Institute for
Interlaboratory Studies

Results of Proficiency Test
Methanol
September 2023

Organized by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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CONTENTS

1 INTRODUCTION

Since 1999 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the analysis of Methanol based on the latest version of the IMPCA specification every year. During the annual proficiency testing program of 2023 it was decided to continue the round robin for the analysis of Methanol.

In this interlaboratory study registered for participation:
- 102 laboratories in 33 countries for regular analyzes in Methanol PT iis23C04
- 59 laboratories in 19 countries on the UV analyzes iis23C04UV

In total 103 laboratories in 33 countries registered for participation, see appendix 3 for the number of participants per country. In this report the results of the Methanol proficiency tests 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 analyzes for fit-for-use and homogeneity testing were subcontracted to a laboratory that has performed the tests in accordance with for ISO/IEC17043 relevant requirements of ISO/IEC17025.
In this proficiency test the participants received, depending on the registration, one, two or three different samples of Methanol, see table below.

Sample ID	PT ID	Quantity	Purpose
#23160	iis23C04	1x 1 L	Regular analyzes
#23161	iis23C04	1x 250 mL	NVM
#23162	iis23C04UV	1x 100 mL	UV

Table 1: Methanol samples used in iis23C04 and iis23C04UV PTs

Participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for 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 Organisation, 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

For the preparation of the sample for the regular analyzes in Methanol a batch of approximately 130 liters of Methanol was obtained from a local supplier. The batch was spiked with Iron Chloride. After homogenization 125 amber glass bottles of 1 L were filled and labelled #23160.
The homogeneity of the subsamples was checked by the determination of Density at 20 °C in accordance with ASTM D4052 and Chlorides as Cl in accordance with IMPCA002 on 8 stratified randomly selected subsamples.

	Density at 20 °C in kg/L	Chlorides as Cl in mg/kg
sample #23160-1	0.79130	0.8
sample #23160-2	0.79129	0.9
sample #23160-3	0.79129	0.8
sample #23160-4	0.79129	0.9
sample #23160-5	0.79129	0.8
sample #23160-6	0.79129	0.9
sample #23160-7	0.79129	0.8
sample #23160-8	0.79130	0.8

Table 2: homogeneity test results of subsamples #23160

From the above test results the repeatabilities were 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.

	Density at 20 °C in kg/L	Chlorides as Cl in mg/kg
r (observed)	0.00001	0.1
reference test method	ISO12185:96	IMPCA002:98
0.3 x R (reference test method)	0.00015	0.1

Table 3: evaluation of the repeatabilities of subsamples #23160

The calculated repeatabilities are in agreement with 0.3 times the corresponding reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

For the preparation of the sample for the analyzes of NVM in Methanol a batch of approximately 35 liters of Methanol was obtained from a local supplier. This batch was spiked with Sodium Chloride. After homogenization 130 amber glass bottles of 250 mL were filled and labelled #23161.
The homogeneity of the subsamples was checked by the determination of Nonvolatile matter in accordance with EN15691 on 8 stratified randomly selected subsamples.

	Nonvolatile matter in mg/100 mL
sample #23161-1	14.9
sample #23161-2	14.8
sample #23161-3	15.5
sample #23161-4	14.5
sample #23161-5	11.2 G(0.01)
sample #23161-6	14.7
sample #23161-7	14.5
sample #23161-8	14.5

Table 4: homogeneity test results of subsamples #23161

Subsample 5 is a Grubbs outlier and therefore excluded from statistical evaluation of the homogeneity.

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

	Nonvolatile matter in mg/100 mL
r (observed)	1.0
reference test method	D1353:13R21
0.3 x R (reference test method)	1.9

Table 5: evaluation of the repeatability of subsamples #23161

The calculated repeatability is in agreement with 0.3 times the reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

For the preparation of the sample for the analyzes of UV Absorbance in Methanol a batch of approximately 10 liters of Methanol was obtained from a local supplier. The batch was spiked with Toluene. After homogenization 80 amber glass bottles of 100 mL were filled and labelled #23162.
The homogeneity of the subsamples was checked by the determination of UV Absorbances at 250 nm and at 268.5 nm using a 50 mm cuvette in accordance with IMPCA004 on 8 stratified randomly selected subsamples.

	UV Absorbance at 250nm		UV Absorbance at 268.5nm	
sample #23162-1	0.191		0.203	
sample #23162-2	0.191		0.203	
sample #23162-3	0.191		0.202	
sample #23162-4	0.189		0.201	
sample #23162-5	0.189		0.201	
sample #23162-6	0.220	G(0.01)	0.219	G(0.01)
sample #23162-7	0.187		0.200	
sample #23162-8	0.187		0.199	

Table 6: homogeneity test results of subsamples #23162

Subsample 6 is a Grubbs outlier at UV Absorbance (250nm and 268.5nm) and therefore excluded from statistical evaluation of the homogeneity.

From the above test results the repeatabilities were 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.

	Absorbance at 250nm	Absorbance at 268.5nm
r (observed)	0.005	0.004
reference test method	IMPCA004:15	IMPCA004:15
0.3 x R (reference test method)	0.006	0.016

Table 7: evaluation of repeatabilities of the subsamples #23162

The calculated repeatabilities are in agreement with 0.3 times the corresponding reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

Depending on the registration of the participant the appropriate set of PT samples was sent on August 23, 2023. 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 ANALYZES

The participants were requested to determine on sample #23160: Acidity as Acetic acid, Appearance, Carbonizables Pt/Co, Inorganic Chloride as Cl, Color Pt/Co, Density at 20 °C, Specific Gravity 20/20 °C, Distillation (IBP, 50% recovered, DP and Range), Iron as Fe, Water miscibility (Hydrocarbons), Permanganate Time Test at 15 °C, Purity by GC (as received and on dry basis), Acetone, Benzene, Ethanol, Toluene, Total Sulfur, Trimethylamine (TMA) and Water (Coulometric and Volumetric).
On sample #22161 it was requested to determine Nonvolatile matter only.
On sample #23162 it was requested to determine the UV Absorbance at 300, 268.5, 250, 240, 230 and 220 nm and an evaluation (Pass or Fail) 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 reference test methods (when applicable) 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 appendices 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 reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under ‘Remarks’ in the result tables in appendices 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.

The assigned value is determined by consensus based on the test results of the group of participants after rejection of the statistical outliers and/or suspect data.

According to ISO13528 all (original received or corrected) results per determination were submitted to outlier tests. In the iis procedure for proficiency tests, outliers are detected prior to calculation of the mean, standard deviation and reproducibility. For small data sets, Dixon (up to 20 test results) or Grubbs (up to 40 test results) outlier tests can be used. For larger data sets (above 20 test results) Rosner’s outlier test can be used. 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 them 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 test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms.

Also, a normal Gauss curve (dotted line) was projected over the Kernel Density Graph (smooth line) for reference. The Gauss curve is calculated from the consensus value and the corresponding standard deviation.

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 (derived from e.g. ISO or ASTM test methods), 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 may be used, like Horwitz or an estimated reproducibility based on former iis proficiency tests.

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 proficiency test some problems were encountered with the dispatch of the samples. Therefore, the reporting time on the data entry portal was extended with another week.
In the regular Methanol PT twenty-two participants reported test results after the extended reporting date and nine other participants did not report any test results for the regular analyzes.
In the Methanol UV PT fourteen participants reported test results after the extended reporting date and fourteen other participants did not report any test results. Not all participants were able to report all tests requested.
In total 94 participants reported 1635 numerical test results. Observed were 56 outlying test results, which is 3.4%. In proficiency tests outlier percentages of 3% - 7.5% are quite normal.

Not all 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 reported test results are discussed per sample and per test. The test methods which were used by the various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables together with the original data in appendix 1. The abbreviations, used in these tables, are explained in appendix 4.
Unfortunately, a suitable reference test method providing the precision data is not available for all determinations. For these tests the calculated reproducibility was compared against the estimated reproducibility calculated with 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). When a method has been reapproved an “R” will be added and the year of approval (e.g. D1209:05R19).

For Purity in Ethanol according to IMPCA001 no precision data have been published. In 2023 iis gathered the data for Purity on dry basis and the data on the Impurities Acetone, Ethanol and Benzene/Toluene to determine an estimated reproducibility based on the PT data of the last 15 years. The results have been published in iis memo 2303 and will be used to evaluate the Purity on dry basis and the above mentioned Impurities.

sample #23160

Acidity as Acetic acid: The group of participants met the target requirements. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of ASTM D1613:17R23.

Appearance: All reporting participants agreed about the appearance, which was bright, clear and free of suspended matter (CFSM/Pass).

Carbonizables Pt/Co: The group of participants had difficulty to meet the target requirements. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of ASTM E346:08e1(withdrawn in 2017).

Inorganic Chloride as Cl: The group of participants met the target requirements. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IMPCA002:98.

Color Pt/Co: The group of participants met the target requirements. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of ASTM D1209:05R19.

Density at 20 °C: The group of participants met the target requirements. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO12185:96.

Specific Gravity 20/20 °C: The group of participants met the target requirements. Nine statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO12185:96.

Distillation: The group of participants met the target requirements. One statistical outlier was observed over three parameters. All calculated reproducibilities after rejection of the statistical outlier were in agreement with the requirements of ASTM D1078:11R19 for the automated and manual mode.

Iron as Fe: The group of participants had difficulty to meet the target requirements. No statistical outliers were observed but eleven test results were excluded. The batch was spiked with 0.4 mg/kg Fe. The laboratories should be able to find at least 0.3 mg/kg (0.4 mg/kg – 0.1mg/kg $_{(R\ E394:22)}$). Eleven laboratories reported a test result lower than 0.3 mg/kg. Therefore, these test results were excluded from the statistical evaluation. The calculated reproducibility after rejection of the suspect data is not in agreement with the requirements of ASTM E394:22.

Water miscibility (Hydrocarbons): All reporting participants agreed that the sample passes the test.

Permanganate Time Test: The group of participants had difficulty to meet the target requirements. No statistical outliers were observed. The calculated reproducibility is not in agreement with the requirements of ASTM D1363:06R19.

Purity: For the determination of purity “as received” and “on dry basis” in total nine statistical outliers were observed and the test results of four other participants were excluded. These four participants reported a higher test result for “as received” than for “on dry basis”, which is not possible.
For Purity as received no precision is available, therefore no z-scores are calculated.
For Purity on dry basis the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility as derived from iis memo2303.

Acetone: Almost all reporting participants agreed on a test result near or below the determination limit. Therefore, no z-scores are calculated.

Benzene: Almost all reporting participants agreed on a test result near or below the determination limit. Therefore, no z-scores are calculated.

Ethanol: The group of participants had difficulty to meet the target requirements. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the target reproducibility as derived from iis memo 2303.

Toluene: The group of participants met the target requirements. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the target reproducibility as derived from iis memo 2303.

Total Sulfur: All reporting participants agreed on a test result near or below the detection limit. Therefore, no z-scores are calculated.

Trimethylamine (TMA): The group of participants may have had difficulty to meet the target requirements. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated reproducibility calculated with the Horwitz equation nor with the stricter requirements of ASTM E346:08e1 (withdrawn in 2017).

Water, Coulometric: The group of participants met the target requirements. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM E1064:23.

Water, Volumetric: The group of participants met the target requirements. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM E203:23.

sample #23162

Nonvolatile matter: The group of participants met the target requirements. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D1353:13R21.

sample #23163

UV Absorbance: A number of participants may have had difficulty with the UV determination with a 50 mm cuvette. In total five statistical outliers were observed. Thirty-three participants (92%) reported the test result "fail" and remarkably three participants would have approved the batch.
Please note that IMPCA004 describes the use of a 50 mm cuvette. Five participants used a 10 mm cuvette. The reported test results for participants reporting a 10 mm cuvette are not evaluated and given in appendix 2.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the reference test method and the reproducibility as found for the group of participating laboratories. The number of significant test results, the average, the calculated reproducibility (2.8 * standard deviation) and the target reproducibility derived from reference methods are presented in the next tables.

Parameter	unit	n	average	2.8 * sd	R(lit)
Acidity as Acetic acid	mg/kg	82	12.6	9.3	14
Appearance		85	CFSM	n.a.	n.a.
Carbonizables Pt/Co		58	8.8	9.7	7.5
Inorganic Chloride as Cl	mg/kg	63	0.89	0.16	0.3
Color Pt/Co		76	4.6	4.5	7
Density at 20 °C	kg/L	77	0.7913	0.0002	0.0005
Specific Gravity 20/20 °C		76	0.7928	0.0002	0.0005
Initial Boiling Point	°C	81	64.4	0.4	1.0
50% recovered	°C	77	64.5	0.3	0.4
Dry Point	°C	80	64.8	0.4	0.7
Iron as Fe	mg/kg	58	0.38	0.12	0.07
Water miscibility (Hydrocarbons)		83	Passes test	n.a.	n.a.
Permanganate Time Test 15 °C	minutes	77	33.3	15.2	8.4
Purity by GC as received	%M/M	51	99.960	n.a.	n.a.
Purity by GC on dry basis	%M/M	69	99.993	0.008	0.008
Acetone	mg/kg	75	<5	n.e.	n.e.
Benzene	mg/kg	61	<5	n.e.	n.e.
Ethanol	mg/kg	74	7.7	4.1	2.6
Toluene	mg/kg	61	21.9	6.0	6.7
Total Sulfur	mg/kg	67	<1	n.e.	n.e.
Trimethylamine (TMA)	µg/kg	14	24.8	42.9	19.3
Water, Coulometric	mg/kg	81	335	53	53
Water, Volumetric	mg/kg	38	338	49	780
Nonvolatile matter	mg/100mL	64	15.1	2.0	6.5

Table 7: reproducibilities of tests on sample #23160 and #23161

Parameter	unit	n	average	2.8 * sd	R(lit)
UV Absorbance at 300 nm		33	0.033	0.007	0.005
UV Absorbance at 268.5 nm		37	0.170	0.048	0.046
UV Absorbance at 250 nm		36	0.185	0.019	0.019
UV Absorbance at 240 nm		32	0.253	0.031	n.a.
UV Absorbance at 230 nm		33	0.518	0.078	n.a.
UV Absorbance at 220 nm		36	1.428	0.295	0.410

Table 8: reproducibilities of tests on sample #23162, 50 mm cuvette only

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

4.3 COMPARISON OF THE PROFICIENCY TEST OF SEPTEMBER 2023 WITH PREVIOUS PTS

	September 2023	September 2022	September 2021	September 2020	September 2019
Number of reporting laboratories	94	69	90	81	77
Number of test results	1635	1020	1669	1314	1343
Number of statistical outliers	56	34	84	49	48
Percentage of statistical outliers	3.4%	3.3%	5.0%	3.7%	3.6%

Table 9: 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 to the requirements of the reference test methods. The conclusions are given the following table.

	September 2023	September 2022	September 2021	September 2020	September 2019
Acidity as Acetic acid	+	+	+	+	+
Carbonizables Pt/Co	-	-	(--)	-	+/-
Inorganic Chloride as Cl	+	n.e.	+	n.e.	++
Color Pt/Co	+	++	+	++	++
Density at 20 °C	++	+	++	++	++
Specific Gravity 20/20 °C	++	+	++	++	++
Distillation	+	+	+	++	++
Iron as Fe	-	n.e.	+/-	n.e.	-
Permanganate Time Test 15 °C	-	--	(-)	-	-
Purity by GC on dry basis	+/-	n.e.	n.e.	n.e.	n.e.
Acetone	n.e.	n.e.	+/-	n.e.	+/-
Benzene	n.e.	n.e.	+/-	n.e.	+/-
Ethanol	-	-	-	-	-
Toluene	+/-	n.e.	+/-	+	n.e.

	September 2023	September 2022	September 2021	September 2020	September 2019
Total Sulfur	n.e.	n.e.	+	+	n.e.
Trimethylamine (TMA)	--	-	(--)	-	+/-
Water, Coulometric	+/-	(--)	+	-	+/-
Water, Volumetric	++	++	++	++	++
Nonvolatile matter	++	++	++	--	--
UV Absorbance at 300 nm	-	(+)	++	+	+/-
UV Absorbance at 268.5 nm	+/-	(-)	+	--	++
UV Absorbance at 250 nm	+/-	(-)	+/-	--	-
UV Absorbance at 220 nm	+	(+)	++	+	++

Table 10: comparison of the determinations to the reference test methods for sample #23160, #23161 and #23162
For results between brackets no z-scores are calculated

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

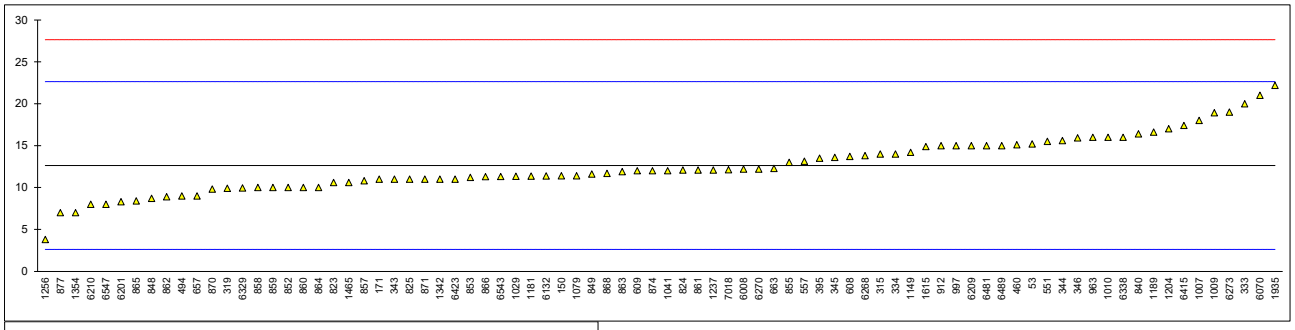
APPENDIX 1

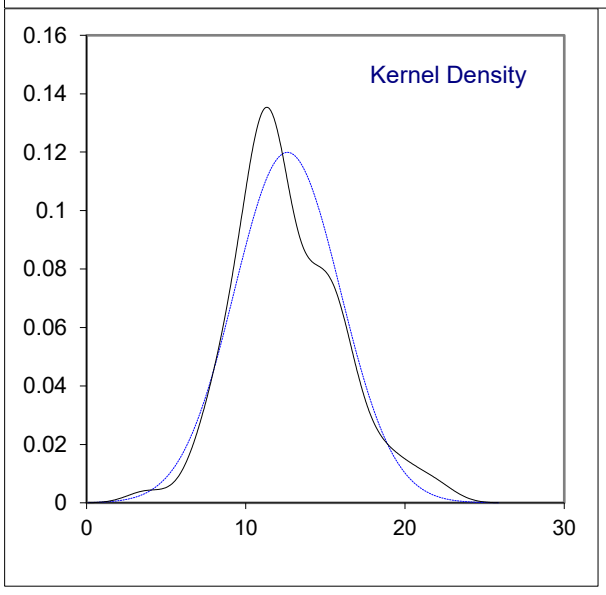
Determination of Acidity as Acetic acid on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D1613	15.2		0.51	
150	D1613	11.4	C	-0.25	first reported 27
171	D1613	11		-0.33	
315	D1613	14		0.27	
316		-----		-----	
319	D1613	9.92		-0.54	
323		-----		-----	
333	D1613	20		1.47	
334	D1613	14		0.27	
335		-----		-----	
343	D1613	11		-0.33	
344	D1613	15.6		0.59	
345	D1613	13.6		0.19	
346	D1613	15.92		0.66	
347		-----		-----	
349		-----		-----	
395	D1613	13.5		0.17	
396		-----		-----	
460	D1613	15.1		0.49	
492		-----		-----	
494	D1613	9		-0.73	
551	D1613	15.5		0.57	
554		-----		-----	
557	D1613	13.1490508		0.10	
608	D1613	13.7		0.21	
609	D1613	12		-0.13	
657	D1613	9		-0.73	
663	D1613	12.28		-0.07	
823	D1613	10.6		-0.41	
824	D1613	12.1		-0.11	
825	D1613	11		-0.33	
840	D1613	16.4		0.75	
848	D1613	8.7		-0.79	
849	D1613	11.6		-0.21	
852	D1613	10		-0.53	
853	D1613	11.2		-0.29	
855	D1613	13		0.07	
857	D1613	10.8		-0.37	
858	D1613	10		-0.53	
859	D1613	10		-0.53	
860	D1613	10		-0.53	
861	D1613	12.1		-0.11	
862	D1613	8.9		-0.75	
863	D1613	11.9		-0.15	
864	D1613	10		-0.53	
865	D1613	8.4		-0.85	
866	D1613	11.3		-0.27	
868	D1613	11.7		-0.19	
870	D1613	9.8		-0.57	
871	D1613	11		-0.33	
874	D1613	12		-0.13	
877	D1613	7		-1.13	
912	D1613	15		0.47	
913		-----		-----	
963	D1613	16		0.67	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	D1613	15		0.47	
1007	D1613	18		1.07	
1009	D1613	18.937		1.26	
1010	D1613	16		0.67	
1029	D1613	11.35		-0.26	
1041	D1613	12.0		-0.13	
1079	D1613	11.4		-0.25	
1135		-----		-----	
1149	D1613	14.20		0.31	
1181	D1613	11.37368		-0.25	
1189	D1613	16.6		0.79	
1204	D1613	17		0.87	
1237	D1613	12.1		-0.11	
1256	D1613	3.8		-1.77	
1264		-----		-----	
1342	D1613	11		-0.33	
1354	D1613	7		-1.13	

lab	method	value	mark	z(targ)	remarks
1465	D1613	10.6		-0.41	
1530		-----		-----	
1615	D1613	14.88		0.45	
1656		-----		-----	
1935	D1613	22.2		1.91	
6008	D1613	12.2		-0.09	
6061		-----		-----	
6070	D1613	21		1.67	
6119		-----		-----	
6132	D1613	11.378		-0.25	
6201	D1613	8.3		-0.87	
6209	D1613	15		0.47	
6210	D1613	8		-0.93	
6262		-----		-----	
6268	D1613	13.8		0.23	
6270	D1613	12.2		-0.09	
6273	D1613	19		1.27	
6329	D1613	9.95		-0.54	
6338	D1613	16		0.67	
6388		-----		-----	
6415	D1613	17.4		0.95	
6423	D1613	11		-0.33	
6481	D1613	15		0.47	
6489	D1613	15		0.47	
6543	D1613	11.314		-0.26	
6547	D1613	8		-0.93	
7018	D1613	12.13		-0.10	

normality	OK
n	82
outliers	0
mean (n)	12.628
st.dev. (n)	3.3249
R(calc.)	9.310
st.dev.(D1613:17R23)	5
R(D1613:17R23)	14





