

Test Group Summary Report

C77 Pesticides in Soil

January 2025 PT Round

Issued: February 28, 2025

Table of Contents

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

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.
$\pm u$:	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.PTCCanada.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:

$$z - Score = \frac{(x - \bar{X})}{SDPA} \quad \text{where: } x = \text{participant result};$$

\bar{X} = the Assigned Value;
SDPA = the Standard Deviation for Proficiency Assessment.

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.

$$RSZ = \frac{\sum z}{\sqrt{N}} \quad \text{where } z = \text{the z- score}$$

N = the number of samples

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

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

3.4 DEVIATIONS FROM EVALUATION PROCEDURE

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

4.0 PT Round Specific Data Summary

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

4.1 SUMMARY STATISTICS

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

4.2 z- SCORE PLOTS

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.

4,4'-DDT (P,P'-DDT)

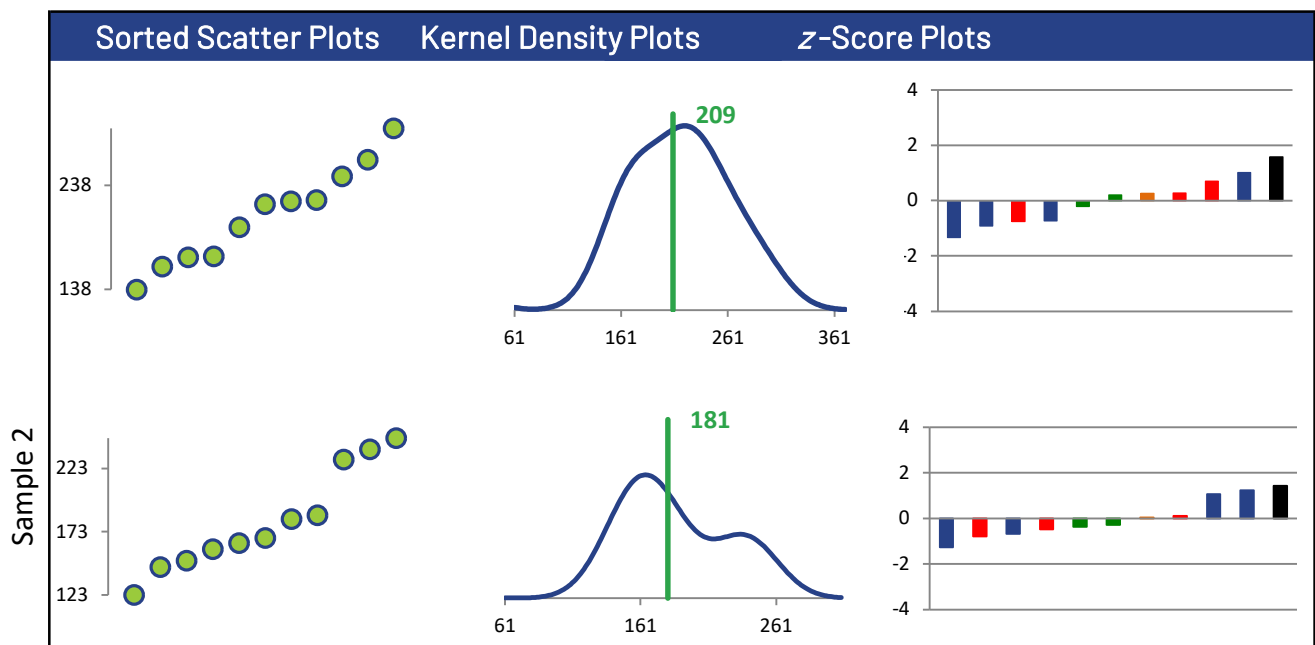
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	11	11	11	11
Median µg/kg	220	168	65.0	323
Robust Mean µg/kg	209	181	66.8	322
U µg/kg	20.1	17.4	6.82	22.1
Robust Standard Deviation µg/kg	53.2	46.2	18.1	58.6
Regression Standard Deviation µg/kg	49.6	43.3	17.6	74.9
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	53.2	46.2	18.1	74.9
Outliers	1	1	1	1
z >3.0	0	0	0	0
2< z <3	0	0	1	0

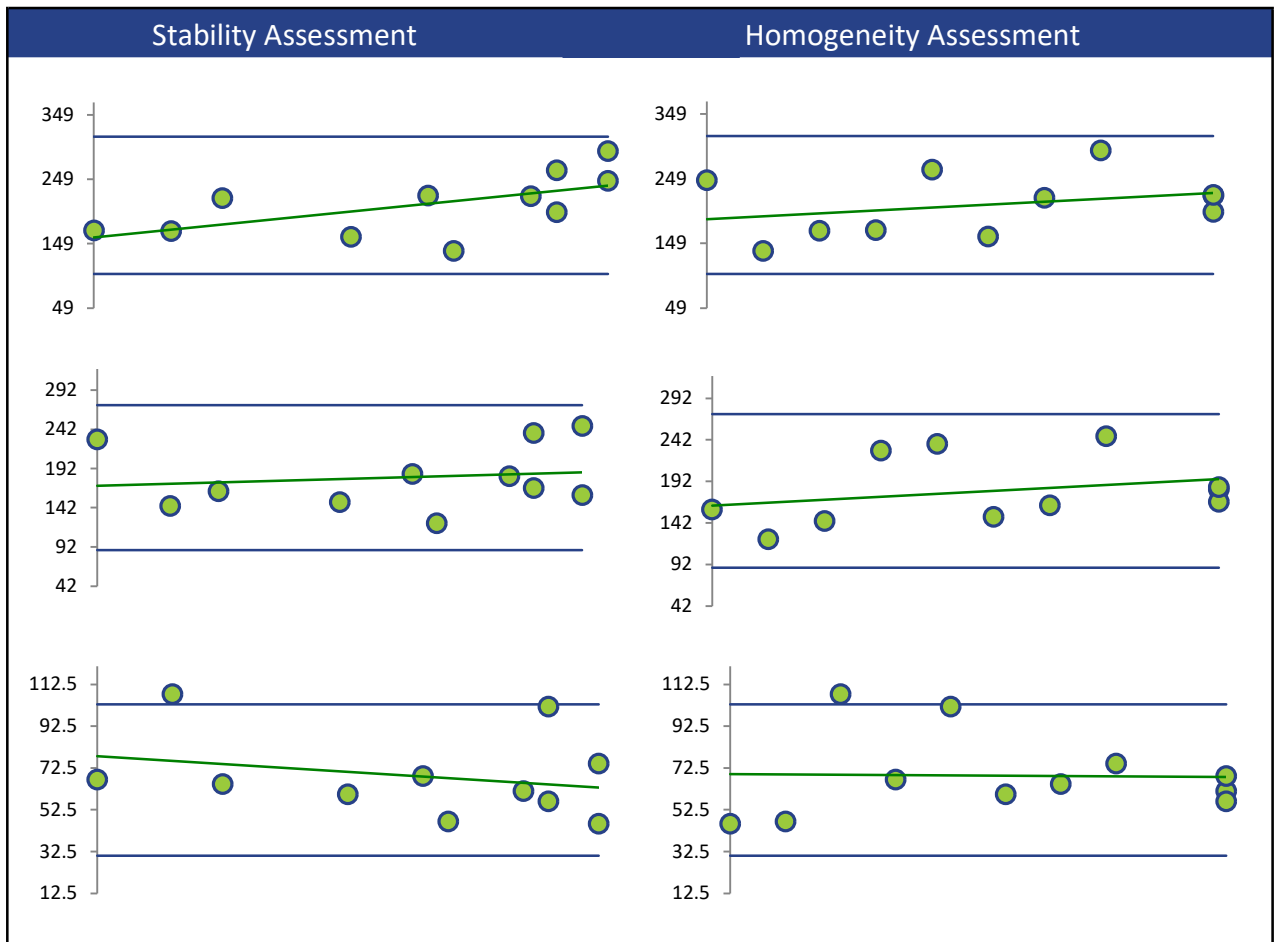
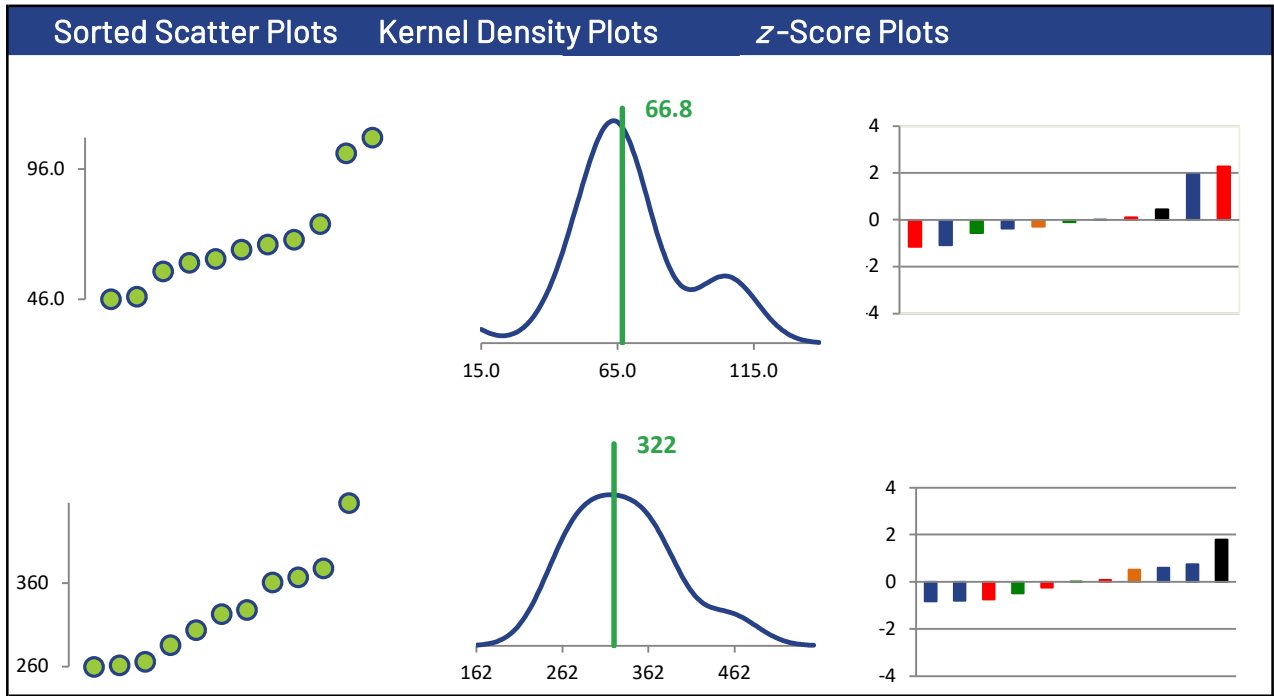
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	4	4	4	4
GC/MS - EXTRACTION (Red)	3	3	3	3
GC/MS/MS (Green)	2	2	2	2
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GC/ECD - SHAKE EXTRACTION (Black)	1	1	1	1

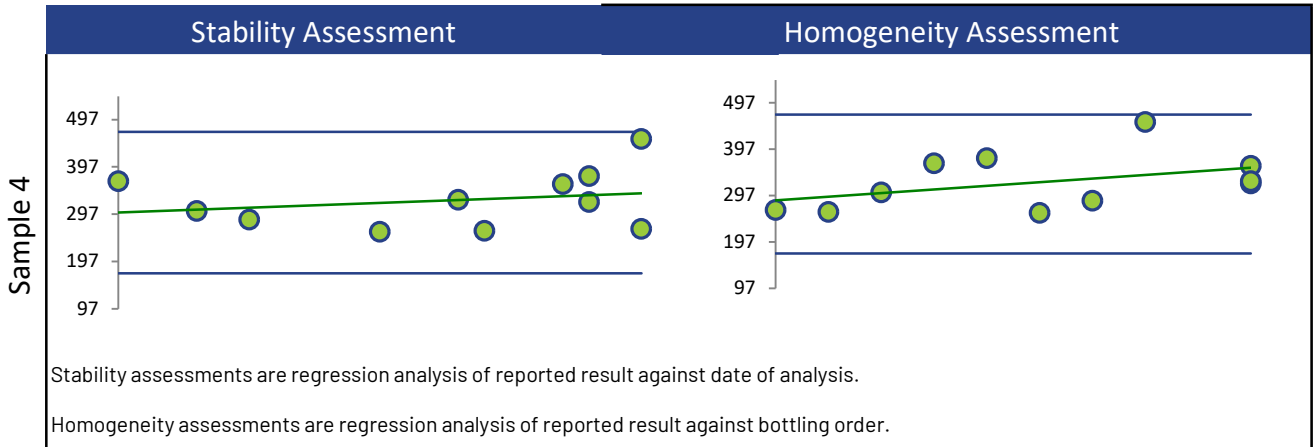
All summary stats and the plots below are based on the data excluding any flagged outliers



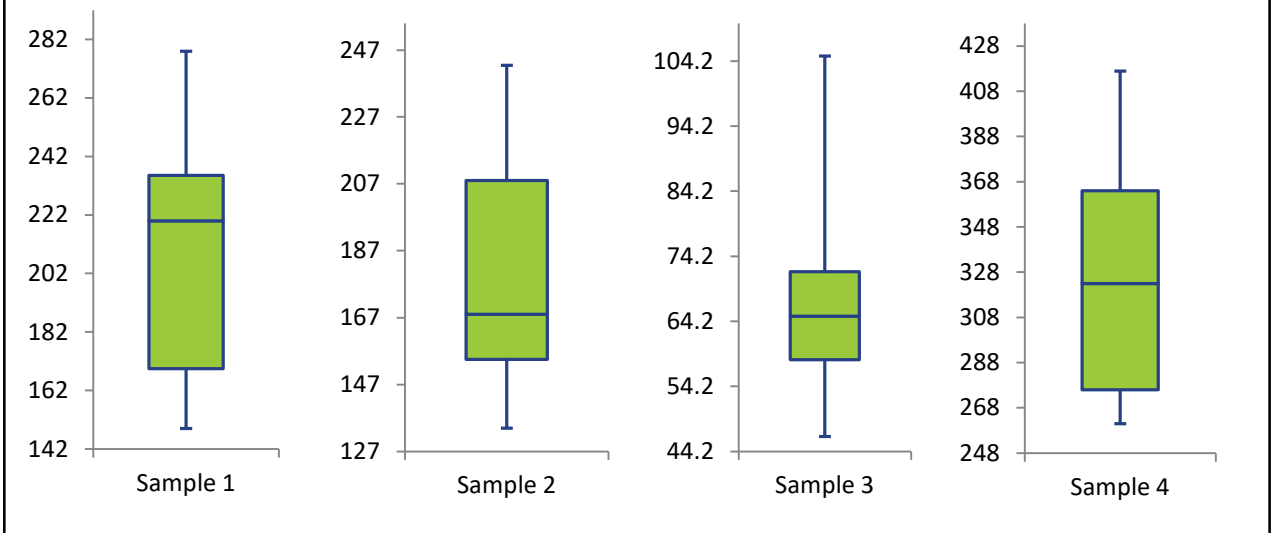
4,4'-DDT (P,P'-DDT)



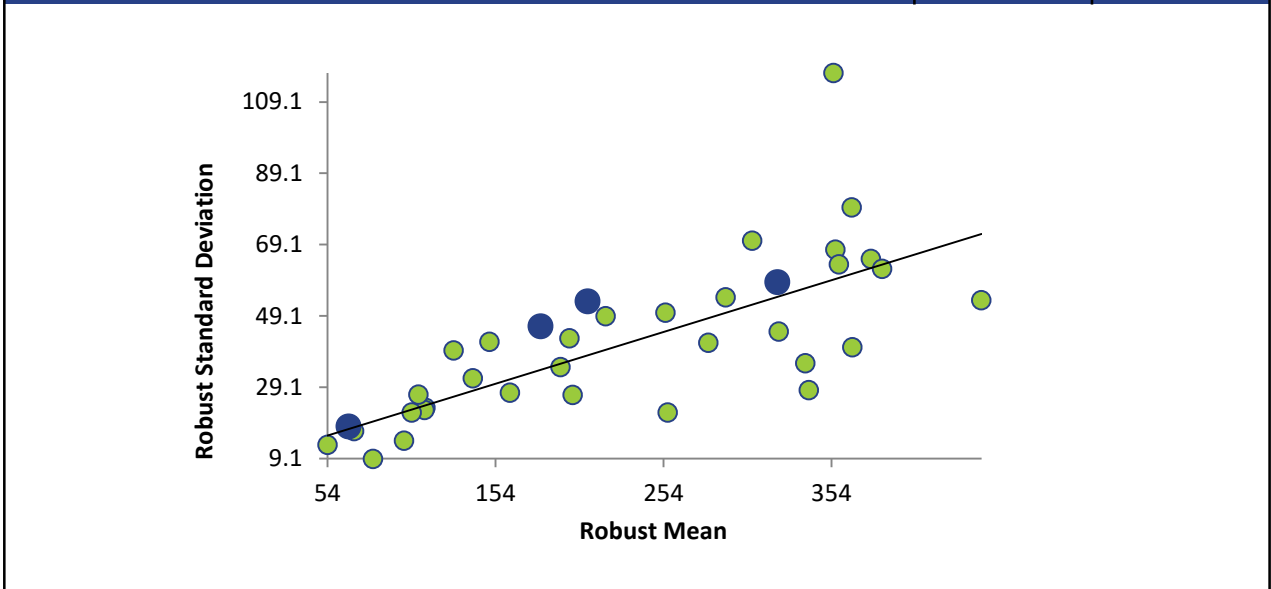
4,4'-DDT (P,P'-DDT)



Box and Whisker Plots



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



ALDRIN

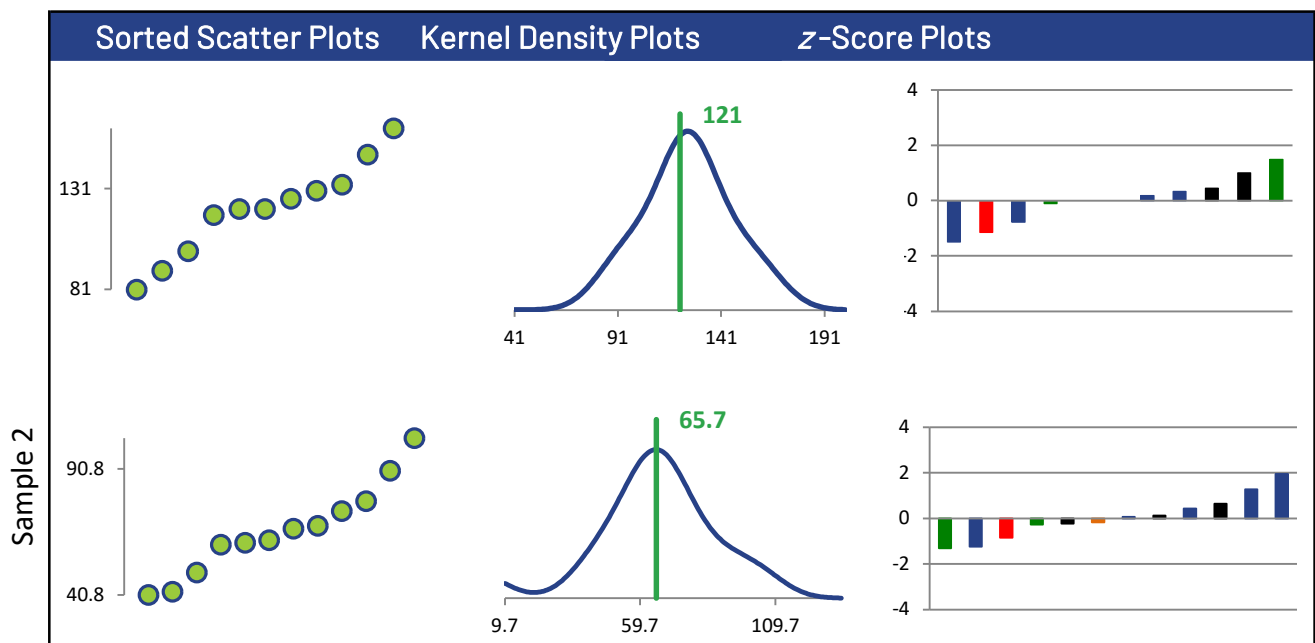
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	11	12	11	12
Median µg/kg	121	64.8	270	352
Robust Mean µg/kg	121	65.7	274	340
U µg/kg	10.1	6.89	23.0	22.5
Robust Standard Deviation µg/kg	26.8	19.1	61.1	62.4
Regression Standard Deviation µg/kg	26.3	15.2	57.3	70.6
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	26.8	19.1	61.1	70.6
Outliers	1	0	1	0
z >3.0	0	0	0	0
2< z <3	0	0	0	1

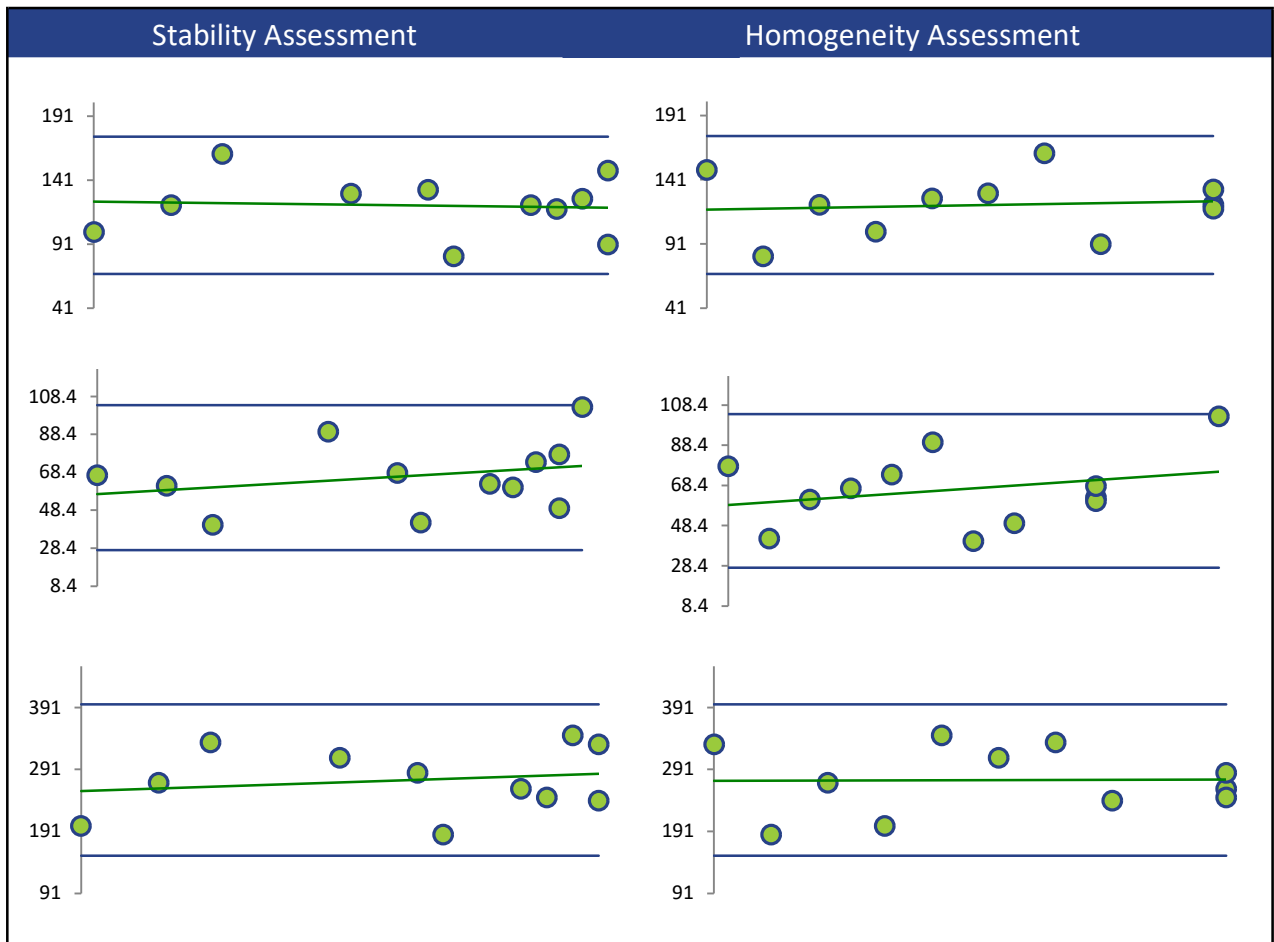
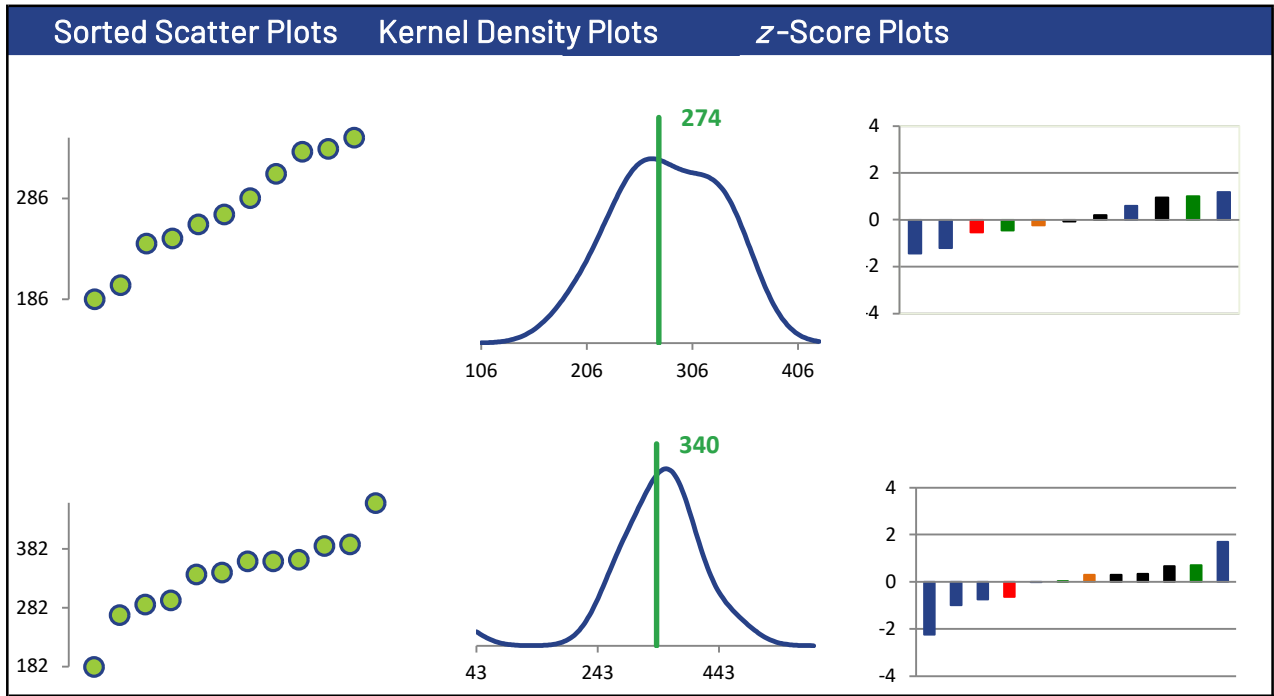
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	4	5	4	5
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS/MS (Green)	2	2	2	2
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GC/MS - EXTRACTION (Black)	3	3	3	3

