

Results of Proficiency Test
Gasoil (Diesel - EN spec.)
March 2015

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1994, the institute for Interlaboratory Studies organizes proficiency tests for Gasoil - Automotive Diesel. In the annual proficiency testing program of 2014-2015, it was decided to continue the proficiency test for the analysis of Gasoil - Diesel in accordance with the latest applicable version of EN590 specification.

In this interlaboratory study, 177 laboratories from 65 different countries have participated. See appendix 3 for a list of participants in alphabetical country order. In this report the results of the 2014 EN Gasoil - Diesel proficiency test are presented and discussed. This report is also electronically available through the iis internet site www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organiser of this proficiency test.

For the EN specification round robin it was decided to use two identical samples of Gasoil, 1*1L Gasoil and 1*0.5L Gasoil, both labelled #15015. For Total Contamination, it was decided to use one bottle of 1L (85% filled), labelled #15016. Sample analyses for fit-for-use and homogeneity testing were subcontracted. Participants were requested to report rounded and unrounded results. The unrounded 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/IEC 17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3), which can be downloaded from the iis website <http://www.iisnl.com>.

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The 400 litre low sulphur Gasoil (automotive diesel) was purchased from the local market. After homogenization, the material was subsequently divided over 200 amber glass bottles of 1L and 200 amber glass bottles of 500 mL with inner and outer caps, both labelled #15015. The homogeneity of the 1L and 500 mL subsamples was checked by the determination of Density in accordance with ASTM D4052 on 8 stratified randomly selected samples.

	Density @ 15 °C in kg/m ³
sample #15015-1	834.14
sample #15015-2	834.15
sample #15015-3	834.14
sample #15015-4	834.15
sample #15015-5	834.16
sample #15015-6	834.15
sample #15015-7	834.15
sample #15015-8	834.15

table 1: homogeneity test of subsamples #15015

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

	Density @ 15°C in kg/m ³
r (sample #15015)	0.02
reference test	ISO12185:96
0.3*R (reference test)	0.15

Table 2: precision data of the subsamples #15015

The calculated repeatability was less than 0.3 times the reproducibility of the reference method. Therefore, homogeneity of the subsamples #15015 was assumed.

For Total Contamination, approx. 80 liter was made available. Out of this batch, 86 amber glass bottles of 1L with inner and outer caps were filled up to approx 850 ml and subsequently labelled #15016. Each sample was spiked with 1 ml of a fresh prepared and well shaken, 10 g/kg particulate quartz material BCR-070 (ϕ 1.2-20 μ m) in oil suspension. The addition was checked by weighing the bottles before and after addition of the spike.

Depending on the registration, two bottles of regular Gasoil (1*1 L and 1*0.5 L both labelled #15015) and/or one bottle of Gasoil for Total Contamination only (1*1 L labelled #15016) were sent to the participating laboratories on February 18, 2015.

2.5 STABILITY OF THE SAMPLES

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

2.6 ANALYSIS

The participants were asked to determine on the samples #15015: Ash Content, Cetane Index, Carbon Residue on 10% residue, Cloud Point, Cold Filter Plugging Point (CFPP), Copper Corrosion, Density @ 15°C, Distillation (IBP, 5%, 10%, 50%, 90%, 95% recovered, FBP and %V/V at 250°C and 350°C), FAME content, Flash Point PMcc, Kinematic Viscosity @ 40°C, Lubricity by HFRR, Poly, Mono-, Di and Tri+-Aromatics, Nitrogen, Pour Point (automated/manual), Sulphur content, Total Acid Number and Water. On sample #15016 was requested to determine Total Contamination only. The participants were also requested to report additional information for some determinations.

To get comparable results a detailed report form, on which the units were prescribed as well as the required standards and a letter of instructions were prepared and made available on the data entry portal www.kpmd.co.uk/sgs-iis/. The detailed report form was also made available for download on the iis website www.iisnl.com. A SDS and a form to confirm receipt of the samples were added to the sample package.

3 RESULTS

During four weeks after sample despatch, the results of the individual laboratories were received. The original reported results are tabulated per determination in appendix 1 of this report. The laboratories are presented by their code numbers.

Directly after deadline, a reminder fax was sent to those laboratories that did not report results at that moment. Shortly after the deadline, the available results were screened for suspect data. A 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 raw data of these tests (no reanalysis). Additional or corrected results are used for data analysis and original results are placed under 'Remarks' in the result tables in appendix 1.

3.1 STATISTICS

Statistical calculations were performed as described in the report 'i.i.s. Interlaboratory Studies-Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3). For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded results. Results reported as '<...' or '>...' were not used in the statistical evaluation. First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement of the normality being either 'unknown', 'OK', 'suspect' or 'not OK'. After removal of outliers, this check was repeated. Not all data sets proved to have a normal distribution, in which cases the statistical evaluation of the results should be used with due care.

In accordance with ISO 5725 (1986 and 1994) the original results per determination were submitted subsequently to Dixon and Grubbs outlier tests. Outliers are marked by D(0.01) for the Dixon test, by G(0.01) or DG(0.01) for the Grubbs test. Stragglers are marked by D(0.05) for the Dixon test, by G(0.05) or DG(0.05) for the Grubbs test and by R(0.05) for the Rosner General ESD test (ref. 15). Both outliers and stragglers were not included in the calculations of averages and standard deviations.

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

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

3.2 GRAPHICS

In order to visualize the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported analysis results are plotted. The corresponding laboratory numbers are under 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 standard. Outliers and other data, which were excluded from the calculations, are represented as a "x". 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 (see appendix 3; nos.13 and 14). Also a normal Gauss curve was projected over the Kernel Density Graph for reference.

3.3 Z-SCORES

To evaluate the performance of the participating laboratories the z-scores were calculated. As it was decided to evaluate the performance of the participants in this proficiency test (PT) against the literature requirements, e.g. ASTM reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the spread of this interlaboratory study. The target standard deviation was calculated from the literature reproducibility by division with 2.8.

The z-scores were calculated in accordance with:

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

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 the fit-for-useness of the reported test result.

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

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

Therefore, the usual interpretation of z-scores is as follows:

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

4 EVALUATION

In this interlaboratory study, some problems with customs clearance were encountered during dispatch of the samples to Algeria, Argentina, Cyprus, Islamic Republic of Iran, Qatar, Russia, Saudi Arabia, South Korea, Taiwan, Togo and Tunesia.

For sample #15015, twenty-four participants reported results after the final reporting date and seven participants did not report any test results.

For sample #15016, eight participants reported results after the final reporting date and seven participants did not report any test results.

Finally, 169 participants reported 3186 numerical results in total. Observed were 90 outlying results, which is 2.8%. In proficiency studies, outlier percentages of 3%-7.5% are quite normal.

4.1 EVALUATION PER TEST

In this section, the results are discussed per test. The methods, which are used by the various laboratories, are taken into account for explaining the observed differences where possible and applicable. These methods are also in the tables together with the reported data. The abbreviations, used in these tables, are listed in appendix 4.

In the iis PT reports, ASTM methods are referred to with a number (e.g. D2086) and an added designation for the year that the method was adopted or revised (e.g. D2086-08). If applicable, a designation in parentheses is added to designate the year of reapproval (e.g. D2086-08 (2013)). In the results tables of Appendix 1 only the method number and year of adoption or revision will be used.

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

Acid Number, Total: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of ASTM D974:14. One should keep in mind that ASTM D974 and D664, may or may not give the same results (see note 2 in ASTM D664 and note 3 in ASTM D974).

- Ash: This determination was not problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of ISO6245:01.
- C.I. ISO4264: Nine participants reported results according ASTM D976, a test method that leads to results that are not equivalent with ISO4264/ASTM D4737 results. Therefore, these results were excluded from the statistical evaluation. For the other results, apparently almost all participants used the same calculation method: procedure A of ISO4264:95/IP380:98/ASTM D4737. The calculated reproducibility of the group is large in comparison with the reproducibility as found in last year's round: 0.94 vs 0.79. Ten participants probably made a calculation error.
- Cloud Point: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of EN23015:94.
- CFPP: This determination was problematic for a number of participants. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of EN116:97.
- CR on 10% res.: This determination was problematic at this low level of carbon residue. One test result was excluded as the reported test method (ASTM D524, Ramsbottom CR) is not equivalent with ISO10370. Four other reported test results were excluded as zero is not a real result. Also, four statistical outliers were observed. The calculated reproducibility after rejection of the suspect data is not in agreement with ISO10370:93.
- Copper Corrosion: This determination was not problematic. All participants agreed on a result of 1.
- Density @15°C: This determination was not problematic. Eleven statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with ISO12185:96.
- Distillation: The automated method was not problematic. In total seven statistical outliers were observed. All calculated reproducibilities are in agreement with the requirements of ISO3405:11. The manual method was somewhat problematic. In total nine statistical outliers were observed. The calculated reproducibilities of IBP, 50% and 90% recovered, Vol. at 250°C and 350°C, after rejection of the statistical outliers, are in agreement with the requirements of ISO3405:11. The calculated reproducibilities of 10% and 95% recovered and FBP did not meet the precision requirements of ISO3405:11.

- FAME: This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with EN14078:14 (range B).
- Flash Point: This determination was not problematic. No statistical outliers were observed and the calculated reproducibility is in good agreement with the requirements of ISO2719:02.
- Kin. visc. 40°C: This determination was problematic for a number of laboratories. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with ISO3104:94.
- Lubricity: This determination was problematic. No statistical outliers were observed. Six results were excluded for statistical evaluation, as the reported test method (ASTM D6079 and D7688) uses a deviating calculation procedure and the test result therefore is not equivalent with a test result of ISO12156. The calculated reproducibility is not in agreement with ISO12156:04. The test results vary over a large range: 165 – 459 μm and may be bimodally divided.
- Manganese: All reporting laboratories, except one, agreed on a test result below 0.5, which is below the detection limit of the test method. Therefore no significant conclusions were drawn.
- Nitrogen: This determination was very problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not at all in agreement with ASTM D4629:12.
- Oxidation Stability: This determination was very problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with EN15751:14.
- Poly-aromatics: This determination may be problematic for a number of laboratories. Nine statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements EN12916:06. Five participants probably made a calculation error, as the reported test result deviate from the sum of the reported test results for Di and Tri+ aromatics.
- Mono-aromatics: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements EN12916:06.
- Di-aromatics: This determination may be problematic. Only one statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is almost in agreement with the requirements EN12916:06.

Tri⁺-aromatics: This determination was problematic for a number of participants. Seven statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements EN12916:06.

Pour Point manual: This determination was not problematic. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with ISO3016:94.

Pour Point automated: Two participants reported a test method that describes a manual mode. Therefore, these results were excluded from the statistical evaluation. This determination was not problematic. No statistical outliers were observed. The calculated reproducibility after rejection of the suspect data is in agreement with ASTM D5950:14.

Sulphur: This determination was problematic for a number of participants. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ISO20846:11.

Water: This determination was not problematic. Six statistical outliers were observed. However, the calculated reproducibility, after rejection of the statistical outliers, is in good agreement with the requirements of ISO12937:00.

Total Contamination: This determination was problematic at the level of 28 mg/kg. The samples were spiked with 1 ml of a fresh prepared and ultrasonically homogenized, 10 g/kg particulate quartz material BCR-070 (ϕ 1.2-21 μ m) in oil suspension. Therefore, the minimal contamination concentration to be found was known (added amount = 14.9 mg/kg). The laboratories should be able to find at least 10.4 mg/kg [$14.9 \text{ mg/kg}_{(\text{added amount})} - 4.5 \text{ mg/kg}_{(\text{R EN12662})}$]. Only one laboratory reported a test result below this minimal concentration of 10.4 mg/kg. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of EN12662:14. The correctness of the sample pretreatment is critical for this determination.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant standard and the reproducibility as found for the group of participating laboratories that participated. The average results of the evaluated parameters, calculated reproducibilities and reproducibilities, derived from literature standards (in casu ASTM standards) are compared in the next tables.

Parameters	unit	n	average	2.8 * sd	R (lit)
Acid Number, Total	mgKOH/g	77	0.028	0.021	0.040
Ash content	%M/M	77	0.0008	0.0015	0.0050
Cetane index ISO4264		117	54.62	0.94	n.a.
Cloud Point	°C	133	-3.2	2.3	4.0
Cold Filter Plugging Point	°C	123	-13.5	3.2	4.0
Carbon Residue on 10% res.	%M/M	68	0.014	0.019	0.014
Copper Corrosion 3hrs@50°C		118	1(1A)	n.a.	n.a.
Density @ 15 °C	kg/m ³	153	834.17	0.29	0.50
IBP (automated)	°C	118	166.4	8.1	9.2
10% recovery (automated)	°C	114	207.1	4.4	4.6
50% recovery (automated)	°C	118	278.7	3.0	3.0
90% recovery (automated)	°C	116	337.7	4.0	5.1
95% recovery (automated)	°C	119	352.9	6.5	9.0
FBP (automated)	°C	118	362.6	6.4	7.1
Volume at 250°C	%V/V	112	30.6	2.2	2.7
Volume at 350°C	%V/V	112	94.3	1.7	2.7
IBP (manual)	°C	29	166.4	5.6	6.5
10% recovery (manual)	°C	31	205.7	7.3	4.8
50% recovery (manual)	°C	30	278.5	4.3	4.0
90% recovery (manual)	°C	29	338.1	3.9	4.0
95% recovery (manual)	°C	29	354.2	6.0	5.1
FBP (manual)	°C	28	363.1	4.5	2.4
Volume at 250°C	%V/V	28	31.0	3.0	3.1
Volume at 350°C	%V/V	29	94.0	2.1	3.1
FAME	%V/V	82	5.61	0.64	0.40
Flash Point PMcc	°C	160	61.3	3.9	4.4
Kinematic Viscosity @ 40 °C	mm ² /s	137	2.865	0.025	0.032
Lubricity by HFRR	µm	68	320	160	102
Manganese	mg/L	21	<0.5	n.a.	n.a.
Nitrogen	mg/kg	37	57.1	16.1	6.5
Oxidation Stability	Hrs	21	60.4	29.3	11.9
Polyaromatics	%M/M	52	1.94	0.70	0.83
Mono-aromatics	%M/M	54	18.6	1.5	2.3
Di-aromatics	%M/M	56	1.78	0.62	0.56
Tri ⁺ -aromatics	%M/M	49	0.19	0.36	0.56
Pour Point, manual	°C	79	-12.1	3.1	6.4
Pour Point, automated	°C	38	-12.4	6.0	6.1
Total Sulphur	mg/kg	127	8.2	2.0	2.0
Water	mg/kg	124	63.7	26.2	54.9
Total Contamination #15016	mg/kg	65	28.0	13.6	8.7

table 3: summary of tests results of Gasoil #15015 and #15016

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

4.3 COMPARISON OF THE INTERLABORATORY STUDY OF MARCH 2015 WITH PREVIOUS PTS.

	<i>March 2015</i>	<i>March 2014</i>	<i>March 2013</i>	<i>March 2012</i>
Number of reporting labs	169	162	132	116
Number of results reported	3186	3191	2572	2135
Statistical outliers	90	90	75	59
Percentage outliers	2.8%	2.8%	2.9%	2.8%

table 4: comparison with previous proficiency tests.

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

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

	<i>March 2015</i>	<i>March 2014</i>	<i>March 2013</i>	<i>March 2012</i>
Acid Number, total	++	++	++	++
Ash content	++	++	++	++
Cloud Point	++	++	++	++
Cold Filter Plugging Point	+	+	-	+
CR 10% residue	-	--	--	--
Density @ 15 °C	++	++	+	++
Distillation – automated mode	++	++	++	++
Distillation – manual mode	-	--	--	--
FAME	--	--	-	-
Flash Point PMcc	+	++	++	+
Kinematic Viscosity @ 40 °C	+	+/-	+/-	+
Lubricity by HFRR	--	--	--	+/-
Nitrogen content	--	--	-	--
Polyaromatics	+	+/-	+/-	--
Aromatics (mono,di,tri ⁺)	++	-	-	n.e.
Pour Point	+/-	++	++	++
Sulphur	+/-	--	-	-
Water content	++	++	++	++
Total Contamination #15016	--	--	--	+

table 5: comparison determinations against the standard
results between brackets should used with care, because the average was below the application range

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

- ++: group performed much better than the standard
- +: group performed better than the standard
- +/-: group performance similar to the standard
- : group performed worse than the standard
- : group performed much worse than the standard
- n.e.: not evaluated

APPENDIX 1

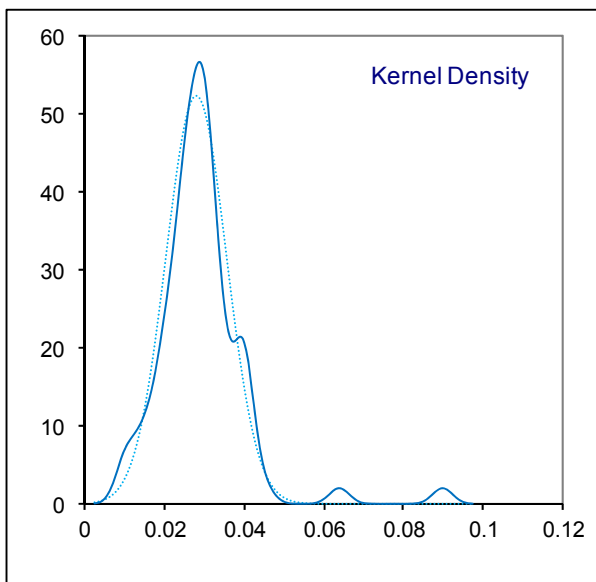
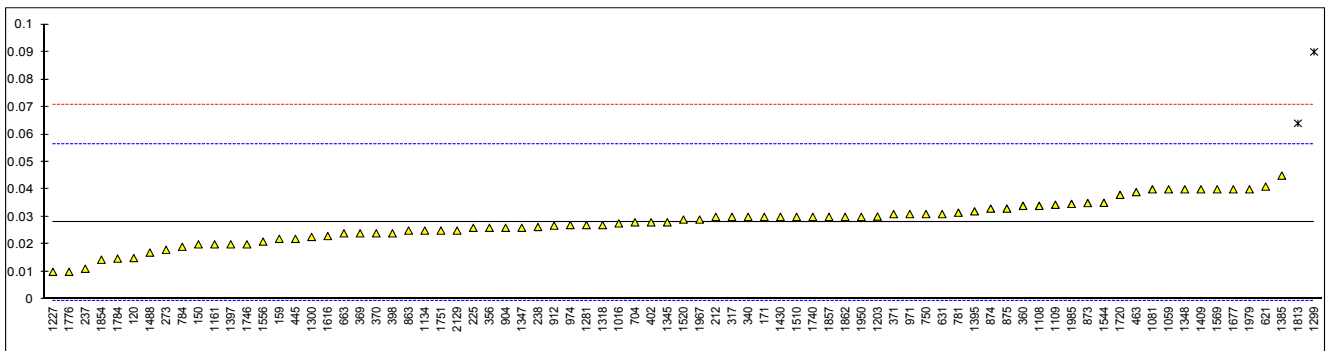
Determination of Acid Number, Total (TAN) on sample #15015; result in mgKOH/g

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D664	0.015		-0.91	966		----		----
132	D664	<0.10		----	970		----		----
140		----		----	971	D974	0.031		0.21
150	D974	0.02		-0.56	974	D974	0.027		-0.07
159	D974	0.022		-0.42	998		----		----
171	D974	0.03		0.14	1006		----		----
194		----		----	1016	ISO6618	0.0276		-0.03
212	D664	0.03		0.14	1026	D974	<0.03		----
216		----		----	1033		----		----
225	D974	0.026		-0.14	1059	ISO6619	0.04		0.84
228		----		----	1080		----		----
237	D974	0.01112		-1.18	1081	D664	0.04		0.84
238	D974	0.0263		-0.12	1082		----		----
240		----		----	1108	D664	0.0340		0.42
273	D974	0.0180		-0.70	1109	D974	0.0344		0.45
312		----		----	1121		----		----
317	D974	0.03		0.14	1126		----		----
323		----		----	1134	D974	0.025		-0.21
333		----		----	1146		----		----
334		----		----	1161	D664	0.02	C	-0.56
335		----		----	1167		----		----
337		----		----	1191		----		----
338		----		----	1194		----		----
340	D974	0.030		0.14	1199		----		----
342		----		----	1203	ISO6618	0.0301		0.15
343	D664	<0.05		----	1205		----		----
349		----		----	1227	D974	0.01		-1.26
350		----		----	1229		----		----
351		----		----	1238		----		----
353		----		----	1266		----		----
356	ISO6618	0.026		-0.14	1281	ISO6618	0.027		-0.07
357	D664	<0.1		----	1297		----		----
360	D974	0.034		0.42	1299	D664	0.09	R(0.01)	4.34
369	D974	0.024		-0.28	1300	D974	0.0227		-0.37
370	D974	0.024		-0.28	1316		----		----
371	D974	0.031		0.21	1318	D664	0.027		-0.07
391		----		----	1345	D974	0.028		0.00
398	D974	0.024		-0.28	1347	D974	0.026		-0.14
399		----		----	1348	D974	0.04		0.84
402	D974	0.028		0.00	1356	D664	<0.05		----
403		----		----	1385	D974	0.045		1.19
420		----		----	1394		----		----
431		----		----	1395	D974	0.032		0.28
432		----		----	1397	D974	0.02		-0.56
433		----		----	1409	D974	0.04		0.84
440		----		----	1430	D664	0.03		0.14
445	D974	0.022		-0.42	1459		----		----
446		----		----	1488		0.0170	C	-0.77
447		----		----	1490		----		----
453	D664	<0.05		----	1491		----		----
463	D974	0.039		0.77	1498		----		----
485		----		----	1510	D974	0.03		0.14
541	D974	<0.1		----	1520	D974	0.029		0.07
575		----		----	1544	D974	0.0351		0.50
593		----		----	1556	D664	0.021		-0.49
595		----		----	1557		----		----
603		----		----	1569	D664	0.04		0.84
607		----		----	1612		----		----
621	D974	0.041		0.91	1616	D974	0.023		-0.35
631	D974	0.031		0.21	1631		----		----
663	D974	0.024		-0.28	1654		----		----
671		----		----	1677	D974	0.04	C	0.84
704	D974	0.028		0.00	1720	D974	0.038		0.70
750	D974	0.031		0.21	1724		----		----
754		----		----	1730		----		----
781	D974	0.0315		0.24	1740	D664	0.03		0.14
784	D664	0.0191		-0.62	1742		----		----
785		----		----	1746	D974	0.02		-0.56
863	D974	0.025		-0.21	1751	ISO6619	0.025		-0.21
873	D974	0.035		0.49	1773		----		----
874	D974	0.033		0.35	1776	D664	0.01		-1.26
875	D664	0.033		0.35	1784	D974	0.0148		-0.93
904	D664	0.026		-0.14	1807		----		----
912	D974	0.0268		-0.09	1813	D974	0.064	R(0.01)	2.52
1832		----		----	1950	D974	0.03		0.14

1833		----	----	1967	D974	0.029		0.07
1834		----	----	1968		----		----
1849		----	----	1971		----		----
1854	D974	0.0144	-0.95	1976		----		----
1857	D974	0.03	0.14	1979	ISO6618	0.04	C	0.84
1861		----	----	1980		----		----
1862	D974	0.03	0.14	1984		----		----
1872		----	----	1985	D974	0.0347		0.47
1881		----	----	2129	D974	0.025		-0.21
1911		----	----	2146		----		----
1936		----	----	7006		----		----
1937		----	----	9057		----		----
1938		----	----					

normality OK
n 77
outliers 2
mean (n) 0.0280
st.dev. (n) 0.00763
R(calc.) 0.0214
R(D974:14) 0.0400

Lab 1161: first reported 0.002
Lab 1488: first reported 0.0017
Lab 1677: first reported 0.07
Lab 1979: first reported 0



Determination of Ash on sample #15015; result in %M/M

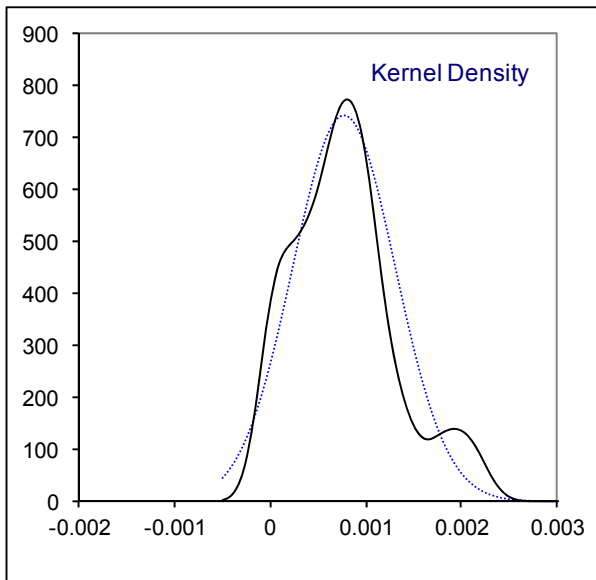
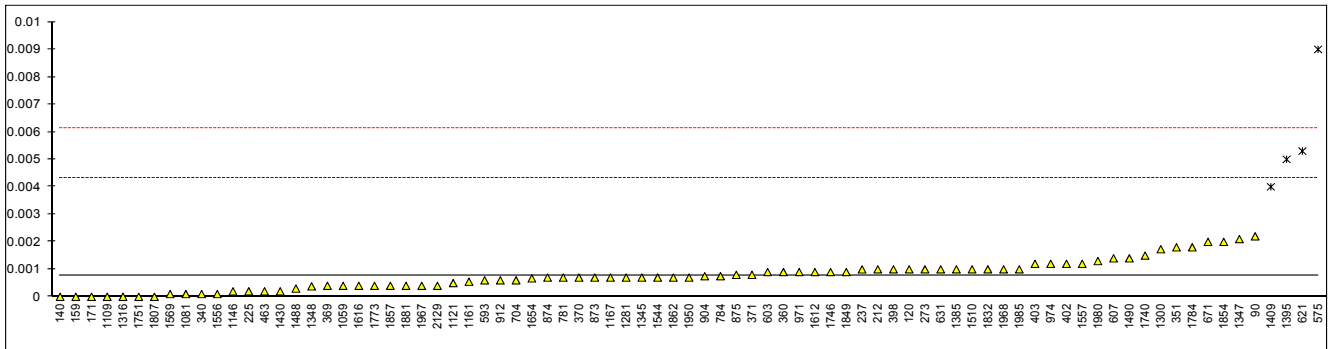
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D482	0.0022		0.80	963		----		----
120	ISO6245	0.001		0.13	966		----		----
132	ISO6245	<0.001		----	970		----		----
140	ISO6245	0.000		-0.43	971	ISO6245	0.0009		0.07
150	D482	<0.001		----	974	D482	0.0012		0.24
159	ISO6245	0.0		-0.43	998		----		----
171	D482	0.00	C	-0.43	1006	D482	<0.001		----
194		----		----	1016	D482	<0.001		----
212	ISO6245	0.001		0.13	1026	ISO6245	<0.01		----
216		----		----	1033		----		----
225	D482	0.0002		-0.32	1059	ISO6245	0.0004		-0.21
228		----		----	1080		----		----
237	D482	0.000996		0.13	1081	D482	0.0001	C	-0.37
238		----		----	1082		----		----
240		----		----	1108		----		----
273	D482	0.001		0.13	1109	D482	0.000		-0.43
312		----		----	1121	IP4	0.0005		-0.15
317	ISO6245	<0.001		----	1126		----		----
323	ISO6245	<0.001		----	1134	ISO6245	<0.001		----
333		----		----	1146	D482	0.0002		-0.32
334		----		----	1161	ISO6245	0.00055		-0.12
335		----		----	1167	ISO6245	0.0007		-0.04
337		----		----	1191		----		----
338		----		----	1194		----		----
340	ISO6245	0.0001		-0.37	1199		----		----
342		----		----	1203	ISO6245	<0.0001		----
343	ISO6245	<0.001		----	1205		----		----
349		----		----	1227		----		----
350		----		----	1229		----		----
351	ISO6245	0.0018		0.58	1238		----		----
353		----		----	1266		----		----
356	ISO6245	<0.001		----	1281	ISO6245	0.0007		-0.04
357	ISO6245	<0.001		----	1297		----		----
360	ISO6245	0.0009		0.07	1299	D482	<0.001		----
369	ISO6245	0.0004		-0.21	1300	ISO6245	0.00173		0.54
370	ISO6245	0.0007		-0.04	1316	D482	0		-0.43
371	ISO6245	0.0008		0.02	1318		----		----
391		----		----	1345	D482	0.0007		-0.04
398	ISO6245	0.001		0.13	1347	D482	0.0021		0.75
399	ISO6245	<0.001		----	1348	D482	0.00038		-0.22
402	ISO6245	0.0012		0.24	1356	ISO6245	<0.005		----
403	ISO6245	0.0012		0.24	1385	D482	0.001		0.13
420	ISO6245	<0.001		----	1394		----		----
431		----		----	1395	ISO6245	0.005	R(0.01)	2.37
432		----		----	1397		----		----
433		----		----	1409	ISO6245	0.004	R(0.01)	1.81
440		----		----	1430	D482	0.0002		-0.32
445	IP4	<0.001		----	1459		----		----
446	ISO6245	<0.001		----	1488	ISO6245	0.0003		-0.26
447	IP4	<0.001		----	1490	ISO6245	0.0014		0.35
453	IP4	<0.001		----	1491		----		----
463	D482	0.0002		-0.32	1498		----		----
485		----		----	1510	ISO6245	0.001		0.13
541	D482	<0.001		----	1520	ISO6245	<0.001		----
575	D482	0.009	R(0.01)	4.61	1544	ISO6245	0.0007		-0.04
593	D482	0.0006	C	-0.09	1556	ISO6245	0.0001		-0.37
595		----		----	1557	ISO6245	0.0012		0.24
603	ISO6245	0.0009		0.07	1569	ISO6245	0.0000996		-0.37
607	D482	0.0014		0.35	1612	D482	0.0009		0.07
621	D482	0.0053	R(0.01)	2.54	1616	D482	0.0004		-0.21
631	D482	0.001		0.13	1631	ISO6245	<0.001		----
663	D482	<0.001		----	1654	ISO6245	0.00067		-0.05
671	D482	0.002		0.69	1677	D482	<0.001		----
704	ISO6245	0.0006		-0.09	1720		----		----
750		----		----	1724	ISO6245	<0.001		----
754		----		----	1730		----		----
781	ISO6245	0.0007		-0.04	1740	ISO6245	0.0015		0.41
784	ISO6245	0.00075		-0.01	1742		----		----
785		----		----	1746	D482	0.0009		0.07
863	ISO6245	<0.001		----	1751	ISO6245	0.000		-0.43
873	D482	0.0007		-0.04	1773	ISO6245	0.0004		-0.21
874	ISO6245	0.0007		-0.04	1776		----		----
875	D482	0.0008		0.02	1784	ISO6245	0.0018		0.58
904	D482	0.00075		-0.01	1807	ISO6245	0.0000		-0.43
912	ISO6245	0.0006		-0.09	1813	D482	<0.1		----
1832	ISO6245	0.0010		0.13	1950	ISO6245	0.0007		-0.04

