Test Group Summary Report C06A OC Pesticides in Water June 2024 PT Round

Issued: July 30, 2024

PTC | Proficiency Testing Canada

Table of Contents

1.0 The Proficiency Testing Report

The Proficiency Testing Report consists of two parts.

- *PTC Proficiency Testing Report*: This report contains participant-specific data and other confidential information. This report is emailed to participants at the end of the PT round.
- *Test Group Summary Report*: A Test Group Summary Report is created for each quantified test group at the end of the PT round. These reports contain more detailed information on the round than is found in the participant-specific PTC Proficiency Testing Report. These reports do not contain any confidential information and are made available on the PTC web site.

2.0 Definitions

The participant-specific PTC Proficiency Testing Report contains some terms that new participants may not be familiar with.

Code:	The registration code that is unique to each analyte that a participant is registered for.
App:	If a participant is accredited by CALA, this three-digit number is the appendix number that the accredited method is assigned to.
N:	The number of participants results that were used to calculate the summary statistics. This excludes qualified data (e.g., <) and any results that were flagged as outliers.
Assigned:	The Assigned Value is the robust mean of the reported results, outliers excluded. This is often referred to as the "target" value.
± u:	The uncertainty of the assigned value.
Reported:	The result reported by the participant.
s:	The Standard Deviation of Proficiency Assessment (SDPA). This value is used to determine the acceptance limits for the PT evaluation.
z-Score:	A value assigned to each reported result that is a measure of the degree to which it deviates from the Assigned Value.
Score:	The composite score of the four results reported for each analyte. It is normalized to a score out of 100.
Bias:	A flag assigned if bias is detected using the re-scaled *z*-score procedure.

3.0 Scoring System

Participant performance is evaluated for each proficiency testing sample by a quantitative method that is consistent with ISO/IEC 17043 - *Conformity assessment- General requirements for the competence of proficiency testing providers*, the *International Harmonized Protocol for Proficiency Testing of (Chemical) Analytical Laboratories* (2006), and ISO 13528:2015 *Statistical methods for use in proficiency testing by interlaboratory comparisons*.

The following is a brief description of the evaluation procedure used by PTC. The detailed evaluation procedure is described in PROC09 – PT Evaluation *Procedure*, which is available on the PTC website www.PTCanada.org).

3.1 HOMOGENEITY AND STABILITY ASSESSMENT

Homogeneity and stability are assessed using participant data. Regression analysis is performed on reported result against order of sample production (Homogeneity) and reported result against date of analysis (Stability). If the slope is significantly different than zero for either then the Standard Deviation of Proficiency Assessment (s) is increased to minimize the impact.

3.2 THE Z SCORE

A "z-score" is calculated for each reported result as follows:

$$z - Score = \frac{(x - \bar{X})}{SDPA}$$

where: x = participant result;
$\overline{X}$ = the Assigned Value;
SDPA = the Standard Deviation for Proficiency Assessment.

The assigned value $\overline{X}$ is generally estimated from the inter-laboratory Robust mean after outliers due to obvious gross errors (e.g., reported in wrong units) have been removed.

The Standard Deviation for Proficiency Assessment, s, is determined as follows:

- The inter-laboratory Robust standard deviation ($Stdev_{rob}$) is calculated using reported results, obvious outliers removed;
- The regression equation standard deviation ($Stdev_{reg}$) is estimated from regression equations derived from previous studies (see PROC11- *PT Regression Equations* for details);
- The SDPA is the higher of $Stdev_{rob}$ and $Stdev_{reg}$;
- When a laboratory reports its detection limit, s will be estimated using a pooled variance procedure that uses both the inter-laboratory data and the reported detection limit.

3.2 COMPOSITE (PT) SCORE

Since each PT round involves four or two separate samples of distinct concentration for each test, it is necessary to calculate a composite PT score for each test to determine overall performance. The composite score is calculated by first averaging the absolute *z*-scores for the four results and then calculating a final score as 100 + (-15 x avg |z|).

Acceptable PT Scores equal or exceed 70.

3.3 IDENTIFYING BIAS

The proficiency testing report provides flags for bias. These are determined using the re-scaled *z*-score procedure.

$$RSZ = \frac{\sum z}{\sqrt{N}}$$

where *z* = the *z*- score
N = the number of samples

Flags are assigned for each test group/parameter combination as follows:

RSZ ≥ -2 and ≤ 2	no flag assigned
RSZ > 2	H (High)
RSZ > 3	VH (Very High)
RSZ < -2	L (LOW)
RSZ < -3	VL (Very Low)

3.4 DEVIATIONS FROM EVALUATION PROCEDURE

Other than changes to the Standard Deviation of Proficiency Assessment due to homogeneity or stability flags, any deviation from the published evaluation procedure is described on the cover page(s) of the final *PTC Proficiency Testing Report*.

4.0 PT Round Specific Data Summary

The following pages provide more detailed information about the PT round indicated in the cover page of this report than is found in the participant-specific PTC Proficiency Testing Report. The graphical representations and the statistical summaries are based upon the data after outliers have been removed.

4.1 SUMMARY STATISTICS

In addition to some of the statistics found in the customer reports, this table includes additional summary statistics such as Median, different measures of dispersion, the number of outliers removed, the number of results in the Questionable range (|z| between 2 and 3) and the Unacceptable range (z > 3), and whether a data set was flagged for Homogeneity or Stability. This section also includes sorted scatter plots of the data for each sample.

4.2 *z*- SCORE PLOTS[1]

The z -scores for each sample are ranked in increasing order and plotted. When the data is normally distributed, the plot should show a slight sigmoidal curve, with an equal number of points above zero as below. Each bar in these plots is colour-coded to indicate the analytical method used by the participant.

4.3 KERNEL DENSITY PLOTS

Kernel density plots are generated for each data set. These plots are a graphical way to represent the overall data distribution and are used to visualize possible deviations from normality and unimodality.

4.4 STABILITY AND HOMOGENEITY PLOTS

Plots of reported result against analysis date, and reported result against order of bottling are displayed, along with the regression line. These regression analyses are used to determine if the SDPA should be adjusted due to homogeneity or stability.

4.5 BOX-AND-WHISKER PLOTS

Box-and-Whisker plots are another way to display the distribution of the data. The box denotes the first and third quartile and the whiskers are the 5th and 95th percentile.

4.6 HISTORIC COMPARISON PLOT

The Historic Comparison Plot is a plot of robust mean against robust standard deviation for the previous ten PT rounds as well as the current PT round. This plot can be used to identify possible changes in the sample formulation.

[1] For some reports, the colour coding for methods is not being displayed properly.

A - CHLORDANE

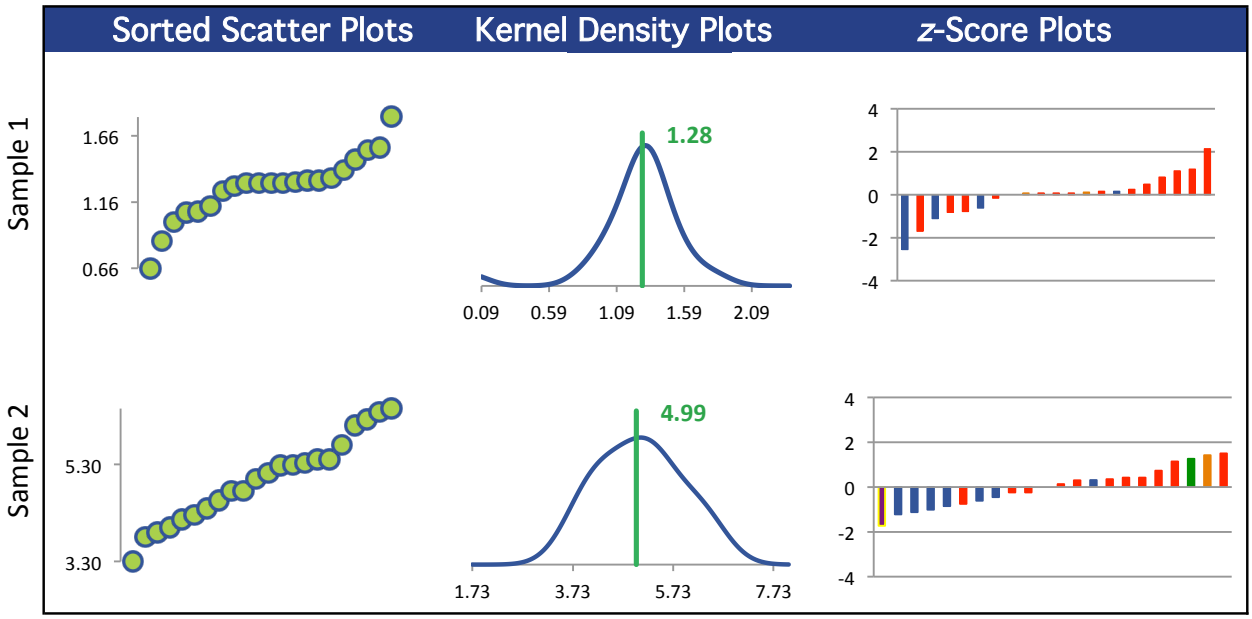
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	21	22	21	18
Median µg/L	1.30	5.06	2.72	0.133
Robust Mean µg/L	1.28	4.99	2.66	0.129
U µg/L	0.0578	0.260	0.165	0.00607
Robust Standard Deviation µg/L	0.212	0.976	0.604	0.0206
Regression Standard Deviation µg/L	0.243	0.947	0.504	0.0246
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.243	0.976	0.604	0.0246
Outliers	0	0	1	1
|z|>3.0	0	0	0	1
2<|z|<3	2	0	0	0

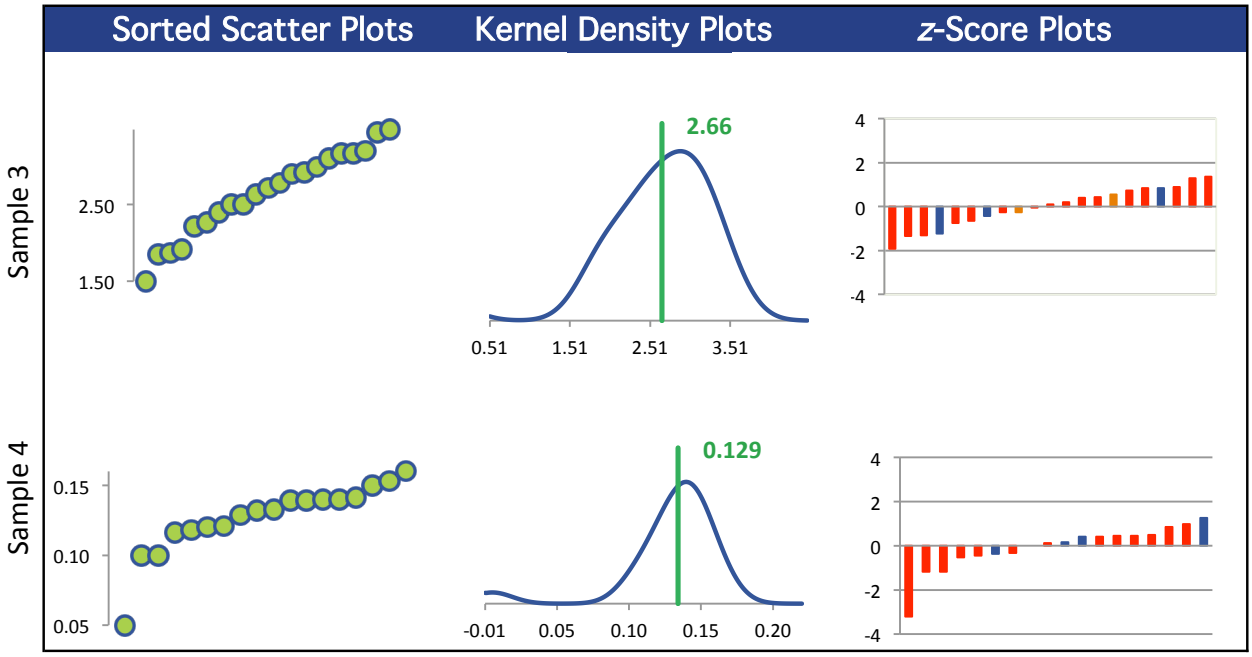
Methods Used

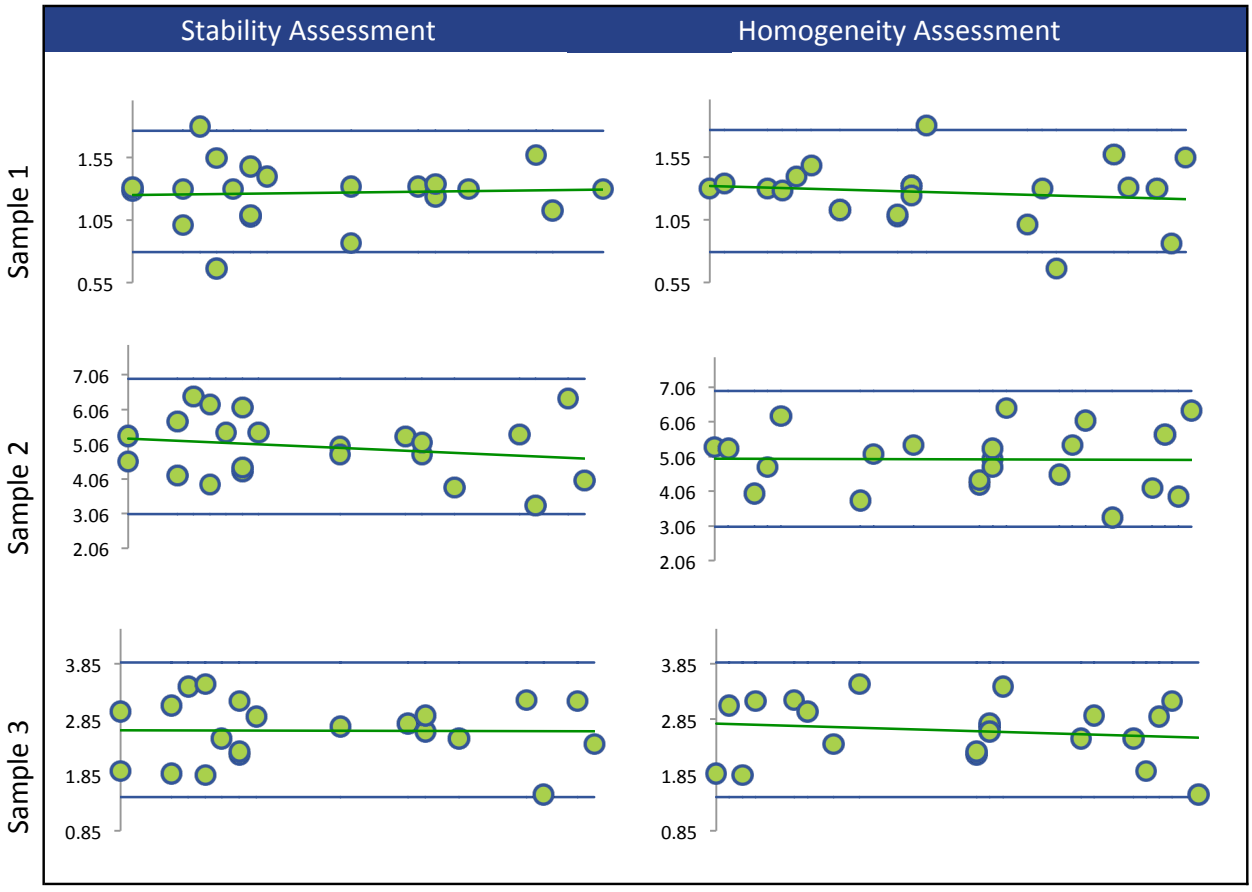
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	3
GC/MS (Red)	7	7	6	5
GC/ECD (Green)	7	8	8	8
GCXGC/ECD (Orange)	1	1	1	1
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



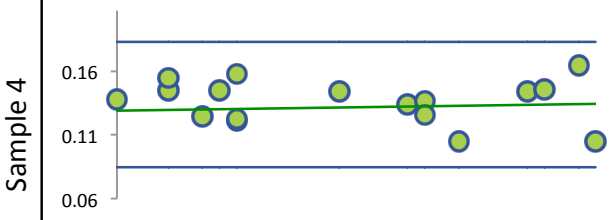
A - CHLORDANE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
2.50
1.50
2.66
0.51
1.51
2.51
3.51
4
2
0
-2
-4
Sample 4
0.15
0.10
0.05
0.129
-0.01
0.05
0.10
0.15
0.20
4
2
0
-2
-4

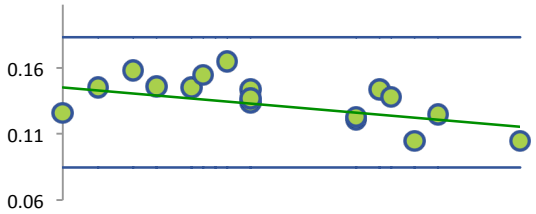

Stability Assessment
Homogeneity Assessment
Sample 1
1.55
1.05
0.55
1.55
1.05
0.55
Sample 2
7.06
6.06
5.06
4.06
3.06
2.06
7.06
6.06
5.06
4.06
3.06
2.06
Sample 3
3.85
2.85
1.85
0.85
3.85
2.85
1.85
0.85

A - CHLORDANE

Stability Assessment



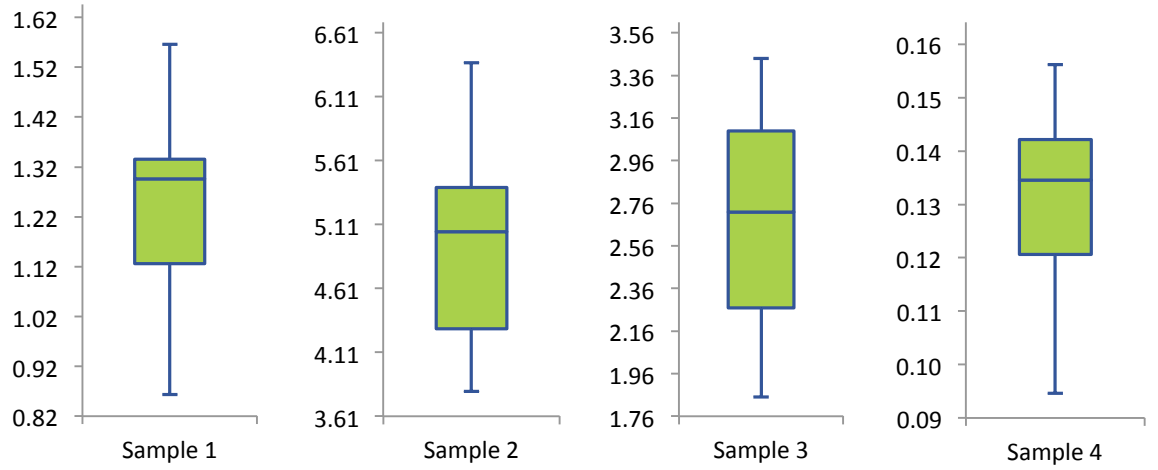
Homogeneity Assessment



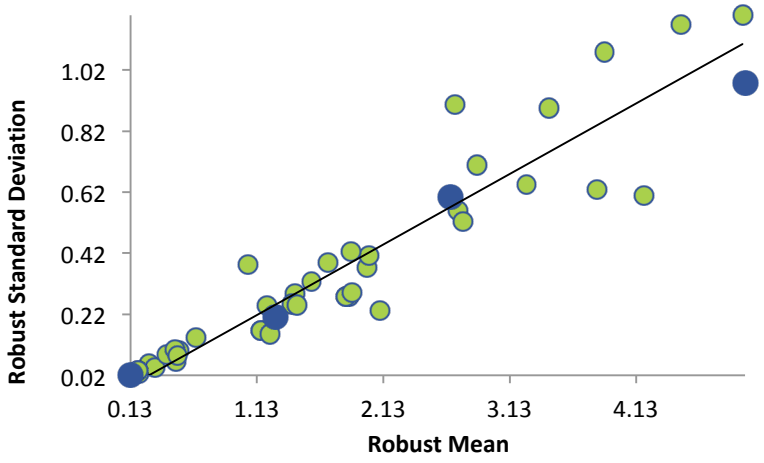
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



A -BHC

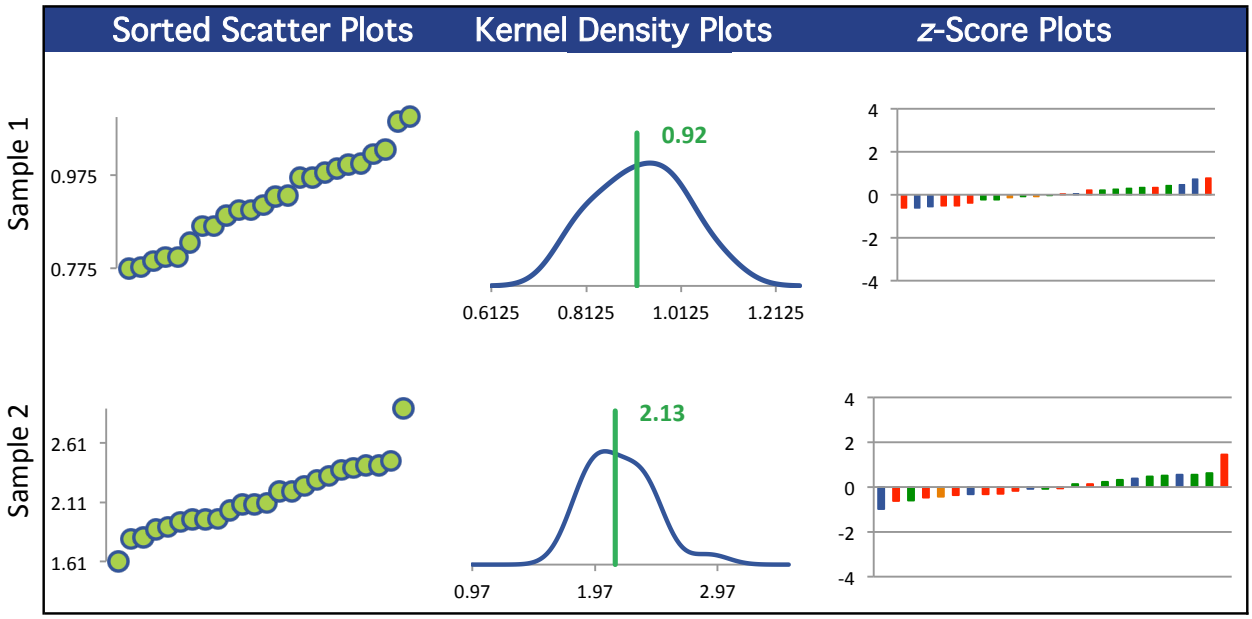
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	24	24	24	24
Median µg/L	0.920	2.10	1.01	0.603
Robust Mean µg/L	0.920	2.13	1.03	0.618
U µg/L	0.0270	0.0684	0.0411	0.0222
Robust Standard Deviation µg/L	0.106	0.268	0.161	0.0872
Regression Standard Deviation µg/L	0.232	0.530	0.260	0.158
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.232	0.530	0.260	0.158
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	0	0	0

