

Test Group Summary Report

C77 Pesticides in Soil

January 2021 PT Round

Issued: March 15, 2021

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
	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 are 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>$\pm U$:</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 17043:2010 *Conformity assessment – General requirements for proficiency testing*, the *International Harmonized Protocol for Proficiency Testing of (Chemical) Analytical Laboratories* (2006), and ISO 13528:2015 *Statistical methods for use in proficiency testing by interlaboratory comparisons*.

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

3.1 HOMOGENEITY AND STABILITY ASSESSMENT

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

3.2 THE Z SCORE

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

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

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.

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

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

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

$RSZ \geq -2$ and ≤ 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.

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

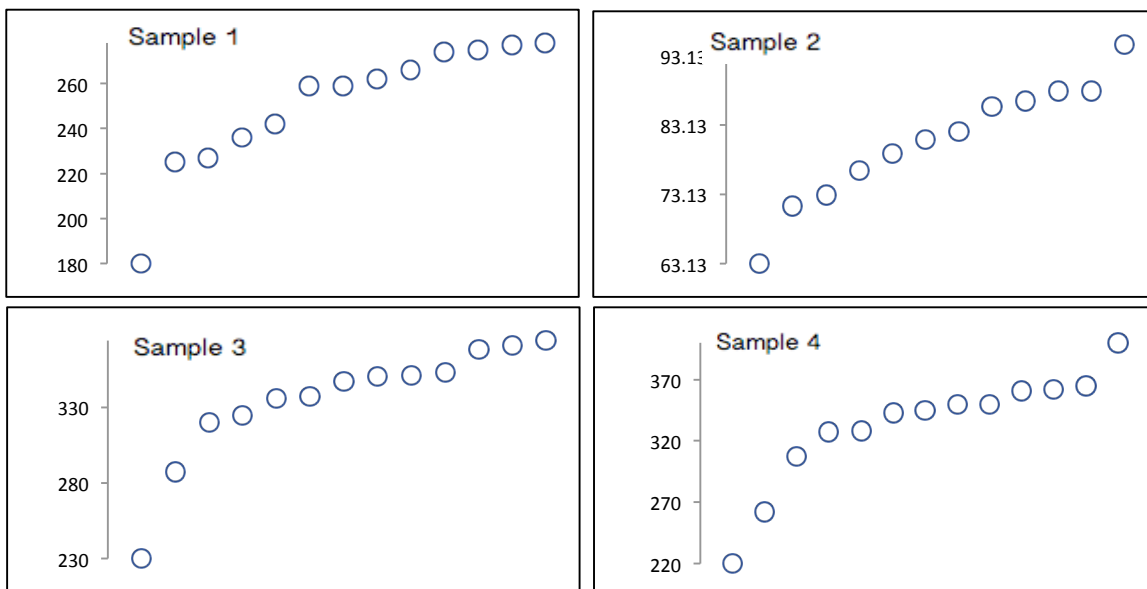
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	12	13	13
Median	259	81.6	347	345
Robust Mean	254	81.1	341	338
U	8.5	3.3	9.9	12.4
Robust Standard Deviation	24.5	9.05	28.4	35.9
Regression Standard Deviation	59.5	20.9	79.0	78.6
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	59.5	20.9	79.0	78.6
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

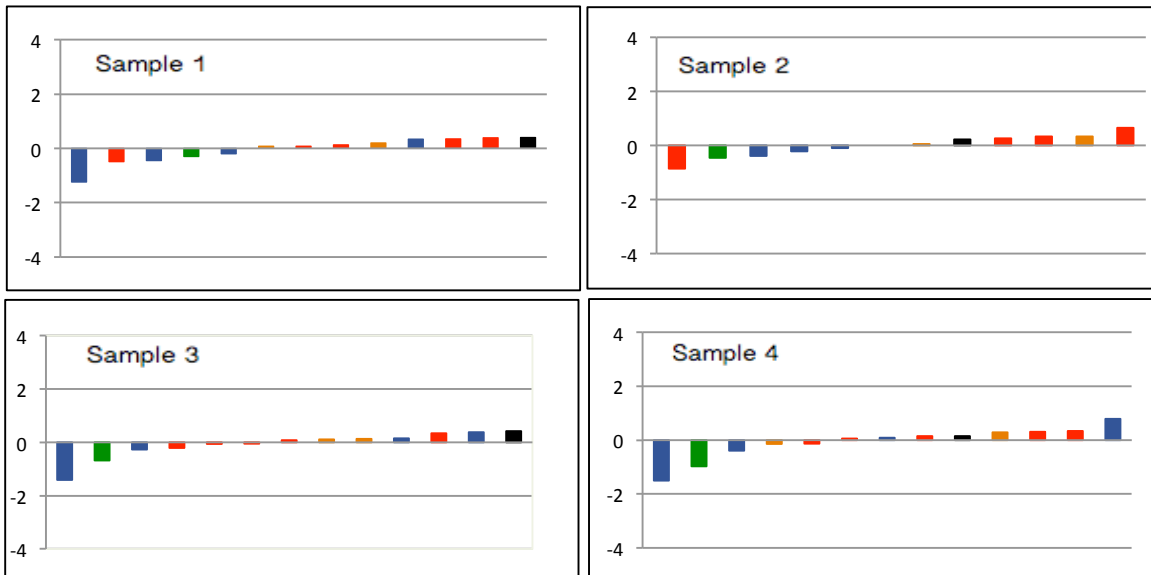
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	3	4	4
GC/MS	5	5	5	5
GC/ECD/SHKE	1	1	1	1
GC/MS/MS	2	2	2	2
GC/MSHR	1	1	1	1

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

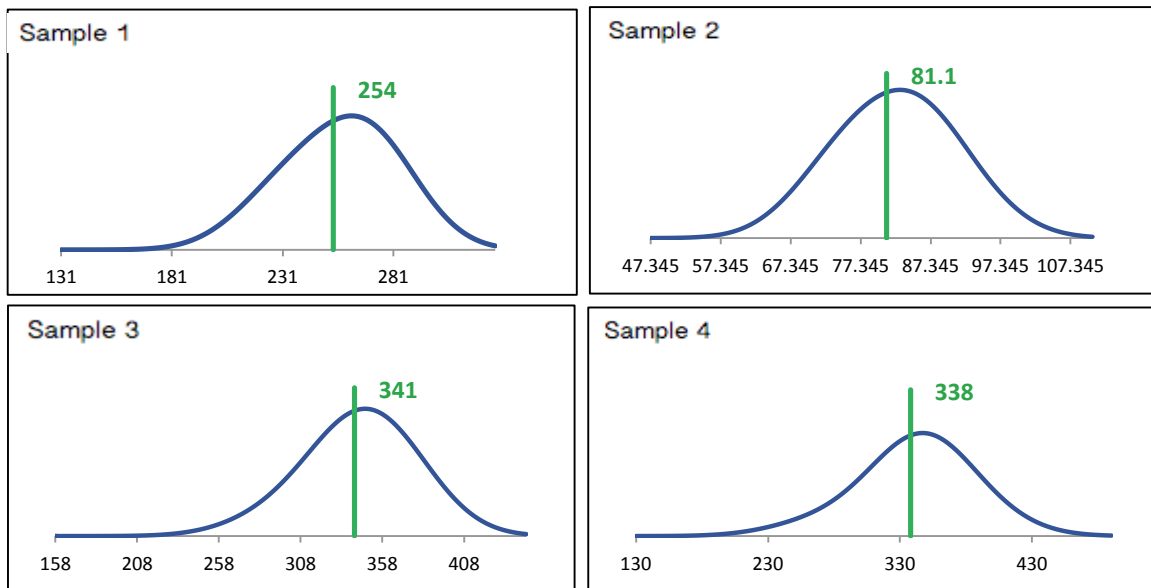


4,4'-DDT (P,P'-DDT)

z-Score Plots

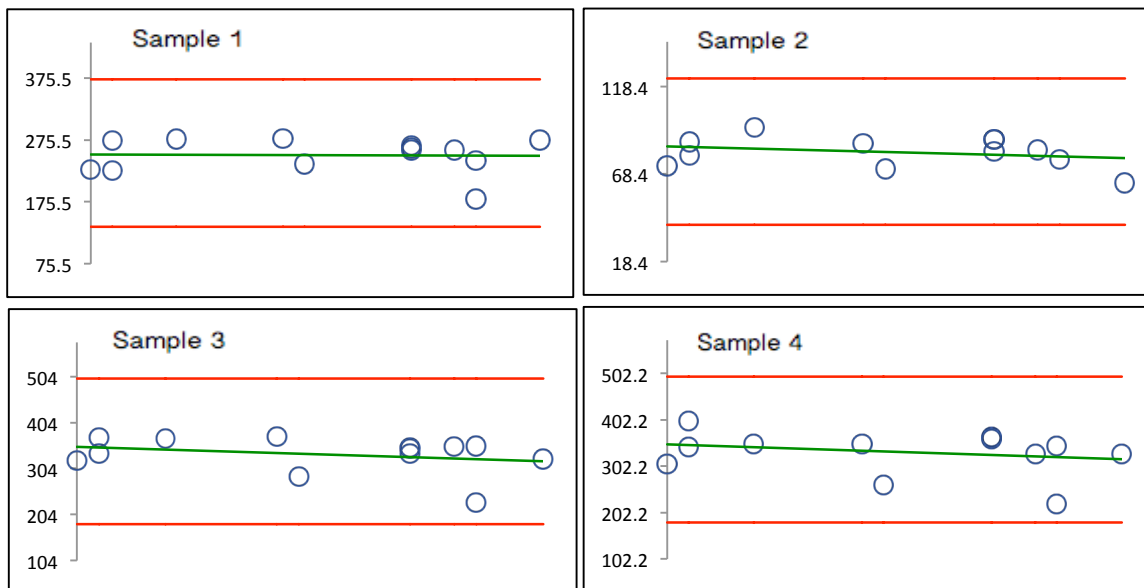


Kernel Density Plots



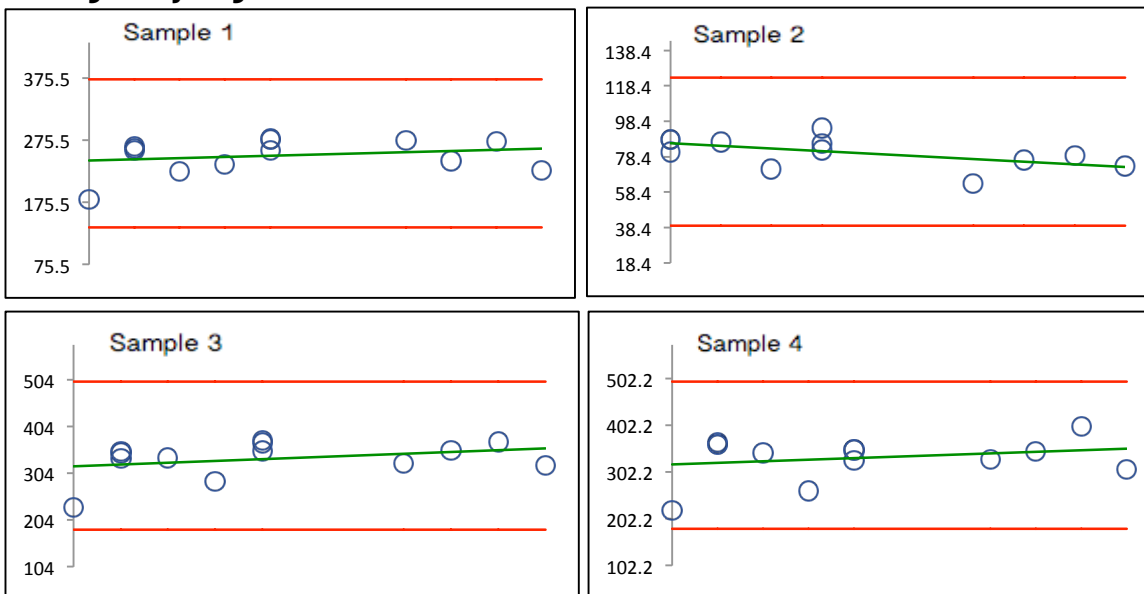
4,4'-DDT (P,P'-DDT)

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

ALDRIN

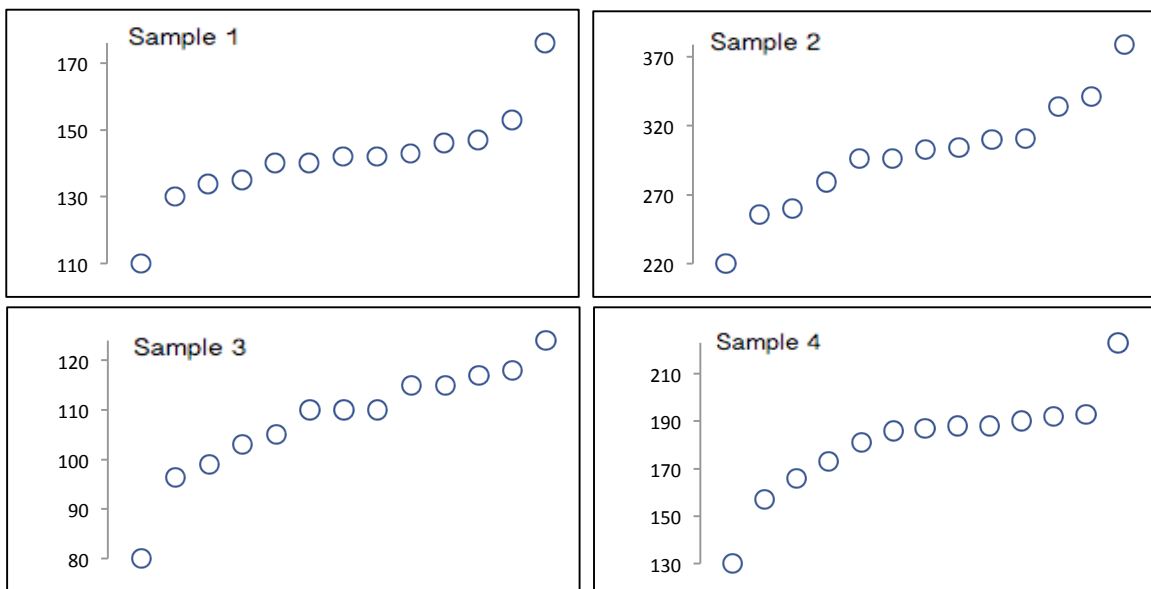
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	142	303	110	187
Robust Mean	141	299	109	182
U	3.2	13.3	3.6	5.8
Robust Standard Deviation	9.29	38.4	10.3	16.8
Regression Standard Deviation	30.4	62.4	23.9	38.7
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	30.4	62.4	23.9	38.7
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

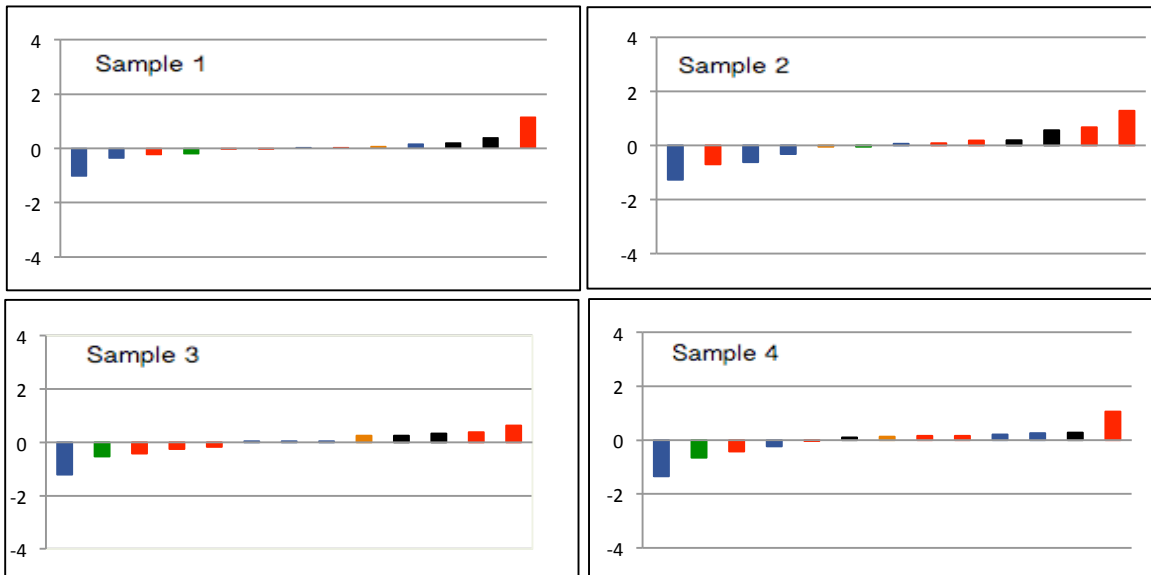
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/MS	5	5	5	5
GC/ECD/SHKE	1	1	1	1
GC/MSHR	1	1	1	1
GC/MS/MS	2	2	2	2