1833	ISO6245	<0.001	----	1967	ISO6245	0.0004	-0.21
1834		----	----	1968	ISO6245	0.001	0.13
1849	ISO6245	0.0009	0.07	1971		----	----
1854	D482	0.002	0.69	1976		----	----
1857	ISO6245	0.0004	-0.21	1979		----	----
1861		----	----	1980	ISO6245	0.0013	0.30
1862	ISO6245	0.0007	-0.04	1984		----	----
1872		----	----	1985	D482	0.0010	0.13
1881	D482	0.0004	-0.21	2129	ISO6245	0.0004	-0.21
1911	ISO6245	<0.001	----	2146		----	----
1936		----	----	7006		----	----
1937		----	----	9057		----	----
1938		----	----				

normality OK
n 77
outliers 4
mean (n) 0.00077
st.dev. (n) 0.000537
R(calc.) 0.00150
R(ISO6245:01) 0.00500

Application range: 0.001 – 0.180%M/M

Lab 171: first reported 0.030
Lab 593: first reported 0.006
Lab 1081: first reported 0.1



Determination of Cetane Index, four variables on sample #15015

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D4737	54.40		----	966		----		----
132	ISO4264	54.1		----	970	D976	54.8	ex	----
140	ISO4264	54.8		----	971	D4737	54.8		----
150	ISO4264	53.9		----	974	D4737	54.8		----
159		----		----	998		----		----
171	D976	55.1	ex	----	1006	D976	55.1	ex	----
194		----		----	1016		----		----
212	ISO4264	55.12		----	1026	ISO4264	54.3		----
216	D4737	54.8		----	1033		----		----
225	D4737	54.29		----	1059	ISO4264	54.7		----
228		----		----	1080		----		----
237	D4737	54.2		----	1081	ISO4264	54.4		----
238		----		----	1082		----		----
240		----		----	1108	ISO4264	54.6		----
273	D4737	54.78		----	1109	D4737	54.9		----
312	ISO4264	54.8		----	1121	D4737	54.38	E	----
317	ISO4264	54.9		----	1126		----		----
323	ISO4264	54.8		----	1134	ISO4264	54.5		----
333		----		----	1146	ISO4264	54.9	E	----
334		----		----	1161	ISO4264	54.65		----
335		----		----	1167	ISO4264	54.0		----
337	ISO4264	55.2		----	1191		----		----
338	ISO4264	54.7		----	1194	D4737	53.0	R(0.01)	----
340	ISO4264	54.4		----	1199		----		----
342		----		----	1203	ISO4264	55.15		----
343	ISO4264	53.69		----	1205		----		----
349		----		----	1227	ISO4264	54.80		----
350		----		----	1229		----		----
351	ISO4264	54.46		----	1238		----		----
353	IP380	54.838		----	1266	ISO4264	54.6	E	----
356	ISO4264	54.10	E	----	1281	ISO4264	54.77		----
357	ISO4264	54.84		----	1297	D976	55.034	ex	----
360	ISO4264	55.0		----	1299	D4737	54.7		----
369	ISO4264	54.32		----	1300	ISO4264	54.5219		----
370	ISO4264	54.93		----	1316	D4737	53.6	E	----
371	ISO4264	54.7		----	1318	D4737	54.6		----
391		----		----	1345	ISO4264	54.1		----
398	ISO4264	55.1	E	----	1347	D4737	55.02		----
399	ISO4264	54.8		----	1348	D4737	53.66	C	----
402	ISO4264	54.7	E	----	1356	ISO4264	52	R(0.01)	----
403	ISO4264	54.8		----	1385	D4737	54.048		----
420	ISO4264	54.4		----	1394	ISO4264	54.89		----
431		----		----	1395	ISO4264	54.7		----
432		----		----	1397	ISO4264	54.7		----
433		----		----	1409	ISO4264	54.3		----
440	IP380	54.95823		----	1430	D4737	54.9		----
445	ISO4264	54.4		----	1459	ISO4264	54.8		----
446	IP380	54.7		----	1488	ISO4264	55.29	C	----
447	IP380	54.6		----	1490	ISO4264	53.7		----
453	IP380	54.8		----	1491	ISO4264	54.7		----
463	ISO4264	54.7		----	1498		----		----
485	ISO4264	54.9		----	1510	IP380	54.1		----
541	D4737	54.8		----	1520	ISO4264	54.49		----
575		----		----	1544	ISO4264	54.7		----
593	D976	55.1	ex	----	1556	ISO4264	54.6		----
595	D976	55.0	ex	----	1557	ISO4264	54.6		----
603		----		----	1569	ISO4264	54.7		----
607		----		----	1612	D976	54.09	ex	----
621	D4737	54.4		----	1616	D4737	54.5		----
631	D4737	54.8		----	1631	ISO4264	54.8	E	----
663	D4737	54.8		----	1654	ISO4264	54.83		----
671		----		----	1677	D4737	55.1		----
704	ISO4264	54.0		----	1720		----		----
750	D976	55.2	ex	----	1724	ISO4264	54.5		----
754	ISO4264	55.06		----	1730		----		----
781	ISO4264	54.7		----	1740	ISO4264	54.8		----
784		----		----	1742		----		----
785	ISO4264	54.8		----	1746	D976	55	ex	----
863	ISO4264	54.9		----	1751	ISO4264	54.69		----
873	ISO4264	54.4		----	1773	ISO4264	54.5413		----
874	ISO4264	54.9		----	1776	ISO4264	54.1		----
875	ISO4264	54.9		----	1784	D4737	54.7		----
904	D4737	55.1	E	----	1807	ISO4264	54.5		----
912	ISO4264	54.67		----	1813	D4737	54.74		----
1832		----		----	1950	ISO4264	54.5		----

1833	ISO4264	54.6	E	----	1967	ISO4264	54.3	----
1834		----		----	1968		----	W
1849	ISO4264	54.23		----	1971		----	----
1854	D4737	54.8		----	1976	D4737	54.7	----
1857	D4737	54.8		----	1979		----	----
1861		----		----	1980	ISO4264	54.38	----
1862	ISO4264	54.7		----	1984	ISO4264	54.76	----
1872		----		----	1985	D4737	54.877	----
1881		----		----	2129	ISO4264	55.1	----
1911	ISO4264	54.65		----	2146		----	----
1936	ISO4264	54.6		----	7006		----	----
1937	ISO4264	54.4		----	9057		----	----
1938	ISO4264	54.1		----				

normality OK
 n 117
 outliers 2 (+9 excl)
 mean (n) 54.616
 st.dev. (n) 0.3353
 R(calc.) 0.939
 R(lit) unknown

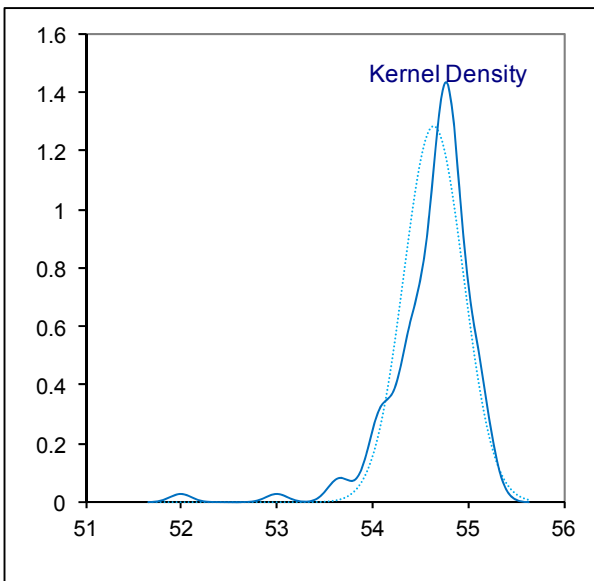
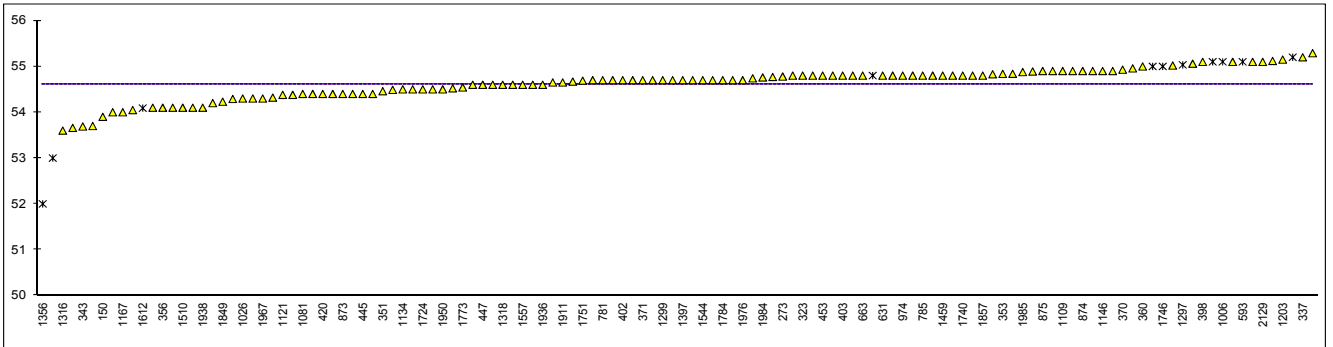
Compare R(iis14G01EN) = 0.788

Recalculated values (= E)					
356	ISO4264	55.00	1146	ISO4264	54.47
398	ISO4264	54.67	1266	ISO4264	54.90
402	ISO4264	53.51	1316	D4737	54.49
904	D4737	54.84	1631	ISO4264	54.50
1121	D4737	53.53	1833	ISO4264	54.22

ex = reported test result is excluded as the test method is not equivalent (different calculation)

Lab 1488: first reported 55.6

Lab 1968: result withdrawn, reported 52.3



Determination of Cloud Point on sample #15015; result in °C

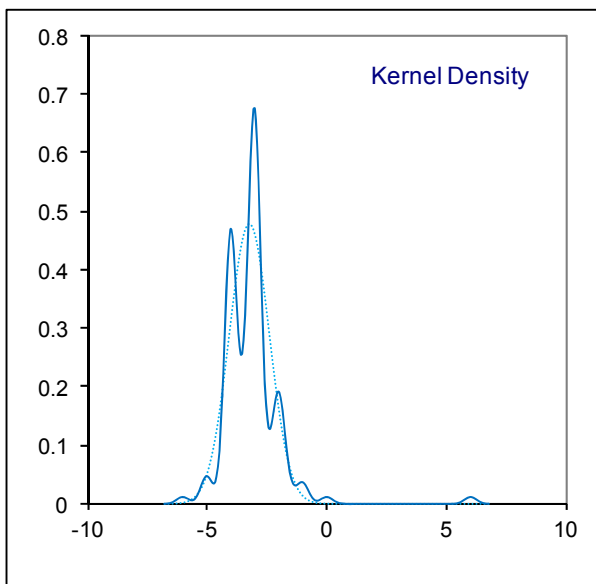
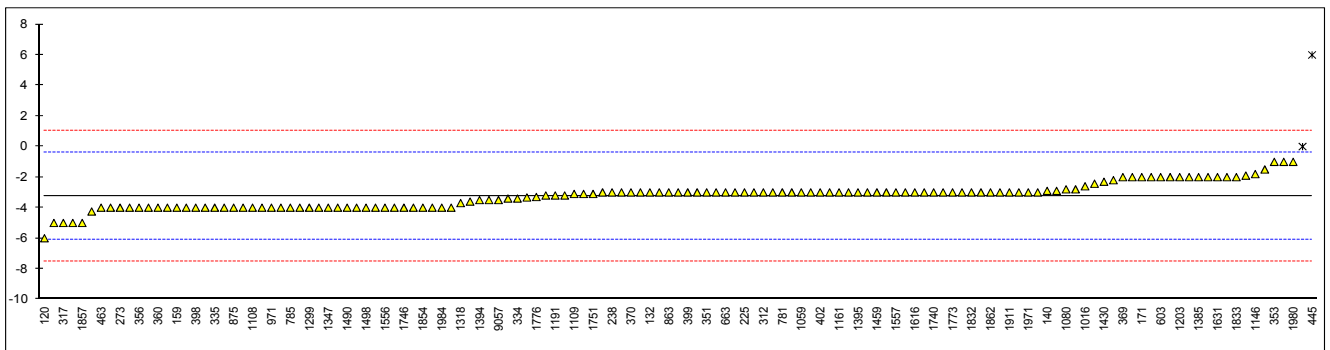
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D2500	-5		-1.24	963		----		----
120	EN23015	-6		-1.94	966		----		----
132	D2500	-3		0.16	970		----		----
140	EN23015	-2.9		0.23	971	D2500	-4		-0.54
150	EN23015	-4		-0.54	974	D2500	-3		0.16
159	EN23015	-4.0		-0.54	998	D2500	-2.0		0.86
171	D2500	-2		0.86	1006		----		----
194		----		----	1016	ISO3015	-2.6		0.44
212	ISO3015	-3		0.16	1026	ISO3015	-3		0.16
216		----		----	1033		----		----
225	D2500	-3		0.16	1059	ISO3015	-3		0.16
228		----		----	1080	D2500	-2.8		0.30
237	D2500	-3		0.16	1081	D5772	-3.2		0.02
238	D2500	-3		0.16	1082	D5771	-2.8		0.30
240		----		----	1108	D5771	-4.0		-0.54
273	D2500	-4		-0.54	1109	D5773	-3.1		0.09
312	EN23015	-3		0.16	1121	IP219	-2.0		0.86
317	D5771	-5		-1.24	1126		----		----
323	EN23015	-4		-0.54	1134	IP219	-4		-0.54
333	EN23015	-3		0.16	1146	D2500	-1.8		1.00
334	EN23015	-3.4		-0.12	1161	EN23015	-3		0.16
335	EN23015	-4		-0.54	1167		----		----
337	EN23015	-1.9		0.93	1191	D5773	-3.2		0.02
338	EN23015	-3.4		-0.12	1194		----		----
340	EN23015	-1.5		1.21	1199		----		----
342		----		----	1203	EN23015	-2		0.86
343	EN23015	-3		0.16	1205		----		----
349		----		----	1227	D2500	-3.6		-0.26
350		----		----	1229	EN23015	-2.43		0.55
351	D7683	-3		0.16	1238		----		----
353	IP219	-1		1.56	1266	EN23015	-2.2		0.72
356	EN23015	-4		-0.54	1281		----		----
357	D5771	-4		-0.54	1297	D5771	-3.2		0.02
360	EN23015	-4		-0.54	1299	D2500	-4		-0.54
369	EN23015	-2		0.86	1300	EN23015	-4.25		-0.72
370	EN23015	-3		0.16	1316	D2500	-3.0		0.16
371	EN23015	-4		-0.54	1318	D7689	-3.7		-0.33
391	EN23015	-4		-0.54	1345	D2500	-4		-0.54
398	EN23015	-4		-0.54	1347	D2500	-4		-0.54
399	EN23015	-3		0.16	1348	D2500	-4		-0.54
402	EN23015	-3		0.16	1356	ISO3015	-2		0.86
403	EN23015	-4		-0.54	1385	D2500	-2		0.86
420	EN23015	-3		0.16	1394	EN23015	-3.5		-0.19
431		----		----	1395	EN23015	-3		0.16
432		----		----	1397	D5771	-5		-1.24
433		----		----	1409	EN23015	-3		0.16
440	IP219	-3		0.16	1430	D5771	-2.3		0.65
445	IP219	6	R(0.01)	6.46	1459	ISO3015	-3		0.16
446		----		----	1488	EN23015	-3.5		-0.19
447	D2500	-2		0.86	1490	EN23015	-4.0		-0.54
453	D5773	-2.9		0.23	1491	D2500	-4		-0.54
463	EN23015	-4		-0.54	1498	D2500	-4		-0.54
485		----		----	1510	EN23015	-2		0.86
541	D5771	-3.0		0.16	1520	EN23015	-3		0.16
575		----		----	1544	EN23015	-4		-0.54
593		----		----	1556	ISO3015	-4		-0.54
595		----		----	1557	ISO3015	-3		0.16
603	D2500	-2		0.86	1569	EN23015	-4.0		-0.54
607		----		----	1612	D2500	-3		0.16
621	D2500	-1.0		1.56	1616	D2500	-3		0.16
631	D2500	0	R(0.05)	2.26	1631	EN23015	-2		0.86
663	D2500	-3		0.16	1654		----		----
671	D2500	-4		-0.54	1677	EN23015	-3		0.16
704	ISO3015	-3		0.16	1720	D2500	-3.1		0.09
750	D2500	-4		-0.54	1724		----		----
754		----		----	1730		----		----
781	EN23015	-3		0.16	1740	ISO3015	-3		0.16
784	EN23015	-4		-0.54	1742	EN23015	-3		0.16
785	D2500	-4		-0.54	1746	D2500	-4		-0.54
863	D2500	-3		0.16	1751	EN23015	-3.1		0.09
873	D2500	-3		0.16	1773	EN23015	-3.0		0.16
874	EN23015	-3		0.16	1776	EN23015	-3.3	C	-0.05
875	D2500	-4		-0.54	1784	D2500	-4		-0.54
904	D2500	-4		-0.54	1807	EN23015	-2		0.86
912	D2500	-3.0		0.16	1813	D5773	-3.0		0.16
1832	EN23015	-3		0.16	1950	EN23015	-3		0.16

1833	D2500	-2	0.86	1967	D2500	-4		-0.54
1834	EN23015	-3	0.16	1968		----	W	----
1849		----	----	1971	ISO3015	-3.0		0.16
1854	D2500	-4	-0.54	1976		----		----
1857	D2500	-5	-1.24	1979	D5771	-3.00		0.16
1861		----	----	1980	EN23015	-1.0		1.56
1862	EN23015	-3	0.16	1984	EN23015	-4		-0.54
1872		----	----	1985	D5771	-3.33		-0.08
1881	EN23015	-3	0.16	2129	D5772	-4		-0.54
1911	EN23015	-3.0	0.16	2146		----		----
1936		----	----	7006		----		----
1937		----	----	9057	in house	-3.5		-0.19
1938		----	----					

normality OK
 n 133
 outliers 2
 mean (n) -3.22
 st.dev. (n) 0.834
 R(calc.) 2.34
 R(EN23015:94) 4.00

Lab 1776: first reported -14

Lab 1968: result withdrawn, reported 1



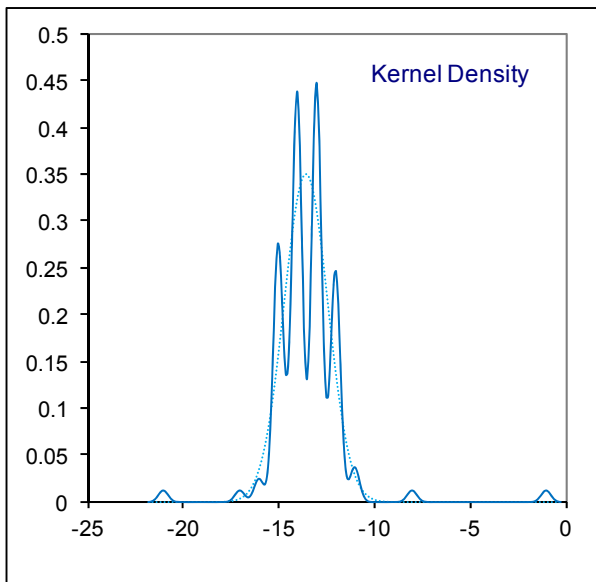
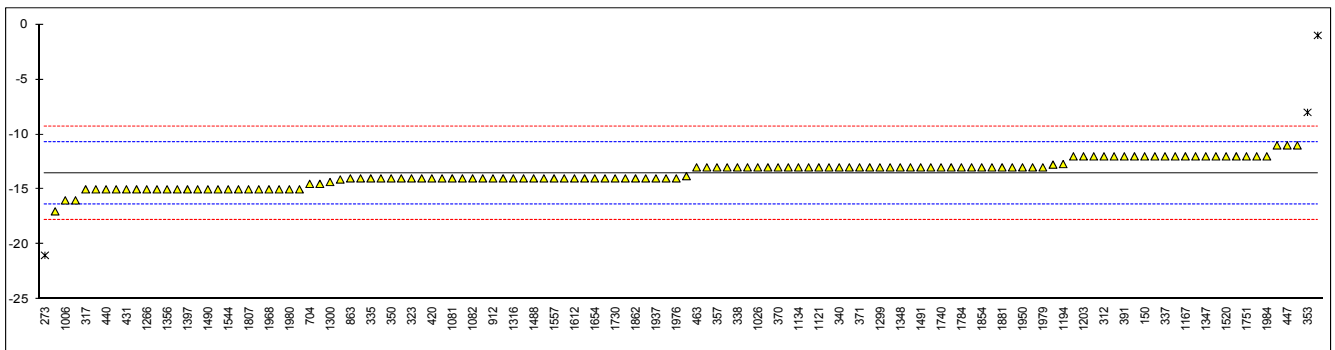
Determination of Cold Filter Plugging Point on sample #15015; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	EN116	-11		1.79	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150	EN116	-12		1.09	974	IP309	-15		-1.03
159		----		----	998	D6371	-12.0		1.09
171		----		----	1006	D6371	-16		-1.73
194		----		----	1016	EN116	-17		-2.44
212		----		----	1026	EN116	-13		0.38
216		----		----	1033		----		----
225		----		----	1059	EN116	-14		-0.32
228		----		----	1080	D6371	-13.8		-0.18
237	D6371	-12.0		1.09	1081	EN116	-14		-0.32
238		----		----	1082	EN116	-14		-0.32
240		----		----	1108	EN116	-14.0		-0.32
273	IP309	-21	C,R(0.01)	-5.26	1109	IP309	-14.1		-0.39
312	EN116	-12		1.09	1121	IP309	-13.0		0.38
317	EN116	-15		-1.03	1126		----		----
323	EN116	-14		-0.32	1134	EN116	-13		0.38
333	EN116	-13		0.38	1146		----		----
334	EN116	-13		0.38	1161	EN116	-12		1.09
335	EN116	-14		-0.32	1167	EN116	-12		1.09
337	EN116	-12		1.09	1191	EN116	-15		-1.03
338	EN116	-13		0.38	1194	EN116	-12.7		0.59
340	EN116	-13		0.38	1199		----		----
342		----		----	1203	EN116	-12		1.09
343	EN116	-14		-0.32	1205		----		----
349		----		----	1227	EN116	-1	R(0.01)	8.85
350	EN116	-14.0		-0.32	1229	EN116	-12		1.09
351		----		----	1238		----		----
353	IP309	-8	R(0.01)	3.91	1266	EN116	-15.0		-1.03
356	EN116	-13		0.38	1281	EN116	-14.5		-0.68
357	EN116	-13		0.38	1297	D6371	-15		-1.03
360	EN116	-13		0.38	1299	IP309	-13		0.38
369	EN116	-14		-0.32	1300	EN116	-14.33		-0.56
370	EN116	-13		0.38	1316	EN116	-14.0		-0.32
371	EN116	-13		0.38	1318	D6371	-13		0.38
391	EN116	-12		1.09	1345		----		----
398	EN116	-13		0.38	1347	IP309	-12		1.09
399		----		----	1348	IP309	-13		0.38
402	EN116	-14		-0.32	1356	EN116	-15		-1.03
403	EN116	-14		-0.32	1385	IP309	-12		1.09
420	EN116	-14		-0.32	1394		-15.0		-1.03
431	EN116	-15		-1.03	1395	EN116	-14		-0.32
432		----		----	1397	EN116	-15		-1.03
433		----		----	1409	EN116	-15		-1.03
440	IP309	-15		-1.03	1430	EN116	-11		1.79
445	IP309	-12		1.09	1459	EN116	-13		0.38
446		----		----	1488	EN116	-14.0		-0.32
447	IP309	-11		1.79	1490	EN116	-15.0		-1.03
453	IP309	-14		-0.32	1491	EN116	-13		0.38
463	EN116	-13		0.38	1498	D6371	-14		-0.32
485		----		----	1510	EN116	-15		-1.03
541	D6371	-14		-0.32	1520	EN116	-12		1.09
575		----		----	1544	EN116	-15		-1.03
593		----		----	1556	EN116	-13		0.38
595		----		----	1557	EN116	-14		-0.32
603		----		----	1569	EN116	-14.0		-0.32
607		----		----	1612	D6371	-14		-0.32
621		----		----	1616	D6371	-12		1.09
631		----		----	1631	EN116	-14		-0.32
663		----		----	1654	EN116	-14.0		-0.32
671		----		----	1677	EN116	-14		-0.32
704	EN116	-14.5		-0.68	1720		----		----
750	IP309	-15		-1.03	1724	EN116	-15		-1.03
754		----		----	1730	EN116	-14.0		-0.32
781	EN116	-12		1.09	1740	IP309	-13		0.38
784		----		----	1742	EN116	-16		-1.73
785	EN116	-13		0.38	1746		----		----
863	IP309	-14		-0.32	1751	EN116	-12		1.09
873	EN116	-13		0.38	1773	EN116	-13.00		0.38
874	EN116	-12		1.09	1776	EN116	-14	C	-0.32
875	EN116	-13		0.38	1784	EN116	-13		0.38
904	EN116	-13		0.38	1807	EN116	-15		-1.03
912	D6371	-14.0		-0.32	1813		----		----
1832		----		----	1950	EN116	-13		0.38

1833	EN116	-12	1.09	1967	EN116	-13	0.38
1834	EN116	-13	0.38	1968	EN116	-15	-1.03
1849	EN116	-15	-1.03	1971	EN116	-15.0	-1.03
1854	EN116	-13	0.38	1976	EN116	-14	-0.32
1857	EN116	-13	0.38	1979	EN116	-13.0	0.38
1861		----	----	1980	EN116	-15.0	-1.03
1862	EN116	-14	-0.32	1984	EN116	-12	1.09
1872		----	----	1985	EN116	-12.75	0.56
1881	EN116	-13	0.38	2129	EN116	-15	-1.03
1911	EN116	-14.0	-0.32	2146		----	----
1936	EN116	-13	0.38	7006		----	----
1937	EN116	-14	-0.32	9057		----	----
1938	EN116	-14	-0.32				

normality OK
n 123
outliers 3
mean (n) -13.54
st.dev. (n) 1.142
R(calc.) 3.20
R(EN116:97) 3.97