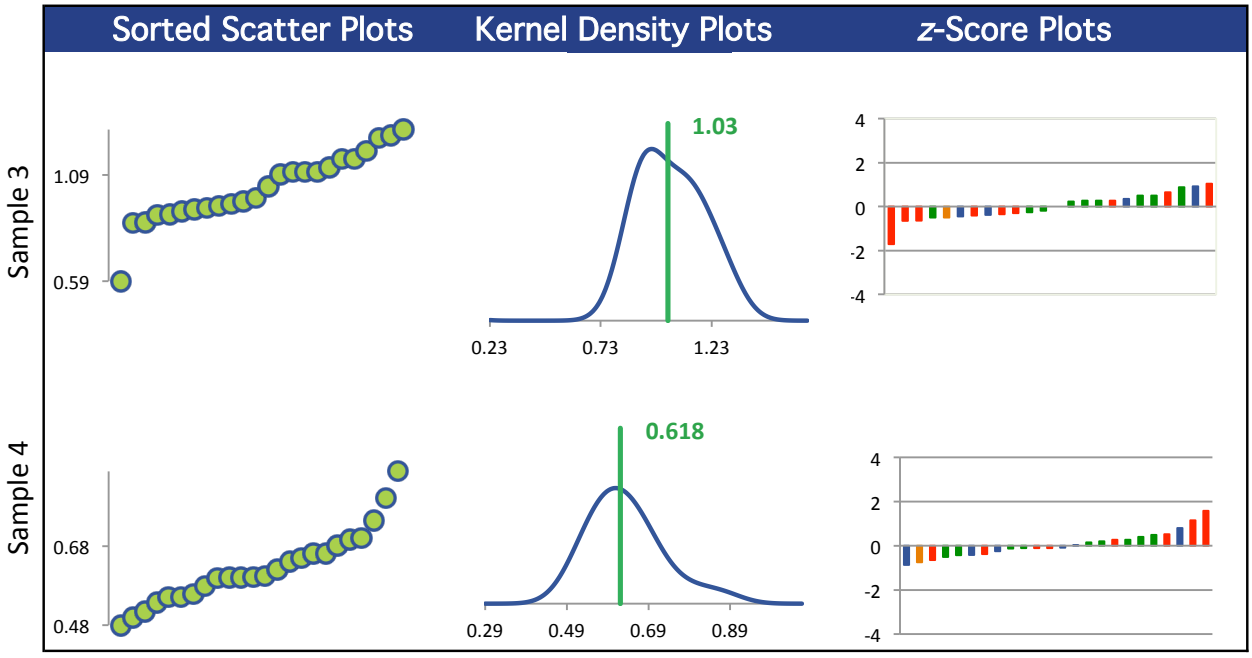
Methods Used

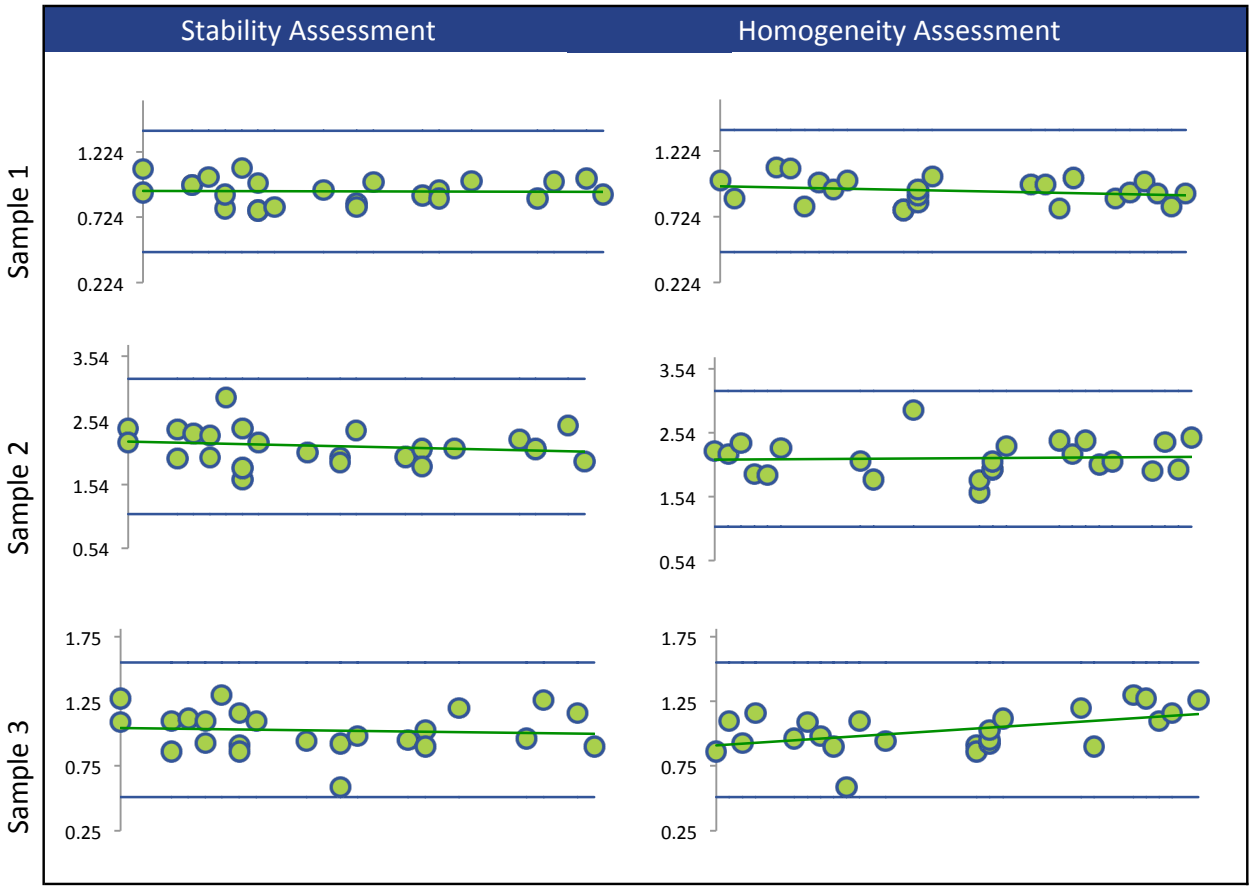
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS (Blue)	8	8	8	8
GC/MS/MS (Red)	5	5	5	5
GC/ECD (Green)	9	9	9	9
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GCXGC/ECD (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



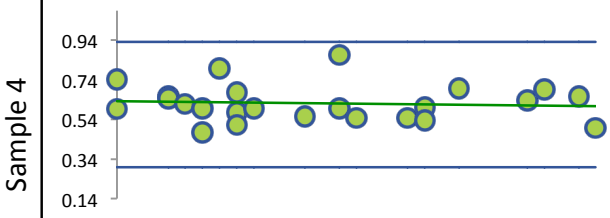
A -BHC


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
1.09
0.59
1.03
0.23
0.73
1.23
4
2
0
-2
-4
Sample 4
0.68
0.48
0.618
0.29
0.49
0.69
0.89
4
2
0
-2
-4

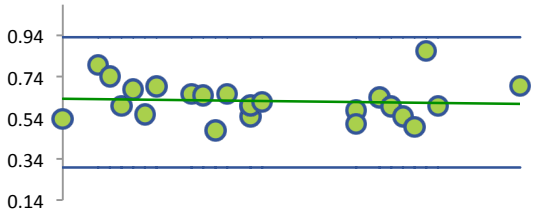

Stability Assessment
Homogeneity Assessment
Sample 1
1.224
0.724
0.224
1.224
0.724
0.224
Sample 2
3.54
2.54
1.54
0.54
3.54
2.54
1.54
0.54
Sample 3
1.75
1.25
0.75
0.25
1.75
1.25
0.75
0.25

A -BHC

Stability Assessment



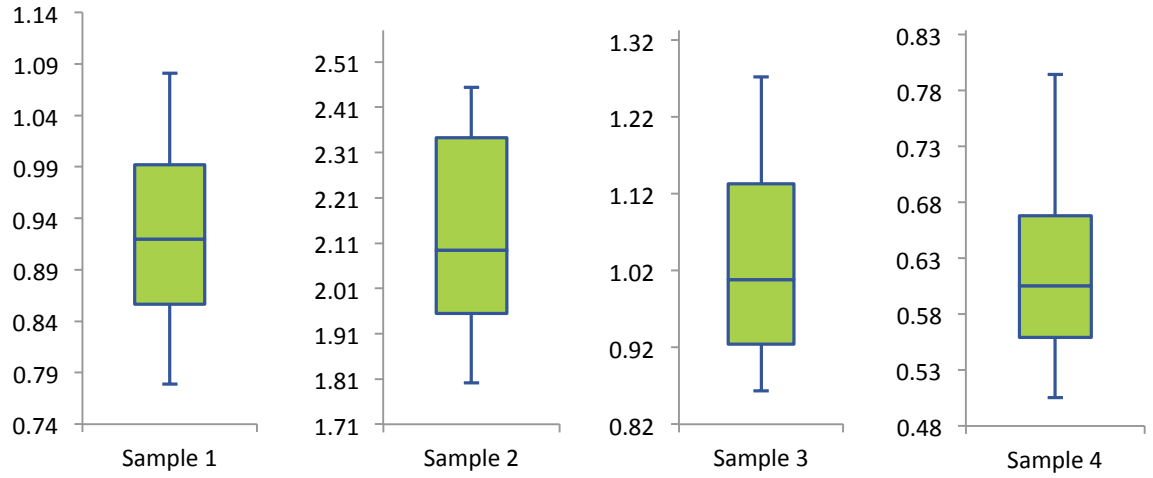
Homogeneity Assessment



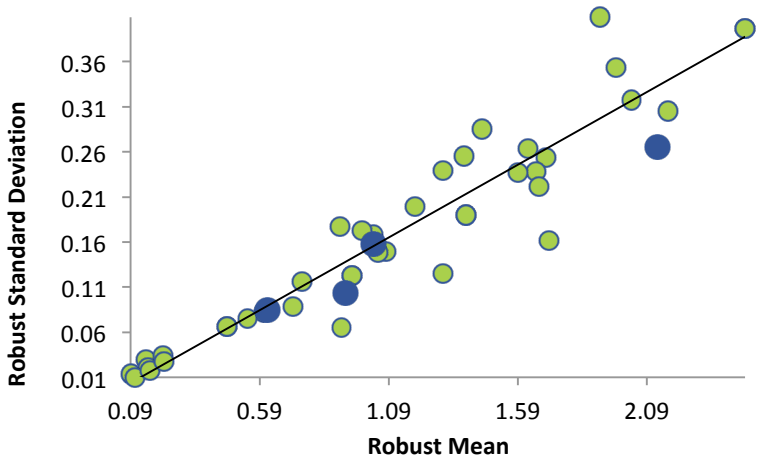
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



ALDRIN

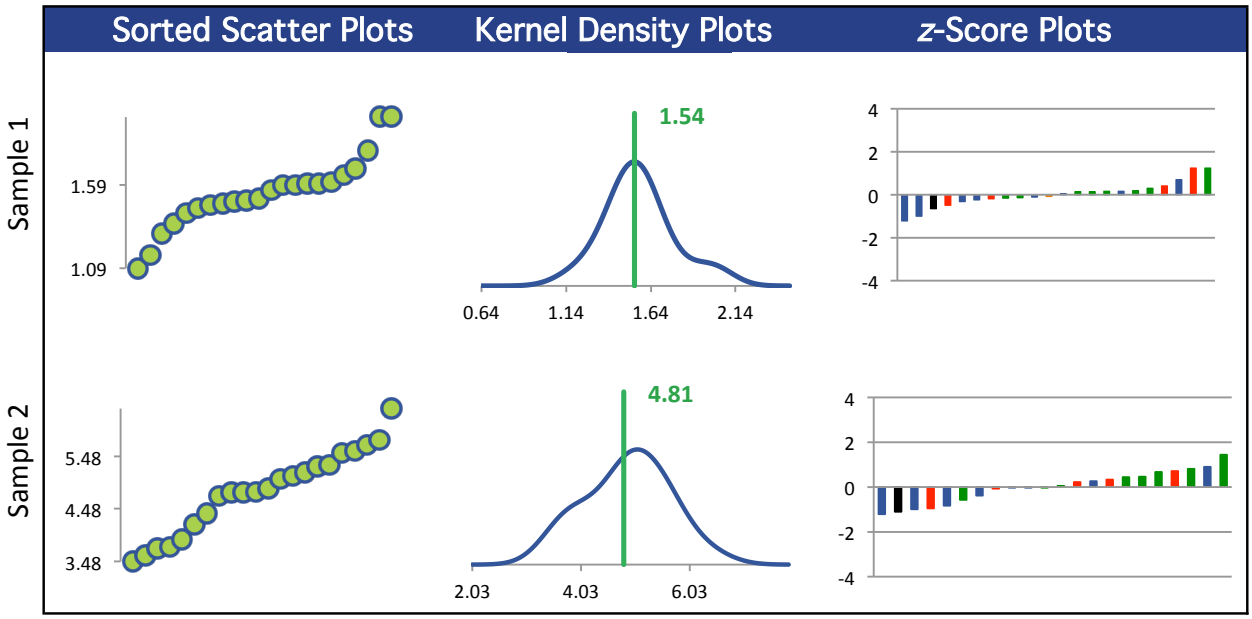
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	22	22	21	20
Median µg/L	1.54	4.84	2.20	0.312
Robust Mean µg/L	1.54	4.81	2.17	0.310
U µg/L	0.0488	0.231	0.0919	0.0153
Robust Standard Deviation µg/L	0.183	0.865	0.337	0.0547
Regression Standard Deviation µg/L	0.370	1.10	0.512	0.0976
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.370	1.10	0.512	0.0976
Outliers	0	0	1	1
|z|>3.0	0	0	0	0
2<|z|<3	0	0	0	0

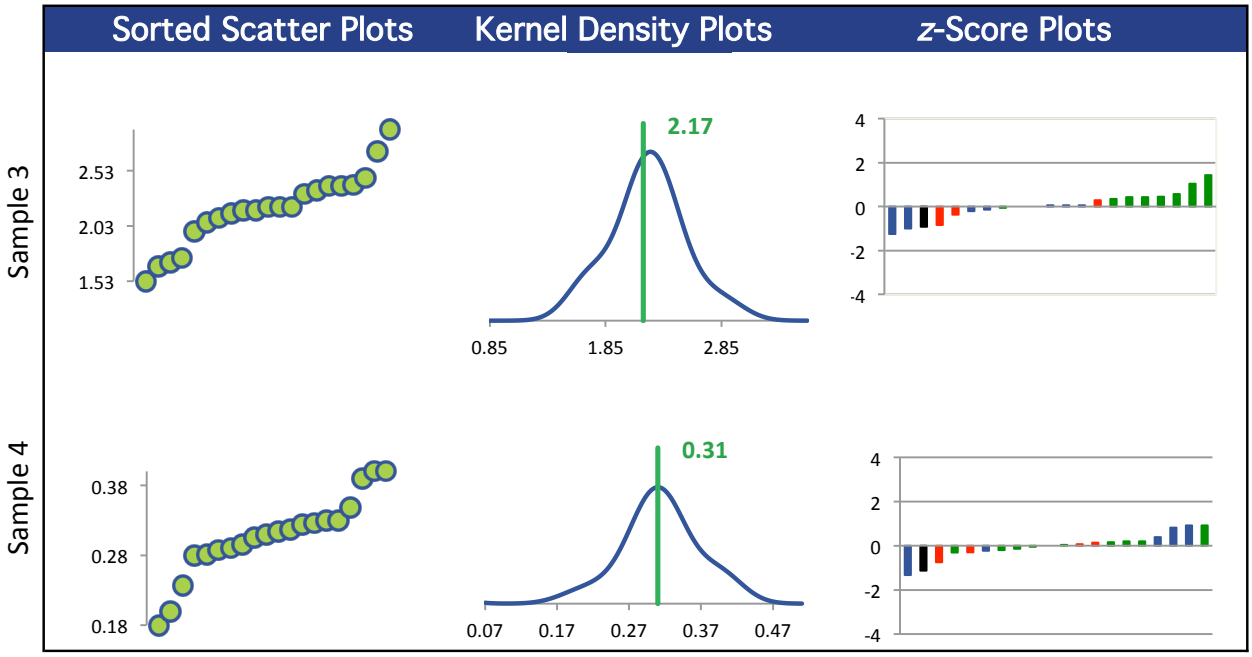
Methods Used

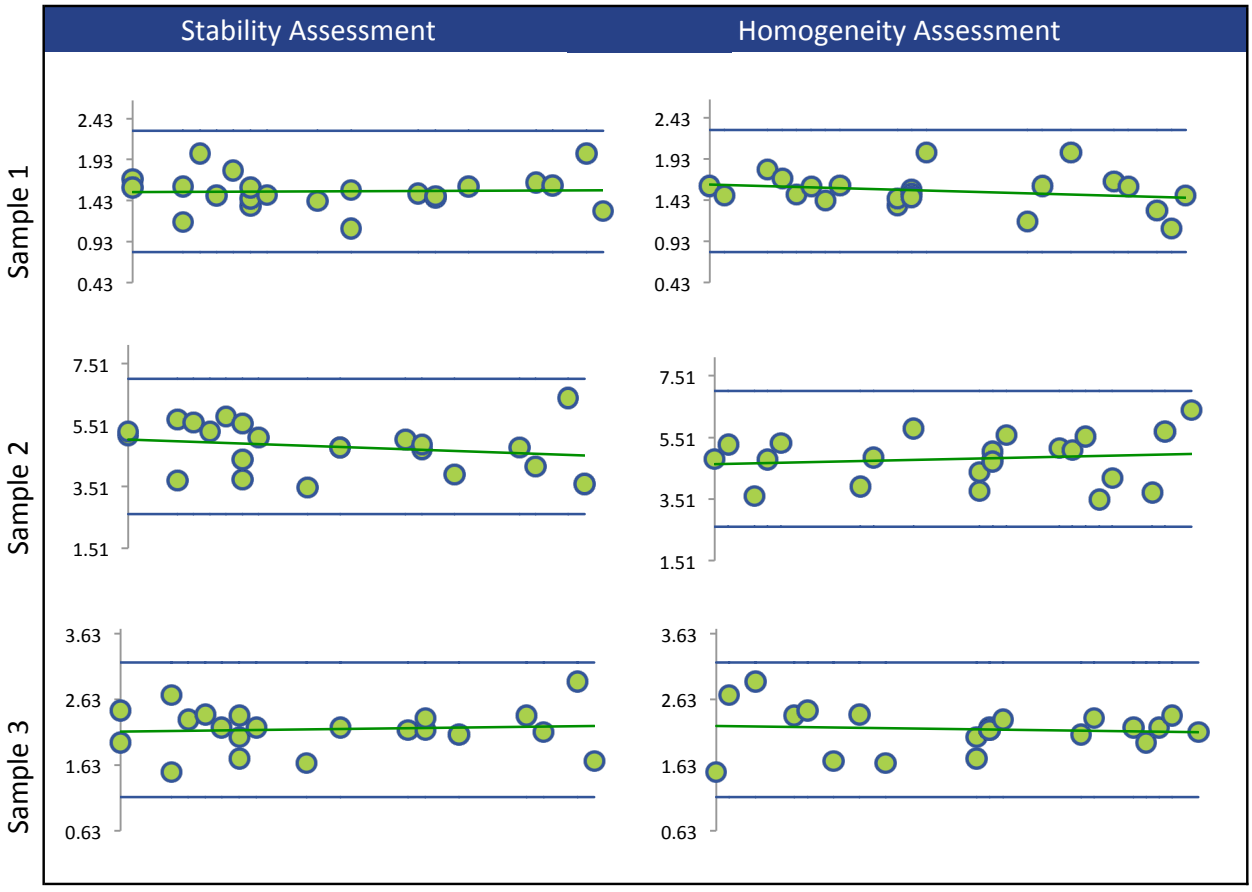
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS (Blue)	8	8	7	6
GCXGC/ECD (Red)	1	1	1	1
GC/MS/MS (Green)	4	4	4	4
GC/ECD (Orange)	8	8	8	8
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



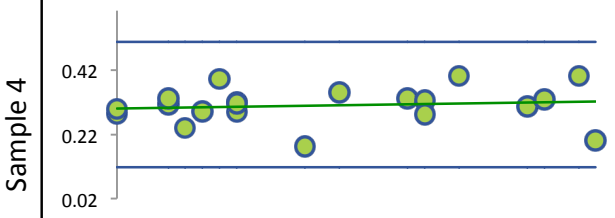
ALDRIN


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
2.53
2.03
1.53
2.17
0.85
1.85
2.85
4
2
0
-2
-4
Sample 4
0.38
0.28
0.18
0.31
0.07
0.17
0.27
0.37
0.47
4
2
0
-2
-4

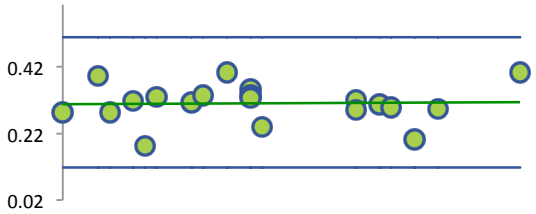

Stability Assessment
Homogeneity Assessment
Sample 1
2.43
1.93
1.43
0.93
0.43
Sample 2
7.51
5.51
3.51
1.51
Sample 3
3.63
2.63
1.63
0.63

ALDRIN

Stability Assessment



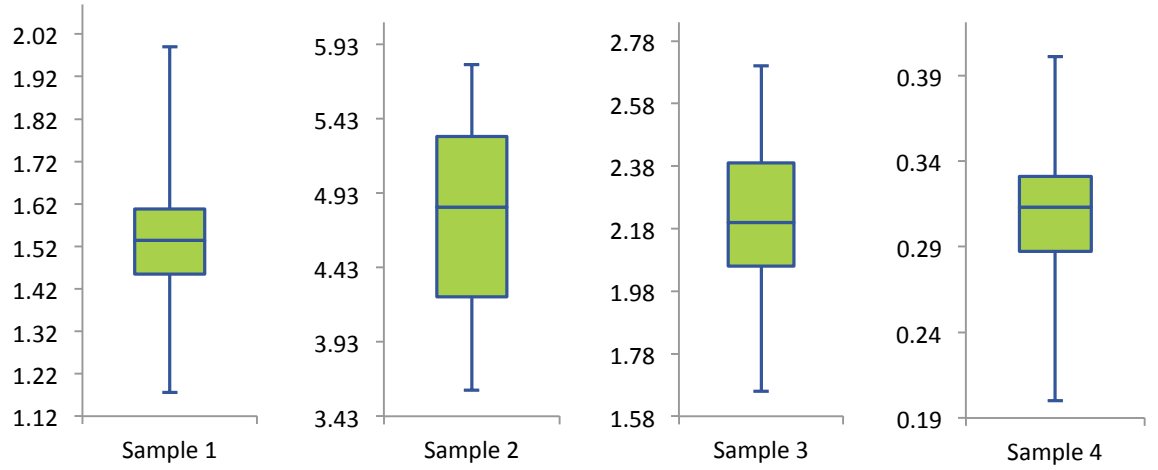
Homogeneity Assessment



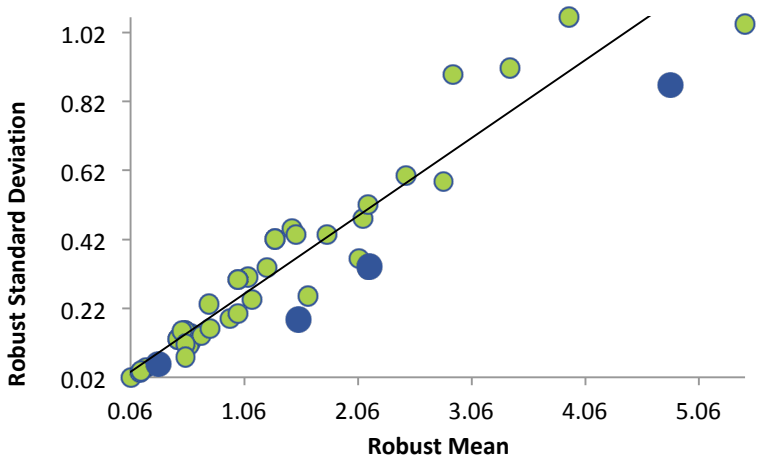
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



DIELDRIN

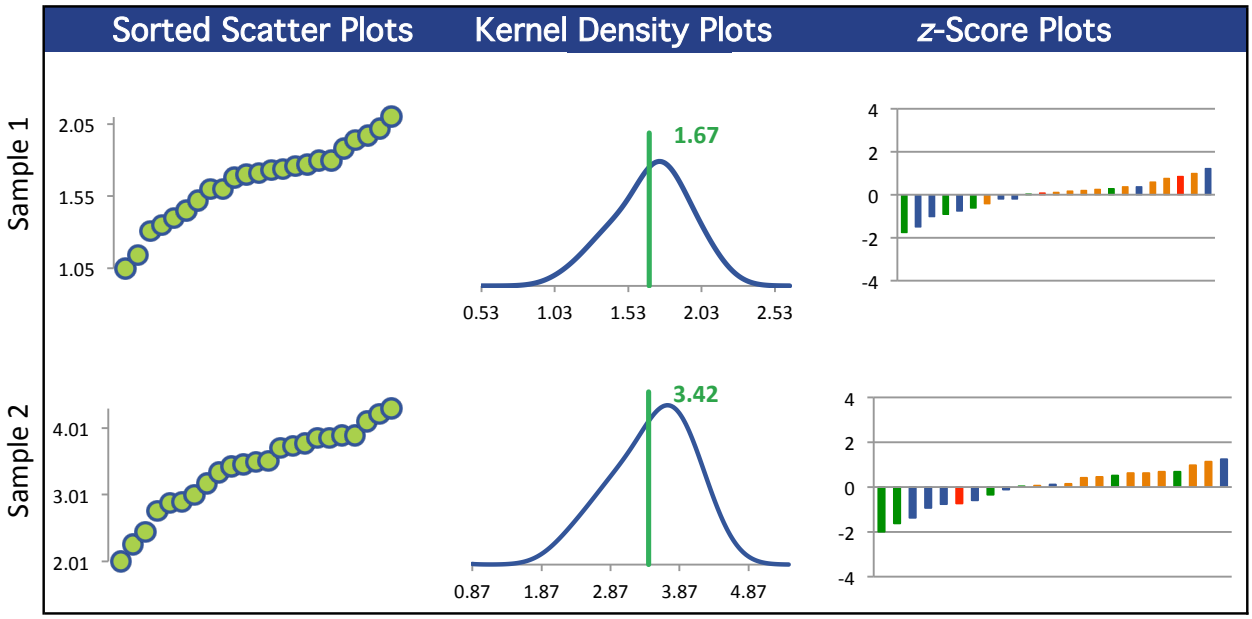
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	23	23	23	23
Median µg/L	1.71	3.50	2.01	0.910
Robust Mean µg/L	1.67	3.42	1.86	0.873
U µg/L	0.0717	0.168	0.101	0.0461
Robust Standard Deviation µg/L	0.275	0.644	0.386	0.177
Regression Standard Deviation µg/L	0.353	0.710	0.394	0.192
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.353	0.710	0.394	0.192
Outliers	0	0	0	0
|z|>3.0	0	0	1	0
2<|z|<3	0	0	0	1