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

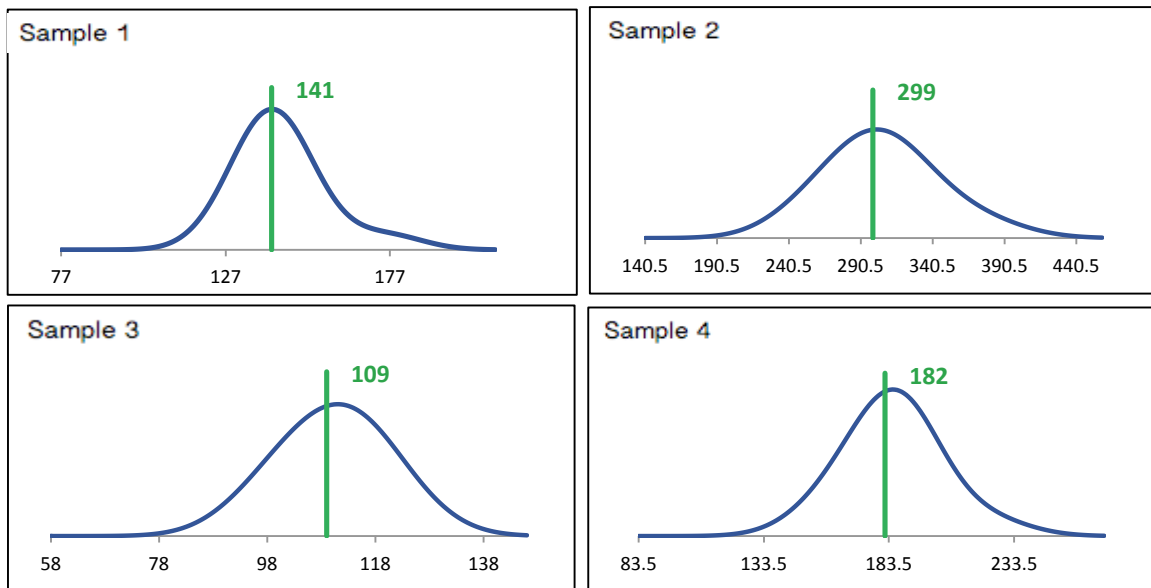


ALDRIN

z-Score Plots

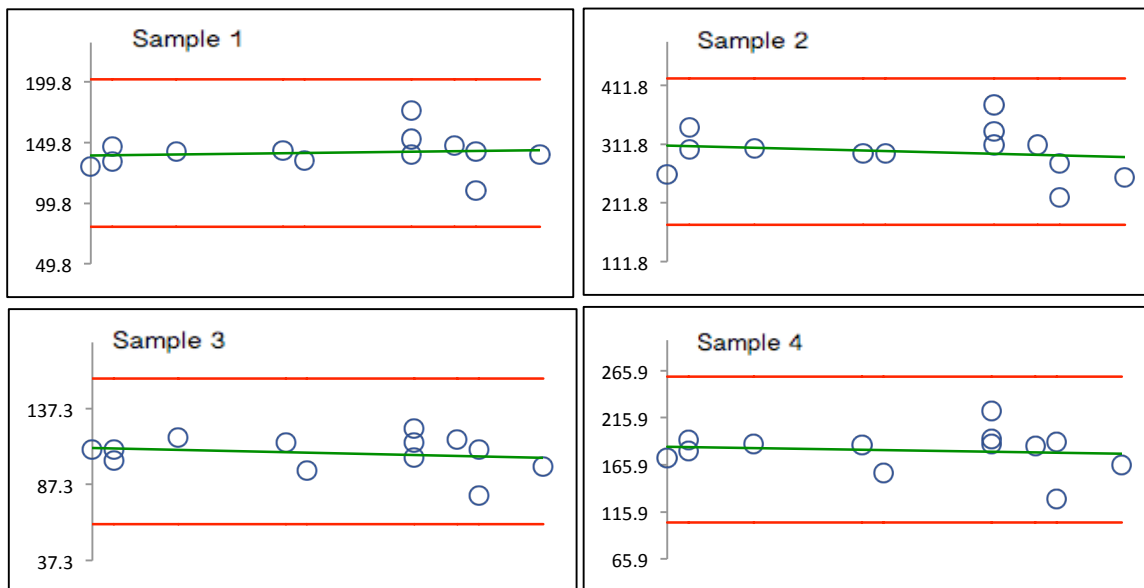


Kernel Density Plots



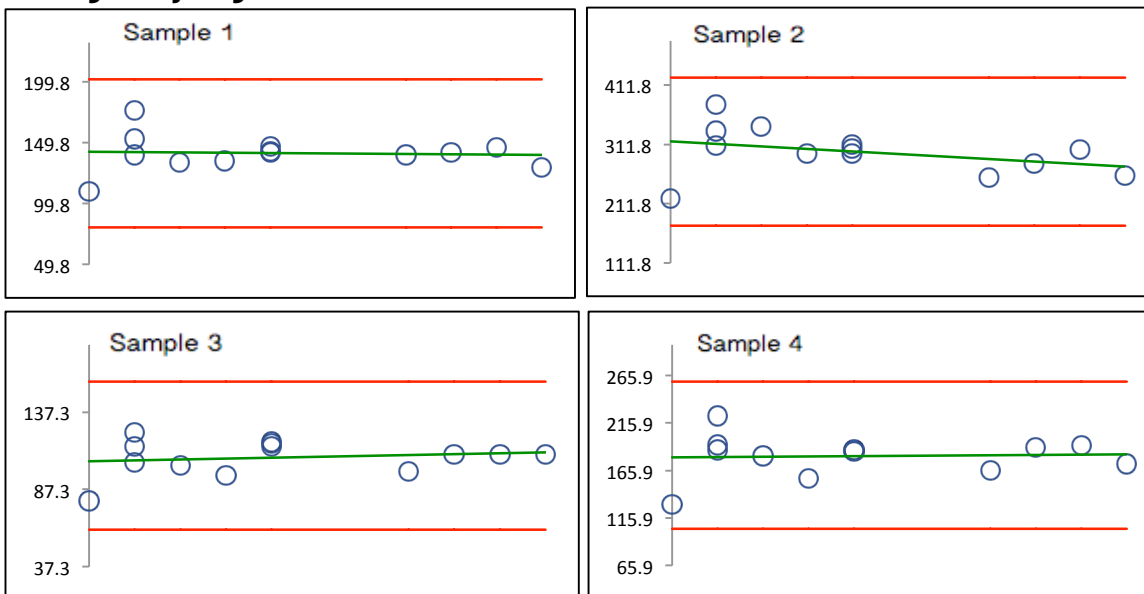
ALDRIN

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

ALPHA-BHC

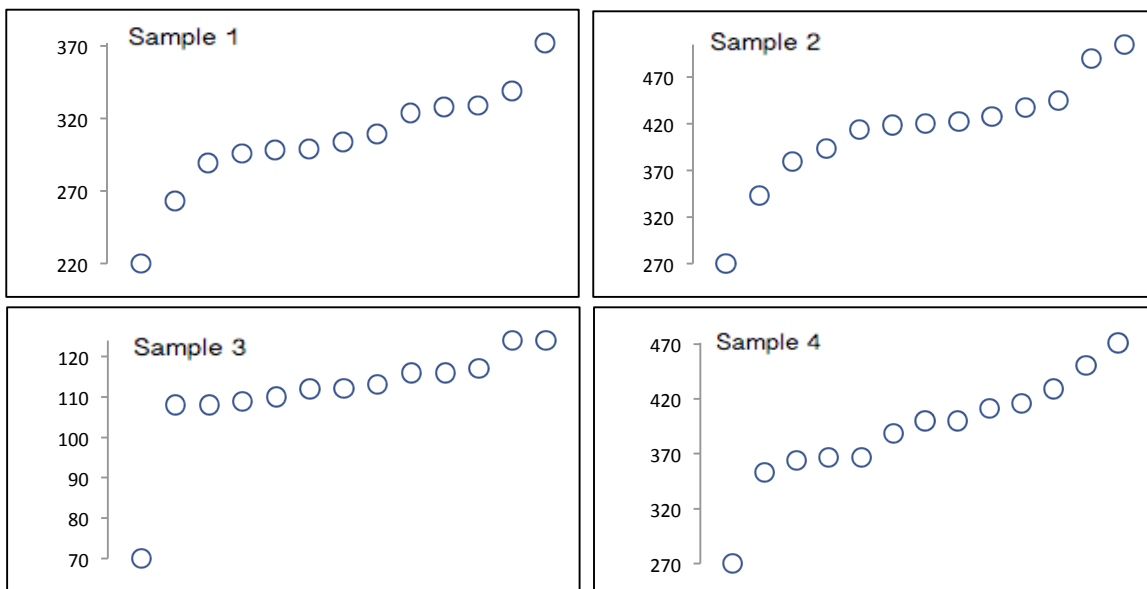
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	304	420	112	400
Robust Mean	307	417	113	395
U	10.9	18.7	2.3	15.2
Robust Standard Deviation	31.4	53.9	6.61	43.8
Regression Standard Deviation	64.7	86.8	25.8	82.4
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	64.7	86.8	25.8	82.4
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

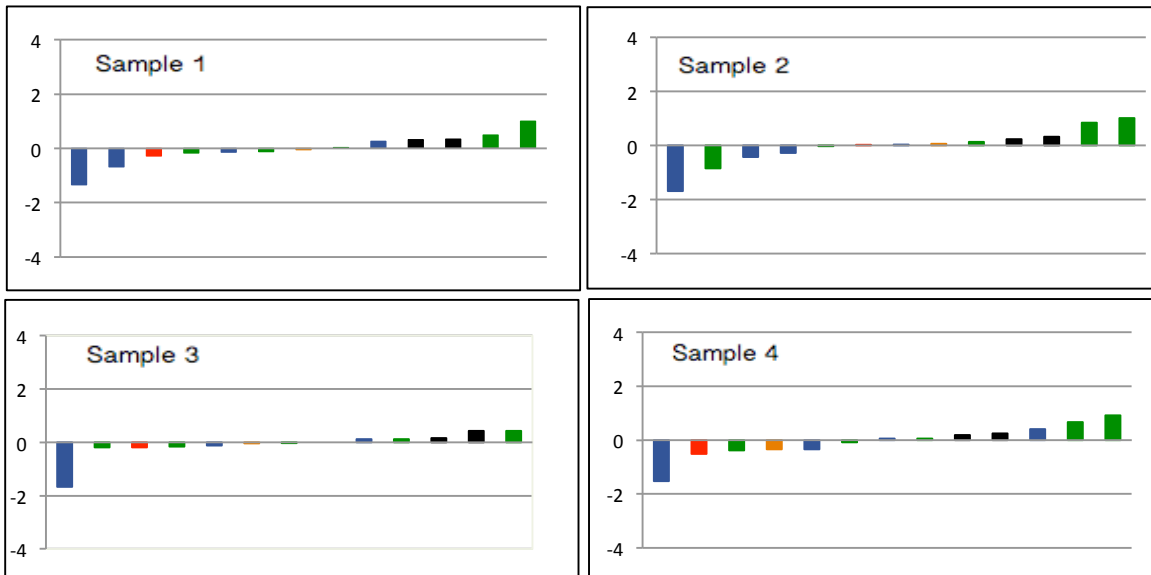
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/ECD/SHKE	1	1	1	1
GC/MS	5	5	5	5
GC/MSHR	1	1	1	1
GC/MS/MS	2	2	2	2

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

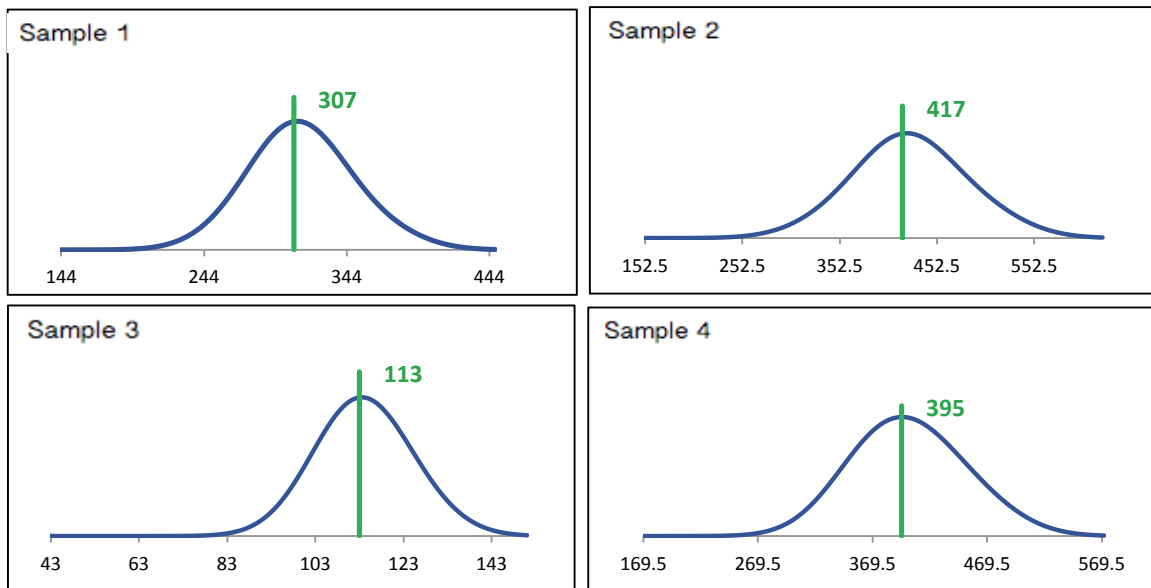


ALPHA-BHC

z-Score Plots

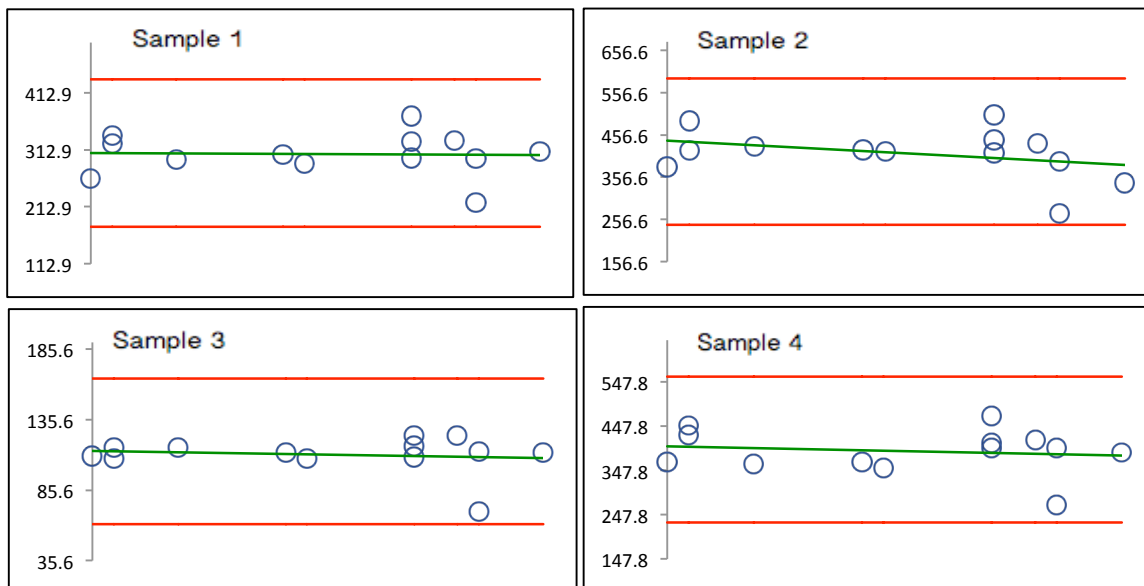


Kernel Density Plots



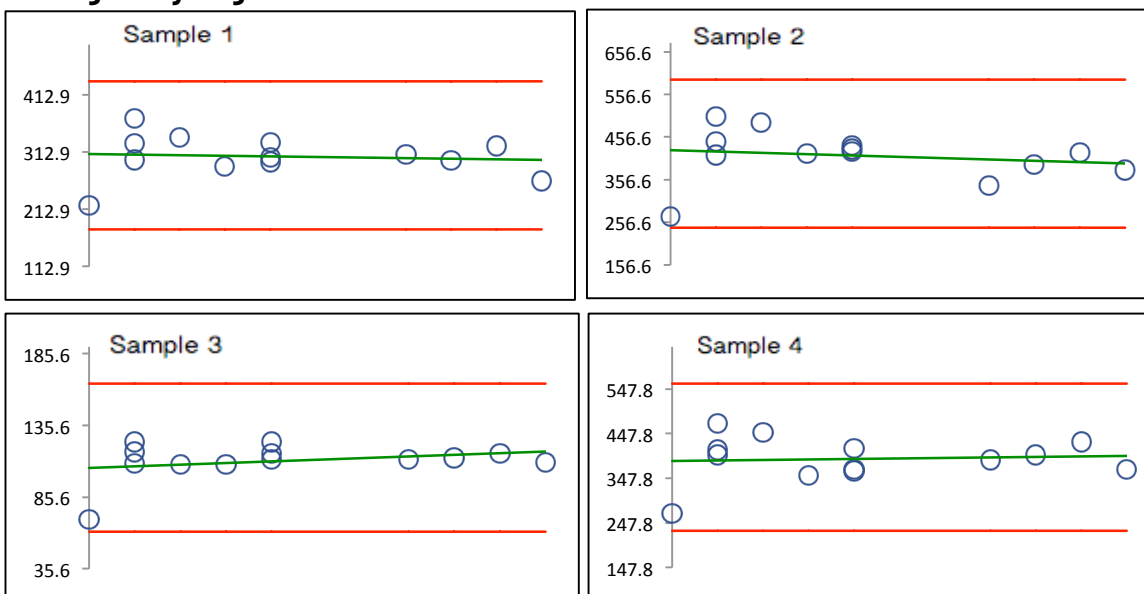
ALPHA-BHC

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

ALPHA-CHLORDANE

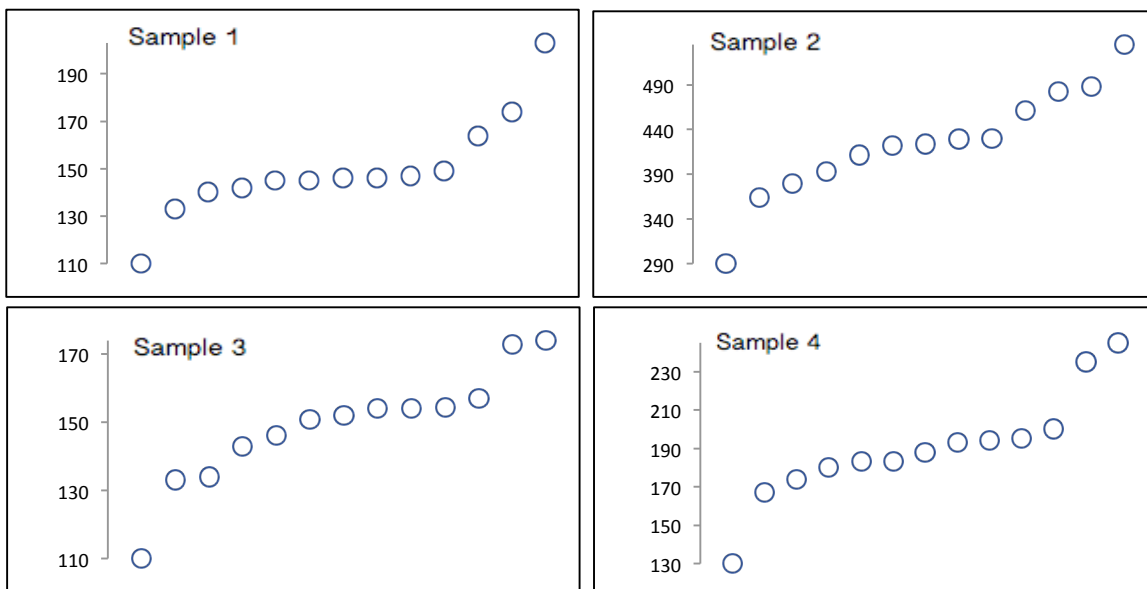
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	146	424	152	188
Robust Mean	148	426	150	189
U	5.3	19.6	5.6	7.0
Robust Standard Deviation	15.3	56.6	16.0	20.2
Regression Standard Deviation	28.4	80.6	28.8	36.1
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	28.4	80.6	28.8	36.1
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

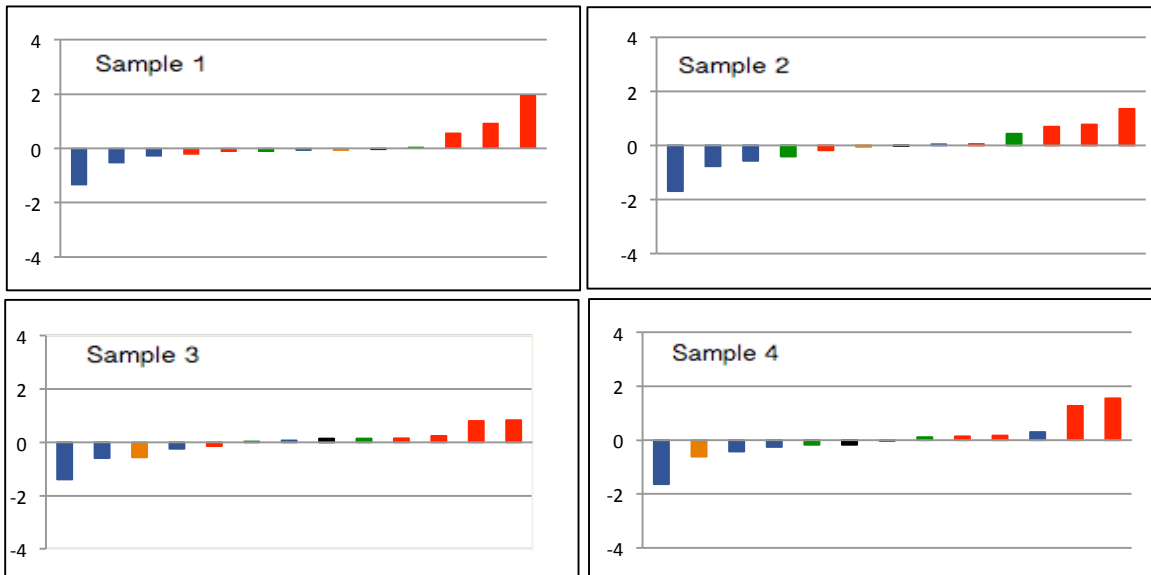
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/MS	5	5	5	5
GC/MS/MS	2	2	2	2
GC/ECD/SHKE	1	1	1	1
GC/MSHR	1	1	1	1