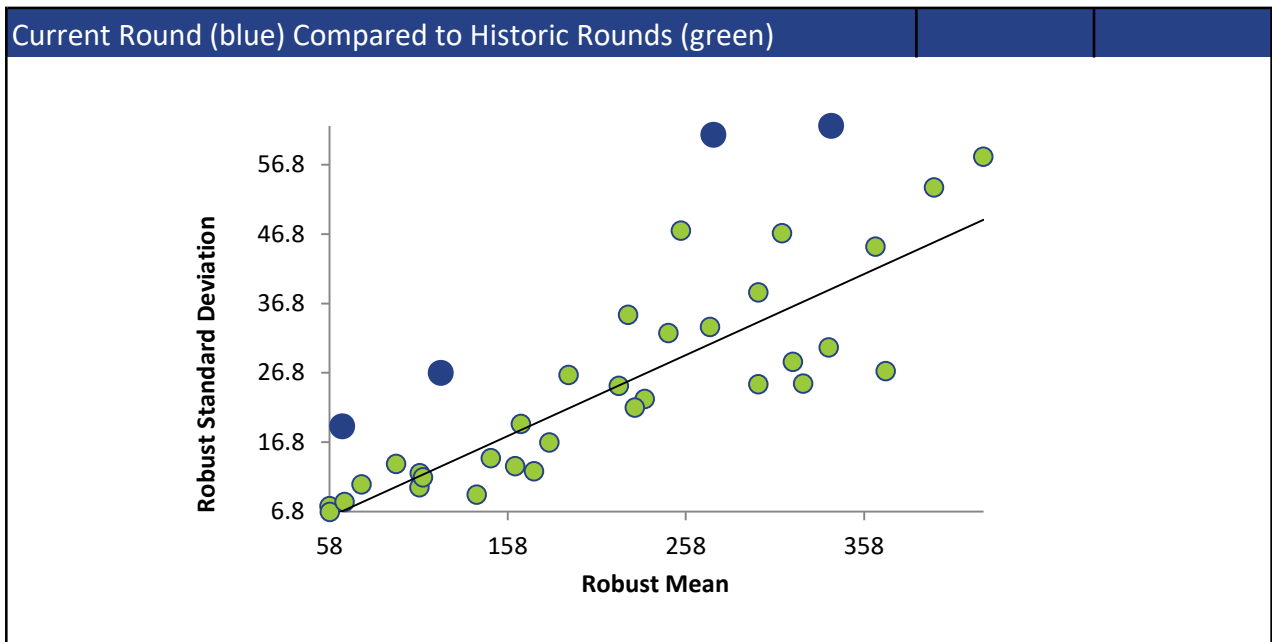
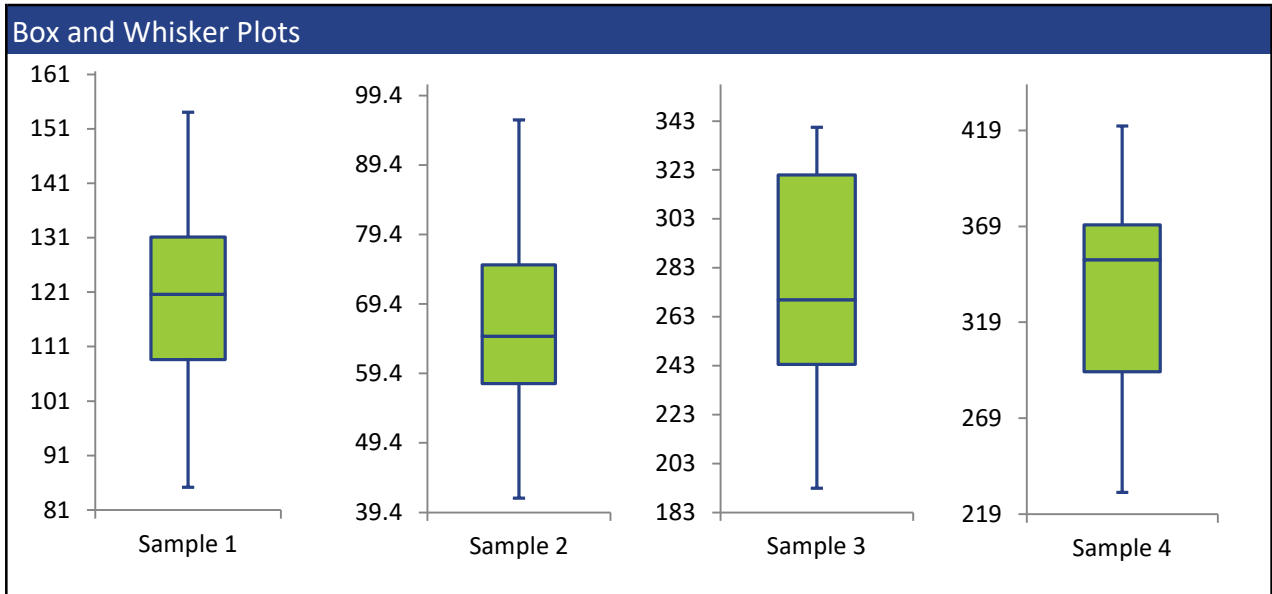
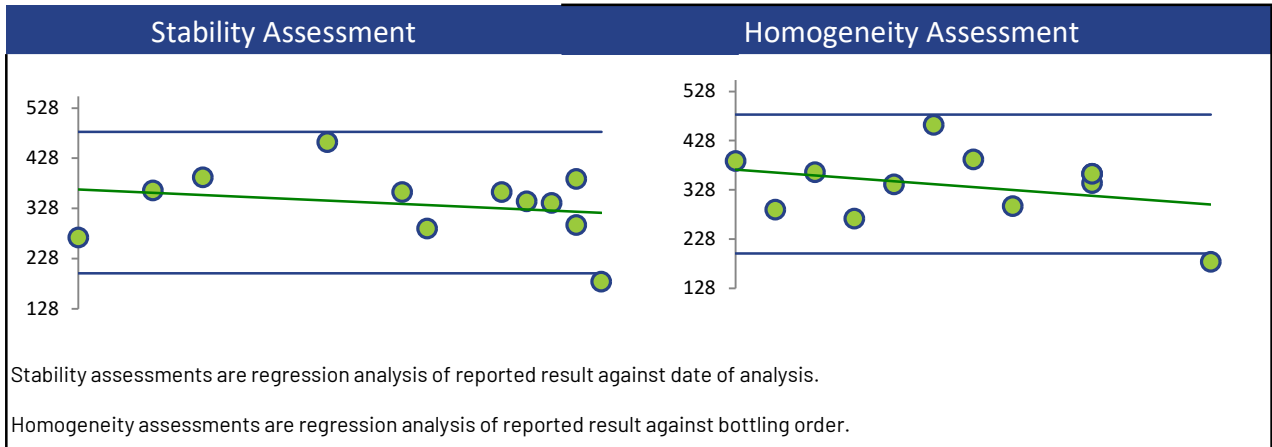
All summary stats and the plots below are based on the data excluding any flagged outliers



ALDRIN



ALDRIN



ALPHA-BHC

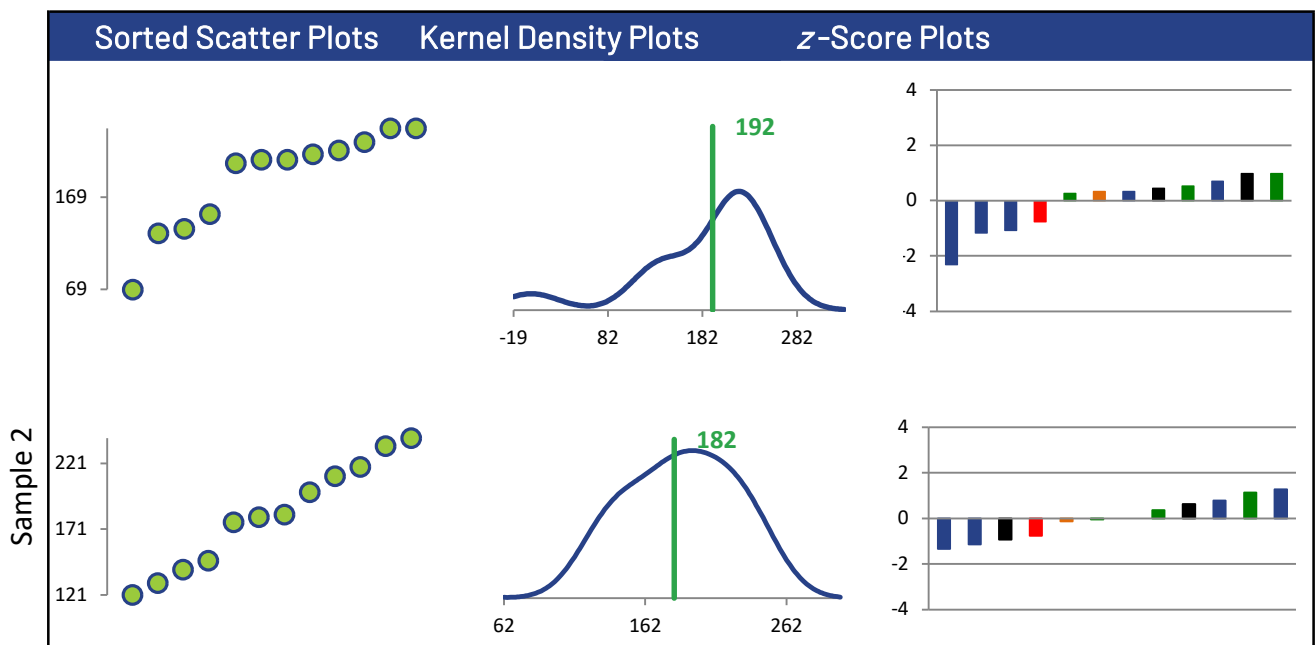
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	12	12	11
Median µg/kg	210	181	345	84.6
Robust Mean µg/kg	192	182	329	84.5
U µg/kg	19.1	16.5	29.7	6.37
Robust Standard Deviation µg/kg	53.0	45.8	82.4	16.9
Regression Standard Deviation µg/kg	41.7	39.6	69.2	20.1
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	53.0	45.8	82.4	20.1
Outliers	0	0	0	1
z >3.0	0	0	0	0
2< z <3	1	0	1	0

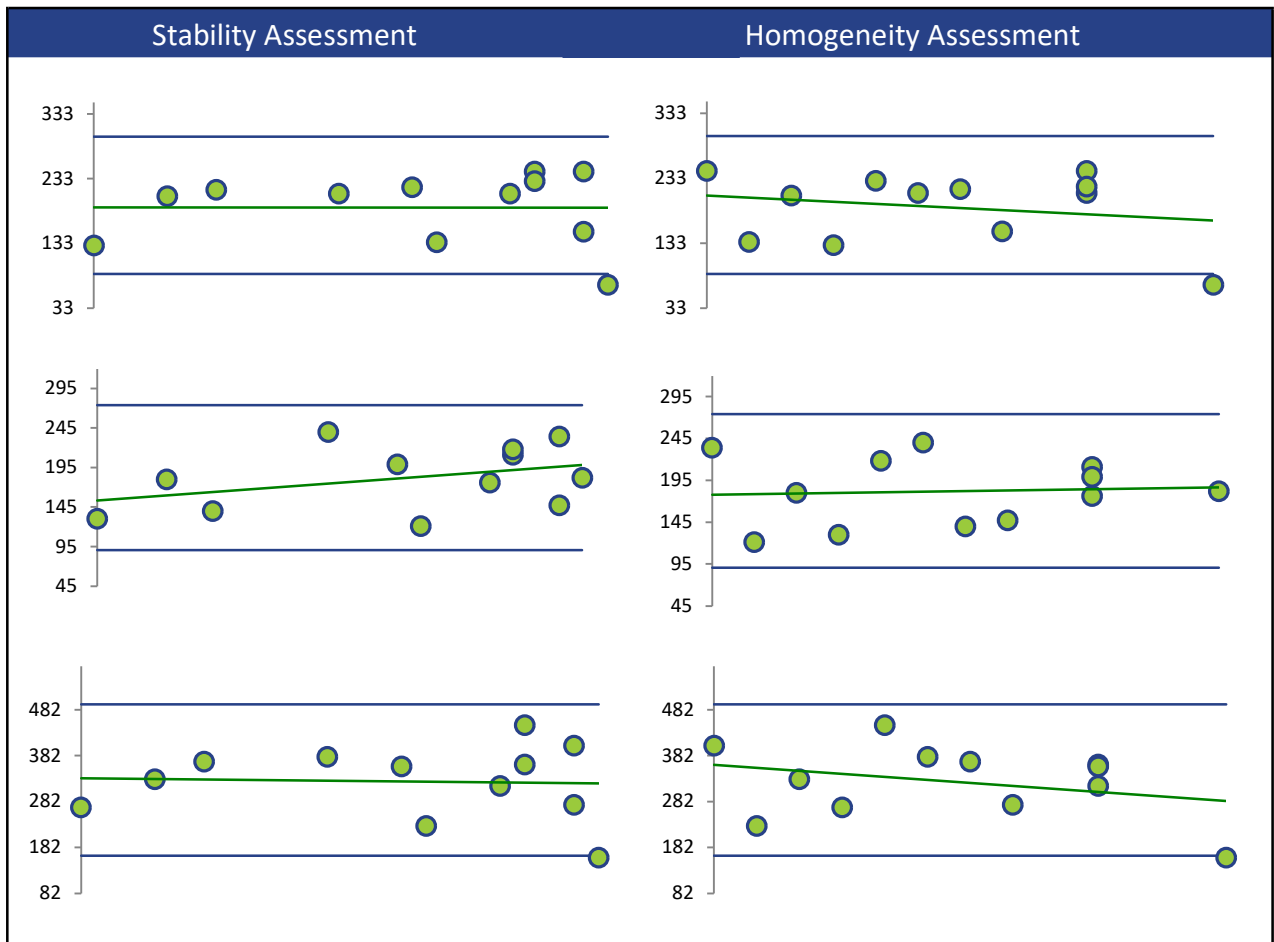
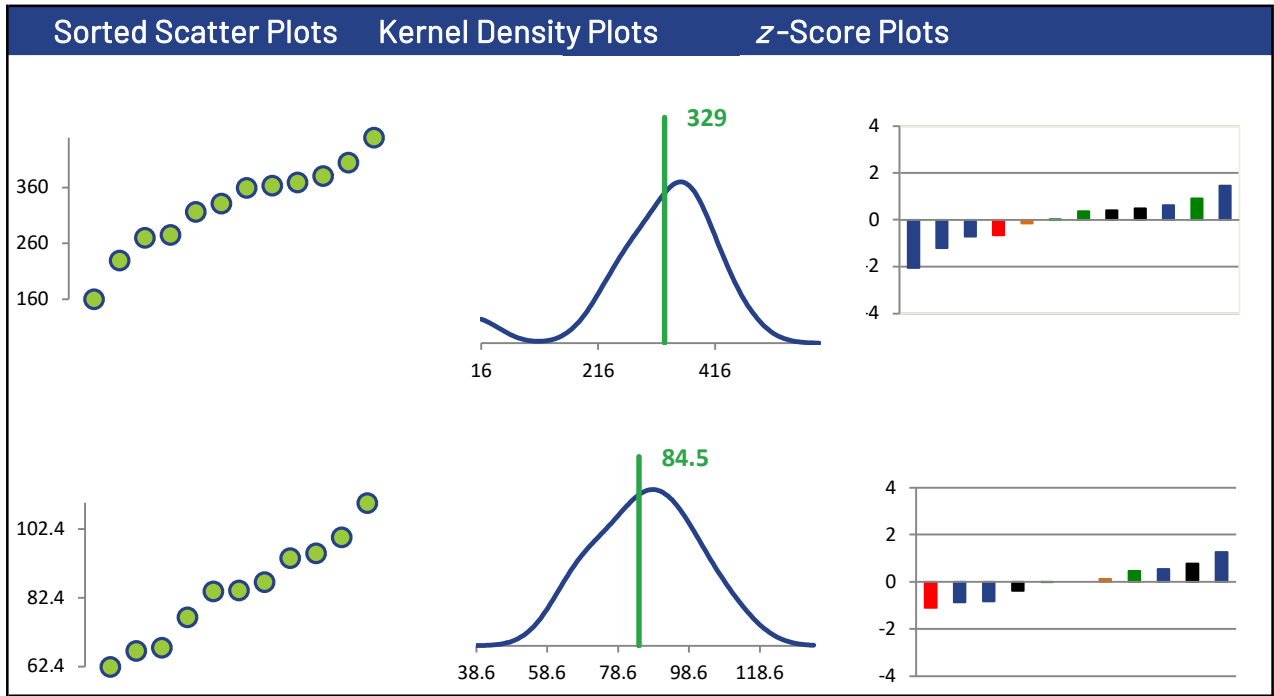
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	5	5	5	4
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS - EXTRACTION (Green)	3	3	3	3
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GC/MS/MS (Black)	2	2	2	2

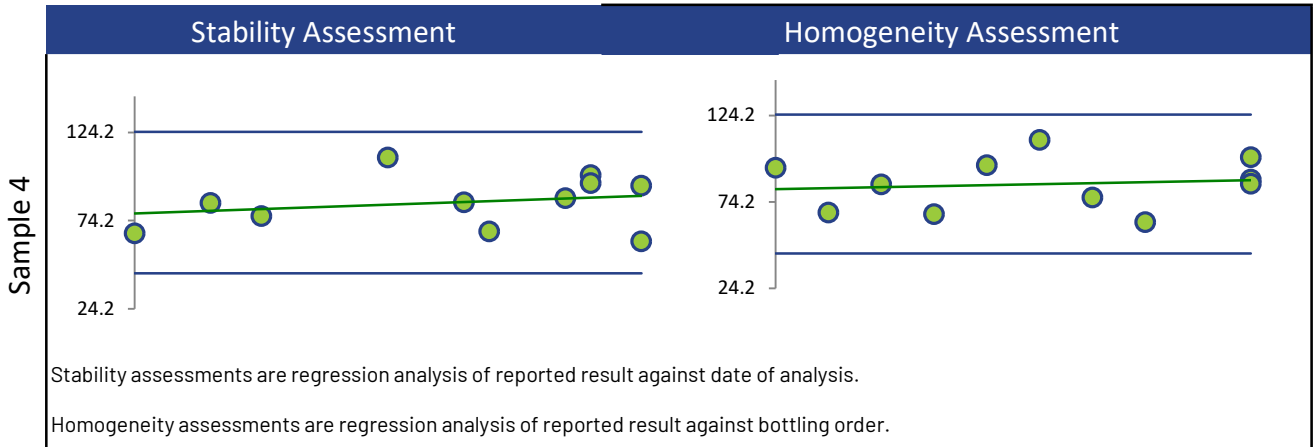
All summary stats and the plots below are based on the data excluding any flagged outliers



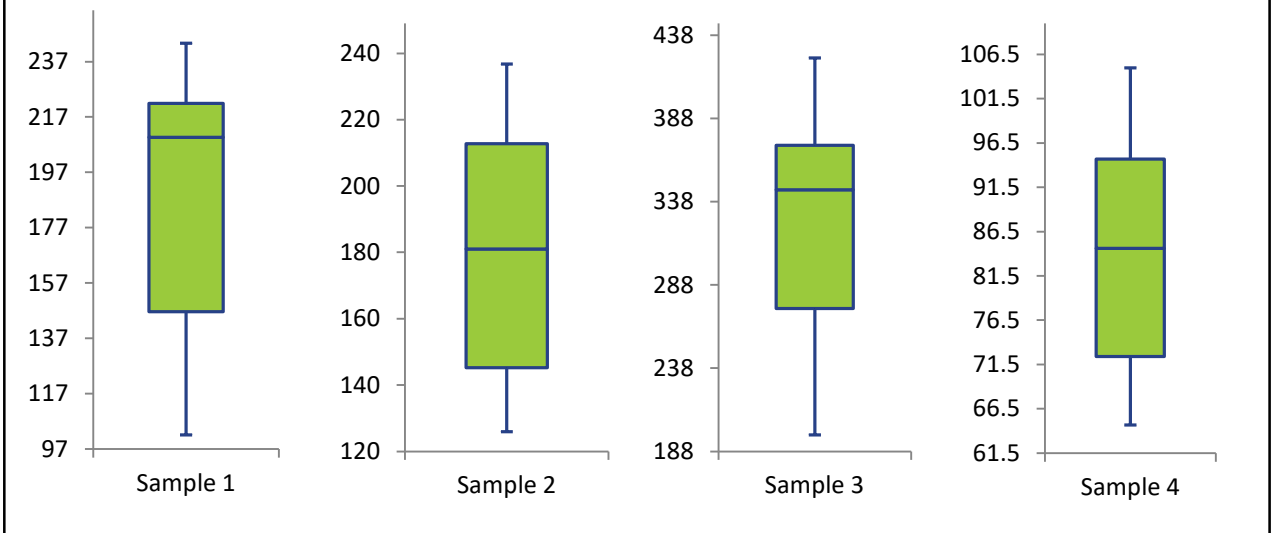
ALPHA-BHC



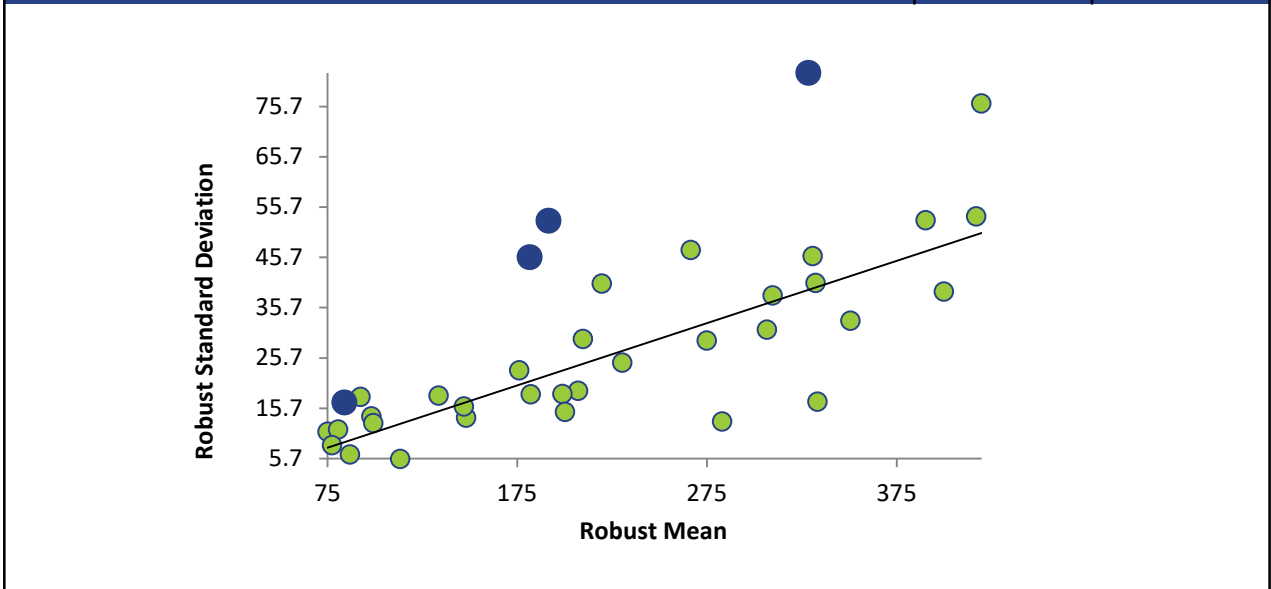
ALPHA-BHC



Box and Whisker Plots



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



ALPHA-CHLORDANE

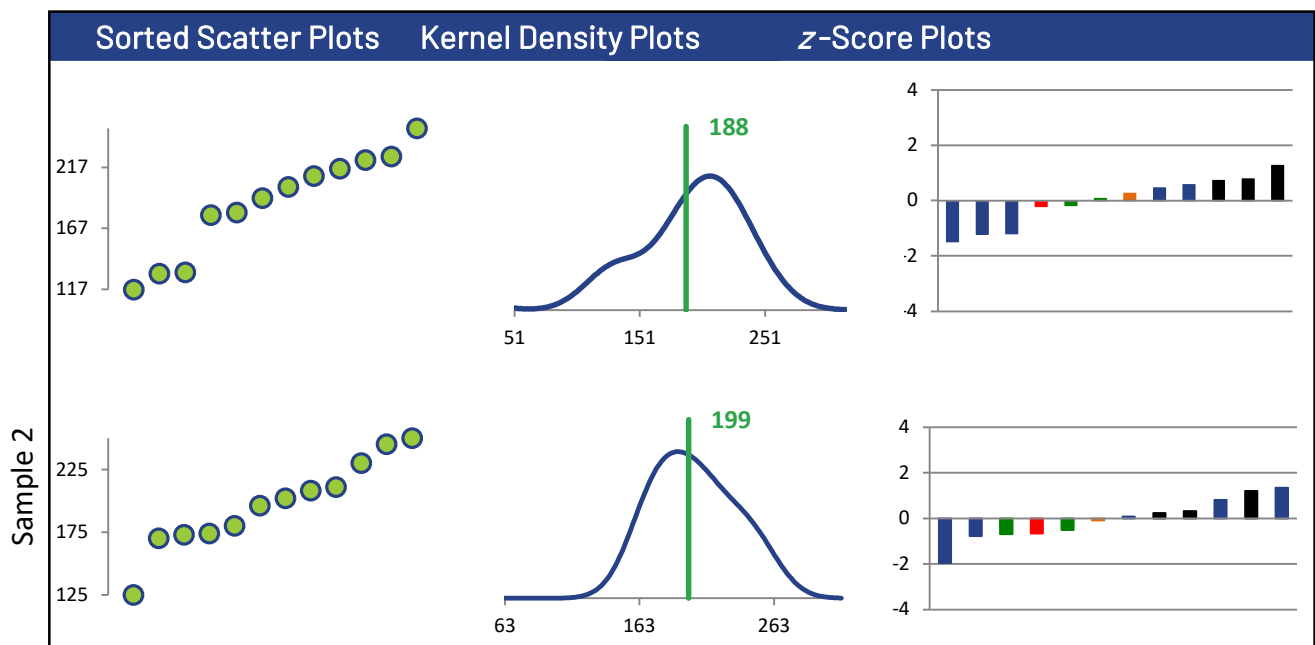
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	12	12	11
Median µg/kg	197	199	355	119
Robust Mean µg/kg	188	199	363	117
U µg/kg	17.3	13.2	40.8	6.18
Robust Standard Deviation µg/kg	47.9	36.7	113	16.4
Regression Standard Deviation µg/kg	35.9	37.9	68.7	22.7
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	47.9	37.9	113	22.7
Outliers	0	0	0	1
z >3.0	0	0	0	0
2< z <3	0	0	0	0

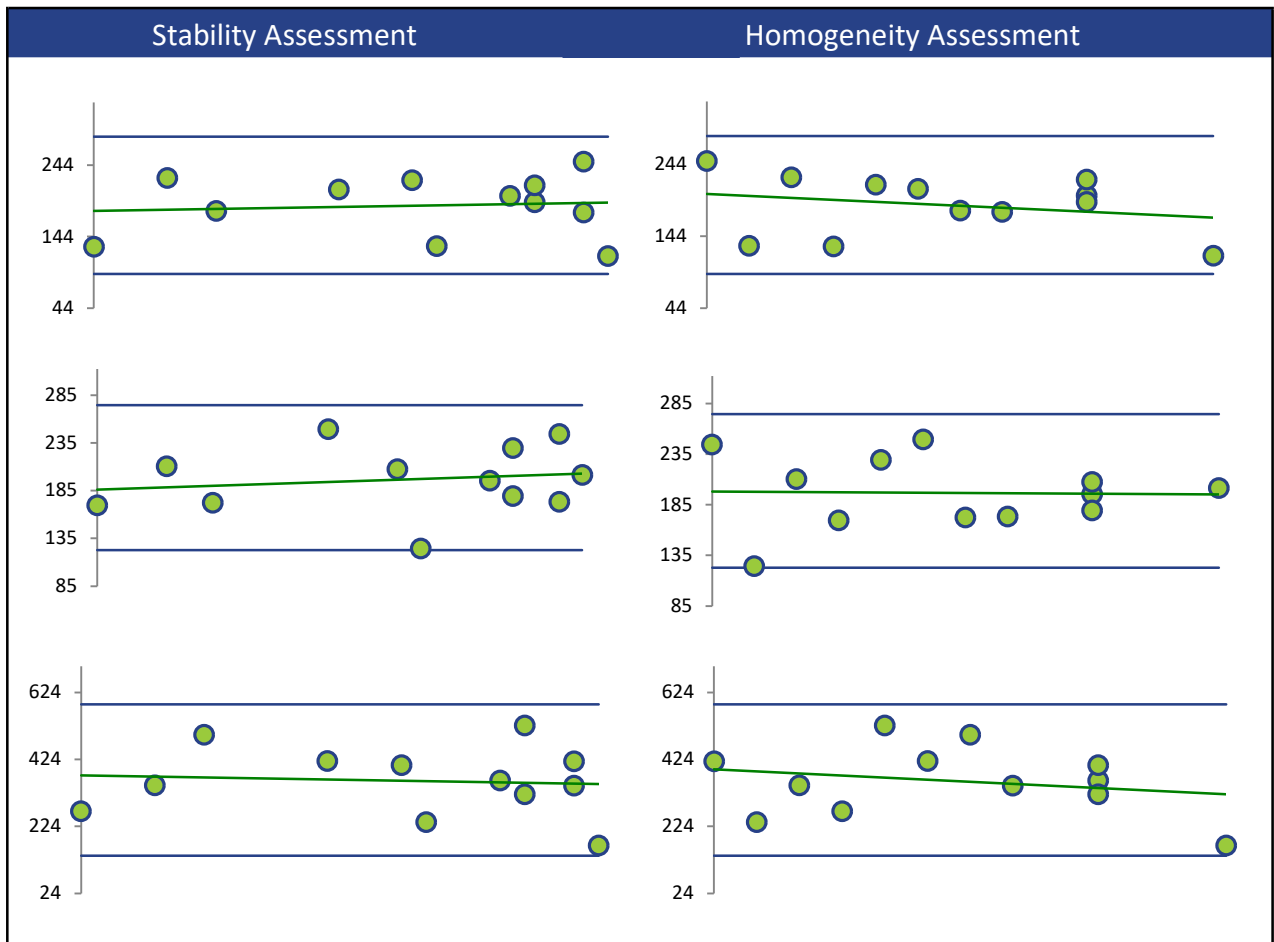
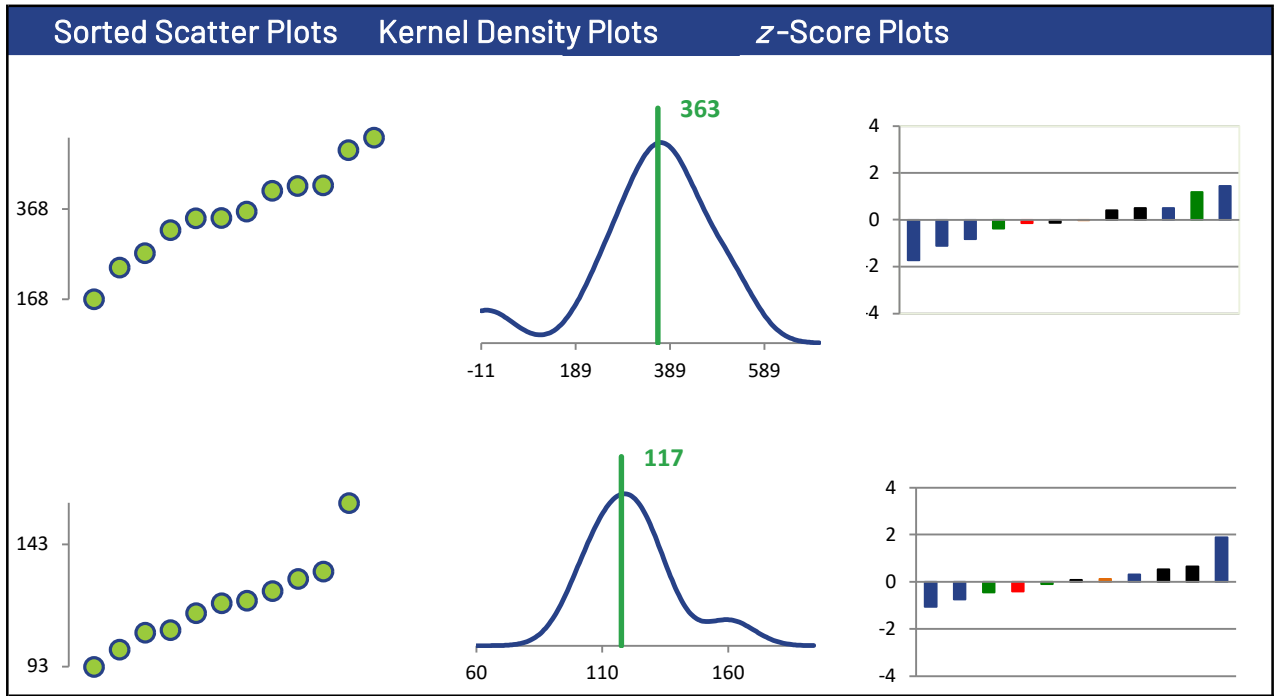
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	5	5	5	4
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS/MS (Green)	2	2	2	2
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GC/MS - EXTRACTION (Black)	3	3	3	3

