

**Results of Proficiency Test
Methanol
September 2016**

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1996, a proficiency test for Methanol was organised every year by The Institute for Interlaboratory Studies. During the annual proficiency testing program 2016/2017, it was decided to continue the round robin for the analyses 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, 93 laboratories in 37 different countries did register for participation of the main round and 59 laboratories in 26 countries did register for participation of the UV round. See appendix 3 for the number of participants per country.

In this report, the results of the 2016 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 (PT). 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, Benzene, Chloride as NaCl, Iron as FeCl₃ and Tri Methyl Amine (TMA) and the batch for the UV-round with Benzene. In this proficiency test depending on the registration the participants received; for the main round; 1x1L Methanol (labelled #16160) and/or 1x100 mL Methanol (labelled #16161) for UV Determination only. The 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 Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3). 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 was provided by a Methanol producer. The components listed in table 1 were added to approx 98 kg of this Methanol batch.

<i>Component</i>	<i>Amount</i>
Acetone	1.8 g
Ethanol	3.1 g
Benzene	61 mg
Sodium Chloride	50 mg
Iron(III) Chloride.6H ₂ O	33 mg
Tri Methyl Amine (TMA)	2.7 mg *)

Table 1: components added to bulk material for sample #16160

*) via a dilution step

After homogenisation in a pre-cleaned metal drum 124 brown glass bottles of 1L were filled and labelled #16160.

The homogeneity of the subsamples #16160 was checked by determination of Density at 20°C in accordance with ASTM D4052, Chloride in accordance with IMPCA 002 and Ethanol in accordance with IMPCA 001 on 8 stratified randomly selected samples.

	<i>Density at 20°C in kg/L</i>	<i>Chloride in mg/kg</i>	<i>Ethanol in mg/kg</i>
sample #16160-1	0.79124	0.69	53
sample #16160-2	0.79124	0.70	53
sample #16160-3	0.79124	0.70	53
sample #16160-4	0.79126	0.70	53
sample #16160-5	0.79125	0.70	53
sample #16160-6	0.79124	0.69	53
sample #16160-7	0.79124	0.72	52
sample #16160-8	0.79125	0.70	53

Table 2: homogeneity test results of sub samples #16160

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:

	<i>Density at 20°C in kg/L</i>	<i>Chloride in mg/kg</i>	<i>Ethanol in mg/kg</i>
r (observed)	0.00002	0.03	1
reference test method	ISO12185:96	IMPCA002:98	Horwitz
0.3 x R (ref. test method)	0.00015	0.09	4

Table 3: evaluation of repeatabilities of the subsamples #16160

The calculated repeatabilities of the Density, Chloride and Ethanol Determinations on sample #16160 were much less than 0.3 times the corresponding reproducibility of the reference test methods. Therefore, homogeneity of the subsamples #16160 was assumed.

For the preparation of the sub samples for the UV Determination 80 mg Benzene was added to another 8 kg of the original Methanol batch. After homogenisation in a pre-cleaned can, 88 brown glass bottles of 100mL were filled and labelled #16161.

The homogeneity of the subsamples #16161 was checked by determination of UV absorbencies at 220 nm and at 250 nm (using a 50 mm cell) according to IMPCA004 on 6 stratified randomly selected samples.

	<i>UV absorbance at 220 nm</i>	<i>UV absorbance at 250 nm</i>
sample #16161-1	1.115	0.1246
sample #16161-2	1.114	0.1227
sample #16161-3	1.100	0.1229
sample #16161-4	1.102	0.1224
sample #16161-5	1.131	0.1210
sample #16161-6	1.100	0.1212

Table 4: homogeneity tests of subsamples #16161

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:

	<i>UV absorbance at 220 nm</i>	<i>UV absorbance at 250 nm</i>
r (observed)	0.0342	0.0037
reference test method	IMPCA004:15	IMPCA004:15
0.3 x R (ref. test method)	0.0956	0.0037

Table 5: repeatabilities of the subsamples #16161

The calculated repeatabilities at 220 nm and 250 nm of sample #16161 were equal or less than 0.3 times the corresponding reproducibilities of the reference test method. Therefore, the homogeneity of the subsamples #16161 was assumed.

To the participants, depending on the registration, 1 sample of 1L labelled #16160 and/or 1 sample of 100 mL, labelled #16161 was sent on August 17, 2016.

2.5 STABILITY OF THE SAMPLES

The stability of Methanol, packed in the 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: 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% and DP), 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 #16160. On sample #16161 it was requested to determine the UV absorbance at 300, 268.5, 250, 240, 230 and 220 nm.

To get comparable test results a detailed report form, on which the units were prescribed as well as the required reference test method and a letter of instructions were prepared and made available on the data entry portal www.kpmd.co.uk/sgs-iis/. The laboratories were also requested to confirm the sample receipt on the same data entry portal. A SDS was added to the samples.

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 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 organization 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 April 2014 (iis-protocol, version 3.3).

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. Not all data sets proved to have a normal distribution, in which cases the statistical evaluation of the test results should be used with due care.

According to ISO 5725 the original test results per determination were submitted to Dixon's, 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 them with a factor of 2.8.

3.2 GRAPHICS

In order to visualise 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 test 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 test 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. This 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. ASTM reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of

the variation of this interlaboratory study. The target standard deviation was calculated from the literature reproducibility by division with 2.8.

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:

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

The $Z_{(\text{target})}$ scores are listed in the test result tables in appendix 1.

Absolute values for $z < 2$ are very common and absolute values for $z > 3$ are very rare.

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 countries in South America. In the main round 11 participants and 12 participants in the UV round did not report any test result at all. Not all laboratories were able to report all analyses requested. In total 82 participants reported 1540 test results. Observed were 56 outlying test results, which is 3.6% of the numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

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.

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.

- Acidity: This determination was not problematic. No statistical outliers were observed. The calculated the reproducibility is in good 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 #16160, which was bright, clear and free of suspended matter (Pass).
- Carbonisable Substances: This determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ASTM E346:08e1.
- Inorganic Chloride: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of IMPCA002:98. The average recovery of Inorganic Chloride (theoretical increment of 0.7 mg Cl/kg) may be good: "less than 97%" (the actual blank chloride content is unknown).
- Colour as Pt/Co: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in good agreement with the requirements of ASTM D1209:05(2011).
- Density at 20°C: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in good agreement with the requirements of ISO12185:96.
- Spec. Gravity 20/20°C: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in good agreement with the requirements of ISO12185:96.
- Distillation: No analytical problems were observed with this determination. In total six statistical outliers were observed and one test result was excluded. However, the calculated reproducibilities after rejection of the suspect data were in good agreement with the respective requirements of ASTM D1078-A:11.
Remarkably eleven participants probably did not correct for barometric pressure. Although the theoretical mid boiling point of Methanol is 64.5°C (see table 3 of ASTM D1078), test results of 64.1 (twice), 64.3 (seven times), 64.7 (once) and 65.0°C (once) were reported by some participants.
- Total Iron: This determination was very problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the requirements of ASTM E394:15.

Water Miscibility: No analytical problems were observed. Most of the participants (74) agreed about the Water Miscibility of sample #16160 and reported "Pass". Two participants reported "Fail" and one reported "Miscible". One participant reported a turbidity test result without a final judgement.

Nonvolatile Matter: This determination was very problematic. Two statistical outliers were observed and two 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 not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D1363:06(2011).

Purity: For the determination of purity "as received" and "on dry basis" in total four statistical outliers were observed and the test results of three other participants were excluded. Two participants reported a higher test result "as received" than for "on dry basis", presumably the test results were switched. And one participant might have made a type error in test result "on dry basis" as the reported test value has only one digit. When the calculated reproducibilities after rejection of the suspect data are compared with the calculated reproducibilities of the proficiency tests of 2015 iis15C08 and 2014 iis14C05, the current reproducibilities may be in agreement with the calculated reproducibilities of 2014/2015 PTs. The calculated reproducibility in 2014 of "on dry basis" was somewhat better.

Acetone: This determination may be problematic. Five 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 30.4 mg Acetone/kg) may be good: "less than 87%" (the actual blank Acetone content is unknown).

Benzene: This determination may be problematic. Three 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 Benzene (theoretical increment of 9.2 mg Benzene/kg) may be good: "less than 102%" (the actual blank Benzene content is unknown).

Ethanol: This determination may be problematic. Only one statistical outlier was observed. However, the calculated reproducibility after rejection of the statistical outlier is not in agreement with the strict reproducibility estimated using the Horwitz equation. The average recovery of Ethanol (theoretical increment of 52.5 mg Ethanol/kg) may be good: "less than 93%" (the actual blank Ethanol content is unknown).

- Toluene: Fifty participants agreed on a test result of less than 5 mg/kg. One possibly false positive test result was reported. No statistical conclusions were drawn, because the Toluene content was near or below the detection limit.
- Sulphur: Sixty-one 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 of ASTM D5453:16e1.
- TMA: This determination may be very problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers 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 larger variation. The average recovery of the TMA (theoretical increment of 42.5 µg TMA/kg) may be unsatisfactory, less than 44% (the actual blank TMA content is unknown).
- Water (coul.): This determination was problematic. Six statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in 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.
- UV-Absorbance: The test results of the participants that used a 50mm and a 10mm cuvette were evaluated separately. The determination (both cuvette sizes) was problematic for a number of participants. In total fifteen statistical outliers were observed and the test results of two participants were excluded as most of the six reported test results were statistical outliers. For the 50mm cuvette, the calculated reproducibilities of two measured UV absorbencies with a known reproducibility were in agreement with the requirements of IMPCA004:15. Using a 10mm cuvette, this determination is very problematic as none of the calculated reproducibilities was in agreement with the requirements of IMPCA004:15. Regretfully, for “UV at 240nm and 230nm” no precision data are available. In total 43 of the participants would have rejected the sample for being off-spec and selected “fail” and only 4 of the participants 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.

<i>Parameter</i>	<i>unit</i>	<i>n</i>	<i>average</i>	<i>2.8 * sd</i>	<i>R (lit)</i>
Acidity as acetic acid	mg/kg	78	11.2	6.9	14.0
Appearance		79	Pass	n.a.	n.a.
Carbonisable substances	Pt/Co	50	6.2	6.4	6.1
Chloride, Inorganic as Cl	mg/kg	59	0.68	0.22	0.30
Colour Pt/Co	Pt/Co	58	2.2	2.8	7.0
Density at 20°C	kg/L	73	0.7913	0.0003	0.0005
Specific Gravity 20/20°C		75	0.7927	0.0003	0.0005
Initial Boiling Point	°C	72	64.4	0.4	1.0
50% recovered	°C	68	64.5	0.2	0.4
Dry Point	°C	70	64.8	0.4	0.7
Iron as Fe	mg/kg	57	0.033	0.037	0.018
Miscibility with water		74	Pass	n.a.	n.a.
Nonvolatile matter	mg/100mL	53	0.28	0.30	0.12
Permanganate Time Test at 15°C	minutes	61	100	22	25
Purity "as received"	%M/M	44	99.965	0.015	unknown
Purity "on dry basis"	%M/M	65	99.988	0.012	unknown
Acetone	mg/kg	66	26.3	11.9	7.2
Benzene	mg/kg	52	9.3	3.5	3.0
Ethanol	mg/kg	70	48.9	22.7	12.2
Toluene	mg/kg	50	<5	n.a.	n.a.
Sulphur	mg/kg	61	<1	n.a.	n.a.
Trimethylamine (TMA)	µg/kg	11	18.5	20.5	7.0
Water (Coulometric KF)	mg/kg	68	238	47	41
Water (Titrimetric KF)	mg/kg	40	249	85	270

Table 6: reproducibilities for sample #16160

<i>Parameter</i>	<i>unit</i>	<i>n</i>	<i>average</i>	<i>2.8 * sd</i>	<i>R (lit)</i>
UV absorbance at 300 nm (50 mm cell)		34	0.004	0.005	0.005
UV absorbance at 268.5 nm (50 mm cell)		33	0.020	0.008	0.005
UV absorbance at 250 nm (50 mm cell)		34	0.123	0.018	0.012
UV absorbance at 240 nm (50 mm cell)		28	0.227	0.027	unknown
UV absorbance at 230 nm (50 mm cell)		28	0.503	0.062	unknown
UV absorbance at 220 nm (50 mm cell)		34	1.072	0.128	0.308
UV absorbance at 300 nm (10 mm cell)		9	0.002	0.006	0.004
UV absorbance at 268.5 nm (10 mm cell)		7	0.008	0.014	0.002
UV absorbance at 250 nm (10 mm cell)		9	0.027	0.008	0.003
UV absorbance at 240 nm (10 mm cell)		9	0.050	0.022	unknown
UV absorbance at 230 nm (10 mm cell)		10	0.107	0.039	unknown
UV absorbance at 220 nm (10 mm cell)		8	0.228	0.088	0.066

Table 7: reproducibilities for sample #16161

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 2016 WITH PREVIOUS PTS

	<i>September 2016</i>	<i>September 2015</i>	<i>September 2014</i>	<i>September 2013</i>	<i>September 2012</i>
Number of reporting labs	82	73	78	73	73
Number of results reported	1540	1267	1360	1312	1280
Statistical outliers	56	38	49	49	54
Percentage outliers	3.6%	3.0%	3.6%	3.7%	4.2%

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 2016		September 2015		September 2014		September 2013		September 2012	
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	--		--		+		--		--	
Nonvolatile matter	--		--		-		++		++	
Permanganate Time Test at 15°C	+		n.e.		(+/-)		(-)		-	
Acetone	-		-		-		-		--	
Benzene	-		n.e.		-		-		++	
Ethanol	-		-		+/-		-		--	
Toluene	n.e.		-		n.e.		n.e.		n.e.	
Trimethylamine (TMA)	--		--		--		-		--	
Water (Coulometric KF)	-		+		+		-		--	
Water (Titrimetric KF)	++		++		++		++		++	
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 10 mm and 50 mm cuvette

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

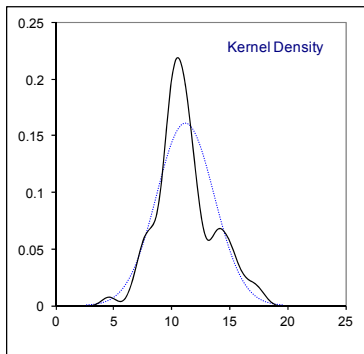
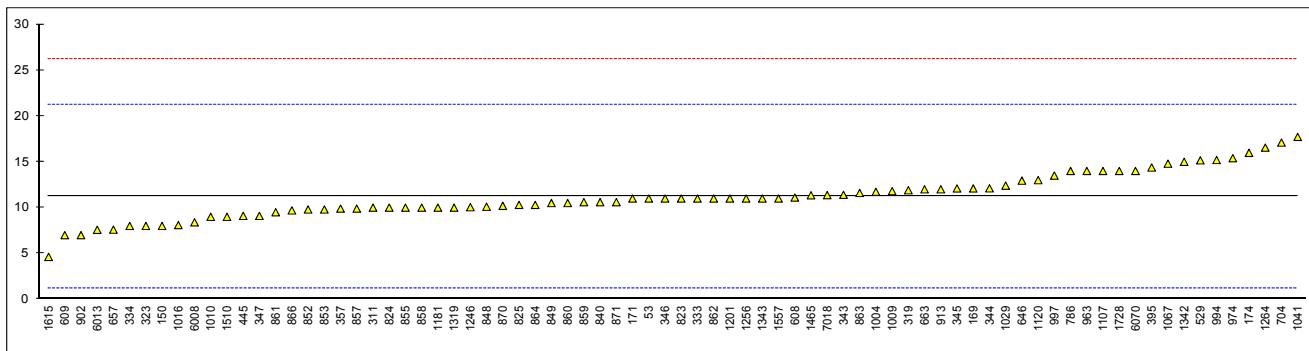
The performance of the determinations against the requirements of the respective reference test methods is listed in the above table. The following performance categories were used:

- ++: 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 #16160; results in mg/kg**

lab	method	value	mark	z(targ)	remarks
53	D1613	11		-0.04	
133		----		----	
150	D1613	8		-0.64	
169	D1613	12.1		0.18	
171	D1613	11		-0.04	
174	D1613	15.98		0.95	
311	D1613	10		-0.24	
316		----		----	
319	D1613	11.9		0.14	
323	D1613	8		-0.64	
333	D1613	11		-0.04	
334	D1613	8		-0.64	
343	D1613	11.4		0.04	
344	D1613	12.11		0.18	
345	D1613	12.1		0.18	
346	D1613	11.0		-0.04	
347	D1613	9.1		-0.42	
357	D1613	9.9		-0.26	
395	D1613	14.38		0.63	
445	D1613	9.1		-0.42	
528		----		----	
529	D1613	15.16		0.79	
551		----		----	
554		----		----	
557		----		----	
608	D1613	11.1		-0.02	
609	D1613	7		-0.84	
646	D1613	12.95		0.35	
657	D1613	7.6		-0.72	
663	D1613	12.0		0.16	
704	D1613	17.1		1.18	
786	D1613	14		0.56	
823	D1613	11		-0.04	
824	D1613	10		-0.24	
825	D1613	10.3		-0.18	
840	D1613	10.6		-0.12	
848	D1613	10.1		-0.22	
849	D1613	10.5		-0.14	
852	D1613	9.8		-0.28	
853	D1613	9.8		-0.28	
855	D1613	10		-0.24	
857	D1613	9.9		-0.26	
858	D1613	10		-0.24	
859	D1613	10.6		-0.12	
860	D1613	10.5		-0.14	
861	D1613	9.5		-0.34	
862	D1613	11.0		-0.04	
863	D1613	11.6		0.08	
864	D1613	10.3		-0.18	
866	D1613	9.7		-0.30	
870	D1613	10.2	C	-0.20	first reported: 0.00102 mg/kg
871	D1613	10.6		-0.12	
902	D1613	7	C	-0.84	first reported: 0.0007 mg/kg
912		----		----	
913	D1613	12		0.16	
963	D1613	14		0.56	
974	D1613	15.4		0.84	
994	D1613	15.2		0.80	
997	D1613	13.5		0.46	
1004	D1613	11.73		0.10	
1009	D1613	11.8		0.12	
1010	D1613	9		-0.44	
1016	D1613	8.1		-0.62	
1029	D1613	12.4		0.24	
1041	D1613	17.72		1.30	
1067	D1613	14.8		0.72	
1107	D1613	14		0.56	
1120	E346	13	C	0.36	first reported: 29.9
1181	D1613	10		-0.24	
1201	D1613	11		-0.04	
1221		----		----	
1246	D1613	10.05		-0.23	
1256	D1613	11		-0.04	
1264	D1613	16.55		1.07	

lab	method	value	mark	z(targ)	remarks
1319	D1613	10		-0.24	
1342	D1613	15		0.76	
1343	D1613	11	C	-0.04	first reported: 0.0011 mg/kg
1438		----		----	
1460		----		----	
1465	D1613	11.35		0.03	
1510	D1613	9	C	-0.44	first reported: 36
1530		----		----	
1557	SRPS.H.B8.258	11	C	-0.04	first reported: 26
1615	D1613	4.628		-1.32	
1656	D1613	<10		----	
1728	D1613	14		0.56	
1866		----		----	
1886		----		----	
6008	D1613	8.4		-0.56	
6013	D1613	7.58	C	-0.73	first reported: 0.000758 mg/kg
6061		----		----	
6070	D1613	14		0.56	
7018	D1613	11.37		0.03	
normality		OK			
n		78			
outliers		0			
mean (n)		11.21			
st.dev. (n)		2.478			
R(calc.)		6.94			
R(D1613:06)		14.00			



