

# Test Group Summary Report

## C16 VOCs in Water

### January 2024 PT Round

---

**Issued: March 5, 2024**

## Table of Contents

<b>1.0</b>	<b>The Proficiency Testing Report .....</b>	<b>1</b>
<b>2.0</b>	<b>Definitions .....</b>	<b>1</b>
<b>3.0</b>	<b>Scoring System .....</b>	<b>1</b>
<b>3.1</b>	<b>Homogeneity and Stability Assessment .....</b>	<b>2</b>
<b>3.2</b>	<b>The z score .....</b>	<b>2</b>
<b>3.2</b>	<b>Composite (PT) Score .....</b>	<b>2</b>
<b>3.3</b>	<b>Identifying Bias .....</b>	<b>2</b>
<b>3.4</b>	<b>Deviations from Evaluation Procedure .....</b>	<b>3</b>
<b>4.0</b>	<b>PT Round Specific Data Summary .....</b>	<b>3</b>
<b>4.1</b>	<b>Summary statistics .....</b>	<b>3</b>
<b>4.2</b>	<b>z- Score Plots .....</b>	<b>3</b>
<b>4.3</b>	<b>kernel density plots .....</b>	<b>3</b>
<b>4.4</b>	<b>stability and homogeneity Plots .....</b>	<b>3</b>
<b>4.5</b>	<b>Box-and-Whisker Plots .....</b>	<b>3</b>
<b>4.6</b>	<b>Historic Comparison Plot .....</b>	<b>3</b>
	<b>Annex A Summary by Analyte .....</b>	<b>4</b>

## 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.

<i>Code:</i>	The registration code that is unique to each analyte that a participant is registered for.
<i>App:</i>	If a participant is accredited by CALA, this three-digit number is the appendix number that the accredited method is assigned to.
<i>N:</i>	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.
<i>Assigned:</i>	The Assigned Value is the robust mean of the reported results, outliers excluded. This is often referred to as the “target” value.
<i><math>\pm U</math>:</i>	The uncertainty of the assigned value.
<i>Reported:</i>	The result reported by the participant.
<i>s:</i>	The Standard Deviation of Proficiency Assessment (SDPA). This value is used to determine the acceptance limits for the PT evaluation.
<i>z-Score:</i>	A value assigned to each reported result that is a measure of the degree to which it deviates from the Assigned Value.
<i>Score:</i>	The composite score of the four results reported for each analyte. It is normalized to a score out of 100.
<i>Bias:</i>	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](http://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:

$$z - Score = \frac{(x - \bar{X})}{SDPA} \quad \text{where: } \begin{array}{l} x = \text{participant result;} \\ \bar{X} = \text{the Assigned Value;} \\ SDPA = \text{the Standard Deviation for Proficiency Assessment.} \end{array}$$

The assigned value  $\bar{X}$  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  $100 + (-15 \times \text{avg } |z|)$ .

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.

$$RSZ = \frac{\sum z}{\sqrt{N}} \quad \text{where } \begin{array}{l} z = \text{the z- score} \\ N = \text{the number of samples} \end{array}$$

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

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 5<sup>th</sup> and 95<sup>th</sup> 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.

## 1,1,1-TRICHLOROETHANE

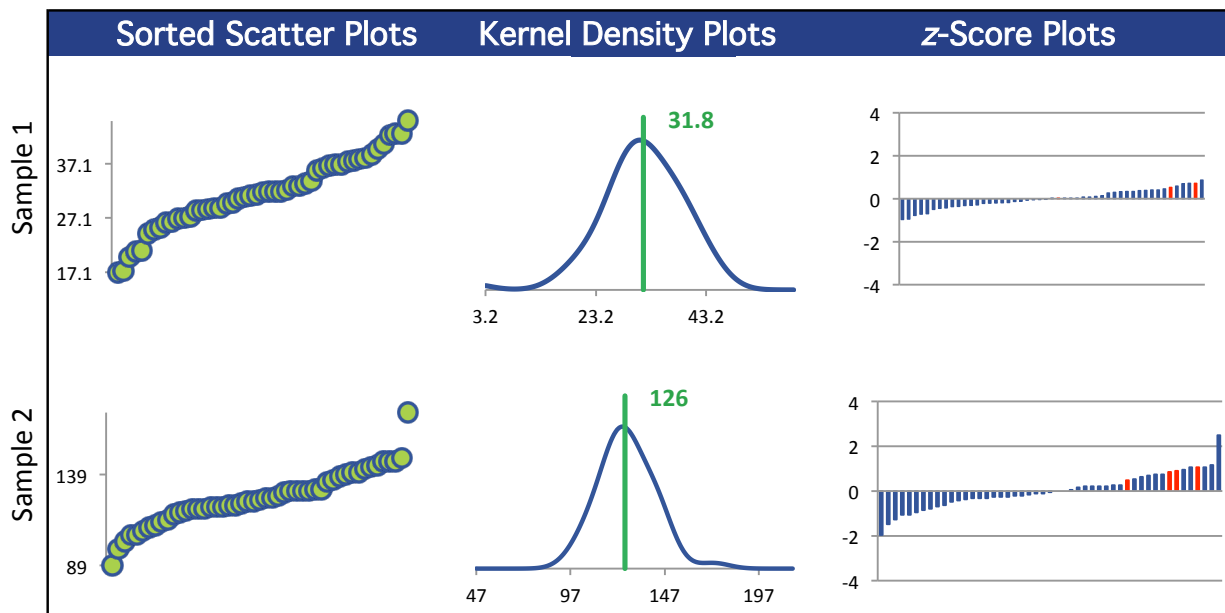
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median $\mu\text{g/L}$	31.9	125	83.0	6.43
Robust Mean $\mu\text{g/L}$	31.8	126	82.1	6.08
U $\mu\text{g/L}$	1.22	2.57	2.04	0.552
Robust Standard Deviation $\mu\text{g/L}$	6.83	14.4	11.4	3.09
Regression Standard Deviation $\mu\text{g/L}$	4.78	18.9	12.3	0.911
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	15.2	18.9	12.3	7.93
Outliers	0	0	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	1	3	0

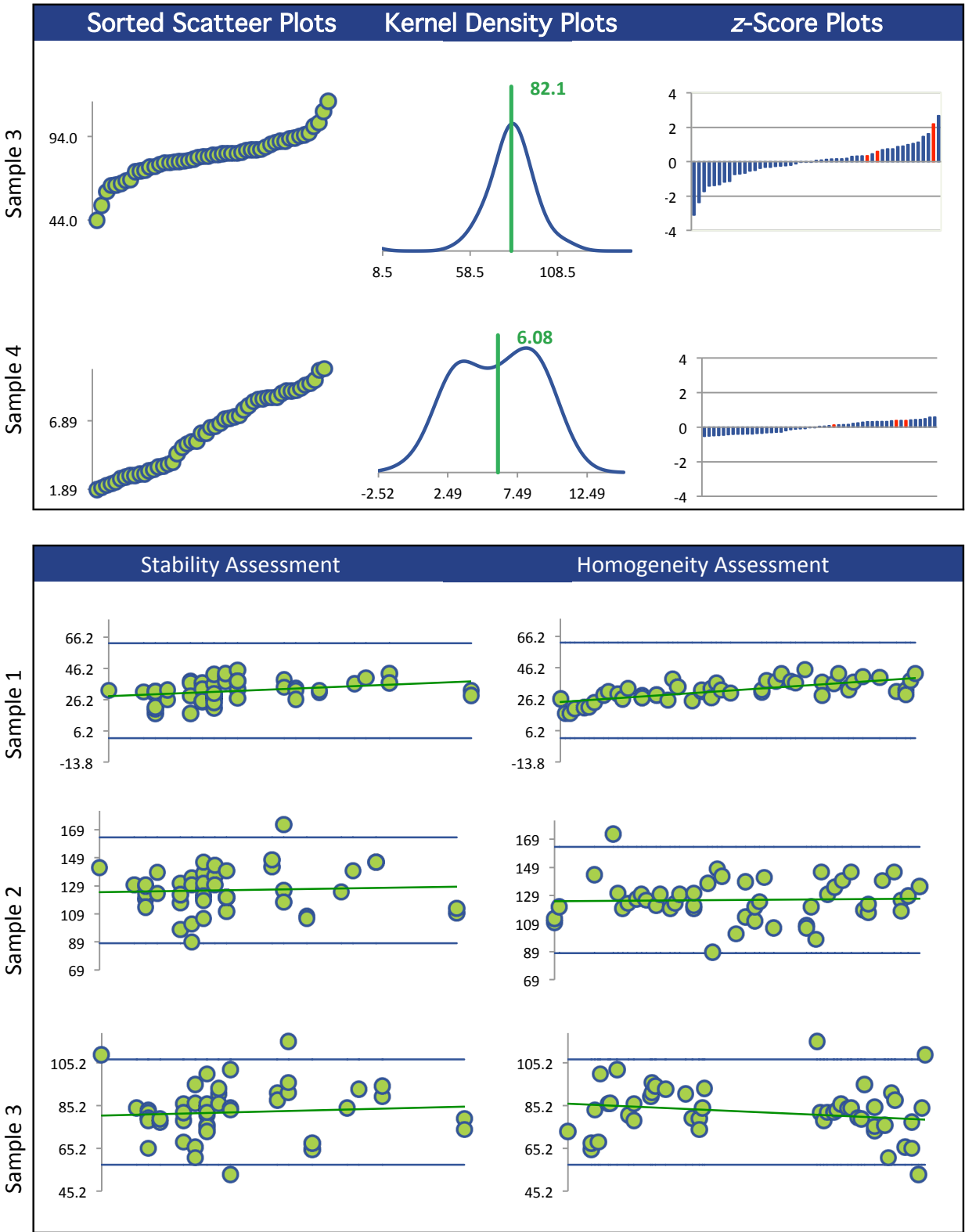
## Methods Used

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

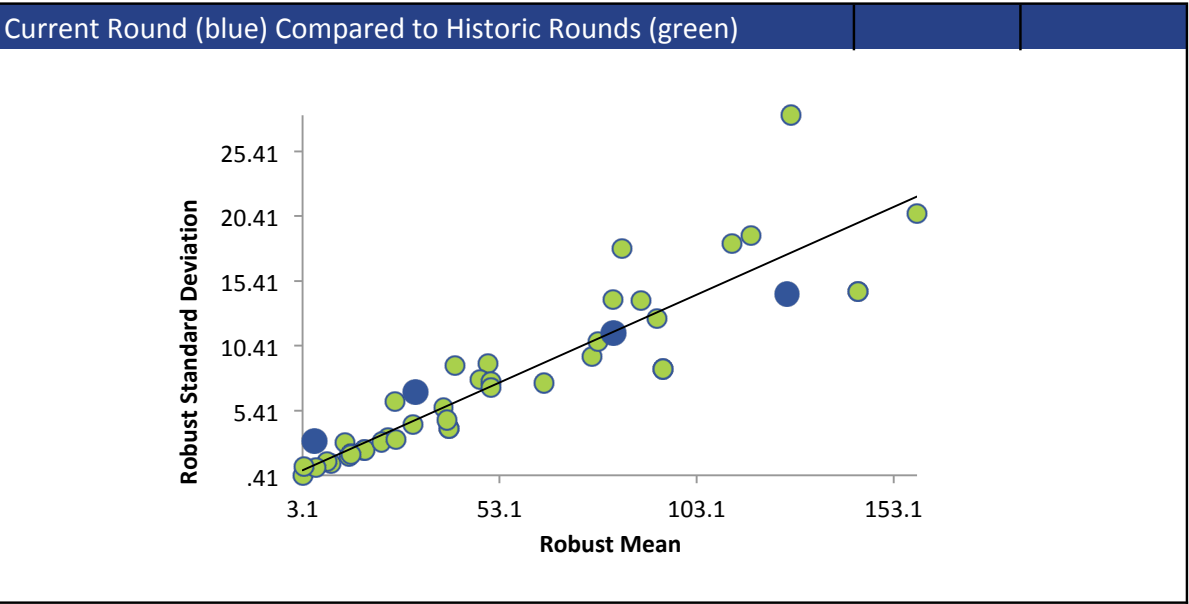
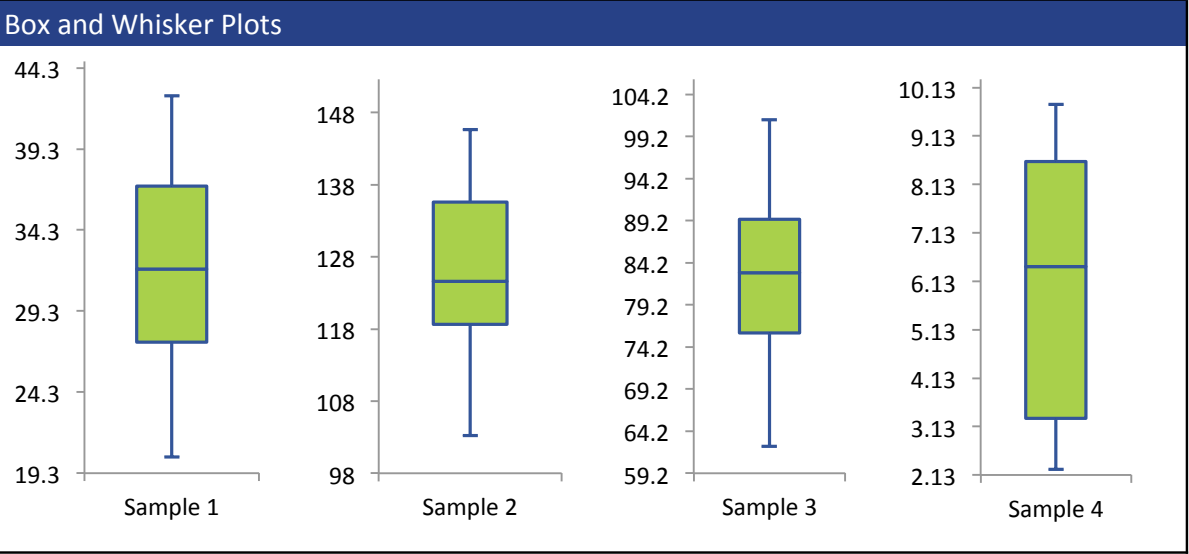
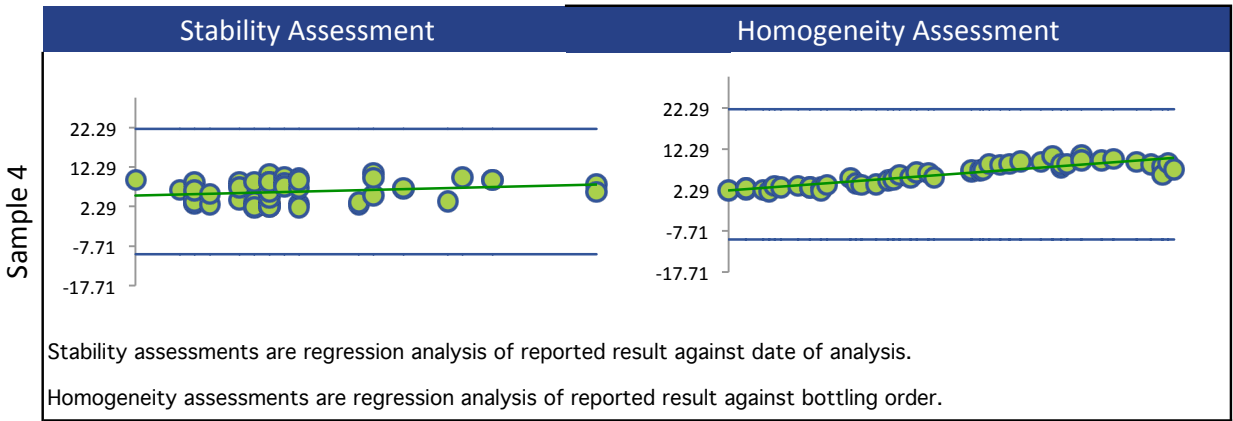
All summary stats and the plots below are based on the data excluding any flagged outliers



1,1,1-TRICHLOROETHANE



1,1,1-TRICHLOROETHANE





## 1,1,2,2-TETRACHLOROETHANE

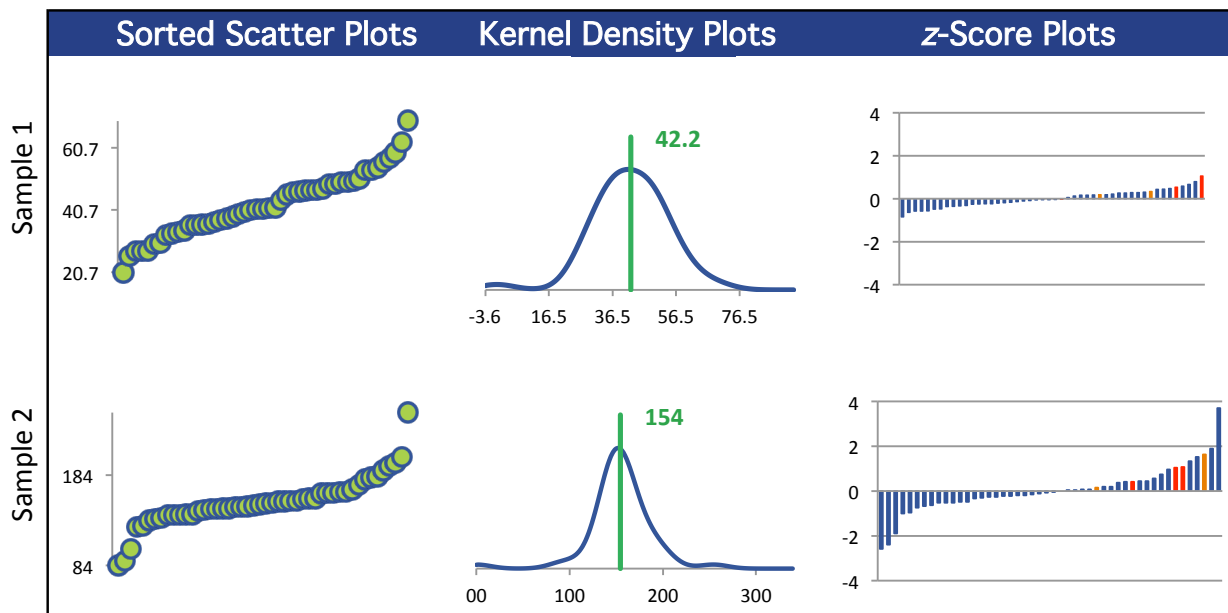
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median $\mu\text{g/L}$	41.2	153	100	7.71
Robust Mean $\mu\text{g/L}$	42.2	154	101	7.98
U $\mu\text{g/L}$	1.91	3.61	2.17	0.778
Robust Standard Deviation $\mu\text{g/L}$	10.6	20.0	12.0	4.31
Regression Standard Deviation $\mu\text{g/L}$	7.38	27.0	17.7	1.40
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	25.4	27.0	17.7	10.7
Outliers	0	0	0	0
$ z  > 3.0$	0	1	1	0
$2 <  z  < 3$	0	2	3	0

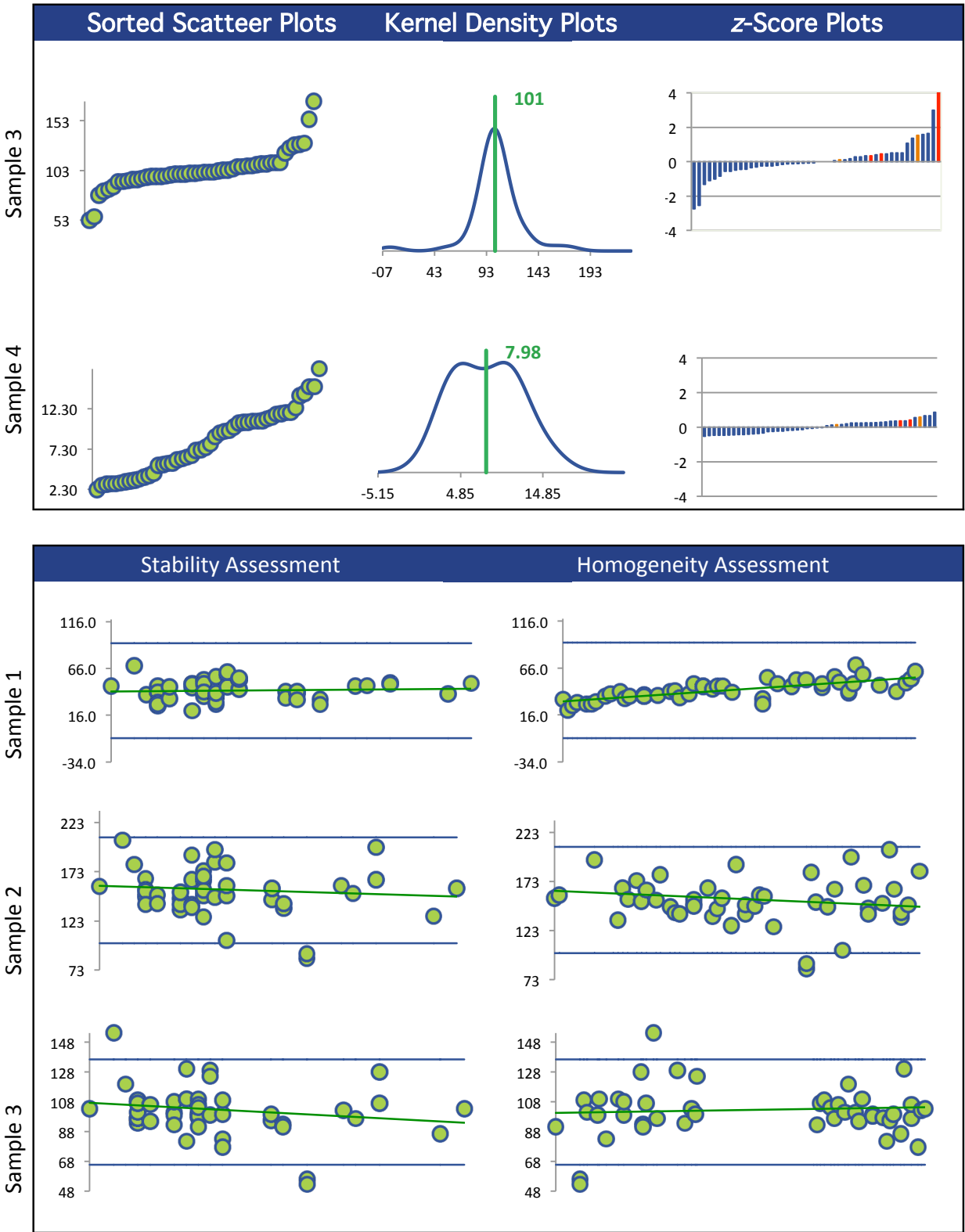
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	16	16	16	16
GC/MS - PURGE AND TRAP (Red)	28	28	28	28
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

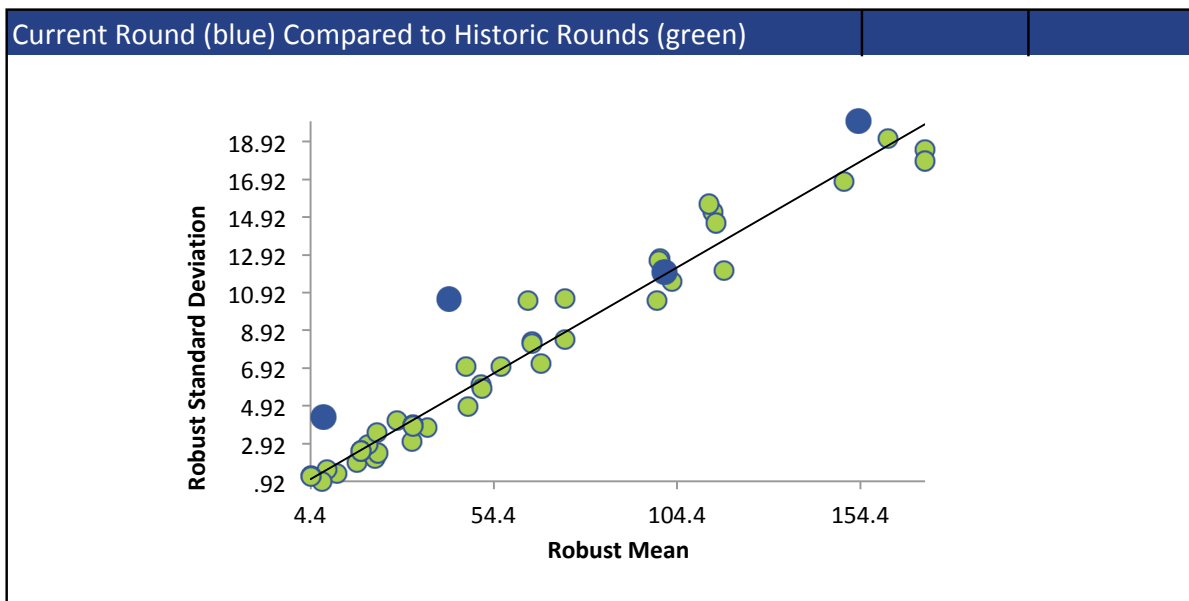
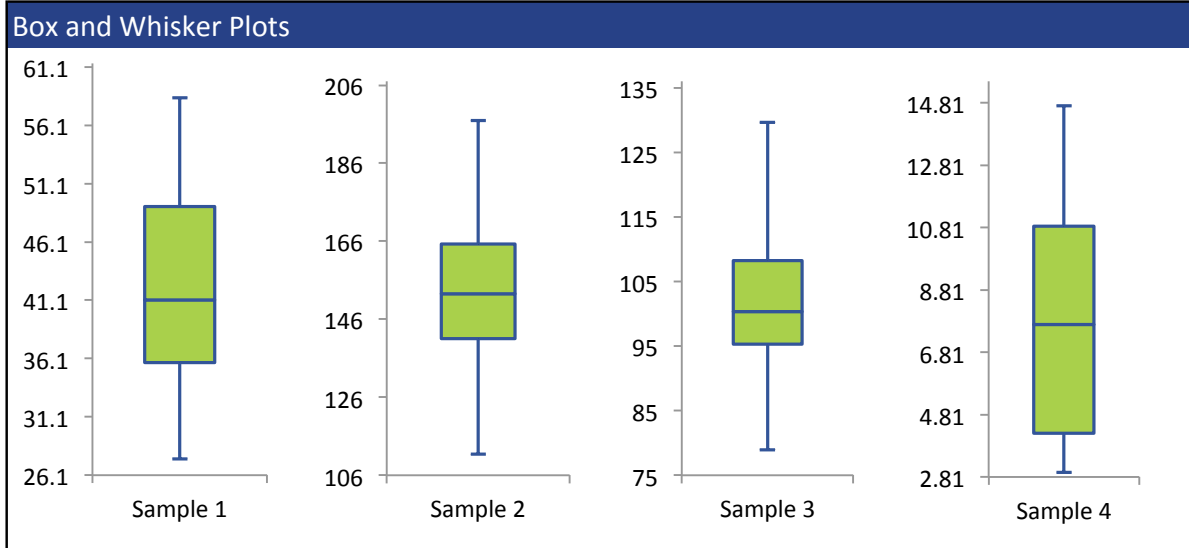
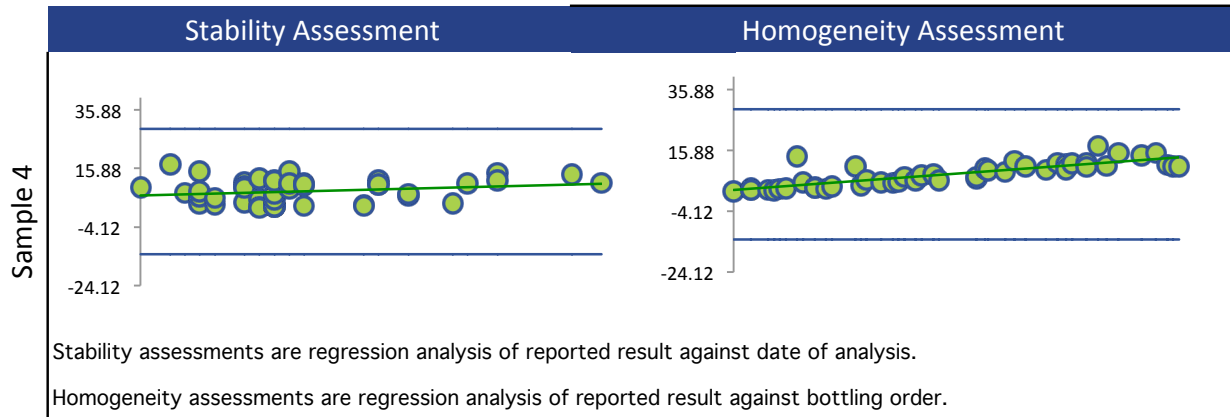
All summary stats and the plots below are based on the data excluding any flagged outliers



1,1,2,2-TETRACHLOROETHANE



## 1,1,2,2-TETRACHLOROETHANE



## 1,1,2-TRICHLOROETHANE

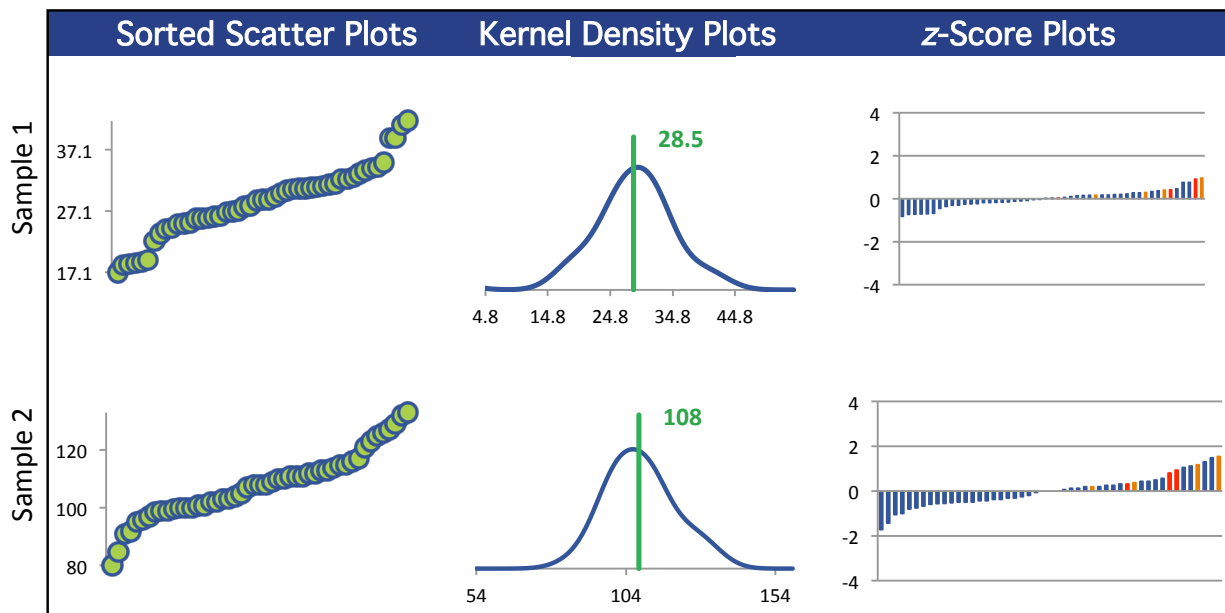
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median $\mu\text{g/L}$	29.0	108	70.9	5.10
Robust Mean $\mu\text{g/L}$	28.5	108	70.8	5.21
U $\mu\text{g/L}$	0.966	2.04	1.23	0.496
Robust Standard Deviation $\mu\text{g/L}$	5.41	11.4	6.88	2.78
Regression Standard Deviation $\mu\text{g/L}$	4.28	16.2	10.6	0.782
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	13.7	16.2	10.6	6.87
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	0	1	0

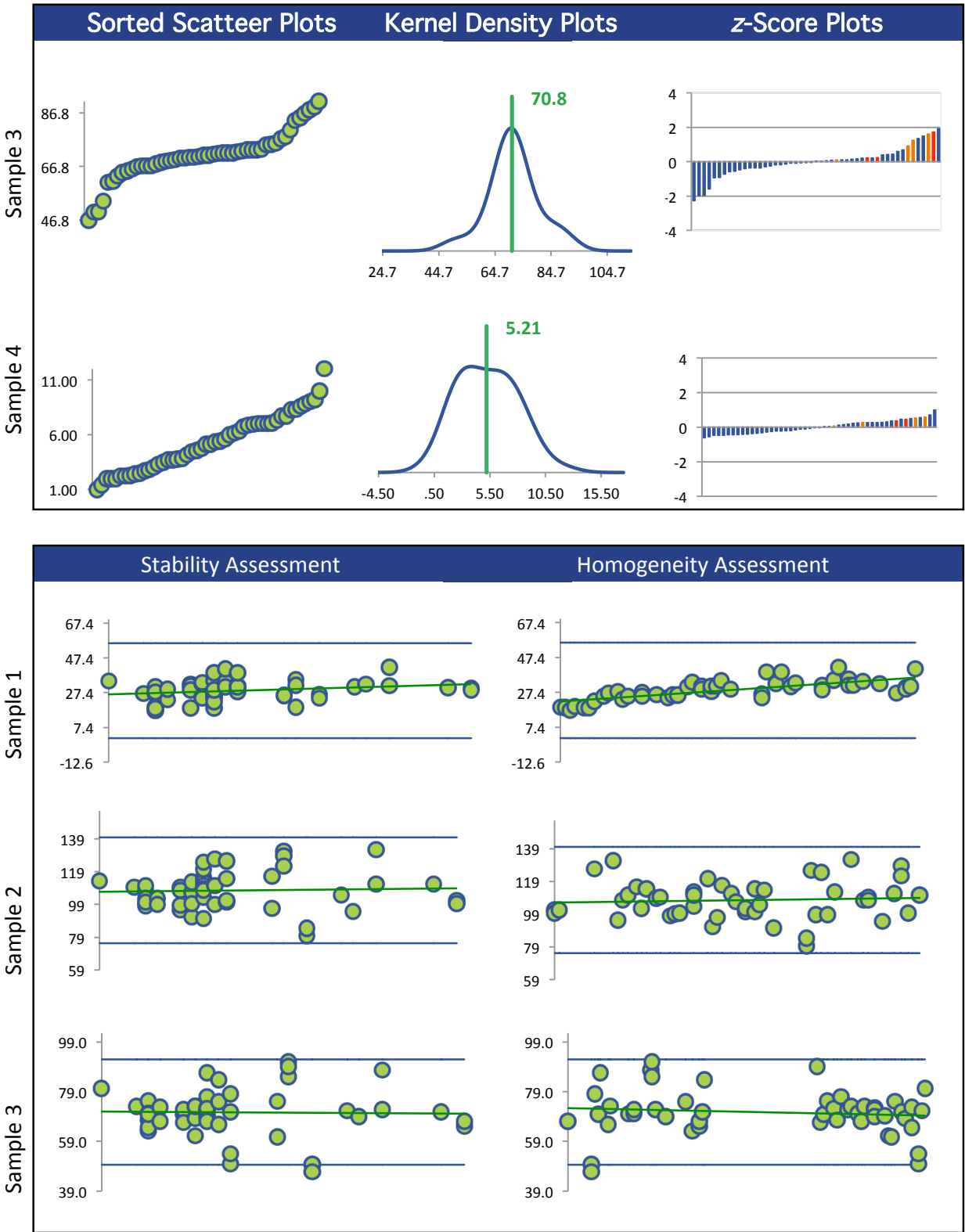
## Methods Used

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

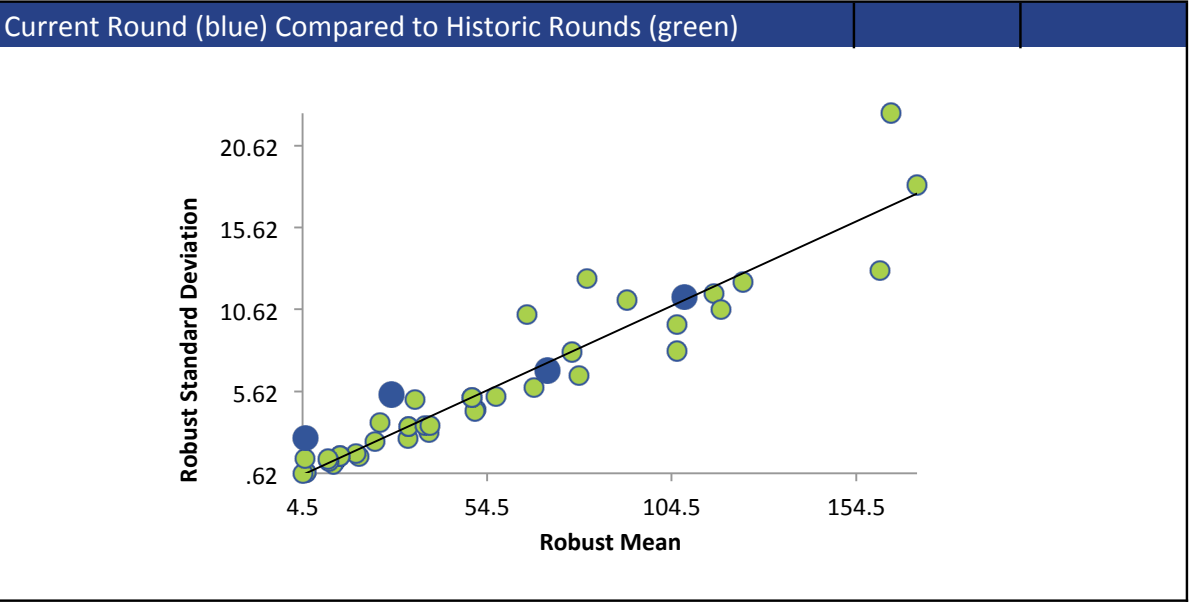
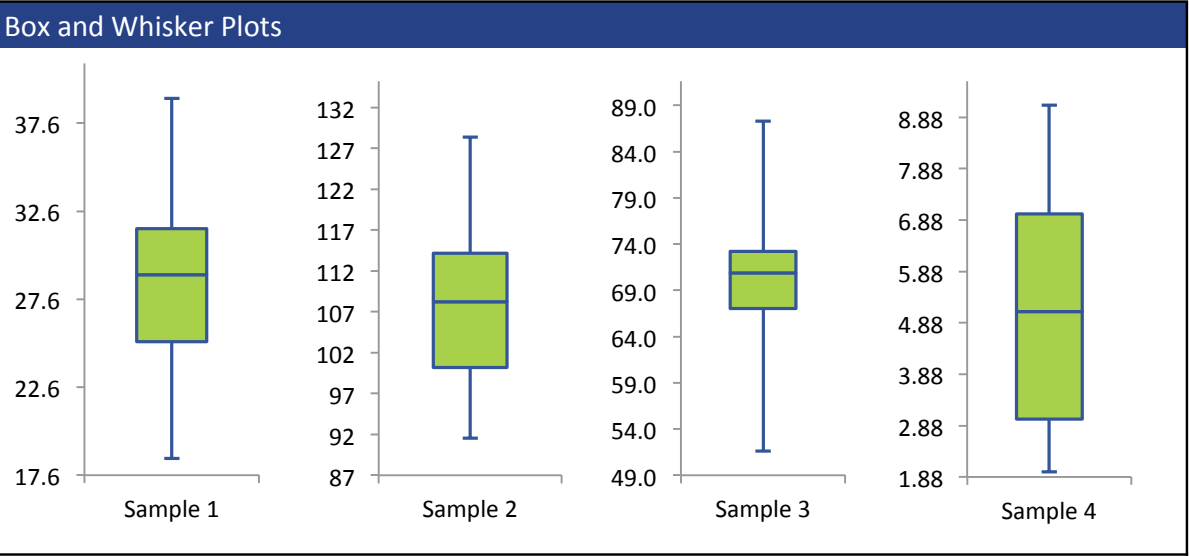
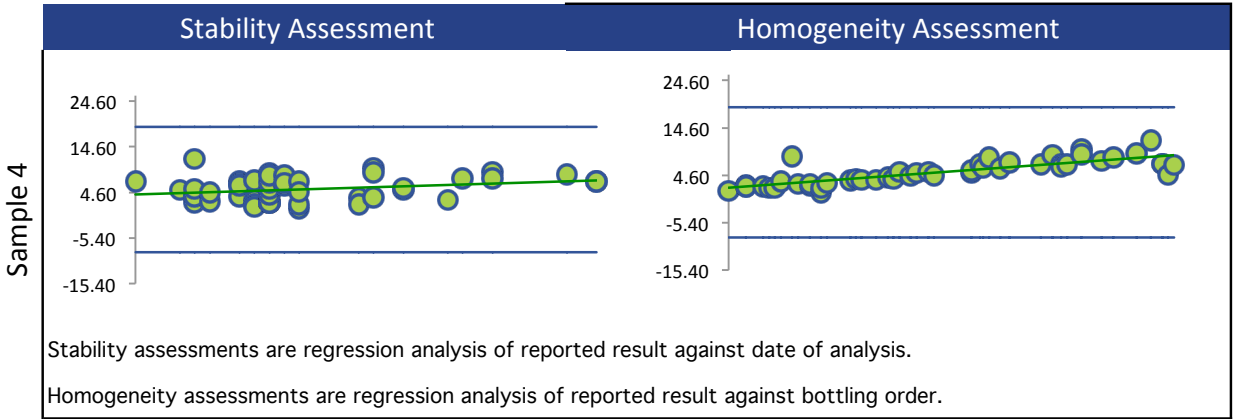
All summary stats and the plots below are based on the data excluding any flagged outliers



1,1,2-TRICHLOROETHANE



1,1,2-TRICHLOROETHANE



## 1,1-DICHLOROETHANE

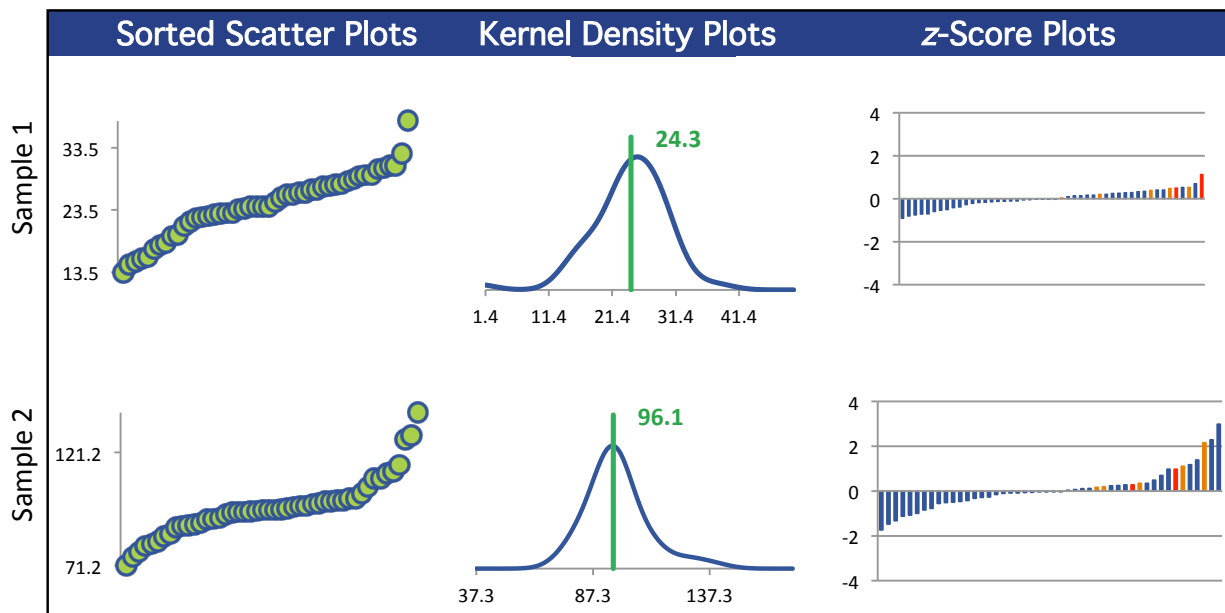
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median $\mu\text{g/L}$	24.0	95.8	62.3	4.77
Robust Mean $\mu\text{g/L}$	24.3	96.1	62.1	4.56
U $\mu\text{g/L}$	0.911	1.97	1.24	0.410
Robust Standard Deviation $\mu\text{g/L}$	5.05	10.9	6.90	2.27
Regression Standard Deviation $\mu\text{g/L}$	3.65	14.4	9.32	0.684
Stability Flag				
Homogeneity Flag	Homogeneity		Homogeneity	Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	11.9	14.4	9.73	5.76
Outliers	0	0	0	0
$ z  > 3.0$	0	0	2	0
$2 <  z  < 3$	0	3	3	0

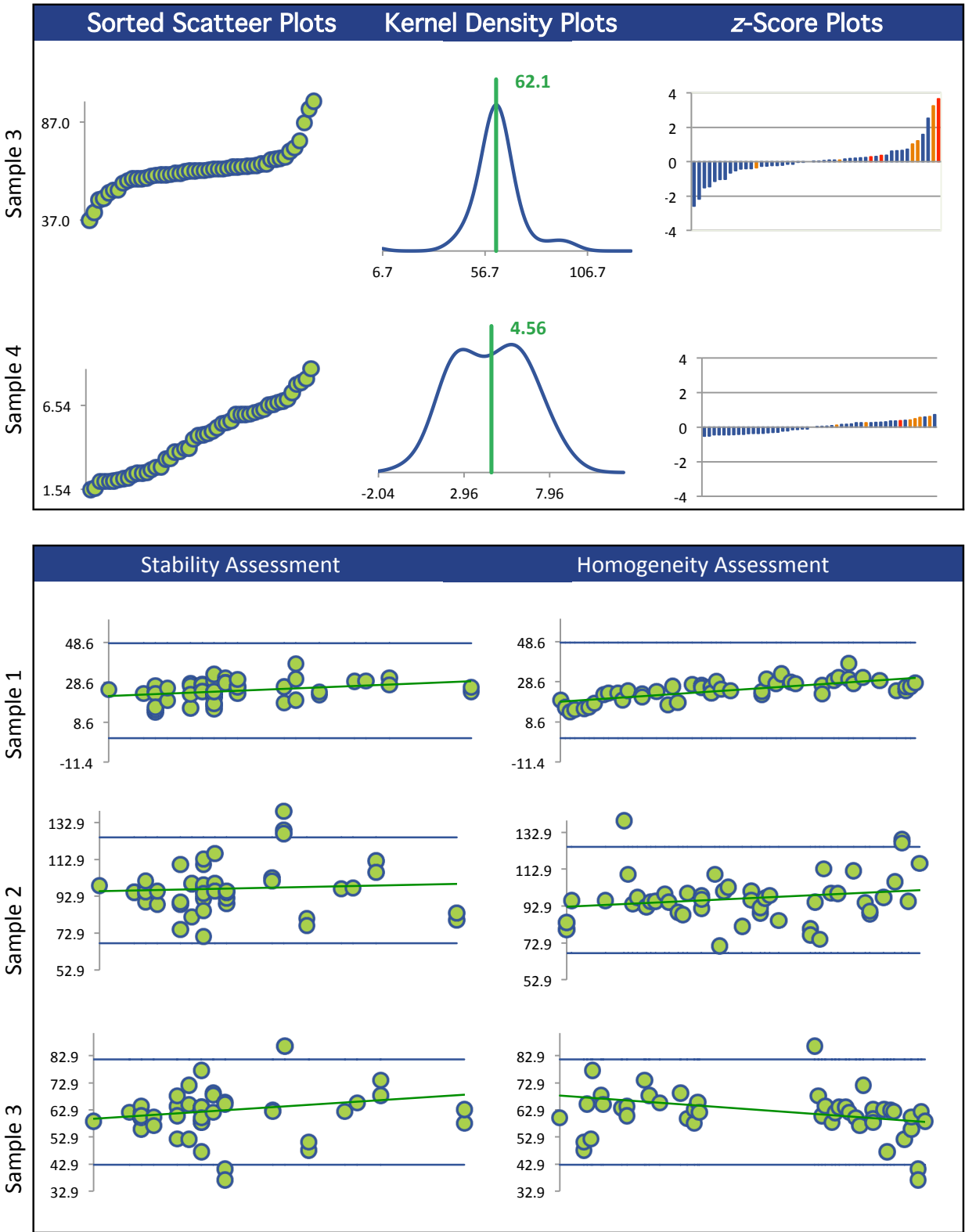
## Methods Used

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

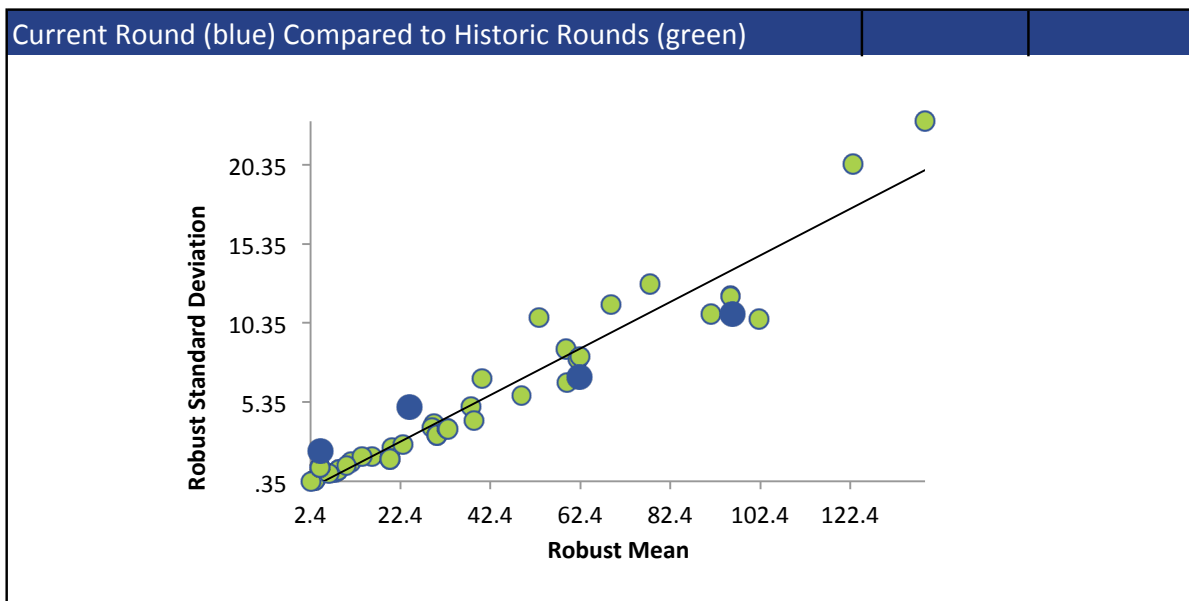
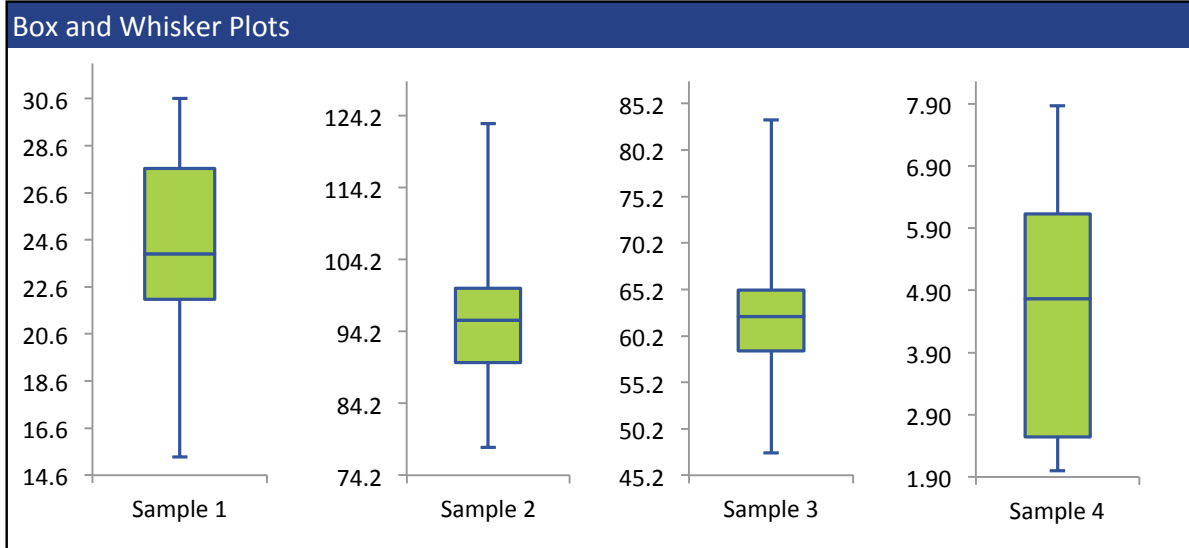
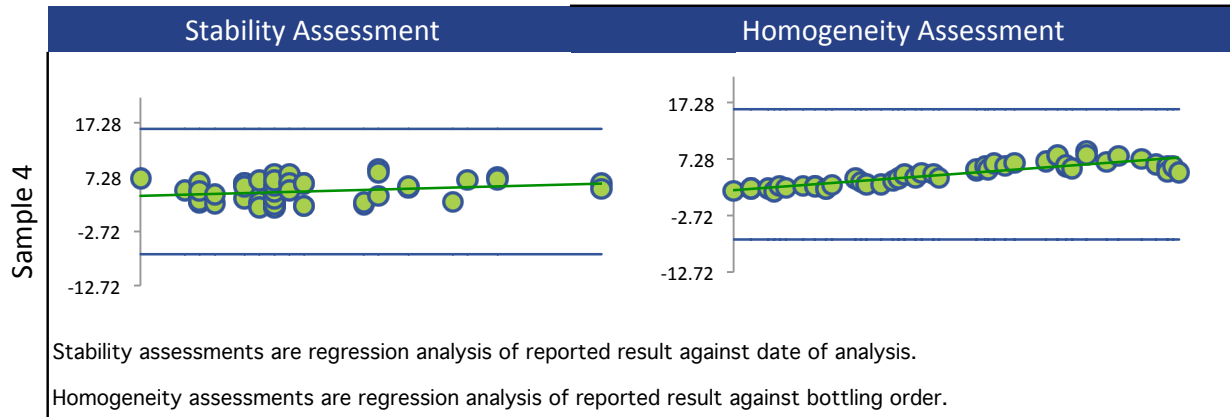


1,1-DICHLOROETHANE





## 1,1-DICHLOROETHANE



## 1,1-DICHLOROETHYLENE

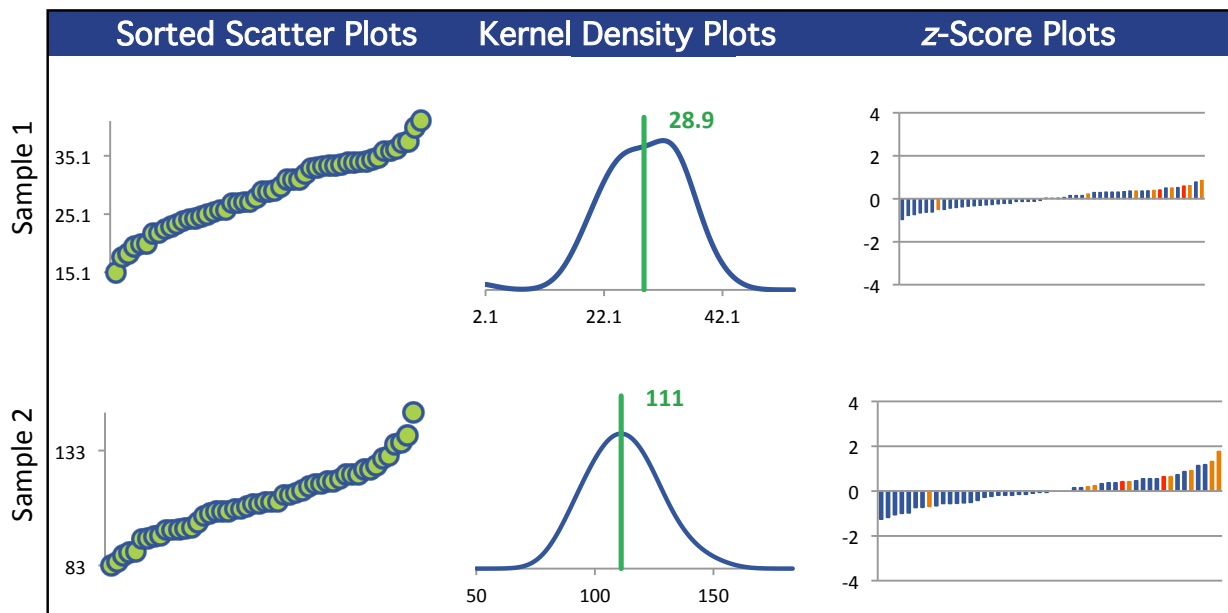
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	50	51	51
Median $\mu\text{g/L}$	29.0	111	73.7	6.00
Robust Mean $\mu\text{g/L}$	28.9	111	73.5	5.72
U $\mu\text{g/L}$	1.16	2.69	2.07	0.506
Robust Standard Deviation $\mu\text{g/L}$	6.64	15.2	11.8	2.89
Regression Standard Deviation $\mu\text{g/L}$	5.77	22.2	14.7	1.14
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	14.3	22.2	14.7	6.69
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	0	2	0

