Results of Proficiency Test
Methanol
September 2017

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1   INTRODUCTION

Since 1999, the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the analysis of Methanol. During the annual proficiency testing program 2017/2018, it was decided to continue the round robin for the analysis of Methanol in accordance with the latest applicable version of the IMPCA specification (latest version can be found and downloaded from www.impca.be).
In this interlaboratory study 89 laboratories in 37 different countries registered for participation of the main round and 55 laboratories in 26 countries registered for participation of the UV round. See appendix 3 for the number of participants per country. In this report, the results of the 2017 proficiency test are presented and discussed. This report is also electronically available through the iis website www.iisnl.com.

2   SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organiser of this proficiency test. Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC 17025 accredited laboratory. To get maximum information from this study it was decided to spike the batch of Methanol for the main round with Acetone, Ethanol and Benzene and the batch of Methanol for the UV-round with Toluene. In this proficiency test depending on the registration the participants received; for the main round; 1x1L Methanol (labelled #17150) and/or 1x100 mL Methanol (labelled #17151) for UV Determination only.
The institute decided to try to certify another reference material; therefore sample #17150 was selected as candidate reference material.
Participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for the statistical evaluation.

2.1   ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in agreement with ISO/IEC 17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2   PROTOCOL

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organization, Statistics and Evaluation' of March 2017 (iis-protocol, version 3.4). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

All data presented in this report must be regarded as confidential and for use by the participating companies only. Disclosure of the information in this report is only allowed by means of the entire report. Use of the contents of this report for third parties is only allowed by written permission of the Institute for Interlaboratory Studies. Disclosure of the identity of one or more of the participating companies will be done only after receipt of a written agreement of the companies involved.

2.4 SAMPLES

The necessary batch of Methanol for the main round, approximately 180 litres of Methanol obtained from a local supplier, was gathered in a precleaned 200 litre drum. To this batch of Methanol, the components listed in table 1 were added.

Component	Amount
Acetone	4.28 g
Ethanol	7.13 g
Benzene	1426 mg

Table 1: components added to bulk material for sample #17150

After homogenization, 111 amber glass bottles of 1 L (labelled #17150) and 292 amber glass bottles of 250 ml to be used for candidate reference material were filled.

The homogeneity of the subsamples #17150 was checked by determination of Density at 20°C in accordance with ASTM D4052 and Ethanol in accordance with IMPCA001 on 12 stratified randomly selected samples.

	Density at 20°C in kg/L	Ethanol in mg/kg
sample #17150-1	0.79130	62
sample #17150-2	0.79129	63
sample #17150-3	0.79130	62
sample #17150-4	0.79130	63
sample #17150-5	0.79130	63
sample #17150-6	0.79129	62
sample #17150-7	0.79127	63
sample #17150-8	0.79130	62
sample #17150-9	0.79129	62
sample #17150-10	0.79130	63
sample #17150-11	0.79129	63
sample #17150-12	0.79130	63

Table 2: homogeneity test results of subsamples #17150

From the above test results, the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibilities of the reference test methods in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Density at 20°C in kg/L	Ethanol in mg/kg
r (observed)	0.000025	1
reference test method	ISO12185:96	Horwitz
0.3 x R (ref. test method)	0.000150	5

Table 3: evaluation of repeatabilities of the subsamples #17150

The calculated repeatabilities of the Density and Ethanol Determinations on sample #17150 were much less than 0.3 times the corresponding reproducibility of the reference test methods. Therefore, homogeneity of the subsamples #17150 was assumed.

The necessary batch of Methanol for the UV-round, approximately 10 litres of Methanol was obtained from a local supplier. To this batch of Methanol, 121 mg Toluene was added. After homogenisation, 80 glass bottles of 100mL were filled and labelled #17151.
The homogeneity of the subsamples #17151 was checked by determination of UV absorbances at 250 nm and at 268.5 nm (using a 50 mm cell) according to IMPCA004 on 8 stratified randomly selected samples.

	UV absorbance at 250 nm	UV absorbance at 268.5 nm
sample #17151-1	0.166	0.154
sample #17151-2	0.165	0.152
sample #17151-3	0.162	0.151
sample #17151-4	0.163	0.152
sample #17151-5	0.163	0.152
sample #17151-6	0.163	0.151
sample #17151-7	0.163	0.151
sample #17151-8	0.166	0.153

Table 4: homogeneity tests of subsamples #17151

From the above test results, the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibilities of the reference test method in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	UV absorbance at 250 nm	UV absorbance at 268.5 nm
r (observed)	0.004	0.003
reference test method	IMPCA004:15	IMPCA004:15
0.3 x R (ref. test method)	0.005	0.012

Table 5: evaluation of repeatabilities of the subsamples #17151

The calculated repeatabilities at 250 nm and 268.5 nm of sample #17151 were less than 0.3 times the corresponding reproducibilities of the reference test method. Therefore, the homogeneity of the subsamples #17151 was assumed.

To the participants, depending on the registration, 1 bottle of 1L labelled #17150 and/or 1 bottle of 100 mL, labelled #17151 was sent on August 16, 2017.

2.5 STABILITY OF THE SAMPLES

The stability of Methanol, packed in brown glass bottles, was checked. The material was found sufficiently stable for the period of the proficiency test.

2.6 ANALYSES

The participants were requested to determine on sample #17150: Acidity as acetic acid, Appearance, Carbonisable Substances Pt/Co, Inorganic Chloride as Cl, Colour Pt/Co, Density at 20°C, Specific Gravity 20/20°C, Distillation (IBP, 50%, DP and Range), Iron as Fe, Water Miscibility, Permanganate Time Test at 15°C, Purity "as received" and "on dry basis", Acetone, Benzene, Ethanol, Toluene, Sulphur, Trimethylamine and Water (coulometric and titrimetric). On sample #17151 it was requested to determine the UV absorbances at 300, 268.5, 250, 240, 230 and 220 nm and an evaluation of the UV scan.

It was explicitly requested to treat the samples as if they were routine samples and to report the test results using the indicated units on the report form and not to round the test results, but report as much significant figures as possible. It was also requested not to report 'less than' test results, which are above the detection limit, because such test results cannot be used for meaningful statistical calculations.

To get comparable test results, a detailed report form and a letter of instructions are prepared. On the report form the reporting units are given as well as the reference test methods that will be used during the evaluation. The detailed report form and the letter of instructions are both made available on the data entry portal www.kpmd.co.uk/sgs-iis/. The participating laboratories are also requested to confirm the sample receipt on this data entry portal. The letter of instructions can also be downloaded from the iis website www.iisnl.com.

3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis/. The reported test results are tabulated per determination in appendix 1 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment.

Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalysis). Additional or corrected test results are used for data analysis and the original test results are placed under 'Remarks' in the test result tables in appendix 1. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1   STATISTICS

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of March 2017 (iis-protocol, version 3.4).
For the statistical evaluation, the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as '<…' or '>…' were not used in the statistical evaluation.

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test, a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement of the normality being either 'unknown', 'OK', 'suspect' or 'not OK'. After removal of outliers, this check was repeated. If a data set does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.

According to ISO 5725 the original test results per determination were submitted to Dixon's and/or Grubbs' and/or Rosner's outlier tests. Outliers are marked by D(0.01) for the Dixon's test, by G(0.01) or DG(0.01) for the Grubbs' test and by R(0.01) for the Rosner's test. Stragglers are marked by D(0.05) for the Dixon's test, by G(0.05) or DG(0.05) for the Grubbs' test and by R(0.05) for the Rosner's test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

For each assigned value, the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. When the uncertainty passed the evaluation, no remarks are made in the report. However, when the uncertainty failed the evaluation it is mentioned in the report and it will have consequences for the evaluation of the test results.

Finally, the reproducibilities were calculated from the standard deviations by multiplying these with a factor of 2.8.

3.2 GRAPHICS

In order to visualize the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis, the reported analysis results are plotted. The corresponding laboratory numbers are on the X-axis.

The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. The Kernel Density Graph is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also a normal Gauss curve was projected over the Kernel Density Graph for reference.

3.3 Z-SCORES

To evaluate the performance of the participating laboratories the z-scores were calculated. As it was decided to evaluate the performance of the participants in this proficiency test (PT) against the literature requirements, e.g. ISO reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the variation in this interlaboratory study.

The target standard deviation was calculated from the literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values were used. In some cases, a reproducibility based on former iis proficiency tests could be used.

When a laboratory did use a test method with a reproducibility that is significantly different from the reproducibility of the reference test method used in this report, it is strongly advised to recalculate the z-score, while using the reproducibility of the actual test method used, this in order to evaluate whether the reported test result is fit-for-use.

The z-scores were calculated according to:

$$z_{(target)} = (\text{test result - average of PT}) / \text{target standard deviation}$$

The $z_{(target)}$ scores are listed in the result tables of appendix 1.

Absolute values for z<2 are very common and absolute values for z>3 are very rare. Therefore, the usual interpretation of z-scores is as follows:

|z| < 1   good
1 < |z| < 2   satisfactory
2 < |z| < 3   questionable
3 < |z| unsatisfactory

4   EVALUATION

In this interlaboratory study, problems with sample despatch were encountered due to several reasons (e.g. customs clearance), especially to Brazil, Egypt, India, Mexico, Venezuela and Vietnam. In the main round 9 participants and in the UV round 10 participants did not report any test result. Not all laboratories were able to report all analyses requested. In total 80 participants reported 1456 test results. Observed were 54 outlying test results, which is 3.7% of the numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

Not all original data sets proved to have a normal Gaussian distribution. These are referred to as "not OK" or "suspect". The statistical evaluation of these data sets should be used with due care, see also paragraph 3.1.

4.1   EVALUATION PER TEST AND PER SAMPLE

In this section, the results are discussed per test and per sample. The specified test methods and requirements were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables together with the reported data. The abbreviations, used in these tables, are listed in appendix 4.

In the iis PT reports, ASTM test methods are referred to with a number (e.g. D1613) and an added designation for the year that the test method was adopted or revised (e.g. D1613:06). If applicable, a designation in parentheses is added to designate the year of re-approval (e.g. D1613:06(2012)). In the test results tables of Appendix 1 only the test method number and year of adoption or revision will be used.

Sample #17150

Acidity: This determination was problematic. One statistical outlier was observed. The calculated the reproducibility after rejection of the statistical outlier is not in agreement with the requirements of ASTM D1613:06(2012).

Appearance: No analytical problems were observed with this determination. All participants agreed about the appearance of sample #17150, which was bright, clear and free of suspended matter (Pass).

Carbonisable Substances: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in full agreement with the requirements of ASTM E346:08e1.

Inorganic Chloride: Almost all participants agreed on a test result of less than 0.25 mg/kg. No statistical conclusions were drawn, because the Inorganic Chloride content was near or below the detection limit.

Colour as Pt/Co: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of ASTM D1209:05(2011).

Density at 20°C: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in good agreement with the requirements of ISO12185:96.

Spec. Gravity 20/20°C: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of ISO12185:96.

Distillation: No analytical problems were observed. In total three statistical outliers were observed. However, the calculated reproducibilities after rejection of the statistical outliers were in good agreement with the respective requirements of ASTM D1078-A:11.

Total Iron: All reporting participants agreed on a test result of less than 0.1 mg/kg. No statistical conclusions were drawn, because the Iron content was near or below the detection limit.

Water Miscibility: No analytical problems were observed. All reporting participants agreed about the Water Miscibility of sample #17150 and reported "Pass".

Nonvolatile Matter: This determination was very problematic. Two statistical outliers were observed and three other test results were excluded. The calculated reproducibility after rejection of the suspect data is not at all in agreement with the requirements of ASTM D1353:13.

Permanganate Time Test: This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of ASTM D1363:06(2011).

Purity: For the determination of purity "as received" and "on dry basis" in total one statistical outlier was observed and the test results of five participants were excluded. The five participants reported a higher test result "as received" than for "on dry basis", which is not possible.
When the calculated reproducibilities after rejection of the suspect data are compared with the calculated reproducibilities of the 2016 iis16C05 proficiency test, the current reproducibilities were in agreement with the calculated reproducibilities of the 2016 PT.

Acetone: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the strict reproducibility estimated using the Horwitz equation. The average recovery of Acetone (theoretical increment of 30.0 mg Acetone/kg) may be good: "less than 100%" (the actual blank Acetone content is unknown).

Benzene: This determination was problematic for a number of laboratories. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the strict reproducibility estimated using the Horwitz equation. The average recovery of Benzene (theoretical increment of 10.0 mg Benzene/kg) may be good: "less than 100%" (the actual blank Benzene content is unknown).

Ethanol: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the strict reproducibility estimated using the Horwitz equation. The average recovery of Ethanol (theoretical increment of 50.0 mg Ethanol/kg) may be good: "less than 117%" (the actual blank Ethanol content is unknown).

Toluene: Fifty-six participants agreed on a test result of less than 10 mg/kg. Therefore, no statistical conclusions were drawn, because the Toluene content was near or below the detection limit.

Sulphur: Fifty-two participants agreed on a test result of less than 1 mg/kg. No statistical conclusions were drawn, because the Sulphur content was near or below the detection limit.

TMA: This determination may be very problematic. No statistical outliers were observed. However, the calculated reproducibility is not at all in agreement with the strict reproducibility estimated from the repeatability of ASTM E346:08e1. The calculated reproducibility is also not in agreement with the estimated reproducibility calculated using the Horwitz equation. The low number of test results may (partly) explain the large variation.

Water (coul.): This determination was problematic for a number of laboratories. Eight (!) statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ASTM E1064:16.

Water (titr.):   This determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of ASTM E203:16.

#Sample #17151

UV-Absorbance: The test results determined with a 50 mm or a 10 mm cuvette were evaluated separately.

The determination with a 50 mm cuvette was not problematic, but with a 10mm cuvette the determination may be problematic. In total sixteen statistical outliers were observed.

For the 50mm cuvette, the calculated reproducibilities of all measured UV absorbances with a known reproducibility were in agreement with the requirements of IMPCA004:15.

For the 10mm cuvette, the calculated reproducibilities of all measured UV absorbencies with a known reproducibility were not in agreement with the requirements of IMPCA004:15.

Regretfully, for "UV at 240nm and 230nm" no precision data are available. All, except one, participants would have rejected the sample for being off-spec and selected "fail". Only one participant would have accepted this sample for being on-spec and selected "pass".

4.2   PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant reference test method and the reproducibility as found for the group of participating laboratories. The average per sample, calculated reproducibilities and reproducibilities derived from literature reference test methods (in casu ASTM and IMPCA standards) are compared in the next tables.

Parameter	unit	n	average	2.8 * sd	R (lit)
Acidity as acetic acid	mg/kg	67	24.3	21.4	14
Appearance		73	pass	n.a.	n.a.
Carbonisable substances	Pt/Co	52	6.6	6.4	6.3
Chloride, Inorganic as Cl	mg/kg	32	0.1	0.2	(0.3)
Colour Pt/Co	Pt/Co	52	2.0	1.5	7
Density at 20°C	kg/L	73	0.7913	0.0003	0.0005
Specific Gravity 20/20°C		73	0.7927	0.0002	0.0005
Initial Boiling Point	°C	70	64.4	0.3	1.0
50% recovered	°C	66	64.5	0.2	0.4
Dry Point	°C	69	64.9	0.4	0.7
Iron as Fe	mg/kg	61	<0.1	n.a.	n.a.
Miscibility with water		72	Pass	n.a.	n.a.
Nonvolatile matter	mg/100mL	50	0.25	0.27	0.11
Permanganate Time Test at 15°C	minutes	58	81	24	21

Parameter	unit	n	average	2.8 * sd	R (lit)
Purity "as received"	%M/M	44	99.957	0.017	n.a.
Purity "on dry basis"	%M/M	67	99.986	0.013	n.a.
Acetone	mg/kg	71	29.9	11.1	8.0
Benzene	mg/kg	55	10.0	2.7	3.2
Ethanol	mg/kg	71	58.3	15.4	14.2
Toluene	mg/kg	56	<10	n.a.	n.a.
Sulphur	mg/kg	52	<1	n.a.	n.a.
Trimethylamine (TMA)	µg/kg	9	82	70	31
Water (Coulometric KF)	mg/kg	65	289	49	49
Water (Titrimetric KF)	mg/kg	36	302	63	270

Table 6: reproducibilities for sample #17150

*) Evaluation between brackets is for concentrations near or below the detection limits

Parameter	unit	n	average	2.8 * sd	R (lit)
UV absorbance					
- at 300 nm (50 mm cell)		34	0.003	0.004	0.005
- at 268.5 nm (50 mm cell)		35	0.135	0.038	0.037
- at 250 nm (50 mm cell)		35	0.160	0.014	0.016
- at 240 nm (50 mm cell)		32	0.241	0.024	unknown
- at 230 nm (50 mm cell)		33	0.514	0.068	unknown
- at 220 nm (50 mm cell)		34	1.374	0.191	0.394
- at 300 nm (10 mm cell)		6	0.003	0.006	0.004
- at 268.5 nm (10 mm cell)		5	0.028	0.022	0.008
- at 250 nm (10 mm cell)		5	0.032	0.007	0.003
- at 240 nm (10 mm cell)		5	0.048	0.010	unknown
- at 230 nm (10 mm cell)		6	0.109	0.044	unknown
- at 220 nm (10 mm cell)		5	0.294	0.113	0.084

Table 7: reproducibilities for sample #17151

Without further statistical calculations, it can be concluded that for many tests there is a good compliance of the group of participating laboratories with the relevant reference test methods. The tests that are problematic have been discussed in paragraph 4.1.

4.3   COMPARISON OF THE PROFICIENCY TEST OF SEPTEMBER 2017 WITH PREVIOUS PTS

	September 2017	September 2016	September 2015	September 2014	September 2013
Number of reporting labs	80	82	73	78	73
Number of results reported	1456	1540	1267	1360	1312
Statistical outliers	54	56	38	49	49
Percentage outliers	3.7%	3.6%	3.0%	3.6%	3.7%

Table 8: comparison with previous proficiency tests.

In proficiency tests, outlier percentages of 3% - 7.5% are quite normal.

The performance of the determinations of the proficiency tests was compared against the requirements of the respective standards. The conclusions are given the following table:

	September 2017		September 2016		September 2015		September 2014		September 2013	
Acidity as acetic acid	--		++		++		++		++	
Carbonisable substances	+/-		+/-		--		+		+/-	
Chloride, Inorganic as Cl	(+)		+		+		++		+	
Colour Pt/Co	++		++		++		++		++	
Density at 20°C	++		++		++		++		++	
Specific Gravity 20/20°C	++		++		++		++		++	
Distillation	++		++		+		+		++	
Iron as Fe	n.e.		--		--		+		--	
Nonvolatile matter	--		--		--		-		++	
Permanganate Time Test at 15°C	-		+		n.e.		(+/-)		(-)	
Acetone	-		-		-		-		-	
Benzene	+		-		n.e.		-		-	
Ethanol	+/-		-		-		+/-		-	
Toluene	n.e.		n.e.		-		n.e.		n.e.	
Sulphur	n.e.		n.e.		n.e.		n.e.		n.e.	
Trimethylamine (TMA)	--		--		--		--		-	
Water (Coulometric KF)	+/-		-		+		+		-	
Water (Titrimetric KF)	++		++		++		++		++	
Cuvette (in mm)	50	10	50	10	50	10	50	10	50	10
UV absorbance 300nm *)	+/-	+/-	-	+/-	-	++	-	++	+/-	++
UV absorbance 268.5 nm *)	+/-	--	--	-	--	++	+	-	--	++
UV absorbance 250 nm *)	+/-	--	--	-	--	+	--	-	--	+
UV absorbance 220 nm *)	++	-	-	++	++	+	+	++	+	++

Table 9: comparison determinations against the requirements of the reference test methods

*) split-up into respective test results of 50 mm and 10 mm cuvette
   Evaluation between brackets is for concentrations near or below the detection limits

The performance of the determinations against the requirements of the respective reference test methods is listed in the above table. The following performance categories were used:

  ++:   group performed much better than the reference test method
  + :   group performed better than the reference test method
  +/-:   group performance equals the reference test method
  - :   group performed worse than the reference test method
  -- :   group performed much worse than the reference test method
      n.e.:   not evaluated