Determination of Appearance on sample #23160;

lab	method	value	mark	z(targ)	remarks
53	IMPCA003	Clear & free		-----	
150	IMPCA003	clear and free from suspended matter		-----	
171	E2680	Pass		-----	
315	IMPCA003	clfosm		-----	
316		-----		-----	
319	IMPCA003	Clear and free from suspended matter		-----	
323	INH-001	CFFMIS		-----	
333	IMPCA003	Clear and free suspended matter		-----	
334	IMPCA003	Clear and free from suspended matter		-----	
335	IMPCA003	clear and free from suspended matter		-----	
343	IMPCA003	Pass		-----	
344	IMPCA003	C&B		-----	
345	E2680	clear and free from suspended matter		-----	
346	IMPCA003	Pass		-----	
347		-----		-----	
349		-----		-----	
395	IMPCA003	PASS		-----	
396	Visual	C&B		-----	
460		-----		-----	
492		-----		-----	
494	IMPCA003	Clear & Bright		-----	
551	E2680	Pass		-----	
554		-----		-----	
557	D2680	Pass		-----	
608	IMPCA003	CFSM		-----	
609	IMPCA003	Clear and free from sususpended matter		-----	
657	E2680	Pass		-----	
663	IMPCA003	Clear and Free of suspended metter		-----	
823	IMPCA003	CFSM		-----	
824	IMPCA003	C.F.S.M		-----	
825	IMPCA003	Clear and free from suspended matter		-----	
840	E2680	Pass		-----	
848	IMPCA003	B&C		-----	
849	E2680	Clear&Bright		-----	
852	IMPCA003	Clear&Bright		-----	
853	IMPCA003	CFSM		-----	
855	E2680	Clear & Bright		-----	
857	IMPCA003	Clear and free from suspended matter		-----	
858	IMPCA003	Bright & Clear		-----	
859	IMPCA003	PASS		-----	
860	IMPCA003	Clear and free from suspended matter		-----	
861	IMPCA003	PASS		-----	
862	Visual	Clear and free from suspended matter		-----	
863	IMPCA003	Clear and free of suspended matter		-----	
864	E2680	Clear and free from suspended matter		-----	
865	IMPCA003	Clear & Bright		-----	
866	IMPCA003	Clear and free from suspended matter		-----	
868	IMPCA003	PASS		-----	
870	IMPCA003	Clear and free of suspended		-----	
871	Visual	Clear&Bright		-----	
874	IMPCA003	Pass		-----	
877	IMPCA003	Pass		-----	
912	E2680	Pass		-----	
913		-----		-----	
963	IMPCA003	CFSM		-----	
970		-----		-----	
974	IMPCA003	CFSM		-----	
994		-----		-----	
997	IMPCA003	Pass		-----	
1007	IMPCA003	CFSM		-----	
1009	IMPCA003	Clear and free of suspended material		-----	
1010	IMPCA003	Cl&fsm		-----	
1029	IMPCA003	CFSM		-----	
1041	IMPCA003	CFSM		-----	
1079	IMPCA003	CFSM		-----	
1135		-----		-----	
1149	IMPCA003	CFSM		-----	
1181	IMPCA003	Clear and free from suspended matter		-----	
1189	IMPCA003	Br&Cl		-----	
1204	IMPCA003	Clear and free of suspended matter		-----	
1237	IMPCA003	clear and free of suspended matter		-----	
1256	IMPCA003	Clear and free from suspended matter		-----	
1264		-----		-----	
1342	IMPCA003	CSFM		-----	
1354	IMPCA003	Clear & Free from suspended matter		-----	

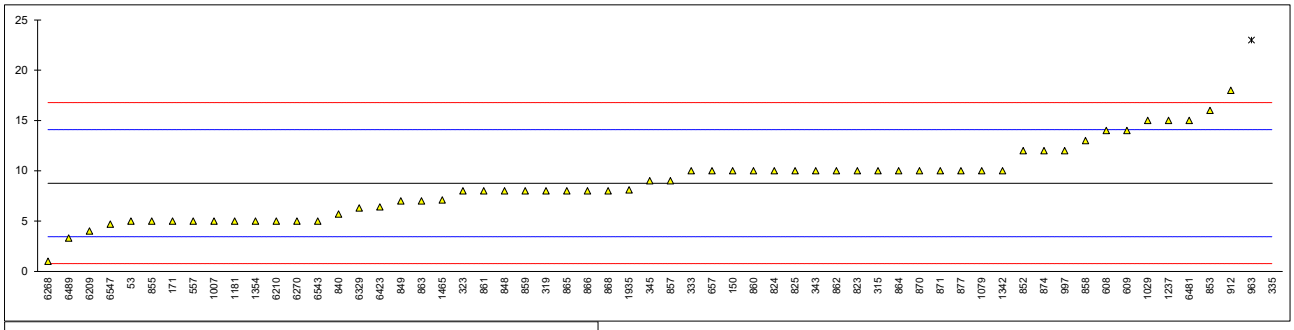
lab	method	value	mark	z(targ)	remarks
1465	IMPCA003	Clear & Free		-----	
1530		-----		-----	
1615	IMPCA003	CFSM		-----	
1656	IMPCA003	Pass		-----	
1935	IMPCA003	B&C		-----	
6008	IMPCA003	Clear and Free from Suspended Matter		-----	
6061		-----		-----	
6070	E2680	Clear & Bright		-----	
6119		-----		-----	
6132	IMPCA003	Clear & Free From Suspended Matter		-----	
6201		-----		-----	
6209	IMPCA003	Clear and Free from Suspended Matter		-----	
6210	IMPCA003	Clear and Free from Suspended Matter		-----	
6262		-----		-----	
6268	IMPCA003	CFSM		-----	
6270	IMPCA003	CFSM		-----	
6273	E2680	Bright and Clear		-----	
6329	IMPCA003	CFSM		-----	
6338	IMPCA003	Clear and free from suspended matter		-----	
6388		-----		-----	
6415	IMPCA003	Pass		-----	
6423	IMPCA003	Clear & free of suspended matter		-----	
6481	IMPCA003	Clear & Free		-----	
6489	IMPCA003	Clear & free of suspended matter		-----	
6543	IMPCA003	Clear and free from suspended matter.		-----	
6547	IMPCA003	Clear & free of suspended matter		-----	
7018	IMPCA003	CFSM		-----	
	n	85			
	mean (n)	Clear and free from suspended matter (CFSM/Pass)			

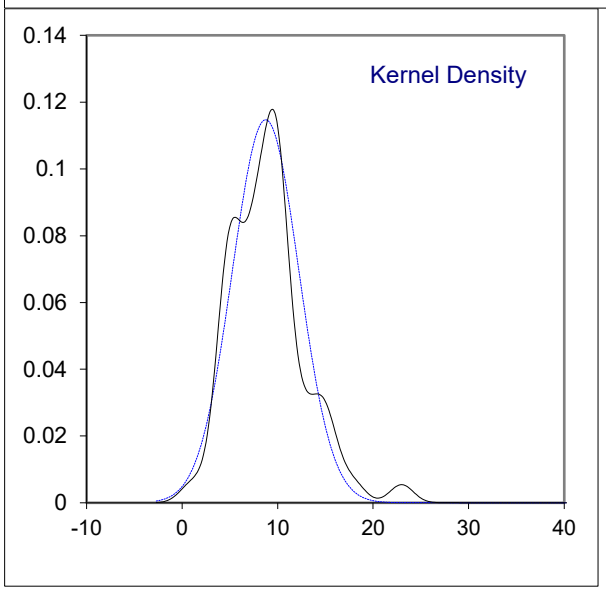
Determination of Carbonizables Pt/Co on sample #23160;

lab	method	value	mark	z(targ)	remarks
53	E346	5		-1.41	
150	E346	10		0.46	
171	E346	5		-1.41	
315	E346	10		0.46	
316		-----		-----	
319	E346	8		-0.29	
323	E346	8		-0.29	
333	E346	10		0.46	
334		-----		-----	
335	E346	60	R(0.01)	19.22	
343	E346	10		0.46	
344	E346	<30		-----	
345	E346	9		0.09	
346	E346	<30		-----	
347		-----		-----	
349		-----		-----	
395		-----		-----	
396	E346	<30		-----	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551		-----		-----	
554		-----		-----	
557	E346	5		-1.41	
608	E346	14		1.96	
609	E346	14		1.96	
657	E346	10		0.46	
663		-----		-----	
823	E346	10		0.46	
824	E346	10		0.46	
825	E346	10		0.46	
840	E346	5.7		-1.15	
848	E346	8		-0.29	
849	E346	7		-0.66	
852	E346	12		1.21	
853	E346	16		2.71	
855	E346	5		-1.41	
857	E346	9		0.09	
858	E346	13		1.59	
859	E346	8		-0.29	
860	E346	10		0.46	
861	E346	8		-0.29	
862	E346	10		0.46	
863	E346	7		-0.66	
864	E346	10		0.46	
865	E346	8		-0.29	
866	E346	8		-0.29	
868	E346	8		-0.29	
870	E346	10		0.46	
871	E346	10		0.46	
874	E346	12		1.21	
877	E346	10		0.46	
912	E346	18		3.46	
913		-----		-----	
963	E346	23	R(0.01)	5.34	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E346	12	C	1.21	first reported 20
1007	E346	5		-1.41	
1009		-----		-----	
1010		-----		-----	
1029	E346	15		2.34	
1041		-----		-----	
1079	E346	10		0.46	
1135		-----		-----	
1149	E346	<30		-----	
1181	E346	5		-1.41	
1189		-----		-----	
1204	E346	Less than 30		-----	
1237	E346	15		2.34	
1256	E346	<5		-----	
1264		-----		-----	
1342	E346	10		0.46	
1354	E346	5		-1.41	

lab	method	value	mark	z(targ)	remarks
1465	E346	7.1		-0.63	
1530		-----		-----	
1615	E346	<10		-----	
1656		-----		-----	
1935	E346	8.1		-0.25	
6008	E346	<30		-----	
6061		-----		-----	
6070	E346	<5		-----	
6119		-----		-----	
6132	E346	<5		-----	
6201	E346	<5		-----	
6209	E346	4		-1.79	
6210	E346	5		-1.41	
6262		-----		-----	
6268	E346	1		-2.91	
6270	E346	5		-1.41	
6273		-----		-----	
6329	E346	6.3		-0.93	
6338		-----		-----	
6388		-----		-----	
6415		-----		-----	
6423	E346	6.4		-0.89	
6481	E346	15		2.34	
6489	E346	3.3		-2.05	
6543	E346	5		-1.41	
6547	E346	4.7		-1.53	
7018	E346	<30		-----	

normality	OK
n	58
outliers	2
mean (n)	8.769
st.dev. (n)	3.4774
R(calc.)	9.737
st.dev.(E346:08e1)	2.6661
R(E346:08e1)	7.465



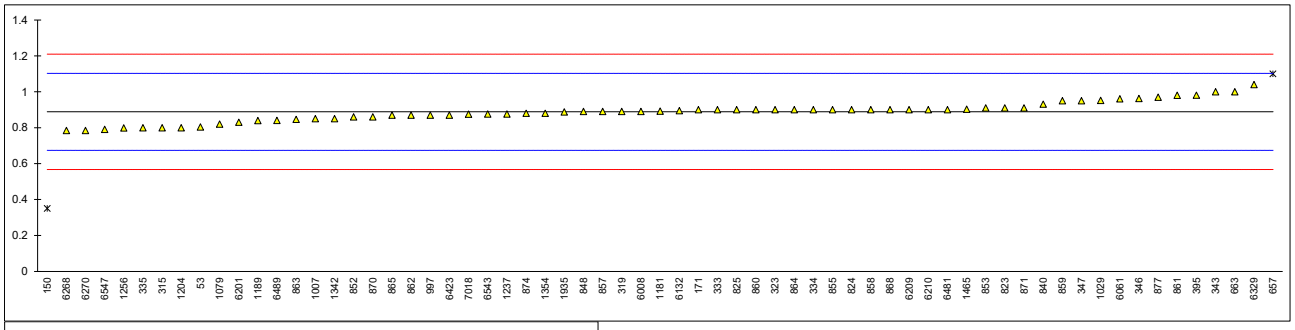


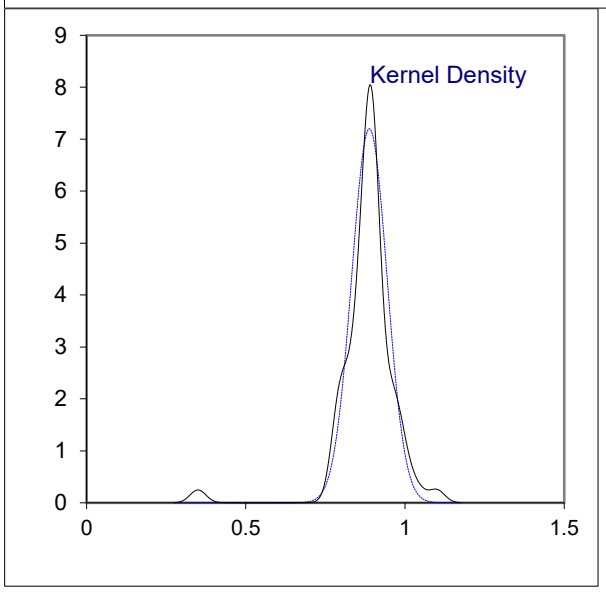
Determination of Inorganic Chloride as Cl on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA002	0.804		-0.79	
150	IMPCA002	0.35	C,R(0.01)	-5.02	first reported <0.25
171	IMPCA002	0.9		0.11	
315	IMPCA002	0.8		-0.82	
316		-----		-----	
319	IMPCA002	0.89		0.02	
323	IMPCA002	0.9		0.11	
333	IMPCA002	0.9		0.11	
334	IMPCA002	0.9		0.11	
335	INH-96001	0.8		-0.82	
343	IMPCA002	1		1.04	
344		-----		-----	
345		-----		-----	
346	IMPCA002	0.962		0.69	
347	IMPCA002	0.95		0.58	
349		-----		-----	
395	IMPCA002	0.981		0.86	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551	IMPCA002	<0.5		<-3.62	possibly a false negative test result?
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA002	1.1	C,R(0.05)	1.98	first reported 0.7
663	IMPCA002	1.0		1.04	
823	IMPCA002	0.91		0.20	
824	IMPCA002	0.9		0.11	
825	IMPCA002	0.9		0.11	
840	IMPCA002	0.931		0.40	
848	IMPCA002	0.89		0.02	
849		-----		-----	
852	IMPCA002	0.86		-0.26	
853	IMPCA002	0.91		0.20	
855	IMPCA002	0.9		0.11	
857	IMPCA002	0.89		0.02	
858	IMPCA002	0.9		0.11	
859	IMPCA002	0.95		0.58	
860	IMPCA002	0.90		0.11	
861	IMPCA002	0.98		0.86	
862	IMPCA002	0.87		-0.17	
863	IMPCA002	0.846		-0.40	
864	IMPCA002	0.9		0.11	
865	IMPCA002	0.87		-0.17	
866		-----		-----	
868	IMPCA002	0.9		0.11	
870	IMPCA002	0.86		-0.26	
871	IMPCA002	0.91		0.20	
874	IMPCA002	0.88		-0.08	
877	IMPCA002	0.97		0.76	
912		-----		-----	
913		-----		-----	
963	IMPCA002	<0.25		<-5.96	possibly a false negative test result?
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA002	0.87		-0.17	
1007	IMPCA002	0.85		-0.36	
1009		-----		-----	
1010		-----		-----	
1029	IMPCA002	0.952		0.59	
1041		-----		-----	
1079	IMPCA002	0.82		-0.64	
1135		-----		-----	
1149	JIS K-1501	>0.2	C	-----	first reported <0.2
1181	IMPCA002	0.8918		0.03	
1189	IMPCA002	0.839		-0.46	
1204	IMPCA002	0.8		-0.82	
1237	IMPCA002	0.876		-0.12	
1256	IMPCA002	0.7990		-0.83	
1264		-----		-----	
1342	IMPCA002	0.85		-0.36	
1354	IMPCA002	0.88		-0.08	

lab	method	value	mark	z(targ)	remarks
1465	Other (mention below)	0.903		0.14	
1530		-----		-----	
1615		-----		-----	
1656	IMPCA002	<0.25		<-5.96	possibly a false negative test result?
1935	IMPCA002	0.888		0.00	
6008	IMPCA002	0.89		0.02	
6061	IMPCA002	0.96		0.67	
6070		-----		-----	
6119		-----		-----	
6132	IMPCA002	0.8945		0.06	
6201	IMPCA002	0.83		-0.54	
6209	IMPCA002	0.9		0.11	
6210	IMPCA002	0.9		0.11	
6262		-----		-----	
6268	IMPCA002	0.784		-0.97	
6270	IMPCA002	0.784	C	-0.97	first reported 1.569
6273		-----		-----	
6329	IMPCA002	1.04		1.42	
6338		-----		-----	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA002	0.87		-0.17	
6481	IMPCA002	0.90		0.11	
6489	IMPCA002	0.84		-0.45	
6543	IMPCA002	0.8755		-0.12	
6547	IMPCA002	0.79		-0.92	
7018	In house	0.875		-0.12	

normality	OK
n	63
outliers	2
mean (n)	0.8883
st.dev. (n)	0.05541
R(calc.)	0.1551
st.dev.(IMPCA002:98)	0.10714
R(IMPCA002:98)	0.3



