Test Group Summary Report

C16 Volatile Organic Compounds 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.
$\pm u$:	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 $\geq$ -2 and $\leq$ 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.

1,1,1-TRICHLOROETHANE

Summary Statistics

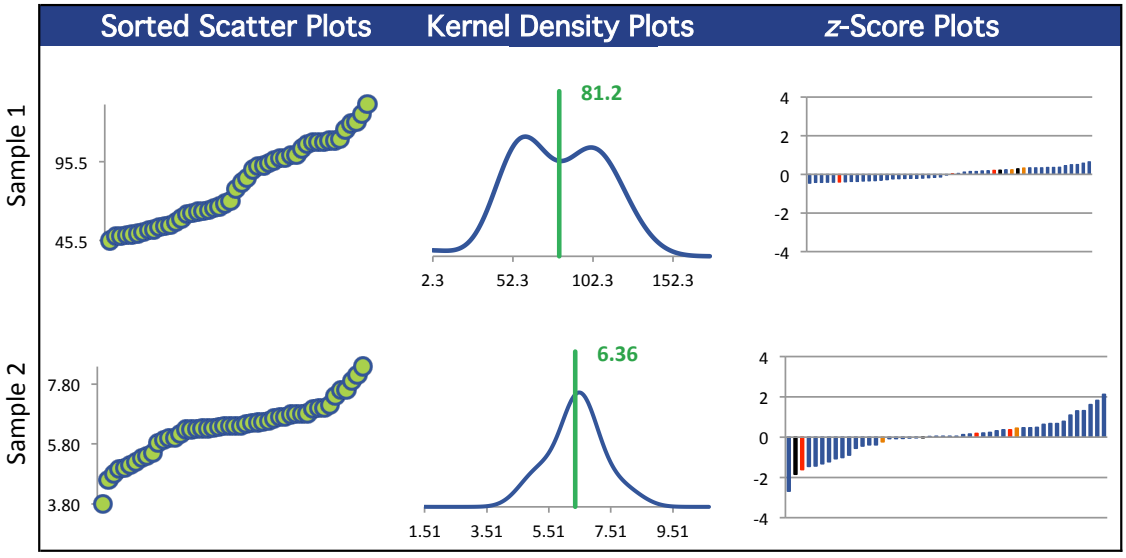
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median µg/L	80.2	6.40	61.7	31.4
Robust Mean µg/L	81.2	6.36	62.4	31.3
U µg/L	5.20	0.154	1.19	0.599
Robust Standard Deviation µg/L	28.8	0.855	6.60	3.32
Regression Standard Deviation µg/L	12.2	0.954	9.36	4.69
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	77.9	0.954	9.36	4.69
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	2	2	1

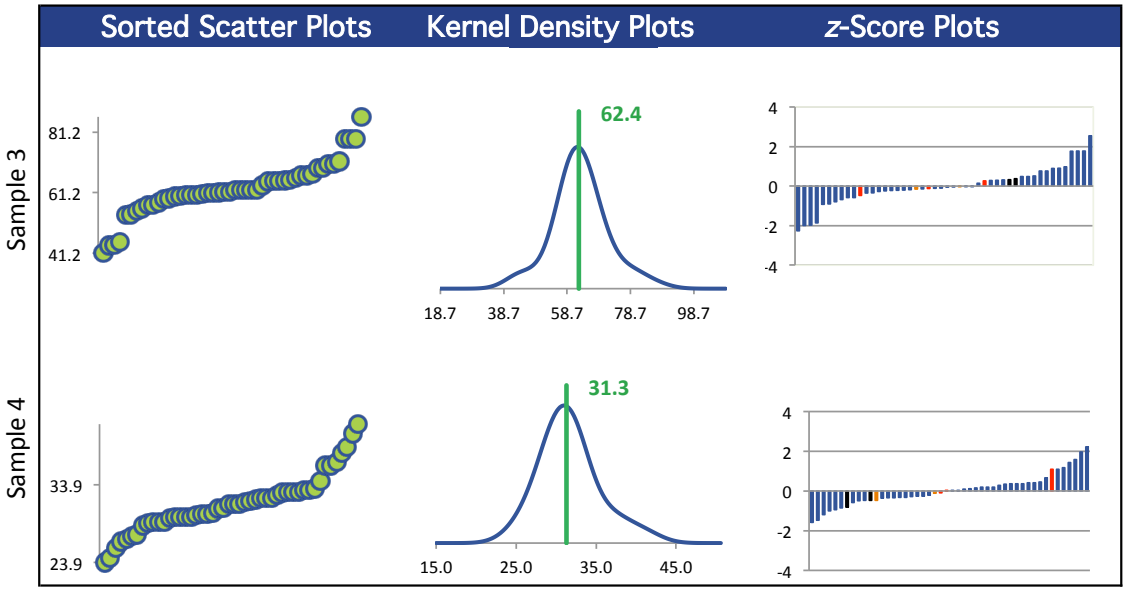
Methods Used

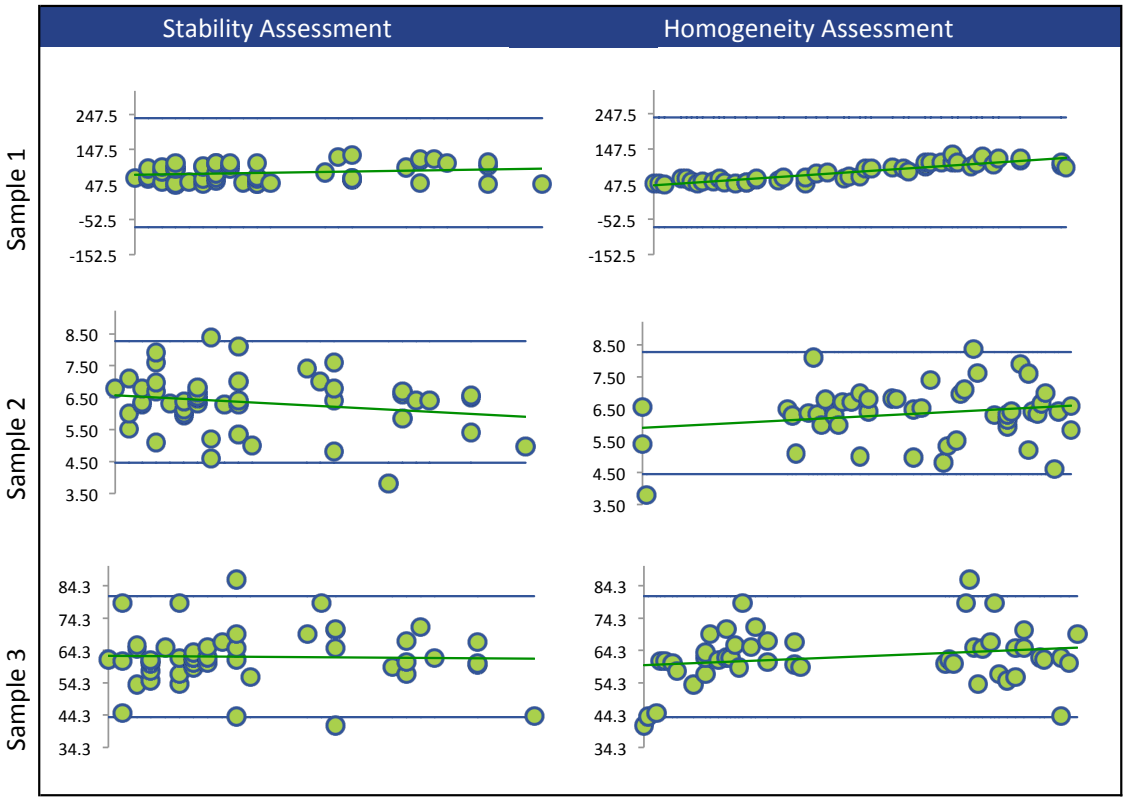
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	26	26	26	26
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2

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



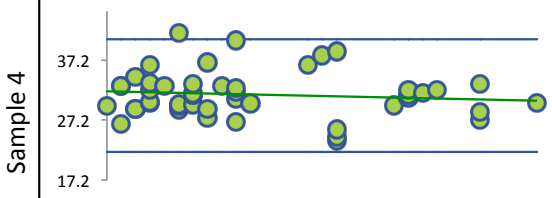
1,1,1-TRICHLOROETHANE



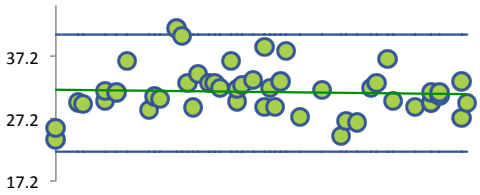


1,1,1-TRICHLOROETHANE

Stability Assessment



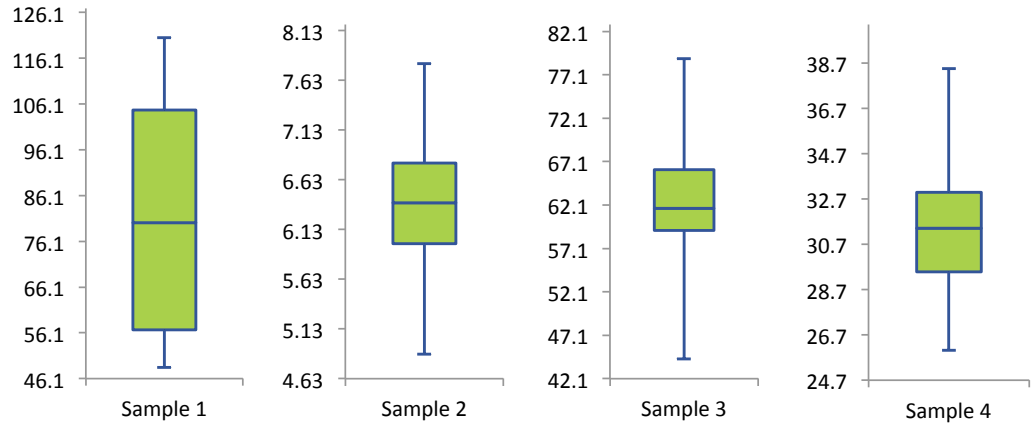
Homogeneity Assessment



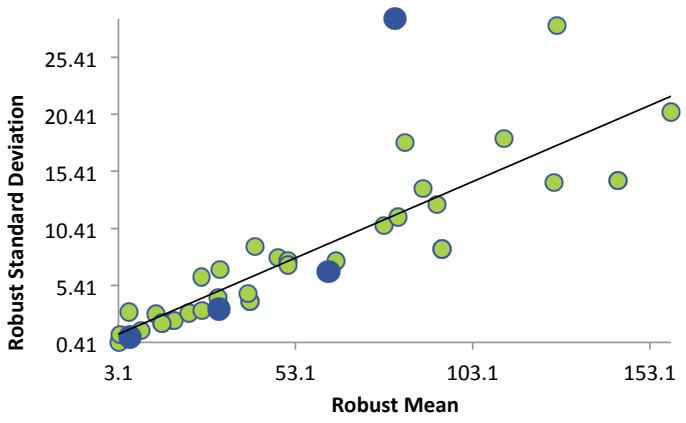
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,1,2,2-TETRACHLOROETHANE

Summary Statistics

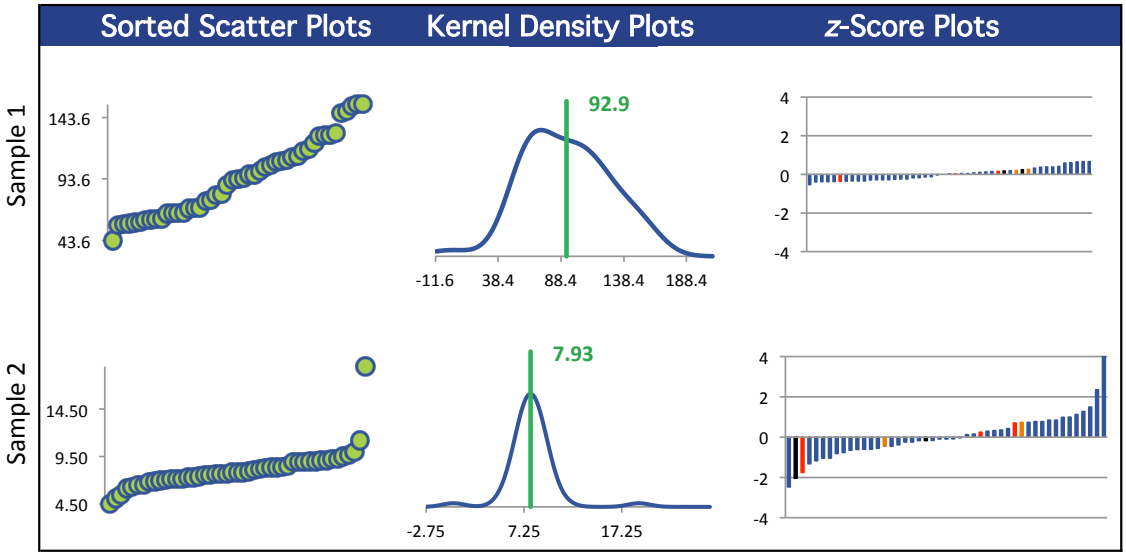
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	47	47	47	47
Median µg/L	93.4	7.80	72.0	38.0
Robust Mean µg/L	92.9	7.93	73.7	38.3
U µg/L	6.09	0.232	1.97	1.08
Robust Standard Deviation µg/L	33.4	1.27	10.8	5.91
Regression Standard Deviation µg/L	16.3	1.39	12.9	6.71
Stability Flag				
Homogeneity Flag	Homogeneity		Homogeneity	
Standard Deviation Used (SDPA) µg/L	91.8	1.39	17.8	6.71
Outliers	0	0	0	0
|z|>3.0	0	1	1	1
2<|z|<3	0	3	0	2

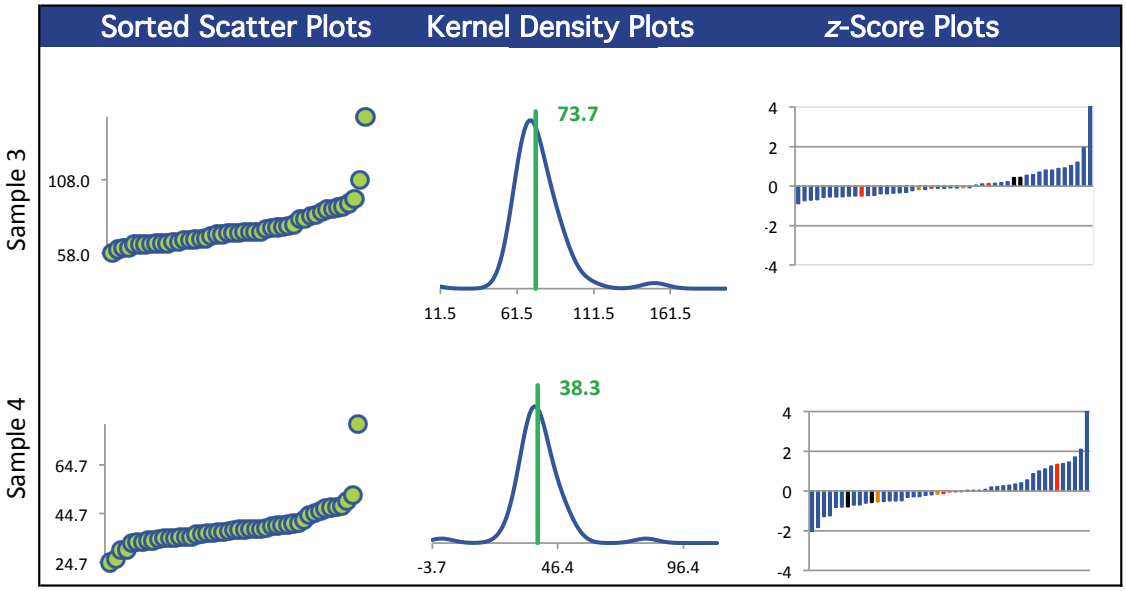
Methods Used

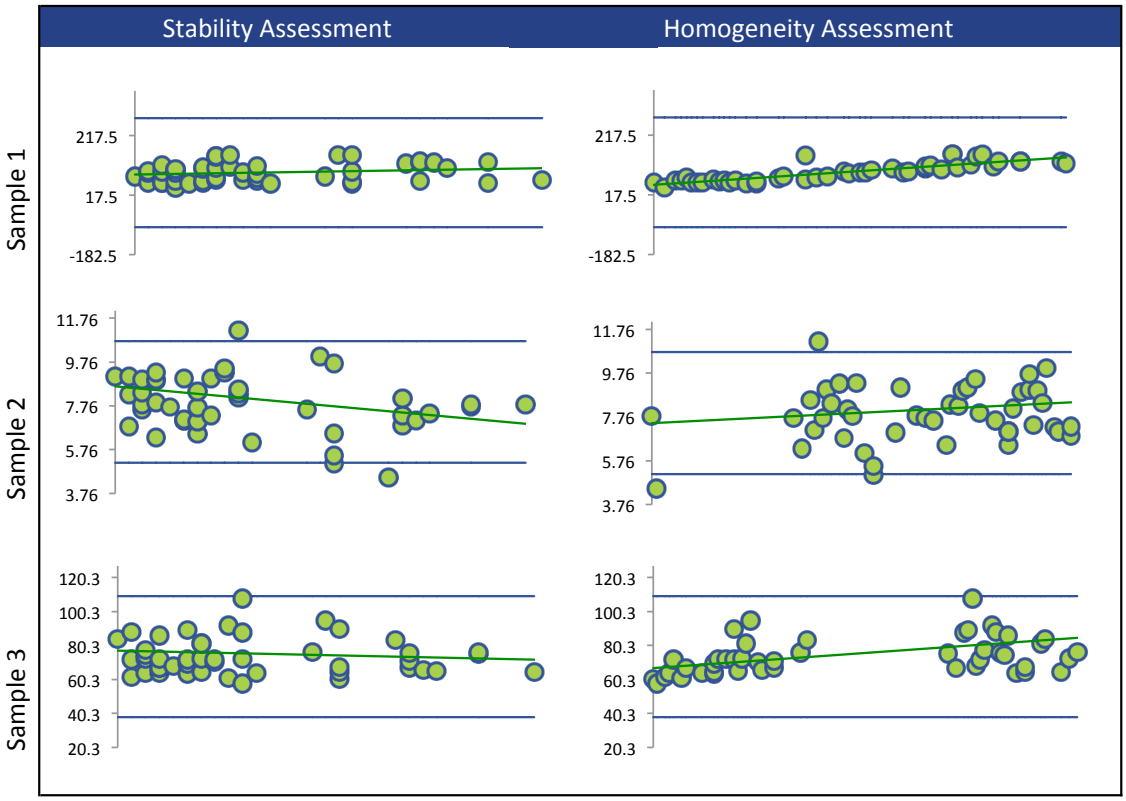
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	27	27	27
GC/MS - HEADSPACE (Red)	16	16	16	16
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



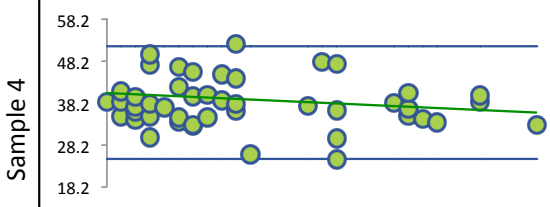
1,1,2,2-TETRACHLOROETHANE



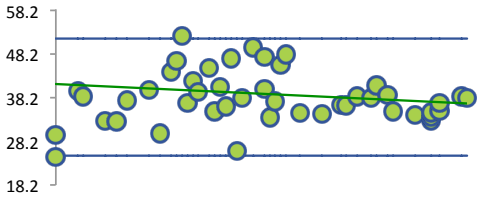


1,1,2,2-TETRACHLOROETHANE

Stability Assessment



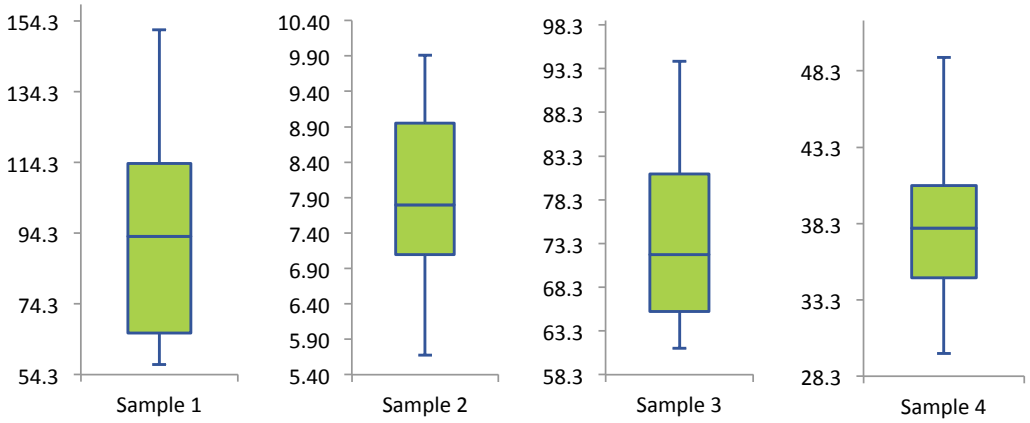
Homogeneity Assessment



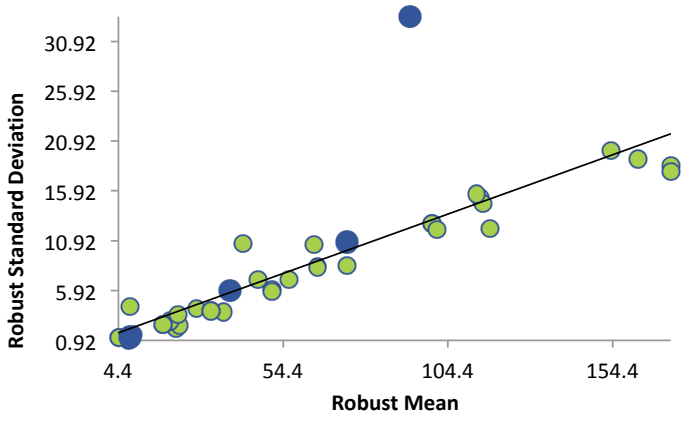
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,1,2-TRICHLOROETHANE

Summary Statistics

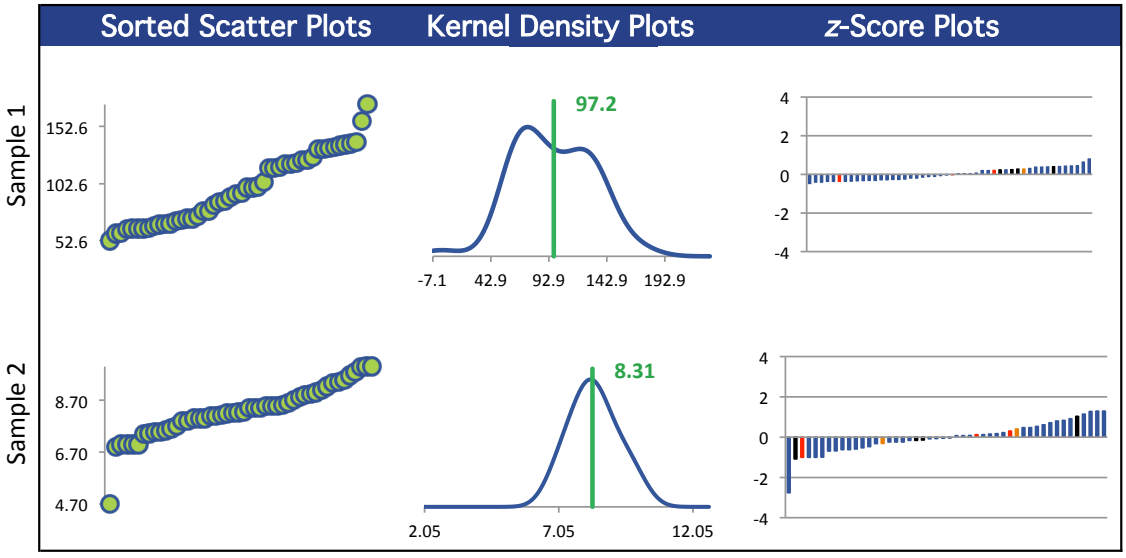
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median µg/L	93.8	8.25	76.9	39.8
Robust Mean µg/L	97.2	8.31	76.9	39.4
U µg/L	6.03	0.172	1.49	0.736
Robust Standard Deviation µg/L	33.4	0.952	8.28	4.08
Regression Standard Deviation µg/L	14.6	1.25	11.5	5.90
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	93.6	1.31	11.5	5.90
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	1	2	2

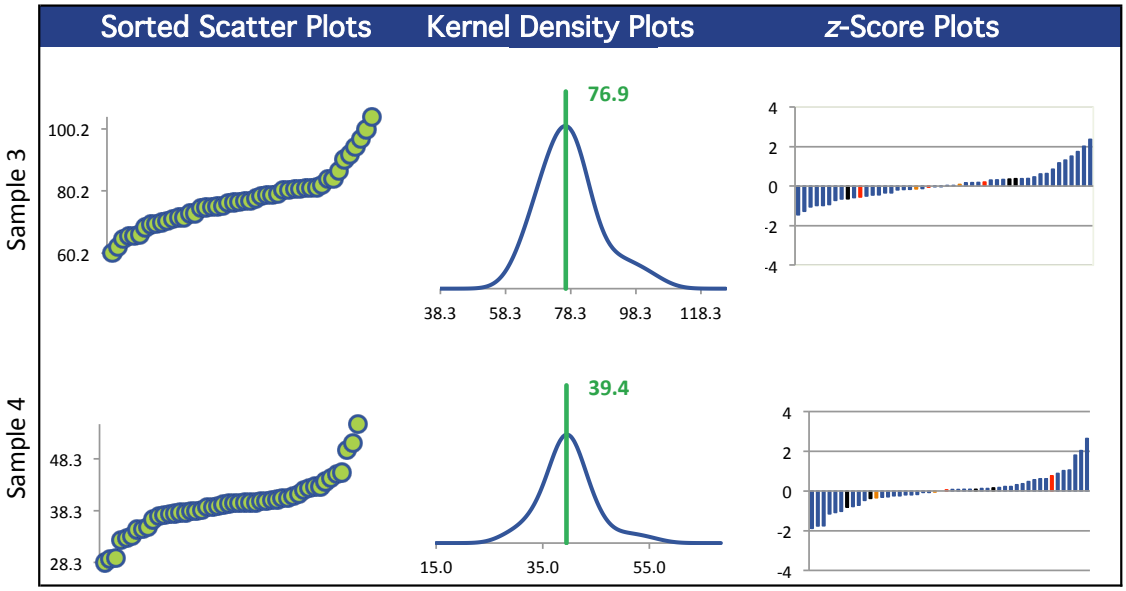
Methods Used

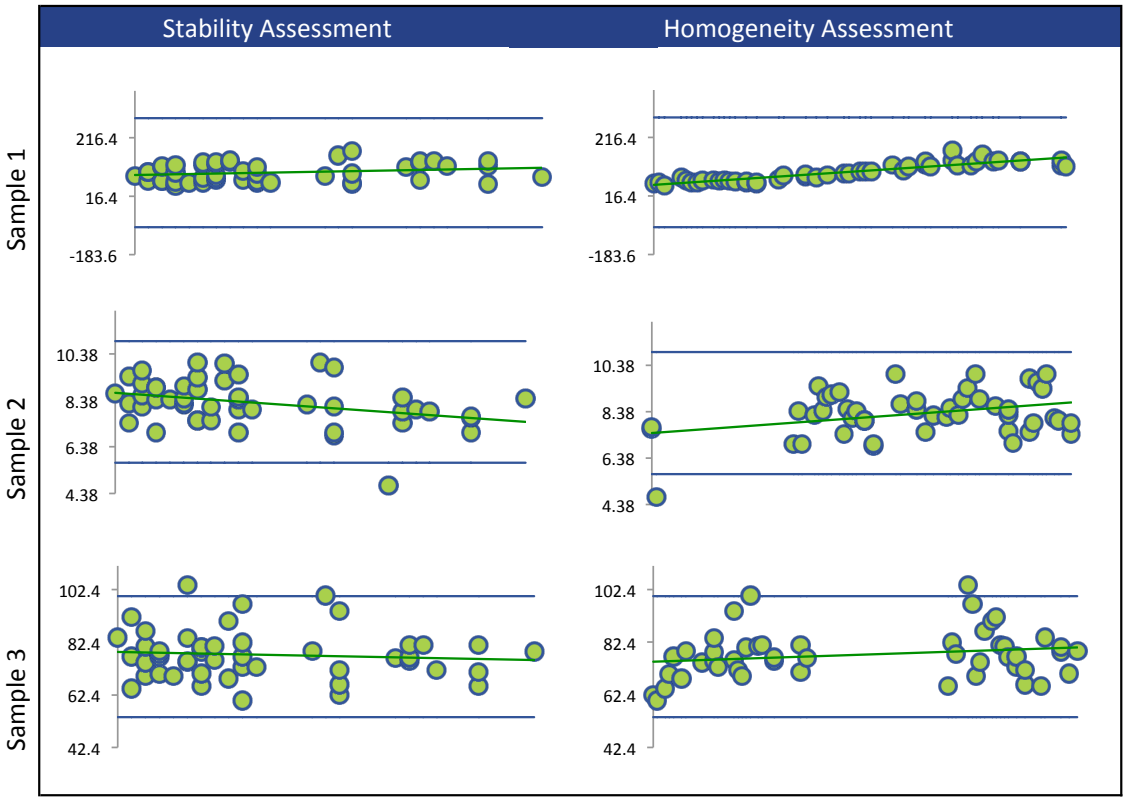
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	26	26	26	26
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2

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



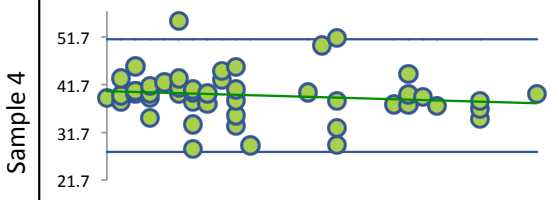
1,1,2-TRICHLOROETHANE



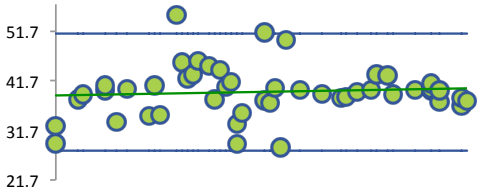


1,1,2-TRICHLOROETHANE

Stability Assessment



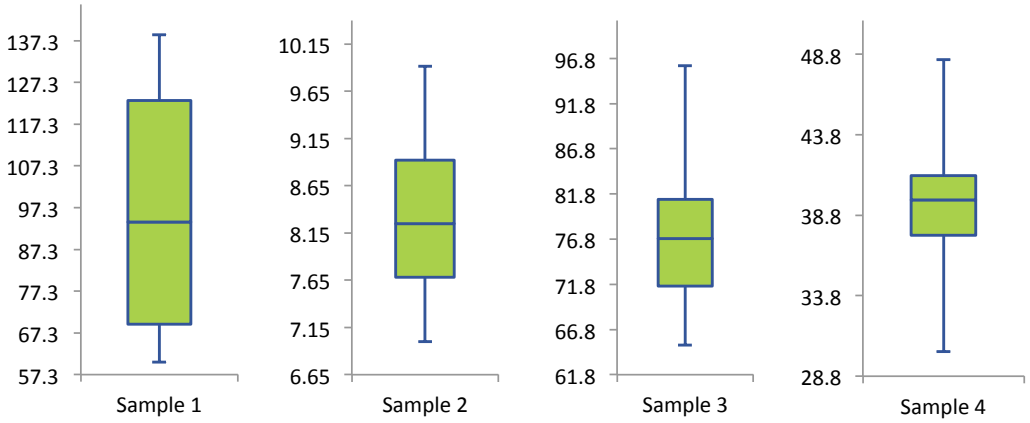
Homogeneity Assessment



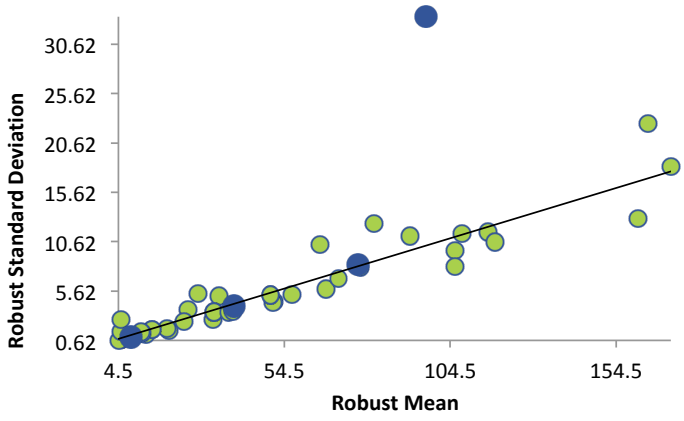
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,1-DICHLOROETHANE

Summary Statistics

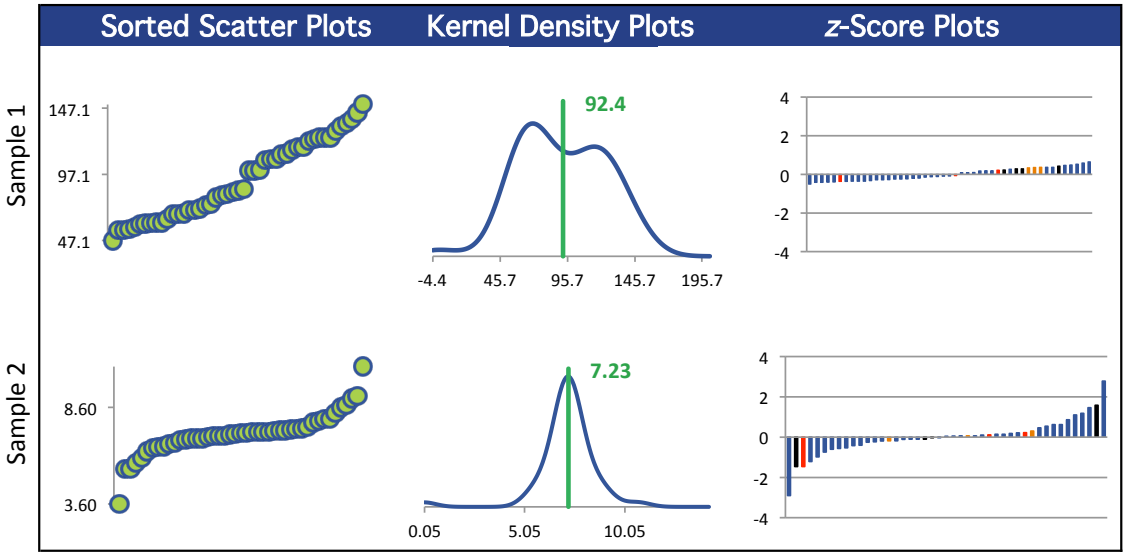
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	47	45	47	47
Median µg/L	84.9	7.28	71.0	36.1
Robust Mean µg/L	92.4	7.23	70.9	36.1
U µg/L	6.02	0.141	1.51	0.613
Robust Standard Deviation µg/L	33.0	0.758	8.27	3.36
Regression Standard Deviation µg/L	13.9	1.08	10.6	5.42
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	88.2	1.25	10.6	5.42
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	2	3	1

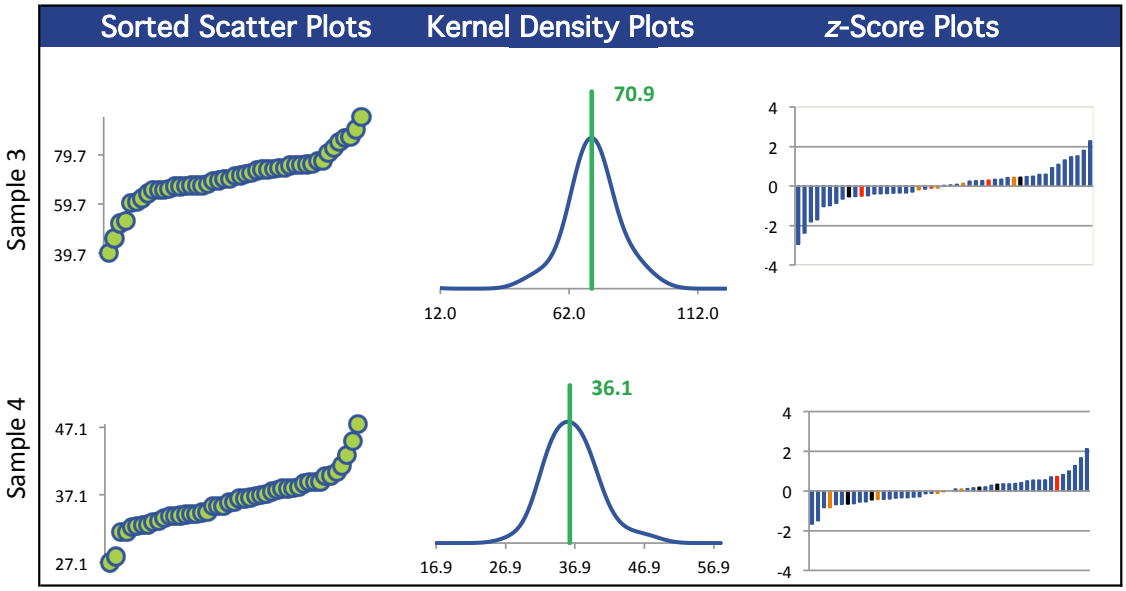
Methods Used

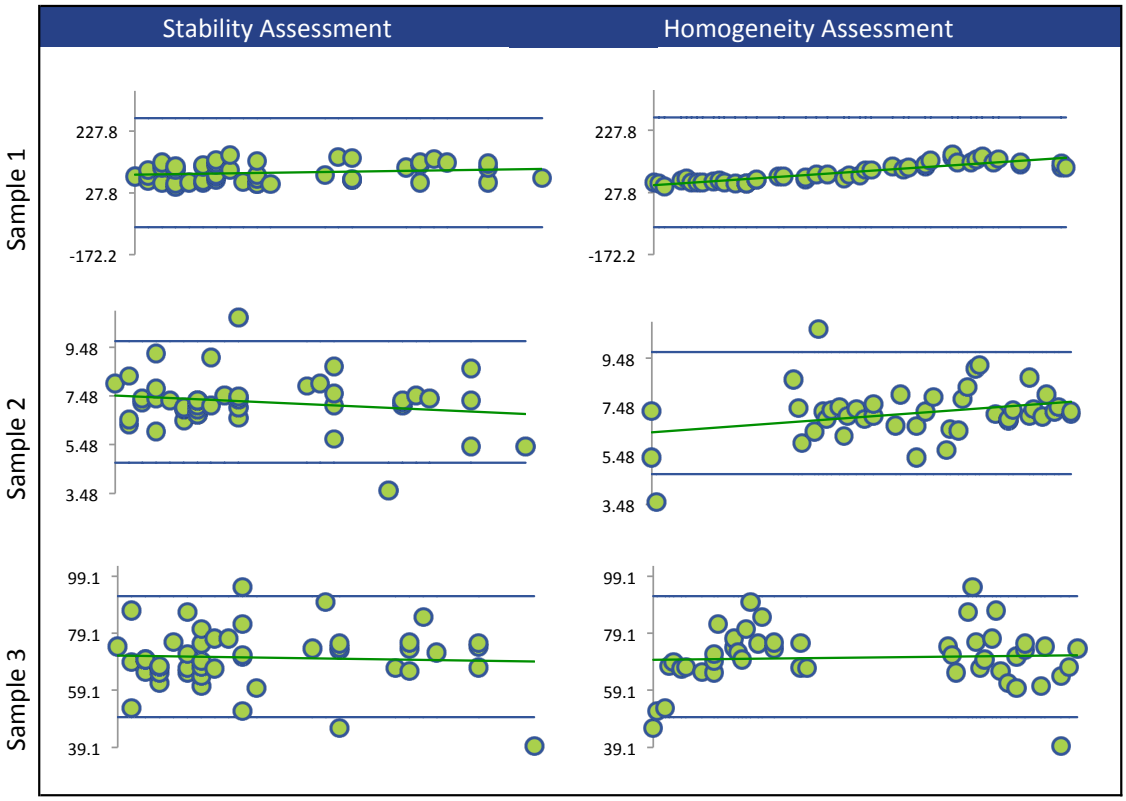
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	25	24	25	25
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	1	2	2

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



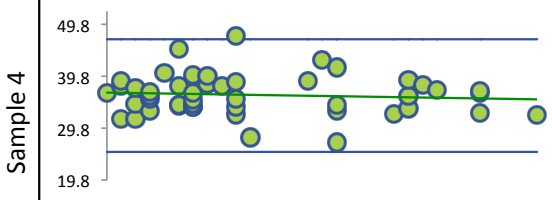
1,1-DICHLOROETHANE



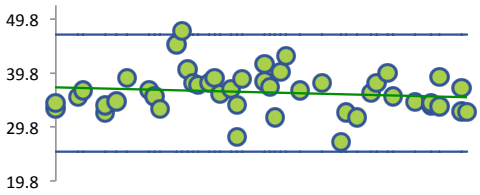


1,1-DICHLOROETHANE

Stability Assessment



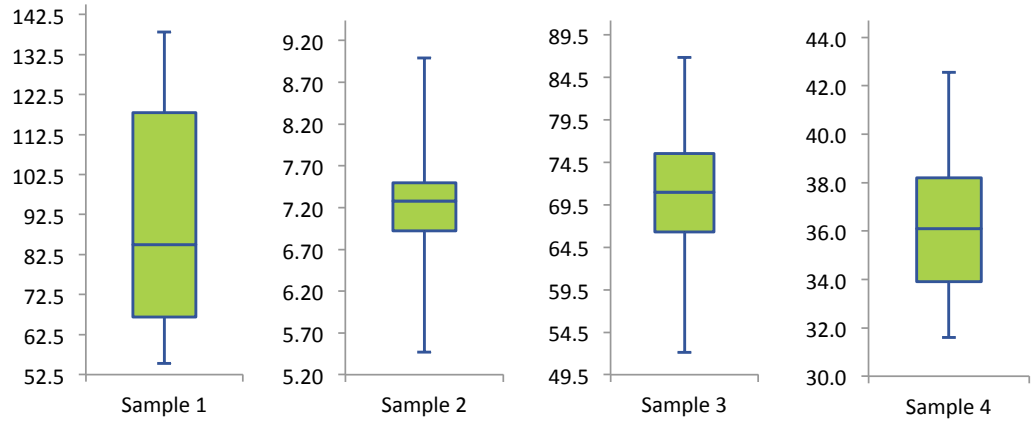
Homogeneity Assessment



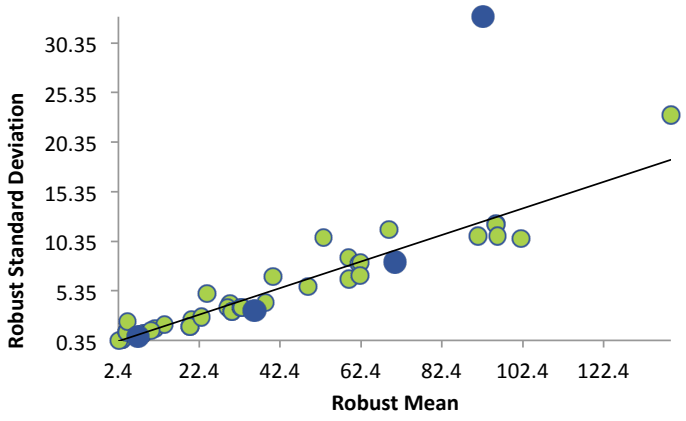
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,1-DICHLOROETHYLENE

Summary Statistics

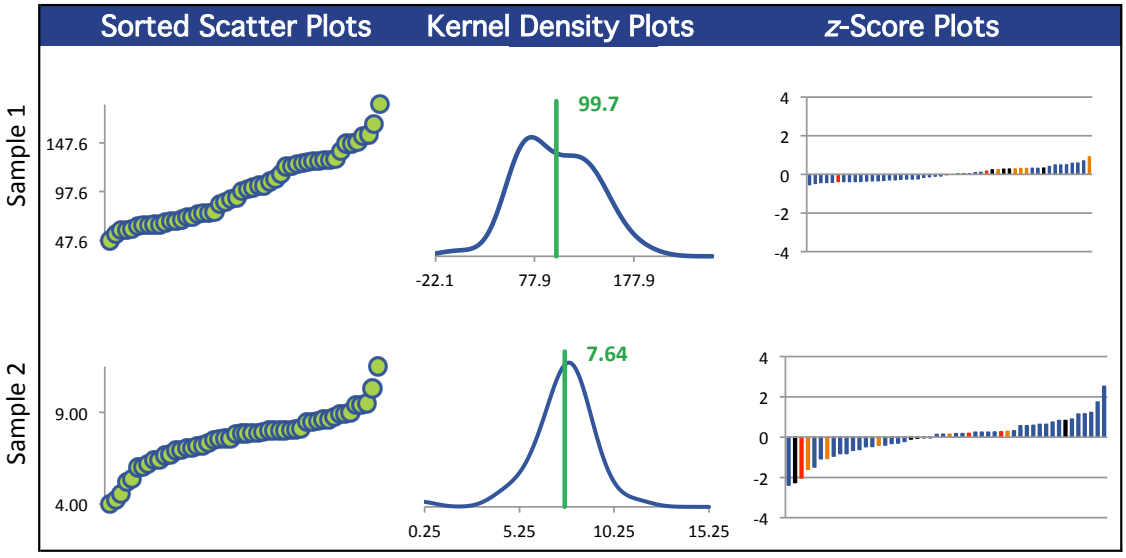
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	50	50	50	50
Median µg/L	99.2	7.86	75.7	38.1
Robust Mean µg/L	99.7	7.64	76.2	39.0
U µg/L	6.70	0.225	1.84	0.962
Robust Standard Deviation µg/L	37.9	1.27	10.4	5.44
Regression Standard Deviation µg/L	19.9	1.53	15.2	7.80
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	96.0	1.53	15.2	7.80
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	4	2	2

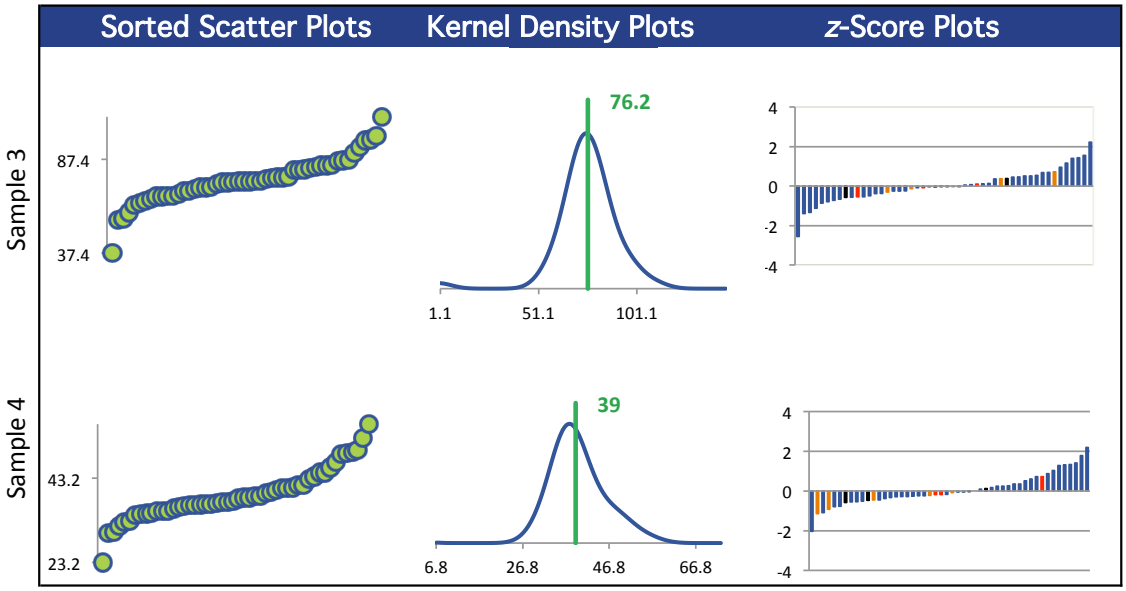
Methods Used

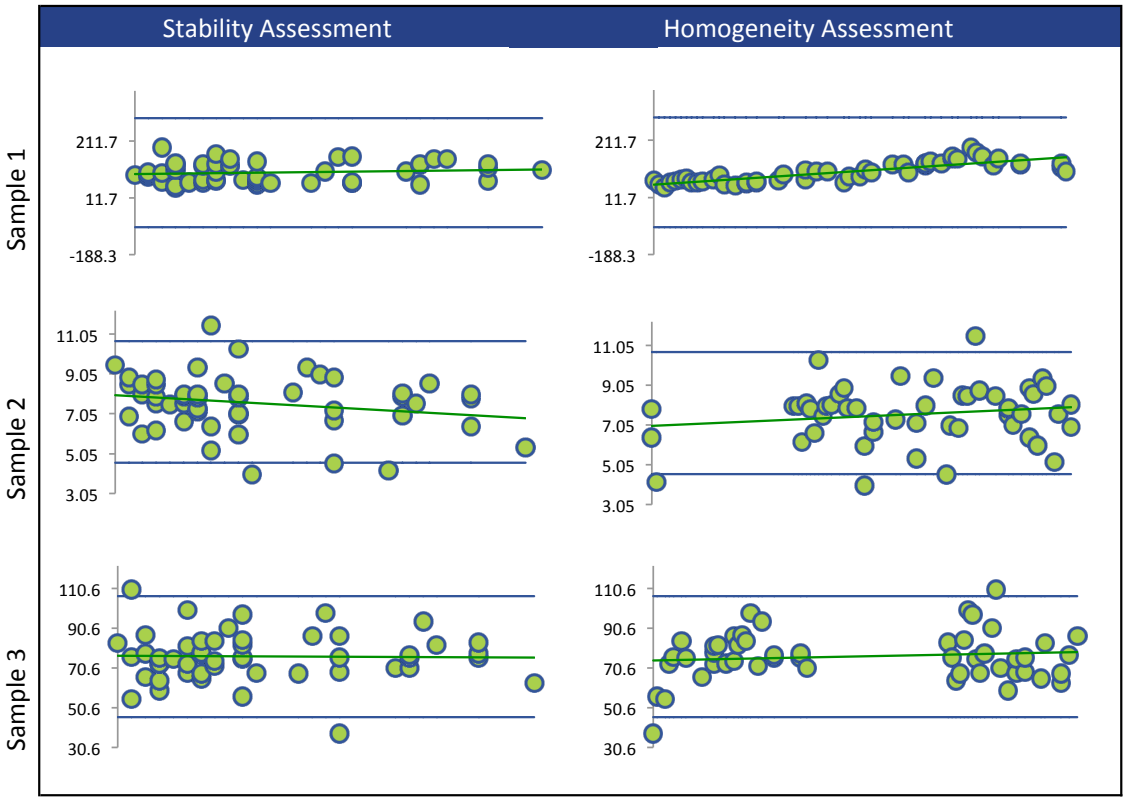
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	27	27	27
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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

