

## AMAP RING TEST FOR PERSISTENT ORGANIC POLLUTANTS IN HUMAN SERUM (AMAP)

REPORT FOR ROUND: 2014-01  
PTMS SHIPPING DATE: 2014-01-27  
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**Scope of accreditation:** The concentrations of PCB IUPAC # 138 in material AM-S-W1403, PCB IUPAC # 153 in material AM-S-W1402, p,p'-DDE in material AM-S-W1401, PBDE IUPAC 153 in material AM-S-W1401, PFHxA in material AM-S-Y1402 and PFHxS in material AM-S-Y1403 exceed the level of our scope of accreditation.

Total cholesterol, total lipids and triglycerides are not included in our scope of accreditation.

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## INTRODUCTION

Dear AMAP participants:

This report includes the results and performance evaluations of round 2014-01.

Participating laboratories are identified only by their unique subscription number. Identity of participants will be kept strictly confidential by the AMAP organizer.

For this PT exercise, all analytes meet the homogeneity criteria as per ISO/CEI 17043 and 13528 guidelines with the exception of heptachlor in materials AM-S-W1401, AM-S-W1402 and AM-S-W1403. A note concerning the homogeneity of heptachlor has been included in the corresponding section.

A study had been previously performed to demonstrate that all the analytes are stable for the duration of the PT exercise and meet the stability criteria according to ISO/CEI 17043 and 13528 guidelines.

Please note that the appendices containing statistical approaches are no longer included in the reports. You will find them within the "Participant's Guide".

We are available to assist you at any time. If you have any questions or concerns regarding our program, do not hesitate to contact us. Your comments help us enhance the quality of our schemes.

Best regards,



*David Bisson, M.Sc. Chemist*  
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Individual results  
Serum Dieldrin (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	1.40	0.07	0.238	4.23	1.28	0.00	GC
1042	1.38	0.00	0.0965	-0.30	1.23	-0.20	GC-MS CI
2446	1.59	0.71	0.0700	-1.15	1.34	0.23	GC-MS EI
4336	1.13	-0.84	<LD	---	1.18	-0.37	ND
7828	1.60	0.74	0.110	0.13	1.43	0.57	ND
8420	1.10	-0.94	<LQ	---	1.12	-0.61	ND
8559	1.49	0.37	<LD	---	1.36	0.30	GC

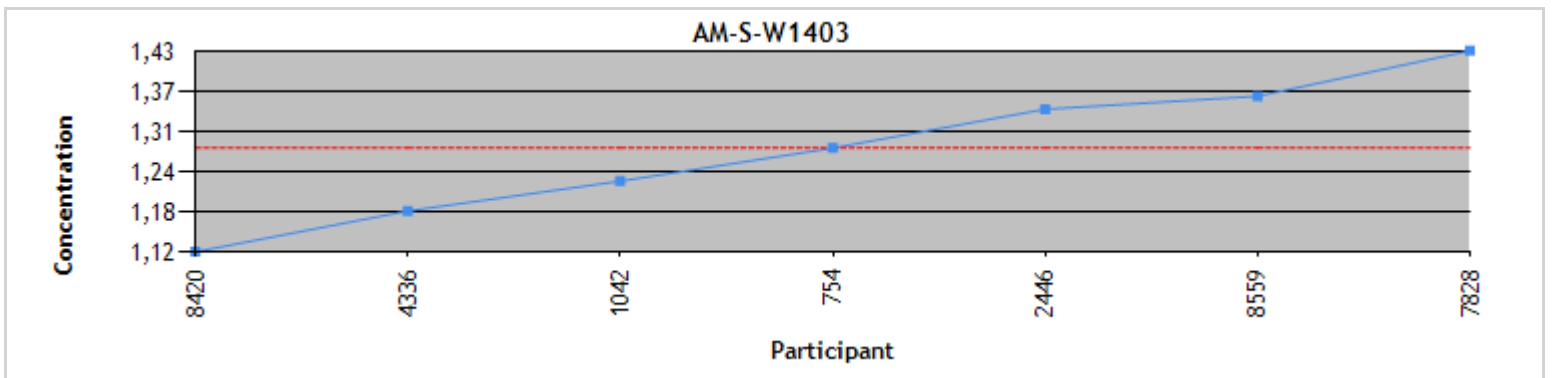
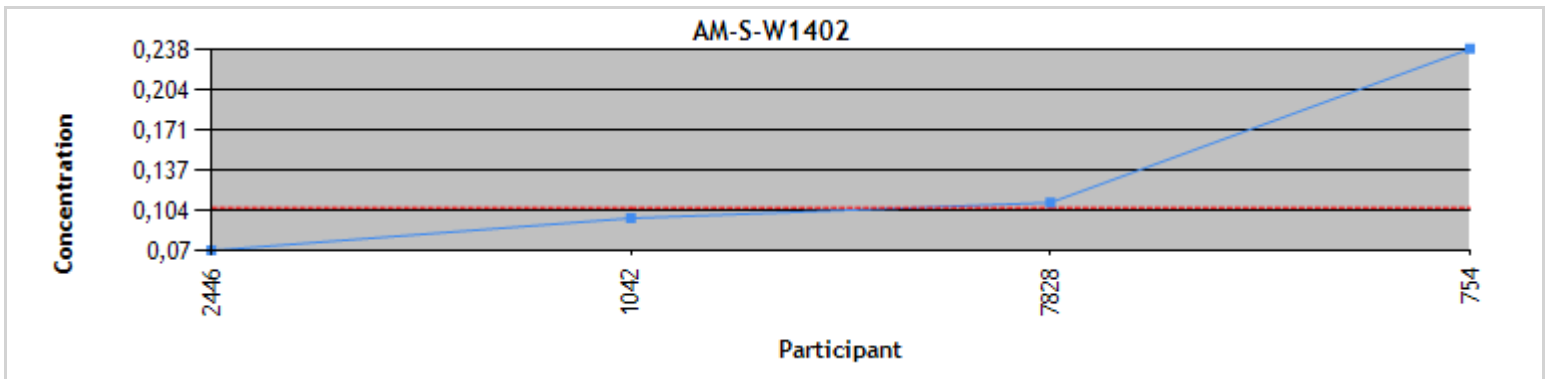
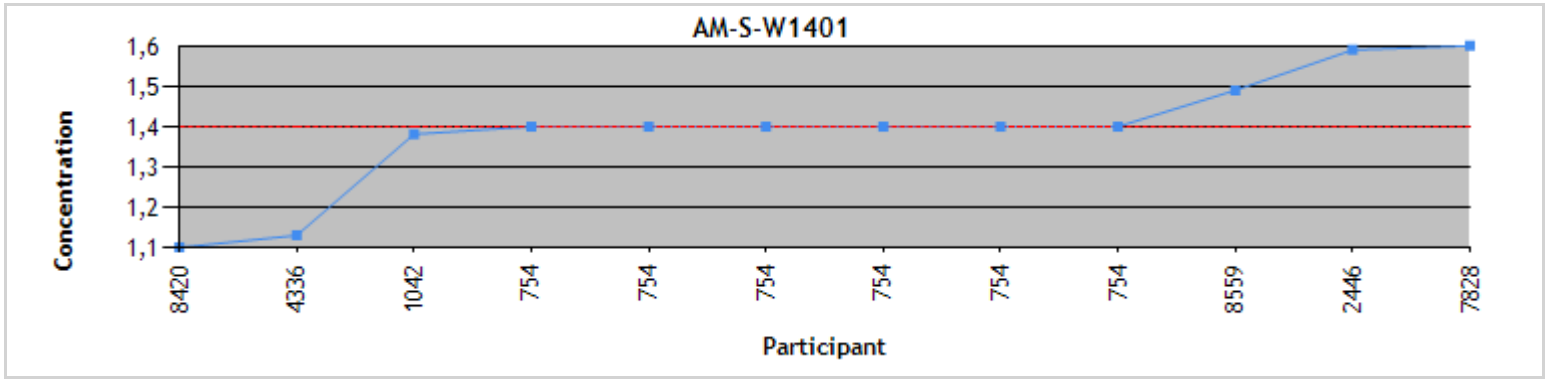
	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.38	0.108	0.277	0.785 - 1.97	Accepted	---
AM-S-W1402	0.106	0.0229	0.0212	0.0435 - 0.168	Accepted	---
AM-S-W1403	1.28	0.0579	0.255	0.756 - 1.80	Accepted	---

## Statistics Serum Dieldrin (µg/L)

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	7	4	7
Robust mean Algo A	1.38	0.106	1.28
Robust STDev	0.230	0.0367	0.123
Median	1.40	0.103	1.28
STDev from MAD	0.282	0.0297	0.119
Arithmetic mean	1.38	0.129	1.28
STDev	0.202	0.0748	0.108
CV or Variability	16.6%	34.6%	9.6%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Dieldrin ( $\mu\text{g/L}$ )



Individual results  
Serum  $\beta$ -HCH ( $\mu\text{g/L}$ )  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
748	1.39	-0.08	1.64	-0.62	0.254	-0.12	ND
754	1.61	0.84	2.01	0.52	0.632	8.83	GC
1003	1.57	0.67	2.06	0.68	0.242	-0.40	GC-MS-MS
1042	1.38	-0.14	1.85	0.02	0.246	-0.32	GC-MS CI
2446	1.73	1.34	2.35	1.57	0.270	0.26	GC-MS EI
2968	1.30	-0.48	1.64	-0.61	0.212	-1.11	GC-MS EI
5463	1.45	0.17	1.93	0.28	0.260	0.02	ND
6865	1.35	-0.25	1.75	-0.28	0.264	0.12	ND
7660	1.25	-0.67	1.77	-0.23	0.229	-0.70	GC-MS CI
7828	1.54	0.54	2.05	0.65	---	---	ND
8420	1.13	-1.17	1.46	-1.17	<LQ	---	ND
8559	1.26	-0.63	1.79	-0.15	0.401	3.36	ND
8916	1.03	-1.58	1.32	-1.61	0.238	-0.50	GC
9301	1.85	1.84	2.52	2.09	0.336	1.82	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.41	0.0762	0.226	0.933 - 1.89	Accepted	---
AM-S-W1402	1.84	0.0975	0.311	1.19 - 2.49	Accepted	---
AM-S-W1403	0.259	0.0106	0.0408	0.175 - 0.343	Rejected	---



**Statistics**  
**Serum  $\beta$ -HCH ( $\mu\text{g/L}$ )**

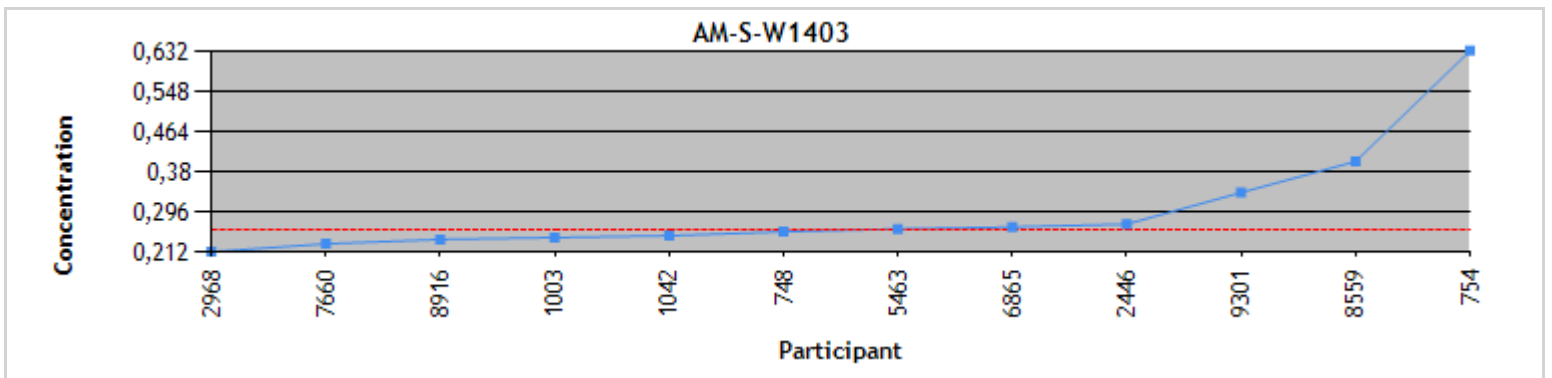
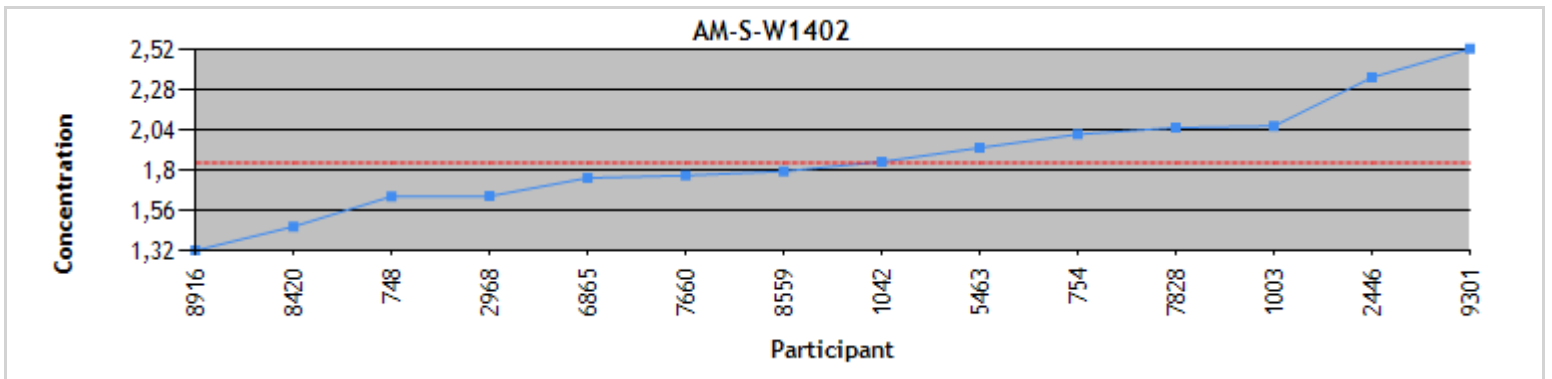
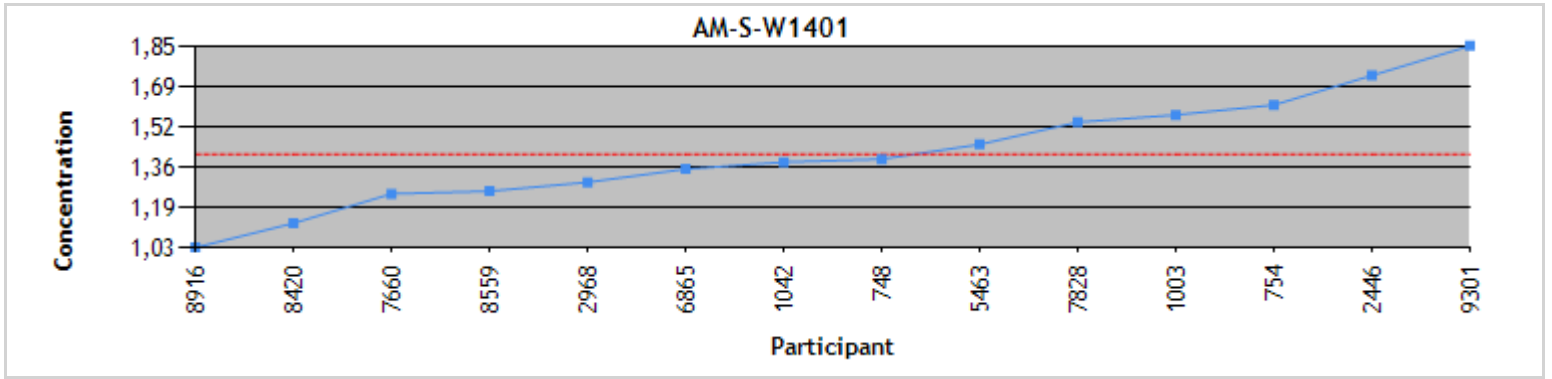
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	14	14	12
Robust mean Algo A	1.41	1.84	0.259
Robust STDev	0.228	0.292	0.0294
Median	1.38	1.82	0.257
STDev from MAD	0.216	0.274	0.0252
Arithmetic mean	1.42	1.87	0.299
STDev	0.227	0.323	0.117
CV or Variability	16.2%	15.8%	11.4%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	1.68	2.28	0.273
Robust STDev	0.225	0.318	0.0704
Median	1.73	2.35	0.270
STDev from MAD	0.178	0.252	0.0860
Arithmetic mean	1.63	2.17	0.273
STDev	0.291	0.466	0.0620
CV or Variability	13.4%	14.0%	25.8%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum  $\beta$ -HCH ( $\mu\text{g/L}$ )



Individual results  
Serum Heptachlor ( $\mu\text{g/L}$ )  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.959	-0.47	0.440	-1.29	1.32	-0.53	GC
1042	1.27	0.84	0.623	0.23	1.70	0.64	GC-MS CI
2446	1.29	0.92	0.610	0.12	1.68	0.59	GC-MS EI
4336	0.678	-1.65	0.601	0.04	1.46	-0.09	ND
7828	1.12	0.21	0.583	-0.11	---	---	ND
8420	1.16	0.38	0.650	0.45	1.59	0.31	ND
8559	0.930	-0.59	0.506	-0.75	1.17	-0.99	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.07	0.104	0.214	0.594 - 1.55	Rejected	---
AM-S-W1402	0.596	0.0196	0.119	0.355 - 0.837	Accepted	---
AM-S-W1403	1.49	0.122	0.297	0.848 - 2.13	Accepted	---

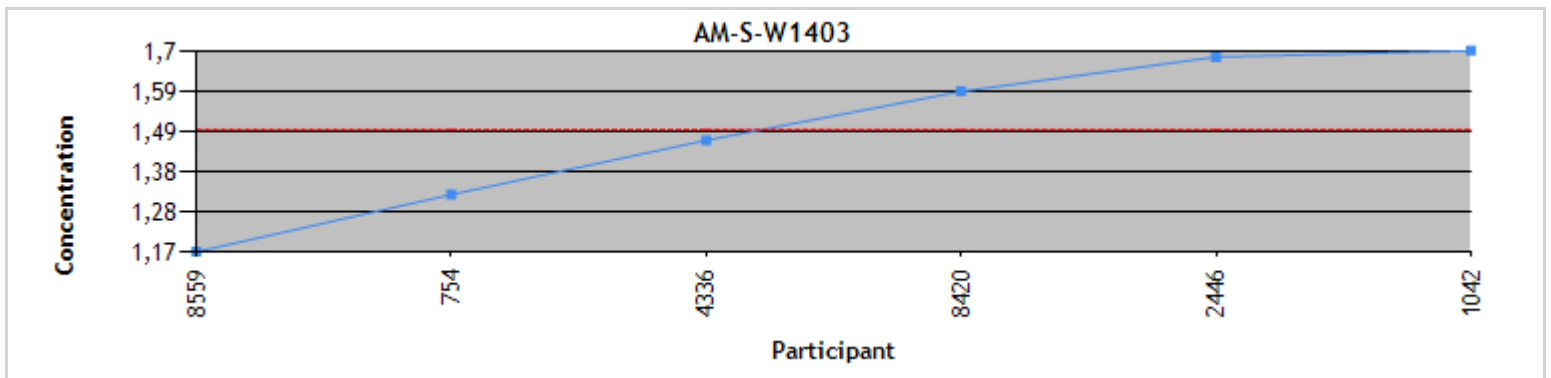
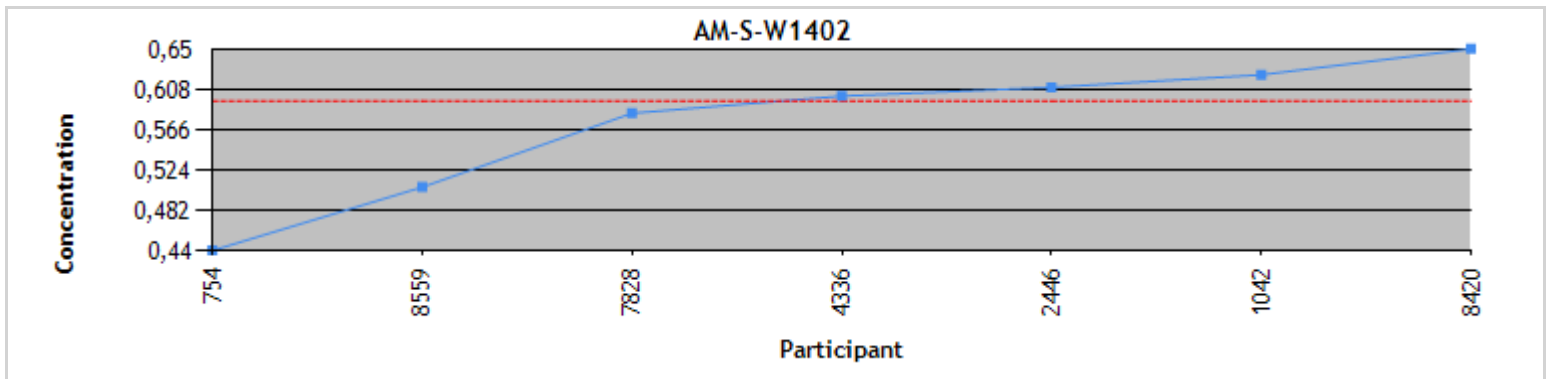
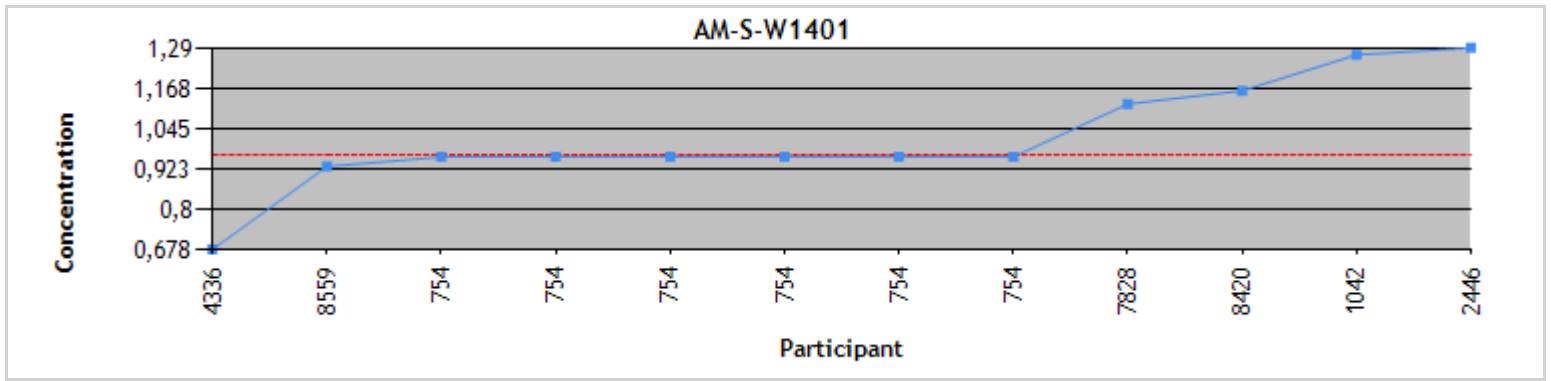
Criteria of homogeneity: according to ISO/CEI 17043 criteria, heptachlor in materials AM-S-W1401, AM-S-W1402 and AM-S-W1403 doesn't respect acceptable heterogeneity. The statistical data are produced as an indication only.

**Statistics**  
**Serum Heptachlor ( $\mu\text{g/L}$ )**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	7	7	6
Robust mean Algo A	1.07	0.596	1.49
Robust STDev	0.220	0.0415	0.238
Median	1.12	0.601	1.53
STDev from MAD	0.239	0.0331	0.241
Arithmetic mean	1.06	0.573	1.49
STDev	0.217	0.0740	0.210
CV or Variability	20.5%	7.0%	16.0%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Heptachlor ( $\mu\text{g/L}$ )



Individual results  
Serum Heptachlor epoxide ( $\mu\text{g/L}$ )  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	---	---	0.562	0.59	1.75	0.52	GC
2446	---	---	0.510	0.10	1.66	0.26	GC-MS EI
4336	---	---	0.563	0.60	1.36	-0.60	ND
7828	---	---	0.452	-0.44	1.88	0.90	ND
8420	---	---	0.510	0.10	1.57	0.00	ND
8559	---	---	0.399	-0.94	1.20	-1.07	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1402	0.499	0.0371	0.0999	0.286 - 0.712	Accepted	---
AM-S-W1403	1.57	0.146	0.314	0.878 - 2.26	Accepted	---

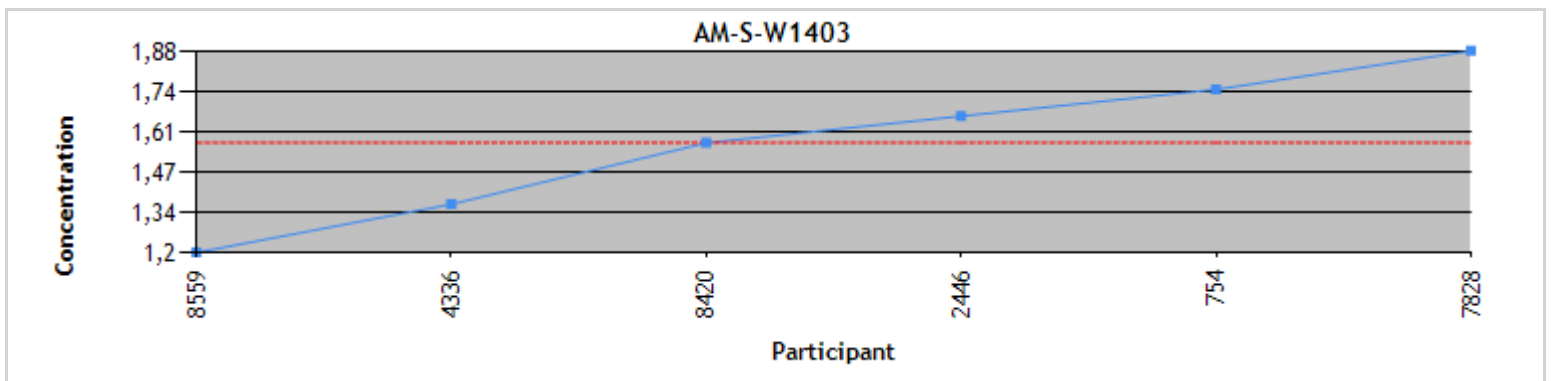
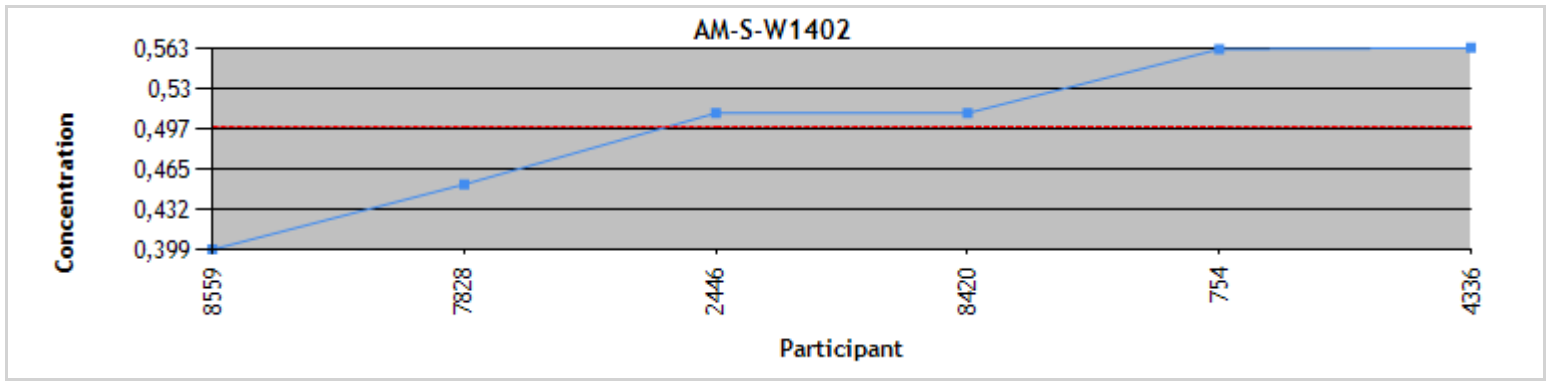
Due to the low number of data, the results of heptachlor epoxide in material AM-S-W1401 are not presented in this report.

**Statistics**  
**Serum Heptachlor epoxide (µg/L)**

All methods	AM-S-W1402	AM-S-W1403
N	6	6
Robust mean Algo A	0.499	1.57
Robust STDev	0.0726	0.285
Median	0.510	1.62
STDev from MAD	0.0779	0.287
Arithmetic mean	0.499	1.57
STDev	0.0641	0.252
CV or Variability	14.5%	18.2%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Heptachlor epoxide ( $\mu\text{g/L}$ )





Individual results  
Serum Hexachlorobenzene (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
748	0.317	0.36	1.18	0.26	0.958	0.34	ND
754	0.272	-0.20	1.00	-0.69	0.811	-0.61	GC
1003	0.250	-0.47	1.07	-0.32	0.813	-0.60	GC-MS-MS
1042	0.321	0.41	1.25	0.64	0.997	0.60	GC-MS CI
1629	0.291	0.04	1.15	0.11	0.905	0.00	GC-MS-MS
2446	0.270	-0.22	1.03	-0.53	0.930	0.16	GC-MS EI
4336	<LD	---	1.36	1.24	1.03	0.79	ND
4635	0.330	0.52	1.34	1.12	1.05	0.96	GC-MS EI
5463	0.630	4.21	1.25	0.64	1.63	4.72	GC-MS CI
6865	0.312	0.30	0.975	-0.82	0.913	0.05	GC
7660	0.273	-0.19	1.12	-0.03	0.883	-0.14	GC-MS CI
7828	0.377	1.09	1.28	0.79	---	---	ND
8420	<LQ	---	1.24	0.58	1.01	0.68	ND
8559	0.272	-0.20	1.01	-0.64	0.769	-0.89	ND
8916	0.209	-0.97	0.680	-2.38	0.562	-2.23	GC
9301	0.188	-1.23	0.663	-2.47	0.550	-2.31	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.288	0.0178	0.0794	0.125 - 0.451	Rejected	---
AM-S-W1402	1.13	0.0557	0.180	0.754 - 1.51	Accepted	---
AM-S-W1403	0.905	0.0477	0.146	0.598 - 1.21	Rejected	---

**Statistics**  
**Serum Hexachlorobenzene (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	14	16	15
Robust mean Algo A	0.288	1.13	0.905
Robust STDev	0.0533	0.178	0.148
Median	0.282	1.14	0.913
STDev from MAD	0.0497	0.178	0.148
Arithmetic mean	0.308	1.10	0.921
STDev	0.105	0.207	0.248
CV or Variability	18.5%	15.8%	16.3%

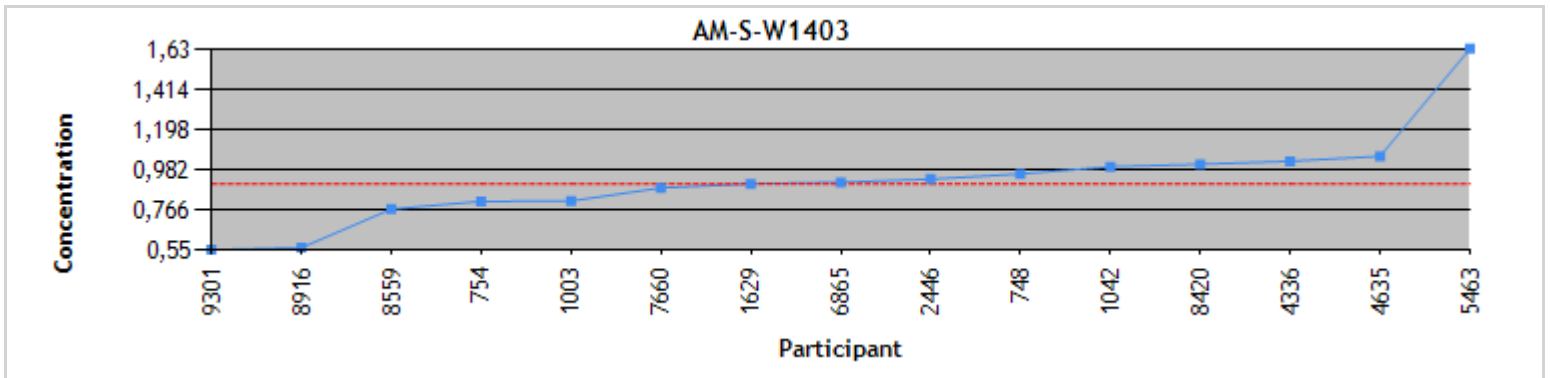
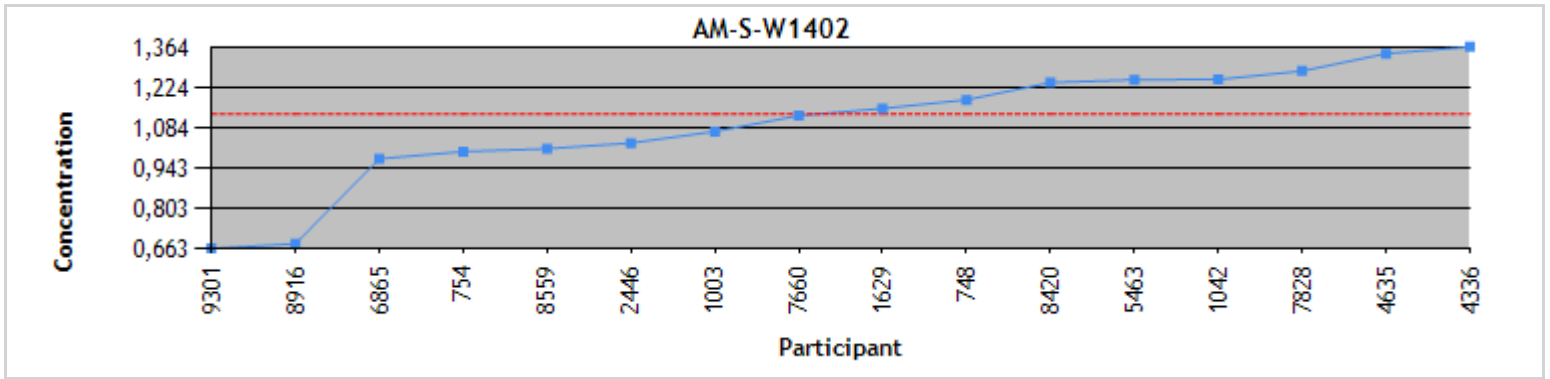
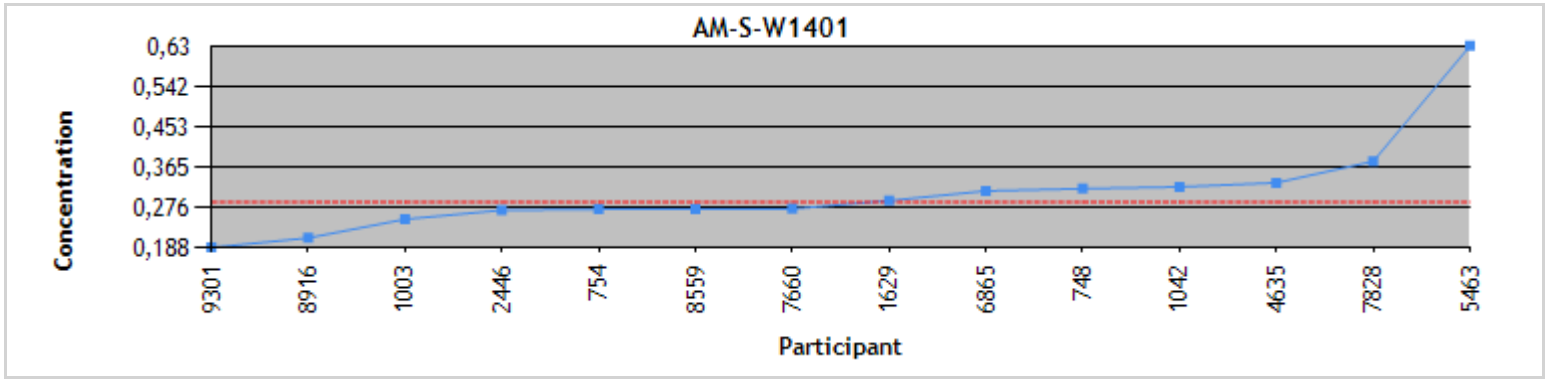
GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.264	0.965	0.769
Robust STDev	0.0589	0.0468	0.191
Median	0.272	0.975	0.811
STDev from MAD	0.0593	0.0371	0.151
Arithmetic mean	0.264	0.885	0.762
STDev	0.0519	0.178	0.181
CV or Variability	22.3%	4.9%	24.8%