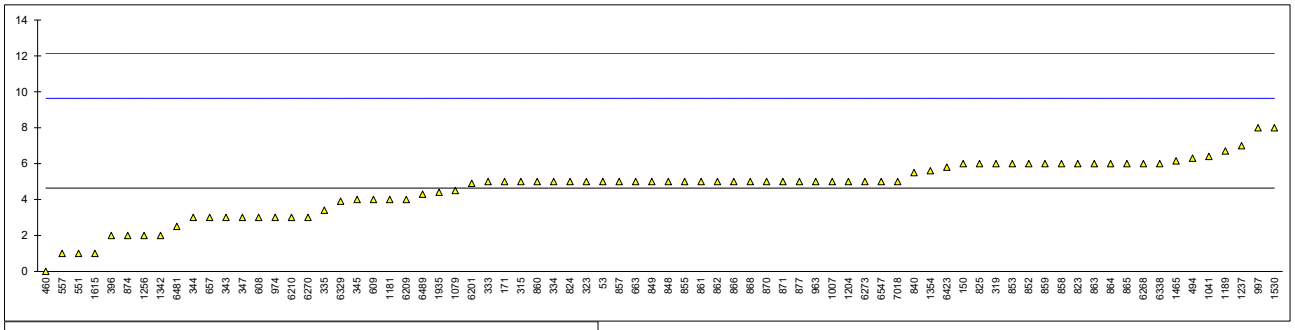


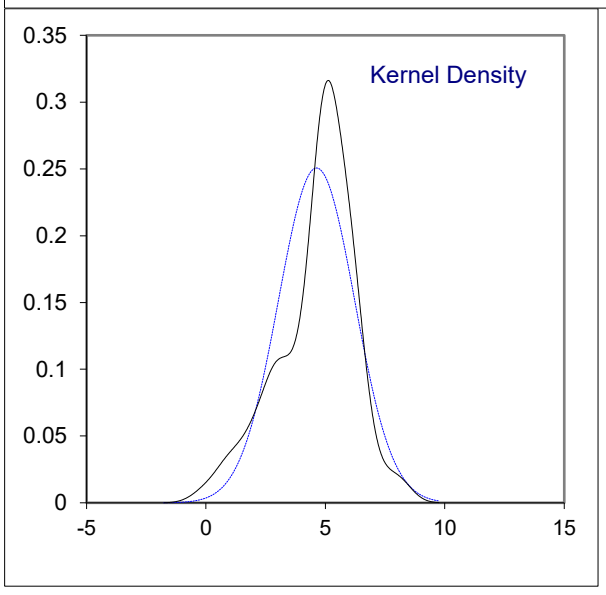
Determination of Color Pt/Co on sample #23160;

lab	method	value	mark	z(targ)	remarks
53	D1209	5		0.15	
150	D1209	6		0.55	
171	D1209	5		0.15	
315	D5386	5		0.15	
316		-----		-----	
319	D5386	6		0.55	
323	D1209	5		0.15	
333	D1209	5		0.15	
334	D1209	5		0.15	
335	D1209	3.4		-0.49	
343	D5386	3		-0.65	
344	D5386	3.0		-0.65	
345	D5386	4		-0.25	
346	D1209	<5		-----	
347	D5386	3		-0.65	
349		-----		-----	
395	D1209	<5		-----	
396	D5386	2		-1.05	
460	D1209	0		-1.85	
492		-----		-----	
494	ISO6271	6.3		0.67	
551	D1209	1		-1.45	
554		-----		-----	
557	D1209	1		-1.45	
608	D1209	3		-0.65	
609	D1209	4		-0.25	
657	D1209	3		-0.65	
663	D1209	5		0.15	
823	D1209	6		0.55	
824	D5386	5		0.15	
825	D1209	6		0.55	
840	D1209	5.5		0.35	
848	D1209	5		0.15	
849	D1209	5		0.15	
852	D1209	6		0.55	
853	D5386	6		0.55	
855	D1209	5		0.15	
857	D1209	5		0.15	
858	D1209	6		0.55	
859	D1209	6		0.55	
860	D5386	5		0.15	
861	D1209	5		0.15	
862	D1209	5		0.15	
863	D1209	6		0.55	
864	D1209	6		0.55	
865	D1209	6		0.55	
866	D5386	5		0.15	
868	D1209	5		0.15	
870	D1209	5		0.15	
871	D1209	5		0.15	
874	D1209	2		-1.05	
877	D1209	5		0.15	
912		-----		-----	
913		-----		-----	
963	D1209	5		0.15	
970		-----		-----	
974	D1209	3		-0.65	
994		-----		-----	
997	D1209	8.0		1.35	
1007	D1209	5		0.15	
1009	D1209	Less than 5		-----	
1010		-----		-----	
1029	D1209	<5		-----	
1041	D1209	6.4		0.71	
1079	D5386	4.5		-0.05	
1135		-----		-----	
1149	D1209	<5		-----	
1181	D1209	4		-0.25	
1189	D1209	6.7		0.83	
1204	D1209	5		0.15	
1237	D1209	7		0.95	
1256	D1209	2		-1.05	
1264		-----		-----	
1342	D1209	2		-1.05	
1354	D5386	5.6		0.39	

lab	method	value	mark	z(targ)	remarks
1465	D1209	6.15		0.61	
1530	D1209	8		1.35	
1615	D1209	1		-1.45	
1656	D1209	<5		-----	
1935	D5386	4.4		-0.09	
6008	D1209	<5		-----	
6061		-----		-----	
6070	D1209	<5		-----	
6119		-----		-----	
6132	D1209	<5		-----	
6201	D1209	4.9		0.11	
6209	D1209	4		-0.25	
6210	D1209	3		-0.65	
6262		-----		-----	
6268	D5386	6		0.55	
6270	D1209	3		-0.65	
6273	D1209	5		0.15	
6329	D5386	3.9		-0.29	
6338	D1209	6		0.55	
6388		-----		-----	
6415	D1209	<5		-----	
6423	D5386	5.8		0.47	
6481	D1209	2.5		-0.85	
6489	D5386	4.3		-0.13	
6543	D1209	<5		-----	
6547	D5386	5.0		0.15	
7018	D1209	5		0.15	

normality	OK
n	76
outliers	0
mean (n)	4.64
st.dev. (n)	1.592
R(calc.)	4.46
st.dev.(D1209:05R19)	2.500
R(D1209:05R19)	7



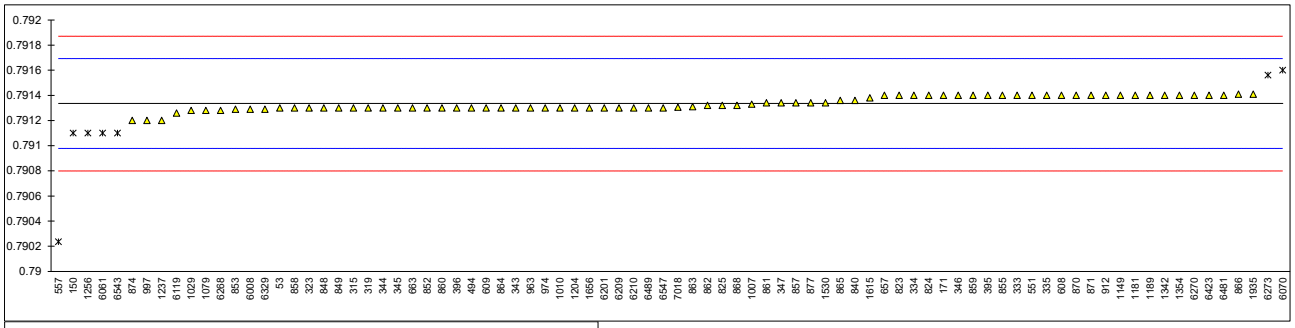


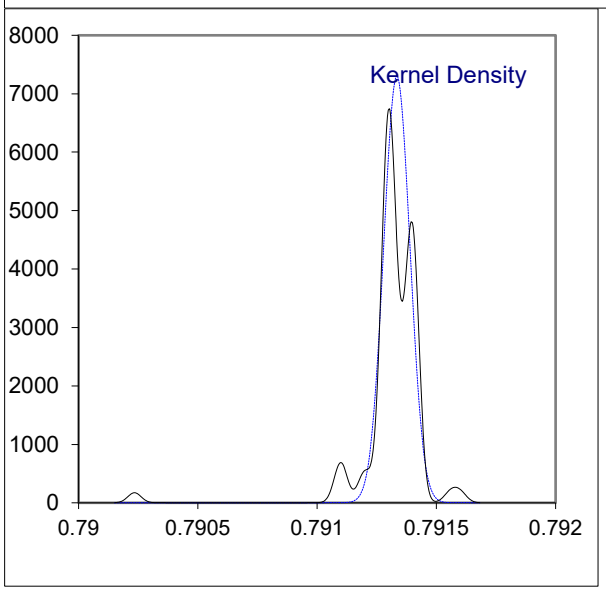
Determination of Density at 20 °C on sample #23160; results in kg/L

lab	method	value	mark	z(targ)	remarks
53	D4052	0.7913		-0.20	
150	D4052	0.7911	R(0.01)	-1.32	
171	D4052	0.7914		0.36	
315	D4052	0.7913		-0.20	
316		-----		-----	
319	D4052	0.7913		-0.20	
323	D4052	0.7913		-0.20	
333	D4052	0.7914	C	0.36	reported 791.4 kg/L
334	D4052	0.7914	C	0.36	first reported 0.7928
335	D4052	0.7914		0.36	
343	D4052	0.7913		-0.20	
344	D4052	0.7913		-0.20	
345	D4052	0.7913		-0.20	
346	D4052	0.7914		0.36	
347	D4052	0.79134		0.03	
349		-----		-----	
395	D4052	0.7914		0.36	
396	D4052	0.7913		-0.20	
460		-----		-----	
492		-----		-----	
494	ISO12185	0.7913		-0.20	
551	D4052	0.7914		0.36	
554		-----		-----	
557	D4052	0.790235	R(0.01)	-6.16	
608	D4052	0.7914	C	0.36	first reported 0.7919
609	D4052	0.7913		-0.20	
657	D4052	0.7914		0.36	
663	D4052	0.7913		-0.20	
823	D4052	0.7914		0.36	
824	ISO12185	0.7914		0.36	
825	ISO12185	0.79132		-0.08	
840	D4052	0.79136		0.14	
848	D4052	0.7913		-0.20	
849	D4052	0.7913		-0.20	
852	D4052	0.7913		-0.20	
853	D4052	0.79129		-0.25	
855	D4052	0.7914		0.36	
857	D4052	0.79134		0.03	
858	D4052	0.7913		-0.20	
859	D4052	0.7914		0.36	
860	D4052	0.79130		-0.20	
861	D4052	0.79134		0.03	
862	ISO12185	0.79132		-0.08	
863	D4052	0.79131		-0.14	
864	D4052	0.7913		-0.20	
865	D4052	0.79136		0.14	
866	D4052	0.79141		0.42	
868	D4052	0.79132		-0.08	
870	ISO12185	0.7914		0.36	
871	D4052	0.7914		0.36	
874	ISO12185	0.7912		-0.76	
877	D4052	0.79134		0.03	
912	D4052	0.7914		0.36	
913		-----		-----	
963	D4052	0.7913		-0.20	
970		-----		-----	
974	D4052	0.7913		-0.20	
994		-----		-----	
997	D4052	0.7912		-0.76	
1007	D4052	0.79133		-0.03	
1009		-----		-----	
1010	D4052	0.7913		-0.20	
1029	D4052	0.79128		-0.31	
1041		-----		-----	
1079	ISO12185	0.79128		-0.31	
1135		-----		-----	
1149	D4052	0.7914		0.36	
1181	D4052	0.7914		0.36	
1189	ISO12185	0.7914		0.36	
1204	D4052	0.7913		-0.20	
1237	D4052	0.7912	C	-0.76	first reported 791.2 kg/L
1256	D4052	0.7911	R(0.01)	-1.32	
1264		-----		-----	
1342	D4052	0.7914		0.36	
1354	D4052	0.7914		0.36	

lab	method	value	mark	z(targ)	remarks
1465		-----		-----	
1530	ISO12185	0.79134		0.03	
1615	D4052	0.79138		0.25	
1656	D4052	0.7913		-0.20	
1935	D4052	0.79141		0.42	
6008	D4052	0.79129	C	-0.25	first reported 0.79272
6061	D4052	0.7911	R(0.01)	-1.32	
6070	D4052	0.7916	R(0.01)	1.48	
6119	ISO12185	0.79126		-0.42	
6132		-----		-----	
6201	ISO12185	0.7913		-0.20	
6209	D4052	0.7913		-0.20	
6210	D4052	0.7913		-0.20	
6262		-----		-----	
6268	D4052	0.79128		-0.31	
6270	D4052	0.79140		0.36	
6273	D4052	0.79156	R(0.01)	1.26	
6329	D4052	0.79129		-0.25	
6338		-----		-----	
6388		-----		-----	
6415		-----		-----	
6423	D4052	0.7914		0.36	
6481	D4052	0.7914	C	0.36	first reported 0.7927
6489	D4052	0.7913		-0.20	
6543	D4052	0.7911	C,R(0.01)	-1.32	first reported 0.7945
6547	D4052	0.7913		-0.20	
7018	D4052	0.791305		-0.17	

normality	OK
n	77
outliers	7
mean (n)	0.79134
st.dev. (n)	0.000055
R(calc.)	0.00015
st.dev.(ISO12185:96)	0.000179
R(ISO12185:96)	0.0005



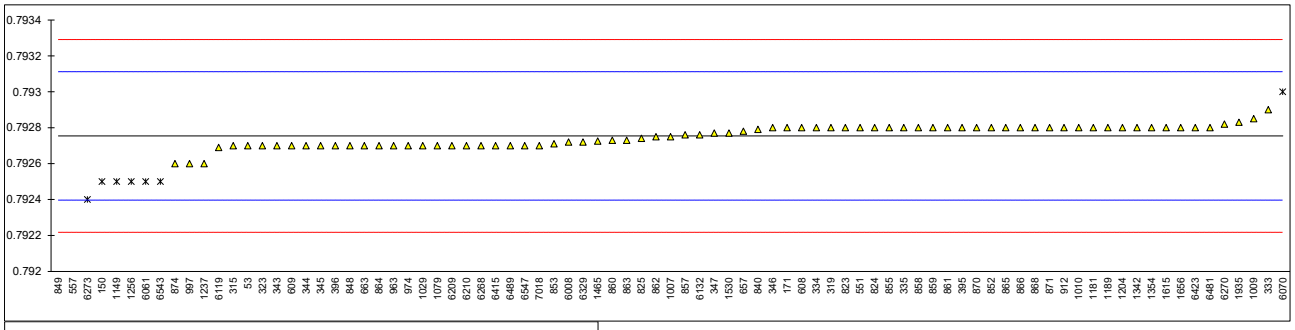


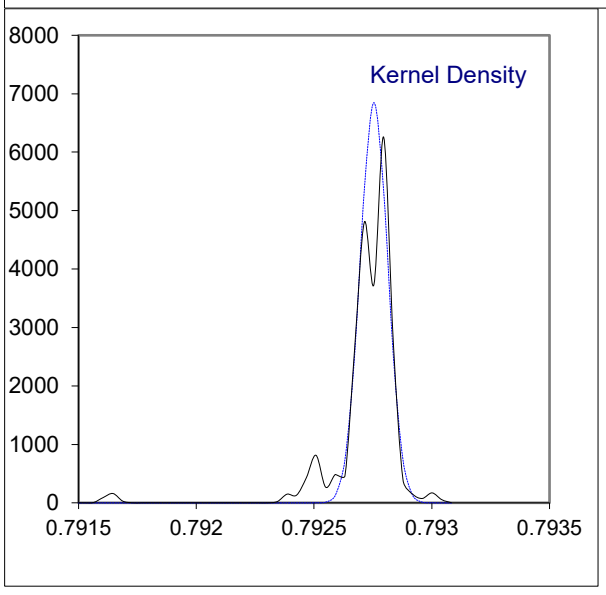
Determination of Specific Gravity 20/20 °C on sample #23160;

lab	method	value	mark	z(targ)	remarks
53	D4052	0.7927		-0.30	
150	D4052	0.7925	R(0.01)	-1.42	
171	D4052	0.7928		0.26	
315	D4052	0.7927		-0.30	
316		-----		-----	
319	D4052	0.7928		0.26	
323	D4052	0.7927		-0.30	
333	D4052	0.7929		0.82	
334	ISO12185	0.7928	C	0.26	first reported 0.7914
335	D4052	0.7928	C	0.26	first reported 792.8
343	D4052	0.7927		-0.30	
344	D4052	0.7927		-0.30	
345	D4052	0.7927		-0.30	
346	D4052	0.7928		0.26	
347	D4052	0.79277		0.09	
349		-----		-----	
395	D4052	0.7928		0.26	
396	D4052	0.7927		-0.30	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551	D4052	0.7928		0.26	
554		-----		-----	
557	D4052	0.791636	R(0.01)	-6.26	
608	D4052	0.7928	C	0.26	first reported 0.7933
609	D4052	0.7927		-0.30	
657	D4052	0.79278		0.14	
663	D4052	0.7927		-0.30	
823	ISO12185	0.7928		0.26	
824	ISO12185	0.7928		0.26	
825	ISO12185	0.79274		-0.08	
840	D4052	0.79279		0.20	
848	D4052	0.7927		-0.30	
849	D4052	0.7827	R(0.01)	-56.30	
852	D4052	0.7928		0.26	
853	D4052	0.79271		-0.25	
855	D4052	0.7928		0.26	
857	D4052	0.79276		0.03	
858	D4052	0.7928		0.26	
859	D4052	0.7928		0.26	
860	D4052	0.79273		-0.14	
861	D4052	0.7928		0.26	
862	ISO12185	0.79275		-0.02	
863	D4052	0.79273		-0.14	
864	D4052	0.7927		-0.30	
865	D4052	0.7928		0.26	
866	D4052	0.7928		0.26	
868	D4052	0.7928		0.26	
870	D4052	0.7928		0.26	
871	D4052	0.7928		0.26	
874	ISO12185	0.7926		-0.86	
877		-----		-----	
912	D4052	0.7928		0.26	
913		-----		-----	
963	D4052	0.7927		-0.30	
970		-----		-----	
974	D4052	0.7927		-0.30	
994		-----		-----	
997	D4052	0.7926		-0.86	
1007	D4052	0.79275		-0.02	
1009	D4052	0.79285		0.54	
1010	D4052	0.7928		0.26	
1029	D4052	0.7927		-0.30	
1041		-----		-----	
1079	ISO12185	0.79270		-0.30	
1135		-----		-----	
1149	D4052	0.7925	R(0.01)	-1.42	
1181	D4052	0.7928		0.26	
1189	ISO12185	0.7928		0.26	
1204	D4052	0.7928		0.26	
1237	D4052	0.7926		-0.86	
1256	D4052	0.7925	R(0.01)	-1.42	
1264		-----		-----	
1342	D4052	0.7928		0.26	
1354	D4052	0.7928		0.26	

lab	method	value	mark	z(targ)	remarks
1465	D4052	0.792725		-0.16	
1530	ISO12185	0.79277		0.09	
1615	D4052	0.7928		0.26	
1656	D4052	0.7928		0.26	
1935	D4052	0.79283		0.42	
6008	D4052	0.79272		-0.19	
6061	D4052	0.7925	R(0.01)	-1.42	
6070	D4052	0.7930	R(0.01)	1.38	
6119	ISO12185	0.79269		-0.36	
6132	D4052	0.79276		0.03	
6201		-----		-----	
6209	D4052	0.7927		-0.30	
6210	D4052	0.7927		-0.30	
6262		-----		-----	
6268	D4052	0.79270		-0.30	
6270	D4052	0.79282		0.37	
6273	D4052	0.7924	R(0.05)	-1.98	
6329	D4052	0.79272		-0.19	
6338		-----		-----	
6388		-----		-----	
6415	D4052	0.7927		-0.30	
6423	D4052	0.7928		0.26	
6481	D4052	0.7928	C	0.26	first reported 0.7913
6489	D4052	0.7927		-0.30	
6543	D4052	0.7925	R(0.01)	-1.42	
6547	D4052	0.7927		-0.30	
7018	D4052	0.7927		-0.30	

normality	OK
n	76
outliers	9
mean (n)	0.79275
st.dev. (n)	0.000058
R(calc.)	0.00016
st.dev.(ISO12185:96)	0.000179
R(ISO12185:96)	0.0005



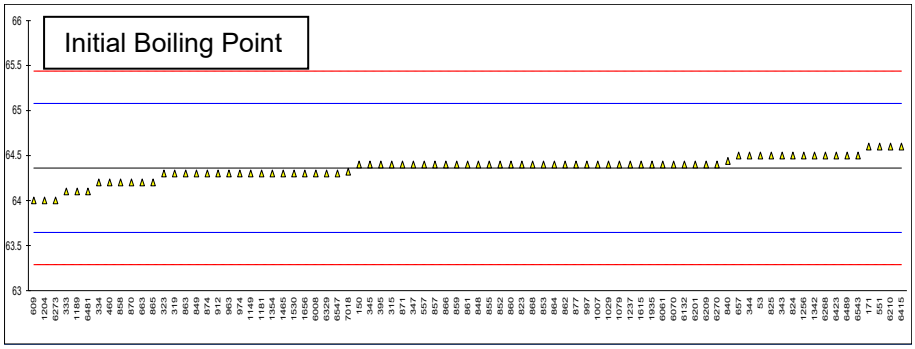


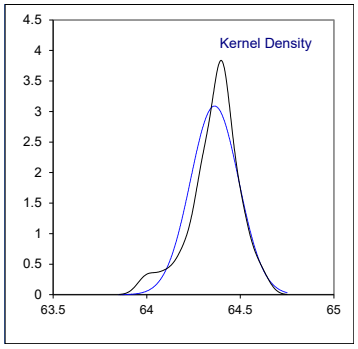
Determination of Initial Boiling point, 50% recovered and Dry Point on sample #23160; results in °C