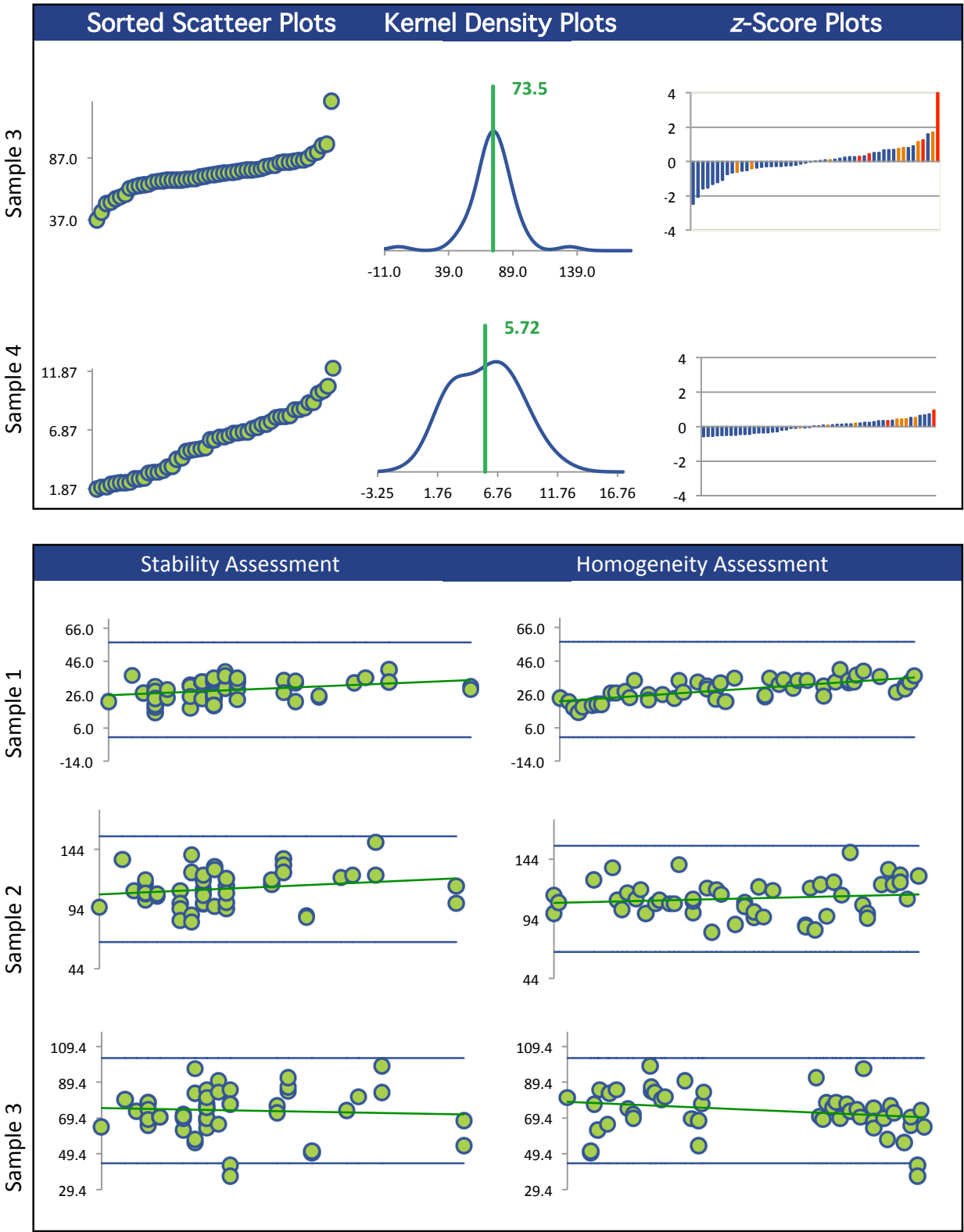
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	19	19	19	19
GC/MS (Red)	2	2	2	2
GC/MS - PURGE AND TRAP (Green)	28	27	28	28
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

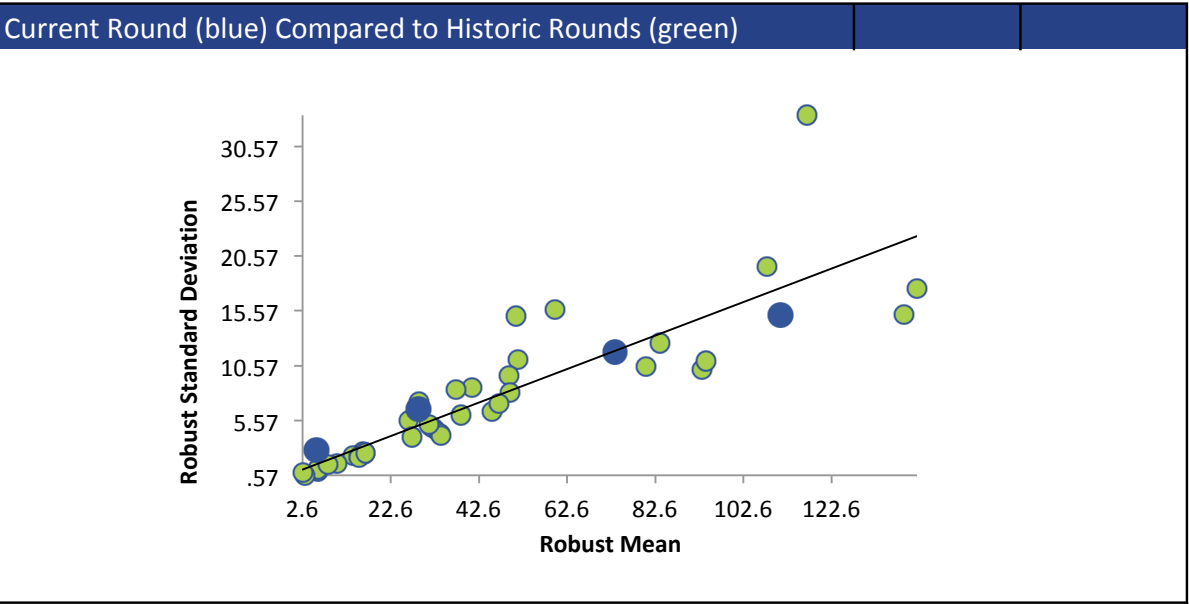
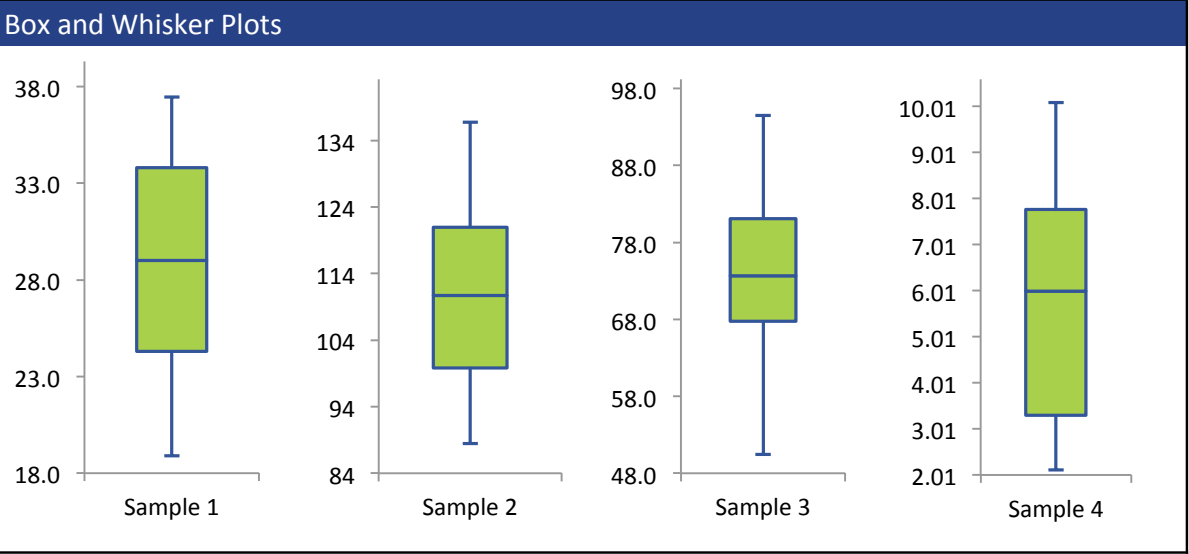
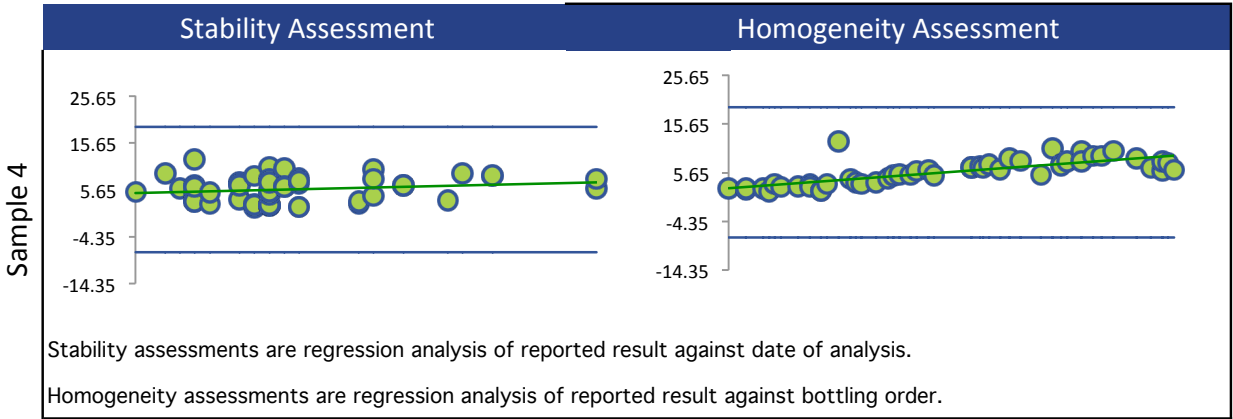
All summary stats and the plots below are based on the data excluding any flagged outliers



1,1-DICHLOROETHYLENE



1,1-DICHLOROETHYLENE



## 1,2-DICHLOROBENZENE

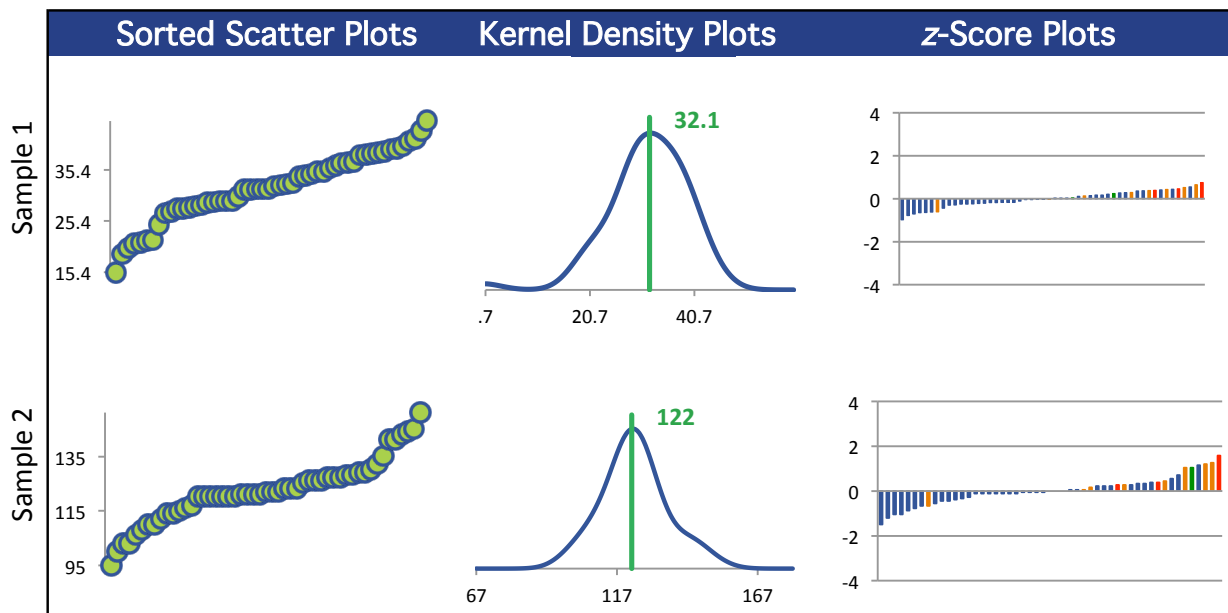
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	52	51	52	52
Median $\mu\text{g/L}$	32.0	122	80.7	6.38
Robust Mean $\mu\text{g/L}$	32.1	122	80.5	6.17
U $\mu\text{g/L}$	1.19	1.80	1.49	0.555
Robust Standard Deviation $\mu\text{g/L}$	6.85	10.3	8.59	3.20
Regression Standard Deviation $\mu\text{g/L}$	4.82	18.3	12.1	0.925
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	17.0	18.3	12.1	6.89
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	0	1	0

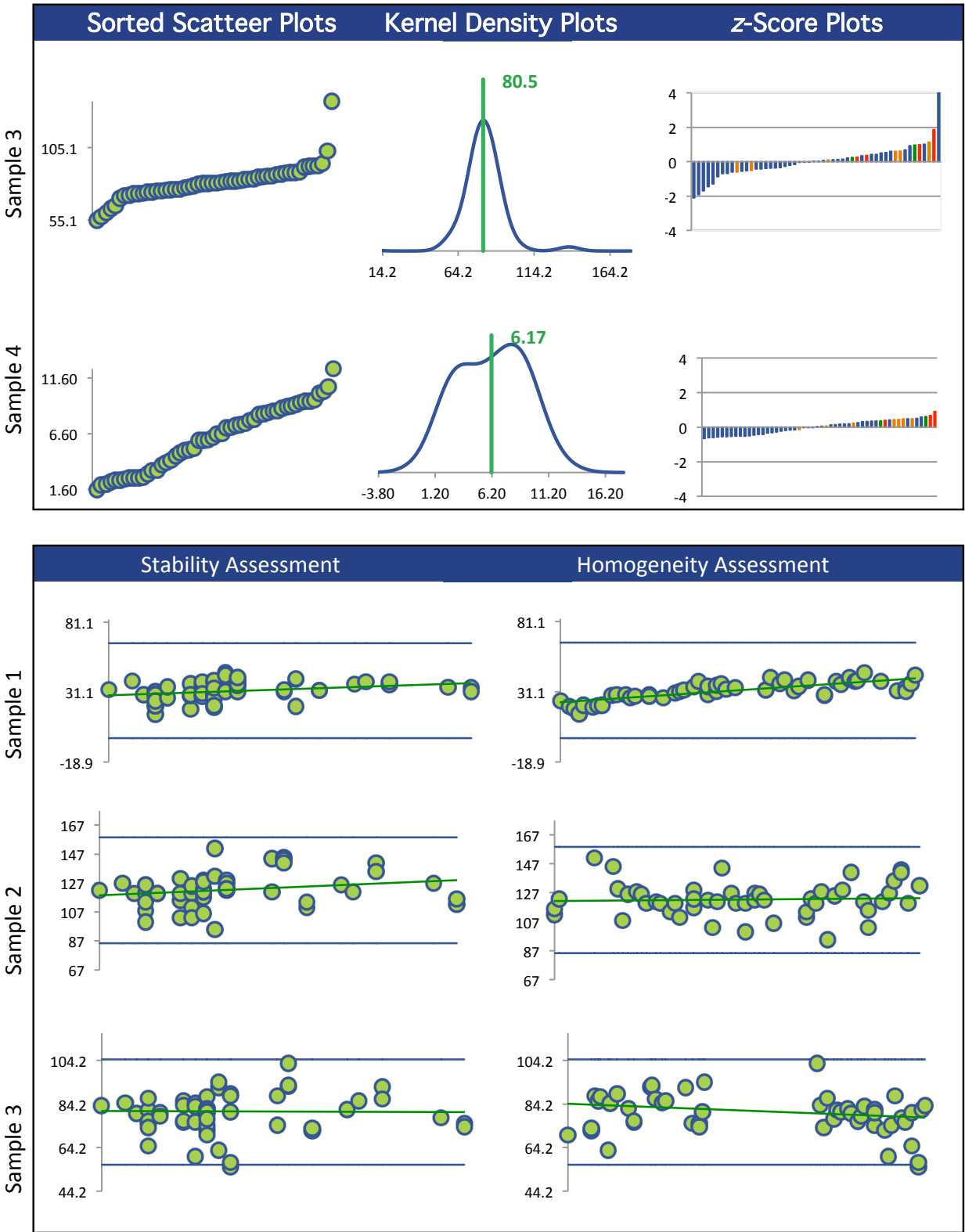
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	19	19	19	19
GC/MS - PURGE AND TRAP (Red)	29	28	29	29
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

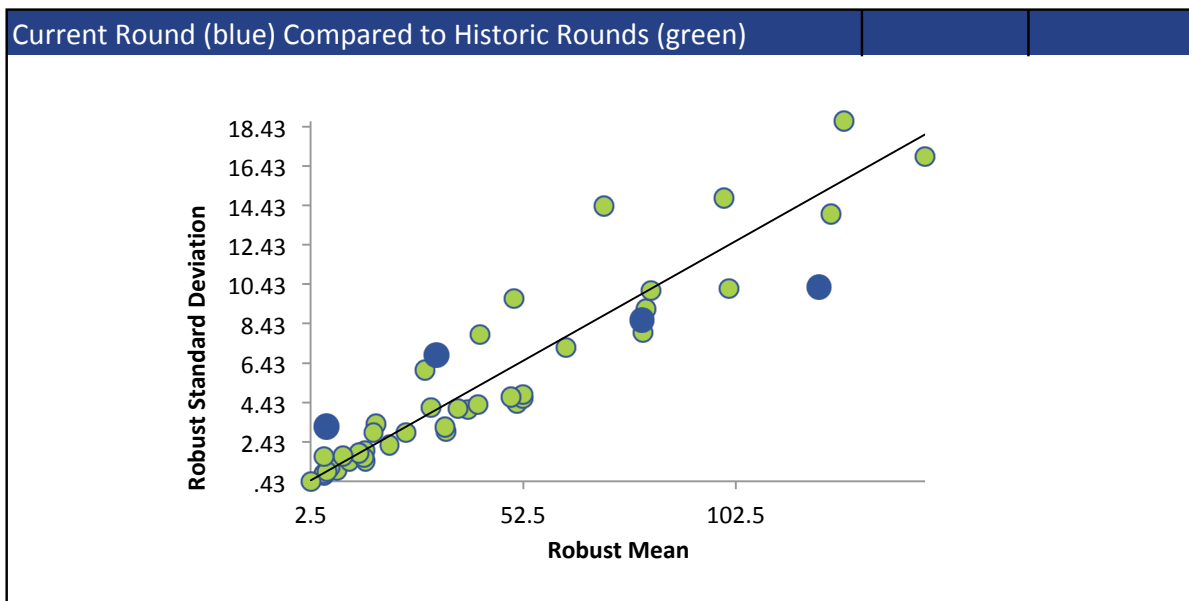
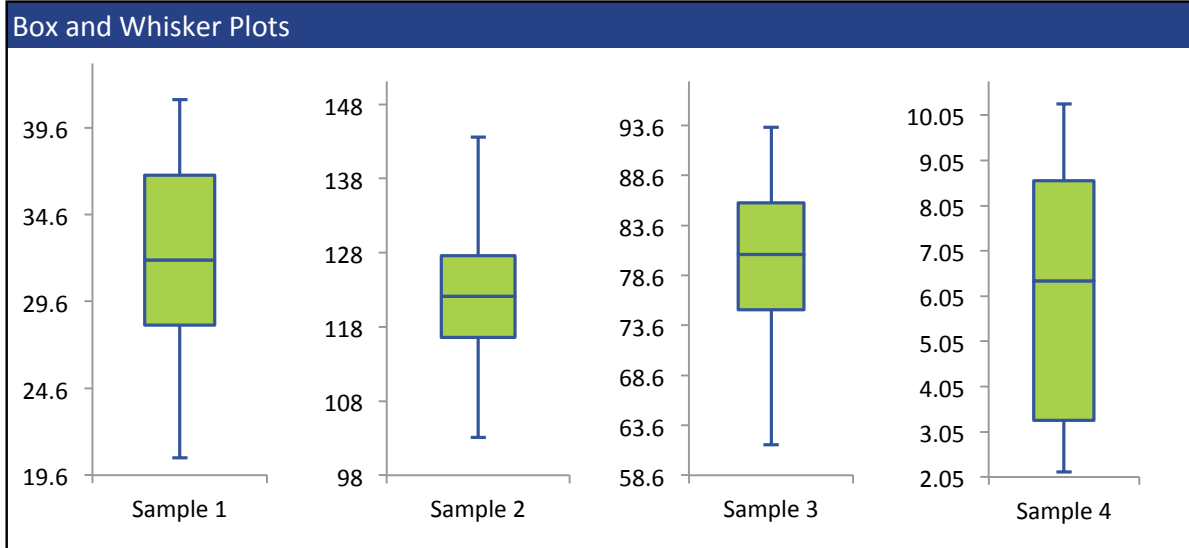
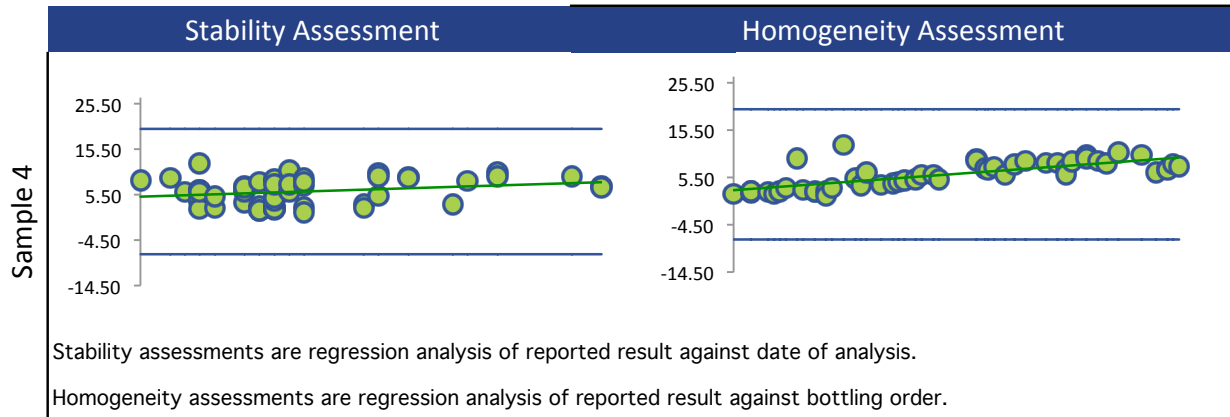
All summary stats and the plots below are based on the data excluding any flagged outliers



1,2-DICHLOROBENZENE



## 1,2-DICHLOROBENZENE



## 1,2-DICHLOROETHANE

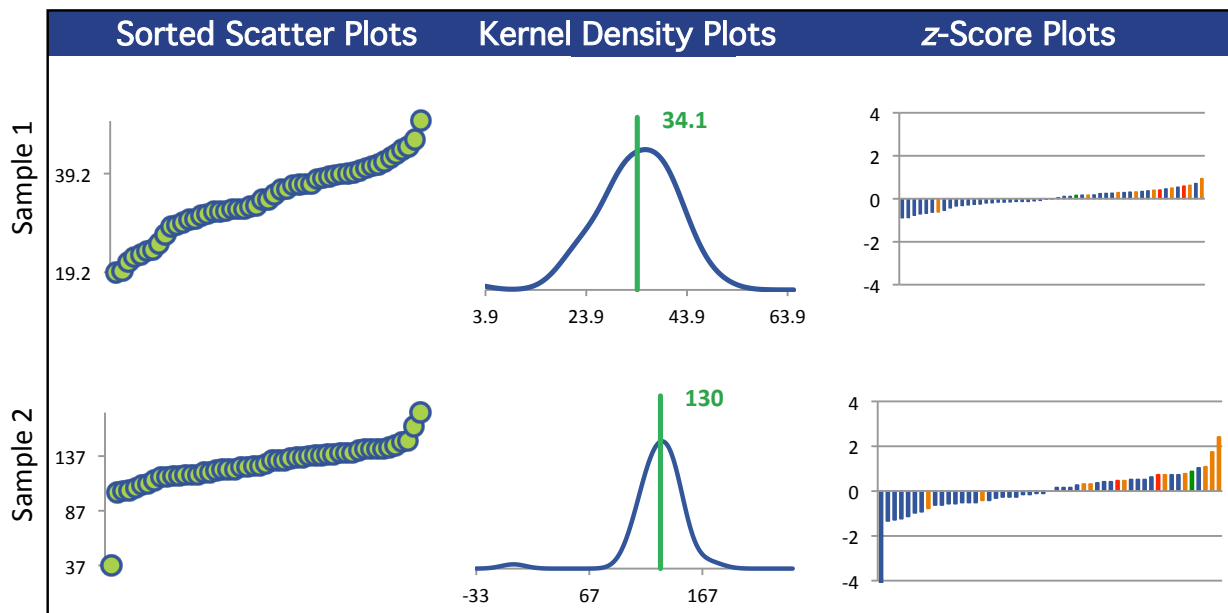
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	51	51	51
Median $\mu\text{g/L}$	34.0	130	86.4	6.40
Robust Mean $\mu\text{g/L}$	34.1	130	86.7	6.43
U $\mu\text{g/L}$	1.31	2.59	1.84	0.558
Robust Standard Deviation $\mu\text{g/L}$	7.51	14.8	10.5	3.19
Regression Standard Deviation $\mu\text{g/L}$	5.12	19.5	13.0	0.965
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	16.7	19.5	13.0	7.77
Outliers	0	0	0	0
$ z  > 3.0$	0	1	0	0
$2 <  z  < 3$	0	1	5	0

## Methods Used

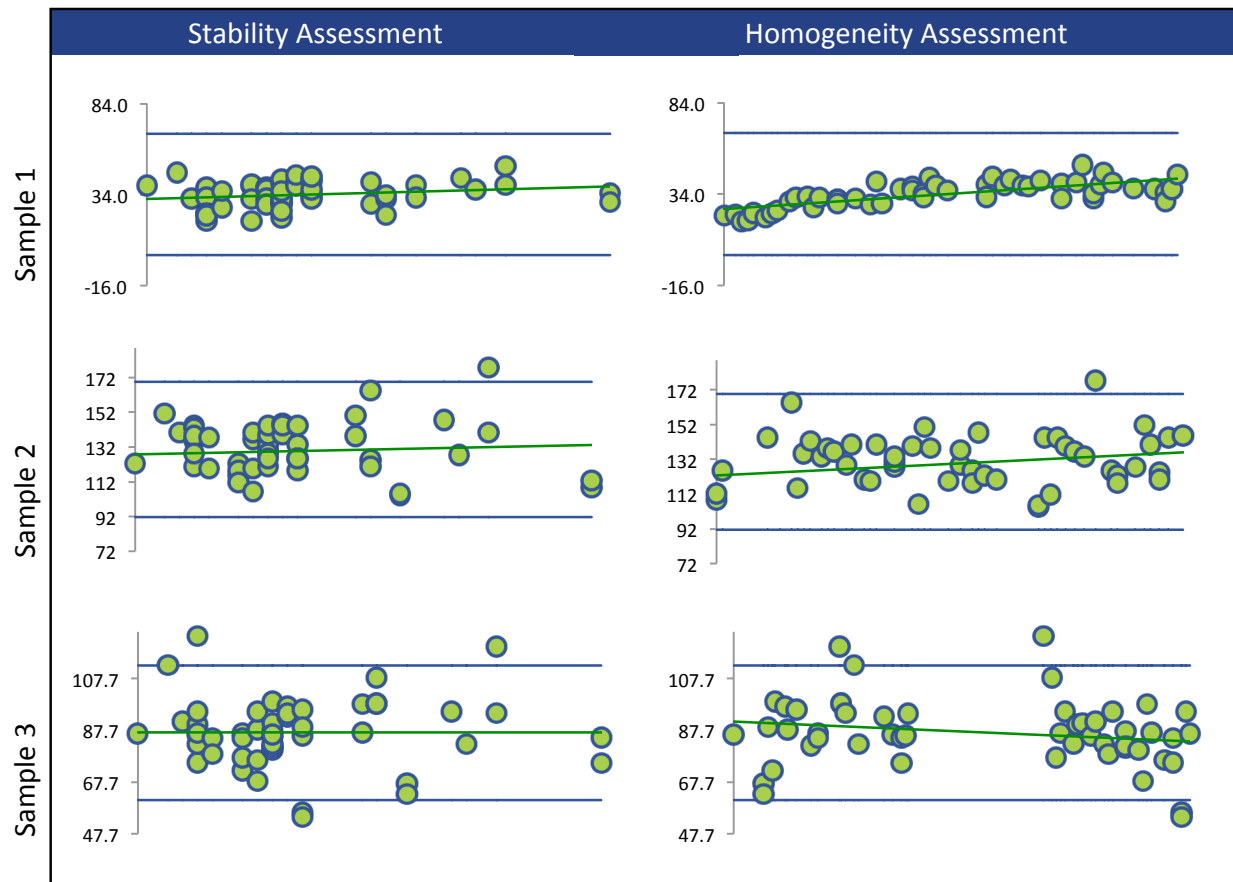
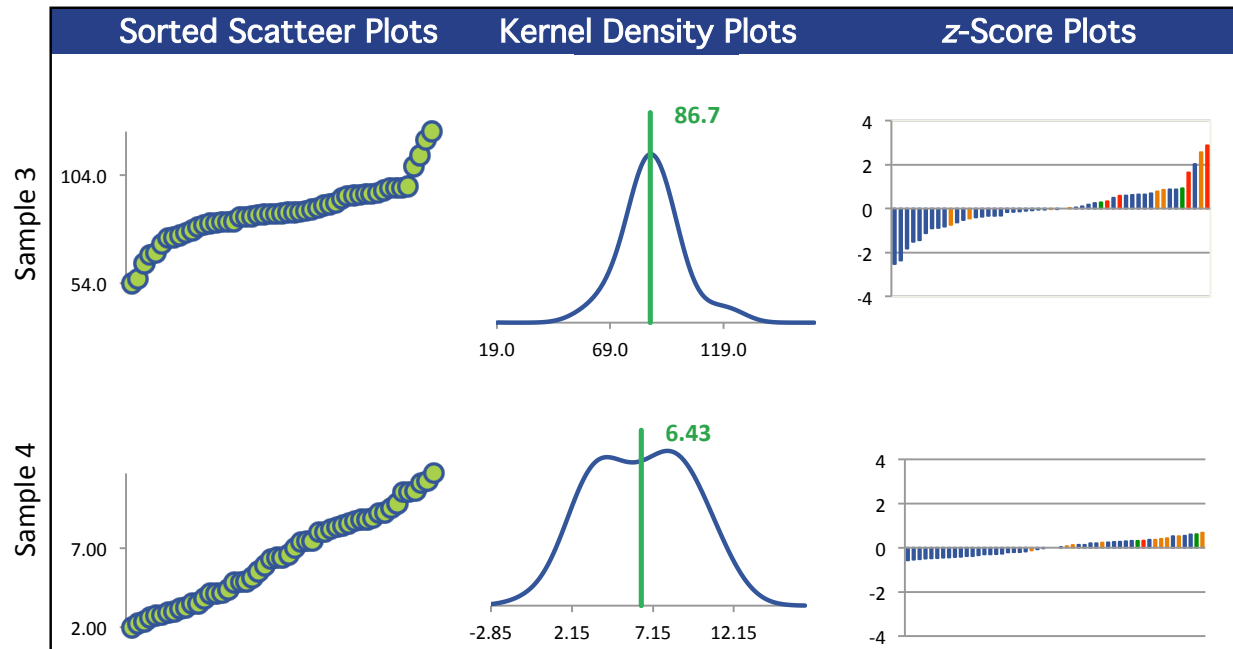
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	19	19	19	19
GC/MS - PURGE AND TRAP (Red)	28	28	28	28
GC/MS (Green)	2	2	2	2
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

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

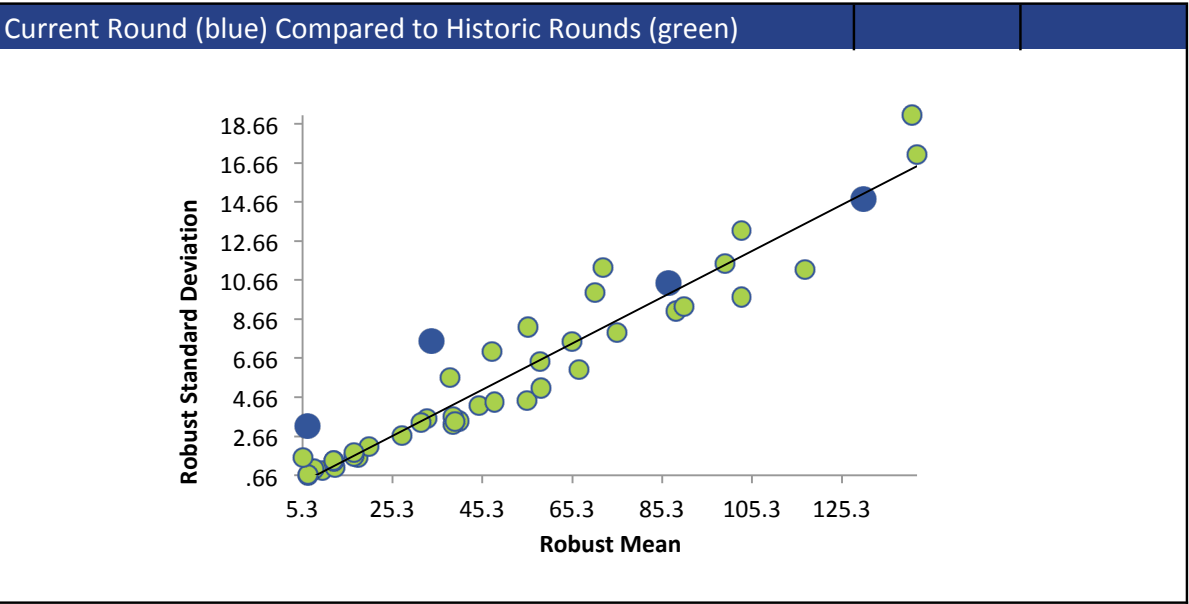
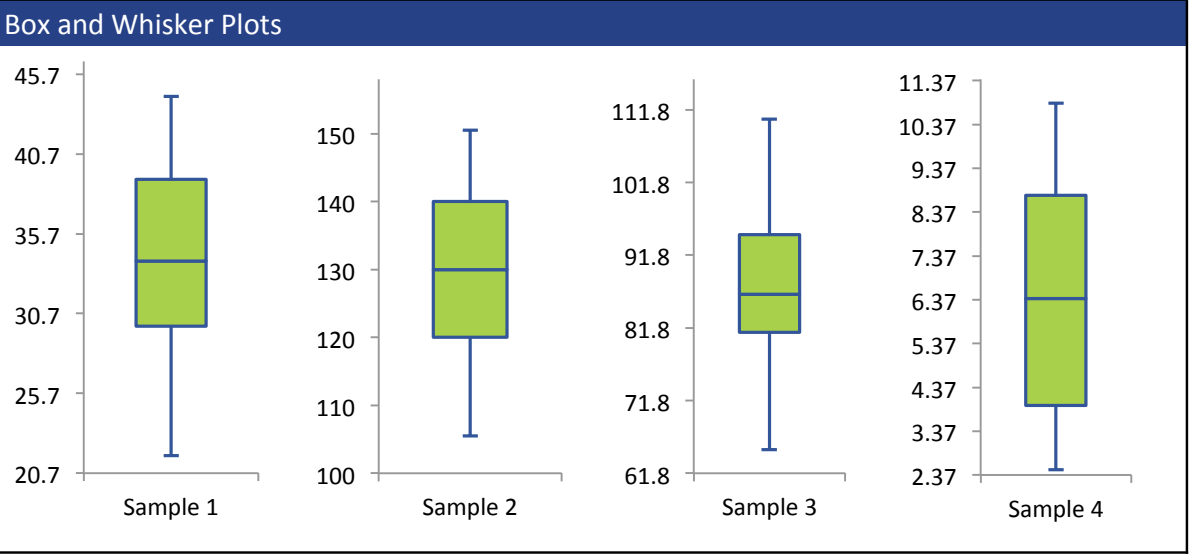
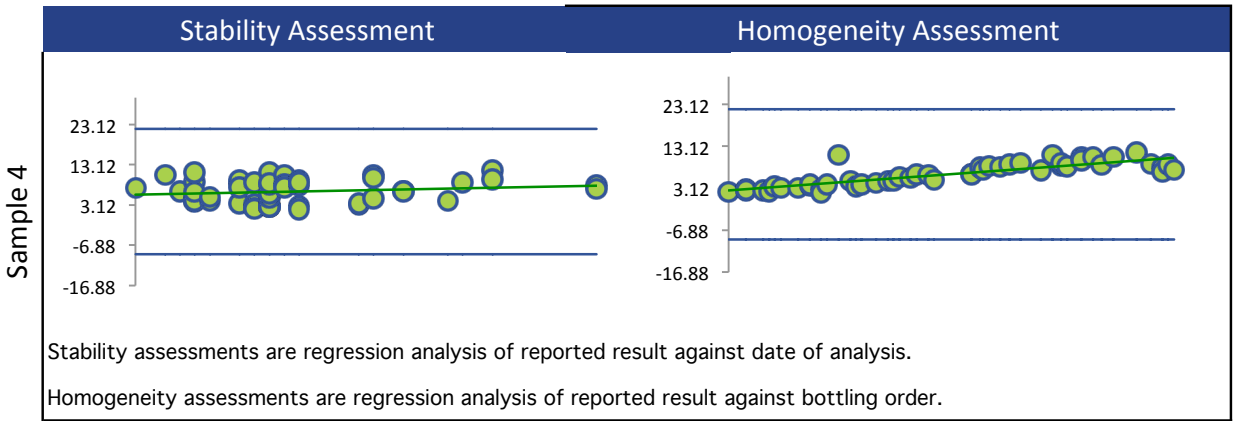




# 1,2-DICHLOROETHANE



1,2-DICHLOROETHANE



## 1,2-DICHLOROPROPANE

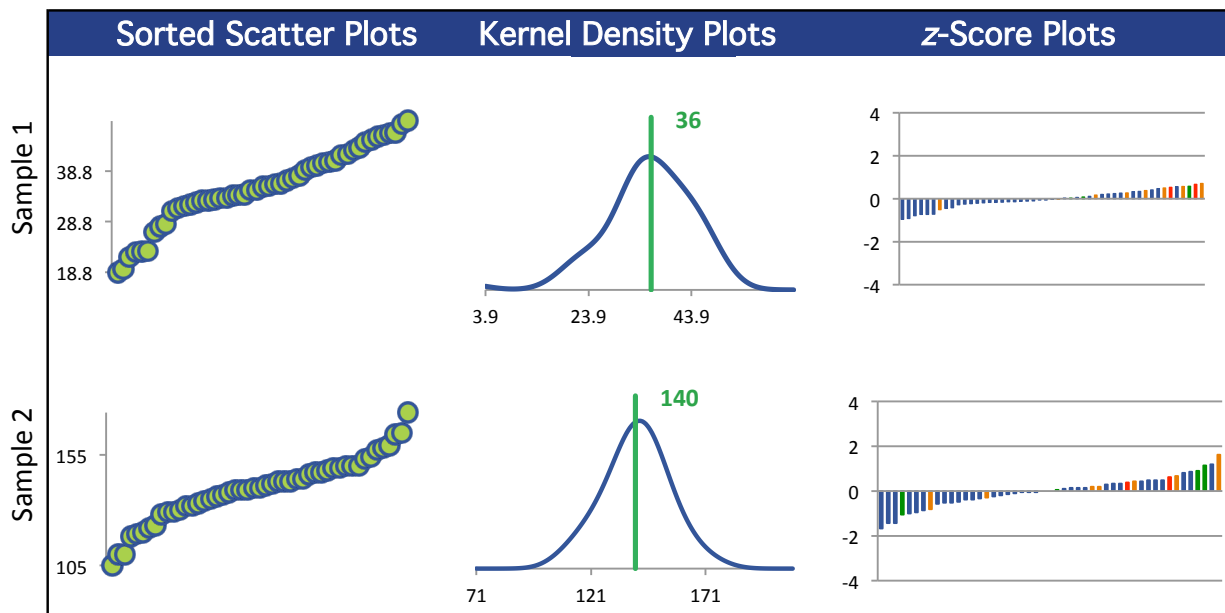
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median $\mu\text{g/L}$	35.8	140	90.1	6.56
Robust Mean $\mu\text{g/L}$	36.0	140	90.6	6.58
U $\mu\text{g/L}$	1.41	2.52	1.75	0.602
Robust Standard Deviation $\mu\text{g/L}$	7.87	14.1	9.82	3.37
Regression Standard Deviation $\mu\text{g/L}$	5.40	21.0	13.6	0.988
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	18.0	21.0	13.6	8.82
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	0	1	0

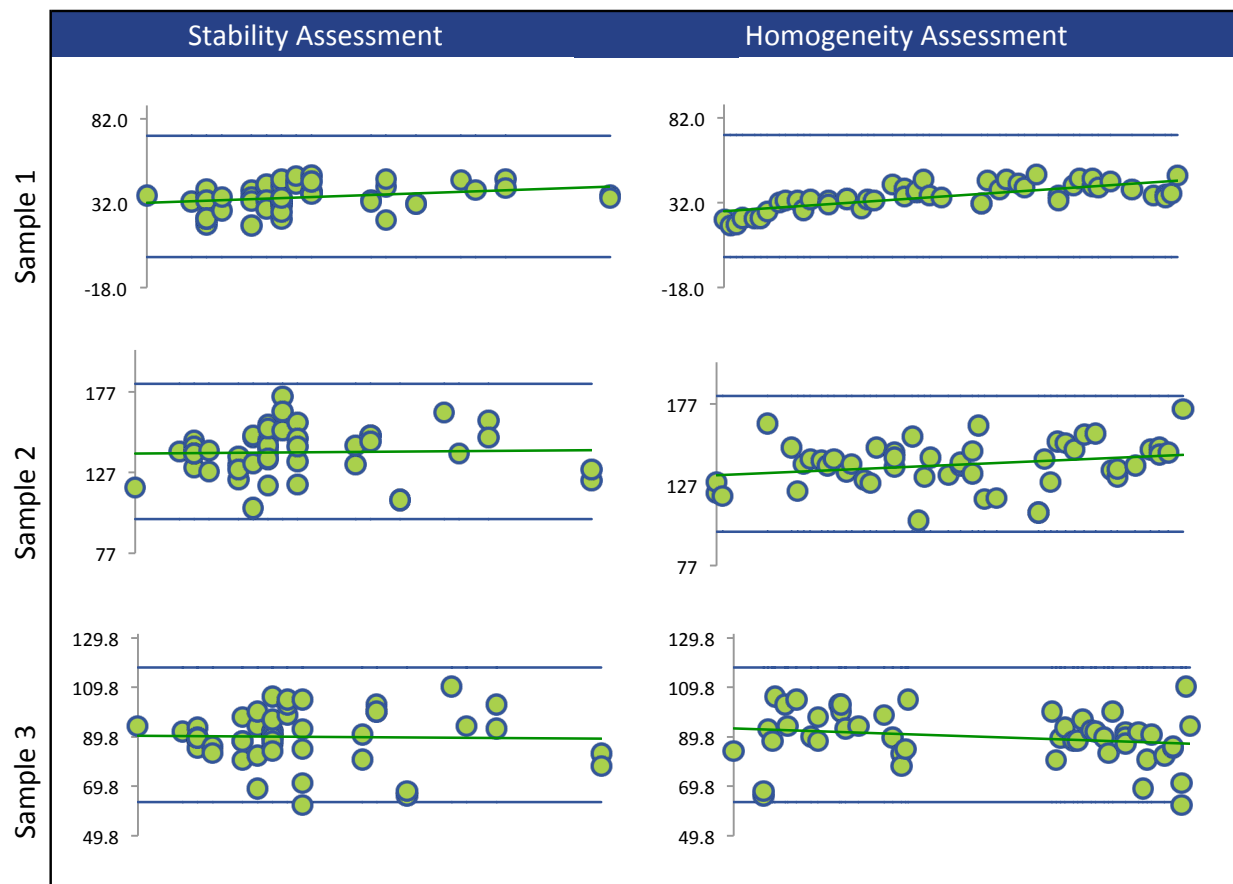
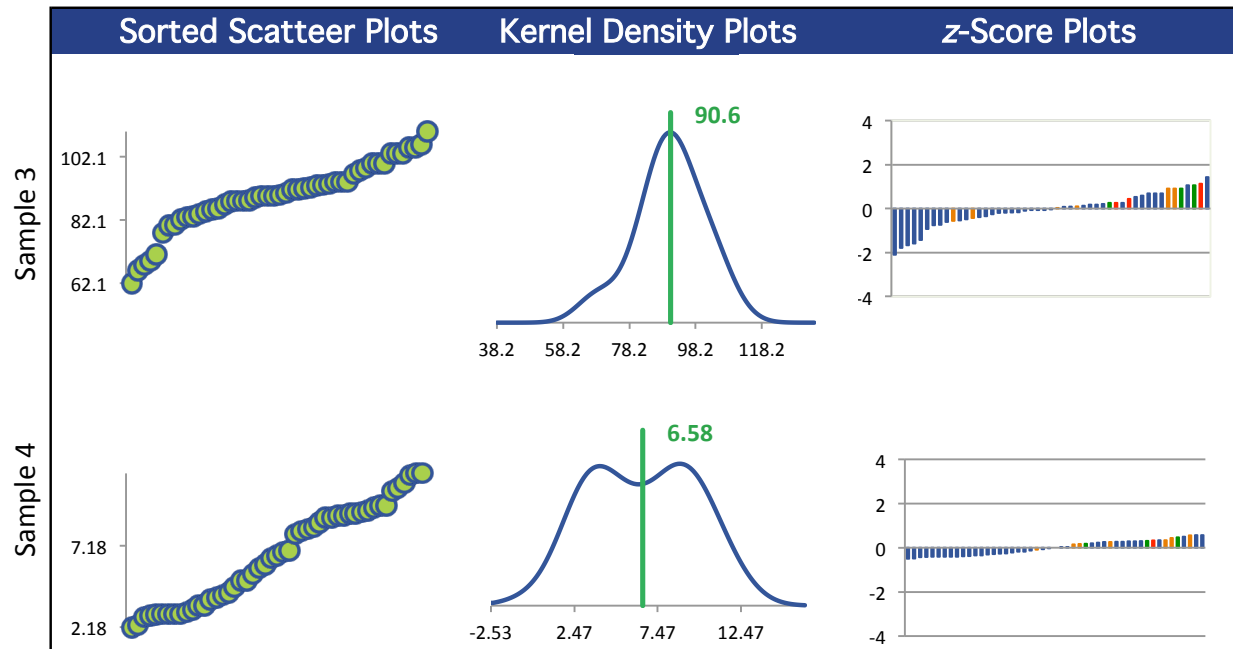
## Methods Used

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

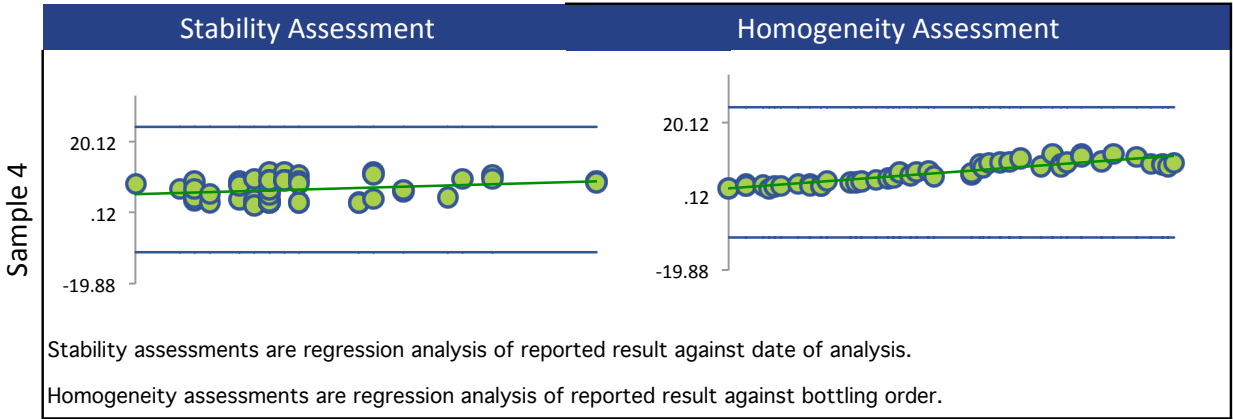
All summary stats and the plots below are based on the data excluding any flagged outliers



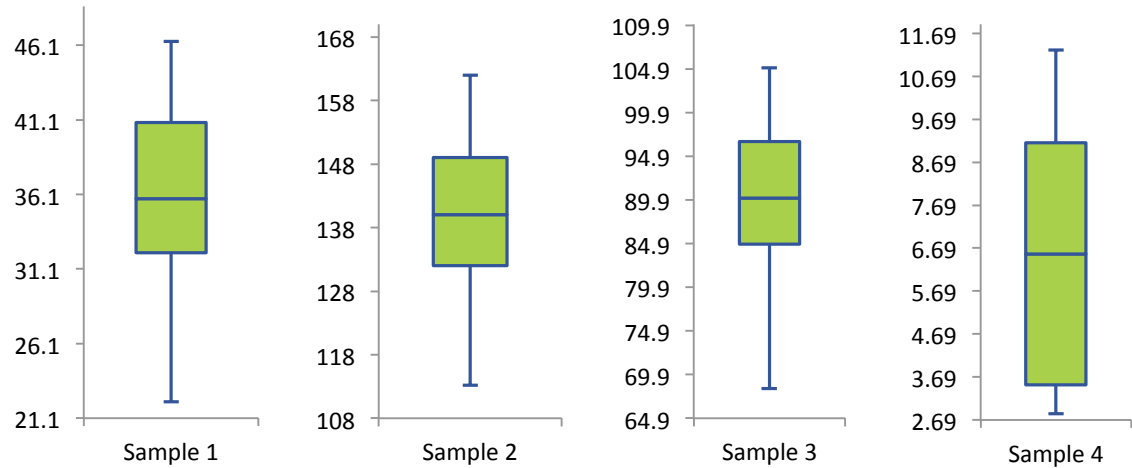
# 1,2-DICHLOROPROPANE



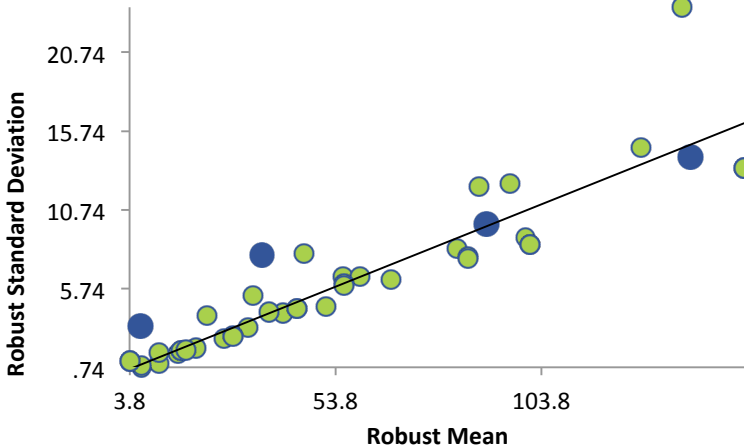
1,2-DICHLOROPROPANE



Box and Whisker Plots



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



## 1,3-DICHLOROBENZENE

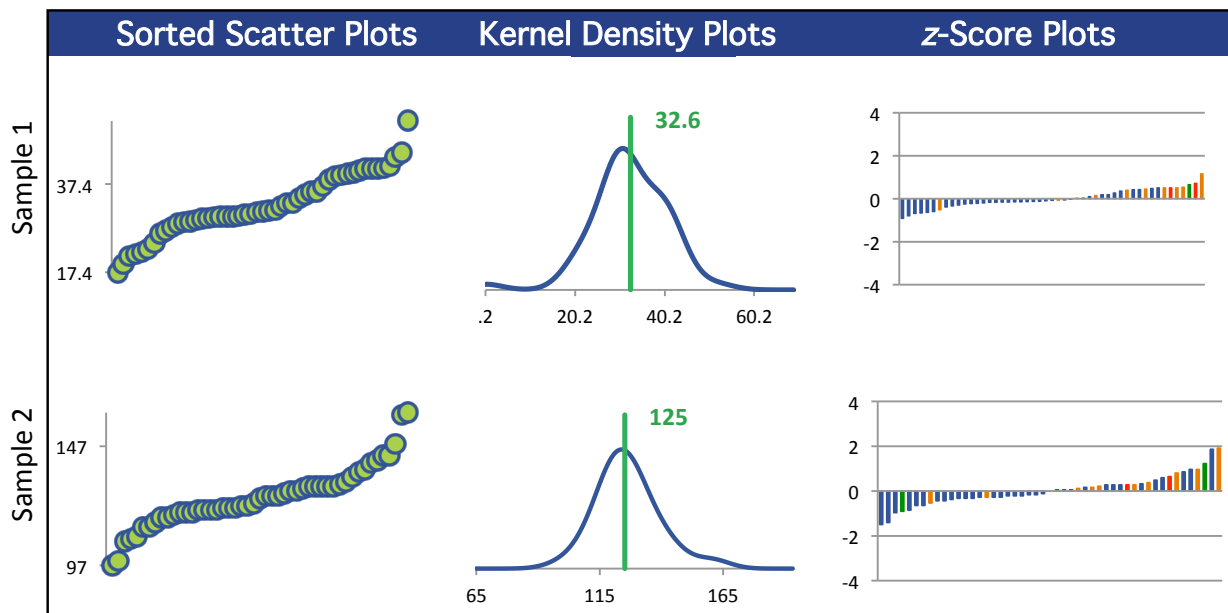
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median $\mu\text{g/L}$	31.2	125	83.0	6.10
Robust Mean $\mu\text{g/L}$	32.6	125	82.4	5.95
U $\mu\text{g/L}$	1.34	2.02	1.60	0.559
Robust Standard Deviation $\mu\text{g/L}$	7.49	11.3	8.95	3.13
Regression Standard Deviation $\mu\text{g/L}$	4.89	18.8	12.4	0.893
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	16.6	18.8	12.4	7.70
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	0	5	0

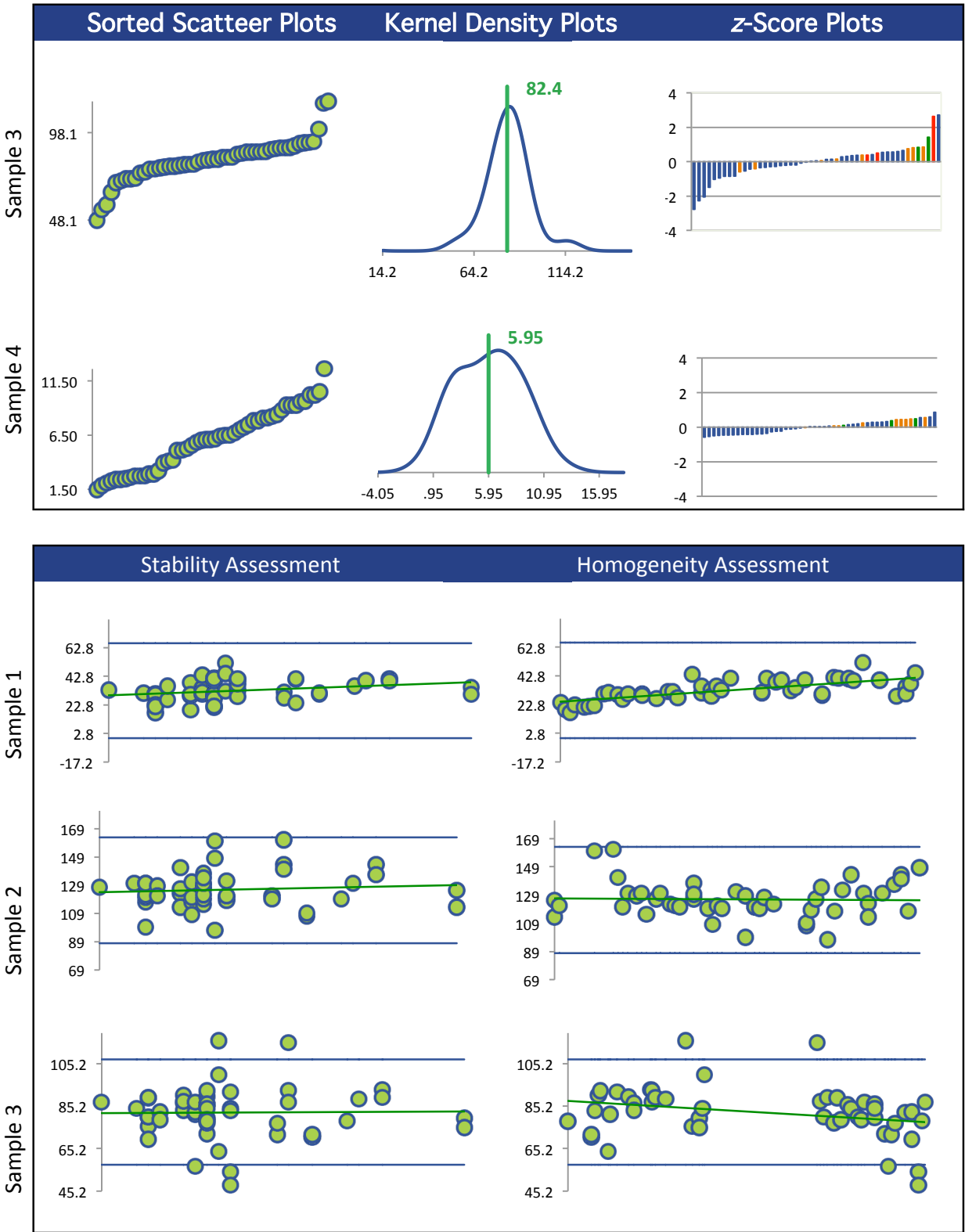
## Methods Used

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

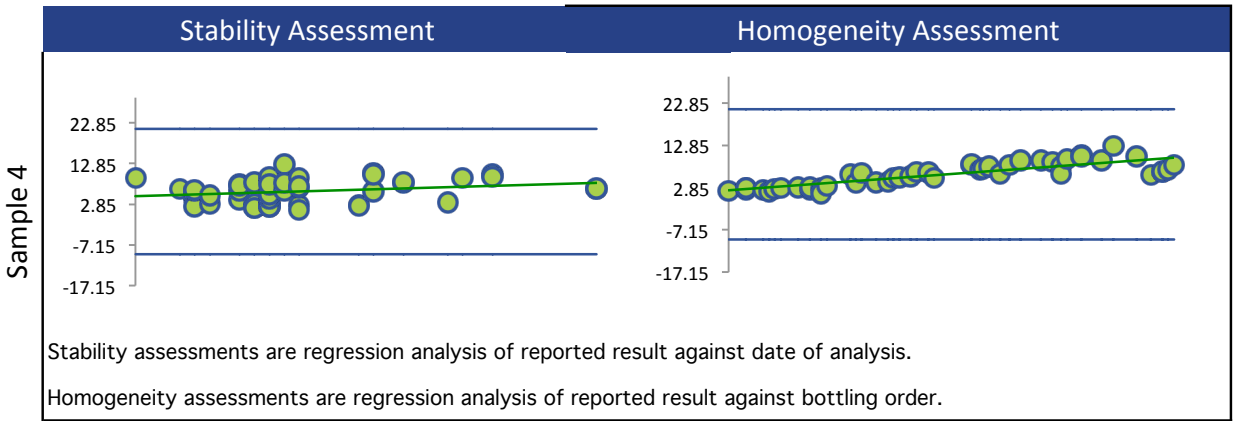
All summary stats and the plots below are based on the data excluding any flagged outliers