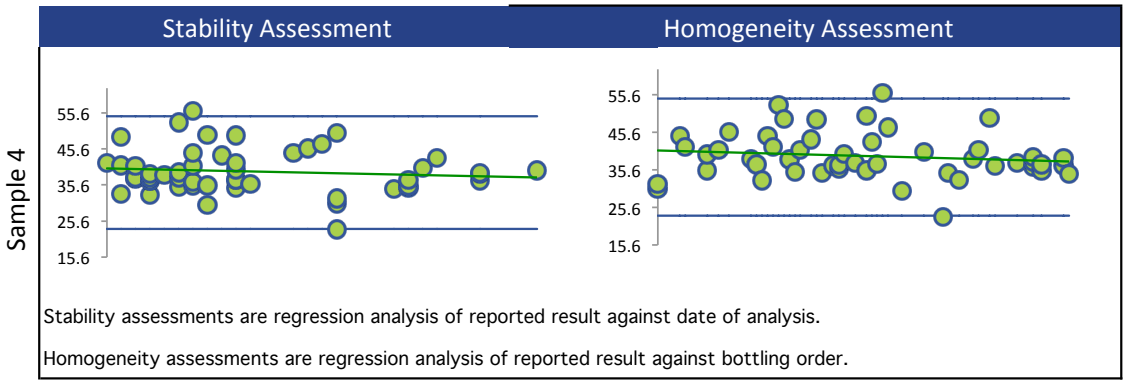


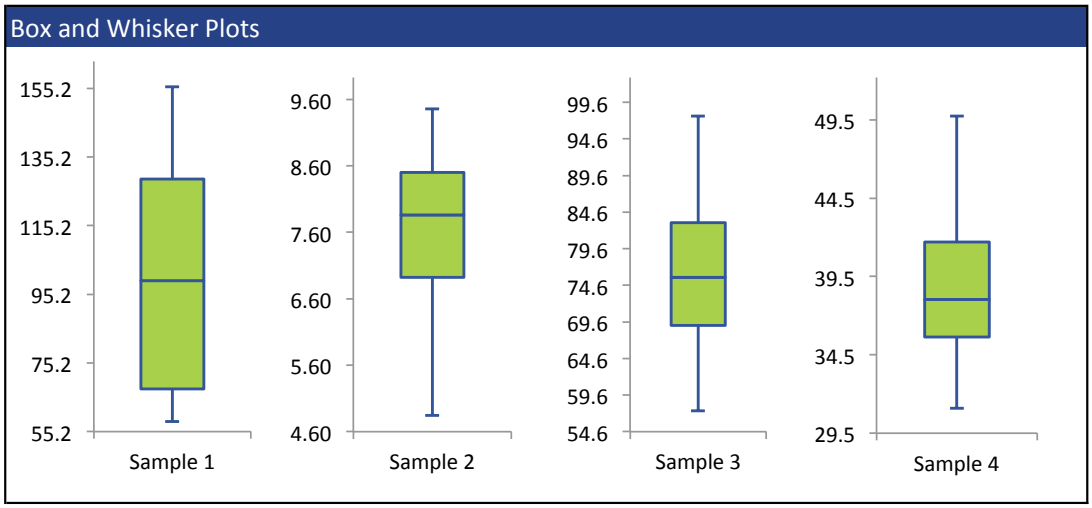
1,1-DICHLOROETHYLENE

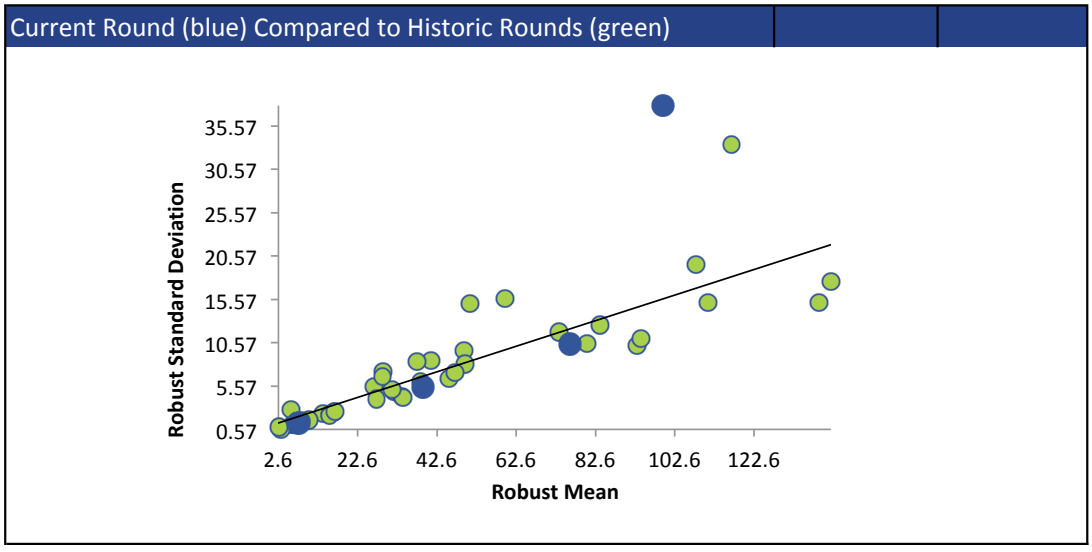




1,1-DICHLOROETHYLENE







1,2-DICHLOROBENZENE

Summary Statistics

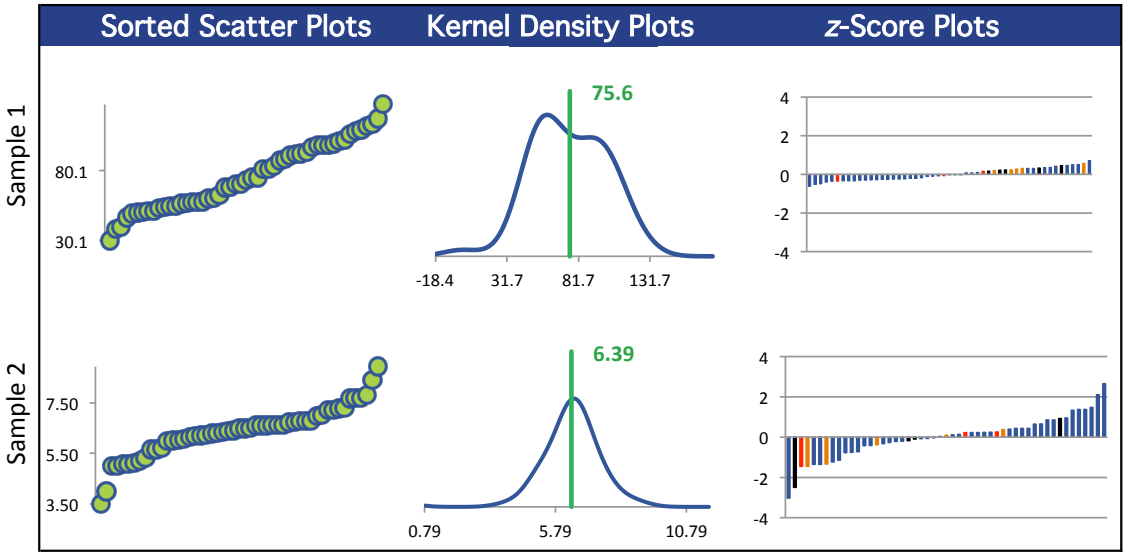
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	51	51	51
Median µg/L	73.1	6.48	60.1	30.4
Robust Mean µg/L	75.6	6.39	59.9	31.0
U µg/L	4.60	0.161	1.19	0.555
Robust Standard Deviation µg/L	26.3	0.920	6.79	3.17
Regression Standard Deviation µg/L	11.3	0.958	8.98	4.65
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	72.8	0.958	8.98	4.65
Outliers	0	0	0	0
|z|>3.0	0	1	0	1
2<|z|<3	0	3	2	3

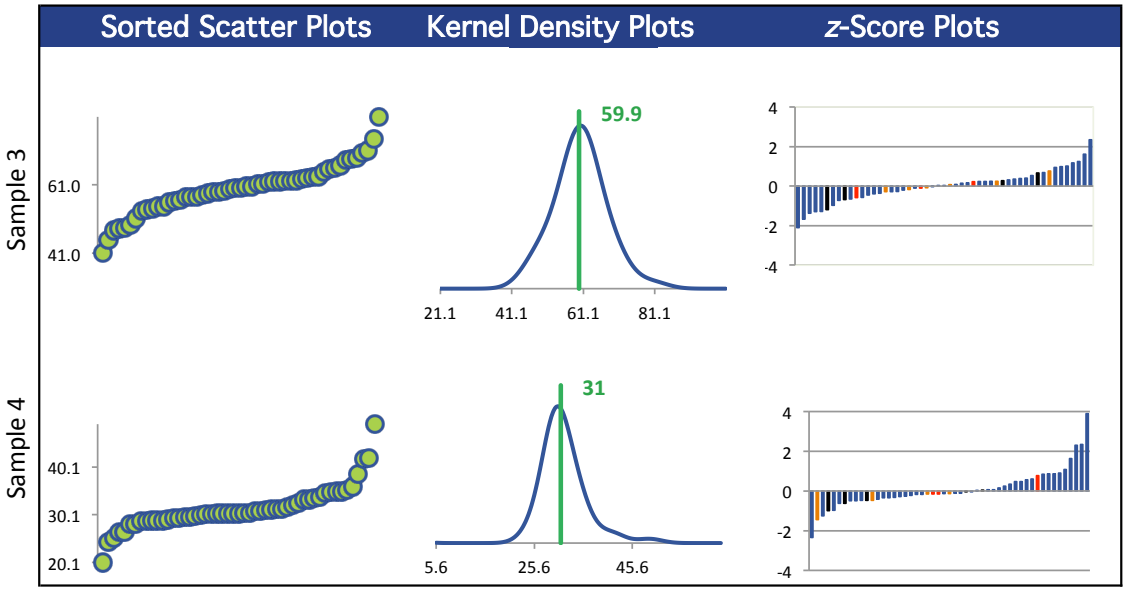
Methods Used

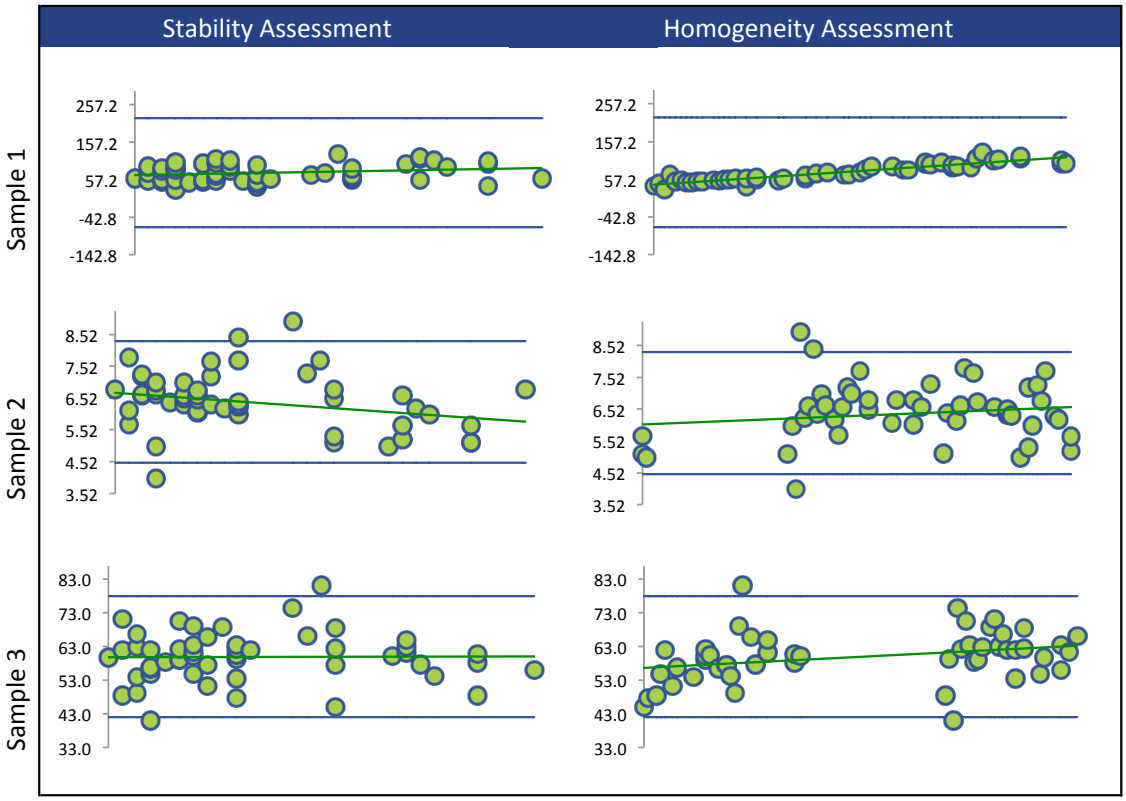
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	28	28	28
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



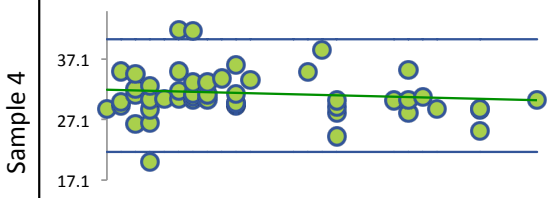
1,2-DICHLOROBENZENE



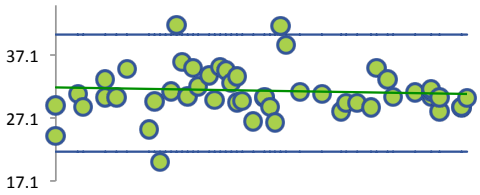


1,2-DICHLOROBENZENE

Stability Assessment



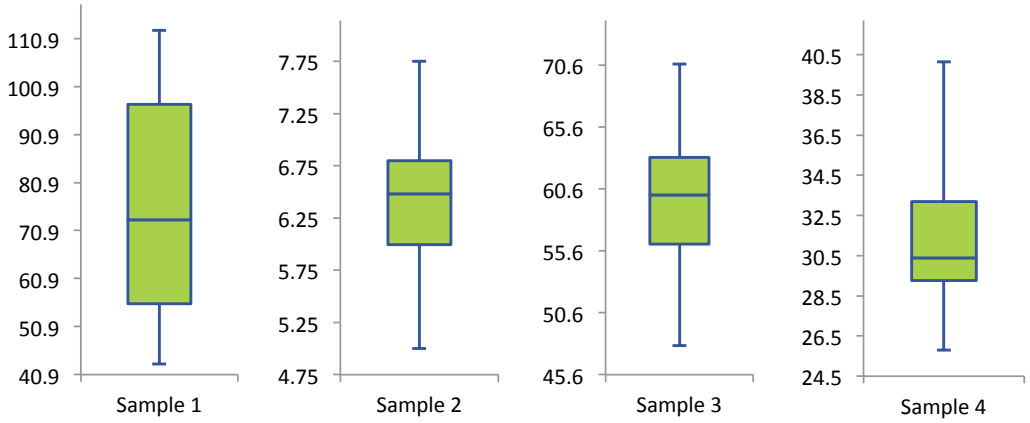
Homogeneity Assessment



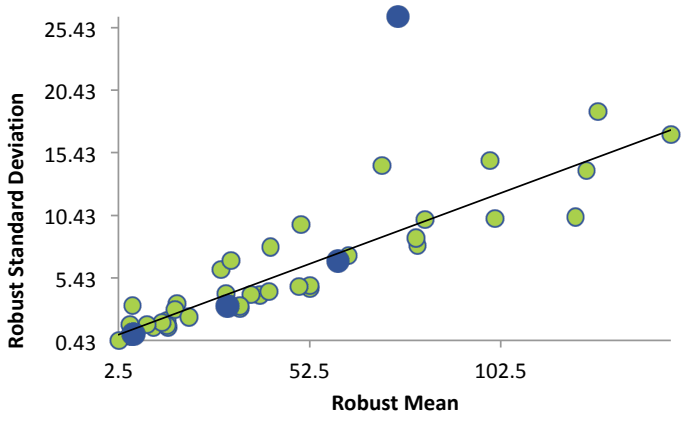
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,2-DICHLOROETHANE

Summary Statistics

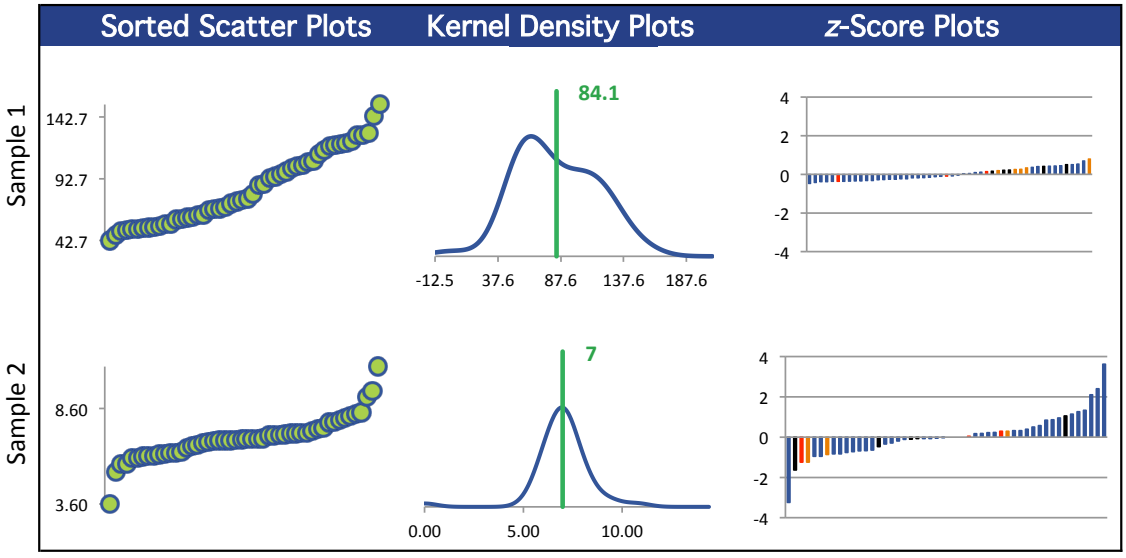
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	50	50	50	50
Median µg/L	76.0	7.00	66.8	34.1
Robust Mean µg/L	84.1	7.00	67.2	34.4
U µg/L	5.66	0.156	1.45	0.606
Robust Standard Deviation µg/L	32.0	0.885	8.20	3.43
Regression Standard Deviation µg/L	12.6	1.05	10.1	5.16
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	85.7	1.05	10.1	5.16
Outliers	0	0	0	0
|z|>3.0	0	2	0	1
2<|z|<3	0	2	2	1

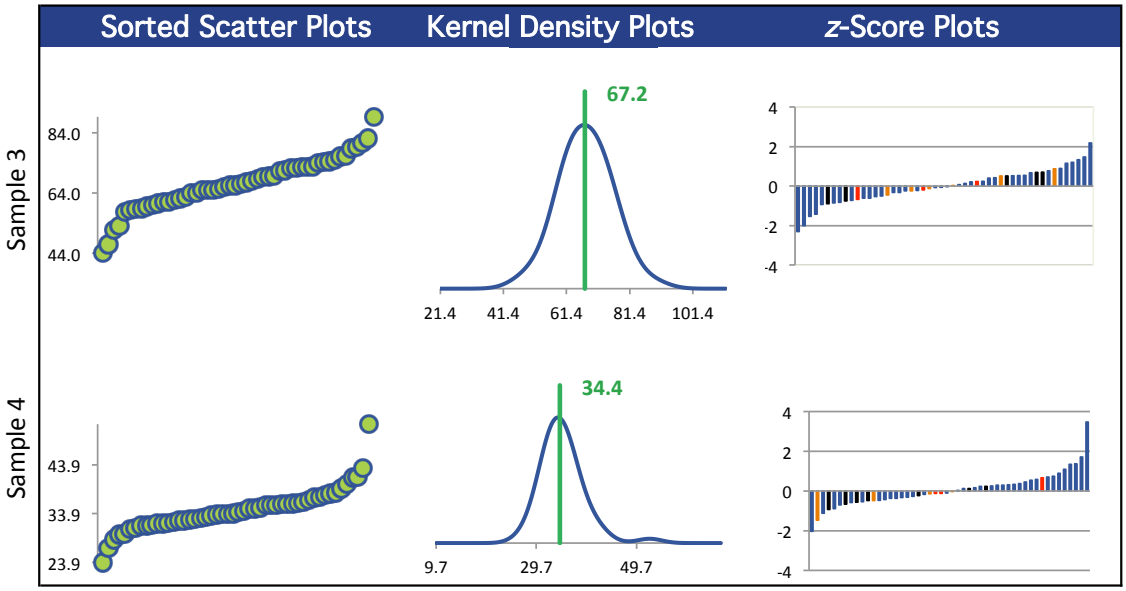
Methods Used

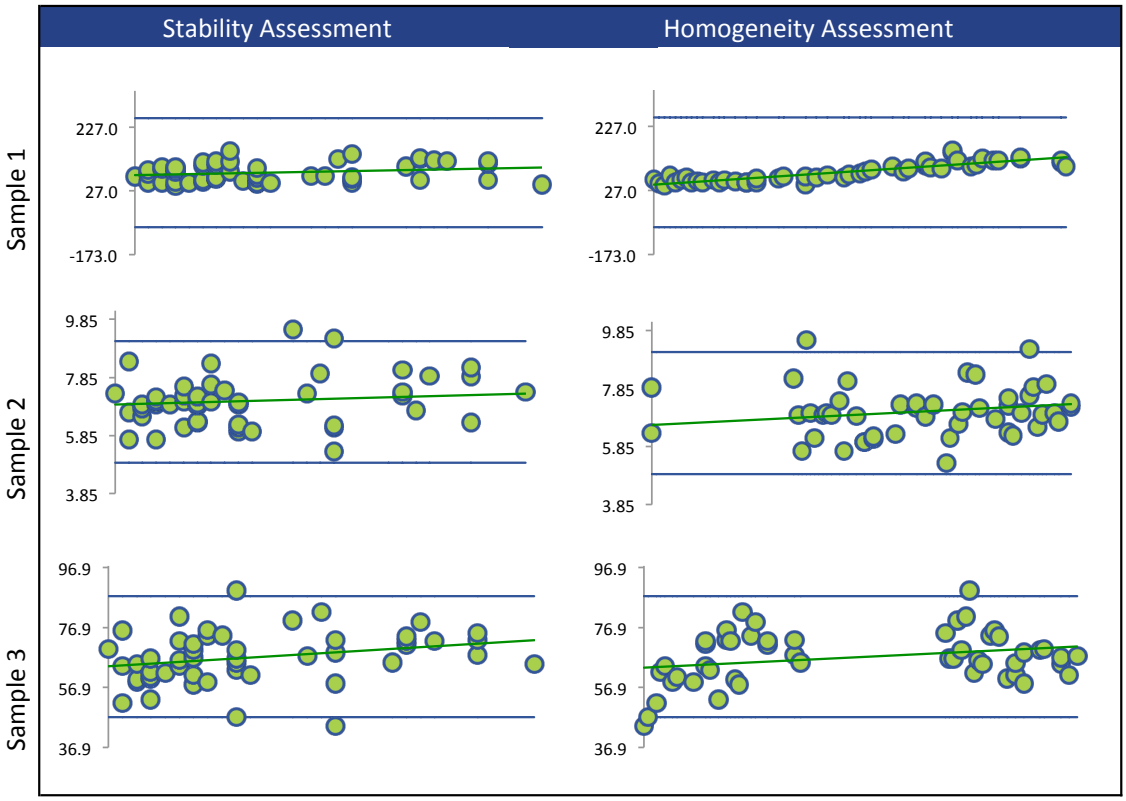
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	27	27	27
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



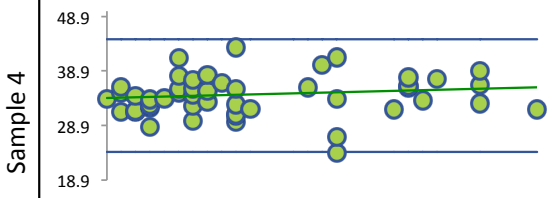
1,2-DICHLOROETHANE



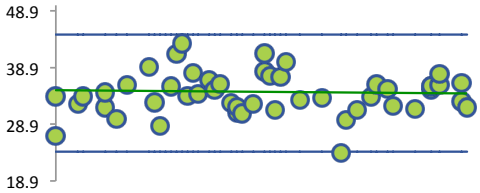


1,2-DICHLOROETHANE

Stability Assessment



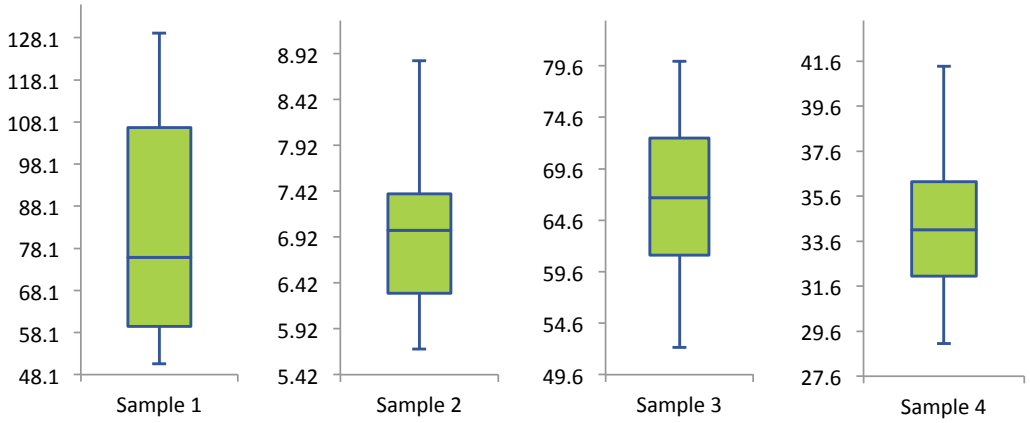
Homogeneity Assessment



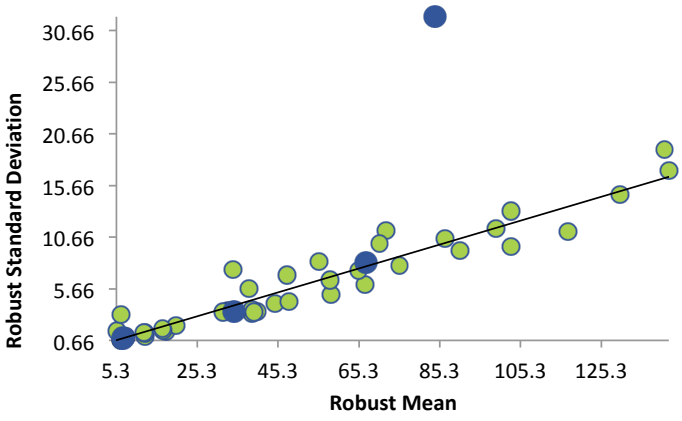
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,2-DICHLOROPROPANE

Summary Statistics

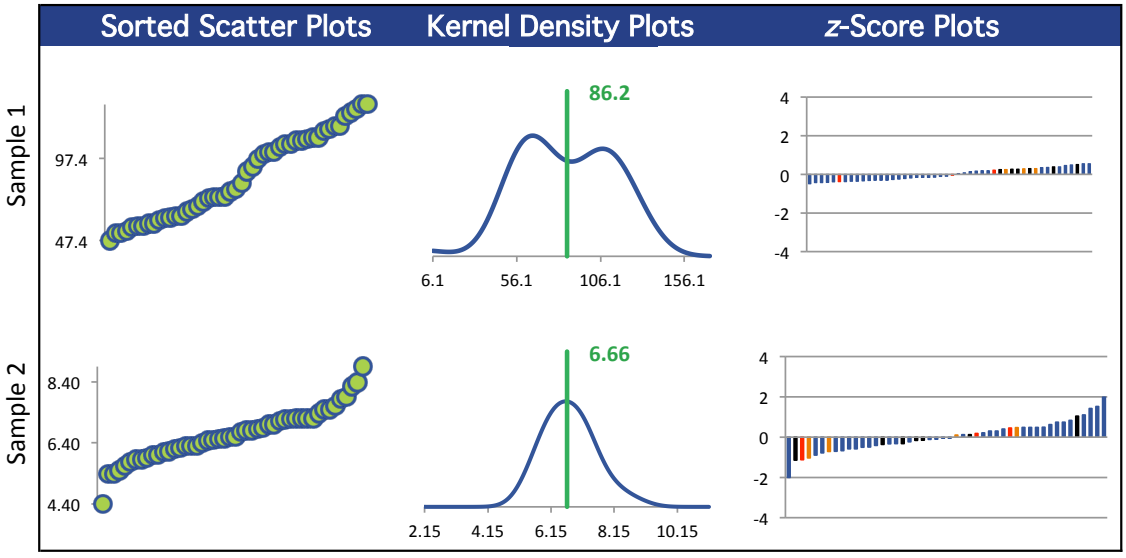
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median µg/L	80.3	6.60	65.0	33.0
Robust Mean µg/L	86.2	6.66	65.3	33.3
U µg/L	5.25	0.147	0.877	0.516
Robust Standard Deviation µg/L	29.1	0.817	4.86	2.86
Regression Standard Deviation µg/L	12.9	1.00	9.79	5.00
Stability Flag		Stability		
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	79.3	1.13	9.79	5.00
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	0	2	1

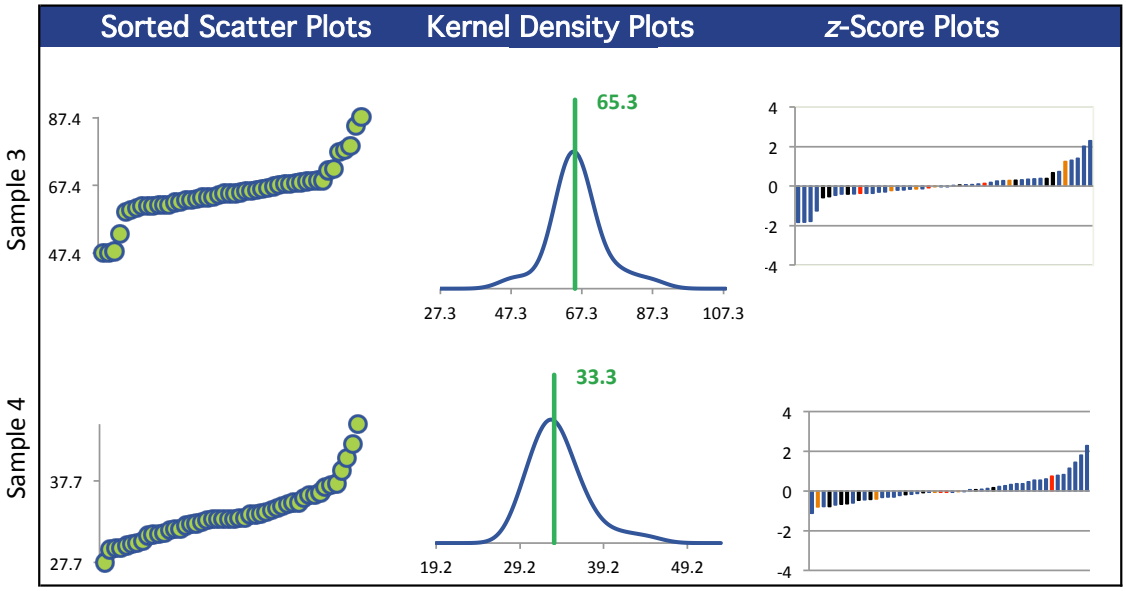
Methods Used

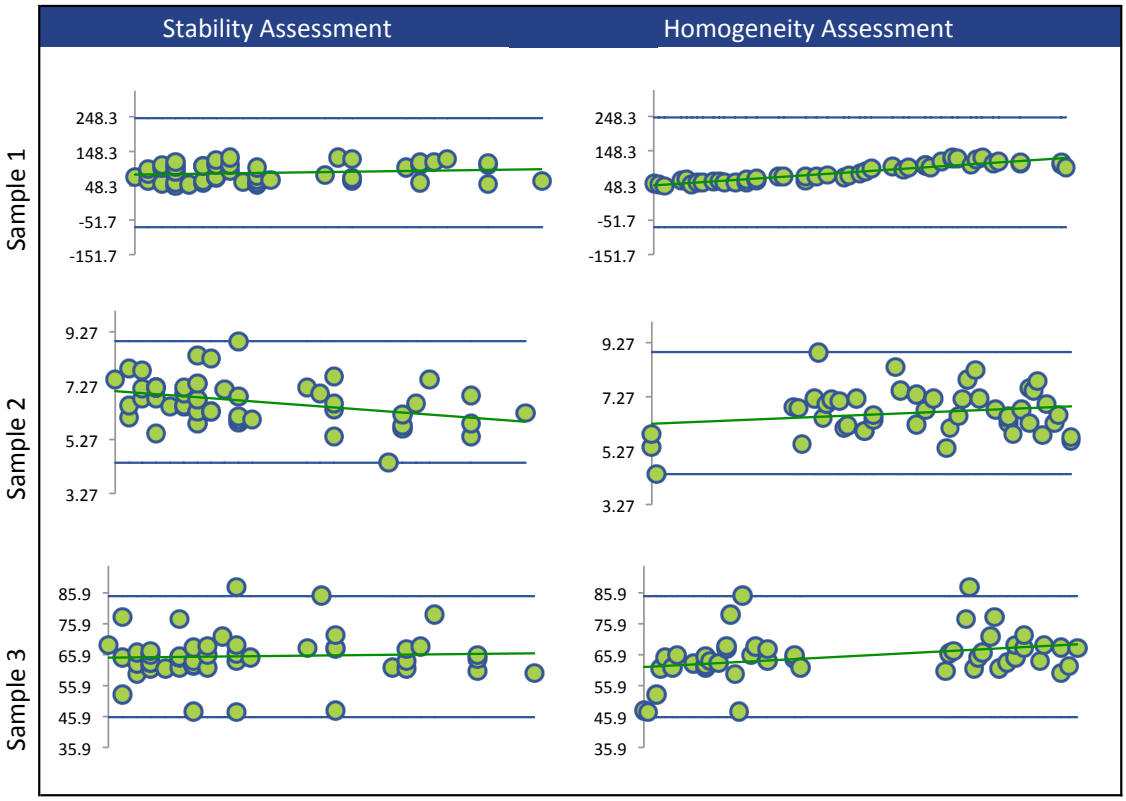
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	26	26	26	26
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2

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

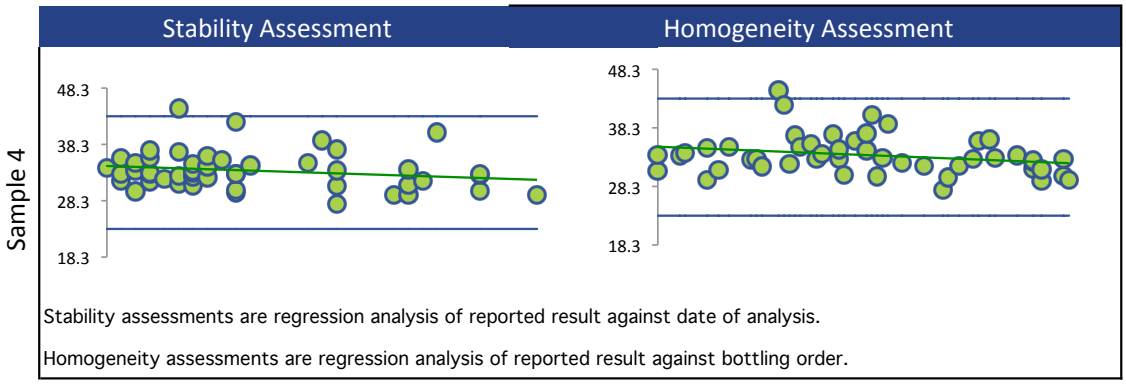


1,2-DICHLOROPROPANE



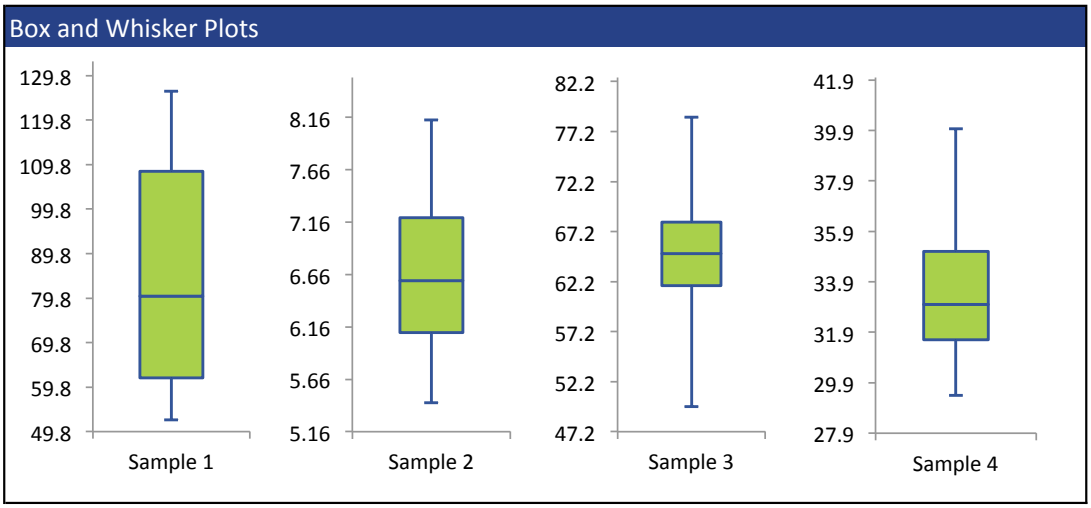


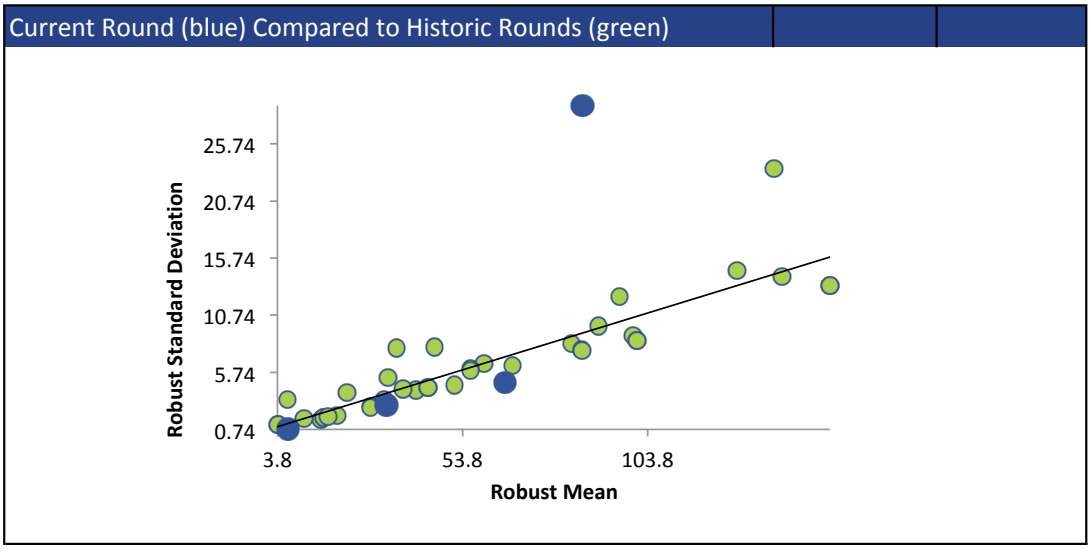
1,2-DICHLOROPROPANE



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

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





1,3-DICHLOROBENZENE

Summary Statistics

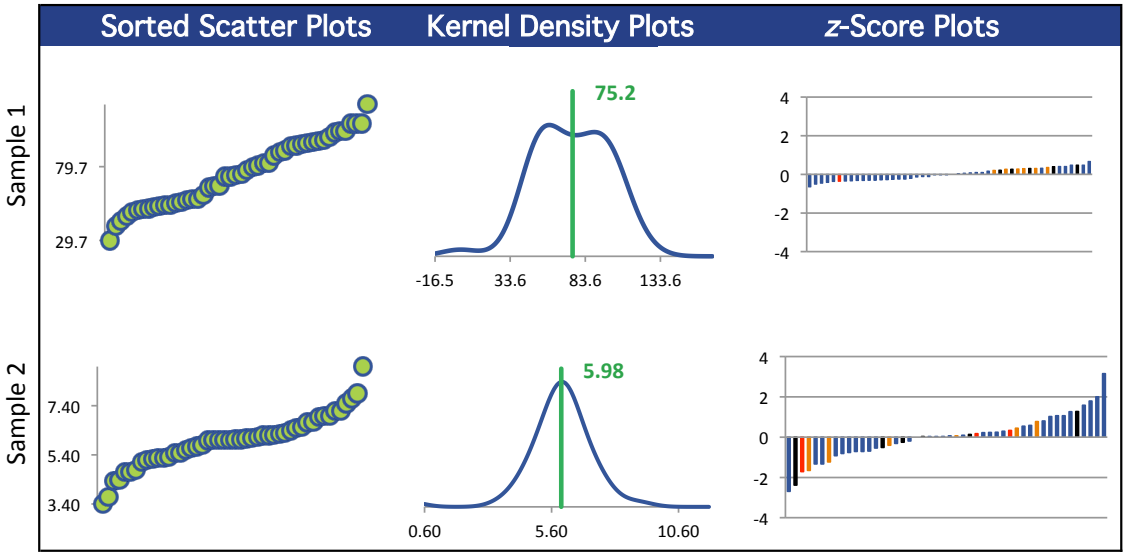
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median µg/L	74.6	6.03	58.2	29.3
Robust Mean µg/L	75.2	5.98	57.4	29.7
U µg/L	4.51	0.173	1.48	0.637
Robust Standard Deviation µg/L	25.0	0.959	8.21	3.53
Regression Standard Deviation µg/L	11.3	0.897	8.61	4.45
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	69.8	0.959	8.61	4.45
Outliers	0	0	0	0
|z|>3.0	0	1	0	0
2<|z|<3	0	2	1	3

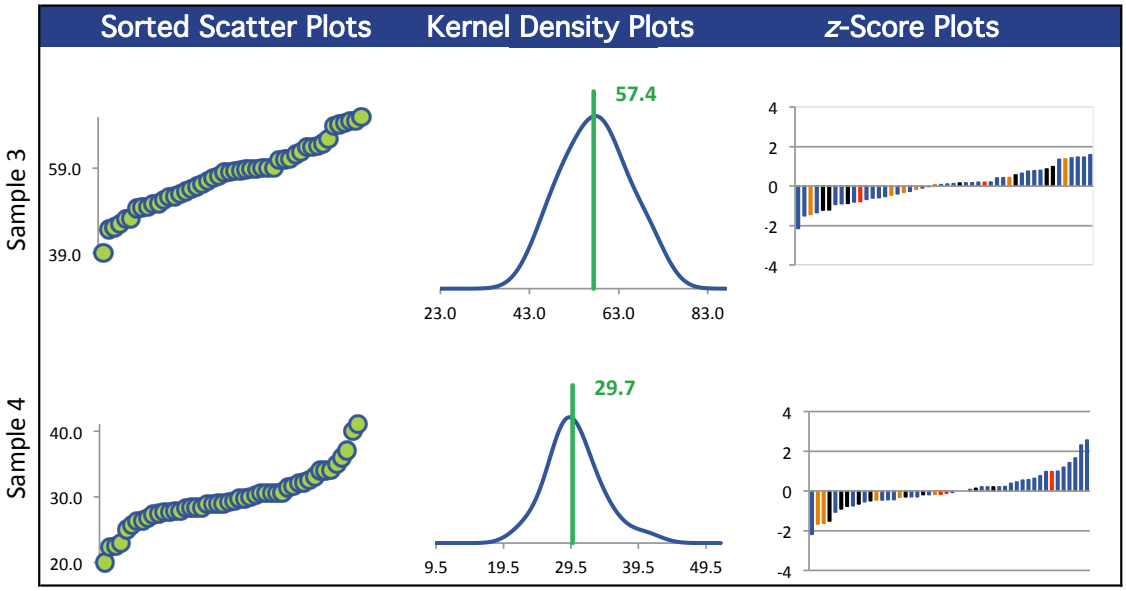
Methods Used

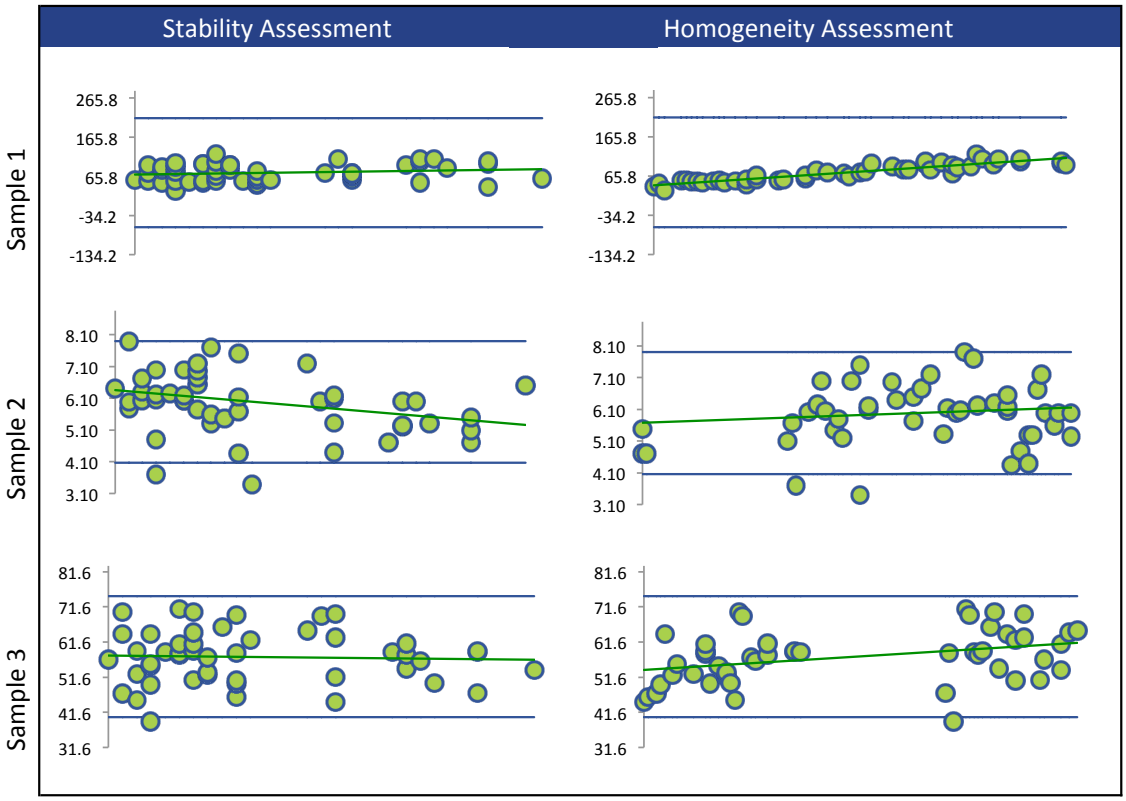
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	25	25	25	25
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	3	3	3	3

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



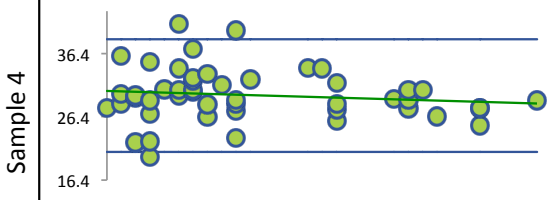
1,3-DICHLOROBENZENE



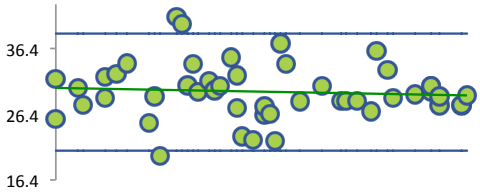


1,3-DICHLOROBENZENE

Stability Assessment



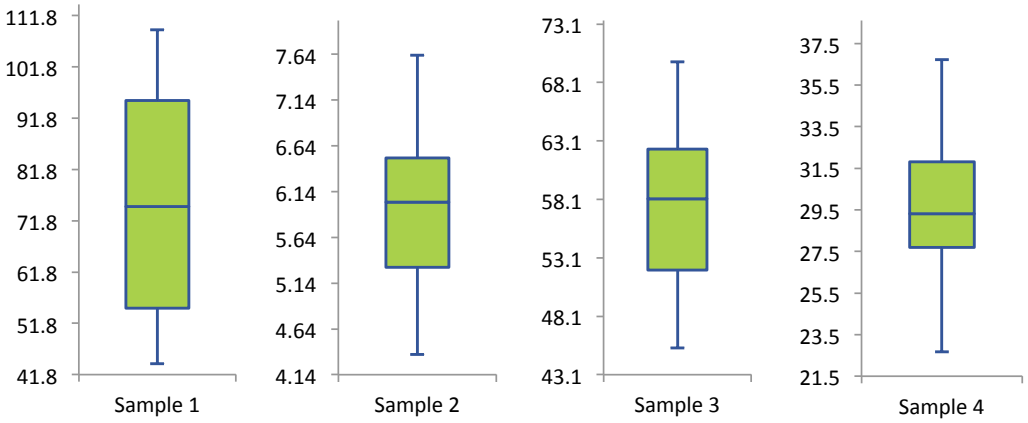
Homogeneity Assessment



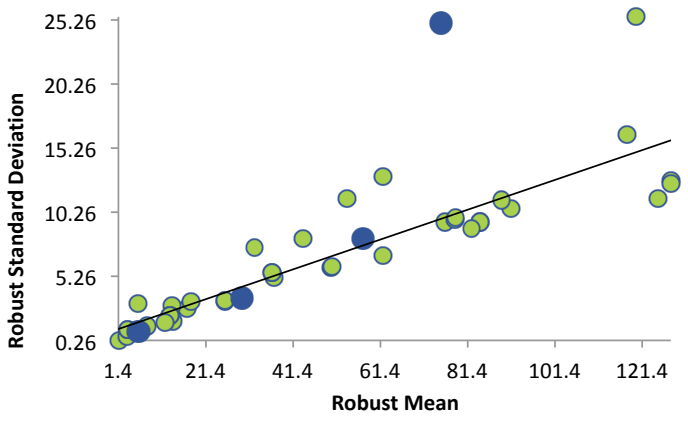
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