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

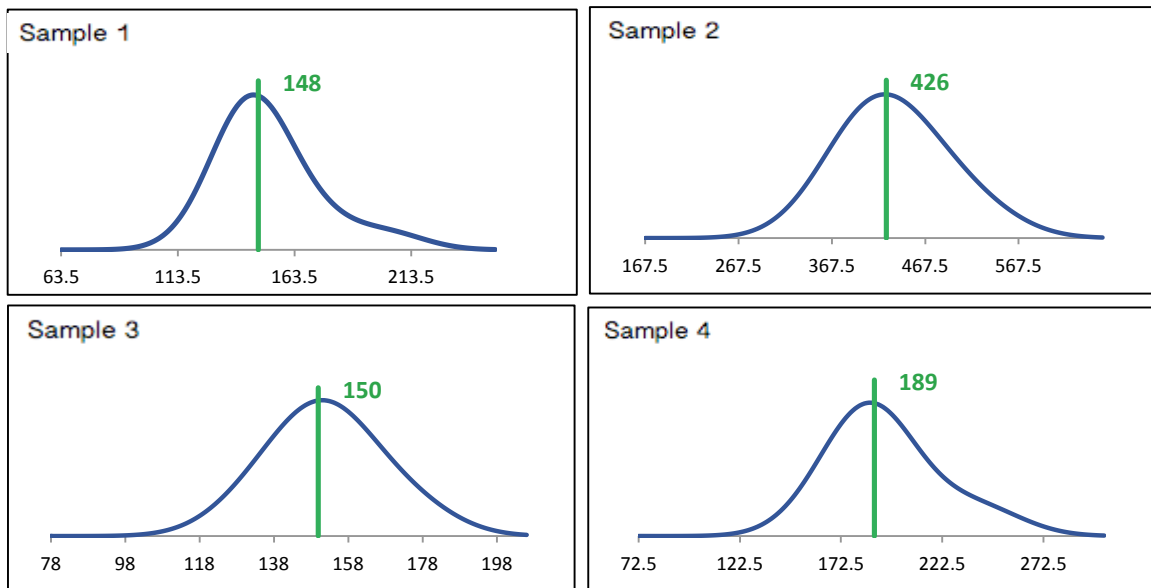


ALPHA-CHLORDANE

z-Score Plots

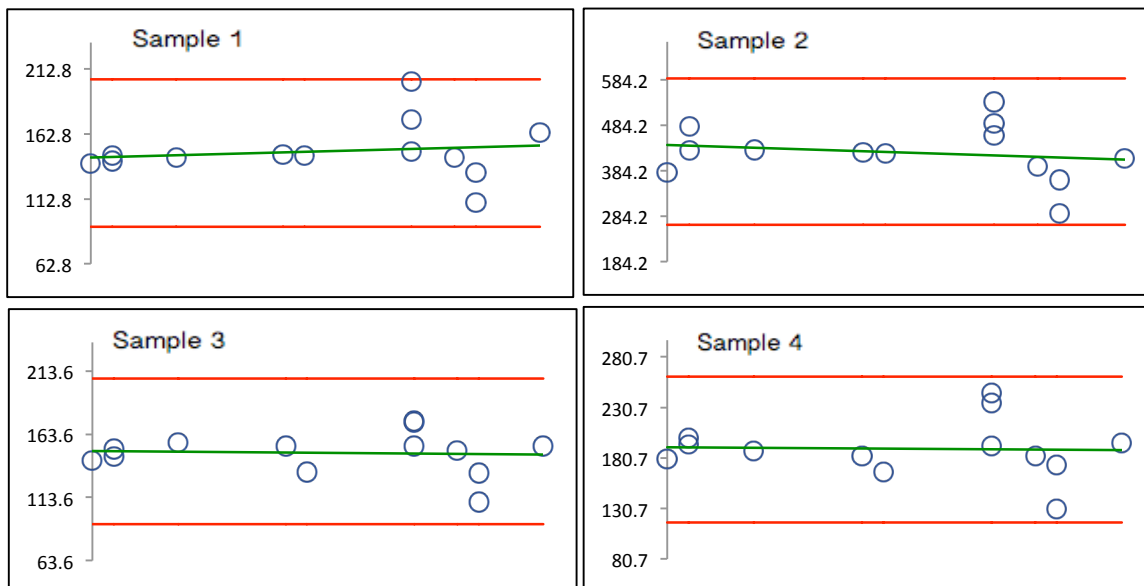


Kernel Density Plots



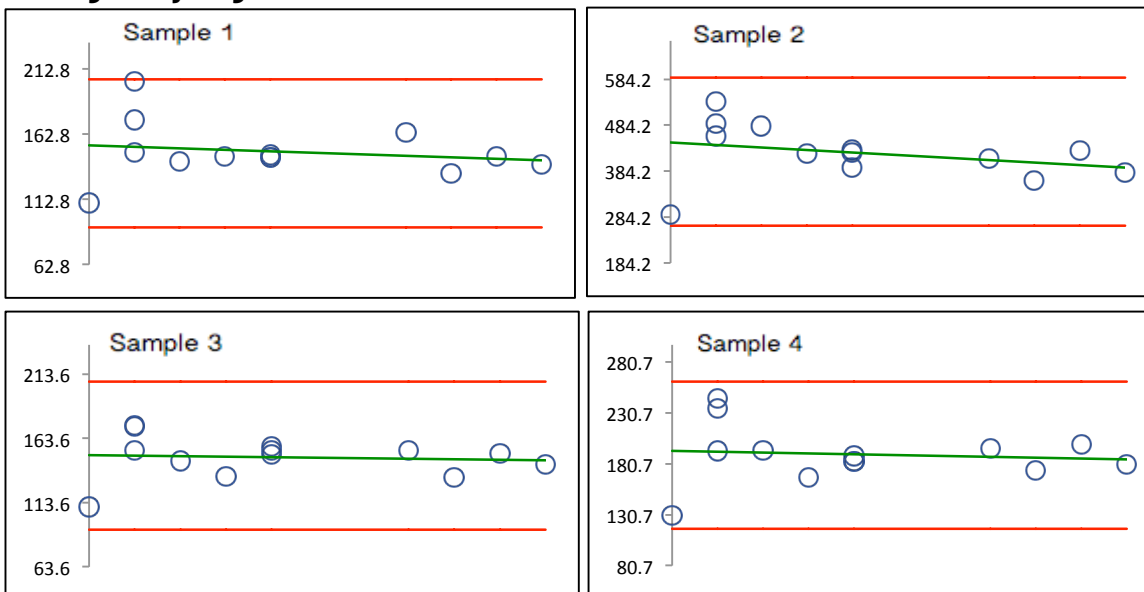
ALPHA-CHLORDANE

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

BETA-BHC

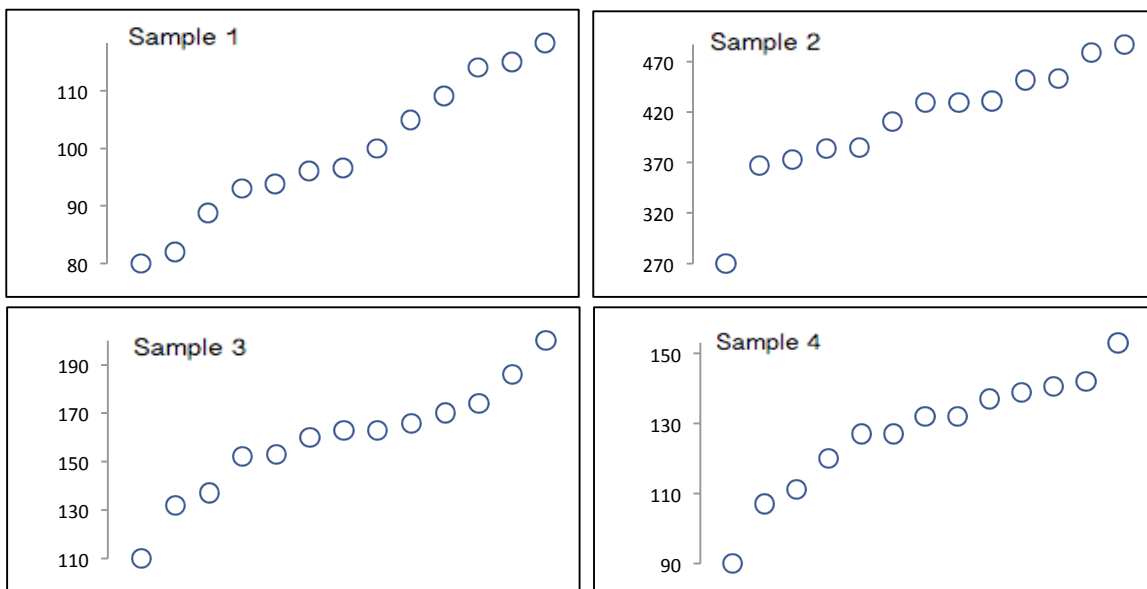
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	96.6	430	163	132
Robust Mean	99.3	417	160	129
U	4.9	17.6	7.8	5.8
Robust Standard Deviation	14.0	50.9	22.5	16.7
Regression Standard Deviation	27.2	84.0	37.9	32.4
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	27.2	84.0	37.9	32.4
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

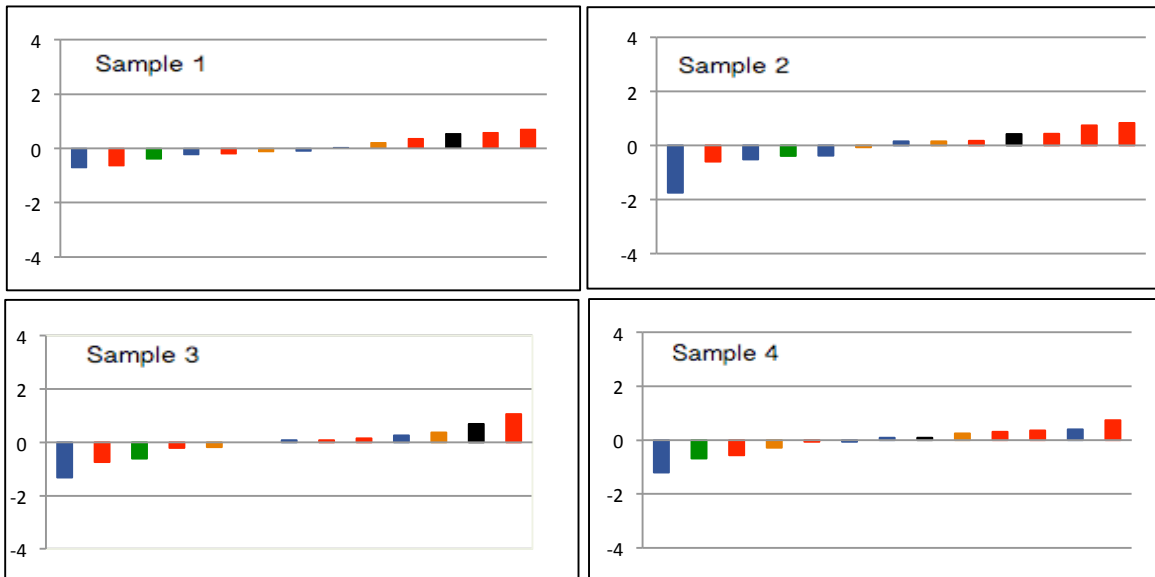
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/MS	5	5	5	5
GC/ECD/SHKE	1	1	1	1
GC/MS/MS	2	2	2	2
GC/MSHR	1	1	1	1

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

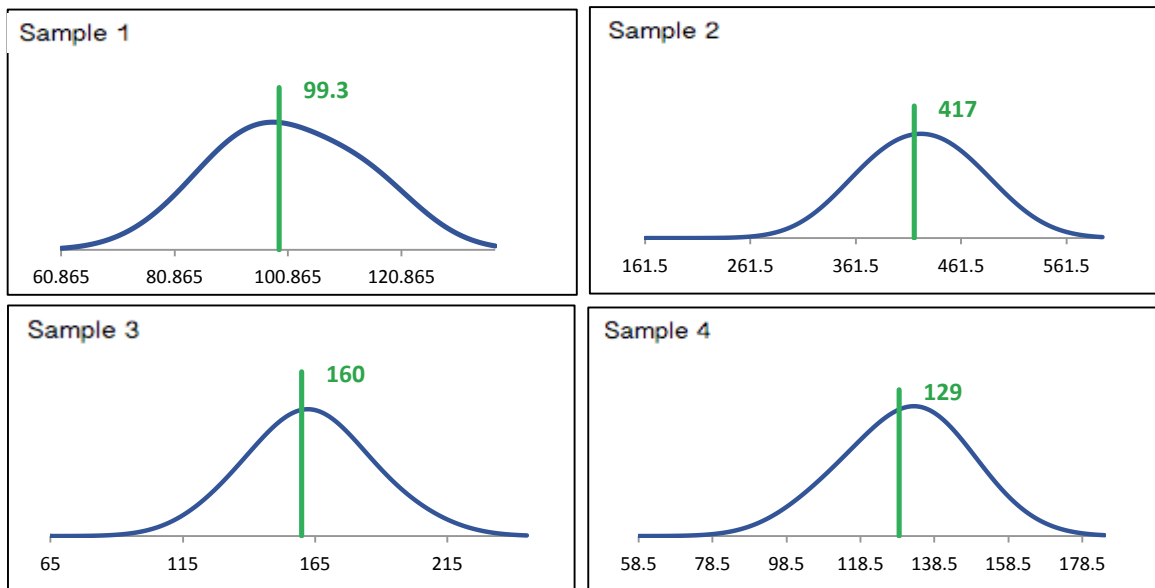


BETA-BHC

z-Score Plots

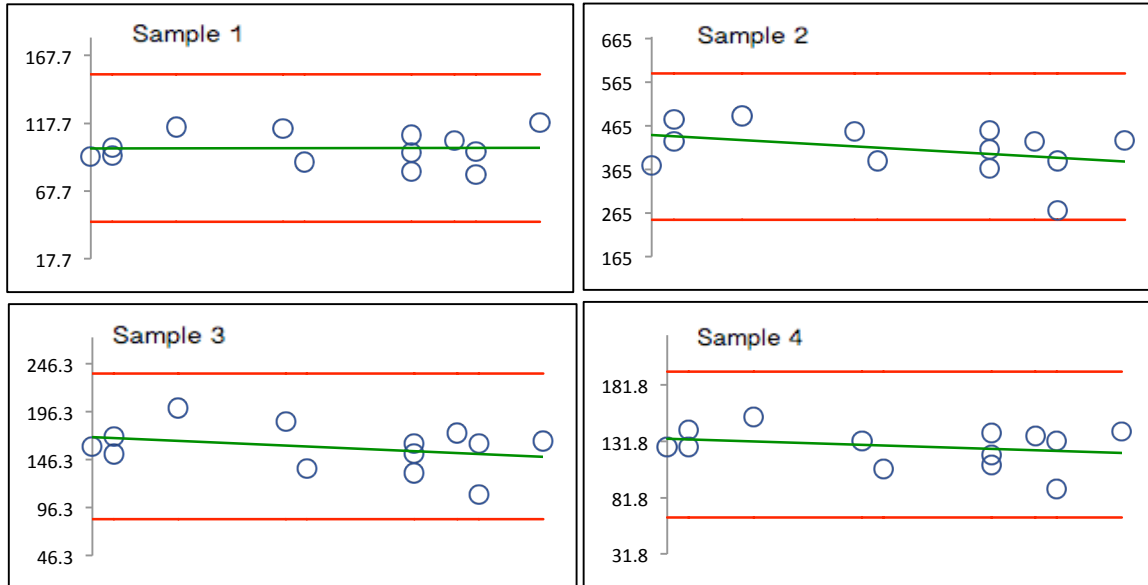


Kernel Density Plots



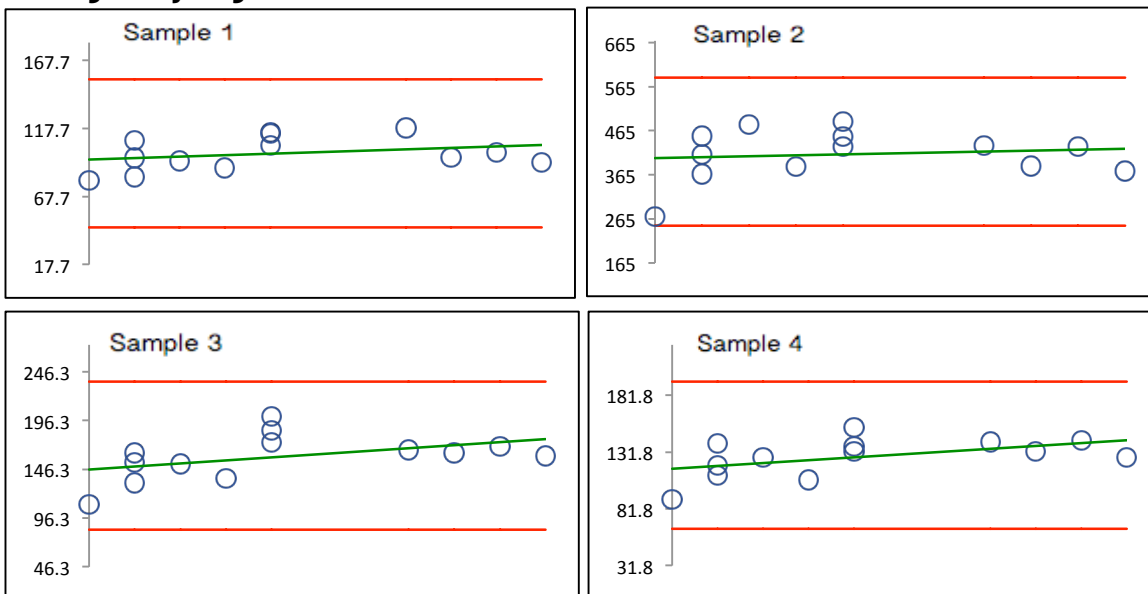
BETA-BHC

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

DIELDRIN

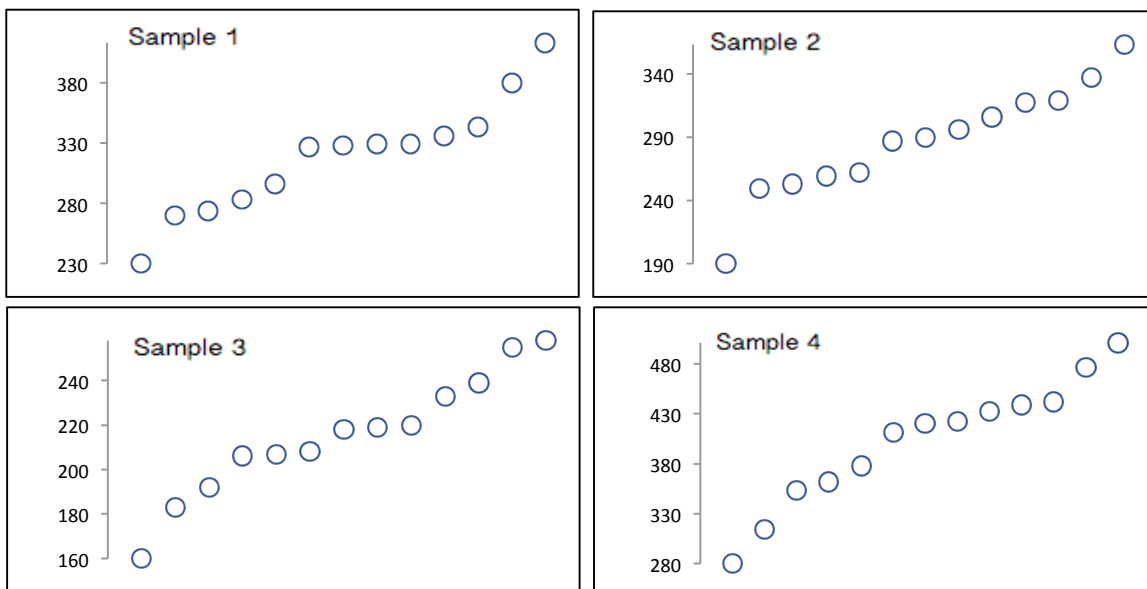
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	328	290	218	420
Robust Mean	318	289	216	404
U	16.7	14.8	10.1	23.2
Robust Standard Deviation	48.1	42.8	29.2	67.0
Regression Standard Deviation	57.2	52.3	40.2	71.6
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	57.2	52.3	40.2	71.6
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