Lab 273: first reported -9
Lab 1776: first reported -30



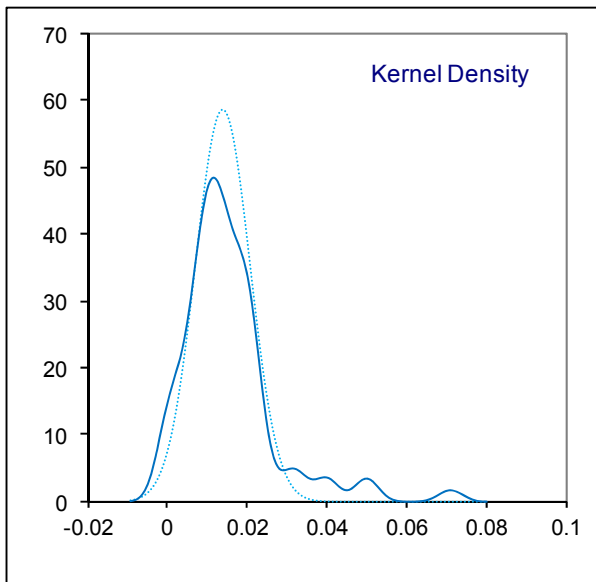
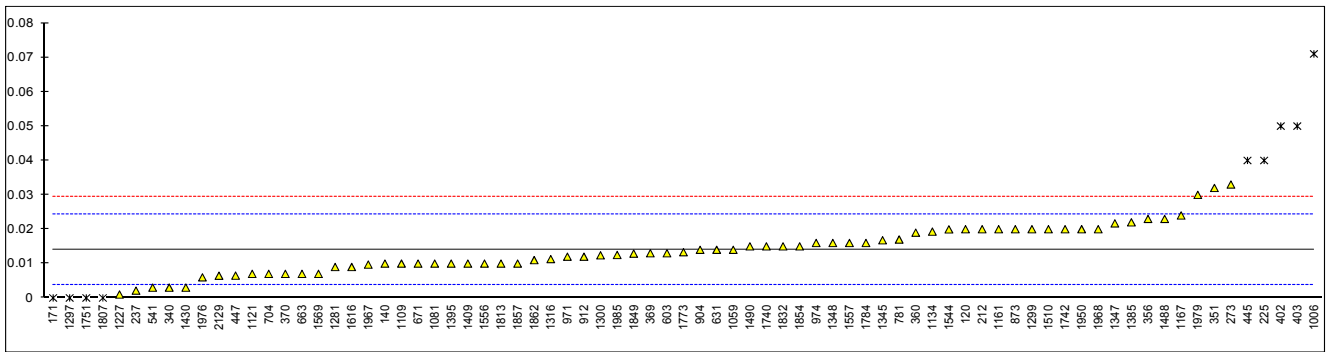
Determination of Carbon Residue on 10% residue on sample #15015; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	ISO10370	0.02		1.17	966		----		----
132	ISO10370	<0.10		----	970		----		----
140	ISO10370	0.01		-0.79	971	D4530	0.012		-0.40
150	ISO10370	<0.10		----	974	D189	0.016		0.39
159	ISO10370	<0.1	C	----	998		----		----
171	D4530	0.0	ex	-2.76	1006	D524	0.071	ex	11.19
194		----		----	1016	ISO10370	<0.01		----
212	ISO10370	0.020		1.17	1026	ISO10370	<0.01		----
216		----		----	1033		----		----
225	D4530	0.04	R(0.05)	5.10	1059	ISO10370	0.014		-0.01
228		----		----	1080		----		----
237	D189	0.002136		-2.34	1081	ISO10370	0.01		-0.79
238		----		----	1082		----		----
240		----		----	1108		----		----
273	D4530	0.033		3.73	1109	D4530	0.010		-0.79
312		----		----	1121	IP398	0.007		-1.38
317	ISO10370	<0.10		----	1126		----		----
323	ISO10370	<0.10		----	1134	IP13	0.0193		1.04
333		----		----	1146		----		----
334		----		----	1161	ISO10370	0.02		1.17
335		----		----	1167	ISO10370	0.024		1.96
337		----		----	1191		----		----
338		----		----	1194		----		----
340	ISO10370	0.003		-2.17	1199		----		----
342		----		----	1203	ISO10370	<0.01		----
343	ISO10370	<0.1		----	1205		----		----
349		----		----	1227	D4530	0.001		-2.56
350		----		----	1229		----		----
351	ISO10370	0.032		3.53	1238		----		----
353		----		----	1266		----		----
356	ISO10370	0.023		1.76	1281	ISO10370	0.009		-0.99
357		----		----	1297	D4530	0.000	ex	-2.76
360	ISO10370	0.019		0.98	1299	D4530	0.02		1.17
369	ISO10370	0.013		-0.20	1300	ISO10370	0.0124		-0.32
370	ISO10370	0.007		-1.38	1316	ISO10370	0.0113		-0.54
371		----		----	1318		----		----
391		----		----	1345	D189	0.01679		0.54
398		----		----	1347	D4530	0.0217		1.51
399	ISO10370	<0.01		----	1348	D4530	0.016		0.39
402	ISO10370	0.05	R(0.01)	7.06	1356	ISO10370	<0.01		----
403	ISO10370	0.05	R(0.01)	7.06	1385	D4530	0.022		1.57
420		----		----	1394		----		----
431		----		----	1395	ISO10370	0.01		-0.79
432		----		----	1397		----		----
433		----		----	1409	ISO10370	0.01		-0.79
440		----		----	1430	D189	0.003		-2.17
445	IP398	0.04	R(0.05)	5.10	1459		----		----
446		----		----	1488	D189	0.023		1.76
447	IP398	0.0065		-1.48	1490	ISO10370	0.015		0.19
453	IP398	<0.10		----	1491		----		----
463	ISO10370	<0.10		----	1498		----		----
485		----		----	1510	ISO10370	0.02		1.17
541	D189	0.003		-2.17	1520	ISO10370	<0.01		----
575		----		----	1544	ISO10370	0.01995		1.16
593		----		----	1556	ISO10370	0.01		-0.79
595		----		----	1557	ISO10370	0.016		0.39
603	ISO10370	0.013		-0.20	1569	ISO10370	0.007		-1.38
607		----		----	1612		----		----
621		----		----	1616	D4530	0.009		-0.99
631	D4530	0.014		-0.01	1631	ISO10370	<0.1		----
663	D4530	0.007		-1.38	1654		----		----
671	D4530	0.01		-0.79	1677	D4530	<0.10		----
704	ISO10370	0.007		-1.38	1720		----		----
750		----		----	1724	ISO10370	<0.1		----
754		----		----	1730		----		----
781	ISO10370	0.017		0.58	1740	ISO10370	0.015		0.19
784		----		----	1742	ISO10370	0.02		1.17
785		----		----	1746		----		----
863	ISO10370	<0.1		----	1751	ISO10370	0.00	ex	-2.76
873	ISO10370	0.02		1.17	1773	D189	0.0133		-0.14
874	ISO10370	<0.10		----	1776		----		----
875		----		----	1784	ISO10370	0.016		0.39
904	D4530	0.014		-0.01	1807	ISO10370	0.0	ex	-2.76
912	ISO10370	0.012		-0.40	1813	D4530	0.01		-0.79
1832	ISO6615	0.0150		0.19	1950	ISO10370	0.02		1.17

1833	ISO10370	<0.1	----	1967	D4530	0.0097	-0.85
1834			----	1968	ISO6615	0.02	1.17
1849	ISO10370	0.0129	-0.22	1971		----	----
1854	ISO10370	0.015	0.19	1976	ISO10370	0.006	-1.58
1857	ISO10370	0.01	-0.79	1979	D4530	0.03	3.14
1861			----	1980		----	----
1862	ISO10370	0.011	-0.59	1984		----	----
1872			----	1985	D4530	0.0125	-0.30
1881			----	2129	ISO10370	0.00647	-1.48
1911	ISO10370	<0.10	----	2146		----	----
1936			----	7006		----	----
1937			----	9057		----	----
1938			----				

normality OK
 n 68
 outliers 4 (+ 5 excl)
 mean (n) 0.01403
 st.dev. (n) 0.006819
 R(calc.) 0.01909
 R(ISO10370:93) 0.01426

Test result of lab 1006 was excluded, as reported Ramsbottom test result may be biased from Conradson result.
 Test results of lab 171, 1297, 1751 and 1807 were excluded, as zero is not a real result.
 Lab 159: first reported 0.047



Determination of Copper Corrosion (3 hrs at 50°C) on sample #15015;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D130	1A		----	963		----		----
120	ISO2160	1		----	966		----		----
132	D130	1A		----	970	D130	1A		----
140	ISO2160	1A		----	971	D130	1A		----
150	ISO2160	1A		----	974	D130	1A		----
159	ISO2160	1A		----	998	D130	1A		----
171	D130	1B		----	1006	D130	1A		----
194		----		----	1016	ISO2160	1A		----
212	D130	1A		----	1026	ISO2160	1A		----
216		----		----	1033		----		----
225	D130	1A		----	1059	ISO2160	1A		----
228		----		----	1080		----		----
237	D130	1A		----	1081	D130	1A		----
238	D130	1A		----	1082		----		----
240		----		----	1108	ISO2160	1		----
273	D130	1A		----	1109	D130	1A		----
312		----		----	1121	IP154	1A		----
317		----		----	1126		----		----
323	ISO2160	1A		----	1134	ISO2160	1A		----
333		----		----	1146		----		----
334		----		----	1161	ISO2160	1		----
335		----		----	1167	ISO2160	1A		----
337		----		----	1191		----		----
338		----		----	1194		----		----
340	ISO2160	1A		----	1199		----		----
342		----		----	1203	ISO2160	1		----
343	ISO2160	1A		----	1205		----		----
349		----		----	1227	D130	1A		----
350		----		----	1229		----		----
351	ISO2160	1A		----	1238		----		----
353	IP154	1A		----	1266	ISO2160	1		----
356	ISO2160	1A		----	1281	ISO2160	1		----
357	ISO2160	1A		----	1297	D130	1A		----
360	ISO2160	1A		----	1299	D130	1A		----
369	ISO2160	1A		----	1300	ISO2160	1A		----
370	ISO2160	1A		----	1316	D130	1A		----
371	ISO2160	1A		----	1318	D130	1A		----
391	ISO2160	1A		----	1345	D130	1A		----
398	ISO2160	1A		----	1347	D130	1A		----
399	D130	1A		----	1348	D130	1A		----
402		----		----	1356		----		----
403		----		----	1385	D130	1A		----
420	ISO2160	1		----	1394		----		----
431		----		----	1395	ISO2160	1A		----
432		----		----	1397	ISO2160	1		----
433		----		----	1409	D130	1A		----
440	IP154	1A		----	1430	D130	1A		----
445	IP154	1A		----	1459		----		----
446		----		----	1488	ISO2160	1A		----
447	D130	1A		----	1490	ISO2160	1A		----
453	IP154	1A		----	1491	ISO2160	1A		----
463	ISO2160	1A		----	1498		----		----
485		----		----	1510	ISO2160	1A		----
541	D130	1A		----	1520	ISO2160	1A		----
575	D130	1A		----	1544	ISO2160	1A		----
593		----		----	1556	ISO2160	1		----
595		----		----	1557	ISO2160	1A		----
603	ISO2160	1A		----	1569	ISO2160	1A		----
607		----		----	1612		----		----
621	D130	1A		----	1616	D130	1A		----
631	D130	1A		----	1631	ISO2160	1A		----
663	D130	1A		----	1654	ISO2160	1A		----
671	D130	1A		----	1677	D130	1A		----
704	ISO2160	1A		----	1720		----		----
750	D130	1A		----	1724	ISO2160	1A		----
754	ISO2160	1A		----	1730		----		----
781	ISO2160	1A		----	1740	ISO2160	1A		----
784		----		----	1742		----		----
785	D130	1A		----	1746	D130	1A		----
863	D130	1A		----	1751	ISO2160	1A		----
873	D130	1A		----	1773		----		----
874	ISO2160	1A		----	1776		----		----
875	D130	1A		----	1784		1A		----
904	D130	1A		----	1807	ISO2160	1A		----
912	D130	1A		----	1813	D130	1A		----
1832	ISO2160	1A		----	1950	ISO2160	1A		----

1833	ISO2160	1A	-----	1967	ISO2160	1A	-----
1834		-----	-----	1968	ISO2160	1A	-----
1849	ISO2160	1A	-----	1971		-----	-----
1854	D130	1A	-----	1976		-----	-----
1857	ISO2160	1A	-----	1979	ISO2160	1A	-----
1861		-----	-----	1980	ISO2160	1A	-----
1862	ISO2160	1A	-----	1984		-----	-----
1872	ISO2160	1	-----	1985	D130	1A	-----
1881	D130	1A	-----	2129	ISO2160	1A	-----
1911	ISO2160	1A	-----	2146		-----	-----
1936		-----	-----	7006		-----	-----
1937		-----	-----	9057		-----	-----
1938		-----	-----				
	normality	n.a.					
	n	118					
	outliers	0					
	mean (n)	1 (1A)					
	st.dev. (n)	n.a.					
	R(calc.)	n.a.					
	R(ISO2160)	n.a.					

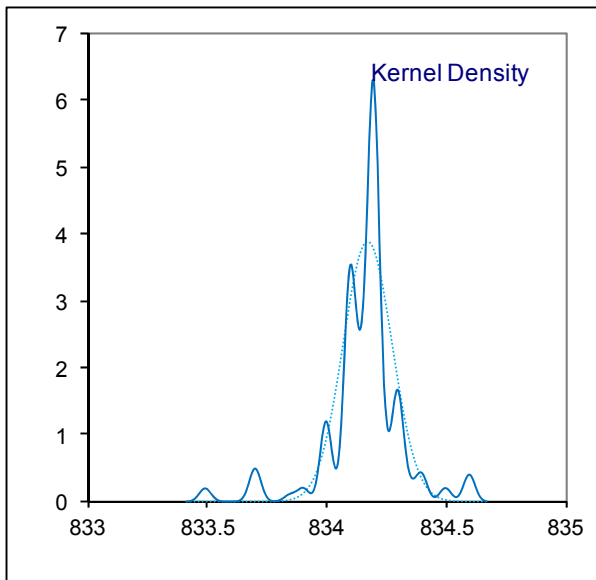
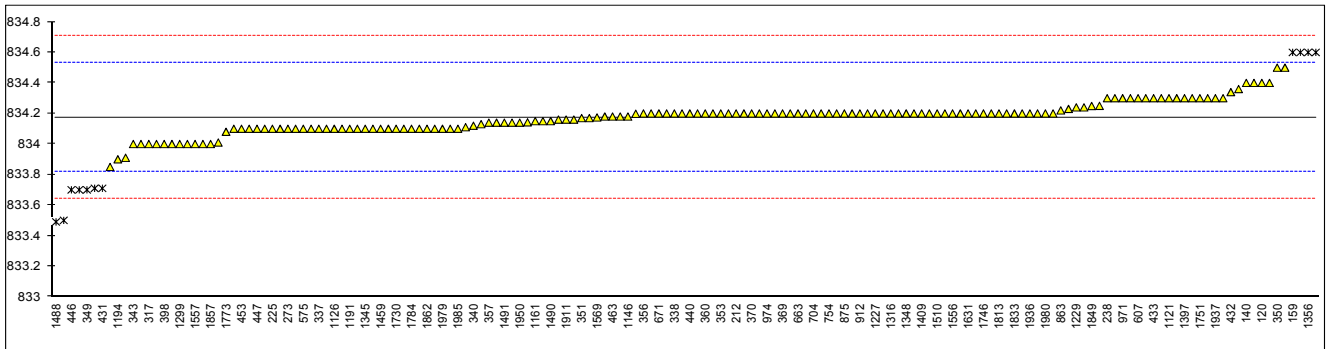
Determination of Density at 15 °C on sample #15015; result in kg/m³

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D4052	834.2		0.14	963		----		----
120	ISO12185	834.4		1.26	966		----		----
132	D4052	834.16		-0.08	970	D4052	834.2		0.14
140	ISO12185	834.4		1.26	971	ISO12185	834.3		0.70
150	ISO12185	834.3		0.70	974	D1298	834.2		0.14
159	ISO12185	834.6	R(0.01)	2.38	998	D4052	834.2		0.14
171	D4052	834.1		-0.42	1006	D4052	834.2		0.14
194		----		----	1016		----		----
212	ISO12185	834.2		0.14	1026	D4052	834.1		-0.42
216	D1298	833.5	R(0.01)	-3.78	1033		----		----
225	D4052	834.1		-0.42	1059	ISO12185	834.2		0.14
228		----		----	1080	ISO12185	834.2		0.14
237	D4052	834.2		0.14	1081	ISO12185	834.3		0.70
238	D4052	834.3		0.70	1082	ISO12185	834.1		-0.42
240		----		----	1108	ISO12185	834.18		0.03
273	D4052	834.1		-0.42	1109	D4052	833.85		-1.82
312	ISO12185	834.1		-0.42	1121	IP365	834.3		0.70
317	ISO12185	834.0		-0.98	1126	ISO12185	834.1		-0.42
323	ISO12185	834.0		-0.98	1134	ISO12185	834.1	C	-0.42
333	ISO12185	834.4		1.26	1146	D4052	834.18		0.03
334	ISO12185	834.13		-0.25	1161	ISO12185	834.15		-0.14
335		----		----	1167	ISO12185	834.3		0.70
337	ISO12185	834.1		-0.42	1191	ISO12185	834.1		-0.42
338	ISO12185	834.2		0.14	1194	ISO12185	833.9		-1.54
340	ISO12185	834.12		-0.31	1199		----		----
342		----		----	1203	ISO12185	834.1		-0.42
343	ISO12185	834.0		-0.98	1205	ISO12185	834.23		0.31
349	D4052	833.7	R(0.01)	-2.66	1227	D4052	834.2		0.14
350	ISO3675	834.5		1.82	1229	ISO12185	834.24		0.37
351	ISO12185	834.17		-0.03	1238	ISO12185	834.142		-0.18
353	IP365	834.2		0.14	1266	ISO3675	834.6	C,R(0.01)	2.38
356	ISO12185	834.2		0.14	1281	ISO12185	833.91		-1.48
357	ISO12185	834.14		-0.19	1297	D4052	834.17		-0.03
360	ISO12185	834.2		0.14	1299	D4052	834.0		-0.98
369	ISO12185	834.2		0.14	1300	ISO12185	834.2		0.14
370	ISO12185	834.2		0.14	1316	D4052	834.2		0.14
371	ISO12185	834.1		-0.42	1318	D4052	834.15		-0.14
391	ISO12185	834.0		-0.98	1345	D4052	834.1		-0.42
398	ISO12185	834.0		-0.98	1347	D4052	834.20		0.14
399	D1298	834.0		-0.98	1348	D4052	834.2		0.14
402	ISO3675	834.2		0.14	1356	ISO12185	834.6	R(0.01)	2.38
403	ISO12185	834.18		0.03	1385	D4052	834.2		0.14
420	ISO12185	834.2		0.14	1394	ISO12185	834.0		-0.98
431	ISO12185	833.71	R(0.01)	-2.60	1395	ISO12185	834.1		-0.42
432	ISO12185	834.34		0.93	1397	ISO12185	834.3		0.70
433	ISO12185	834.3	C	0.70	1409	ISO12185	834.2		0.14
440	D4052	834.2		0.14	1430	D4052	834.2		0.14
445	IP365	834.2		0.14	1459	ISO12185	834.1		-0.42
446	ISO12185	833.7	R(0.01)	-2.66	1488	ISO3675	833.49	C,R(0.01)	-3.83
447	D4052	834.1		-0.42	1490	ISO12185	834.15		-0.14
453	IP365	834.1		-0.42	1491	ISO12185	834.14		-0.19
463	ISO12185	834.18		0.03	1498	D1298	834.6	R(0.01)	2.38
485	ISO12185	834.14		-0.19	1510	ISO12185	834.2		0.14
541	D4052	834.1		-0.42	1520	ISO12185	834.20		0.14
575	D7042	834.1		-0.42	1544	ISO12185	834.5		1.82
593	D1298	833.7	C,R(0.01)	-2.66	1556	ISO12185	834.2		0.14
595	D1298	833.71	R(0.01)	-2.60	1557	ISO12185	834.0		-0.98
603	ISO12185	834.2		0.14	1569	ISO12185	834.174		0.00
607	D1298	834.3		0.70	1612	D1298	834.2		0.14
621	D4052	834.2		0.14	1616	D4052	834.14		-0.19
631	D4052	834.4		1.26	1631	ISO12185	834.2		0.14
663	D4052	834.2	C	0.14	1654	ISO12185	834.198		0.13
671	D4052	834.2		0.14	1677	D4052	834.1		-0.42
704	ISO12185	834.20		0.14	1720	D4052	834.3		0.70
750	D1298	834.3		0.70	1724	ISO12185	834.2		0.14
754	ISO12185	834.2		0.14	1730	ISO12185	834.1		-0.42
781	ISO12185	834.2		0.14	1740	ISO12185	834.1		-0.42
784	ISO12185	834.11		-0.36	1742	ISO12185	834.0		-0.98
785	D4052	834.2		0.14	1746	D4052	834.2		0.14
863	ISO12185	834.22		0.25	1751	ISO12185	834.3		0.70
873	ISO12185	834.2		0.14	1773	ISO3675	834.08		-0.53
874	ISO12185	834.1		-0.42	1776	ISO12185	834.2		0.14
875	D4052	834.2		0.14	1784	D4052	834.1		-0.42
904	D4052	834.3		0.70	1807	ISO12185	834.3		0.70
912	D4052	834.2		0.14	1813	D4052	834.2		0.14
1832	ISO12185	834.2		0.14	1950	ISO12185	834.14		-0.19

1833	ISO12185	834.2	0.14	1967	D1298	834.3		0.70
1834	ISO12185	834.25	0.42	1968		----	W	----
1849	ISO12185	834.249	0.42	1971	ISO12185	834.24		0.37
1854	D4052	834.1	-0.42	1976	ISO12185	834.1		-0.42
1857	ISO12185	834.0	-0.98	1979	ISO12185	834.1		-0.42
1861		----	----	1980	ISO12185	834.20		0.14
1862	ISO12185	834.1	-0.42	1984	ISO12185	834.1		-0.42
1872	ISO12185	834.01	-0.92	1985	D4052	834.1		-0.42
1881	ISO12185	834.2	0.14	2129	D4052	834.2		0.14
1911	ISO12185	834.16	-0.08	2146	ISO12185	834.16		-0.08
1936	ISO12185	834.2	0.14	7006		----		----
1937	ISO12185	834.3	0.70	9057	D4052	834.36		1.04
1938	ISO12185	834.2	0.14					

normality suspect
n 153
outliers 11
mean (n) 834.17
st.dev. (n) 0.102
R(calc.) 0.29
R(ISO12185:96) 0.50

- Lab 433: first reported 833.4
- Lab 593: first reported 833.473
- Lab 663: first reported 0.8349
- Lab 1134: reported in deviating unit (kg/l instead of kg/m3)
- Lab 1266: first reported 835.2
- Lab 1488: first reported 832.79
- Lab 1968: result withdrawn, reported 833.5



Determination of Distillation (automated) on sample #15015; result in °C

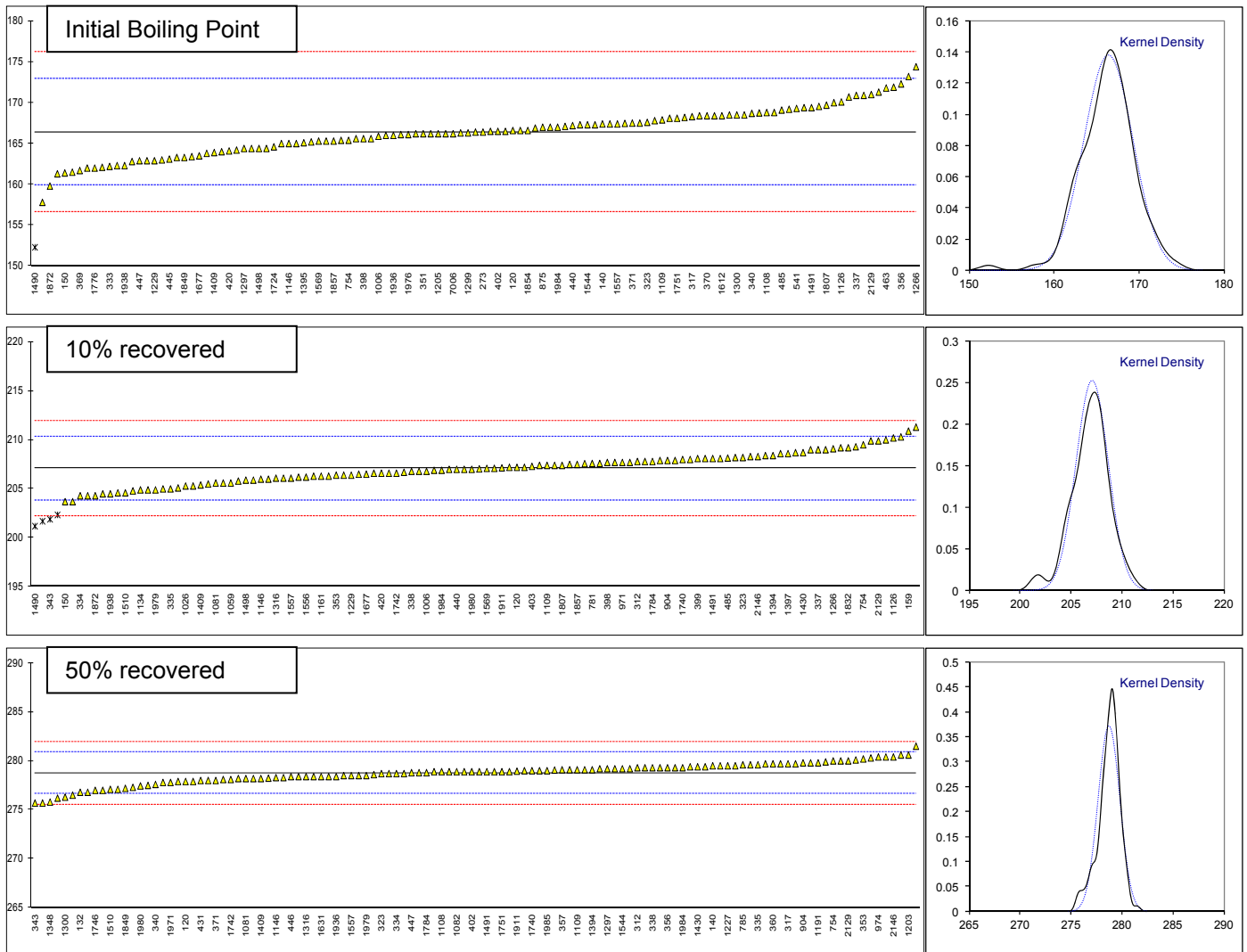
lab	method	IBP	10% ec	50% rec	90% rec	95% rec	FBP	Vol 250°C	Vol 350°C
90		----	----	----	----	----	----	----	----
120	D86	166.6	207.2	277.9	337.8	352.8	360.9	30.7	94.1
132	D86	157.8	205.5	276.8	335.2	350.3	360.4	31.4	94.9
140	ISO3405	167.4	208.2	279.5	338.0	353.5	363.7	29.8	94.1
150	ISO3405	161.4	203.7	276.5	334.8	349.3	361.0	32.0	95.6
159	D86	168.5	210.9	280.4	338.5	354.2	362.5	----	----
171	D86	167.8	209.9 C	279.3	336.8	351.5	361.3	28.9	94.6
194		----	----	----	----	----	----	----	----
212	D86	171.9	210.0	279.8	338.4	352.0	366.3	29.7	95.4
216	D86	166.4	206.8	278.0	336.9	350.4	366.1	31.7	95.3
225		----	----	----	----	----	----	----	----
228		----	----	----	----	----	----	----	----
237		----	----	----	----	----	----	----	----
238		----	----	----	----	----	----	----	----
240		----	----	----	----	----	----	----	----
273	D86	166.4	207.2	279.5	338.7	352.7	356.0 C	----	----
312	ISO3405	166.2	207.8	279.3	336.8	351.9	361.4	29.9	94.5
317	ISO3405	168.3	207.5	279.7	338.4	354.8	362.9	30.2	93.9
323	ISO3405	167.6	208.2	278.7	337.8	353.9	360.5	30.2	94
333	ISO3405	162.2	204.6	277.9	336.5	350.7	362.1	31.2	94.8
334	ISO3405	169.4	204.3	278.7	338.0	350.8	362.7	32.2	94.8
335	ISO3405	166.0	205.0	279.6	340.0	358.9	363.9	30.9	93.2
337	ISO3405	170.9	209.0	280.6	339.5	355.0	362.0	29.1	93.6
338	ISO3405	170.7	206.8	279.3	339.0	355.8	364.1	30.2	93.7
340	ISO3405	168.7	206.6	277.6	335.5	349.9	357.3	31.5	95.0
342		----	----	----	----	----	----	----	----
343	ISO3405	162.0	201.9 C,R(5)	275.7	335.6	352.1	359.5	32.7	94.5
349		----	----	----	----	----	----	----	----
350		----	----	----	----	----	----	----	----
351	ISO3405	166.2	205.8	278.4	339.3	354.2	359.0	30.5	93.5
353	IP123	161.3	206.4	280.2	341.2	358.7	366.6	30.5	93.0
356	ISO3405	172.3	210.3	279.3	336.6	353.1	362.	30.1	94.4
357	ISO3405	165.6	208.3	279.1	336.4	350.8	362.0	30.1	94.8
360	ISO3405	162.3	209.2	279.7	340.0	358.8	363.5	30.6	93.2
369	ISO3405	161.7	203.7	278.5	338.0	352.6	365.6	31.4	94.3
370	ISO3405	168.4	208.6	279.7	339.7	355.0	365.3	30.3	93.7
371	ISO3405	167.5	209.0	278.0	337.3	352.3	363.8	31.0	94.5
391		----	----	----	----	----	----	----	----
398	ISO3405	165.6	207.7 C	278.2	337.4	351.2	364.7	30.6	94.7
399	ISO3405	168.1	208.1	278.7	337.6	352.6	365.6	30.4	94.6
402	ISO3405	166.5	207.9	278.9	388.9 R(1)	355.0	361.3	30	93.7
403	ISO3405	167.5	207.3	279.4	338.7	354.7	363.3	30.4	93.8
420	ISO3405	164.1	206.6	278.1	336.6	352.3	358.6	30.9	94.5
431	ISO3405	163.4	205.0 C	278.0	336.9	352.8	360.5	30.9	94.3
432		----	----	----	----	----	----	----	----
433		----	----	----	----	----	----	----	----
440	D86	167.2	207.0	280.1	340.0	357.5	366.2	30.3	93.3
445	IP123	163.1	206.0	277.8	336.6	352.3	361.8	30.4	94.4
446	IP123	165.4	205.6	278.4	336.9	351.7	358.4	31.0	94.5
447	D86	162.9	206.5	278.8	337.8	353.4	362.9	30.5	94.2
453	IP123	166.9	208.4	278.9	338.4	354.5	364.1	30.5	93.9
463	ISO3405	171.8	207.0	279.1	337.5	352.2	363.5	30.0	94.3
485	ISO3405	169.10	208.15	279.70	337.55	352.70	363.40	29.85	94.30
541	D86	169.3	207.4	279.2	339.1	356.4	362.8	30.5	93.5
575		----	----	----	----	----	----	----	----
593		----	----	----	----	----	----	----	----
595		----	----	----	----	----	----	----	----
603		----	----	----	----	----	----	----	----
607		----	----	----	----	----	----	----	----
621		----	----	----	----	----	----	----	----
631		----	----	----	----	----	----	----	----
663	D86	162.9	209.3	278.9	337.1	352.0	361.9	30.4	94.8
671		----	----	----	----	----	----	----	----
704		----	----	----	----	----	----	----	----
750		----	----	----	----	----	----	----	----
754	ISO3405	165.4	209.5	280.0	339.9	357.1	363.3	29.9	93.4
781	ISO3405	166.3	207.6	278.9	338.1	354.8	362.2	30.5	94.0
784		----	----	----	----	----	----	----	----
785	D86	166.2	207.2	279.6	337.9	352.8	364.4	30.0	94.3
863		----	----	----	----	----	----	----	----
873		----	----	----	----	----	----	----	----
874		----	----	----	----	----	----	----	----
875	ISO3405	167.0	207.4	280.0	338.7	354.5	363.3	29.9	93.4
904	D86	170.0	207.9	279.8	338.2	352.8	363.9	30.2	94.2
912		----	----	----	----	----	----	----	----
963		----	----	----	----	----	----	----	----
966		----	----	----	----	----	----	----	----