1,4-DICHLOROBENZENE

Summary Statistics

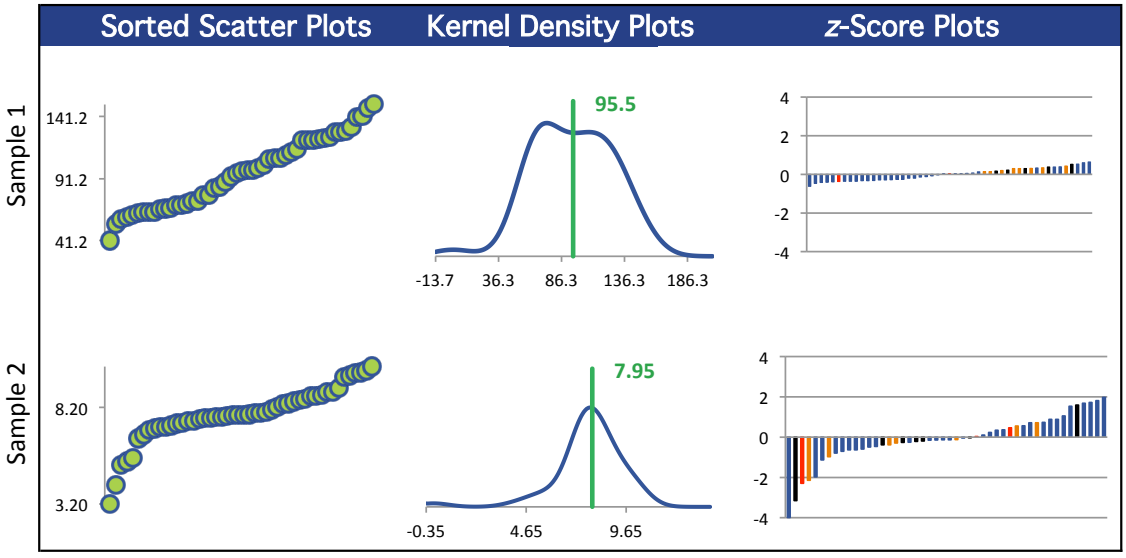
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	48	49	49
Median µg/L	97.2	7.80	75.7	38.6
Robust Mean µg/L	95.5	7.95	73.9	39.1
U µg/L	5.68	0.207	1.69	0.846
Robust Standard Deviation µg/L	31.8	1.15	9.47	4.74
Regression Standard Deviation µg/L	14.3	1.19	11.1	5.86
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	87.4	1.19	11.1	5.86
Outliers	0	0	0	0
|z|>3.0	0	2	0	0
2<|z|<3	0	2	0	2

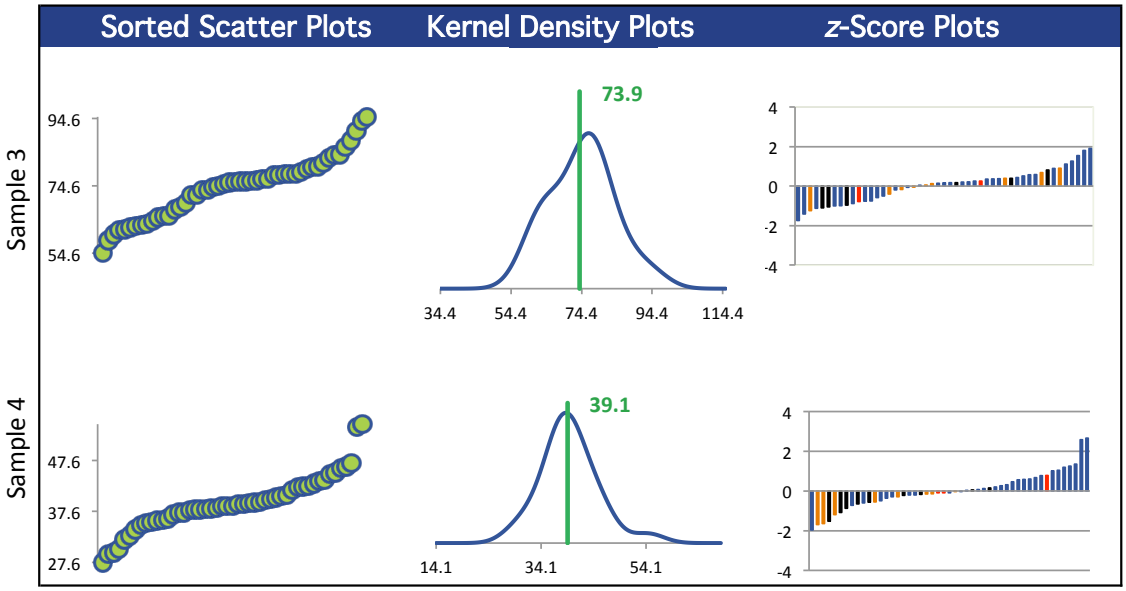
Methods Used

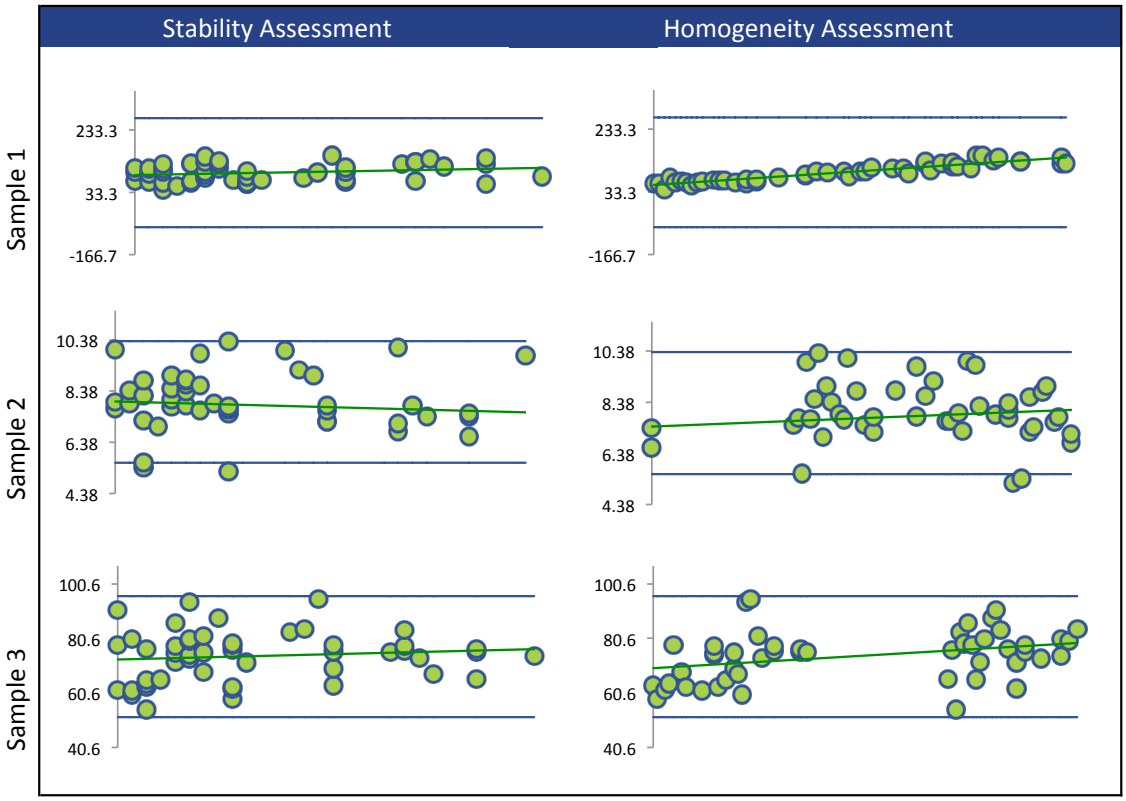
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	26	26	26	26
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	1	2	2

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



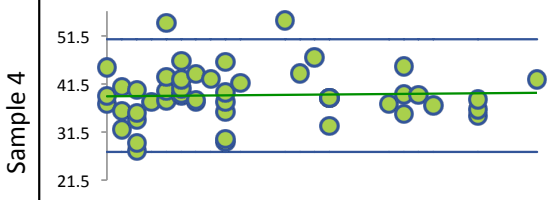
1,4-DICHLOROBENZENE



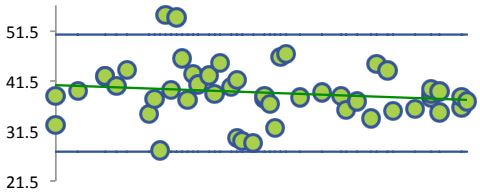


1,4-DICHLOROBENZENE

Stability Assessment



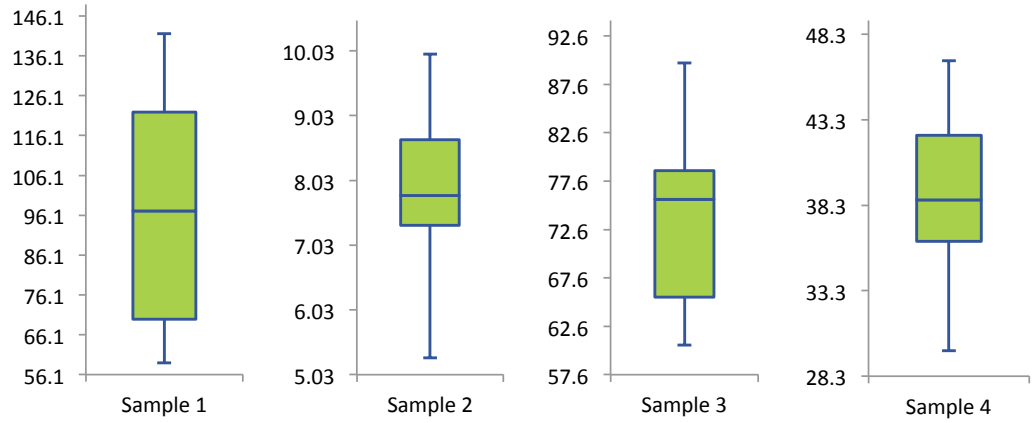
Homogeneity Assessment



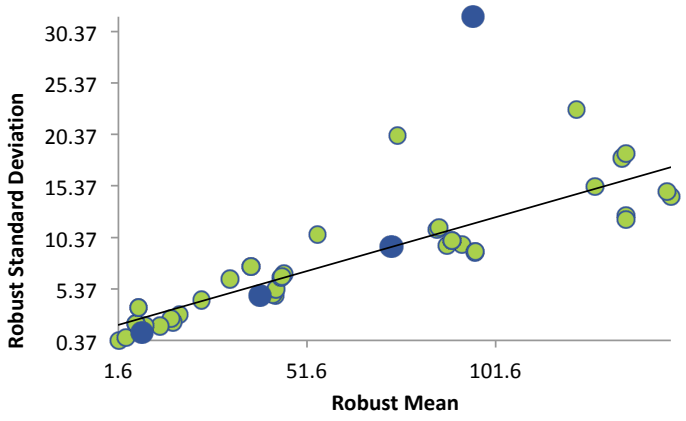
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



ACETONE (2-PROPANONE)

Summary Statistics

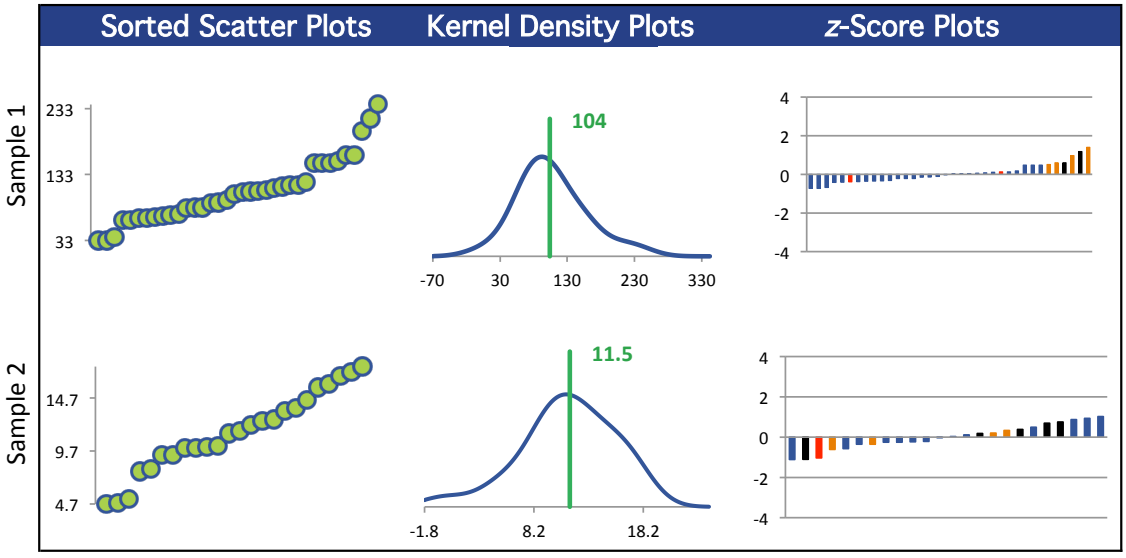
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	36	24	36	36
Median µg/L	105	11.5	82.5	46.1
Robust Mean µg/L	104	11.5	84.1	44.5
U µg/L	9.46	1.08	4.71	2.56
Robust Standard Deviation µg/L	45.4	4.25	22.6	12.3
Regression Standard Deviation µg/L	26.2	4.73	21.7	12.4
Stability Flag		Stability		
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	96.7	6.10	22.6	12.4
Outliers	0	0	0	0
|z|>3.0	0	0	1	0
2<|z|<3	0	0	2	1

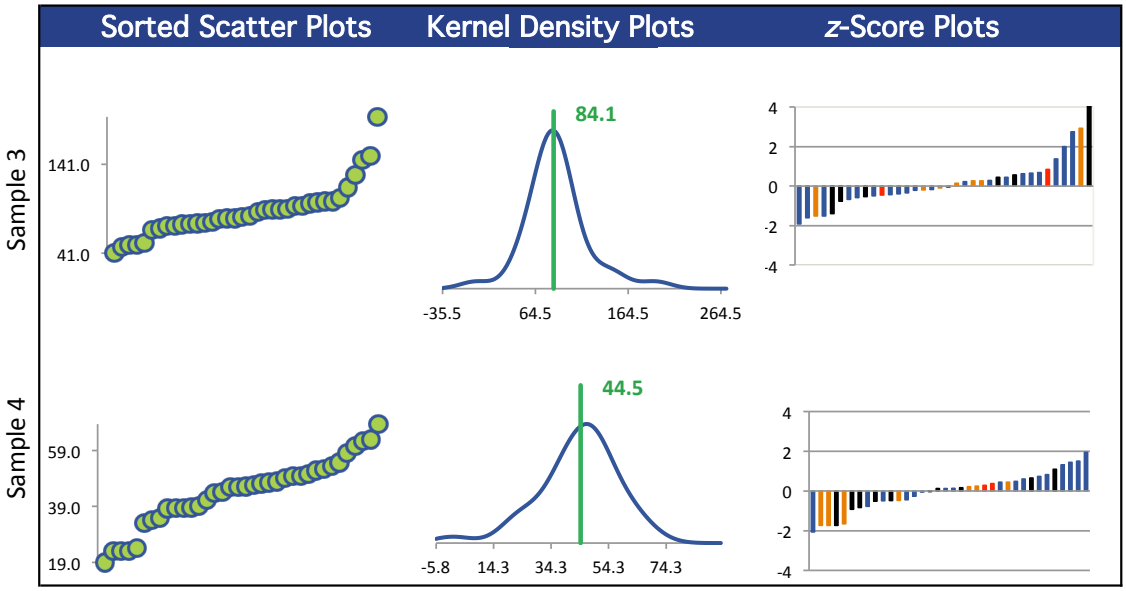
Methods Used

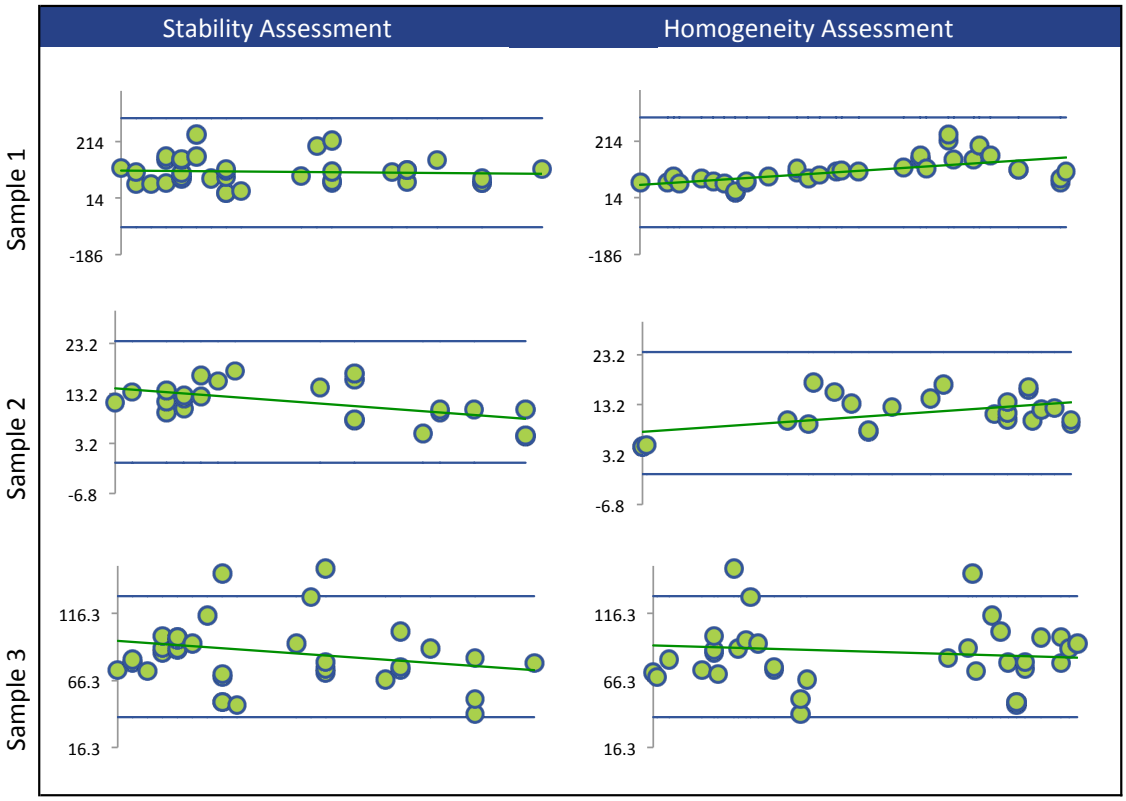
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	14	6	14	14
GC/MS - PURGE AND TRAP (Red)	20	16	20	20
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	1	1	1	1

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



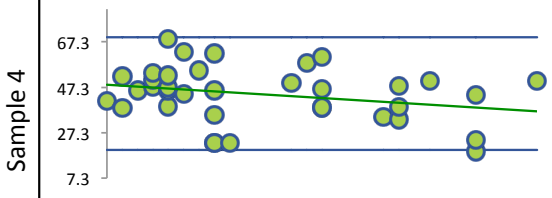
ACETONE (2-PROPANONE)



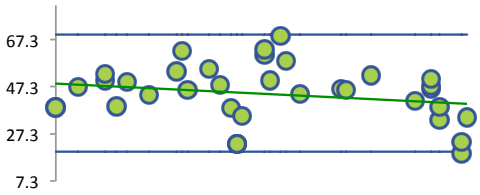


ACETONE (2-PROPANONE)

Stability Assessment



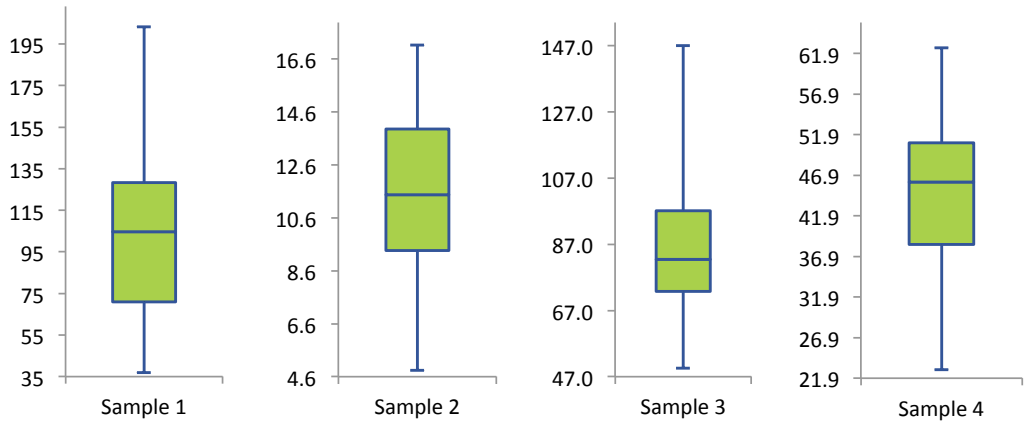
Homogeneity Assessment



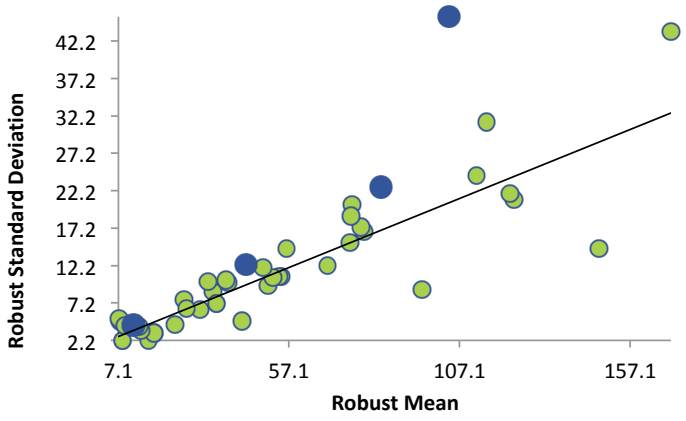
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



BENZENE

Summary Statistics

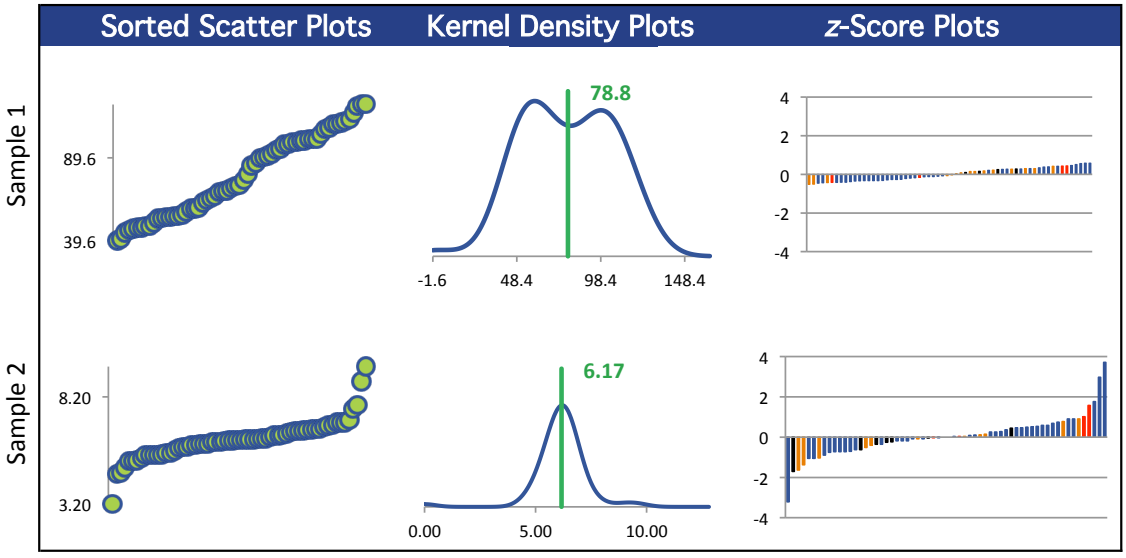
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	62	62	62	62
Median µg/L	74.9	6.17	60.0	30.6
Robust Mean µg/L	78.8	6.17	60.6	30.9
U µg/L	4.46	0.108	1.02	0.491
Robust Standard Deviation µg/L	28.1	0.678	6.43	3.09
Regression Standard Deviation µg/L	11.8	0.925	9.08	4.64
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	75.0	0.925	9.08	4.64
Outliers	0	0	0	0
|z|>3.0	0	2	0	1
2<|z|<3	0	1	2	0

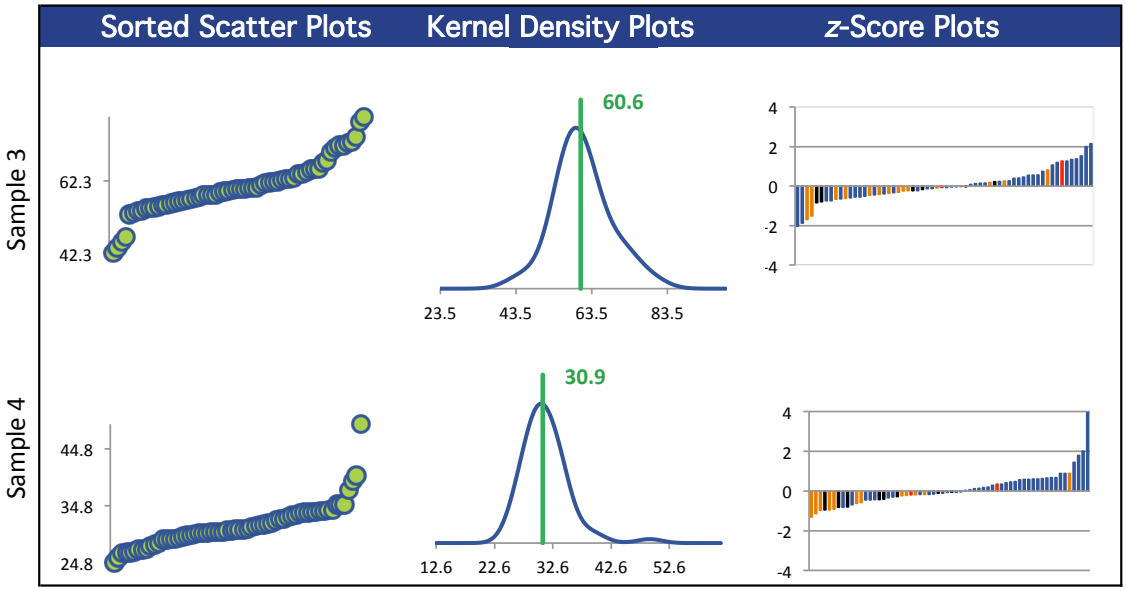
Methods Used

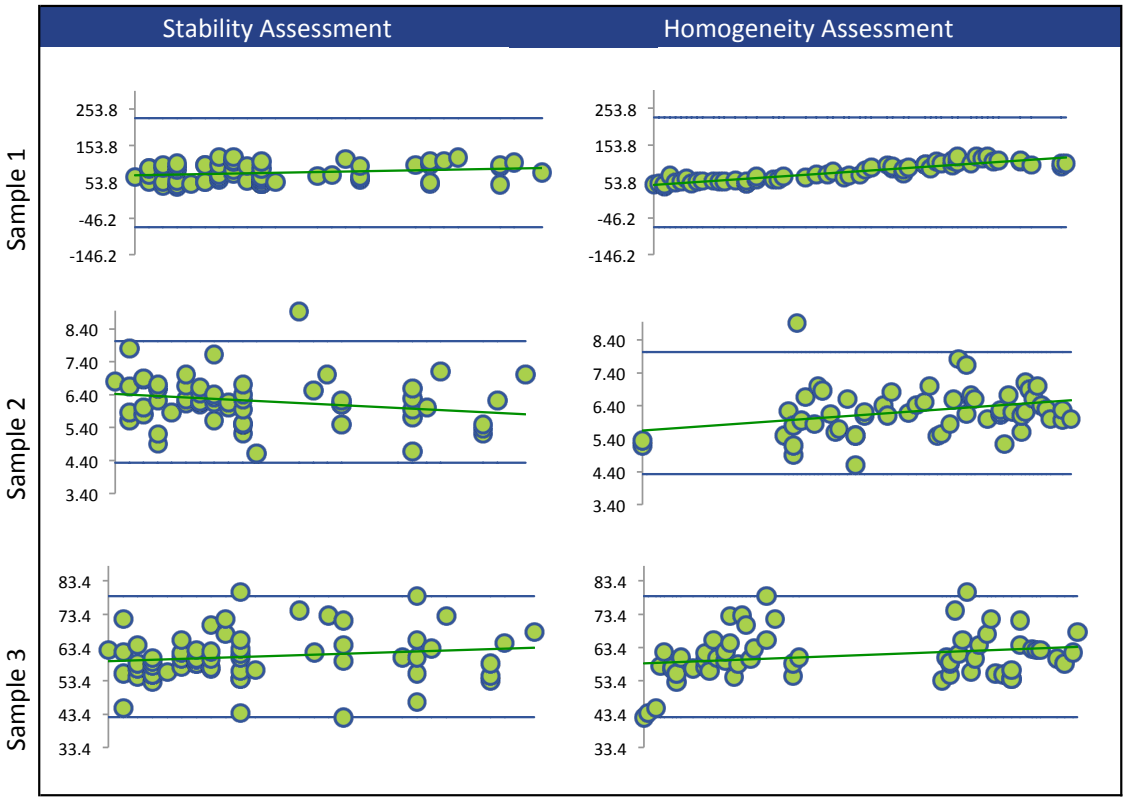
Method	C16-1	C16-2	C16-3	C16-4
GC/MS (Blue)	6	6	6	6
GC/MS - PURGE AND TRAP (Red)	31	31	31	31
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1
GC/FID - PURGE AND TRAP (Yellow)	1	1	1	1

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



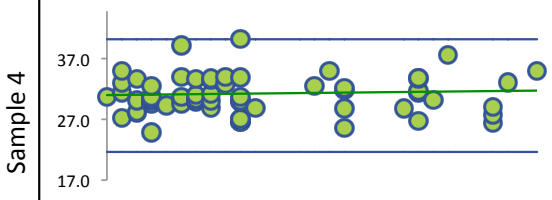
BENZENE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
62.3
42.3
60.6
23.5
43.5
63.5
83.5
4
2
0
-2
-4
Sample 4
44.8
34.8
24.8
30.9
12.6
22.6
32.6
42.6
52.6

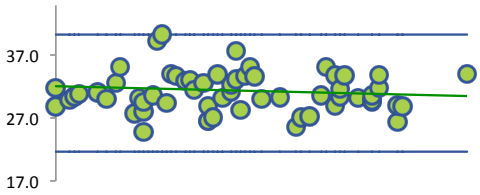

Stability Assessment
Homogeneity Assessment
Sample 1
253.8
153.8
53.8
-46.2
-146.2
Sample 2
8.40
7.40
6.40
5.40
4.40
3.40
Sample 3
83.4
73.4
63.4
53.4
43.4
33.4

BENZENE

Stability Assessment



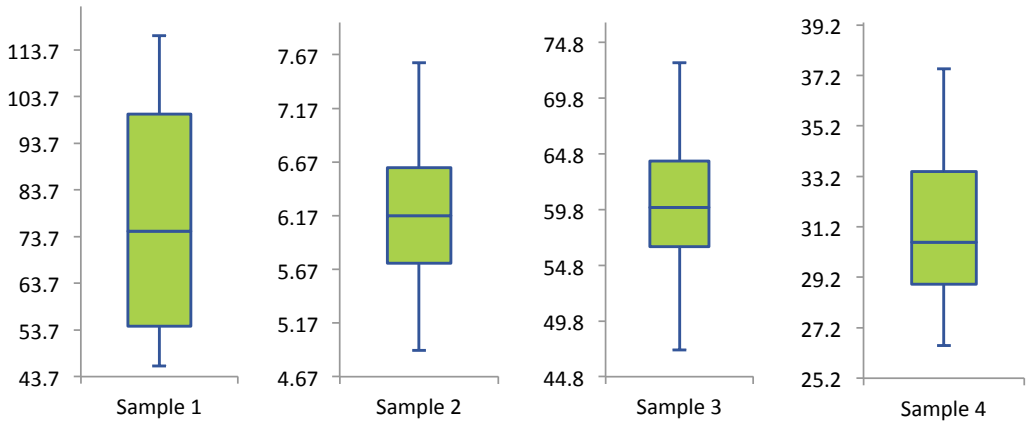
Homogeneity Assessment



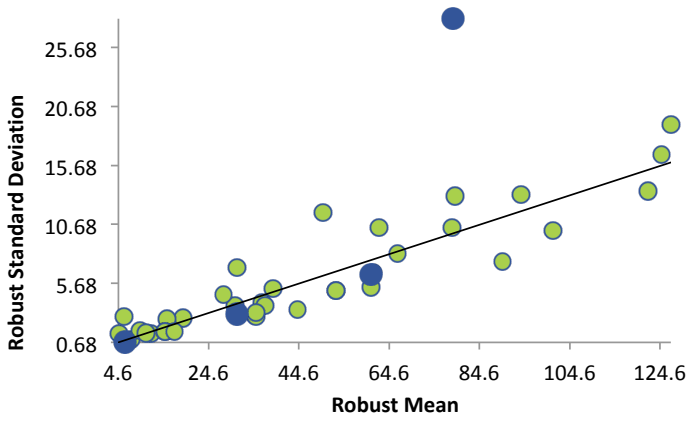
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



BROMODICHLOROMETHANE

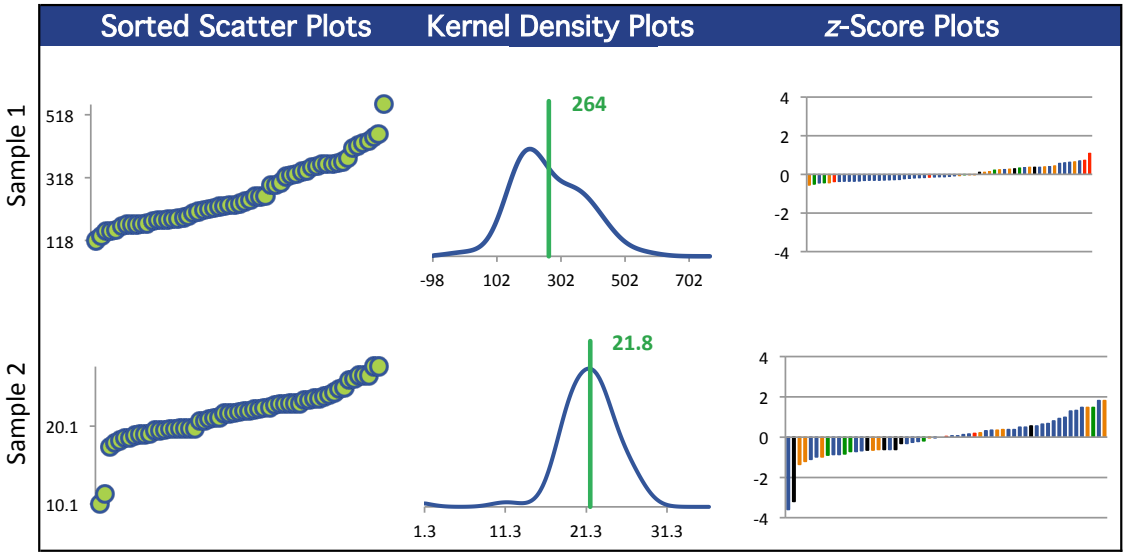
Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	57	57	57	57
Median µg/L	235	21.9	211	106
Robust Mean µg/L	264	21.8	212	108
U µg/L	17.4	0.480	4.29	2.47
Robust Standard Deviation µg/L	105	2.90	25.9	14.9
Regression Standard Deviation µg/L	39.6	3.26	31.8	16.2
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	262	3.26	31.8	16.2
Outliers	0	0	0	0
|z|>3.0	0	2	2	3
2<|z|<3	0	0	2	4

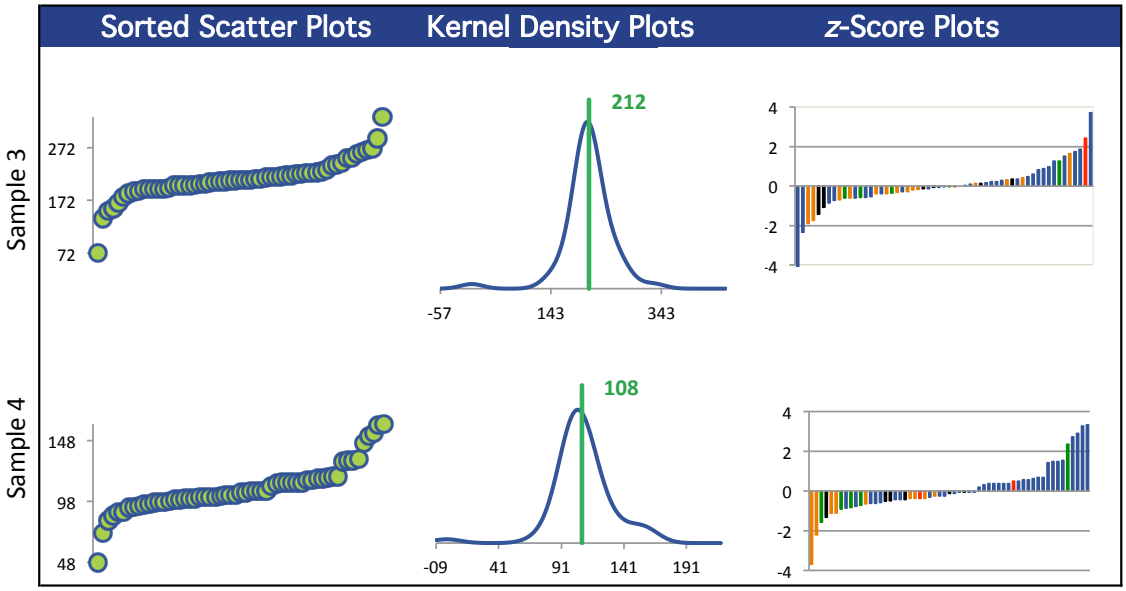
Methods Used

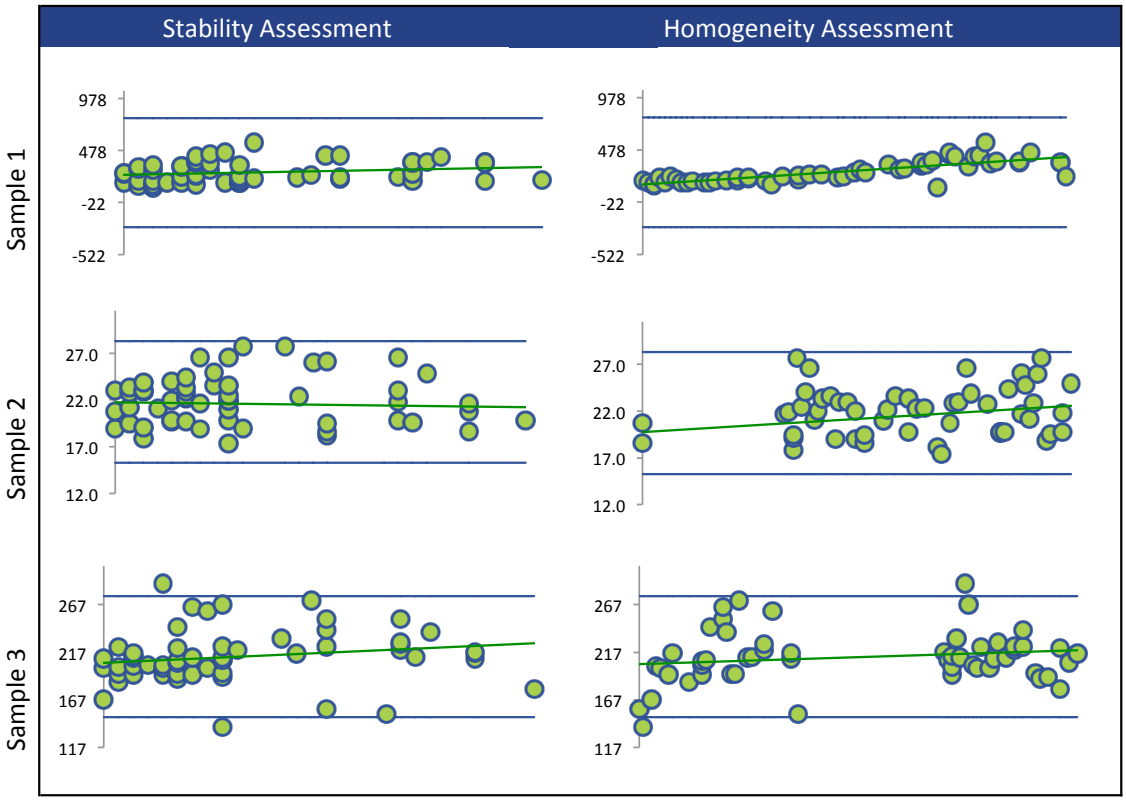
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	28	28	28
GC/MS (Red)	5	5	5	5
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1

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



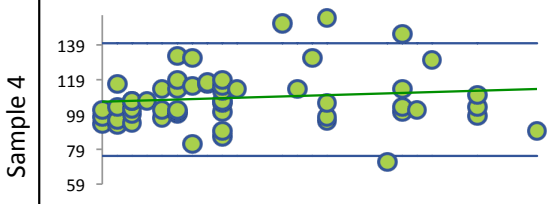
BROMODICHLOROMETHANE



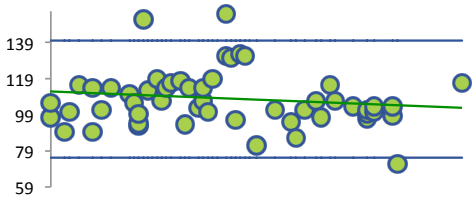


BROMODICHLOROMETHANE

Stability Assessment



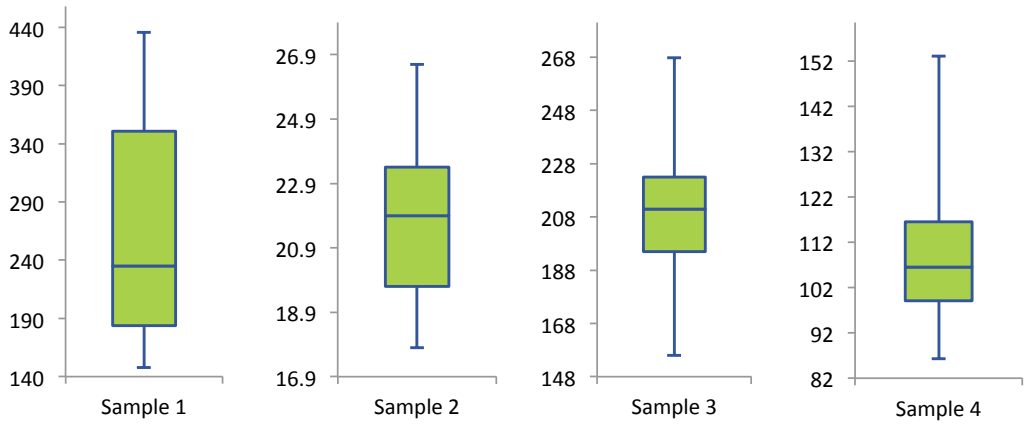
Homogeneity Assessment



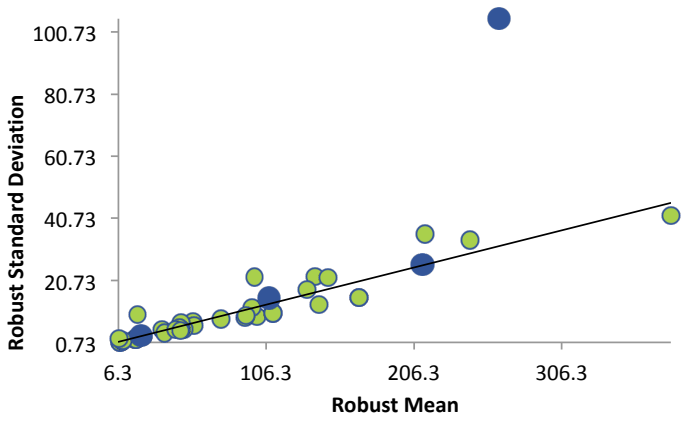
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



BROMOFORM

Summary Statistics

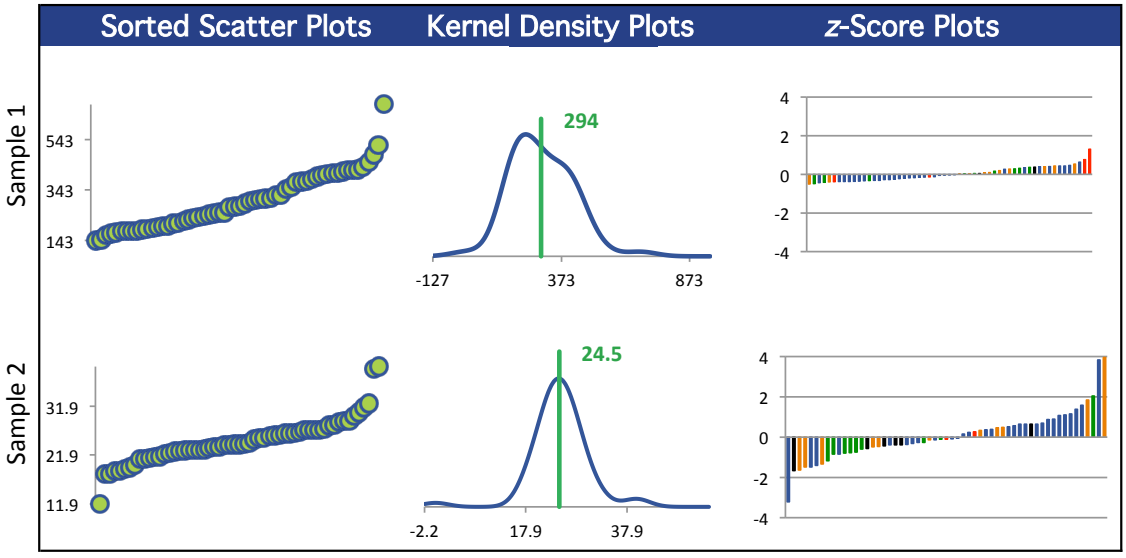
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	57	57	57	57
Median µg/L	281	24.1	235	120
Robust Mean µg/L	294	24.5	239	122
U µg/L	18.5	0.649	5.50	3.28
Robust Standard Deviation µg/L	112	3.92	33.2	19.8
Regression Standard Deviation µg/L	44.1	3.68	35.8	18.2
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	298	3.92	35.8	19.8
Outliers	0	0	0	0
|z|>3.0	0	3	2	1
2<|z|<3	0	1	2	4