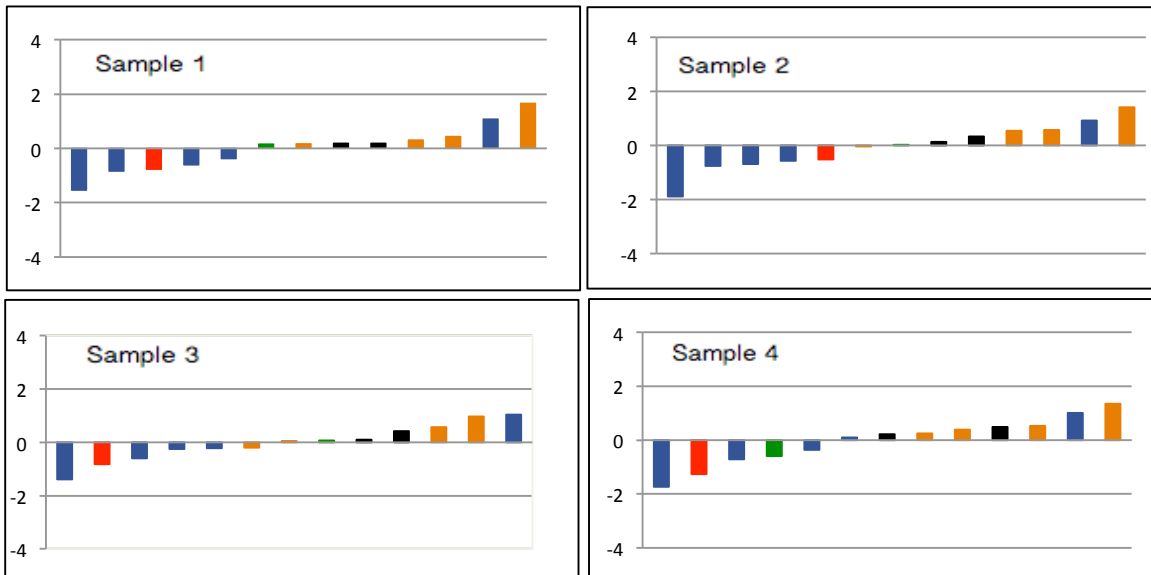
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	5	5	5	5
GC/ECD/SHKE	1	1	1	1
GC/MSHR	1	1	1	1
GC/MS	4	4	4	4
GC/MS/MS	2	2	2	2

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

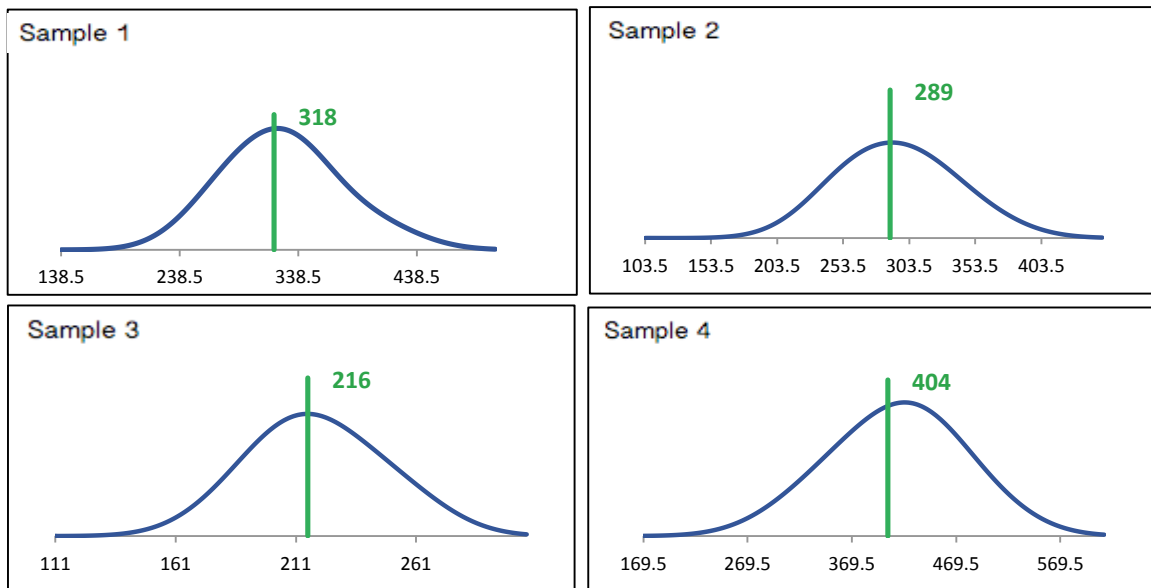


DIELDRIN

z-Score Plots

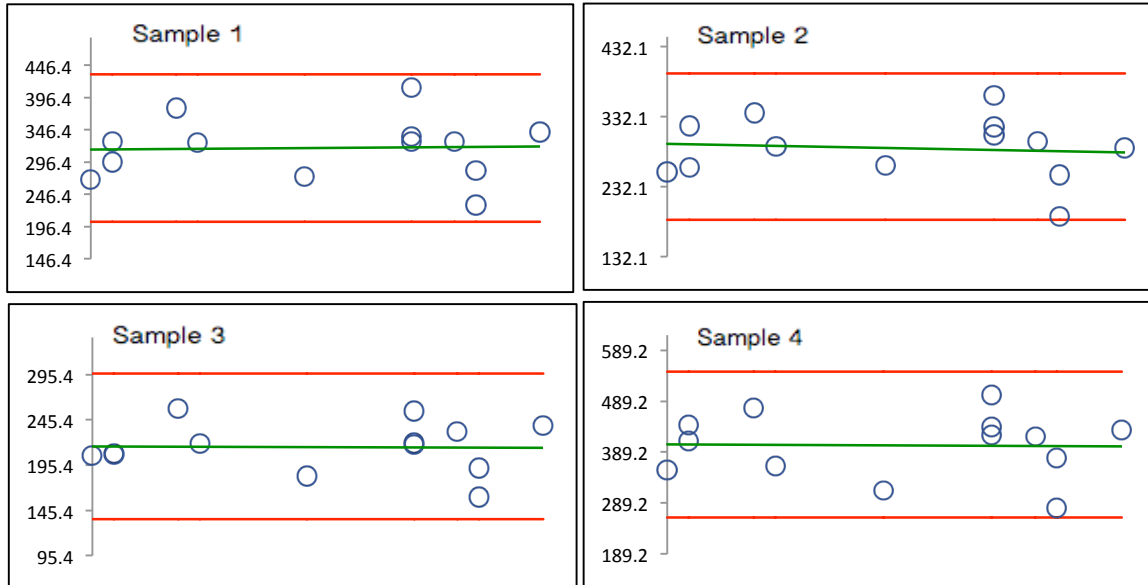


Kernel Density Plots



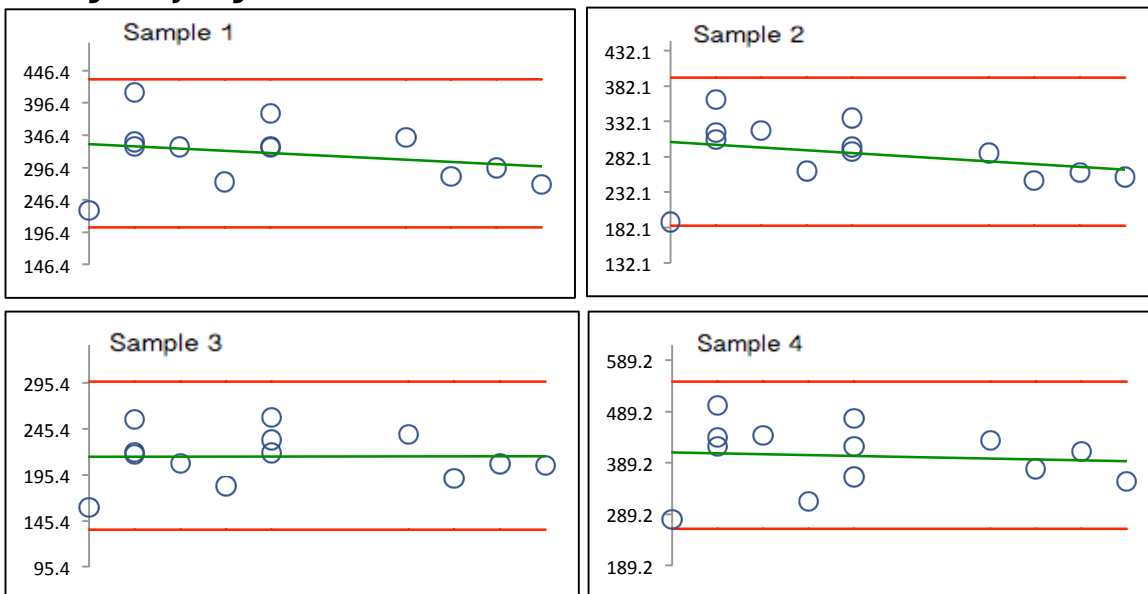
DIELDRIN

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

ENDOSULFAN I (A-ENDOSULFAN)

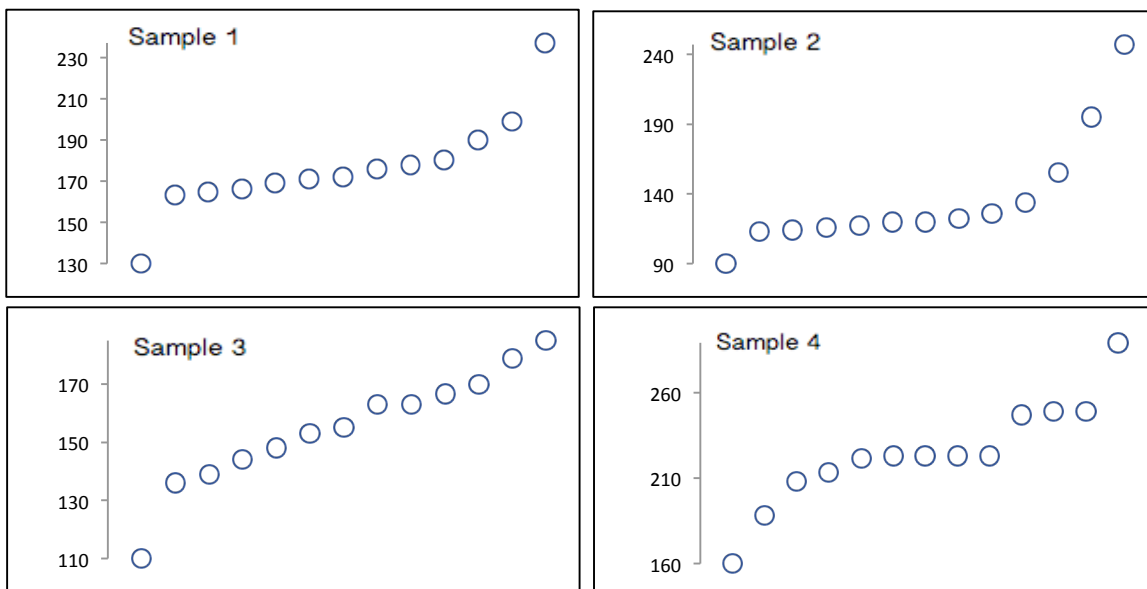
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	172	120	155	223
Robust Mean	175	127	156	224
U	5.5	8.6	6.8	9.3
Robust Standard Deviation	15.9	24.7	19.5	26.7
Regression Standard Deviation	37.1	28.3	33.5	46.0
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	37.1	28.3	33.5	46.0
Outliers	0	0	0	0
$ z > 3.0$	0	1	0	0
$2 < z < 3$	0	1	0	0

Methods Used

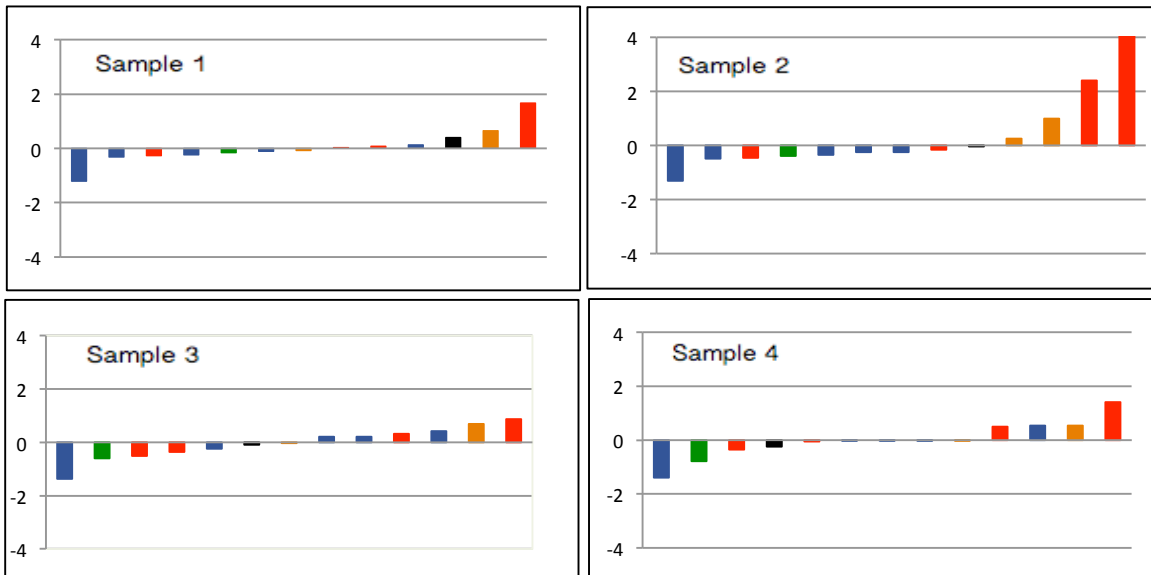
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	5	5	5	5
GC/MS	4	4	4	4
GC/ECD/SHKE	1	1	1	1
GC/MS/MS	2	2	2	2
GC/MSHR	1	1	1	1

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

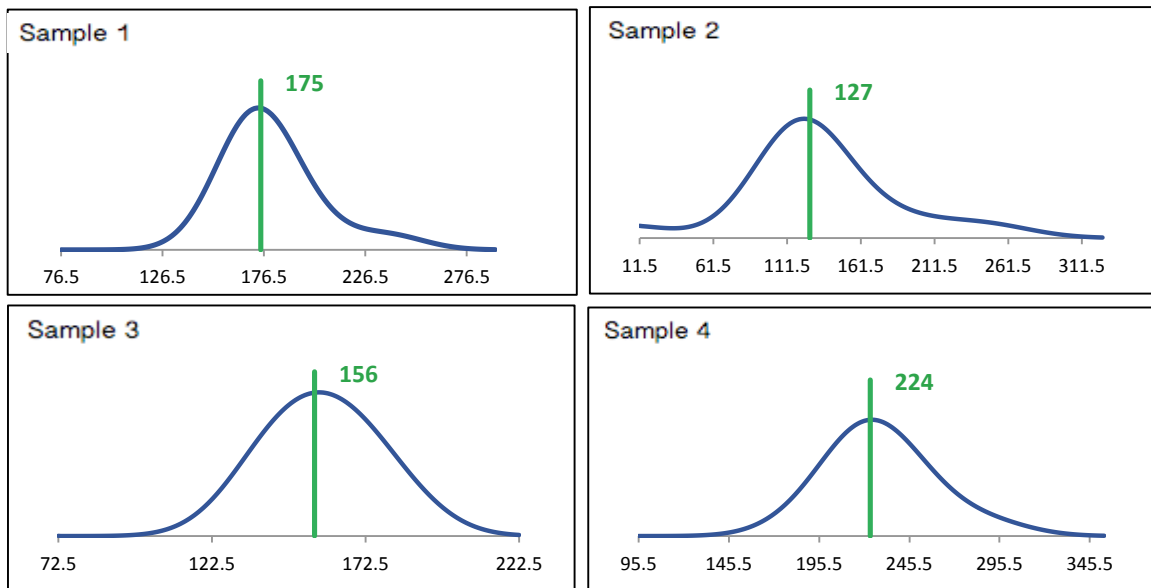


ENDOSULFAN I (A-ENDOSULFAN)

z-Score Plots

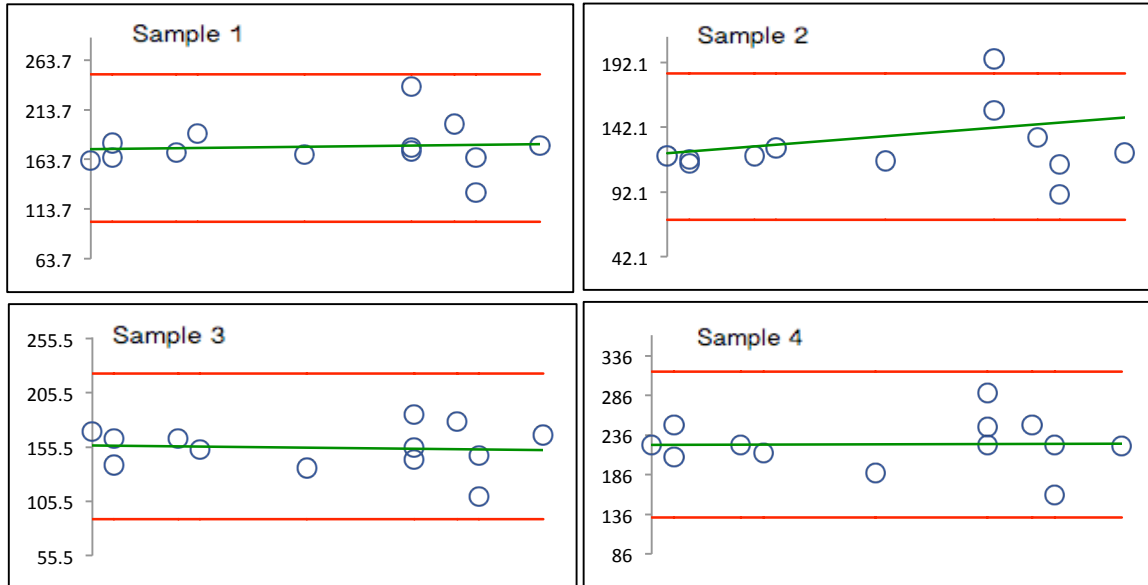


Kernel Density Plots



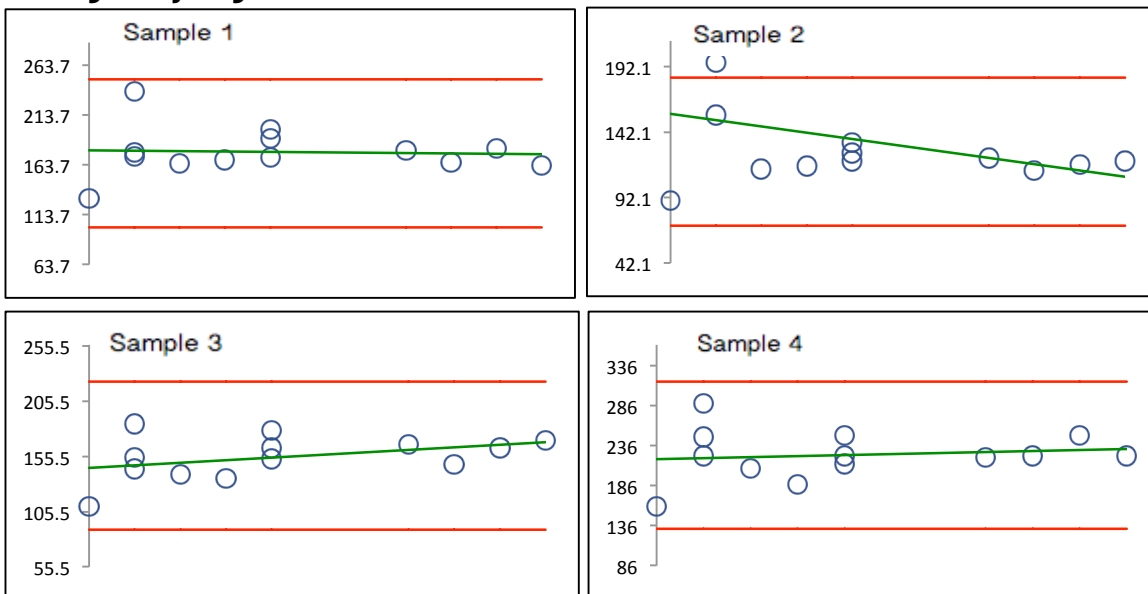
ENDOSULFAN I (A-ENDOSULFAN)