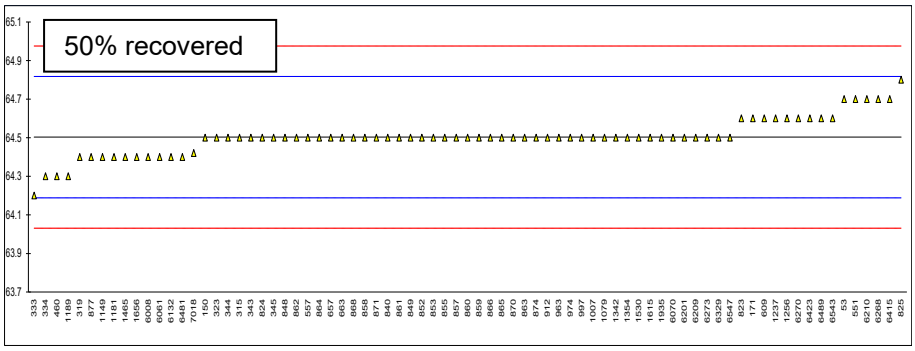
lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
53	D1078-automated	64.5		0.38	64.7		1.25	65.0		0.67	0.5
150	D1078-automated	64.4		0.10	64.5		-0.02	65.0		0.67	0.6
171	D1078-automated	64.6		0.66	64.6		0.62	64.8		-0.14	0.2
315	D1078-automated	64.4		0.10	64.5		-0.02	64.9		0.26	0.5
316		-----		-----	-----		-----	-----		-----	-----
319		64.3		-0.17	64.4		-0.65	64.9		0.26	0.6
323	D1078-automated	64.3		-0.17	64.5		-0.02	65.0		0.67	0.7
333	D1078-automated	64.1		-0.73	64.2		-1.92	64.5		-1.35	0.4
334	D1078-automated	64.2		-0.45	64.3		-1.29	64.6		-0.95	0.4
335		-----		-----	-----		-----	-----		-----	-----
343	D1078-automated	64.5		0.38	64.5		-0.02	64.9		0.26	0.4
344	D1078-automated	64.5		0.38	64.5		-0.02	64.9		0.26	0.4
345	D1078-automated	64.4		0.10	64.5		-0.02	64.7		-0.54	0.3
346		-----		-----	-----		-----	-----		-----	-----
347	D1078-automated	64.4		0.10	-----		-----	64.8		-0.14	0.4
349		-----		-----	-----		-----	-----		-----	-----
395	D1078-manual	64.4		0.10	-----		-----	64.8		-0.14	0.4
396		-----		-----	-----		-----	-----		-----	-----
460	D1078-automated	64.2		-0.45	64.3		-1.29	64.8		-0.14	0.6
492		-----		-----	-----		-----	-----		-----	-----
494		-----		-----	-----		-----	-----		-----	-----
551	D1078-automated	64.6		0.66	64.7		1.25	64.8		-0.14	0.2
554		-----		-----	-----		-----	-----		-----	-----
557	D1078	64.4		0.10	64.5		-0.02	65		0.67	0.6
608		-----		-----	-----		-----	-----		-----	-----
609	D1078-manual	64.0		-1.01	64.6		0.62	64.8		-0.14	-----
657	D1078-automated	64.5		0.38	64.5		-0.02	65.1		1.07	0.6
663	D1078-automated	64.2		-0.45	64.5		-0.02	65.0		0.67	0.7
823	D1078-automated	64.4		0.10	64.6		0.62	64.9		0.26	0.5
824	D1078-automated	64.5		0.38	64.5		-0.02	64.9		0.26	0.4
825	D1078-automated	64.5		0.38	64.8		1.89	65.1		1.07	0.6
840	D1078-automated	64.44		0.22	64.50		-0.02	64.86		0.10	0.42
848	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
849	D1078-manual	64.3		-0.17	64.5		-0.02	64.8		-0.14	0.5
852	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
853	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
855	D1078	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
857	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
858	D1078	64.2		-0.45	64.5		-0.02	64.8		-0.14	0.6
859	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
860	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
861	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
862	D1078	64.4		0.10	64.5		-0.02	64.7		-0.54	0.3
863	D1078-manual	64.3		-0.17	64.5		-0.02	64.9		0.26	0.6
864	D1078-automated	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
865	D1078-automated	64.2		-0.45	64.5		-0.02	64.8		-0.14	0.6
866	D1078	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
868	D1078	64.4		0.10	64.5		-0.02	65		0.67	0.6
870	D1078-manual	64.2		-0.45	64.5		-0.02	64.8		-0.14	0.6
871	D1078	64.4		0.10	64.5		-0.02	64.7		-0.54	0.3
874	D1078-manual	64.3		-0.17	64.5		-0.02	64.8		-0.14	0.5
877	D1078	64.4		0.10	64.4		-0.65	64.9		0.26	0.5
912	D1078-manual	64.3		-0.17	64.5		-0.02	64.9		0.26	0.6
913		-----		-----	-----		-----	-----		-----	-----
963	D1078-automated	64.3		-0.17	64.5		-0.02	64.7		-0.54	0.4
970		-----		-----	-----		-----	-----		-----	-----
974	D1078-automated	64.3		-0.17	64.5		-0.02	64.7		-0.54	0.4
994		-----		-----	-----		-----	-----		-----	-----
997	D1078-manual	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
1007	D1078-automated	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
1009		-----		-----	-----		-----	-----		-----	-----
1010		-----		-----	-----		-----	-----		-----	-----
1029	D1078-automated	64.4		0.10	-----		-----	65.0		0.67	-----
1041		-----		-----	-----		-----	-----		-----	-----
1079	D1078-automated	64.4		0.10	64.5		-0.02	64.7		-0.54	0.3
1135		-----		-----	-----		-----	-----		-----	-----
1149	D1078-automated	64.3		-0.17	64.4		-0.65	64.8		-0.14	0.5
1181	D1078-automated	64.3		-0.17	64.4		-0.65	65.0		0.67	0.7
1189	D1078-automated	64.1		-0.73	64.3		-1.29	64.5		-1.35	0.4
1204	D1078-automated	64.0		-1.01	-----		-----	64.6		-0.95	0.6
1237	D1078-manual	64.4		0.10	64.6		0.62	64.8		-0.14	0.4
1256	D1078-manual	64.5		0.38	64.6		0.62	64.8		-0.14	0.3
1264		-----		-----	-----		-----	-----		-----	-----
1342	D1078-automated	64.5		0.38	64.5		-0.02	64.8		-0.14	0.3
1354	D1078-automated	64.3		-0.17	64.5		-0.02	64.7		-0.54	0.4

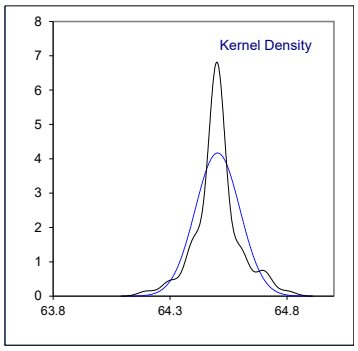
lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
1465	D1078-automated	64.3		-0.17	64.4		-0.65	64.7		-0.54	0.4
1530	D1078-automated	64.30		-0.17	64.50		-0.02	64.70		-0.54	0.40
1615	D1078-automated	64.4		0.10	64.5		-0.02	64.9		0.26	0.5
1656	D1078-automated	64.3		-0.17	64.4		-0.65	64.6		-0.95	0.3
1935	D1078-manual	64.4		0.10	64.5		-0.02	65.1		1.07	0.7
6008	D1078-automated	64.3		-0.17	64.4		-0.65	64.8		-0.14	0.5
6061	D1078-automated	64.4		0.10	64.4		-0.65	64.8		-0.14	64.4-64.8
6070	D1078-automated	64.4		0.10	64.5		-0.02	65.0		0.67	0.6
6119		-----		-----	-----		-----	-----		-----	-----
6132	D1078-automated	64.4		0.10	64.4		-0.65	64.9		0.26	0.5
6201		64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
6209	D1078-automated	64.4		0.10	64.5		-0.02	64.8		-0.14	0.4
6210	D1078-automated	64.6		0.66	64.7		1.25	65.1		1.07	0.5
6262		-----		-----	-----		-----	-----		-----	-----
6268	D1078-manual	64.5		0.38	64.7		1.25	65.3	R(0.05)	1.88	0.8
6270	D1078-manual	64.4		0.10	64.6		0.62	64.9		0.26	0.5
6273	D1078-manual	64		-1.01	64.5		-0.02	65		0.67	-----
6329	D1078-automated	64.3		-0.17	64.5		-0.02	64.8		-0.14	0.5
6338		-----		-----	-----		-----	-----		-----	-----
6388		-----		-----	-----		-----	-----		-----	-----
6415	D1078-automated	64.6		0.66	64.7		1.25	64.8		-0.14	0.2
6423	D1078-automated	64.5		0.38	64.6		0.62	65.0		0.67	0.5
6481	D1078-automated	64.1		-0.73	64.4		-0.65	64.7		-0.54	0.6
6489	D1078-automated	64.5		0.38	64.6		0.62	64.9		0.26	0.4
6543	D1078-automated	64.5		0.38	64.6		0.62	64.9		0.26	0.4
6547	D1078-automated	64.3		-0.17	64.5		-0.02	64.9		0.26	0.6
7018	D1078-manual	64.32		-0.12	64.42		-0.53	64.82		-0.06	0.5

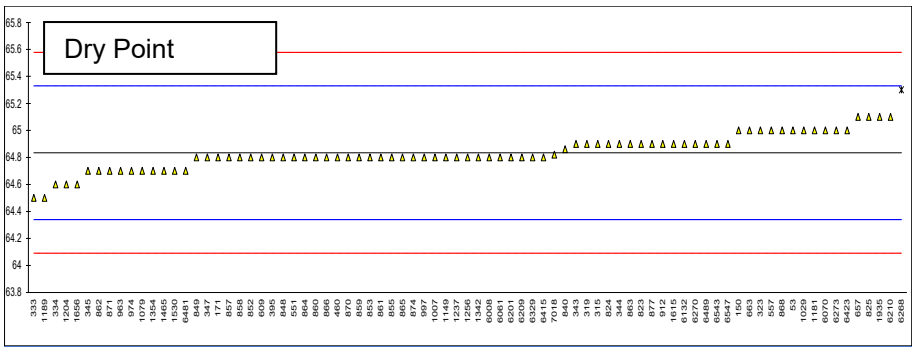
	normality	suspect	not OK	OK
	n	81	77	80
	outliers	0	0	1
	mean (n)	64.36	64.50	64.83
	st.dev. (n)	0.129	0.096	0.126
	R(calc.)	0.36	0.27	0.35
	st.dev.(D1078-A:11R19)	0.359	0.157	0.248
	R(D1078-A:11R19)	1.00	0.44	0.69
Compare				
	R(D1078-M:11R19)	0.69	0.42	0.84

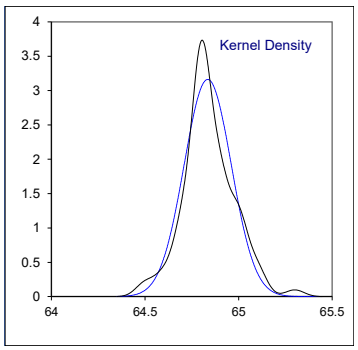

Initial Boiling Point


Kernel Density


50% recovered


Kernel Density


Dry Point

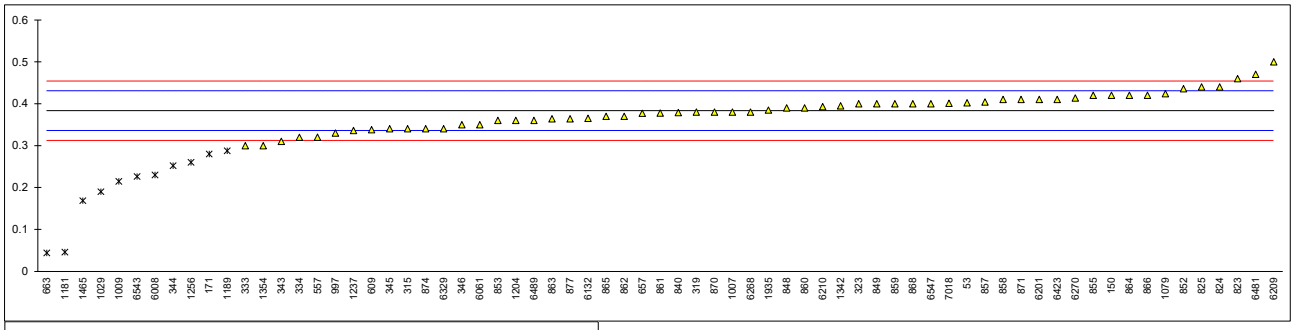

Kernel Density

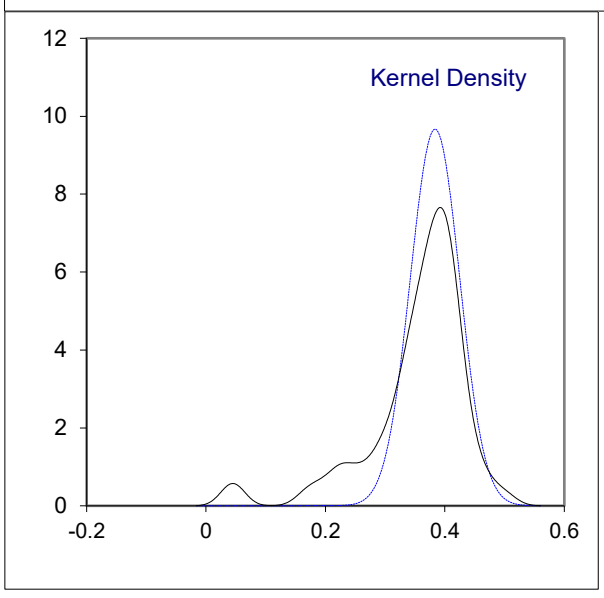
Determination of Iron as Fe on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E394	0.402		0.78	
150	E394	0.42		1.54	
171	E394	0.28	ex	-4.39	test result excluded see 4.1
315	E394	0.34		-1.84	
316		-----		-----	
319	E394	0.38		-0.15	
323	E394	0.40		0.70	
333	E394	0.30		-3.54	
334	E394	0.32		-2.69	
335		-----		-----	
343	E394	0.31		-3.12	
344	E394	0.252	ex	-5.57	test result excluded see 4.1
345	E394	0.34		-1.84	
346	E394	0.35		-1.42	
347		-----		-----	
349		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551		-----		-----	
554		-----		-----	
557	E394	0.3201721		-2.68	
608		-----		-----	
609	E394	0.338		-1.93	
657	E394	0.377		-0.28	
663	E394	0.044	ex	-14.38	test result excluded see 4.1
823	E394	0.46		3.24	
824	E394	0.44		2.39	
825	E394	0.44		2.39	
840	E394	0.379		-0.19	
848	E394	0.39		0.27	
849	E394	0.40		0.70	
852	E394	0.436		2.22	
853	E394	0.36		-1.00	
855	E394	0.42		1.54	
857	E394	0.404		0.87	
858	E394	0.41		1.12	
859	E394	0.40		0.70	
860	E394	0.39		0.27	
861	E394	0.378		-0.23	
862	E394	0.37		-0.57	
863	E394	0.364		-0.83	
864	E394	0.42		1.54	
865	E394	0.37		-0.57	
866	E394	0.42		1.54	
868	E394	0.4		0.70	
870	E394	0.38		-0.15	
871	E394	0.41		1.12	
874	E394	0.34		-1.84	
877	E394	0.364		-0.83	
912		-----		-----	
913		-----		-----	
963		-----		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E394	0.33		-2.27	
1007	E394	0.38		-0.15	
1009	E394	0.2145	ex	-7.16	test result excluded see 4.1
1010		-----		-----	
1029	E394	0.19	ex	-8.20	test result excluded see 4.1
1041		-----		-----	
1079	E394	0.424		1.71	
1135		-----		-----	
1149		-----		-----	
1181	E394	0.04547	ex	-14.32	test result excluded see 4.1
1189	E394	0.2875	ex	-4.07	test result excluded see 4.1
1204	E394	0.36		-1.00	
1237	E394	0.336		-2.01	
1256	E394	0.26	ex	-5.23	test result excluded see 4.1
1264		-----		-----	
1342	E394	0.395		0.49	
1354	E394	0.30		-3.54	

lab	method	value	mark	z(targ)	remarks
1465	E394	0.1685	ex,C	-9.11	test result excluded see 4.1, first reported 0.144892
1530		-----		-----	
1615		-----		-----	
1656	E394	<0.1		-----	possibly a false negative test result?
1935	E394	0.3846		0.05	
6008	E394	0.23	ex	-6.50	test result excluded see 4.1
6061	E394	0.35		-1.42	
6070		-----		-----	
6119		-----		-----	
6132	E394	0.3653		-0.77	
6201	E394	0.41		1.12	
6209	E394	0.50		4.93	
6210	E394	0.393		0.40	
6262		-----		-----	
6268	E394	0.380		-0.15	
6270	E394	0.4139		1.29	
6273		-----	W	-----	test result withdrawn, reported 0.01
6329	E394	0.34		-1.84	
6338		-----		-----	
6388		-----		-----	
6415		-----		-----	
6423	E394	0.41		1.12	
6481	E394	0.47		3.66	
6489	E394	0.36		-1.00	
6543	E394	0.2264	ex	-6.66	test result excluded see 4.1
6547	E394	0.40		0.70	
7018	E394	0.401		0.74	

normality	OK
n	58
outliers	0 +11ex
mean (n)	0.38353
st.dev. (n)	0.041281
R(calc.)	0.11559
st.dev.(E394:22)	0.023605
R(E394:22)	0.06610





Determination of Water miscibility (Hydrocarbons) on sample #23160;

lab	method	value	mark	z(targ)	remarks
53	D1722	Pass		-----	
150	D1722	pass		-----	
171	D1722	Pass		-----	
315	D1722	pass		-----	
316		-----		-----	
319	D1722	pass test		-----	
323	D1722	PASS		-----	
333	D1722	Pass Test		-----	
334	D1722	Pass test		-----	
335	D1722	pass test		-----	
343	D1722	Pass		-----	
344	D1722	Pass		-----	
345	D1722	pass		-----	
346	D1722	Pass		-----	
347	D1722	Pass		-----	
349		-----		-----	
395	D1722	PASS		-----	
396	D1722	Pass		-----	
460	D1722	Pass		-----	
492		-----		-----	
494		Pass		-----	
551	D1722	Pass		-----	
554		-----		-----	
557	D1722	Pass		-----	
608	D1722	Passes test		-----	
609		-----		-----	
657	D1722	Pass		-----	
663	D1722	Passes test		-----	
823	D1722	Pass		-----	
824	D1722	Pass		-----	
825	D1722	Passes Test		-----	
840	D1722	Passes test		-----	
848	D1722	pass		-----	
849	D1722	Passes Test		-----	
852	D1722	Pass		-----	
853	D1722	Passes test		-----	
855	D1722	Passes test		-----	
857	D1722	Passes test		-----	
858	D1722	Pass		-----	
859	D1722	Pass		-----	
860	D1722	Pass		-----	
861	D1722	PASS		-----	
862	D1722	Pass test		-----	
863	D1722	Pass test		-----	
864	D1722	Passes Test		-----	
865	D1722	Passes Test		-----	
866	D1722	Passes test		-----	
868	D1722	Passes test		-----	
870	D1722	Pass		-----	
871	D1722	Pass		-----	
874		-----		-----	
877	D1722	Passes test		-----	
912	D1722	Pass		-----	
913		-----		-----	
963	D1722	Pass		-----	
970		-----		-----	
974	D1722	Pass		-----	
994		-----		-----	
997		-----		-----	
1007	D1722	Pass		-----	
1009	D1722	Pass		-----	
1010	D1722	Pass		-----	
1029	D1722	Passes test		-----	
1041	D1722	pass		-----	
1079	D1722	pass		-----	
1135		-----		-----	
1149	D1722	PASS		-----	
1181	D1722	Pass		-----	
1189		-----		-----	
1204	D1722	Pass		-----	
1237	D1722	pass		-----	
1256	D1722	Pass test		-----	
1264		-----		-----	
1342	D1722	PASS		-----	
1354	D1722	Pass		-----	

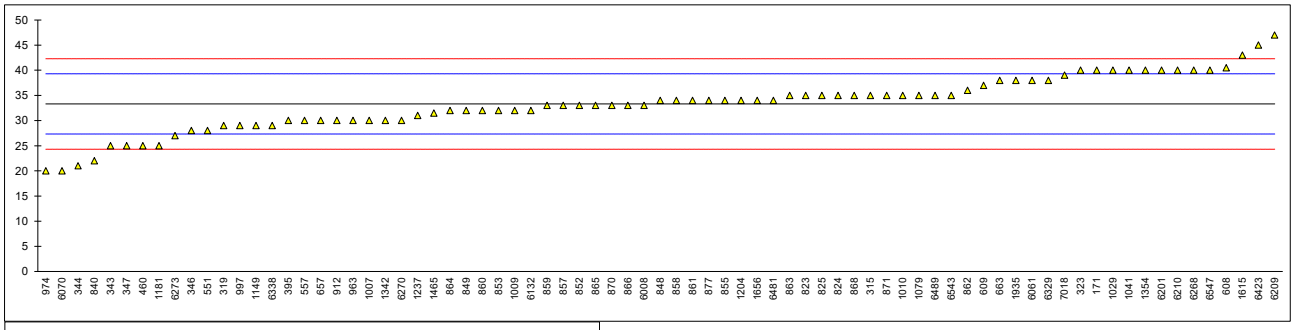
lab	method	value	mark	z(targ)	remarks
1465	D1722	Pass		-----	
1530		-----		-----	
1615	D1722	Passes Test		-----	
1656		-----		-----	
1935	D1722	pass		-----	
6008	D1722	PASS		-----	
6061		-----		-----	
6070	D1722	PASS		-----	
6119		-----		-----	
6132	D1722	Pass		-----	
6201	D1722	Pass		-----	
6209	D1722	PASS		-----	
6210	D1722	Pass		-----	
6262		-----		-----	
6268	D1722	Passes Test		-----	
6270	D1722	Pass		-----	
6273	D1722	Pass		-----	
6329	D1722	Passes Test		-----	
6338	D1722	Pass test		-----	
6388		-----		-----	
6415	D1722	Pass		-----	
6423	D1722	Pass		-----	
6481	D1722	Pass		-----	
6489	D1722	Pass		-----	
6543	D1722	Pass		-----	
6547	D1722	Pass		-----	
7018	D1722	Passes test		-----	
	n	83			
	mean (n)	Passes test			