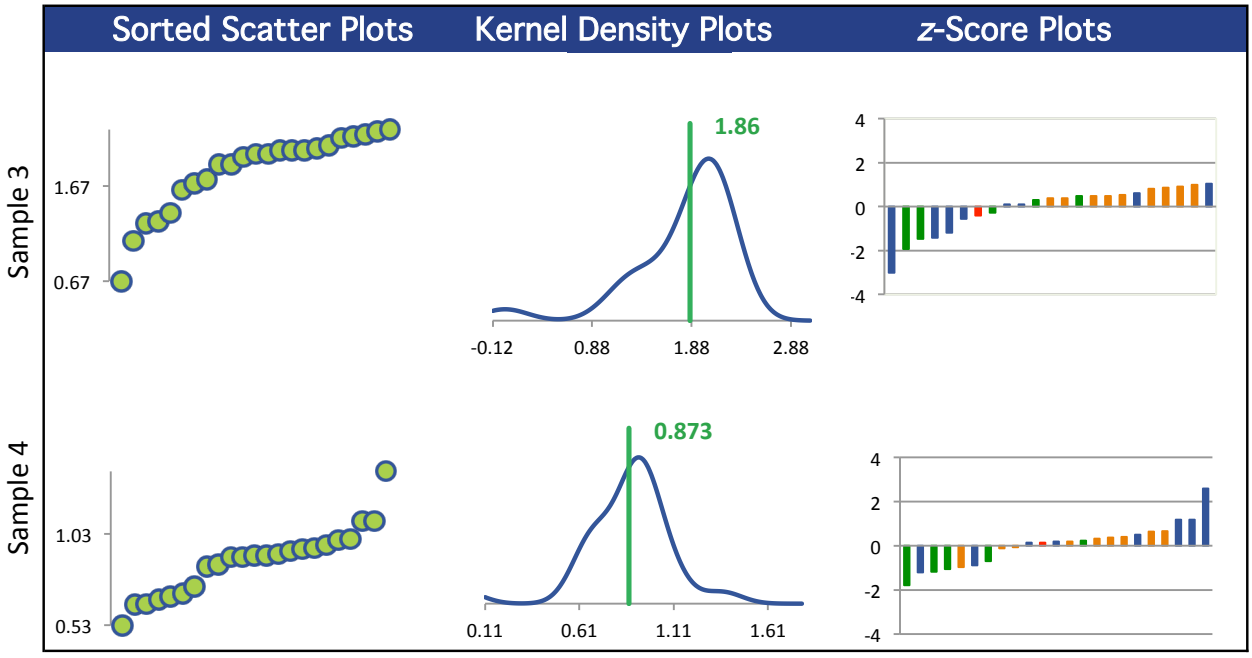
Methods Used

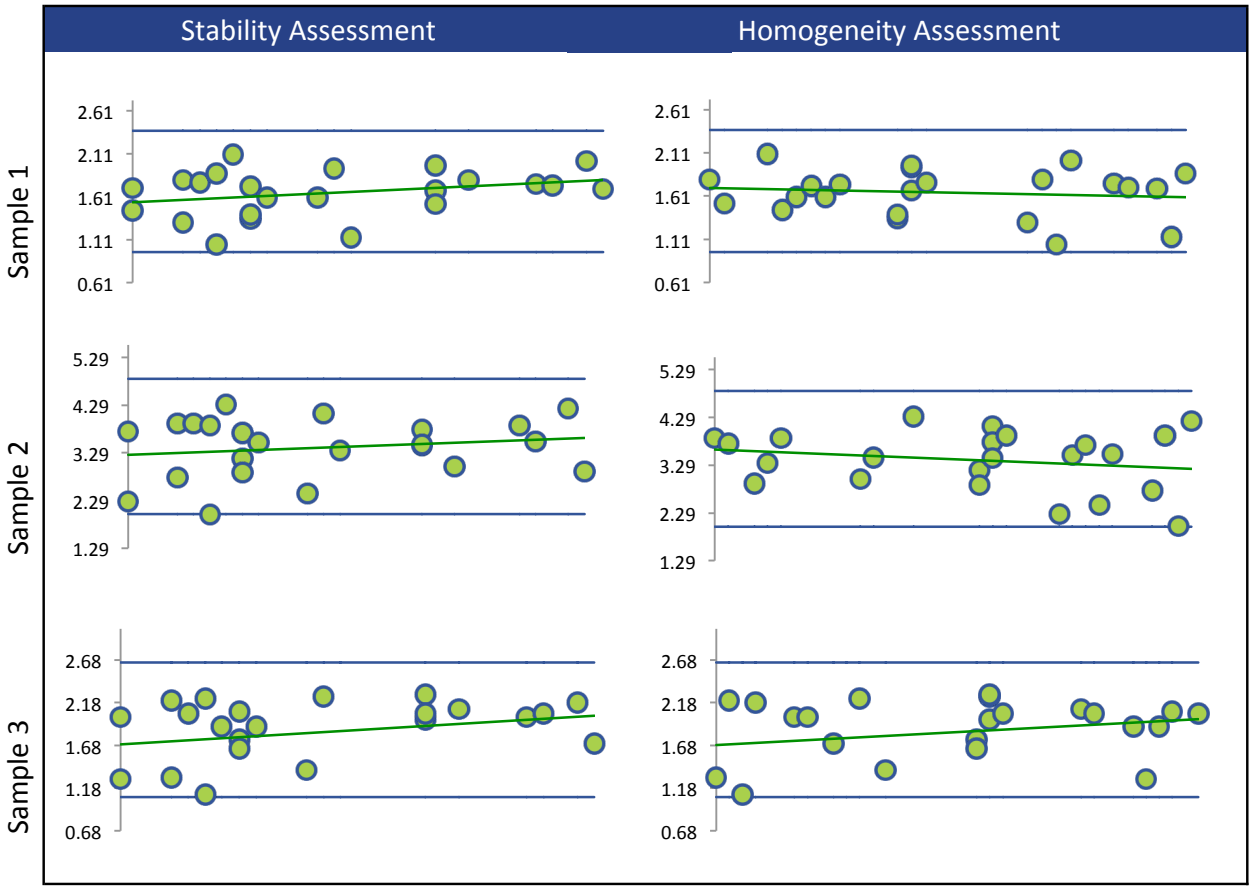
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	5
GC/MS (Red)	7	7	7	7
GC/ECD (Green)	9	9	9	9
GCXGC/ECD (Orange)	1	1	1	1
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



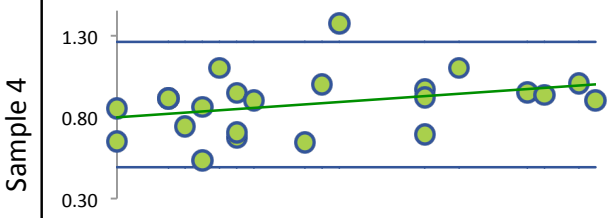
DIELDRIN


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
1.67
0.67
1.86
-0.12
0.88
1.88
2.88
4
2
0
-2
-4
Sample 4
1.03
0.53
0.873
0.11
0.61
1.11
1.61
4
2
0
-2
-4

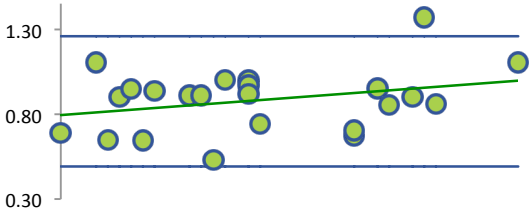

Stability Assessment
Homogeneity Assessment
Sample 1
2.61
2.11
1.61
1.11
0.61
Sample 2
5.29
4.29
3.29
2.29
1.29
Sample 3
2.68
2.18
1.68
1.18
0.68

DIELDRIN

Stability Assessment



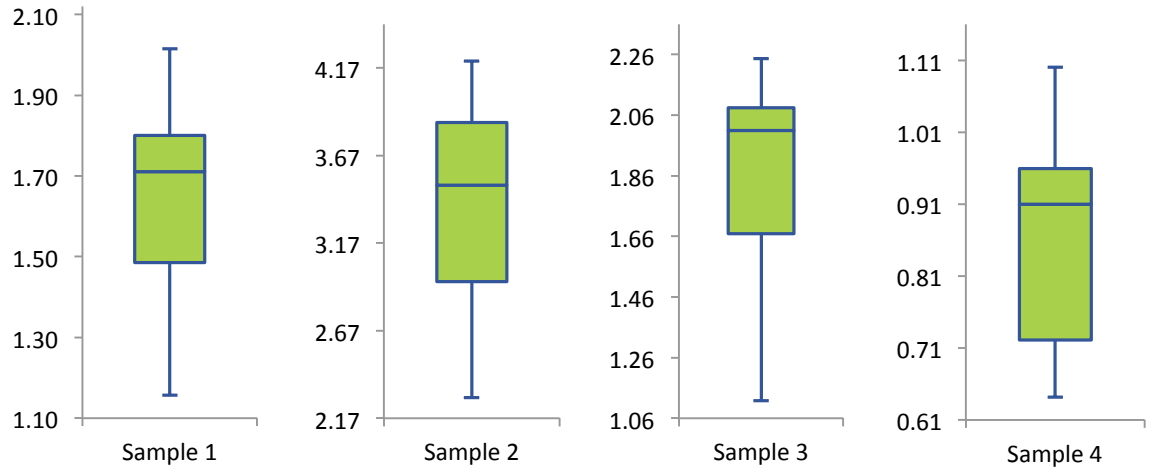
Homogeneity Assessment



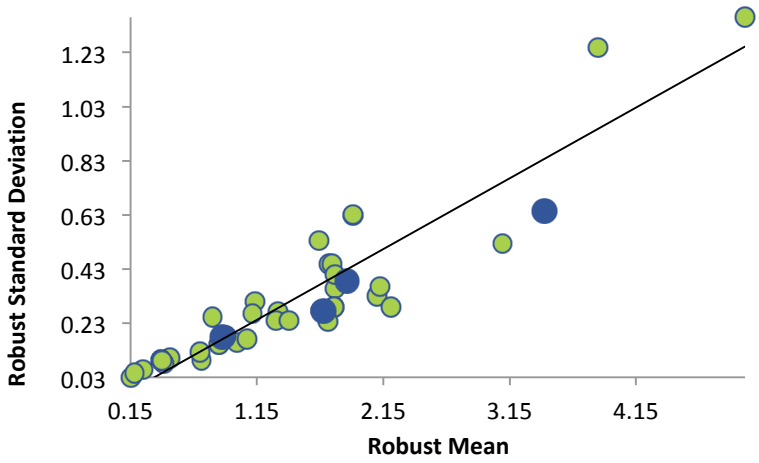
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



ENDOSULFAN I

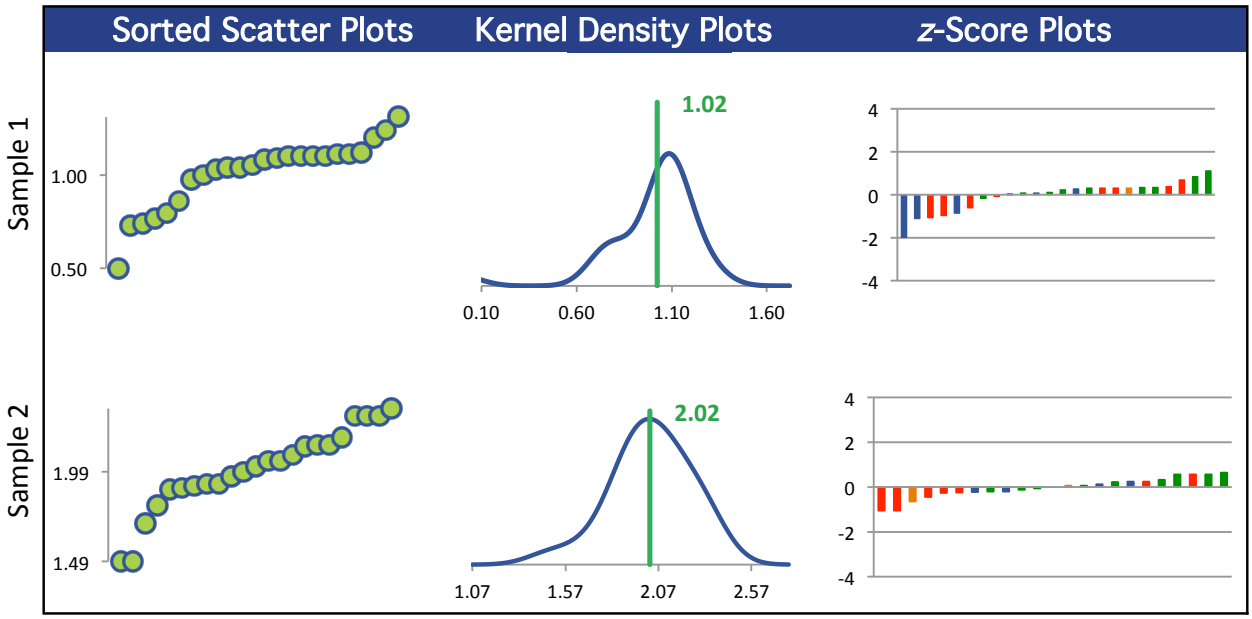
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	24	23	23	22
Median µg/L	1.07	2.02	0.975	0.321
Robust Mean µg/L	1.02	2.02	0.983	0.325
U µg/L	0.0459	0.0584	0.0305	0.0162
Robust Standard Deviation µg/L	0.180	0.224	0.117	0.0609
Regression Standard Deviation µg/L	0.262	0.503	0.253	0.0941
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.262	0.503	0.253	0.0941
Outliers	0	1	1	1
|z|>3.0	0	0	0	0
2<|z|<3	0	0	1	0

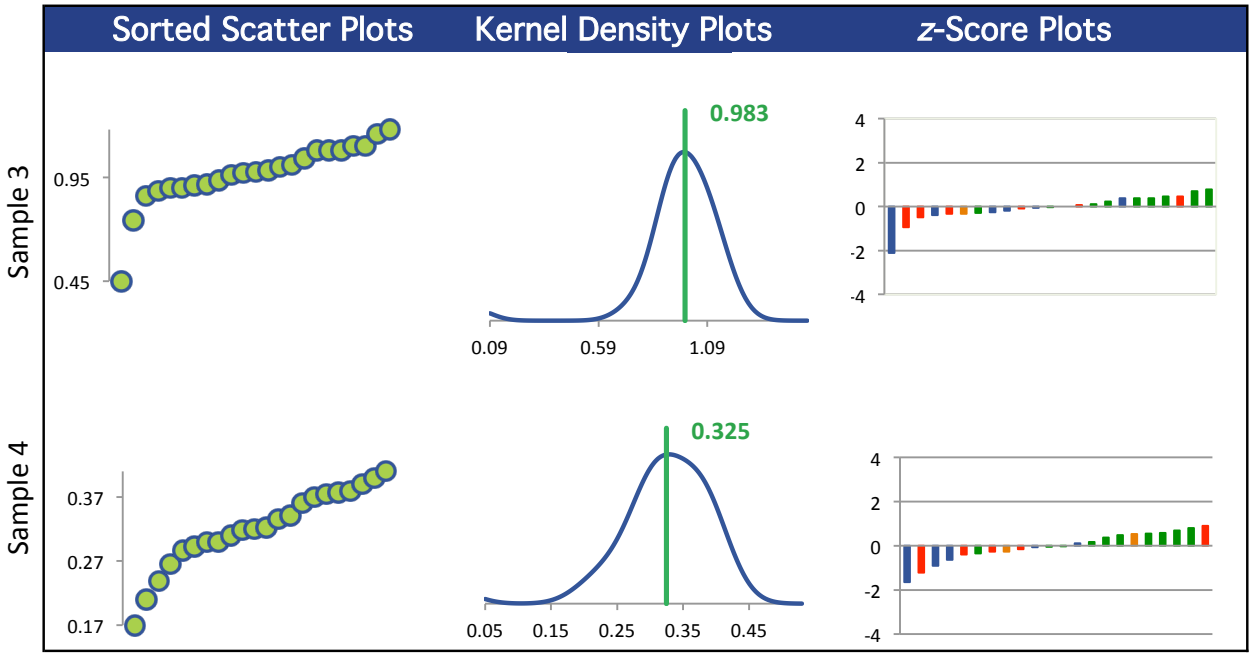
Methods Used

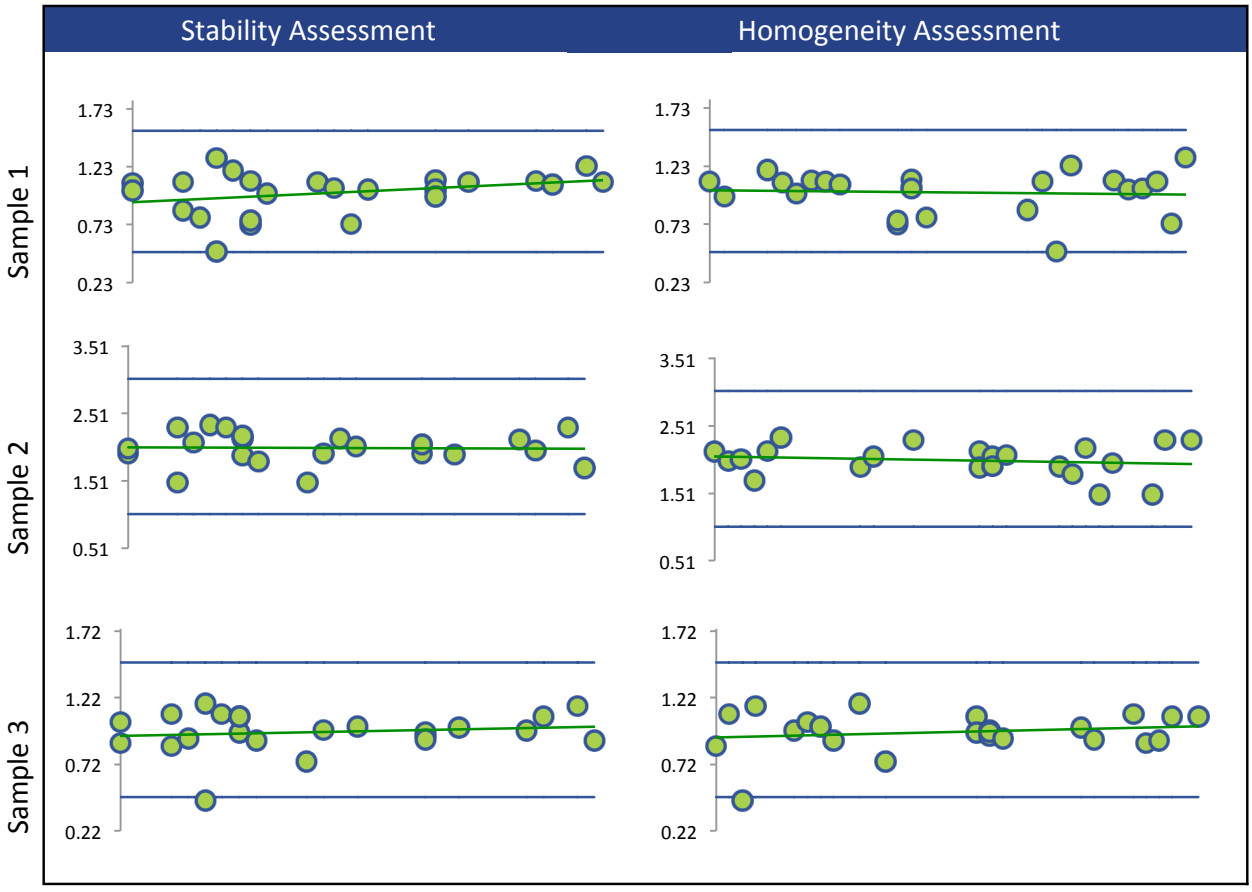
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	4	5	5
GC/MS (Red)	7	7	6	5
GC/ECD (Green)	10	10	10	10
GCXGC/ECD (Orange)	1	1	1	1
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



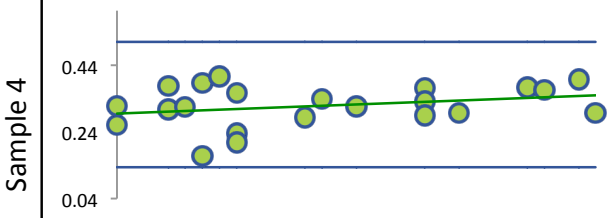
ENDOSULFAN I



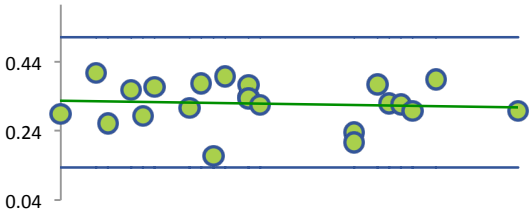


ENDOSULFAN I

Stability Assessment



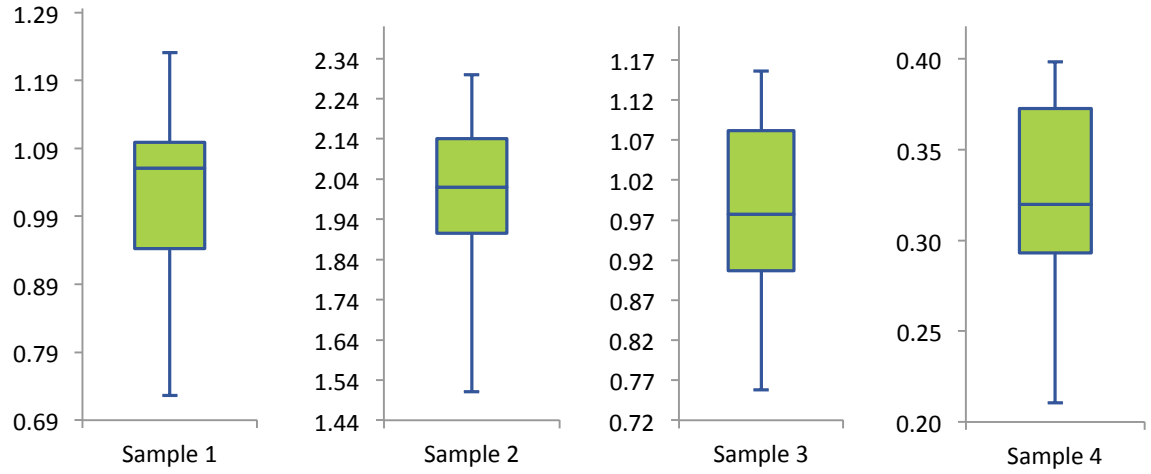
Homogeneity Assessment



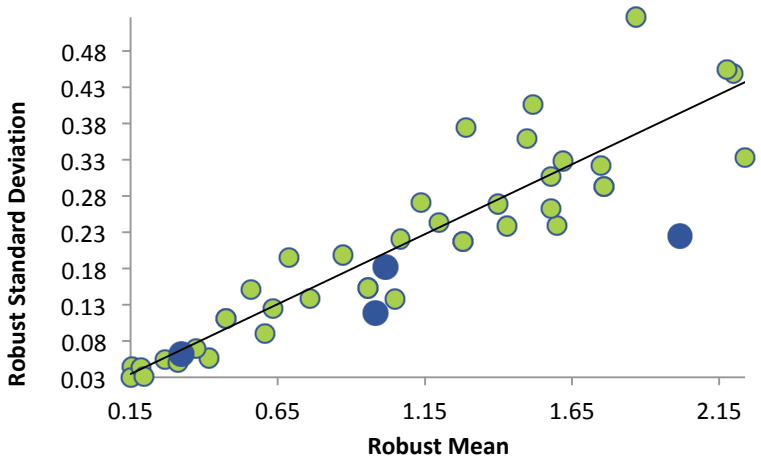
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



ENDOSULFAN II

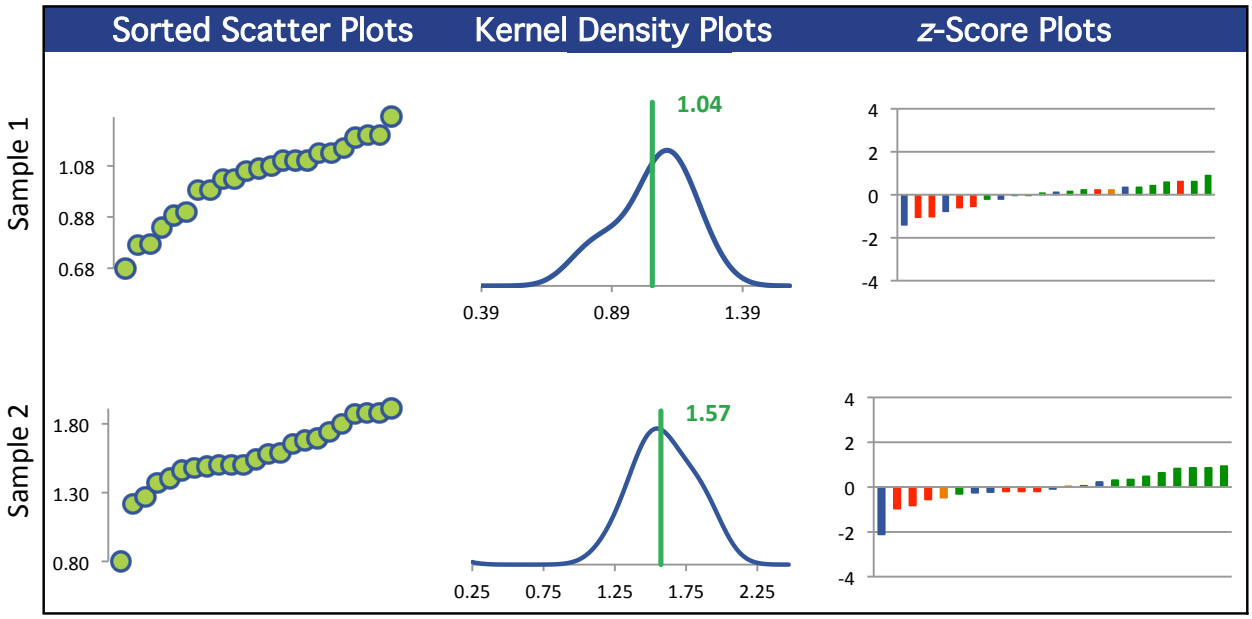
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	23	23	23	21
Median µg/L	1.07	1.54	1.31	0.356
Robust Mean µg/L	1.04	1.57	1.30	0.358
U µg/L	0.0417	0.0618	0.0633	0.0126
Robust Standard Deviation µg/L	0.160	0.237	0.243	0.0461
Regression Standard Deviation µg/L	0.256	0.365	0.310	0.118
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.256	0.365	0.310	0.118
Outliers	0	0	0	1
|z|>3.0	0	0	1	0
2<|z|<3	0	1	1	0