APPENDIX 1
Determination of Acidity as Acetic Acid on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D1613	34		1.93	
150	D1613	26		0.33	
171	D1613	27		0.53	
174		-----		-----	
311	D1613	23		-0.27	
316		-----		-----	
319	D1613	21.5		-0.57	
323	D1613	27		0.53	
333		-----		-----	
334		-----		-----	
343	D1613	26.5		0.43	
344	D1613	17.4016		-1.39	
346	D1613	9.9		-2.89	
347	D1613	24		-0.07	
357	D1613	27.3		0.59	
372	D1613	34		1.93	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	D1613	37.6		2.65	
554	D1613	30.3		1.19	
557		-----		-----	
608	D1613	32		1.53	
609	D1613	30		1.13	
646	D1613	53.4	R(0.05)	5.81	
657	D1613	11		-2.67	
663	D1613	24.8		0.09	
704	D1613	15.5	C	-1.77	First reported 45.5
786	D1613	27		0.53	
823		-----		-----	
824	D1613	18		-1.27	
825	D1613	21.2		-0.63	
840	D1613	23.4		-0.19	
848	D1613	24.8		0.09	
849	D1613	23.4		-0.19	
852	D1613	23.3		-0.21	
853	D1613	22.7		-0.33	
855	D1613	23		-0.27	
857	D1613	26		0.33	
858	D1613	23.4		-0.19	
859	D1613	24		-0.07	
860	D1613	25.0		0.13	
861	D1613	19.0		-1.07	
862	D1613	22.7		-0.33	
863	D1613	17.6		-1.35	
864	D1613	24		-0.07	
866	D1613	17.7		-1.33	
870	D1613	21.9		-0.49	
871	D1613	24.4		0.01	
902	D1613	11.5		-2.57	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	D1613	16.1		-1.65	
970		-----		-----	
974	D1613	14.2		-2.03	
994	D1613	28		0.73	
997	D1613	28.5		0.83	
1004	D1613	28.4		0.81	
1009	D1613	46.66		4.46	
1010	D1613	34		1.93	
1029	D1613	25.7		0.27	
1041		-----		-----	
1067	D1613	22		-0.47	
1120		-----		-----	
1149		-----		-----	
1181	D1613	38		2.73	
1201	D1613	39		2.93	
1204	D1613	17		-1.47	
1221	D1613	30.7		1.27	
1237	D1613	27.3		0.59	
1246		-----		-----	
1256	D1613	26.5		0.43	
1264	D1613	16.99		-1.47	

lab	method	value	mark	z(targ)	remarks
1276	D1613	22		-0.47	
1342	D1613	14.8		-1.91	
1465	D1613	35.6		2.25	
1615	D1613	7.109		-3.45	
1656		-----		-----	
1707	D1613	14.15		-2.04	
1866		-----		-----	
1886		-----		-----	
6008	D1613	38.95		2.92	
6061		-----		-----	
6070	D1613	19		-1.07	
6119	GB338Mod.	12.35		-2.40	
6132	D1613	29.62		1.06	
6145	D1613	27		0.53	
7018	D1613	28.172		0.77	

normality	OK	
n	67	
outliers	1	
mean (n)	24.337	
st.dev. (n)	7.6296	
R(calc.)	21.363	
R(D1613:06)	14	
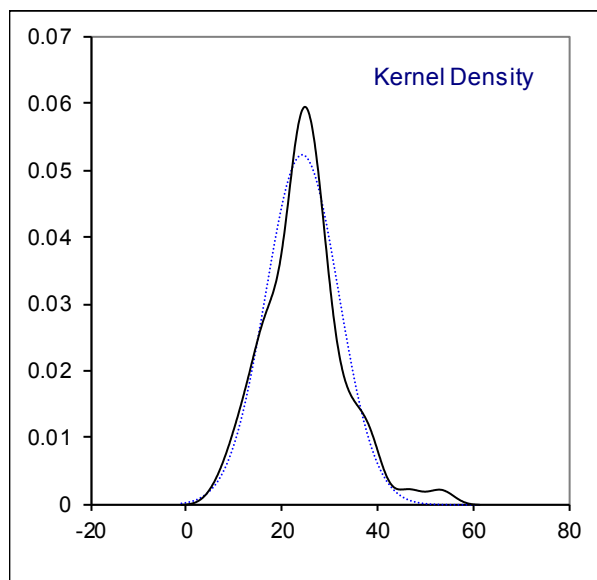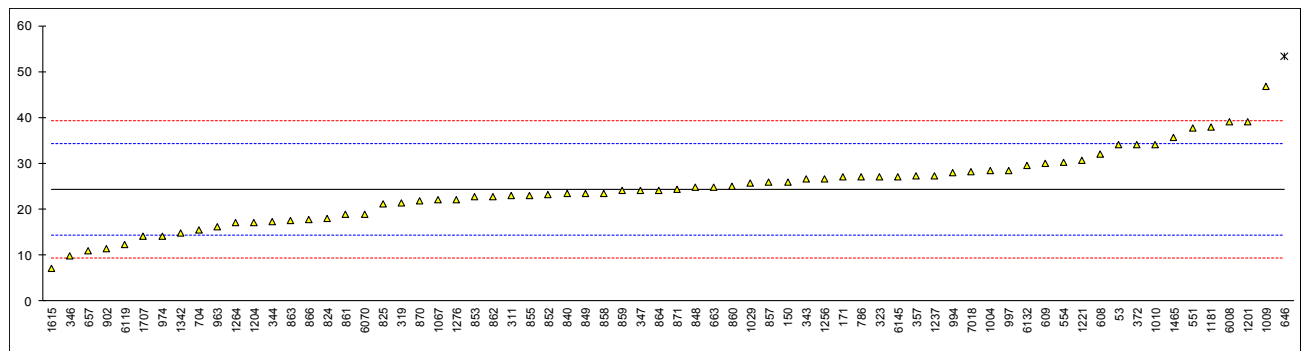
Determination of Appearance on sample #17150;

lab	method	value	z(targ)	remarks
53	IMPCA003	clear and free	-----	
150	E2680	Pass	-----	
171	E2680	Pass	-----	
174		-----	-----	
311	IMPCA003	clear and free of suspended matter	-----	
316		-----	-----	
319	IMPCA003	Clear and free of suspended matter	-----	
323	E2680	C&B	-----	
333	IMPCA003	Clear and FFSM	-----	
334		-----	-----	
343	INH-1608	Clear & Bright	-----	
344	IMPCA003	Pass	-----	
346	IMPCA003	Pass	-----	
347	IMPCA003	Pass	-----	
357		CFSM	-----	
372	IMPCA003	clear and free of suspended matter	-----	
395	IMPCA003	PASS	-----	
528		-----	-----	
529		-----	-----	
551	IMPCA003	CFSM	-----	
554	IMPCA003	Pass	-----	
557		-----	-----	
608	IMPCA003	Clear , FOSM	-----	
609	IMPCA003	CLEAR, FOSM	-----	
646	IMPCA003	CFSM	-----	
657	IMPCA003	Pass	-----	
663	IMPCA003	Clear and free of suspended matter	-----	
704	IMPCA003	Clear and free of suspended matter	-----	
786	IMPCA003	CFSM	-----	
823	IMPCA003	CFSM	-----	
824	IMPCA003	Clear & free from suspended matter	-----	
825	IMPCA003	Clear & free from suspended matter	-----	
840	E2680	Pass	-----	
848	IMPCA003	Pass	-----	
849	E2680	Pass	-----	
852	IMPCA003	Pass	-----	
853	IMPCA003	Pass	-----	
855	IMPCA003	Clear & free from suspended matter	-----	
857	IMPCA003	Clear & free from suspended matter	-----	
858	IMPCA003	Pass	-----	
859	E2680	Pass	-----	
860	E2680	Pass	-----	
861	E2680	Pass	-----	
862	IMPCA003	Clear and free of suspended matter	-----	
863	IMPCA003	clear and free of suspended matter	-----	
864	E2680	Pass	-----	
866		Pass	-----	
870	IMPCA003	clear and free of suspended matter	-----	
871	IMPCA003	Pass	-----	
902	E2680	PASS	-----	
912		-----	-----	
913		-----	-----	
962	E2680	Pass	-----	
963	E2680	Pass	-----	
970	IMPCA003	Pass	-----	
974	IMPCA003	Pass	-----	
994	IMPCA003	Pass	-----	
997	IMPCA003	Pass	-----	
1004	IMPCA003	Clear and free of suspended matter	-----	
1009		PASS	-----	
1010	IMPCA003	CL&fsm	-----	
1029	IMPCA003	CFSM	-----	
1041	IMPCA003	CFSM	-----	
1067	IMPCA003	Bright and Clear	-----	
1120	E346	Pass	-----	
1149		-----	-----	
1181	IMPCA003	Clear & free from suspended matter	-----	
1201	IMPCA003	Bright and clear	-----	
1204	IMPCA003	Clear	-----	
1221	IMPCA003	CLMS	-----	
1237		-----	-----	
1246		-----	-----	
1256	IMPCA003	Clear & free from suspended matter	-----	
1264	E2680	CFSM	-----	

lab	method	value	z(targ)	remarks
1276	IMPCA003	CFSM	-----	
1342	IMPCA003	CFSM	-----	
1465	IMPCA003	Clear & Free	-----	
1615	IMPCA003	CFSM	-----	
1656		-----	-----	
1707	INH-051	CFFSM	-----	
1866		-----	-----	
1886		-----	-----	
6008	IMPCA003	Clear and free of suspended matter	-----	
6061		-----	-----	
6070	IMPCA003	Clear/Bright	-----	
6119		-----	-----	
6132	IMPCA003	Clear,Bright,Free	-----	
6145	IMPCA003	Clear & free from suspended matter	-----	
7018	IMPCA003	CFSM	-----	

normality	unknown
n	73
outliers	0
mean (n)	Pass
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit)	n.a.

Determination of Carbonisable Substances Pt/Co on sample #17150;

lab	method	value	mark	z(targ)	remarks
53	E346	10		1.53	
150	E346	5		-0.69	
171	E346	5		-0.69	
174		-----		-----	
311	E346	5		-0.69	
316		-----		-----	
319	E346	6		-0.24	
323	E346	5		-0.69	
333	E346	10		1.53	
334		-----		-----	
343	E346	10		1.53	
344	E346	<30		-----	
346	E346	<10		-----	
347	E346	5		-0.69	
357	E346	< 5		-----	
372	E346	6		-0.24	
395	E346	5		-0.69	
528		-----		-----	
529		-----		-----	
551	E346	<5		-----	
554	E346	5		-0.69	
557		-----		-----	
608	E346	10		1.53	
609	E346	9		1.09	
646	E346	3		-1.58	
657	E346	5		-0.69	
663		-----		-----	
704	E346	7	C	0.20	First reported 20
786		-----		-----	
823	E346	7		0.20	
824	E346	5		-0.69	
825	E346	5		-0.69	
840	E346	6		-0.24	
848	E346	8		0.64	
849	E346	10		1.53	
852	E346	9		1.09	
853	E346	9		1.09	
855	E346	8		0.64	
857	E346	10		1.53	
858	E346	8		0.64	
859	E346	10		1.53	
860	E346	10		1.53	
861	E346	6		-0.24	
862	E346	8		0.64	
863	E346	4		-1.13	
864	E346	<10		-----	
866	E346	5		-0.69	
870	E346	<5		-----	
871	E346	10		1.53	
902	E346	5		-0.69	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	E346	6		-0.24	
970		-----		-----	
974		-----		-----	
994	E346	5		-0.69	
997	E346	5		-0.69	
1004	E346	<30		-----	
1009	E346	<30		-----	
1010		-----		-----	
1029	E346	5		-0.69	
1041		-----		-----	
1067	E346	5		-0.69	
1120		-----		-----	
1149		-----		-----	
1181	E346	5	C	-0.69	First reported 30
1201		-----		-----	
1204	E346	15	R(0.05)	3.76	
1221	E346	5		-0.69	
1237		-----		-----	
1246		-----		-----	
1256	E346	2		-2.02	
1264	E346	10		1.53	

lab	method	value	mark	z(targ)	remarks
1276	E346	5		-0.69	
1342	E346	5		-0.69	
1465	E346	9.1		1.13	
1615	E346	7		0.20	
1656		-----		-----	
1707		-----		-----	
1866		-----		-----	
1886		-----		-----	
6008	E346	< 30 ; PASS		-----	
6061		-----		-----	
6070	E346	<5.0		-----	
6119		-----		-----	
6132	E346	5		-0.69	
6145	E346	5		-0.69	
7018	E346	2.5		-1.80	

normality	OK
n	52
outliers	1
mean (n)	6.55
st.dev. (n)	2.271
R(calc.)	6.36
R(E346:08e1)	6.30
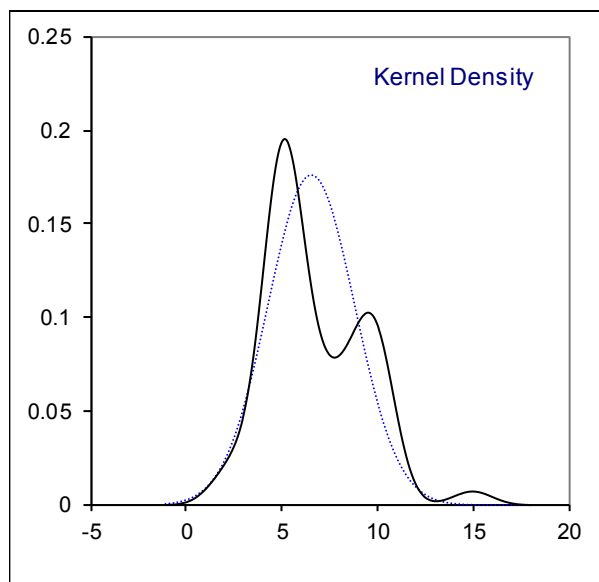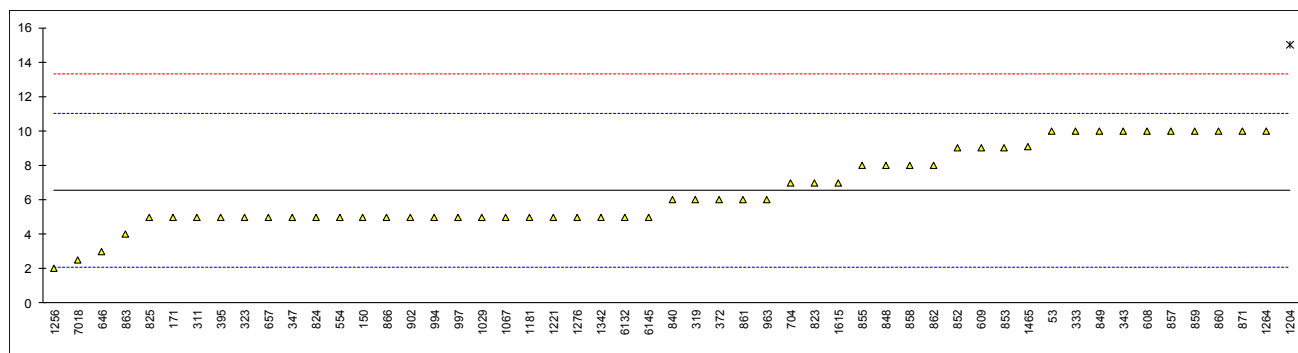
Determination of Chloride Inorganic as Cl on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA002	<0.25		-----	
150	IMPCA002	<0.25		-----	
171	IMPCA002	<0.25		-----	
174		-----		-----	
311	IMPCA002	<0.25		-----	
316		-----		-----	
319	IMPCA002	0.08		-----	
323	IMPCA002	<0.3		-----	
333		-----		-----	
334	IMPCA002	0.24		-----	
343	IMPCA002	<0,25		-----	
344	IMPCA002	0.332	R(0.05)	-----	
346	IMPCA002	<0,5		-----	
347	IMPCA002	<0.25		-----	
357	IMPCA002	<0,25		-----	
372	IMPCA002	<0.25		-----	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554	IMPCA002	0.05		-----	
557		-----		-----	
608	IMPCA002	<0.1		-----	
609		-----		-----	
646	IMPCA002	0.048		-----	
657	IMPCA002	0.07		-----	
663	IMPCA002	0.10		-----	
704	IMPCA002	0.26		-----	
786	IMPCA002	<0.25		-----	
823	IMPCA002	0.09		-----	
824	IMPCA002	0.05		-----	
825	IMPCA002	0.07		-----	
840	IMPCA002	0.11		-----	
848	IMPCA002	<0.25		-----	
849	IMPCA002	0.07		-----	
852	IMPCA002	<0.25		-----	
853	IMPCA002	0.12		-----	
855	IMPCA002	<0.25		-----	
857	IMPCA002	0.05		-----	
858	IMPCA002	0.14		-----	
859	IMPCA002	<0.25		-----	
860	IMPCA002	0.14		-----	
861	IMPCA002	0.13		-----	
862	IMPCA002	0.10		-----	
863	IMPCA002	0.07		-----	
864	IMPCA002	<0.25		-----	
866		-----		-----	
870	IMPCA002	<0.25		-----	
871	IMPCA002	0.08		-----	
902	IMPCA002	<0,25		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA002	0.55	R(0.01)	-----	possibly a false positive test result?
970		-----		-----	
974		-----		-----	
994	IMPCA002	<0.20		-----	
997	IMPCA002	0.059		-----	
1004	IMPCA002	<0.25		-----	
1009		0.0683		-----	
1010	IMPCA002	<0,25		-----	
1029	IMPCA002	0.0459		-----	
1041		-----		-----	
1067	IMPCA002	< 0.25		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA002	0.0699		-----	
1201		-----		-----	
1204		-----		-----	
1221	IMPCA002	0.20		-----	
1237	IMPCA002	0.056		-----	
1246		-----		-----	
1256	IMPCA002	0.0558		-----	
1264		-----		-----	

lab	method	value	mark	z(targ)	remarks
1276	IMPCA002	0.52	R(0.01)	-----	possibly a false positive test result?
1342	IMPCA002	0.09		-----	
1465	In house	0.031		-----	
1615		-----		-----	
1656		-----		-----	
1707		-----		-----	
1866		-----		-----	
1886		-----		-----	
6008	IMPCA002	0.25		-----	
6061		-----		-----	
6070	IMPCA002	<0.25		-----	
6119		-----		-----	
6132	IMPCA002	0.082		-----	
6145	IMPCA002	<0.25		-----	
7018	In house	0.0691		-----	

normality	not OK
n	32
outliers	3
mean (n)	0.10
st.dev. (n)	0.060
R(calc.)	0.17
R(IMPCA002:98)	(0.3)

Kernel Density
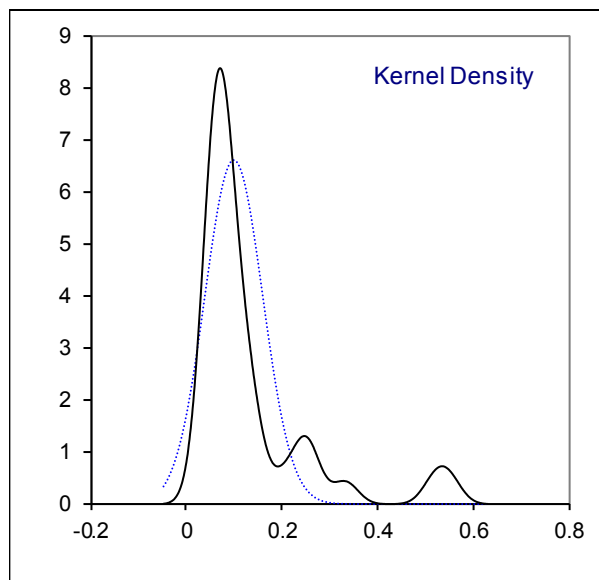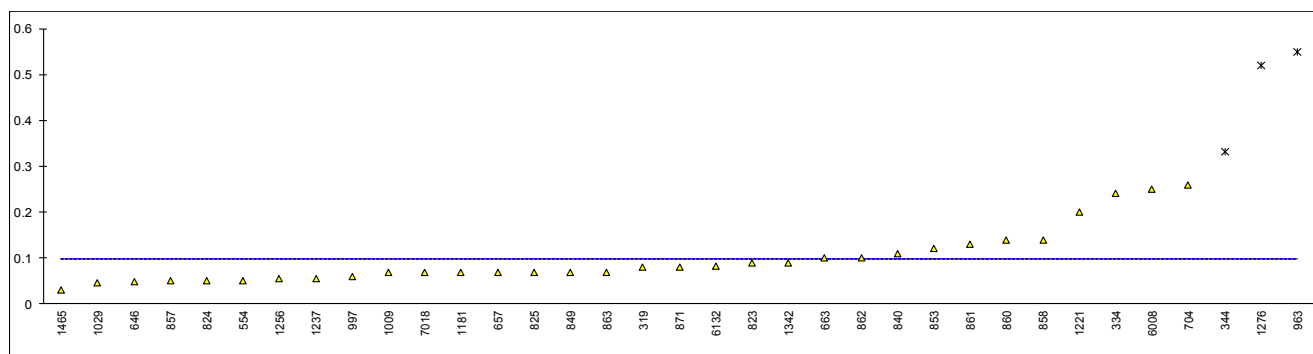
Determination of Colour as Pt/Co on sample #17150;

lab	method	value	mark	z(targ)	remarks
53	D1209	<5		-----	
150	D5386	1		-0.41	
171	D1209	5	R(0.01)	1.19	
174		-----		-----	
311	D1209	<5		-----	
316		-----		-----	
319	D1209	2		-0.01	
323	D1209	<5		-----	
333	D1209	2		-0.01	
334		-----		-----	
343	D5386	1		-0.41	
344	D5386	2.1		0.03	
346	D1209	<5		-----	
347	D1209	2		-0.01	
357	D1209	<5		-----	
372	D1209	2		-0.01	
395	D1209	<5		-----	
528		-----		-----	
529		-----		-----	
551	D1209	<5		-----	
554	D1209	<5		-----	
557		-----		-----	
608	D1209	2		-0.01	
609	D1209	2		-0.01	
646	D1209	2		-0.01	
657	D1209	5	R(0.01)	1.19	
663	D1209	2		-0.01	
704	D1209	3		0.39	
786	D1209	<5		-----	
823	D1209	2		-0.01	
824	D5386	2		-0.01	
825	D1209	3		0.39	
840	D1209	2		-0.01	
848	D1209	2		-0.01	
849	D1209	2		-0.01	
852	D1209	2		-0.01	
853	D1209	2		-0.01	
855	D1209	2		-0.01	
857	D1209	2		-0.01	
858	D1209	2		-0.01	
859	D1209	2		-0.01	
860	D1209	2		-0.01	
861	D1209	2		-0.01	
862	D1209	2		-0.01	
863	D1209	2		-0.01	
864	D1209	<5		-----	
866	D1209	3		0.39	
870	D1209	<5		-----	
871	D1209	2		-0.01	
902	D5386	2		-0.01	
912		-----		-----	
913		-----		-----	
962	D1209	2		-0.01	
963	D1209	2		-0.01	
970	D1209	1		-0.41	
974	D1209	1		-0.41	
994	D1209	3		0.39	
997	D1209	3		0.39	
1004	D1209	2		-0.01	
1009	D1209	<5		-----	
1010		-----		-----	
1029	D1209	3.656		0.66	
1041	D1209	<5		-----	
1067	D1209	< 5		-----	
1120	E346	<5		-----	
1149		-----		-----	
1181	D1209	1		-0.41	
1201	D5386	2		-0.01	
1204	D1209	2		-0.01	
1221		-----		-----	
1237	D1209	2		-0.01	
1246		-----		-----	
1256	D1209	1		-0.41	
1264	D1209	2		-0.01	

lab	method	value	mark	z(targ)	remarks
1276	D1209	1		-0.41	
1342	D1209	2		-0.01	
1465	D1209	2.4		0.15	
1615	D1209	2		-0.01	
1656	D1209	<5		-----	
1707	D1209	<5		-----	
1866	D1209	2		-0.01	
1886		-----		-----	
6008	D1209	<5		-----	
6061		-----		-----	
6070	D1209	<5		-----	
6119		-----		-----	
6132	D1209	<5		-----	
6145	D1209	2		-0.01	
7018	D1209	2.5		0.19	

normality	suspect	
n	52	
outliers	2	
mean (n)	2.01	
st.dev. (n)	0.545	
R(calc.)	1.53	
R(D1209:05)	7	