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

ENDOSULFAN II (B-ENDOSULFAN)

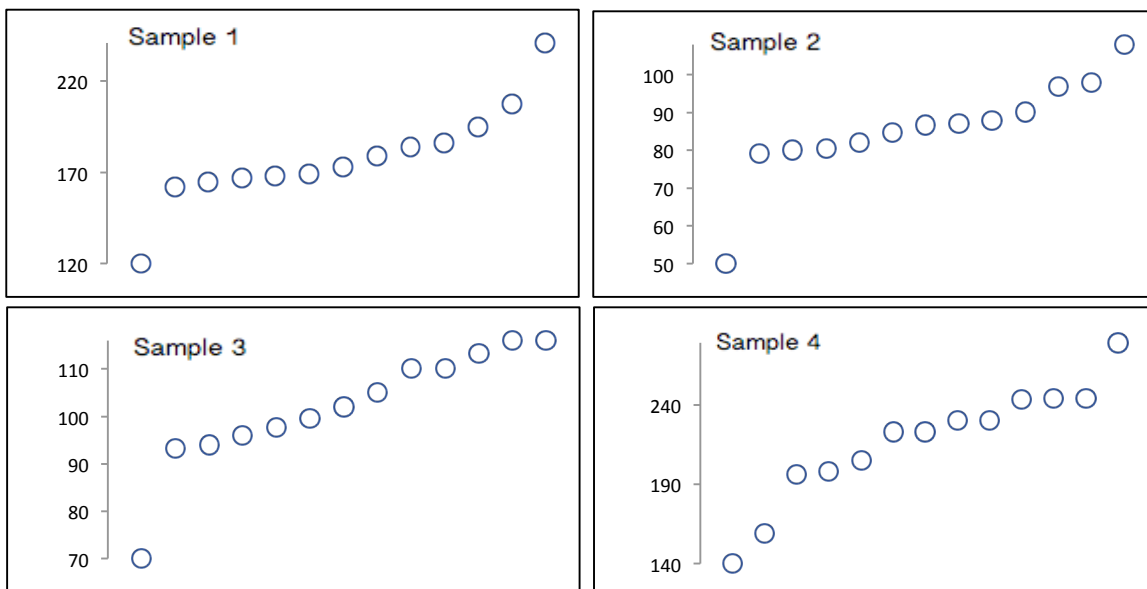
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	173	86.7	102	223
Robust Mean	178	86.6	103	218
U	7.0	3.2	3.7	12.5
Robust Standard Deviation	20.3	9.29	10.7	36.1
Regression Standard Deviation	39.2	20.8	24.1	47.4
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	39.2	20.8	24.1	47.4
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

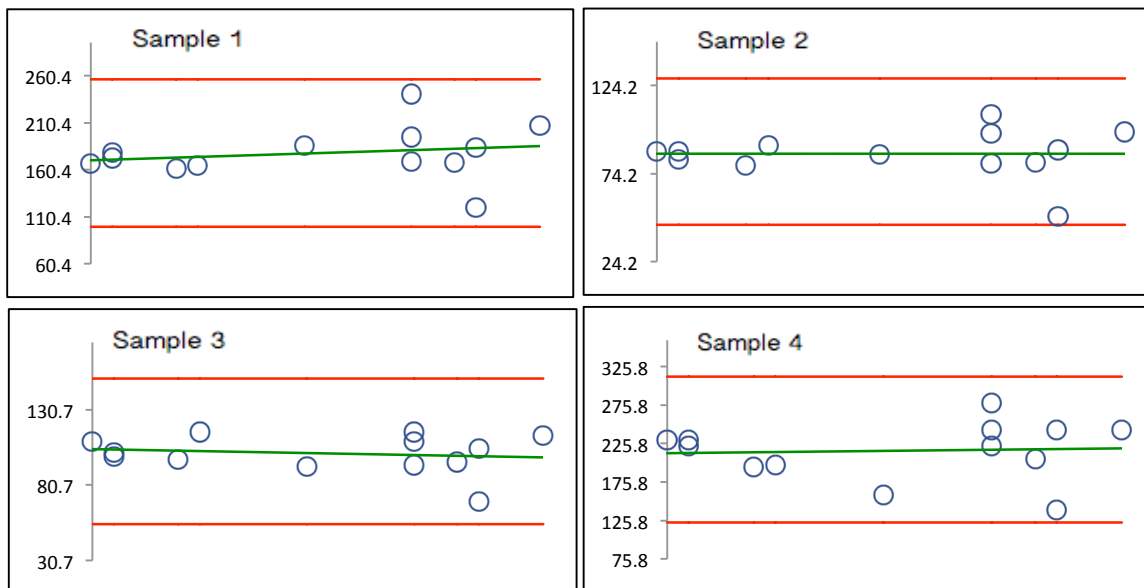
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	5	5	5	5
GC/MSHR	1	1	1	1
GC/MS/MS	2	2	2	2
GC/MS	4	4	4	4
GC/ECD/SHKE	1	1	1	1

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



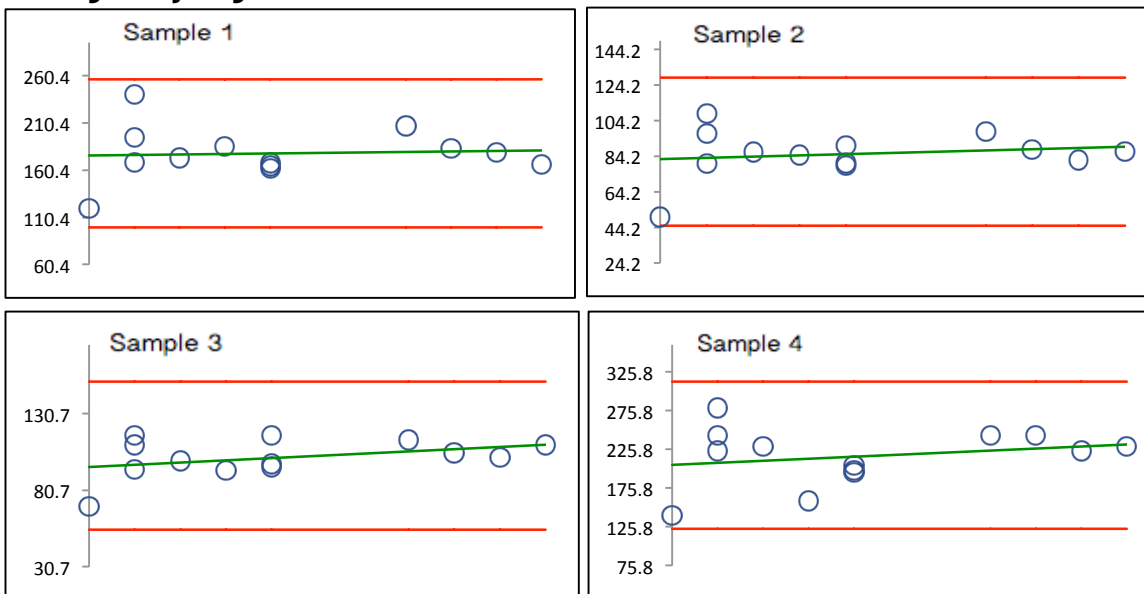
ENDOSULFAN II (B-ENDOSULFAN)

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

ENDRIN

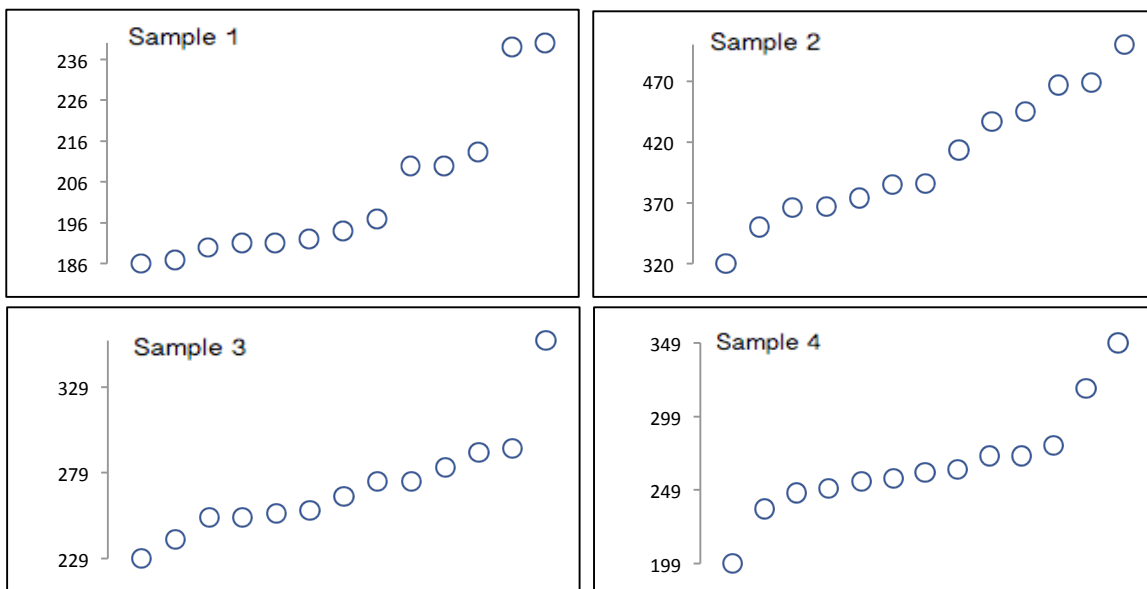
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	194	386	265	261
Robust Mean	201	406	267	263
U	5.4	20.9	8.5	8.8
Robust Standard Deviation	15.6	60.20	24.6	25.5
Regression Standard Deviation	36.0	65.4	45.5	44.9
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	36.0	65.4	45.5	44.9
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

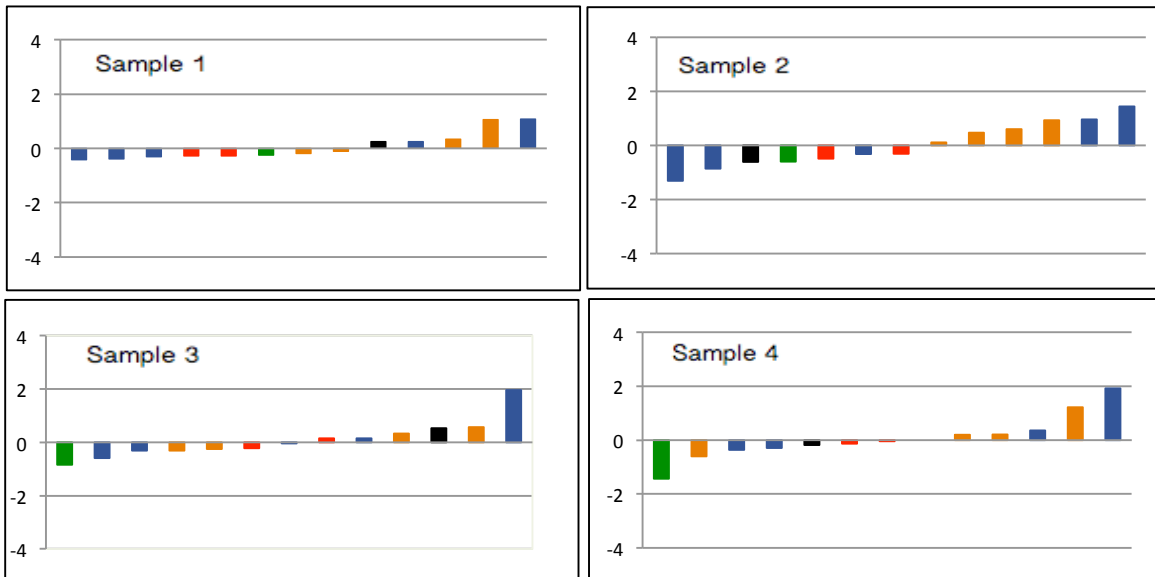
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	5	5	5	5
GC/MS/MS	2	2	2	2
GC/ECD/SHKE	1	1	1	1
GC/MS	4	4	4	4
GC/MSHR	1	1	1	1

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

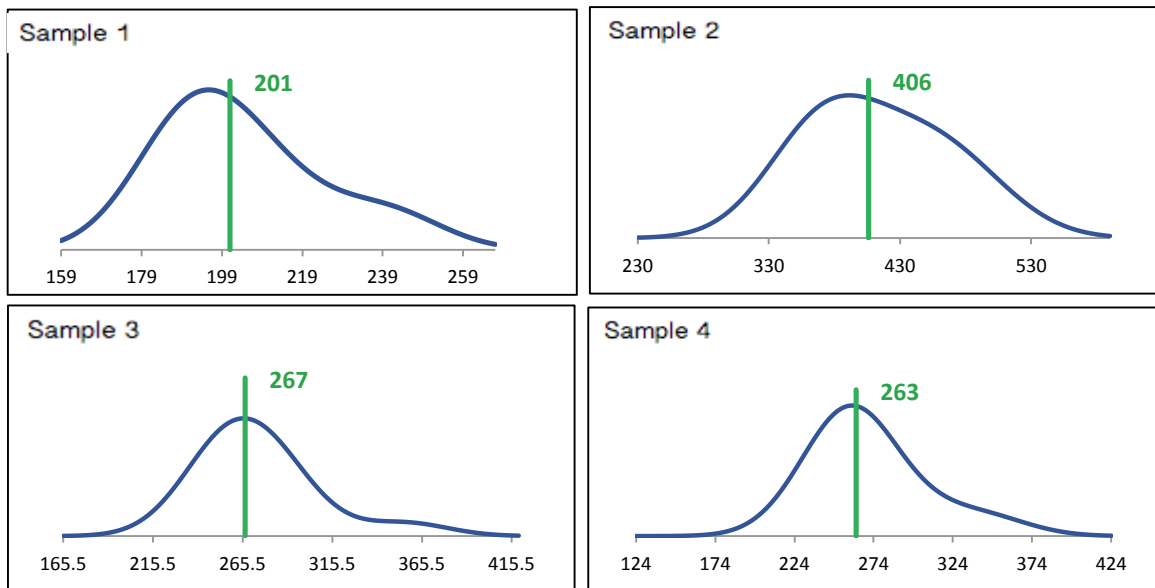


ENDRIN

z-Score Plots

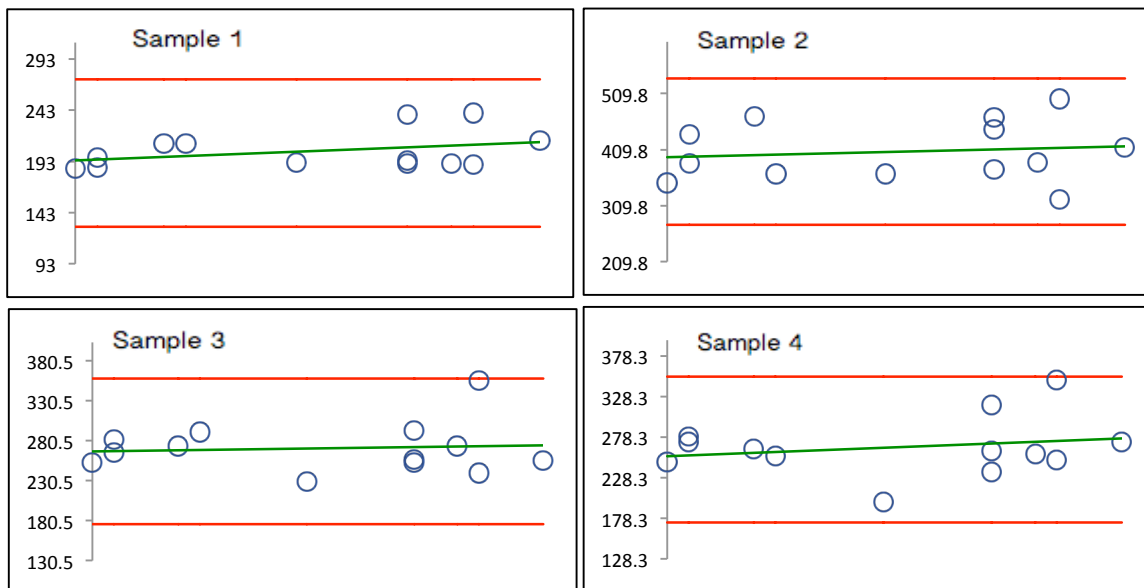


Kernel Density Plots



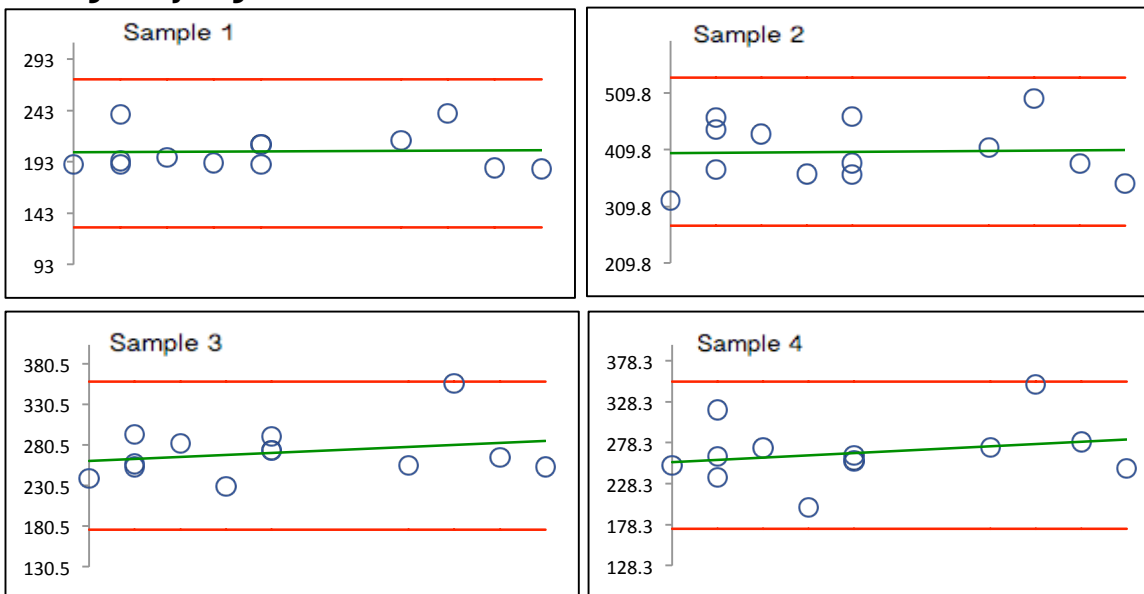
ENDRIN

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

LINDANE (GAMMA-BHC)