Determination of Appearance on sample #16160;

lab	method	value	mark	z(targ)	remarks
53		pass		----	
133		----		----	
150	IMPCA003	Clear&Free		----	
169		BC&FSM		----	
171	E2680	Pass		----	
174	E2680	PASS		----	
311	IMPCA003	clear, free of suspended matter		----	
316		----		----	
319	IMPCA003	Clear and free of suspended matter.		----	
323	E2680	clear & bright		----	
333	IMPCA003	CBFFSM		----	
334	IMPCA003	CFSMS		----	
343	INH-1608	Clear & Bright		----	
344	IMPCA003	Pass		----	
345	IMPCA003	pass		----	
346	IMPCA003	PASS		----	
347	IMPCA003	Pass		----	
357	IMPCA003	CFSM		----	
395	IMPCA003	PASS		----	
445	IMPCA003	CFSM		----	
528		----		----	
529	IMPCA003	CFSM		----	
551		----		----	
554		----		----	
557		----		----	
608		Pass		----	
609	IMPCA003	Clear, FOSM		----	
646	IMPCA003	CFSM		----	
657	IMPCA003	Clear & free from suspended matter		----	
663		clear, no suspended matter		----	
704	IMPCA003	Clear and free from suspended matter.		----	
786	IMPCA003	CFSM		----	
823	IMPCA003	CFSM		----	
824	IMPCA003	CFSM		----	
825	IMPCA003	Clear & Free		----	
840	E2680	Pass		----	
848	IMPCA003	Clear and free of suspended matter		----	
849	IMPCA003	Clear&Bright		----	
852	IMPCA003	Clear and free from suspended matter		----	
853	IMPCA003	Clear and free of suspended matter		----	
855	IMPCA003	Pass		----	
857	IMPCA003	Clear and free of suspended matter		----	
858	IMPCA003	Clear and free		----	
859	IMPCA003	Clear and Free		----	
860	IMPCA003	Clear and free from suspended matter.		----	
861	IMPCA003	Pass		----	
862	IMPCA003	Clear and free from suspended matter		----	
863	IMPCA003	CFSM		----	
864	IMPCA003	Clear and free from suspended matter		----	
866	E2680	Pass		----	
870	IMPCA003	Pass		----	
871	IMPCA003	Clear and bright		----	
902	E2680	PASS		----	
912		----		----	
913	IMPCA003	CFSM		----	
963	IMPCA003	CFSM		----	
974	IMPCA003	Pass		----	
994	IMPCA003	clear and free os suspended matter		----	
997	IMPCA003	PASS		----	
1004	IMPCA003	Clear and free of suspended matter		----	
1009		pass		----	
1010	IMPCA003	Cl&fsm		----	
1016	In house	PASS		----	
1029	IMPCA003	CFSM		----	
1041	IMPCA003	CFSM		----	
1067	IMPCA003	CFSM		----	
1107	E2680	pass		----	
1120	E346	pass		----	
1181	IMPCA003	Clear and free from suspended matter		----	
1201	IMPCA003	Bright &Clear		----	
1221		----		----	
1246	IMPCA003	Clear		----	
1256	IMPCA003	Passe		----	
1264	IMPCA003	CFSM		----	

lab	method	value	mark	z(targ)	remarks
1319	IMPCA003	Clear and free from suspended matter		----	
1342	IMPCA003	CFSM		----	
1343	IMPCA003	Clear and Colorless		----	
1438		----		----	
1460		----		----	
1465	IMPCA003	Clear, Free		----	
1510	IMPCA003	Pass		----	
1530		----		----	
1557	SRPS.H.B8.254	clear and bright		----	
1615	IMPCA003	CFSM		----	
1656	IMPCA003	Pass		----	
1728		CLEAR		----	
1866		----		----	
1886		----		----	
6008	IMPCA003	Clear and free of suspended matter		----	
6013	IMPCA003	Clear and free from suspended matter		----	
6061		----		----	
6070	IMPCA003	C&C		----	
7018	IMPCA003	CFSM		----	
	normality	n.a.			
	n	79			
	outliers	0			
	mean (n)	Pass / CFSM			
	st.dev. (n)	n.a.			
	R(calc.)	n.a.			
	R(target)	n.a.			

Abbreviations:

C&B = clear and bright

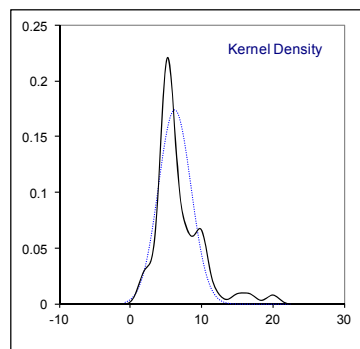
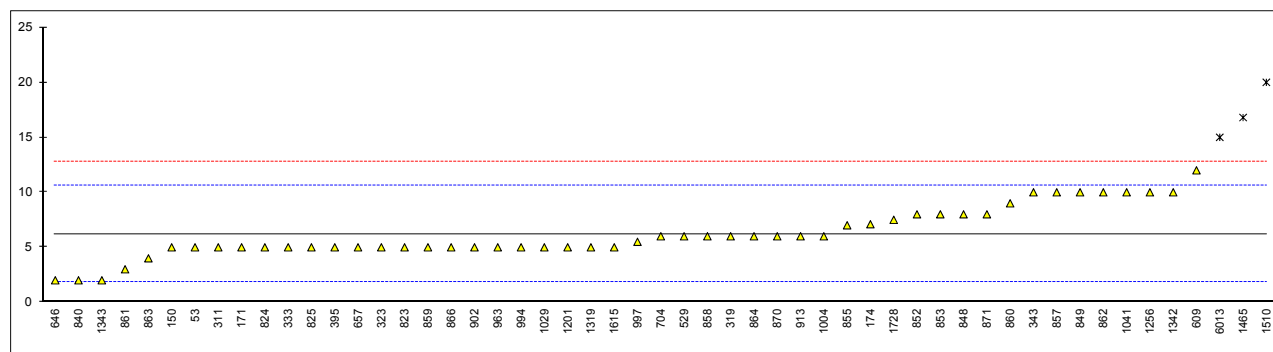
C&F = clear and free

CFSM = clear free from suspended matter

Determination of Carbonizable Substances Pt/Co on sample #16160;

lab	method	value	mark	z(targ)	remarks
53	E346	5		-0.56	
133		----		----	
150	E346	5		-0.56	
169		----		----	
171	E346	5		-0.56	
174	E346	7.1		0.40	
311	E346	5		-0.56	
316		----		----	
319	E346	6		-0.10	
323	E346	5		-0.56	
333	E346	5		-0.56	
334		----		----	
343	E346	10		1.74	
344	E346	<30		----	
345		----		----	
346	E346	<10		----	
347	E346	<5		----	
357	E346	< 5		----	
395	E346	5		-0.56	
445		----		----	
528		----		----	
529	E346	6		-0.10	
551		----		----	
554		----		----	
557		----		----	
608	E346	<5		----	
609	E346	12		2.66	
646	E346	2		-1.94	
657	E346	5		-0.56	
663		----		----	
704	E346	6		-0.10	
786		----		----	
823	E346	5		-0.56	
824	E346	5		-0.56	
825	E346	5		-0.56	
840	E346	2		-1.94	
848	E346	8		0.82	
849	E346	10		1.74	
852	E346	8		0.82	
853	E346	8		0.82	
855	E346	7		0.36	
857	E346	10		1.74	
858	E346	6		-0.10	
859	E346	5		-0.56	
860	E346	9		1.28	
861	E346	3		-1.48	
862	E346	10		1.74	
863	E346	4		-1.02	
864	E346	6		-0.10	
866	E346	5		-0.56	
870	E346	6		-0.10	
871	E346	8		0.82	
902	E346	5		-0.56	
912		----		----	
913	E346	6		-0.10	
963	E346	5		-0.56	
974		----		----	
994	E346	5		-0.56	
997	E346	5.5		-0.33	
1004	E346	6		-0.10	
1009	E346	<30		----	
1010		----		----	
1016		----		----	
1029	E346	5		-0.56	
1041	E346	10		1.74	
1067	E346	< 5		----	
1107		----		----	
1120	E346	<10		----	
1181	E346	<5		----	
1201	E346	5		-0.56	
1221		----		----	
1246	E346	Pass		----	
1256	E346	10		1.74	
1264	E346	<30		----	

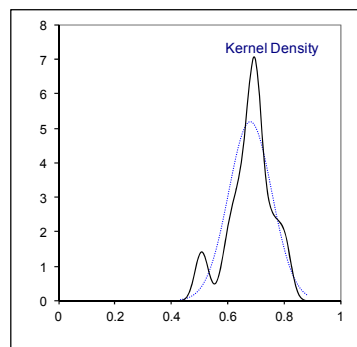
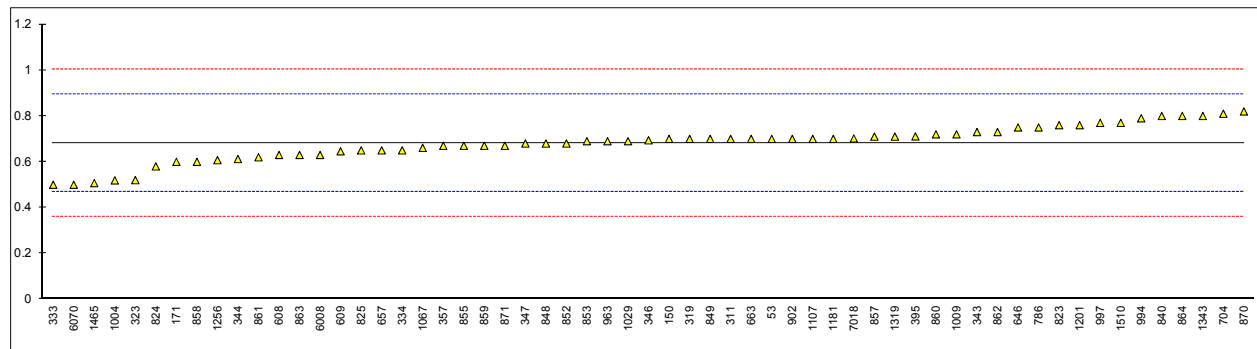
lab	method	value	mark	z(targ)	remarks
1319	E346	5		-0.56	
1342	E346	10		1.74	
1343	E346	2		-1.94	
1438		----		----	
1460		----		----	
1465	E346	16.8	R(0.05)	4.86	
1510	E346	20	R(0.01)	6.33	
1530		----		----	
1557	SRPS.H.B8.263	< 50		----	
1615	E346	5		-0.56	
1656		----		----	
1728	E346	7.5		0.59	
1866		----		----	
1886		----		----	
6008	E346	< 30		----	PASS
6013	E346	15	R(0.05)	4.04	
6061		----		----	
6070	E346	<5		----	
7018	E346	<30		----	
normality		OK			
n		50			
outliers		3			
mean (n)		6.22			
st.dev. (n)		2.287			
R(calc.)		6.40			
R(E346:08e1)		6.09			



Determination of Chloride Inorganic as Cl on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA002	0.70		0.17	
133		----		----	
150	IMPCA002	0.7		0.17	
169		----		----	
171	IMPCA002	0.6		-0.76	
174		----		----	
311	IMPCA002	0.7		0.17	
316		----		----	
319	IMPCA002	0.70		0.17	
323	IMPCA002	0.52		-1.51	
333	IMPCA002	0.5		-1.69	
334	IMPCA002	0.65		-0.29	
343	IMPCA002	0.73		0.45	
344	IMPCA002	0.612		-0.65	
345		----		----	
346	IMPCA002	0.694		0.12	
347	IMPCA002	0.68		-0.01	
357	IMPCA002	0.67		-0.11	
395	IMPCA002	0.711		0.28	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608	IMPCA002	0.63		-0.48	
609	IMPCA002	0.646		-0.33	
646	IMPCA002	0.75		0.64	
657	IMPCA002	0.65		-0.29	
663	IMPCA002	0.70		0.17	
704	IMPCA002	0.81		1.20	
786	IMPCA002	0.75		0.64	
823	IMPCA002	0.76		0.73	
824	IMPCA002	0.58		-0.95	
825	IMPCA002	0.65		-0.29	
840	IMPCA002	0.80		1.11	
848	IMPCA002	0.68		-0.01	
849	IMPCA002	0.70		0.17	
852	IMPCA002	0.68		-0.01	
853	IMPCA002	0.69		0.08	
855	IMPCA002	0.670		-0.11	
857	IMPCA002	0.71		0.27	
858	IMPCA002	0.60		-0.76	
859	IMPCA002	0.67		-0.11	
860	IMPCA002	0.72		0.36	
861	IMPCA002	0.62		-0.57	
862	IMPCA002	0.73		0.45	
863	IMPCA002	0.63		-0.48	
864	IMPCA002	0.80		1.11	
866		----		----	
870	IMPCA002	0.82		1.29	
871	IMPCA002	0.67		-0.11	
902	IMPCA002	0.70		0.17	
912		----		----	
913		----		----	
963	IMPCA002	0.69		0.08	
974		----		----	
994	IMPCA002	0.79		1.01	
997	IMPCA002	0.77		0.83	
1004	IMPCA002	0.519		-1.52	
1009		0.720		0.36	
1010		----		----	
1016		----		----	
1029	IMPCA002	0.69		0.08	
1041		----		----	
1067	IMPCA002	0.661		-0.19	
1107	In house	0.70		0.17	
1120	E346	<0.1		<-5.43	possibly false negative test result?
1181	IMPCA002	0.7		0.17	
1201	IMPCA002	0.76		0.73	
1221		----		----	
1246	IMPCA002	<0.1		<-5.43	possibly false negative test result?
1256	IMPCA002	0.6074		-0.69	
1264	IMPCA002	<0.25	C	<-4.03	first reported: 0.1/ possibly a false negative test result?

lab	method	value	mark	z(targ)	remarks
1319	IMPCA002	0.71		0.27	
1342		----		----	
1343	IMPCA002	0.8	C	1.11	first reported: 0.008 mg/kg
1438		----		----	
1460		----		----	
1465	In house	0.5071		-1.63	
1510	IMPCA002	0.77		0.83	
1530		----		----	
1557		----		----	
1615		----		----	
1656	IMPCA002	<0.25		<-4.03	possibly false negative test result?
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA002	0.63		-0.48	
6013	INH-4	<0,2		<-4.49	possibly false negative test result?
6061		----		----	
6070	IMPCA002	0.5		-1.69	
7018	D512	0.702		0.19	
normality		OK			
n		59			
outliers		0			
mean (n)		0.682			<u>spike:</u>
st.dev. (n)		0.0766			0.7 < 97% recovery
R(calc.)		0.215			
R(IMPCA002:98)		0.300			

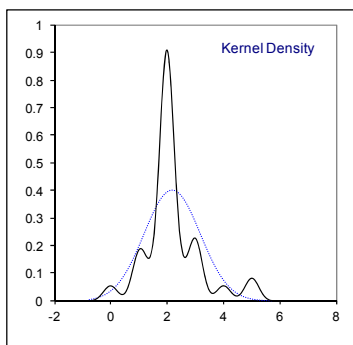
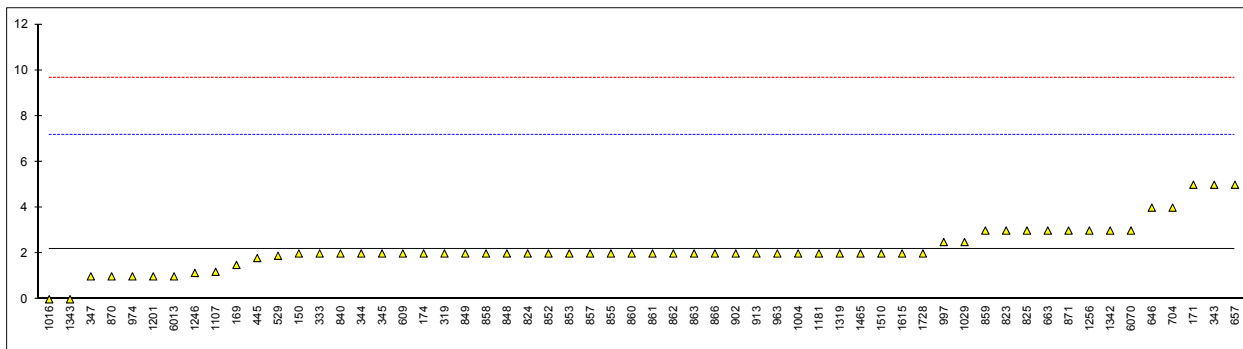