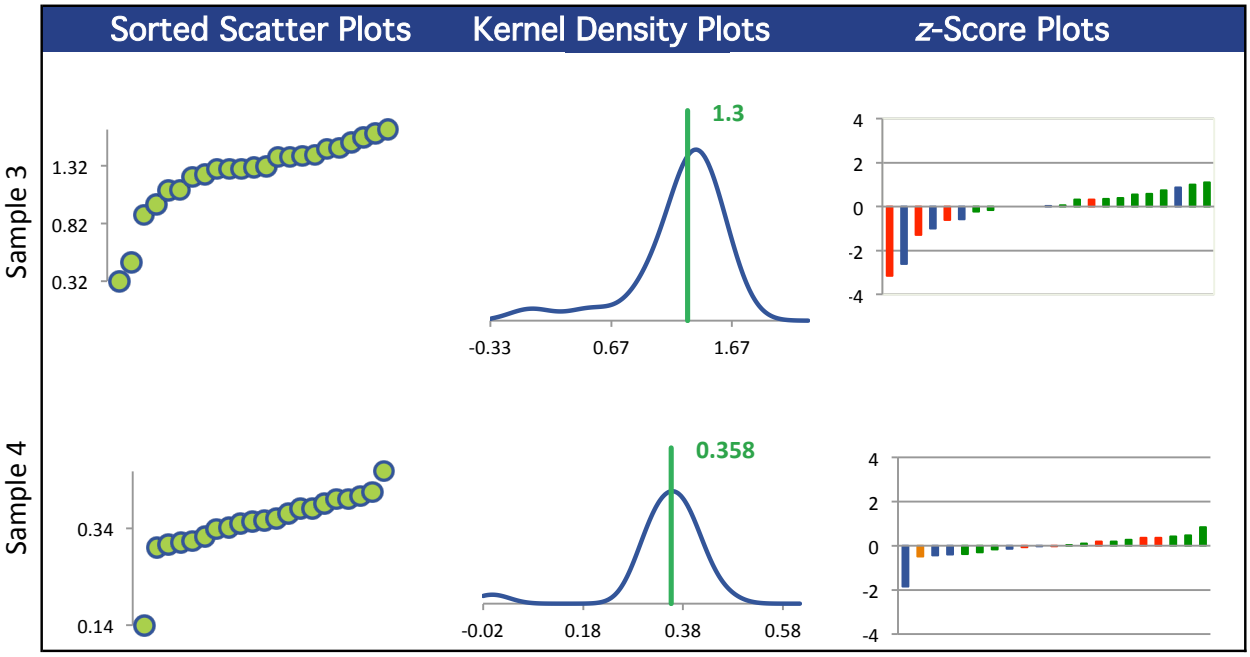
Methods Used

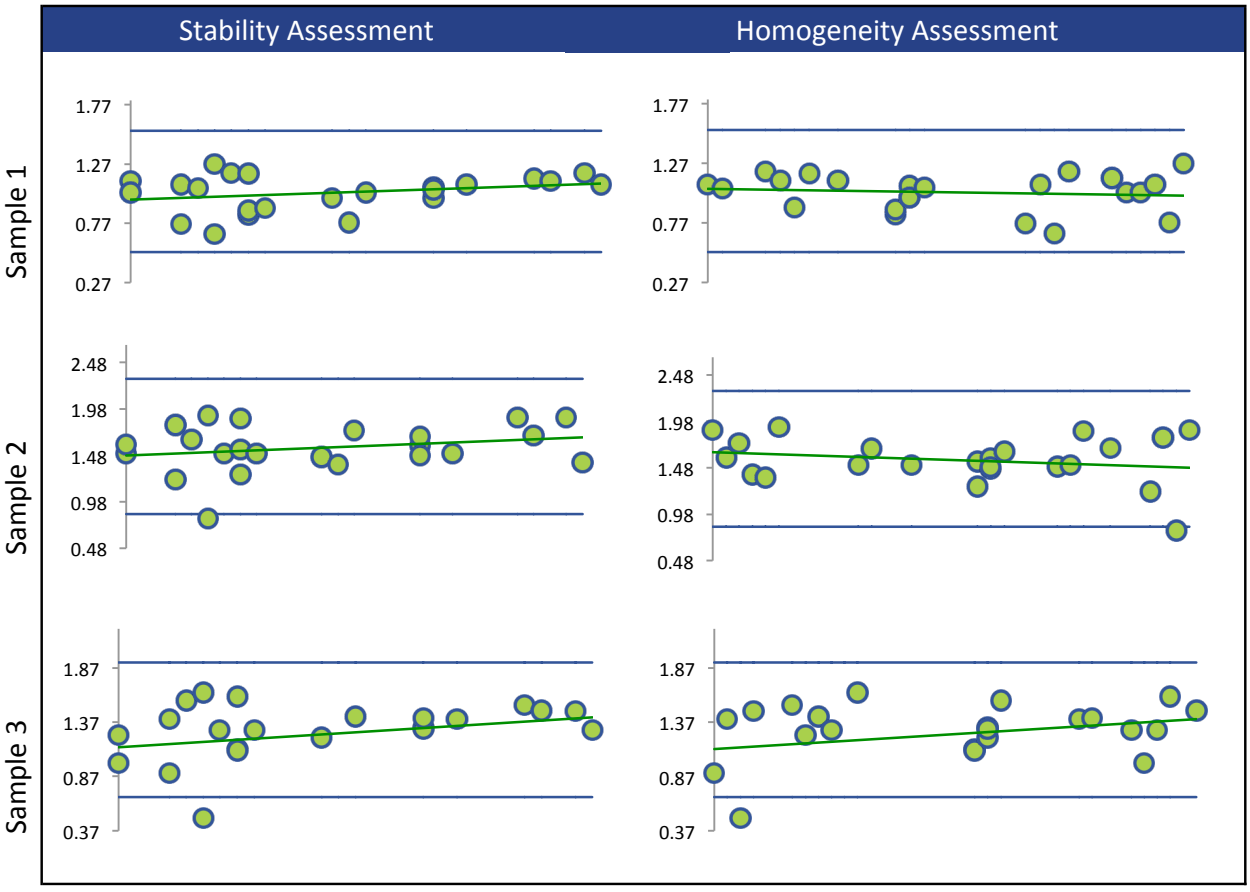
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	5
GC/MS (Red)	6	6	6	4
GC/ECD (Green)	10	10	10	10
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GCXGC/ECD (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



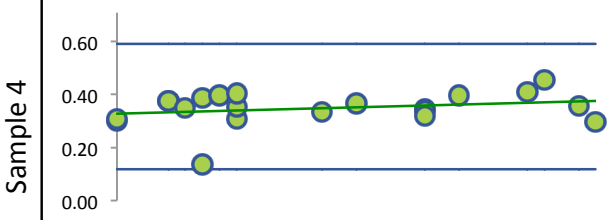
ENDOSULFAN II



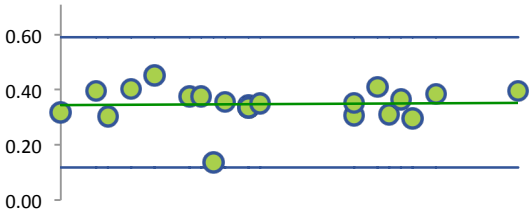


ENDOSULFAN II

Stability Assessment



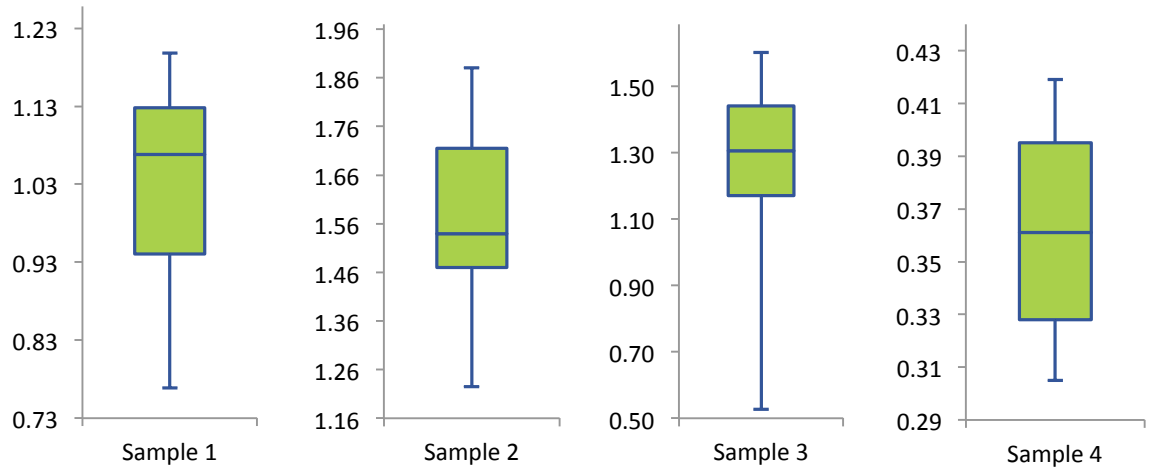
Homogeneity Assessment



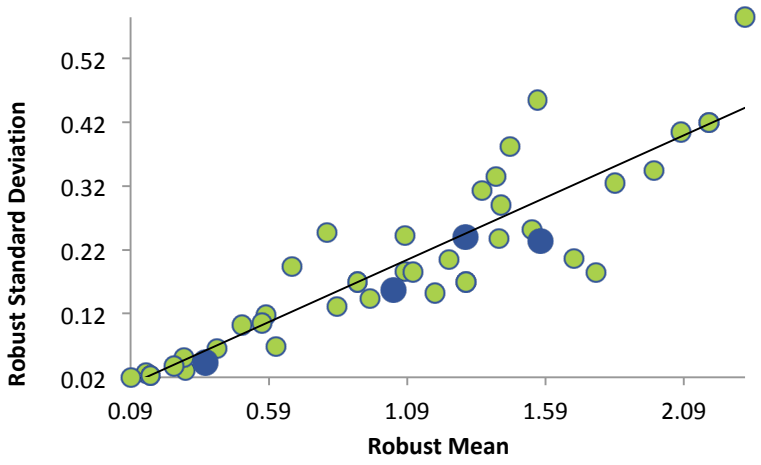
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



ENDRIN

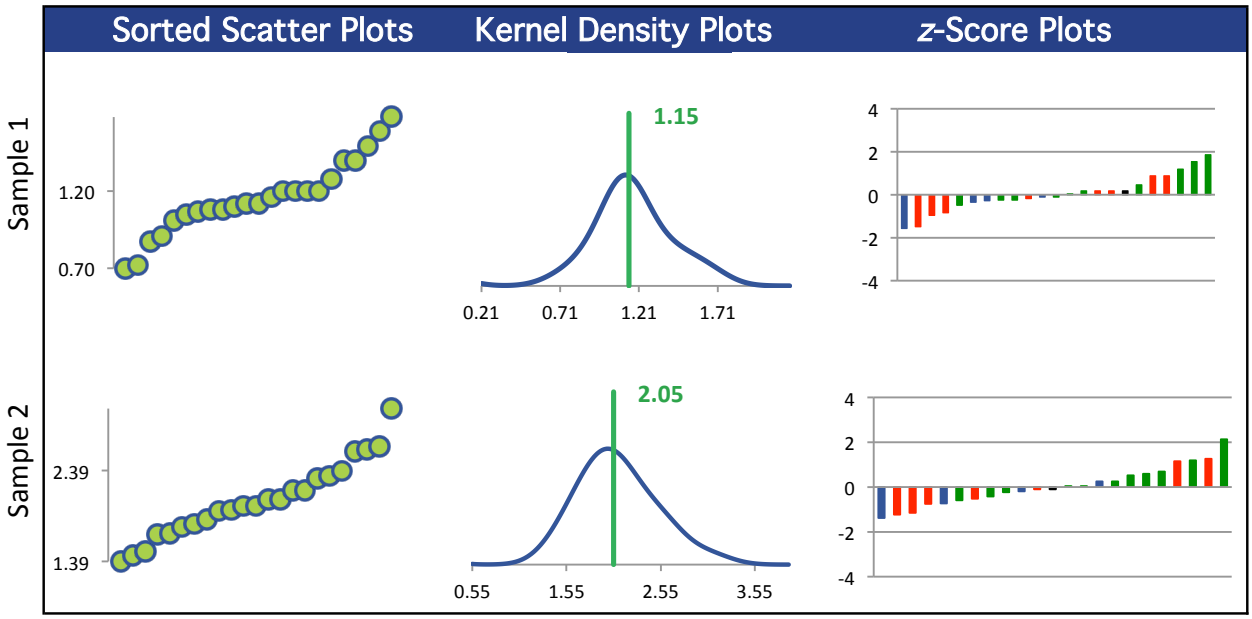
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	23	23	22	20
Median µg/L	1.12	2.00	1.57	0.171
Robust Mean µg/L	1.15	2.05	1.57	0.183
U µg/L	0.0613	0.113	0.0999	0.0118
Robust Standard Deviation µg/L	0.235	0.434	0.375	0.0422
Regression Standard Deviation µg/L	0.285	0.478	0.374	0.0749
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.285	0.478	0.375	0.0749
Outliers	0	0	1	1
|z|>3.0	0	0	1	1
2<|z|<3	0	1	0	0

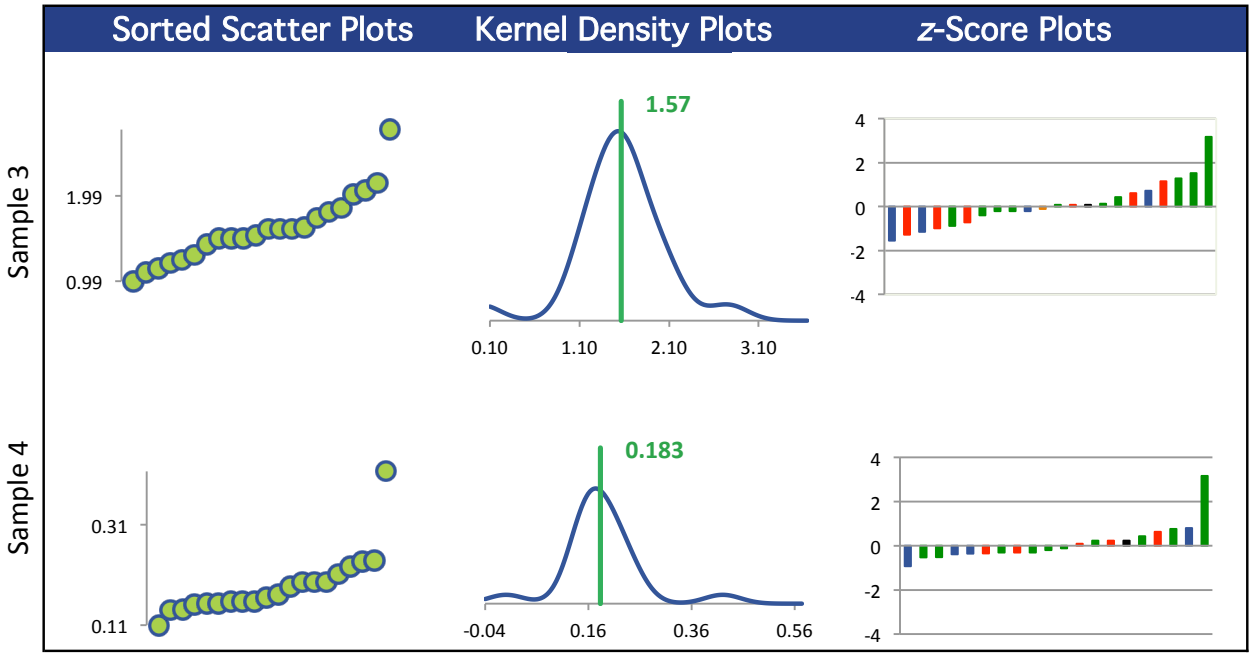
Methods Used

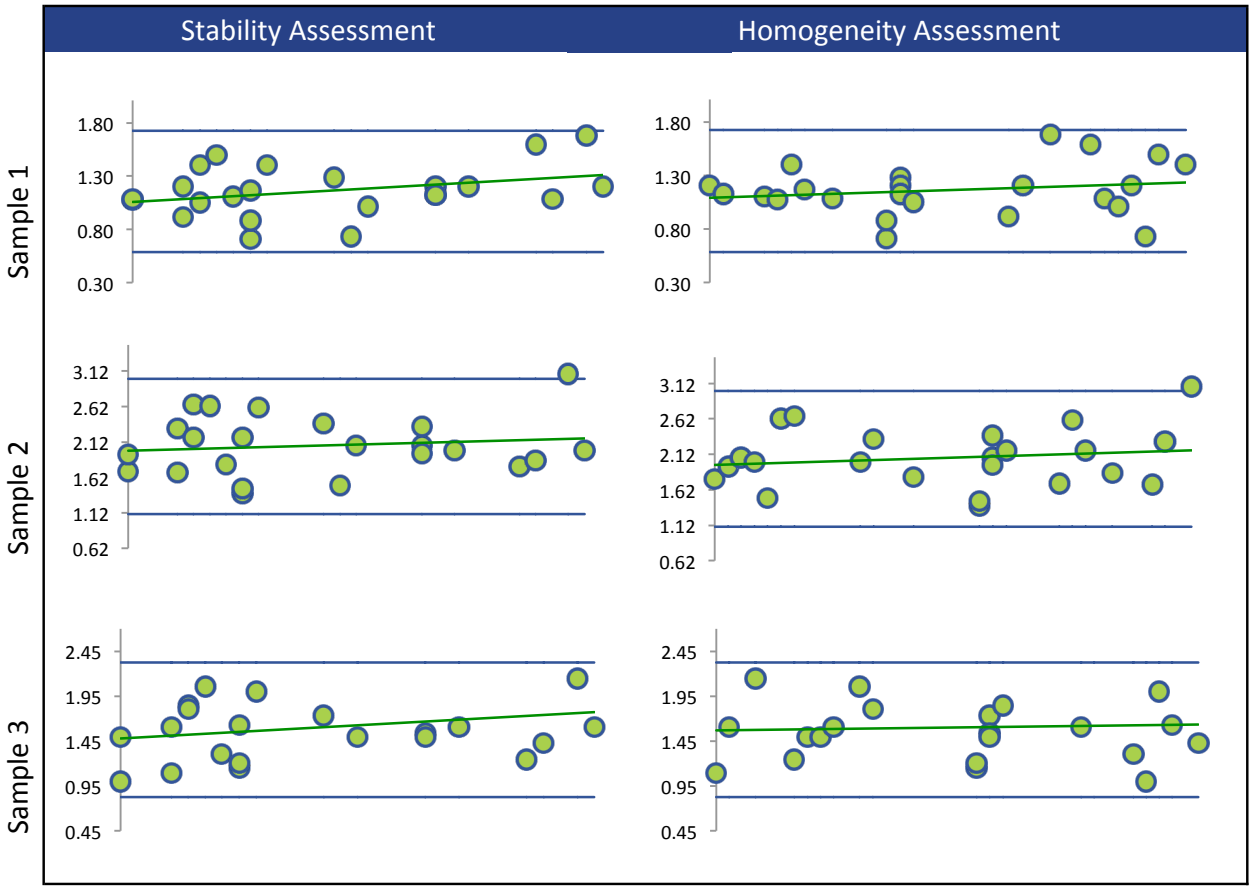
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	4	4	4	3
GC/MS (Red)	7	7	6	5
GC/ECD (Green)	10	10	10	10
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GCXGC/ECD (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



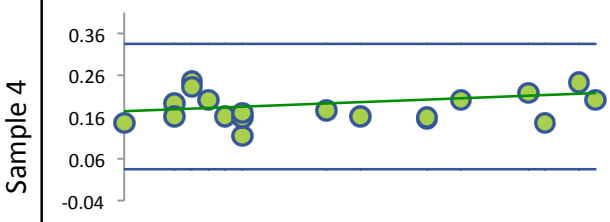
ENDRIN


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
1.99
0.99
1.57
0.10
1.10
2.10
3.10
4
2
0
-2
-4
Sample 4
0.31
0.11
0.183
-0.04
0.16
0.36
0.56
4
2
0
-2
-4

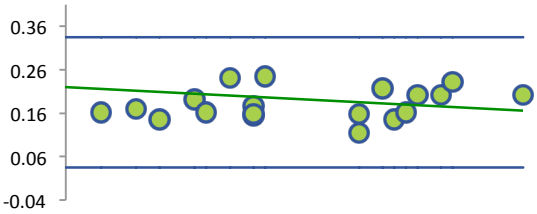

Stability Assessment
Homogeneity Assessment
Sample 1
1.80
1.30
0.80
0.30
Sample 2
3.12
2.62
2.12
1.62
1.12
0.62
Sample 3
2.45
1.95
1.45
0.95
0.45

ENDRIN

Stability Assessment



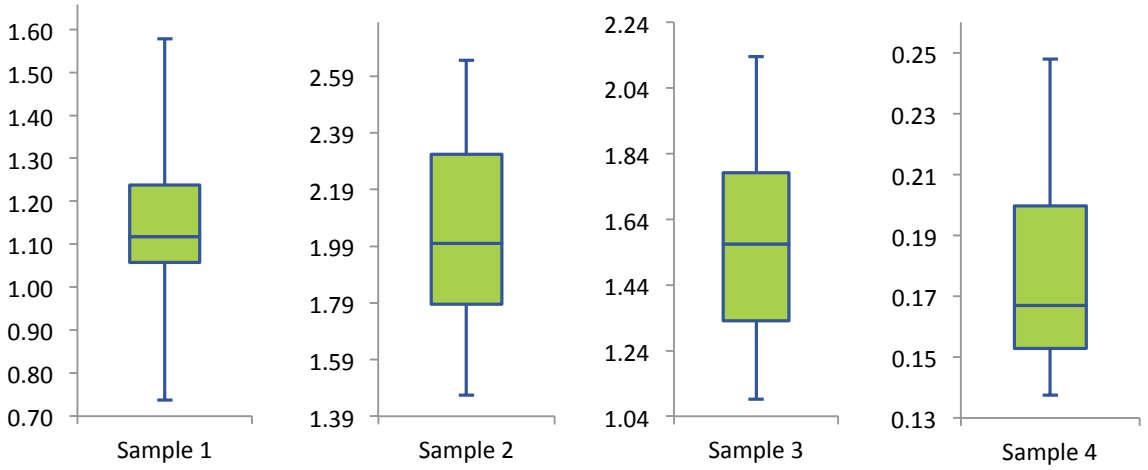
Homogeneity Assessment



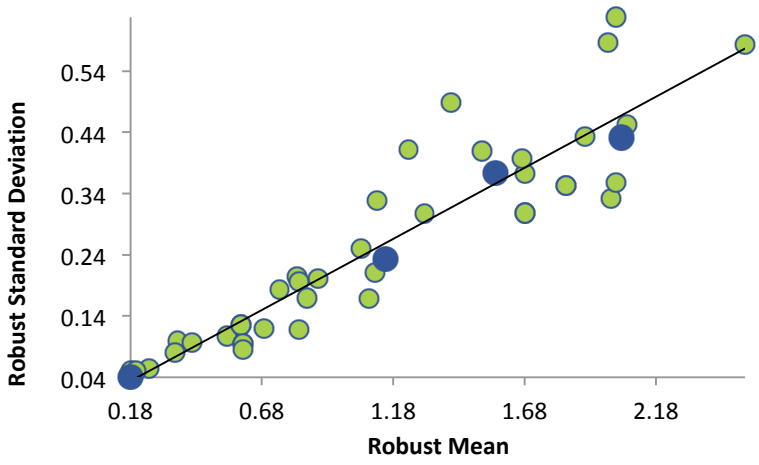
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



G - CHLORDANE

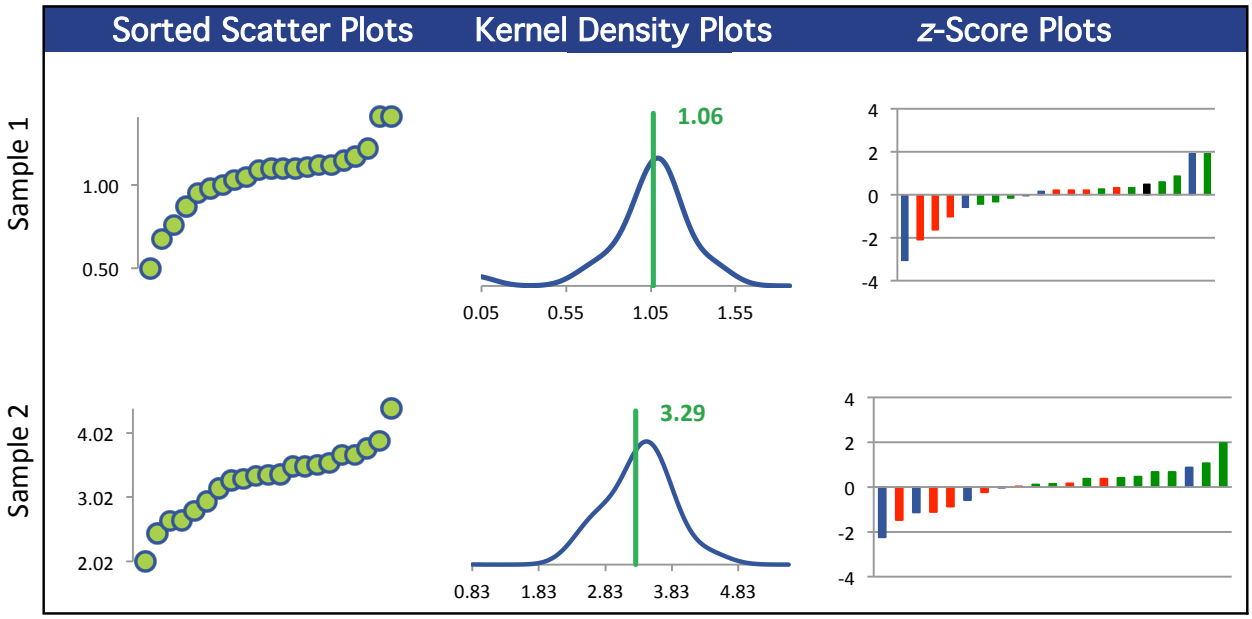
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	21	21	21	18
Median µg/L	1.10	3.37	1.50	0.129
Robust Mean µg/L	1.06	3.29	1.41	0.126
U µg/L	0.0456	0.139	0.0829	0.00560
Robust Standard Deviation µg/L	0.167	0.510	0.304	0.0190
Regression Standard Deviation µg/L	0.183	0.566	0.244	0.0237
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.183	0.566	0.304	0.0237
Outliers	0	0	0	1
|z|>3.0	1	0	2	0
2<|z|<3	1	1	1	2