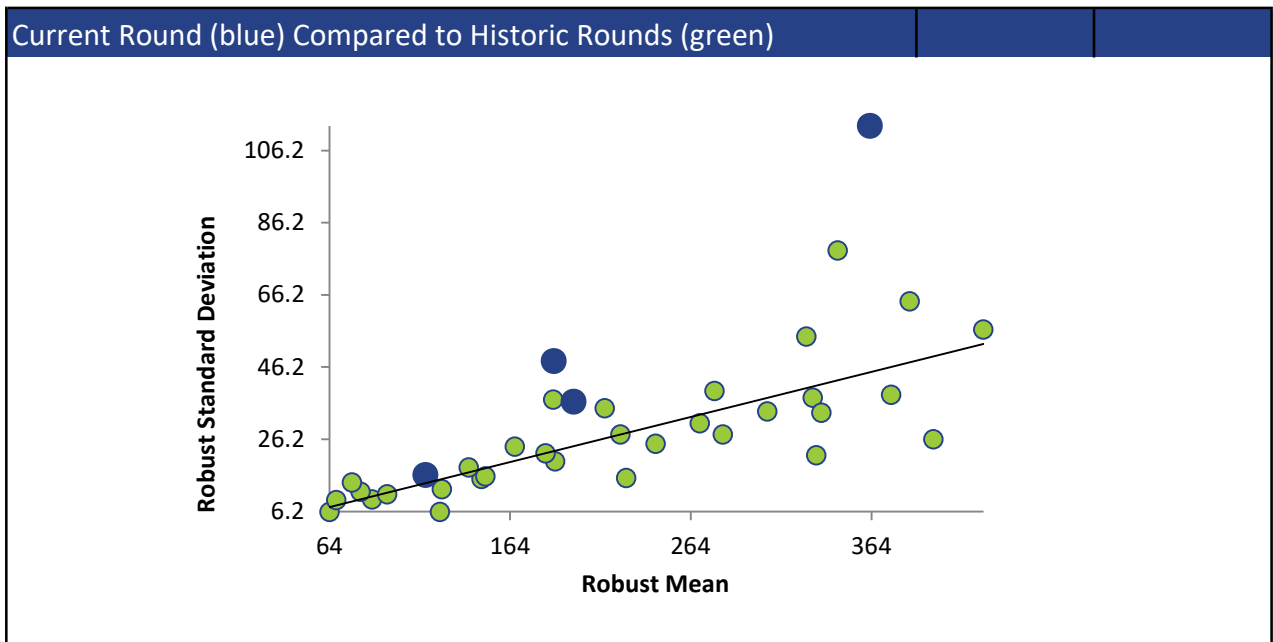
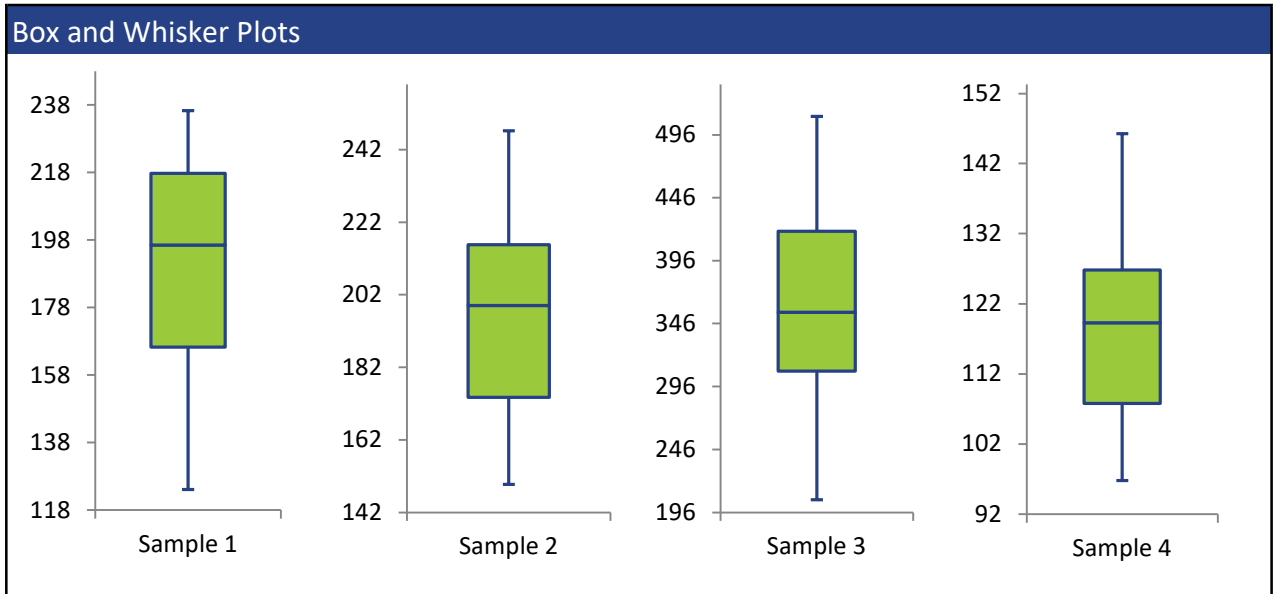
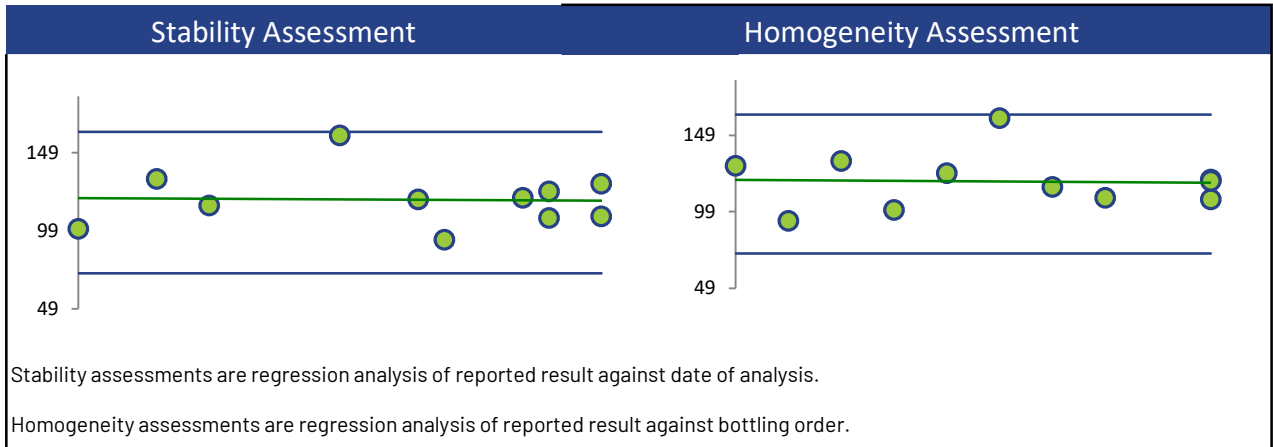
All summary stats and the plots below are based on the data excluding any flagged outliers



ALPHA-CHLORDANE



ALPHA-CHLORDANE



BETA-BHC

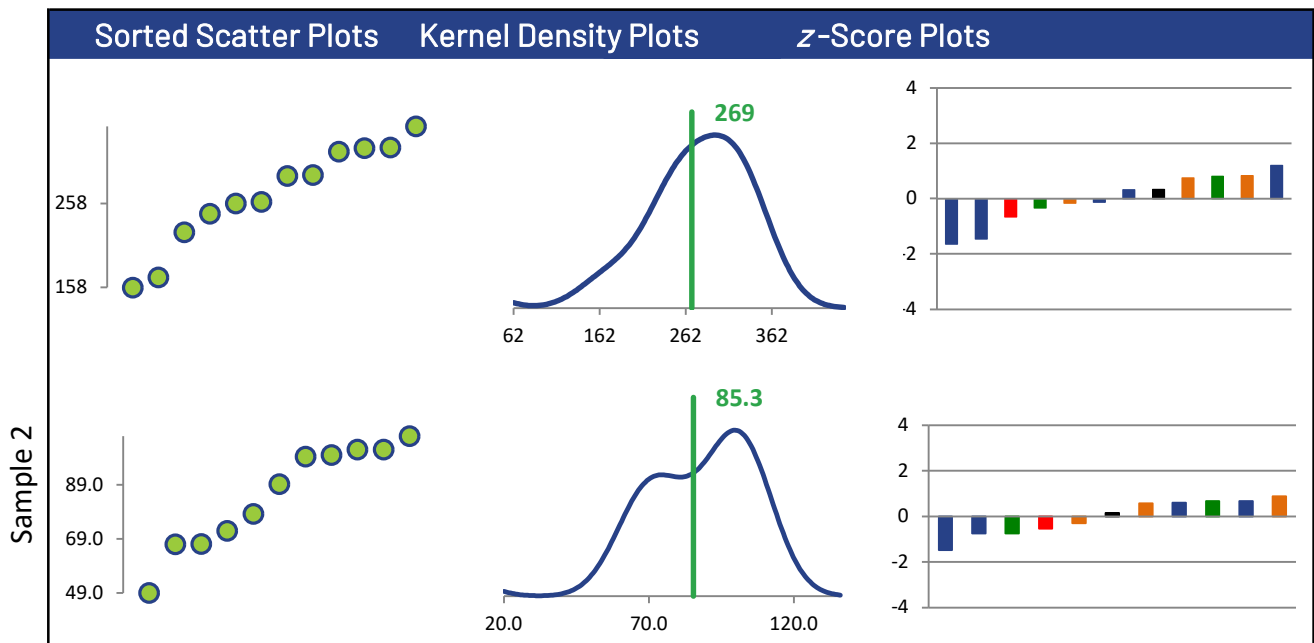
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	11	12	12
Median µg/kg	276	89.2	165	374
Robust Mean µg/kg	269	85.3	155	350
U µg/kg	24.4	7.76	20.0	29.5
Robust Standard Deviation µg/kg	67.7	20.6	55.3	81.8
Regression Standard Deviation µg/kg	57.5	24.7	37.1	71.9
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	67.7	24.7	55.3	81.8
Outliers	0	1	0	0
z >3.0	0	0	0	0
2< z <3	0	0	0	1

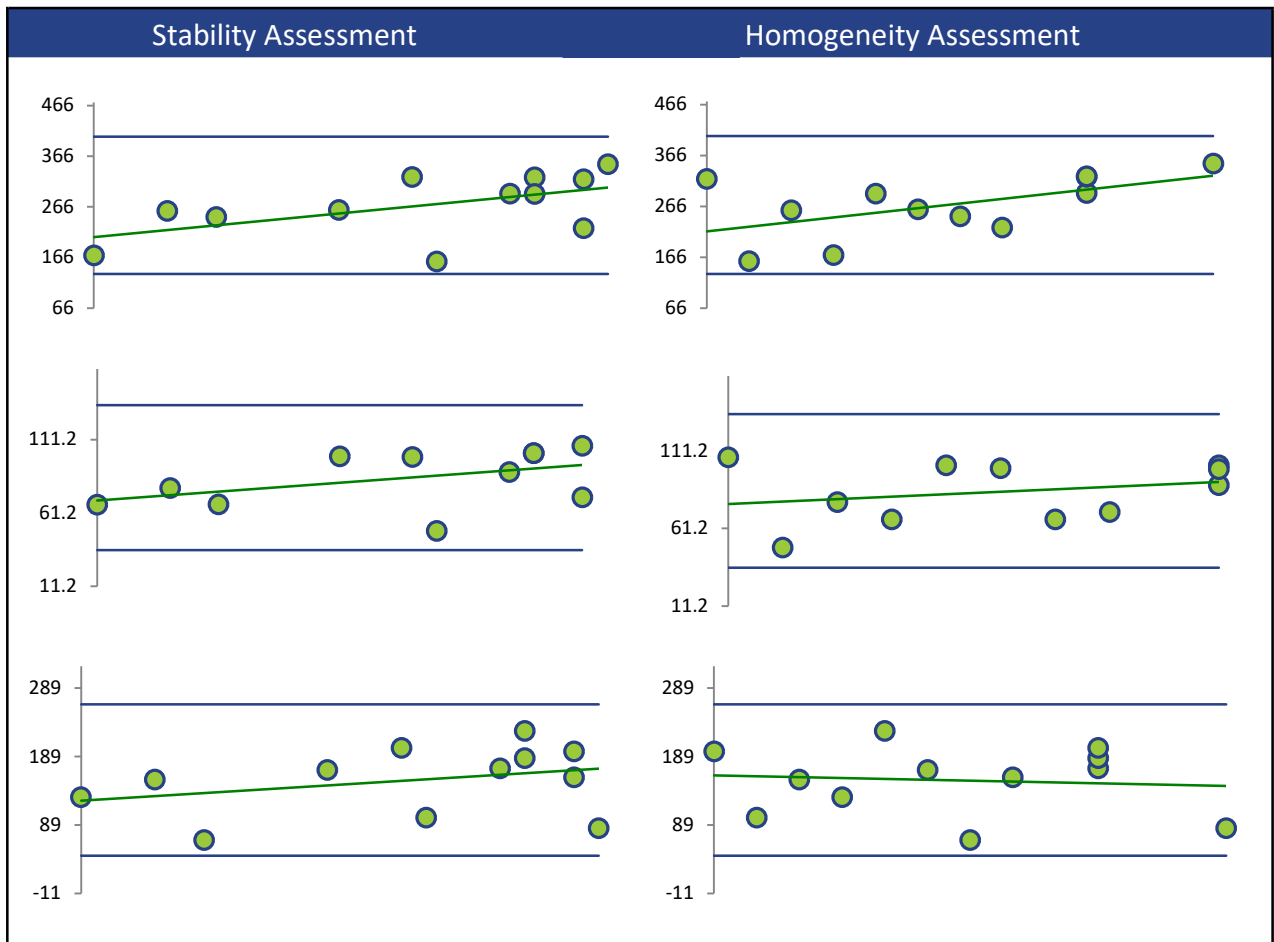
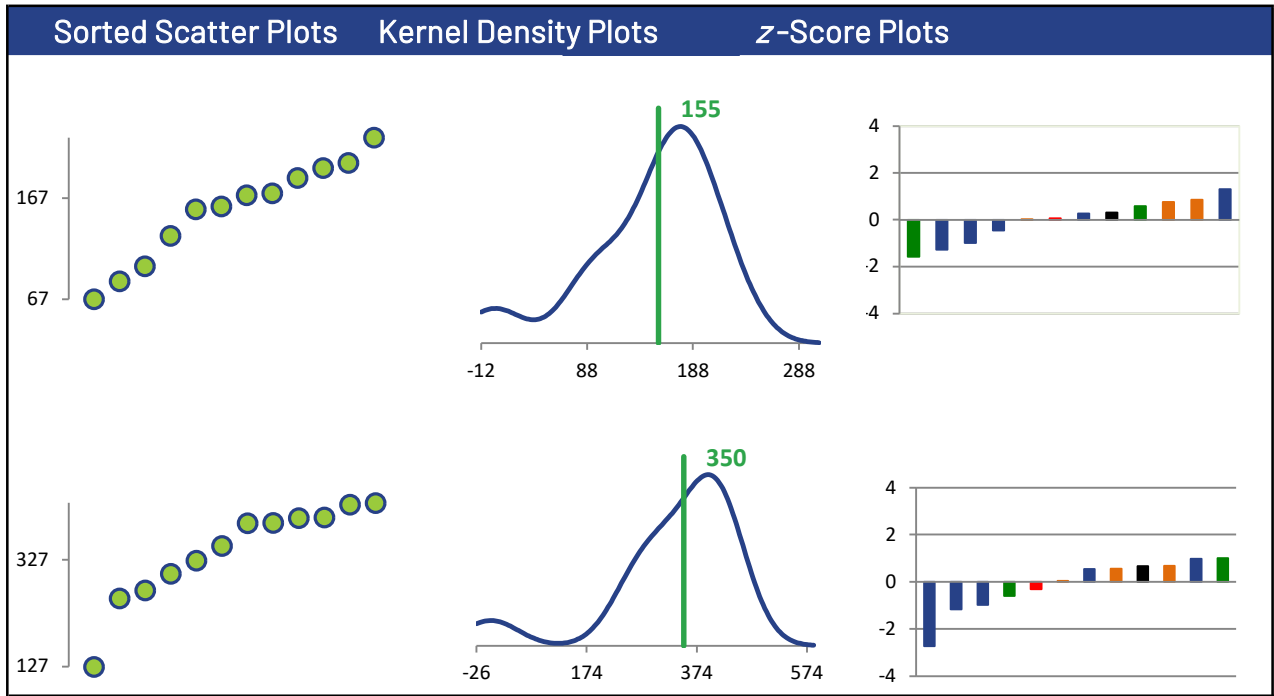
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	5	4	5	5
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS/MS (Green)	2	2	2	2
GC/MS - EXTRACTION (Orange)	3	3	3	3
HI RESOLUTION GC/MS (Black)	1	1	1	1

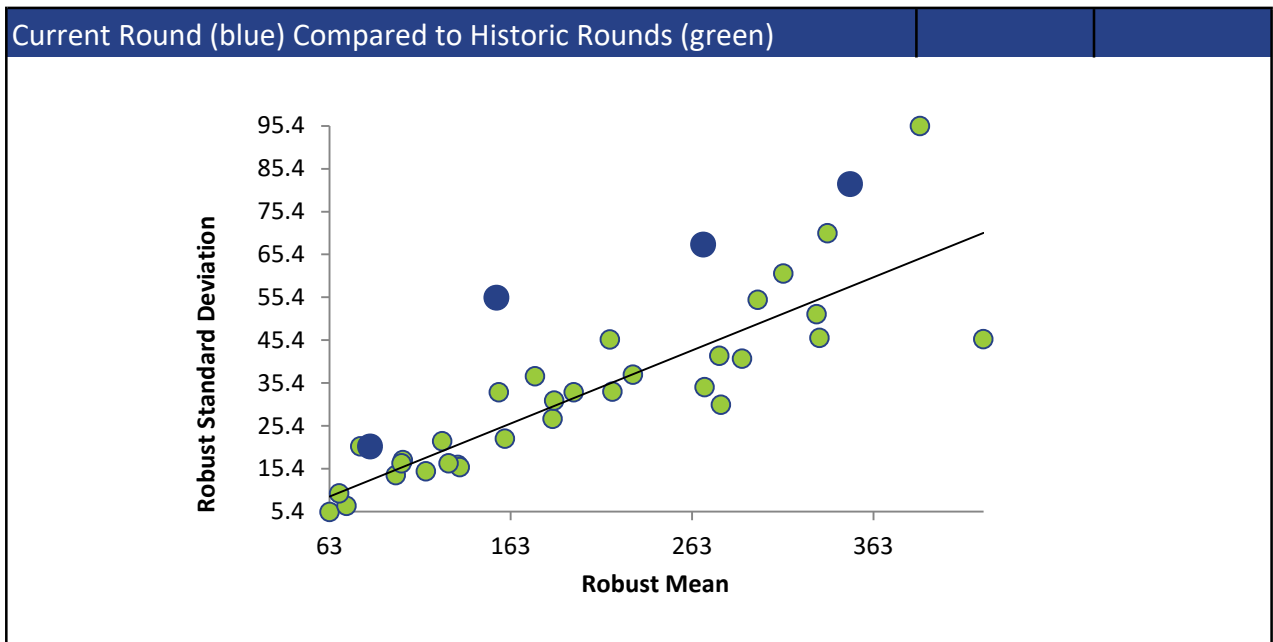
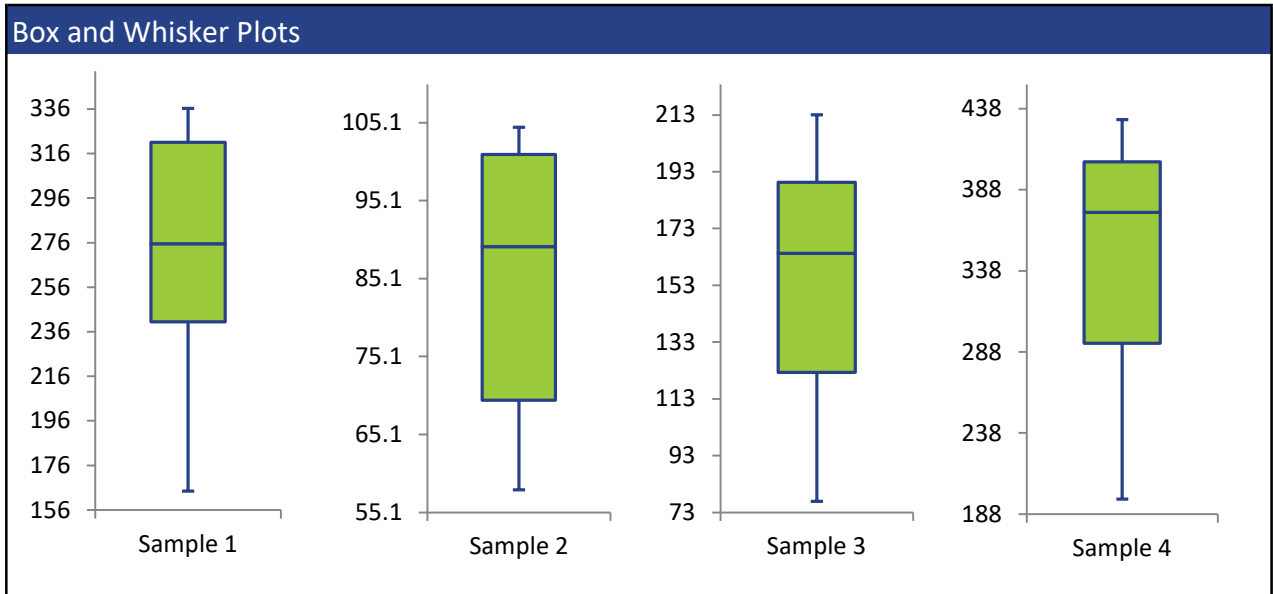
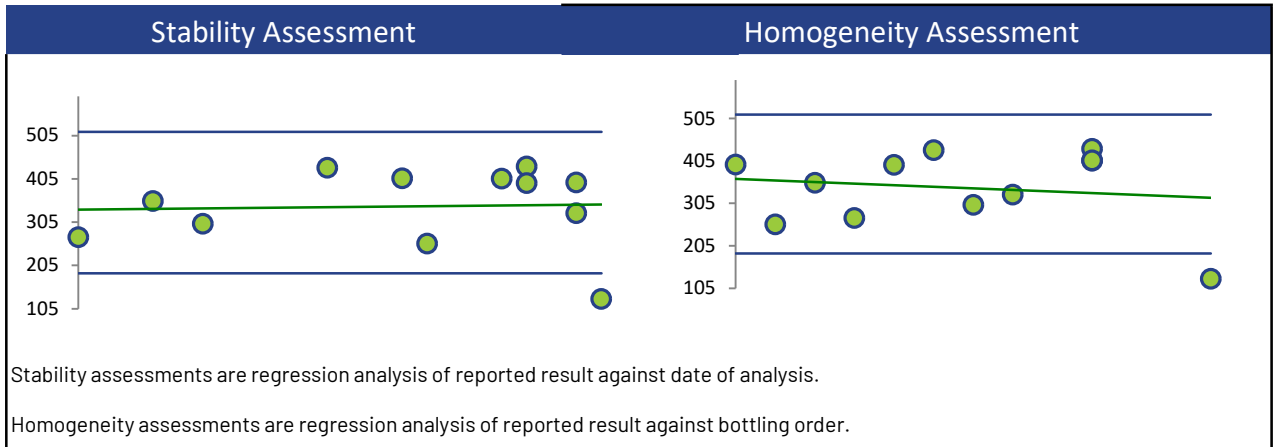
All summary stats and the plots below are based on the data excluding any flagged outliers



BETA-BHC



BETA-BHC



DIELDRIN

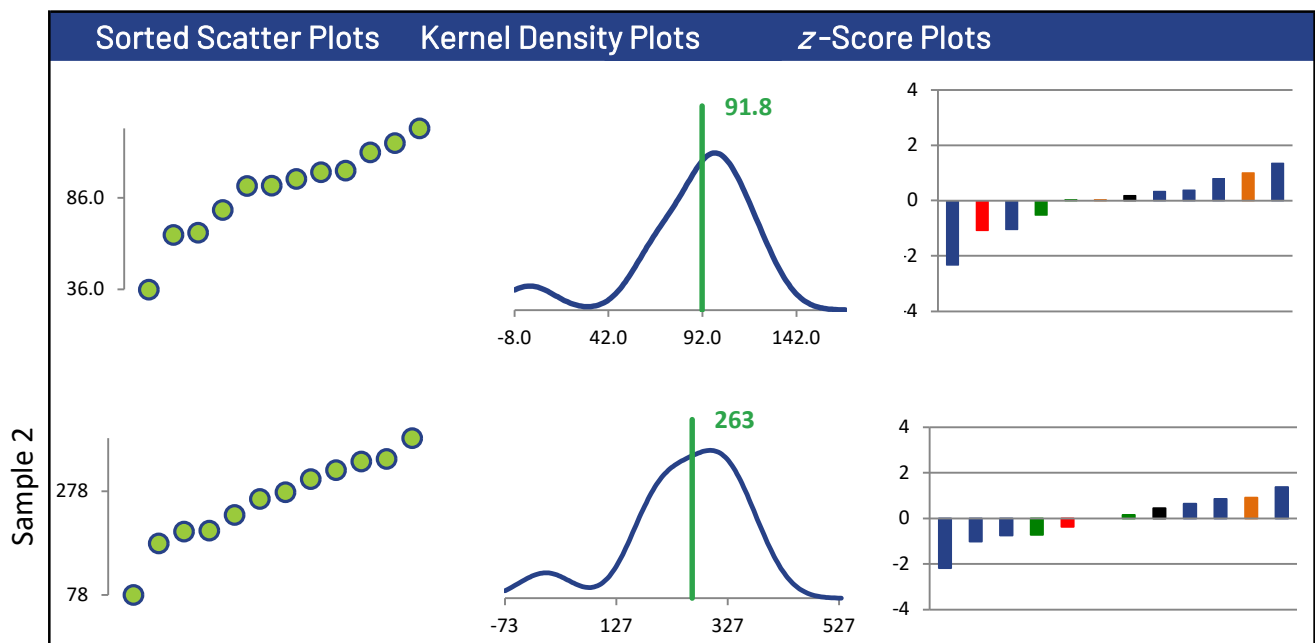
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	12	12	12
Median µg/kg	94.6	270	397	159
Robust Mean µg/kg	91.8	263	396	159
U µg/kg	8.62	30.6	44.0	15.9
Robust Standard Deviation µg/kg	23.9	84.9	122	44.0
Regression Standard Deviation µg/kg	19.4	48.1	70.2	30.7
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	23.9	84.9	122	44.0
Outliers	0	0	0	0
z >3.0	0	0	0	0
2< z <3	1	1	0	1