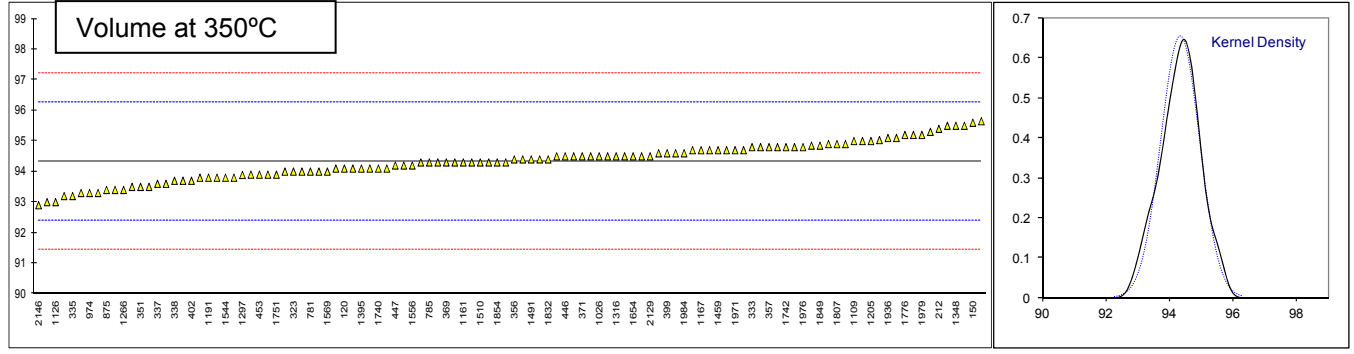
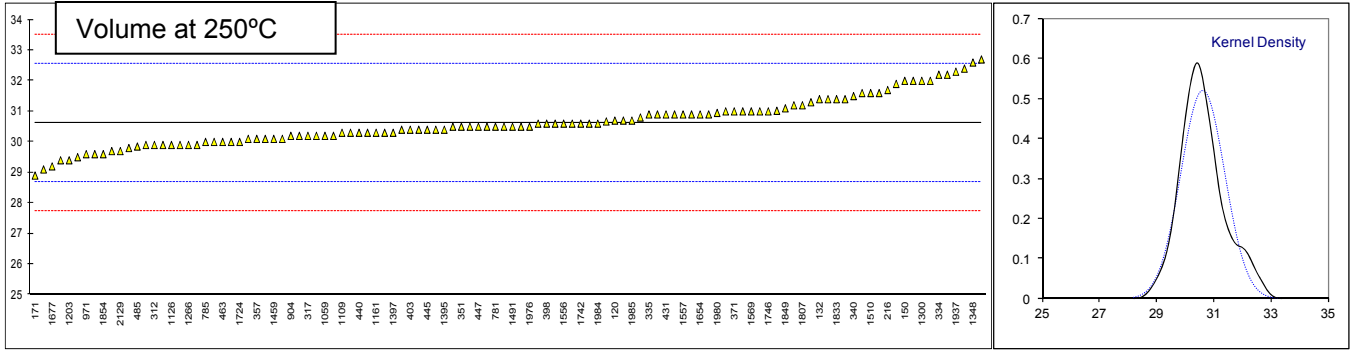
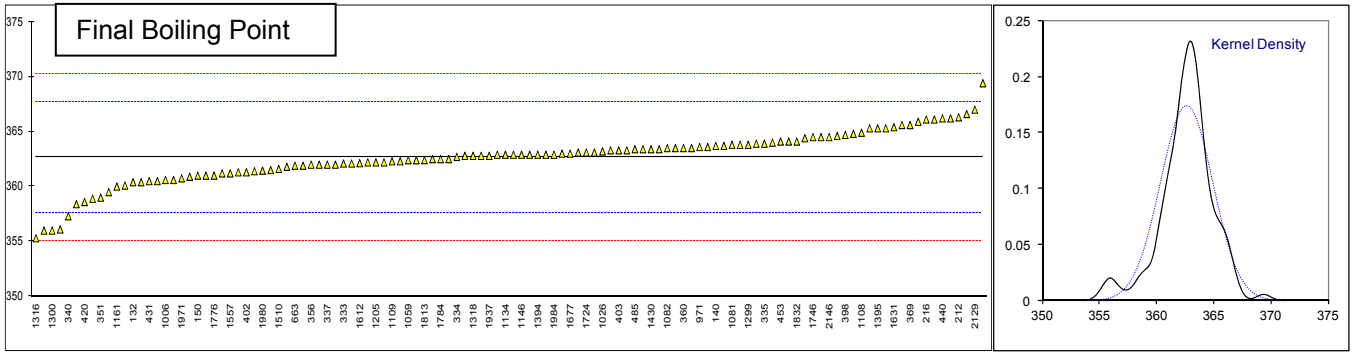
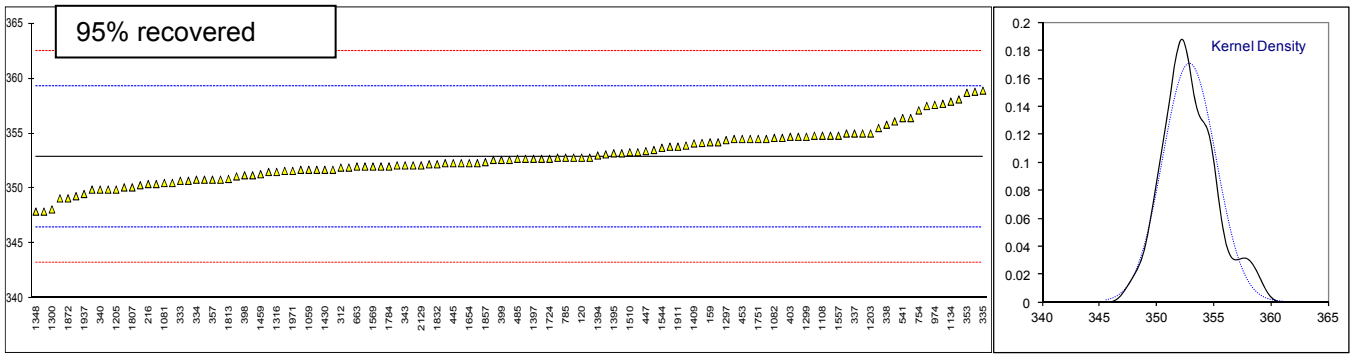
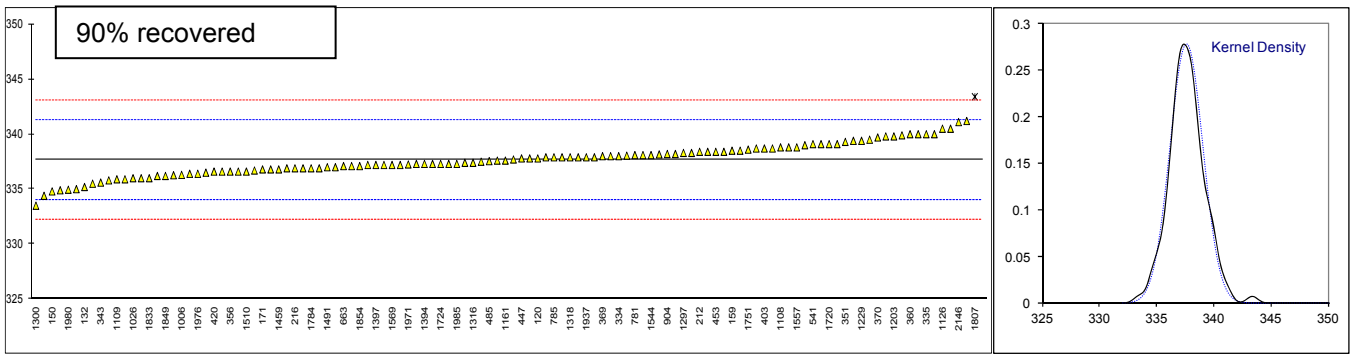
970		----	----	----	----	----	----	----	----	----
971	D86	168.4	207.7	279.9	339.1	356.1	363.6	29.6	93.6	
974	D86	168.4	207.7	280.4	339.8	357.6	363.4	29.4	93.3	
998		----	----	----	----	----	----	----	----	----
1006	D86	165.9	206.8	279.3	336.3	349.9	360.6	----	----	----
1016		----	----	----	----	----	----	----	----	----
1026	ISO3405	166.1	205.3	277.5	336.0	350.8	363.2	31.0	94.5	
1033		----	----	----	----	----	----	----	----	----
1059	ISO3405	166.6	205.6	279.6	337.2	351.7	362.4	30.2	94.5	
1080		----	----	----	----	----	----	----	----	----
1081	D86	164.2	205.6	278.2	336.7	350.5	363.8	30.67	94.85	
1082	ISO3405	166.5	206.4	278.9	337.9	354.6	363.5	30.3	94.0	
1108	ISO3405	168.8	206.3	278.9	338.8	354.8	364.9	30.5	93.9	
1109	D86	167.9	207.4	279.1	335.9	350.1	362.3	30.3	95.0	
1121		----	----	----	----	----	----	----	----	----
1126	D86	170.1	210.2	279.7	340.5	356.4	369.4	29.9	93.0	
1134	ISO3405	162.8	204.9	278.7	339.4	357.9	362.9	31.6	94.0	
1146	ISO3405	165.0	206.0	278.3	336.2	349.9	362.9	31.02	95.03	
1161	ISO3405	165	206.3	279.1	337.6	352.1	360.0	30.3	94.3	
1167	ISO3405	168.2	204.3	276.8	337.9	351.7	358.9	32.0	94.7	
1191	ISO3405	167.4	208.1	279.8	338.8	354.7	362.4	29.9	93.8	
1194		----	----	----	----	----	----	----	----	----
1199		----	----	----	----	----	----	----	----	----
1203	ISO3405	173.2	208.7	280.6	339.8	355.0	366.2	29.4	93.8	
1205	D86	166.2	204.9	278.2	335.8	349.9	362.2	30.7	95.0	
1227	D86	168.8	206.6	279.5	338.4	354.6	364.8	29.5	94.1	
1229	ISO3405	162.9	206.4	279.0	339.4	358.1	362.1	30.3	93.3	
1238		----	----	----	----	----	----	----	----	----
1266	ISO3405	174.4	209.1	280.3	340.0	354.5	360.1	29.9	93.4	
1281		----	----	----	----	----	----	----	----	----
1297	D86	164.4	206.2	279.2	338.3	354.4	363.0	30.10	93.89	
1299	D86	166.3	207.0	278.9	338.5	354.7	363.8	----	----	----
1300	ISO3405	168.5	211.3	276.3	333.5	348.1	356.0	32.0	95.5	
1316	D86	163.3	206.1	278.4	337.4	351.5	355.3	30.9	94.5	
1318	D86	165.2	206.7	278.4	337.9	351.6	362.8	31.3	94.6	
1345		----	----	----	----	----	----	----	----	----
1347		----	----	----	----	----	----	----	----	----
1348	D86	163.0	201.7	C,R(5) 275.8	334.4	347.9	362.9	32.6	C 95.5	
1356		----	----	----	----	----	----	----	----	----
1385		----	----	----	----	----	----	----	----	----
1394	ISO3405	167.3	208.4	279.1	337.3	353.0	362.9	30.4	94.7	
1395	ISO3405	165.1	206.1	279.2	338.1	353.2	365.3	30.4	94.1	
1397	ISO3405	169.2	208.6	278.6	337.2	352.7	363.5	30.3	94.3	
1409	ISO3405	163.9	205.4	278.2	337.3	354.1	361.2	30.6	94.1	
1430	D86	171.3	208.7	279.4	337.2	351.7	363.4	----	----	----
1459	ISO3405	164.4	207.6	279.3	336.8	351.3	361.0	30.1	94.7	
1488		----	----	----	----	----	----	----	----	----
1490	ISO3405	152.3	R(1) 201.2	R(5) 276.2	336.6	351.9	356.1	32.4	94.5	
1491	ISO3405	169.4	208.1	278.9	337.0	352.7	361.5	30.5	94.4	
1498	D86	164.4	205.9	279.4	338.3	353.2	366.1	30	94	
1510	ISO3405	163.8	204.6	277.1	336.6	353.3	361.6	31.6	94.3	
1520		----	----	----	----	----	----	----	----	----
1544	ISO3405	167.3	208.1	279.2	338.1	353.7	363.4	30.1	93.8	
1556	ISO3405	166.5	206.2	278.8	337.9	353.3	362.9	30.6	94.2	
1557	ISO3405	167.4	206.1	278.5	338.8	354.8	361.2	30.9	93.8	
1569	D86	165.3	207.1	278.9	337.2	352.0	363.1	31	94	
1612	D86	168.40	202.35	R(5) 278.24	338.16	354.14	362.13	31.0	95.5	
1616		----	----	----	----	----	----	----	----	----
1631	ISO3405	164.0	206.3	278.4	337.2	351.7	365.4	30.9	94.7	
1654	ISO3405	----	----	----	----	352.3	----	30.9	94.5	
1677	D86	163.5	206.5	281.5	340.5	355.5	363.0	29.2	93.5	
1720	D86	167.3	207.7	279.5	339.1	353.8	----	----	----	----
1724	ISO3405	164.6	207.1	277.9	337.3	352.7	363.1	30	94.3	
1730		----	----	----	----	----	----	----	----	----
1740	ISO3405	165.3	208	279	337.7	352.6	362.2	30.6	94.1	
1742	ISO3405	164.4	206.6	278.1	336.0	350.8	362.3	30.6	94.8	
1746	D86	161.5	204.5	277.0	337.0	352.0	364.5	31.0	94.5	
1751	ISO3405	168.1	207.8	278.9	338.6	354.5	364.6	29.9	93.9	
1773		----	----	----	----	----	----	----	----	----
1776	ISO3405	162.0	204.8	277.1	335.0	349.1	361.0	31.6	95.2	
1784	ISO3405	167.0	207.8	278.8	336.9	352.0	362.5	29.6	94.4	
1807	ISO3405	169.7	207.4	278.4	343.4	R(5) 350.1	364.5	31.2	94.9	
1813	D86	167.47	207.58	279.07	336.27	350.87	362.41	----	----	----
1832	ISO3405	167.1	209.2	279.0	337.1	352.2	364.1	30.8	94.4	
1833	ISO3405	162.1	205.3	277.3	336	350.4	363.7	31.4	94.9	
1834		----	----	----	----	----	----	----	----	----
1849	ISO3405	163.3	205.9	277.2	336.2	351.2	363.6	31.1	94.85	
1854	ISO3405	166.6	208.0	279.2	337.1	352.3	361.9	29.6	94.3	
1857	ISO3405	165.3	207.5	278.9	337.3	352.4	363.1	30.5	94.3	
1861		----	----	----	----	----	----	----	----	----

1862										
1872	ISO3405	159.8	204.3	275.7	334.9	349.1	360.6	C	32.2	95.2
1881										
1911	ISO3405	168.75	207.15	278.95	338.05	353.80	364.00		30.60	94.10
1936	ISO3405	166.0	206.9	278.4	336.9	352.1	362.8		31.4	95.1
1937	ISO3405	165.6	205.1	278.3	337.9	349.5	362.8		32.3	95.1
1938	ISO3405	162.3	204.5	277.0	335.9	350.5	362.5		32.0	94.8
1950										
1967										
1968										
1971	ISO3405	168.50	207.04	277.80	337.25	351.60	360.75		30.90	94.70
1976	ISO3405	166.1	207.9	278.5	336.4	350.7	362.0		30.5	94.8
1979	ISO3405	165.00	204.90	278.50	339.10	352.80	360.40		31.90	95.20
1980	ISO3405	169.55	207.00	277.45	334.95	347.90	361.45		30.95	95.65
1984	ISO3405	167.0	206.9	279.3	338.2	354.5	362.9		30.6	94.6
1985	D86	166.2	209.0	279.0	337.3	351.1	365.9		30.7	94.7
2129	ISO3405	171.0	209.9	280.0	337.9	352.1	367.0		29.7	94.5
2146	ISO3405	170.9	208.3	280.4	341.1	357.7	364.5		30.2	92.9
7006	D86	166.2					365.3			
9057										
normality	OK		OK	OK	OK	OK	suspect	OK	OK	
n	118		114	118	116	119	118	112	112	
outliers	1		4	0	2	0	0	0	0	
mean (n)	166.39		207.08	278.73	337.65	352.88	362.64	30.63	94.33	
st.dev. (n)	2.889		1.582	1.076	1.436	2.333	2.298	0.769	0.609	
R(calc.)	8.09		4.43	3.01	4.02	6.53	6.44	2.15	1.71	
R(ISO3405:11)	9.15		4.56	2.97	5.06	9.00	7.10	2.70	2.70	

Lab 171: first reported 212.8
 Lab 273: first reported 354.2
 Lab 343: first reported 201.2
 Lab 398: first reported 212.7

Lab 431: first reported 264.2
 Lab 1348: first reported 36.4
 Lab 1872: first reported 353.6





Determination of Distillation (manual) on sample #15015; result in °C

lab	method	IBP	10% rec	50% rec	90% rec	95% rec	FBP	Vol 250°C	Vol 350°C
90	D86	163.8	202.9	275.1	337.2	355.2	357.2 R(5)	32.0	94.0
120		----	----	----	----	----	----	----	----
132		----	----	----	----	----	----	----	----
140		----	----	----	----	----	----	----	----
150		----	----	----	----	----	----	----	----
159		----	----	----	----	----	----	----	----
171		----	----	----	----	----	----	----	----
194		----	----	----	----	----	----	----	----
212		----	----	----	----	----	----	----	----
216		----	----	----	----	----	----	----	----
225	D86	169.0	204.0	278.0	338.0	356.0	361.5	31.5	94.0
228		----	----	----	----	----	----	----	----
237	D86	166.0	203.0	278.0	335.0	347.0 R(5)	362.5	33.0	95.5
238		----	----	----	----	----	----	----	----
240		----	----	----	----	----	----	----	----
273		----	----	----	----	----	----	----	----
312		----	----	----	----	----	----	----	----
317		----	----	----	----	----	----	----	----
323		----	----	----	----	----	----	----	----
333		----	----	----	----	----	----	----	----
334		----	----	----	----	----	----	----	----
335		----	----	----	----	----	----	----	----
337		----	----	----	----	----	----	----	----
338		----	----	----	----	----	----	----	----
340		----	----	----	----	----	----	----	----
342		----	----	----	----	----	----	----	----
343		----	----	----	----	----	----	----	----
349		----	----	----	----	----	----	----	----
350	ISO3405	166.36	203.89	278.95	339.50	357.51	365.52	33.00	94.50
351		----	----	----	----	----	----	----	----
353		----	----	----	----	----	----	----	----
356		----	----	----	----	----	----	----	----
357		----	----	----	----	----	----	----	----
360		----	----	----	----	----	----	----	----
369		----	----	----	----	----	----	----	----
370		----	----	----	----	----	----	----	----
371		----	----	----	----	----	----	----	----
391		----	----	----	----	----	----	----	----
398		----	----	----	----	----	----	----	----
399		----	----	----	----	----	----	----	----
402		----	----	----	----	----	----	----	----
403		----	----	----	----	----	----	----	----
420		----	----	----	----	----	----	----	----
431		----	----	----	----	----	----	----	----
432		----	----	----	----	----	----	----	----
433		----	----	----	----	----	----	----	----
440		----	----	----	----	----	----	----	----
445		----	----	----	----	----	----	----	----
446		----	----	----	----	----	----	----	----
447		----	----	----	----	----	----	----	----
453		----	----	----	----	----	----	----	----
463		----	----	----	----	----	----	----	----
485		----	----	----	----	----	----	----	----
541		----	----	----	----	----	----	----	----
575		----	----	----	----	----	----	----	----
593	D86	173.6 R(5)	210.4 C	280.0	336.2	351.2	360.3	----	----
595	D86	173.3 R(5)	211.4	279.6 C	335.7	350.8	359.8	----	----
603	D86	164	203	274 C	330 R(1)	351 C	360 C	30	93 C
607		----	----	----	----	----	----	----	----
621	D86	165.0	206.0	278.0	338.0	354.0	356.0 R(5)	31.0	94.0
631	D86	169.0	207.0	280.0	339.0	356.0	362.5	30.0	93.5
663		----	----	----	----	----	----	----	----
671		----	----	----	----	----	----	----	----
704	ISO3405	164.3	202.3	277.6	336.6	351.8	362.3	32.0	94.5
750	D86	167.0	208.0	280.0	340.0	357.0	365.0	30.0	93.5
754		----	----	----	----	----	----	----	----
781		----	----	----	----	----	----	----	----
784	ISO3405	168.8	205.7	279.5	338.7	355.1	362.7	31.0	93.5
785		----	----	----	----	----	----	----	----
863	D86	168.5	207.5	280.0	337.0	351.5	363.5	31.0	94.9
873	ISO3405	166.0	207.0	278.0	338.0	352.5	363.5	30.5	94.5
874	ISO3405	168.0	207.0	280.0	338.0	354.0	364.0	30.0	94.0
875		----	----	----	----	----	----	----	----
904		----	----	----	----	----	----	----	----
912	D86	168.0	207.0	279.0	337.0	351.0	363.0	31.0	95.0
963		----	----	----	----	----	----	----	----
966		----	----	----	----	----	----	----	----

970	D86	164.0	201.0	278.0	338.0	352.0	365.0	32.7	94.2
971		----	----	----	----	----	----	----	----
974		----	----	----	----	----	----	----	----
998	D86	166.0	207.5	278.5	336.5	351.5	365.0	32.0	94.5
1006		----	----	----	----	----	----	----	----
1016		----	----	----	----	----	----	----	----
1026		----	----	----	----	----	----	----	----
1033		----	----	----	----	----	----	----	----
1059		----	----	----	----	----	----	----	----
1080		----	----	----	----	----	----	----	----
1081		----	----	----	----	----	----	----	----
1082		----	----	----	----	----	----	----	----
1108		----	----	----	----	----	----	----	----
1109		----	----	----	----	----	----	----	----
1121	IP123	162.0	200	C 276.0	337.5	353.5	361.5	31	C 94.0
1126		----	----	----	----	----	----	----	----
1134		----	----	----	----	----	----	----	----
1146		----	----	----	----	----	----	----	----
1161		----	----	----	----	----	----	----	----
1167		----	----	----	----	----	----	----	----
1191		----	----	----	----	----	----	----	----
1194		----	----	----	----	----	----	----	----
1199		----	----	----	----	----	----	----	----
1203		----	----	----	----	----	----	----	----
1205		----	----	----	----	----	----	----	----
1227		----	----	----	----	----	----	----	----
1229		----	----	----	----	----	----	----	----
1238		----	----	----	----	----	----	----	----
1266		----	----	----	----	----	----	----	----
1281	ISO3405	169.5	206.9	278.9	339.7	357.4	364.4	31.0	93.2
1297		----	----	----	----	----	----	----	----
1299		----	----	----	----	----	----	----	----
1300		----	----	----	----	----	----	----	----
1316		----	----	----	----	----	----	----	----
1318		----	----	----	----	----	----	----	----
1345	D86	165.0	204.0	277.0	338.0	354.5	361.0	31.5	93.5
1347	D86	169	209	280	340	354	364	30	94
1348		----	----	----	----	----	----	----	----
1356		----	----	----	----	----	----	----	----
1385	D86	165	204	277	333	R(5) 348	R(5) 365	33	96
1394		----	----	----	----	----	----	----	----
1395		----	----	----	----	----	----	----	----
1397		----	----	----	----	----	----	----	----
1409		----	----	----	----	----	----	----	----
1430		----	----	----	----	----	----	----	----
1459		----	----	----	----	----	----	----	----
1488	ISO3405	167.54	205.74	281.20	339.67	356.16	363.66	29.54	93.49
1490		----	----	----	----	----	----	----	----
1491		----	----	----	----	----	----	----	----
1498		----	----	----	----	----	----	----	----
1510		----	----	----	----	----	----	----	----
1520	ISO3405	167.0	207.0	278.0	338.5	355.0	364.5	30.0	93.0
1544		----	----	----	----	----	----	----	----
1556		----	----	----	----	----	----	----	----
1557		----	----	----	----	----	----	----	----
1569		----	----	----	----	----	----	----	----
1612		----	----	----	----	----	----	----	----
1616		----	----	----	----	----	----	----	----
1631		----	----	----	----	----	----	----	----
1654		----	----	----	----	----	----	----	----
1677		----	----	----	----	----	----	----	----
1720		----	----	----	----	----	----	----	----
1724		----	----	----	----	----	----	----	----
1730		----	----	----	----	----	----	----	----
1740		----	----	----	----	----	----	----	----
1742		----	----	----	----	----	----	----	----
1746		----	----	----	----	----	----	----	----
1751		----	----	----	----	----	----	----	----
1773	ISO3405	165.02	206.52	278.27	339.27	357.02	364.02	30.00	93.25
1776		----	----	----	----	----	----	----	----
1784		----	----	----	----	----	----	----	----
1807		----	----	----	----	----	----	----	----
1813		----	----	----	----	----	----	----	----
1832		----	----	----	----	----	----	----	----
1833		----	----	----	----	----	----	----	----
1834		----	----	----	----	----	----	----	----
1849		----	----	----	----	----	----	----	----
1854		----	----	----	----	----	----	----	----
1857		----	----	----	----	----	----	----	----
1861		----	----	----	----	----	----	----	----

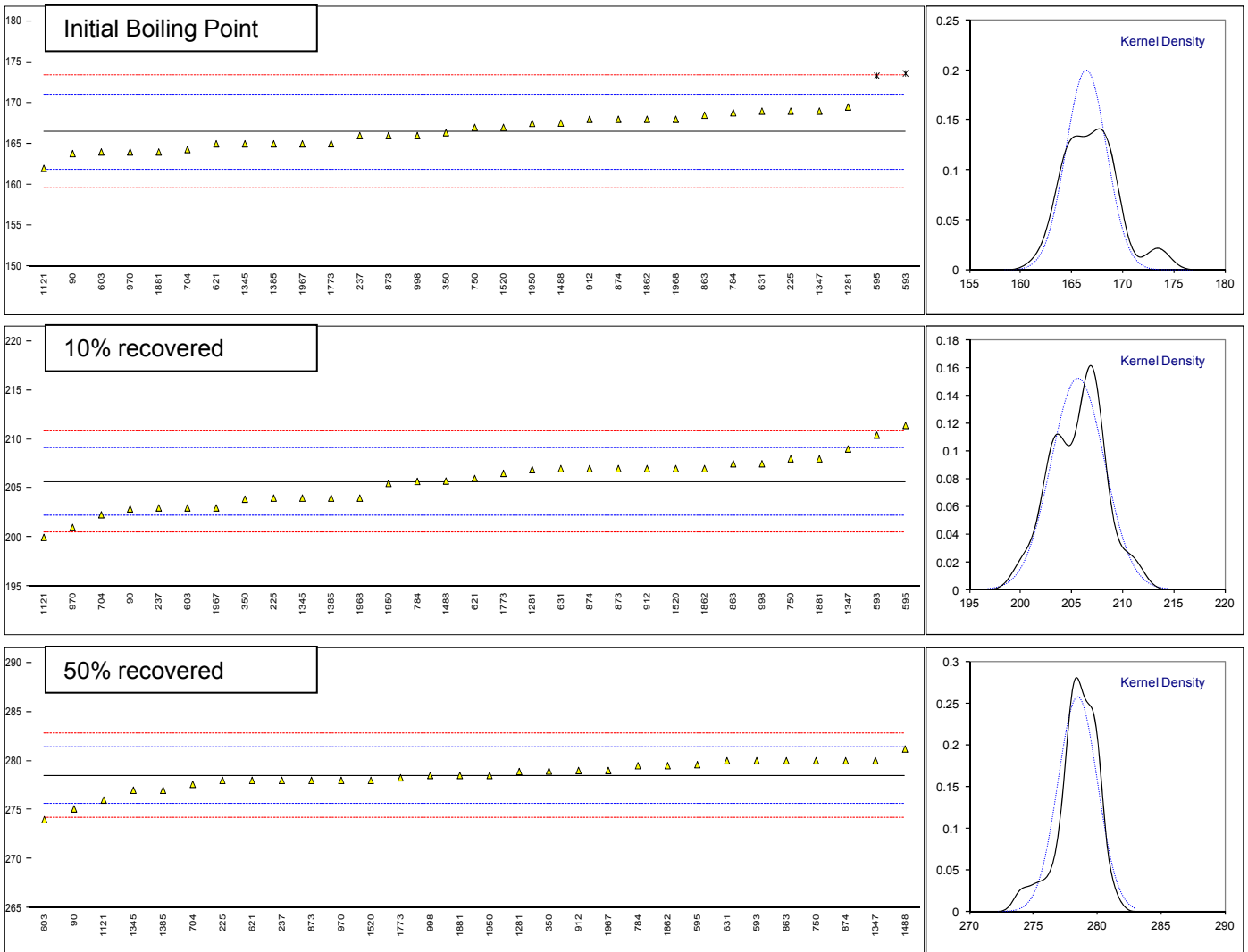
1862	ISO3405	168.0	207.0	279.5	340.0	356.0	364.0	30.0	93.5
1872		----	----	----	----	----	----	----	----
1881	ISO3405	164.0	208.0	278.5	337.5	354.0	362.0	31.5	94.0
1911		----	----	----	----	----	----	----	----
1936		----	----	----	----	----	----	----	----
1937		----	----	----	----	----	----	----	----
1938		----	----	----	----	----	----	----	----
1950	ISO3405	167.5	205.5	278.5	339.5	356.5	362.5	30.0	94.0
1967	D86	165.0	203.0	279.0	338.0	355.0	364.0	31.0	93.0
1968	ISO3405	168	204	----	W 340	355	357	R(5) ----	W 93.5
1971		----	----	----	----	----	----	----	----
1976		----	----	----	----	----	----	----	----
1979		----	----	----	----	----	----	----	----
1980		----	----	----	----	----	----	----	----
1984		----	----	----	----	----	----	----	----
1985		----	----	----	----	----	----	----	----
2129		----	----	----	----	----	----	----	----
2146		----	----	----	----	----	----	----	----
7006		----	----	----	----	----	----	----	----
9057		----	----	----	----	----	----	----	----
	normality	OK	OK	suspect	OK	OK	OK	OK	OK
	n	29	31	30	29	29	28	28	29
	outliers	2	0	0	2	2	3	0	0
	mean (n)	166.42	205.65	278.47	338.14	354.21	363.10	31.04	93.98
	st.dev. (n)	1.996	2.617	1.551	1.387	2.150	1.606	1.054	0.733
	R(calc.)	5.59	7.33	4.34	3.88	6.02	4.50	2.95	2.05
	R(ISO3405:11)	6.45	4.78	4.00	4.04	5.12	2.35	3.13	3.13