GC-MS CI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.341	1.25	1.04
Robust STDev	0.0902	0.00131	0.214
Median	0.321	1.25	0.997
STDev from MAD	0.0715	0.00104	0.169
Arithmetic mean	0.408	1.21	1.17
STDev	0.194	0.0726	0.402
CV or Variability	26.5%	0.1%	20.5%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.263	1.01	0.880
Robust STDev	0.0808	0.385	0.230
Median	0.270	1.03	0.930
STDev from MAD	0.0890	0.461	0.182
Arithmetic mean	0.263	1.01	0.844
STDev	0.0713	0.339	0.262
CV or Variability	30.8%	38.1%	26.2%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Hexachlorobenzene ( $\mu\text{g/L}$ )



Individual results  
Serum Oxychlordane (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.457	-0.36	1.49	-0.52	1.06	-0.45	GC
1003	0.515	0.31	1.72	0.56	1.14	0.06	GC-MS-MS
1042	0.533	0.51	1.78	0.85	1.25	0.74	GC-MS CI
2446	0.500	0.14	1.53	-0.33	1.16	0.19	GC-MS EI
2968	0.549	0.70	1.95	1.65	1.22	0.59	GC-MS EI
4635	0.481	-0.08	1.66	0.30	1.33	1.25	GC-MS EI
5463	0.640	1.75	1.69	0.42	1.25	0.76	ND
6865	0.446	-0.48	1.38	-1.03	0.983	-0.93	ND
7660	0.504	0.18	1.69	0.43	1.16	0.18	GC-MS CI
7828	0.563	0.86	1.83	1.08	---	---	ND
8559	0.409	-0.91	1.45	-0.70	1.08	-0.32	ND
8916	0.377	-1.28	1.19	-1.95	0.840	-1.84	GC
9301	0.367	-1.39	1.17	<b>-2.02</b>	0.810	<b>-2.03</b>	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.488	0.0261	0.0827	0.314 - 0.662	Accepted	---
AM-S-W1402	1.60	0.0820	0.196	1.17 - 2.03	Accepted	---
AM-S-W1403	1.13	0.0517	0.148	0.816 - 1.44	Accepted	---

**Statistics**  
**Serum Oxychlordane (µg/L)**

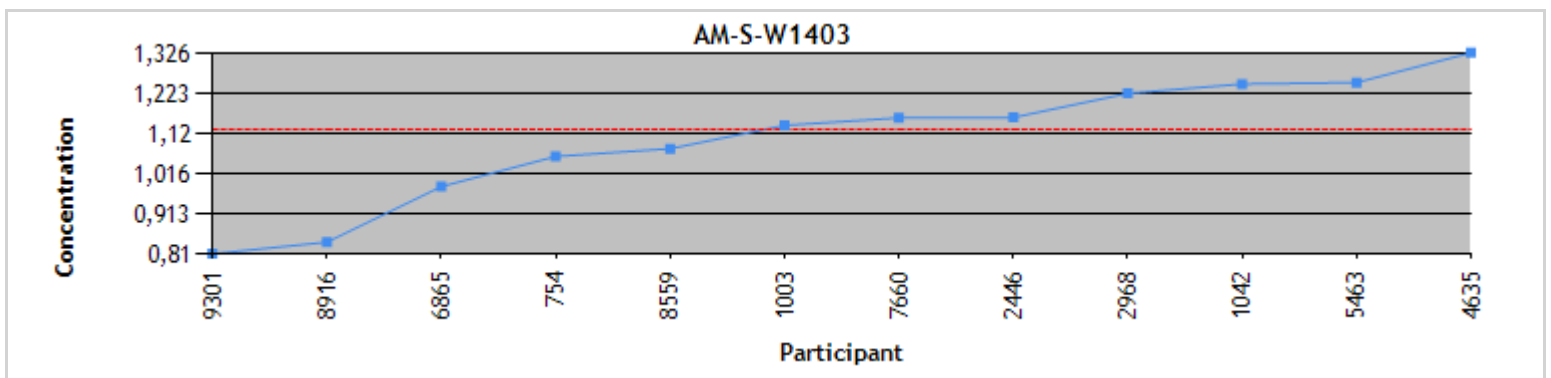
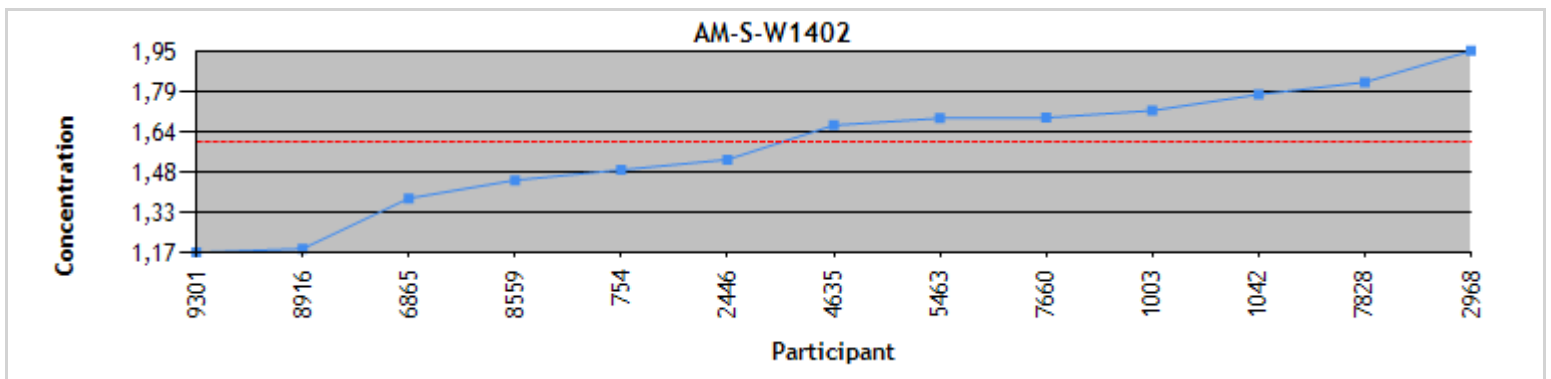
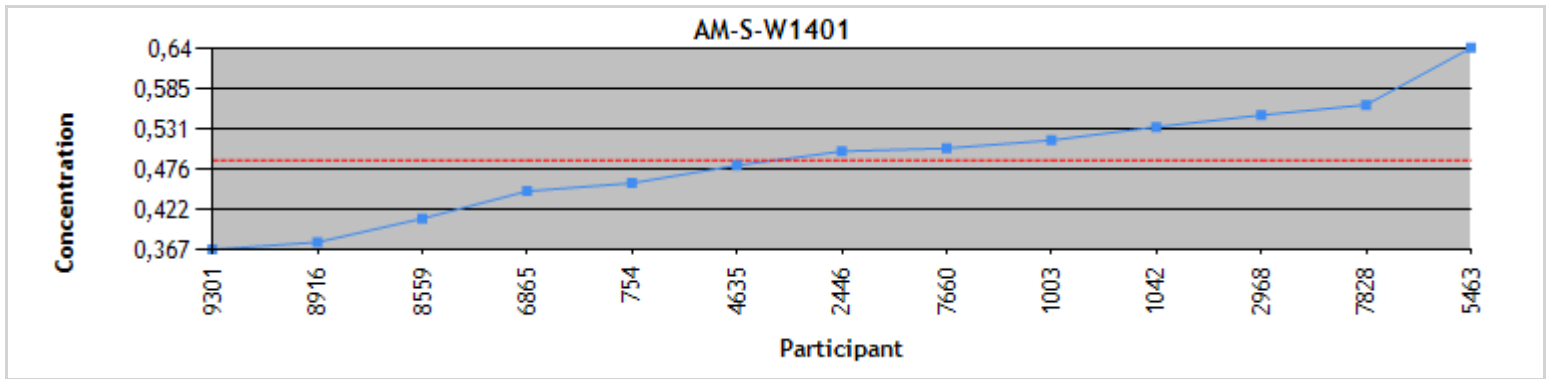
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	13	13	12
Robust mean Algo A	0.488	1.60	1.13
Robust STDev	0.0754	0.237	0.143
Median	0.500	1.66	1.15
STDev from MAD	0.0727	0.248	0.138
Arithmetic mean	0.488	1.58	1.11
STDev	0.0772	0.239	0.161
CV or Variability	15.5%	14.8%	12.7%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.486	1.58	1.18
Robust STDev	0.0630	0.368	0.152
Median	0.491	1.60	1.19
STDev from MAD	0.0504	0.312	0.123
Arithmetic mean	0.474	1.58	1.13
STDev	0.0770	0.324	0.224
CV or Variability	13.0%	23.3%	12.9%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Oxychlordane ( $\mu\text{g/L}$ )



Individual results  
Serum p,p'-DDE (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	76.0	1.02	1.69	0.87	6.09	0.59	GC
748	65.4	-0.11	1.15	-1.74	5.39	-0.33	ND
754	75.0	0.92	1.61	0.48	5.78	0.18	GC
1003	64.6	-0.19	1.47	-0.19	5.41	-0.30	GC-MS-MS
1042	67.0	0.07	1.57	0.30	6.02	0.50	GC-MS CI
1629	66.0	-0.04	1.87	1.74	5.95	0.41	GC-MS-MS
2446	51.4	-1.59	1.50	-0.05	6.00	0.47	GC-MS EI
2968	83.7	1.84	1.69	0.87	6.66	1.34	GC-MS EI
4336	65.8	-0.06	1.45	-0.27	5.29	-0.46	ND
4635	79.5	1.39	1.50	-0.07	5.43	-0.28	GC-MS EI
5463	58.4	-0.85	1.30	-1.01	4.94	-0.92	ND
6865	45.0	-2.28	1.52	0.05	5.72	0.10	ND
7660	61.2	-0.55	1.47	-0.17	5.40	-0.32	GC-MS CI
8420	>LL	---	1.24	-1.30	4.34	-1.71	ND
8559	59.8	-0.70	1.52	0.05	5.59	-0.07	ND
8916	60.8	-0.59	1.33	-0.87	5.18	-0.61	GC
9301	79.7	1.42	1.88	1.79	6.43	1.04	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	66.4*	3.33	8.77	47.6 - 85.2	Accepted	---
AM-S-W1402	1.51	0.0545	0.199	1.10 - 1.92	Accepted	---
AM-S-W1403	5.64	0.159	0.745	4.12 - 7.16	Accepted	---

\* The assigned value is outside the concentration range of our scope of accreditation.

**Statistics**  
**Serum p,p'-DDE (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	16	17	17
Robust mean Algo A	66.4	1.51	5.64
Robust STDev	10.7	0.180	0.523
Median	65.6	1.50	5.59
STDev from MAD	9.62	0.163	0.534
Arithmetic mean	66.2	1.52	5.62
STDev	10.5	0.199	0.559
CV or Variability	16.1%	11.9%	9.3%

GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	74.6	1.58	5.68
Robust STDev	1.87	0.150	0.526
Median	75.0	1.61	5.78
STDev from MAD	1.48	0.119	0.460
Arithmetic mean	70.6	1.54	5.68
STDev	8.48	0.190	0.464
CV or Variability	2.5%	9.5%	9.3%

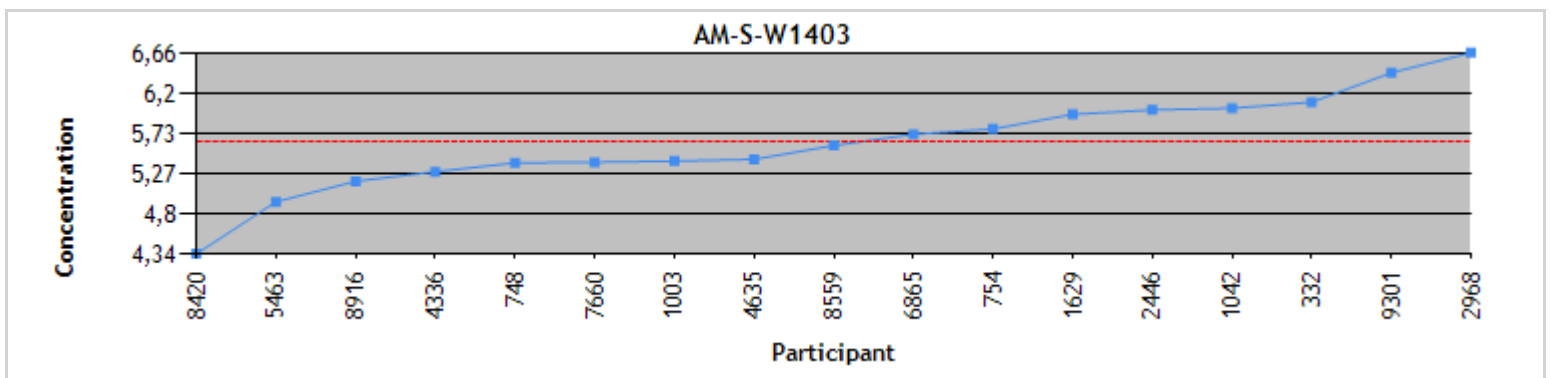
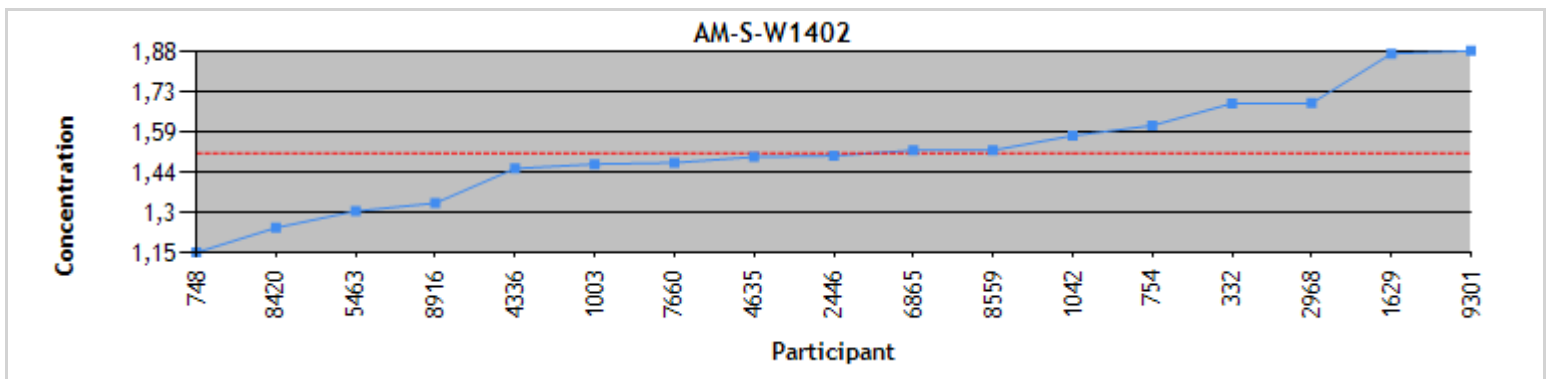
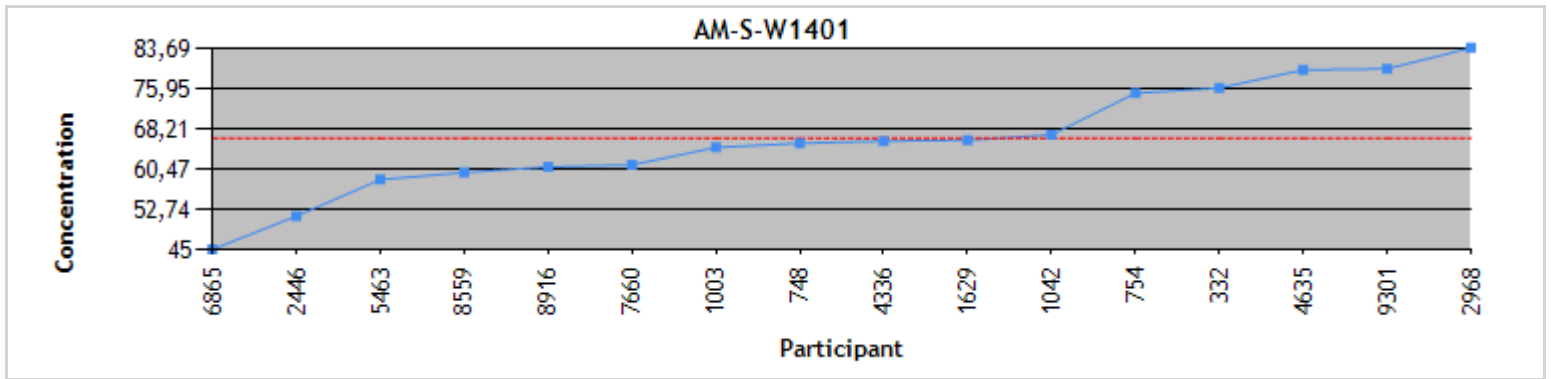
  

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	79.4	1.62	6.14
Robust STDev	4.08	0.175	0.588
Median	79.6	1.60	6.22
STDev from MAD	3.13	0.145	0.489
Arithmetic mean	73.6	1.64	6.13
STDev	14.9	0.183	0.541
CV or Variability	5.1%	10.8%	9.6%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.



Distribution  
Serum p,p'-DDE ( $\mu\text{g/L}$ )



Individual results  
Serum p,p'-DDT (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
748	0.396	0.24	0.604	-0.21	0.861	0.34	ND
754	0.389	0.18	0.588	-0.30	0.775	-0.10	GC
1003	0.361	-0.03	0.669	0.17	0.802	0.04	GC-MS-MS
1042	0.349	-0.12	0.675	0.20	0.822	0.14	GC-MS CI
2446	0.290	-0.57	0.540	-0.58	0.680	-0.58	GC-MS EI
2968	0.342	-0.18	0.693	0.31	0.825	0.16	GC-MS EI
4336	<LD	---	0.650	0.06	0.735	-0.30	ND
4635	0.334	-0.24	0.552	-0.51	0.688	-0.54	GC-MS EI
5463	0.380	0.11	0.640	0.00	0.760	-0.17	ND
6865	0.352	-0.10	0.377	-1.52	0.813	0.10	ND
7660	0.330	-0.27	0.646	0.04	0.794	0.00	GC-MS CI
7828	0.340	-0.19	0.599	-0.24	---	---	ND
8420	0.450	0.65	0.720	0.46	0.860	0.34	ND
8559	<LD	---	<LD	---	0.354	-2.24	ND
8916	0.436	0.54	0.724	0.48	0.845	0.26	GC
9301	0.459	0.72	0.866	1.30	1.09	1.51	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.365	0.0131	0.130	0.103 - 0.627	Accepted	---
AM-S-W1402	0.640	0.0248	0.172	0.293 - 0.987	Accepted	---
AM-S-W1403	0.794	0.0224	0.195	0.401 - 1.19	Rejected	---

**Statistics**  
**Serum p,p'-DDT (µg/L)**

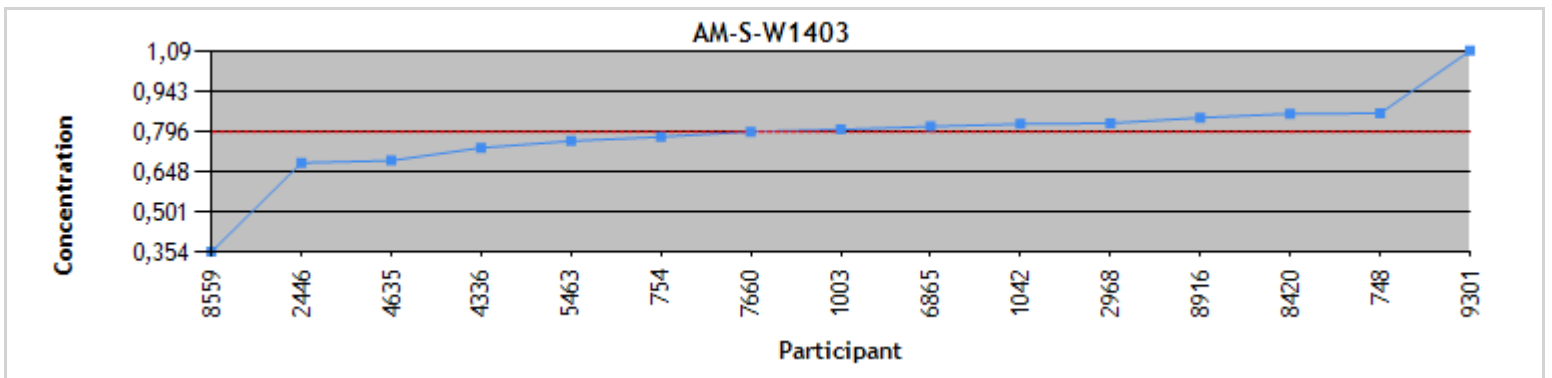
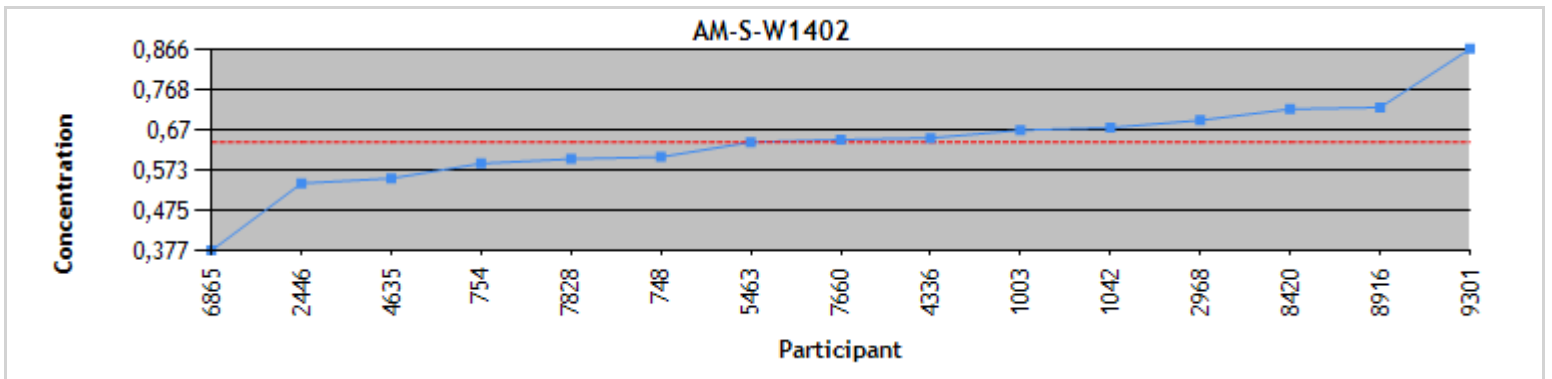
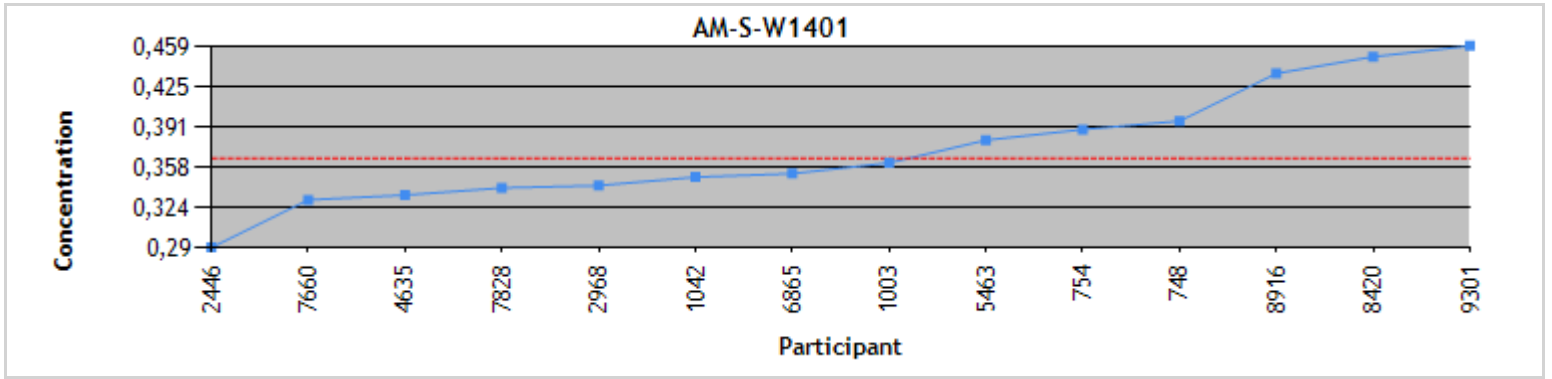
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	14	15	15
Robust mean Algo A	0.365	0.640	0.794
Robust STDev	0.0393	0.0767	0.0694
Median	0.357	0.646	0.802
STDev from MAD	0.0371	0.0703	0.0638
Arithmetic mean	0.372	0.636	0.780
STDev	0.0493	0.108	0.151
CV or Variability	10.8%	12.0%	8.7%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.340	0.644	0.778
Robust STDev	0.0492	0.137	0.130
Median	0.338	0.623	0.757
STDev from MAD	0.0386	0.113	0.108
Arithmetic mean	0.356	0.663	0.821
STDev	0.0722	0.152	0.191
CV or Variability	14.5%	21.3%	16.7%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum p,p'-DDT ( $\mu\text{g/L}$ )



Individual results  
Serum PBDE IUPAC # 28 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.233	0.98	0.308	1.05	0.929	1.01	GC
1042	0.191	-0.31	0.266	0.02	0.791	-0.07	GC-MS CI
1629	0.184	-0.52	0.264	-0.02	0.723	-0.60	GC-MS EI
2446	0.202	0.03	0.259	-0.15	0.755	-0.35	GC-MS EI
4635	0.209	0.24	0.278	0.32	0.786	-0.11	GC-MS EI
5039	0.213	0.38	0.259	-0.14	0.856	0.44	GC-MS-MS
5463	0.170	-0.95	0.200	-1.58	0.630	-1.33	ND
7660	0.225	0.73	0.294	0.72	0.870	0.55	GC-MS CI
8916	0.178	-0.70	0.259	-0.15	0.828	0.22	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.201	0.0102	0.0311	0.136 - 0.266	Accepted	---
AM-S-W1402	0.265	0.00396	0.0408	0.183 - 0.347	Accepted	---
AM-S-W1403	0.800	0.0384	0.122	0.545 - 1.06	Accepted	---

**Statistics**  
**Serum PBDE IUPAC # 28 (µg/L)**

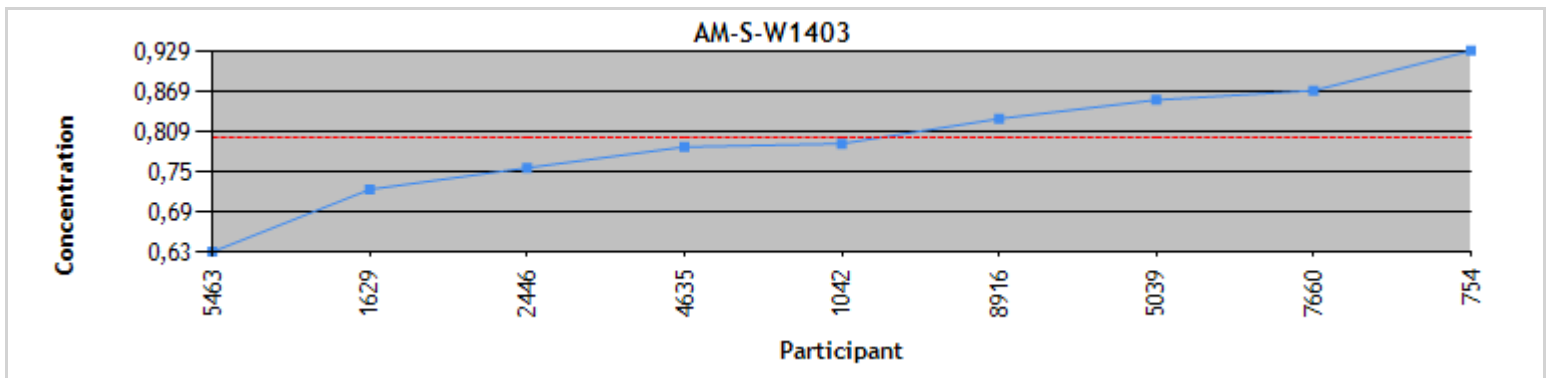
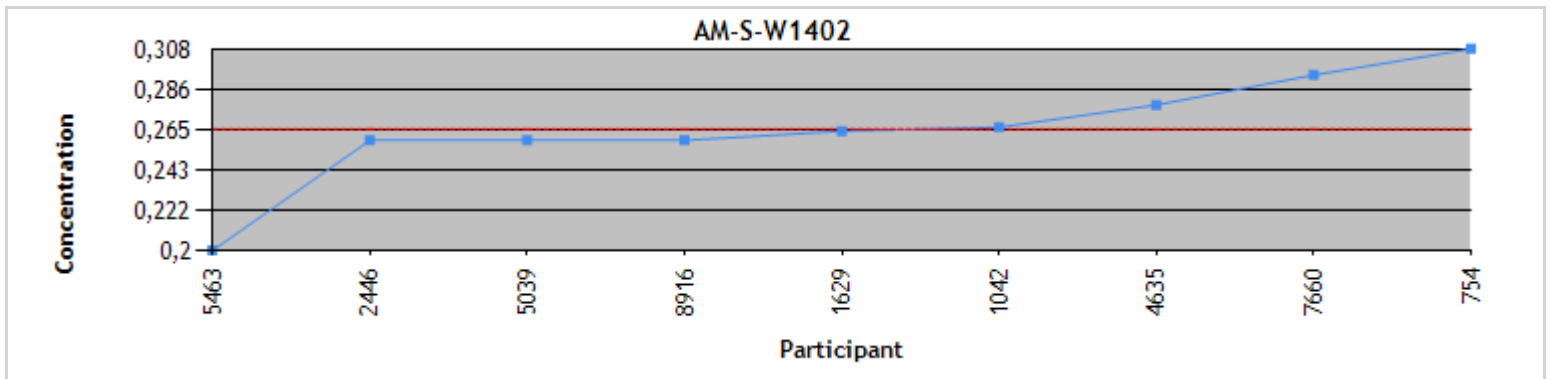
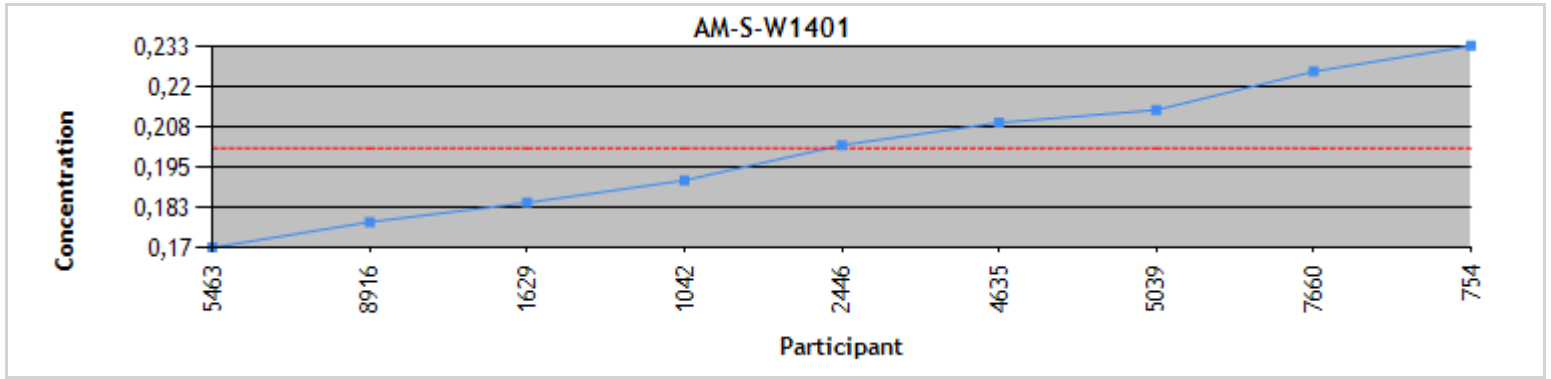
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	9	9	9
Robust mean Algo A	0.201	0.265	0.800
Robust STDev	0.0244	0.00949	0.0921
Median	0.202	0.264	0.791
STDev from MAD	0.0267	0.00742	0.0967
Arithmetic mean	0.201	0.265	0.796
STDev	0.0215	0.0300	0.0883
CV or Variability	12.2%	3.6%	11.5%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.193	0.262	0.773
Robust STDev	0.0166	0.00450	0.0508
Median	0.193	0.262	0.771
STDev from MAD	0.0178	0.00371	0.0467
Arithmetic mean	0.193	0.265	0.773
STDev	0.0146	0.00898	0.0448
CV or Variability	8.6%	1.7%	6.6%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 28 (µg/L)



Individual results  
Serum PBDE IUPAC # 47 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.311	-2.15	0.967	-3.06	0.345	-2.79	GC
1003	0.384	-1.05	1.54	-0.33	0.488	-1.04	GC-MS-MS
1042	0.390	-0.95	1.55	-0.31	0.518	-0.67	GC-MS CI
1629	0.458	0.08	1.73	0.57	0.563	-0.12	GC-MS EI
2446	0.469	0.24	1.54	-0.35	0.594	0.26	GC-MS EI
4635	0.498	0.68	1.74	0.62	0.570	-0.04	GC-MS EI
5039	0.534	1.23	1.42	-0.91	0.674	1.23	GC-MS-MS
5463	0.420	-0.50	1.50	-0.52	0.520	-0.65	ND
6865	0.462	0.14	1.55	-0.29	0.568	-0.06	ND
7660	0.438	-0.23	1.70	0.41	0.575	0.02	GC-MS CI
8916	0.464	0.17	1.88	1.27	0.669	1.18	GC-MS EI
9301	0.788	5.08	2.54	4.43	0.917	4.21	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.453	0.0228	0.0619	0.321 - 0.585	Rejected	---
AM-S-W1402	1.61	0.0690	0.198	1.19 - 2.03	Accepted	---
AM-S-W1403	0.573	0.0297	0.0761	0.410 - 0.736	Accepted	---



