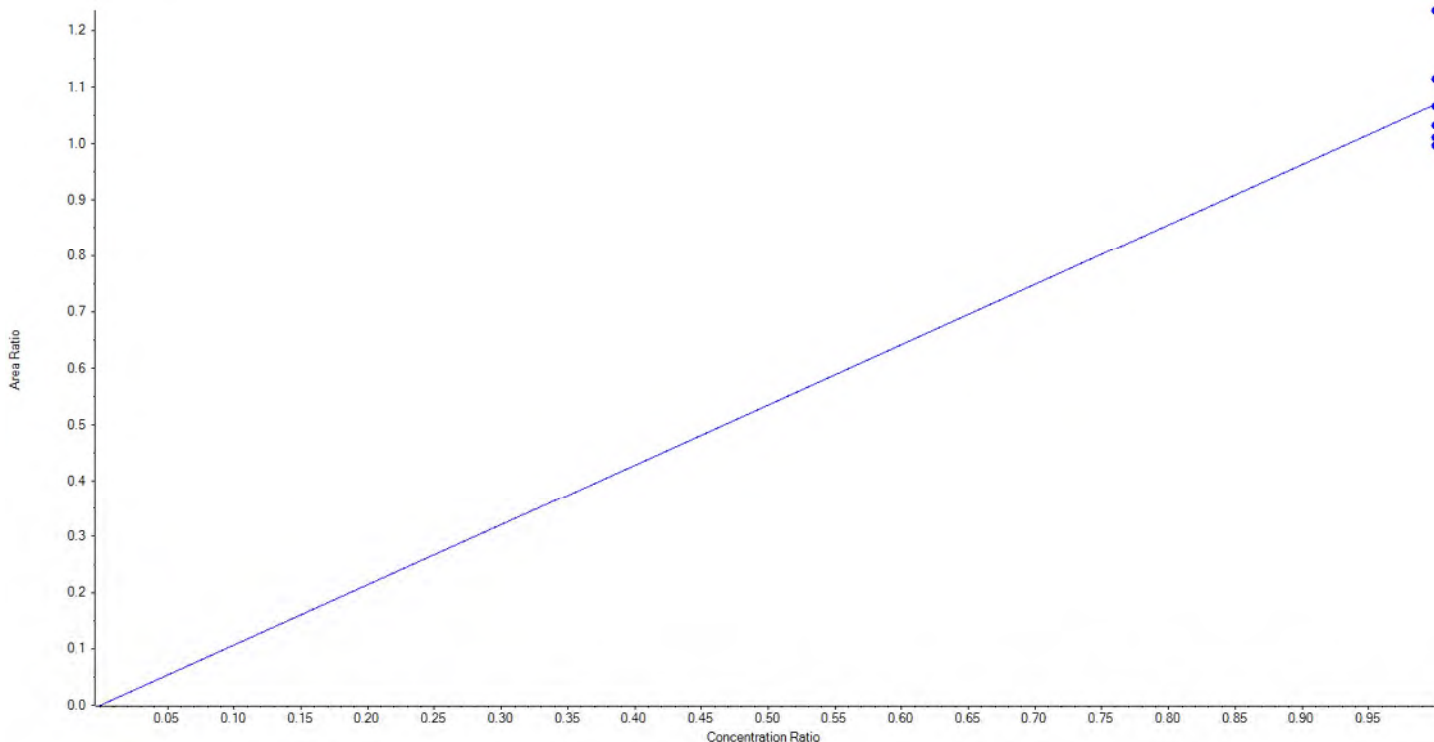
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	236.50	231.254685	97.8
3	JY39	L2	True	236.50	203.665278	86.1
4	JY40	L3	True	236.50	247.071230	104.5
5	JY41	L4	True	236.50	227.320058	96.1
6	JY42	L5	True	236.50	230.573110	97.5
7	KA32	L6	True	236.50	231.076252	97.7
8	KA33	L7	True	236.50	284.539387	120.3



Analyte Name	13C8-PFOS	Data File	18-0550.wiff
MRM Transition	507.0 / 99.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.06969 x$ (std. dev. = 0.08263) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	239.25	231.005747	96.6
3	JY39	L2	True	239.25	238.643301	99.8
4	JY40	L3	True	239.25	222.802327	93.1
5	JY41	L4	True	239.25	230.794997	96.5
6	JY42	L5	True	239.25	226.156563	94.5
7	KA32	L6	True	239.25	249.065672	104.1
8	KA33	L7	True	239.25	276.281393	115.5



Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	35194.64	117.107304	57.8	true
PFBS_2	298.9 / 99.0	1.53	12884.94	121.200976	65.5	false
PFHxA_1	313.0 / 269.0	1.85	24736.91	110.193801	9.1	false
PFHxA_2	313.0 / 119.0	1.85	2408.06	106.630980	10.9	false
PFHpA_1	363.0 / 319.0	2.25	26502.69	200.944834	23.7	false
PFHpA_2	363.0 / 169.0	2.25	305.50	117.087788	10.2	false
PFHxS_1	399.0 / 80.0	2.28	31394.89	104.847343	56.0	false
PFHxS_2	399.0 / 99.0	2.27	9980.99	108.114909	92.8	false
PFOA_1	413.0 / 369.0	2.66	37529.89	128.708092	46.3	true
PFOA_2	413.0 / 169.0	2.66	2724.99	142.216136	34.7	false
PFNA_1	463.0 / 419.0	3.06	28850.45	118.915936	35.9	false
PFNA_2	463.0 / 219.0	3.05	8892.47	114.181470	31.7	false
PFOS_1	499.0 / 80.0	3.05	45577.63	101.962819	45.6	false
PFOS_2	499.0 / 99.0	3.05	10251.17	105.225121	72.3	false
PFDA_1	513.0 / 469.0	3.40	37495.09	122.810381	58.5	false
PFDA_2	513.0 / 219.0	3.40	2673.69	126.574641	29.2	false
PFUnA_1	563.0 / 519.0	3.73	33470.11	114.739913	38.8	false
PFUnA_2	563.0 / 269.0	3.71	3775.15	101.484368	36.3	true
PFDoA_1	613.0 / 569.0	4.00	29284.50	106.215026	80.7	false
PFDoA_2	613.0 / 319.0	4.01	3833.59	100.207079	50.3	false
PFTTrDA_1	663.0 / 619.0	4.25	27191.12	97.932238	151.5	false
PFTTrDA_2	663.0 / 169.0	4.25	1810.40	95.954287	73.6	false
PFTeDA_1	713.0 / 669.0	4.47	27627.57	101.545736	210.3	false
PFTeDA_2	713.0 / 169.0	4.47	1445.46	105.326849	92.1	false
NMeFOSAA_1	570.0 / 419.0	3.56	4655.78	99.343964	102.8	false
NMeFOSAA_2	570.0 / 512.0	3.56	2567.33	93.137446	80.6	false
NEtFOSAA_1	584.0 / 419.0	3.72	4521.69	124.693027	134.4	false
NEtFOSAA_2	584.0 / 483.0	3.71	569.82	130.734508	25.8	false

Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	100509.30	235.188123	103.2	false
PFBS_2	298.9 / 99.0	1.53	33629.68	243.915745	121.3	false
PFHxA_1	313.0 / 269.0	1.85	70723.57	245.837554	20.5	false
PFHxA_2	313.0 / 119.0	1.84	6761.87	286.534468	22.5	false
PFHpA_1	363.0 / 319.0	2.25	66133.46	316.889959	45.5	false
PFHpA_2	363.0 / 169.0	2.25	983.22	231.691327	26.8	false
PFHxS_1	399.0 / 80.0	2.27	105328.60	294.560170	93.9	false
PFHxS_2	399.0 / 99.0	2.27	30411.54	285.582798	148.7	false
PFOA_1	413.0 / 369.0	2.66	97866.46	265.575508	80.4	false
PFOA_2	413.0 / 169.0	2.66	5732.60	251.826900	48.4	false
PFNA_1	463.0 / 419.0	3.05	80109.94	253.210453	68.7	false
PFNA_2	463.0 / 219.0	3.05	25093.82	252.090659	57.0	false
PFOS_1	499.0 / 80.0	3.04	129937.97	232.291204	74.1	true
PFOS_2	499.0 / 99.0	3.04	25385.88	235.803353	136.3	false
PFDA_1	513.0 / 469.0	3.40	90707.71	239.891954	94.6	false
PFDA_2	513.0 / 219.0	3.41	4125.77	190.344140	35.6	false
PFUnA_1	563.0 / 519.0	3.72	83405.64	236.545538	75.1	false
PFUnA_2	563.0 / 269.0	3.72	7158.33	264.410049	44.8	true
PFDaA_1	613.0 / 569.0	4.00	80081.81	243.346813	134.6	false
PFDaA_2	613.0 / 319.0	4.00	12274.69	247.743959	116.8	false
PFTTrDA_1	663.0 / 619.0	4.25	74580.08	246.342782	173.3	false
PFTTrDA_2	663.0 / 169.0	4.25	5296.51	266.928482	132.1	false
PFTeDA_1	713.0 / 669.0	4.46	74560.77	239.893854	382.5	false
PFTeDA_2	713.0 / 169.0	4.46	3487.75	235.281561	236.4	false
NMeFOSAA_1	570.0 / 419.0	3.56	11794.08	222.092905	239.3	false
NMeFOSAA_2	570.0 / 512.0	3.55	6875.25	238.334544	129.9	false
NEtFOSAA_1	584.0 / 419.0	3.72	13725.24	272.906560	224.3	false
NEtFOSAA_2	584.0 / 483.0	3.72	892.35	204.177868	55.7	false

Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	214001.60	463.654572	204.0	false
PFBS_2	298.9 / 99.0	1.54	63167.49	442.160151	197.5	false
PFHxA_1	313.0 / 269.0	1.85	156559.13	477.737517	37.2	false
PFHxA_2	313.0 / 119.0	1.85	11028.80	439.450482	38.8	false
PFHpA_1	363.0 / 319.0	2.25	143616.16	499.864122	67.6	false
PFHpA_2	363.0 / 169.0	2.26	3109.62	535.946605	49.7	false
PFHxS_1	399.0 / 80.0	2.27	200007.02	441.408780	134.7	false
PFHxS_2	399.0 / 99.0	2.28	60201.88	446.041733	209.3	false
PFOA_1	413.0 / 369.0	2.66	197065.58	443.337065	127.9	false
PFOA_2	413.0 / 169.0	2.66	11798.14	429.529489	77.6	false
PFNA_1	463.0 / 419.0	3.05	155400.52	454.485124	125.5	false
PFNA_2	463.0 / 219.0	3.05	50884.77	476.198064	91.5	false
PFOS_1	499.0 / 80.0	3.05	301641.07	549.892820	103.0	false
PFOS_2	499.0 / 99.0	3.05	52715.07	526.000002	249.5	false
PFDA_1	513.0 / 469.0	3.40	183040.40	450.138494	149.4	false
PFDA_2	513.0 / 219.0	3.40	10609.72	540.345382	74.9	false
PFUnA_1	563.0 / 519.0	3.72	188261.68	506.168813	131.0	false
PFUnA_2	563.0 / 269.0	3.72	9928.97	410.381823	75.3	false
PFDaA_1	613.0 / 569.0	4.00	163801.58	463.875151	208.0	false
PFDaA_2	613.0 / 319.0	4.00	24974.85	460.117072	156.5	false
PFTTrDA_1	663.0 / 619.0	4.25	148358.84	477.473941	238.0	false
PFTTrDA_2	663.0 / 169.0	4.24	10070.52	498.915290	210.2	false
PFTeDA_1	713.0 / 669.0	4.47	160698.11	495.544882	466.7	false
PFTeDA_2	713.0 / 169.0	4.46	7001.35	462.598549	333.8	false
NMeFOSAA_1	570.0 / 419.0	3.56	24806.31	455.170792	310.1	false
NMeFOSAA_2	570.0 / 512.0	3.56	13091.12	452.370660	226.3	false
NEtFOSAA_1	584.0 / 419.0	3.72	26728.03	437.635171	289.6	false
NEtFOSAA_2	584.0 / 483.0	3.72	2423.30	556.879038	117.8	false

Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	444324.56	973.243890	333.8	false
PFBS_2	298.9 / 99.0	1.54	130716.88	942.752475	328.0	false
PFHxA_1	313.0 / 269.0	1.85	329361.18	992.671904	50.6	false
PFHxA_2	313.0 / 119.0	1.85	23308.91	952.499466	54.0	false
PFHpA_1	363.0 / 319.0	2.26	280736.39	894.927283	90.0	false
PFHpA_2	363.0 / 169.0	2.26	5437.35	924.484507	58.6	false
PFHxS_1	399.0 / 80.0	2.28	421235.90	938.564967	165.6	false
PFHxS_2	399.0 / 99.0	2.28	124640.76	936.039189	329.9	false
PFOA_1	413.0 / 369.0	2.66	401046.21	896.764039	263.6	false
PFOA_2	413.0 / 169.0	2.66	23604.45	856.494936	143.3	false
PFNA_1	463.0 / 419.0	3.05	347145.51	962.904062	221.2	false
PFNA_2	463.0 / 219.0	3.05	105163.84	941.888442	160.5	false
PFOS_1	499.0 / 80.0	3.05	571559.42	940.071195	134.3	false
PFOS_2	499.0 / 99.0	3.05	101515.75	928.202828	313.6	false
PFDA_1	513.0 / 469.0	3.40	391024.63	959.855942	254.7	false
PFDA_2	513.0 / 219.0	3.41	18277.32	986.825714	125.6	false
PFUnA_1	563.0 / 519.0	3.72	364530.56	940.273701	209.2	false
PFUnA_2	563.0 / 269.0	3.72	22827.65	1064.229165	126.9	false
PFDaA_1	613.0 / 569.0	4.00	343413.88	1057.686103	292.1	false
PFDaA_2	613.0 / 319.0	4.00	54299.19	1072.883385	211.9	false
PFTTrDA_1	663.0 / 619.0	4.25	313229.05	1034.751339	390.7	false
PFTTrDA_2	663.0 / 169.0	4.24	18472.27	943.796943	267.2	false
PFTeDA_1	713.0 / 669.0	4.46	315827.15	991.442302	734.7	false
PFTeDA_2	713.0 / 169.0	4.46	15049.70	1023.695107	592.8	false
NMeFOSAA_1	570.0 / 419.0	3.56	54761.21	1157.039271	408.7	false
NMeFOSAA_2	570.0 / 512.0	3.56	28693.85	1162.073972	251.9	false
NEtFOSAA_1	584.0 / 419.0	3.72	53693.00	844.007470	397.9	false
NEtFOSAA_2	584.0 / 483.0	3.72	3745.51	893.486822	191.0	false

Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	995930.36	2607.735714	458.2	false
PFBS_2	298.9 / 99.0	1.54	298395.78	2599.872266	360.9	false
PFHxA_1	313.0 / 269.0	1.85	749067.70	2501.454063	92.0	false
PFHxA_2	313.0 / 119.0	1.85	53332.47	2464.623956	97.0	false
PFHpA_1	363.0 / 319.0	2.25	640604.52	2082.561643	160.0	false
PFHpA_2	363.0 / 169.0	2.25	12394.33	2240.364031	106.9	false
PFHxS_1	399.0 / 80.0	2.27	961559.54	2343.520473	223.6	false
PFHxS_2	399.0 / 99.0	2.27	287209.71	2362.862393	413.0	false
PFOA_1	413.0 / 369.0	2.66	875278.24	2115.212035	394.4	false
PFOA_2	413.0 / 169.0	2.65	52978.92	2078.132107	208.7	false
PFNA_1	463.0 / 419.0	3.05	810283.78	2324.066173	399.2	false
PFNA_2	463.0 / 219.0	3.05	256235.48	2378.246356	307.9	false
PFOS_1	499.0 / 80.0	3.05	1351358.07	2510.757468	222.3	true
PFOS_2	499.0 / 99.0	3.04	238461.25	2496.345448	604.3	false
PFDA_1	513.0 / 469.0	3.40	896449.96	2423.457877	338.1	false
PFDA_2	513.0 / 219.0	3.40	36497.63	2252.975826	146.7	false
PFUnA_1	563.0 / 519.0	3.72	857670.89	2294.951247	241.5	false
PFUnA_2	563.0 / 269.0	3.72	50918.75	2648.272533	218.7	false
PFDaA_1	613.0 / 569.0	4.00	781109.58	2412.357259	280.8	false
PFDaA_2	613.0 / 319.0	4.00	127117.72	2504.097828	285.4	false
PFTTrDA_1	663.0 / 619.0	4.24	716743.47	2659.460418	499.0	false
PFTTrDA_2	663.0 / 169.0	4.24	45273.70	2608.551168	497.2	false
PFTeDA_1	713.0 / 669.0	4.46	752914.09	2641.907099	914.7	false
PFTeDA_2	713.0 / 169.0	4.46	34999.56	2677.934577	749.2	false
NMeFOSAA_1	570.0 / 419.0	3.55	117970.18	2503.743863	566.4	false
NMeFOSAA_2	570.0 / 512.0	3.55	60922.09	2493.450960	466.6	false
NEtFOSAA_1	584.0 / 419.0	3.72	131616.38	2318.895889	602.1	false
NEtFOSAA_2	584.0 / 483.0	3.71	7747.14	2206.987258	218.5	false

Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	4525848.75	9993.972582	1005.8	false
PFBS_2	298.9 / 99.0	1.54	1349485.57	9962.513180	965.3	false
PFHxA_1	313.0 / 269.0	1.85	3272998.82	10354.059021	297.0	false
PFHxA_2	313.0 / 119.0	1.85	234338.32	10362.285571	283.7	false
PFHpA_1	363.0 / 319.0	2.25	2758157.89	9639.442610	403.0	false
PFHpA_2	363.0 / 169.0	2.25	49710.80	9896.243940	343.4	false
PFHxS_1	399.0 / 80.0	2.27	4148534.70	11119.305146	441.3	false
PFHxS_2	399.0 / 99.0	2.27	1204688.97	10910.183218	826.2	false
PFOA_1	413.0 / 369.0	2.66	3699445.98	9921.478008	671.8	false
PFOA_2	413.0 / 169.0	2.66	226850.85	9882.685191	506.7	false
PFNA_1	463.0 / 419.0	3.05	3225762.83	9693.542804	857.8	false
PFNA_2	463.0 / 219.0	3.05	1016029.07	9897.396078	752.8	false
PFOS_1	499.0 / 80.0	3.04	5589506.59	10125.918873	397.1	true
PFOS_2	499.0 / 99.0	3.04	1018366.80	10457.464143	991.9	false
PFDA_1	513.0 / 469.0	3.40	3414810.01	9502.400509	585.9	false
PFDA_2	513.0 / 219.0	3.40	151478.13	9830.470080	267.0	false
PFUnA_1	563.0 / 519.0	3.72	3679560.52	10459.217130	484.9	false
PFUnA_2	563.0 / 269.0	3.72	170881.90	9803.063836	296.6	false
PFDaA_1	613.0 / 569.0	4.00	3433680.31	10215.143884	595.3	false
PFDaA_2	613.0 / 319.0	4.00	543380.38	10278.983658	552.7	false
PFTrDA_1	663.0 / 619.0	4.24	2976685.03	9802.422818	979.1	false
PFTrDA_2	663.0 / 169.0	4.24	191693.47	9818.050400	738.6	false
PFTeDA_1	713.0 / 669.0	4.46	3164590.62	9833.780330	1652.7	false
PFTeDA_2	713.0 / 169.0	4.46	145190.02	9865.621285	1682.1	false
NMeFOSAA_1	570.0 / 419.0	3.56	495426.14	11073.597668	936.2	false
NMeFOSAA_2	570.0 / 512.0	3.55	256698.30	11111.201315	817.5	false
NEtFOSAA_1	584.0 / 419.0	3.72	511674.01	9940.284642	930.3	false
NEtFOSAA_2	584.0 / 483.0	3.72	28896.92	9360.338483	463.3	false

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	10207263.16	20302.597816	1459.1	false
PFBS_2	298.9 / 99.0	1.53	3062392.61	20381.085207	1176.6	false
PFHxA_1	313.0 / 269.0	1.84	6966571.46	20011.546140	418.8	false
PFHxA_2	313.0 / 119.0	1.84	499367.83	20081.475076	392.3	false
PFHpA_1	363.0 / 319.0	2.25	6091672.23	20816.314384	539.6	false
PFHpA_2	363.0 / 169.0	2.25	104471.19	20404.181803	395.3	false
PFHxS_1	399.0 / 80.0	2.27	8965243.39	19451.293121	545.0	false
PFHxS_2	399.0 / 99.0	2.27	2679577.79	19644.675760	1005.2	false
PFOA_1	413.0 / 369.0	2.66	7811379.74	20578.925253	988.6	false
PFOA_2	413.0 / 169.0	2.65	483859.47	20709.115240	760.8	false
PFNA_1	463.0 / 419.0	3.05	7066564.20	20542.875448	1263.2	false
PFNA_2	463.0 / 219.0	3.05	2152406.38	20289.998931	996.7	false
PFOS_1	499.0 / 80.0	3.04	12303361.07	19889.105621	389.3	true
PFOS_2	499.0 / 99.0	3.04	2137012.28	19600.959106	1186.9	false
PFDA_1	513.0 / 469.0	3.40	7434802.30	20651.444844	631.1	false
PFDA_2	513.0 / 219.0	3.40	314166.07	20422.464217	544.8	false
PFUnA_1	563.0 / 519.0	3.72	7572918.79	19798.103659	726.2	false
PFUnA_2	563.0 / 269.0	3.72	377593.27	20058.158225	447.3	false
PFDaA_1	613.0 / 569.0	4.00	7373651.71	19851.375763	753.1	false
PFDaA_2	613.0 / 319.0	4.00	1150531.65	19685.967019	860.9	false
PFTrDA_1	663.0 / 619.0	4.24	6420099.89	20031.616464	1277.6	false
PFTrDA_2	663.0 / 169.0	4.24	414440.13	20117.803431	1066.0	false
PFTeDA_1	713.0 / 669.0	4.46	6811228.29	20045.885797	2094.8	false
PFTeDA_2	713.0 / 169.0	4.46	310292.96	19979.542073	1487.4	false
NMeFOSAA_1	570.0 / 419.0	3.55	1046590.62	18839.011538	1110.3	false
NMeFOSAA_2	570.0 / 512.0	3.55	539039.66	18799.431103	1131.9	false
NEtFOSAA_1	584.0 / 419.0	3.72	1032670.56	20411.577241	958.6	false
NEtFOSAA_2	584.0 / 483.0	3.72	63388.26	20997.396023	455.2	false

Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	78904.93	226.440918	890.5	false
d3-MeFOSAA	573.0 / 419.0	3.55	10253.60	231.135775	135.6	false
d5-EtFOSAA	589.0 / 419.0	3.71	10995.53	235.147186	148.1	false
13C5-PFHxA	318.0 / 273.0	1.84	66757.53	236.939876	640.3	false
13C4-PFHpA	367.0 / 322.0	2.24	76251.86	245.160729	523.9	false
13C8-PFOA	421.0 / 376.0	2.65	82907.20	244.487173	871.2	false
13C9-PFNA	472.0 / 427.0	3.04	74355.47	230.224891	3805.6	false
13C6-PFDA	519.0 / 474.0	3.39	81935.39	244.985212	590.8	false
13C7-PFUnA	570.0 / 525.0	3.71	79719.04	245.896516	592.0	false
13C2-PFTeDA	715.0 / 670.0	4.46	59403.34	234.154688	1395.5	false
13C3-PFBS	302.0 / 99.0	1.52	30121.74	204.789951	347.7	false
13C3-PFHxS	402.0 / 99.0	2.27	24935.92	231.254685	230.1	false
13C8-PFOS	507.0 / 99.0	3.03	26904.72	231.005747	149.1	false

Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	90299.66	243.027928	726.7	false
d3-MeFOSAA	573.0 / 419.0	3.55	12018.61	245.146497	148.7	false
d5-EtFOSAA	589.0 / 419.0	3.71	12294.54	237.912223	135.0	false
13C5-PFHxA	318.0 / 273.0	1.83	70905.96	233.022990	605.1	false
13C4-PFHpA	367.0 / 322.0	2.24	80289.97	239.023101	530.7	false
13C8-PFOA	421.0 / 376.0	2.65	86462.80	236.086555	8232.3	false
13C9-PFNA	472.0 / 427.0	3.03	83070.44	238.157341	3150.3	false
13C6-PFDA	519.0 / 474.0	3.39	91816.83	257.460095	1071.4	false
13C7-PFUnA	570.0 / 525.0	3.70	85641.53	247.738807	976.1	false
13C2-PFTeDA	715.0 / 670.0	4.46	65866.70	243.487789	1433.5	false
13C3-PFBS	302.0 / 99.0	1.52	37410.04	230.142846	525.9	false
13C3-PFHxS	402.0 / 99.0	2.26	24270.08	203.665278	234.3	false
13C8-PFOS	507.0 / 99.0	3.03	30716.68	238.643301	177.6	false

Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	95445.38	268.495578	882.5	false
d3-MeFOSAA	573.0 / 419.0	3.55	12512.77	252.651644	165.0	false
d5-EtFOSAA	589.0 / 419.0	3.71	14066.79	269.461520	141.6	false
13C5-PFHxA	318.0 / 273.0	1.84	75663.29	268.499073	516.1	false
13C4-PFHpA	367.0 / 322.0	2.24	84837.72	272.715088	597.1	false
13C8-PFOA	421.0 / 376.0	2.65	98420.45	290.180942	889.7	false
13C9-PFNA	472.0 / 427.0	3.04	85003.04	263.144001	939.5	false
13C6-PFDA	519.0 / 474.0	3.39	94341.06	276.503415	1182.9	false
13C7-PFUnA	570.0 / 525.0	3.71	85562.09	258.704011	623.1	false
13C2-PFTeDA	715.0 / 670.0	4.46	67966.65	262.614863	1182.7	false
13C3-PFBS	302.0 / 99.0	1.52	38049.40	231.715138	611.9	false
13C3-PFHxS	402.0 / 99.0	2.27	29742.62	247.071230	266.0	false
13C8-PFOS	507.0 / 99.0	3.03	28969.93	222.802327	185.4	false

Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	86955.34	227.222108	1439.6	false
d3-MeFOSAA	573.0 / 419.0	3.55	10958.20	212.708180	140.2	false
d5-EtFOSAA	589.0 / 419.0	3.71	14006.51	257.933679	138.8	false
13C5-PFHxA	318.0 / 273.0	1.84	74031.54	247.239463	556.3	false
13C4-PFHpA	367.0 / 322.0	2.25	83407.91	252.331126	518.9	false
13C8-PFOA	421.0 / 376.0	2.65	93785.43	260.232968	1208.3	false
13C9-PFNA	472.0 / 427.0	3.04	86566.33	252.203691	658.7	false
13C6-PFDA	519.0 / 474.0	3.39	92029.98	250.553924	1111.3	false
13C7-PFUnA	570.0 / 525.0	3.71	87315.85	245.237554	575.7	false
13C2-PFTeDA	715.0 / 670.0	4.46	66422.07	238.400940	1528.3	false
13C3-PFBS	302.0 / 99.0	1.53	36490.05	213.627610	591.4	false
13C3-PFHxS	402.0 / 99.0	2.27	28465.47	227.320058	216.1	false
13C8-PFOS	507.0 / 99.0	3.04	31216.04	230.794997	169.0	false

Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	86369.66	253.883910	1261.5	false
d3-MeFOSAA	573.0 / 419.0	3.55	10941.50	239.873534	114.4	false
d5-EtFOSAA	589.0 / 419.0	3.71	12130.16	252.293044	133.4	false
13C5-PFHxA	318.0 / 273.0	1.83	65582.38	251.425316	594.9	false
13C4-PFHpA	367.0 / 322.0	2.24	76645.22	266.176368	643.8	false
13C8-PFOA	421.0 / 376.0	2.65	84700.47	269.794826	939.8	false
13C9-PFNA	472.0 / 427.0	3.03	82246.49	275.068377	1064.1	false
13C6-PFDA	519.0 / 474.0	3.39	82409.17	252.387041	1196.5	false
13C7-PFUnA	570.0 / 525.0	3.70	82973.40	262.151546	784.2	false
13C2-PFTeDA	715.0 / 670.0	4.45	59233.46	239.156568	2101.2	false
13C3-PFBS	302.0 / 99.0	1.52	30004.36	198.393801	395.8	false
13C3-PFHxS	402.0 / 99.0	2.26	25563.98	230.573110	218.4	false
13C8-PFOS	507.0 / 99.0	3.03	27083.19	226.156563	164.2	false

Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	89447.71	259.582543	849.5	false
d3-MeFOSAA	573.0 / 419.0	3.55	10409.69	253.865886	99.8	false
d5-EtFOSAA	589.0 / 419.0	3.71	10861.31	251.294053	105.7	false
13C5-PFHxA	318.0 / 273.0	1.84	68598.09	249.565826	522.3	false
13C4-PFHpA	367.0 / 322.0	2.24	72543.71	239.075690	1240.8	false
13C8-PFOA	421.0 / 376.0	2.65	75253.16	227.469795	2517.8	false
13C9-PFNA	472.0 / 427.0	3.04	77767.40	246.815321	848.2	false
13C6-PFDA	519.0 / 474.0	3.39	79523.32	240.446405	768.0	false
13C7-PFUnA	570.0 / 525.0	3.70	77509.41	241.768763	858.4	false
13C2-PFTeDA	715.0 / 670.0	4.45	66792.32	266.240400	1820.6	false
13C3-PFBS	302.0 / 99.0	1.52	35312.70	259.738106	523.6	false
13C3-PFHxS	402.0 / 99.0	2.26	23031.07	231.076252	221.9	false
13C8-PFOS	507.0 / 99.0	3.03	26812.88	249.065672	168.4	false

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.99	98807.63	271.347015	1010.8	false
d3-MeFOSAA	573.0 / 419.0	3.54	12929.12	314.618483	83.7	false
d5-EtFOSAA	589.0 / 419.0	3.71	10654.01	245.958295	80.7	false
13C5-PFHxA	318.0 / 273.0	1.83	75440.82	263.307456	530.1	false
13C4-PFHpA	367.0 / 322.0	2.24	74491.13	235.517897	532.2	false
13C8-PFOA	421.0 / 376.0	2.65	76467.43	221.747740	1021.3	false
13C9-PFNA	472.0 / 427.0	3.03	80263.63	244.386379	932.2	false
13C6-PFDA	519.0 / 474.0	3.38	79568.67	227.663906	706.4	false
13C7-PFUnA	570.0 / 525.0	3.70	84189.35	248.502804	733.9	false
13C2-PFTeDA	715.0 / 670.0	4.45	70504.31	265.944753	1448.4	false
13C3-PFBS	302.0 / 99.0	1.52	39151.35	287.342548	524.9	false
13C3-PFHxS	402.0 / 99.0	2.26	28421.88	284.539387	270.4	false
13C8-PFOS	507.0 / 99.0	3.03	29808.00	276.281393	193.7	false

Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.370	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.100	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.010	0.017	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.320	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.070	0.062	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.220	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.070	0.050	ü
PFUnA_1	563.0 / 519.0	3.73	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	PFUnA	0.110	0.067	
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.01	PFDoA	0.130	0.153	ü
PFTrDA_1	663.0 / 619.0	4.25	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.25	PFTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.47	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	NMeFOSAA	0.550	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	NEtFOSAA	0.130	0.076	



Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.330	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.100	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.010	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.200	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.41	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.090	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.150	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.25	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.580	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.070	0.076	ü



Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.330	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.060	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.050	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.150	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.47	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.040	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	NMeFOSAA	0.530	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.090	0.076	ü

Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.300	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.41	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.25	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.24	PFTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.070	0.076	ü

Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.320	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.55	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	NEtFOSAA	0.060	0.076	ü

Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.050	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.24	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.24	PFTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.060	0.076	ü

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.300	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.050	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.55	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.060	0.076	ü

Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	30121.74	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	30121.74	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	66757.53	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	66757.53	250.00
PFHpA_1	363.0 / 319.0	2.25	13C8-PFOA	421.0 / 376.0	84048.12	250.00
PFHpA_2	363.0 / 169.0	2.25	13C8-PFOA	421.0 / 376.0	84048.12	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	24935.92	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	24935.92	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	84048.12	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	84048.12	250.00
PFNA_1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	74355.47	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	74355.47	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	27373.70	239.25
PFOS_2	499.0 / 99.0	3.05	13C8-PFOS	507.0 / 99.0	27373.70	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	81935.39	250.00
PFDA_2	513.0 / 219.0	3.40	13C6-PFDA	519.0 / 474.0	81935.39	250.00
PFUnA_1	563.0 / 519.0	3.73	13C7-PFUnA	570.0 / 525.0	79719.04	250.00
PFUnA_2	563.0 / 269.0	3.71	13C7-PFUnA	570.0 / 525.0	79719.04	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	78904.93	250.00
PFDaA_2	613.0 / 319.0	4.01	13C2-PFDaA	615.0 / 570.0	78904.93	250.00
PFTeDA_1	663.0 / 619.0	4.25	13C2-PFTeDA	715.0 / 670.0	59403.34	250.00
PFTeDA_2	663.0 / 169.0	4.25	13C2-PFTeDA	715.0 / 670.0	59403.34	250.00
PFTeDA_1	713.0 / 669.0	4.47	13C2-PFTeDA	715.0 / 670.0	59403.34	250.00
PFTeDA_2	713.0 / 169.0	4.47	13C2-PFTeDA	715.0 / 670.0	59403.34	250.00
NMeFOSAA_1	570.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	10253.60	250.00
NMeFOSAA_2	570.0 / 512.0	3.56	d3-MeFOSAA	573.0 / 419.0	10253.60	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	10995.53	250.00
NEtFOSAA_2	584.0 / 483.0	3.71	d5-EtFOSAA	589.0 / 419.0	10995.53	250.00

Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	37410.04	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	37410.04	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	70905.96	250.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	70905.96	250.00
PFHpA_1	363.0 / 319.0	2.25	13C8-PFOA	421.0 / 376.0	87287.53	250.00
PFHpA_2	363.0 / 169.0	2.25	13C8-PFOA	421.0 / 376.0	87287.53	250.00
PFHxS_1	399.0 / 80.0	2.27	13C3-PFHxS	402.0 / 99.0	24270.08	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	24270.08	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	87287.53	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	87287.53	250.00
PFNA_1	463.0 / 419.0	3.05	13C9-PFNA	472.0 / 427.0	83070.44	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	83070.44	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	30505.11	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	30505.11	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	91816.83	250.00
PFDA_2	513.0 / 219.0	3.41	13C6-PFDA	519.0 / 474.0	91816.83	250.00
PFUnA_1	563.0 / 519.0	3.72	13C7-PFUnA	570.0 / 525.0	85641.53	250.00
PFUnA_2	563.0 / 269.0	3.72	13C7-PFUnA	570.0 / 525.0	85641.53	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	90299.66	250.00
PFDaA_2	613.0 / 319.0	4.00	13C2-PFDaA	615.0 / 570.0	90299.66	250.00
PFTeDA_1	663.0 / 619.0	4.25	13C2-PFTeDA	715.0 / 670.0	65866.70	250.00
PFTeDA_2	663.0 / 169.0	4.25	13C2-PFTeDA	715.0 / 670.0	65866.70	250.00
PFTeDA_1	713.0 / 669.0	4.46	13C2-PFTeDA	715.0 / 670.0	65866.70	250.00
PFTeDA_2	713.0 / 169.0	4.46	13C2-PFTeDA	715.0 / 670.0	65866.70	250.00
NMeFOSAA_1	570.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	12018.61	250.00
NMeFOSAA_2	570.0 / 512.0	3.55	d3-MeFOSAA	573.0 / 419.0	12018.61	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	12294.54	250.00
NEtFOSAA_2	584.0 / 483.0	3.72	d5-EtFOSAA	589.0 / 419.0	12294.54	250.00

Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	38049.40	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	38049.40	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	75663.29	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	75663.29	250.00
PFHpA_1	363.0 / 319.0	2.25	13C8-PFOA	421.0 / 376.0	98658.79	250.00
PFHpA_2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	98658.79	250.00
PFHxS_1	399.0 / 80.0	2.27	13C3-PFHxS	402.0 / 99.0	29742.62	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	29742.62	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	98658.79	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	98658.79	250.00
PFNA_1	463.0 / 419.0	3.05	13C9-PFNA	472.0 / 427.0	85003.04	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	85003.04	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	28504.43	239.25
PFOS_2	499.0 / 99.0	3.05	13C8-PFOS	507.0 / 99.0	28504.43	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	94341.06	250.00
PFDA_2	513.0 / 219.0	3.40	13C6-PFDA	519.0 / 474.0	94341.06	250.00
PFAUnA_1	563.0 / 519.0	3.72	13C7-PFAUnA	570.0 / 525.0	85562.09	250.00
PFAUnA_2	563.0 / 269.0	3.72	13C7-PFAUnA	570.0 / 525.0	85562.09	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	95445.38	250.00
PFDaA_2	613.0 / 319.0	4.00	13C2-PFDaA	615.0 / 570.0	95445.38	250.00
PFTeDA_1	663.0 / 619.0	4.25	13C2-PFTeDA	715.0 / 670.0	67966.65	250.00
PFTeDA_2	663.0 / 169.0	4.24	13C2-PFTeDA	715.0 / 670.0	67966.65	250.00
PFTeDA_1	713.0 / 669.0	4.47	13C2-PFTeDA	715.0 / 670.0	67966.65	250.00
PFTeDA_2	713.0 / 169.0	4.46	13C2-PFTeDA	715.0 / 670.0	67966.65	250.00
NMeFOSAA_1	570.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	12512.77	250.00
NMeFOSAA_2	570.0 / 512.0	3.56	d3-MeFOSAA	573.0 / 419.0	12512.77	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	14066.79	250.00
NEtFOSAA_2	584.0 / 483.0	3.72	d5-EtFOSAA	589.0 / 419.0	14066.79	250.00

Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	36490.05	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	36490.05	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	74031.54	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	74031.54	250.00
PFHpA_1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	94752.92	250.00
PFHpA_2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	94752.92	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	28465.47	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	28465.47	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	94752.92	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	94752.92	250.00
PFNA_1	463.0 / 419.0	3.05	13C9-PFNA	472.0 / 427.0	86566.33	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	86566.33	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	31148.01	239.25
PFOS_2	499.0 / 99.0	3.05	13C8-PFOS	507.0 / 99.0	31148.01	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	92029.98	250.00
PFDA_2	513.0 / 219.0	3.41	13C6-PFDA	519.0 / 474.0	92029.98	250.00
PFAUnA_1	563.0 / 519.0	3.72	13C7-PFAUnA	570.0 / 525.0	87315.85	250.00
PFAUnA_2	563.0 / 269.0	3.72	13C7-PFAUnA	570.0 / 525.0	87315.85	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	86955.34	250.00
PFDaA_2	613.0 / 319.0	4.00	13C2-PFDaA	615.0 / 570.0	86955.34	250.00
PFTeDA_1	663.0 / 619.0	4.25	13C2-PFTeDA	715.0 / 670.0	66422.07	250.00
PFTeDA_2	663.0 / 169.0	4.24	13C2-PFTeDA	715.0 / 670.0	66422.07	250.00
PFTeDA_1	713.0 / 669.0	4.46	13C2-PFTeDA	715.0 / 670.0	66422.07	250.00
PFTeDA_2	713.0 / 169.0	4.46	13C2-PFTeDA	715.0 / 670.0	66422.07	250.00
NMeFOSAA_1	570.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	10958.20	250.00
NMeFOSAA_2	570.0 / 512.0	3.56	d3-MeFOSAA	573.0 / 419.0	10958.20	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	14006.51	250.00
NEtFOSAA_2	584.0 / 483.0	3.72	d5-EtFOSAA	589.0 / 419.0	14006.51	250.00

Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	30004.36	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	30004.36	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	65582.38	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	65582.38	250.00
PFHpA_1	363.0 / 319.0	2.25	13C8-PFOA	421.0 / 376.0	85487.19	250.00
PFHpA_2	363.0 / 169.0	2.25	13C8-PFOA	421.0 / 376.0	85487.19	250.00
PFHxS_1	399.0 / 80.0	2.27	13C3-PFHxS	402.0 / 99.0	25563.98	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	25563.98	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	85487.19	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	85487.19	250.00
PFNA_1	463.0 / 419.0	3.05	13C9-PFNA	472.0 / 427.0	82246.49	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	82246.49	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	27234.98	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	27234.98	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	82409.17	250.00
PFDA_2	513.0 / 219.0	3.40	13C6-PFDA	519.0 / 474.0	82409.17	250.00
PFUnA_1	563.0 / 519.0	3.72	13C7-PFUnA	570.0 / 525.0	82973.40	250.00
PFUnA_2	563.0 / 269.0	3.72	13C7-PFUnA	570.0 / 525.0	82973.40	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	86369.66	250.00
PFDaA_2	613.0 / 319.0	4.00	13C2-PFDaA	615.0 / 570.0	86369.66	250.00
PFTeDA_1	663.0 / 619.0	4.24	13C2-PFTeDA	715.0 / 670.0	59233.46	250.00
PFTeDA_2	663.0 / 169.0	4.24	13C2-PFTeDA	715.0 / 670.0	59233.46	250.00
PFTeDA_1	713.0 / 669.0	4.46	13C2-PFTeDA	715.0 / 670.0	59233.46	250.00
PFTeDA_2	713.0 / 169.0	4.46	13C2-PFTeDA	715.0 / 670.0	59233.46	250.00
NMeFOSAA_1	570.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	10941.50	250.00
NMeFOSAA_2	570.0 / 512.0	3.55	d3-MeFOSAA	573.0 / 419.0	10941.50	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	12130.16	250.00
NEtFOSAA_2	584.0 / 483.0	3.71	d5-EtFOSAA	589.0 / 419.0	12130.16	250.00

Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	35312.70	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	35312.70	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	68598.09	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	68598.09	250.00
PFHpA_1	363.0 / 319.0	2.25	13C8-PFOA	421.0 / 376.0	75935.07	250.00
PFHpA_2	363.0 / 169.0	2.25	13C8-PFOA	421.0 / 376.0	75935.07	250.00
PFHxS_1	399.0 / 80.0	2.27	13C3-PFHxS	402.0 / 99.0	23031.07	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	23031.07	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	75935.07	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	75935.07	250.00
PFNA_1	463.0 / 419.0	3.05	13C9-PFNA	472.0 / 427.0	77767.40	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	77767.40	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	27778.30	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	27778.30	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	79523.32	250.00
PFDA_2	513.0 / 219.0	3.40	13C6-PFDA	519.0 / 474.0	79523.32	250.00
PFUnA_1	563.0 / 519.0	3.72	13C7-PFUnA	570.0 / 525.0	77509.41	250.00
PFUnA_2	563.0 / 269.0	3.72	13C7-PFUnA	570.0 / 525.0	77509.41	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	89447.71	250.00
PFDaA_2	613.0 / 319.0	4.00	13C2-PFDaA	615.0 / 570.0	89447.71	250.00
PFTeDA_1	663.0 / 619.0	4.24	13C2-PFTeDA	715.0 / 670.0	66792.32	250.00
PFTeDA_2	663.0 / 169.0	4.24	13C2-PFTeDA	715.0 / 670.0	66792.32	250.00
PFTeDA_1	713.0 / 669.0	4.46	13C2-PFTeDA	715.0 / 670.0	66792.32	250.00
PFTeDA_2	713.0 / 169.0	4.46	13C2-PFTeDA	715.0 / 670.0	66792.32	250.00
NMeFOSAA_1	570.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	10409.69	250.00
NMeFOSAA_2	570.0 / 512.0	3.55	d3-MeFOSAA	573.0 / 419.0	10409.69	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	10861.31	250.00
NEtFOSAA_2	584.0 / 483.0	3.72	d5-EtFOSAA	589.0 / 419.0	10861.31	250.00

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	39151.35	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	39151.35	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	75440.82	250.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	75440.82	250.00
PFHpA_1	363.0 / 319.0	2.25	13C8-PFOA	421.0 / 376.0	77147.25	250.00
PFHpA_2	363.0 / 169.0	2.25	13C8-PFOA	421.0 / 376.0	77147.25	250.00
PFHxS_1	399.0 / 80.0	2.27	13C3-PFHxS	402.0 / 99.0	28421.88	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	28421.88	236.50
PFOA_1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	77147.25	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	77147.25	250.00
PFNA_1	463.0 / 419.0	3.05	13C9-PFNA	472.0 / 427.0	80263.63	250.00
PFNA_2	463.0 / 219.0	3.05	13C9-PFNA	472.0 / 427.0	80263.63	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	31102.03	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	31102.03	239.25
PFDA_1	513.0 / 469.0	3.40	13C6-PFDA	519.0 / 474.0	79568.67	250.00
PFDA_2	513.0 / 219.0	3.40	13C6-PFDA	519.0 / 474.0	79568.67	250.00
PFUnA_1	563.0 / 519.0	3.72	13C7-PFUnA	570.0 / 525.0	84189.35	250.00
PFUnA_2	563.0 / 269.0	3.72	13C7-PFUnA	570.0 / 525.0	84189.35	250.00
PFDaA_1	613.0 / 569.0	4.00	13C2-PFDaA	615.0 / 570.0	98807.63	250.00
PFDaA_2	613.0 / 319.0	4.00	13C2-PFDaA	615.0 / 570.0	98807.63	250.00
PFTeDA_1	663.0 / 619.0	4.24	13C2-PFTeDA	715.0 / 670.0	70504.31	250.00
PFTeDA_2	663.0 / 169.0	4.24	13C2-PFTeDA	715.0 / 670.0	70504.31	250.00
PFTeDA_1	713.0 / 669.0	4.46	13C2-PFTeDA	715.0 / 670.0	70504.31	250.00
PFTeDA_2	713.0 / 169.0	4.46	13C2-PFTeDA	715.0 / 670.0	70504.31	250.00
NMeFOSAA_1	570.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	12929.12	250.00
NMeFOSAA_2	570.0 / 512.0	3.55	d3-MeFOSAA	573.0 / 419.0	12929.12	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	10654.01	250.00
NEtFOSAA_2	584.0 / 483.0	3.72	d5-EtFOSAA	589.0 / 419.0	10654.01	250.00

Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	82816.49	250.00
d3-MeFOSAA	573.0 / 419.0	3.55	13C4-PFOS	503.0 / 99.0	26049.56	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	26049.56	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	78030.05	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	78030.05	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	78030.05	250.00
13C9-PFNA	472.0 / 427.0	3.04	13C2-PFOA	415.0 / 370.0	78030.05	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	82816.49	250.00
13C7-PFUnA	570.0 / 525.0	3.71	13C2-PFDA	515.0 / 470.0	82816.49	250.00
13C2-PFTeDA	715.0 / 670.0	4.46	13C2-PFDA	515.0 / 470.0	82816.49	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	26049.56	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	26049.56	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	26049.56	239.25

Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	88307.48	250.00
d3-MeFOSAA	573.0 / 419.0	3.55	13C4-PFOS	503.0 / 99.0	28788.55	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	28788.55	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	84272.09	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	84272.09	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	84272.09	250.00
13C9-PFNA	472.0 / 427.0	3.03	13C2-PFOA	415.0 / 370.0	84272.09	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	88307.48	250.00
13C7-PFUnA	570.0 / 525.0	3.70	13C2-PFDA	515.0 / 470.0	88307.48	250.00
13C2-PFTeDA	715.0 / 670.0	4.46	13C2-PFDA	515.0 / 470.0	88307.48	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	28788.55	239.25
13C3-PFHxS	402.0 / 99.0	2.26	13C4-PFOS	503.0 / 99.0	28788.55	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	28788.55	239.25

Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	84486.12	250.00
d3-MeFOSAA	573.0 / 419.0	3.55	13C4-PFOS	503.0 / 99.0	29081.88	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	29081.88	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	78044.48	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	78044.48	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	78044.48	250.00
13C9-PFNA	472.0 / 427.0	3.04	13C2-PFOA	415.0 / 370.0	78044.48	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	84486.12	250.00
13C7-PFUnA	570.0 / 525.0	3.71	13C2-PFDA	515.0 / 470.0	84486.12	250.00
13C2-PFTeDA	715.0 / 670.0	4.46	13C2-PFDA	515.0 / 470.0	84486.12	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	29081.88	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	29081.88	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	29081.88	239.25

Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	90952.21	250.00
d3-MeFOSAA	573.0 / 419.0	3.55	13C4-PFOS	503.0 / 99.0	30251.44	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	30251.44	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	82927.54	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	82927.54	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	82927.54	250.00
13C9-PFNA	472.0 / 427.0	3.04	13C2-PFOA	415.0 / 370.0	82927.54	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	90952.21	250.00
13C7-PFUnA	570.0 / 525.0	3.71	13C2-PFDA	515.0 / 470.0	90952.21	250.00
13C2-PFTeDA	715.0 / 670.0	4.46	13C2-PFDA	515.0 / 470.0	90952.21	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	30251.44	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	30251.44	239.25
13C8-PFOS	507.0 / 99.0	3.04	13C4-PFOS	503.0 / 99.0	30251.44	239.25

Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	80852.53	250.00
d3-MeFOSAA	573.0 / 419.0	3.55	13C4-PFOS	503.0 / 99.0	26784.61	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	26784.61	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	72240.04	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	72240.04	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	72240.04	250.00
13C9-PFNA	472.0 / 427.0	3.03	13C2-PFOA	415.0 / 370.0	72240.04	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	80852.53	250.00
13C7-PFUnA	570.0 / 525.0	3.70	13C2-PFDA	515.0 / 470.0	80852.53	250.00
13C2-PFTeDA	715.0 / 670.0	4.45	13C2-PFDA	515.0 / 470.0	80852.53	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	26784.61	239.25
13C3-PFHxS	402.0 / 99.0	2.26	13C4-PFOS	503.0 / 99.0	26784.61	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	26784.61	239.25

Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	81895.75	250.00
d3-MeFOSAA	573.0 / 419.0	3.55	13C4-PFOS	503.0 / 99.0	24078.22	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	24078.22	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	76124.90	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	76124.90	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	76124.90	250.00
13C9-PFNA	472.0 / 427.0	3.04	13C2-PFOA	415.0 / 370.0	76124.90	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	81895.75	250.00
13C7-PFUnA	570.0 / 525.0	3.70	13C2-PFDA	515.0 / 470.0	81895.75	250.00
13C2-PFTeDA	715.0 / 670.0	4.45	13C2-PFDA	515.0 / 470.0	81895.75	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24078.22	239.25
13C3-PFHxS	402.0 / 99.0	2.26	13C4-PFOS	503.0 / 99.0	24078.22	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	24078.22	239.25

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.99	13C2-PFDA	515.0 / 470.0	86543.22	250.00
d3-MeFOSAA	573.0 / 419.0	3.54	13C4-PFOS	503.0 / 99.0	24131.03	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	24131.03	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	79349.29	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	79349.29	250.00
13C8-PFOA	421.0 / 376.0	2.65	13C2-PFOA	415.0 / 370.0	79349.29	250.00
13C9-PFNA	472.0 / 427.0	3.03	13C2-PFOA	415.0 / 370.0	79349.29	250.00
13C6-PFDA	519.0 / 474.0	3.38	13C2-PFDA	515.0 / 470.0	86543.22	250.00
13C7-PFUnA	570.0 / 525.0	3.70	13C2-PFDA	515.0 / 470.0	86543.22	250.00
13C2-PFTeDA	715.0 / 670.0	4.45	13C2-PFDA	515.0 / 470.0	86543.22	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24131.03	239.25
13C3-PFHxS	402.0 / 99.0	2.26	13C4-PFOS	503.0 / 99.0	24131.03	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	24131.03	239.25

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.53	982.486747	1010.00	97.28
PFBS_2	298.9 / 99.0	1.53	944.117063	1010.00	93.48
PFHxA_1	313.0 / 269.0	1.84	962.661426	1010.00	95.31
PFHxA_2	313.0 / 119.0	1.84	996.043336	1010.00	98.62
PFHpA_1	363.0 / 319.0	2.24	898.393453	1000.00	89.84
PFHpA_2	363.0 / 169.0	2.24	889.767635	1000.00	88.98
PFHxS_1	399.0 / 80.0	2.26	1015.392829	1010.00	100.53
PFHxS_2	399.0 / 99.0	2.26	1008.294422	1010.00	99.83
PFOA_1	413.0 / 369.0	2.65	899.632997	1000.00	89.96
PFOA_2	413.0 / 169.0	2.65	871.607530	1000.00	87.16
PFNA_1	463.0 / 419.0	3.04	907.036516	1000.00	90.70
PFNA_2	463.0 / 219.0	3.04	924.934493	1000.00	92.49
PFOS_1	499.0 / 80.0	3.03	827.683416	1000.00	82.77
PFOS_2	499.0 / 99.0	3.03	808.503885	1000.00	80.85
PFDA_1	513.0 / 469.0	3.39	956.600128	1000.00	95.66
PFDA_2	513.0 / 219.0	3.39	939.630961	1000.00	93.96
PFUnA_1	563.0 / 519.0	3.71	927.350428	1000.00	92.74
PFUnA_2	563.0 / 269.0	3.70	934.891669	1000.00	93.49
PFDoA_1	613.0 / 569.0	3.99	991.445887	1000.00	99.14
PFDoA_2	613.0 / 319.0	3.99	1045.333939	1000.00	104.53
PFTTrDA_1	663.0 / 619.0	4.23	1032.619489	1000.00	103.26
PFTTrDA_2	663.0 / 169.0	4.23	940.505648	1000.00	94.05
PFTeDA_1	713.0 / 669.0	4.45	1010.698759	1000.00	101.07
PFTeDA_2	713.0 / 169.0	4.45	1064.628794	1000.00	106.46
NMeFOSAA_1	570.0 / 419.0	3.54	902.351293	1000.00	90.24
NMeFOSAA_2	570.0 / 512.0	3.54	825.509009	1000.00	82.55
NEtFOSAA_1	584.0 / 419.0	3.70	819.039407	1000.00	81.90
NEtFOSAA_2	584.0 / 483.0	3.70	776.191696	1000.00	77.62

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.53	947.600782	1010.00	93.82
PFBS_2	298.9 / 99.0	1.53	966.847977	1010.00	95.73
PFHxA_1	313.0 / 269.0	1.84	913.932468	1010.00	90.49
PFHxA_2	313.0 / 119.0	1.84	864.742993	1010.00	85.62
PFHpA_1	363.0 / 319.0	2.24	889.451725	1000.00	88.95
PFHpA_2	363.0 / 169.0	2.24	945.123259	1000.00	94.51
PFHxS_1	399.0 / 80.0	2.26	1002.759665	1010.00	99.28
PFHxS_2	399.0 / 99.0	2.26	964.683740	1010.00	95.51
PFOA_1	413.0 / 369.0	2.64	877.533952	1000.00	87.75
PFOA_2	413.0 / 169.0	2.64	921.307793	1000.00	92.13
PFNA_1	463.0 / 419.0	3.03	878.362062	1000.00	87.84
PFNA_2	463.0 / 219.0	3.03	889.812505	1000.00	88.98
PFOS_1	499.0 / 80.0	3.03	960.445352	1000.00	96.04
PFOS_2	499.0 / 99.0	3.03	962.003061	1000.00	96.20
PFDA_1	513.0 / 469.0	3.38	954.226765	1000.00	95.42
PFDA_2	513.0 / 219.0	3.38	834.756466	1000.00	83.48
PFUnA_1	563.0 / 519.0	3.70	952.126142	1000.00	95.21
PFUnA_2	563.0 / 269.0	3.70	971.215683	1000.00	97.12
PFDoA_1	613.0 / 569.0	3.98	1022.115999	1000.00	102.21
PFDoA_2	613.0 / 319.0	3.98	1041.019289	1000.00	104.10
PFTTrDA_1	663.0 / 619.0	4.22	1004.955727	1000.00	100.50
PFTTrDA_2	663.0 / 169.0	4.22	987.743569	1000.00	98.77
PFTeDA_1	713.0 / 669.0	4.44	983.882032	1000.00	98.39
PFTeDA_2	713.0 / 169.0	4.44	1035.279502	1000.00	103.53
NMeFOSAA_1	570.0 / 419.0	3.54	1164.796006	1000.00	116.48
NMeFOSAA_2	570.0 / 512.0	3.54	1103.726187	1000.00	110.37
NEtFOSAA_1	584.0 / 419.0	3.70	826.111083	1000.00	82.61
NEtFOSAA_2	584.0 / 483.0	3.70	982.429440	1000.00	98.24

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.53	2415.467312	2525.00	95.66
PFBS_2	298.9 / 99.0	1.53	2436.678757	2525.00	96.50
PFHxA_1	313.0 / 269.0	1.84	2278.119640	2525.00	90.22
PFHxA_2	313.0 / 119.0	1.84	2355.208108	2525.00	93.28
PFHpA_1	363.0 / 319.0	2.24	2252.829522	2500.00	90.11
PFHpA_2	363.0 / 169.0	2.24	2342.415872	2500.00	93.70
PFHxS_1	399.0 / 80.0	2.26	2823.288853	2525.00	111.81
PFHxS_2	399.0 / 99.0	2.26	2690.569782	2525.00	106.56
PFOA_1	413.0 / 369.0	2.64	2284.369929	2500.00	91.37
PFOA_2	413.0 / 169.0	2.64	2358.583721	2500.00	94.34
PFNA_1	463.0 / 419.0	3.03	2236.490170	2500.00	89.46
PFNA_2	463.0 / 219.0	3.03	2398.006653	2500.00	95.92
PFOS_1	499.0 / 80.0	3.03	2696.390823	2500.00	107.86
PFOS_2	499.0 / 99.0	3.03	2748.404248	2500.00	109.94
PFDA_1	513.0 / 469.0	3.39	2506.479732	2500.00	100.26
PFDA_2	513.0 / 219.0	3.39	2193.621549	2500.00	87.74
PFUnA_1	563.0 / 519.0	3.70	2241.567922	2500.00	89.66
PFUnA_2	563.0 / 269.0	3.70	2445.841442	2500.00	97.83
PFDoA_1	613.0 / 569.0	3.98	2509.497606	2500.00	100.38
PFDoA_2	613.0 / 319.0	3.98	2484.858387	2500.00	99.39
PFTTrDA_1	663.0 / 619.0	4.23	2695.462359	2500.00	107.82
PFTTrDA_2	663.0 / 169.0	4.23	2680.204633	2500.00	107.21
PFTeDA_1	713.0 / 669.0	4.45	2726.085691	2500.00	109.04
PFTeDA_2	713.0 / 169.0	4.44	2797.519760	2500.00	111.90
NMeFOSAA_1	570.0 / 419.0	3.54	2544.410026	2500.00	101.78
NMeFOSAA_2	570.0 / 512.0	3.54	2608.901990	2500.00	104.36
NEtFOSAA_1	584.0 / 419.0	3.70	2066.772574	2500.00	82.67
NEtFOSAA_2	584.0 / 483.0	3.70	2054.571995	2500.00	82.18

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.98	250.992779	250.00	100.40
d3-MeFOSAA	573.0 / 419.0	3.53	276.526223	250.00	110.61
d5-EtFOSAA	589.0 / 419.0	3.69	281.958950	250.00	112.78
13C5-PFHxA	318.0 / 273.0	1.83	237.907268	250.00	95.16
13C4-PFHpA	367.0 / 322.0	2.23	243.902872	250.00	97.56
13C8-PFOA	421.0 / 376.0	2.64	251.055812	250.00	100.42
13C9-PFNA	472.0 / 427.0	3.02	256.909981	250.00	102.76
13C6-PFDA	519.0 / 474.0	3.37	276.444162	250.00	110.58
13C7-PFUnA	570.0 / 525.0	3.69	274.732105	250.00	109.89
13C2-PFTeDA	715.0 / 670.0	4.44	248.274356	250.00	99.31
13C3-PFBS	302.0 / 99.0	1.51	212.675027	232.25	91.57
13C3-PFHxS	402.0 / 99.0	2.25	220.676266	236.50	93.31
13C8-PFOS	507.0 / 99.0	3.02	260.132830	239.25	108.73

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.97	231.369389	250.00	92.55
d3-MeFOSAA	573.0 / 419.0	3.53	240.476601	250.00	96.19
d5-EtFOSAA	589.0 / 419.0	3.69	293.085310	250.00	117.23
13C5-PFHxA	318.0 / 273.0	1.83	273.950457	250.00	109.58
13C4-PFHpA	367.0 / 322.0	2.23	261.419706	250.00	104.57
13C8-PFOA	421.0 / 376.0	2.63	274.928776	250.00	109.97
13C9-PFNA	472.0 / 427.0	3.02	284.161675	250.00	113.66
13C6-PFDA	519.0 / 474.0	3.37	245.228042	250.00	98.09
13C7-PFUnA	570.0 / 525.0	3.69	243.337478	250.00	97.33
13C2-PFTeDA	715.0 / 670.0	4.43	246.570475	250.00	98.63
13C3-PFBS	302.0 / 99.0	1.52	238.430205	232.25	102.66
13C3-PFHxS	402.0 / 99.0	2.25	240.064639	236.50	101.51
13C8-PFOS	507.0 / 99.0	3.02	259.154047	239.25	108.32

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.97	245.594017	250.00	98.24
d3-MeFOSAA	573.0 / 419.0	3.53	239.169612	250.00	95.67
d5-EtFOSAA	589.0 / 419.0	3.69	257.728243	250.00	103.09
13C5-PFHxA	318.0 / 273.0	1.82	268.663220	250.00	107.47
13C4-PFHpA	367.0 / 322.0	2.23	256.317854	250.00	102.53
13C8-PFOA	421.0 / 376.0	2.63	268.235603	250.00	107.29
13C9-PFNA	472.0 / 427.0	3.02	267.807852	250.00	107.12
13C6-PFDA	519.0 / 474.0	3.37	243.020767	250.00	97.21
13C7-PFUnA	570.0 / 525.0	3.69	266.276874	250.00	106.51
13C2-PFTeDA	715.0 / 670.0	4.44	232.737117	250.00	93.09
13C3-PFBS	302.0 / 99.0	1.51	206.697246	232.25	89.00
13C3-PFHxS	402.0 / 99.0	2.25	192.815470	236.50	81.53
13C8-PFOS	507.0 / 99.0	3.02	203.172706	239.25	84.92

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	417028.58	982.486747	249.0	false
PFBS_2	298.9 / 99.0	1.53	121678.47	944.117063	247.2	false
PFHxA_1	313.0 / 269.0	1.84	295759.94	962.661426	51.4	false
PFHxA_2	313.0 / 119.0	1.84	22589.20	996.043336	60.5	false
PFHpA_1	363.0 / 319.0	2.24	262445.10	898.393453	84.0	false
PFHpA_2	363.0 / 169.0	2.24	4856.68	889.767635	79.5	false
PFHxS_1	399.0 / 80.0	2.26	413985.57	1015.392829	164.8	false
PFHxS_2	399.0 / 99.0	2.26	121928.80	1008.294422	313.6	false
PFOA_1	413.0 / 369.0	2.65	374497.48	899.632997	208.4	false
PFOA_2	413.0 / 169.0	2.65	22372.77	871.607530	140.4	false
PFNA_1	463.0 / 419.0	3.04	320256.15	907.036516	184.7	false
PFNA_2	463.0 / 219.0	3.04	101282.07	924.934493	160.8	false
PFOS_1	499.0 / 80.0	3.03	542488.67	827.683416	145.5	true
PFOS_2	499.0 / 99.0	3.03	95605.78	808.503885	299.4	false
PFDA_1	513.0 / 469.0	3.39	377043.66	956.600128	231.6	false
PFDA_2	513.0 / 219.0	3.39	16874.38	939.630961	117.9	false
PFUnA_1	563.0 / 519.0	3.71	353093.12	927.350428	184.6	false
PFUnA_2	563.0 / 269.0	3.70	19960.02	934.891669	104.6	false
PFDaA_1	613.0 / 569.0	3.99	311690.78	991.445887	207.7	false
PFDaA_2	613.0 / 319.0	3.99	51227.22	1045.333939	179.9	false
PFTTrDA_1	663.0 / 619.0	4.23	285485.40	1032.619489	323.9	false
PFTTrDA_2	663.0 / 169.0	4.23	16812.48	940.505648	272.5	false
PFTeDA_1	713.0 / 669.0	4.45	294077.23	1010.698759	690.6	false
PFTeDA_2	713.0 / 169.0	4.45	14291.79	1064.628794	571.1	false
NMeFOSAA_1	570.0 / 419.0	3.54	51917.17	902.351293	432.8	false
NMeFOSAA_2	570.0 / 512.0	3.54	24910.69	825.509009	244.5	false
NEtFOSAA_1	584.0 / 419.0	3.70	53102.28	819.039407	484.8	false
NEtFOSAA_2	584.0 / 483.0	3.70	3348.82	776.191696	124.4	false

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	452564.99	947.600782	312.2	false
PFBS_2	298.9 / 99.0	1.53	140381.03	966.847977	244.1	false
PFHxA_1	313.0 / 269.0	1.84	336178.21	913.932468	53.6	false
PFHxA_2	313.0 / 119.0	1.84	23530.50	864.742993	53.7	false
PFHpA_1	363.0 / 319.0	2.24	295883.46	889.451725	89.0	false
PFHpA_2	363.0 / 169.0	2.24	5909.60	945.123259	68.2	false
PFHxS_1	399.0 / 80.0	2.26	446662.80	1002.759665	171.5	false
PFHxS_2	399.0 / 99.0	2.26	127347.75	964.683740	358.4	false
PFOA_1	413.0 / 369.0	2.64	416152.16	877.533952	229.2	false
PFOA_2	413.0 / 169.0	2.64	27032.21	921.307793	130.9	false
PFNA_1	463.0 / 419.0	3.03	356896.02	878.362062	197.3	false
PFNA_2	463.0 / 219.0	3.03	112130.26	889.812505	171.9	false
PFOS_1	499.0 / 80.0	3.03	622572.12	960.445352	131.8	true
PFOS_2	499.0 / 99.0	3.03	112117.58	962.003061	314.0	false
PFDA_1	513.0 / 469.0	3.38	394260.75	954.226765	226.2	false
PFDA_2	513.0 / 219.0	3.38	15800.98	834.756466	90.4	false
PFUnA_1	563.0 / 519.0	3.70	379710.62	952.126142	207.6	false
PFUnA_2	563.0 / 269.0	3.70	21617.93	971.215683	112.2	false
PFDaA_1	613.0 / 569.0	3.98	350132.69	1022.115999	274.1	false
PFDaA_2	613.0 / 319.0	3.98	55571.31	1041.019289	240.2	false
PFTTrDA_1	663.0 / 619.0	4.22	326110.65	1004.955727	389.5	false
PFTTrDA_2	663.0 / 169.0	4.22	20714.44	987.743569	282.8	false
PFTTeDA_1	713.0 / 669.0	4.44	335942.90	983.882032	755.0	false
PFTTeDA_2	713.0 / 169.0	4.44	16313.53	1035.279502	479.9	false
NMeFOSAA_1	570.0 / 419.0	3.54	58458.32	1164.796006	469.5	false
NMeFOSAA_2	570.0 / 512.0	3.54	28926.10	1103.726187	308.0	false
NEtFOSAA_1	584.0 / 419.0	3.70	55956.13	826.111083	447.8	false
NEtFOSAA_2	584.0 / 483.0	3.70	4367.34	982.429440	153.7	false

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	1143902.46	2415.467312	427.4	false
PFBS_2	298.9 / 99.0	1.53	346978.72	2436.678757	560.5	false
PFHxA_1	313.0 / 269.0	1.84	834958.65	2278.119640	104.0	false
PFHxA_2	313.0 / 119.0	1.84	62455.49	2355.208108	109.5	false
PFHpA_1	363.0 / 319.0	2.24	790104.78	2252.829522	159.2	false
PFHpA_2	363.0 / 169.0	2.24	14726.62	2342.415872	134.3	false
PFHxS_1	399.0 / 80.0	2.26	1156199.73	2823.288853	257.6	false
PFHxS_2	399.0 / 99.0	2.26	326186.97	2690.569782	459.3	false
PFOA_1	413.0 / 369.0	2.64	1074337.09	2284.369929	344.4	false
PFOA_2	413.0 / 169.0	2.64	68385.80	2358.583721	249.6	false
PFNA_1	463.0 / 419.0	3.03	870172.02	2236.490170	356.5	false
PFNA_2	463.0 / 219.0	3.03	288489.29	2398.006653	247.5	false
PFOS_1	499.0 / 80.0	3.03	1554676.88	2696.390823	207.8	true
PFOS_2	499.0 / 99.0	3.03	281086.40	2748.404248	545.2	false
PFDA_1	513.0 / 469.0	3.39	1017655.03	2506.479732	298.4	false
PFDA_2	513.0 / 219.0	3.39	39012.43	2193.621549	146.7	false
PFUnA_1	563.0 / 519.0	3.70	969431.38	2241.567922	313.1	false
PFUnA_2	563.0 / 269.0	3.70	54615.13	2445.841442	188.7	false
PFDoA_1	613.0 / 569.0	3.98	895841.97	2509.497606	344.6	false
PFDoA_2	613.0 / 319.0	3.98	139044.43	2484.858387	320.9	false
PFTTrDA_1	663.0 / 619.0	4.23	805600.71	2695.462359	576.3	false
PFTTrDA_2	663.0 / 169.0	4.23	51582.19	2680.204633	426.0	false
PFTeDA_1	713.0 / 669.0	4.45	861619.57	2726.085691	1088.5	false
PFTeDA_2	713.0 / 169.0	4.44	40543.61	2797.519760	874.0	false
NMeFOSAA_1	570.0 / 419.0	3.54	142377.99	2544.410026	486.5	false
NMeFOSAA_2	570.0 / 512.0	3.54	75678.17	2608.901990	441.2	false
NEtFOSAA_1	584.0 / 419.0	3.70	142447.84	2066.772574	592.1	false
NEtFOSAA_2	584.0 / 483.0	3.70	8790.97	2054.571995	219.1	false

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.98	84236.08	250.992779	962.2	false
d3-MeFOSAA	573.0 / 419.0	3.53	13300.86	276.526223	129.7	false
d5-EtFOSAA	589.0 / 419.0	3.69	14295.39	281.958950	171.3	false
13C5-PFHxA	318.0 / 273.0	1.83	68618.03	237.907268	466.1	false
13C4-PFHpA	367.0 / 322.0	2.23	77657.76	243.902872	606.7	false
13C8-PFOA	421.0 / 376.0	2.64	87151.50	251.055812	1071.9	false
13C9-PFNA	472.0 / 427.0	3.02	84939.57	256.909981	951.0	false
13C6-PFDA	519.0 / 474.0	3.37	89048.54	276.444162	863.7	false
13C7-PFUnA	570.0 / 525.0	3.69	85784.09	274.732105	829.6	false
13C2-PFTeDA	715.0 / 670.0	4.44	60663.51	248.274356	1233.9	false
13C3-PFBS	302.0 / 99.0	1.51	33917.34	212.675027	456.0	false
13C3-PFHxS	402.0 / 99.0	2.25	25800.28	220.676266	186.0	false
13C8-PFOS	507.0 / 99.0	3.02	32849.95	260.132830	206.4	false

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	91764.77	231.369389	862.0	false
d3-MeFOSAA	573.0 / 419.0	3.53	11620.55	240.476601	132.1	false
d5-EtFOSAA	589.0 / 419.0	3.69	14928.45	293.085310	128.7	false
13C5-PFHxA	318.0 / 273.0	1.83	82295.06	273.950457	525.0	false
13C4-PFHpA	367.0 / 322.0	2.23	86691.68	261.419706	606.8	false
13C8-PFOA	421.0 / 376.0	2.63	99402.19	274.928776	1008.1	false
13C9-PFNA	472.0 / 427.0	3.02	97851.11	284.161675	881.6	false
13C6-PFDA	519.0 / 474.0	3.37	93351.80	245.228042	728.8	false
13C7-PFUnA	570.0 / 525.0	3.69	89792.39	243.337478	678.4	false
13C2-PFTeDA	715.0 / 670.0	4.43	71198.36	246.570475	1343.9	false
13C3-PFBS	302.0 / 99.0	1.52	38201.20	238.430205	463.9	false
13C3-PFHxS	402.0 / 99.0	2.25	28197.30	240.064639	254.4	false
13C8-PFOS	507.0 / 99.0	3.02	32878.21	259.154047	226.7	false

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	95210.07	245.594017	1223.5	false
d3-MeFOSAA	573.0 / 419.0	3.53	12994.74	239.169612	117.3	false
d5-EtFOSAA	589.0 / 419.0	3.69	14760.14	257.728243	137.7	false
13C5-PFHxA	318.0 / 273.0	1.82	80364.54	268.663220	568.4	false
13C4-PFHpA	367.0 / 322.0	2.23	84639.38	256.317854	489.6	false
13C8-PFOA	421.0 / 376.0	2.63	96570.99	268.235603	1462.9	false
13C9-PFNA	472.0 / 427.0	3.02	91828.63	267.807852	777.7	false
13C6-PFDA	519.0 / 474.0	3.37	90425.50	243.020767	1731.5	false
13C7-PFUnA	570.0 / 525.0	3.69	96041.51	266.276874	748.1	false
13C2-PFTeDA	715.0 / 670.0	4.44	65688.53	232.737117	1251.2	false
13C3-PFBS	302.0 / 99.0	1.51	37235.60	206.697246	498.2	false
13C3-PFHxS	402.0 / 99.0	2.25	25464.14	192.815470	235.5	false
13C8-PFOS	507.0 / 99.0	3.02	28981.67	203.172706	188.6	false

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.080	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.04	PFNA			
PFNA_2	463.0 / 219.0	3.04	PFNA	0.320	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.39	PFDA			
PFDA_2	513.0 / 219.0	3.39	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.71	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.99	PFDoA			
PFDoA_2	613.0 / 319.0	3.99	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.23	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.45	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.45	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.480	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.060	0.076	ü

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.310	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.64	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.03	PFNA			
PFNA_2	463.0 / 219.0	3.03	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.38	PFDA			
PFDA_2	513.0 / 219.0	3.38	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.70	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.98	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.22	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.490	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.080	0.076	ü



Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.280	0.299	ü
PFOA_1	413.0 / 369.0	2.64	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.03	PFNA			
PFNA_2	463.0 / 219.0	3.03	PFNA	0.330	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.39	PFDA			
PFDA_2	513.0 / 219.0	3.39	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.70	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.98	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.23	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.45	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.530	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.060	0.076	ü

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	33917.34	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	33917.34	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	68618.03	250.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	68618.03	250.00
PFHpA_1	363.0 / 319.0	2.24	13C8-PFOA	421.0 / 376.0	88185.75	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	88185.75	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	25800.28	236.50
PFHxS_2	399.0 / 99.0	2.26	13C3-PFHxS	402.0 / 99.0	25800.28	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	88185.75	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	88185.75	250.00
PFNA_1	463.0 / 419.0	3.04	13C9-PFNA	472.0 / 427.0	84939.57	250.00
PFNA_2	463.0 / 219.0	3.04	13C9-PFNA	472.0 / 427.0	84939.57	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	33668.99	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	33668.99	239.25
PFDA_1	513.0 / 469.0	3.39	13C6-PFDA	519.0 / 474.0	89048.54	250.00
PFDA_2	513.0 / 219.0	3.39	13C6-PFDA	519.0 / 474.0	89048.54	250.00
PFUnA_1	563.0 / 519.0	3.71	13C7-PFUnA	570.0 / 525.0	85784.09	250.00
PFUnA_2	563.0 / 269.0	3.70	13C7-PFUnA	570.0 / 525.0	85784.09	250.00
PFDaA_1	613.0 / 569.0	3.99	13C2-PFDaA	615.0 / 570.0	84236.08	250.00
PFDaA_2	613.0 / 319.0	3.99	13C2-PFDaA	615.0 / 570.0	84236.08	250.00
PFTeDA_1	663.0 / 619.0	4.23	13C2-PFTeDA	715.0 / 670.0	60663.51	250.00
PFTeDA_2	663.0 / 169.0	4.23	13C2-PFTeDA	715.0 / 670.0	60663.51	250.00
PFTeDA_1	713.0 / 669.0	4.45	13C2-PFTeDA	715.0 / 670.0	60663.51	250.00
PFTeDA_2	713.0 / 169.0	4.45	13C2-PFTeDA	715.0 / 670.0	60663.51	250.00
NMeFOSAA_1	570.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	13300.86	250.00
NMeFOSAA_2	570.0 / 512.0	3.54	d3-MeFOSAA	573.0 / 419.0	13300.86	250.00
NEtFOSAA_1	584.0 / 419.0	3.70	d5-EtFOSAA	589.0 / 419.0	14295.39	250.00
NEtFOSAA_2	584.0 / 483.0	3.70	d5-EtFOSAA	589.0 / 419.0	14295.39	250.00

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	38201.20	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	38201.20	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	82295.06	250.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	82295.06	250.00
PFHpA_1	363.0 / 319.0	2.24	13C8-PFOA	421.0 / 376.0	100574.38	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	100574.38	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	28197.30	236.50
PFHxS_2	399.0 / 99.0	2.26	13C3-PFHxS	402.0 / 99.0	28197.30	236.50
PFOA_1	413.0 / 369.0	2.64	13C8-PFOA	421.0 / 376.0	100574.38	250.00
PFOA_2	413.0 / 169.0	2.64	13C8-PFOA	421.0 / 376.0	100574.38	250.00
PFNA_1	463.0 / 419.0	3.03	13C9-PFNA	472.0 / 427.0	97851.11	250.00
PFNA_2	463.0 / 219.0	3.03	13C9-PFNA	472.0 / 427.0	97851.11	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	33194.30	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	33194.30	239.25
PFDA_1	513.0 / 469.0	3.38	13C6-PFDA	519.0 / 474.0	93351.80	250.00
PFDA_2	513.0 / 219.0	3.38	13C6-PFDA	519.0 / 474.0	93351.80	250.00
PFAUnA_1	563.0 / 519.0	3.70	13C7-PFAUnA	570.0 / 525.0	89792.39	250.00
PFAUnA_2	563.0 / 269.0	3.70	13C7-PFAUnA	570.0 / 525.0	89792.39	250.00
PFDaA_1	613.0 / 569.0	3.98	13C2-PFDaA	615.0 / 570.0	91764.77	250.00
PFDaA_2	613.0 / 319.0	3.98	13C2-PFDaA	615.0 / 570.0	91764.77	250.00
PFTeDA_1	663.0 / 619.0	4.22	13C2-PFTeDA	715.0 / 670.0	71198.36	250.00
PFTeDA_2	663.0 / 169.0	4.22	13C2-PFTeDA	715.0 / 670.0	71198.36	250.00
PFTeDA_1	713.0 / 669.0	4.44	13C2-PFTeDA	715.0 / 670.0	71198.36	250.00
PFTeDA_2	713.0 / 169.0	4.44	13C2-PFTeDA	715.0 / 670.0	71198.36	250.00
NMeFOSAA_1	570.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	11620.55	250.00
NMeFOSAA_2	570.0 / 512.0	3.54	d3-MeFOSAA	573.0 / 419.0	11620.55	250.00
NEtFOSAA_1	584.0 / 419.0	3.70	d5-EtFOSAA	589.0 / 419.0	14928.45	250.00
NEtFOSAA_2	584.0 / 483.0	3.70	d5-EtFOSAA	589.0 / 419.0	14928.45	250.00

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	37235.60	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	37235.60	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	80364.54	250.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	80364.54	250.00
PFHpA_1	363.0 / 319.0	2.24	13C8-PFOA	421.0 / 376.0	97027.11	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	97027.11	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	25464.14	236.50
PFHxS_2	399.0 / 99.0	2.26	13C3-PFHxS	402.0 / 99.0	25464.14	236.50
PFOA_1	413.0 / 369.0	2.64	13C8-PFOA	421.0 / 376.0	97027.11	250.00
PFOA_2	413.0 / 169.0	2.64	13C8-PFOA	421.0 / 376.0	97027.11	250.00
PFNA_1	463.0 / 419.0	3.03	13C9-PFNA	472.0 / 427.0	91828.63	250.00
PFNA_2	463.0 / 219.0	3.03	13C9-PFNA	472.0 / 427.0	91828.63	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	29160.76	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	29160.76	239.25
PFDA_1	513.0 / 469.0	3.39	13C6-PFDA	519.0 / 474.0	90425.50	250.00
PFDA_2	513.0 / 219.0	3.39	13C6-PFDA	519.0 / 474.0	90425.50	250.00
PFAUnA_1	563.0 / 519.0	3.70	13C7-PFAUnA	570.0 / 525.0	96041.51	250.00
PFAUnA_2	563.0 / 269.0	3.70	13C7-PFAUnA	570.0 / 525.0	96041.51	250.00
PFDaA_1	613.0 / 569.0	3.98	13C2-PFDaA	615.0 / 570.0	95210.07	250.00
PFDaA_2	613.0 / 319.0	3.98	13C2-PFDaA	615.0 / 570.0	95210.07	250.00
PFTeDA_1	663.0 / 619.0	4.23	13C2-PFTeDA	715.0 / 670.0	65688.53	250.00
PFTeDA_2	663.0 / 169.0	4.23	13C2-PFTeDA	715.0 / 670.0	65688.53	250.00
PFTeDA_1	713.0 / 669.0	4.45	13C2-PFTeDA	715.0 / 670.0	65688.53	250.00
PFTeDA_2	713.0 / 169.0	4.44	13C2-PFTeDA	715.0 / 670.0	65688.53	250.00
NMeFOSAA_1	570.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	12994.74	250.00
NMeFOSAA_2	570.0 / 512.0	3.54	d3-MeFOSAA	573.0 / 419.0	12994.74	250.00
NEtFOSAA_1	584.0 / 419.0	3.70	d5-EtFOSAA	589.0 / 419.0	14760.14	250.00
NEtFOSAA_2	584.0 / 483.0	3.70	d5-EtFOSAA	589.0 / 419.0	14760.14	250.00

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.98	13C2-PFDA	515.0 / 470.0	79763.55	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	28244.53	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	28244.53	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	79878.58	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	79878.58	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	79878.58	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	79878.58	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	79763.55	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	79763.55	250.00
13C2-PFTeDA	715.0 / 670.0	4.44	13C2-PFDA	515.0 / 470.0	79763.55	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	28244.53	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	28244.53	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	28244.53	239.25

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	94262.22	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	28375.59	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	28375.59	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	83195.82	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	83195.82	250.00
13C8-PFOA	421.0 / 376.0	2.63	13C2-PFOA	415.0 / 370.0	83195.82	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	83195.82	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	94262.22	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	94262.22	250.00
13C2-PFTeDA	715.0 / 670.0	4.43	13C2-PFDA	515.0 / 470.0	94262.22	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	28375.59	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	28375.59	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	28375.59	239.25

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	92136.70	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	31904.56	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	31904.56	239.25
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	82843.04	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	82843.04	250.00
13C8-PFOA	421.0 / 376.0	2.63	13C2-PFOA	415.0 / 370.0	82843.04	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	82843.04	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	92136.70	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	92136.70	250.00
13C2-PFTeDA	715.0 / 670.0	4.44	13C2-PFDA	515.0 / 470.0	92136.70	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	31904.56	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	31904.56	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	31904.56	239.25

Raw Analytical Data

Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.03	11791.33	40.979626	15.1	true
PFOS_2	499.0 / 99.0	3.05	2009.05	20.307029	13.5	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.71	2175.53	28.517180	11.7	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	4.24	2566.75	6.600972	34.5	false
PFTTrDA_2	663.0 / 169.0	4.25	178.81	1.773373	12.0	false
PFTeDA_1	713.0 / 669.0	4.45	2726.32	14.457001	65.7	false
PFTeDA_2	713.0 / 169.0	4.47	213.40	10.924622	16.0	false
NMeFOSAA_1	570.0 / 419.0	3.56	1006.72	15.681999	36.7	false
NMeFOSAA_2	570.0 / 512.0	3.57	645.89	7.542537	15.2	false
NEtFOSAA_1	584.0 / 419.0	3.72	637.11	49.773647	23.9	false
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	1.50	4666.98	48.015031	29.6	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	2.24	363.63	123.713313	7.7	false
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.65	115836.72	301.522575	92.9	false
PFOA_2	413.0 / 169.0	2.65	6583.40	278.583351	70.0	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.03	16268.19	47.358006	15.0	true
PFOS_2	499.0 / 99.0	3.03	2158.48	20.262636	14.8	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	882382.60	2192.037823	371.7	false
PFBS_2	298.9 / 99.0	1.53	258435.23	2133.970661	367.0	false
PFHxA_1	313.0 / 269.0	1.84	607902.47	2151.635512	91.1	false
PFHxA_2	313.0 / 119.0	1.84	47473.48	2320.514322	93.0	false
PFHpA_1	363.0 / 319.0	2.24	576343.99	2118.065537	149.4	false
PFHpA_2	363.0 / 169.0	2.24	10322.89	2115.063424	118.9	false
PFHxS_1	399.0 / 80.0	2.26	825490.29	2335.532703	204.7	false
PFHxS_2	399.0 / 99.0	2.26	238073.78	2274.541203	383.4	false
PFOA_1	413.0 / 369.0	2.65	917254.82	2501.250690	457.3	false
PFOA_2	413.0 / 169.0	2.64	49046.06	2175.336712	209.2	false
PFNA_1	463.0 / 419.0	3.04	668246.93	2166.038902	296.9	false
PFNA_2	463.0 / 219.0	3.04	198525.83	2083.437765	201.3	false
PFOS_1	499.0 / 80.0	3.03	1184874.81	2416.032798	164.4	false
PFOS_2	499.0 / 99.0	3.03	207265.46	2380.515232	488.7	false
PFDA_1	513.0 / 469.0	3.39	741717.65	2190.193787	267.1	false
PFDA_2	513.0 / 219.0	3.39	35369.30	2384.949135	193.8	false
PFUnA_1	563.0 / 519.0	3.70	735268.30	2232.620421	288.9	false
PFUnA_2	563.0 / 269.0	3.70	43542.97	2565.881522	174.9	false
PFDoA_1	613.0 / 569.0	3.98	669262.73	2460.106070	337.3	false
PFDoA_2	613.0 / 319.0	3.98	103462.16	2426.509584	292.4	false
PFTTrDA_1	663.0 / 619.0	4.23	582450.65	2420.318696	529.1	false
PFTTrDA_2	663.0 / 169.0	4.22	39654.96	2558.893861	415.0	false
PFTeDA_1	713.0 / 669.0	4.44	632822.30	2487.334086	939.1	false
PFTeDA_2	713.0 / 169.0	4.44	30839.44	2642.780602	675.8	false
NMeFOSAA_1	570.0 / 419.0	3.54	107777.59	2451.377538	397.5	false
NMeFOSAA_2	570.0 / 512.0	3.54	59196.19	2597.436643	367.3	false
NEtFOSAA_1	584.0 / 419.0	3.70	113164.66	2183.804714	539.2	false
NEtFOSAA_2	584.0 / 483.0	3.70	6944.22	2163.511432	163.0	false

Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	1.52	8136.25	82.154026	27.1	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.26	49070.54	139.880609	53.0	false
PFHxS_2	399.0 / 99.0	2.26	13729.62	131.252236	87.9	false
PFOA_1	413.0 / 369.0	2.64	114891.31	324.023341	40.1	false
PFOA_2	413.0 / 169.0	2.65	6937.54	315.853341	61.7	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	2.97	50522.45	114.796774	20.4	true
PFOS_2	499.0 / 99.0	3.04	5554.27	58.620592	24.2	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.97	3152.79	19.496069	18.8	false
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	4.23	1450.83	2.918026	24.4	false
PFTTrDA_2	663.0 / 169.0	4.23	266.42	7.879883	14.2	true
PFTeDA_1	713.0 / 669.0	4.43	1924.95	12.189319	28.5	false
PFTeDA_2	713.0 / 169.0	4.50	118.39	4.423977	9.4	false
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.26	33692.57	105.384367	43.9	false
PFHxS_2	399.0 / 99.0	2.26	9531.07	99.449034	61.7	false
PFOA_1	413.0 / 369.0	2.65	140972.64	400.612355	54.8	false
PFOA_2	413.0 / 169.0	2.64	7942.08	367.168328	46.6	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.04	142816.10	297.562112	75.0	true
PFOS_2	499.0 / 99.0	3.03	22113.52	243.950459	90.0	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	4.21	758.02	0.211256	14.8	false
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	3.54	480.04	4.164057	19.2	false
NMeFOSAA_2	570.0 / 512.0	3.52	779.40	13.263400	24.5	false
NEtFOSAA_1	584.0 / 419.0	3.71	1206.15	66.926225	43.1	false
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.65	87998.19	272.051957	38.3	false
PFOA_2	413.0 / 169.0	2.65	4673.05	237.192898	47.5	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.04	16228.66	55.258937	18.9	false
PFOS_2	499.0 / 99.0	3.05	1959.41	23.711266	14.2	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.65	99162.09	304.794128	39.0	false
PFOA_2	413.0 / 169.0	2.64	6628.93	325.003807	54.9	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.05	123324.84	244.592813	78.2	false
PFOS_2	499.0 / 99.0	3.02	3446.52	34.299138	22.5	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDaA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDaA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	4.25	920.66	0.799290	13.5	false
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	41617.21	149.360987	43.6	false
PFBS_2	298.9 / 99.0	1.53	11947.23	128.158329	44.7	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.26	75746.65	243.013363	86.6	false
PFHxS_2	399.0 / 99.0	2.27	24622.52	261.770535	137.2	false
PFOA_1	413.0 / 369.0	2.65	137194.73	434.643333	67.9	false
PFOA_2	413.0 / 169.0	2.65	10716.57	538.608663	60.0	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	2.99	207917.31	536.555912	69.5	true
PFOS_2	499.0 / 99.0	3.03	34184.27	482.304470	109.4	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.65	89461.53	315.960639	42.2	false
PFOA_2	413.0 / 169.0	2.65	5354.17	305.529042	45.6	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.04	61596.86	154.472373	45.2	false
PFOS_2	499.0 / 99.0	3.04	10385.13	128.754045	55.6	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	4.24	832.06	1.336186	13.6	false
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.98	80947.34	237.876798	844.1	false
d3-MeFOSAA	573.0 / 419.0	3.54	10630.41	203.765670	124.1	false
d5-EtFOSAA	589.0 / 419.0	3.70	11627.20	211.441057	122.2	false
13C5-PFHxA	318.0 / 273.0	1.83	69231.77	261.711666	663.7	false
13C4-PFHpA	367.0 / 322.0	2.24	80819.31	276.754945	657.2	false
13C8-PFOA	421.0 / 376.0	2.64	90057.64	282.855208	1385.5	false
13C9-PFNA	472.0 / 427.0	3.03	80472.94	265.380467	1089.2	false
13C6-PFDA	519.0 / 474.0	3.38	83934.65	256.985325	7275.6	false
13C7-PFUnA	570.0 / 525.0	3.70	78650.30	248.421640	594.2	false
13C2-PFTeDA	715.0 / 670.0	4.45	60222.12	243.078608	1455.2	false
13C3-PFBS	302.0 / 99.0	1.52	30582.57	176.804415	429.4	false
13C3-PFHxS	402.0 / 99.0	2.26	26181.22	206.464486	216.2	false
13C8-PFOS	507.0 / 99.0	3.03	26160.26	190.997087	159.5	false

Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	77080.21	214.610246	1038.0	false
d3-MeFOSAA	573.0 / 419.0	3.53	10133.21	221.332175	107.7	false
d5-EtFOSAA	589.0 / 419.0	3.69	13562.04	281.032002	139.1	false
13C5-PFHxA	318.0 / 273.0	1.83	70847.14	254.864857	624.8	false
13C4-PFHpA	367.0 / 322.0	2.23	76766.72	250.163066	631.3	false
13C8-PFOA	421.0 / 376.0	2.64	88688.12	265.081245	1318.9	false
13C9-PFNA	472.0 / 427.0	3.02	70074.25	219.911270	988.6	false
13C6-PFDA	519.0 / 474.0	3.37	78325.29	227.209830	1365.2	false
13C7-PFUnA	570.0 / 525.0	3.69	81767.85	244.697599	673.9	false
13C2-PFTeDA	715.0 / 670.0	4.44	55532.78	212.372464	1216.7	false
13C3-PFBS	302.0 / 99.0	1.51	31802.04	209.503063	373.5	false
13C3-PFHxS	402.0 / 99.0	2.25	26096.81	234.508929	217.0	false
13C8-PFOS	507.0 / 99.0	3.02	27564.17	229.322189	171.0	false

Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	72561.67	232.298777	2692.4	false
d3-MeFOSAA	573.0 / 419.0	3.53	10209.14	243.175030	130.0	false
d5-EtFOSAA	589.0 / 419.0	3.69	11086.28	250.523654	159.9	false
13C5-PFHxA	318.0 / 273.0	1.83	61998.64	231.672342	462.1	false
13C4-PFHpA	367.0 / 322.0	2.23	69226.99	234.331141	588.6	false
13C8-PFOA	421.0 / 376.0	2.64	74755.69	232.093080	779.4	false
13C9-PFNA	472.0 / 427.0	3.02	72843.89	237.457855	892.3	false
13C6-PFDA	519.0 / 474.0	3.37	75519.76	251.893985	804.9	false
13C7-PFUnA	570.0 / 525.0	3.69	73137.88	251.664264	636.9	false
13C2-PFTeDA	715.0 / 670.0	4.43	52885.76	232.551737	1122.8	false
13C3-PFBS	302.0 / 99.0	1.51	31685.88	227.632207	341.0	false
13C3-PFHxS	402.0 / 99.0	2.25	22022.40	215.808736	209.9	false
13C8-PFOS	507.0 / 99.0	3.02	23858.88	216.462987	146.7	false

Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	70039.57	212.740144	762.8	false
d3-MeFOSAA	573.0 / 419.0	3.53	9340.64	195.460891	128.2	false
d5-EtFOSAA	589.0 / 419.0	3.69	10331.39	205.104667	98.1	false
13C5-PFHxA	318.0 / 273.0	1.82	71294.90	247.538955	202.5	false
13C4-PFHpA	367.0 / 322.0	2.23	81729.73	257.055981	442.1	false
13C8-PFOA	421.0 / 376.0	2.63	80798.05	233.083685	752.9	false
13C9-PFNA	472.0 / 427.0	3.02	67413.49	204.189459	521.9	false
13C6-PFDA	519.0 / 474.0	3.37	72295.34	228.788289	656.8	false
13C7-PFUnA	570.0 / 525.0	3.69	74939.85	244.657375	557.2	false
13C2-PFTeDA	715.0 / 670.0	4.43	56056.24	233.868178	917.9	false
13C3-PFBS	302.0 / 99.0	1.51	29284.56	184.824756	334.7	false
13C3-PFHxS	402.0 / 99.0	2.25	26844.67	231.108529	212.8	false
13C8-PFOS	507.0 / 99.0	3.02	27439.68	218.708771	179.7	false

Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.98	74451.82	210.282240	849.0	false
d3-MeFOSAA	573.0 / 419.0	3.54	10613.81	231.110172	116.8	false
d5-EtFOSAA	589.0 / 419.0	3.69	8842.82	182.671858	111.5	false
13C5-PFHxA	318.0 / 273.0	1.83	67382.32	229.468445	213.9	false
13C4-PFHpA	367.0 / 322.0	2.23	75714.95	233.572245	441.2	false
13C8-PFOA	421.0 / 376.0	2.64	77666.24	219.753200	765.4	false
13C9-PFNA	472.0 / 427.0	3.02	81806.95	243.034910	698.4	false
13C6-PFDA	519.0 / 474.0	3.37	78150.98	229.974265	883.7	false
13C7-PFUnA	570.0 / 525.0	3.69	77159.05	234.236035	707.3	false
13C2-PFTeDA	715.0 / 670.0	4.44	55822.72	216.560630	1524.7	false
13C3-PFBS	302.0 / 99.0	1.51	28852.88	189.485076	282.1	false
13C3-PFHxS	402.0 / 99.0	2.25	26576.80	238.081214	212.2	false
13C8-PFOS	507.0 / 99.0	3.02	25279.96	209.665988	160.9	false

Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	64533.45	183.348957	652.7	false
d3-MeFOSAA	573.0 / 419.0	3.53	8527.61	195.005768	116.4	false
d5-EtFOSAA	589.0 / 419.0	3.69	8836.64	191.708201	126.3	false
13C5-PFHxA	318.0 / 273.0	1.83	63602.96	248.519229	164.0	false
13C4-PFHpA	367.0 / 322.0	2.23	75881.22	268.583648	423.6	false
13C8-PFOA	421.0 / 376.0	2.64	75633.29	245.539652	1045.8	false
13C9-PFNA	472.0 / 427.0	3.02	66817.33	227.757767	560.2	false
13C6-PFDA	519.0 / 474.0	3.37	71698.26	212.236315	626.6	false
13C7-PFUnA	570.0 / 525.0	3.69	66856.73	204.163559	474.1	false
13C2-PFTeDA	715.0 / 670.0	4.44	52736.04	205.798536	1158.2	false
13C3-PFBS	302.0 / 99.0	1.51	24260.49	167.323888	275.7	false
13C3-PFHxS	402.0 / 99.0	2.25	24633.18	231.747630	195.4	false
13C8-PFOS	507.0 / 99.0	3.02	20884.19	181.903723	143.7	false

Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	82715.83	238.748716	912.4	false
d3-MeFOSAA	573.0 / 419.0	3.53	9550.37	217.549363	120.8	false
d5-EtFOSAA	589.0 / 419.0	3.69	10549.43	227.981599	114.2	false
13C5-PFHxA	318.0 / 273.0	1.83	64535.27	247.005915	180.7	false
13C4-PFHpA	367.0 / 322.0	2.23	77941.49	270.234967	426.7	false
13C8-PFOA	421.0 / 376.0	2.64	74625.94	237.315454	553.0	false
13C9-PFNA	472.0 / 427.0	3.02	79197.75	264.438387	423.5	false
13C6-PFDA	519.0 / 474.0	3.37	76311.27	229.487293	777.7	false
13C7-PFUnA	570.0 / 525.0	3.69	72479.48	224.857327	806.8	false
13C2-PFTeDA	715.0 / 670.0	4.43	56650.32	224.592865	1664.8	false
13C3-PFBS	302.0 / 99.0	1.51	23381.71	160.639412	228.0	false
13C3-PFHxS	402.0 / 99.0	2.25	22353.33	209.485713	183.8	false
13C8-PFOS	507.0 / 99.0	3.02	26893.10	233.336326	142.4	false

Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.97	46520.74	164.222455	548.3	false
d3-MeFOSAA	573.0 / 419.0	3.53	5343.99	137.236797	104.2	false
d5-EtFOSAA	589.0 / 419.0	3.69	6613.76	161.133906	80.4	false
13C5-PFHxA	318.0 / 273.0	1.83	57903.51	240.547135	277.4	false
13C4-PFHpA	367.0 / 322.0	2.23	70148.60	263.983551	465.6	false
13C8-PFOA	421.0 / 376.0	2.64	69215.95	238.906193	921.4	false
13C9-PFNA	472.0 / 427.0	3.03	62725.24	227.320759	702.1	false
13C6-PFDA	519.0 / 474.0	3.37	59234.93	217.861904	677.0	false
13C7-PFUnA	570.0 / 525.0	3.69	57605.03	218.567641	673.2	false
13C2-PFTeDA	715.0 / 670.0	4.43	33612.27	162.976491	967.0	false
13C3-PFBS	302.0 / 99.0	1.51	26287.92	203.610131	351.1	false
13C3-PFHxS	402.0 / 99.0	2.26	21624.83	228.471641	217.9	false
13C8-PFOS	507.0 / 99.0	3.03	19944.79	195.091420	146.1	false

Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.98	65518.07	220.659006	866.6	false
d3-MeFOSAA	573.0 / 419.0	3.54	8000.45	196.062737	100.6	false
d5-EtFOSAA	589.0 / 419.0	3.70	9478.81	220.377767	113.1	false
13C5-PFHxA	318.0 / 273.0	1.83	57674.42	221.117762	205.9	false
13C4-PFHpA	367.0 / 322.0	2.23	68477.37	237.820933	531.1	false
13C8-PFOA	421.0 / 376.0	2.64	64533.71	205.566810	688.7	false
13C9-PFNA	472.0 / 427.0	3.02	62628.66	209.466684	495.4	false
13C6-PFDA	519.0 / 474.0	3.38	65326.83	229.229064	851.3	false
13C7-PFUnA	570.0 / 525.0	3.69	59826.59	216.568013	502.3	false
13C2-PFTeDA	715.0 / 670.0	4.44	44514.38	205.921670	1550.8	false
13C3-PFBS	302.0 / 99.0	1.52	26674.26	197.156613	352.8	false
13C3-PFHxS	402.0 / 99.0	2.25	24334.46	245.344914	203.4	false
13C8-PFOS	507.0 / 99.0	3.02	21792.90	203.422798	122.3	false

Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	3.71	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	4.24	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.25	PFTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.45	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.080	0.047	
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.640	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	



Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	N/A	0.313	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	N/A	0.017	
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.130	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.080	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.050	0.062	ü
PFNA_1	463.0 / 419.0	3.04	PFNA			
PFNA_2	463.0 / 219.0	3.04	PFNA	0.300	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	3.39	PFDA			
PFDA_2	513.0 / 219.0	3.39	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.70	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.98	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	PFDoA	0.150	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.550	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.060	0.076	ü

Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	N/A	0.313	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.280	0.299	ü
PFOA_1	413.0 / 369.0	2.64	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	2.97	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.110	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	3.97	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	
PFTrDA_1	663.0 / 619.0	4.23	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.23	PFTrDA	0.180	0.065	
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.060	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.280	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.150	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.21	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.52	NMeFOSAA	1.620	0.534	
NEtFOSAA_1	584.0 / 419.0	3.71	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	

Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.050	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.120	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.070	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.02	PFOS	0.030	0.186	
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.330	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.080	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	2.99	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.160	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü

Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü

Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	30582.57	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	30582.57	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	69231.77	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	69231.77	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	90952.99	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	90952.99	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	26181.22	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	26181.22	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	90952.99	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	90952.99	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	80472.94	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	80472.94	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	26145.85	239.25
PFOS_2	499.0 / 99.0	3.05	13C8-PFOS	507.0 / 99.0	26145.85	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	83934.65	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	83934.65	250.00
PFUnA_1	563.0 / 519.0	3.71	13C7-PFUnA	570.0 / 525.0	78650.30	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	78650.30	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	80947.34	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	80947.34	250.00
PFTeDA_1	663.0 / 619.0	4.24	13C2-PFTeDA	715.0 / 670.0	60222.12	250.00
PFTeDA_2	663.0 / 169.0	4.25	13C2-PFTeDA	715.0 / 670.0	60222.12	250.00
PFTeDA_1	713.0 / 669.0	4.45	13C2-PFTeDA	715.0 / 670.0	60222.12	250.00
PFTeDA_2	713.0 / 169.0	4.47	13C2-PFTeDA	715.0 / 670.0	60222.12	250.00
NMeFOSAA_1	570.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	10630.41	250.00
NMeFOSAA_2	570.0 / 512.0	3.57	d3-MeFOSAA	573.0 / 419.0	10630.41	250.00
NEtFOSAA_1	584.0 / 419.0	3.72	d5-EtFOSAA	589.0 / 419.0	11627.20	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	11627.20	250.00

Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	31802.04	232.25
PFBS_2	298.9 / 99.0	1.50	13C3-PFBS	302.0 / 99.0	31802.04	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	70847.14	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	70847.14	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	89215.52	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	89215.52	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	26096.81	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	26096.81	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	89215.52	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	89215.52	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	70074.25	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	70074.25	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	28147.53	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	28147.53	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	78325.29	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	78325.29	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	81767.85	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	81767.85	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	77080.21	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	77080.21	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	55532.78	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	55532.78	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	55532.78	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	55532.78	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10133.21	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10133.21	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13562.04	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13562.04	250.00

Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	31685.88	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	31685.88	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	61998.64	250.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	61998.64	250.00
PFHpA_1	363.0 / 319.0	2.24	13C8-PFOA	421.0 / 376.0	75546.28	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	75546.28	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	22022.40	236.50
PFHxS_2	399.0 / 99.0	2.26	13C3-PFHxS	402.0 / 99.0	22022.40	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	75546.28	250.00
PFOA_2	413.0 / 169.0	2.64	13C8-PFOA	421.0 / 376.0	75546.28	250.00
PFNA_1	463.0 / 419.0	3.04	13C9-PFNA	472.0 / 427.0	72843.89	250.00
PFNA_2	463.0 / 219.0	3.04	13C9-PFNA	472.0 / 427.0	72843.89	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	24823.11	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	24823.11	239.25
PFDA_1	513.0 / 469.0	3.39	13C6-PFDA	519.0 / 474.0	75519.76	250.00
PFDA_2	513.0 / 219.0	3.39	13C6-PFDA	519.0 / 474.0	75519.76	250.00
PFUnA_1	563.0 / 519.0	3.70	13C7-PFUnA	570.0 / 525.0	73137.88	250.00
PFUnA_2	563.0 / 269.0	3.70	13C7-PFUnA	570.0 / 525.0	73137.88	250.00
PFDoA_1	613.0 / 569.0	3.98	13C2-PFDoA	615.0 / 570.0	72561.67	250.00
PFDoA_2	613.0 / 319.0	3.98	13C2-PFDoA	615.0 / 570.0	72561.67	250.00
PFTeDA_1	663.0 / 619.0	4.23	13C2-PFTeDA	715.0 / 670.0	52885.76	250.00
PFTeDA_2	663.0 / 169.0	4.22	13C2-PFTeDA	715.0 / 670.0	52885.76	250.00
PFTeDA_1	713.0 / 669.0	4.44	13C2-PFTeDA	715.0 / 670.0	52885.76	250.00
PFTeDA_2	713.0 / 169.0	4.44	13C2-PFTeDA	715.0 / 670.0	52885.76	250.00
NMeFOSAA_1	570.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	10209.14	250.00
NMeFOSAA_2	570.0 / 512.0	3.54	d3-MeFOSAA	573.0 / 419.0	10209.14	250.00
NEtFOSAA_1	584.0 / 419.0	3.70	d5-EtFOSAA	589.0 / 419.0	11086.28	250.00
NEtFOSAA_2	584.0 / 483.0	3.70	d5-EtFOSAA	589.0 / 419.0	11086.28	250.00

Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	29284.56	232.25
PFBS_2	298.9 / 99.0	1.52	13C3-PFBS	302.0 / 99.0	29284.56	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	71294.90	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	71294.90	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	81523.31	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	81523.31	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	26844.67	236.50
PFHxS_2	399.0 / 99.0	2.26	13C3-PFHxS	402.0 / 99.0	26844.67	236.50
PFOA_1	413.0 / 369.0	2.64	13C8-PFOA	421.0 / 376.0	81523.31	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	81523.31	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	67413.49	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	67413.49	250.00
PFOS_1	499.0 / 80.0	2.97	13C8-PFOS	507.0 / 99.0	26306.80	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	26306.80	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	72295.34	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	72295.34	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	74939.85	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	74939.85	250.00
PFDoA_1	613.0 / 569.0	3.97	13C2-PFDoA	615.0 / 570.0	70039.57	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	70039.57	250.00
PFTeDA_1	663.0 / 619.0	4.23	13C2-PFTeDA	715.0 / 670.0	56056.24	250.00
PFTeDA_2	663.0 / 169.0	4.23	13C2-PFTeDA	715.0 / 670.0	56056.24	250.00
PFTeDA_1	713.0 / 669.0	4.43	13C2-PFTeDA	715.0 / 670.0	56056.24	250.00
PFTeDA_2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	56056.24	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9340.64	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9340.64	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10331.39	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10331.39	250.00

Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	28852.88	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	28852.88	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	67382.32	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	67382.32	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	78894.92	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	78894.92	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	26576.80	236.50
PFHxS_2	399.0 / 99.0	2.26	13C3-PFHxS	402.0 / 99.0	26576.80	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	78894.92	250.00
PFOA_2	413.0 / 169.0	2.64	13C8-PFOA	421.0 / 376.0	78894.92	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	81806.95	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	81806.95	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	25691.25	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	25691.25	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	78150.98	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	78150.98	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	77159.05	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	77159.05	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	74451.82	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	74451.82	250.00
PFTeDA_1	663.0 / 619.0	4.21	13C2-PFTeDA	715.0 / 670.0	55822.72	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	55822.72	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	55822.72	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	55822.72	250.00
NMeFOSAA_1	570.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	10613.81	250.00
NMeFOSAA_2	570.0 / 512.0	3.52	d3-MeFOSAA	573.0 / 419.0	10613.81	250.00
NEtFOSAA_1	584.0 / 419.0	3.71	d5-EtFOSAA	589.0 / 419.0	8842.82	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	8842.82	250.00

Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	24260.49	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	24260.49	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	63602.96	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	63602.96	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	76313.06	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	76313.06	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	24633.18	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	24633.18	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	76313.06	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	76313.06	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	66817.33	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	66817.33	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	22072.29	239.25
PFOS_2	499.0 / 99.0	3.05	13C8-PFOS	507.0 / 99.0	22072.29	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	71698.26	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	71698.26	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	66856.73	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	66856.73	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	64533.45	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	64533.45	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	52736.04	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	52736.04	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	52736.04	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	52736.04	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	8527.61	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	8527.61	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	8836.64	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	8836.64	250.00

Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	23381.71	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	23381.71	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	64535.27	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	64535.27	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	75436.05	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	75436.05	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	22353.33	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	22353.33	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	75436.05	250.00
PFOA_2	413.0 / 169.0	2.64	13C8-PFOA	421.0 / 376.0	75436.05	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	79197.75	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	79197.75	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	27378.48	239.25
PFOS_2	499.0 / 99.0	3.02	13C8-PFOS	507.0 / 99.0	27378.48	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	76311.27	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	76311.27	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	72479.48	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	72479.48	250.00
PFDaA_1	613.0 / 569.0	N/A	13C2-PFDaA	615.0 / 570.0	82715.83	250.00
PFDaA_2	613.0 / 319.0	N/A	13C2-PFDaA	615.0 / 570.0	82715.83	250.00
PFTTrDA_1	663.0 / 619.0	4.25	13C2-PFTTeDA	715.0 / 670.0	56650.32	250.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFTTeDA	715.0 / 670.0	56650.32	250.00
PFTTeDA_1	713.0 / 669.0	N/A	13C2-PFTTeDA	715.0 / 670.0	56650.32	250.00
PFTTeDA_2	713.0 / 169.0	N/A	13C2-PFTTeDA	715.0 / 670.0	56650.32	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9550.37	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9550.37	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10549.43	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10549.43	250.00

Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	26287.92	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	26287.92	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	57903.51	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	57903.51	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	21624.83	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	21624.83	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	62725.24	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	62725.24	250.00
PFOS_1	499.0 / 80.0	2.99	13C8-PFOS	507.0 / 99.0	20153.38	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	20153.38	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	59234.93	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	59234.93	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	57605.03	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	57605.03	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	46520.74	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	46520.74	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	5343.99	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	5343.99	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	6613.76	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	6613.76	250.00

Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	26674.26	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	26674.26	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	57674.42	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	57674.42	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	65321.25	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	65321.25	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	24334.46	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	24334.46	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	65321.25	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	65321.25	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	62628.66	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	62628.66	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	22726.47	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	22726.47	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	65326.83	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	65326.83	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	59826.59	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	59826.59	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	65518.07	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	65518.07	250.00
PFTeDA_1	663.0 / 619.0	4.24	13C2-PFTeDA	715.0 / 670.0	44514.38	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	44514.38	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	44514.38	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	44514.38	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	8000.45	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	8000.45	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	9478.81	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	9478.81	250.00

Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.98	13C2-PFDA	515.0 / 470.0	80875.71	250.00
d3-MeFOSAA	573.0 / 419.0	3.54	13C4-PFOS	503.0 / 99.0	30634.45	239.25
d5-EtFOSAA	589.0 / 419.0	3.70	13C4-PFOS	503.0 / 99.0	30634.45	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	73262.57	250.00
13C4-PFHpA	367.0 / 322.0	2.24	13C2-PFOA	415.0 / 370.0	73262.57	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	73262.57	250.00
13C9-PFNA	472.0 / 427.0	3.03	13C2-PFOA	415.0 / 370.0	73262.57	250.00
13C6-PFDA	519.0 / 474.0	3.38	13C2-PFDA	515.0 / 470.0	80875.71	250.00
13C7-PFUnA	570.0 / 525.0	3.70	13C2-PFDA	515.0 / 470.0	80875.71	250.00
13C2-PFTeDA	715.0 / 670.0	4.45	13C2-PFDA	515.0 / 470.0	80875.71	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	30634.45	239.25
13C3-PFHxS	402.0 / 99.0	2.26	13C4-PFOS	503.0 / 99.0	30634.45	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	30634.45	239.25

Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	85361.10	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	26883.98	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	26883.98	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	76986.08	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	76986.08	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	76986.08	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	76986.08	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	85361.10	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	85361.10	250.00
13C2-PFTeDA	715.0 / 670.0	4.44	13C2-PFDA	515.0 / 470.0	85361.10	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	26883.98	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	26883.98	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	26883.98	239.25

Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	74238.29	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	24652.51	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	24652.51	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	74115.29	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	74115.29	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	74115.29	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	74115.29	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	74238.29	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	74238.29	250.00
13C2-PFTeDA	715.0 / 670.0	4.43	13C2-PFDA	515.0 / 470.0	74238.29	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	24652.51	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	24652.51	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	24652.51	239.25

Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	78245.91	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	28061.29	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	28061.29	239.25
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	79765.43	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	79765.43	250.00
13C8-PFOA	421.0 / 376.0	2.63	13C2-PFOA	415.0 / 370.0	79765.43	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	79765.43	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	78245.91	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	78245.91	250.00
13C2-PFTeDA	715.0 / 670.0	4.43	13C2-PFDA	515.0 / 470.0	78245.91	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	28061.29	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	28061.29	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	28061.29	239.25

Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.98	13C2-PFDA	515.0 / 470.0	84147.32	250.00
d3-MeFOSAA	573.0 / 419.0	3.54	13C4-PFOS	503.0 / 99.0	26967.65	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	26967.65	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	81324.76	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	81324.76	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	81324.76	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	81324.76	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	84147.32	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	84147.32	250.00
13C2-PFTeDA	715.0 / 670.0	4.44	13C2-PFDA	515.0 / 470.0	84147.32	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	26967.65	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	26967.65	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	26967.65	239.25

Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	83651.56	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	25678.56	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	25678.56	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	70878.93	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	70878.93	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	70878.93	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	70878.93	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	83651.56	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	83651.56	250.00
13C2-PFTeDA	715.0 / 670.0	4.44	13C2-PFDA	515.0 / 470.0	83651.56	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	25678.56	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	25678.56	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	25678.56	239.25

Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	82340.82	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	25778.24	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	25778.24	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	72358.50	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	72358.50	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	72358.50	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	72358.50	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	82340.82	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	82340.82	250.00
13C2-PFTeDA	715.0 / 670.0	4.43	13C2-PFDA	515.0 / 470.0	82340.82	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	25778.24	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	25778.24	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	25778.24	239.25

Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.97	13C2-PFDA	515.0 / 470.0	67325.83	250.00
d3-MeFOSAA	573.0 / 419.0	3.53	13C4-PFOS	503.0 / 99.0	22865.78	239.25
d5-EtFOSAA	589.0 / 419.0	3.69	13C4-PFOS	503.0 / 99.0	22865.78	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	66666.02	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	66666.02	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	66666.02	250.00
13C9-PFNA	472.0 / 427.0	3.03	13C2-PFOA	415.0 / 370.0	66666.02	250.00
13C6-PFDA	519.0 / 474.0	3.37	13C2-PFDA	515.0 / 470.0	67325.83	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	67325.83	250.00
13C2-PFTeDA	715.0 / 670.0	4.43	13C2-PFDA	515.0 / 470.0	67325.83	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	22865.78	239.25
13C3-PFHxS	402.0 / 99.0	2.26	13C4-PFOS	503.0 / 99.0	22865.78	239.25
13C8-PFOS	507.0 / 99.0	3.03	13C4-PFOS	503.0 / 99.0	22865.78	239.25

Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

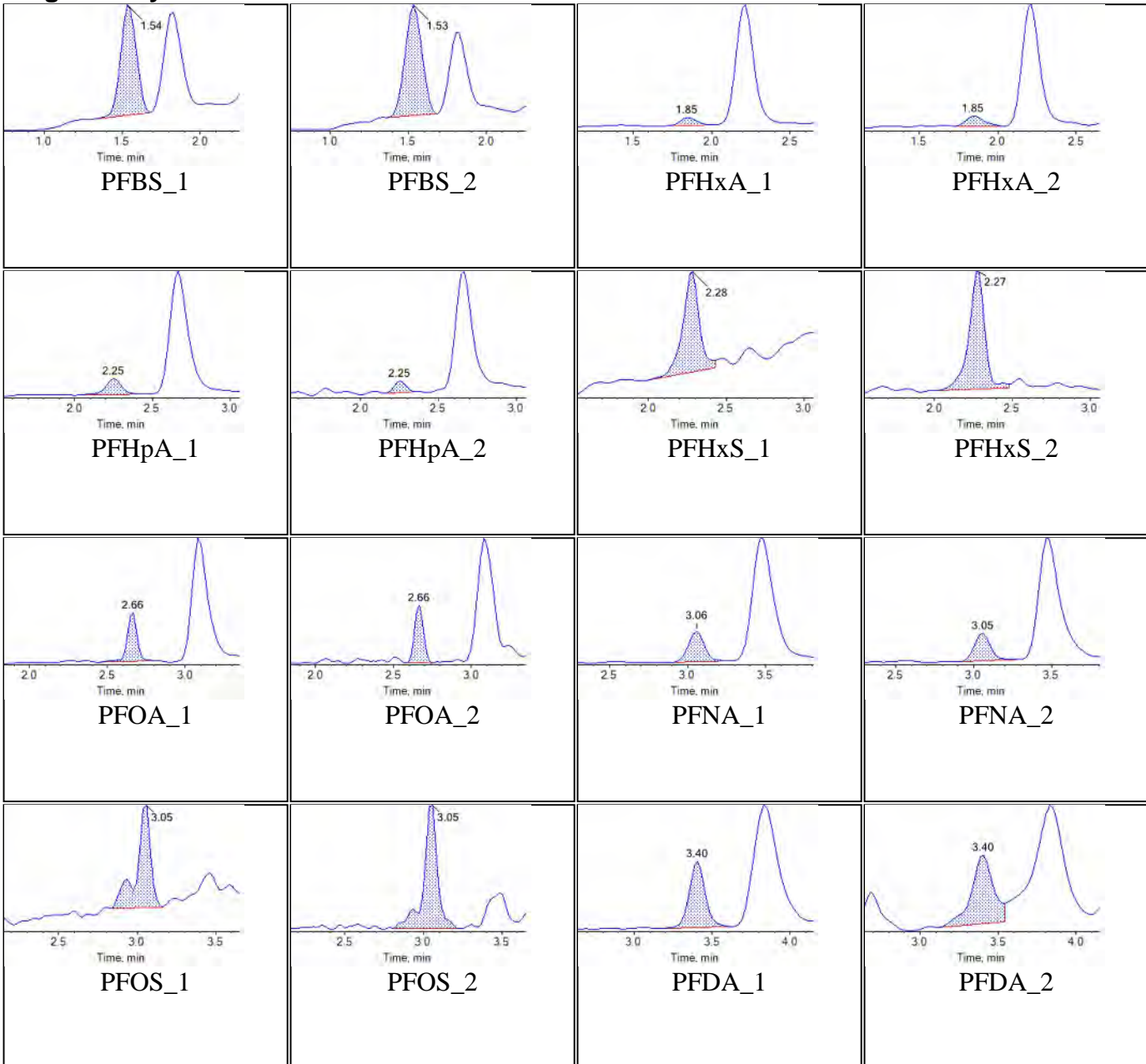
Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.98	13C2-PFDA	515.0 / 470.0	70567.88	250.00
d3-MeFOSAA	573.0 / 419.0	3.54	13C4-PFOS	503.0 / 99.0	23961.29	239.25
d5-EtFOSAA	589.0 / 419.0	3.70	13C4-PFOS	503.0 / 99.0	23961.29	239.25
13C5-PFHxA	318.0 / 273.0	1.83	13C2-PFOA	415.0 / 370.0	72236.95	250.00
13C4-PFHpA	367.0 / 322.0	2.23	13C2-PFOA	415.0 / 370.0	72236.95	250.00
13C8-PFOA	421.0 / 376.0	2.64	13C2-PFOA	415.0 / 370.0	72236.95	250.00
13C9-PFNA	472.0 / 427.0	3.02	13C2-PFOA	415.0 / 370.0	72236.95	250.00
13C6-PFDA	519.0 / 474.0	3.38	13C2-PFDA	515.0 / 470.0	70567.88	250.00
13C7-PFUnA	570.0 / 525.0	3.69	13C2-PFDA	515.0 / 470.0	70567.88	250.00
13C2-PFTeDA	715.0 / 670.0	4.44	13C2-PFDA	515.0 / 470.0	70567.88	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	23961.29	239.25
13C3-PFHxS	402.0 / 99.0	2.25	13C4-PFOS	503.0 / 99.0	23961.29	239.25
13C8-PFOS	507.0 / 99.0	3.02	13C4-PFOS	503.0 / 99.0	23961.29	239.25

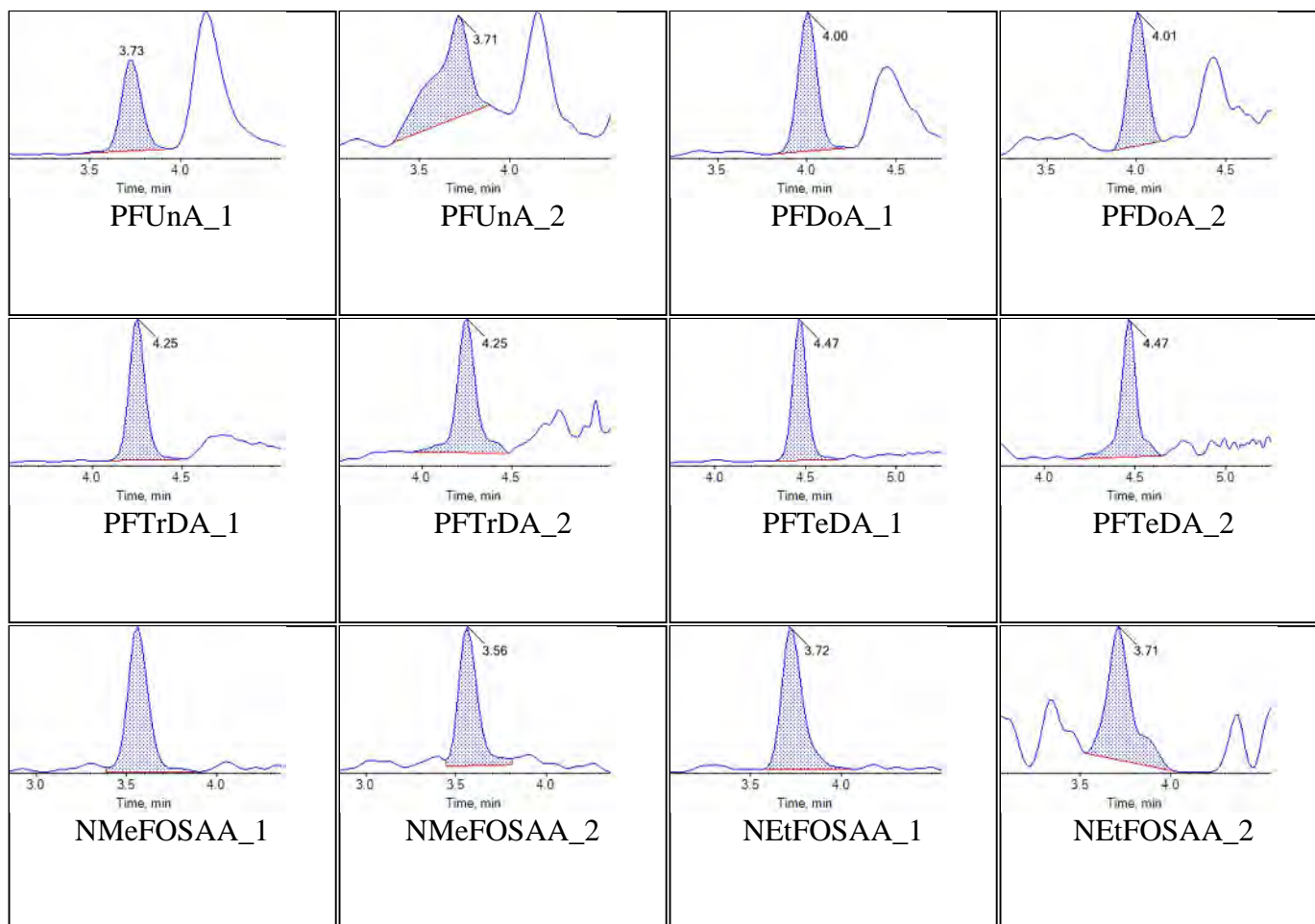
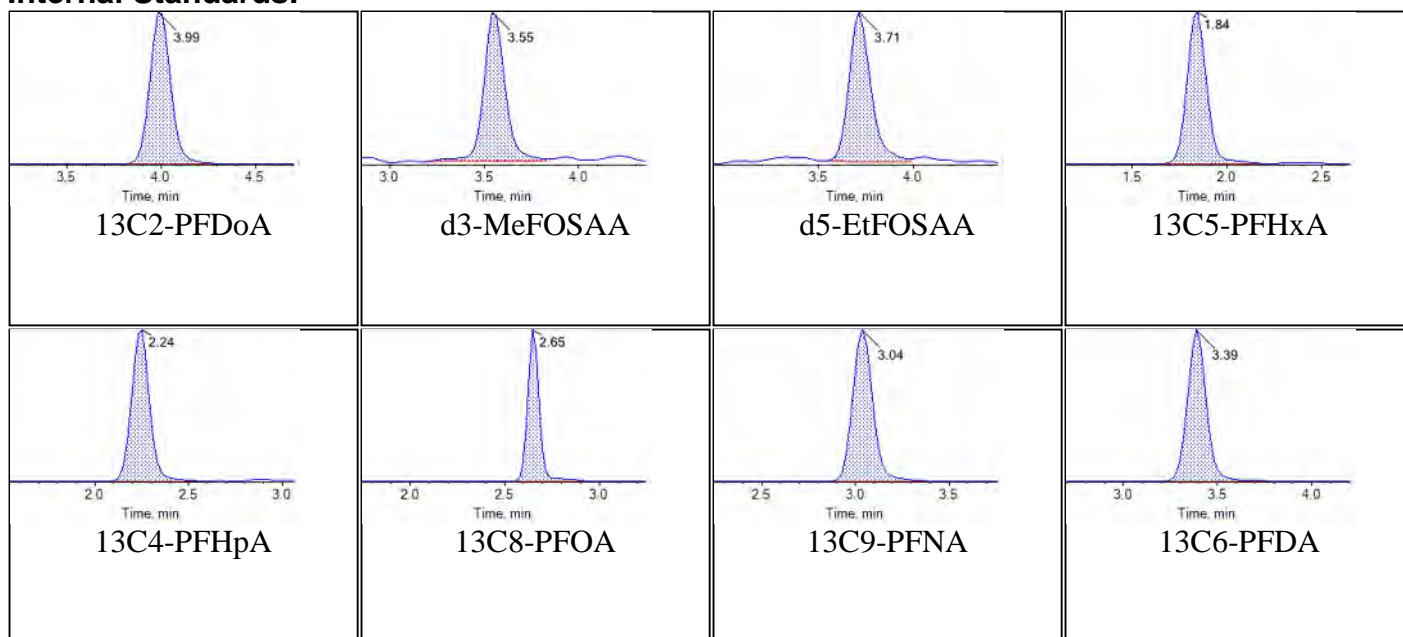
Chromatograms

Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

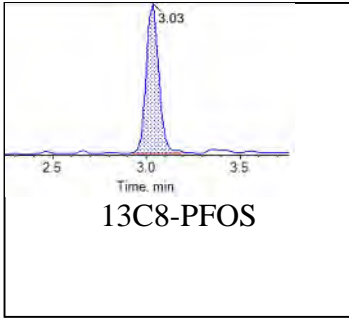
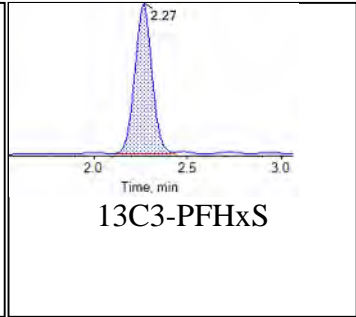
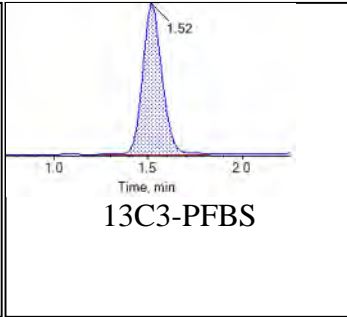
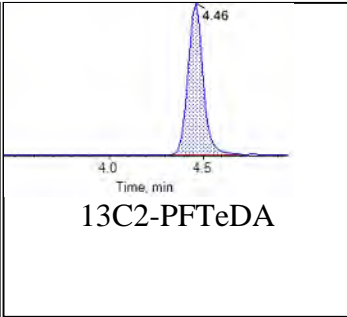
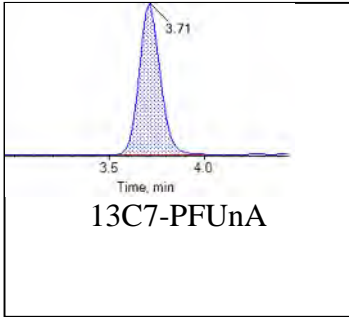
Target Analytes:



**Internal Standards:**

Chromatogram Report

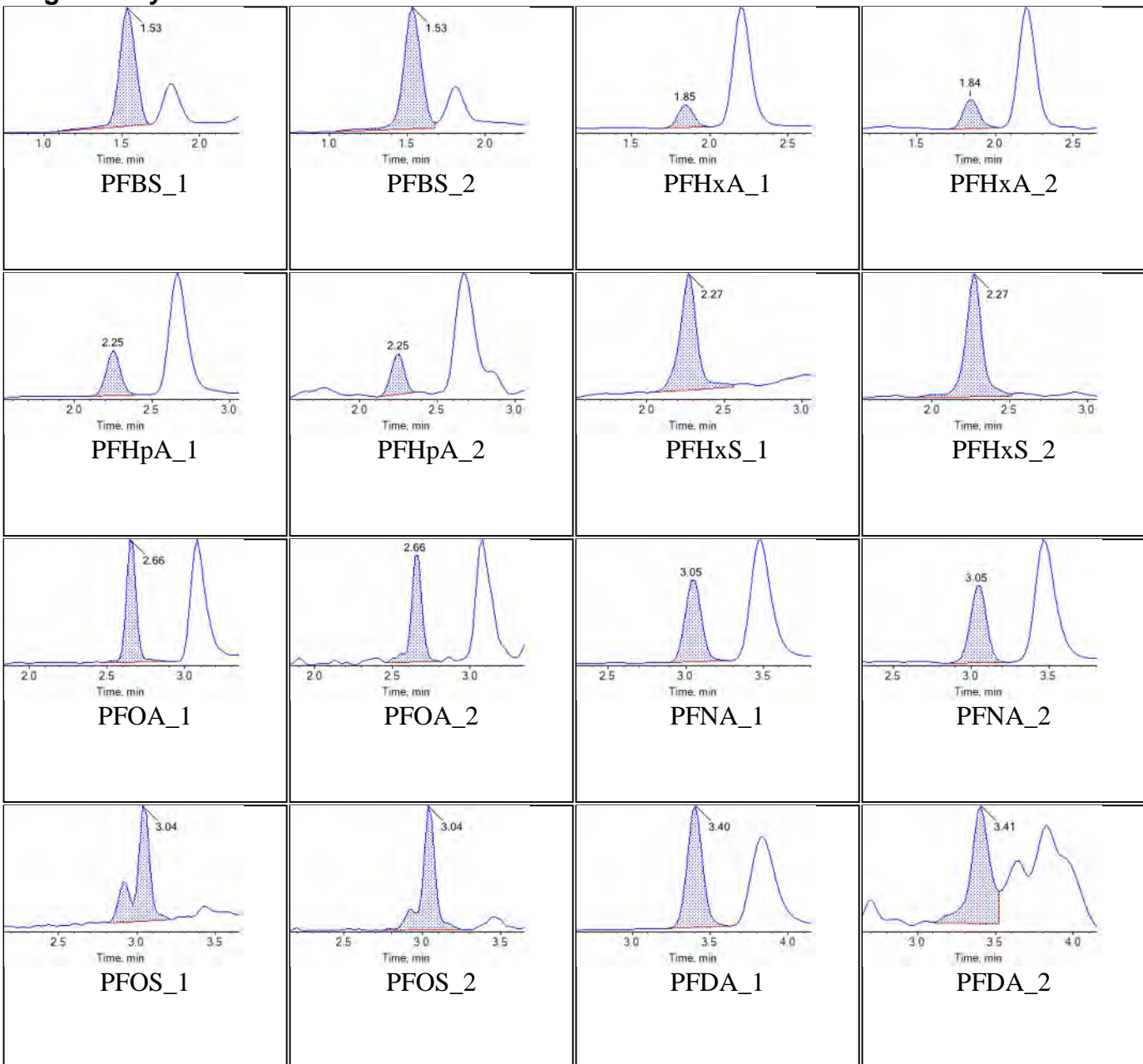
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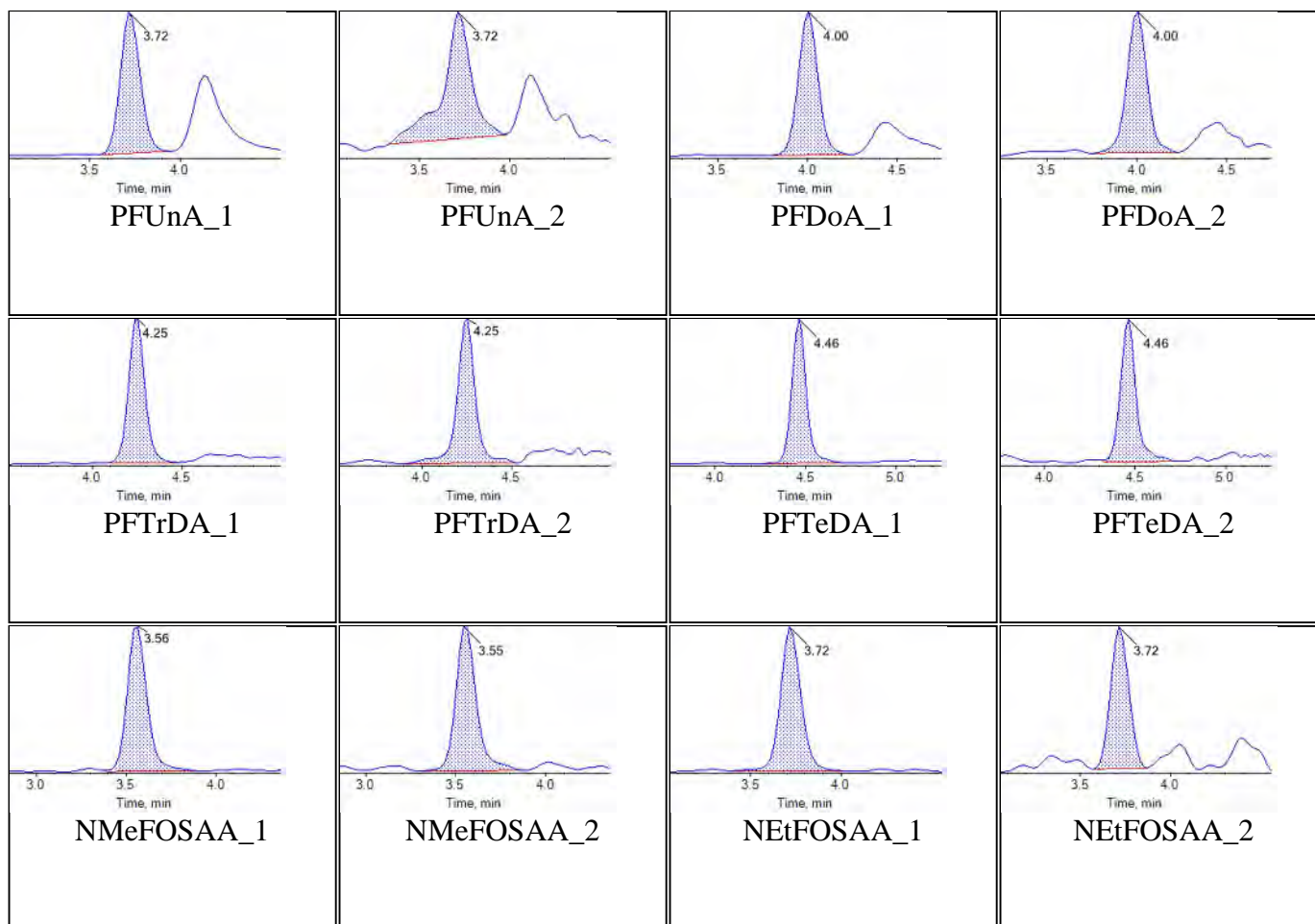
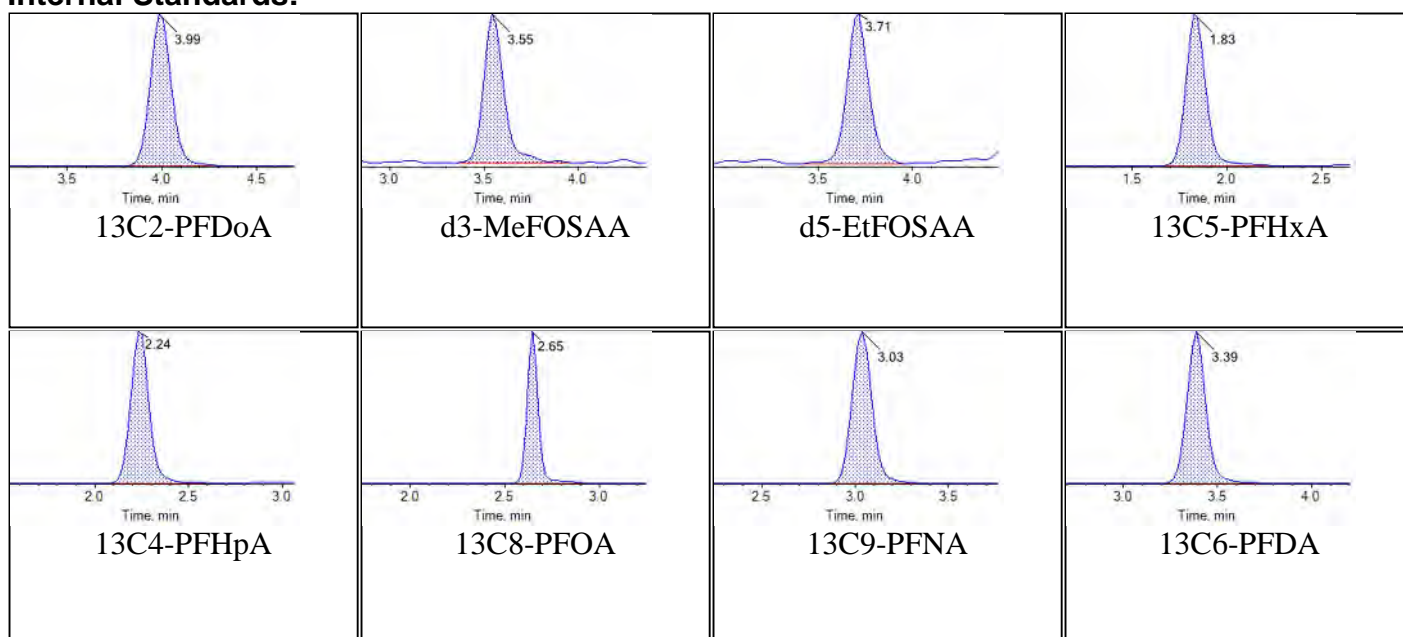


Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

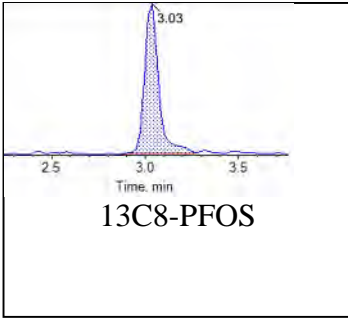
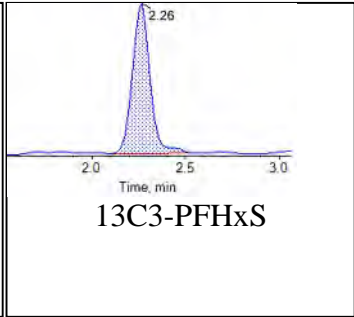
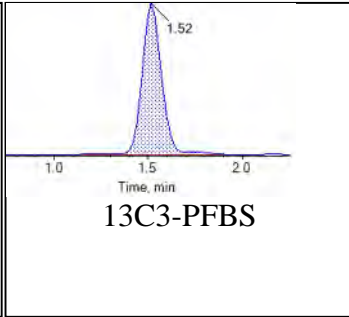
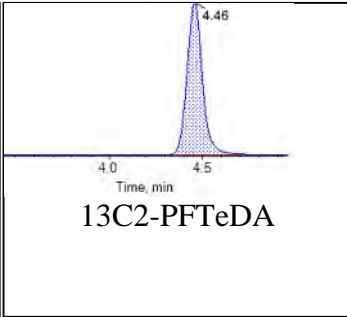
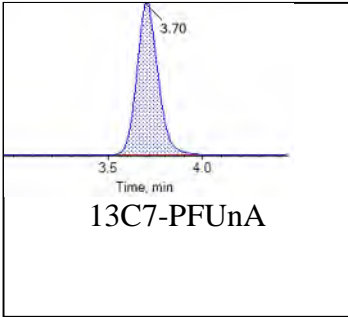


**Internal Standards:**



Chromatogram Report

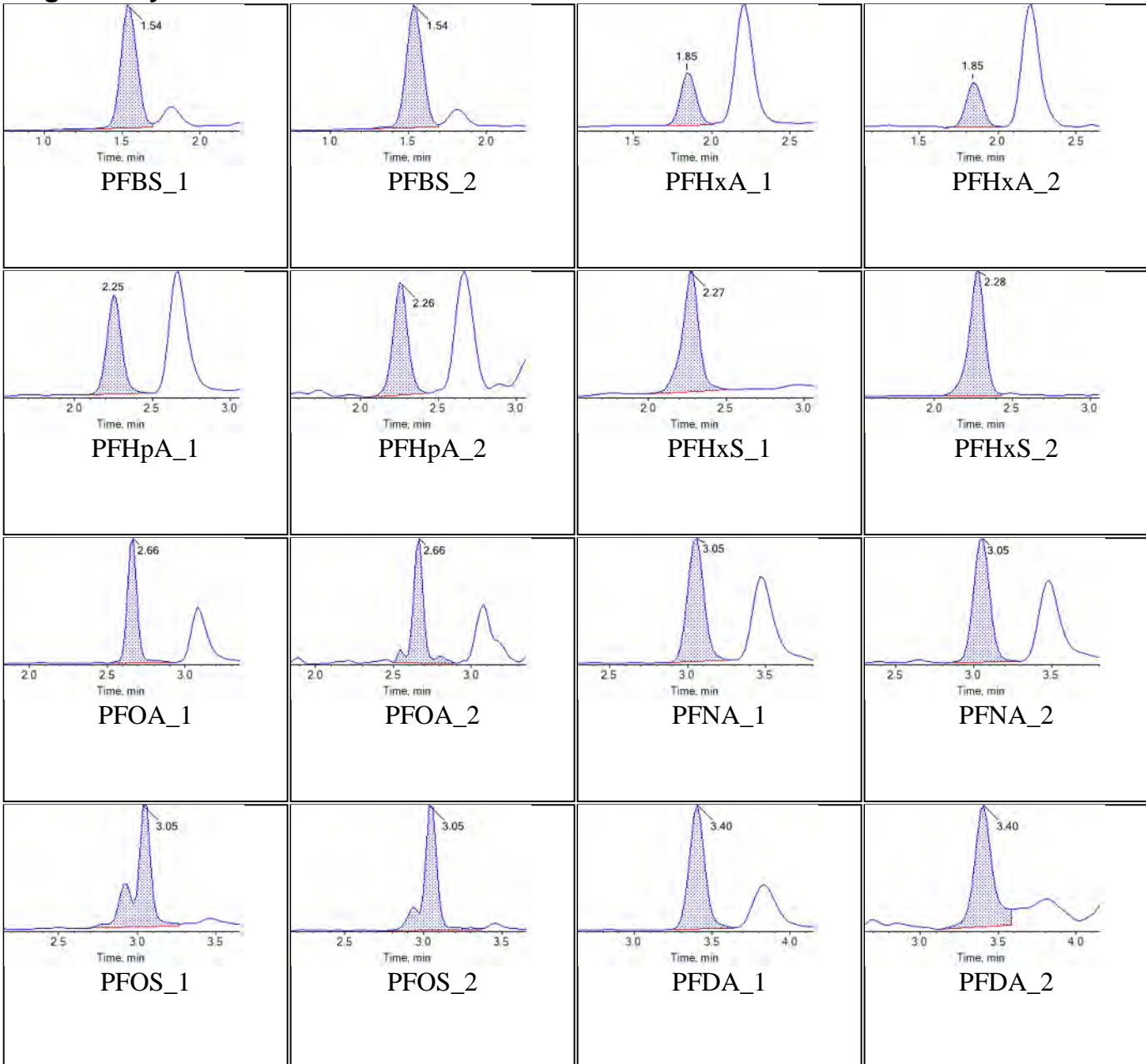
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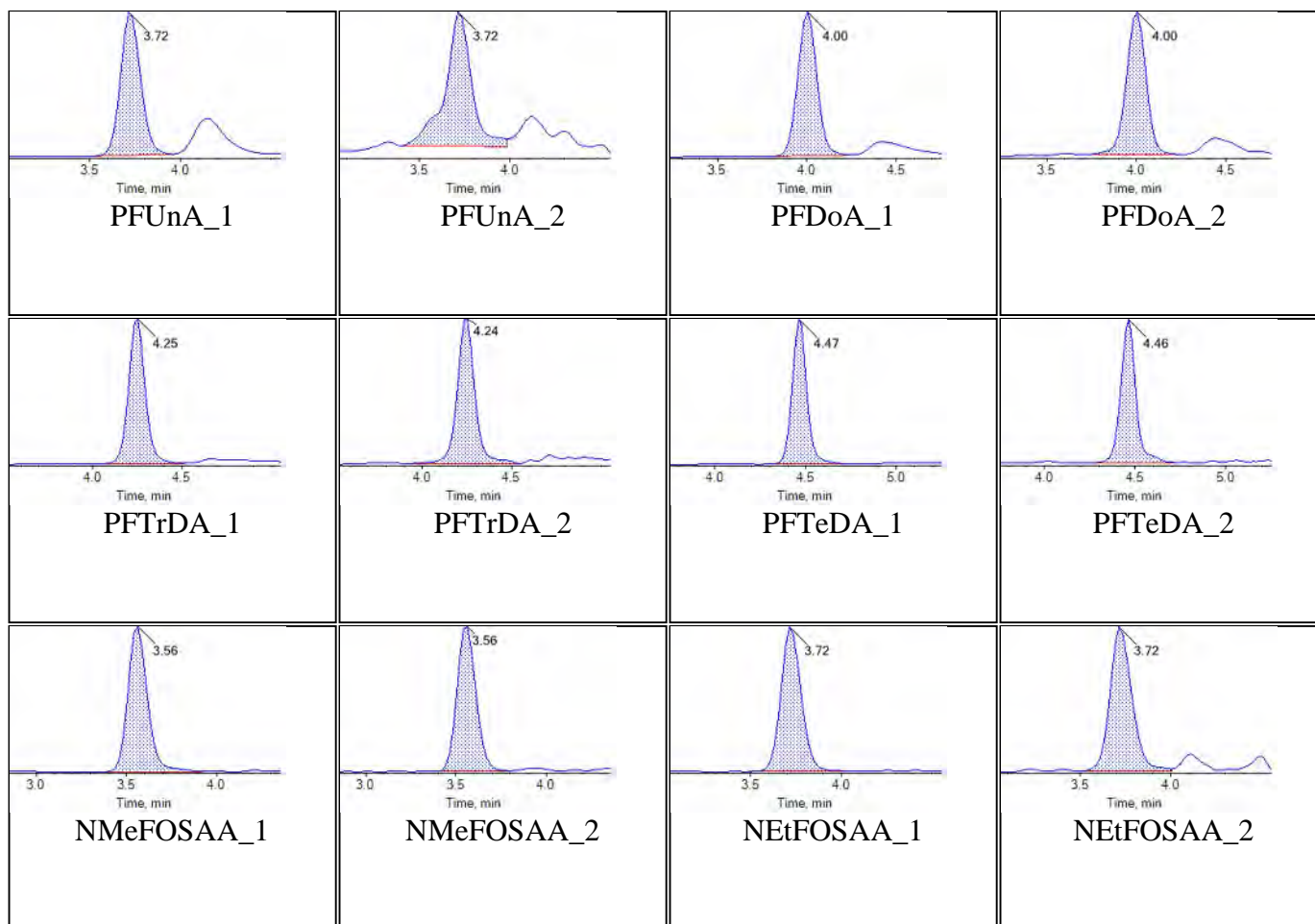
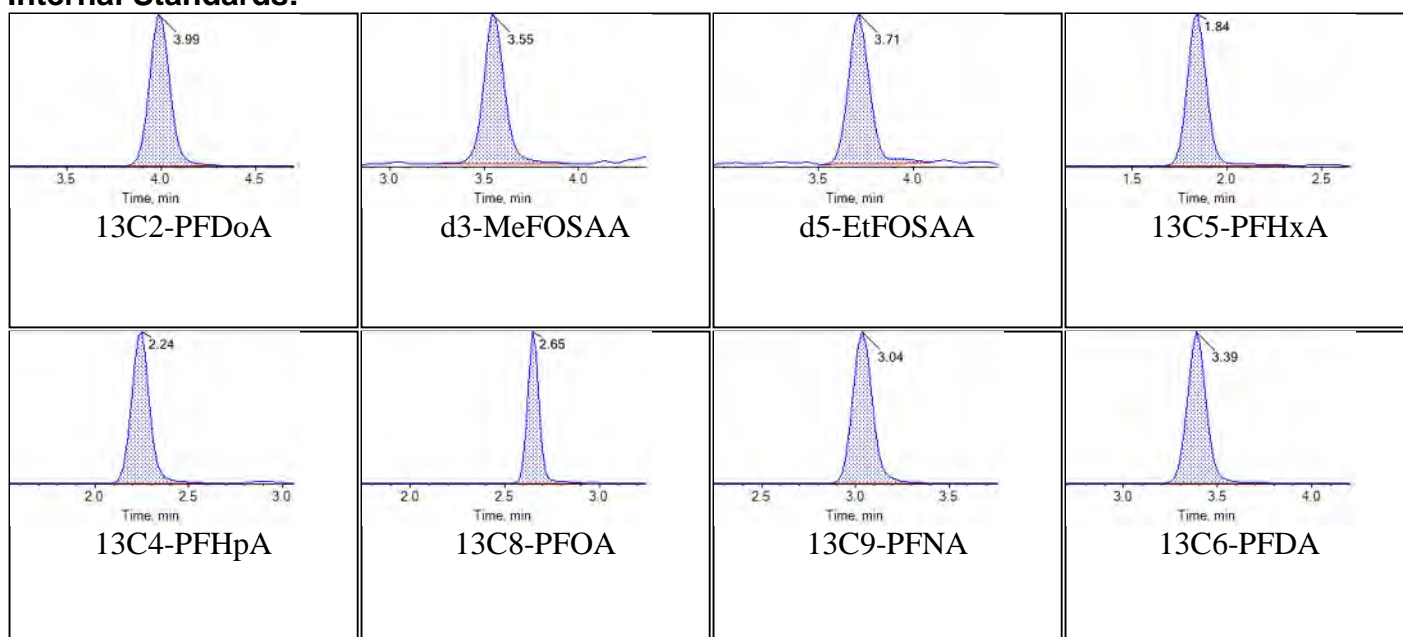


Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

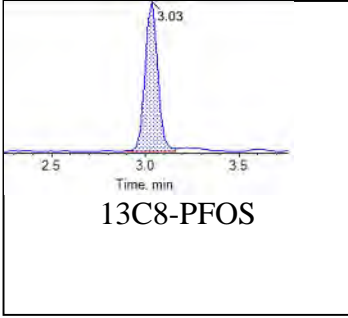
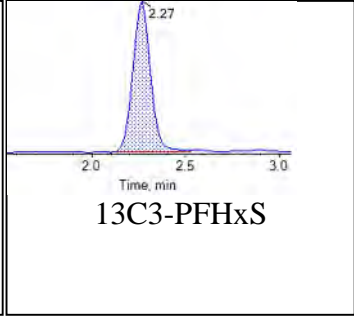
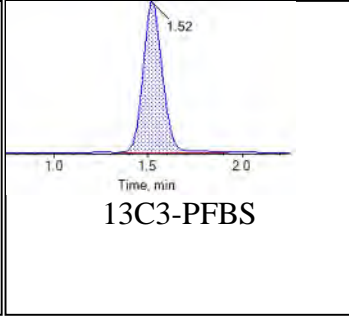
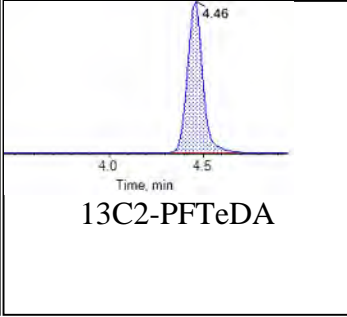
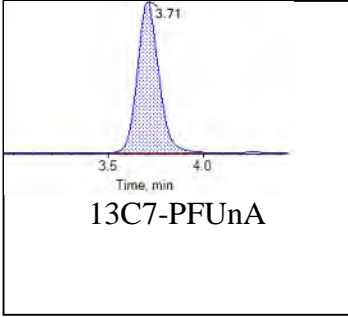


**Internal Standards:**



Chromatogram Report

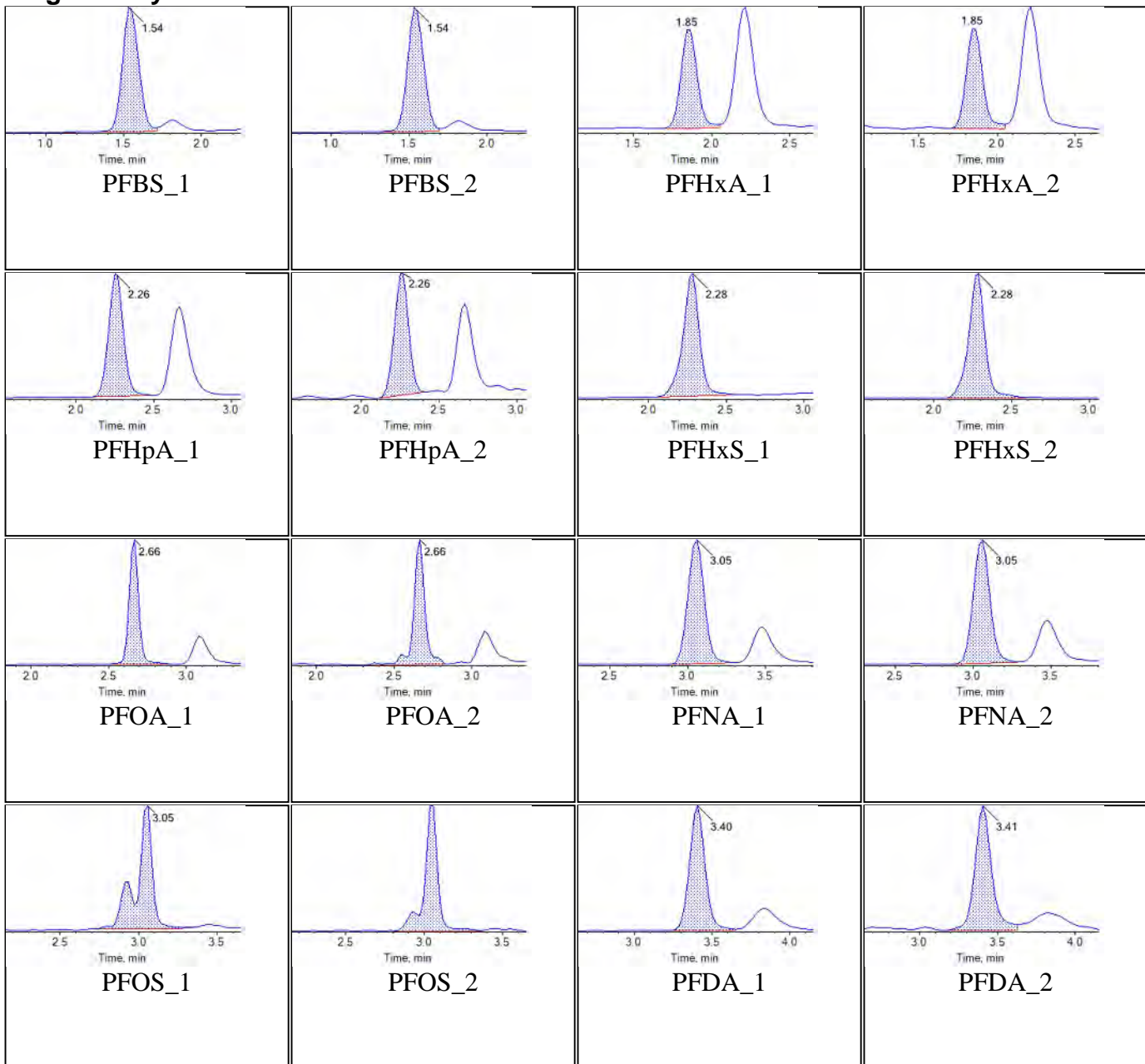
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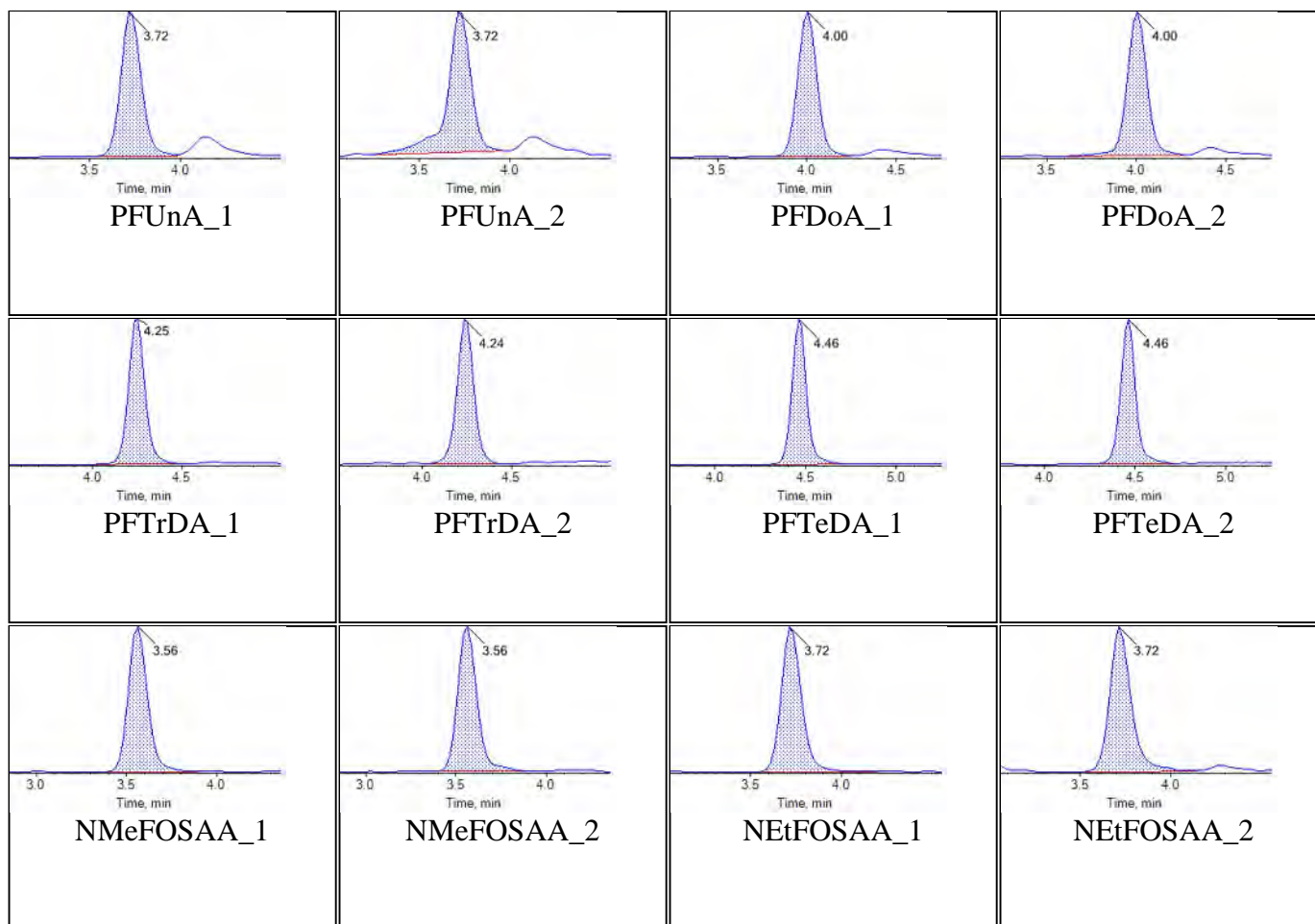
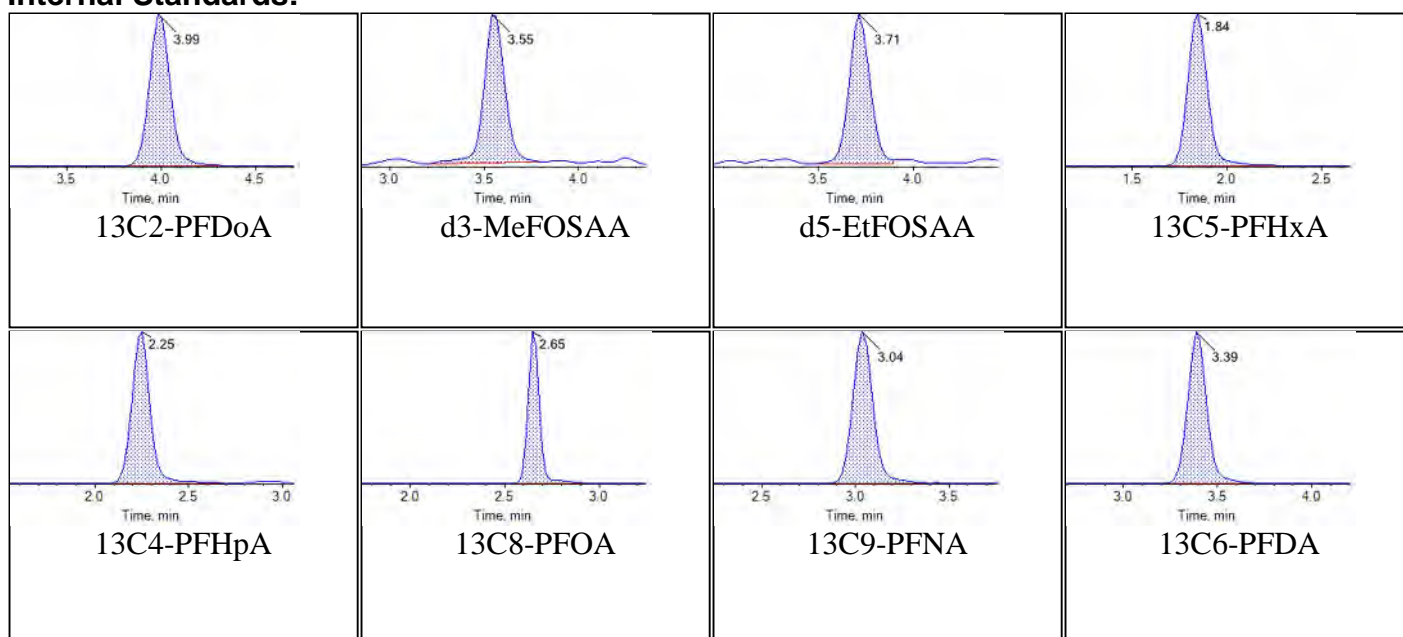


Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

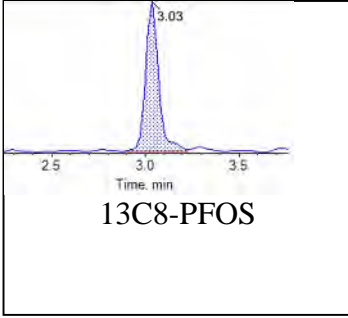
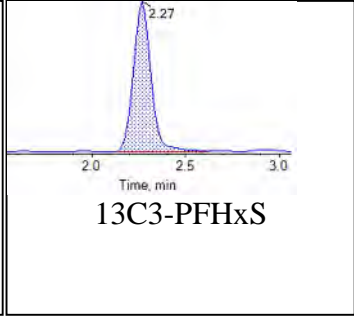
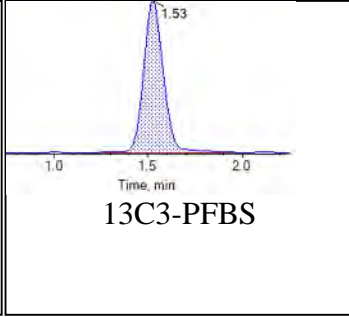
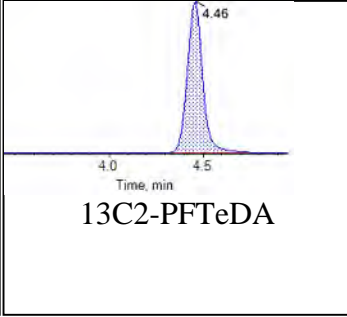
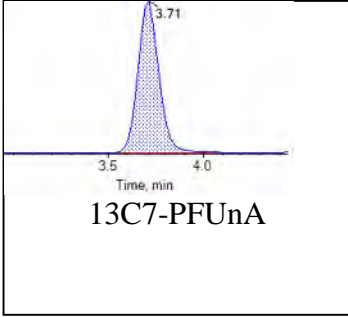


**Internal Standards:**



Chromatogram Report

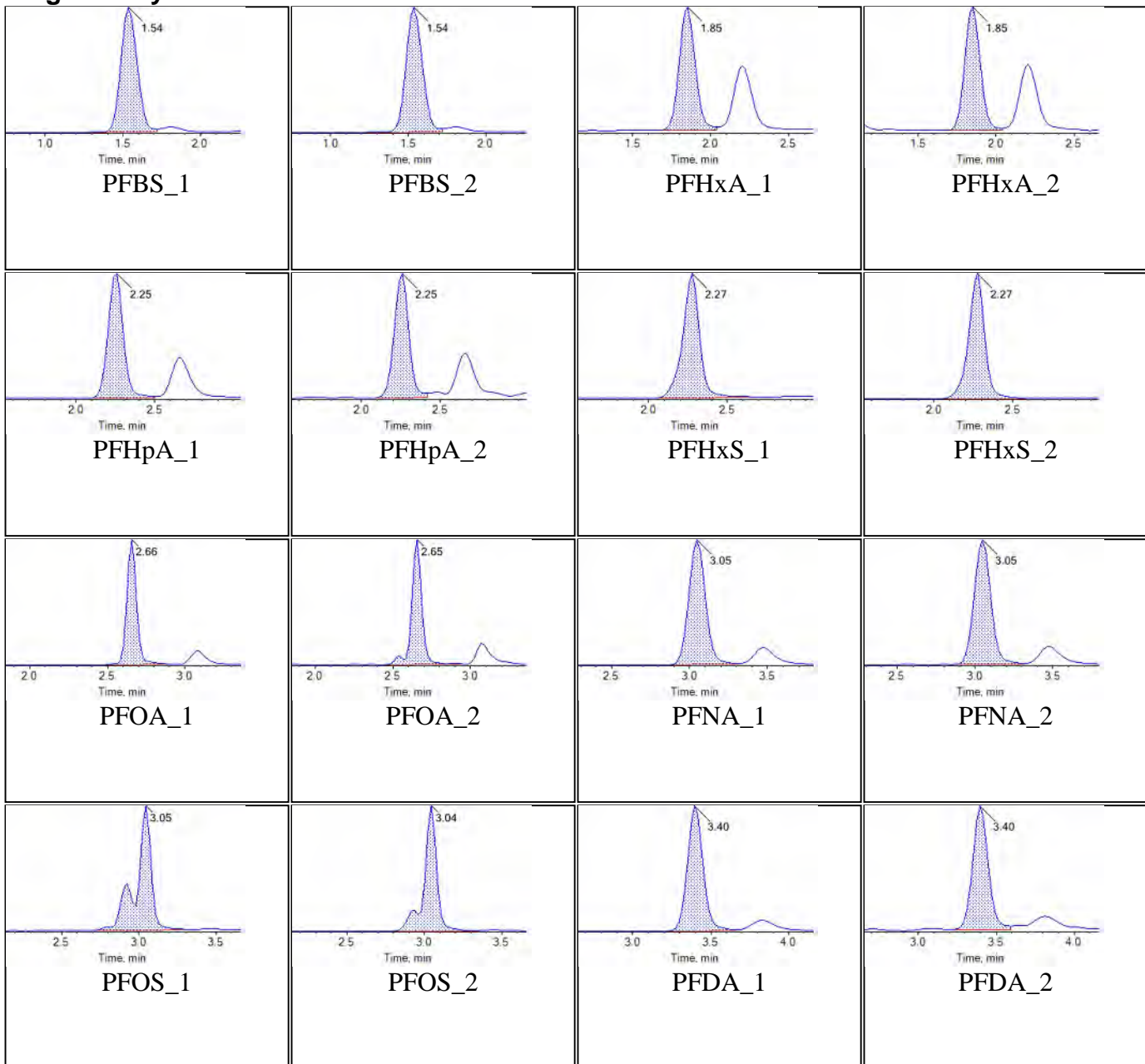
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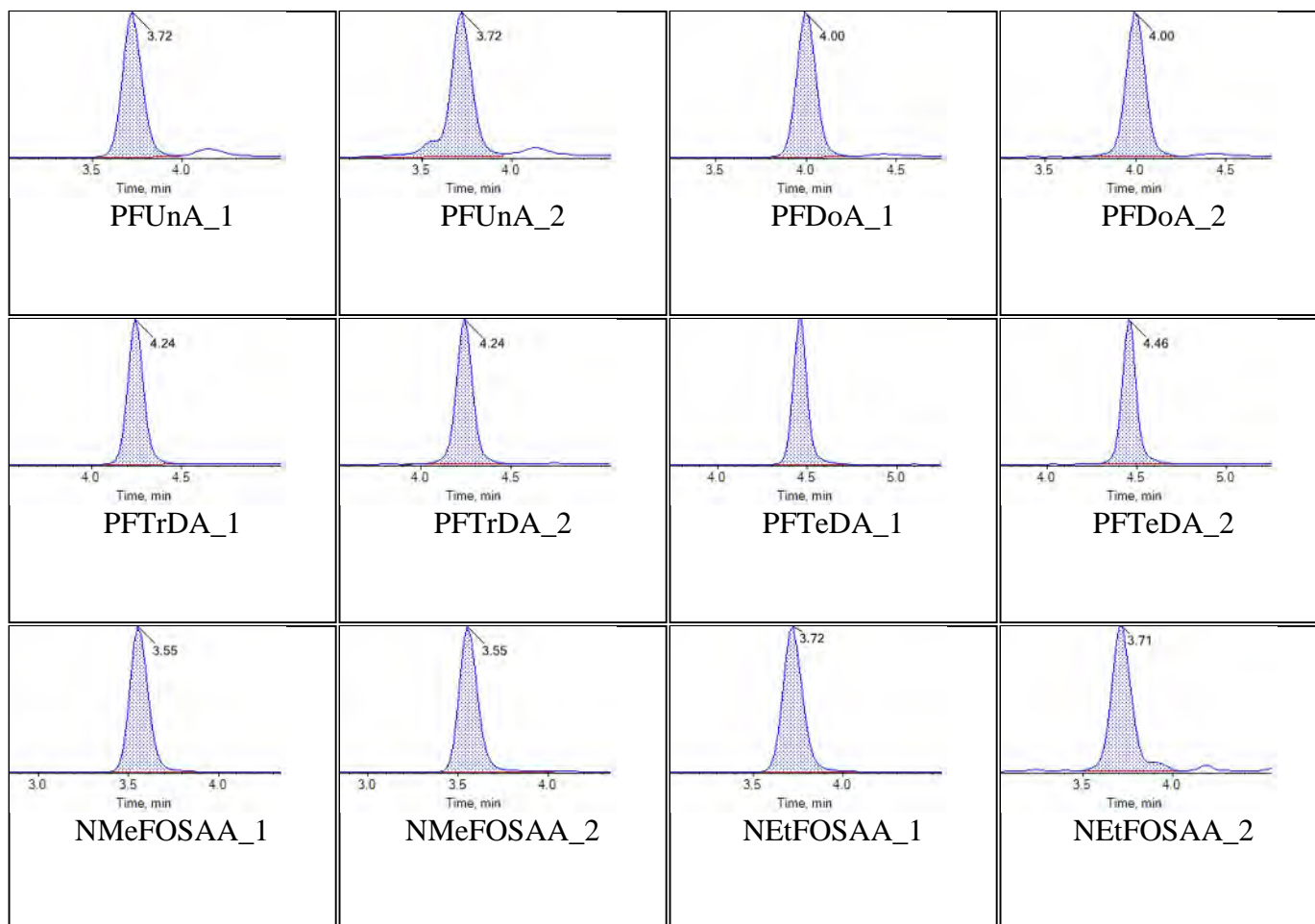
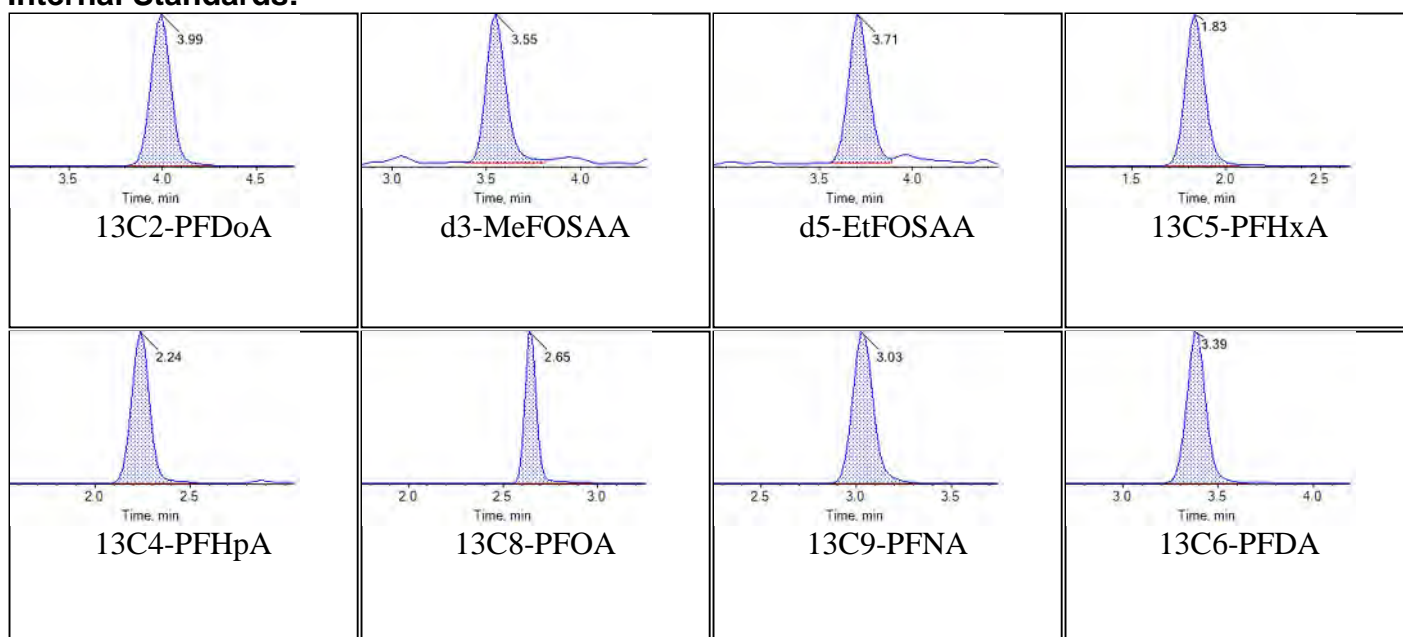


Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

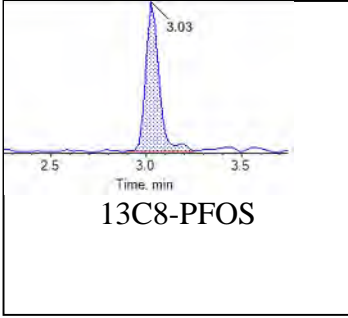
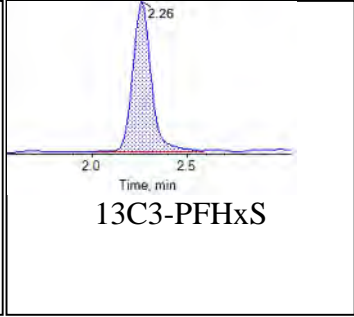
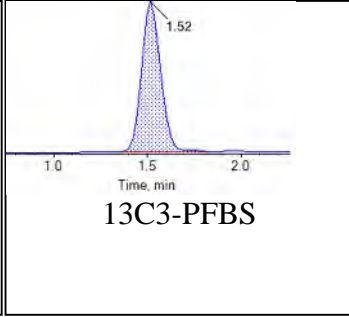
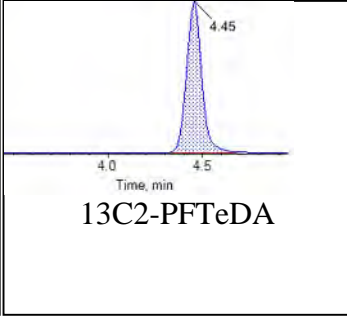
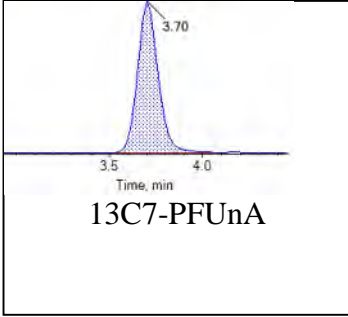


**Internal Standards:**



Chromatogram Report

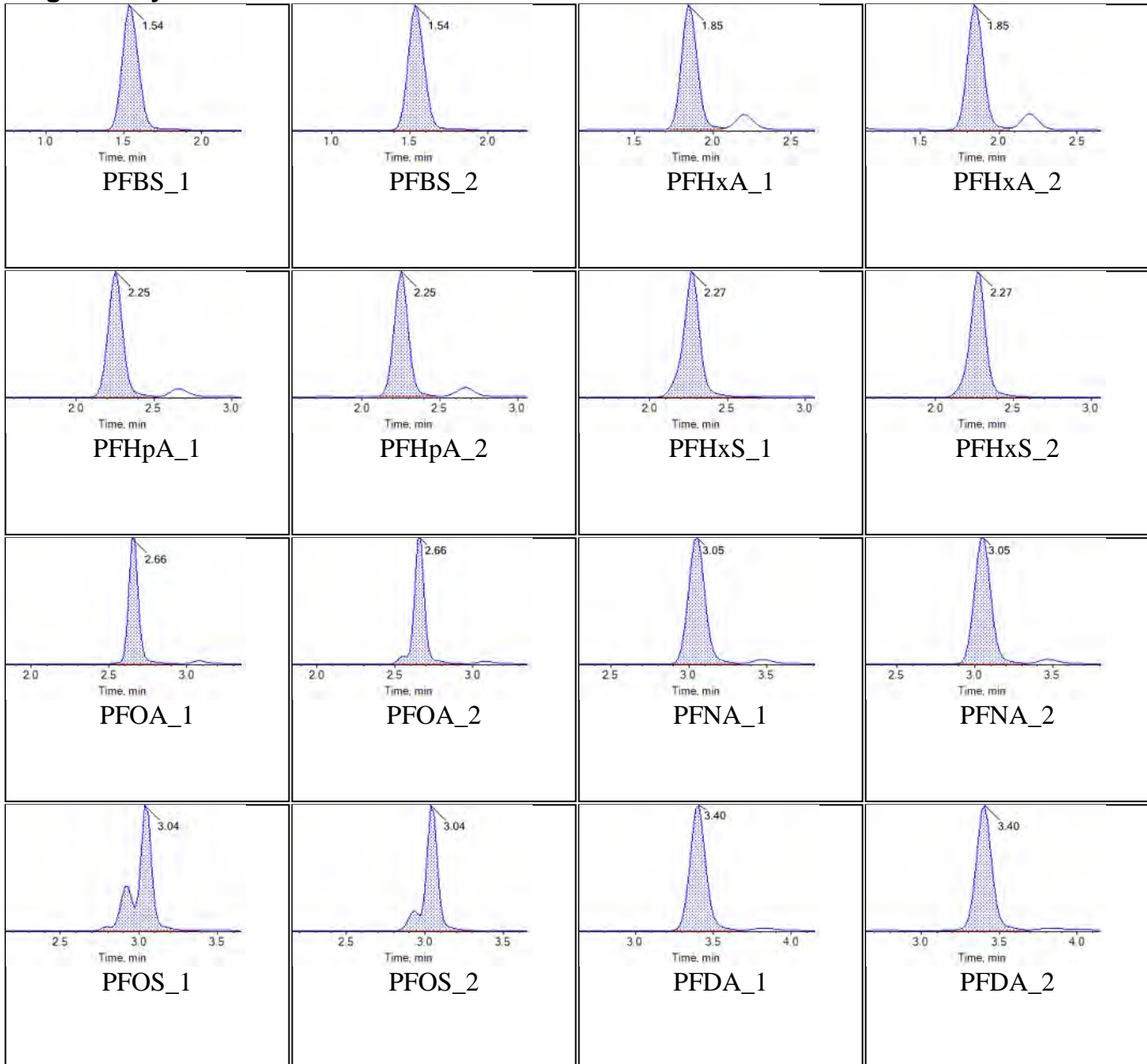
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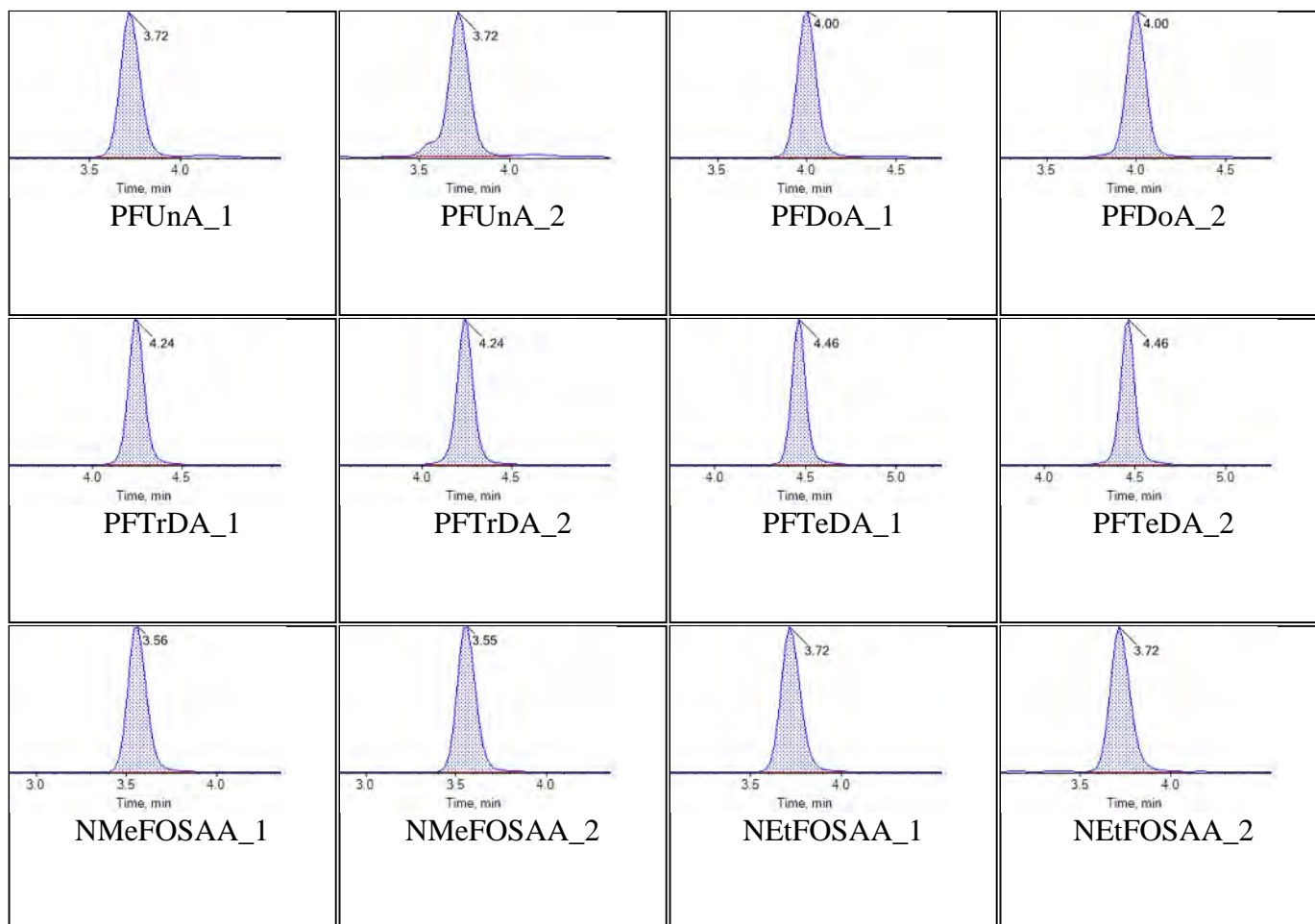
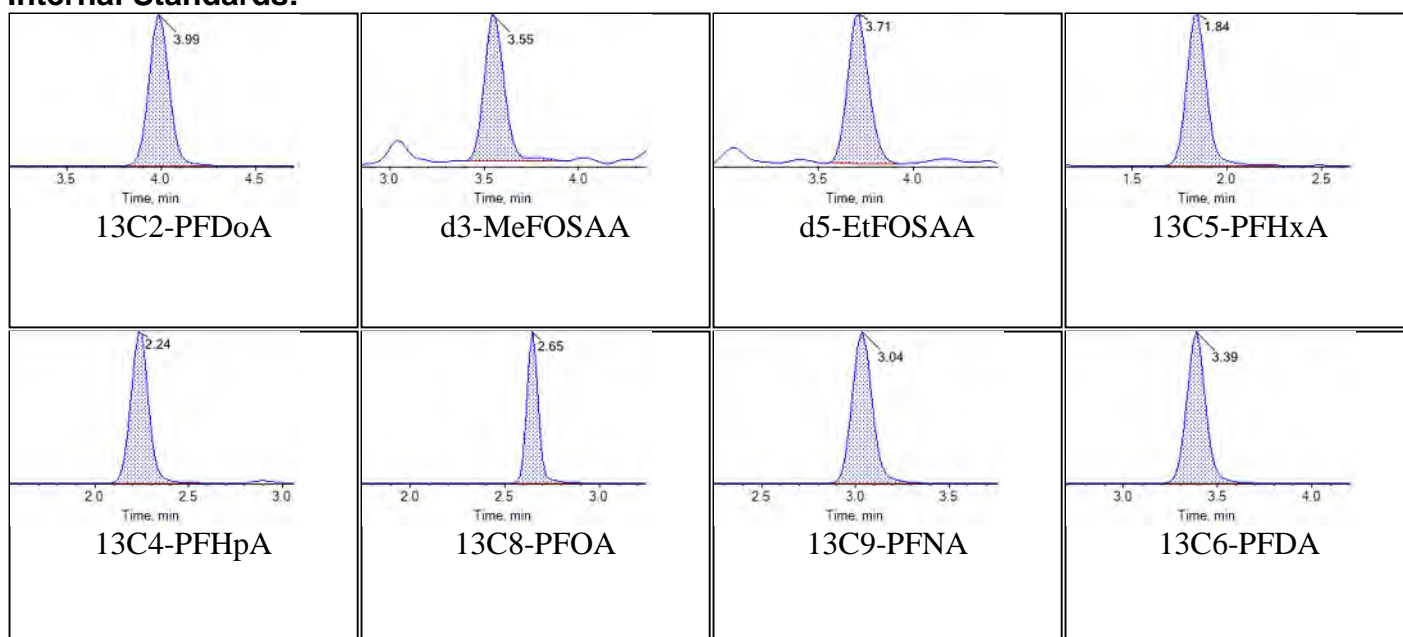


Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

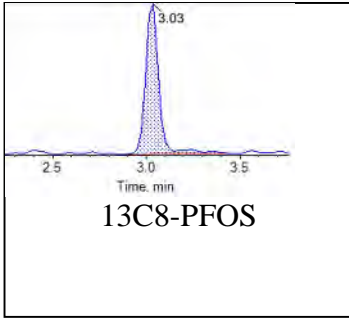
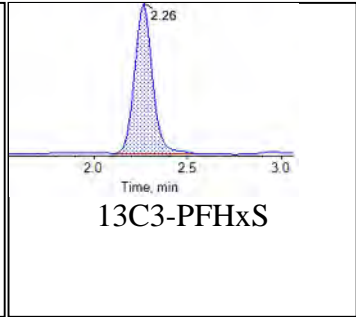
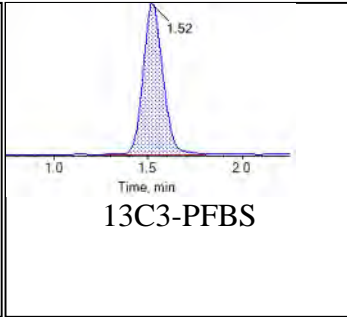
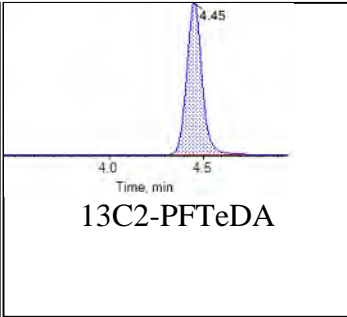
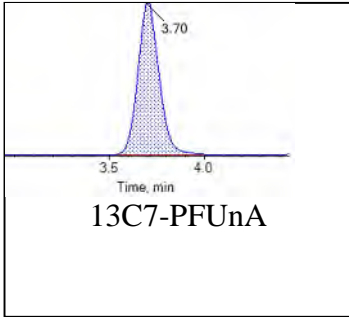
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**Internal Standards:**

Chromatogram Report

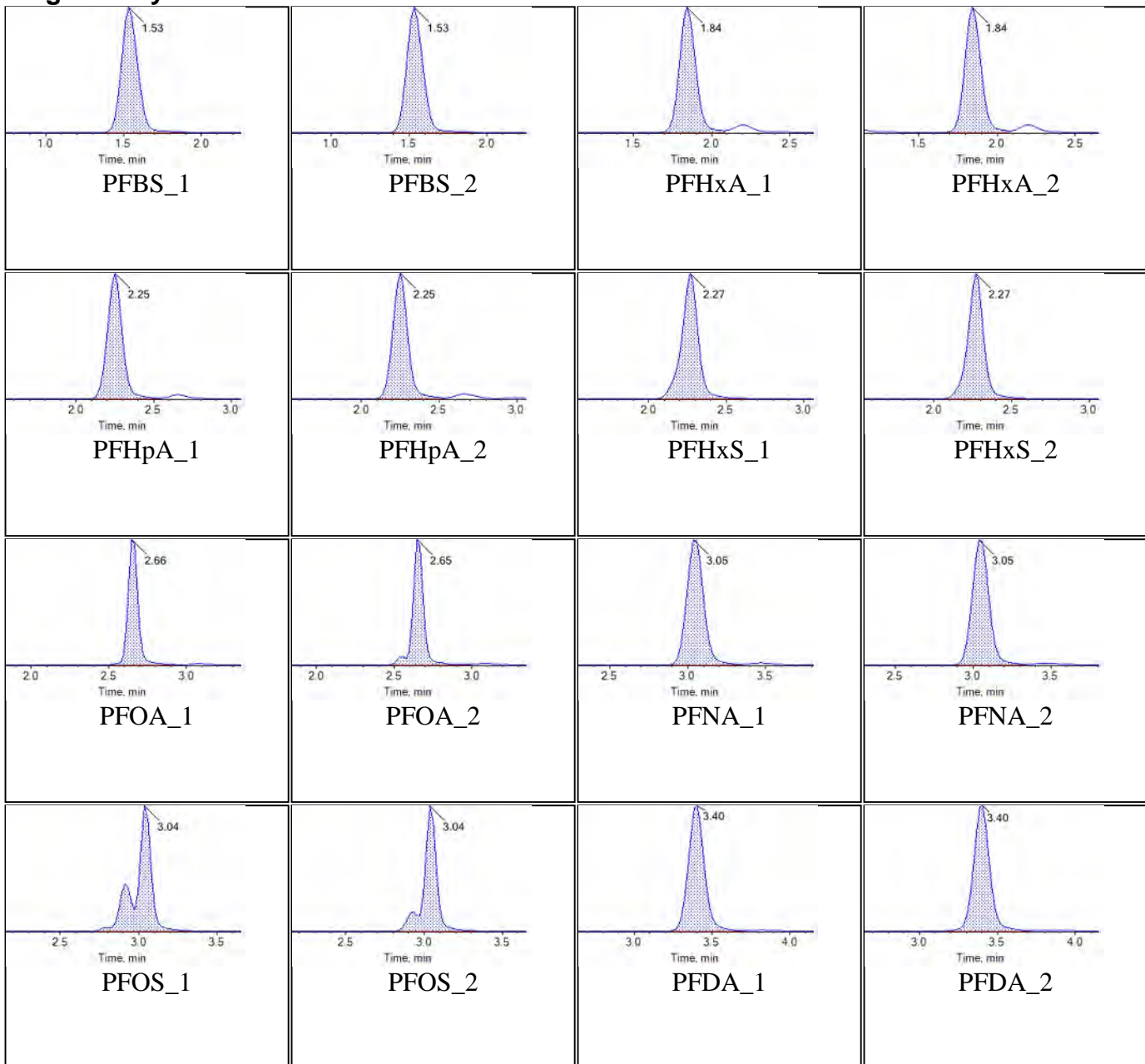
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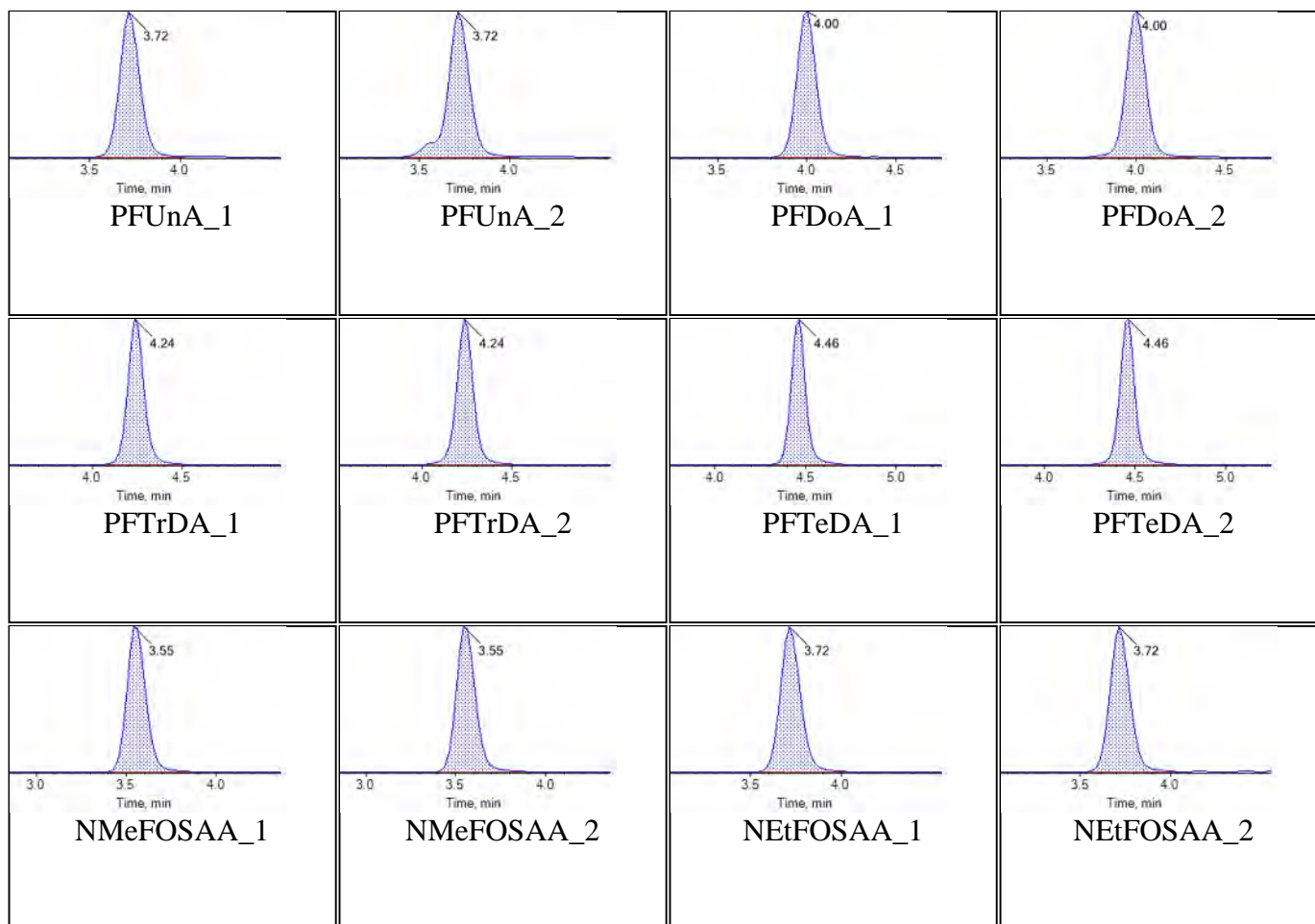
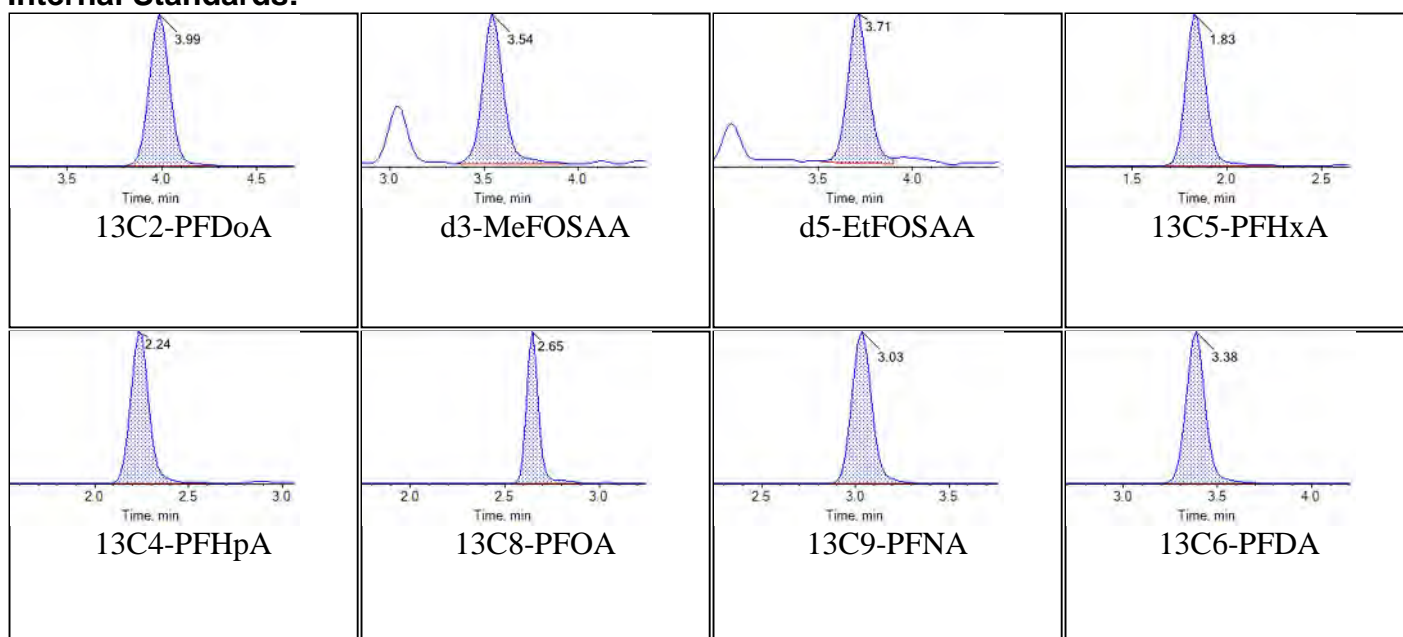


Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

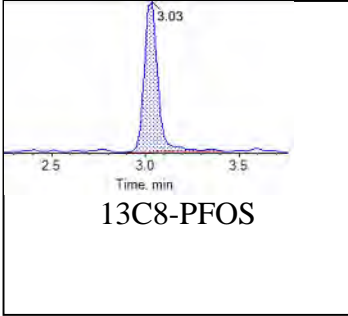
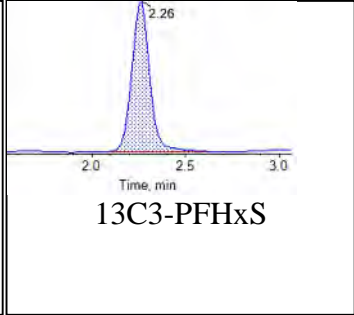
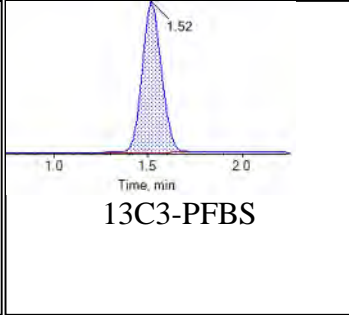
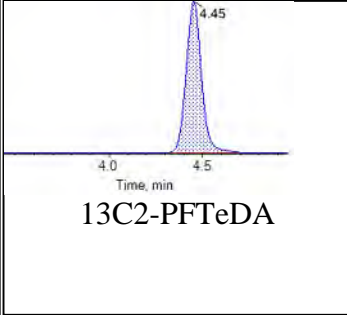
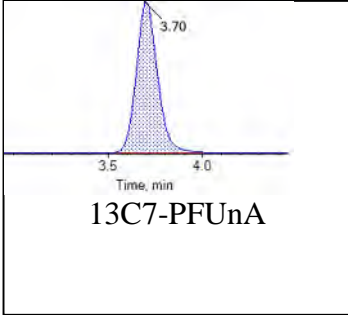


**Internal Standards:**



Chromatogram Report

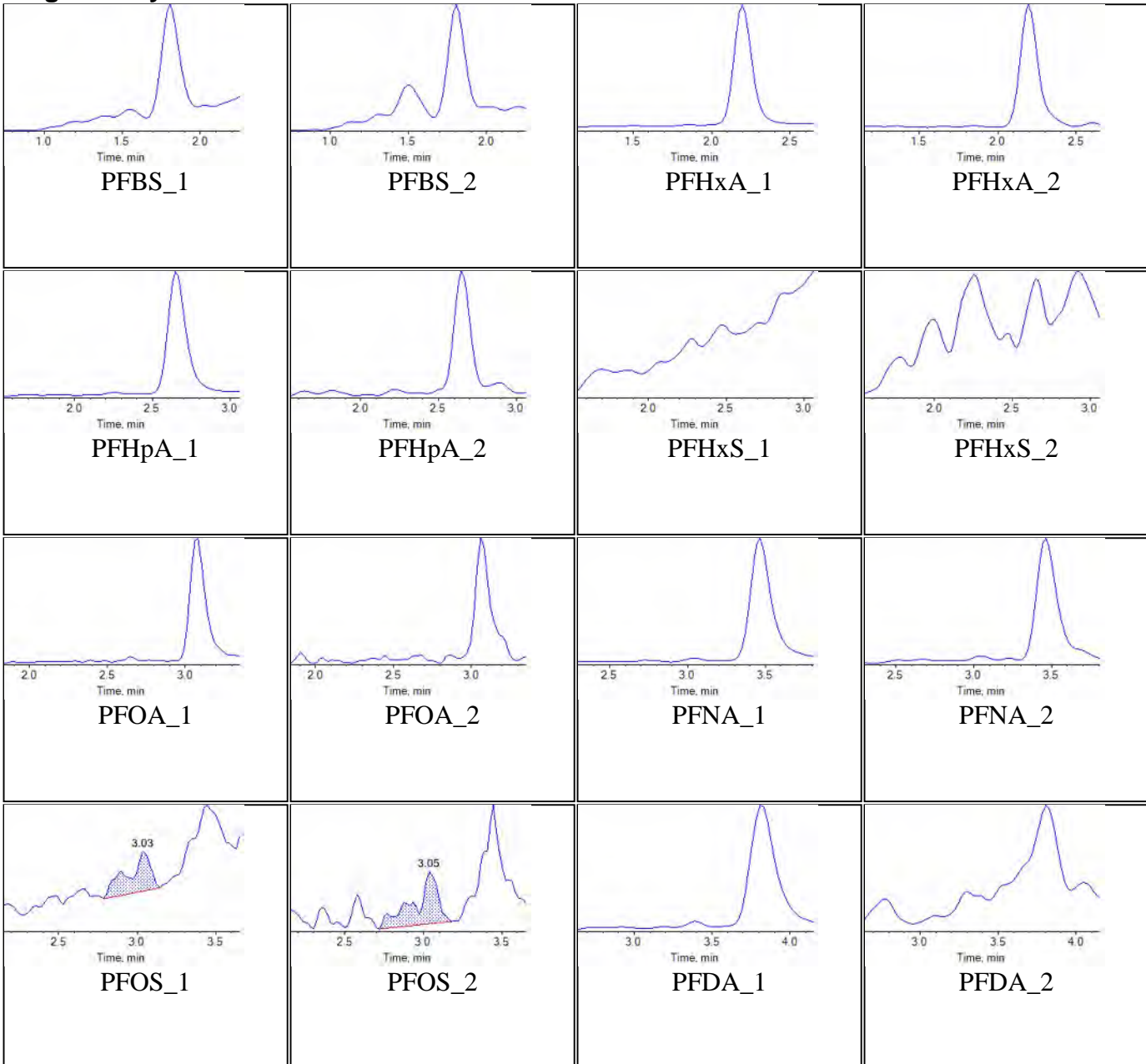
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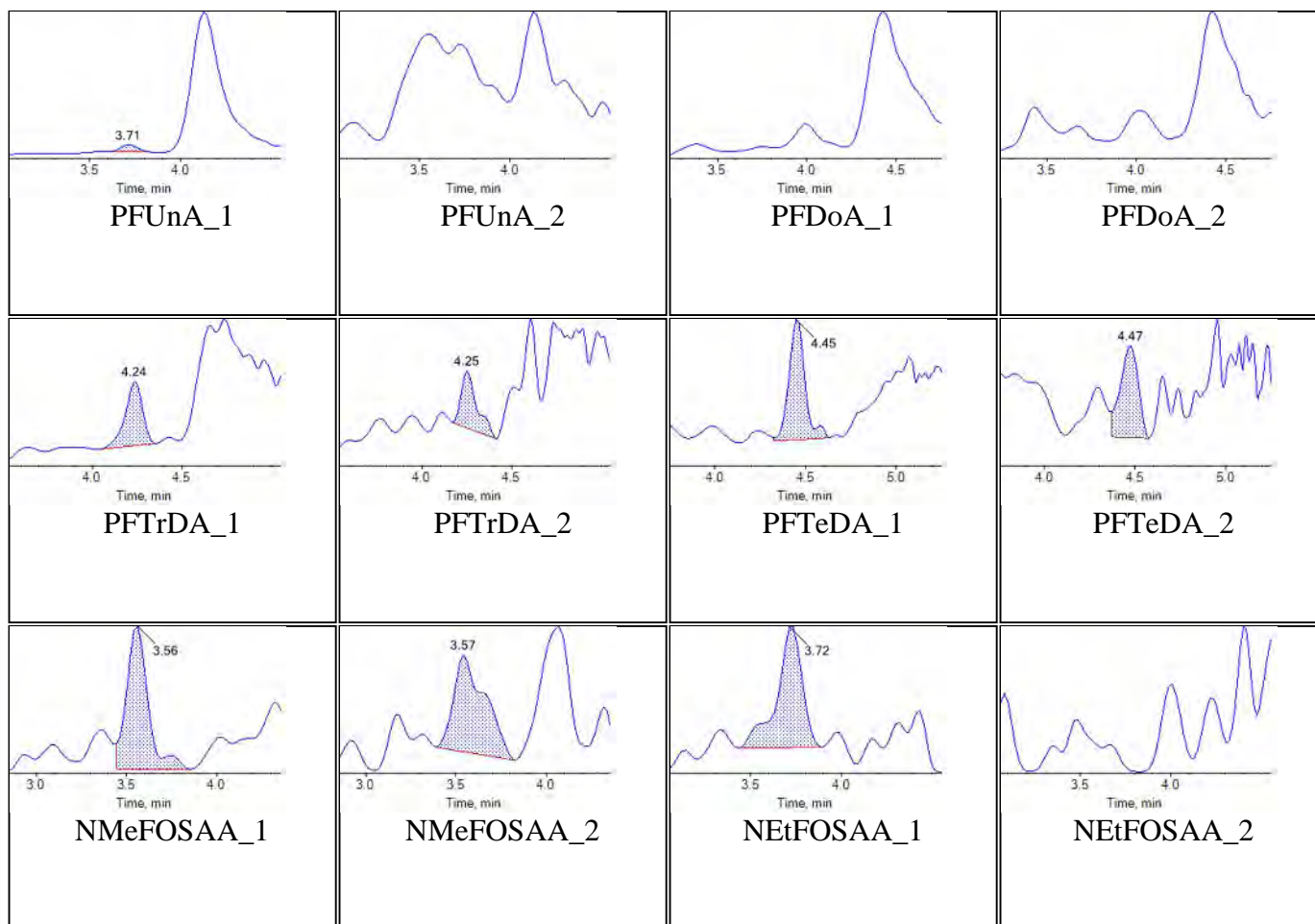
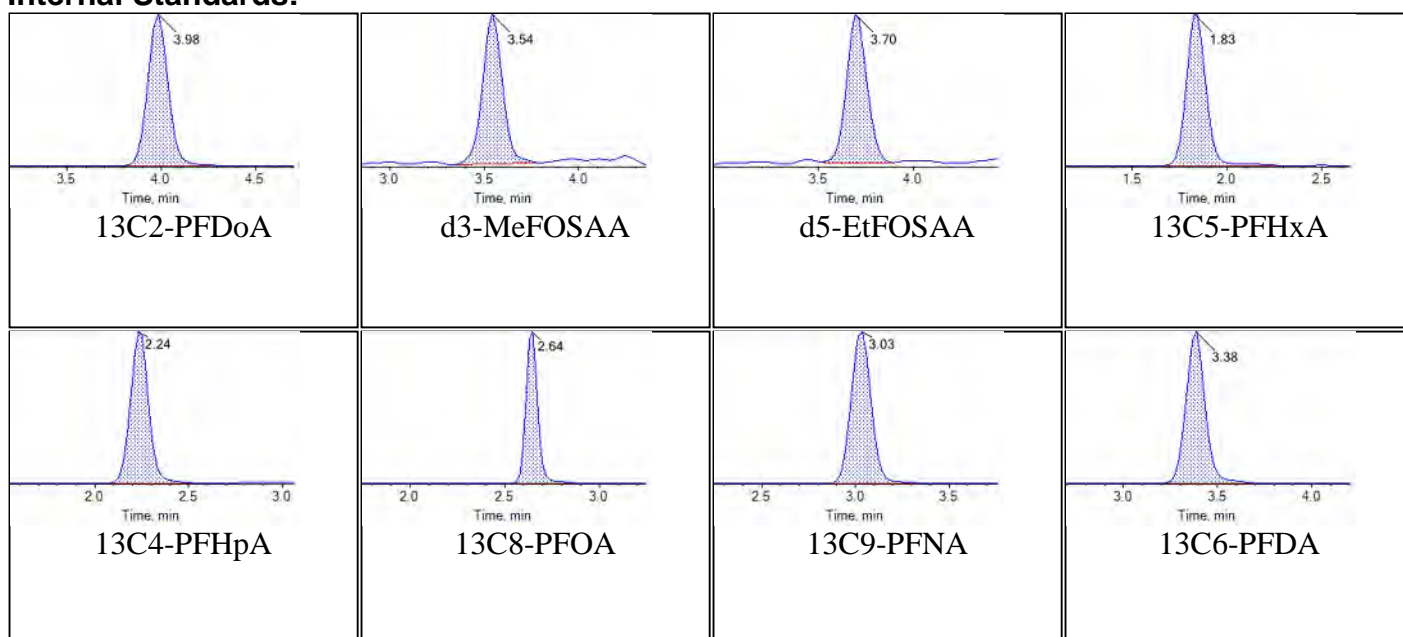


Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

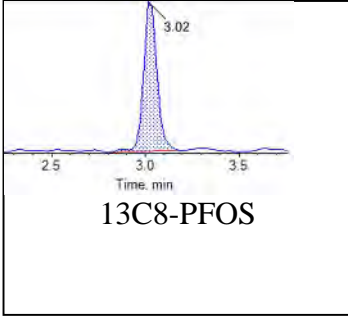
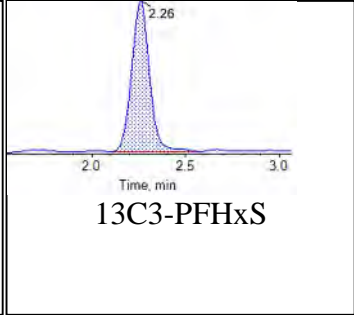
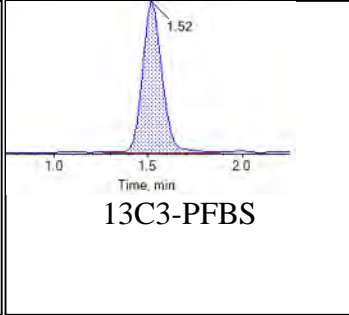
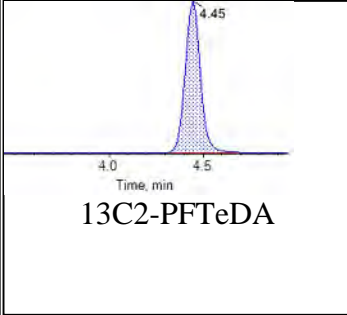
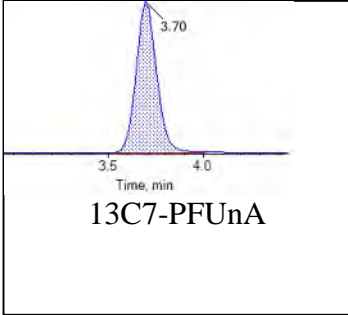


**Internal Standards:**



Chromatogram Report

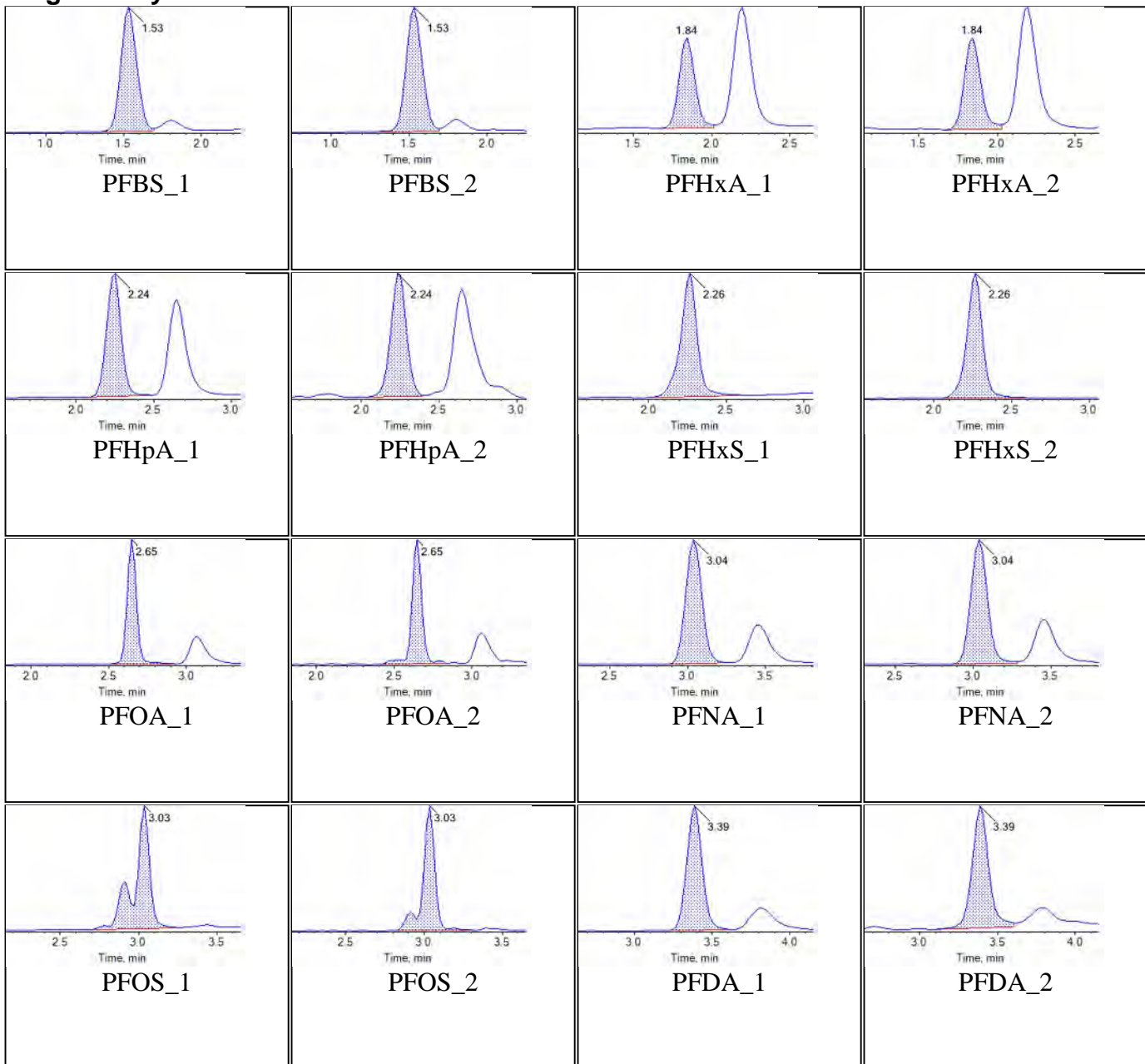
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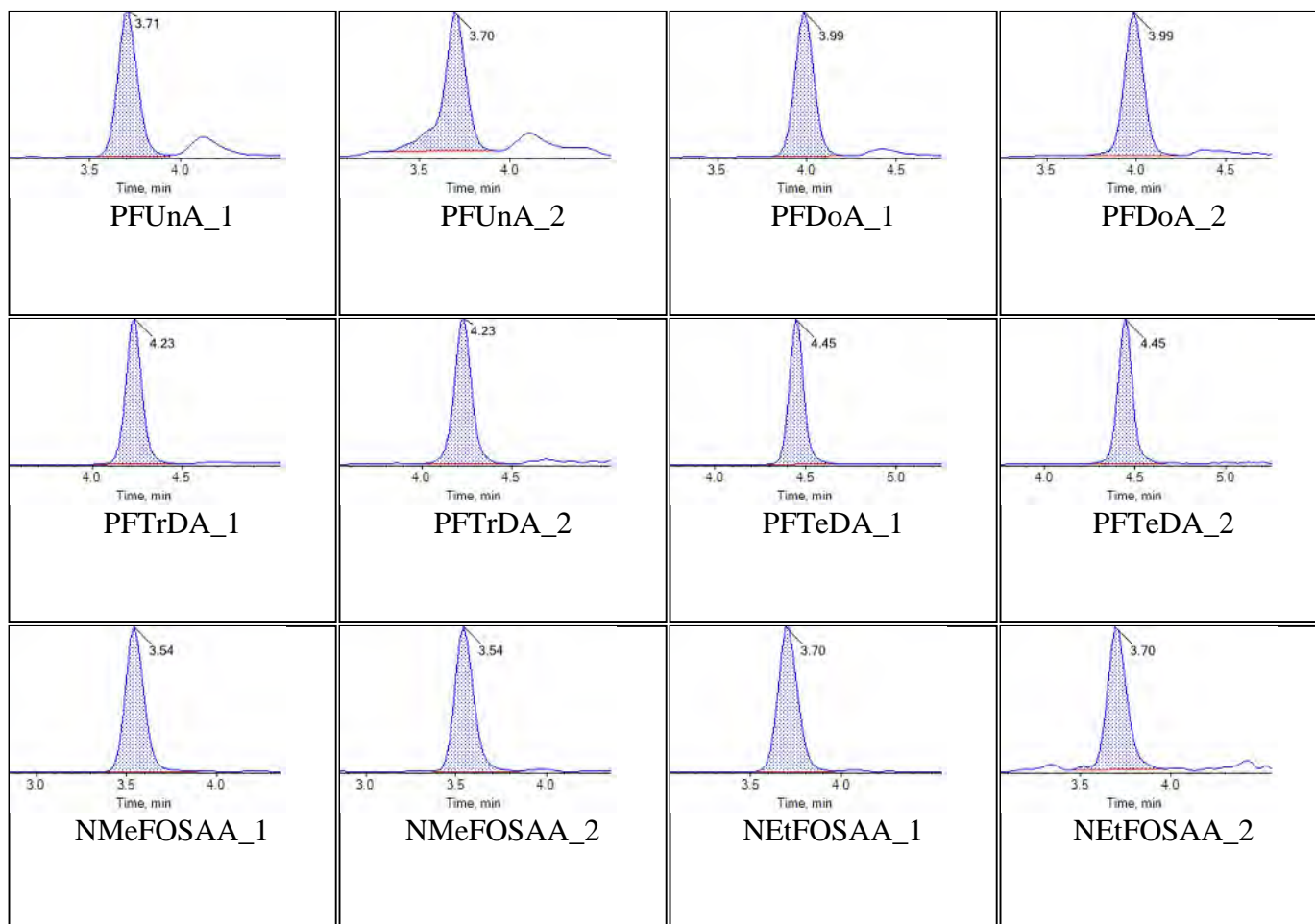
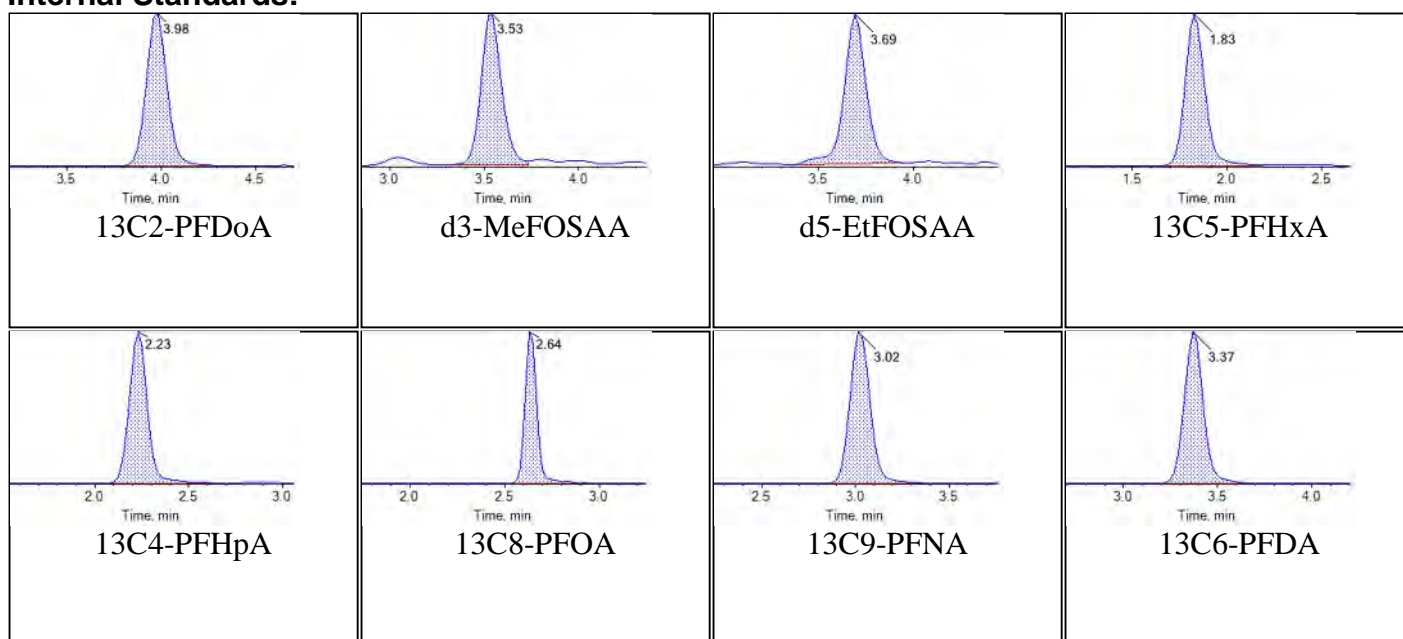


Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

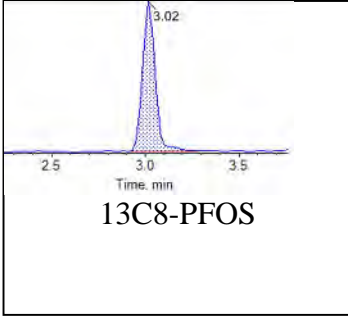
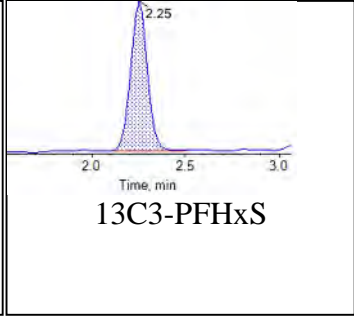
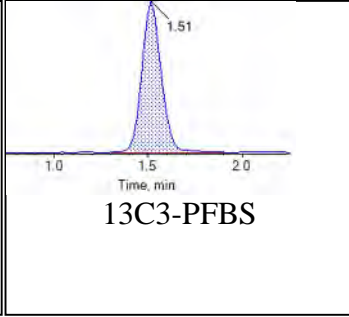
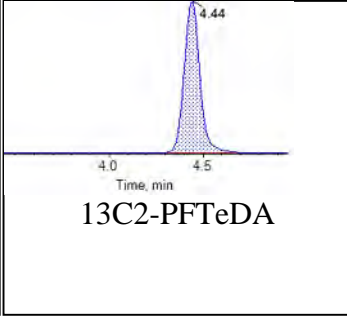
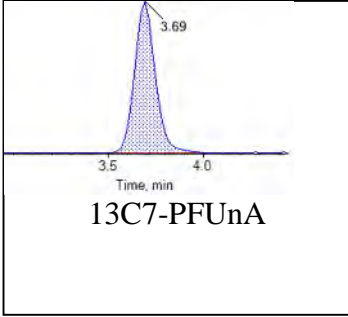


**Internal Standards:**



Chromatogram Report

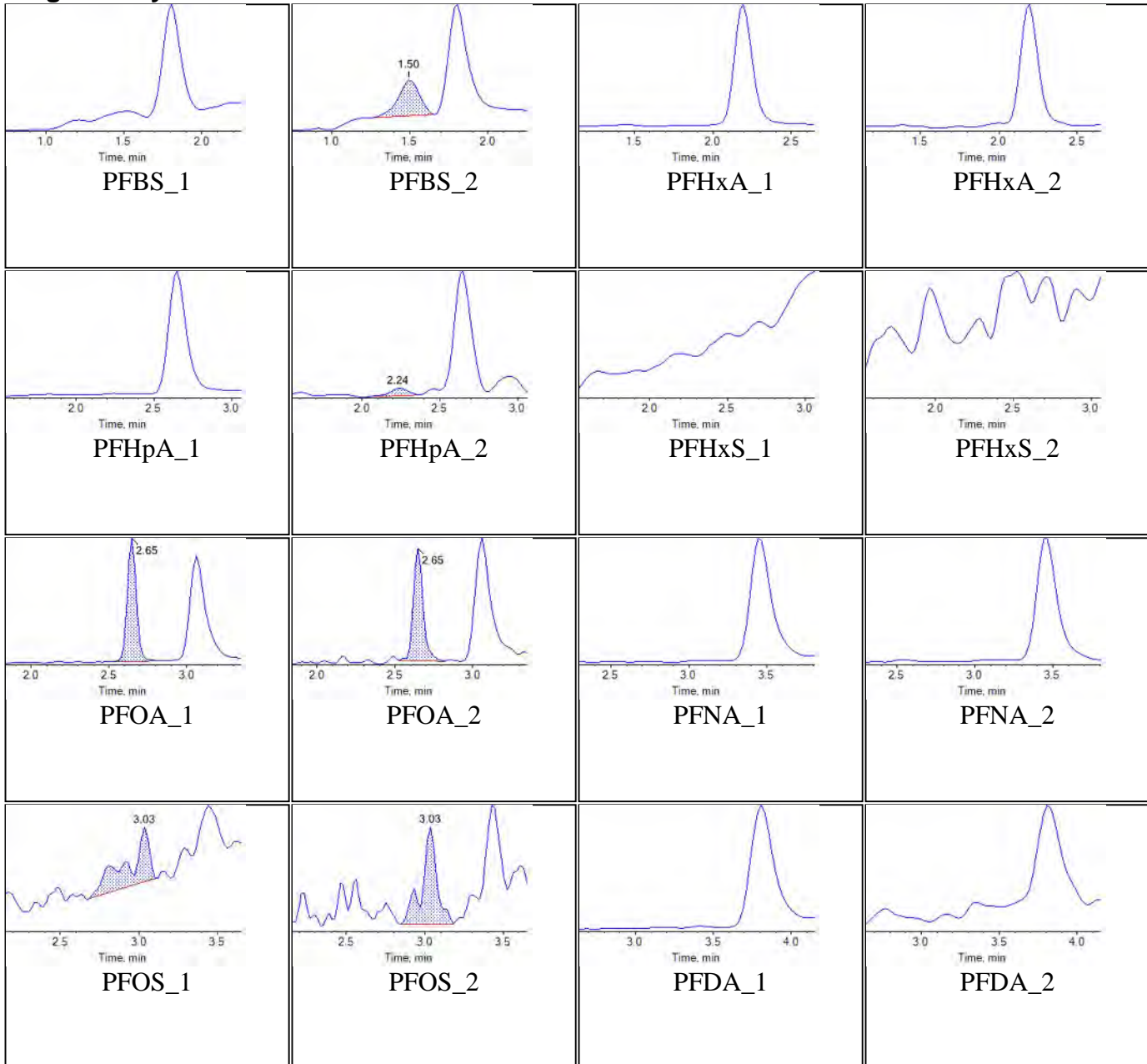
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Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

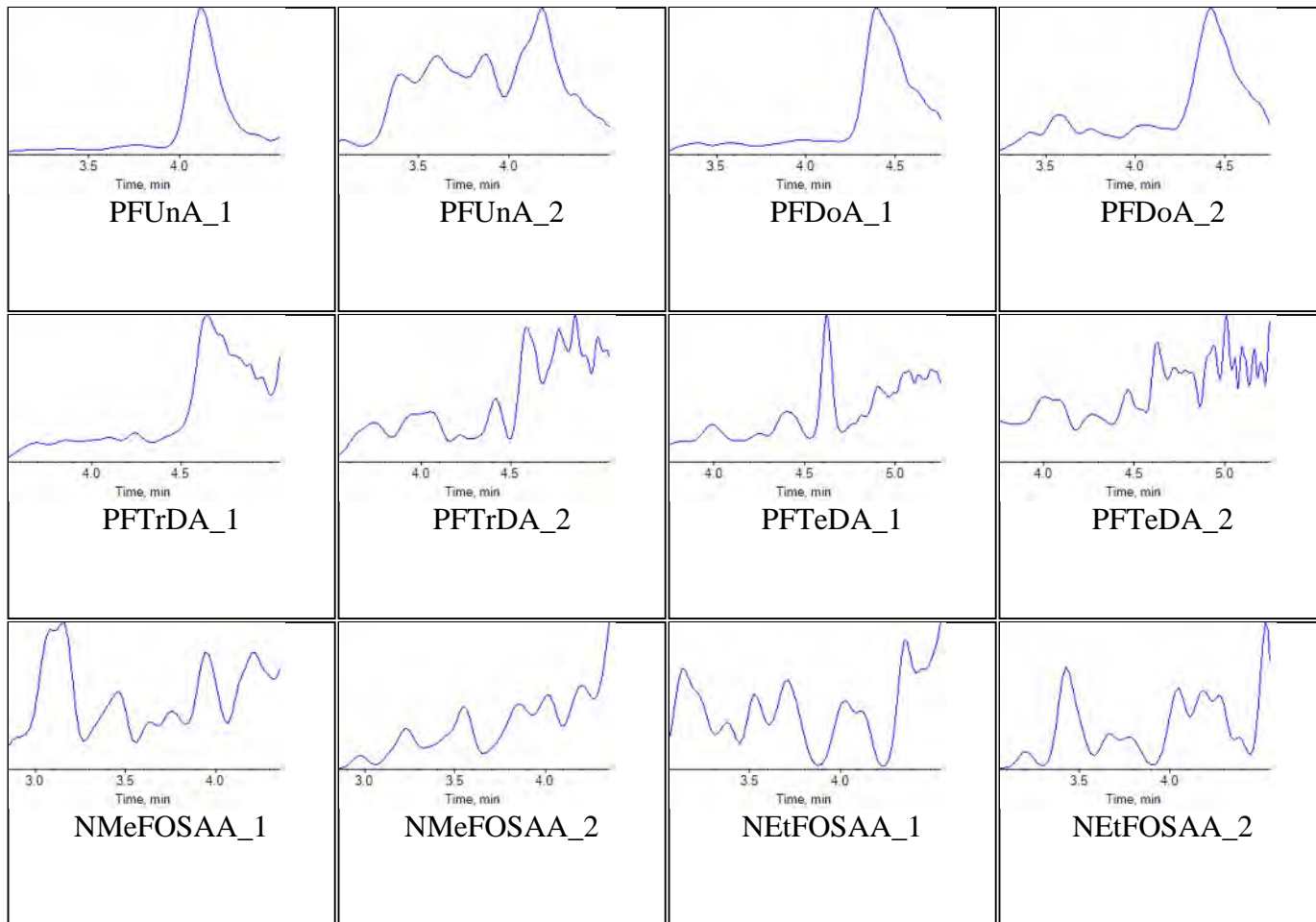
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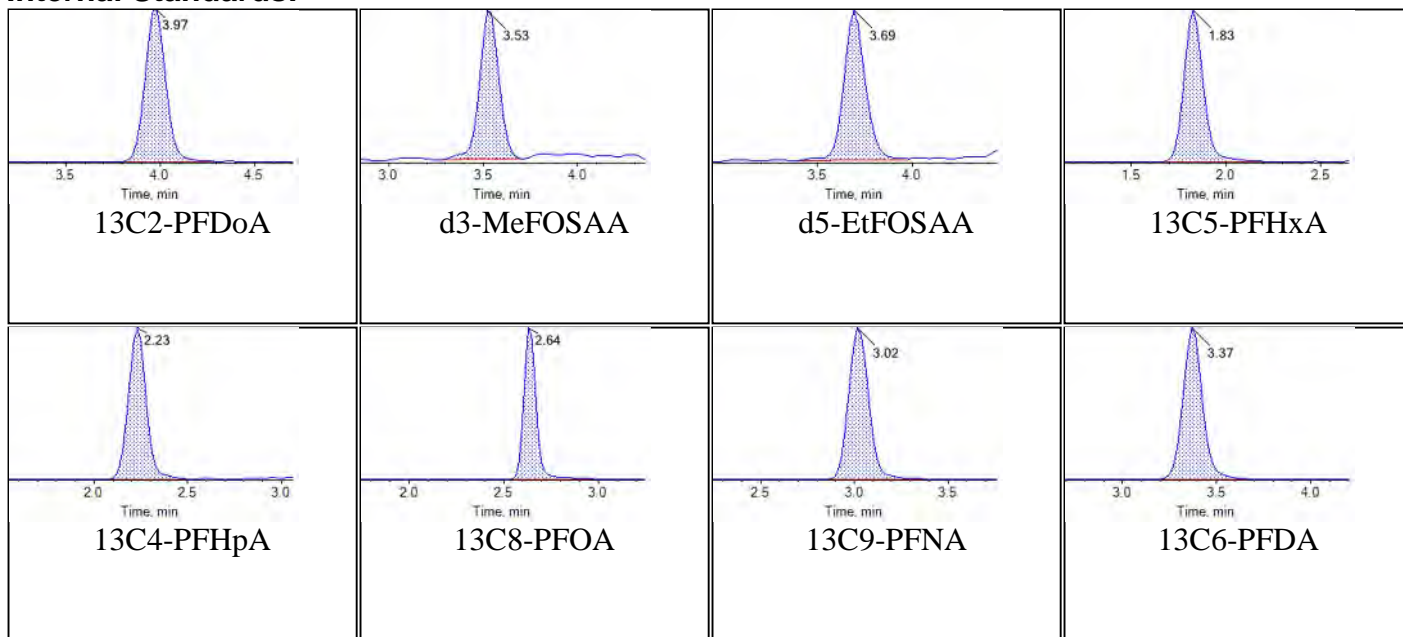


Chromatogram Report

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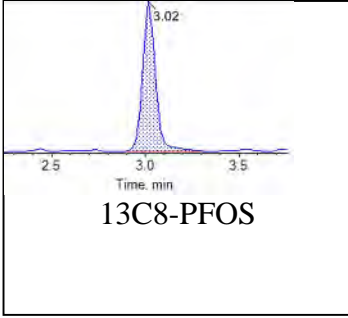
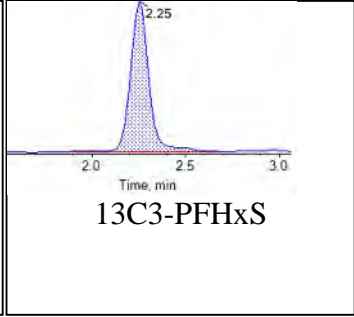
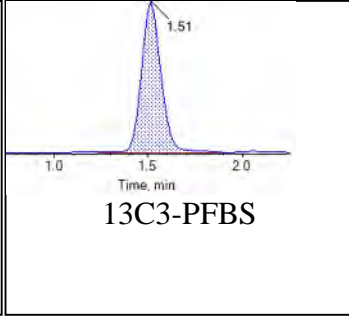
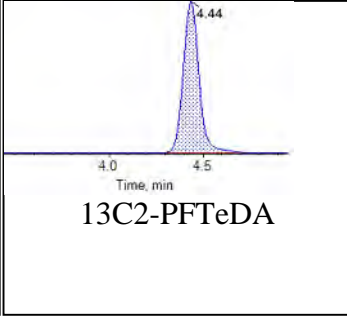
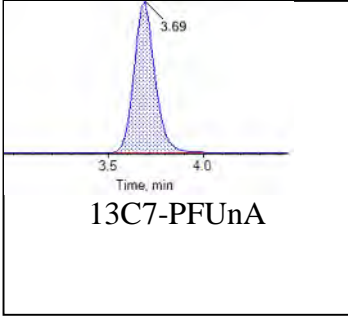
Internal Standards:





Chromatogram Report

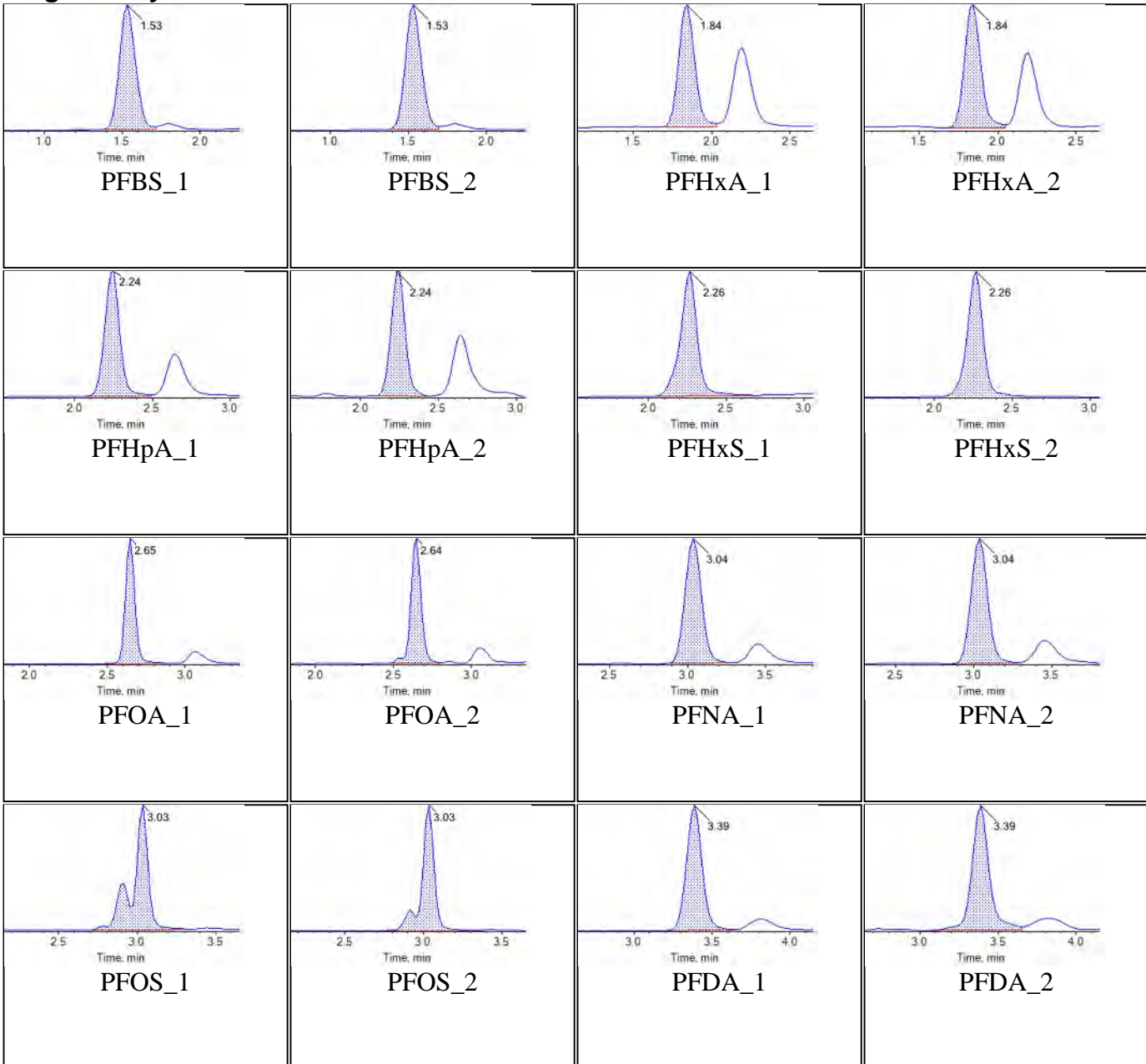
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Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

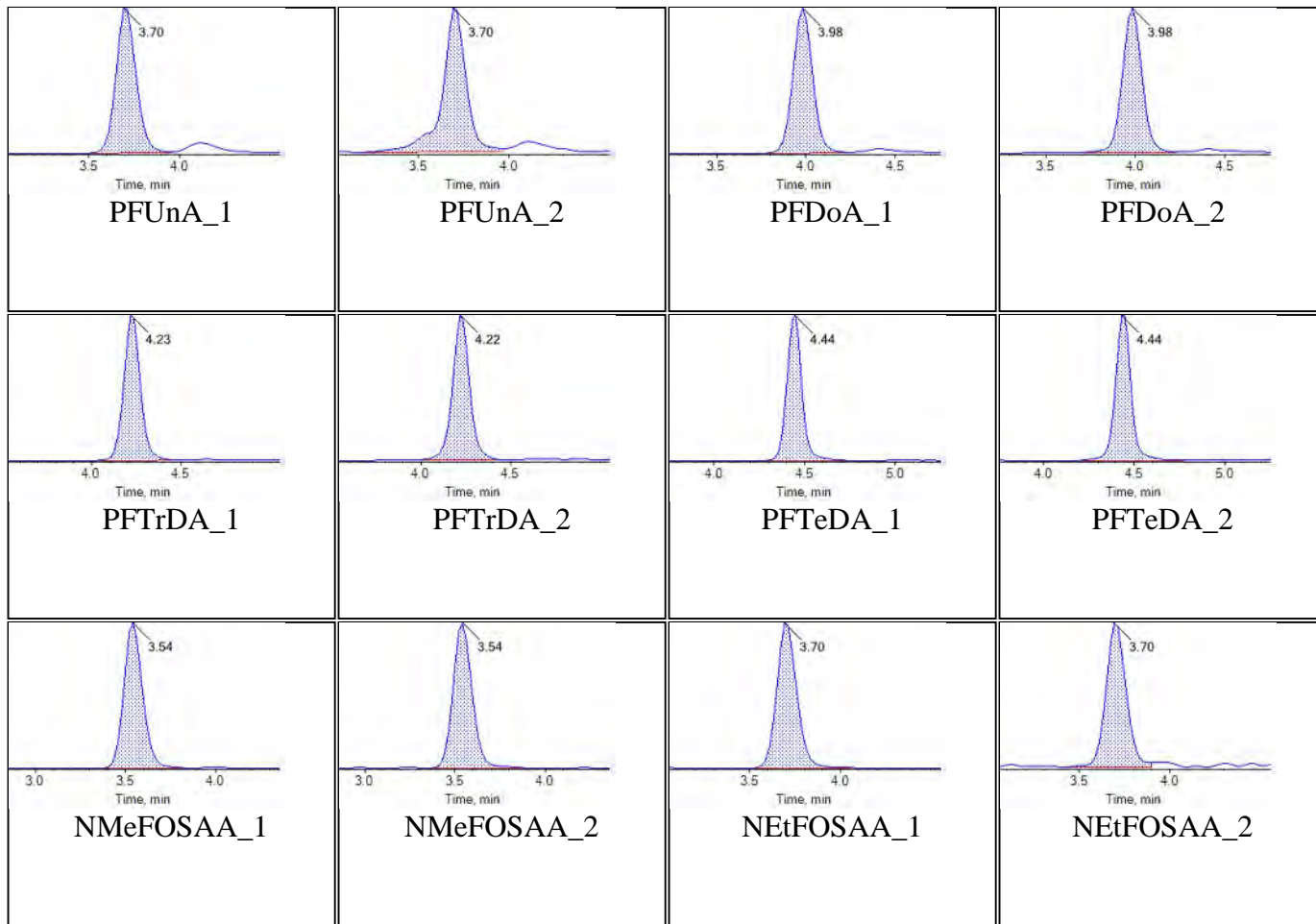
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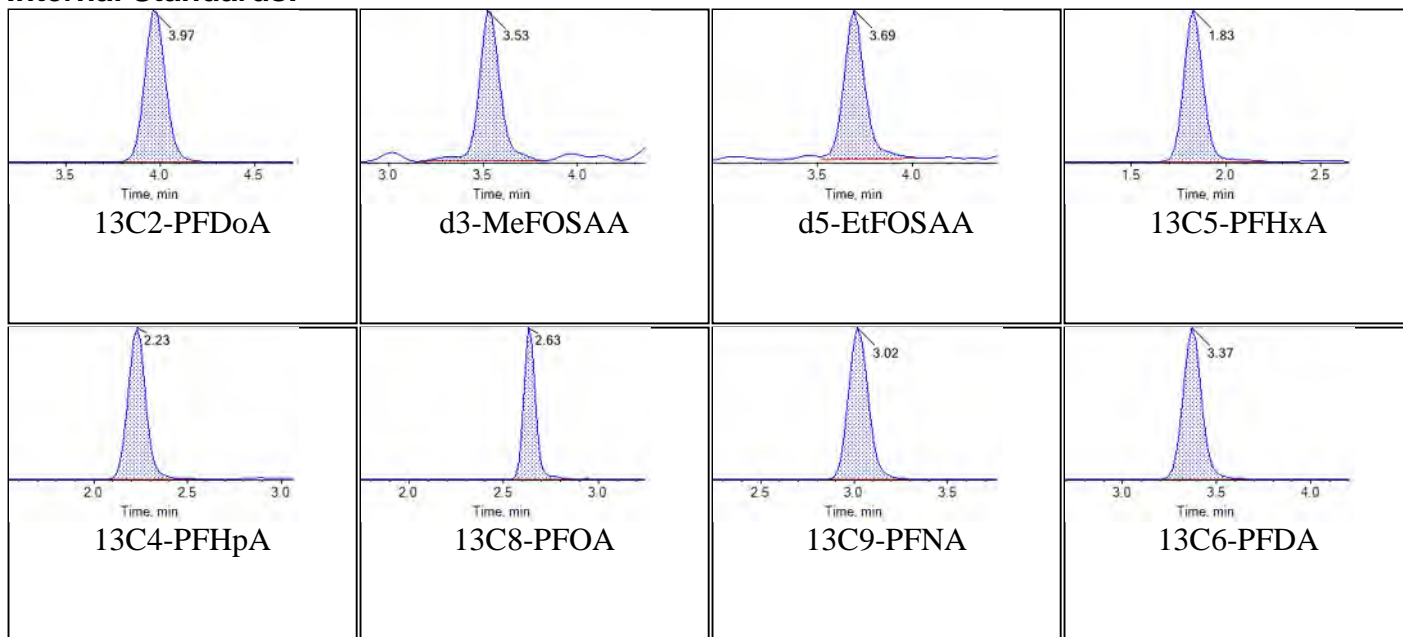


Chromatogram Report

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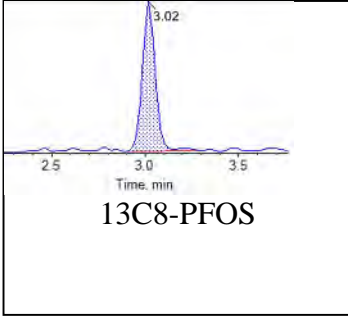
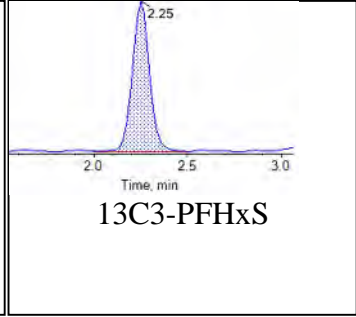
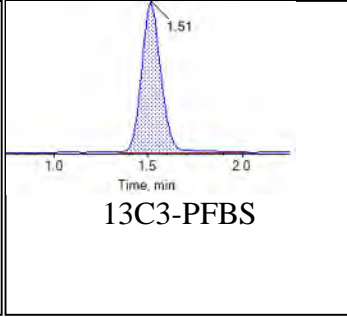
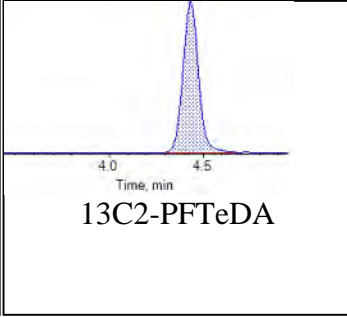
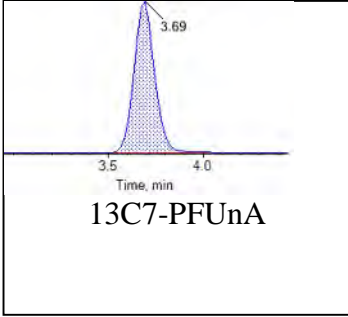


Internal Standards:



Chromatogram Report

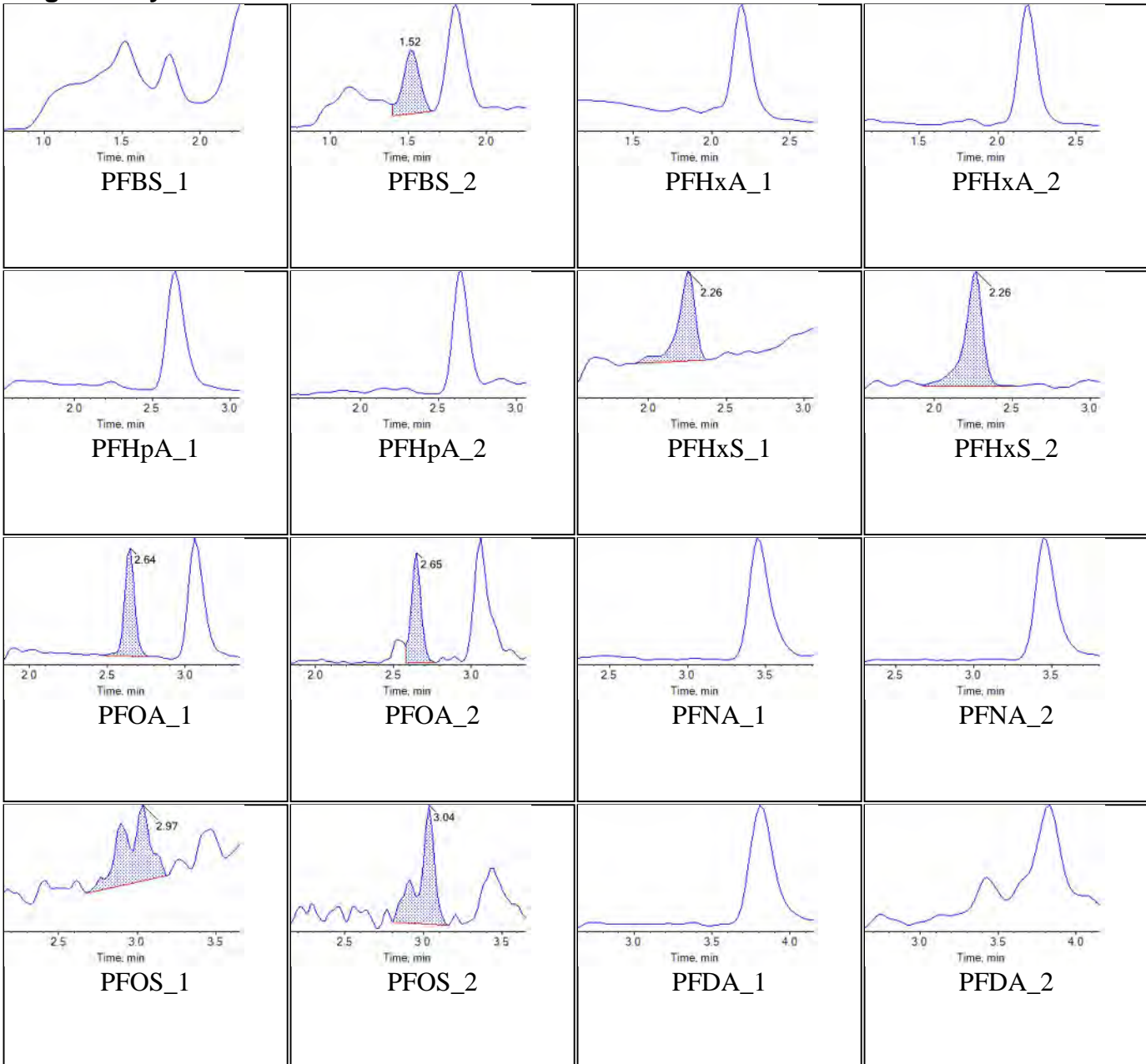
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Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