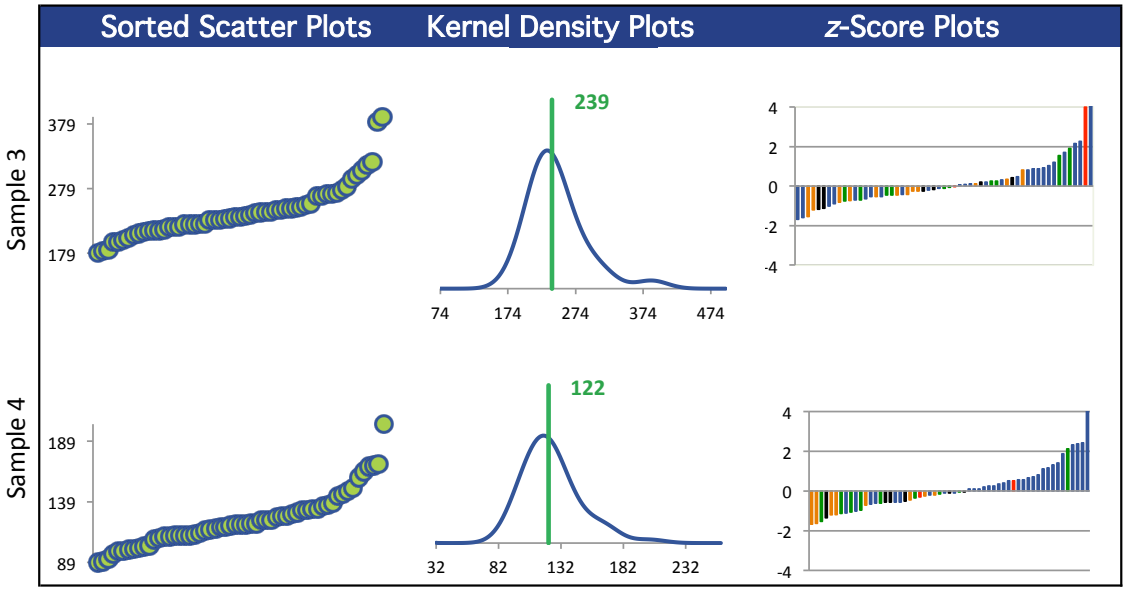
Methods Used

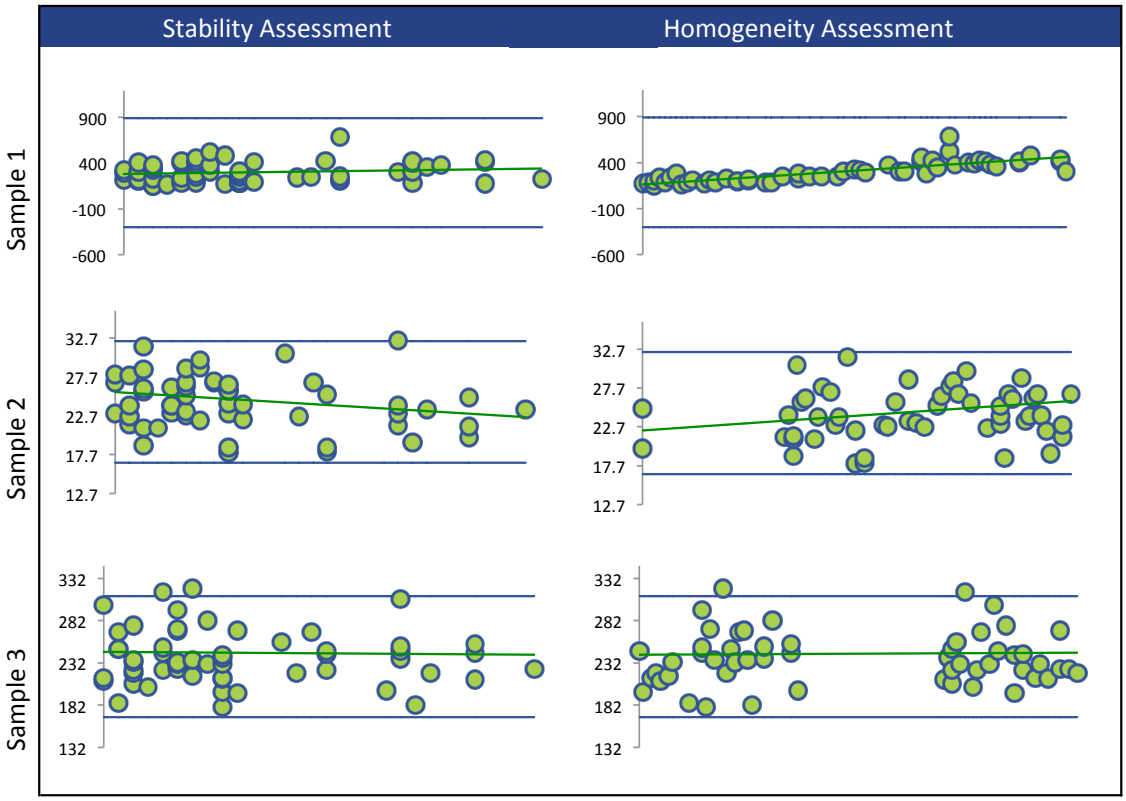
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	28	28	28
GC/MS (Red)	5	5	5	5
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1

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



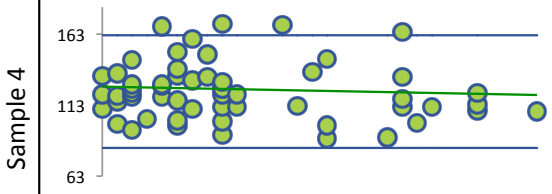
BROMOFORM


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
379
279
179
239
74
174
274
374
474
4
2
0
-2
-4
Sample 4
189
139
89
122
32
82
132
182
232
4
2
0
-2
-4

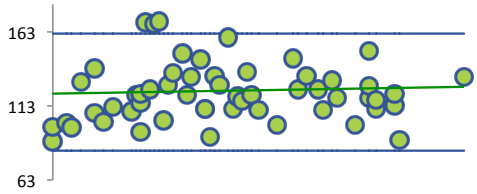

Stability Assessment
Homogeneity Assessment
Sample 1
900
400
-100
-600
Sample 2
32.7
27.7
22.7
17.7
12.7
Sample 3
332
282
232
182
132

BROMOFORM

Stability Assessment



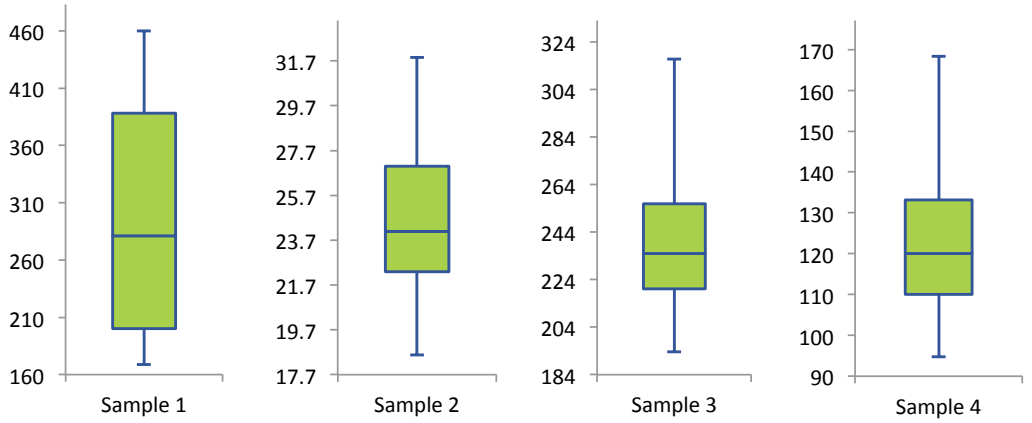
Homogeneity Assessment



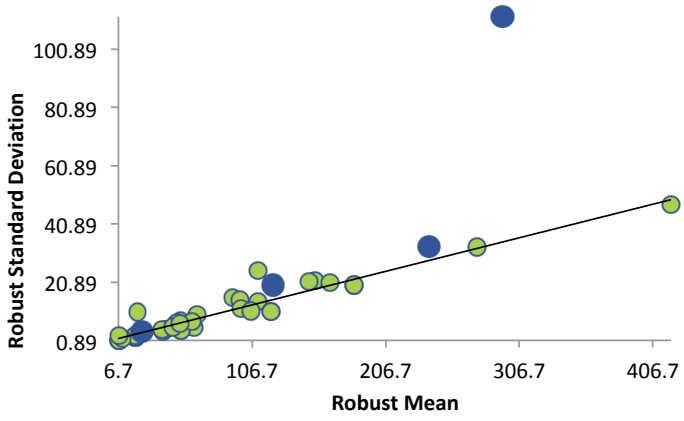
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



CARBON TETRACHLORIDE

Summary Statistics

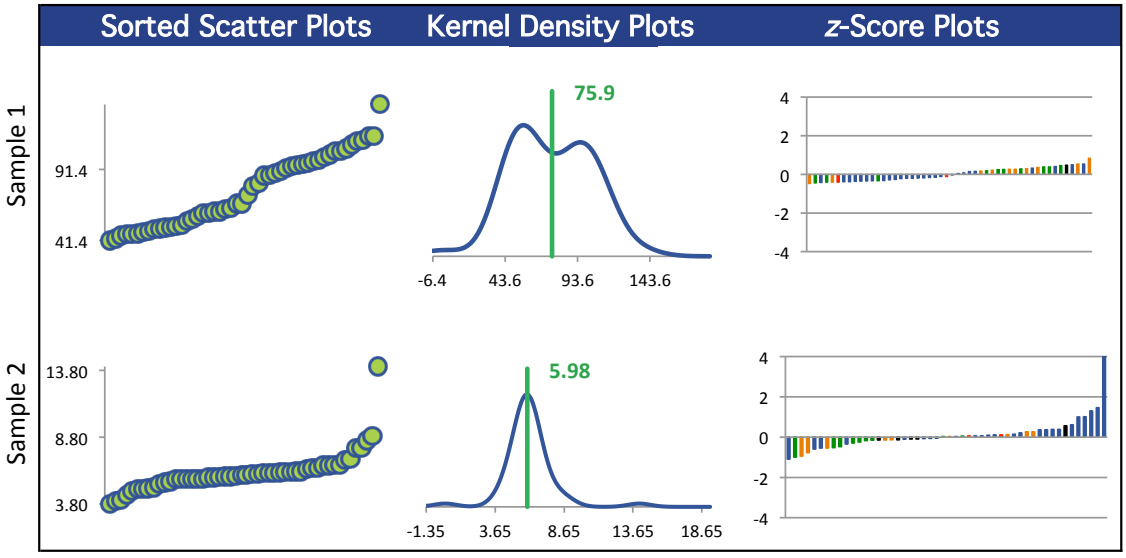
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	50	50	50	50
Median µg/L	70.3	6.00	58.5	29.4
Robust Mean µg/L	75.9	5.98	59.2	29.8
U µg/L	4.90	0.153	1.32	0.728
Robust Standard Deviation µg/L	27.7	0.864	7.48	4.12
Regression Standard Deviation µg/L	11.4	0.897	8.88	4.47
Stability Flag		Stability		
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	72.6	2.00	8.88	4.47
Outliers	0	0	0	0
|z|>3.0	0	1	0	2
2<|z|<3	0	0	6	1

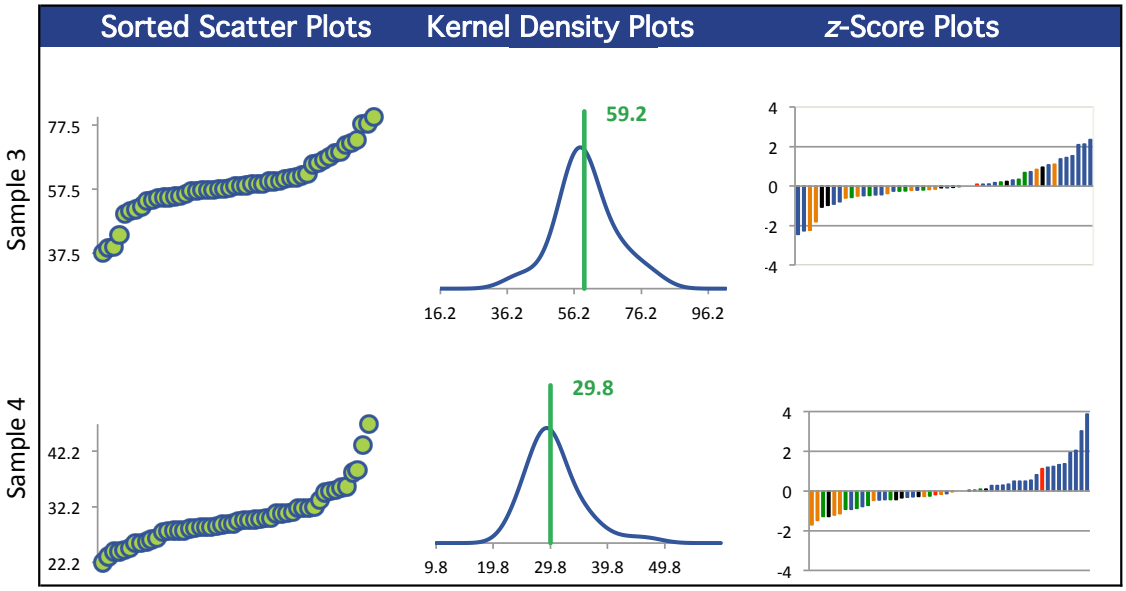
Methods Used

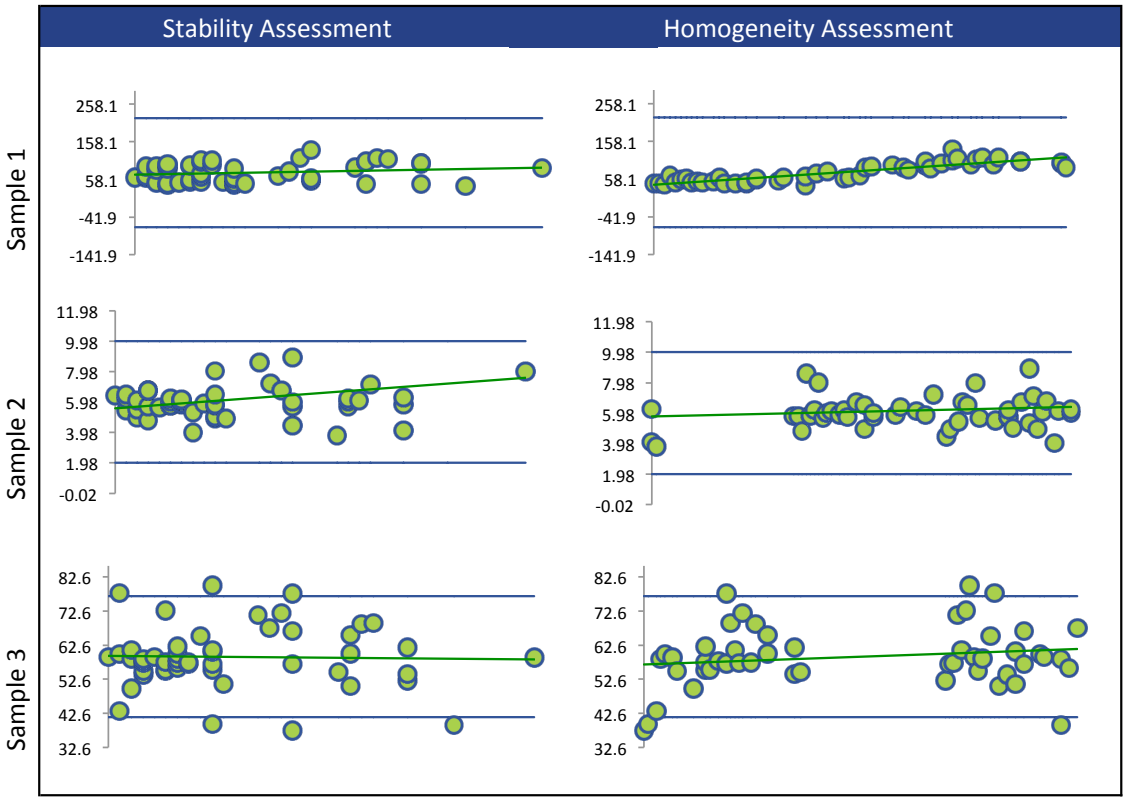
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	27	27	27
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



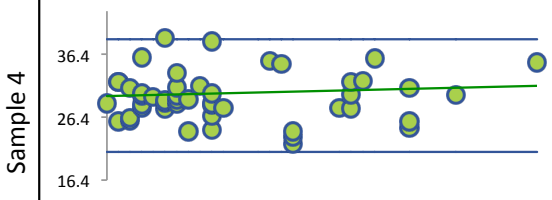
CARBON TETRACHLORIDE



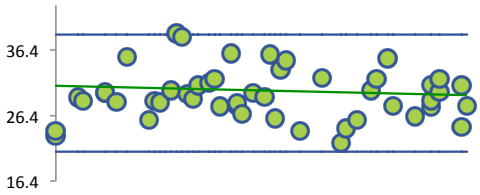


CARBON TETRACHLORIDE

Stability Assessment



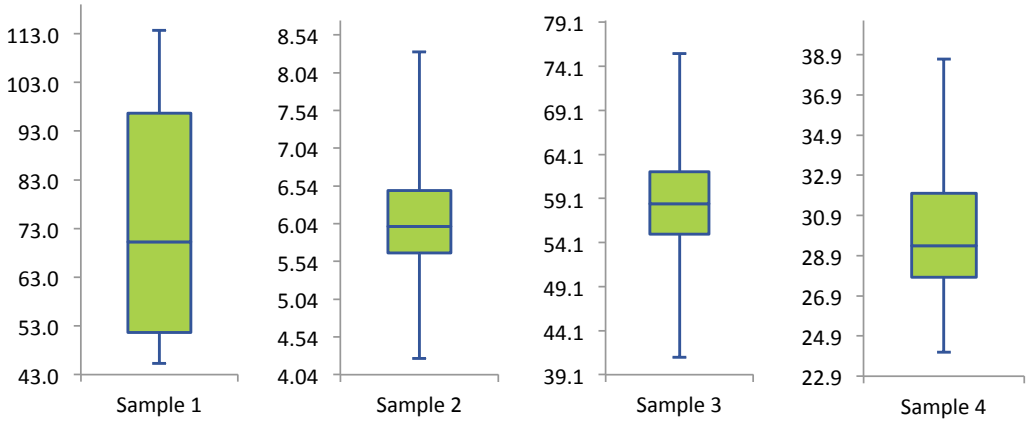
Homogeneity Assessment



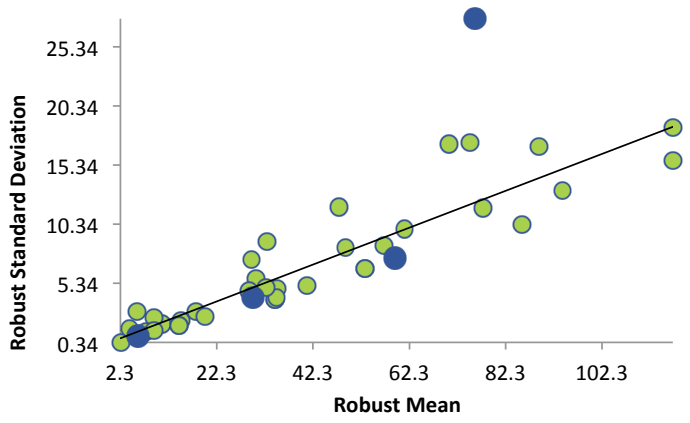
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



CHLOROBENZENE

Summary Statistics

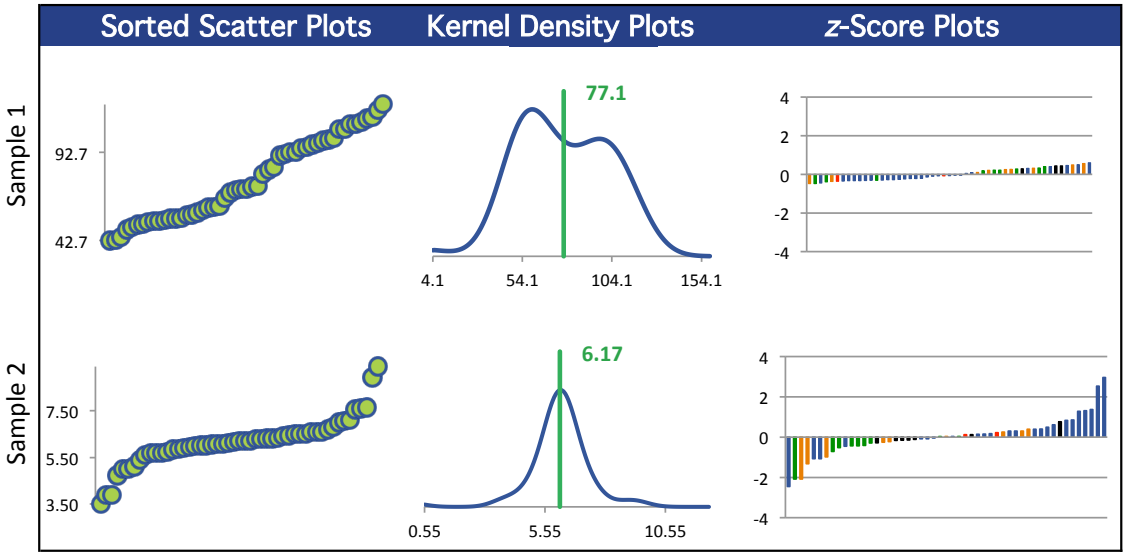
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	51	51	51
Median µg/L	71.9	6.20	58.5	30.2
Robust Mean µg/L	77.1	6.17	59.6	30.4
U µg/L	4.59	0.128	1.06	0.497
Robust Standard Deviation µg/L	26.2	0.733	6.03	2.84
Regression Standard Deviation µg/L	11.6	0.926	8.93	4.56
Stability Flag		Stability		
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	71.7	1.09	8.93	4.56
Outliers	0	0	0	0
|z|>3.0	0	0	0	1
2<|z|<3	0	5	1	2

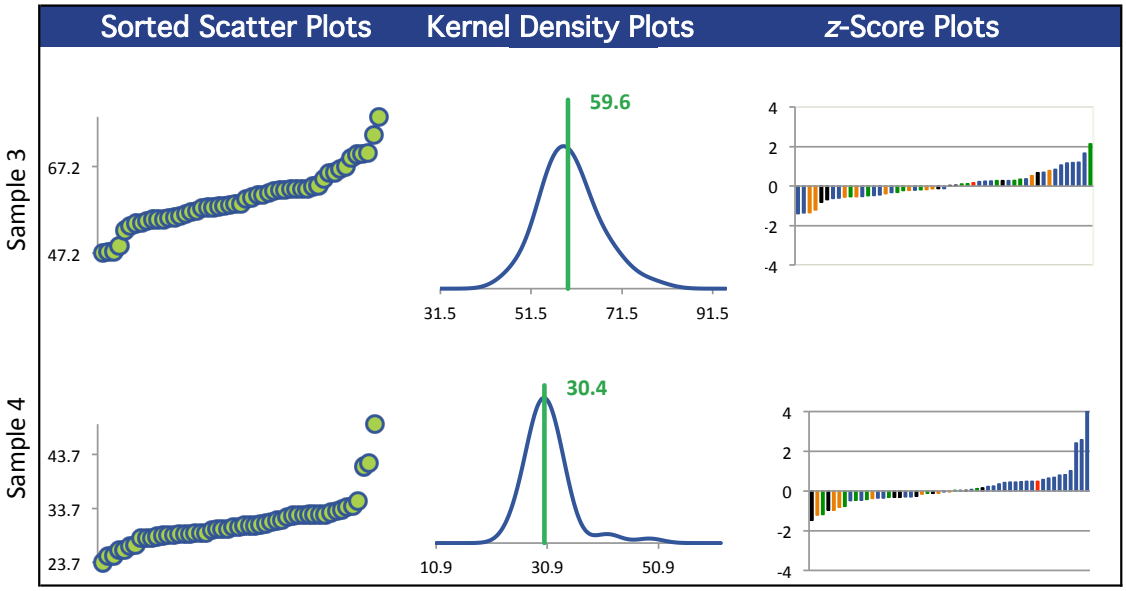
Methods Used

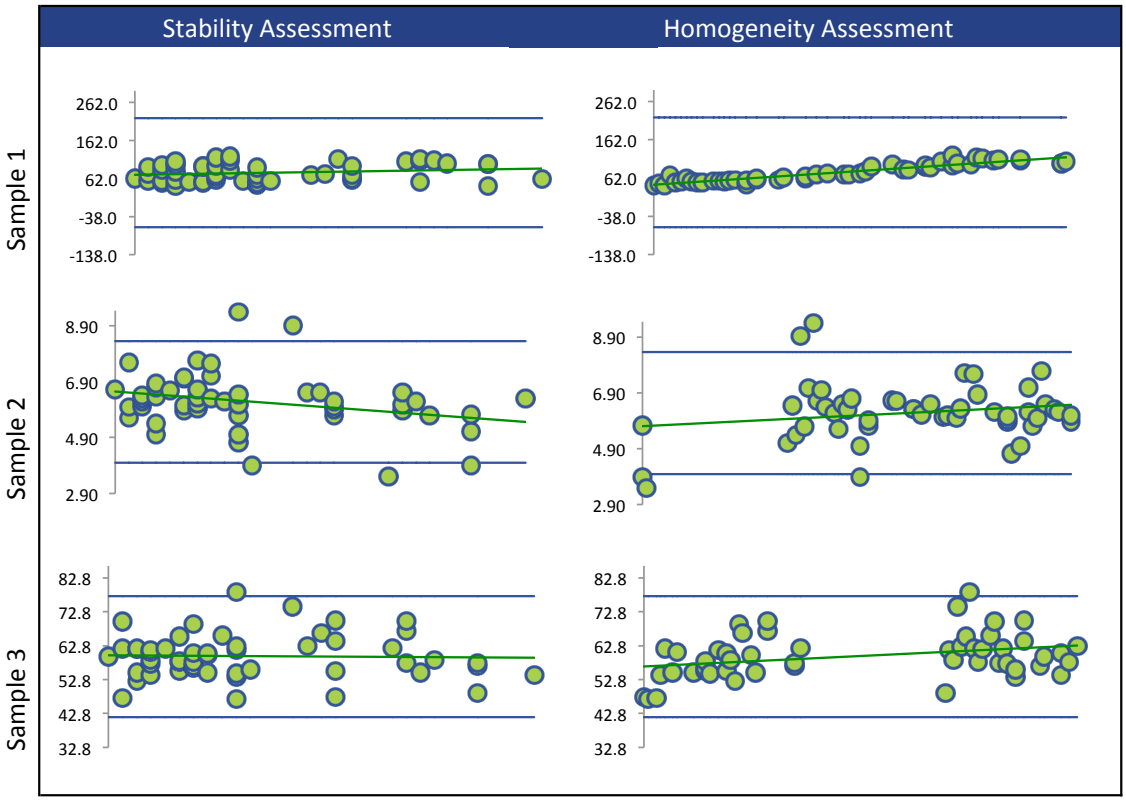
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	28	28	28
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



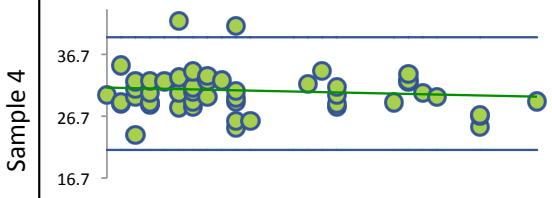
CHLOROBENZENE



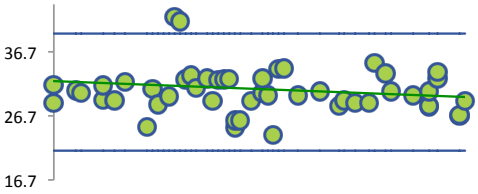


CHLOROBENZENE

Stability Assessment



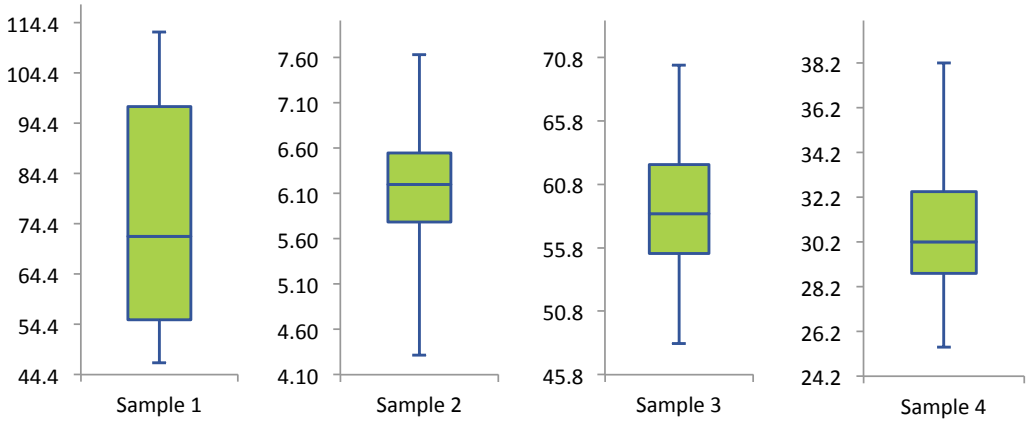
Homogeneity Assessment



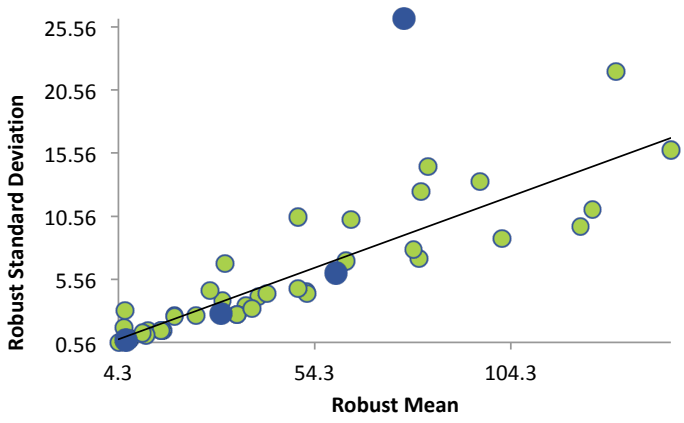
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



CHLORODIBROMOMETHANE

Summary Statistics

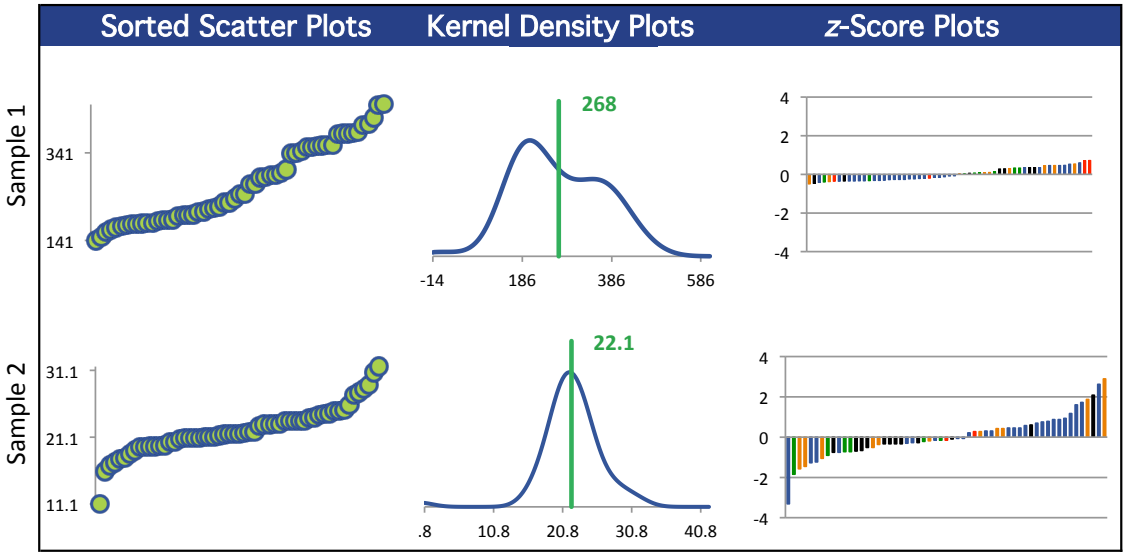
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	57	57	57	56
Median µg/L	246	21.6	214	110
Robust Mean µg/L	268	22.1	215	110
U µg/L	16.3	0.497	4.19	2.09
Robust Standard Deviation µg/L	98.6	3.00	25.3	12.5
Regression Standard Deviation µg/L	40.1	3.32	32.2	16.4
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	255	3.32	32.2	16.4
Outliers	0	0	0	1
|z|>3.0	0	1	0	1
2<|z|<3	0	3	4	3

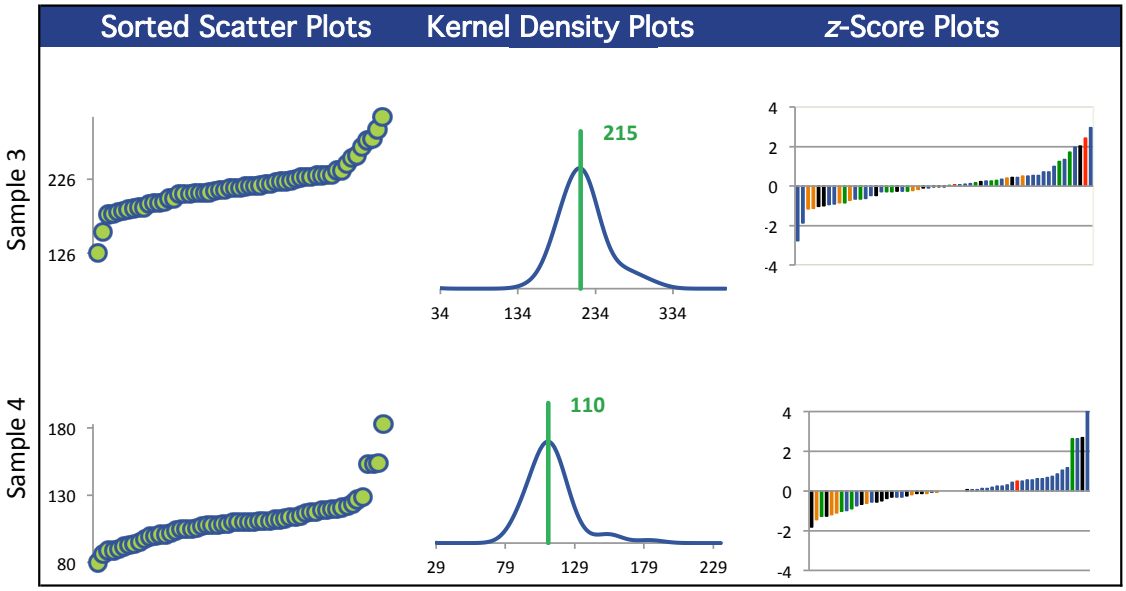
Methods Used

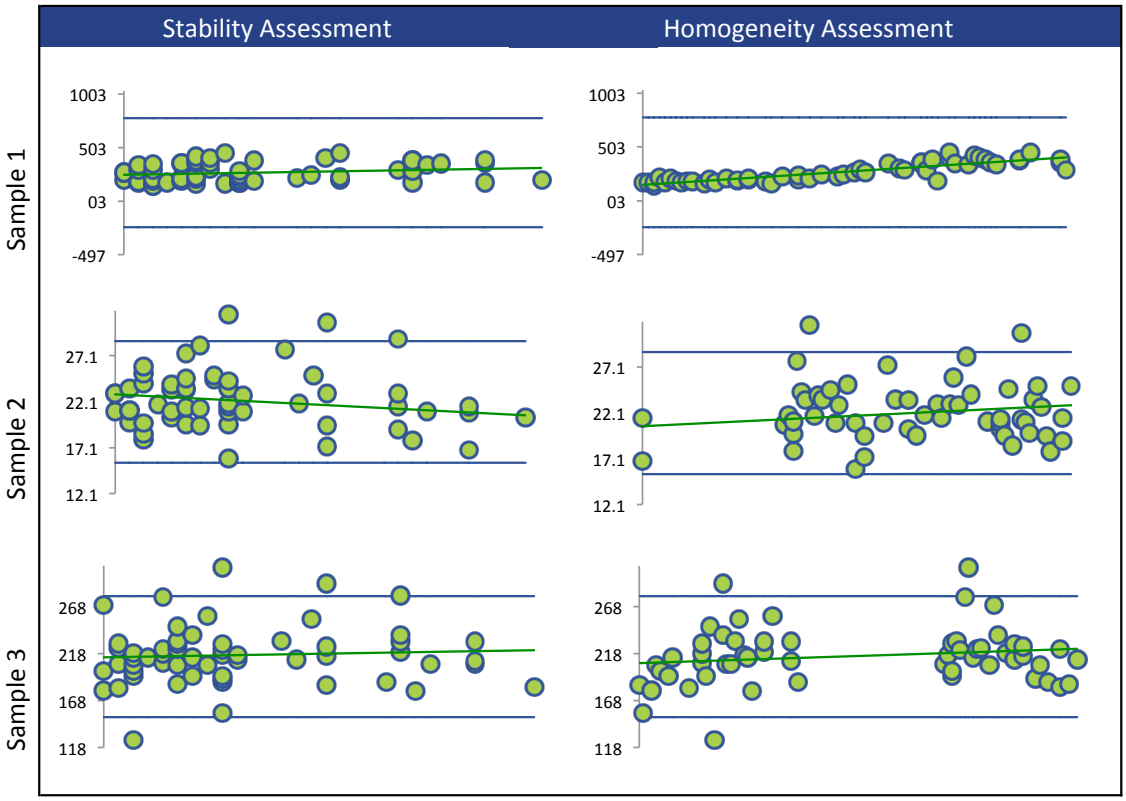
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	28	28	27
GC/MS (Red)	5	5	5	5
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1

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



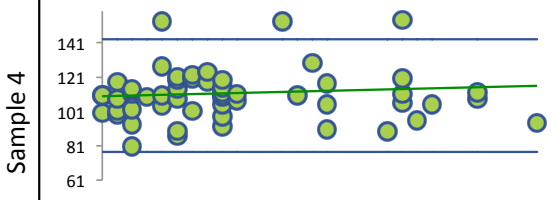
CHLORODIBROMOMETHANE



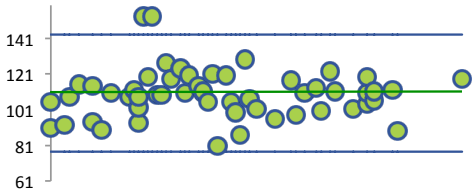


CHLORODIBROMOMETHANE

Stability Assessment



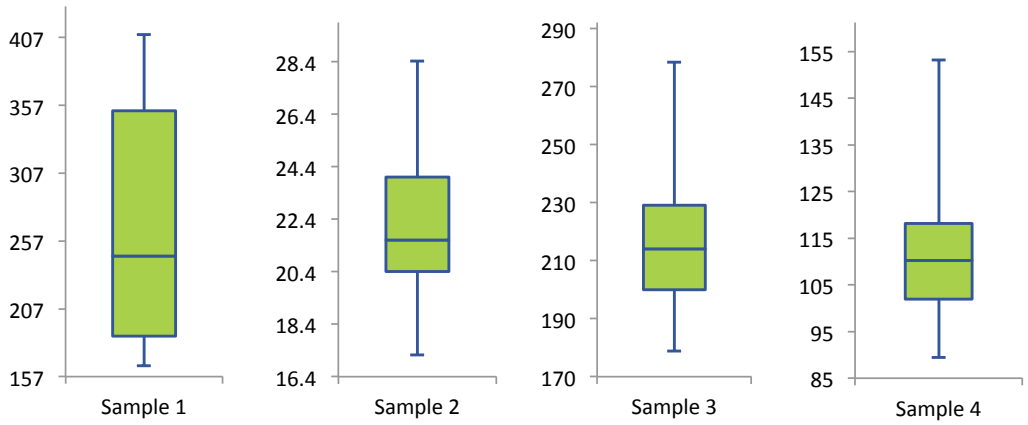
Homogeneity Assessment



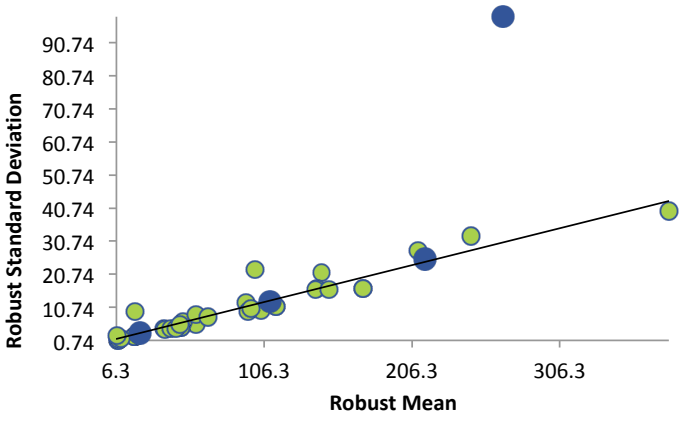
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



CHLOROFORM

Summary Statistics

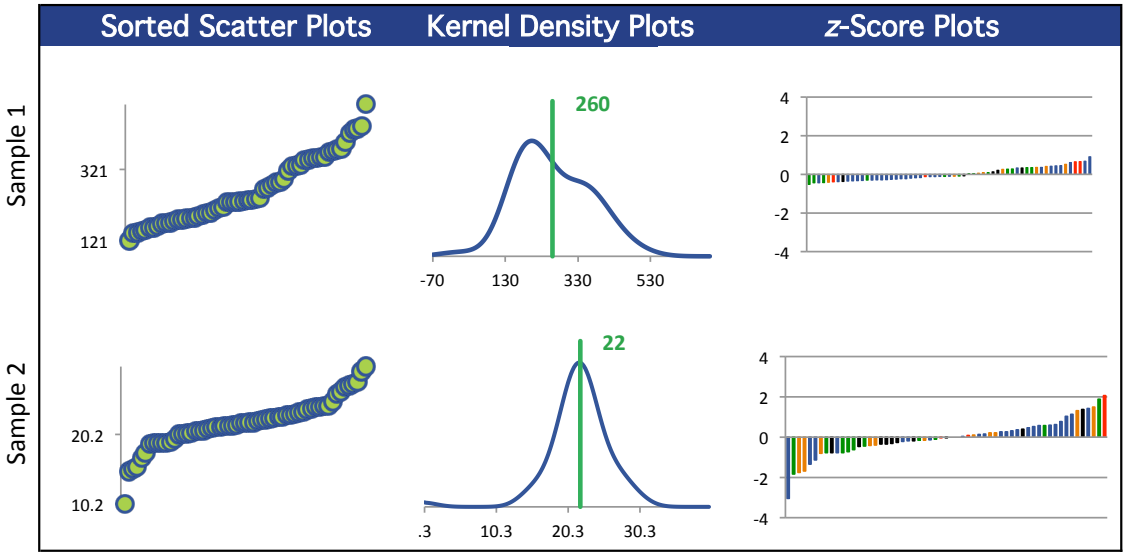
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	59	59	59	59
Median µg/L	234	21.9	211	108
Robust Mean µg/L	260	22.0	210	107
U µg/L	16.3	0.483	4.78	2.16
Robust Standard Deviation µg/L	100	2.97	29.4	13.3
Regression Standard Deviation µg/L	39.0	3.29	31.5	16.1
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	266	3.88	31.5	16.1
Outliers	0	0	0	0
|z|>3.0	0	1	1	3
2<|z|<3	0	1	5	1

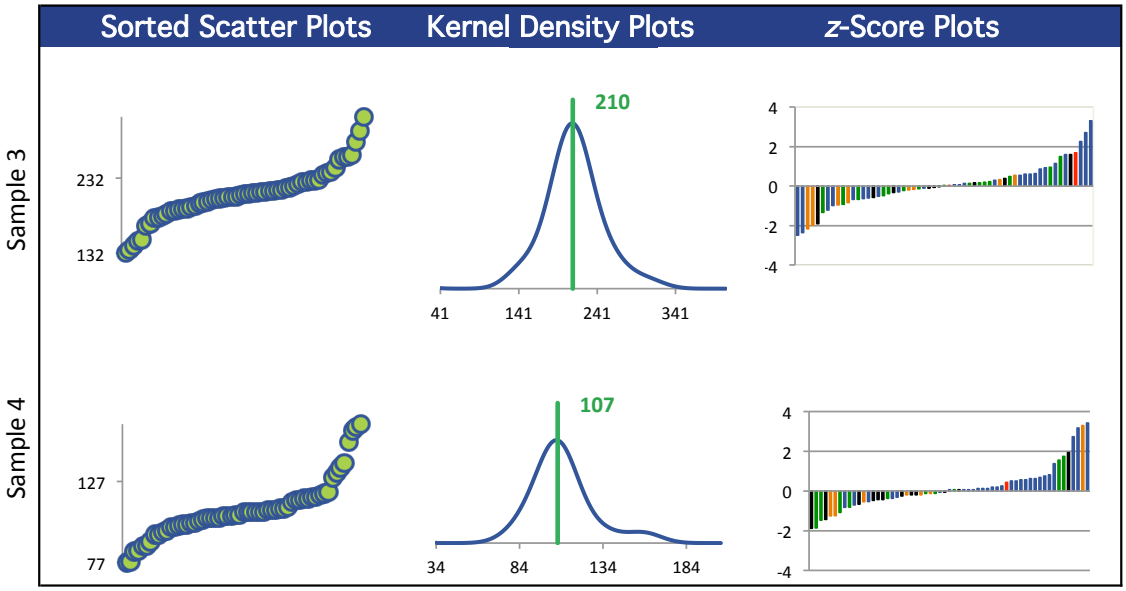
Methods Used

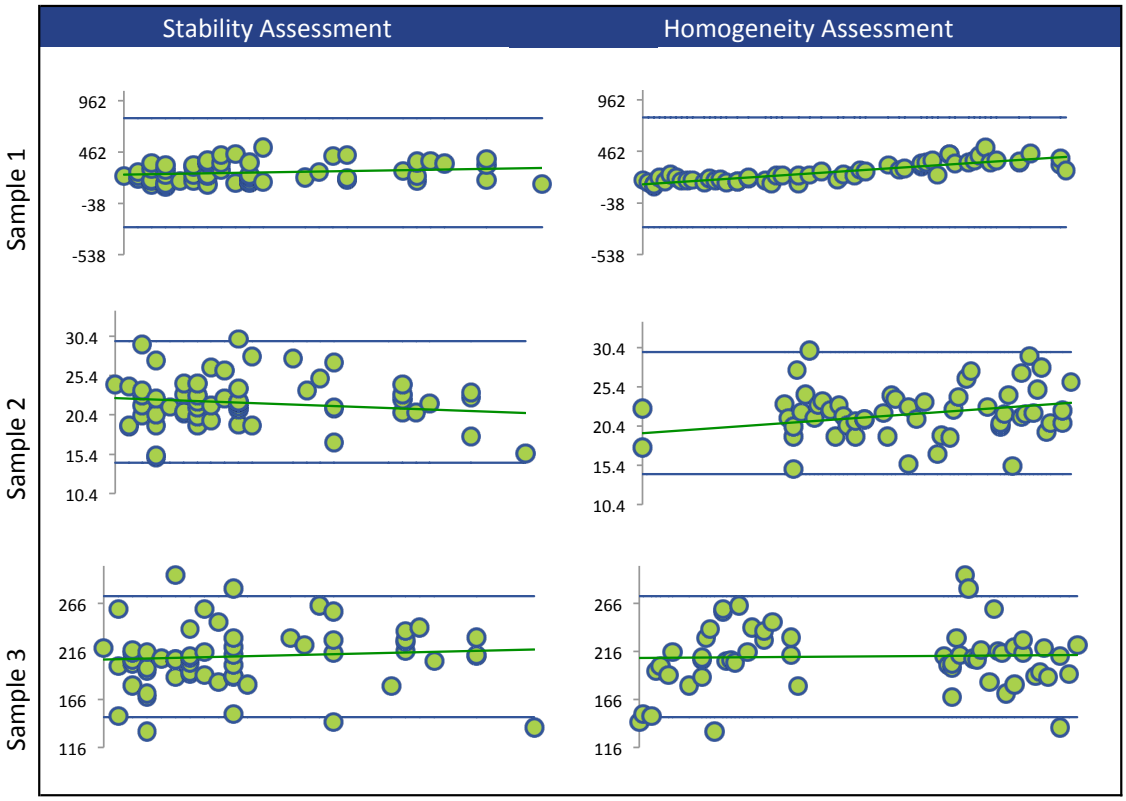
Method	C16-1	C16-2	C16-3	C16-4
GC/MS (Blue)	5	5	5	5
GC/MS - PURGE AND TRAP (Red)	30	30	30	30
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1

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



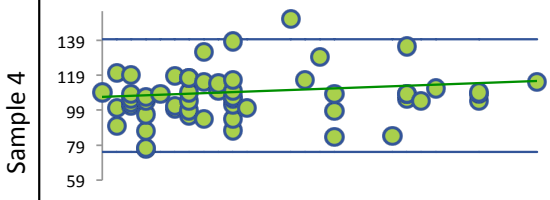
CHLOROFORM


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
232
132
210
41
141
241
341
4
2
0
-2
-4
Sample 4
127
77
107
34
84
134
184
4
2
0
-2
-4

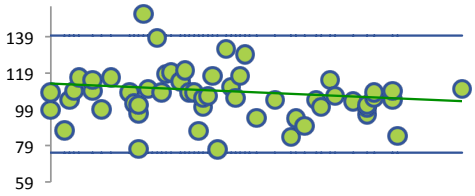

Stability Assessment
Homogeneity Assessment
Sample 1
962
462
-38
-538
962
462
-38
-538
Sample 2
30.4
25.4
20.4
15.4
10.4
30.4
25.4
20.4
15.4
10.4
Sample 3
266
216
166
116
266
216
166
116

CHLOROFORM

Stability Assessment



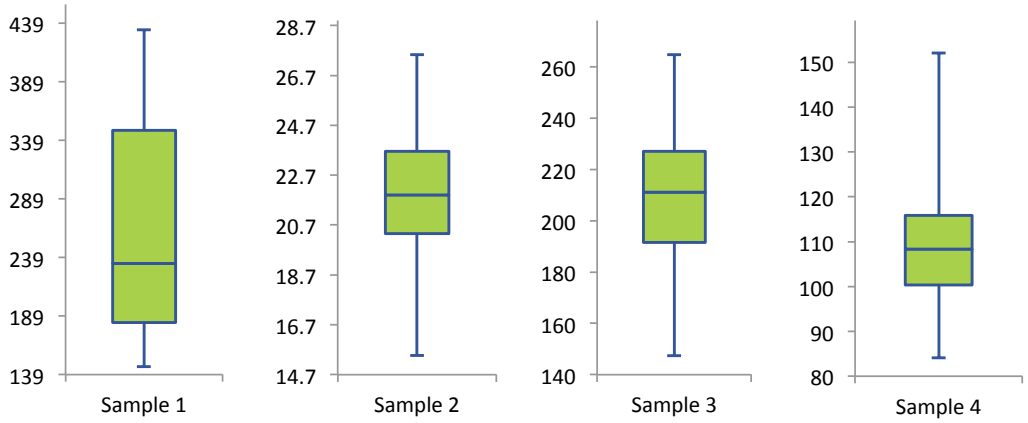
Homogeneity Assessment



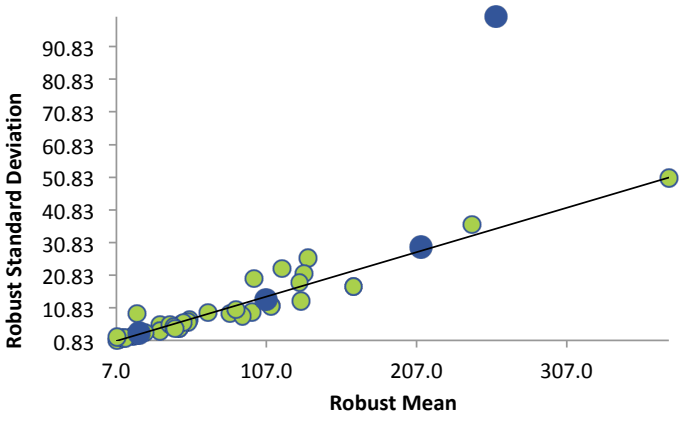
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