**Statistics**  
**Serum PBDE IUPAC # 47 (µg/L)**

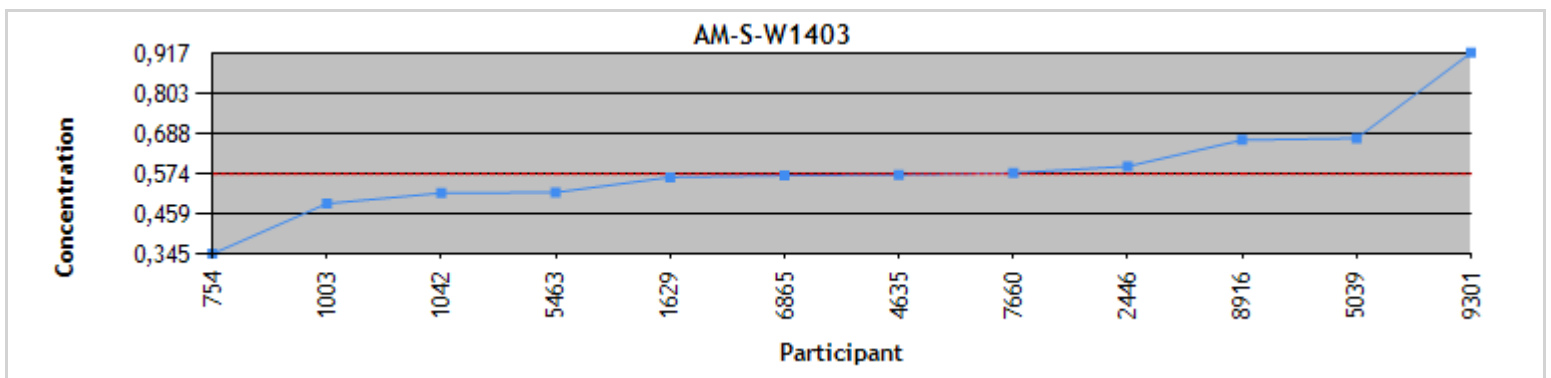
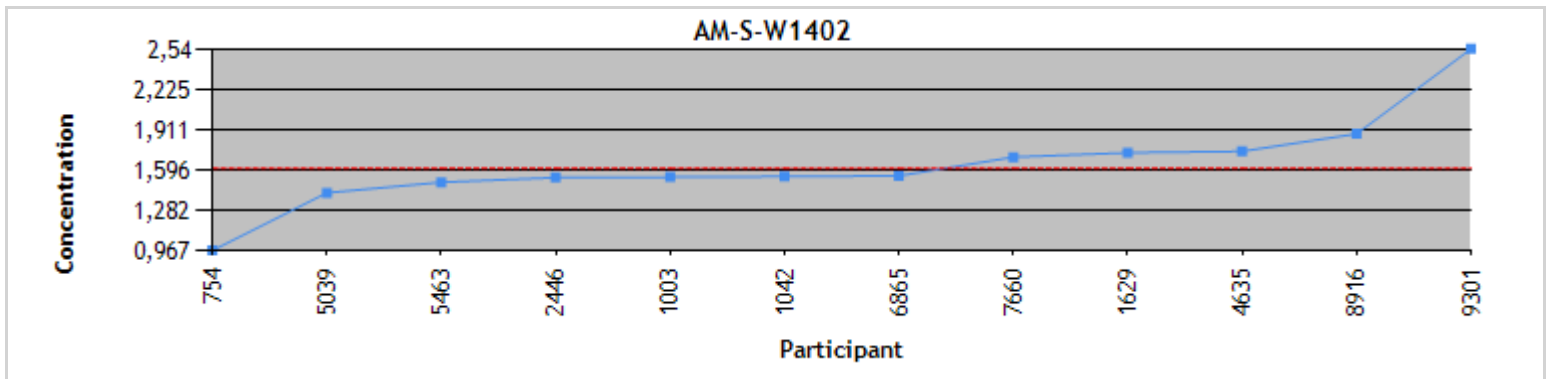
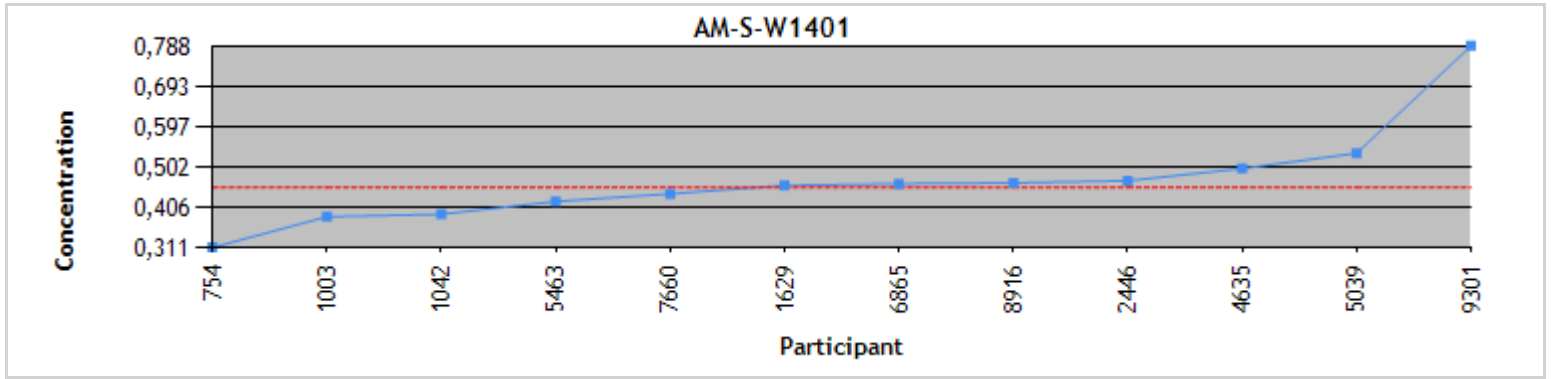
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	12	12	12
Robust mean Algo A	0.453	1.61	0.573
Robust STDev	0.0633	0.191	0.0822
Median	0.460	1.55	0.569
STDev from MAD	0.0578	0.206	0.0742
Arithmetic mean	0.468	1.64	0.583
STDev	0.116	0.363	0.136
CV or Variability	14.0%	11.9%	14.3%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	5	5	5
Robust mean Algo A	0.476	1.79	0.611
Robust STDev	0.0190	0.214	0.0558
Median	0.469	1.74	0.594
STDev from MAD	0.0163	0.202	0.0460
Arithmetic mean	0.535	1.88	0.663
STDev	0.142	0.386	0.148
CV or Variability	4.0%	12.0%	9.1%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 47 (µg/L)



Individual results  
 Serum PBDE IUPAC # 99 (µg/L)  
 Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.705	1.16	0.127	0.31	0.456	0.35	GC
1042	0.586	-0.22	0.112	-0.27	0.459	0.40	GC-MS CI
1629	0.614	0.10	0.117	-0.08	0.408	-0.41	GC-MS EI
2446	0.596	-0.10	0.118	-0.04	0.436	0.03	GC-MS EI
4635	0.683	0.91	0.118	-0.04	0.437	0.05	GC-MS EI
5039	0.504	-1.18	0.192	2.81	0.381	-0.83	GC-MS-MS
5463	0.550	-0.64	0.0900	-1.12	0.360	-1.17	ND
6865	0.641	0.42	0.270	5.84	0.462	0.44	ND
7660	0.528	-0.89	0.0960	-0.89	0.396	-0.60	GC-MS CI
8916	0.560	-0.52	0.109	-0.39	0.463	0.46	GC-MS EI
9301	0.982	4.39	0.226	4.14	0.659	3.56	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.605	0.0291	0.0808	0.433 - 0.777	Accepted	---
AM-S-W1402	0.119	0.00632	0.0251	0.0673 - 0.171	Rejected	---
AM-S-W1403	0.434	0.0162	0.0612	0.307 - 0.561	Rejected	---

**Statistics**  
**Serum PBDE IUPAC # 99 (µg/L)**

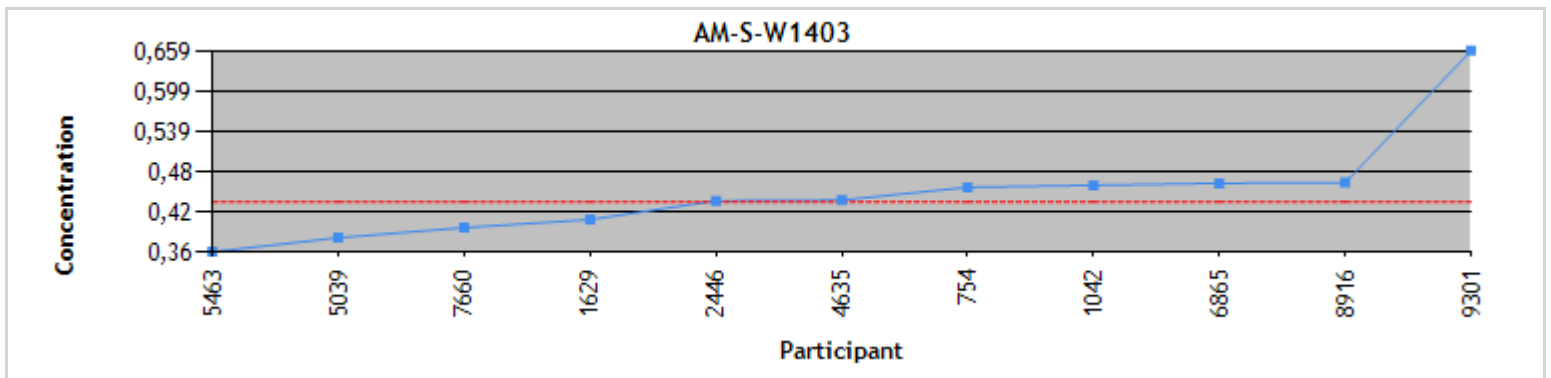
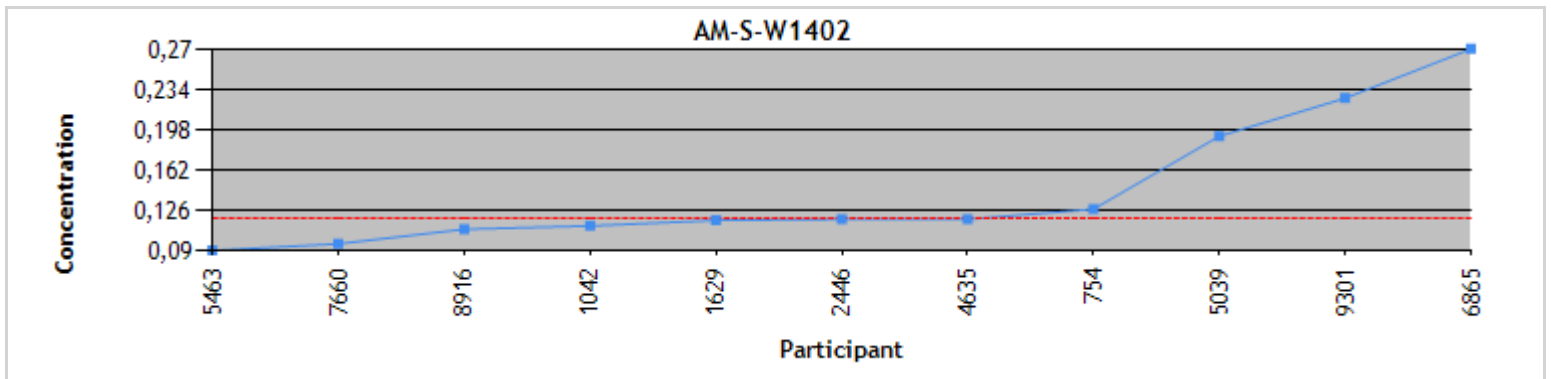
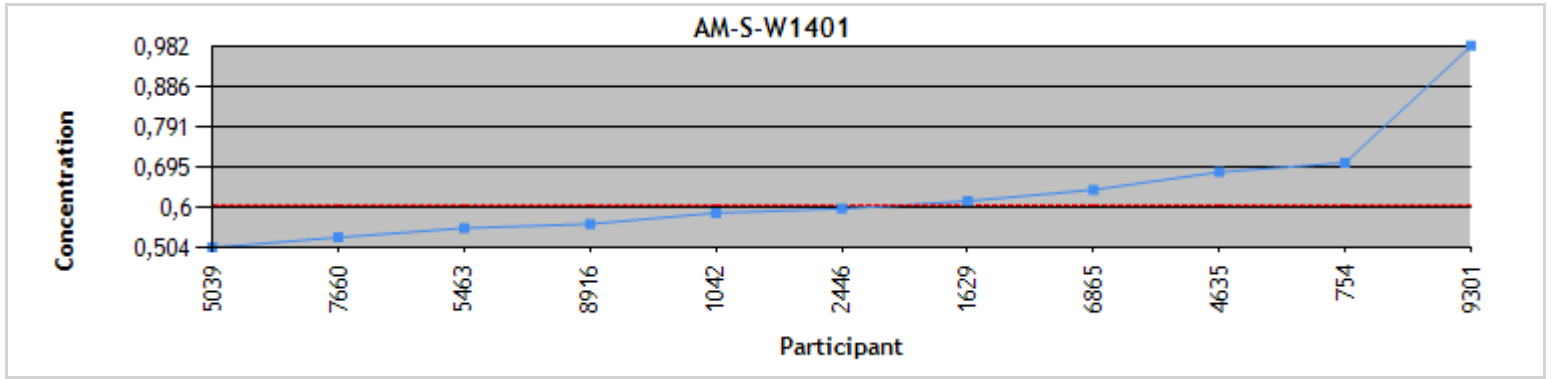
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	11	11	11
Robust mean Algo A	0.605	0.119	0.434
Robust STDev	0.0773	0.0168	0.0430
Median	0.596	0.118	0.437
STDev from MAD	0.0682	0.0133	0.0386
Arithmetic mean	0.632	0.143	0.447
STDev	0.132	0.0589	0.0787
CV or Variability	12.8%	14.1%	9.9%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	5	5	5
Robust mean Algo A	0.637	0.118	0.448
Robust STDev	0.0796	0.00185	0.0371
Median	0.614	0.118	0.437
STDev from MAD	0.0801	0.00148	0.0386
Arithmetic mean	0.687	0.138	0.481
STDev	0.171	0.0496	0.102
CV or Variability	12.5%	1.6%	8.3%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 99 (µg/L)



Individual results  
Serum PBDE IUPAC # 100 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.683	0.40	0.277	-0.85	0.398	-0.42	GC
1042	0.590	-0.64	0.331	0.30	0.420	-0.05	GC-MS CI
1629	0.637	-0.11	0.329	0.26	0.416	-0.12	GC-MS EI
2446	0.617	-0.34	0.309	-0.17	0.414	-0.15	GC-MS EI
4635	0.719	0.81	0.340	0.49	0.442	0.32	GC-MS EI
5039	0.477	-1.90	0.282	-0.74	0.403	-0.33	GC-MS-MS
5463	0.600	-0.53	0.270	-1.00	0.340	-1.38	ND
6865	0.670	0.26	0.324	0.15	0.463	0.66	ND
7660	0.646	-0.02	0.309	-0.17	0.415	-0.14	GC-MS CI
8916	0.669	0.25	0.319	0.04	0.473	0.83	GC-MS EI
9301	0.880	2.61	0.414	2.07	0.510	1.45	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.647	0.0225	0.0866	0.468 - 0.826	Accepted	---
AM-S-W1402	0.317	0.00822	0.0462	0.223 - 0.411	Accepted	---
AM-S-W1403	0.423	0.0112	0.0592	0.303 - 0.543	Accepted	---

**Statistics**  
**Serum PBDE IUPAC # 100 (µg/L)**

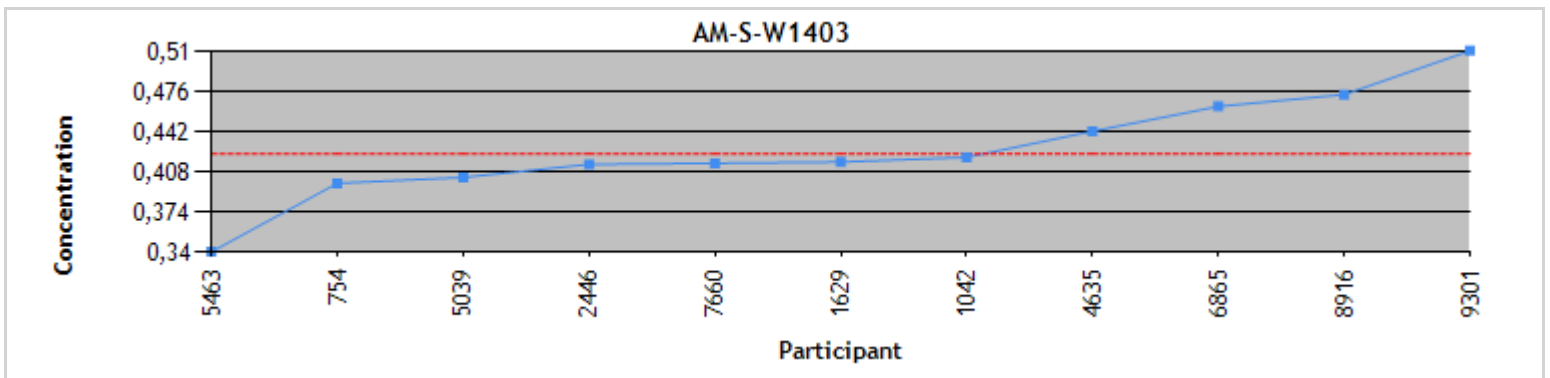
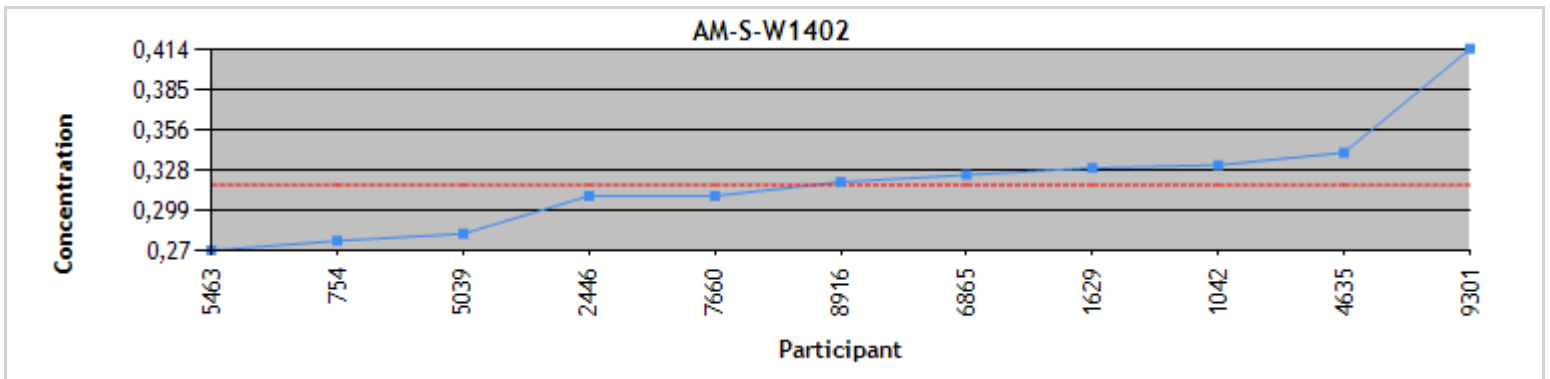
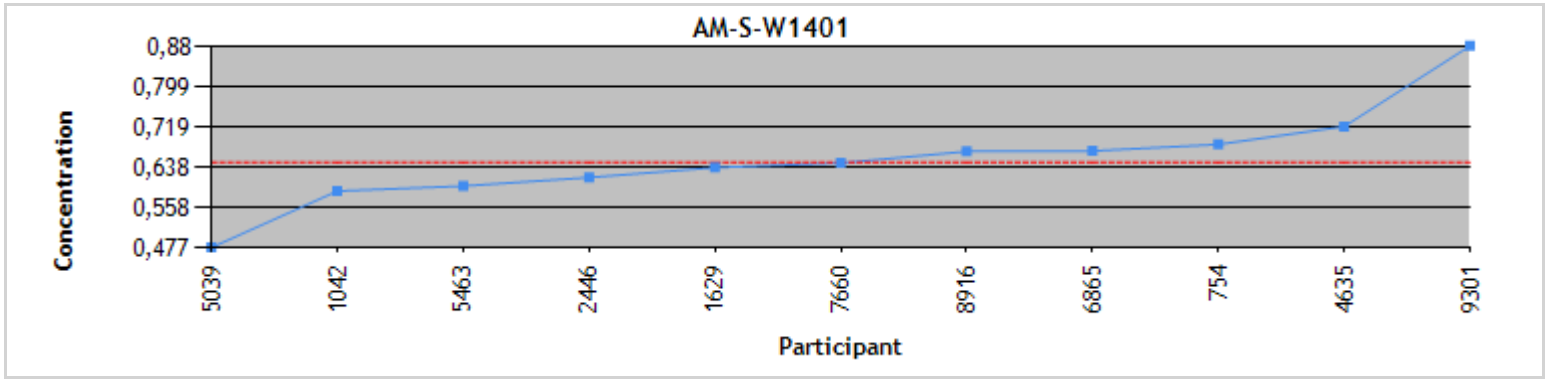
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	11	11	11
Robust mean Algo A	0.647	0.317	0.423
Robust STDev	0.0598	0.0218	0.0297
Median	0.646	0.319	0.416
STDev from MAD	0.0555	0.0178	0.0267
Arithmetic mean	0.653	0.319	0.427
STDev	0.0983	0.0393	0.0447
CV or Variability	9.2%	6.9%	7.0%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	5	5	5
Robust mean Algo A	0.684	0.330	0.450
Robust STDev	0.0748	0.0198	0.0439
Median	0.669	0.329	0.442
STDev from MAD	0.0742	0.0163	0.0415
Arithmetic mean	0.704	0.342	0.451
STDev	0.105	0.0418	0.0407
CV or Variability	10.9%	6.0%	9.8%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 100 (µg/L)





Individual results  
Serum PBDE IUPAC # 153 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	1.37	1.00	0.697	0.52	0.337	0.20	GC
1042	1.32	0.75	0.703	0.57	0.377	0.91	GC-MS CI
1629	1.25	0.37	0.647	0.04	0.329	0.05	GC-MS EI
2446	1.13	-0.27	0.520	-1.18	0.254	-1.28	GC-MS EI
4635	1.31	0.66	0.632	-0.11	0.341	0.27	GC-MS EI
5039	1.06	-0.63	0.810	1.60	0.142	-3.27	GC-MS-MS
5463	0.810	-1.94	0.530	-1.08	0.240	-1.53	ND
6865	0.874	-1.61	0.477	-1.59	0.316	-0.18	ND
7660	1.07	-0.57	0.656	0.13	0.334	0.14	GC-MS CI
8916	1.18	0.02	0.625	-0.17	0.369	0.76	GC-MS EI
9301	2.41	6.46	1.10	4.38	0.565	4.25	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.18*	0.0779	0.173	0.800 - 1.56	Rejected	---
AM-S-W1402	0.643	0.0387	0.0970	0.434 - 0.852	Accepted	---
AM-S-W1403	0.326	0.0223	0.0516	0.214 - 0.438	Accepted	---

\* The assigned value is outside the concentration range of our scope of accreditation.

**Statistics**  
**Serum PBDE IUPAC # 153 (µg/L)**

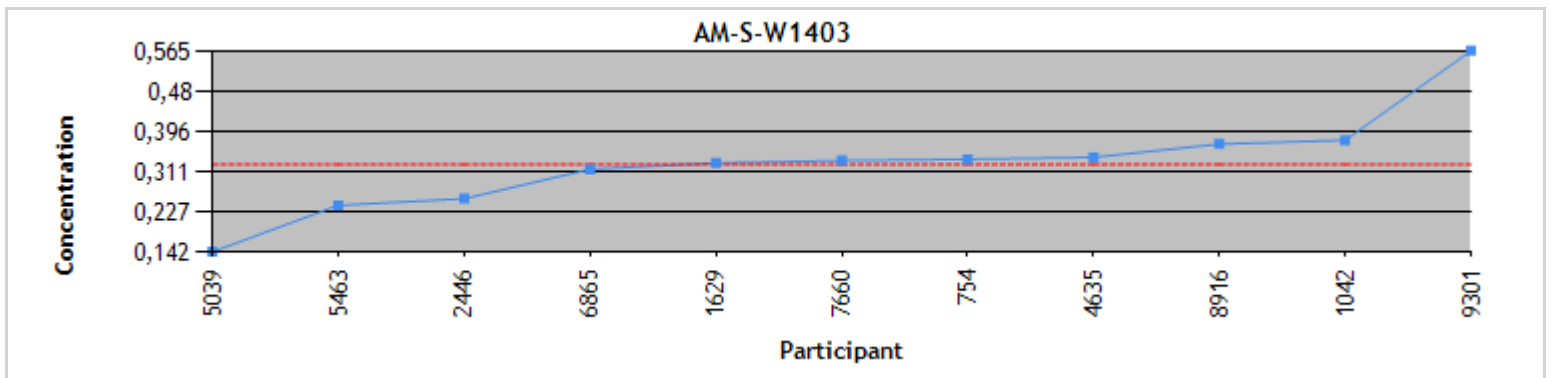
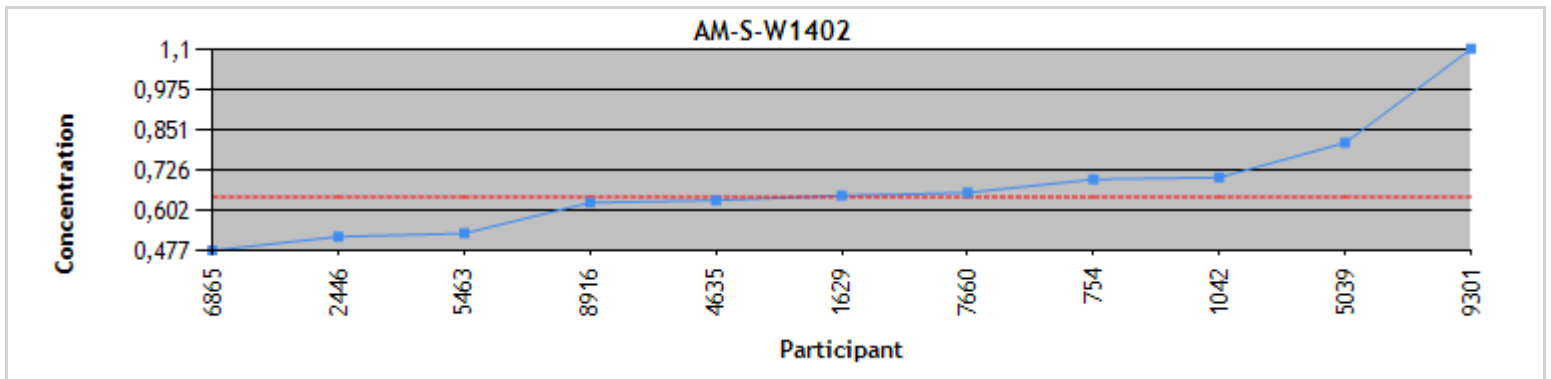
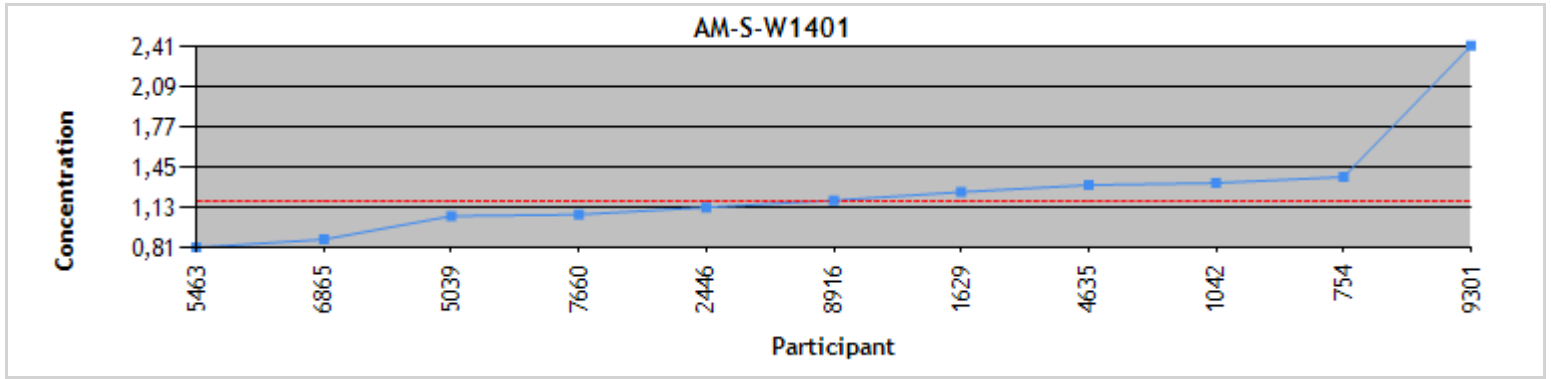
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	11	11	11
Robust mean Algo A	1.18	0.643	0.326
Robust STDev	0.207	0.103	0.0591
Median	1.18	0.647	0.334
STDev from MAD	0.184	0.0830	0.0521
Arithmetic mean	1.25	0.672	0.328
STDev	0.423	0.170	0.104
CV or Variability	17.5%	16.0%	18.1%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	5	5	5
Robust mean Algo A	1.25	0.634	0.344
Robust STDev	0.118	0.0283	0.0527
Median	1.25	0.632	0.341
STDev from MAD	0.0979	0.0222	0.0415
Arithmetic mean	1.46	0.705	0.372
STDev	0.538	0.227	0.116
CV or Variability	9.4%	4.5%	15.3%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 153 (µg/L)



Individual results  
Serum PBDE IUPAC # 154 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.625	0.32	0.0955	-0.65	0.482	0.23	GC
1042	0.655	0.59	0.109	-0.08	0.489	0.31	GC-MS CI
1629	0.635	0.41	0.113	0.08	0.459	-0.05	GC-MS EI
2446	0.506	-0.74	0.113	0.08	0.400	-0.75	GC-MS EI
4635	0.670	0.72	0.115	0.17	0.488	0.30	GC-MS EI
5039	0.473	-1.03	0.184	3.07	0.443	-0.24	GC-MS-MS
5463	0.510	-0.70	0.100	-0.46	0.390	-0.87	ND
6865	0.506	-0.74	0.0909	-0.85	0.411	-0.62	ND
8916	0.570	-0.17	0.111	0.00	0.486	0.28	GC-MS EI
9301	0.971	3.39	0.151	1.68	0.679	2.59	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.589	0.0400	0.105	0.363 - 0.815	Accepted	---
AM-S-W1402	0.111	0.00531	0.0232	0.0635 - 0.159	Rejected	---
AM-S-W1403	0.463	0.0163	0.0818	0.296 - 0.630	Rejected	---

**Statistics**  
**Serum PBDE IUPAC # 154 (µg/L)**

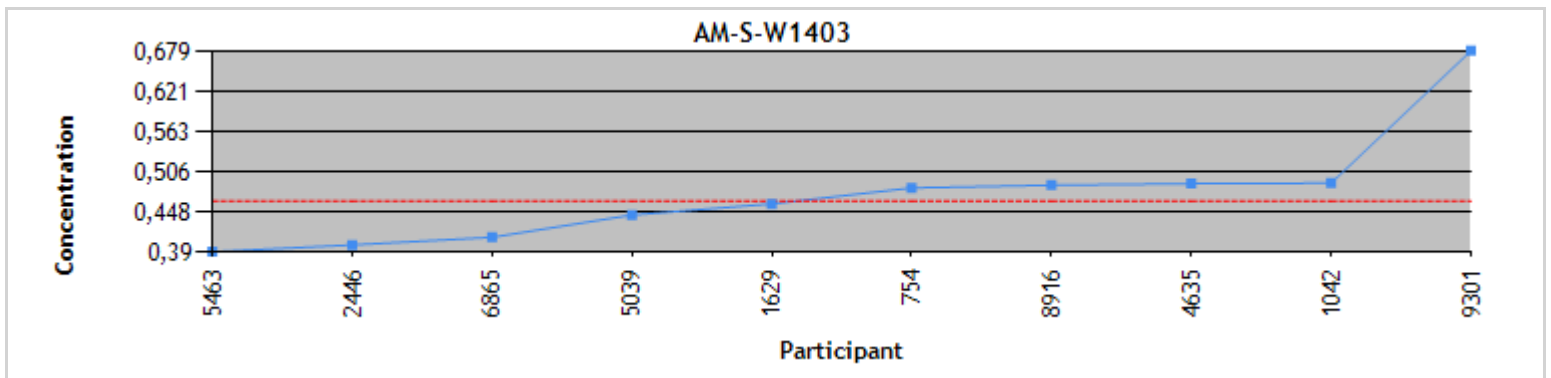
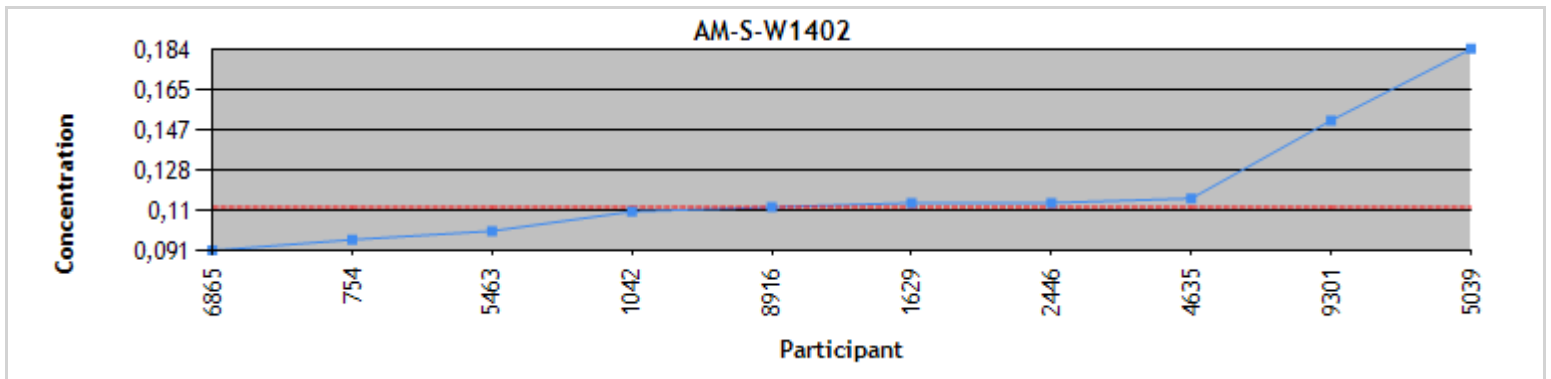
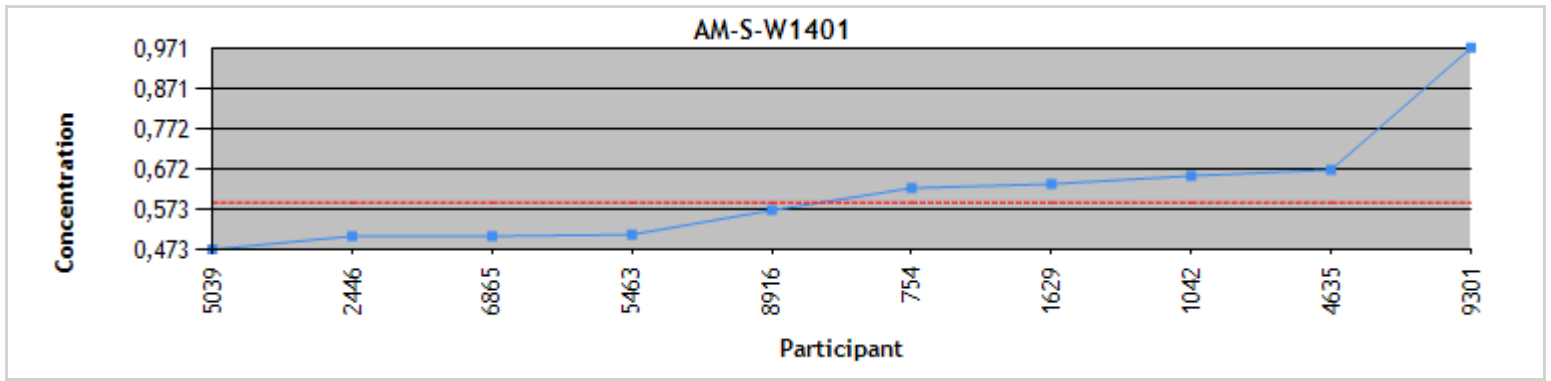
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	10	10	10
Robust mean Algo A	0.589	0.111	0.463
Robust STDev	0.101	0.0134	0.0412
Median	0.598	0.112	0.471
STDev from MAD	0.119	0.0111	0.0343
Arithmetic mean	0.612	0.118	0.473
STDev	0.145	0.0283	0.0819
CV or Variability	17.2%	12.1%	8.9%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	5	5	5
Robust mean Algo A	0.632	0.114	0.481
Robust STDev	0.118	0.00277	0.0501
Median	0.635	0.113	0.486
STDev from MAD	0.0964	0.00297	0.0400
Arithmetic mean	0.670	0.121	0.502
STDev	0.179	0.0171	0.105
CV or Variability	18.6%	2.4%	10.4%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 154 (µg/L)



Individual results  
 Serum PBDE IUPAC # 183 (µg/L)  
 Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.147	-0.49	0.638	0.26	0.945	0.53	GC
1042	0.216	1.20	0.791	1.57	1.13	1.59	GC-MS CI
1629	0.176	0.22	0.649	0.35	0.862	0.06	GC-MS EI
2446	0.0380	-3.16	0.339	-2.30	0.600	-1.42	GC-MS EI
4635	0.166	-0.02	0.579	-0.25	0.780	-0.40	GC-MS EI
5039	0.560	9.62	2.31	14.60	0.840	-0.06	GC-MS-MS
5463	0.100	-1.64	0.600	-0.07	0.700	-0.85	ND
8916	0.186	0.47	0.590	-0.15	0.978	0.72	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.167	0.0265	0.0310	0.0855 - 0.249	Rejected	---
AM-S-W1402	0.608	0.0295	0.113	0.374 - 0.842	Accepted	---
AM-S-W1403	0.851	0.0791	0.158	0.497 - 1.20	Accepted	---

**Statistics**  
**Serum PBDE IUPAC # 183 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	8	7	8
Robust mean Algo A	0.167	0.608	0.851
Robust STDev	0.0599	0.0625	0.179
Median	0.171	0.600	0.851
STDev from MAD	0.0512	0.0564	0.164
Arithmetic mean	0.199	0.598	0.855
STDev	0.156	0.135	0.167
CV or Variability	36.0%	10.3%	21.0%

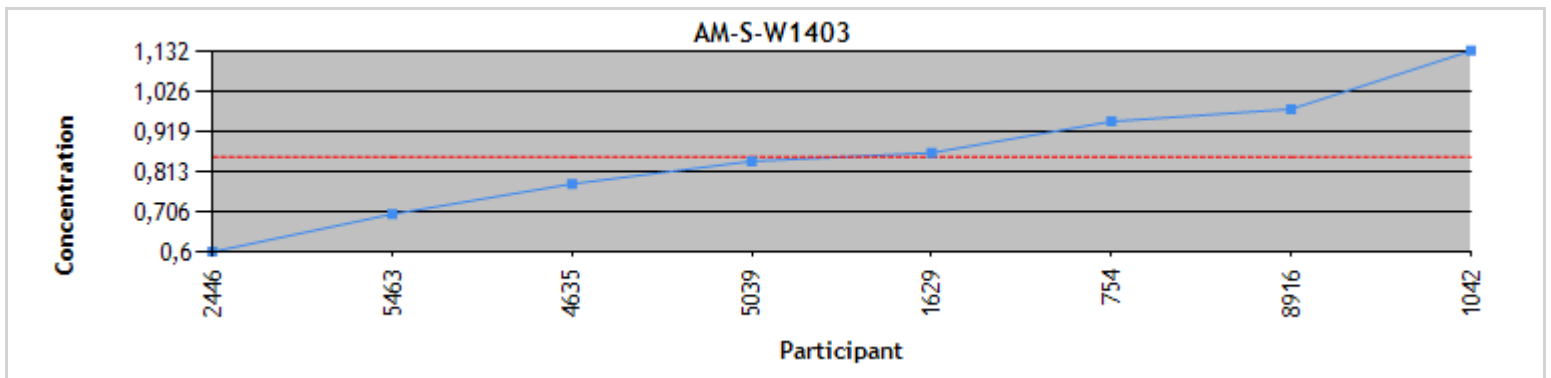
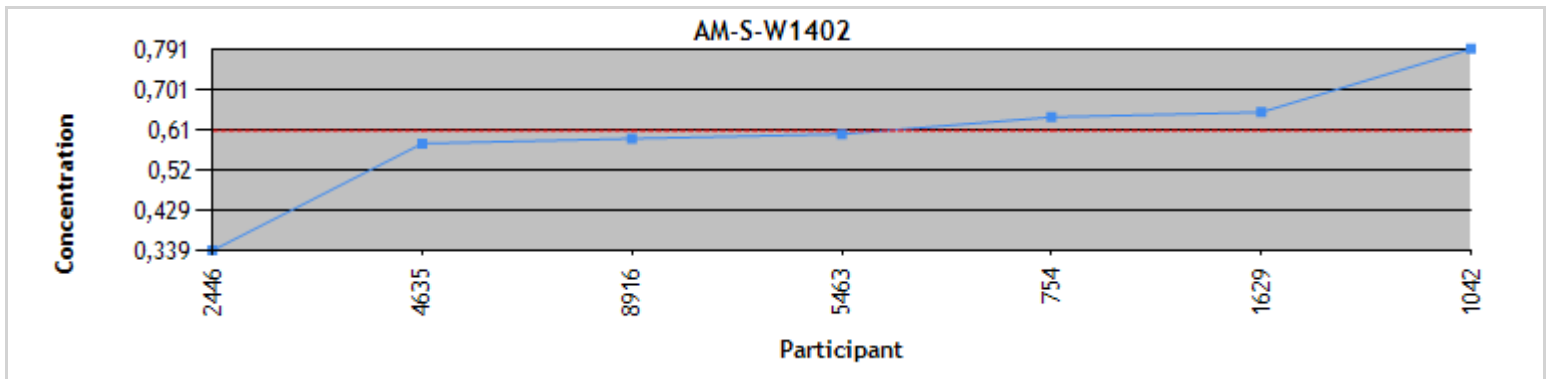
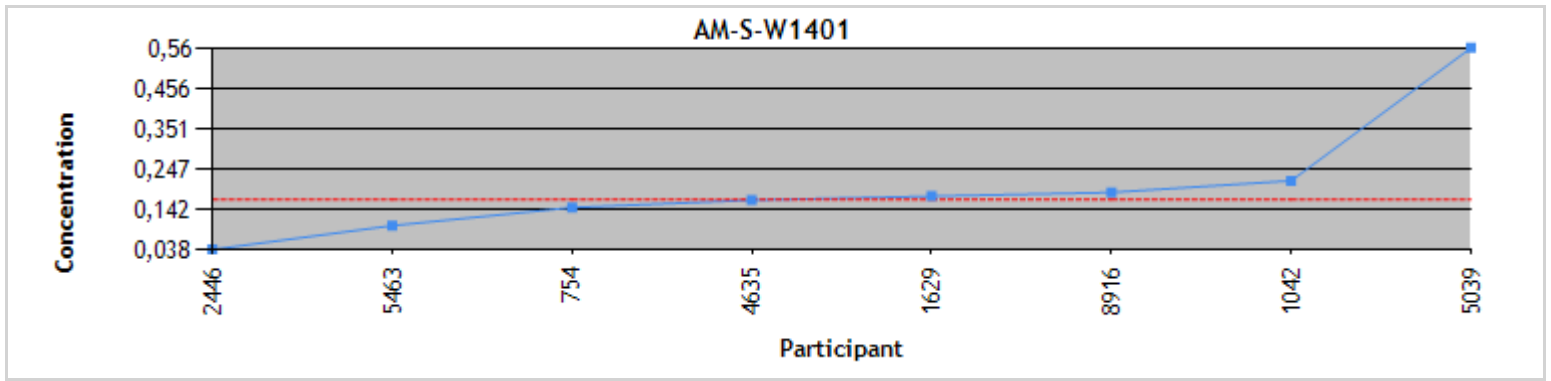
  

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.169	0.581	0.805
Robust STDev	0.0180	0.0662	0.180
Median	0.171	0.585	0.821
STDev from MAD	0.0148	0.0519	0.147
Arithmetic mean	0.142	0.539	0.805
STDev	0.0695	0.137	0.159
CV or Variability	10.6%	11.4%	22.3%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.