Kernel Density
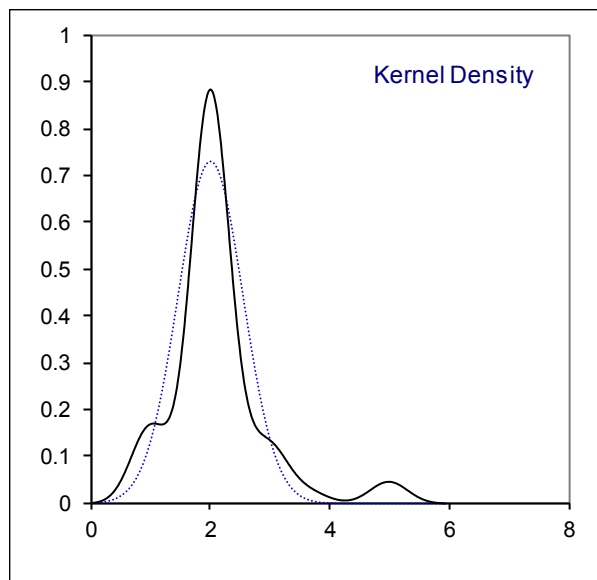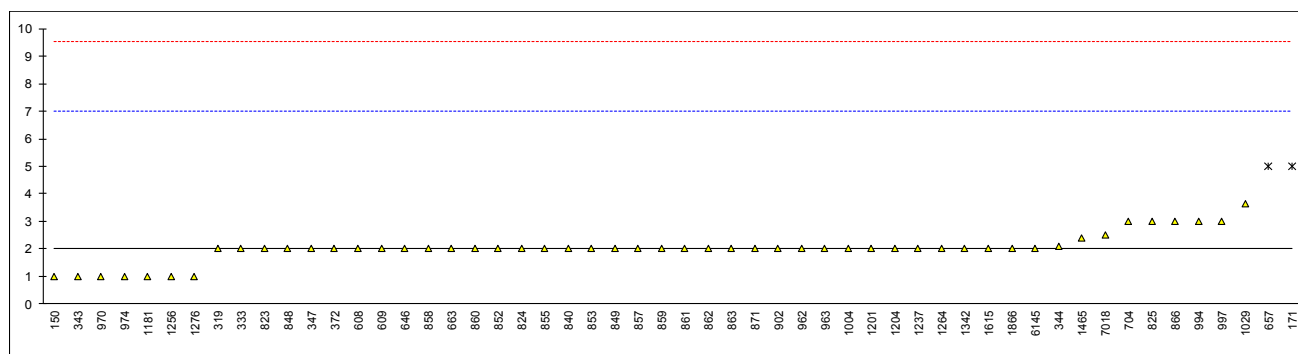
Determination of Density at 20°C on sample #17150; results in kg/L

lab	method	value	mark	z(targ)	remarks
53	D4052	0.7913		-0.16	
150	D4052	0.7915		0.96	
171	D4052	0.7913		-0.16	
174		-----		-----	
311	D4052	0.79126		-0.38	
316		-----		-----	
319	D4052	0.79130		-0.16	
323	D4052	0.7913		-0.16	
333	ISO12185	0.7913		-0.16	
334	D4052	0.7916		1.52	
343	D4052	0.7913		-0.16	
344	D4052	0.7913		-0.16	
346	D1298	0.7913		-0.16	
347	D4052	0.7913		-0.16	
357	D4052	0.79120		-0.72	
372	ISO12185	0.7914		0.40	
395	D4052	0.7914		0.40	
528		-----		-----	
529		-----		-----	
551	D4052	0.7914		0.40	
554	D4052	0.7914		0.40	
557		-----		-----	
608	D4052	0.7914		0.40	
609	D4052	0.79125		-0.44	
646	D4052	0.7914		0.40	
657	D4052	0.79136		0.18	
663	D4052	0.79130		-0.16	
704	ISO12185	0.79131		-0.10	
786	D4052	0.7914		0.40	
823	ISO12185	0.79131		-0.10	
824	ISO12185	0.7914		0.40	
825	D4052	0.7913		-0.16	
840	D4052	0.79137		0.23	
848	D4052	0.7913		-0.16	
849	D4052	0.79119		-0.78	
852	D4052	0.7913		-0.16	
853	D4052	0.79128		-0.27	
855	D4052	0.79133		0.01	
857	D4052	0.79131		-0.10	
858	D4052	0.79128		-0.27	
859	D4052	0.7913		-0.16	
860	D4052	0.79129		-0.22	
861	D4052	0.7913		-0.16	
862	D4052	0.79133		0.01	
863	D4052	0.79134		0.06	
864	D4052	0.79131		-0.10	
866	D4052	0.79131		-0.10	
870	D4052	0.79132		-0.05	
871	D4052	0.7913		-0.16	
902	D4052	0.7913		-0.16	
912		-----		-----	
913		-----		-----	
962	D4052	0.7913		-0.16	
963	ISO12185	0.7913		-0.16	
970	D4052	0.7913		-0.16	
974	D4052	0.7913		-0.16	
994	D4052	0.7913		-0.16	
997	ISO12185	0.7913		-0.16	
1004	D4052	0.7915		0.96	
1009		-----		-----	
1010	D4052	0.7914		0.40	
1029	D4052	0.791417		0.49	
1041		-----		-----	
1067	D4052	0.7913		-0.16	
1120		-----		-----	
1149		-----		-----	
1181	D4052	0.7913		-0.16	
1201	D4052	0.7959	C,R(0.01)	25.60	First reported 795.9
1204	D4052	0.7918		2.64	
1221	D4052	0.79144		0.62	
1237	ISO12185	0.7911		-1.28	
1246		-----		-----	
1256	D4052	0.7913		-0.16	
1264	D4052	0.7913		-0.16	

lab	method	value	mark	z(targ)	remarks
1276	ISO12185	0.7913	C	-0.16	Reported 791.3
1342	ISO12185	0.7914	C	0.40	First reported 791.4
1465		-----		-----	
1615	D4052	0.79142		0.51	
1656	ISO12185	0.7912	C	-0.72	First reported 791.2
1707	D4052	0.7913		-0.16	
1866	D4052	0.7913		-0.16	
1886		-----		-----	
6008		-----		-----	
6061	D4052	0.7913		-0.16	
6070	D4052	0.7914		0.40	
6119	D4052	0.79132	C	-0.05	First reported 0.79202
6132	D4052	0.7911		-1.28	
6145	D4052	0.7913		-0.16	
7018	D4052	0.79125		-0.44	

normality	not OK	
n	73	
outliers	1	
mean (n)	0.79133	
st.dev. (n)	0.000095	
R(calc.)	0.00027	
R(ISO12185:96)	0.0005	
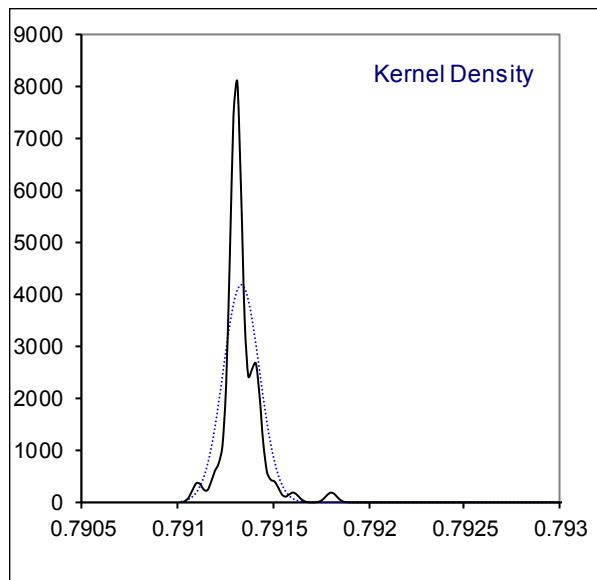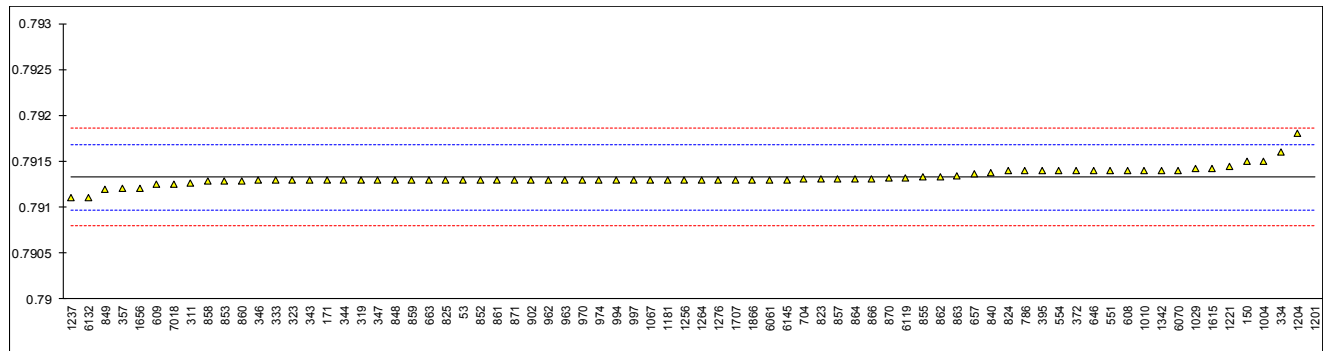
Determination of Specific Gravity 20/20°C on sample #17150;

lab	method	value	mark	z(targ)	remarks
53	D4052	0.7927		-0.21	
150	D4052	0.7929		0.91	
171	D4052	0.7928		0.35	
174		-----		-----	
311	D4052	0.7927		-0.21	
316		-----		-----	
319	D4052	0.79273		-0.04	
323	D4052	0.7927		-0.21	
333	ISO12185	0.7927		-0.21	
334		-----		-----	
343	D4052	0.7927		-0.21	
344	D4052	0.7927		-0.21	
346	D1298	0.7927		-0.21	
347	D4052	0.7928		0.35	
357	D4052	0.79262		-0.66	
372	ISO12185	0.7928		0.35	
395	D4052	0.7929		0.91	
528		-----		-----	
529		-----		-----	
551	D4052	0.7928		0.35	
554	D4052	0.7928		0.35	
557		-----		-----	
608	D4052	0.7927		-0.21	
609	D4052	0.7927		-0.21	
646	D4052	0.7928		0.35	
657	D4052	0.79278		0.24	
663	D4052	0.7927		-0.21	
704	ISO12185	0.79274		0.02	
786		-----		-----	
823	ISO12185	0.79273		-0.04	
824	ISO12185	0.7928		0.35	
825	D4052	0.7927		-0.21	
840	D4052	0.79279		0.30	
848	D4052	0.7927		-0.21	
849	D4052	0.79261		-0.71	
852	D4052	0.7927		-0.21	
853	D4052	0.7927		-0.21	
855	ISO12185	0.79274		0.02	
857	D4052	0.79273		-0.04	
858	D4052	0.7927		-0.21	
859	D4052	0.7927		-0.21	
860	D4052	0.79272		-0.10	
861	D4052	0.7927		-0.21	
862	D4052	0.79275		0.07	
863	D4052	0.79277		0.18	
864	D4052	0.79274		0.02	
866	D4052	0.79270		-0.21	
870	D4052	0.79274		0.02	
871	D4052	0.7927		-0.21	
902	D4052	0.7927		-0.21	
912		-----		-----	
913		-----		-----	
962	D4052	0.7927		-0.21	
963	ISO12185	0.7927		-0.21	
970	D4052	0.7927		-0.21	
974	D4052	0.7927		-0.21	
994	D4052	0.7927		-0.21	
997	ISO12185	0.7927		-0.21	
1004	D4052	0.7929		0.91	
1009	D4052	0.79307	R(0.01)	1.86	
1010	D4052	0.7928		0.35	
1029	D4052	0.792843		0.59	
1041		-----		-----	
1067	D4052	0.7927		-0.21	
1120	E346	0.79281		0.41	
1149		-----		-----	
1181	D4052	0.7927		-0.21	
1201	D4052	0.7926		-0.77	
1204	D4052	0.7929		0.91	
1221	D4052	0.79287		0.74	
1237	ISO12185	0.7925	R(0.05)	-1.33	
1246		-----		-----	
1256	D4052	0.7927		-0.21	
1264	D4052	0.7927		-0.21	

lab	method	value	mark	z(targ)	remarks
1276	ISO12185	0.7927	C	-0.21	Reported 792.7
1342	ISO12185	0.7928	C	0.35	First reported 792.8
1465	D4052	0.79273		-0.04	
1615	D4052	0.7928		0.35	
1656		-----		-----	
1707	D4052	0.79273		-0.04	
1866	D4052	0.7927		-0.21	
1886		-----		-----	
6008	D4052	0.7928		0.35	
6061	D4052	0.7927		-0.21	
6070	D4052	0.7928		0.35	
6119	D4052	0.79275	C	0.07	First reported 0.7934
6132	D4052	0.7926		-0.77	
6145	D4052	0.7927		-0.21	
7018	D4052	0.7927		-0.21	

normality	OK
n	73
outliers	2
mean (n)	0.79274
st.dev. (n)	0.000066
R(calc.)	0.00018
R(ISO12185:96)	0.0005
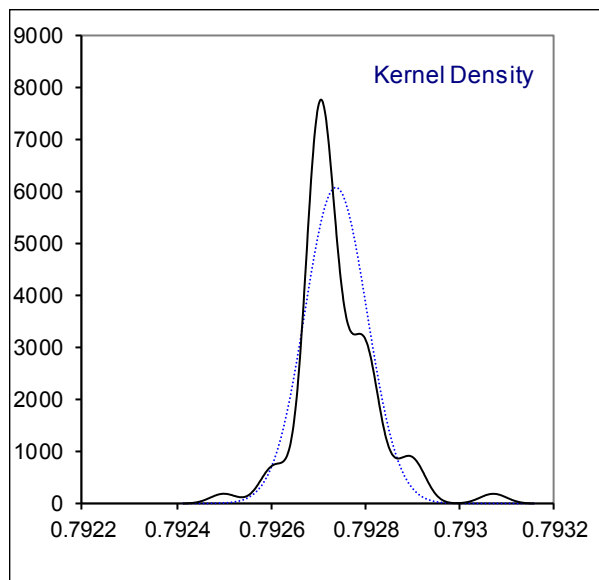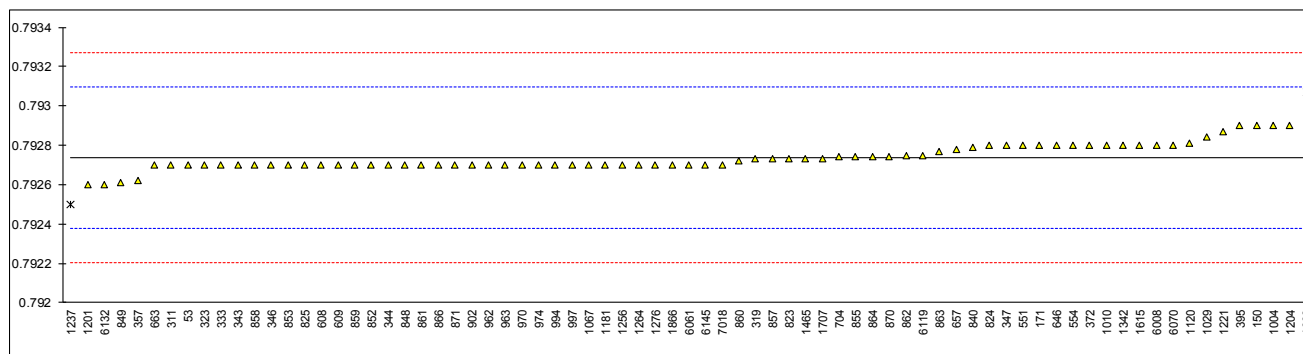
Determination of IBP, 50% recovered and DP on sample #17150; results in °C

lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
53	D1078-automated	64.5		0.31	64.6		0.62	64.9		0.21	0.4
150	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
171	D1078-automated	64.3		-0.25	64.4		-0.65	64.8		-0.20	0.5
174		-----		-----	-----		-----	-----		-----	-----
311	D1078-automated	64.3		-0.25	64.5		-0.02	64.8		-0.20	0.5
316		-----		-----	-----		-----	-----		-----	-----
319	D1078-automated	64.3		-0.25	64.4		-0.65	64.7		-0.60	0.4
323	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
333	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
334		-----		-----	-----		-----	-----		-----	-----
343	D1078-automated	64.4		0.03	64.5		-0.02	64.9		0.21	0.5
344	D1078-automated	64.5		0.31	64.6		0.62	64.9		0.21	-----
346		-----		-----	-----		-----	-----		-----	-----
347	D1078-automated	64.4		0.03	64.5		-0.02	64.9		0.21	0.5
357	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
372	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
395	D1078-manual	64.25		-0.39	64.55		0.30	64.75		-0.40	0.5
528		-----		-----	-----		-----	-----		-----	-----
529		-----		-----	-----		-----	-----		-----	-----
551		-----		-----	-----		-----	-----		-----	-----
554	D1078	64.5		0.31	64.7		1.25	65.0		0.61	0.5
557		-----		-----	-----		-----	-----		-----	-----
608		-----		-----	-----		-----	-----		-----	-----
609	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
646	D1078-manual	64.275		-0.32	64.375		-0.81	64.675		-0.70	0.4
657	D1078-manual	64.3		-0.25	64.5		-0.02	65.1		1.01	0.8
663	D1078-automated	64.5		0.31	64.5		-0.02	65.1		1.01	0.6
704	D1078-manual	64.4		0.03	64.5		-0.02	65.0		0.61	0.6
786	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
823	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
824	D1078-automated	64.3		-0.25	64.5		-0.02	64.8		-0.20	0.5
825	D1078-automated	64.3		-0.25	64.4		-0.65	64.7		-0.60	0.4
840		64.48		0.26	64.50		-0.02	64.85		0.00	0.37
848	D1078-manual	64.4		0.03	64.5		-0.02	64.9		0.21	0.5
849	D1078-manual	64.4		0.03	64.5		-0.02	64.9		0.21	0.5
852	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
853	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
855	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
857	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
858	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
859	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
860	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
861	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
862	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
863	D1078-manual	64.4		0.03	64.5		-0.02	64.9		0.21	0.5
864	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
866	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
870	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
871	D1078-manual	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
902	D1078-automated	64.6		0.59	64.5		-0.02	64.9		0.21	0.5
912		-----		-----	-----		-----	-----		-----	-----
913		-----		-----	-----		-----	-----		-----	-----
962	D1078-automated	64.0		-1.08	64.2	R(0.05)	-1.93	64.5		-1.41	0.5
963	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
970		64.4		0.03	64.5		-0.02	64.7		-0.60	-----
974		64.4		0.03	64.5		-0.02	64.7		-0.60	-----
994	D1078-manual	64.4		0.03	64.5		-0.02	65.0		0.61	0.6
997	D1078-manual	64.2		-0.52	64.6		0.62	65.2		1.42	0.8
1004	D1078-manual	64.4		0.03	64.6		0.62	65.2		1.42	0.8
1009		-----		-----	-----		-----	-----		-----	-----
1010		-----		-----	-----		-----	-----		-----	-----
1029	D1078-automated	64.3		-0.25	64.4		-0.65	65.0		0.61	-----
1041		-----		-----	-----		-----	-----		-----	-----
1067	D1078-manual	64.5		0.31	64.6		0.62	64.8		-0.20	0.3
1120	D1078-automated	64.1		-0.80	64.2	R(0.05)	-1.93	64.7		-0.60	0.6
1149		-----		-----	-----		-----	-----		-----	-----
1181	D1078-manual	64.4		0.03	64.4		-0.65	64.8		-0.20	0.4
1201	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
1204	D1078-automated	64.2		-0.52	64.3		-1.29	64.7		-0.60	-----
1221	D1078-manual	64.46		0.20	-----		-----	65.16		1.26	0.70
1237	D1078-manual	64.5		0.31	64.7		1.25	65.0		0.61	0.5
1246		-----		-----	-----		-----	-----		-----	-----
1256	D1078-manual	64.5		0.31	64.6		0.62	64.9		0.21	0.4
1264		-----		-----	-----		-----	-----		-----	-----

lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
1276	D1078-automated	64.9		1.43	64.9	R(0.01)	2.52	65.0		0.61	0.1
1342	D1078-automated	64.6		0.59	64.7		1.25	65.2		1.42	0.6
1465	D1078-automated	64.1		-0.80	64.3		-1.29	64.7		-0.60	0.6
1615	D1078-automated	64.4		0.03	64.5		-0.02	64.8		-0.20	0.4
1656	D1078-automated	64.5		0.31	64.5		-0.02	64.8		-0.20	0.3
1707	D1078-manual	64.3		-0.25	64.5		-0.02	64.7		-0.60	0.4
1866	D1078-automated	64.3		-0.25	64.5		-0.02	-----		-----	-----
1886		-----		-----	-----		-----	-----		-----	-----
6008	D1078-automated	64.5		0.31	64.6		0.62	64.9		0.21	0.4
6061	D1078-automated	64.3		-0.25	64.4		-0.65	64.9		0.21	0.6
6070	D1078-automated	64.5		0.31	64.5		-0.02	64.8		-0.20	0.3
6119		-----		-----	-----		-----	-----		-----	-----
6132	D1078-automated	64.3		-0.25	64.5		-0.02	64.8		-0.20	0.5
6145	D1078-manual	64.5		0.31	64.6		0.62	65.0		0.61	0.5
7018	D1078-manual	64.22		-0.47	64.37		-0.85	64.73		-0.48	0.51
	normality	not OK			suspect			suspect			
	n	70			66			69			
	outliers	0			3			0			
	mean (n)	64.39			64.50			64.85			
	st.dev. (n)	0.123			0.076			0.133			
	R(calc.)	0.34			0.21			0.37			
	R(D1078-A:11)	1.00			0.44			0.69			