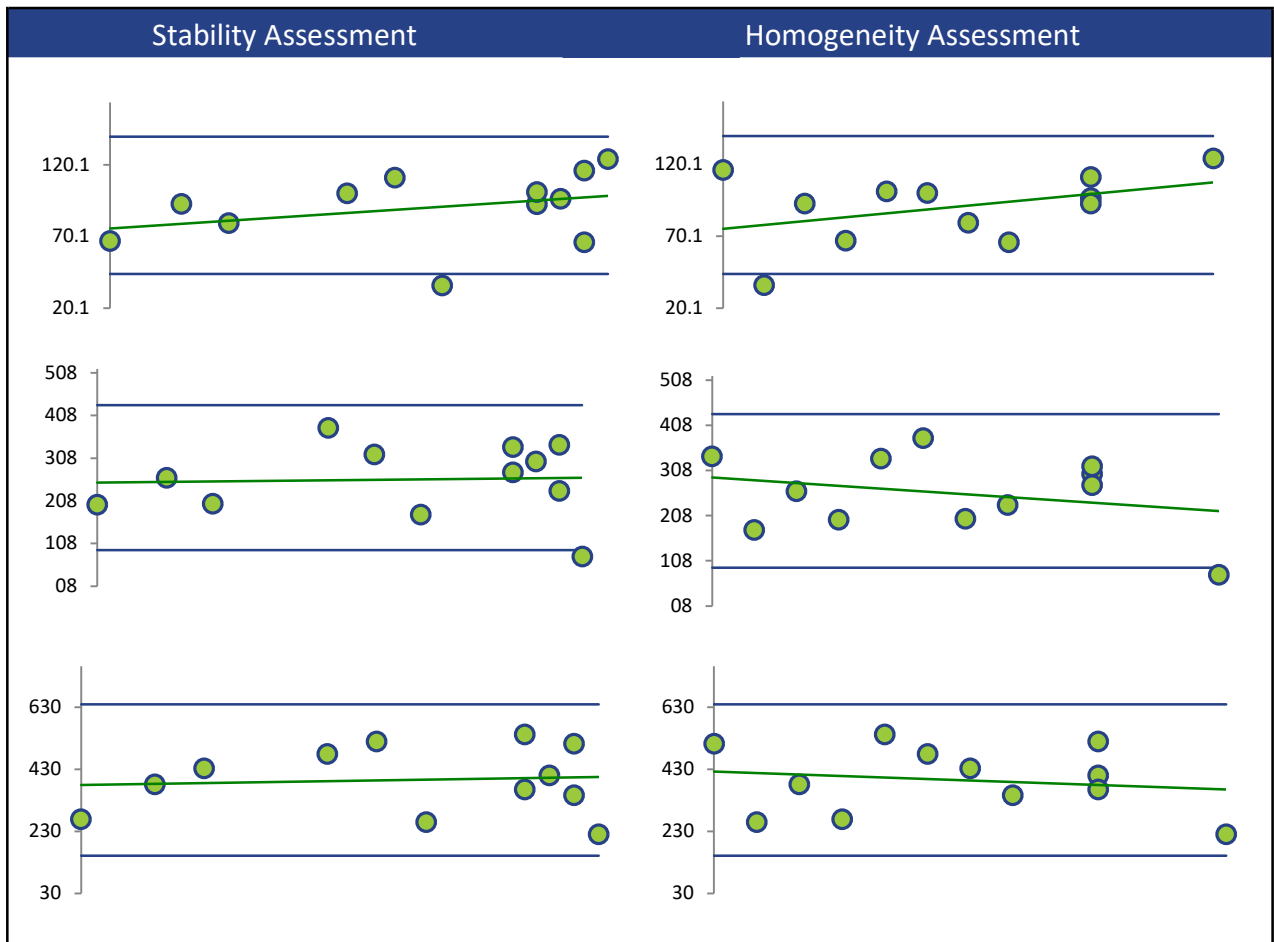
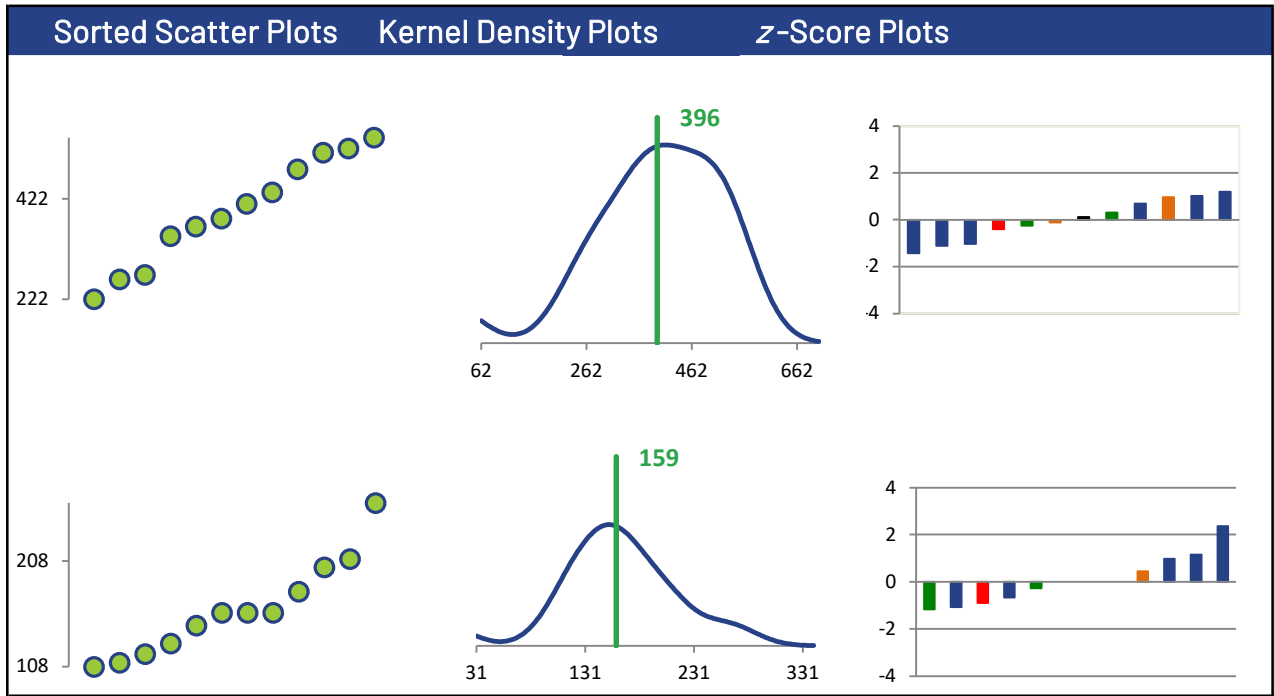
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	6	6	6	6
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS/MS (Green)	2	2	2	2
GC/MS - EXTRACTION (Orange)	2	2	2	2
HI RESOLUTION GC/MS (Black)	1	1	1	1

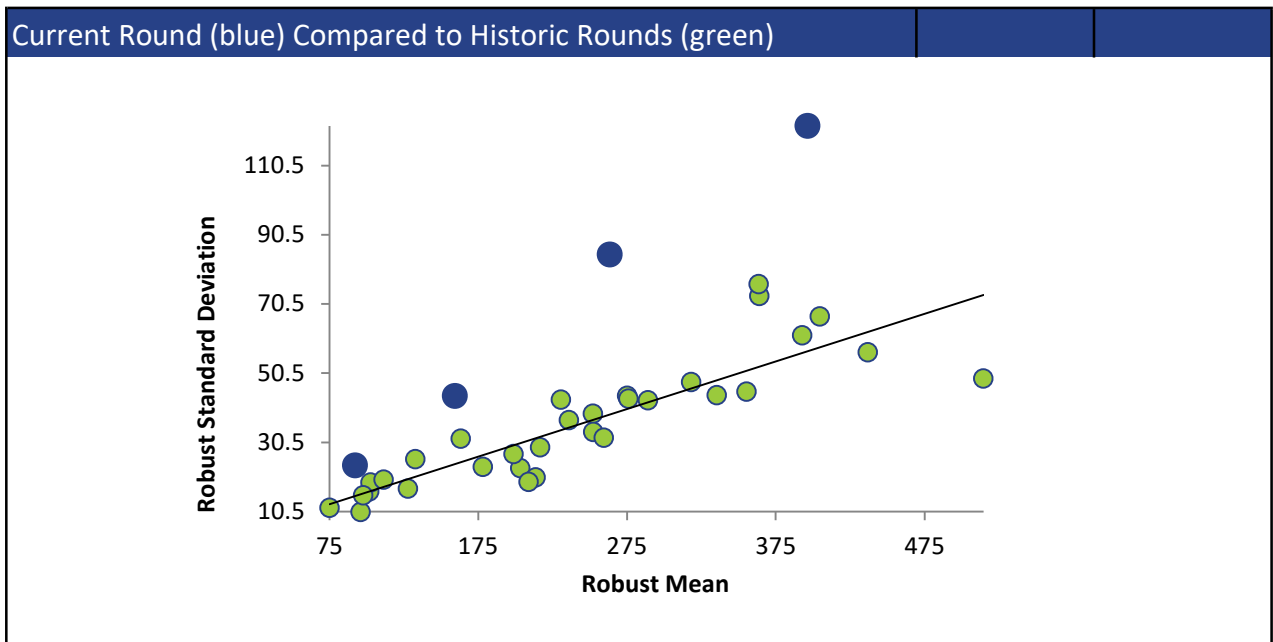
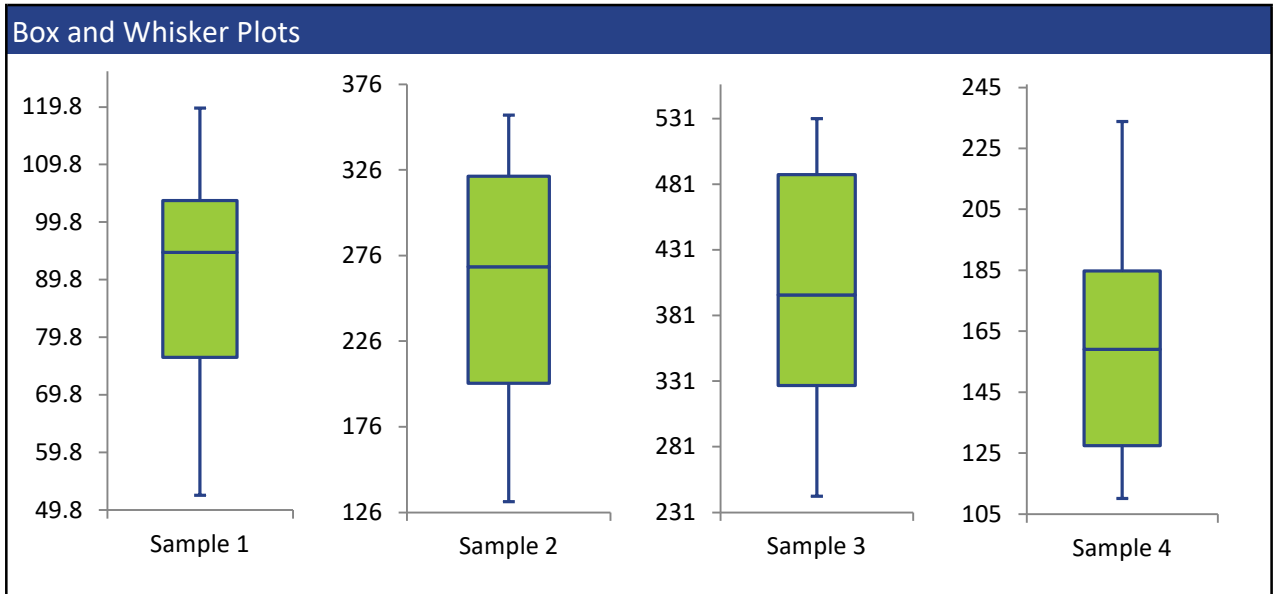
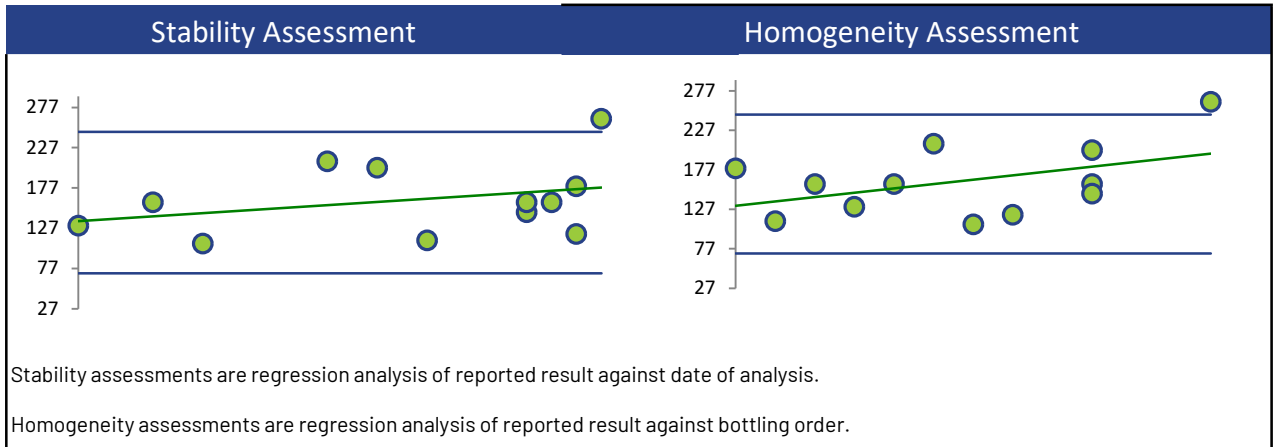
All summary stats and the plots below are based on the data excluding any flagged outliers



DIELDRIN



DIELDRIN



ENDOSULFAN I (A-ENDOSULFAN)

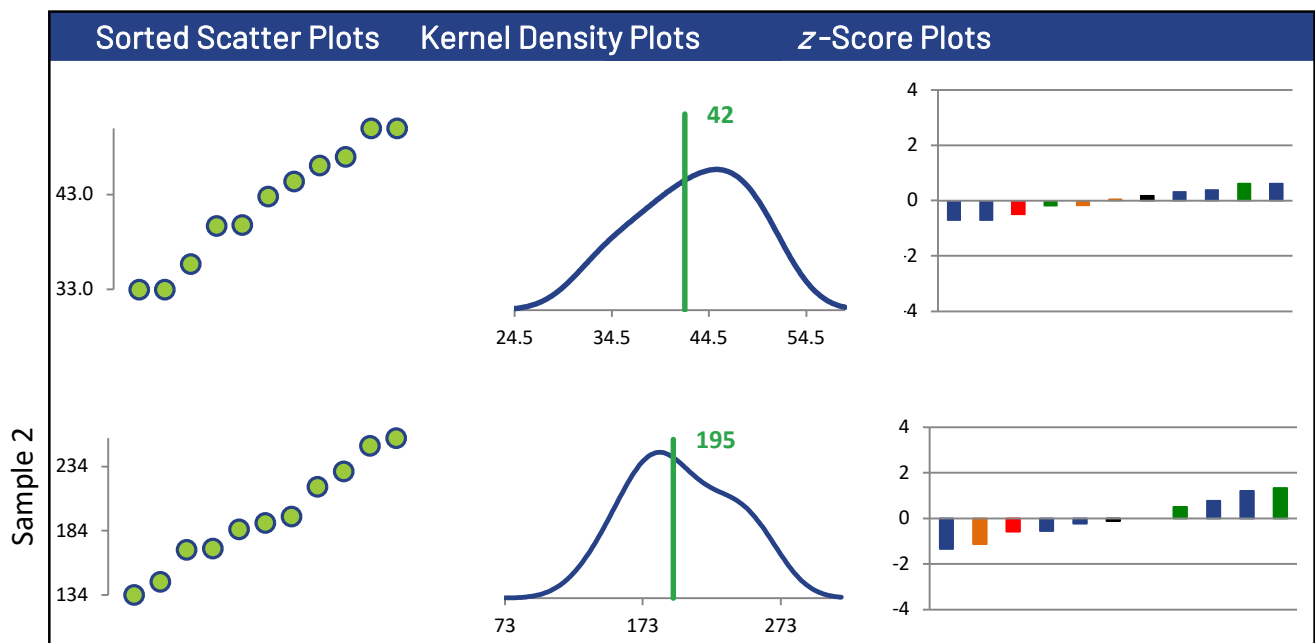
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	11	11	12	11
Median µg/kg	42.8	190	105	255
Robust Mean µg/kg	42.0	195	110	256
U µg/kg	2.66	17.2	10.2	18.1
Robust Standard Deviation µg/kg	7.06	45.7	28.4	47.9
Regression Standard Deviation µg/kg	12.7	40.6	25.2	51.7
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	12.7	45.7	28.4	51.7
Outliers	1	1	0	1
z >3.0	0	0	0	0
2< z <3	0	0	0	0

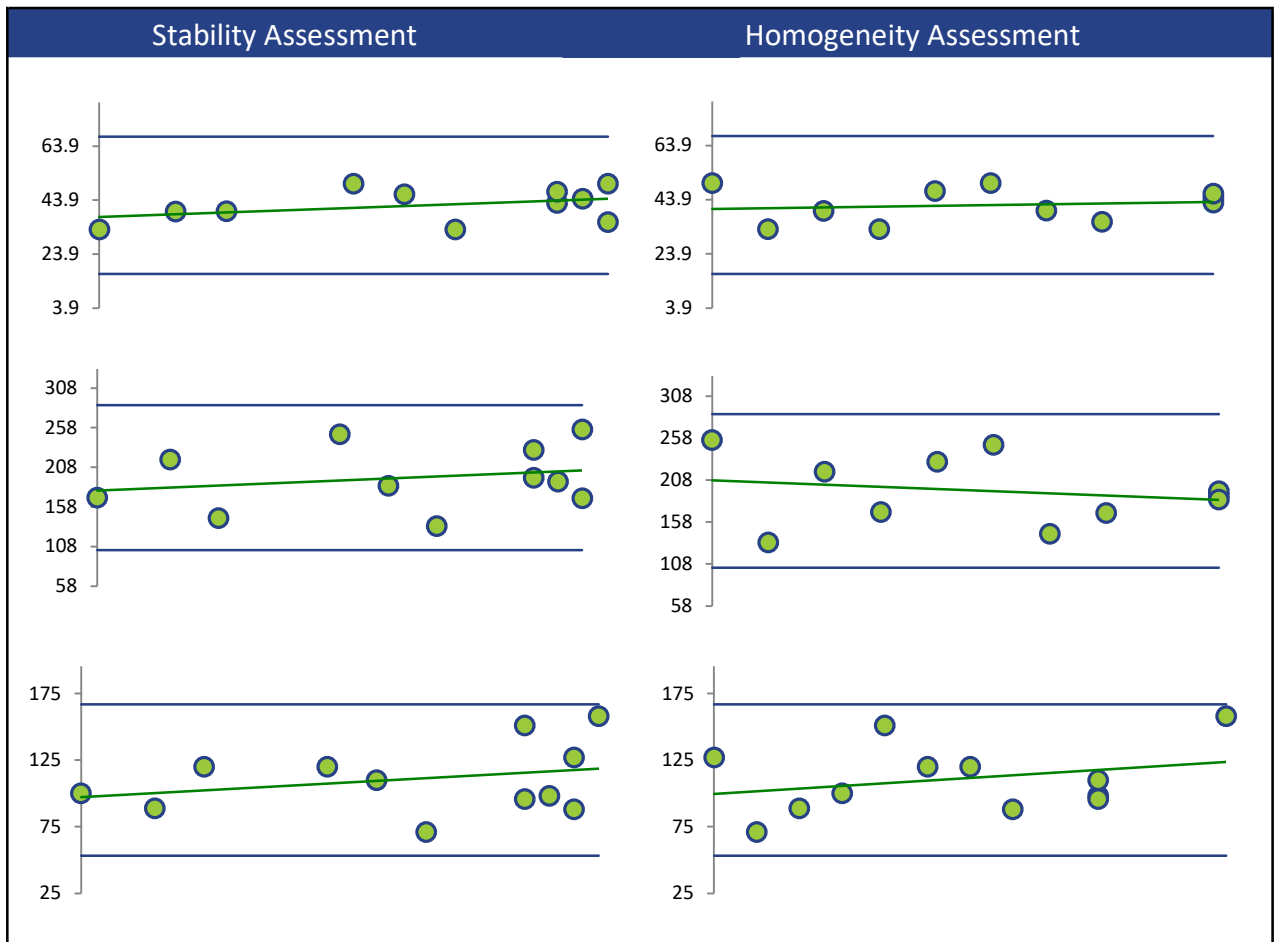
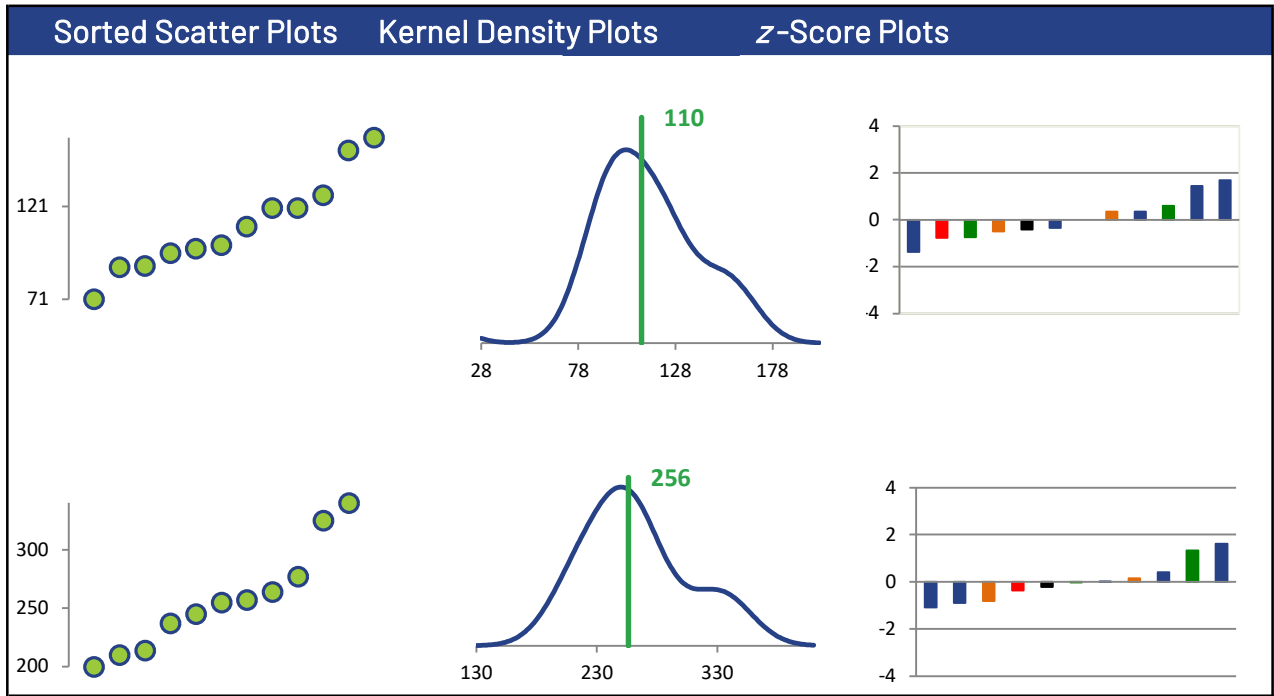
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	5	5	6	5
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS - EXTRACTION (Green)	2	2	2	2
GC/MS/MS (Orange)	2	2	2	2
HI RESOLUTION GC/MS (Black)	1	1	1	1

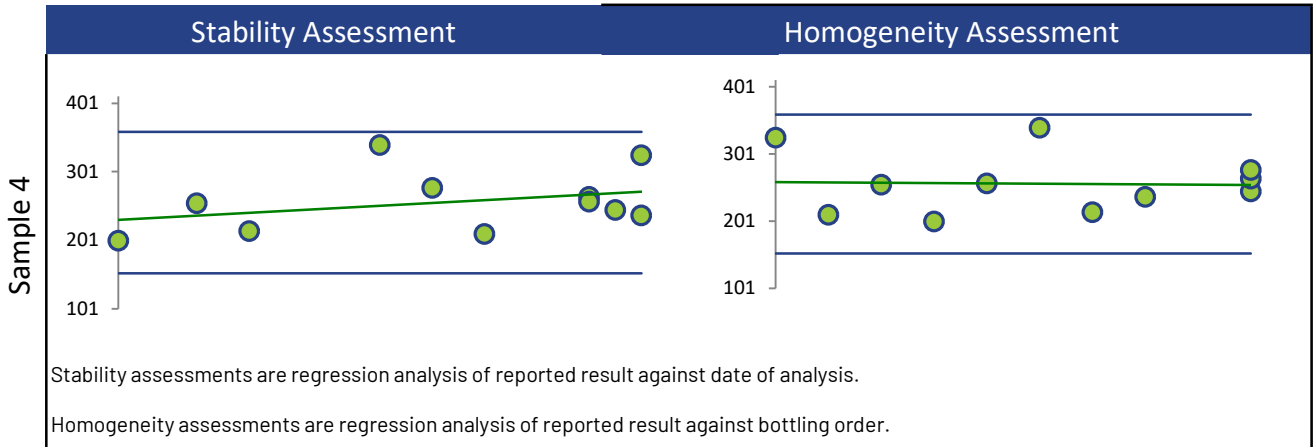
All summary stats and the plots below are based on the data excluding any flagged outliers



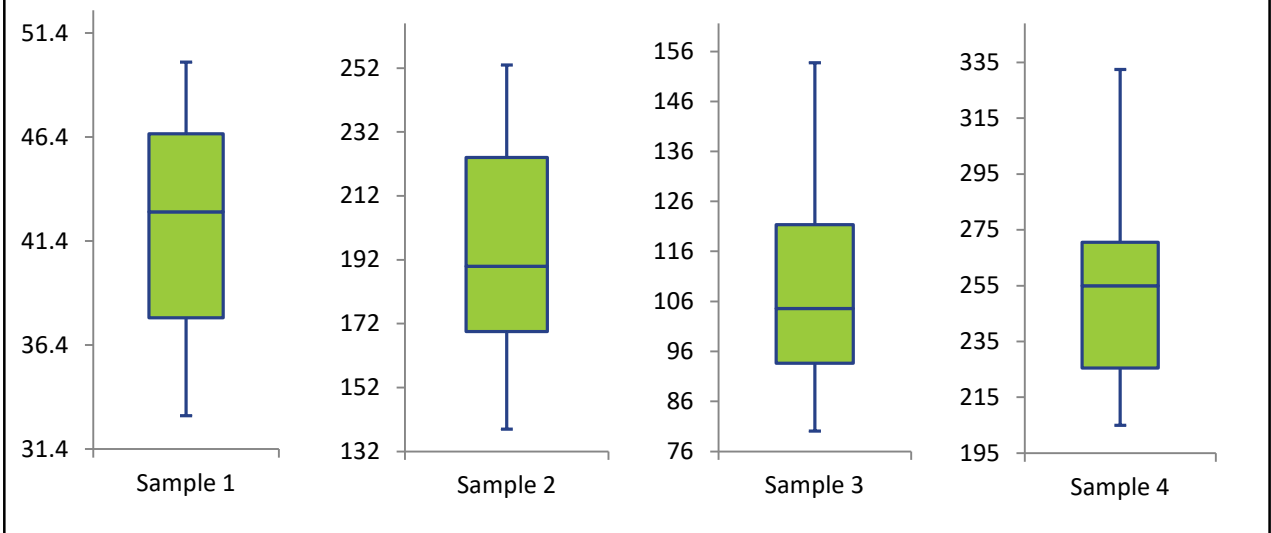
ENDOSULFAN I (A-ENDOSULFAN)



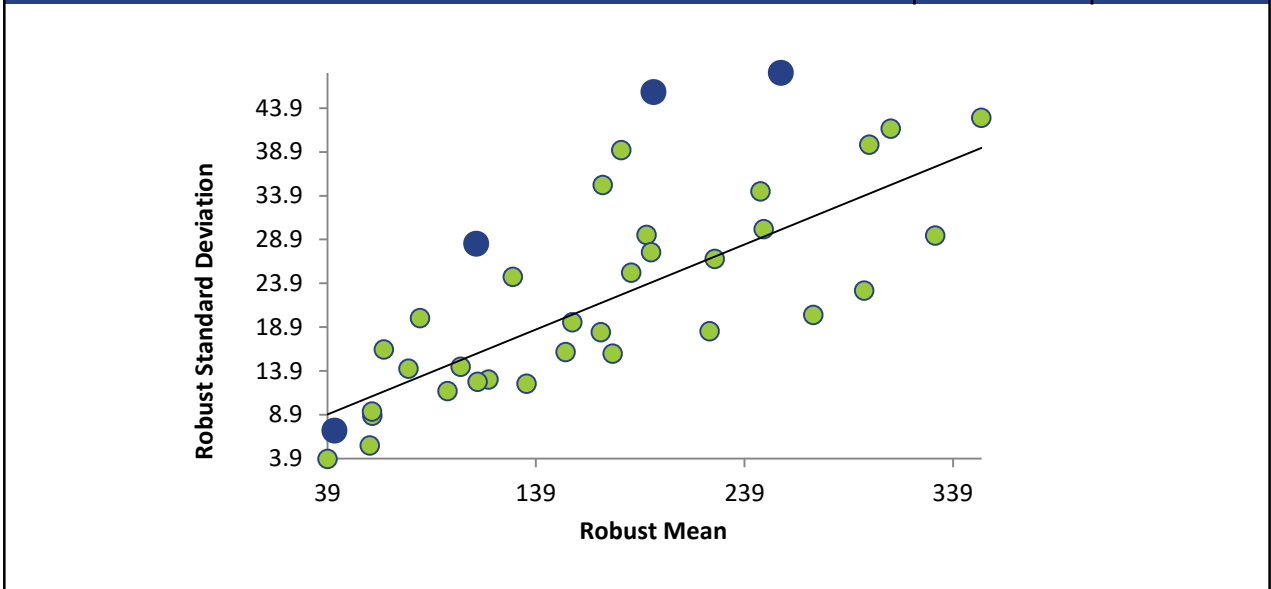
ENDOSULFAN I (A-ENDOSULFAN)