Determination of Colour as Pt/Co on sample #16160;

lab	method	value	mark	z(targ)	remarks
53	D1209	< 5		----	
133		----		----	
150	D5386	2		-0.07	
169	D5386	1.5		-0.27	
171	D1209	5		1.13	
174	D1209	2		-0.07	
311	D1209	<5		----	
316		----		----	
319	D1209	2		-0.07	
323	D1209	<5		----	
333	D1209	2		-0.07	
334		----		----	
343	D5386	5		1.13	
344	D5386	2.0		-0.07	
345	D1209	2		-0.07	
346	D1209	<5		----	
347	D5386	1		-0.47	
357	D1209	< 5		----	
395	D1209	<5		----	
445	D1209	1.8		-0.15	
528		----		----	
529	D1209	1.9		-0.11	
551		----		----	
554		----		----	
557		----		----	
608	D1209	<5		----	
609	D1209	2		-0.07	
646	D1209	4		0.73	
657	D1209	5		1.13	
663	D1209	3		0.33	
704	D1209	4		0.73	
786	D1209	<5		----	
823	D1209	3		0.33	
824	D1209	2		-0.07	
825	D1209	3		0.33	
840	D1209	2		-0.07	
848	D1209	2		-0.07	
849	D1209	2		-0.07	
852	D1209	2		-0.07	
853	D1209	2		-0.07	
855	D1209	2		-0.07	
857	D1209	2		-0.07	
858	D1209	2		-0.07	
859	D1209	3		0.33	
860	D5386	2		-0.07	
861	D1209	2		-0.07	
862	D1209	2		-0.07	
863	D1209	2		-0.07	
864	D1209	<5		----	
866	D1209	2		-0.07	
870	D1209	1		-0.47	
871	D1209	3		0.33	
902	D5386	2		-0.07	
912		----		----	
913	D5386	2		-0.07	
963	D1209	2		-0.07	
974	D1209	1		-0.47	
994	D1209	<5		----	
997	D1209	2.5		0.13	
1004	D1209	2		-0.07	
1009	D1209	<5		----	
1010		----		----	
1016	D1209	0		-0.87	
1029	D1209	2.5		0.13	
1041	D1209	<5		----	
1067	D1209	< 5		----	
1107	D1209	1.2		-0.39	
1120	E346	<5		----	
1181	D1209	2		-0.07	
1201	D5386	1		-0.47	
1221		----		----	
1246	D1209	1.15		-0.41	
1256	D1209	3		0.33	
1264	D1209	<5		----	

lab	method	value	mark	z(targ)	remarks
1319	D1209	2		-0.07	
1342	D1209	3		0.33	
1343	D1209	0		-0.87	
1438		----		----	
1460		----		----	
1465	D1209	2.0		-0.07	
1510	D1209	2		-0.07	
1530		----		----	
1557	SRPS.H.B8.041	<5		----	
1615	D1209	2		-0.07	
1656	D1209	<5		----	
1728	D1209	2		-0.07	
1866		----		----	
1886		----		----	
6008	D1209	<5		----	
6013	D5386	1		-0.47	
6061		----		----	
6070	D1209	3		0.33	
7018	D1209	<5		----	

normality not OK
n 58
outliers 0
mean (n) 2.18
st.dev. (n) 0.993
R(calc.) 2.78
R(D1209:05) 7.00

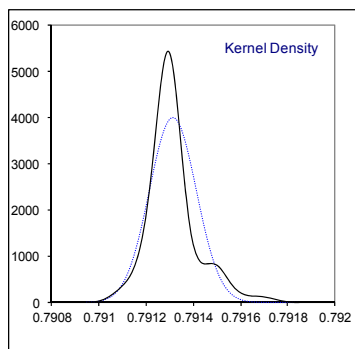
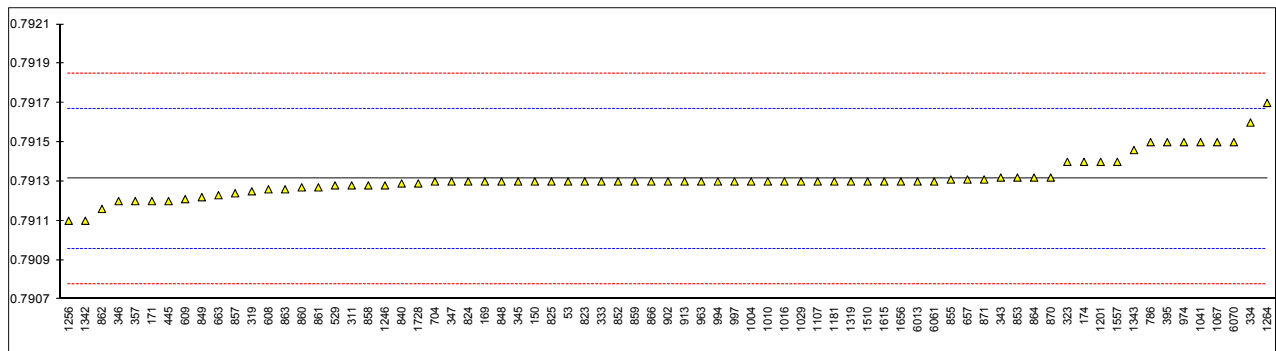


Determination of Density at 20°C on sample #16160; results in kg/L

lab	method	value	mark	z(targ)	remarks
53	ISO12185	0.7913		-0.08	
133		----		----	
150	D4052	0.7913		-0.08	
169	D4052	0.7913		-0.08	
171	D4052	0.7912		-0.64	
174	D4052	0.7914		0.48	
311	D4052	0.79128		-0.19	
316		----		----	
319	D4052	0.79125		-0.36	
323	D4052	0.7914		0.48	
333	ISO12185	0.7913		-0.08	
334	D4052	0.7916		1.60	
343	D4052	0.79132		0.03	
344		----		----	
345	ISO12185	0.7913		-0.08	
346	D1298	0.7912		-0.64	
347	D4052	0.7913		-0.08	
357	D4052	0.79120		-0.64	
395	D4052	0.7915		1.04	
445	ISO12185	0.7912		-0.64	
528		----		----	
529	D4052	0.79128		-0.19	
551		----		----	
554		----		----	
557		----		----	
608	D4052	0.79126		-0.31	
609	D4052	0.79121		-0.59	
646		----		----	
657	D4052	0.79131		-0.03	
663	D4052	0.79123		-0.47	
704	ISO12185	0.79130		-0.08	
786	D4052	0.7915		1.04	
823	ISO12185	0.7913		-0.08	
824	ISO12185	0.7913		-0.08	
825	D4052	0.7913		-0.08	
840	D4052	0.79129		-0.14	
848	D4052	0.79130		-0.08	
849	D4052	0.79122		-0.53	
852	D4052	0.7913		-0.08	
853	D4052	0.79132		0.03	
855	D4052	0.79131		-0.03	
857	D4052	0.79124		-0.42	
858	D4052	0.79128		-0.19	
859	D4052	0.7913		-0.08	
860	D4052	0.79127		-0.25	
861	D4052	0.79127		-0.25	
862	D4052	0.79116		-0.87	
863	ISO12185	0.79126		-0.31	
864	D4052	0.79132		0.03	
866	D4052	0.7913		-0.08	
870	D4052	0.79132		0.03	
871	D4052	0.79131		-0.03	
902	D4052	0.7913		-0.08	
912		----		----	
913	D4052	0.7913		-0.08	
963	ISO12185	0.7913		-0.08	
974	D4052	0.7915		1.04	
994	D4052	0.7913		-0.08	
997	ISO12185	0.7913		-0.08	
1004	D4052	0.7913		-0.08	
1009		----		----	
1010	D4052	0.7913		-0.08	
1016	D4052	0.7913		-0.08	
1029	D4052	0.7913		-0.08	
1041	ISO12185	0.79150	C	1.04	first reported test result at Specific Gravity 20/20°C
1067	D4052	0.7915		1.04	
1107	D4052	0.7913		-0.08	
1120		----		----	
1181	D4052	0.7913		-0.08	
1201	ISO12185	0.7914		0.48	
1221		----		----	
1246	D4052	0.79128		-0.19	
1256	D4052	0.7911		-1.20	
1264	D4052	0.7917		2.16	

lab	method	value	mark	z(targ)	remarks
1319	D4052	0.7913		-0.08	
1342	D4052	0.7911	C	-1.20	first reported:7911 kg/L
1343	D4052	0.79146		0.81	
1438		----		----	
1460		----		----	
1465		----		----	
1510	ISO12185	0.7913		-0.08	
1530		----		----	
1557	D891	0.7914	C	0.48	first reported: 0.7884
1615	D4052	0.7913		-0.08	
1656	D4052	0.7913		-0.08	
1728	D4052	0.79129		-0.14	
1866		----		----	
1886		----		----	
6008		----		----	
6013	ISO12185	0.7913		-0.08	
6061	D4052	0.7913		-0.08	
6070	D4052	0.7915		1.04	
7018		----		----	

normality not OK
 n 73
 outliers 0
 mean (n) 0.79131
 st.dev. (n) 0.000100
 R(calc.) 0.00028
 R(ISO12185:96) 0.00050

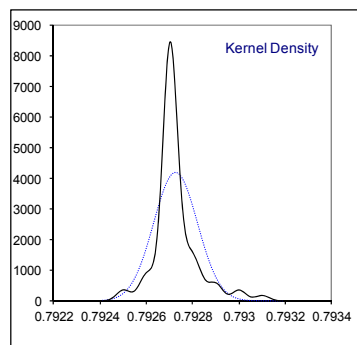
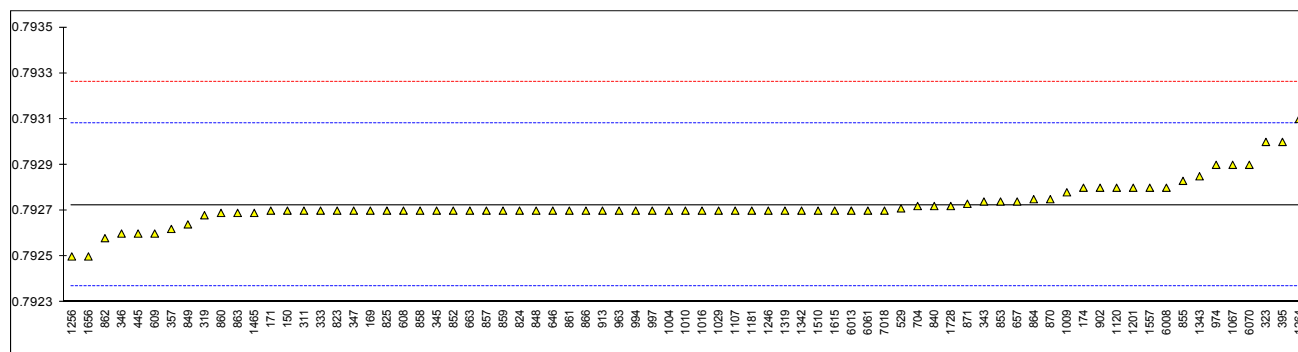


Determination of Specific Gravity 20/20°C on sample #16160;

lab	method	value	mark	z(targ)	remarks
53		----		----	
133		----		----	
150	D4052	0.7927		-0.14	
169	D4052	0.7927		-0.14	
171	D4052	0.7927		-0.14	
174	D4052	0.7928		0.42	
311	D4052	0.7927		-0.14	
316		----		----	
319	D4052	0.79268		-0.25	
323	D4052	0.7930		1.54	
333	ISO12185	0.7927		-0.14	
334		----		----	
343	D4052	0.79274		0.08	
344		----		----	
345	ISO12185	0.7927		-0.14	
346	D1298	0.7926		-0.70	
347	D4052	0.7927		-0.14	
357	D4052	0.79262		-0.59	
395	D4052	0.7930		1.54	
445	ISO12185	0.7926		-0.70	
528		----		----	
529	D4052	0.79271		-0.09	
551		----		----	
554		----		----	
557		----		----	
608	D4052	0.7927		-0.14	
609	D4052	0.7926		-0.70	
646	D4052	0.7927		-0.14	
657	D4052	0.79274		0.08	
663	D4052	0.7927		-0.14	
704	ISO12185	0.79272		-0.03	
786		----		----	
823	ISO12185	0.7927		-0.14	
824	ISO12185	0.7927		-0.14	
825	D4052	0.7927		-0.14	
840	D4052	0.79272		-0.03	
848	D4052	0.79270		-0.14	
849	D4052	0.79264		-0.48	
852	D4052	0.7927		-0.14	
853	D4052	0.79274		0.08	
855	D4052	0.79283		0.59	
857	D4052	0.7927		-0.14	
858	D4052	0.7927		-0.14	
859	D4052	0.7927		-0.14	
860	D4052	0.79269		-0.20	
861	D4052	0.7927		-0.14	
862	D4052	0.79258		-0.81	
863	ISO12185	0.79269		-0.20	
864	D4052	0.79275		0.14	
866	D4052	0.7927		-0.14	
870	D4052	0.79275		0.14	
871	D4052	0.79273		0.03	
902	D4052	0.7928		0.42	
912		----		----	
913	D4052	0.7927		-0.14	
963	ISO12185	0.7927		-0.14	
974	D4052	0.7929		0.98	
994	D4052	0.7927		-0.14	
997	ISO12185	0.7927		-0.14	
1004	D4052	0.7927		-0.14	
1009	D4052	0.79278		0.31	
1010	D4052	0.7927		-0.14	
1016	D4052	0.7927		-0.14	
1029	D4052	0.7927		-0.14	
1041		----	W	----	first reported test result was Density at 20°C
1067	D4052	0.7929		0.98	
1107	D4052	0.7927		-0.14	
1120	E346	0.79280		0.42	
1181	D4052	0.7927		-0.14	
1201	ISO12185	0.7928		0.42	
1221		----		----	
1246	D4052	0.79270		-0.14	
1256	D4052	0.7925		-1.26	
1264	D4052	0.7931		2.10	

lab	method	value	mark	z(target)	remarks
1319	D4052	0.7927		-0.14	
1342	D4052	0.7927		-0.14	
1343	D4052	0.79285		0.70	
1438		----		----	
1460		----		----	
1465	D4052	0.79269		-0.20	
1510	D4052	0.7927		-0.14	
1530		----		----	
1557	D891	0.7928	C	0.42	first reported: 0.7899
1615	D4052	0.7927		-0.14	
1656	D4052	0.7925		-1.26	
1728	D4052	0.79272		-0.03	
1866		----		----	
1886		----		----	
6008	D4052	0.7928		0.42	
6013	ISO12185	0.7927		-0.14	
6061	D4052	0.7927		-0.14	
6070	D4052	0.7929		0.98	
7018	D4052	0.7927		-0.14	

normality not OK
n 75
outliers 0
mean (n) 0.79273
st.dev. (n) 0.000095
R(calc.) 0.00027
R(ISO12185:96) 0.00050



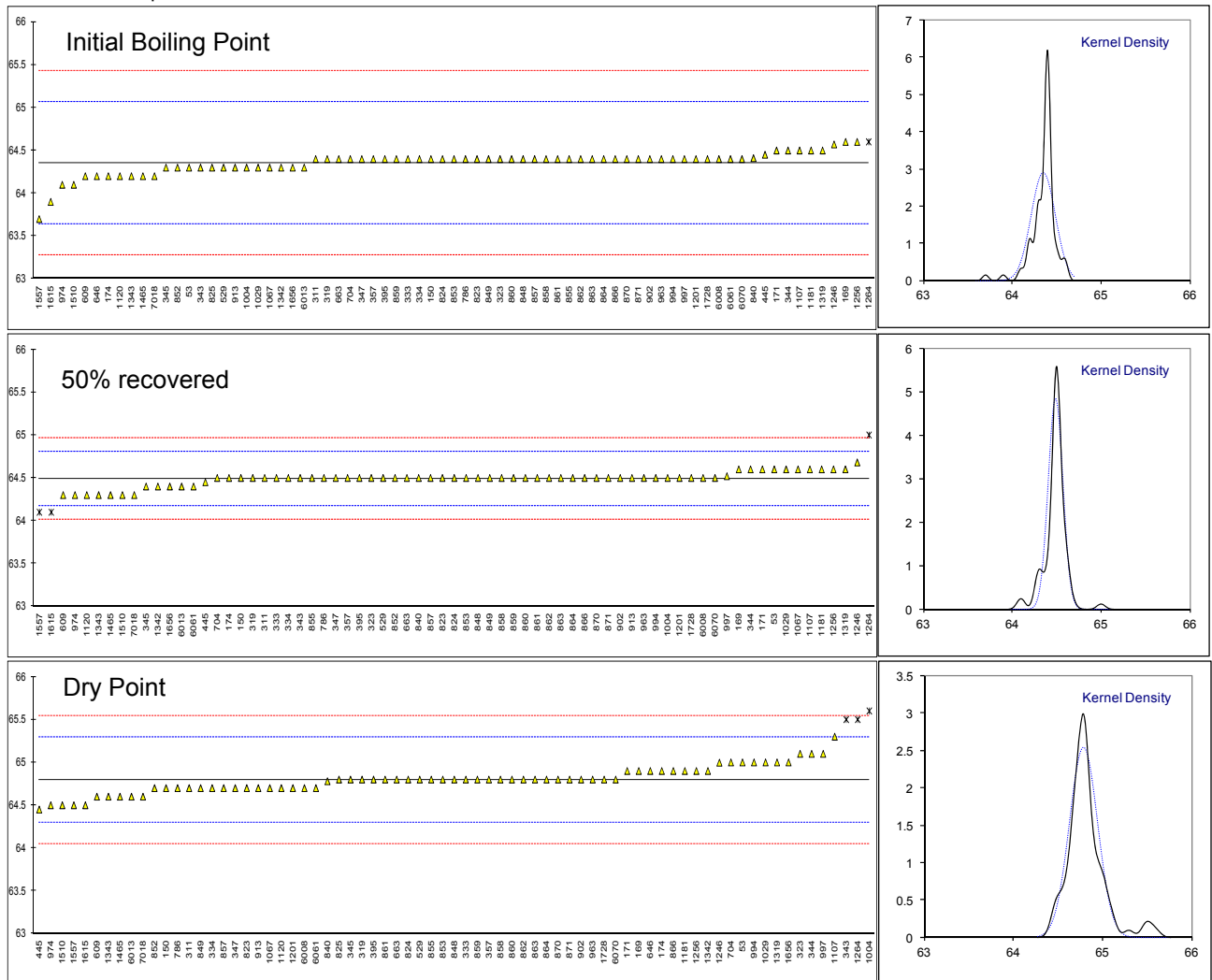
Determination of IBP, 50% recovered and DP on sample #16160; results in °C