Distribution  
Serum PBDE IUPAC # 183 ( $\mu\text{g/L}$ )



Individual results  
 Serum PBDE IUPAC # 209 (µg/L)  
 Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
1042	1.19	-0.36	1.77	-0.40	0.743	0.12	GC-MS CI
1629	1.35	0.05	2.05	0.08	0.538	-0.66	GC-MS EI
4635	1.41	0.20	2.18	0.30	0.853	0.54	GC-MS EI

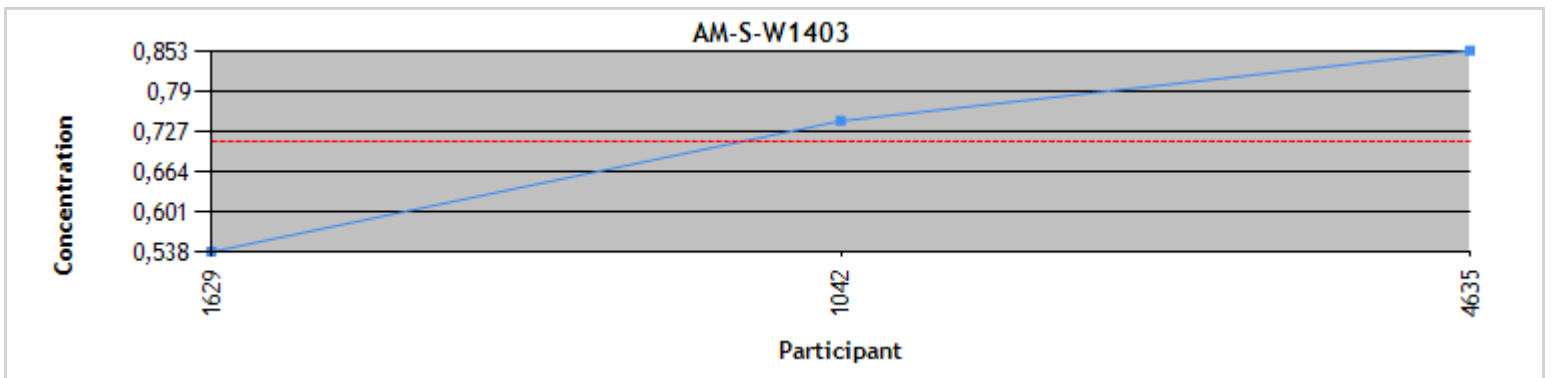
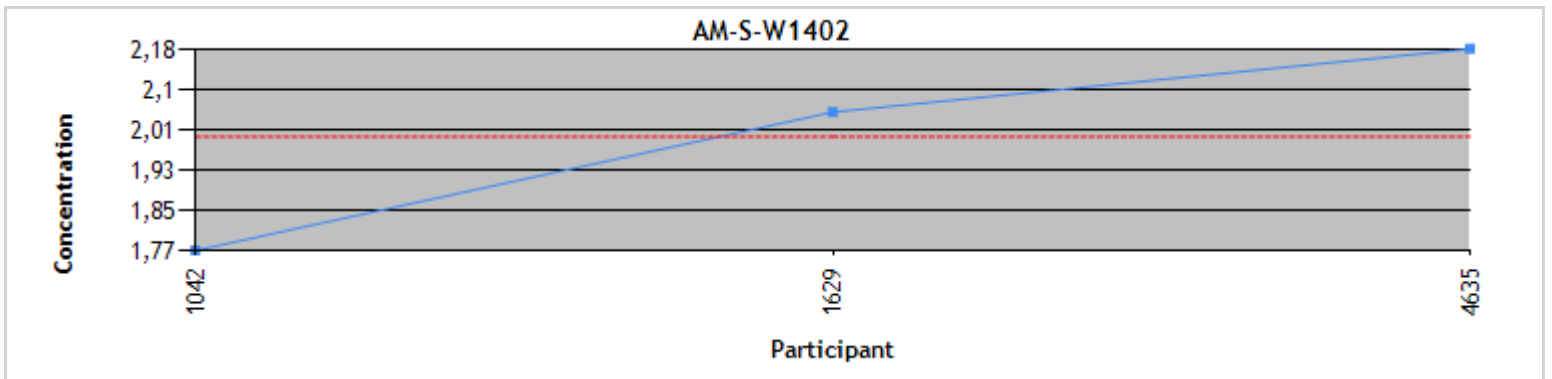
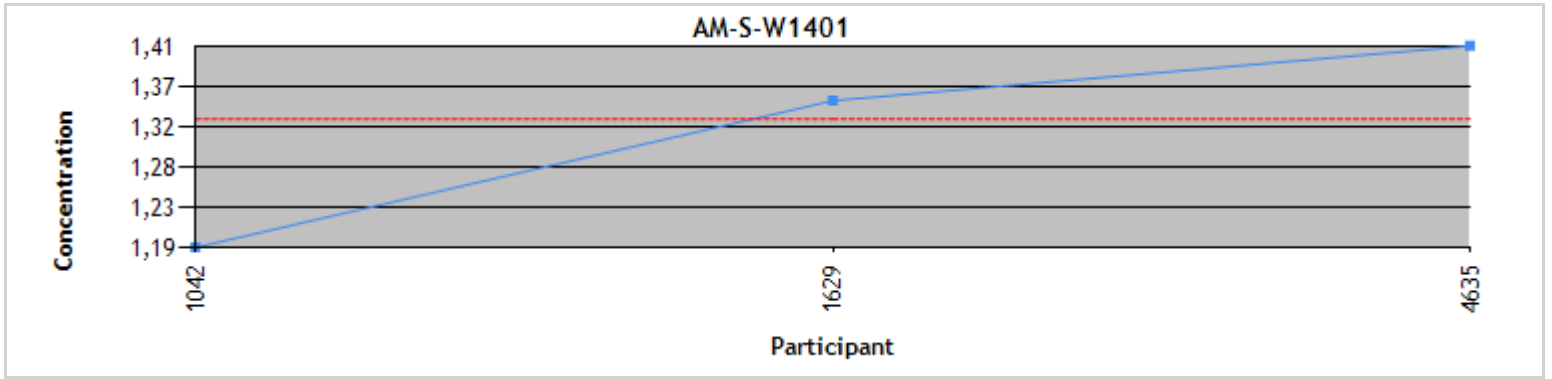
	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.33	0.0810	0.387	0.540 - 2.12	Accepted	---
AM-S-W1402	2.00	0.172	0.563	0.822 - 3.18	Accepted	---
AM-S-W1403	0.711	0.131	0.226	0.189 - 1.23	Accepted	---

**Statistics**  
**Serum PBDE IUPAC # 209 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	1.33	2.00	0.711
Robust STDev	0.112	0.239	0.181
Median	1.35	2.05	0.743
STDev from MAD	0.0890	0.191	0.163
Arithmetic mean	1.32	2.00	0.711
STDev	0.114	0.211	0.160
CV or Variability	8.5%	12.0%	25.5%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PBDE IUPAC # 209 ( $\mu\text{g/L}$ )



Individual results  
Serum PCB IUPAC # 28 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.586	0.32	0.639	1.03	0.236	0.37	GC
748	0.580	0.26	0.481	-0.46	0.216	-0.04	ND
754	0.493	-0.52	0.500	-0.28	0.171	-0.97	GC
1042	0.530	-0.19	0.496	-0.32	0.221	0.06	GC-MS CI
1629	0.561	0.09	0.582	0.49	0.252	0.70	GC-MS-MS
2446	0.573	0.20	0.548	0.17	0.226	0.16	GC-MS EI
2968	0.533	-0.16	0.535	0.05	0.197	-0.43	GC-MS EI
4635	0.526	-0.23	0.502	-0.26	0.209	-0.18	GC-MS EI
5463	0.640	0.80	0.530	0.00	0.250	0.66	ND
6865	0.695	1.30	0.612	0.77	0.230	0.25	ND
7660	0.489	-0.56	0.491	-0.37	0.197	-0.44	GC-MS CI
7828	0.607	0.51	0.573	0.41	0.229	0.23	ND
8420	0.720	1.53	0.660	1.23	0.430	4.36	ND
8559	0.499	-0.47	0.525	-0.05	0.203	-0.31	ND
8916	0.426	-1.13	0.408	-1.15	0.211	-0.14	GC
9301	0.447	-0.94	0.407	-1.16	0.181	-0.76	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.551	0.0248	0.108	0.330 - 0.772	Accepted	---
AM-S-W1402	0.530	0.0209	0.104	0.318 - 0.742	Accepted	---
AM-S-W1403	0.218	0.00824	0.0480	0.121 - 0.315	Rejected	---

**Statistics**  
**Serum PCB IUPAC # 28 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	16	16	16
Robust mean Algo A	0.551	0.530	0.218
Robust STDev	0.0794	0.0668	0.0264
Median	0.547	0.528	0.218
STDev from MAD	0.0756	0.0611	0.0245
Arithmetic mean	0.557	0.531	0.229
STDev	0.0818	0.0718	0.0582
CV or Variability	14.4%	12.6%	12.1%

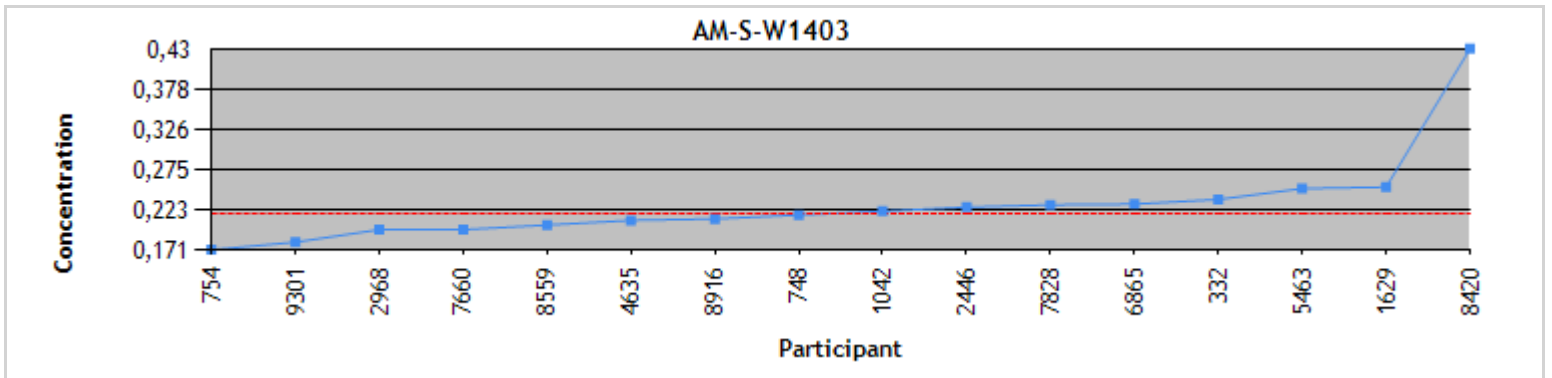
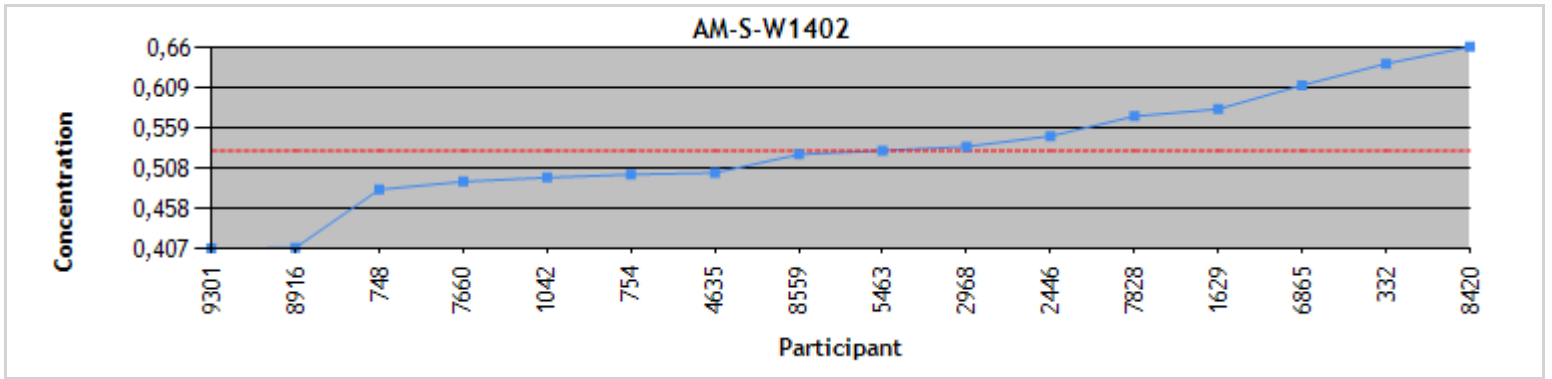
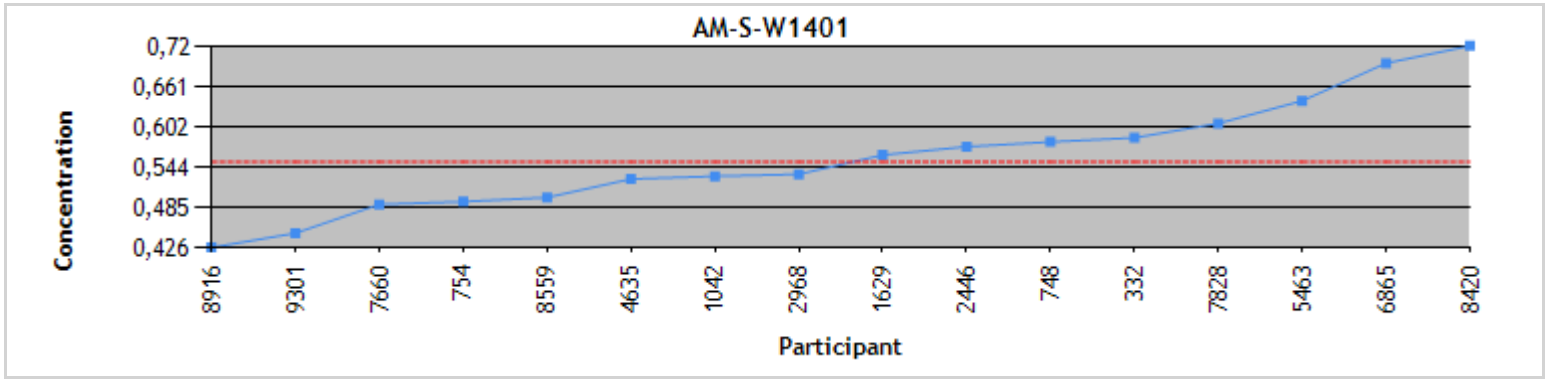
GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.502	0.516	0.206
Robust STDev	0.0911	0.132	0.0372
Median	0.493	0.500	0.211
STDev from MAD	0.0994	0.136	0.0371
Arithmetic mean	0.502	0.516	0.206
STDev	0.0804	0.116	0.0328
CV or Variability	18.2%	25.6%	18.0%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.527	0.513	0.203
Robust STDev	0.0446	0.0410	0.0216
Median	0.530	0.519	0.203
STDev from MAD	0.0349	0.0341	0.0208
Arithmetic mean	0.520	0.498	0.203
STDev	0.0527	0.0637	0.0190
CV or Variability	8.4%	8.0%	10.6%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PCB IUPAC # 28 (µg/L)



Individual results  
 Serum PCB IUPAC # 74 (µg/L)  
 Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.532	1.25	0.315	1.99	0.310	1.57	GC
754	0.470	0.09	0.216	-0.36	0.248	0.14	GC
1042	0.516	0.94	0.256	0.58	0.284	0.96	GC-MS CI
1629	0.499	0.63	0.255	0.57	0.271	0.67	GC-MS-MS
2968	0.369	-1.79	0.195	-0.85	0.195	-1.09	GC-MS EI
4635	0.424	-0.77	0.187	-1.04	0.192	-1.16	GC-MS EI
5463	0.470	0.09	0.240	0.21	0.250	0.18	ND
6865	0.481	0.30	0.236	0.12	0.243	0.02	ND
7660	0.476	0.21	0.233	0.05	0.245	0.07	GC-MS CI
7828	0.539	1.38	0.268	0.88	0.271	0.67	ND
8559	0.411	-1.01	0.216	-0.36	0.209	-0.76	ND
8916	0.417	-0.90	0.226	-0.12	0.235	-0.16	GC
9301	0.430	-0.65	0.202	-0.69	0.208	-0.79	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.465	0.0194	0.0499	0.358 - 0.572	Accepted	---
AM-S-W1402	0.231	0.0111	0.0407	0.147 - 0.315	Accepted	---
AM-S-W1403	0.242	0.0134	0.0412	0.155 - 0.329	Accepted	---



**Statistics**  
**Serum PCB IUPAC # 74 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	13	13	13
Robust mean Algo A	0.465	0.231	0.242
Robust STDev	0.0560	0.0320	0.0387
Median	0.470	0.233	0.245
STDev from MAD	0.0675	0.0325	0.0383
Arithmetic mean	0.464	0.234	0.243
STDev	0.0512	0.0343	0.0355
CV or Variability	12.0%	13.8%	16.0%

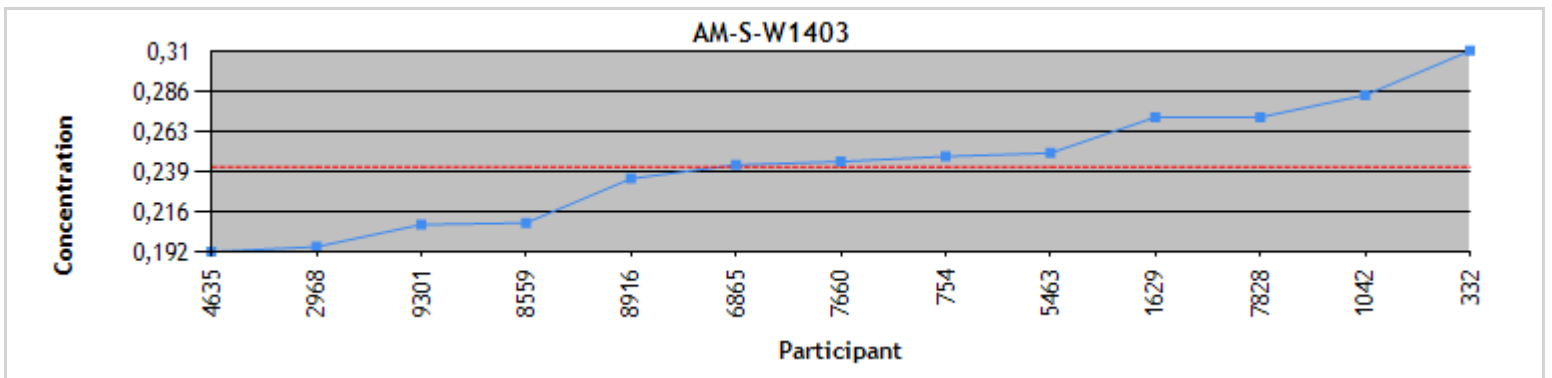
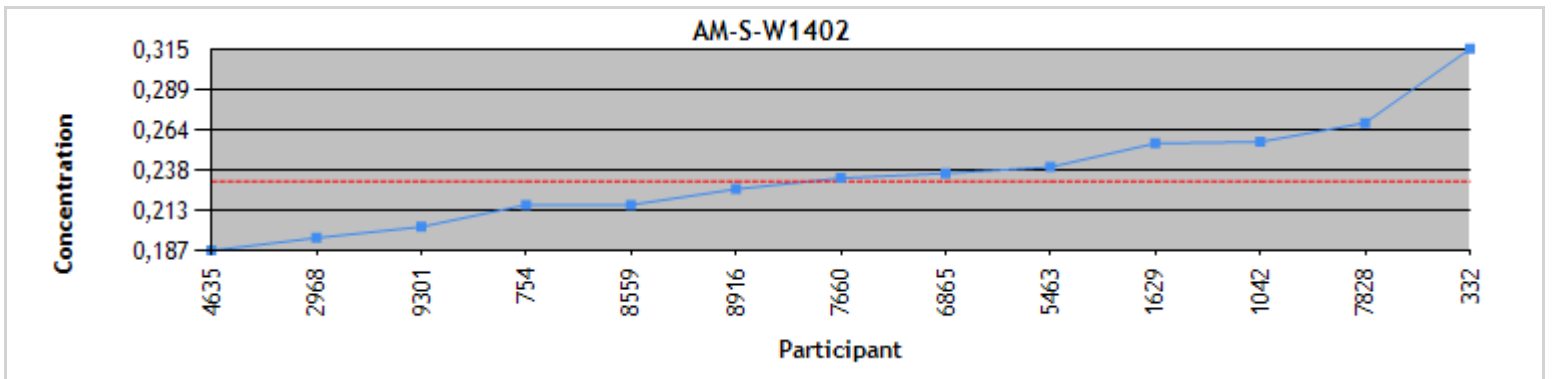
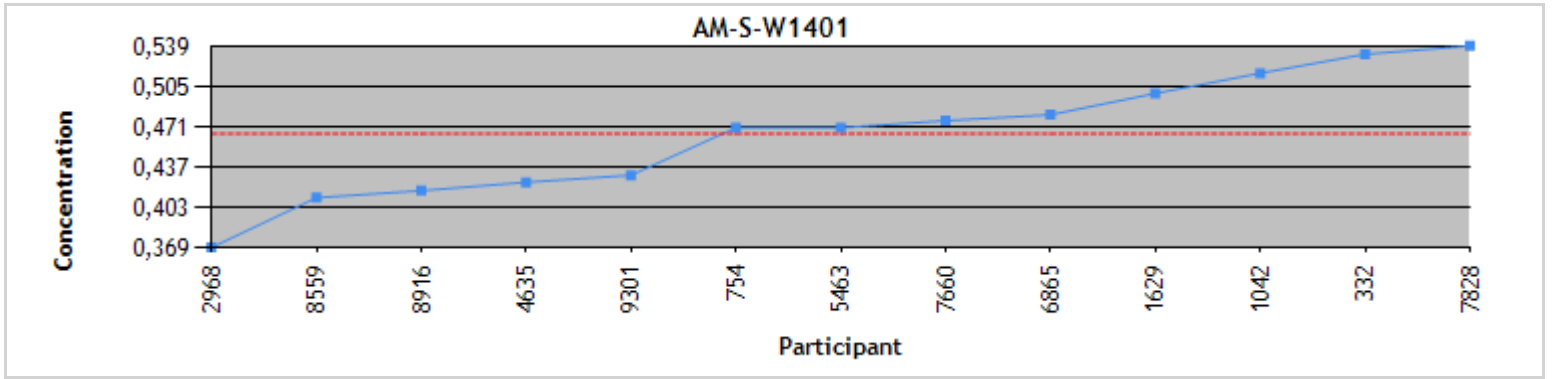
GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.473	0.230	0.253
Robust STDev	0.0653	0.0187	0.0243
Median	0.470	0.226	0.248
STDev from MAD	0.0786	0.0148	0.0193
Arithmetic mean	0.473	0.252	0.264
STDev	0.0576	0.0545	0.0401
CV or Variability	13.8%	8.1%	9.6%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.422	0.195	0.196
Robust STDev	0.0112	0.00851	0.00562
Median	0.424	0.195	0.195
STDev from MAD	0.00890	0.0104	0.00445
Arithmetic mean	0.408	0.195	0.198
STDev	0.0336	0.00751	0.00850
CV or Variability	2.7%	4.4%	2.9%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PCB IUPAC # 74 (µg/L)



Individual results  
Serum PCB IUPAC # 99 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.838	-0.26	0.369	1.29	0.160	0.08	GC
754	0.821	-0.44	0.293	-0.24	0.158	0.03	GC
1042	0.860	-0.04	0.297	-0.16	0.159	0.07	GC-MS CI
1629	0.870	0.07	0.315	0.20	0.160	0.08	GC-MS-MS
2968	0.933	0.73	0.313	0.16	0.155	-0.06	GC-MS EI
4635	0.929	0.69	0.323	0.36	0.164	0.20	GC-MS EI
5463	0.810	-0.55	0.270	-0.71	0.140	-0.48	ND
6865	0.885	0.23	0.270	-0.71	0.144	-0.37	ND
7660	0.852	-0.12	0.308	0.06	0.157	-0.01	GC-MS CI
7828	1.07	2.15	0.360	1.11	0.191	0.96	ND
8559	0.896	0.34	0.336	0.63	0.192	0.99	ND
8916	0.649	-2.22	0.253	-1.05	0.148	-0.25	GC
9301	0.802	-0.63	0.265	-0.81	0.145	-0.34	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.863	0.0211	0.0939	0.671 - 1.06	Accepted	---
AM-S-W1402	0.305	0.0140	0.0475	0.206 - 0.404	Accepted	---
AM-S-W1403	0.157	0.00362	0.0351	0.0863 - 0.228	Rejected	---

**Statistics**  
**Serum PCB IUPAC # 99 (µg/L)**

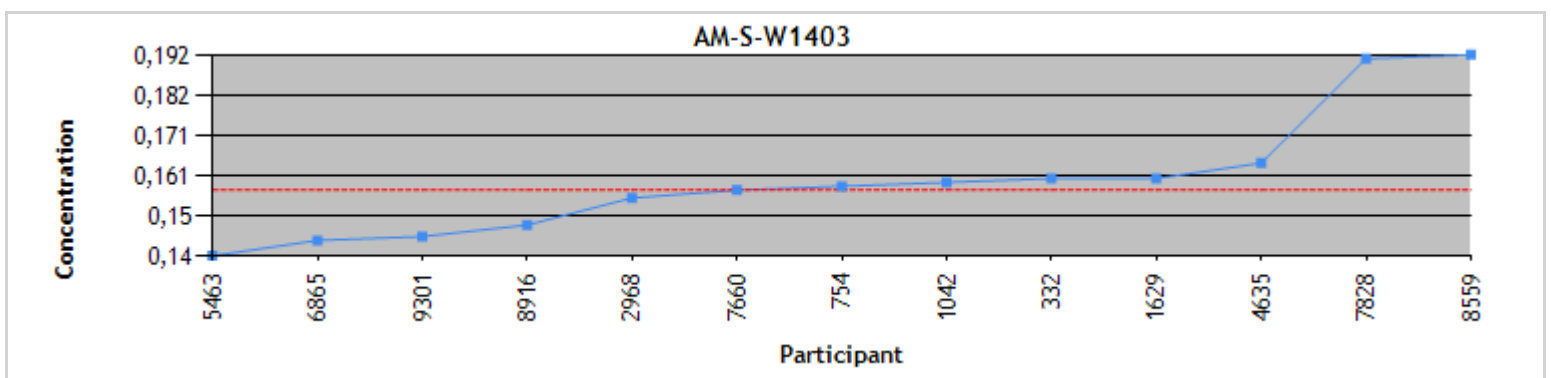
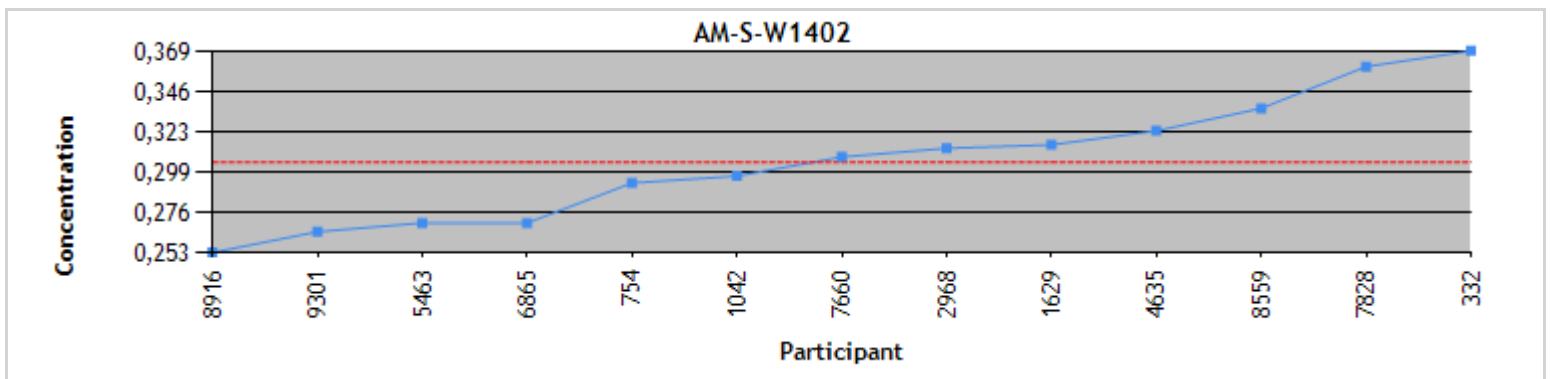
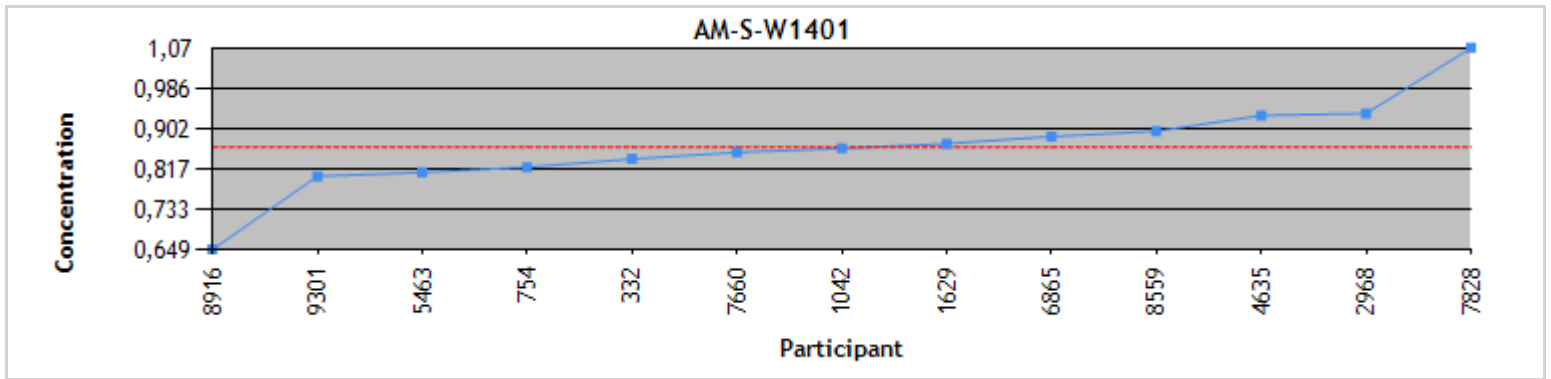
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	13	13	13
Robust mean Algo A	0.863	0.305	0.157
Robust STDev	0.0610	0.0403	0.0104
Median	0.860	0.308	0.158
STDev from MAD	0.0572	0.0417	0.00890
Arithmetic mean	0.863	0.306	0.159
STDev	0.0951	0.0360	0.0160
CV or Variability	7.1%	13.2%	6.7%

GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.814	0.305	0.157
Robust STDev	0.0318	0.0668	0.00374
Median	0.821	0.293	0.158
STDev from MAD	0.0252	0.0593	0.00297
Arithmetic mean	0.769	0.305	0.155
STDev	0.105	0.0589	0.00643
CV or Variability	3.9%	21.9%	2.4%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.927	0.309	0.155
Robust STDev	0.00749	0.0187	0.0108
Median	0.929	0.313	0.155
STDev from MAD	0.00593	0.0148	0.0133
Arithmetic mean	0.888	0.300	0.155
STDev	0.0745	0.0310	0.00950
CV or Variability	0.8%	6.1%	7.0%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PCB IUPAC # 99 (µg/L)