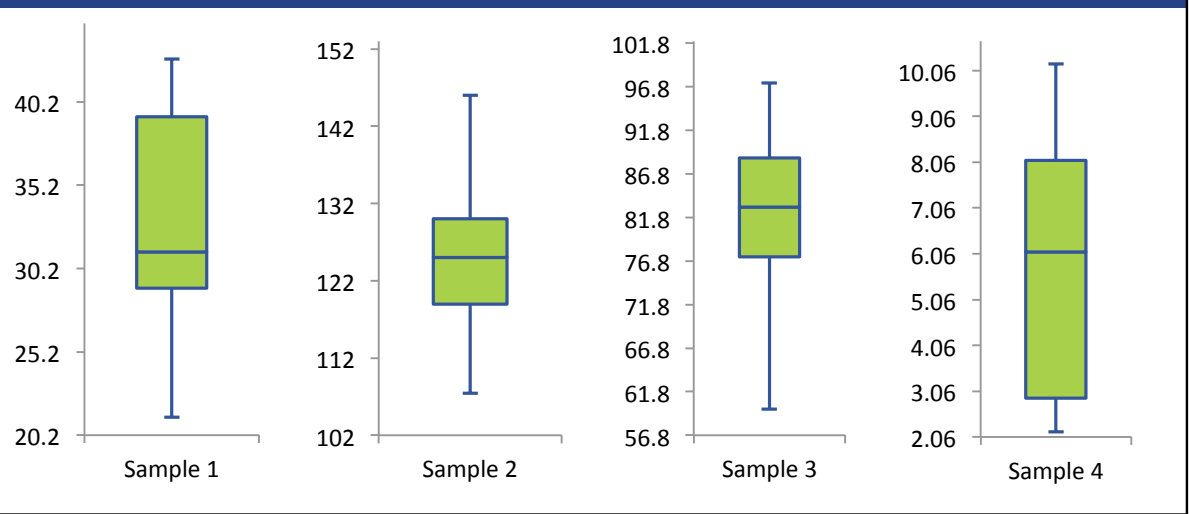
1,3-DICHLOROBENZENE



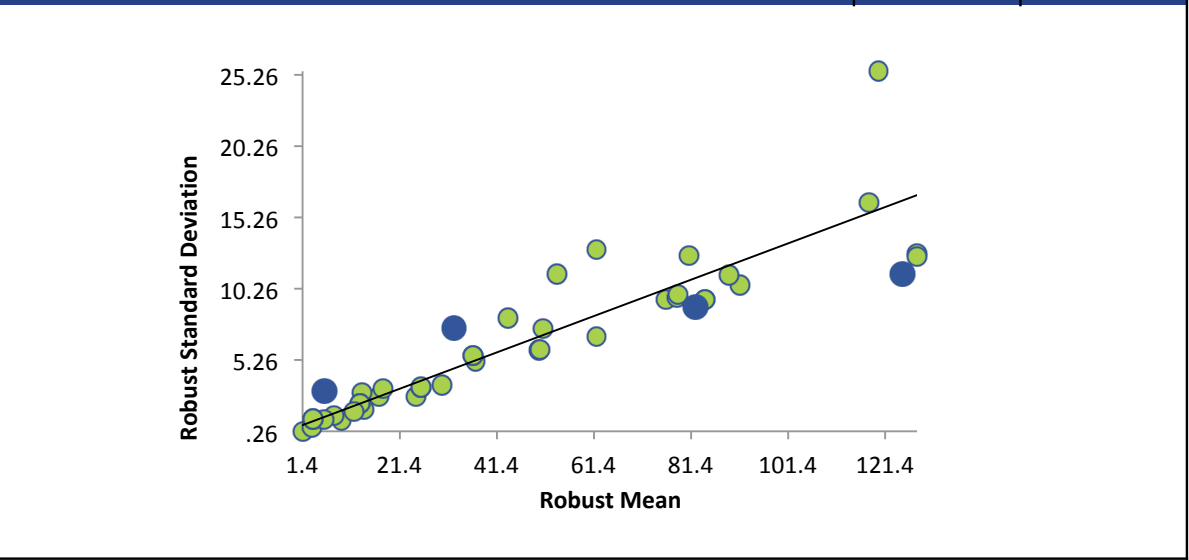
1,3-DICHLOROBENZENE



Box and Whisker Plots



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





## 1,4-DICHLOROBENZENE

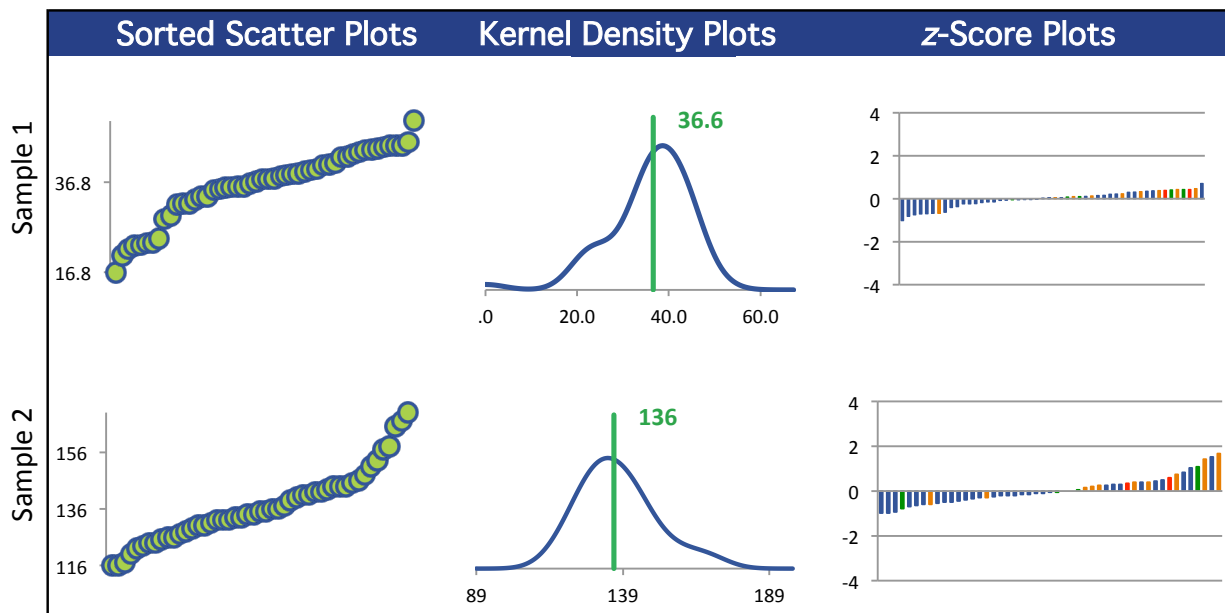
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	50	49	50	49
Median $\mu\text{g/L}$	37.5	135	91.0	6.88
Robust Mean $\mu\text{g/L}$	36.6	136	90.0	6.86
U $\mu\text{g/L}$	1.32	2.16	1.79	0.639
Robust Standard Deviation $\mu\text{g/L}$	7.49	12.1	10.1	3.58
Regression Standard Deviation $\mu\text{g/L}$	5.48	20.4	13.5	1.03
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	19.5	20.4	13.5	8.68
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	0	2	0

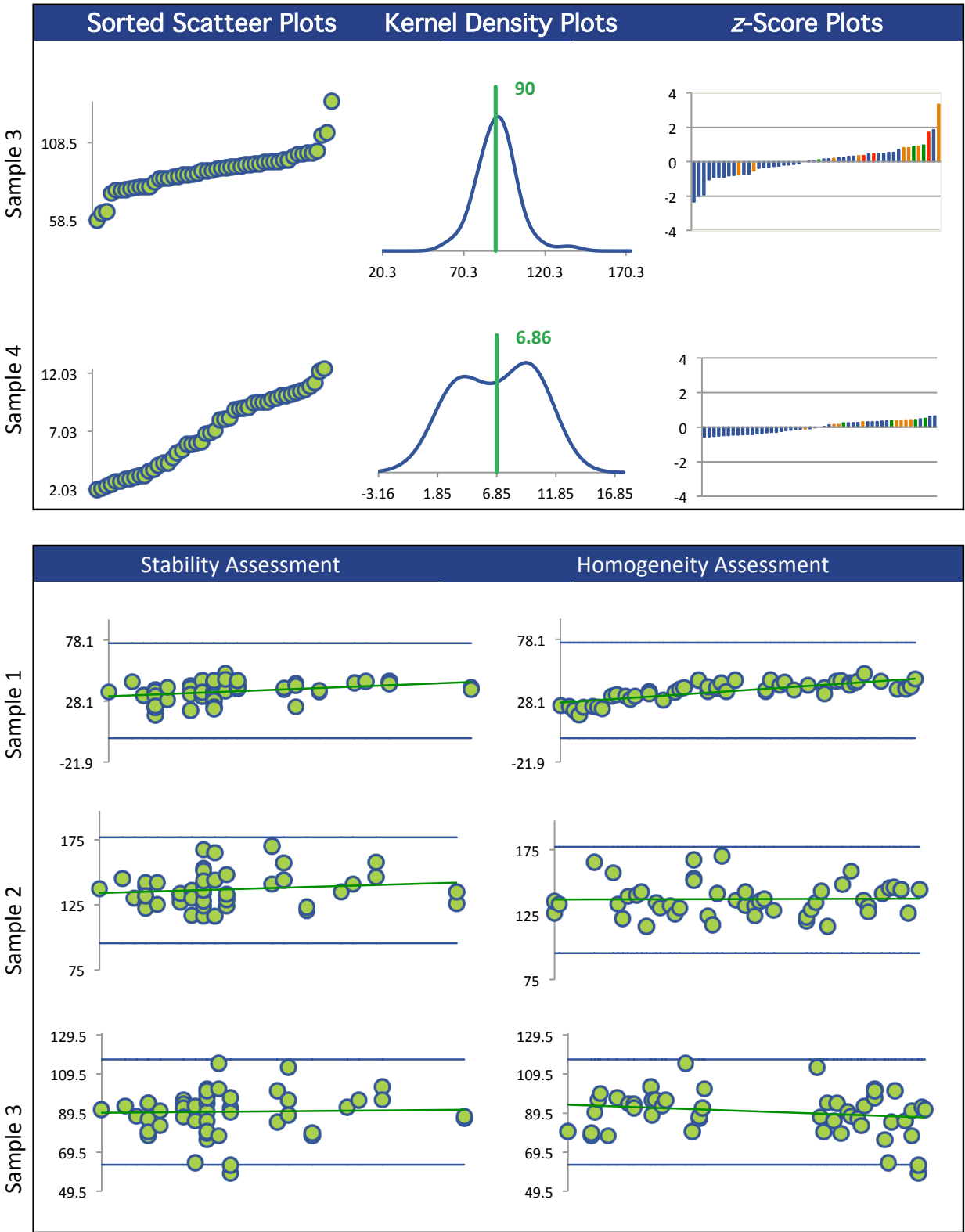
## Methods Used

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

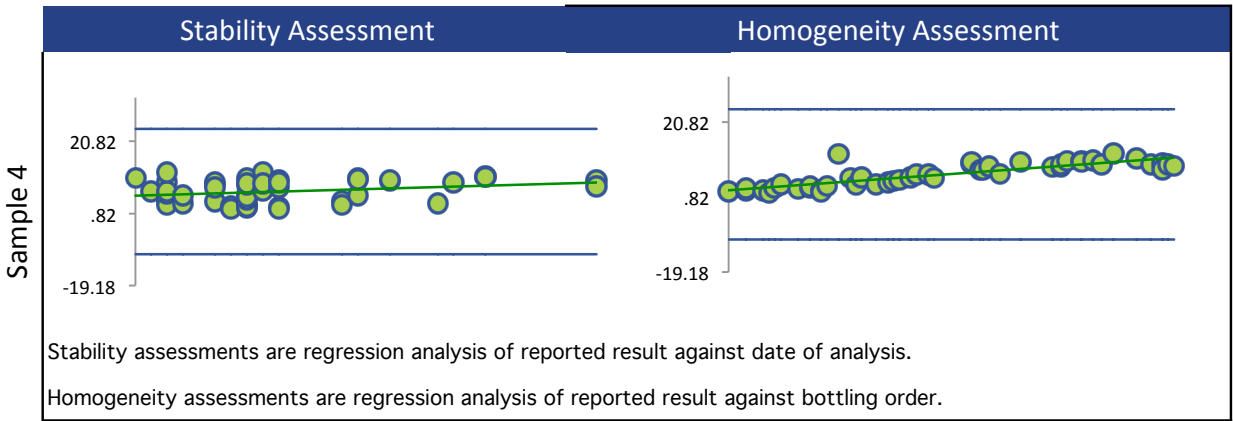
All summary stats and the plots below are based on the data excluding any flagged outliers



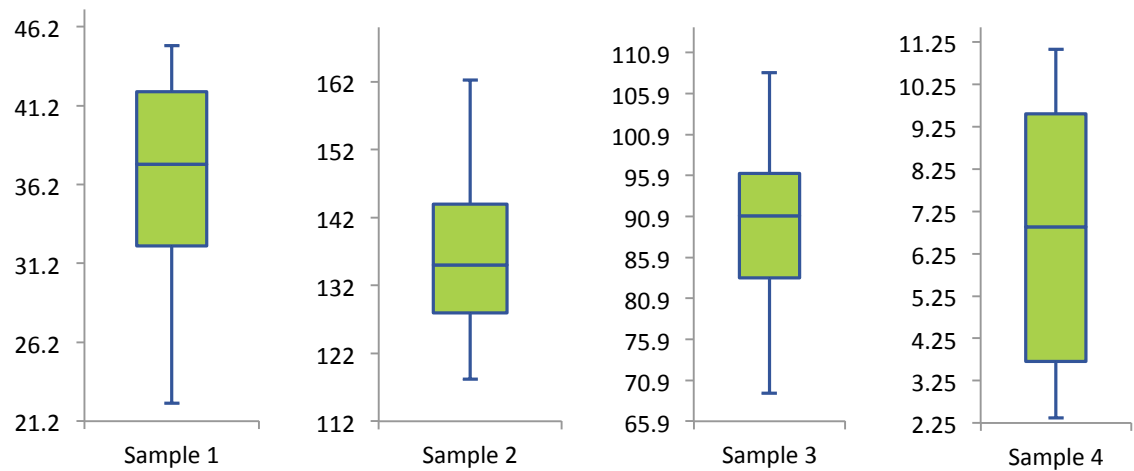
1,4-DICHLOROBENZENE



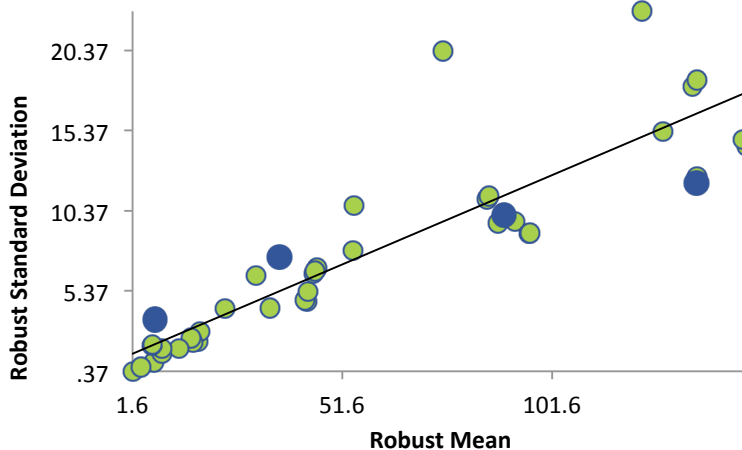
1,4-DICHLOROBENZENE



Box and Whisker Plots



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



## ACETONE (2-PROPANONE)

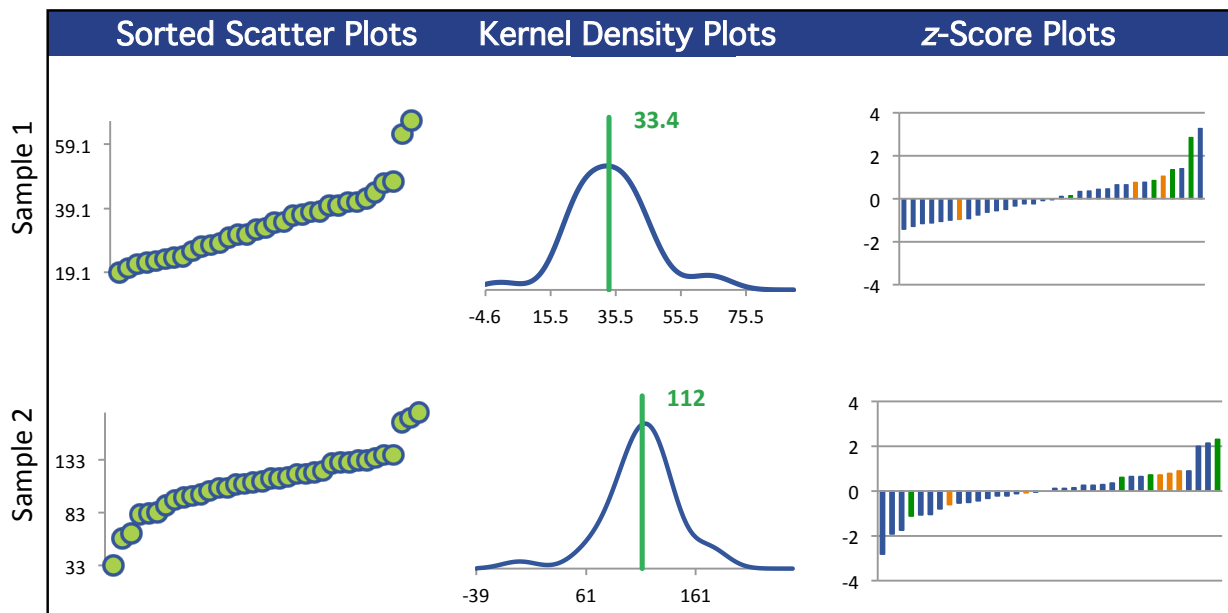
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	33	36	36	14
Median $\mu\text{g/L}$	32.9	114	77.4	9.19
Robust Mean $\mu\text{g/L}$	33.4	112	75.1	8.89
U $\mu\text{g/L}$	2.20	5.04	3.92	1.38
Robust Standard Deviation $\mu\text{g/L}$	10.1	24.2	18.8	4.13
Regression Standard Deviation $\mu\text{g/L}$	9.83	28.2	19.5	4.12
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) $\mu\text{g/L}$	10.1	28.2	19.5	4.13
Outliers	0	0	0	1
$ z  > 3.0$	1	0	0	0
$2 <  z  < 3$	1	3	3	0

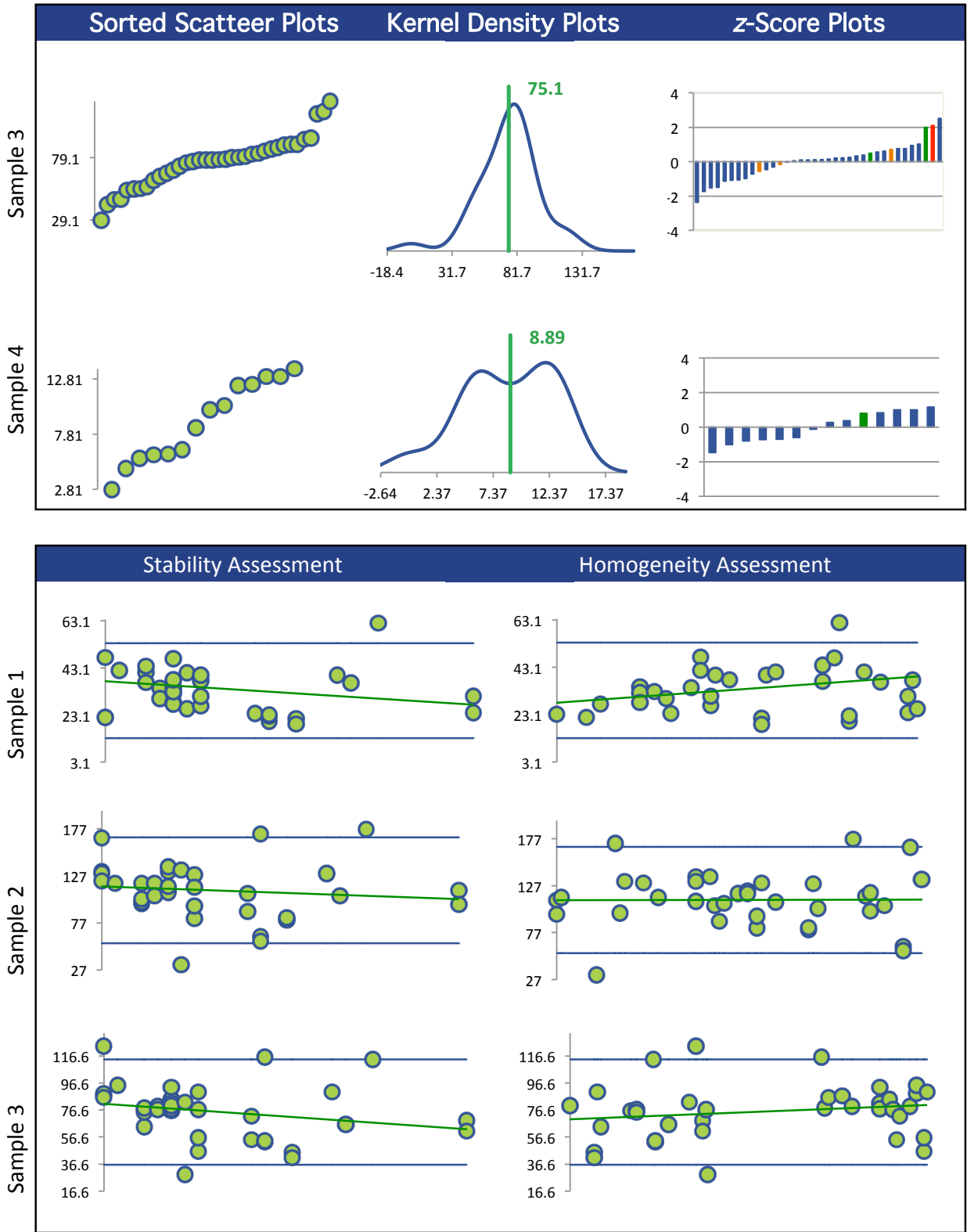
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	20	21	21	10
GC/FID - PURGE AND TRAP (Red)	1	1	1	1
GC/MS - HEADSPACE (Green)	11	13	13	2
GC/MS (Orange)	1	1	1	1

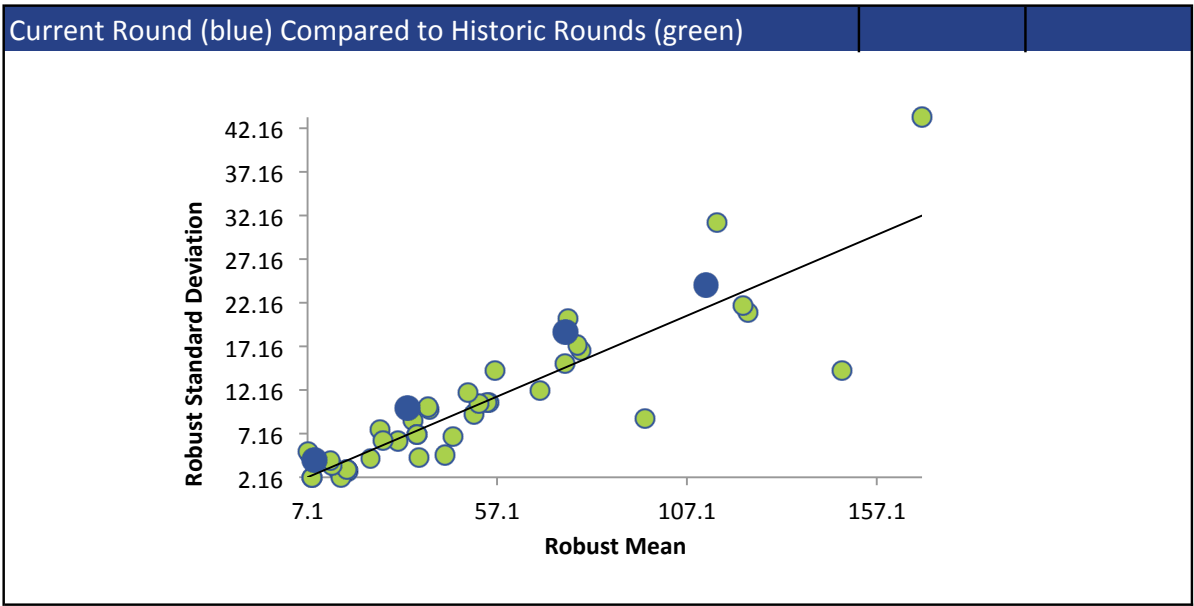
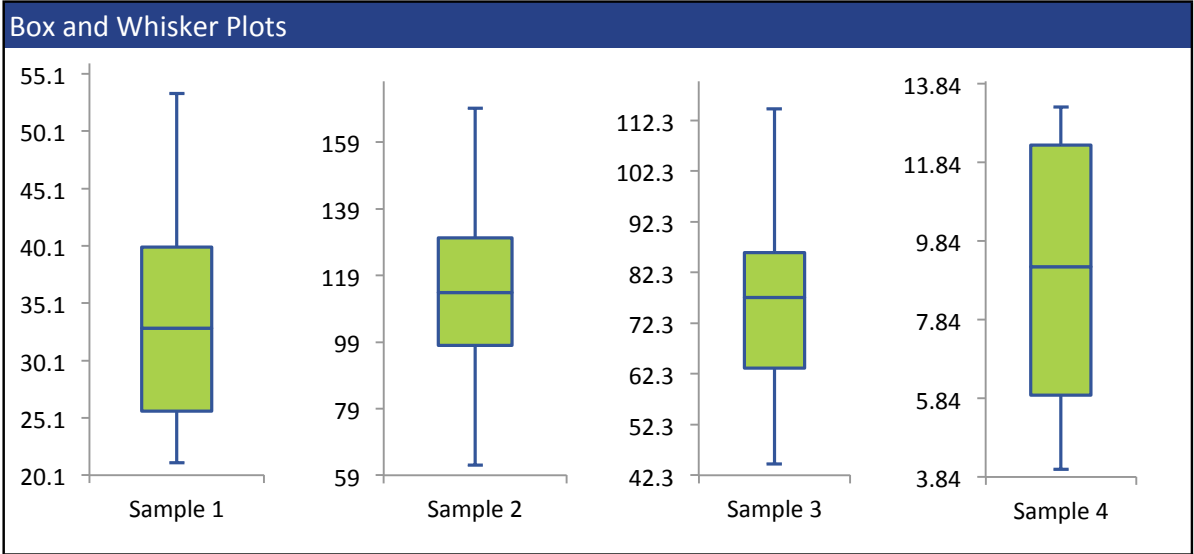
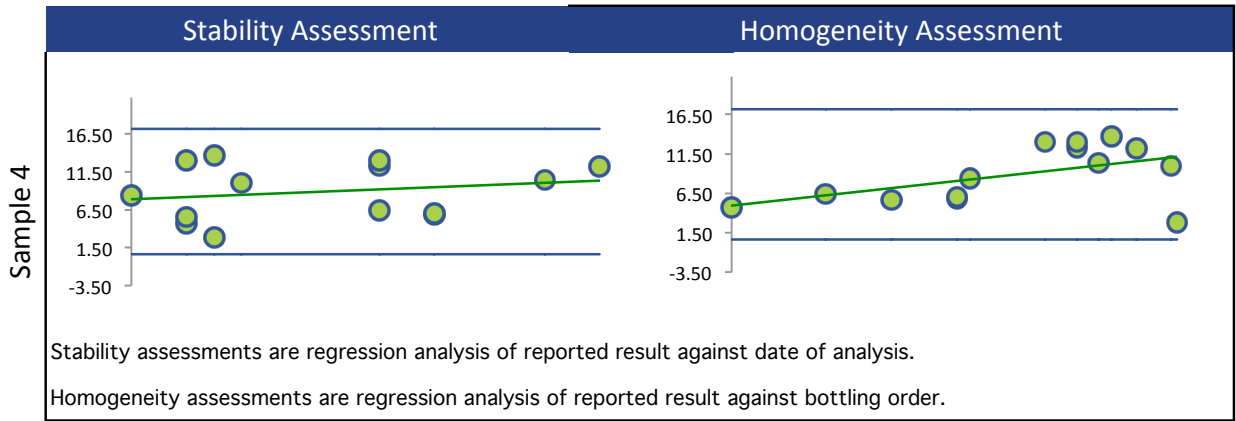
All summary stats and the plots below are based on the data excluding any flagged outliers



ACETONE (2-PROPANONE)



ACETONE (2-PROPANONE)



## BENZENE

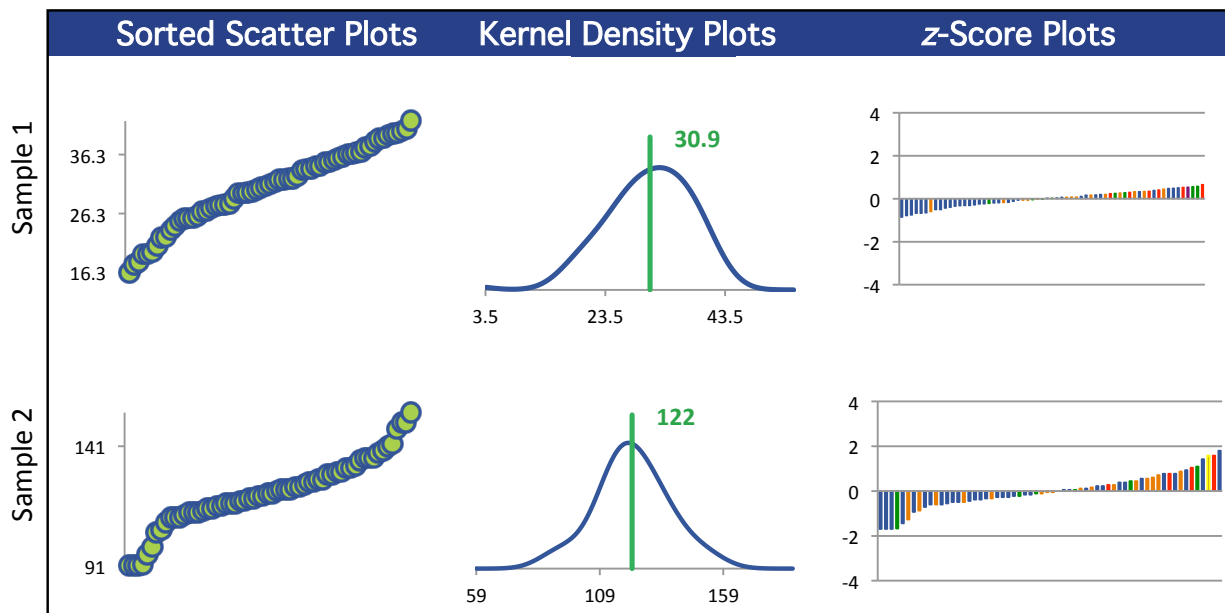
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	63	62	63	63
Median $\mu\text{g/L}$	31.3	121	78.2	6.20
Robust Mean $\mu\text{g/L}$	30.9	122	78.5	5.94
U $\mu\text{g/L}$	1.10	2.14	1.64	0.454
Robust Standard Deviation $\mu\text{g/L}$	7.01	13.5	10.4	2.88
Regression Standard Deviation $\mu\text{g/L}$	4.63	18.3	11.8	0.891
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	16.9	18.3	11.8	7.56
Outliers	0	1	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	0	2	0

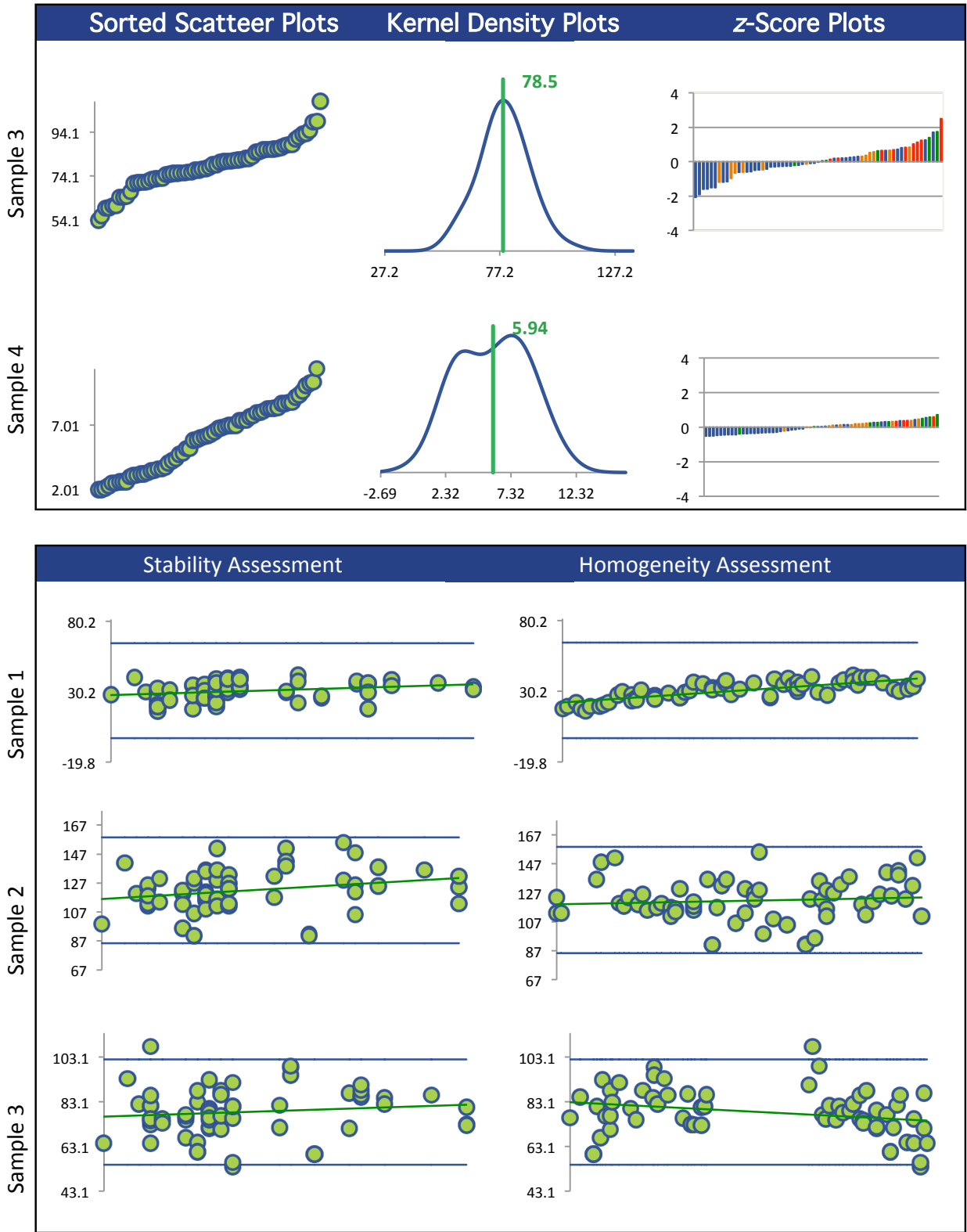
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	32	31	32	32
GC/FID - HEADSPACE (Green)	1	1	1	1
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS (Black)	6	6	6	6
GC/MS/MS - HEADSPACE (Yellow)	1	1	1	1

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

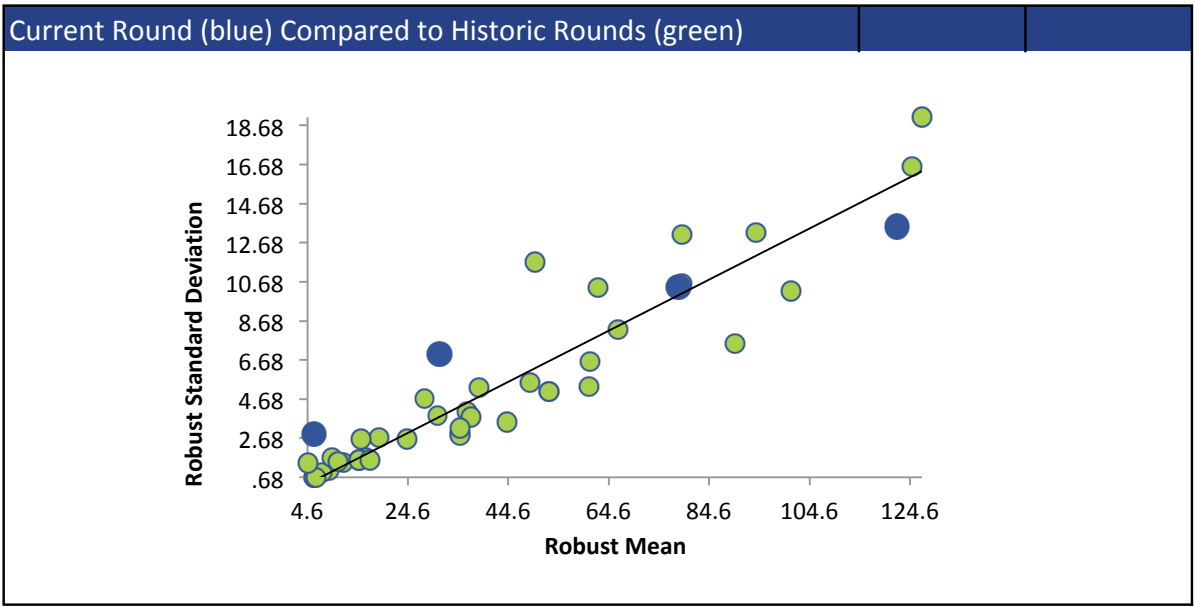
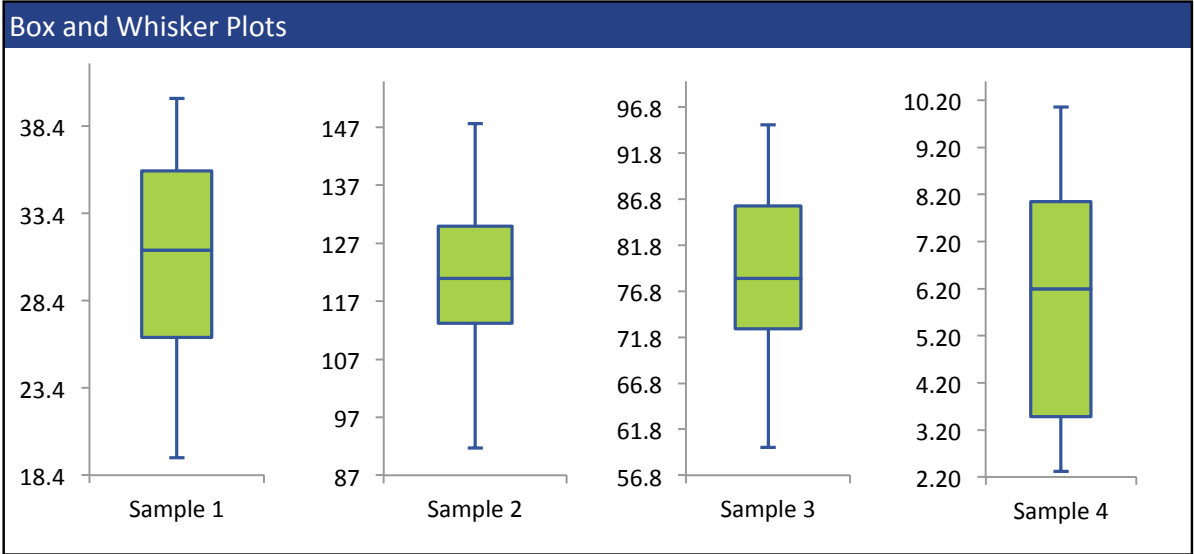
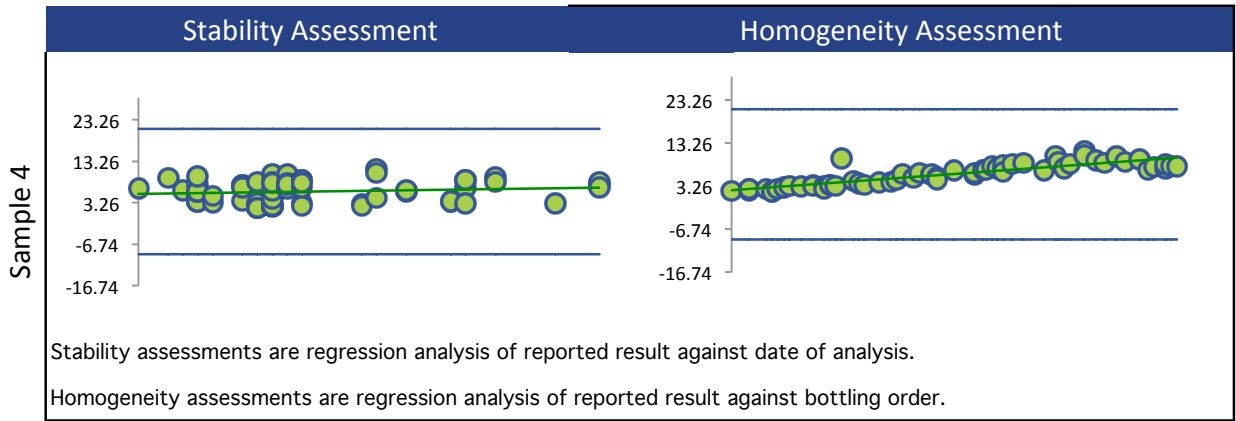


BENZENE





BENZENE



## BROMODICHLOROMETHANE

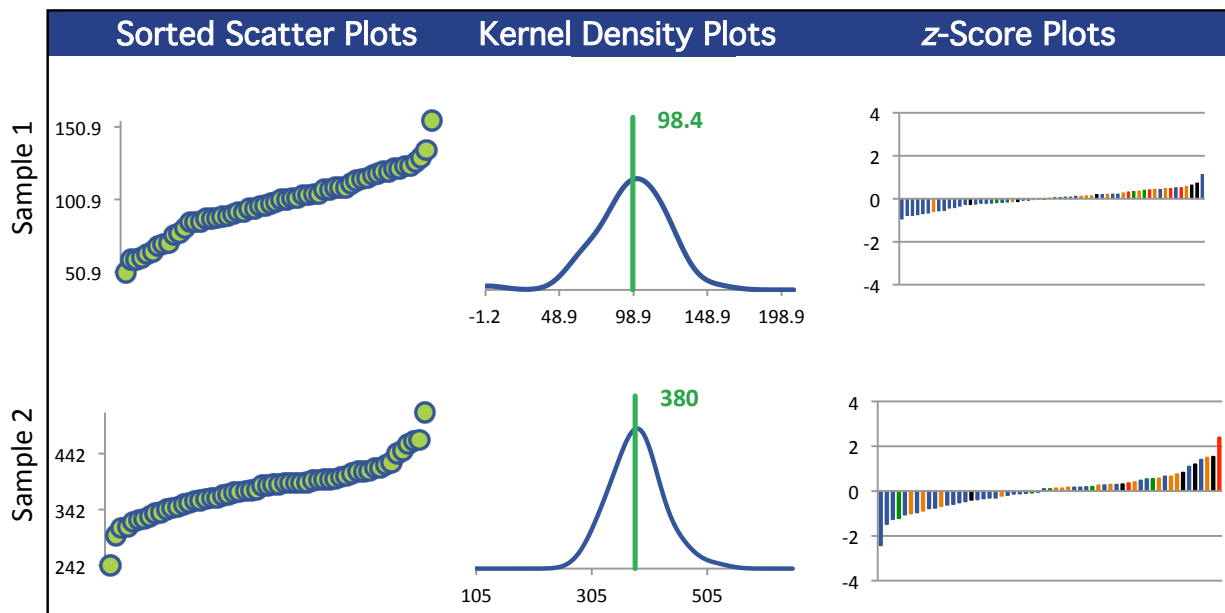
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	58	57	58	58
Median $\mu\text{g/L}$	100	385	243	20.5
Robust Mean $\mu\text{g/L}$	98.4	380	244	19.2
U $\mu\text{g/L}$	3.58	6.87	5.51	1.58
Robust Standard Deviation $\mu\text{g/L}$	21.8	41.5	33.6	9.65
Regression Standard Deviation $\mu\text{g/L}$	14.8	57.0	36.6	2.88
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	50.5	57.0	36.6	26.3
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	2	3	0

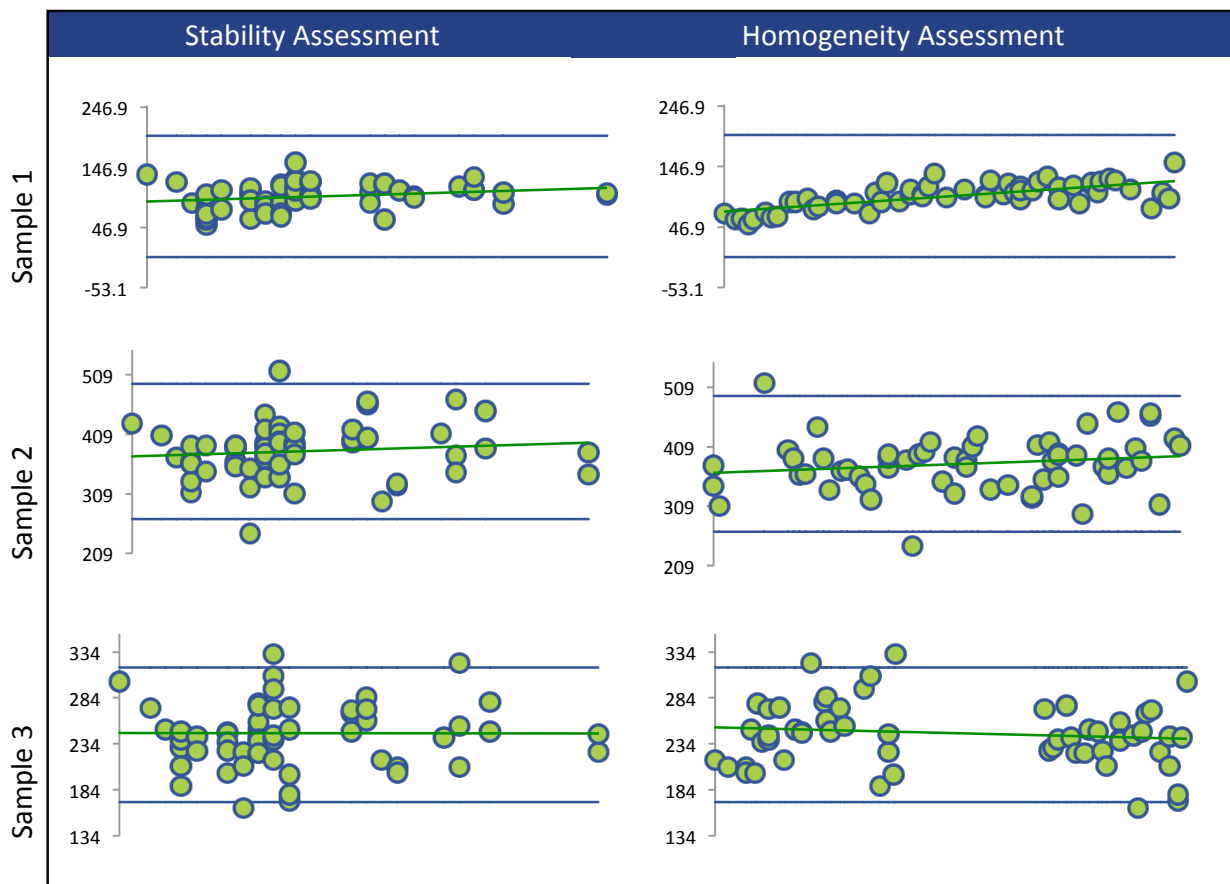
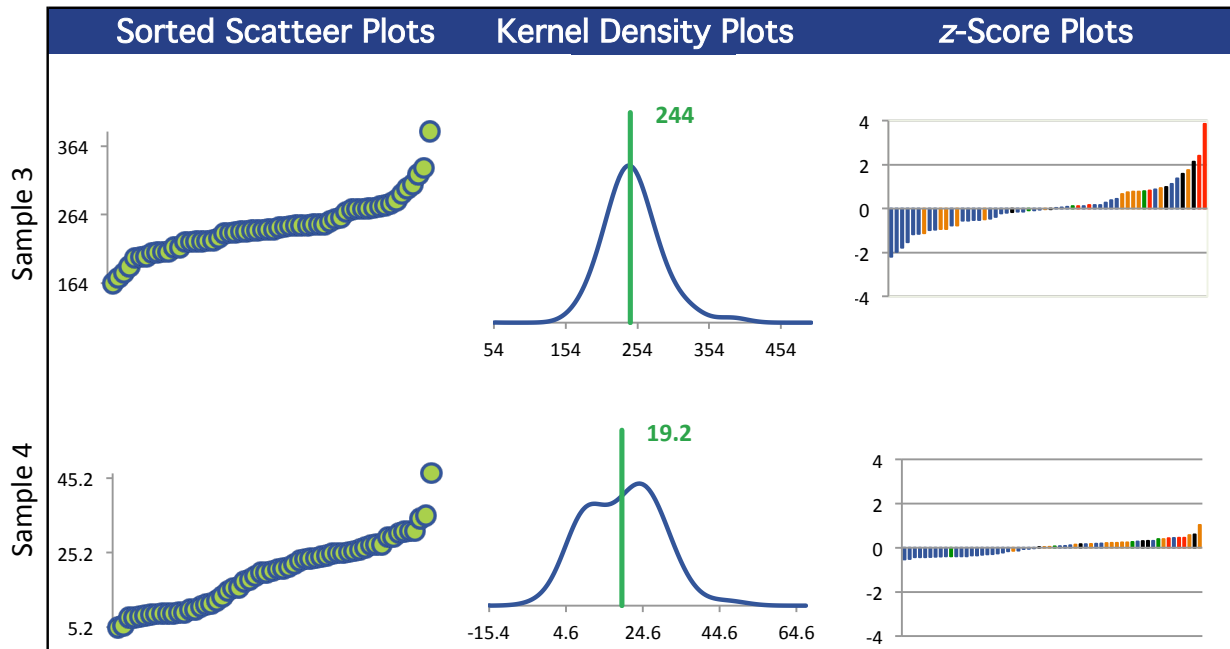
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	29	28	29	29
GC/MS (Green)	5	5	5	5
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

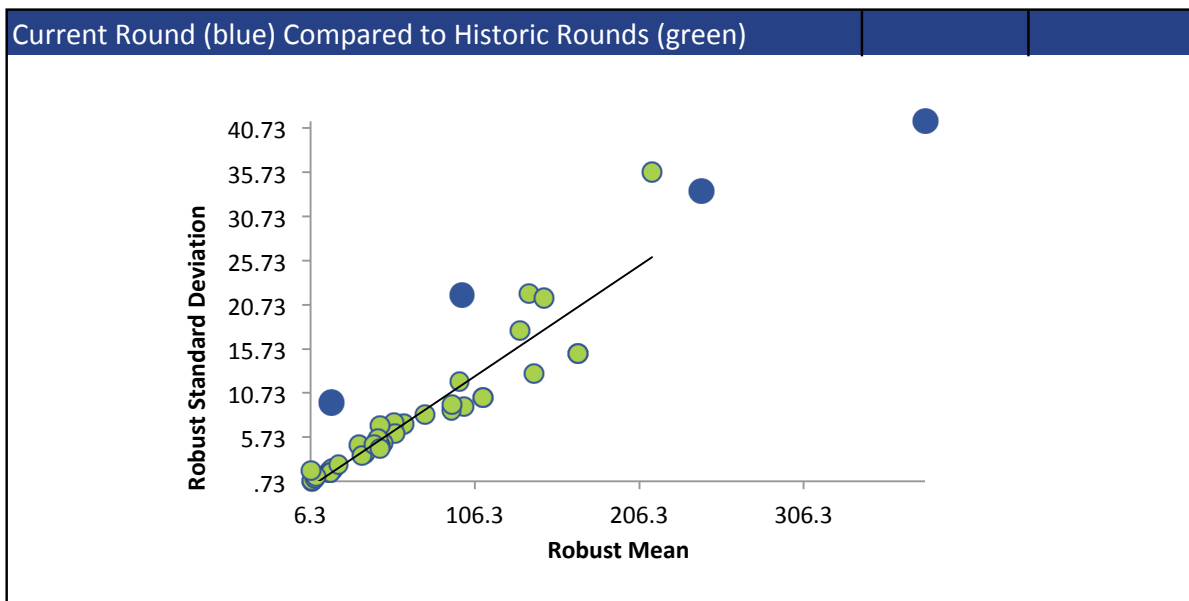
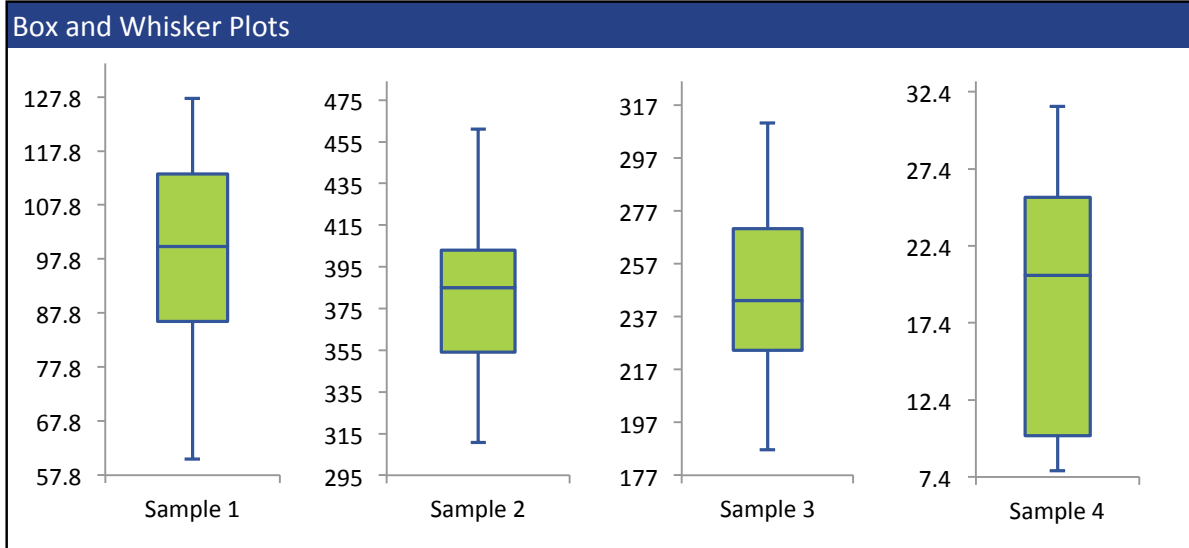
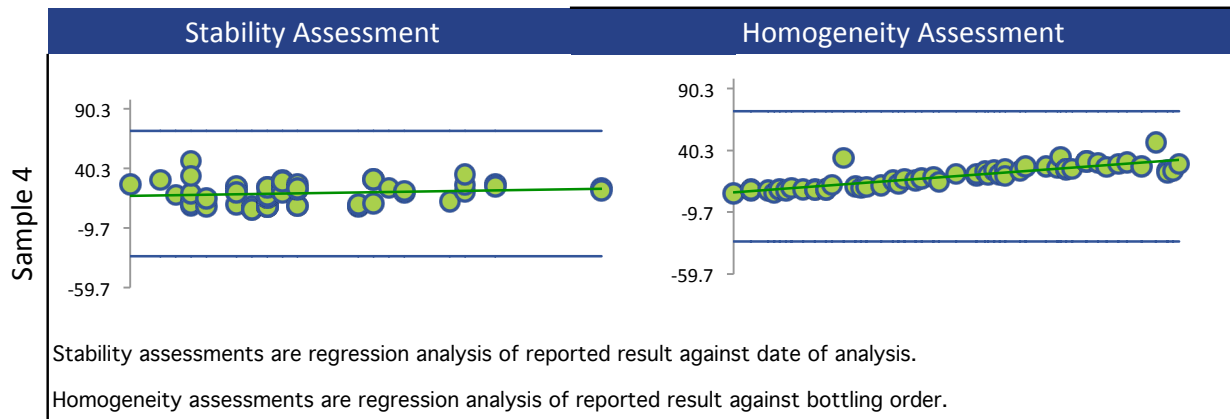
All summary stats and the plots below are based on the data excluding any flagged outliers



# BROMODICHLOROMETHANE



## BROMODICHLOROMETHANE



## BROMOFORM

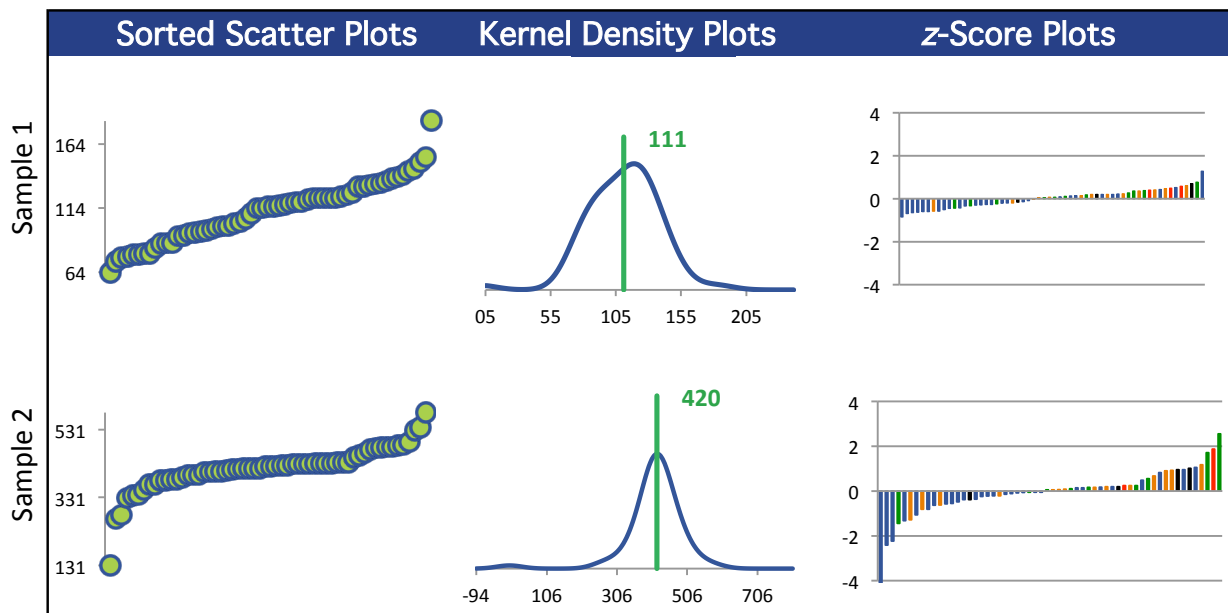
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	58	58	58	58
Median $\mu\text{g/L}$	115	423	276	22.2
Robust Mean $\mu\text{g/L}$	111	420	275	20.7
U $\mu\text{g/L}$	4.10	7.80	5.42	1.72
Robust Standard Deviation $\mu\text{g/L}$	25.0	47.5	33.0	10.5
Regression Standard Deviation $\mu\text{g/L}$	16.6	63.1	41.2	3.11
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	55.6	63.1	41.2	27.2
Outliers	0	0	0	0
$ z  > 3.0$	0	1	1	0
$2 <  z  < 3$	0	3	6	0