lab	method	mode	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)
53	D1078	Automated	64.3		-0.15	64.6		0.71	65.0		0.84
133			----		----	----		----	----		----
150	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
169	D1078	Automated	64.6		0.69	64.6		0.71	64.9		0.43
171	D1078	Automated	64.5		0.41	64.6		0.71	64.9		0.43
174	D1078	Automated	64.2		-0.43	64.5		0.07	64.9		0.43
311	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
316			----		----	----		----	----		----
319	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
323	D1078	Manual	64.4		0.13	64.5		0.07	65.1		1.24
333	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
334	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
343	D1078	Manual	64.3		-0.15	64.5		0.07	65.5	R(0.01)	2.85
344	D1078	Automated	64.5		0.41	64.6		0.71	65.1		1.24
345	D1078	Automated	64.3		-0.15	64.4		-0.57	64.8		0.03
346			----		----	----		----	----		----
347	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
357	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
395	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
445	D1078	Manual	64.45		0.27	64.45		-0.25	64.45		-1.39
528			----		----	----		----	----		----
529	D1078	Automated	64.3		-0.15	64.5		0.07	64.8		0.03
551			----		----	----		----	----		----
554			----		----	----		----	----		----
557			----		----	----		----	----		----
608			----		----	----		----	----		----
609	D1078	Manual	64.2		-0.43	64.3		-1.20	64.6		-0.78
646	D1078	Manual	64.2		-0.43	----		----	64.9		0.43
657		Manual	----		----	----		----	----		----
663	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
704	D1078	Manual	64.4		0.13	64.5		0.07	65.0		0.84
786	D1078	Manual	64.4		0.13	64.5		0.07	64.7		-0.38
823	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
824	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
825	D1078	Automated	64.3		-0.15	----		----	64.8		0.03
840	D1078	Automated	64.41		0.16	64.50		0.07	64.78		-0.05
848	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
849	D1078	Manual	64.4		0.13	64.5		0.07	64.7		-0.38
852	D1078	Manual	64.3		-0.15	64.5		0.07	64.7		-0.38
853	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
855	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
857	D1078	Manual	64.4		0.13	64.5		0.07	64.7		-0.38
858	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
859	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
860	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
861	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
862	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
863	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
864	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
866	D1078	Manual	64.4		0.13	64.5		0.07	64.9		0.43
870	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
871	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
902	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
912			----		----	----		----	----		----
913	D1078	Manual	64.3		-0.15	64.5		0.07	64.7		-0.38
963	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
974	D1078	Automated	64.1		-0.71	64.3		-1.20	64.5		-1.18
994	D1078	Manual	64.4		0.13	64.5		0.07	65.0		0.84
997	D1078	Manual	64.4		0.13	64.52		0.20	65.1		1.24
1004	D1078	Manual	64.3		-0.15	64.5		0.07	65.6	R(0.01)	3.26
1009			----		----	----		----	----		----
1010			----		----	----		----	----		----
1016			----		----	----		----	----		----
1029	D1078	Automated	64.3		-0.15	64.6		0.71	65.0		0.84
1041			----		----	----		----	----		----
1067	D1078	Manual	64.3		-0.15	64.6		0.71	64.7		-0.38
1107	D1078	Automated	64.5		0.41	64.6		0.71	65.3		2.05
1120	E346	Automated	64.2		-0.43	64.3		-1.20	64.7		-0.38
1181	D1078	Manual	64.5		0.41	64.6		0.71	64.9		0.43
1201	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
1221			----		----	----		----	----		----
1246	D1078	Automated	64.571		0.61	64.681		1.22	64.997		0.82
1256	D1078	Manual	64.6		0.69	64.6		0.71	64.9		0.43
1264	D1078	Automated	64.6	ex	0.69	65.0	R(0.01)	3.25	65.5	R(0.01)	2.85

lab	method	mode	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)
1319	D1078	Manual	64.5		0.41	64.6		0.71	65.0		0.84
1342	D1078	Automated	64.3		-0.15	64.4		-0.57	64.9		0.43
1343	D1078	Automated	64.2		-0.43	64.3		-1.20	64.6		-0.78
1438			----		----	----		----	----		----
1460			----		----	----		----	----		----
1465	D1078	Automated	64.2		-0.43	64.3		-1.20	64.6		-0.78
1510	D1078	Automated	64.1		-0.71	64.3		-1.20	64.5		-1.18
1530			----		----	----		----	----		----
1557	see *)	Manual	63.7		-1.82	64.1	C,R(0.01)	-2.47	64.5		-1.18
1615	D1078	Automated	63.9		-1.26	64.1	R(0.01)	-2.47	64.5		-1.18
1656	D1078	Manual	64.3		-0.15	64.4		-0.57	65.0		0.84
1728	D1078	Manual	64.4		0.13	64.5		0.07	64.8		0.03
1866			----		----	----		----	----		----
1886			----		----	----		----	----		----
6008	D1078	Automated	64.4		0.13	64.5		0.07	64.7		-0.38
6013	D1078	Automated	64.3		-0.15	64.4		-0.57	64.6		-0.78
6061	D1078	Automated	64.4		0.13	64.4		-0.57	64.7		-0.38
6070	D1078	Automated	64.4		0.13	64.5		0.07	64.8		0.03
7018	D1078	Manual	64.2		-0.43	64.3		-1.20	64.6		-0.78
normality			not OK			suspect			OK		
n			72			68			70		
outliers			0+1ex			3			3		
mean (n)			64.35			64.49			64.79		
st.dev. (n)			0.137			0.083			0.157		
R(calc.)			0.38			0.23			0.44		
R(D1078-A:11)			1.00			0.44			0.69		

*) Lab 1557 used test method SRPS.H.B8.256

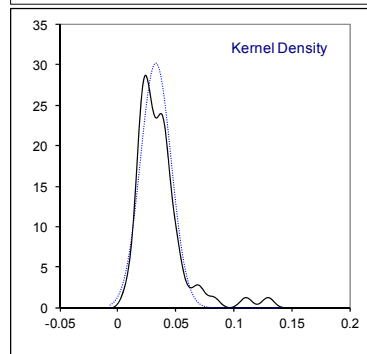
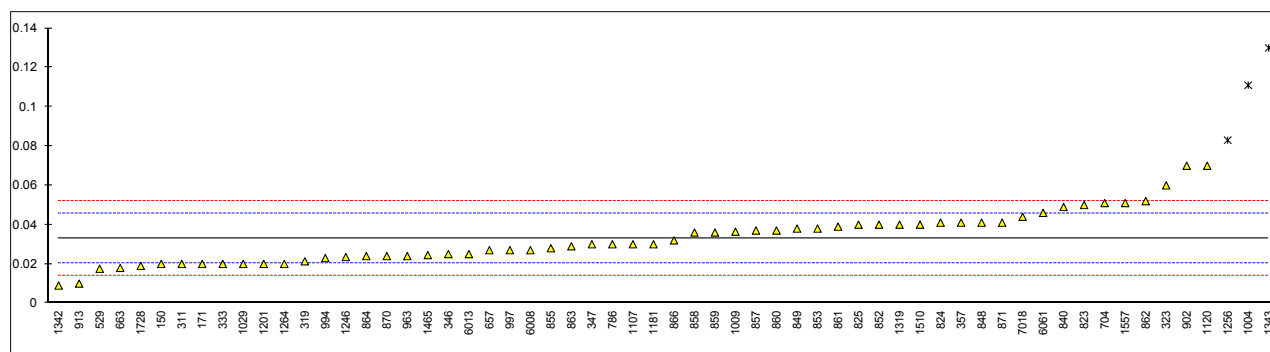
Lab 1264 test result of IBP excluded because test results of 50% recovered and DP are outliers and these parameters are related to IBP. Lab 1557 first reported 63.8 for 50% recovered.



Determination of Iron as Fe on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E394	< 0.02		----	
133		----		----	
150	E394	0.02		-2.05	
169		----		----	
171	E394	0.02		-2.05	
174		----		----	
311	E394	0.02		-2.05	
316		----		----	
319	E394	0.02134		-1.84	
323	E394	0.06		4.24	
333	E394	0.02		-2.05	
334		----		----	
343		----		----	
344	E394	<0,1		----	
345		----		----	
346	E394	0.025		-1.26	
347	E394	0.03		-0.47	
357	E394	0.041		1.25	
395		----		----	
445		----		----	
528		----		----	
529	E394	0.01755		-2.43	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609		----		----	
646		----		----	
657	E394	0.027		-0.95	
663	E394	0.018		-2.36	
704	E394	0.051		2.82	
786	E394	0.03		-0.47	
823	E394	0.05		2.67	
824	E394	0.041		1.25	
825	E394	0.04		1.10	
840	E394	0.049		2.51	
848	E394	0.041		1.25	
849	E394	0.038		0.78	
852	E394	0.040		1.10	
853	E394	0.038		0.78	
855	E394	0.028		-0.79	
857	E394	0.037		0.62	
858	E394	0.036		0.47	
859	E394	0.036		0.47	
860	E394	0.037		0.62	
861	E394	0.039		0.94	
862	E394	0.052		2.98	
863	E394	0.029		-0.63	
864	E394	0.024		-1.42	
866	E394	0.032		-0.16	
870	E394	0.024		-1.42	
871	E394	0.041		1.25	
902	E394	0.070		5.81	
912		----		----	
913	E394	0.01		-3.62	
963	E394	0.024		-1.42	
974		----		----	
994	E394	0.023		-1.57	
997	E394	0.027		-0.95	
1004	E394	0.111	R(0.01)	12.25	
1009	E394	0.0364		0.53	
1010		----		----	
1016		----		----	
1029	E394	0.02		-2.05	
1041		----		----	
1067		----		----	
1107	E394	0.03		-0.47	
1120	E346	0.07		5.81	
1181	E394	0.03		-0.47	
1201	E394	0.02		-2.05	
1221		----		----	
1246	E394	0.0235		-1.50	
1256	E394	0.083	R(0.05)	7.85	
1264	E394	0.02		-2.05	

lab	method	value	mark	z(targ)	remarks
1319	E394	0.04		1.10	
1342	E394	0.009	C	-3.77	first reported: 0.16
1343	E394	0.13	R(0.01)	15.24	
1438		----		----	
1460		----		----	
1465	E394	0.0245		-1.34	
1510	E394	0.04		1.10	
1530		----		----	
1557	INH-1100	0.051		2.82	
1615		----		----	
1656		----		----	
1728	E394	0.019		-2.20	
1866		----		----	
1886		----		----	
6008	E394	0.027		-0.95	
6013	E1615	0.025		-1.26	
6061	E394	0.046		2.04	
6070	E394	<0.1		----	
7018	E394	0.044		1.72	
normality		OK			
n		57			
outliers		3			
mean (n)		0.03302			
st.dev. (n)		0.013238			
R(calc.)		0.03707			
R(E394:15)		0.01782			



Determination of Miscibility with water on sample #16160;

lab	method	value	mark	z(targ)	remarks
53	D1722	Pass		----	
133		----		----	
150	D1722	Passes Test		----	
169	D1722	Pass		----	
171	D1722	Passes		----	
174	D1722	PASS		----	
311	D1722	pass		----	
316		----		----	
319	D1722	passes		----	
323	D1722	pass		----	
333	D1722	pass		----	
334		----		----	
343	D1722	Passes Test		----	
344	D1722	Pass		----	
345	D1722	pass		----	
346	D1722	PASS		----	
347	D1722	Pass		----	
357	D1722	Passes		----	
395	D1722	PASS		----	
445	D1722	Pass		----	
528		----		----	
529	D1722	PASS		----	
551		----		----	
554		----		----	
557		----		----	
608	D1722	Pass		----	
609	D1722	Pass		----	
646	D1722	FAIL		----	
657	D1722	PASS		----	
663	D1722	Passes test		----	
704	D1722	passes test		----	
786	D1722	Passes test		----	
823	D1722	Pass		----	
824	D1722	PASS		----	
825	D1722	Pass		----	
840	D1722	passes test		----	
848	D1722	passes test		----	
849	D1722	Pass test		----	
852	D1722	pass		----	
853	D1722	Passes test		----	
855	D1722	Pass		----	
857	D1722	Passes test		----	
858	D1722	Pass		----	
859	D1722	pass test		----	
860	D1722	Pass		----	
861	D1722	Pass		----	
862	D1722	passes test		----	
863	D1722	passes test		----	
864	D1722	Passes test		----	
866	D1722	Passes test		----	
870	D1722	Pass		----	
871	D1722	pass		----	
902	D1722	PASS		----	
912		----		----	
913	D1722	passes test		----	
963	D1722	Pass		----	
974	D1722	Pass		----	
994	D1722	pass		----	
997	D1722	PASS		----	
1004	D1722	0.14 NTU		----	
1009	D1722	Pass		----	
1010	D1722	Passes		----	
1016	D1722	Passing test		----	
1029	D1722	pass		----	
1041	D1722	Passes Test		----	
1067	D1722	Pass		----	
1107	D1722	pass		----	
1120	D1722	pass		----	
1181	D1722	pass		----	
1201	D1722	pass		----	
1221		----		----	
1246	D1722	Miscible		----	
1256	D1722	Passe		----	
1264	D1722	PASS		----	

lab	method	value	mark	z(targ)	remarks
1319	D1722	Fail		----	
1342	D1722	pass		----	
1343	D1722	Pass		----	
1438		----		----	
1460		----		----	
1465	D1722	PASS		----	
1510	D1722	Pass		----	
1530		----		----	
1557	SRPS.H.B8.265	Pass		----	
1615	D1722	PASS		----	
1656	D1722	Pass		----	
1728	D1722	PASS		----	
1866		----		----	
1886		----		----	
6008	D1722	Pass		----	
6013	D1722	pass		----	
6061		----		----	
6070	D1722	Pass		----	
7018	D1722	Passes test		----	

74 reported "Pass"

1 reported "Miscible"

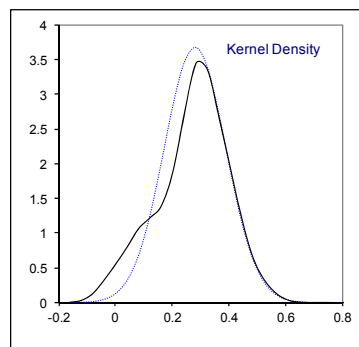
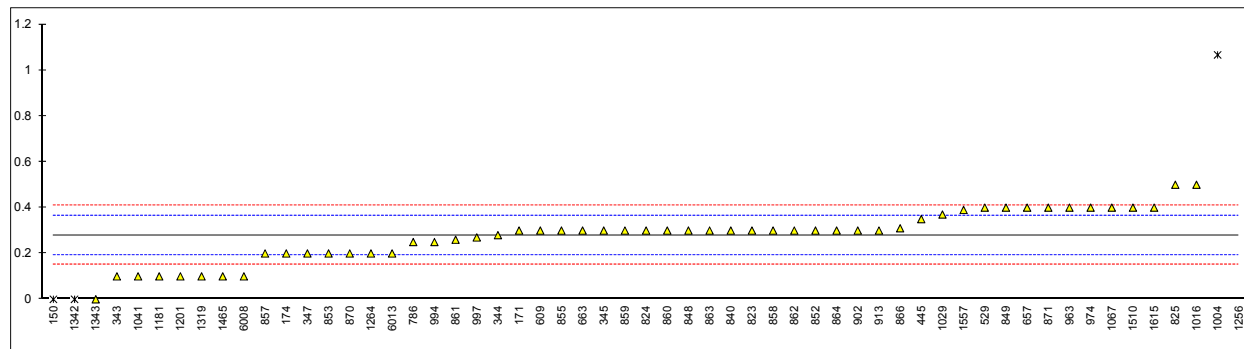
2 reported "Fail"

1 reported "0.14 NTU" (Nephelometric Turbidity Units)

Determination of Nonvolatile Matter on sample #16160; results in mg/100 mL

lab	method	value	mark	z(targ)	remarks
53	D1353	< 5		----	
133		----		----	
150	D1353	0	ex	-6.49	excluded, zero is not a real value
169		----		----	
171	D1353	0.3		0.47	
174	D1353	0.2		-1.85	
311	D1353	<1.0		----	
316		----		----	
319	D1353	<8		----	
323	D1353	<1		----	
333		----		----	
334		----		----	
343	D1353	0.1		-4.17	
344	D1353	0.28		0.00	
345	D1353	0.3		0.47	
346		----		----	
347	D1353	0.2		-1.85	
357	D1353	< 1		----	
395		----		----	
445	D1353	0.350		1.63	
528		----		----	
529	D1353	0.4		2.79	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609	D1353	0.3		0.47	
646	D1353	<1		----	
657	D1353	0.4	C	2.79	first reported: 1.2
663	D1353	0.30		0.47	
704		----		----	
786	D1353	0.25		-0.69	
823	D1353	0.3		0.47	
824	D1353	0.3		0.47	
825	D1353	0.5	C	5.11	first reported: 5
840	D1353	0.3		0.47	
848	D1353	0.3		0.47	
849	D1353	0.4		2.79	
852	D1353	0.3		0.47	
853	D1353	0.2		-1.85	
855	D1353	0.30		0.47	
857	D1353	0.2		-1.85	
858	D1353	0.3		0.47	
859	D1353	0.3		0.47	
860	D1353	0.3		0.47	
861	D1353	0.26		-0.46	
862	D1353	0.3		0.47	
863	D1353	0.3		0.47	
864	D1353	0.3		0.47	
866	D1353	0.31		0.70	
870	D1353	0.2		-1.85	
871	D1353	0.4		2.79	
902	D1353	0.3		0.47	
912		----		----	
913	D1353	0.3		0.47	
963	D1353	0.4		2.79	
974	D1353	0.4	C	2.79	first reported: 1.2
994	D1353	0.25		-0.69	
997	D1353	0.27		-0.23	
1004	D1353	1.0667	R(0.01)	18.25	
1009	D1353	<1		----	
1010		----		----	
1016	D1353	0.5		5.11	
1029	D1353	0.37		2.09	
1041	D1353	0.1		-4.17	
1067	D1353	0.4		2.79	
1107		----		----	
1120		----		----	
1181	D1353	0.1		-4.17	
1201	D1353	0.1		-4.17	
1221		----		----	
1246	D1353	<0.0001		<-6.49	probably a false negative test result and/or unit error?
1256	D1353	10	R(0.01)	225.42	
1264	D1353	0.2	C	-1.85	first reported: 2.0

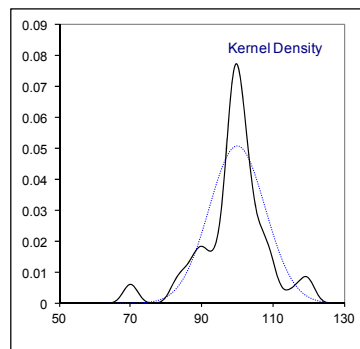
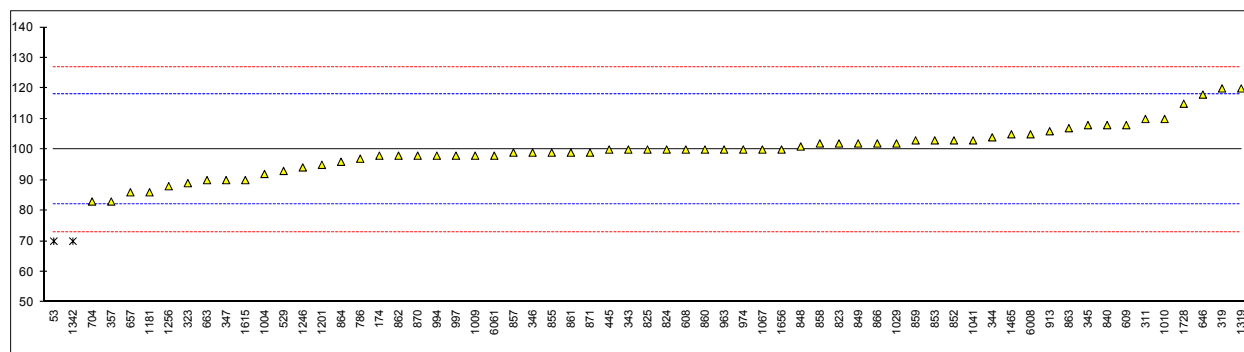
lab	method	value	mark	z(targ)	remarks
1319	D1353	0.1		-4.17	
1342	D1353	0	ex,C	-6.49	first reported: 1; excluded, zero is not a real value
1343	D1353	0.0		-6.49	
1438		----		----	
1460		----		----	
1465	D1353	0.1		-4.17	
1510	D1353	0.4	C	2.79	first reported:4.2
1530		----		----	
1557	SRPS.H.B8.257	0.39		2.56	
1615	D1353	0.4		2.79	
1656	D1353	<1		----	
1728		----		----	
1866		----		----	
1886		----		----	
6008	D1353	0.1		-4.17	
6013	D1353	0.2		-1.85	
6061		----		----	
6070	D1353	<1		----	
7018	D1353	<0.5		----	
normality		OK			
n		53			
outliers		2+2ex			
mean (n)		0.2798			
st.dev. (n)		0.10848			
R(calc.)		0.3037			
R(D1353:13)		0.1207			