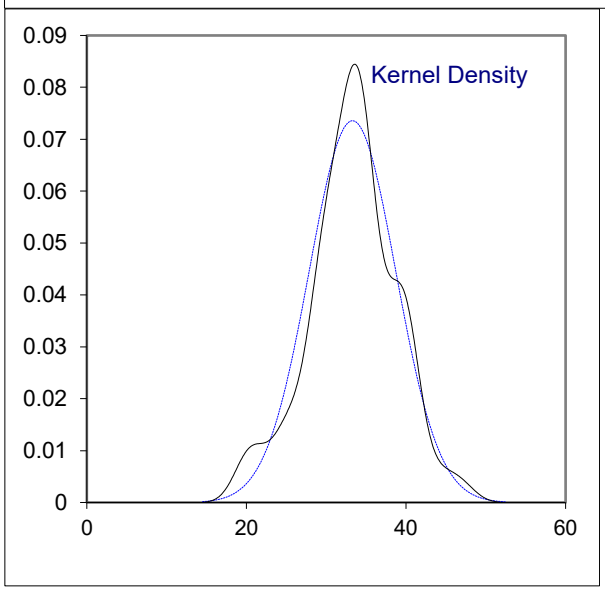
Determination of Permanganate Time Test at 15 °C on sample #23160; results in minutes

lab	method	value	mark	z(targ)	remarks
53	D1363	<60		-----	
150	D1363	<50	C	-----	first reported >60
171	D1363	40		2.24	
315	D1363	35		0.57	
316		-----		-----	
319	D1363	29		-1.43	
323	D1363	40		2.24	
333	D1363	<30		-----	
334	D1363	< 45		-----	
335	D1363	< 30		-----	
343	D1363	25		-2.77	
344	D1363	21		-4.10	
345		-----		-----	
346	D1363	28		-1.77	
347	D1363	25		-2.77	
349		-----		-----	
395	D1363	30		-1.10	
396		-----		-----	
460	D1363	25		-2.77	
492		-----		-----	
494		-----		-----	
551	D1363	28		-1.77	
554		-----		-----	
557	D1363	30		-1.10	
608	D1363	40.5		2.40	
609	D1363	37		1.24	
657	D1363	30		-1.10	
663	D1363	38		1.57	
823	D1363	35		0.57	
824	D1363	35		0.57	
825	D1363	35		0.57	
840	D1363	22		-3.77	
848	D1363	34		0.23	
849	D1363	32		-0.43	
852	D1363	33		-0.10	
853	D1363	32		-0.43	
855	D1363	34		0.23	
857	D1363	33		-0.10	
858	D1363	34		0.23	
859	D1363	33		-0.10	
860	D1363	32		-0.43	
861	D1363	34		0.23	
862	D1363	36		0.90	
863	D1363	35		0.57	
864	D1363	32		-0.43	
865	D1363	33		-0.10	
866	D1363	33		-0.10	
868	D1363	35		0.57	
870	D1363	33		-0.10	
871	D1363	35		0.57	
874		-----		-----	
877	D1363	34		0.23	
912	D1363	30		-1.10	
913		-----		-----	
963	D1363	30		-1.10	
970		-----		-----	
974	D1363	20		-4.44	
994		-----		-----	
997	D1363	29		-1.43	
1007	D1363	30		-1.10	
1009	D1363	32		-0.43	
1010	D1363	35		0.57	
1029	D1363	40		2.24	
1041	D1363	40		2.24	
1079	D1363	35		0.57	
1135		-----		-----	
1149	D1363	29		-1.43	
1181	D1363	25		-2.77	
1189		-----		-----	
1204	D1363	34		0.23	
1237	D1363	31		-0.77	
1256		-----		-----	
1264		-----		-----	
1342	D1363	30		-1.10	
1354	D1363	40		2.24	

lab	method	value	mark	z(targ)	remarks
1465	D1363	31.5		-0.60	
1530		-----		-----	
1615	D1363	43		3.24	
1656	D1363	34		0.23	
1935	D1363	38		1.57	
6008	D1363	33		-0.10	
6061	D1363	38		1.57	
6070	D1363	20		-4.44	
6119		-----		-----	
6132	D1363	32		-0.43	
6201	D1363	40		2.24	
6209	D1363	47		4.57	
6210	D1363	40		2.24	
6262		-----		-----	
6268	D1363	40		2.24	
6270	D1363	30		-1.10	
6273	D1363	27		-2.10	
6329	D1363	38		1.57	
6338	D1363	29		-1.43	
6388		-----		-----	
6415		-----		-----	
6423	D1363	45		3.90	
6481	D1363	34		0.23	
6489	D1363	35		0.57	
6543	D1363	35		0.57	
6547	D1363	40		2.24	
7018	D1363	39		1.90	

normality	OK
n	77
outliers	0
mean (n)	33.30
st.dev. (n)	5.425
R(calc.)	15.19
st.dev.(D1363:06R19)	2.997
R(D1363:06R19)	8.39

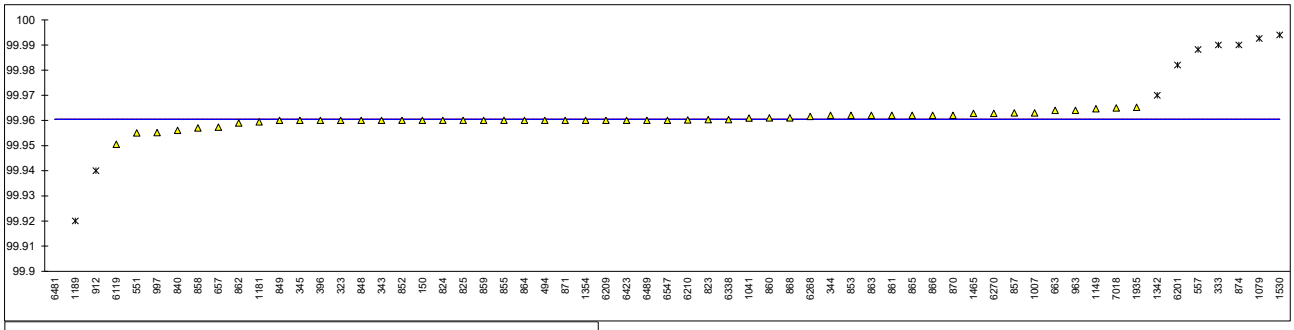


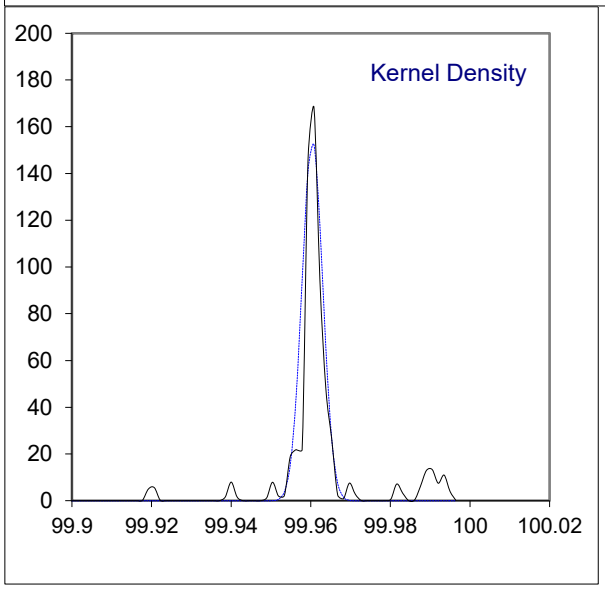


Determination of Purity by GC as received on sample #23160; results in %M/M

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	99.96		-----	
171		-----		-----	
315		-----		-----	
316		-----		-----	
319		-----		-----	
323	IMPCA001	99.96		-----	
333	IMPCA001	99.99	R(0.01)	-----	
334		-----		-----	
335		-----		-----	
343	IMPCA001	99.96		-----	
344	IMPCA001	99.962		-----	
345	IMPCA001	99.9600		-----	
346		-----		-----	
347		-----		-----	
349		-----		-----	
395		-----		-----	
396	IMPCA001	99.96		-----	
460		-----		-----	
492		-----		-----	
494	IMPCA001	99.96		-----	
551	IMPCA001	99.955		-----	
554		-----		-----	
557	IMPCA001	99.9882	ex	-----	see paragraph 4.1
608		-----		-----	
609		-----		-----	
657	IMPCA001	99.9573		-----	
663	IMPCA001	99.964		-----	
823	IMPCA001	99.9603		-----	
824	IMPCA001	99.96		-----	
825	IMPCA001	99.96		-----	
840	IMPCA001	99.956		-----	
848	IMPCA001	99.960		-----	
849	IMPCA001	99.960		-----	
852	IMPCA001	99.96		-----	
853	IMPCA001	99.962		-----	
855	IMPCA001	99.96		-----	
857	IMPCA001	99.963		-----	
858	IMPCA001	99.957		-----	
859	IMPCA001	99.96		-----	
860	IMPCA001	99.961		-----	
861	IMPCA001	99.962		-----	
862	IMPCA001	99.959		-----	
863	IMPCA001	99.962		-----	
864	IMPCA001	99.96		-----	
865	IMPCA001	99.962		-----	
866	IMPCA001	99.962		-----	
868	IMPCA001	99.961		-----	
870	IMPCA001	99.962		-----	
871	IMPCA001	99.960		-----	
874	IMPCA001	99.99	ex	-----	see paragraph 4.1
877		-----		-----	
912	IMPCA001	99.94	R(0.01)	-----	
913		-----		-----	
963	IMPCA001	99.964		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	99.9551		-----	
1007		99.963		-----	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041	IMPCA001	99.9609	C	-----	first reported 99.9933
1079	IMPCA001	99.9926	ex	-----	see paragraph 4.1
1135		-----		-----	
1149	In house	99.9646		-----	
1181	IMPCA001	99.95939		-----	
1189	IMPCA001	99.92	C,R(0.01)	-----	first reported 99.99
1204		-----		-----	
1237		-----		-----	
1256		-----		-----	
1264		-----		-----	
1342	IMPCA001	99.97	R(0.01)	-----	
1354	IMPCA001	99.96		-----	

lab	method	value	mark	z(targ)	remarks
1465	IMPCA001	99.9628	C	-----	first reported 99.9965
1530	IMPCA001	99.994	R(0.01)	-----	
1615		-----		-----	
1656		-----		-----	
1935	IMPCA001	99.9652	C	-----	first reported 99.9837
6008		-----		-----	
6061		-----		-----	
6070		-----		-----	
6119	In house	99.95052		-----	
6132		-----		-----	
6201		99.982	ex,C	-----	see paragraph 4.1, first reported 99.988
6209	IMPCA001	99.96		-----	
6210	IMPCA001	99.9602		-----	
6262		-----		-----	
6268	IMPCA001	99.9616		-----	
6270	IMPCA001	99.9628		-----	
6273		-----		-----	
6329		-----		-----	
6338	IMPCA001	99.9603		-----	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA001	99.96		-----	
6481	IMPCA001	99.62	C,R(0.01)	-----	first reported 99.9962
6489	IMPCA001	99.96		-----	
6543		-----		-----	
6547	IMPCA001	99.96		-----	
7018	IMPCA001	99.965		-----	
	normality	not OK			
	n	51			
	outliers	6+4ex			
	mean (n)	99.9604			
	st.dev. (n)	0.00259			
	R(calc.)	0.0072			



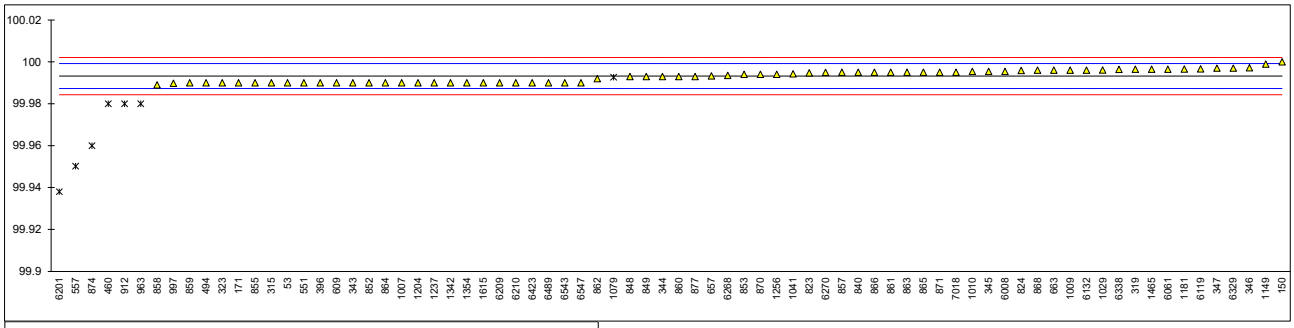


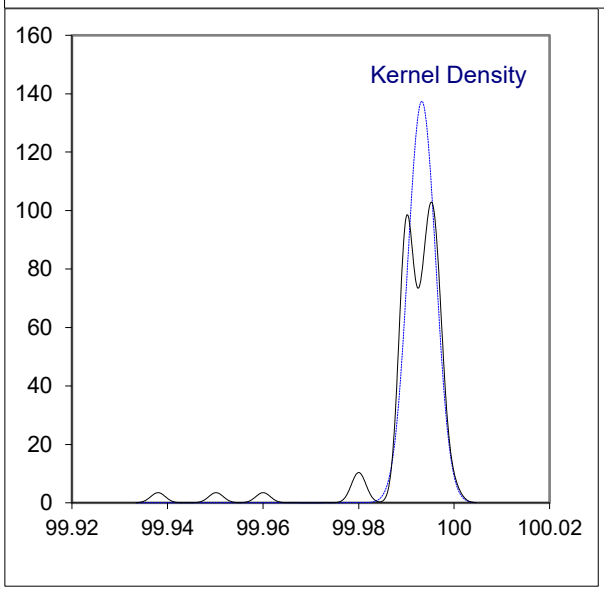
,Determination of Purity by GC on dry basis on sample #23160; results in %M/M

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	99.99		-1.08	
150	IMPCA001	100.00		2.28	
171	IMPCA001	99.99		-1.08	
315	IMPCA001	99.99		-1.08	
316		-----		-----	
319	IMPCA001	99.9965		1.11	
323	IMPCA001	99.99		-1.08	
333		-----		-----	
334	IMPCA001	> 99.99		-----	
335		-----		-----	
343	IMPCA001	99.99		-1.08	
344	IMPCA001	99.993		-0.07	
345	IMPCA001	99.9954		0.74	
346	IMPCA001	99.9972		1.34	
347	IMPCA001	99.997		1.27	
349		-----		-----	
395		-----		-----	
396	IMPCA001	99.99		-1.08	
460	IMPCA001	99.98	R(0.01)	-4.44	
492		-----		-----	
494	IMPCA001	99.99		-1.08	
551	IMPCA001	99.990		-1.08	
554		-----		-----	
557	IMPCA001	99.95015	ex	-14.47	see paragraph 4.1
608		-----		-----	
609	IMPCA001	99.99	C	-1.08	first reported 99.97
657	IMPCA001	99.9933		0.03	
663	IMPCA001	99.996		0.94	
823	IMPCA001	99.9947		0.50	
824	IMPCA001	99.9959		0.90	
825	IMPCA001	>99.99		-----	
840	IMPCA001	99.995		0.60	
848	IMPCA001	99.993		-0.07	
849	IMPCA001	99.993		-0.07	
852	IMPCA001	99.99		-1.08	
853	IMPCA001	99.994		0.27	
855	IMPCA001	99.99		-1.08	
857	IMPCA001	99.995		0.60	
858	IMPCA001	99.989		-1.41	
859	IMPCA001	99.99		-1.08	
860	IMPCA001	99.993		-0.07	
861	IMPCA001	99.995		0.60	
862	IMPCA001	99.992		-0.41	
863	IMPCA001	99.995		0.60	
864	IMPCA001	99.99		-1.08	
865	IMPCA001	99.995		0.60	
866	IMPCA001	99.995		0.60	
868	IMPCA001	99.996		0.94	
870	IMPCA001	99.994		0.27	
871	IMPCA001	99.995		0.60	
874	IMPCA001	99.96	ex	-11.16	see paragraph 4.1
877	IMPCA001	99.993		-0.07	
912	IMPCA001	99.98	R(0.01)	-4.44	
913		-----		-----	
963	IMPCA001	99.98	R(0.01)	-4.44	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	99.9897		-1.18	
1007		99.99		-1.08	
1009	IMPCA001	99.996		0.94	
1010	IMPCA001	99.99536		0.72	
1029	IMPCA001	99.9961		0.97	
1041	IMPCA001	99.9943	C	0.37	first reported 99.9600
1079	IMPCA001	99.9926	ex	-0.20	see paragraph 4.1
1135		-----		-----	
1149	In house	99.9989		1.91	
1181	IMPCA001	99.99653		1.12	
1189		-----		-----	
1204	IMPCA001	99.99		-1.08	
1237	IMPCA001	99.99		-1.08	
1256	IMPCA001	99.994	C	0.27	first reported 99.978
1264		-----		-----	
1342	IMPCA001	99.99		-1.08	
1354	IMPCA001	99.99		-1.08	

lab	method	value	mark	z(targ)	remarks
1465	IMPCA001	99.9965	C	1.11	first reported 99.9628
1530		-----		-----	
1615	IMPCA001	99.99		-1.08	
1656		-----		-----	
1935	IMPCA001	>99.99	C	-----	first reported 99.9444
6008	IMPCA001	99.9954		0.74	
6061	IMPCA001	99.9965		1.11	
6070		-----		-----	
6119	In house	99.99662		1.15	
6132	IMPCA001	99.996		0.94	
6201	IMPCA001	99.938	ex,C	-18.55	see paragraph 4.1, first reported 99.953
6209	IMPCA001	99.99		-1.08	
6210	IMPCA001	99.99		-1.08	
6262		-----		-----	
6268	IMPCA001	99.9935		0.10	
6270	IMPCA001	99.9949		0.57	
6273		-----		-----	
6329	IMPCA001	99.997		1.27	
6338	IMPCA001	99.9964		1.07	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA001	99.99		-1.08	
6481		-----		-----	
6489	IMPCA001	99.99		-1.08	
6543	IMPCA001	99.99		-1.08	
6547	IMPCA001	99.99		-1.08	
7018	IMPCA001	99.995		0.60	

normality	OK
n	69
outliers	3+4ex
mean (n)	99.9932
st.dev. (n)	0.00290
R(calc.)	0.0081
st.dev.(iismemo2303)	0.00298
R(iismemo2303)	0.0083





Determination of Acetone on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	<5		-----	
150	IMPCA001	<5		-----	
171	IMPCA001	<5		-----	
315	IMPCA001	<5		-----	
316		-----		-----	
319	IMPCA001	1.8		-----	
323	IMPCA001	<5		-----	
333	IMPCA001	<10		-----	
334	IMPCA001	<10		-----	
335		-----		-----	
343	IMPCA001	<5		-----	
344	IMPCA001	1.75		-----	
345	IMPCA001	2		-----	
346	IMPCA001	<5		-----	
347	IMPCA001	<5		-----	
349		-----		-----	
395		-----		-----	
396	IMPCA001	<5		-----	
460	IMPCA001	0.21		-----	
492		-----		-----	
494	IMPCA001	12		-----	possibly a false positive test result?
551	IMPCA001	<5		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA001	<5		-----	
657	IMPCA001	1.7786		-----	
663	IMPCA001	1.42		-----	
823	IMPCA001	<5		-----	
824	IMPCA001	0		-----	
825	IMPCA001	<5		-----	
840	IMPCA001	<5		-----	
848	IMPCA001	<5		-----	
849	IMPCA001	<5		-----	
852	IMPCA001	<5		-----	
853	IMPCA001	<5		-----	
855	IMPCA001	<5		-----	
857	IMPCA001	<5		-----	
858	IMPCA001	<5		-----	
859	IMPCA001	<5		-----	
860	IMPCA001	<5		-----	
861	IMPCA001	<5		-----	
862	IMPCA001	<5		-----	
863	IMPCA001	<5		-----	
864	IMPCA001	<5		-----	
865	IMPCA001	<5		-----	
866	IMPCA001	<5		-----	
868	IMPCA001	<5		-----	
870	IMPCA001	<5		-----	
871	IMPCA001	<5		-----	
874	IMPCA001	<5		-----	
877	IMPCA001	<5		-----	
912	IMPCA001	<10		-----	
913		-----		-----	
963	IMPCA001	<5		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	<10		-----	
1007	IMPCA001	4.7		-----	
1009	IMPCA001	Less than 5		-----	
1010	IMPCA001	2.8		-----	
1029	IMPCA001	<5		-----	
1041	IMPCA001	1.53		-----	
1079	IMPCA001	2		-----	
1135		-----		-----	
1149	In house	2.315		-----	
1181	IMPCA001	1.60080		-----	
1189	IMPCA001	1.8		-----	
1204	IMPCA001	1		-----	
1237	IMPCA001	1.1		-----	
1256	IMPCA001	2		-----	
1264		-----		-----	
1342	IMPCA001	1.9		-----	
1354	IMPCA001	1.5		-----	

lab	method	value	mark	z(targ)	remarks
1465	IMPCA001	0		-----	
1530		-----		-----	
1615	IMPCA001	1.84		-----	
1656		-----		-----	
1935	IMPCA001	0		-----	
6008	IMPCA001	2.821		-----	
6061	IMPCA001	10.6	C	-----	possibly a false positive test result?, first reported 10.1
6070		-----		-----	
6119	In house	<5		-----	
6132	IMPCA001	1.981		-----	
6201	IMPCA001	2		-----	
6209	IMPCA001	2.626725		-----	
6210	IMPCA001	2.0		-----	
6262		-----		-----	
6268	IMPCA001	2		-----	
6270	IMPCA001	1		-----	
6273		-----		-----	
6329	IMPCA001	<5		-----	
6338	IMPCA001	0		-----	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA001	1.2		-----	
6481	IMPCA001	0		-----	
6489	IMPCA001	2.0		-----	
6543	IMPCA001	2.534		-----	
6547	IMPCA001	2.1		-----	
7018	IMPCA001	<5		-----	
	n	75			
	mean (n)	<5			