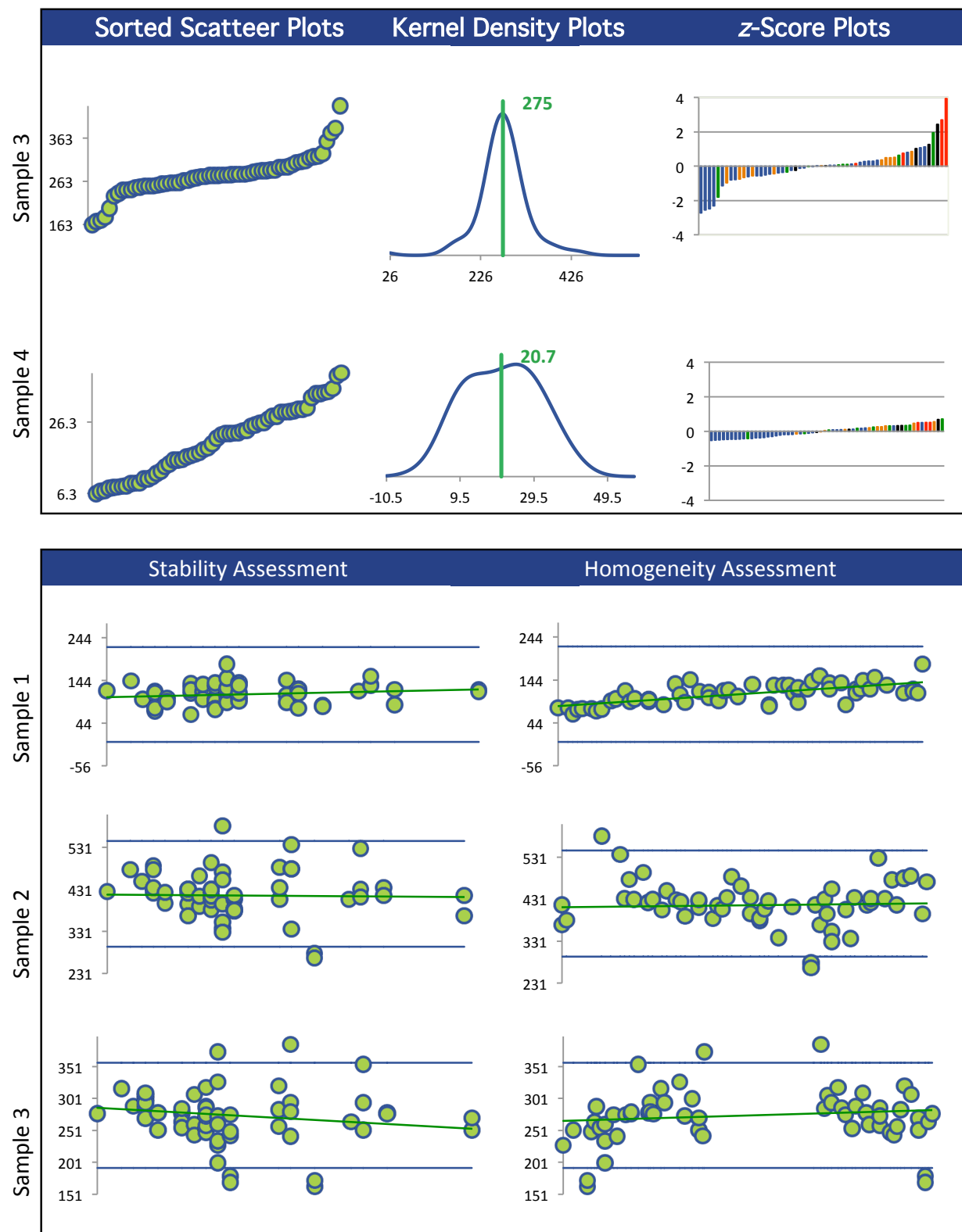
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	29	29	29	29
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	5	5	5	5
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

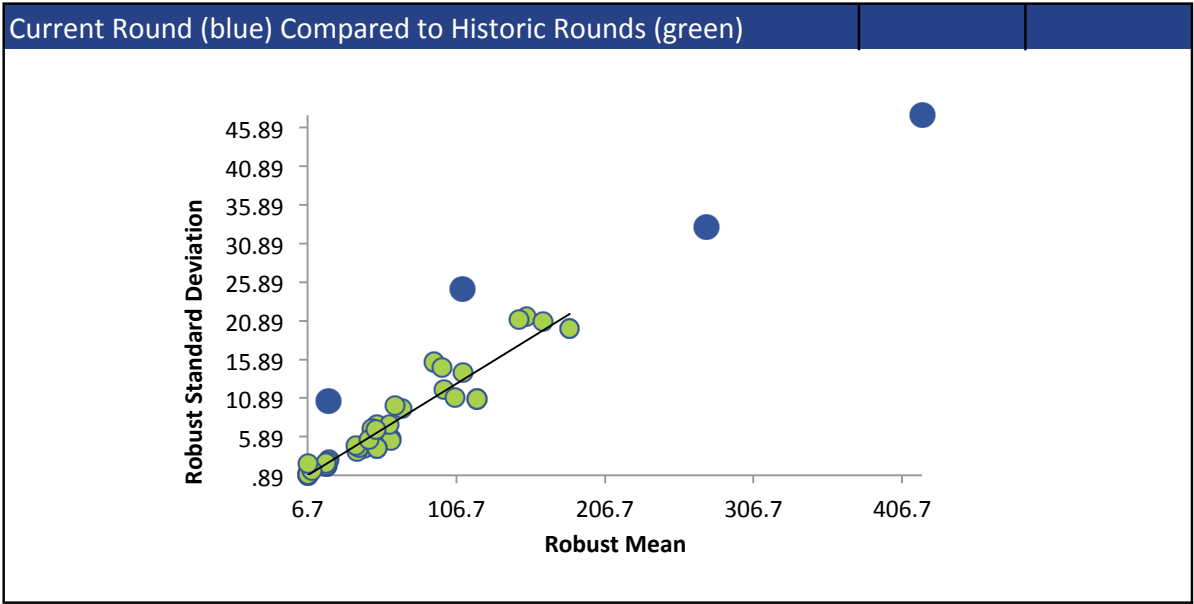
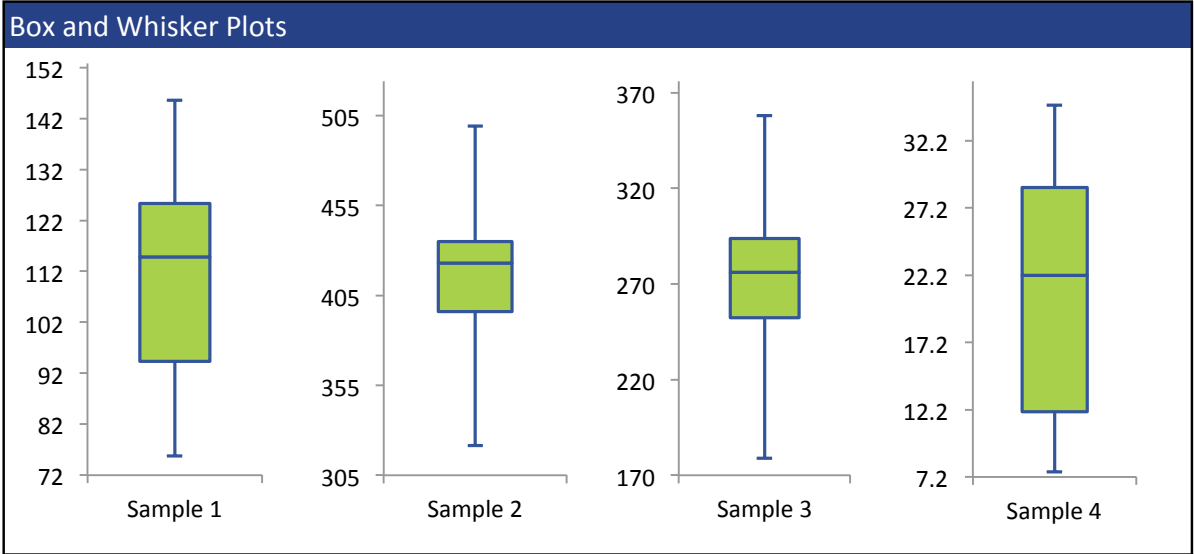
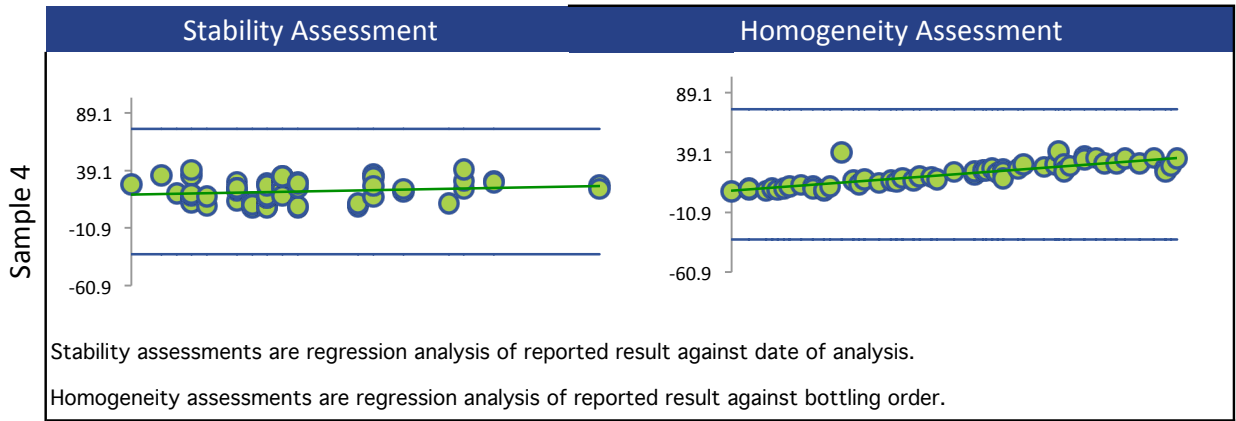
All summary stats and the plots below are based on the data excluding any flagged outliers



# BROMOFORM



BROMOFORM



## CARBON TETRACHLORIDE

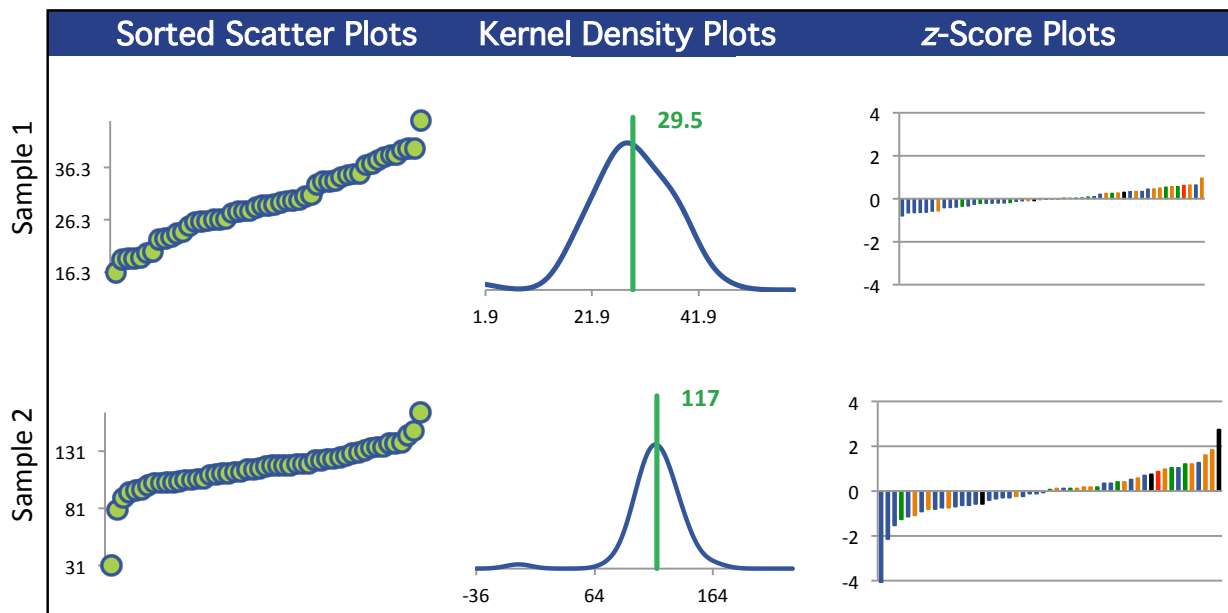
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	51	51	51
Median $\mu\text{g/L}$	29.1	118	76.0	6.03
Robust Mean $\mu\text{g/L}$	29.5	117	77.6	5.73
U $\mu\text{g/L}$	1.28	2.75	2.05	0.515
Robust Standard Deviation $\mu\text{g/L}$	7.34	15.7	11.7	2.94
Regression Standard Deviation $\mu\text{g/L}$	4.42	17.5	11.6	0.860
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	16.4	17.5	11.7	7.04
Outliers	0	0	0	0
$ z  > 3.0$	0	1	0	0
$2 <  z  < 3$	0	2	3	0

## Methods Used

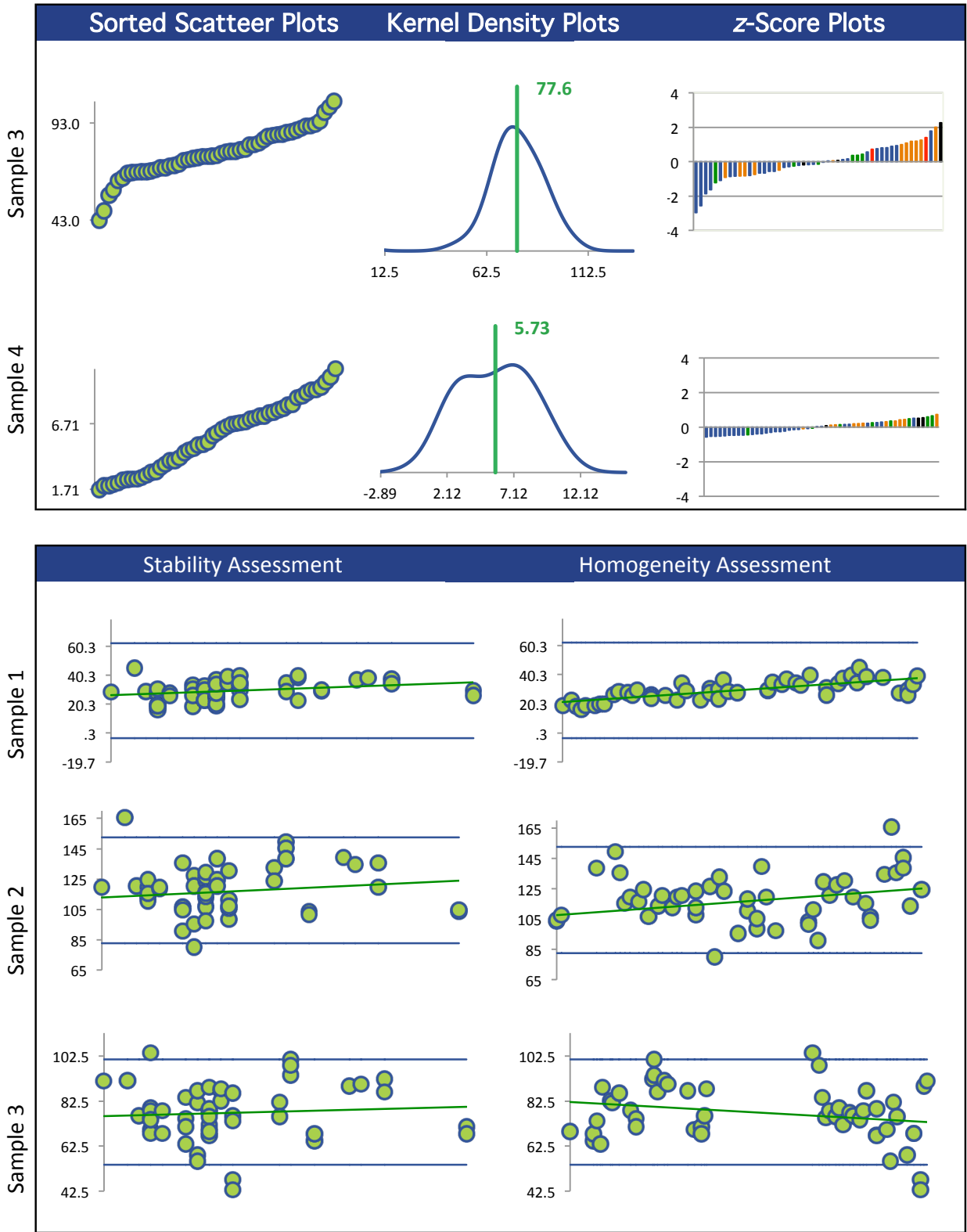
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	19	19	19	19
GC/MS - PURGE AND TRAP (Red)	28	28	28	28
GC/MS (Green)	2	2	2	2
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

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

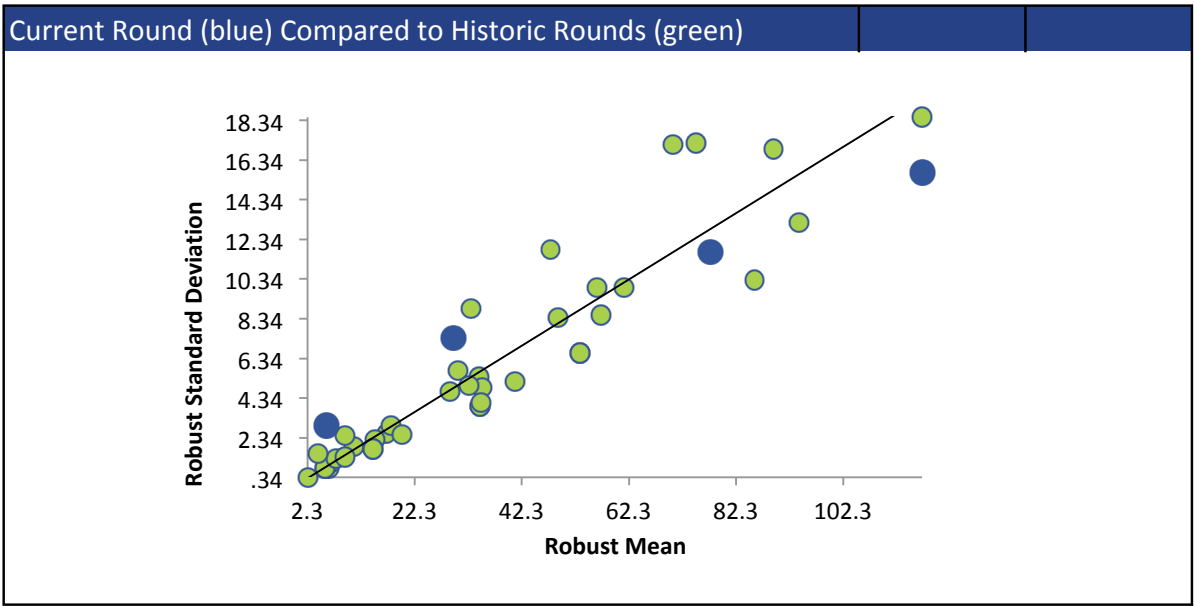
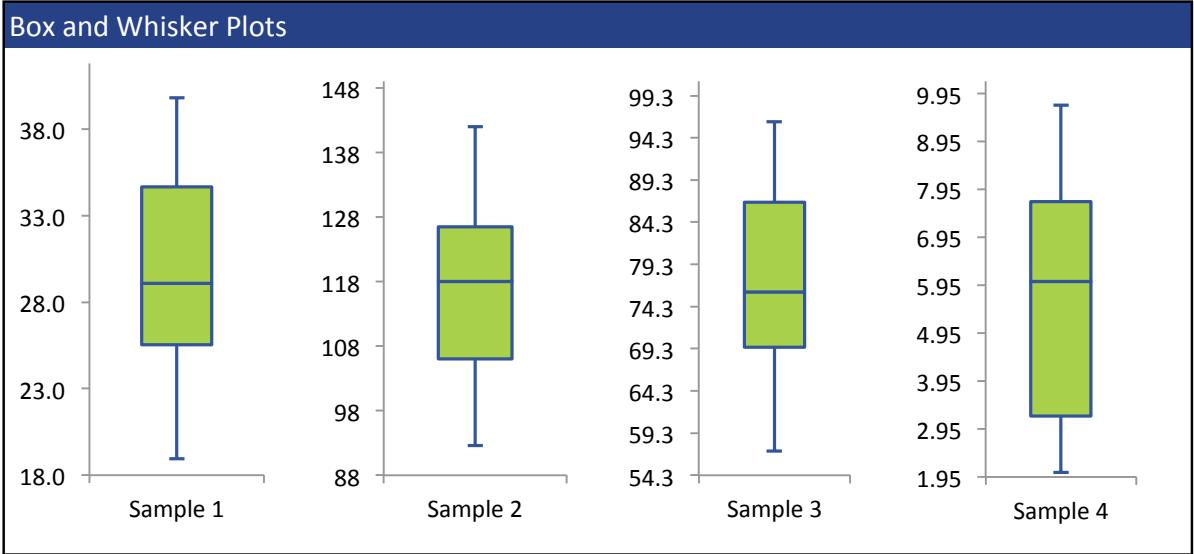
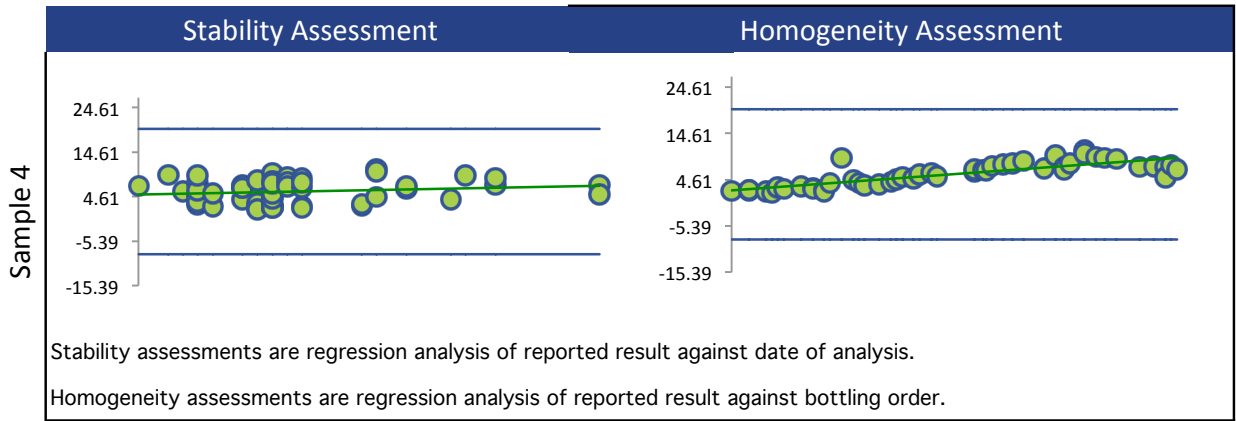




CARBON TETRACHLORIDE



CARBON TETRACHLORIDE



## CHLOROBENZENE

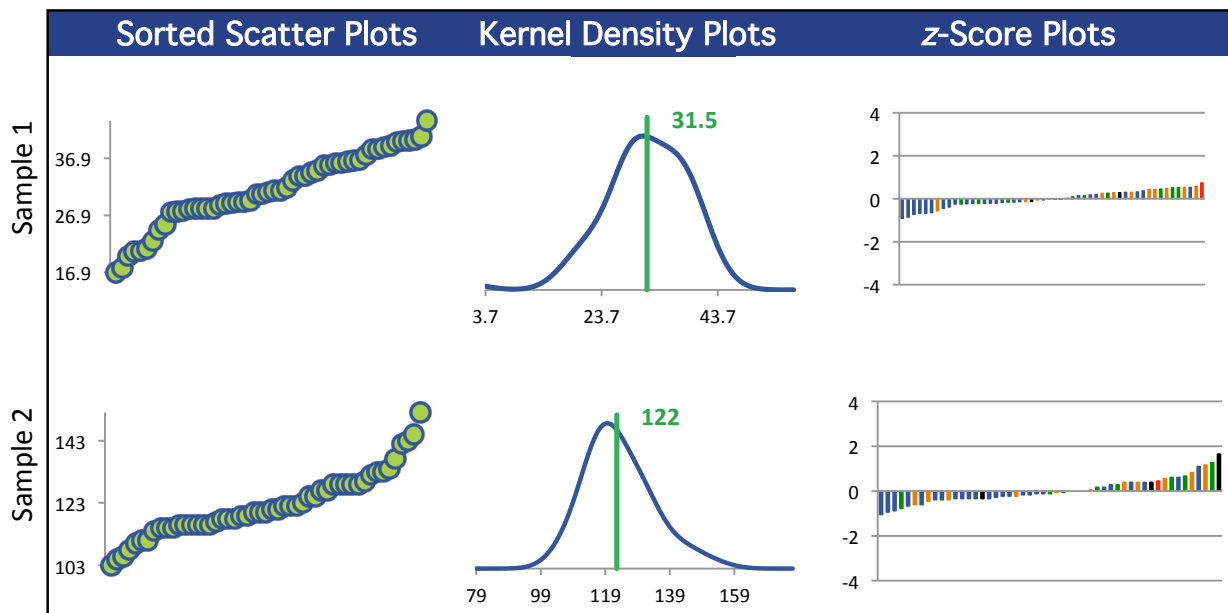
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	52	51	52	52
Median $\mu\text{g/L}$	31.1	120	79.8	6.49
Robust Mean $\mu\text{g/L}$	31.5	122	79.5	6.03
U $\mu\text{g/L}$	1.18	1.70	1.37	0.534
Robust Standard Deviation $\mu\text{g/L}$	6.81	9.69	7.90	3.08
Regression Standard Deviation $\mu\text{g/L}$	4.73	18.3	11.9	0.904
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	16.1	18.3	11.9	6.92
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	0	2	0

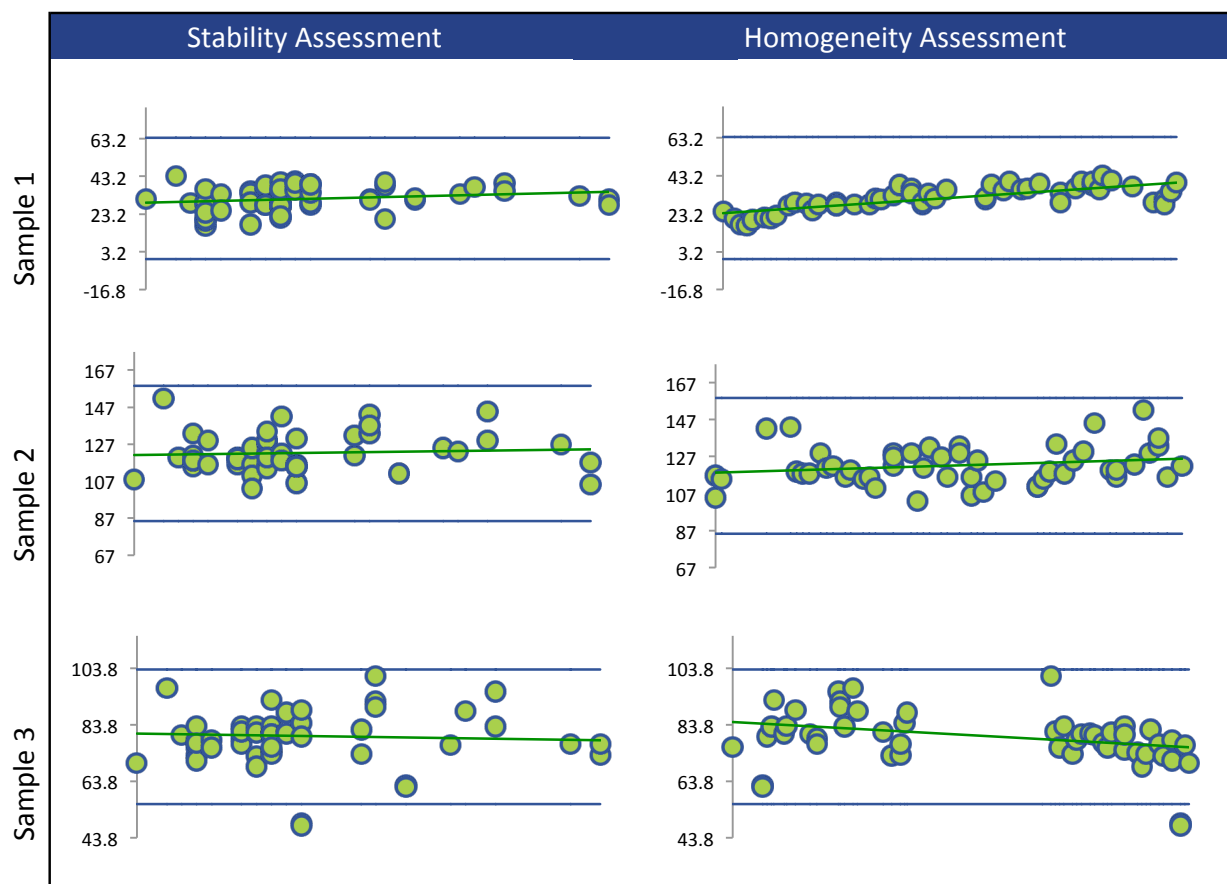
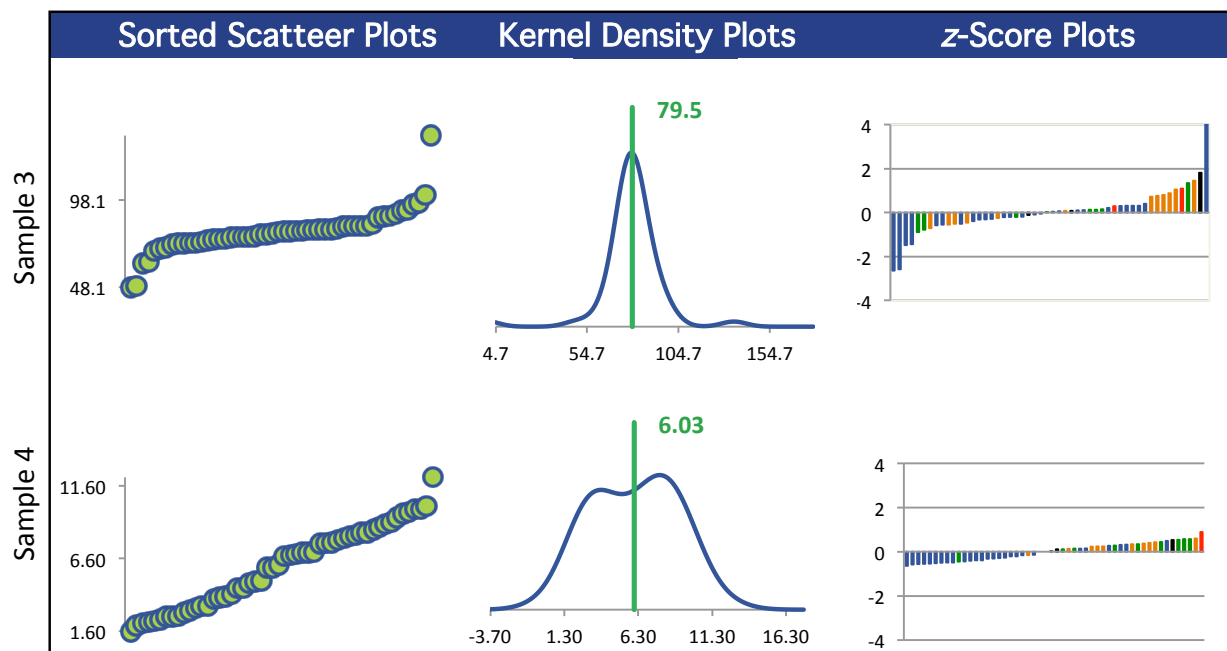
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	19	19	19	19
GC/MS - PURGE AND TRAP (Red)	29	28	29	29
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	2	2	2	2
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

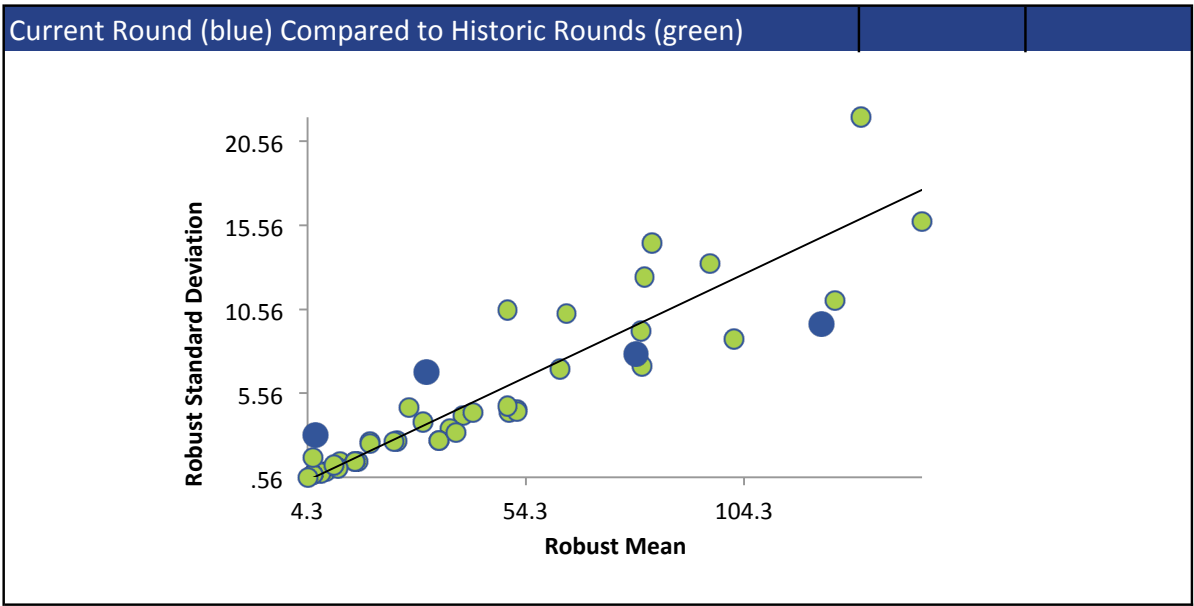
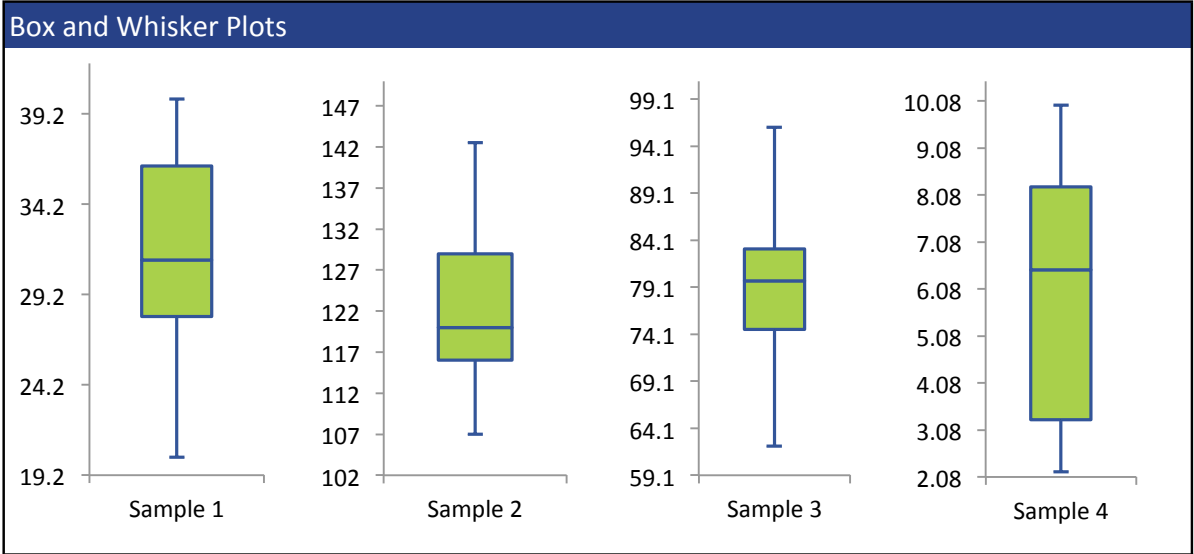
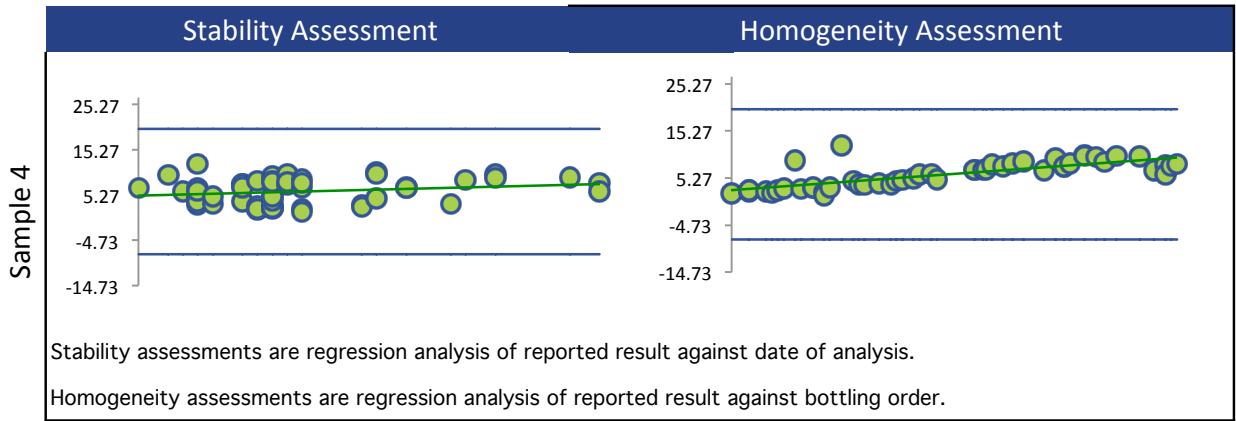
All summary stats and the plots below are based on the data excluding any flagged outliers



# CHLOROBENZENE



CHLOROBENZENE



## CHLORODIBROMOMETHANE

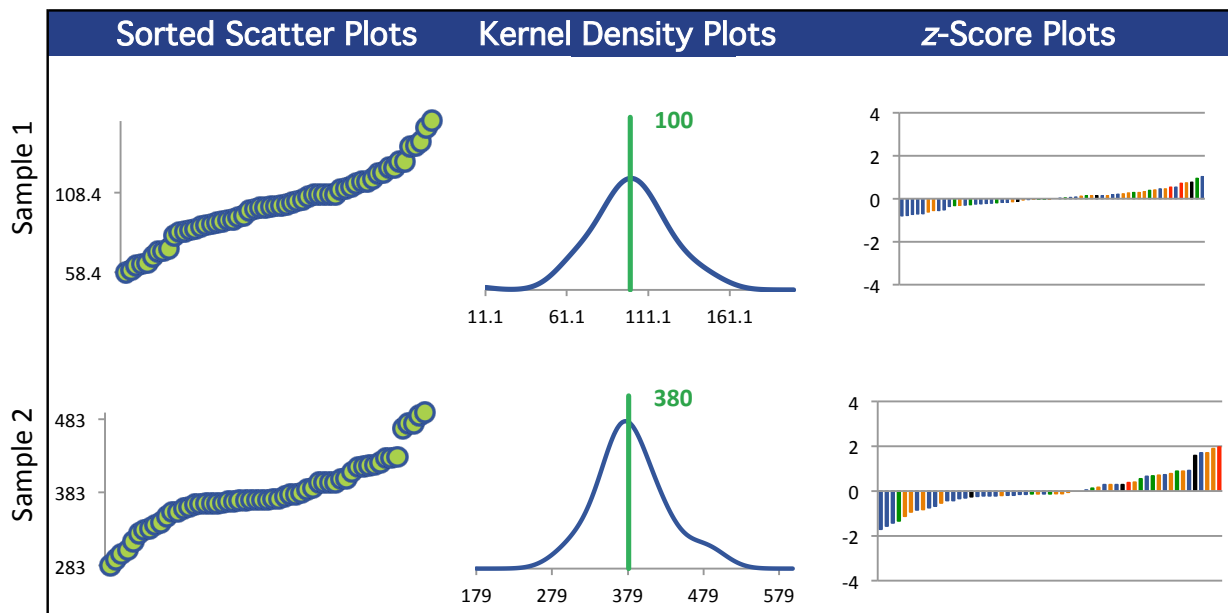
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	58	57	58	58
Median $\mu\text{g/L}$	99.8	373	244	20.5
Robust Mean $\mu\text{g/L}$	100	380	246	18.7
U $\mu\text{g/L}$	3.64	6.61	5.32	1.54
Robust Standard Deviation $\mu\text{g/L}$	22.2	39.9	32.4	9.40
Regression Standard Deviation $\mu\text{g/L}$	15.0	57.0	36.9	2.81
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	51.7	57.0	36.9	25.2
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	0	4	0

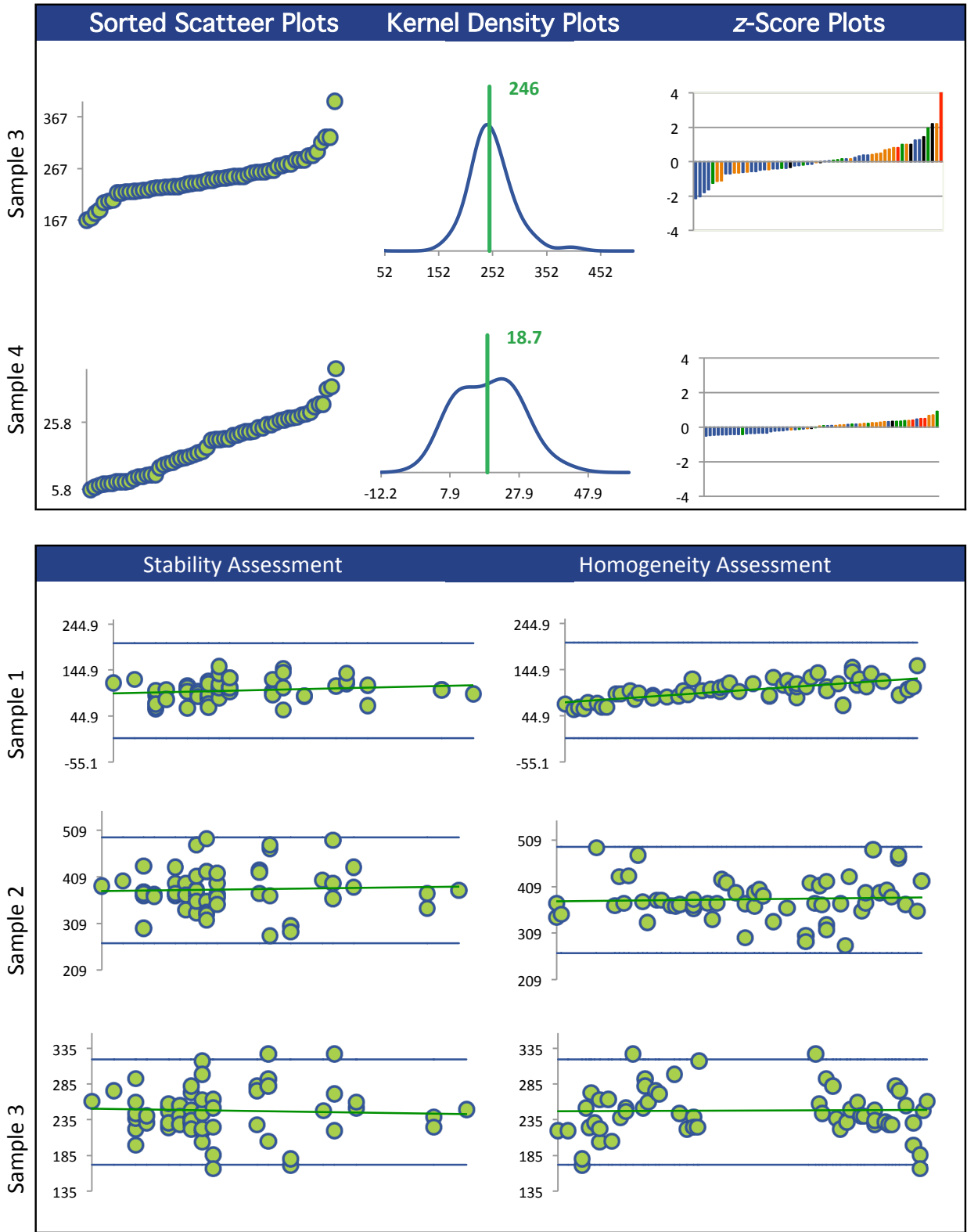
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	29	28	29	29
GC/MS - HEADSPACE (Red)	22	22	22	22
GC/MS (Green)	5	5	5	5
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

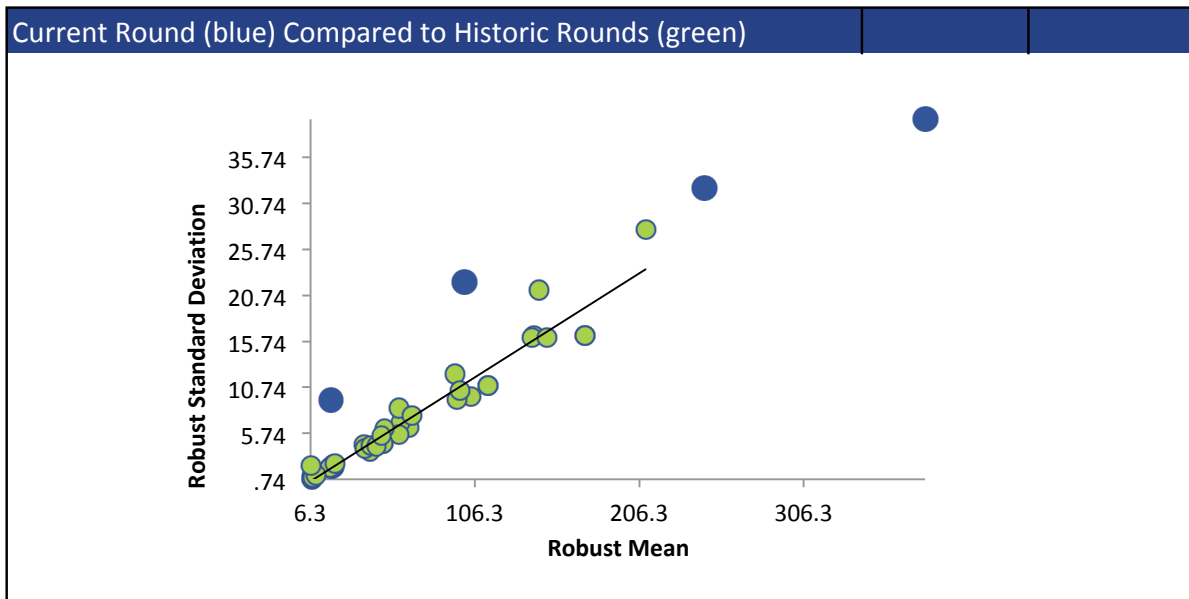
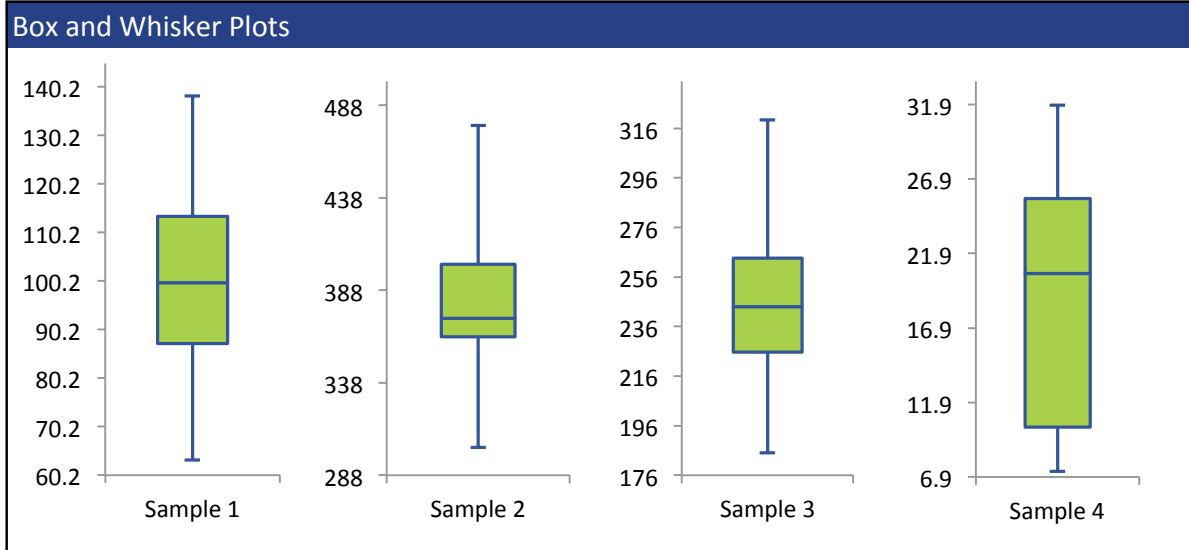
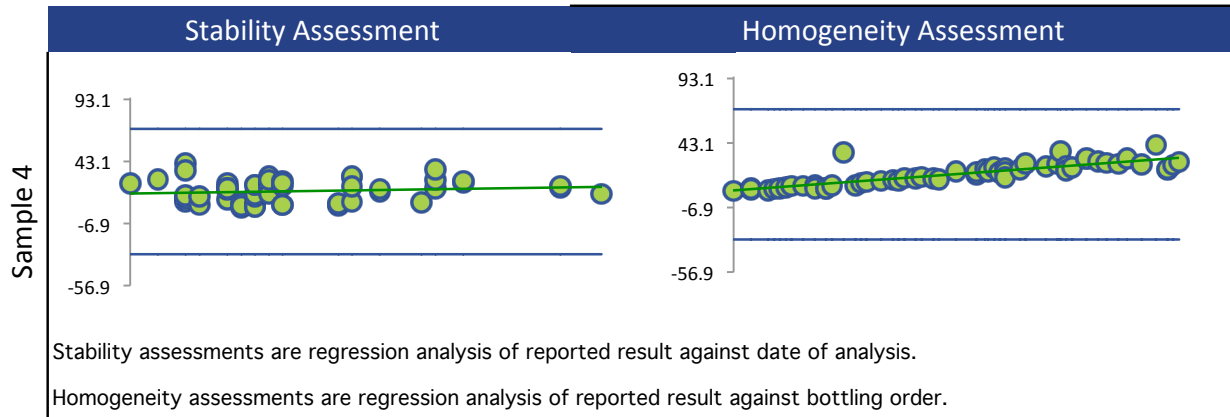
All summary stats and the plots below are based on the data excluding any flagged outliers



CHLORODIBROMOMETHANE



## CHLORODIBROMOMETHANE





## CHLOROFORM

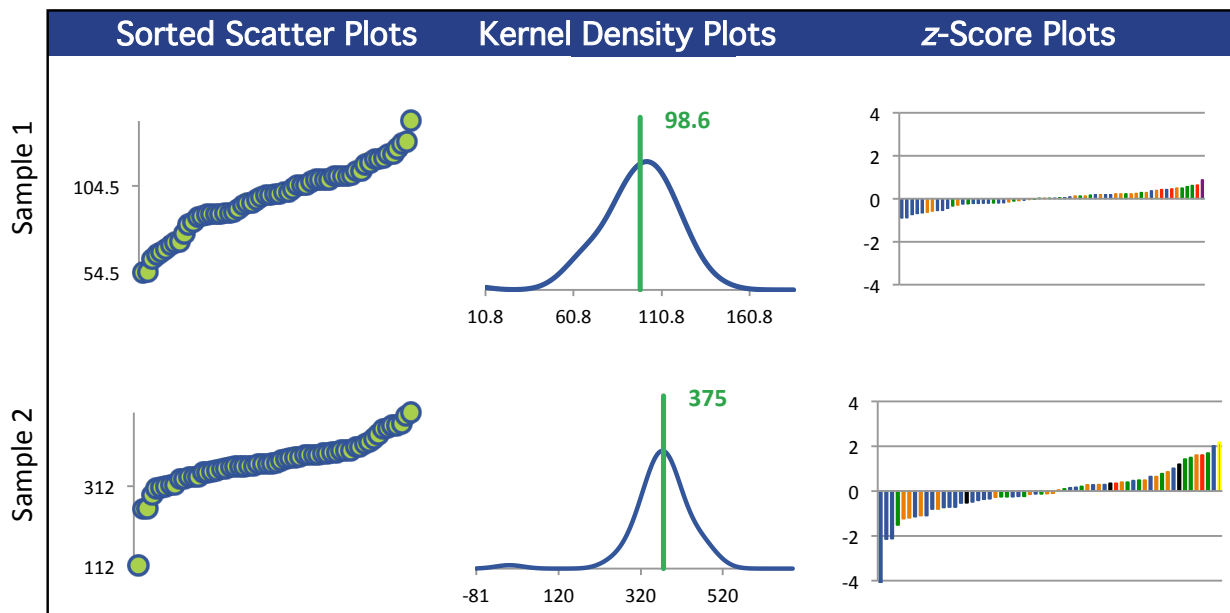
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	60	60	60	60
Median $\mu\text{g/L}$	99.9	370	243	22.3
Robust Mean $\mu\text{g/L}$	98.6	375	244	20.8
U $\mu\text{g/L}$	3.20	8.17	5.86	1.47
Robust Standard Deviation $\mu\text{g/L}$	19.8	50.6	36.3	9.10
Regression Standard Deviation $\mu\text{g/L}$	14.8	56.2	36.6	3.12
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	49.2	56.2	36.6	22.3
Outliers	0	0	0	0
$ z  > 3.0$	0	1	1	0
$2 <  z  < 3$	0	4	3	0

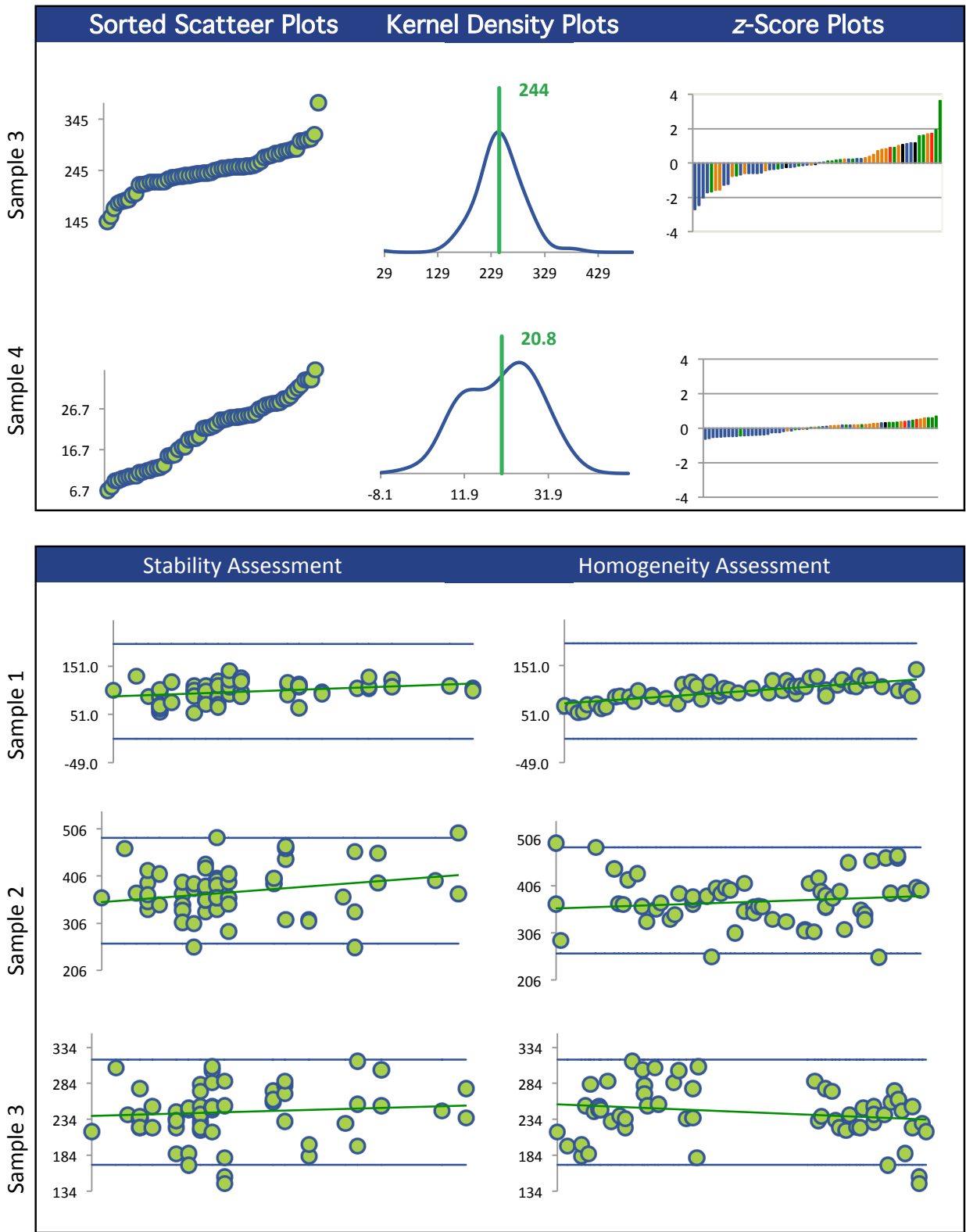
## Methods Used

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

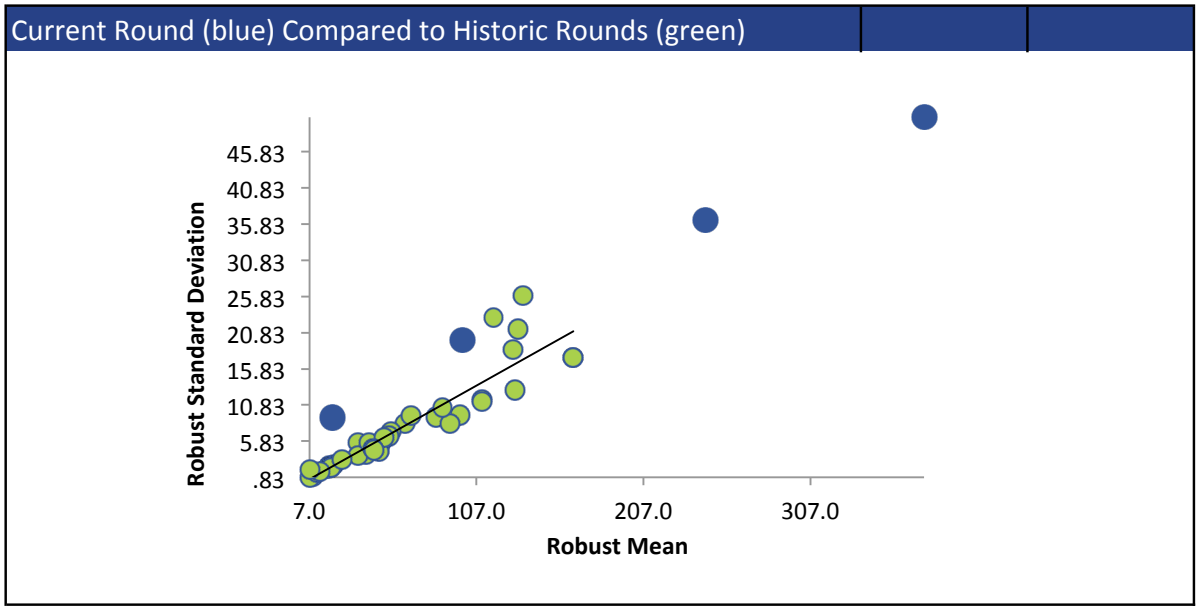
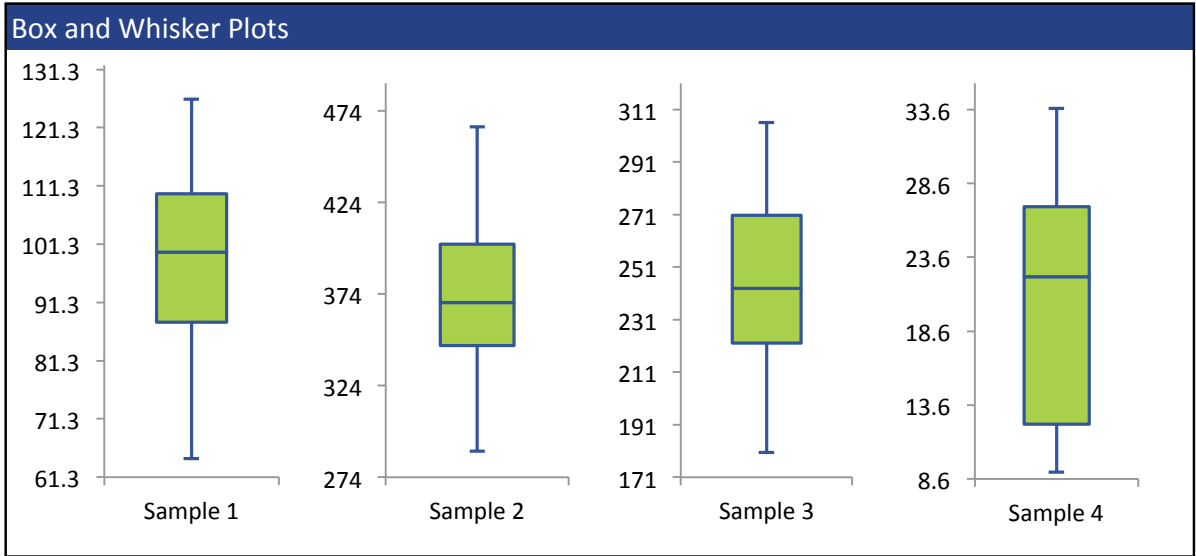
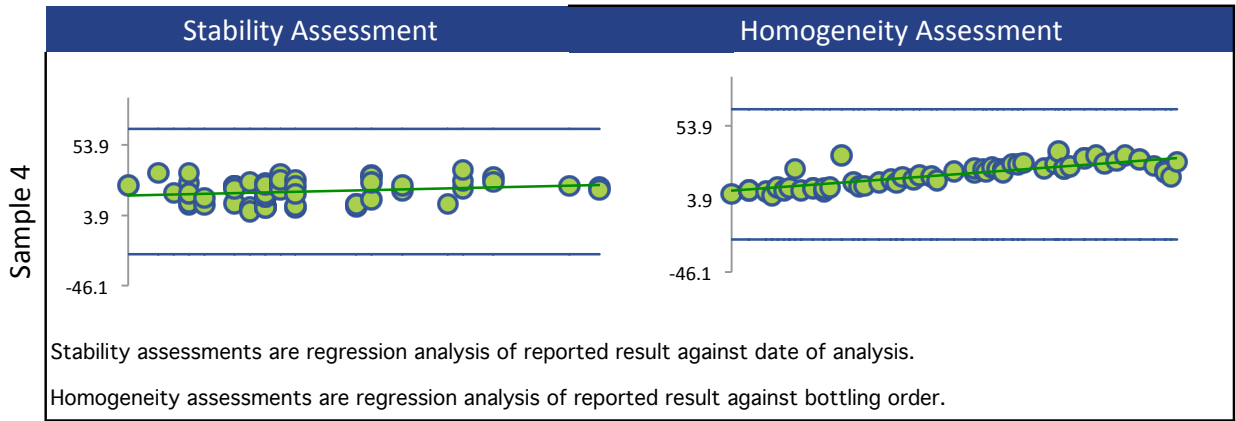
All summary stats and the plots below are based on the data excluding any flagged outliers