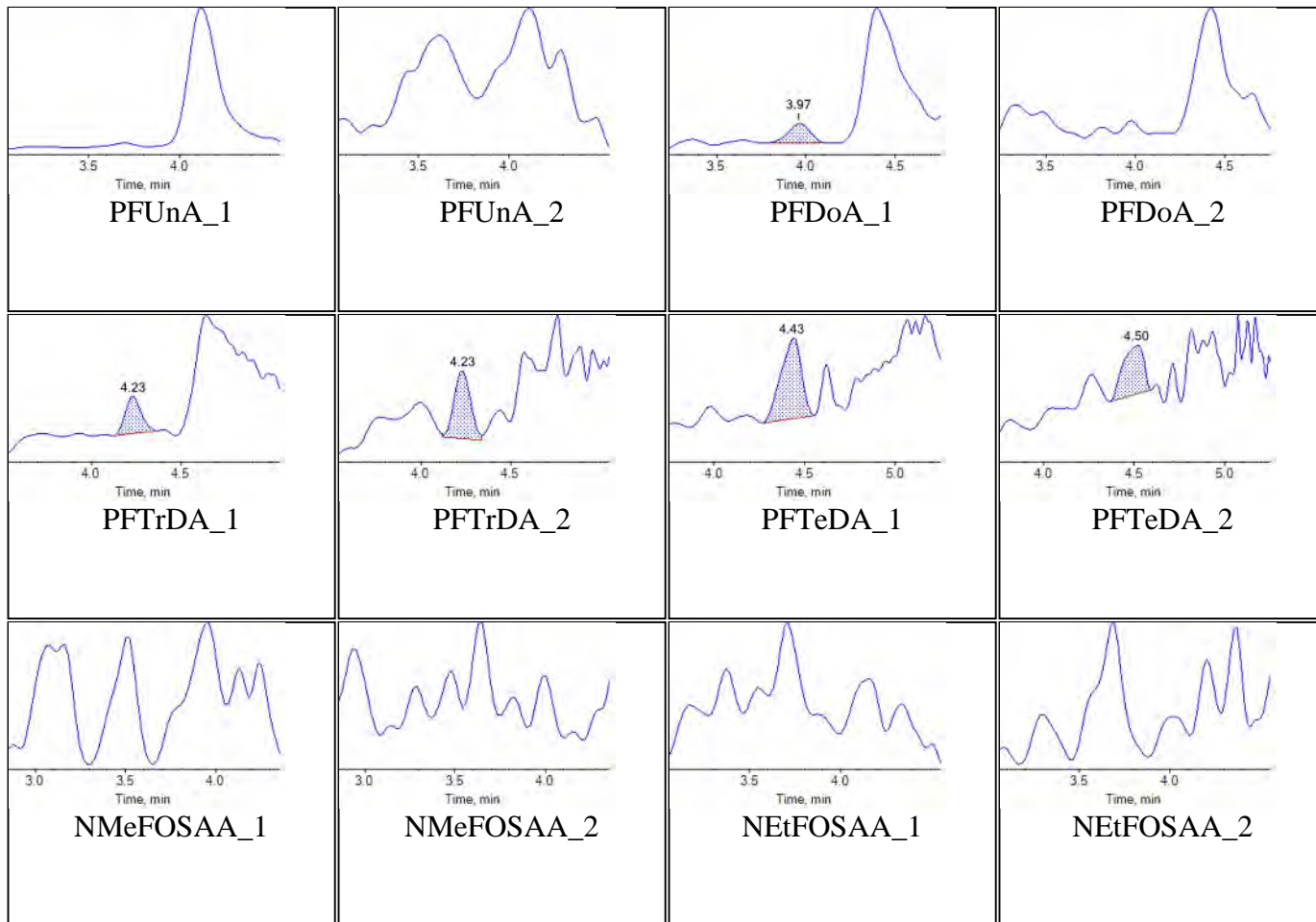
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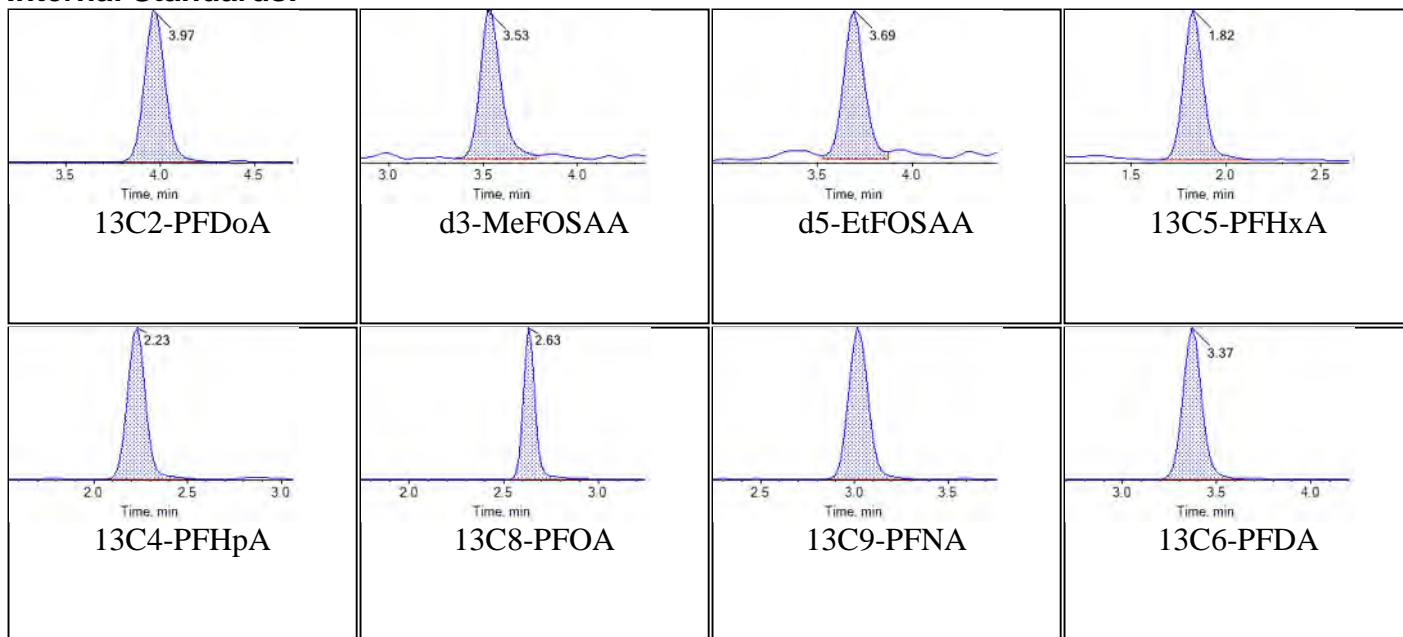


Chromatogram Report

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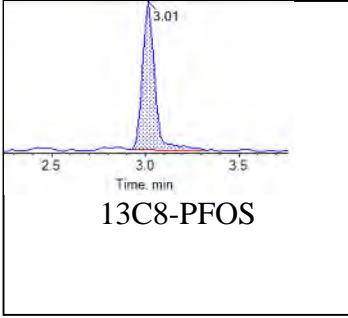
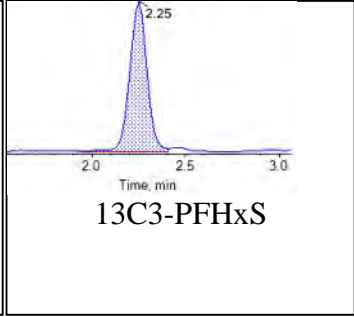
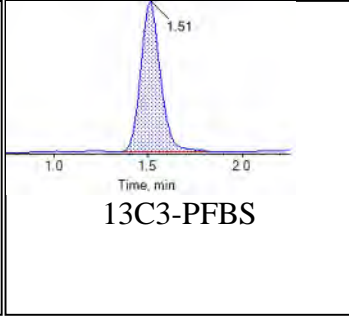
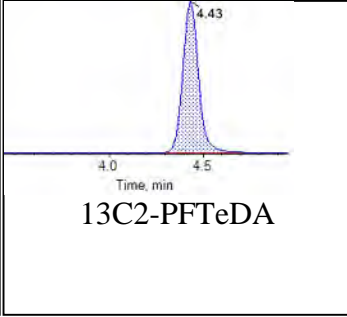
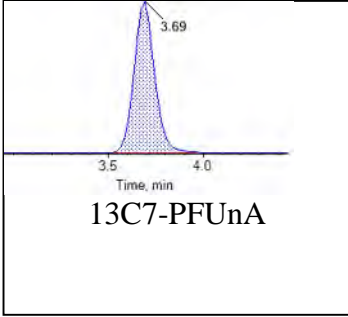
Internal Standards:





Chromatogram Report

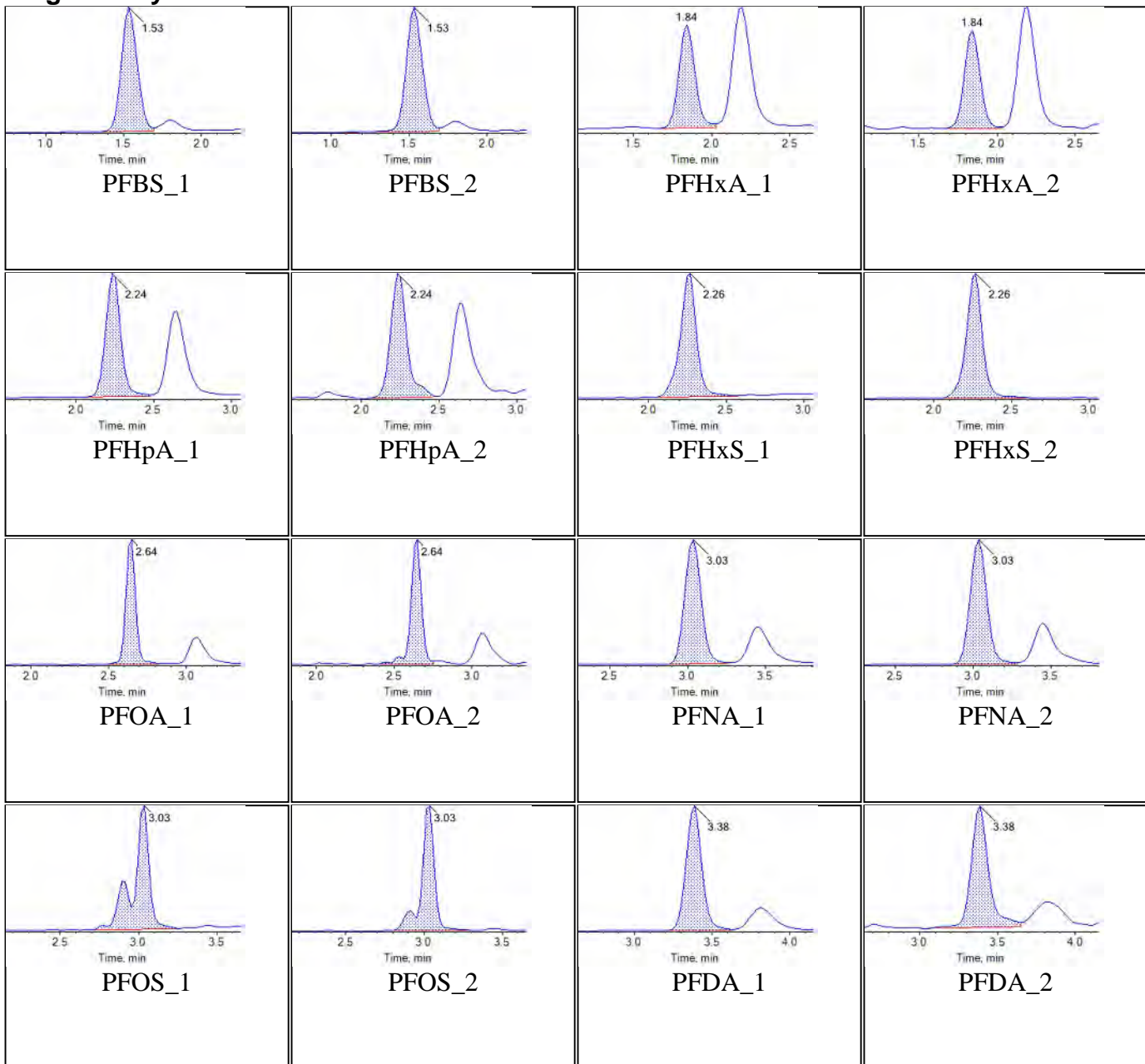
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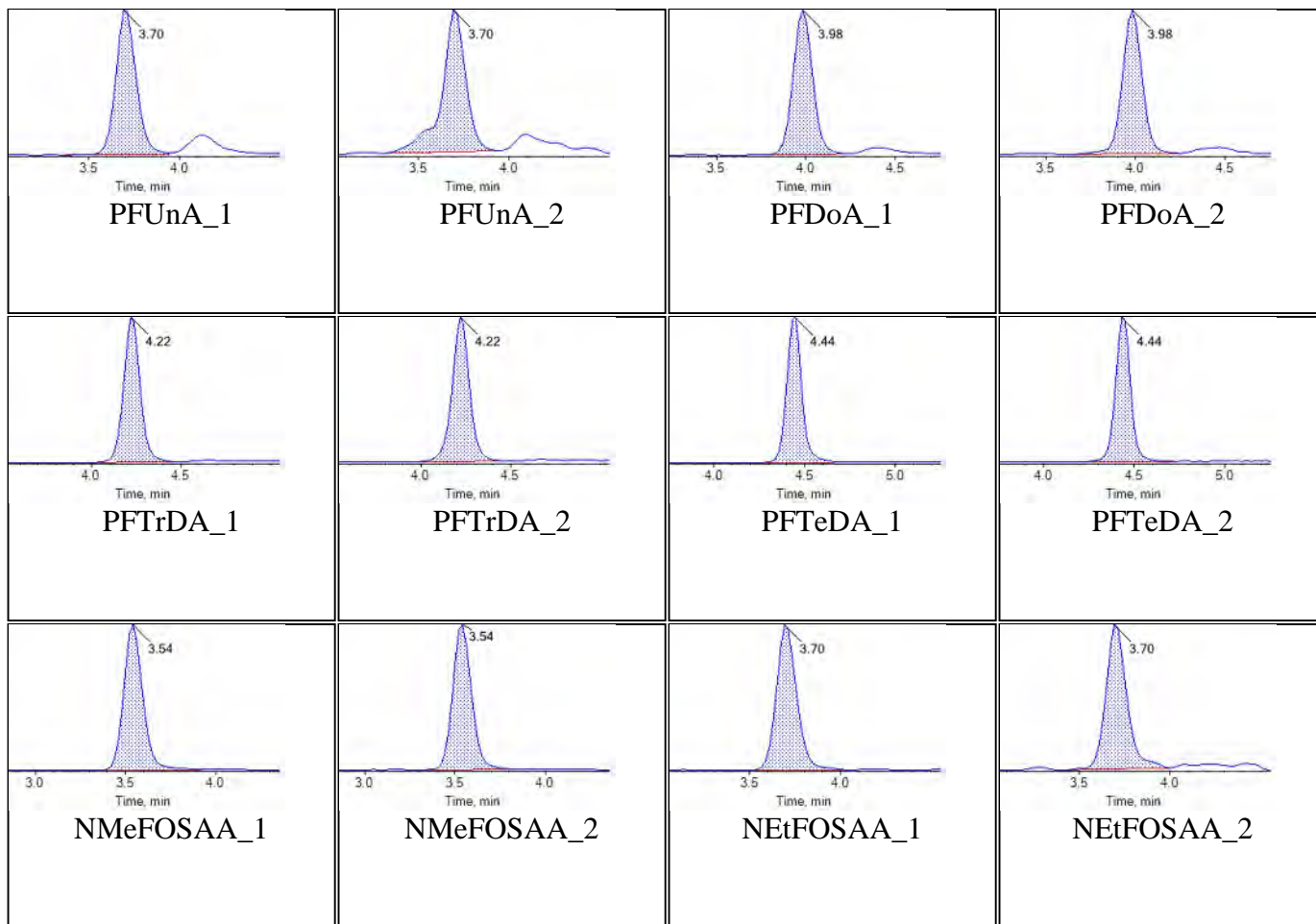
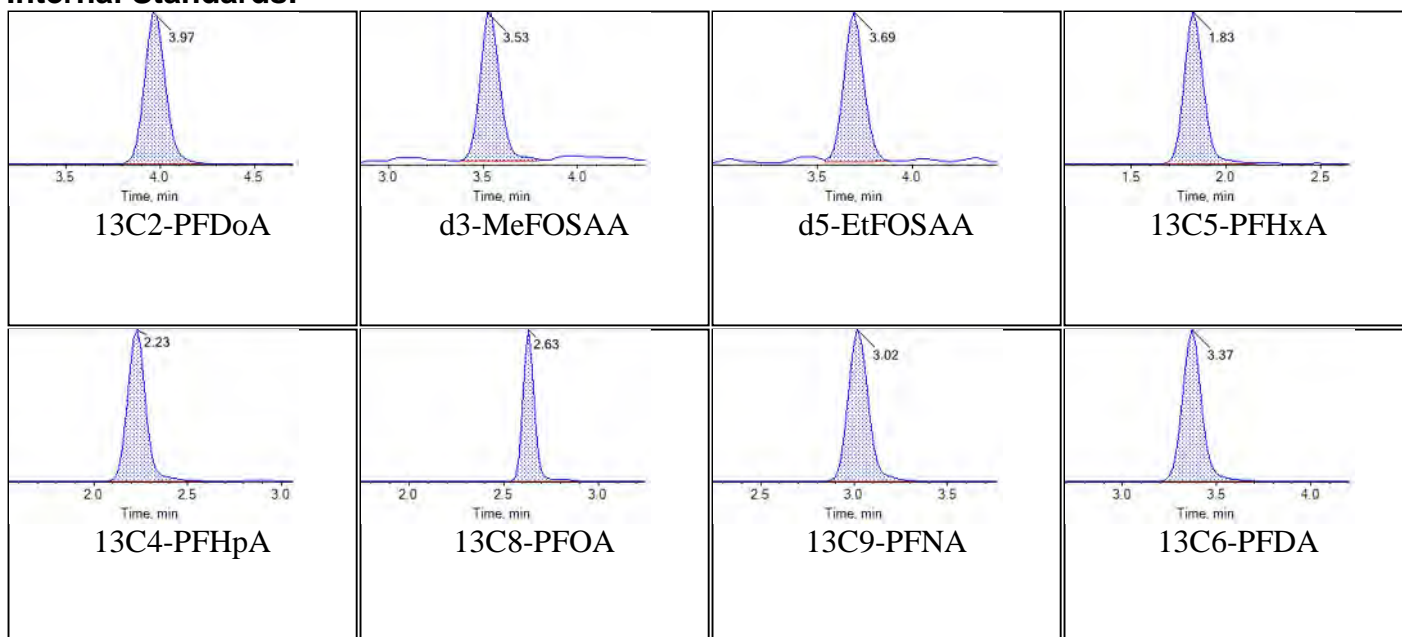


Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

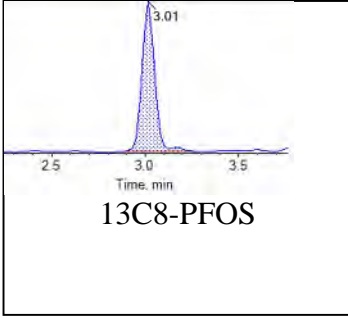
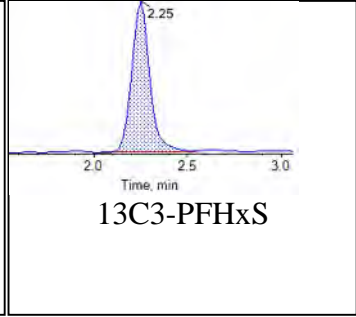
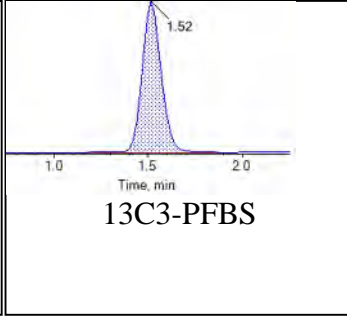
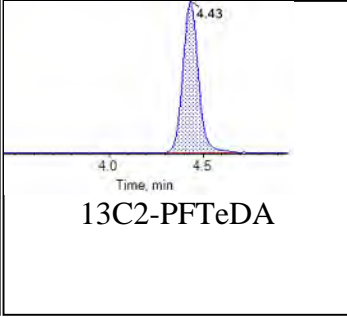
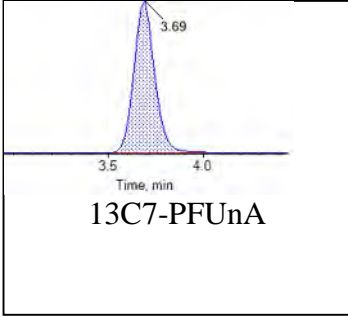
Target Analytes:



**Internal Standards:**

Chromatogram Report

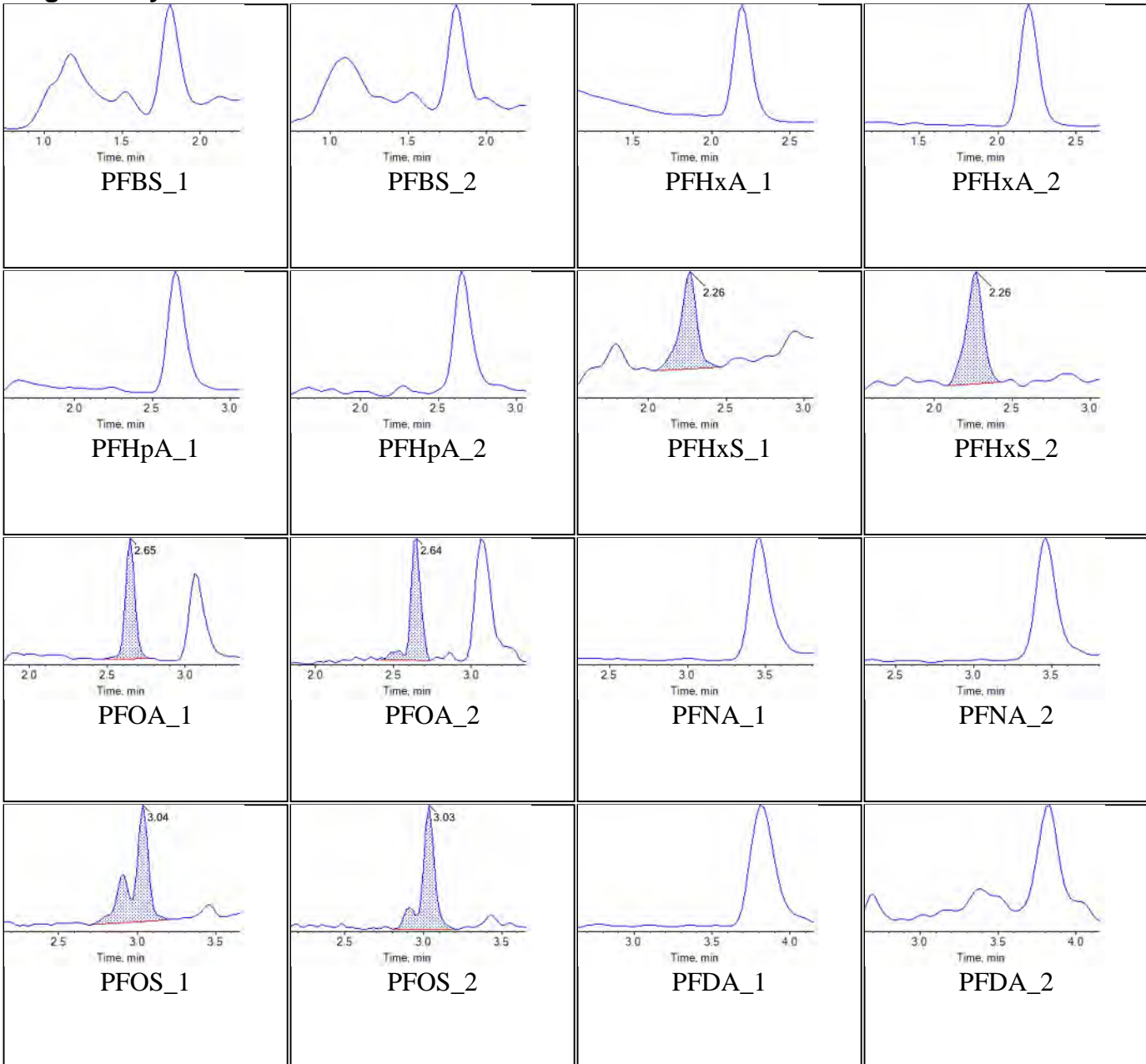
Created with Analyst Reporter
Printed: 11/09/2018 12:54:54 PM



Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

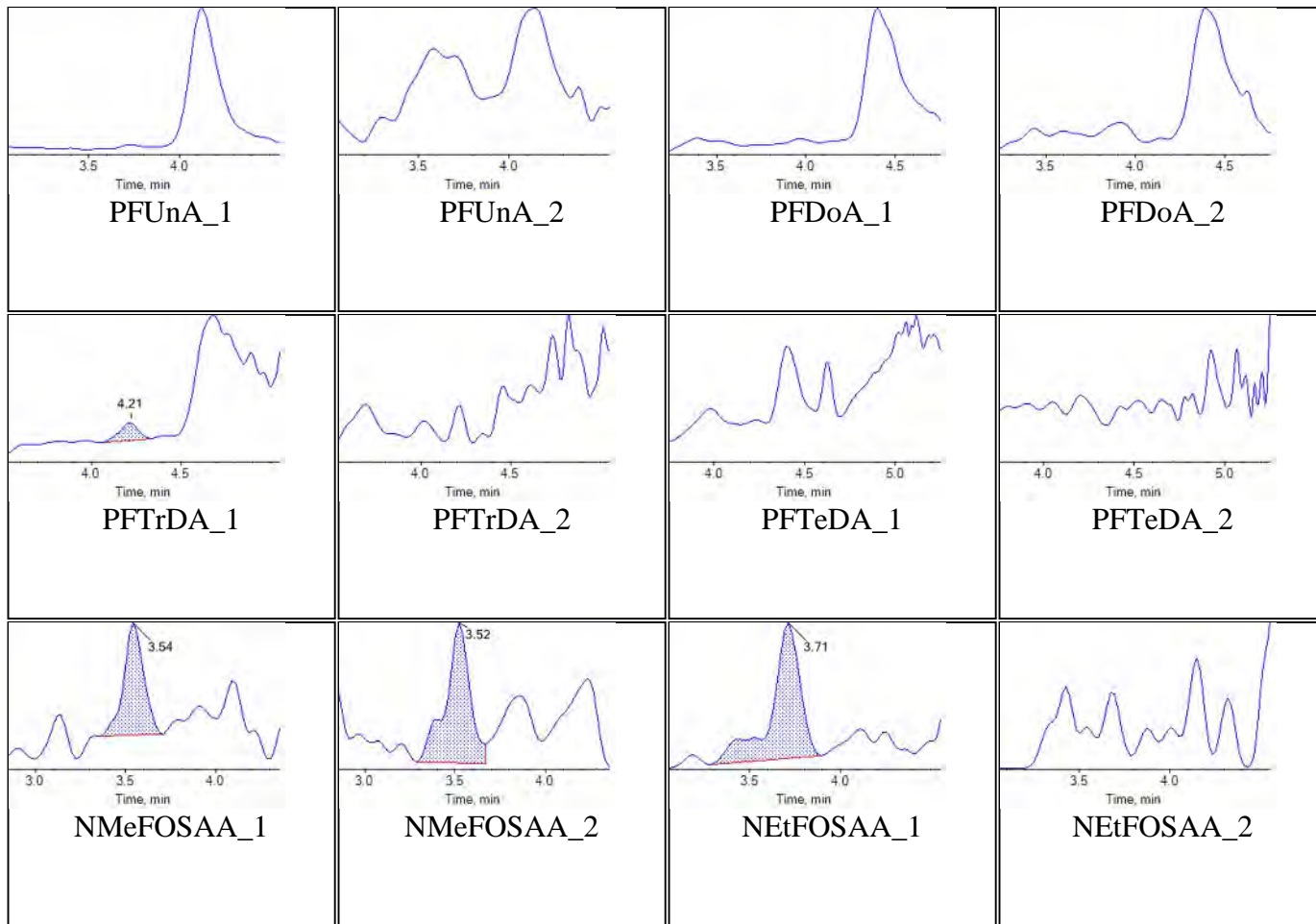
Target Analytes:



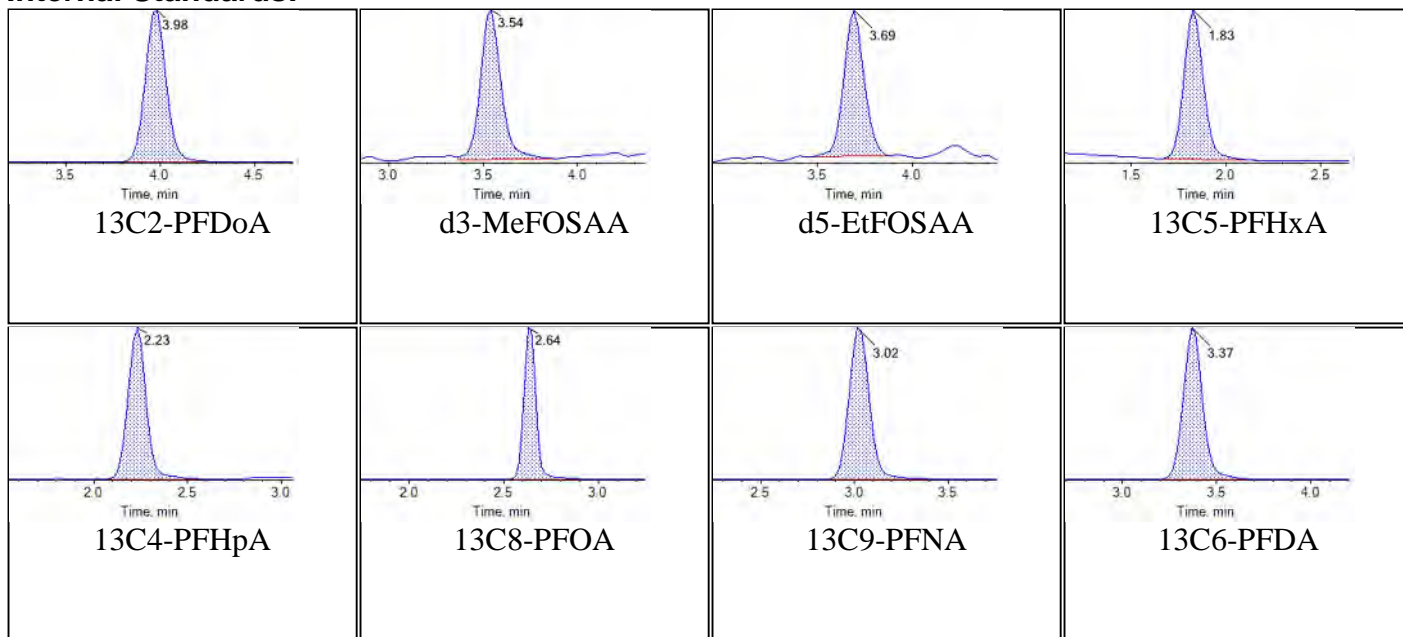


Chromatogram Report

Created with Analyst Reporter
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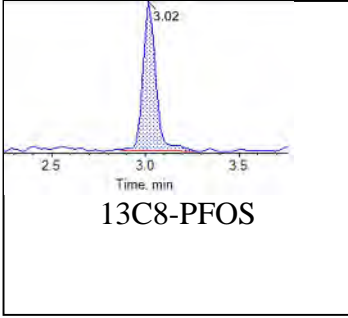
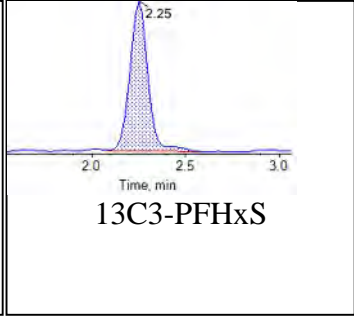
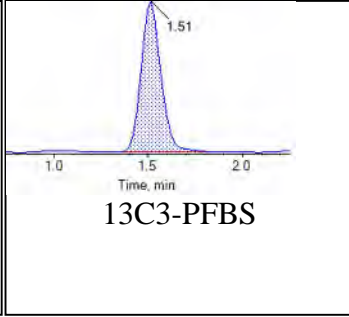
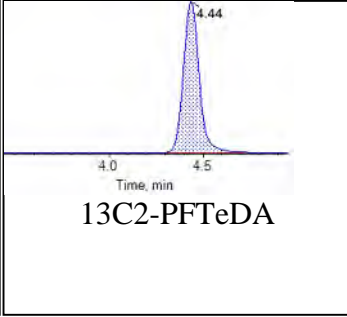
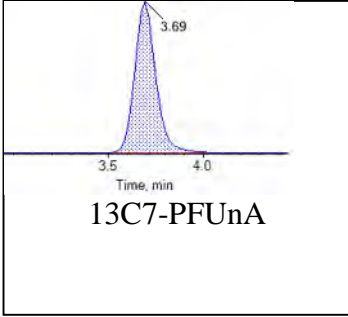
Internal Standards:





Chromatogram Report

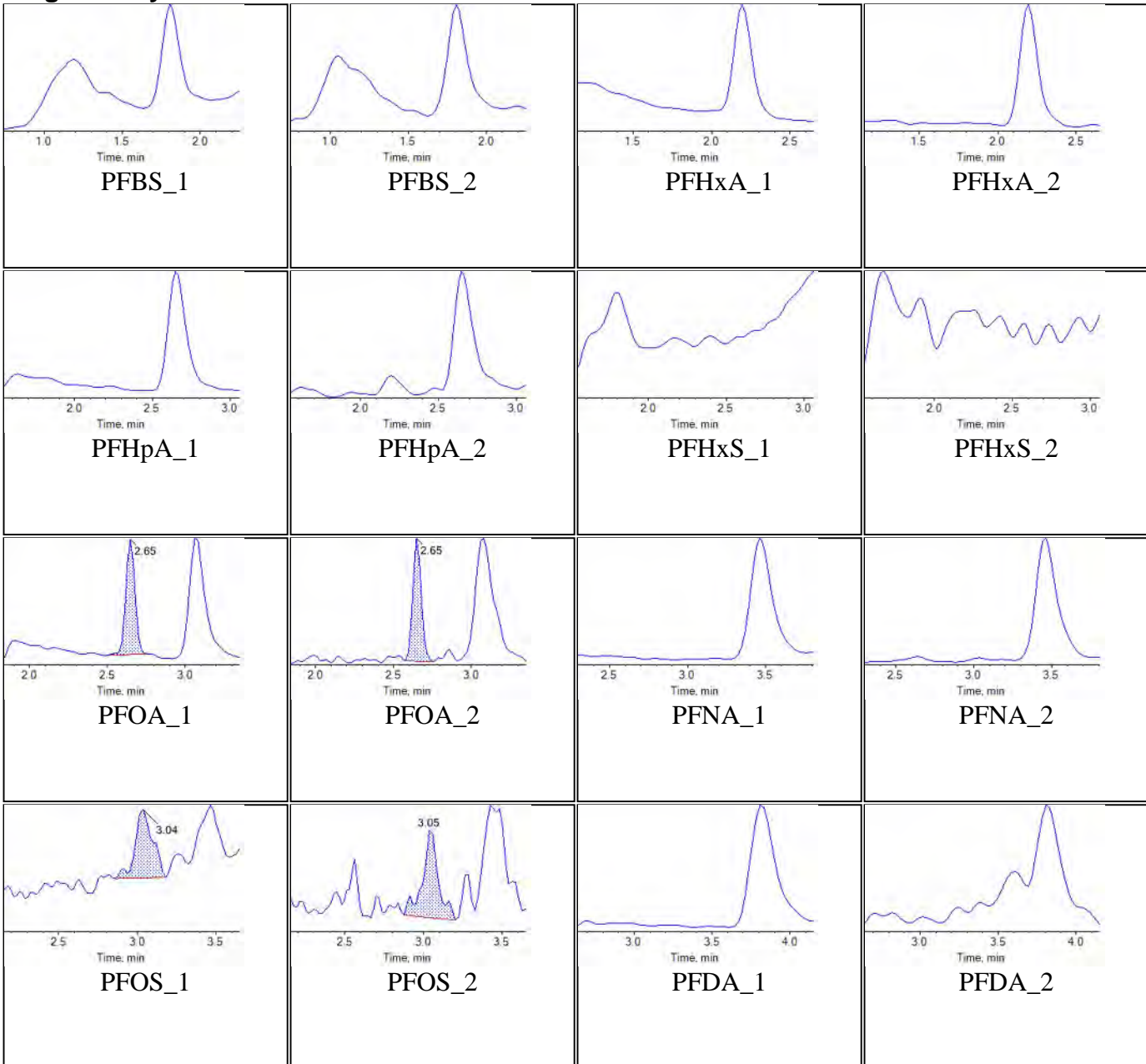
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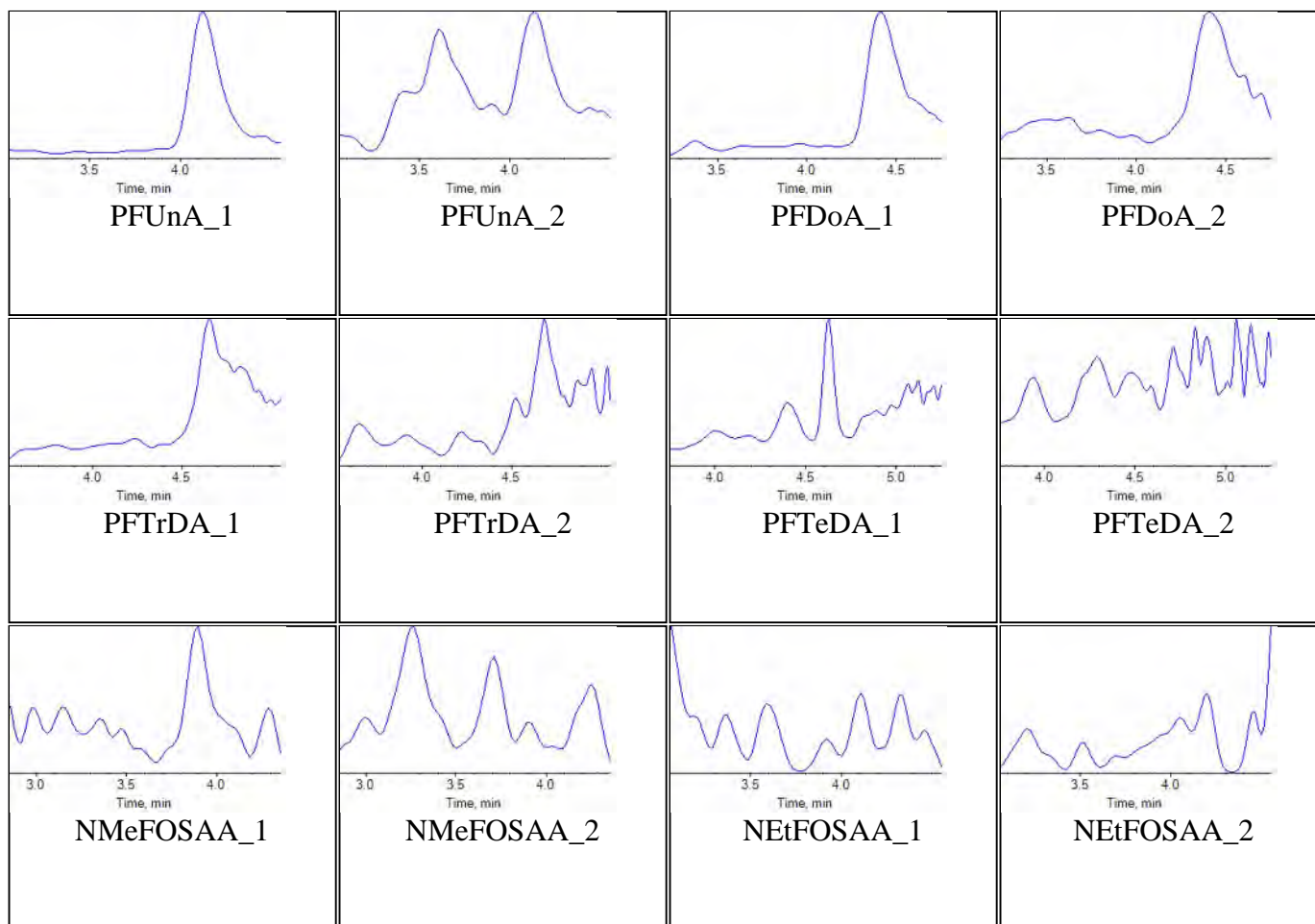
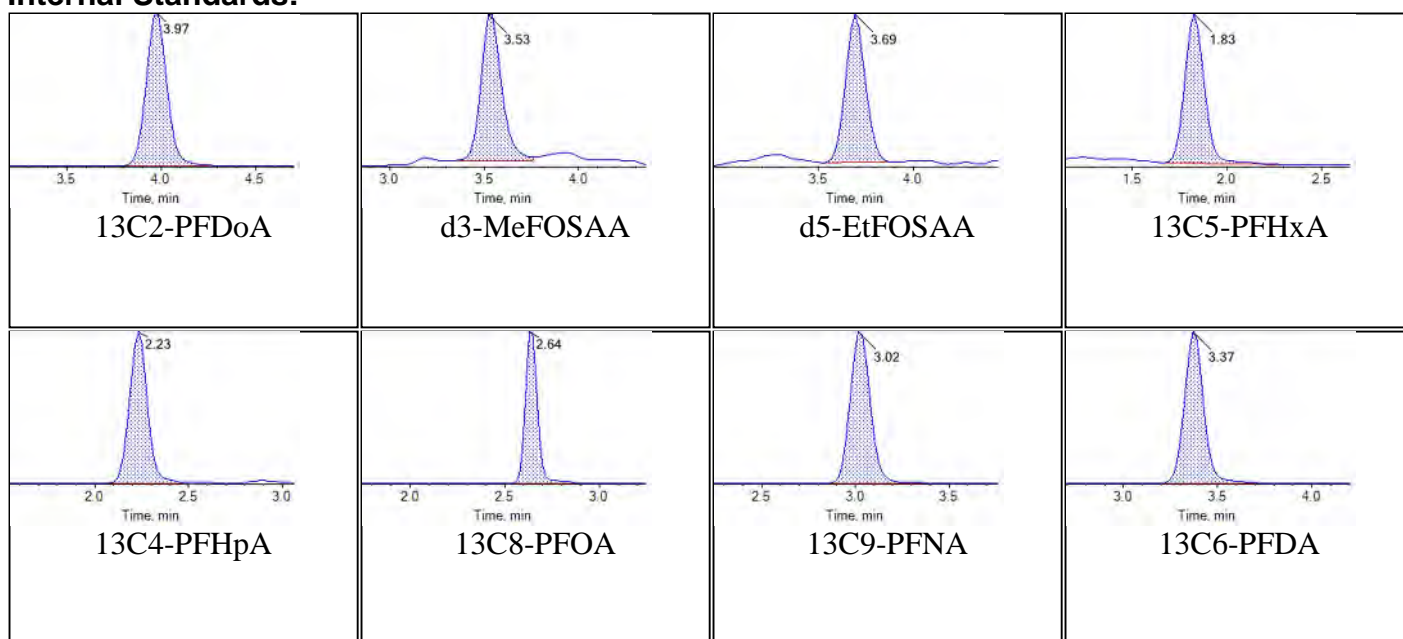


Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

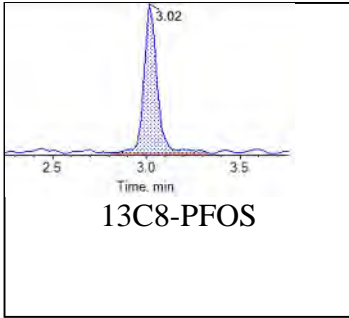
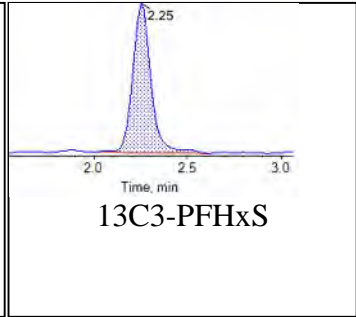
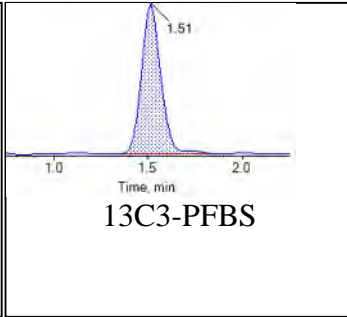
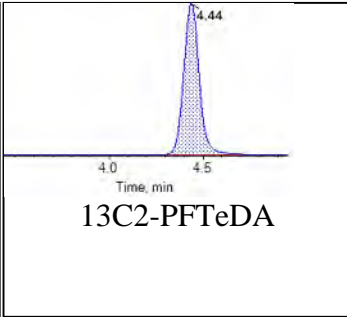
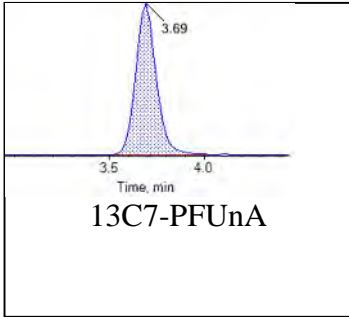
Target Analytes:



**Internal Standards:**

Chromatogram Report

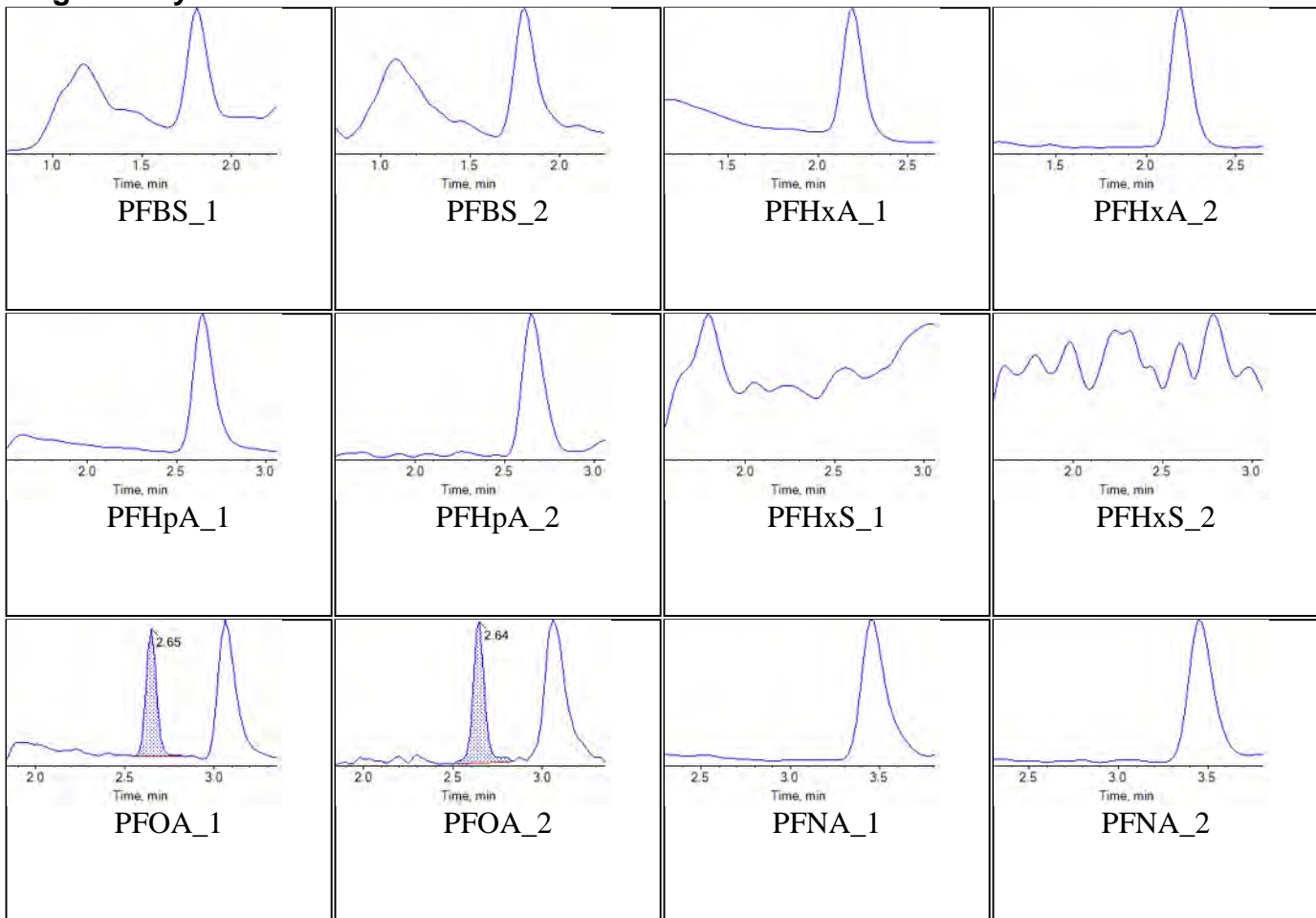
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Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

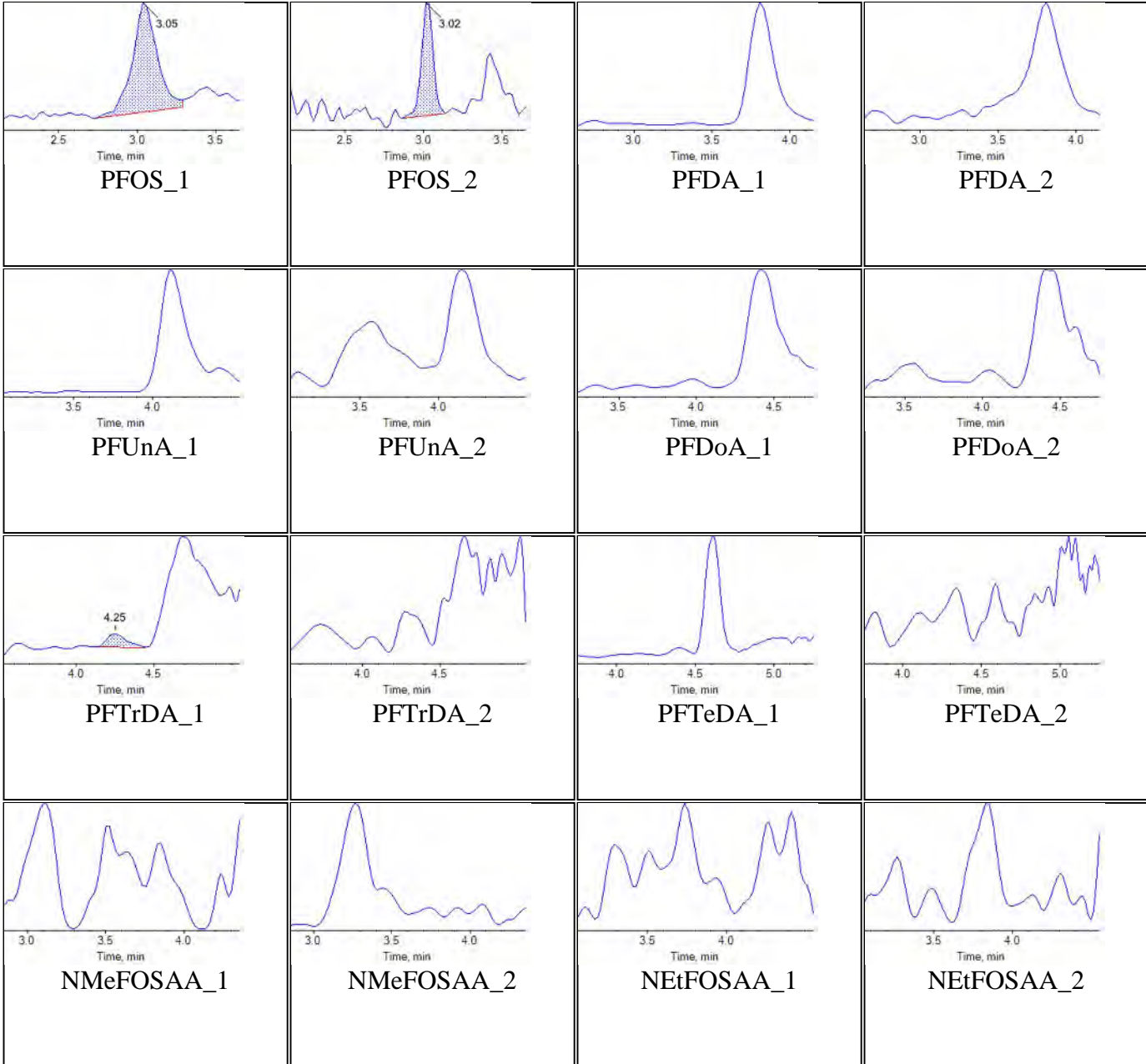
Target Analytes:



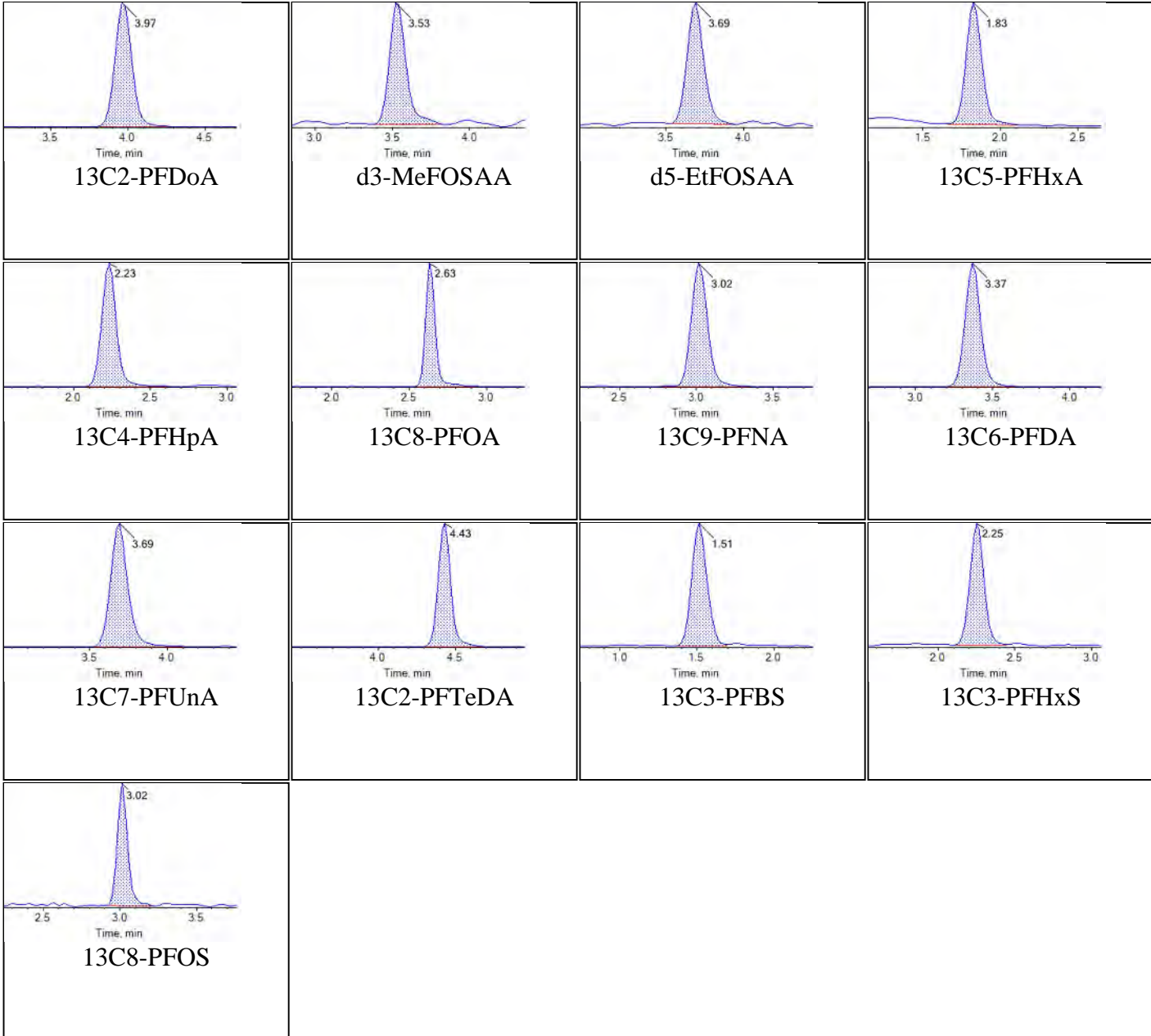


Chromatogram Report

Created with Analyst Reporter
Printed: 11/09/2018 12:55:19 PM



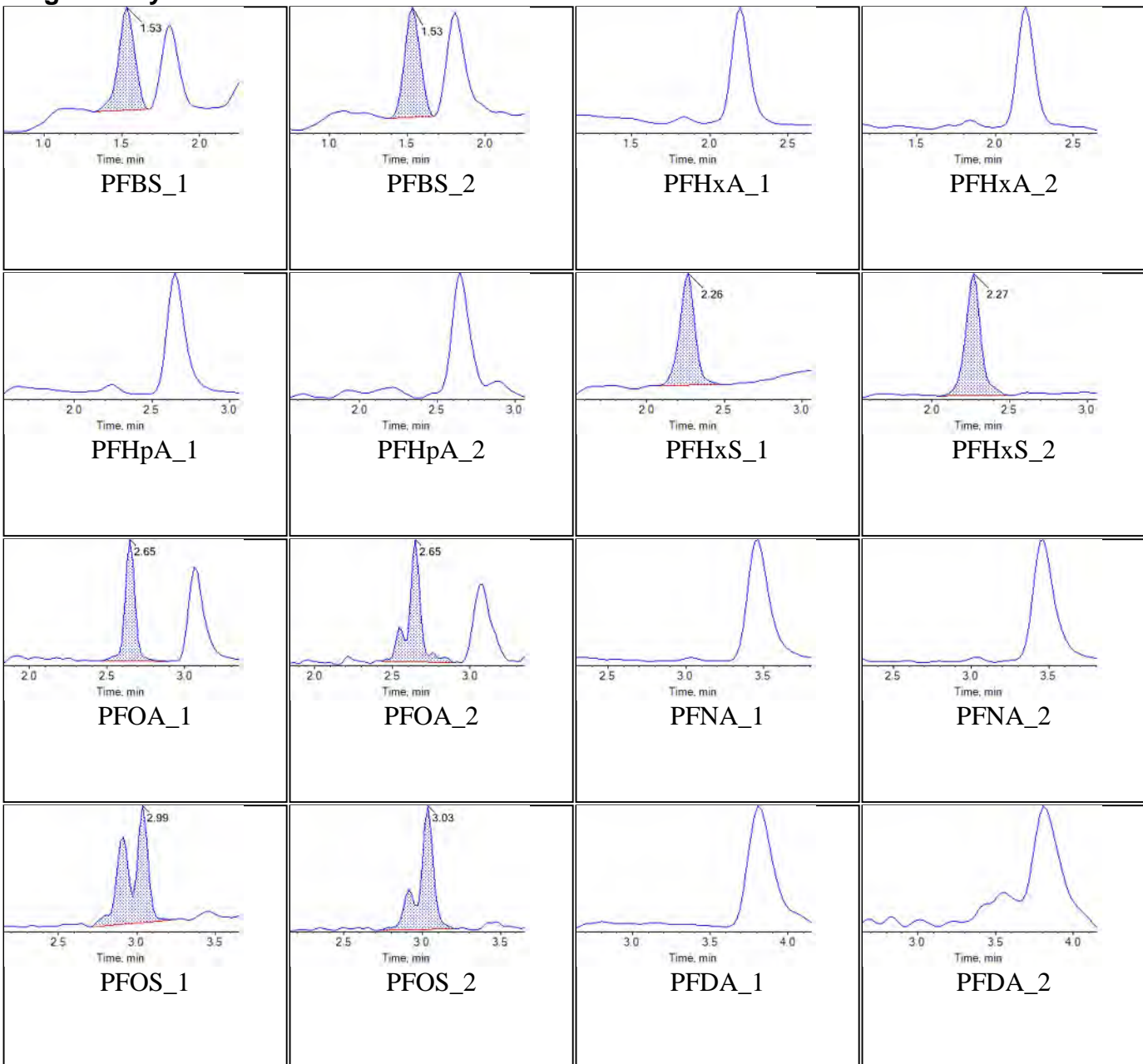
Internal Standards:



Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

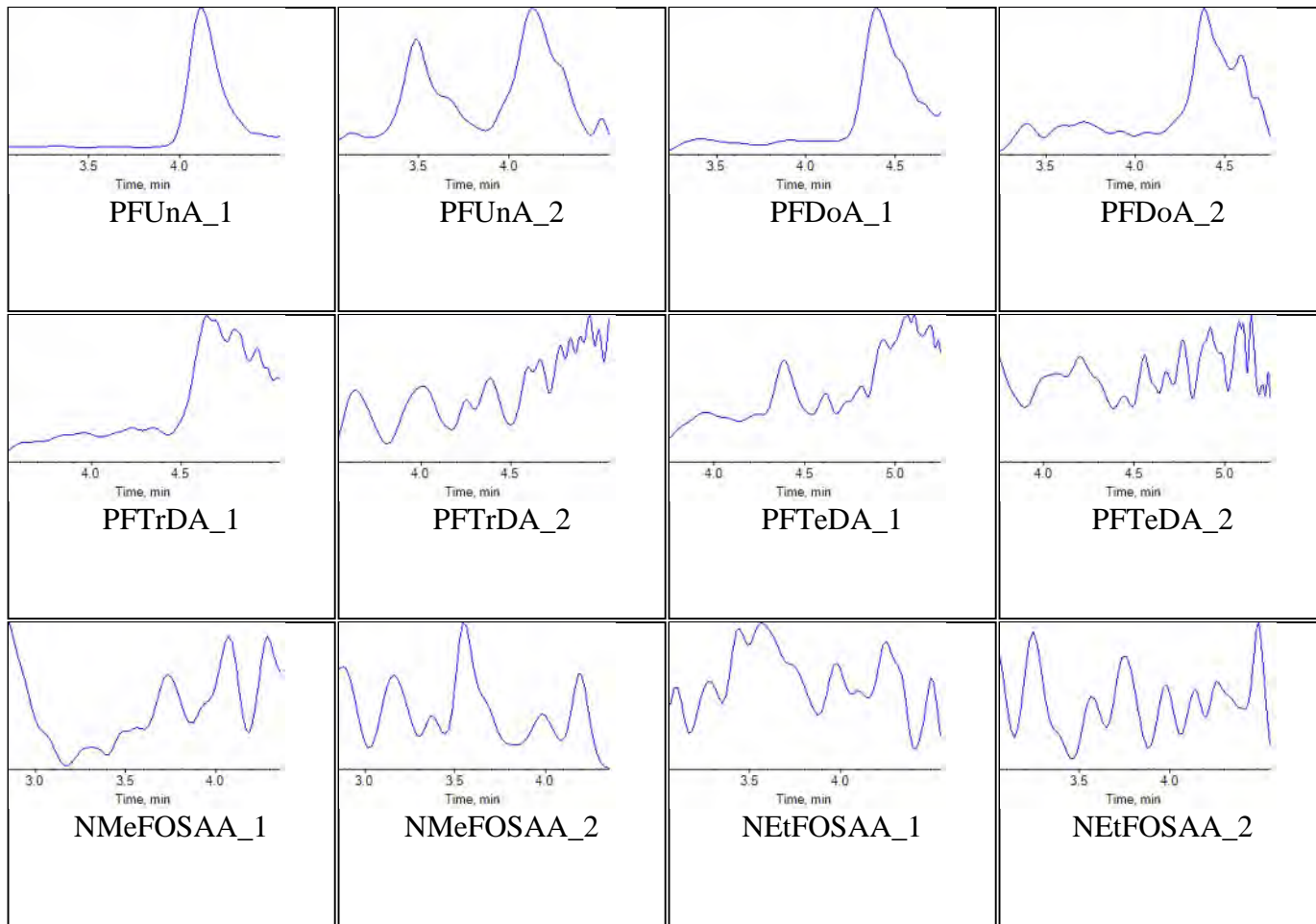
Target Analytes:



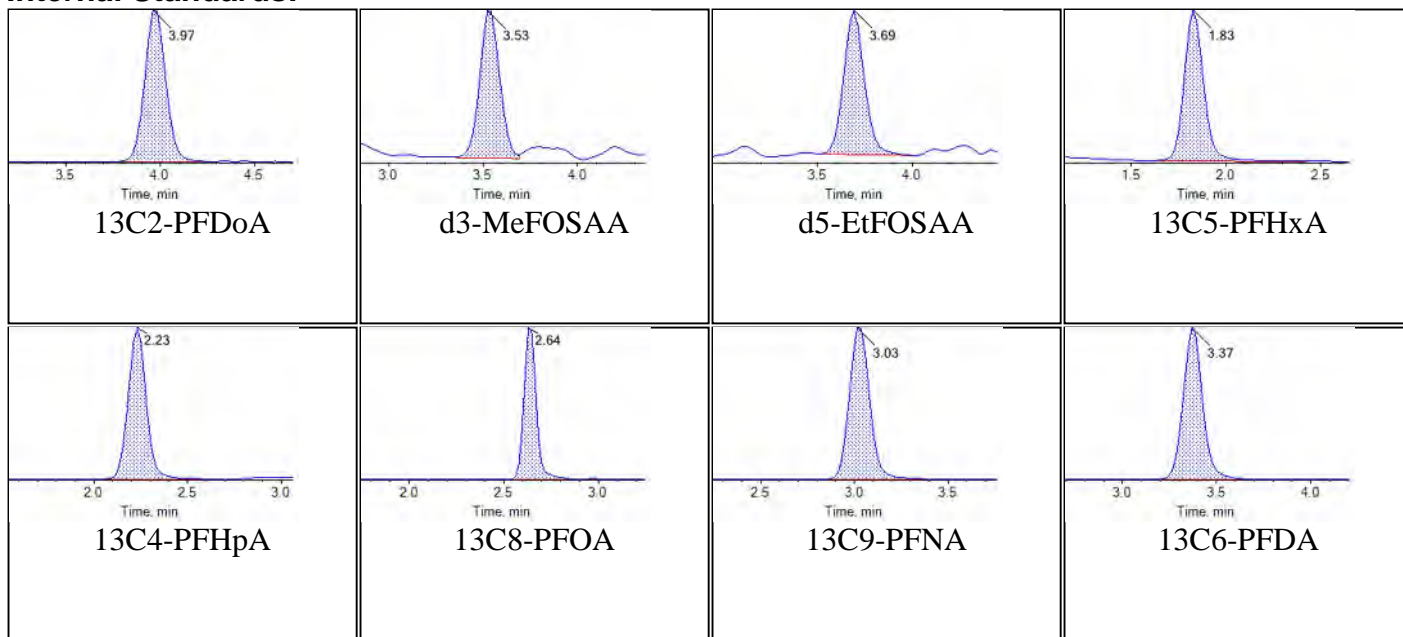


Chromatogram Report

Created with Analyst Reporter
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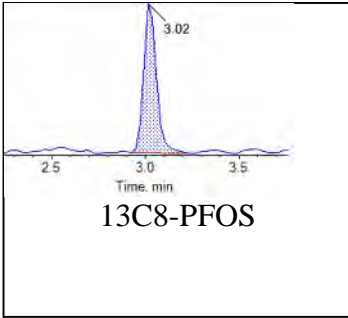
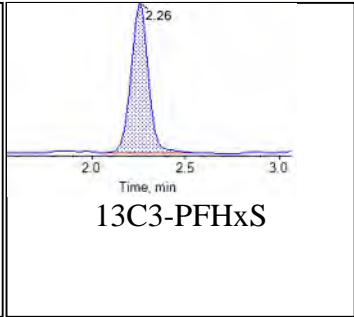
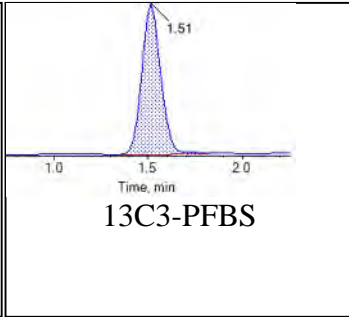
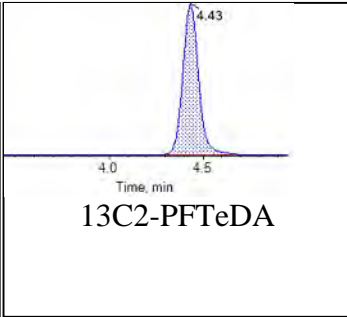
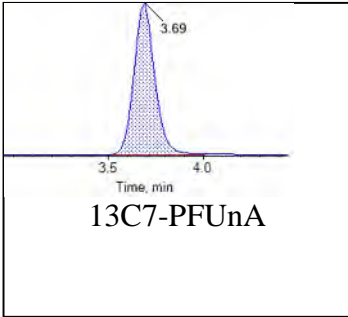
Internal Standards:





Chromatogram Report

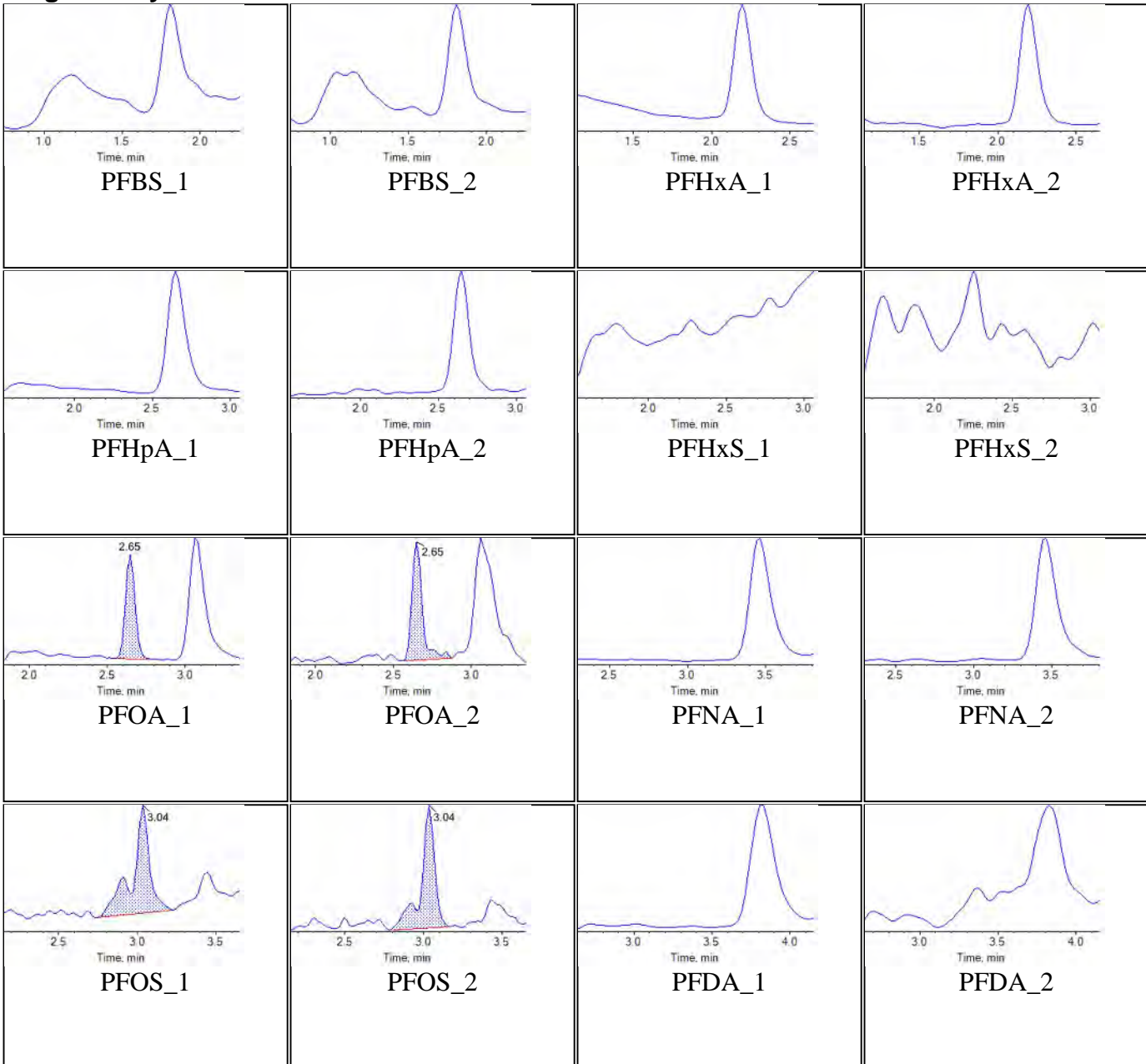
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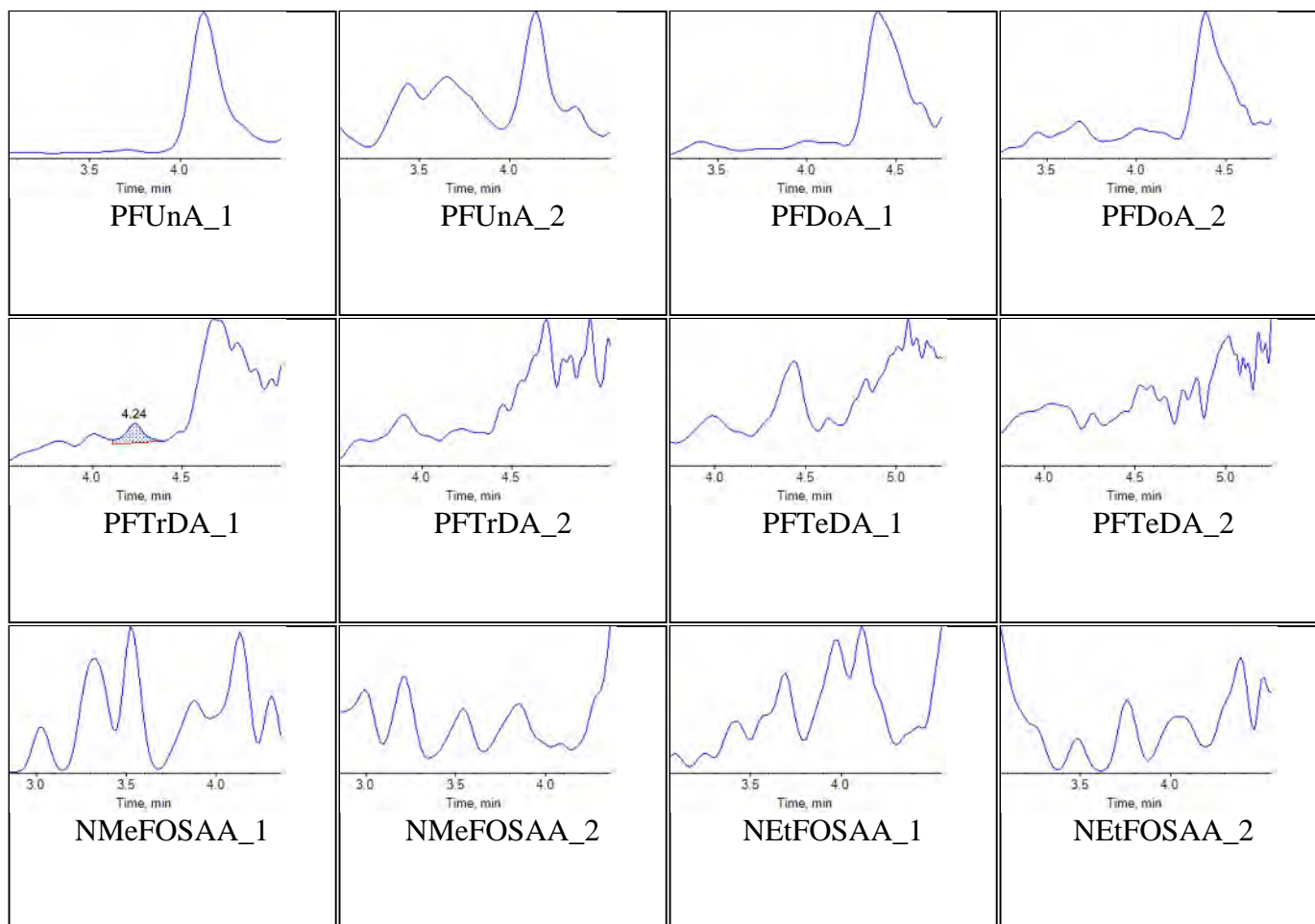
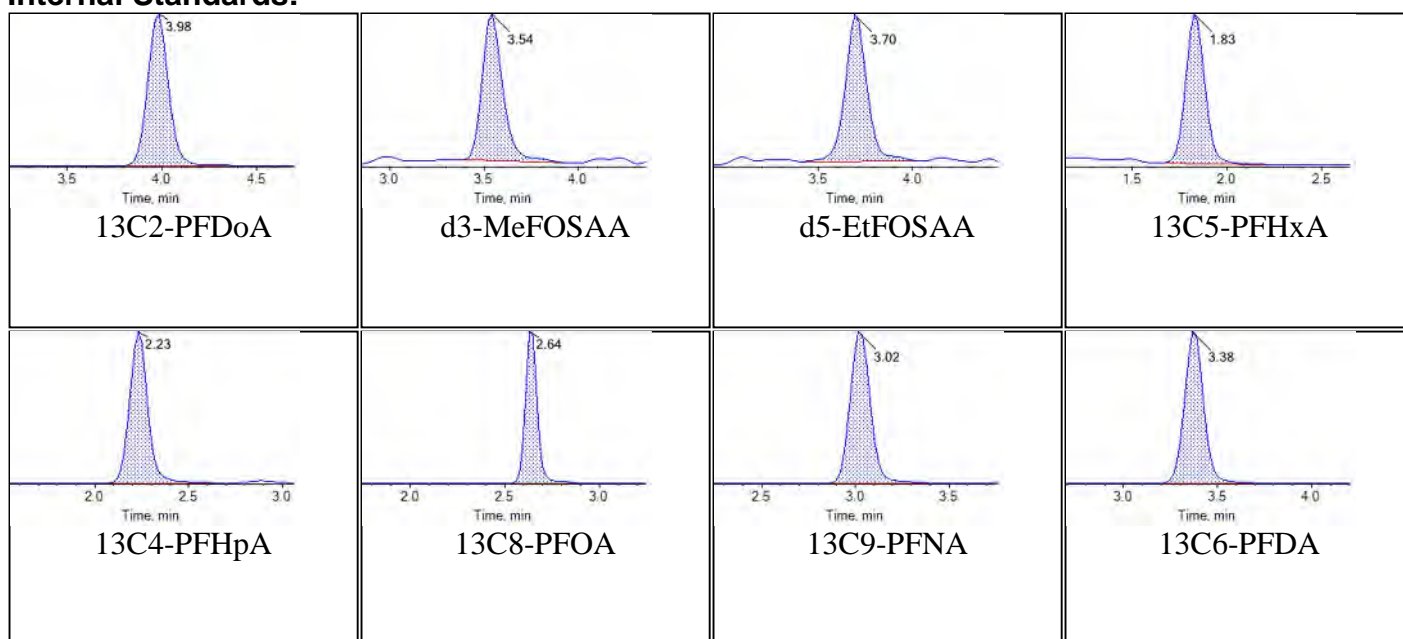


Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

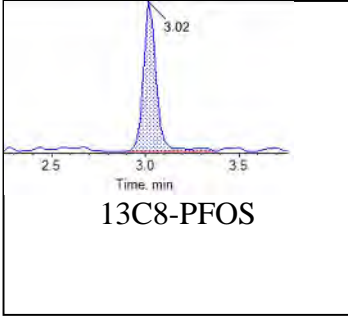
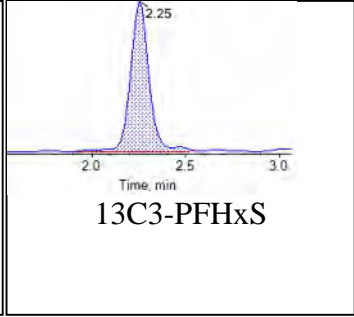
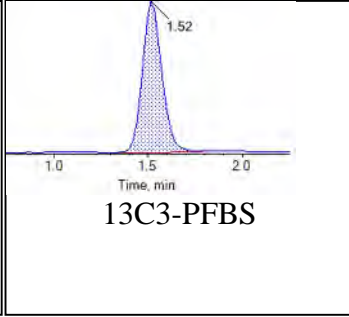
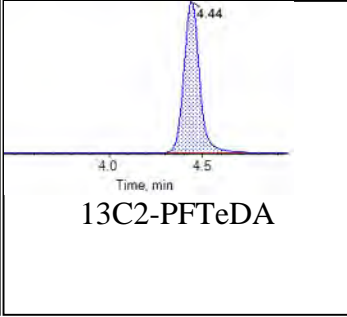
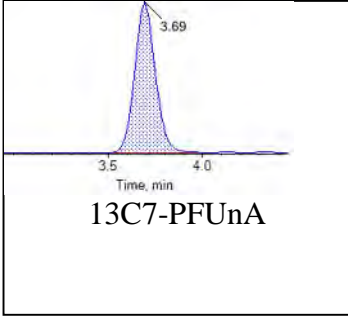


**Internal Standards:**



Chromatogram Report

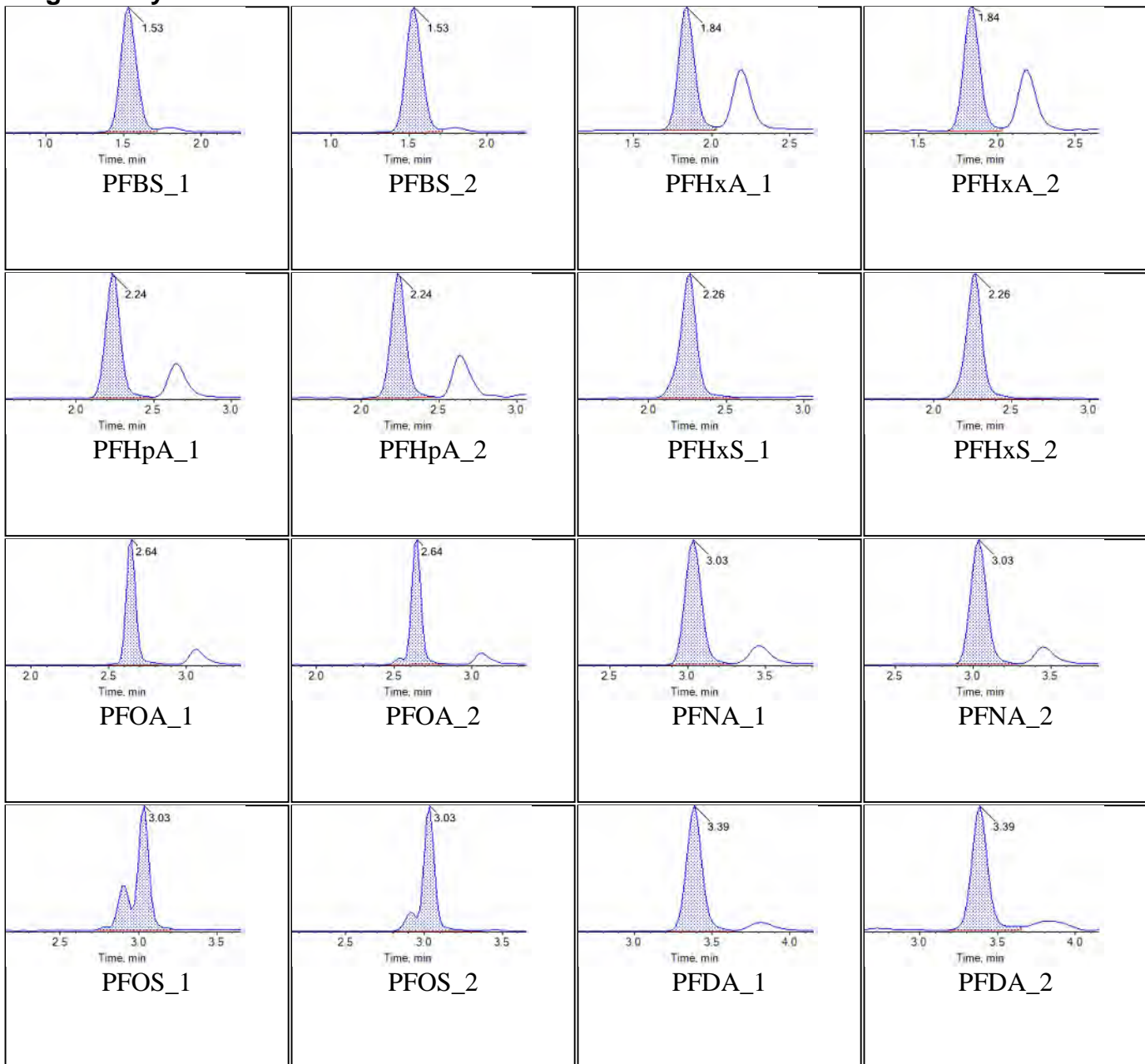
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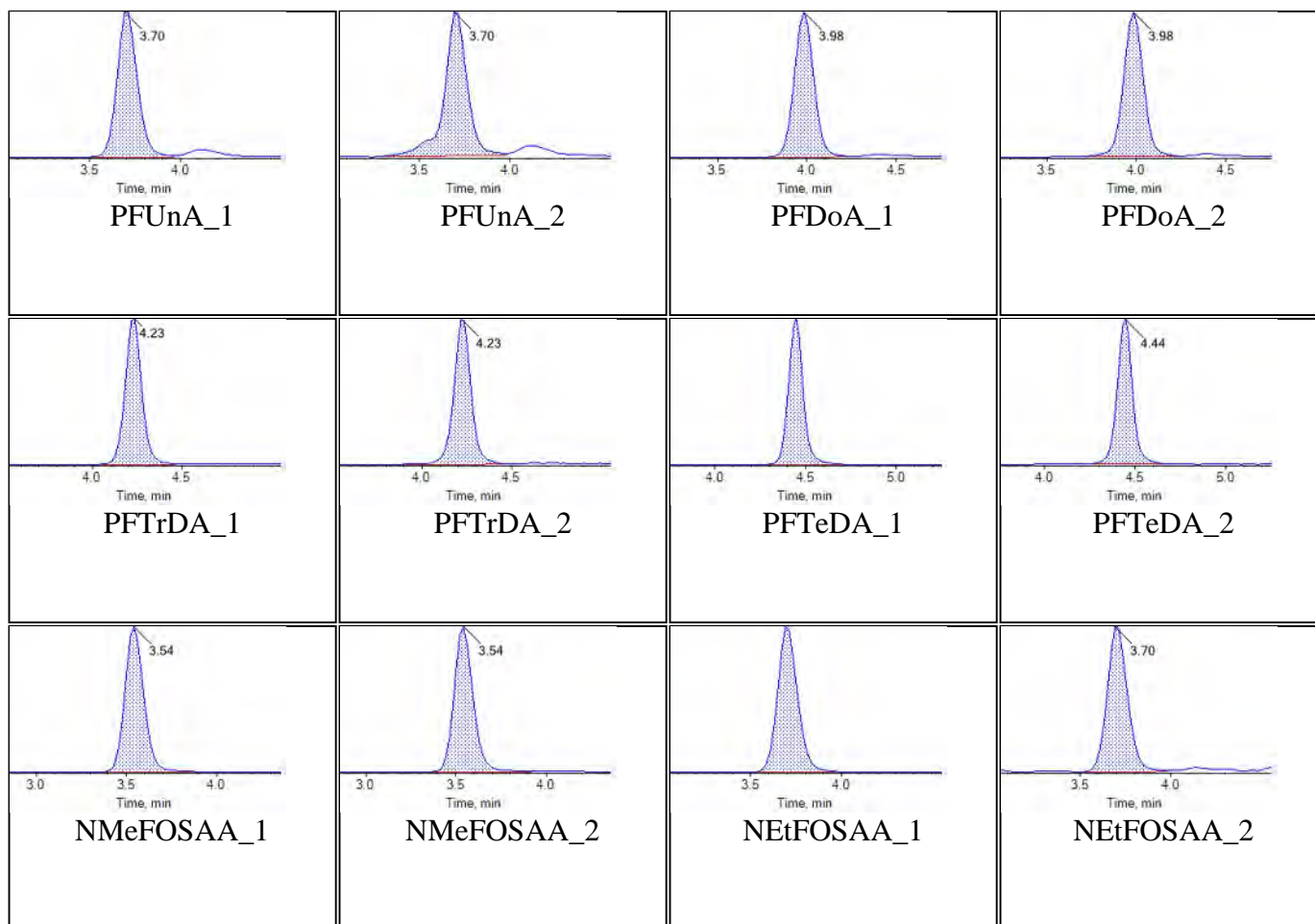
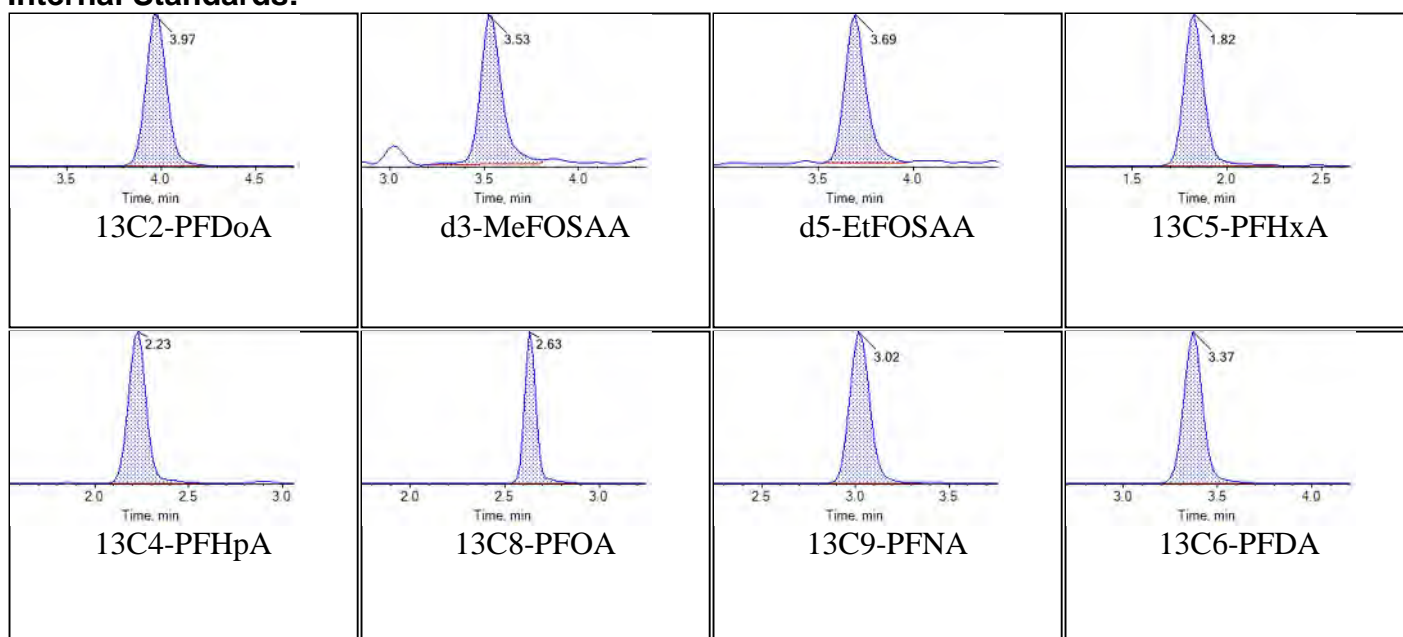


Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Chromatograms

Target Analytes:

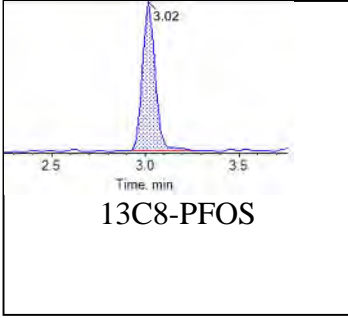
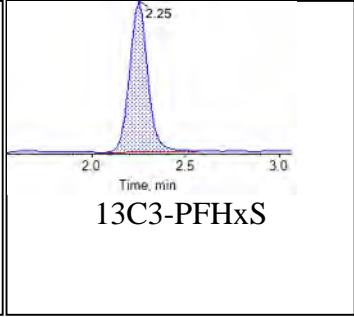
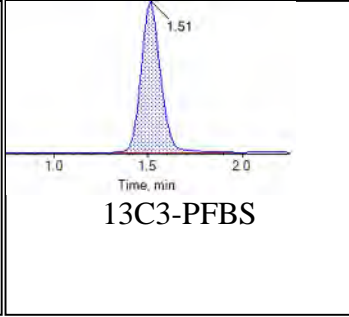
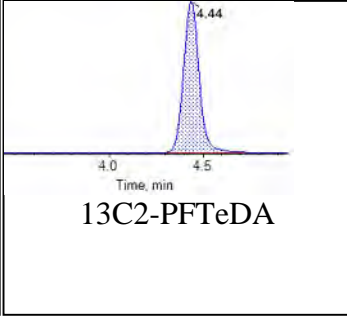
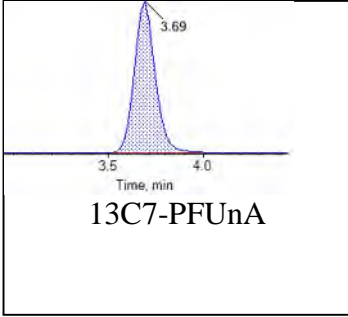


**Internal Standards:**



Chromatogram Report

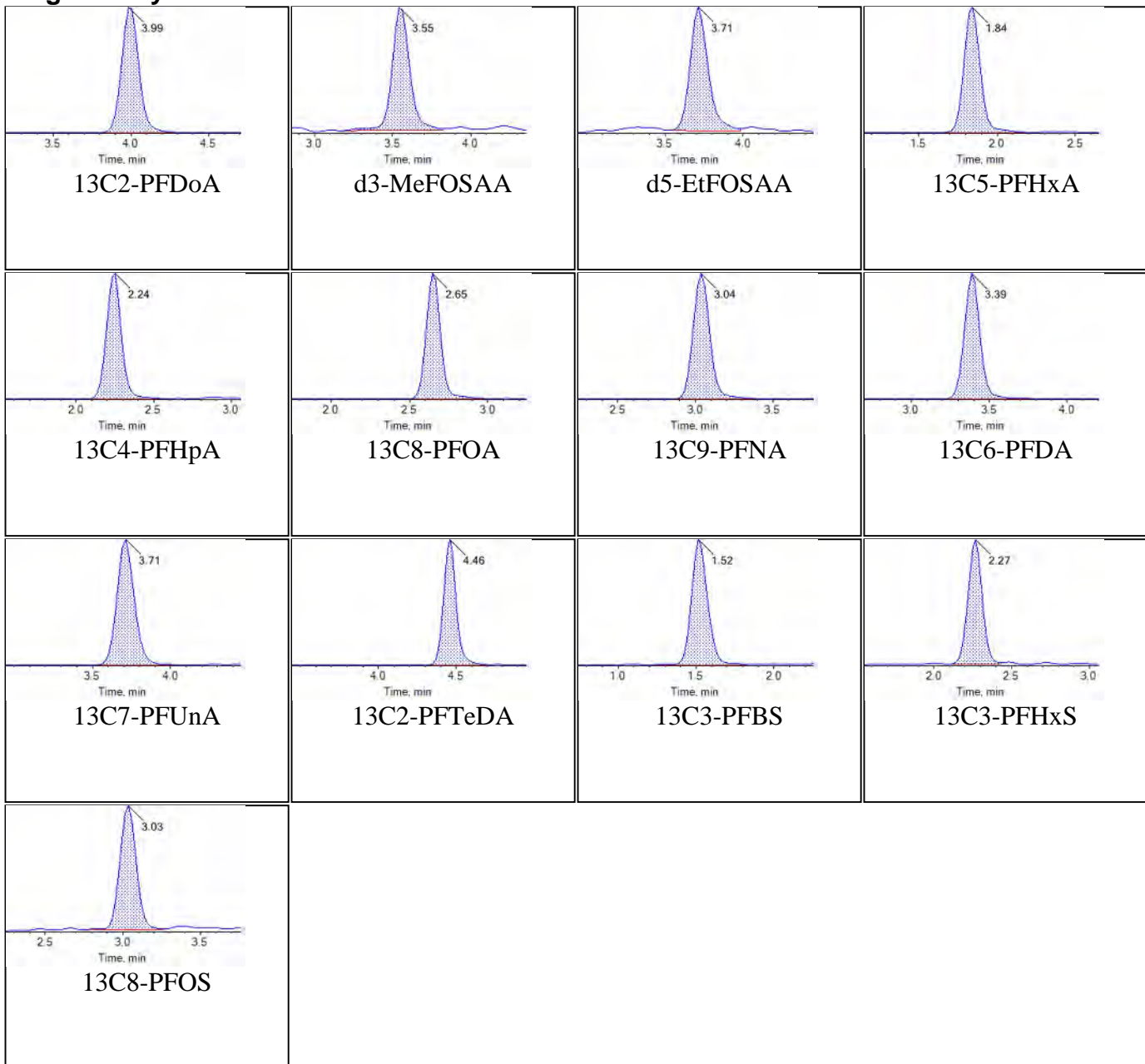
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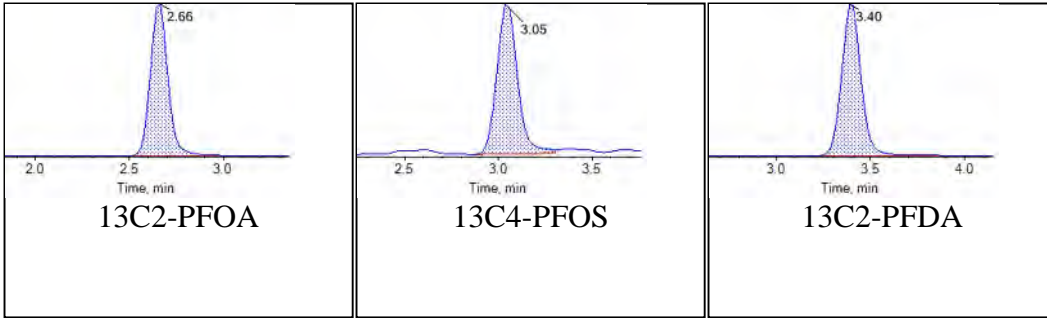
Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



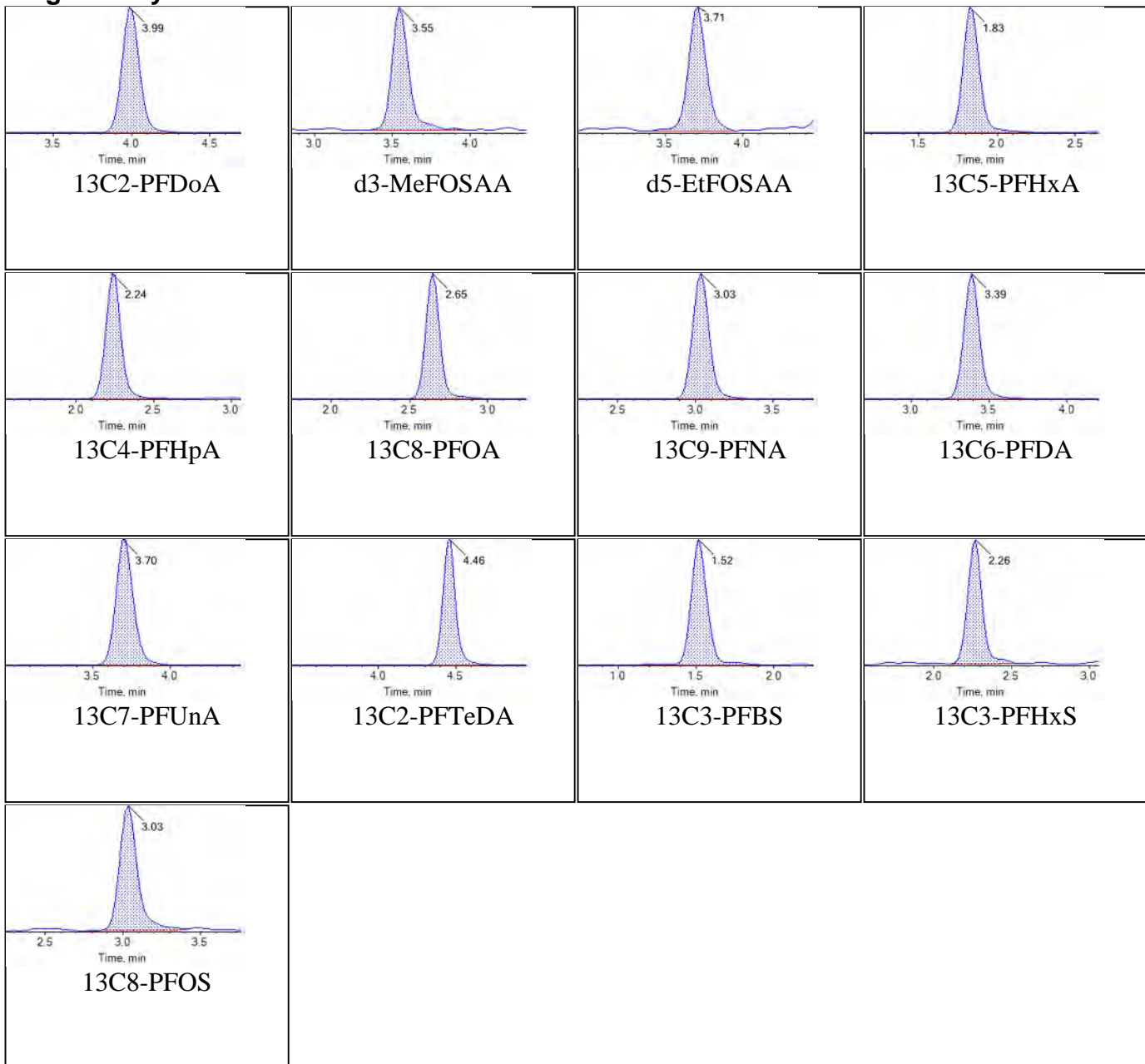
Internal Standards:



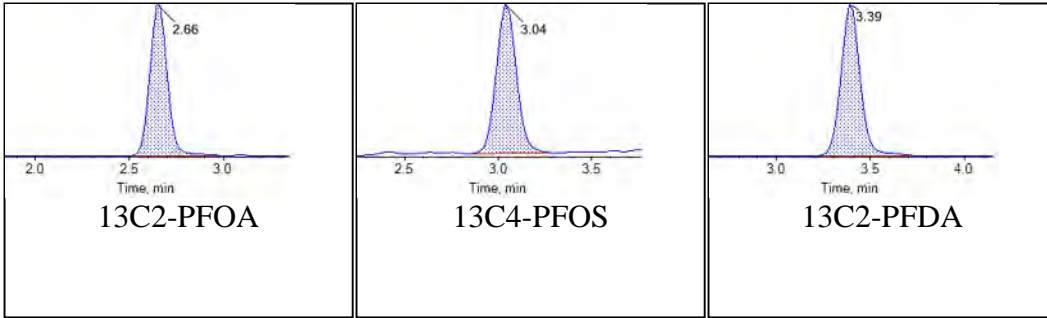
Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



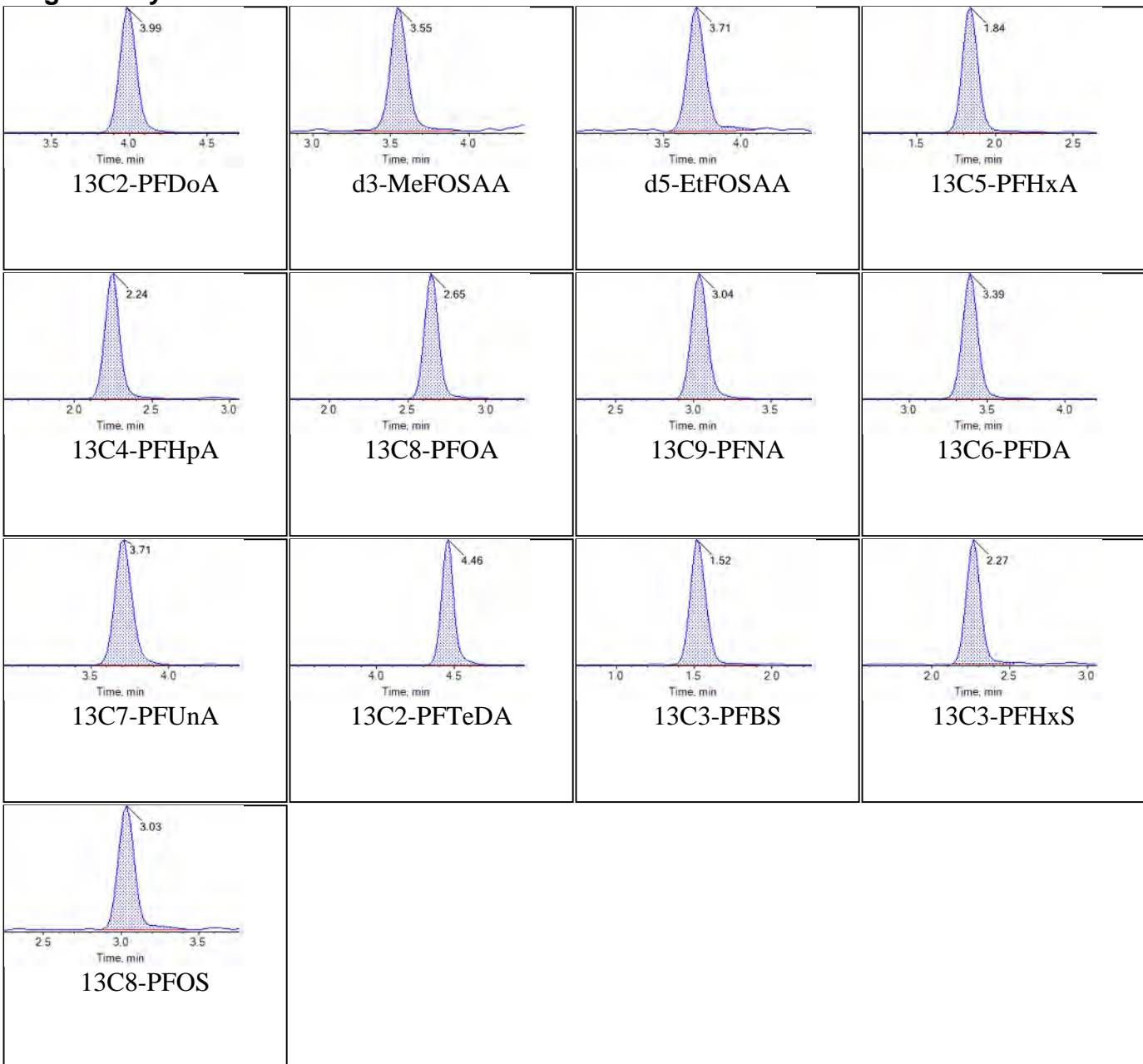
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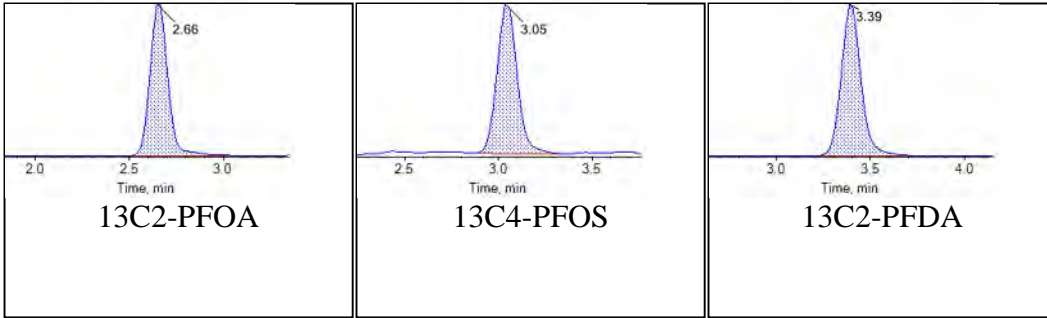
Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



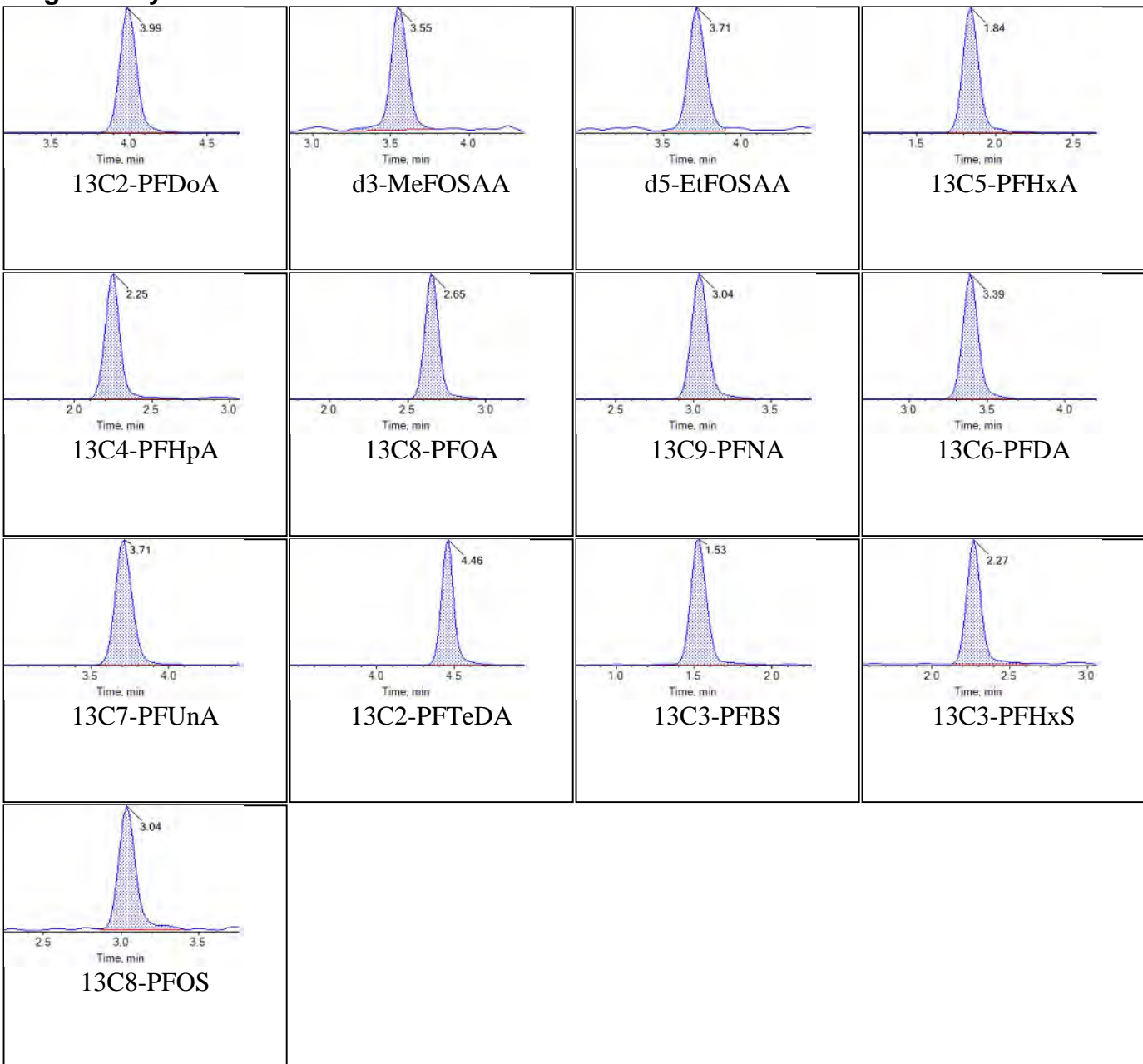
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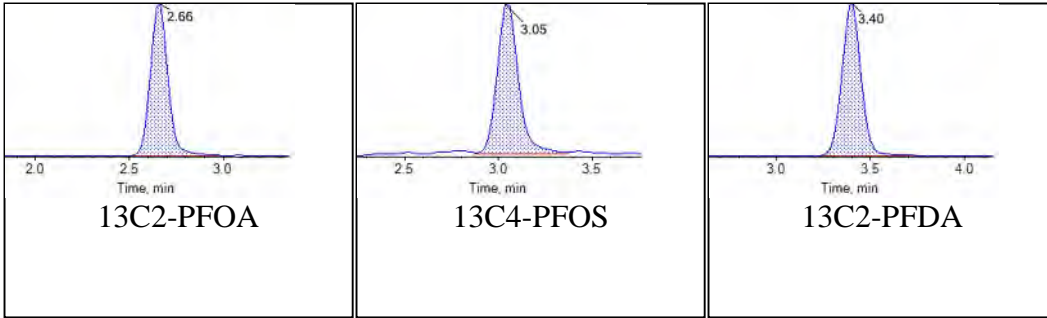
Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



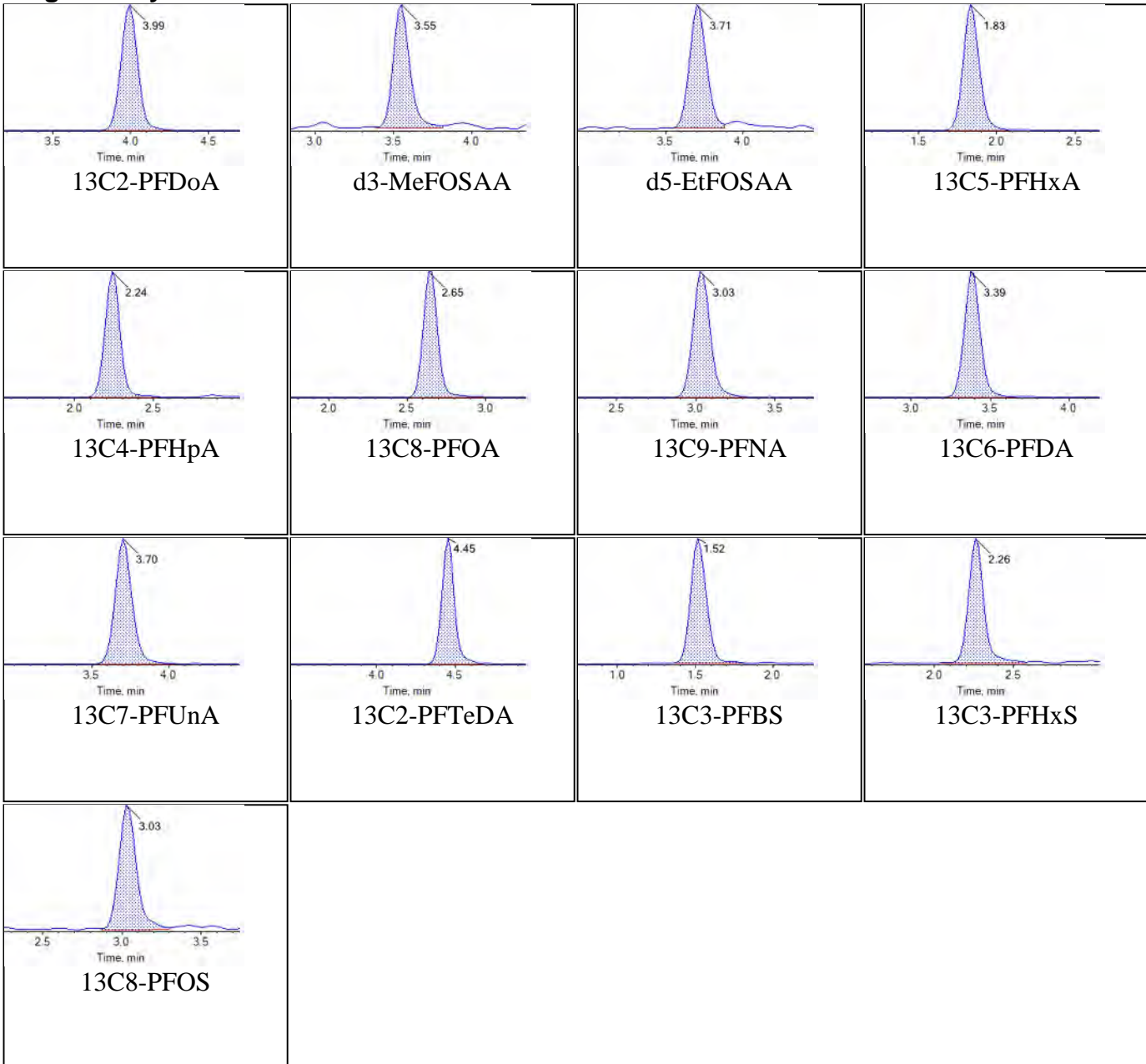
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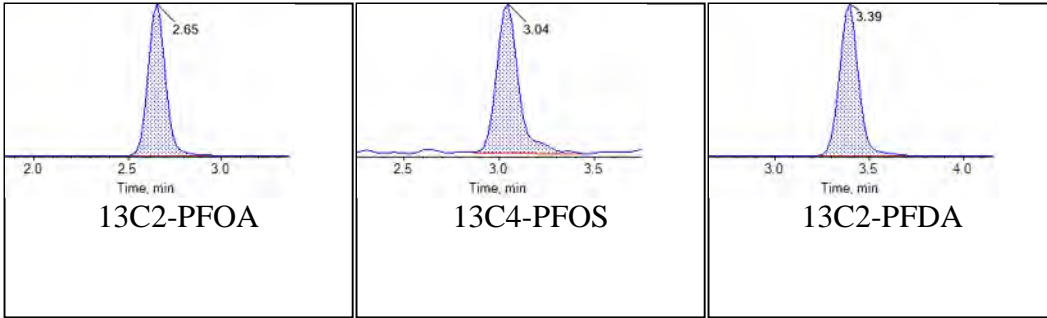
Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



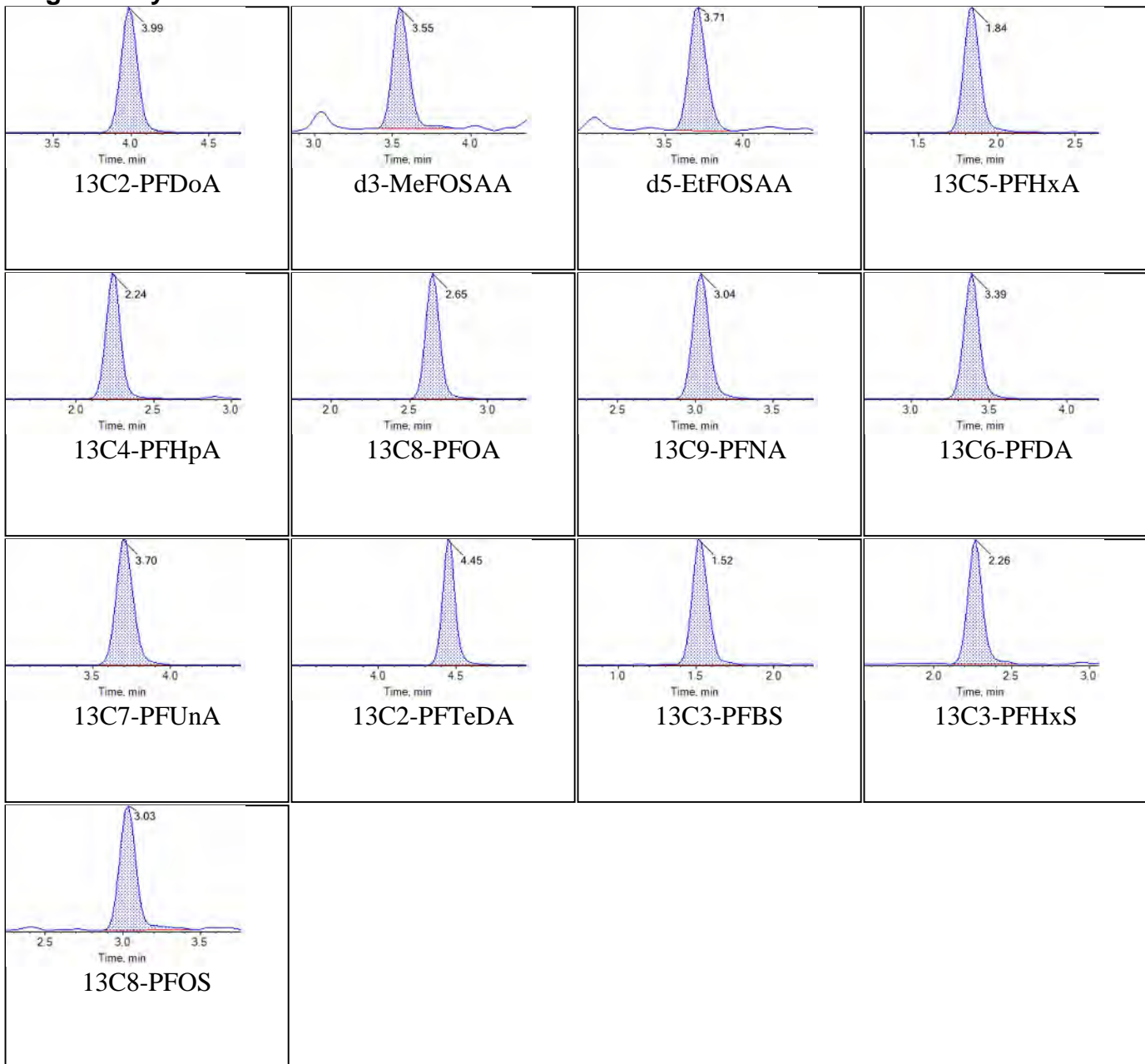
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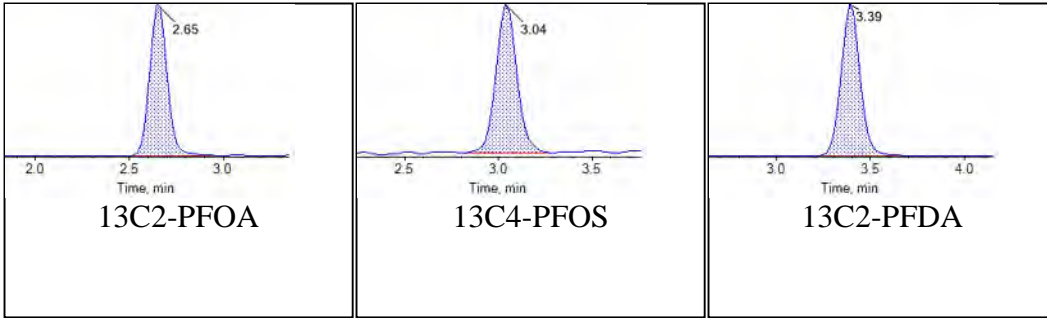
Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



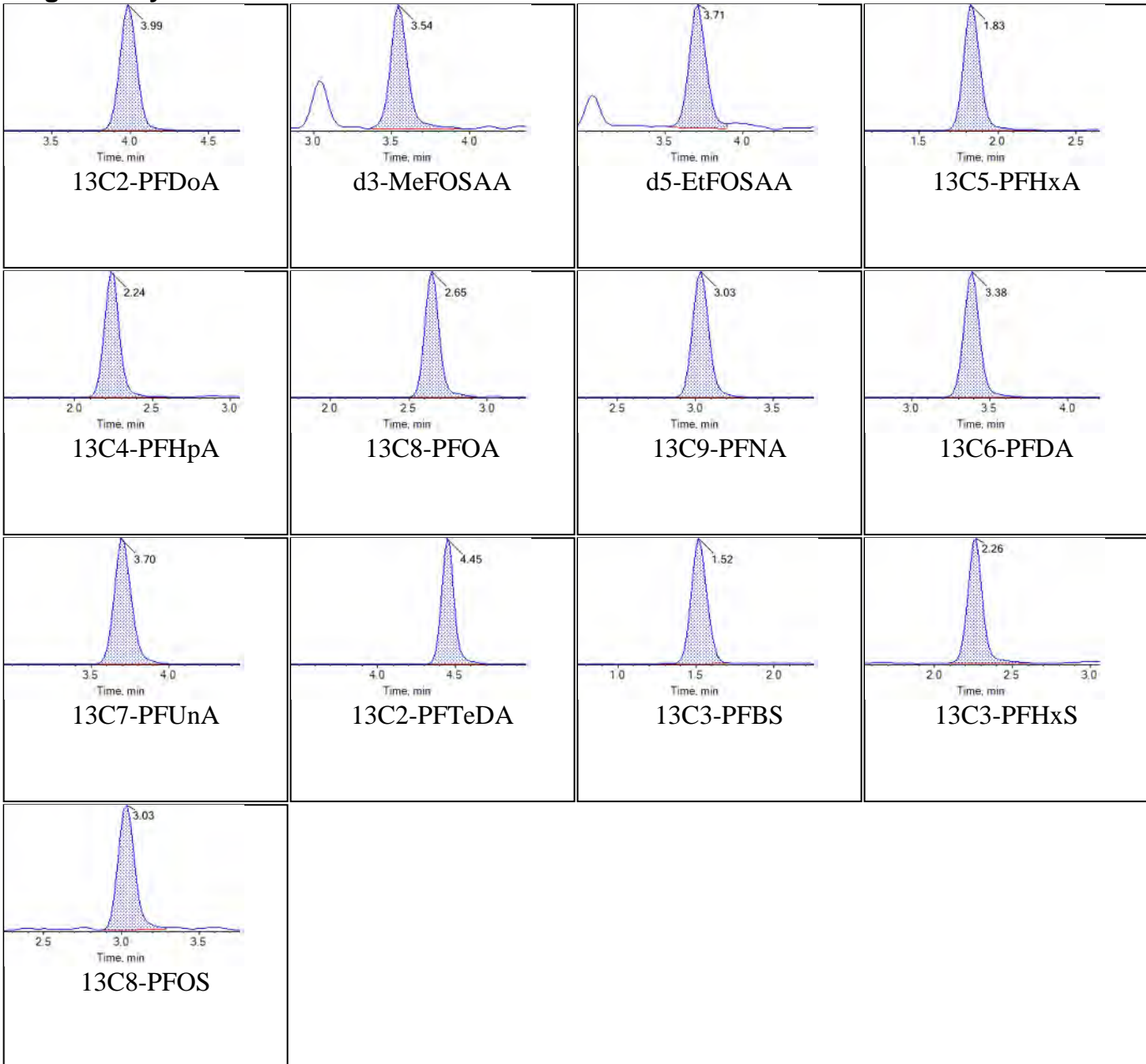
Internal Standards:



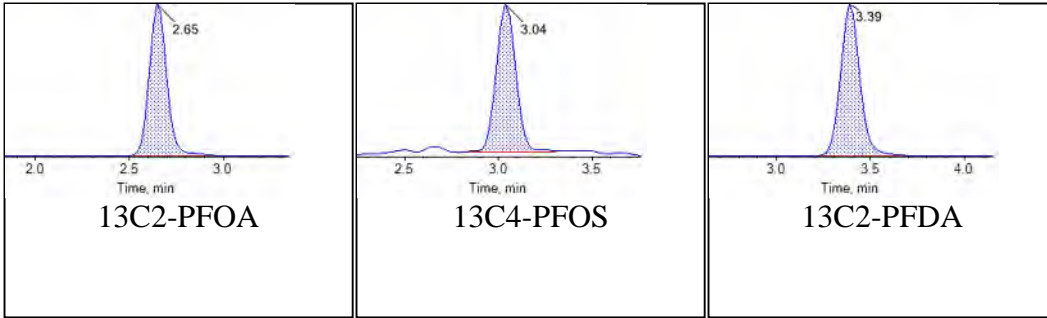
Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



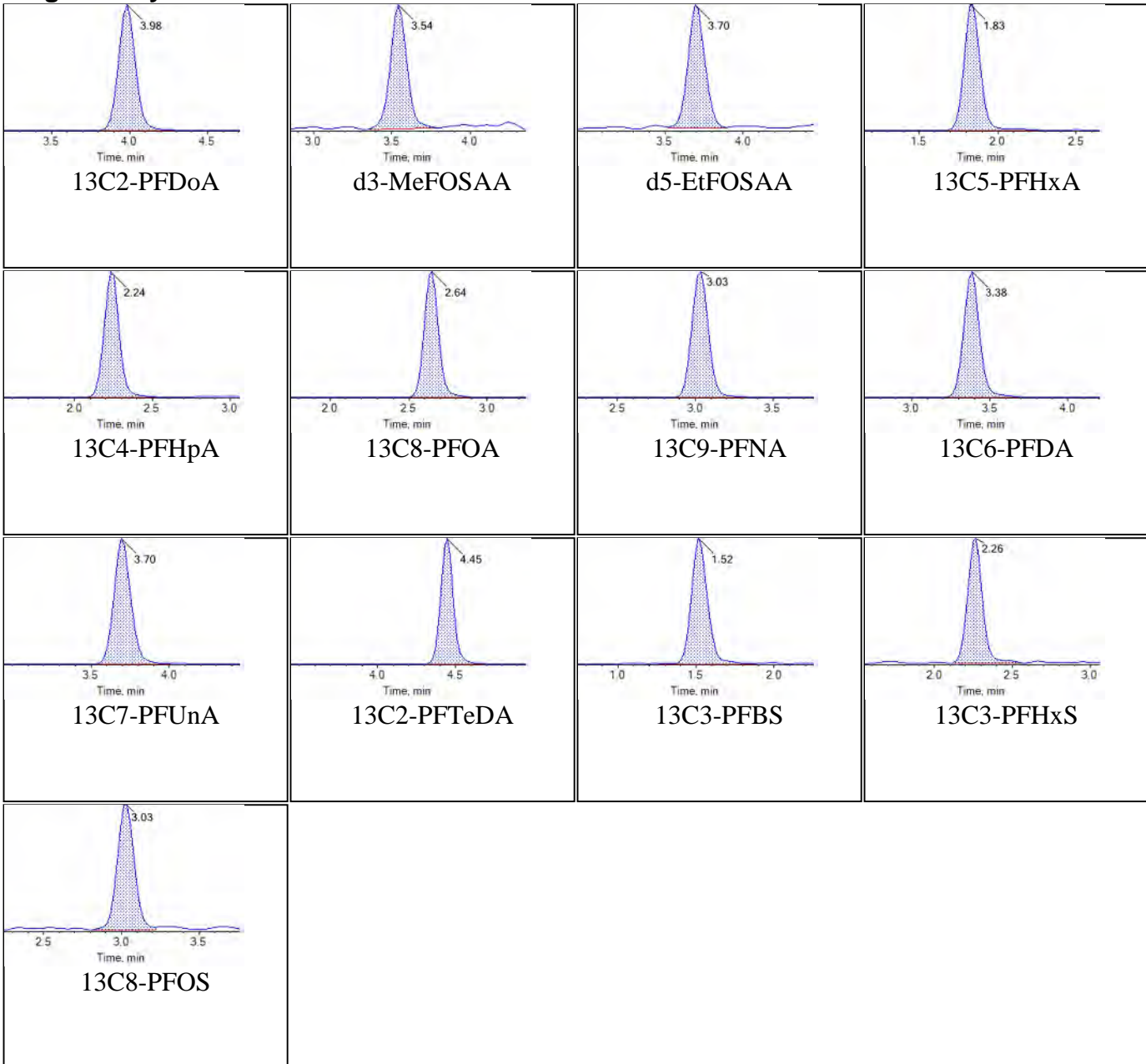
Internal Standards:



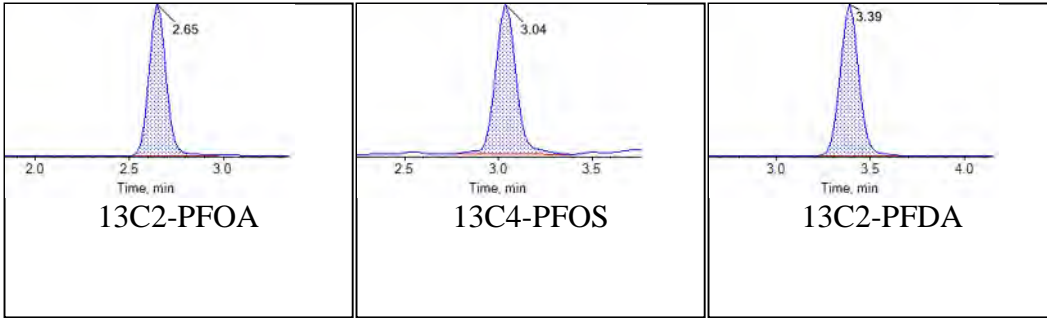
Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



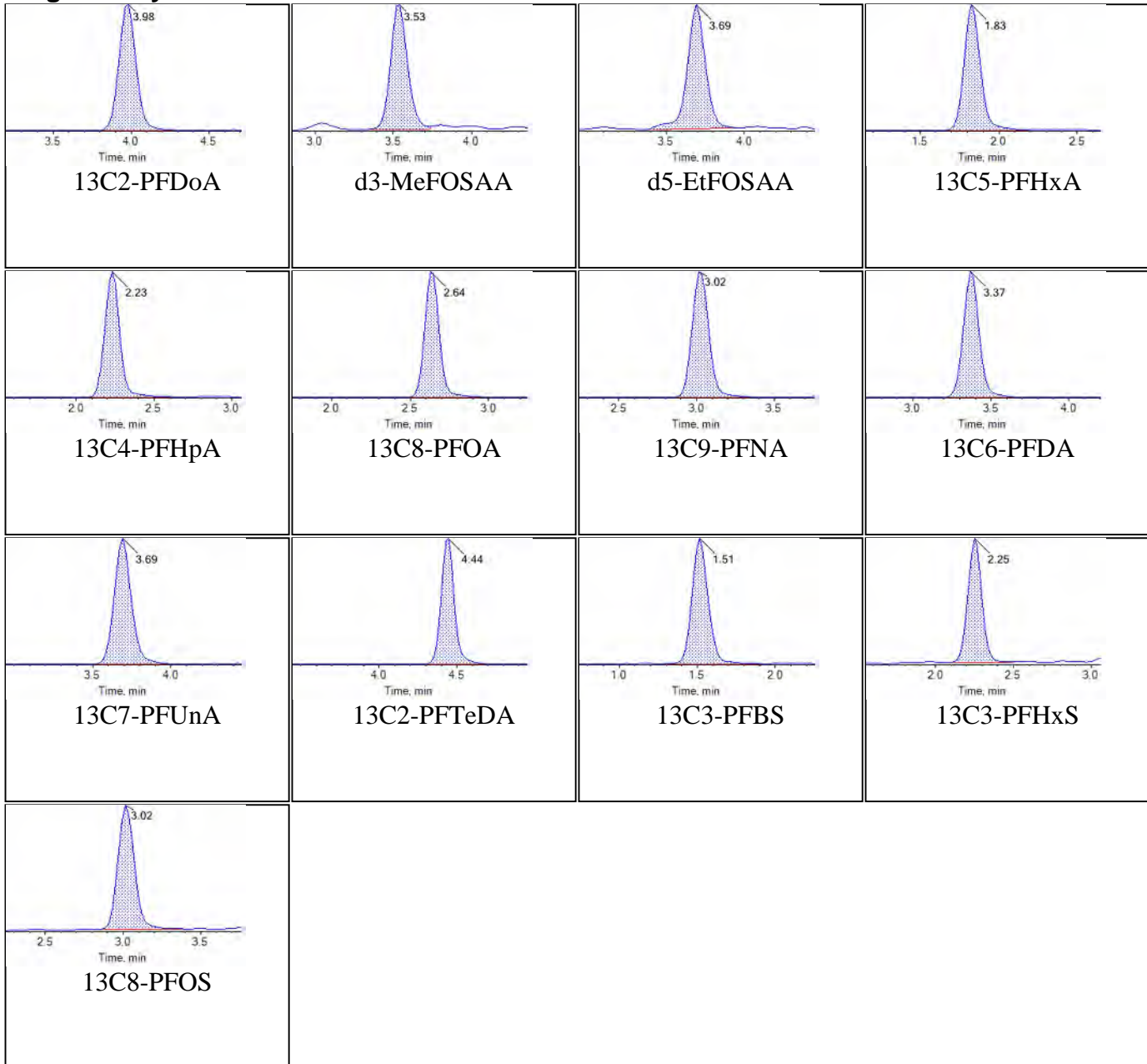
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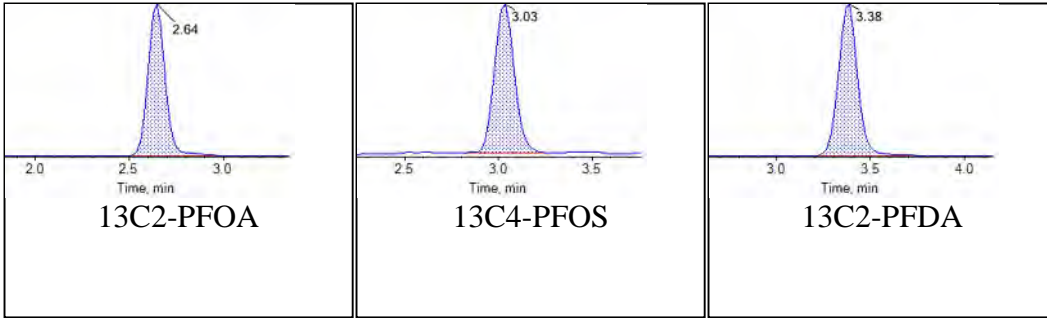
Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



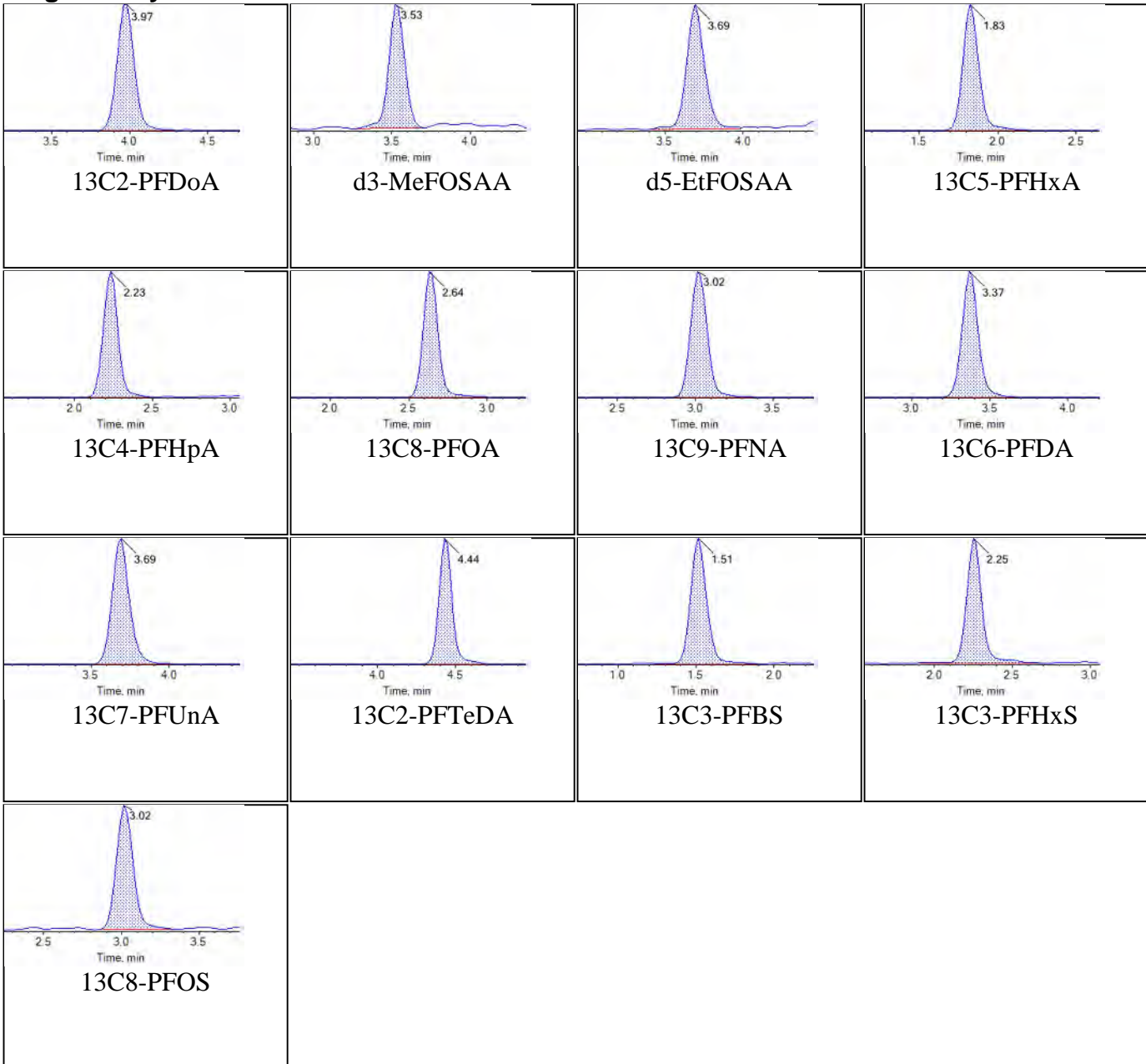
Internal Standards:



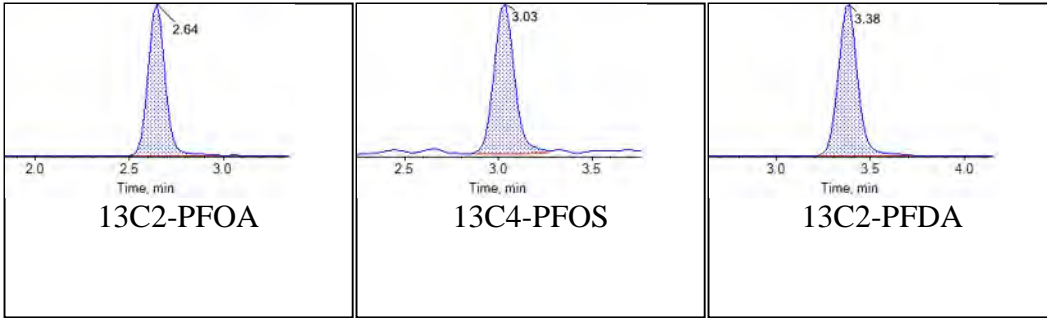
Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



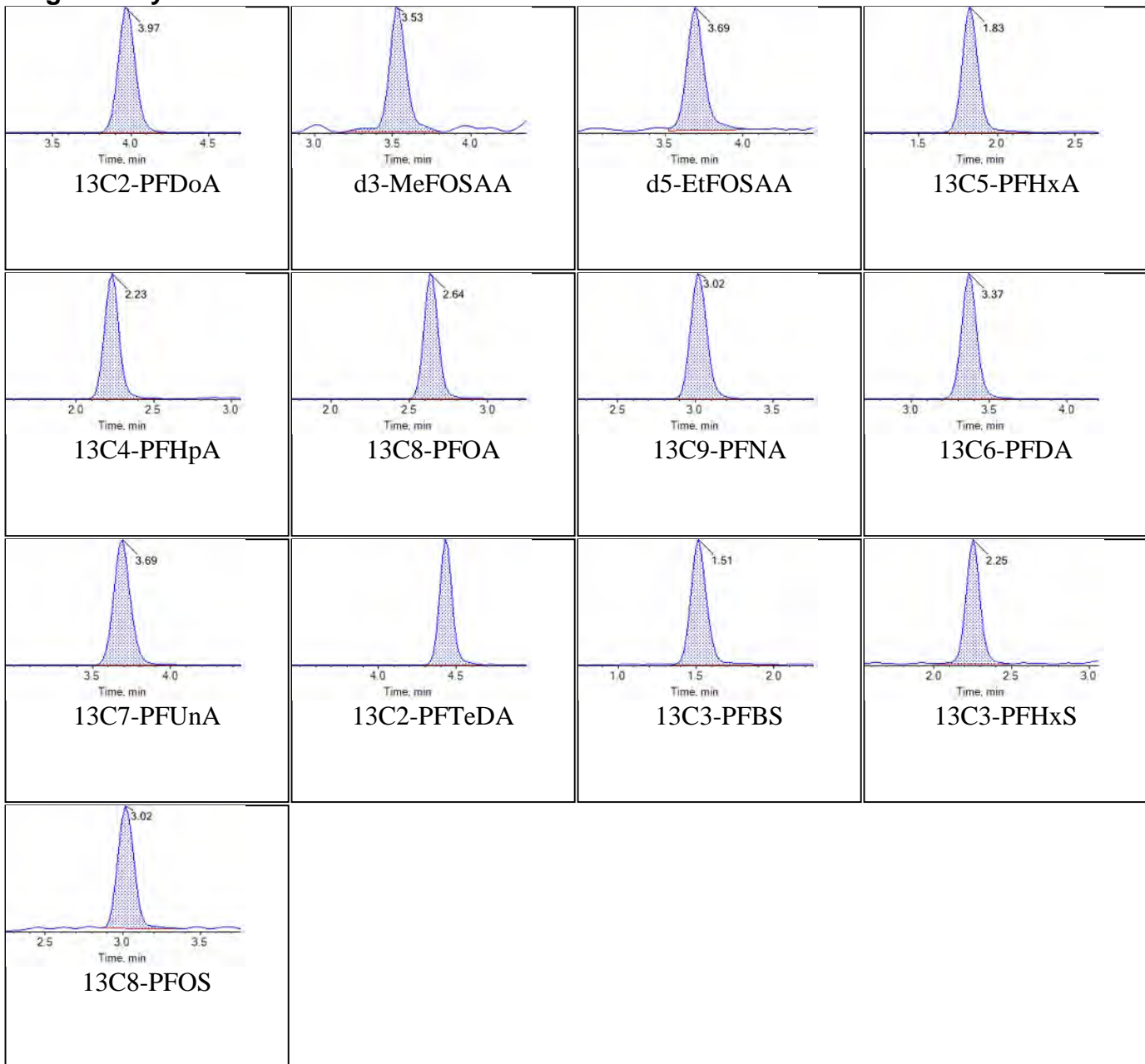
Internal Standards:



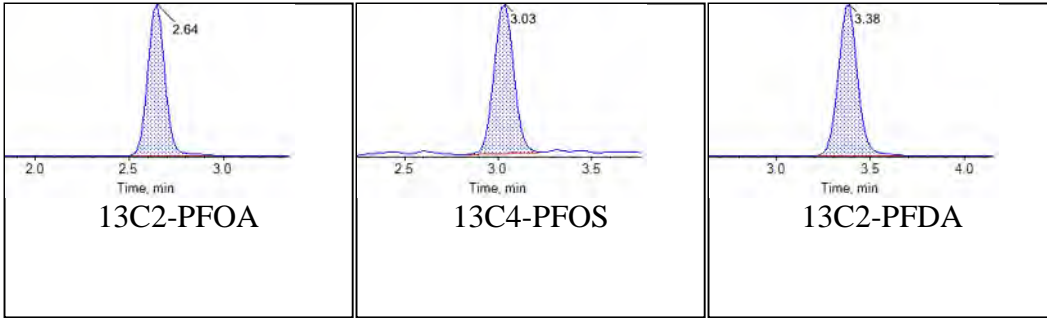
Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



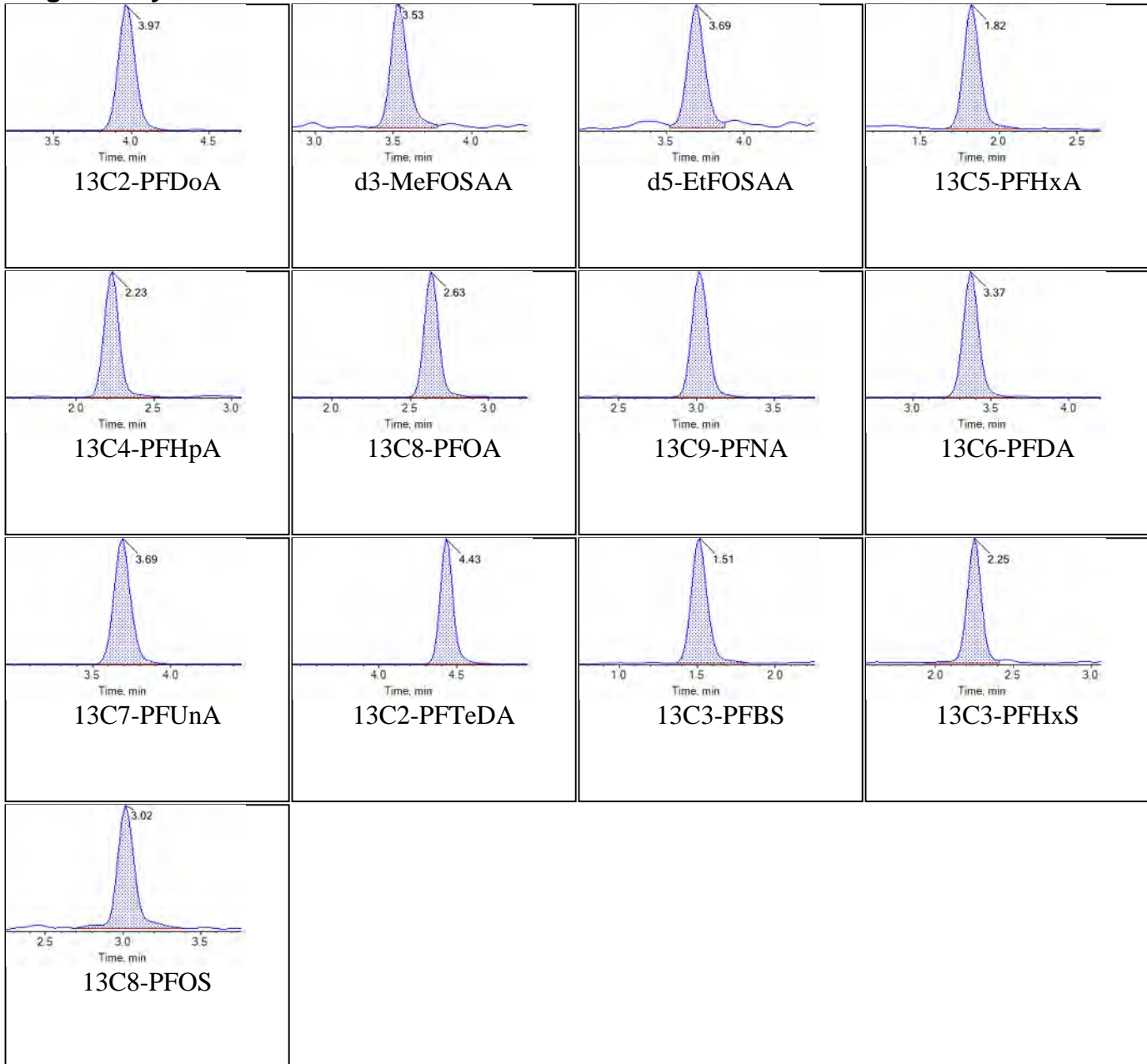
Internal Standards:



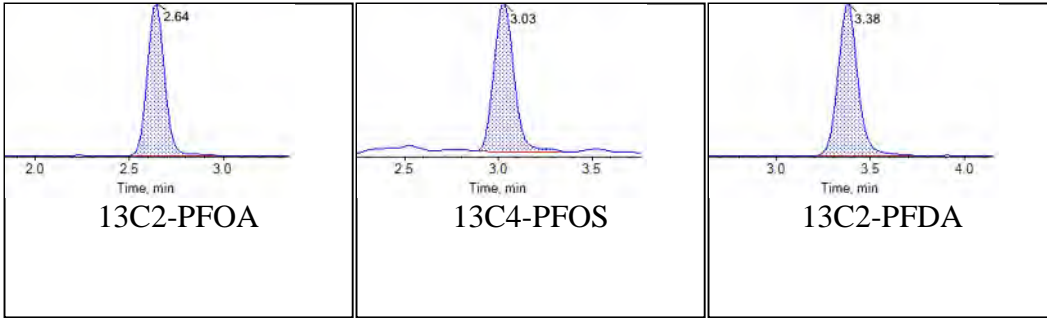
Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



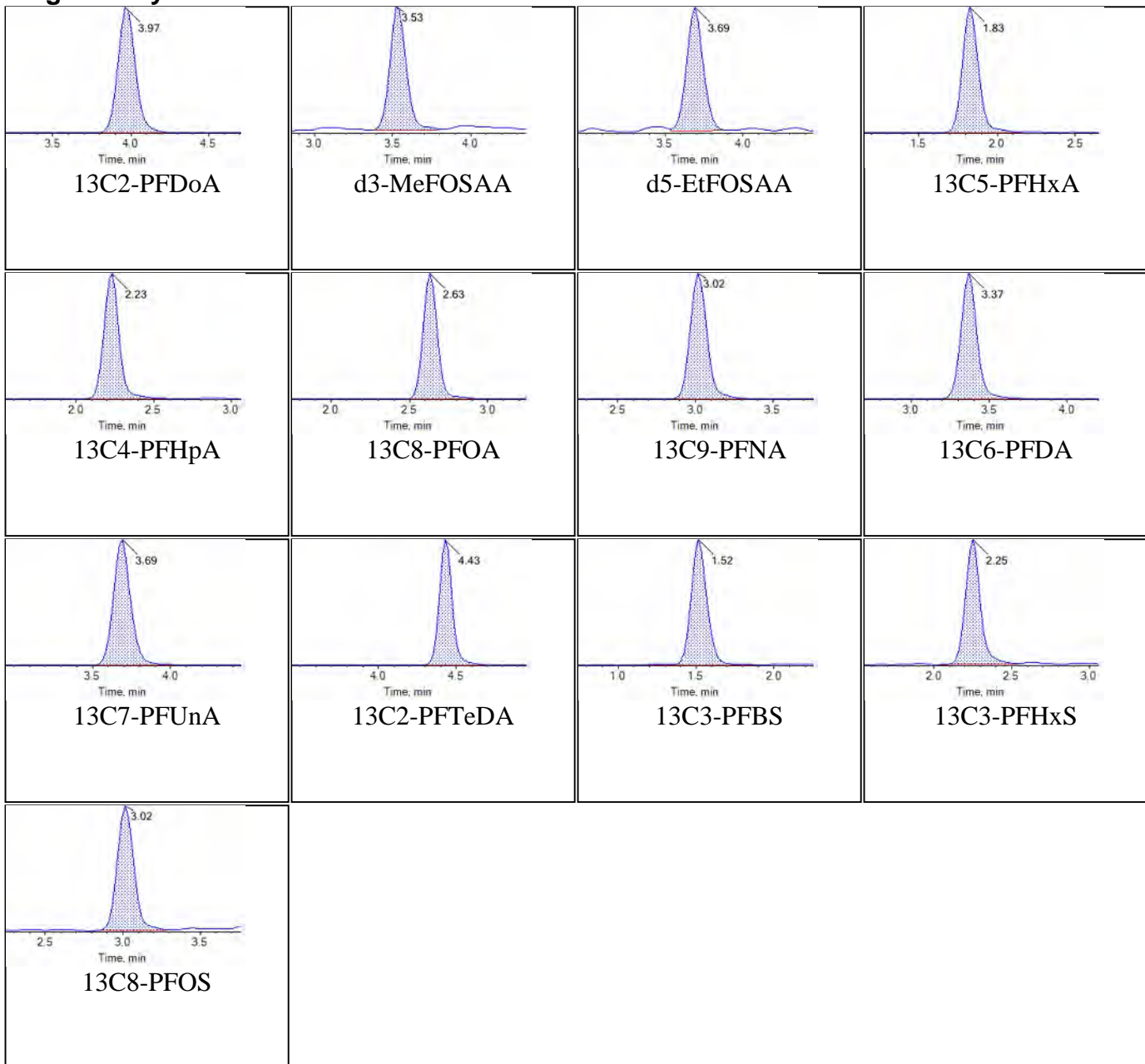
Internal Standards:



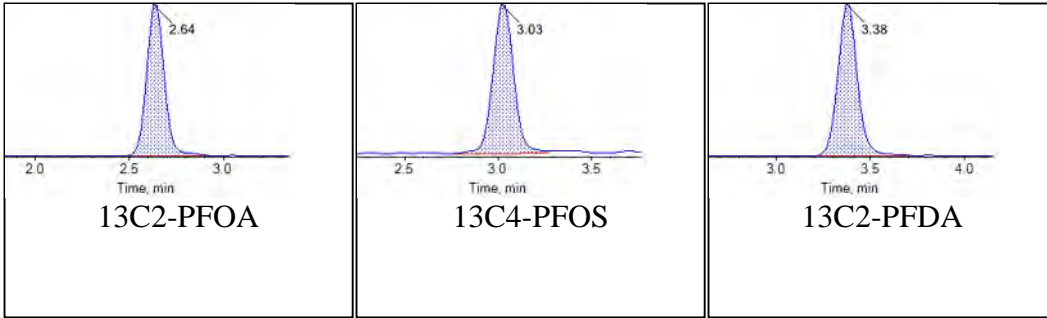
Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



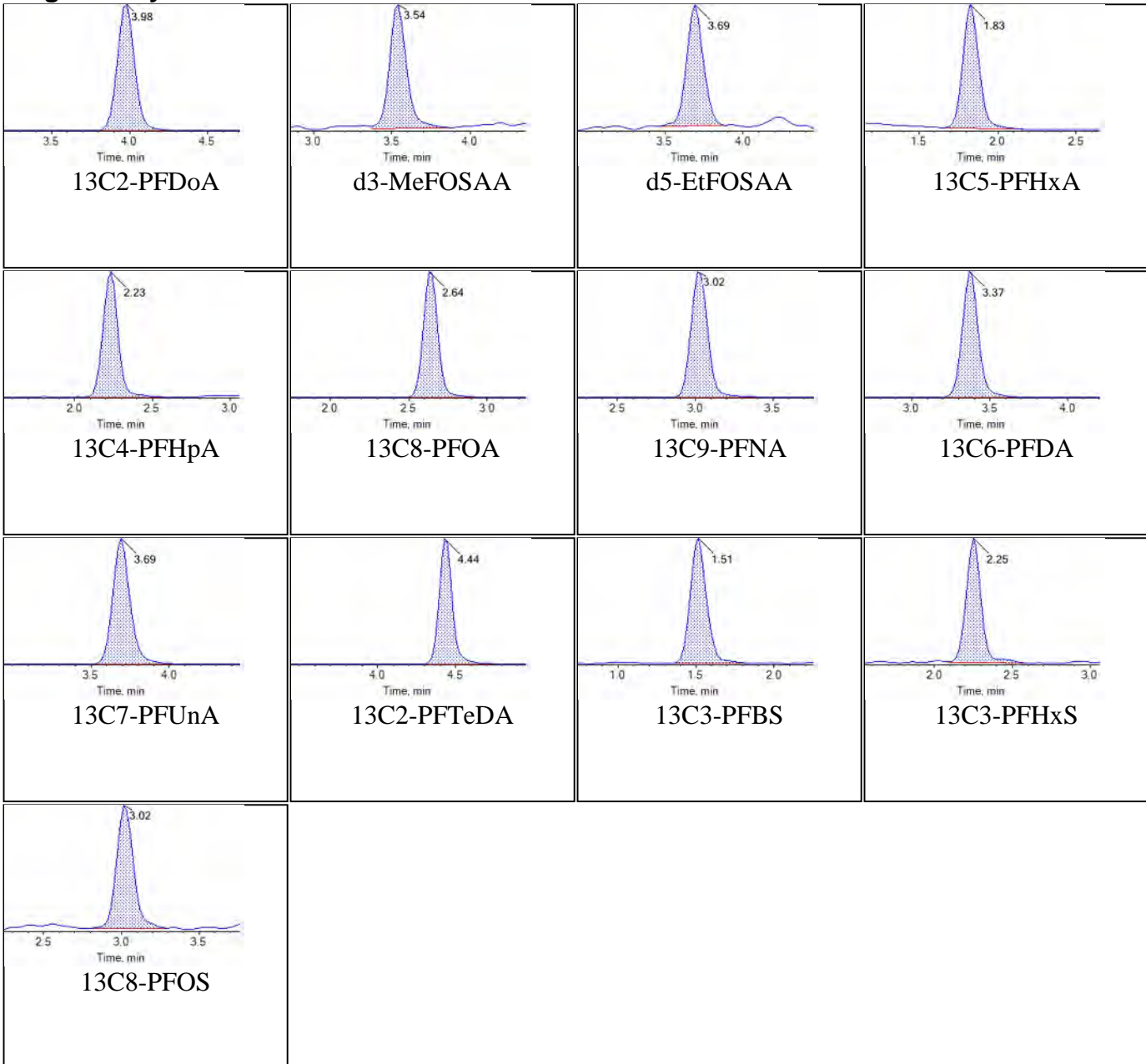
Internal Standards:



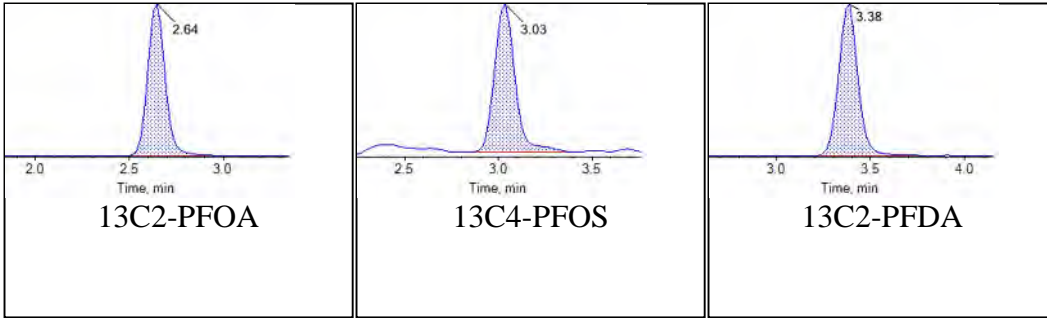
Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



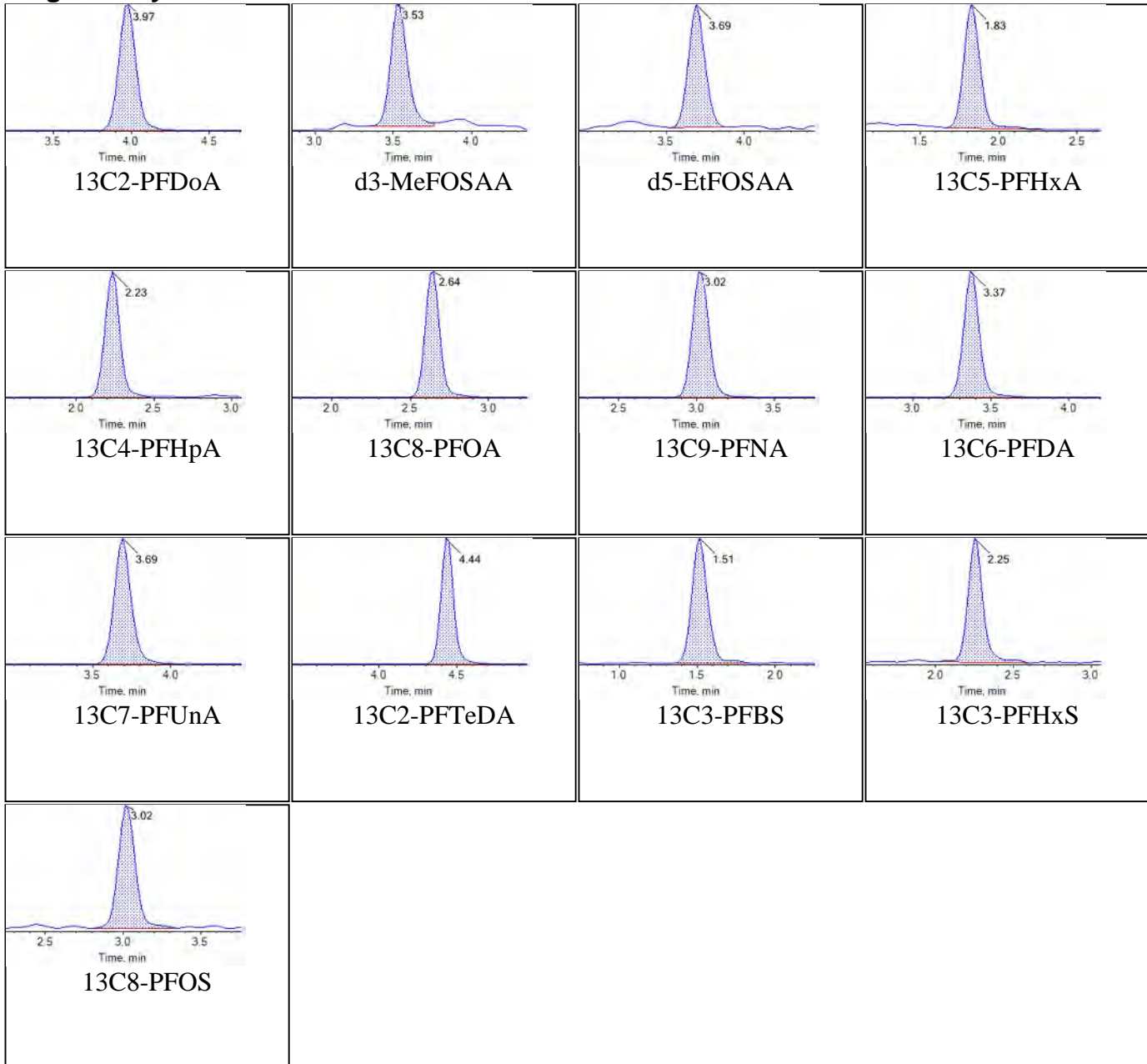
Internal Standards:



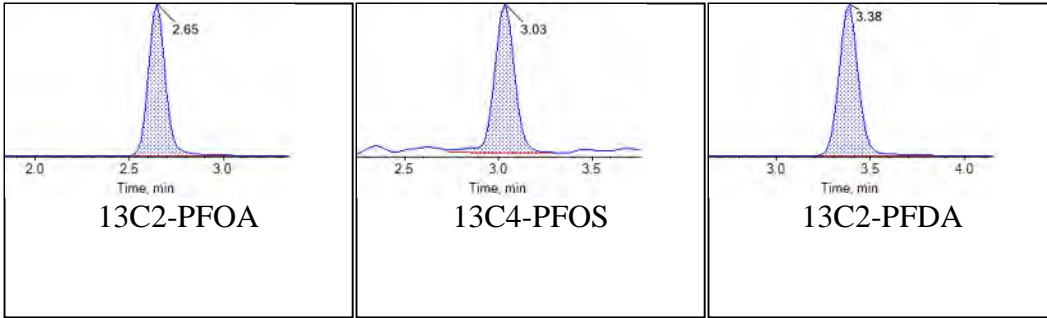
Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



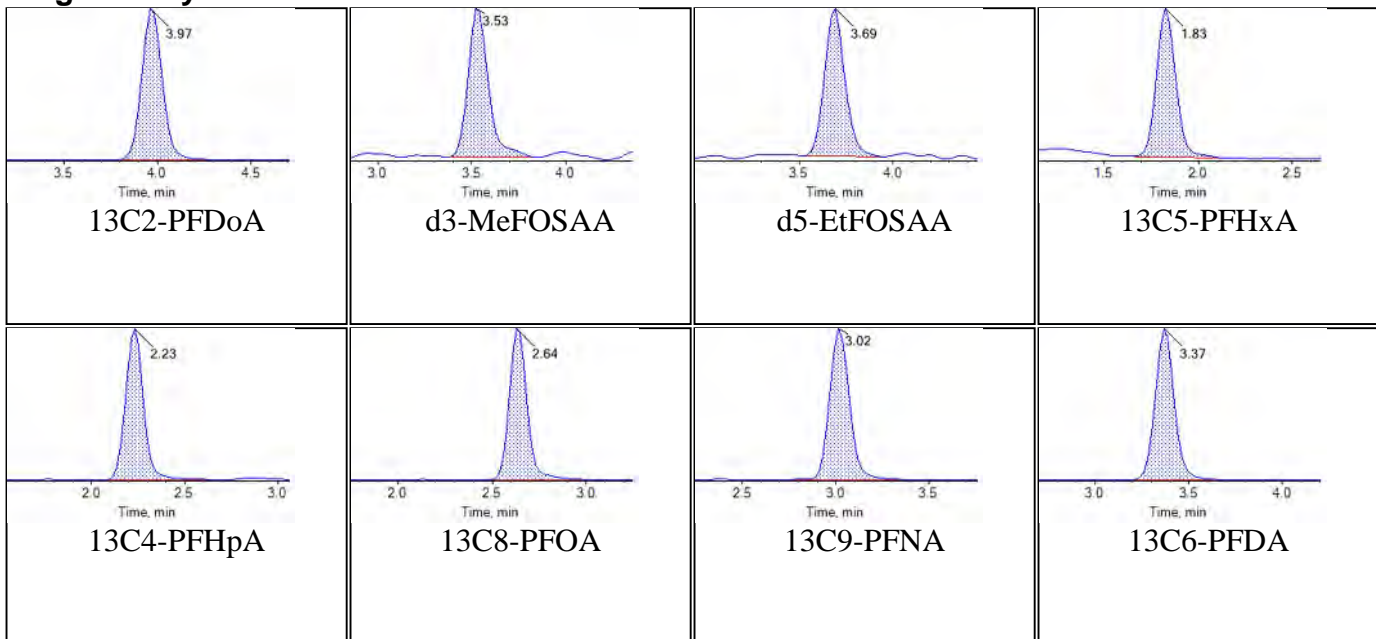
Internal Standards:



Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

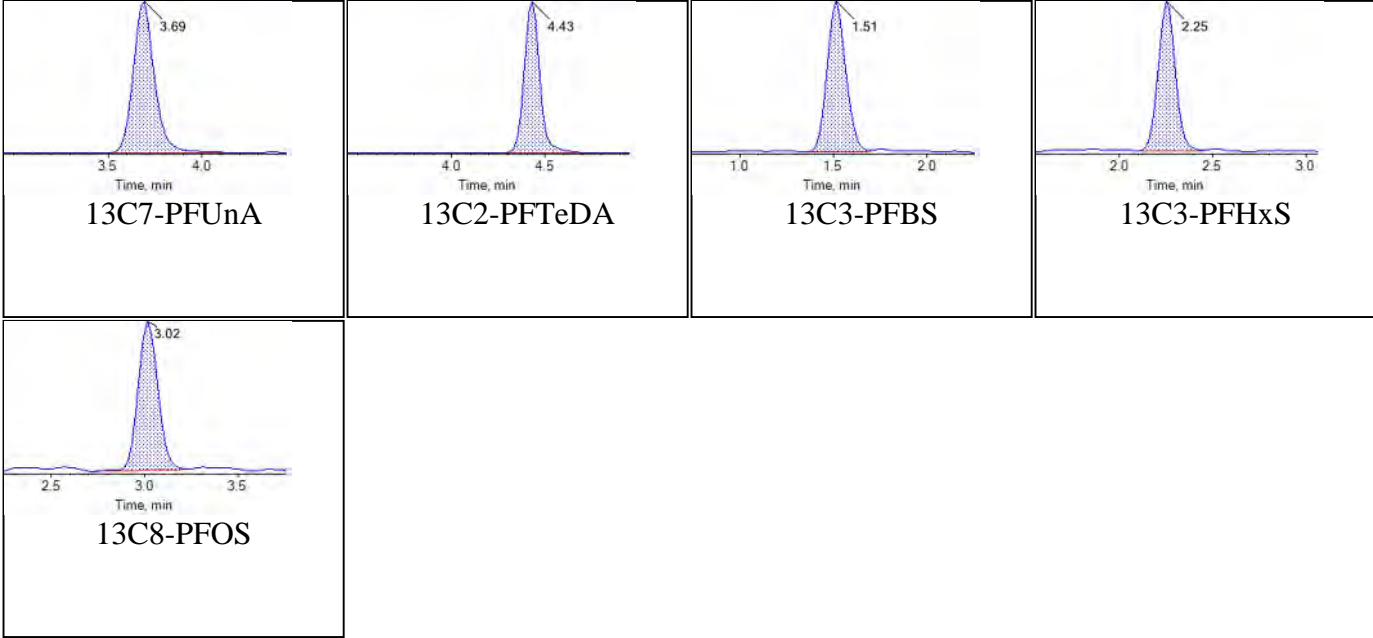
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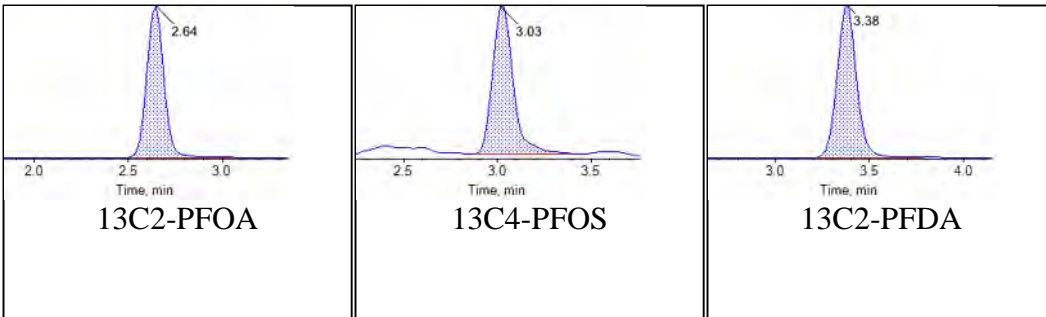