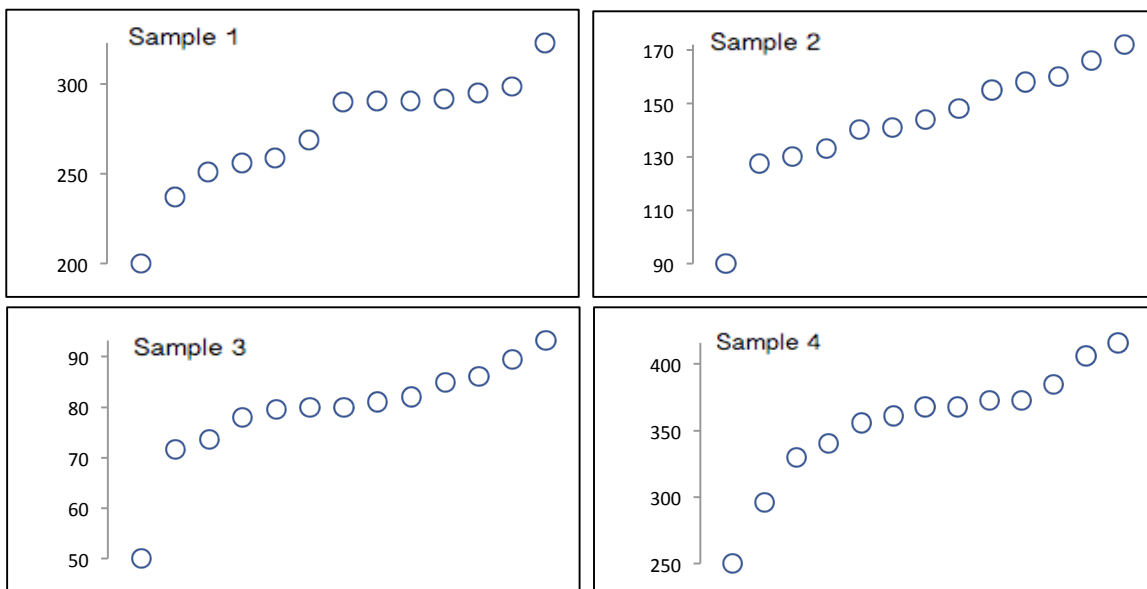
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	290	144	80.0	368
Robust Mean	275	146	80.6	360
U	10.7	6.3	2.6	13.9
Robust Standard Deviation	31.0	18.3	7.4	40.0
Regression Standard Deviation	59.9	34.5	21.8	76.3
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	59.9	34.5	21.8	76.3
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

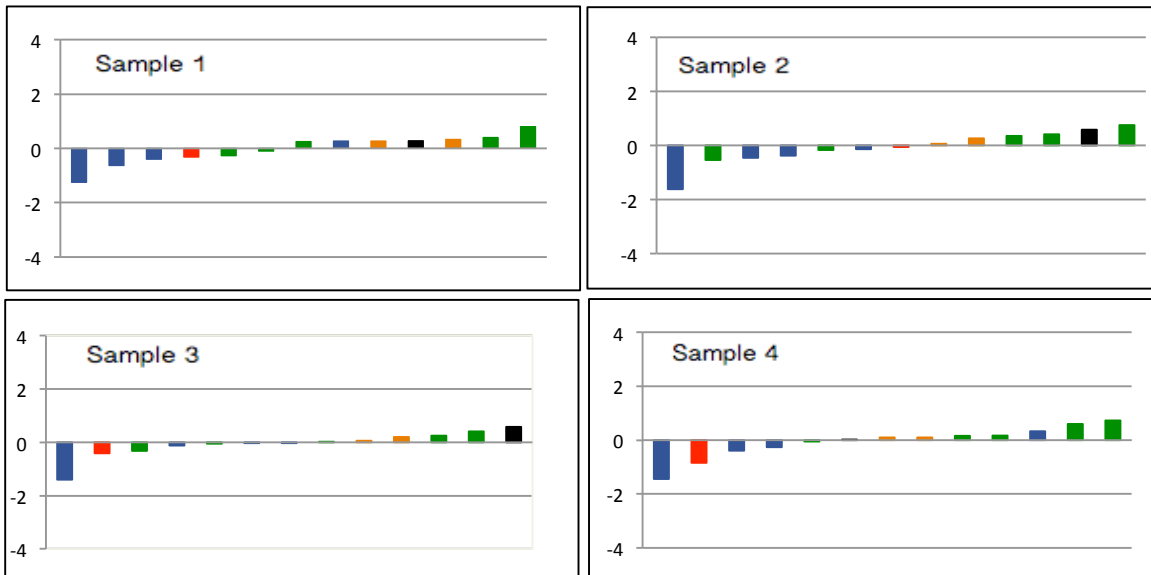
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/ECD/SHKE	1	1	1	1
GC/MS	5	5	5	5
GC/MS/MS	2	2	2	2
GC/MSHR	1	1	1	1

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

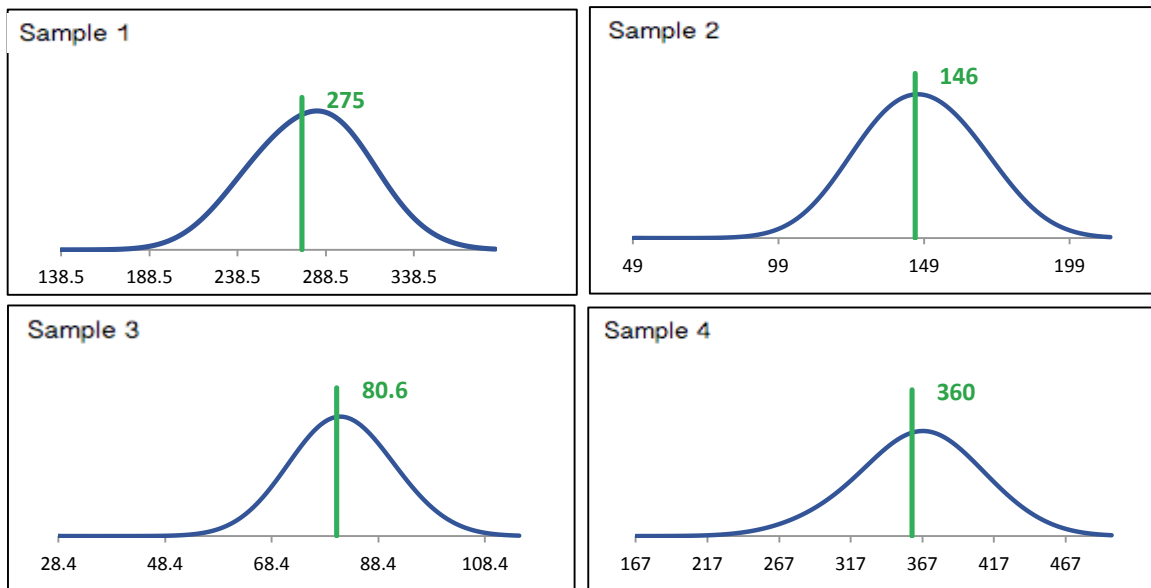


LINDANE (GAMMA-BHC)

z-Score Plots

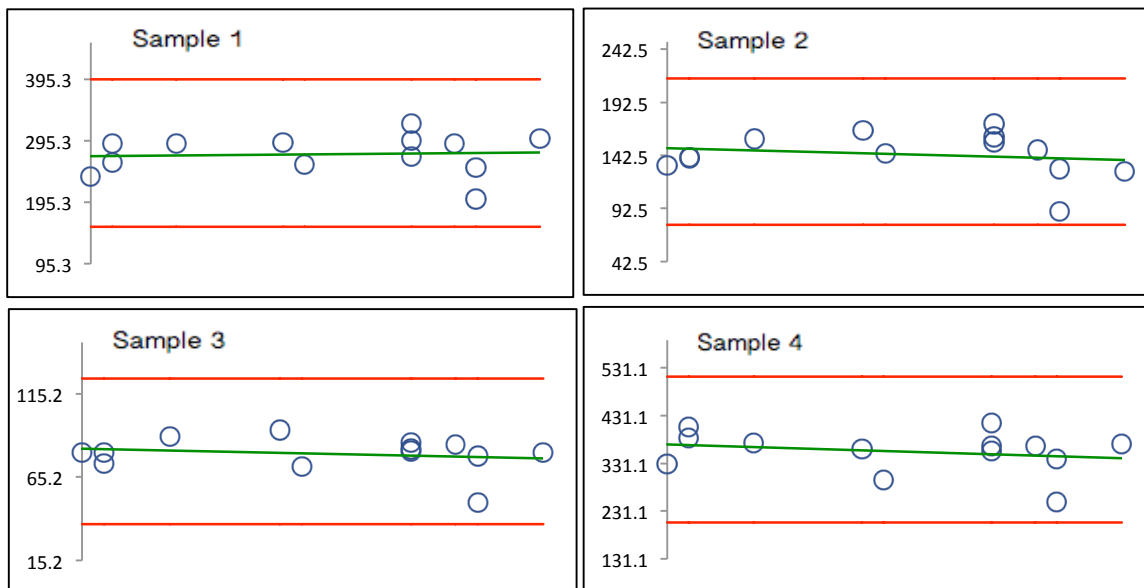


Kernel Density Plots



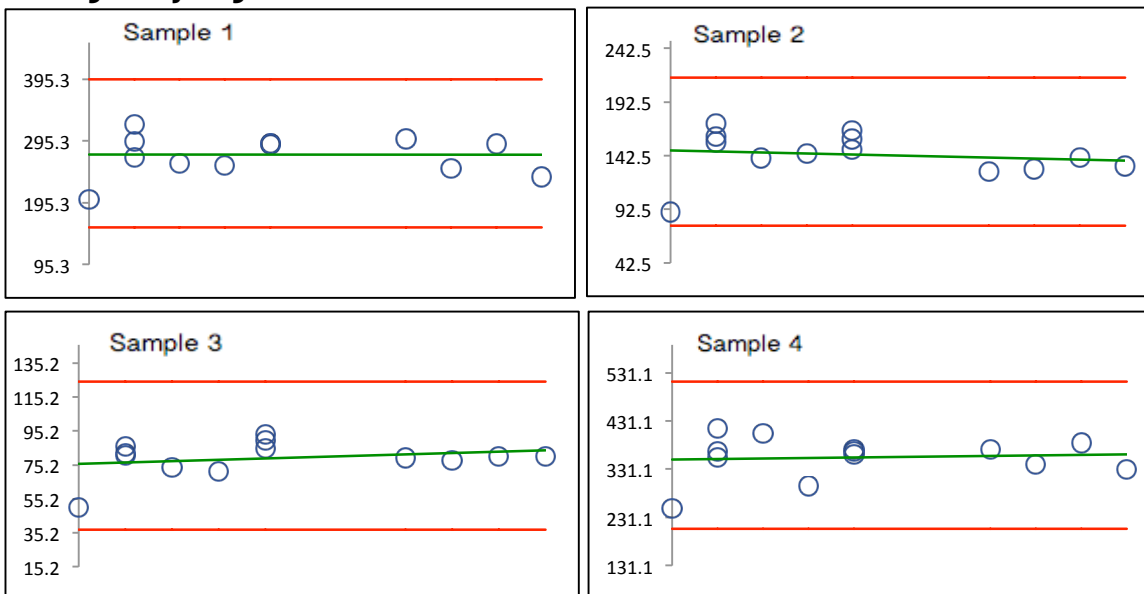
LINDANE (GAMMA-BHC)

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

GAMMA-CHLORDANE

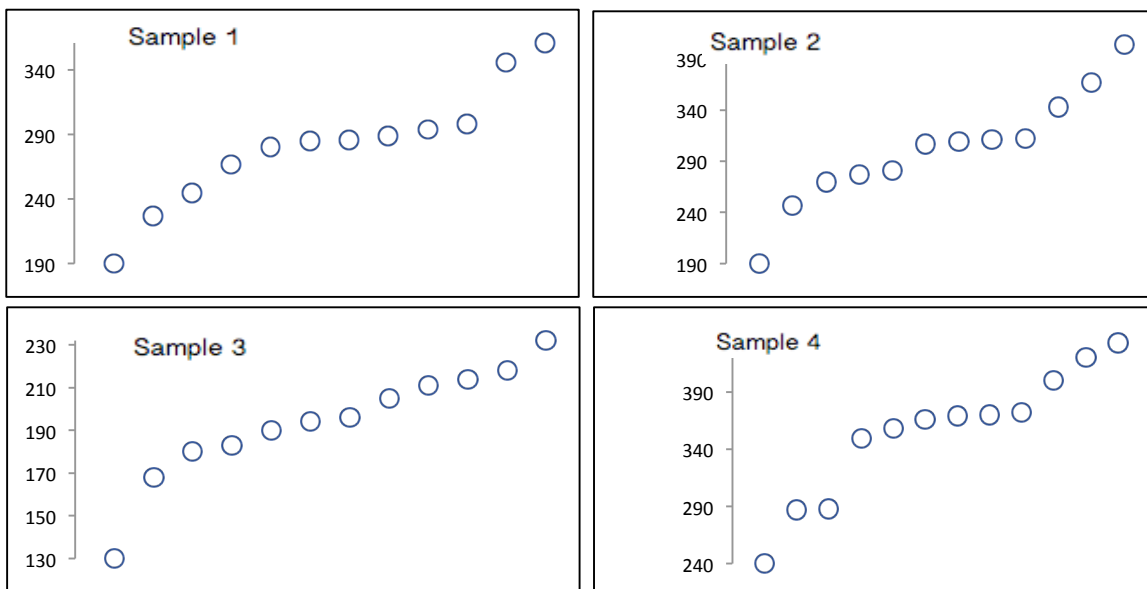
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	12	12	12
Median	286	308	195	368
Robust Mean	282	302	196	357
U	17.1	19.1	8.7	21.3
Robust Standard Deviation	47.5	52.8	24.1	59.1
Regression Standard Deviation	49.0	52.4	34.7	61.5
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	49.0	52.8	34.7	61.5
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	1	0	0

Methods Used

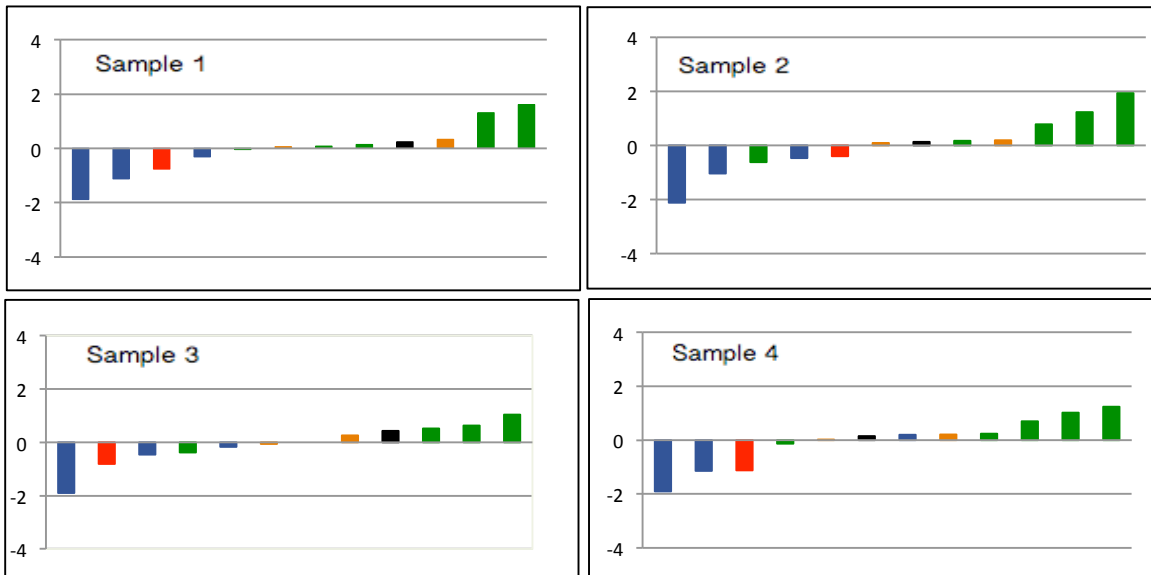
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	3	3	3	3
GC/ECD/SHKE	1	1	1	1
GC/MS	5	5	5	5
GC/MS/MS	2	2	2	2
GC/MSHR	1	1	1	1