Individual results  
Serum PCB IUPAC # 105 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.116	0.66	0.445	1.13	0.291	0.45	GC
754	0.137	1.82	0.420	0.60	0.319	1.23	GC
1042	0.101	-0.16	0.384	-0.18	0.266	-0.26	GC-MS CI
1629	0.102	-0.11	0.427	0.75	0.313	1.06	GC-MS-MS
2446	0.0960	-0.44	0.388	-0.09	0.251	-0.67	GC-MS EI
2968	0.102	-0.11	0.381	-0.23	0.271	-0.11	GC-MS EI
4635	0.108	0.22	0.389	-0.06	0.287	0.34	GC-MS EI
5463	0.100	-0.22	0.360	-0.68	0.230	-1.26	ND
6865	0.134	1.65	0.535	3.05	0.386	3.11	ND
7660	0.0925	-0.63	0.358	-0.73	0.246	-0.81	GC-MS CI
7828	0.0940	-0.55	0.347	-0.96	0.241	-0.95	ND
8559	0.0930	-0.61	0.356	-0.77	0.243	-0.90	ND
8916	0.103	-0.06	0.331	-1.30	0.248	-0.76	GC
9301	0.132	1.54	0.452	1.28	0.319	1.23	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.104	0.00358	0.0178	0.0676 - 0.140	Rejected	---
AM-S-W1402	0.392	0.0156	0.0442	0.298 - 0.486	Accepted	---
AM-S-W1403	0.275	0.0126	0.0334	0.204 - 0.346	Accepted	---

**Statistics**  
**Serum PCB IUPAC # 105 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	14	14	14
Robust mean Algo A	0.104	0.392	0.275
Robust STDev	0.0107	0.0467	0.0377
Median	0.102	0.386	0.268
STDev from MAD	0.0104	0.0475	0.0356
Arithmetic mean	0.108	0.398	0.279
STDev	0.0156	0.0539	0.0432
CV or Variability	10.3%	11.9%	13.7%

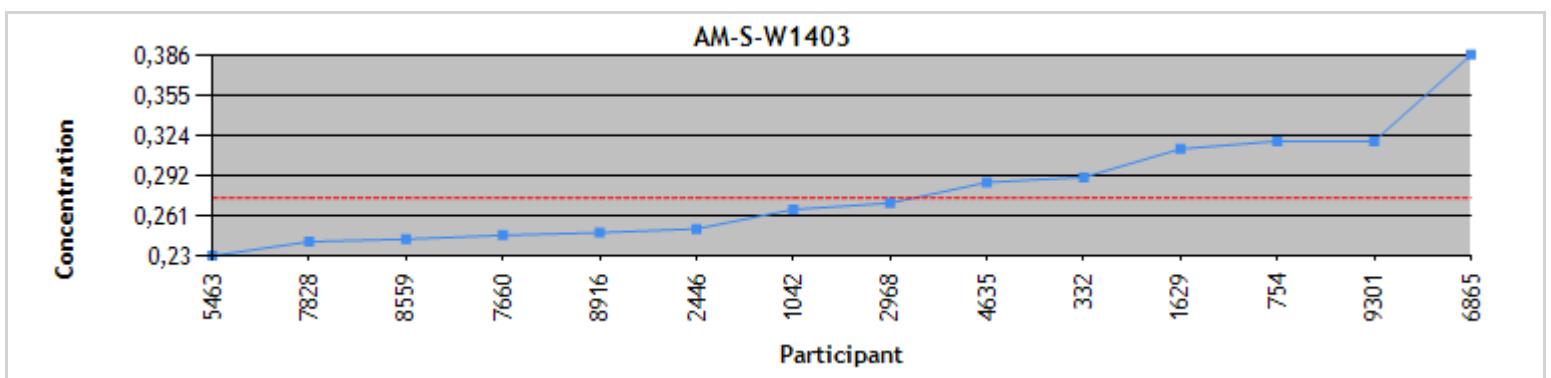
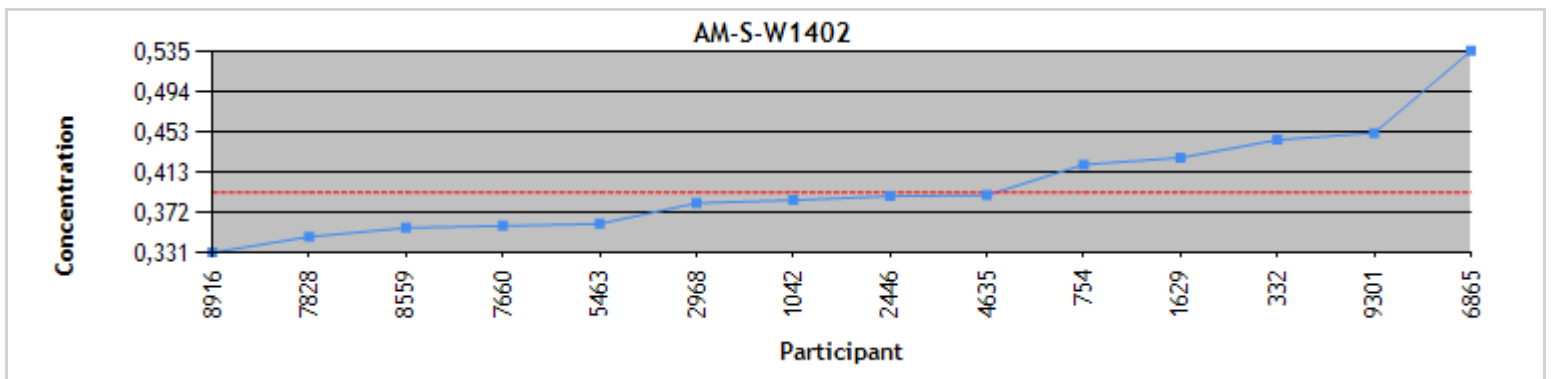
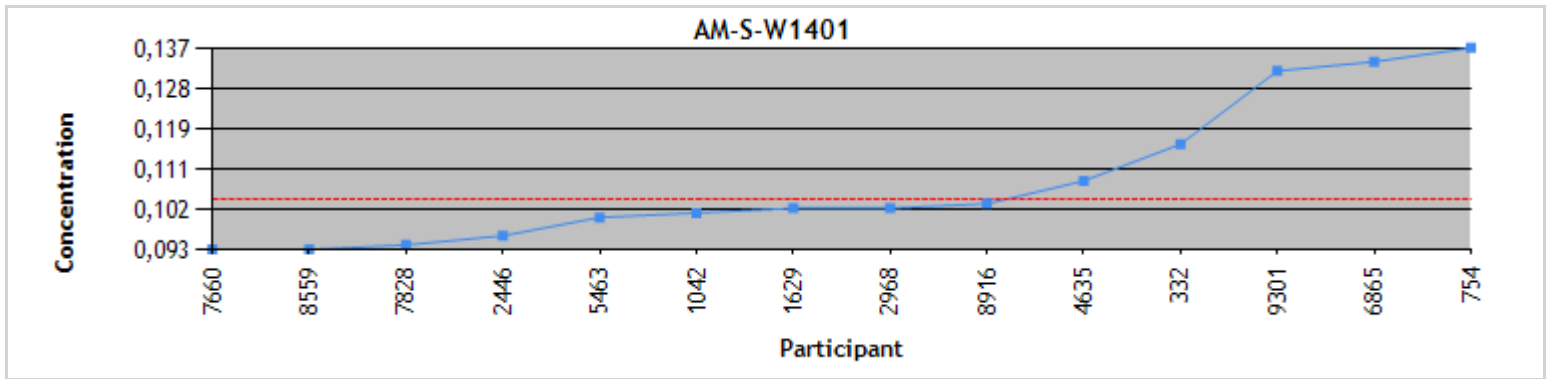
GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.119	0.410	0.286
Robust STDev	0.0195	0.0468	0.0406
Median	0.116	0.420	0.291
STDev from MAD	0.0193	0.0371	0.0415
Arithmetic mean	0.119	0.399	0.286
STDev	0.0172	0.0599	0.0358
CV or Variability	16.4%	11.4%	14.2%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.106	0.389	0.282
Robust STDev	0.0108	0.00762	0.0326
Median	0.105	0.389	0.279
STDev from MAD	0.00890	0.00593	0.0267
Arithmetic mean	0.110	0.403	0.282
STDev	0.0158	0.0332	0.0287
CV or Variability	10.2%	2.0%	11.6%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PCB IUPAC # 105 (µg/L)





Individual results  
Serum PCB IUPAC # 118 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.255	0.35	1.08	1.01	0.469	0.79	GC
748	0.300	1.49	0.919	-0.08	0.465	0.73	ND
754	0.196	-1.14	0.811	-0.81	0.373	-0.64	GC
1003	0.233	-0.20	1.00	0.47	0.409	-0.10	GC-MS-MS
1042	0.235	-0.15	0.935	0.03	0.408	-0.12	GC-MS CI
1629	0.278	0.94	0.951	0.14	0.558	2.12	GC-MS-MS
2446	0.212	-0.73	0.893	-0.26	0.368	-0.72	GC-MS EI
2968	0.238	-0.08	0.974	0.29	0.417	0.01	GC-MS EI
4635	0.236	-0.13	0.931	0.00	0.412	-0.06	GC-MS EI
5039	0.143	-2.49	0.847	-0.57	0.389	-0.41	GC-MS-MS
5463	0.250	0.23	0.900	-0.21	0.370	-0.69	ND
6865	0.293	1.31	1.13	1.34	0.462	0.69	ND
7660	0.222	-0.47	0.894	-0.25	0.386	-0.45	GC-MS CI
7828	0.220	-0.53	0.890	-0.28	0.394	-0.33	ND
8420	0.460	5.54	1.29	2.42	0.690	4.08	ND
8559	0.210	-0.78	0.839	-0.62	0.360	-0.83	ND
9301	0.264	0.58	0.955	0.16	0.420	0.06	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.241	0.0112	0.0380	0.162 - 0.320	Accepted	---
AM-S-W1402	0.931	0.0214	0.147	0.635 - 1.23	Accepted	---
AM-S-W1403	0.416	0.0148	0.0656	0.282 - 0.550	Rejected	---

**Statistics**  
**Serum PCB IUPAC # 118 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	17	17	17
Robust mean Algo A	0.241	0.931	0.416
Robust STDev	0.0370	0.0705	0.0488
Median	0.236	0.931	0.409
STDev from MAD	0.0356	0.0608	0.0534
Arithmetic mean	0.250	0.955	0.432
STDev	0.0659	0.118	0.0828
CV or Variability	15.3%	7.6%	11.7%

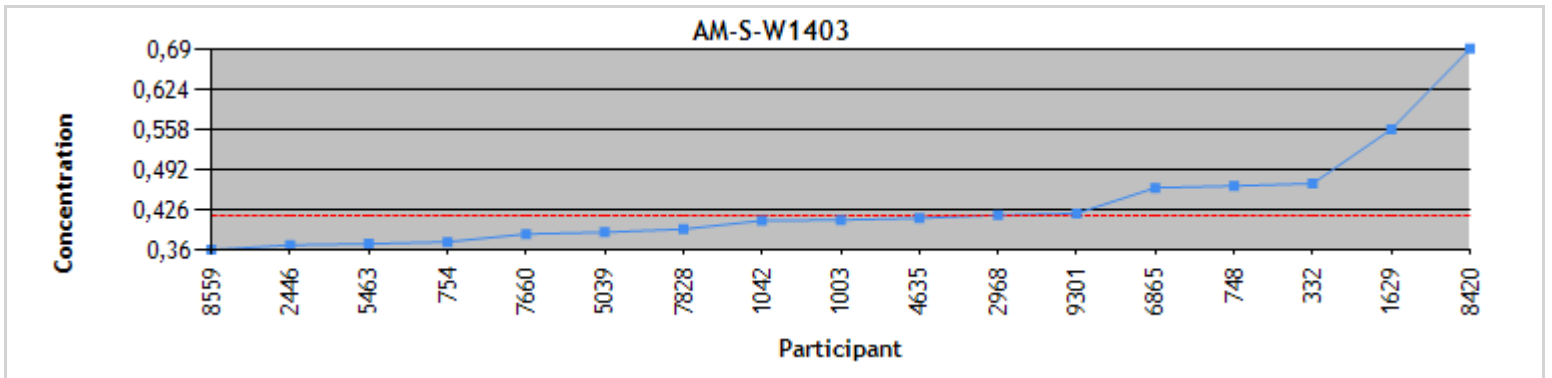
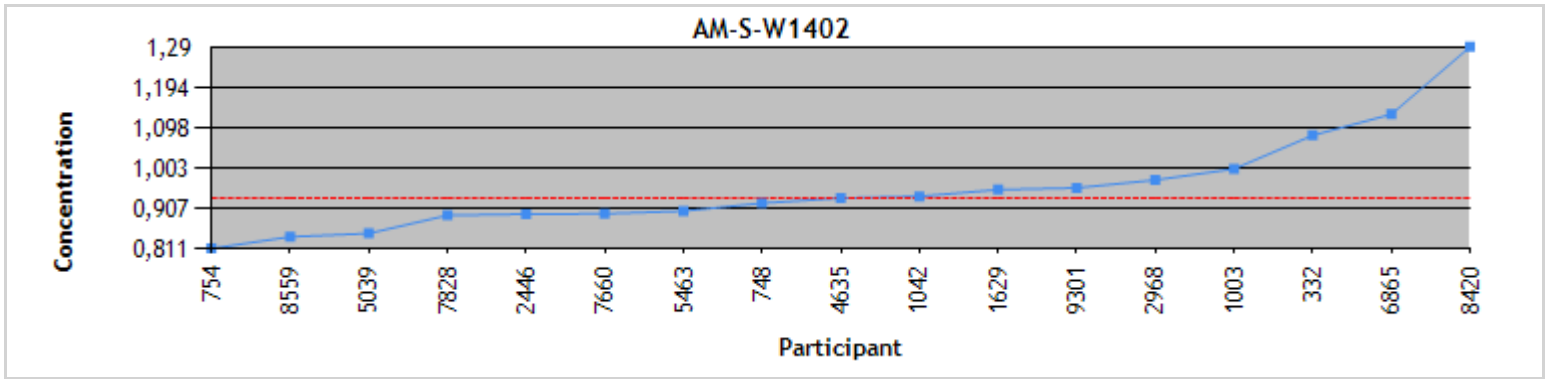
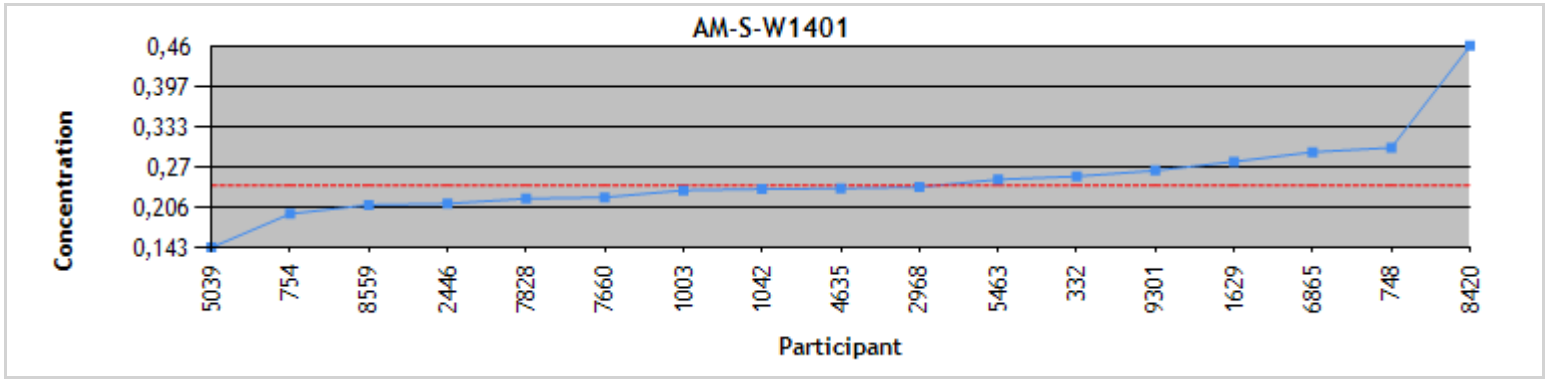
GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.238	0.939	0.414
Robust STDev	0.0241	0.0385	0.00714
Median	0.237	0.943	0.415
STDev from MAD	0.0193	0.0319	0.00593
Arithmetic mean	0.238	0.938	0.404
STDev	0.0213	0.0349	0.0244
CV or Variability	10.1%	4.1%	1.7%

GC-MS-MS	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.218	0.933	0.417
Robust STDev	0.0782	0.0887	0.0378
Median	0.233	0.951	0.409
STDev from MAD	0.0667	0.0727	0.0300
Arithmetic mean	0.218	0.933	0.452
STDev	0.0690	0.0782	0.0924
CV or Variability	35.9%	9.5%	9.1%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

**Distribution**  
**Serum PCB IUPAC # 118 (µg/L)**



Individual results  
Serum PCB IUPAC # 138 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	2.23	1.30	1.66	1.89	8.26	0.46	GC
748	2.11	0.90	1.35	0.39	9.02	1.07	ND
754	2.23	1.30	1.56	1.41	7.94	0.20	GC
1003	2.04	0.66	1.38	0.53	8.65	0.77	GC-MS-MS
1042	1.63	-0.70	1.09	-0.87	7.98	0.23	GC-MS CI
1629	1.52	-1.06	1.13	-0.68	7.52	-0.14	GC-MS-MS
2446	1.54	-0.99	1.01	-1.26	7.07	-0.50	GC-MS EI
2968	2.02	0.59	1.40	0.62	8.08	0.31	GC-MS EI
4635	2.08	0.79	1.43	0.76	7.94	0.20	GC-MS EI
5039	0.867	-3.23	0.567	-3.41	3.17	-3.64	GC-MS-MS
5463	1.55	-0.96	1.05	-1.07	7.15	-0.43	ND
6865	1.81	-0.10	1.20	-0.34	7.32	-0.30	ND
7660	1.65	-0.63	1.17	-0.47	7.82	0.10	GC-MS CI
8420	2.20	1.20	1.79	2.52	8.84	0.93	ND
8559	1.88	0.13	1.39	0.58	7.22	-0.38	ND
8916	1.56	-0.93	1.14	-0.63	5.66	-1.64	GC
9301	1.91	0.23	1.23	-0.19	6.99	-0.56	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.84	0.0985	0.285	1.24 - 2.44	Accepted	---
AM-S-W1402	1.27	0.0710	0.194	0.857 - 1.68	Accepted	---
AM-S-W1403	7.69*	0.258	1.21	5.21 - 10.2	Accepted	---

\* The assigned value is outside the concentration range of our scope of accreditation.

PCB IUPAC # 163 was added to all PTM with the following levels: AM-S-W1401: 0.56 µg/L  
AM-S-W1402: 0.40 µg/L  
AM-S-W1403: 0.66 µg/L

**Statistics**  
**Serum PCB IUPAC # 138 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	17	17	17
Robust mean Algo A	1.84	1.27	7.69
Robust STDev	0.325	0.234	0.851
Median	1.88	1.23	7.82
STDev from MAD	0.372	0.237	0.887
Arithmetic mean	1.81	1.27	7.45
STDev	0.355	0.282	1.37
CV or Variability	17.6%	18.4%	11.1%

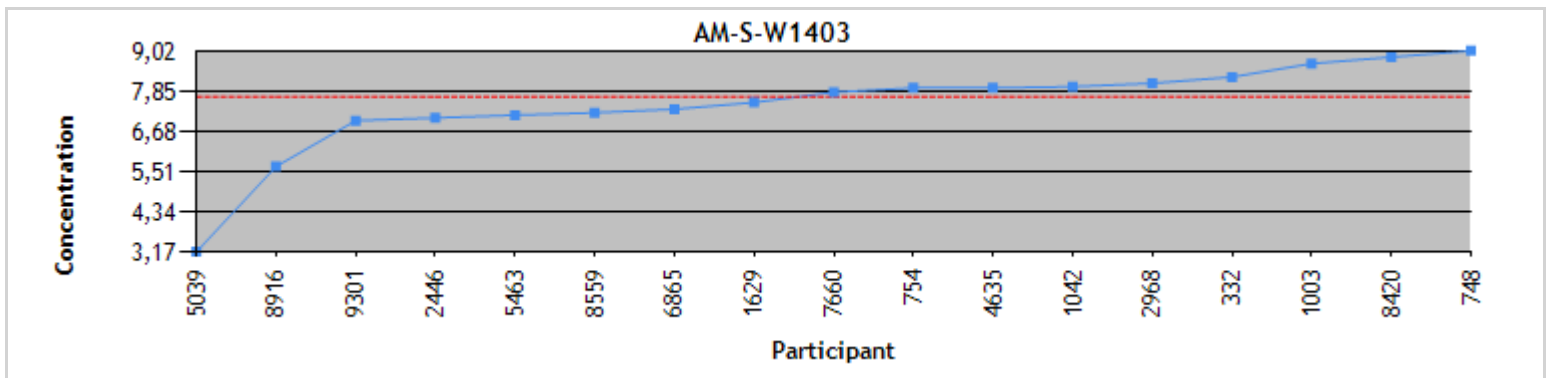
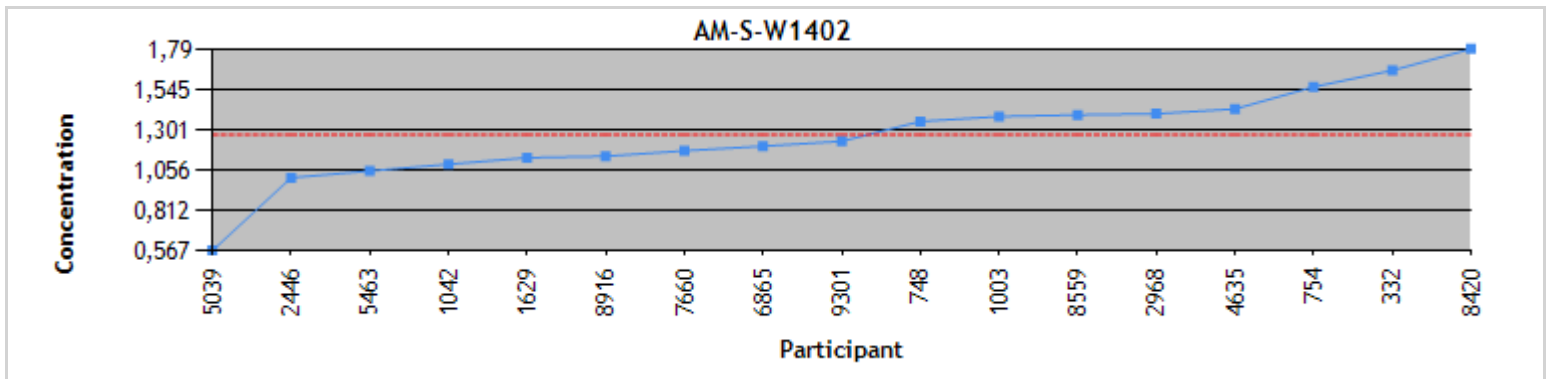
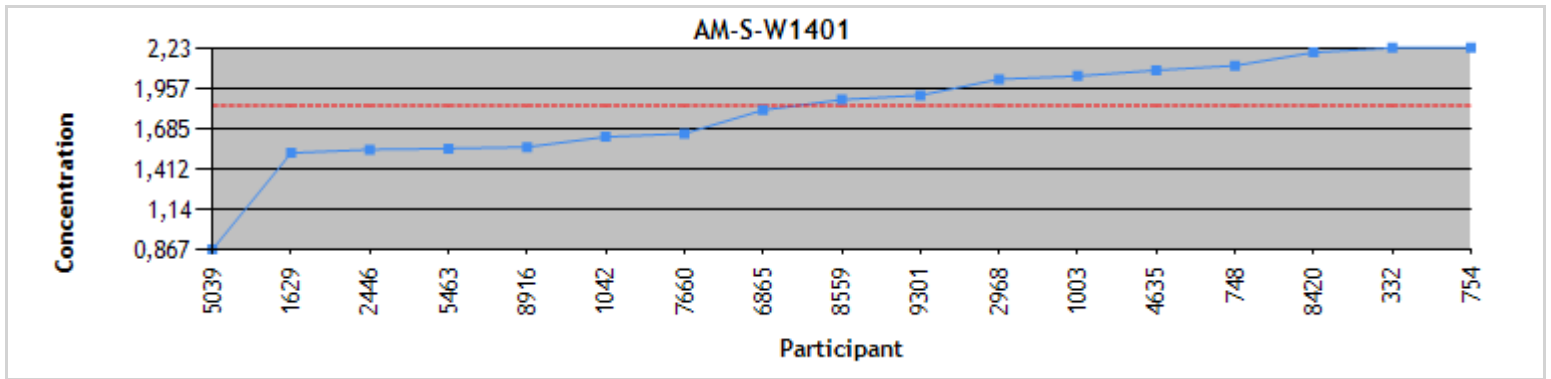
GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	2.23	1.52	7.81
Robust STDev	0.00	0.187	0.599
Median	2.23	1.56	7.94
STDev from MAD	0.00	0.148	0.475
Arithmetic mean	2.01	1.45	7.29
STDev	0.387	0.276	1.42
CV or Variability	0.0%	12.3%	7.7%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	1.95	1.29	7.52
Robust STDev	0.151	0.175	0.646
Median	1.96	1.31	7.51
STDev from MAD	0.125	0.145	0.707
Arithmetic mean	1.89	1.27	7.52
STDev	0.240	0.192	0.569
CV or Variability	7.7%	13.6%	8.6%

GC-MS-MS	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	1.48	1.03	7.06
Robust STDev	0.667	0.468	2.12
Median	1.52	1.13	7.52
STDev from MAD	0.771	0.371	1.68
Arithmetic mean	1.48	1.03	6.45
STDev	0.588	0.416	2.89
CV or Variability	45.2%	45.5%	30.0%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

**Distribution**  
**Serum PCB IUPAC # 138 (µg/L)**



Individual results  
Serum PCB IUPAC # 153 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.782	-0.01	2.54	0.29	1.35	-0.05	GC
748	0.844	0.52	2.27	-0.43	1.47	0.53	ND
754	0.743	-0.34	2.20	-0.62	1.29	-0.34	GC
1003	0.835	0.44	2.94	1.36	1.59	1.12	GC-MS-MS
1042	0.799	0.14	2.55	0.33	1.45	0.44	GC-MS CI
1629	0.730	-0.45	2.33	-0.27	1.28	-0.39	GC-MS-MS
2446	0.716	-0.57	2.40	-0.09	1.24	-0.60	GC-MS EI
2968	0.901	1.01	2.92	1.31	1.66	1.47	GC-MS EI
4635	0.863	0.68	2.95	1.40	1.73	1.77	GC-MS EI
5039	0.548	-2.00	1.35	-2.88	0.981	-1.84	GC-MS-MS
5463	0.660	-1.05	2.14	-0.78	1.22	-0.68	ND
6865	0.792	0.08	2.29	-0.37	1.31	-0.24	ND
7660	0.745	-0.33	2.41	-0.04	1.35	-0.04	GC-MS CI
7828	0.794	0.09	2.59	0.43	1.44	0.39	ND
8420	1.00	1.85	3.08	1.74	1.86	2.43	ND
8559	0.746	-0.32	1.57	-2.30	1.37	0.05	ND
8916	0.613	-1.45	1.72	-1.89	1.04	-1.54	GC
9301	0.903	1.02	2.69	0.70	1.19	-0.82	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.783	0.0276	0.114	0.548 - 1.02	Accepted	---
AM-S-W1402	2.43*	0.120	0.354	1.68 - 3.18	Accepted	---
AM-S-W1403	1.36	0.0566	0.199	0.947 - 1.77	Accepted	---

\* The assigned value is outside the concentration range of our scope of accreditation.

PCB IUPAC # 132 was added to all PTM with the following levels: AM-S-W1401: 0.12 µg/L  
AM-S-W1402: 0.64 µg/L  
AM-S-W1403: 0.33 µg/L

**Statistics**  
**Serum PCB IUPAC # 153 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	18	18	18
Robust mean Algo A	0.783	2.43	1.36
Robust STDev	0.0936	0.407	0.192
Median	0.787	2.40	1.35
STDev from MAD	0.0845	0.347	0.173
Arithmetic mean	0.779	2.39	1.38
STDev	0.108	0.478	0.226
CV or Variability	12.0%	16.7%	14.1%

GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.727	2.15	1.27
Robust STDev	0.0730	0.465	0.112
Median	0.743	2.20	1.29
STDev from MAD	0.0578	0.504	0.0890
Arithmetic mean	0.713	2.15	1.23
STDev	0.0885	0.410	0.163
CV or Variability	10.0%	21.6%	8.9%

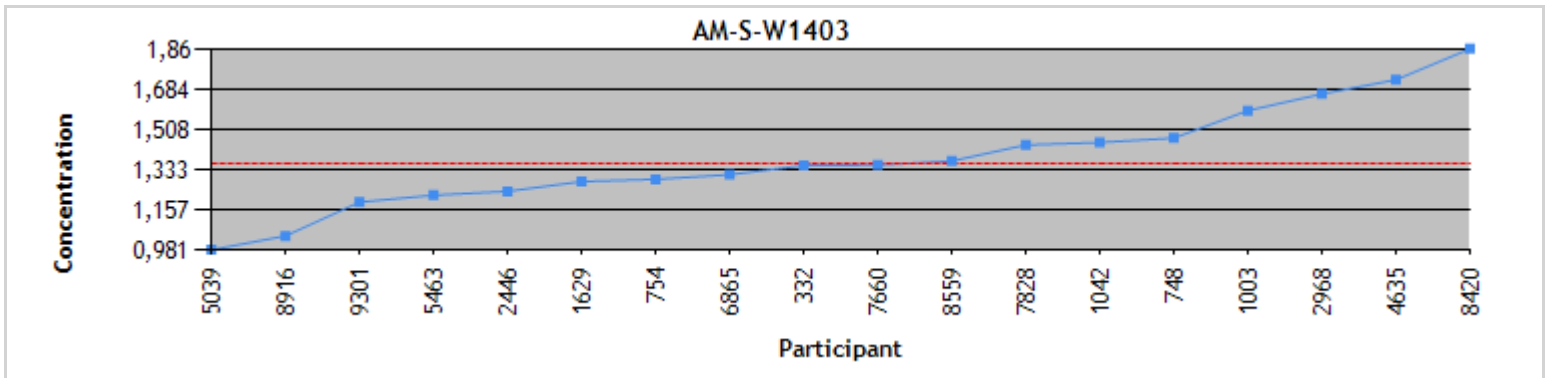
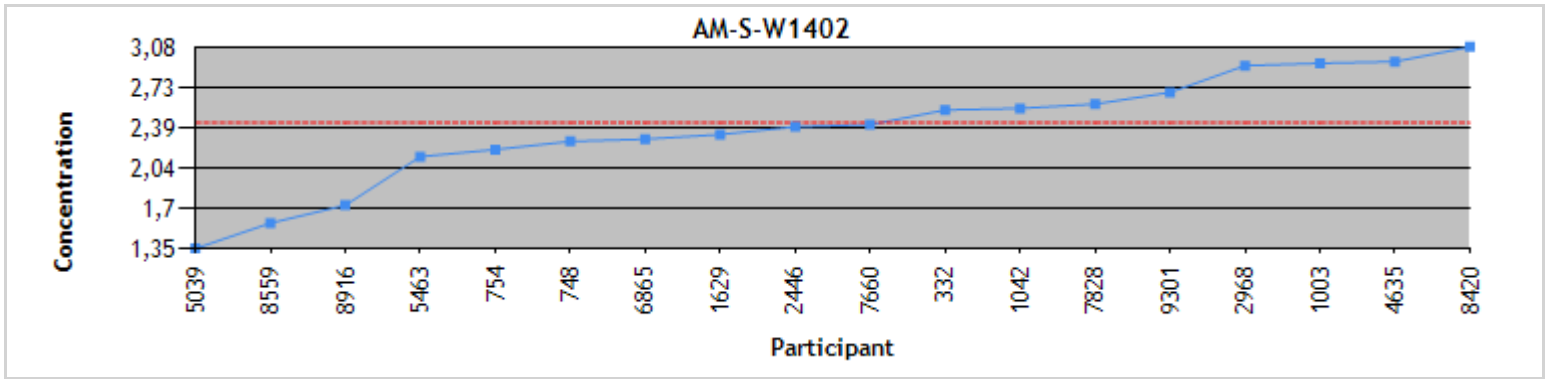
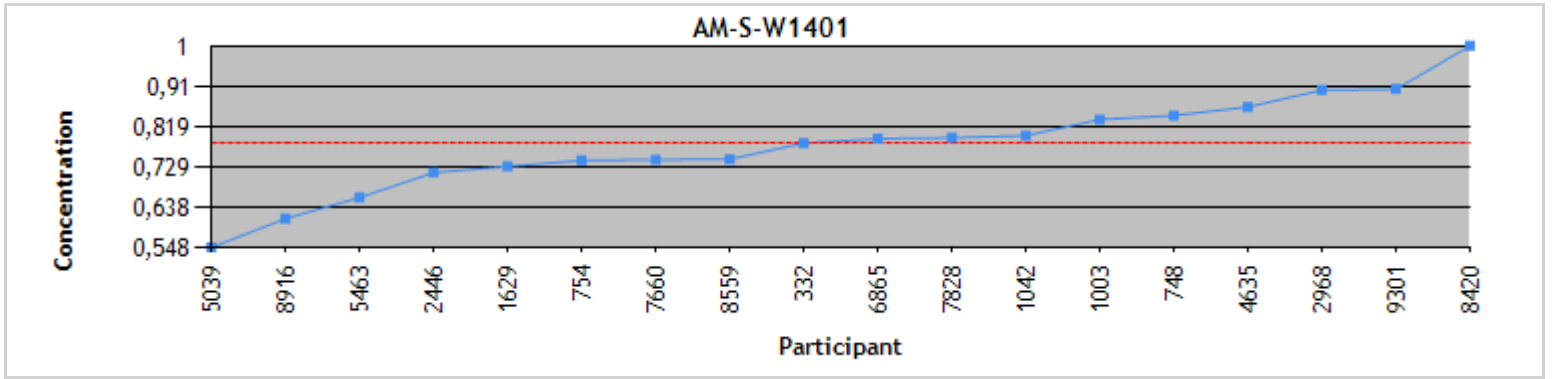
GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	0.876	2.77	1.45
Robust STDev	0.0359	0.236	0.317
Median	0.882	2.81	1.45
STDev from MAD	0.0297	0.196	0.351
Arithmetic mean	0.846	2.74	1.45
STDev	0.0884	0.258	0.279
CV or Variability	4.1%	8.5%	21.8%

GC-MS-MS	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.704	2.21	1.28
Robust STDev	0.165	0.908	0.345
Median	0.730	2.33	1.28
STDev from MAD	0.156	0.905	0.443
Arithmetic mean	0.704	2.21	1.28
STDev	0.145	0.801	0.304
CV or Variability	23.4%	41.2%	26.9%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.