Initial Boiling Point

50% recovered

Final Boiling Point
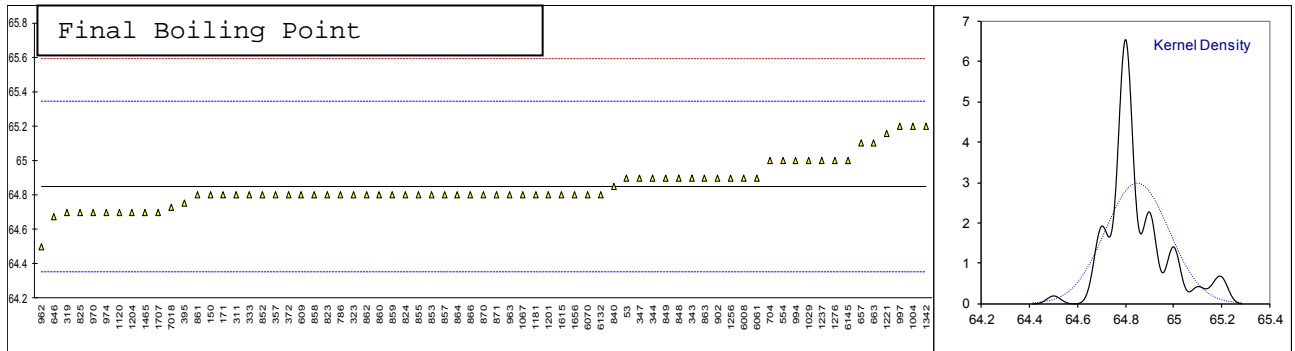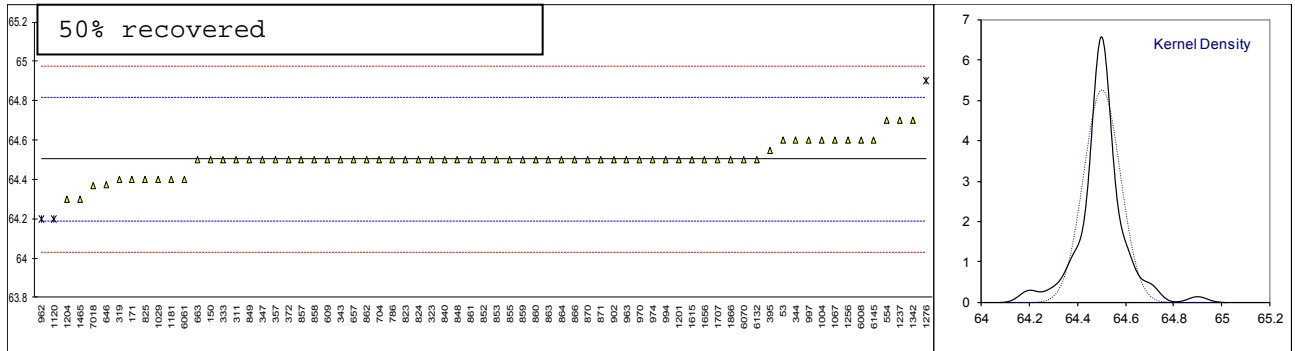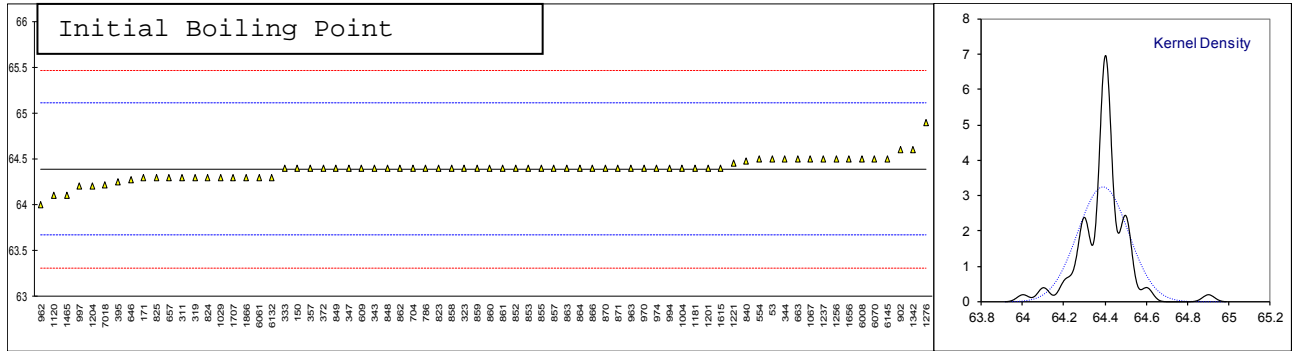
Determination of Iron as Fe on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E394	<0.02		-----	
150	E394	<0.10		-----	
171	E394	0.01		-----	
174		-----		-----	
311	E394	<0.01		-----	
316		-----		-----	
319	E394	0.0033		-----	
323	E394	<0.01		-----	
333		-----		-----	
334		-----		-----	
343		-----		-----	
344	E394	<0,1		-----	
346	E394	<0,1		-----	
347	E394	<0.1		-----	
357	E394	<0,01		-----	
372	E394	<0.02		-----	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	E394	0.04		-----	
554	E394	0.03		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	E394	0.0015		-----	
657	E394	0.02		-----	
663		-----		-----	
704	E394	0.014		-----	
786	E394	<0.01		-----	
823	E394	0.008		-----	
824	E394	<0.01		-----	
825	E394	0.003		-----	
840	E394	0.016		-----	
848	E394	<0.01		-----	
849	E394	0.001		-----	
852	E394	<0.01		-----	
853	E394	<0.01		-----	
855	E394	<0.01		-----	
857	E394	<0.01		-----	
858	E394	<0.01		-----	
859	E394	<0.01		-----	
860	E394	0.001		-----	
861	E394	<0.01		-----	
862	E394	0.002		-----	
863	E394	0.005		-----	
864	E394	<0.01		-----	
866	E394	0.005		-----	
870	E394	<0.01		-----	
871	E394	<0.01		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	E394	0.028		-----	
970		-----		-----	
974		-----		-----	
994	E394	0.027		-----	
997	E394	0.025		-----	
1004	E394	0.009		-----	
1009	E394	<0.010		-----	
1010		-----		-----	
1029	E394	<0.02		-----	
1041		-----		-----	
1067	E394	< 0.10		-----	
1120		-----		-----	
1149		-----		-----	
1181	E394	<0.01		-----	
1201	E394	0.01		-----	
1204	E394	0.0044		-----	
1221	E394	0.022		-----	
1237	E394	0.007	C	-----	First reported 0.072
1246		-----		-----	
1256	E394	0.000		-----	
1264	E394	0.009		-----	

lab	method	value	mark	z(targ)	remarks
1276	E394	0.022		-----	
1342	E394	0.015		-----	
1465	E394	0.002		-----	
1615		-----		-----	
1656		-----		-----	
1707		-----		-----	
1866	E394	<0.1		-----	
1886		-----		-----	
6008	E394	0.013		-----	
6061	E394	0		-----	
6070	E394	<0.1		-----	
6119		-----		-----	
6132	E394	0.005		-----	
6145	E394	<0.01		-----	
7018	E394	<0.02		-----	

normality	OK	
n	61	
outliers	0	
mean (n)	<0.1	
st.dev. (n)	n.a.	
R(calc.)	n.a.	
R(E394:15)	n.a.	
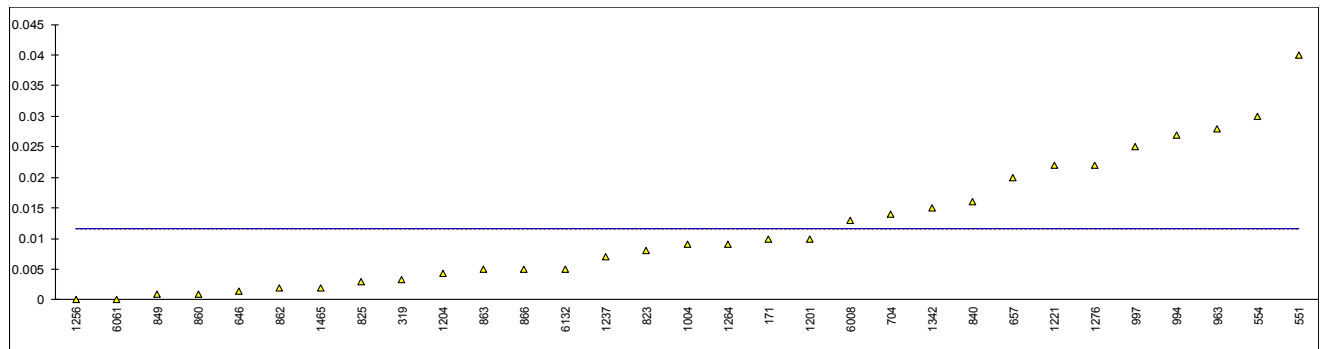
Determination of Miscibility with water on sample #17150;

lab	method	value	z(targ)	remarks
53	D1722	Pass	-----	
150	D1722	Pass	-----	
171	D1722	Pass	-----	
174		-----	-----	
311	D1722	pass	-----	
316		-----	-----	
319	D1722	pass test	-----	
323	D1722	PASS	-----	
333	D1722	pass test	-----	
334		-----	-----	
343	D1722	Passes Test	-----	
344	D1722	Pass	-----	
346	D1722	Pass	-----	
347	D1722	Pass	-----	
357	D1722	Passes	-----	
372	D1722	passes test	-----	
395	D1722	PASS	-----	
528		-----	-----	
529		-----	-----	
551	D1722	pass test	-----	
554	D1722	pass test	-----	
557		-----	-----	
608	D1722	Pass	-----	
609	D1722	PASS	-----	
646	D1722	PASS	-----	
657	D1722	Pass	-----	
663	D1722	Passes Test	-----	
704	D1722	Passes test	-----	
786	D1722	Pass	-----	
823	D1722	Pass	-----	
824		-----	-----	
825	D1722	passes test	-----	
840	D1722	Passes Test	-----	
848	D1722	pass	-----	
849	D1722	pass	-----	
852	D1722	pass	-----	
853	D1722	Pass	-----	
855	D1722	Pass	-----	
857	D1722	Passes Test	-----	
858	D1722	Pass	-----	
859	D1722	Pass	-----	
860	D1722	pass	-----	
861	D1722	Pass	-----	
862	D1722	pass	-----	
863	D1722	passes test	-----	
864	D1722	Passes test	-----	
866	D1722	Pass	-----	
870	D1722	passes test	-----	
871	D1722	pass	-----	
902	D1722	PASS	-----	
912		-----	-----	
913		-----	-----	
962	D1722	Pass	-----	
963	D1722	Pass	-----	
970	D1722	Pass	-----	
974	D1722	Pass	-----	
994	D1722	pass	-----	
997	D1722	pass	-----	
1004	D1722	Pass Test	-----	
1009	D1722	PASS	-----	
1010	D1722	Passes	-----	
1029	D1722	PASS	-----	
1041	D1722	Pass	-----	
1067	D1722	Pass	-----	
1120	D1722	pass	-----	
1149		-----	-----	
1181	D1722	Pass	-----	
1201	D1722	passes	-----	
1204	D1722	pass	-----	
1221		-----	-----	
1237	D1722	passes test	-----	
1246		-----	-----	
1256	D1722	passes test	-----	
1264	D1722	Pass	-----	

lab	method	value	z(targ)	remarks
1276	D1722	PASS	-----	
1342	D1722	PASS	-----	
1465	D1722	Pass	-----	
1615	D1722	PASS	-----	
1656		-----	-----	
1707	D1722	pass	-----	
1866		-----	-----	
1886		-----	-----	
6008	D1722	Pass	-----	
6061		-----	-----	
6070	D1722	Pass	-----	
6119		-----	-----	
6132	D1722	Pass	-----	
6145	D1722	Passes Test	-----	
7018	D1722	Pass	-----	

normality	unknown
n	72
outliers	n.a.
mean (n)	Pass
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit)	n.a.

Determination of Nonvolatile Matter on sample #17150; results in mg/100 mL

lab	method	value	mark	z(targ)	remarks
53	D1353	11	R(0.01)	277.13	
150	D1353	0.1		-3.91	
171	D1353	0	ex	-6.49	Result excluded, zero is not a real test result
174		-----		-----	
311	D1353	<1		-----	
316		-----		-----	
319	D1353	0.17		-2.11	
323	D1353	<1		-----	
333		-----		-----	
334		-----		-----	
343	D1353	0.1	C	-3.91	First reported 2.3
344	D1353	0.251		-0.02	
346		-----		-----	
347	D1353	0.2		-1.33	
357	D1353	<1		-----	
372	D1353	0.2		-1.33	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	D1353	0.1		-3.91	
554	D1353	0.3		1.25	
557		-----		-----	
608		-----		-----	
609	D1353	0.3		1.25	
646	D1353	0.2		-1.33	
657	D1353	0.33		2.02	
663	D1353	0.3		1.25	
704		-----		-----	
786	D1353	0.20		-1.33	
823	D1353	0.32		1.76	
824		-----		-----	
825	D1353	0.3		1.25	
840	D1353	0.4		3.82	
848	D1353	0.2		-1.33	
849	D1353	0.3		1.25	
852	D1353	0.3		1.25	
853	D1353	0.3		1.25	
855	D1353	0.2		-1.33	
857	D1353	0.2		-1.33	
858	D1353	0.3		1.25	
859	D1353	0.27		0.47	
860	D1353	0.3		1.25	
861	D1353	0.27		0.47	
862	D1353	0.2		-1.33	
863	D1353	0.24		-0.30	
864	D1353	0.3		1.25	
866	D1353	0.20		-1.33	
870	D1353	0.22		-0.82	
871	D1353	0.3		1.25	
902	D1353	0.2		-1.33	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	D1353	0.3		1.25	
970		-----		-----	
974	D1353	0.30		1.25	
994	D1353	0.33		2.02	
997	D1353	0.33		2.02	
1004	D1353	0.533		7.25	
1009	D1353	<0.4		-----	
1010		-----		-----	
1029	D1353	0.24971		-0.05	
1041		-----		-----	
1067	D1353	< 8		-----	
1120		-----		-----	
1149		-----		-----	
1181	D1353	0.3		1.25	
1201	D1353	0.35		2.54	
1204	D1353	0.2		-1.33	
1221	D1353	0.12		-3.40	
1237		-----		-----	
1246		-----		-----	
1256	D1353	0.2		-1.33	
1264	D1353	0.2		-1.33	

lab	method	value	mark	z(targ)	remarks
1276	D1353	4.2	R(0.01)	101.80	
1342	D1353	0.5		6.40	
1465	D1353	0	ex	-6.49	Result excluded, zero is not a real test result
1615	D1353	0.2		-1.33	
1656		-----		-----	
1707	D1353	0.3		1.25	
1866		-----		-----	
1886		-----		-----	
6008	D1353	0	ex	-6.49	Result excluded, zero is not a real test result
6061		-----		-----	
6070	D1353	<0.1		-----	
6119		-----		-----	
6132	D1353	0.0000		-6.49	
6145	D1353	0.1		-3.91	
7018	D1353	Less than 5		-----	

normality	Suspect	
n	50	
outliers	2 (+3 excl)	
mean (n)	0.252	
st.dev. (n)	0.0957	
R(calc.)	0.268	
R(D1353:13)	0.109	

Kernel Density
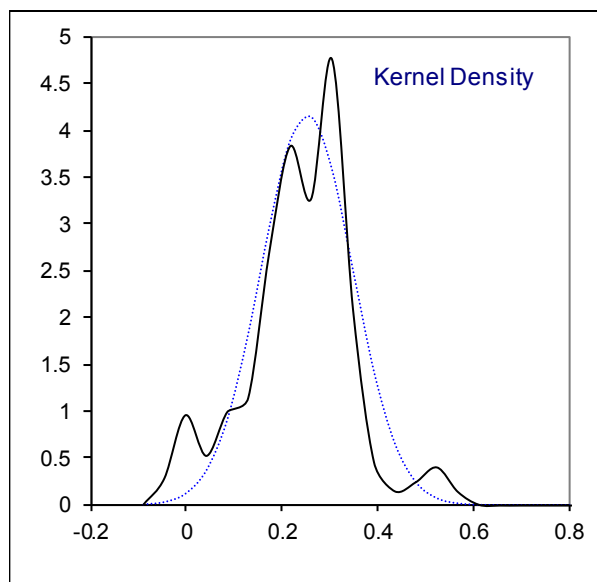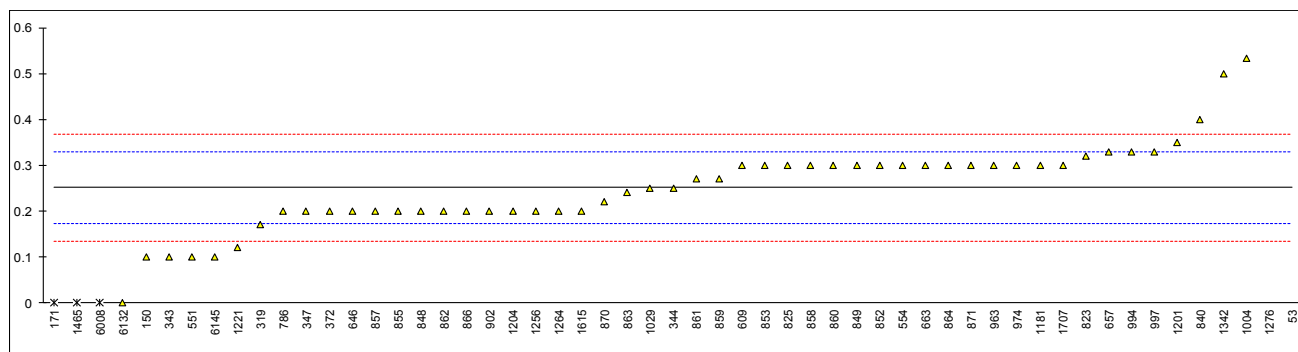
Determination of Permanganate Time Test at 15°C on sample #17150; results in minutes

lab	Method	value	mark	z(targ)	remarks
53	D1363	65		-2.22	
150	D1363	>60		-----	
171	D1363	>60		-----	
174		-----		-----	
311	D1363	85	C	0.52	First reported 105
316		-----		-----	
319	D1363	100		2.57	
323	D1363	>50		-----	
333		-----		-----	
334		-----		-----	
343	D1363	125	R(0.01)	5.99	
344	D1363	93		1.61	
346	D1363	76		-0.72	
347	D1363	70		-1.54	
357	D1363	78		-0.44	
372	D1363	72		-1.26	
395	D1363	>50		-----	
528		-----		-----	
529		-----		-----	
551	D1363	105		3.25	
554	D1363	85		0.52	
557		-----		-----	
608	D1363	78		-0.44	
609	D1363	80		-0.17	
646	D1363	76		-0.72	
657	D1363	> 60		-----	
663	D1363	60		-2.90	
704		-----		-----	
786	D1363	83		0.24	
823	D1363	88		0.93	
824	D1363	80		-0.17	
825	D1363	85		0.52	
840	D1363	90		1.20	
848	D1363	75		-0.85	
849	D1363	78		-0.44	
852	D1363	75		-0.85	
853	D1363	78		-0.44	
855	D1363	79		-0.31	
857	D1363	74		-0.99	
858	D1363	78		-0.44	
859	D1363	75		-0.85	
860	D1363	81		-0.03	
861	D1363	86		0.65	
862	D1363	78		-0.44	
863	D1363	84		0.38	
864	D1363	86		0.65	
866	D1363	85		0.52	
870	D1363	84		0.38	
871	D1363	75		-0.85	
902	D1363	>60		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	D1363	70		-1.54	
970	D1363	95		1.88	
974	D1363	95		1.88	
994	D1363	74		-0.99	
997	D1363	73		-1.13	
1004	D1363	75		-0.85	
1009	D1363	80		-0.17	
1010	D1363	85		0.52	
1029	D1363	85		0.52	
1041	D1363	80		-0.17	
1067	D1363	85		0.52	
1120	D1363	>50		-----	
1149		-----		-----	
1181	D1363	79		-0.31	
1201		-----		-----	
1204	D1363	23	R(0.01)	-7.97	
1221	D1363	90		1.13	
1237	D1363	80		-0.17	
1246		-----		-----	
1256	D1363	79		-0.31	
1264	D1363	>75		-----	

lab	Method	value	mark	z(targ)	remarks
1276	D1363	<50		-----	
1342	D1363	68		-1.81	
1465	D1363	95		1.88	
1615	D1363	80		-0.17	
1656		-----		-----	
1707	D1363	85		0.52	
1866		-----		-----	
1886		-----		-----	
6008	D1363	92		1.47	
6061	D1363	>60	C	-----	First reported 45
6070	D1363	>60		-----	
6119	D1363	72		-1.26	
6132	D1363	75		-0.85	
6145	D1363	100		2.57	
7018	D1363	>60		-----	

normality	OK	
n	58	
outliers	2	
mean (n)	81.2	
st.dev. (n)	8.71	
R(calc.)	24.4	
R(D1363:06)	20.5	