Box and Whisker Plots



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



ENDOSULFAN II(B-ENDOSULFAN)

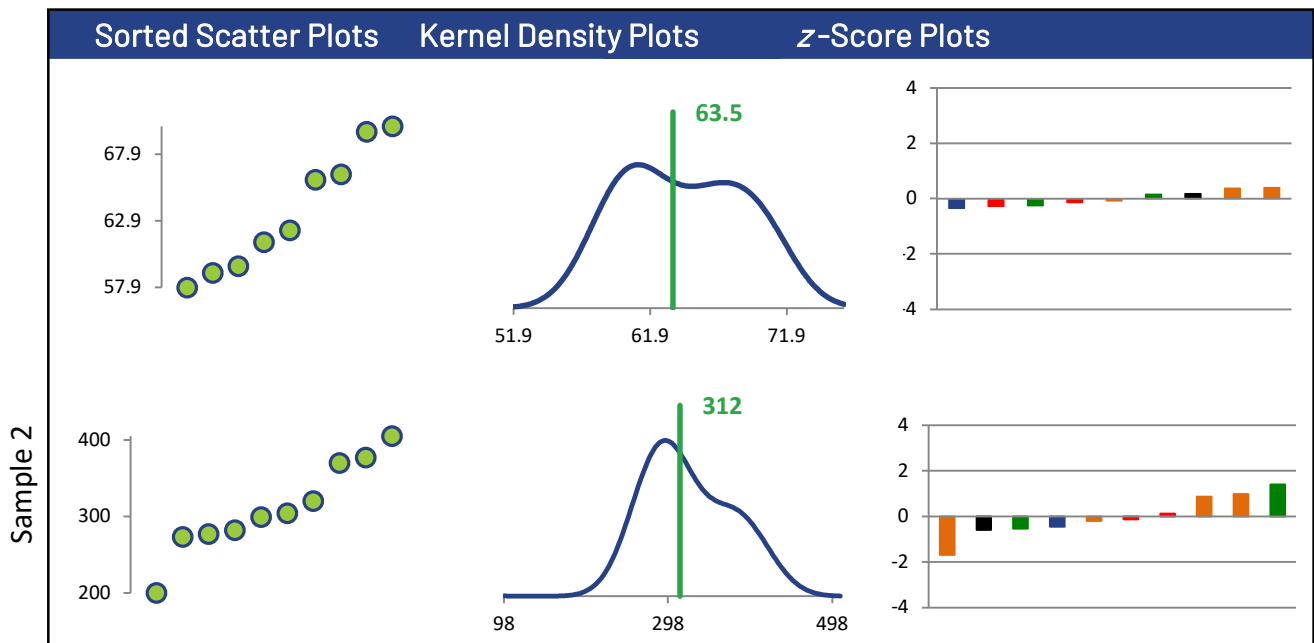
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	9	10	11	11
Median µg/kg	62.2	302	208	135
Robust Mean µg/kg	63.5	312	215	133
U µg/kg	2.17	25.7	17.8	8.52
Robust Standard Deviation µg/kg	5.20	65.1	47.3	22.6
Regression Standard Deviation µg/kg	16.1	66.5	46.7	30.2
Stability Flag			Stability	
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	16.1	66.5	80.0	30.2
Outliers	2	1	0	0
z >3.0	0	0	0	0
2< z <3	0	0	0	0

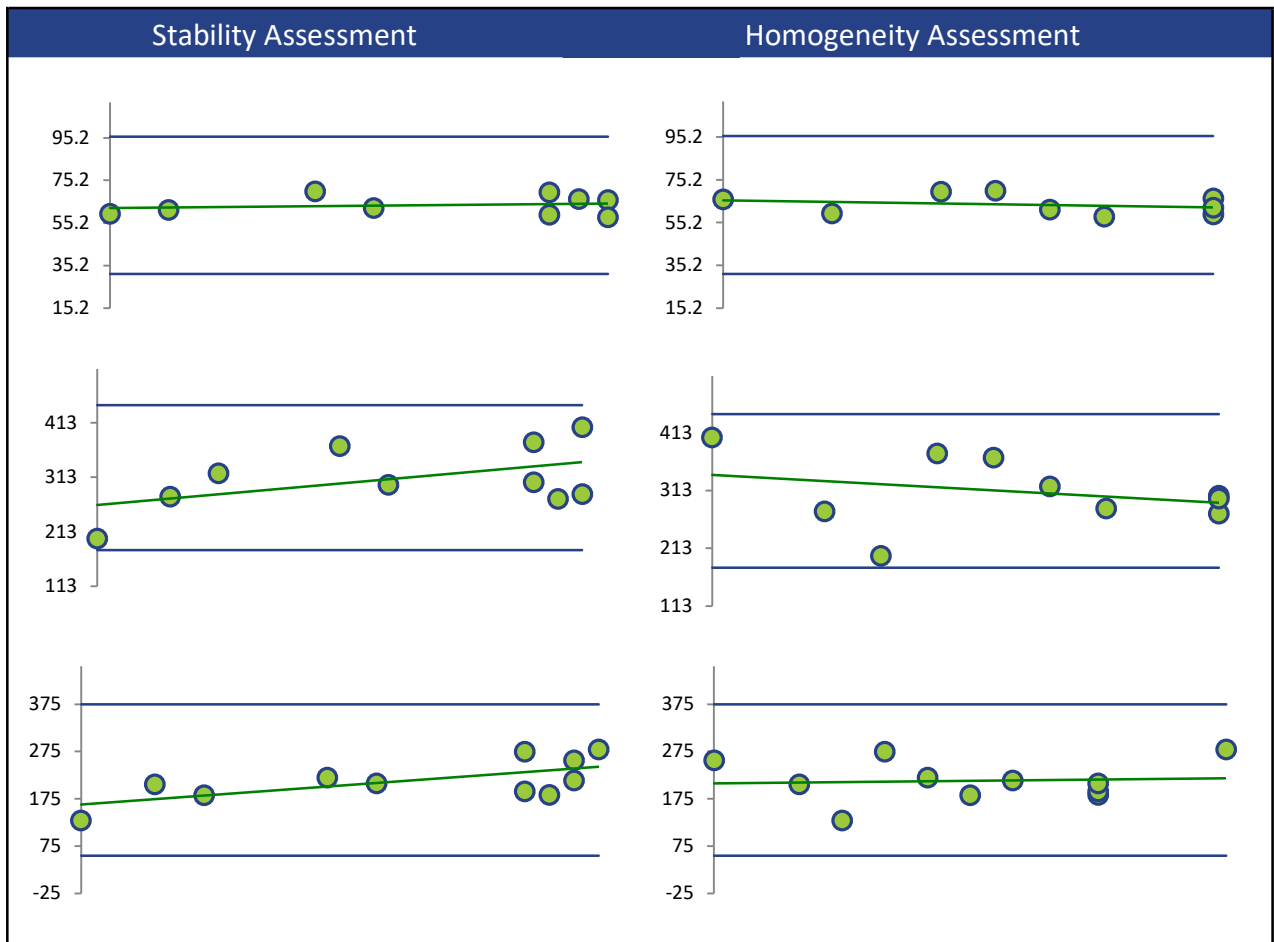
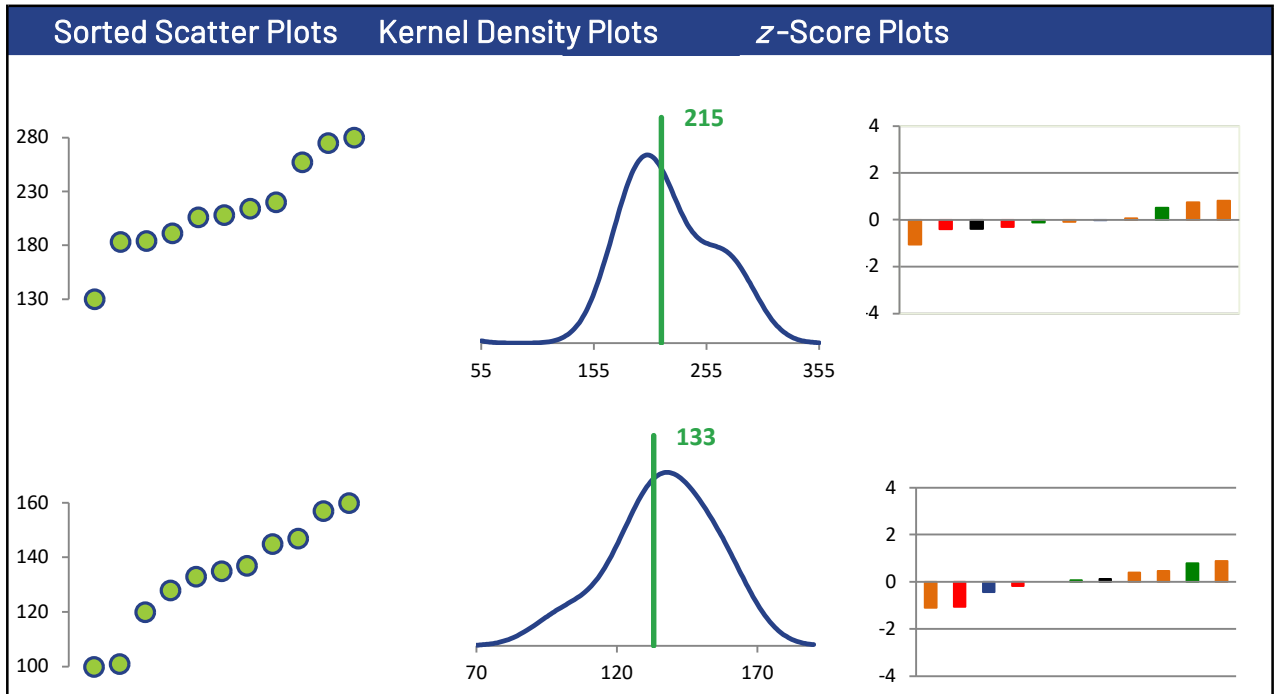
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - SHAKE EXTRACTION (Blue)	1	1	1	1
GC/MS/MS (Red)	2	2	2	2
GC/MS - EXTRACTION (Green)	2	2	2	2
GC/ECD - EXTRACTION (Orange)	3	4	5	5
HI RESOLUTION GC/MS (Black)	1	1	1	1

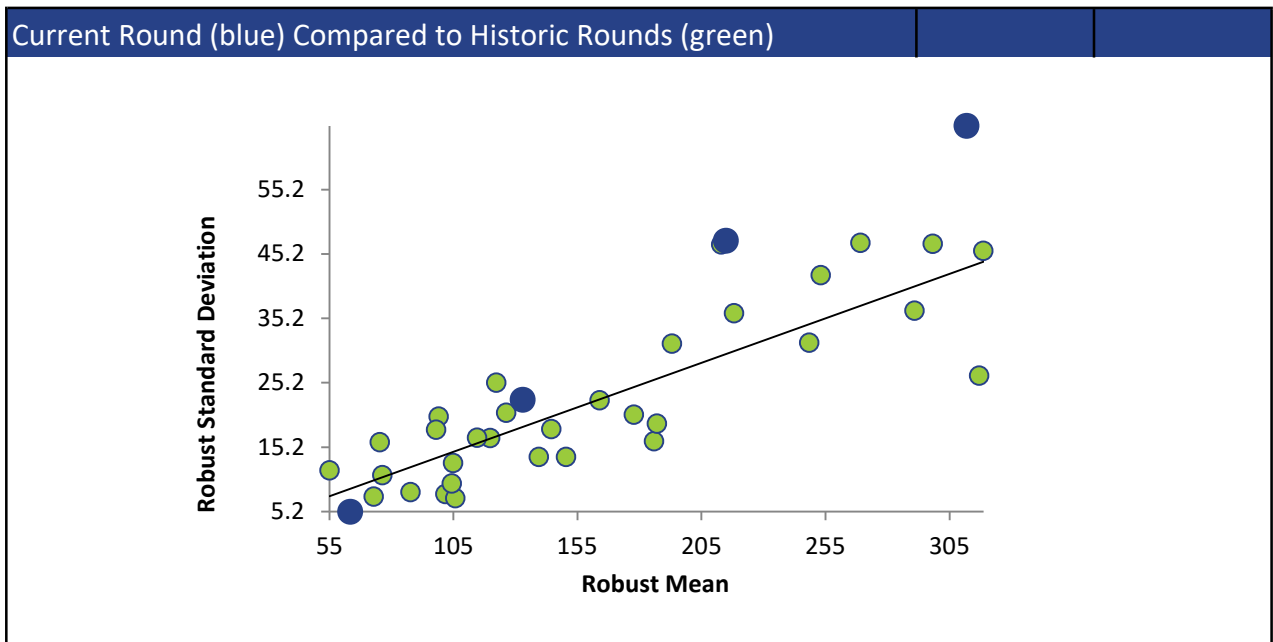
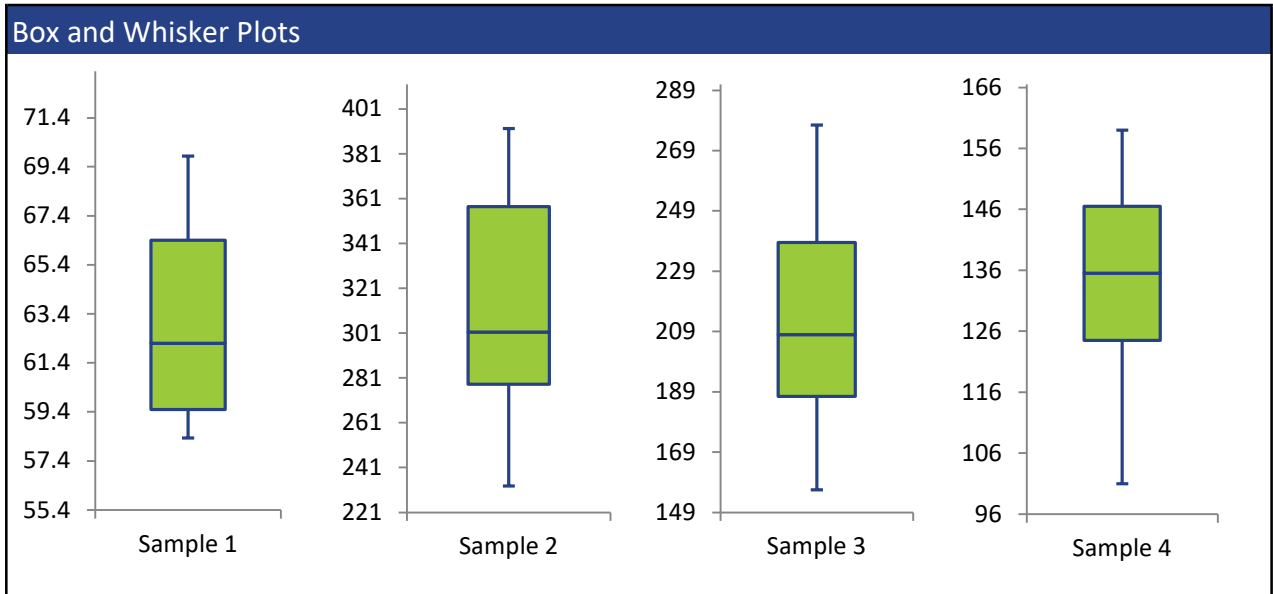
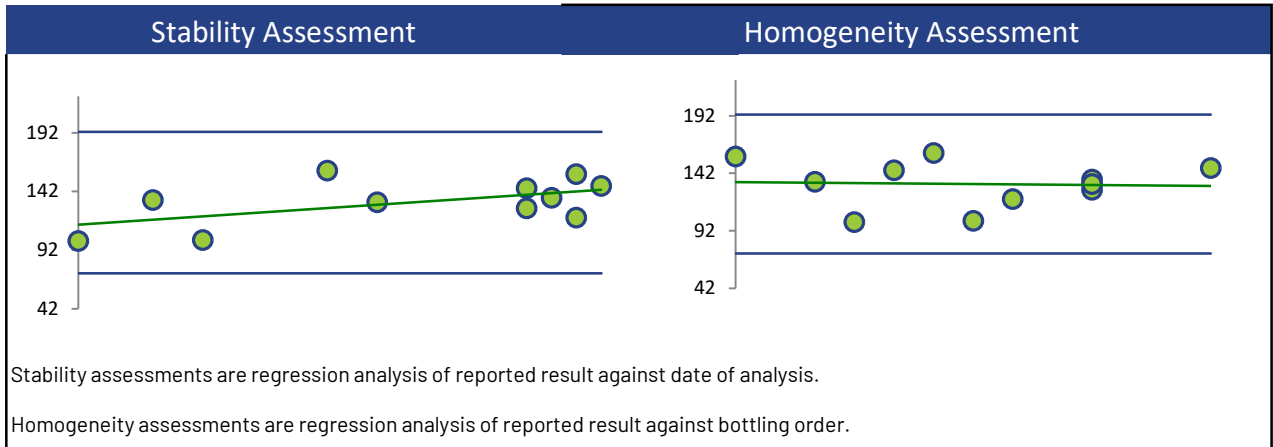
All summary stats and the plots below are based on the data excluding any flagged outliers



ENDOSULFAN II (B-ENDOSULFAN)



ENDOSULFAN II (B-ENDOSULFAN)



ENDRIN

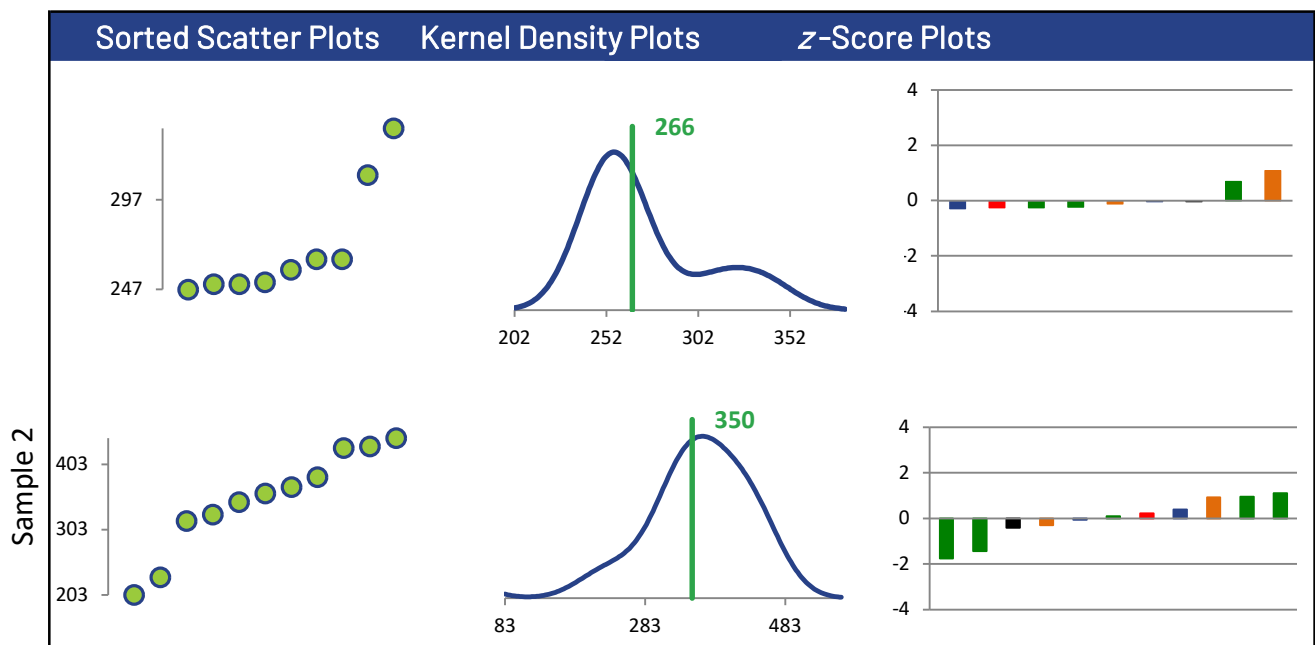
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	9	11	11	12
Median µg/kg	258	358	104	179
Robust Mean µg/kg	266	350	103	169
U µg/kg	11.0	31.5	11.5	17.5
Robust Standard Deviation µg/kg	26.3	83.7	30.4	48.4
Regression Standard Deviation µg/kg	45.4	57.4	22.0	31.4
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) µg/kg	65.1	83.7	30.4	48.4
Outliers	2	1	1	0
z >3.0	0	0	0	0
2< z <3	0	0	0	1

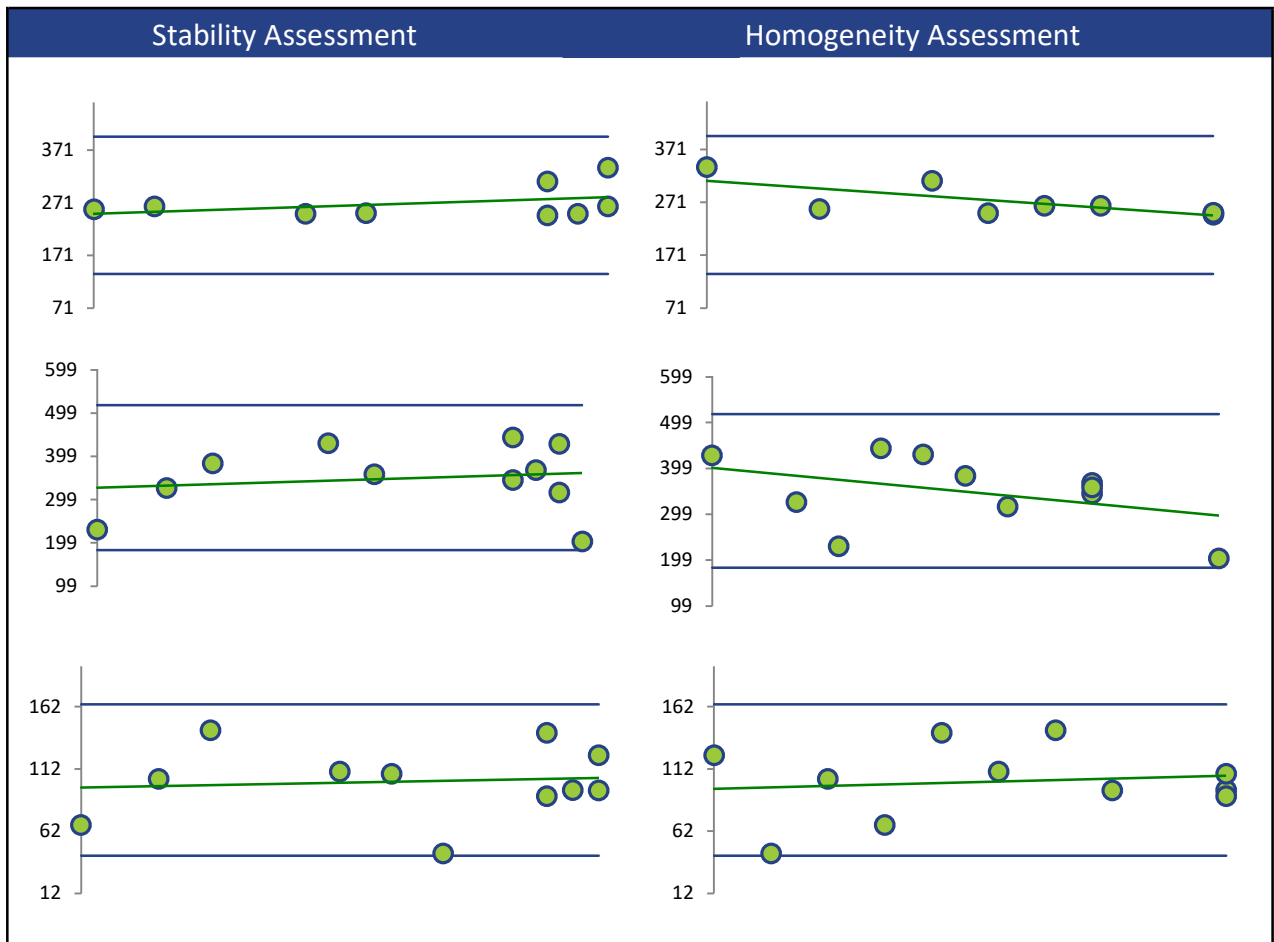
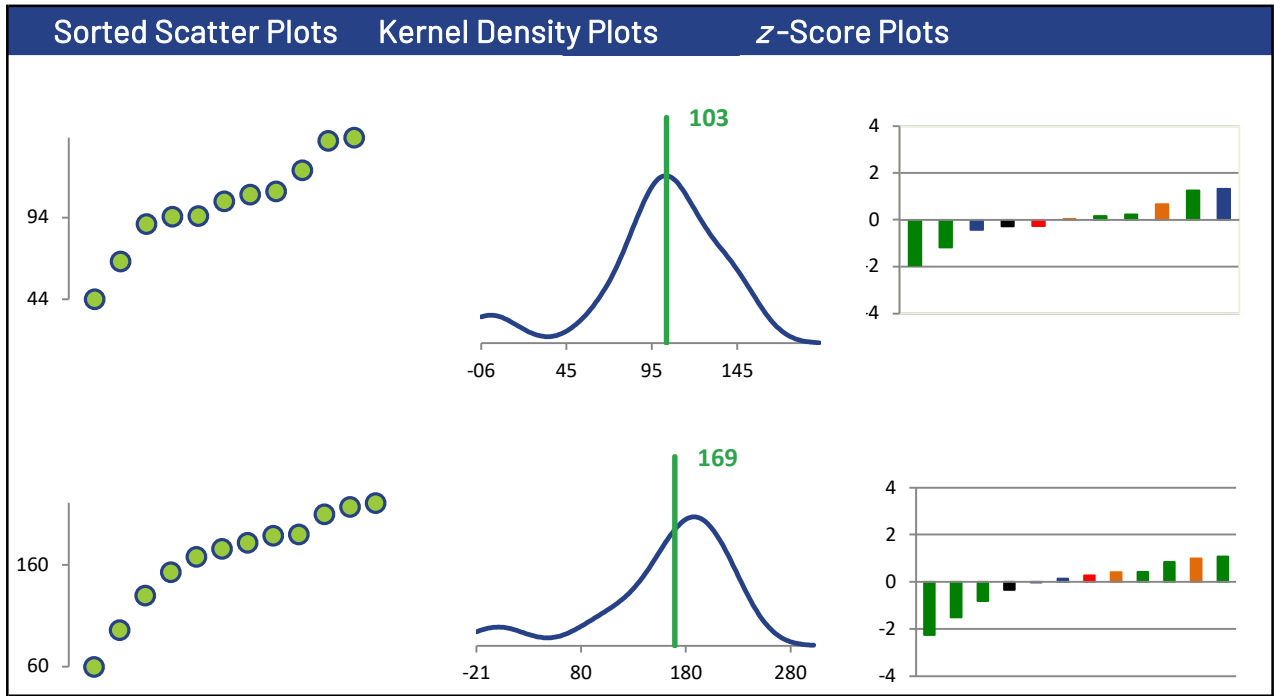
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/MS/MS (Blue)	2	2	2	2
HI RESOLUTION GC/MS (Red)	1	1	1	1
GC/ECD - EXTRACTION (Green)	3	5	5	6
GC/MS - EXTRACTION (Orange)	2	2	2	2
GC/ECD - SHAKE EXTRACTION (Black)	1	1	1	1

