Results of Proficiency Test
Methanol
September 2019

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1999, the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for Methanol every year. During the annual proficiency testing program 2019/2020, it was decided to continue the round robin for the analysis of Methanol in accordance with the latest applicable version of the IMPCA specification (latest version can be found and downloaded from www.impca.eu).

In this interlaboratory study 93 laboratories in 36 different countries registered for participation. See appendix 3 for the number of participants per country. In this report, the results of the 2019 Methanol 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 organizer of this proficiency test (PT). Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory. It was decided to send, depending on the registration, for the main round; 1x1L Methanol (labelled #19175) and/or for UV Determination only 1x100 mL Methanol (labelled #19176).
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/IEC17043:2010 (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 organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organization, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The necessary batch of Methanol for the main round, approximately 160 liters, was obtained from a local supplier. This batch was spiked with Acetone, Ethanol, Benzene, Chloride, Iron and Trimethylamine. After homogenization, 148 amber glass bottles of 1 L were filled and labelled #19175.
The homogeneity of the subsamples #19175 was checked by determination of Density at 20°C in accordance with ASTM D4052 and by determination of Chloride in accordance with IMPCA002 on 8 stratified randomly selected samples.

	Density at 20°C in kg/L	Chloride as Cl in mg/kg
sample #19175-1	0.79128	0.52
sample #19175-2	0.79129	0.53
sample #19175-3	0.79128	0.51
sample #19175-4	0.79128	0.51
sample #19175-5	0.79128	0.51
sample #19175-6	0.79129	0.50
sample #19175-7	0.79128	0.51
sample #19175-8	0.79128	0.50

Table 1: homogeneity test results of subsamples #19175

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 ISO13528, Annex B2 in the next table.

	Density at 20°C in kg/L	Chloride as Cl in mg/kg
r (observed)	0.00001	0.03
reference test method	ISO12185:96	IMPCA002:98
0.3 x R (ref. test method)	0.00015	0.09

Table 2: evaluation of repeatabilities of the subsamples #19175

The calculated repeatabilities of the Density and Chloride Determinations on sample #19175 were less than 0.3 times the corresponding reproducibility of the reference test methods. Therefore, homogeneity of the subsamples #19175 was assumed.

The necessary batch of Methanol for the UV-round, approximately 9 liters of Methanol was obtained from a local supplier. After homogenization, 88 amber glass bottles of 100 mL were filled and labelled #19176.

The homogeneity of the subsamples #19176 was checked by determination of UV absorbances at 220 nm (using a 50 mm cuvette) according to IMPCA004 on 8 stratified randomly selected samples.

	UV Absorbance at 220 nm
sample #19176-1	1.121
sample #19176-2	1.115
sample #19176-3	1.107
sample #19176-4	1.112
sample #19176-5	1.110
sample #19176-6	1.120
sample #19176-7	1.129
sample #19176-8	1.116

Table 3: homogeneity tests of subsamples #19176

From the above test results, the repeatability was calculated and compared with 0.3 times the corresponding reproducibility of the reference test method in agreement with the procedure of ISO13528, Annex B2 in the next table:

	UV Absorbance at 220 nm
r (observed)	0.020
reference test method	IMPCA004:15
0.3 x R (ref. test method)	0.096

Table 4: evaluation of repeatabilities of the subsamples #19176

The calculated repeatability at 220 nm of sample #19176 was less than 0.3 times the corresponding reproducibility of the reference test method. Therefore, the homogeneity of the subsamples #19176 was assumed.

To the participants, depending on the registration, 1 bottle of 1L labelled #19175 and/or 1 bottle of 100 mL labelled #19176 was sent on September 4, 2019. An SDS was added to the sample package.

2.5 STABILITY OF THE SAMPLES

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

2.6 ANALYSES

The participants were requested to determine on sample #19175: Acidity as Acetic Acid, Appearance, Carbonisable Substances Pt/Co, Inorganic Chloride as Cl, Color Pt/Co, Density at 20°C, Specific Gravity 20/20°C, Distillation (IBP, 50%, DP and Range), Iron as Fe, Water Miscibility, Nonvolatile Matter, Permanganate Time Test at 15°C, Purity as received, Purity on dry basis, Acetone, Benzene, Ethanol, Toluene, Sulfur, Trimethylamine and Water (coulometric and titrimetric). On sample #19176 it was requested to determine the UV absorbances at 300, 268.5, 250, 240, 230 and 220 nm and an evaluation of the UV scan.

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

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

3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis/. The reported test results are tabulated per determination in appendix 1 and 2 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalysis). Additional or corrected test results are used for data analysis and the original test results are placed under ‘Remarks’ in the test result tables in appendix 1 and 2. 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 June 2018 (iis-protocol, version 3.5).

For the statistical evaluation, the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as '<…' or '>…' were not used in the statistical evaluation.

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

According to ISO5725 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. In this PT, the criterion of ISO13528, paragraph 9.2.1. was met for all evaluated tests, therefore, the uncertainty of all assigned values may be negligible and need not be included in the PT report.

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

3.2 GRAPHICS

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

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

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

3.3 Z-SCORES

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

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

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

The z-scores were calculated according to:

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

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

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

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

4 EVALUATION

In this interlaboratory study, problems with sample dispatch were encountered due to several reasons (e.g. customs clearance), especially to Brazil and China. In the main round 23 participants reported late and 16 other participants did not report any test results. In the UV round 17 participants reported late and 18 other participants did not report any test results. Not all laboratories were able to report all analyses requested. In total 77 participants reported 1343 test results. Observed were 48 outlying test results, which is 3.6% of the numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

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

4.1 EVALUATION PER SAMPLE AND PER TEST

In this section, the results are discussed per sample and per test. 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.

Unfortunately, a suitable reference test method, providing the precision data, is not available for all determinations. For the tests, that have no available precision data, the calculated reproducibility was compared against the reproducibility estimated from the Horwitz equation.

In the iis PT reports, ASTM test methods are referred to with a number (e.g. D1209) and an added designation for the year that the test method was adopted or revised (e.g. D1209:05). If applicable, a designation in parentheses is added to designate the year of re-approval (e.g. D1209:05(2019)). In the test results tables of appendix 1 only the test method number and year of adoption or revision will be used.

Sample #19175

Acidity as Acetic Acid: This determination was not problematic. One statistical outlier was observed. The calculated the reproducibility after rejection of the statistical outlier is in agreement with the requirements of ASTM D1613:17.

Appearance: No analytical problems were observed with this determination. All reporting participants, except one, agreed about the appearance of sample #19175, which was bright, clear and free of suspended matter (Pass).

Carbonizable Substances: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of ASTM E346:08e1(withdrawn 2017).

Inorganic Chloride: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of IMPCA002:98.

Color 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(2019).

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

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

Distillation: This determination was not problematic. In total three statistical outliers were observed. However, the calculated reproducibilities after rejection of the statistical outliers were in good agreement with the respective requirements of ASTM D1078-A:11(2019).

Iron as Fe: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the requirements of ASTM E394:15.

Water Miscibility: No analytical problems were observed. All reporting participants, except one, agreed about the Water Miscibility of sample #19175 and reported “Pass”.

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

Permanganate Time Test: This determination was problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the requirements of ASTM D1363:06(2019).

Purity: For the determination of Purity as received and on dry basis in total four statistical outliers were observed and the test results of two participants were excluded. When the calculated reproducibilities after rejection of the suspect data are compared with the calculated reproducibilities of the 2018 iis18C05 proficiency test, the current reproducibilities were the same or smaller.

Acetone: This determination was problematic for a number of laboratories. Six statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the strict reproducibility estimated using the Horwitz equation.

Benzene: 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 strict reproducibility estimated using the Horwitz equation.

Ethanol: 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.

Toluene: All reporting participants, except one, agreed on a test result of less than 10 mg/kg. The Toluene content was near or below the detection limit. Therefore, no z-scores were calculated.

Sulfur, total: All reporting participants agreed on a test result of less than 1 mg/kg. The Sulfur content was near or below the detection limit. Therefore, no z-scores were calculated.

TMA: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in full agreement with the requirements calculated from the repeatability of ASTM E346:08e1 (withdrawn 2017).

Water, Coulometric: This determination was problematic for a number of laboratories. Six statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM E1064:16.

Water, Volumetric: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in good agreement with the requirements of ASTM E203:16.

Sample #19176

UV-Absorbance: The test results determined with a 50 mm or a 10 mm cuvette were evaluated separately. Only 5 participants used a 10 mm cuvette. Due to this low number of test results, it was decided not to evaluate the results measured with a 10 mm cuvette. The reported test results can be found in appendix 2. The IMPCA004 describes the use of a 50 mm cuvette.
The determination with a 50 mm cuvette may be problematic depending on the wavelength. In total thirteen statistical outliers were observed. The calculated reproducibilities of 300 nm and 220 nm after rejection of the statistical outliers were in agreement with the requirements of IMPCA004:15. The calculated reproducibilities of 268.5 nm and 250 nm were not in agreement.
Regretfully, for “UV at 240nm and 230nm” no precision data are available. All participants would have approved the sample with a '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 number of significant test results, the average result, the calculated reproducibility (2.8*standard deviation) and the target reproducibility derived from literature reference test methods (in casu ASTM and IMPCA standards) are compared in the next tables.

Parameter	unit	n	average	2.8 * sd	R (lit)
Acidity as Acetic Acid	mg/kg	66	14.4	10.1	14
Appearance		70	CFSM	n.a.	n.a.
Carbonizable substances Pt/Co		45	6.2	6.0	6.1
Chloride, Inorganic as Cl	mg/kg	52	0.54	0.13	0.3
Color Pt/Co		58	2.3	3.0	7
Density at 20°C	kg/L	68	0.7913	0.0002	0.0005
Specific Gravity 20/20°C		67	0.7927	0.0002	0.0005
Initial Boiling Point	°C	66	64.4	0.3	1.0
50% recovered	°C	66	64.5	0.2	0.4
Dry Point	°C	62	64.8	0.3	0.7
Iron as Fe	mg/kg	51	0.04	0.04	0.02
Miscibility with water		69	Pass	n.a.	n.a.
Nonvolatile Matter	mg/100mL	41	0.25	0.27	0.11
Permanganate Time Test at 15°C	minutes	62	66.5	27.1	16.8
Purity as received	%M/M	42	99.957	0.016	n.a.
Purity on dry basis	%M/M	58	99.989	0.008	n.a.
Acetone	mg/kg	55	19.2	5.0	5.5
Benzene	mg/kg	46	10.4	3.3	3.3
Ethanol	mg/kg	59	52.2	16.0	12.9
Toluene	mg/kg	48	<10	n.a.	n.a.
Sulfur, total	mg/kg	51	<1	n.a.	n.a.
Trimethylamine (TMA)	µg/kg	10	317	122	120
Water, Coulometric	mg/kg	61	317	53	50
Water, Volumetric	mg/kg	38	329	107	780

Table 5: reproducibilities for sample #19175

Parameter	unit	n	average	2.8 * sd	R (lit)
UV absorbance at 300 nm		31	0.004	0.005	0.006
UV absorbance at 268.5 nm		28	0.016	0.008	0.004
UV absorbance at 250 nm		30	0.089	0.016	0.009
UV absorbance at 240 nm		28	0.226	0.025	n.a.
UV absorbance at 230 nm		28	0.525	0.053	n.a.
UV absorbance at 220 nm		34	1.127	0.141	0.324
Evaluation of UV scan		33	Pass	n.a.	n.a.

Table 6: reproducibilities for sample #19176, 50 mm cuvette

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 2019 WITH PREVIOUS PTS

	September 2019	September 2018	September 2017	September 2016	September 2015
Number of reporting labs	77	96	80	82	73
Number of results reported	1343	1412	1456	1540	1267
Number of statistical outliers	48	62	54	56	38
Percentage outliers	3.6%	4.4%	3.7%	3.6%	3.0%

Table 7: 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 2019	September 2018	September 2017	September 2016	September 2015
Acidity as Acetic Acid	+	--	--	++	++
Carbonizable substances	+/-	-	+/-	+/-	--
Chloride, Inorganic as Cl	++	+	(+)	+	+
Color Pt/Co	++	++	++	++	++
Density at 20°C	++	++	++	++	++
Specific Gravity 20/20°C	++	++	++	++	++
Distillation	++	++	++	++	+
Iron as Fe	-	--	n.e.	--	--
Nonvolatile Matter	--	--	--	--	--
Permanganate Time Test at 15°C	-	+	-	+	n.e.
Acetone	+/-	n.e.	-	-	-
Benzene	+/-	n.e.	+	-	n.e.

	September 2019	September 2018	September 2017	September 2016	September 2015
Ethanol	-	-	+/-	-	-
Toluene	n.e.	n.e.	n.e.	n.e.	-
Sulfur	n.e.	n.e.	n.e.	n.e.	n.e.
Trimethylamine (TMA)	+/-	--	--	--	--
Water, Coulometric	+/-	+	+/-	-	+
Water, Titrimetric	++	++	++	++	++

Table 8: comparison determinations against the requirements of the reference test methods for sample #19175
Evaluation between brackets is for concentrations near or below the detection limits

	September 2019		September 2018		September 2017		September 2016		September 2015	
Cuvette (in mm)	50	10	50	10	50	10	50	10	50	10
UV absorbance at 300 nm	+/-	n.e.	+/-	+/-	+/-	+/-	-	+/-	-	++
UV absorbance at 268.5 nm	++	n.e.	++	++	+/-	--	--	-	--	++
UV absorbance at 250 nm	-	n.e.	+	-	+/-	--	--	-	--	+
UV absorbance at 220 nm	++	n.e.	+	+/-	++	-	-	++	++	+

Table 9: comparison determinations against the requirements of the reference test methods for sample #19176

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

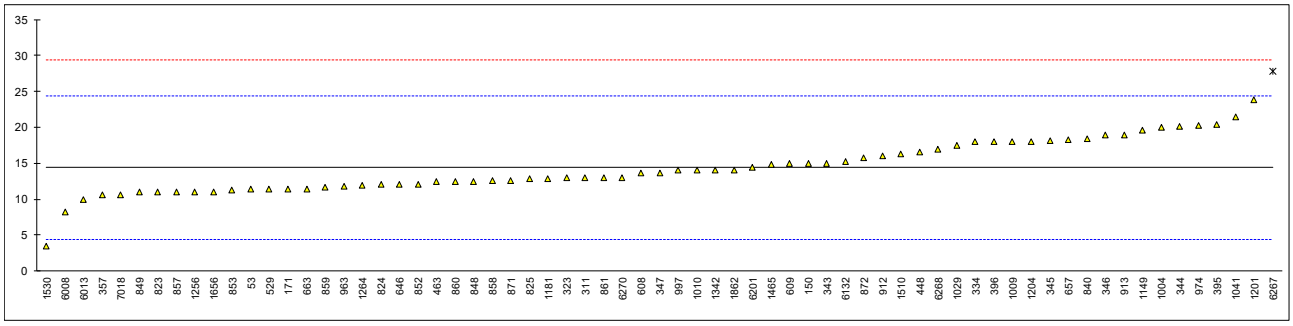
APPENDIX 1

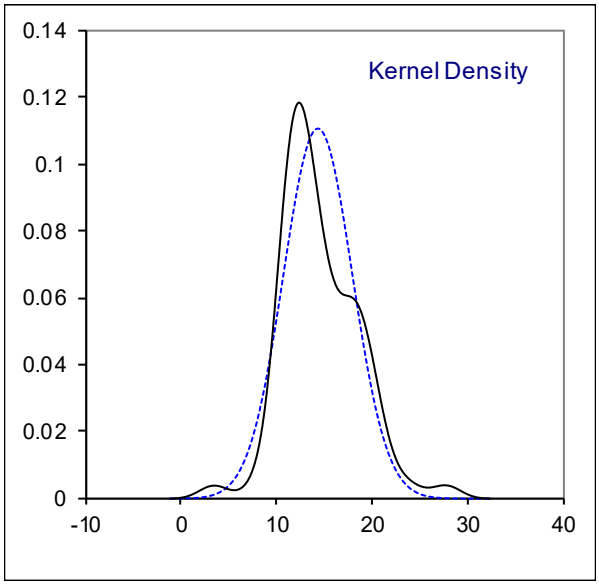
Determination of Acidity as Acetic Acid on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D1613	11.37		-0.60	
150	D1613	15		0.12	
171	D1613	11.4		-0.60	
311	D1613	13		-0.28	
316		-----		-----	
319		-----		-----	
323	D1613	13		-0.28	
333		-----		-----	
334	D1613	18		0.72	
335		-----		-----	
343	D1613	15.0		0.12	
344	D1613	20.1		1.14	
345	D1613	18.2		0.76	
346	D1613	19		0.92	
347	D1613	13.7		-0.14	
357	D1613	10.6		-0.76	
395	D1613	20.4		1.20	
396	D1613	18		0.72	
448	D1613	16.6		0.44	
463	D1613	12.4		-0.40	
529	D1613	11.376		-0.60	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1613	13.65		-0.15	
609	D1613	15		0.12	
646	D1613	12.1		-0.46	
657	D1613	18.3		0.78	
663	D1613	11.4		-0.60	
823	D1613	11		-0.68	
824	D1613	12		-0.48	
825	D1613	12.9		-0.30	
840	D1613	18.4		0.80	
848	D1613	12.5		-0.38	
849	D1613	11		-0.68	
852	D1613	12.1		-0.46	
853	D1613	11.2		-0.64	
855		-----		-----	
857	D1613	11.0		-0.68	
858	D1613	12.6		-0.36	
859	D1613	11.6		-0.56	
860	D1613	12.4		-0.40	
861	D1613	13		-0.28	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D1613	12.6		-0.36	
872	D1613	15.7		0.26	
912	D1613	16		0.32	
913	D1613	19		0.92	
963	D1613	11.8		-0.52	
970		-----		-----	
974	D1613	20.2		1.16	
994		-----		-----	
997	D1613	14		-0.08	
1004	D1613	20		1.12	
1009	D1613	18		0.72	
1010	D1613	14		-0.08	
1029	D1613	17.54		0.63	
1041	D1613	21.4		1.40	
1120		-----		-----	
1149	D1613	19.6		1.04	
1181	D1613	12.9		-0.30	
1201	D1613	23.8		1.88	
1204	D1613	18		0.72	
1256	D1613	11		-0.68	
1264	D1613	11.95		-0.49	
1342	D1613	14		-0.08	
1465	D1613	14.9		0.10	
1510	D1613	16.3		0.38	
1530	D1613	3.46		-2.18	

lab	method	value	mark	z(targ)	remarks
1656	D1613	11		-0.68	
1862	D1613	14.0	C	-0.08	first reported: 31.07
1886		-----		-----	
6008	D1613	8.2		-1.24	
6013	D1613	10		-0.88	
6061		-----		-----	
6070		-----		-----	
6132	D1613	15.19		0.16	
6201	D1613	14.4		0.00	
6262		-----		-----	
6267	D1613	27.84	R(0.05)	2.69	
6268	D1613	17		0.52	
6270	D1613	13		-0.28	
6273		-----		-----	
7018		10.6		-0.76	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	66
outliers	1
mean (n)	14.376
st.dev. (n)	3.6135
R(calc.)	10.118
st.dev.(D1613:17)	5
R(D1613:17)	14