Kernel Density
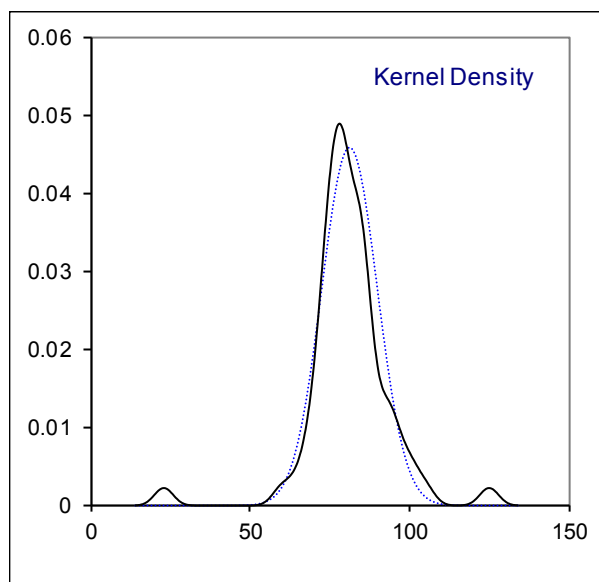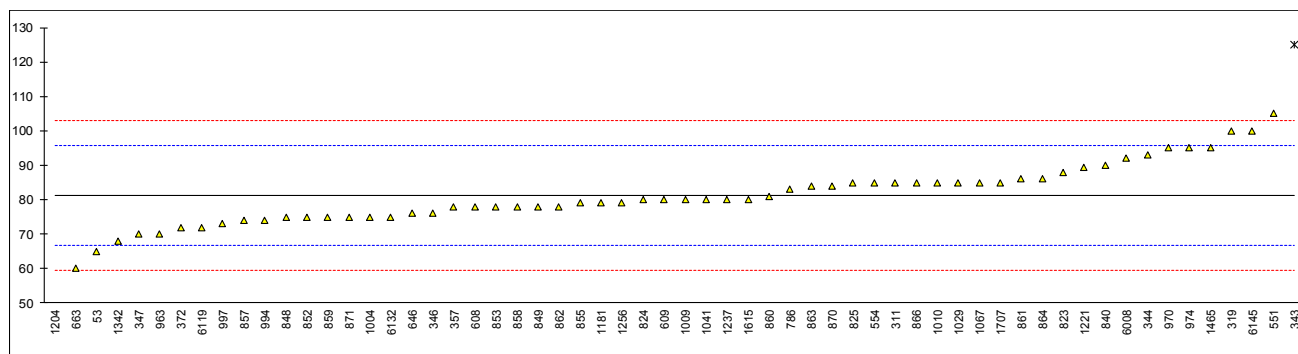
Determination of Purity "as received" on sample #17150; results in %M/M

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	99.96		-----	
171		-----		-----	
174		-----		-----	
311		-----		-----	
316		-----		-----	
319		-----		-----	
323	IMPCA001	99.95		-----	
333	IMPCA001	99.96		-----	
334		-----		-----	
343	IMPCA001	99.96		-----	
344	IMPCA001	99.987	ex	-----	Test result excluded, see §4.1
346		-----		-----	
347		-----		-----	
357	IMPCA001	99.957		-----	
372	IMPCA001	99.96		-----	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	IMPCA001	99.94644		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	Calculated	99.961		-----	
646	IMPCA001	99.97		-----	
657	IMPCA001	99.9581		-----	
663	IMPCA001	99.954		-----	
704		-----		-----	
786		-----		-----	
823	IMPCA001	99.9564		-----	
824	IMPCA001	99.958		-----	
825	IMPCA001	99.96		-----	
840	IMPCA001	99.960		-----	
848	IMPCA001	99.953		-----	
849	IMPCA001	99.943		-----	
852	IMPCA001	99.956		-----	
853	IMPCA001	99.95		-----	
855	IMPCA001	99.954		-----	
857	IMPCA001	99.954		-----	
858	IMPCA001	99.95		-----	
859	IMPCA001	99.95		-----	
860	IMPCA001	99.954		-----	
861	IMPCA001	99.959		-----	
862	IMPCA001	99.953		-----	
863	IMPCA001	99.958		-----	
864	IMPCA001	99.96		-----	
866	IMPCA001	99.958		-----	
870	IMPCA001	99.959		-----	
871	IMPCA001	99.953		-----	
902	IMPCA001	99.944		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA001	99.991	ex	-----	Test result excluded, see §4.1
970		-----		-----	
974		-----		-----	
994	IMPCA001	99.949		-----	
997	IMPCA001	99.9755	ex	-----	Test result excluded, see §4.1
1004	IMPCA001	99.9541		-----	
1009		-----		-----	
1010	IMPCA001	99.9603		-----	
1029		-----		-----	
1041		-----		-----	
1067		-----		-----	
1120	E346	99.968		-----	
1149		-----		-----	
1181	IMPCA001	99.963		-----	
1201		-----		-----	
1204		-----		-----	
1221		-----		-----	
1237		-----		-----	
1246		-----		-----	
1256	IMPCA001	99.98	ex	-----	Test result excluded, see §4.1
1264	IMPCA001	99.971		-----	

lab	method	value	mark	z(targ)	remarks
1276	IMPCA001	99.99	ex	-----	Test result excluded, see §4.1
1342	IMPCA001	99.946	C	-----	First reported 99.98
1465	IMPCA001	99.964		-----	
1615		-----		-----	
1656		-----		-----	
1707		99.959		-----	
1866		-----		-----	
1886		-----		-----	
6008	IMPCA001	99.96		-----	
6061		-----		-----	
6070	IMPCA001	99.96		-----	
6119		-----		-----	
6132	IMPCA001	99.99	R(0.05)	-----	
6145		-----		-----	
7018	IMPCA001	99.958		-----	

normality	OK
n	44
outliers	1 (+5 excl)
mean (n)	99.95661
st.dev. (n)	0.006178
R(calc.)	0.01730
R(lit)	unknown

Compare R(iis16C05) = 0.0151

Kernel Density
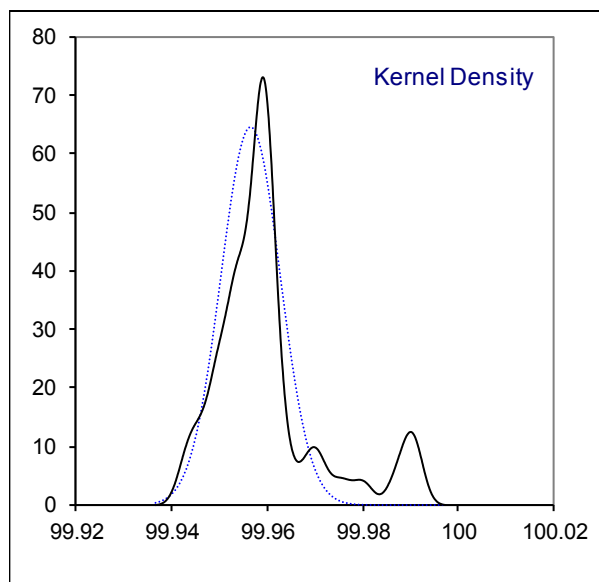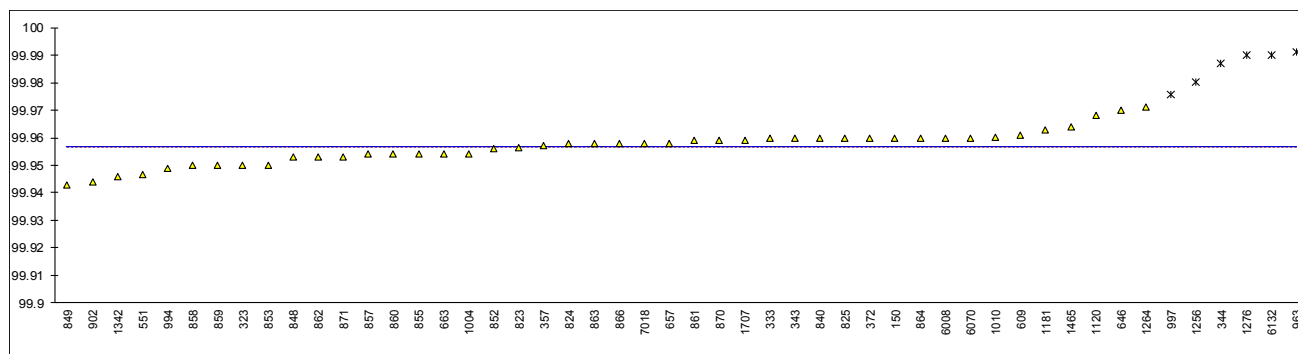
Determination of Purity on dry basis on sample #17150; results in %M/M

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	99.99		-----	
150	IMPCA001	99.99		-----	
171	IMPCA001	99.98	C	-----	First reported 99.90
174		-----		-----	
311	IMPCA001	99.99		-----	
316		-----		-----	
319	IMPCA001	99.9897		-----	
323	IMPCA001	99.98		-----	
333	IMPCA001	99.99		-----	
334	IMPCA001	99.98		-----	
343	IMPCA001	99.99		-----	
344	IMPCA001	99.9585	ex	-----	Test result excluded, see §4.1
346	IMPCA001	99.9886		-----	
347	IMPCA001	99.9823		-----	
357	IMPCA001	99.985		-----	
372	IMPCA001	99.984		-----	
395	IMPCA001	99.99		-----	
528		-----		-----	
529		-----		-----	
551	IMPCA001	99.97744		-----	
554	IMPCA001	99.986		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA001	99.994		-----	
646	IMPCA001	>99.99		-----	
657	IMPCA001	99.9861		-----	
663	IMPCA001	99.990		-----	
704	IMPCA001	99.989		-----	
786	IMPCA001	99.99		-----	
823	IMPCA001	99.9856		-----	
824	IMPCA001	99.986		-----	
825	IMPCA001	99.99		-----	
840	IMPCA001	99.989		-----	
848	IMPCA001	99.983		-----	
849	IMPCA001	99.973		-----	
852	IMPCA001	99.986		-----	
853	IMPCA001	99.98		-----	
855	IMPCA001	99.990		-----	
857	IMPCA001	99.985		-----	
858	IMPCA001	99.98		-----	
859	IMPCA001	99.98		-----	
860	IMPCA001	99.981		-----	
861	IMPCA001	99.987		-----	
862	IMPCA001	99.983		-----	
863	IMPCA001	99.986		-----	
864	IMPCA001	99.991		-----	
866	IMPCA001	99.988		-----	
870	IMPCA001	99.990		-----	
871	IMPCA001	99.983		-----	
902	IMPCA001	99.974		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA001	99.959	ex	-----	Test result excluded, see §4.1
970		-----		-----	
974		-----		-----	
994	IMPCA001	99.977		-----	
997	IMPCA001	99.9463	ex	-----	Test result excluded, see §4.1
1004	IMPCA001	99.9877		-----	
1009	IMPCA001	99.98801		-----	
1010	IMPCA001	99.9897		-----	
1029	IMPCA001	99.98947		-----	
1041	IMPCA001	99.9877		-----	
1067	IMPCA001	99.99		-----	
1120	E346	99.991		-----	
1149		-----		-----	
1181	IMPCA001	99.9908		-----	
1201	IMPCA001	99.98		-----	
1204	IMPCA001	99.991		-----	
1221	IMPCA001	99.984		-----	
1237	IMPCA001	99.983		-----	
1246		-----		-----	
1256	IMPCA001	99.97	ex	-----	Test result excluded, see §4.1
1264	IMPCA001	99.99		-----	

lab	method	value	mark	z(targ)	remarks
1276	IMPCA001	99.99	ex	-----	Test result excluded, see §4.1
1342	IMPCA001	99.98		-----	
1465	IMPCA001	99.991		-----	
1615	IMPCA001	99.99		-----	
1656		-----		-----	
1707	IMPCA001	99.986		-----	
1866	IMPCA001	99.982		-----	
1886		-----		-----	
6008	IMPCA001	99.99		-----	
6061	IMPCA001	99.989		-----	
6070	IMPCA001	99.99		-----	
6119	IMPCA001	99.988		-----	
6132		-----		-----	
6145	IMPCA001	99.9866		-----	
7018	IMPCA001	99.986		-----	

normality	OK
n	67
outliers	0 (+5 excl)
mean (n)	99.98621
st.dev. (n)	0.004589
R(calc.)	0.01285
R(lit)	unknown

Compare R(iis16C05) = 0.0119

Kernel Density
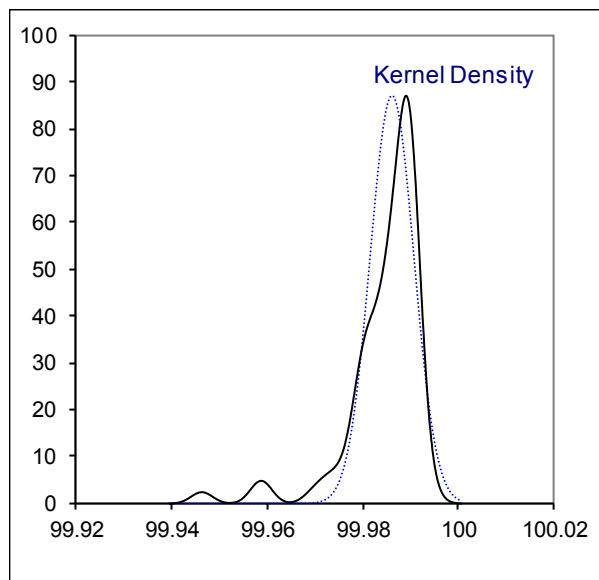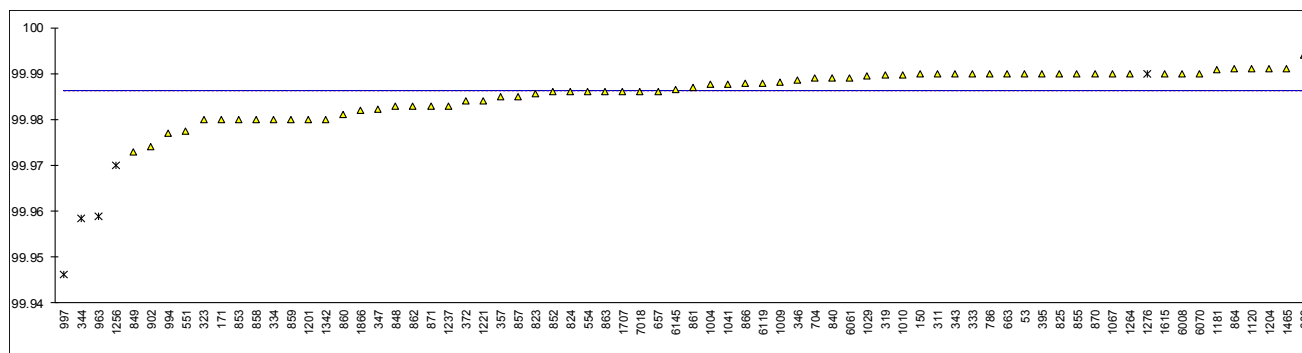
Determination of Acetone content on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	Remarks
53	IMPCA001	35		1.79	
150	IMPCA001	24		-2.05	
171	IMPCA001	21		-3.09	
174		-----		-----	
311	IMPCA001	30		0.05	
316		-----		-----	
319	IMPCA001	30		0.05	
323	IMPCA001	33		1.09	
333	IMPCA001	31		0.40	
334	IMPCA001	41		3.89	
343	IMPCA001	27.9		-0.69	
344	IMPCA001	24.49		-1.88	
346	IMPCA001	30.8361		0.34	
347	IMPCA001	31		0.40	
357	IMPCA001	30.8		0.33	
372	IMPCA001	30		0.05	
395	IMPCA001	26.70		-1.10	
528		-----		-----	
529		-----		-----	
551	IMPCA001	26.69		-1.11	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA001	22		-2.74	
646	IMPCA001	24.41		-1.90	
657	IMPCA001	33.7		1.34	
663	IMPCA001	24.53		-1.86	
704	IMPCA001	25.0		-1.70	
786	IMPCA001	26		-1.35	
823	IMPCA001	32		0.74	
824	IMPCA001	32		0.74	
825	IMPCA001	27		-1.00	
840	IMPCA001	9.0	R(0.01)	-7.28	
848	IMPCA001	30.0		0.05	
849	IMPCA001	30.6		0.26	
852	IMPCA001	29.2		-0.23	
853	IMPCA001	31		0.40	
855	IMPCA001	30		0.05	
857	IMPCA001	32		0.74	
858	IMPCA001	31		0.40	
859	IMPCA001	30		0.05	
860	IMPCA001	25.9		-1.38	
861	IMPCA001	31.5		0.57	
862	IMPCA001	28		-0.65	
863	IMPCA001	31.5		0.57	
864	IMPCA001	32		0.74	
866	IMPCA001	31.0		0.40	
870	IMPCA001	32.0		0.74	
871	IMPCA001	31.0		0.40	
902	IMPCA001	30		0.05	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA001	25.7		-1.45	
970		-----		-----	
974		-----		-----	
994	IMPCA001	25.1		-1.66	
997	IMPCA001	25.2		-1.63	
1004	IMPCA001	41.88		4.19	
1009	IMPCA001	29.43293		-0.15	
1010	IMPCA001	30		0.05	
1029	IMPCA001	37.48123		2.66	
1041	IMPCA001	32		0.74	
1067	IMPCA001	32		0.74	
1120	E346	32.30		0.85	
1149		-----		-----	
1181	IMPCA001	34.073		1.47	
1201	IMPCA001	28		-0.65	
1204	IMPCA001	30		0.05	
1221	IMPCA001	50.40	C,R(0.01)	7.17	First reported 46.76
1237	IMPCA001	25		-1.70	
1246		-----		-----	
1256	IMPCA001	33		1.09	
1264	IMPCA001	29.8		-0.02	

lab	method	value	mark	z(targ)	Remarks
1276	IMPCA001	30.2		0.12	
1342	IMPCA001	27	C	-1.00	First reported 44
1465	IMPCA001	28.30		-0.55	
1615	IMPCA001	38.10	C	2.87	First reported 19.62
1656		-----		-----	
1707	IMPCA001	31		0.40	
1866	IMPCA001	34.78		1.71	
1886		-----		-----	
6008	IMPCA001	27.3		-0.90	
6061	IMPCA001	32		0.74	
6070	IMPCA001	28		-0.65	
6119	In house	30.7		0.29	
6132	IMPCA001	21.32	C	-2.98	First reported12.32
6145	IMPCA001	31		0.40	
7018	IMPCA001	33.0	C	1.09	First reported 41.3

	normality	suspect			
	n	71			
	outliers	2	Spike		
	mean (n)	29.865	30.0		Recovery <100%
	st.dev. (n)	3.9699			
	R(calc.)	11.116			
	R(Horwitz)	8.024			
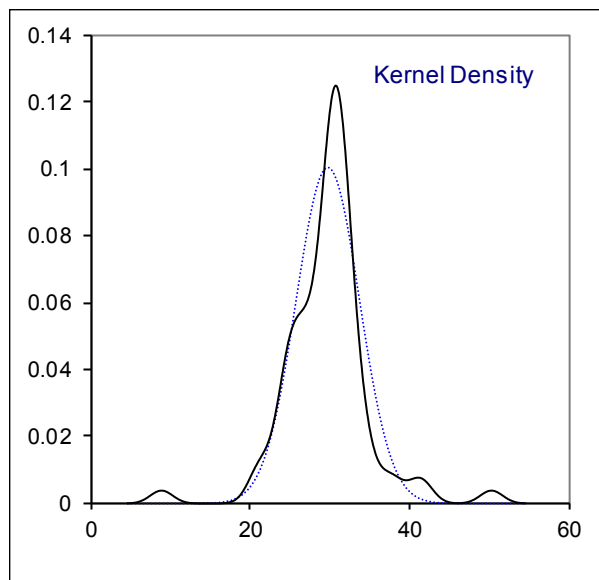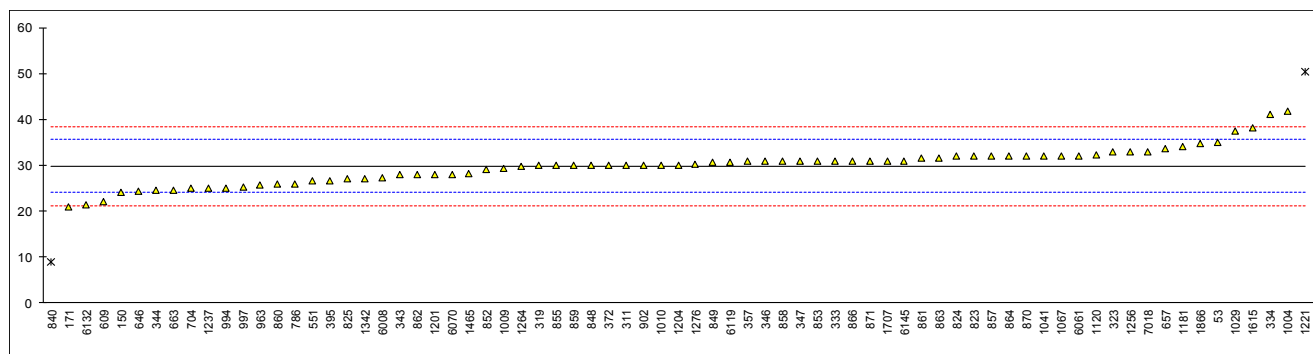
Determination of Benzene content on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	9		-0.90	
171	IMPCA001	8.3		-1.52	
174		-----		-----	
311	IMPCA001	10		-0.02	
316		-----		-----	
319	IMPCA001	10		-0.02	
323	IMPCA001	10		-0.02	
333		-----		-----	
334	IMPCA001	1	R(0.01)	-7.96	
343	IMPCA001	8.1		-1.69	
344	IMPCA001	9.805		-0.19	
346	IMPCA001	10.4127		0.35	
347	IMPCA001	11		0.87	
357	IMPCA001	8.8		-1.08	
372	IMPCA001	10		-0.02	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	IMPCA001	8.83		-1.05	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	7.86		-1.91	
657	IMPCA001	11.2		1.04	
663	IMPCA001	10.69		0.59	
704	IMPCA001	9.2		-0.72	
786	IMPCA001	8		-1.78	
823	IMPCA001	11		0.87	
824	IMPCA001	11		0.87	
825	IMPCA001	9		-0.90	
840	IMPCA001	3.5	R(0.01)	-5.75	
848	IMPCA001	10.8		0.69	
849	IMPCA001	11.0		0.87	
852	IMPCA001	11.2		1.04	
853	IMPCA001	11		0.87	
855	IMPCA001	10		-0.02	
857	IMPCA001	12		1.75	
858	IMPCA001	11		0.87	
859	IMPCA001	10		-0.02	
860	IMPCA001	9.5		-0.46	
861	IMPCA001	10.4		0.34	
862	IMPCA001	10		-0.02	
863	IMPCA001	9.7		-0.28	
864	IMPCA001	<10		-----	
866	IMPCA001	10.4		0.34	
870	IMPCA001	10.6		0.51	
871	IMPCA001	11.2		1.04	
902	IMPCA001	9		-0.90	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA001	9.4		-0.55	
970		-----		-----	
974		-----		-----	
994	IMPCA001	10.2		0.16	
997		-----		-----	
1004	IMPCA001	14.89	R(0.01)	4.30	
1009	IMPCA001	11.13876		0.99	
1010	IMPCA001	11		0.87	
1029	IMPCA001	10.09821		0.07	
1041		-----		-----	
1067	IMPCA001	14	R(0.05)	3.51	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA001	11.209		1.05	
1201	IMPCA001	9.6		-0.37	
1204		-----		-----	
1221	IMPCA001	9.49		-0.47	
1237	IMPCA001	10		-0.02	
1246		-----		-----	
1256		-----		-----	
1264	IMPCA001	10.9		0.78	