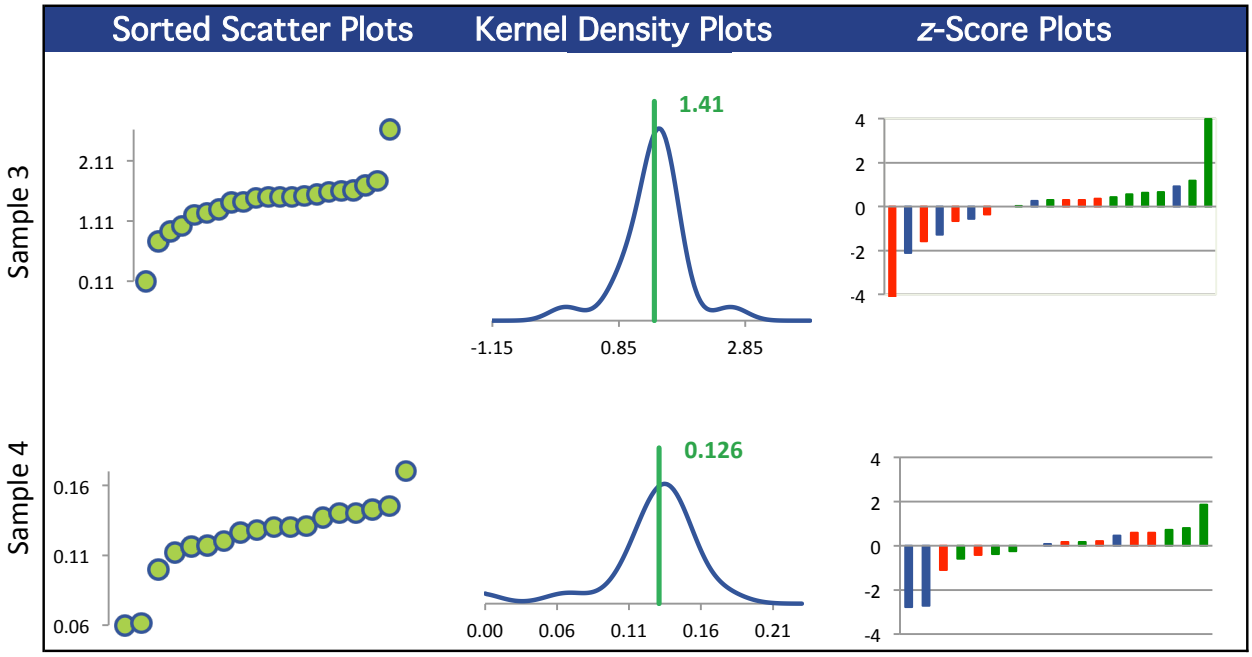
Methods Used

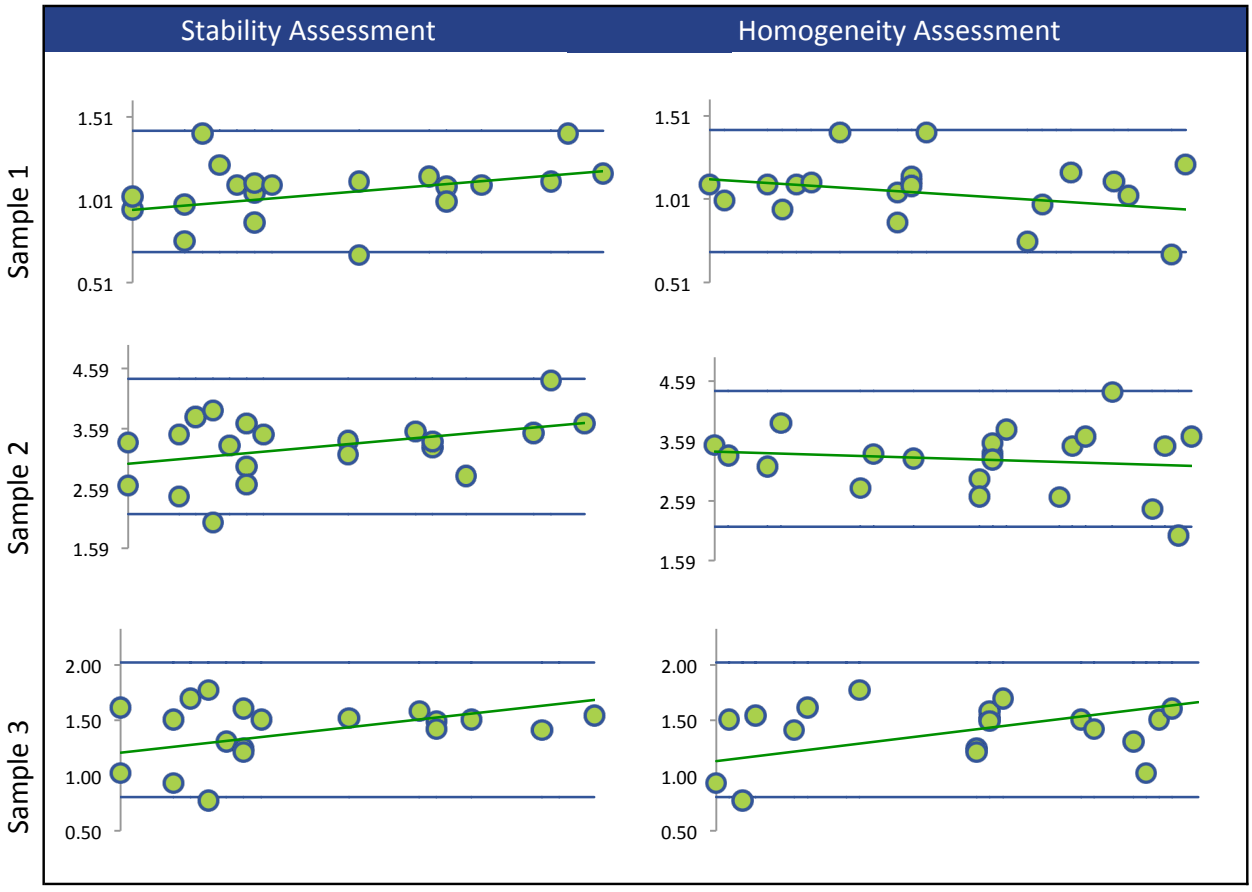
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	4
GC/MS (Red)	7	7	7	5
GC/ECD (Green)	8	8	8	8
HI RESOLUTION GC/MS (Orange)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



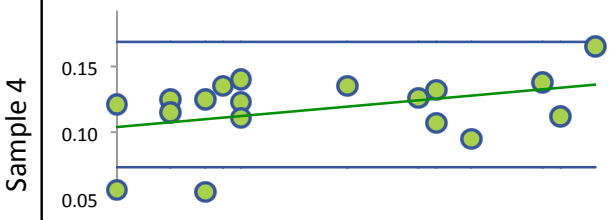
G - CHLORDANE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
2.11
1.11
0.11
1.41
-1.15
0.85
2.85
4
2
0
-2
-4
Sample 4
0.16
0.11
0.06
0.126
0.00
0.06
0.11
0.16
0.21
4
2
0
-2
-4

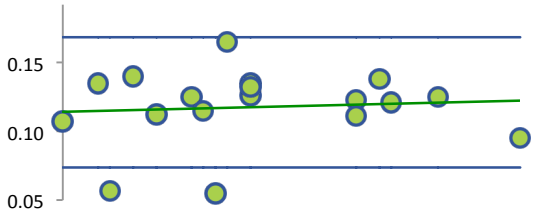

Stability Assessment
Homogeneity Assessment
Sample 1
1.51
1.01
0.51
1.51
1.01
0.51
Sample 2
4.59
3.59
2.59
1.59
4.59
3.59
2.59
1.59
Sample 3
2.00
1.50
1.00
0.50
2.00
1.50
1.00
0.50

G - CHLORDANE

Stability Assessment



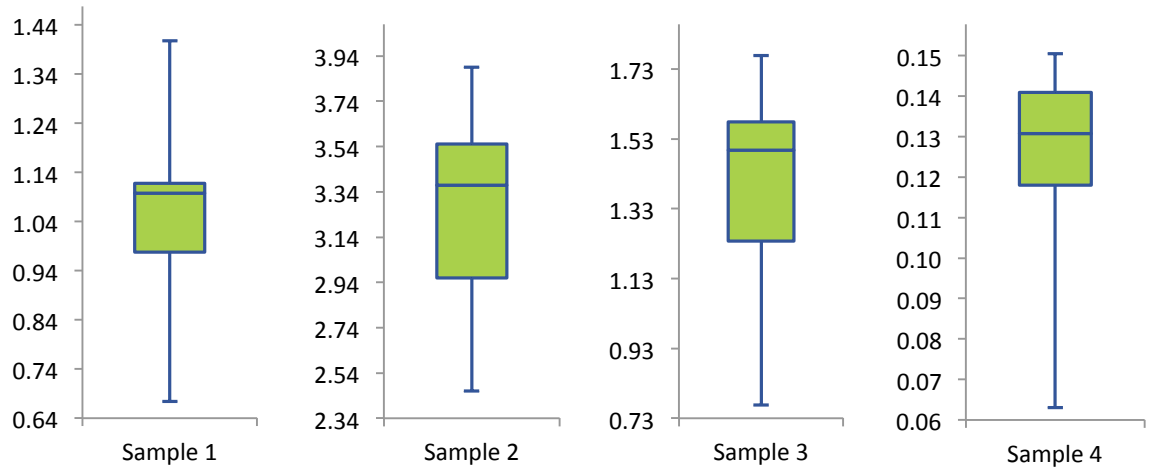
Homogeneity Assessment



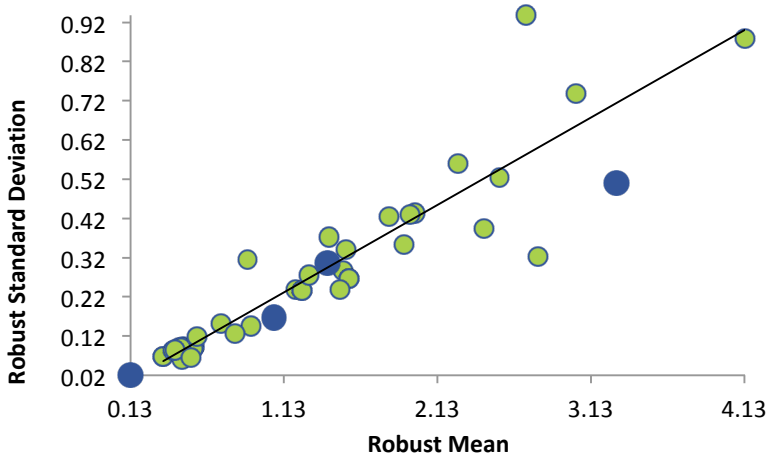
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



HEPTACHLOR

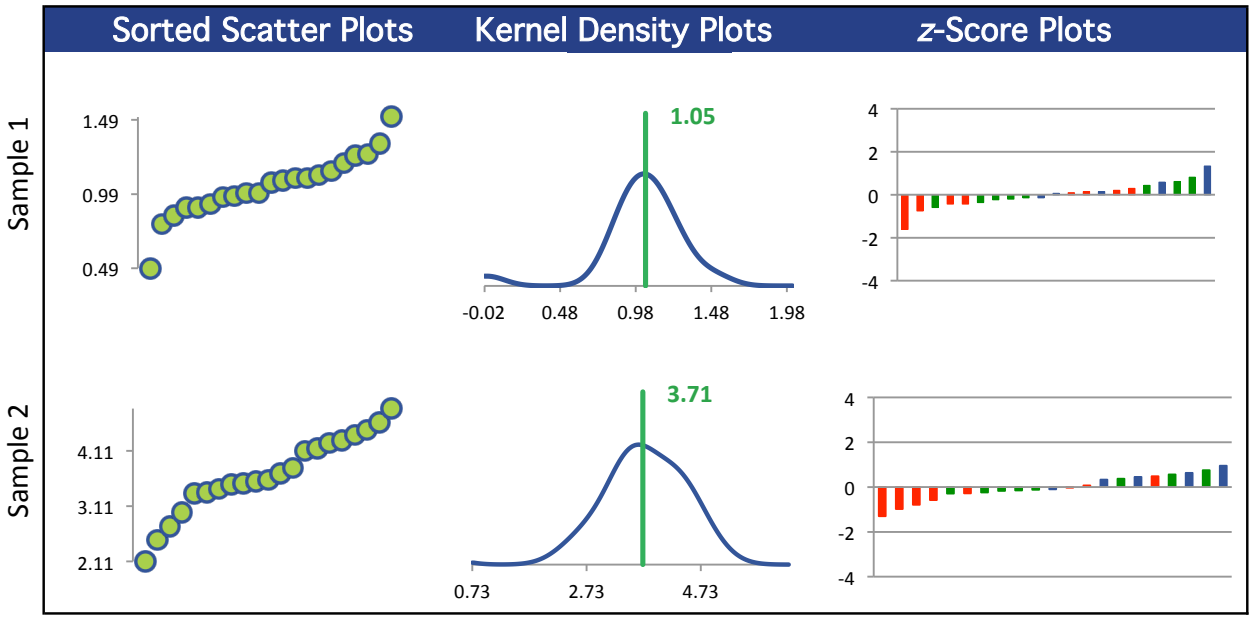
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	21	21	20	19
Median µg/L	1.07	3.59	1.82	0.240
Robust Mean µg/L	1.05	3.71	1.81	0.253
U µg/L	0.0513	0.202	0.0864	0.0142
Robust Standard Deviation µg/L	0.188	0.742	0.309	0.0495
Regression Standard Deviation µg/L	0.346	1.22	0.594	0.0833
Stability Flag				
Homogeneity Flag		Homogeneity		
Standard Deviation Used (SDPA) µg/L	0.346	1.23	0.594	0.0833
Outliers	0	0	1	1
|z|>3.0	0	0	0	0
2<|z|<3	0	0	0	0

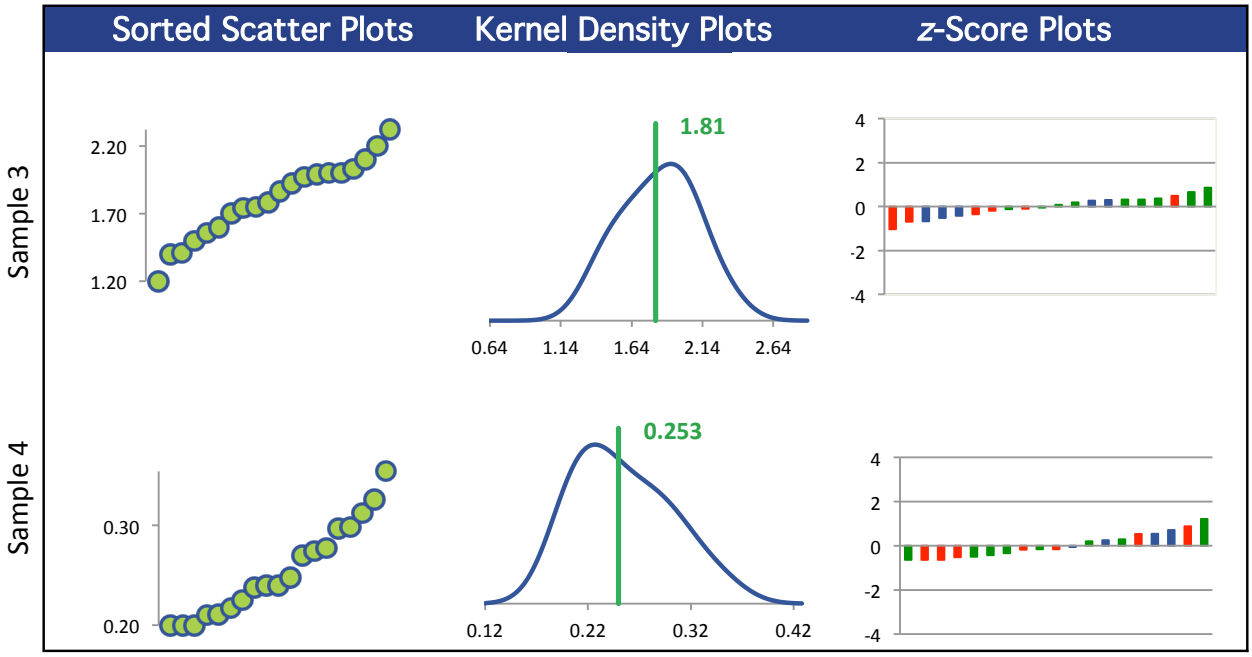
Methods Used

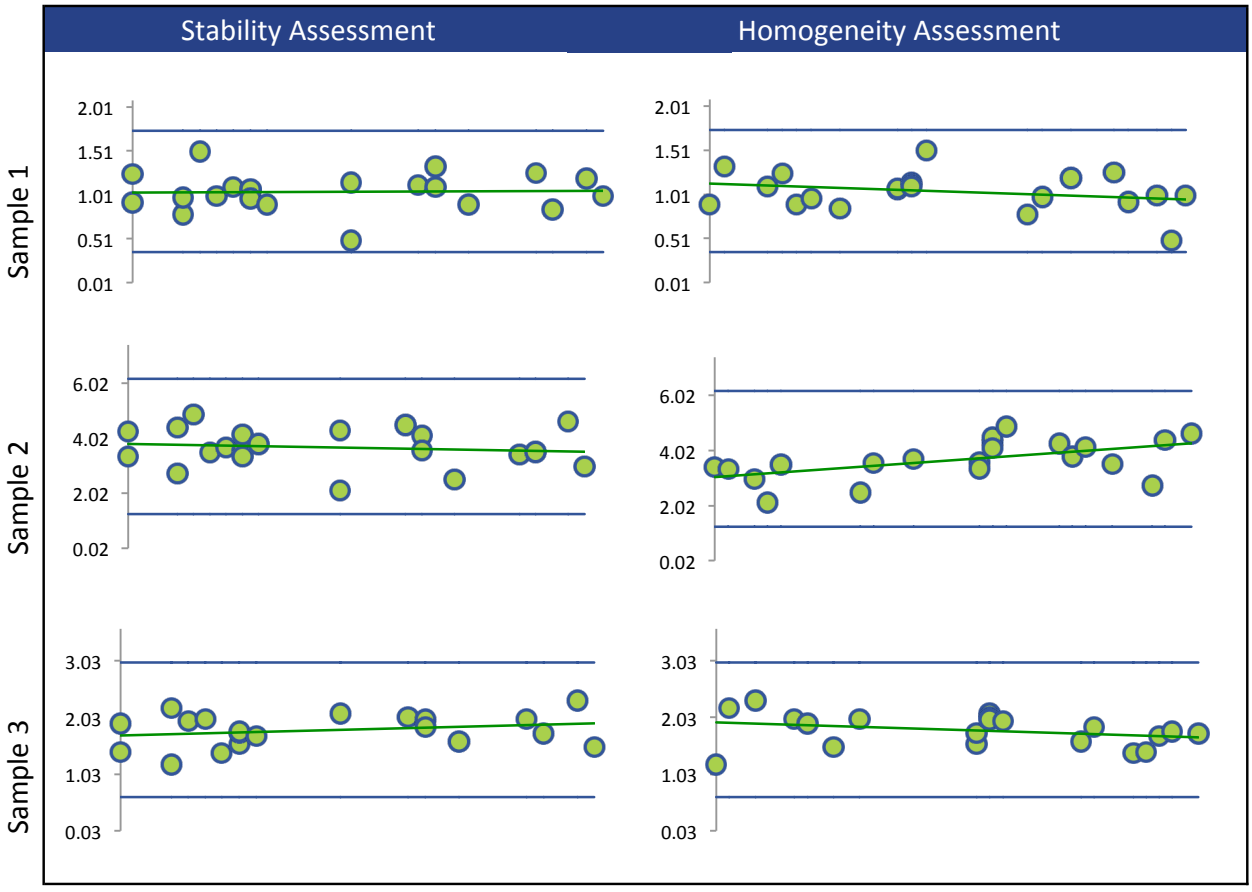
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS (Blue)	7	7	6	5
GC/ECD (Red)	8	8	8	8
GCXGC/ECD (Green)	1	1	1	1
GC/MS/MS (Orange)	4	4	4	4
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



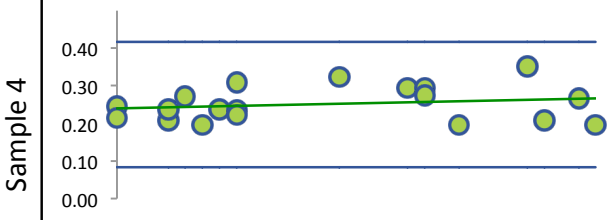
HEPTACHLOR


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
2.20
1.70
1.20
1.81
0.64
1.14
1.64
2.14
2.64
4
2
0
-2
-4
Sample 4
0.30
0.20
0.253
0.12
0.22
0.32
0.42
4
2
0
-2
-4

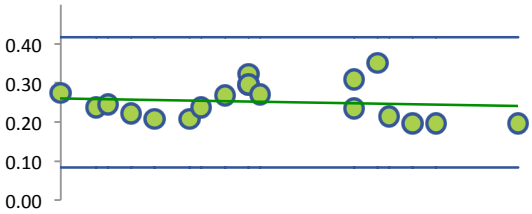

Stability Assessment
Homogeneity Assessment
Sample 1
2.01
1.51
1.01
0.51
0.01
2.01
1.51
1.01
0.51
0.01
Sample 2
6.02
4.02
2.02
0.02
6.02
4.02
2.02
0.02
Sample 3
3.03
2.03
1.03
0.03
3.03
2.03
1.03
0.03

HEPTACHLOR

Stability Assessment



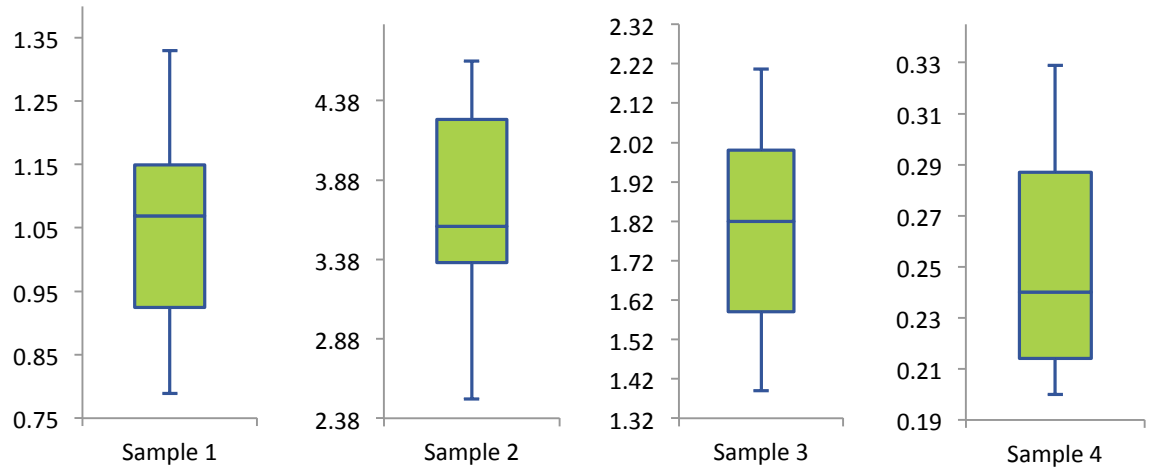
Homogeneity Assessment



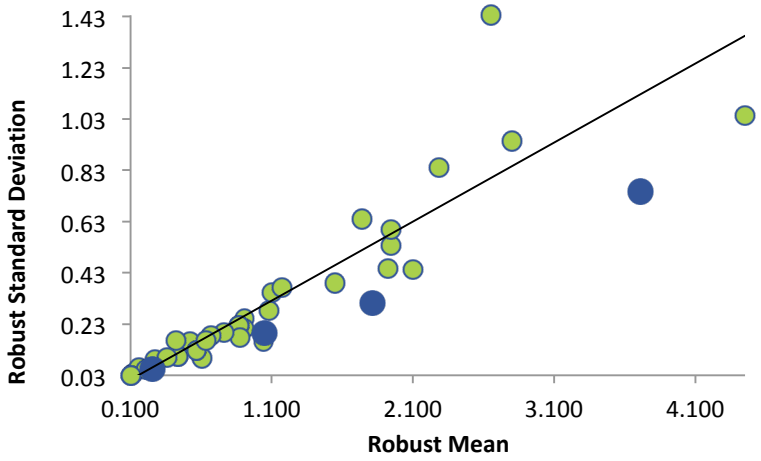
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



HEPTACHLOR EPOXIDE

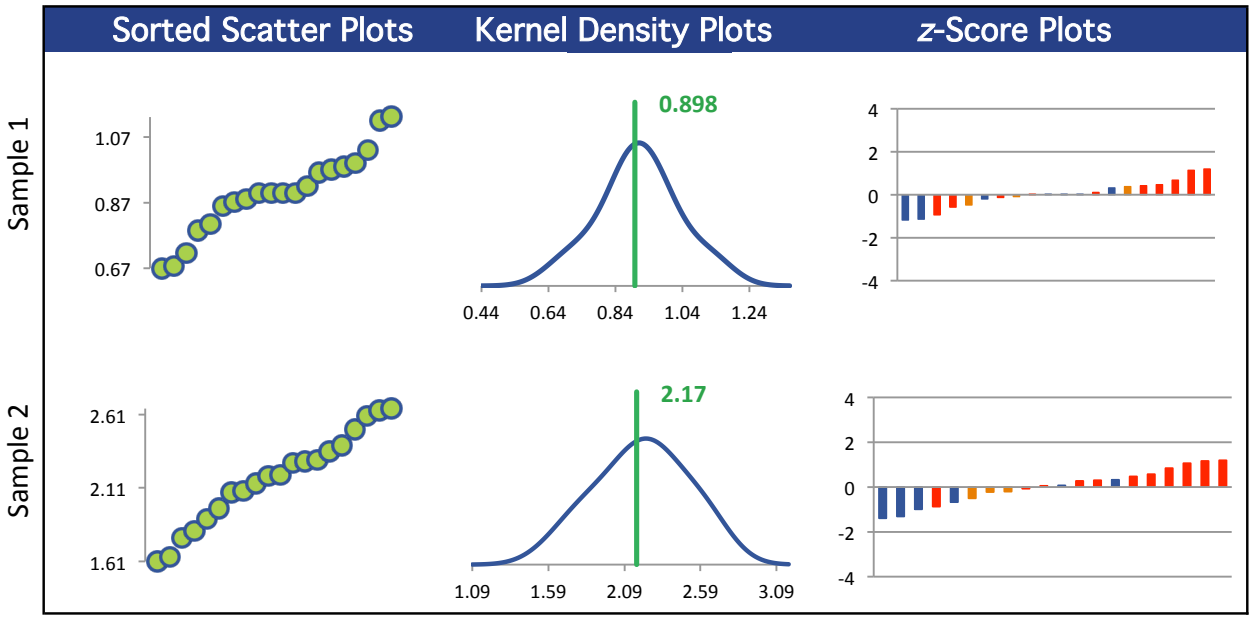
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	20	20	20	20
Median µg/L	0.900	2.20	1.01	0.500
Robust Mean µg/L	0.898	2.17	0.994	0.499
U µg/L	0.0366	0.0989	0.0419	0.0154
Robust Standard Deviation µg/L	0.131	0.354	0.150	0.0552
Regression Standard Deviation µg/L	0.194	0.404	0.210	0.129
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.194	0.404	0.210	0.129
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	0	1	0