Determination of Appearance on sample #19175;

lab	method	value	mark	z(targ)	remarks
53	IMPCA003	Clear and Free		-----	
150	E2680	Pass		-----	
171	E2680	Pass		-----	
311	IMPCA003	clear, free of suspended material		-----	
316		-----		-----	
319		-----		-----	
323	E2680	CBL		-----	
333		-----		-----	
334		-----		-----	
335	IMPCA003	Clear and free of suspended matter		-----	
343	IMPCA003	PASS		-----	
344	IMPCA003	C&B		-----	
345	E2680	pass		-----	
346	IMPCA003	Pass		-----	
347	E2680	pass		-----	
357	IMPCA003	CFSM		-----	
395	IMPCA003	PASS		-----	
396	IMPCA003	CFSM		-----	
448	IMPCA003	C&B		-----	
463	IMPCA003	clear and particles		-----	
529	Visual	pass		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	IMPCA005	CFSM		-----	
609	E2680	CFSM		-----	
646	IMPCA003	CFSM		-----	
657	IMPCA003	Pass		-----	
663	IMPCA003	Clear and free from suspended matter		-----	
823	IMPCA003	CFSM		-----	
824	IMPCA003	Clear and free of suspended matter		-----	
825	IMPCA003	Clear and free from suspended matter		-----	
840	E2680	Pass		-----	
848	Visual	Clear and bright		-----	
849	Visual	Clear&Bright		-----	
852	IMPCA003	pass		-----	
853	IMPCA003	Clear&Free		-----	
855		-----		-----	
857	IMPCA003	Clear and free from suspended matter		-----	
858	IMPCA003	Bright & Clear		-----	
859	IMPCA003	Pass		-----	
860	Visual	Clear&Bright		-----	
861	Visual	Pass		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871		Clear&Bright		-----	
872	IMPCA003	Pass		-----	
912	IMPCA003	CSFM		-----	
913	E2680	Pass		-----	
963	IMPCA003	CFSM		-----	
970	IMPCA003	Pass		-----	
974	IMPCA003	Pass		-----	
994		-----		-----	
997	IMPCA003	CFSM		-----	
1004	IMPCA003	clear and free of suspended matter		-----	
1009	In house	PASS		-----	
1010	IMPCA003	Cl&fsm		-----	
1029	IMPCA003	CFSM		-----	
1041	IMPCA003	CFSM		-----	
1120	E346	pass		-----	
1149	IMPCA003	CFSM		-----	
1181	IMPCA003	Clear & free from suspended matter		-----	
1201	IMPCA003	Clear & Bright		-----	
1204	IMPCA003	Clear and free of Suspended Matter		-----	
1256	IMPCA003	Clean and Bright		-----	
1264	IMPCA003	CFSM		-----	
1342		CFSM		-----	
1465	IMPCA003	Clear & Free		-----	
1510	IMPCA003	C & B		-----	
1530	IMPCA003	pass		-----	

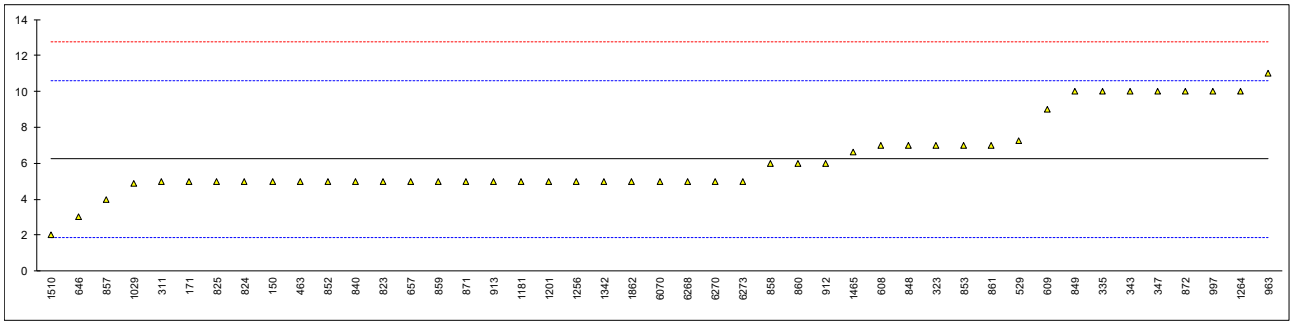
lab	method	value	mark	z(targ)	remarks
1656	IMPCA003	Pass		-----	
1862	IMPCA003	Clear and free of suspended matter		-----	
1886		-----		-----	
6008	IMPCA003	Clear and free of suspended matter		-----	
6013	IMPCA003	Cl&Br		-----	
6061		-----		-----	
6070	E2680	Clear and Free		-----	
6132	IMPCA003	Pass		-----	
6201	IMPCA003	clear and free from suspended matter		-----	
6262		-----		-----	
6267	IMPCA003	Clear and free from suspended matter		-----	
6268	IMPCA003	Clear and free from suspended matter		-----	
6270	IMPCA003	Clear and free from suspended matter		-----	
6273	IMPCA003	CFSM		-----	
7018	IMPCA	C.F.S.M		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	
	n	70			
	mean (n)	CFSM / Pass			

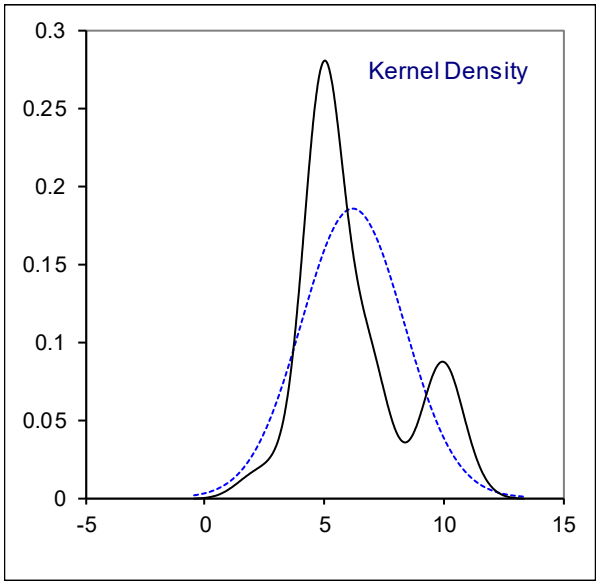
Determination of Carbonizable Substances Pt/Co on sample #19175;

lab	method	value	mark	z(targ)	remarks
53	E346	<5		-----	
150	E346	5		-0.57	
171	E346	5		-0.57	
311	E346	5		-0.57	
316		-----		-----	
319		-----		-----	
323	E346	7		0.35	
333		-----		-----	
334		-----		-----	
335	E346	10		1.73	
343	E346	10.0		1.73	
344	E346	<30		-----	
345		-----		-----	
346	E346	<10		-----	
347	E346	10		1.73	
357	E346	<5		-----	
395		-----		-----	
396		-----		-----	
448		-----		-----	
463	E346	5		-0.57	
529	E346	7.25		0.46	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	E346	7		0.35	
609	E346	9		1.27	
646	E346	3		-1.49	
657	E346	5		-0.57	
663		-----		-----	
823	E346	5		-0.57	
824	E346	5		-0.57	
825	E346	5		-0.57	
840	E346	5		-0.57	
848	E346	7		0.35	
849	E346	10		1.73	
852	E346	5		-0.57	
853	E346	7		0.35	
855		-----		-----	
857	E346	4		-1.03	
858	E346	6		-0.11	
859	E346	5		-0.57	
860	E346	6		-0.11	
861	E346	7		0.35	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	E346	5		-0.57	
872	E346	10		1.73	
912	E346	6		-0.11	
913	E346	5		-0.57	
963	E346	11		2.18	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E346	10		1.73	
1004	E346	<30	C	-----	first reported:16
1009	In house	<30		-----	
1010		-----		-----	
1029	E346	4.90		-0.61	
1041		-----		-----	
1120		-----		-----	
1149	E346	<30		-----	
1181	E346	5		-0.57	
1201	E346	5		-0.57	
1204	E346	<5		-----	
1256	E346	5		-0.57	
1264	E346	10		1.73	
1342	E346	5		-0.57	
1465	E346	6.6		0.17	
1510	E346	2	C	-1.95	first reported: 20
1530		-----		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	E346	5		-0.57	
1886		-----		-----	
6008	E346	<30		-----	
6013		-----		-----	
6061		-----		-----	
6070	E346	5	C	-0.57	
6132	E346	<5		-----	
6201	E346	<5		-----	
6262		-----		-----	
6267	E346	<30		-----	
6268	E346	5		-0.57	
6270	E346	5		-0.57	
6273	E346	5		-0.57	
7018		<30		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	45
outliers	0
mean (n)	6.239
st.dev. (n)	2.1456
R(calc.)	6.008
st.dev.(E346:08e1)	2.1790
R(E346:08e1)	6.101



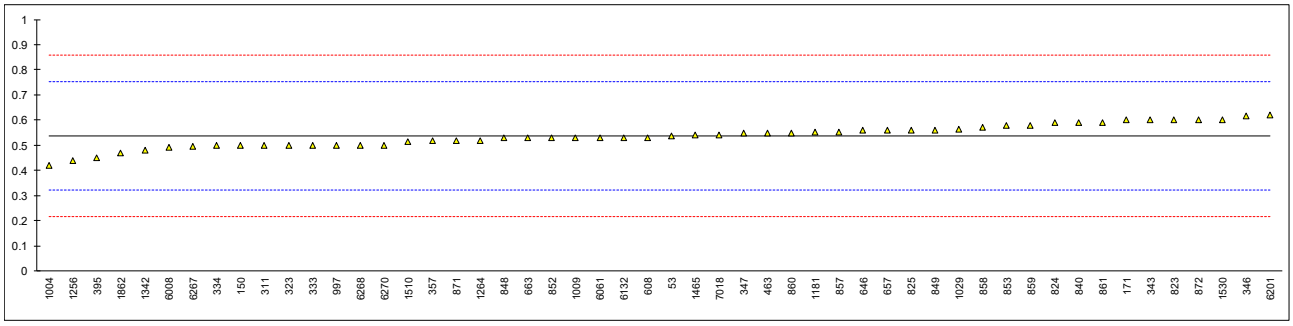


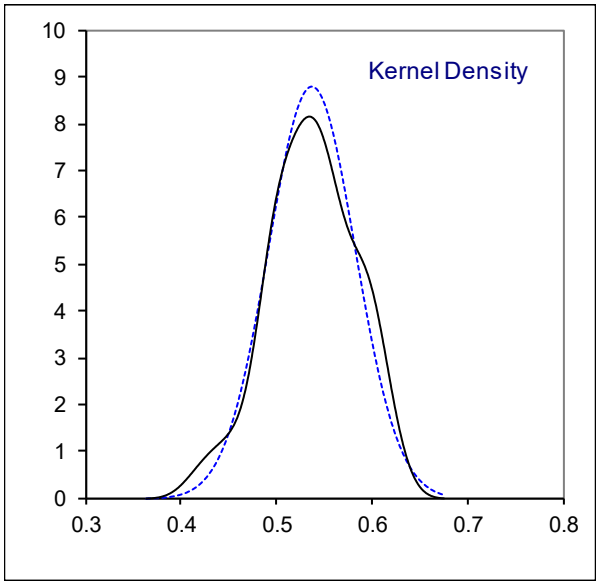
Determination of Chloride, Inorganic as Cl on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA002	0.5375		0.00	
150	IMPCA002	0.5		-0.35	
171	IMPCA002	0.6	C	0.58	first reported: 0.74
311	IMPCA002	0.5		-0.35	
316		-----		-----	
319		-----		-----	
323	IMPCA002	0.5		-0.35	
333	IMPCA002	0.5		-0.35	
334	IMPCA002	0.5		-0.35	
335		-----		-----	
343	IMPCA002	0.6		0.58	
344		-----		-----	
345		-----		-----	
346	IMPCA002	0.618		0.75	
347	IMPCA002	0.55		0.12	
357	IMPCA002	0.52		-0.16	
395	IMPCA002	0.452		-0.80	
396		-----		-----	
448		-----		-----	
463	IMPCA002	0.55		0.12	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	IMPCA002	0.531		-0.06	
609		-----		-----	
646	IMPCA002	0.558		0.19	
657	IMPCA002	0.56		0.21	
663	IMPCA002	0.53		-0.07	
823	IMPCA002	0.6		0.58	
824	IMPCA002	0.59		0.49	
825	IMPCA002	0.56		0.21	
840	IMPCA002	0.59		0.49	
848	IMPCA002	0.53		-0.07	
849	IMPCA002	0.56		0.21	
852	IMPCA002	0.53		-0.07	
853	IMPCA002	0.58		0.40	
855		-----		-----	
857	IMPCA002	0.554		0.15	
858	IMPCA002	0.57		0.30	
859	IMPCA002	0.58		0.40	
860	IMPCA002	0.55		0.12	
861	IMPCA002	0.59		0.49	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA002	0.52		-0.16	
872	IMPCA002	0.6		0.58	
912		-----		-----	
913		-----		-----	
963		-----		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA002	0.5		-0.35	
1004	IMPCA002	0.42		-1.10	
1009	In house	0.53		-0.07	
1010		-----		-----	
1029	IMPCA002	0.564		0.25	
1041		-----		-----	
1120		-----		-----	
1149	Inh-1501	>0.2		-----	
1181	IMPCA002	0.5513		0.13	
1201		-----		-----	
1204		-----		-----	
1256	IMPCA002	0.4407		-0.90	
1264	IMPCA002	0.52		-0.16	
1342	IMPCA002	0.48	C	-0.54	first reported: 48
1465	In house	0.5397		0.02	
1510	IMPCA002	0.5162		-0.20	
1530	IMPCA002	0.60	C	0.58	first reported: 0.87

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	IMPCA002	0.47	C	-0.63	first reported: 0.1783
1886		-----		-----	
6008	IMPCA002	0.49		-0.44	
6013		-----		-----	
6061	IMPCA002	0.53		-0.07	
6070		-----		-----	
6132	IMPCA002	0.53		-0.07	
6201	IMPCA002	0.62		0.77	
6262		-----		-----	
6267	In house	0.4968		-0.38	
6268	IMPCA002	0.5		-0.35	
6270	IMPCA002	0.5		-0.35	
6273		-----		-----	
7018	In house	0.542		0.04	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	52
outliers	0
mean (n)	0.538
st.dev. (n)	0.0453
R(calc.)	0.127
st.dev.(IMPCA002:98)	0.1071
R(IMPCA002:98)	0.3



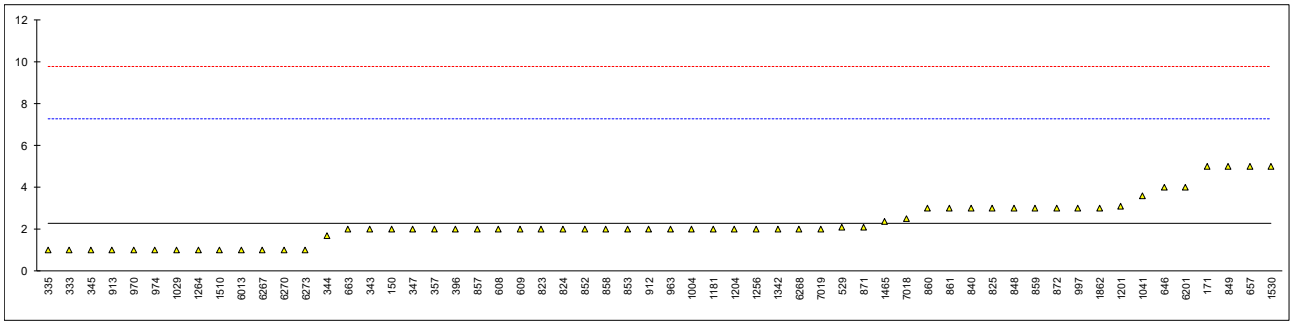


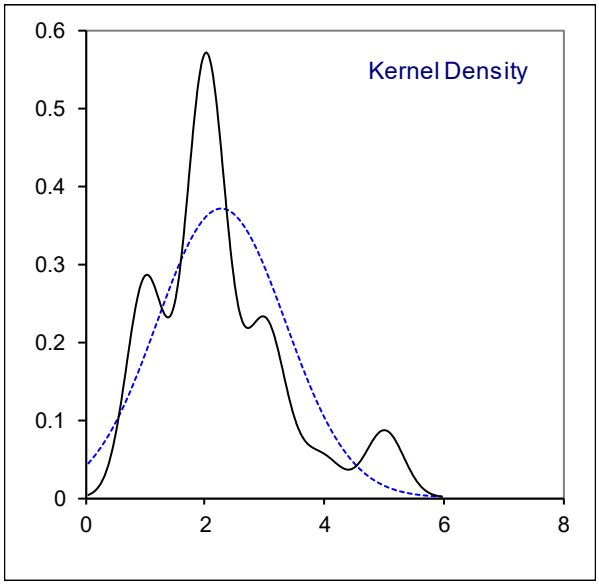
Determination of Color as Pt/Co on sample #19175;

lab	method	value	mark	z(targ)	remarks
53	D1209	<5		-----	
150	D5386	2		-0.11	
171	D1209	5		1.09	
311	D1209	<5		-----	
316		-----		-----	
319		-----		-----	
323	D1209	<5		-----	
333	D1209	1		-0.51	
334		-----		-----	
335	D1209	1		-0.51	
343	D5386	2		-0.11	
344	D1209	1.7		-0.23	
345	D5386	1		-0.51	
346	D1209	<5		-----	
347	D5386	2		-0.11	
357	D5386	2		-0.11	
395	D1209	<5		-----	
396	D1209	2		-0.11	
448	D1209	<5		-----	
463	D1209	<5		-----	
529	D1209	2.1		-0.07	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1209	2		-0.11	
609	D1209	2		-0.11	
646	D1209	4		0.69	
657	D1209	5		1.09	
663	D1209	2		-0.11	
823	D5386	2		-0.11	
824	D5386	2		-0.11	
825	D1209	3		0.29	
840	D1209	3		0.29	
848	D1209	3		0.29	
849	D1209	5		1.09	
852	D1209	2		-0.11	
853	D1209	2		-0.11	
855		-----		-----	
857	D1209	2		-0.11	
858	D1209	2		-0.11	
859	D1209	3		0.29	
860	D1209	3		0.29	
861	D1209	3		0.29	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D1209	2.1		-0.07	
872	D1209	3		0.29	
912	D5386	2		-0.11	
913	D5386	1		-0.51	
963	D1209	2		-0.11	
970	D1209	1		-0.51	
974	D1209	1		-0.51	
994		-----		-----	
997	D1209	3		0.29	
1004	D1209	2	C	-0.11	first reported: 22
1009	D1209	<5		-----	
1010	D1209	<5		-----	
1029	D1209	1		-0.51	
1041	D1209	3.6		0.53	
1120		-----		-----	
1149	D1209	<5		-----	
1181	D1209	2		-0.11	
1201	D5386	3.1		0.33	
1204	D1209	2		-0.11	
1256	D1209	2		-0.11	
1264	D1209	1		-0.51	
1342	D1209	2		-0.11	
1465	D1209	2.35		0.03	
1510	D1209	1		-0.51	
1530	D1209	5		1.09	

lab	method	value	mark	z(targ)	remarks
1656	D1209	<5		-----	
1862	D1209	3		0.29	
1886		-----		-----	
6008	D1209	<5		-----	
6013	D5386	1		-0.51	
6061		-----		-----	
6070		-----		-----	
6132	D1209	<5		-----	
6201	D1209	4		0.69	
6262		-----		-----	
6267	D1209	1		-0.51	
6268	D1209	2		-0.11	
6270	D1209	1		-0.51	
6273	D1209	1		-0.51	
7018		2.5		0.09	
7019	D1209	2.0		-0.11	
7101		-----		-----	
9014		-----		-----	

normality	suspect
n	58
outliers	0
mean (n)	2.27
st.dev. (n)	1.077
R(calc.)	3.02
st.dev.(D1209:05)	2.50
R(D1209:05)	7