lab	method	value	mark	z(targ)	remarks
1276	IMPCA001	<10		-----	
1342	IMPCA001	9.4		-0.55	
1465	IMPCA001	10.09		0.06	
1615		-----		-----	
1656		-----		-----	
1707	IMPCA001	10		-0.02	
1866	IMPCA001	11.49		1.30	
1886		-----		-----	
6008	IMPCA001	8.5		-1.34	
6061	IMPCA001	9.12		-0.79	
6070	IMPCA001	9		-0.90	
6119	In house	10.4		0.34	
6132	IMPCA001	6.47	R(0.05)	-3.13	
6145	IMPCA001	10		-0.02	
7018		-----		-----	

normality	OK			
n	55			
outliers	5	Spike		
mean (n)	10.019	10.0	Recovery <100%	
st.dev. (n)	0.9656			
R(calc.)	2.704			
R(Horwitz)	3.173			
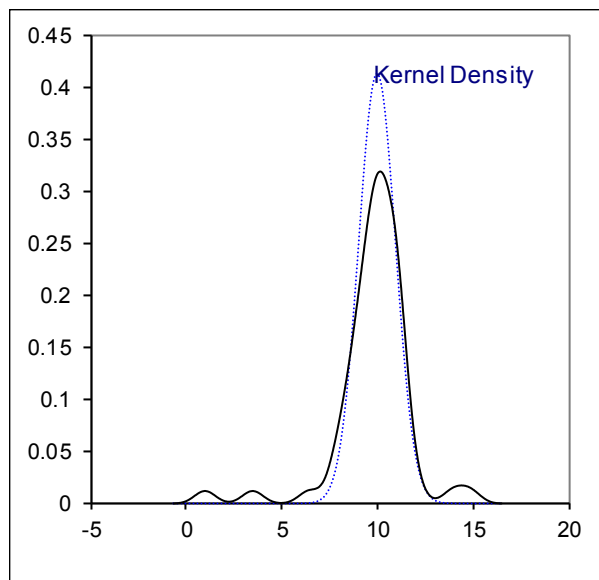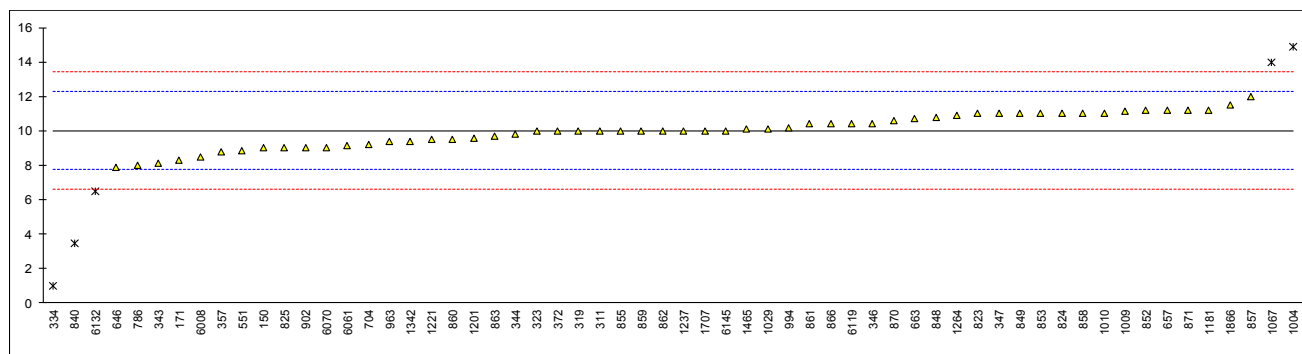
Determination of Ethanol content on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	57		-0.26	
150	IMPCA001	55		-0.66	
171	IMPCA001	58		-0.06	
174		-----		-----	
311	IMPCA001	61		0.53	
316		-----		-----	
319	IMPCA001	58		-0.06	
323	IMPCA001	53		-1.05	
333	IMPCA001	61		0.53	
334	IMPCA001	80	R(0.05)	4.28	
343	IMPCA001	41.52		-3.32	
344	IMPCA001	59.38		0.21	
346	IMPCA001	59.9941		0.33	
347	IMPCA001	60		0.33	
357	IMPCA001	51.3		-1.39	
372	IMPCA001	56		-0.46	
395	IMPCA001	49.64		-1.72	
528		-----		-----	
529		-----		-----	
551	IMPCA001	58.85		0.10	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA001	52	C	-1.25	First reported 34
646	IMPCA001	55.49		-0.56	
657	IMPCA001	61.9		0.71	
663	IMPCA001	46.77		-2.28	
704	IMPCA001	57.5		-0.16	
786	IMPCA001	58		-0.06	
823	IMPCA001	61		0.53	
824	IMPCA001	61		0.53	
825	IMPCA001	57		-0.26	
840	IMPCA001	37.1	R(0.05)	-4.19	
848	IMPCA001	61.0		0.53	
849	IMPCA001	63.3		0.98	
852	IMPCA001	60.0		0.33	
853	IMPCA001	57		-0.26	
855	IMPCA001	60		0.33	
857	IMPCA001	61		0.53	
858	IMPCA001	56		-0.46	
859	IMPCA001	57		-0.26	
860	IMPCA001	60.0		0.33	
861	IMPCA001	58.3		0.00	
862	IMPCA001	59		0.13	
863	IMPCA001	61.5		0.63	
864	IMPCA001	58		-0.06	
866	IMPCA001	62.0		0.73	
870	IMPCA001	58.2		-0.02	
871	IMPCA001	59		0.13	
902	IMPCA001	69		2.11	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA001	50.2		-1.61	
970		-----		-----	
974		-----		-----	
994	IMPCA001	65.5		1.42	
997	IMPCA001	70.2		2.35	
1004	IMPCA001	56.01		-0.46	
1009	IMPCA001	59.64214		0.26	
1010	IMPCA001	62		0.73	
1029	IMPCA001	57.38153		-0.19	
1041	IMPCA001	55.8		-0.50	
1067	IMPCA001	60		0.33	
1120	E346	56.33		-0.39	
1149		-----		-----	
1181	IMPCA001	46.523		-2.33	
1201	IMPCA001	52.7		-1.11	
1204	IMPCA001	58		-0.06	
1221	IMPCA001	63.75		1.07	
1237	IMPCA001	63		0.92	
1246		-----		-----	
1256	IMPCA001	61		0.53	
1264	IMPCA001	53.1		-1.03	

lab	method	value	mark	z(targ)	remarks
1276	IMPCA001	49.1		-1.82	
1342	IMPCA001	49		-1.84	
1465	IMPCA001	57.33		-0.20	
1615	IMPCA001	65.28		1.37	
1656		-----		-----	
1707	IMPCA001	60		0.33	
1866	IMPCA001	70.08		2.32	
1886		-----		-----	
6008	IMPCA001	51.3		-1.39	
6061	IMPCA001	58.5		0.04	
6070	IMPCA001	64		1.12	
6119	In house	60.6		0.45	
6132	IMPCA001	57.75		-0.11	
6145	IMPCA001	63		0.92	
7018	IMPCA001	73.2		2.94	

normality	suspect			
n	71			
outliers	2	Spike		
mean (n)	58.323	50.0		Recovery <117%
st.dev. (n)	5.5084			
R(calc.)	15.424			
R(Horwitz)	14.169			

Kernel Density
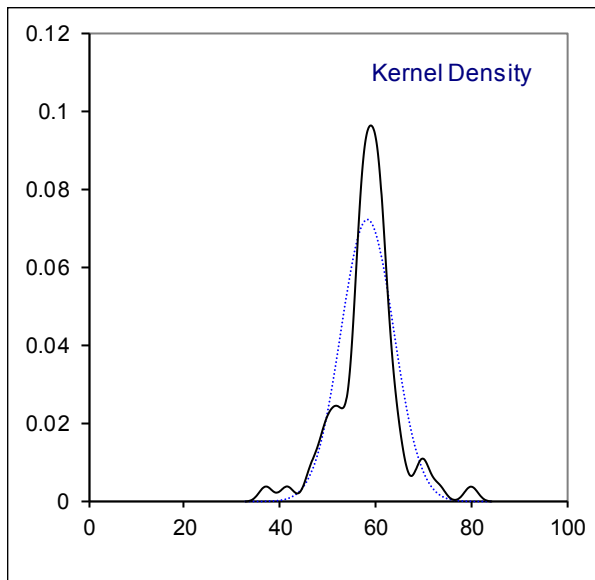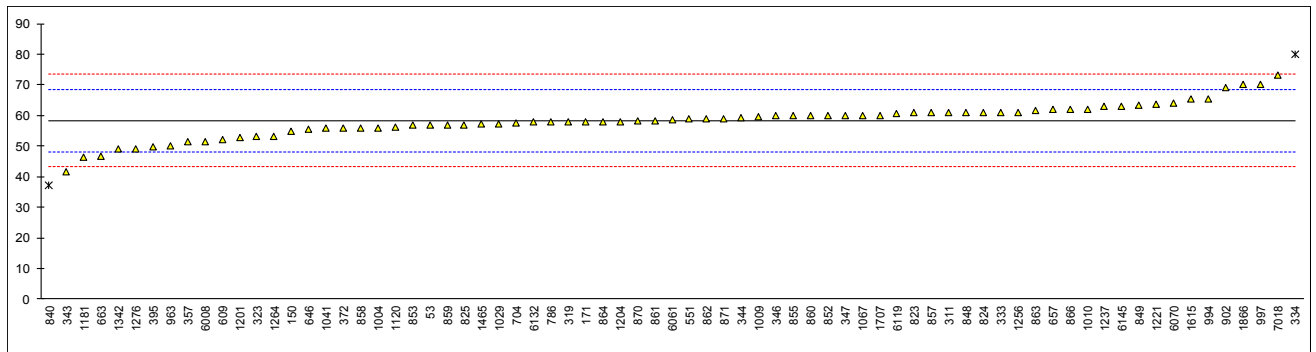
Determination of Toluene content on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	<5		-----	
171	IMPCA001	0		-----	
174		-----		-----	
311	IMPCA001	<5		-----	
316		-----		-----	
319	IMPCA001	1		-----	
323	IMPCA001	<5		-----	
333		-----		-----	
334	IMPCA001	1		-----	
343	IMPCA001	<5		-----	
344	IMPCA001	9.625		-----	
346	IMPCA001	10.3232		-----	
347	IMPCA001	10		-----	
357	IMPCA001	9.8		-----	
372	IMPCA001	<5		-----	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	IMPCA001	<5		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	<5		-----	
657	IMPCA001	< 5		-----	
663	IMPCA001	Not Detected		-----	
704	IMPCA001	<5		-----	
786	IMPCA001	<5		-----	
823	IMPCA001	1		-----	
824	IMPCA001	<5		-----	
825	IMPCA001	0		-----	
840	IMPCA001	5.0		-----	
848	IMPCA001	<5		-----	
849	IMPCA001	0.7		-----	
852	IMPCA001	<5		-----	
853	IMPCA001	<5		-----	
855	IMPCA001	<5		-----	
857	IMPCA001	<5		-----	
858	IMPCA001	0.6		-----	
859	IMPCA001	<5		-----	
860	IMPCA001	<5		-----	
861	IMPCA001	<5		-----	
862	IMPCA001	<1		-----	
863	IMPCA001	<5		-----	
864	IMPCA001	<10		-----	
866	IMPCA001	<5		-----	
870	IMPCA001	<5		-----	
871	IMPCA001	0.6		-----	
902	IMPCA001	10		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	IMPCA001	<5		-----	
970		-----		-----	
974		-----		-----	
994	IMPCA001	<5		-----	
997	IMPCA001	<2		-----	
1004	IMPCA001	2.31		-----	
1009	IMPCA001	11.57266		-----	
1010	IMPCA001	<5		-----	
1029	IMPCA001	<1		-----	
1041		-----		-----	
1067	IMPCA001	< 5		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA001	<5		-----	
1201	IMPCA001	1.5		-----	
1204		-----		-----	
1221		-----		-----	
1237	IMPCA001	<5		-----	
1246		-----		-----	
1256		-----		-----	
1264	IMPCA001	<5		-----	

lab	method	value	mark	z(targ)	remarks
1276	IMPCA001	<10		-----	
1342	IMPCA001	7.1		-----	
1465	IMPCA001	0		-----	
1615		-----		-----	
1656		-----		-----	
1707	IMPCA001	10		-----	
1866	IMPCA001	12.45		-----	
1886		-----		-----	
6008	IMPCA001	<5		-----	
6061	IMPCA001	<5		-----	
6070	IMPCA001	8		-----	
6119	In house	n.d.		-----	
6132	IMPCA001	7.16		-----	
6145	IMPCA001	<5		-----	
7018		-----		-----	

normality	OK
n	56
outliers	n.a.
mean (n)	<10
st.dev. (n)	n.a.
R(calc.)	n.a.
R(Horwitz)	n.a.
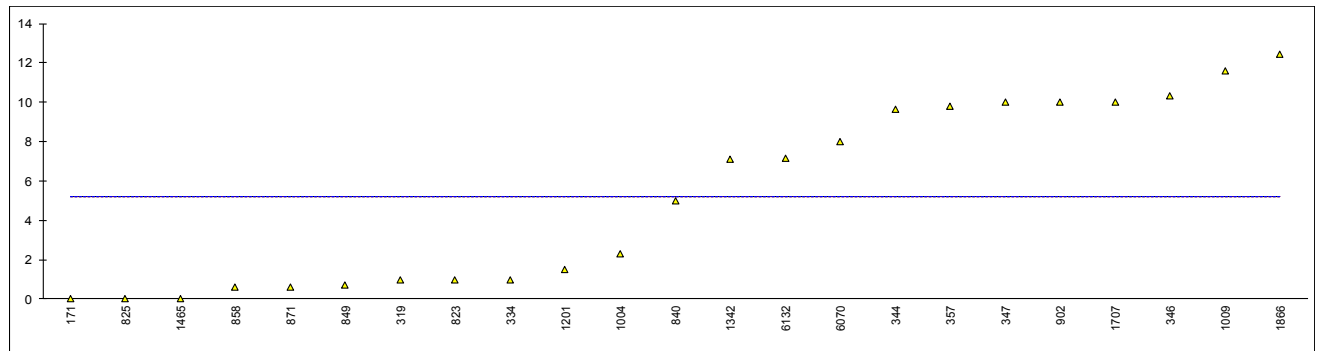
Determination of Sulphur on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D5453	<0.5		-----	
150	D5453	<1.0		-----	
171	D5453	<0.5		-----	
174		-----		-----	
311	D5453	<1		-----	
316		-----		-----	
319	D5453	0.03		-----	
323	D5453	<1		-----	
333	D5453	<0.5		-----	
334	D5453	0.1		-----	
343	D5453	1.92	C	-----	First reported1.62
344		-----		-----	
346		-----		-----	
347	D5453	<0.5		-----	
357	D5453	<0,5		-----	
372	D5453	<1.0		-----	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	D5453	0.21		-----	
554		-----		-----	
557		-----		-----	
608	D5453	<1		-----	
609		-----		-----	
646	D3961	<0.2		-----	
657	D5453	0.3		-----	
663	D5453	0.11		-----	
704	D5453	<1		-----	
786	D5453	<1		-----	
823	D5453	0.12		-----	
824	D5453	<1.0		-----	
825	D5453	0.10		-----	
840		-----		-----	
848	D5453	<1		-----	
849	D5453	NA		-----	
852	D3120	<0.5		-----	
853		-----		-----	
855	D5453	<1		-----	
857	D3120	<0.5		-----	
858	D5453	<0.5		-----	
859	D5453	<0.5		-----	
860	D3120	<0.5		-----	
861		-----		-----	
862	D5453	0.1		-----	
863	D5453	0.05		-----	
864	D5453	<1		-----	
866		-----		-----	
870	D5453	<1.0		-----	
871		-----		-----	
902	D5453	<0,5		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963		-----		-----	
970		-----		-----	
974		-----		-----	
994	D5453	<1		-----	
997	D5453	0.18		-----	
1004	D5453	0.0497		-----	
1009		-----		-----	
1010		-----		-----	
1029	D5453	<0.5		-----	
1041	D5453	0.2		-----	
1067	D5453	< 0.5		-----	
1120		-----		-----	
1149		-----		-----	
1181	D5453	<1		-----	
1201	D5453	0.06		-----	
1204		-----		-----	
1221		-----		-----	
1237		-----		-----	
1246		-----		-----	
1256		-----		-----	
1264	D5453	<1		-----	

lab	method	value	mark	z(targ)	remarks
1276	D5453	0.23		-----	
1342	D5453	0.15		-----	
1465	D5453	0.138		-----	
1615		-----		-----	
1656		-----		-----	
1707	D5453	0.2		-----	
1866	D5453	<0.5		-----	
1886		-----		-----	
6008	D5453	0.036		-----	
6061		-----		-----	
6070	D5453	<0.5		-----	
6119		-----		-----	
6132	D5453	0.4		-----	
6145	D5453	<1		-----	
7018	D5623	<0.1		-----	

normality	n.a.	
n	52	
outliers	n.a.	
mean (n)	<1	
st.dev. (n)	n.a.	
R(calc.)	n.a.	
R(D5453:16e1)	n.a.	