CIS-1,2-DICHLOROETHYLENE

Summary Statistics

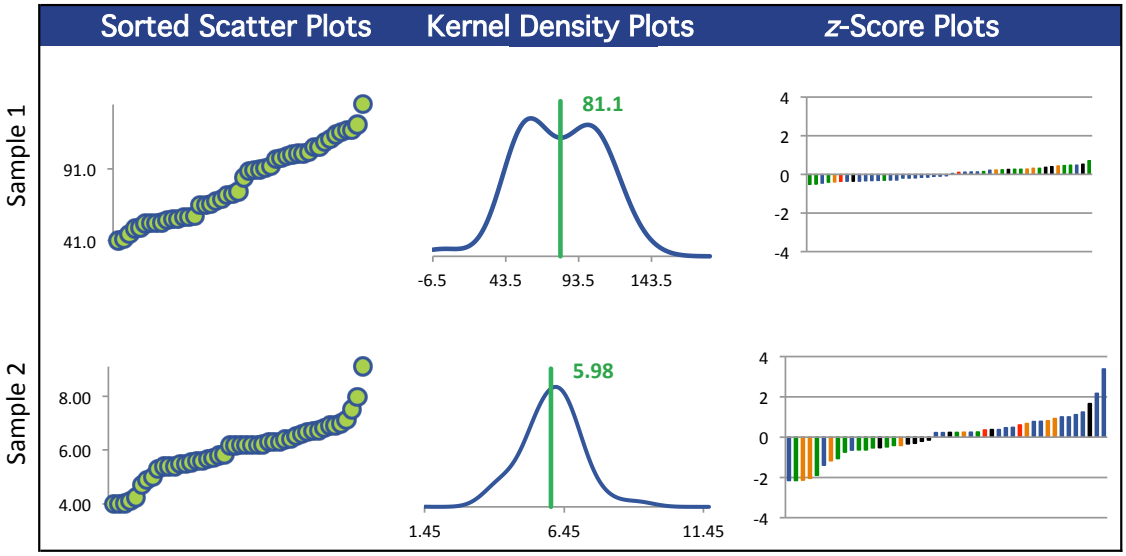
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	46	46	45	46
Median µg/L	80.0	6.19	61.0	30.6
Robust Mean µg/L	81.1	5.98	61.4	30.5
U µg/L	5.33	0.170	1.38	0.599
Robust Standard Deviation µg/L	28.9	0.923	7.43	3.25
Regression Standard Deviation µg/L	12.2	0.897	9.21	4.58
Stability Flag				Stability
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	77.4	0.923	9.21	4.76
Outliers	0	0	1	0
|z|>3.0	0	1	0	0
2<|z|<3	0	5	2	4

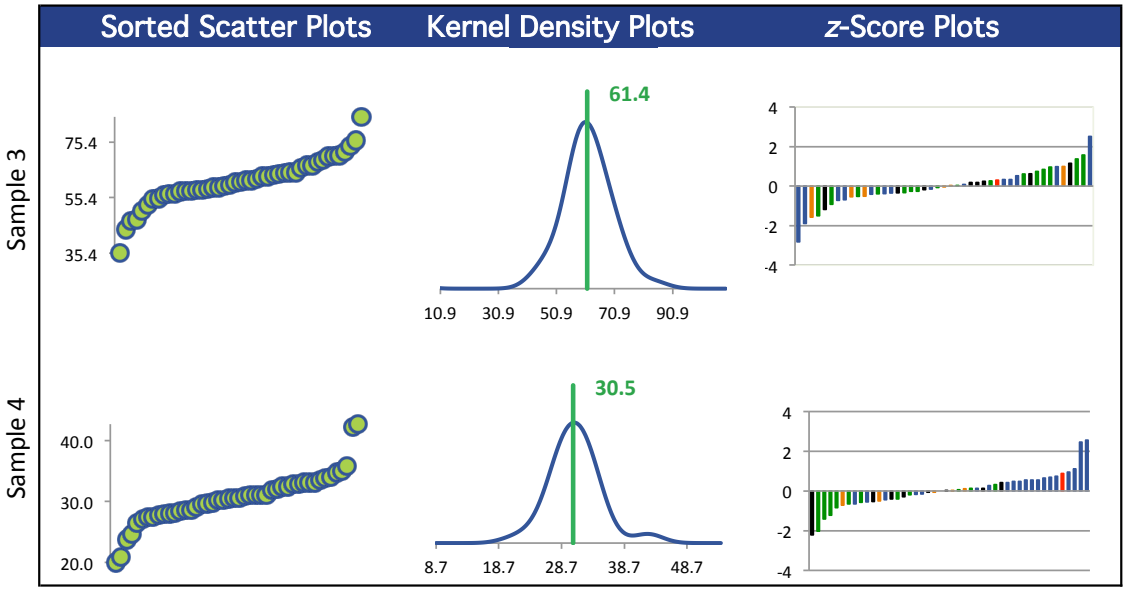
Methods Used

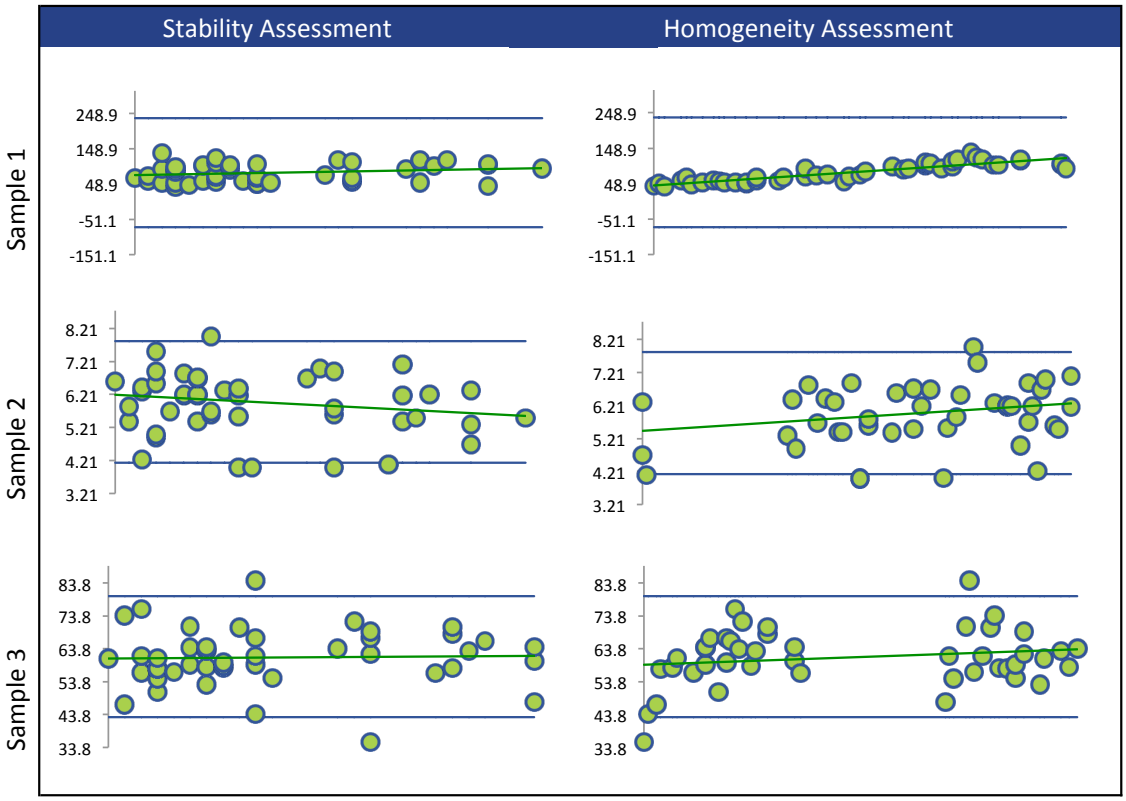
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	24	24	23	24
GC/MS (Red)	3	3	3	3
GC/MS - HEADSPACE (Green)	18	18	18	18
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1

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



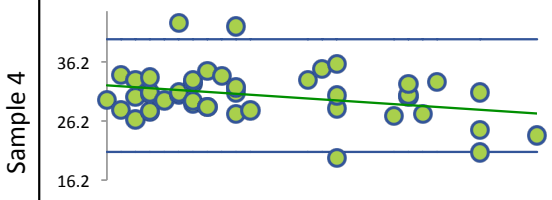
CIS-1,2-DICHLOROETHYLENE



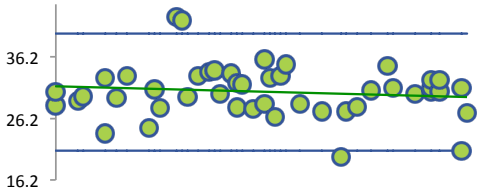


CIS-1,2-DICHLOROETHYLENE

Stability Assessment



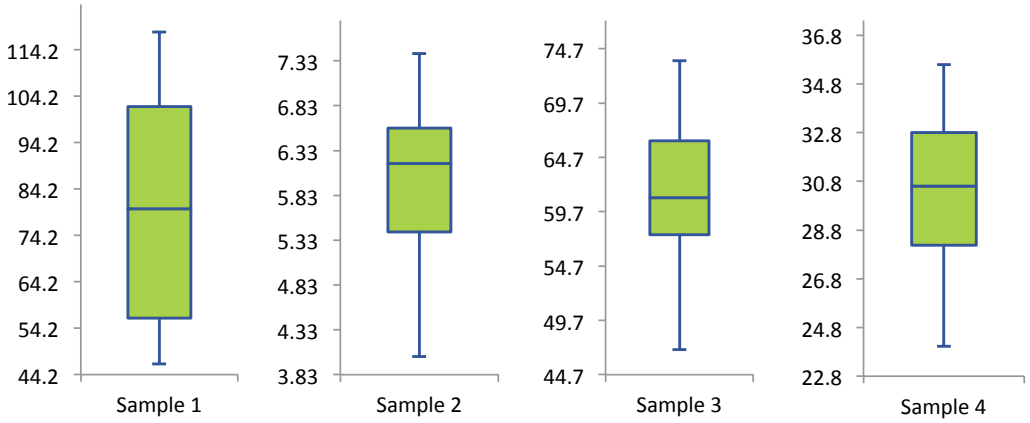
Homogeneity Assessment



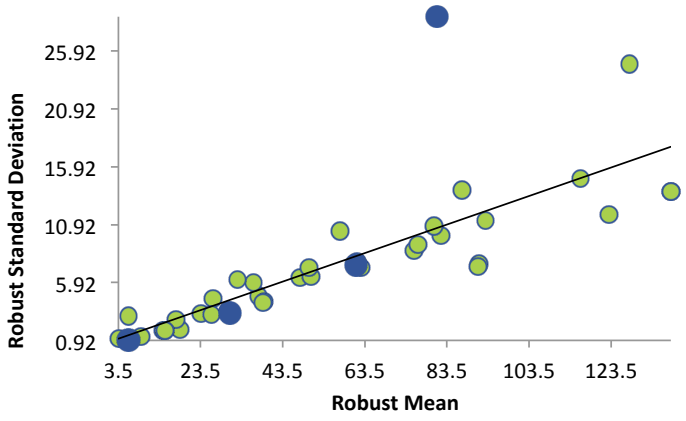
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



CIS-1,3-DICHLOROPROPENE

Summary Statistics

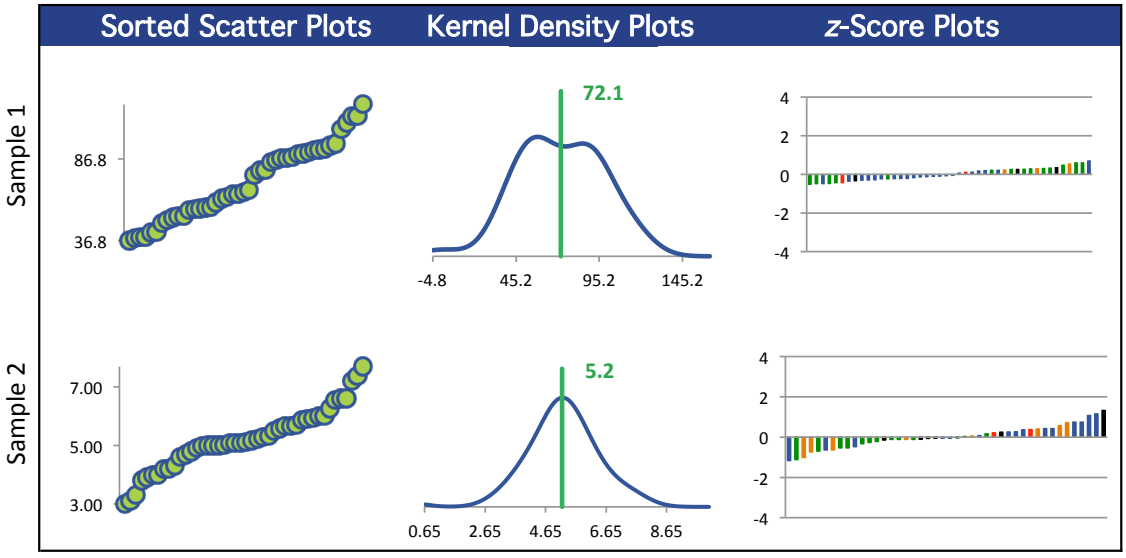
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	44	44	44	44
Median µg/L	67.1	5.11	52.4	26.8
Robust Mean µg/L	72.1	5.20	52.9	27.0
U µg/L	4.82	0.194	1.67	0.767
Robust Standard Deviation µg/L	25.6	1.03	8.85	4.07
Regression Standard Deviation µg/L	10.8	0.781	7.94	4.06
Stability Flag		Stability		Stability
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	68.4	1.89	8.85	5.77
Outliers	0	0	0	0
|z|>3.0	0	0	1	0
2<|z|<3	0	0	3	1

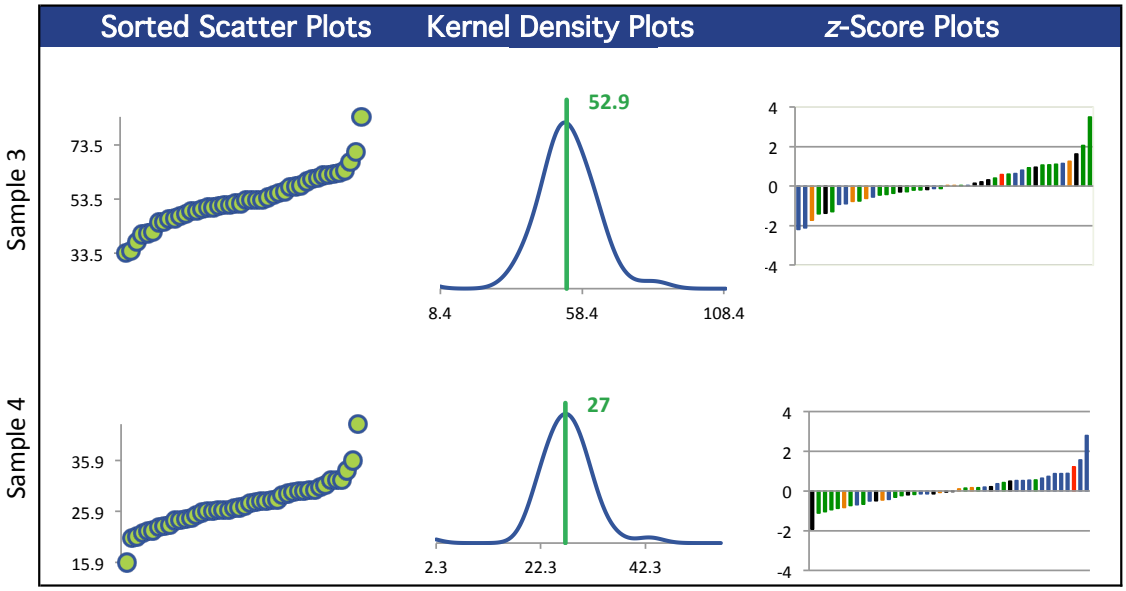
Methods Used

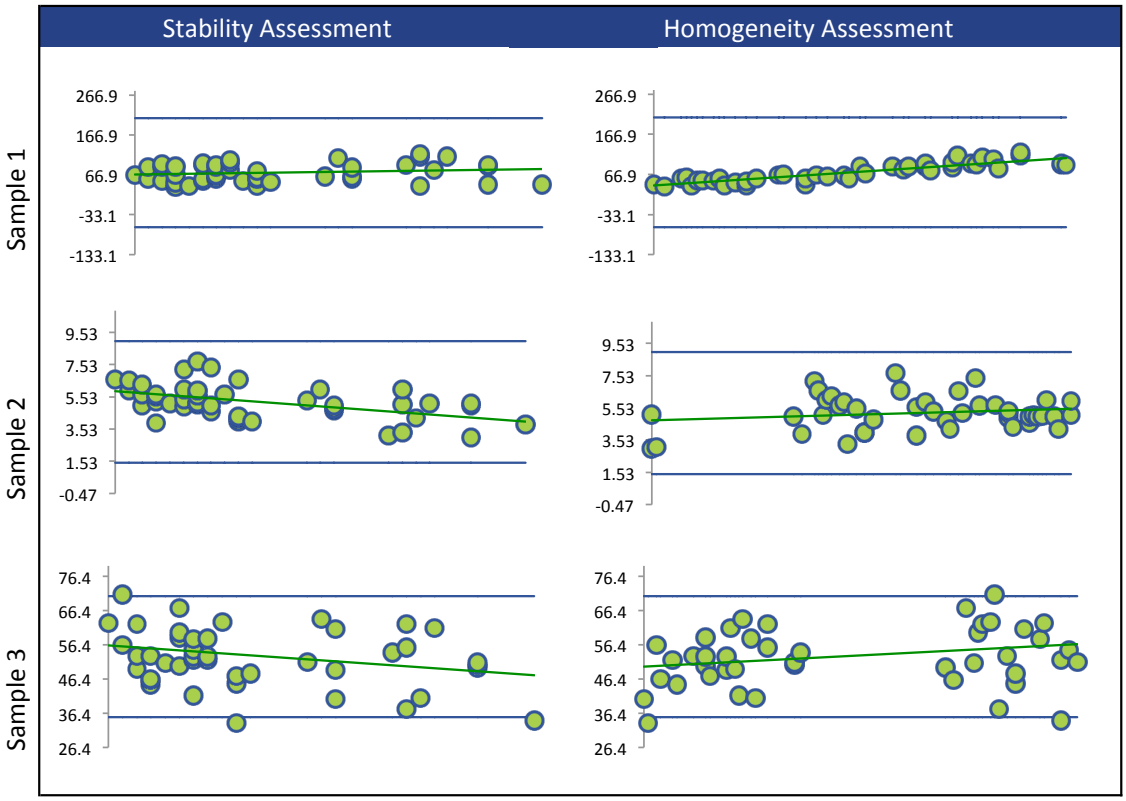
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	23	23	23	23
GC/MS - HEADSPACE (Red)	18	18	18	18
GC/MS (Green)	3	3	3	3

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



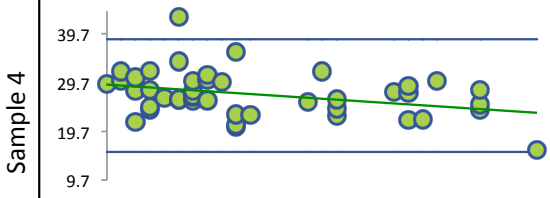
CIS-1,3-DICHLOROPROPENE



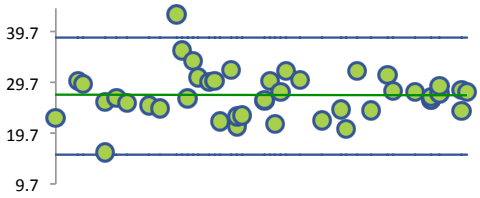


CIS-1,3-DICHLOROPROPENE

Stability Assessment



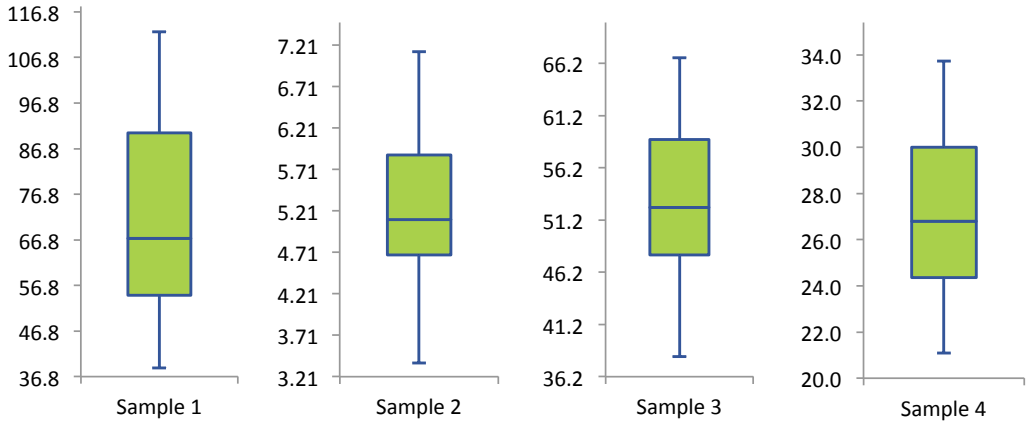
Homogeneity Assessment



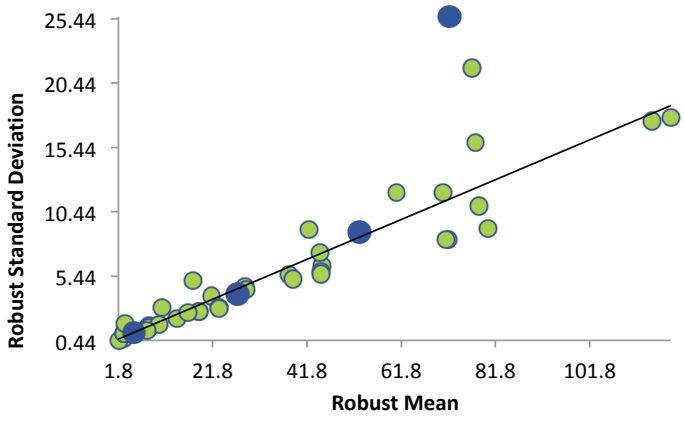
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



DICHLOROMETHANE

Summary Statistics

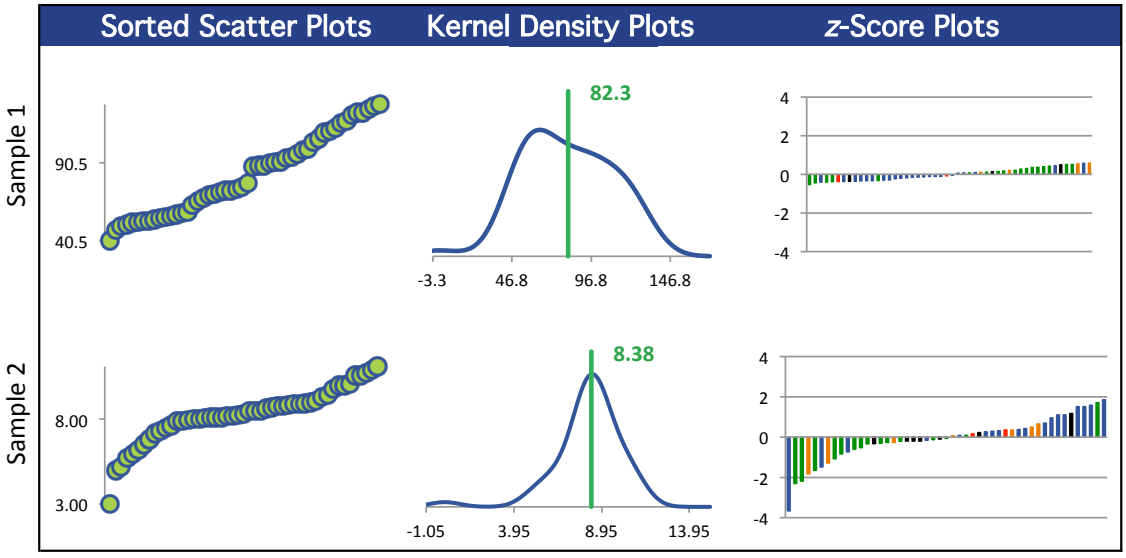
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	50	49	50	50
Median µg/L	76.2	8.30	63.3	33.1
Robust Mean µg/L	82.3	8.38	64.0	33.4
U µg/L	5.16	0.257	1.52	0.764
Robust Standard Deviation µg/L	29.2	1.44	8.59	4.32
Regression Standard Deviation µg/L	14.4	1.47	11.2	5.85
Stability Flag			Stability	
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	77.7	1.47	14.3	5.85
Outliers	0	0	0	0
|z|>3.0	0	1	0	0
2<|z|<3	0	2	0	3

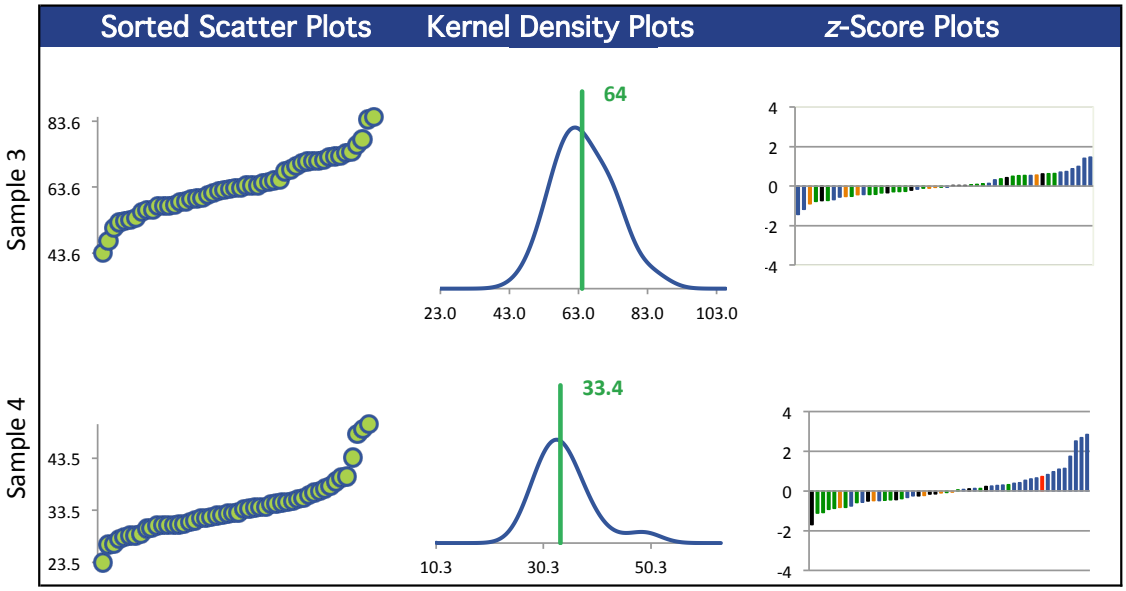
Methods Used

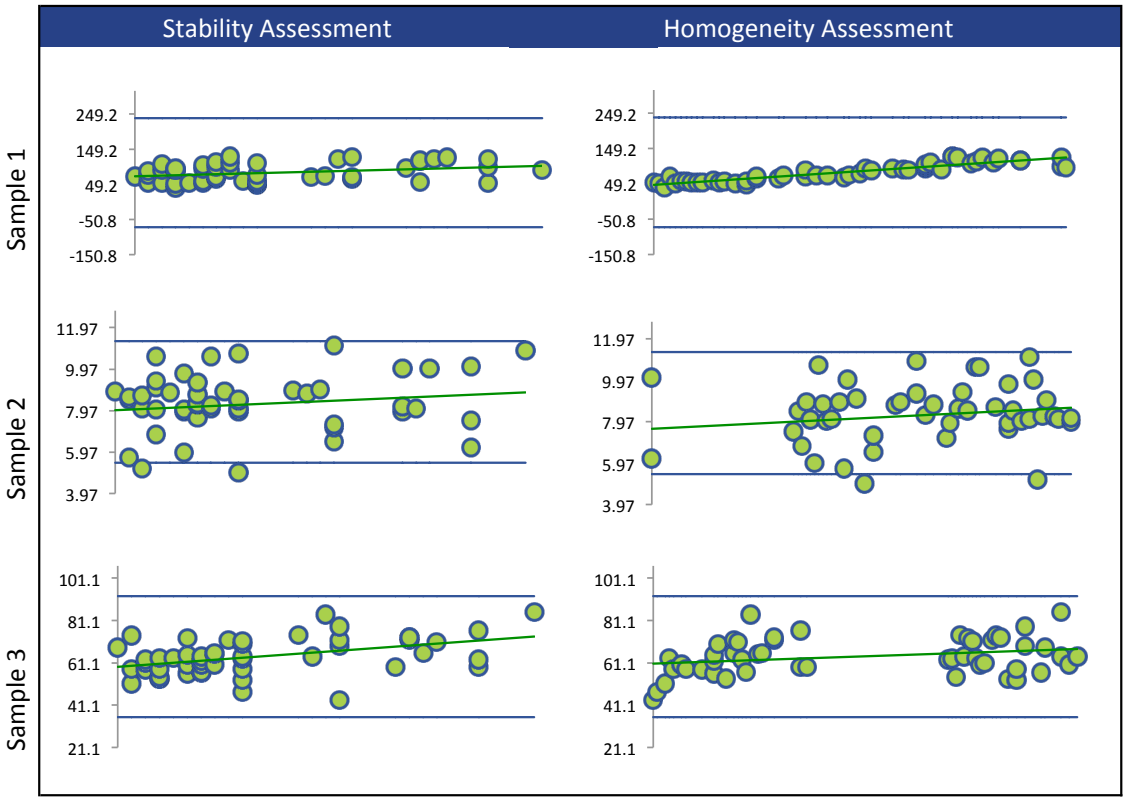
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	26	27	27
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



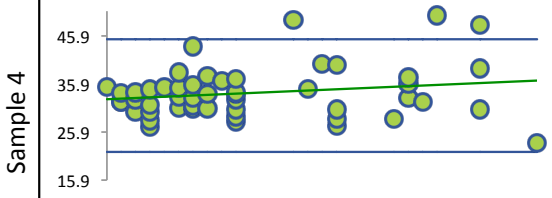
DICHLOROMETHANE



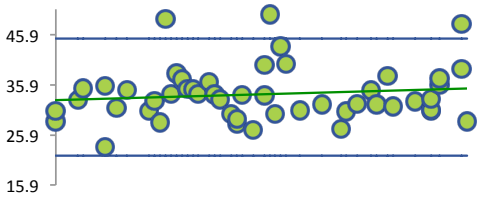


DICHLOROMETHANE

Stability Assessment



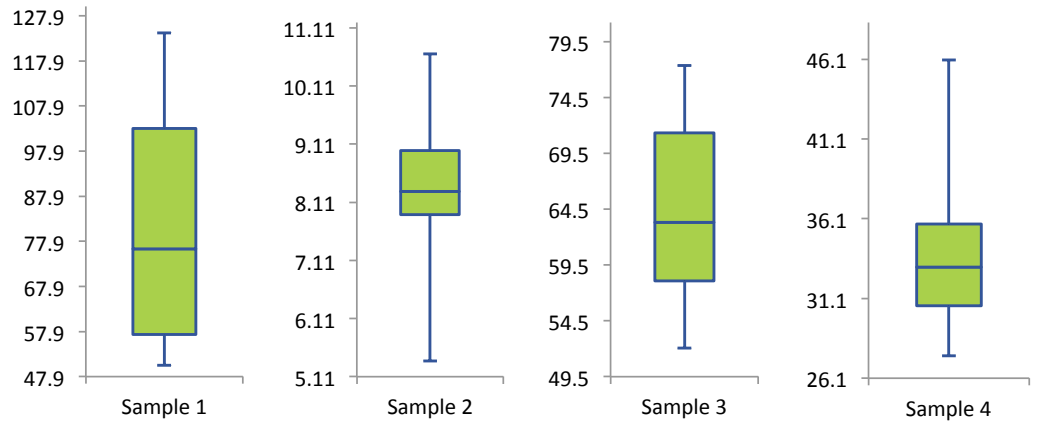
Homogeneity Assessment



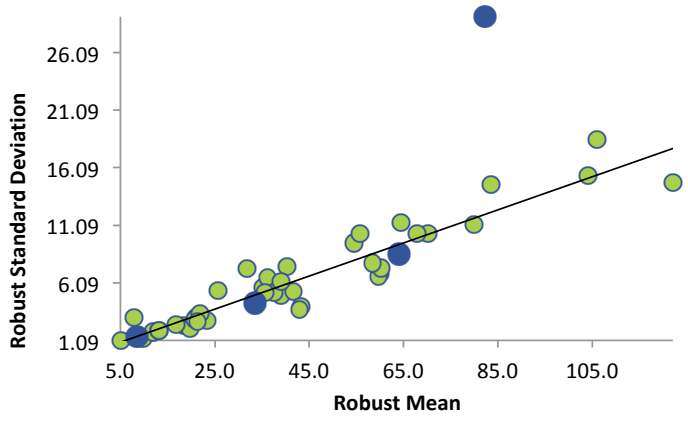
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



ETHYLBENZENE

Summary Statistics

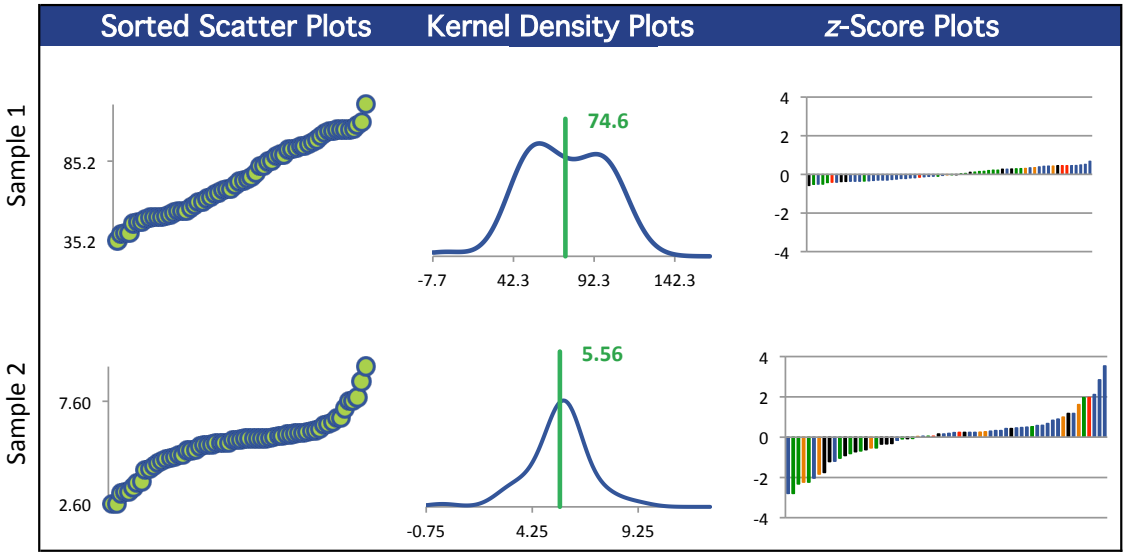
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	62	62	62	62
Median µg/L	72.8	5.74	56.9	29.0
Robust Mean µg/L	74.6	5.56	56.7	28.9
U µg/L	4.08	0.168	1.40	0.594
Robust Standard Deviation µg/L	25.7	1.06	8.80	3.74
Regression Standard Deviation µg/L	11.2	0.835	8.50	4.34
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	67.9	1.06	8.80	4.34
Outliers	0	0	0	0
|z|>3.0	0	1	0	2
2<|z|<3	0	8	1	3

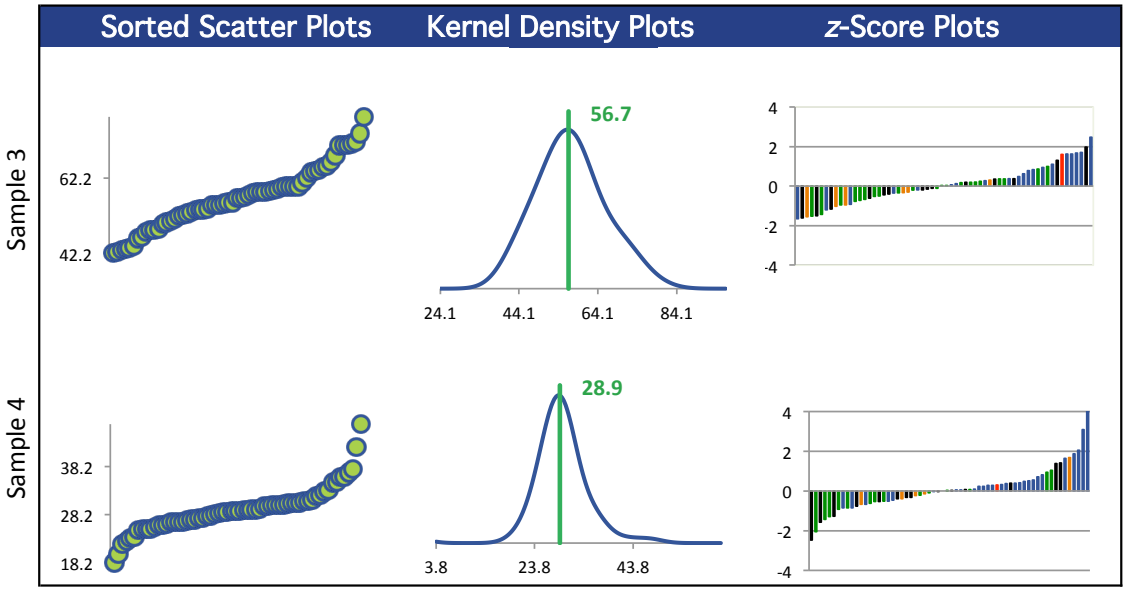
Methods Used

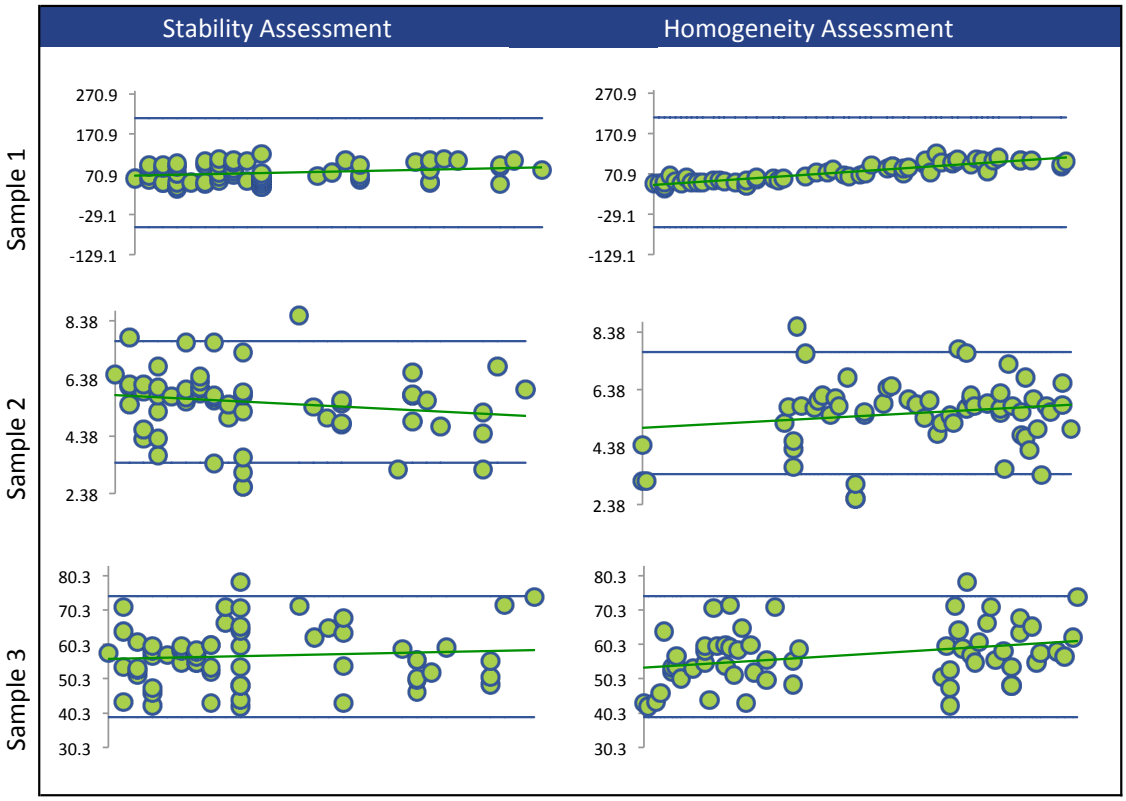
Method	C16-1	C16-2	C16-3	C16-4
GC/MS (Blue)	6	6	6	6
GC/MS - PURGE AND TRAP (Red)	31	31	31	31
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1
GC/FID - PURGE AND TRAP (Yellow)	1	1	1	1

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



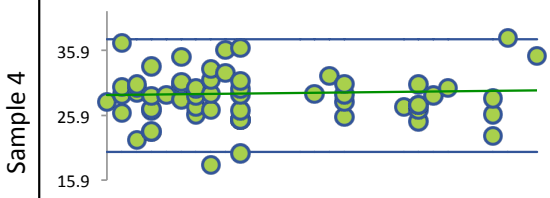
ETHYLBENZENE



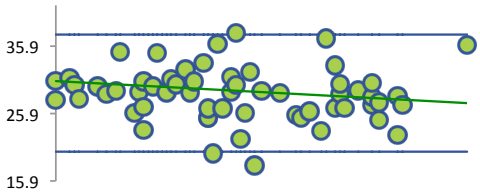


ETHYLBENZENE

Stability Assessment



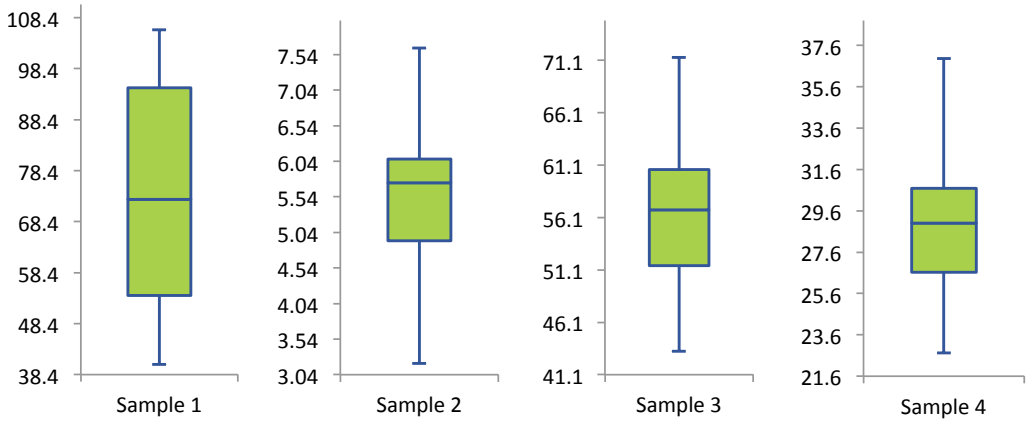
Homogeneity Assessment



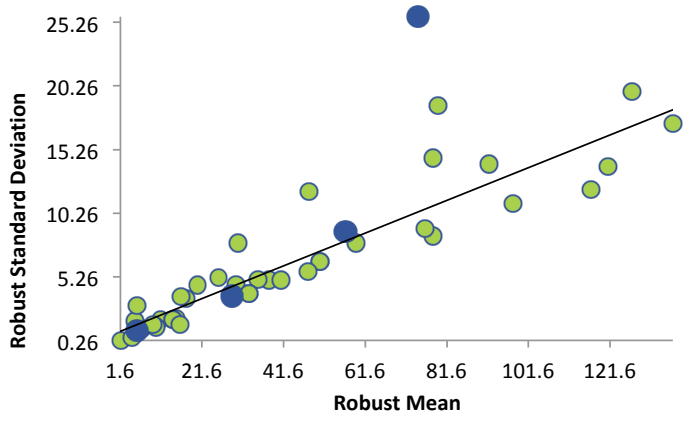
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



ETHYLENE DIBROMIDE

Summary Statistics

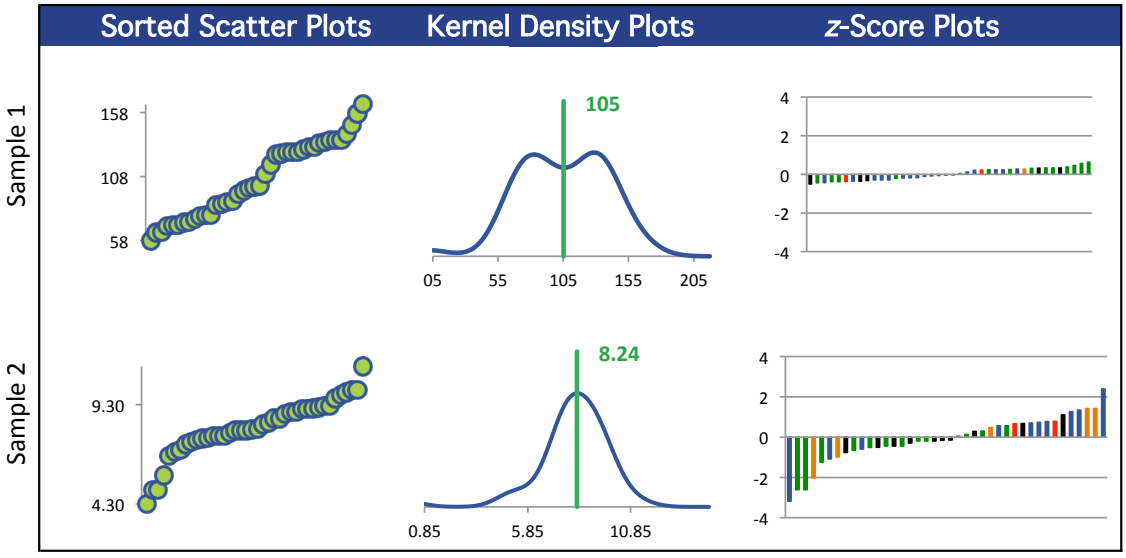
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	40	40	40	40
Median µg/L	101	8.06	76.9	40.0
Robust Mean µg/L	105	8.24	78.3	40.6
U µg/L	6.56	0.245	1.80	0.876
Robust Standard Deviation µg/L	33.2	1.24	9.12	4.43
Regression Standard Deviation µg/L	15.8	1.24	11.7	6.09
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	91.8	1.24	11.7	6.09
Outliers	0	0	0	0
|z|>3.0	0	1	0	0
2<|z|<3	0	4	1	1

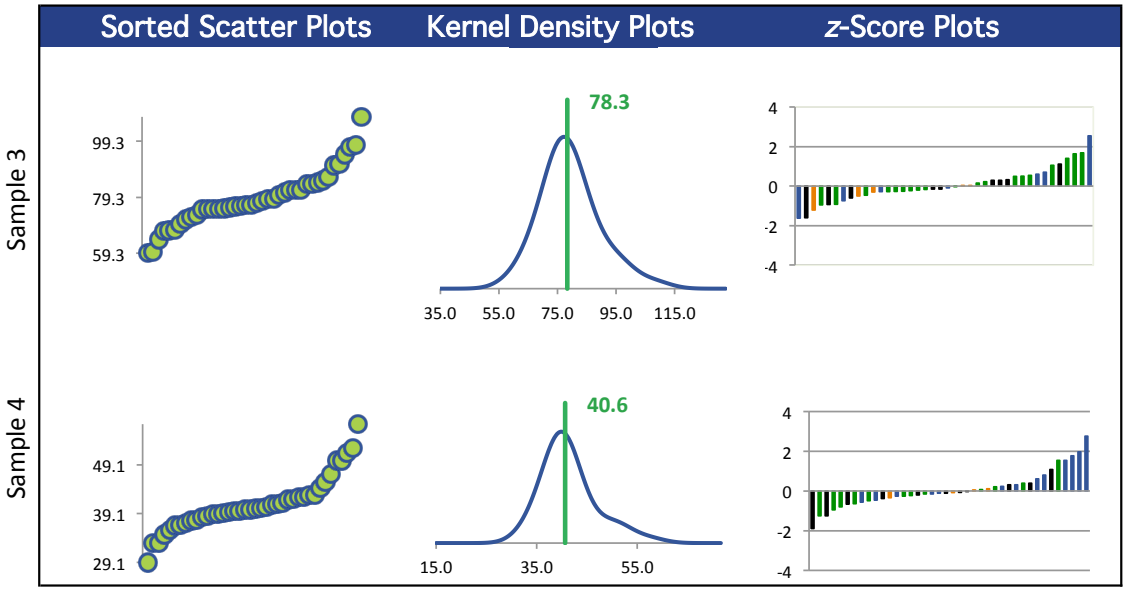
Methods Used

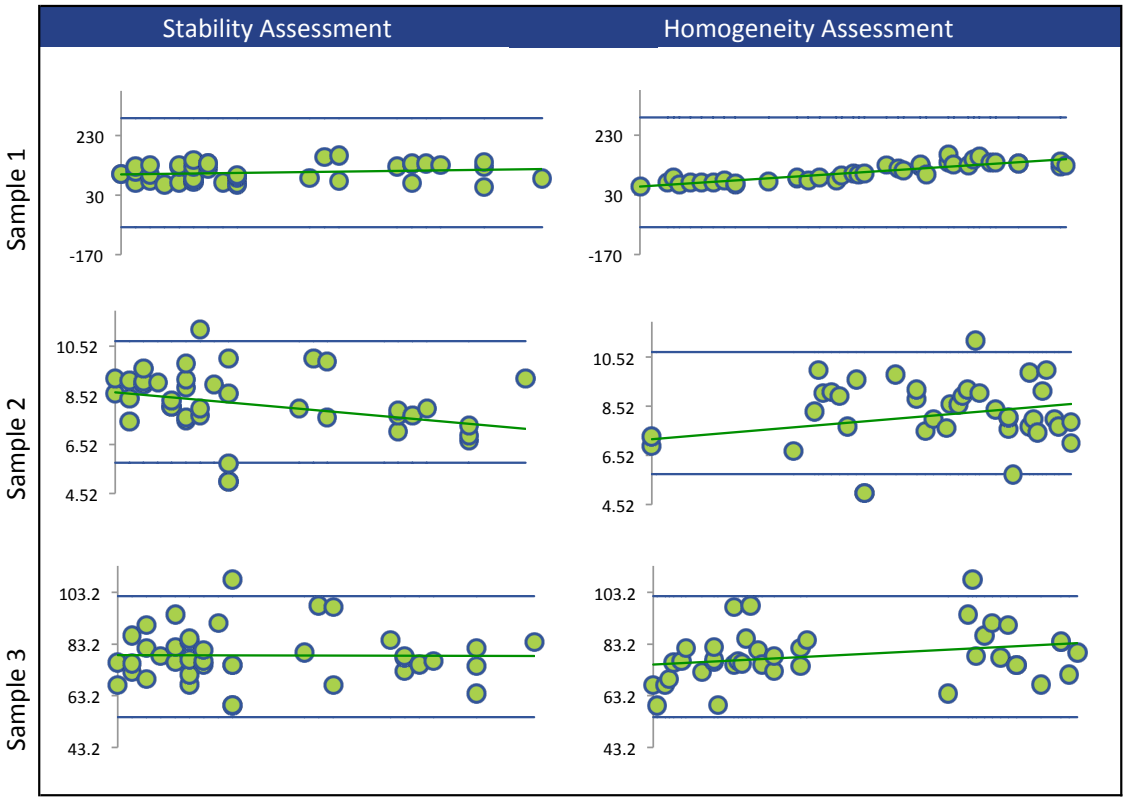
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	22	22	22	22
GC/MS - HEADSPACE (Red)	16	16	16	16
GC/MS (Green)	2	2	2	2