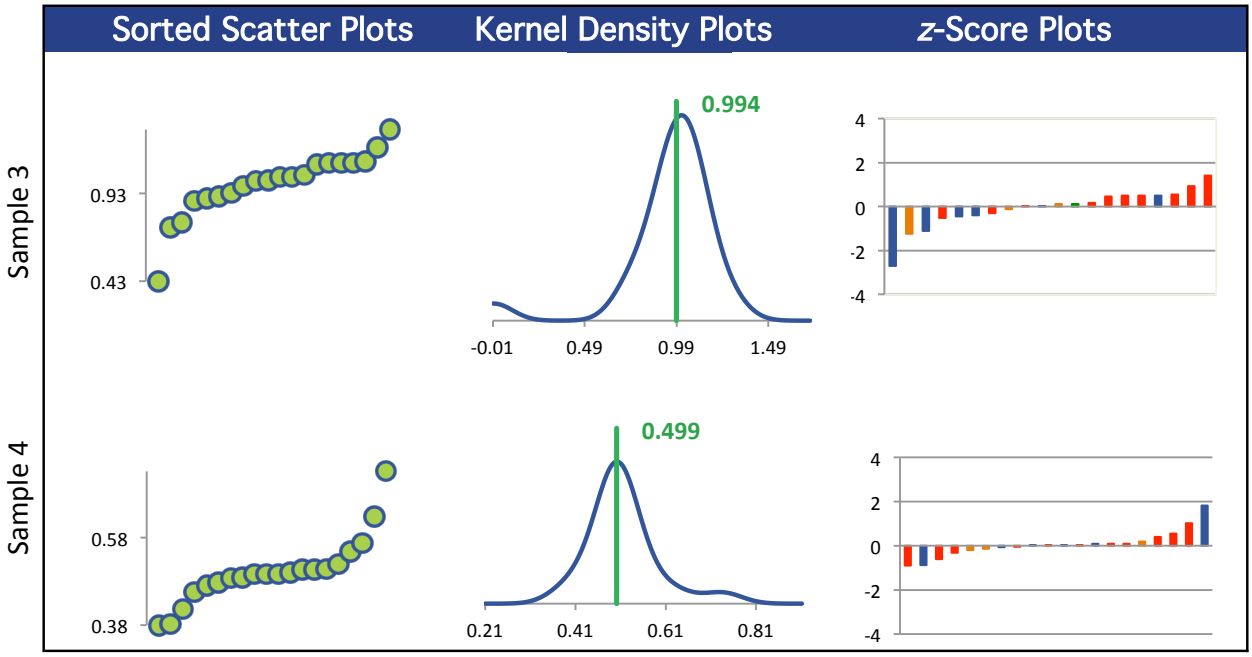
Methods Used

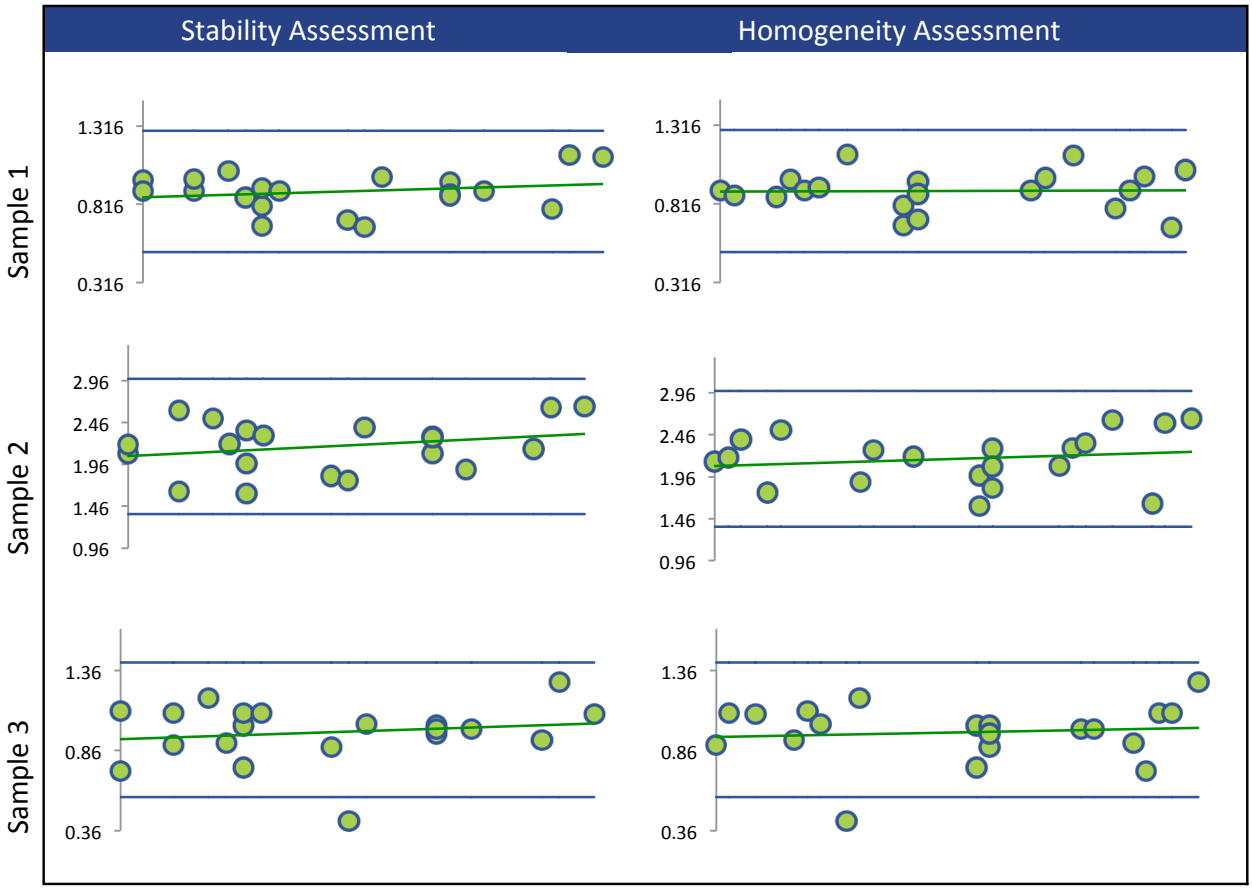
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS (Blue)	6	6	6	6
GC/ECD (Red)	10	10	10	10
GC/MS/MS (Green)	3	3	3	3
HI RESOLUTION GC/MS (Orange)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



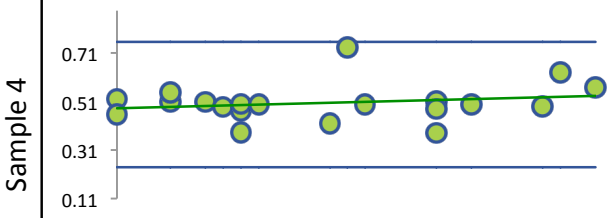
HEPTACHLOR EPOXIDE



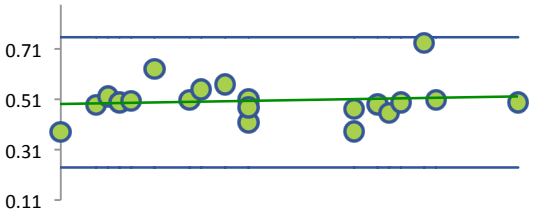


HEPTACHLOR EPOXIDE

Stability Assessment



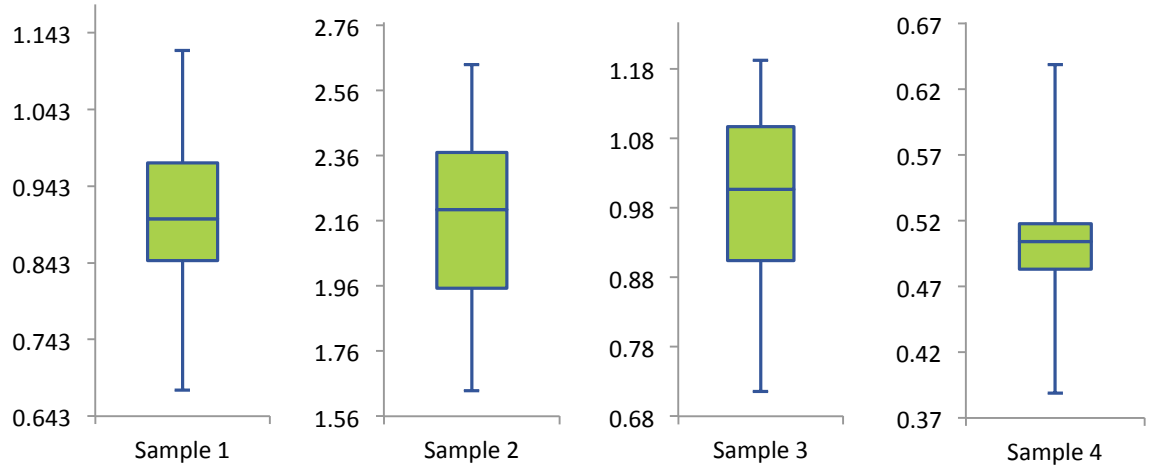
Homogeneity Assessment



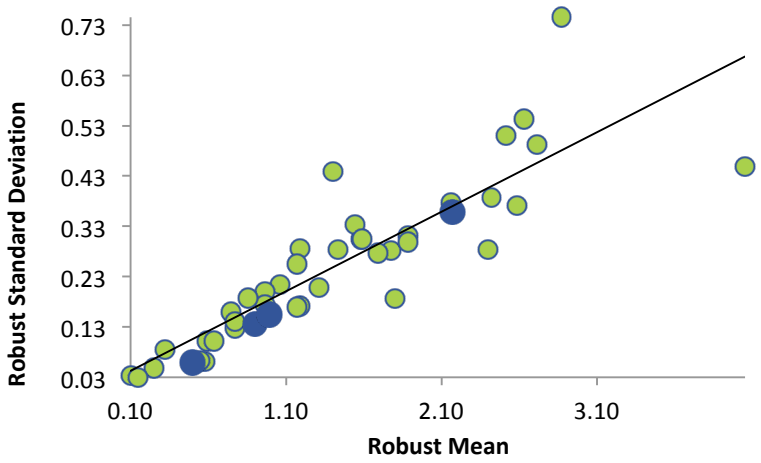
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



LINDANE (GAMMA-BHC)

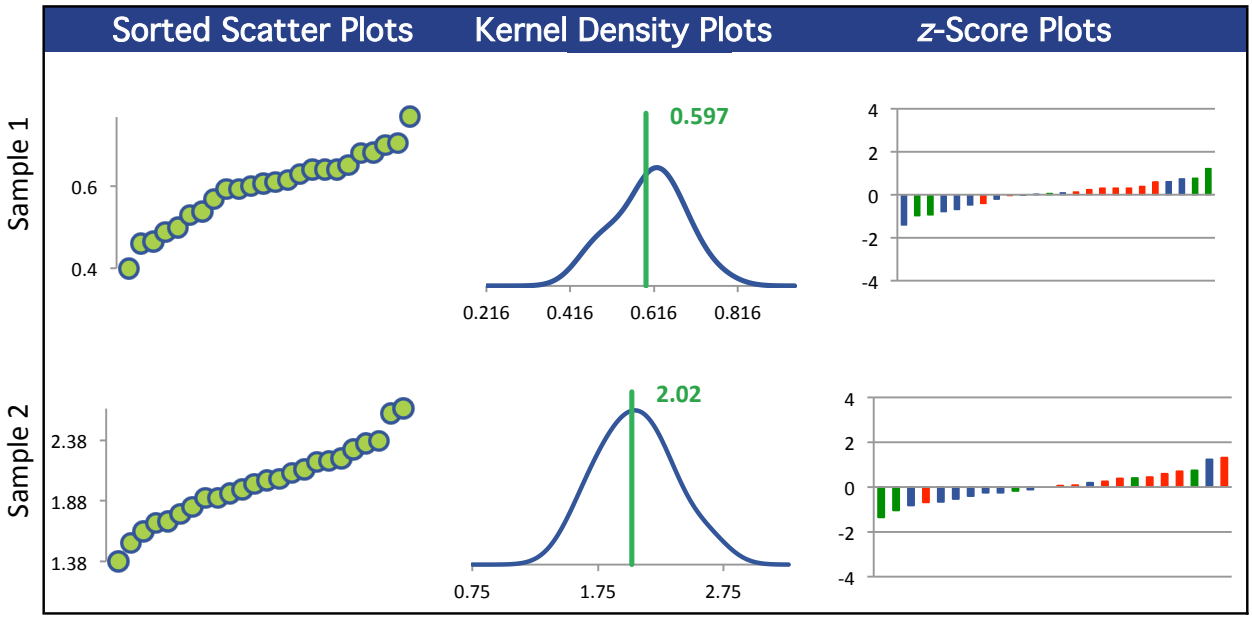
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	24	24	23	21
Median µg/L	0.608	2.04	1.14	0.141
Robust Mean µg/L	0.597	2.02	1.11	0.147
U µg/L	0.0234	0.0827	0.0438	0.00876
Robust Standard Deviation µg/L	0.0919	0.324	0.168	0.0321
Regression Standard Deviation µg/L	0.140	0.473	0.260	0.0344
Stability Flag				
Homogeneity Flag			Homogeneity	
Standard Deviation Used (SDPA) µg/L	0.140	0.473	0.280	0.0344
Outliers	0	0	1	1
|z|>3.0	0	0	0	0
2<|z|<3	0	0	0	1

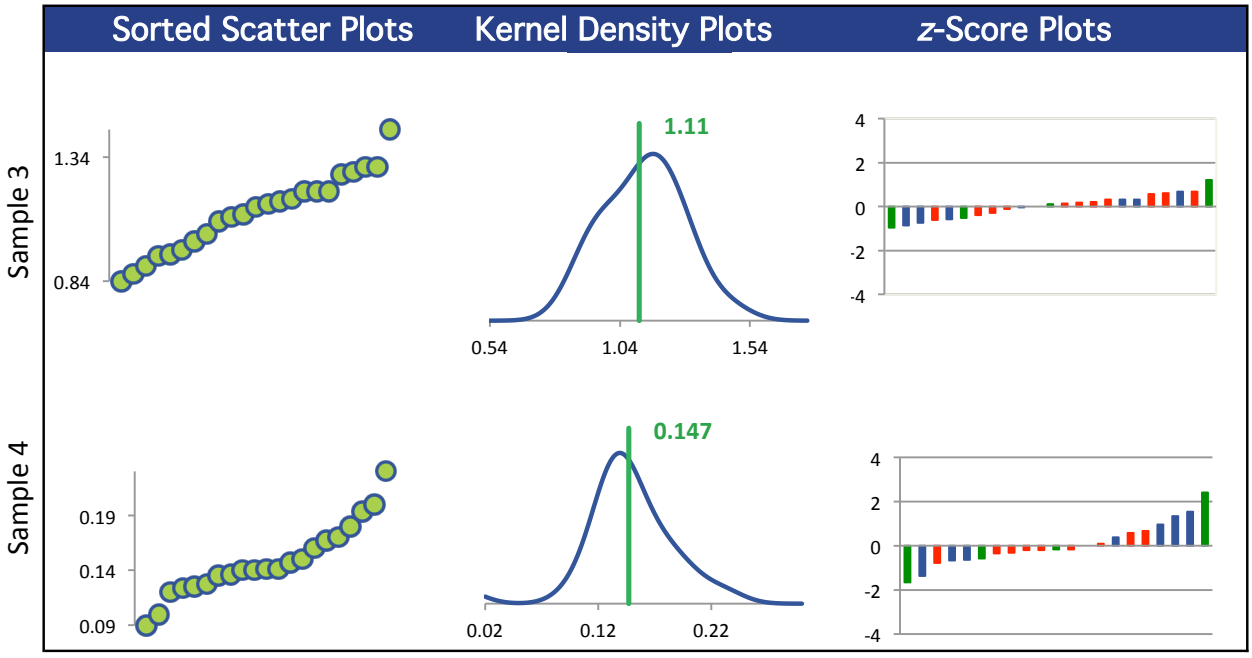
Methods Used

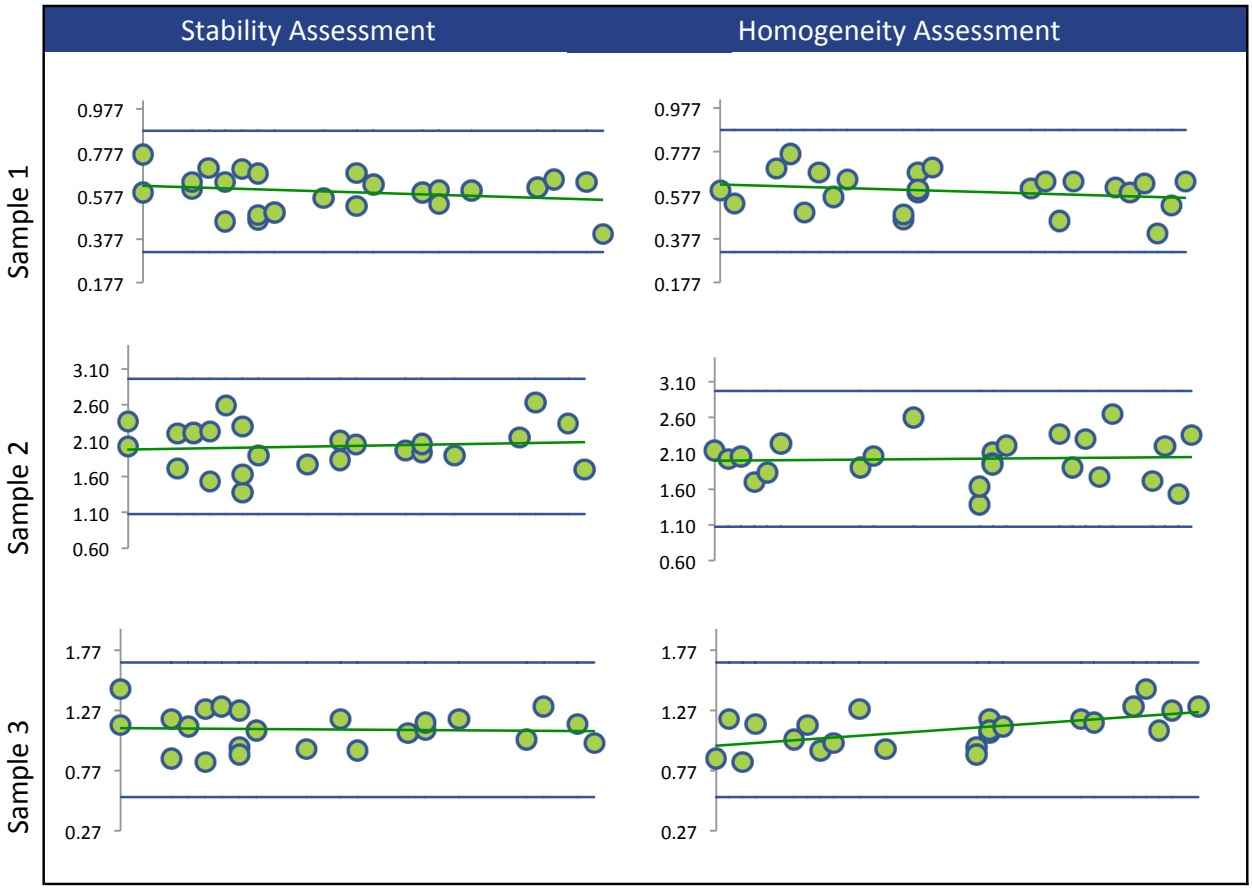
Method	C06A-1	C06A-2	C06A-3	C06A-4
GCXGC/ECD (Blue)	1	1	1	1
GC/MS/MS (Red)	5	5	5	4
GC/MS (Green)	8	8	7	6
GC/ECD (Orange)	9	9	9	9
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



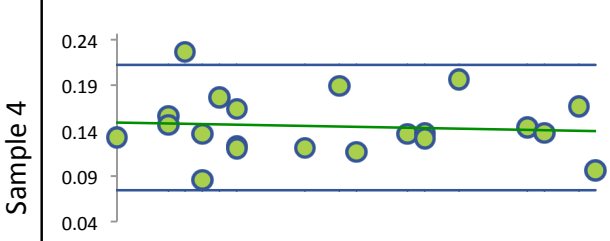
LINDANE (GAMMA-BHC)



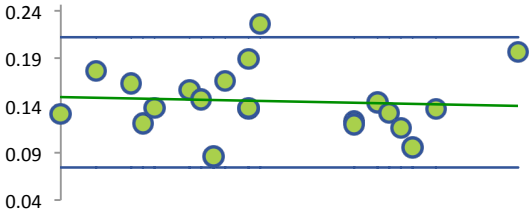


LINDANE (GAMMA-BHC)

Stability Assessment



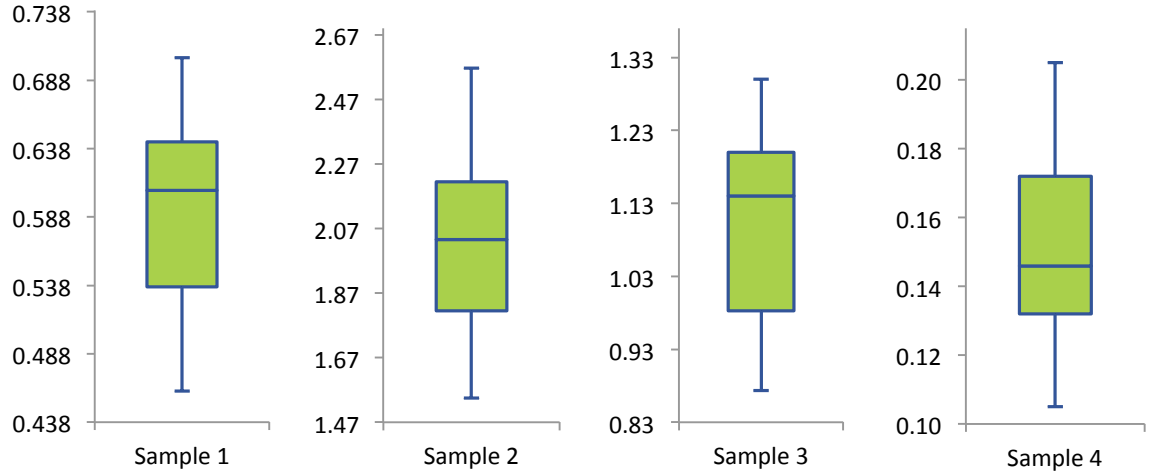
Homogeneity Assessment



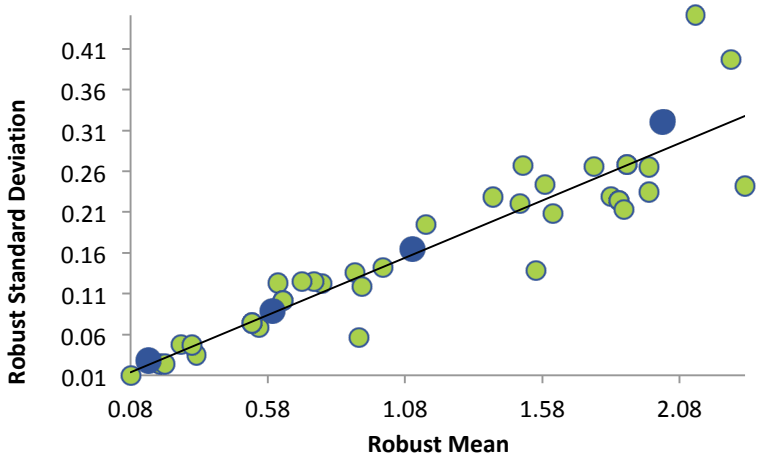
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