Determination of Trimethylamine (TMA) on sample #17150; results in µg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171		-----		-----	
174		-----		-----	
311		-----		-----	
316	INH-601	103		1.87	
319		-----		-----	
323		-----		-----	
333		-----		-----	
334		-----		-----	
343	INH-1501	<0,05		<-7.40	Possibly an unit error (reported possibly in mg/kg instead of µg/kg)?
344		-----		-----	
346		-----		-----	
347		-----		-----	
357		-----		-----	
372		-----		-----	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657		-----		-----	
663		-----		-----	
704		-----		-----	
786		-----		-----	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840		-----		-----	
848	E346	NA		-----	
849	E346	NA		-----	
852		-----		-----	
853		-----		-----	
855		-----		-----	
857		-----		-----	
858		-----		-----	
859	E346	80		-0.20	
860	E346	NA		-----	
861		-----		-----	
862	E346	65		-1.56	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963		-----		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	E346	62		-1.83	
1009	E346	136.5968		4.89	
1010		-----		-----	
1029	E346	67.8396698		-1.30	
1041		-----		-----	
1067		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1201		-----		-----	
1204		-----		-----	
1221		-----		-----	
1237		-----		-----	
1246		-----		-----	
1256		-----		-----	
1264		-----		-----	

lab	method	value	mark	z(targ)	remarks
1276		-----		-----	
1342		-----		-----	
1465		-----		-----	
1615		-----		-----	
1656		-----		-----	
1707		-----		-----	
1866		-----		-----	
1886		-----		-----	
6008	E346	57.5		-2.23	
6061		-----		-----	
6070		-----		-----	
6119	In house	76.50		-0.52	
6132		-----		-----	
6145		-----		-----	
7018	E346	92		0.88	

normality	not OK	
n	9	
outliers	0	
mean (n)	82.27	
st.dev. (n)	25.113	
R(calc.)	70.32	
R(E346:08e1) *)	31.10	Compare R(Horwitz) = 53.68

*) Reproducibility estimated based on repeatability data of ASTM E346:08e1

Kernel Density
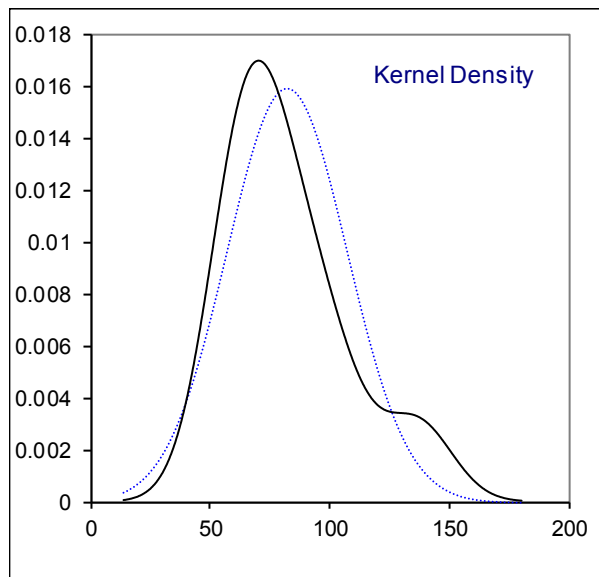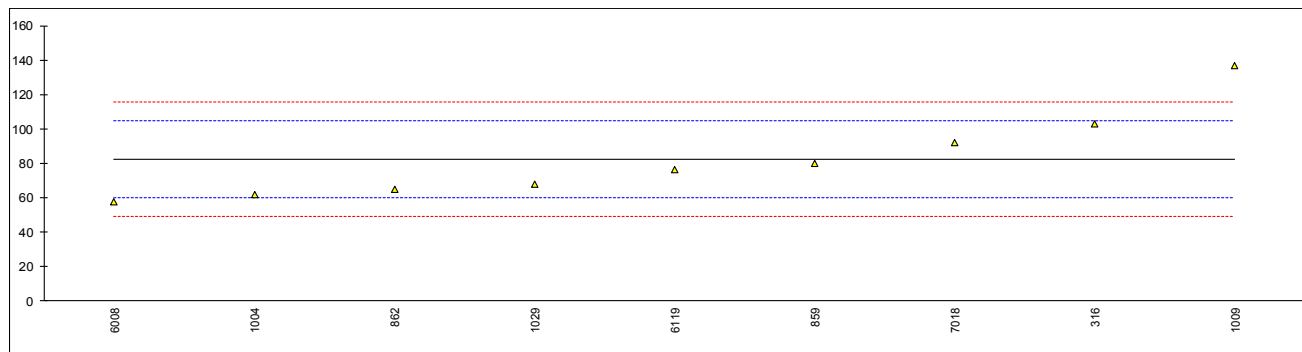
Determination of Water, Coulometric KF titration on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E1064	480	R(0.01)	10.80	
150	E1064	320		1.74	
171	E1064	343.9		3.09	
174		-----		-----	
311	E1064	283		-0.35	
316		-----		-----	
319	E1064	290		0.04	
323	E1064	285		-0.24	
333	E1064	300		0.61	
334	E1064	370	R(0.05)	4.57	
343	E1064	280		-0.52	
344	E1064	285		-0.24	
346	E1064	269		-1.15	
347	E1064	270		-1.09	
357	E1064	281		-0.47	
372	E1064	260		-1.65	
395	E1064	302.26		0.74	
528		-----		-----	
529		-----		-----	
551	E1064	330		2.31	
554	E1064	380.0	R(0.05)	5.14	
557		-----		-----	
608		-----		-----	
609	E1064	290		0.04	
646	E1064	220	R(0.05)	-3.92	
657	E1064	277		-0.69	
663	E1064	283		-0.35	
704	E1064	275.4		-0.78	
786	E1064	292		0.16	
823	E1064	292		0.16	
824	E1064	260		-1.65	
825	E1064	279		-0.58	
840	E1064	286.4		-0.16	
848	E1064	298		0.50	
849	E1064	300		0.61	
852	E1064	300		0.61	
853	E1064	298		0.50	
855	E1064	290		0.04	
857	E1064	303		0.78	
858	E1064	296		0.38	
859	E1064	302		0.72	
860	E1064	290		0.04	
861	E1064	286		-0.18	
862	E1064	292		0.16	
863	E1064	283		-0.35	
864	E1064	300		0.61	
866	E1064	285		-0.24	
870	E1064	290		0.04	
871	E1064	294		0.27	
902	E1064	313		1.35	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	E1064	290		0.04	
970		-----		-----	
974		-----		-----	
994	E1064	284.06		-0.29	
997	E1064	292		0.16	
1004	E1064	336		2.65	
1009	E1064	301.65		0.70	
1010	E1064	294		0.27	
1029	E1064	282		-0.41	
1041	E1064	221	R(0.05)	-3.86	
1067	E1064	280		-0.52	
1120		201.58	C,R(0.05)	-4.96	First reported 227.25
1149		-----		-----	
1181	E1064	275		-0.81	
1201	E1064	260		-1.65	
1204	E1064	269		-1.15	
1221	E1064	264.50		-1.40	
1237	E1064	309		1.12	
1246		-----		-----	
1256		-----		-----	
1264	E1064	190	R(0.05)	-5.62	

lab	method	value	mark	z(targ)	remarks
1276	E1064	288.6		-0.04	
1342	E1064	311		1.23	
1465	E1064	270.0		-1.09	
1615	E1064	320		1.74	
1656		-----		-----	
1707	E1064	272		-0.98	
1866	E1064	265		-1.37	
1886		-----		-----	
6008	E1064	270		-1.09	
6061	E1064	305		0.89	
6070	E1064	270	C	-1.09	First reported 350
6119	E1064	367.7	C,R(0.05)	4.44	First reported 402.3
6132	E1064	280.015		-0.52	
6145	E1064	272		-0.98	
7018	E1064	285.37		-0.22	

normality	suspect
n	65
outliers	8
mean (n)	289.23
st.dev. (n)	17.561
R(calc.)	49.17
R(E1064:16)	49.46
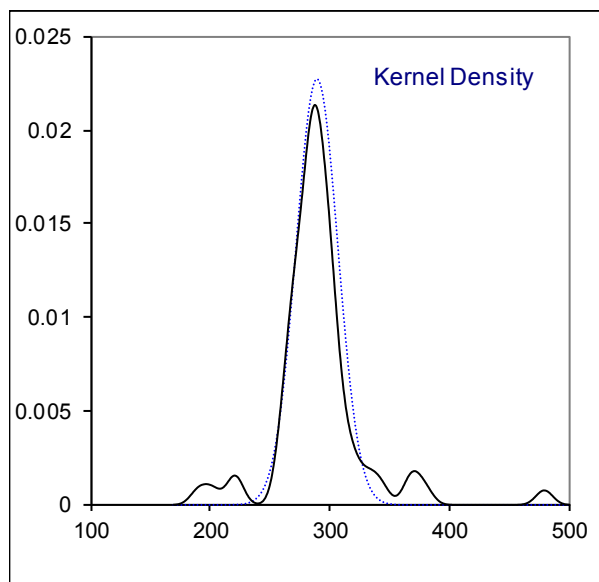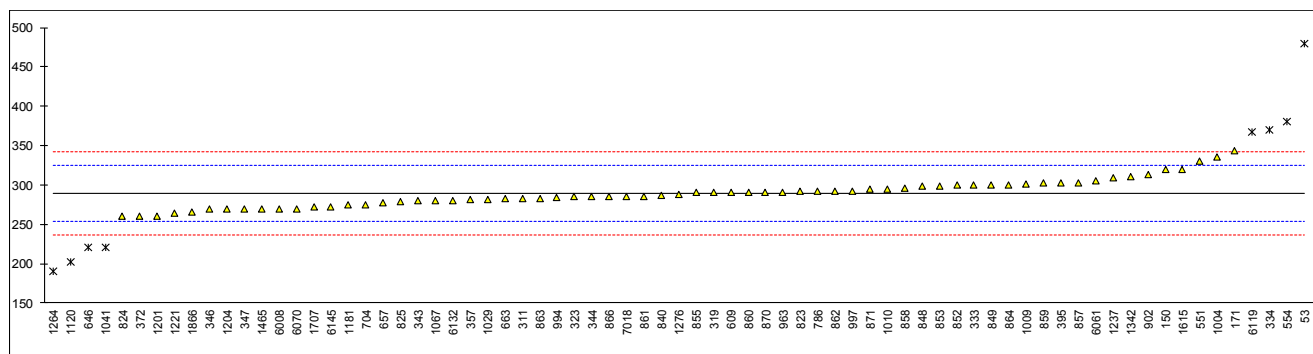
Determination of Water, Titrimetric on sample #17150; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	E203	350		0.49	
171	E203	344	C	0.43	First reported 0.0344
174		-----		-----	
311	E203	280		-0.23	
316		-----		-----	
319		-----		-----	
323	E203	296		-0.07	
333		-----		-----	
334	E203	430	R(0.01)	1.32	
343		-----		-----	
344		-----		-----	
346		-----		-----	
347	E203	260		-0.44	
357		-----		-----	
372	E203	270		-0.34	
395		-----		-----	
528		-----		-----	
529		-----		-----	
551	E203	310		0.08	
554	E203	400	R(0.01)	1.01	
557		-----		-----	
608	E203	280		-0.23	
609		-----		-----	
646		-----		-----	
657	E203	325		0.24	
663	E203	358		0.58	
704	E203	303		0.01	
786	D1364	337		0.36	
823	E203	298		-0.04	
824	E203	300		-0.02	
825	E203	279		-0.24	
840		-----		-----	
848	E203	304		0.02	
849	E203	290		-0.13	
852	E203	305		0.03	
853	E203	306		0.04	
855	E203	300		-0.02	
857	E203	309		0.07	
858	E203	307		0.05	
859	E203	308		0.06	
860	E203	301		-0.01	
861		-----		-----	
862	E203	298		-0.04	
863		-----		-----	
864	E203	310		0.08	
866	E203	295		-0.08	
870	E203	300		-0.02	
871	E203	304		0.02	
902	E203	301		-0.01	
912		-----		-----	
913		-----		-----	
962		-----		-----	
963	E203	320		0.18	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	E203	288		-0.15	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041		-----		-----	
1067		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1201		-----		-----	
1204		-----		-----	
1221		-----		-----	
1237		-----		-----	
1246		-----		-----	
1256	E203	270		-0.34	
1264		-----		-----	

lab	method	value	mark	z(targ)	remarks
1276		-----		-----	
1342		-----		-----	
1465		-----		-----	
1615		-----		-----	
1656	E203	399	C,R(0.01)	1.00	First reported 0.0399
1707	E203	277		-0.26	
1866		-----		-----	
1886		-----		-----	
6008		-----		-----	
6061		-----		-----	
6070	E203	330		0.29	
6119		-----		-----	
6132		-----		-----	
6145	E203	270		-0.34	
7018		-----		-----	

normality	OK
n	36
outliers	3
mean (n)	302.31
st.dev. (n)	22.528
R(calc.)	63.08
R(E203:16)	270

Kernel Density
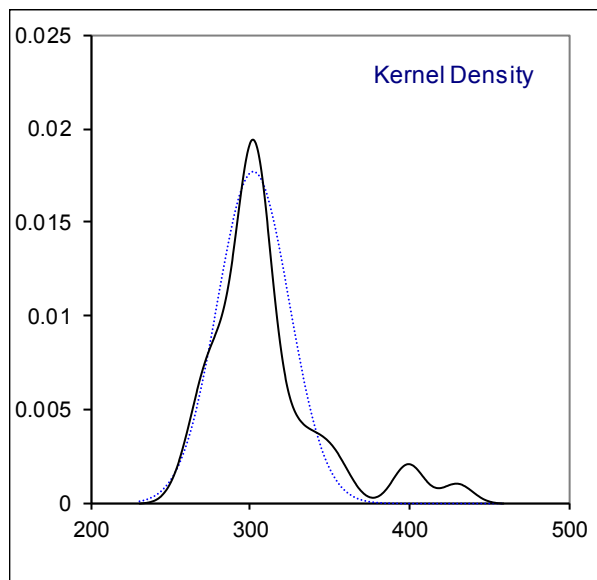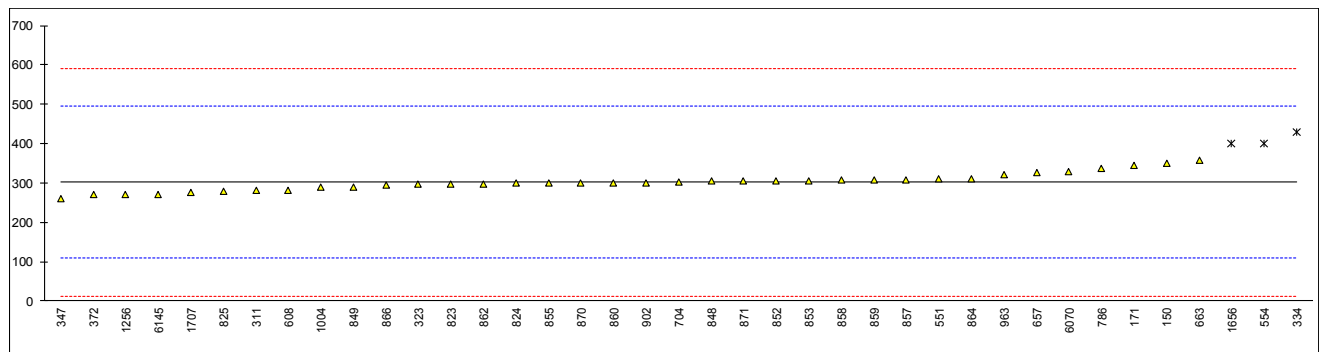
Determination of UV Absorbance (50 mm cuvette) on sample #17151

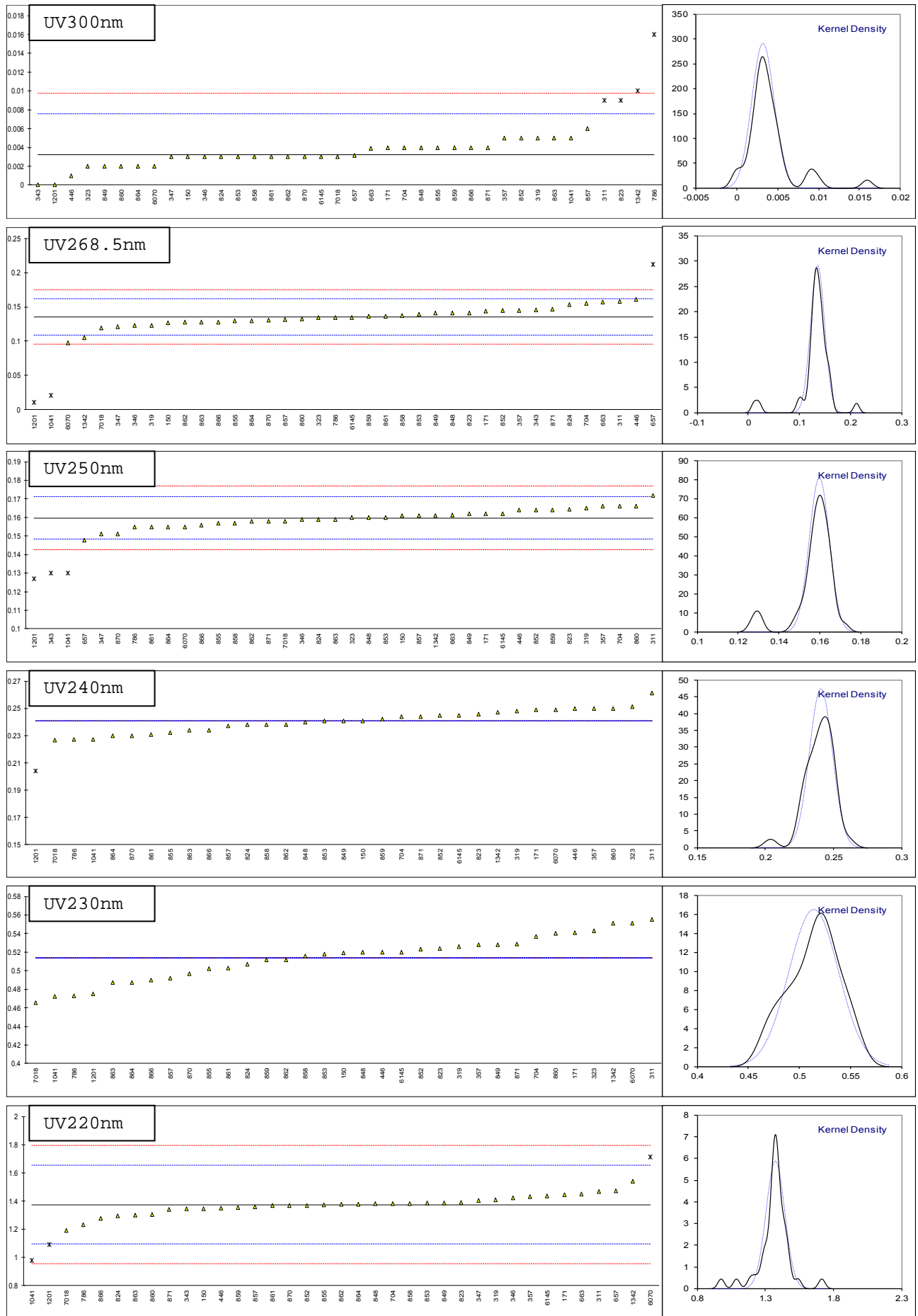| lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
53		-----	-----	-----	-----	-----	-----	-----
150	IMPCA004	0.003	0.127	0.161	0.241	0.519	1.347	Fail
171	IMPCA004	0.004	0.144	0.162	0.249	0.541	1.446	Fail
174		-----	-----	-----	-----	-----	-----	-----
311	IMPCA004	**0.009**	0.158	0.172	0.261	0.555	1.466	fail
319	IMPCA004	0.005	0.123	0.165	0.248	0.526	1.410	Fail
323	IMPCA004	0.002	0.134	0.160	0.251	0.543	>1	FAIL
343	IMPCA004	0.000 C	0.146	**0.130** C	-----	-----	1.345	FAIL
346	IMPCA004	0.003	0.123	0.159	-----	-----	1.422	FAIL
347	IMPCA004	0.003	0.121	0.151	-----	-----	1.406	Fail
357	IMPCA004	0.005	0.145	0.166	0.250	0.528	1.432	Fail
395		-----	-----	-----	-----	-----	-----	-----
446	IMPCA004	0.001	0.161	0.164	0.250	0.520	1.352	FAIL
528		-----	-----	-----	-----	-----	-----	-----
529		-----	-----	-----	-----	-----	-----	-----
657	IMPCA004	0.003137	**0.2116** C	0.1476	-----	-----	1.473	Fail
663	IMPCA004	0.0039	0.1569	0.1612	-----	-----	1.4486	Fail
704	IMPCA004	0.004	0.155	0.166	0.244	0.537	1.382	Fail
786	IMPCA004	**0.016**	0.134	0.155	0.227	0.473	1.232	Fail
823	IMPCA004	**0.0090**	0.1414	0.1643	0.2459	0.5239	1.3924	Fail
824	IMPCA004	0.003	0.153	0.159	0.238	0.507	1.297	fail
825		-----	-----	-----	-----	-----	-----	-----
848	IMPCA004	0.004	0.141	0.160	0.240	0.520	1.380	Fail
849	IMPCA004	0.002	0.141	0.162	0.241	0.528	1.388	Fail
852	IMPCA004	0.005	0.145	0.164	0.245	0.523	1.370	Fail
853	IMPCA004	0.003	0.139	0.160	0.241	0.518	1.386	Fail
855	IMPCA004	0.004	0.130	0.157	0.232	0.502	1.375	Fail
857	IMPCA004	0.006	0.132	0.161	0.237	0.492	1.360	Fail
858	IMPCA004	0.003	0.137	0.157	0.238	0.516	1.384	Fail
859	IMPCA004	0.004	0.136	0.164	0.242	0.512	1.356	Fail
860	IMPCA004	0.002	0.133	0.166	0.250	0.540	1.303	Fail
861	IMPCA004	0.003	0.136	0.155	0.231	0.503	1.368	Fail
862	IMPCA004	0.003	0.128	0.158	0.238	0.512	1.378	Fail
863	IMPCA004	0.005	0.128	0.159	0.234	0.487	1.299	Fail
864	IMPCA004	0.002	0.130	0.155	0.230	0.487	1.378	Fail
866	IMPCA004	0.004	0.128	0.156	0.234	0.490	1.278	Fail
870	IMPCA004	0.003	0.131	0.151	0.230	0.497	1.369	fail
871	IMPCA004	0.004	0.147	0.158	0.244	0.529	1.339	fail
902		-----	-----	-----	-----	-----	-----	-----
913		-----	-----	-----	-----	-----	-----	-----
962		-----	-----	-----	-----	-----	-----	-----
963		-----	-----	-----	-----	-----	-----	-----
994		-----	-----	-----	-----	-----	-----	-----
1004		-----	-----	-----	-----	-----	-----	-----
1041	IMPCA004	0.005	**0.021**	**0.130**	0.227	0.472	**0.979**	Fail
1067		-----	-----	-----	-----	-----	-----	-----
1149		-----	-----	-----	-----	-----	-----	-----
1201	IMPCA004	0.000	**0.011**	**0.127**	0.204	0.475	**1.091**	Fail
1264		-----	-----	-----	-----	-----	-----	-----
1342	IMPCA004	**0.01**	0.105	0.161 C	0.247 C	0.551 C	1.540	PASS
1866		-----	-----	-----	-----	-----	-----	-----
1886		-----	-----	-----	-----	-----	-----	-----
6070	IMPCA004	0.002	0.098 C	0.155 C	0.249 C	0.551 C	**1.713** C	Fail
6132		-----	-----	-----	-----	-----	-----	-----
6145	IMPCA004	0.003	0.134	0.162	0.245	0.520	1.438	Fail
7018	IMPCA004	0.003	0.119	0.158	0.2267	0.4657	1.1913	Fail
	normality	OK	OK	OK	OK	OK	suspect	
	n	34	35	35	32	33	34	
	outliers	4	3	3	1	0	3	
	mean (n)	0.00324	0.13544	0.15977	0.24083	0.51405	1.37445	
	st.dev. (n)	0.001370	0.013704	0.004920	0.008408	0.024183	0.068044	
	R(calc.)	0.00384	0.03837	0.01378	0.02354	0.06771	0.19052	
	R(IMPCA004:15)	0.00485	0.03670	0.01614	unknown	unknown	0.39447	

Bold and underlined **test results** are statistical outliers

Lab 343: first reported 0.017, 0.183
Lab 657: first reported 0.1805
Lab 1342: first reported 0.2, 0.31, 0.625
Lab 6070: first reported 0.013, 0.018, 0.026, 0.055, 0.177