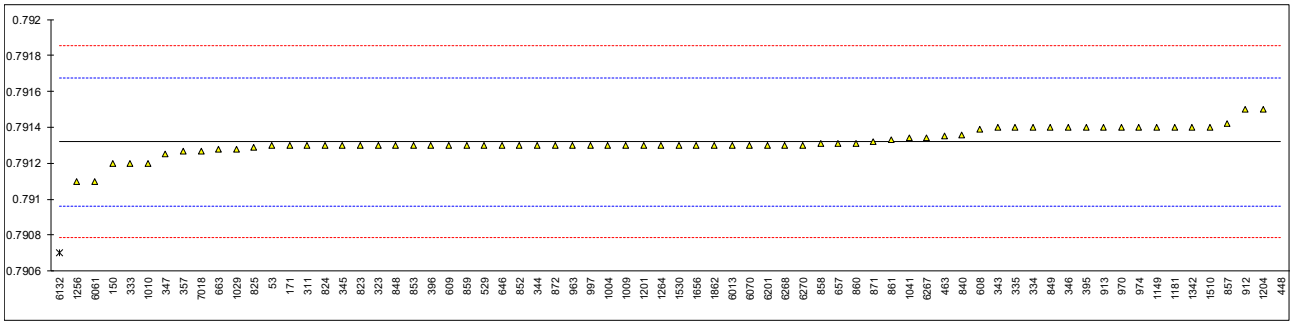
Determination of Density at 20°C on sample #19175; results in kg/L

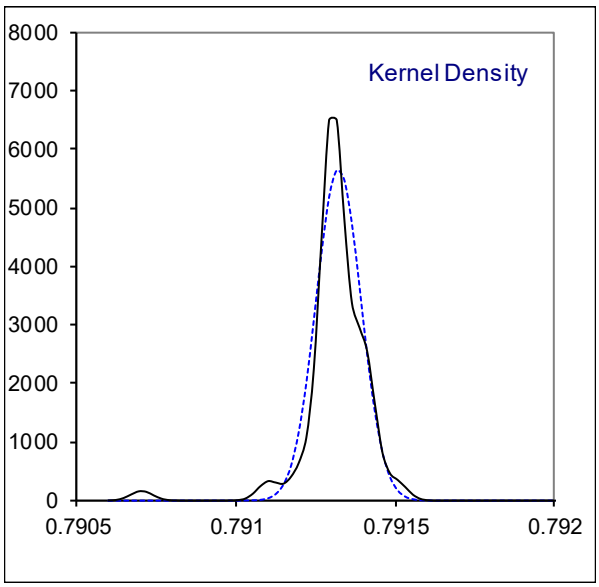
lab	method	value	mark	z(targ)	remarks
53	D4052	0.7913		-0.11	
150	D4052	0.7912		-0.67	
171	D4052	0.7913	C	-0.11	first reported: 0.7927
311	D4052	0.7913		-0.11	
316		-----		-----	
319		-----		-----	
323	ISO12185	0.7913		-0.11	
333	ISO12185	0.7912		-0.67	
334	ISO12185	0.7914		0.45	
335	ISO12185	0.7914		0.45	
343	D4052	0.7914		0.45	
344	D4052	0.7913		-0.11	
345	D4052	0.7913		-0.11	
346	D1298	0.7914		0.45	
347	D4052	0.79125		-0.39	
357	D4052	0.79127		-0.28	
395	D4052	0.7914		0.45	
396	D4052	0.7913		-0.11	
448	D4052	0.7966	C,R(0.01)	29.57	reported: 796.6 kg/L
463	D4052	0.79135		0.17	
529	D4052	0.7913		-0.11	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D4052	0.79139	C	0.39	reported: 791.39 kg/L
609	D4052	0.7913		-0.11	
646	D4052	0.7913		-0.11	
657	D4052	0.79131		-0.05	
663	D4052	0.79128		-0.22	
823	ISO12185	0.7913		-0.11	
824	ISO12185	0.7913		-0.11	
825	ISO12185	0.79129		-0.17	
840	D4052	0.79136		0.23	
848	D4052	0.7913		-0.11	
849	D4052	0.7914		0.45	
852	D4052	0.7913		-0.11	
853	D4052	0.7913		-0.11	
855		-----		-----	
857	D4052	0.79142		0.56	
858	D4052	0.79131		-0.05	
859	D4052	0.7913		-0.11	
860	D4052	0.79131		-0.05	
861	D4052	0.79133		0.06	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D4052	0.79132		0.00	
872	D4052	0.7913		-0.11	
912	D4052	0.7915		1.01	
913	D4052	0.7914		0.45	
963	ISO12185	0.7913		-0.11	
970	D4052	0.7914		0.45	
974	D4052	0.7914		0.45	
994		-----		-----	
997	ISO12185	0.7913		-0.11	
1004	D4052	0.7913		-0.11	
1009	D4052	0.7913	C	-0.11	first reported as Specific Gravity
1010	D4052	0.7912		-0.67	
1029	D4052	0.79128		-0.22	
1041	ISO12185	0.79134		0.11	
1120		-----		-----	
1149	D4052	0.7914		0.45	
1181	D4052	0.7914		0.45	
1201	D4052	0.7913		-0.11	
1204	D4052	0.7915		1.01	
1256	D4052	0.7911		-1.23	
1264	D4052	0.7913		-0.11	
1342	ISO12185	0.7914		0.45	
1465		-----		-----	
1510	ISO12185	0.7914		0.45	
1530	ISO12185	0.7913	C	-0.11	first reported as 791.3

lab	method	value	mark	z(targ)	remarks
1656	D4052	0.7913		-0.11	
1862	ISO12185	0.79130		-0.11	
1886		-----		-----	
6008		-----		-----	
6013	D4052	0.7913		-0.11	
6061	D4052	0.7911		-1.23	
6070	D4052	0.7913		-0.11	
6132	D4052	0.7907	R(0.01)	-3.47	
6201	ISO12185	0.79130		-0.11	
6262		-----		-----	
6267	D4052	0.79134		0.11	
6268	D4052	0.7913		-0.11	
6270	D4052	0.7913		-0.11	
6273		-----		-----	
7018	D4052	0.79127		-0.28	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	not OK
n	68
outliers	2
mean (n)	0.79132
st.dev. (n)	0.000071
R(calc.)	0.00018
st.dev.(ISO12185:96)	0.000179
R(ISO12185:96)	0.0005

Compare R(ASTM D4052:18a) = 0.0005





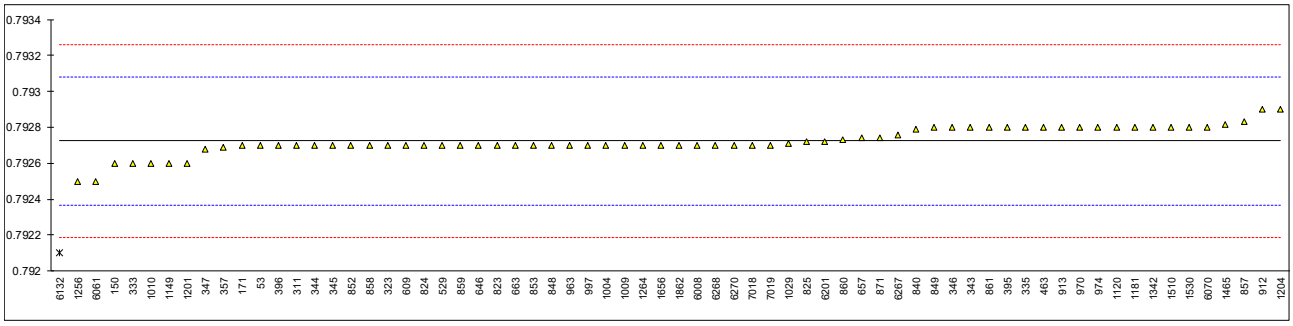
Determination of Specific Gravity 20/20°C on sample #19175;

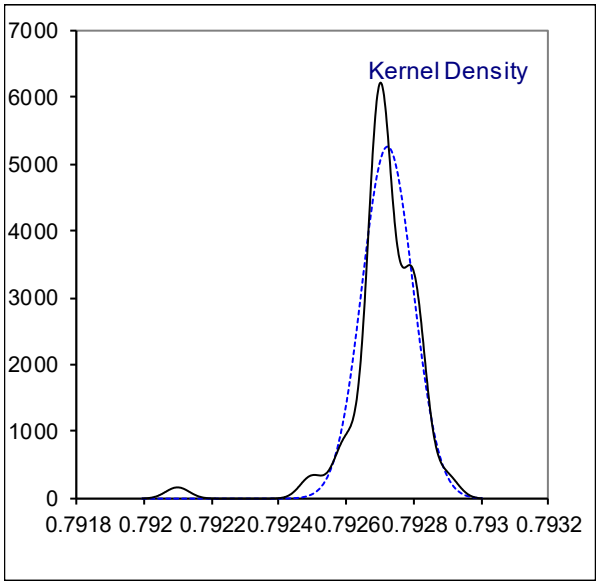
lab	method	value	mark	z(targ)	remarks
53	D4052	0.7927		-0.14	
150	D4052	0.7926		-0.70	
171	D4052	0.7927	C	-0.14	first reported: 0.7913
311	D4052	0.7927		-0.14	
316		-----		-----	
319		-----		-----	
323	ISO12185	0.7927		-0.14	
333	ISO12185	0.7926		-0.70	
334		-----		-----	
335	ISO12185	0.7928		0.42	
343	D4052	0.7928		0.42	
344	D4052	0.7927		-0.14	
345	D4052	0.7927		-0.14	
346	D1298	0.7928		0.42	
347	D4052	0.79268		-0.25	
357	D4052	0.79269		-0.19	
395	D4052	0.7928		0.42	
396	D4052	0.7927		-0.14	
448		-----		-----	
463	D4052	0.7928		0.42	
529	D4052	0.7927		-0.14	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	D4052	0.7927		-0.14	
646	D4052	0.7927		-0.14	
657	D4052	0.79274		0.09	
663	D4052	0.7927		-0.14	
823	ISO12185	0.7927		-0.14	
824	ISO12185	0.7927		-0.14	
825	D4052	0.79272		-0.02	
840	D4052	0.79279		0.37	
848	D4052	0.7927		-0.14	
849	D4052	0.7928		0.42	
852	D4052	0.7927		-0.14	
853	D4052	0.7927		-0.14	
855		-----		-----	
857	D4052	0.79283		0.59	
858		0.7927		-0.14	
859	D4052	0.7927		-0.14	
860	D4052	0.79273		0.03	
861	D4052	0.7928		0.42	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D4052	0.79274		0.09	
872		-----		-----	
912	D4052	0.7929		0.98	
913	D4052	0.7928		0.42	
963	ISO12185	0.7927		-0.14	
970	D4052	0.7928		0.42	
974	D4052	0.7928		0.42	
994		-----		-----	
997	ISO12185	0.7927		-0.14	
1004	D4052	0.7927		-0.14	
1009	D4052	0.7927	C	-0.14	first reported as Density
1010	D4052	0.7926		-0.70	
1029	D4052	0.79271		-0.08	
1041		-----		-----	
1120	E346	0.79280	C	0.42	first reported: 0.792
1149	D4052	0.7926		-0.70	
1181	D4052	0.7928		0.42	
1201	D4052	0.7926		-0.70	
1204	D4052	0.7929		0.98	
1256	D4052	0.7925		-1.26	
1264	D4052	0.7927		-0.14	
1342	ISO12185	0.7928		0.42	
1465	D4052	0.792815		0.51	
1510	ISO12185	0.7928		0.42	
1530	ISO12185	0.7928	C	0.42	

lab	method	value	mark	z(targ)	remarks
1656	D4052	0.7927		-0.14	
1862	ISO12185	0.7927		-0.14	
1886		-----		-----	
6008	D4052	0.79270		-0.14	
6013		-----		-----	
6061	D4052	0.7925		-1.26	
6070	D4052	0.7928		0.42	
6132	D4052	0.7921	R(0.01)	-3.50	
6201	ISO12185	0.79272		-0.02	
6262		-----		-----	
6267	D4052	0.79276		0.20	
6268	D4052	0.7927		-0.14	
6270	D4052	0.7927		-0.14	
6273		-----		-----	
7018	D4052	0.7927		-0.14	
7019	D4052	0.7927		-0.14	
7101		-----		-----	
9014		-----		-----	

normality	suspect
n	67
outliers	1
mean (n)	0.79272
st.dev. (n)	0.000076
R(calc.)	0.00021
st.dev.(ISO12185:96)	0.000179
R(ISO12185:96)	0.0005

Compare R(ASTM D4052:18a) = 0.0005



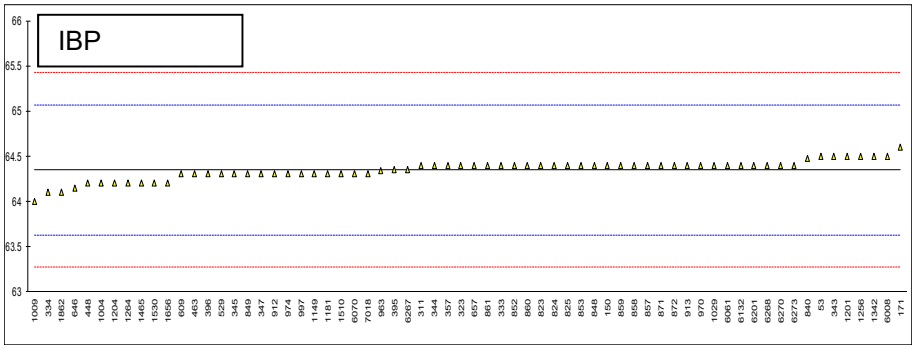


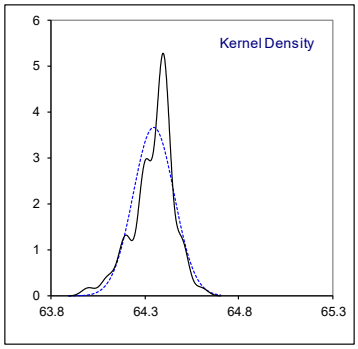
Determination of Initial Boiling Point, 50% recovered and Dry Point on sample #19175; results in °C