MIREX

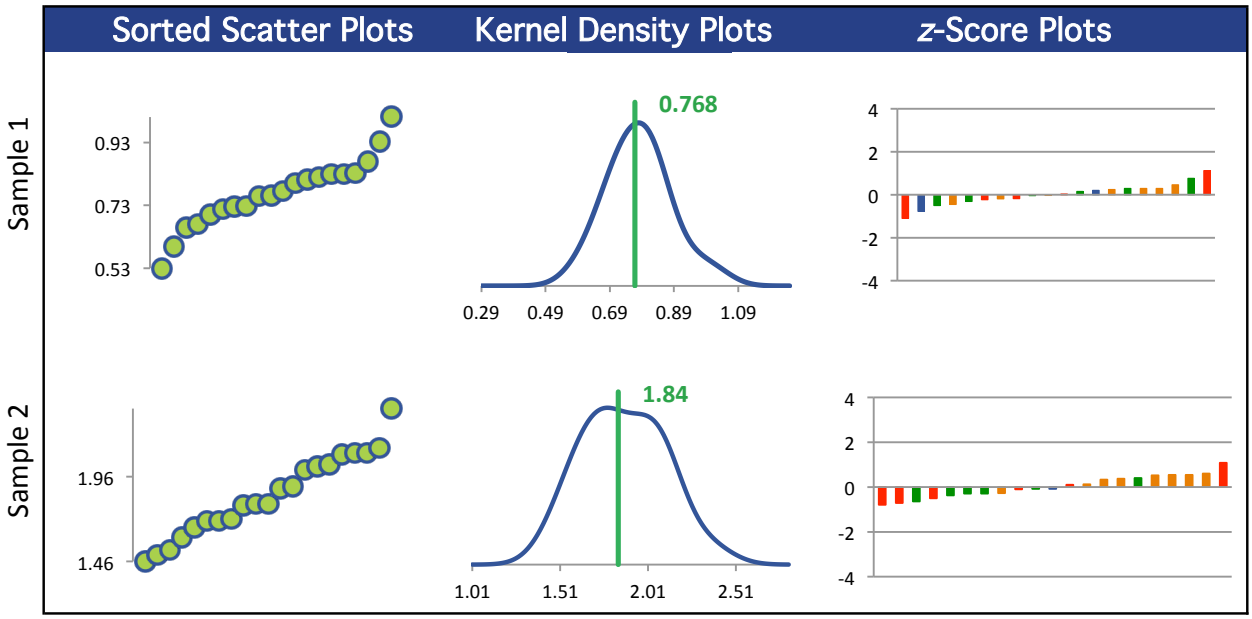
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	20	21	21	20
Median µg/L	0.768	1.80	1.19	0.580
Robust Mean µg/L	0.768	1.84	1.17	0.583
U µg/L	0.0280	0.0706	0.0366	0.0194
Robust Standard Deviation µg/L	0.100	0.259	0.134	0.0693
Regression Standard Deviation µg/L	0.217	0.481	0.315	0.172
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.217	0.481	0.315	0.172
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	0	0	0

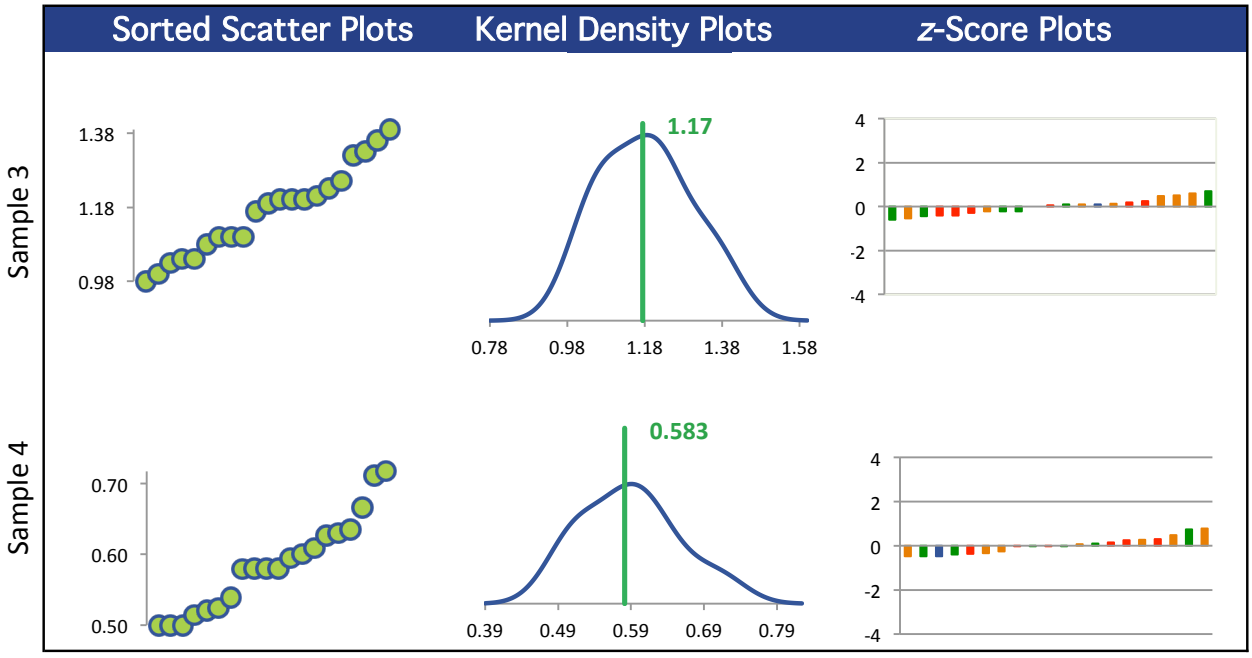
Methods Used

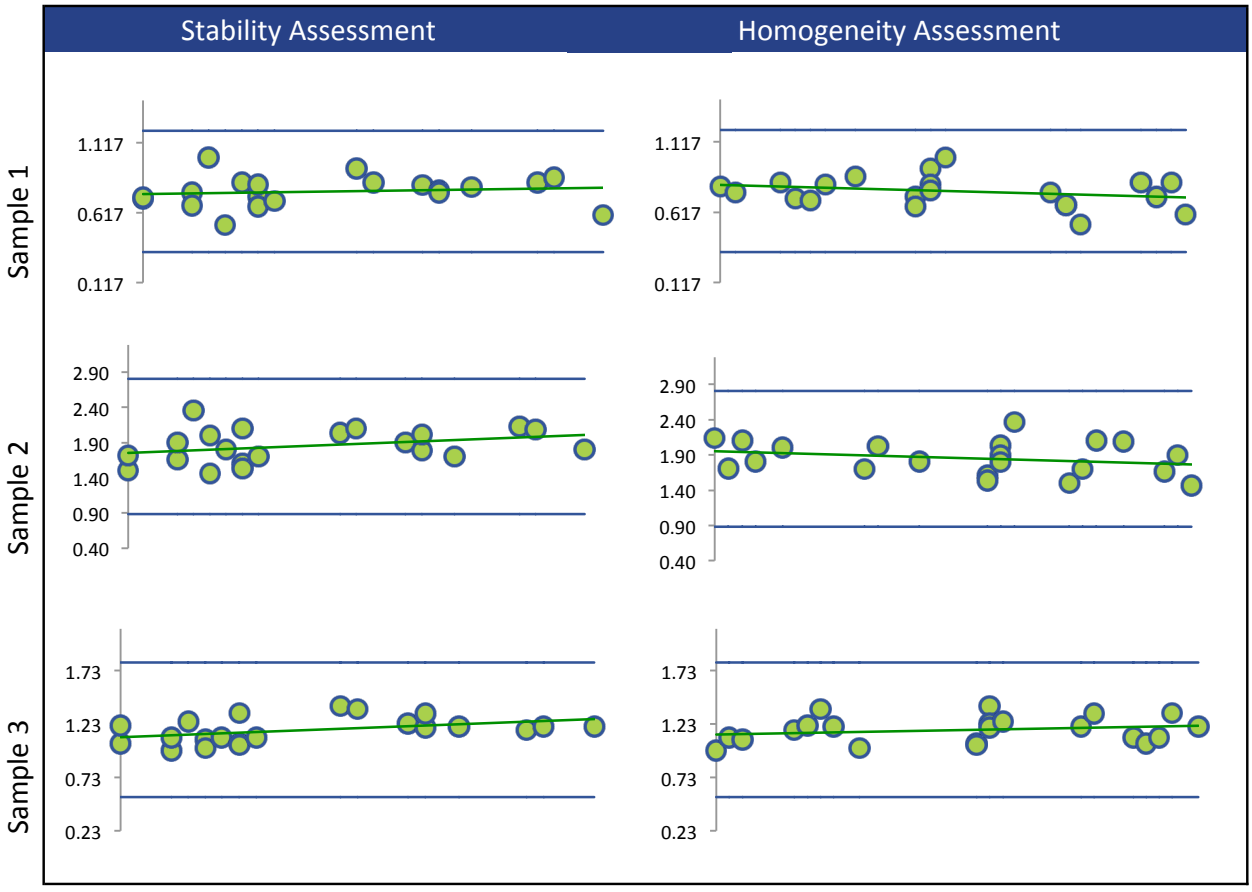
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	5
GCXGC/ECD (Red)	1	1	1	1
GC/MS (Green)	6	6	6	6
GC/ECD (Orange)	7	8	8	7
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



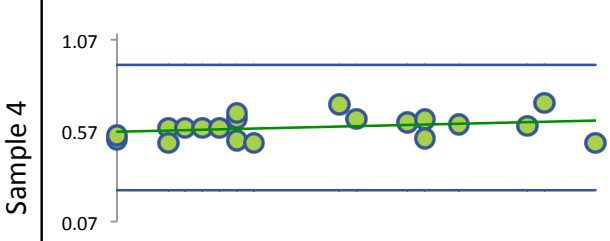
MIREX


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
1.38
1.18
0.98
1.17
0.78
0.98
1.18
1.38
1.58
4
2
0
-2
-4
Sample 4
0.70
0.60
0.50
0.583
0.39
0.49
0.59
0.69
0.79
4
2
0
-2
-4

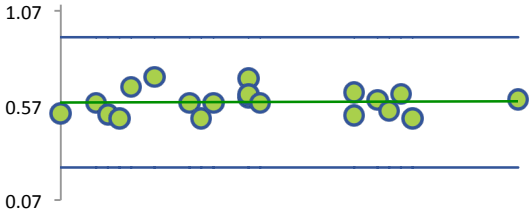

Stability Assessment
Homogeneity Assessment
Sample 1
1.117
0.617
0.117
1.117
0.617
0.117
Sample 2
2.90
2.40
1.90
1.40
0.90
0.40
2.90
2.40
1.90
1.40
0.90
0.40
Sample 3
1.73
1.23
0.73
0.23
1.73
1.23
0.73
0.23

MIREX

Stability Assessment



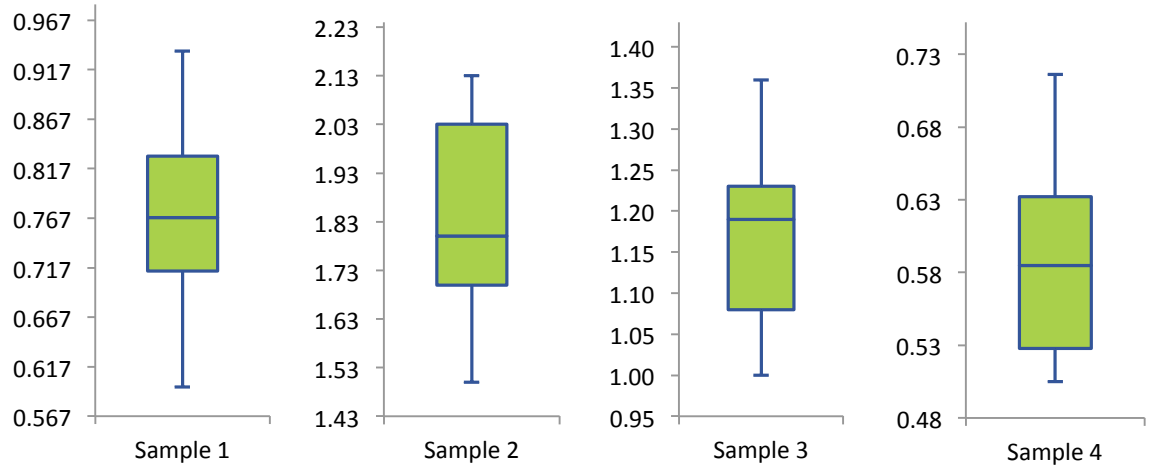
Homogeneity Assessment



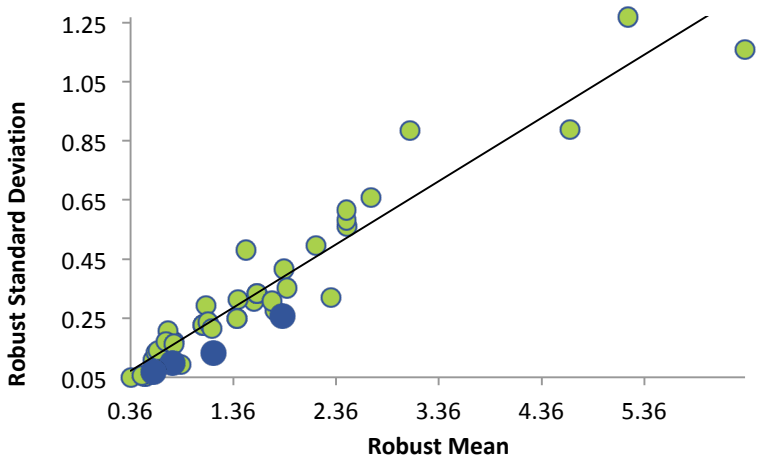
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



O,P' - DDT

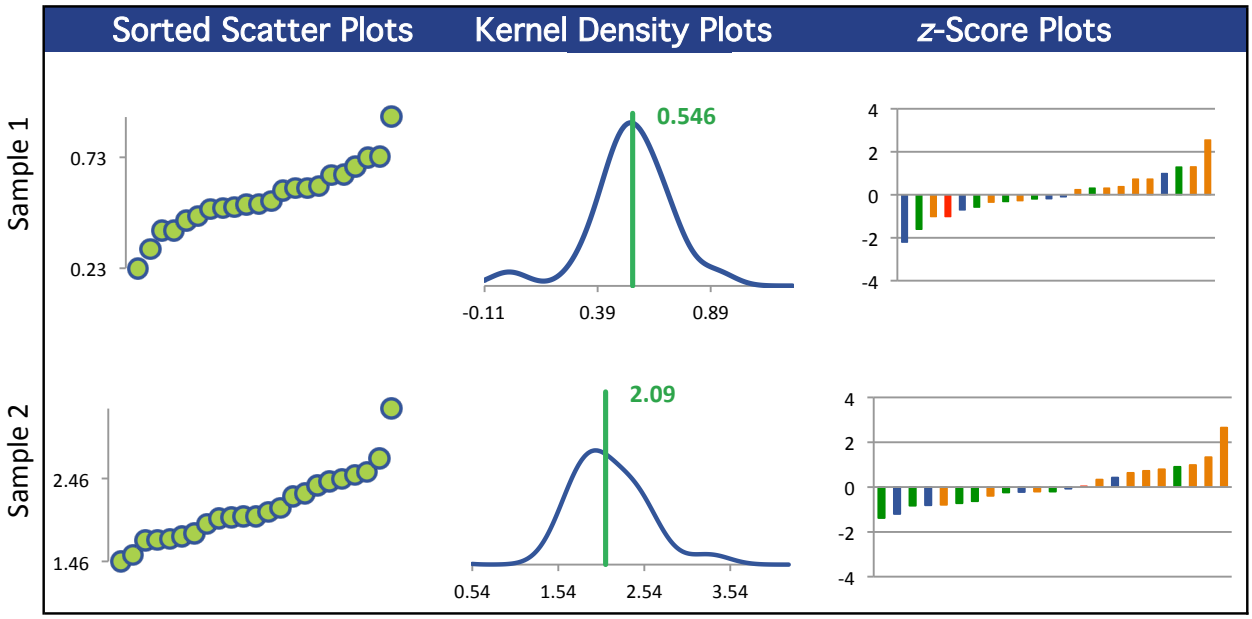
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	22	23	23	22
Median µg/L	0.526	2.00	1.04	0.465
Robust Mean µg/L	0.546	2.09	1.01	0.481
U µg/L	0.0370	0.106	0.0529	0.0277
Robust Standard Deviation µg/L	0.139	0.408	0.203	0.104
Regression Standard Deviation µg/L	0.143	0.457	0.237	0.129
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.143	0.457	0.237	0.129
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	2	1	1	1

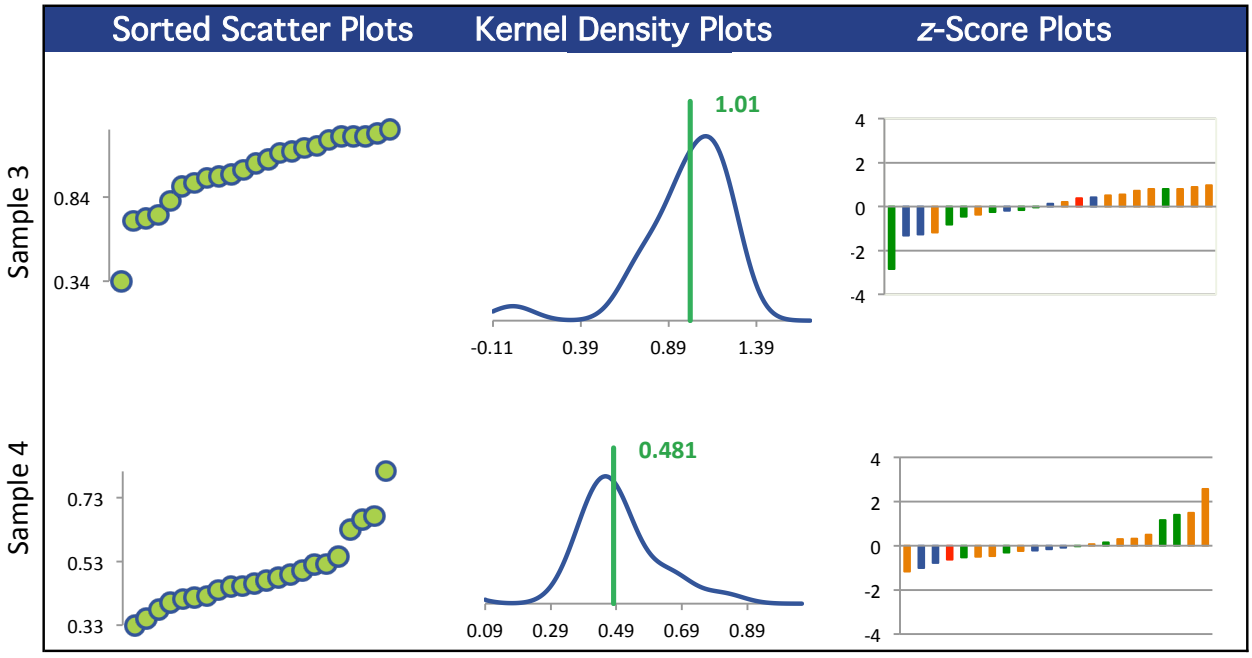
Methods Used

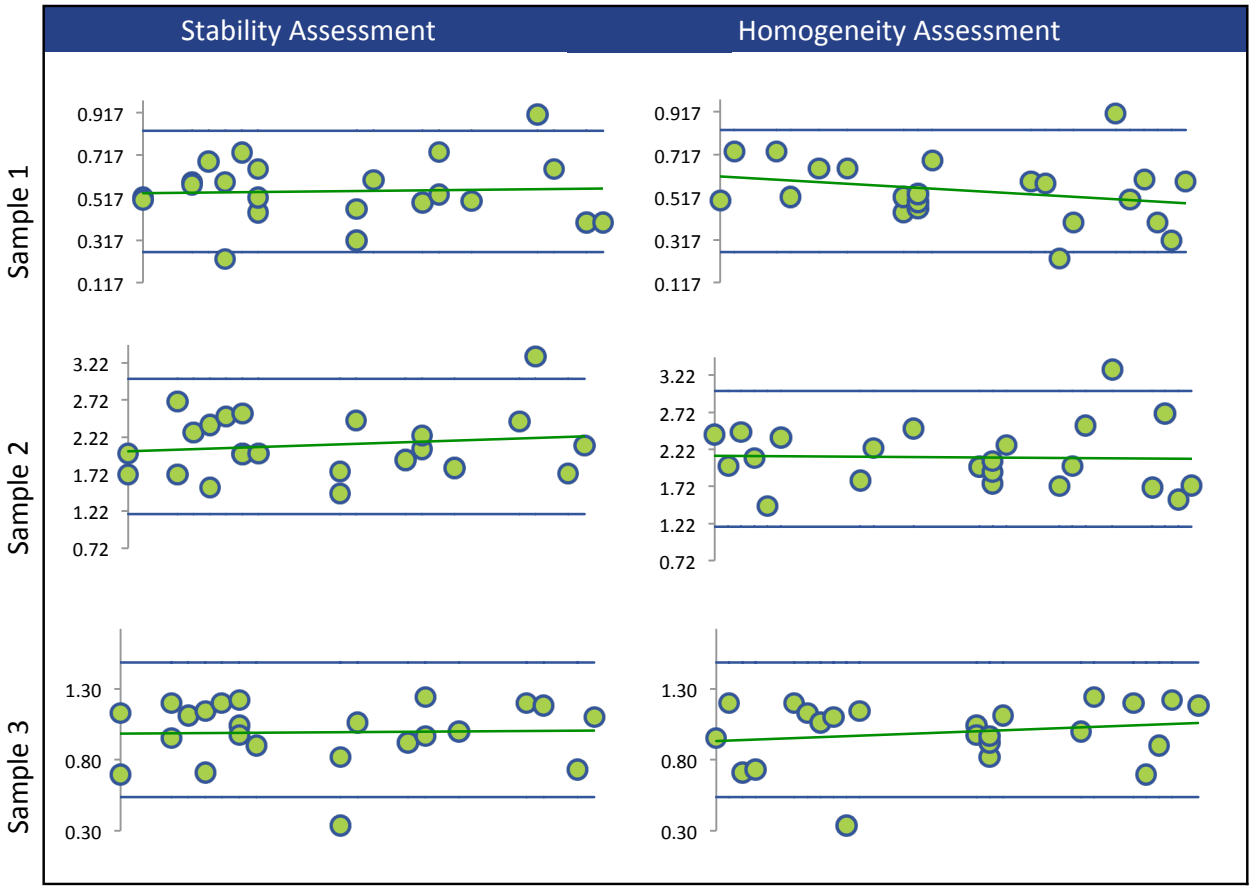
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	5
GC/MS (Red)	6	7	7	6
GC/ECD (Green)	9	9	9	9
GCXGC/ECD (Orange)	1	1	1	1
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



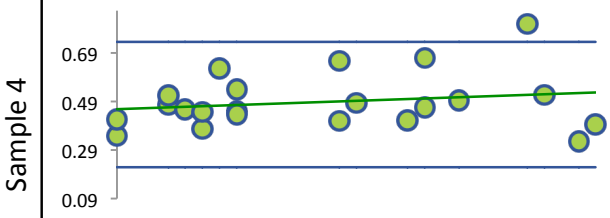
O,P' - DDT


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
0.84
0.34
1.01
-0.11
0.39
0.89
1.39
4
2
0
-2
-4
Sample 4
0.73
0.53
0.33
0.481
0.09
0.29
0.49
0.69
0.89
4
2
0
-2
-4

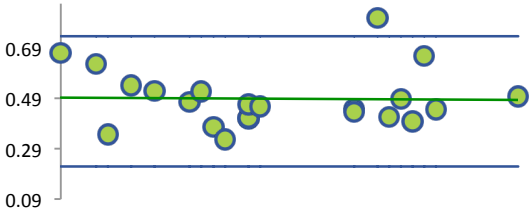

Stability Assessment
Homogeneity Assessment
Sample 1
0.917
0.717
0.517
0.317
0.117
Sample 2
3.22
2.72
2.22
1.72
1.22
0.72
Sample 3
1.30
0.80
0.30

O,P' - DDT

Stability Assessment



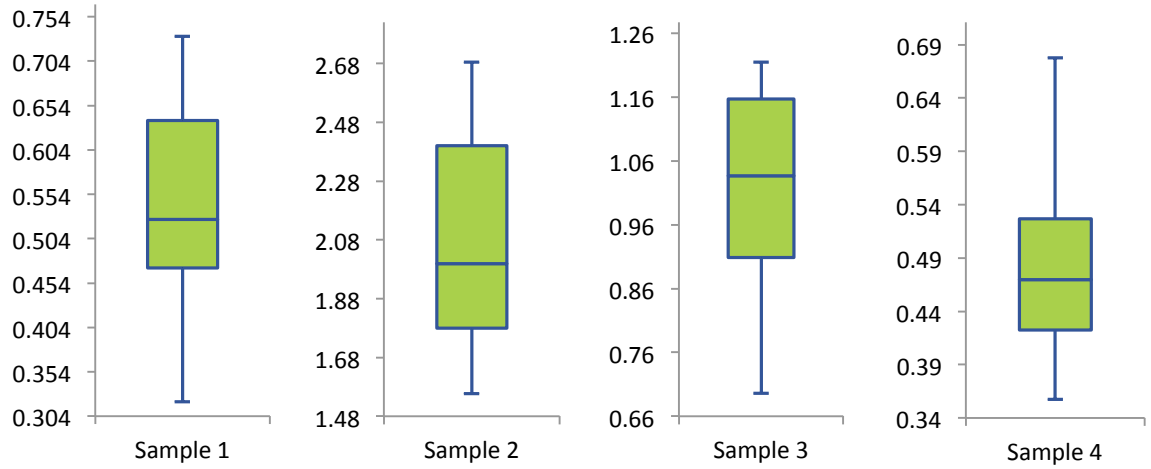
Homogeneity Assessment



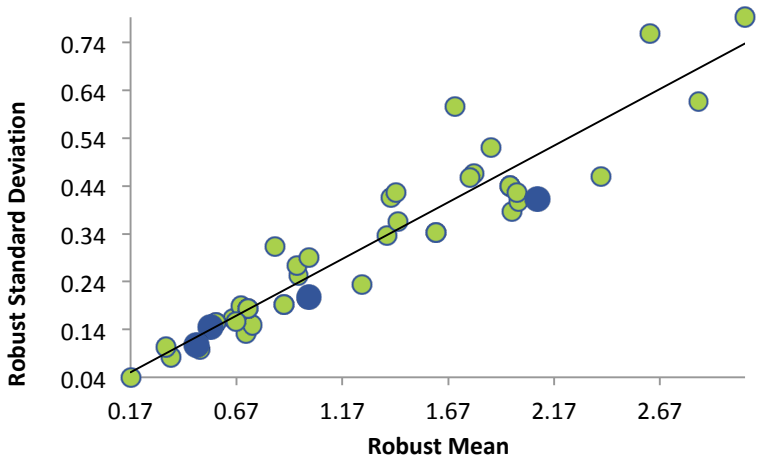
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