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

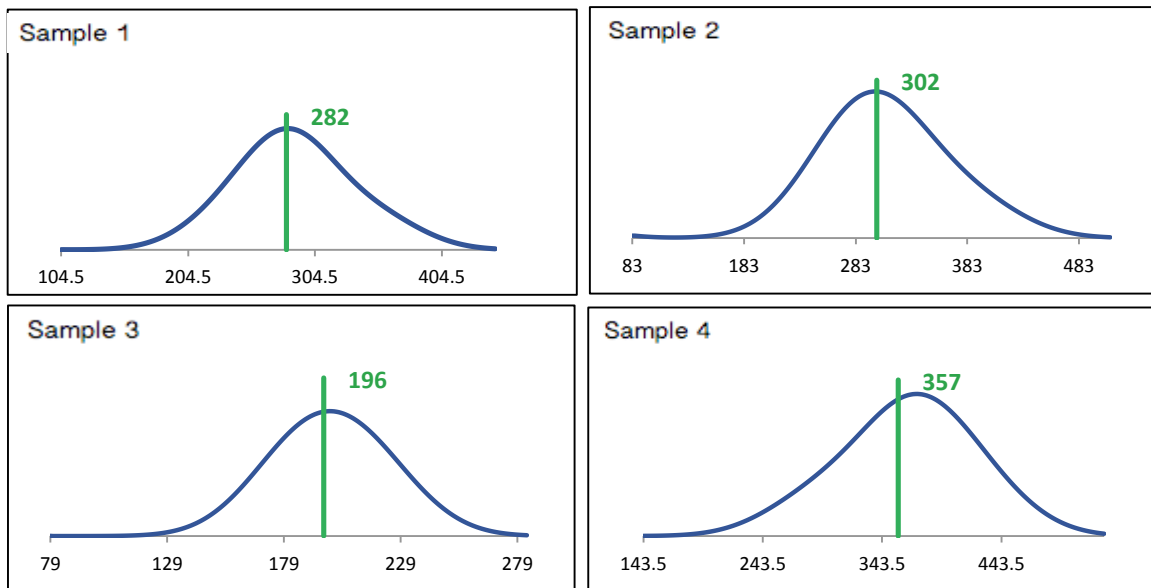


GAMMA-CHLORDANE

z-Score Plots

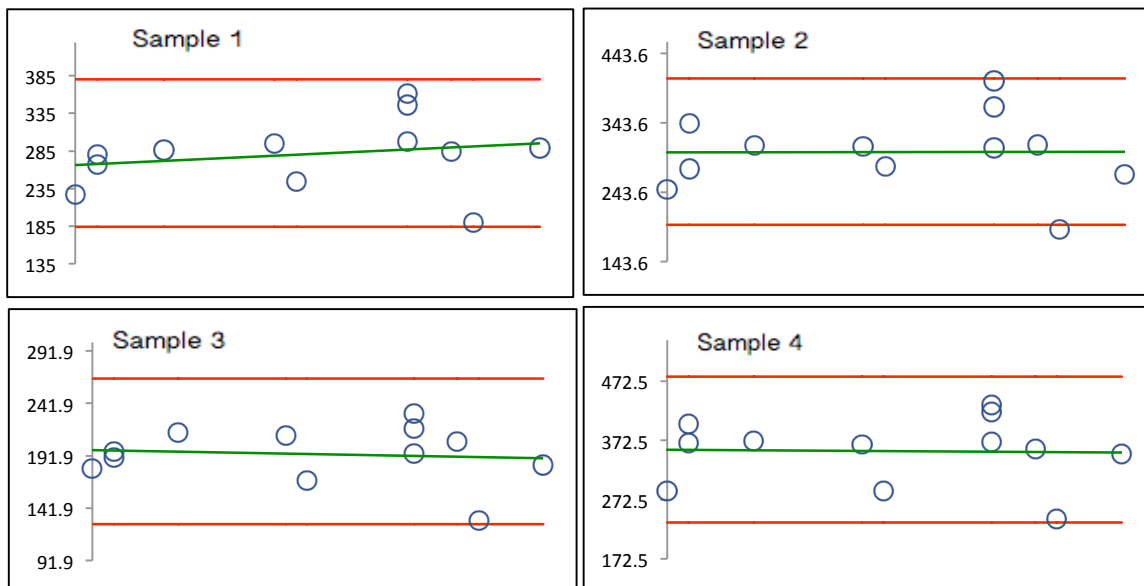


Kernel Density Plots



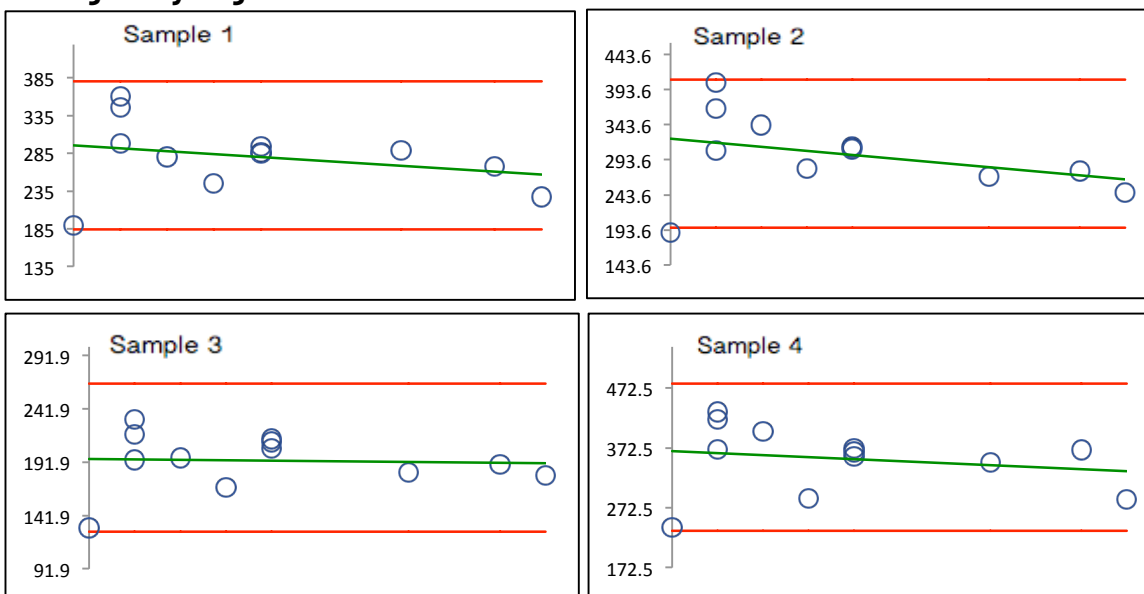
GAMMA-CHLORDANE

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

HEPTACHLOR

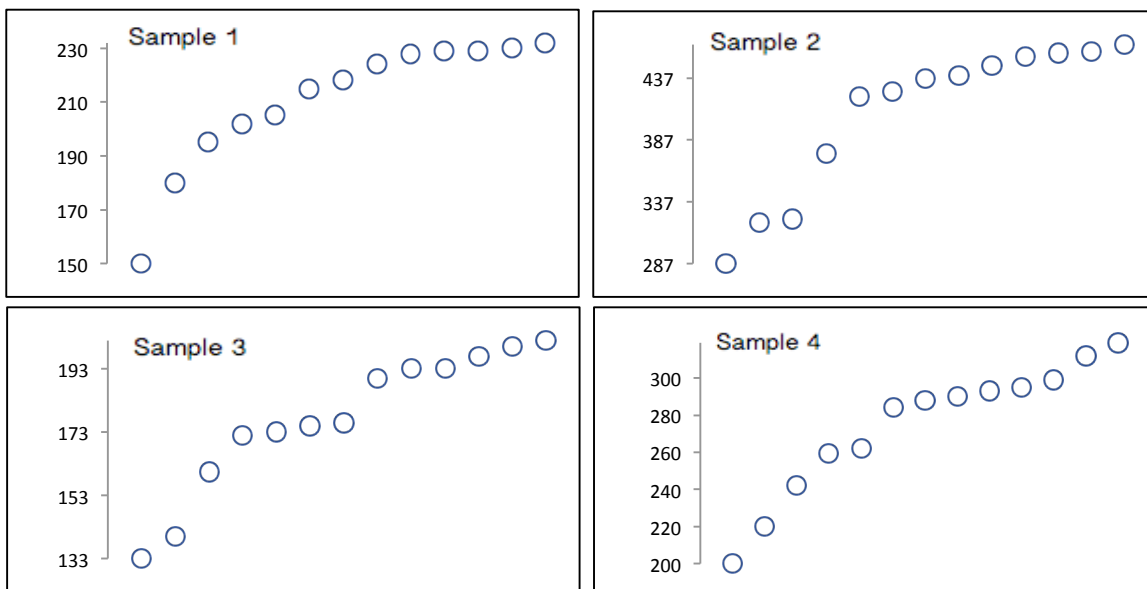
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	13	13	13	13
Median	218	437	176	288
Robust Mean	213	411	179	276
U	7.0	22.3	7.6	12.6
Robust Standard Deviation	20.3	64.4	21.8	36.4
Regression Standard Deviation	43.3	81.0	36.7	55.3
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	43.3	81.0	36.7	55.3
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

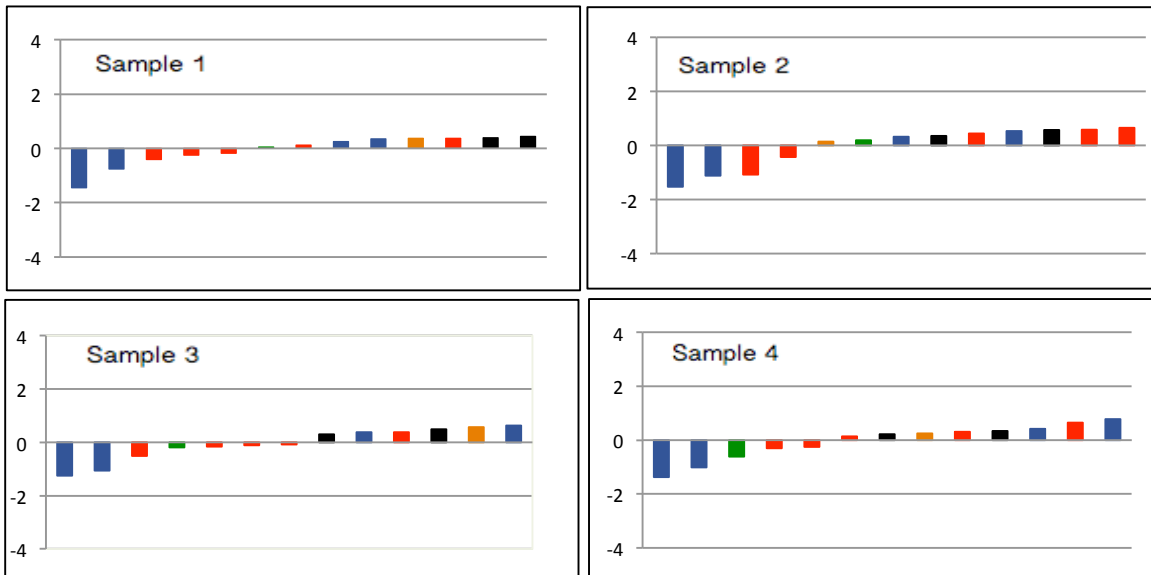
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/MS	5	5	5	5
GC/ECD/SHKE	1	1	1	1
GC/MSHR	1	1	1	1
GC/MS/MS	2	2	2	2

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

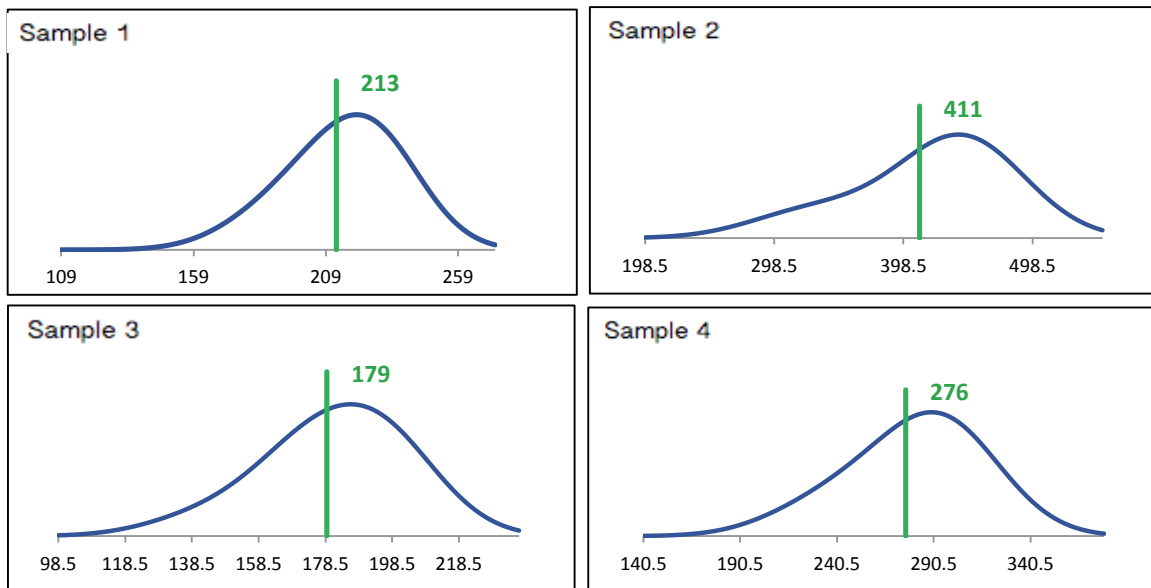


HEPTACHLOR

z-Score Plots

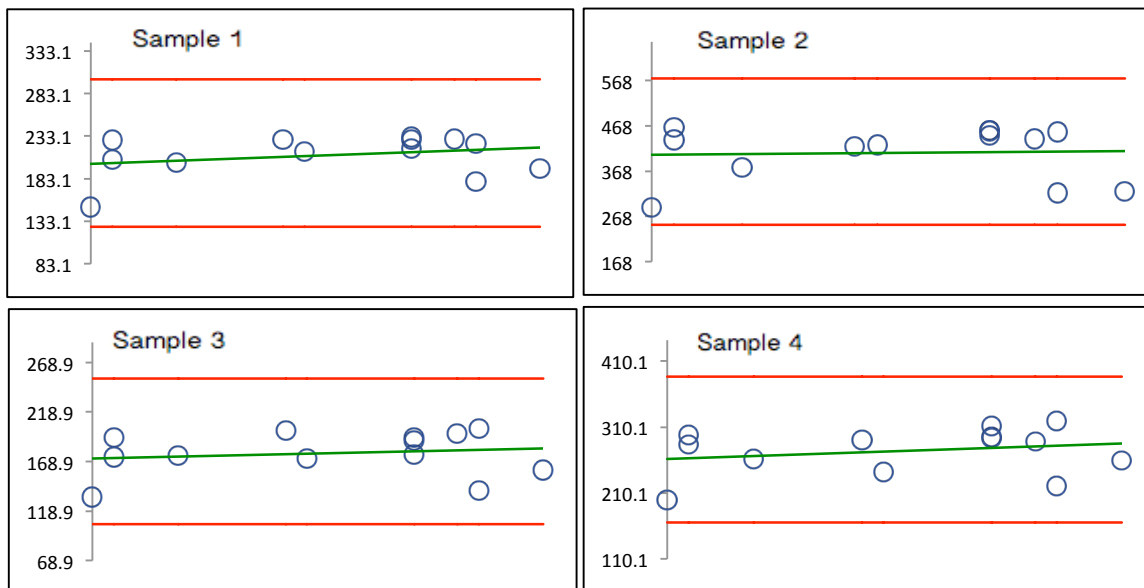


Kernel Density Plots



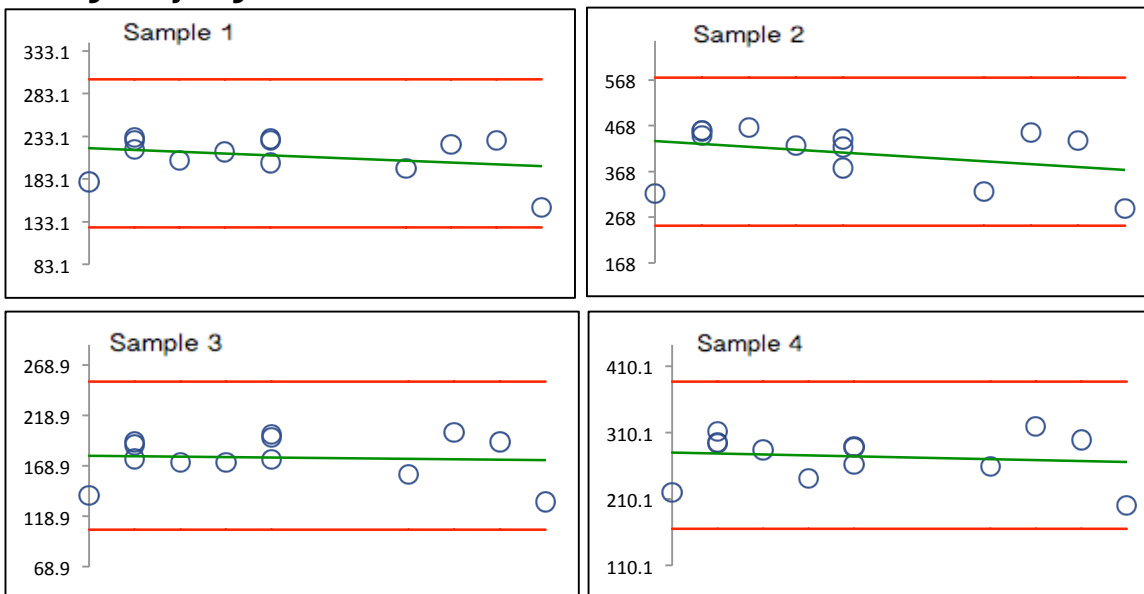
HEPTACHLOR

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

HEPTACHLOR EPOXIDE

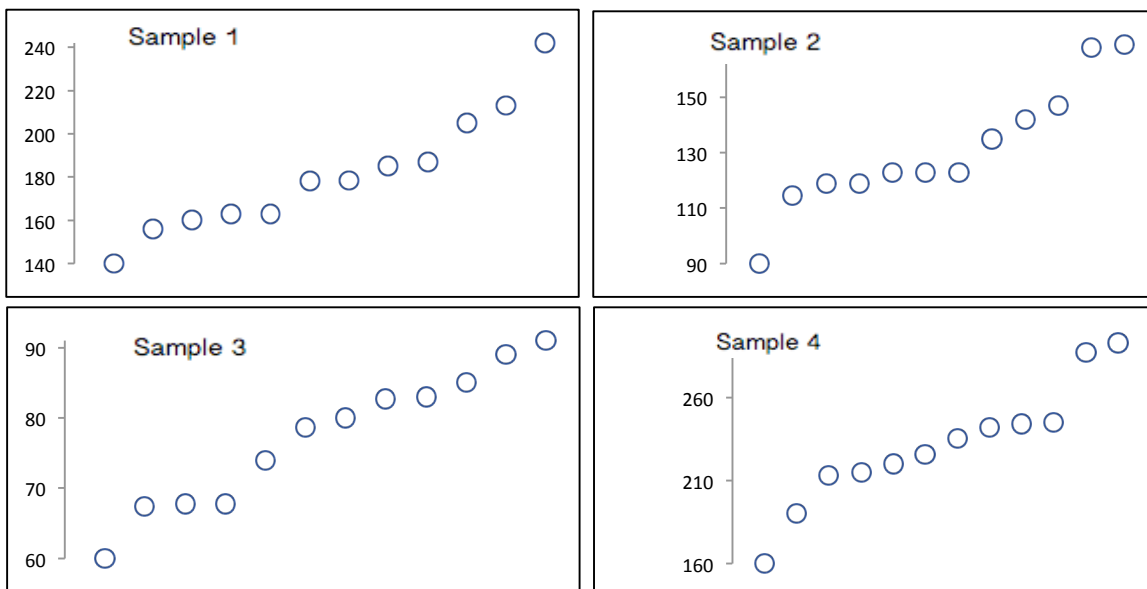
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	12	12	12
Median	178	123	79.4	231
Robust Mean	179	131	77.3	232
U	10.0	9.0	3.9	13.9
Robust Standard Deviation	27.8	24.9	10.9	38.5
Regression Standard Deviation	34.4	25.9	16.2	43.8
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	34.4	25.9	16.2	43.8
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

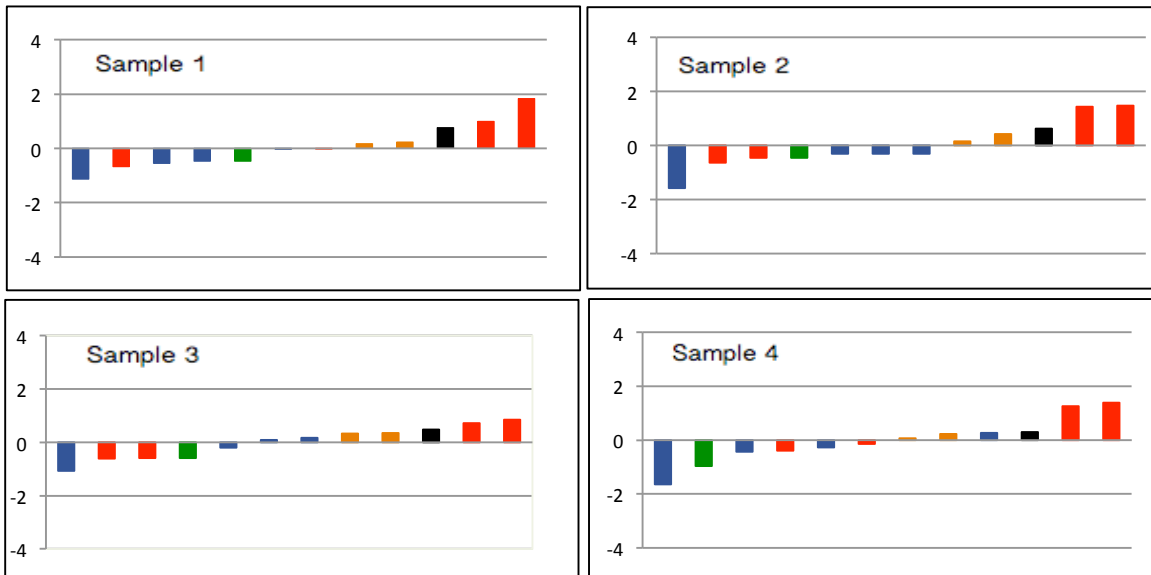
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/MS	4	4	4	4
GC/ECD/SHKE	1	1	1	1
GC/MS/MS	2	2	2	2
GC/MSHR	1	1	1	1