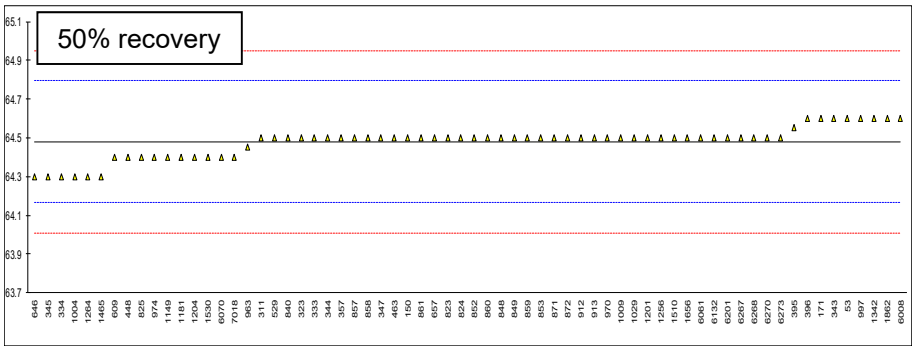
lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
53	D1078-automated	64.5		0.42	64.6		0.77	64.8		-0.10	0.3
150	D1078-automated	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
171	D1078-automated	64.6		0.70	64.6		0.77	64.8		-0.10	0.2
311		64.4		0.15	64.5		0.13	64.8		-0.10	0.4
316		-----		-----	-----		-----	-----		-----	-----
319		-----		-----	-----		-----	-----		-----	-----
323	D1078-manual	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
333	D1078-automated	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
334	D1078-automated	64.1		-0.69	64.3		-1.14	64.4	R(0.05)	-1.72	0.3
335		-----		-----	-----		-----	-----		-----	-----
343	D1078-automated	64.5		0.42	64.6		0.77	-----		-----	-----
344	D1078-automated	64.4		0.15	64.5		0.13	64.8		-0.10	-----
345	D1078-automated	64.3		-0.13	64.3		-1.14	64.8		-0.10	0.5
346		-----		-----	-----		-----	-----		-----	-----
347	D1078-automated	64.3		-0.13	64.5		0.13	64.9		0.30	0.6
357	D1078-automated	64.4		0.15	64.5		0.13	64.7		-0.50	0.3
395	D1078-automated	64.35		0.01	64.55		0.45	64.95		0.50	0.6
396	D1078-automated	64.3		-0.13	64.6		0.77	64.9		0.30	0.6
448		64.2		-0.41	64.4		-0.50	64.7		-0.50	0.5
463	D1078-automated	64.3		-0.13	64.5		0.13	64.8		-0.10	0.5
529	D1078-automated	64.3		-0.13	64.5		0.13	64.9		0.30	0.6
541		-----		-----	-----		-----	-----		-----	-----
551		-----		-----	-----		-----	-----		-----	-----
554		-----		-----	-----		-----	-----		-----	-----
557		-----		-----	-----		-----	-----		-----	-----
608		-----		-----	-----		-----	-----		-----	-----
609	D1078	64.3		-0.13	64.4		-0.50	64.7		-0.50	0.1
646	D1078-manual	64.15		-0.55	64.30		-1.14	64.70		-0.50	0.5
657	D1078-automated	64.4		0.15	64.5		0.13	65.0		0.71	0.6
663		-----		-----	-----		-----	-----		-----	-----
823	D1078-automated	64.4		0.15	64.5		0.13	64.9		0.30	0.5
824	D1078-automated	64.4		0.15	64.5		0.13	64.9		0.30	0.5
825	D1078-automated	64.4		0.15	64.4		-0.50	64.7		-0.50	0.3
840	D1078-automated	64.47		0.34	64.50		0.13	64.99		0.67	0.52
848	D1078	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
849	D1078-manual	64.3		-0.13	64.5		0.13	64.8		-0.10	0.5
852	D1078-manual	64.4		0.15	64.5		0.13	64.7		-0.50	0.3
853	D1078	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
855		-----		-----	-----		-----	-----		-----	-----
857	D1078	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
858	D1078-automated	64.4		0.15	64.5		0.13	64.8		-0.10	0.3
859	D1078	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
860	D1078-manual	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
861	D1078	64.4		0.15	64.5		0.13	64.8		-0.10	-----
862		-----		-----	-----		-----	-----		-----	-----
863		-----		-----	-----		-----	-----		-----	-----
864		-----		-----	-----		-----	-----		-----	-----
866		-----		-----	-----		-----	-----		-----	-----
870		-----		-----	-----		-----	-----		-----	-----
871	D1078	64.4		0.15	64.5		0.13	64.7		-0.50	0.3
872	D1078	64.4		0.15	64.5		0.13	64.7		-0.50	0.3
912	D1078-manual	64.3		-0.13	64.5		0.13	64.9		0.30	0.6
913	D1078-manual	64.4		0.15	64.5		0.13	65.0		0.71	0.6
963	D1078-automated	64.34		-0.02	64.45		-0.18	64.86		0.14	0.52
970	D1078-automated	64.4		0.15	64.5		0.13	64.9		0.30	0.5
974	D1078-automated	64.3		-0.13	64.4		-0.50	64.9		0.30	0.6
994		-----		-----	-----		-----	-----		-----	-----
997	D1078-manual	64.3		-0.13	64.6		0.77	65.0		0.71	0.7
1004	D1078-automated	64.2		-0.41	64.3		-1.14	64.3	R(0.01)	-2.12	0.1
1009	D1078-automated	64.0		-0.97	64.5		0.13	64.8		-0.10	0.8
1010		-----		-----	-----		-----	-----		-----	-----
1029	D1078-automated	64.4		0.15	64.5		0.13	64.8		-0.10	-----
1041		-----		-----	-----		-----	-----		-----	-----
1120		-----		-----	-----		-----	-----		-----	-----
1149	D1078	64.3		-0.13	64.4		-0.50	64.8		-0.10	0.5
1181	D1078-automated	64.3		-0.13	64.4		-0.50	64.9		0.30	0.6
1201	D1078-automated	64.5		0.42	64.5		0.13	64.8		-0.10	0.3
1204	D1078-automated	64.2		-0.41	64.4		-0.50	64.7		-0.50	-----
1256	D1078-manual	64.5		0.42	64.5		0.13	64.9		0.30	0.4
1264	D1078-automated	64.2		-0.41	64.3		-1.14	64.7		-0.50	0.5
1342	D1078	64.5		0.42	64.6		0.77	65.0		0.71	0.5
1465	D1078-automated	64.2		-0.41	64.3		-1.14	64.6		-0.91	0.4
1510	D1078-automated	64.3		-0.13	64.5		0.13	64.8		-0.10	0.5
1530		64.2		-0.41	64.4		-0.50	64.6		-0.91	0.4

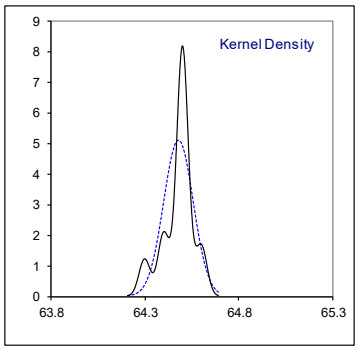
lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
1656	D1078-automated	64.2		-0.41	64.5		0.13	64.8		-0.10	0.6
1862	D1078-automated	64.1		-0.69	64.6		0.77	65.0		0.71	64.5-64.7
1886		-----		-----	-----		-----	-----		-----	-----
6008	D1078-automated	64.5		0.42	64.6		0.77	64.9		0.30	0.4
6013		-----		-----	-----		-----	-----		-----	-----
6061		64.4		0.15	64.5		0.13	64.9		0.30	0.5
6070	D1078-automated	64.3		-0.13	64.4		-0.50	64.8		-0.10	0.5
6132	D1078-automated	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
6201	D1078-manual	64.4		0.15	64.5		0.13	64.9		0.30	0.5
6262		-----		-----	-----		-----	-----		-----	-----
6267	D1078-manual	64.35		0.01	64.5		0.13	64.95		0.50	0.6
6268	D1078-manual	64.4		0.15	64.5		0.13	65.2	R(0.05)	1.51	0.8
6270	D1078-manual	64.4		0.15	64.5		0.13	64.8		-0.10	0.4
6273	D1078-manual	64.4		0.15	64.5		0.13	65.0		0.71	-----
7018		64.3		-0.13	64.4		-0.50	64.7		-0.50	0.4
7019		-----		-----	-----		-----	-----		-----	-----
7101		-----		-----	-----		-----	-----		-----	-----
9014		-----		-----	-----		-----	-----		-----	-----

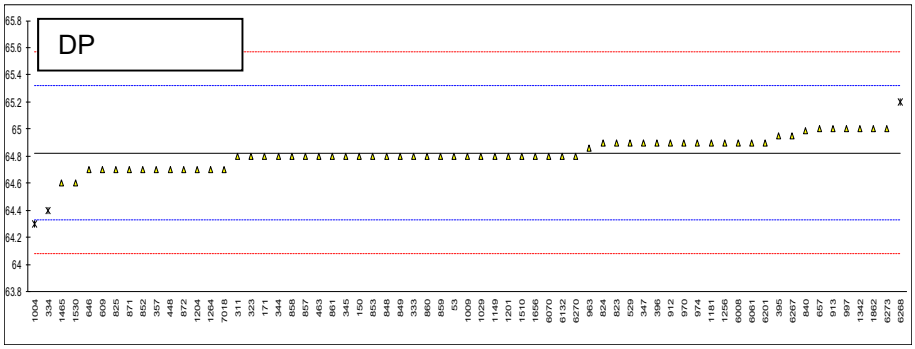
normality	suspect	OK	OK
n	66	66	62
outliers	0	0	3
mean (n)	64.35	64.48	64.82
st.dev. (n)	0.109	0.078	0.100
R(calc.)	0.30	0.218	0.28
st.dev.(D1078-A:11)	0.359	0.1571	0.248
R(D1078-A:11)	1.00	0.440	0.69

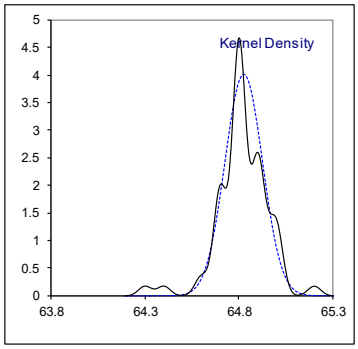










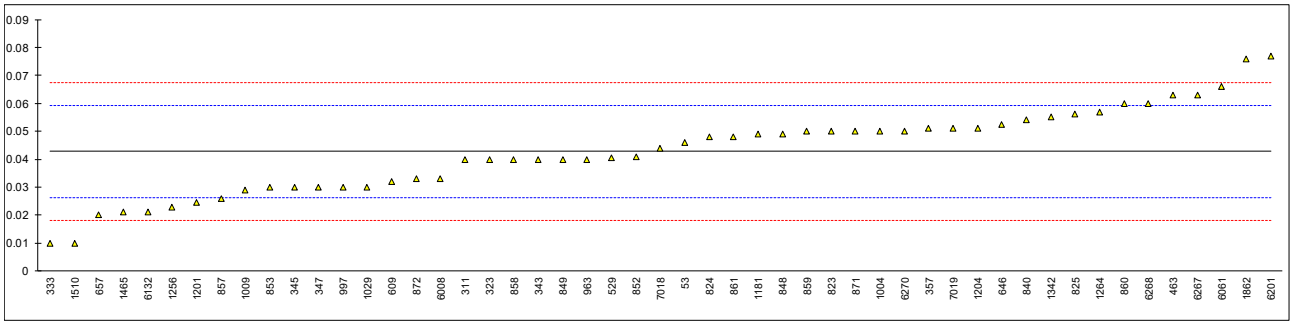


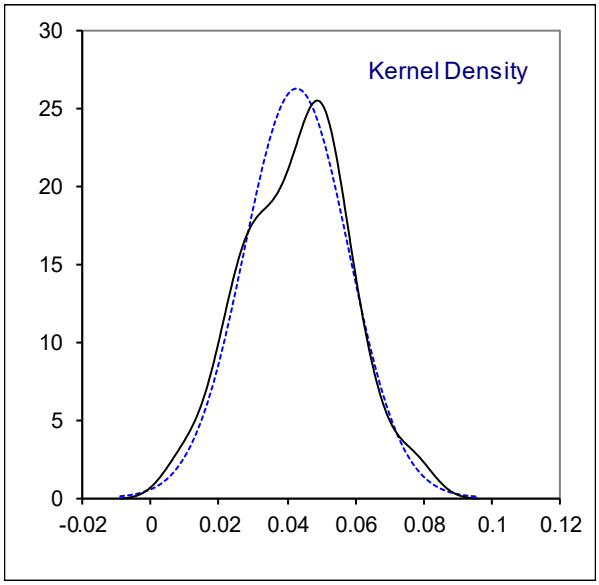
Determination of Iron as Fe on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E394	0.046		0.39	
150	E394	<0.1		-----	
171		-----		-----	
311	E394	0.04		-0.33	
316		-----		-----	
319		-----		-----	
323	E394	0.04		-0.33	
333	E394	0.01		-3.98	
334		-----		-----	
335		-----		-----	
343	E394	0.04		-0.33	
344	E394	<0.1		-----	
345	E394	0.03		-1.55	
346	E394	<0,1		-----	
347	E394	0.03		-1.55	
357	E394	0.051		1.00	
395		-----		-----	
396		-----		-----	
448		-----		-----	
463	E394	0.063		2.46	
529	E394	0.04065		-0.26	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	E394	0.032		-1.31	
646	E394	0.0525		1.18	
657	E394	0.02		-2.76	
663		-----		-----	
823	E394	0.05		0.88	
824	E394	0.048		0.64	
825	E394	0.056		1.61	
840	E394	0.054		1.36	
848	E394	0.049		0.76	
849	E394	0.04		-0.33	
852	E394	0.041		-0.21	
853	E394	0.03		-1.55	
855		-----		-----	
857	E394	0.026		-2.03	
858	E394	0.04		-0.33	
859	E394	0.05		0.88	
860	E394	0.06		2.09	
861	E394	0.048		0.64	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	E394	0.05		0.88	
872	E394	0.033		-1.18	
912		-----		-----	
913		-----		-----	
963	E394	0.04		-0.33	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E394	0.03		-1.55	
1004	E394	0.05		0.88	
1009	In house	0.029		-1.67	
1010		-----		-----	
1029	E394	0.03		-1.55	
1041		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	E394	0.0489		0.75	
1201	E394	0.0245		-2.22	
1204	E394	0.0512		1.02	
1256	E394	0.023		-2.40	
1264	E394	0.057		1.73	
1342	E394	0.055		1.49	
1465	E394	0.021	C	-2.64	first reported 0.21
1510	E394	0.01		-3.98	
1530		-----		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	E394	0.076		4.03	
1886		-----		-----	
6008	E394	0.033		-1.18	
6013		-----		-----	
6061	E394	0.066		2.82	
6070		-----		-----	
6132	E394	0.021		-2.64	
6201	E394	0.077		4.16	
6262		-----		-----	
6267	E394	0.063		2.46	
6268	E394	0.06		2.09	
6270	E394	0.05		0.88	
6273		-----		-----	
7018		0.044		0.15	
7019	E394	0.051		1.00	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	51
outliers	0
mean (n)	0.0428
st.dev. (n)	0.01521
R(calc.)	0.0426
st.dev.(E394:15)	0.00824
R(E394:15)	0.0231





Determination of Miscibility with water (Hydrocarbons) on sample #19175;

lab	method	value	mark	z(targ)	remarks
53	D1722	Pass		---	
150	D1722	Pass		---	
171	D1722	Pass		---	
311	D1722	pass		---	
316		---		---	
319		---		---	
323	D1722	PASS		---	
333	D1722	Pass		---	
334		---		---	
335	D1722	Pass test		---	
343	D1722	PASS		---	
344	D1722	pass		---	
345	D1722	PASS		---	
346	D1722	Pass		---	
347	D1722	Pass		---	
357	D1722	Pass		---	
395	D1722	PASS		---	
396	D1722	PASS		---	
448	D1722	PASS		---	
463	D1722	passes test		---	
529	D1722	pass test		---	
541		---		---	
551		---		---	
554		---		---	
557		---		---	
608	D1722	Passes test		---	
609	D1722	PASS		---	
646	D1722	FAIL		---	possible false negative test?
657	D1722	Pass		---	
663	D1722	Passes test		---	
823	D1722	Pass		---	
824	D1722	pass		---	
825	D1722	passes Test		---	
840	D1722	Passes		---	
848	D1722	pass		---	
849	D1722	PASS TEST		---	
852	D1722	pass		---	
853		---		---	
855		---		---	
857	D1722	Passes Test		---	
858	D1722	Pass		---	
859	D1722	Pass		---	
860	D1722	Pass		---	
861	D1722	Pass		---	
862		---		---	
863		---		---	
864		---		---	
866		---		---	
870		---		---	
871	D1722	Pass		---	
872	D1722	Pass		---	
912	D1722	Pass		---	
913	D1722	Pass		---	
963	D1722	Pass		---	
970	D1722	Pass		---	
974	D1722	Pass		---	
994		---		---	
997	D1722	pass		---	
1004	D1722	PASS TEST		---	
1009	D1722	PASS		---	
1010	D1722	Passes		---	
1029	D1722	pass		---	
1041	D1722	pass		---	
1120	E346	pass		---	
1149	D1722	Pass		---	
1181	D1722	PASS		---	
1201	D1722	Pass		---	
1204	D1722	Passes test		---	
1256	D1722	Passes Test		---	
1264	D1722	Pass		---	
1342		Pass		---	
1465	D1722	Pass		---	
1510	D1722	Pass		---	
1530	D1722	pass		---	

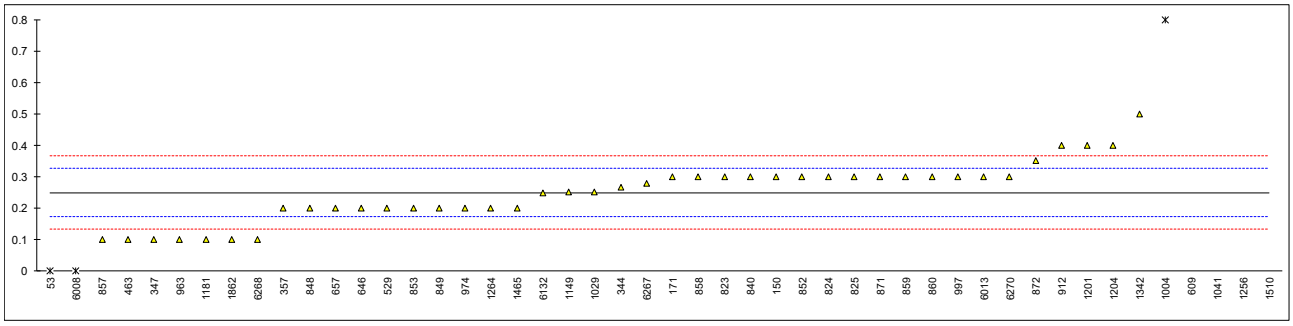
lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	D1722	Passed test		-----	
1886		-----		-----	
6008	D1722	Pass		-----	
6013	D1722	Pass		-----	
6061		-----		-----	
6070	D1722	Pass		-----	
6132	D1722	Pass		-----	
6201	D1722	pass		-----	
6262		-----		-----	
6267	D1722	Passes test		-----	
6268	D1722	Passes test		-----	
6270	D1722	Passes test		-----	
6273	D1722	Pass		-----	
7018	D1722	passes test		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	
	n	69			
	mean (n)	Pass(es test)			