Determination of Benzene on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171	IMPCA001	<5		-----	
315	IMPCA001	<5		-----	
316		-----		-----	
319	IMPCA001	1.3		-----	
323	IMPCA001	<5		-----	
333		-----		-----	
334	IMPCA001	<10		-----	
335		-----		-----	
343	IMPCA001	<5		-----	
344	IMPCA001	<5		-----	
345	IMPCA001	2		-----	
346	IMPCA001	<5		-----	
347		-----		-----	
349		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494	IMPCA001	12		-----	possibly a false positive test result?
551	IMPCA001	5		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA001	1.6758		-----	
663	IMPCA001	<5		-----	
823	IMPCA001	<5		-----	
824	IMPCA001	1.5		-----	
825	IMPCA001	<1		-----	
840	IMPCA001	<5		-----	
848	IMPCA001	<5		-----	
849	IMPCA001	<5		-----	
852	IMPCA001	<5		-----	
853	IMPCA001	<5		-----	
855	IMPCA001	<5		-----	
857	IMPCA001	<5		-----	
858	IMPCA001	<5		-----	
859	IMPCA001	<5		-----	
860	IMPCA001	<5		-----	
861	IMPCA001	<5		-----	
862	IMPCA001	<5		-----	
863	IMPCA001	<5		-----	
864	IMPCA001	<5		-----	
865	IMPCA001	<5		-----	
866	IMPCA001	<5		-----	
868	IMPCA001	<5		-----	
870	IMPCA001	<5		-----	
871	IMPCA001	<5		-----	
874	IMPCA001	<5		-----	
877	IMPCA001	<5		-----	
912		-----		-----	
913		-----		-----	
963	IMPCA001	<5		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1007	IMPCA001	1.5		-----	
1009	IMPCA001	Less than 5		-----	
1010	IMPCA001	1.7		-----	
1029	IMPCA001	<5		-----	
1041		-----		-----	
1079	IMPCA001	1		-----	
1135		-----		-----	
1149		-----		-----	
1181	IMPCA001	1.39373		-----	
1189	IMPCA001	1.4		-----	
1204		-----		-----	
1237	IMPCA001	1.4		-----	
1256		-----		-----	
1264		-----		-----	
1342		-----		-----	
1354	IMPCA001	1.2		-----	

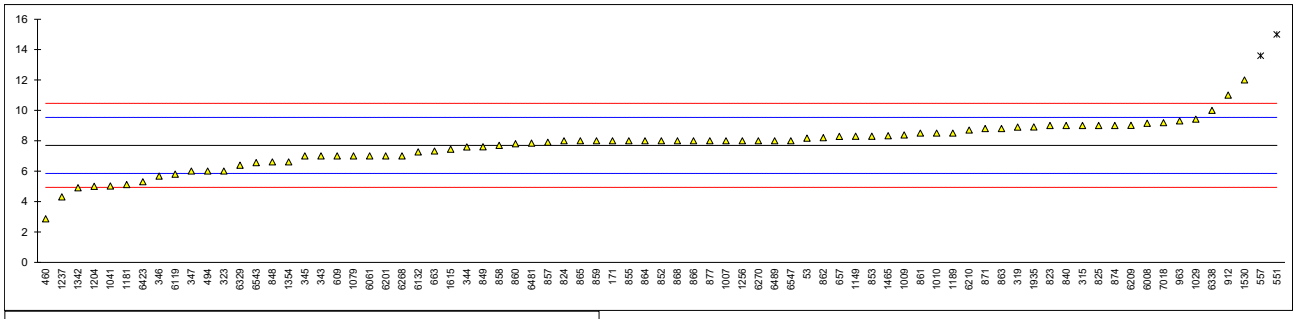
lab	method	value	mark	z(targ)	remarks
1465	IMPCA001	0		-----	
1530		-----		-----	
1615	IMPCA001	1.28		-----	
1656		-----		-----	
1935	IMPCA001	0.6		-----	
6008	IMPCA001	2.526		-----	
6061	IMPCA001	<5		-----	
6070		-----		-----	
6119	In house	<5		-----	
6132		-----		-----	
6201	IMPCA001	1		-----	
6209	IMPCA001	1.848025		-----	
6210	IMPCA001	0.7		-----	
6262		-----		-----	
6268	IMPCA001	1		-----	
6270	IMPCA001	1		-----	
6273		-----		-----	
6329	IMPCA001	<5		-----	
6338	IMPCA001	0		-----	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA001	0.6		-----	
6481	IMPCA001	0		-----	
6489	IMPCA001	1.1		-----	
6543		-----		-----	
6547	IMPCA001	1.4		-----	
7018		-----		-----	
	n	61			
	mean (n)	<5			

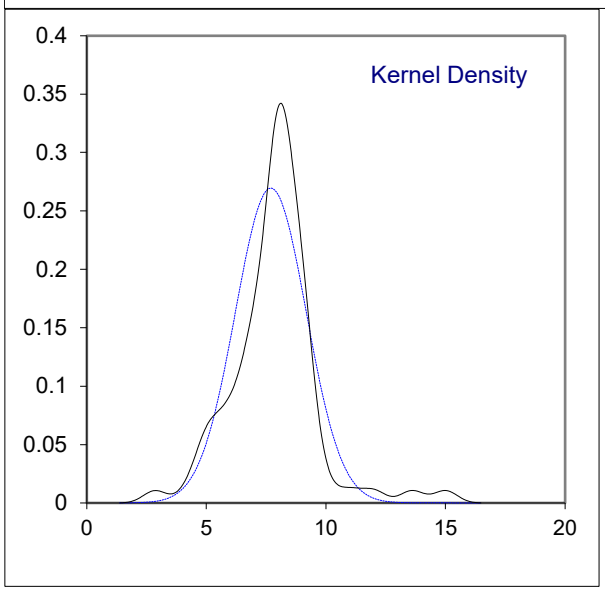
Determination of Ethanol on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	8.17		0.51	
150	IMPCA001	<5		-----	possibly a false negative test result?
171	IMPCA001	8		0.33	
315	IMPCA001	9		1.42	
316		-----		-----	
319	IMPCA001	8.9		1.31	
323	IMPCA001	6		-1.84	
333	IMPCA001	<5		-----	possibly a false negative test result?
334	IMPCA001	<5	C	-----	possibly a false negative test result?, first reported 0
335		-----		-----	
343	IMPCA001	7		-0.76	
344	IMPCA001	7.59		-0.12	
345	IMPCA001	7		-0.76	
346	IMPCA001	5.676		-2.19	
347	IMPCA001	6		-1.84	
349		-----		-----	
395		-----		-----	
396	IMPCA001	<5		-----	possibly a false negative test result?
460	IMPCA001	2.86		-5.25	
492		-----		-----	
494	IMPCA001	6		-1.84	
551	IMPCA001	15	R(0.01)	7.93	
554		-----		-----	
557	IMPCA001	13.60	R(0.05)	6.41	
608		-----		-----	
609	IMPCA001	7		-0.76	
657	IMPCA001	8.2868	C	0.64	first reported 11.9107
663	IMPCA001	7.32		-0.41	
823	IMPCA001	9		1.42	
824	IMPCA001	8.0		0.33	
825	IMPCA001	9		1.42	
840	IMPCA001	9.0		1.42	
848	IMPCA001	6.6		-1.19	
849	IMPCA001	7.6		-0.10	
852	IMPCA001	8		0.33	
853	IMPCA001	8.3		0.66	
855	IMPCA001	8		0.33	
857	IMPCA001	7.9		0.22	
858	IMPCA001	7.7		0.00	
859	IMPCA001	8		0.33	
860	IMPCA001	7.8		0.11	
861	IMPCA001	8.5		0.87	
862	IMPCA001	8.2		0.55	
863	IMPCA001	8.8		1.20	
864	IMPCA001	8		0.33	
865	IMPCA001	8		0.33	
866	IMPCA001	8		0.33	
868	IMPCA001	8		0.33	
870	IMPCA001	<10		-----	
871	IMPCA001	8.8		1.20	
874	IMPCA001	9		1.42	
877	IMPCA001	8.0		0.33	
912	IMPCA001	11		3.59	
913		-----		-----	
963	IMPCA001	9.3		1.74	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	<10		-----	
1007	IMPCA001	8.0		0.33	
1009	IMPCA001	8.38		0.74	
1010	IMPCA001	8.5		0.87	
1029	IMPCA001	9.42		1.87	
1041	IMPCA001	5.02		-2.90	
1079	IMPCA001	7		-0.76	
1135		-----		-----	
1149	In house	8.295		0.65	
1181	IMPCA001	5.11154		-2.81	
1189	IMPCA001	8.5		0.87	
1204	IMPCA001	5		-2.93	
1237	IMPCA001	4.3		-3.69	
1256	IMPCA001	8		0.33	
1264		-----		-----	
1342	IMPCA001	4.9		-3.03	
1354	IMPCA001	6.6		-1.19	

lab	method	value	mark	z(targ)	remarks
1465	IMPCA001	8.325		0.68	
1530	IMPCA001	12		4.67	
1615	IMPCA001	7.45		-0.27	
1656		-----		-----	
1935	IMPCA001	8.91		1.32	
6008	IMPCA001	9.149		1.58	
6061	IMPCA001	7.0		-0.76	
6070		-----		-----	
6119	In house	5.8		-2.06	
6132	IMPCA001	7.266		-0.47	
6201	IMPCA001	7		-0.76	
6209	IMPCA001	9.01664		1.43	
6210	IMPCA001	8.7		1.09	
6262		-----		-----	
6268	IMPCA001	7		-0.76	
6270	IMPCA001	8		0.33	
6273		-----		-----	
6329	IMPCA001	6.39		-1.42	
6338	IMPCA001	10		2.50	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA001	5.3		-2.60	
6481	IMPCA001	7.838		0.15	
6489	IMPCA001	8.0		0.33	
6543	IMPCA001	6.555		-1.24	
6547	IMPCA001	8.0		0.33	
7018	IMPCA001	9.19		1.62	

normality	suspect
n	75
outliers	2
mean (n)	7.696
st.dev. (n)	1.4803
R(calc.)	4.145
st.dev.(iismemo2303)	0.9214
R(iismemo2303)	2.580



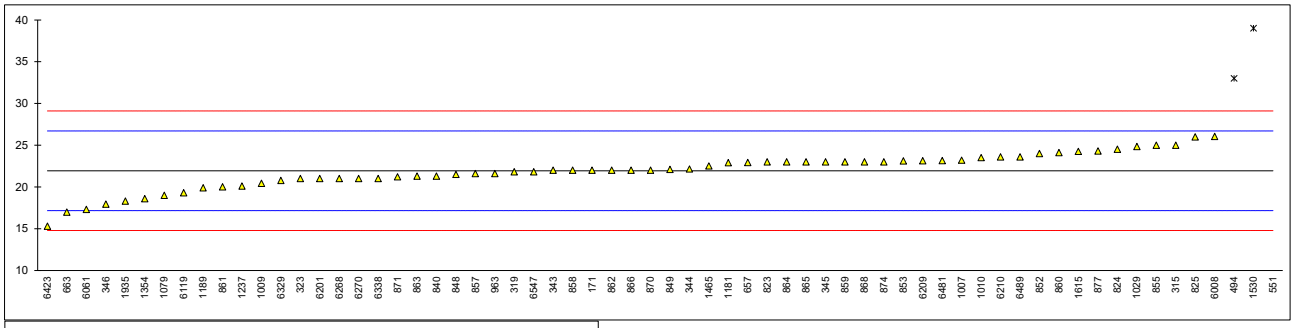


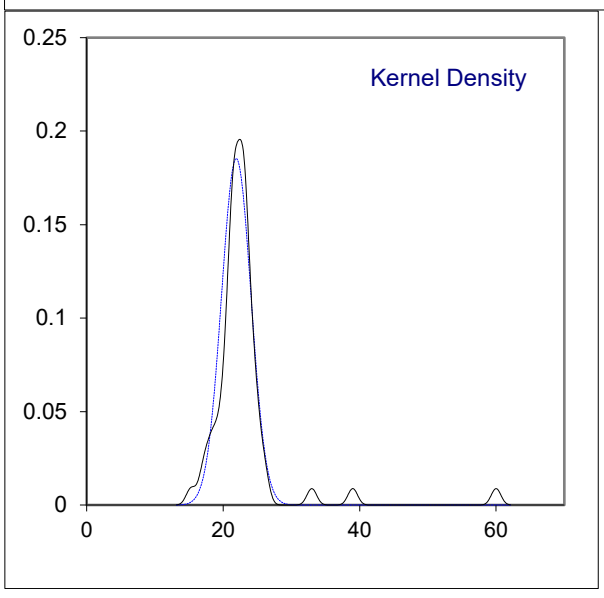
Determination of Toluene on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171	IMPCA001	22	C	0.03	first reported <5
315	IMPCA001	25		1.29	
316		-----		-----	
319	IMPCA001	21.8		-0.06	
323	IMPCA001	21		-0.39	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343	IMPCA001	22		0.03	
344	IMPCA001	22.15		0.09	
345	IMPCA001	23		0.45	
346	IMPCA001	17.949		-1.67	
347		-----		-----	
349		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494	IMPCA001	33	R(0.01)	4.64	
551	IMPCA001	60	R(0.01)	15.96	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA001	22.9258		0.42	
663	IMPCA001	16.98		-2.08	
823	IMPCA001	23		0.45	
824	IMPCA001	24.5		1.08	
825	IMPCA001	26		1.71	
840	IMPCA001	21.3		-0.27	
848	IMPCA001	21.5		-0.18	
849	IMPCA001	22.1		0.07	
852	IMPCA001	24		0.87	
853	IMPCA001	23.1		0.49	
855	IMPCA001	25		1.29	
857	IMPCA001	21.6		-0.14	
858	IMPCA001	22		0.03	
859	IMPCA001	23		0.45	
860	IMPCA001	24.1		0.91	
861	IMPCA001	20.0		-0.81	
862	IMPCA001	22		0.03	
863	IMPCA001	21.29		-0.27	
864	IMPCA001	23		0.45	
865	IMPCA001	23		0.45	
866	IMPCA001	22		0.03	
868	IMPCA001	23		0.45	
870	IMPCA001	22		0.03	
871	IMPCA001	21.2		-0.31	
874	IMPCA001	23		0.45	
877	IMPCA001	24.3		0.99	
912		-----		-----	
913		-----		-----	
963	IMPCA001	21.6		-0.14	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1007	IMPCA001	23.2		0.53	
1009	IMPCA001	20.42		-0.63	
1010	IMPCA001	23.5		0.66	
1029	IMPCA001	24.83		1.21	
1041		-----		-----	
1079	IMPCA001	19		-1.23	
1135		-----		-----	
1149		-----		-----	
1181	IMPCA001	22.91649		0.41	
1189	IMPCA001	19.9	C	-0.85	first reported 1.9
1204		-----		-----	
1237	IMPCA001	20.1		-0.77	
1256		-----		-----	
1264		-----		-----	
1342		-----		-----	
1354	IMPCA001	18.6		-1.40	

lab	method	value	mark	z(targ)	remarks
1465	IMPCA001	22.515		0.24	
1530	IMPCA001	39	R(0.01)	7.16	
1615	IMPCA001	24.25		0.97	
1656		-----		-----	
1935	IMPCA001	18.3		-1.52	
6008	IMPCA001	26.041		1.72	
6061	IMPCA001	17.3		-1.94	
6070		-----		-----	
6119	In house	19.3		-1.10	
6132		-----		-----	
6201	IMPCA001	21		-0.39	
6209	IMPCA001	23.119395		0.50	
6210	IMPCA001	23.6		0.70	
6262		-----		-----	
6268	IMPCA001	21		-0.39	
6270	IMPCA001	21		-0.39	
6273		-----		-----	
6329	IMPCA001	20.76		-0.49	
6338	IMPCA001	21		-0.39	
6388		-----		-----	
6415		-----		-----	
6423	IMPCA001	15.3		-2.78	
6481	IMPCA001	23.136		0.50	
6489	IMPCA001	23.6		0.70	
6543		-----		-----	
6547	IMPCA001	21.8		-0.06	
7018		-----		-----	

normality	OK
n	61
outliers	3
mean (n)	21.9325
st.dev. (n)	2.15291
R(calc.)	6.0281
st.dev.(iismemo2303)	2.38516
R(iismemo2303)	6.6784





Determination of Total Sulfur on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D5453	<0.5		-----	
150	D5453	<1.0		-----	
171	D5453	<1.0		-----	
315	D5453	<1		-----	
316		-----		-----	
319	D5453	0.29		-----	
323	D5453	<1		-----	
333	D5453	<0.5		-----	
334	D5453	0.5		-----	
335	D5453	< 0.5		-----	
343	D5453	<1		-----	
344	D5453	0.427		-----	
345	ISO20846	0.3		-----	
346		-----		-----	
347	D5453	<1		-----	
349		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551	D5453	<1		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	D5453	0.5		-----	
663	D5453	0.3		-----	
823	D5453	<0.5		-----	
824	D5453	0.196		-----	
825	D5453	<0.5		-----	
840	D5453	<1		-----	
848	D5453	<0.5		-----	
849		-----		-----	
852	D5453	<0.5		-----	
853		-----		-----	
855	D5453	<1		-----	
857	D5453	<0.5		-----	
858	D5453	<0.5		-----	
859	D5453	<0.5		-----	
860	D5453	<0.5		-----	
861	D5453	0.3		-----	
862	D5453	<0.5		-----	
863	D5453	<1.0		-----	
864	D5453	<0.5		-----	
865	D5453	<0.5		-----	
866		-----		-----	
868	D5453	<1		-----	
870		-----		-----	
871	D5453	<0.5		-----	
874	D5453	<1		-----	
877	D5453	<1		-----	
912	D5453	<1		-----	
913		-----		-----	
963	D5453	<1		-----	
970		-----		-----	
974	D5453	<1		-----	
994		-----		-----	
997	D5453	0.139		-----	
1007		-----		-----	
1009		-----		-----	
1010		-----		-----	
1029	D5453	0.952		-----	
1041	D5453	<0,2		-----	
1079	D5453	0.3		-----	
1135		-----		-----	
1149		-----		-----	
1181	D5453	0.06		-----	
1189	D5453	0.49		-----	
1204	D5453	0.3		-----	
1237	D5453	0.447		-----	
1256	D5453	0.56		-----	
1264		-----		-----	
1342	D5453	<1		-----	
1354	D5453	0.24		-----	

lab	method	value	mark	z(targ)	remarks
1465	D5453	0		-----	
1530		-----		-----	
1615		-----		-----	
1656	D5453	<1		-----	
1935	D5453	0.30		-----	
6008	D5453	0.237		-----	
6061		-----		-----	
6070		-----		-----	
6119	D5453	0.18		-----	
6132	D5453	0.40		-----	
6201	D5453	0.27		-----	
6209	D5453	0.00		-----	
6210	D5453	0.45		-----	
6262		-----		-----	
6268		-----		-----	
6270	D5453	0.3		-----	
6273		-----		-----	
6329	D5453	0.096		-----	
6338		-----		-----	
6388		-----		-----	
6415		-----		-----	
6423	D5453	0.14		-----	
6481	D5453	<0.1		-----	
6489	D5453	0.21		-----	
6543	D5453	0.3		-----	
6547	D5453	0.14		-----	
7018	D5623	<0.5		-----	
	n	67			
	mean (n)	<1			

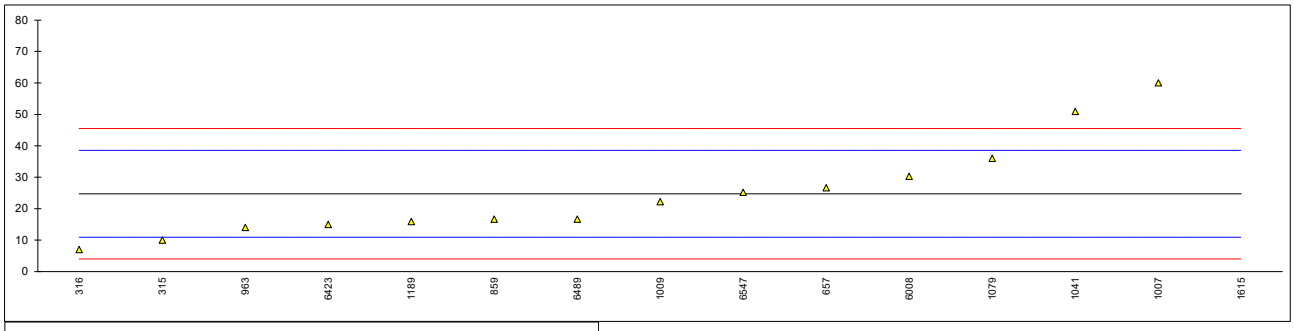
Determination of Trimethylamine (TMA) on sample #23160; results in µg/kg