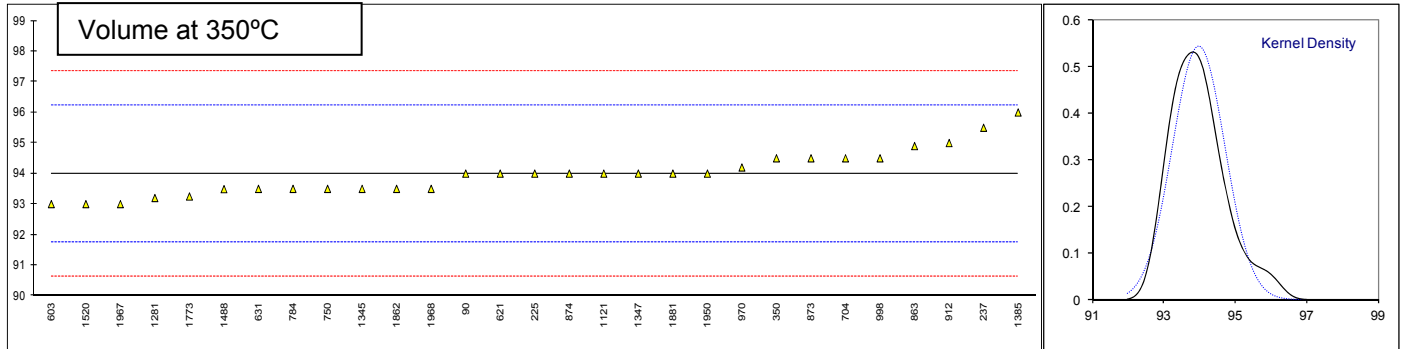
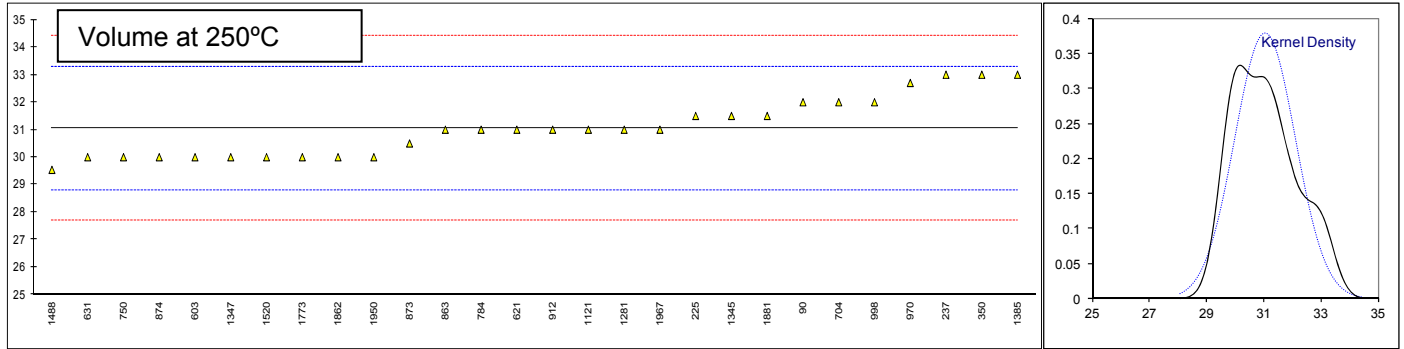
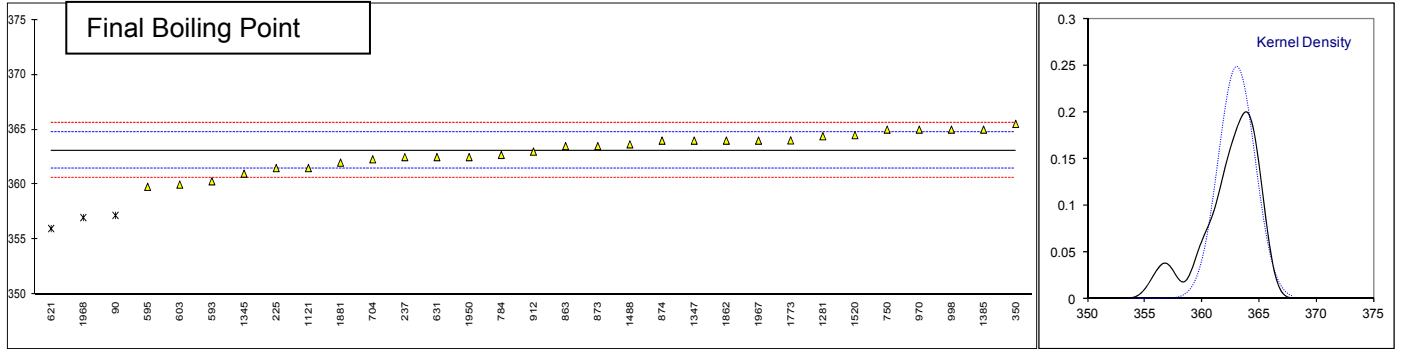
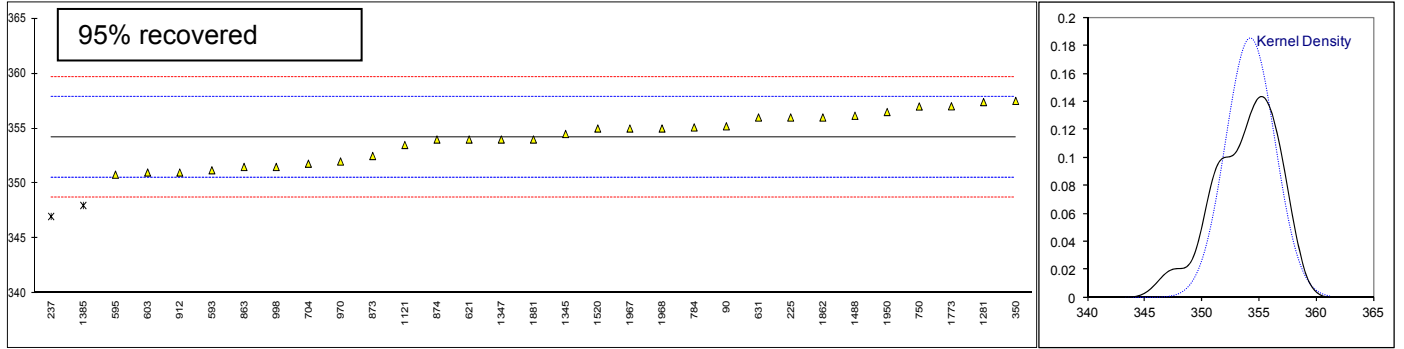
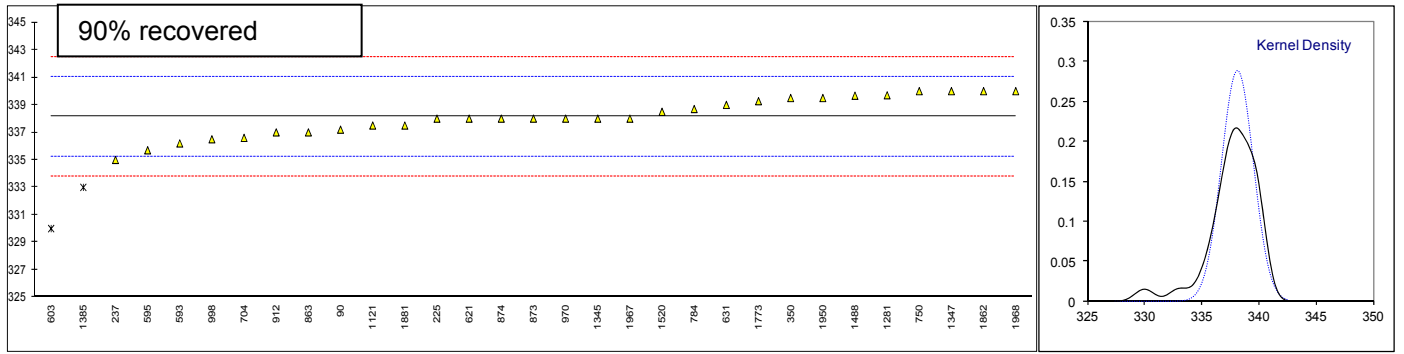
Lab 593: first reported 213.7

Lab 603 first reported 284, 350, 366, 375, 90

Lab 1121: first reported 199, 34

Lab 1968: result withdrawn, reported 31.5, 278





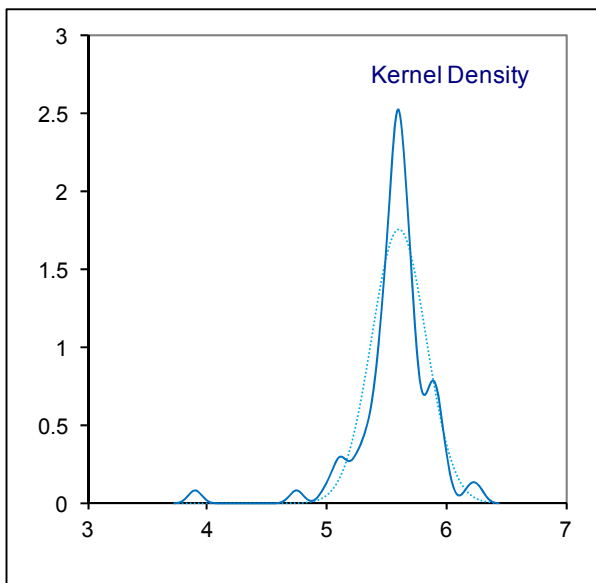
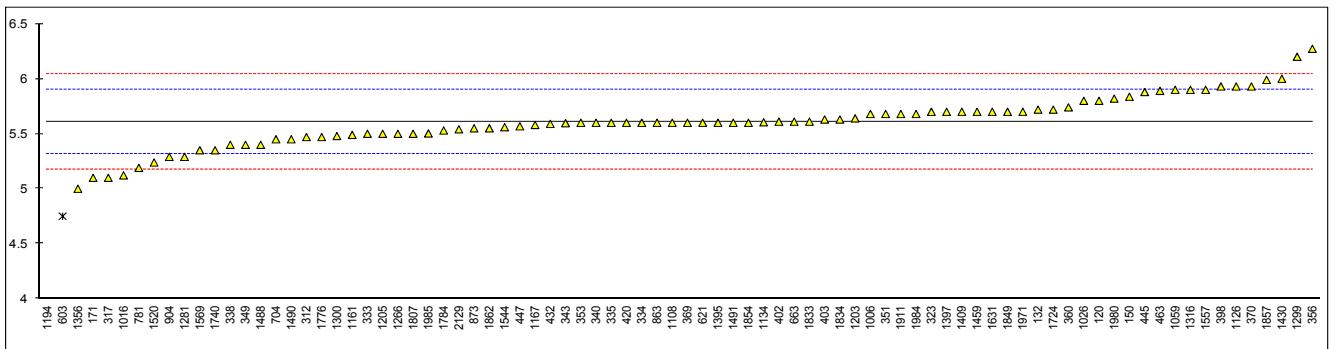
Determination of FAME Content on sample #15015; result in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D7371	5.8		1.33	966		----		----
132	D7371	5.72		0.77	970		----		----
140		----		----	971		----		----
150	EN14078	5.837		1.58	974		----		----
159		----		----	998		----		----
171	D7371	5.1	C	-3.53	1006	EN14078	5.68		0.49
194		----		----	1016	EN14078	5.122		-3.38
212		----		----	1026	EN14078	5.8		1.33
216		----		----	1033		----		----
225		----		----	1059	EN14078	5.9		2.02
228		----		----	1080		----		----
237		----		----	1081		----		----
238		----		----	1082		----		----
240		----		----	1108	EN14078	5.6		-0.06
273		----		----	1109		----		----
312	EN14078	5.47		-0.96	1121		----		----
317	EN14078	5.1		-3.53	1126	EN14078	5.93		2.23
323	EN14078	5.7	C	0.63	1134	EN14078	5.605		-0.03
333	EN14078	5.5		-0.76	1146		----		----
334	EN14078	5.6		-0.06	1161	EN14078	5.49		-0.82
335	EN14078	5.6		-0.06	1167	EN14078	5.58		-0.20
337		----		----	1191		----		----
338	EN14078	5.4		-1.45	1194	EN14078	3.9	R(0.01)	-11.86
340	EN14078	5.60		-0.06	1199		----		----
342		----		----	1203	EN14078	5.64		0.22
343	EN14078	5.596		-0.09	1205	EN14078	5.5		-0.76
349	EN14078	5.4		-1.45	1227		----		----
350		----		----	1229		----		----
351	EN14078	5.68		0.49	1238		----		----
353	EN14078	5.60		-0.06	1266		5.5	C	-0.76
356	EN14078	6.273	C	4.61	1281	EN14078	5.29		-2.21
357		----		----	1297		----		----
360	EN14078	5.74		0.91	1299	EN14078	6.2		4.10
369	EN14078	5.6		-0.06	1300	EN14078	5.4798		-0.90
370	EN14078	5.93		2.23	1316	EN14078	5.9		2.02
371		----		----	1318		----		----
391		----		----	1345		----		----
398	EN14078	5.93		2.23	1347		----		----
399		----		----	1348		----		----
402	EN14078	5.61		0.01	1356	EN14078	5.0		-4.23
403	EN14078	5.63		0.15	1385		----		----
420	EN14078	5.6		-0.06	1394		----		----
431		----		----	1395	EN14078	5.6		-0.06
432	EN14078	5.59		-0.13	1397	EN14078	5.7		0.63
433		----		----	1409	EN14078	5.7		0.63
440		----		----	1430		6		2.71
445	EN14078	5.88		1.88	1459	EN14078	5.7	C	0.63
446		----		----	1488		5.4		-1.45
447	EN14078	5.568		-0.28	1490	EN14078	5.45		-1.10
453		----		----	1491	EN14078	5.6		-0.06
463	EN14078	5.89		1.95	1498		----		----
485		----		----	1510		----		----
541		----		----	1520	EN14078	5.239		-2.57
575		----		----	1544	EN14078	5.56		-0.34
593		----		----	1556		----		----
595		----		----	1557	EN14078	5.9	C	2.02
603	EN14078	4.75	C,R(0.05)	-5.96	1569	EN14078	5.35		-1.80
607		----		----	1612		----		----
621	EN14078	5.6	C	-0.06	1616		----		----
631		----		----	1631	EN14078	5.7		0.63
663	EN14078	5.61		0.01	1654		----		----
671		----		----	1677		----		----
704	EN14078	5.45		-1.10	1720		----		----
750		----		----	1724	EN14078	5.72		0.77
754		----		----	1730		----		----
781	EN14078	5.19		-2.91	1740	EN14078	5.35		-1.80
784		----		----	1742		----		----
785		----		----	1746		----		----
863	EN14078	5.6		-0.06	1751		----		----
873	EN14078	5.55		-0.41	1773		----		----
874		----		----	1776	EN14078	5.47		-0.96
875		----		----	1784	EN14078	5.53		-0.55
904	EN14078	5.29		-2.21	1807	EN14078	5.5		-0.76
912		----		----	1813		----		----
1832		----		----	1950		----		----

1833	EN14078	5.61	C	0.01	1967	----	----
1834	EN14078	5.63		0.15	1968	----	----
1849	EN14078	5.7		0.63	1971	EN14078	5.70
1854	EN14078	5.6		-0.06	1976	----	----
1857	EN14078	5.99		2.65	1979	----	----
1861		----		----	1980	EN14078	5.82
1862	EN14078	5.55		-0.41	1984	EN14078	5.68
1872		----		----	1985	EN14078	5.503
1881		----		----	2129	EN14078	5.541
1911	EN14078	5.68		0.49	2146	----	----
1936		----		----	7006	----	----
1937		----		----	9057	----	----
1938		----		----			

normality suspect
 n 82
 outliers 2
 mean (n) 5.609
 st.dev. (n) 0.2279
 R(calc.) 0.638
 R(EN14078:14) 0.403 Range B

- Lab 171: first reported 4.97
- Lab 323: first reported 5.0
- Lab 356: first reported 4.471
- Lab 603: first reported 5.03
- Lab 621: first reported 4.4
- Lab 1266: first reported 6.5
- Lab 1459: first reported 6.7
- Lab 1557: first reported 5.0
- Lab 1833: first reported 4.61

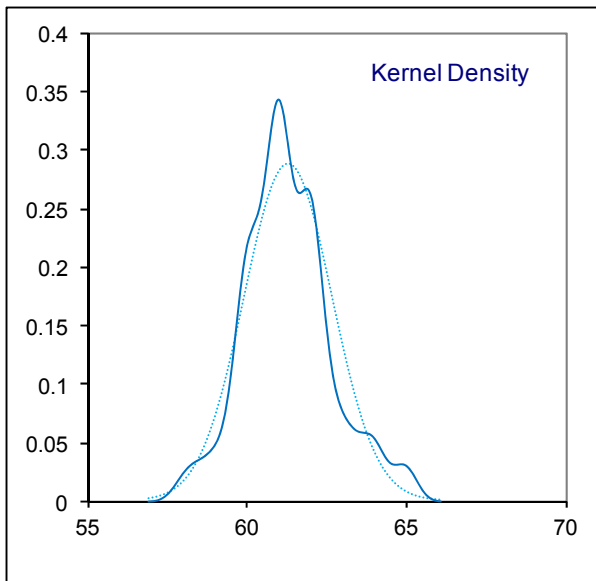
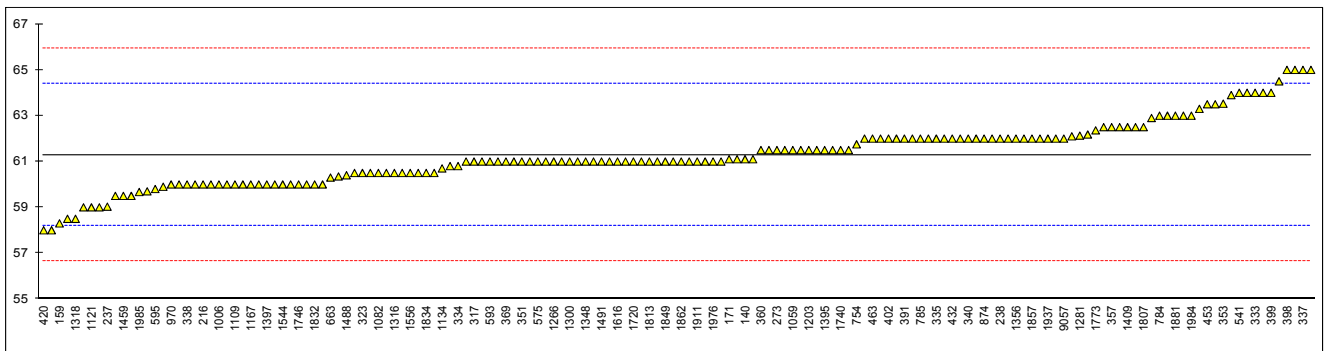


Determination of Flash Point PMcc on sample #15015; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D93	62.9		1.03	963		----		----
120	ISO2719	61.1		-0.12	966		----		----
132	ISO2719	61.0		-0.19	970	D93	60.0		-0.83
140	ISO2719	61.1		-0.12	971	ISO2719	61.5		0.13
150	ISO2719	63.3		1.29	974	D93	64.0		1.74
159	ISO2719	58.3		-1.93	998	D93	61.5		0.13
171	D93	61.1		-0.12	1006	D93	60		-0.83
194		----		----	1016		----		----
212	ISO2719	63.9		1.68	1026	ISO2719	64.0		1.74
216	ISO2719	60.0		-0.83	1033		----		----
225	D93	60.0		-0.83	1059	ISO2719	61.5		0.13
228		----		----	1080		----		----
237	D93	59.03		-1.46	1081	D93	62.0		0.46
238	D93	62.0		0.46	1082	ISO2719	60.5		-0.51
240		----		----	1108	ISO2719	60.0		-0.83
273	D93	61.5		0.13	1109	D93	60.0		-0.83
312	ISO2719	62.0		0.46	1121	IP34	59.0		-1.48
317	ISO2719	61.0		-0.19	1126	ISO2719	63		1.10
323	ISO2719	60.5		-0.51	1134	ISO2719	60.7		-0.38
333	ISO2719	64.0		1.74	1146	D93	60.35		-0.61
334	ISO2719	60.8		-0.32	1161	ISO2719	60		-0.83
335	ISO2719	62		0.46	1167	ISO2719	60.0		-0.83
337	ISO2719	65.0		2.39	1191	ISO2719	60.5		-0.51
338	ISO2719	60.0		-0.83	1194		----		----
340	ISO2719	62.0		0.46	1199		----		----
342		----		----	1203	ISO2719	61.5		0.13
343	ISO2719	62.0		0.46	1205	D93	58.5		-1.80
349	D93	58		-2.12	1227	D93	61.5		0.13
350	ISO2719	62.18		0.57	1229		----		----
351	ISO2719	61.0		-0.19	1238		----		----
353	IP34	63.525		1.44	1266	ISO2719	61.0		-0.19
356	ISO2719	62.0		0.46	1281	ISO2719	62.13		0.54
357	ISO2719	62.5		0.78	1297	D93	61		-0.19
360	ISO2719	61.5		0.13	1299	D93	62.5		0.78
369	ISO2719	61.0		-0.19	1300	ISO2719	61.0		-0.19
370	ISO2719	61.0		-0.19	1316	D93	60.5		-0.51
371	ISO2719	59.5		-1.15	1318	D93	58.5		-1.80
391	ISO2719	62		0.46	1345	D93	61.0		-0.19
398	ISO2719	65.0		2.39	1347	D93	61.1		-0.12
399	ISO2719	64.0		1.74	1348	D93	61		-0.19
402	ISO2719	62		0.46	1356	ISO2719	62		0.46
403	ISO2719	62		0.46	1385	D93	60		-0.83
420	ISO2719	58.0		-2.12	1394		----		----
431	ISO2719	60.5		-0.51	1395	ISO2719	61.5		0.13
432	ISO2719	62.0		0.46	1397	ISO2719	60.0		-0.83
433	ISO2719	60.0		-0.83	1409	ISO2719	62.5		0.78
440	IP34	60.8		-0.32	1430	D93	62		0.46
445	IP34	65.0		2.39	1459	ISO2719	59.5		-1.15
446	D93	61.5		0.13	1488	ISO2719	60.4		-0.57
447	ISO2719	62.1		0.52	1490	ISO2719	61.0		-0.19
453	IP34	63.5		1.42	1491	ISO2719	61.0		-0.19
463	ISO2719	62.0		0.46	1498	D93	62.5		0.78
485	ISO2719	60.5		-0.51	1510	ISO2719	60.0		-0.83
541	D93	64.0		1.74	1520	ISO2719	60.5		-0.51
575	D93	61		-0.19	1544	ISO2719	60.0		-0.83
593	D93	61.0		-0.19	1556	ISO2719	60.5		-0.51
595	D93	59.8		-0.96	1557	ISO2719	59.7		-1.02
603	ISO2719	61.0		-0.19	1569	ISO2719	63.5		1.42
607	D93	61.0		-0.19	1612	D93	61		-0.19
621	D93	60.0		-0.83	1616	D93	61.0		-0.19
631	D93	62.0		0.46	1631	ISO2719	60		-0.83
663	D93	60.3		-0.64	1654	ISO2719	61.0		-0.19
671	D93	59		-1.48	1677	D93	65.0		2.39
704	ISO2719	59.9		-0.90	1720	D93	61.0		-0.19
750	D93	61.0		-0.19	1724	ISO2719	61		-0.19
754	ISO2719	61.75		0.29	1730	ISO2719	61.5		0.13
781	ISO2719	62.5		0.78	1740	ISO2719	61.5		0.13
784	ISO2719	63.0		1.10	1742	ISO2719	59.5		-1.15
785	D93	62.0		0.46	1746	D93	60		-0.83
863	ISO2719	61.0		-0.19	1751	ISO2719	60.5		-0.51
873	ISO2719	62.0		0.46	1773	ISO2719	62.36		0.69
874	ISO2719	62.0		0.46	1776	ISO2719	60.0		-0.83
875	ISO2719	62.0		0.46	1784	ISO2719	61.5		0.13
904	D93	62		0.46	1807	ISO2719	62.5		0.78
912	D93	62.0		0.46	1813	D93	61.0		-0.19
1832	ISO2719	60.0		-0.83	1950	ISO2719	60.5		-0.51

1833	ISO2719	61	-0.19	1967	ISO2719	60.0	-0.83
1834	ISO2719	60.5	-0.51	1968	D93	64.5	2.06
1849	ISO2719	61	-0.19	1971	ISO2719	62.00	0.46
1854	ISO2719	61.0	-0.19	1976	ISO2719	61.0	-0.19
1857	ISO2719	62.0	0.46	1979	ISO2719	59.00	-1.48
1861		----	----	1980	ISO2719	63.00	1.10
1862	ISO2719	61.0	-0.19	1984	ISO2719	63.0	1.10
1872	ISO2719	61	-0.19	1985	D93	59.67	-1.04
1881	ISO2719	63.0	1.10	2129	ISO2719	61.0	-0.19
1911	ISO2719	61.00	-0.19	2146		----	----
1936	ISO2719	62	0.46	7006		----	----
1937	ISO2719	62	0.46	9057	in house	62	0.46
1938	ISO2719	61	-0.19				

normality OK
n 160
outliers 0
mean (n) 61.29
st.dev. (n) 1.381
R(calc.) 3.87
R(ISO2719:02) 4.35



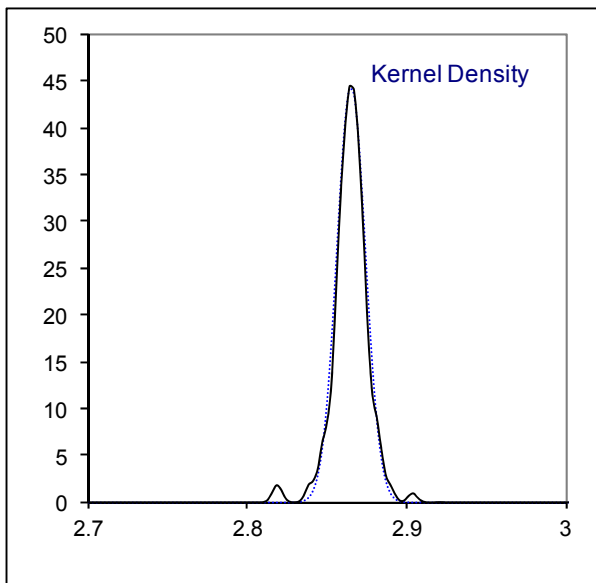
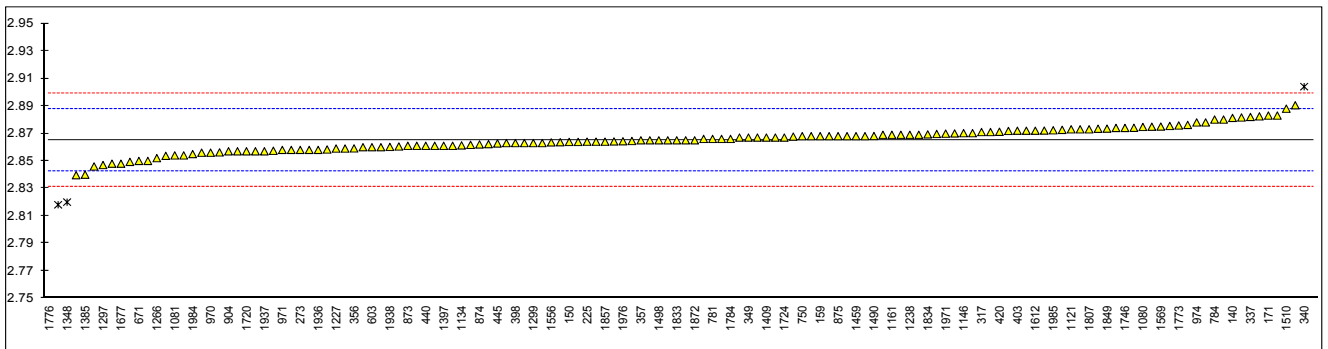
Determination of Kinematic Viscosity at 40°C on sample #15015; result in mm²/s