Chromatogram Report

Created with Analyst Reporter
Printed: 11/09/2018 12:52:43 PM



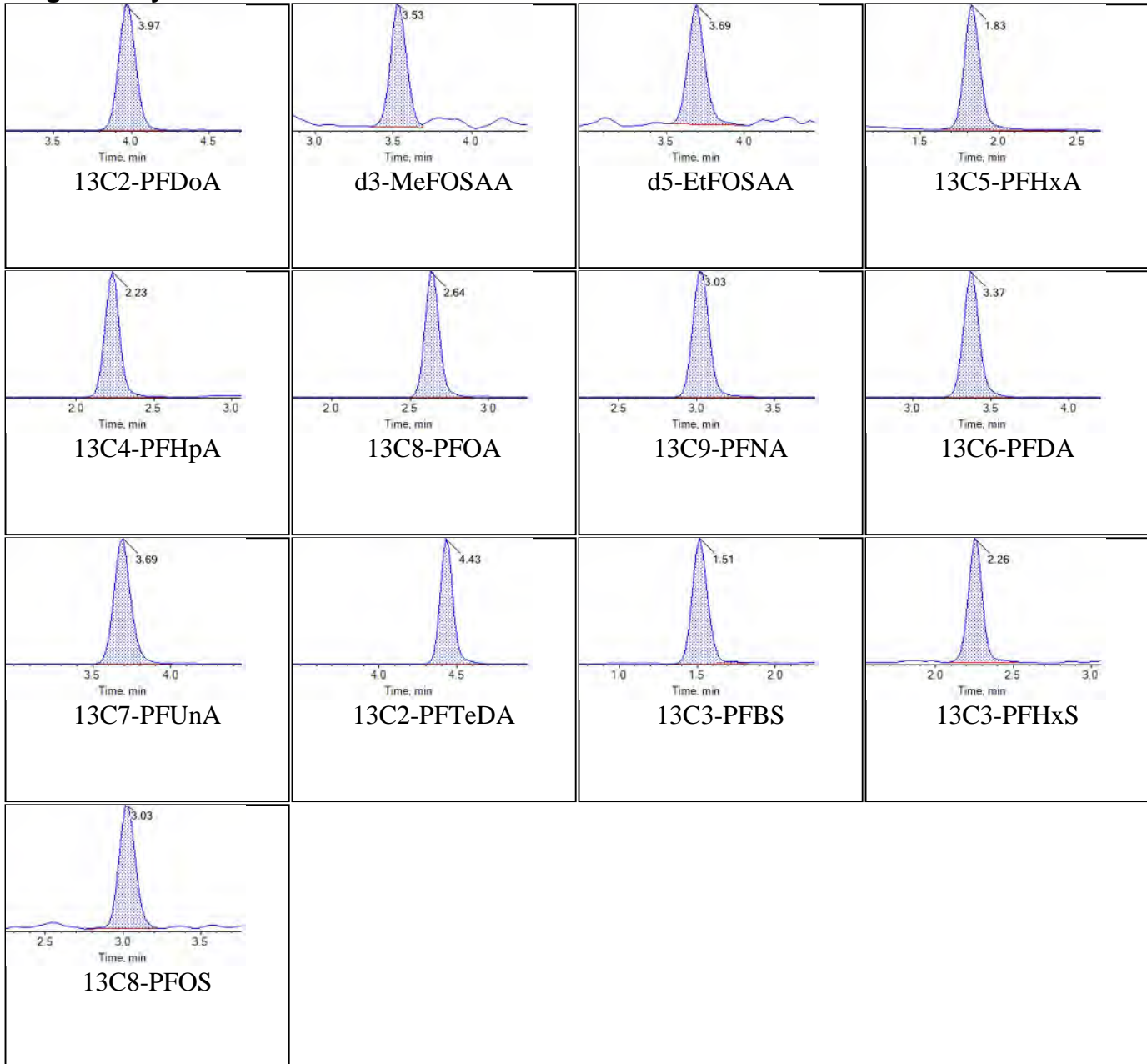
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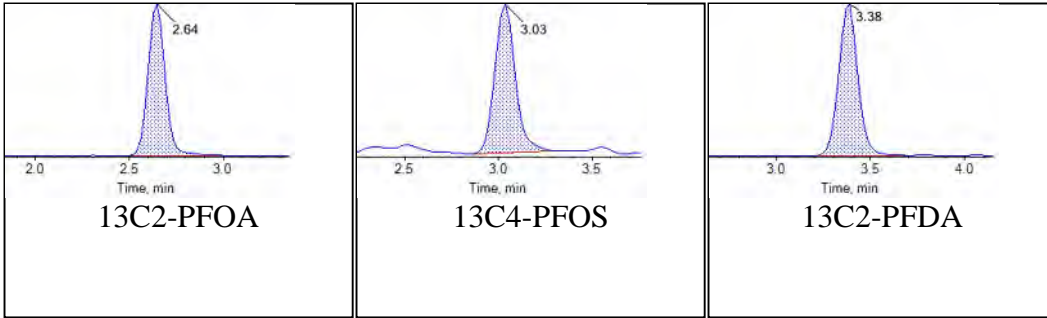
Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



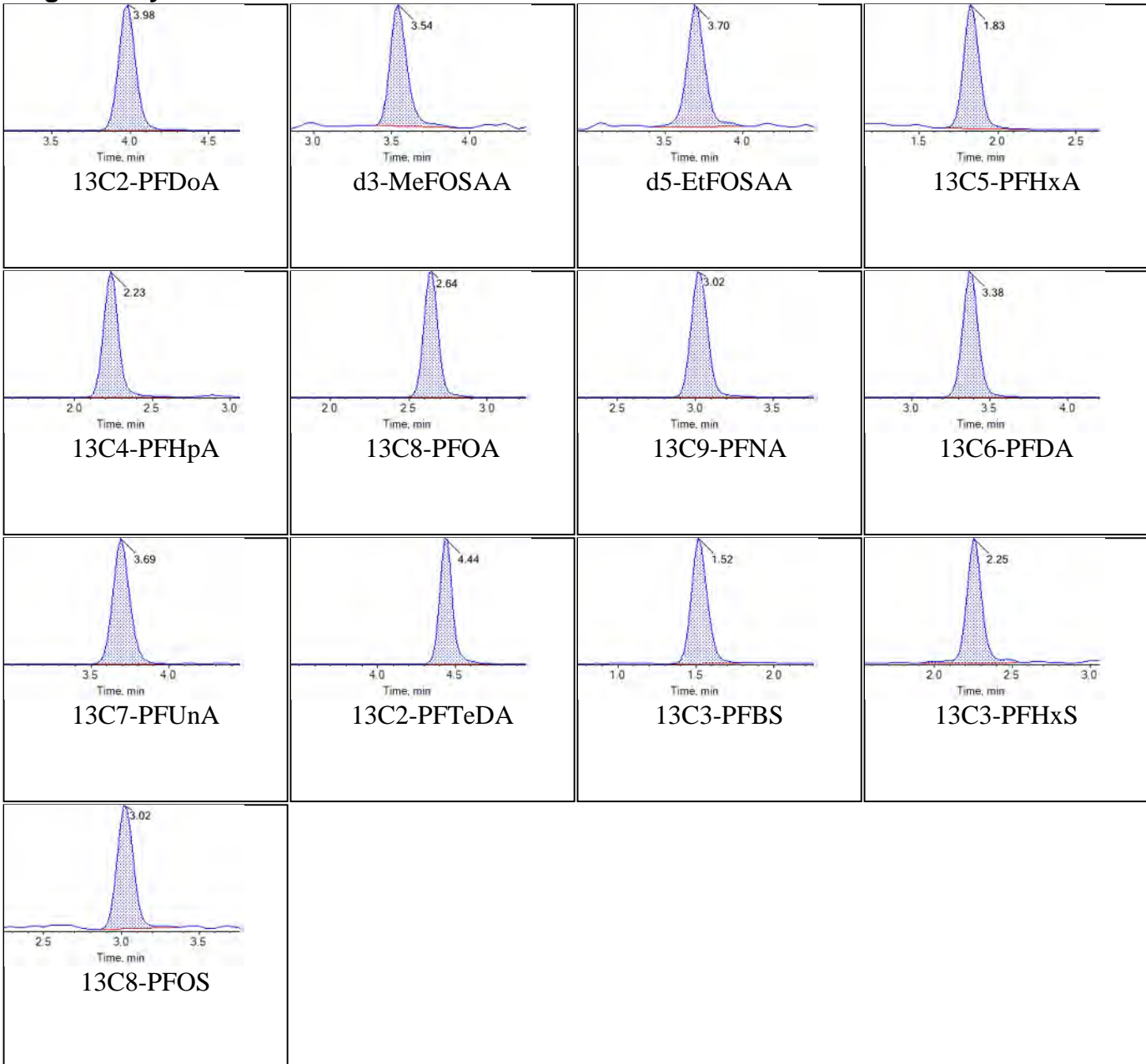
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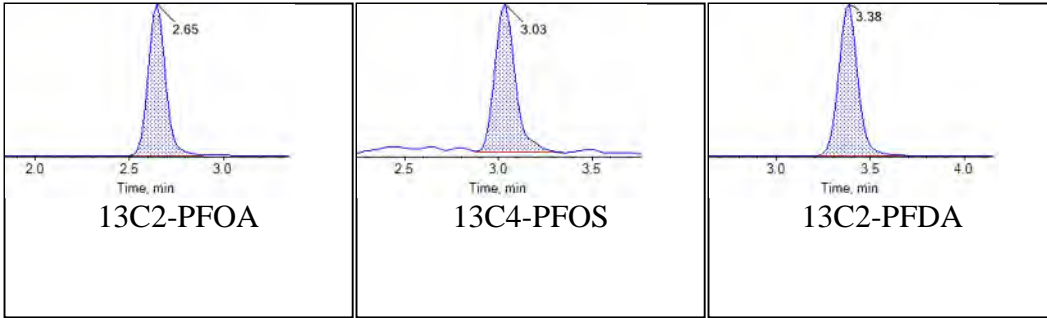
Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



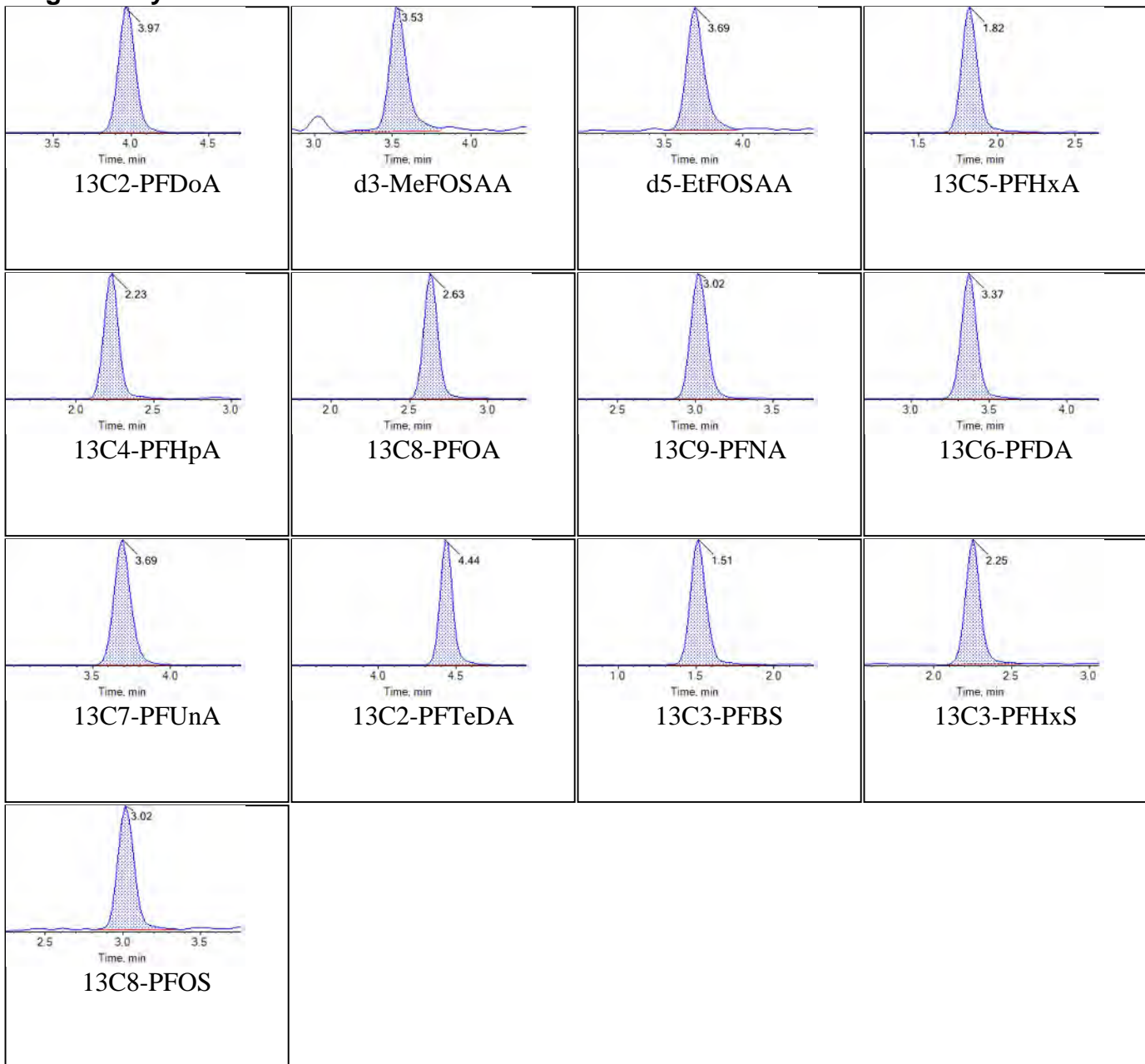
Internal Standards:



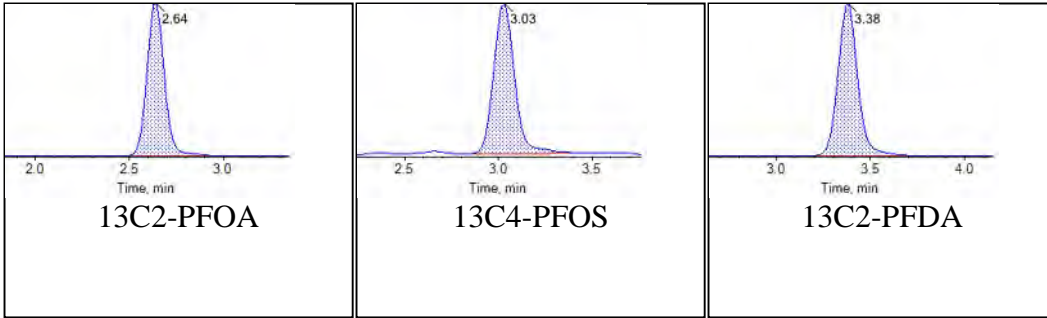
Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Chromatograms

Target Analytes:



Internal Standards:



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"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","375-85-9","PFHpA",".500000","ng/L","U",".16","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","335-67-1","PFOA","1.210000","ng/L","J",".18","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","375-95-1","PFNA","1.000000","ng/L","U",".26","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".1.00",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","335-76-2","PFDA",".500000","ng/L","U",".16","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".50",""

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"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","2355-31-9","NMeFOSAA","2.000000","ng/L","U",".56","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".2.00",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","2991-50-6","NEtFOSAA","1.000000","ng/L","U",".49","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".1.00",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","375-73-5","PFBS",".500000","ng/L","U",".13","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","355-46-4","PFHxA",".400000","ng/L","U",".11","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".40",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","1763-23-1","PFOS",".500000","ng/L","U",".19","MDL",",","T",",",",",".5.00","LOQ","YES",-99.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","BDO-2217","13C5-PFHxA","1.020000","ng/L",",",-99.00","NA",",","SIS","102.00",",",-99.00","NA","YES","1.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","BDO-2218","13C4-PFHpA","1.000000","ng/L",",",-99.00","NA",",","SIS","100.00",",",-99.00","NA","YES","1.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","BDO-2219","13C8-PFOA","1.060000","ng/L",",",-99.00","NA",",","SIS","106.00",",",-99.00","NA","YES","1.000000",",",".250000",".000500",".50",""

"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","BDO-2221","13C9-PFNA",".880000","ng/L",",",-99.00","NA",",","SIS","88.00",",",-99.00","NA","YES","1.000000",",",".250000",".000500",".88",""

0",".50",""
"CR766PB-FS","SOP 5-369","Initial","CR766PB-FS","BNO","BDO-2222","13C6-
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0",".50",""
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PFDaA",".860000","ng/L","",-99.00,"NA","","SIS","86.00","",-99.00,"NA","YES","1.000000","",".250000",".0005
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EtFOSAA",".1120000","ng/L","",-99.00,"NA","","SIS","112.00","",-99.00,"NA","YES","1.000000","",".250000",".
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PFOS",".920000","ng/L","",-99.00,"NA","","SIS","96.00","",-99.00,"NA","YES",".960000","",".250000",".000500
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"CR767LCS-FS","SOP 5-369","Initial","CR767LCS-FS","BNO","307-24-
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9","PFHpA",".8.470000","ng/L","",".16","MDL","","T","85.00","",".5.00","LOQ","YES","10.000000","",".250000",".00
0500",".50",""
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500",".50",""
"CR767LCS-FS","SOP 5-369","Initial","CR767LCS-FS","BNO","2058-94-
8","PFUnA",".8.930000","ng/L","",".29","MDL","","T","89.00","",".5.00","LOQ","YES","10.000000","",".250000",".00
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1","PFDaA",".9.840000","ng/L","",".18","MDL","","T","98.00","",".5.00","LOQ","YES","10.000000","",".250000",".00
0500",".50",""
"CR767LCS-FS","SOP 5-369","Initial","CR767LCS-FS","BNO","72629-94-
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"JAX-PSC51-MW-10D-08232018","SOP 5-369","Initial","J7624-FS1","BNO","BDO-2228","13C8-PFOS",".780000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES",".890000","",".270000",".000500"

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"JAX-PSC51-MW-06-08242018","SOP 5-369","Initial","J7626-FS1","BNO","375-73-5","PFBS",".460000","ng/L","U",".12","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".000500",".46",""
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"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2221","13C9-PFNA",".780000","ng/L","","-99.00","NA","","SIS","84.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2222","13C6-PFDA",".850000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2223","13C7-PFUnA",".800000","ng/L","","-99.00","NA","","SIS","87.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2112","13C2-PFDoA",".820000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2224","13C2-PFTeDA",".760000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2125","d3-MeFOSAA",".730000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2126","d5-EtFOSAA",".820000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2226","13C3-PFBS",".730000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".860000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2227","13C3-PFHxS",".910000","ng/L","","-99.00","NA","","SIS","104.00","","-99.00","NA","YES",".880000","",".270000",".000500",".50","""
"JAX-PSC51-MW-09I-08242018","SOP 5-369","Initial","J7629-FS1","BNO","BDO-2228","13C8-PFOS",".750000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".890000","",".270000",".000500"

",".50", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "CR766PB-FS", "", "WATER", "CR766PB-FS", "MB", "", "-99.000000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 19:12", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "09/07/2018 14:08", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "CR767LCS-FS", "", "WATER", "CR767LCS-FS", "LCS", "", "-99.000000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 19:23", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "09/07/2018 14:08", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "JAX-PSC51-MW-08-08232018", "08/23/2018 14:21", "GW", "J7623-FS1", "NM", "SHP-180828-01", ".100000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 19:34", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "08/28/2018 09:45", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "JAX-PSC51-MW-10D-08232018", "08/23/2018 15:24", "GW", "J7624-FS1", "NM", "SHP-180828-01", ".100000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 20:06", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "08/28/2018 09:45", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "JAX-PSC51-MW-06-08242018", "08/24/2018 11:46", "GW", "J7626-FS1", "NM", "SHP-180828-01", ".100000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 20:17", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "08/28/2018 09:45", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "JAX-PSC51-MW-06-08242018-FD", "08/24/2018 11:46", "GW", "J7627-FS1", "NM", "SHP-180828-01", ".100000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 20:28", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "08/28/2018 09:45", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "JAX-PSC51-MW-04-08242018", "08/24/2018 12:36", "GW", "J7628-FS1", "NM", "SHP-180828-01", ".100000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 20:39", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "08/28/2018 09:45", "09/12/2018 12:04", ""
"112G08005-SE0375", "SE0375 ? NAS Jacksonville", "JAX-PSC51-MW-09I-08242018", "08/24/2018 13:15", "GW", "J7629-FS1", "NM", "SHP-180828-01", ".100000", "SOP 5-369", "Gen Prep", "Initial", "09/07/2018 14:08", "09/10/2018 20:50", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0550", "18-0550", "DP-18-0262", "DP-18-0262", "18-0550", "08/28/2018 09:45", "09/12/2018 12:04", ""



TO: M. PETERSON **DATE:** OCTOBER 4, 2018

FROM: MICHELLE L. WOEBER **COPIES:** DV FILE

SUBJECT: ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)
 NAVAL AIR STATION (NAS), JACKSONVILLE
 JACKSONVILLE, FLORIDA
 SAMPLE DELIVERY GROUP (SDG) 18-0550

SAMPLES: 6/Aqueous/PFAS

JAX-PSC51-MW-04-08242018	JAX-PSC51-MW-06-08242018
JAX-PSC51-MW-06-08242018-FD	JAX-PSC51-MW-08-08232018
JAX-PSC51-MW-09I-08242018	JAX-PSC51-MW-10D-08232018

Overview

The sample set for NAS Jacksonville, SDG 18-0550 consisted of six (6) aqueous environmental samples. All six (6) samples were analyzed for polyfluoroalkyl substances (PFAS). One field duplicate sample pair was included in this SDG: JAX-PSC51-MW-06-08242018/JAX-PSC51-MW-06-08242018-FD.

The samples were collected by Tetra Tech, Inc. on August 23-24, 2018 and analyzed by Battelle Norwell Operations. All analyses were conducted in accordance with EPA 537 Modified analytical and reporting protocols. The data contained in this SDG was validated with regard to the following parameters:

- * • Data completeness
- Hold times/Sample Preservation
- * • Mass Calibration
- * • LC/MS/MS System Tuning and Performance
- * • Mass Spectral Acquisition Rate
- * • Instrument Sensitivity Check
- * • Ion Transition Check
- * • Initial/Continuing Calibrations
- Laboratory Preparation/Method Blank Results
- * • Extraction Internal Standard Recoveries
- * • Injection Internal Standard Recoveries
- * • Laboratory Control Sample Recoveries
- * • Matrix Spike/Matrix Spike Sample Duplicate Results
- * • Field Duplicate Precision
- * • Compound Identification
- * • Compound Quantitation
- * • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

PFAS

The 14-day extraction holding time was exceeded by one day for samples JAX-PSC51-MW-08-08232018 and JAX-PSC51-MW-10D-08232018. The detected and non-detected results reported for the PFAS compounds in these samples were qualified as estimated, (J) and (UJ), respectively.

The following contaminant was detected in the preparation blank at the following maximum concentration affecting all samples:

<u>Compound</u>	<u>Maximum Concentration (ng/L)</u>	<u>Action Level</u> <u>> or < Limit of Quantitation (LOQ)</u>
Pentadecafluorooctanoic acid (PFOA)	1.21	< LOQ

The detected results reported for PFOA below the LOQ in the environmental samples were qualified as non-detected, (U).

Additional Comments

All the samples in this SDG were initially extracted/analyzed within holding times (SDG 18-0533), however, the laboratory preparation blank analyzed with these samples was grossly contaminated. The laboratory re-extracted and re-analyzed the environmental samples reporting the results in this SDG. The equipment blank, JAX-PSC51-EB-08242018, was not re-extracted/re-analyzed because insufficient volume remained from the original analysis – only one sample bottle was collected. The results from SDG 18-0533 were not used.

The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses was performed on sample JAX-PSC51-MW-04-08242018. Insufficient sample volume prevented re-extraction/reanalyses. The analyses were reported in SDG 18-0533 which was not used. All MS/MSD Percent Recoveries (%Rs) and Relative Percent Differences (RPDs) were compliant.

The Field Reagent Blank (FRB) collected with these groundwater samples was not analyzed because detected results were not reported above the Limit of Quantitation (LOQ).

The following contaminants were detected in the equipment blank, JAX-PSC51-EB-08242018 (SDG 18-0533), at the following concentrations:

<u>Compound</u>	<u>Maximum Concentration (ng/L)</u>	<u>Action Level</u> <u>> or < LOQ</u>
PFOA	1.12	< LOQ
Perfluorooctanesulfonic Acid (PFOS)	0.28	< LOQ

No validation action was taken in the environmental samples in this SDG because the equipment blank was associated with the contaminated preparation blank in SDG 18-0533.

Detected results reported below the Limit of Quantitation (LOQ) but above the Method Detection Limit (MDL) were qualified as estimated, (J). Non-detected results were reported to the MDL in the database.

Executive Summary

Laboratory Performance Issues: The extraction holding time was missed for two samples. One contaminant was detected in the laboratory preparation blank below the LOQ.

Other Factors Affecting Data Quality: The equipment blank and MS/MSD samples were not re-extracted/re-analyzed due to insufficient volume. Detected results below the LOQ were estimated.

TO: M. PETERSON
SDG: 18-0550

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The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017), EPA Method 537 Modified, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (2017). The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech, Inc.
Michelle L. Woeber
Chemist/Data Validator



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

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 detection limit.
J	The result is an estimated quantity. 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.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

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 ($< 2 \times$ 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-SE03 SDG: 18-0550 FRACTION: PFAS MEDIA: WATER	NSAMPLE	JAX-PSC51-MW-04-08242018			JAX-PSC51-MW-06-08242018			JAX-PSC51-MW-06-08242018-FD			JAX-PSC51-MW-08-08232018		
	LAB_ID	J7628-FS1			J7626-FS1			J7627-FS1			J7623-FS1		
	SAMP_DATE	8/24/2018			8/24/2018			8/24/2018			8/23/2018		
	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							JAX-PSC51-MW-06-08242018					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NEFOSA)	0.45	U		0.45	U		0.45	U		0.45	UJ	H	
N-METHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NMFOSA)	0.52	U		0.52	U		0.52	U		0.51	UJ	H	
PENTADEC AFLUOROOCCTANOIC ACID (PFOA)	1.61	U	A	1.01	U	A	1.13	U	A	1.18	U	A	
PERFLUOROBUTANESULFONIC ACID (PFBS)	0.55	J	P	0.12	U		0.12	U		0.12	UJ	H	
PERFLUORODECANOIC ACID (PFDA)	0.15	U		0.15	U		0.15	U		0.15	UJ	H	
PERFLUORODODECANOIC ACID (PFDOA)	0.17	U		0.17	U		0.17	U		0.16	UJ	H	
PERFLUOROHEPTANOIC ACID (PFHPA)	0.15	U		0.15	U		0.15	U		0.15	UJ	H	
PERFLUOROHEXANESULFONIC ACID (PFHXS)	0.9	J	P	0.1	U		0.1	U		0.51	J	HP	
PERFLUOROHEXANOIC ACID (PFHXA)	0.18	U		0.18	U		0.18	U		0.17	UJ	H	
PERFLUORONONANOIC ACID (PFNA)	0.24	U		0.24	U		0.24	U		0.24	UJ	H	
PERFLUOROOCCTANESULFONIC ACID (PFOS)	1.99	J	P	0.2	J	P	0.91	J	P	0.42	J	HP	
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.23	U		0.23	U		0.23	U		0.23	UJ	H	
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.14	U		0.14	U		0.14	U		0.14	UJ	H	
PERFLUOROUNDECANOIC ACID (PFUNA)	0.27	U		0.27	U		0.27	U		0.26	UJ	H	

PROJ_NO: 08005-SE03 SDG: 18-0550 FRACTION: PFAS MEDIA: WATER	NSAMPLE	JAX-PSC51-MW-09I-08242018			JAX-PSC51-MW-10D-08232018		
	LAB_ID	J7629-FS1			J7624-FS1		
	SAMP_DATE	8/24/2018			8/23/2018		
	QC_TYPE	NM			NM		
	UNITS	NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCANE SULFONAMIDOACETATE(NEFOSA)	0.45	U		0.45	UJ	H	
N-METHYLPERFLUOROOCANE SULFONAMIDOACETATE(NMFOSA)	0.52	U		0.52	UJ	H	
PENTADEC AFLUOROOCANOIC ACID (PFOA)	1.17	U	A	1.48	U	A	
PERFLUOROBUTANESULFONIC ACID (PFBS)	0.12	U		0.12	UJ	H	
PERFLUORODECANOIC ACID (PFDA)	0.15	U		0.15	UJ	H	
PERFLUORODODECANOIC ACID (PFDOA)	0.17	U		0.17	UJ	H	
PERFLUOROHEPTANOIC ACID (PFHPA)	0.15	U		0.15	UJ	H	
PERFLUOROHEXANESULFONIC ACID (PFHXS)	0.1	U		0.39	J	HP	
PERFLUOROHEXANOIC ACID (PFHXA)	0.18	U		0.18	UJ	H	
PERFLUORONONANOIC ACID (PFNA)	0.24	U		0.24	UJ	H	
PERFLUOROOCANESULFONIC ACID (PFOS)	0.57	J	P	1.1	J	HP	
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.23	U		0.23	UJ	H	
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.14	U		0.14	UJ	H	
PERFLUOROUNDECANOIC ACID (PFUNA)	0.27	U		0.27	UJ	H	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-08-08232018				
Battelle ID	J7623-FS1				
Sample Type	SA				
Collection Date	08/23/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.275				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.45 UT	0.17	0.45	4.55
PFHpA	375-85-9	0.45 UT	0.15	0.45	4.55
PFOA	335-67-1	1.18 JT	0.16	0.45	4.55
PFNA	375-95-1	0.91 UT	0.24	0.91	4.55
PFDA	335-76-2	0.45 UT	0.15	0.45	4.55
PFUnA	2058-94-8	0.91 UT	0.26	0.91	4.55
PFDoA	307-55-1	0.45 UT	0.16	0.45	4.55
PFTeDA	72629-94-8	0.45 UT	0.14	0.45	4.55
PFTeDA	376-06-7	0.91 UT	0.23	0.91	4.55
NMeFOSAA	2355-31-9	1.82 UT	0.51	1.82	4.55
NEtFOSAA	2991-50-6	0.91 UT	0.45	0.91	4.55
PFBS	375-73-5	0.45 UT	0.12	0.45	4.55
PFHxS	355-46-4	0.51 JT	0.10	0.36	4.55
PFOS	1763-23-1	0.42 JT	0.17	0.45	4.55

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	103
13C8-PFOA	93
13C9-PFNA	82
13C6-PFDA	92
13C7-PFUnA	98
13C2-PFDoA	85
13C2-PFTeDA	94
d3-MeFOSAA	78
d5-EtFOSAA	82
13C3-PFBS	79
13C3-PFHxS	98
13C8-PFOS	92



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-10D-08232018				
Battelle ID	J7624-FS1				
Sample Type	SA				
Collection Date	08/23/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 UT	0.18	0.46	4.63
PFHpA	375-85-9	0.46 UT	0.15	0.46	4.63
PFOA	335-67-1	1.48 JT	0.17	0.46	4.63
PFNA	375-95-1	0.93 UT	0.24	0.93	4.63
PFDA	335-76-2	0.46 UT	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 UT	0.27	0.93	4.63
PFDoA	307-55-1	0.46 UT	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 UT	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 UT	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 UT	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 UT	0.45	0.93	4.63
PFBS	375-73-5	0.46 UT	0.12	0.46	4.63
PFHxS	355-46-4	0.39 JT	0.10	0.37	4.63
PFOS	1763-23-1	1.10 JT	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	92
13C4-PFHpA	93
13C8-PFOA	88
13C9-PFNA	97
13C6-PFDA	92
13C7-PFUnA	94
13C2-PFDoA	84
13C2-PFTeDA	87
d3-MeFOSAA	92
d5-EtFOSAA	73
13C3-PFBS	81
13C3-PFHxS	101
13C8-PFOS	88



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-06-08242018				
Battelle ID	J7626-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.01 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.20 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	107
13C8-PFOA	98
13C9-PFNA	91
13C6-PFDA	85
13C7-PFUnA	82
13C2-PFDoA	73
13C2-PFTeDA	82
d3-MeFOSAA	78
d5-EtFOSAA	77
13C3-PFBS	72
13C3-PFHxS	98
13C8-PFOS	76



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-06-08242018-FD				
Battelle ID	J7627-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.13 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.91 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	108
13C8-PFOA	95
13C9-PFNA	106
13C6-PFDA	92
13C7-PFUnA	90
13C2-PFDoA	95
13C2-PFTeDA	90
d3-MeFOSAA	87
d5-EtFOSAA	91
13C3-PFBS	69
13C3-PFHxS	89
13C8-PFOS	98



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-04-08242018				
Battelle ID	J7628-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.61 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.55 J	0.12	0.46	4.63
PFHxS	355-46-4	0.90 J	0.10	0.37	4.63
PFOS	1763-23-1	1.99 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	96
13C4-PFHpA	106
13C8-PFOA	96
13C9-PFNA	91
13C6-PFDA	87
13C7-PFUnA	87
13C2-PFDoA	66
13C2-PFTeDA	65
d3-MeFOSAA	55
d5-EtFOSAA	64
13C3-PFBS	88
13C3-PFHxS	97
13C8-PFOS	82



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JAX-PSC51-MW-09I-08242018				
Battelle ID	J7629-FS1				
Sample Type	SA				
Collection Date	08/24/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.17 J	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.57 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	88
13C4-PFHpA	95
13C8-PFOA	82
13C9-PFNA	84
13C6-PFDA	92
13C7-PFUnA	87
13C2-PFDoA	88
13C2-PFTeDA	82
d3-MeFOSAA	78
d5-EtFOSAA	88
13C3-PFBS	85
13C3-PFHxS	104
13C8-PFOS	85

APPENDIX C

SUPPORT DOCUMENTATION

NAS JACKSONVILLE
SDG 18-0550

$$PFAS \text{ Concentration} = \frac{[(PA - b)/m] * C_{IS} * PIV * DF}{S}$$

Where:

PA	Area of target analyte/ area of internal standard
b	y Intercept from calibration curve
C _{IS}	Concentration of internal standard (ng/L)
m	Slope of calibration
DF	Dilution factor
S	Sample Size
PIV	Pre-injection volume (L)

Target Analyte	PFOS
Sample ID	JAX-PSC51-MW-04-08242018
Laboratory Sample ID	J7628
Sample Size (L)	0.27
Dilution Factor	1
PIV (L)	0.001
PFOS Area	207917.31
IS Area	20153.38
IS Amount (ng/L)	239.25
Calibration Curve	y = 4.76291 x + -0.36483
Concentration (ng/L)	1.99

$$(((207917.31/20153.38)+0.36483)/4.76291)*239.25*0.001*1/0.270$$

Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	41617.21	149.360987	43.6	false
PFBS_2	298.9 / 99.0	1.53	11947.23	128.158329	44.7	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.26	75746.65	243.013363	86.6	false
PFHxS_2	399.0 / 99.0	2.27	24622.52	261.770535	137.2	false
PFOA_1	413.0 / 369.0	2.65	137194.73	434.643333	67.9	false
PFOA_2	413.0 / 169.0	2.65	10716.57	538.608663	60.0	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	2.99	207917.31	536.555912	69.5	true
PFOS_2	499.0 / 99.0	3.03	34184.27	482.304470	109.4	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C3-PFBS	302.0 / 99.0	26287.92	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	26287.92	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	57903.51	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	57903.51	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFHxS_1	399.0 / 80.0	2.26	13C3-PFHxS	402.0 / 99.0	21624.83	236.50
PFHxS_2	399.0 / 99.0	2.27	13C3-PFHxS	402.0 / 99.0	21624.83	236.50
PFOA_1	413.0 / 369.0	2.65	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFOA_2	413.0 / 169.0	2.65	13C8-PFOA	421.0 / 376.0	70191.01	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	62725.24	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	62725.24	250.00
PFOS_1	499.0 / 80.0	2.99	13C8-PFOS	507.0 / 99.0	20153.38	239.25
PFOS_2	499.0 / 99.0	3.03	13C8-PFOS	507.0 / 99.0	20153.38	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	59234.93	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	59234.93	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	57605.03	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	57605.03	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	46520.74	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	46520.74	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	33612.27	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	5343.99	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	5343.99	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	6613.76	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	6613.76	250.00

NAS JACKSONVILLE
SDG 18-0550

LABORATORY CONTROL SAMPLE

	Result	Target	Calculation	Recovery	Reported Recovery
PFHxA	8.61 ng/L	10.10 ng/L	$8.61/10.1*100$	85.2	85

MATRIX SPIKE/MATRIX SPIKE DUPLICATE


	Result	Target	Calculation	Recovery	Reported Recovery	RPD	Reported RPD	QC Limits	RPD Limit
JAX-PSC51-MW-04-08242018	0.46 U								
MS	23.71 ng/L	26.58 ng/L	$23.71/26.58*100$	89.2	89			51-137	
MSD	24.05 ng/L	27.05 ng/L	$24.05/27.05*100$	88.9	89	0.3	0	51-137	30

ANALYTE	ORIGINAL	DUPLICATE	RL	RPD	RPD > 30%
PERFLUOROOCTANESULFONIC ACID (PFOS)	0.2	0.91	4.63	127.93	TRUE

ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2xRL
FALSE	FALSE	FALSE

SDG 18-0550

JAX-PSC51-MW-06-08242018/JAX-PSC51-MW-06-08242018-FD

 BATTELLE It can be done		Chain-of-Custody					
Client Contact Information Tetra Tech 8640 Phillips Hwy Suite 1C Jacksonville, FL 32256		Project Manager: <u>Mark Pettito</u> Sampler Information (print name): <u>Mike Groom</u> Phone: <u>9046366128</u> Email:		Sampling Site: <u>NAS JAR</u>		Site Information: <u>PSC51</u>	
Project Name: <u>NAS JAR pFAS Eval</u> Project No.: <u>112608005-5E0375</u>		Turnaround Time (TAT) Requested: <u>14 day TAT</u> Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>		Preservative: <u>N/A</u>		COC # <u>007</u>	
Time Zone:		Analysis: <u>PFA5 STR</u>		Page# <u>1 of 1</u>			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	
J7623	JAX-PSC51-MW-08-08232018	8/23	1421	G	GW	2	X
J7624	JAX-PSC51-MW-10D-08232018	8/23	1524	G	GW	2	X
J7625	JAX-PSC51-FRB-08242018	8/24	1100	G	W	1	X
J7626	JAX-PSC51-MW-06-08242018	8/24	1146	G	GW	2	X
J7627	JAX-PSC51-MW-06-08242018	8/24	1146	G	GW	2	X
J7628	JAX-PSC51-MW-04-08242018	8/24	1236	G	GW	2	X
J7629	JAX-PSC51-MW-09E-08242018	8/24	1315	G	GW	2	X
J7630	JAX-PSC51-E-08242018	8/24	1202	G	W	1	X
Receipt Temperature: (°C) <u>0.1°C</u>		Samples Intact: <u>Yes</u> - No		Samples on Ice: <u>Yes</u> - No		Receipt Comments:	
Relinquished by (Print/Sign): <u>Mike Groom</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>8/23/2018 1300</u>		Received by (Print/Sign): <u>Fcd Ex</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign): <u>No</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):	
Comments:							

BATTELLEShpNo SHP-180828-01

It can be done

Battelle Project No: _____

Sample Receipt FormApproved: Authorized: Project Number: 112G08005-SE0375Client: Tetra TechReceived by: Schumitz, MattDate/Time Received: Tuesday, August 28, 2018 9:45 AMNo. of Shipping Containers: 1**SHIPMENT**Method of Delivery: Commercial CarrierTracking Number: 7824 8988 3194COC Forms: Shipped with samples No Forms**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	7824 8988 3194	Custody Seal	Intact	Intact	Therm_1	0.1	8

Samples

Sample Labels: Sample labels agree with COC forms
 Discrepancies (see Sample Custody Corrective Action Form)

Container Seals: Tape Custody Seals Other Seals (See sample Log)
 Seals intact for each shipping container
 Seals broken (See sample log for impacted samples)

Condition of Samples: Sample containers intact
 Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 0.1 Temperature Blank used Yes No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: Yes No Unknown

Initial pH 5-9?: Yes No NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: Yes No NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: Yes No NA
Individual sample deviations noted on sample log

Samples Containers: Samples returned in PC-grade jars: Yes No Unknown /Lot No.: Unknown

Storage Location: Custody: Refrigerator - R0119 (NA) BDO IDs Assigned: J7623 - J7630

Samples logged in by: Schumitz, Matt Date/Time: 08/28/2018 9:45 AM

Approved By: _____ Approved On: _____

Authorized By: _____ Authorized On: _____



It can be done

ShpNo SHP-180828-01

Battelle Project No: _____

Sample Receipt Form Details

Approved: Authorized

Project Number: 112G08005-SE0375 Client: Tetra Tech

Received by: Schumitz, Matt Date/Time Received: Tuesday, August 28, 2018 9:45 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J7623	JAX-PSC51-MW-08-08232018	08/23/18 14:21	08/28/18 10:09	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7624	JAX-PSC51-MW-10D-08232018	08/23/18 15:24	08/28/18 10:09	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7625	JAX-PSC51-FRB-08242018	08/24/18 15:24	08/28/18 10:10	1	GW	0.1	NA	NA	NA	R0119 (NA)			
J7626	JAX-PSC51-MW-06-08242018	08/24/18 11:46	08/28/18 10:10	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7627	JAX-PSC51-MW-06-08242018-FD	08/24/18 11:46	08/28/18 10:11	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7628	JAX-PSC51-MW-04-08242018	08/24/18 12:36	08/28/18 10:11	4	GW	0.1	NA	NA	NA	R0119 (NA)			
J7629	JAX-PSC51-MW-09I-08242018	08/24/18 13:15	08/28/18 10:11	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J7630	JAX-PSC51-EB-08242018	08/24/18 12:02	08/28/18 10:12	1	W	0.1	NA	NA	NA	R0119 (NA)			

Total Samples: 8

September 12, 2018

Mark Peterson
Tetra Tech, Inc.
8640 Philips Hwy, Suite 16
Jacksonville, Florida 32256**Subject: CTO-SE0375: Naval Air Station Jacksonville data deliverable (Battelle project number 100119154-SE0375)**

Dear Mr. Peterson,

This delivery letter details the files submitted via the fx.battelle.org file transfer site on September 12th. The SDG included in this delivery are SDG 18-0533 and SDG 18-0550. SDG 18-0550 is a re-extraction of the samples in SDG 18-0533 due to an issue with the PB and one analyte in the LCS. Both SDG are reported as the equipment blank and MS/MSD could not be re-extracted. Review of the field samples and MS/MSD samples in both SDG indicate that the issue is isolated to the PB and the one analyte in the LCS sample in SDG 18-0533. The field reagent blank was not needed for these samples as no analytes were detected above the LOQ in any field samples. These SDG files include the non-potable water samples received at Battelle on August 28th, 2018.

File Name	Description
18-0533 Full Data Package.pdf	SDG 18-0533 full data package
18-0533A1.txt	SDG 18-0533 A1 EDD file
18-0533A3.txt	SDG 18-0533 A3 EDD file
L18-0533_Master_369_FINAL.xlsx	SDG 18-0533 Excel data tables
18-0550 Full Data Package.pdf	SDG 18-0550 full data package
18-0550A1.txt	SDG 18-0550 A1 EDD file
18-0550A3.txt	SDG 18-0550 A3 EDD file
L18-0550_Master_369_FINAL.xlsx	SDG 18-0550 Excel data tables

Please call me at (781) 681-5565 if you have any questions or you need additional information.

Sincerely,

Jonathan Thorn
Laboratory Director

The reported data meet all requirements of the TNI standards and are directly related to the project samples unless documented in the attached case narrative.

QA/QC Summary
Batch 18-0550

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW
Data Set:	DP-18-0262
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
8/23/2018 and 8/24/2018	8/28/2018	0.1
Corrective Actions	None.	
Sample Storage	The water samples were stored refrigerated until extraction.	
Related samples	The FRB sample associated with these field samples was not needed as the samples did not have PFAS compounds detected above the LOQ.	

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with 0.4% NH ₃ in methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	<p>All samples were pre-screened prior to SPE extraction (with SDG 18-0533). This was done by removing 500 µL from the second bottle of each sample, adding internal standards and surrogates, and diluting to 1 mL with methanol.</p> <p>Sample extract were not split in ½ post SPE extraction. Extracts were brought to a PIV of 1 mL (versus 0.5 mL) to account for not splitting the extracts.</p> <p>Samples J7623-FS (JAX-PSC51-MW-08-08232018), J7626-FS (JAX-PSC51-MW-06-08242018), J7627-FS (JAX-PSC51-MW-06-08242018-FD), and J7628-FS (JAX-PSC51-MW-04-08242018) contained floating particulate matter in the original sample containers.</p>
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.

QA/QC Summary
Batch 18-0550

Analysis Comments	<p>Samples analyzed on Sciex 5500 LC-MS/MS.</p> <p>This SDG is a re-extract of SDG 18-0533 and was re-extracted due to the PB results in 18-0533. The exceedances related to 18-0533 appear to have only impacted the PB and LCS samples in the original SDG.</p> <p>Samples J7623-FS1 (JAX-PSC51-MW-08-08232018) and J7624-FS1 (JAX-PSC51-MW-10D-08232018) were extracted on day 15, exceeding the 14-day holding time. The results of these samples are consistent with the original extraction results in SDG 18-0533 and are appropriately "T" qualified for this exceedance)</p>	
Holding Times	Extraction Date(s)	Analysis Date(s)
	9/7/2018	9/10/2018
Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.	
≤ ½ the LOQ Samples >10x PB	<p>One exceedance (sample >10x PB) noted.</p> <p>PFOA in the LCS is "B" qualified as it was fortified at 10 ng/L, which is less than 10 times the amount found in the blank (1.21 ng/L). Both the PB and the LCS recovery pass criteria.</p>	
Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.	
Laboratory derived control limits for recovery	<p>No exceedances noted.</p> <p>No comments.</p>	
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.	
Laboratory derived control limits for recovery and <30% RPD	<p>Not applicable.</p> <p>The MS/MSD is reported in SDG 18-0533.</p>	
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.	
50-150% of true value	<p>No exceedances noted.</p> <p>No comments.</p>	
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.	
+/- 50% of the area of the L5 calibration point.	<p>No exceedances noted.</p> <p>No comments.</p>	

QA/QC Summary
Batch 18-0550

Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted.
	No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



It can be done

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project Number: 100119154-SE0375
 Preparation Batch: 18-0550
 Data Set: DP-18-0262
 Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	1	PFOA is B-flagged in the LCS because it was spiked at a low level and so was recovered at less than ten times the blank concentration. LMG 09/11/18
Laboratory Control Sample	0	
Matrix Spike / Matrix Spike Duplicate Recovery	NA	NA
Matrix Spike / Matrix Spike Duplicate Precision	NA	NA
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title: CTO-SE0375: Naval Air Station Jackson **Data Set Number:** DP-18-0262
Project Number: 100119154-SE0375 **Prep Batch Number:** 18-0550
Entered By: Lauren Griffith **Entered On:** 09/11/2018
Test Code (Matrix Type): Master_369(L)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
LMG 09/11/18

JY38 is not being used in method 18-0550_BASE for PFHpA. There is no impact on the data once this point is removed from the calibration curve.
LMG 09/11/18

Samples J7623 and J7624 were re-extracted outside of holding time. The results confirm the original analyses from batch 18-0533, which were extracted in hold. The data is appropriately flagged.
LMG 09/11/18

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan Thorn
Date: 2018.09.11 13:17:37 -04'00'



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
N	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO)
NA	Not Applicable
T	Holding Time (HT) exceeded
U	Analyte not detected or detected below the Method detection limit (MDL) value, Limit of Detection (LOD) reported



Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

- PA = Area of target / area of internal standard
- b = y intercept from calibration curve
- CIS = concentration of internal standard (ng/L)
- m = slope of calibration
- DF = dilution factor
- S = Sample Size
- PIV = Pre-injection volume (L)

Sample ID: J7626-FS1(0)
 Client Sample ID: JAX-PSC51-MW-06-08242018
 Sample Size: 0.27
 Units: L
 Dilution Factor: 1.000
 PIV (L): 0.001
 Target Analyte: PFOS
 MRM Transition: 499.0 / 80.0
 Data file: 18-0550.wiff
 Result table: 18-0550_BASE
 Area: 16,228.66
 IS Name: 13C8-PFOS
 IS Area: 22,072.29
 IS Amount (ng/L): 239.25
 y-intercept: -0.36483
 slope: 4.76291

$$\text{Concentration} = \frac{[(16228.66/22072.29) - -0.36483]}{4.76291} * 239.25 * 0.001 * 1 / 0.27$$

ng/L = 0.20



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375
 Preparation Batch: 18-0550
 Data Set: DP-18-0262

		CR766PB-FS (Procedural Blank)	CR767LCS-FS (Laboratory Control Sample)	J7623-FS1 (JAX-PSC51-MW-08-08232018)	J7624-FS1 (JAX-PSC51-MW-10D-08232018)	J7626-FS1 (JAX-PSC51-MW-06-08242018)	J7627-FS1 (JAX-PSC51-MW-06-08242018-FD)
PFHxA	307-24-4	-	L	-	-	-	-
PFHpA	375-85-9	-	L	-	-	-	-
PFOA	335-67-1	-	L	-	-	-	-
PFNA	375-95-1	-	L	-	-	-	-
PFDA	335-76-2	-	L	-	-	-	-
PFUnA	2058-94-8	-	L	-	-	-	-
PFDaA	307-55-1	-	L	-	-	-	-
PFTTrDA	72629-94-8	-	L	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	-	-	-	-
PFBS	375-73-5	-	L	-	-	-	-
PFHxS	355-46-4	-	L/Br	-	-	-	-
PFOS	1763-23-1	-	L/Br	-	-	-	-

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375
 Preparation Batch:
 Data Set: DP-18-

	J7628-FS1 (JAX-PSC51-MW-04-08242018)	J7629-FS1 (JAX-PSC51-MW-09I-08242018)
PFHxA	-	-
PFHpA	-	-
PFOA	-	-
PFNA	-	-
PFDA	-	-
PFUnA	-	-
PFDaA	-	-
PFTTrDA	-	-
PFTeDA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
PFBS	-	-
PFHxS	-	-
PFOS	-	-

"L": Linear
 "Br": branched
 "L/Br": Linear/Bra
 "-": Not detected

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JY42	L5	9/10/18 17:34	13C2-PFOA	72,240.04	36,120.02	108,360.06

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JY38	L1	9/10/18 16:51	13C2-PFOA	78,030.05	36,120.02	108,360.06	
JY39	L2	9/10/18 17:02	13C2-PFOA	84,272.09	36,120.02	108,360.06	
JY40	L3	9/10/18 17:13	13C2-PFOA	78,044.48	36,120.02	108,360.06	
JY41	L4	9/10/18 17:23	13C2-PFOA	82,927.54	36,120.02	108,360.06	
JY42	L5	9/10/18 17:34	13C2-PFOA	72,240.04	36,120.02	108,360.06	
KA32	L6	9/10/18 17:45	13C2-PFOA	76,124.90	36,120.02	108,360.06	
KA33	L7	9/10/18 17:56	13C2-PFOA	79,349.29	36,120.02	108,360.06	
JY46 IB	IB	9/10/18 18:07	13C2-PFOA	73,262.57	36,120.02	108,360.06	
JY45 ICC	ICC	9/10/18 18:18	13C2-PFOA	79,878.58	36,120.02	108,360.06	
CR766PB-FS(0)	Procedural Blank	9/10/18 19:12	13C2-PFOA	76,986.08	36,120.02	108,360.06	
CR767LCS-FS(0)	Laboratory Control Sample	9/10/18 19:23	13C2-PFOA	74,115.29	36,120.02	108,360.06	
J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/18 19:34	13C2-PFOA	79,765.43	36,120.02	108,360.06	
JY41	L4	9/10/18 19:45	13C2-PFOA	83,195.82	36,120.02	108,360.06	
J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/18 20:06	13C2-PFOA	81,324.76	36,120.02	108,360.06	
J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/18 20:17	13C2-PFOA	70,878.93	36,120.02	108,360.06	
J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/18 20:28	13C2-PFOA	72,358.50	36,120.02	108,360.06	
J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/18 20:39	13C2-PFOA	66,666.02	36,120.02	108,360.06	
J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/18 20:50	13C2-PFOA	72,236.95	36,120.02	108,360.06	
JY42	L5	9/10/18 21:01	13C2-PFOA	82,843.04	36,120.02	108,360.06	

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JY42	L5	9/10/18 17:34	13C2-PFDA	80,852.53	40,426.27	121,278.80

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JY38	L1	9/10/18 16:51	13C2-PFDA	82,816.49	40,426.27	121,278.80	
JY39	L2	9/10/18 17:02	13C2-PFDA	88,307.48	40,426.27	121,278.80	
JY40	L3	9/10/18 17:13	13C2-PFDA	84,486.12	40,426.27	121,278.80	
JY41	L4	9/10/18 17:23	13C2-PFDA	90,952.21	40,426.27	121,278.80	
JY42	L5	9/10/18 17:34	13C2-PFDA	80,852.53	40,426.27	121,278.80	
KA32	L6	9/10/18 17:45	13C2-PFDA	81,895.75	40,426.27	121,278.80	
KA33	L7	9/10/18 17:56	13C2-PFDA	86,543.22	40,426.27	121,278.80	
JY46 IB	IB	9/10/18 18:07	13C2-PFDA	80,875.71	40,426.27	121,278.80	
JY45 ICC	ICC	9/10/18 18:18	13C2-PFDA	79,763.55	40,426.27	121,278.80	
CR766PB-FS(0)	Procedural Blank	9/10/18 19:12	13C2-PFDA	85,361.10	40,426.27	121,278.80	
CR767LCS-FS(0)	Laboratory Control Sample	9/10/18 19:23	13C2-PFDA	74,238.29	40,426.27	121,278.80	
J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/18 19:34	13C2-PFDA	78,245.91	40,426.27	121,278.80	
JY41	L4	9/10/18 19:45	13C2-PFDA	94,262.22	40,426.27	121,278.80	
J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/18 20:06	13C2-PFDA	84,147.32	40,426.27	121,278.80	
J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/18 20:17	13C2-PFDA	83,651.56	40,426.27	121,278.80	
J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/18 20:28	13C2-PFDA	82,340.82	40,426.27	121,278.80	
J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/18 20:39	13C2-PFDA	67,325.83	40,426.27	121,278.80	
J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/18 20:50	13C2-PFDA	70,567.88	40,426.27	121,278.80	
JY42	L5	9/10/18 21:01	13C2-PFDA	92,136.70	40,426.27	121,278.80	

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JY42	L5	9/10/18 17:34	13C4-PFOS	26,784.61	13,392.31	40,176.92

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JY38	L1	9/10/18 16:51	13C4-PFOS	26,049.56	13,392.31	40,176.92	
JY39	L2	9/10/18 17:02	13C4-PFOS	28,788.55	13,392.31	40,176.92	
JY40	L3	9/10/18 17:13	13C4-PFOS	29,081.88	13,392.31	40,176.92	
JY41	L4	9/10/18 17:23	13C4-PFOS	30,251.44	13,392.31	40,176.92	
JY42	L5	9/10/18 17:34	13C4-PFOS	26,784.61	13,392.31	40,176.92	
KA32	L6	9/10/18 17:45	13C4-PFOS	24,078.22	13,392.31	40,176.92	
KA33	L7	9/10/18 17:56	13C4-PFOS	24,131.03	13,392.31	40,176.92	
JY46 IB	IB	9/10/18 18:07	13C4-PFOS	30,634.45	13,392.31	40,176.92	
JY45 ICC	ICC	9/10/18 18:18	13C4-PFOS	28,244.53	13,392.31	40,176.92	
CR766PB-FS(0)	Procedural Blank	9/10/18 19:12	13C4-PFOS	26,883.98	13,392.31	40,176.92	
CR767LCS-FS(0)	Laboratory Control Sample	9/10/18 19:23	13C4-PFOS	24,652.51	13,392.31	40,176.92	
J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/18 19:34	13C4-PFOS	28,061.29	13,392.31	40,176.92	
JY41	L4	9/10/18 19:45	13C4-PFOS	28,375.59	13,392.31	40,176.92	
J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/18 20:06	13C4-PFOS	26,967.65	13,392.31	40,176.92	
J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/18 20:17	13C4-PFOS	25,678.56	13,392.31	40,176.92	
J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/18 20:28	13C4-PFOS	25,778.24	13,392.31	40,176.92	
J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/18 20:39	13C4-PFOS	22,865.78	13,392.31	40,176.92	
J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/18 20:50	13C4-PFOS	23,961.29	13,392.31	40,176.92	
JY42	L5	9/10/18 21:01	13C4-PFOS	31,904.56	13,392.31	40,176.92	

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 5:56:27 PM	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.53	53	>10
PFBS_2	298.9 / 99.0	1.53	69	>10
PFHxA_1	313.0 / 269.0	1.84	25	>10
PFHxA_2	313.0 / 119.0	1.84	26	>10
PFHpA_1	363.0 / 319.0	2.25	30	>10
PFHpA_2	363.0 / 169.0	2.25	28	>10
PFHxS_1	399.0 / 80.0	2.27	50	>10
PFHxS_2	399.0 / 99.0	2.27	62	>10
PFOA_1	413.0 / 369.0	2.66	34	>10
PFOA_2	413.0 / 169.0	2.65	33	>10
PFNA_1	463.0 / 419.0	3.05	29	>10
PFNA_2	463.0 / 219.0	3.05	29	>10
PFOS_1	499.0 / 80.0	3.04	38	>10
PFOS_2	499.0 / 99.0	3.04	47	>10
PFDA_1	513.0 / 469.0	3.40	30	>10
PFDA_2	513.0 / 219.0	3.40	32	>10
PFUnA_1	563.0 / 519.0	3.72	31	>10
PFUnA_2	563.0 / 269.0	3.72	35	>10
PFDaA_1	613.0 / 569.0	4.00	33	>10
PFDaA_2	613.0 / 319.0	4.00	37	>10
PFTrDA_1	663.0 / 619.0	4.24	40	>10
PFTrDA_2	663.0 / 169.0	4.24	45	>10
PFTeDA_1	713.0 / 669.0	4.46	62	>10
PFTeDA_2	713.0 / 169.0	4.46	69	>10
NMeFOSAA_1	570.0 / 419.0	3.55	52	>10
NMeFOSAA_2	570.0 / 512.0	3.55	38	>10
NEtFOSAA_1	584.0 / 419.0	3.72	35	>10
NEtFOSAA_2	584.0 / 483.0	3.72	27	>10

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 5:56:27 PM	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.99	31	>10
d3-MeFOSAA	573.0 / 419.0	3.54	31	>10
d5-EtFOSAA	589.0 / 419.0	3.71	18	>10
13C5-PFHxA	318.0 / 273.0	1.83	42	>10
13C4-PFHpA	367.0 / 322.0	2.24	36	>10
13C8-PFOA	421.0 / 376.0	2.65	29	>10
13C9-PFNA	472.0 / 427.0	3.03	30	>10
13C6-PFDA	519.0 / 474.0	3.38	38	>10
13C7-PFUnA	570.0 / 525.0	3.70	28	>10
13C2-PFTeDA	715.0 / 670.0	4.45	42	>10
13C3-PFBS	302.0 / 99.0	1.52	31	>10
13C3-PFHxS	402.0 / 99.0	2.26	36	>10
13C8-PFOS	507.0 / 99.0	3.03	22	>10



Precision and Bias at the LOQ for PFAS in non-potable Water

Analyte	CAS No.	Average (ng/L)	ST DEV	2 Sigma	n
PFBA	375-22-4	12.29	2.02	4.04	13
PFPeA	2706-90-3	10.73	1.51	3.02	9
PFHxA	307-24-4	9.96	1.30	2.60	38
PFHpA	375-85-9	9.45	1.58	3.16	38
PFOA	335-67-1	10.18	1.49	2.98	39
PFNA	375-95-1	9.66	1.16	2.32	38
PFDA	335-76-2	9.89	1.34	2.68	38
PFUnA	2058-94-8	9.84	1.32	2.64	38
PFDoA	307-55-1	10.77	1.30	2.60	38
PFTTrDA	72629-94-8	11.22	1.54	3.08	38
PFTeDA	376-06-7	10.72	1.93	3.86	38
NMeFOSAA	2355-31-9	10.22	1.88	3.76	38
NEtFOSAA	2991-50-6	9.64	1.56	3.12	38
PFOSA	754-91-6	9.74	1.14	2.28	4
PFBS	375-73-5	10.06	1.46	2.92	39
PFPeS	BDO-2114	9.80	0.96	1.92	5
PFHxS	355-46-4	9.79	1.41	2.82	38
PFHpS	375-99-6	10.96	0.96	1.92	10
PFOS	1763-23-1	10.09	1.38	2.76	37
PFNS	98789-57-2	9.34	1.10	2.20	4
PFDS	2806-15-7	10.13	1.88	3.76	9
4:2FTS	BDO-2205	11.03	1.26	2.52	9
6:2FTS	27619-97-2	12.52	2.91	5.82	9
8:2FTS	39108-34-4	12.11	2.54	5.08	9

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

Analytical SOP 5-369
Extraction SOP 5-370

PFAS by LC-MS/MS Compliant with QSM 5.1 Compliant Table B-15

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
PFBA	375-22-4	0.14	0.5	5.0
PFPeA	2706-90-3	0.31	1.0	5.0
PFHxA	307-24-4	0.19	0.5	5.0
PFHpA	375-85-9	0.16	0.5	5.0
PFOA	335-67-1	0.18	0.5	5.0
PFNA	375-95-1	0.26	1.0	5.0
PFDA	335-76-2	0.16	0.5	5.0
PFUnA	2058-94-8	0.29	1.0	5.0
PFDoA	307-55-1	0.18	0.5	5.0
PFTTrDA	72629-94-8	0.15	0.5	5.0
PFTeDA	376-06-7	0.25	1.0	5.0
NMeFOSAA	2355-31-9	0.56	2.0	5.0
NEtFOSAA	2991-50-6	0.49	1.0	5.0
PFOSA	754-91-6	TBD	TBD	TBD
PFBS	375-73-5	0.13	0.5	5.0
PFPeS	BDO-2114	0.67	2.5	5.0
PFHxS	355-46-4	0.11	0.4	5.0
PFHpS	375-99-6	0.20	0.5	5.0
PFOS	1763-23-1	0.19	0.5	5.0
PFNS	98789-57-2	0.46	1.0	5.0
PFDS	2806-15-7	0.17	0.5	5.0
4:2FTS	BDO-2205	0.14	0.5	5.0
6:2FTS	27619-97-2	1.36	2.5	5.0
8:2FTS	39108-34-4	0.22	0.5	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

Analytical Transitions for PFAS in non-potable water, solid, and tissue

EPA 537 MOD DoD QSM 5.1 compliant with Table B-15 requirements

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDaA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS ¹	318.0 / 273.0	NA

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFHpA	BDO-2218	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	BDO-2219	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	BDO-2221	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	BDO-2222	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	BDO-2223	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	BDO-2112	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	BDO-2224	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	BDO-1838	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	BDO-1839	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	BDO-2225	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	BDO-2226	SIS ¹	302.0 / 99.0	NA
13C3-PFHxS	BDO-2227	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	BDO-2228	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	BDO-2229	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	BDO-2230	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	BDO-2220	SIS ¹	529.0 / 81.0	NA
13C3-PFBA	BDO-2231	IS ²	216.0 / 172.0	NA
13C2-PFOA	BDO-2107	IS ²	415.0 / 370.0	NA
13C2-PFDA	BDO-2110	IS ²	515.0 / 470.0	NA
13C4-PFOS	BDO-2121	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard



Non-Potable Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (L)	Sample Equivalent (ng/L) ²
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
10,000	1	1	0.250	40.0
20,000	1	1	0.250	80.0

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JY46 IB				
Battelle ID	JY46 IB_09/10/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Water				
Sample Size	0.250				
Size Unit-Basis	NA				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	0.50 U	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	105
13C4-PFHpA	111
13C8-PFOA	113
13C9-PFNA	106
13C6-PFDA	103
13C7-PFUnA	99
13C2-PFDaA	95
13C2-PFTeDA	97
d3-MeFOSAA	82
d5-EtFOSAA	85
13C3-PFBS	76
13C3-PFHxS	87
13C8-PFOS	80



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Procedural Blank				
Battelle ID	CR766PB-FS				
Sample Type	PB				
Collection Date	09/07/2018				
Extraction Date	09/07/2018				
Analysis Date	09/10/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	WATER				
Sample Size	0.250				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	1.21 J	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	102
13C4-PFHpA	100
13C8-PFOA	106
13C9-PFNA	88
13C6-PFDA	91
13C7-PFUnA	98
13C2-PFDaA	86
13C2-PFTeDA	85
d3-MeFOSAA	89
d5-EtFOSAA	112
13C3-PFBS	90
13C3-PFHxS	99
13C8-PFOS	96



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID		Laboratory Control Sample				
Battelle ID		CR767LCS-FS				
Sample Type		LCS				
Collection Date		09/07/2018				
Extraction Date		09/07/2018				
Analysis Date		09/10/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		WATER				
Sample Size		0.250				
Size Unit-Basis		L				
Units		ng/L	Target	Recovery	Qual	Control Limits Lower Upper
PFHxA	307-24-4	8.61	10.10	85		51 137
PFHpA	375-85-9	8.47	10.00	85		48 136
PFOA	335-67-1	10.01 B	10.00	100		49 141
PFNA	375-95-1	8.66	10.00	87		58 122
PFDA	335-76-2	8.76	10.00	88		59 135
PFUnA	2058-94-8	8.93	10.00	89		64 134
PFDoA	307-55-1	9.84	10.00	98		75 131
PFTrDA	72629-94-8	9.68	10.00	97		42 148
PFTeDA	376-06-7	9.95	10.00	100		42 158
NMeFOSAA	2355-31-9	9.81	10.00	98		50 146
NEtFOSAA	2991-50-6	8.74	10.00	87		51 131
PFBS	375-73-5	8.77	10.10	87		56 134
PFHxS	355-46-4	9.34	10.10	92		52 128
PFOS	1763-23-1	9.66	10.00	97		40 144

Surrogate Recoveries (%)

13C5-PFHxA	93
13C4-PFHpA	94
13C8-PFOA	93
13C9-PFNA	95
13C6-PFDA	101
13C7-PFUnA	101
13C2-PFDoA	93
13C2-PFTeDA	93
d3-MeFOSAA	97
d5-EtFOSAA	100
13C3-PFBS	98
13C3-PFHxS	91
13C8-PFOS	91



FROM SDG 18-0533

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

	JAX-PSC51-MW-04	JAX-PSC51-MW-04					Control Limits	
Client ID	08242018	08242018					Lower	Upper
Battelle ID	J7628-FS	J7628MS-FS						
Sample Type	SA	MS						
Collection Date	08/24/2018	08/24/2018						
Extraction Date	09/04/2018	09/04/2018						
Analysis Date	09/06/2018	09/06/2018						
Analytical Instrument	Sciex 5500 LC/MS/MS	Sciex 5500 LC/MS/MS						
% Moisture	NA	NA						
Matrix	GW	GW						
Sample Size	0.270	0.285						
Size Unit-Basis	L	L						
Units	ng/L	ng/L	Target	Recovery	Qual	Lower	Upper	
PFHxA	307-24-4	0.46 U	23.71 B	26.58	89	51	137	
PFHpA	375-85-9	0.46 U	29.97	26.32	114	48	136	
PFOA	335-67-1	1.38 J	27.60 B	26.32	100	49	141	
PFNA	375-95-1	0.93 U	25.27	26.32	96	58	122	
PFDA	335-76-2	0.46 U	23.09	26.32	88	59	135	
PFUnA	2058-94-8	0.93 U	23.71	26.32	90	64	134	
PFDoA	307-55-1	0.46 U	24.83	26.32	94	75	131	
PFTeDA	72629-94-8	0.46 U	22.36	26.32	85	42	148	
PFTeDA	376-06-7	0.93 U	22.29	26.32	85	42	158	
NMeFOSAA	2355-31-9	1.85 U	25.75	26.32	98	50	146	
NEtFOSAA	2991-50-6	0.93 U	25.76	26.32	98	51	131	
PFBS	375-73-5	0.51 J	24.80 B	26.58	91	56	134	
PFHxS	355-46-4	0.88 J	27.21 B	26.58	99	52	128	
PFOS	1763-23-1	0.46 U	25.38 B	26.32	96	40	144	

Surrogate Recoveries (%)

13C5-PFHxA	94	96
13C4-PFHpA	98	106
13C8-PFOA	85	81
13C9-PFNA	82	81
13C6-PFDA	80	87
13C7-PFUnA	78	85
13C2-PFDoA	67	85
13C2-PFTeDA	67	93
d3-MeFOSAA	65	78
d5-EtFOSAA	53	66
13C3-PFBS	102	101
13C3-PFHxS	105	106
13C8-PFOS	94	87



FROM SDG 18-0533

Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID JAX-PSC51-MW-04-08242018

Battelle ID J7628MSD-FS
 Sample Type MSD
 Collection Date 08/24/2018
 Extraction Date 09/04/2018
 Analysis Date 09/06/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.280
 Size Unit-Basis L

Units	ng/L	Target	Recovery	Qual	Control Limits		RPD	Qual	RPD Limit
					Lower	Upper			
PFHxA	307-24-4	24.04 B	27.05	89	51	137	0.0		≤ 30
PFHpA	375-85-9	25.80	26.79	96	48	136	17.1		≤ 30
PFOA	335-67-1	24.78 B	26.79	87	49	141	13.9		≤ 30
PFNA	375-95-1	24.80	26.79	93	58	122	3.2		≤ 30
PFDA	335-76-2	24.64	26.79	92	59	135	4.4		≤ 30
PFUnA	2058-94-8	21.75	26.79	81	64	134	10.5		≤ 30
PFDoA	307-55-1	25.24	26.79	94	75	131	0.0		≤ 30
PFTeDA	72629-94-8	23.68	26.79	88	42	148	3.5		≤ 30
PFTeDA	376-06-7	23.83	26.79	89	42	158	4.6		≤ 30
NMeFOSAA	2355-31-9	24.54	26.79	92	50	146	6.3		≤ 30
NEtFOSAA	2991-50-6	23.56	26.79	88	51	131	10.8		≤ 30
PFBS	375-73-5	25.30 B	27.05	92	56	134	1.1		≤ 30
PFHxS	355-46-4	29.24 B	27.05	105	52	128	5.9		≤ 30
PFOS	1763-23-1	22.27 B	26.79	83	40	144	14.5		≤ 30

Surrogate Recoveries (%)

13C5-PFHxA	95
13C4-PFHpA	103
13C8-PFOA	88
13C9-PFNA	81
13C6-PFDA	74
13C7-PFUnA	82
13C2-PFDoA	77
13C2-PFTeDA	76
d3-MeFOSAA	81
d5-EtFOSAA	75
13C3-PFBS	120
13C3-PFHxS	104
13C8-PFOS	106



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS**

<u>Project Title(s)</u>	<u>Project No.(s)</u>
CTO-SE0375: Naval Air Station Jacksonville	100119154- SE0375
18-0550	
Non-Potable Water PFAS Analysis	
GW	
SOP Numbers (see workplan for modifications)	
ExtractionSOP No.	5-370

This Batch Contains The Following Samples:	
CR766PB-FS	J7628-FS1
CR767LCS-FS	J7629-FS1
J7623-FS1	
J7624-FS1	
J7626-FS1	
J7627-FS1	

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	09/12/2018	DMS



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE IDENTIFICATION PAGE

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID	Description
CR766PB-FS	Procedural Blank
CR767LCS-FS	Laboratory Control Sample
J7623-FS1	JAX-PSC51-MW-08-08232018
J7624-FS1	JAX-PSC51-MW-10D-08232018
J7626-FS1	JAX-PSC51-MW-06-08242018
J7627-FS1	JAX-PSC51-MW-06-08242018-FD
J7628-FS1	JAX-PSC51-MW-04-08242018
J7629-FS1	JAX-PSC51-MW-09I-08242018

Samples Assigned By:

Stephanie Schultz

Date : September 7, 2018

Comments:



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR766PB-FS	Procedural Blank	250.0	NA	--	09/07/18 SAS
CR767LCS-FS	Laboratory Control Sample	250.0	NA	--	09/07/18 SAS
J7623-FS1	JAX-PSC51-MW-08-08232018	275.0	2	C	09/07/18 SAS
J7624-FS1	JAX-PSC51-MW-10D-08232018	270.0	2	C	09/07/18 SAS
J7626-FS1	JAX-PSC51-MW-06-08242018	270.0	2	C	09/07/18 SAS
J7627-FS1	JAX-PSC51-MW-06-08242018-FD	270.0	2	C	09/07/18 SAS
J7628-FS1	JAX-PSC51-MW-04-08242018	270.0	2	C	09/07/18 SAS
J7629-FS1	JAX-PSC51-MW-09I-08242018	270.0	2	C	09/07/18 SAS

Comments:

Samples Assigned By

Stephanie Schultz

Date : September 7, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR766PB-FS	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
CR767LCS-FS	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
CR767LCS-FS	JZ88	LCS/MS	1	50	09/07/18 SAS	EMF	NA
J7623-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7624-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7626-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7627-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7628-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA
J7629-FS1	JY28	SIS	1	50	09/07/18 SAS	EMF	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JY28	Pipette	B814659662
JZ88	Pipette	B814659662



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW****(N/A Fraction)**

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm . (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution*	Date Spiked/ Spiked By	Witn'd By
CR766PB-FS(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
CR767LCS-FS(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7623-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7624-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7626-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7627-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7628-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG
J7629-FS1(0)	950	50	JY26	50	1	1000	1.000	09/10/18 SAS	LMG

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JY26	Pipette	B814659662

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR766PB-FS	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
CR767LCS-FS	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7623-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7624-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7626-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7627-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7628-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS
J7629-FS1	0	--	9/7/2018 2:08:00 PM	NA		NA	NA	1.000	1.000	09/07/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE**

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0550

Non-Potable Water PFAS Analysis

GW

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Sep 10 2018 4:22PM SAS		Received On/By: Sep 10 2018 4:22PM LMG	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR766PB-FS(0)	1000	1	Intact	NA
2	CR767LCS-FS(0)	1000	1	Intact	NA
3	J7623-FS1(0)	1000	1	Intact	NA
4	J7624-FS1(0)	1000	1	Intact	NA
5	J7626-FS1(0)	1000	1	Intact	NA
6	J7627-FS1(0)	1000	1	Intact	NA
7	J7628-FS1(0)	1000	1	Intact	NA
8	J7629-FS1(0)	1000	1	Intact	NA

Total Extracts: 8



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0550****Non-Potable Water PFAS Analysis****GW**

Sample ID:	Comment:	Date/Initials:
CR766PB-FS	Extraction for all samples began at 2:08pm	09/07/18 SAS
CR766PB-FS	Sample extraction ended at 3:14pm	09/07/18 SAS
CR767LCS-FS	Sample extraction ended at 3:11pm	09/07/18 SAS
J7623-FS1	Sample contained floating particulates	09/07/18 SAS
J7623-FS1	Sample extraction ended at 3:45pm	09/07/18 SAS
J7624-FS1	Sample extraction ended at 3:25pm	09/07/18 SAS
J7626-FS1	Sample contained floating particulates	09/07/18 SAS
J7626-FS1	Sample extraction ended at 4:03pm	09/07/18 SAS
J7627-FS1	Sample contained floating particulates	09/07/18 SAS
J7627-FS1	Sample extraction ended at 4:02pm	09/07/18 SAS
J7628-FS1	Sample contained floating particulates	09/07/18 SAS
J7628-FS1	Sample extraction ended at 4:18pm	09/07/18 SAS
J7629-FS1	Sample extraction ended at 3:28pm	09/07/18 SAS



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0550

Non-Potable Water PFAS Analysis

GW

Entered By:

Stephanie Schultz

On: 09/10/2018

Samples were not split post SPE columns. Sample PIV will be adjusted to 1mL and RIS spike amount will be adjusted to 50uL

Task Leader Approval:

Stephanie Schultz

On: 09/10/2018

SupervisorApproval:

Denise Schumitz

On: 09/12/2018

PM Approval:

Jonathan Thorn

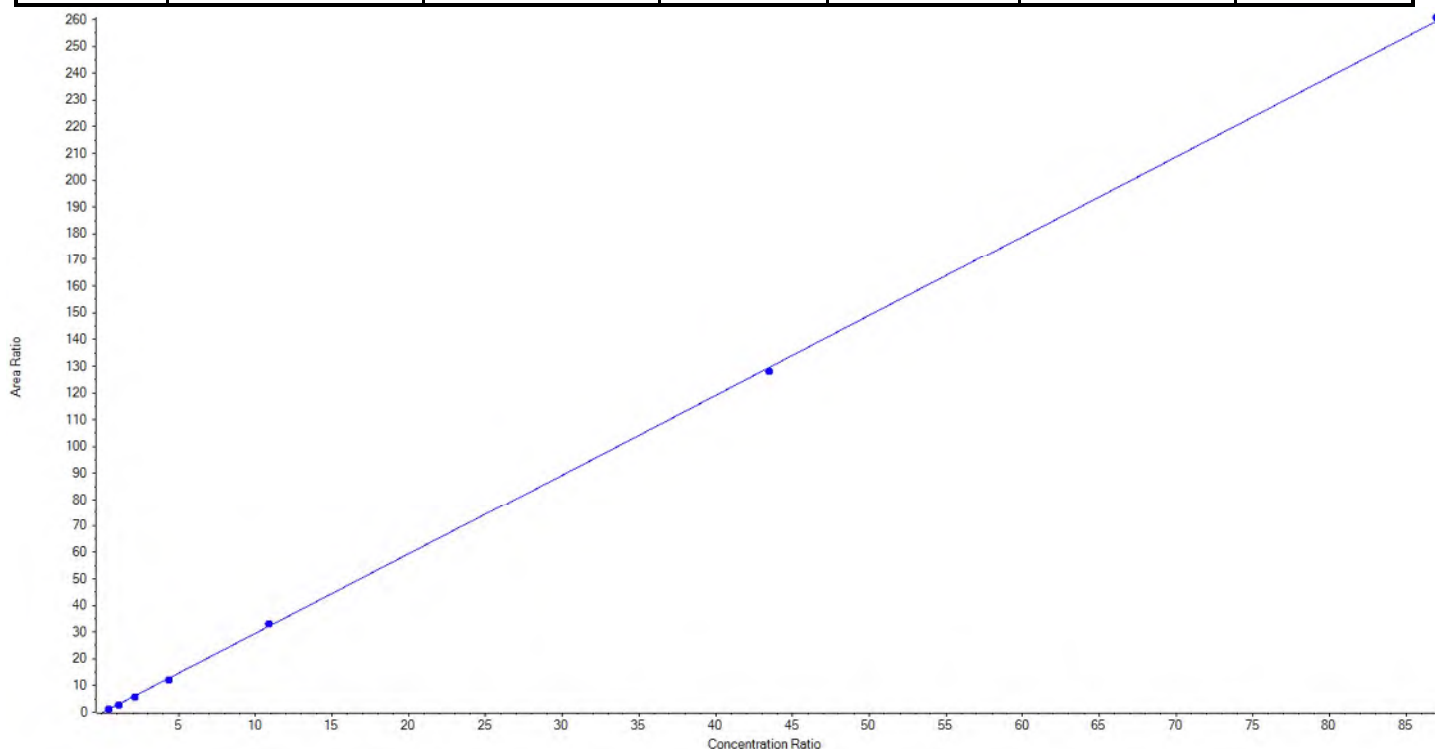
On: 09/12/2018

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
2	JY38	L1	9/10/2018 4:51:14 PM	5-0369.dam	18-0550.wiff
3	JY39	L2	9/10/2018 5:02:08 PM	5-0369.dam	18-0550.wiff
4	JY40	L3	9/10/2018 5:13:01 PM	5-0369.dam	18-0550.wiff
5	JY41	L4	9/10/2018 5:23:52 PM	5-0369.dam	18-0550.wiff
6	JY42	L5	9/10/2018 5:34:44 PM	5-0369.dam	18-0550.wiff
7	KA32	L6	9/10/2018 5:45:36 PM	5-0369.dam	18-0550.wiff
8	KA33	L7	9/10/2018 5:56:27 PM	5-0369.dam	18-0550.wiff
9	JY46 IB	IB	9/10/2018 6:07:17 PM	5-0369.dam	18-0550.wiff
10	JY45 ICC	ICC	9/10/2018 6:18:09 PM	5-0369.dam	18-0550.wiff
11	KA29 BRANCH	BRANCH	9/10/2018 6:29:02 PM	5-0369.dam	18-0550.wiff
1	MEOH		9/10/2018 6:39:54 PM	5-0369.dam	18-0550.wiff
14	CR766PB-FS(0)	Procedural Blank	9/10/2018 7:12:31 PM	5-0369.dam	18-0550.wiff
15	CR767LCS-FS(0)	Laboratory Control Sample	9/10/2018 7:23:23 PM	5-0369.dam	18-0550.wiff
16	J7623-FS1(0)	JAX-PSC51-MW-08-08232018	9/10/2018 7:34:14 PM	5-0369.dam	18-0550.wiff
5	JY41	CCV	9/10/2018 7:45:07 PM	5-0369.dam	18-0550.wiff
1	MEOH		9/10/2018 7:55:59 PM	5-0369.dam	18-0550.wiff
17	J7624-FS1(0)	JAX-PSC51-MW-10D-08232018	9/10/2018 8:06:51 PM	5-0369.dam	18-0550.wiff
18	J7626-FS1(0)	JAX-PSC51-MW-06-08242018	9/10/2018 8:17:42 PM	5-0369.dam	18-0550.wiff
19	J7627-FS1(0)	JAX-PSC51-MW-06-08242018-FD	9/10/2018 8:28:33 PM	5-0369.dam	18-0550.wiff
20	J7628-FS1(0)	JAX-PSC51-MW-04-08242018	9/10/2018 8:39:25 PM	5-0369.dam	18-0550.wiff
21	J7629-FS1(0)	JAX-PSC51-MW-09I-08242018	9/10/2018 8:50:17 PM	5-0369.dam	18-0550.wiff
6	JY42	CCV	9/10/2018 9:01:09 PM	5-0369.dam	18-0550.wiff

Analyte Name	PFBS_1	Data File	18-0550.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.98626 x + -0.33735$ (r = 0.99980) (weighting: 1 / x)

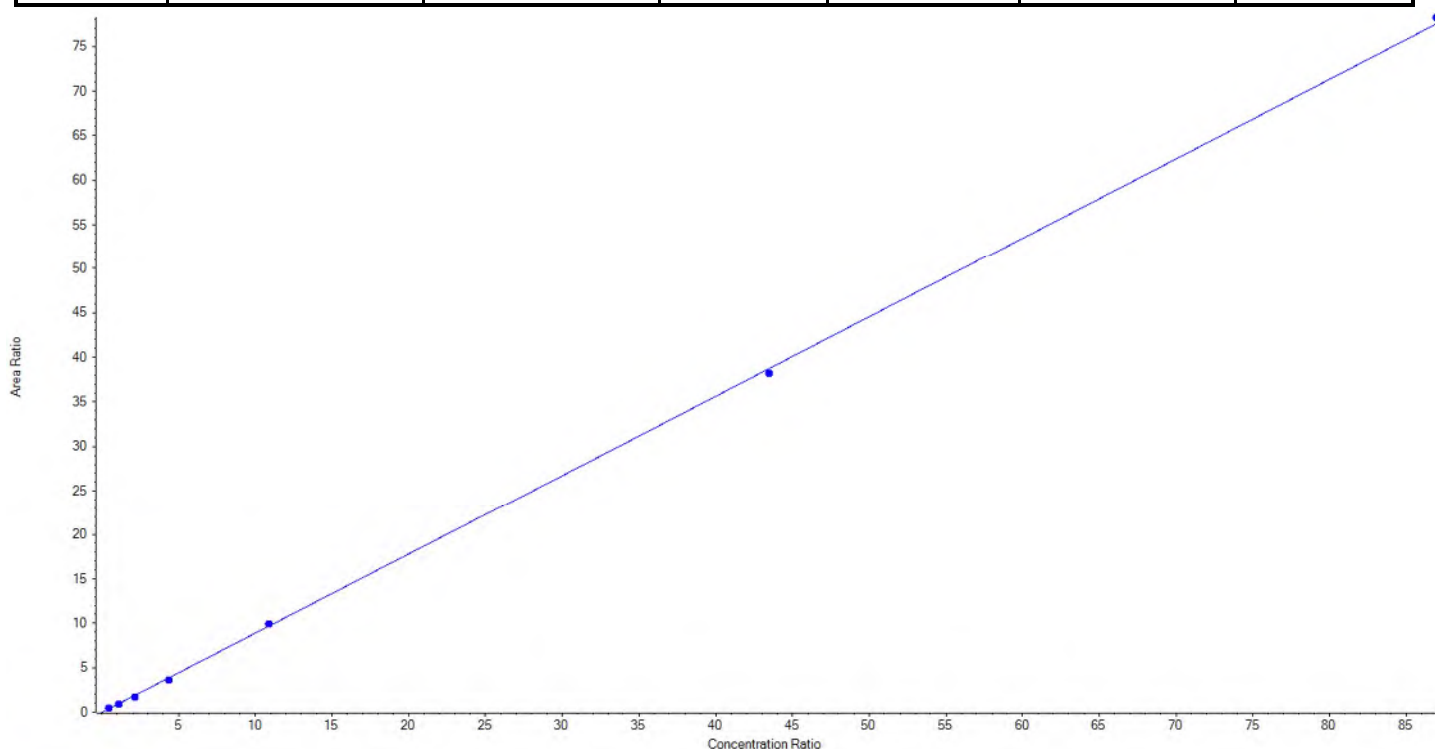
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	117.107304	116.0
3	JY39	L2	True	252.50	235.188123	93.1
4	JY40	L3	True	505.00	463.654572	91.8
5	JY41	L4	True	1010.00	973.243890	96.4
6	JY42	L5	True	2525.00	2607.735714	103.3
7	KA32	L6	True	10100.00	9993.972582	99.0
8	KA33	L7	True	20200.00	20302.597816	100.5