Distribution  
Serum PCB IUPAC # 153 (µg/L)



Individual results  
 Serum PCB IUPAC # 170 (µg/L)  
 Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	0.813	0.12	0.645	0.78	0.323	0.08	GC
754	0.753	-0.41	0.517	-0.73	0.281	-0.75	GC
1003	0.805	0.05	0.567	-0.14	0.309	-0.20	GC-MS-MS
1042	0.848	0.44	0.608	0.34	0.336	0.34	GC-MS CI
1629	0.860	0.54	0.613	0.40	0.340	0.42	GC-MS-MS
2968	0.830	0.27	0.619	0.47	0.332	0.26	GC-MS EI
4635	0.843	0.39	0.606	0.32	0.343	0.48	GC-MS EI
5463	0.700	-0.87	0.540	-0.46	0.290	-0.57	ND
6865	0.781	-0.16	0.546	-0.39	0.334	0.30	ND
7660	0.760	-0.34	0.550	-0.34	0.309	-0.20	GC-MS CI
7828	0.797	-0.02	0.576	-0.04	0.307	-0.24	ND
8559	0.783	-0.14	0.559	-0.24	0.308	-0.22	ND
8916	0.663	-1.20	0.507	-0.85	0.298	-0.42	GC
9301	1.09	2.57	0.747	1.98	0.409	1.78	GC-MS EI

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.799	0.0206	0.111	0.572 - 1.03	Rejected	---
AM-S-W1402	0.579	0.0172	0.0832	0.409 - 0.749	Accepted	---
AM-S-W1403	0.319	0.00830	0.0498	0.218 - 0.420	Accepted	---

**Statistics**  
**Serum PCB IUPAC # 170 (µg/L)**

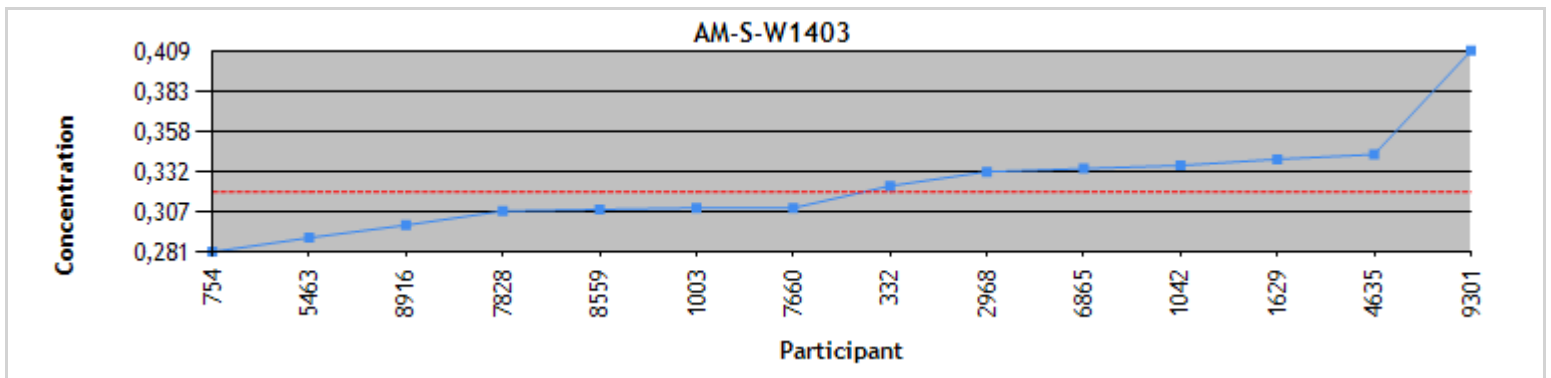
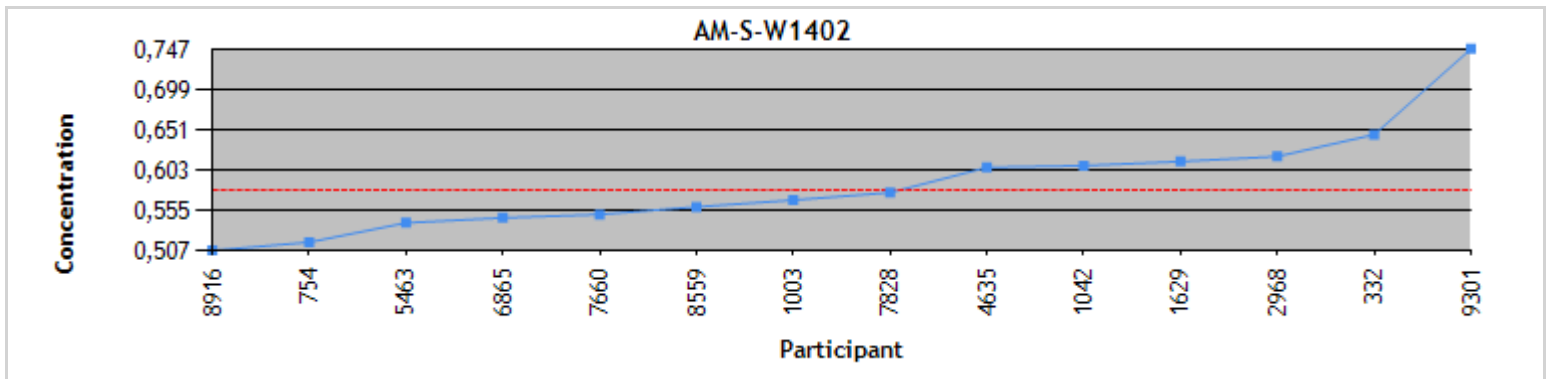
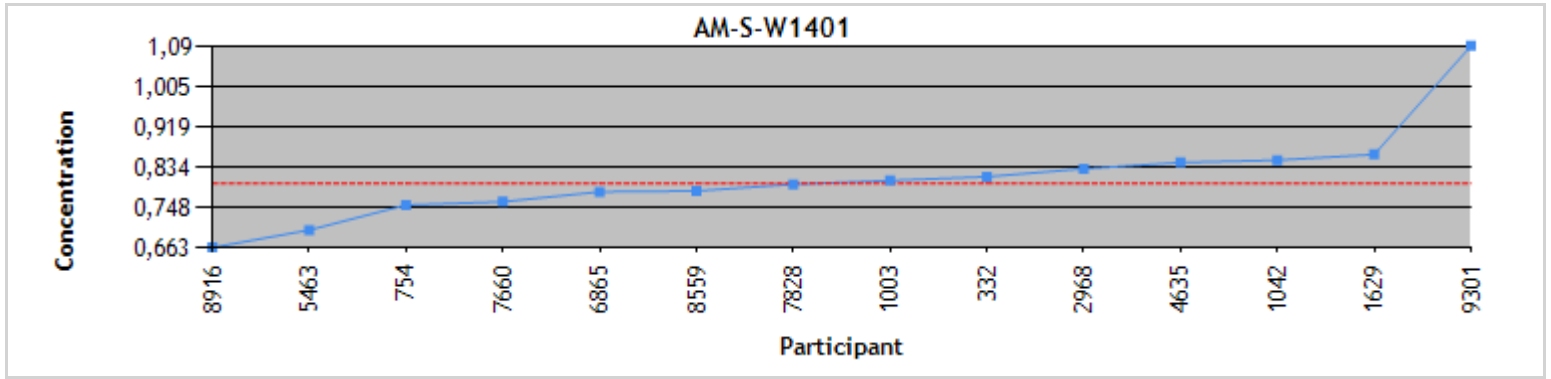
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	14	14	14
Robust mean Algo A	0.799	0.579	0.319
Robust STDev	0.0615	0.0516	0.0248
Median	0.801	0.572	0.316
STDev from MAD	0.0614	0.0528	0.0267
Arithmetic mean	0.809	0.586	0.323
STDev	0.0981	0.0616	0.0314
CV or Variability	7.7%	8.9%	7.8%

GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.743	0.521	0.301
Robust STDev	0.0856	0.0187	0.0240
Median	0.753	0.517	0.298
STDev from MAD	0.0890	0.0148	0.0252
Arithmetic mean	0.743	0.556	0.301
STDev	0.0755	0.0770	0.0211
CV or Variability	11.5%	3.6%	8.0%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	0.848	0.624	0.347
Robust STDev	0.0243	0.0243	0.0206
Median	0.843	0.619	0.343
STDev from MAD	0.0193	0.0193	0.0163
Arithmetic mean	0.921	0.657	0.361
STDev	0.147	0.0779	0.0416
CV or Variability	2.9%	3.9%	5.9%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PCB IUPAC # 170 (µg/L)



Individual results  
Serum PCB IUPAC # 180 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
332	2.05	0.92	0.775	2.06	1.75	0.64	GC
748	1.61	-0.63	0.441	-1.56	1.36	-0.92	ND
754	1.98	0.67	0.610	0.27	1.75	0.64	GC
1003	1.83	0.14	0.539	-0.50	1.52	-0.28	GC-MS-MS
1042	1.97	0.64	0.620	0.38	1.72	0.52	GC-MS CI
1629	2.07	0.99	0.639	0.58	1.68	0.36	GC-MS-MS
2446	1.84	0.18	0.591	0.06	1.63	0.14	GC-MS EI
2968	1.77	-0.06	0.585	0.00	1.58	-0.03	GC-MS EI
4635	1.80	0.02	0.576	-0.10	1.58	-0.04	GC-MS EI
5039	1.57	-0.77	0.481	-1.13	1.56	-0.13	GC-MS-MS
5463	1.56	-0.81	0.570	-0.16	1.46	-0.52	ND
6865	1.70	-0.32	0.558	-0.29	1.49	-0.40	ND
7660	1.83	0.13	0.577	-0.09	1.59	-0.01	GC-MS CI
7828	1.80	0.04	0.564	-0.23	1.54	-0.20	ND
8420	1.71	-0.28	0.670	0.92	1.45	-0.56	ND
8559	1.53	-0.92	0.616	0.34	1.66	0.28	ND
8916	1.58	-0.75	0.418	-1.81	1.46	-0.51	GC
9301	2.54	2.64	0.755	1.84	2.04	1.81	GC-MS EI

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	1.79	0.0619	0.278	1.22 - 2.36	Accepted	---
AM-S-W1402	0.585	0.0182	0.0905	0.400 - 0.770	Accepted	---
AM-S-W1403	1.59	0.0392	0.246	1.09 - 2.09	Accepted	---

**Statistics**  
**Serum PCB IUPAC # 180 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	18	18	18
Robust mean Algo A	1.79	0.585	1.59
Robust STDev	0.210	0.0618	0.133
Median	1.80	0.581	1.58
STDev from MAD	0.264	0.0551	0.141
Arithmetic mean	1.82	0.588	1.60
STDev	0.246	0.0911	0.155
CV or Variability	11.7%	10.6%	8.4%

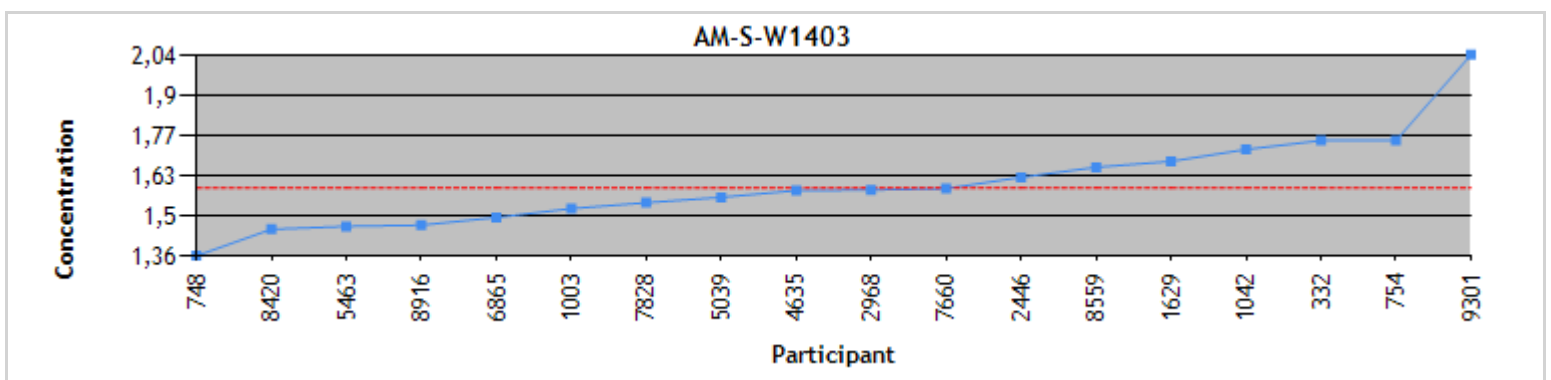
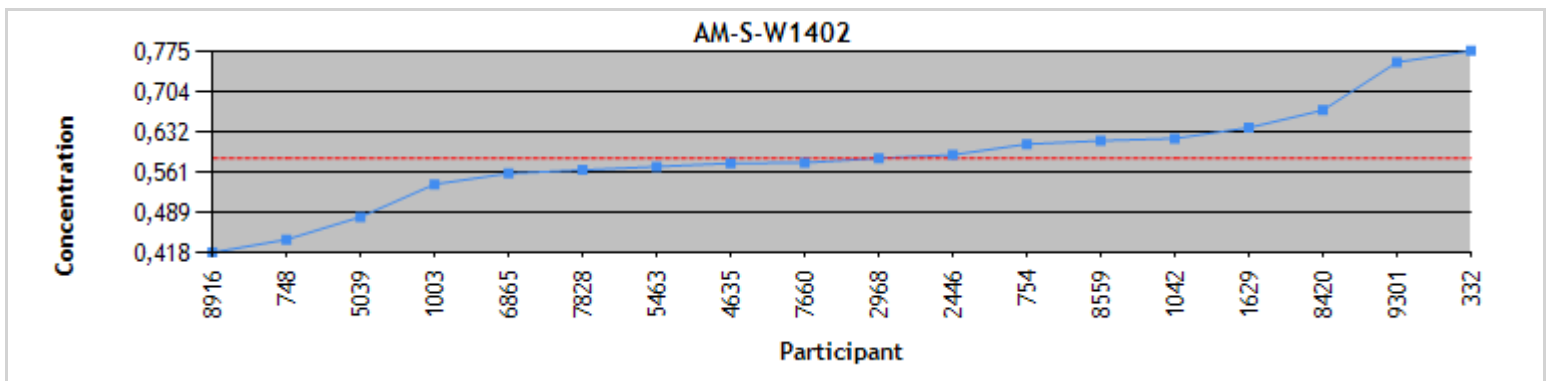
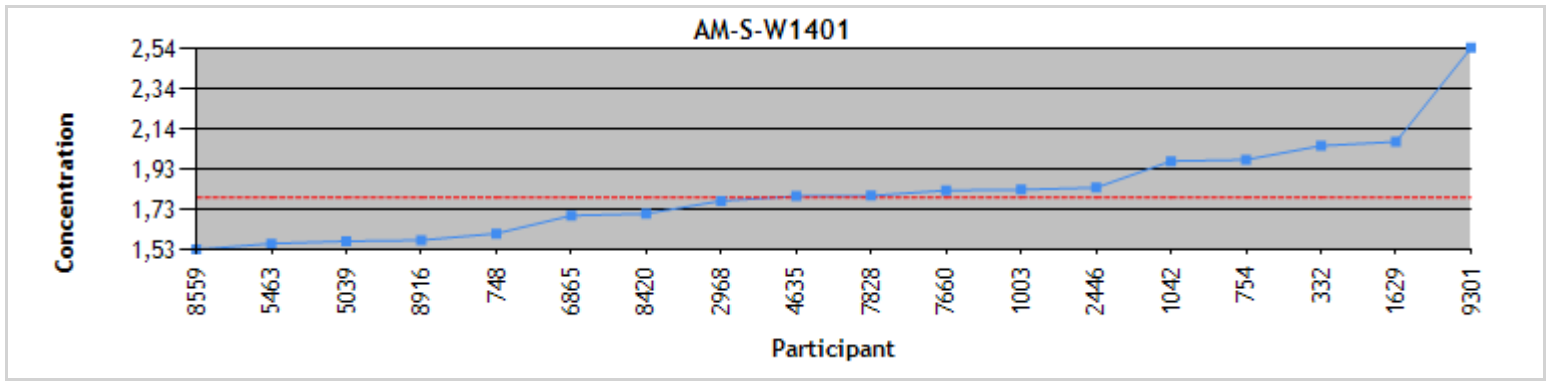
GC	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	1.95	0.601	1.75
Robust STDev	0.131	0.203	0.00
Median	1.98	0.610	1.75
STDev from MAD	0.104	0.245	0.00
Arithmetic mean	1.87	0.601	1.65
STDev	0.255	0.179	0.165
CV or Variability	6.7%	33.7%	0.0%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	1.83	0.589	1.61
Robust STDev	0.0589	0.0137	0.0404
Median	1.82	0.588	1.60
STDev from MAD	0.0489	0.0111	0.0334
Arithmetic mean	1.99	0.627	1.71
STDev	0.369	0.0857	0.223
CV or Variability	3.2%	2.3%	2.5%

GC-MS-MS	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	1.82	0.553	1.57
Robust STDev	0.282	0.0909	0.0706
Median	1.83	0.539	1.56
STDev from MAD	0.356	0.0868	0.0559
Arithmetic mean	1.82	0.553	1.59
STDev	0.249	0.0802	0.0836
CV or Variability	15.5%	16.4%	4.5%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PCB IUPAC # 180 (µg/L)



Individual results  
Serum PFHxA (µg/L)  
Round #2014-01

Participant	AM-S-Y1401	z'-score	AM-S-Y1402	z'-score	AM-S-Y1403	z'-score	Method
1003	9.10	0.25	0.456	0.00	1.23	-0.04	LC-MS
1042	8.97	0.17	0.543	0.67	1.75	1.86	ND
2446	8.78	0.06	0.470	0.11	1.10	-0.51	LC-MS
4087	8.11	-0.32	0.220	-1.80	0.720	-1.90	ND
7828	8.89	0.13	0.270	-1.42	1.11	-0.47	ND
8916	8.12	-0.31	0.648	1.47	1.52	1.04	LC-MS
9450	8.52	-0.08	0.581	0.95	1.25	0.03	LC-MS

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-Y1401	8.67	0.193	1.73	5.18 - 12.2	Accepted	---
AM-S-Y1402	0.456*	0.0845	0.0912	0.207 - 0.705	Accepted	---
AM-S-Y1403	1.24	0.116	0.248	0.693 - 1.79	Accepted	---

\* The assigned value is outside the concentration range of our scope of accreditation.



**Statistics**  
**Serum PFHxA (µg/L)**

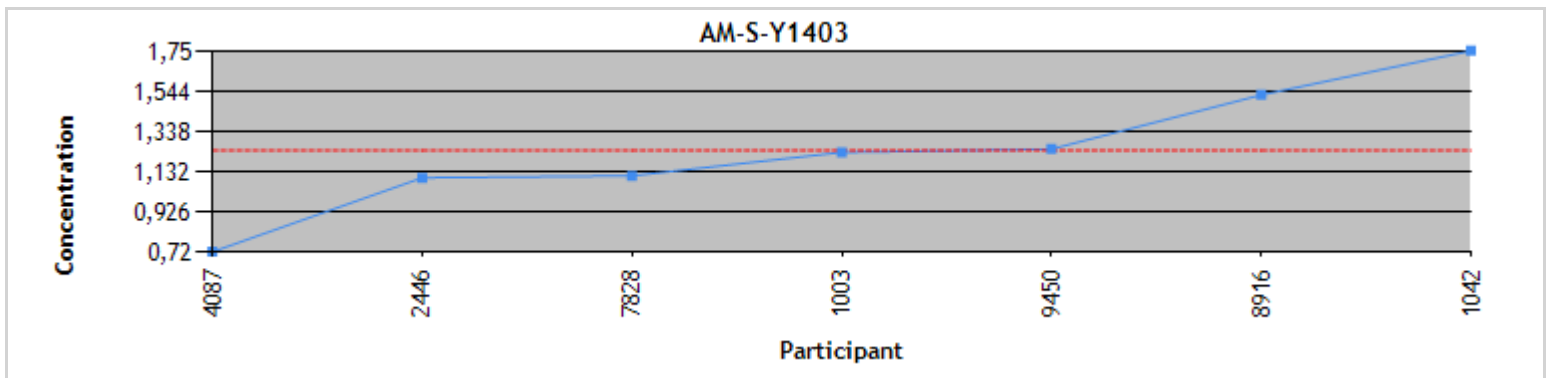
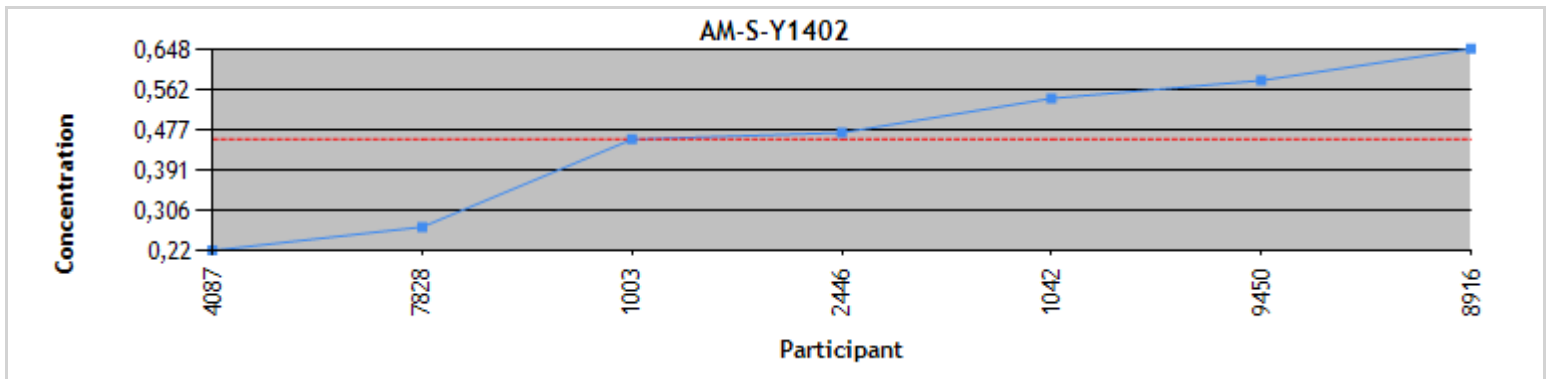
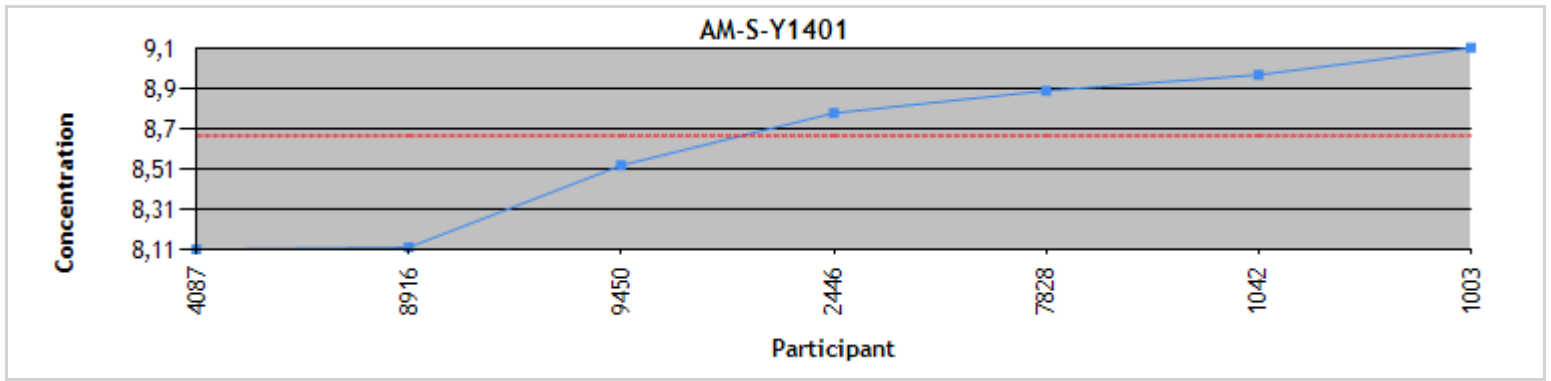
All methods	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	7	7	7
Robust mean Algo A	8.67	0.456	1.24
Robust STDev	0.409	0.179	0.246
Median	8.78	0.470	1.23
STDev from MAD	0.381	0.165	0.193
Arithmetic mean	8.64	0.455	1.24
STDev	0.401	0.158	0.329
CV or Variability	4.7%	39.2%	19.9%

LC-MS	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	4	4	4
Robust mean Algo A	8.63	0.539	1.24
Robust STDev	0.469	0.104	0.140
Median	8.65	0.526	1.24
STDev from MAD	0.428	0.0927	0.109
Arithmetic mean	8.63	0.539	1.28
STDev	0.414	0.0918	0.178
CV or Variability	5.4%	19.3%	11.3%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PFHxA ( $\mu\text{g/L}$ )



Individual results  
Serum PFHxS (µg/L)  
Round #2014-01

Participant	AM-S-Y1401	z'-score	AM-S-Y1402	z'-score	AM-S-Y1403	z'-score	Method
1003	12.4	-0.65	1.69	1.63	24.2	-0.23	LC-MS
1042	15.8	0.52	1.29	0.14	26.8	0.26	ND
2446	15.2	0.30	0.950	-1.11	21.9	-0.67	LC-MS
4087	14.2	-0.03	1.06	-0.70	25.0	-0.08	ND
7828	13.4	-0.31	1.20	-0.19	23.2	-0.42	ND
8644	13.7	-0.21	1.14	-0.41	30.9	1.05	LC-MS
8916	14.3	0.00	1.91	2.44	27.4	0.38	LC-MS
9301	16.0	0.58	1.50	0.93	28.0	0.49	LC-MS
9450	13.6	-0.24	1.10	-0.57	22.2	-0.60	ND

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-Y1401	14.3	0.556	2.86	8.48 - 20.1	Accepted	---
AM-S-Y1402	1.25	0.101	0.250	0.710 - 1.79	Accepted	---
AM-S-Y1403	25.4*	1.35	5.09	14.9 - 35.9	Accepted	---

\* The assigned value is outside the concentration range of our scope of accreditation.

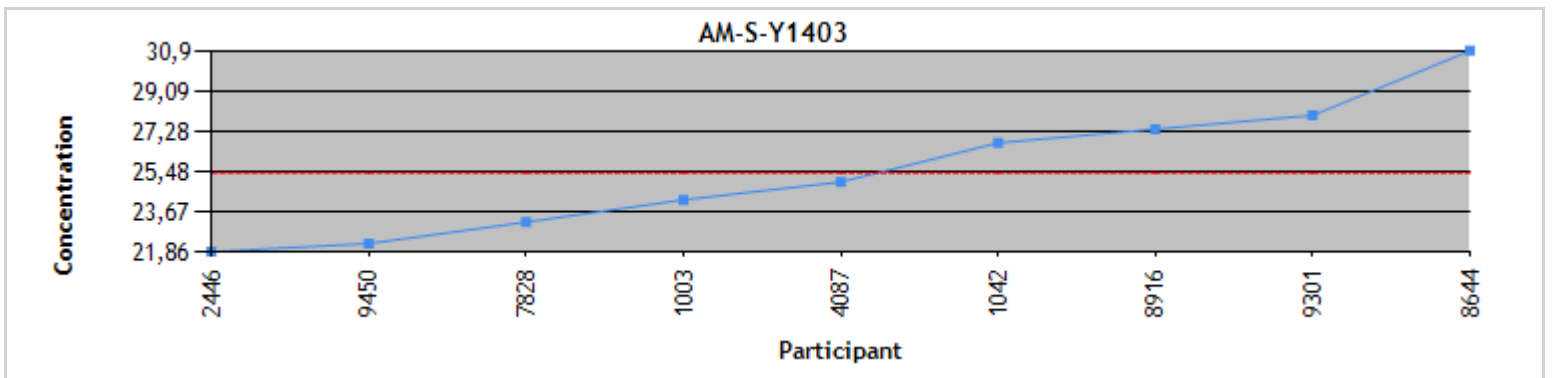
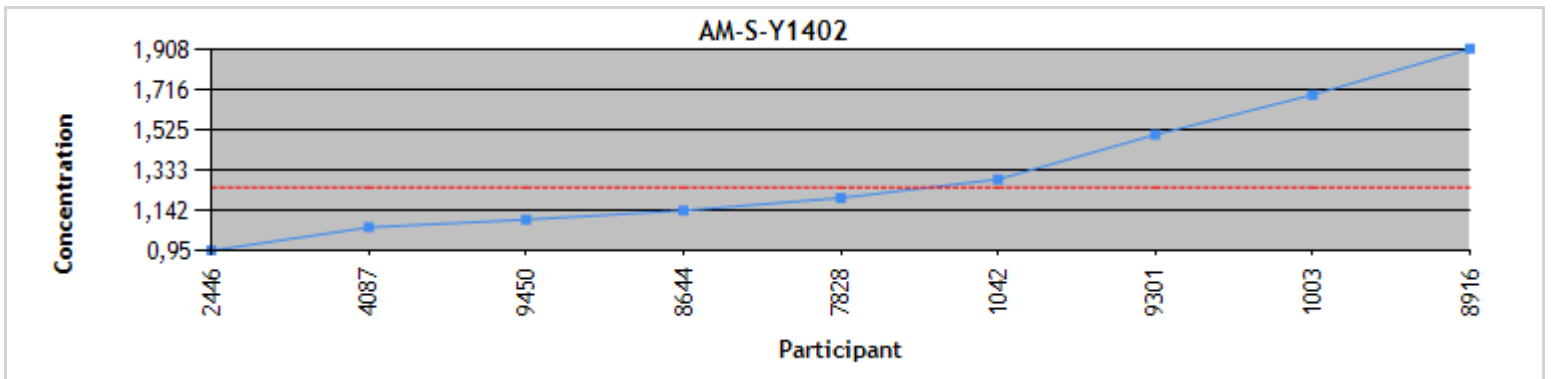
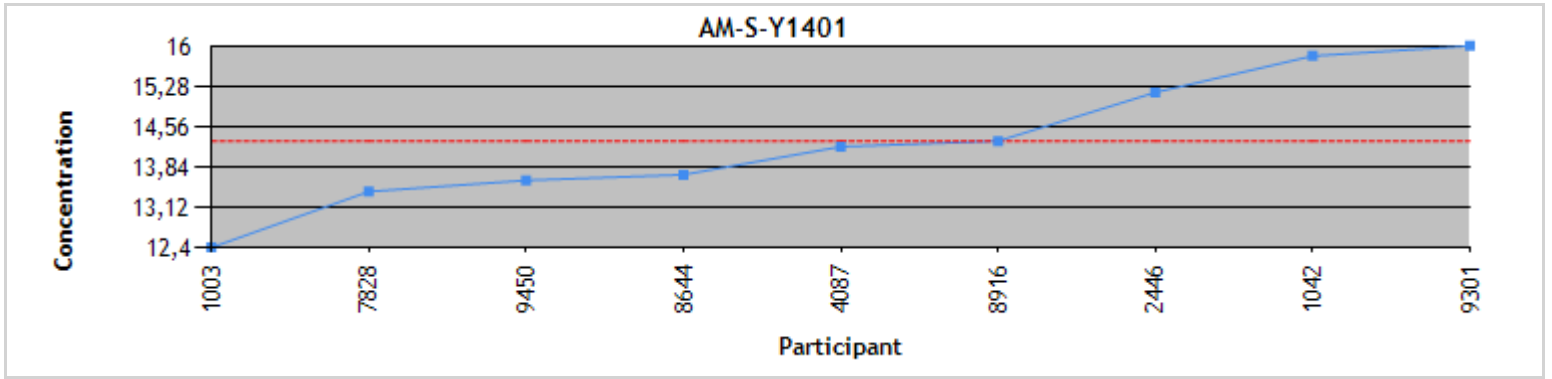
**Statistics**  
**Serum PFHxS (µg/L)**

All methods	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	9	9	9
Robust mean Algo A	14.3	1.25	25.4
Robust STDev	1.34	0.242	3.24
Median	14.2	1.20	25.0
STDev from MAD	1.19	0.208	3.53
Arithmetic mean	14.3	1.31	25.5
STDev	1.19	0.320	2.99
CV or Variability	9.3%	19.4%	12.8%

LC-MS	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	5	5	5
Robust mean Algo A	14.3	1.44	26.5
Robust STDev	1.56	0.445	3.98
Median	14.3	1.50	27.4
STDev from MAD	1.29	0.534	4.72
Arithmetic mean	14.3	1.44	26.5
STDev	1.38	0.392	3.51
CV or Variability	10.9%	30.9%	15.0%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PFHxS ( $\mu\text{g/L}$ )



Individual results  
Serum PFNA (µg/L)  
Round #2014-01

Participant	AM-S-Y1401	z'-score	AM-S-Y1402	z'-score	AM-S-Y1403	z'-score	Method
1003	2.97	0.17	0.493	0.99	2.10	0.27	LC-MS
1042	3.07	0.33	0.479	0.86	2.03	0.10	ND
2446	2.67	-0.34	0.280	-0.95	1.51	-1.19	LC-MS
4087	2.89	0.03	0.370	-0.13	2.00	0.02	ND
7828	2.57	-0.51	0.220	-1.49	1.91	-0.20	ND
8644	1.65	-2.06	<LQ	---	1.90	-0.22	LC-MS
8916	2.78	-0.15	0.375	-0.08	1.80	-0.47	LC-MS
9301	3.34	0.80	0.403	0.17	2.30	0.77	LC-MS
9450	3.17	0.51	0.437	0.48	2.15	0.39	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-Y1401	2.87	0.141	0.575	1.69 - 4.05	Accepted	---
AM-S-Y1402	0.384	0.0452	0.0768	0.206 - 0.562	Accepted	---
AM-S-Y1403	1.99	0.0726	0.397	1.18 - 2.80	Accepted	---

**Statistics**  
**Serum PFNA (µg/L)**

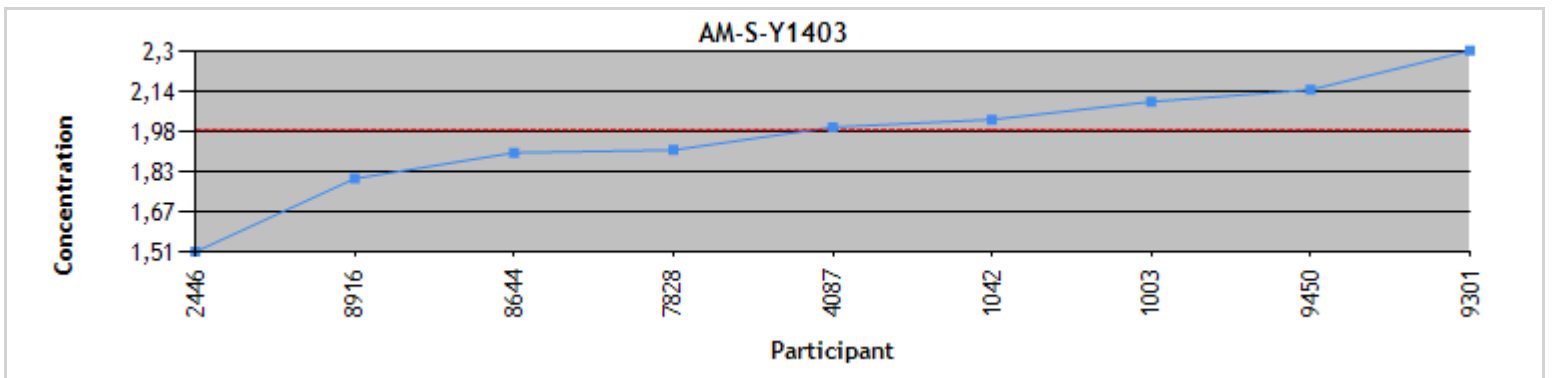
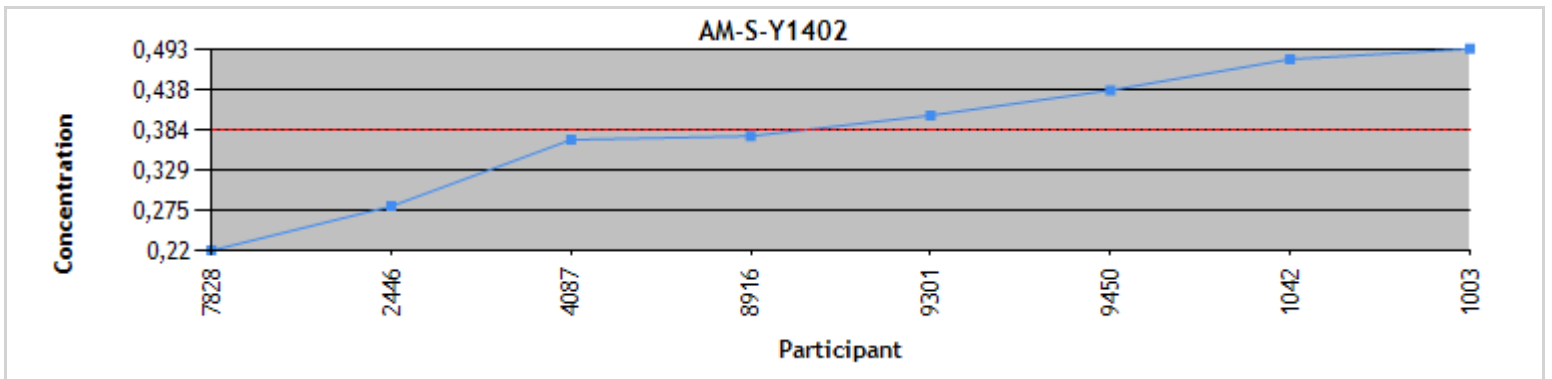
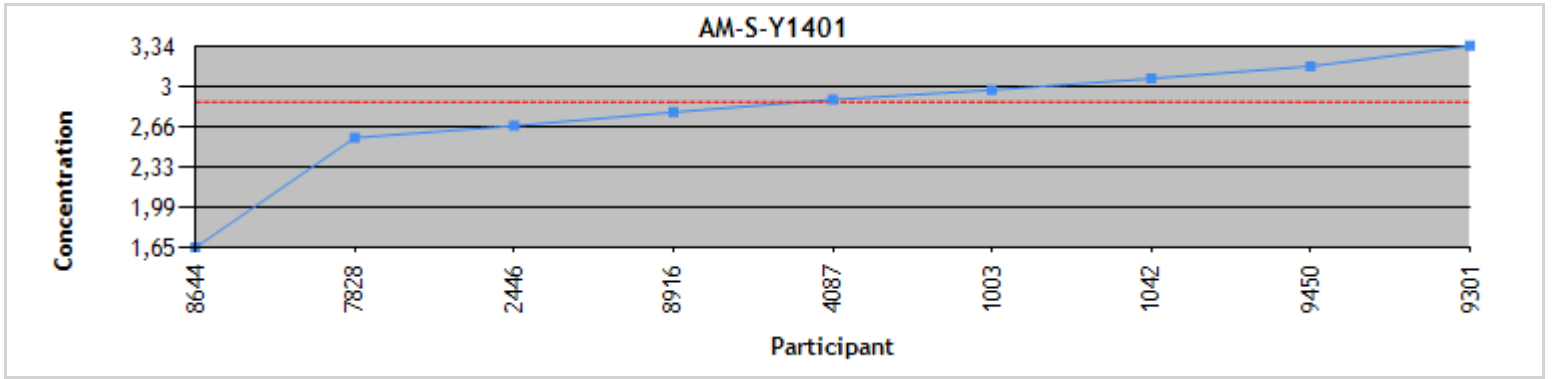
All methods	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	9	8	9
Robust mean Algo A	2.87	0.384	1.99
Robust STDev	0.340	0.102	0.174
Median	2.89	0.389	2.00
STDev from MAD	0.326	0.102	0.148
Arithmetic mean	2.79	0.382	1.97
STDev	0.491	0.0941	0.227
CV or Variability	11.8%	26.6%	8.8%