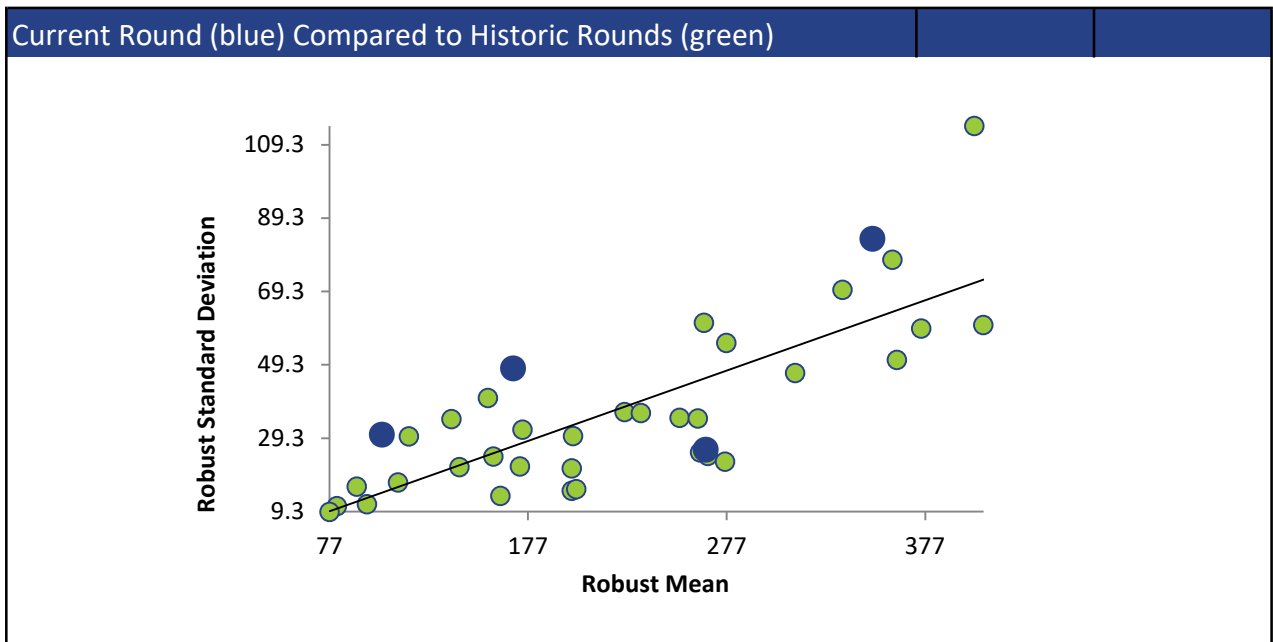
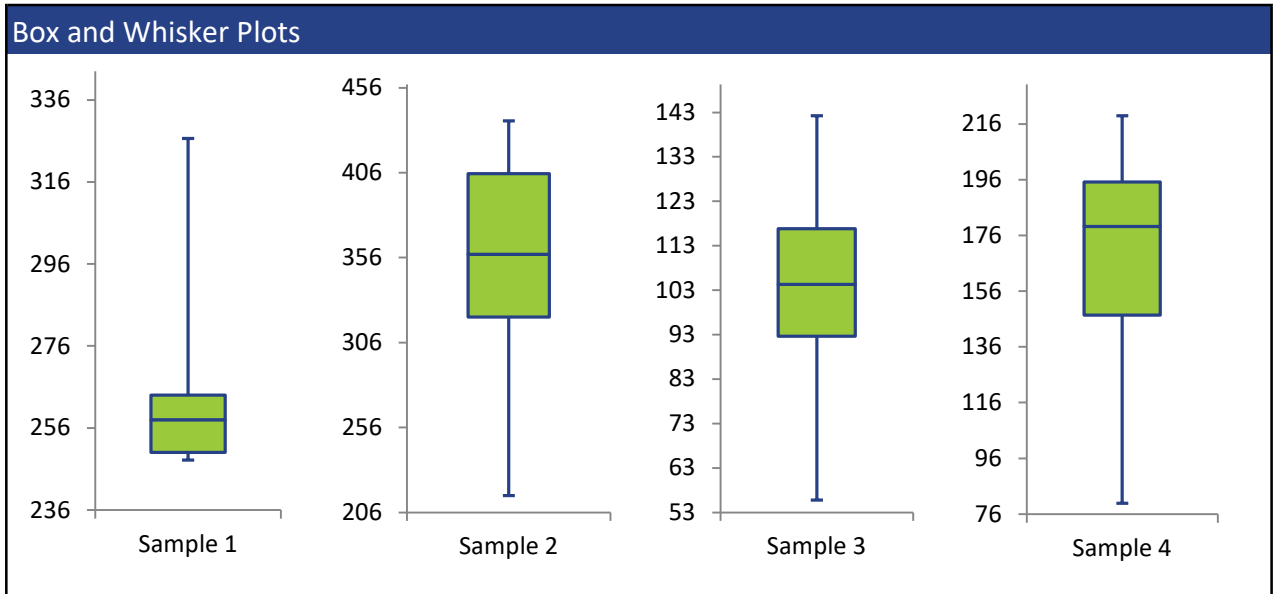
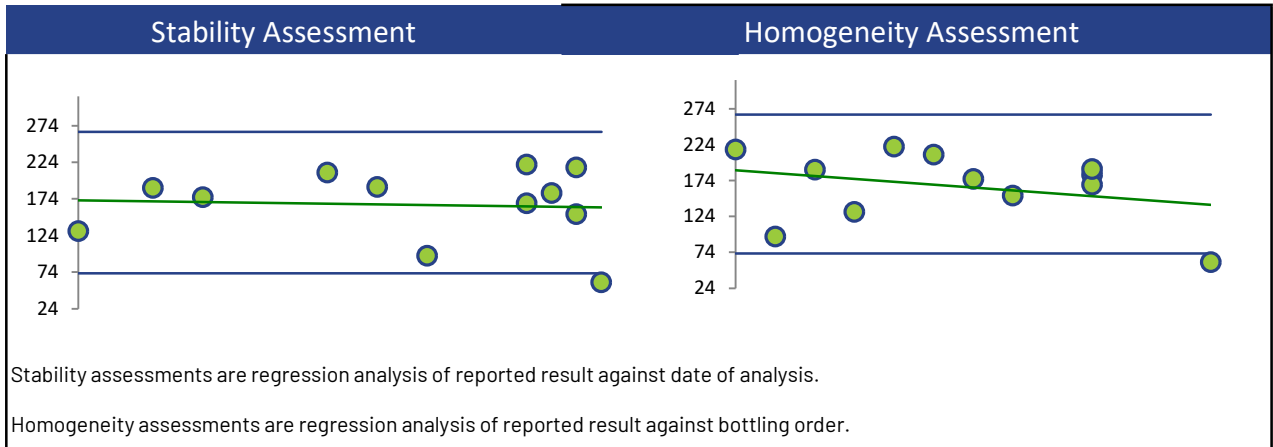
All summary stats and the plots below are based on the data excluding any flagged outliers



ENDRIN



ENDRIN



LINDANE (GAMMA-BHC)

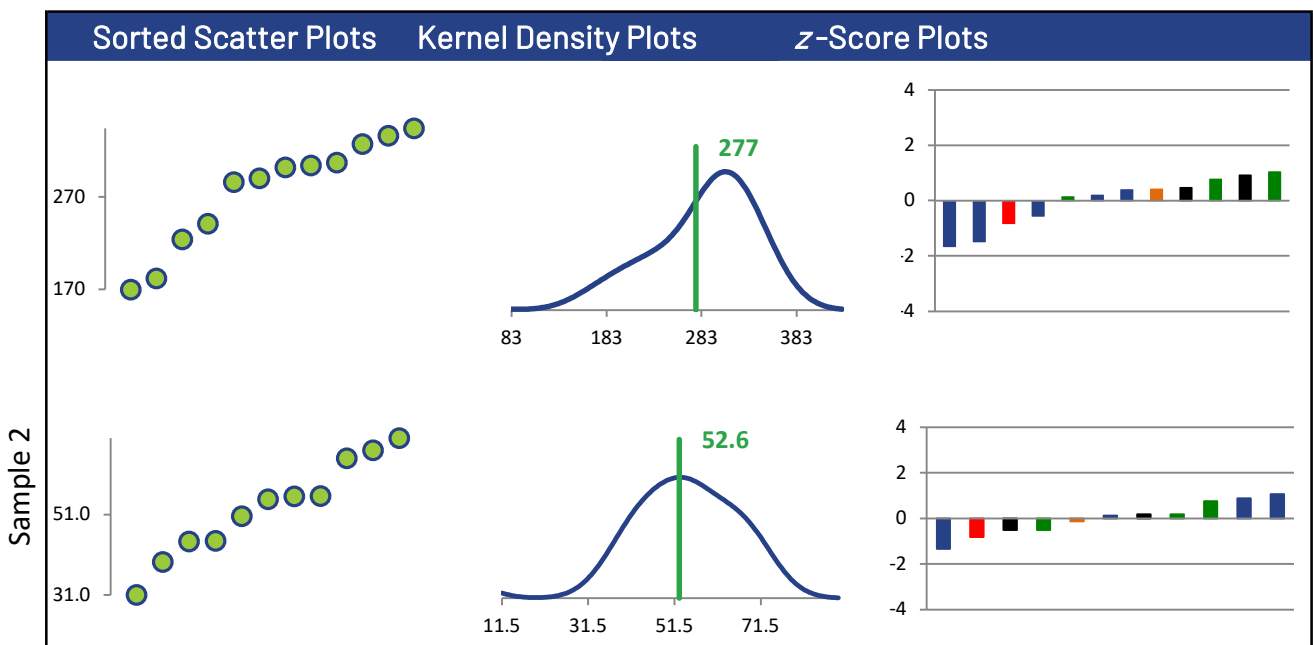
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	11	12	12
Median µg/kg	296	54.8	185	254
Robust Mean µg/kg	277	52.6	177	243
U µg/kg	23.2	5.09	19.2	19.5
Robust Standard Deviation µg/kg	64.4	13.5	53.1	54.0
Regression Standard Deviation µg/kg	60.1	16.3	40.6	53.5
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	64.4	16.3	53.1	54.0
Outliers	0	1	0	0
z >3.0	0	0	0	0
2< z <3	0	0	1	1

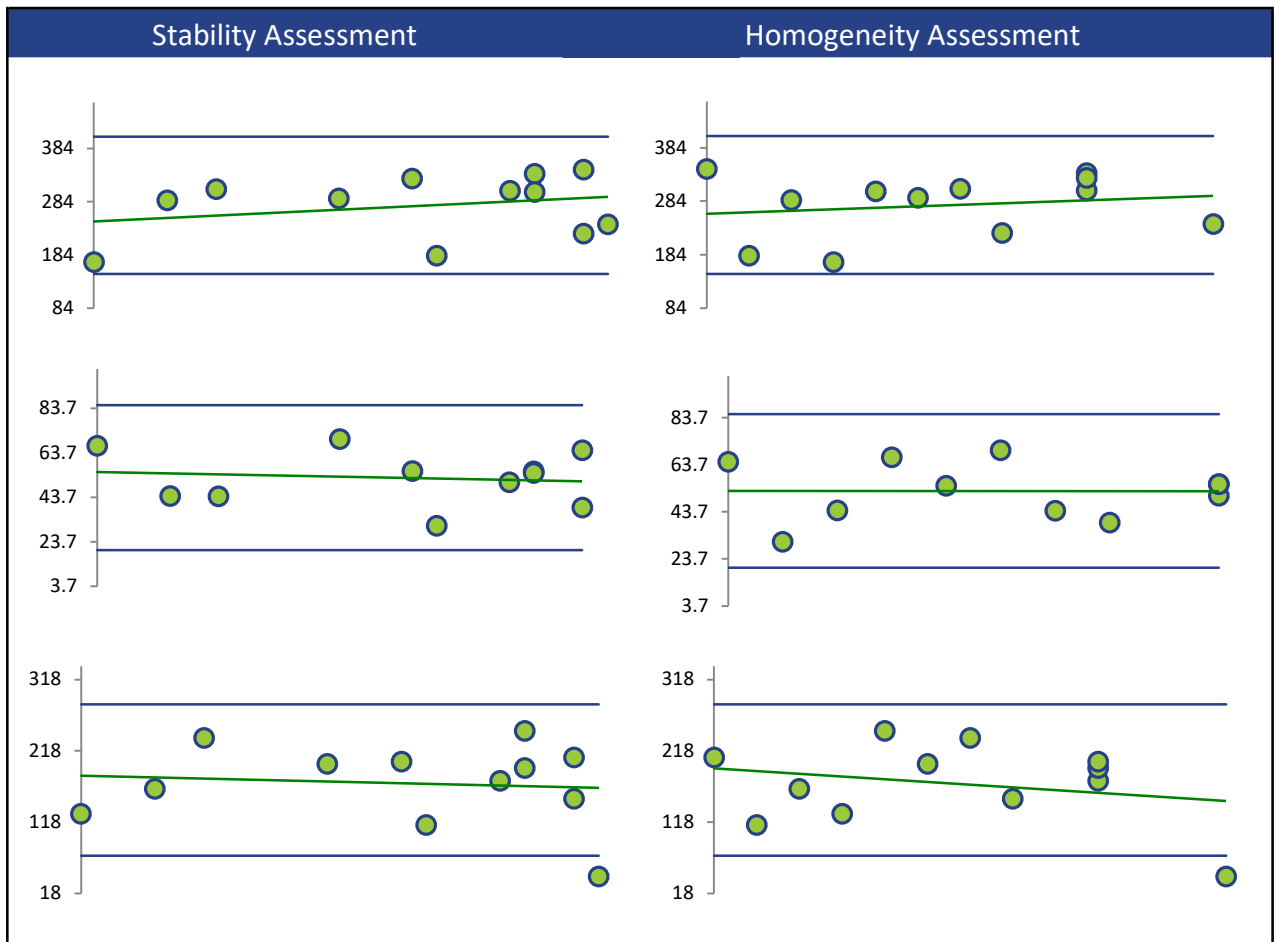
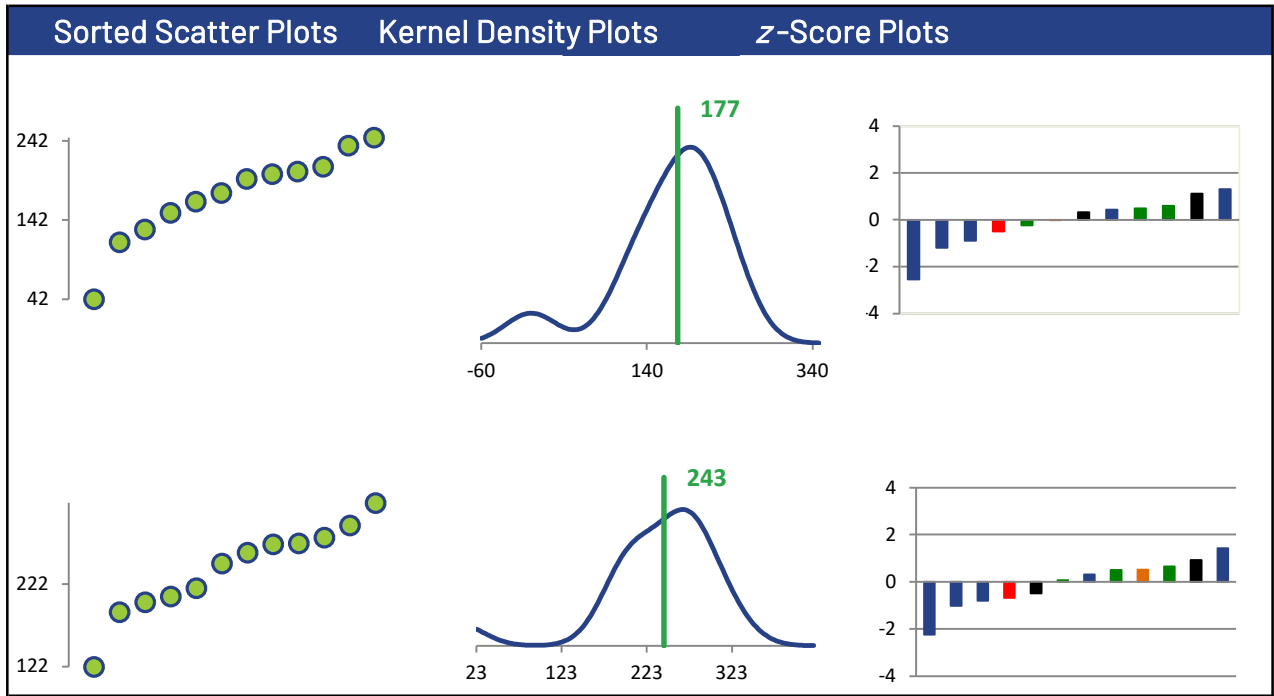
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	5	4	5	5
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS - EXTRACTION (Green)	3	3	3	3
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GC/MS/MS (Black)	2	2	2	2

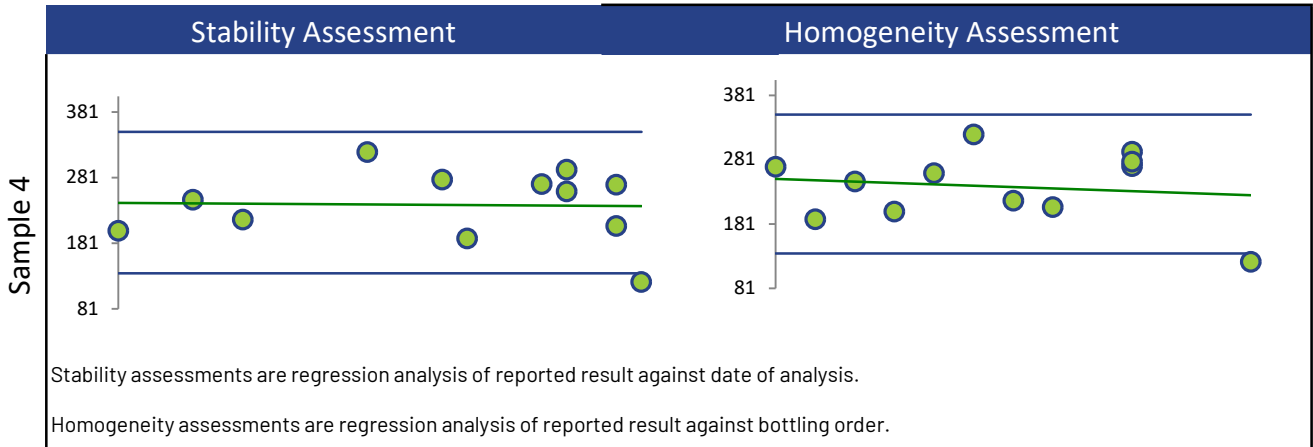
All summary stats and the plots below are based on the data excluding any flagged outliers



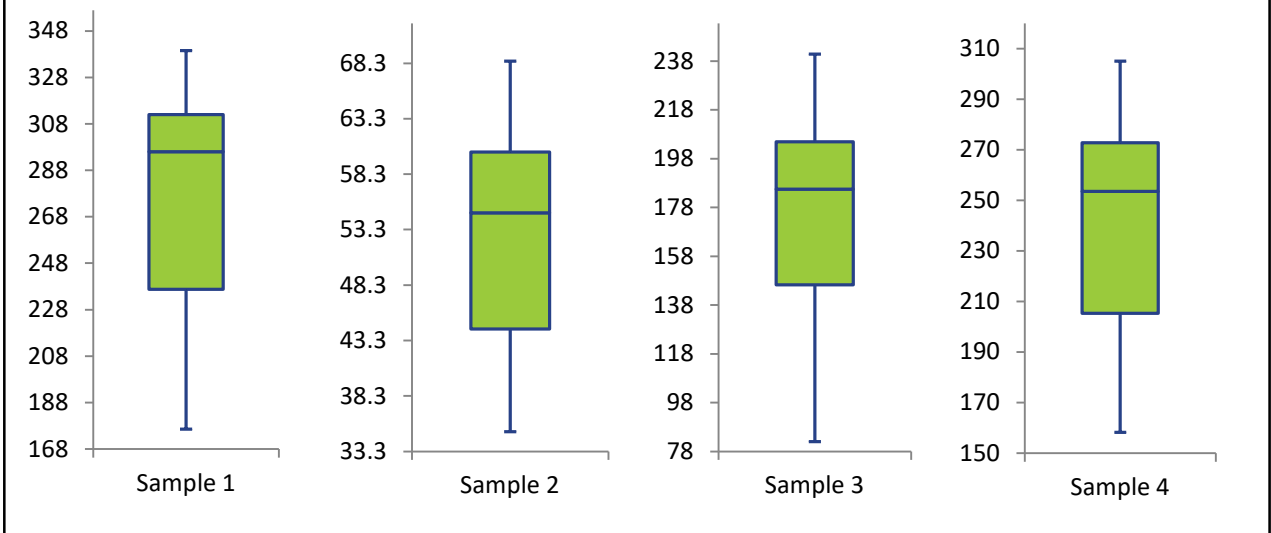
LINDANE (GAMMA-BHC)



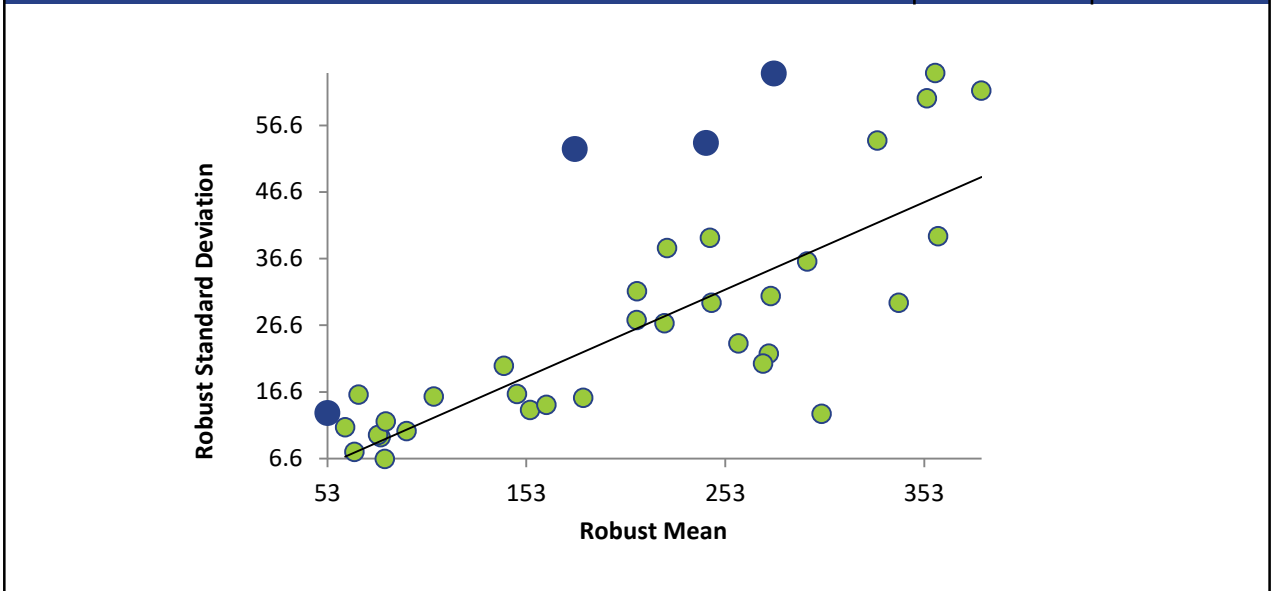
LINDANE (GAMMA-BHC)



Box and Whisker Plots



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



GAMMA-CHLORDANE

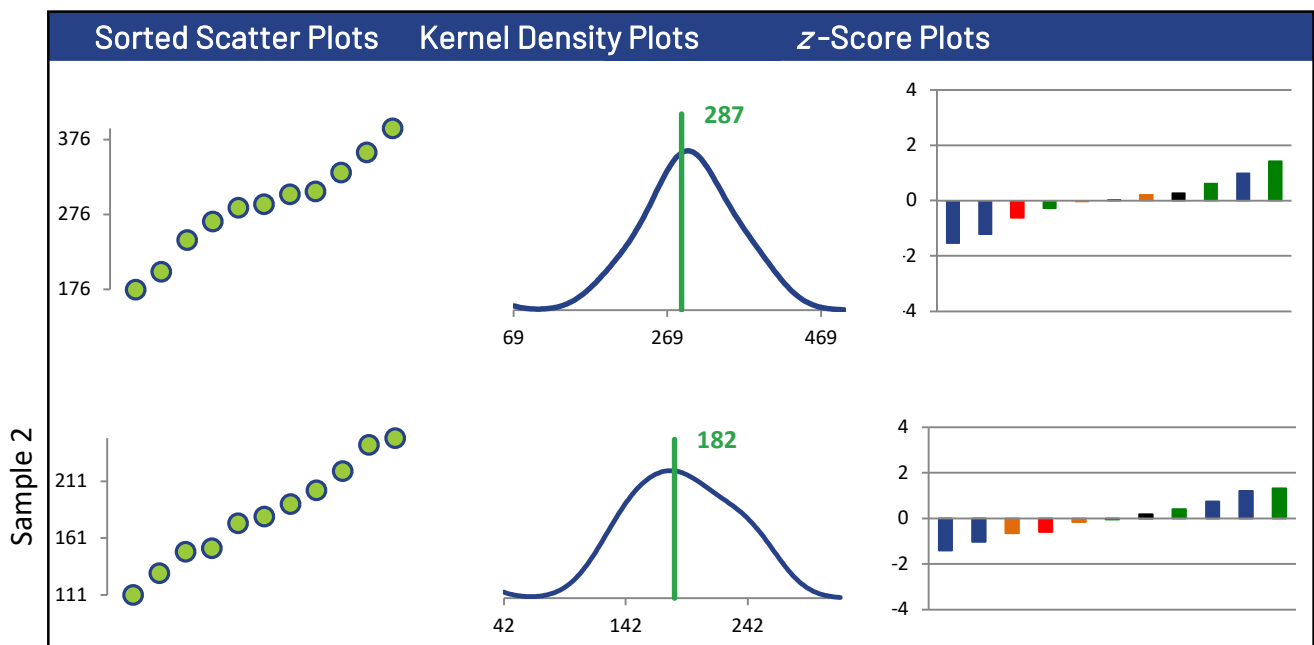
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	11	11	10	10
Median µg/kg	290	180	62.7	367
Robust Mean µg/kg	287	182	62.8	364
U µg/kg	27.2	19.1	3.70	30.5
Robust Standard Deviation µg/kg	72.1	50.7	9.35	77.1
Regression Standard Deviation µg/kg	49.8	32.4	12.5	62.7
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	72.1	50.7	12.5	77.1
Outliers	0	0	1	1
z >3.0	0	0	0	0
2< z <3	0	0	0	0

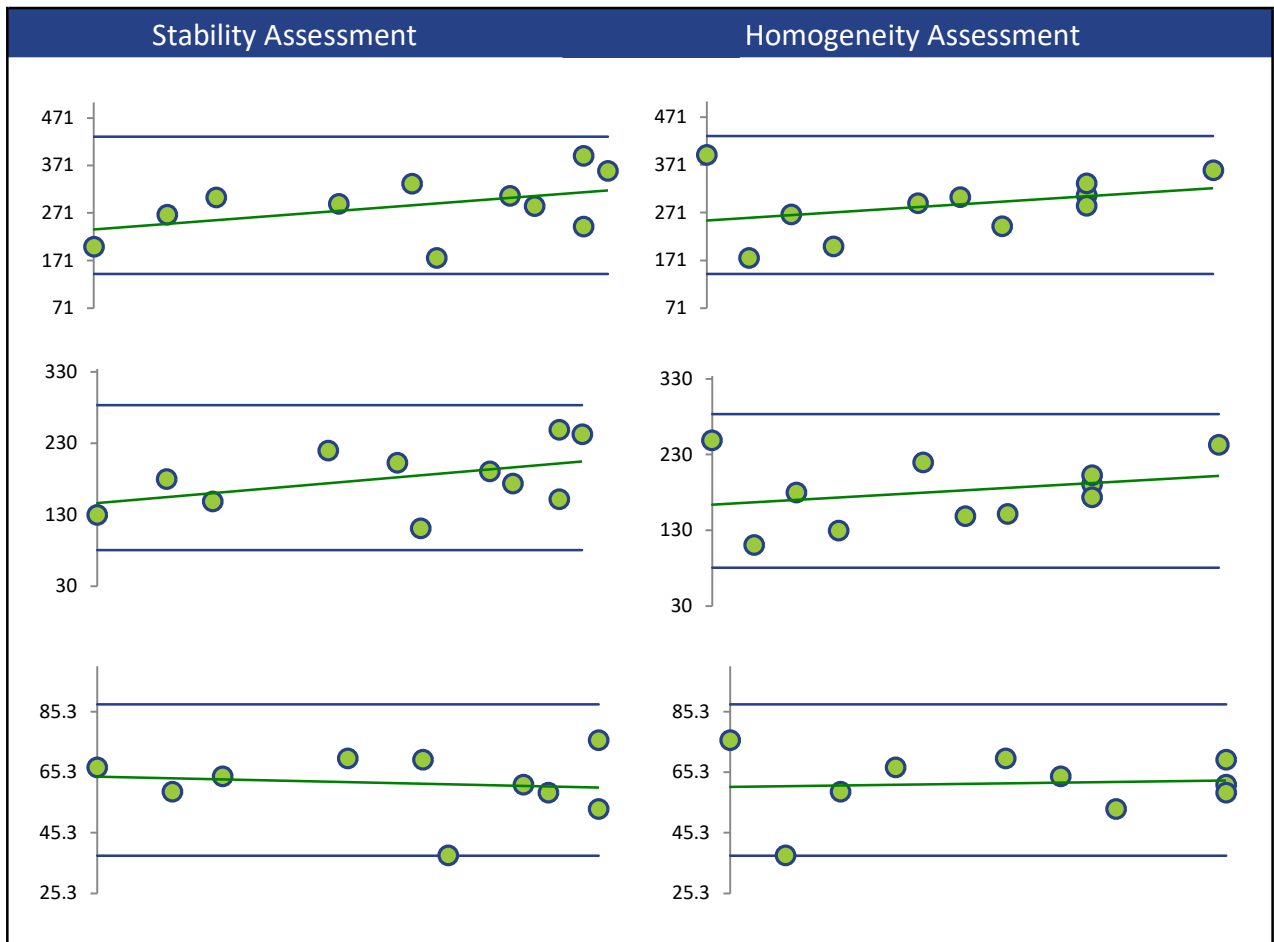
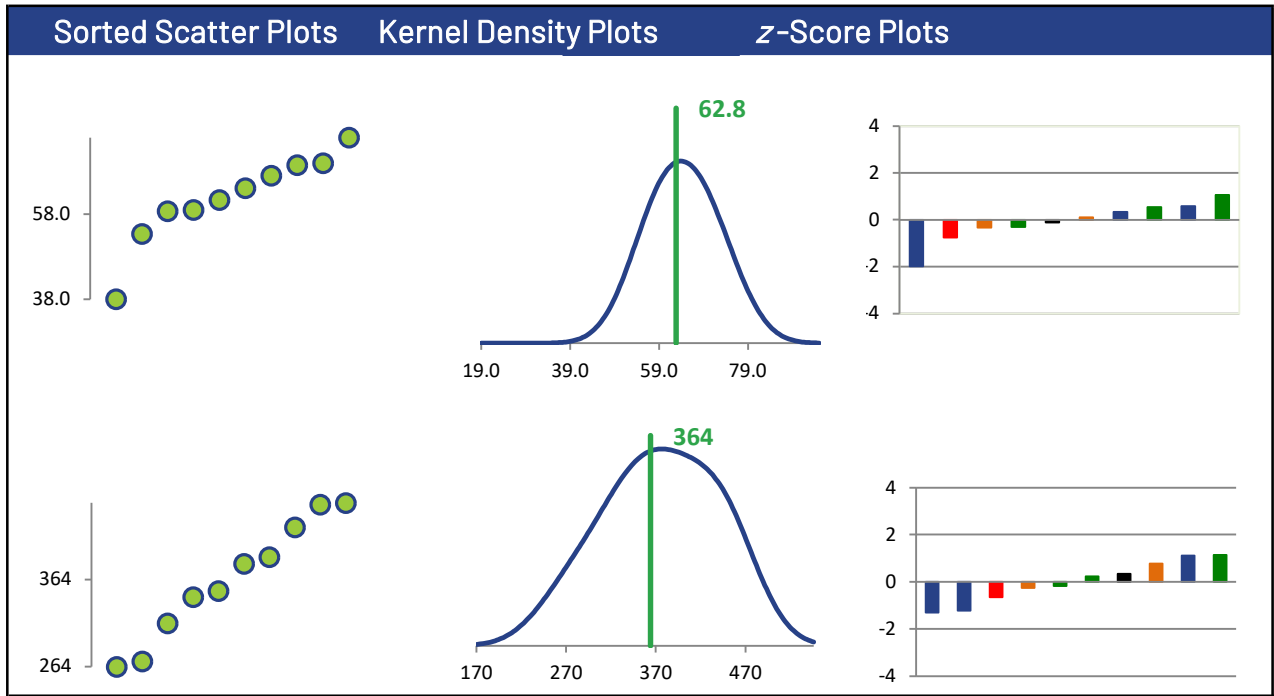
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	4	4	3	3
GC/ECD - SHAKE EXTRACTION (Red)	1	1	1	1
GC/MS - EXTRACTION (Green)	3	3	3	3
GC/MS/MS (Orange)	2	2	2	2
HI RESOLUTION GC/MS (Black)	1	1	1	1