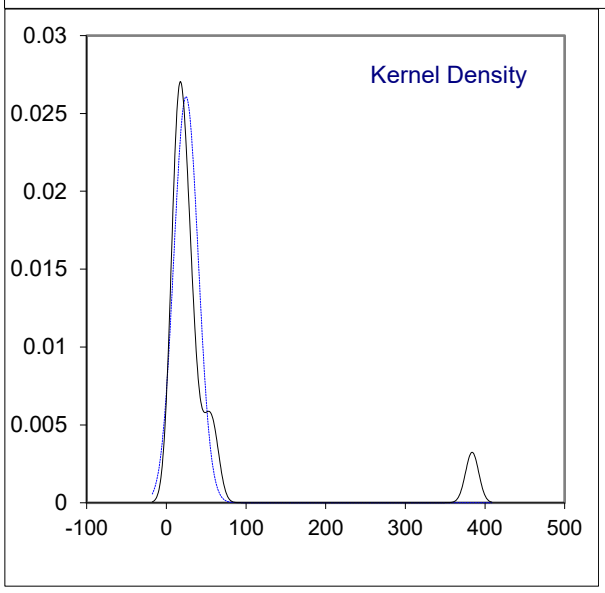
lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171		-----		-----	
315	INH-981	10		-2.13	
316	INH-601	7		-2.57	
319		-----		-----	
323		-----		-----	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
349		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	E346	26.6498		0.27	
663		-----		-----	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840		-----		-----	
848	E346	NA		-----	
849		-----		-----	
852		-----		-----	
853		-----		-----	
855		-----		-----	
857		-----		-----	
858		-----		-----	
859	E346	16.7		-1.17	
860		-----		-----	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
865		-----		-----	
866		-----		-----	
868		-----		-----	
870		-----		-----	
871		-----		-----	
874		-----		-----	
877		-----		-----	
912		-----		-----	
913		-----		-----	
963	E346	14		-1.56	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1007	E346	60	C	5.10	first reported 100
1009	E346	22.17		-0.37	
1010		-----		-----	
1029	E346	<10		-----	
1041	E346	50.9		3.78	
1079	E346	36		1.63	
1135		-----		-----	
1149		-----		-----	
1181		-----		-----	
1189	E346	15.9		-1.28	
1204		-----		-----	
1237		-----		-----	
1256		-----		-----	
1264		-----		-----	
1342		-----		-----	
1354		-----		-----	

lab	method	value	mark	z(targ)	remarks
1465		-----		-----	
1530		-----		-----	
1615	E346	384	G(0.01)	51.99	
1656		-----		-----	
1935		-----		-----	
6008	E346	30.3		0.80	
6061		-----		-----	
6070		-----		-----	
6119		-----		-----	
6132		-----		-----	
6201		-----		-----	
6209		-----		-----	
6210		-----		-----	
6262		-----		-----	
6268		-----		-----	
6270		-----		-----	
6273		-----		-----	
6329		-----		-----	
6338		-----		-----	
6388		-----		-----	
6415		-----		-----	
6423	E346	15		-1.41	
6481		-----		-----	
6489	E346	16.7		-1.17	
6543		-----		-----	
6547	E346	25.2		0.06	
7018	E346	<25		-----	

	normality	not OK
	n	14
	outliers	1
	mean (n)	24.75
	st.dev. (n)	15.306
	R(calc.)	42.86
	st.dev.(Horwitz)	6.910
	R(Horwitz)	19.35
Compare		
	R(E346:08e1)	9.36

Range: 56 -65



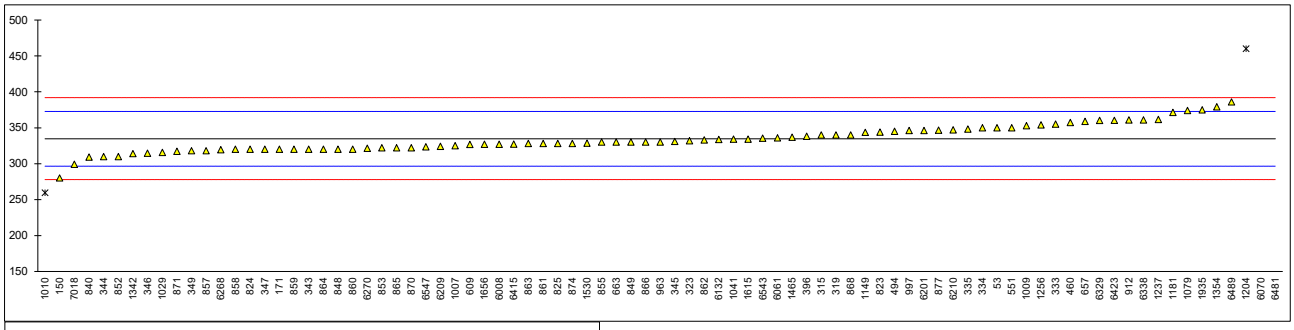


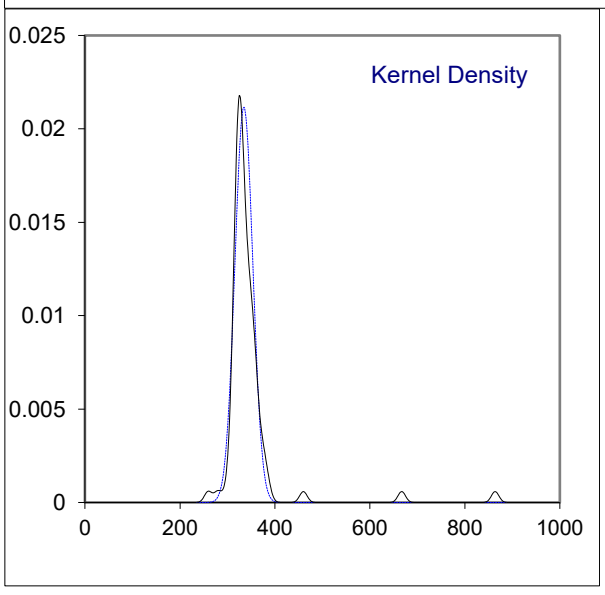
Determination of Water, Coulometric on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E1064	350		0.81	
150	E1064	280	C	-2.88	first reported 0.043
171	E1064	320		-0.77	
315	E1064	340		0.28	
316		-----		-----	
319	E1064	340		0.28	
323	E1064	332		-0.14	
333	E1064	355		1.07	
334	E1064	350	C	0.81	first reported 0.035
335	E1064	348.2		0.71	
343	E1064	320		-0.77	
344	E1064	310		-1.30	
345	E1064	330.90		-0.20	
346	E1064	314.65		-1.05	
347	E1064	320		-0.77	
349	D6304A	318		-0.88	
395		-----		-----	
396	E1064	338		0.17	
460		357.4		1.19	
492		-----		-----	
494	E1064	345		0.54	
551	E1064	350		0.81	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	E1064	326.9		-0.41	
657	E1064	358.8		1.27	
663	E1064	330		-0.25	
823	E1064	344		0.49	
824	E1064	320		-0.77	
825	E1064	328		-0.35	
840	E1064	309.1		-1.35	
848	E1064	320		-0.77	
849	E1064	330		-0.25	
852	E1064	310		-1.30	
853	E1064	322		-0.67	
855	E1064	330		-0.25	
857	E1064	318		-0.88	
858	E1064	320		-0.77	
859	E1064	320		-0.77	
860	E1064	320		-0.77	
861	E1064	328		-0.35	
862	E1064	333		-0.09	
863	E1064	328		-0.35	
864	E1064	320		-0.77	
865	E1064	322		-0.67	
866	E1064	330		-0.25	
868	E1064	340		0.28	
870	E1064	322		-0.67	
871	E1064	317		-0.93	
874	E1064	328		-0.35	
877	E1064	346.5		0.62	
912	E1064	361		1.38	
913		-----		-----	
963	E1064	330		-0.25	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E1064	346		0.59	
1007	E1064	325		-0.51	
1009	E1064	352.8		0.95	
1010	E1064	259.5	R(0.05)	-3.96	
1029	E1064	315.55	C	-1.01	First reported 515.55
1041	E1064	334		-0.04	
1079	E1064	374		2.07	
1135		-----		-----	
1149	E1064	343.5		0.46	
1181	E1064	371.331		1.93	
1189		-----		-----	
1204	E1064	460	R(0.01)	6.59	
1237	E1064	361.6		1.42	
1256	E1064	354		1.02	
1264		-----		-----	
1342	E1064	314		-1.09	
1354	E1064	379		2.33	

lab	method	value	mark	z(targ)	remarks
1465	E1064	336.75		0.11	
1530	E1064	328.5		-0.33	
1615	E1064	334		-0.04	
1656	E1064	327		-0.40	
1935	E1064	374.8		2.11	
6008	E1064	327		-0.40	
6061	E1064	336		0.07	
6070	E1064	667.21	R(0.01)	17.50	
6119		-----		-----	
6132	E1064	333.535		-0.06	
6201	E1064	346		0.59	
6209	E1064	324		-0.56	
6210	E1064	347		0.65	
6262		-----		-----	
6268	E1064	319.4		-0.80	
6270	E1064	321.4		-0.70	
6273		-----	W	-----	test result withdrawn, reported 595.9
6329	E1064	360		1.33	
6338	E1064	361		1.38	
6388		-----		-----	
6415	E1064	327.2		-0.39	
6423	E1064	360.2		1.34	
6481	E1064	864	C,R(0.01)	27.85	first reported 100.5
6489	E1064	385.9		2.69	
6543	E1064	335.6		0.05	
6547	E1064	323.5		-0.59	
7018	E1064	299.16		-1.87	

normality	OK
n	81
outliers	4
mean (n)	334.69
st.dev. (n)	18.858
R(calc.)	52.80
st.dev.(E1064:23)	19.006
R(E1064:23)	53.22



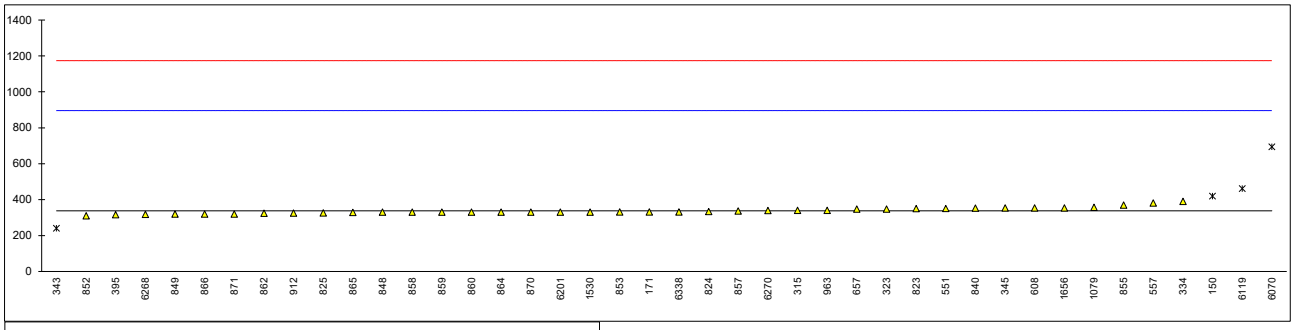


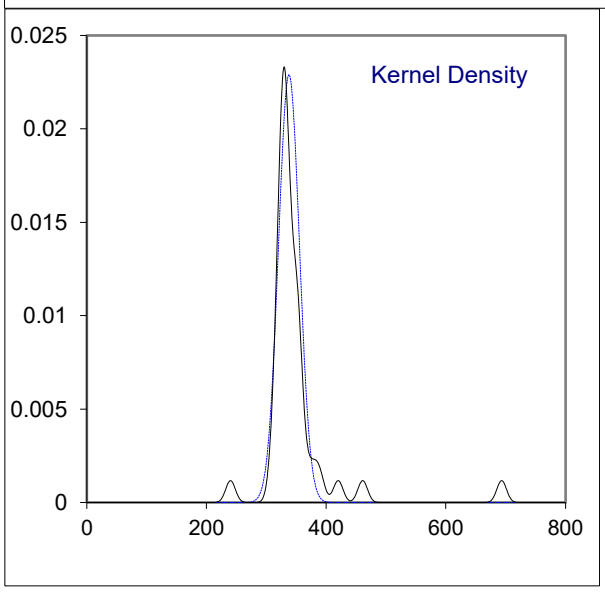
Determination of Water, Volumetric on sample #23160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	E203	420	R(0.01)	0.30	
171	E203	331		-0.02	
315	E203	340		0.01	
316		-----		-----	
319		-----		-----	
323	E203	347		0.03	
333		-----		-----	
334	E203	390		0.19	
335		-----		-----	
343	E203	240	R(0.01)	-0.35	
344		-----		-----	
345	E203	353.65		0.06	
346		-----		-----	
347		-----		-----	
349		-----		-----	
395	E203	315.61		-0.08	
396		-----		-----	
460		-----		-----	
492		-----		-----	
494		-----		-----	
551	E203	350		0.04	
554		-----		-----	
557	E203	380.5		0.15	
608	E203	354		0.06	
609		-----		-----	
657	E203	347.0		0.03	
663		-----		-----	
823	E203	349		0.04	
824	E203	333		-0.02	
825	E203	326		-0.04	
840	E203	352.8		0.05	
848	E203	330		-0.03	
849	D1364	320		-0.06	
852	E203	310		-0.10	
853	E203	331		-0.02	
855	E203	370		0.12	
857	E203	337		0.00	
858	E203	330		-0.03	
859	E203	330		-0.03	
860	E203	330		-0.03	
861		-----		-----	
862	E203	324		-0.05	
863		-----		-----	
864	E203	330		-0.03	
865	E203	328		-0.03	
866	E203	320		-0.06	
868		-----		-----	
870	E203	330		-0.03	
871	E203	320		-0.06	
874		-----		-----	
877		-----		-----	
912	E203	325		-0.05	
913		-----		-----	
963	E203	340		0.01	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1007		-----		-----	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041		-----		-----	
1079	E203	357		0.07	
1135		-----		-----	
1149		-----		-----	
1181		-----		-----	
1189		-----		-----	
1204		-----		-----	
1237		-----		-----	
1256		-----		-----	
1264		-----		-----	
1342		-----		-----	
1354		-----		-----	

lab	method	value	mark	z(targ)	remarks
1465		-----		-----	
1530	E203	330.2		-0.03	
1615		-----		-----	
1656	E203	354		0.06	
1935		-----		-----	
6008		-----		-----	
6061		-----		-----	
6070	E203	693.4	R(0.01)	1.28	
6119	E203	461	R(0.01)	0.44	
6132		-----		-----	
6201	E203	330		-0.03	
6209		-----		-----	
6210		-----		-----	
6262		-----		-----	
6268	E203	318.4		-0.07	
6270	E203	339.3		0.01	
6273		-----		-----	
6329		-----		-----	
6338	E203	331		-0.02	
6388		-----		-----	
6415		-----		-----	
6423		-----		-----	
6481		-----		-----	
6489		-----		-----	
6543		-----		-----	
6547		-----		-----	
7018		-----		-----	

normality	not OK
n	38
outliers	4
mean (n)	337.75
st.dev. (n)	17.428
R(calc.)	48.80
st.dev.(E203:23)	278.571
R(E203:23)	780



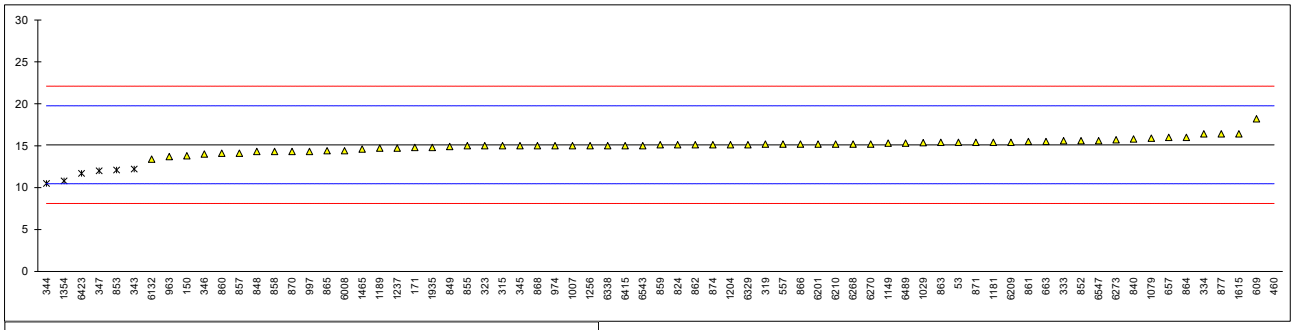


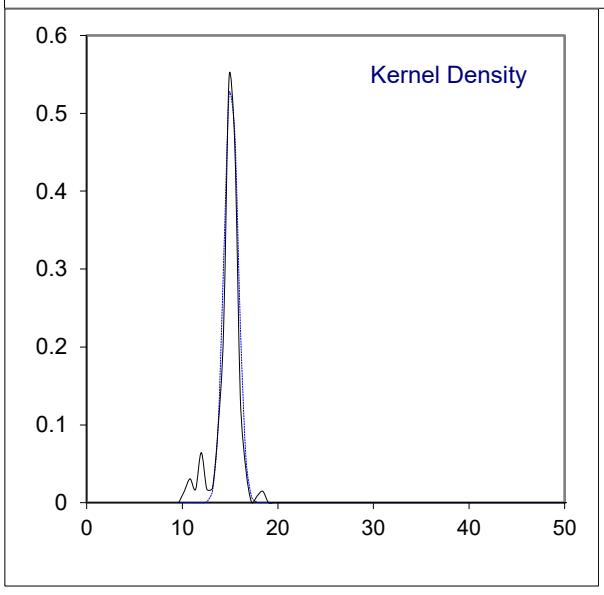
Determination of Nonvolatile matter on sample #23161; results in mg/100 mL

lab	method	value	mark	z(targ)	remarks
53	D1353	15.4		0.12	
150	D1353	13.8		-0.56	
171	D1353	14.8		-0.13	
315	D1353	15		-0.05	
316		-----		-----	
319	D1353	15.19		0.03	
323	D1353	15.0		-0.05	
333	D1353	15.6		0.21	
334	D1353	16.4		0.55	
335		-----		-----	
343	D1353	12.2	R(0.05)	-1.25	
344	D1353	10.5	R(0.05)	-1.98	
345	D1353	15		-0.05	
346	D1353	14		-0.48	
347	D1353	12	R(0.05)	-1.34	
349		-----		-----	
395		-----		-----	
396		-----		-----	
460	D1353	158	R(0.01)	61.36	
492		-----		-----	
494		-----		-----	
551		-----		-----	
554		-----		-----	
557		15.2		0.04	
608		-----		-----	
609	D1353	18.2		1.33	
657	D1353	16.0		0.38	
663	D1353	15.5		0.17	
823		-----		-----	
824	D1353	15.1		0.00	
825		-----		-----	
840	D1353	15.79		0.29	
848	D1353	14.3		-0.35	
849	D1353	14.9		-0.09	
852	D1353	15.6		0.21	
853	D1353	12.1	R(0.05)	-1.29	
855	D1353	15		-0.05	
857	D1353	14.1		-0.43	
858	D1353	14.3		-0.35	
859	D1353	15.1		0.00	
860	D1353	14.1		-0.43	
861	D1353	15.5		0.17	
862	D1353	15.1		0.00	
863	D1353	15.39		0.12	
864	D1353	16		0.38	
865	D1353	14.4		-0.31	
866	D1353	15.2		0.04	
868		15		-0.05	
870	D1353	14.3		-0.35	
871	D1353	15.4		0.12	
874	D1353	15.1		0.00	
877	D1353	16.4		0.55	
912		-----		-----	
913		-----		-----	
963	D1353	13.7		-0.61	
970		-----		-----	
974	D1353	15.0		-0.05	
994		-----		-----	
997	D1353	14.3		-0.35	
1007	D1353	15.0		-0.05	
1009		-----		-----	
1010		-----		-----	
1029	D1353	15.365		0.11	
1041		-----		-----	
1079	D1353	15.9		0.34	
1135		-----		-----	
1149	D1353	15.3		0.08	
1181	D1353	15.4		0.12	
1189	D1353	14.7		-0.18	
1204	D1353	15.1		0.00	
1237	D1353	14.7		-0.18	
1256	D1353	15		-0.05	
1264		-----		-----	
1342		-----		-----	
1354	D1353	10.8	R(0.05)	-1.85	

lab	method	value	mark	z(targ)	remarks
1465	D1353	14.6		-0.22	
1530		-----		-----	
1615	D1353	16.4		0.55	
1656		-----		-----	
1935	D1353	14.8		-0.13	
6008	D1353	14.4		-0.31	
6061		-----		-----	
6070		-----		-----	
6119		-----		-----	
6132	D1353	13.4		-0.73	
6201	D1353	15.2		0.04	
6209	D1353	15.4		0.12	
6210	D1353	15.2		0.04	
6262		-----		-----	
6268	D1353	15.2		0.04	
6270	D1353	15.2		0.04	
6273	D1353	15.7		0.25	
6329	D1353	15.1		0.00	
6338	D1353	15.0	C	-0.05	first reported 0.015
6388		-----		-----	
6415	D1353	15.0		-0.05	
6423	D1353	11.7	R(0.05)	-1.46	
6481	D1353	<1		-----	possibly a false negative test result?
6489	D1353	15.3		0.08	
6543	D1353	15.0		-0.05	
6547	D1353	15.6		0.21	
7018		-----		-----	

normality	not OK
n	64
outliers	7
mean (n)	15.111
st.dev. (n)	0.7313
R(calc.)	2.048
st.dev.(D1353:13R21)	2.3287
R(D1353:13R21)	6.520