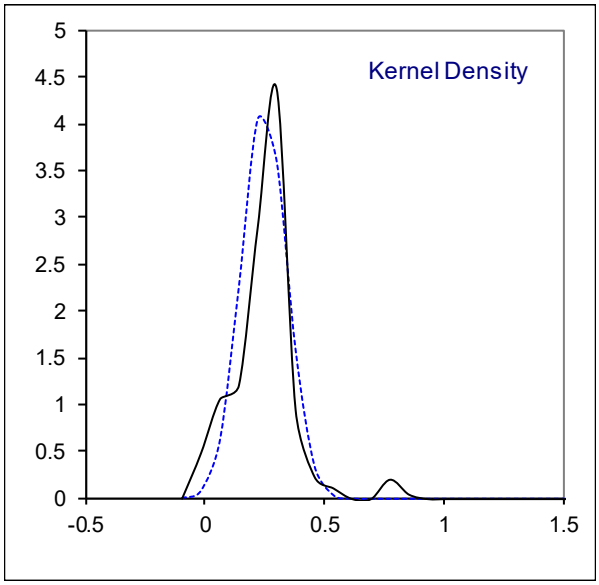
Determination of Nonvolatile Matter on sample #19175; results in mg/100 mL

lab	method	value	mark	z(targ)	remarks
53	D1353	0	ex	-6.49	test result excluded for zero is not a real value
150	D1353	0.3		1.30	
171	D1353	0.3		1.30	
311	D1353	<1		-----	
316		-----		-----	
319		-----		-----	
323	D1353	<1		-----	
333		-----		-----	
334	D1353	<0.1		<-3.89	possible false negative test result?
335		-----		-----	
343		-----		-----	
344	D1353	0.267		0.44	
345	D1353	<0.1		<-3.89	possible false negative test result?
346		-----		-----	
347	D1353	0.1		-3.89	
357	D1353	0.2		-1.30	
395		-----		-----	
396		-----		-----	
448		-----		-----	
463	D1353	0.1		-3.89	
529	D1353	0.2		-1.30	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	D1353	2	R(0.01)	45.44	
646	D1353	0.2		-1.30	
657	D1353	0.2		-1.30	
663		-----		-----	
823	D1353	0.3		1.30	
824	D1353	0.3		1.30	
825	D1353	0.3		1.30	
840	D1353	0.3		1.30	
848	D1353	0.2		-1.30	
849	D1353	0.2		-1.30	
852	D1353	0.3		1.30	
853	D1353	0.2		-1.30	
855		-----		-----	
857	D1353	0.1		-3.89	
858	D1353	0.3		1.30	
859	D1353	0.3		1.30	
860	D1353	0.3		1.30	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D1353	0.3		1.30	
872	D1353	0.35		2.60	
912	D1353	0.4		3.90	
913	D1353	<1		-----	
963	D1353	0.1		-3.89	
970		-----		-----	
974	D1353	0.2		-1.30	
994		-----		-----	
997	D1353	0.3		1.30	
1004	D1353	0.8	R(0.01)	14.28	
1009	D1353	<0.4		-----	
1010		-----		-----	
1029	D1353	0.251		0.03	
1041	D1353	3.15	R(0.01)	75.31	
1120		-----		-----	
1149	D1353	0.25		0.00	
1181	D1353	0.1		-3.89	
1201	D1353	0.4		3.90	
1204	D1353	0.4		3.90	
1256	D1353	5	R(0.01)	123.34	
1264	D1353	0.2		-1.30	
1342	D1353	0.5		6.49	
1465	D1353	0.2		-1.30	
1510	D1353	20	C,R(0.01)	512.84	first reported: 2
1530	D1353	< 1		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	D1353	0.1		-3.89	
1886		-----		-----	
6008	D1353	0	ex	-6.49	test result excluded for zero is not a real value
6013	D1353	0.3		1.30	
6061		-----		-----	
6070		-----		-----	
6132	D1353	0.248		-0.05	
6201	D1353	<0.1	C	<-3.89	first reported: 0.9, possible false negative test result?
6262		-----		-----	
6267	D1353	0.28		0.78	
6268	D1353	0.1		-3.89	
6270	D1353	0.3		1.30	
6273		-----		-----	
7018		<0.5		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	41
outliers	5 (+ 2ex)
mean (n)	0.250
st.dev. (n)	0.0947
R(calc.)	0.265
st.dev.(D1353:13)	0.0385
R(D1353:13)	0.108



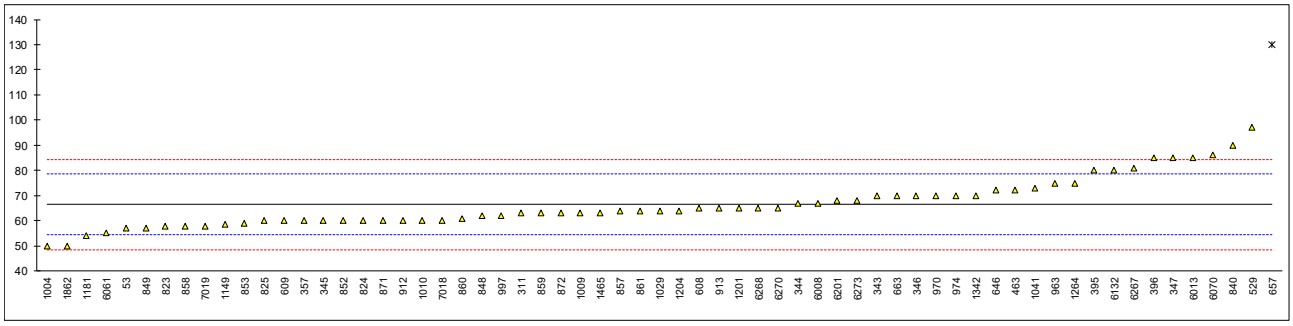


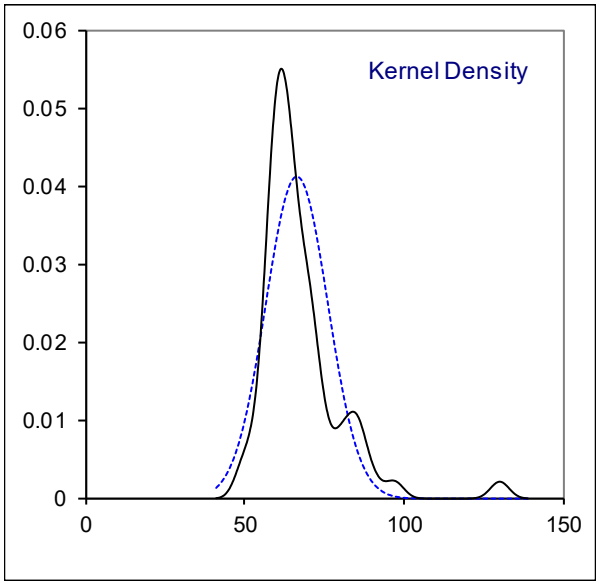
Determination of Permanganate Time Test at 15°C on sample #19175; results in minutes

lab	method	value	mark	z(targ)	remarks
53	D1363	57		-1.58	
150	D1363	>60		-----	
171	D1363	>50		-----	
311	D1363	63		-0.58	
316		-----		-----	
319		-----		-----	
323	D1363	>60		-----	
333		-----		-----	
334		-----		-----	
335	D1363	>60		-----	
343	D1363	70	C	0.59	first reported: 90
344	D1363	67		0.09	
345	D1363	60		-1.08	
346	D1363	70		0.59	
347	D1363	85		3.10	
357	D1363	60		-1.08	
395	D1363	80		2.26	
396	D1363	85		3.10	
448	D1363	>60		-----	
463	D1363	72		0.92	
529	D1363	97		5.10	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1363	65		-0.25	
609	D1363	60		-1.08	
646	D1363	72		0.92	
657	D1363	130	C,R(0.01)	10.62	first reported: 100
663	D1363	70		0.59	
823	D1363	58		-1.42	
824	D1363	60		-1.08	
825	D1363	60		-1.08	
840	D1363	90		3.93	
848	D1363	62		-0.75	
849	D1363	57		-1.58	
852	D1363	60		-1.08	
853	D1363	59		-1.25	
855		-----		-----	
857	D1363	64		-0.41	
858	D1363	58		-1.42	
859	D1363	63		-0.58	
860	D1363	61		-0.92	
861	D1363	64		-0.41	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D1363	60		-1.08	
872	D1363	63		-0.58	
912	D1363	60		-1.08	
913	D1363	65		-0.25	
963	D1363	75		1.42	
970	D1363	70		0.59	
974	D1363	70		0.59	
994		-----		-----	
997	D1363	62		-0.75	
1004	D1363	50		-2.75	
1009	D1363	63		-0.58	
1010	D1363	60		-1.08	
1029	D1363	64		-0.41	
1041	D1363	73		1.09	
1120		-----		-----	
1149	D1363	58.5		-1.33	
1181	D1363	54		-2.09	
1201	D1363	65		-0.25	
1204	D1363	64		-0.41	
1256		-----		-----	
1264	D1363	75		1.42	
1342	D1363	70		0.59	
1465	D1363	63		-0.58	
1510	D1363	<50		-----	
1530	D1363	>60		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	D1363	50		-2.75	
1886		-----		-----	
6008	D1363	67		0.09	
6013	D1363	85		3.10	
6061	D1363	55		-1.92	
6070	D1363	86		3.26	
6132	D1363	80		2.26	
6201	D1363	68		0.25	
6262		-----		-----	
6267	D1363	81		2.43	
6268	D1363	65		-0.25	
6270	D1363	65		-0.25	
6273	D1363	68		0.25	
7018		60		-1.08	
7019	D1363	58		-1.42	
7101		-----		-----	
9014		-----		-----	

normality	not OK
n	62
outliers	1
mean (n)	66.5
st.dev. (n)	9.69
R(calc.)	27.1
st.dev.(D1363:06)	5.98
R(D1363:06)	16.8





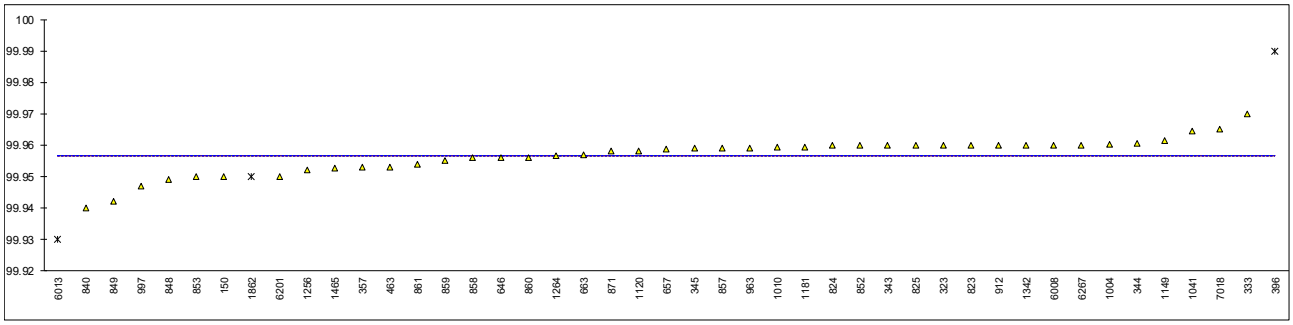
Determination of Purity by GC as received on sample #19175; results in %M/M

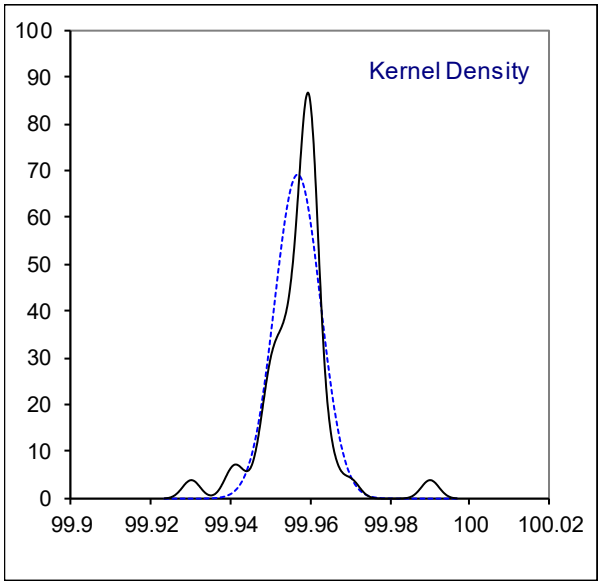
lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	99.95		-----	
171		-----		-----	
311		-----		-----	
316		-----		-----	
319		-----		-----	
323	IMPCA001	99.96		-----	
333	IMPCA001	99.97		-----	
334		-----		-----	
335		-----		-----	
343	IMPCA001	99.96		-----	
344	IMPCA001	99.9607		-----	
345	IMPCA001	99.959		-----	
346		-----		-----	
347		-----		-----	
357	IMPCA001	99.953		-----	
395		-----		-----	
396	IMPCA001	99.99	ex	-----	test result excluded as test result as received > on dry basis
448		-----		-----	
463	IMPCA001	99.953		-----	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	99.956		-----	
657	IMPCA001	99.9588		-----	
663	IMPCA001	99.957		-----	
823	IMPCA001	99.96		-----	
824	IMPCA001	99.96		-----	
825	IMPCA001	99.96		-----	
840	IMPCA001	99.940		-----	
848	IMPCA001	99.949		-----	
849	IMPCA001	99.942		-----	
852	IMPCA001	99.96		-----	
853	IMPCA001	99.950		-----	
855		-----		-----	
857	IMPCA001	99.959		-----	
858	IMPCA001	99.956		-----	
859	IMPCA001	99.955		-----	
860	IMPCA001	99.956		-----	
861	IMPCA001	99.954		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA001	99.958		-----	
872		-----		-----	
912	IMPCA001	99.96		-----	
913		-----		-----	
963	IMPCA001	99.959		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	99.947		-----	
1004	IMPCA001	99.9603		-----	
1009		-----		-----	
1010	IMPCA001	99.9593		-----	
1029		-----		-----	
1041	IMPCA001	99.9644		-----	
1120	E346	99.958		-----	
1149		99.9615		-----	
1181	IMPCA001	99.9593		-----	
1201		-----		-----	
1204		-----		-----	
1256	IMPCA001	99.952	C	-----	first reported as Purity on dry basis
1264	IMPCA001	99.9565		-----	
1342		99.96		-----	
1465	IMPCA001	99.9527		-----	
1510		-----		-----	
1530		-----		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	IMPCA001	99.95	ex	-----	test result excluded as it is the same as result on dry basis
1886		-----		-----	
6008	IMPCA001	99.96		-----	
6013	In house	99.93	R(0.01)	-----	
6061		-----		-----	
6070		-----		-----	
6132		-----		-----	
6201	IMPCA001	99.95		-----	
6262		-----		-----	
6267	IMPCA001	99.960		-----	
6268		-----		-----	
6270		-----		-----	
6273		-----		-----	
7018		99.965		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

	normality	suspect
	n	42
	outliers	1 (+2ex)
	mean (n)	99.95670
	st.dev. (n)	0.005766
	R(calc.)	0.01615
	st.dev.(lit)	unknown
	R(lit)	unknown

Compare R(iis18C05) = 0.01617





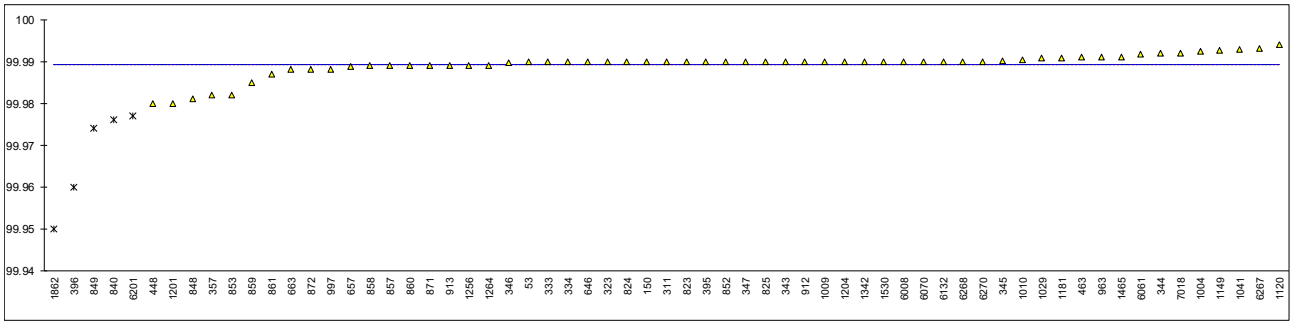
Determination of Purity by GC on dry basis on sample #19175; results in %M/M

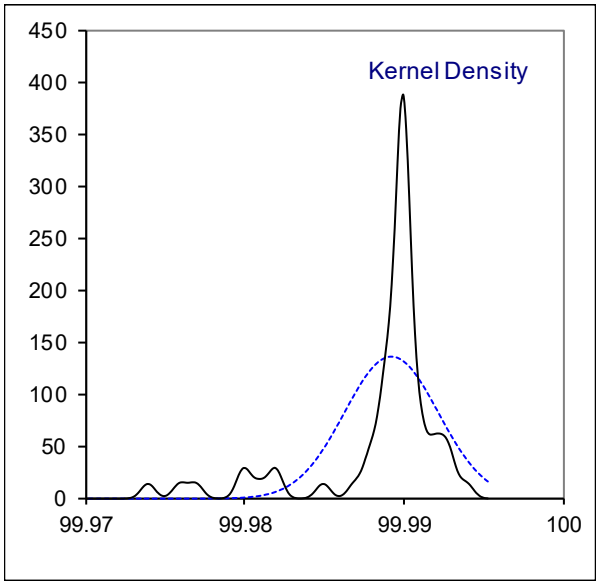
lab	method	value	mark	z(targ)	remarks
53	IMPCA001	99.99		-----	
150	IMPCA001	99.99		-----	
171		-----		-----	
311	IMPCA001	99.99		-----	
316		-----		-----	
319		-----		-----	
323	IMPCA001	99.99		-----	
333	IMPCA001	99.99		-----	
334	IMPCA001	99.99		-----	
335		-----		-----	
343	IMPCA001	99.99		-----	
344	IMPCA001	99.9919		-----	
345	IMPCA001	99.9902		-----	
346	IMPCA001	99.9896		-----	
347	IMPCA001	99.99		-----	
357	IMPCA001	99.982		-----	
395	IMPCA001	99.99		-----	
396	IMPCA001	99.96	ex	-----	test result excluded as test result as received > on dry basis
448	IMPCA001	99.98		-----	
463	IMPCA001	99.991		-----	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	99.99		-----	
657	IMPCA001	99.9888		-----	
663	IMPCA001	99.988		-----	
823	IMPCA001	99.99		-----	
824	IMPCA001	99.99		-----	
825	IMPCA001	99.99		-----	
840	IMPCA001	99.976	R(0.01)	-----	
848	IMPCA001	99.981		-----	
849	IMPCA001	99.974	R(0.01)	-----	
852	IMPCA001	99.99		-----	
853	IMPCA001	99.982		-----	
855		-----		-----	
857	IMPCA001	99.989		-----	
858	IMPCA001	99.989		-----	
859	IMPCA001	99.985		-----	
860	IMPCA001	99.989		-----	
861	IMPCA001	99.987		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA001	99.989		-----	
872	IMPCA001	99.988		-----	
912	IMPCA001	99.99		-----	
913	IMPCA001	99.989		-----	
963	IMPCA001	99.991		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	99.988	C	-----	first reported: 99.98
1004	IMPCA001	99.9924		-----	
1009	IMPCA001	99.99		-----	
1010	IMPCA001	99.9903		-----	
1029	IMPCA001	99.9908		-----	
1041	IMPCA001	99.9929		-----	
1120	E346	99.994		-----	
1149		99.9927		-----	
1181	IMPCA001	99.9909		-----	
1201	IMPCA001	99.98		-----	
1204	IMPCA001	99.99		-----	
1256	IMPCA001	99.989	C	-----	first reported as Purity as received
1264	IMPCA001	99.989		-----	
1342		99.99		-----	
1465	IMPCA001	99.991		-----	
1510		-----		-----	
1530	IMPCA001	99.99		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	IMPCA001	99.95	ex,C	-----	excluded as the same as result as received, first reported:99.98
1886		-----		-----	
6008	IMPCA001	99.99		-----	
6013		-----		-----	
6061	IMPCA001	99.9918		-----	
6070	IMPCA001	99.99	C	-----	first reported: 99.98
6132	IMPCA001	99.99		-----	
6201	IMPCA001	99.977	C,R(0.01)	-----	first reported: 99.978
6262		-----		-----	
6267	IMPCA001	99.993		-----	
6268	IMPCA001	99.99		-----	
6270	IMPCA001	99.99		-----	
6273		-----		-----	
7018		99.992		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

	normality	not OK
	n	58
	outliers	3 (+2ex)
	mean (n)	99.98929
	st.dev. (n)	0.002947
	R(calc.)	0.00825
	st.dev.(lit)	unknown
	R(lit)	unknown