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



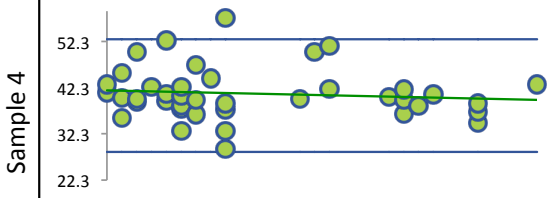
ETHYLENE DIBROMIDE



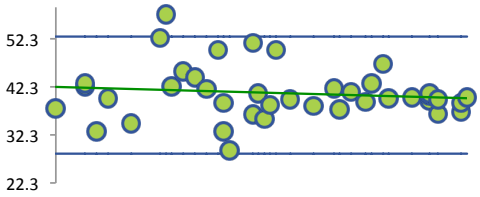


ETHYLENE DIBROMIDE

Stability Assessment



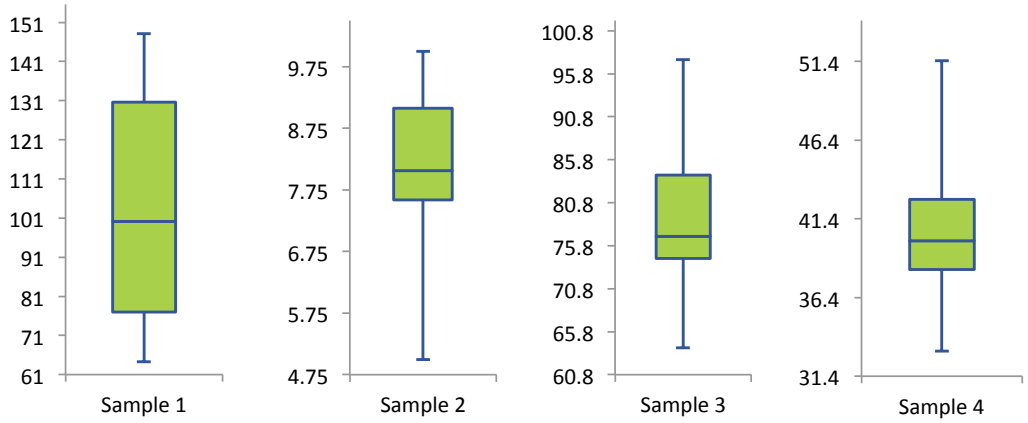
Homogeneity Assessment



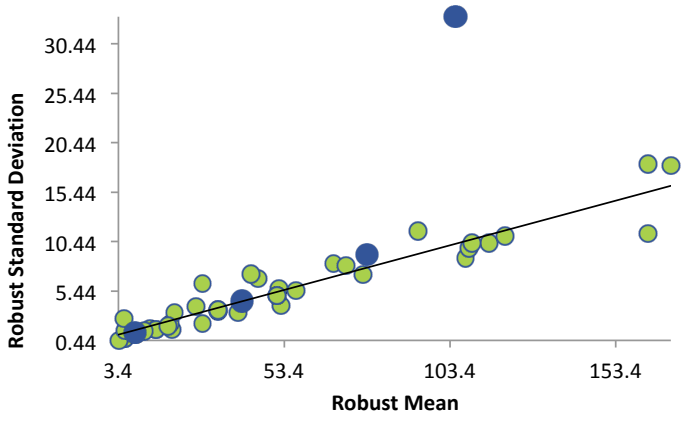
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



M,P-XYLENE

Summary Statistics

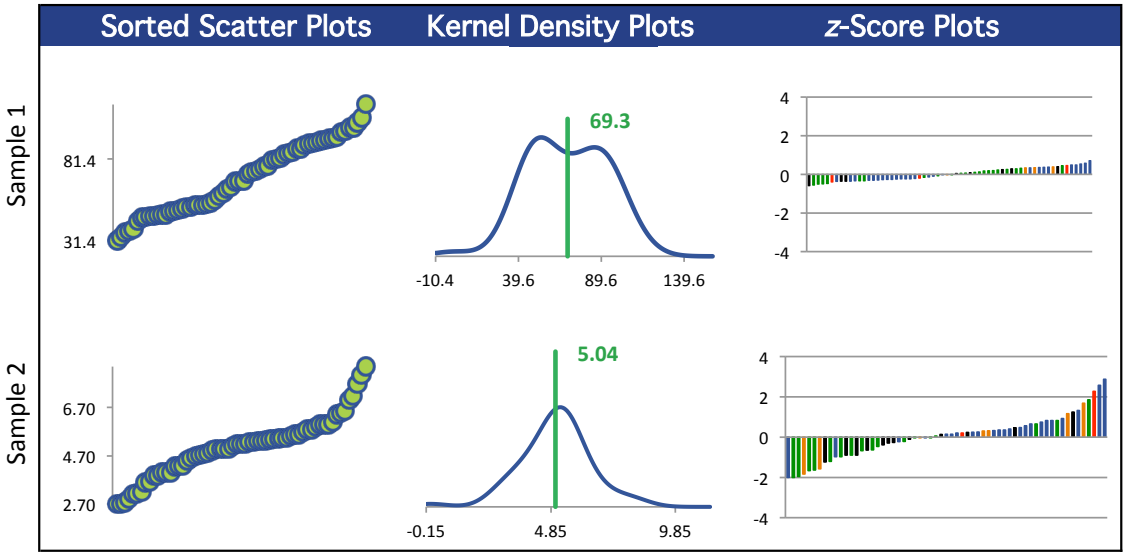
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	62	61	62	62
Median µg/L	68.2	5.20	53.7	27.5
Robust Mean µg/L	69.3	5.04	53.6	27.1
U µg/L	3.89	0.187	1.37	0.657
Robust Standard Deviation µg/L	24.5	1.17	8.65	4.14
Regression Standard Deviation µg/L	10.4	0.757	8.04	4.06
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	64.7	1.17	8.65	4.14
Outliers	0	0	0	0
|z|>3.0	0	0	0	1
2<|z|<3	0	3	3	6

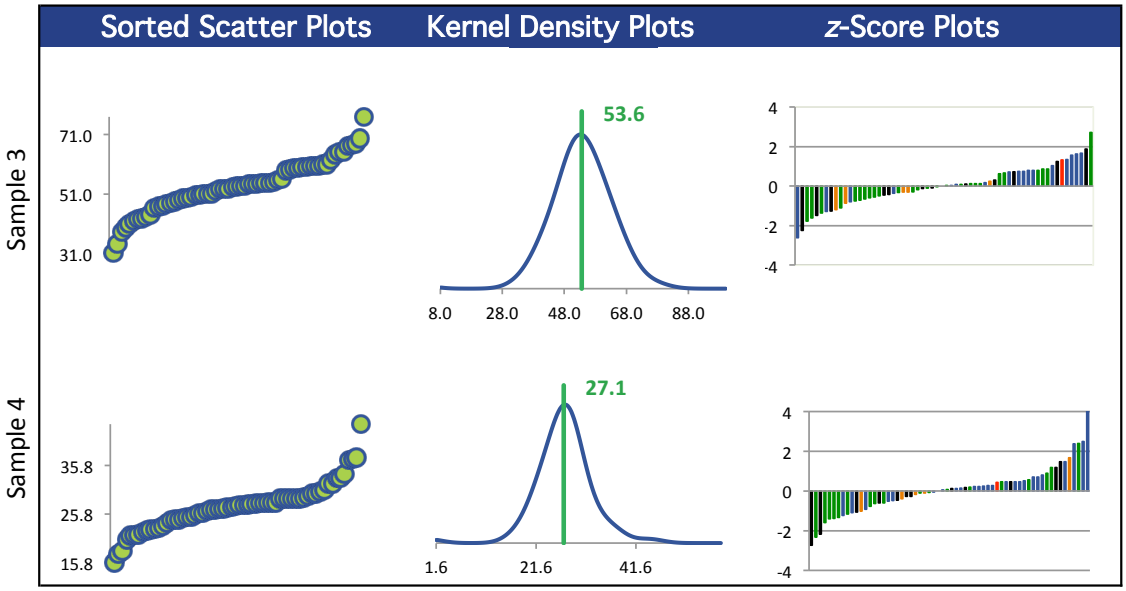
Methods Used

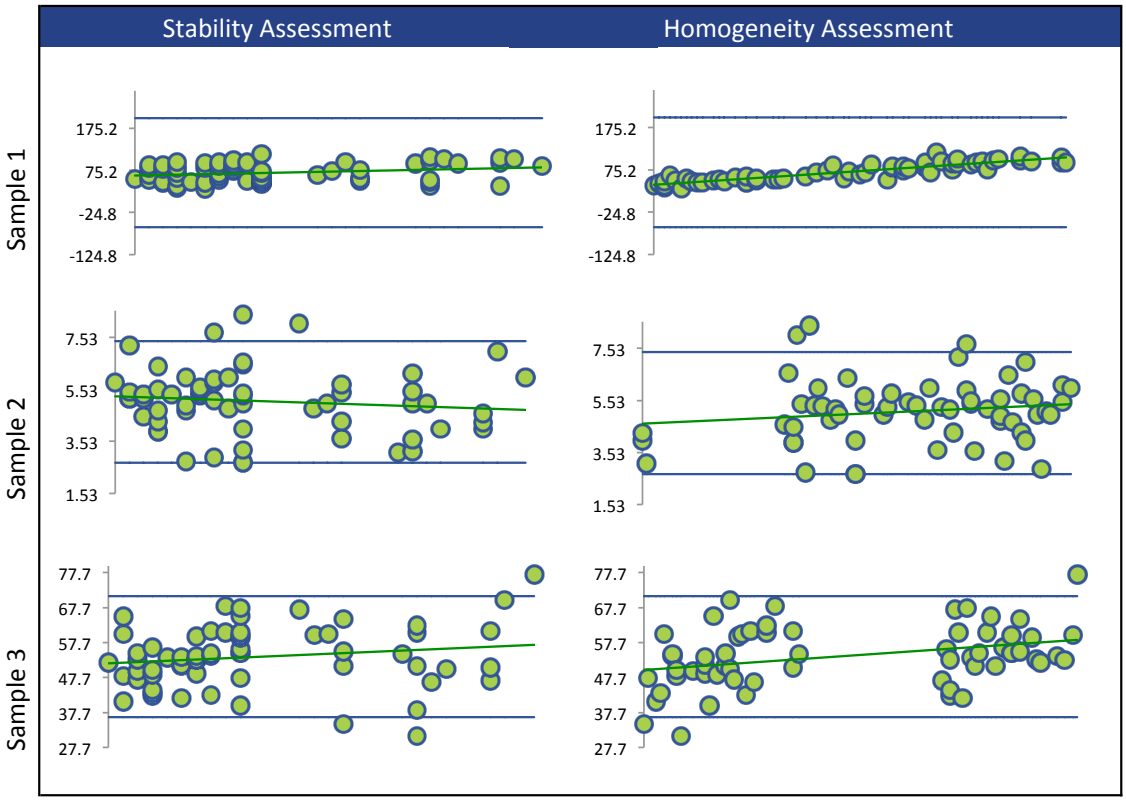
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	31	31	31	31
GC/MS (Red)	6	5	6	6
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1
GC/FID - PURGE AND TRAP (Yellow)	1	1	1	1

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



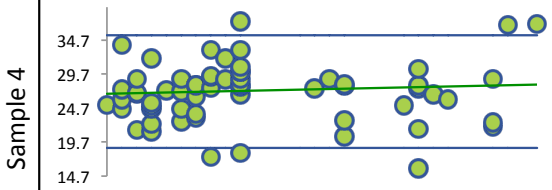
M,P-XYLENE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
71.0
51.0
31.0
53.6
8.0
28.0
48.0
68.0
88.0
4
2
0
-2
-4
Sample 4
35.8
25.8
15.8
27.1
1.6
21.6
41.6
4
2
0
-2
-4

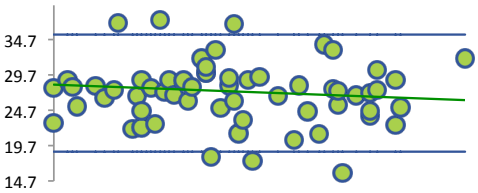

Stability Assessment
Homogeneity Assessment
Sample 1
175.2
75.2
-24.8
-124.8
175.2
75.2
-24.8
-124.8
Sample 2
7.53
5.53
3.53
1.53
7.53
5.53
3.53
1.53
Sample 3
77.7
67.7
57.7
47.7
37.7
27.7
77.7
67.7
57.7
47.7
37.7
27.7

M,P-XYLENE

Stability Assessment



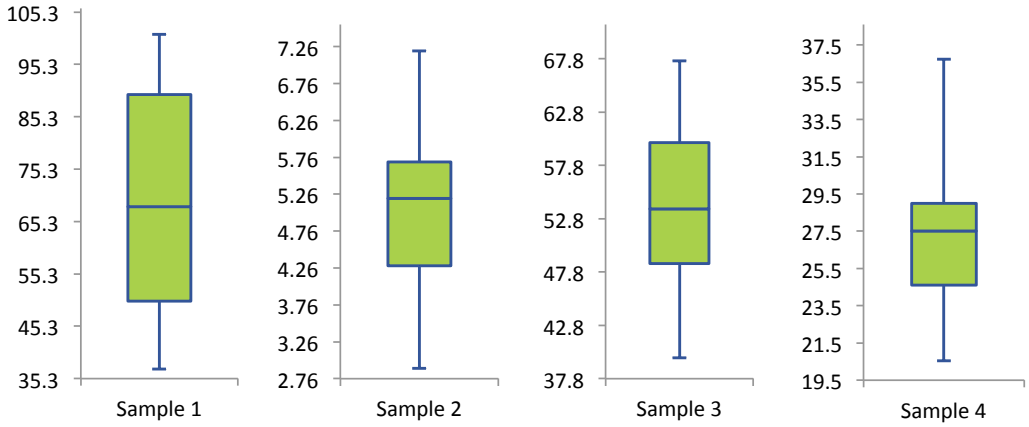
Homogeneity Assessment



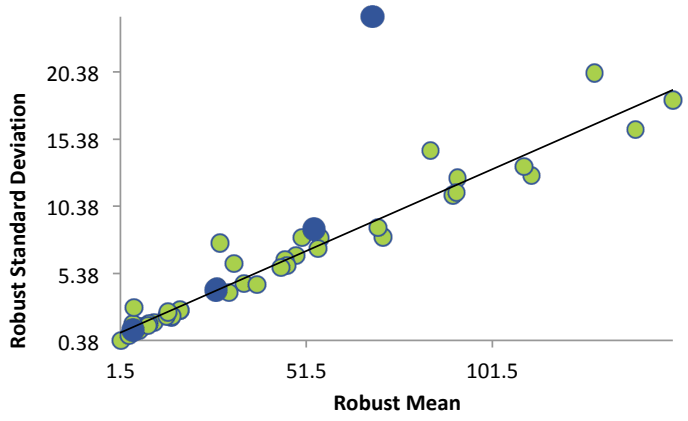
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



METHYL ETHYL KETONE

Summary Statistics

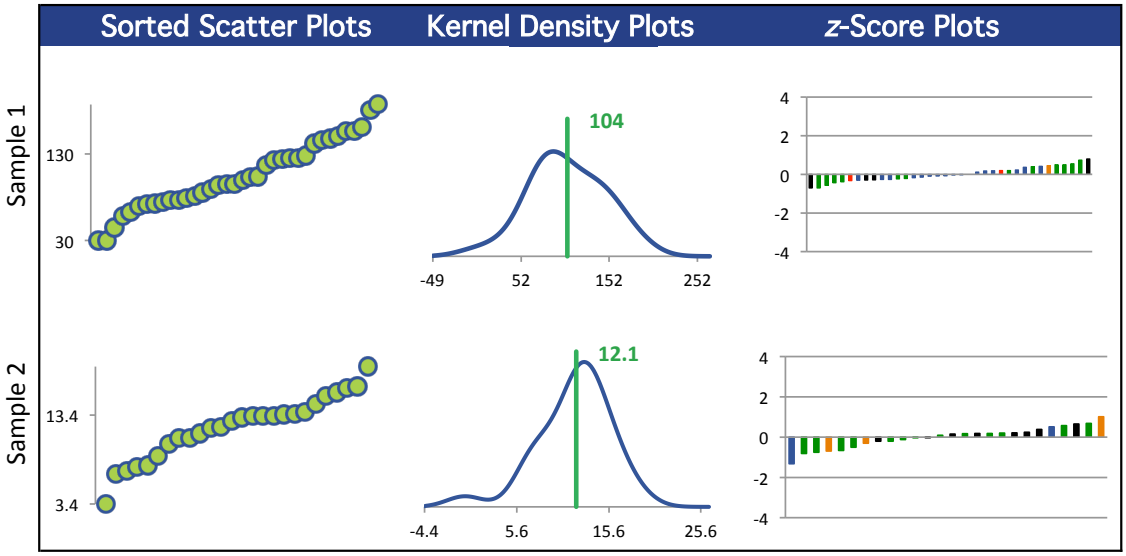
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	36	26	36	36
Median µg/L	97.9	12.9	84.6	43.0
Robust Mean µg/L	104	12.1	82.7	43.0
U µg/L	8.90	0.890	3.75	2.17
Robust Standard Deviation µg/L	42.7	3.63	18.0	10.4
Regression Standard Deviation µg/L	23.4	2.72	18.6	9.68
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	104	6.63	18.6	10.4
Outliers	0	0	0	0
|z|>3.0	0	0	1	0
2<|z|<3	0	0	0	0

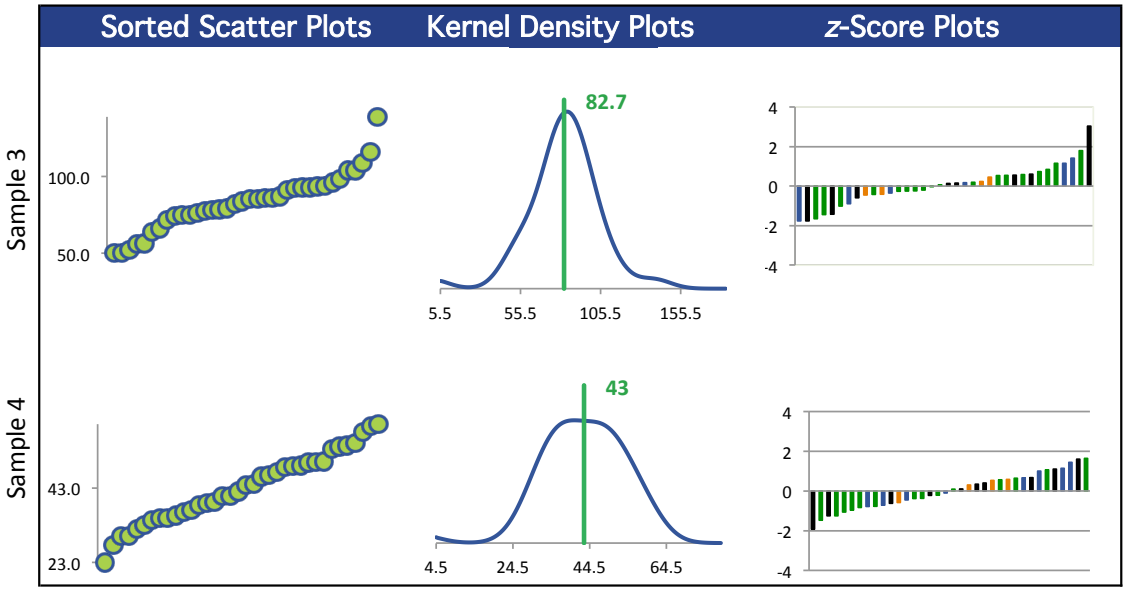
Methods Used

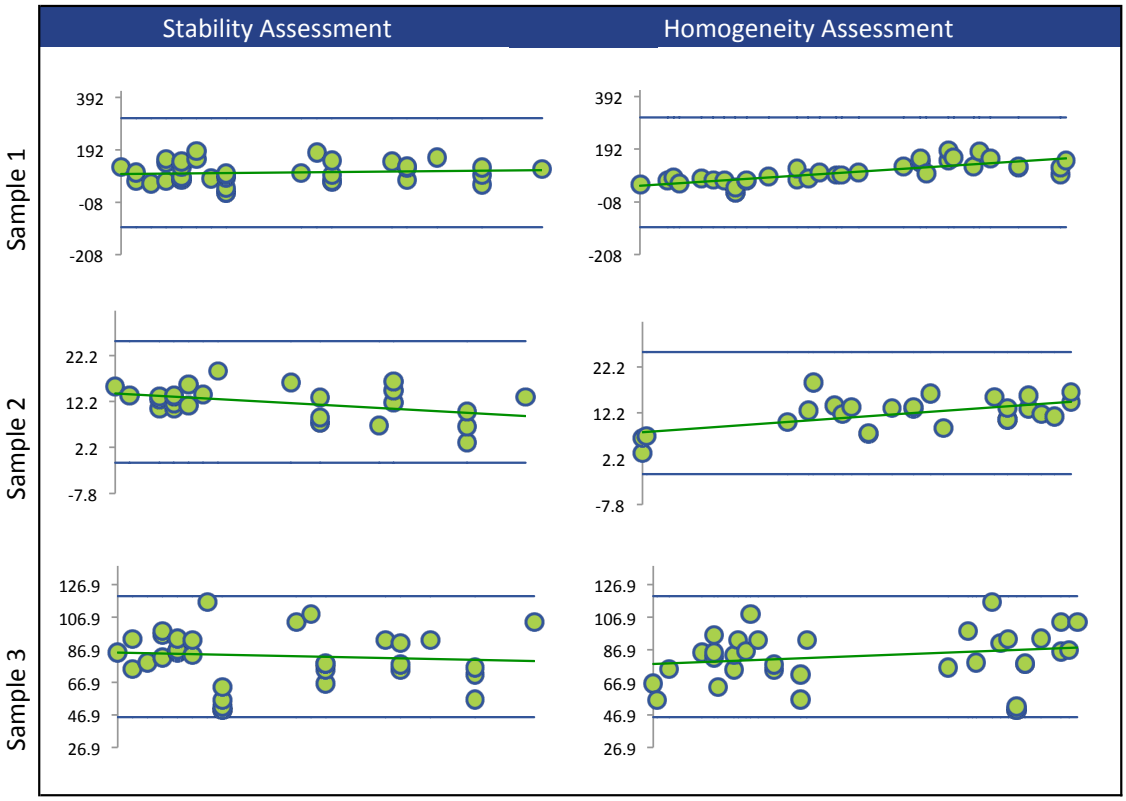
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	14	7	14	14
GC/MS - PURGE AND TRAP (Red)	20	17	20	20
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	1	1	1	1

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



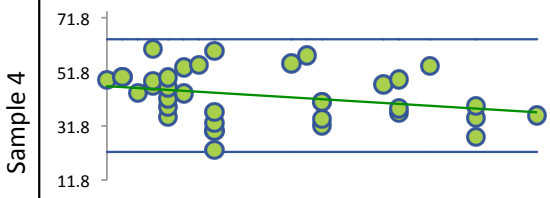
METHYL ETHYL KETONE



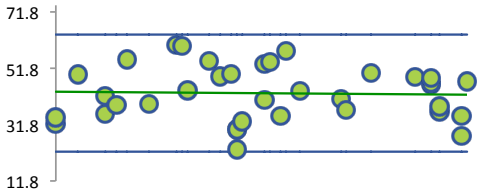


METHYL ETHYL KETONE

Stability Assessment



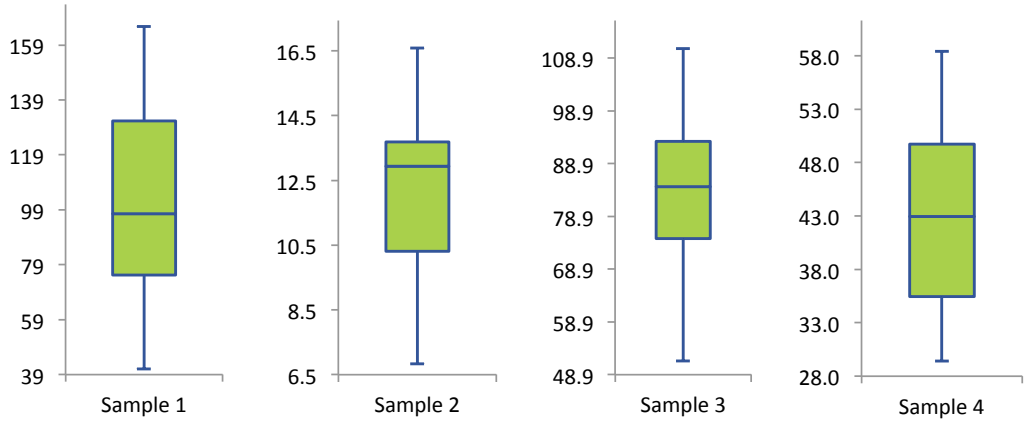
Homogeneity Assessment



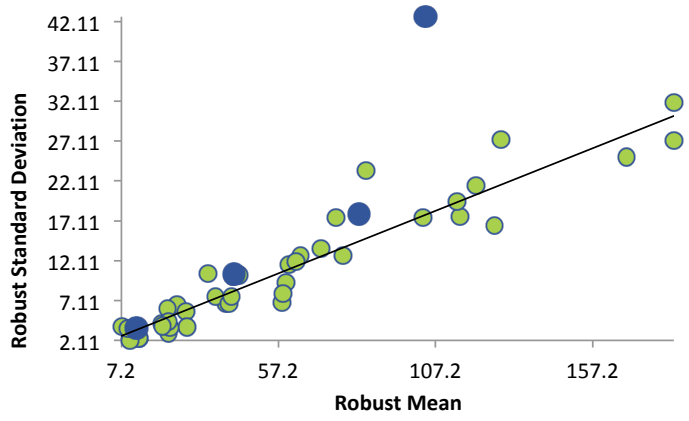
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



METHYL ISOBUTYL KETONE (MIBK)

Summary Statistics

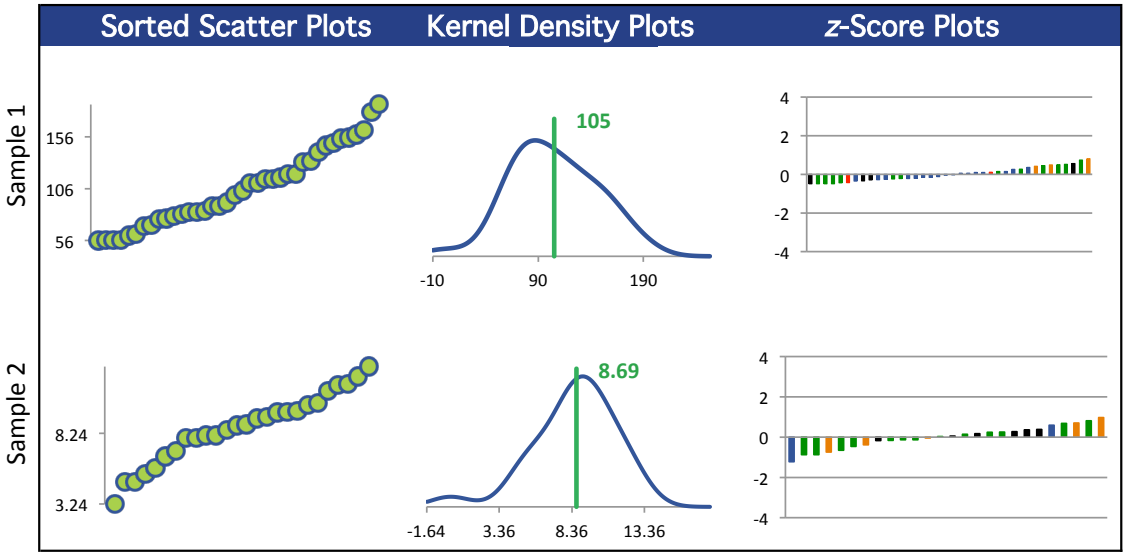
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	38	26	38	38
Median µg/L	102	8.85	77.7	39.1
Robust Mean µg/L	105	8.69	78.5	40.1
U µg/L	8.15	0.657	3.41	1.73
Robust Standard Deviation µg/L	40.2	2.68	16.8	8.55
Regression Standard Deviation µg/L	15.8	1.30	11.8	6.01
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	101	4.45	16.8	8.55
Outliers	0	0	0	0
|z|>3.0	0	0	2	0
2<|z|<3	0	0	0	2

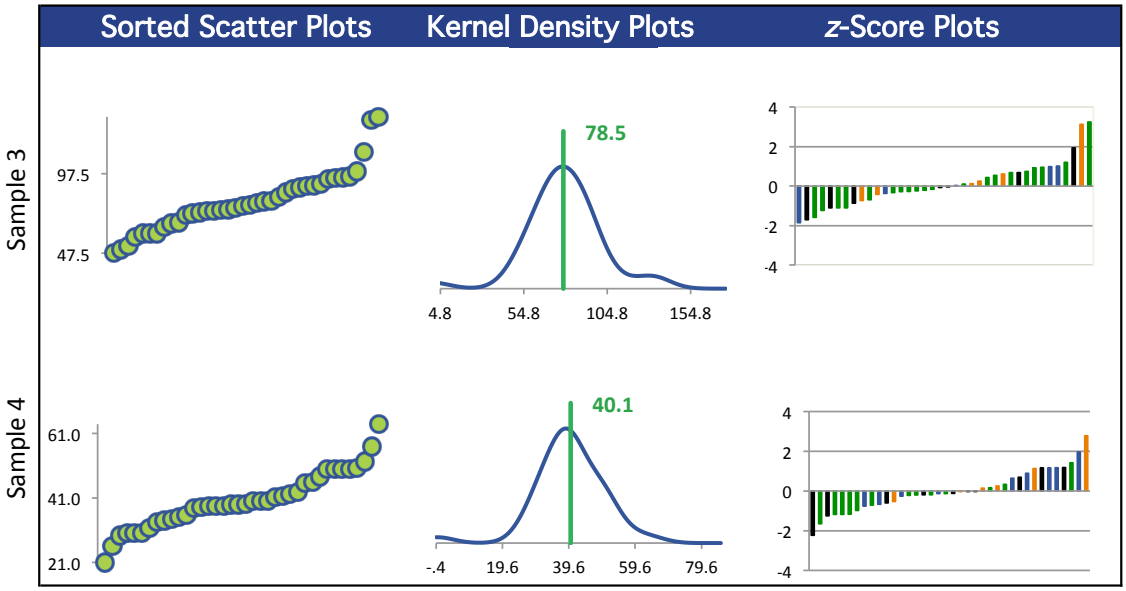
Methods Used

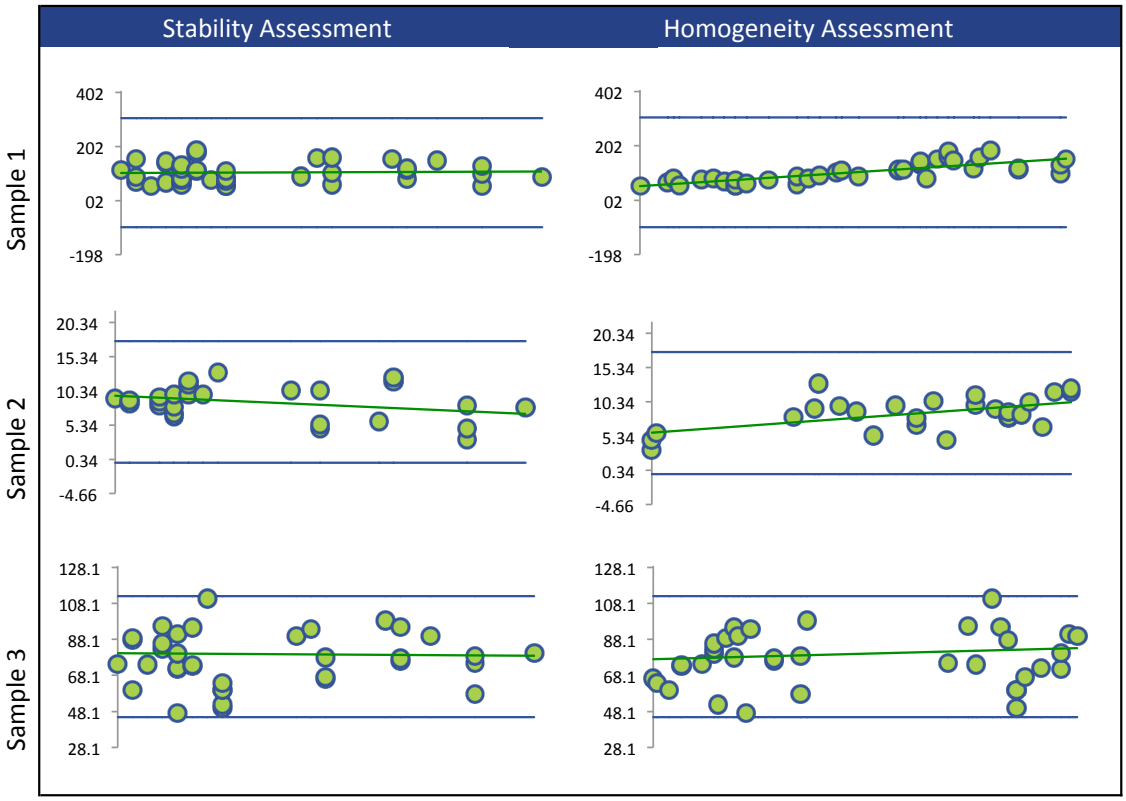
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	22	17	22	22
GC/MS - HEADSPACE (Red)	13	7	13	13
GC/FID (Green)	1	0	1	1
GC/MS (Orange)	2	2	2	2

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



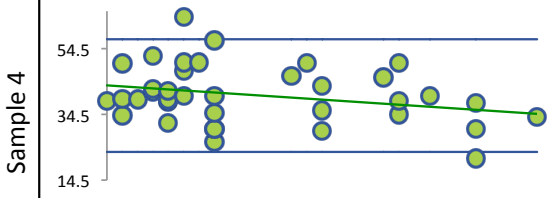
METHYL ISOBUTYL KETONE (MIBK)



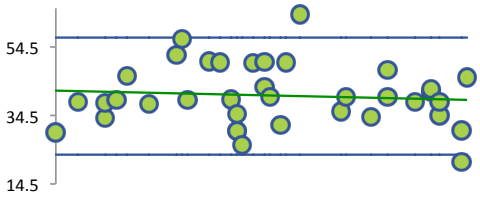


METHYL ISOBUTYL KETONE (MIBK)

Stability Assessment



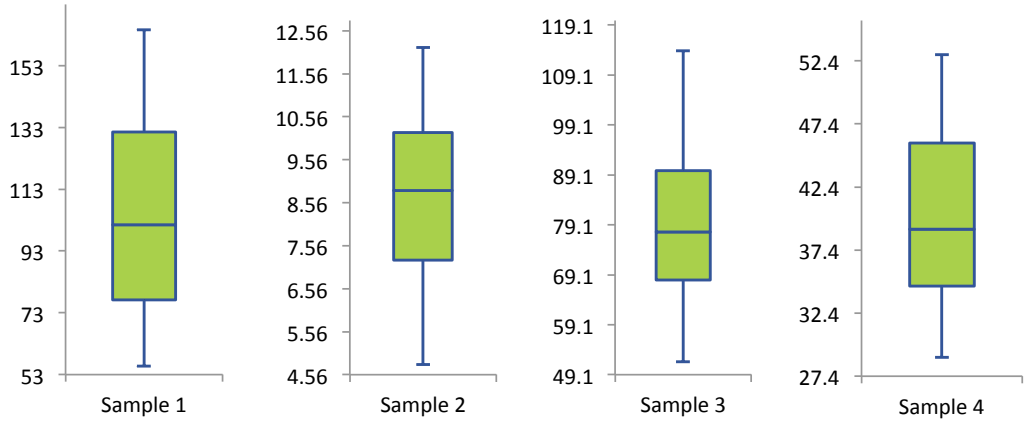
Homogeneity Assessment



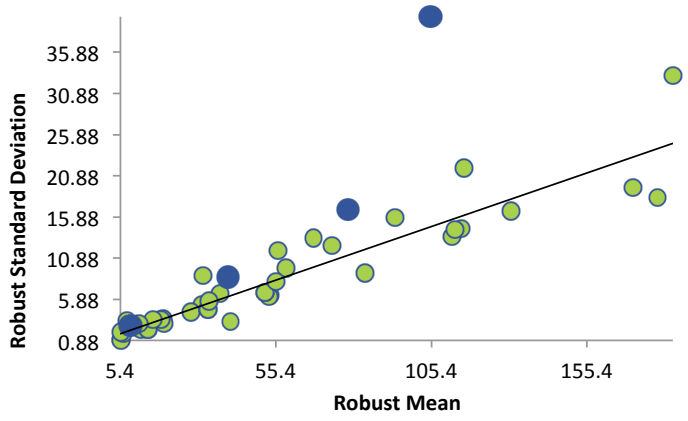
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



METHYL T-BUTYL ETHER

Summary Statistics

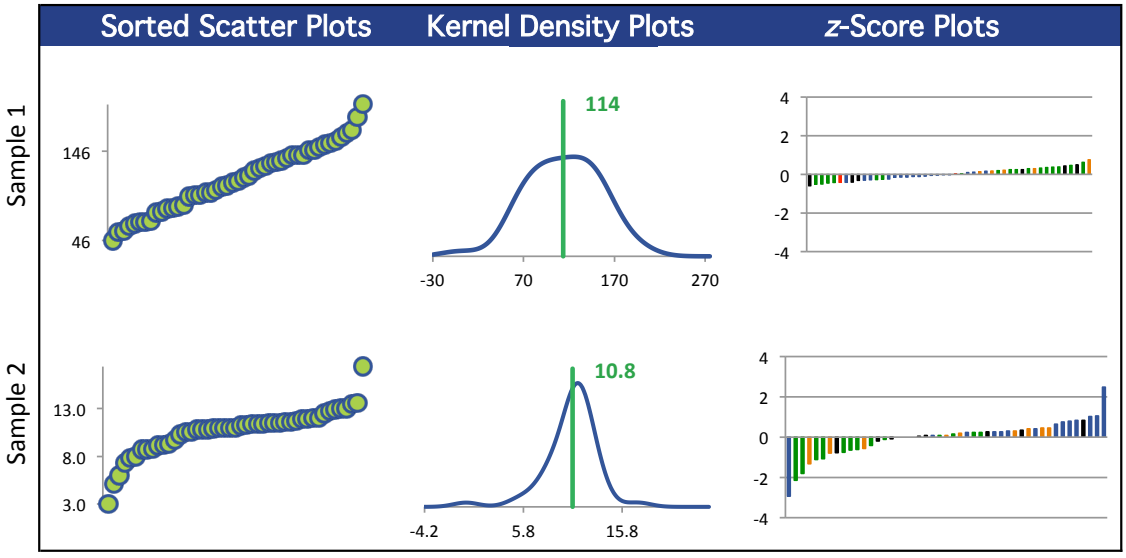
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	47	47	47	47
Median µg/L	113	11.0	82.0	42.7
Robust Mean µg/L	114	10.8	81.6	43.1
U µg/L	7.40	0.334	2.28	1.23
Robust Standard Deviation µg/L	40.6	1.83	12.5	6.73
Regression Standard Deviation µg/L	22.9	2.17	16.3	8.61
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	112	2.66	16.3	8.61
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	3	2	1

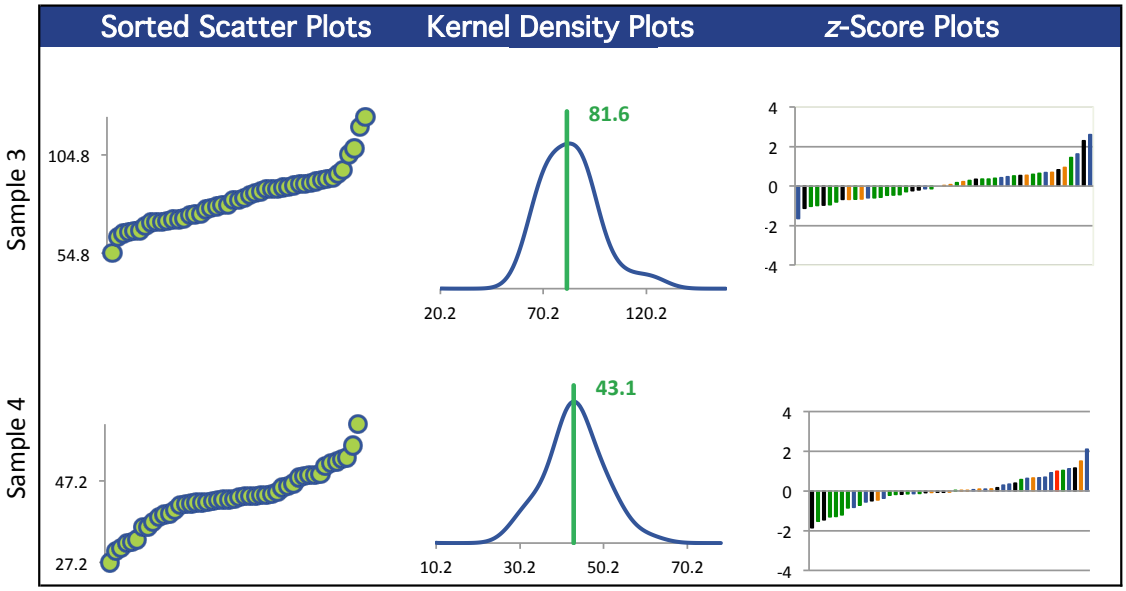
Methods Used

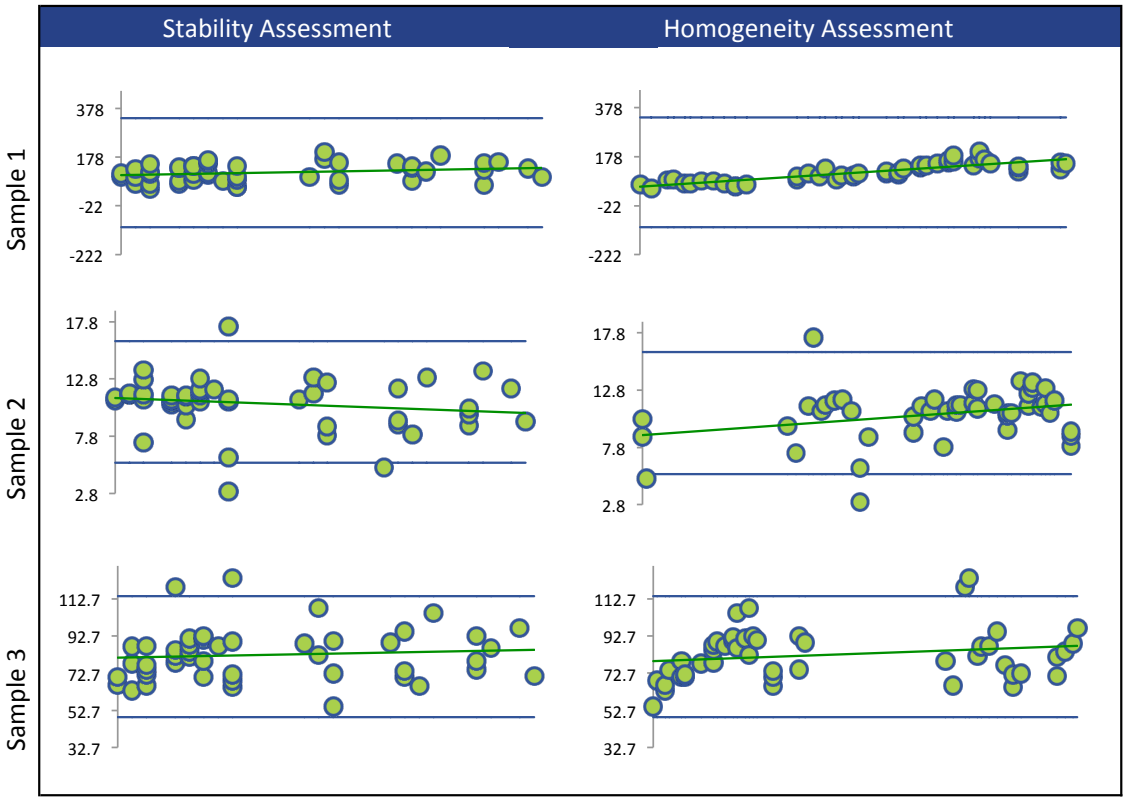
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	24	24	24	24
GC/MS - HEADSPACE (Red)	20	20	20	20
GC/MS (Green)	3	3	3	3

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



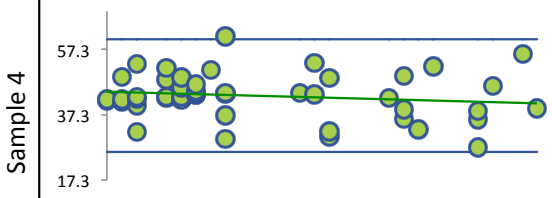
METHYL T-BUTYL ETHER



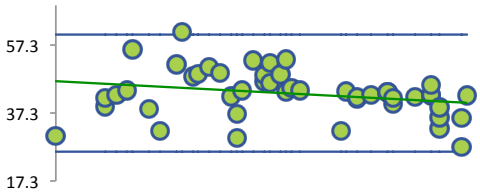


METHYL T-BUTYL ETHER

Stability Assessment



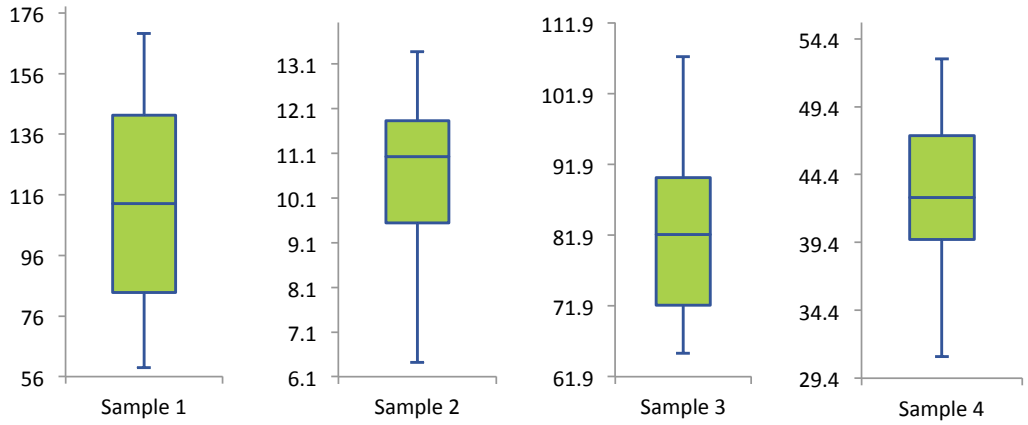
Homogeneity Assessment



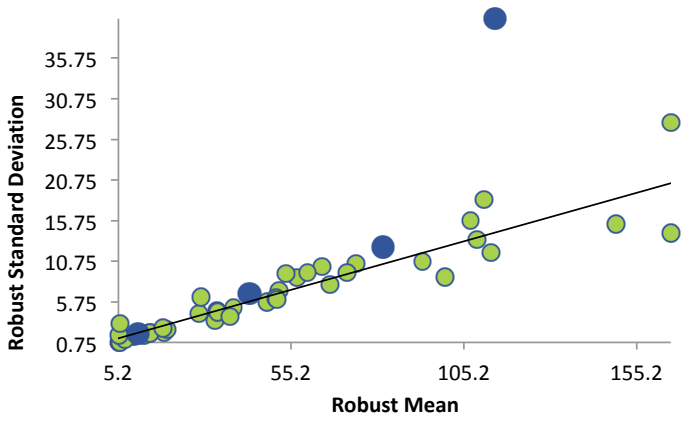
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