Analyte Name	PFBS_2	Data File	18-0550.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.89177x + -0.03761$ (r = 0.99965) (weighting: 1 / x)

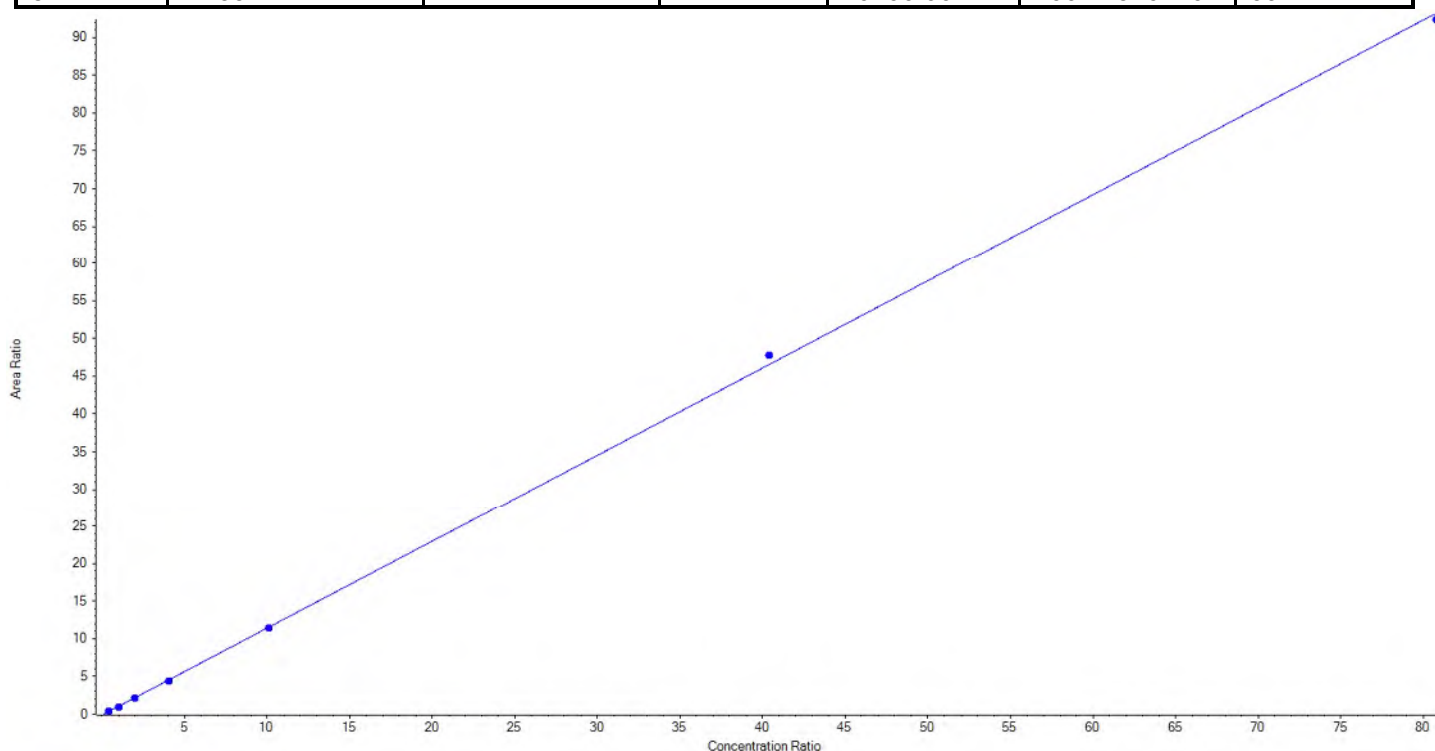
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	121.200976	120.0
3	JY39	L2	True	252.50	243.915745	96.6
4	JY40	L3	True	505.00	442.160151	87.6
5	JY41	L4	True	1010.00	942.752475	93.3
6	JY42	L5	True	2525.00	2599.872266	103.0
7	KA32	L6	True	10100.00	9962.513180	98.6
8	KA33	L7	True	20200.00	20381.085207	100.9



Analyte Name	PFHxA_1	Data File	18-0550.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0550_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.15538x + -0.13871$ (r = 0.99983) (weighting: 1 / x)

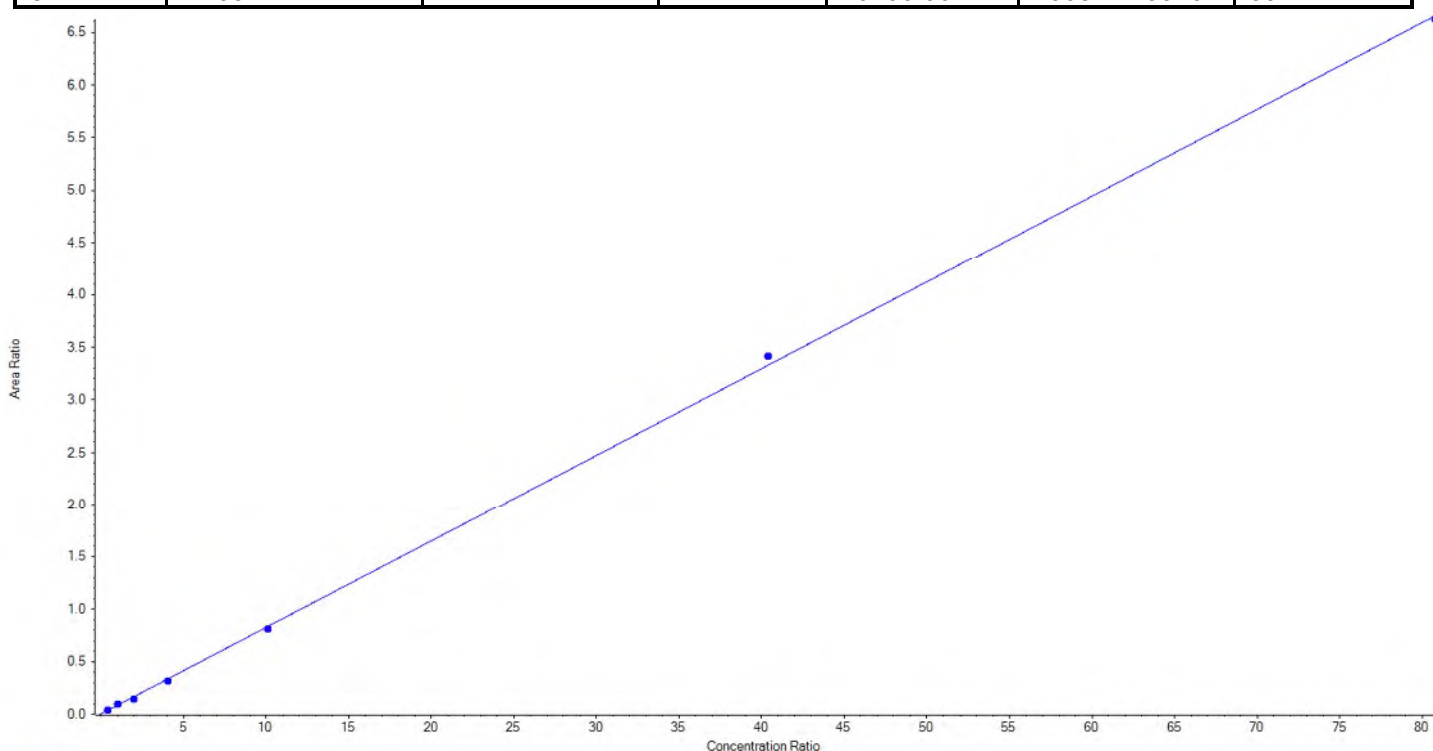
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	110.193801	109.1
3	JY39	L2	True	252.50	245.837554	97.4
4	JY40	L3	True	505.00	477.737517	94.6
5	JY41	L4	True	1010.00	992.671904	98.3
6	JY42	L5	True	2525.00	2501.454063	99.1
7	KA32	L6	True	10100.00	10354.059021	102.5
8	KA33	L7	True	20200.00	20011.546140	99.1



Analyte Name	PFHxA_2	Data File	18-0550.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0550_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.08239x + 9.28618e-4$ (r = 0.99960) (weighting: 1 / x)

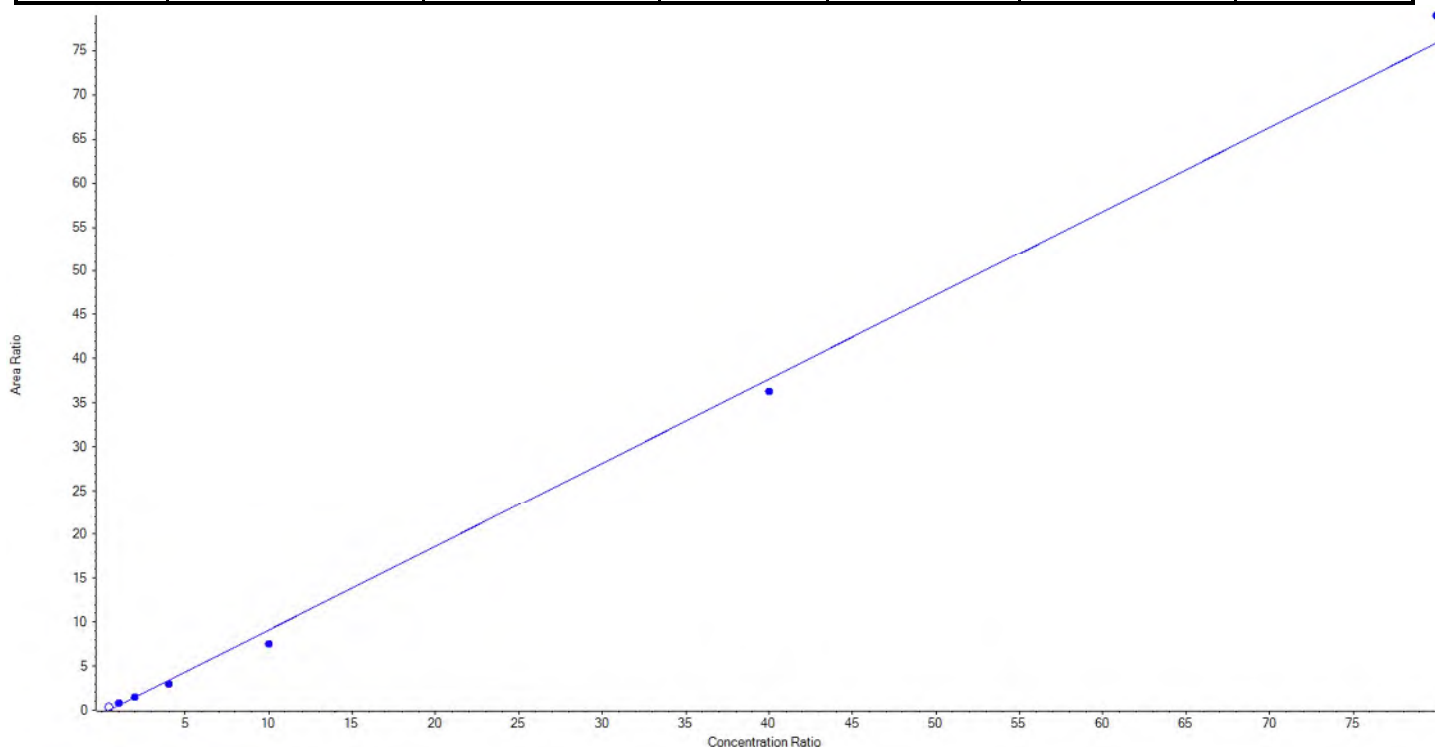
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	106.630980	105.6
3	JY39	L2	True	252.50	286.534468	113.5
4	JY40	L3	True	505.00	439.450482	87.0
5	JY41	L4	True	1010.00	952.499466	94.3
6	JY42	L5	True	2525.00	2464.623956	97.6
7	KA32	L6	True	10100.00	10362.285571	102.6
8	KA33	L7	True	20200.00	20081.475076	99.4



Analyte Name	PFHpA_1	Data File	18-0550.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.95373 x + -0.45126$ (r = 0.99755) (weighting: 1 / x)

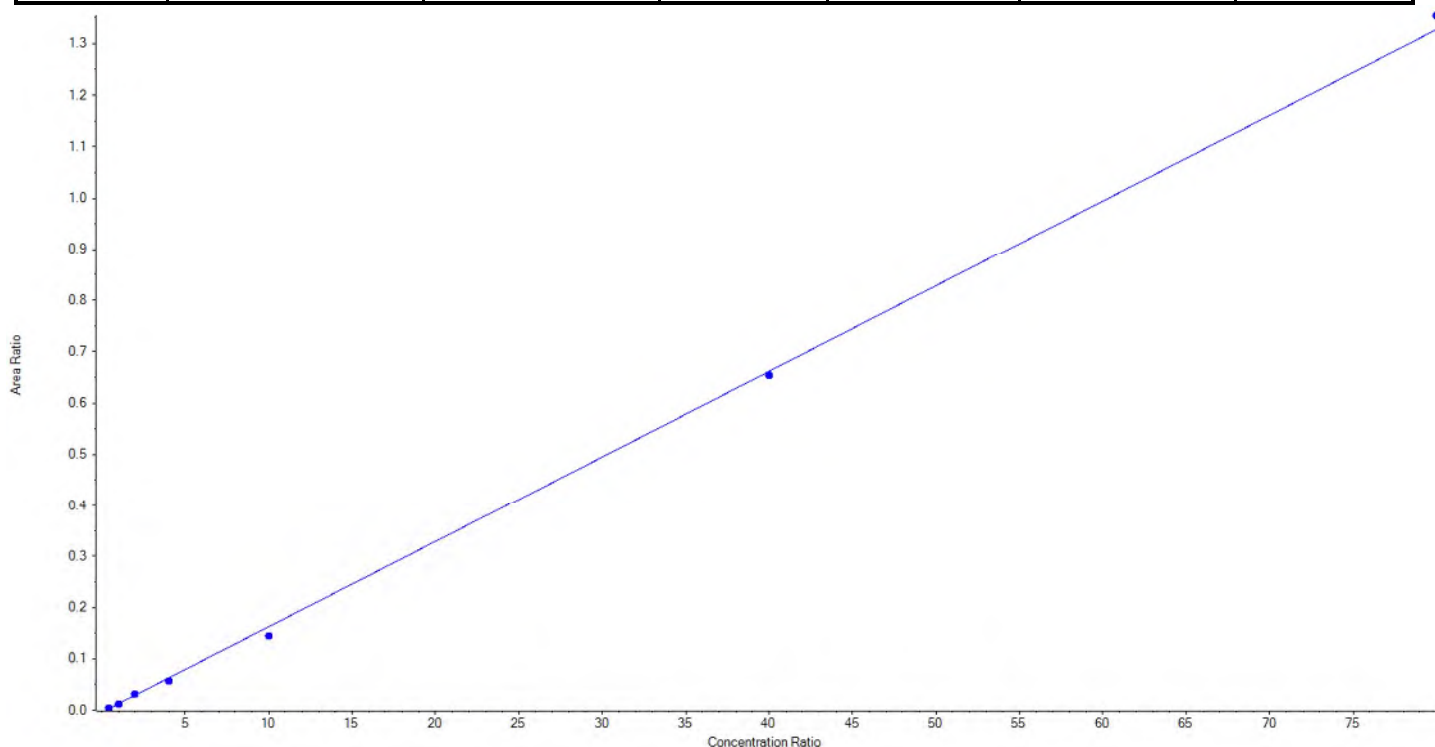
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	False	100.00	200.944834	200.9
3	JY39	L2	True	250.00	316.889959	126.8
4	JY40	L3	True	500.00	499.864122	100.0
5	JY41	L4	True	1000.00	894.927283	89.5
6	JY42	L5	True	2500.00	2082.561643	83.3
7	KA32	L6	True	10000.00	9639.442610	96.4
8	KA33	L7	True	20000.00	20816.314384	104.1



Analyte Name	PFHpA_2	Data File	18-0550.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01664 x + -0.00416$ (r = 0.99923) (weighting: 1 / x)

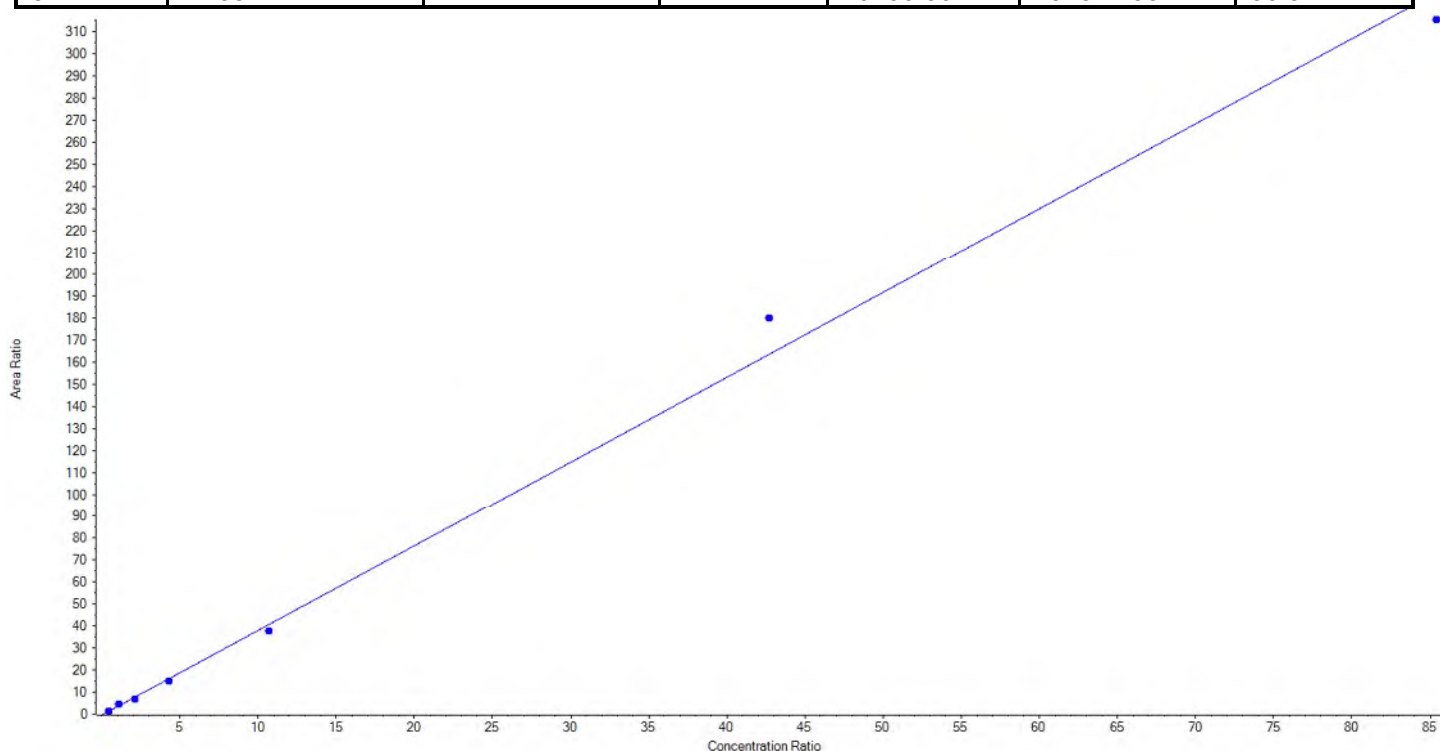
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	117.087788	117.1
3	JY39	L2	True	250.00	231.691327	92.7
4	JY40	L3	True	500.00	535.946605	107.2
5	JY41	L4	True	1000.00	924.484507	92.5
6	JY42	L5	True	2500.00	2240.364031	89.6
7	KA32	L6	True	10000.00	9896.243940	99.0
8	KA33	L7	True	20000.00	20404.181803	102.0



Analyte Name	PFHxS_1	Data File	18-0550.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.84063x + -0.44364$ ($r = 0.99744$) (weighting: 1 / x)

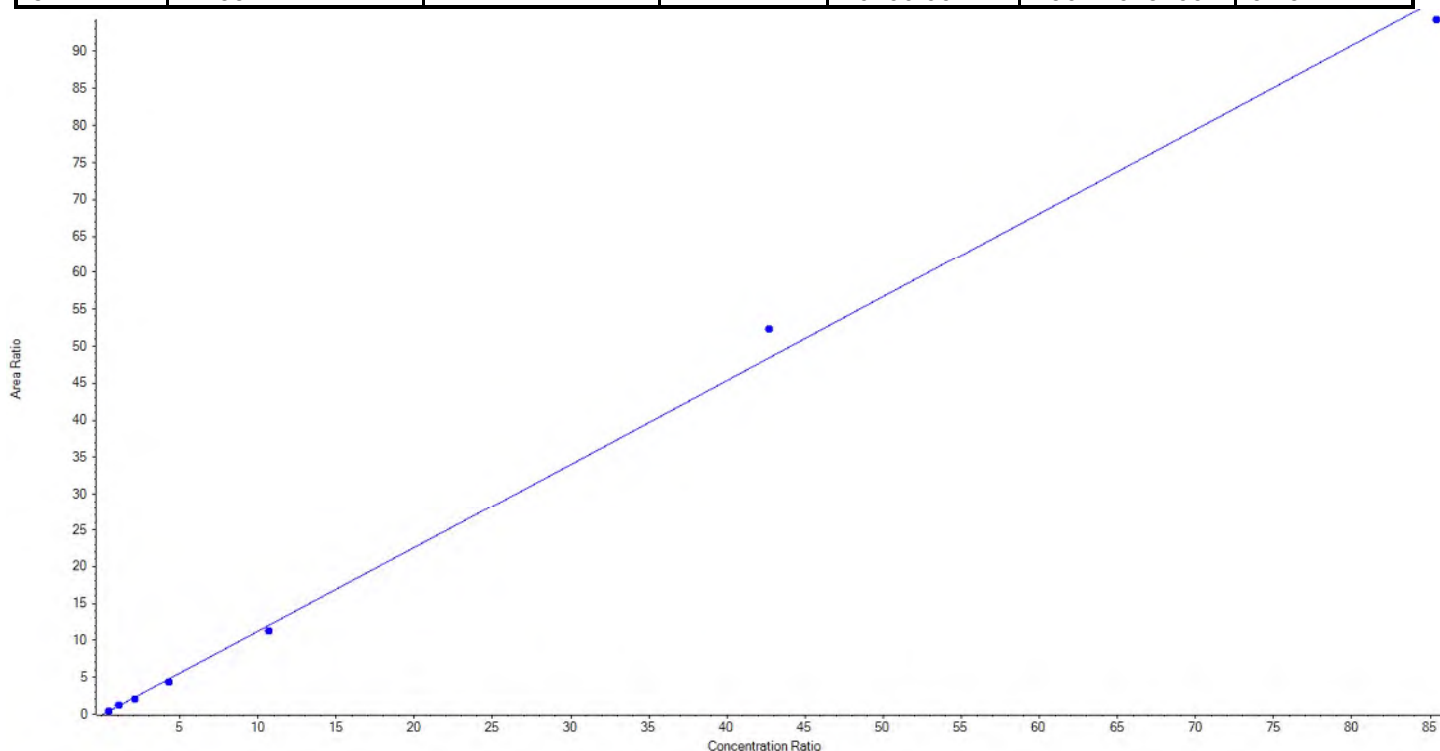
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	104.847343	103.8
3	JY39	L2	True	252.50	294.560170	116.7
4	JY40	L3	True	505.00	441.408780	87.4
5	JY41	L4	True	1010.00	938.564967	92.9
6	JY42	L5	True	2525.00	2343.520473	92.8
7	KA32	L6	True	10100.00	11119.305146	110.1
8	KA33	L7	True	20200.00	19451.293121	96.3



Analyte Name	PFHxS_2	Data File	18-0550.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0550_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13645x + -0.11926$ (r = 0.99831) (weighting: 1 / x)

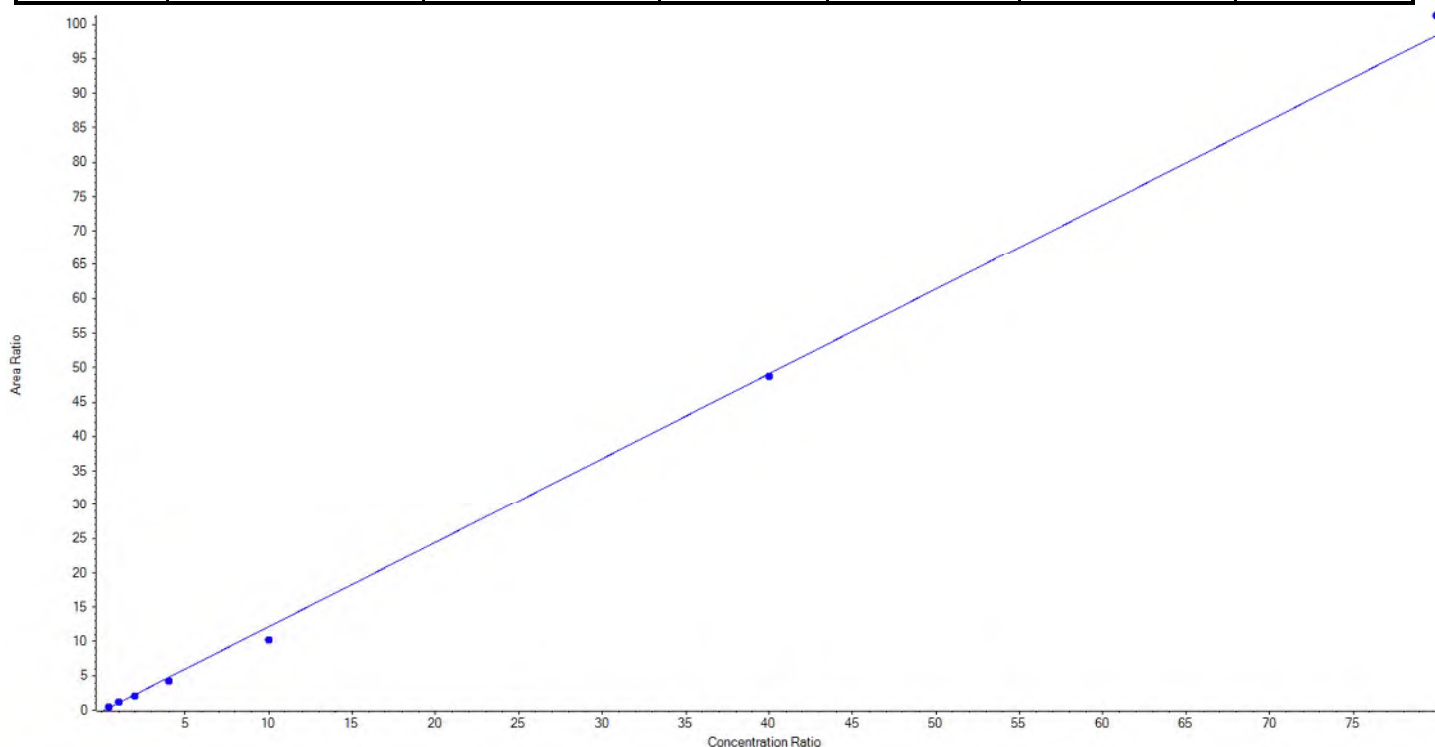
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	101.00	108.114909	107.0
3	JY39	L2	True	252.50	285.582798	113.1
4	JY40	L3	True	505.00	446.041733	88.3
5	JY41	L4	True	1010.00	936.039189	92.7
6	JY42	L5	True	2525.00	2362.862393	93.6
7	KA32	L6	True	10100.00	10910.183218	108.0
8	KA33	L7	True	20200.00	19644.675760	97.3



Analyte Name	PFOA_1	Data File	18-0550.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.23234 x + -0.18792$ (r = 0.99837) (weighting: 1 / x)

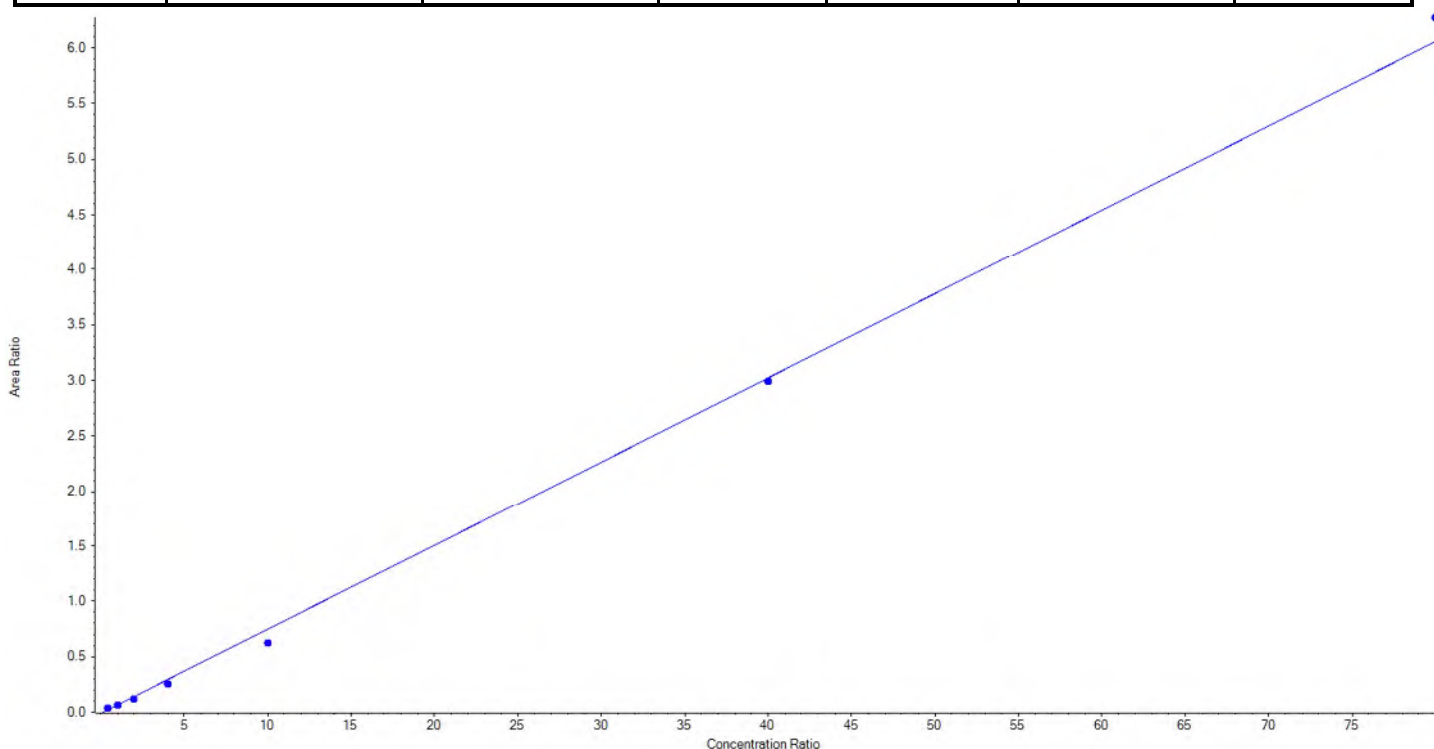
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	128.708092	128.7
3	JY39	L2	True	250.00	265.575508	106.2
4	JY40	L3	True	500.00	443.337065	88.7
5	JY41	L4	True	1000.00	896.764039	89.7
6	JY42	L5	True	2500.00	2115.212035	84.6
7	KA32	L6	True	10000.00	9921.478008	99.2
8	KA33	L7	True	20000.00	20578.925253	102.9



Analyte Name	PFOA_2	Data File	18-0550.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07584 x + -0.01072$ (r = 0.99769) (weighting: 1 / x)

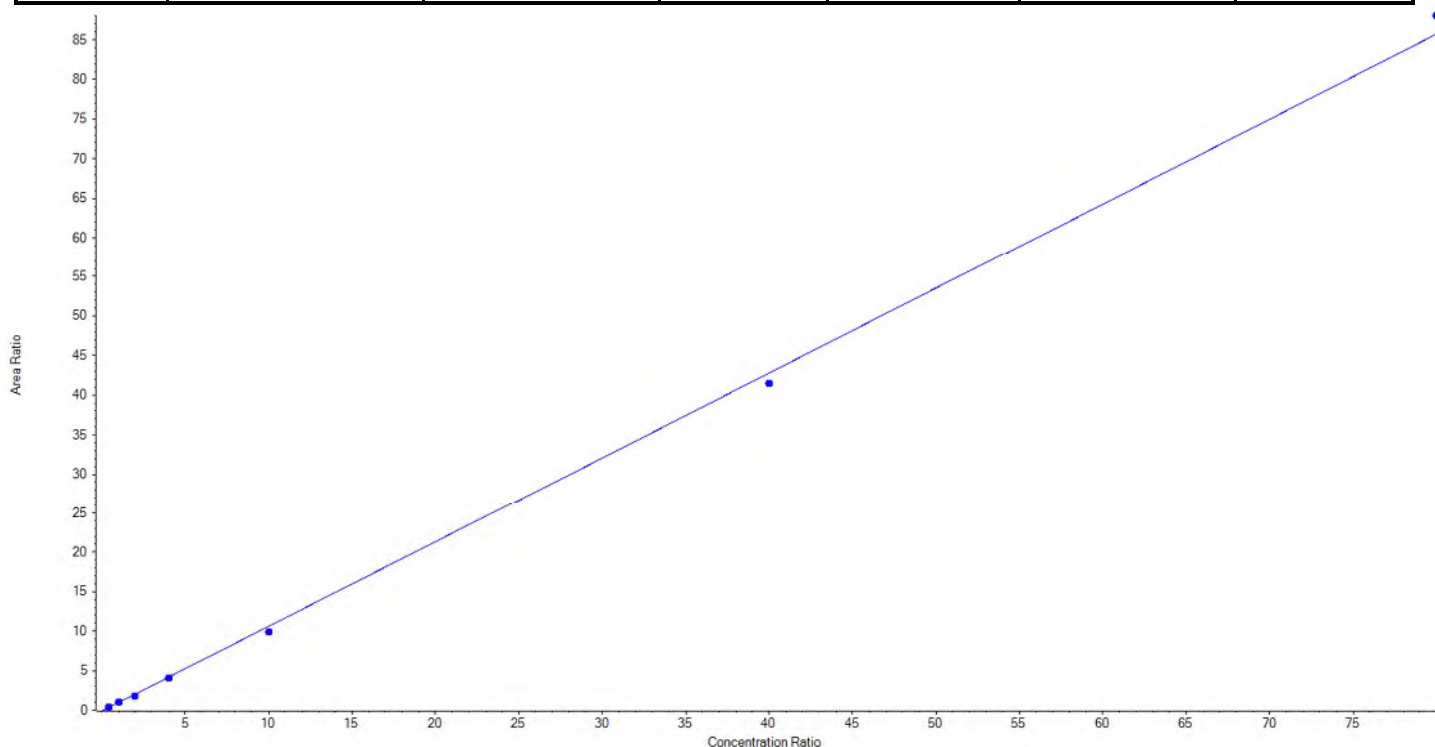
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	142.216136	142.2
3	JY39	L2	True	250.00	251.826900	100.7
4	JY40	L3	True	500.00	429.529489	85.9
5	JY41	L4	True	1000.00	856.494936	85.7
6	JY42	L5	True	2500.00	2078.132107	83.1
7	KA32	L6	True	10000.00	9882.685191	98.8
8	KA33	L7	True	20000.00	20709.115240	103.6



Analyte Name	PFNA_1	Data File	18-0550.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0550_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.07293 x + -0.12235$ (r = 0.99928) (weighting: 1 / x)

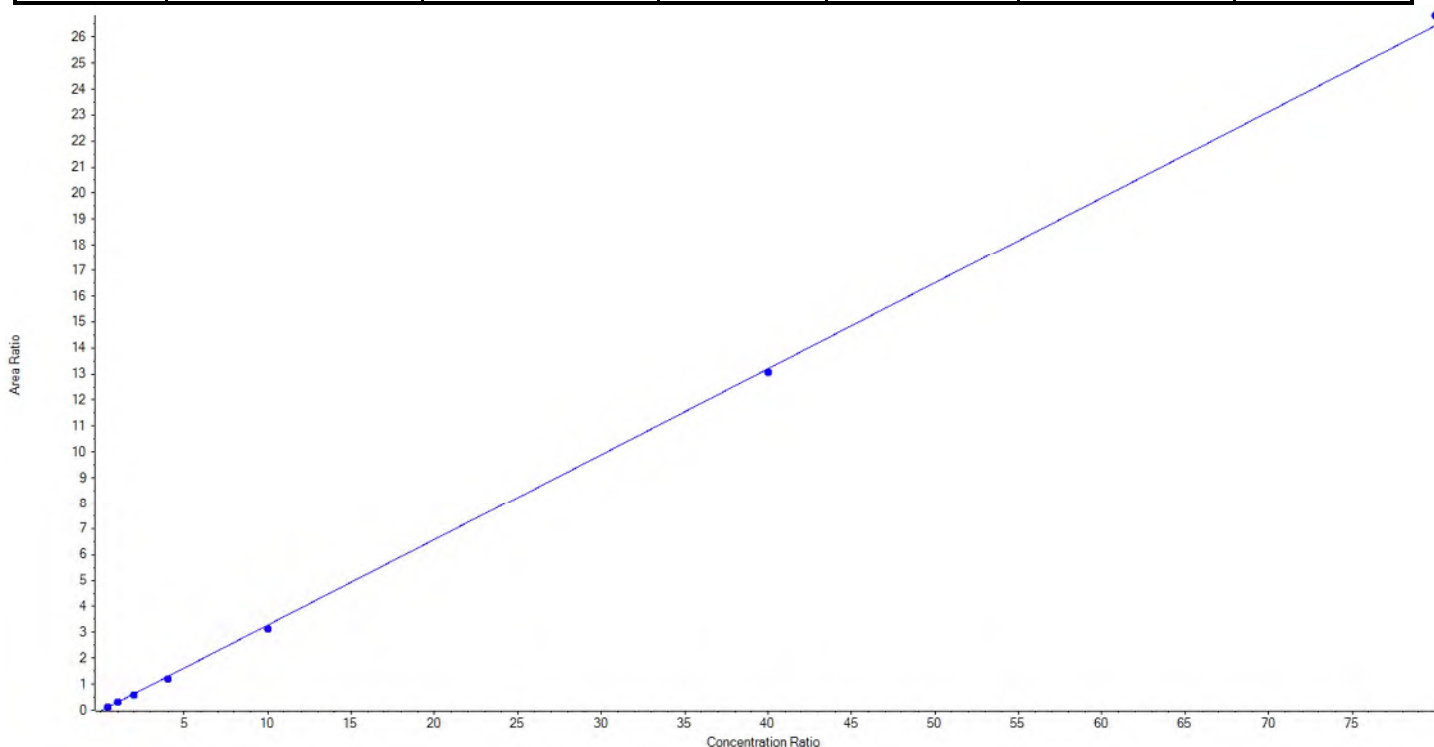
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	118.915936	118.9
3	JY39	L2	True	250.00	253.210453	101.3
4	JY40	L3	True	500.00	454.485124	90.9
5	JY41	L4	True	1000.00	962.904062	96.3
6	JY42	L5	True	2500.00	2324.066173	93.0
7	KA32	L6	True	10000.00	9693.542804	96.9
8	KA33	L7	True	20000.00	20542.875448	102.7



Analyte Name	PFNA_2	Data File	18-0550.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0550_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.33081x + -0.03149$ (r = 0.99972) (weighting: 1 / x)

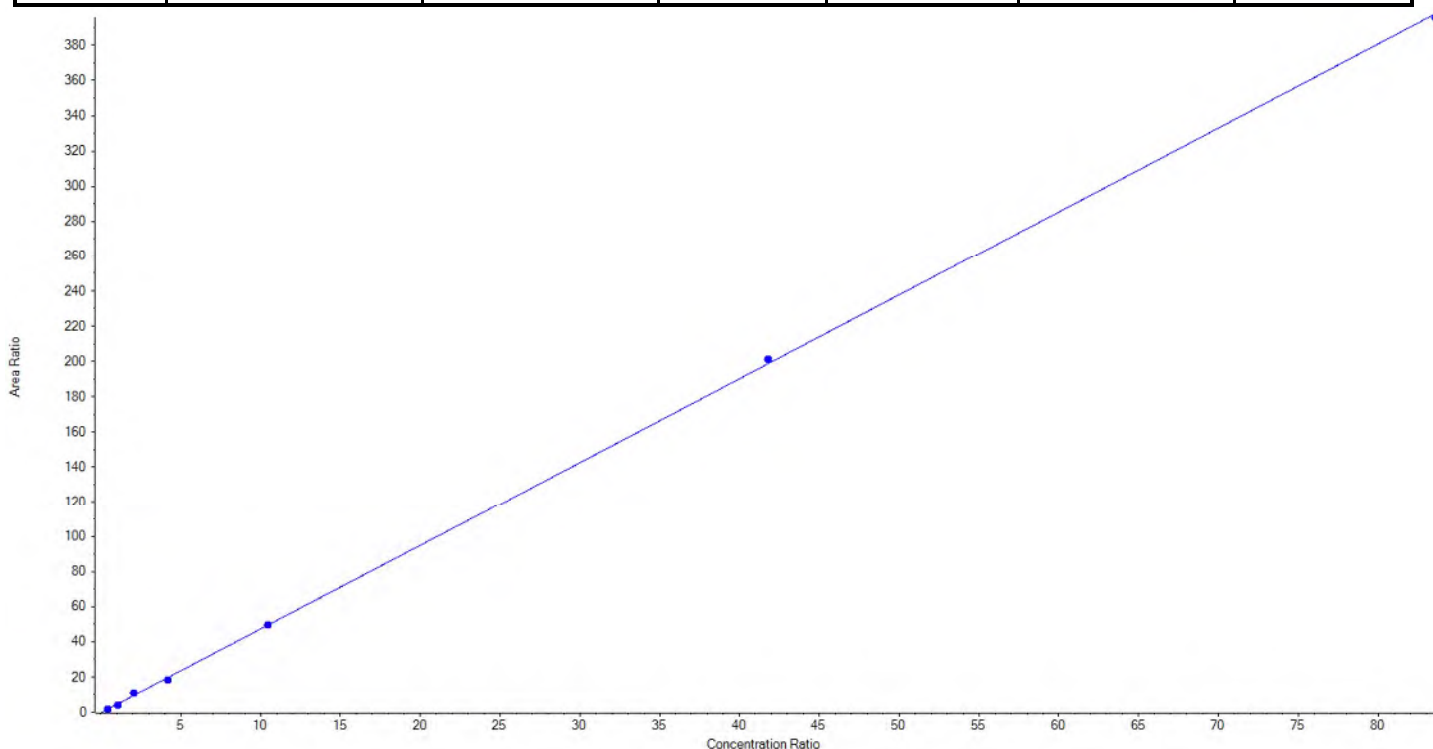
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	114.181470	114.2
3	JY39	L2	True	250.00	252.090659	100.8
4	JY40	L3	True	500.00	476.198064	95.2
5	JY41	L4	True	1000.00	941.888442	94.2
6	JY42	L5	True	2500.00	2378.246356	95.1
7	KA32	L6	True	10000.00	9897.396078	99.0
8	KA33	L7	True	20000.00	20289.998931	101.5



Analyte Name	PFOS_1	Data File	18-0550.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.76291 x + -0.36483$ (r = 0.99981) (weighting: 1 / x)

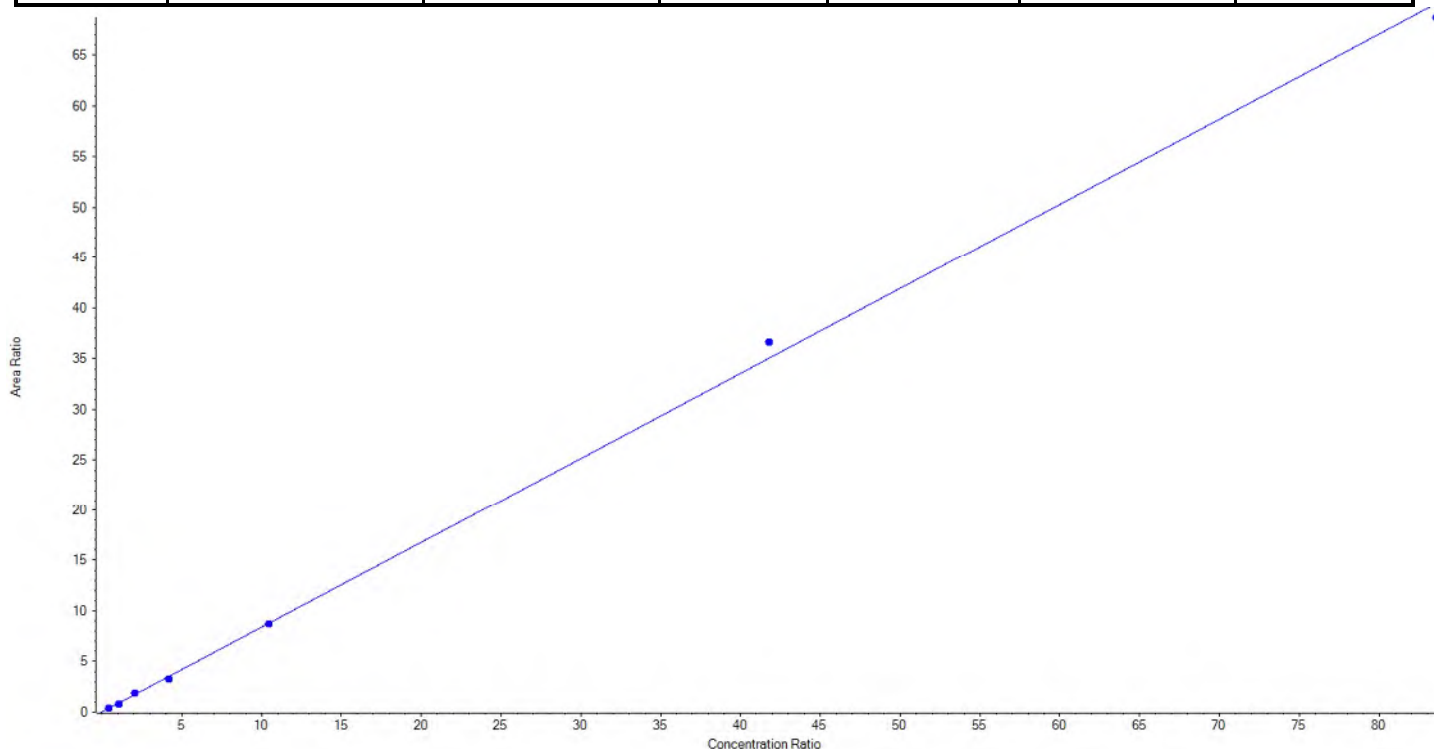
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	101.962819	102.0
3	JY39	L2	True	250.00	232.291204	92.9
4	JY40	L3	True	500.00	549.892820	110.0
5	JY41	L4	True	1000.00	940.071195	94.0
6	JY42	L5	True	2500.00	2510.757468	100.4
7	KA32	L6	True	10000.00	10125.918873	101.3
8	KA33	L7	True	20000.00	19889.105621	99.5



Analyte Name	PFOS_2	Data File	18-0550.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0550_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.83860x + 0.00566$ (r = 0.99942) (weighting: 1 / x)

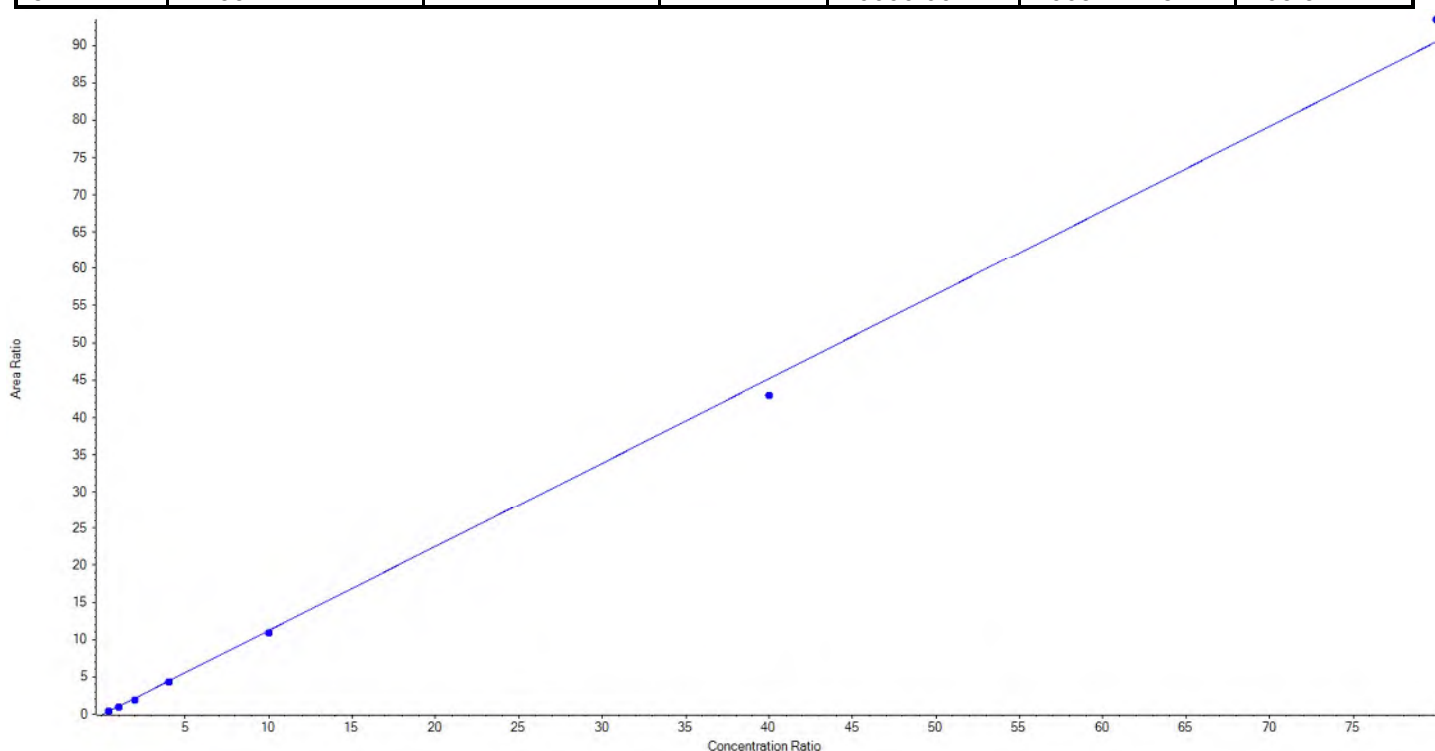
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	105.225121	105.2
3	JY39	L2	True	250.00	235.803353	94.3
4	JY40	L3	True	500.00	526.000002	105.2
5	JY41	L4	True	1000.00	928.202828	92.8
6	JY42	L5	True	2500.00	2496.345448	99.9
7	KA32	L6	True	10000.00	10457.464143	104.6
8	KA33	L7	True	20000.00	19600.959106	98.0



Analyte Name	PFDA_1	Data File	18-0550.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0550_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13234 x + -0.09863$ (r = 0.99904) (weighting: 1 / x)

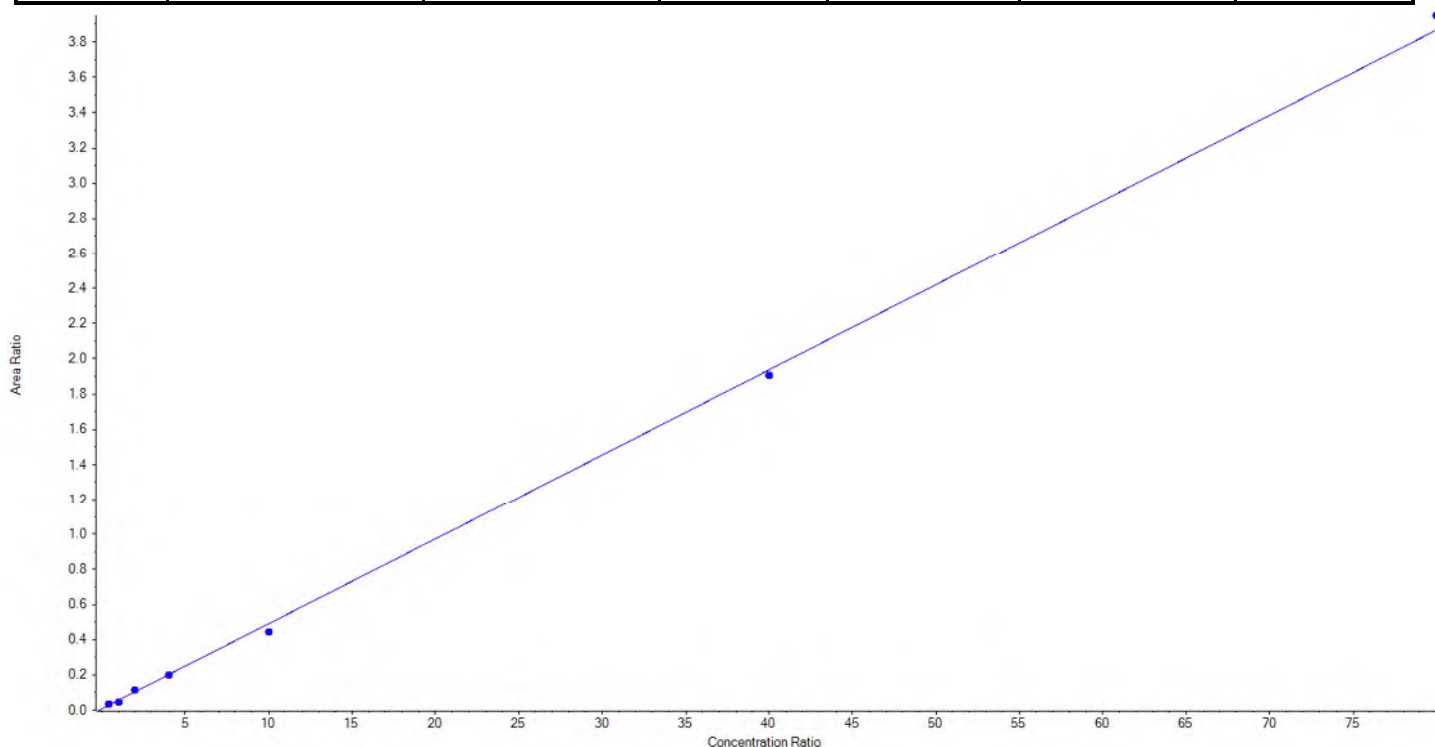
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	122.810381	122.8
3	JY39	L2	True	250.00	239.891954	96.0
4	JY40	L3	True	500.00	450.138494	90.0
5	JY41	L4	True	1000.00	959.855942	96.0
6	JY42	L5	True	2500.00	2423.457877	96.9
7	KA32	L6	True	10000.00	9502.400509	95.0
8	KA33	L7	True	20000.00	20651.444844	103.3



Analyte Name	PFDA_2	Data File	18-0550.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0550_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04823x + 0.00821$ (r = 0.99904) (weighting: 1 / x)

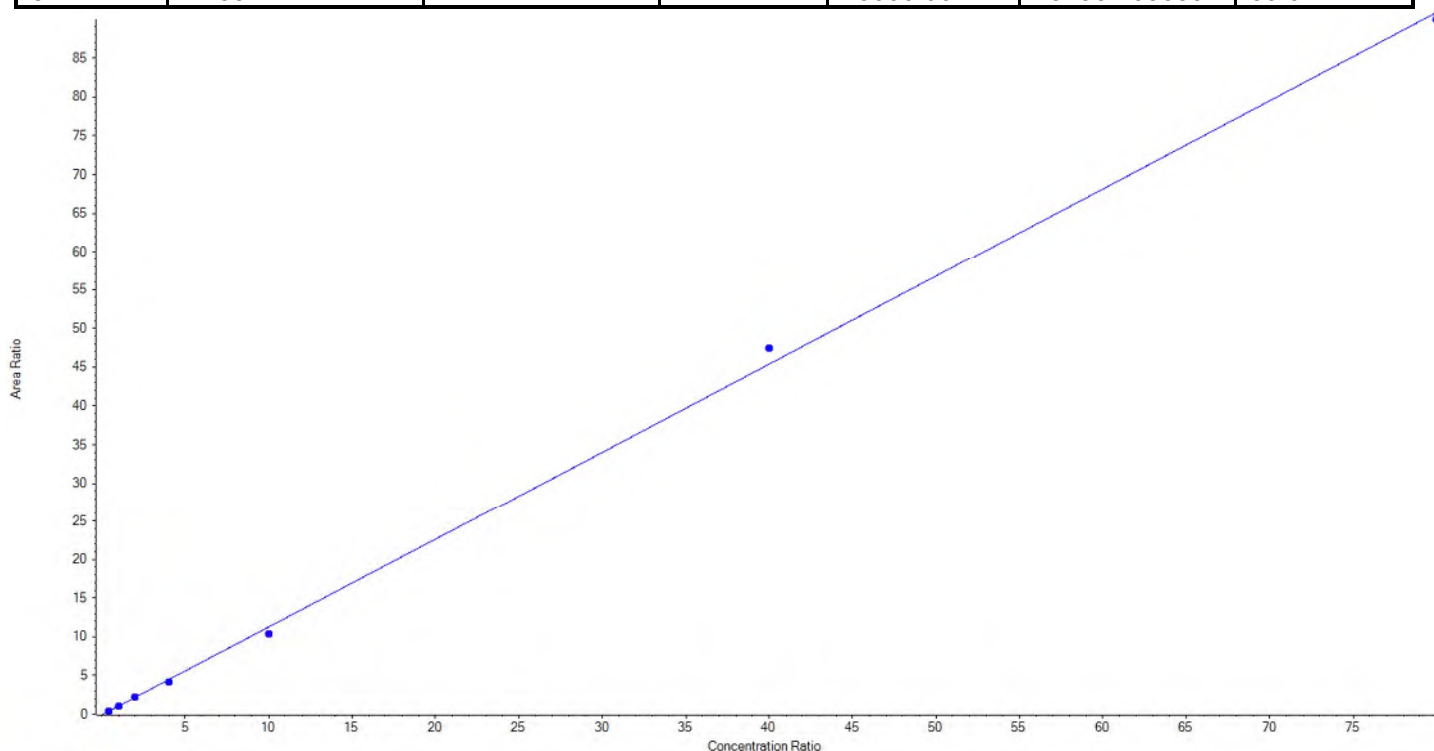
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	126.574641	126.6
3	JY39	L2	True	250.00	190.344140	76.1
4	JY40	L3	True	500.00	540.345382	108.1
5	JY41	L4	True	1000.00	986.825714	98.7
6	JY42	L5	True	2500.00	2252.975826	90.1
7	KA32	L6	True	10000.00	9830.470080	98.3
8	KA33	L7	True	20000.00	20422.464217	102.1



Analyte Name	PFUnA_1	Data File	18-0550.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0550_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13714 x + -0.10205$ (r = 0.99926) (weighting: 1 / x)

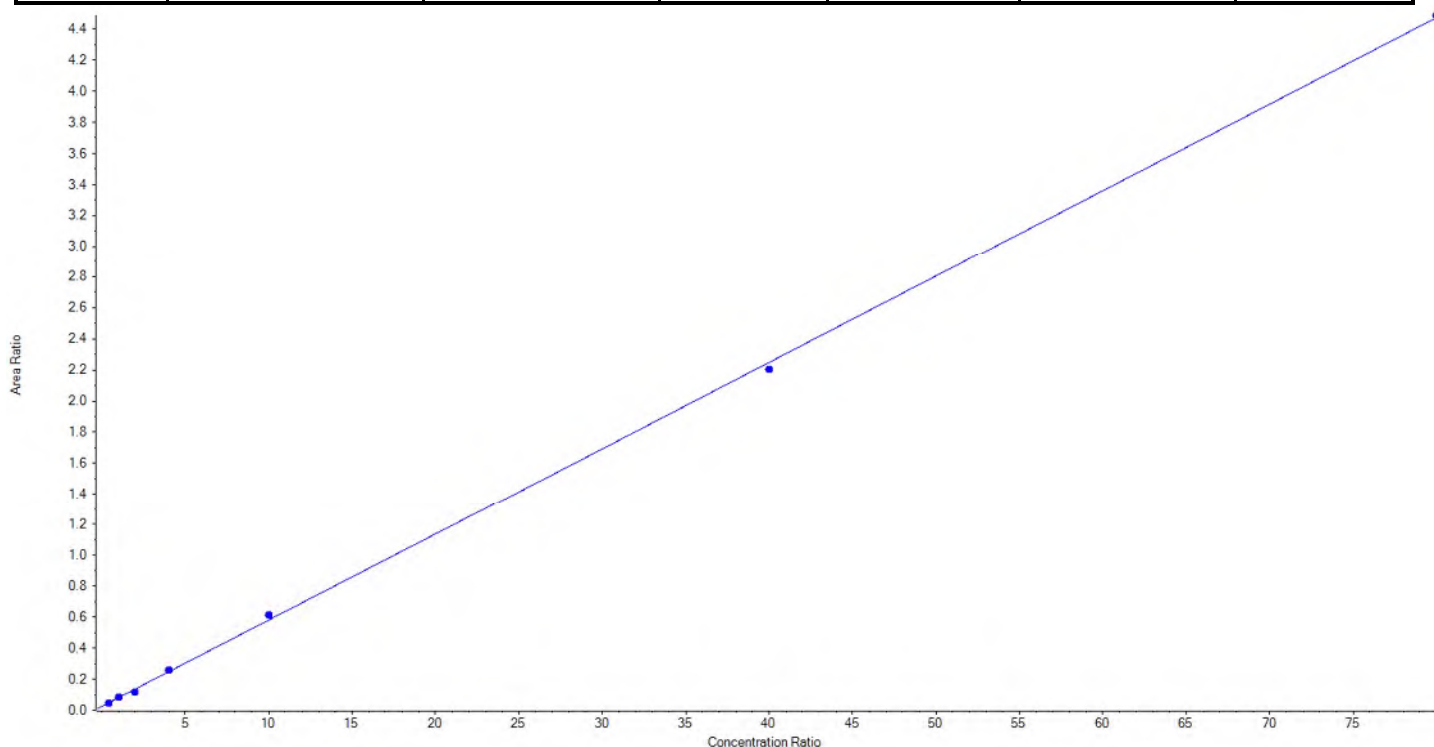
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	114.739913	114.7
3	JY39	L2	True	250.00	236.545538	94.6
4	JY40	L3	True	500.00	506.168813	101.2
5	JY41	L4	True	1000.00	940.273701	94.0
6	JY42	L5	True	2500.00	2294.951247	91.8
7	KA32	L6	True	10000.00	10459.217130	104.6
8	KA33	L7	True	20000.00	19798.103659	99.0



Analyte Name	PFUnA_2	Data File	18-0550.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0550_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05559x + 0.02479$ (r = 0.99946) (weighting: 1 / x)

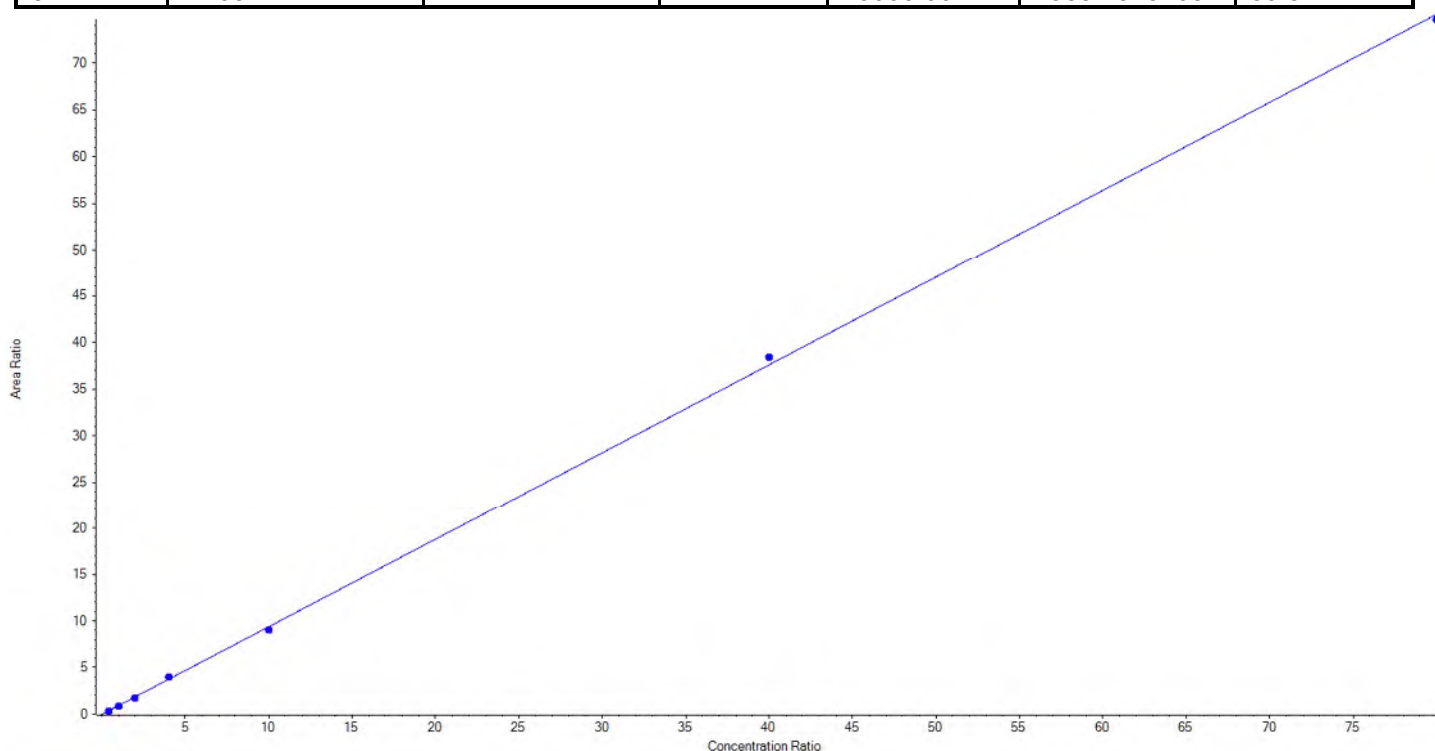
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	101.484368	101.5
3	JY39	L2	True	250.00	264.410049	105.8
4	JY40	L3	True	500.00	410.381823	82.1
5	JY41	L4	True	1000.00	1064.229165	106.4
6	JY42	L5	True	2500.00	2648.272533	105.9
7	KA32	L6	True	10000.00	9803.063836	98.0
8	KA33	L7	True	20000.00	20058.158225	100.3



Analyte Name	PFDoA_1	Data File	18-0550.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFDoA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.94017x + -0.02830$ (r = 0.99976) (weighting: 1 / x)

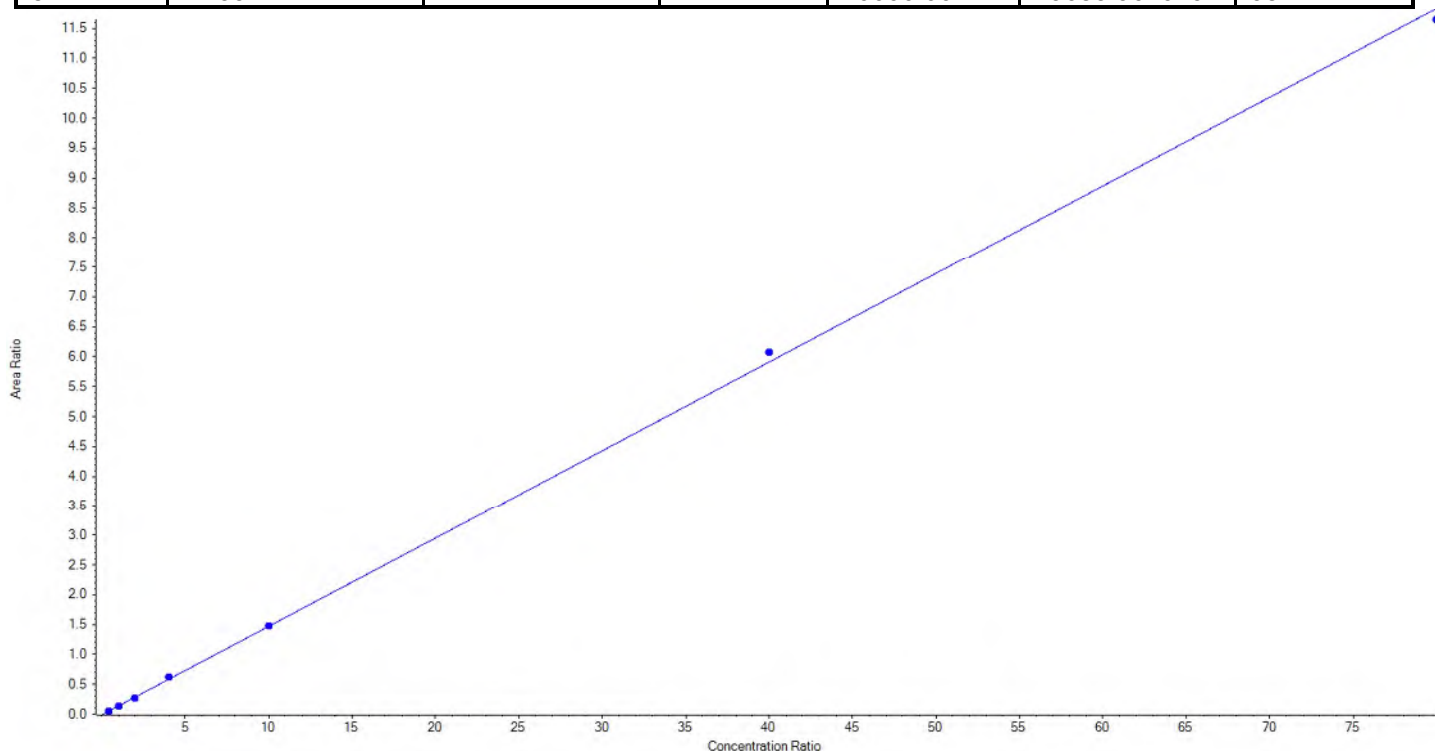
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	106.215026	106.2
3	JY39	L2	True	250.00	243.346813	97.3
4	JY40	L3	True	500.00	463.875151	92.8
5	JY41	L4	True	1000.00	1057.686103	105.8
6	JY42	L5	True	2500.00	2412.357259	96.5
7	KA32	L6	True	10000.00	10215.143884	102.2
8	KA33	L7	True	20000.00	19851.375763	99.3



Analyte Name	PFD _o A_2	Data File	18-0550.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFD _o A	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.14801x + -0.01074$ ($r = 0.99966$) (weighting: 1 / x)

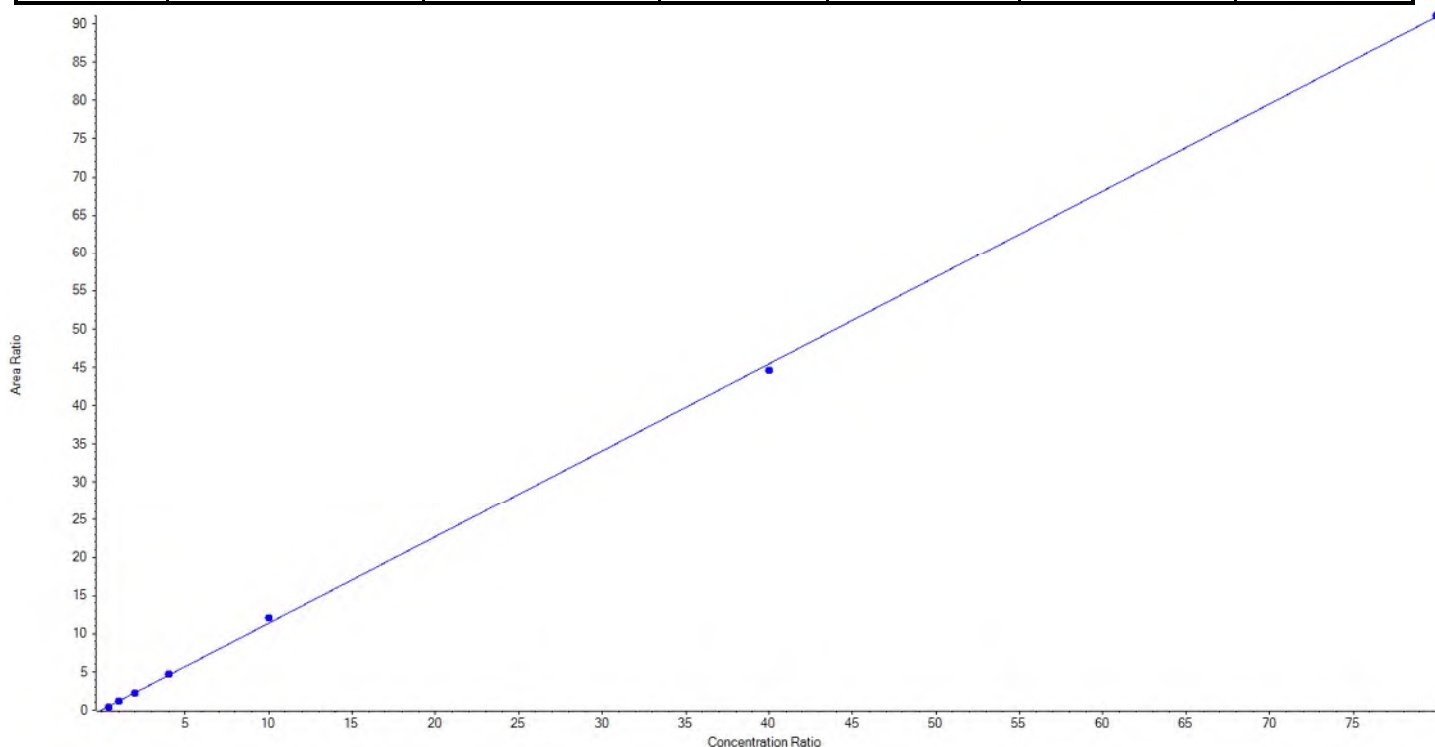
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	100.207079	100.2
3	JY39	L2	True	250.00	247.743959	99.1
4	JY40	L3	True	500.00	460.117072	92.0
5	JY41	L4	True	1000.00	1072.883385	107.3
6	JY42	L5	True	2500.00	2504.097828	100.2
7	KA32	L6	True	10000.00	10278.983658	102.8
8	KA33	L7	True	20000.00	19685.967019	98.4



Analyte Name	PFTTrDA_1	Data File	18-0550.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13629x + 0.01262$ (r = 0.99974) (weighting: 1 / x)

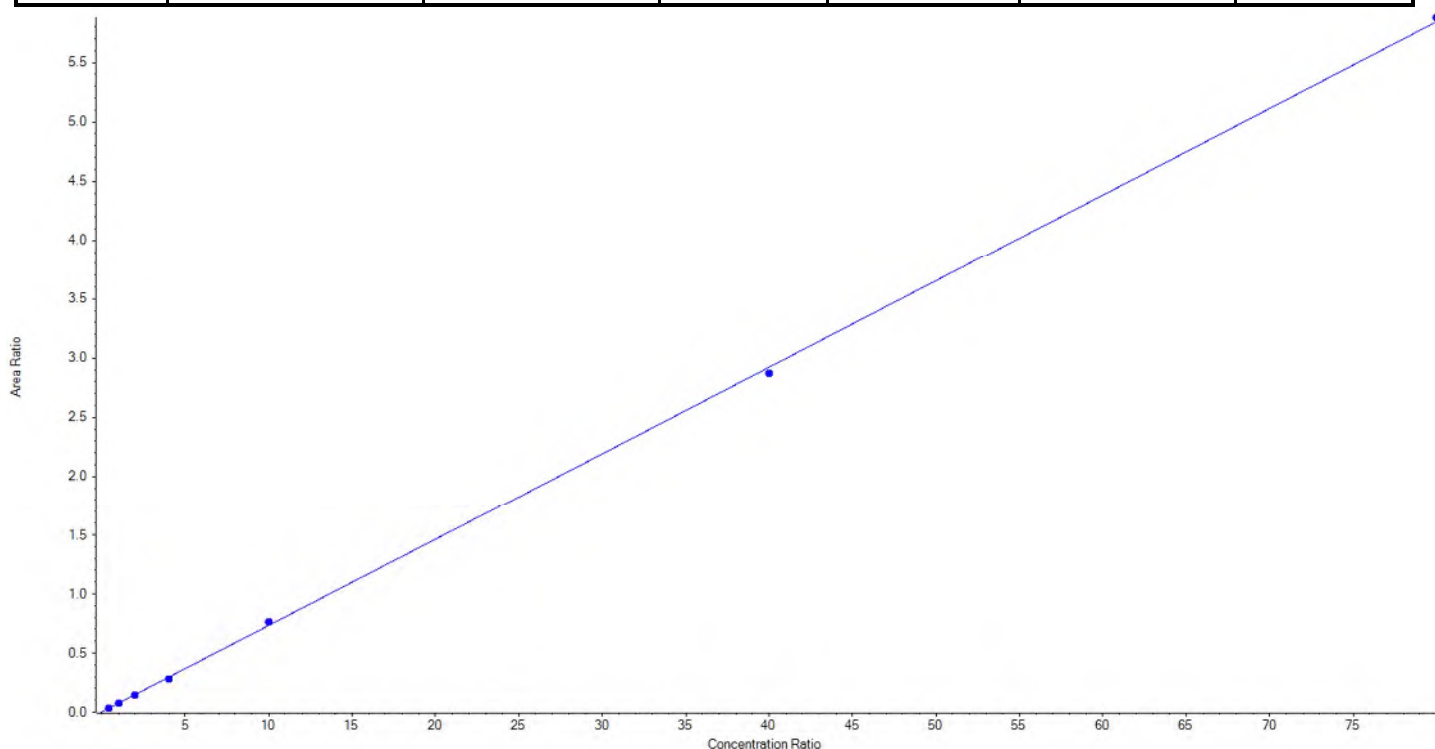
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	97.932238	97.9
3	JY39	L2	True	250.00	246.342782	98.5
4	JY40	L3	True	500.00	477.473941	95.5
5	JY41	L4	True	1000.00	1034.751339	103.5
6	JY42	L5	True	2500.00	2659.460418	106.4
7	KA32	L6	True	10000.00	9802.422818	98.0
8	KA33	L7	True	20000.00	20031.616464	100.2



Analyte Name	PFTTrDA_2	Data File	18-0550.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07302 x + 0.00245$ (r = 0.99979) (weighting: 1 / x)

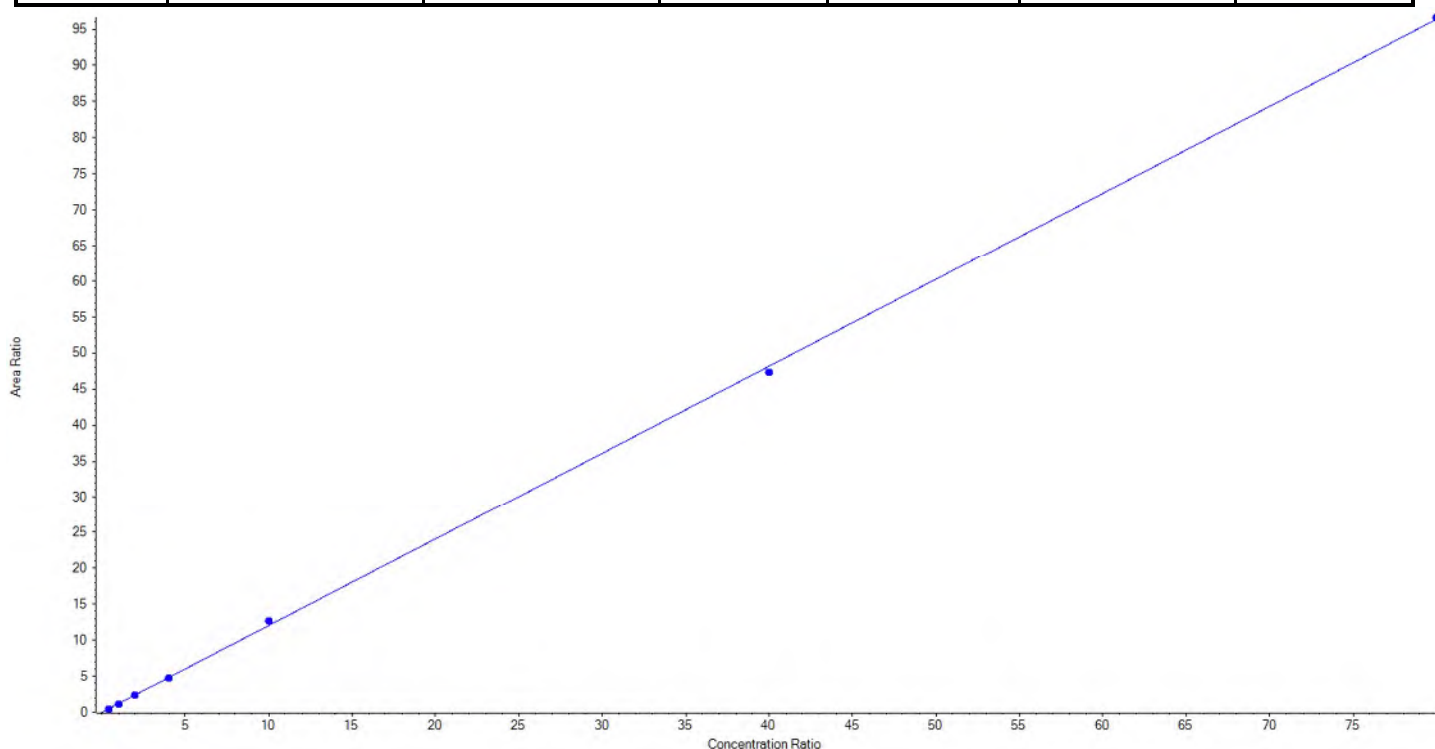
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	95.954287	96.0
3	JY39	L2	True	250.00	266.928482	106.8
4	JY40	L3	True	500.00	498.915290	99.8
5	JY41	L4	True	1000.00	943.796943	94.4
6	JY42	L5	True	2500.00	2608.551168	104.3
7	KA32	L6	True	10000.00	9818.050400	98.2
8	KA33	L7	True	20000.00	20117.803431	100.6



Analyte Name	PFTeDA_1	Data File	18-0550.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.20513x + -0.02442$ (r = 0.99982) (weighting: 1 / x)

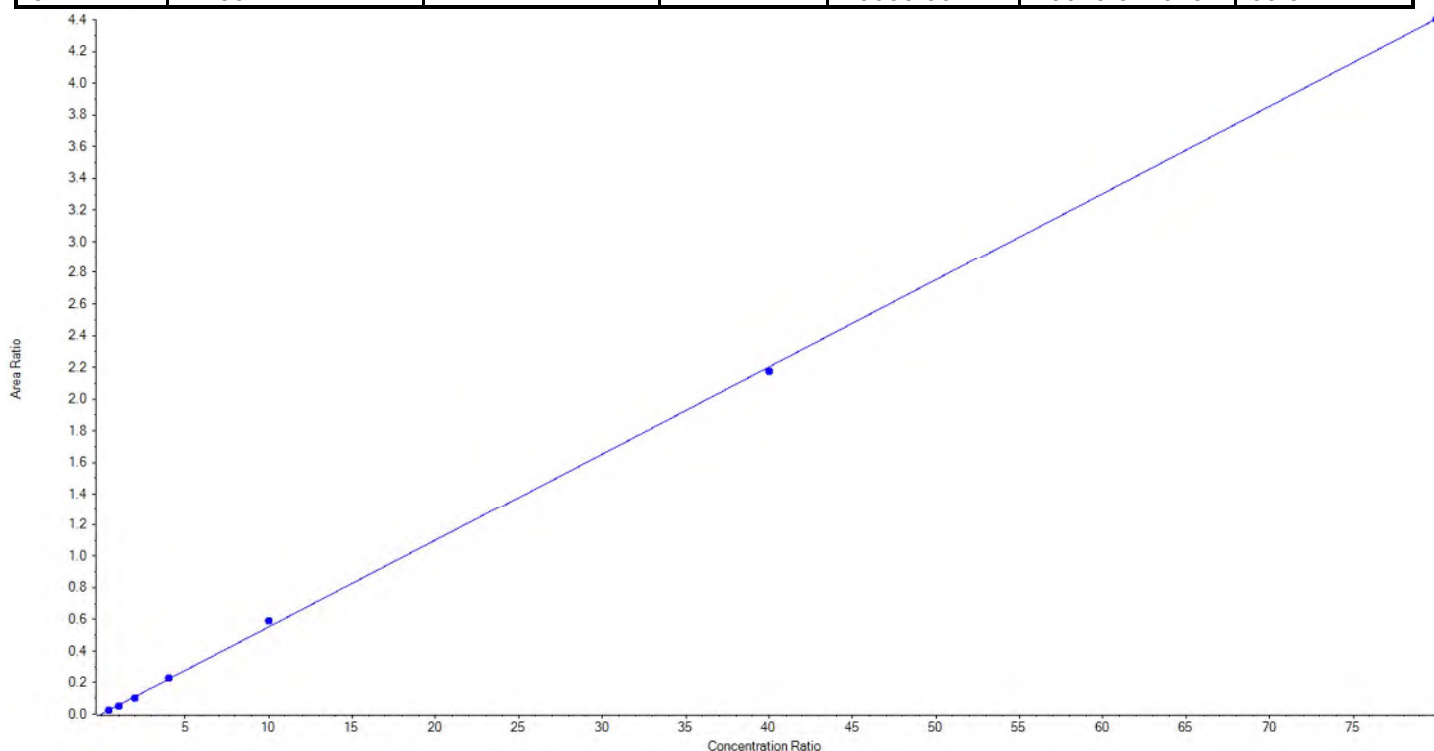
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	101.545736	101.6
3	JY39	L2	True	250.00	239.893854	96.0
4	JY40	L3	True	500.00	495.544882	99.1
5	JY41	L4	True	1000.00	991.442302	99.1
6	JY42	L5	True	2500.00	2641.907099	105.7
7	KA32	L6	True	10000.00	9833.780330	98.3
8	KA33	L7	True	20000.00	20045.885797	100.2