Compare R(iis18C05) = 0.01091



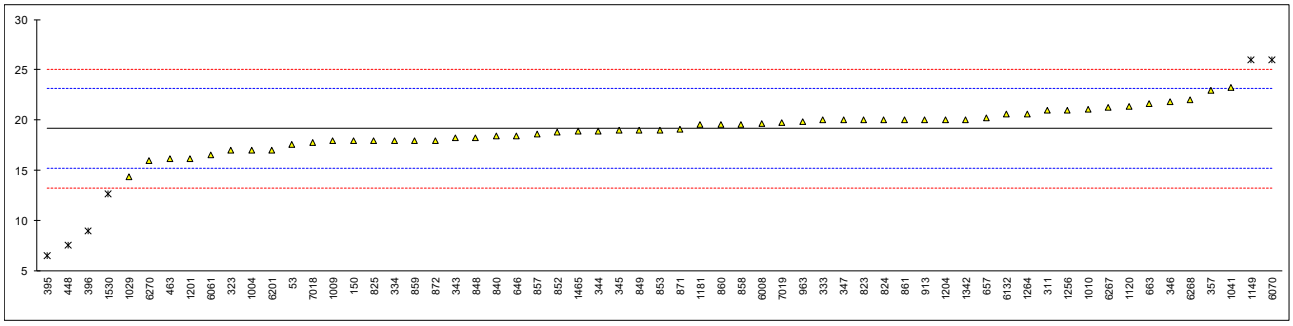


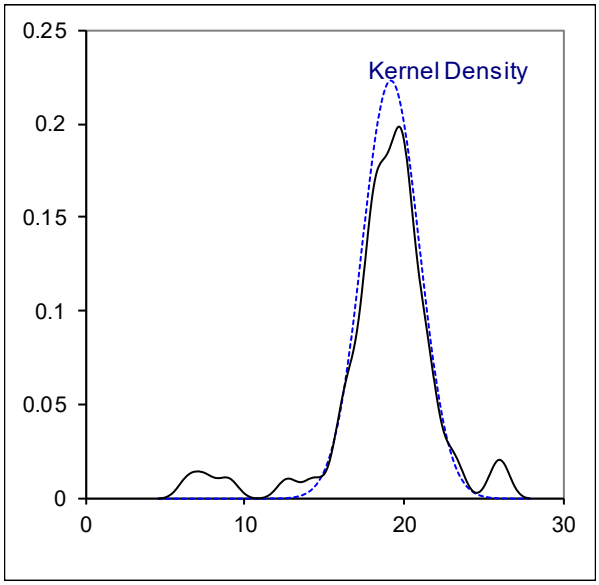
Determination of Acetone on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	17.6		-0.80	
150	IMPCA001	18.0	C	-0.60	first reported: 12.5
171		-----		-----	
311	IMPCA001	21		0.93	
316		-----		-----	
319		-----		-----	
323	IMPCA001	17		-1.11	
333	IMPCA001	20		0.42	
334	IMPCA001	18		-0.60	
335		-----		-----	
343	IMPCA001	18.2		-0.50	
344	IMPCA001	18.895		-0.14	
345	IMPCA001	18.96		-0.11	
346	IMPCA001	21.8014		1.33	
347	IMPCA001	20		0.42	
357	IMPCA001	23		1.94	
395	IMPCA001	6.5	R(0.01)	-6.44	
396	IMPCA001	9	R(0.01)	-5.17	
448	IMPCA001	7.567	R(0.01)	-5.90	
463	IMPCA001	16.2		-1.51	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	18.41		-0.39	
657	IMPCA001	20.2		0.52	
663	IMPCA001	21.6		1.23	
823	IMPCA001	20		0.42	
824	IMPCA001	20		0.42	
825	IMPCA001	18		-0.60	
840	IMPCA001	18.4		-0.40	
848	IMPCA001	18.2		-0.50	
849	IMPCA001	19		-0.09	
852	IMPCA001	18.8		-0.19	
853	IMPCA001	19		-0.09	
855		-----		-----	
857	IMPCA001	18.6		-0.29	
858	IMPCA001	19.6		0.21	
859	IMPCA001	18		-0.60	
860	IMPCA001	19.6		0.21	
861	IMPCA001	20		0.42	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA001	19.1		-0.04	
872	IMPCA001	18		-0.60	
912		-----		-----	
913	IMPCA001	20	C	0.42	firs reported: 30
963	IMPCA001	19.8		0.32	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	IMPCA001	17.0		-1.11	
1009	IMPCA001	17.94		-0.63	
1010	IMPCA001	21.1		0.98	
1029	IMPCA001	14.34		-2.46	
1041	IMPCA001	23.23		2.06	
1120	E346	21.34		1.10	
1149		25.97	R(0.05)	3.45	
1181	IMPCA001	19.56985		0.20	
1201	IMPCA001	16.2		-1.51	
1204	IMPCA001	20		0.42	
1256	IMPCA001	21		0.93	
1264	IMPCA001	20.628		0.74	
1342		20		0.42	
1465	IMPCA001	18.87		-0.16	
1510		-----		-----	
1530	IMPCA001	12.7	R(0.05)	-3.29	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862		-----		-----	
1886		-----		-----	
6008	IMPCA001	19.7		0.27	
6013		-----		-----	
6061	IMPCA001	16.5		-1.36	
6070	IMPCA001	26	R(0.05)	3.47	
6132	IMPCA001	20.6	C	0.72	first reported: <5
6201	IMPCA001	17		-1.11	
6262		-----		-----	
6267	IMPCA001	21.3		1.08	
6268	IMPCA001	22		1.43	
6270	IMPCA001	16		-1.62	
6273		-----		-----	
7018	IMPCA	17.8		-0.70	
7019	IMPCA001	19.71		0.27	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	55
outliers	6
mean (n)	19.178
st.dev. (n)	1.7881
R(calc.)	5.007
st.dev.(Horwitz)	1.9672
R(Horwitz)	5.508



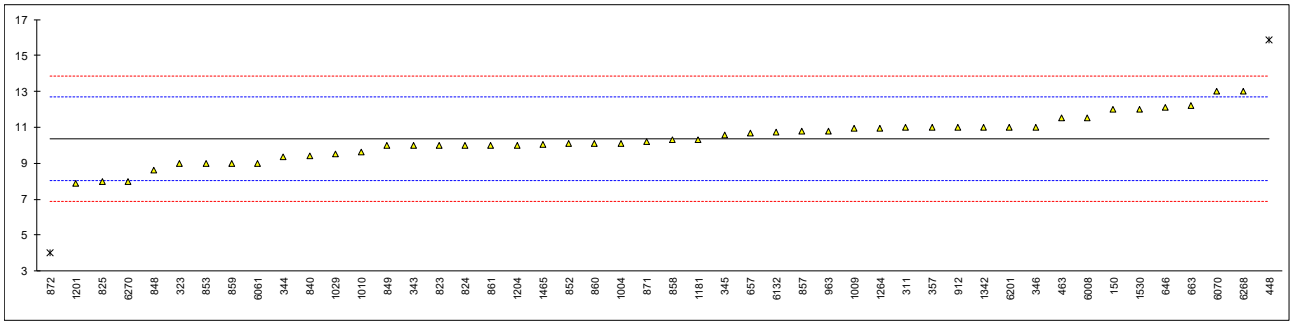


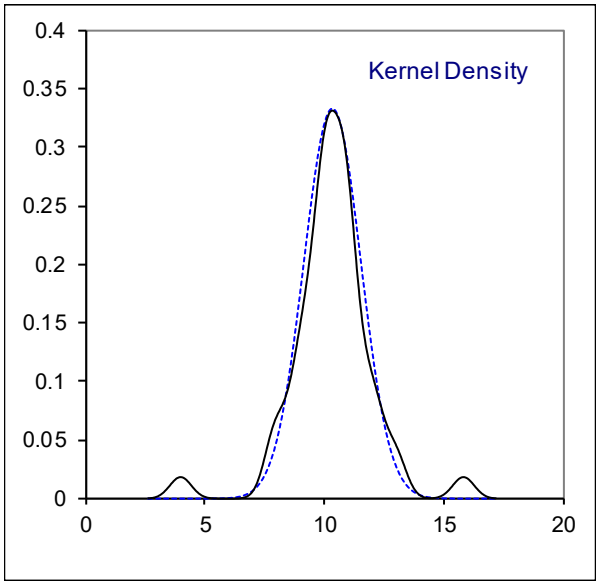
Determination of Benzene on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	12	C	1.41	first reported: 14.8
171		-----		-----	
311	IMPCA001	11		0.55	
316		-----		-----	
319		-----		-----	
323	IMPCA001	9		-1.16	
333		-----		-----	
334	IMPCA001	<10		-----	
335		-----		-----	
343	IMPCA001	10.0		-0.31	
344	IMPCA001	9.35		-0.86	
345	IMPCA001	10.6		0.21	
346	IMPCA001	11.0190		0.57	
347		-----		-----	
357	IMPCA001	11		0.55	
395		-----		-----	
396		-----		-----	
448		15.846	R(0.01)	4.71	
463	IMPCA001	11.5		0.98	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	12.12		1.51	
657	IMPCA001	10.7		0.29	
663	IMPCA001	12.2		1.58	
823	IMPCA001	10		-0.31	
824	IMPCA001	10		-0.31	
825	IMPCA001	8		-2.02	
840	IMPCA001	9.4		-0.82	
848	IMPCA001	8.6		-1.51	
849	IMPCA001	10		-0.31	
852	IMPCA001	10.1		-0.22	
853	IMPCA001	9		-1.16	
855		-----		-----	
857	IMPCA001	10.8		0.38	
858	IMPCA001	10.3		-0.05	
859	IMPCA001	9		-1.16	
860	IMPCA001	10.1		-0.22	
861	IMPCA001	10		-0.31	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA001	10.2		-0.13	
872	IMPCA001	4	R(0.01)	-5.45	
912	IMPCA001	11		0.55	
913	IMPCA001	<10		-----	
963	IMPCA001	10.8		0.38	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	IMPCA001	10.1		-0.22	
1009	IMPCA001	10.93		0.49	
1010	IMPCA001	9.6		-0.65	
1029	IMPCA001	9.52		-0.72	
1041		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA001	10.32183		-0.03	
1201	IMPCA001	7.9		-2.11	
1204	IMPCA001	10		-0.31	
1256		-----		-----	
1264	IMPCA001	10.95		0.51	
1342		11		0.55	
1465	IMPCA001	10.06		-0.25	
1510		-----		-----	
1530	IMPCA001	12	C	1.41	first reported: <2

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862		-----		-----	
1886		-----		-----	
6008	IMPCA001	11.5		0.98	
6013		-----		-----	
6061	IMPCA001	9		-1.16	
6070	IMPCA001	13		2.27	
6132	IMPCA001	10.72	C	0.31	first reported: <5
6201	IMPCA001	11		0.55	
6262		-----		-----	
6267		-----		-----	
6268	IMPCA001	13		2.27	
6270	IMPCA001	8		-2.02	
6273		-----		-----	
7018		-----		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	46
outliers	2
mean (n)	10.356
st.dev. (n)	1.1950
R(calc.)	3.346
st.dev.(Horwitz)	1.1655
R(Horwitz)	3.263



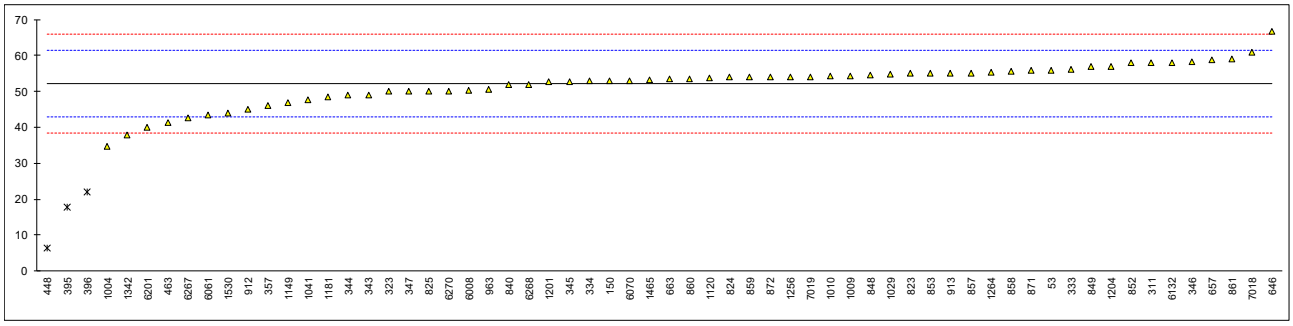


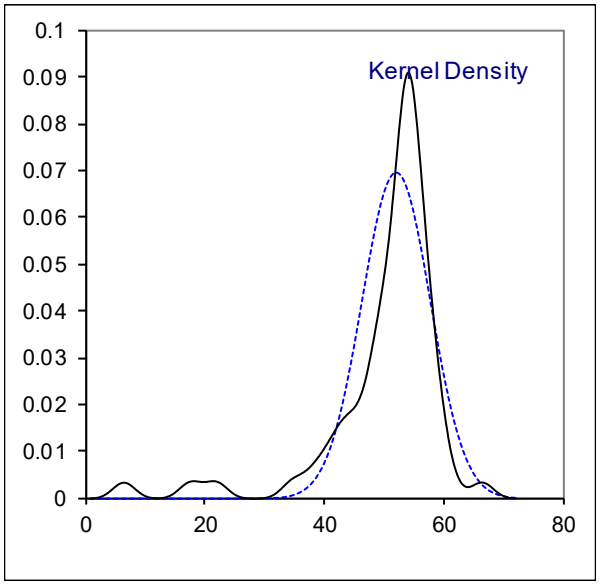
Determination of Ethanol on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	55.9		0.81	
150	IMPCA001	53	C	0.18	first reported: 28.7
171		-----		-----	
311	IMPCA001	58		1.27	
316		-----		-----	
319		-----		-----	
323	IMPCA001	50		-0.47	
333	IMPCA001	56		0.84	
334	IMPCA001	53		0.18	
335		-----		-----	
343	IMPCA001	49.0		-0.69	
344	IMPCA001	48.91		-0.70	
345	IMPCA001	52.7		0.12	
346	IMPCA001	58.2261		1.32	
347	IMPCA001	50		-0.47	
357	IMPCA001	46		-1.34	
395	IMPCA001	17.7	R(0.01)	-7.49	
396	IMPCA001	22	R(0.01)	-6.55	
448	IMPCA001	6.515	R(0.01)	-9.92	
463	IMPCA001	41.3		-2.36	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	66.57		3.13	
657	IMPCA001	58.8		1.44	
663	IMPCA001	53.42	C	0.28	first reported: 67.3
823	IMPCA001	55		0.62	
824	IMPCA001	54		0.40	
825	IMPCA001	50		-0.47	
840	IMPCA001	52.0		-0.03	
848	IMPCA001	54.6		0.53	
849	IMPCA001	57		1.05	
852	IMPCA001	57.9		1.25	
853	IMPCA001	55		0.62	
855		-----		-----	
857	IMPCA001	55.1		0.64	
858	IMPCA001	55.6		0.75	
859	IMPCA001	54		0.40	
860	IMPCA001	53.5		0.29	
861	IMPCA001	59		1.49	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA001	55.8		0.79	
872	IMPCA001	54		0.40	
912	IMPCA001	45		-1.55	
913	IMPCA001	55		0.62	
963	IMPCA001	50.6		-0.34	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	IMPCA001	34.8		-3.77	
1009	IMPCA001	54.38		0.48	
1010	IMPCA001	54.2		0.44	
1029	IMPCA001	54.69		0.55	
1041	IMPCA001	47.72		-0.96	
1120	E346	53.64	C	0.32	first reported: 35.64
1149		46.78		-1.17	
1181	IMPCA001	48.33778		-0.83	
1201	IMPCA001	52.6		0.10	
1204	IMPCA001	57		1.05	
1256	IMPCA001	54		0.40	
1264	IMPCA001	55.36		0.70	
1342		38		-3.08	
1465	IMPCA001	53.335		0.26	
1510		-----		-----	
1530	IMPCA001	43.9		-1.79	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862		-----		-----	
1886		-----		-----	
6008	IMPCA001	50.3		-0.40	
6013		-----		-----	
6061	IMPCA001	43.5		-1.88	
6070	IMPCA001	53		0.18	
6132	IMPCA001	58.0	C	1.27	first reported: 53.23
6201	IMPCA001	40	C	-2.64	first reported: 65
6262		-----		-----	
6267	IMPCA001	42.63		-2.07	
6268	IMPCA001	52		-0.03	
6270	IMPCA001	50		-0.47	
6273		-----		-----	
7018	IMPCA	60.9		1.90	
7019	IMPCA001	54.0		0.40	
7101		-----		-----	
9014		-----		-----	

normality	suspect
n	59
outliers	3
mean (n)	52.153
st.dev. (n)	5.7294
R(calc.)	16.042
st.dev.(Horwitz)	4.6017
R(Horwitz)	12.885