Determination of Permanganate Time Test at 15°C on sample #16160; results in minutes

lab	method	value	mark	z(targ)	remarks
53	D1363	70	R(0.05)	-3.33	
133		----		----	
150	D1363	>60		----	
169	D1363	>50		----	
171	D1363	>60		----	
174	D1363	98		-0.22	
311	D1363	110		1.11	
316		----		----	
319	D1363	120		2.22	
323	D1363	89		-1.22	
333		----		----	
334		----		----	
343	D1363	100		0.00	
344	D1363	104		0.44	
345	D1363	108		0.89	
346	D1363	99		-0.11	
347	D1363	90		-1.11	
357	D1363	83		-1.89	
395	D1363	>60		----	
445	D1363	100		0.00	
528		----		----	
529	D1363	93		-0.78	
551		----		----	
554		----		----	
557		----		----	
608	D1363	100		0.00	
609	D1363	108		0.89	
646	D1363	118		2.00	
657	D1363	86		-1.56	
663	D1363	90		-1.11	
704	D1363	83		-1.89	
786	D1363	97		-0.33	
823	D1363	102		0.22	
824	D1363	100		0.00	
825	D1363	100		0.00	
840	D1363	108		0.89	
848	D1363	101		0.11	
849	D1363	102		0.22	
852	D1363	103		0.33	
853	D1363	103		0.33	
855	D1363	99		-0.11	
857	D1363	99		-0.11	
858	D1363	102		0.22	
859	D1363	103		0.33	
860	D1363	100		0.00	
861	D1363	99		-0.11	
862	D1363	98		-0.22	
863	D1363	107		0.78	
864	D1363	96		-0.44	
866	D1363	102		0.22	
870	D1363	98		-0.22	
871	D1363	99		-0.11	
902	D1363	>60		----	
912		----		----	
913	D1363	106		0.67	
963	D1363	100		0.00	
974	D1363	100		0.00	
994	D1363	98		-0.22	
997	D1363	98		-0.22	
1004	D1363	92		-0.89	
1009	D1363	98		-0.22	
1010	D1363	110		1.11	
1016		----		----	
1029	D1363	102		0.22	
1041	D1363	103		0.33	
1067	D1363	100		0.00	
1107	D1363	above 50		----	
1120	D1363	>50		----	
1181	D1363	86		-1.56	
1201	D1363	95		-0.56	
1221		----		----	
1246	D1363	94.15		-0.65	
1256	D1363	88		-1.33	
1264	D1363	>90		----	

lab	method	value	mark	z(targ)	remarks
1319	D1363	120		2.22	
1342	D1363	70	R(0.05)	-3.33	
1343	D1363	>60		----	
1438		----		----	
1460		----		----	
1465	D1363	105		0.56	
1510	D1363	> 50		----	
1530		----		----	
1557	SRPS.H.B8.262	< 50		<-5.56	possibly a false negative test result?
1615	D1363	90		-1.11	
1656	D1363	100		0.00	
1728	D1363	115		1.67	
1866		----		----	
1886		----		----	
6008	D1363	105		0.56	
6013	D1363	>60		----	
6061	D1363	98		-0.22	
6070	D1363	>60		----	
7018	D1363	>60		----	
normality		OK			
n		61			
outliers		2			
mean (n)		100.00			
st.dev. (n)		7.868			
R(calc.)		22.03			
R(D1363:06)		25.20			

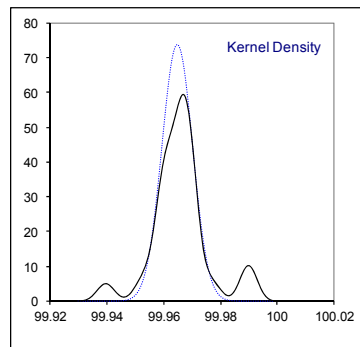
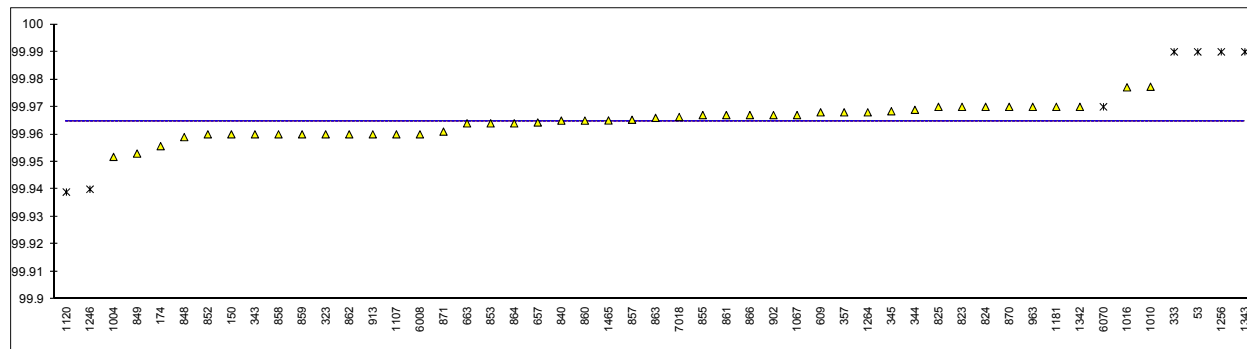


Determination of Purity "as received" on sample #16160; results in %M/M

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	99.99	R(0.01)	----	
133		----		----	
150	IMPCA001	99.96		----	
169		----		----	
171		----		----	
174	IMPCA001	99.9557		----	
311		----		----	
316		----		----	
319		----		----	
323	IMPCA001	99.96		----	
333	IMPCA001	99.99	ex	----	excluded, see §4.1
334		----		----	
343	IMPCA001	99.96		----	
344	IMPCA001	99.9689		----	
345	IMPCA001	99.9684		----	
346		----		----	
347		----		----	
357	IMPCA001	99.968		----	
395		----		----	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609	IMPCA001	99.968		----	
646		----		----	
657	IMPCA001	99.9643		----	
663	IMPCA001	99.964		----	
704		----		----	
786		----		----	
823	IMPCA001	99.97		----	
824	IMPCA001	99.97		----	
825	IMPCA001	99.97		----	
840	IMPCA001	99.965		----	
848	IMPCA001	99.959		----	
849	IMPCA001	99.953		----	
852	IMPCA001	99.96		----	
853	IMPCA001	99.964		----	
855	IMPCA001	99.967		----	
857	IMPCA001	99.9653		----	
858	IMPCA001	99.96		----	
859	IMPCA001	99.960		----	
860	IMPCA001	99.965		----	
861	IMPCA001	99.967		----	
862	IMPCA001	99.960		----	
863	IMPCA001	99.966		----	
864	IMPCA001	99.964		----	
866	IMPCA001	99.967		----	
870	IMPCA001	99.97		----	
871	IMPCA001	99.961		----	
902	IMPCA001	99.967		----	
912		----		----	
913	IMPCA001	99.96		----	
963	IMPCA001	99.970		----	
974		----		----	
994		----		----	
997		----		----	
1004	IMPCA001	99.9518		----	
1009		----		----	
1010	IMPCA001	99.9773		----	
1016	In house	99.9771		----	
1029		----		----	
1041		----		----	
1067	IMPCA001	99.967		----	
1107	IMPCA001	99.96		----	
1120	E346	99.939	R(0.01)	----	
1181	IMPCA001	99.97		----	
1201		----		----	
1221		----		----	
1246	IMPCA001	99.94	C,R(0.01)	----	first reported: 99.51
1256	IMPCA001	99.990	ex	----	excluded, see §4.1
1264	IMPCA001	99.968		----	

lab	method	value	mark	z(targ)	remarks
1319		----		----	
1342	IMPCA001	99.97		----	
1343	IMPCA001	99.99	R(0.01)	----	
1438		----		----	
1460		----		----	
1465	IMPCA001	99.96505		----	
1510		----		----	
1530		----		----	
1557		----		----	
1615		----		----	
1656		----		----	
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA001	99.96		----	
6013		----		----	
6061		----		----	
6070	IMPCA001	99.97	ex	----	excluded, see §4.1
7018	IMPCA001	99.9663		----	
normality		OK			
n		44			
outliers		4+3ex			
mean (n)		99.9648			
st.dev. (n)		0.00541			
R(calc.)		0.0151			
R(lit.)		unknown			

Compare R(iis15C08)=0.1085 and R(iis14C05)=0.0142

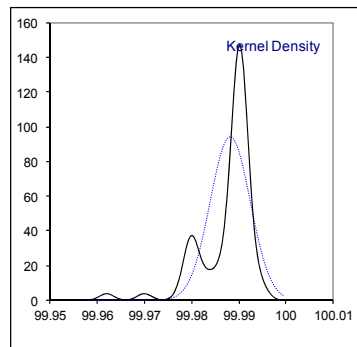
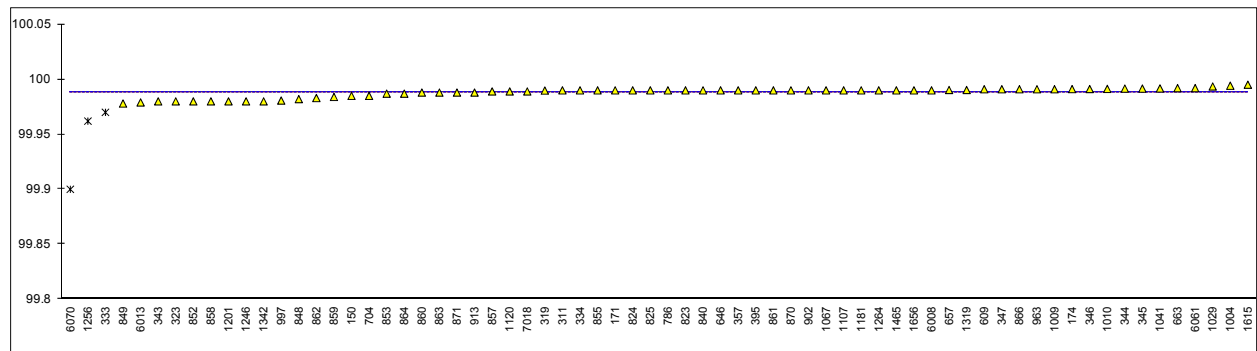


Determination of Purity on dry basis on sample #16160; results in %M/M

lab	method	value	mark	z(targ)	remarks
53		----		----	
133		----		----	
150	IMPCA001	99.985		----	
169		----		----	
171	IMPCA001	99.99		----	
174	IMPCA001	99.9911		----	
311	IMPCA001	99.99		----	
316		----		----	
319	IMPCA001	99.9898		----	
323	IMPCA001	99.98		----	
333	IMPCA001	99.97	ex	----	excluded, see §4.1
334	IMPCA001	99.99		----	
343	IMPCA001	99.98		----	
344	IMPCA001	99.9916		----	
345	IMPCA001	99.9916		----	
346	IMPCA001	99.9912		----	
347	IMPCA001	99.9910		----	
357	IMPCA001	99.990		----	
395	IMPCA001	99.99		----	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609	IMPCA001	99.991		----	
646	IMPCA001	99.99		----	
657	IMPCA001	99.9903		----	
663	IMPCA001	99.992		----	
704	IMPCA001	99.985		----	
786	IMPCA001	99.99		----	
823	IMPCA001	99.99		----	
824	IMPCA001	99.99		----	
825	IMPCA001	99.99		----	
840	IMPCA001	99.990		----	
848	IMPCA001	99.982		----	
849	IMPCA001	99.978		----	
852	IMPCA001	99.98		----	
853	IMPCA001	99.987		----	
855	IMPCA001	99.990		----	
857	IMPCA001	99.989		----	
858	IMPCA001	99.98		----	
859	IMPCA001	99.984		----	
860	IMPCA001	99.988		----	
861	IMPCA001	99.990		----	
862	IMPCA001	99.983		----	
863	IMPCA001	99.988		----	
864	IMPCA001	99.987		----	
866	IMPCA001	99.991		----	
870	IMPCA001	99.99		----	
871	IMPCA001	99.988		----	
902	IMPCA001	99.99		----	
912		----		----	
913	IMPCA001	99.988		----	
963	IMPCA001	99.991		----	
974		----		----	
994		----		----	
997	IMPCA001	99.9807		----	
1004	IMPCA001	99.9942		----	
1009	IMPCA001	99.991		----	
1010	IMPCA001	99.9913		----	
1016		----		----	
1029	IMPCA001	99.9935		----	
1041	IMPCA001	99.99173		----	
1067	IMPCA001	99.990		----	
1107	IMPCA001	99.99		----	
1120	E346	99.989		----	
1181	IMPCA001	99.99		----	
1201	IMPCA001	99.98		----	
1221		----		----	
1246	IMPCA001	99.98	C	----	first reported: 99.65
1256		99.962	ex	----	excluded, see §4.1
1264	IMPCA001	99.990		----	

lab	method	value	mark	z(targ)	remarks
1319	IMPCA001	99.9903		----	
1342	IMPCA001	99.98		----	
1343		----		----	
1438		----		----	
1460		----		----	
1465	IMPCA001	99.990		----	
1510		----		----	
1530		----		----	
1557		----		----	
1615	IMPCA001	99.9951		----	
1656	IMPCA001	99.99		----	
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA001	99.99		----	
6013	In house	99.979		----	
6061	IMPCA001	99.992		----	
6070	IMPCA001	99.9	ex	----	excluded, see §4.1
7018	IMPCA001	99.9890		----	
normality		OK			
n		65			
outliers		0+3ex			
mean (n)		99.9882			
st.dev. (n)		0.00424			
R(calc.)		0.0119			
R(lit.)		unknown			

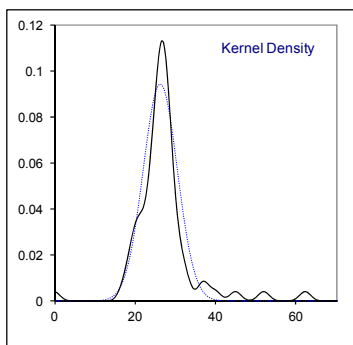
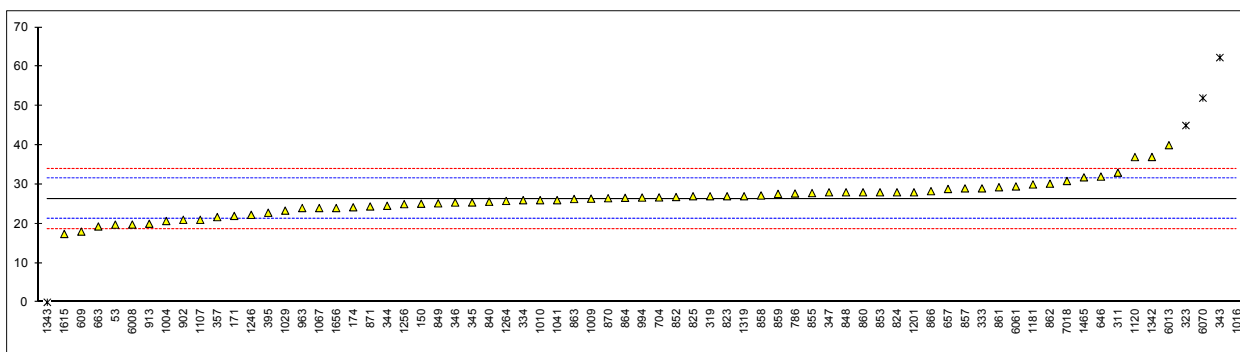
Compare R(iis15C08)=0.1159 and R(iis14C05)=0.0058



Determination of Acetone content on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	19.77		-2.55	
133		----		----	
150	IMPCA001	25.1		-0.48	
169		----		----	
171	IMPCA001	22		-1.68	
174	IMPCA001	24.2		-0.83	
311	IMPCA001	33		2.59	
316		----		----	
319	IMPCA001	27		0.26	
323	IMPCA001	45	R(0.01)	7.25	
333	IMPCA001	29		1.04	
334	IMPCA001	26		-0.13	
343	IMPCA001	62.3	R(0.01)	13.97	
344	IMPCA001	24.57		-0.68	
345	IMPCA001	25.42		-0.35	
346	IMPCA001	25.4		-0.36	
347	IMPCA001	28		0.65	
357	IMPCA001	21.7		-1.80	
395	IMPCA001	22.80		-1.37	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609	IMPCA001	18		-3.24	
646	IMPCA001	32		2.20	
657	IMPCA001	28.85		0.98	
663	IMPCA001	19.3		-2.73	
704	IMPCA001	26.7		0.14	
786	IMPCA001	27.7		0.53	
823	IMPCA001	27		0.26	
824	IMPCA001	28		0.65	
825	IMPCA001	27		0.26	
840	IMPCA001	25.6		-0.28	
848	IMPCA001	28.0		0.65	
849	IMPCA001	25.2		-0.44	
852	IMPCA001	26.8		0.18	
853	IMPCA001	28.0		0.65	
855	IMPCA001	27.8		0.57	
857	IMPCA001	29		1.04	
858	IMPCA001	27.2		0.34	
859	IMPCA001	27.6		0.49	
860	IMPCA001	28		0.65	
861	IMPCA001	29.3		1.15	
862	IMPCA001	30.2		1.50	
863	IMPCA001	26.3		-0.01	
864	IMPCA001	26.6		0.10	
866	IMPCA001	28.3		0.76	
870	IMPCA001	26.5		0.07	
871	IMPCA001	24.4		-0.75	
902	IMPCA001	21		-2.07	
912		----		----	
913	IMPCA001	20	C	-2.46	first reported: 50
963	IMPCA001	24		-0.91	
974		----		----	
994	IMPCA001	26.67		0.13	
997		----		----	
1004	IMPCA001	20.7		-2.19	
1009	IMPCA001	26.38		0.02	
1010	IMPCA001	26		-0.13	
1016	In house	112.55	R(0.01)	33.48	
1029	IMPCA001	23.34	C	-1.16	first reported: 18.25
1041	IMPCA001	26.0		-0.13	
1067	IMPCA001	24		-0.91	
1107	IMPCA001	21		-2.07	
1120	E346	36.98		4.14	
1181	IMPCA001	30		1.42	
1201	IMPCA001	28		0.65	
1221		----		----	
1246	IMPCA001	22.27		-1.58	
1256	IMPCA001	25		-0.52	
1264	IMPCA001	25.8		-0.21	

lab	method	value	mark	z(targ)	remarks
1319	IMPCA001	27		0.26	
1342	IMPCA001	37		4.14	
1343	IMPCA001	0	C,R(0.01)	-10.23	first reported: 0.003
1438		----		----	
1460		----		----	
1465	IMPCA001	31.815		2.13	
1510		----		----	
1530		----		----	
1557	D1612	< 30		----	
1615	IMPCA001	17.4010		-3.47	
1656	IMPCA001	24		-0.91	
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA001	19.8		-2.54	
6013	In house	40		5.31	
6061	IMPCA001	29.5		1.23	
6070	IMPCA001	52	R(0.01)	9.97	
7018	IMPCA001	30.89		1.77	
normality		suspect			
n		66			
outliers		5			<u>spike:</u>
mean (n)		26.331			30.4 < 87% recovery
st.dev. (n)		4.2333			
R(calc.)		11.853			
R(Horwitz)		7.210			