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D445	3.0877	R(0.01)	19.63	963		----		----
120	D445	2.854		-1.01	966		----		----
132	ISO3104	2.8824		1.50	970	D7042	2.856		-0.83
140	ISO3104	2.8813		1.40	971	D445	2.858		-0.66
150	ISO3104	2.8638		-0.14	974	D445	2.878		1.11
159	ISO3104	2.868		0.23	998	D445	2.863		-0.22
171	D445	2.883		1.55	1006	D445	2.868		0.23
194		----		----	1016		----		----
212	ISO3104	2.871		0.49	1026	ISO3104	2.860		-0.48
216		----		----	1033		----		----
225	D445	2.864		-0.13	1059	ISO3104	2.860		-0.48
228		----		----	1080	D7042	2.8747		0.82
237	D445	2.875457		0.89	1081	D445	2.854		-1.01
238	D445	2.8645		-0.08	1082	ISO3104	2.8696		0.37
240		----		----	1108	ISO3104	2.873	C	0.67
273	D445	2.858	C	-0.66	1109	D445	2.8726		0.63
312	ISO3104	2.861		-0.39	1121	IP71	2.873		0.67
317	ISO3104	2.871		0.49	1126		----		----
323	ISO3104	2.872		0.58	1134	ISO3104	2.8613		-0.37
333	ISO3104	2.866		0.05	1146	D445	2.8702		0.42
334		----		----	1161	ISO3104	2.869		0.31
335		----		----	1167	ISO3104	2.867		0.14
337	ISO3104	2.882		1.46	1191	ISO3104	2.8638		-0.14
338		----		----	1194		----		----
340	ISO3104	2.904	R(0.01)	3.41	1199		----		----
342		----		----	1203	ISO3104	2.8690		0.31
343	ISO3104	2.8636		-0.16	1205		----		----
349	D445	2.867	C	0.14	1227	D445	2.859		-0.57
350		----		----	1229	ISO3104	2.8574		-0.71
351	ISO3104	2.857		-0.75	1238	ISO3104	2.869		0.31
353		----		----	1266	ISO3104	2.852		-1.19
356	ISO3104	2.8591		-0.56	1281	ISO3104	2.870		0.40
357	ISO3104	2.865		-0.04	1297	D7042	2.8470		-1.63
360	ISO3104	2.8762		0.95	1299	D445	2.863		-0.22
369	ISO3104	2.856		-0.83	1300	ISO3104	2.8562		-0.82
370	ISO3104	2.8617		-0.33	1316	D445	2.883		1.55
371	ISO3104	2.867		0.14	1318	D7042	2.8905		2.21
391	ISO3104	2.866		0.05	1345	D445	2.8537		-1.04
398	ISO3104	2.863		-0.22	1347	D445	2.869		0.31
399		----		----	1348	D445	2.82	R(0.01)	-4.01
402		----		----	1356	ISO3104	2.868		0.23
403	ISO3104	2.872		0.58	1385	D445	2.84		-2.25
420	ISO3104	2.8712		0.51	1394		----		----
431	ISO3104	2.8622		-0.29	1395	ISO3104	2.861		-0.39
432	ISO3104	2.869		0.31	1397	ISO3104	2.861		-0.39
433		----		----	1409	ISO3104	2.867		0.14
440	D445	2.861		-0.39	1430	D445	2.8396	C	-2.28
445	ISO3104	2.8627		-0.24	1459	D7042	2.868		0.23
446		----		----	1488	ISO3104	2.8718		0.56
447		----		----	1490	ISO3104	2.8681		0.24
453	ISO3104	2.868		0.23	1491	D7042	2.8493		-1.43
463	D445	2.8181	C,R(0.01)	-4.18	1498	D445	2.865		-0.04
485		----		----	1510	ISO3104	2.888		1.99
541	D445	2.846		-1.72	1520	ISO3104	2.848		-1.54
575	D445	2.864		-0.13	1544	ISO3104	2.8721		0.59
593	D445	2.858		-0.66	1556	ISO3104	2.8635		-0.17
595		----		----	1557	ISO3104	2.859		-0.57
603	ISO3104	2.860		-0.48	1569	ISO3104	2.875		0.84
607	D445	2.8605		-0.44	1612	D445	2.872		0.58
621	D445	2.850		-1.36	1616	D445	2.858		-0.66
631	D445	2.874		0.76	1631	ISO3104	2.867		0.14
663	D445	2.8583		-0.63	1654	ISO3104	2.8650		-0.04
671	D445	2.85		-1.36	1677	D445	2.848		-1.54
704	ISO3104	2.8642		-0.11	1720	D7042	2.857	C	-0.75
750	D445	2.868		0.23	1724	ISO3104	2.867		0.14
754		----		----	1730		----		----
781	ISO3104	2.866		0.05	1740	ISO3104	2.861		-0.39
784	ISO3104	2.8801		1.30	1742	ISO3104	2.857		-0.75
785	D445	2.865		-0.04	1746	D445	2.874		0.76
863	ISO3104	2.863		-0.22	1751	ISO3104	2.8630		-0.22
873	ISO3104	2.861		-0.39	1773	ISO3104	2.8758		0.92
874	ISO3104	2.862		-0.30	1776	ISO3104	2.3749	C,R(0.01)	-43.33
875	D445	2.868		0.23	1784	D445	2.866		0.05
904	D445	2.857	C	-0.75	1807	ISO3104	2.873		0.67
912	D445	2.8677		0.20	1813	D445	2.868		0.23
1832	ISO3104	2.8749		0.84	1950	ISO3104	2.8702		0.42

1833	ISO3104	2.865	-0.04	1967	----	----	----
1834	ISO3104	2.8693	0.34	1968	----	W	----
1849	ISO3104	2.8735	0.71	1971	ISO3104	2.86985	0.39
1854	D445	2.865	-0.04	1976	ISO3104	2.8643	-0.10
1857	ISO3104	2.864	-0.13	1979	ISO3104	2.8734	0.70
1861	----	----	----	1980	ISO3104	2.8816	1.43
1862	ISO3104	2.8780	1.11	1984	ISO3104	2.855	-0.92
1872	ISO3104	2.865	-0.04	1985	D7279	2.8723	0.61
1881	ISO3104	2.8741	0.77	2129	ISO3104	2.8801	1.30
1911	----	----	----	2146	----	----	----
1936	ISO3104	2.858	-0.66	7006	----	----	----
1937	ISO3104	2.857	-0.75	9057	----	----	----
1938	ISO3104	2.8602	-0.46				

normality OK
 n 137
 outliers 5
 mean (n) 2.8654
 st.dev. (n) 0.00896
 R(calc.) 0.0251
 R(ISO3104:94) 0.0317

Lab 273: first reported 2.90
 Lab 349: first reported 2.817
 Lab 463: first reported 2.8252
 Lab 904: first reported 2.904
 Lab 1108: first reported 2.837
 Lab 1420: first reported 3.112
 Lab 1720: first reported 2.831
 Lab 1776: first reported 2.902
 Lab 1968: result withdrawn, reported 2.833
 Lab 1984: first reported 2.9216



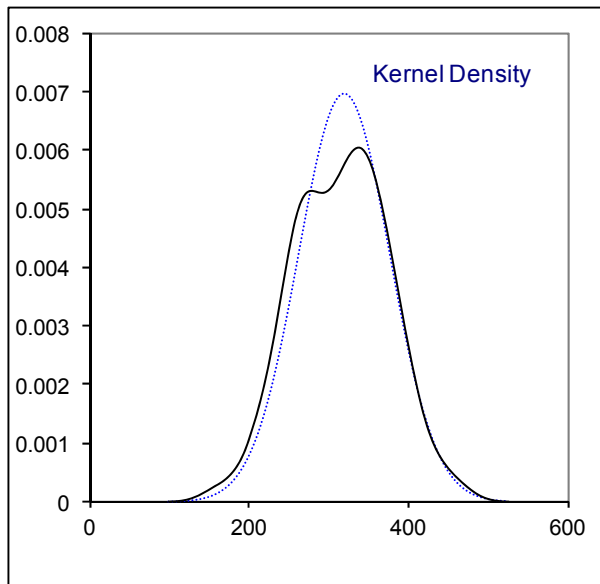
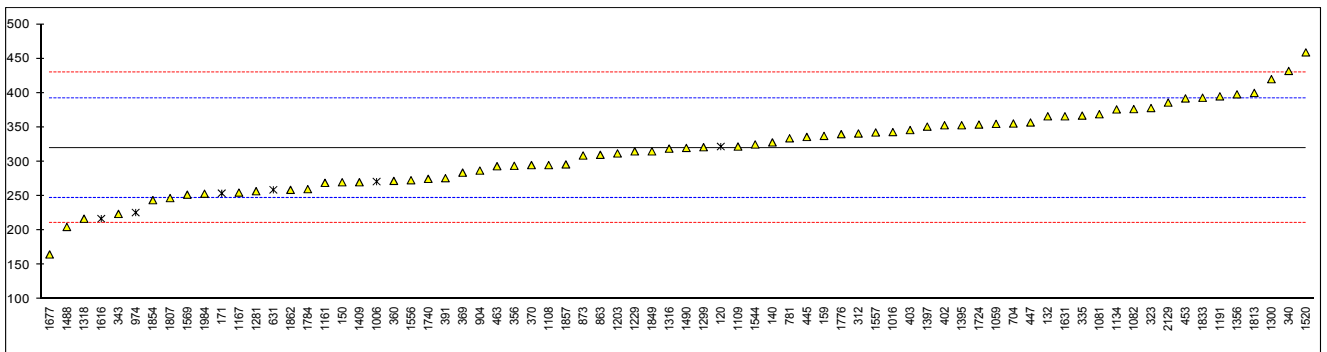
Determination of Lubricity by HFRR at 60 °C on sample #15015; result in μm

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D6079	322	ex	0.06	966		----		----
132	ISO12156-1	366		1.26	970		----		----
140	ISO12156	328.0		0.22	971		----		----
150	ISO12156-1	270.0		-1.37	974	D6079	226	ex	-2.58
159	ISO12156	337.5		0.48	998		----		----
171	D6079	254	ex	-1.81	1006	D6079	271	ex	-1.34
194		----		----	1016	ISO12156-1	343		0.63
212		----		----	1026		----		----
216		----		----	1033		----		----
225		----		----	1059	ISO12156-1	355		0.96
228		----		----	1080		----		----
237		----		----	1081	ISO12156-1	369		1.35
238		----		----	1082	ISO12156-1	376.5		1.55
240		----		----	1108	ISO12156-1	295		-0.68
273		----		----	1109	IP450	322		0.06
312	ISO12156-1	341		0.58	1121		----		----
317		----		----	1126		----		----
323	ISO12156-1	378		1.59	1134	ISO12156	376		1.54
333		----		----	1146		----		----
334		----		----	1161	ISO12156-1	269.15		-1.39
335	ISO12156-1	367		1.29	1167	ISO12156	255		-1.78
337		----		----	1191	ISO12156-1	395		2.06
338		----		----	1194		----		----
340	ISO12156-1	432		3.08	1199		----		----
342		----		----	1203	ISO12156-1	312		-0.22
343	ISO12156-1	224		-2.63	1205		----		----
349		----		----	1227		----		----
350		----		----	1229	ISO12156-1	315		-0.14
351		----		----	1238		----		----
353		----		----	1266		----		----
356	ISO12156-1	294		-0.71	1281	ISO12156-1	257		-1.73
357		----		----	1297		----		----
360	ISO12156-1	272		-1.32	1299	ISO12156-1	321		0.03
369	ISO12156-1	284		-0.99	1300	ISO12156-1	420		2.75
370	ISO12156-1	295		-0.68	1316	ISO12156-1	319		-0.03
371		----		----	1318	ISO12156-1	217		-2.83
391	ISO12156-1	276		-1.21	1345		----		----
398		----		----	1347		----		----
399		----		----	1348		----		----
402	ISO12156	353		0.91	1356	ISO12156	398		2.14
403	ISO12156	346		0.72	1385		----		----
420		----		----	1394		----		----
431		----		----	1395	ISO12156	353		0.91
432		----		----	1397	ISO12156-1	351		0.85
433		----		----	1409	ISO12156-1	270		-1.37
440		----		----	1430		----		----
445	ISO12156-1	336		0.44	1459		----		----
446		----		----	1488	ISO12156-1	205		-3.16
447	ISO12156-1	357		1.02	1490	ISO12156	320		0.00
453	ISO12156-1	392		1.98	1491		----		----
463	ISO12156-1	293.4		-0.73	1498		----		----
485		----		----	1510		----		----
541		----		----	1520	ISO12156-1	459		3.82
575		----		----	1544	ISO12156-1	325		0.14
593		----		----	1556	ISO12156-1	273		-1.29
595		----		----	1557	ISO12156-1	342.5		0.62
603		----		----	1569	ISO12156-1	252		-1.87
607		----		----	1612		----		----
621		----		----	1616	D6079	217	ex	-2.83
631	D7688	259	ex	-1.67	1631	ISO12156-1	366		1.26
663		----		----	1654		----		----
671		----		----	1677	ISO12156-1	165		-4.25
704	ISO12156	355.5		0.98	1720		----		----
750		----		----	1724	IP450	354		0.93
754		----		----	1730		----		----
781	ISO12156-1	334		0.39	1740	ISO12156-1	275		-1.23
784		----		----	1742		----		----
785		----		----	1746		----		----
863	ISO12156-1	310		-0.27	1751		----		----
873	ISO12156	309		-0.30	1773		----		----
874		----		----	1776	ISO12156-1	340		0.55
875		----		----	1784	ISO12156-1	260		-1.65
904	ISO12156-1	287		-0.90	1807	ISO12156-1	247		-2.00
912		----		----	1813	IP450	400		2.20
1832		----		----	1950		----		----

1833	ISO12156-1	393	2.01	1967	----	----
1834	----	----	----	1968	----	----
1849	ISO12156-1	315	-0.14	1971	----	----
1854	ISO12156-1	244	-2.08	1976	----	----
1857	ISO12156-1	296	-0.66	1979	----	----
1861	----	----	----	1980	----	----
1862	ISO12156-1	259	-1.67	1984	ISO12156-1	253.4
1872	----	----	----	1985	----	----
1881	----	----	----	2129	IP450	386
1911	----	----	----	2146	----	----
1936	----	----	----	7006	----	----
1937	----	----	----	9057	----	----
1938	----	----	----	----	----	----

normality OK
n 68
outliers 0 (+ 6 excl)
mean (n) 319.940
st.dev. (n) 57.2603
R(calc.) 160.329
R(ISO12156:04) 102.000

ex = result excluded, calculation procedure of test method is different form ISO12185



Determination of Manganese Content on sample #15015; result in mg/L

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120		----		----	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150		----		----	974		----		----
159		----		----	998		----		----
171		----		----	1006		----		----
194		----		----	1016		----		----
212		----		----	1026		----		----
216		----		----	1033		----		----
225		----		----	1059	In house	<1.0		----
228		----		----	1080		----		----
237		----		----	1081		----		----
238		----		----	1082		----		----
240		----		----	1108		----		----
273		----		----	1109		----		----
312	EN16576	<0.5		----	1121		----		----
317		----		----	1126		----		----
323	EN16576	<0.50		----	1134		----		----
333	EN16576	<0.5		----	1146		----		----
334		----		----	1161	EN16576	<0.5		----
335		----		----	1167		----		----
337		----		----	1191		----		----
338		----		----	1194		----		----
340		----		----	1199		----		----
342		----		----	1203	EN16576	<0.5		----
343		----		----	1205		----		----
349		----		----	1227		----		----
350		----		----	1229		----		----
351		----		----	1238		----		----
353		----		----	1266		----		----
356		----		----	1281		----		----
357		----		----	1297		----		----
360	EN16576	<0.50		----	1299		----		----
369	EN16576	<0.5		----	1300	EN16576	0.11		----
370		----		----	1316		----		----
371		----		----	1318		----		----
391		----		----	1345		----		----
398		----		----	1347		----		----
399		----		----	1348		----		----
402		----		----	1356		----		----
403	EN16576	<0.5		----	1385		----		----
420	EN16576	<0.1		----	1394		----		----
431		----		----	1395		----		----
432		----		----	1397	in house	1.8	false pos.?	----
433		----		----	1409		----		----
440		----		----	1430		----		----
445	EN16576	<0.1		----	1459		----		----
446		----		----	1488		----		----
447		----		----	1490		----		----
453	EN16576	<0.1		----	1491		----		----
463		----		----	1498		----		----
485		----		----	1510		----		----
541		----		----	1520		----		----
575		----		----	1544		----		----
593		----		----	1556		----		----
595		----		----	1557	EN16576	0.11		----
603		----		----	1569	EN16576	<0.1		----
607		----		----	1612		----		----
621		----		----	1616		----		----
631		----		----	1631		----		----
663		----		----	1654		----		----
671		----		----	1677		----		----
704		----		----	1720		----		----
750		----		----	1724		----		----
754		----		----	1730		----		----
781		----		----	1740		----		----
784		----		----	1742		----		----
785		----		----	1746		----		----
863		----		----	1751		----		----
873		----		----	1773		----		----
874		----		----	1776	EN16576	0.02		----
875		----		----	1784		0.005		----
904		----		----	1807		----		----
912		----		----	1813		----		----
1832		----		----	1950		----		----

1833	----	----	1967	----	----
1834	----	----	1968	----	----
1849	----	----	1971	EN16576	<0.5
1854	----	----	1976		----
1857	0.005	----	1979		----
1861	EN16576	n.d.	1980		----
1862	----	----	1984		----
1872	----	----	1985		----
1881	----	----	2129	D7111	0.0
1911	----	----	2146		----
1936	----	----	7006		----
1937	----	----	9057		----
1938	----	----			----
normality	n.a.				
n	21				
outliers	n.a.				
mean (n)	<0.5				
st.dev. (n)	n.a.				
R(calc.)	n.a.				
R(EN16576:13)	n.a.				

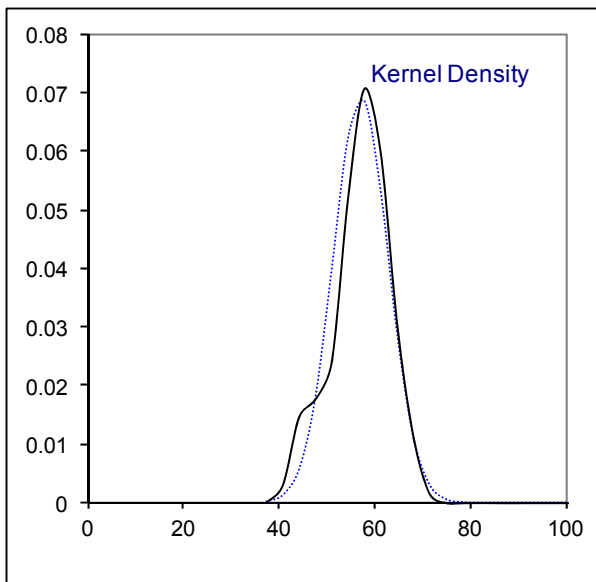
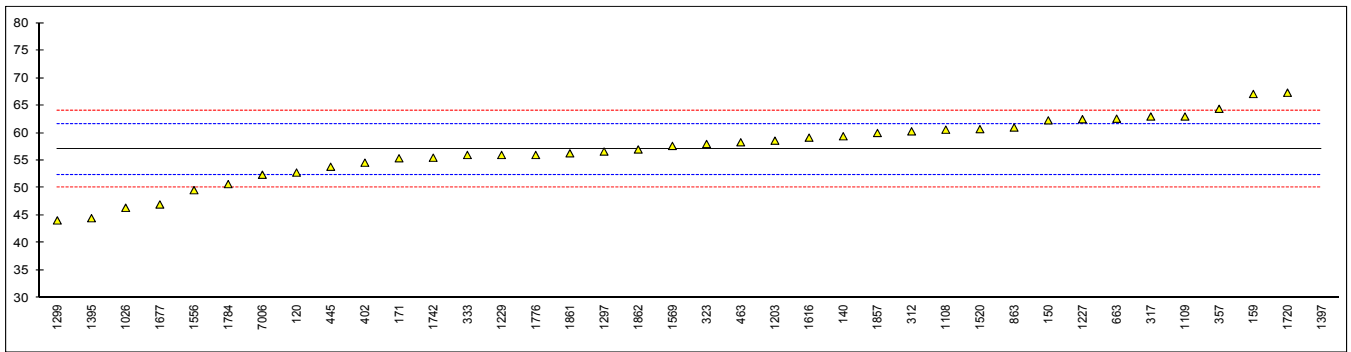
Determination of Total Nitrogen on sample #15015; result in mg/kg

lab	Method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D4629	52.8	C	-1.83	966		----		----
132		----		----	970		----		----
140	D4629	59.4		1.01	971		----		----
150	D4629	62.3	C	2.27	974		----		----
159	D4629	67.09		4.33	998		----		----
171	D4629	55.4		-0.71	1006		----		----
194		----		----	1016		----		----
212		----		----	1026	D4629	46.4	C	-4.59
216		----		----	1033		----		----
225		----		----	1059		----		----
228		----		----	1080		----		----
237		----		----	1081		----		----
238		----		----	1082		----		----
240		----		----	1108	D5762	60.6		1.53
273		----		----	1109	D4629	63		2.57
312	D4629	60.3		1.40	1121		----		----
317	D4629	63		2.57	1126		----		----
323	D4629	58		0.41	1134		----		----
333	D4629	56		-0.45	1146		----		----
334		----		----	1161		----		----
335		----		----	1167		----		----
337		----		----	1191		----		----
338		----		----	1194		----		----
340		----		----	1199		----		----
342		----		----	1203	D4629	58.6		0.67
343		----		----	1205		----		----
349		----		----	1227	D4629	62.5		2.35
350		----		----	1229	D4629	56		-0.45
351		----		----	1238		----		----
353		----		----	1266		----		----
356		----		----	1281		----		----
357	D4629	64.4		3.17	1297	D4629	56.63		-0.18
360		----		----	1299	D4629	44.1		-5.58
369		----		----	1300		----		----
370		----		----	1316		----		----
371		----		----	1318		----		----
391		----		----	1345		----		----
398		----		----	1347		----		----
399		----		----	1348		----		----
402	D4629	54.6		-1.06	1356		----		----
403		----		----	1385		----		----
420		----		----	1394		----		----
431		----		----	1395	D4629	44.5		-5.41
432		----		----	1397	D5291	900	R(0.01)	363.51
433		----		----	1409		----		----
440		----		----	1430		----		----
445	D4629	53.86		-1.37	1459		----		----
446		----		----	1488		----		----
447		----		----	1490		----		----
453		----		----	1491		----		----
463	D4629	58.31		0.54	1498		----		----
485		----		----	1510		----		----
541		----		----	1520	D4629	60.7		1.58
575		----		----	1544		----		----
593		----		----	1556	D4629	49.6		-3.21
595		----		----	1557		----		----
603		----		----	1569	D4629	57.65		0.26
607		----		----	1612		----		----
621		----		----	1616	D4629	59.16		0.91
631		----		----	1631		----		----
663	D4629	62.6		2.39	1654		----		----
671		----		----	1677	D4629	47		-4.33
704		----		----	1720	D4629	67.32		4.43
750		----		----	1724		----		----
754		----		----	1730		----		----
781		----		----	1740		----		----
784		----		----	1742	D4629	55.5		-0.67
785		----		----	1746		----		----
863	D4629	61.0		1.70	1751		----		----
873		----		----	1773		----		----
874		----		----	1776	ISO3734	56		-0.45
875		----		----	1784	D4629	50.7		-2.74
904		----		----	1807		----		----
912		----		----	1813		----		----
1832		----		----	1950		----		----

1833		----	----	1967		----	----
1834		----	----	1968		----	----
1849		----	----	1971		----	----
1854		----	----	1976		----	----
1857	D4629	60	1.27	1979		----	----
1861	D4629	56.3	-0.32	1980		----	----
1862	D4629	57	-0.02	1984		----	----
1872		----	----	1985		----	----
1881		----	----	2129		----	----
1911		----	----	2146		----	----
1936		----	----	7006	D4629	52.4	-2.00
1937		----	----	9057		----	----
1938		----	----				

normality OK
 n 37
 outliers 1
 mean (n) 57.05
 st.dev. (n) 5.763
 R(calc.) 16.14
 R(D4629:12) 6.49

Lab 120: first reported 38.3
 Lab 150: first reported 71.8
 Lab 1026: first reported 42



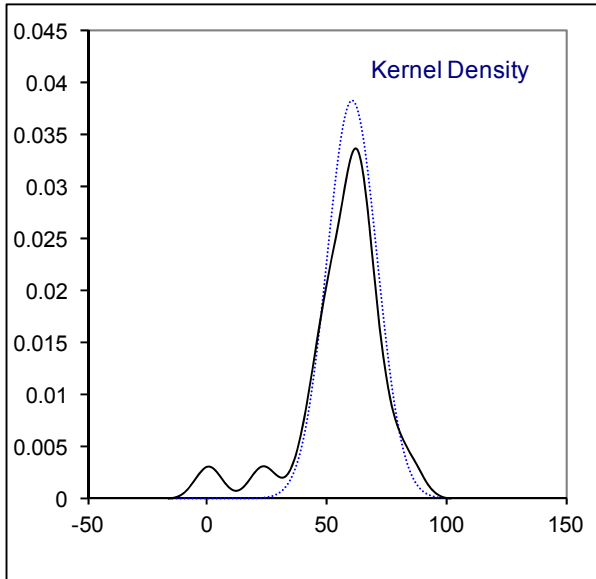
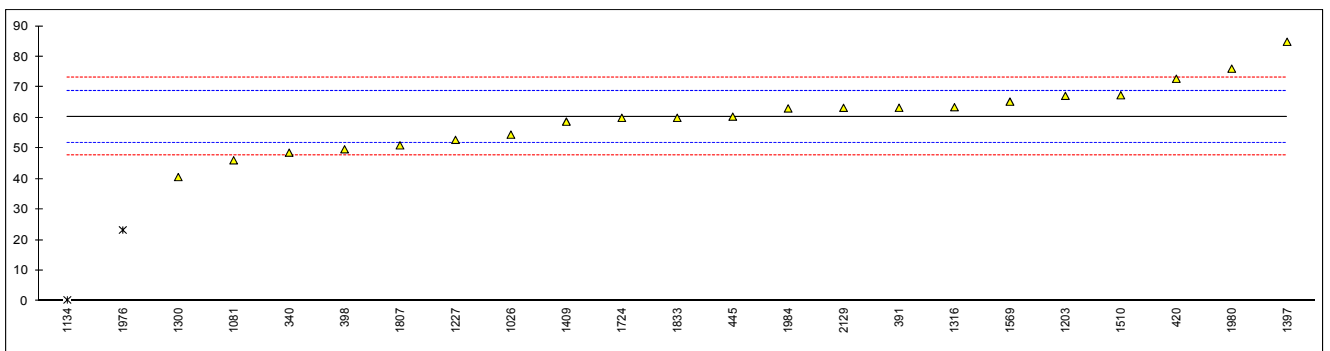
Determination of Oxidation Stability, accelerated on sample #15015; result in hrs

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120		----		----	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150		----		----	974		----		----
159		----		----	998		----		----
171	EN15751	>48		----	1006		----		----
194		----		----	1016		----		----
212		----		----	1026	EN15751	54.5		-1.40
216		----		----	1033		----		----
225		----		----	1059	EN15751	>20		----
228		----		----	1080		----		----
237		----		----	1081	EN15751	46.1		-3.38
238		----		----	1082		----		----
240		----		----	1108		----		----
273		----		----	1109		----		----
312	EN15751	>40		----	1121		----		----
317		----		----	1126		----		----
323	EN15751	>48		----	1134	EN15751	0.4	R(0.01)	-14.15
333		----		----	1146		----		----
334		----		----	1161		----		----
335		----		----	1167		----		----
337		----		----	1191		----		----
338		----		----	1194		----		----
340	EN15751	48.6		-2.79	1199		----		----
342		----		----	1203	EN15751	67.2		1.59
343	EN15751	>48		----	1205		----		----
349		----		----	1227	EN15751	52.8		-1.80
350		----		----	1229		----		----
351		----		----	1238		----		----
353		----		----	1266		----		----
356		----		----	1281		----		----
357		----		----	1297		----		----
360	EN15751	>48		----	1299		----		----
369		----		----	1300	EN15751	40.61		-4.67
370		----		----	1316	EN15751	63.49		0.72
371		----		----	1318		----		----
391	EN15751	63.3		0.67	1345		----		----
398	EN15751	49.7		-2.53	1347		----		----
399		----		----	1348		----		----
402	EN15751	>48		----	1356		----		----
403		----		----	1385		----		----
420	EN15751	72.8		2.91	1394		----		----
431		----		----	1395		----		----
432		----		----	1397	EN15751	84.9		5.76
433		----		----	1409	EN15751	58.76		-0.40
440		----		----	1430		----		----
445	EN15751	60.4		-0.01	1459	EN15751	>48		----
446		----		----	1488		----		----
447		----		----	1490	EN15751	>20		----
453		----		----	1491		----		----
463		----		----	1498		----		----
485		----		----	1510	EN15751	67.4		1.64
541		----		----	1520		----		----
575		----		----	1544		----		----
593		----		----	1556		----		----
595		----		----	1557		----		----
603		----		----	1569	EN15751	65.3		1.14
607		----		----	1612		----		----
621		----		----	1616		----		----
631		----		----	1631	EN15751	>20		----
663		----		----	1654		----		----
671		----		----	1677		----		----
704		----		----	1720		----		----
750		----		----	1724	EN15751	60		-0.10
754		----		----	1730		----		----
781		----		----	1740		----		----
784		----		----	1742		----		----
785		----		----	1746		----		----
863		----		----	1751		----		----
873		----		----	1773		----		----
874		----		----	1776		----		----
875		----		----	1784		----		----
904		----		----	1807	EN15751	51.00		-2.23
912		----		----	1813		----		----
1832		----		----	1950		----		----