LC-MS	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	5	4	5
Robust mean Algo A	2.80	0.388	1.92
Robust STDev	0.354	0.0995	0.340
Median	2.78	0.389	1.90
STDev from MAD	0.276	0.0875	0.297
Arithmetic mean	2.68	0.388	1.92
STDev	0.631	0.0877	0.300
CV or Variability	12.6%	25.7%	17.7%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PFNA ( $\mu\text{g/L}$ )





Individual results  
Serum PFOA (µg/L)  
Round #2014-01

Participant	AM-S-Y1401	z'-score	AM-S-Y1402	z'-score	AM-S-Y1403	z'-score	Method
1003	7.65	0.06	0.980	0.23	14.9	-0.17	LC-MS
1042	8.13	0.50	1.08	0.51	16.2	0.38	ND
1629	7.10	-0.46	0.499	-1.11	14.8	-0.21	LC-MS
2446	7.14	-0.42	0.750	-0.41	14.9	-0.17	LC-MS
4087	7.79	0.19	0.940	0.12	16.5	0.52	ND
7828	7.76	0.16	0.850	-0.13	16.1	0.34	ND
7944	7.90	0.29	<LD	---	13.9	-0.58	ND
8644	4.50	-2.87	0.630	-0.75	13.1	-0.94	LC-MS
8916	6.78	-0.76	0.929	0.09	14.7	-0.24	LC-MS
9301	8.32	0.68	0.952	0.15	18.0	1.16	LC-MS
9450	7.79	0.19	0.922	0.07	15.5	0.07	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-Y1401	7.59	0.205	1.06	5.44 - 9.74	Accepted	---
AM-S-Y1402	0.898	0.0432	0.355	0.182 - 1.61	Accepted	---
AM-S-Y1403	15.3	0.480	2.28	10.6 - 20.0	Accepted	---

**Statistics**  
**Serum PFOA (µg/L)**

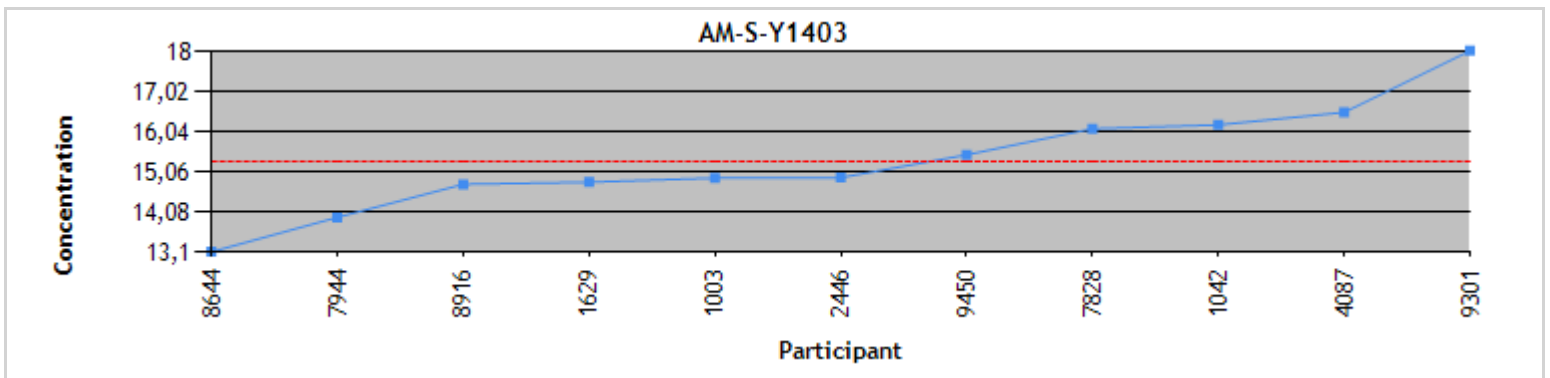
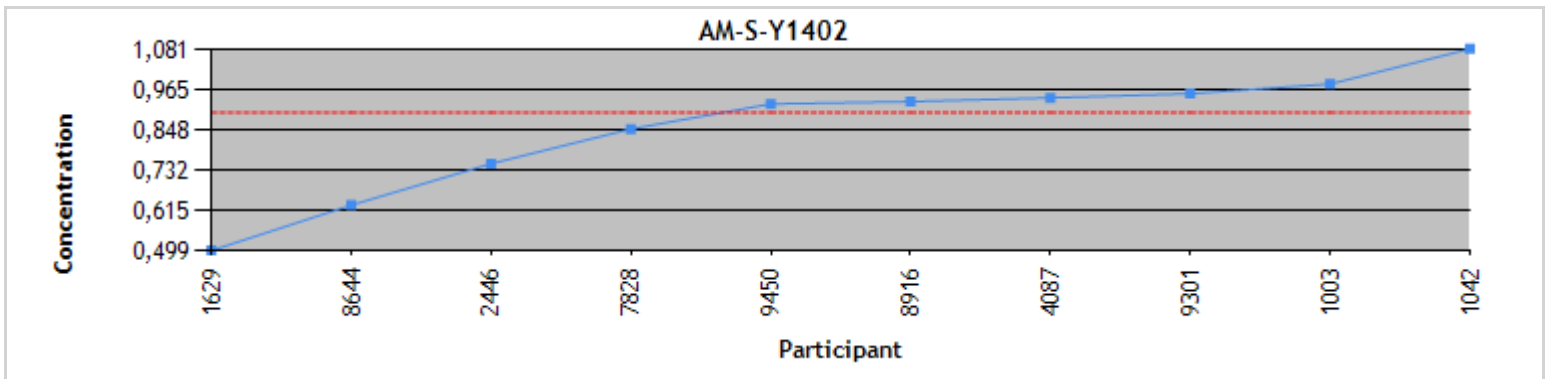
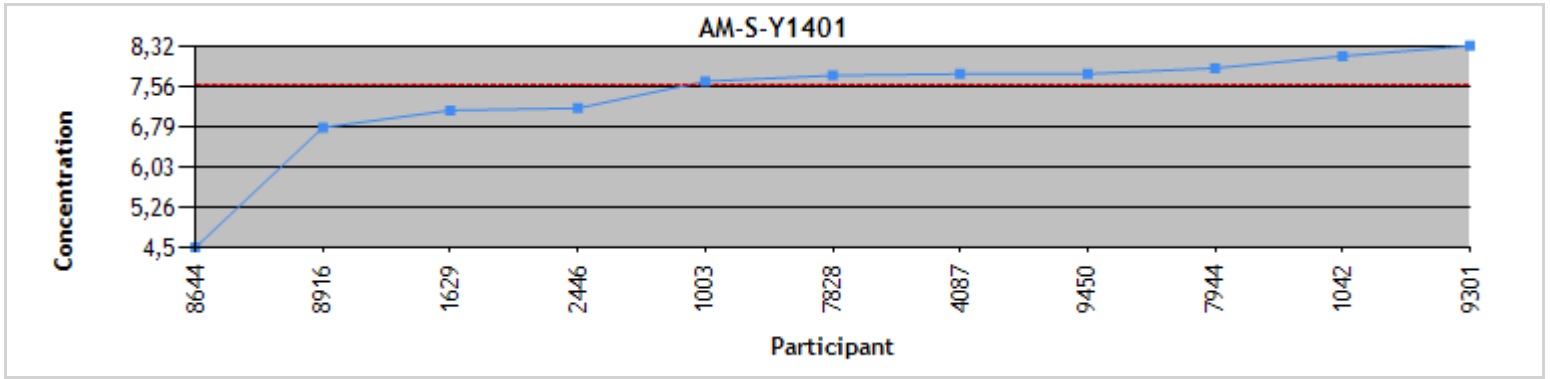
All methods	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	11	10	11
Robust mean Algo A	7.59	0.898	15.3
Robust STDev	0.545	0.109	1.27
Median	7.76	0.926	14.9
STDev from MAD	0.545	0.0964	1.44
Arithmetic mean	7.35	0.853	15.3
STDev	1.05	0.177	1.33
CV or Variability	7.2%	12.2%	8.3%

LC-MS	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	6	6	6
Robust mean Algo A	7.15	0.800	14.8
Robust STDev	0.767	0.204	0.148
Median	7.12	0.840	14.9
STDev from MAD	0.649	0.188	0.121
Arithmetic mean	6.91	0.790	15.1
STDev	1.30	0.197	1.59
CV or Variability	10.7%	25.5%	1.0%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PFOA ( $\mu\text{g/L}$ )



Individual results  
Serum PFOS (µg/L)  
Round #2014-01

Participant	AM-S-Y1401	z'-score	AM-S-Y1402	z'-score	AM-S-Y1403	z'-score	Method
1003	82.6	-0.06	3.49	0.12	28.2	-0.05	LC-MS
1042	85.1	0.10	3.04	-0.13	28.7	0.04	ND
1629	54.6	-1.88	1.95	-0.75	20.1	-1.37	LC-MS
2446	80.2	-0.22	2.31	-0.55	22.4	-0.99	LC-MS
4087	85.4	0.12	3.02	-0.15	28.2	-0.05	ND
7828	90.7	0.46	2.97	-0.17	30.8	0.37	ND
7944	77.4	-0.40	3.59	0.17	24.5	-0.65	ND
8644	58.5	-1.63	3.96	0.38	32.4	0.64	LC-MS
8916	87.8	0.27	3.67	0.22	30.8	0.38	LC-MS
9301	88.6	0.32	3.71	0.24	31.9	0.55	LC-MS
9450	93.3	0.63	3.69	0.23	31.1	0.42	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-Y1401	83.6	2.77	15.2	52.8 - 114	Accepted	---
AM-S-Y1402	3.28	0.216	1.76	0.00 - 6.83	Accepted	---
AM-S-Y1403	28.5	1.42	5.97	16.2 - 40.8	Accepted	---

**Statistics**  
**Serum PFOS (µg/L)**

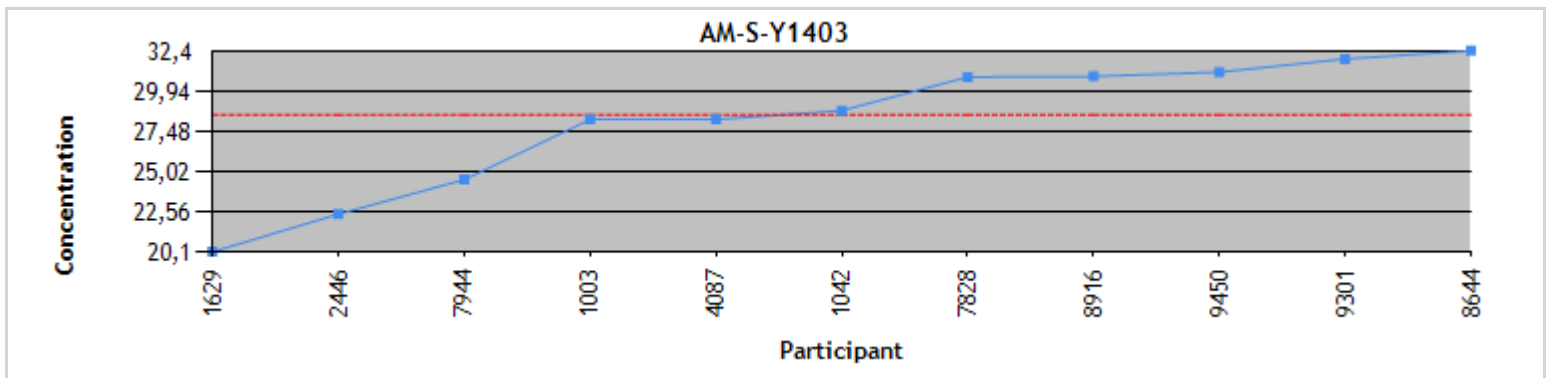
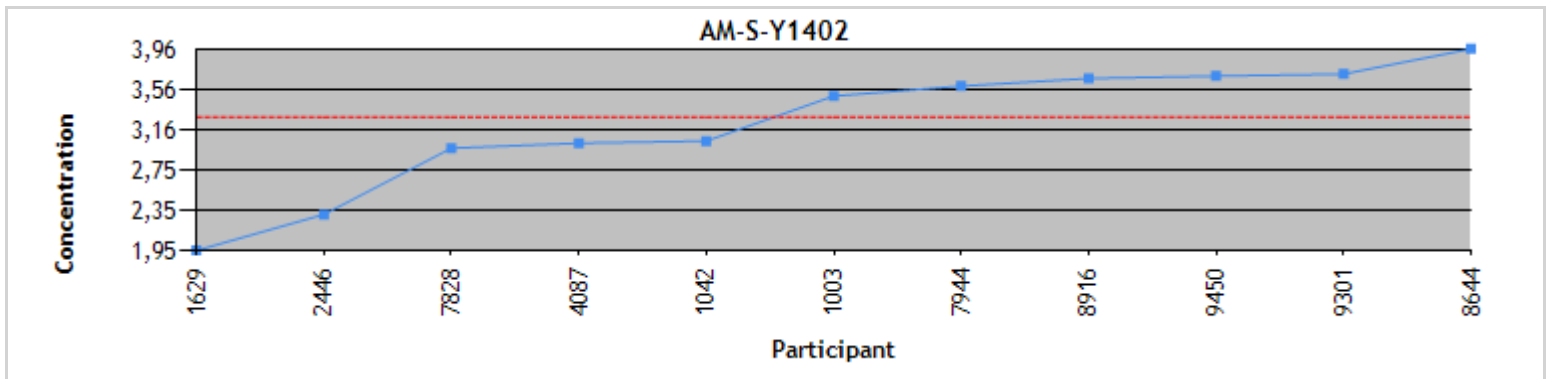
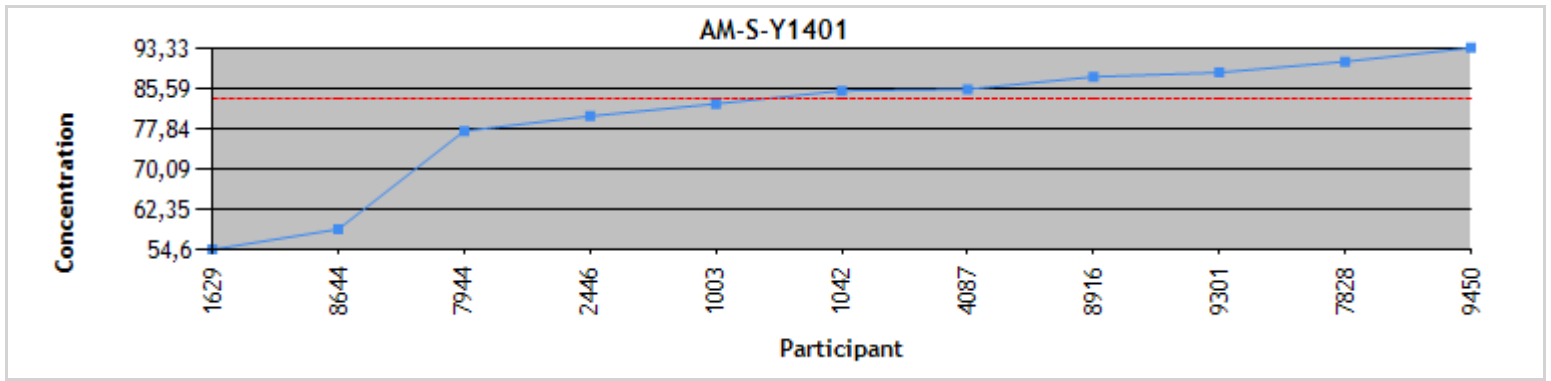
All methods	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	11	11	11
Robust mean Algo A	83.6	3.28	28.5
Robust STDev	7.34	0.574	3.76
Median	85.1	3.49	28.7
STDev from MAD	7.24	0.664	3.49
Arithmetic mean	80.4	3.22	28.1
STDev	12.7	0.632	4.08
CV or Variability	8.8%	17.5%	13.2%

LC-MS	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	6	6	6
Robust mean Algo A	78.6	3.47	28.4
Robust STDev	11.4	0.444	4.51
Median	81.4	3.58	29.5
STDev from MAD	10.1	0.381	3.90
Arithmetic mean	75.4	3.18	27.6
STDev	15.0	0.836	5.21
CV or Variability	14.5%	12.8%	15.9%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum PFOS ( $\mu\text{g/L}$ )



Individual results  
Serum PFUdA (µg/L)  
Round #2014-01

Participant	AM-S-Y1401	z'-score	AM-S-Y1402	z'-score	AM-S-Y1403	z'-score	Method
1003	4.44	-0.28	0.522	0.03	3.82	0.10	LC-MS
1042	5.37	0.68	0.589	0.63	3.92	0.23	ND
2446	4.27	-0.45	0.390	-1.16	3.15	-0.76	LC-MS
4087	4.54	-0.17	0.480	-0.35	3.52	-0.28	ND
7828	4.95	0.25	0.460	-0.53	3.58	-0.21	ND
8644	2.44	-2.33	<LQ	---	2.41	-1.72	LC-MS
8916	4.54	-0.18	0.501	-0.16	4.12	0.48	LC-MS
9301	5.04	0.34	0.573	0.49	3.93	0.25	LC-MS
9450	7.27	2.62	0.844	2.92	6.05	2.98	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-Y1401	4.71	0.254	0.942	2.76 - 6.66	Accepted	---
AM-S-Y1402	0.519	0.0396	0.104	0.297 - 0.741	Accepted	---
AM-S-Y1403	3.74	0.204	0.749	2.19 - 5.29	Rejected	---

**Statistics**  
**Serum PFUdA (µg/L)**

All methods	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	9	8	9
Robust mean Algo A	4.71	0.519	3.74
Robust STDev	0.610	0.0897	0.490
Median	4.54	0.512	3.82
STDev from MAD	0.608	0.0838	0.437
Arithmetic mean	4.76	0.545	3.83
STDev	1.25	0.136	0.979
CV or Variability	13.0%	17.3%	13.1%

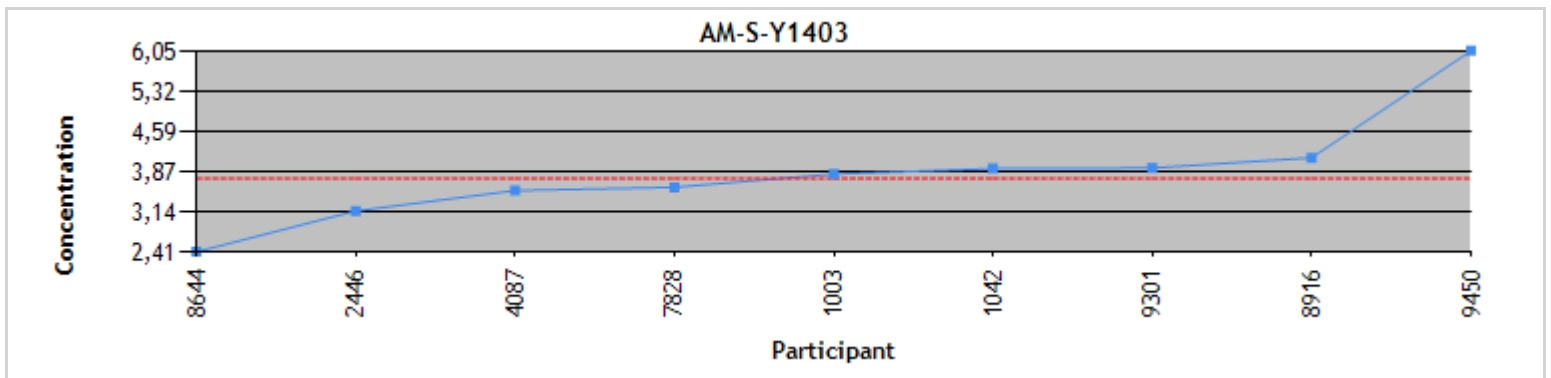
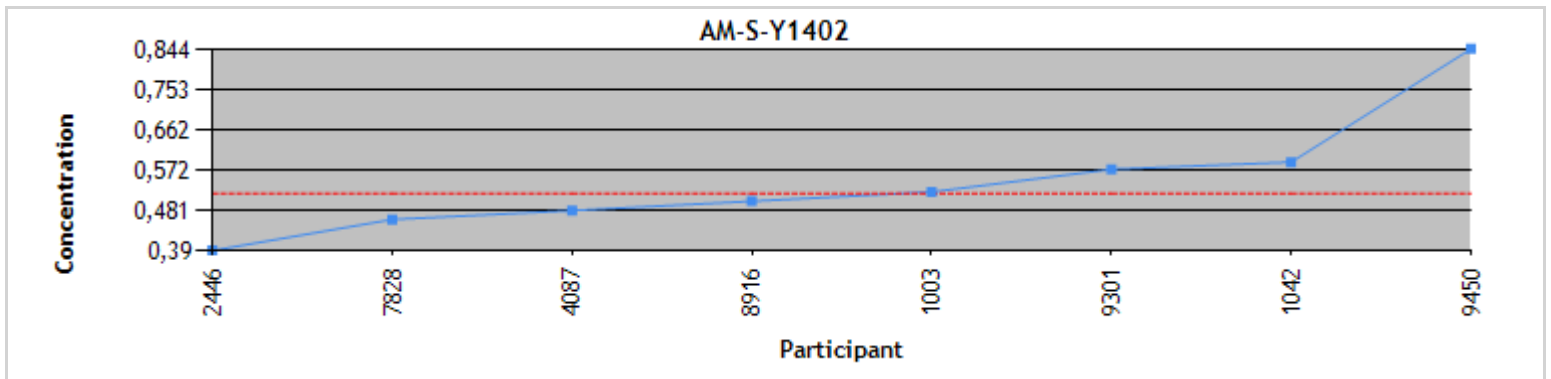
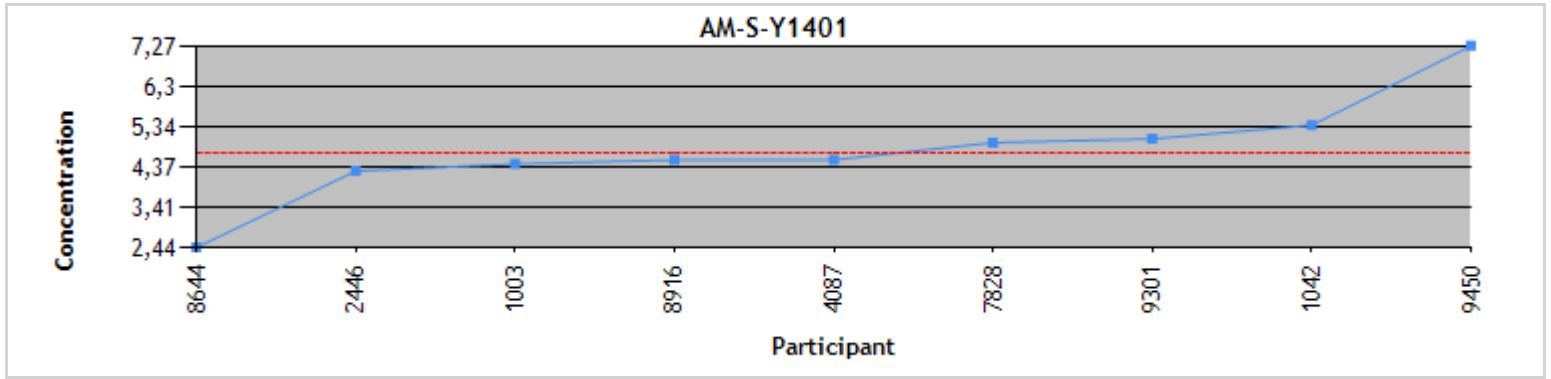
  

LC-MS	AM-S-Y1401	AM-S-Y1402	AM-S-Y1403
N	5	4	5
Robust mean Algo A	4.43	0.507	3.64
Robust STDev	0.322	0.0665	0.506
Median	4.44	0.512	3.82
STDev from MAD	0.252	0.0534	0.437
Arithmetic mean	4.15	0.497	3.49
STDev	0.996	0.0772	0.703
CV or Variability	7.3%	13.1%	13.9%

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Distribution  
Serum PFUdA ( $\mu\text{g/L}$ )



Individual results  
Serum Total Cholesterol (g/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
1042	2.74	-0.72	1.74	0.38	1.56	-0.11	ND
1629	2.72	-0.96	1.68	-0.44	1.56	-0.14	ND
2446	3.00	2.02	1.85	2.03	1.65	1.12	ND
5463	2.87	0.64	1.63	-1.16	1.42	-2.11	ND
7660	2.79	-0.23	1.68	-0.41	1.55	-0.32	ND
8420	271	2849.60	167	2402.10	153	2125.16	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	2.81	0.0580	0.0741	2.62 - 3.00	Accepted	---
AM-S-W1402	1.71	0.0405	0.0555	1.57 - 1.85	Accepted	---
AM-S-W1403	1.57	0.0473	0.0533	1.43 - 1.71	Rejected	---

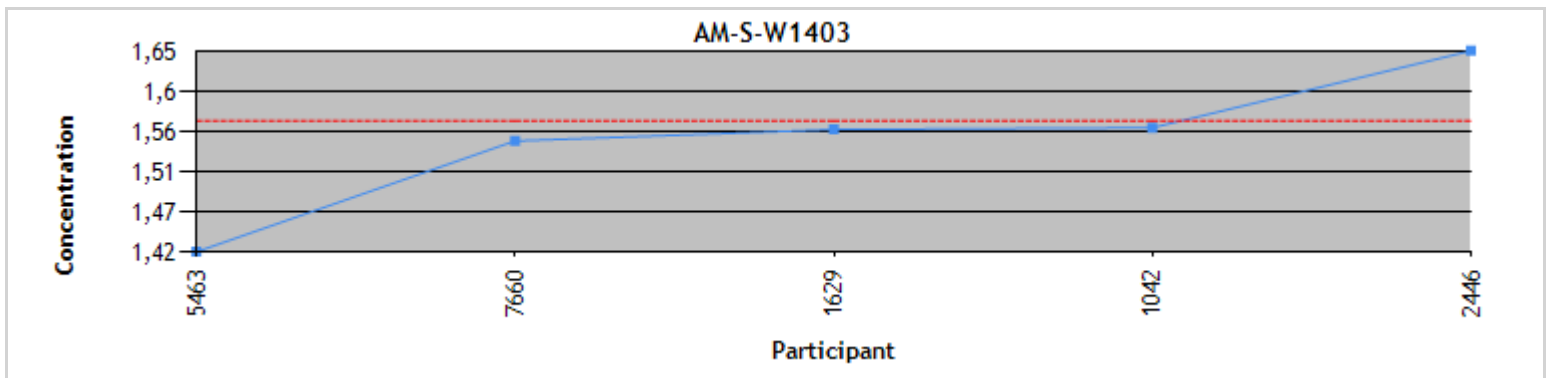
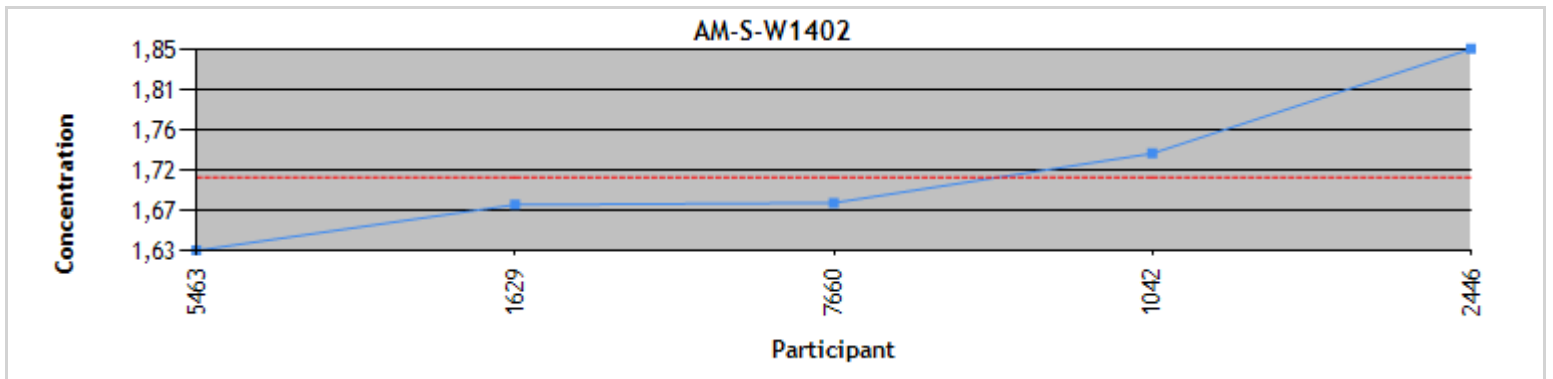
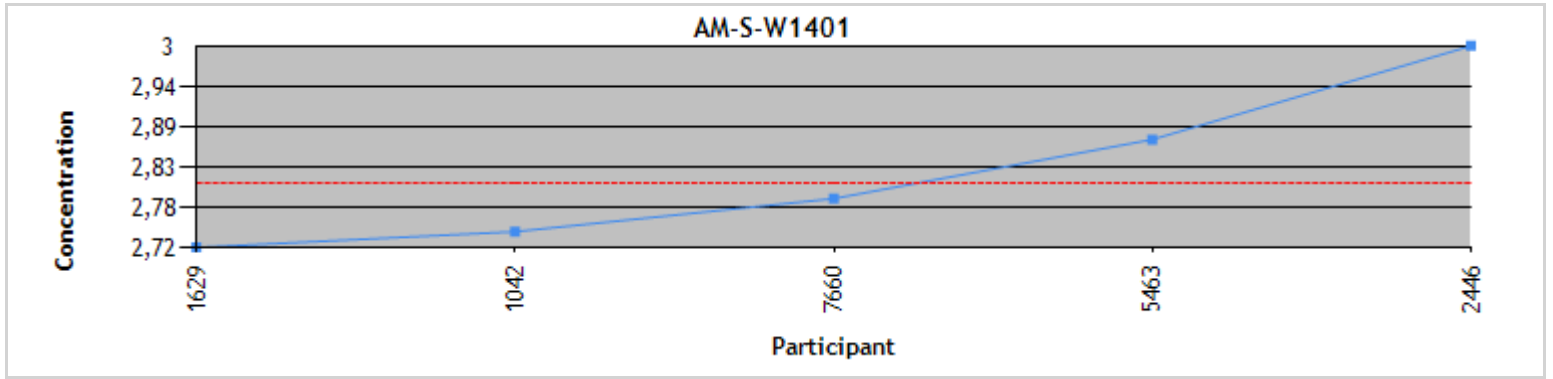
Total cholesterol is not included in our scope of accreditation.

**Statistics**  
**Serum Total Cholesterol (g/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	5	5	5
Robust mean Algo A	2.81	1.71	1.57
Robust STDev	0.104	0.0725	0.0927
Median	2.79	1.68	1.56
STDev from MAD	0.101	0.0771	0.0764
Arithmetic mean	2.82	1.72	26.8
STDev	0.114	0.0840	61.8
CV or Variability	3.7%	4.2%	5.9%

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Distribution  
Serum Total Cholesterol (g/L)



Individual results  
Serum Total lipids (g/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	9.35	0.08	5.58	0.17	5.32	0.07	ND
1042	10.1	0.78	5.53	0.07	5.62	0.62	ND
1629	8.79	-0.47	4.68	-1.49	5.31	0.05	ND
2446	10.1	0.82	5.55	0.11	5.54	0.47	ND
7660	10.1	0.76	5.46	-0.06	5.50	0.40	ND
8559	8.75	-0.51	5.50	0.02	4.50	-1.42	ND
8916	6.69	<b>-2.52</b>	4.15	<b>-2.46</b>	3.75	<b>-2.78</b>	GC

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	9.27	0.471	0.908	7.22 - 11.3	Accepted	---
AM-S-W1402	5.49	0.0407	0.542	4.40 - 6.58	Accepted	---
AM-S-W1403	5.28	0.175	0.522	4.18 - 6.38	Accepted	---

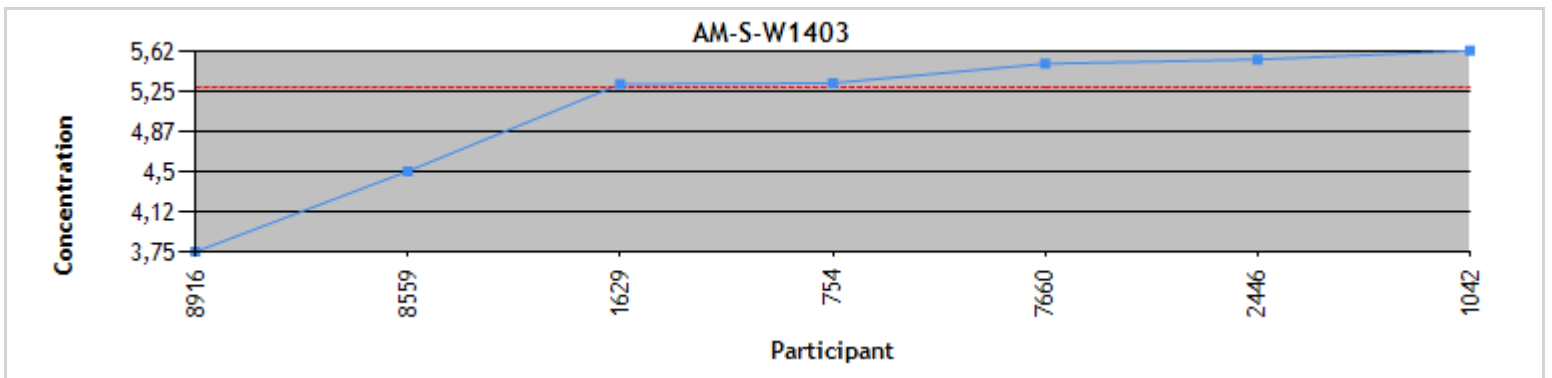
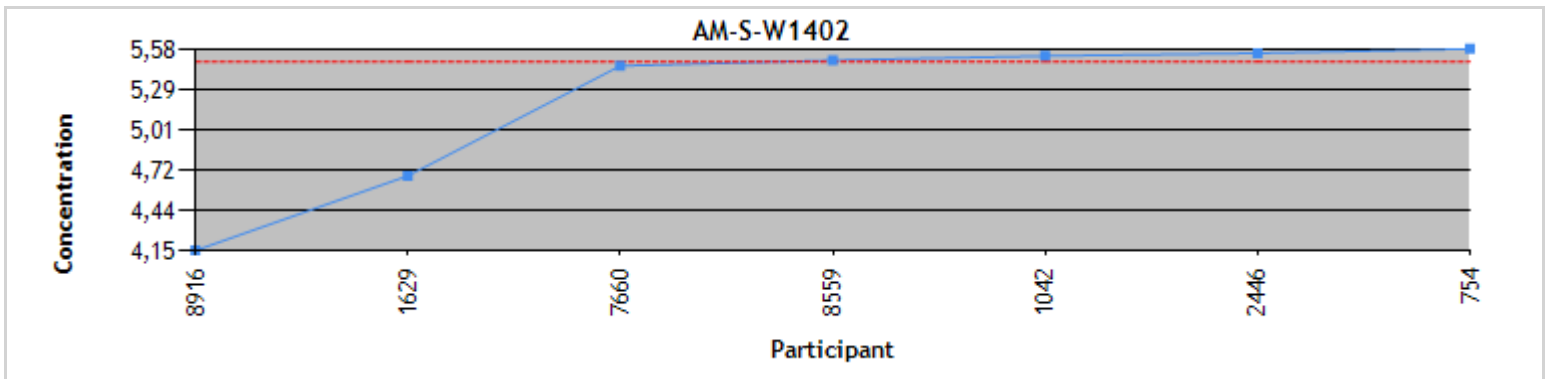
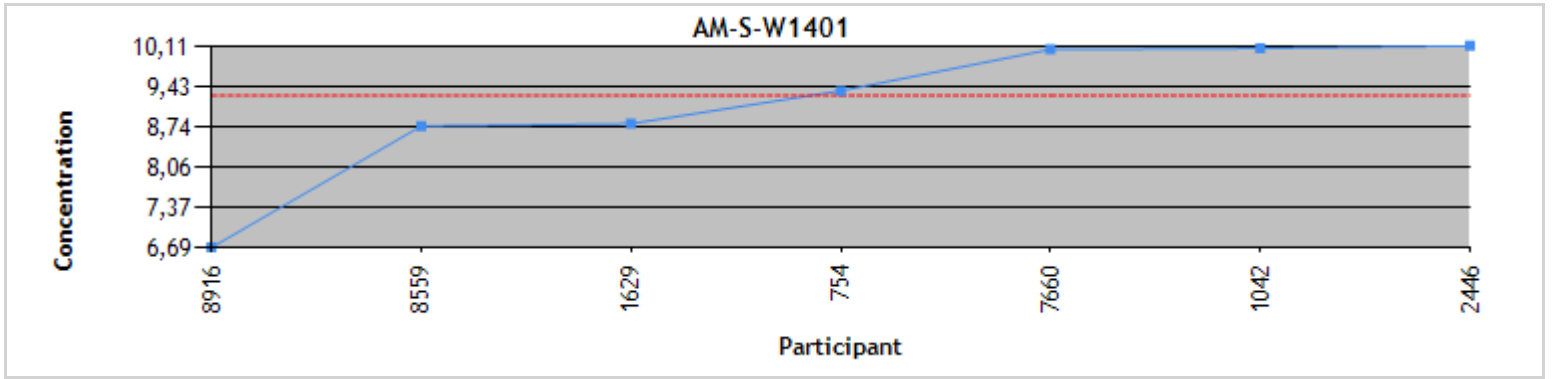
Total lipids are not included in our scope of accreditation.