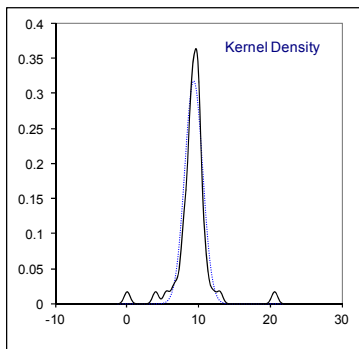
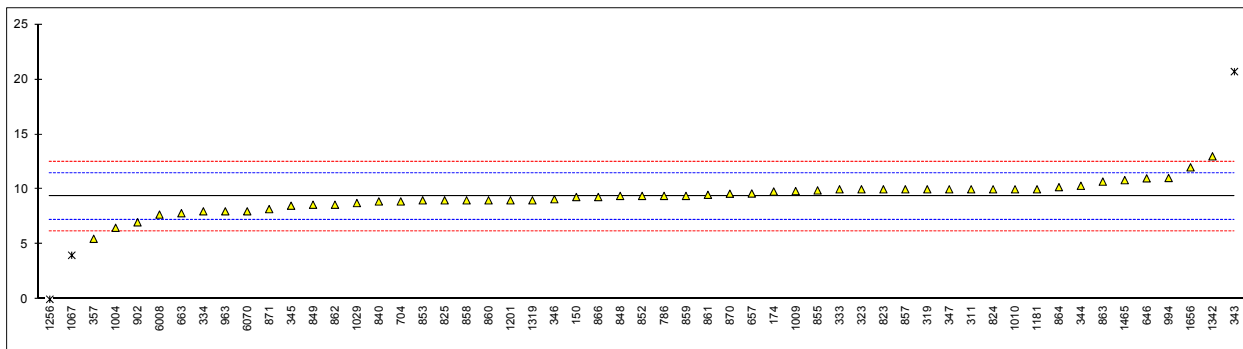


Determination of Benzene content on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		----		----	
133		----		----	
150	IMPCA001	9.3		-0.04	
169		----		----	
171		----		----	
174	IMPCA001	9.8		0.43	
311	IMPCA001	10		0.62	
316		----		----	
319	IMPCA001	10		0.62	
323	IMPCA001	10		0.62	
333	IMPCA001	10		0.62	
334	IMPCA001	8		-1.25	
343	IMPCA001	20.7	R(0.01)	10.64	
344	IMPCA001	10.32		0.92	
345	IMPCA001	8.51		-0.78	
346	IMPCA001	9.1		-0.22	
347	IMPCA001	10		0.62	
357	IMPCA001	5.5		-3.60	
395		----		----	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609		----		----	
646	IMPCA001	11		1.56	
657	IMPCA001	9.62		0.26	
663	IMPCA001	7.83		-1.41	
704	IMPCA001	8.9		-0.41	
786	IMPCA001	9.4		0.06	
823	IMPCA001	10		0.62	
824	IMPCA001	10		0.62	
825	IMPCA001	9		-0.32	
840	IMPCA001	8.9		-0.41	
848	IMPCA001	9.4		0.06	
849	IMPCA001	8.6		-0.69	
852	IMPCA001	9.4		0.06	
853	IMPCA001	9.0		-0.32	
855	IMPCA001	9.9		0.53	
857	IMPCA001	10		0.62	
858	IMPCA001	9.0		-0.32	
859	IMPCA001	9.4		0.06	
860	IMPCA001	9		-0.32	
861	IMPCA001	9.5		0.15	
862	IMPCA001	8.6		-0.69	
863	IMPCA001	10.7		1.27	
864	IMPCA001	10.2		0.81	
866	IMPCA001	9.3		-0.04	
870	IMPCA001	9.6		0.24	
871	IMPCA001	8.2		-1.07	
902	IMPCA001	7		-2.19	
912		----		----	
913		----		----	
963	IMPCA001	8		-1.25	
974		----		----	
994	IMPCA001	11.03		1.58	
997		----		----	
1004	IMPCA001	6.5		-2.66	
1009	IMPCA001	9.84		0.47	
1010	IMPCA001	10		0.62	
1016		----		----	
1029	IMPCA001	8.75	C	-0.55	first reported: 6.74
1041		----		----	
1067	IMPCA001	4	R(0.01)	-5.00	
1107		----		----	
1120		----		----	
1181	IMPCA001	10		0.62	
1201	IMPCA001	9		-0.32	
1221		----		----	
1246		----		----	
1256	IMPCA001	0	R(0.01)	-8.75	
1264		----		----	

lab	method	value	mark	z(targ)	remarks
1319	IMPCA001	9		-0.32	
1342	IMPCA001	13		3.43	
1343		----		----	
1438		----		----	
1460		----		----	
1465	IMPCA001	10.835		1.40	
1510		----		----	
1530		----		----	
1557		----		----	
1615		----		----	
1656	IMPCA001	12	C	2.49	first reported: 2
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA001	7.7		-1.54	
6013		----		----	
6061	IMPCA001	<5		<-4.06	possibly a false negative test result?
6070	IMPCA001	8		-1.25	
7018		----		----	

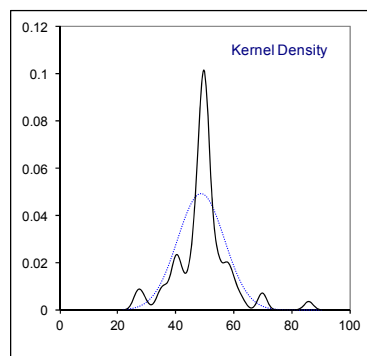
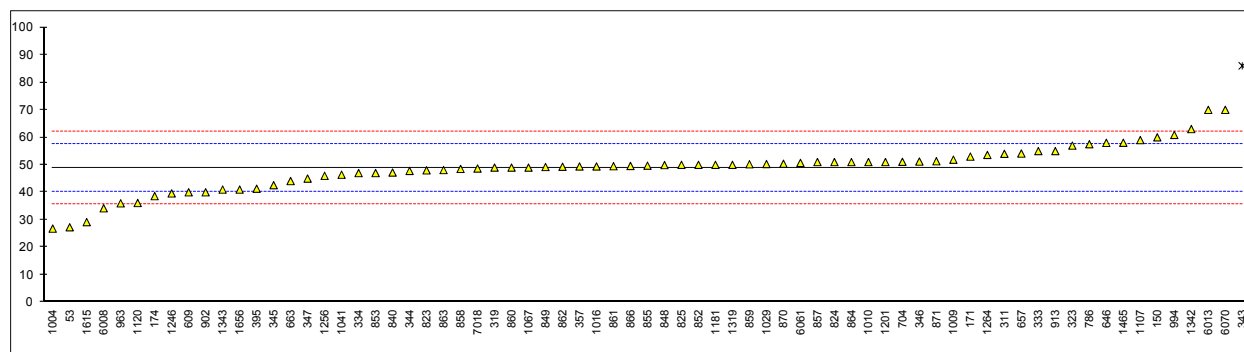
normality not OK
 n 52
 outliers 3 spike:
 mean (n) 9.339 9.2 < 102% recovery
 st.dev. (n) 1.2556
 R(calc.) 3.516
 R(Horwitz) 2.989



Determination of Ethanol content on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	27.29		-4.96	
133		----		----	
150	IMPCA001	60.0	C	2.56	first reported: 110.1
169		----		----	
171	IMPCA001	53		0.95	
174	IMPCA001	38.6		-2.36	
311	IMPCA001	54		1.18	
316		----		----	
319	IMPCA001	49		0.03	
323	IMPCA001	57		1.87	
333	IMPCA001	55		1.41	
334	IMPCA001	47		-0.43	
343	IMPCA001	86	R(0.01)	8.53	
344	IMPCA001	47.79		-0.25	
345	IMPCA001	42.6		-1.44	
346	IMPCA001	51.2		0.54	
347	IMPCA001	45		-0.89	
357	IMPCA001	49.4		0.12	
395	IMPCA001	41.31		-1.74	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609	IMPCA001	40	C	-2.04	first reported: 67
646	IMPCA001	58		2.10	
657	IMPCA001	54.11		1.20	
663	IMPCA001	44.1		-1.09	
704	IMPCA001	51.1		0.51	
786	IMPCA001	57.5		1.98	
823	IMPCA001	48		-0.20	
824	IMPCA001	51		0.49	
825	IMPCA001	50		0.26	
840	IMPCA001	47.2		-0.38	
848	IMPCA001	49.9		0.24	
849	IMPCA001	49.2		0.08	
852	IMPCA001	50.0		0.26	
853	IMPCA001	47.0		-0.43	
855	IMPCA001	49.7		0.19	
857	IMPCA001	51		0.49	
858	IMPCA001	48.5		-0.08	
859	IMPCA001	50.2		0.31	
860	IMPCA001	49		0.03	
861	IMPCA001	49.5		0.15	
862	IMPCA001	49.3		0.10	
863	IMPCA001	48.1		-0.18	
864	IMPCA001	51		0.49	
866	IMPCA001	49.6		0.17	
870	IMPCA001	50.4		0.35	
871	IMPCA001	51.3		0.56	
902	IMPCA001	40		-2.04	
912		----		----	
913	IMPCA001	55		1.41	
963	IMPCA001	36		-2.95	
974		----		----	
994	IMPCA001	60.88		2.76	
997		----		----	
1004	IMPCA001	26.8		-5.07	
1009	IMPCA001	51.87		0.69	
1010	IMPCA001	51		0.49	
1016	In house	49.40	C	0.12	first reported: 69.37
1029	IMPCA001	50.29	C	0.33	first reported: 38.57
1041	IMPCA001	46.4		-0.57	
1067	IMPCA001	49		0.03	
1107	IMPCA001	59		2.33	
1120	E346	36.12		-2.93	
1181	IMPCA001	50		0.26	
1201	IMPCA001	51		0.49	
1221		----		----	
1246	IMPCA001	39.60		-2.13	
1256	IMPCA001	46		-0.66	
1264	IMPCA001	53.6		1.09	

lab	method	value	mark	z(targ)	remarks
1319	IMPCA001	50		0.26	
1342	IMPCA001	63		3.25	
1343	IMPCA001	41	C	-1.81	first reported: 0.004 mg/kg
1438		----		----	
1460		----		----	
1465	IMPCA001	58.035		2.11	
1510		----		----	
1530		----		----	
1557		----		----	
1615	IMPCA001	29.16	C	-4.53	first reported: 31.6488
1656	IMPCA001	41		-1.81	
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA001	34.2		-3.37	
6013	In house	70		4.85	
6061	IMPCA001	50.7		0.42	
6070	IMPCA001	70		4.85	
7018	IMPCA001	48.66		-0.05	
normality		suspect			
n		70			
outliers		1			<u>spike:</u>
mean (n)		48.866			52.5 < 93% recovery
st.dev. (n)		8.0973			
R(calc.)		22.673			
R(Horwitz)		12.192			



Determination of Toluene content on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		----		----	
133		----		----	
150	IMPCA001	3.5		----	
169		----		----	
171		----		----	
174	IMPCA001	<1		----	
311	IMPCA001	<5		----	
316		----		----	
319	IMPCA001	0		----	
323	IMPCA001	<5		----	
333	IMPCA001	<10		----	
334	IMPCA001	2		----	
343	IMPCA001	<5		----	
344	IMPCA001	<5		----	
345	IMPCA001	<1		----	
346	IMPCA001	<5		----	
347	IMPCA001	<5		----	
357	IMPCA001	< 5		----	
395		----		----	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609		----		----	
646		----		----	
657	IMPCA001	<5		----	
663	IMPCA001	0		----	
704	IMPCA001	< 5		----	
786	IMPCA001	<5		----	
823	IMPCA001	<5		----	
824	IMPCA001	<5		----	
825	IMPCA001	0		----	
840	IMPCA001	3.4		----	
848	IMPCA001	<1		----	
849	IMPCA001	<1		----	
852	IMPCA001	<5		----	
853	IMPCA001	0.0		----	
855	IMPCA001	<5		----	
857	IMPCA001	<1		----	
858	IMPCA001	<5		----	
859	IMPCA001	<5		----	
860	IMPCA001	<1		----	
861	IMPCA001	<5		----	
862	IMPCA001	0.1		----	
863	IMPCA001	<5		----	
864	IMPCA001	<10		----	
866	IMPCA001	<5		----	
870	IMPCA001	<10		----	
871	IMPCA001	<5		----	
902	IMPCA001	<10		----	
912		----		----	
913	IMPCA001	less than 5		----	
963	IMPCA001	<5		----	
974		----		----	
994		----		----	
997		----		----	
1004	IMPCA001	3.3		----	
1009	IMPCA001	<5		----	
1010	IMPCA001	0		----	
1016		----		----	
1029	IMPCA001	<1		----	
1041		----		----	
1067	IMPCA001	< 1		----	
1107		----		----	
1120		----		----	
1181	IMPCA001	<5		----	
1201	IMPCA001	0		----	
1221		----		----	
1246		----		----	
1256	IMPCA001	0		----	
1264		----		----	

lab	method	value	mark	z(targ)	remarks
1319	IMPCA001	Less than 5		----	
1342	IMPCA001	1.7		----	
1343		----		----	
1438		----		----	
1460		----		----	
1465	IMPCA001	0		----	
1510		----		----	
1530		----		----	
1557		----		----	
1615		----		----	
1656	IMPCA001	17	C,D(0.01)	----	possibly false positive test result? first reported: 14
1728		----		----	
1866		----		----	
1886		----		----	
6008	IMPCA001	0		----	
6013		----		----	
6061	IMPCA001	<5		----	
6070	IMPCA001	<5		----	
7018		----		----	
	normality	n.a.			
	n	50			
	outliers	1			
	mean (n)	<5			
	st.dev. (n)	n.a.			
	R(calc.)	n.a.			
	R(Horwitz)	n.a.			

Determination of Sulphur on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D5453	< 0.5		----	
133		----		----	
150	D5453	<1.0		----	
169		----		----	
171	D5453	<1		----	
174	D5453	0.1765		----	
311	D5453	<1.0		----	
316		----		----	
319	D5453	0.08		----	
323	D5453	<1		----	
333	D5453	<0.5		----	
334	D5453	0.2		----	
343	D5453	<1		----	
344	D5453	<0,5		----	
345	ISO20846	0.0		----	
346		----		----	
347	D5453	<0.5		----	
357	D5453	< 0,5		----	
395		----		----	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608	D5453	<1		----	
609	D5453	<2		----	
646	D3961	<0.2		----	
657	D5453	0.509		----	
663	D5453	0.1		----	
704	D5453	< 1.0		----	
786	D5453	<0.5		----	
823	D5453	<0.5		----	
824	D5453	<1		----	
825	D5453	0.04		----	
840		----		----	
848	D5453	<0.5		----	
849		NA		----	
852	D3120	<0.5		----	
853		N/A		----	
855	D5453	<0.5		----	
857	D3120	<0.5		----	
858	D5453	<0.5		----	
859	D5453	<0.5		----	
860	D3120	<0.5		----	
861	D5453	0.1		----	
862	D5453	<0.5		----	
863	D5453	0.1		----	
864	D5453	<0.5		----	
866		----		----	
870	D3120	<0.5		----	
871		----		----	
902	D5453	<0,5		----	
912		----		----	
913	D5453	0.3		----	
963	D5453	<1		----	
974		----		----	
994	D5453	<0.5		----	
997	D5453	0.2		----	
1004	D5453	0.072		----	
1009		----		----	
1010		----		----	
1016	ISO20846	-0.166		----	
1029	D5453	<0.5		----	
1041	D5453	0.06		----	
1067	D5453	< 0.5		----	
1107		----		----	
1120		----		----	
1181	D5453	<1		----	
1201	D5453	0.07		----	
1221		----		----	
1246	D5453	<0.1		----	
1256	D5453	0.06		----	
1264	D5453	0.2		----	

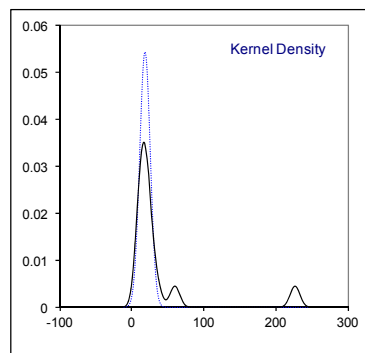
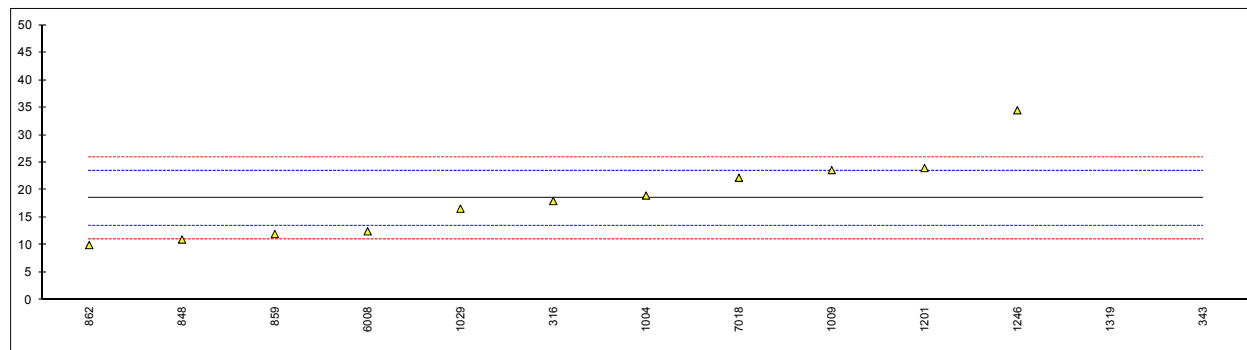
lab	method	value	mark	z(targ)	remarks
1319	D5453	0.2		----	
1342	D5453	0.0		----	
1343	D5453	0.2		----	
1438		----		----	
1460		----		----	
1465	D5453	0.140		----	
1510		----		----	
1530		----		----	
1557	ISO20846	<1	C	----	first reported:1.24
1615		----		----	
1656	D5453	<0.25		----	
1728	D5453	<1		----	
1866		----		----	
1886		----		----	
6008	D5453	0.013		----	
6013	D5453	<0,5		----	
6061		----		----	
6070	D5453	<1		----	
7018	D5623	<0.1		----	
	normality	n.a.			
	n	61			
	outliers	0			
	mean (n)	<1			
	st.dev. (n)	n.a.			
	R(calc.)	n.a.			
	R(D5453:16e1)	n.a.			