Determination of UV Absorbance (10 mm cuvette) on sample #17151

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
53		-----	-----	-----	-----	-----	-----	-----
150		-----	-----	-----	-----	-----	-----	-----
171		-----	-----	-----	-----	-----	-----	-----
174		-----	-----	-----	-----	-----	-----	-----
311		-----	-----	-----	-----	-----	-----	-----
319		-----	-----	-----	-----	-----	-----	-----
323		-----	-----	-----	-----	-----	-----	-----
343		-----	-----	-----	-----	-----	-----	-----
346		-----	-----	-----	-----	-----	-----	-----
347		-----	-----	-----	-----	-----	-----	-----
357		-----	-----	-----	-----	-----	-----	-----
395	IMPCA004	0.004	-----	0.028	0.043	0.097	-----	FAIL
446		-----	-----	-----	-----	-----	-----	-----
528		-----	-----	-----	-----	-----	-----	-----
529		-----	-----	-----	-----	-----	-----	-----
657		-----	-----	-----	-----	-----	-----	-----
663		-----	-----	-----	-----	-----	-----	-----
704		-----	-----	-----	-----	-----	-----	-----
786		-----	-----	-----	-----	-----	-----	-----
823		-----	-----	-----	-----	-----	-----	-----
824		-----	-----	-----	-----	-----	-----	-----
825		-----	-----	-----	-----	-----	-----	-----
848		-----	-----	-----	-----	-----	-----	-----
849		-----	-----	-----	-----	-----	-----	-----
852		-----	-----	-----	-----	-----	-----	-----
853		-----	-----	-----	-----	-----	-----	-----
855		-----	-----	-----	-----	-----	-----	-----
857		-----	-----	-----	-----	-----	-----	-----
858		-----	-----	-----	-----	-----	-----	-----
859		-----	-----	-----	-----	-----	-----	-----
860		-----	-----	-----	-----	-----	-----	-----
861		-----	-----	-----	-----	-----	-----	-----
862		-----	-----	-----	-----	-----	-----	-----
863		-----	-----	-----	-----	-----	-----	-----
864		-----	-----	-----	-----	-----	-----	-----
866		-----	-----	-----	-----	-----	-----	-----
870		-----	-----	-----	-----	-----	-----	-----
871		-----	-----	-----	-----	-----	-----	-----
902		-----	-----	-----	-----	-----	-----	FAIL
913		-----	-----	-----	-----	-----	-----	-----
962		-----	-----	-----	-----	-----	-----	-----
963	IMPCA004	0.002	0.020	0.035	0.052	0.116	0.291	Fail
994		-----	-----	-----	-----	-----	-----	-----
1004	IMPCA004	0.0071	0.0408	**0.0508**	**0.0701**	0.1337	0.3410	Fail
1041		-----	-----	-----	-----	-----	-----	-----
1067	IMPCA004	0.0007	0.0291	0.0334	0.0517	0.1133	0.3208	Fail
1149		-----	-----	-----	-----	-----	-----	-----
1201		-----	-----	-----	-----	-----	-----	-----
1264	IMPCA004	0.002	0.024	0.032	0.047	0.091	0.235	Fail
1342		-----	-----	-----	-----	-----	-----	-----
1866		0.002	0.028	0.033	0.048	0.1	0.284	-----
1886		-----	-----	-----	-----	-----	-----	-----
6070		-----	-----	-----	-----	-----	-----	-----
6132		-----	-----	-----	-----	-----	-----	-----
6145		-----	-----	-----	-----	-----	-----	-----
7018		-----	-----	-----	-----	-----	-----	-----
	normality	unknown	unknown	unknown	unknown	unknown	unknown	
	n	6	5	5	5	6	5	
	outliers	0	0	1	1	0	0	
	mean (n)	0.00297	0.02838	0.03228	0.04834	0.10850	0.29436	
	st.dev. (n)	0.002284	0.007816	0.002625	0.003712	0.015653	0.040363	
	R(calc.)	0.00640	0.02188	0.00735	0.01039	0.04383	0.11302	
	R(IMPCA004:15)	0.00445	0.00769	0.00326	unknown	unknown	0.08448	
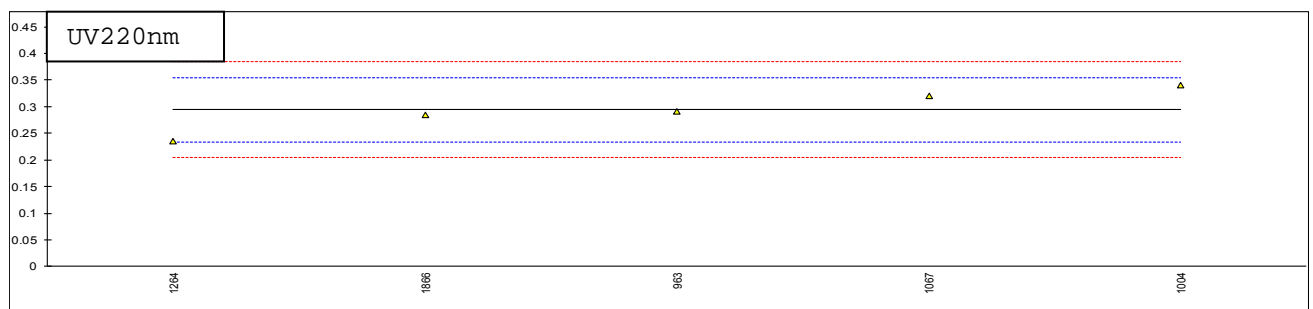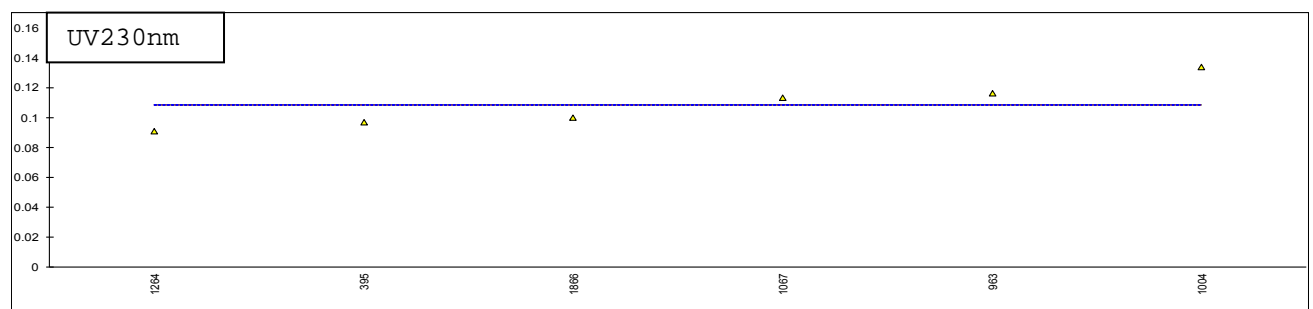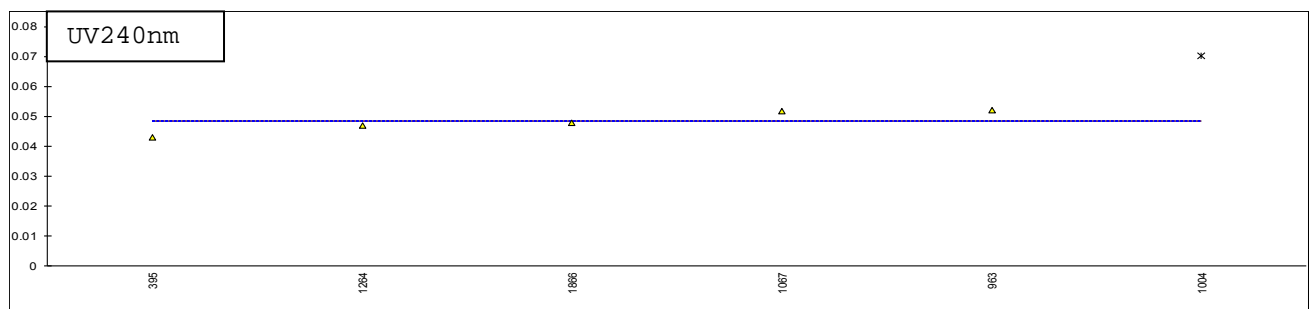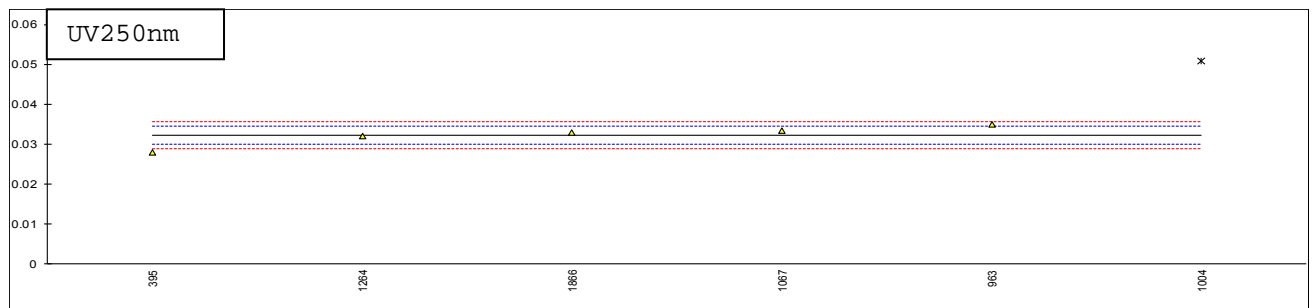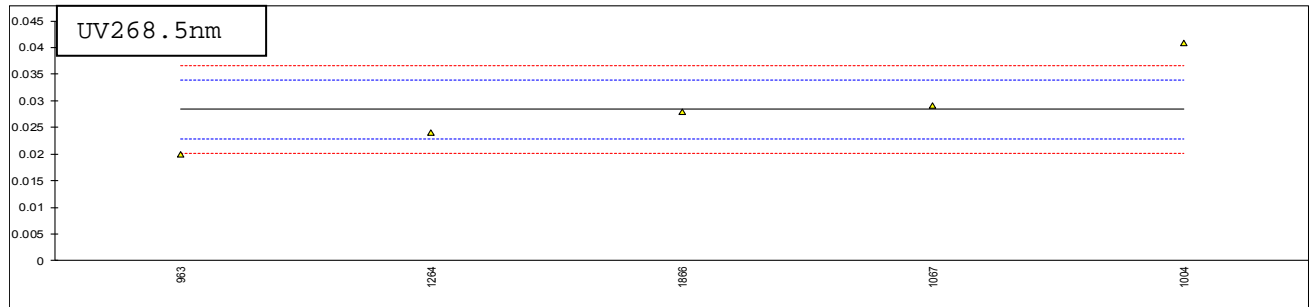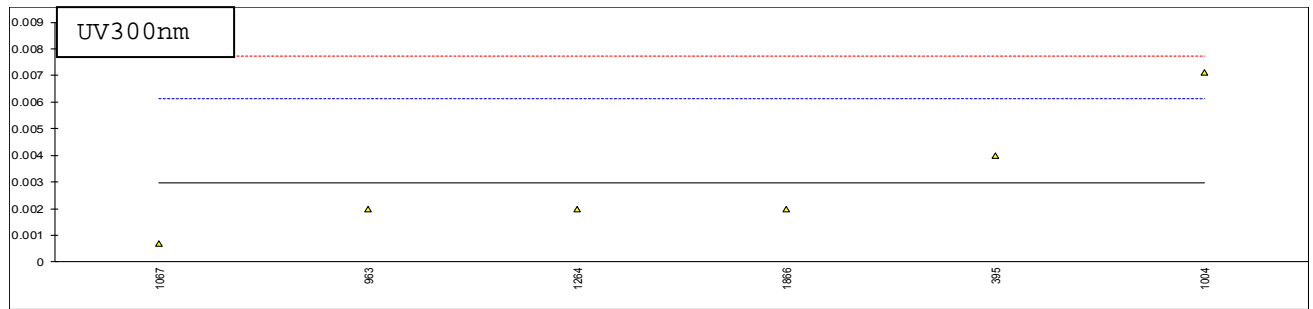
APPENDIX 2

z-scores 50 mm cuvette users

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm
53		-----	-----	-----	-----	-----	-----
150	IMPCA004	-0.14	-0.64	0.21	-----	-----	-0.19
171	IMPCA004	0.44	0.65	0.39	-----	-----	0.51
174		-----	-----	-----	-----	-----	-----
311	IMPCA004	3.32	1.72	2.12	-----	-----	0.65
319	IMPCA004	1.02	-0.95	0.91	-----	-----	0.25
323	IMPCA004	-0.71	-0.11	0.04	-----	-----	-----
343	IMPCA004	-1.87	0.81	-5.17	-----	-----	-0.21
346	IMPCA004	-0.14	-0.95	-0.13	-----	-----	0.34
347	IMPCA004	-0.14	-1.10	-1.52	-----	-----	0.22
357	IMPCA004	1.02	0.73	1.08	-----	-----	0.41
395		-----	-----	-----	-----	-----	-----
446	IMPCA004	-1.29	1.95	0.73	-----	-----	-0.16
528		-----	-----	-----	-----	-----	-----
529		-----	-----	-----	-----	-----	-----
657	IMPCA004	-0.06	5.81	-2.11	-----	-----	0.70
663	IMPCA004	0.38	1.64	0.25	-----	-----	0.53
704	IMPCA004	0.44	1.49	1.08	-----	-----	0.05
786	IMPCA004	7.36	-0.11	-0.83	-----	-----	-1.01
823	IMPCA004	3.32	0.45	0.79	-----	-----	0.13
824	IMPCA004	-0.14	1.34	-0.13	-----	-----	-0.55
825		-----	-----	-----	-----	-----	-----
848	IMPCA004	0.44	0.42	0.04	-----	-----	0.04
849	IMPCA004	-0.71	0.42	0.39	-----	-----	0.10
852	IMPCA004	1.02	0.73	0.73	-----	-----	-0.03
853	IMPCA004	-0.14	0.27	0.04	-----	-----	0.08
855	IMPCA004	0.44	-0.41	-0.48	-----	-----	0.00
857	IMPCA004	1.59	-0.26	0.21	-----	-----	-0.10
858	IMPCA004	-0.14	0.12	-0.48	-----	-----	0.07
859	IMPCA004	0.44	0.04	0.73	-----	-----	-0.13
860	IMPCA004	-0.71	-0.19	1.08	-----	-----	-0.51
861	IMPCA004	-0.14	0.04	-0.83	-----	-----	-0.05
862	IMPCA004	-0.14	-0.57	-0.31	-----	-----	0.03
863	IMPCA004	1.02	-0.57	-0.13	-----	-----	-0.54
864	IMPCA004	-0.71	-0.41	-0.83	-----	-----	0.03
866	IMPCA004	0.44	-0.57	-0.65	-----	-----	-0.68
870	IMPCA004	-0.14	-0.34	-1.52	-----	-----	-0.04
871	IMPCA004	0.44	0.88	-0.31	-----	-----	-0.25
902		-----	-----	-----	-----	-----	-----
913		-----	-----	-----	-----	-----	-----
962		-----	-----	-----	-----	-----	-----
963		-----	-----	-----	-----	-----	-----
994		-----	-----	-----	-----	-----	-----
1004		-----	-----	-----	-----	-----	-----
1041	IMPCA004	1.02	-8.73	-5.17	-----	-----	-2.81
1067		-----	-----	-----	-----	-----	-----
1149		-----	-----	-----	-----	-----	-----
1201	IMPCA004	-1.87	-9.49	-5.69	-----	-----	-2.01
1264		-----	-----	-----	-----	-----	-----
1342	IMPCA004	3.90	-2.32	0.21	-----	-----	1.18
1866		-----	-----	-----	-----	-----	-----
1886		-----	-----	-----	-----	-----	-----
6070	IMPCA004	-0.71	-2.86	-0.83	-----	-----	2.40
6132		-----	-----	-----	-----	-----	-----
6145	IMPCA004	-0.14	-0.11	0.39	-----	-----	0.45
7018	IMPCA004	-0.14	-1.25	-0.31	-----	-----	-1.30

z-scores 10 mm cuvette users

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm
53		-----	-----	-----	-----	-----	-----
150		-----	-----	-----	-----	-----	-----
171		-----	-----	-----	-----	-----	-----
174		-----	-----	-----	-----	-----	-----
311		-----	-----	-----	-----	-----	-----
319		-----	-----	-----	-----	-----	-----
323		-----	-----	-----	-----	-----	-----
343		-----	-----	-----	-----	-----	-----
346		-----	-----	-----	-----	-----	-----
347		-----	-----	-----	-----	-----	-----
357		-----	-----	-----	-----	-----	-----
395	IMPCA004	0.65	-----	-3.68	-----	-----	-----
446		-----	-----	-----	-----	-----	-----
528		-----	-----	-----	-----	-----	-----
529		-----	-----	-----	-----	-----	-----
657		-----	-----	-----	-----	-----	-----
663		-----	-----	-----	-----	-----	-----
704		-----	-----	-----	-----	-----	-----
786		-----	-----	-----	-----	-----	-----
823		-----	-----	-----	-----	-----	-----
824		-----	-----	-----	-----	-----	-----
825		-----	-----	-----	-----	-----	-----
848		-----	-----	-----	-----	-----	-----
849		-----	-----	-----	-----	-----	-----
852		-----	-----	-----	-----	-----	-----
853		-----	-----	-----	-----	-----	-----
855		-----	-----	-----	-----	-----	-----
857		-----	-----	-----	-----	-----	-----
858		-----	-----	-----	-----	-----	-----
859		-----	-----	-----	-----	-----	-----
860		-----	-----	-----	-----	-----	-----
861		-----	-----	-----	-----	-----	-----
862		-----	-----	-----	-----	-----	-----
863		-----	-----	-----	-----	-----	-----
864		-----	-----	-----	-----	-----	-----
866		-----	-----	-----	-----	-----	-----
870		-----	-----	-----	-----	-----	-----
871		-----	-----	-----	-----	-----	-----
902		-----	-----	-----	-----	-----	-----
913		-----	-----	-----	-----	-----	-----
962		-----	-----	-----	-----	-----	-----
963	IMPCA004	-0.61	-3.05	2.34	-----	-----	-0.11
994		-----	-----	-----	-----	-----	-----
1004	IMPCA004	2.60	4.52	15.91	-----	-----	1.55
1041		-----	-----	-----	-----	-----	-----
1067	IMPCA004	-1.43	0.26	0.96	-----	-----	0.88
1149		-----	-----	-----	-----	-----	-----
1201		-----	-----	-----	-----	-----	-----
1264	IMPCA004	-0.61	-1.59	-0.24	-----	-----	-1.97
1342		-----	-----	-----	-----	-----	-----
1866	IMPCA004	-0.61	-0.14	0.62	-----	-----	-0.34
1886		-----	-----	-----	-----	-----	-----
6070		-----	-----	-----	-----	-----	-----
6132		-----	-----	-----	-----	-----	-----
6145		-----	-----	-----	-----	-----	-----
7018		-----	-----	-----	-----	-----	-----

APPENDIX 3

Number of participants per country

Main round

　1 lab in AZERBAIJAN
　1 lab in BAHRAIN
　1 lab in BELGIUM
　3 labs in BRAZIL
　3 labs in CANADA
16 labs in CHINA, People's Republic
　1 lab in EGYPT
　1 lab in ESTONIA
　1 lab in FINLAND
　2 labs in FRANCE
　1 lab in GEORGIA
　2 labs in GERMANY
　2 labs in INDIA
　1 lab in IRAN, Islamic Republic of
　1 lab in ITALY
　1 lab in JAPAN
　4 labs in MALAYSIA
　2 labs in MEXICO
　5 labs in NETHERLANDS
　2 labs in NEW ZEALAND
　1 lab in NORWAY
　1 lab in OMAN
　1 lab in RUSSIAN FEDERATION
　5 labs in SAUDI ARABIA
　2 labs in SINGAPORE
　1 lab in SLOVENIA
　3 labs in SOUTH KOREA
　4 labs in SPAIN
　1 lab in THAILAND
　1 lab in TRINIDAD and TOBAGO W.I.
　3 labs in TURKEY
　1 lab in UKRAINE
　2 labs in UNITED ARAB EMIRATES
　1 lab in UNITED KINGDOM
　8 labs in UNITED STATES OF AMERICA
　2 labs in VENEZUELA
　1 lab in VIETNAM

UV only

　1 lab in AZERBAIJAN
　1 lab in BELGIUM
　1 lab in CANADA
16 labs in CHINA, People's Republic
　1 lab in EGYPT
　1 lab in FINLAND
　1 lab in GERMANY
　1 lab in INDIA
　1 lab in IRAN, Islamic Republic of
　1 lab in ITALY
　1 lab in JAPAN
　1 lab in MEXICO
　4 labs in NETHERLANDS
　1 lab in RUSSIAN FEDERATION
　3 labs in SAUDI ARABIA
　1 lab in SINGAPORE
　3 labs in SOUTH KOREA
　3 labs in SPAIN
　1 lab in THAILAND
　1 lab in TRINIDAD and TOBAGO W.I.
　1 lab in TURKEY
　1 lab in UKRAINE
　1 lab in UNITED ARAB EMIRATES
　1 lab in UNITED KINGDOM
　6 labs in UNITED STATES OF AMERICA
　1 lab in VENEZUELA

APPENDIX 4

Abbreviations:

C	= final test result after checking of first reported suspect test result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)/G(1)	= outlier in Grubbs' outlier test
G(0.05)/G(5)	= straggler in Grubbs' outlier test
DG(0.01)/DG(1)	= outlier in Double Grubbs' outlier test
DG(0.05)/DG(1)	= straggler in Double Grubbs' outlier test
R(0.01)	= outlier in Rosner's outlier test
R(0.05)	= straggler in Rosner's outlier test
E	= probably an error in calculations
U	= test result probably reported in a different unit
W	= test result withdrawn on request of participant
ex	= test result excluded from statistical evaluation
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected
fr.	= first reported
SDS	= Safety Data Sheet

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