CHLOROFORM



CHLOROFORM



## CIS-1,2-DICHLOROETHYLENE

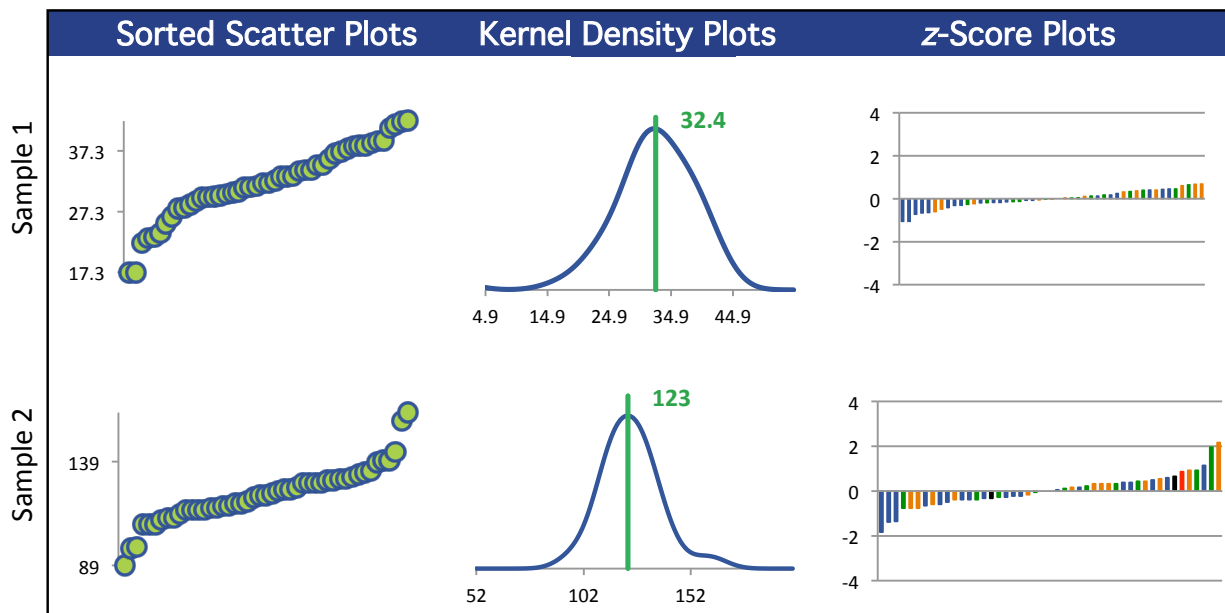
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	47	47	47	47
Median $\mu\text{g/L}$	32.0	123	80.4	6.30
Robust Mean $\mu\text{g/L}$	32.4	123	80.3	5.95
U $\mu\text{g/L}$	1.12	2.15	1.97	0.549
Robust Standard Deviation $\mu\text{g/L}$	6.17	11.8	10.8	3.01
Regression Standard Deviation $\mu\text{g/L}$	4.85	18.5	12.0	0.892
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	14.2	18.5	12.0	7.62
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	1	2	0

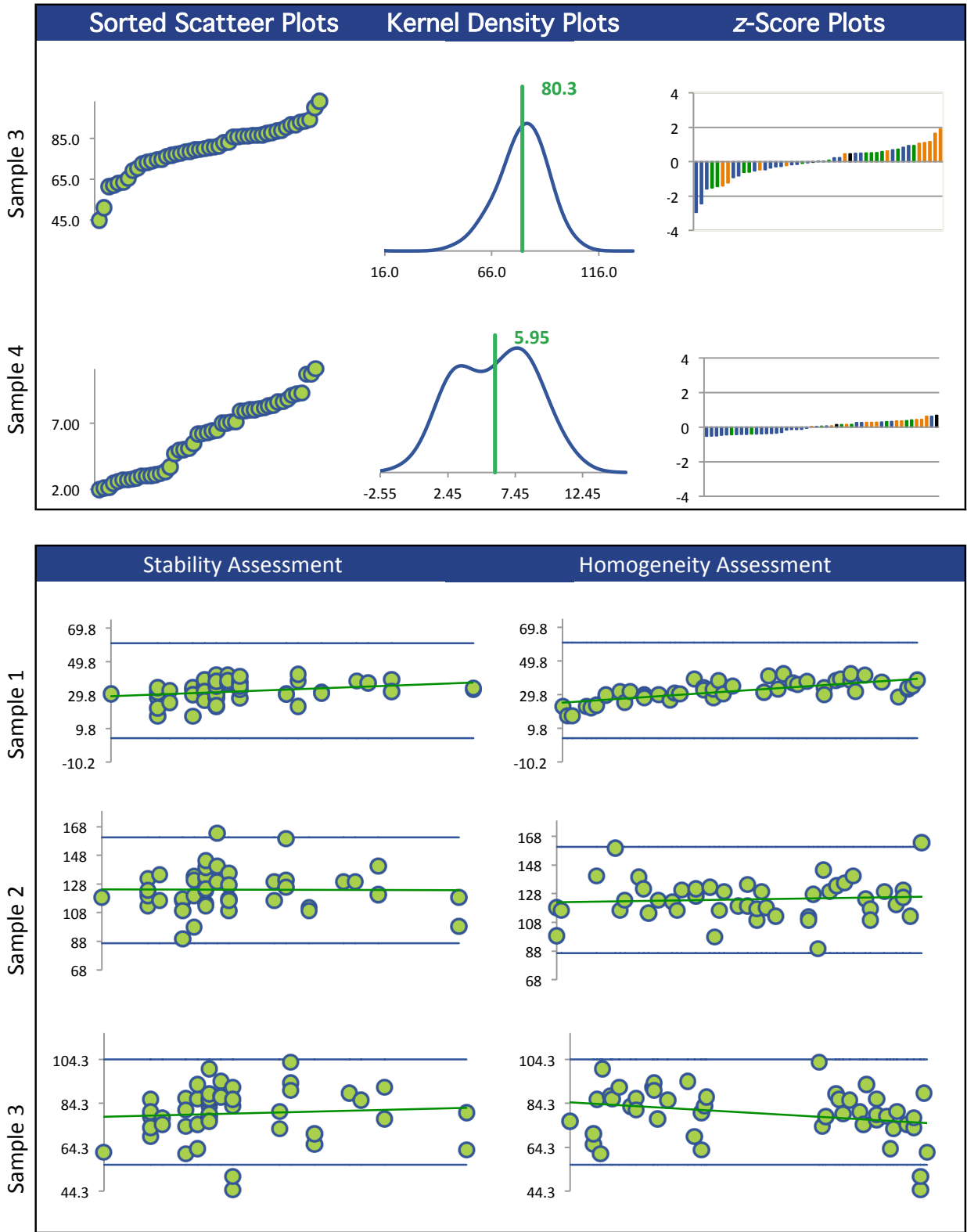
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	18	18
GC/MS - PURGE AND TRAP (Red)	25	25	25	25
GC/MS (Green)	3	3	3	3
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1

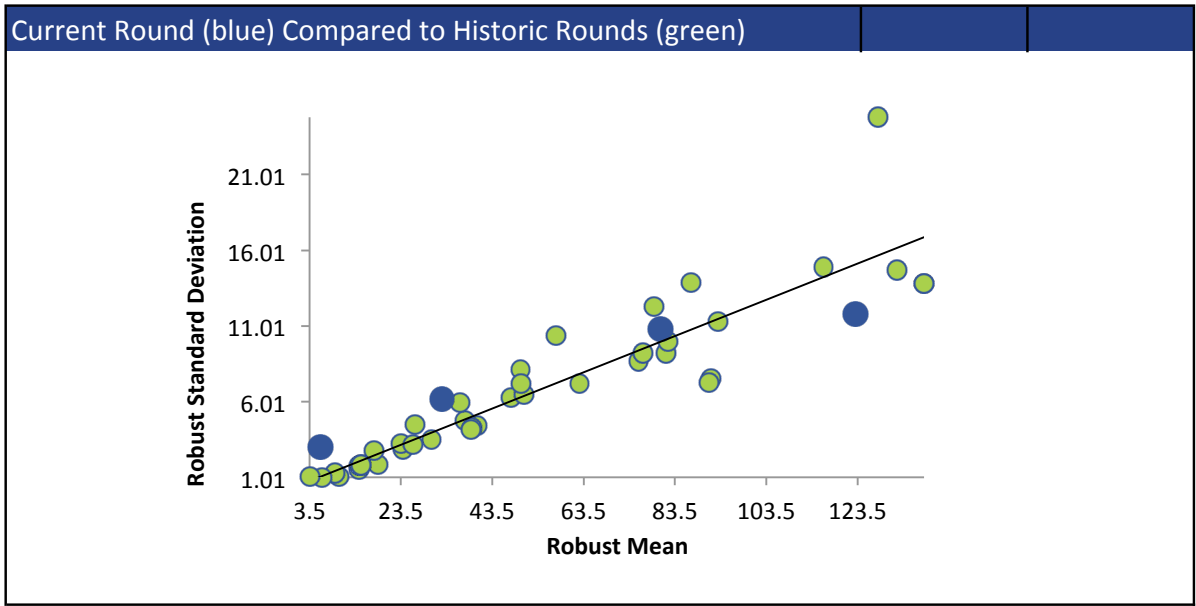
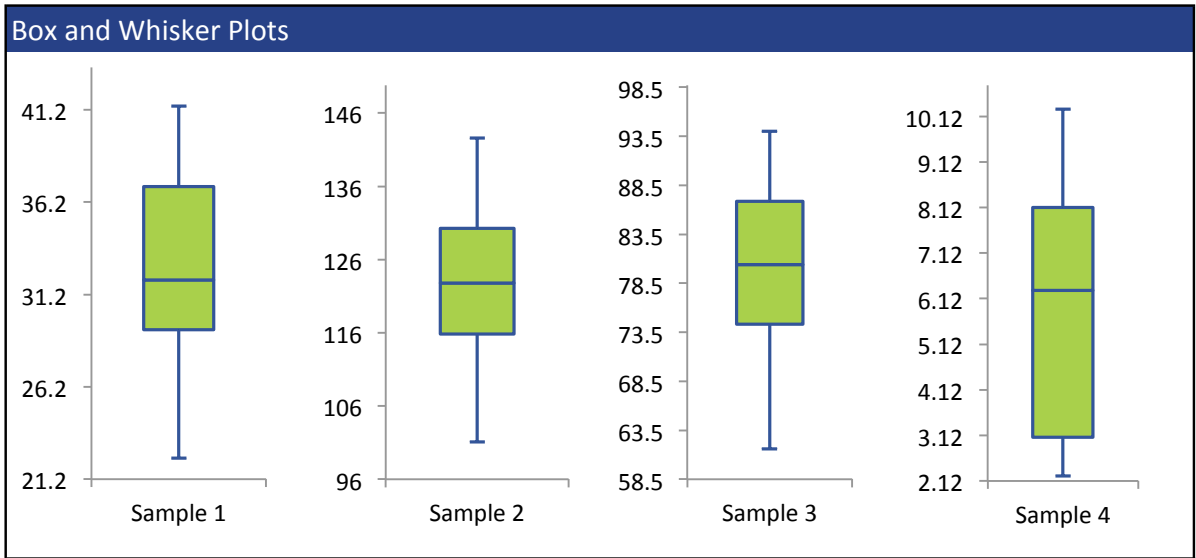
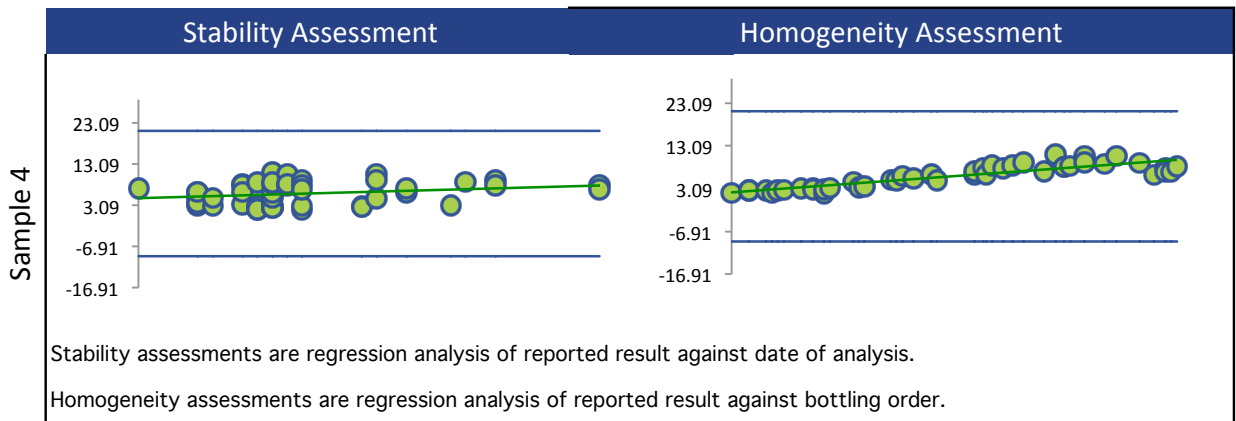
All summary stats and the plots below are based on the data excluding any flagged outliers



CIS-1,2-DICHLOROETHYLENE



CIS-1,2-DICHLOROETHYLENE



## CIS-1,3-DICHLOROPROPENE

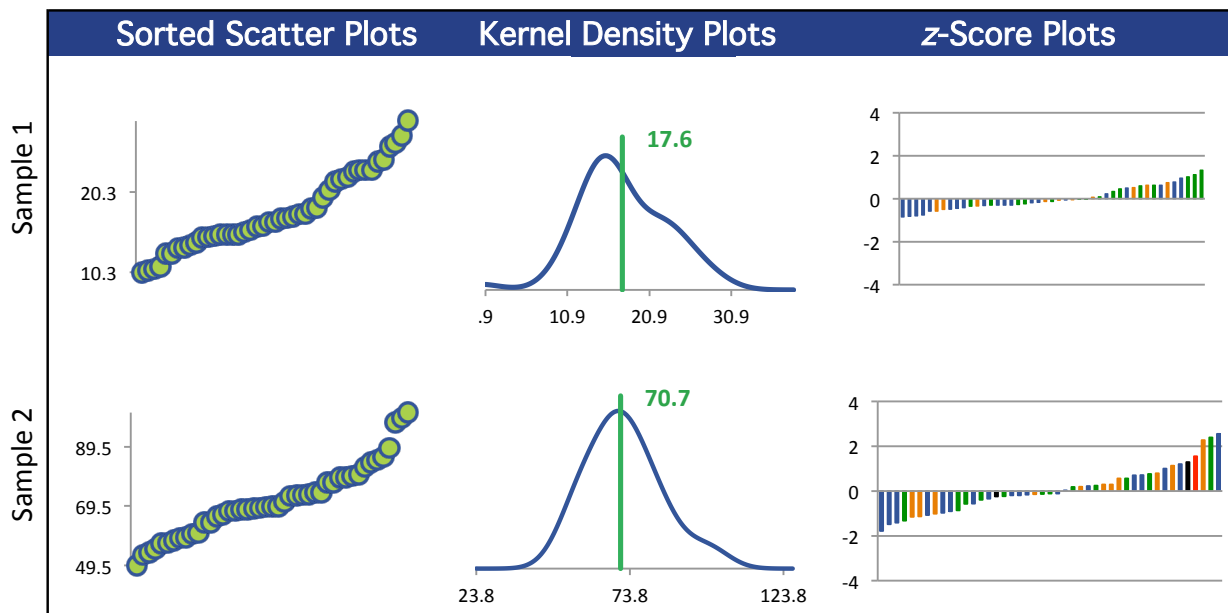
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	45	45	43	44
Median $\mu\text{g/L}$	16.5	69.4	45.7	2.95
Robust Mean $\mu\text{g/L}$	17.6	70.7	44.6	3.17
U $\mu\text{g/L}$	0.945	2.22	1.39	0.339
Robust Standard Deviation $\mu\text{g/L}$	5.07	11.9	7.27	1.80
Regression Standard Deviation $\mu\text{g/L}$	2.64	10.6	6.69	0.475
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	8.63	11.9	7.27	4.69
Outliers	0	0	2	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	3	2	0

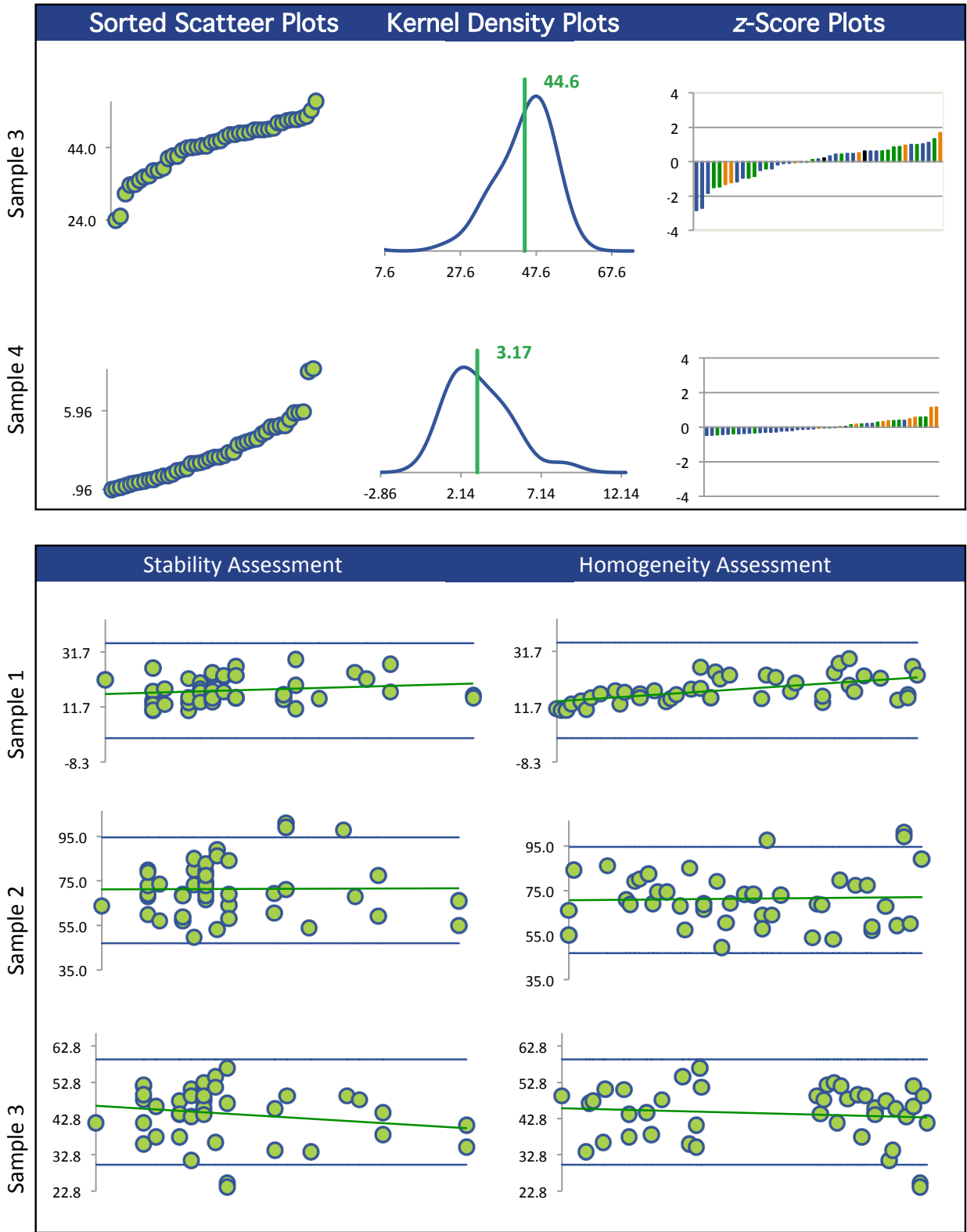
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	17	18
GC/MS - PURGE AND TRAP (Red)	24	24	23	23
GC/MS (Green)	3	3	3	3

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

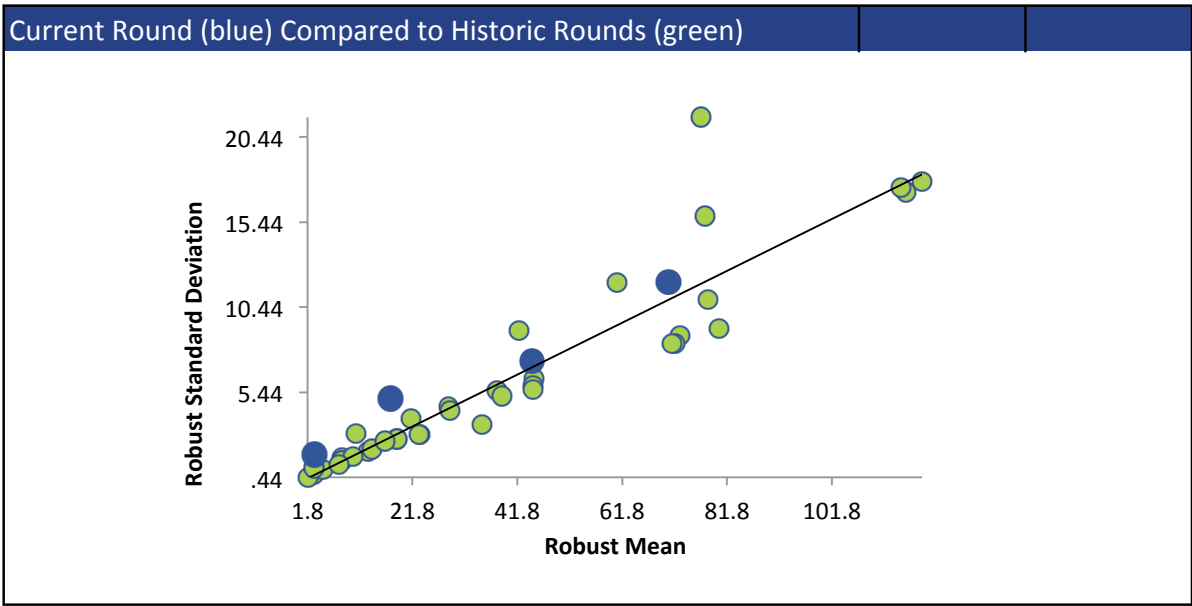
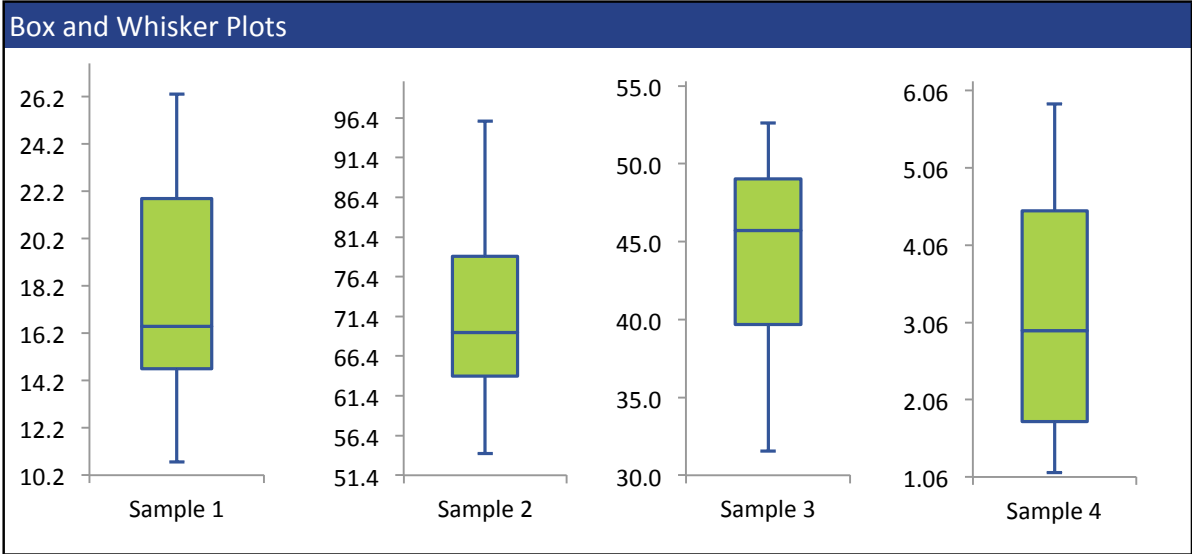
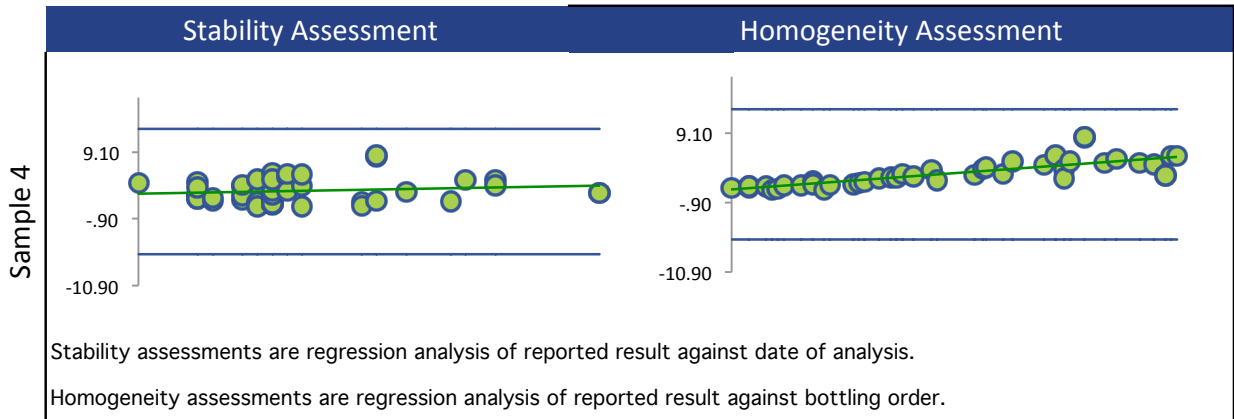


CIS-1,3-DICHLOROPROPENE





CIS-1,3-DICHLOROPROPENE



## DICHLOROMETHANE

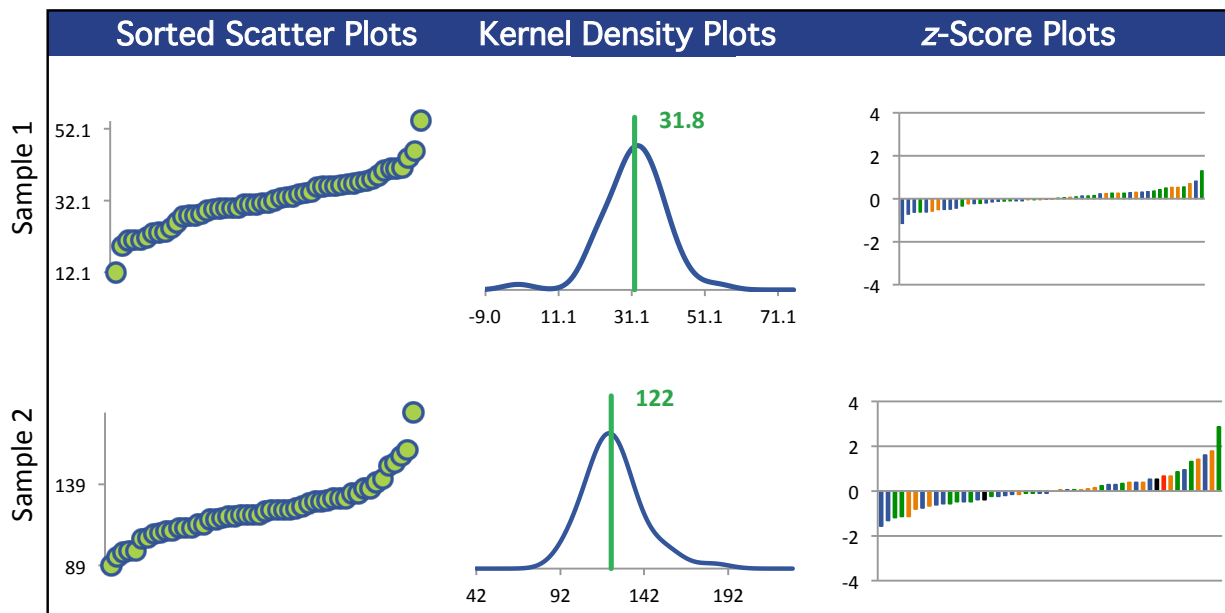
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	51	50	51	50
Median $\mu\text{g/L}$	31.4	121	80.6	7.97
Robust Mean $\mu\text{g/L}$	31.8	122	79.9	7.85
U $\mu\text{g/L}$	1.29	2.62	1.94	0.539
Robust Standard Deviation $\mu\text{g/L}$	7.35	14.8	11.1	3.05
Regression Standard Deviation $\mu\text{g/L}$	5.57	21.3	14.0	1.37
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	17.2	21.3	14.0	7.64
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	1	4	0

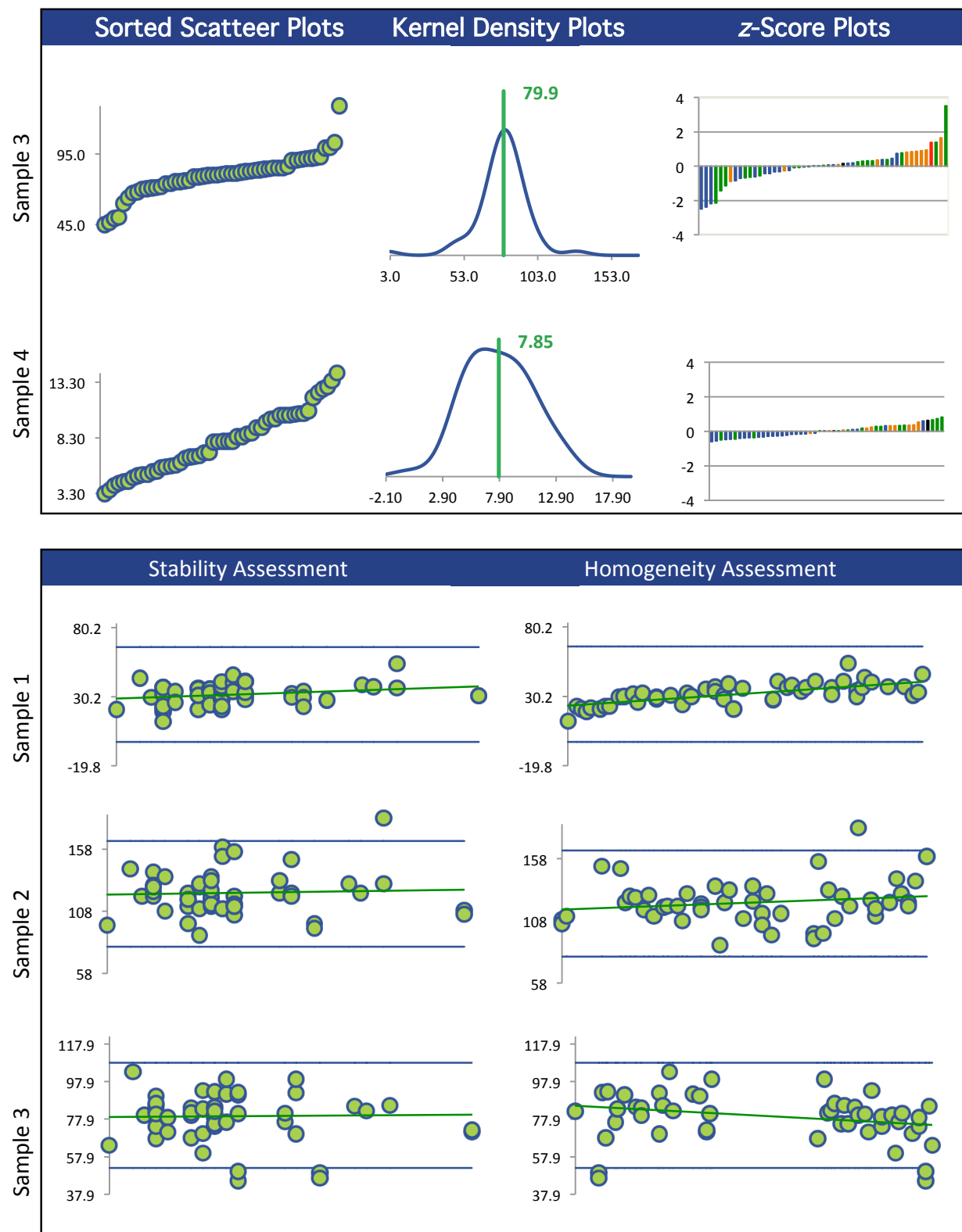
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	28	27	28	27
GC/MS - HEADSPACE (Red)	19	19	19	19
GC/MS (Green)	2	2	2	2
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

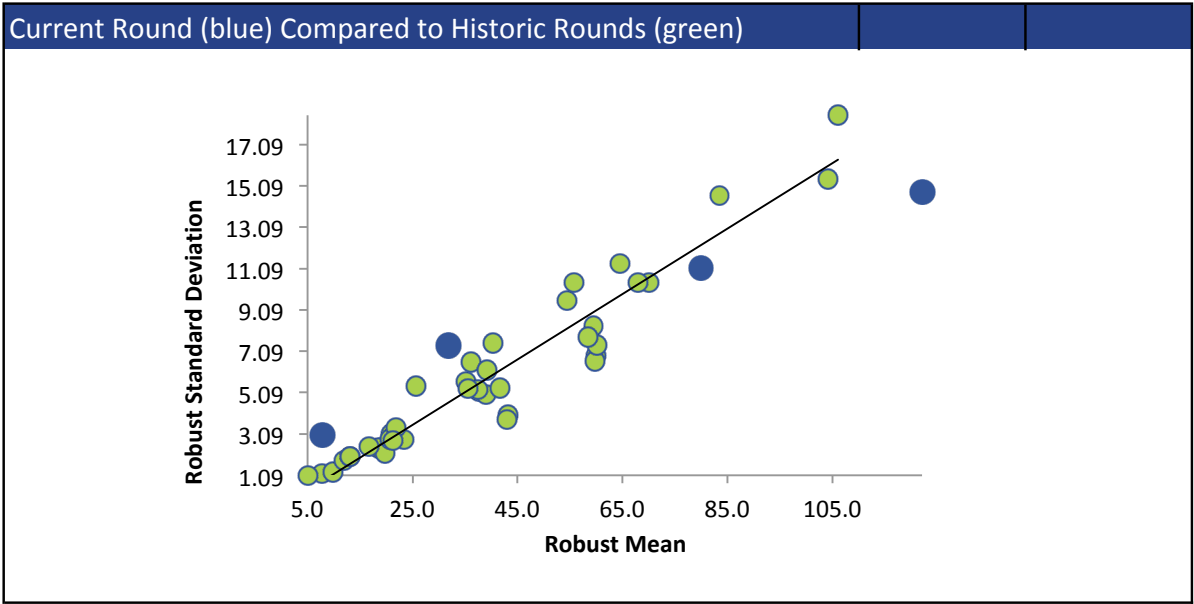
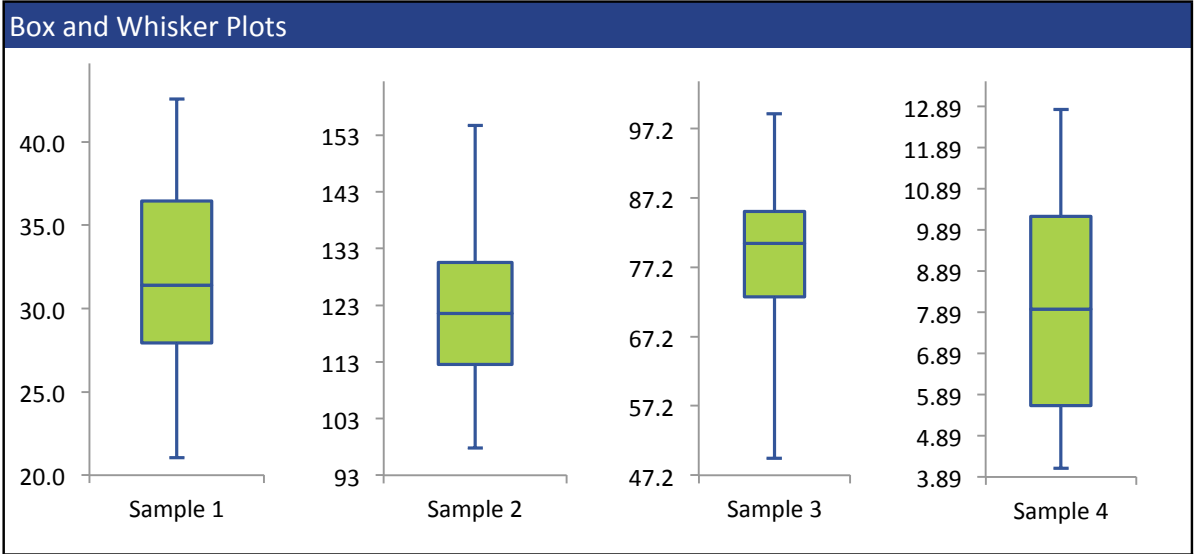
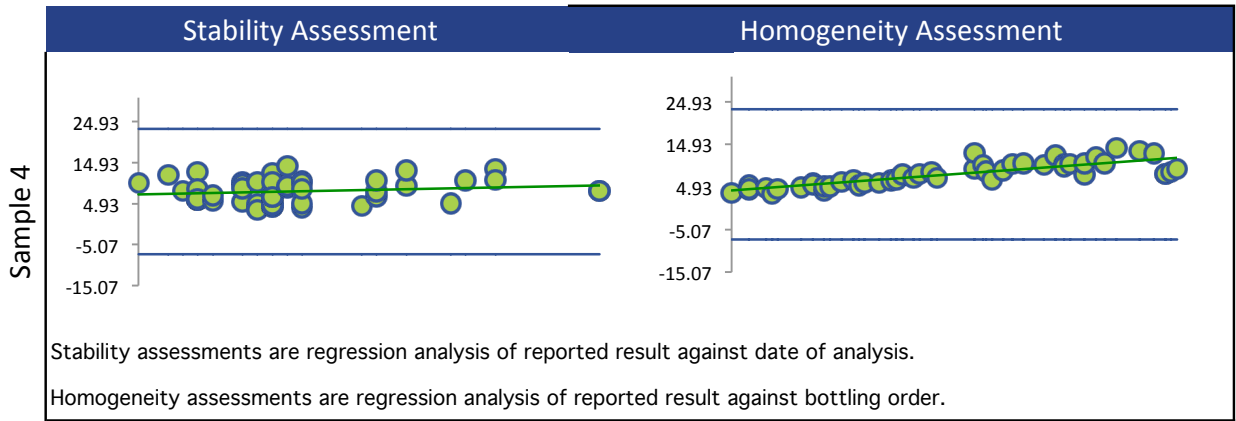
All summary stats and the plots below are based on the data excluding any flagged outliers



# DICHLOROMETHANE



DICHLOROMETHANE



## ETHYLBENZENE

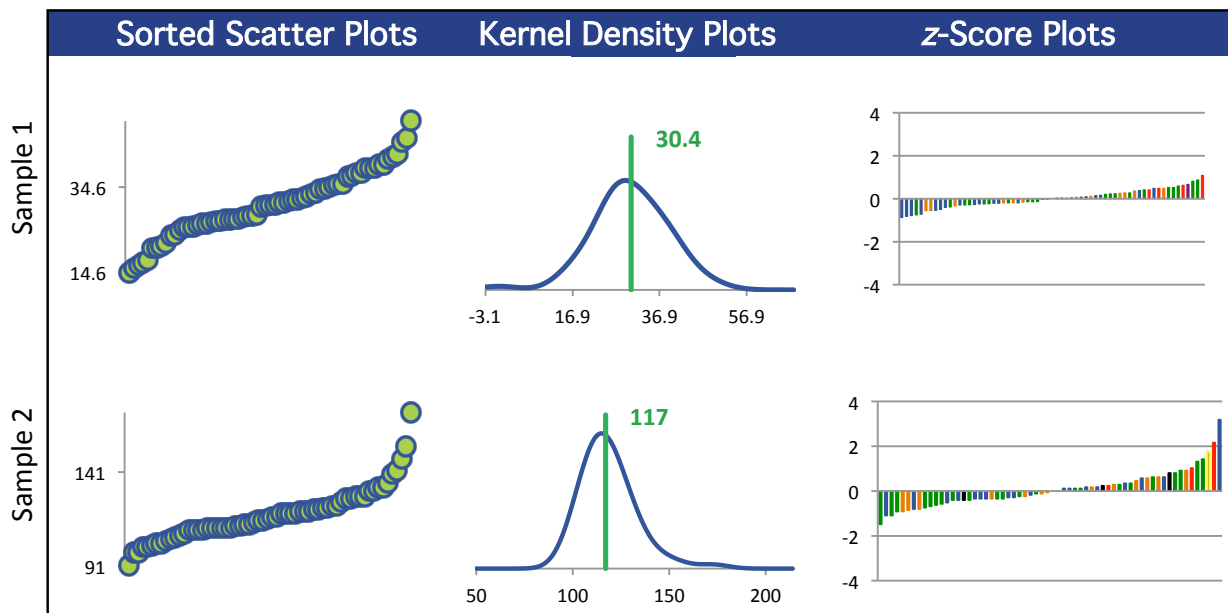
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	63	62	63	63
Median $\mu\text{g/L}$	30.4	117	75.8	6.00
Robust Mean $\mu\text{g/L}$	30.4	117	76.3	5.58
U $\mu\text{g/L}$	1.25	1.92	1.43	0.474
Robust Standard Deviation $\mu\text{g/L}$	7.92	12.1	9.05	3.01
Regression Standard Deviation $\mu\text{g/L}$	4.56	17.6	11.4	0.837
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	18.1	17.6	11.4	7.53
Outliers	0	1	0	0
$ z  > 3.0$	0	1	3	0
$2 <  z  < 3$	0	1	2	0

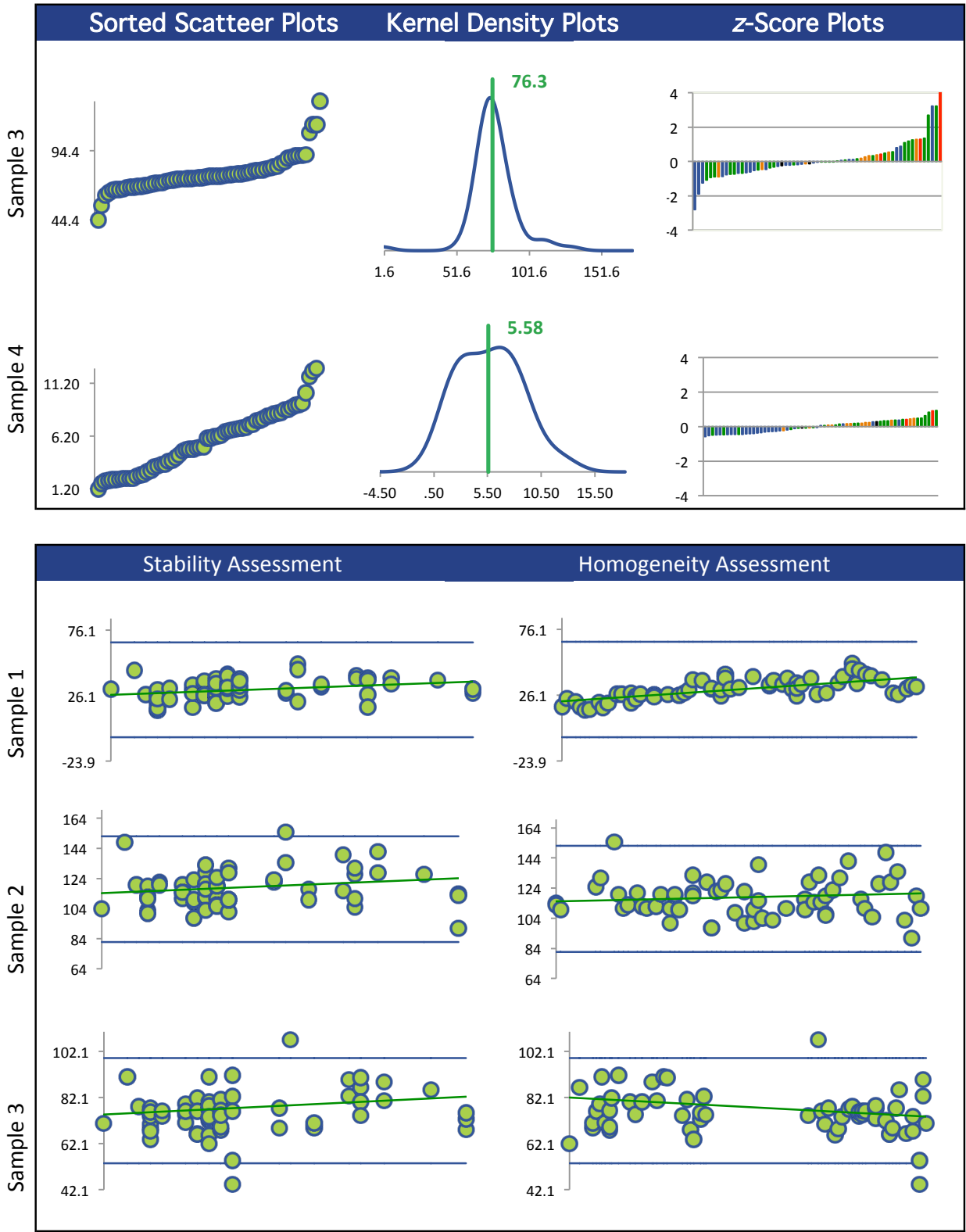
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	32	31	32	32
GC/MS (Green)	6	6	6	6
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1
GC/MS/MS - HEADSPACE (Yellow)	1	1	1	1

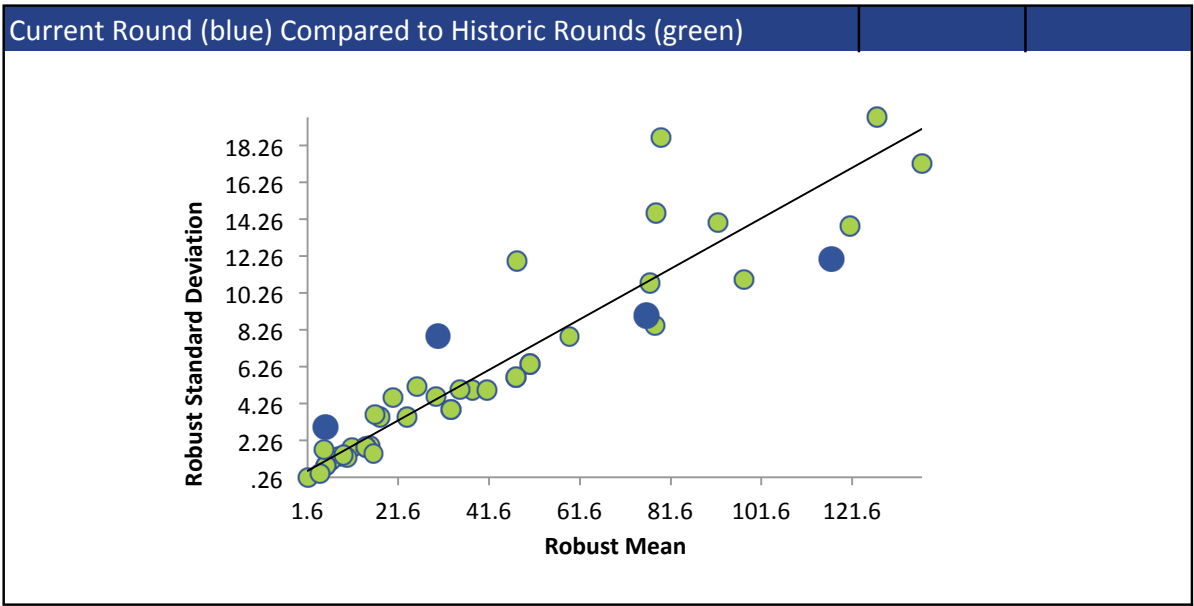
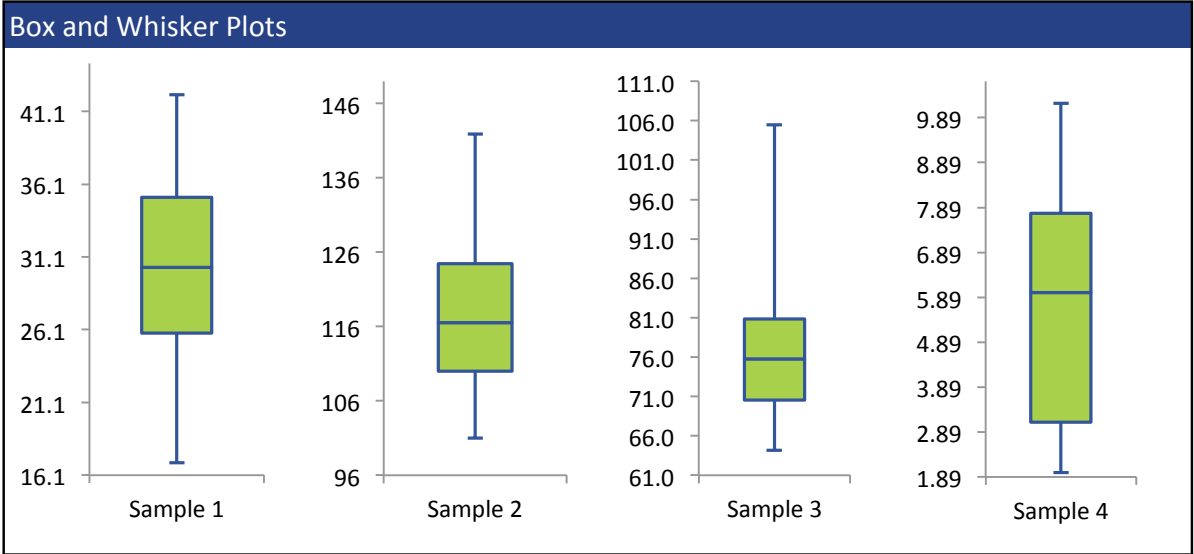
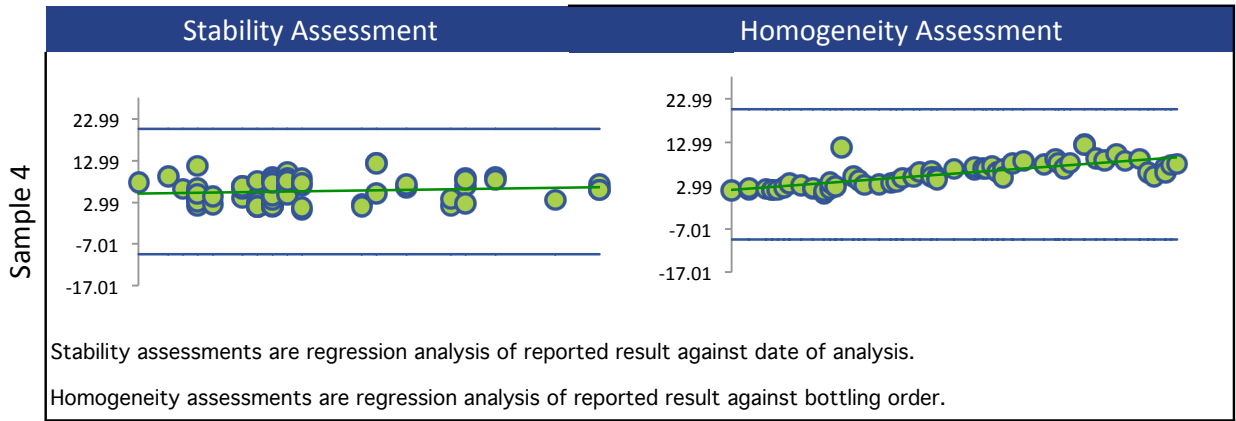
All summary stats and the plots below are based on the data excluding any flagged outliers



ETHYLBENZENE



ETHYLBENZENE



## ETHYLENE DIBROMIDE

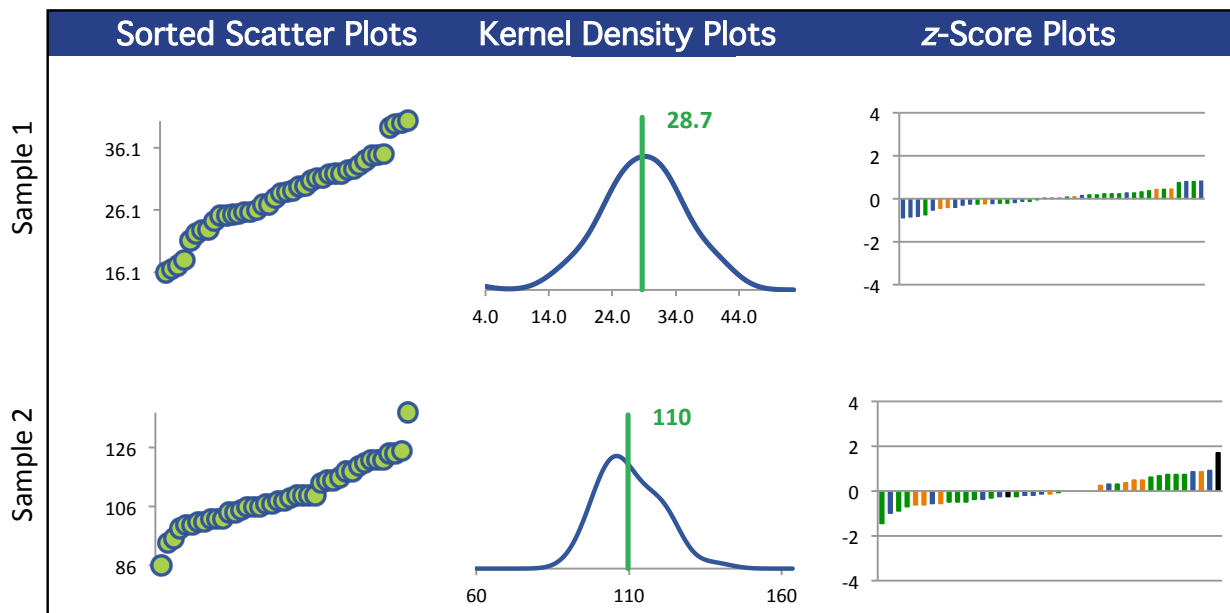
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	41	41	41	41
Median $\mu\text{g/L}$	29.0	108	70.9	5.00
Robust Mean $\mu\text{g/L}$	28.7	110	72.1	4.98
U $\mu\text{g/L}$	1.21	2.01	1.56	0.525
Robust Standard Deviation $\mu\text{g/L}$	6.22	10.3	7.98	2.69
Regression Standard Deviation $\mu\text{g/L}$	4.31	16.5	10.8	0.746
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	14.2	16.5	10.8	6.38
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	0	1	0