Determination of Trimethylamine (TMA) on sample #16160; results in µg/kg

lab	method	value	mark	z(targ)	remarks
53		----		----	
133		----		----	
150		----		----	
169		----		----	
171		----		----	
174		----		----	
311		----		----	
316	INH-601	18		-0.20	
319		----		----	
323		----		----	
333		----		----	
334		----		----	
343	INH-1501	227	D(0.01)	83.50	
344		----		----	
345		----		----	
346		----		----	
347		----		----	
357		----		----	
395		----		----	
445		----		----	
528		----		----	
529		----		----	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609		----		----	
646		----		----	
657		----		----	
663		----		----	
704		----		----	
786		----		----	
823		----		----	
824		----		----	
825		----		----	
840		----		----	
848	E346	11		-3.00	
849		NA		----	
852		----		----	
853		N/A		----	
855		----		----	
857		----		----	
858		----		----	
859	E346	12		-2.60	
860		----		----	
861		----		----	
862	E346	10		-3.40	
863		----		----	
864		----		----	
866		----		----	
870		----		----	
871		----		----	
902		----		----	
912		----		----	
913		----		----	
963		----		----	
974		----		----	
994		----		----	
997		----		----	
1004	E346	19		0.20	
1009	E346	23.63		2.06	
1010		----		----	
1016		----		----	
1029	E346	16.6		-0.76	
1041	E346	<100		----	
1067		----		----	
1107		----		----	
1120		----		----	
1181		----		----	
1201	E346	24		2.20	
1221		----		----	
1246	E346	34.511		6.41	
1256		----		----	
1264		----		----	

lab	method	value	mark	z(targ)	remarks
1319	In house	60	D(0.05)	16.62	
1342		----		----	
1343		----		----	
1438		----		----	
1460		----		----	
1465		----		----	
1510		----		----	
1530		----		----	
1557		----		----	
1615		----		----	
1656		----		----	
1728		----		----	
1866		----		----	
1886		----		----	
6008	E346	12.5		-2.40	
6013		----		----	
6061		----		----	
6070	E346	N/A		----	
7018	E346	22.23		1.49	
normality		OK			
n		11			
outliers		2			<u>spike:</u>
mean (n)		18.50			42.5 < 44% recovery
st.dev. (n)		7.333			
R(calc.)		20.53			
R(E346:08e1 *)		6.99			Compare R(Horwitz)=15.11

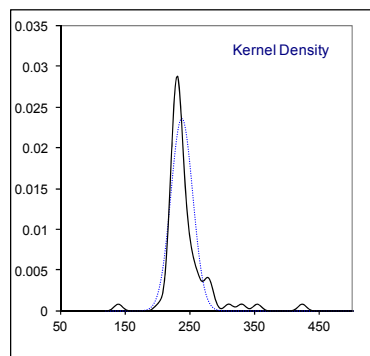
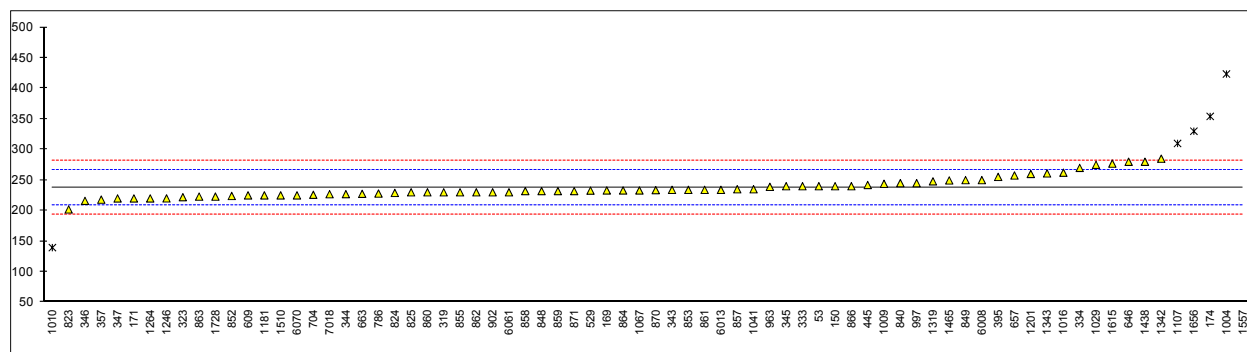
*) Reproducibility estimated based on repeatability data of ASTM E346:08e1



Determination of Water, Coulometric KF titration on sample #16160; results in mg/kg

lab	method	value	mark	z(target)	remarks
53	E1064	240	C	0.17	first reported: 0.024 mg/kg
133		----		----	
150	E1064	240		0.17	
169	E1064	233		-0.32	
171	E1064	220		-1.21	
174	E1064	354.2	R(0.01)	8.04	
311		----		----	
316		----		----	
319	E1064	230	C	-0.52	first reported:0.023 mg/kg
323	E1064	222		-1.08	
333	E1064	240		0.17	
334	E1064	270		2.23	
343	E1064	234		-0.25	
344	E1064	227		-0.73	
345	E1064	240		0.17	
346	E1064	216		-1.49	
347	E1064	220		-1.21	
357	E1064	218		-1.35	
395	E1064	255.24		1.22	
445	E1064	242		0.30	
528		----		----	
529	E1064	232.74		-0.34	
551		----		----	
554		----		----	
557		----		----	
608		----		----	
609	E1064	225		-0.87	
646	E1064	280		2.92	
657	D6304	257.55		1.37	
663	E1064	227.5		-0.70	
704	E1064	226.0		-0.80	
786	E1064	228		-0.66	
823	E1064	202		-2.45	
824	E1064	229		-0.59	
825	E1064	230		-0.52	
840	E1064	245		0.51	
848	E1064	232		-0.39	
849	E1064	250		0.85	
852	E1064	224		-0.94	
853	E1064	234		-0.25	
855	E1064	230		-0.52	
857	E1064	235		-0.18	
858	E1064	232		-0.39	
859	E1064	232		-0.39	
860	E1064	230		-0.52	
861	E1064	234		-0.25	
862	E1064	230		-0.52	
863	E1064	223		-1.01	
864	E1064	233		-0.32	
866	E1064	240		0.17	
870	E1064	233.6		-0.28	
871	E1064	232		-0.39	
902	E1064	230		-0.52	
912		----		----	
913		----		----	
963	E1064	239		0.10	
974		----		----	
994		----		----	
997	E1064	245		0.51	
1004	E1064	423.6	R(0.01)	12.82	
1009	E1064	243.99		0.44	
1010	E1064	139.5	R(0.01)	-6.76	
1016	E1064	262.1		1.69	
1029	E1064	275		2.58	
1041	E1064	235		-0.18	
1067	E1064	233		-0.32	
1107	E1064	310	R(0.01)	4.99	
1120		----		----	
1181	E1064	225		-0.87	
1201	E1064	260		1.54	
1221		----		----	
1246	E1064	220.05		-1.21	
1256		----		----	
1264	E1064	220		-1.21	

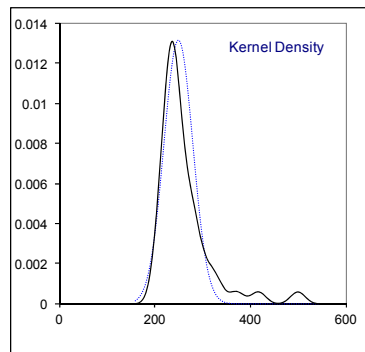
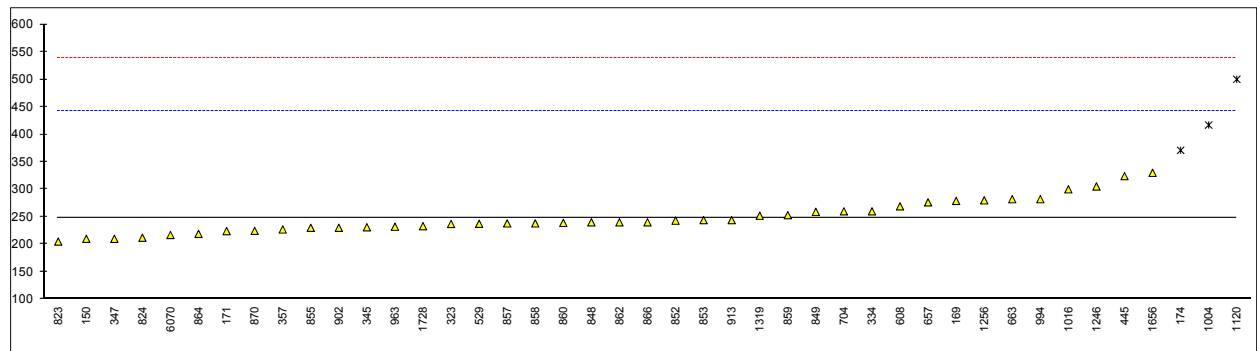
lab	method	value	mark	z(targ)	remarks
1319	E1064	248		0.72	
1342	E1064	285		3.27	
1343	E1064	260.9		1.61	
1438	D6304	280		2.92	
1460		----		----	
1465	E1064	249.5		0.82	
1510	E1064	225		-0.87	
1530		----		----	
1557	E1064	745	C,R(0.01)	34.97	first reported: 449
1615	E1064	277	C	2.71	first reported: 296
1656	E1064	330	C,R(0.01)	6.37	first reported: 310
1728	E1064	223		-1.01	
1866		----		----	
1886		----		----	
6008	E1064	250	C	0.85	first reported: 0.025 mg/kg
6013	E1064	234		-0.25	
6061	E1064	230		-0.52	
6070	E1064	225		-0.87	
7018	E1064	226.92		-0.74	
normality		not OK			
n		68			
outliers		6			
mean (n)		237.604			
st.dev. (n)		16.8962			
R(calc.)		47.309			
R(E1064:16)		40.630			



Determination of Water, Titrimetric on sample #16160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		----		----	
133		----		----	
150	E203	210		-0.40	
169	E203	279		0.31	
171	E203	224		-0.26	
174	E203	371.0	R(0.05)	1.27	
311		----		----	
316		----		----	
319		----		----	
323	E203	237		-0.12	
333		----		----	
334	E203	260		0.12	
343		----		----	
344		----		----	
345	E203	231		-0.19	
346		----		----	
347	E203	210		-0.40	
357	E203	227		-0.23	
395		----		----	
445	E203	324		0.78	
528		----		----	
529	E203	237.31		-0.12	
551		----		----	
554		----		----	
557		----		----	
608	E203	269		0.21	
609		----		----	
646		----		----	
657	E203	276.31		0.28	
663	E203	282		0.34	
704	E203	260		0.12	
786		----		----	
823	E203	205		-0.46	
824	E203	212		-0.38	
825		----		----	
840		----		----	
848	E203	240		-0.09	
849	E203	259		0.10	
852	E203	243		-0.06	
853	E203	244		-0.05	
855	E203	230		-0.20	
857	E203	238		-0.11	
858	E203	238		-0.11	
859	E203	253		0.04	
860	E203	239		-0.10	
861		----		----	
862	E203	240		-0.09	
863		----		----	
864	E203	219		-0.31	
866	E203	240		-0.09	
870	E203	224.5		-0.25	
871		----		----	
902	E203	230		-0.20	
912		----		----	
913	E203	244		-0.05	
963	E203	232		-0.18	
974		----		----	
994	E203	282.0		0.34	
997		----		----	
1004	E203	417	R(0.01)	1.74	
1009		----		----	
1010		----		----	
1016	D1364	300		0.53	
1029		----		----	
1041		----		----	
1067		----		----	
1107		----		----	
1120	E346	500	R(0.01)	2.60	
1181		----		----	
1201		----		----	
1221		----		----	
1246	E203	305.20		0.58	
1256	E203	280		0.32	
1264		----		----	

lab	method	value	mark	z(target)	remarks
1319	E203	252		0.03	
1342		----		----	
1343		----		----	
1438		----		----	
1460		----		----	
1465		----		----	
1510		----		----	
1530		----		----	
1557		----		----	
1615		----		----	
1656	E203	330		0.84	
1728	E203	233		-0.16	
1866		----		----	
1886		----		----	
6008		----		----	
6013		----		----	
6061		----		----	
6070	E203	217		-0.33	
7018		----		----	
normality		suspect			
n		40			
outliers		3			
mean (n)		248.908			
st.dev. (n)		30.3906			
R(calc.)		85.094			
R(E203:16)		270.000			