O-XYLENE

Summary Statistics

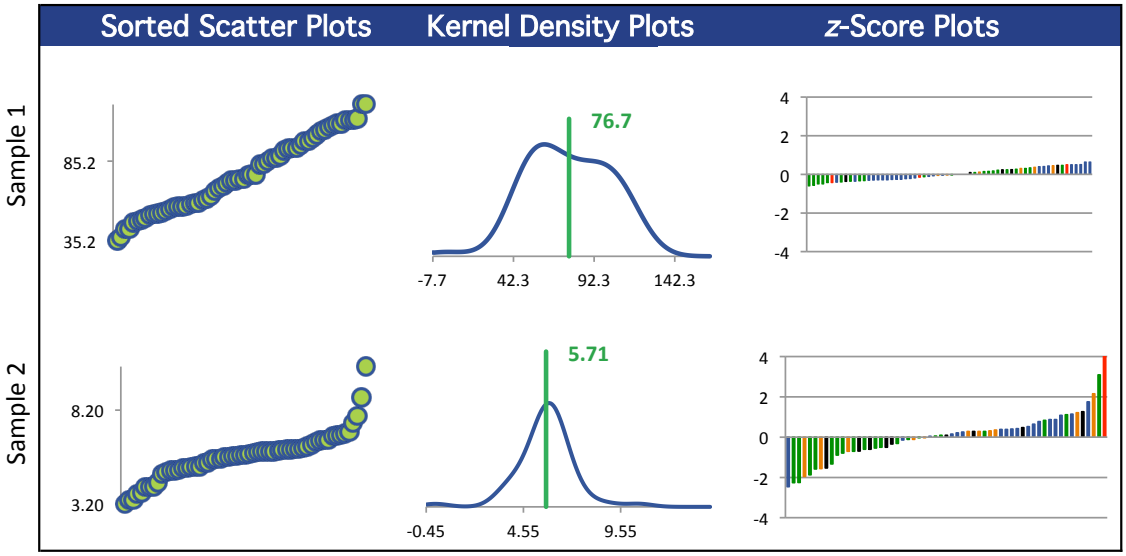
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	62	59	62	62
Median µg/L	74.0	5.80	59.8	30.3
Robust Mean µg/L	76.7	5.71	59.3	30.2
U µg/L	4.21	0.166	1.47	0.722
Robust Standard Deviation µg/L	26.5	1.02	9.25	4.55
Regression Standard Deviation µg/L	11.5	0.857	8.90	4.53
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	69.0	1.02	9.25	4.55
Outliers	0	0	0	0
|z|>3.0	0	2	0	1
2<|z|<3	0	4	2	3

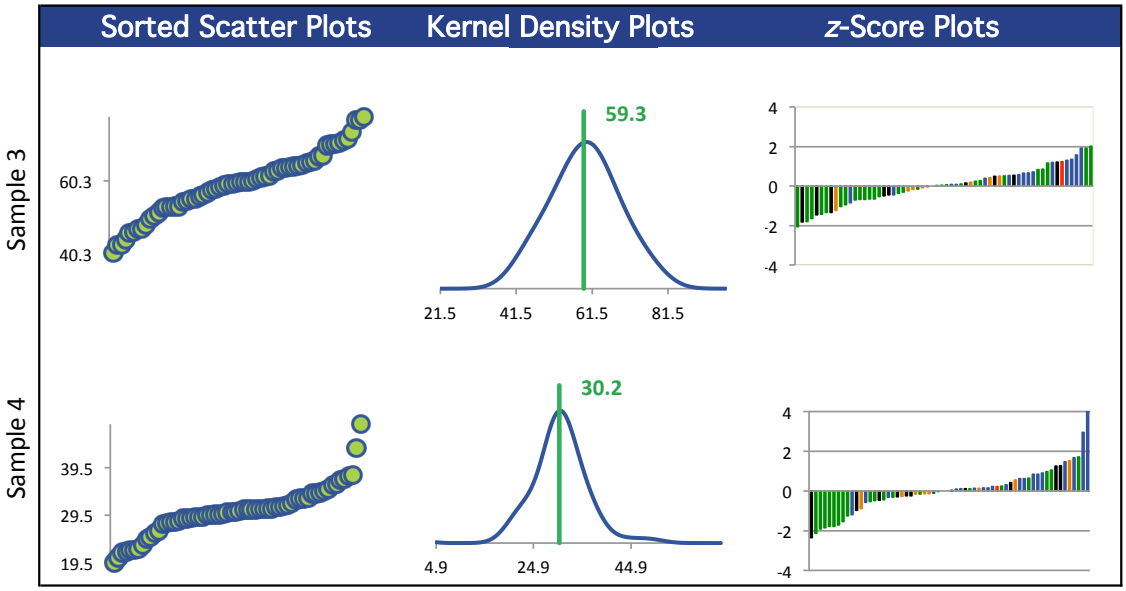
Methods Used

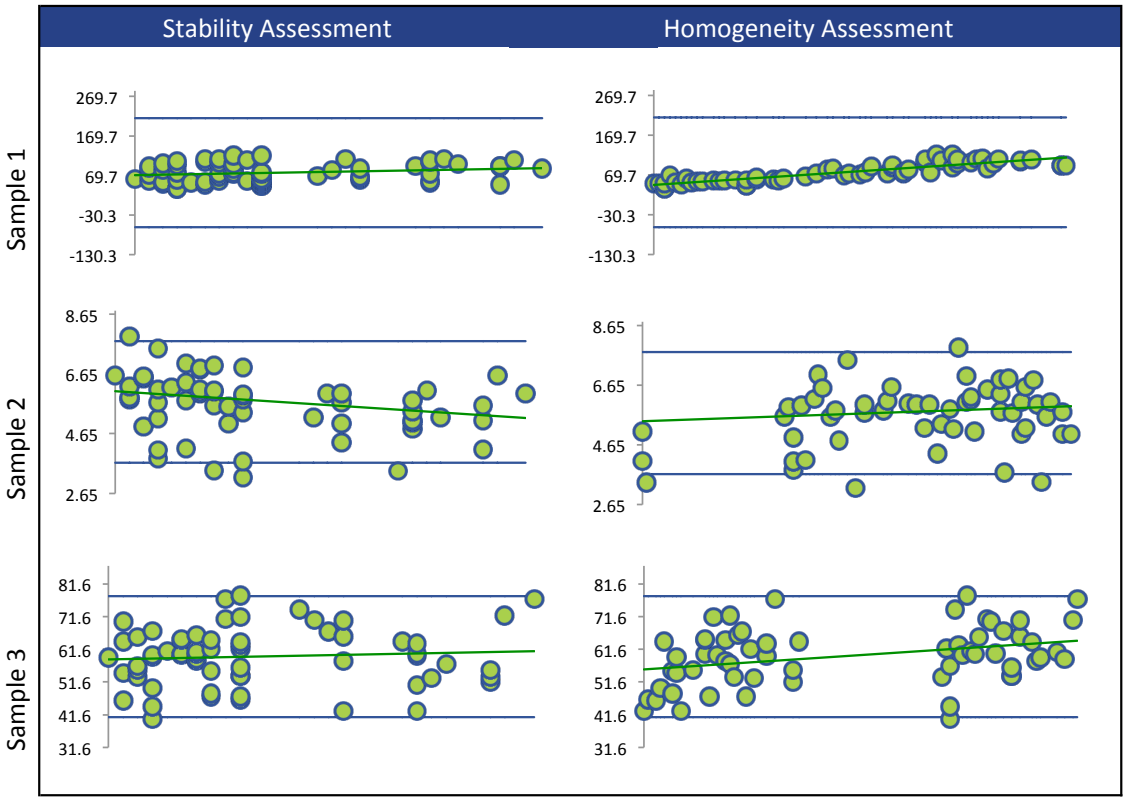
Method	C16-1	C16-2	C16-3	C16-4
GC/MS (Blue)	6	5	6	6
GC/MS - PURGE AND TRAP (Red)	31	31	31	31
GC/MS - HEADSPACE (Green)	22	21	22	22
GC/FID - HEADSPACE (Orange)	1	0	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1
GC/FID - PURGE AND TRAP (Yellow)	1	1	1	1

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



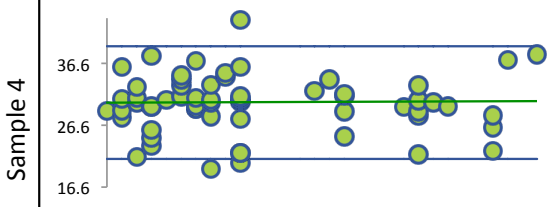
O-XYLENE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
60.3
40.3
59.3
21.5
41.5
61.5
81.5
4
2
0
-2
-4
Sample 4
39.5
29.5
19.5
30.2
4.9
24.9
44.9

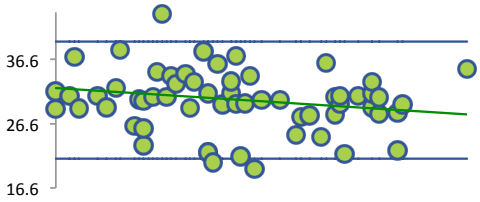

Stability Assessment
Homogeneity Assessment
Sample 1
269.7
169.7
69.7
-30.3
-130.3
Sample 2
8.65
6.65
4.65
2.65
Sample 3
81.6
71.6
61.6
51.6
41.6
31.6

O-XYLENE

Stability Assessment



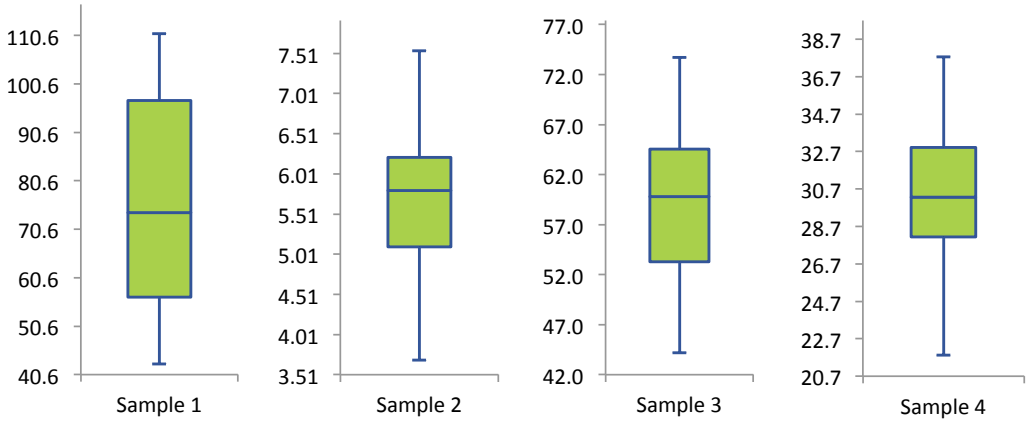
Homogeneity Assessment



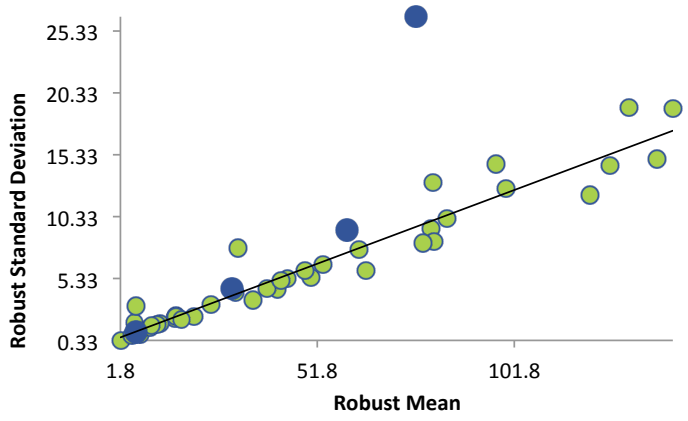
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



STYRENE

Summary Statistics

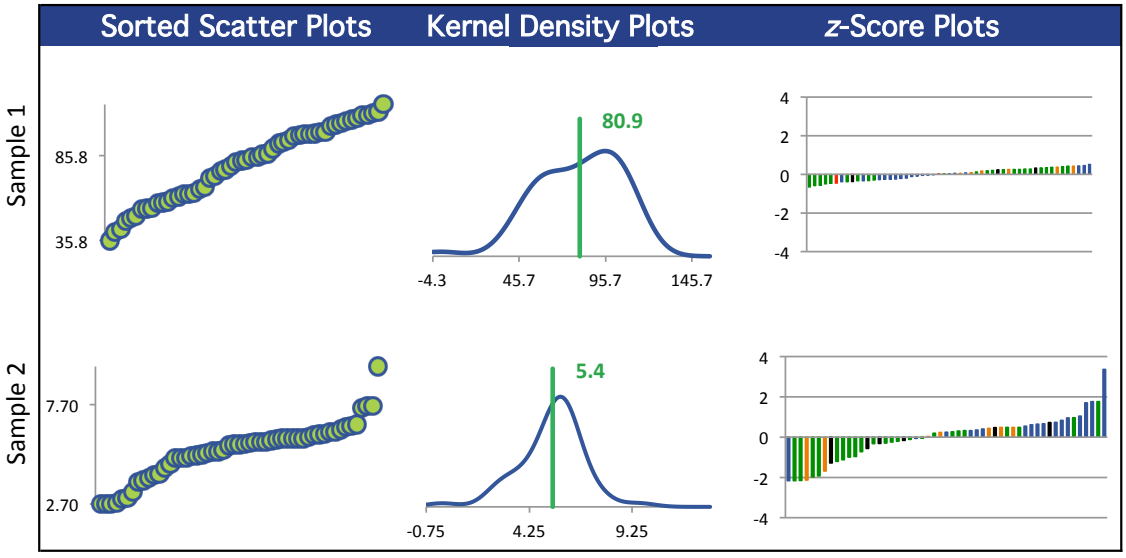
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	53	53	53	53
Median µg/L	83.1	5.70	58.1	29.8
Robust Mean µg/L	80.9	5.40	58.5	29.5
U µg/L	4.22	0.215	1.56	0.735
Robust Standard Deviation µg/L	24.6	1.25	9.08	4.28
Regression Standard Deviation µg/L	12.1	0.810	8.77	4.42
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	67.9	1.25	9.08	4.42
Outliers	0	0	0	0
|z|>3.0	0	1	0	1
2<|z|<3	0	4	1	2

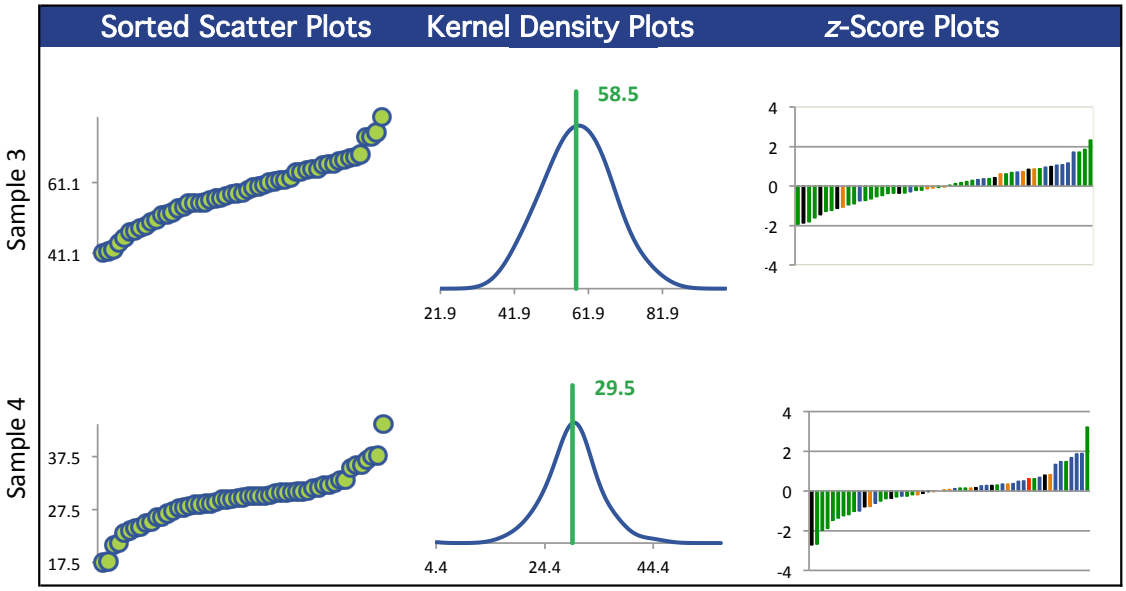
Methods Used

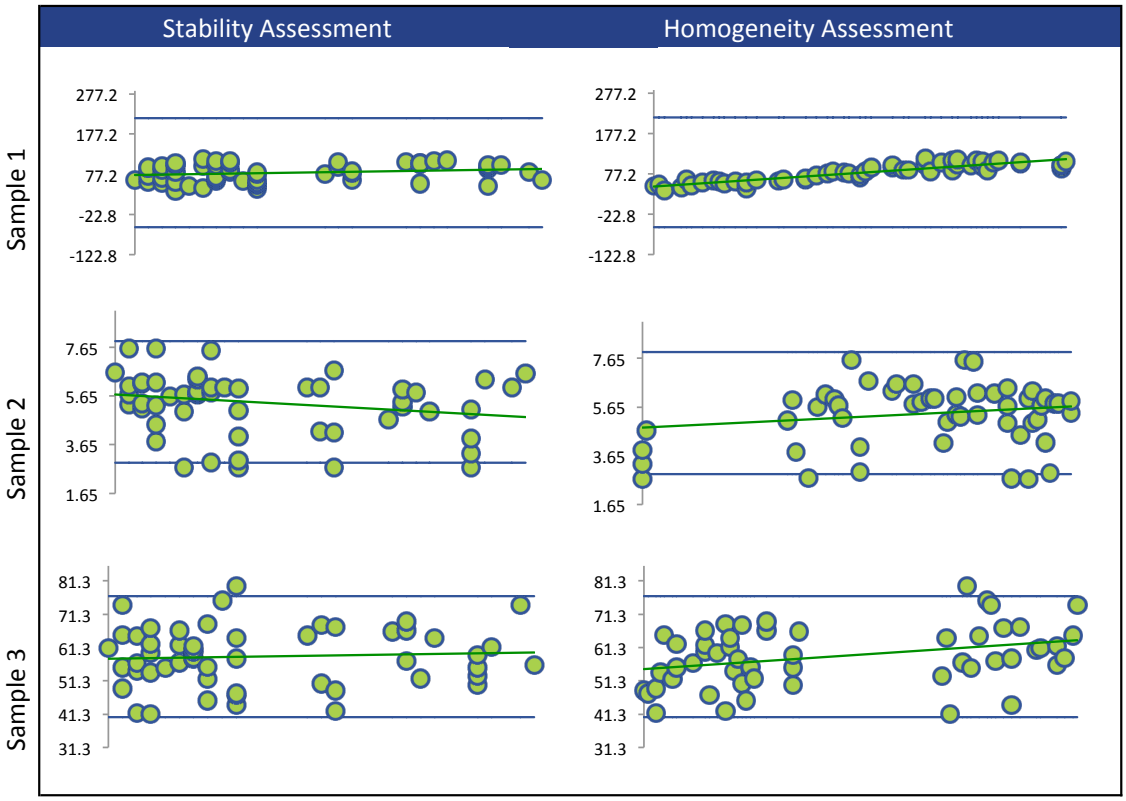
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	25	25	25	25
GC/MS - HEADSPACE (Red)	22	22	22	22
GC/MS (Green)	5	5	5	5
GC/PID (Orange)	1	1	1	1

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



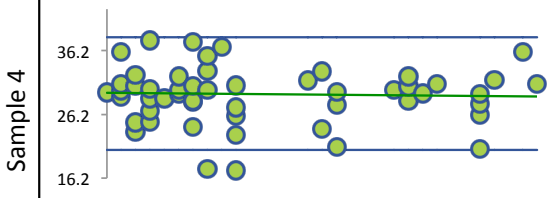
STYRENE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
61.1
41.1
58.5
21.9
41.9
61.9
81.9
4
2
0
-2
-4
Sample 4
37.5
27.5
17.5
29.5
4.4
24.4
44.4

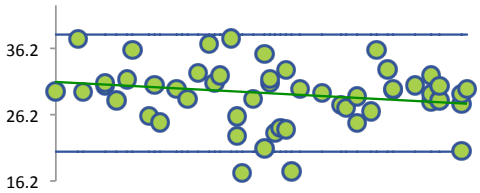

Stability Assessment
Homogeneity Assessment
Sample 1
277.2
177.2
77.2
-22.8
-122.8
Sample 2
7.65
5.65
3.65
1.65
Sample 3
81.3
71.3
61.3
51.3
41.3
31.3

STYRENE

Stability Assessment



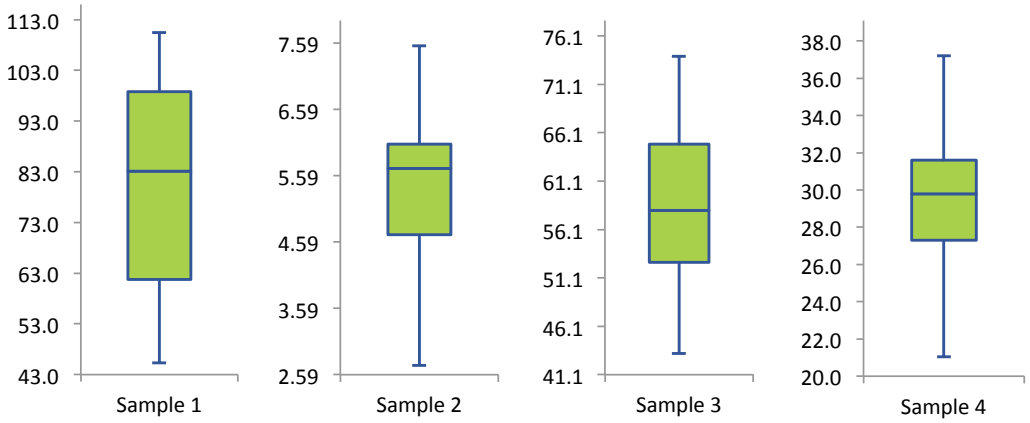
Homogeneity Assessment



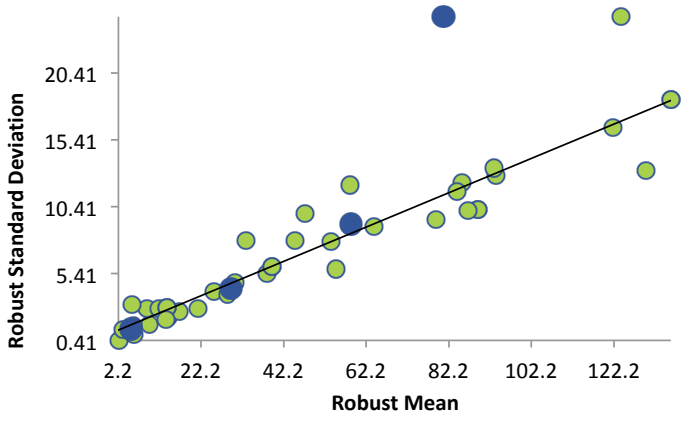
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



TETRACHLOROETHYLENE

Summary Statistics

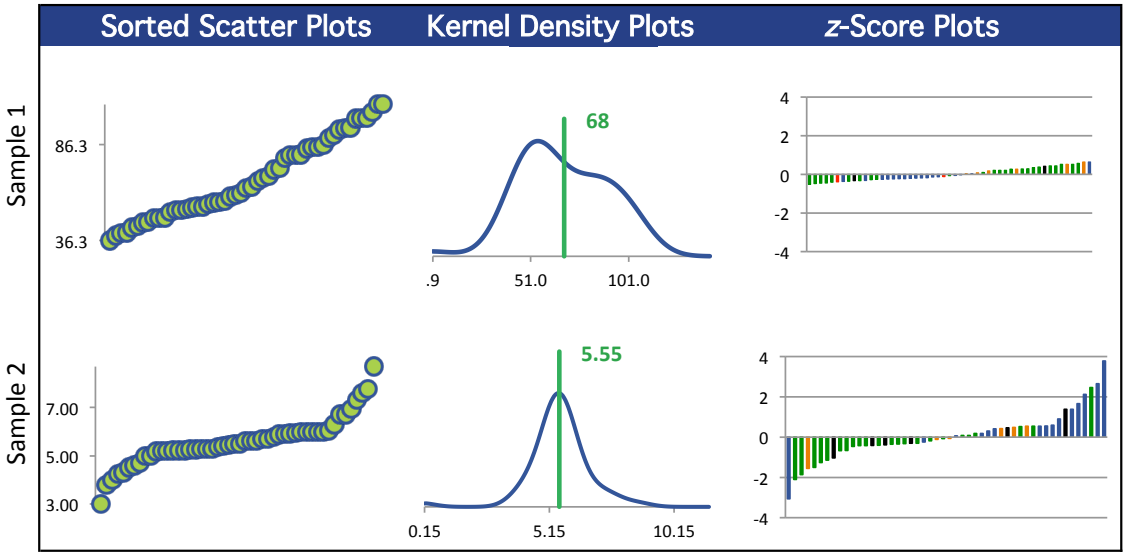
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	50	51	51
Median µg/L	63.6	5.50	52.0	26.5
Robust Mean µg/L	68.0	5.55	53.1	26.9
U µg/L	4.04	0.139	1.51	0.586
Robust Standard Deviation µg/L	23.1	0.784	8.63	3.35
Regression Standard Deviation µg/L	10.2	0.833	7.96	4.03
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	61.0	0.833	8.63	4.03
Outliers	0	0	0	0
|z|>3.0	0	2	0	2
2<|z|<3	0	4	0	4

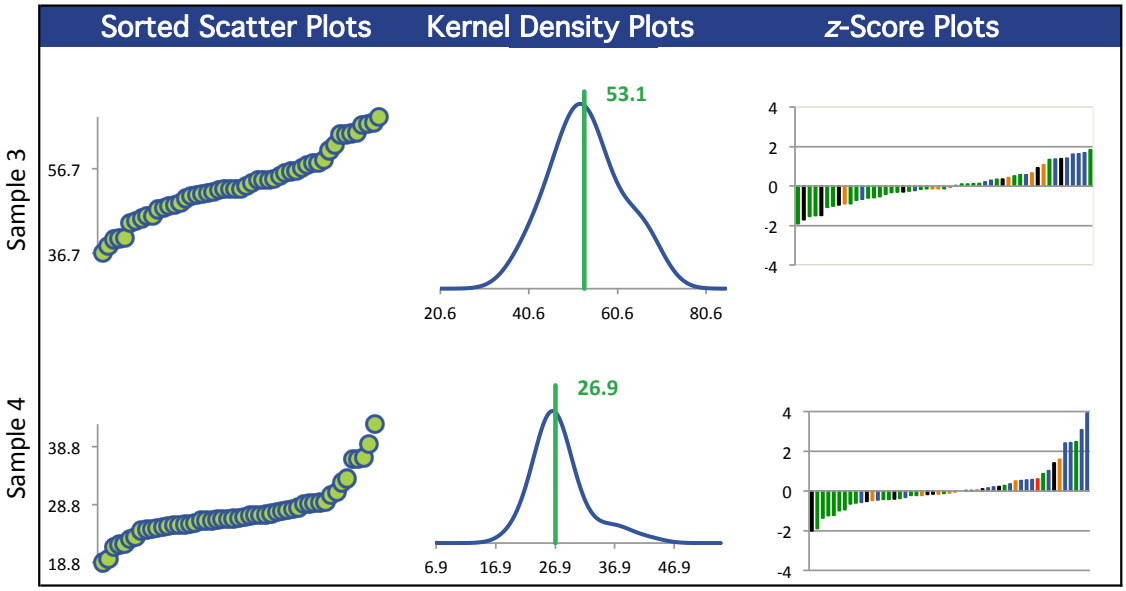
Methods Used

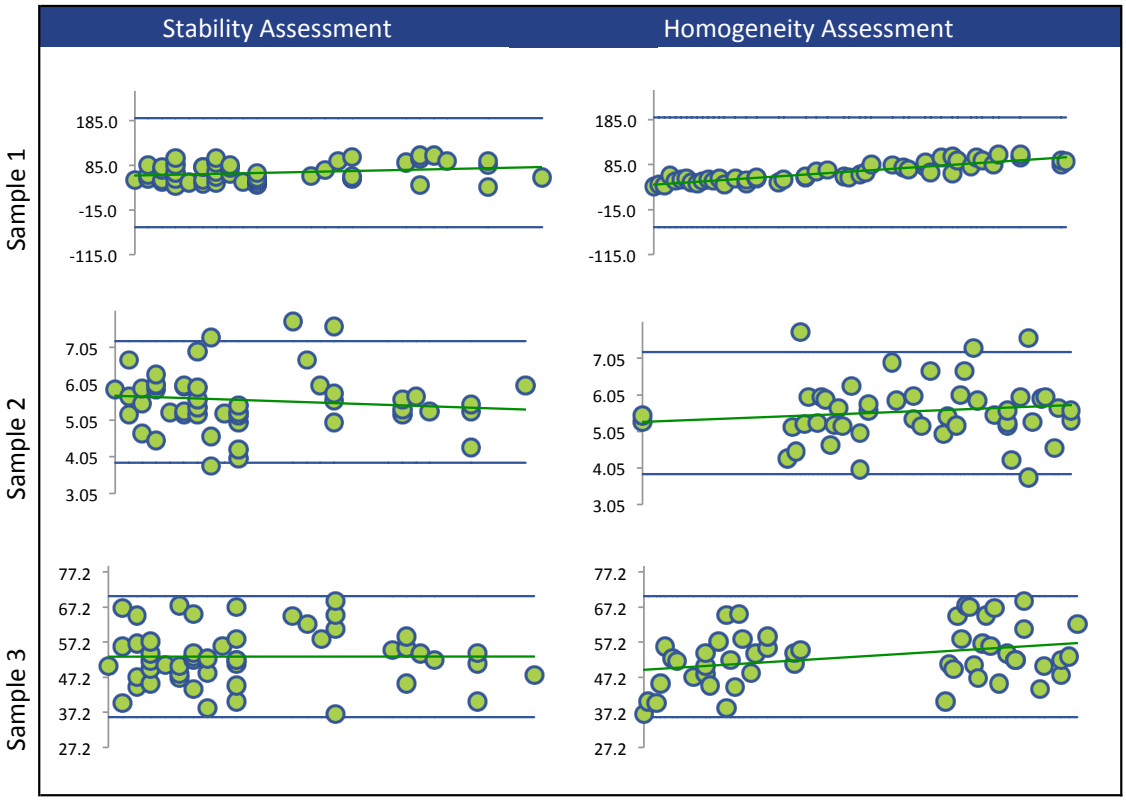
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	28	28	28
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	1	2	2

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

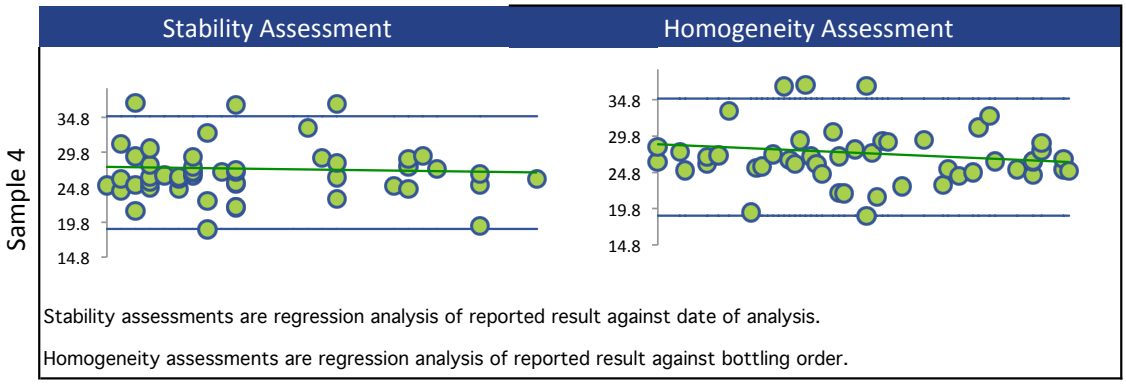


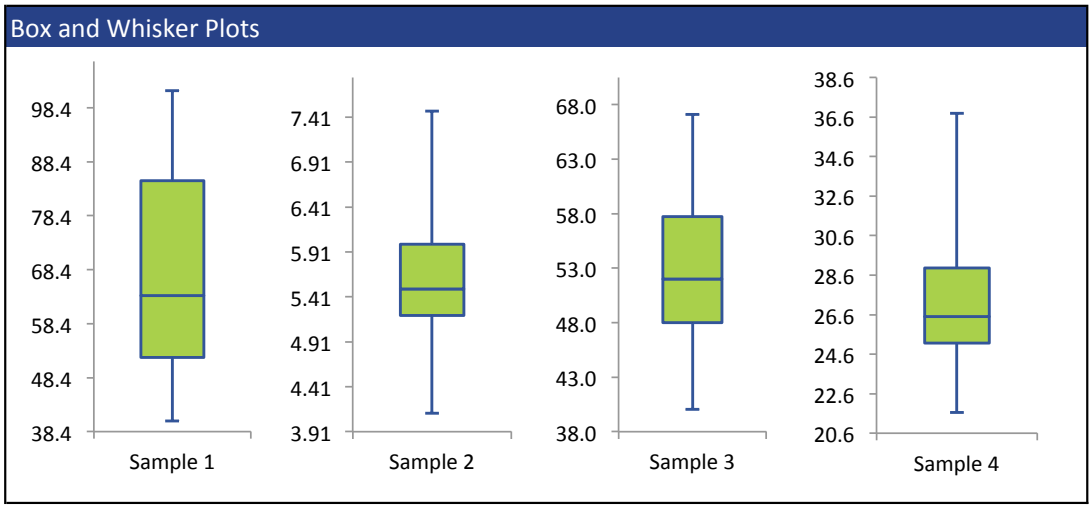
TETRACHLOROETHYLENE

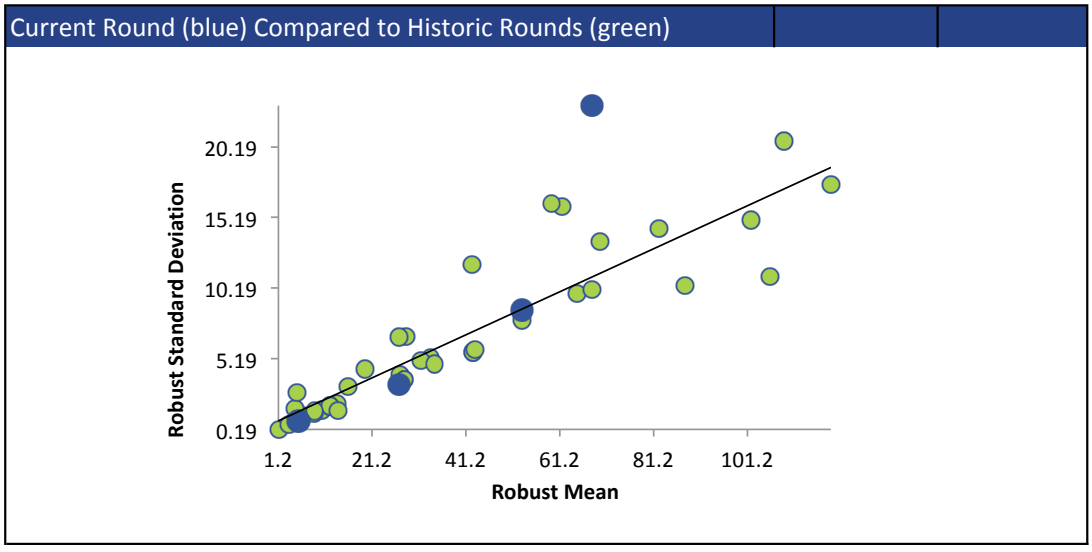




TETRACHLOROETHYLENE







TOLUENE

Summary Statistics

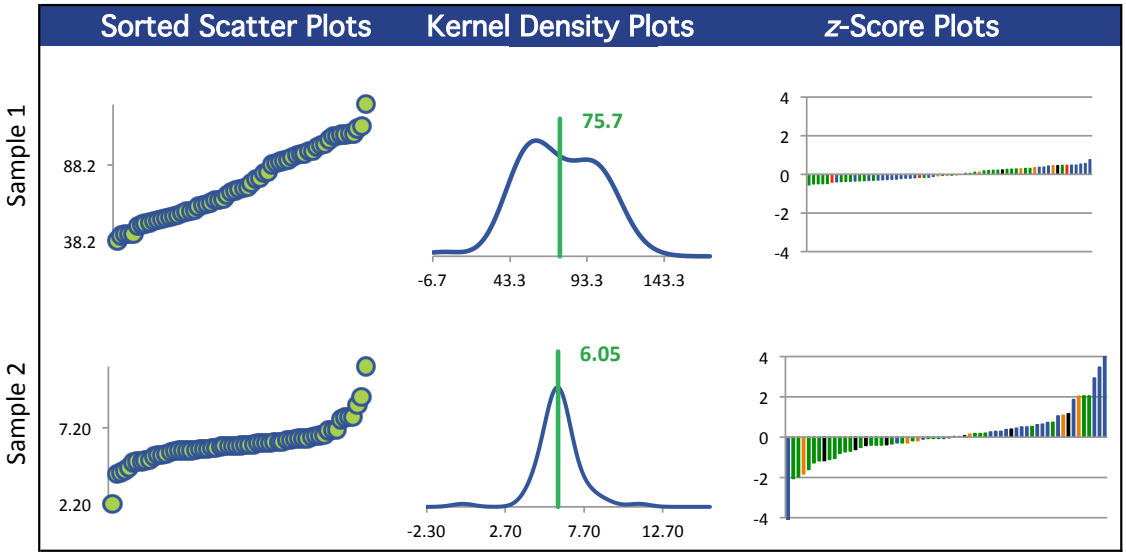
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	62	62	62	61
Median µg/L	72.2	6.01	58.4	29.7
Robust Mean µg/L	75.7	6.05	58.5	29.9
U µg/L	4.11	0.132	1.27	0.624
Robust Standard Deviation µg/L	25.9	0.829	7.99	3.90
Regression Standard Deviation µg/L	11.4	0.908	8.77	4.48
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	68.8	0.908	8.77	4.48
Outliers	0	0	0	1
|z|>3.0	0	3	0	1
2<|z|<3	0	5	1	2

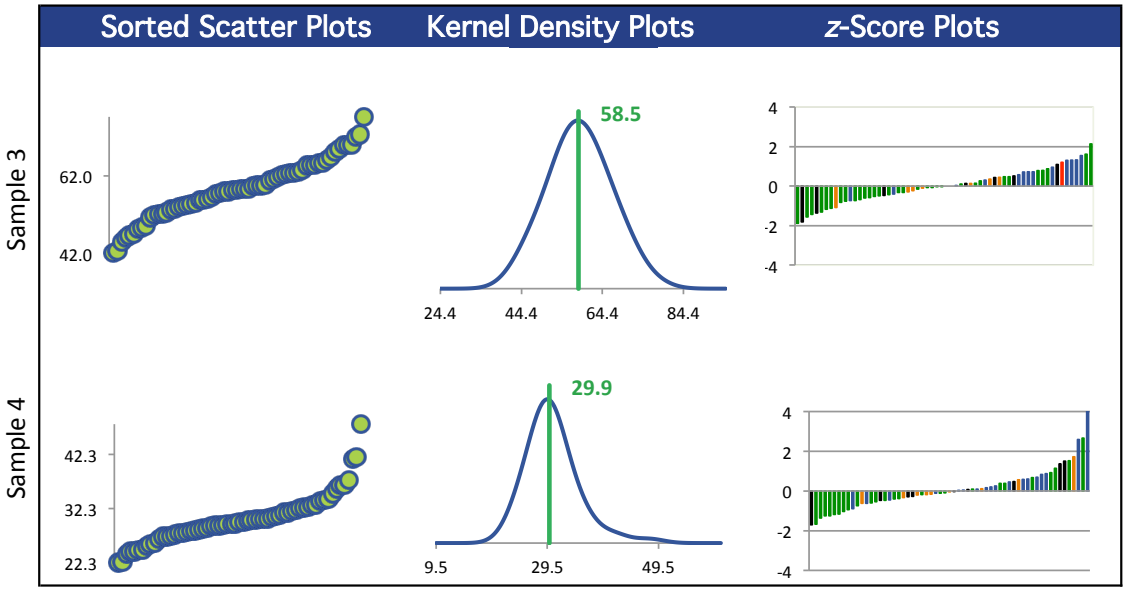
Methods Used

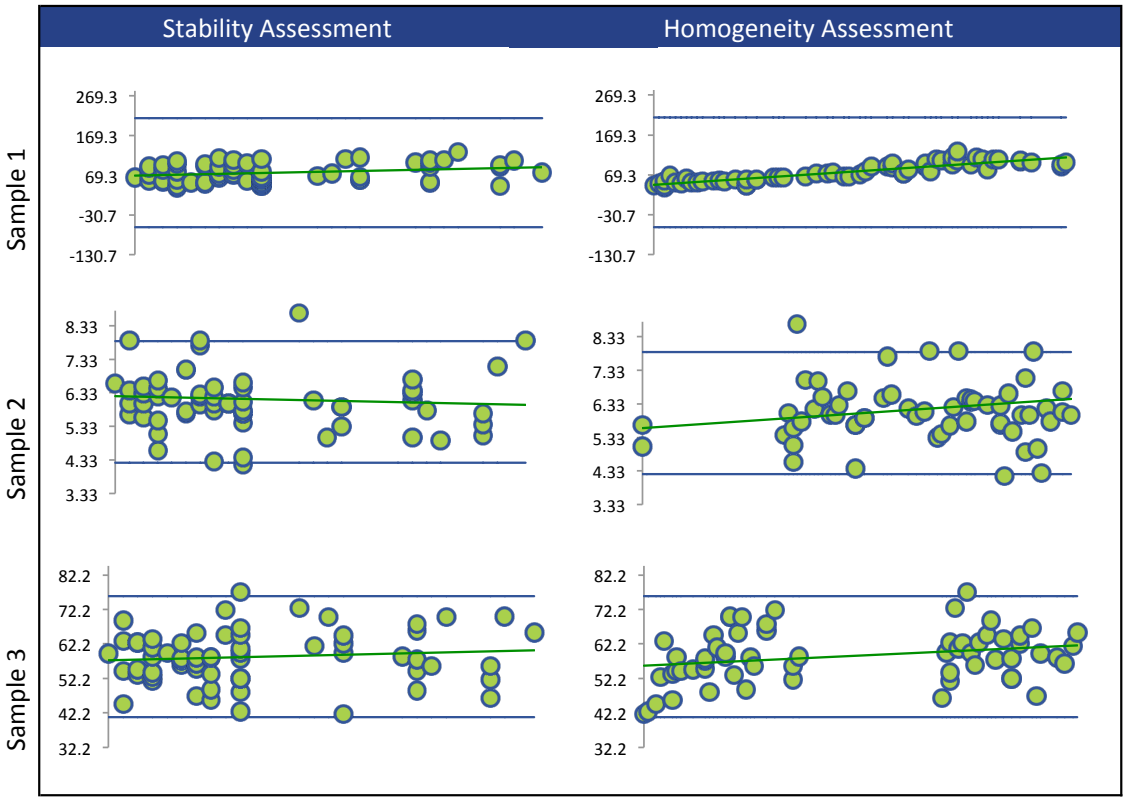
Method	C16-1	C16-2	C16-3	C16-4
GC/MS (Blue)	6	6	6	6
GC/MS - PURGE AND TRAP (Red)	31	31	31	30
GC/MS - HEADSPACE (Green)	22	22	22	22
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1
GC/FID - PURGE AND TRAP (Yellow)	1	1	1	1

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



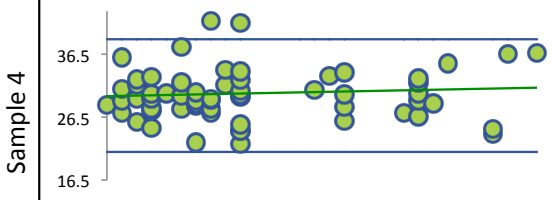
TOLUENE


Sorted Scatter Plots
Kernel Density Plots
z-Score Plots
Sample 3
62.0
42.0
58.5
24.4
44.4
64.4
84.4
4
2
0
-2
-4
Sample 4
42.3
32.3
22.3
29.9
9.5
29.5
49.5

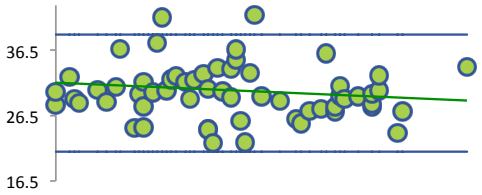

Stability Assessment
Homogeneity Assessment
Sample 1
269.3
169.3
69.3
-30.7
-130.7
Sample 2
8.33
7.33
6.33
5.33
4.33
3.33
Sample 3
82.2
72.2
62.2
52.2
42.2
32.2

TOLUENE

Stability Assessment



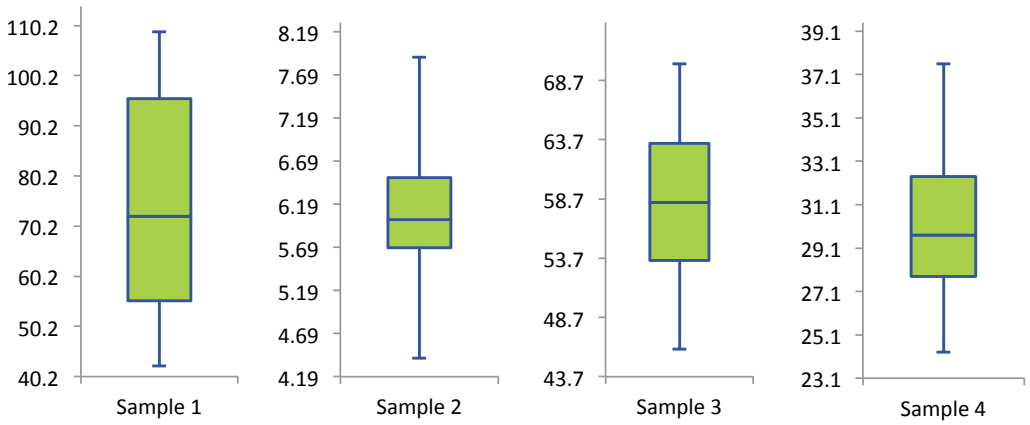
Homogeneity Assessment



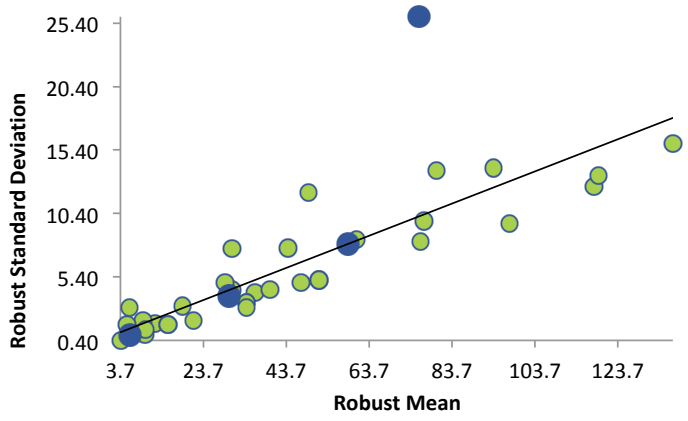
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



TRANS-1,2-DICHLOROETHYLENE

Summary Statistics

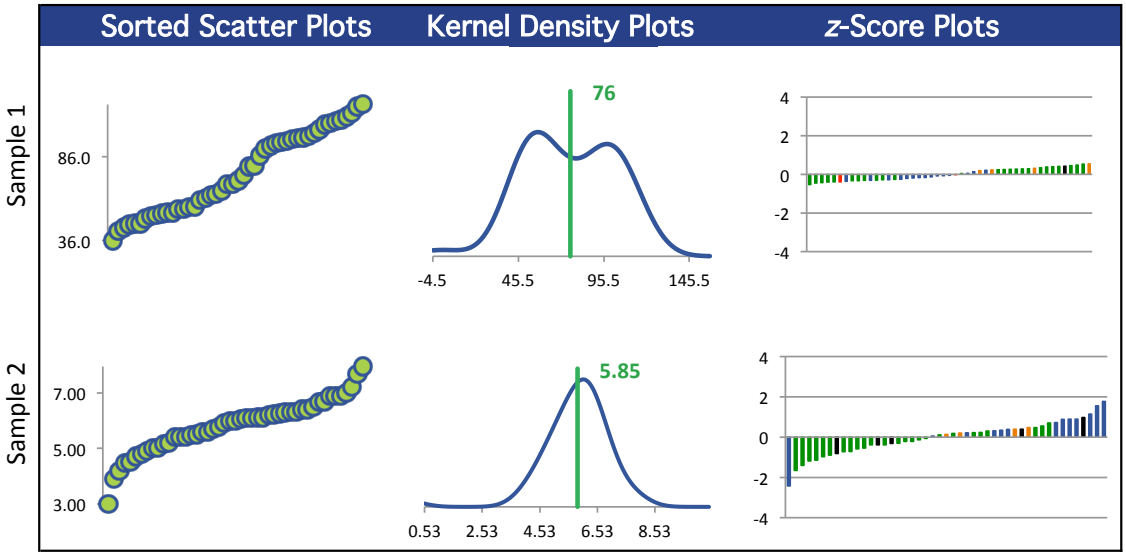
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	47	47	47	47
Median µg/L	71.7	6.00	58.7	30.0
Robust Mean µg/L	76.0	5.85	58.7	29.4
U µg/L	5.01	0.167	1.39	0.676
Robust Standard Deviation µg/L	27.5	0.917	7.62	3.71
Regression Standard Deviation µg/L	11.4	0.878	8.81	4.42
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	74.2	1.18	8.81	4.42
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	1	1	1