Determination of Toluene on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	<5		-----	
171		-----		-----	
311	IMPCA001	<5		-----	
316		-----		-----	
319		-----		-----	
323	IMPCA001	<5		-----	
333		-----		-----	
334	IMPCA001	<10		-----	
335		-----		-----	
343	IMPCA001	<5		-----	
344	IMPCA001	3.83		-----	
345	IMPCA001	<5		-----	
346	IMPCA001	<5		-----	
347		-----		-----	
357	IMPCA001	<5		-----	
395		-----		-----	
396		-----		-----	
448	IMPCA001	19.265		-----	possible false positive test result
463	IMPCA001	4.0		-----	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657	IMPCA001	N.D.		-----	
663	IMPCA001	<5		-----	
823	IMPCA001	<5		-----	
824	IMPCA001	0.4		-----	
825	IMPCA001	L5		-----	
840	IMPCA001	0.5		-----	
848	IMPCA001	<5		-----	
849	IMPCA001	0.5		-----	
852	IMPCA001	<5		-----	
853	IMPCA001	<5		-----	
855		-----		-----	
857	IMPCA001	0.3		-----	
858	IMPCA001	<5		-----	
859	IMPCA001	<5		-----	
860	IMPCA001	<5		-----	
861	IMPCA001	<5		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	IMPCA001	0.35		-----	
872	IMPCA001	<5		-----	
912	IMPCA001	<10		-----	
913	IMPCA001	<10		-----	
963	IMPCA001	<10		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	IMPCA001	0.2		-----	
1009	IMPCA001	<5		-----	
1010	IMPCA001	<5		-----	
1029	IMPCA001	<1		-----	
1041		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA001	0		-----	
1201	IMPCA001	0.8		-----	
1204	IMPCA001	0		-----	
1256		-----		-----	
1264	IMPCA001	6.265		-----	
1342		0.00		-----	
1465	IMPCA001	0		-----	
1510		-----		-----	
1530	IMPCA001	9.6		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862	IMPCA001	Less 1		-----	
1886		-----		-----	
6008	IMPCA001	0.4		-----	
6013		-----		-----	
6061	IMPCA001	<5		-----	
6070	IMPCA001	<10		-----	
6132	IMPCA001	<5		-----	
6201	IMPCA001	<1		-----	
6262		-----		-----	
6267		-----		-----	
6268	IMPCA001	<5		-----	
6270	IMPCA001	<5		-----	
6273		-----		-----	
7018		-----		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	
	n	48			
	mean (n)	<10			

Determination of Sulfur, total on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D5453	0		-----	
150	D5453	<1.0		-----	
171	D5453	0.48		-----	
311	D5453	<1.0		-----	
316		-----		-----	
319		-----		-----	
323	D5453	<1		-----	
333	D5453	<0.5		-----	
334	D5453	<0.5		-----	
335		-----		-----	
343	D5453	<1		-----	
344	D5453	0.21		-----	
345	ISO20846	0.43		-----	
346		-----		-----	
347	D5453	<1		-----	
357	D5453	<0,5		-----	
395		-----		-----	
396		-----		-----	
448		-----		-----	
463	D5453	0.56		-----	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657	D5453	0.2		-----	
663	D5453	0.4		-----	
823	D5453	<0.5		-----	
824	D5453	<0.5		-----	
825	D5453	0.10		-----	
840	D5453	0.03		-----	
848		-----		-----	
849		-----		-----	
852	D3961	<0.5		-----	
853		-----		-----	
855		-----		-----	
857	D3961	<0.5		-----	
858	D5453	<0.5		-----	
859	D5453	<0.5		-----	
860	D3120	<0.5		-----	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	D5453	<0.5		-----	
872	D5453	<0.5		-----	
912	D5453	<1		-----	
913	D5453	<1.0		-----	
963	D5453	<1		-----	
970	D5453	<1		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	D5453	<0.5		-----	
1009		-----		-----	
1010		-----		-----	
1029	D5453	<0.5		-----	
1041	D5453	0.17		-----	
1120		-----		-----	
1149		-----		-----	
1181	D5453	0		-----	
1201	D5453	0.04		-----	
1204	D5453	0.082		-----	
1256	D5453	0.00		-----	
1264	D5453	<1		-----	
1342	D5453	0.367		-----	
1465	D5453	0.127		-----	
1510	D5453	0.3		-----	
1530	D5453	<1		-----	

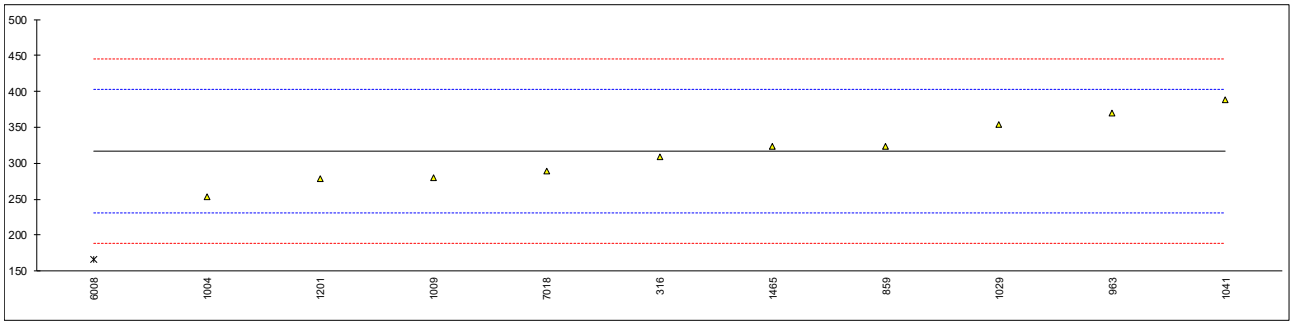
lab	method	value	mark	z(targ)	remarks
1656	D5453	<1		-----	
1862	D5453	0.02		-----	
1886		-----		-----	
6008	D5453	0.059		-----	
6013		-----		-----	
6061		-----		-----	
6070	D5453	<1		-----	
6132	D5453	<1		-----	
6201	D5453	0.14		-----	
6262		-----		-----	
6267		-----		-----	
6268	D5453	<1		-----	
6270	D5453	<1		-----	
6273		-----		-----	
7018		<0.5		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	
	n	51			
	mean (n)	<1			

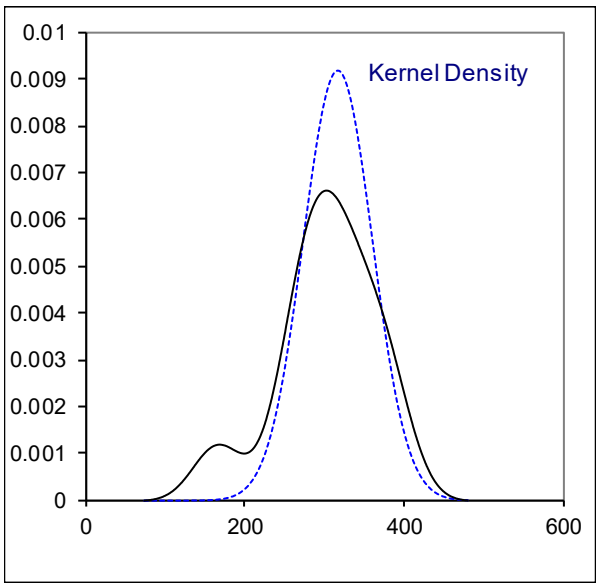
Determination of Trimethylamine (TMA) on sample #19175; results in µg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171		-----		-----	
311		-----		-----	
316	INH-601	309.2		-0.18	
319		-----		-----	
323		-----		-----	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357		-----		-----	
395		-----		-----	
396		-----		-----	
448		-----		-----	
463		-----		-----	
529		-----		-----	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657		-----		-----	
663		-----		-----	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840		-----		-----	
848		-----		-----	
849		-----		-----	
852		-----		-----	
853		-----		-----	
855		-----		-----	
857		-----		-----	
858		-----		-----	
859	E346	324		0.17	
860		-----		-----	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871		-----		-----	
872		-----		-----	
912		-----		-----	
913		-----		-----	
963	E346	370		1.24	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004	E346	253		-1.49	
1009	In house	280		-0.86	
1010		-----		-----	
1029	E346	353.23		0.85	
1041	IP564	388		1.66	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1201	E346	279	C	-0.89	first reported: 0
1204		-----		-----	
1256		-----		-----	
1264		-----		-----	
1342		-----		-----	
1465	E346	323.6315		0.16	
1510		-----		-----	
1530		-----		-----	

lab	method	value	mark	z(targ)	remarks
1656		-----		-----	
1862		-----		-----	
1886		-----		-----	
6008	E346	165.9	G(0.05)	-3.53	
6013		-----		-----	
6061		-----		-----	
6070		-----		-----	
6132		-----		-----	
6201		-----		-----	
6262		-----		-----	
6267		-----		-----	
6268		-----		-----	
6270		-----		-----	
6273		-----		-----	
7018		288.8		-0.66	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	10
outliers	1
mean (n)	316.89
st.dev. (n)	43.488
R(calc.)	121.77
st.dev.(E346:08e1)	42.780
R(E346:08e1)	119.78



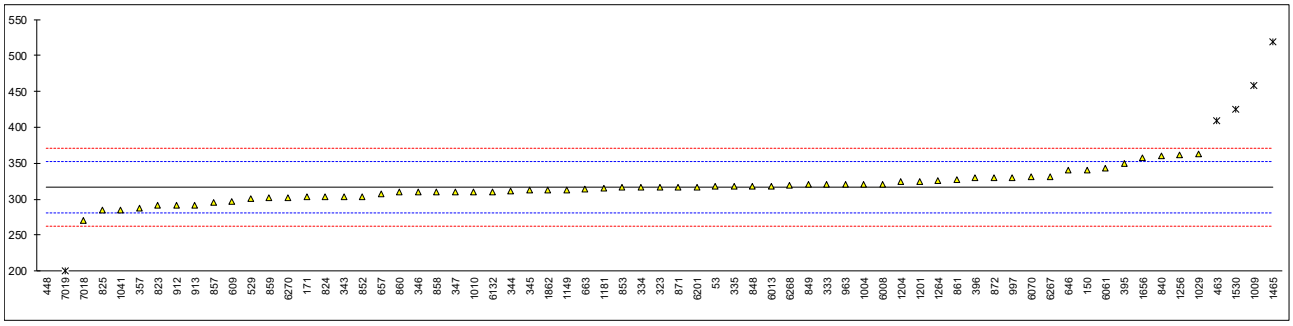


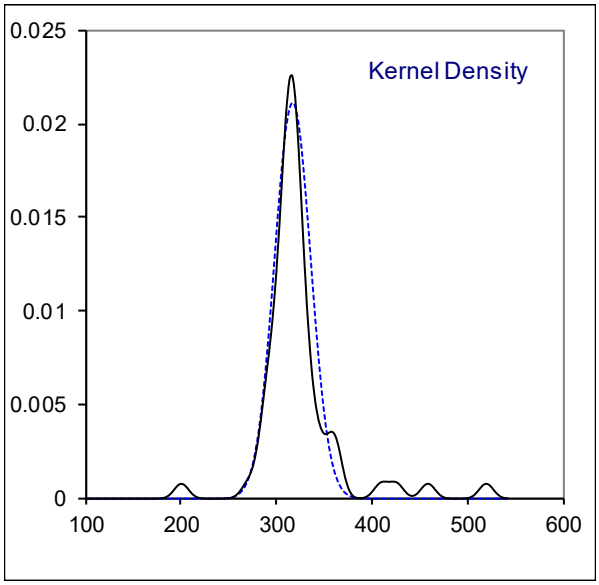
Determination of Water, Coulometric on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E1064	317.91		0.08	
150	E1064	341		1.36	
171	E1064	303		-0.75	
311		-----		-----	
316		-----		-----	
319		-----		-----	
323	E1064	316		-0.03	
333	E1064	320		0.19	
334	E1064	316		-0.03	
335	E1064	318		0.08	
343	E1064	304		-0.70	
344	E1064	311.5		-0.28	
345	E1064	312		-0.25	
346	E1064	310		-0.36	
347	E1064	310		-0.36	
357	E1064	288		-1.59	
395	E1064	350.1		1.87	
396	E1064	330		0.75	
448	E1064	0.086	R(0.01)	-17.61	
463	E1064	409	C,R(0.01)	5.15	first reported: 382
529	E1064	301.26		-0.85	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	E1064	297		-1.09	
646	E1064	340		1.31	
657	E1064	307.8		-0.48	
663	E1064	314		-0.14	
823	E1064	291		-1.42	
824	E1064	303.6		-0.72	
825	E1064	285.0		-1.75	
840	E1064	359.7		2.40	
848	E1064	318		0.08	
849	E1064	320		0.19	
852	E1064	304		-0.70	
853	E1064	316		-0.03	
855		-----		-----	
857	E1064	296		-1.14	
858	E1064	310		-0.36	
859	E1064	302		-0.81	
860	E1064	310		-0.36	
861	E1064	327		0.58	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	E1064	316		-0.03	
872	E1064	330		0.75	
912	E1064	292		-1.36	
913	E1064	292		-1.36	
963	E1064	321		0.25	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E1064	330		0.75	
1004	E1064	321		0.25	
1009	E1064	458	R(0.01)	7.87	
1010	E1064	310		-0.36	
1029	E1064	363.40		2.61	
1041	D6304	285		-1.75	
1120		-----		-----	
1149	E1064	313		-0.20	
1181	E1064	315.574		-0.05	
1201	E1064	325		0.47	
1204	E1064	324		0.42	
1256	E1064	361.2		2.49	
1264	E1064	326		0.53	
1342		-----		-----	
1465	E1064	519	C,R(0.01)	11.27	first reported: 383
1510		-----		-----	
1530	E1064	425	C,R(0.01)	6.04	first reported: 572.6

lab	method	value	mark	z(targ)	remarks
1656	E1064	357		2.25	
1862	E1064	312		-0.25	
1886		-----		-----	
6008	E1064	321		0.25	
6013	E1064	318		0.08	
6061	E1064	343		1.47	
6070	E1064	331		0.81	
6132	E1064	310.52		-0.33	
6201	E1064	317		0.03	
6262		-----		-----	
6267	E1064	331.35		0.83	
6268	E1064	319		0.14	
6270	E1064	302		-0.81	
6273		-----	W	-----	first reported: 540
7018		270.4		-2.57	
7019	E1064	200.2	R(0.01)	-6.47	
7101		-----		-----	
9014		-----		-----	

normality	OK
n	61
outliers	6
mean (n)	316.51
st.dev. (n)	18.881
R(calc.)	52.87
st.dev.(E1064:16)	17.973
R(E1064:16)	50.33



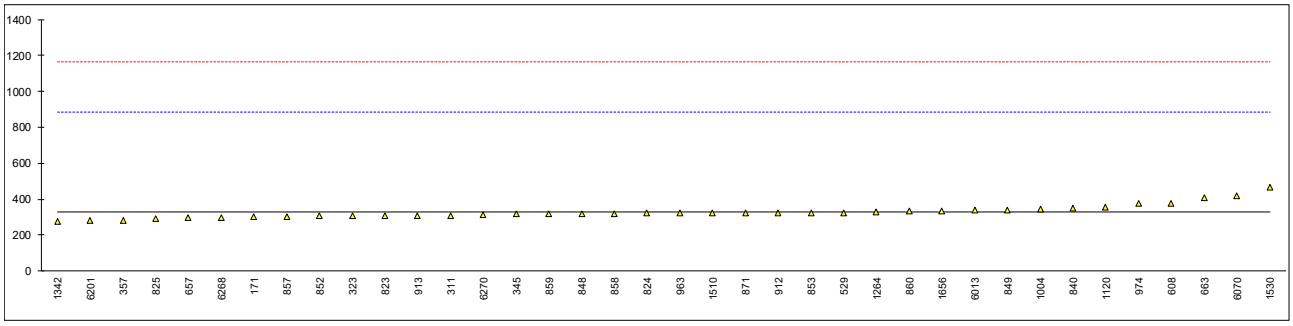


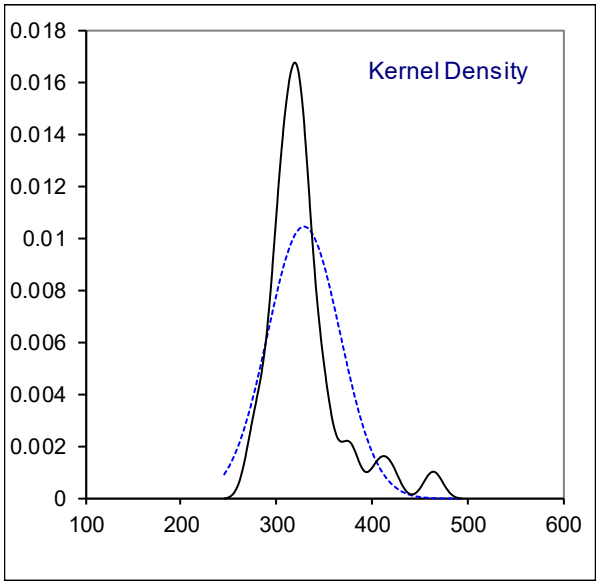
Determination of Water, Volumetric on sample #19175; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171	E203	301		-0.10	
311	E203	310		-0.07	
316		-----		-----	
319		-----		-----	
323	E203	307		-0.08	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343		-----		-----	
344		-----		-----	
345	E203	316		-0.05	
346		-----		-----	
347		-----		-----	
357	E203	284		-0.16	
395		-----		-----	
396		-----		-----	
448		-----		-----	
463		-----		-----	
529	E203	326.23		-0.01	
541		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	E203	378.28		0.18	
609		-----		-----	
646		-----		-----	
657	E203	299		-0.11	
663	E203	406		0.28	
823	E203	309		-0.07	
824	E203	323		-0.02	
825	E203	294.0		-0.13	
840	E203	351.2		0.08	
848	E203	319		-0.04	
849		340		0.04	
852		306		-0.08	
853	E203	326		-0.01	
855		-----		-----	
857	E203	302		-0.10	
858	E203	320		-0.03	
859	E203	316		-0.05	
860	E203	332		0.01	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	E203	324		-0.02	
872		-----		-----	
912	E203	325		-0.01	
913	E203	309		-0.07	
963	E203	323		-0.02	
970		-----		-----	
974	E203	375		0.17	
994		-----		-----	
997		-----		-----	
1004	E203	347		0.07	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041		-----		-----	
1120	E346	353		0.09	
1149		-----		-----	
1181		-----		-----	
1201		-----		-----	
1204		-----		-----	
1256		-----		-----	
1264	E203	330		0.00	
1342	E203	275		-0.19	
1465		-----		-----	
1510	E203	323		-0.02	
1530	E203	465		0.49	

lab	method	value	mark	z(targ)	remarks
1656	E203	334		0.02	
1862		-----		-----	
1886		-----		-----	
6008		-----		-----	
6013	D1364	337		0.03	
6061		-----		-----	
6070	E203	420		0.33	
6132		-----		-----	
6201	E203	279		-0.18	
6262		-----		-----	
6267		-----		-----	
6268	E203	299		-0.11	
6270	E203	313		-0.06	
6273		-----		-----	
7018		-----		-----	
7019		-----		-----	
7101		-----		-----	
9014		-----		-----	

normality	not OK
n	38
outliers	0
mean (n)	328.86
st.dev. (n)	38.187
R(calc.)	106.92
st.dev.(E203:16)	278.571
R(E203:16)	780