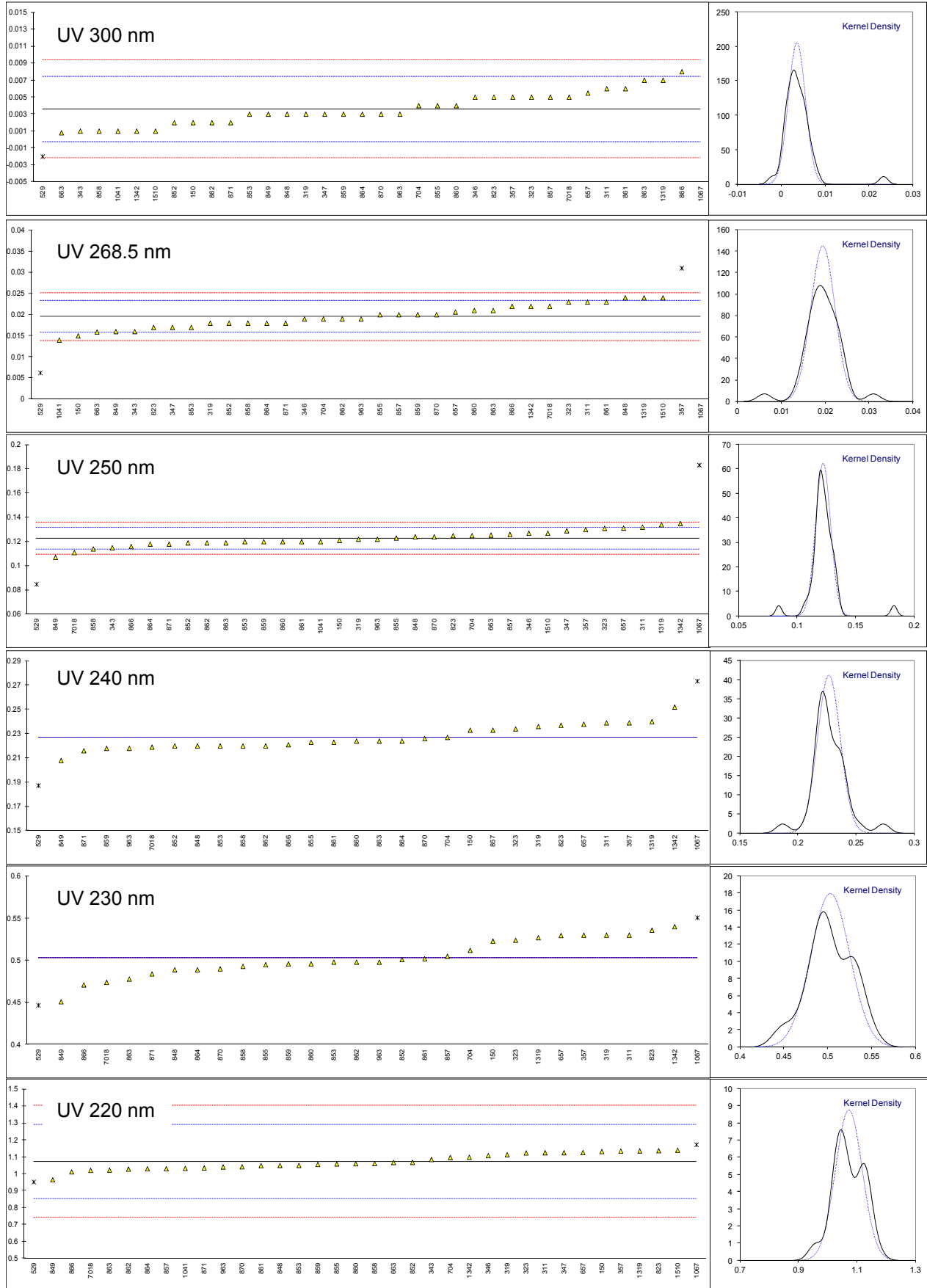


Determination of UV Absorbance (50 mm cuvette) on sample #16161

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
53		----	----	----	----	----	----	----
150	IMPCA004	0.002	0.015	0.121	0.233	0.523	1.132	Fail
169		----	----	----	----	----	----	----
171		----	----	----	----	----	----	----
174		----	----	----	----	----	----	----
311	IMPCA004	0.006	0.023	0.132	0.239	0.530	1.125	Fail
319	IMPCA004	0.003	0.018	0.122	0.236	0.530	1.113	Fail
323	IMPCA004	0.005	0.023	0.131	0.234	0.524	1.124	Fail
343	IMPCA004	0.001	0.016	0.115	----	----	1.085	Fail
346	IMPCA004	0.005	0.019	0.127	----	----	1.108	Fail
347	IMPCA004	0.003	0.017	0.129	----	----	1.125	Fail
357	IMPCA004	0.005	0.031	0.130	0.239	0.530	1.135	Fail
395		----	----	----	----	----	----	----
528		----	----	----	----	----	----	----
529	IMPCA004	-0.002001 ex	0.006201	0.08477	0.18725	0.44686 ex	0.95239 ex	Fail
551		----	----	----	----	----	----	----
657	IMPCA004	0.00548	0.02064	0.1312	0.2379	0.5296	1.126	Fail
663	IMPCA004	0.0008	0.0159	0.1254	----	----	1.0674	Fail
704	IMPCA004	0.004	0.019	0.125	0.227	0.512	1.097	Fail
823	IMPCA004	0.005	0.017	0.125	0.237	0.536	1.137	Fail
824		----	----	----	----	----	----	----
825		----	----	----	----	----	----	----
848	IMPCA004	0.003	0.024	0.124	0.220	0.489	1.050	Fail
849	IMPCA004	0.003	0.016	0.107	0.208	0.451	0.965	Fail
852	IMPCA004	0.002	0.018	0.119	0.220	0.501	1.068	Fail
853	IMPCA004	0.003	0.017	0.120	0.220	0.498	1.050	Fail
855	IMPCA004	0.004	0.020	0.123	0.223	0.495	1.059	Fail
857	IMPCA004	0.005	0.020	0.126	0.233	0.505	1.031	Fail
858	IMPCA004	0.001	0.018	0.114	0.220	0.493	1.061	Fail
859	IMPCA004	0.003	0.020	0.120	0.218	0.496	1.056	Fail
860	IMPCA004	0.004	0.021	0.120	0.224	0.496	1.060	Fail
861	IMPCA004	0.006	0.023	0.120	0.223	0.502	1.049	Fail
862	IMPCA004	0.002	0.019	0.119	0.220	0.498	1.028	Fail
863	IMPCA004	0.007	0.021	0.119	0.224	0.478	1.023	Fail
864	IMPCA004	0.003	0.018	0.118	0.224	0.489	1.030	Fail
866	IMPCA004	0.008	0.022	0.116	0.221	0.471	1.012	Fail
870	IMPCA004	0.003	0.020	0.124	0.226	0.490	1.042	Fail
871	IMPCA004	0.002	0.018	0.118	0.216	0.484	1.035	Fail
902		----	----	----	----	----	----	----
913		----	----	----	----	----	----	----
963	IMPCA004	0.003	0.019	0.122	0.218	0.498	1.041	Fail
994		----	----	----	----	----	----	----
1004		----	----	----	----	----	----	----
1016		----	----	----	----	----	----	----
1041	IMPCA004	0.001	0.014	0.120	----	----	1.033	Fail
1067	IMPCA004	0.0233	0.0657	0.1832	0.2734	0.5507 ex	1.1720 ex	Fail
1181		----	----	----	----	----	----	----
1201		----	----	----	----	----	----	----
1264		----	----	----	----	----	----	----
1319	IMPCA004	0.007	0.024	0.134	0.240	0.527	1.136	Fail
1342	IMPCA004	0.001	0.022	0.135	0.252	0.540	1.098	Pass
1343		----	----	----	----	----	----	----
1438		----	----	----	----	----	----	----
1460		----	----	----	----	----	----	----
1510	IMPCA004	0.001	0.024	0.127	----	----	1.140	Fail
1866		----	----	----	----	----	----	----
1886		----	----	----	----	----	----	----
6070		----	----	----	----	----	----	----
7018	IMPCA004	0.005	0.022	0.111	0.219	0.474	1.021	Pass
normality		OK	OK	OK	OK	OK	OK	n.a.
n		34	33	34	28	28	34	34
outliers		1+1ex	3	2	2	0+2ex	0+2ex	2
mean (n)		0.00360	0.01950	0.1226	0.2269	0.5032	1.0724	Fail
st.dev. (n)		0.001945	0.002750	0.00641	0.00972	0.02220	0.04559	n.a.
R(calc.)		0.00545	0.00770	0.0180	0.0272	0.0622	0.1277	n.a.
R(IMPCA004:15)		0.00539	0.00528	0.0124	unknown	unknown	0.3078	n.a.

Some test results of labs 529 and 1067 are excluded as the other test results of these labs are statistical outliers and test results are not independent

Bold and underlined test results are statistical outliers

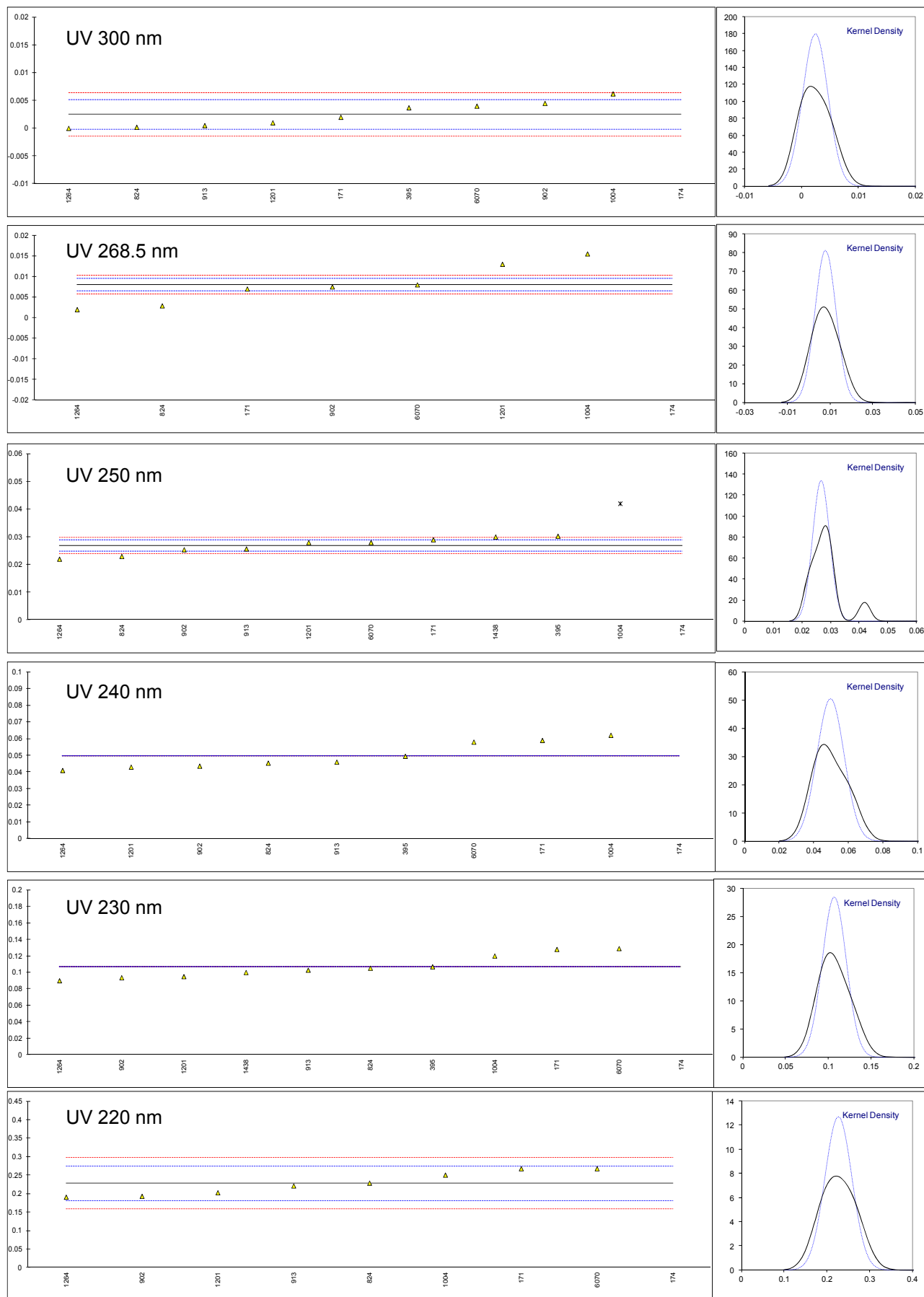


Determination of UV Absorbance (10 mm cuvette) on sample #16161

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
53		----	----	----	----	----	----	----
150		----	----	----	----	----	----	----
169		----	----	----	----	----	----	----
171	IMPCA004	0.002	0.007	0.029	0.059	0.128	0.268	Fail
174	IMPCA004	<u>0.164380</u>	<u>0.440730</u>	<u>0.154070</u>	<u>0.17428</u>	<u>0.39586</u>	<u>0.55525</u>	Fail
311		----	----	----	----	----	----	----
319		----	----	----	----	----	----	----
323		----	----	----	----	----	----	----
343		----	----	----	----	----	----	----
346		----	----	----	----	----	----	----
347		----	----	----	----	----	----	----
357		----	----	----	----	----	----	----
395	IMPCA004	0.0037	----	0.0303	0.0495	0.1069	----	Fail
528		----	----	----	----	----	----	----
529		----	----	----	----	----	----	----
551		----	----	----	----	----	----	----
657		----	----	----	----	----	----	----
663		----	----	----	----	----	----	----
704		----	----	----	----	----	----	----
823		----	----	----	----	----	----	----
824	IMPCA004	0.0002	0.0029	0.0230	0.0454	0.1052	0.2290	Fail
825		----	----	----	----	----	----	----
848		----	----	----	----	----	----	----
849		----	----	----	----	----	----	----
852		----	----	----	----	----	----	----
853		----	----	----	----	----	----	----
855		----	----	----	----	----	----	----
857		----	----	----	----	----	----	----
858		----	----	----	----	----	----	----
859		----	----	----	----	----	----	----
860		----	----	----	----	----	----	----
861		----	----	----	----	----	----	----
862		----	----	----	----	----	----	----
863		----	----	----	----	----	----	----
864		----	----	----	----	----	----	----
866		----	----	----	----	----	----	----
870		----	----	----	----	----	----	----
871		----	----	----	----	----	----	----
902	IMPCA004	0.0045	0.0075	0.0254 C	0.0436 C	0.0937	0.1933	Fail
913	IMPCA004	0.0005	----	0.0257	0.0460	0.1028	0.2215	Fail
963		----	----	----	----	----	----	----
994		----	----	----	----	----	----	----
1004	IMPCA004	0.0062	0.0155	<u>0.0420</u>	0.0621	0.1200	0.2507	Pass
1016		----	----	----	----	----	----	----
1041		----	----	----	----	----	----	----
1067		----	----	----	----	----	----	----
1181		----	----	----	----	----	----	----
1201	IMPCA004	0.001	0.013	0.028	0.043	0.095	0.203	Fail
1264	IMPCA004	0.000	0.002	0.022	0.041	0.090	0.191	Pass
1319		----	----	----	----	----	----	----
1342		----	----	----	----	----	----	----
1343		----	----	----	----	----	----	----
1438	In house	----	----	0.03	----	0.10	----	Fail
1460		----	----	----	----	----	----	----
1510		----	----	----	----	----	----	----
1866		----	----	----	----	----	----	----
1886		----	----	----	----	----	----	----
6070	IMPCA004	0.004	0.008	0.028	0.058	0.129	0.268	Fail
7018		----	----	----	----	----	----	----
normality		OK	unknown	OK	OK	OK	OK	n.a.
n		9	7	9	9	10	8	9
outliers		1	1	2	1	1	1	2
mean (n)		0.00246	0.00799	0.02682	0.04973	0.1071	0.2281	Fail
st.dev. (n)		0.002219	0.004908	0.002976	0.007899	0.01404	0.03152	n.a.
R(calc.)		0.00621	0.01374	0.00833	0.02212	0.0393	0.0883	n.a.
R(IMPCA004:15)		0.00368	0.00216	0.00271	unknown	unknown	0.0655	n.a.

Lab 902 first reported 0.0025 and 0.0044 for 250 nm and 240 nm respectively

Bold and underlined test results are statistical outliers



APPENDIX 2

z-scores 50 mm cuvette users

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm
53		----	----	----	----	----	----
150	IMPCA004	-0.83	-2.38	-0.37	----	----	0.54
169		----	----	----	----	----	----
171		----	----	----	----	----	----
174		----	----	----	----	----	----
311	IMPCA004	1.25	1.85	2.12	----	----	0.48
319	IMPCA004	-0.31	-0.80	-0.14	----	----	0.37
323	IMPCA004	0.73	1.85	1.89	----	----	0.47
343	IMPCA004	-1.35	-1.86	-1.73	----	----	0.11
346	IMPCA004	0.73	-0.27	0.99	----	----	0.32
347	IMPCA004	-0.31	-1.33	1.44	----	----	0.48
357	IMPCA004	0.73	6.09	1.66	----	----	0.57
395		----	----	----	----	----	----
528		----	----	----	----	----	----
529	IMPCA004	-2.91	-7.05	-8.56	----	----	-1.09
551		----	----	----	----	----	----
657	IMPCA004	0.98	0.60	1.94	----	----	0.49
663	IMPCA004	-1.45	-1.91	0.62	----	----	-0.05
704	IMPCA004	0.21	-0.27	0.53	----	----	0.22
823	IMPCA004	0.73	-1.33	0.53	----	----	0.59
824		----	----	----	----	----	----
825		----	----	----	----	----	----
848	IMPCA004	-0.31	2.38	0.31	----	----	-0.20
849	IMPCA004	-0.31	-1.86	-3.53	----	----	-0.98
852	IMPCA004	-0.83	-0.80	-0.82	----	----	-0.04
853	IMPCA004	-0.31	-1.33	-0.60	----	----	-0.20
855	IMPCA004	0.21	0.26	0.08	----	----	-0.12
857	IMPCA004	0.73	0.26	0.76	----	----	-0.38
858	IMPCA004	-1.35	-0.80	-1.95	----	----	-0.10
859	IMPCA004	-0.31	0.26	-0.60	----	----	-0.15
860	IMPCA004	0.21	0.79	-0.60	----	----	-0.11
861	IMPCA004	1.25	1.85	-0.60	----	----	-0.21
862	IMPCA004	-0.83	-0.27	-0.82	----	----	-0.40
863	IMPCA004	1.77	0.79	-0.82	----	----	-0.45
864	IMPCA004	-0.31	-0.80	-1.05	----	----	-0.39
866	IMPCA004	2.29	1.32	-1.50	----	----	-0.55
870	IMPCA004	-0.31	0.26	0.31	----	----	-0.28
871	IMPCA004	-0.83	-0.80	-1.05	----	----	-0.34
902		----	----	----	----	----	----
913		----	----	----	----	----	----
963	IMPCA004	-0.31	-0.27	-0.14	----	----	-0.29
994		----	----	----	----	----	----
1004		----	----	----	----	----	----
1016		----	----	----	----	----	----
1041	IMPCA004	-1.35	-2.91	-0.60	----	----	-0.36
1067	IMPCA004	10.23	24.48	13.69	----	----	0.91
1181		----	----	----	----	----	----
1201		----	----	----	----	----	----
1264		----	----	----	----	----	----
1319	IMPCA004	1.77	2.38	2.57	----	----	0.58
1342	IMPCA004	-1.35	1.32	2.80	----	----	0.23
1343		----	----	----	----	----	----
1438		----	----	----	----	----	----
1460		----	----	----	----	----	----
1510	IMPCA004	-1.35	2.38	0.99	----	----	0.61
1866		----	----	----	----	----	----
1886		----	----	----	----	----	----
6070		----	----	----	----	----	----
7018	IMPCA004	0.73	1.32	-2.63	----	----	-0.47

z-scores 10 mm cuvette users

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm
53		----	----	----	----	----	----
150		----	----	----	----	----	----
169		----	----	----	----	----	----
171	IMPCA004	-0.35	-1.28	2.25	----	----	1.71
174	IMPCA004	123.09	559.89	131.52	----	----	14.00
311		----	----	----	----	----	----
319		----	----	----	----	----	----
323		----	----	----	----	----	----
343		----	----	----	----	----	----
346		----	----	----	----	----	----
347		----	----	----	----	----	----
357		----	----	----	----	----	----
395	IMPCA004	0.95	----	3.59	----	----	----
528		----	----	----	----	----	----
529		----	----	----	----	----	----
551		----	----	----	----	----	----
657		----	----	----	----	----	----
663		----	----	----	----	----	----
704		----	----	----	----	----	----
823		----	----	----	----	----	----
824	IMPCA004	-1.71	-6.58	-3.95	----	----	0.04
825		----	----	----	----	----	----
848		----	----	----	----	----	----
849		----	----	----	----	----	----
852		----	----	----	----	----	----
853		----	----	----	----	----	----
855		----	----	----	----	----	----
857		----	----	----	----	----	----
858		----	----	----	----	----	----
859		----	----	----	----	----	----
860		----	----	----	----	----	----
861		----	----	----	----	----	----
862		----	----	----	----	----	----
863		----	----	----	----	----	----
864		----	----	----	----	----	----
866		----	----	----	----	----	----
870		----	----	----	----	----	----
871		----	----	----	----	----	----
902	IMPCA004	1.55	-0.63	-1.47	----	----	-1.49
913	IMPCA004	-1.49	----	-1.16	----	----	-0.28
963		----	----	----	----	----	----
994		----	----	----	----	----	----
1004	IMPCA004	2.85	9.72	15.69	----	----	0.97
1016		----	----	----	----	----	----
1041		----	----	----	----	----	----
1067		----	----	----	----	----	----
1181		----	----	----	----	----	----
1201	IMPCA004	-1.11	6.49	1.22	----	----	-1.07
1264	IMPCA004	-1.87	-7.74	-4.98	----	----	-1.59
1319		----	----	----	----	----	----
1342		----	----	----	----	----	----
1343		----	----	----	----	----	----
1438	In house	----	----	3.28	----	----	----
1460		----	----	----	----	----	----
1510		----	----	----	----	----	----
1866		----	----	----	----	----	----
1886		----	----	----	----	----	----
6070	IMPCA004	1.17	0.02	1.22	----	----	1.71
7018		----	----	----	----	----	----

APPENDIX 3**Number of participants per country****Main round**

1 lab in AZERBAIJAN
 1 lab in BAHRAIN
 2 labs in BELGIUM
 3 labs in BRAZIL
 3 labs in CANADA
 16 labs in CHINA, People's Republic
 1 lab in EGYPT
 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 ISRAEL
 1 lab in ITALY
 1 lab in JAPAN
 4 labs in MALAYSIA
 2 labs in MEXICO
 6 labs in NETHERLANDS
 2 labs in NEW ZEALAND
 1 lab in NORWAY
 1 lab in ROMANIA
 1 lab in RUSSIAN FEDERATION
 5 labs in SAUDI ARABIA
 1 lab in SERBIA
 1 lab in SINGAPORE
 3 labs in SOUTH KOREA
 5 labs in SPAIN
 1 lab in THAILAND
 1 lab in TRINIDAD and TOBAGO W.I.
 2 labs in TURKEY
 1 lab in UKRAINE
 2 labs in UNITED ARAB EMIRATES
 3 labs in UNITED KINGDOM
 10 labs in UNITED STATES OF AMERICA
 1 lab in VENEZUELA
 1 lab in VIETNAM

UV only

1 lab in AZERBAIJAN
 1 lab in BELGIUM
 1 lab in BRAZIL
 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 ISRAEL
 1 lab in ITALY
 1 lab in JAPAN
 2 labs in MEXICO
 5 labs in NETHERLANDS
 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
 8 labs in UNITED STATES OF AMERICA

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)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
R(0.01)	= outlier in Rosner outlier test
R(0.05)	= straggler in Rosner 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 calculations
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected

Literature:

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