P,P' - DDT

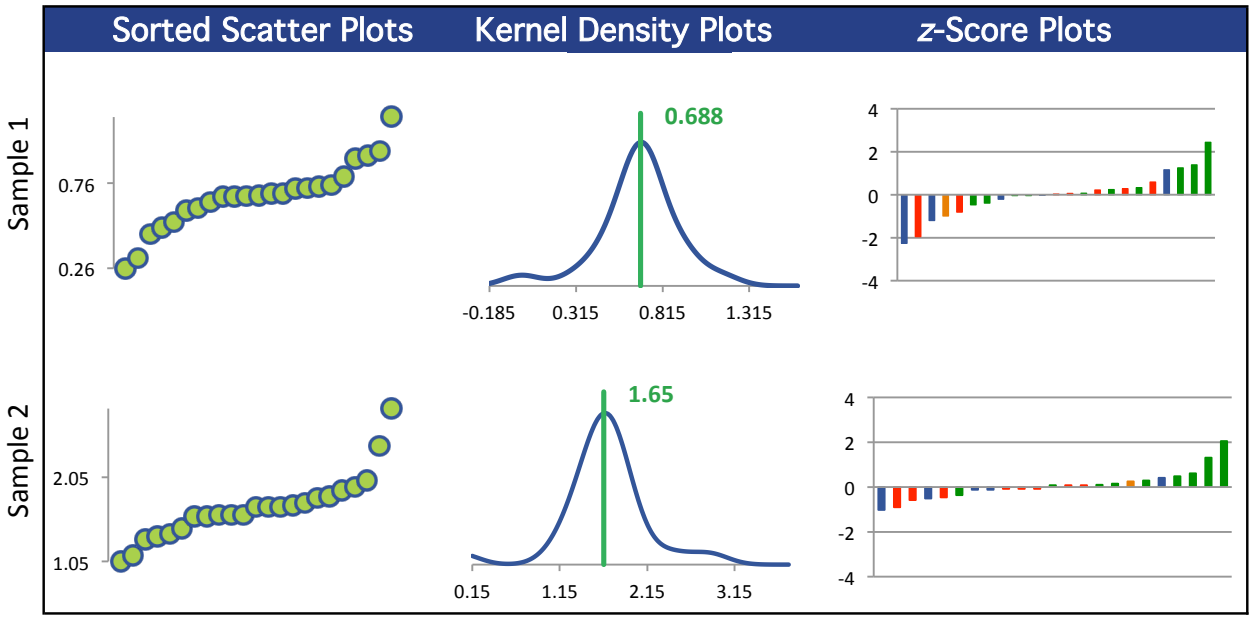
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	23	23	23	19
Median µg/L	0.690	1.70	1.42	0.173
Robust Mean µg/L	0.688	1.65	1.42	0.182
U µg/L	0.0459	0.0751	0.0678	0.00986
Robust Standard Deviation µg/L	0.176	0.288	0.260	0.0344
Regression Standard Deviation µg/L	0.189	0.424	0.367	0.0659
Stability Flag		Stability		
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.189	0.589	0.367	0.0659
Outliers	0	0	0	2
|z|>3.0	0	0	2	0
2<|z|<3	2	1	0	1

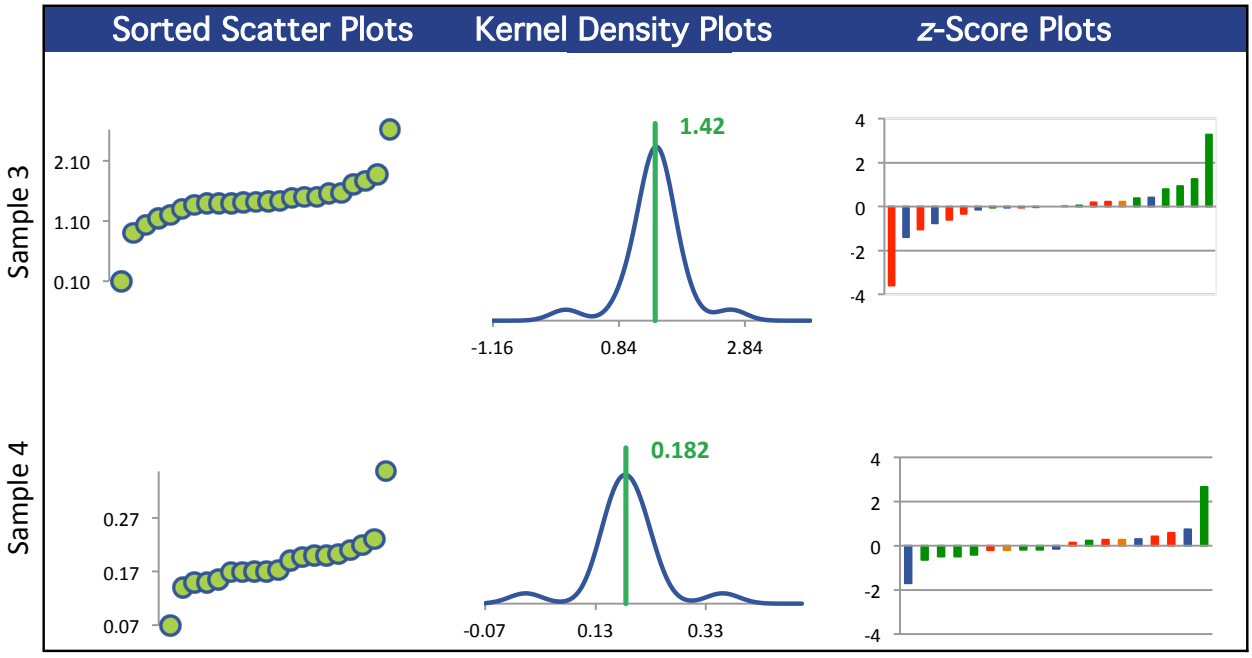
Methods Used

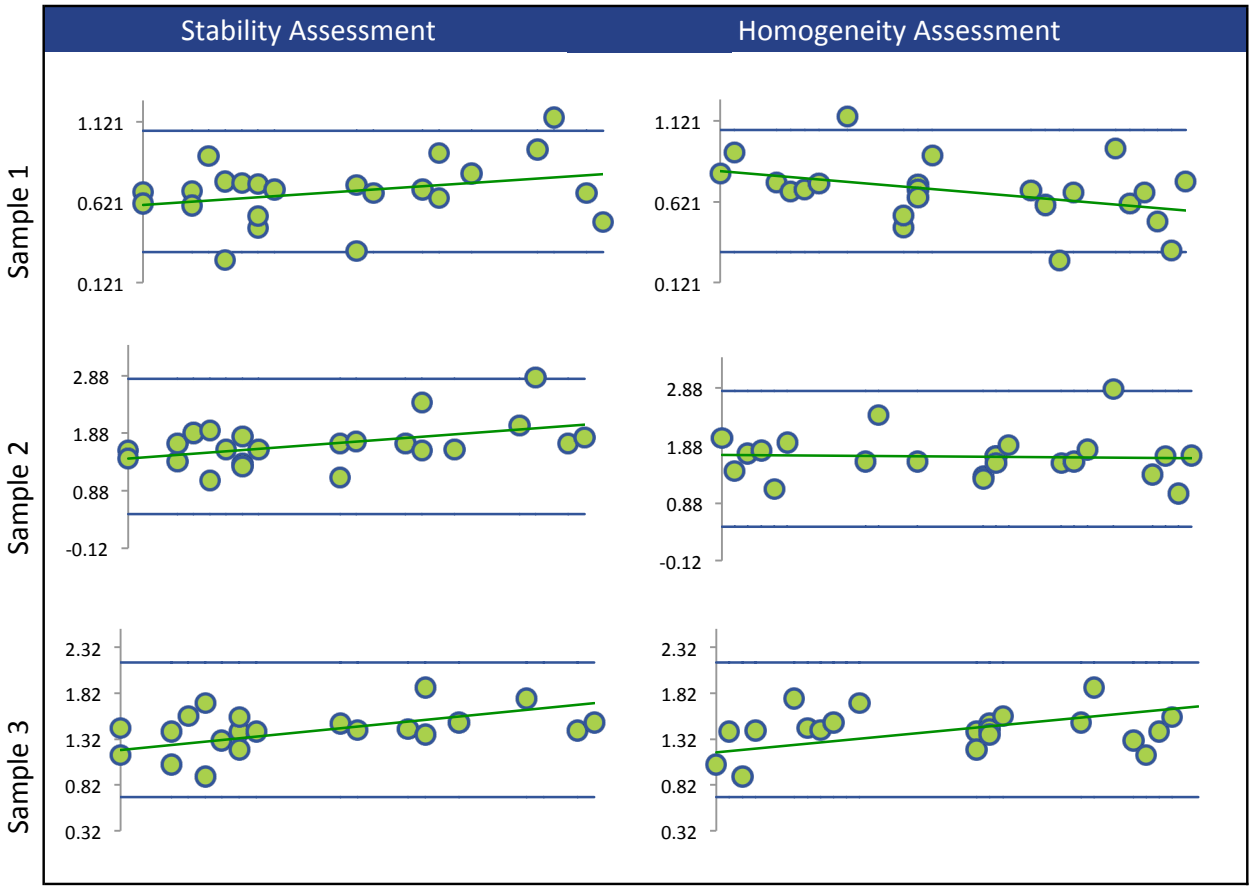
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS/MS (Blue)	5	5	5	4
GC/MS (Red)	7	7	7	5
GCXGC/ECD (Green)	1	1	1	1
GC/ECD (Orange)	9	9	9	8
HI RESOLUTION GC/MS (Black)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



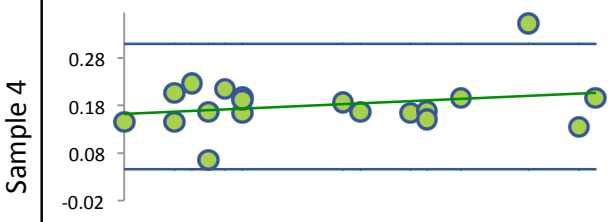
P,P' - DDT


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
2.10
1.10
0.10
1.42
-1.16
0.84
2.84
4
2
0
-2
-4
Sample 4
0.27
0.17
0.07
0.182
-0.07
0.13
0.33
4
2
0
-2
-4

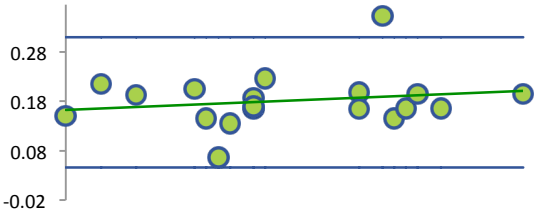

Stability Assessment
Homogeneity Assessment
Sample 1
1.121
0.621
0.121
1.121
0.621
0.121
Sample 2
2.88
1.88
0.88
-0.12
2.88
1.88
0.88
-0.12
Sample 3
2.32
1.82
1.32
0.82
0.32
2.32
1.82
1.32
0.82
0.32

P,P' - DDT

Stability Assessment



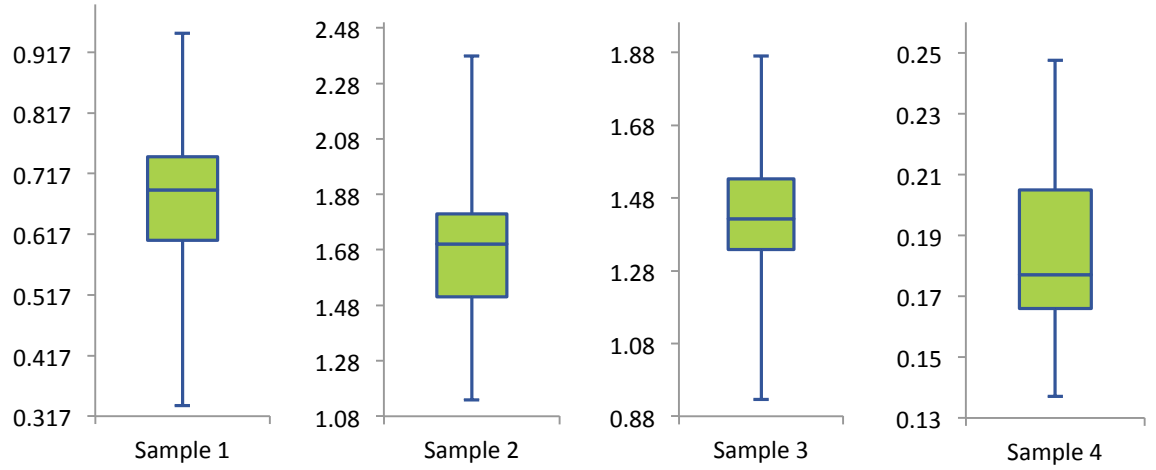
Homogeneity Assessment



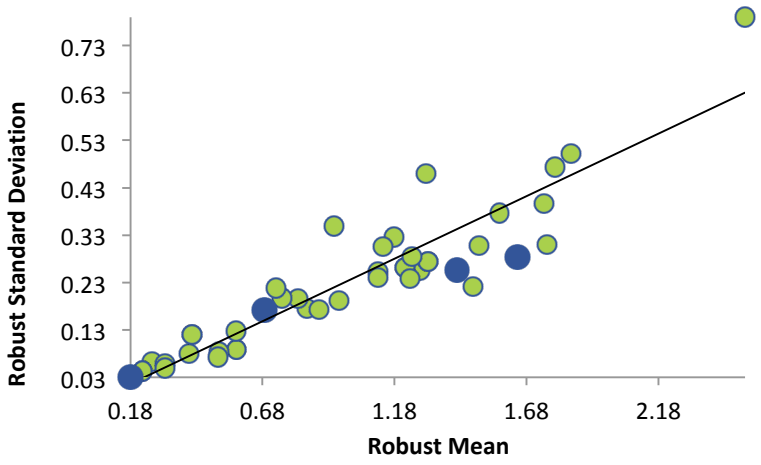
Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)



P,P' METHOXYCHLOR

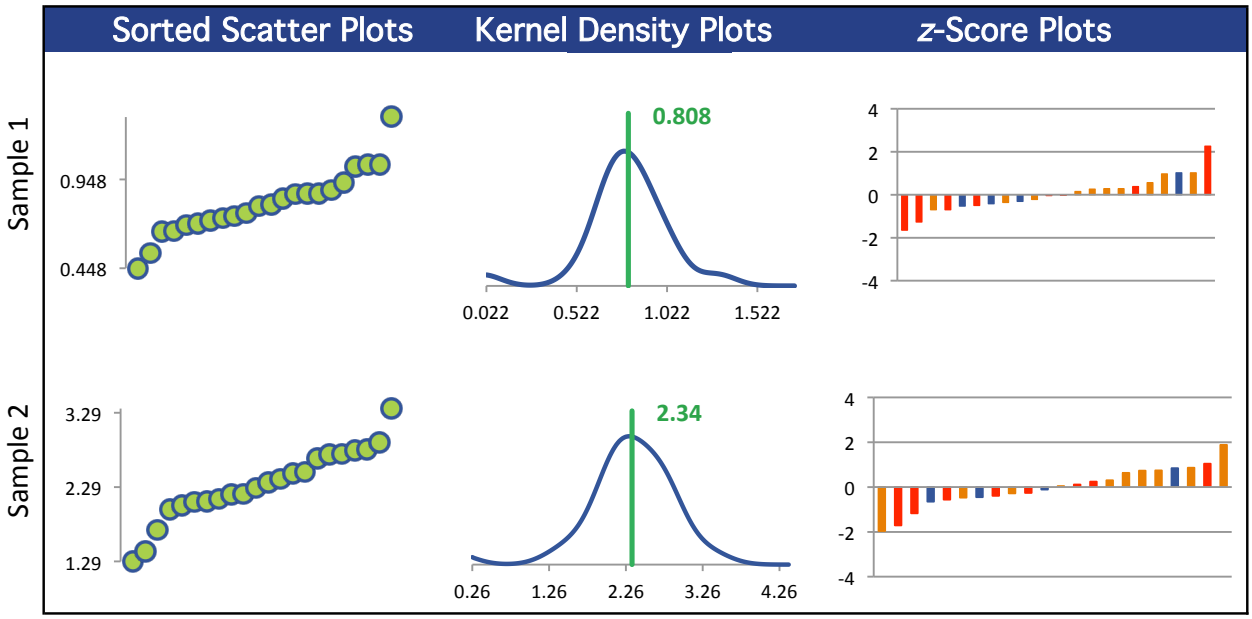
Summary Statistics

Statistic	C06A-1	C06A-2	C06A-3	C06A-4
N	22	22	22	22
Median µg/L	0.803	2.32	1.23	0.629
Robust Mean µg/L	0.808	2.34	1.24	0.647
U µg/L	0.0448	0.123	0.0741	0.0378
Robust Standard Deviation µg/L	0.168	0.460	0.278	0.142
Regression Standard Deviation µg/L	0.218	0.537	0.309	0.185
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/L	0.218	0.537	0.309	0.185
Outliers	0	0	0	0
|z|>3.0	0	0	1	0
2<|z|<3	1	0	1	1

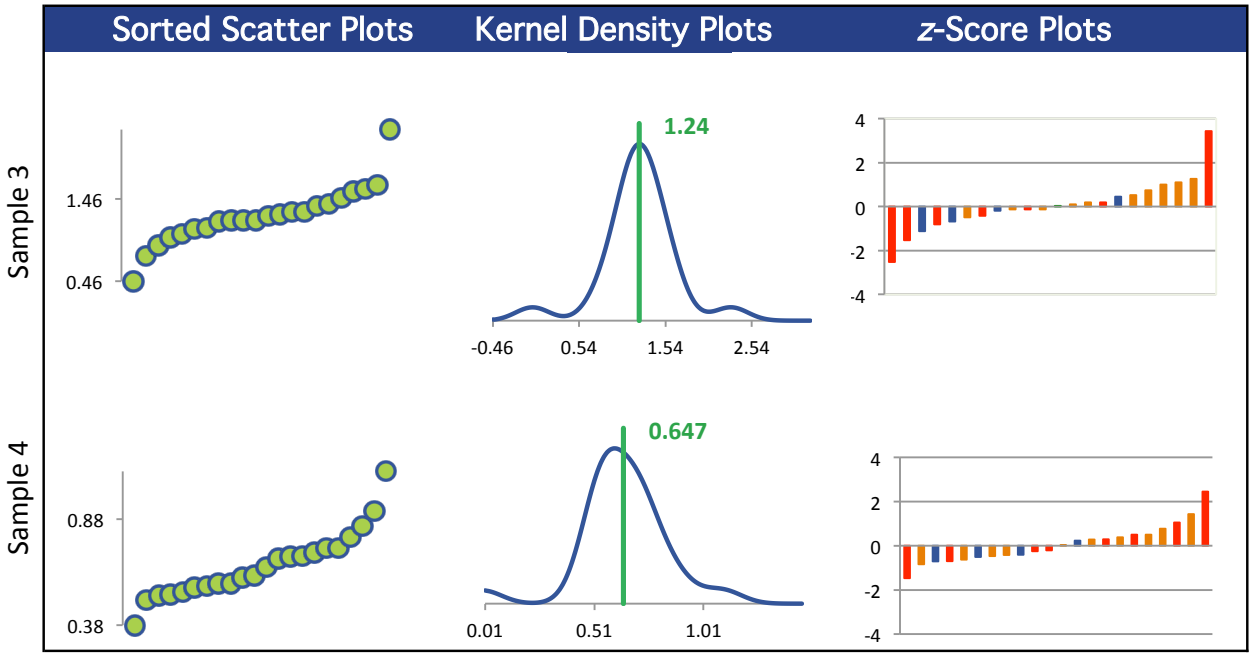
Methods Used

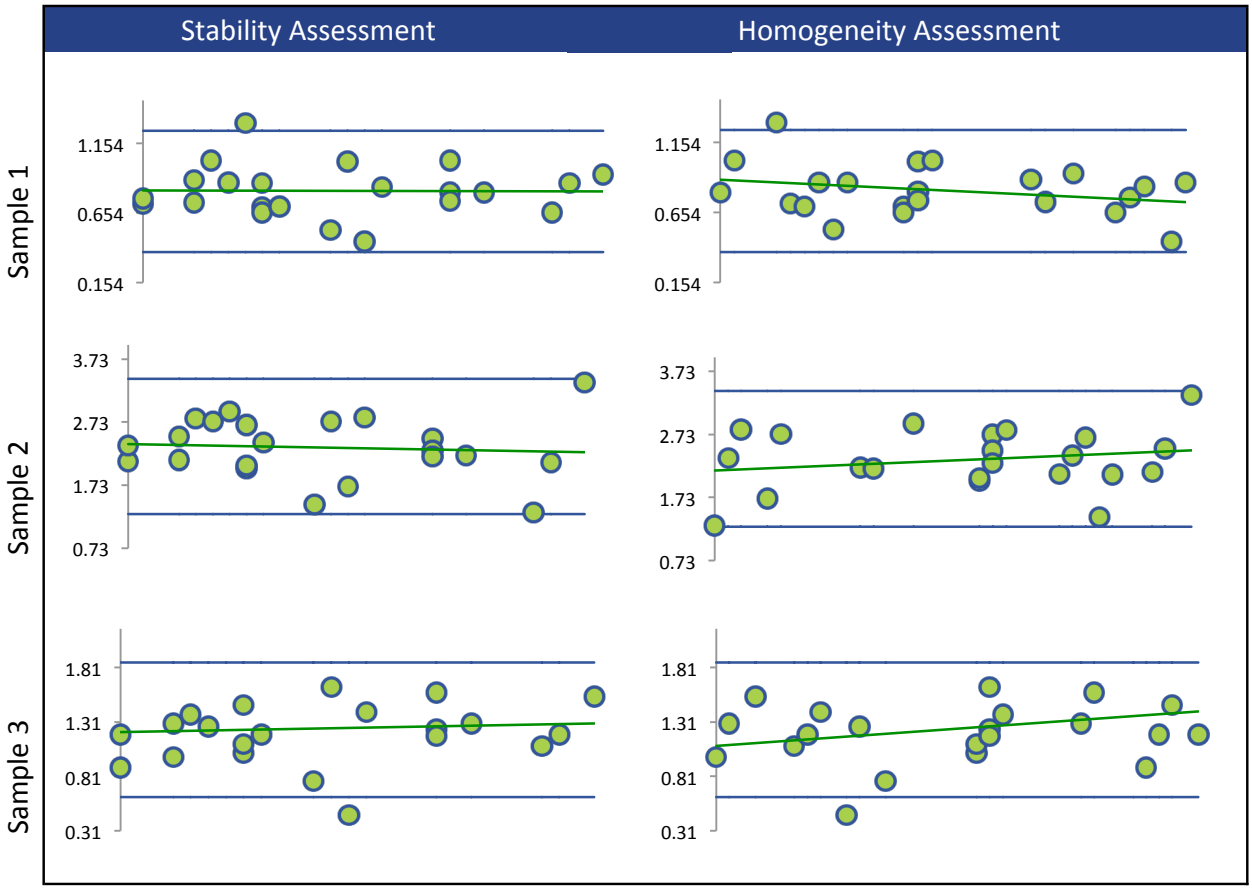
Method	C06A-1	C06A-2	C06A-3	C06A-4
GC/MS (Blue)	7	7	7	7
GC/ECD (Red)	10	10	10	10
GC/MS/MS (Green)	4	4	4	4
HI RESOLUTION GC/MS (Orange)	1	1	1	1

All summary stats and the plots below are based on the data excluding any flagged outliers



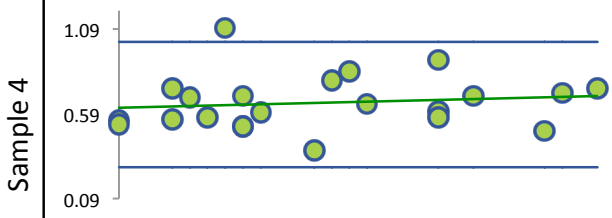
P,P' METHOXYCHLOR



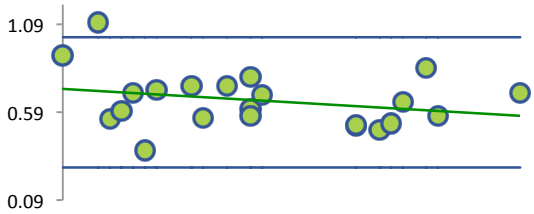


P,P' METHOXYCHLOR

Stability Assessment



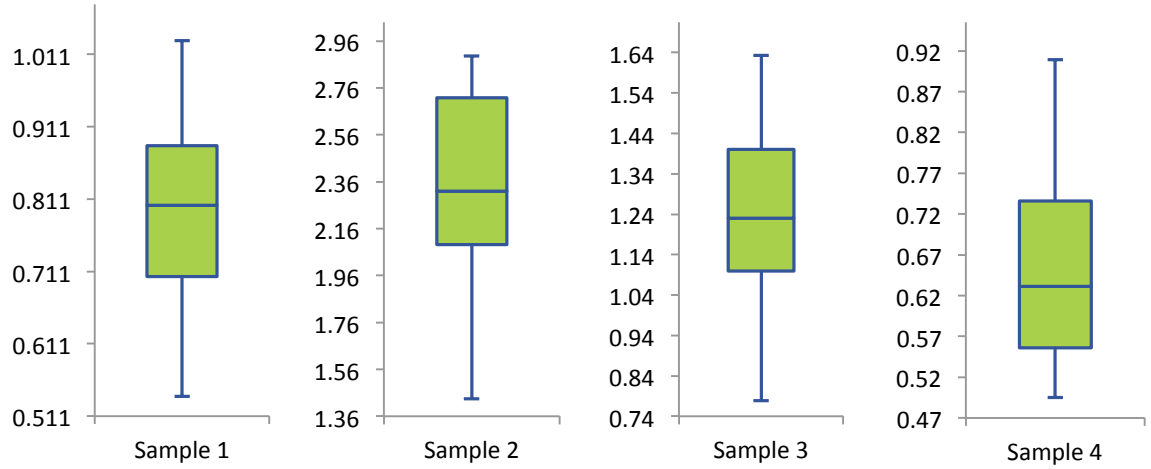
Homogeneity Assessment



Stability assessments are regression analysis of reported result against date of analysis.

Homogeneity assessments are regression analysis of reported result against bottling order.

Box and Whisker Plots



Current Round (blue) Compared to Historic Rounds (green)