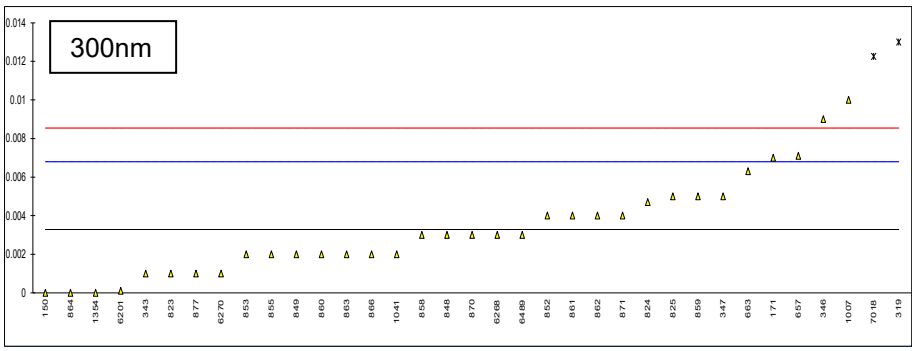


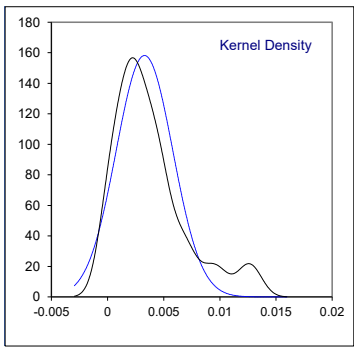


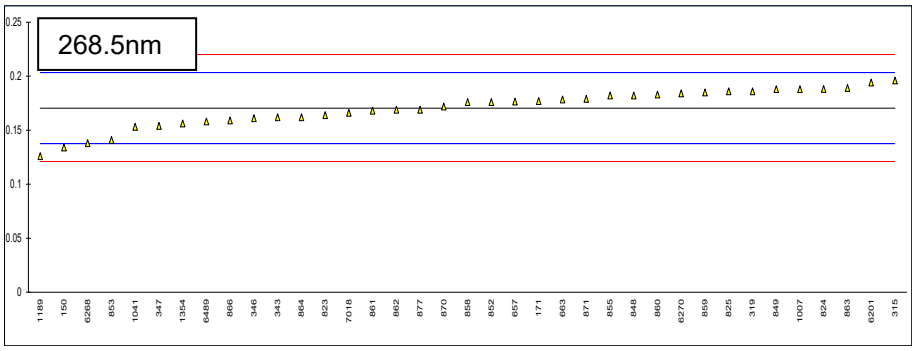
Determination of UV Absorbance (50 mm cuvette) on sample #23162

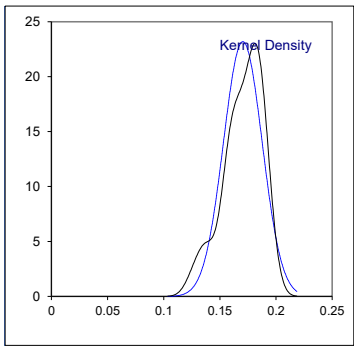
lab	method	300 nm	268.5 nm	250 nm	240 nm	230 nm	220 nm	Pass/ Fail
150	IMPCA004	0.000	0.134	0.166	0.231	0.497	1.413	Pass
171	IMPCA004	0.007	0.177	0.199	0.276	0.577	1.629	Fail
315	IMPCA004	<0.005	0.196	0.183	0.255	0.536	1.556	Fail
319	IMPCA004	0.013 R5	0.186	0.185	-----	-----	1.595	Fail
323		-----	-----	-----	-----	-----	-----	Fail
343	IMPCA004	0.001	0.162	0.176	-----	-----	1.323	Fail
346	IMPCA004	0.009	0.161	0.189	-----	-----	1.429	Fail
347	IMPCA004	0.005	0.154	0.190	-----	-----	1.347	Fail
395		-----	-----	-----	-----	-----	-----	
396		-----	-----	-----	-----	-----	-----	
446		-----	-----	-----	-----	-----	-----	Fail
657	IMPCA004	0.0071	0.1765	0.1907	0.2701	0.5785	1.5852	Fail
663	IMPCA004	0.0063	0.1784	0.1831	0.2439	0.4846	1.3533	
823	IMPCA004	0.001	0.164	0.179	0.244	0.496	1.390	Fail
824	IMPCA004	0.0047	0.1881	0.1833	0.2455	0.4948	1.3032	Fail
825	IMPCA004	0.005	0.186	0.192	0.259	0.531	1.424	Fail
848	IMPCA004	0.003	0.182	0.184	0.251	0.523	1.506	Fail
849	IMPCA004	0.002	0.188	0.184	0.254	0.523	1.496	Fail
852	IMPCA004	0.004	0.176	0.189	0.260	0.534	1.527	Fail
853	IMPCA004	0.002	0.141	0.184	0.248	0.495	1.279	Fail
855	IMPCA004	0.002	0.182	0.188	0.246	0.495	1.358	Fail
857		-----	-----	-----	-----	-----	-----	Fail
858	IMPCA004	0.003	0.176	0.185	0.242	0.500	1.379	Fail
859	IMPCA004	0.005	0.185	0.194	0.267	0.548	1.525	Fail
860	IMPCA004	0.002	0.183	0.182	0.254	0.521	1.491	Fail
861	IMPCA004	0.004	0.168	0.186	0.248	0.497	1.397	Fail
862	IMPCA004	0.004	0.169	0.188	0.257	0.528	1.484	Fail
863	IMPCA004	0.002	0.189	0.177	0.234	0.468	1.350	Fail
864	IMPCA004	0.000	0.162	0.184	0.252	0.514	1.440	Fail
865		-----	-----	-----	-----	-----	-----	
866	IMPCA004	0.002	0.159	0.184	0.252	0.515	1.508	Fail
870	IMPCA004	0.003	0.172	0.188	0.250	0.522	1.452	
871	IMPCA004	0.004	0.179	0.183	0.246	0.501	1.472	Fail
877	IMPCA004	0.001	0.169	0.186	0.258	0.538	1.430	Fail
912		-----	-----	-----	-----	-----	-----	
913		-----	-----	-----	-----	-----	-----	
963		-----	-----	-----	-----	-----	-----	
994		-----	-----	-----	-----	-----	-----	
1007	IMPCA004	0.01	0.188	0.193	0.267	0.545	1.510 C	Fail
1041	IMPCA004	0.002	0.153	0.187	0.256	0.577	3.227 R1	
1135		-----	-----	-----	-----	-----	-----	
1189	IMPCA004	<0.001	0.126	0.138 R1	0.206 R1	0.475	1.460	Fail
1264		-----	-----	-----	-----	-----	-----	
1354	IMPCA004	0.000	0.1563	0.1685	0.22990	0.4815	1.30460	Pass
1656		-----	-----	-----	-----	-----	-----	
6070		-----	-----	-----	-----	-----	-----	
6201	IMPCA004	0.0001	0.1941 C	0.1860	0.2510	0.5141	1.4000	Fail
6209		-----	-----	-----	-----	-----	-----	
6210		-----	-----	-----	-----	-----	-----	
6262		-----	-----	-----	-----	-----	-----	
6268	IMPCA004	0.003	0.138	0.195	0.272	0.518	1.160	Fail
6270	IMPCA004	0.001	0.184	0.184	0.256	0.539	1.549	Fail
6273		-----	-----	-----	-----	-----	-----	
6415		-----	-----	-----	-----	-----	-----	
6423		-----	-----	-----	-----	-----	-----	
6481		-----	-----	-----	-----	-----	-----	
6489	IMPCA004	0.003	0.158	0.180	0.247	0.513	1.338	Pass
6547		-----	-----	-----	-----	-----	-----	
7018	IMPCA004	0.01225 R5	0.1660	0.19325	0.26125	0.51025	1.2355	
	normality	OK	OK	suspect	OK	OK	OK	
	n	33	37	36	32	33	36	33 Fail
	outliers	2	0	1	1	0	1	3 Pass
	mean (n)	0.00328	0.17044	0.18525	0.25261	0.51787	1.42774	
	st.dev. (n)	0.002521	0.017205	0.006651	0.010940	0.027677	0.105264	
	R(calc.)	0.00706	0.04817	0.01862	0.03063	0.07750	0.29474	
	st.dev.(IMPCA004:15)	0.001756	0.016496	0.006682	unknown	unknown	0.146344	
	R(IMPCA004:15)	0.00492	0.04619	0.01871	unknown	unknown	0.40976	

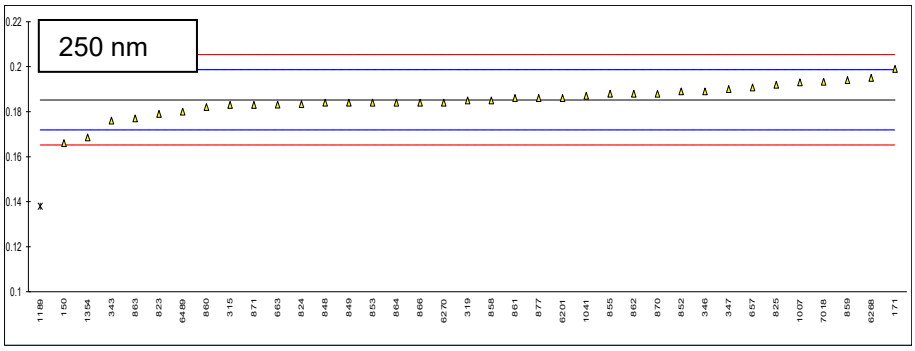
Lab 6201 first reported 0.0358 (268.5nm); 0.0359 (250nm)
Lab 1007 first reported 1510 (220nm)

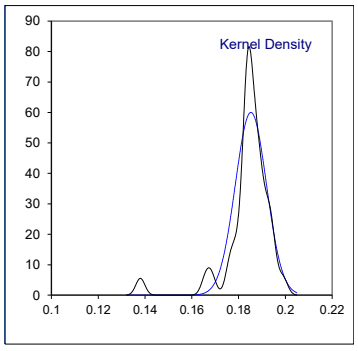

300nm

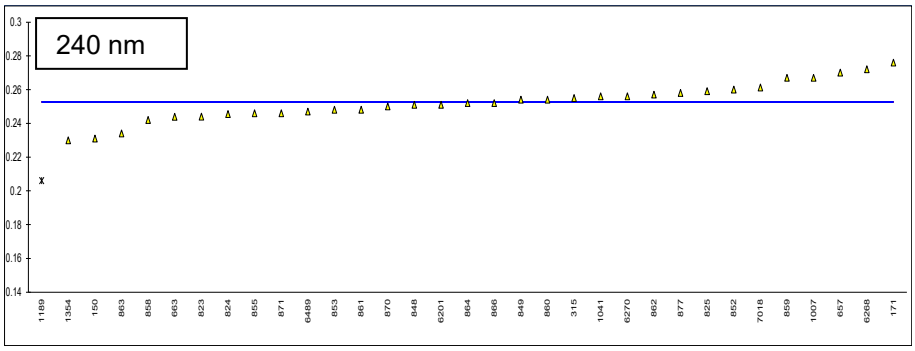

Kernel Density

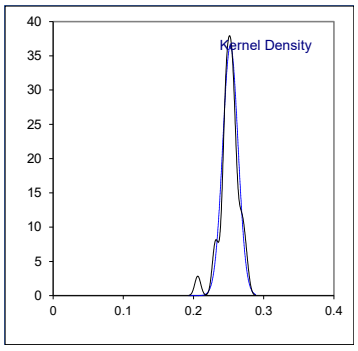

268.5nm

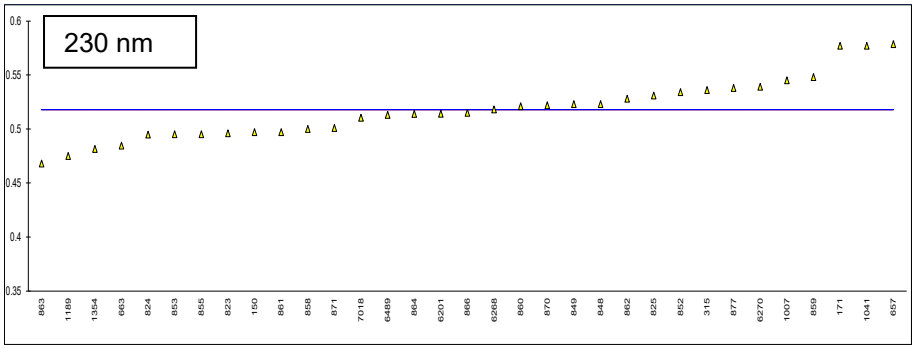

Kernel Density

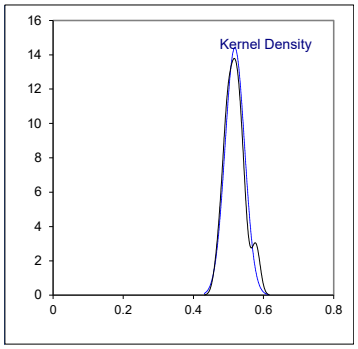

250 nm

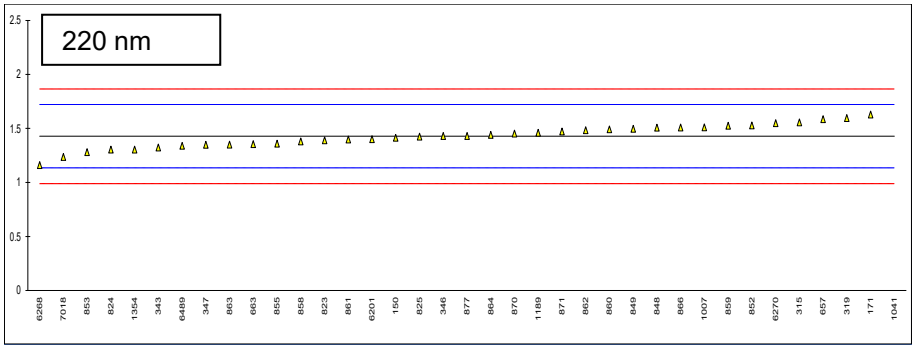

Kernel Density

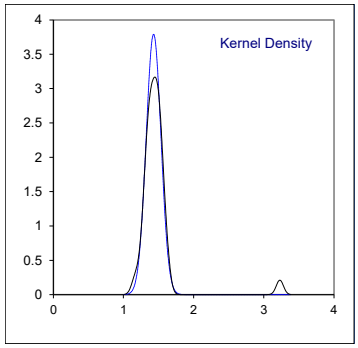

240 nm


Kernel Density


230 nm
0.6
0.55
0.5
0.45
0.4
0.35
863 1189 1354 663 824 853 855 823 150 861 858 871 7018 6489 864 6201 866 6268 860 870 849 848 862 825 852 315 877 6270 1007 859 171 1041 657


Kernel Density
16
14
12
10
8
6
4
2
0
0 0.2 0.4 0.6 0.8


220 nm
2.5
2
1.5
1
0.5
0
6268 7018 853 824 1354 343 6489 347 863 663 855 858 823 861 6201 150 825 346 877 864 870 1189 871 862 860 849 848 866 1007 859 852 6270 315 657 319 171 1041


Kernel Density
4
3.5
3
2.5
2
1.5
1
0.5
0
0 1 2 3 4

z-scores UV Absorbance (50 mm cuvette)

lab	300nm	268.5nm	250nm	240nm	230nm	220nm
150	-1.87	-2.21	-2.88	-----	-----	-0.10
171	2.12	0.40	2.06	-----	-----	1.38
315	-----	1.55	-0.34	-----	-----	0.88
319	5.53	0.94	-0.04	-----	-----	1.14
323	-----	-----	-----	-----	-----	-----
343	-1.30	-0.51	-1.38	-----	-----	-0.72
346	3.26	-0.57	0.56	-----	-----	0.01
347	0.98	-1.00	0.71	-----	-----	-0.55
395	-----	-----	-----	-----	-----	-----
396	-----	-----	-----	-----	-----	-----
446	-----	-----	-----	-----	-----	-----
657	2.18	0.37	0.82	-----	-----	1.08
663	1.72	0.48	-0.32	-----	-----	-0.51
823	-1.30	-0.39	-0.93	-----	-----	-0.26
824	0.81	1.07	-0.29	-----	-----	-0.85
825	0.98	0.94	1.01	-----	-----	-0.03
848	-0.16	0.70	-0.19	-----	-----	0.53
849	-0.73	1.06	-0.19	-----	-----	0.47
852	0.41	0.34	0.56	-----	-----	0.68
853	-0.73	-1.78	-0.19	-----	-----	-1.02
855	-0.73	0.70	0.41	-----	-----	-0.48
857	-----	-----	-----	-----	-----	-----
858	-0.16	0.34	-0.04	-----	-----	-0.33
859	0.98	0.88	1.31	-----	-----	0.66
860	-0.73	0.76	-0.49	-----	-----	0.43
861	0.41	-0.15	0.11	-----	-----	-0.21
862	0.41	-0.09	0.41	-----	-----	0.38
863	-0.73	1.12	-1.23	-----	-----	-0.53
864	-1.87	-0.51	-0.19	-----	-----	0.08
865	-----	-----	-----	-----	-----	-----
866	-0.73	-0.69	-0.19	-----	-----	0.55
870	-0.16	0.09	0.41	-----	-----	0.17
871	0.41	0.52	-0.34	-----	-----	0.30
877	-1.30	-0.09	0.11	-----	-----	0.02
912	-----	-----	-----	-----	-----	-----
913	-----	-----	-----	-----	-----	-----
963	-----	-----	-----	-----	-----	-----
994	-----	-----	-----	-----	-----	-----
1007	3.83	1.06	1.16	-----	-----	0.56
1041	-0.73	-1.06	0.26	-----	-----	12.29
1135	-----	-----	-----	-----	-----	-----
1189	-----	-2.69	-7.07	-----	-----	0.22
1264	-----	-----	-----	-----	-----	-----
1354	-1.87	-0.86	-2.51	-----	-----	-0.84
1656	-----	-----	-----	-----	-----	-----
6070	-----	-----	-----	-----	-----	-----
6201	-1.81	1.43	0.11	-----	-----	-0.19
6209	-----	-----	-----	-----	-----	-----
6210	-----	-----	-----	-----	-----	-----
6262	-----	-----	-----	-----	-----	-----
6268	-0.16	-1.97	1.46	-----	-----	-1.83
6270	-1.30	0.82	-0.19	-----	-----	0.83
6273	-----	-----	-----	-----	-----	-----
6415	-----	-----	-----	-----	-----	-----
6423	-----	-----	-----	-----	-----	-----
6481	-----	-----	-----	-----	-----	-----
6489	-0.16	-0.75	-0.79	-----	-----	-0.61
6547	-----	-----	-----	-----	-----	-----
7018	5.11	-0.27	1.20	-----	-----	-1.31

APPENDIX 2

Determination of UV Absorbance (10 mm cuvette) on sample #23162, not evaluated

lab	method	300 nm	268.5 nm	250 nm	240 nm	230 nm	220 nm	Pass/Fail
395	IMPCA004	0.0000	-----	0.0181	-----	-----	0.2015	Fail
865	IMPCA004	0.003	0.178	0.181	0.242	0.492	1.412	Fail
963	IMPCA004	0.002	0.037	0.060	0.112	0.214	0.432	
1656	IMPCA004	0	0.0123	0.0339	0.0795	0.1822	0.3929	Pass
6210	IMPCA004	0.0024699	0.17364	0.18817	0.26321	0.54971	1.5394	

APPENDIX 3

Number of participants per country

1 lab in	ALGERIA
1 lab in	AZERBAIJAN
1 lab in	BAHRAIN
4 labs in	BELGIUM
3 labs in	BRAZIL
4 labs in	CANADA
1 lab in	CHILE
19 labs in	CHINA, People's Republic
1 lab in	FINLAND
3 labs in	FRANCE
1 lab in	GEORGIA
5 labs in	GERMANY
2 labs in	INDIA
1 lab in	IRAN, Islamic Republic of
2 labs in	ITALY
2 labs in	JAPAN
3 labs in	KOREA, Republic of
5 labs in	MALAYSIA
5 labs in	NETHERLANDS
2 labs in	NEW ZEALAND
1 lab in	NORWAY
1 lab in	OMAN
1 lab in	RUSSIAN FEDERATION
2 labs in	SAUDI ARABIA
2 labs in	SINGAPORE
1 lab in	SLOVENIA
6 labs in	SPAIN
1 lab in	THAILAND
1 lab in	UNITED ARAB EMIRATES
3 labs in	UNITED KINGDOM
16 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) R1	= outlier in Rosner's outlier test
R(0.05) R5	= straggler in Rosner's outlier test
E	= calculation difference between reported test result and result calculated by iis
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
f+?	= possibly a false positive test result?
f-?	= possibly a false negative test result?
SDS	= Safety Data Sheet

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