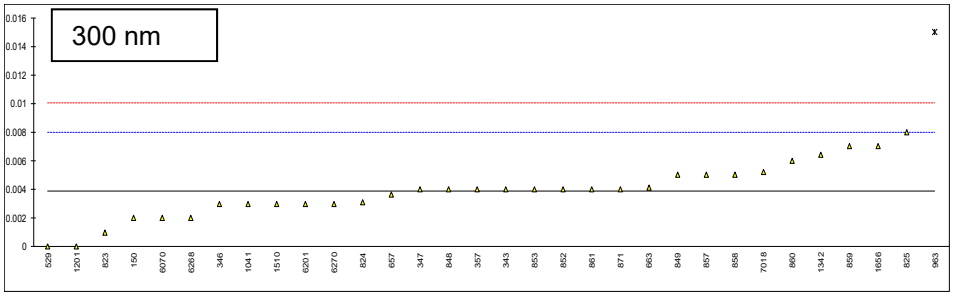


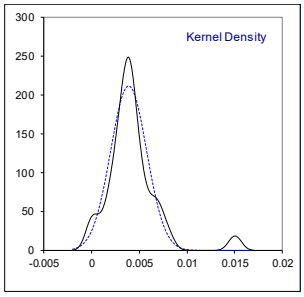


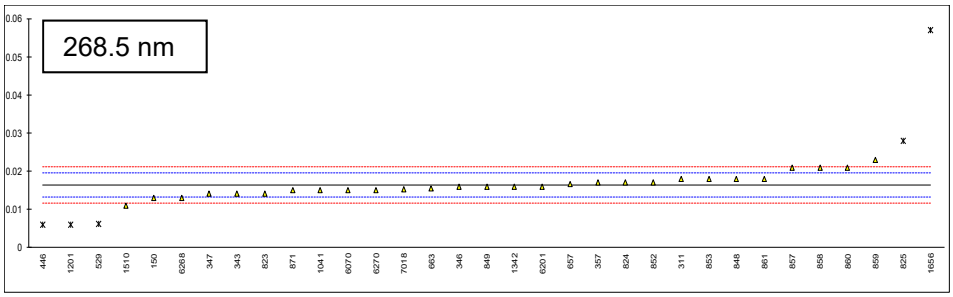
Determination of UV Absorbance (50 mm cuvette) on sample #19176

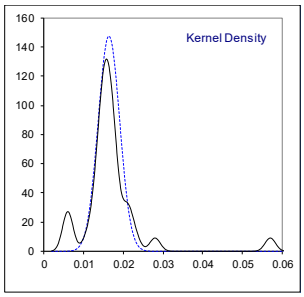
lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Faill
150	IMPCA004	0.002	0.013	0.088	0.225	0.534	1.135	Pass
171		-----	-----	-----	-----	-----	-----	-----
311	IMPCA004	<0.005	0.018	0.090	0.223	0.528	1.146	Pass
319		-----	-----	-----	-----	-----	-----	-----
323	IMPCA004	-----	-----	-----	-----	-----	-----	Pass
343	IMPCA004	0.004	0.014	0.083	-----	-----	1.036	Pass
346	IMPCA004	0.003	0.016	0.088	-----	-----	1.153	Pass
347	IMPCA004	0.004	0.014	0.0080 R1	-----	-----	1.060	Pass
357	IMPCA004	0.004	0.017	0.091	0.225	0.528	1.141	Pass
395		-----	-----	-----	-----	-----	-----	-----
396		-----	-----	-----	-----	-----	-----	-----
446	IMPCA004	<0.001	0.006 R5	0.077	0.210	0.501	1.097	Pass
529	IMPCA004	0.000	0.0062 R5	0.0741	-----	-----	1.0564	Pass
609		-----	-----	-----	-----	-----	-----	-----
657	IMPCA004	0.003657	0.01656	0.08964	0.2236	0.5265	1.141	Pass
663	IMPCA004	0.00415	0.01555	0.08250	0.20440	0.49230	1.06485	Pass
823	IMPCA004	0.001	0.014	0.088	0.226	0.538	1.155	Pass
824	IMPCA004	0.0031	0.017 C	0.089 C	0.222 C	0.528 C	1.124 C	Pass
825	IMPCA004	0.008	0.028 R5	0.101	0.236	0.544	1.143	Pass
848	IMPCA004	0.004	0.018	0.092	0.229	0.537	1.185	Pass
849	IMPCA004	0.005	0.016	0.090	0.225	0.528	1.097	Pass
852	IMPCA004	0.004	0.017	0.091	0.227	0.531	1.156	pass
853	IMPCA004	0.004	0.018	0.089	0.219	0.526	1.125	Pass
855		-----	-----	-----	-----	-----	-----	-----
857	IMPCA004	0.005	0.021	0.095	0.232	0.521	1.116	Pass
858	IMPCA004	0.005	0.021	0.091	0.224	0.531	1.135	Pass
859	IMPCA004	0.007	0.023	0.093	0.228	0.538	1.189	Pass
860	IMPCA004	0.006	0.021	0.093	0.226	0.520	1.098	Pass
861	IMPCA004	0.004	0.018	0.091	0.226	0.531	1.115	Pass
862		-----	-----	-----	-----	-----	-----	-----
863		-----	-----	-----	-----	-----	-----	-----
864		-----	-----	-----	-----	-----	-----	-----
866		-----	-----	-----	-----	-----	-----	-----
870		-----	-----	-----	-----	-----	-----	-----
871	IMPCA004	0.004	0.015	0.090	0.223	0.535	1.161	Pass
872		-----	-----	-----	-----	-----	-----	-----
912		-----	-----	-----	-----	-----	-----	-----
913		-----	-----	-----	-----	-----	-----	-----
963	IMPCA004	0.015 R1	-----	0.113 R5	0.239	0.554	1.135	Pass
994		-----	-----	-----	-----	-----	-----	-----
1004		-----	-----	-----	-----	-----	-----	-----
1041	IMPCA004	0.003	0.015	0.088	0.219	0.489	1.061	-----
1149		-----	-----	-----	-----	-----	-----	-----
1201	IMPCA004	0.000	0.006 R5	0.103	0.227	0.516	1.120	Pass
1264		-----	-----	-----	-----	-----	-----	-----
1342	IMPCA004	0.0064	0.016 C	0.112 C,R5	0.250 C	0.601 R5	1.188	-----
1510	IMPCA004	0.003	0.011	0.092	0.265 R1	0.615 R5	1.269	Pass
1656	IMPCA004	0.007	0.057 C,R1	0.152 C,R1	0.242	0.559	1.188	Pass
1862		-----	-----	-----	-----	-----	-----	-----
1886		-----	-----	-----	-----	-----	-----	-----
6070	IMPCA004	0.002	0.015	0.097	0.219	0.535	1.187	Pass
6201	IMPCA004	0.003	0.016	0.090	0.230	0.536	1.107	Pass
6262		-----	-----	-----	-----	-----	-----	-----
6267		-----	-----	-----	-----	-----	-----	-----
6268	IMPCA004	0.002	0.013	0.085	0.216	0.495	1.048	Pass
6270	IMPCA004	0.003	0.015	0.088	0.221	0.526	1.137	pass
7018	IMPCA004	0.0052	0.0153	0.0835	-----	0.4765	1.0577	Pass
	normality	OK	OK	suspect	suspect	OK	OK	Pass: 33
	n	31	28	30	28	28	34	Fail: 0
	outliers	1	5	4	1	2	0	
	mean (n)	0.00386	0.01641	0.08942	0.22561	0.52515	1.12726	
	st.dev. (n)	0.001884	0.002710	0.005874	0.009037	0.018959	0.050318	
	R(calc.)	0.00528	0.00759	0.01645	0.02530	0.05309	0.14089	
	st.dev.(IMPCA004:15)	0.002065	0.001588	0.003226	n.a.	n.a.	0.115544	
	R(IMPCA004:15)	0.00578	0.00445	0.00903	n.a.	n.a.	0.32352	

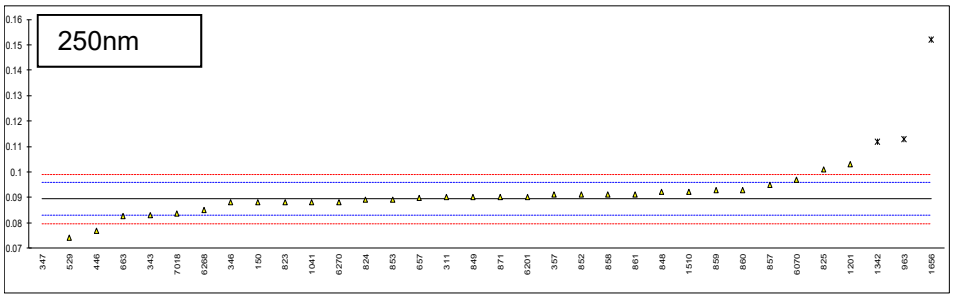
Lab 824 first reported for 268.5 nm 0.0047, for 250 nm 0.0794, for 240 nm 0.2135, for 230 nm 0.2135 and for 220 nm 1.0789
Lab 1342 first reported for 268.5 nm 0.083, for 250 nm 0.156 and for 240 nm 0.290
Lab 1656 first reported for 268.5 nm 0.0032 and for 250 nm 0.107

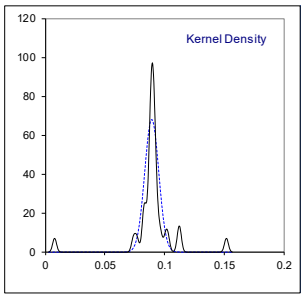

300 nm

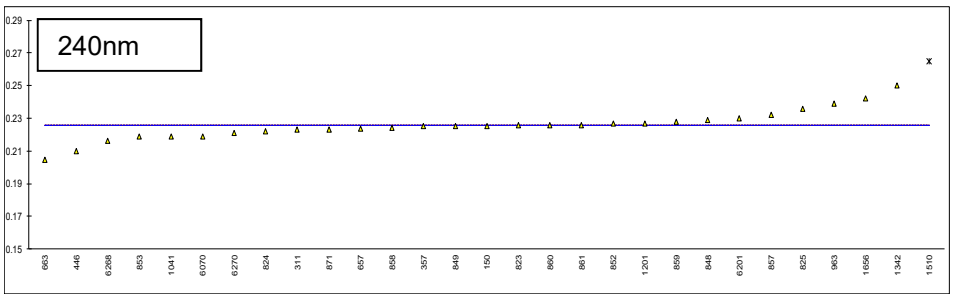

Kernel Density

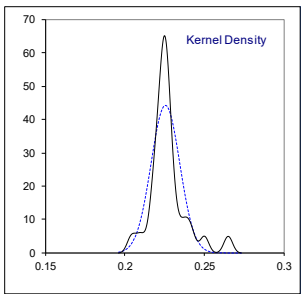

268.5 nm

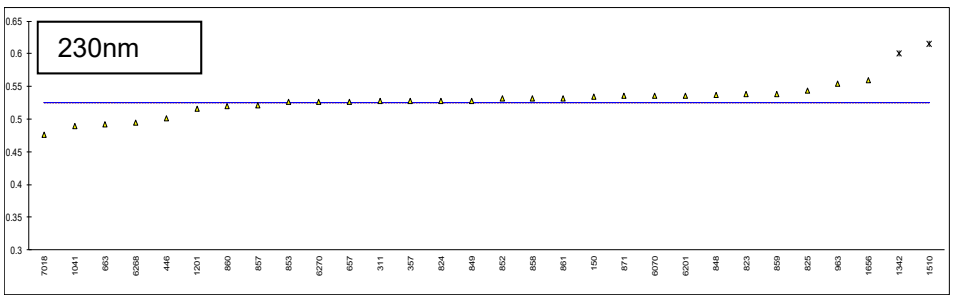

Kernel Density

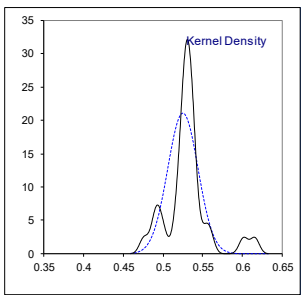

250nm

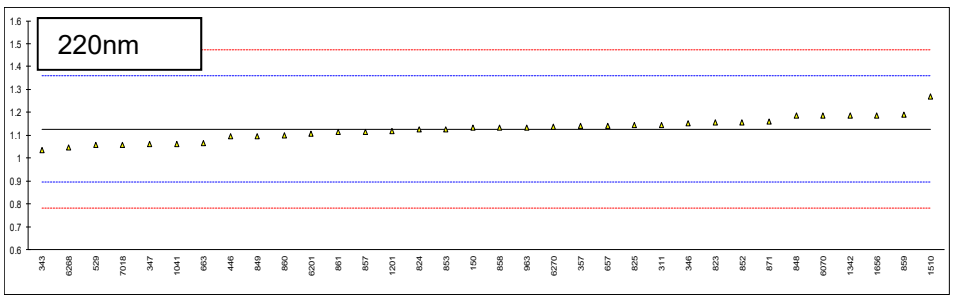

Kernel Density

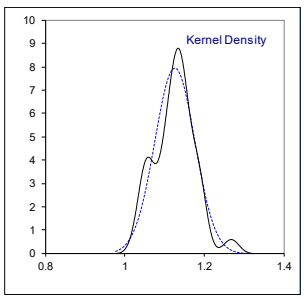

240nm


Kernel Density


230nm


Kernel Density


220nm


Kernel Density

z-scores UV Absorbance (50 mm cuvette)

lab	300nm	268.5nm	250nm	240nm	230nm	220nm
150	-0.90	-2.15	-0.44	-----	-----	0.07
171	-----	-----	-----	-----	-----	-----
311	-----	1.00	0.18	-----	-----	0.16
319	-----	-----	-----	-----	-----	-----
323	-----	-----	-----	-----	-----	-----
343	0.07	-1.52	-1.99	-----	-----	-0.79
346	-0.41	-0.26	-0.44	-----	-----	0.22
347	0.07	-1.52	-25.24	-----	-----	-0.58
357	0.07	0.37	0.49	-----	-----	0.12
395	-----	-----	-----	-----	-----	-----
396	-----	-----	-----	-----	-----	-----
446	-----	-6.55	-3.85	-----	-----	-0.26
529	-1.87	-6.43	-4.75	-----	-----	-0.61
609	-----	-----	-----	-----	-----	-----
657	-0.10	0.10	0.07	-----	-----	0.12
663	0.14	-0.54	-2.15	-----	-----	-0.54
823	-1.38	-1.52	-0.44	-----	-----	0.24
824	-0.37	0.37	-0.13	-----	-----	-0.03
825	2.01	7.30	3.59	-----	-----	0.14
848	0.07	1.00	0.80	-----	-----	0.50
849	0.55	-0.26	0.18	-----	-----	-0.26
852	0.07	0.37	0.49	-----	-----	0.25
853	0.07	1.00	-0.13	-----	-----	-0.02
855	-----	-----	-----	-----	-----	-----
857	0.55	2.89	1.73	-----	-----	-0.10
858	0.55	2.89	0.49	-----	-----	0.07
859	1.52	4.15	1.11	-----	-----	0.53
860	1.04	2.89	1.11	-----	-----	-0.25
861	0.07	1.00	0.49	-----	-----	-0.11
862	-----	-----	-----	-----	-----	-----
863	-----	-----	-----	-----	-----	-----
864	-----	-----	-----	-----	-----	-----
866	-----	-----	-----	-----	-----	-----
870	-----	-----	-----	-----	-----	-----
871	0.07	-0.89	0.18	-----	-----	0.29
872	-----	-----	-----	-----	-----	-----
912	-----	-----	-----	-----	-----	-----
913	-----	-----	-----	-----	-----	-----
963	5.40	-----	7.31	-----	-----	0.07
994	-----	-----	-----	-----	-----	-----
1004	-----	-----	-----	-----	-----	-----
1041	-0.41	-0.89	-0.44	-----	-----	-0.57
1149	-----	-----	-----	-----	-----	-----
1201	-1.87	-6.55	4.21	-----	-----	-0.06
1264	-----	-----	-----	-----	-----	-----
1342	1.23	-0.26	7.00	-----	-----	0.53
1510	-0.41	-3.41	0.80	-----	-----	1.23
1656	1.52	25.56	19.40	-----	-----	0.53
1862	-----	-----	-----	-----	-----	-----
1886	-----	-----	-----	-----	-----	-----
6070	-0.90	-0.89	2.35	-----	-----	0.52
6201	-0.41	-0.26	0.18	-----	-----	-0.18
6262	-----	-----	-----	-----	-----	-----
6267	-----	-----	-----	-----	-----	-----
6268	-0.90	-2.15	-1.37	-----	-----	-0.69
6270	-0.41	-0.89	-0.44	-----	-----	0.08
7018	0.65	-0.70	-1.84	-----	-----	-0.60

APPENDIX 2

Determination of UV Absorbance (10 mm cuvette) on sample #19176, not evaluated

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
171	IMPCA004	0.0016	0.0042	0.0188	0.0443	0.0980	0.2115	Pass
395	IMPCA004	0.000	-----	0.014	-----	0.093	0.212	Pass
1004	IMPCA004	0.0076	0.0140	0.0300	0.0585	0.1220	0.2493	Pass
1264	IMPCA004	-0.002	-0.008	0.007	0.027	0.064	0.145	PASS C
6267	IMPCA004	0.005 C	0.012 C	0.024 C	0.080	0.136	0.274	Pass
	n	5	4	5	4	5	5	5

Lab 1264 first reported: Fail
Lab 6267 first reported: for 300 nm 0.011, for 268.5 nm 0.040 and for 250 nm 0.057

APPENDIX 3

Number of participants per country

1 lab in ARGENTINA
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
3 labs in FRANCE
1 lab in GEORGIA
2 labs in GERMANY
2 labs in INDIA
3 labs in IRAN, Islamic Republic of
2 labs in ITALY
2 labs in JAPAN
4 labs in MALAYSIA
1 lab in MEXICO
5 labs in NETHERLANDS
2 labs in NEW ZEALAND
1 lab in NORWAY
1 lab in OMAN
3 labs in RUSSIAN FEDERATION
2 labs in SAUDI ARABIA
2 labs in SINGAPORE
3 labs in SOUTH KOREA
5 labs in SPAIN
1 lab in SWEDEN
1 lab in THAILAND
1 lab in TRINIDAD and TOBAGO W.I.
2 labs in TURKEY
2 labs in UNITED ARAB EMIRATES
4 labs in UNITED KINGDOM
7 labs in UNITED STATES OF AMERICA
1 lab in VENEZUELA
1 lab in VIETNAM

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's outlier test
R(0.05) = straggler in Rosner's outlier test
R1 = R(0.01)
R5 = R(0.05)
E = possibly an error in calculations
W = test result withdrawn on request of participant
ex = test result excluded from statistical evaluation
n.a. = not applicable
n.e. = not evaluated
n.d. = not detected
fr. = first reported
SDS = Safety Data Sheet

Literature

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