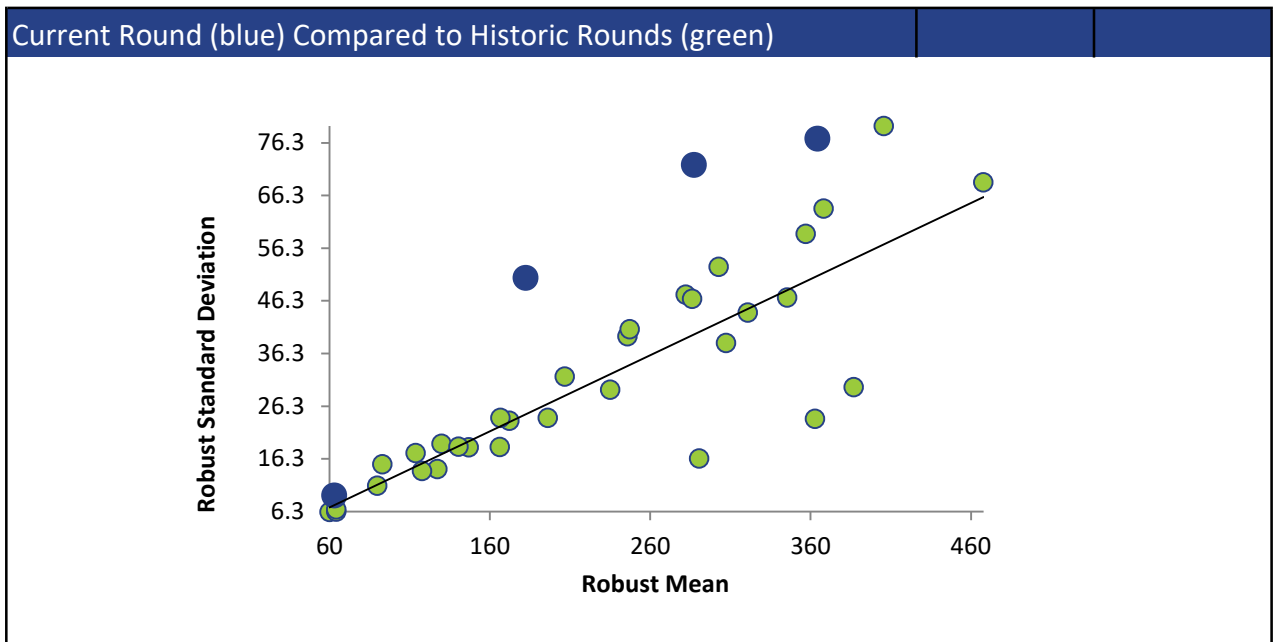
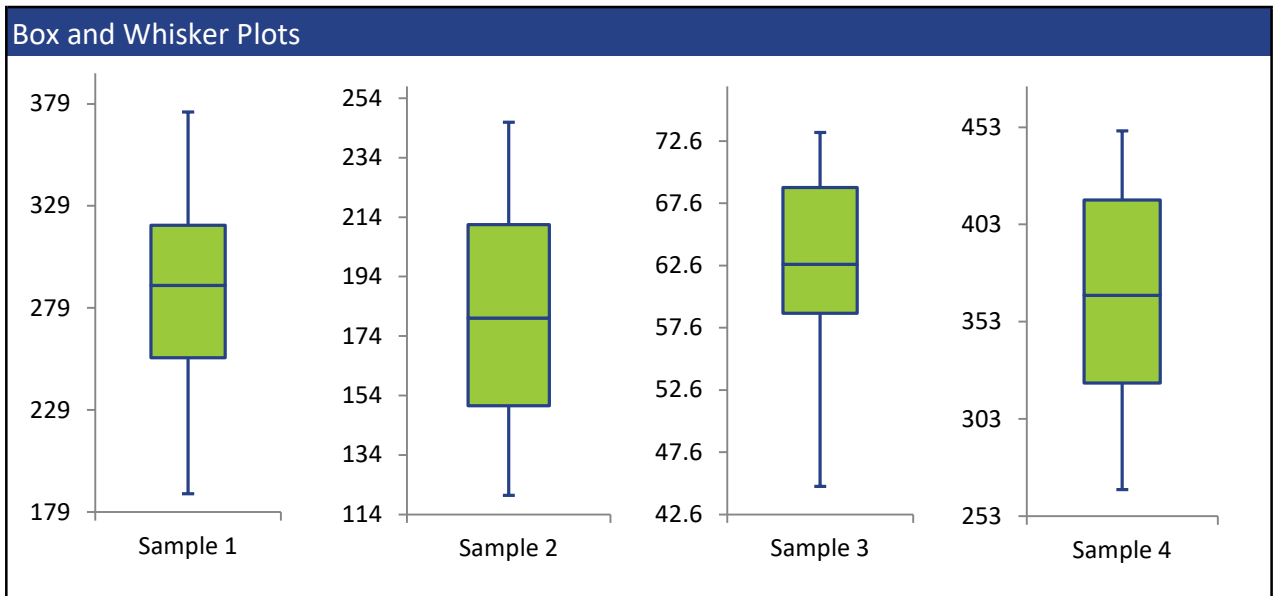
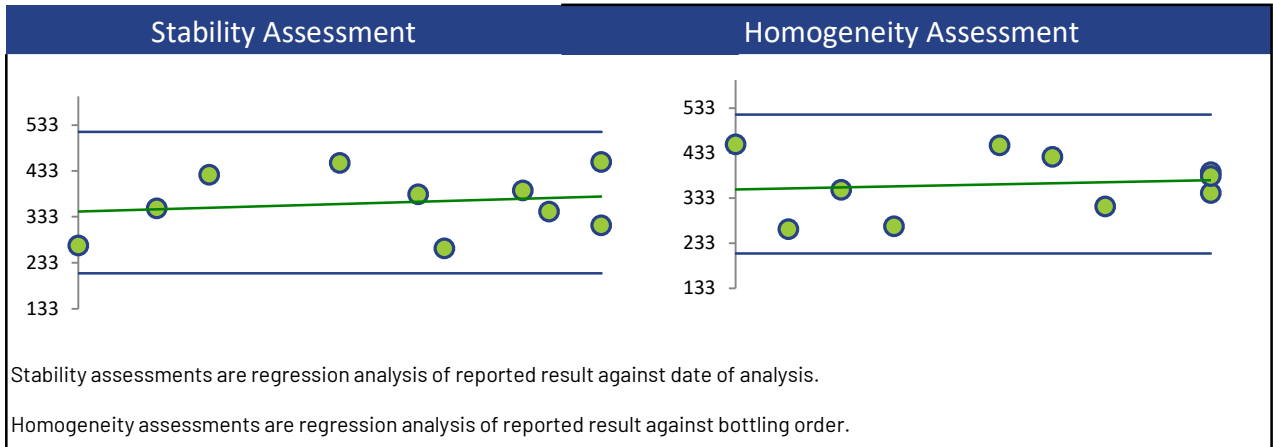
All summary stats and the plots below are based on the data excluding any flagged outliers



GAMMA-CHLORDANE



GAMMA-CHLORDANE



HEPTACHLOR

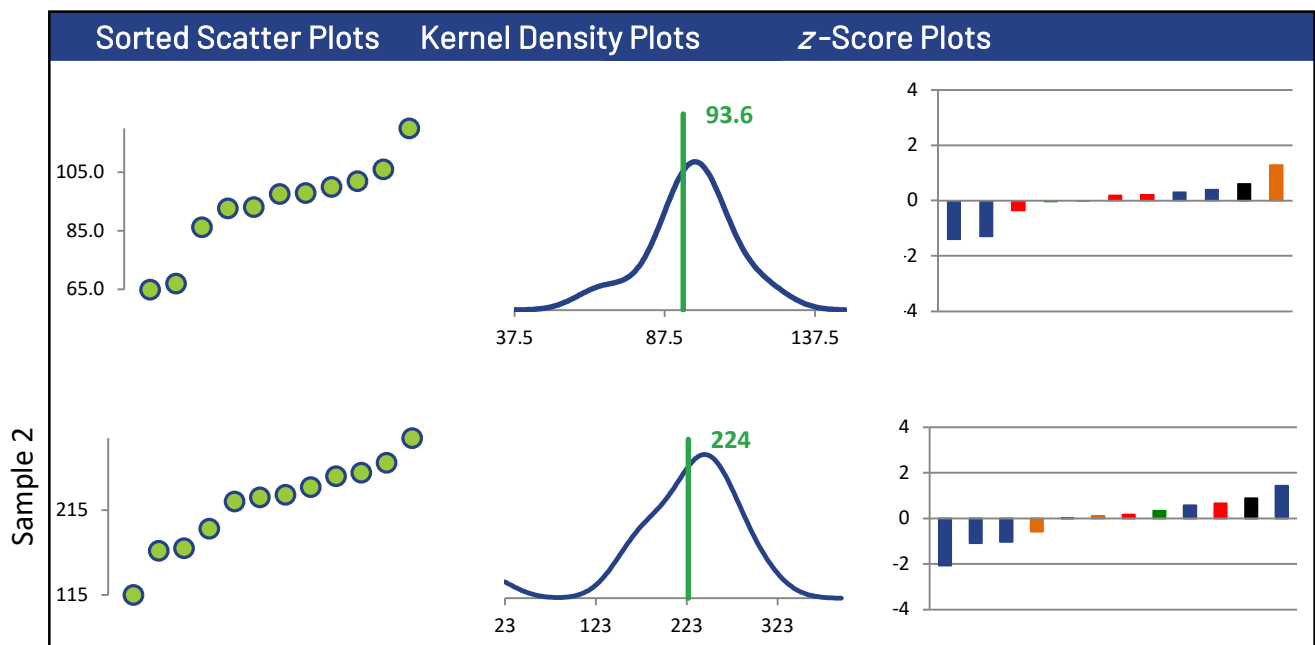
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	11	12	12	11
Median µg/kg	97.6	232	353	168
Robust Mean µg/kg	93.6	224	352	169
U µg/kg	6.71	19.1	29.7	8.37
Robust Standard Deviation µg/kg	17.8	53.0	82.3	22.2
Regression Standard Deviation µg/kg	20.4	45.4	69.8	34.9
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	20.4	53.0	82.3	34.9
Outliers	1	0	0	1
z >3.0	0	0	0	0
2< z <3	0	1	0	0

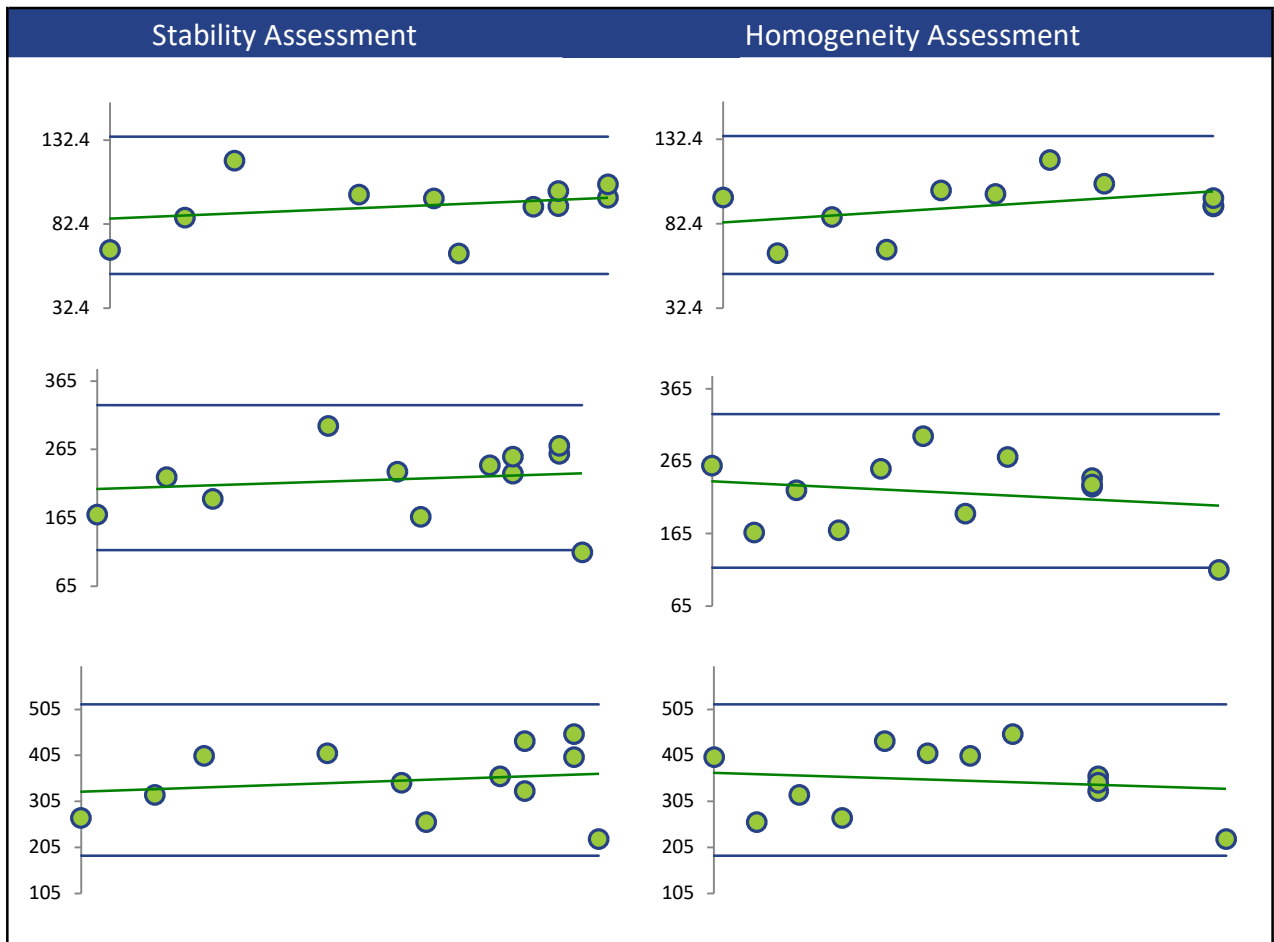
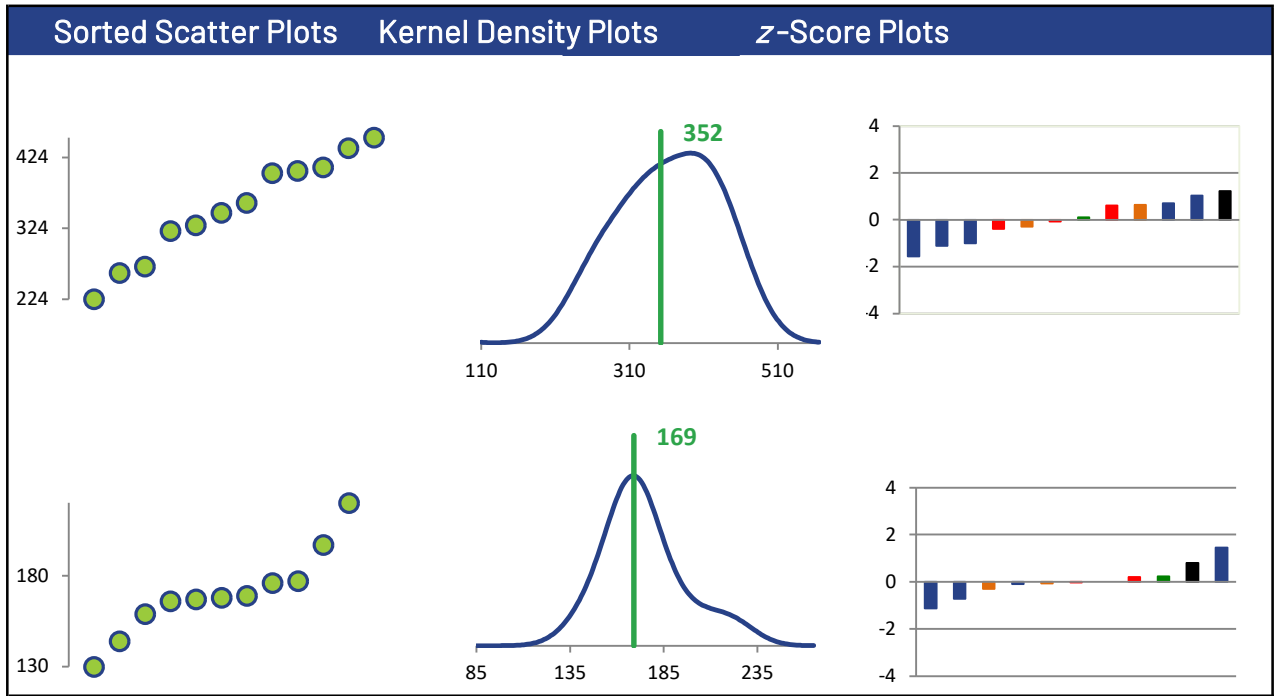
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	4	5	5	4
GC/MS - EXTRACTION (Red)	3	3	3	3
HI RESOLUTION GC/MS (Green)	1	1	1	1
GC/MS/MS (Orange)	2	2	2	2
GC/ECD - SHAKE EXTRACTION (Black)	1	1	1	1

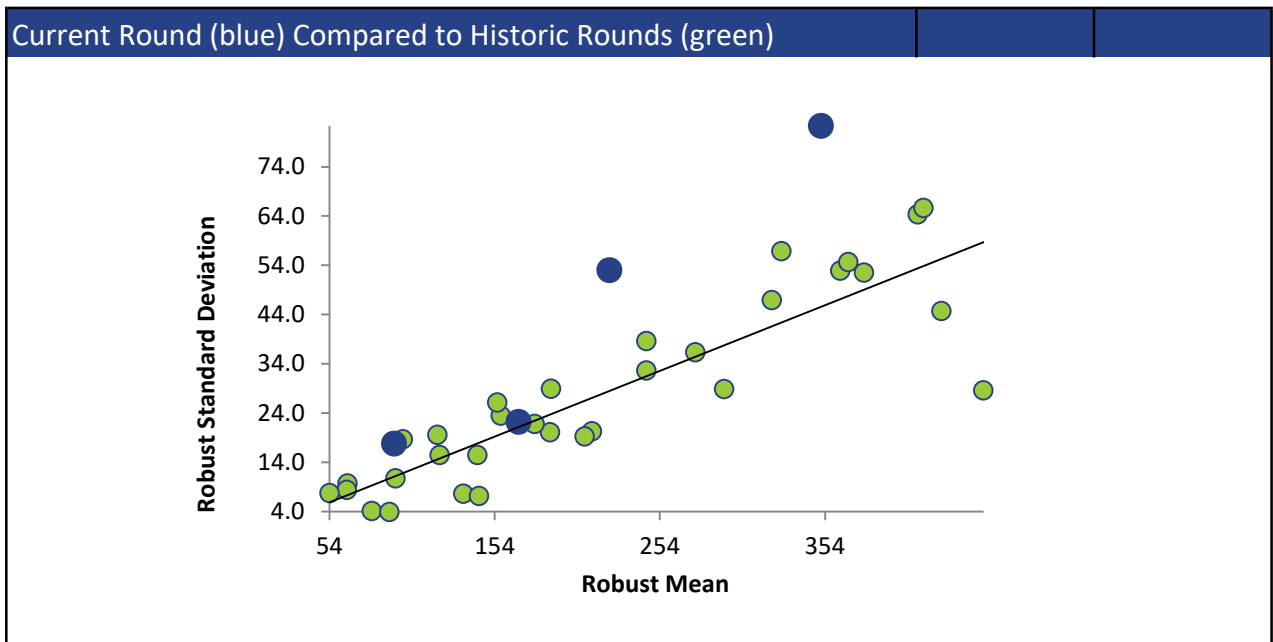
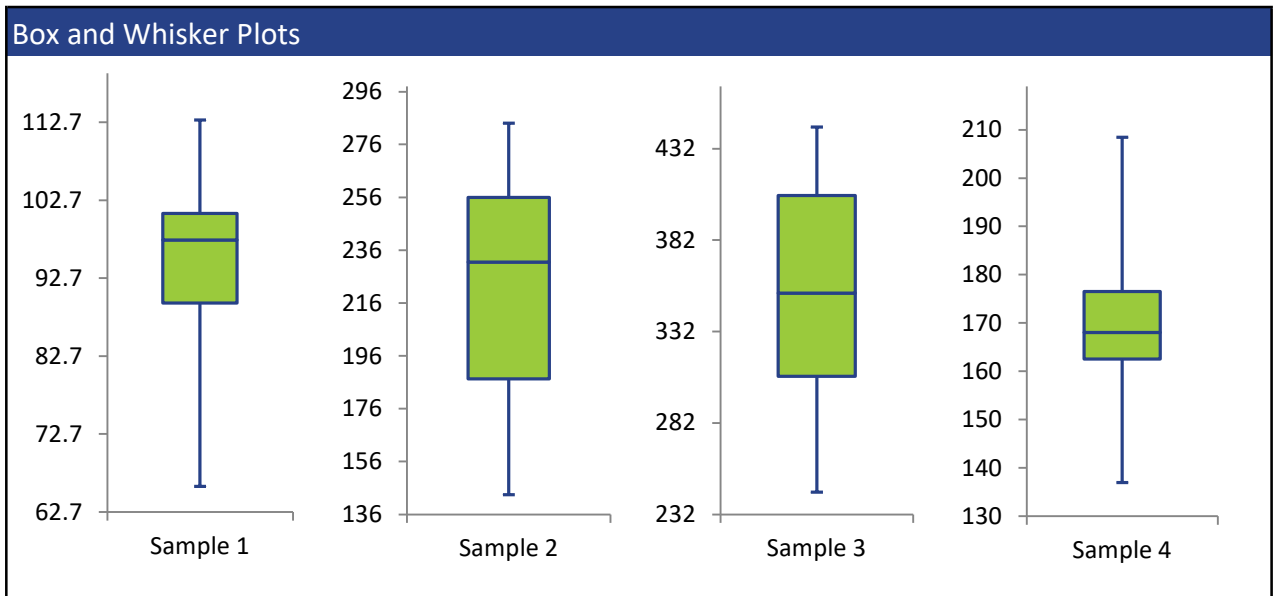
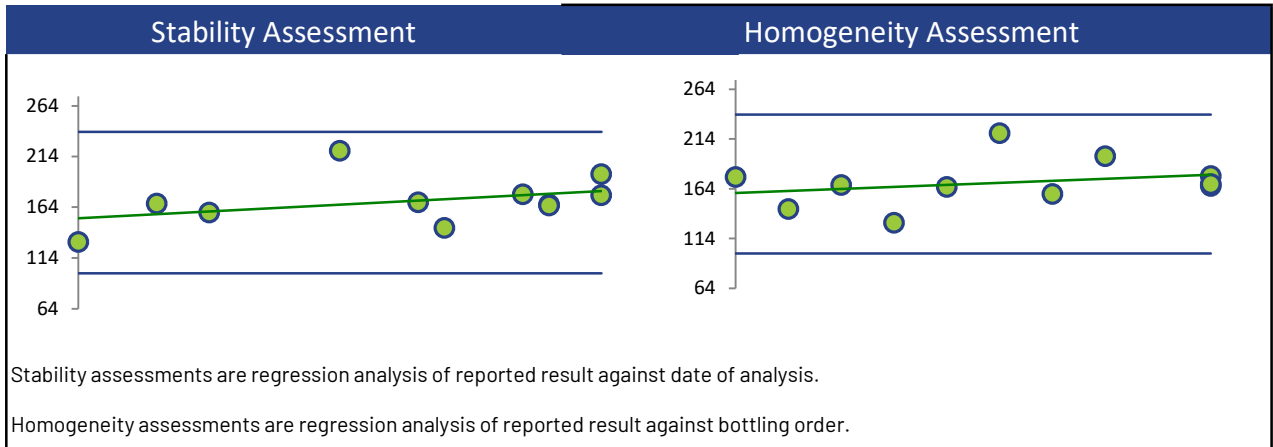
All summary stats and the plots below are based on the data excluding any flagged outliers



HEPTACHLOR



HEPTACHLOR



HEPTACHLOR EPOXIDE

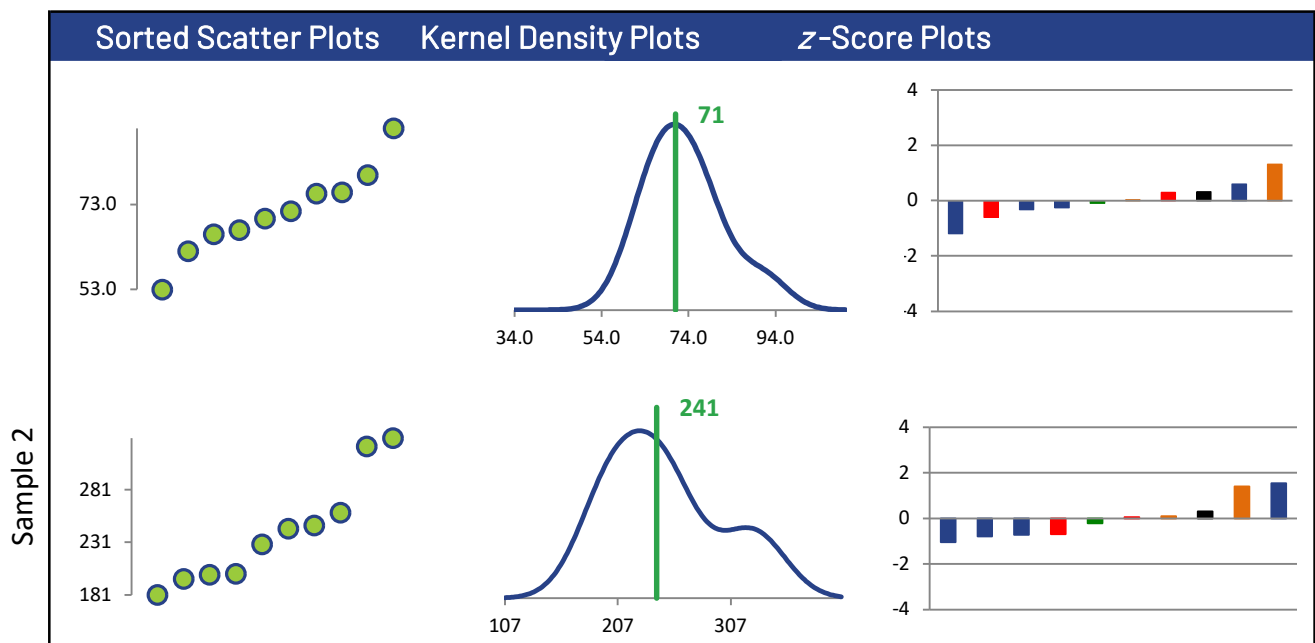
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	10	10	11	11
Median µg/kg	70.6	237	317	168
Robust Mean µg/kg	71.0	241	331	176
U µg/kg	3.92	22.9	34.4	14.8
Robust Standard Deviation µg/kg	9.91	57.9	91.2	39.4
Regression Standard Deviation µg/kg	15.1	45.4	61.5	33.8
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	15.1	57.9	91.2	39.4
Outliers	1	1	0	0
z >3.0	0	0	1	0
2< z <3	0	0	0	0