1833	EN15751	60	-0.10	1967		----	----
1834		----	----	1968		----	----
1849		----	----	1971	EN15751	>48	----
1854		----	----	1976	EN15751	23.28	C,R(0.05)
1857		----	----	1979		----	----
1861		----	----	1980	EN15751	76.1	3.69
1862		----	----	1984	EN15751	63.08	0.62
1872		----	----	1985		----	----
1881		----	----	2129	EN15751	63.27	0.67
1911		----	----	2146		----	----
1936		----	----	7006		----	----
1937		----	----	9057		----	----
1938		----	----				

normality OK
 n 21
 outliers 2
 mean (n) 60.44
 st.dev. (n) 10.457
 R(calc.) 29.28
 R(EN15751:14) 11.88

Lab 1968: first reported 1.16 (EN16091)



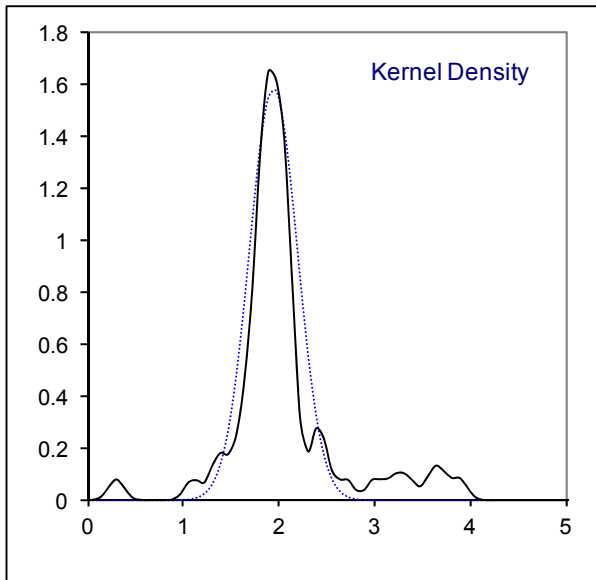
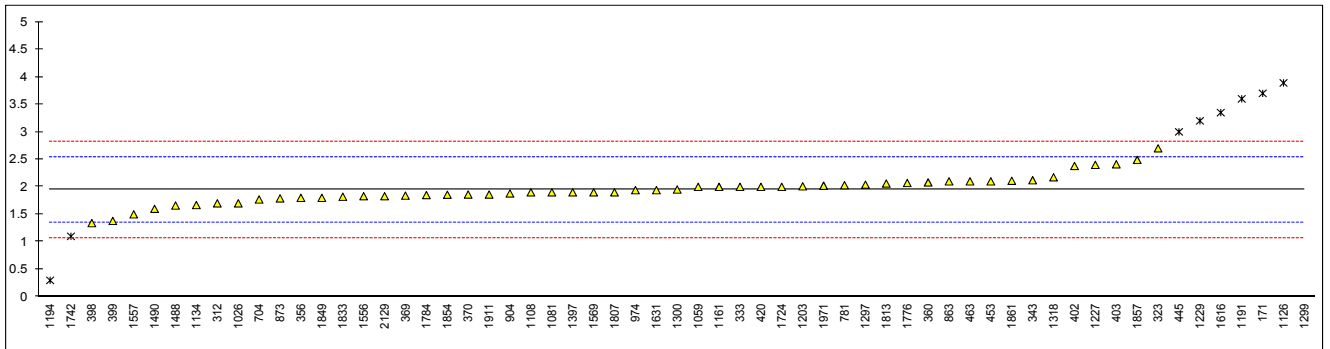
Determination of Poly-Aromatic Hydrocarbons on sample #15015; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120		----		----	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150		----		----	974	IP391	1.94		-0.01
159		----		----	998		----		----
171	D6591	3.7	C,R(0.01)	5.96	1006		----		----
194		----		----	1016		----		----
212		----		----	1026	EN12916	1.7	C	-0.83
216		----		----	1033		----		----
225		----		----	1059	EN12916	2.0		0.19
228		----		----	1080		----		----
237		----		----	1081	EN12916	1.9		-0.15
238		----		----	1082		----		----
240		----		----	1108	EN12916	1.9		-0.15
273		----		----	1109		----		----
312	EN12916	1.7		-0.83	1121		----		----
317		----		----	1126	EN12916	3.89	R(0.01)	6.61
323	EN12916	2.7		2.57	1134	EN12916	1.669		-0.93
333	EN12916	2.0		0.19	1146		----		----
334		----		----	1161	EN12916	2.0		0.19
335		----		----	1167		----		----
337		----		----	1191	EN12916	3.6	R(0.01)	5.63
338		----		----	1194	EN12916	0.3	R(0.01)	-5.58
340		----		----	1199		----		----
342		----		----	1203	EN12916	2.01		0.23
343	EN12916	2.12	C,E	0.60	1205		----		----
349		----		----	1227	EN12916	2.4		1.55
350		----		----	1229	EN12916	3.2	R(0.01)	4.27
351		----		----	1238		----		----
353		----		----	1266		----		----
356	EN12916	1.8		-0.49	1281		----		----
357		----		----	1297	EN12916	2.04		0.33
360	EN12916	2.08		0.46	1299	EN12916	21.1	R(0.01), E	65.05
369	EN12916	1.84		-0.35	1300	EN12916	1.95109		0.03
370	EN12916	1.86		-0.28	1316		----		----
371		----		----	1318	EN12916	2.174		0.78
391		----		----	1345		----		----
398	EN12916	1.34		-2.05	1347		----		----
399	EN12916	1.38		-1.91	1348		----		----
402	EN12916	2.38		1.48	1356		----		----
403	EN12916	2.41		1.58	1385		----		----
420	EN12916	2.0		0.19	1394		----		----
431		----		----	1395		----		----
432		----		----	1397	EN12916	1.9	E	-0.15
433		----		----	1409		----		----
440		----		----	1430		----		----
445	IP391	3.00	R(0.01), E	3.59	1459		----		----
446		----		----	1488	EN12916	1.66		-0.96
447		----		----	1490	E1655	1.6		-1.17
453	IP391	2.1		0.53	1491		----		----
463	EN12916	2.1		0.53	1498		----		----
485		----		----	1510		----		----
541		----		----	1520		----		----
575		----		----	1544		----		----
593		----		----	1556	EN12916	1.83		-0.39
595		----		----	1557	EN12916	1.5		-1.51
603		----		----	1569	EN12916	1.9		-0.15
607		----		----	1612		----		----
621		----		----	1616	D6591	3.35	R(0.01)	4.78
631		----		----	1631	EN12916	1.94		-0.01
663		----		----	1654		----		----
671		----		----	1677		----		----
704	EN12916	1.77		-0.59	1720		----		----
750		----		----	1724	IP391	2.0		0.19
754		----		----	1730		----		----
781	EN12916	2.03		0.29	1740		----		----
784		----		----	1742	EN12916	1.1	R(0.01)	-2.86
785		----		----	1746		----		----
863	IP391	2.1		0.53	1751		----		----
873	EN12916	1.79		-0.52	1773		----		----
874		----		----	1776	EN12916	2.07	E	0.43
875		----		----	1784		1.85		-0.32
904	EN12916	1.88		-0.22	1807	EN12916	1.9		-0.15
912		----		----	1813	IP391	2.06		0.40
1832		----		----	1950		----		----

1833	EN12916	1.82	-0.42	1967	----	----
1834	----	----	----	1968	----	----
1849	EN12916	1.80	-0.49	1971	EN12916	2.02
1854	EN12916	1.856	-0.30	1976	----	----
1857	IP391	2.49	1.86	1979	----	----
1861	IP391	2.11	0.57	1980	----	----
1862	----	----	----	1984	----	----
1872	----	----	----	1985	----	----
1881	----	----	----	2129	EN12916	1.83
1911	EN12916	1.86	-0.28	2146	----	----
1936	----	----	----	7006	----	----
1937	----	----	----	9057	----	----
1938	----	----	----			

normality suspect
 n 52
 outliers 9
 mean (n) 1.943
 st.dev. (n) 0.2515
 R(calc.) 0.704
 R(EN12916:06) 0.825

Lab 171: first reported 6.0
 Lab 343: first reported 3.12
 Lab 1026: first reported 20



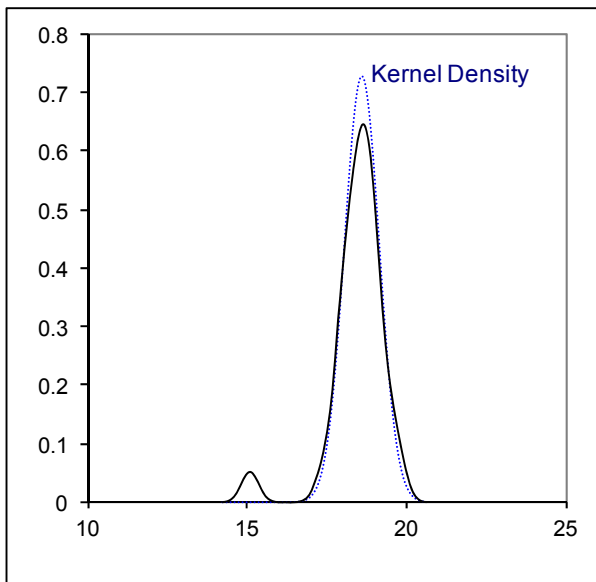
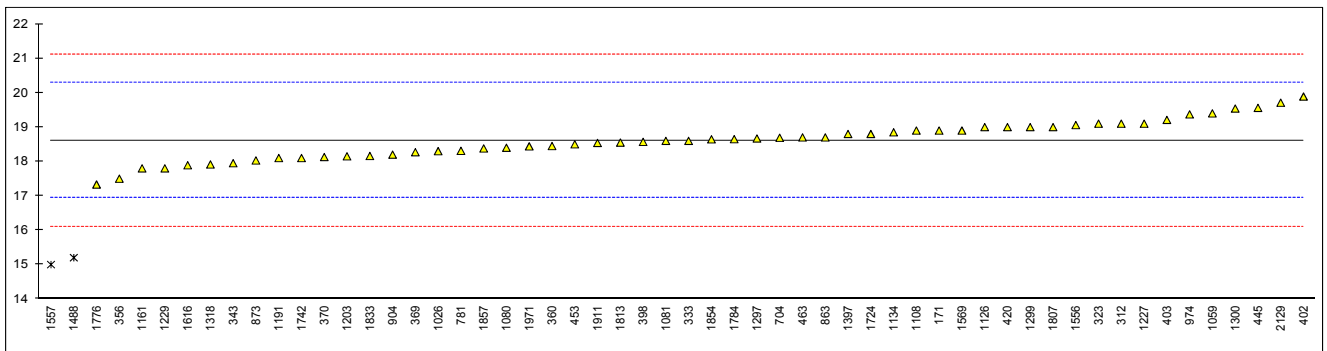
Determination of Mono-Aromatic Hydrocarbons on sample #15015; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120		----		----	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150		----		----	974	IP391	19.37		0.90
159		----		----	998		----		----
171	D6591	18.9		0.34	1006		----		----
194		----		----	1016		----		----
212		----		----	1026	EN12916	18.3		-0.38
216		----		----	1033		----		----
225		----		----	1059	EN12916	19.4		0.94
228		----		----	1080	EN12916	18.4		-0.26
237		----		----	1081	EN12916	18.6		-0.02
238		----		----	1082		----		----
240		----		----	1108	EN12916	18.9		0.34
273		----		----	1109		----		----
312	EN12916	19.1		0.58	1121		----		----
317		----		----	1126	EN12916	19.0		0.46
323	EN12916	19.1		0.58	1134	EN12916	18.849		0.28
333	EN12916	18.6		-0.02	1146		----		----
334		----		----	1161	EN12916	17.8		-0.98
335		----		----	1167		----		----
337		----		----	1191	EN12916	18.1		-0.62
338		----		----	1194		----		----
340		----		----	1199		----		----
342		----		----	1203	EN12916	18.15		-0.56
343	EN12916	17.95	C	-0.80	1205		----		----
349		----		----	1227	EN12916	19.1		0.58
350		----		----	1229	EN12916	17.8		-0.98
351		----		----	1238		----		----
353		----		----	1266		----		----
356	EN12916	17.5		-1.34	1281		----		----
357		----		----	1297	EN12916	18.67		0.07
360	EN12916	18.45		-0.20	1299	EN12916	19.0		0.46
369	EN12916	18.27		-0.41	1300	EN12916	19.5399		1.11
370	EN12916	18.13		-0.58	1316		----		----
371		----		----	1318	EN12916	17.913		-0.84
391		----		----	1345		----		----
398	EN12916	18.57		-0.05	1347		----		----
399		----		----	1348		----		----
402	EN12916	19.89		1.53	1356		----		----
403	EN12916	19.21		0.71	1385		----		----
420	EN12916	19.0		0.46	1394		----		----
431		----		----	1395		----		----
432		----		----	1397	EN12916	18.8		0.22
433		----		----	1409		----		----
440		----		----	1430		----		----
445	IP391	19.56	C	1.13	1459		----		----
446		----		----	1488	EN12916	15.2	C,R(0.01)	-4.09
447		----		----	1490		----		----
453	IP391	18.5		-0.14	1491		----		----
463	EN12916	18.7		0.10	1498		----		----
485		----		----	1510		----		----
541		----		----	1520		----		----
575		----		----	1544		----		----
593		----		----	1556	EN12916	19.06		0.53
595		----		----	1557	EN12916	15.0	C,R(0.01)	-4.33
603		----		----	1569	EN12916	18.9		0.34
607		----		----	1612		----		----
621		----		----	1616	D6591	17.89		-0.87
631		----		----	1631		----		----
663		----		----	1654		----		----
671		----		----	1677		----		----
704	EN12916	18.69		0.09	1720		----		----
750		----		----	1724	IP391	18.8		0.22
754		----		----	1730		----		----
781	EN12916	18.31		-0.37	1740		----		----
784		----		----	1742	EN12916	18.1		-0.62
785		----		----	1746		----		----
863	IP391	18.7		0.10	1751		----		----
873	EN12916	18.03		-0.70	1773		----		----
874		----		----	1776	EN12916	17.33	C	-1.54
875		----		----	1784		18.65		0.04
904	EN12916	18.2		-0.50	1807	EN12916	19.0		0.46
912		----		----	1813	IP391	18.55		-0.08
1832		----		----	1950		----		----

1833	EN12916	18.16	-0.55	1967	----	----
1834		----	----	1968		----
1849		----	----	1971	EN12916	18.44
1854	EN12916	18.645	0.04	1976		----
1857	IP391	18.38	-0.28	1979		----
1861		----	----	1980		----
1862		----	----	1984		----
1872		----	----	1985		----
1881		----	----	2129	EN12916	19.71
1911	EN12916	18.54	-0.09	2146		----
1936		----	----	7006		----
1937		----	----	9057		----
1938		----	----			----

normality OK
 n 54
 outliers 2
 mean (n) 18.615
 st.dev. (n) 0.5475
 R(calc.) 1.533
 R(EN12916:06) 2.337

Lab 343: first reported 19.09
 Lab 445: first reported 23.91
 lab 1488: first reported 16.21
 Lab 1557: first reported 16.6
 Lab 1776: first reported 16.2



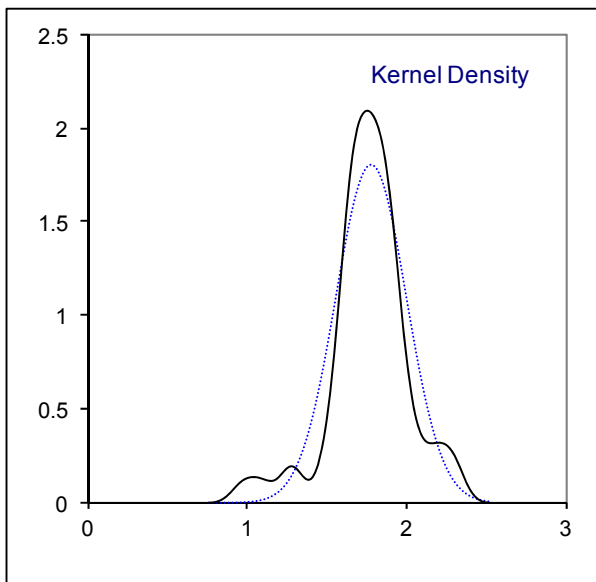
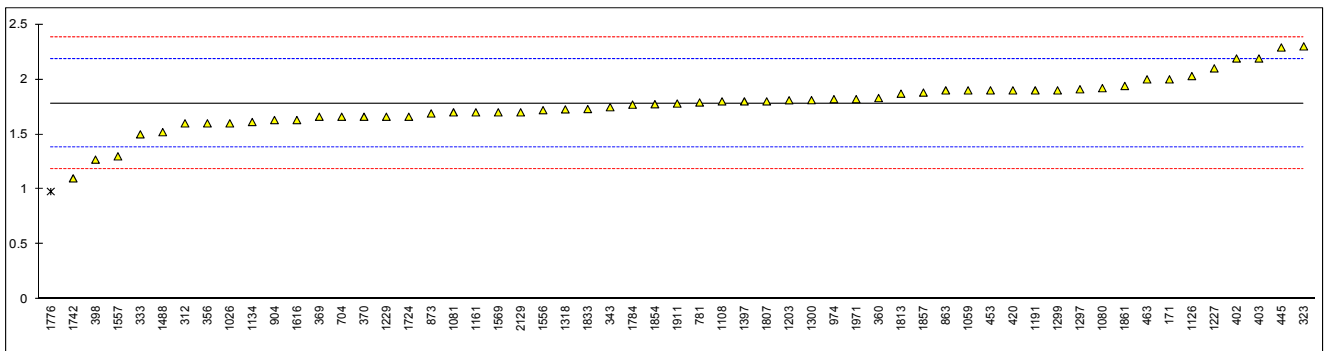
Determination of Di-Aromatic Hydrocarbons on sample #15015; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120		----		----	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150		----		----	974	IP391	1.82		0.20
159		----		----	998		----		----
171	D6591	2.0	C	1.10	1006		----		----
194		----		----	1016		----		----
212		----		----	1026	EN12916	1.6		-0.90
216		----		----	1033		----		----
225		----		----	1059	EN12916	1.9		0.60
228		----		----	1080	EN12916	1.92		0.70
237		----		----	1081	EN12916	1.7		-0.40
238		----		----	1082		----		----
240		----		----	1108	EN12916	1.8		0.10
273		----		----	1109		----		----
312	EN12916	1.6		-0.90	1121		----		----
317		----		----	1126	EN12916	2.03		1.25
323	EN12916	2.3		2.60	1134	EN12916	1.612		-0.84
333	EN12916	1.5		-1.40	1146		----		----
334		----		----	1161	EN12916	1.7		-0.40
335		----		----	1167		----		----
337		----		----	1191	EN12916	1.9		0.60
338		----		----	1194		----		----
340		----		----	1199		----		----
342		----		----	1203	EN12916	1.81		0.15
343	EN12916	1.747	C	-0.17	1205		----		----
349		----		----	1227	EN12916	2.1		1.60
350		----		----	1229	EN12916	1.66		-0.60
351		----		----	1238		----		----
353		----		----	1266		----		----
356	EN12916	1.6		-0.90	1281		----		----
357		----		----	1297	EN12916	1.91		0.65
360	EN12916	1.83		0.25	1299	EN12916	1.9		0.60
369	EN12916	1.66		-0.60	1300	EN12916	1.8112		0.15
370	EN12916	1.66		-0.60	1316		----		----
371		----		----	1318	EN12916	1.727		-0.27
391		----		----	1345		----		----
398	EN12916	1.27		-2.56	1347		----		----
399		----		----	1348		----		----
402	EN12916	2.19		2.05	1356		----		----
403	EN12916	2.19		2.05	1385		----		----
420	EN12916	1.9		0.60	1394		----		----
431		----		----	1395		----		----
432		----		----	1397	EN12916	1.8		0.10
433		----		----	1409		----		----
440		----		----	1430		----		----
445	IP391	2.29	C	2.55	1459		----		----
446		----		----	1488	EN12916	1.52		-1.30
447		----		----	1490		----		----
453	IP391	1.9		0.60	1491		----		----
463	EN12916	2.0		1.10	1498		----		----
485		----		----	1510		----		----
541		----		----	1520		----		----
575		----		----	1544		----		----
593		----		----	1556	EN12916	1.72		-0.30
595		----		----	1557	EN12916	1.3		-2.40
603		----		----	1569	EN12916	1.7		-0.40
607		----		----	1612		----		----
621		----		----	1616	D6591	1.63		-0.75
631		----		----	1631		----		----
663		----		----	1654		----		----
671		----		----	1677		----		----
704	EN12916	1.66		-0.60	1720		----		----
750		----		----	1724	IP391	1.66		-0.60
754		----		----	1730		----		----
781	EN12916	1.79		0.05	1740		----		----
784		----		----	1742	EN12916	1.1		-3.41
785		----		----	1746		----		----
863	IP391	1.9		0.60	1751		----		----
873	EN12916	1.69		-0.45	1773		----		----
874		----		----	1776	EN12916	0.98	C,R(0.05)	-4.01
875		----		----	1784		1.77		-0.05
904	EN12916	1.63		-0.75	1807	EN12916	1.8		0.10
912		----		----	1813	IP391	1.87		0.45
1832		----		----	1950		----		----

1833	EN12916	1.73	-0.25	1967	----	----
1834		----	----	1968	----	----
1849		----	----	1971	EN12916	1.82
1854	EN12916	1.774	-0.03	1976	----	----
1857	IP391	1.88	0.50	1979	----	----
1861	IP391	1.94	0.80	1980	----	----
1862		----	----	1984	----	----
1872		----	----	1985	----	----
1881		----	----	2129	EN12916	1.70
1911	EN12916	1.78	0.00	2146	----	-0.40
1936		----	----	7006	----	----
1937		----	----	9057	----	----
1938		----	----			

normality	suspect
n	56
outliers	1
mean (n)	1.780
st.dev. (n)	0.2211
R(calc.)	0.619
R(EN12916:06)	0.559

Lab 171: first reported 2.2
 Lab 343: first reported 2.903
 Lab 445: first reported 2.76
 Lab 1776: first reported 0.6



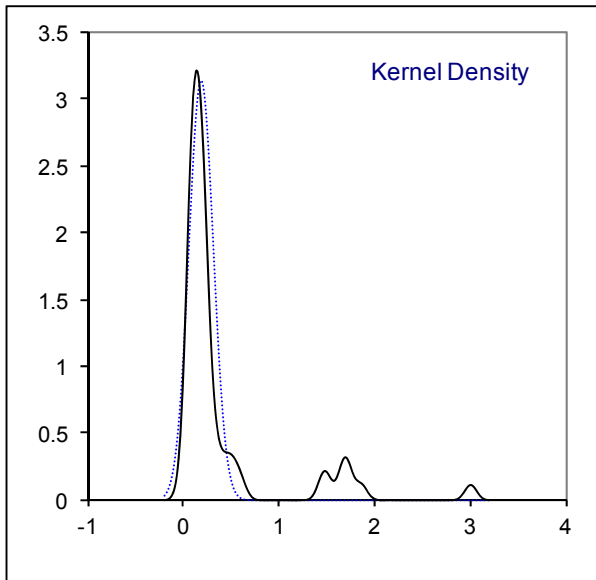
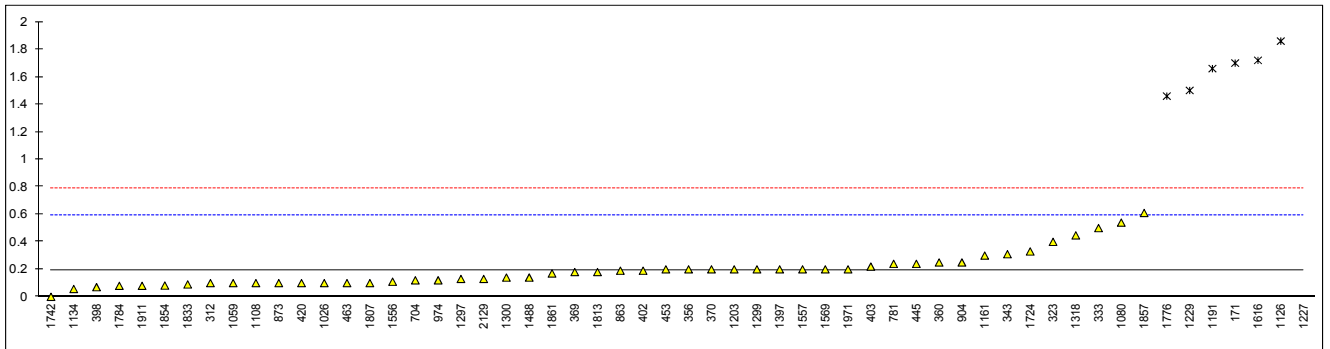
Determination of Tri⁺-Aromatic Hydrocarbons on sample #15015; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120		----		----	966		----		----
132		----		----	970		----		----
140		----		----	971		----		----
150		----		----	974	IP391	0.12		-0.37
159		----		----	998		----		----
171	D6591	1.7	C,R(0.01)	7.58	1006		----		----
194		----		----	1016		----		----
212		----		----	1026	EN12916	0.1		-0.47
216		----		----	1033		----		----
225		----		----	1059	EN12916	0.1		-0.47
228		----		----	1080	EN12916	0.54		1.74
237		----		----	1081		----		----
238		----		----	1082		----		----
240		----		----	1108	EN12916	0.1		-0.47
273		----		----	1109		----		----
312	EN12916	0.1		-0.47	1121		----		----
317		----		----	1126	EN12916	1.86	R(0.01)	8.38
323	EN12916	0.4		1.04	1134	EN12916	0.057		-0.69
333	EN12916	0.5		1.54	1146		----		----
334		----		----	1161	EN12916	0.3		0.53
335		----		----	1167		----		----
337		----		----	1191	EN12916	1.66	R(0.01)	7.38
338		----		----	1194		----		----
340		----		----	1199		----		----
342		----		----	1203	EN12916	0.20		0.03
343	EN12916	0.31	C	0.58	1205		----		----
349		----		----	1227	EN12916	3.0	R(0.01)	14.12
350		----		----	1229	EN12916	1.501	R(0.01)	6.58
351		----		----	1238		----		----
353		----		----	1266		----		----
356	EN12916	0.2		0.03	1281		----		----
357		----		----	1297	EN12916	0.13		-0.32
360	EN12916	0.25		0.28	1299	EN12916	0.2		0.03
369	EN12916	0.18		-0.07	1300	EN12916	0.1399		-0.27
370	EN12916	0.20		0.03	1316		----		----
371		----		----	1318	EN12916	0.447		1.27
391		----		----	1345		----		----
398	EN12916	0.07		-0.62	1347		----		----
399		----		----	1348		----		----
402	EN12916	0.19		-0.02	1356		----		----
403	EN12916	0.22		0.13	1385		----		----
420	EN12916	0.1		-0.47	1394		----		----
431		----		----	1395		----		----
432		----		----	1397	EN12916	0.2		0.03
433		----		----	1409		----		----
440		----		----	1430		----		----
445	IP391	0.24		0.23	1459		----		----
446		----		----	1488	EN12916	0.14		-0.27
447		----		----	1490		----		----
453	IP391	0.2		0.03	1491		----		----
463	EN12916	0.1		-0.47	1498		----		----
485		----		----	1510		----		----
541		----		----	1520		----		----
575		----		----	1544		----		----
593		----		----	1556	EN12916	0.11		-0.42
595		----		----	1557	EN12916	0.2		0.03
603		----		----	1569	EN12916	0.2		0.03
607		----		----	1612		----		----
621		----		----	1616	D6591	1.72	R(0.01)	7.68
631		----		----	1631		----		----
663		----		----	1654		----		----
671		----		----	1677		----		----
704	EN12916	0.12		-0.37	1720		----		----
750		----		----	1724	IP391	0.33		0.69
754		----		----	1730		----		----
781	EN12916	0.24		0.23	1740		----		----
784		----		----	1742	EN12916	0.0		-0.97
785		----		----	1746		----		----
863	IP391	0.19		-0.02	1751		----		----
873	EN12916	0.10		-0.47	1773		----		----
874		----		----	1776	EN12916	1.46	C,R(0.01)	6.37
875		----		----	1784		0.08		-0.57
904	EN12916	0.25		0.28	1807	EN12916	0.1		-0.47
912		----		----	1813	IP391	0.18		-0.07
1832		----		----	1950		----		----