## Methods Used

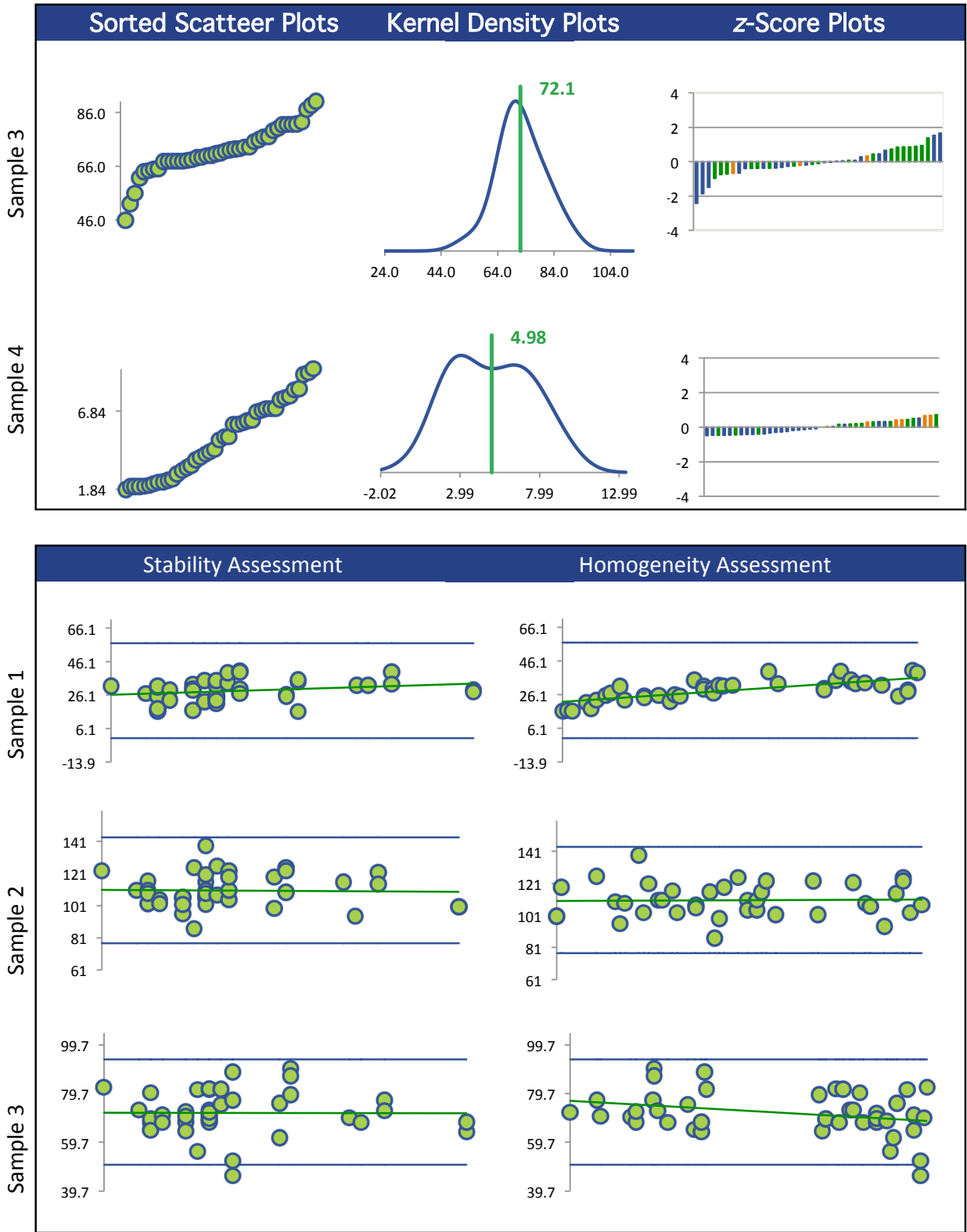
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	23	23	23	23
GC/MS - HEADSPACE (Red)	16	16	16	16
GC/MS (Green)	2	2	2	2

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

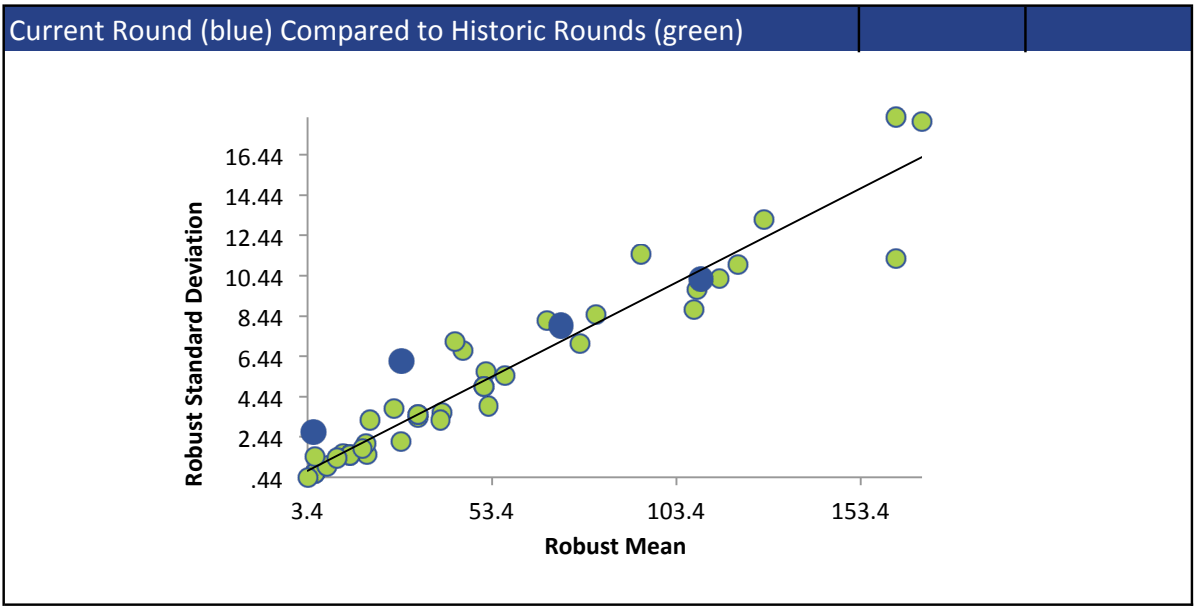
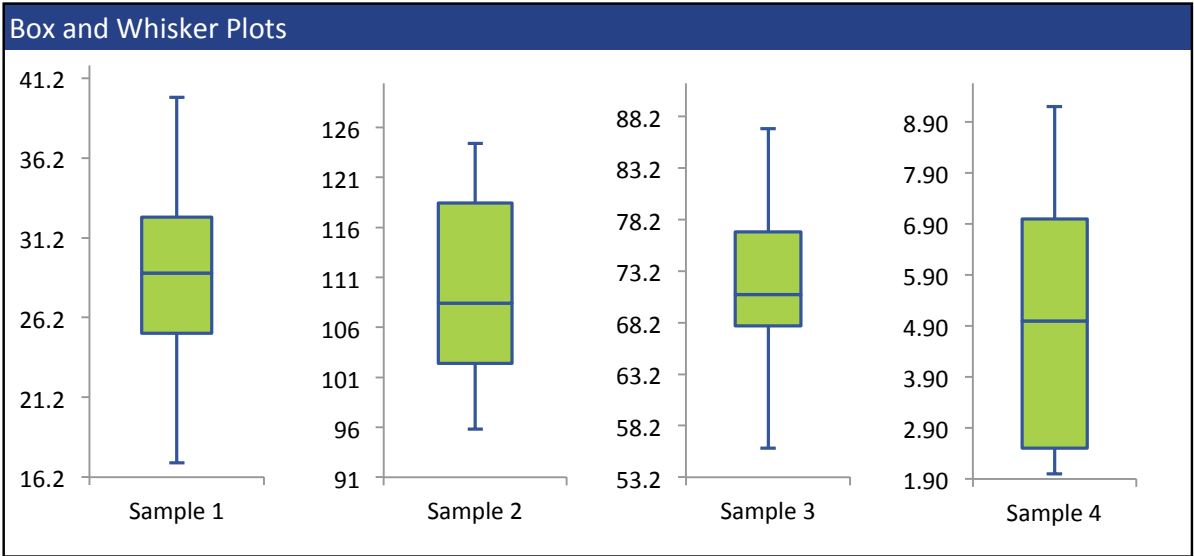
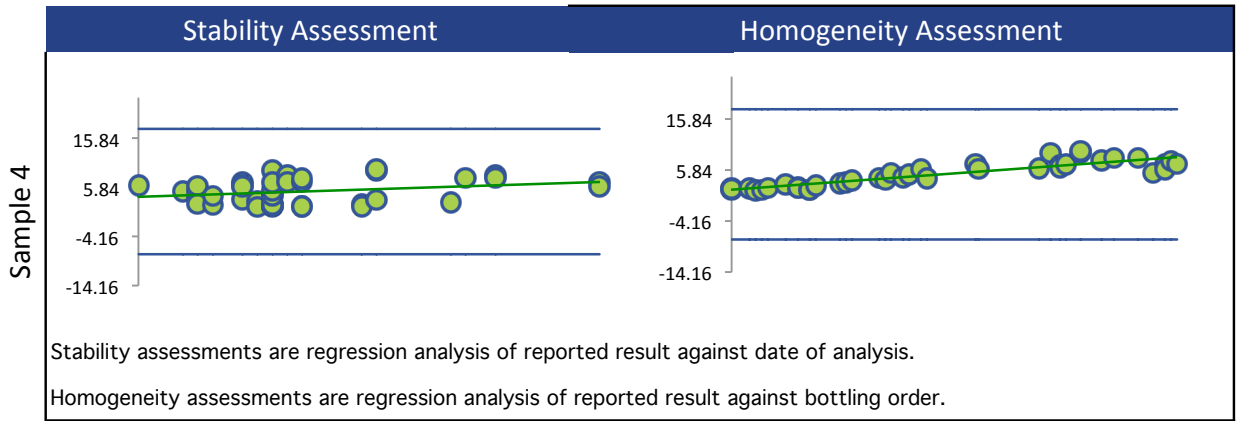




ETHYLENE DIBROMIDE



ETHYLENE DIBROMIDE



## M,P-XYLENE

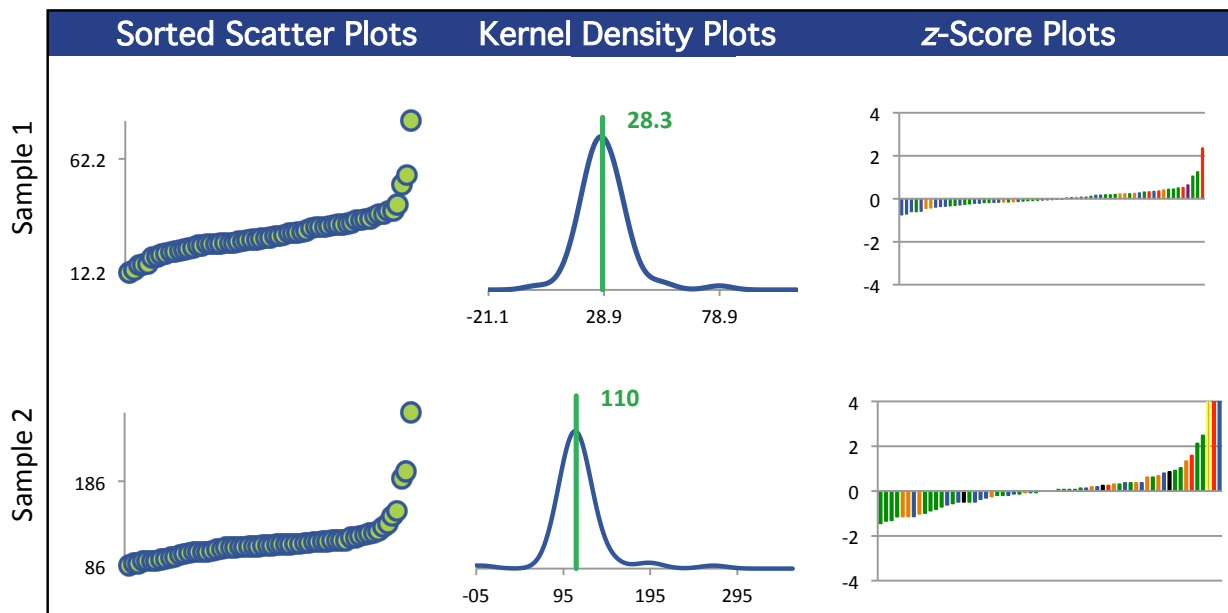
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	63	62	63	63
Median $\mu\text{g/L}$	27.5	110	70.3	5.00
Robust Mean $\mu\text{g/L}$	28.3	110	70.8	5.14
U $\mu\text{g/L}$	1.20	2.11	1.38	0.449
Robust Standard Deviation $\mu\text{g/L}$	7.62	13.3	8.77	2.85
Regression Standard Deviation $\mu\text{g/L}$	4.24	16.5	10.6	0.772
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	21.4	16.5	10.6	7.64
Outliers	0	1	0	0
$ z  > 3.0$	0	3	4	0
$2 <  z  < 3$	1	2	2	0

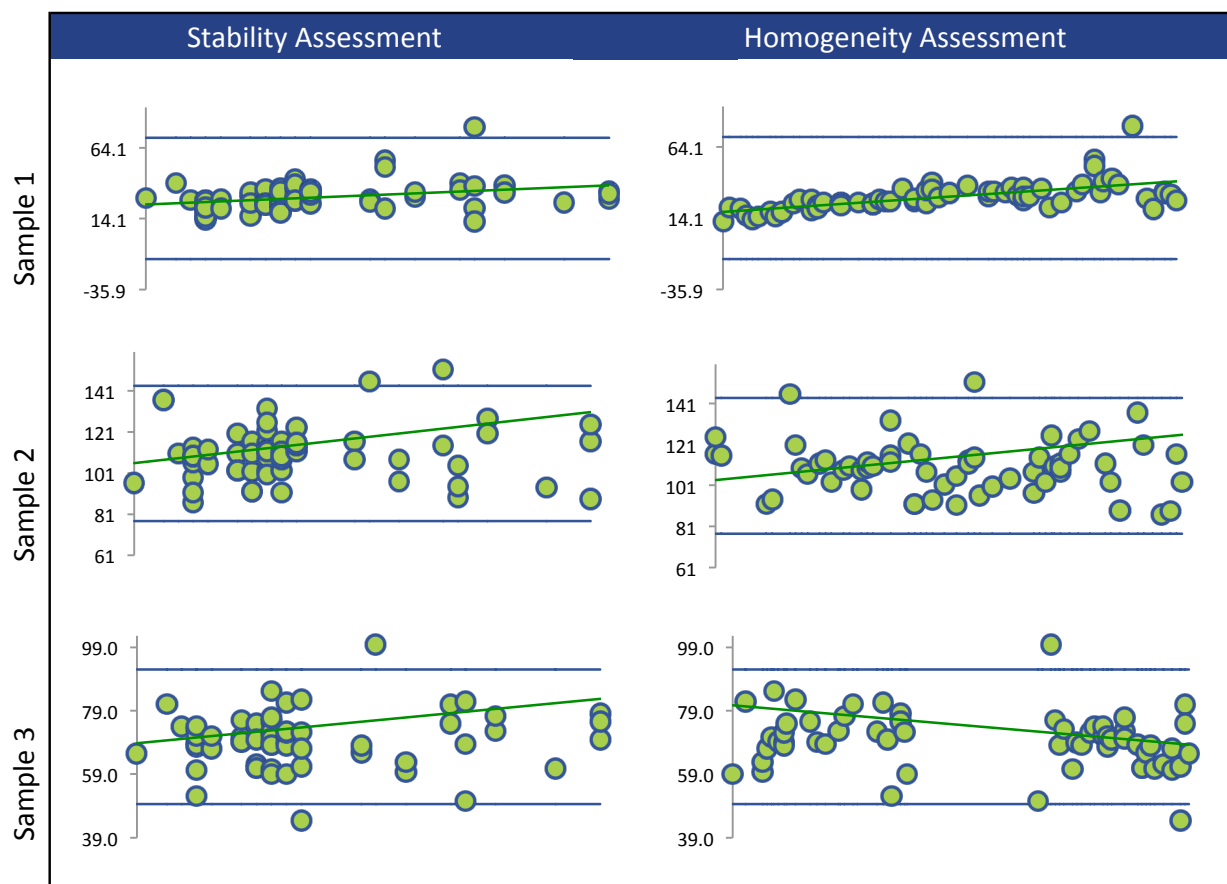
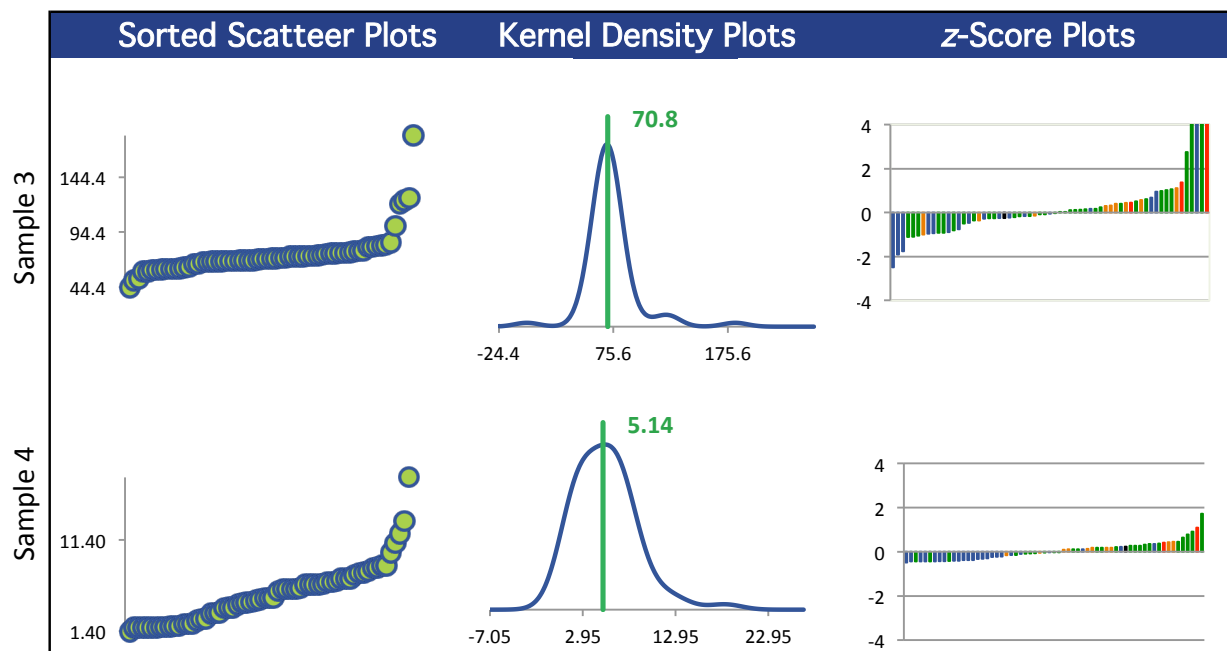
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	32	31	32	32
GC/MS - HEADSPACE (Red)	22	22	22	22
GC/MS (Green)	6	6	6	6
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1
GC/MS/MS - HEADSPACE (Yellow)	1	1	1	1

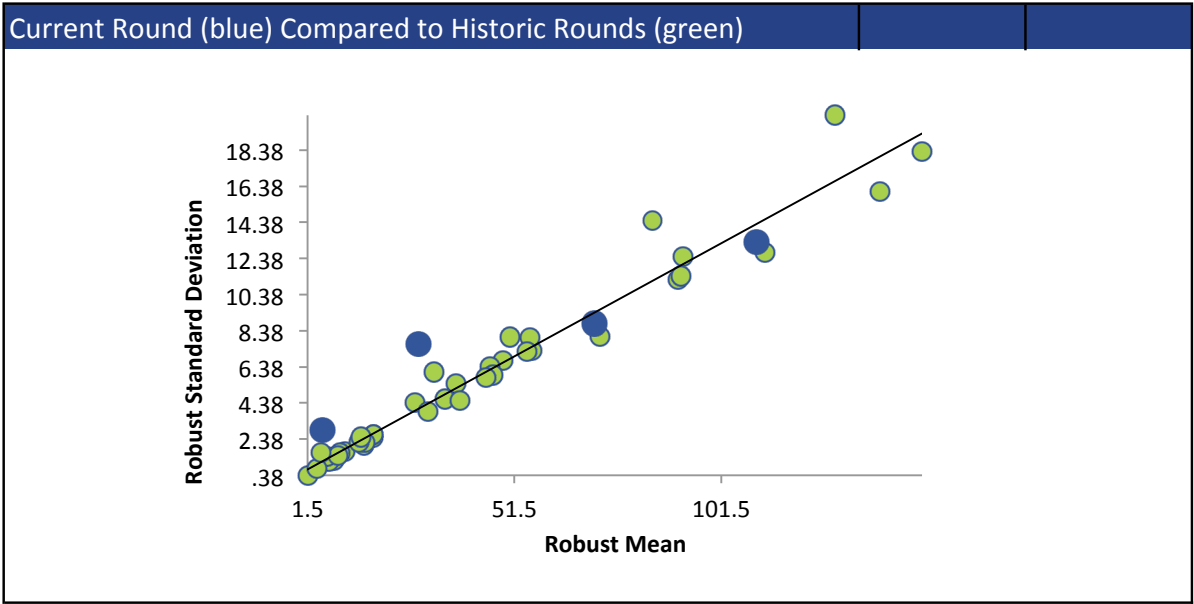
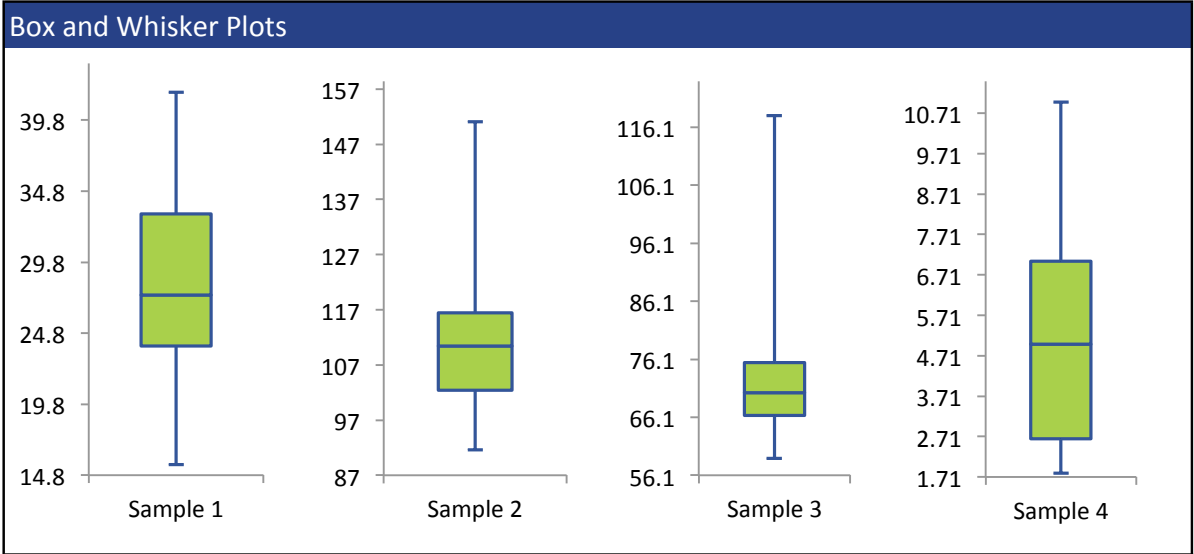
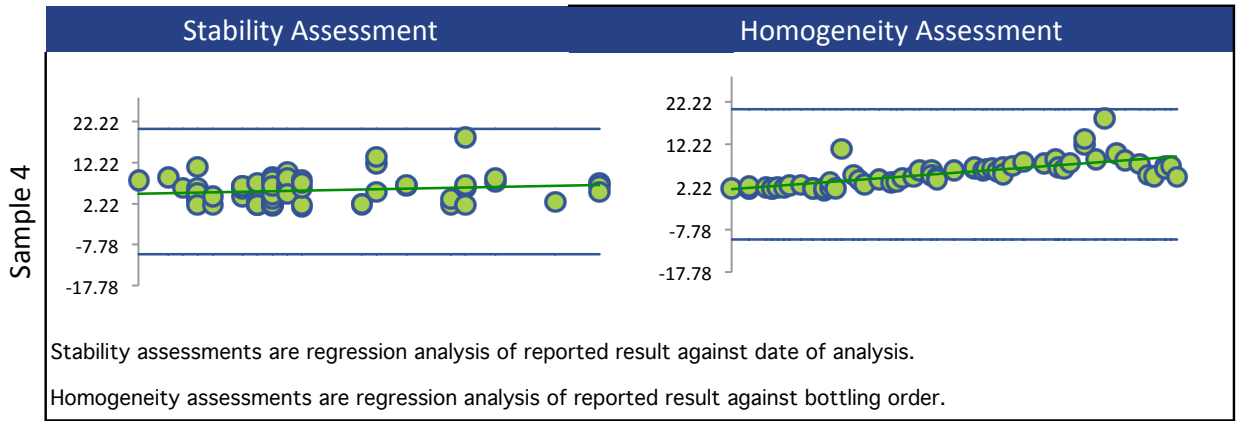
All summary stats and the plots below are based on the data excluding any flagged outliers



# M,P-XYLENE



M,P-XYLENE



## METHYL ETHYL KETONE

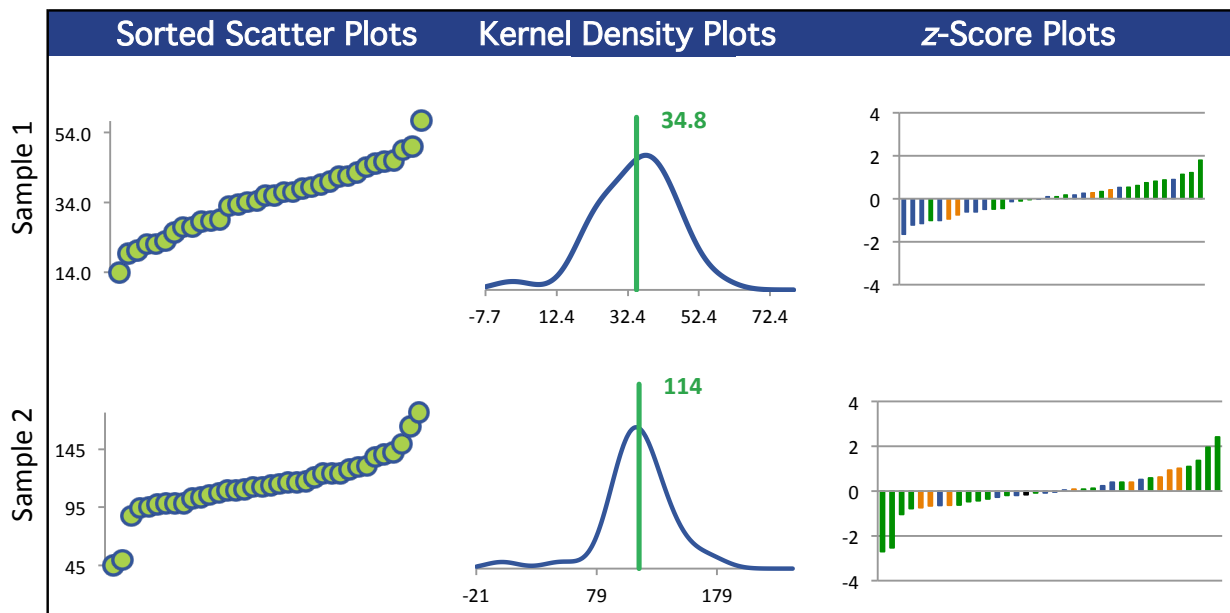
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	34	36	36	21
Median $\mu\text{g/L}$	36.0	113	79.0	10.0
Robust Mean $\mu\text{g/L}$	34.8	114	77.8	9.36
U $\mu\text{g/L}$	2.25	4.06	2.67	0.990
Robust Standard Deviation $\mu\text{g/L}$	10.5	19.5	12.8	3.63
Regression Standard Deviation $\mu\text{g/L}$	7.83	25.7	17.5	2.11
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	12.5	25.7	17.5	7.49
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	3	0	0

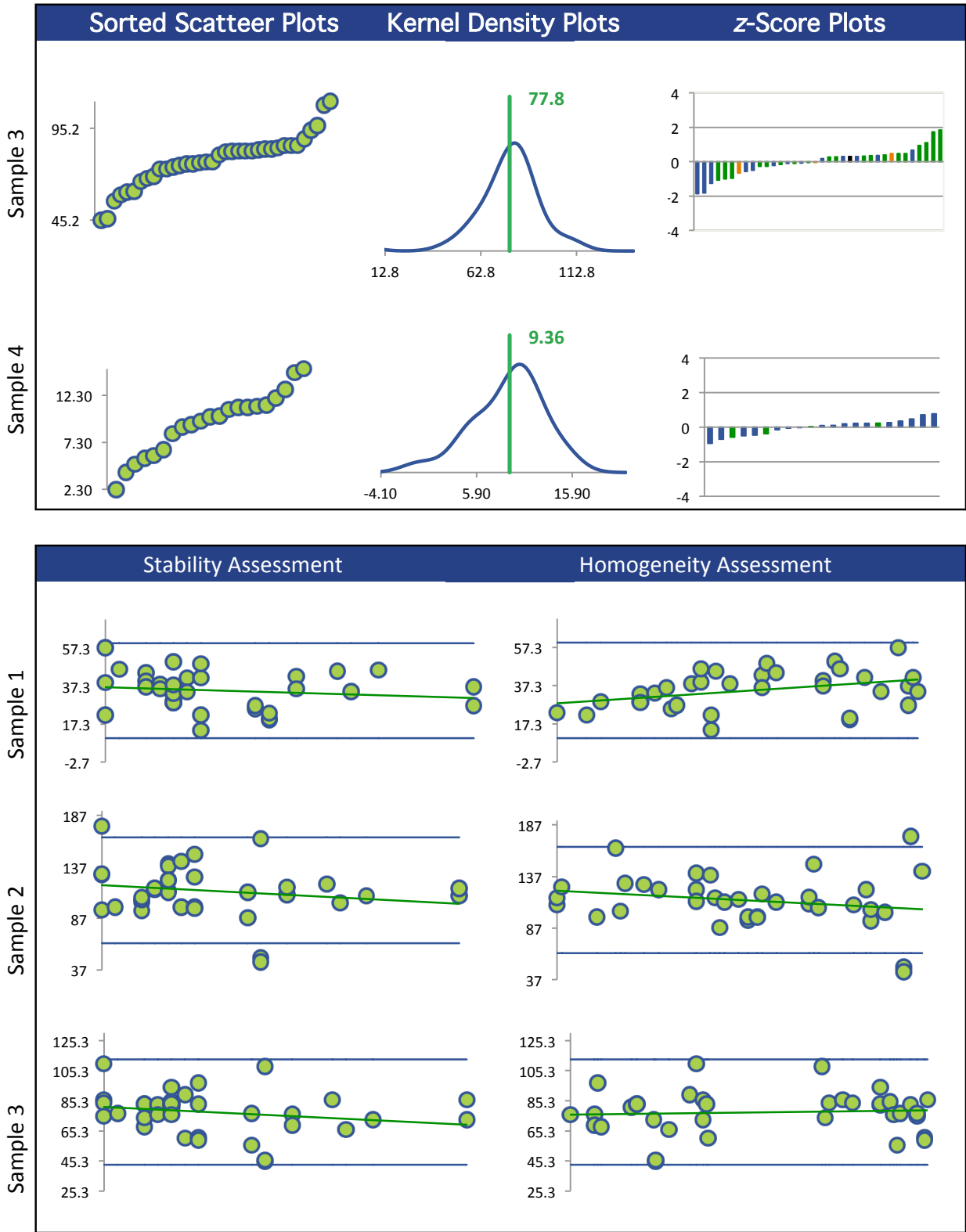
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	11	13	13	4
GC/MS - PURGE AND TRAP (Red)	21	21	21	15
GC/FID - PURGE AND TRAP (Green)	1	1	1	1
GC/MS (Orange)	1	1	1	1

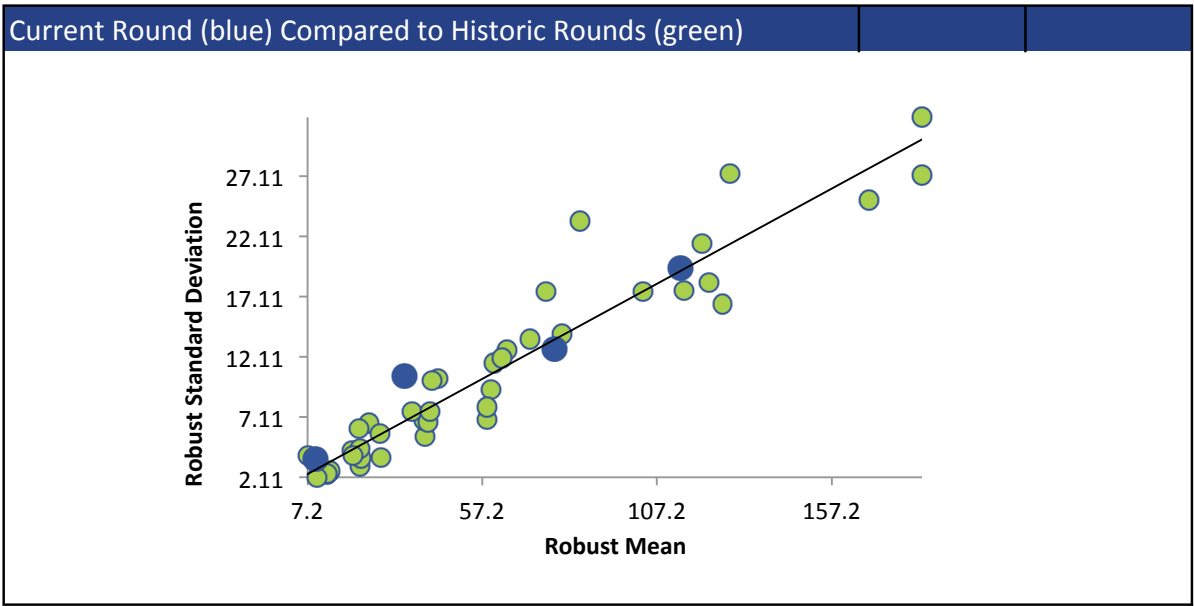
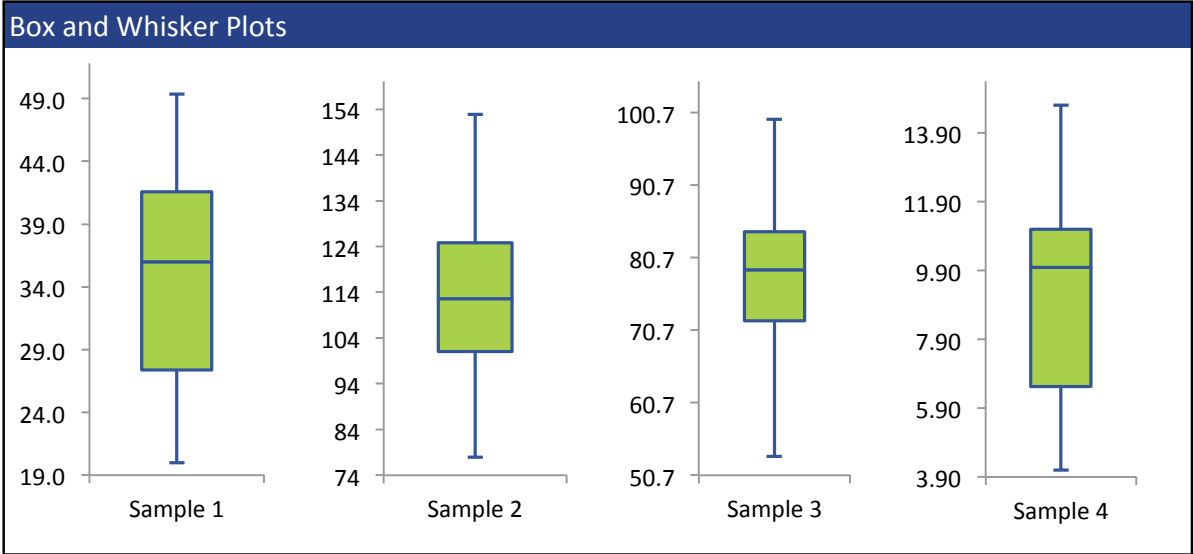
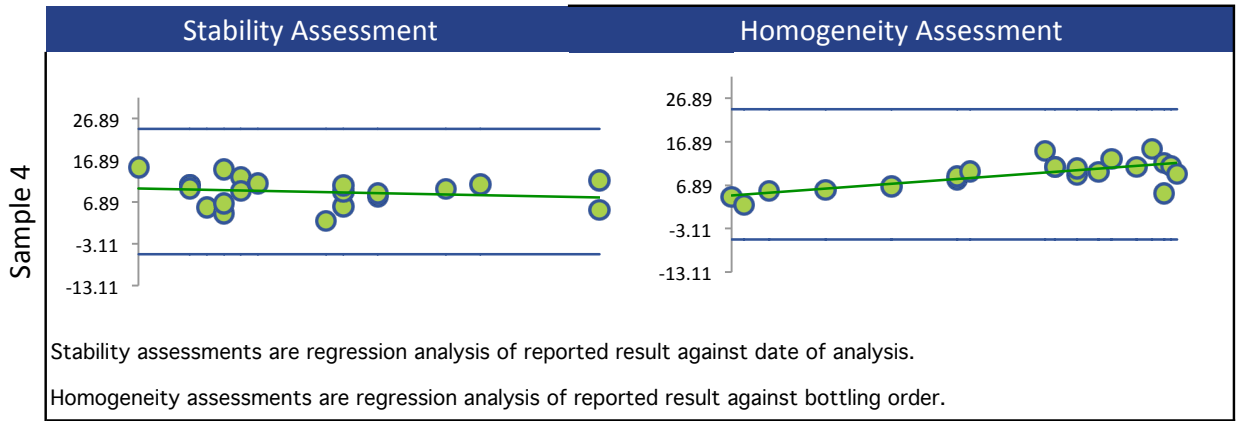
All summary stats and the plots below are based on the data excluding any flagged outliers



METHYL ETHYL KETONE



METHYL ETHYL KETONE





## METHYL ISOBUTYL KETONE (MIBK)

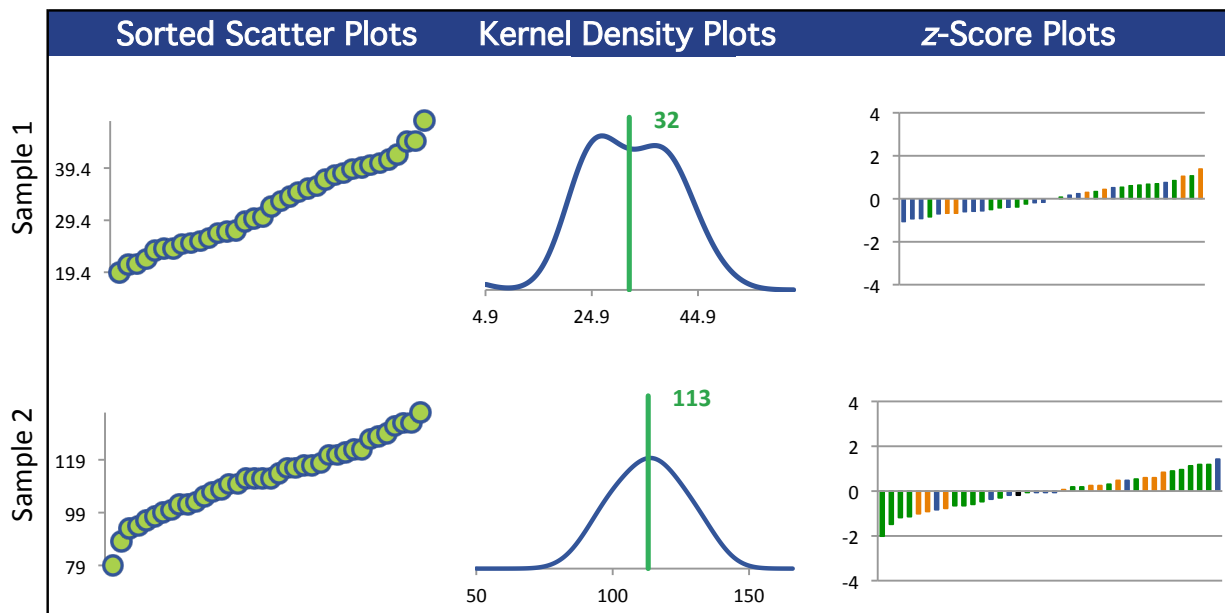
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	35	38	38	16
Median $\mu\text{g/L}$	32.0	112	74.4	7.20
Robust Mean $\mu\text{g/L}$	32.0	113	73.4	7.44
U $\mu\text{g/L}$	1.85	2.90	2.51	1.03
Robust Standard Deviation $\mu\text{g/L}$	8.75	14.3	12.4	3.31
Regression Standard Deviation $\mu\text{g/L}$	4.81	16.9	11.0	1.12
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	11.8	16.9	12.4	7.06
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	1	0	0

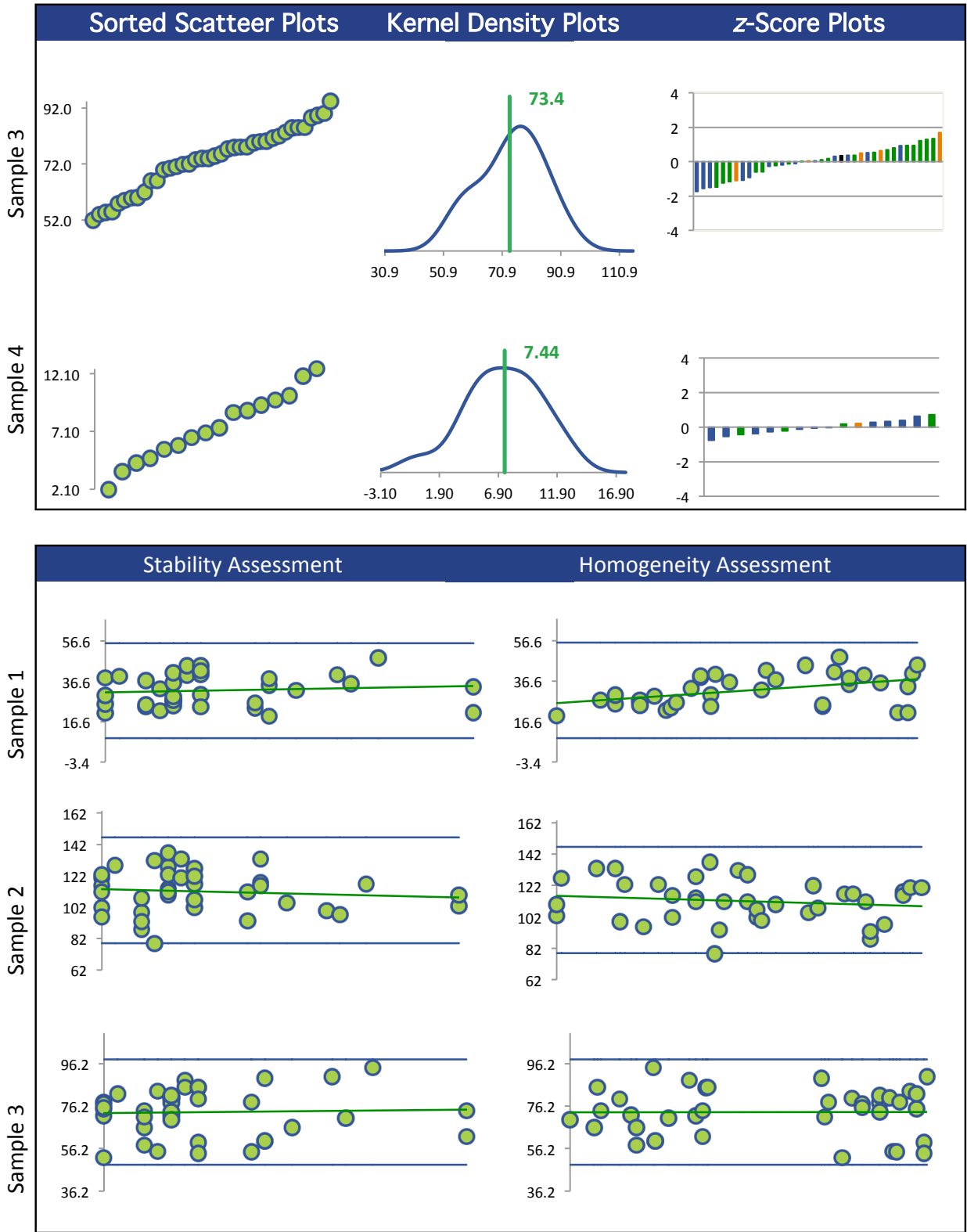
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - PURGE AND TRAP (Blue)	23	23	23	12
GC/MS - HEADSPACE (Red)	10	13	13	3
GC/MS (Green)	2	2	2	1

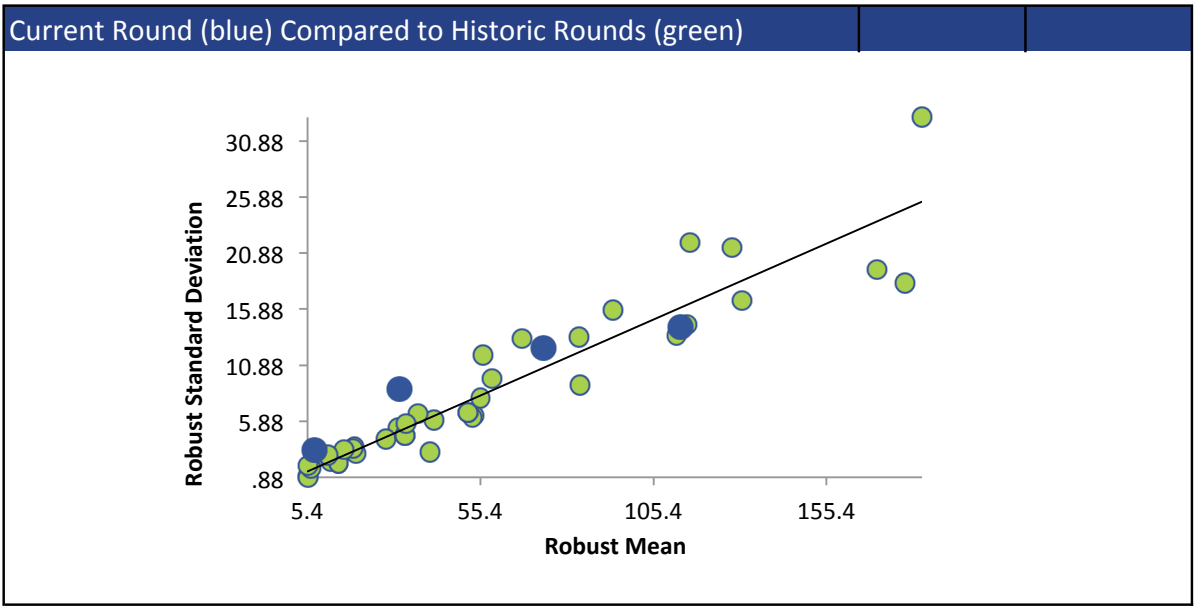
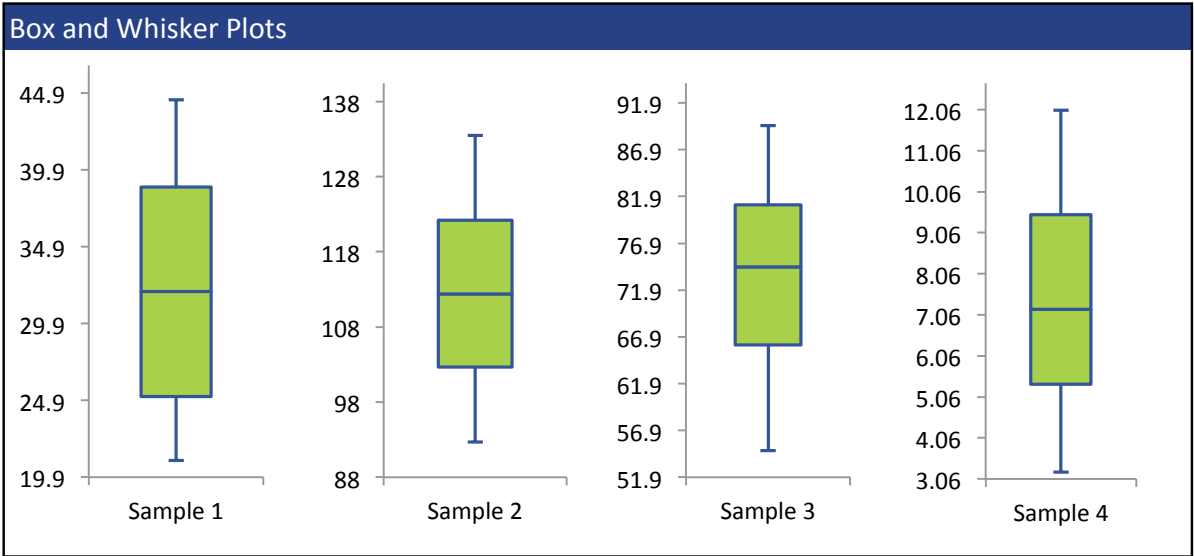
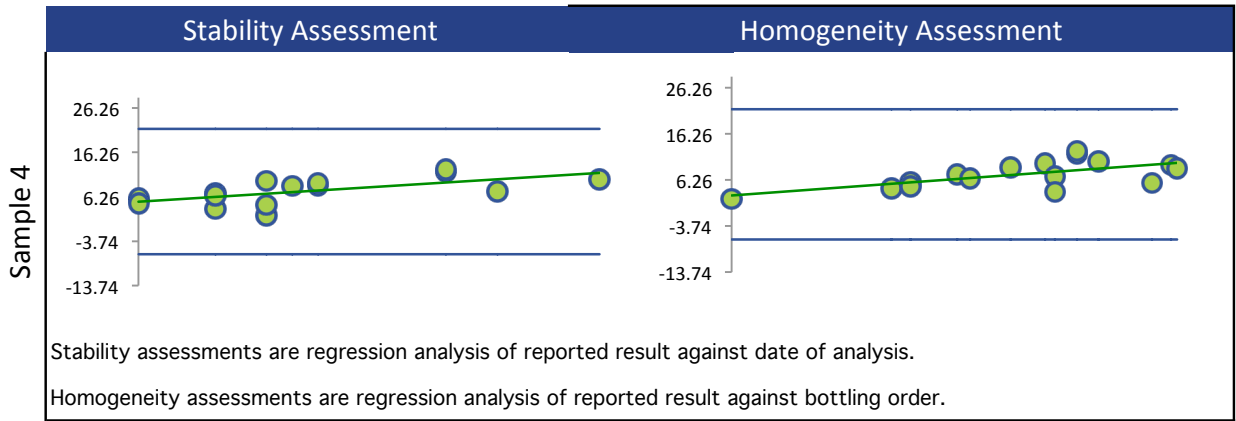
All summary stats and the plots below are based on the data excluding any flagged outliers



METHYL ISOBUTYL KETONE (MIBK)



METHYL ISOBUTYL KETONE (MIBK)



## METHYL T-BUTYL ETHER

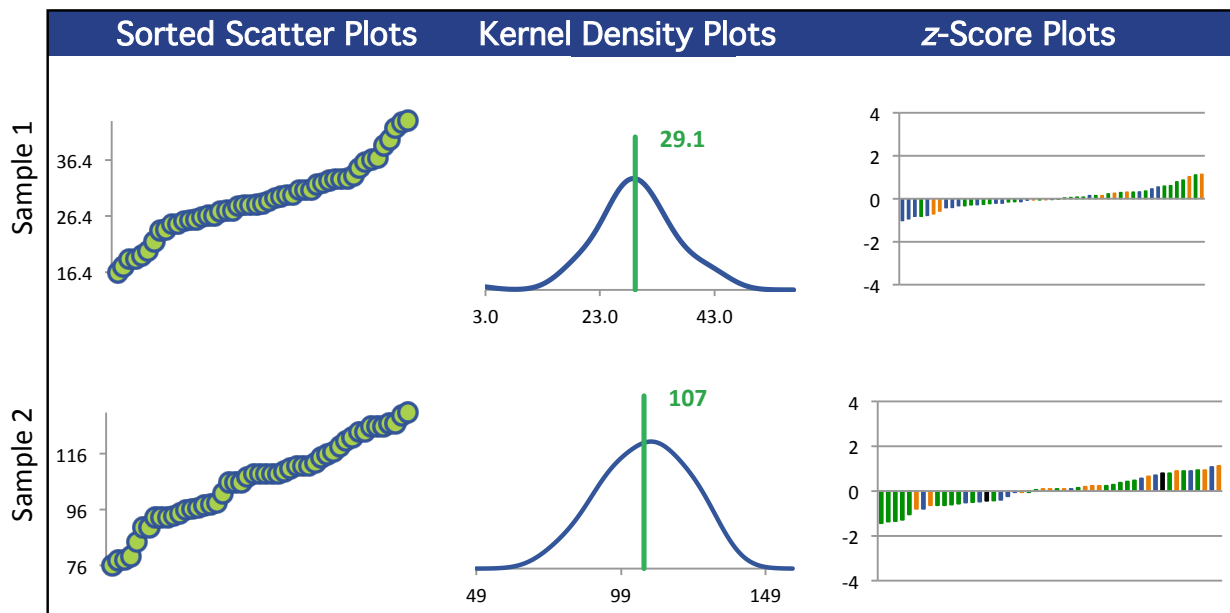
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median $\mu\text{g/L}$	28.6	109	71.0	5.47
Robust Mean $\mu\text{g/L}$	29.1	107	71.2	5.76
U $\mu\text{g/L}$	1.13	2.82	1.66	0.545
Robust Standard Deviation $\mu\text{g/L}$	6.31	15.8	9.31	3.05
Regression Standard Deviation $\mu\text{g/L}$	5.82	21.4	14.2	1.15
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	12.5	21.4	14.2	7.42
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	0	0	0

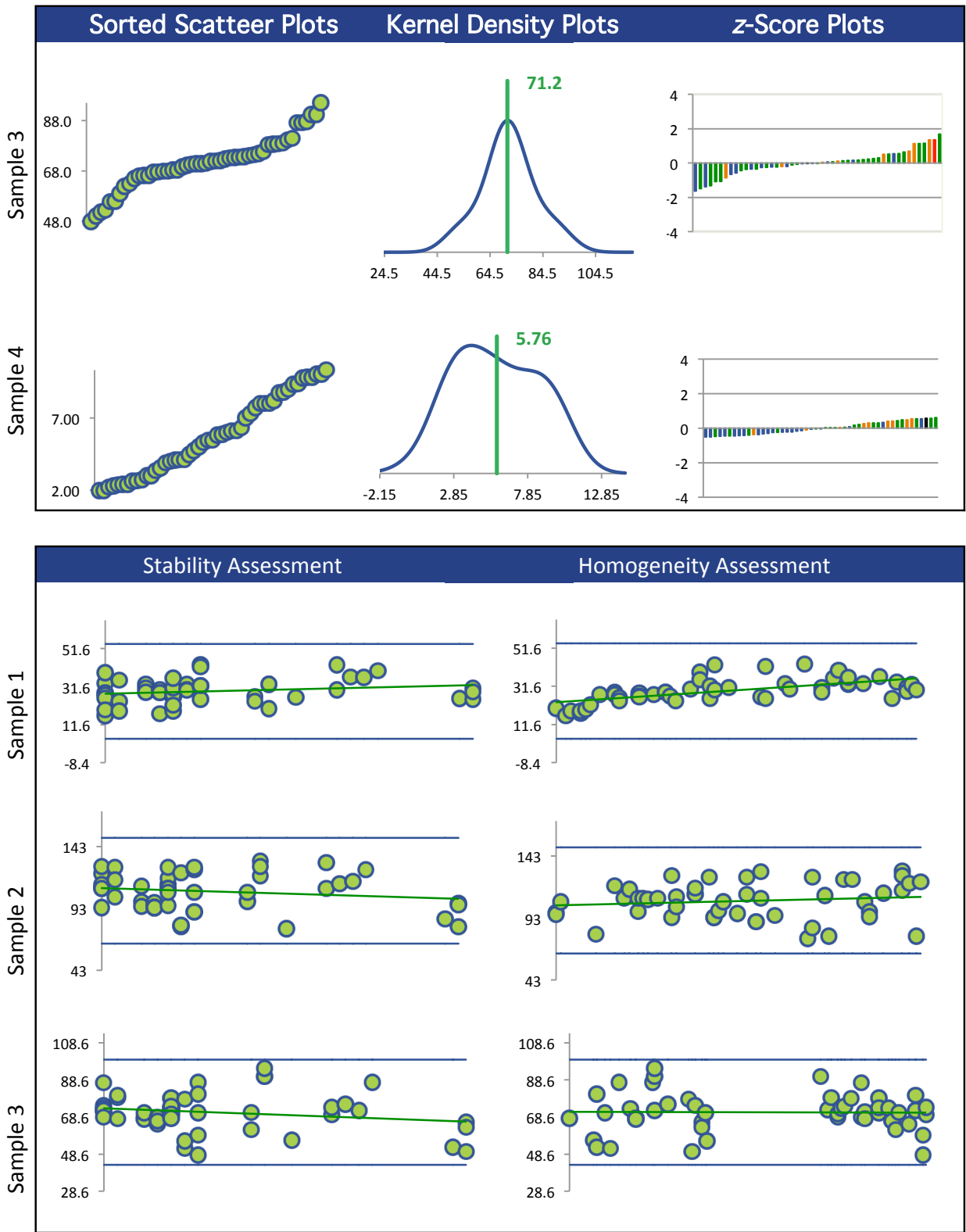
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	20	20	20	20
GC/MS - PURGE AND TRAP (Red)	25	25	25	25
GC/MS (Green)	3	3	3	3
GC/FID - HEADSPACE (Orange)	1	1	1	1