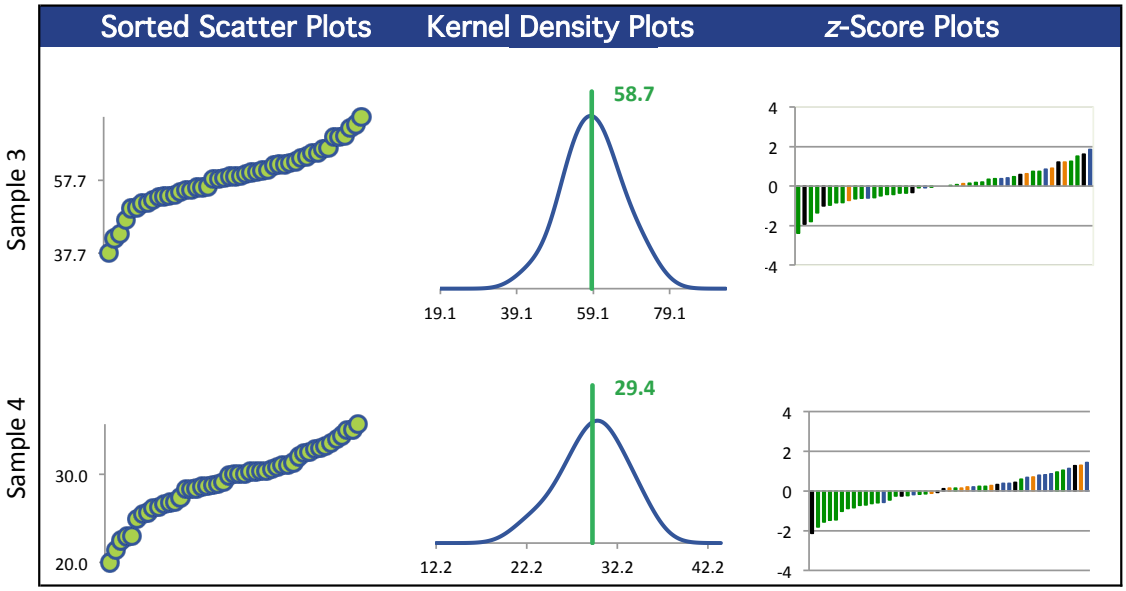
Methods Used

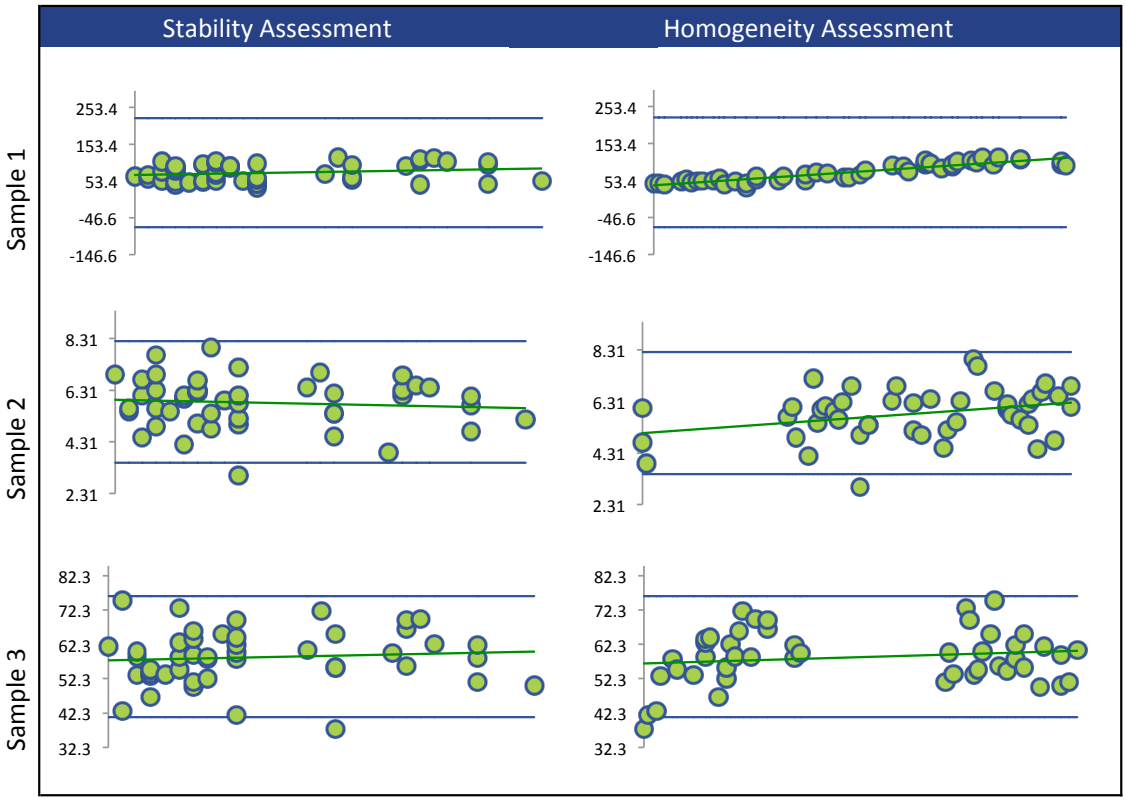
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	24	24	24	24
GC/MS (Red)	3	3	3	3
GC/MS - HEADSPACE (Green)	19	19	19	19
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1

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



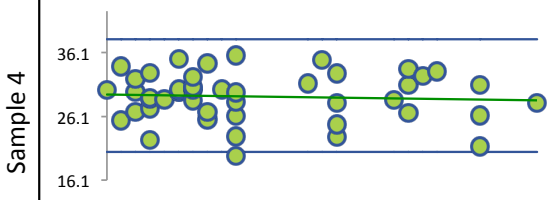
TRANS-1,2-DICHLOROETHYLENE



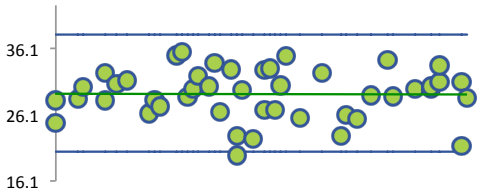


TRANS-1,2-DICHLOROETHYLENE

Stability Assessment



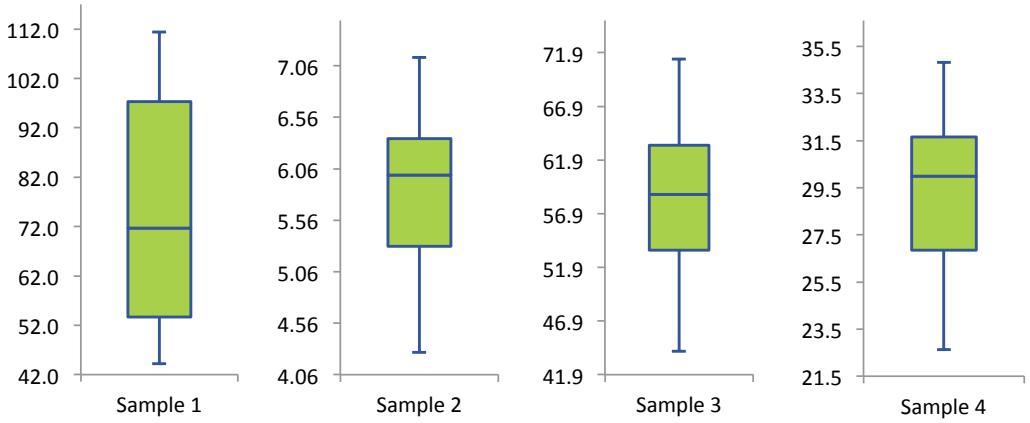
Homogeneity Assessment



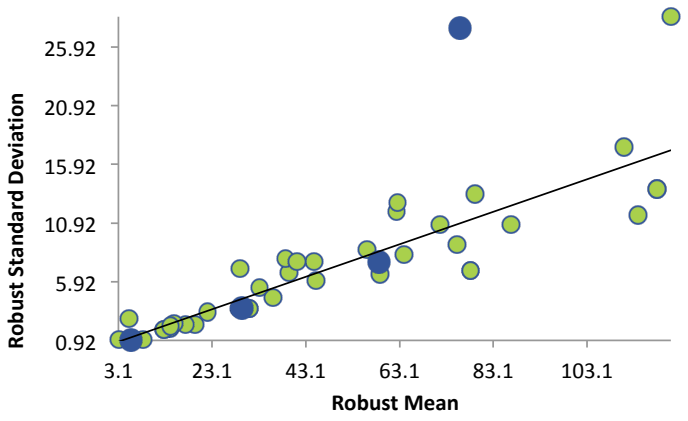
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



TRANS-1,3-DICHLOROPROPENE

Summary Statistics

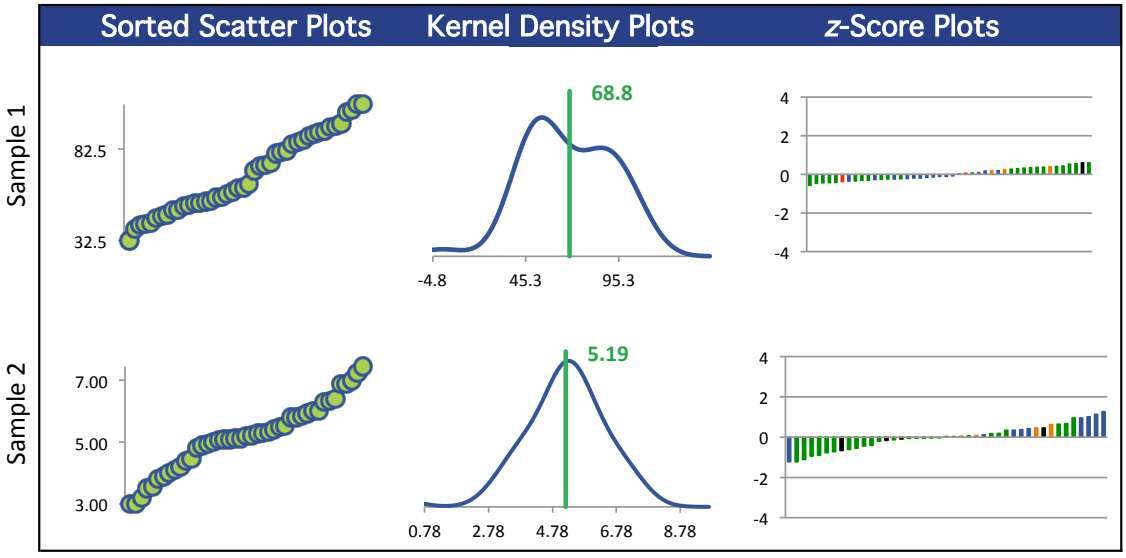
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	44	43	44	44
Median µg/L	62.3	5.20	51.5	26.4
Robust Mean µg/L	68.8	5.19	52.2	25.9
U µg/L	4.58	0.227	1.62	0.872
Robust Standard Deviation µg/L	24.3	1.19	8.61	4.63
Regression Standard Deviation µg/L	10.3	0.779	7.83	3.88
Stability Flag		Stability		Stability
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	62.9	1.80	8.61	5.44
Outliers	0	0	0	0
|z|>3.0	0	0	1	0
2<|z|<3	0	0	3	1

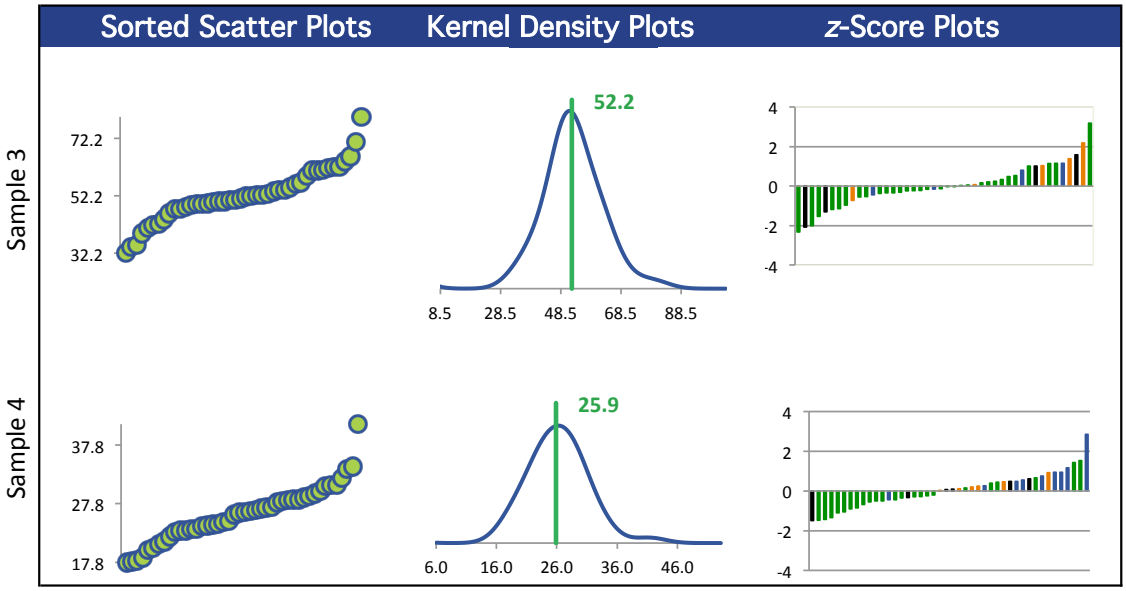
Methods Used

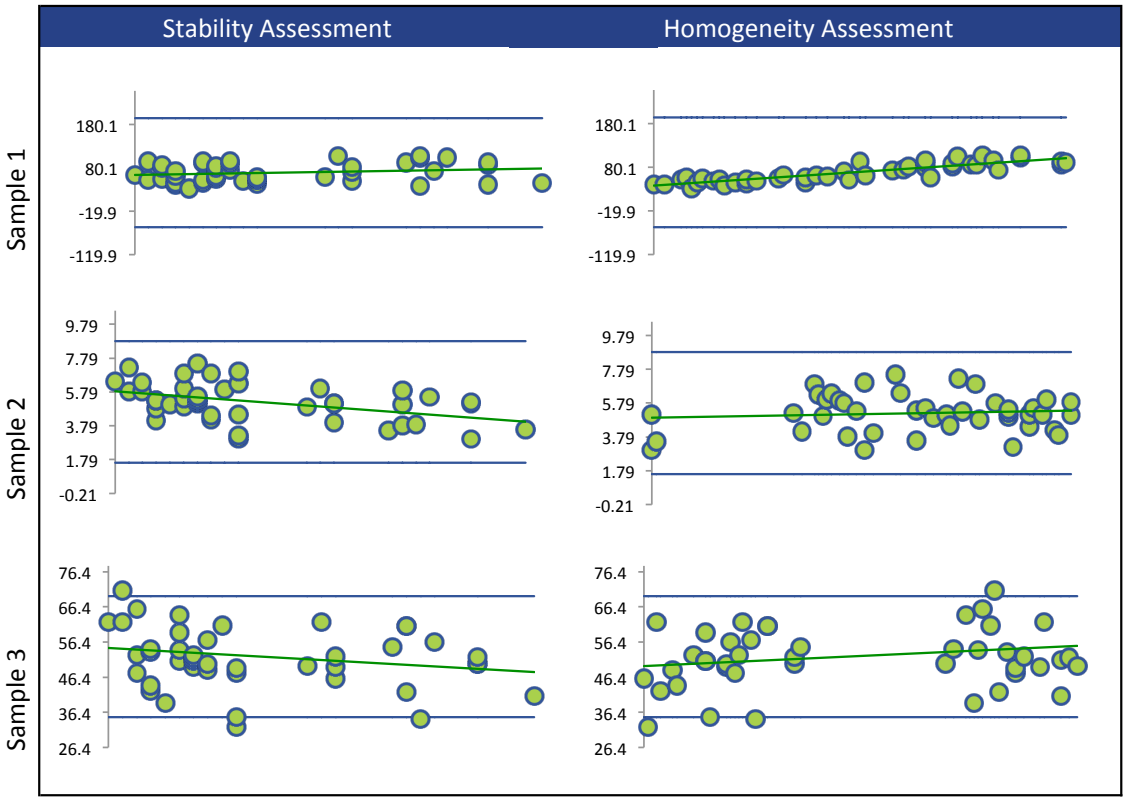
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	18	18
GC/MS - PURGE AND TRAP (Red)	23	23	23	23
GC/MS (Green)	3	2	3	3

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



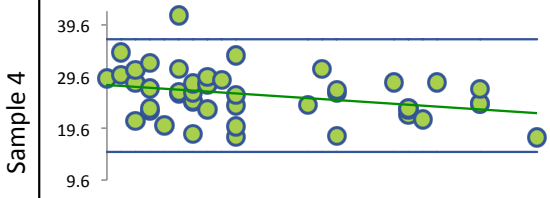
TRANS-1,3-DICHLOROPROPENE



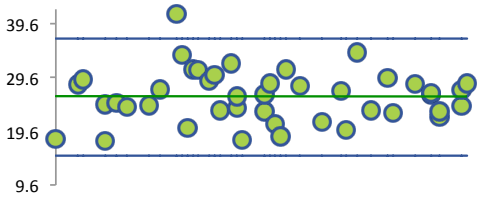


TRANS-1,3-DICHLOROPROPENE

Stability Assessment



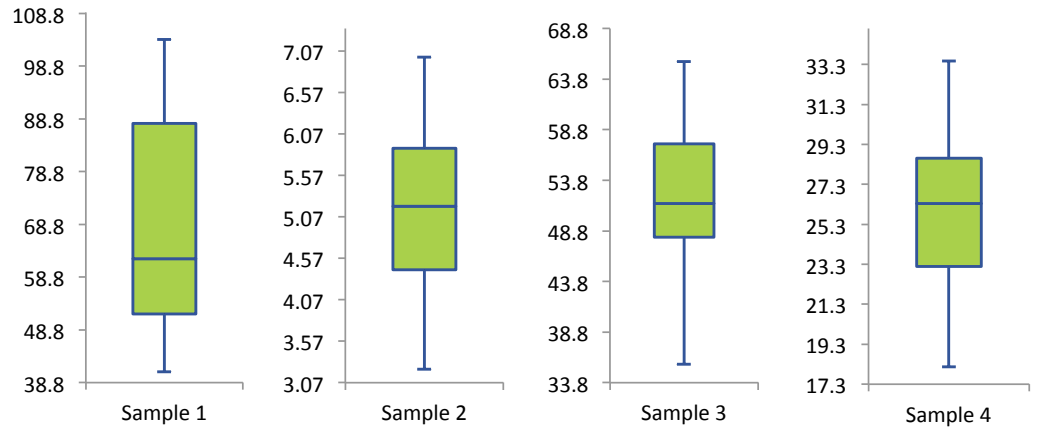
Homogeneity Assessment



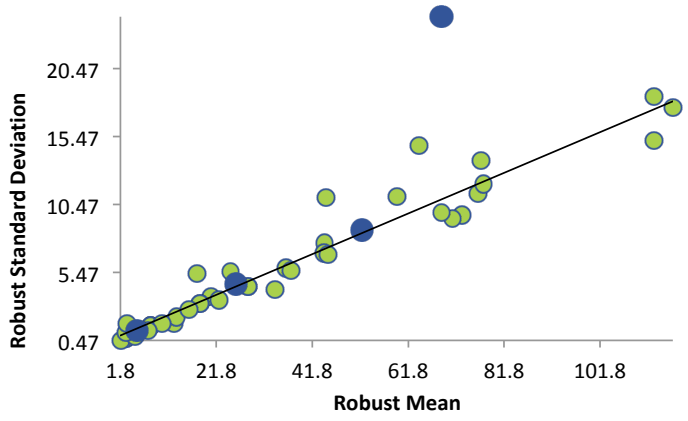
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



TRICHLOROETHYLENE

Summary Statistics

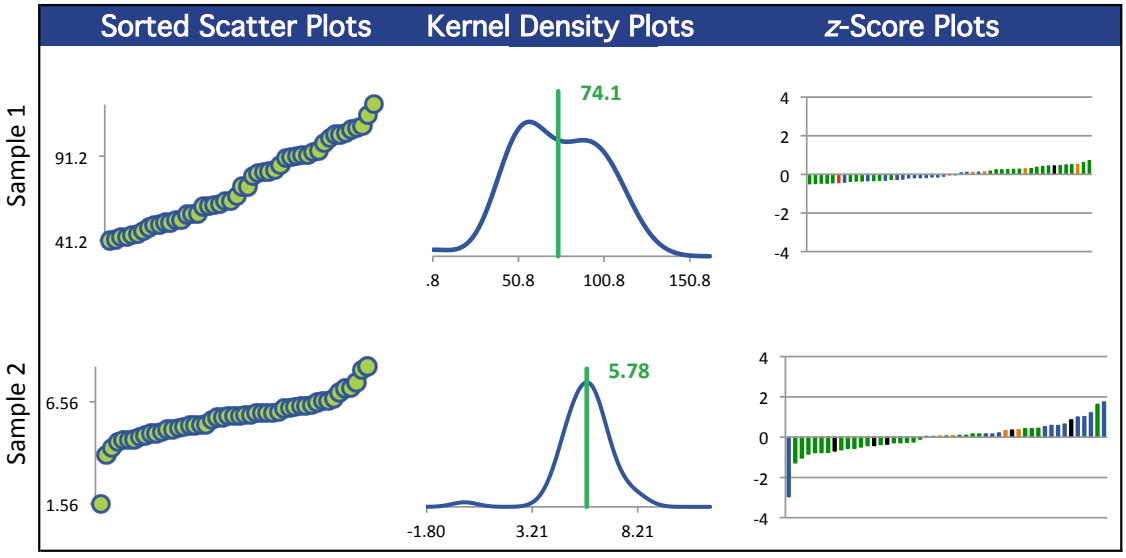
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median µg/L	73.1	5.85	57.6	29.0
Robust Mean µg/L	74.1	5.78	57.3	29.2
U µg/L	4.64	0.164	1.47	0.664
Robust Standard Deviation µg/L	26.0	0.917	8.25	3.72
Regression Standard Deviation µg/L	13.0	1.01	10.0	5.10
Stability Flag		Stability		
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	67.6	1.43	10.0	5.10
Outliers	0	0	0	0
|z|>3.0	0	0	0	1
2<|z|<3	0	1	0	1

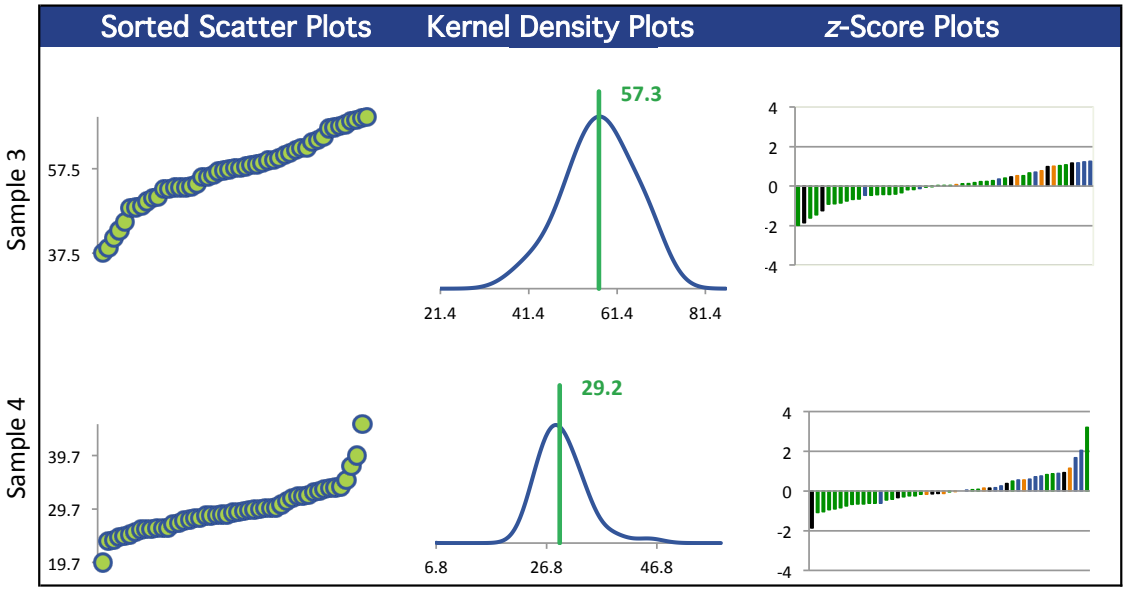
Methods Used

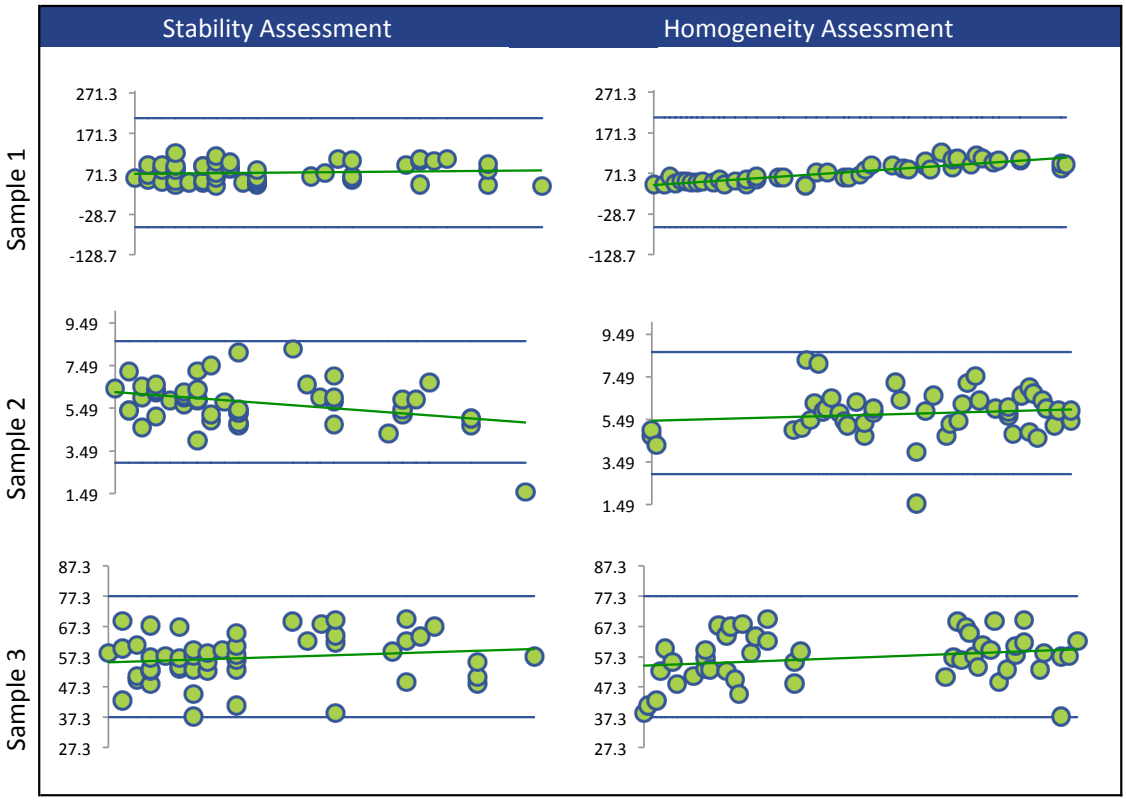
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	27	27	27
GC/MS - HEADSPACE (Red)	18	18	18	18
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	2	2	2	2

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



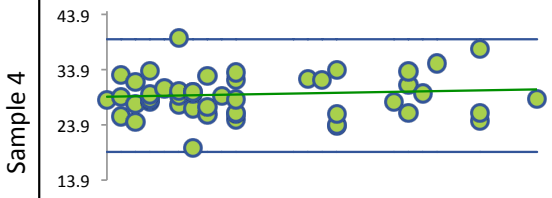
TRICHLOROETHYLENE



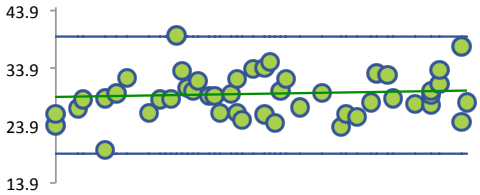


TRICHLOROETHYLENE

Stability Assessment



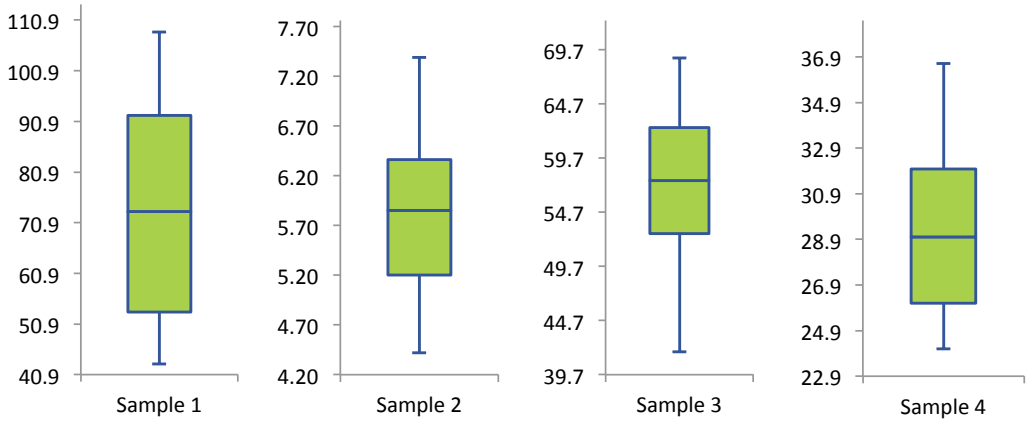
Homogeneity Assessment



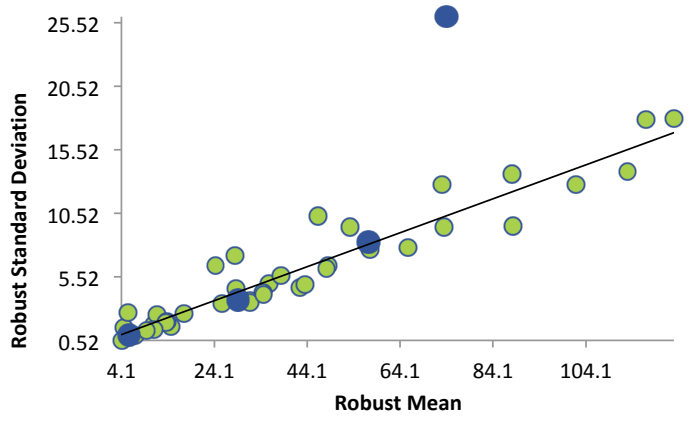
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



TRICHLOROFLUOROMETHANE

Summary Statistics

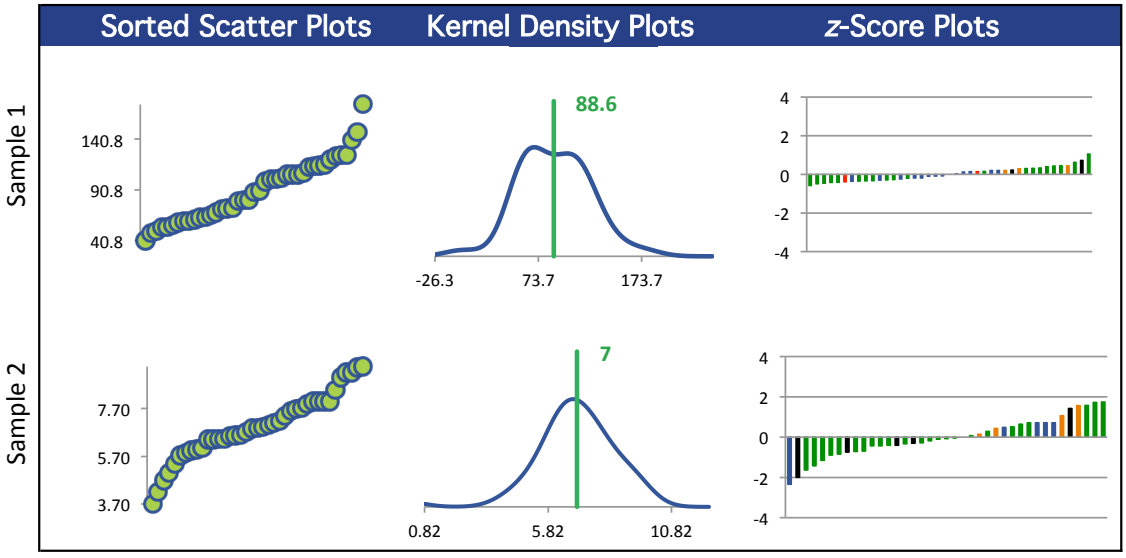
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	41	39	41	41
Median µg/L	88.5	6.90	68.5	34.4
Robust Mean µg/L	88.6	7.00	69.0	34.9
U µg/L	6.23	0.282	2.03	1.06
Robust Standard Deviation µg/L	31.9	1.41	10.4	5.42
Regression Standard Deviation µg/L	17.7	1.40	13.8	6.98
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/L	81.3	1.41	13.8	6.98
Outliers	0	0	0	0
|z|>3.0	0	0	0	0
2<|z|<3	0	1	3	1

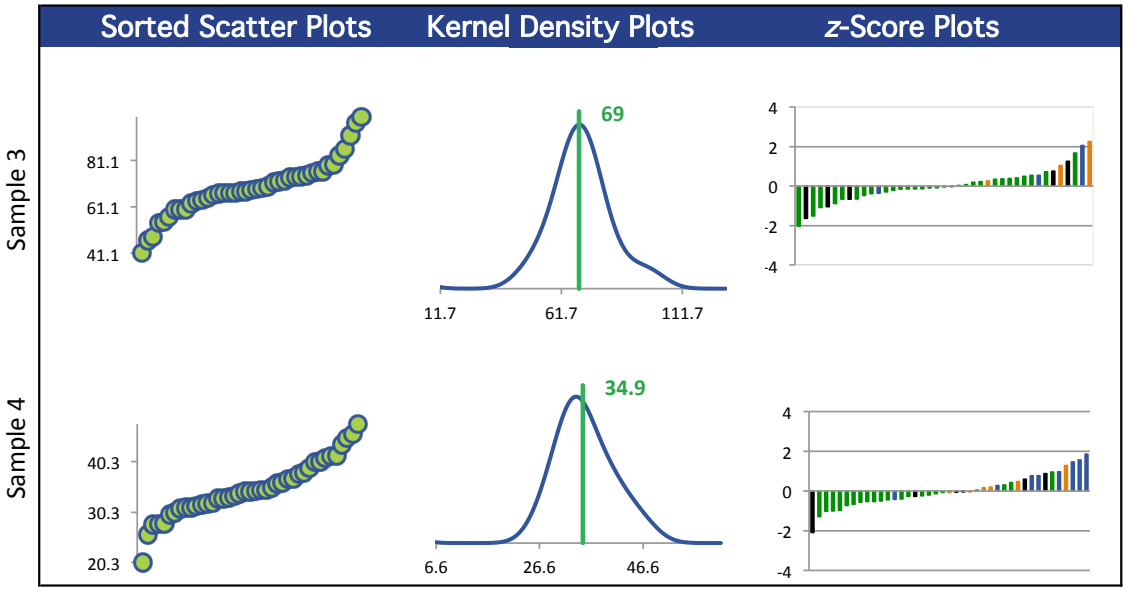
Methods Used

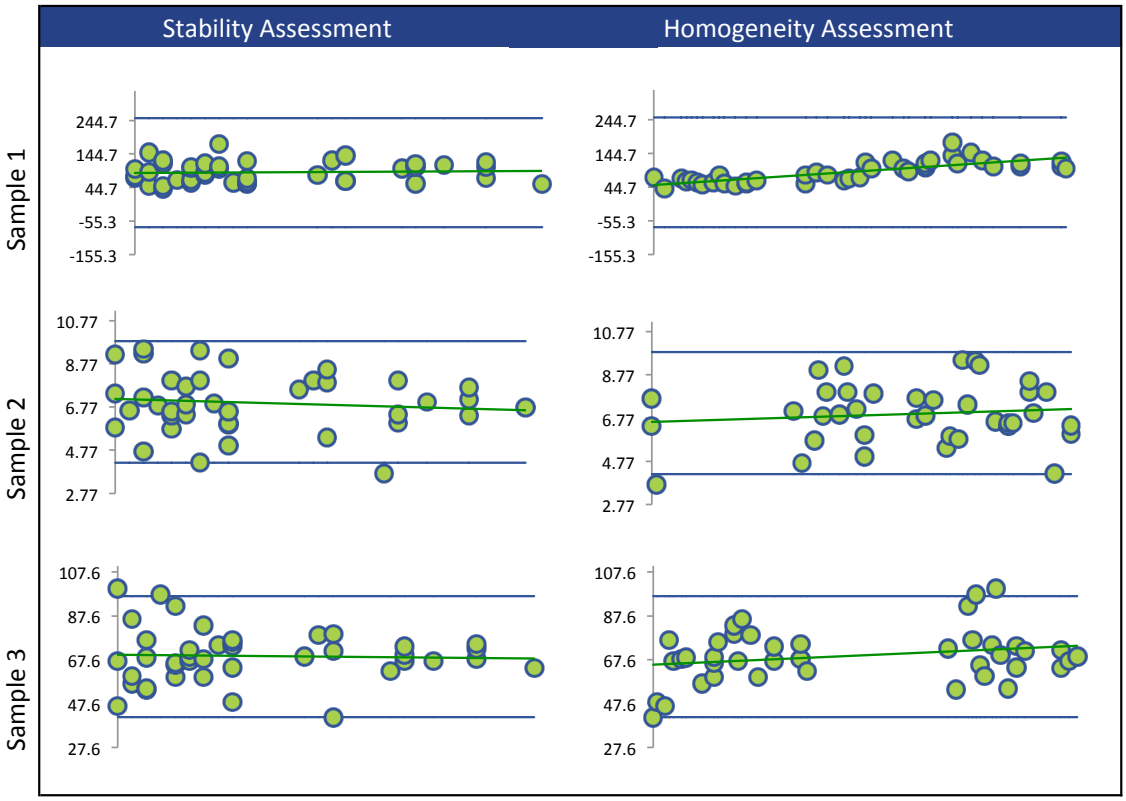
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	21	21	21	21
GC/MS - HEADSPACE (Red)	18	17	18	18
GC/MS (Green)	2	1	2	2

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



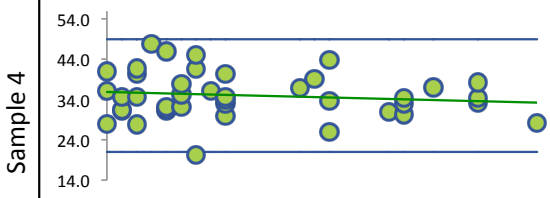
TRICHLOROFLUOROMETHANE



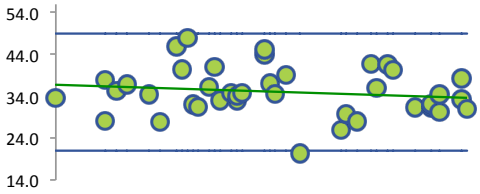


TRICHLOROFLUOROMETHANE

Stability Assessment



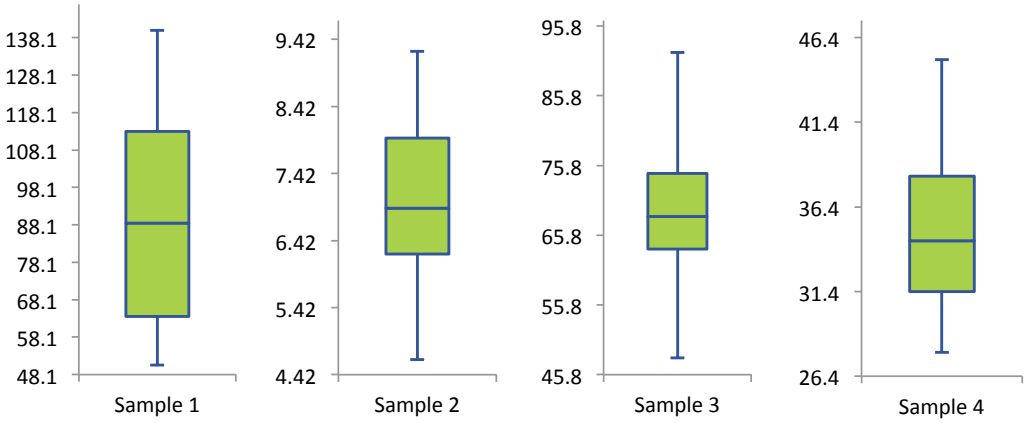
Homogeneity Assessment



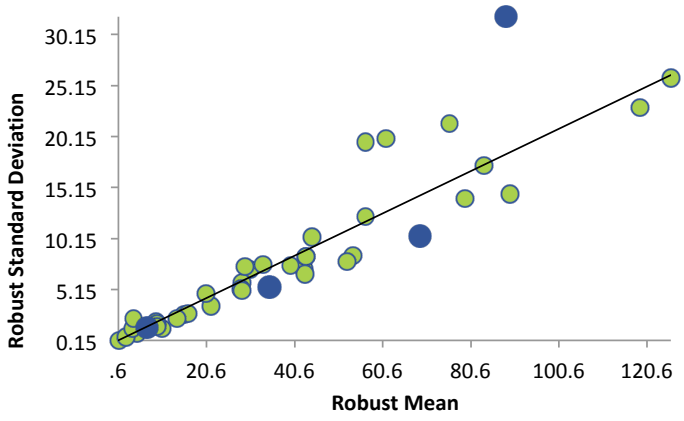
Stability assessments are regression analysis of reported result against date of analysis.

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

Box and Whisker Plots



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



VINYL CHLORIDE

Summary Statistics

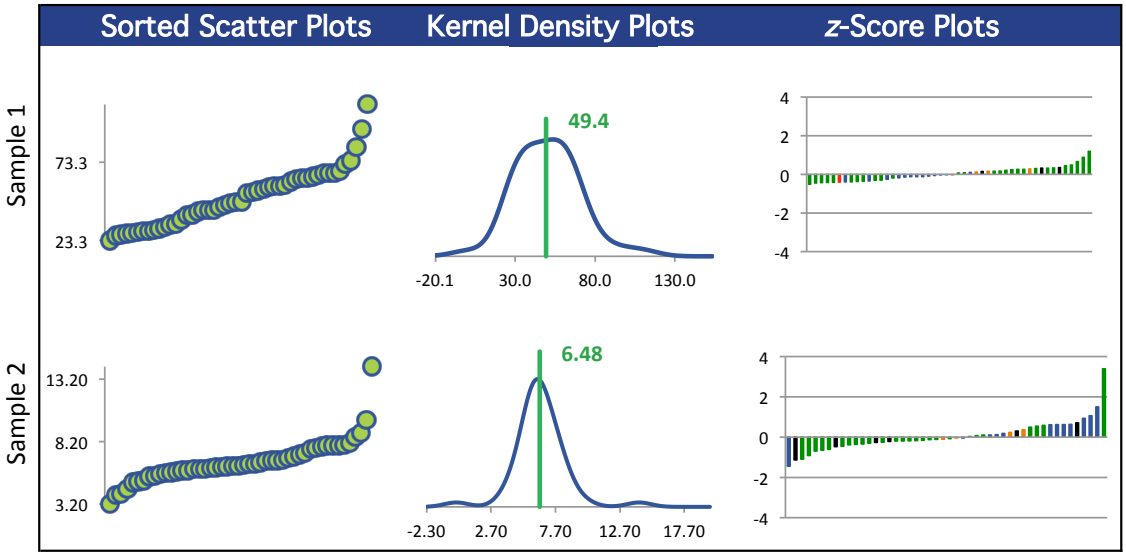
Excluded

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median µg/L	48.1	6.30	40.1	17.1
Robust Mean µg/L	49.4	6.48	40.5	17.7
U µg/L	3.28	0.229	1.45	0.552
Robust Standard Deviation µg/L	18.2	1.27	8.03	3.06
Regression Standard Deviation µg/L	11.1	1.46	9.12	3.99
Stability Flag				
Homogeneity Flag	Homogeneity	Homogeneity		
Standard Deviation Used (SDPA) µg/L	50.4	2.28	9.12	3.99
Outliers	0	0	0	0
|z|>3.0	0	1	1	0
2<|z|<3	0	0	3	3

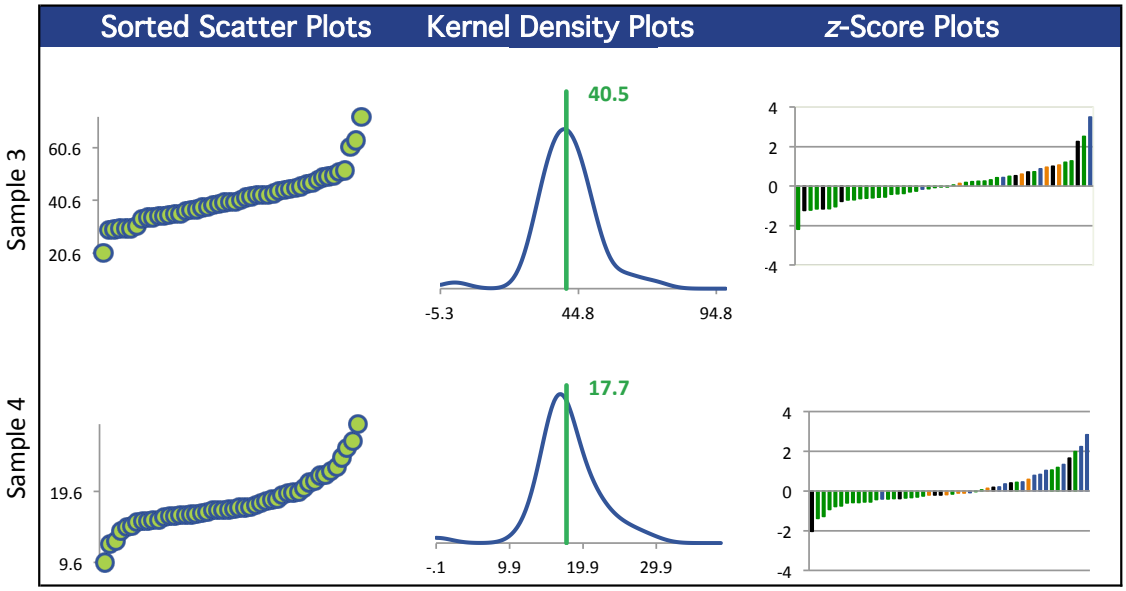
Methods Used

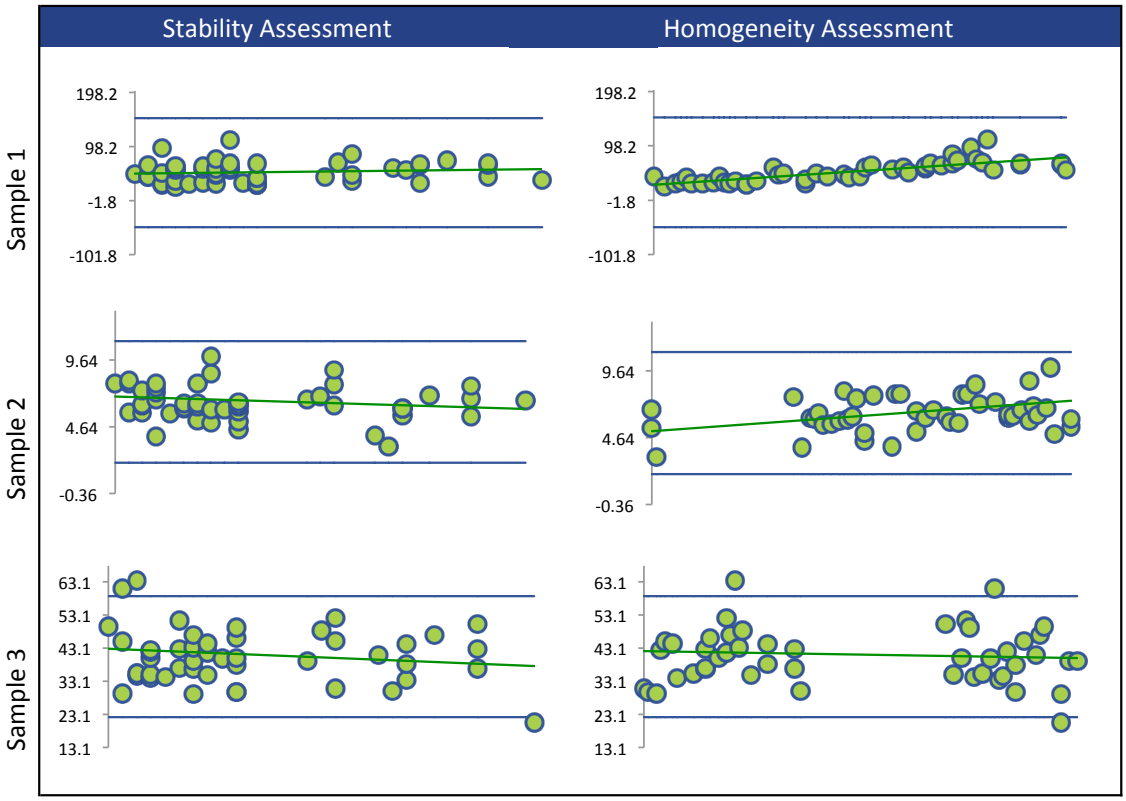
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	27	27	27	27
GC/MS - HEADSPACE (Red)	18	18	18	18
GC/MS/MS - HEADSPACE (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2

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



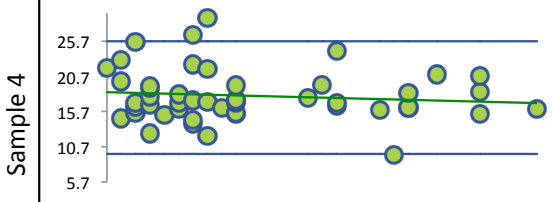
VINYL CHLORIDE



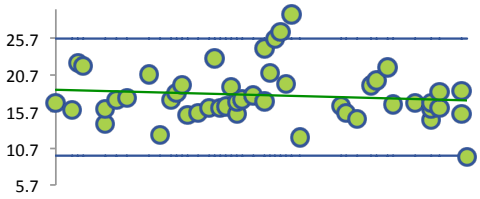


VINYL CHLORIDE

Stability Assessment



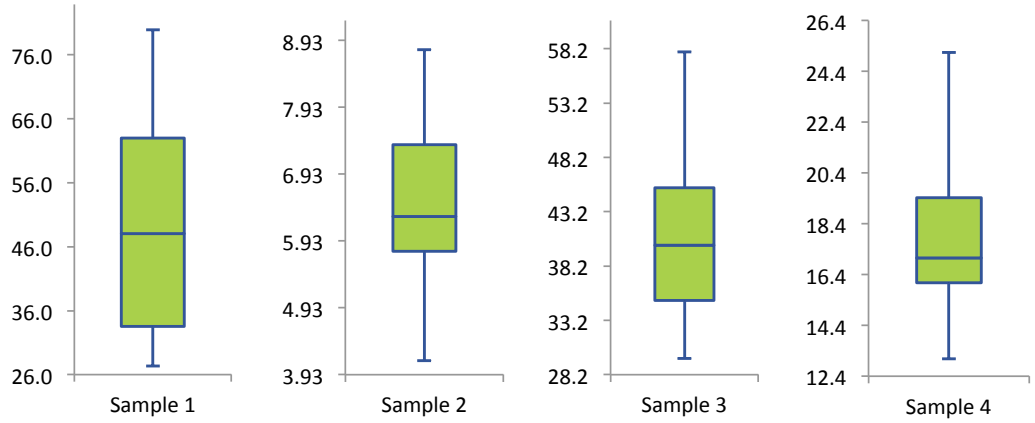
Homogeneity Assessment



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)