Analyte Name	PFTeDA_2	Data File	18-0550.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0550_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05506 x + 0.00114$ (r = 0.99970) (weighting: 1 / x)

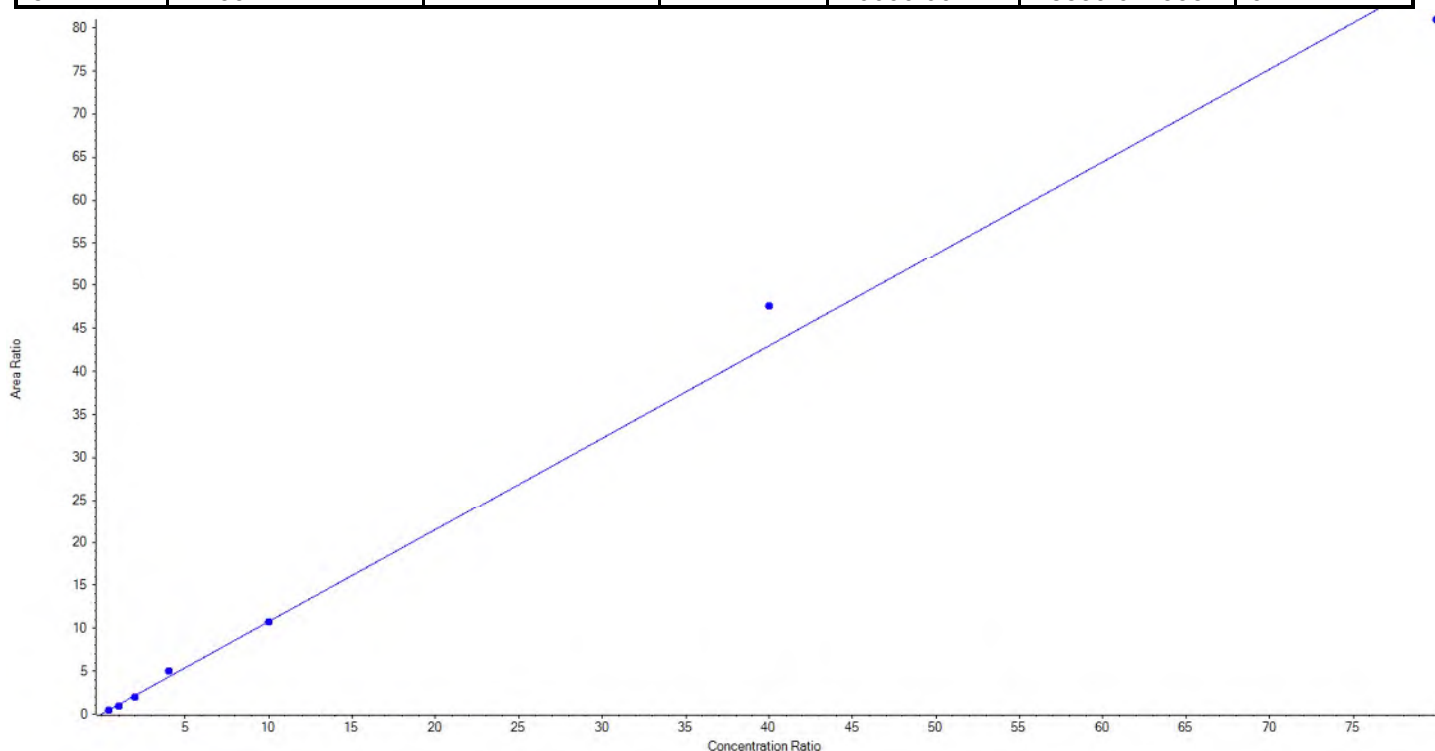
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	105.326849	105.3
3	JY39	L2	True	250.00	235.281561	94.1
4	JY40	L3	True	500.00	462.598549	92.5
5	JY41	L4	True	1000.00	1023.695107	102.4
6	JY42	L5	True	2500.00	2677.934577	107.1
7	KA32	L6	True	10000.00	9865.621285	98.7
8	KA33	L7	True	20000.00	19979.542073	99.9



Analyte Name	NMeFOSAA_1	Data File	18-0550.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0550_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.07385x + 0.02734$ (r = 0.99662) (weighting: 1 / x)

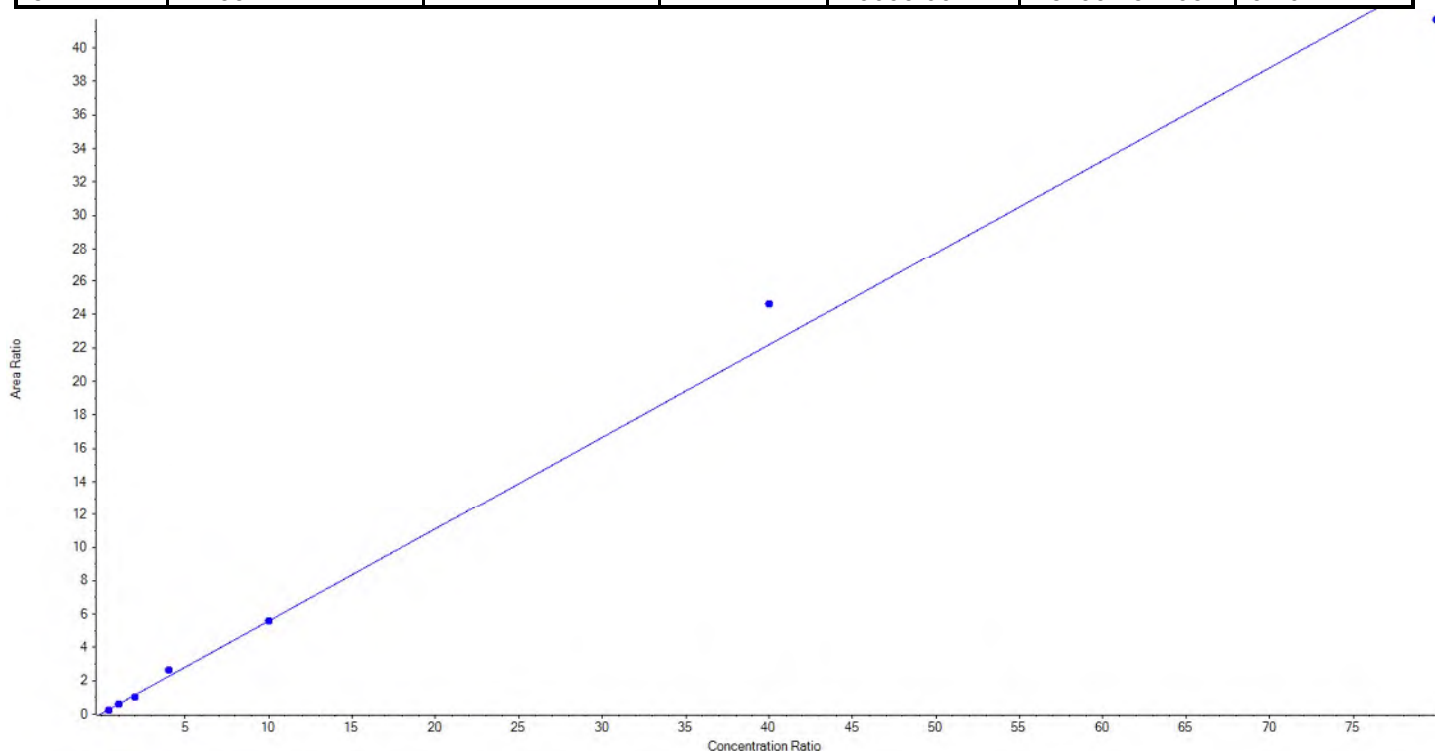
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	99.343964	99.3
3	JY39	L2	True	250.00	222.092905	88.8
4	JY40	L3	True	500.00	455.170792	91.0
5	JY41	L4	True	1000.00	1157.039271	115.7
6	JY42	L5	True	2500.00	2503.743863	100.2
7	KA32	L6	True	10000.00	11073.597668	110.7
8	KA33	L7	True	20000.00	18839.011538	94.2



Analyte Name	NMeFOSAA_2	Data File	18-0550.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0550_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.55384 x + 0.04405$ (r = 0.99642) (weighting: 1 / x)

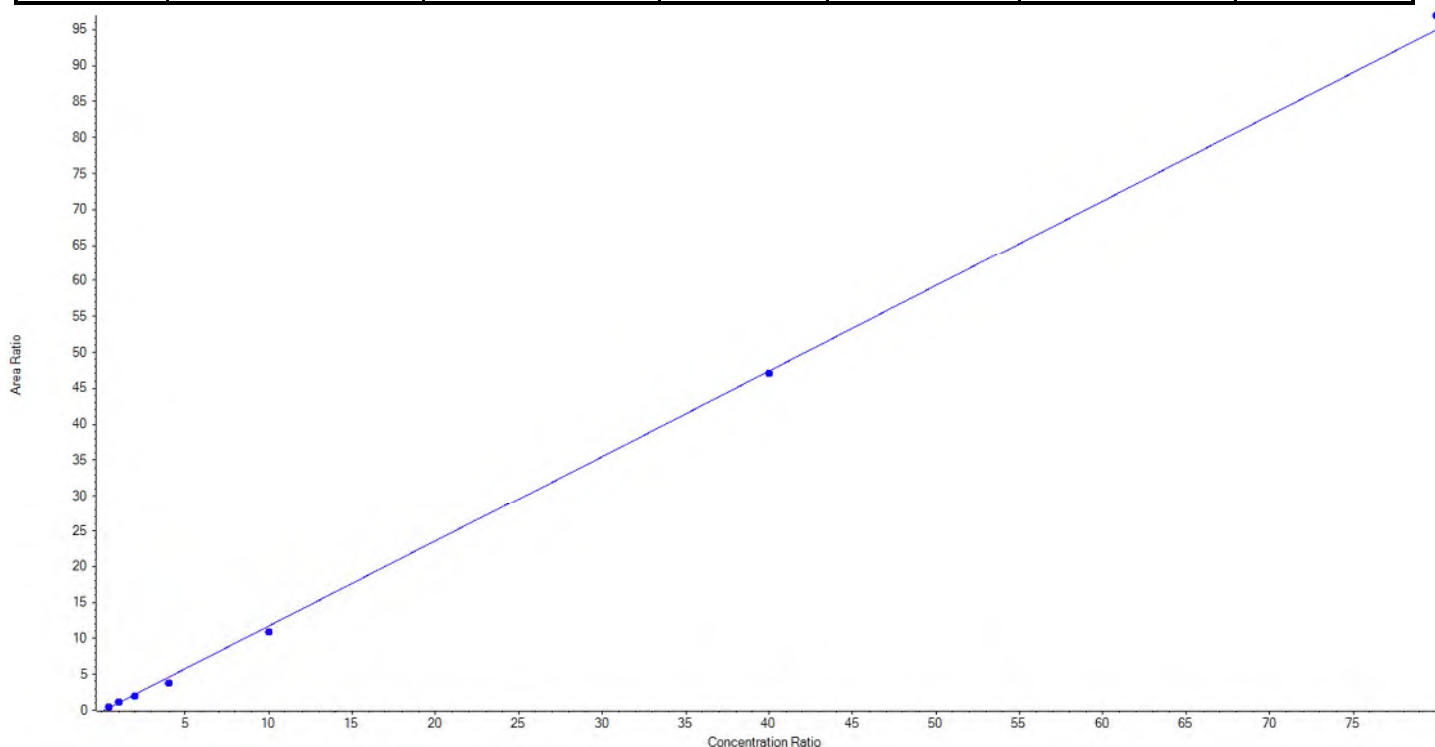
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	93.137446	93.1
3	JY39	L2	True	250.00	238.334544	95.3
4	JY40	L3	True	500.00	452.370660	90.5
5	JY41	L4	True	1000.00	1162.073972	116.2
6	JY42	L5	True	2500.00	2493.450960	99.7
7	KA32	L6	True	10000.00	11111.201315	111.1
8	KA33	L7	True	20000.00	18799.431103	94.0



Analyte Name	NEtFOSAA_1	Data File	18-0550.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0550_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.18940x + -0.18201$ (r = 0.99902) (weighting: 1 / x)

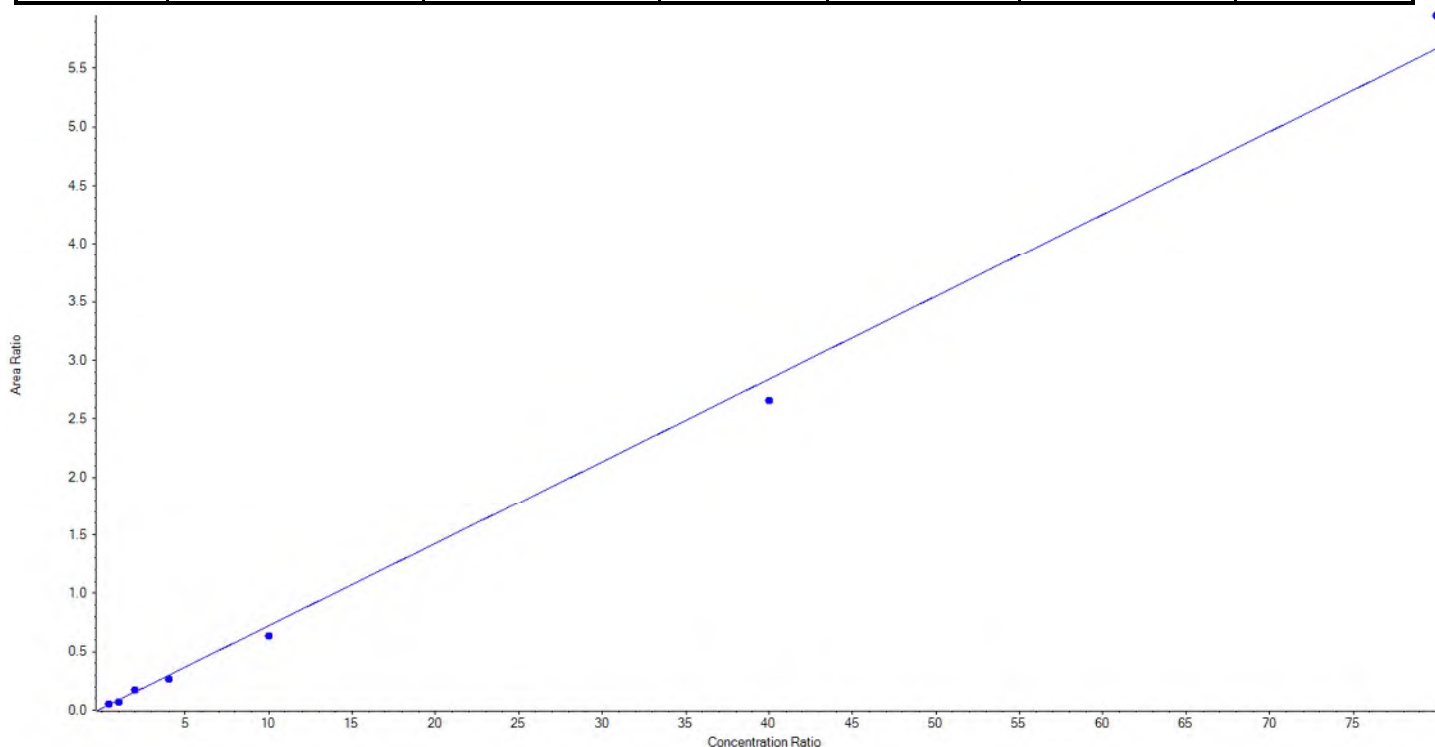
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	124.693027	124.7
3	JY39	L2	True	250.00	272.906560	109.2
4	JY40	L3	True	500.00	437.635171	87.5
5	JY41	L4	True	1000.00	844.007470	84.4
6	JY42	L5	True	2500.00	2318.895889	92.8
7	KA32	L6	True	10000.00	9940.284642	99.4
8	KA33	L7	True	20000.00	20411.577241	102.1



Analyte Name	NEtFOSAA_2	Data File	18-0550.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0550_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07066 x + 0.01487$ (r = 0.99746) (weighting: 1 / x)

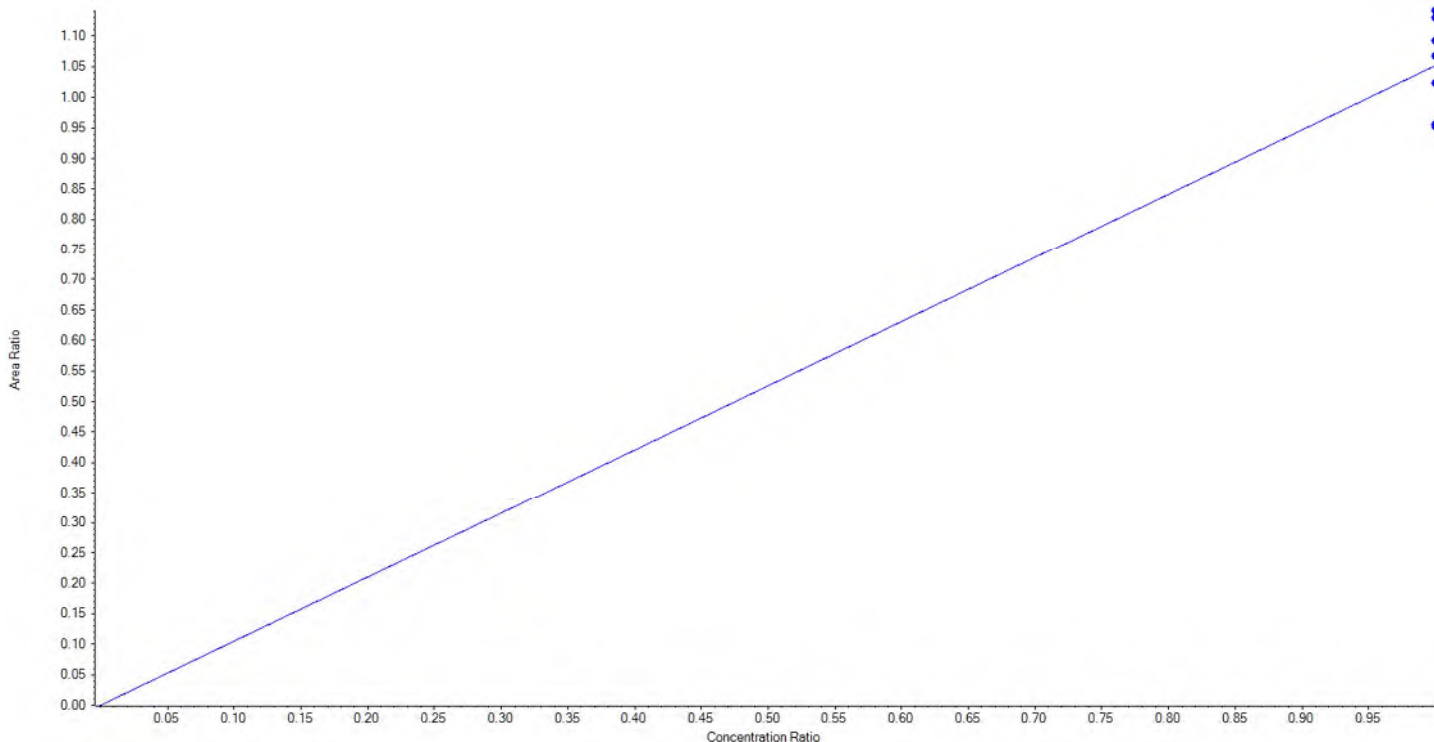
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	100.00	130.734508	130.7
3	JY39	L2	True	250.00	204.177868	81.7
4	JY40	L3	True	500.00	556.879038	111.4
5	JY41	L4	True	1000.00	893.486822	89.4
6	JY42	L5	True	2500.00	2206.987258	88.3
7	KA32	L6	True	10000.00	9360.338483	93.6
8	KA33	L7	True	20000.00	20997.396023	105.0



Analyte Name	13C2-PFDoA	Data File	18-0550.wiff
MRM Transition	615.0 / 570.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05190 x$ (std. dev. = 0.07734) (weighting: 1 / x)

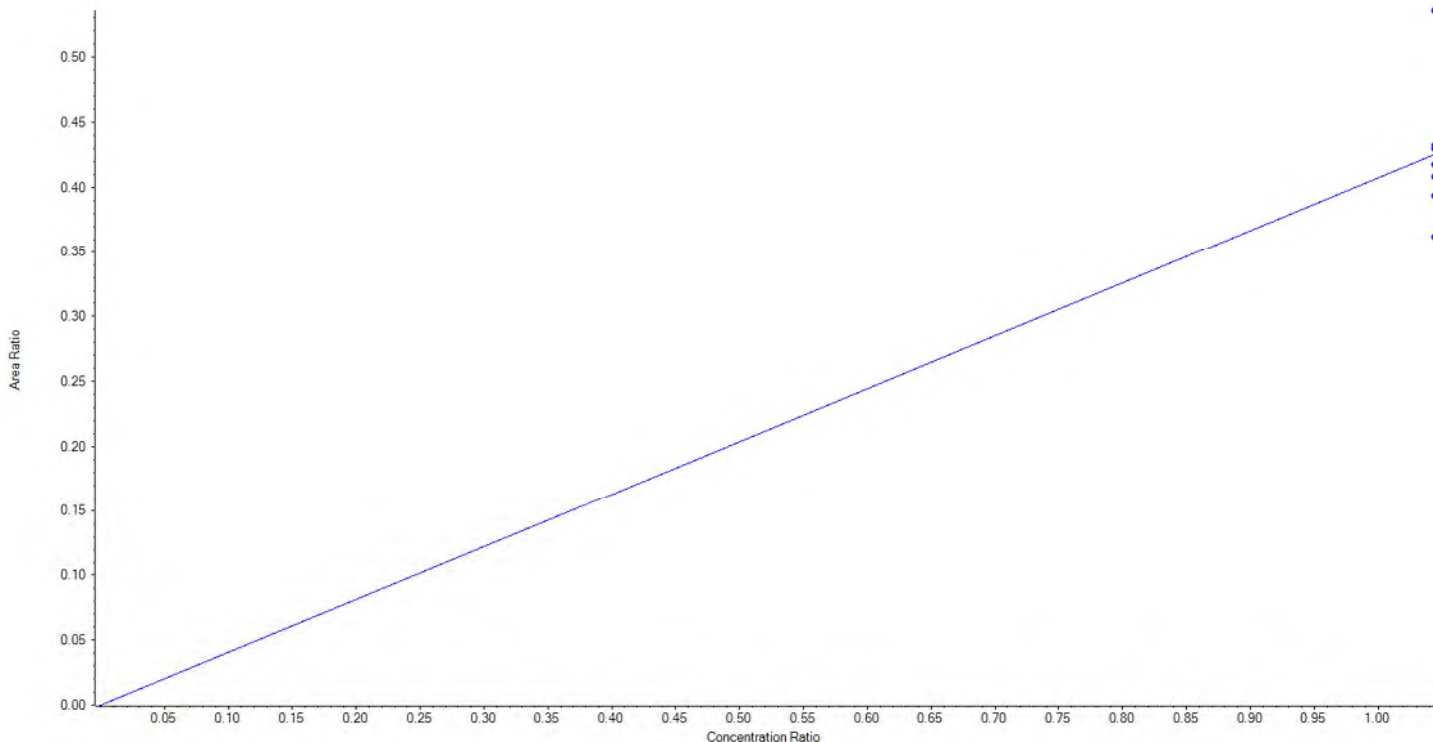
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	226.440918	90.6
3	JY39	L2	True	250.00	243.027928	97.2
4	JY40	L3	True	250.00	268.495578	107.4
5	JY41	L4	True	250.00	227.222108	90.9
6	JY42	L5	True	250.00	253.883910	101.6
7	KA32	L6	True	250.00	259.582543	103.8
8	KA33	L7	True	250.00	271.347015	108.5



Analyte Name	d3-MeFOSAA	Data File	18-0550.wiff
MRM Transition	573.0 / 419.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.40744 x$ (std. dev. = 0.05184) (weighting: 1 / x)

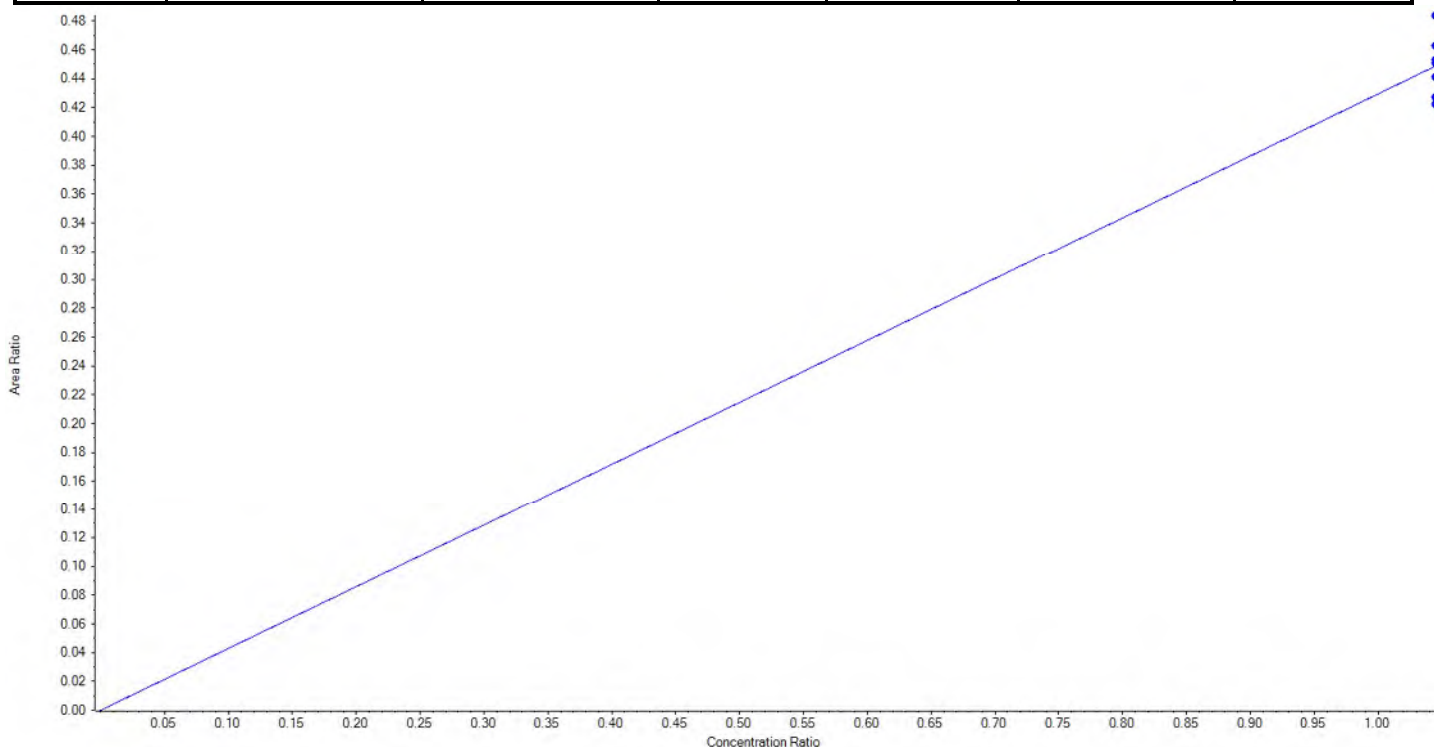
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	231.135775	92.5
3	JY39	L2	True	250.00	245.146497	98.1
4	JY40	L3	True	250.00	252.651644	101.1
5	JY41	L4	True	250.00	212.708180	85.1
6	JY42	L5	True	250.00	239.873534	96.0
7	KA32	L6	True	250.00	253.865886	101.6
8	KA33	L7	True	250.00	314.618483	125.9



Analyte Name	d5-EtFOSAA	Data File	18-0550.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.42946 x$ (std. dev. = 0.02023) (weighting: 1 / x)

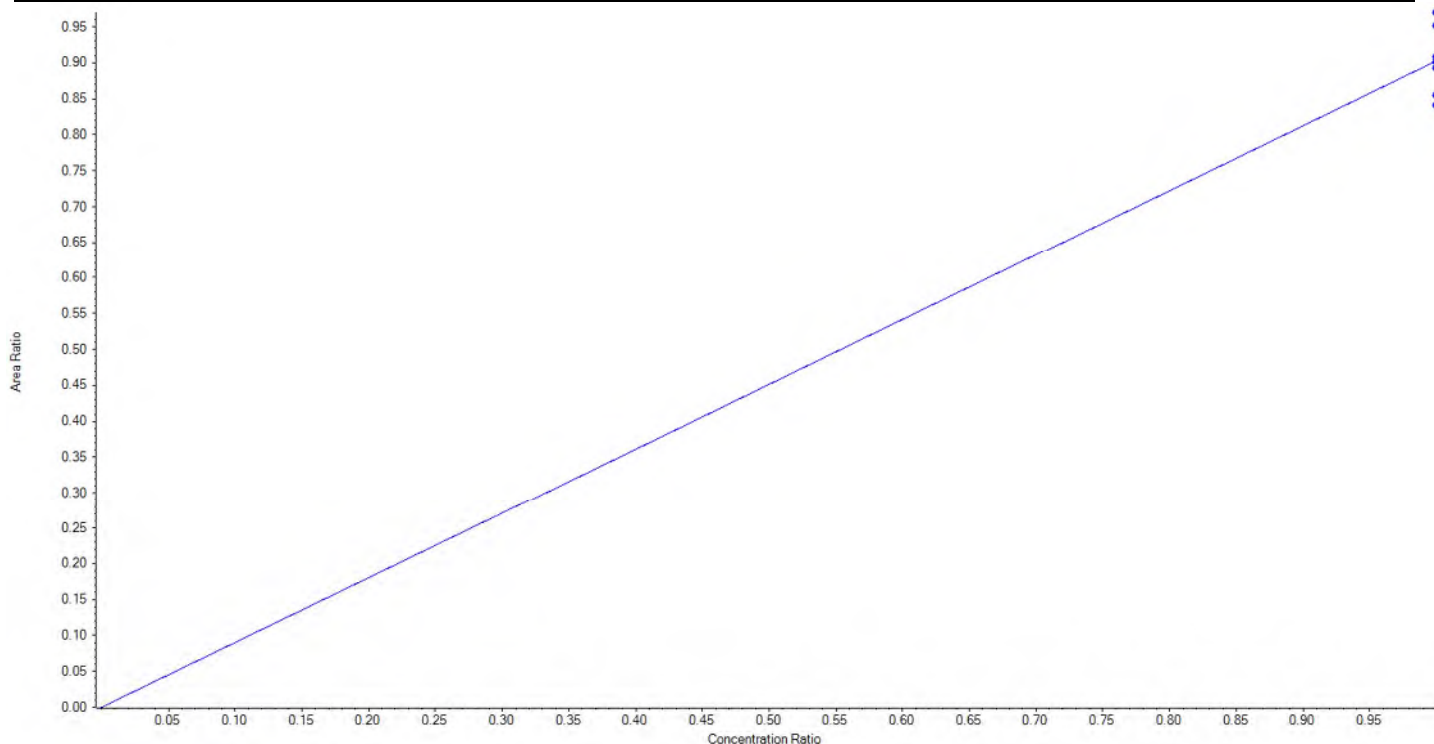
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	235.147186	94.1
3	JY39	L2	True	250.00	237.912223	95.2
4	JY40	L3	True	250.00	269.461520	107.8
5	JY41	L4	True	250.00	257.933679	103.2
6	JY42	L5	True	250.00	252.293044	100.9
7	KA32	L6	True	250.00	251.294053	100.5
8	KA33	L7	True	250.00	245.958295	98.4



Analyte Name	13C5-PFHxA	Data File	18-0550.wiff
MRM Transition	318.0 / 273.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.90269x$ (std. dev. = 0.04633) (weighting: 1 / x)

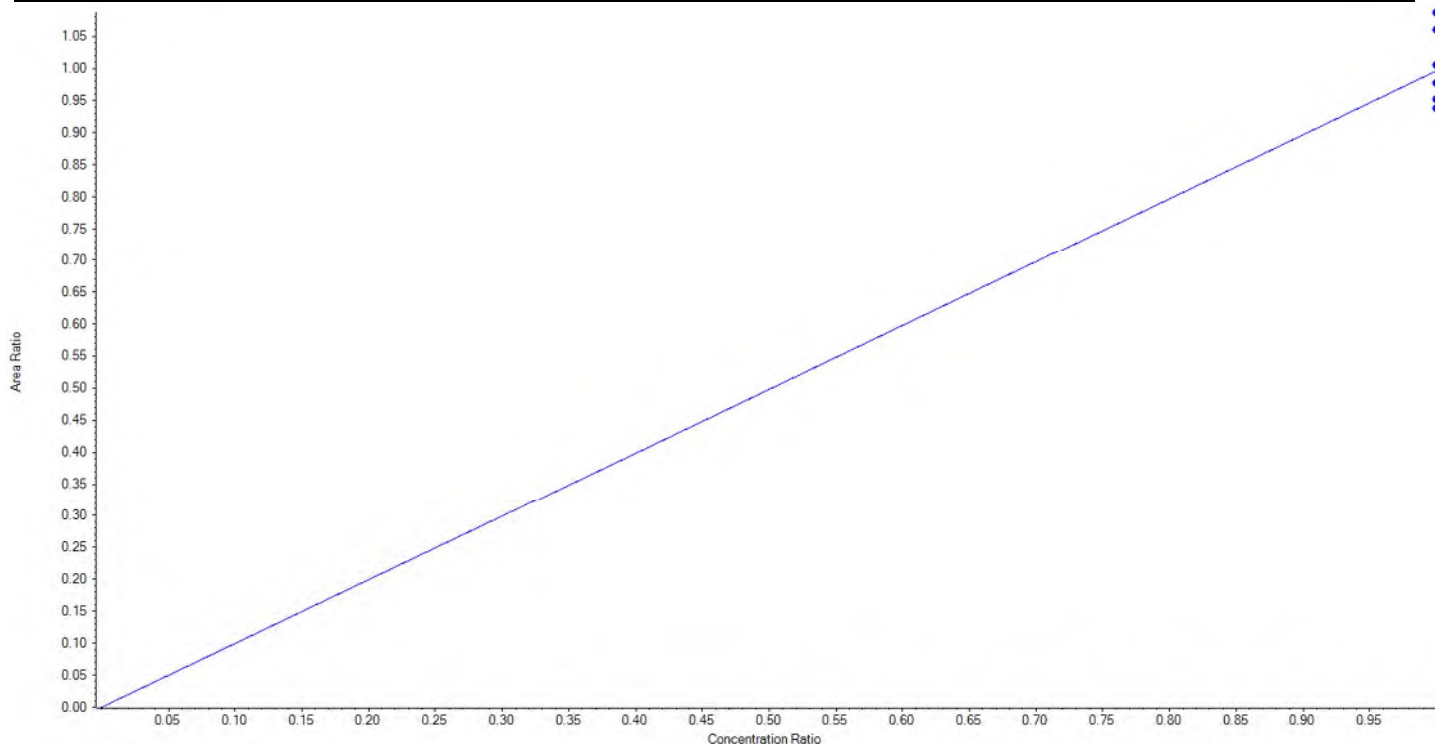
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	236.939876	94.8
3	JY39	L2	True	250.00	233.022990	93.2
4	JY40	L3	True	250.00	268.499073	107.4
5	JY41	L4	True	250.00	247.239463	98.9
6	JY42	L5	True	250.00	251.425316	100.6
7	KA32	L6	True	250.00	249.565826	99.8
8	KA33	L7	True	250.00	263.307456	105.3



Analyte Name	13C4-PFHpA	Data File	18-0550.wiff
MRM Transition	367.0 / 322.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99650 x$ (std. dev. = 0.05767) (weighting: 1 / x)

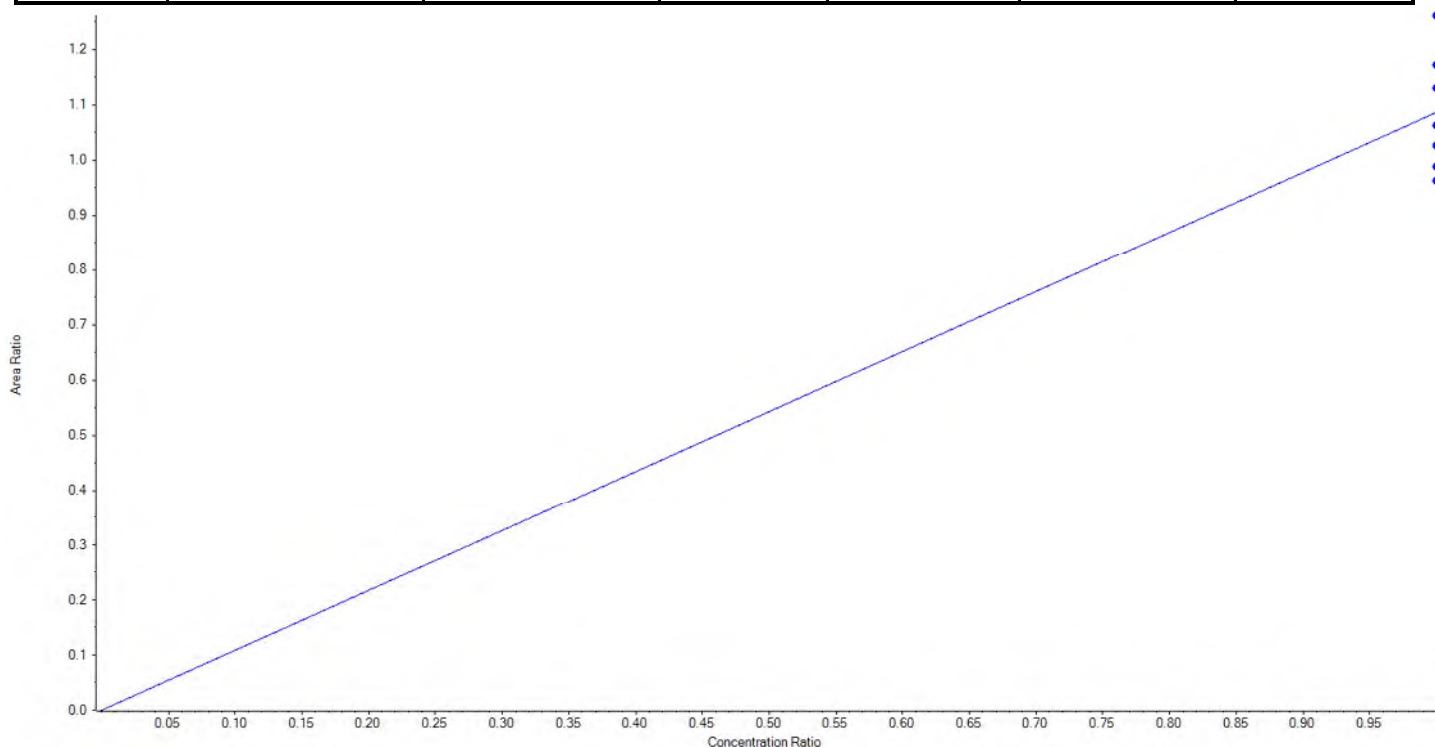
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	245.160729	98.1
3	JY39	L2	True	250.00	239.023101	95.6
4	JY40	L3	True	250.00	272.715088	109.1
5	JY41	L4	True	250.00	252.331126	100.9
6	JY42	L5	True	250.00	266.176368	106.5
7	KA32	L6	True	250.00	239.075690	95.6
8	KA33	L7	True	250.00	235.517897	94.2



Analyte Name	13C8-PFOA	Data File	18-0550.wiff
MRM Transition	421.0 / 376.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.08646 x$ (std. dev. = 0.10705) (weighting: 1 / x)

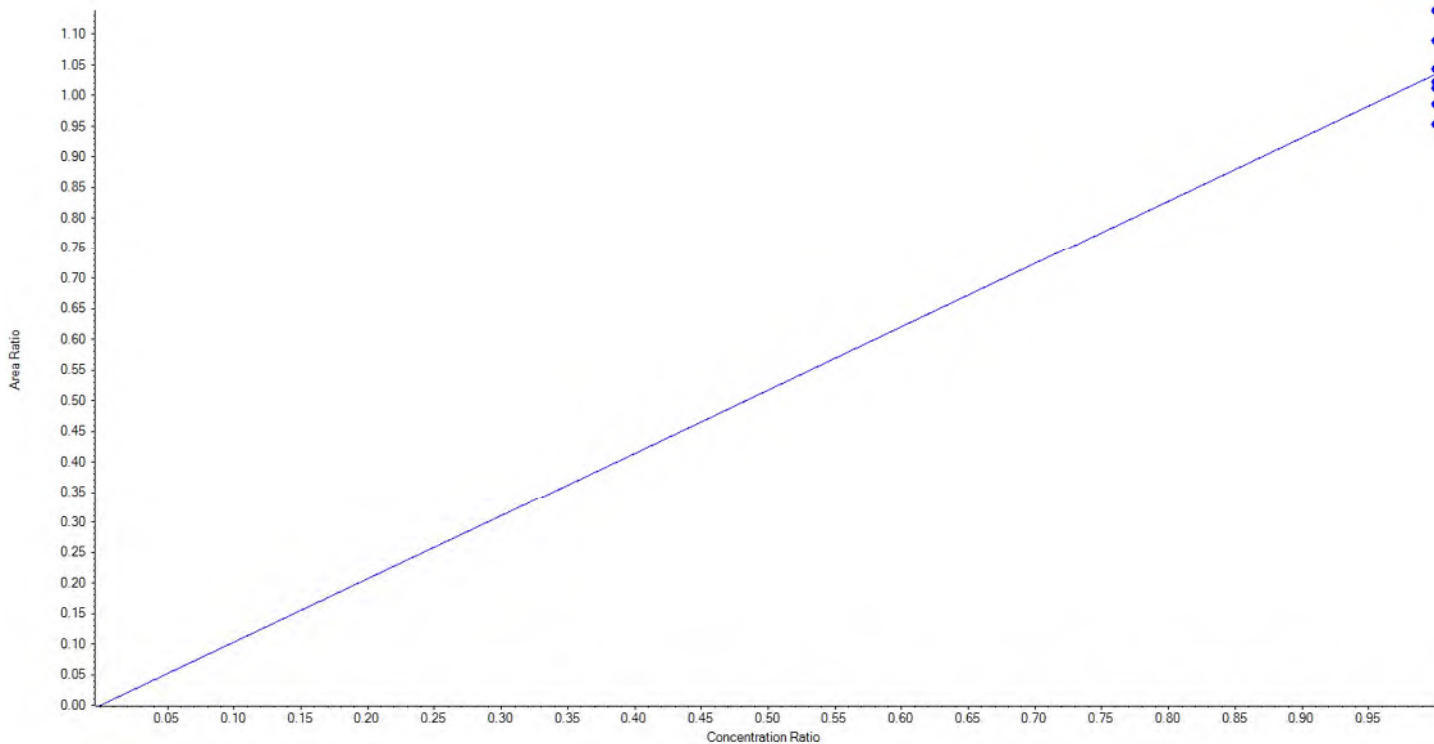
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	244.487173	97.8
3	JY39	L2	True	250.00	236.086555	94.4
4	JY40	L3	True	250.00	290.180942	116.1
5	JY41	L4	True	250.00	260.232968	104.1
6	JY42	L5	True	250.00	269.794826	107.9
7	KA32	L6	True	250.00	227.469795	91.0
8	KA33	L7	True	250.00	221.747740	88.7



Analyte Name	13C9-PFNA	Data File	18-0550.wiff
MRM Transition	472.0 / 427.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.03476 x$ (std. dev. = 0.06275) (weighting: 1 / x)

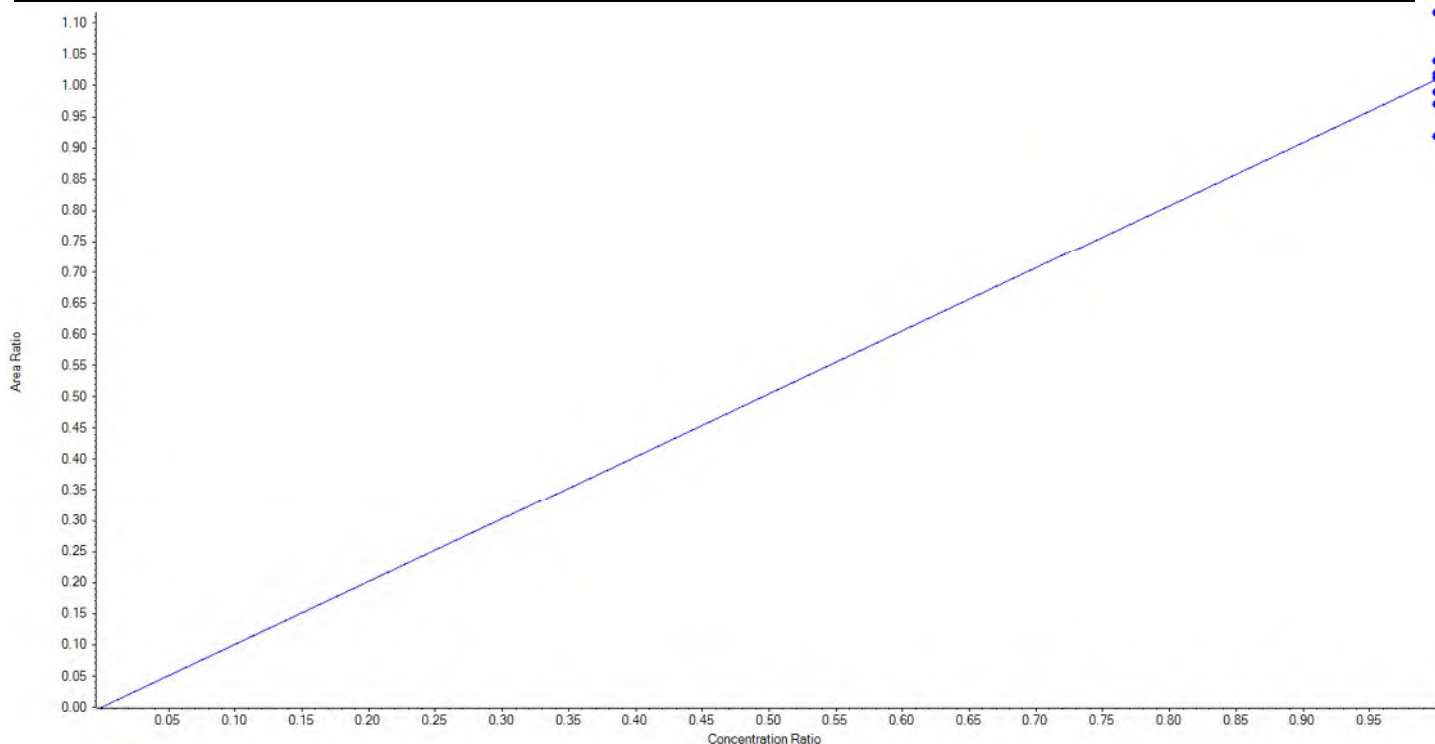
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	230.224891	92.1
3	JY39	L2	True	250.00	238.157341	95.3
4	JY40	L3	True	250.00	263.144001	105.3
5	JY41	L4	True	250.00	252.203691	100.9
6	JY42	L5	True	250.00	275.068377	110.0
7	KA32	L6	True	250.00	246.815321	98.7
8	KA33	L7	True	250.00	244.386379	97.8



Analyte Name	13C6-PFDA	Data File	18-0550.wiff
MRM Transition	519.0 / 474.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.00961 x$ (std. dev. = 0.06123) (weighting: 1 / x)

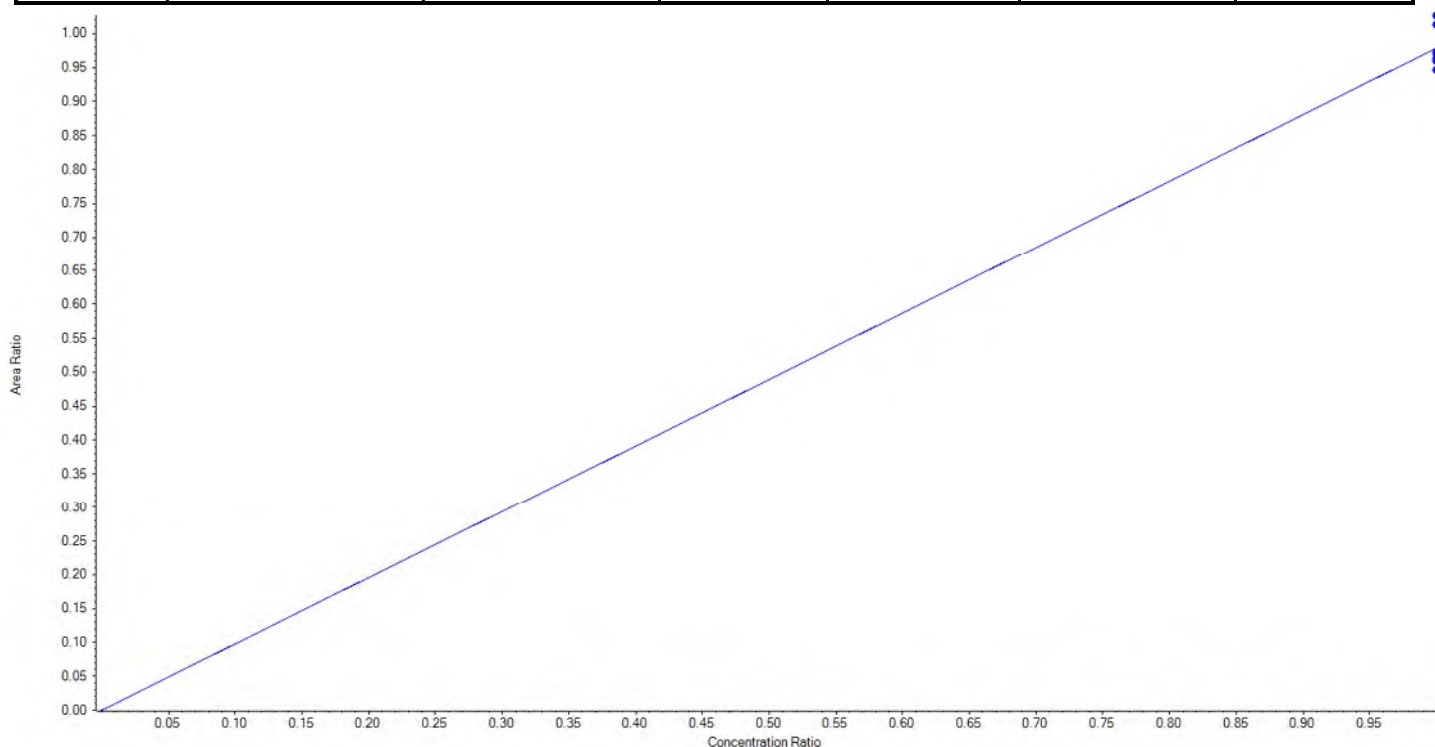
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	244.985212	98.0
3	JY39	L2	True	250.00	257.460095	103.0
4	JY40	L3	True	250.00	276.503415	110.6
5	JY41	L4	True	250.00	250.553924	100.2
6	JY42	L5	True	250.00	252.387041	101.0
7	KA32	L6	True	250.00	240.446405	96.2
8	KA33	L7	True	250.00	227.663906	91.1



Analyte Name	13C7-PFUnA	Data File	18-0550.wiff
MRM Transition	570.0 / 525.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.97866 x$ (std. dev. = 0.02938) (weighting: 1 / x)

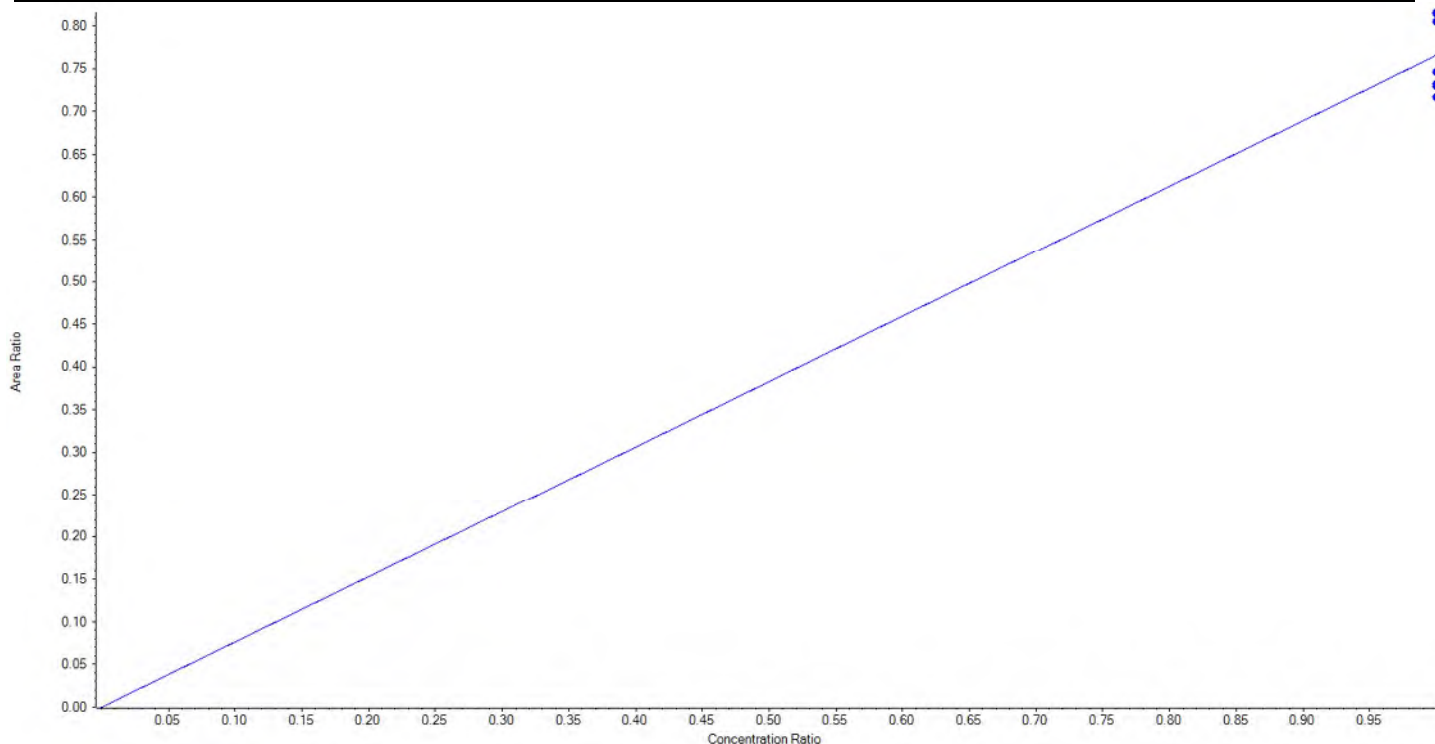
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	245.896516	98.4
3	JY39	L2	True	250.00	247.738807	99.1
4	JY40	L3	True	250.00	258.704011	103.5
5	JY41	L4	True	250.00	245.237554	98.1
6	JY42	L5	True	250.00	262.151546	104.9
7	KA32	L6	True	250.00	241.768763	96.7
8	KA33	L7	True	250.00	248.502804	99.4



Analyte Name	13C2-PFTeDA	Data File	18-0550.wiff
MRM Transition	715.0 / 670.0	Result Table	18-0550_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.76583 x$ (std. dev. = 0.04373) (weighting: 1 / x)

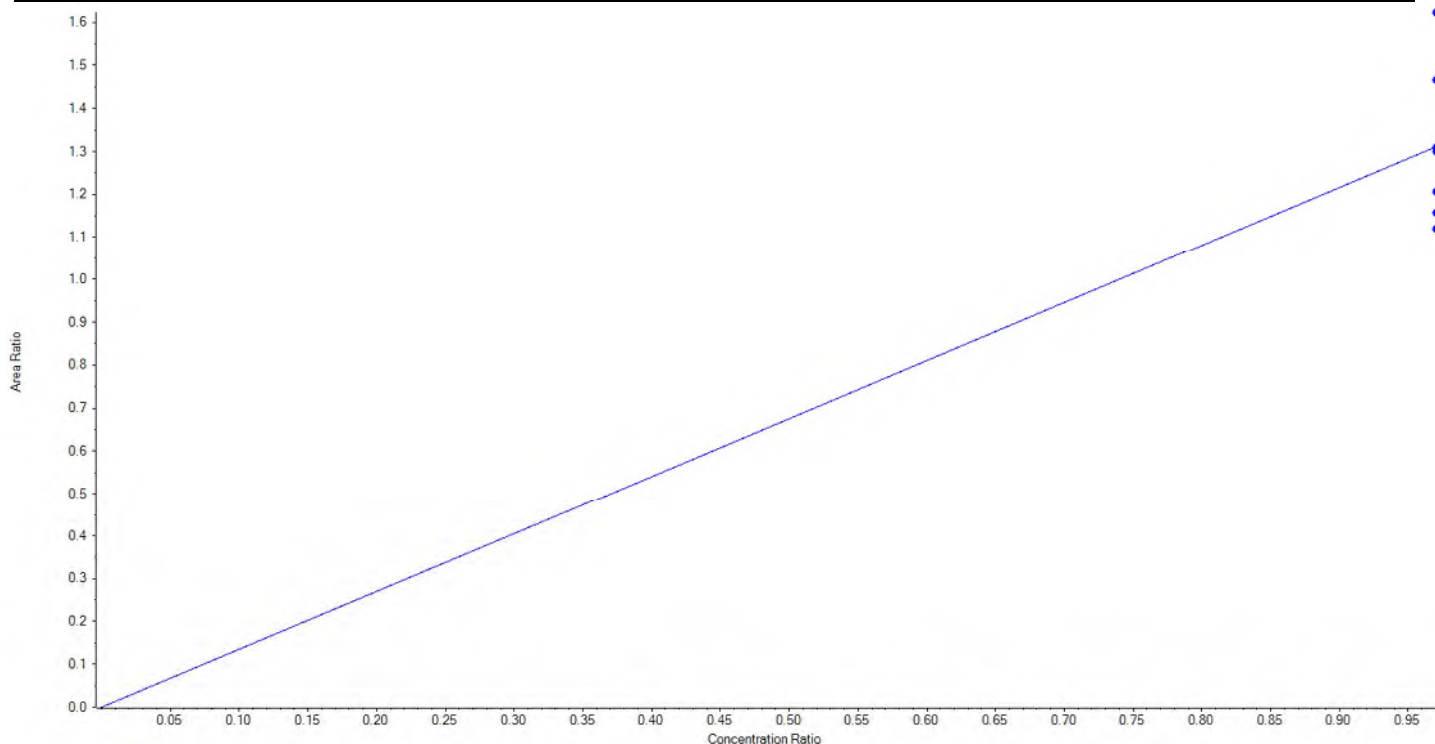
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	250.00	234.154688	93.7
3	JY39	L2	True	250.00	243.487789	97.4
4	JY40	L3	True	250.00	262.614863	105.1
5	JY41	L4	True	250.00	238.400940	95.4
6	JY42	L5	True	250.00	239.156568	95.7
7	KA32	L6	True	250.00	266.240400	106.5
8	KA33	L7	True	250.00	265.944753	106.4



Analyte Name	13C3-PFBS	Data File	18-0550.wiff
MRM Transition	302.0 / 99.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.35090 x$ (std. dev. = 0.18459) (weighting: 1 / x)

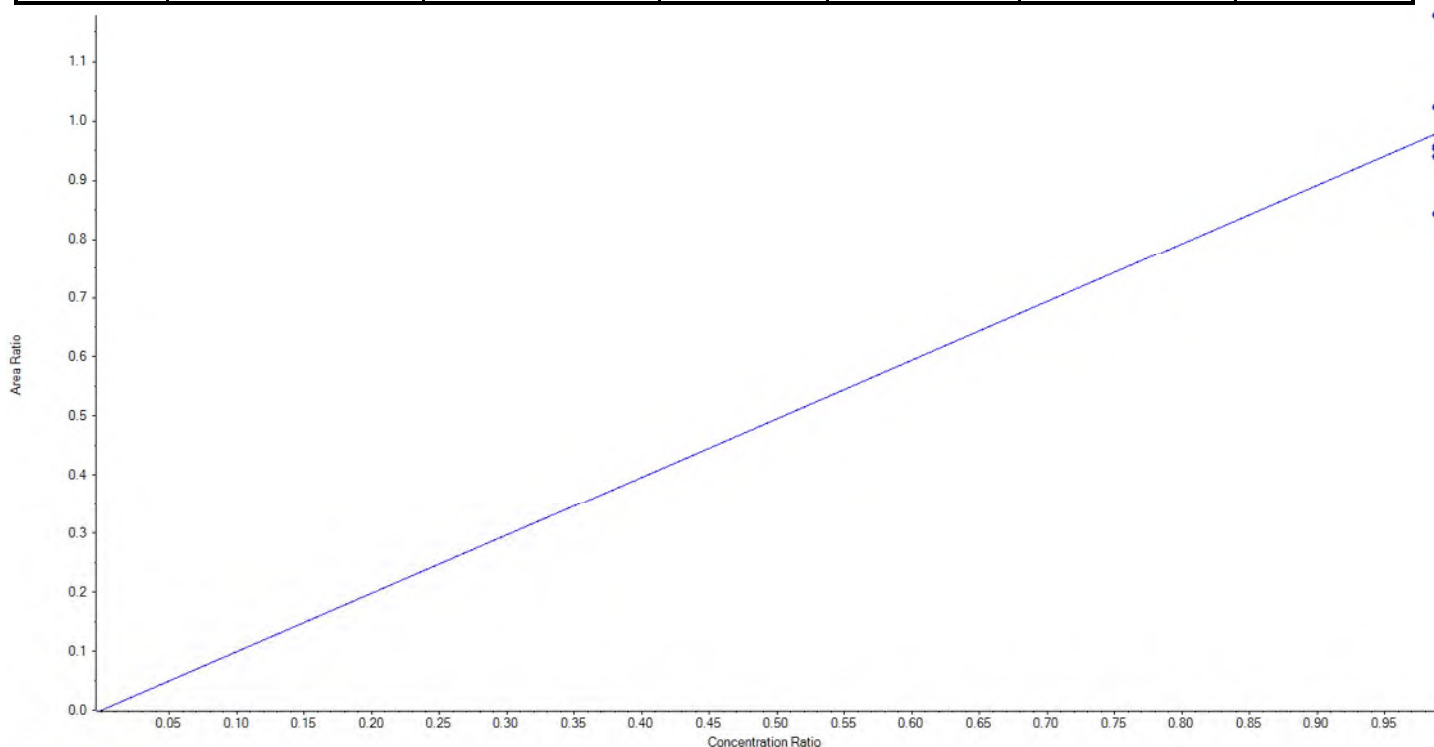
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	232.25	204.789951	88.2
3	JY39	L2	True	232.25	230.142846	99.1
4	JY40	L3	True	232.25	231.715138	99.8
5	JY41	L4	True	232.25	213.627610	92.0
6	JY42	L5	True	232.25	198.393801	85.4
7	KA32	L6	True	232.25	259.738106	111.8
8	KA33	L7	True	232.25	287.342548	123.7



Analyte Name	13C3-PFHxS	Data File	18-0550.wiff
MRM Transition	402.0 / 99.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99034 x$ (std. dev. = 0.10362) (weighting: 1 / x)

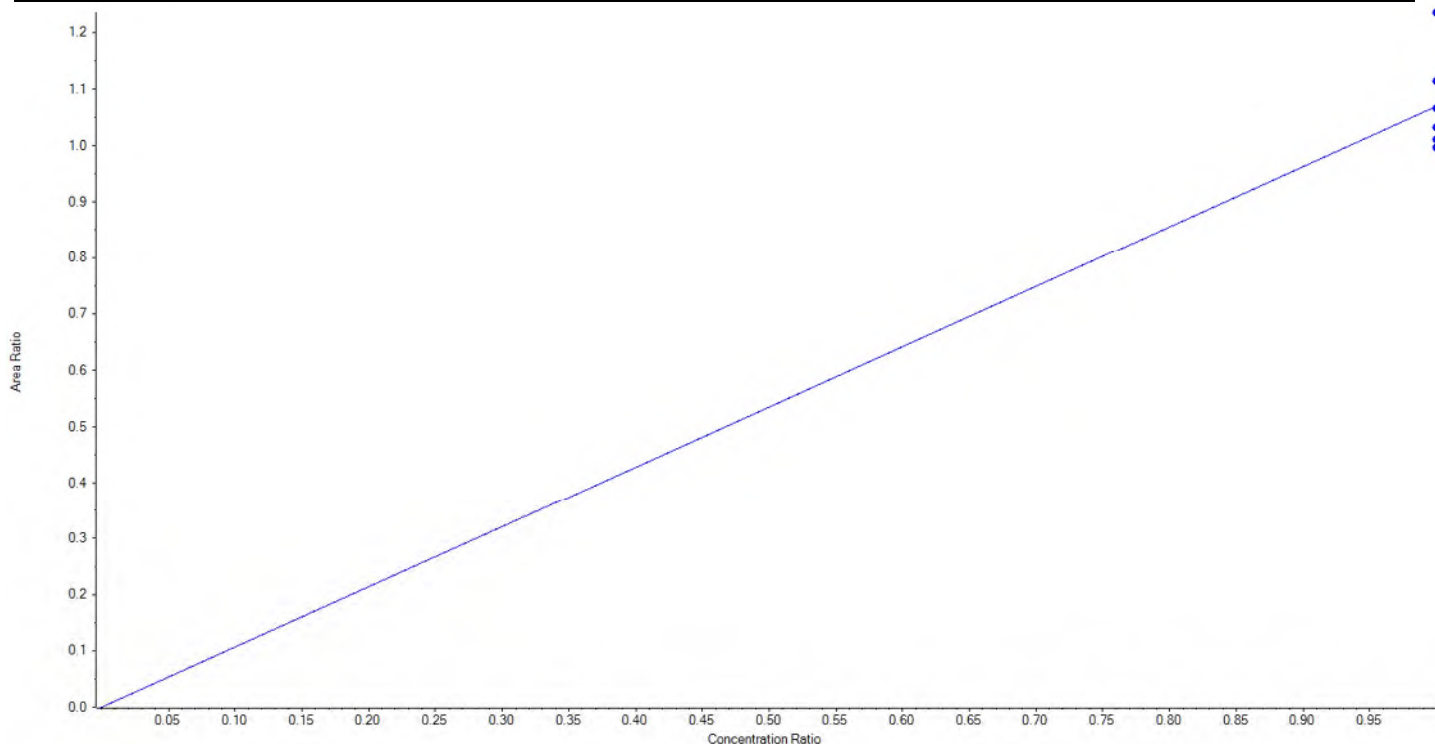
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	236.50	231.254685	97.8
3	JY39	L2	True	236.50	203.665278	86.1
4	JY40	L3	True	236.50	247.071230	104.5
5	JY41	L4	True	236.50	227.320058	96.1
6	JY42	L5	True	236.50	230.573110	97.5
7	KA32	L6	True	236.50	231.076252	97.7
8	KA33	L7	True	236.50	284.539387	120.3



Analyte Name	13C8-PFOS	Data File	18-0550.wiff
MRM Transition	507.0 / 99.0	Result Table	18-0550_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/10/2018 4:51:14 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.06969 x$ (std. dev. = 0.08263) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JY38	L1	True	239.25	231.005747	96.6
3	JY39	L2	True	239.25	238.643301	99.8
4	JY40	L3	True	239.25	222.802327	93.1
5	JY41	L4	True	239.25	230.794997	96.5
6	JY42	L5	True	239.25	226.156563	94.5
7	KA32	L6	True	239.25	249.065672	104.1
8	KA33	L7	True	239.25	276.281393	115.5





Sample Name	JY38	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T16:51:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.370	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.100	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.010	0.017	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.320	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.070	0.062	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.220	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.070	0.050	ü
PFUnA_1	563.0 / 519.0	3.73	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	PFUnA	0.110	0.067	
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.01	PFDoA	0.130	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.25	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.47	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	NMeFOSAA	0.550	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	NEtFOSAA	0.130	0.076	

Sample Name	JY39	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:02:08	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.330	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.100	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.010	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.200	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.41	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.090	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.150	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.25	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.580	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.070	0.076	ü

Sample Name	JY40	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:13:01	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.330	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.060	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.050	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.150	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.47	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.040	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	NMeFOSAA	0.530	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.090	0.076	ü

Sample Name	JY41	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:23:52	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.300	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.41	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.070	0.076	ü



Sample Name	JY42	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:34:44	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.320	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.55	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	NEtFOSAA	0.060	0.076	ü

Sample Name	KA32	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:45:36	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.050	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.060	0.076	ü

Sample Name	KA33	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T17:56:27	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.25	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.27	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.300	0.299	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.05	PFNA			
PFNA_2	463.0 / 219.0	3.05	PFNA	0.300	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	3.40	PFDA			
PFDA_2	513.0 / 219.0	3.40	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.72	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	PFUnA	0.050	0.067	ü
PFDoA_1	613.0 / 569.0	4.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.46	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.46	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.55	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	0.520	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.72	NEtFOSAA	0.060	0.076	ü

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.53	982.486747	1010.00	97.28
PFBS_2	298.9 / 99.0	1.53	944.117063	1010.00	93.48
PFHxA_1	313.0 / 269.0	1.84	962.661426	1010.00	95.31
PFHxA_2	313.0 / 119.0	1.84	996.043336	1010.00	98.62
PFHpA_1	363.0 / 319.0	2.24	898.393453	1000.00	89.84
PFHpA_2	363.0 / 169.0	2.24	889.767635	1000.00	88.98
PFHxS_1	399.0 / 80.0	2.26	1015.392829	1010.00	100.53
PFHxS_2	399.0 / 99.0	2.26	1008.294422	1010.00	99.83
PFOA_1	413.0 / 369.0	2.65	899.632997	1000.00	89.96
PFOA_2	413.0 / 169.0	2.65	871.607530	1000.00	87.16
PFNA_1	463.0 / 419.0	3.04	907.036516	1000.00	90.70
PFNA_2	463.0 / 219.0	3.04	924.934493	1000.00	92.49
PFOS_1	499.0 / 80.0	3.03	827.683416	1000.00	82.77
PFOS_2	499.0 / 99.0	3.03	808.503885	1000.00	80.85
PFDA_1	513.0 / 469.0	3.39	956.600128	1000.00	95.66
PFDA_2	513.0 / 219.0	3.39	939.630961	1000.00	93.96
PFUnA_1	563.0 / 519.0	3.71	927.350428	1000.00	92.74
PFUnA_2	563.0 / 269.0	3.70	934.891669	1000.00	93.49
PFDoA_1	613.0 / 569.0	3.99	991.445887	1000.00	99.14
PFDoA_2	613.0 / 319.0	3.99	1045.333939	1000.00	104.53
PFTTrDA_1	663.0 / 619.0	4.23	1032.619489	1000.00	103.26
PFTTrDA_2	663.0 / 169.0	4.23	940.505648	1000.00	94.05
PFTeDA_1	713.0 / 669.0	4.45	1010.698759	1000.00	101.07
PFTeDA_2	713.0 / 169.0	4.45	1064.628794	1000.00	106.46
NMeFOSAA_1	570.0 / 419.0	3.54	902.351293	1000.00	90.24
NMeFOSAA_2	570.0 / 512.0	3.54	825.509009	1000.00	82.55
NEtFOSAA_1	584.0 / 419.0	3.70	819.039407	1000.00	81.90
NEtFOSAA_2	584.0 / 483.0	3.70	776.191696	1000.00	77.62

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.53	947.600782	1010.00	93.82
PFBS_2	298.9 / 99.0	1.53	966.847977	1010.00	95.73
PFHxA_1	313.0 / 269.0	1.84	913.932468	1010.00	90.49
PFHxA_2	313.0 / 119.0	1.84	864.742993	1010.00	85.62
PFHpA_1	363.0 / 319.0	2.24	889.451725	1000.00	88.95
PFHpA_2	363.0 / 169.0	2.24	945.123259	1000.00	94.51
PFHxS_1	399.0 / 80.0	2.26	1002.759665	1010.00	99.28
PFHxS_2	399.0 / 99.0	2.26	964.683740	1010.00	95.51
PFOA_1	413.0 / 369.0	2.64	877.533952	1000.00	87.75
PFOA_2	413.0 / 169.0	2.64	921.307793	1000.00	92.13
PFNA_1	463.0 / 419.0	3.03	878.362062	1000.00	87.84
PFNA_2	463.0 / 219.0	3.03	889.812505	1000.00	88.98
PFOS_1	499.0 / 80.0	3.03	960.445352	1000.00	96.04
PFOS_2	499.0 / 99.0	3.03	962.003061	1000.00	96.20
PFDA_1	513.0 / 469.0	3.38	954.226765	1000.00	95.42
PFDA_2	513.0 / 219.0	3.38	834.756466	1000.00	83.48
PFUnA_1	563.0 / 519.0	3.70	952.126142	1000.00	95.21
PFUnA_2	563.0 / 269.0	3.70	971.215683	1000.00	97.12
PFDoA_1	613.0 / 569.0	3.98	1022.115999	1000.00	102.21
PFDoA_2	613.0 / 319.0	3.98	1041.019289	1000.00	104.10
PFTTrDA_1	663.0 / 619.0	4.22	1004.955727	1000.00	100.50
PFTTrDA_2	663.0 / 169.0	4.22	987.743569	1000.00	98.77
PFTeDA_1	713.0 / 669.0	4.44	983.882032	1000.00	98.39
PFTeDA_2	713.0 / 169.0	4.44	1035.279502	1000.00	103.53
NMeFOSAA_1	570.0 / 419.0	3.54	1164.796006	1000.00	116.48
NMeFOSAA_2	570.0 / 512.0	3.54	1103.726187	1000.00	110.37
NEtFOSAA_1	584.0 / 419.0	3.70	826.111083	1000.00	82.61
NEtFOSAA_2	584.0 / 483.0	3.70	982.429440	1000.00	98.24

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.53	2415.467312	2525.00	95.66
PFBS_2	298.9 / 99.0	1.53	2436.678757	2525.00	96.50
PFHxA_1	313.0 / 269.0	1.84	2278.119640	2525.00	90.22
PFHxA_2	313.0 / 119.0	1.84	2355.208108	2525.00	93.28
PFHpA_1	363.0 / 319.0	2.24	2252.829522	2500.00	90.11
PFHpA_2	363.0 / 169.0	2.24	2342.415872	2500.00	93.70
PFHxS_1	399.0 / 80.0	2.26	2823.288853	2525.00	111.81
PFHxS_2	399.0 / 99.0	2.26	2690.569782	2525.00	106.56
PFOA_1	413.0 / 369.0	2.64	2284.369929	2500.00	91.37
PFOA_2	413.0 / 169.0	2.64	2358.583721	2500.00	94.34
PFNA_1	463.0 / 419.0	3.03	2236.490170	2500.00	89.46
PFNA_2	463.0 / 219.0	3.03	2398.006653	2500.00	95.92
PFOS_1	499.0 / 80.0	3.03	2696.390823	2500.00	107.86
PFOS_2	499.0 / 99.0	3.03	2748.404248	2500.00	109.94
PFDA_1	513.0 / 469.0	3.39	2506.479732	2500.00	100.26
PFDA_2	513.0 / 219.0	3.39	2193.621549	2500.00	87.74
PFUnA_1	563.0 / 519.0	3.70	2241.567922	2500.00	89.66
PFUnA_2	563.0 / 269.0	3.70	2445.841442	2500.00	97.83
PFDoA_1	613.0 / 569.0	3.98	2509.497606	2500.00	100.38
PFDoA_2	613.0 / 319.0	3.98	2484.858387	2500.00	99.39
PFTTrDA_1	663.0 / 619.0	4.23	2695.462359	2500.00	107.82
PFTTrDA_2	663.0 / 169.0	4.23	2680.204633	2500.00	107.21
PFTeDA_1	713.0 / 669.0	4.45	2726.085691	2500.00	109.04
PFTeDA_2	713.0 / 169.0	4.44	2797.519760	2500.00	111.90
NMeFOSAA_1	570.0 / 419.0	3.54	2544.410026	2500.00	101.78
NMeFOSAA_2	570.0 / 512.0	3.54	2608.901990	2500.00	104.36
NEtFOSAA_1	584.0 / 419.0	3.70	2066.772574	2500.00	82.67
NEtFOSAA_2	584.0 / 483.0	3.70	2054.571995	2500.00	82.18

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.98	250.992779	250.00	100.40
d3-MeFOSAA	573.0 / 419.0	3.53	276.526223	250.00	110.61
d5-EtFOSAA	589.0 / 419.0	3.69	281.958950	250.00	112.78
13C5-PFHxA	318.0 / 273.0	1.83	237.907268	250.00	95.16
13C4-PFHpA	367.0 / 322.0	2.23	243.902872	250.00	97.56
13C8-PFOA	421.0 / 376.0	2.64	251.055812	250.00	100.42
13C9-PFNA	472.0 / 427.0	3.02	256.909981	250.00	102.76
13C6-PFDA	519.0 / 474.0	3.37	276.444162	250.00	110.58
13C7-PFUnA	570.0 / 525.0	3.69	274.732105	250.00	109.89
13C2-PFTeDA	715.0 / 670.0	4.44	248.274356	250.00	99.31
13C3-PFBS	302.0 / 99.0	1.51	212.675027	232.25	91.57
13C3-PFHxS	402.0 / 99.0	2.25	220.676266	236.50	93.31
13C8-PFOS	507.0 / 99.0	3.02	260.132830	239.25	108.73

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.97	231.369389	250.00	92.55
d3-MeFOSAA	573.0 / 419.0	3.53	240.476601	250.00	96.19
d5-EtFOSAA	589.0 / 419.0	3.69	293.085310	250.00	117.23
13C5-PFHxA	318.0 / 273.0	1.83	273.950457	250.00	109.58
13C4-PFHpA	367.0 / 322.0	2.23	261.419706	250.00	104.57
13C8-PFOA	421.0 / 376.0	2.63	274.928776	250.00	109.97
13C9-PFNA	472.0 / 427.0	3.02	284.161675	250.00	113.66
13C6-PFDA	519.0 / 474.0	3.37	245.228042	250.00	98.09
13C7-PFUnA	570.0 / 525.0	3.69	243.337478	250.00	97.33
13C2-PFTeDA	715.0 / 670.0	4.43	246.570475	250.00	98.63
13C3-PFBS	302.0 / 99.0	1.52	238.430205	232.25	102.66
13C3-PFHxS	402.0 / 99.0	2.25	240.064639	236.50	101.51
13C8-PFOS	507.0 / 99.0	3.02	259.154047	239.25	108.32

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.97	245.594017	250.00	98.24
d3-MeFOSAA	573.0 / 419.0	3.53	239.169612	250.00	95.67
d5-EtFOSAA	589.0 / 419.0	3.69	257.728243	250.00	103.09
13C5-PFHxA	318.0 / 273.0	1.82	268.663220	250.00	107.47
13C4-PFHpA	367.0 / 322.0	2.23	256.317854	250.00	102.53
13C8-PFOA	421.0 / 376.0	2.63	268.235603	250.00	107.29
13C9-PFNA	472.0 / 427.0	3.02	267.807852	250.00	107.12
13C6-PFDA	519.0 / 474.0	3.37	243.020767	250.00	97.21
13C7-PFUnA	570.0 / 525.0	3.69	266.276874	250.00	106.51
13C2-PFTeDA	715.0 / 670.0	4.44	232.737117	250.00	93.09
13C3-PFBS	302.0 / 99.0	1.51	206.697246	232.25	89.00
13C3-PFHxS	402.0 / 99.0	2.25	192.815470	236.50	81.53
13C8-PFOS	507.0 / 99.0	3.02	203.172706	239.25	84.92

Sample Name	JY45 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:18:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.080	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.04	PFNA			
PFNA_2	463.0 / 219.0	3.04	PFNA	0.320	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.39	PFDA			
PFDA_2	513.0 / 219.0	3.39	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.71	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.99	PFDoA			
PFDoA_2	613.0 / 319.0	3.99	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.23	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.45	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.45	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.480	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.060	0.076	ü

Sample Name	JY41	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:45:07	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.310	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.64	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.03	PFNA			
PFNA_2	463.0 / 219.0	3.03	PFNA	0.310	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.38	PFDA			
PFDA_2	513.0 / 219.0	3.38	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.70	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.98	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.22	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.490	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.080	0.076	ü

Sample Name	JY42	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T21:01:09	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.300	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.070	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.280	0.299	ü
PFOA_1	413.0 / 369.0	2.64	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	3.03	PFNA			
PFNA_2	463.0 / 219.0	3.03	PFNA	0.330	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.180	0.186	ü
PFDA_1	513.0 / 469.0	3.39	PFDA			
PFDA_2	513.0 / 219.0	3.39	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.70	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.98	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	PFDoA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.23	PFTTrDA	0.060	0.065	ü
PFTeDA_1	713.0 / 669.0	4.45	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.530	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.060	0.076	ü



Sample Name	JY46 IB	Injection Vial	9
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T18:07:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	3.71	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.25	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.45	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.080	0.047	
NMeFOSAA_1	570.0 / 419.0	3.56	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.640	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.72	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	



Sample Name	CR766PB-FS(0)	Injection Vial	14
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:12:31	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	N/A	0.313	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	N/A	0.017	
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.130	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü

Sample Name	CR767LCS-FS(0)	Injection Vial	15
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:23:23	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.080	0.078	ü
PFHpA_1	363.0 / 319.0	2.24	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.290	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.050	0.062	ü
PFNA_1	463.0 / 419.0	3.04	PFNA			
PFNA_2	463.0 / 219.0	3.04	PFNA	0.300	0.313	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	3.39	PFDA			
PFDA_2	513.0 / 219.0	3.39	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.70	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	PFUnA	0.060	0.067	ü
PFDoA_1	613.0 / 569.0	3.98	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	PFDoA	0.150	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	PFTTrDA	0.070	0.065	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.050	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	NMeFOSAA	0.550	0.534	ü
NEtFOSAA_1	584.0 / 419.0	3.70	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	NEtFOSAA	0.060	0.076	ü



Sample Name	J7623-FS1(0)	Injection Vial	16
Sample ID	JAX-PSC51-MW-08-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T19:34:14	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	N/A	0.313	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.280	0.299	ü
PFOA_1	413.0 / 369.0	2.64	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	2.97	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.110	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	3.97	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	
PFTTrDA_1	663.0 / 619.0	4.23	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.23	PFTTrDA	0.180	0.065	
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.060	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7624-FS1(0)	Injection Vial	17
Sample ID	JAX-PSC51-MW-10D-08232018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:06:51	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.26	PFHxS	0.280	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.150	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.21	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.54	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.52	NMeFOSAA	1.620	0.534	
NEtFOSAA_1	584.0 / 419.0	3.71	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	

Sample Name	J7626-FS1(0)	Injection Vial	18
Sample ID	JAX-PSC51-MW-06-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:17:42	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.050	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.120	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7627-FS1(0)	Injection Vial	19
Sample ID	JAX-PSC51-MW-06-08242018-FD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:28:33	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.070	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.02	PFOS	0.030	0.186	
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.25	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7628-FS1(0)	Injection Vial	20
Sample ID	JAX-PSC51-MW-04-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:39:25	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.290	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	2.26	PFHxS			
PFHxS_2	399.0 / 99.0	2.27	PFHxS	0.330	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.080	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	2.99	PFOS			
PFOS_2	499.0 / 99.0	3.03	PFOS	0.160	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü



Sample Name	J7629-FS1(0)	Injection Vial	21
Sample ID	JAX-PSC51-MW-09I-08242018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-10T20:50:17	Data File	18-0550.wiff
Acquisition Method	5-0369.dam	Result Table	18-0550_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.313	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.078	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.017	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.299	ü
PFOA_1	413.0 / 369.0	2.65	PFOA			
PFOA_2	413.0 / 169.0	2.65	PFOA	0.060	0.062	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.313	ü
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.170	0.186	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.067	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.24	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.065	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.534	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.076	ü

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
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	SITE 00051	PSC51-MW-06	Monitoring well	435529.68	2131963.26	N6247016D9008	N6945017F0375	TETRA TECH, INC.	JAX-PSC51-MW-06-08242018-D
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	SITE 00051	PSC51-MW-06	Monitoring well	435529.68	2131963.26	N6247016D9008	N6945017F0375	TETRA TECH, INC.	JAX-PSC51-MW-06-08242018
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	SITE 00051	PSC51-MW-09I	Monitoring well	435621.47	2131850.24	N6247016D9008	N6945017F0375	TETRA TECH, INC.	JAX-PSC51-MW-09I-08242018
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	SITE 00051	PSC51-MW-04	Monitoring well	435554.74	2131979.23	N6247016D9008	N6945017F0375	TETRA TECH, INC.	JAX-PSC51-MW-04-08242018
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	SITE 00051	PSC51-MW-08S	Monitoring well	435627.88	2131854.38	N6247016D9008	N6945017F0375	TETRA TECH, INC.	JAX-PSC51-MW-08-08232018
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	SITE 00051	PSC51-MW-10D	Monitoring well	435634.52	2131857.26	N6247016D9008	N6945017F0375	TETRA TECH, INC.	JAX-PSC51-MW-10D-08232018

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	Ground water	Field duplicate	24-Aug-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	Ground water	Normal (Regular)	24-Aug-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	Ground water	Normal (Regular)	24-Aug-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	Ground water	Normal (Regular)	24-Aug-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	Ground water	Normal (Regular)	23-Aug-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0550	SITE 00051	Ground water	Normal (Regular)	23-Aug-18	537	Perfluoroalkyl Compounds	20190201100027.00