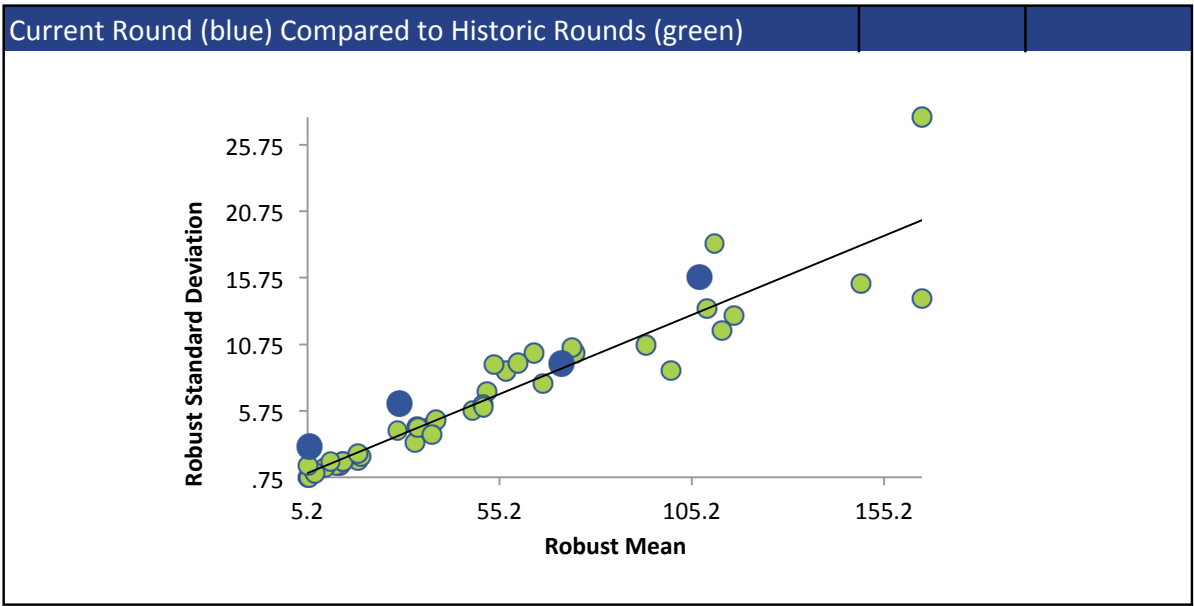
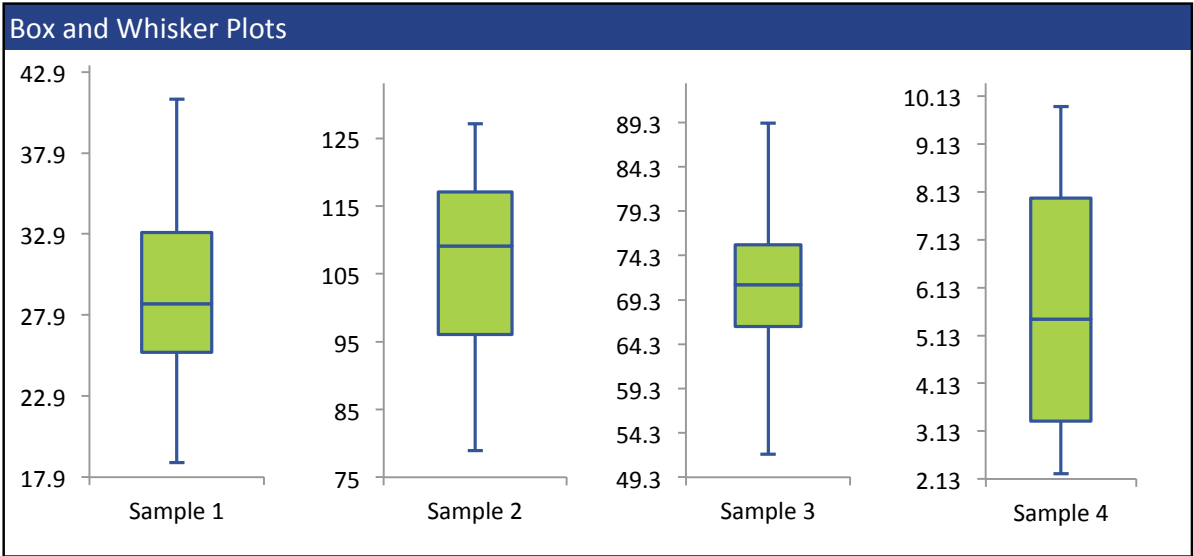
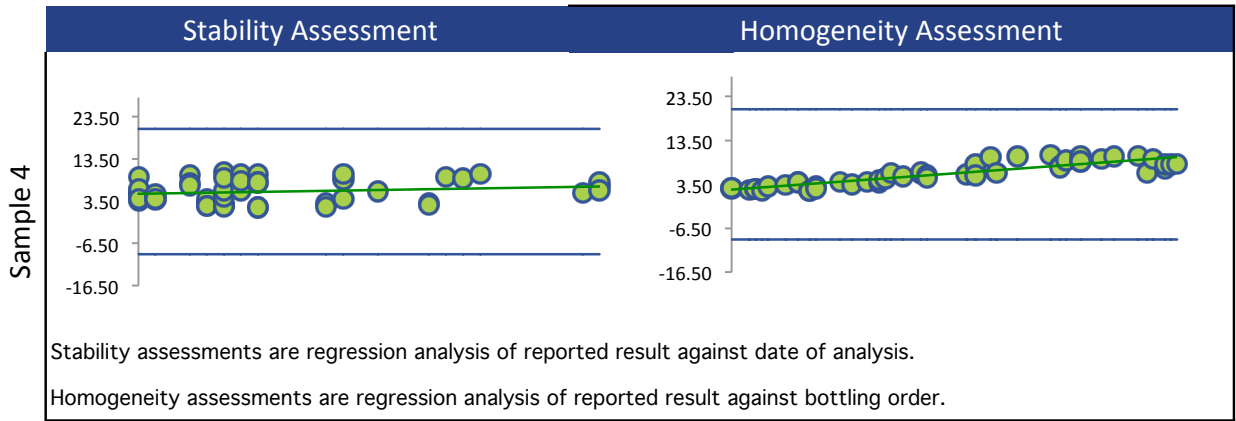
All summary stats and the plots below are based on the data excluding any flagged outliers



METHYL T-BUTYL ETHER



METHYL T-BUTYL ETHER



## O-XYLENE

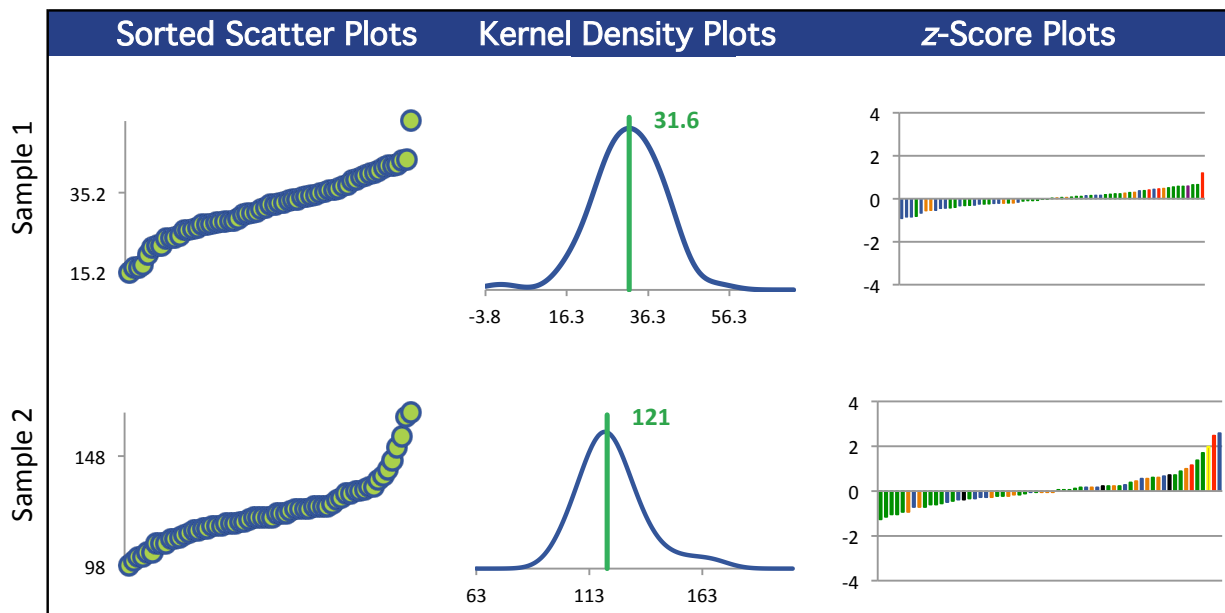
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	63	62	63	63
Median $\mu\text{g/L}$	32.2	120	79.0	6.00
Robust Mean $\mu\text{g/L}$	31.6	121	78.7	5.78
U $\mu\text{g/L}$	1.23	1.92	1.29	0.493
Robust Standard Deviation $\mu\text{g/L}$	7.81	12.1	8.18	3.13
Regression Standard Deviation $\mu\text{g/L}$	4.73	18.2	11.8	0.867
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	17.9	18.2	11.8	7.77
Outliers	0	1	0	0
$ z  > 3.0$	0	0	2	0
$2 <  z  < 3$	0	2	2	0

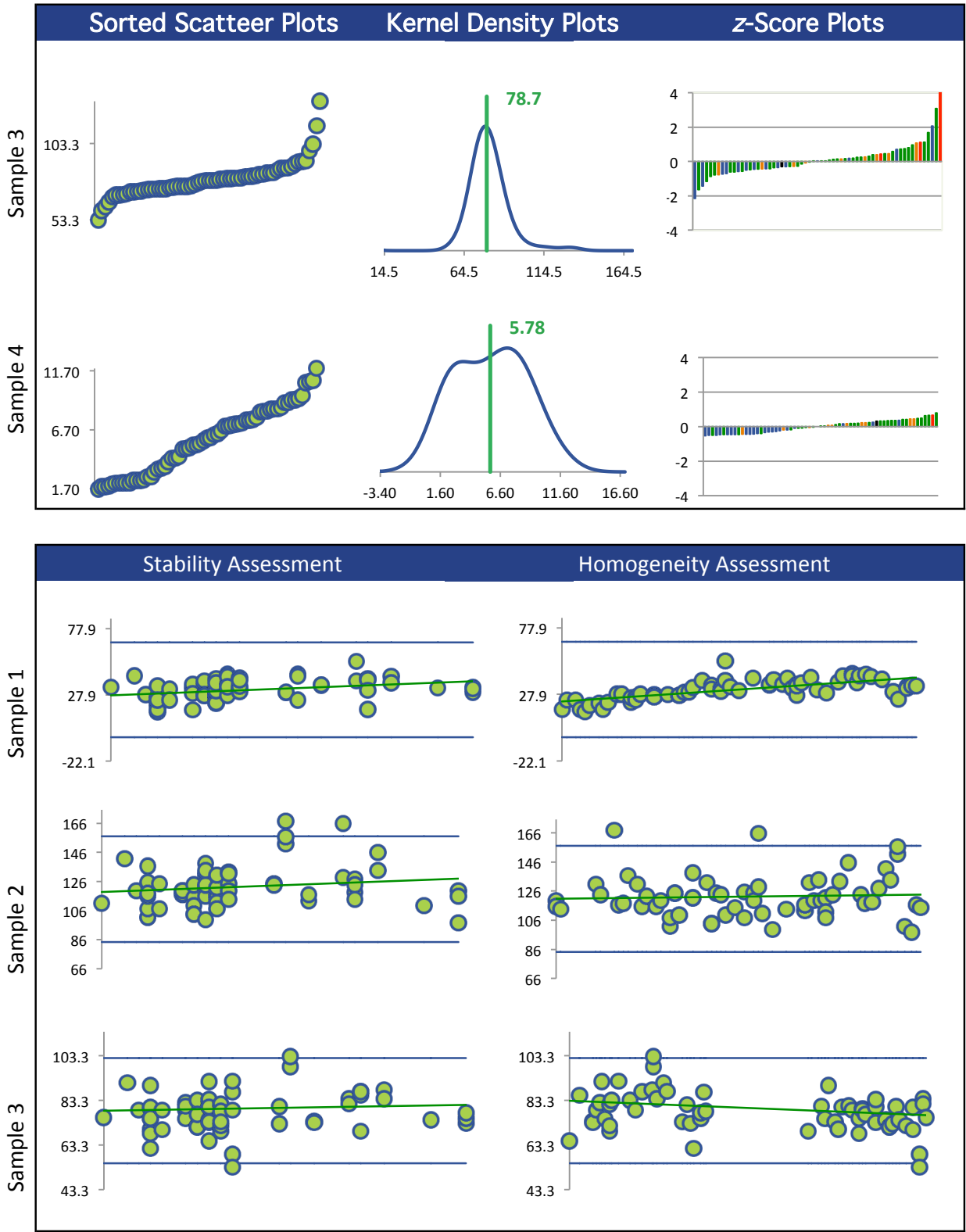
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	32	31	32	32
GC/FID - HEADSPACE (Green)	1	1	1	1
GC/MS (Orange)	6	6	6	6
GC/FID - PURGE AND TRAP (Black)	1	1	1	1
GC/MS/MS - HEADSPACE (Yellow)	1	1	1	1

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

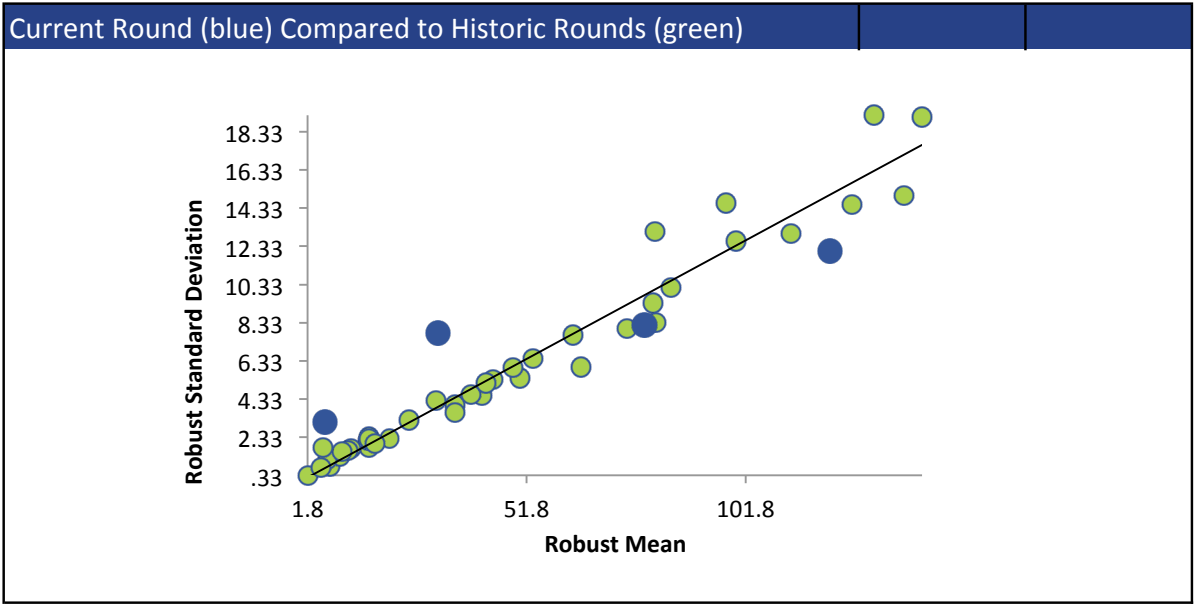
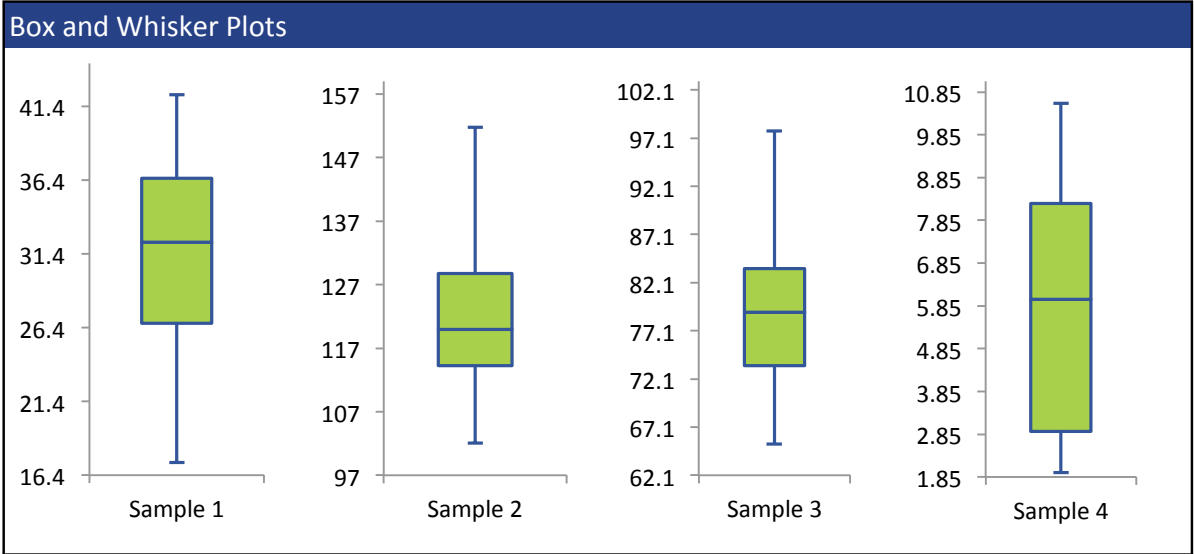
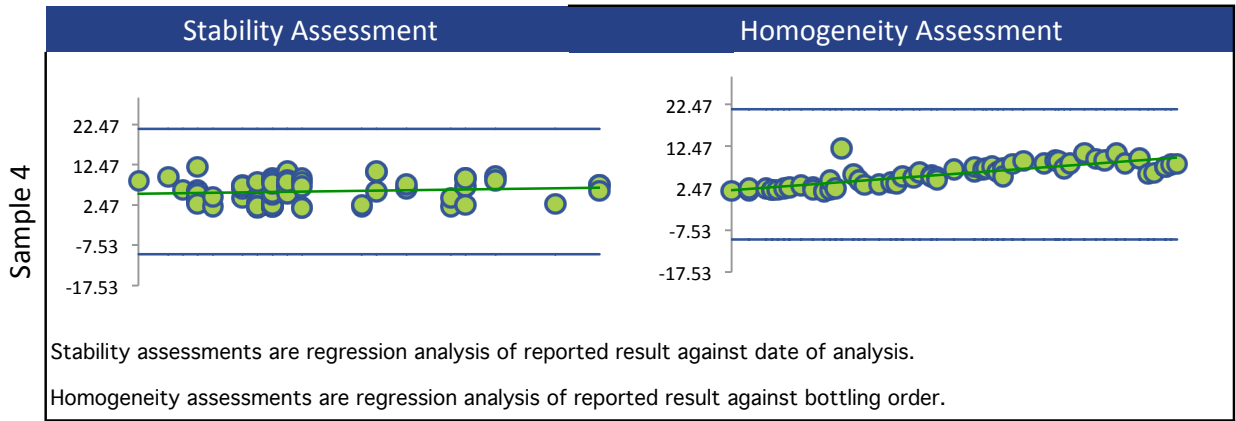


O-XYLENE





O-XYLENE



## STYRENE

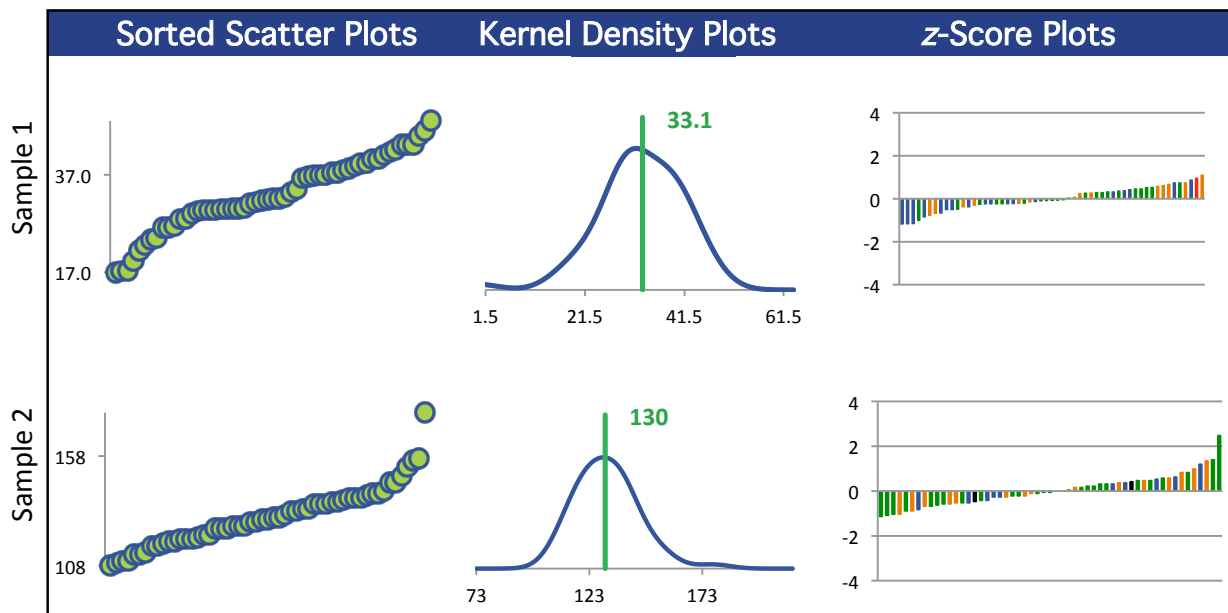
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	55	55	55	55
Median $\mu\text{g/L}$	32.0	129	84.8	5.88
Robust Mean $\mu\text{g/L}$	33.1	130	84.2	5.53
U $\mu\text{g/L}$	1.32	2.21	1.94	0.519
Robust Standard Deviation $\mu\text{g/L}$	7.86	13.1	11.5	3.08
Regression Standard Deviation $\mu\text{g/L}$	4.97	19.4	12.6	0.829
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	13.6	19.4	12.6	7.35
Outliers	0	0	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	1	2	0

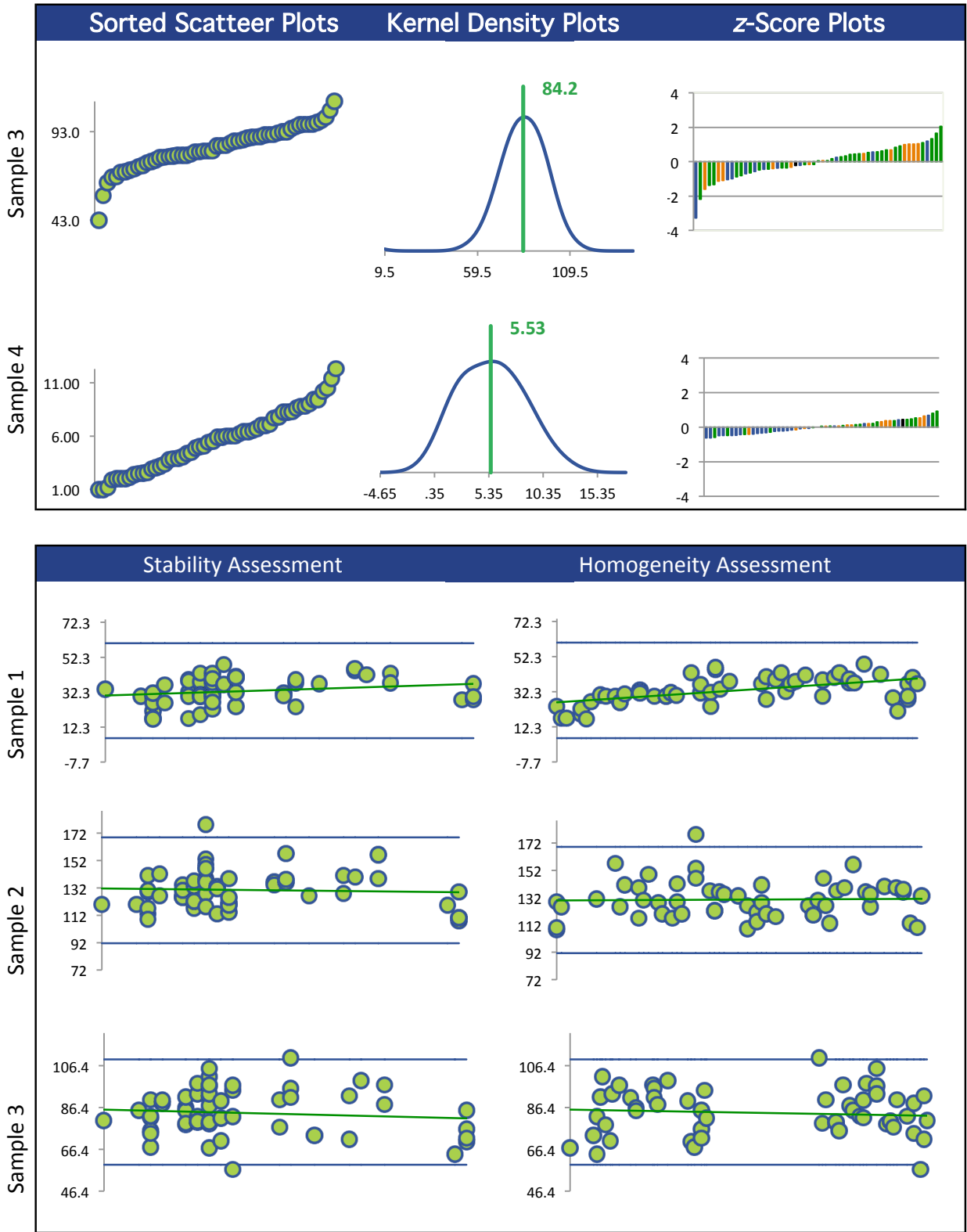
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	26	26	26	26
GC/MS (Green)	5	5	5	5
GC/PID (Orange)	1	1	1	1
GC/FID - HEADSPACE (Black)	1	1	1	1

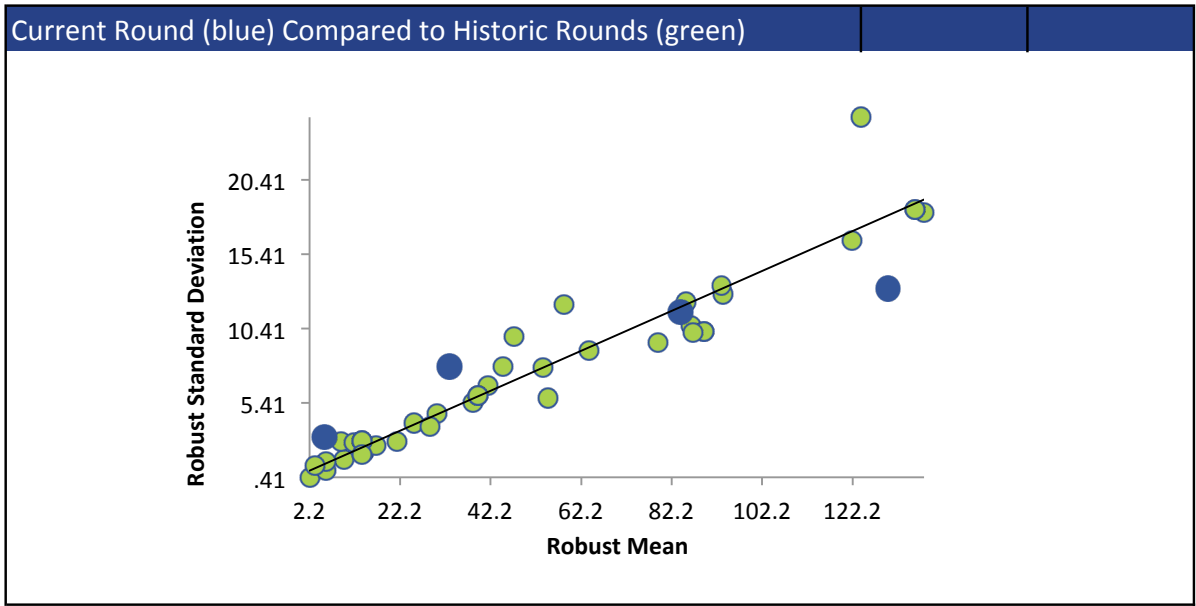
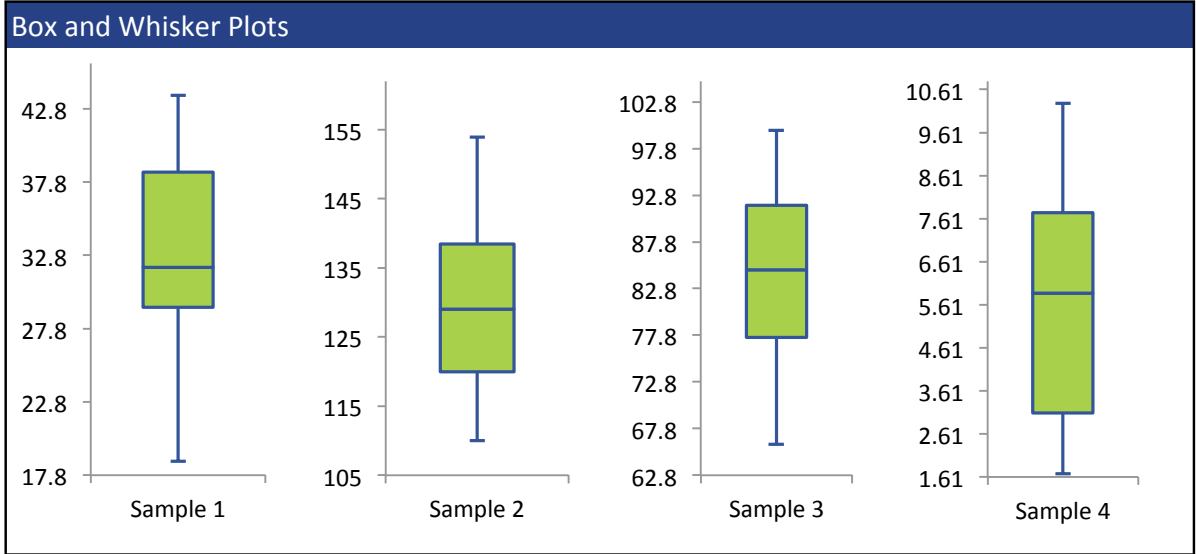
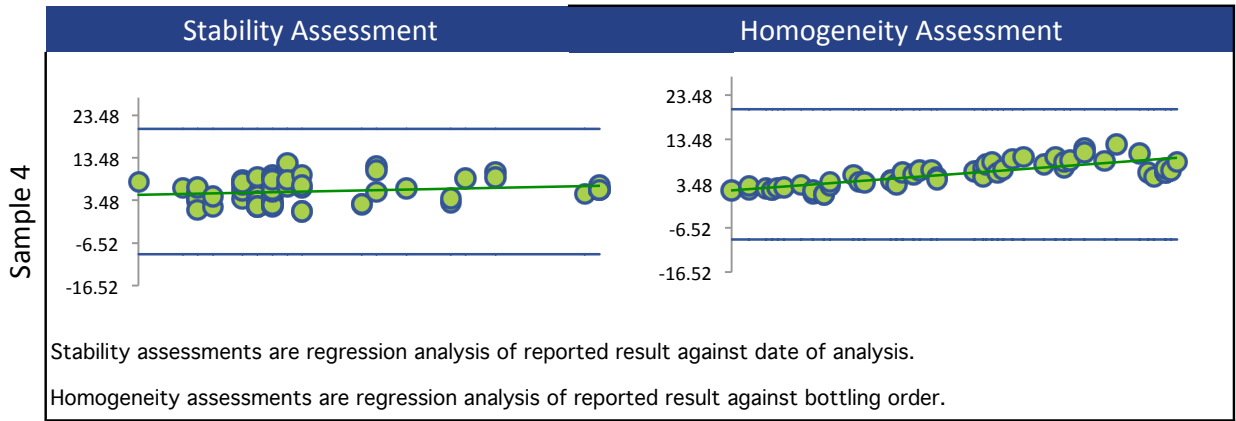
All summary stats and the plots below are based on the data excluding any flagged outliers



STYRENE



STYRENE



## TETRACHLOROETHYLENE

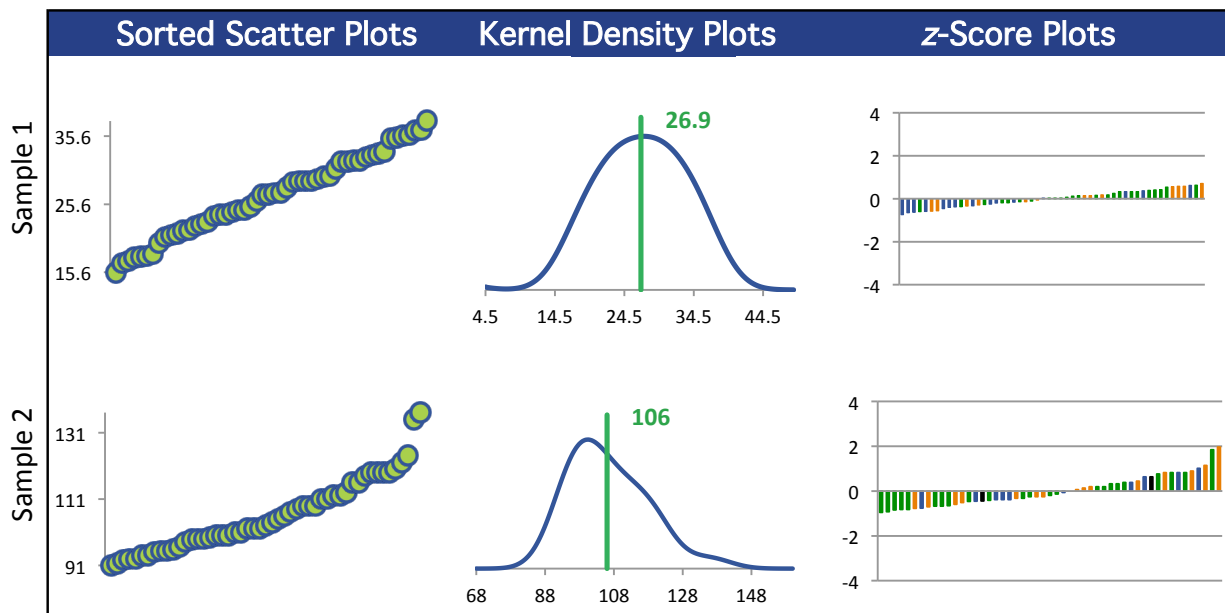
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	52	51	52	52
Median $\mu\text{g/L}$	27.1	103	67.9	5.47
Robust Mean $\mu\text{g/L}$	26.9	106	68.2	5.16
U $\mu\text{g/L}$	1.17	1.93	1.75	0.485
Robust Standard Deviation $\mu\text{g/L}$	6.74	11.0	10.1	2.80
Regression Standard Deviation $\mu\text{g/L}$	4.03	15.8	10.2	0.775
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	15.3	15.8	10.2	6.80
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	0	2	0

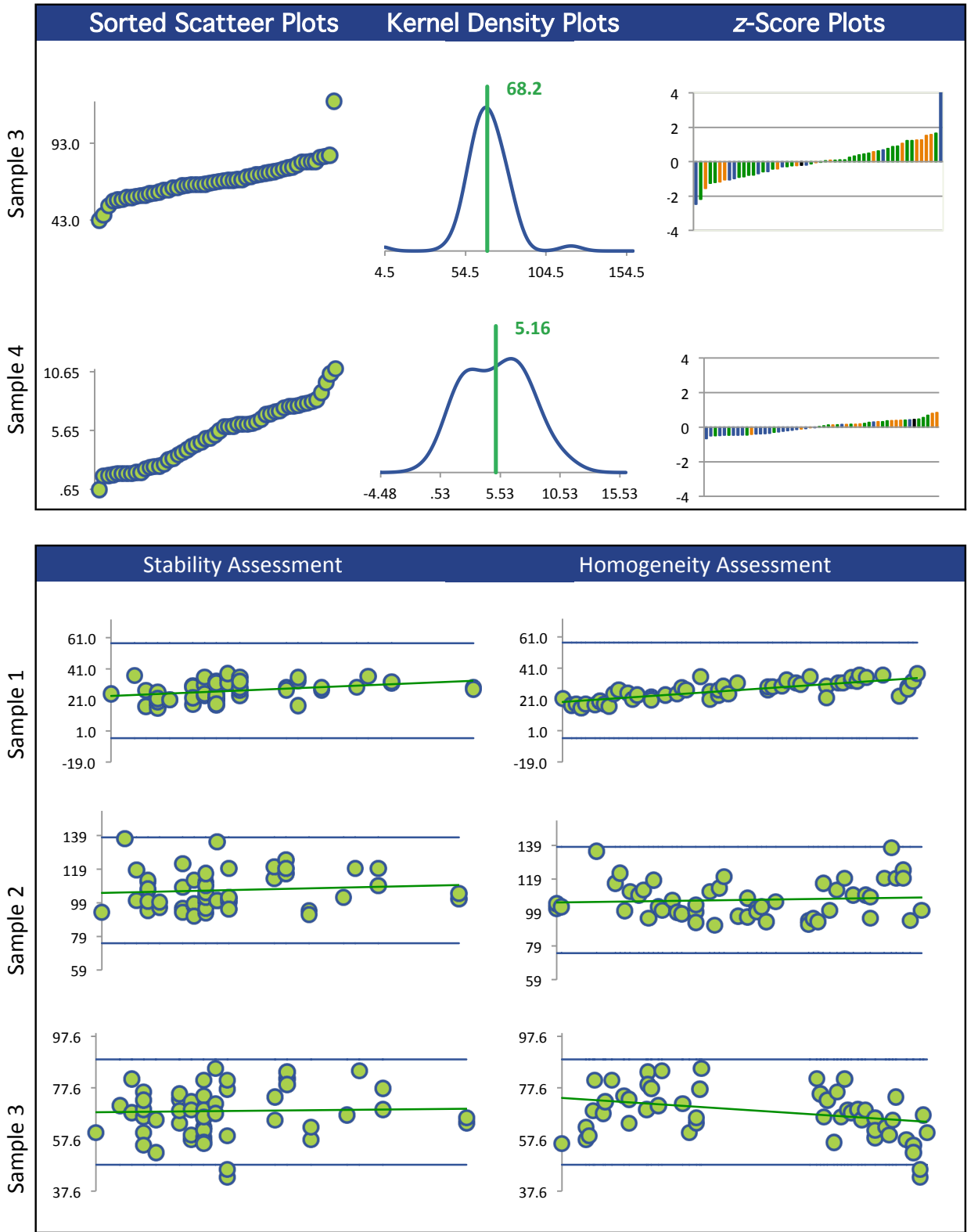
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	19	19	19	19
GC/MS - PURGE AND TRAP (Red)	29	28	29	29
GC/MS (Green)	2	2	2	2
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

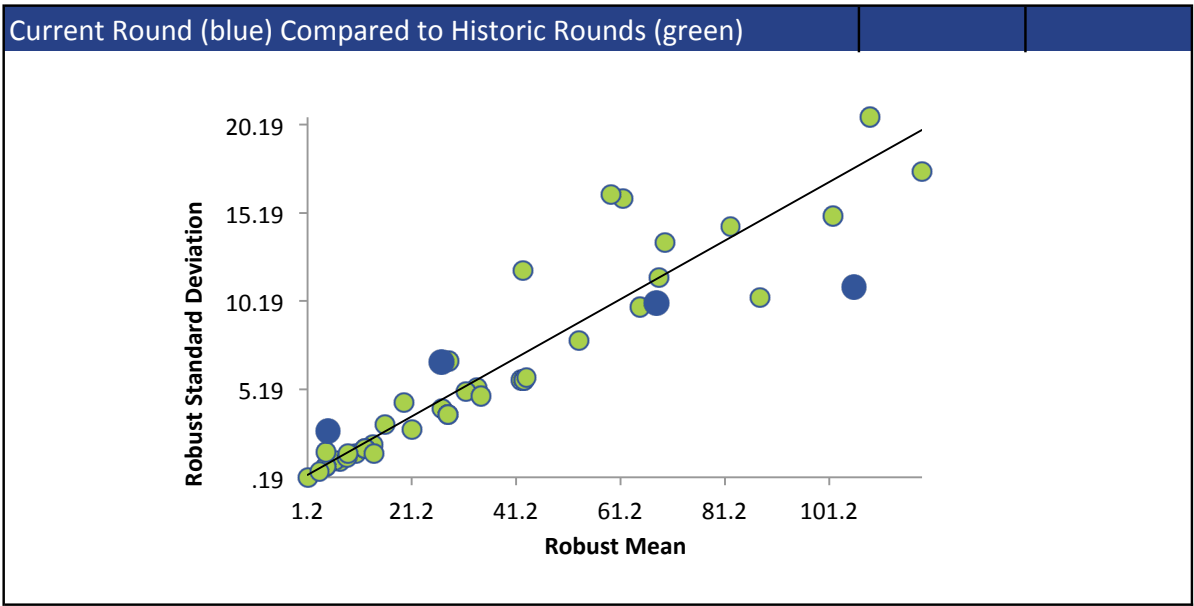
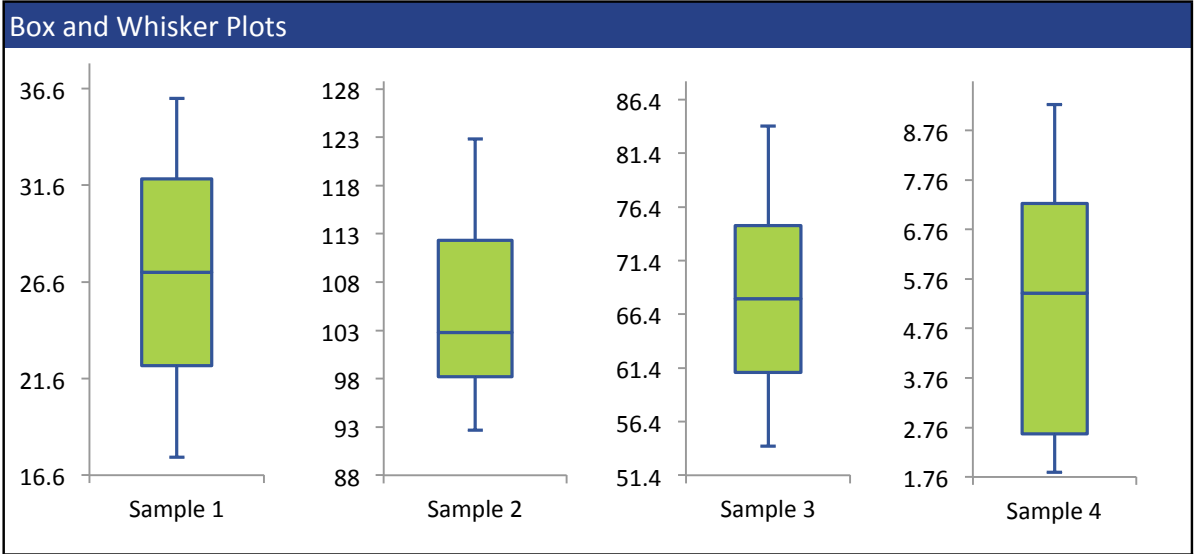
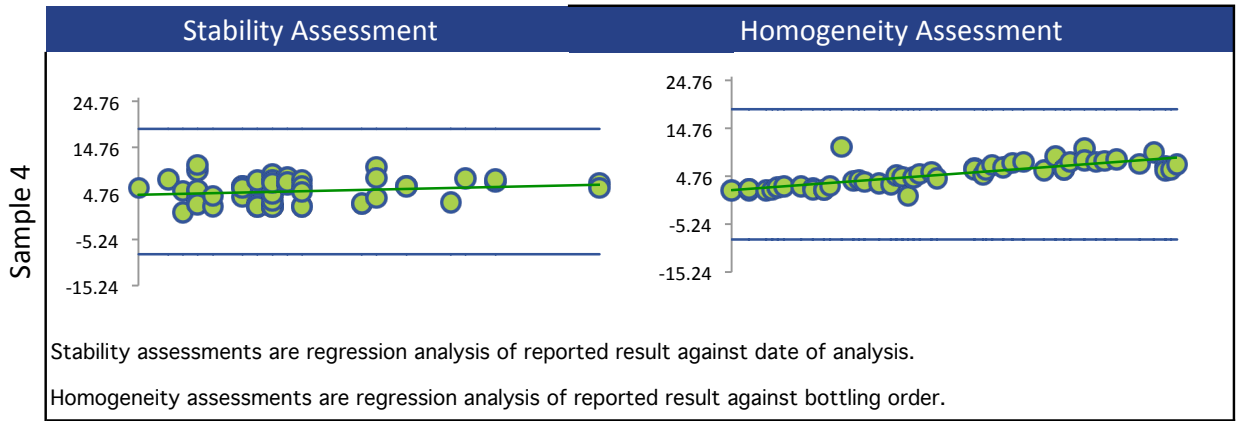
All summary stats and the plots below are based on the data excluding any flagged outliers



TETRACHLOROETHYLENE



TETRACHLOROETHYLENE



## TOLUENE

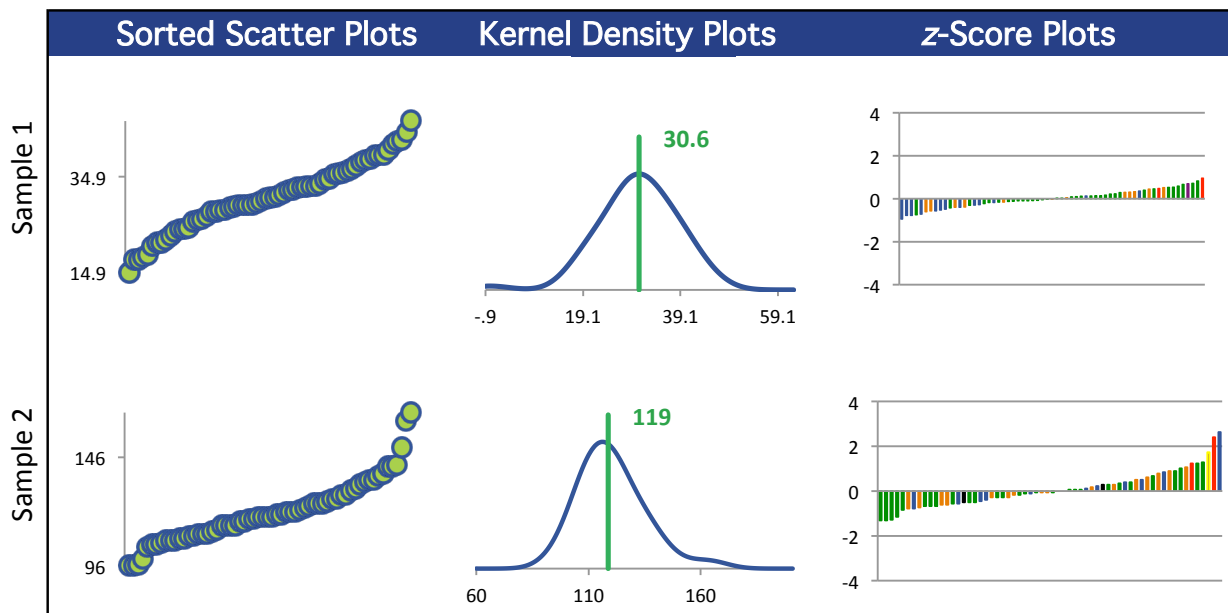
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	63	62	63	63
Median $\mu\text{g/L}$	30.5	118	76.6	5.70
Robust Mean $\mu\text{g/L}$	30.6	119	77.0	5.85
U $\mu\text{g/L}$	1.20	2.13	1.54	0.468
Robust Standard Deviation $\mu\text{g/L}$	7.61	13.4	9.81	2.97
Regression Standard Deviation $\mu\text{g/L}$	4.60	17.9	11.5	0.878
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	16.6	17.9	11.5	7.74
Outliers	0	1	0	0
$ z  > 3.0$	0	0	1	0
$2 <  z  < 3$	0	2	4	0

## Methods Used

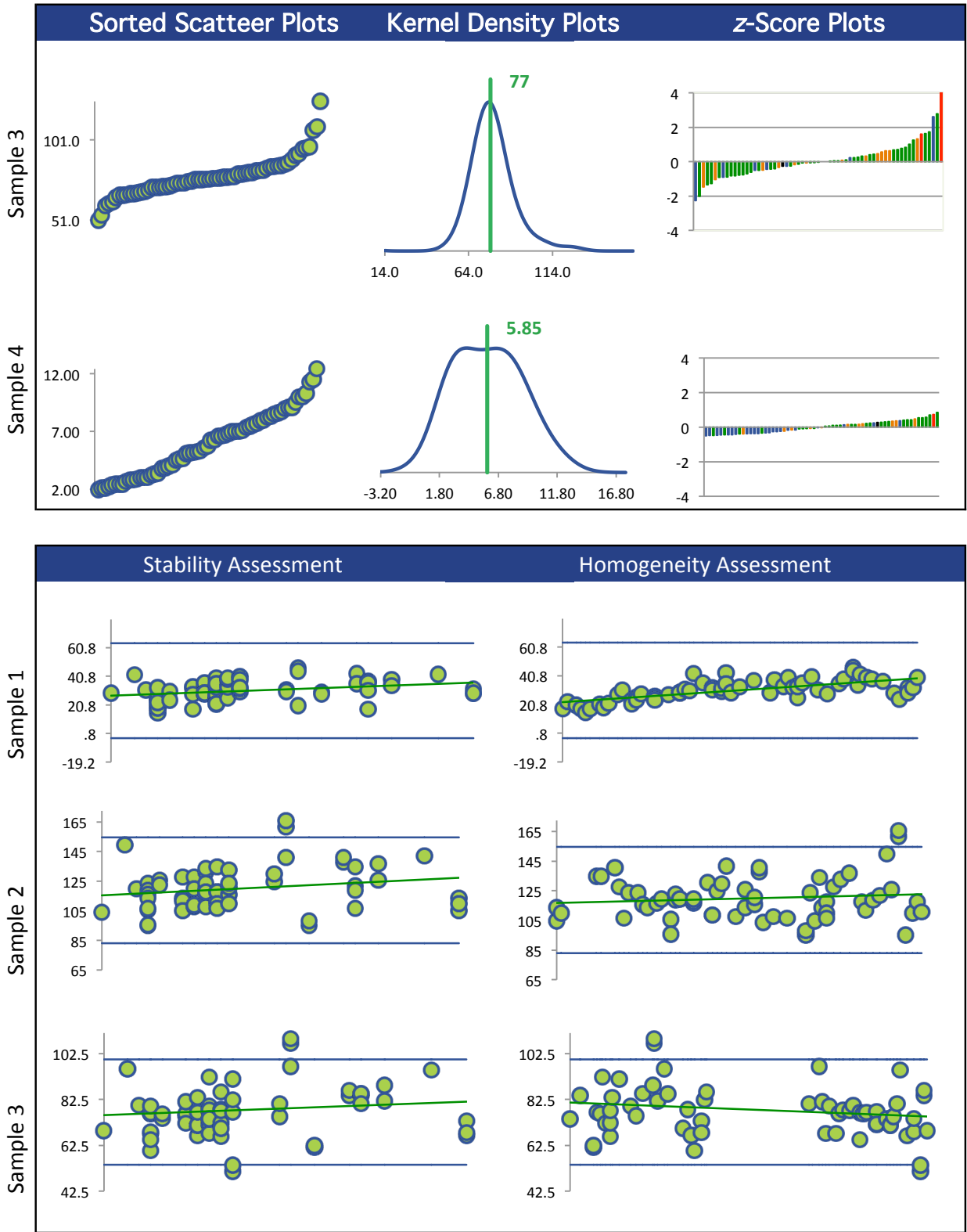
Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	22	22	22	22
GC/MS - PURGE AND TRAP (Red)	32	31	32	32
GC/MS (Green)	6	6	6	6
GC/FID - HEADSPACE (Orange)	1	1	1	1
GC/FID - PURGE AND TRAP (Black)	1	1	1	1
GC/MS/MS - HEADSPACE (Yellow)	1	1	1	1

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

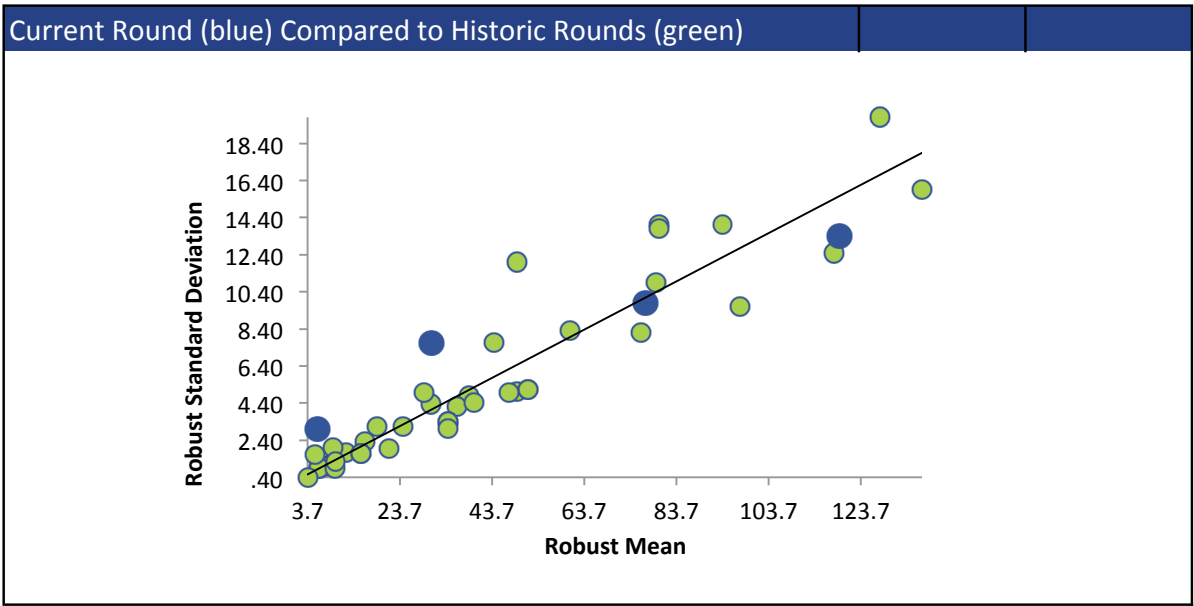
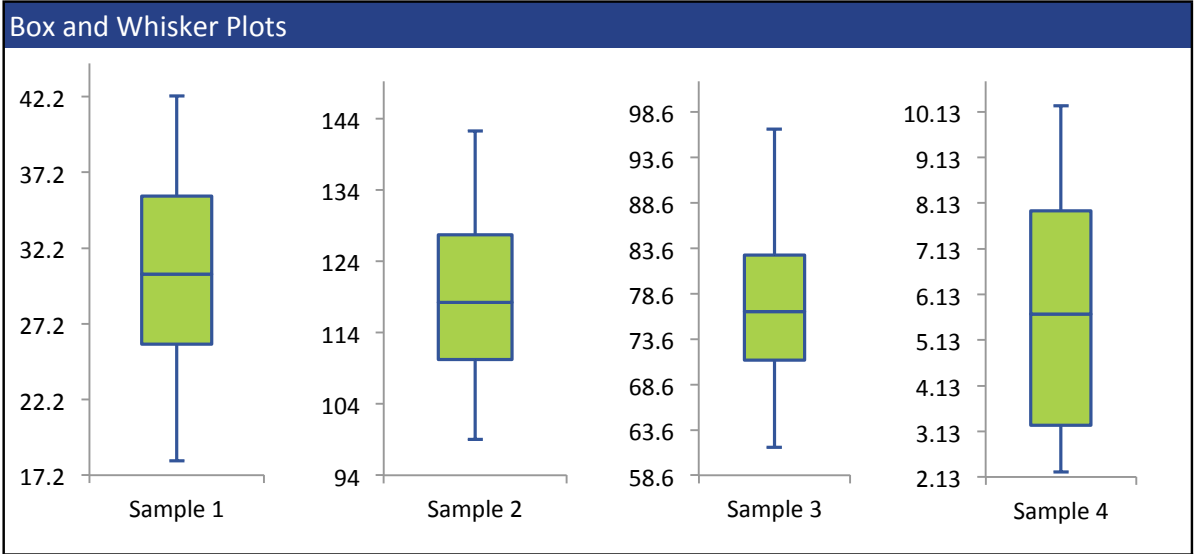
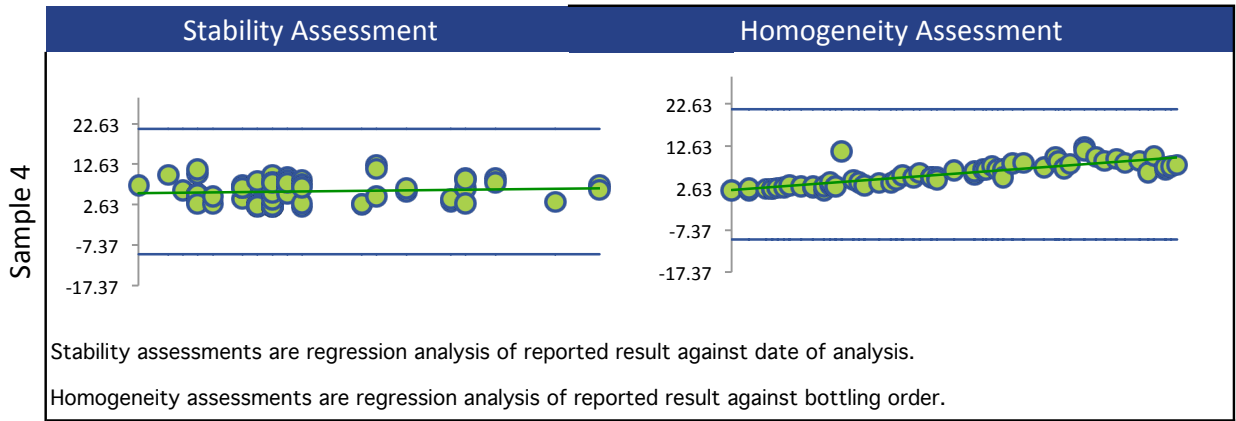