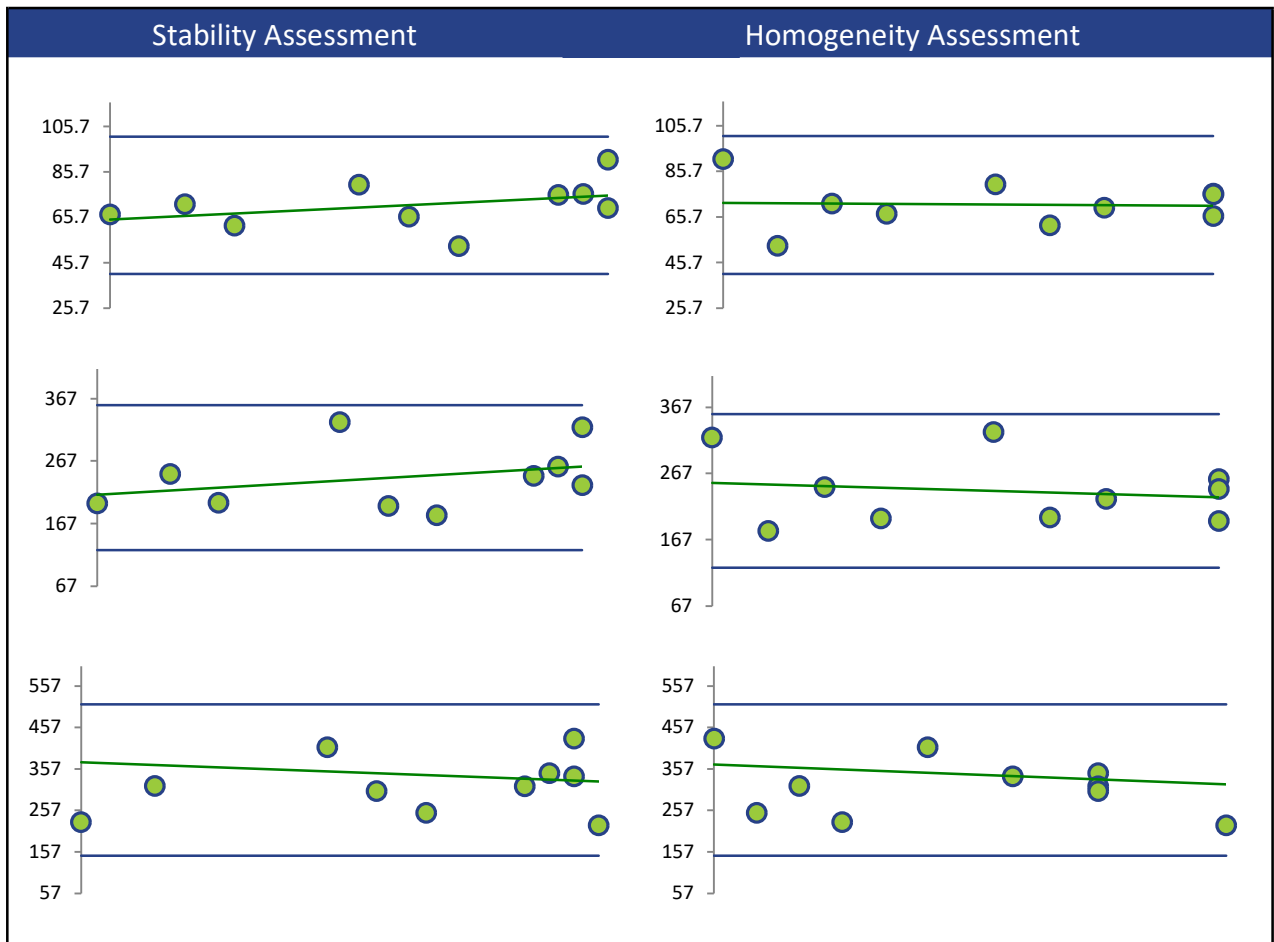
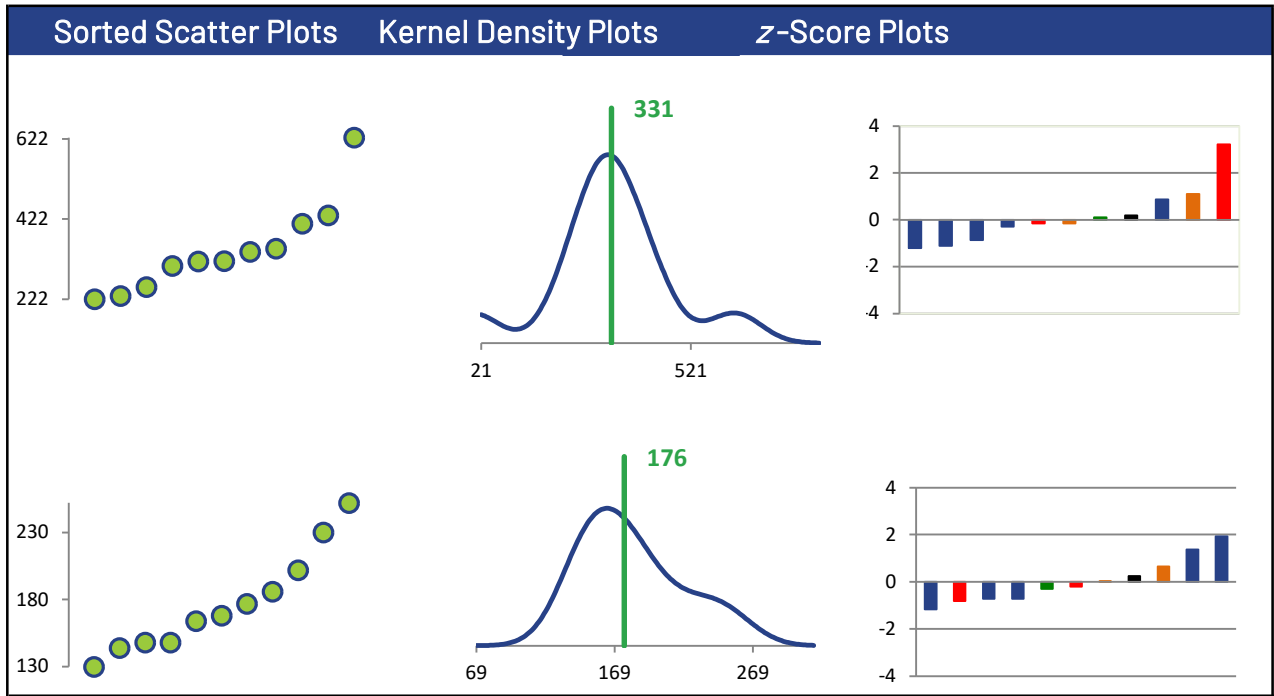
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	4	4	5	5
GC/MS/MS (Red)	2	2	2	2
GC/ECD - SHAKE EXTRACTION (Green)	1	1	1	1
GC/MS - EXTRACTION (Orange)	2	2	2	2
HI RESOLUTION GC/MS (Black)	1	1	1	1

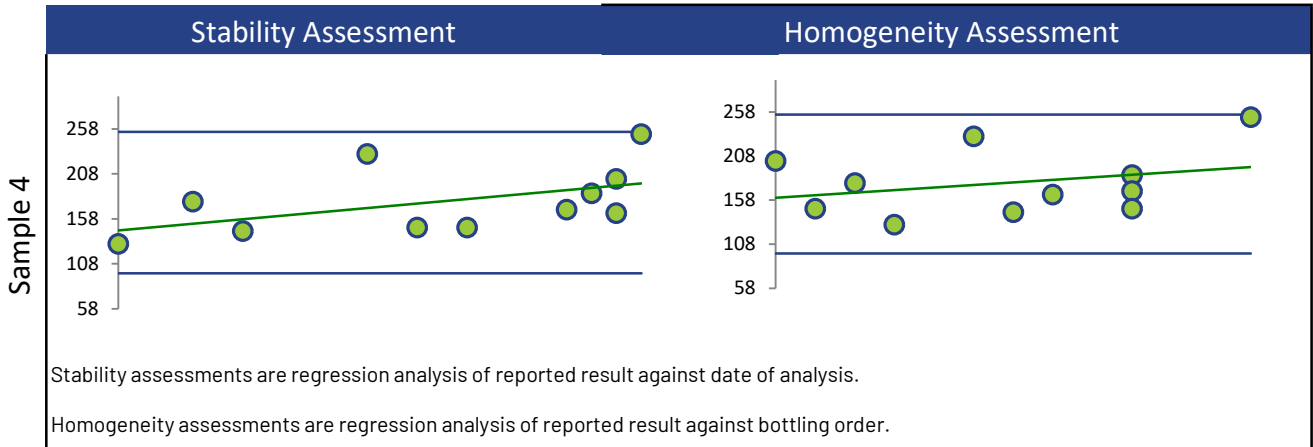
All summary stats and the plots below are based on the data excluding any flagged outliers



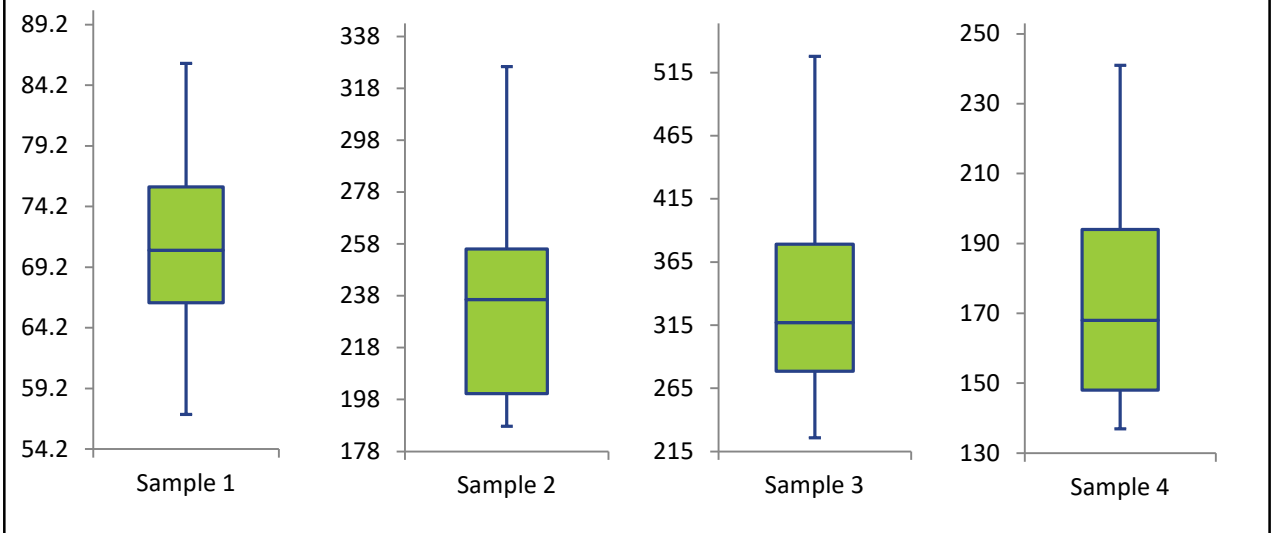
HEPTACHLOR EPOXIDE



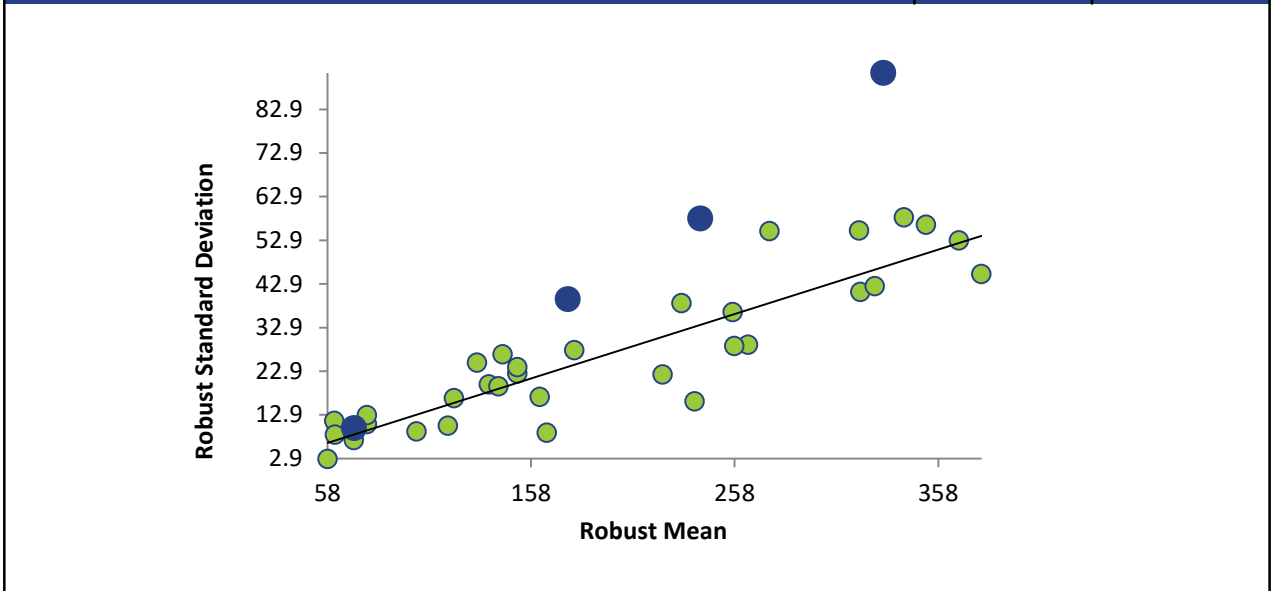
HEPTACHLOR EPOXIDE



Box and Whisker Plots



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



4,4'-METHOXYCHLOR (P,P'-METHOXYCHLOR)

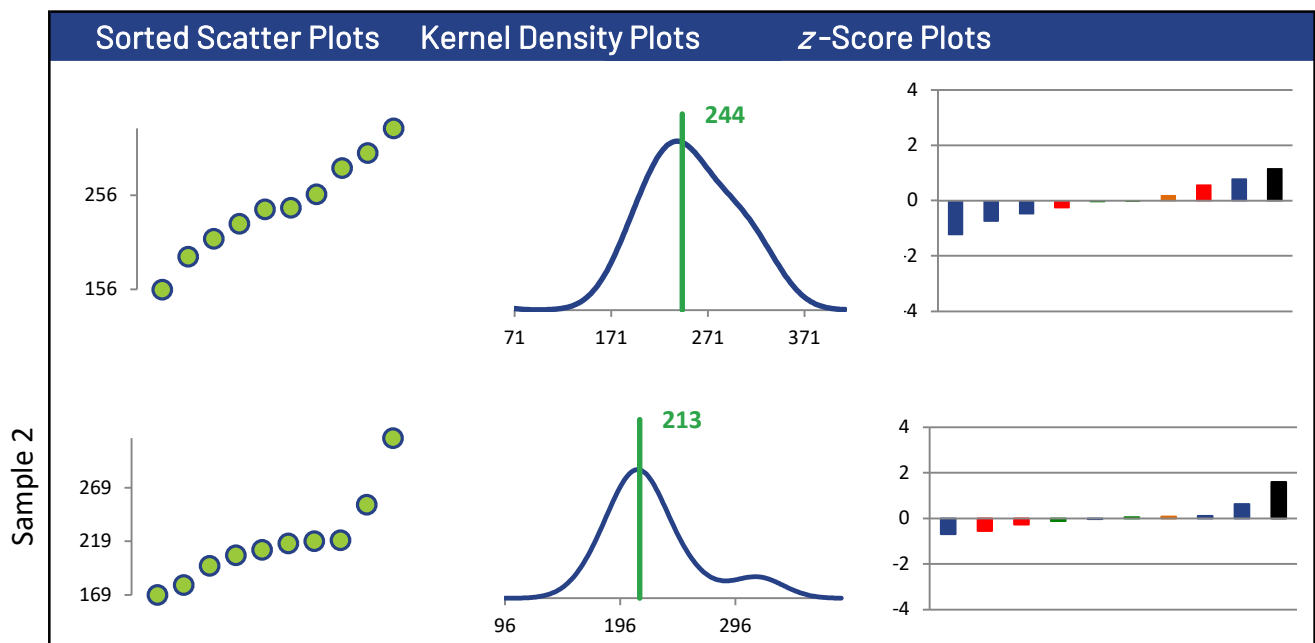
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	10	10	10	10
Median µg/kg	242	214	356	129
Robust Mean µg/kg	244	213	359	142
U µg/kg	23.2	13.1	20.4	17.2
Robust Standard Deviation µg/kg	58.6	33.2	51.6	43.5
Regression Standard Deviation µg/kg	71.8	63.6	103	44.4
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) µg/kg	71.8	63.6	103	44.4
Outliers	1	1	1	1
z >3.0	0	0	0	0
2< z <3	0	0	0	1

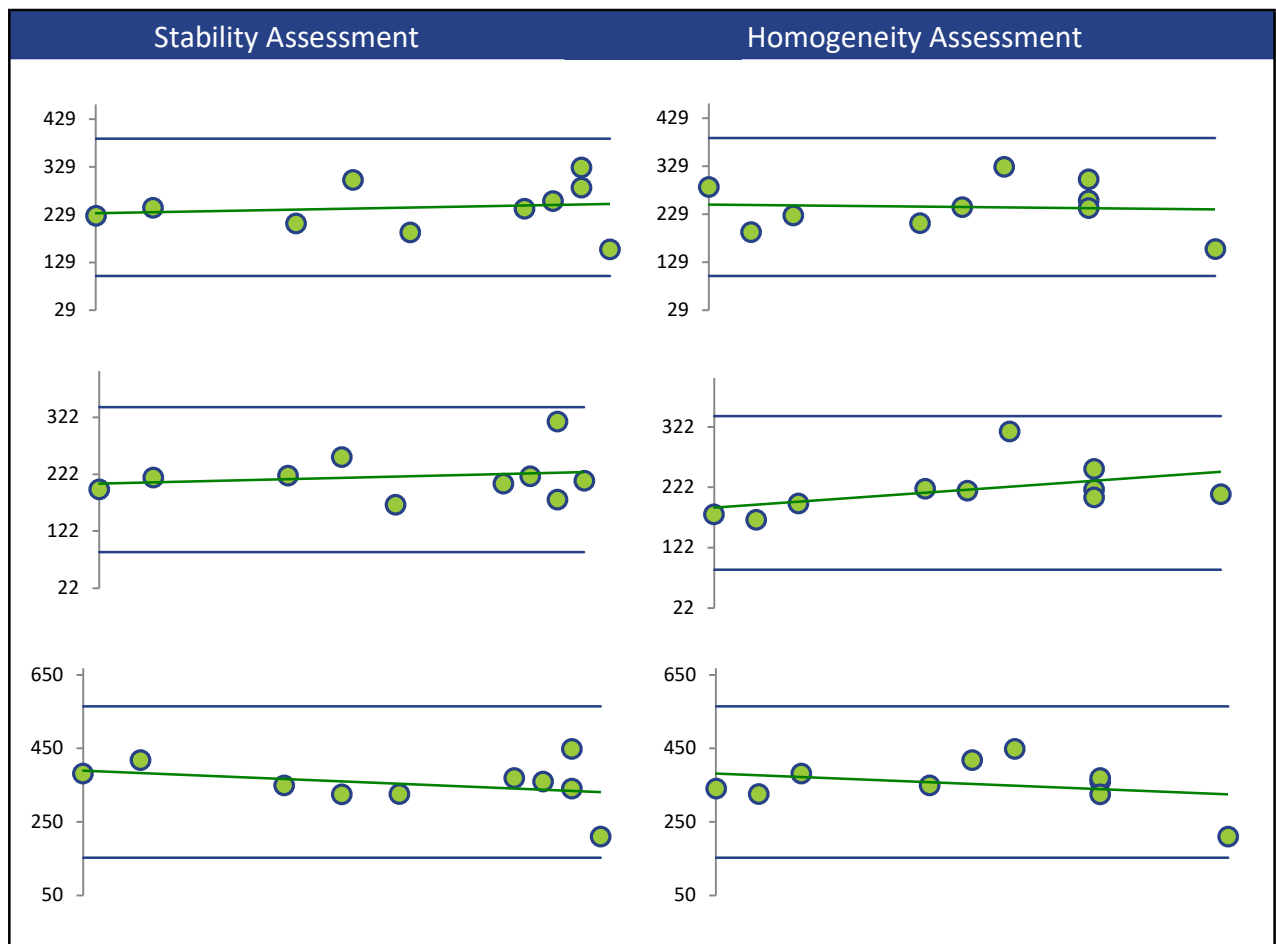
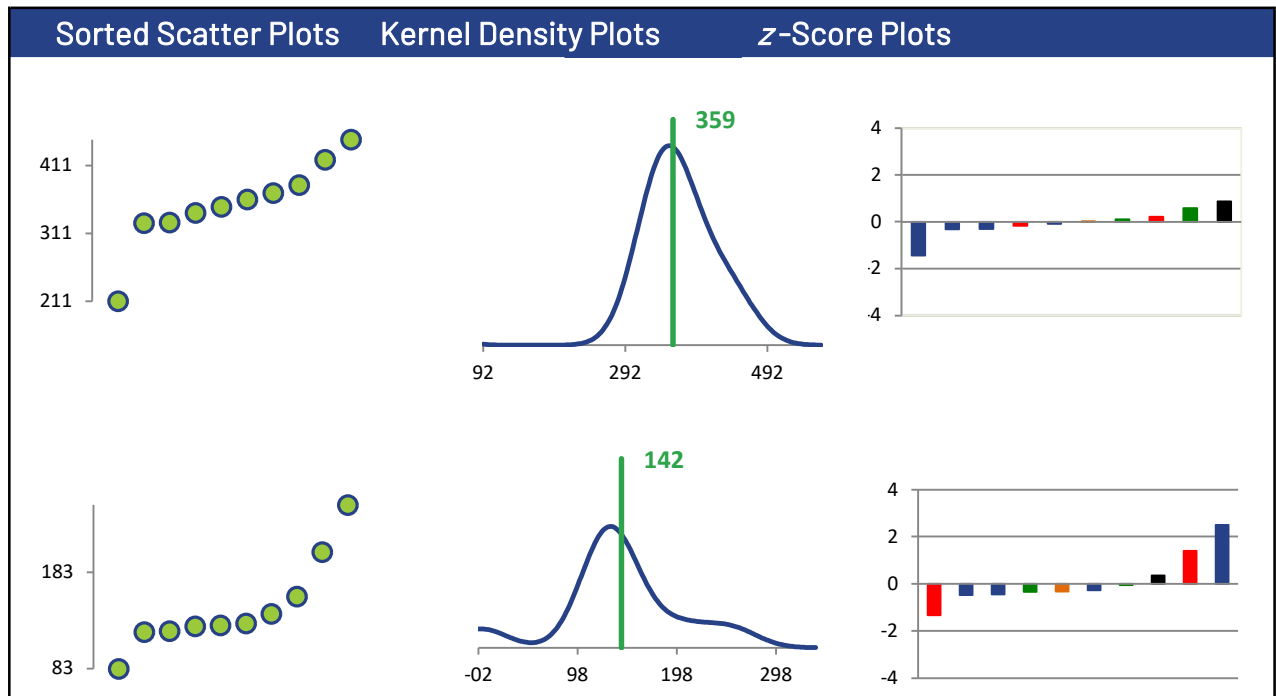
Methods Used

Method	C77-1	C77-2	C77-3	C77-4
GC/ECD - EXTRACTION (Blue)	4	4	4	4
GC/MS - EXTRACTION (Red)	2	2	2	2
GC/MS/MS (Green)	2	2	2	2
HI RESOLUTION GC/MS (Orange)	1	1	1	1
GC/ECD - SHAKE EXTRACTION (Black)	1	1	1	1

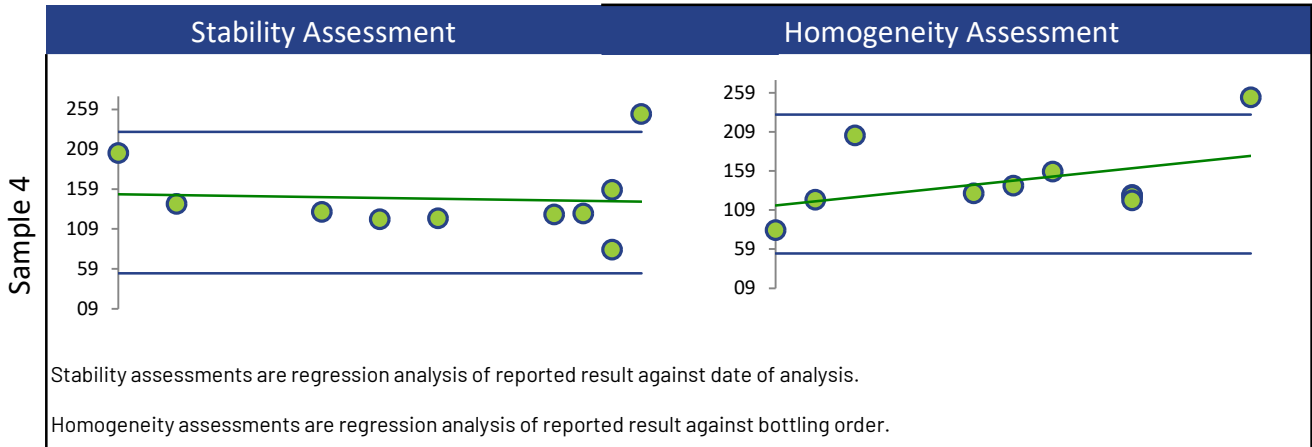
All summary stats and the plots below are based on the data excluding any flagged outliers



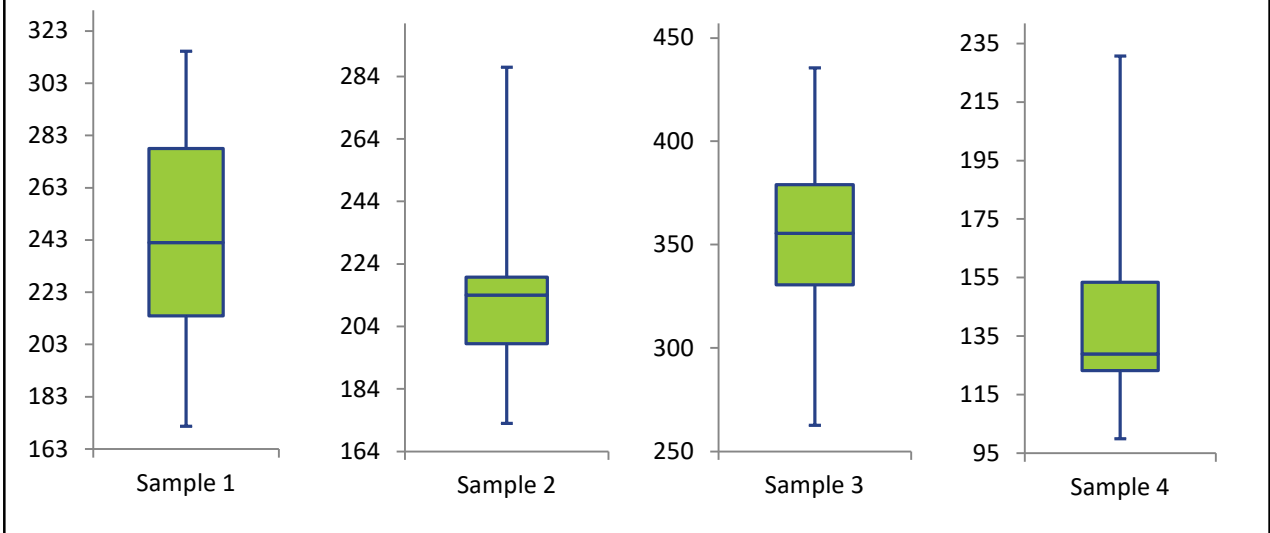
4,4'-METHOXYCHLOR (P,P'-METHOXYCHLOR)



4,4'-METHOXYCHLOR (P,P'-METHOXYCHLOR)



Box and Whisker Plots



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