**Statistics**  
**Serum Total lipids (g/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	7	7	7
Robust mean Algo A	9.27	5.49	5.28
Robust STDev	0.998	0.0862	0.370
Median	9.35	5.50	5.32
STDev from MAD	1.04	0.0742	0.326
Arithmetic mean	9.12	5.21	5.08
STDev	1.22	0.564	0.695
CV or Variability	10.8%	1.6%	7.0%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

**Distribution**  
**Serum Total lipids (g/L)**



Individual results  
Serum Toxaphene Parlar # 26 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.119	-4.02	0.0213	-3.38	0.0626	-3.99	GC
1042	0.236	0.11	0.0850	-0.04	0.157	-0.07	GC-MS CI
6865	0.294	2.15	0.0870	0.06	0.186	1.12	ND
7660	0.229	-0.14	0.0825	-0.17	0.152	-0.30	GC-MS CI
8559	0.236	0.11	0.0880	0.12	0.164	0.21	ND
8916	0.229	-0.14	0.0930	0.38	0.163	0.17	GC

	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.233	0.00342	0.0281	0.176 - 0.290	Accepted	---
AM-S-W1402	0.0858	0.00249	0.0189	0.0477 - 0.124	Accepted	---
AM-S-W1403	0.159	0.00558	0.0235	0.111 - 0.207	Accepted	---

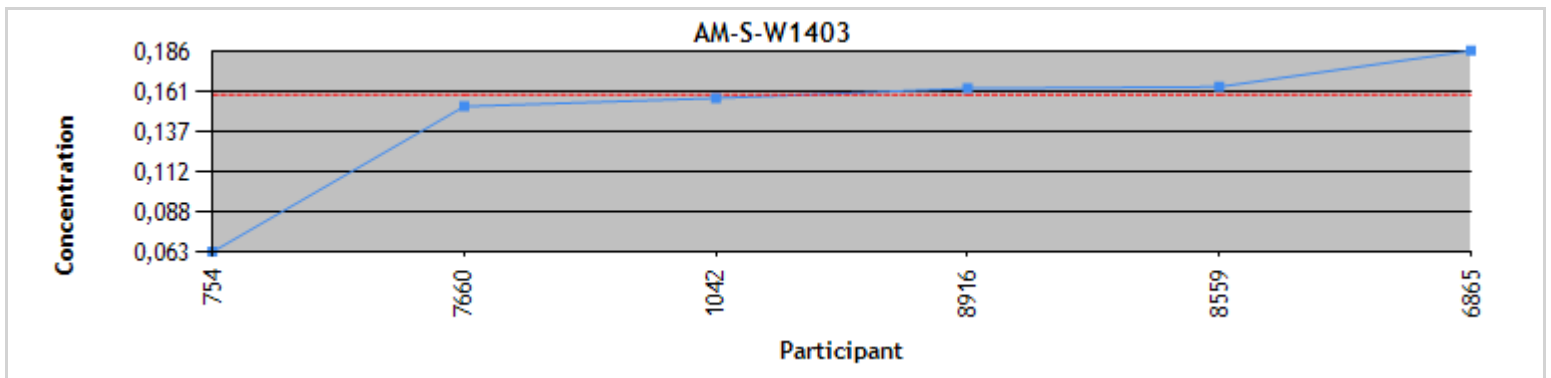
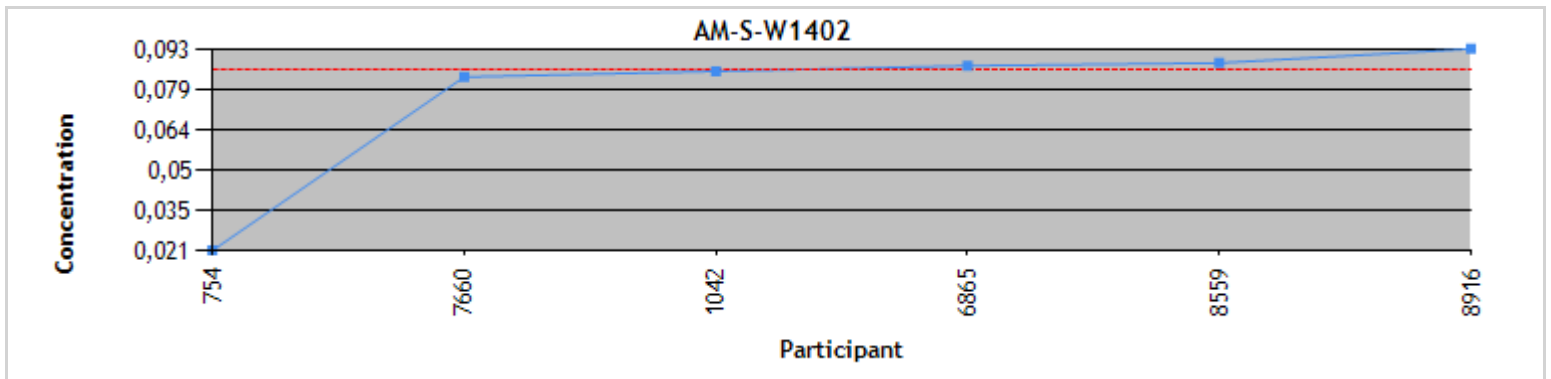
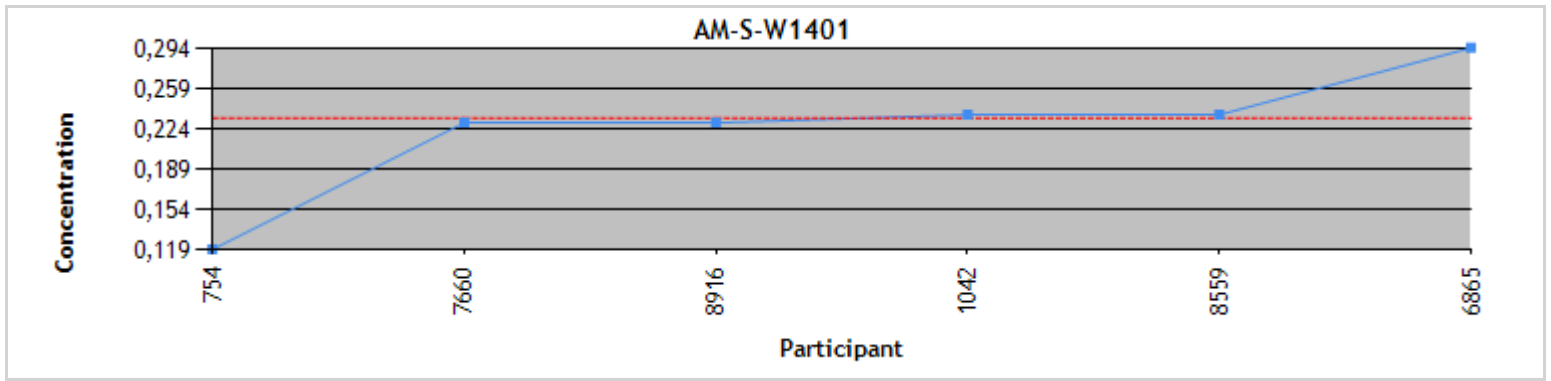


**Statistics**  
**Serum Toxaphene Parlar # 26 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	6	6	6
Robust mean Algo A	0.233	0.0858	0.159
Robust STDev	0.00670	0.00488	0.0109
Median	0.233	0.0860	0.160
STDev from MAD	0.00526	0.00408	0.00905
Arithmetic mean	0.224	0.0761	0.147
STDev	0.0570	0.0271	0.0432
CV or Variability	2.9%	5.7%	6.9%

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Distribution  
Serum Toxaphene Parlar # 26 ( $\mu\text{g/L}$ )



Individual results  
Serum Toxaphene Parlar # 50 (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	0.174	1.98	0.480	1.81	0.562	1.31	GC
1042	0.129	-0.12	0.391	0.24	0.477	0.11	GC-MS CI
6865	0.173	1.93	0.362	-0.26	0.484	0.21	ND
7660	0.123	-0.41	0.382	0.09	0.455	-0.19	GC-MS CI
8559	0.120	-0.57	0.359	-0.32	0.444	-0.35	ND
8916	0.129	-0.14	0.366	-0.19	0.444	-0.35	GC

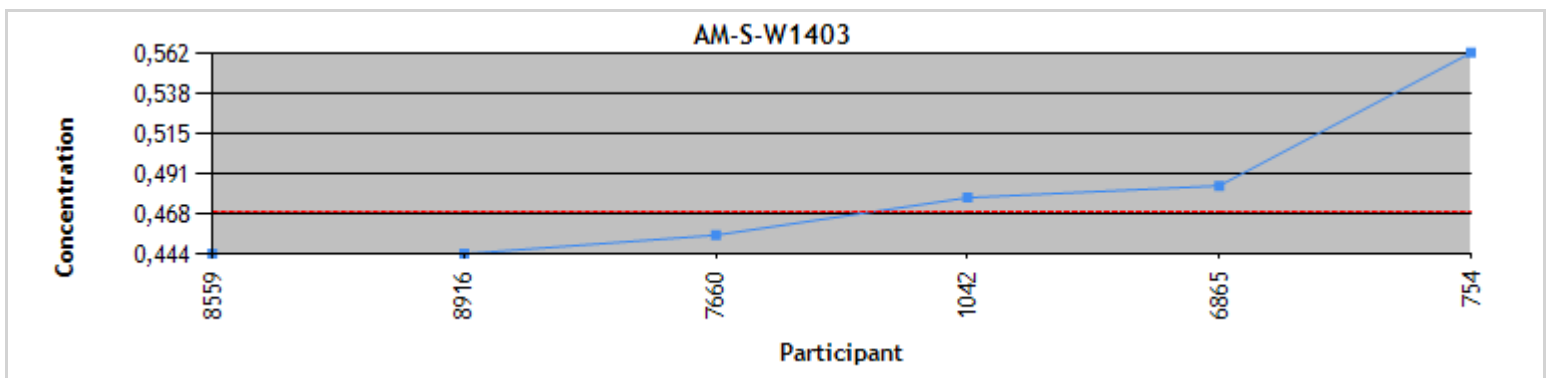
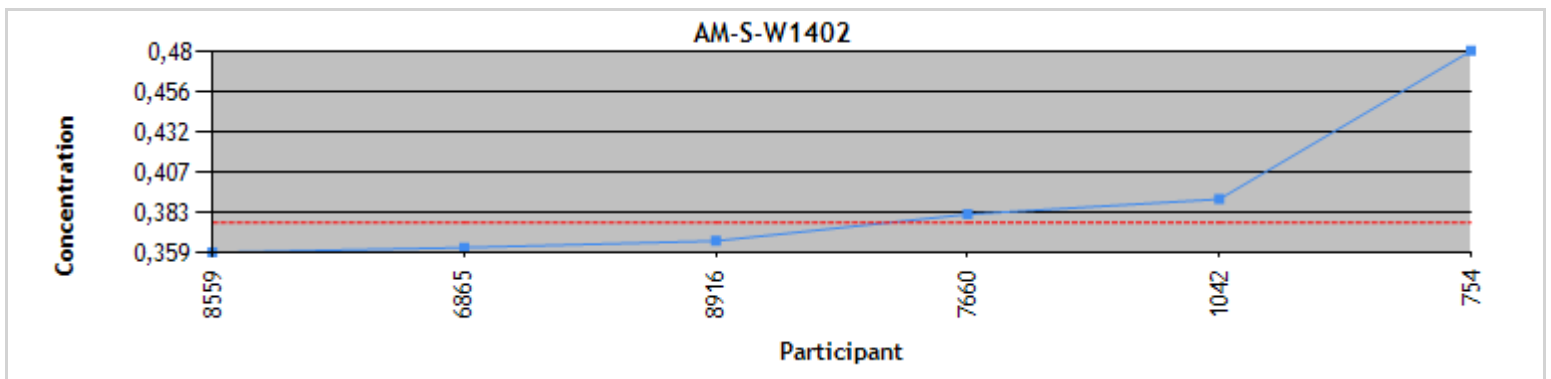
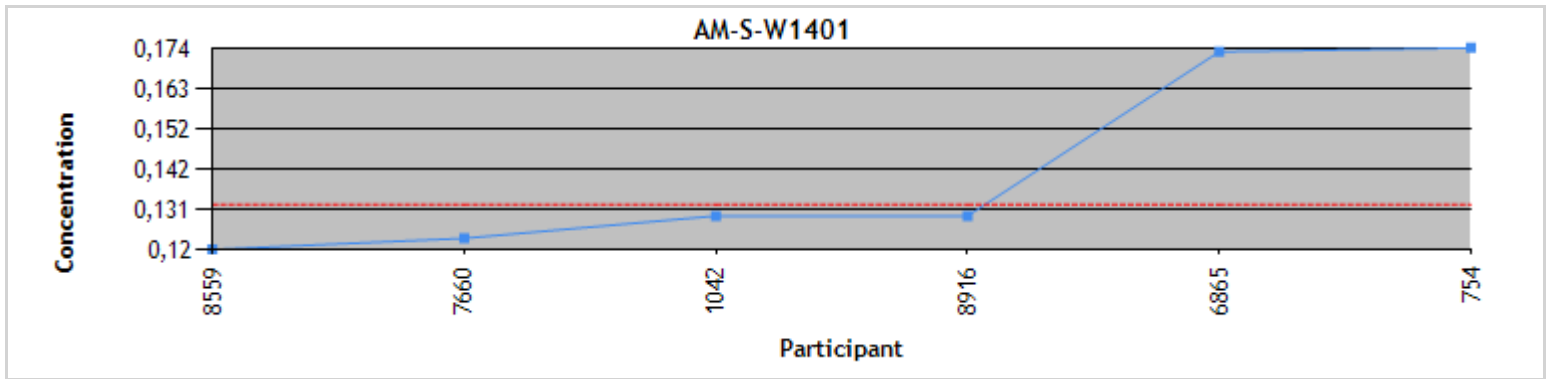
	Assigned value	Standard uncertainty	σ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	0.132	0.00648	0.0202	0.0895 - 0.175	Rejected	---
AM-S-W1402	0.377	0.0103	0.0560	0.263 - 0.491	Rejected	---
AM-S-W1403	0.469	0.0152	0.0695	0.327 - 0.611	Accepted	---

**Statistics**  
**Serum Toxaphene Parlar # 50 (µg/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	6	6	6
Robust mean Algo A	0.132	0.377	0.469
Robust STDev	0.0127	0.0203	0.0297
Median	0.129	0.374	0.466
STDev from MAD	0.0112	0.0199	0.0297
Arithmetic mean	0.141	0.390	0.478
STDev	0.0251	0.0458	0.0445
CV or Variability	9.6%	5.4%	6.3%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Toxaphene Parlar # 50 ( $\mu\text{g/L}$ )



Individual results  
Serum trans-Nonachlor (µg/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
754	4.38	-0.58	0.349	0.87	3.01	-0.25	GC
1003	5.68	1.92	0.304	0.02	3.58	1.51	GC-MS-MS
1042	4.65	-0.06	0.303	0.00	3.11	0.07	GC-MS CI
2446	5.14	0.88	0.330	0.51	3.56	1.45	GC-MS EI
2968	4.81	0.25	0.313	0.19	3.26	0.53	GC-MS EI
4635	5.00	0.60	0.316	0.25	3.26	0.53	GC-MS EI
5463	6.33	3.17	0.270	-0.62	3.28	0.59	ND
6865	3.60	-2.07	0.279	-0.45	2.48	-1.89	ND
7660	4.34	-0.66	0.290	-0.25	2.92	-0.53	GC-MS CI
7828	5.23	1.06	0.326	0.43	---	---	ND
8559	2.66	-3.88	<LD	---	2.33	-2.35	ND
8916	3.65	-1.97	0.256	-0.89	2.47	-1.91	GC

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	4.68	0.295	0.429	3.64 - 5.72	Accepted	---
AM-S-W1402	0.303	0.0119	0.0517	0.197 - 0.409	Accepted	---
AM-S-W1403	3.09	0.139	0.292	2.44 - 3.74	Accepted	---

**Statistics**  
**Serum trans-Nonachlor ( $\mu\text{g/L}$ )**

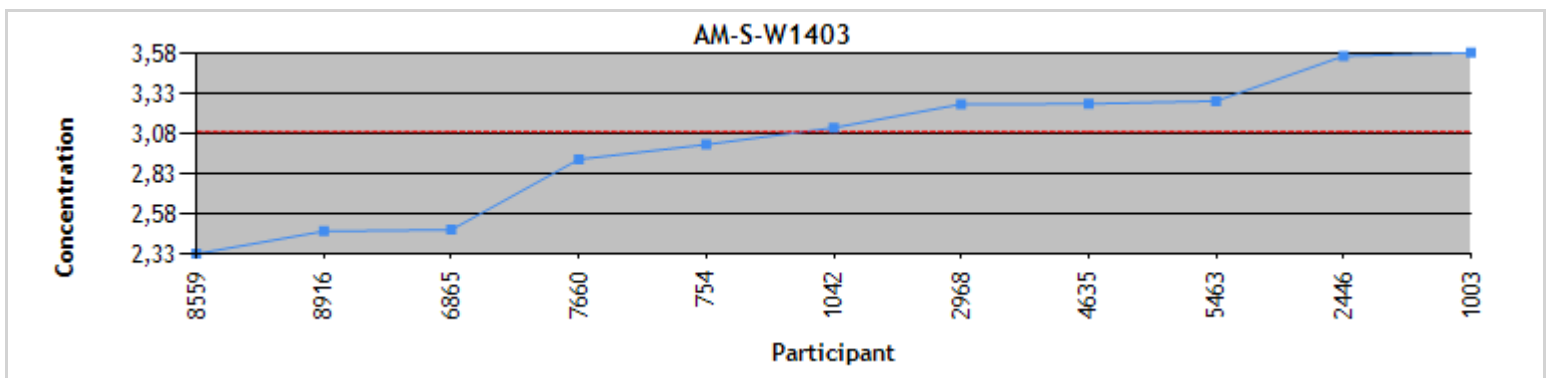
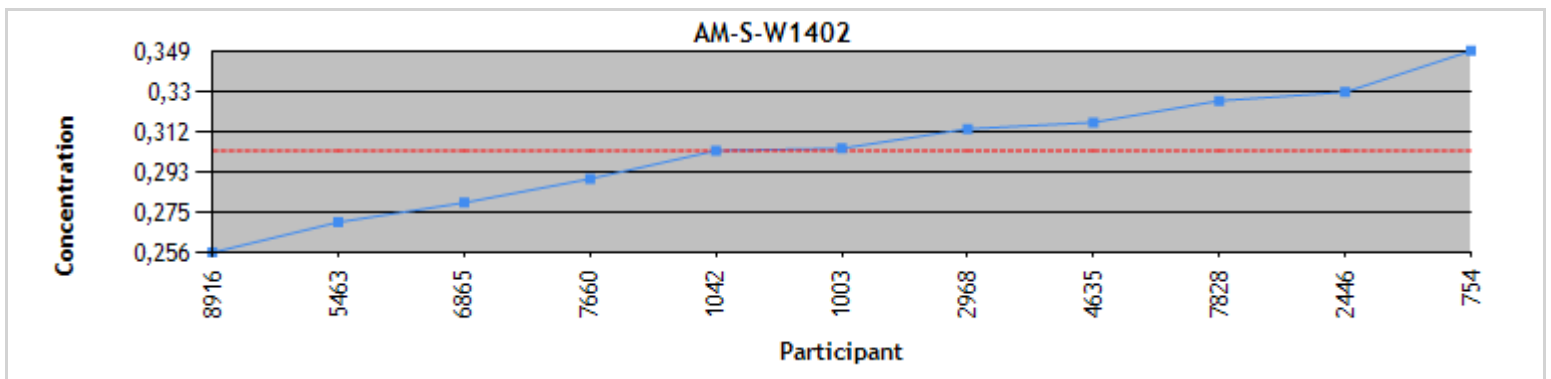
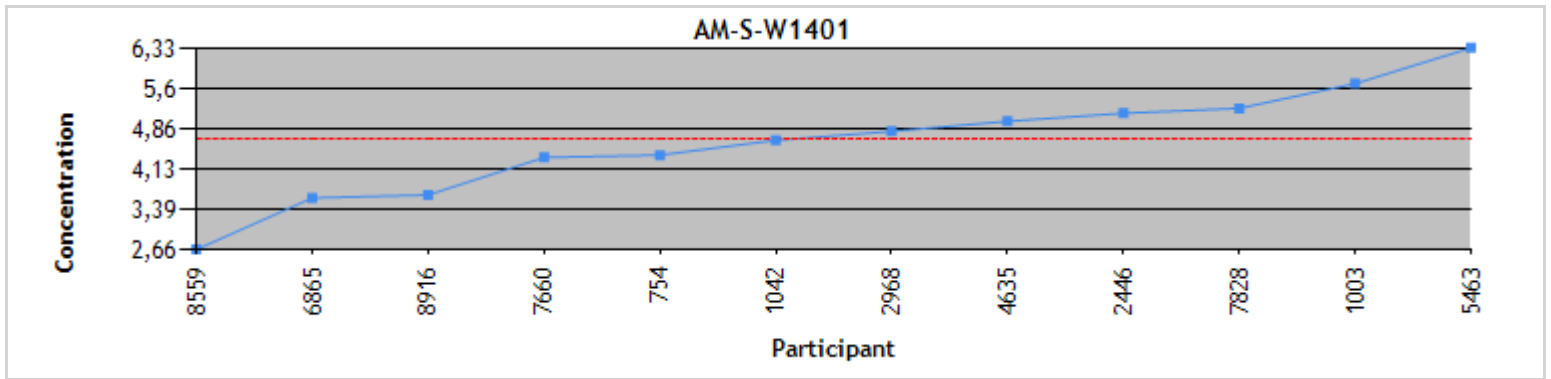
All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	12	11	11
Robust mean Algo A	4.68	0.303	3.09
Robust STDev	0.819	0.0315	0.369
Median	4.73	0.304	3.11
STDev from MAD	0.674	0.0326	0.290
Arithmetic mean	4.62	0.303	3.02
STDev	0.992	0.0277	0.433
CV or Variability	17.5%	10.4%	11.9%

GC-MS EI	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	3	3	3
Robust mean Algo A	4.98	0.317	3.26
Robust STDev	0.186	0.00562	0.00374
Median	5.00	0.316	3.26
STDev from MAD	0.215	0.00445	0.00297
Arithmetic mean	4.98	0.320	3.36
STDev	0.164	0.00907	0.172
CV or Variability	3.7%	1.8%	0.1%

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Distribution  
Serum trans-Nonachlor ( $\mu\text{g/L}$ )





Individual results  
Serum Triglycerides (g/L)  
Round #2014-01

Participant	AM-S-W1401	z'-score	AM-S-W1402	z'-score	AM-S-W1403	z'-score	Method
1042	3.12	-0.23	0.788	-0.03	1.51	0.11	ND
1629	3.29	0.70	1.19	6.19	1.79	2.27	ND
2446	2.84	-1.73	0.710	-1.24	1.32	-1.41	ND
7660	3.04	-0.66	0.788	-0.03	1.47	-0.24	ND
8420	291	1555.92	85.0	1303.71	131	1015.40	ND

	Assigned value	Standard uncertainty	$\sigma$ pt	Acceptable range	K-S (Lilliefors)	Species
AM-S-W1401	3.16	0.159	0.0937	2.79 - 3.53	Rejected	---
AM-S-W1402	0.790	0.0477	0.0436	0.661 - 0.919	Rejected	---
AM-S-W1403	1.50	0.113	0.0587	1.24 - 1.76	Accepted	---

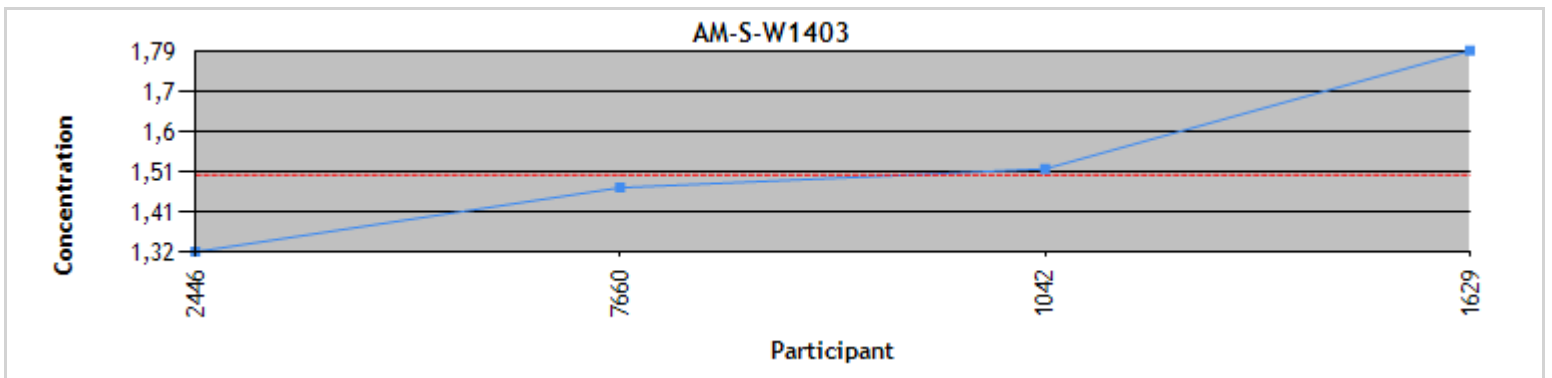
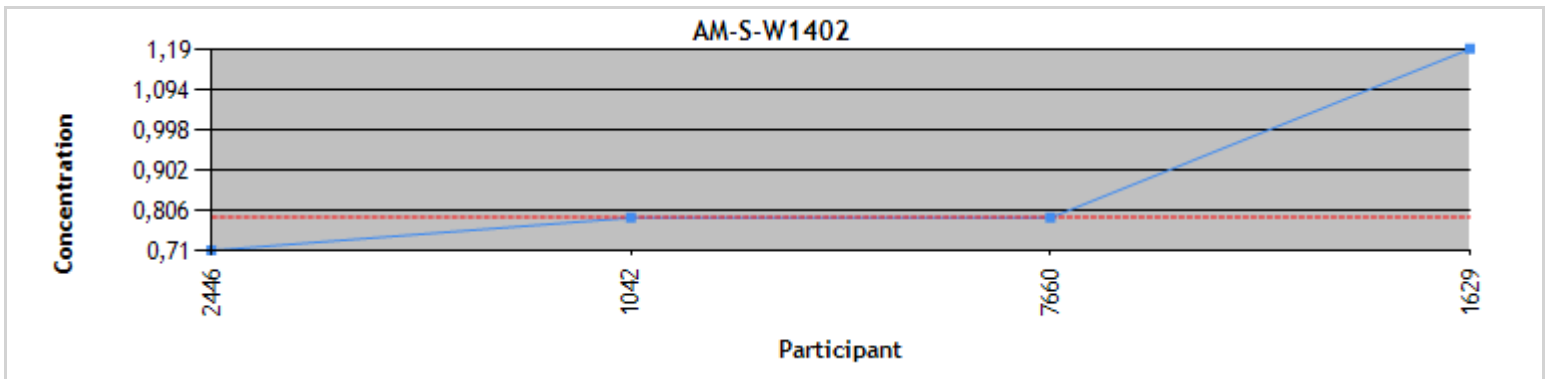
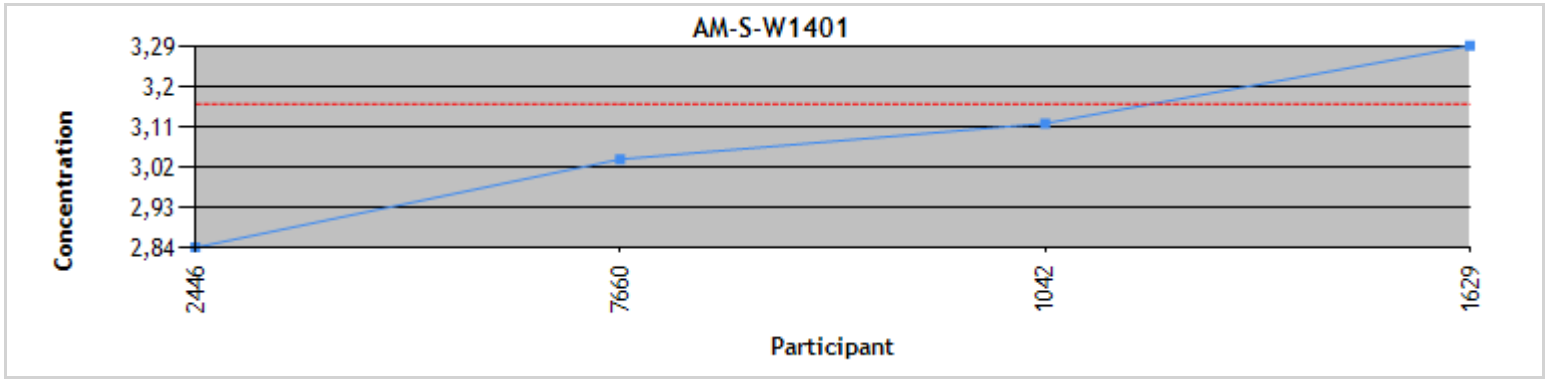
Triglycerides is not included in our scope of accreditation.

**Statistics**  
**Serum Triglycerides (g/L)**

All methods	AM-S-W1401	AM-S-W1402	AM-S-W1403
N	4	4	4
Robust mean Algo A	3.16	0.790	1.50
Robust STDev	0.285	0.0763	0.181
Median	3.12	0.788	1.49
STDev from MAD	0.257	0.0578	0.144
Arithmetic mean	60.7	0.869	1.52
STDev	129	0.217	0.196
CV or Variability	9.0%	9.7%	12.1%

When fewer than 20 results were considered for statistical treatment of all or a sub-sample of results, the accuracy of statistical data may be questionable.

Distribution  
Serum Triglycerides (g/L)



## ASSIGNED VALUES

ROUND: 2014-01  
SHIPPED ON: 2014-01-27  
DEADLINE: 2014-02-14

MATRIX	ANALYTE	UNIT	PTM	ASSIGNED VALUE	PTM	ASSIGNED VALUE	PTM	ASSIGNED VALUE
Serum	Dieldrin	µg/L	AM-S-W1401	1.38	AM-S-W1402	0.106	AM-S-W1403	1.28
	β-HCH	µg/L	AM-S-W1401	1.41	AM-S-W1402	1.84	AM-S-W1403	0.259
	Heptachlor	µg/L	AM-S-W1401	1.07	AM-S-W1402	0.596	AM-S-W1403	1.49
	Heptachlor epoxide	µg/L	AM-S-W1401	---	AM-S-W1402	0.499	AM-S-W1403	1.57
	Hexachlorobenzene	µg/L	AM-S-W1401	0.288	AM-S-W1402	1.13	AM-S-W1403	0.905
	Oxychlorane	µg/L	AM-S-W1401	0.488	AM-S-W1402	1.60	AM-S-W1403	1.13
	p,p'-DDE	µg/L	AM-S-W1401	66.4	AM-S-W1402	1.51	AM-S-W1403	5.64
	p,p'-DDT	µg/L	AM-S-W1401	0.365	AM-S-W1402	0.640	AM-S-W1403	0.794
	PBDE IUPAC # 28	µg/L	AM-S-W1401	0.201	AM-S-W1402	0.265	AM-S-W1403	0.800
	PBDE IUPAC # 47	µg/L	AM-S-W1401	0.453	AM-S-W1402	1.61	AM-S-W1403	0.573
	PBDE IUPAC # 99	µg/L	AM-S-W1401	0.605	AM-S-W1402	0.119	AM-S-W1403	0.434
	PBDE IUPAC # 100	µg/L	AM-S-W1401	0.647	AM-S-W1402	0.317	AM-S-W1403	0.423
	PBDE IUPAC # 153	µg/L	AM-S-W1401	1.18	AM-S-W1402	0.643	AM-S-W1403	0.326
	PBDE IUPAC # 154	µg/L	AM-S-W1401	0.589	AM-S-W1402	0.111	AM-S-W1403	0.463
	PBDE IUPAC # 183	µg/L	AM-S-W1401	0.167	AM-S-W1402	0.608	AM-S-W1403	0.851
	PBDE IUPAC # 209	µg/L	AM-S-W1401	1.33	AM-S-W1402	2.00	AM-S-W1403	0.711
	PCB IUPAC # 28	µg/L	AM-S-W1401	0.551	AM-S-W1402	0.530	AM-S-W1403	0.218
	PCB IUPAC # 74	µg/L	AM-S-W1401	0.465	AM-S-W1402	0.231	AM-S-W1403	0.242
	PCB IUPAC # 99	µg/L	AM-S-W1401	0.863	AM-S-W1402	0.305	AM-S-W1403	0.157
	PCB IUPAC # 105	µg/L	AM-S-W1401	0.104	AM-S-W1402	0.392	AM-S-W1403	0.275
	PCB IUPAC # 118	µg/L	AM-S-W1401	0.241	AM-S-W1402	0.931	AM-S-W1403	0.416
	PCB IUPAC # 138	µg/L	AM-S-W1401	1.84	AM-S-W1402	1.27	AM-S-W1403	7.69
	PCB IUPAC # 153	µg/L	AM-S-W1401	0.783	AM-S-W1402	2.43	AM-S-W1403	1.36
PCB IUPAC # 170	µg/L	AM-S-W1401	0.799	AM-S-W1402	0.579	AM-S-W1403	0.319	
PCB IUPAC # 180	µg/L	AM-S-W1401	1.79	AM-S-W1402	0.585	AM-S-W1403	1.59	

## ASSIGNED VALUES

ROUND: 2014-01  
SHIPPED ON: 2014-01-27  
DEADLINE: 2014-02-14

MATRIX	ANALYTE	UNIT	PTM	ASSIGNED VALUE	PTM	ASSIGNED VALUE	PTM	ASSIGNED VALUE
Serum	PFHxA	µg/L	AM-S-Y1401	8.67	AM-S-Y1402	0.456	AM-S-Y1403	1.24
	PFHxS	µg/L	AM-S-Y1401	14.3	AM-S-Y1402	1.25	AM-S-Y1403	25.4
	PFNA	µg/L	AM-S-Y1401	2.87	AM-S-Y1402	0.384	AM-S-Y1403	1.99
	PFOA	µg/L	AM-S-Y1401	7.59	AM-S-Y1402	0.898	AM-S-Y1403	15.3
	PFOS	µg/L	AM-S-Y1401	83.6	AM-S-Y1402	3.28	AM-S-Y1403	28.5
	PFUdA	µg/L	AM-S-Y1401	4.71	AM-S-Y1402	0.519	AM-S-Y1403	3.74
	Total Cholesterol	g/L	AM-S-W1401	2.81	AM-S-W1402	1.71	AM-S-W1403	1.57
	Total lipids	g/L	AM-S-W1401	9.27	AM-S-W1402	5.49	AM-S-W1403	5.28
	Toxaphene Parlar # 26	µg/L	AM-S-W1401	0.233	AM-S-W1402	0.0858	AM-S-W1403	0.159
	Toxaphene Parlar # 50	µg/L	AM-S-W1401	0.132	AM-S-W1402	0.377	AM-S-W1403	0.469
	trans-nonachlor	µg/L	AM-S-W1401	4.68	AM-S-W1402	0.303	AM-S-W1403	3.09
	Triglycerides	g/L	AM-S-W1401	3.16	AM-S-W1402	0.790	AM-S-W1403	1.50

## GROUPING OF ANALYTICAL METHODS FOR STATISTICS

METHODS GROUPING CODE	METHODS GROUPING	METHODS INCLUDED	METHODS CODE
GC	GC	GC-ECD	GC-ECD
		GC-FID	GC-FID
GC-MS EI	GC-MS EI	GC-HRMS	GC-HRMS
		GC-MS EI	GC-MS EI
GC-MS CI	GC-MS CI	GC-MS NCI	GC-MS NCI
GC-MS-MS	GC-MS-MS	GC-MS-MS EI	GC-MS-MS EI
		GC-MS-MS NCI	GC-MS-MS NCI
LC-MS	LC-MS	LC-MS APCI	LC-MS APCI
		LC-MS ESI	LC-MS ESI
LC-MS-MS	LC-MS-MS	LC-MS-MS APCI	LC-MS-MS APCI
		LC-MS-MS ESI	LC-MS-MS ESI