TOLUENE



TOLUENE



## TRANS-1,2-DICHLOROETHYLENE

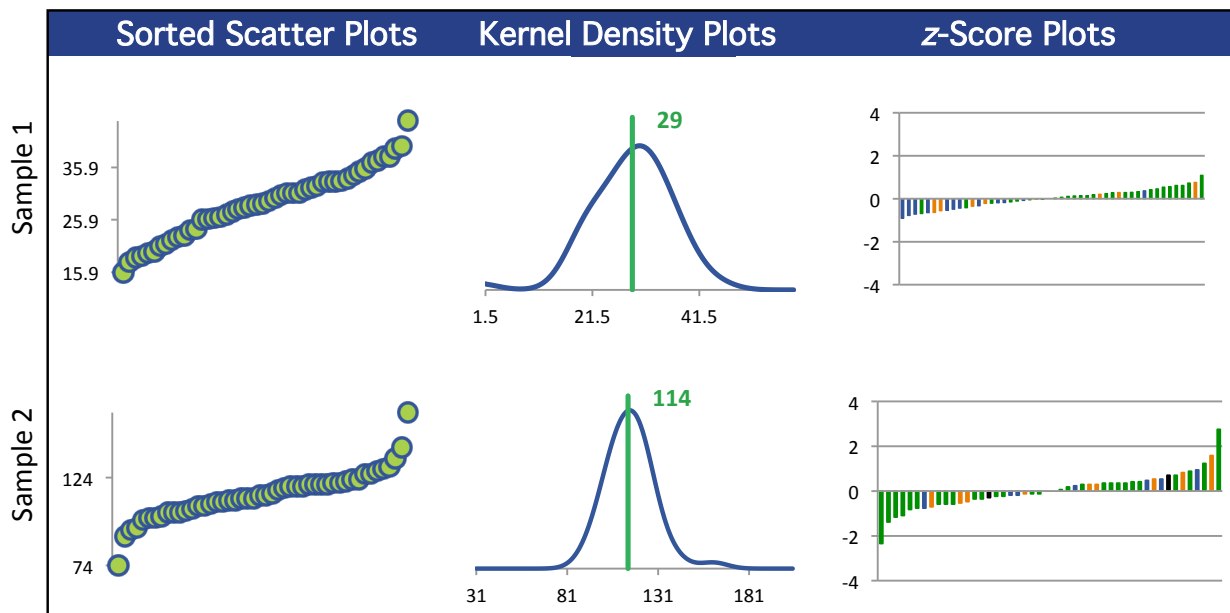
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	48	48	48	48
Median $\mu\text{g/L}$	29.2	114	75.8	5.62
Robust Mean $\mu\text{g/L}$	29.0	114	75.3	5.42
U $\mu\text{g/L}$	1.27	2.09	1.64	0.494
Robust Standard Deviation $\mu\text{g/L}$	7.05	11.6	9.11	2.74
Regression Standard Deviation $\mu\text{g/L}$	4.35	17.1	11.3	0.814
Stability Flag				
Homogeneity Flag	Homogeneity		Homogeneity	Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	14.4	17.1	14.4	6.91
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	2	3	0

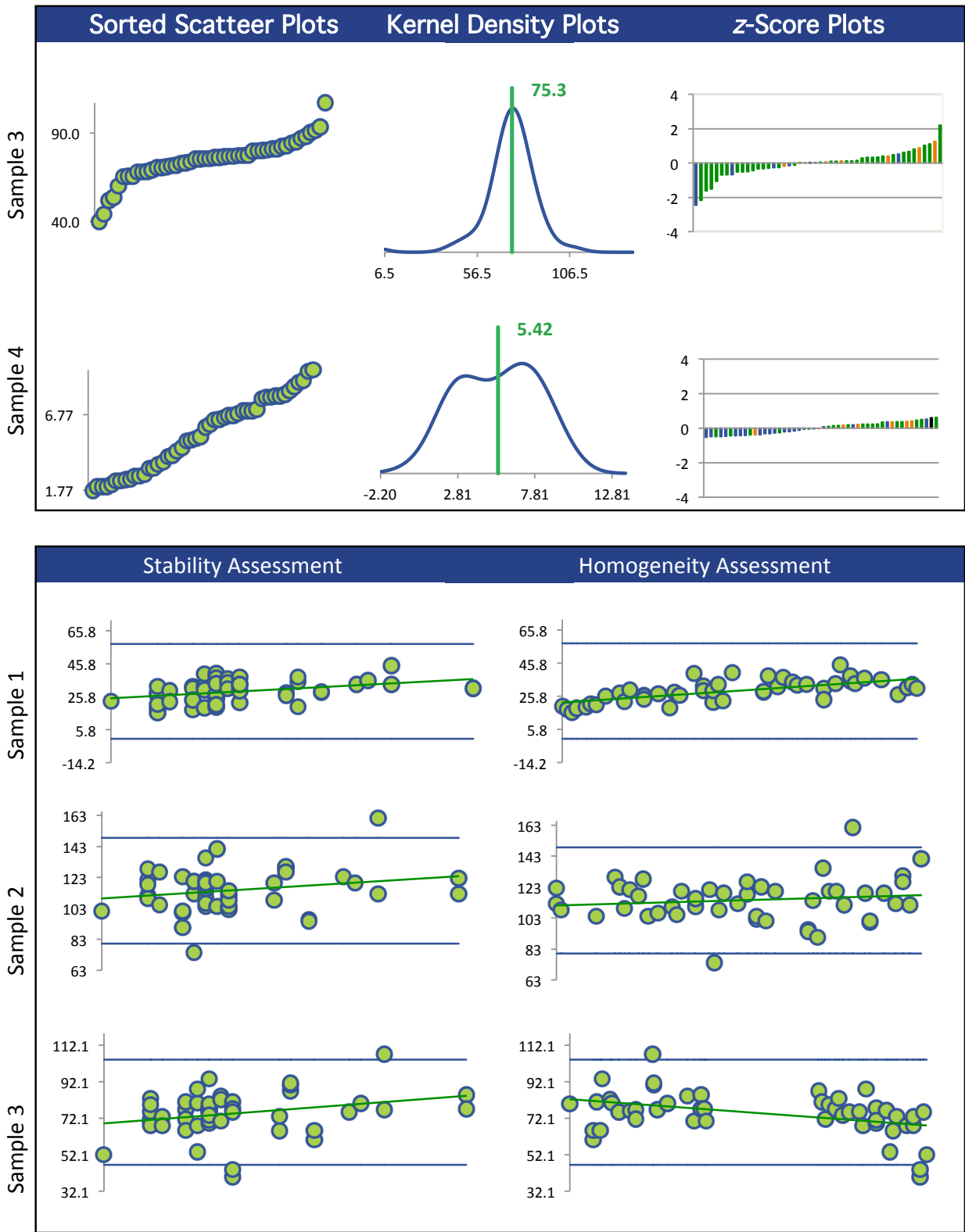
## Methods Used

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

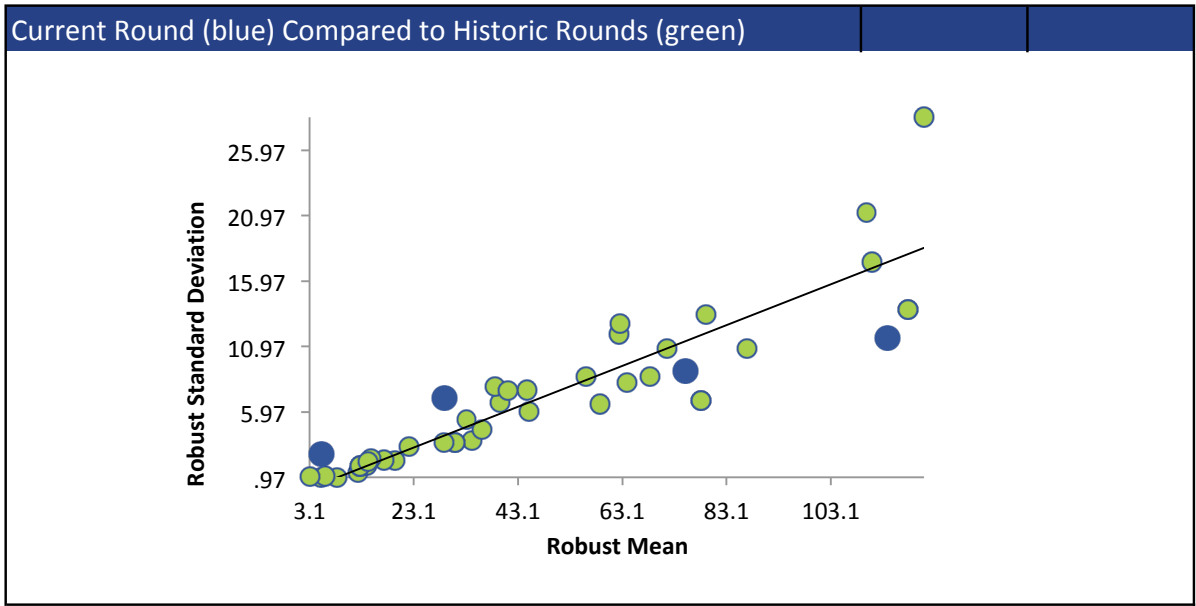
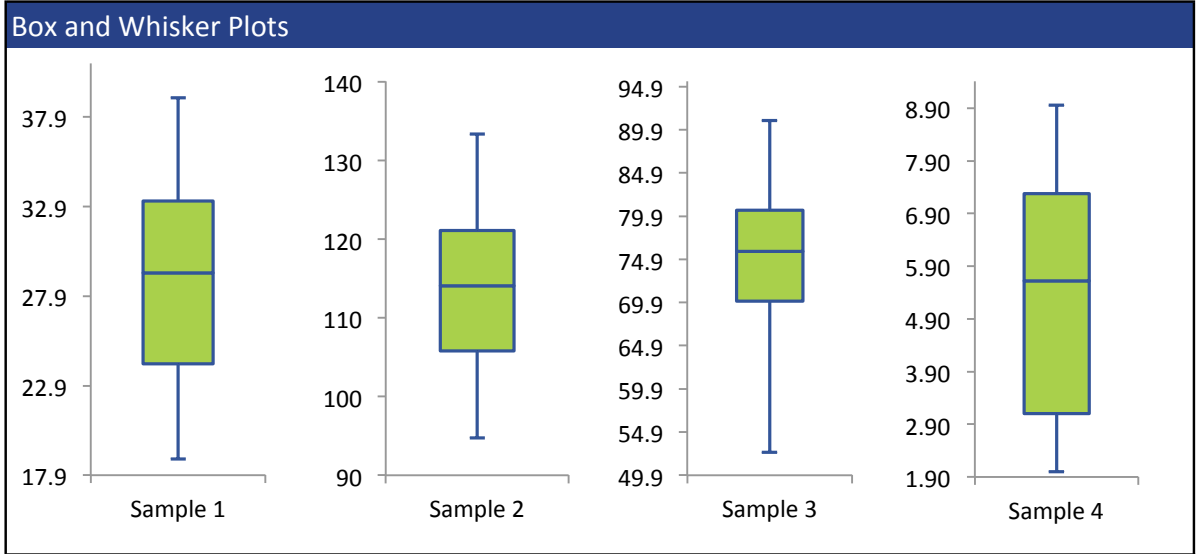
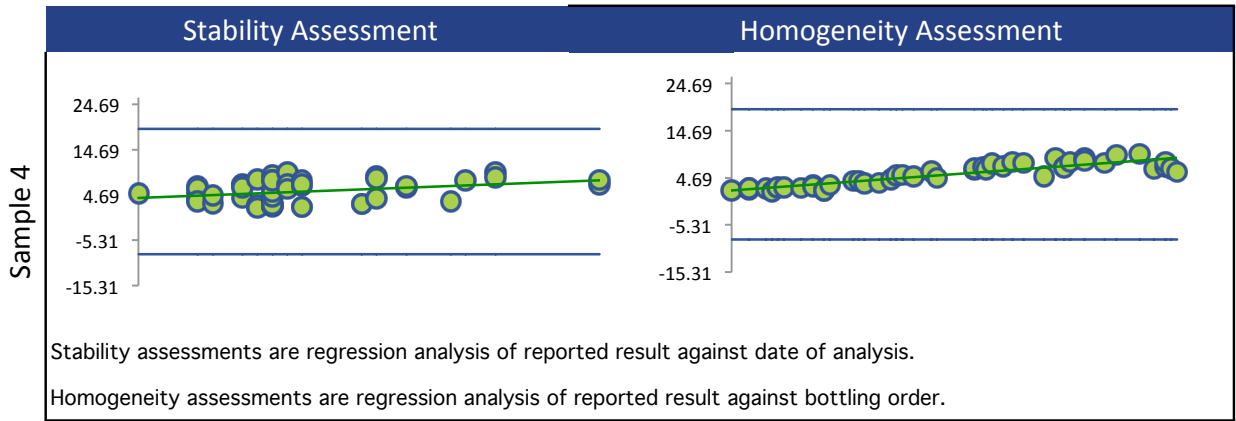
All summary stats and the plots below are based on the data excluding any flagged outliers



TRANS-1,2-DICHLOROETHYLENE



TRANS-1,2-DICHLOROETHYLENE



## TRANS-1,3-DICHLOROPROPENE

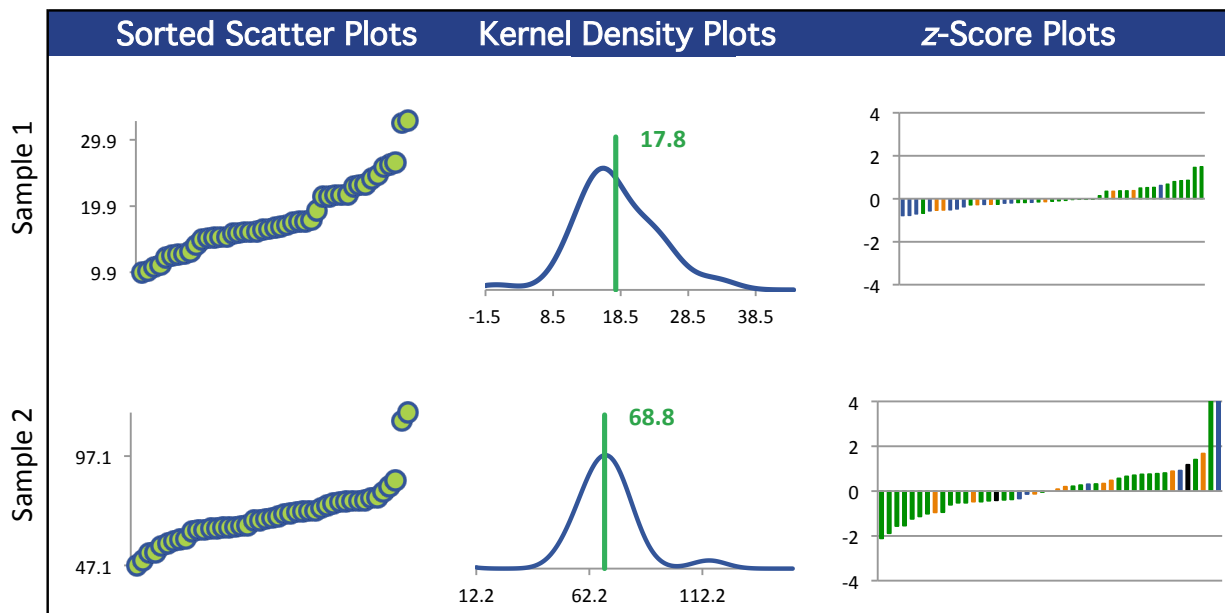
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	45	45	45	42
Median $\mu\text{g/L}$	16.6	68.8	46.0	3.02
Robust Mean $\mu\text{g/L}$	17.8	68.8	45.0	3.13
U $\mu\text{g/L}$	1.00	1.84	1.27	0.332
Robust Standard Deviation $\mu\text{g/L}$	5.39	9.86	6.82	1.72
Regression Standard Deviation $\mu\text{g/L}$	2.66	10.3	6.76	0.469
Stability Flag				
Homogeneity Flag	Homogeneity		Homogeneity	Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	10.0	10.3	10.6	4.35
Outliers	0	0	0	0
$ z  > 3.0$	0	2	2	0
$2 <  z  < 3$	0	1	2	0

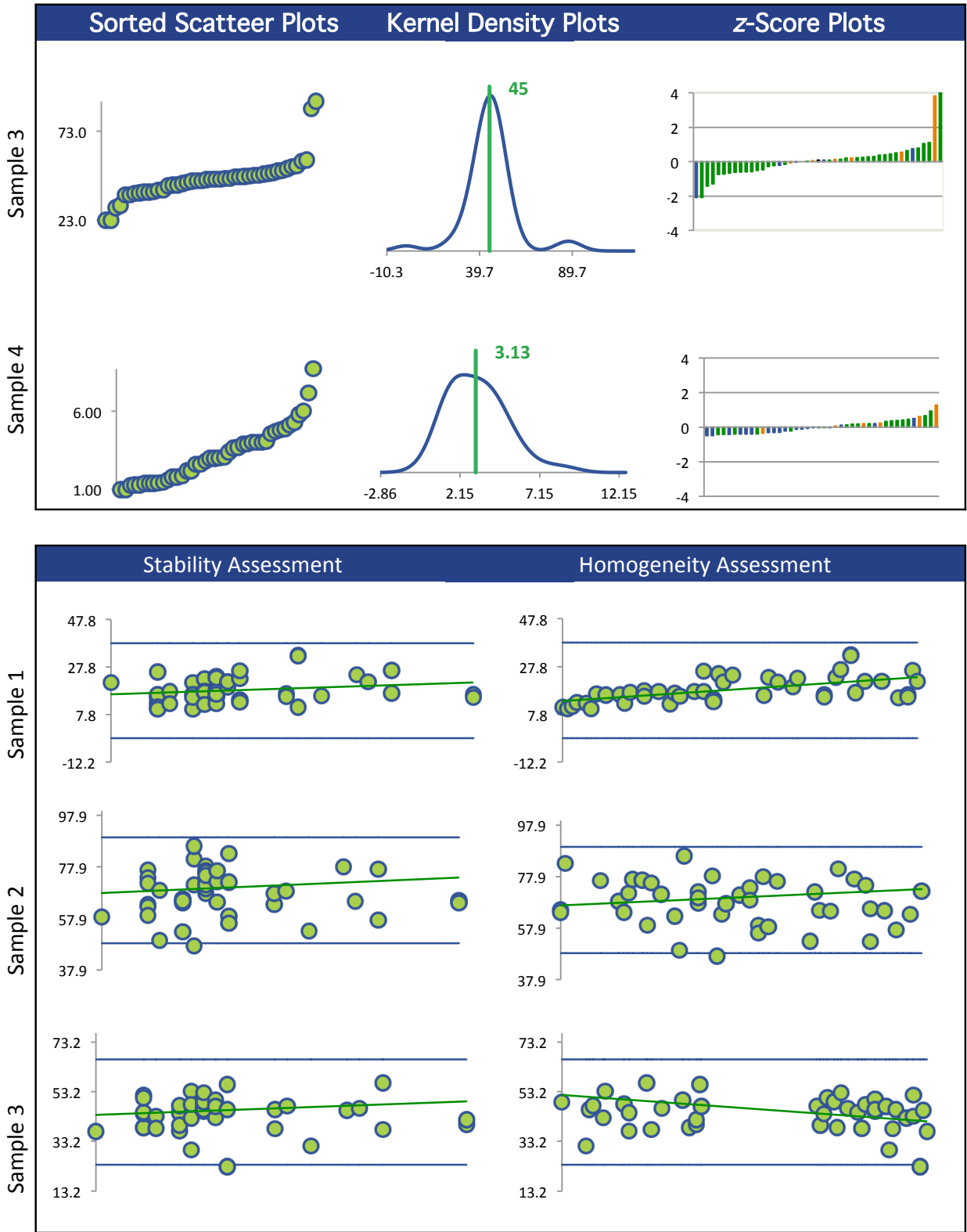
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	18	17
GC/MS - PURGE AND TRAP (Red)	24	24	24	23
GC/MS (Green)	3	3	3	2

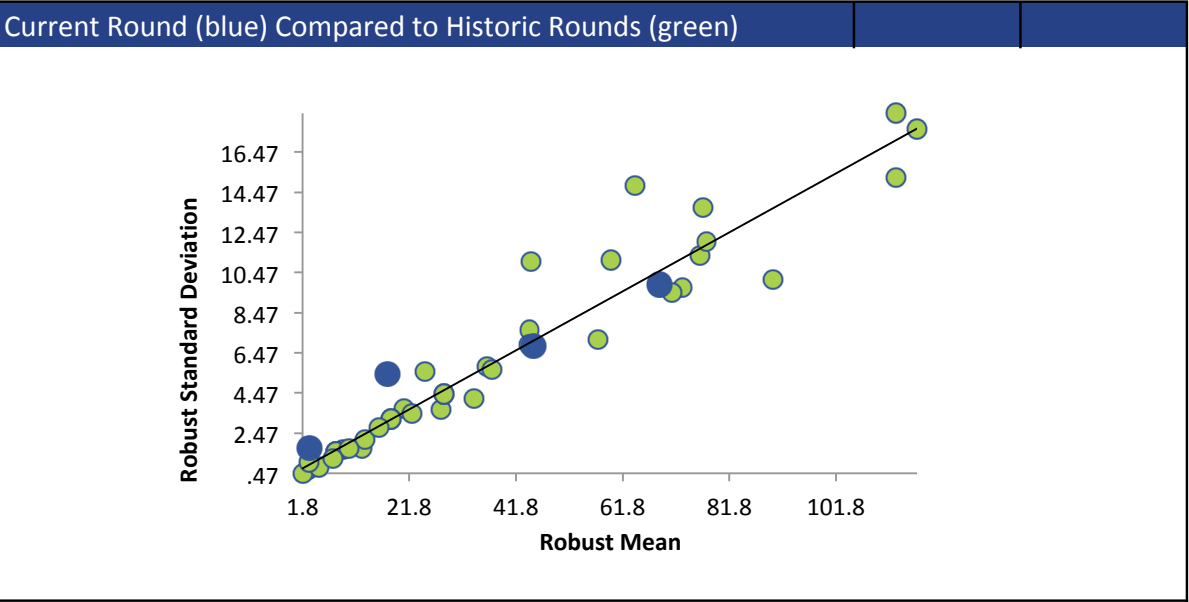
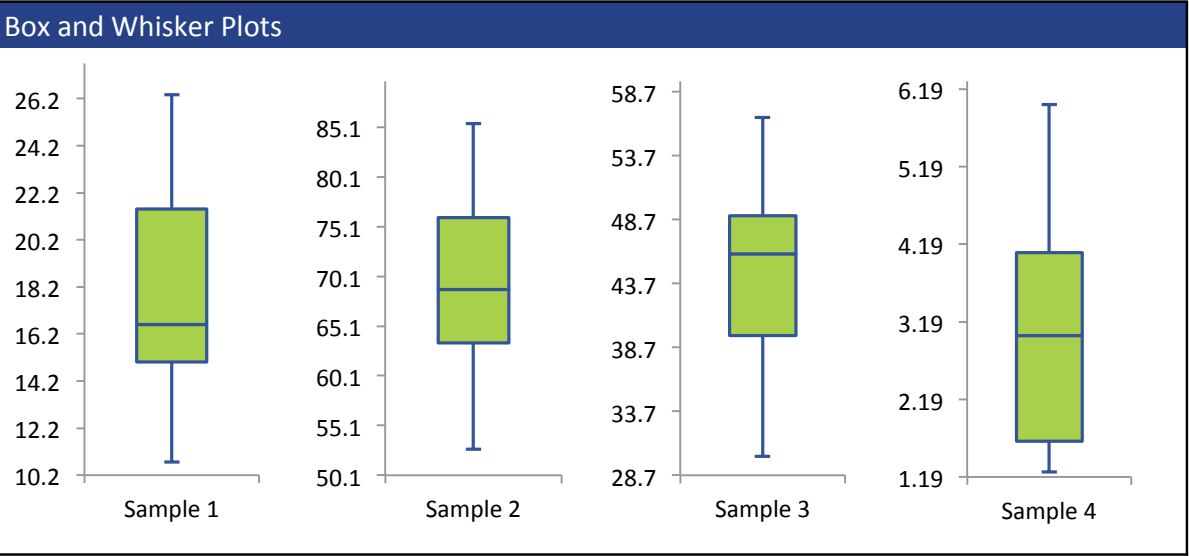
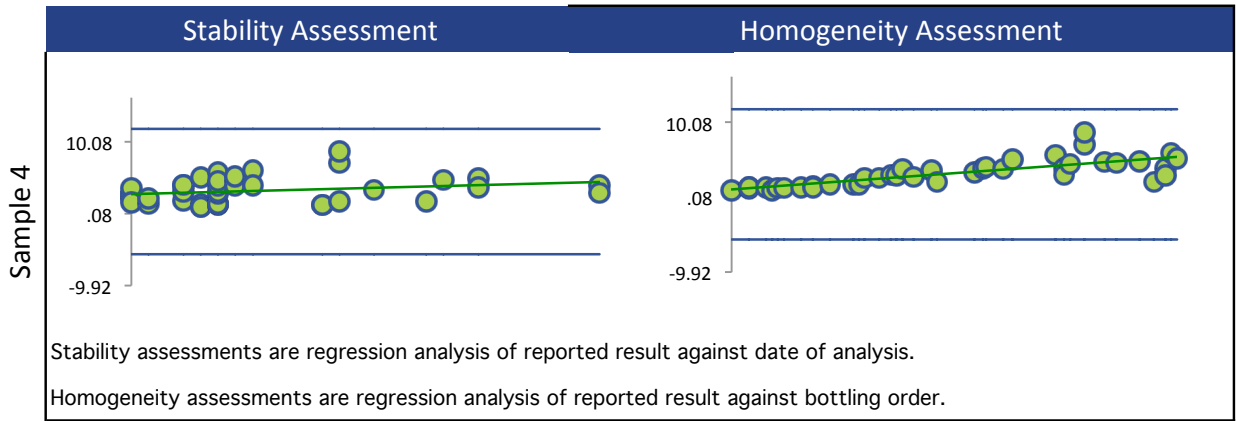
All summary stats and the plots below are based on the data excluding any flagged outliers



TRANS-1,3-DICHLOROPROPENE



TRANS-1,3-DICHLOROPROPENE





## TRICHLOROETHYLENE

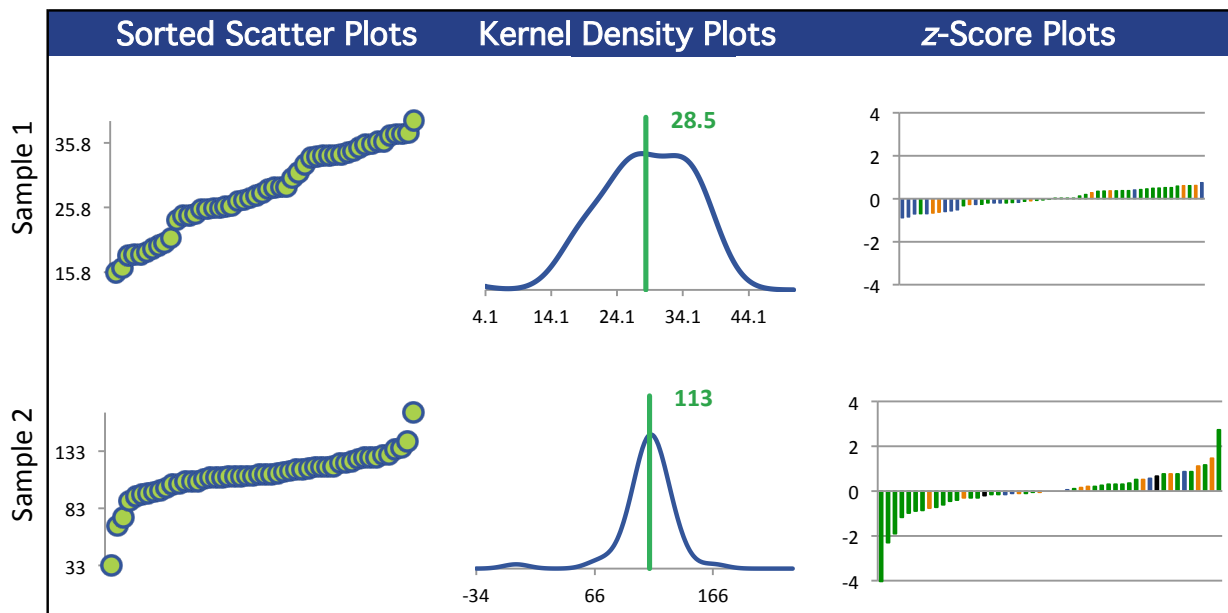
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	50	50	50	50
Median $\mu\text{g/L}$	28.4	113	74.0	5.35
Robust Mean $\mu\text{g/L}$	28.5	113	73.6	5.46
U $\mu\text{g/L}$	1.27	2.44	1.67	0.477
Robust Standard Deviation $\mu\text{g/L}$	7.17	13.8	9.42	2.70
Regression Standard Deviation $\mu\text{g/L}$	5.00	19.8	12.9	0.956
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	14.3	19.8	12.9	6.09
Outliers	0	0	0	0
$ z  > 3.0$	0	1	1	0
$2 <  z  < 3$	0	2	3	0

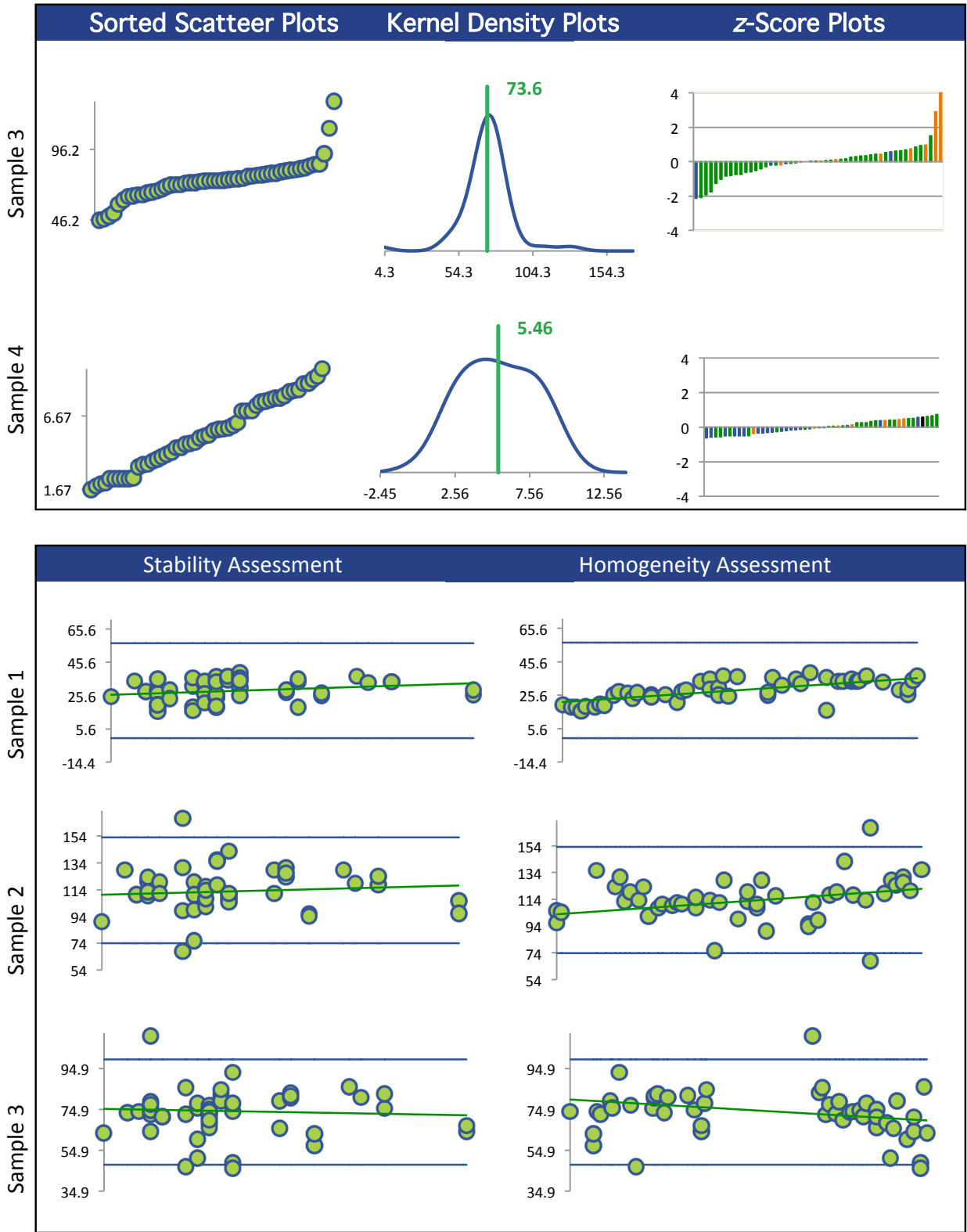
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	18	18
GC/MS - PURGE AND TRAP (Red)	28	28	28	28
GC/MS (Green)	2	2	2	2
GC/FID - PURGE AND TRAP (Orange)	1	1	1	1
GC/MS/MS - HEADSPACE (Black)	1	1	1	1

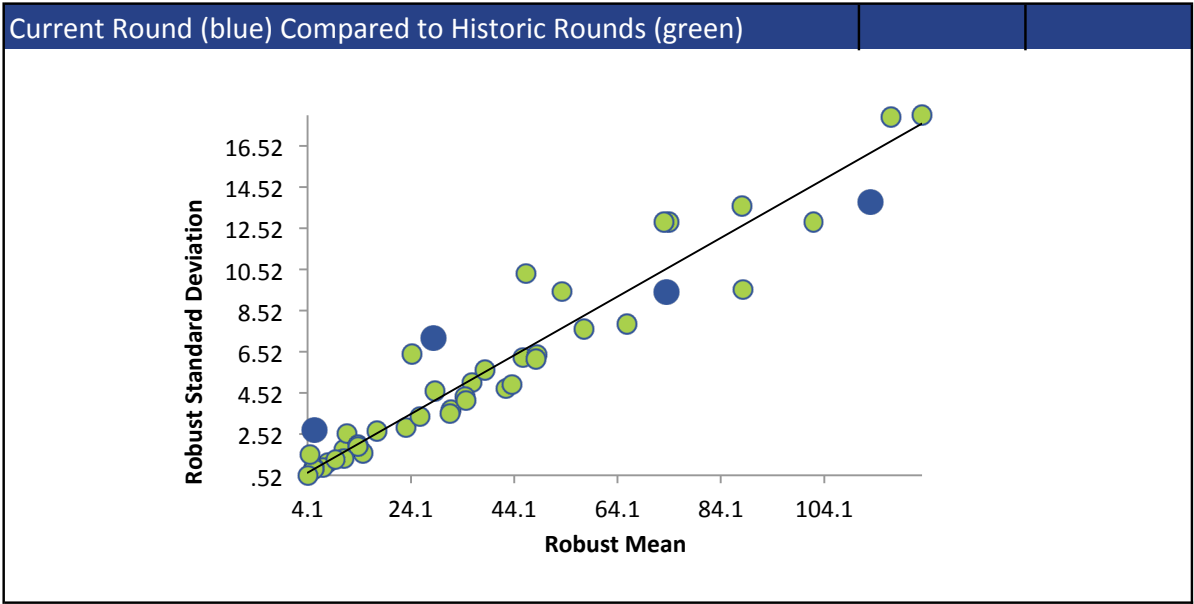
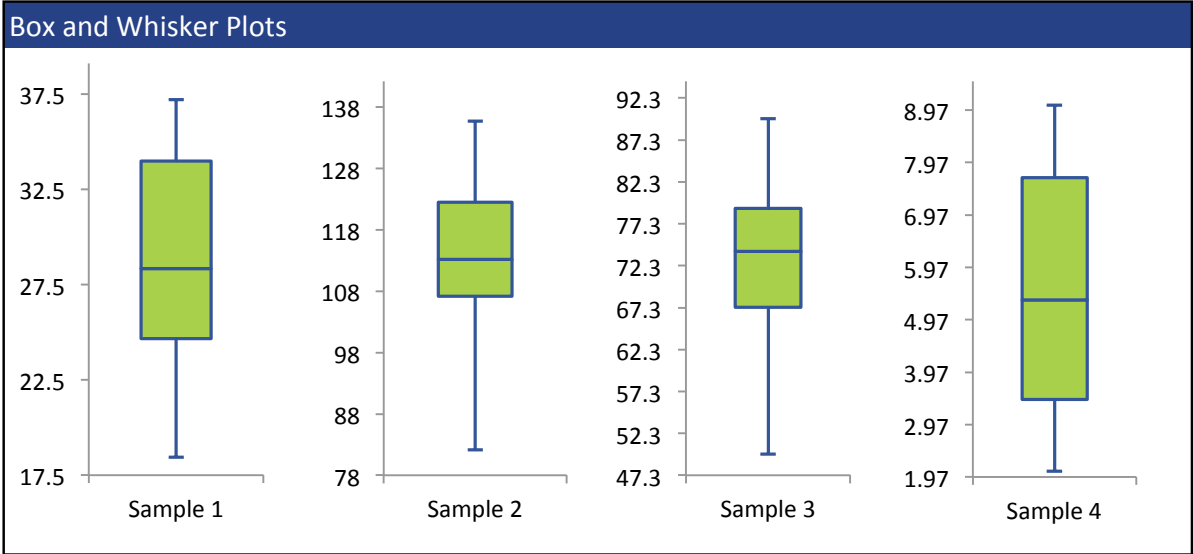
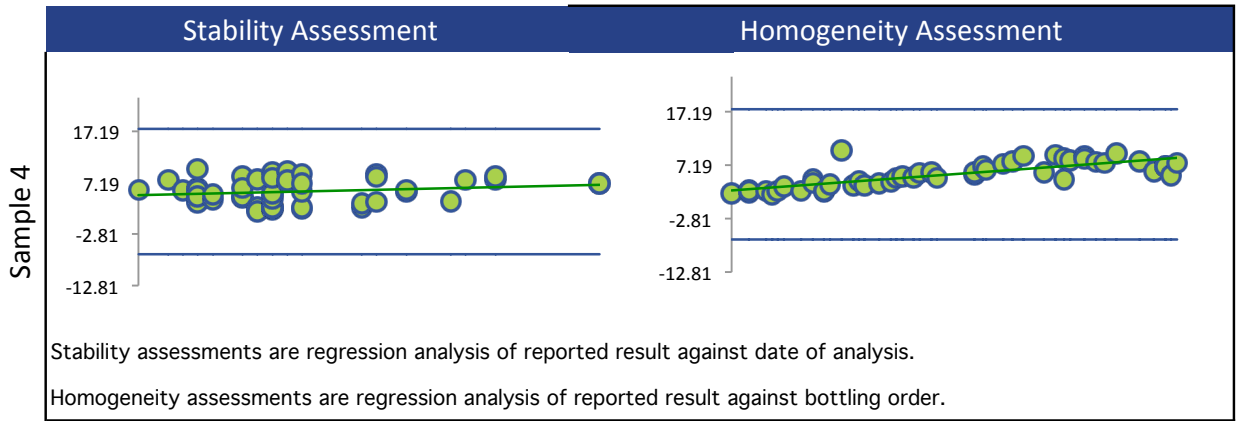
All summary stats and the plots below are based on the data excluding any flagged outliers



TRICHLOROETHYLENE



TRICHLOROETHYLENE



## TRICHLOROFLUOROMETHANE

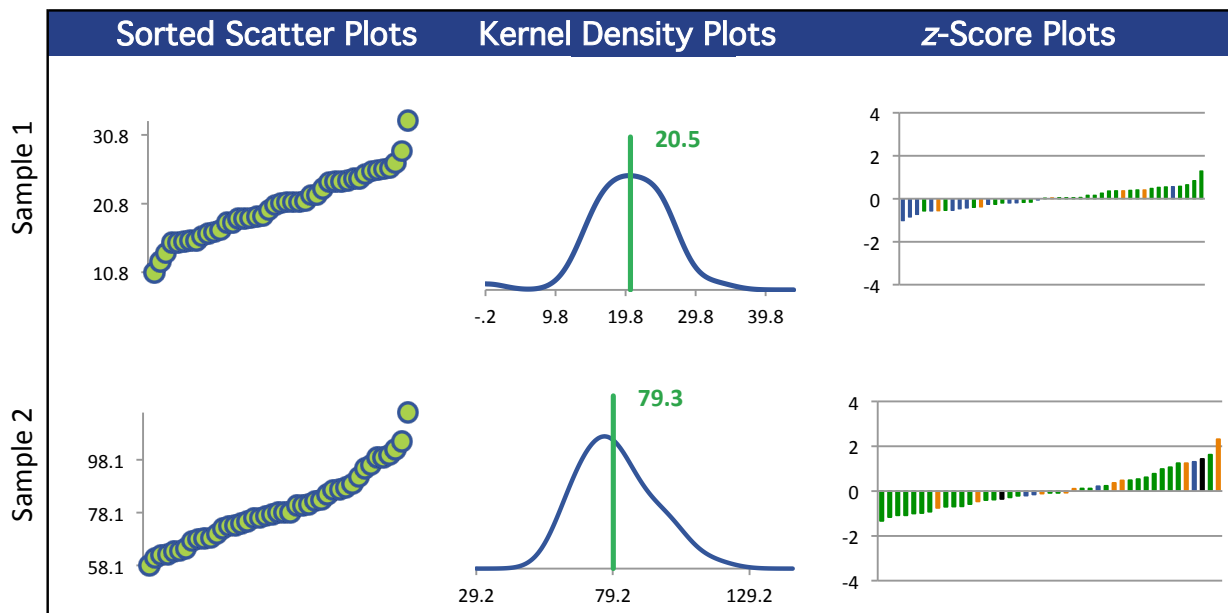
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	43	43	43	39
Median $\mu\text{g/L}$	20.9	78.0	52.0	4.00
Robust Mean $\mu\text{g/L}$	20.5	79.3	52.4	4.08
U $\mu\text{g/L}$	0.911	2.69	1.51	0.450
Robust Standard Deviation $\mu\text{g/L}$	4.78	14.1	7.90	2.25
Regression Standard Deviation $\mu\text{g/L}$	4.09	15.9	10.5	0.816
Stability Flag				
Homogeneity Flag	Homogeneity			Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	9.51	15.9	10.5	5.56
Outliers	0	0	0	0
$ z  > 3.0$	0	0	0	0
$2 <  z  < 3$	0	1	0	0

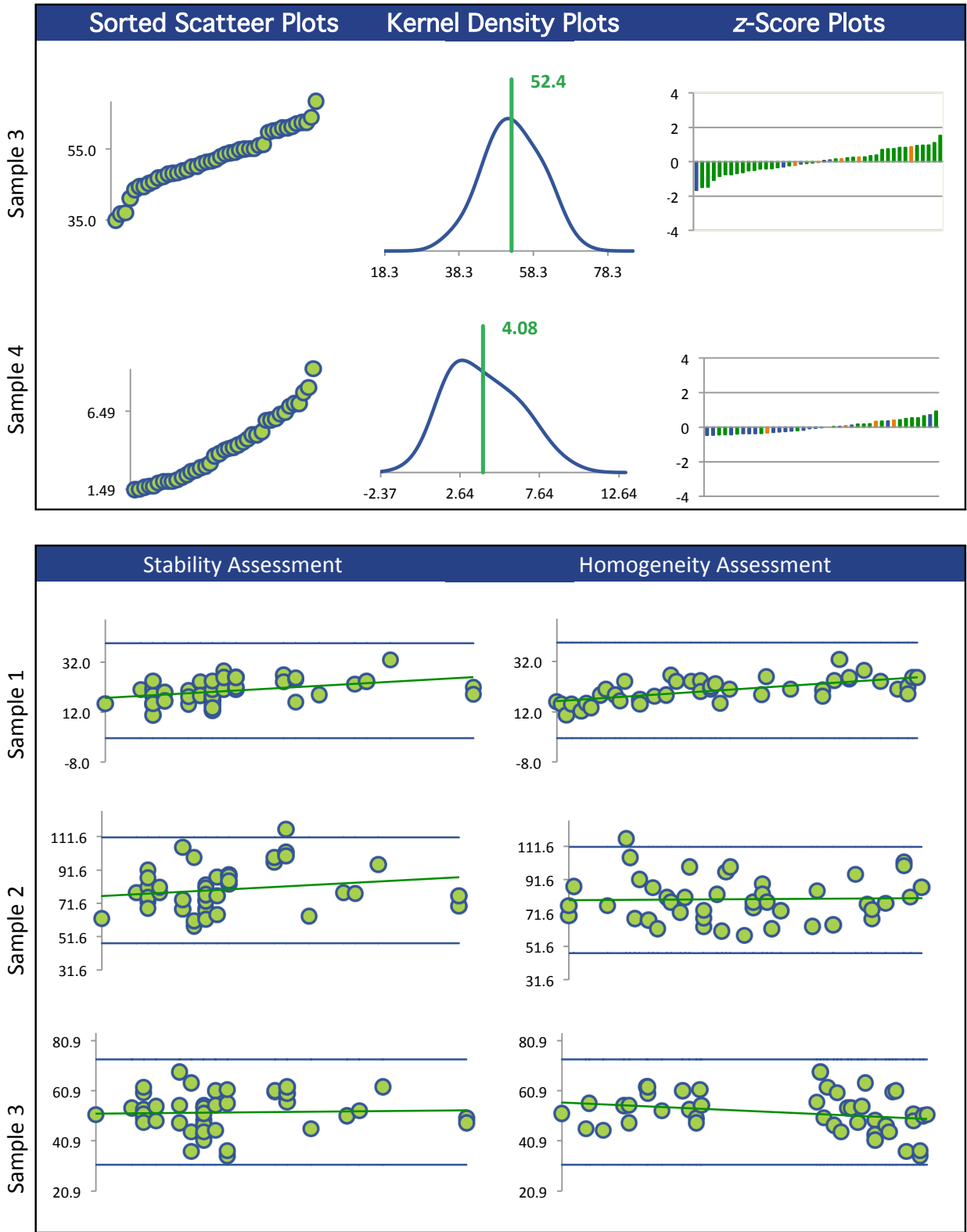
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	18	16
GC/MS (Red)	2	2	2	1
GC/MS - PURGE AND TRAP (Green)	23	23	23	22

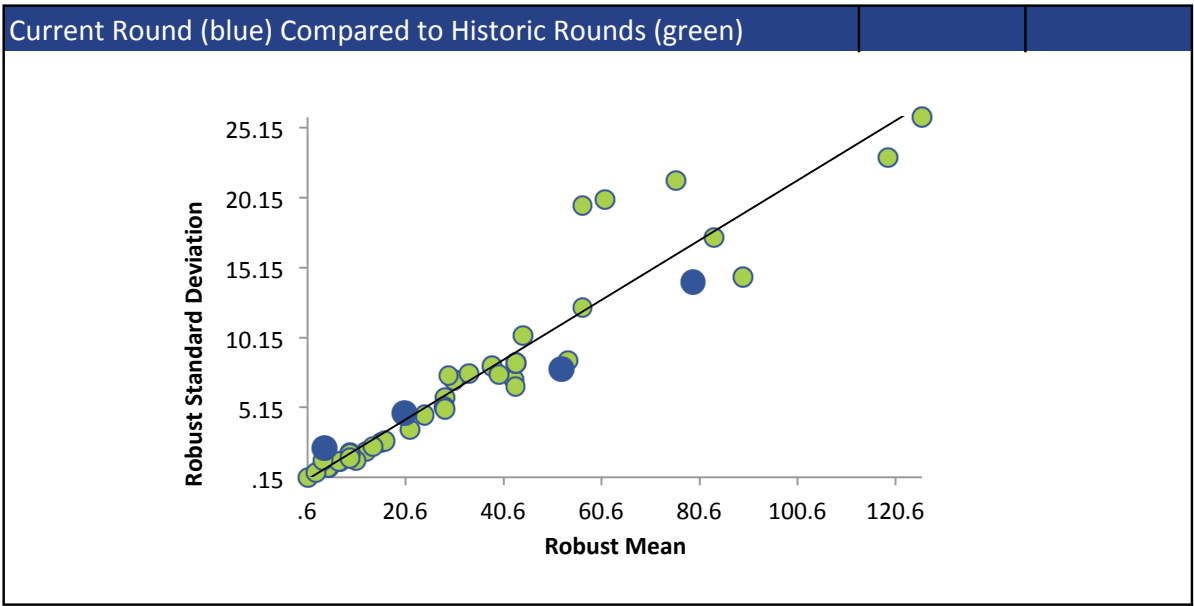
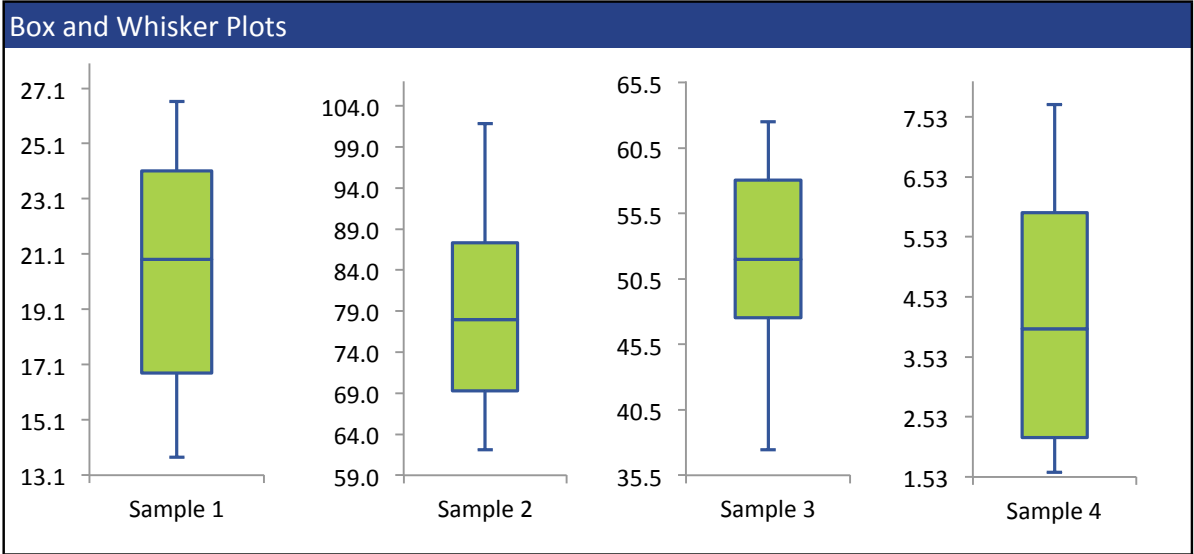
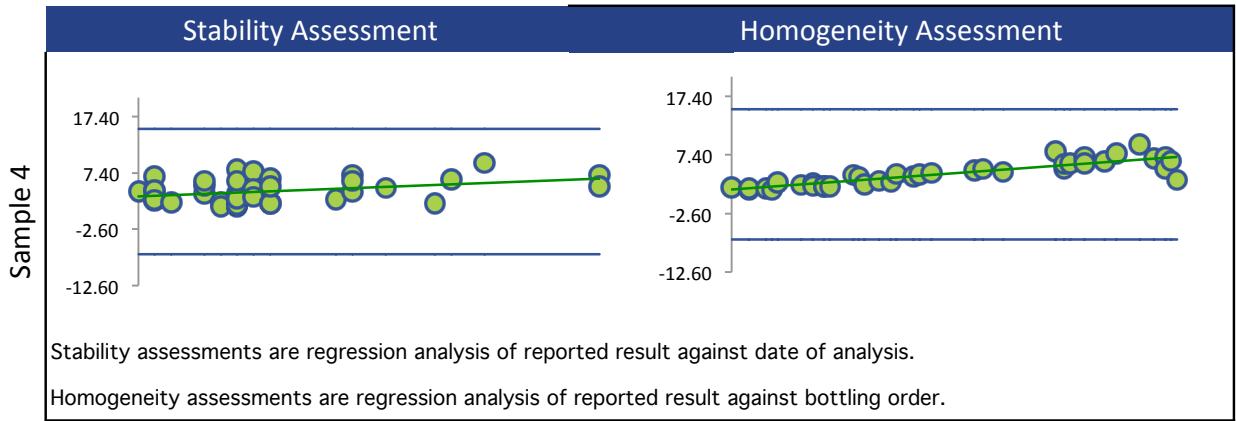
All summary stats and the plots below are based on the data excluding any flagged outliers



TRICHLOROFLUOROMETHANE



TRICHLOROFLUOROMETHANE



## VINYL CHLORIDE

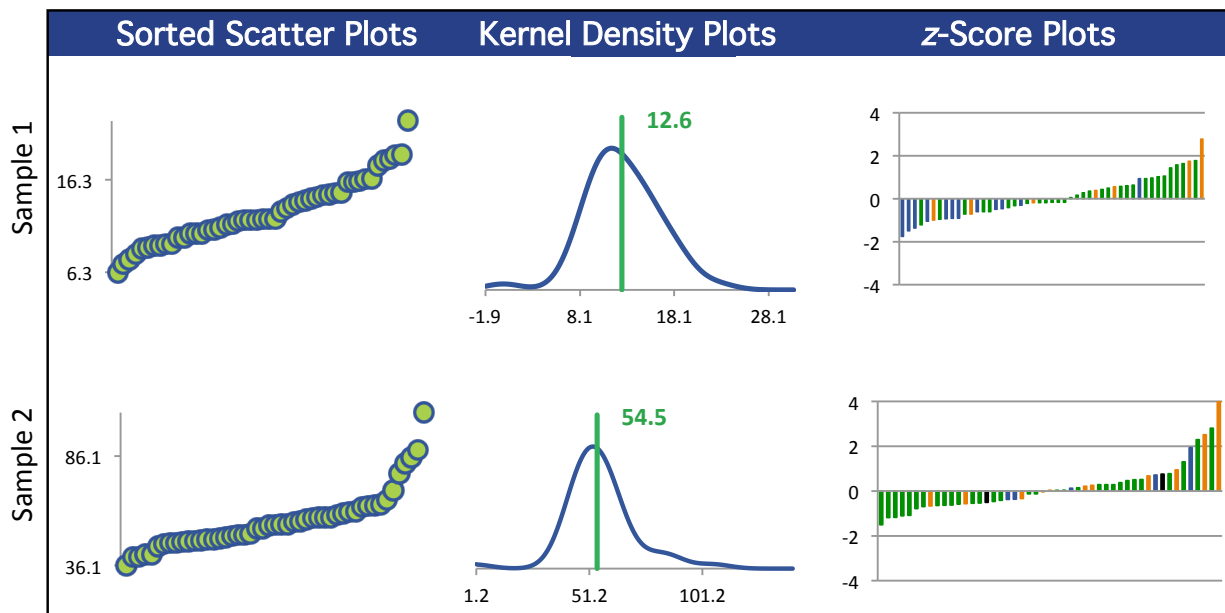
## Summary Statistics

Statistic	C16-1	C16-2	C16-3	C16-4
N	49	49	49	49
Median $\mu\text{g/L}$	12.0	54.6	39.5	4.52
Robust Mean $\mu\text{g/L}$	12.6	54.5	39.9	4.83
U $\mu\text{g/L}$	0.643	1.79	1.42	0.398
Robust Standard Deviation $\mu\text{g/L}$	3.60	10.0	7.95	2.23
Regression Standard Deviation $\mu\text{g/L}$	2.84	12.3	8.98	1.09
Stability Flag				
Homogeneity Flag				Homogeneity
Standard Deviation Used (SDPA) $\mu\text{g/L}$	3.60	12.3	8.98	4.67
Outliers	0	0	0	0
$ z  > 3.0$	0	1	0	0
$2 <  z  < 3$	1	3	3	0

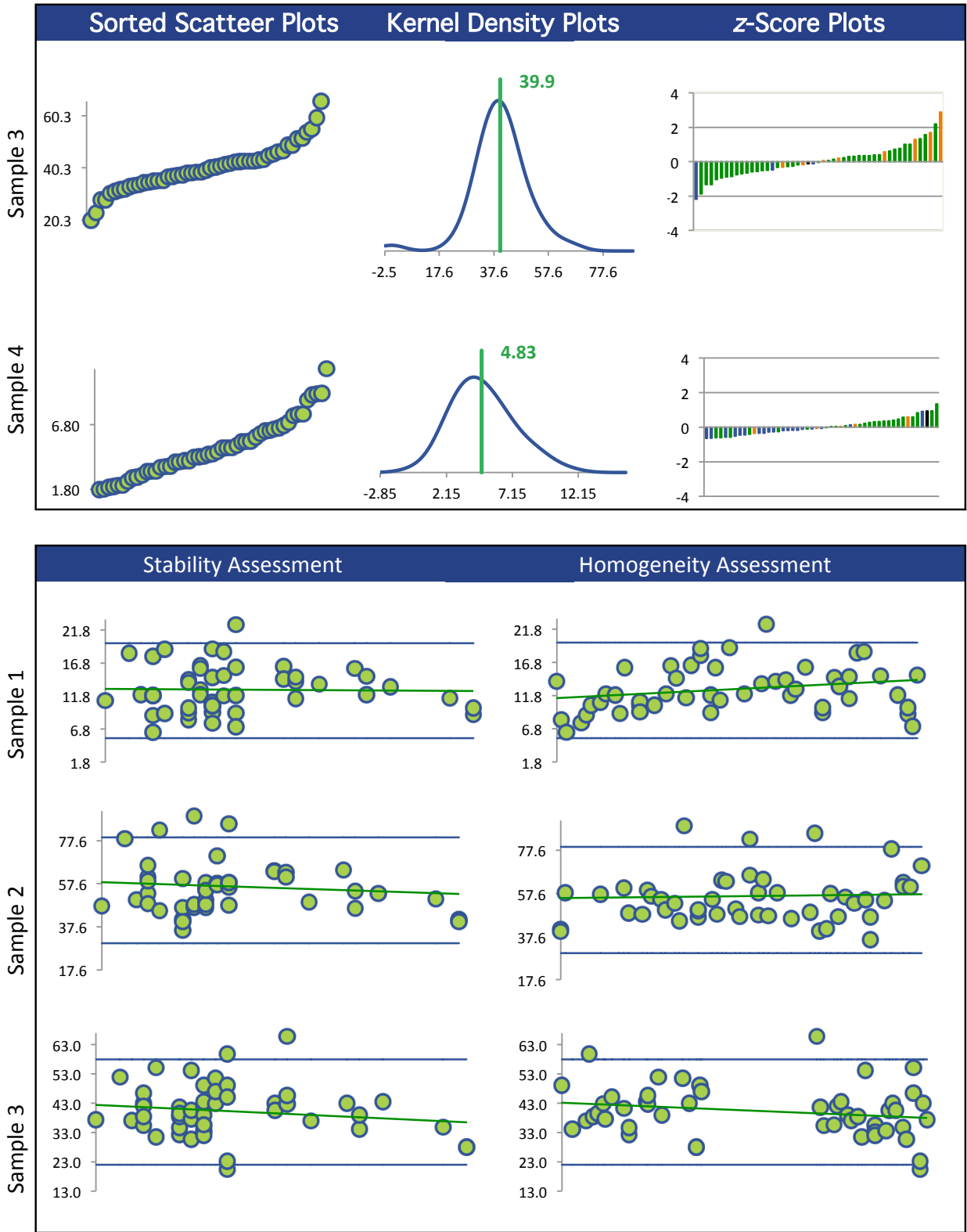
## Methods Used

Method	C16-1	C16-2	C16-3	C16-4
GC/MS - HEADSPACE (Blue)	18	18	18	18
GC/MS - PURGE AND TRAP (Red)	28	28	28	28
GC/MS (Green)	2	2	2	2
GC/MS/MS - HEADSPACE (Orange)	1	1	1	1

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



VINYL CHLORIDE





VINYL CHLORIDE