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

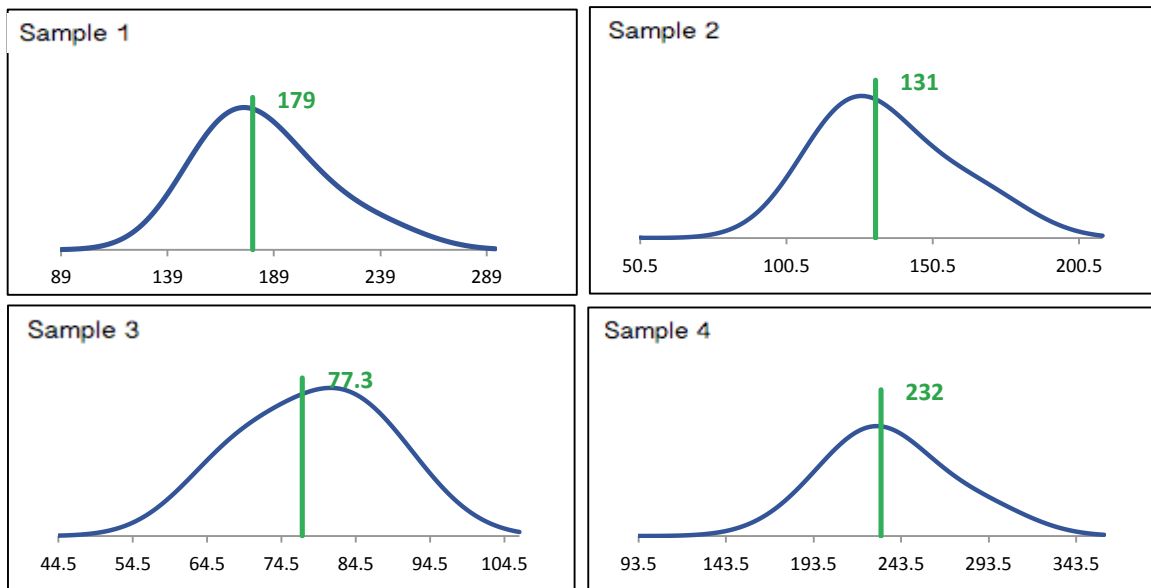


HEPTACHLOR EPOXIDE

z-Score Plots

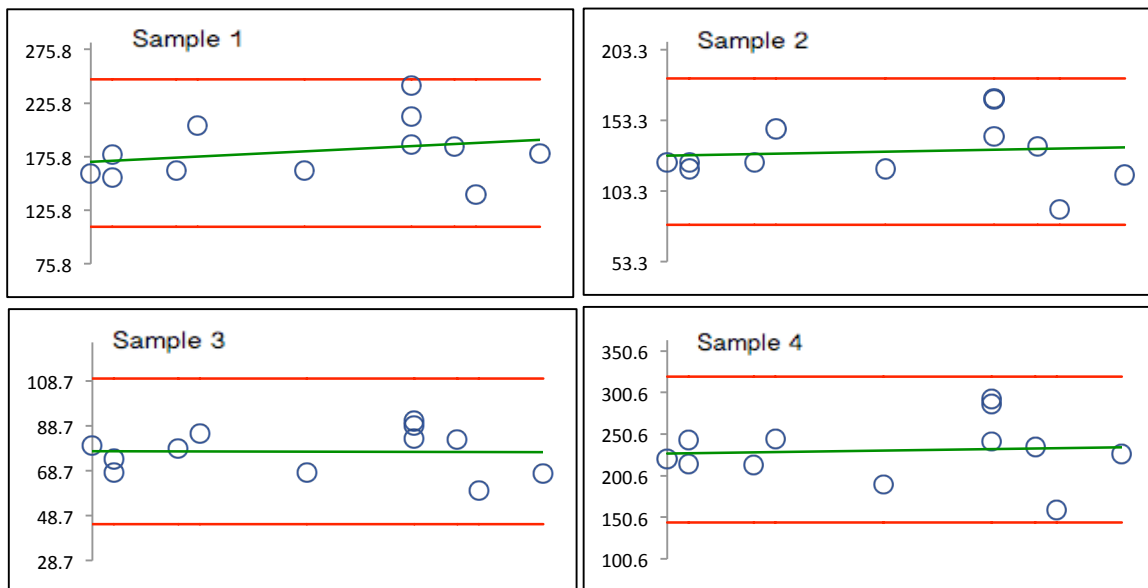


Kernel Density Plots



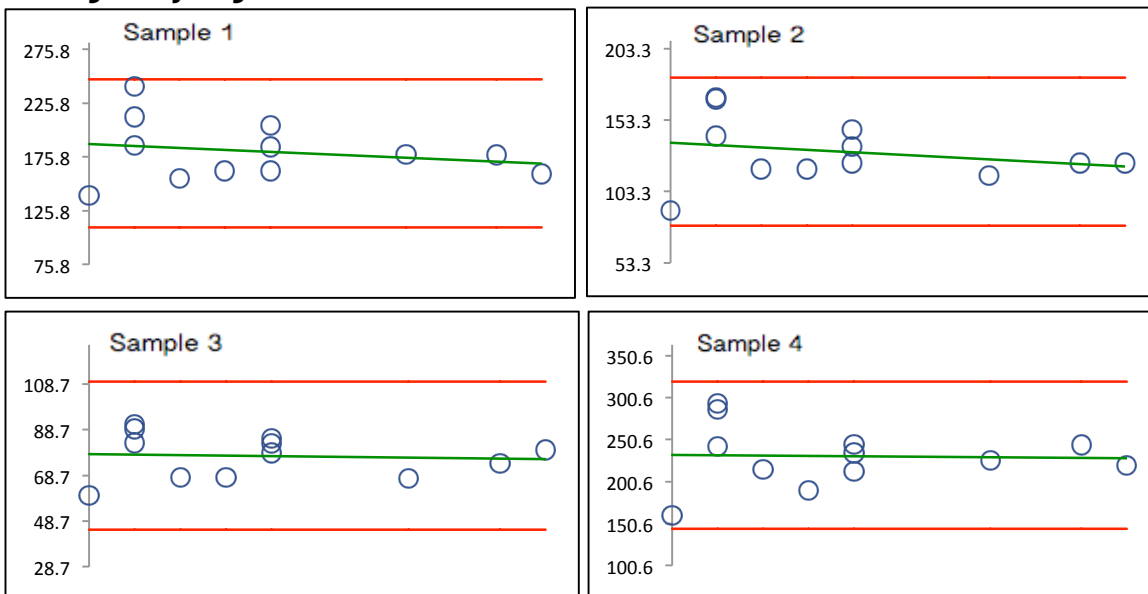
HEPTACHLOR EPOXIDE

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).

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

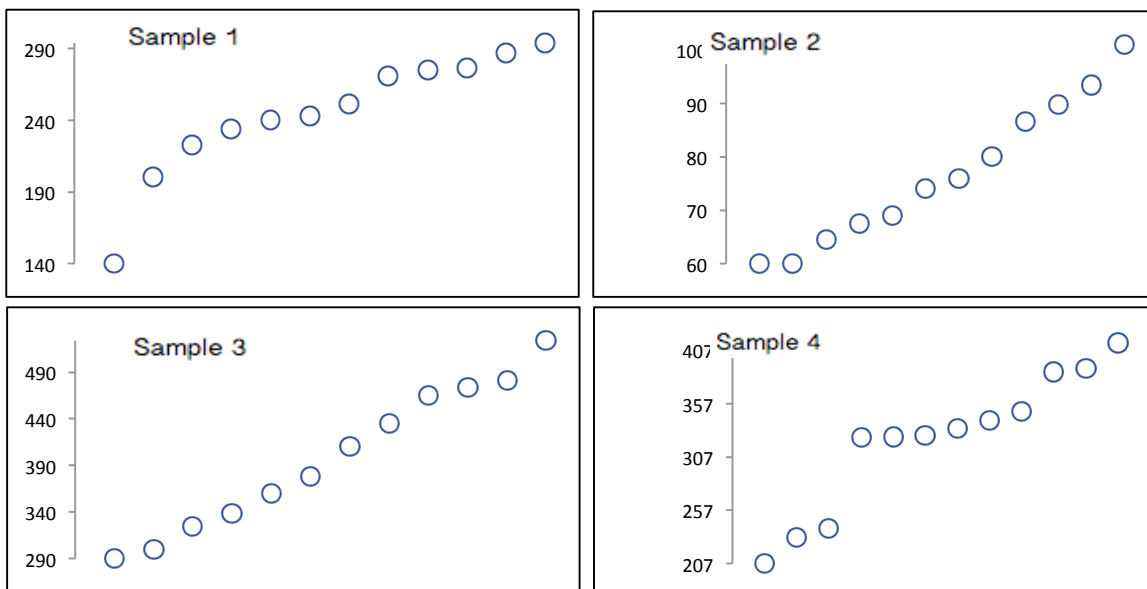
Summary Statistics

Statistic	C77-1	C77-2	C77-3	C77-4
N	12	12	12	12
Median	247	75.0	394	330
Robust Mean	249	76.7	398	323
U	13.5	5.4	31.8	26.2
Robust Standard Deviation	37.4	15.0	88.2	72.7
Regression Standard Deviation	73.2	26.8	113	93.2
Stability Flag				
Homogeneity Flag				
Standard Deviation Used	73.2	26.8	113	93.2
Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	0	0

Methods Used

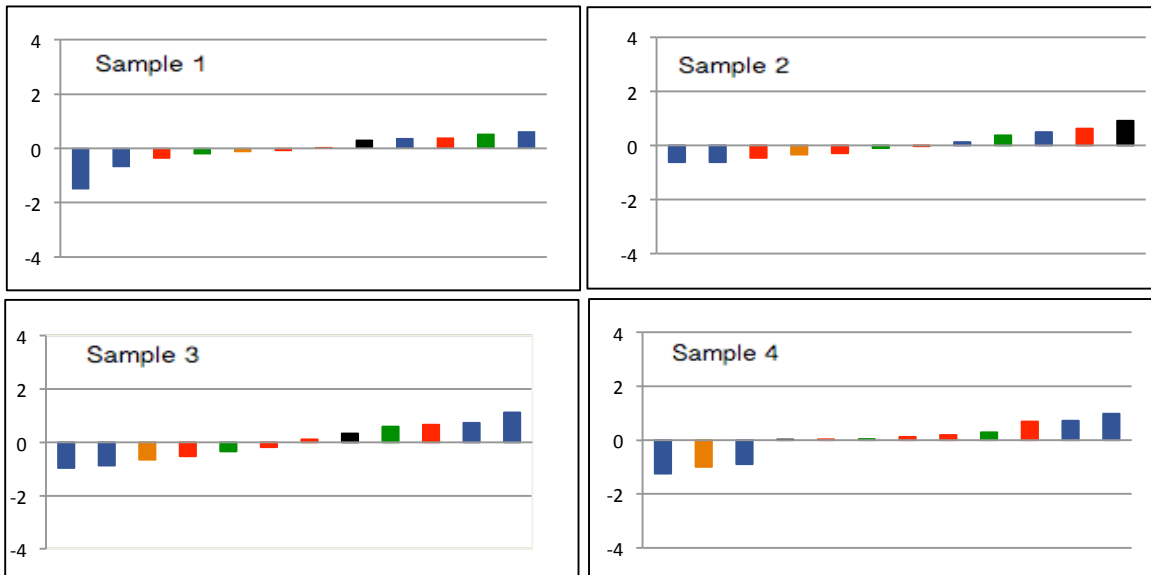
Method	C77-1	C77-2	C77-3	C77-4
GC/ECD	4	4	4	4
GC/MS	4	4	4	4
GC/MS/MS	2	2	2	2
GC/ECD/SHKE	1	1	1	1
GC/MSHR	1	1	1	1

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

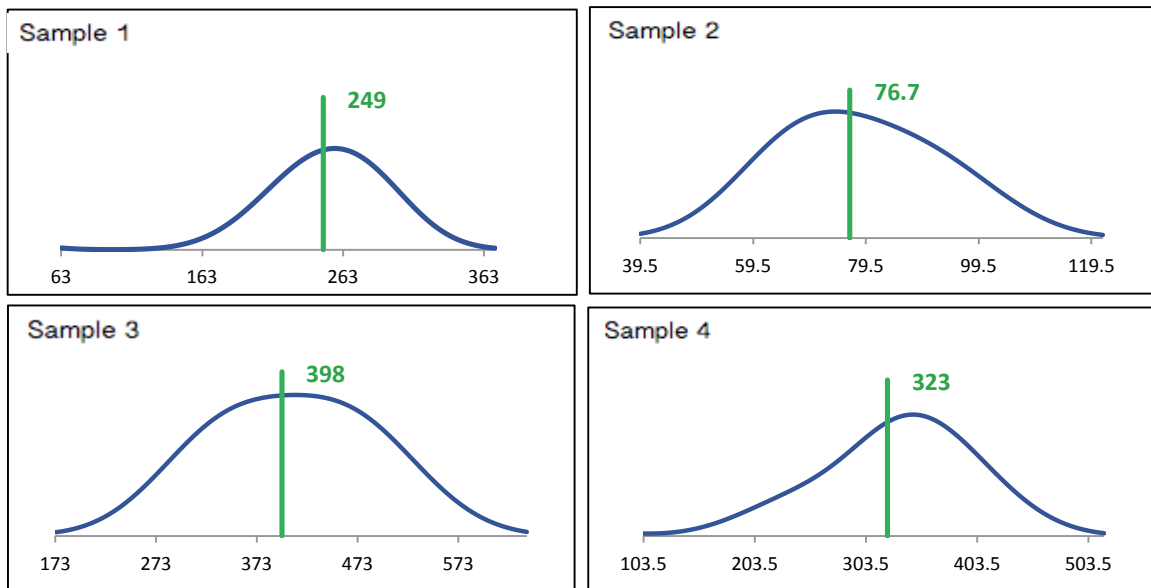


4,4'-METHOXYCHLOR (P,P'-METHOXYCHLOR)

z-Score Plots

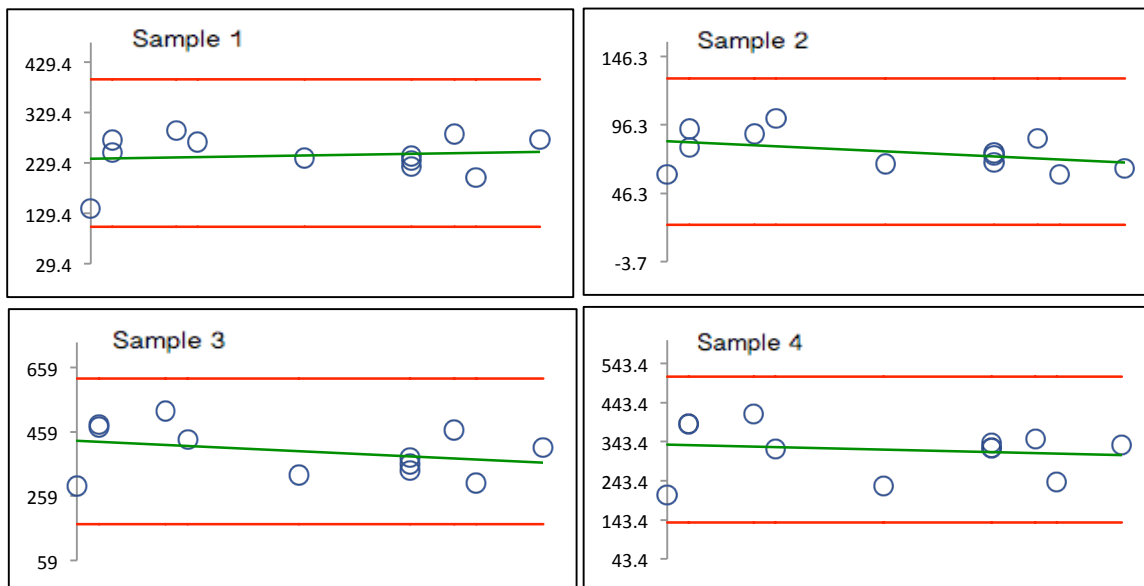


Kernel Density Plots



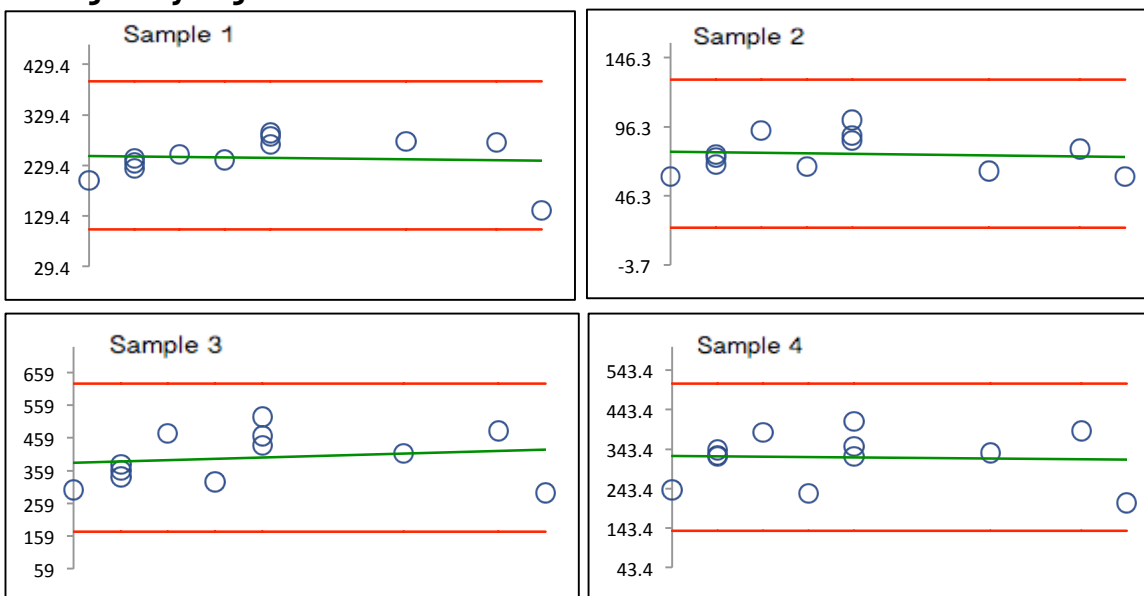
4,4'-METHOXYCHLOR (P,P'-METHOXYCHLOR)

Stability Regression



Reported results (Y-axis) plotted against reported analysis date (X-axis)

Homogeneity Regression



Reported results (Y-axis) plotted against bottling order (X-axis).