1833	EN12916	0.09	-0.52	1967	----	----
1834		----	----	1968	----	----
1849		----	----	1971	EN12916	0.20
1854	EN12916	0.082	-0.56	1976	----	----
1857	IP391	0.61	2.09	1979	----	----
1861	IP391	0.17	-0.12	1980	----	----
1862		----	----	1984	----	----
1872		----	----	1985	----	----
1881		----	----	2129	EN12916	0.13
1911	EN12916	0.08	-0.57	2146	----	----
1936		----	----	7006	----	----
1937		----	----	9057	----	----
1938		----	----			

normality not OK
n 49
outliers 7
mean (n) 0.194
st.dev. (n) 0.1269
R(calc.) 0.355
R(EN12916:06) 0.557

Lab 171: first reported 3.7
Lab 343: first reported 0.123
Lab 1776: first reported 1.45

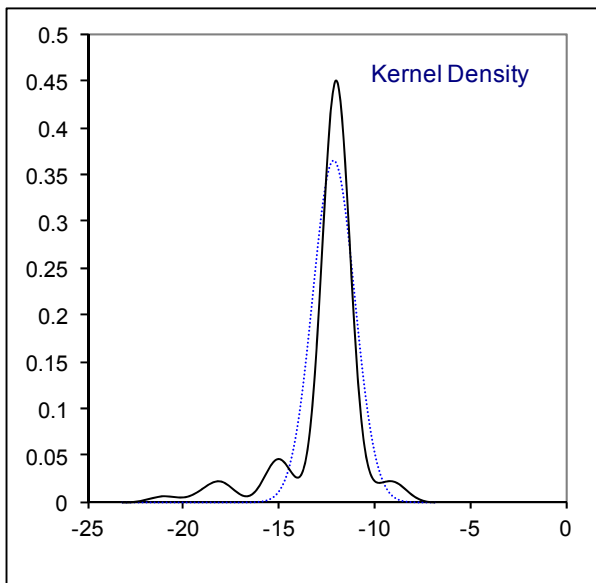
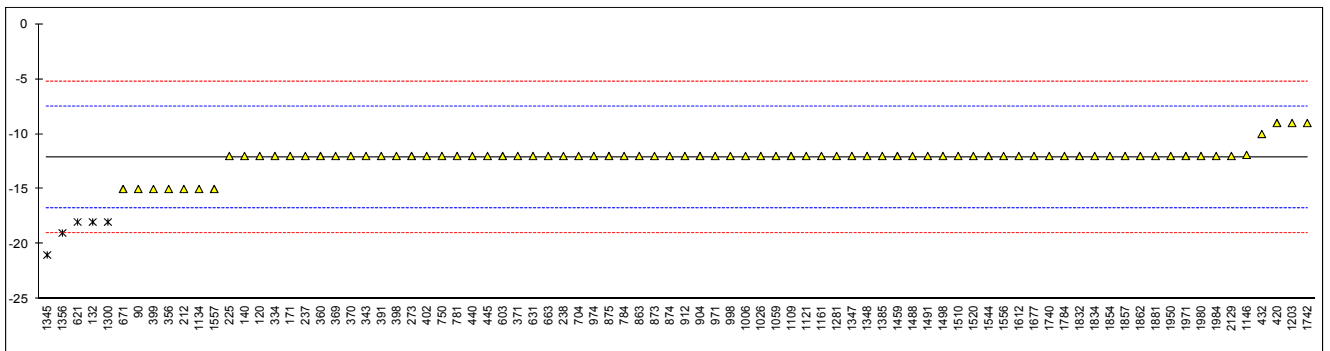


Determination of Pour Point, Manual on sample #15015; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D97	-15		-1.25	963		----		----
120	D97	-12		0.05	966		----		----
132	ISO3016	-18	R(0.01)	-2.56	970		----		----
140	ISO3016	-12		0.05	971	D97	-12		0.05
150		----		----	974	D97	-12		0.05
159		----		----	998	D97	-12.0		0.05
171	D97	-12		0.05	1006	D97	-12		0.05
194		----		----	1016		----		----
212	ISO3016	-15		-1.25	1026	D97	-12		0.05
216		----		----	1033		----		----
225	D97	-12		0.05	1059	ISO3016	-12		0.05
228		----		----	1080		----		----
237	D97	-12		0.05	1081		----		----
238	D97	-12		0.05	1082		----		----
240		----		----	1108		----		----
273	D97	-12		0.05	1109	D97	-12		0.05
312		----		----	1121	IP15	-12		0.05
317		----		----	1126		----		----
323		----		----	1134	ISO3016	-15		-1.25
333		----		----	1146	ISO3016	-11.9		0.10
334	D97	-12		0.05	1161	ISO3016	-12		0.05
335		----		----	1167		----		----
337		----		----	1191		----		----
338		----		----	1194		----		----
340		----		----	1199		----		----
342		----		----	1203	ISO3016	-9		1.36
343	D97	-12		0.05	1205		----		----
349		----		----	1227		----		----
350		----		----	1229		----		----
351		----		----	1238		----		----
353		----		----	1266		----		----
356	ISO3016	-15		-1.25	1281	ISO3016	-12.0		0.05
357		----		----	1297		----		----
360	ISO3016	-12		0.05	1299		----		----
369	ISO3016	-12		0.05	1300	ISO3016	-18	R(0.01)	-2.56
370	ISO3016	-12		0.05	1316		----		----
371	ISO3016	-12		0.05	1318		----		----
391	ISO3016	-12		0.05	1345	D97	-21	R(0.01)	-3.86
398	ISO3016	-12		0.05	1347	D97	-12		0.05
399	ISO3016	-15		-1.25	1348	D97	-12		0.05
402	ISO3016	-12		0.05	1356	ISO3016	-19	R(0.01)	-2.99
403		----		----	1385	D97	-12		0.05
420	ISO3016	-9		1.36	1394		----		----
431		----		----	1395		----		----
432	ISO3016	-10		0.93	1397		----		----
433		----		----	1409		----		----
440	IP15	-12		0.05	1430		----		----
445	IP15	-12		0.05	1459	ISO3016	-12		0.05
446		----		----	1488	ISO3016	-12.0		0.05
447		----		----	1490		----		----
453		----		----	1491	ISO3016	-12		0.05
463		----		----	1498	D97	-12		0.05
485		----		----	1510	D97	-12		0.05
541		----		----	1520	ISO3016	-12		0.05
575		----		----	1544	ISO3016	-12		0.05
593		----		----	1556	ISO3016	-12		0.05
595		----		----	1557	ISO3016	-15		-1.25
603	ISO3016	-12		0.05	1569		----		----
607		----		----	1612	D97	-12		0.05
621	D97	-18.0	R(0.01)	-2.56	1616		----		----
631	D97	-12		0.05	1631		----		----
663	D97	-12		0.05	1654		----		----
671	D97	-15		-1.25	1677	D97	-12		0.05
704	ISO3016	-12		0.05	1720		----		----
750	D97	-12		0.05	1724		----		----
754		----		----	1730		----		----
781	ISO3016	-12		0.05	1740	ISO3016	-12		0.05
784	ISO3016	-12		0.05	1742	ISO3016	-9		1.36
785		----		----	1746		----		----
863	ISO3016	-12		0.05	1751		----		----
873	ISO3016	-12		0.05	1773		----		----
874	ISO3016	-12		0.05	1776		----		----
875	D97	-12		0.05	1784		-12		0.05
904	D97	-12		0.05	1807		----		----
912	D97	-12.0		0.05	1813		----		----
1832	ISO3016	-12		0.05	1950	ISO3016	-12		0.05

1833		----	----	1967		----	----
1834	ISO3016	-12	0.05	1968		----	----
1849		----	----	1971	ISO3016	-12.0	0.05
1854	D97	-12	0.05	1976		----	----
1857	ISO3016	-12	0.05	1979		----	----
1861		----	----	1980	ISO3016	-12.0	0.05
1862	ISO3016	-12	0.05	1984	INH-105	-12	0.05
1872		----	----	1985		----	----
1881	ISO3016	-12	0.05	2129	ISO3016	-12	0.05
1911		----	----	2146		----	----
1936		----	----	7006		----	----
1937		----	----	9057		----	----
1938		----	----				

normality not OK
n 79
outliers 5
mean (n) -12.125
st.dev. (n) 1.0906
R(calc.) 3.054
R(ISO3016:94) 6.430



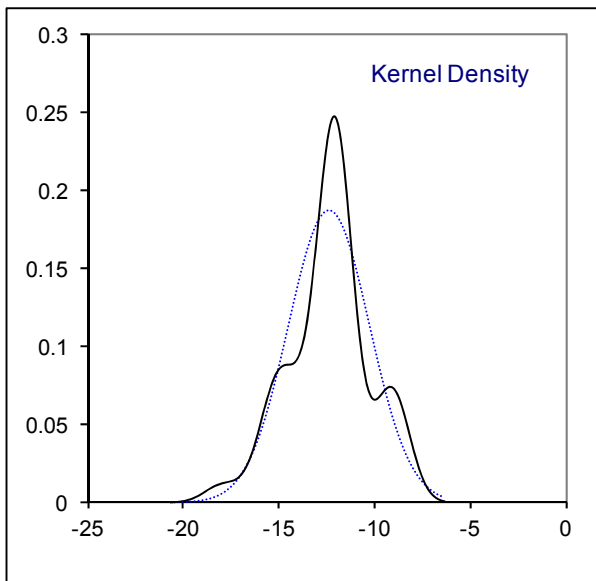
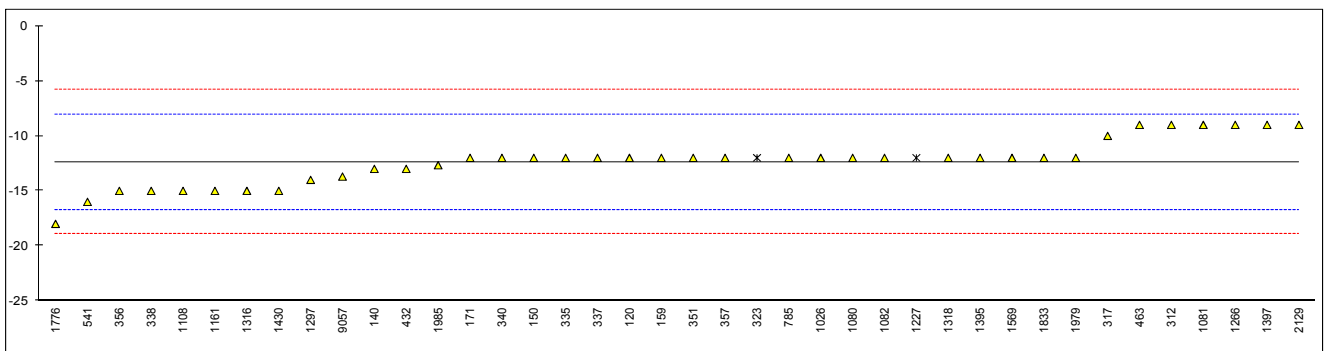
Determination of Pour Point, Automated on sample #15015; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D5949	-12		0.17	966		----		----
132		----		----	970		----		----
140	D5950	-13		-0.29	971		----		----
150	D5950	-12		0.17	974		----		----
159	D5950	-12.0		0.17	998		----		----
171	D5950	-12		0.17	1006		----	C	----
194		----		----	1016		----		----
212		----		----	1026	D5950	-12		0.17
216		----		----	1033		----		----
225		----		----	1059		----		----
228		----		----	1080	D6749	-12		0.17
237		----		----	1081	D5950	-9		1.55
238		----		----	1082	D5950	-12		0.17
240		----		----	1108	D5950	-15		-1.20
273		----		----	1109		----		----
312	D5950	-9		1.55	1121		----		----
317	D6749	-10		1.09	1126		----		----
323	ISO3016	-12	ex	0.17	1134		----		----
333		----		----	1146		----		----
334		----		----	1161	D5950	-15		-1.20
335	D5950	-12		0.17	1167		----		----
337	D5950	-12		0.17	1191		----		----
338	INH-105	-15		-1.20	1194		----		----
340	D5950	-12		0.17	1199		----		----
342		----		----	1203		----		----
343		----		----	1205		----		----
349		----		----	1227	D97	-12	ex	0.17
350		----		----	1229		----		----
351	D6749	-12		0.17	1238		----		----
353		----		----	1266		-9.0		1.55
356	D5950	-15		-1.20	1281		----		----
357	D5950	-12		0.17	1297	D5950	-14.0		-0.74
360		----		----	1299		----		----
369		----		----	1300		----		----
370		----		----	1316	D5950	-15		-1.20
371		----		----	1318	D7346	-12		0.17
391		----		----	1345		----		----
398		----		----	1347		----		----
399		----		----	1348		----		----
402		----		----	1356		----		----
403		----		----	1385		----		----
420		----		----	1394		----		----
431		----		----	1395	D5950	-12		0.17
432	D5950	-13		-0.29	1397	D5950	-9		1.55
433		----		----	1409		----		----
440		----		----	1430	D5950	-15		-1.20
445		----		----	1459		----		----
446		----		----	1488		----		----
447		----		----	1490		----		----
453		----		----	1491		----		----
463	D5950	-9		1.55	1498		----		----
485		----		----	1510		----		----
541	D5950	-16		-1.66	1520		----		----
575		----		----	1544		----		----
593		----		----	1556		----		----
595		----		----	1557		----		----
603		----		----	1569	D5950	-12.0		0.17
607		----		----	1612		----		----
621		----		----	1616		----		----
631		----		----	1631		----		----
663		----		----	1654		----		----
671		----		----	1677		----		----
704		----		----	1720		----		----
750		----		----	1724		----		----
754		----		----	1730		----		----
781		----		----	1740		----		----
784		----		----	1742		----		----
785	D6749	-12		0.17	1746		----		----
863		----		----	1751		----		----
873		----		----	1773		----		----
874		----		----	1776	D5950	-18		-2.58
875		----		----	1784		----		----
904		----		----	1807		----		----
912		----		----	1813		----		----
1832		----		----	1950		----		----

1833	D5950	-12	0.17	1967	----	----
1834		----	----	1968	----	----
1849		----	----	1971	----	----
1854		----	----	1976	----	----
1857		----	----	1979	D5950	-12.0
1861		----	----	1980	----	----
1862		----	----	1984	----	----
1872		----	----	1985	D5950	-12.67
1881		----	----	2129	D5950	-9
1911		----	----	2146	----	----
1936		----	----	7006	----	----
1937		----	----	9057	D6892	-13.7
1938		----	----			-0.61

normality OK
 n 38
 outliers 0 (+ 2 excl)
 mean (n) -12.378
 st.dev. (n) 2.1303
 R(calc.) 5.965
 R(D5950:14) 6.100

ex = result is excluded as reported test method is a manual method

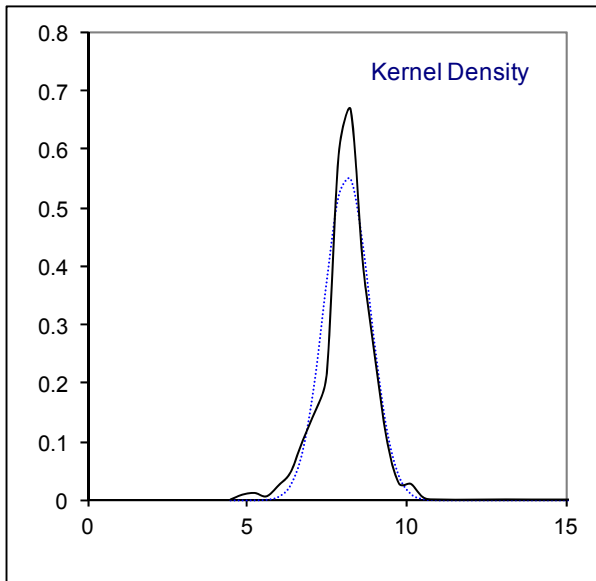
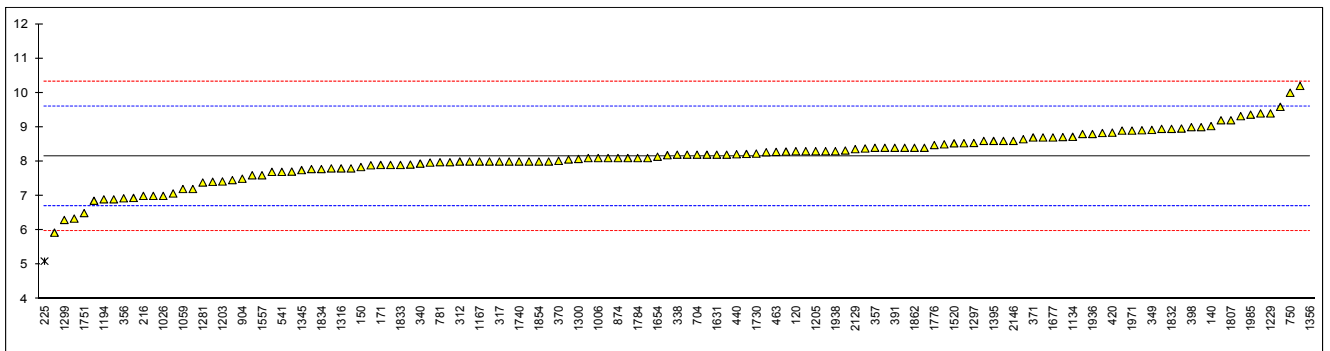


Determination of Sulphur Content on sample #15015; result in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90		----		----	963		----		----
120	D7039	8.3		0.20	966		----		----
132	D5453	7.00		-1.59	970	D5453	7.80		-0.49
140	ISO20846	9.03		1.20	971	D5453	8.533		0.52
150	ISO20846	7.84		-0.44	974		----		----
159	D5453	5.93		-3.07	998		----		----
171	D2622	7.9		-0.35	1006	D5453	8.1		-0.08
194		----		----	1016	ISO20846	8.711		0.76
212		----		----	1026	ISO20846	7.0		-1.59
216	D7039	7.0		-1.59	1033		----		----
225	D5453	5.1	R(0.01)	-4.21	1059	ISO20846	7.2		-1.32
228		----		----	1080		----		----
237		----		----	1081	ISO20846	8.22		0.09
238		----		----	1082		----		----
240		----		----	1108	ISO20846	8.6		0.61
273		----		----	1109	D7039	8.0		-0.22
312	ISO20846	8.0		-0.22	1121		----		----
317	ISO20846	8.0		-0.22	1126	ISO20846	8.4		0.33
323	ISO20846	7.6		-0.77	1134	ISO20846	8.72		0.78
333	ISO20846	8.3		0.20	1146		----		----
334	ISO20846	7.7		-0.63	1161	ISO20846	8.95		1.09
335	ISO20846	8.2		0.06	1167	ISO20846	8.0		-0.22
337		----		----	1191	ISO20846	8.29		0.18
338	ISO20846	8.2		0.06	1194	D7220	6.9		-1.73
340	ISO20846	7.94		-0.30	1199		----		----
342		----		----	1203	ISO20846	7.42		-1.01
343	ISO20846	9.4		1.71	1205	ISO20884	8.3		0.20
349	D2622	8.92		1.05	1227	D5453	9.0		1.16
350		----		----	1229	ISO20846	9.4		1.71
351		----		----	1238		----		----
353	IP531	6.94		-1.68	1266	ISO20846	9.20		1.44
356	ISO20846	6.93		-1.69	1281	ISO20846	7.39		-1.06
357	ISO20846	8.4		0.33	1297	D5453	8.54		0.53
360	ISO20846	7.89		-0.37	1299	ISO20846	6.3		-2.56
369		----		----	1300	ISO20846	8.075		-0.11
370	ISO20846	8.02		-0.19	1316	ISO13032	7.8		-0.49
371	ISO20846	8.7		0.75	1318	D5453	8.183		0.04
391	ISO20846	8.4		0.33	1345	D5453	7.75		-0.56
398	ISO20846	9.0		1.16	1347		----		----
399	ISO20846	8.0		-0.22	1348	D4294	<100		----
402	ISO20846	8.8		0.89	1356	D8754	100	R(0.01)	126.46
403	ISO20846	8.96		1.11	1385	D4294	<100		----
420	ISO20846	8.84		0.94	1394	ISO20846	7.91		-0.34
431		----		----	1395	ISO20846	8.6		0.61
432		----		----	1397	ISO20884	8.6		0.61
433		----		----	1409	ISO20846	7.9		-0.35
440	D5453	8.211		0.07	1430		8		-0.22
445	IP490	8.2		0.06	1459	in house	6.9		-1.73
446		----		----	1488		----		----
447		----		----	1490	ISO20846	7.707		-0.62
453	ISO20846	8.1		-0.08	1491	ISO20846	8.65		0.68
463	D5453	8.28		0.17	1498	D5453	7.2		-1.32
485		----		----	1510		----		----
541	D5453	7.7		-0.63	1520	ISO20846	8.53		0.51
575		----		----	1544	ISO20846	8.38		0.31
593		----		----	1556	ISO20846	9.59		1.97
595		----		----	1557	ISO20846	7.6		-0.77
603		----		----	1569	ISO20846	7.78		-0.52
607		----		----	1612		----		----
621		----		----	1616		----		----
631	D5453	9.32		1.60	1631	ISO20846	8.2		0.06
663	D5453	8.7		0.75	1654	ISO20846	8.14		-0.02
671	D5453	8.83		0.93	1677	D5453	8.7		0.75
704	ISO20846	8.20		0.06	1720	D5453	7.46		-0.96
750	D3120	10		2.54	1724	D5453	8.1		-0.08
754	ISO20846	8.27		0.16	1730	ISO20846	8.23		0.10
781	ISO20846	7.98		-0.24	1740	ISO20846	8.0		-0.22
784		----		----	1742	ISO20846	10.2		2.81
785	ISO20846	6.858		-1.79	1746	D5453	8.0		-0.22
863	D5453	8.9		1.02	1751	ISO20884	6.5		-2.28
873	ISO20846	8.40		0.33	1773		----		----
874	ISO20846	8.1		-0.08	1776	ISO20846	8.48		0.44
875	ISO20846	8.1		-0.08	1784		8.1		-0.08
904	D5453	7.5		-0.90	1807	ISO20846	9.2		1.44
912	D5453	8.06		-0.13	1813	D2622	6.34		-2.50
1832	ISO20846	8.950		1.09	1950	D4294	8.4		0.33

1833	ISO20846	7.9	-0.35	1967		----	----
1834	ISO20846	7.78	-0.52	1968	ISO20846	8.32	0.22
1849	ISO20846	7.97	-0.26	1971	ISO20846	8.90	1.02
1854	ISO20846	8.0	-0.22	1976	ISO20884	8.0	-0.22
1857	ISO20846	8.5	0.47	1979		----	----
1861	D5453	8.3	0.20	1980	ISO20846	7.98	-0.24
1862	ISO20846	8.40	0.33	1984	ISO20846	7.07	-1.50
1872	ISO20884	7.41	-1.03	1985	D5453	9.363	1.66
1881	ISO20846	8.1	-0.08	2129	D5453	8.36	0.28
1911	ISO20846	8.91	1.04	2146	ISO20846	8.6	0.61
1936	ISO20846	8.8	0.89	7006	D5453	8.2	0.06
1937	ISO20846	7.8	-0.49	9057		----	----
1938	ISO20846	8.3	0.20				

normality OK
n 127
outliers 2
mean (n) 8.157
st.dev. (n) 0.7154
R(calc.) 2.003
R(ISO20846:11) 2.034



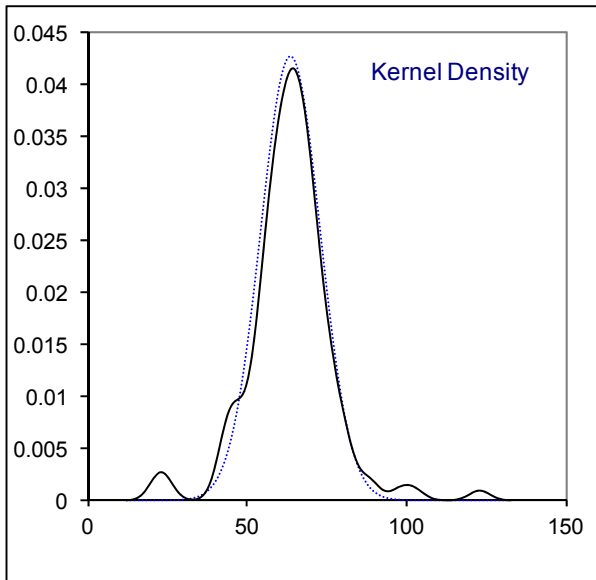
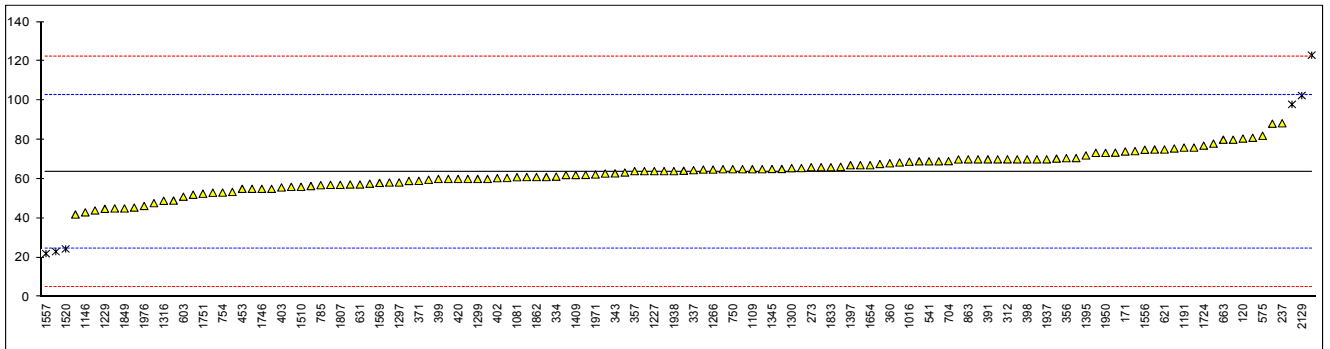
Determination of Water Content on sample #15015; result in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
90	D6304	64		0.02	963		----		----
120	ISO12937	80.6		0.86	966		----		----
132	D6304	74.2		0.54	970	D6304	23.0	R(0.05)	-2.08
140	ISO12937	75		0.58	971	D6304	62		-0.09
150	ISO12937	70.40		0.34	974	D6304	61		-0.14
159	D4377	98.0	R(0.05)	1.75	998		----		----
171	D6304	74		0.53	1006		----		----
194		----		----	1016	ISO12937	68.8		0.26
212		----		----	1026		----		----
216		----		----	1033		----		----
225		----		----	1059	ISO12937	62.8		-0.05
228		----		----	1080		----		----
237	D6304	88.38		1.26	1081	ISO12937	60.9		-0.14
238		----		----	1082	ISO12937	69		0.27
240		----		----	1108	ISO12937	53		-0.55
273	D6304	66		0.12	1109	D6304	65		0.07
312	ISO12937	70		0.32	1121	IP438	73.4		0.50
317	ISO12937	70		0.32	1126		----		----
323	ISO12937	70		0.32	1134	IP438	88.17		1.25
333	ISO12937	70		0.32	1146	D6304	43		-1.06
334	ISO12937	61.2		-0.13	1161	ISO12937	65.566		0.10
335	ISO12937	69		0.27	1167		----		----
337	ISO12937	64.5		0.04	1191	ISO12937	76		0.63
338	ISO12937	67.63		0.20	1194	ISO12937	75.54		0.61
340	ISO12937	57		-0.34	1199		----		----
342		----		----	1203	ISO12937	60		-0.19
343	ISO12937	62.85		-0.04	1205		----		----
349	D6304	65		0.07	1227	D6304	64		0.02
350	ISO12937	123.06	C,R(0.01)	3.03	1229	ISO12937	44.8		-0.96
351	ISO12937	45		-0.95	1238		----		----
353	IP438	59		-0.24	1266	ISO12937	64.8		0.06
356	D6304	70.6		0.35	1281	ISO12937	65		0.07
357	ISO12937	64		0.02	1297	D6304	58.23		-0.28
360	ISO12937	68.0		0.22	1299	ISO12937	60		-0.19
369	ISO12937	44		-1.00	1300	ISO12937	65.53		0.09
370	ISO12937	63.3		-0.02	1316	D6304	48.9		-0.75
371	ISO12937	59.03		-0.24	1318	D6304	66.2		0.13
391	ISO12937	70		0.32	1345	D6304	65.1		0.07
398	ISO12937	70		0.32	1347		----		----
399	ISO12937	60		-0.19	1348		----		----
402	ISO12937	60.4		-0.17	1356	ISO12937	<100		----
403	ISO12937	55.7		-0.41	1385		----		----
420	ISO12937	60		-0.19	1394	ISO12937	57.19		-0.33
431		----		----	1395	ISO12937	72		0.42
432		----		----	1397	ISO12937	67		0.17
433		----		----	1409	ISO12937	62		-0.09
440	IP438	47.683		-0.82	1430	D6304	76		0.63
445	IP438	64.8		0.06	1459	ISO12937	49		-0.75
446	ISO12937	60		-0.19	1488	ISO12937	56.4		-0.37
447	IP438	78		0.73	1490	ISO12937	41.920		-1.11
453	IP438	55		-0.44	1491	ISO12937	67		0.17
463	ISO12937	55		-0.44	1498		----		----
485	ISO12937	56		-0.39	1510	ISO12937	56		-0.39
541	D6304	69		0.27	1520	ISO12937	24.38	R(0.05)	-2.01
575	E203	82		0.93	1544	ISO12937	69.97		0.32
593		----		----	1556	ISO12937	74.9		0.57
595		----		----	1557	ISO12937	22	R(0.05)	-2.13
603	ISO12937	51	C	-0.65	1569	ISO12937	58		-0.29
607	D95	<500		----	1612		----		----
621	D6304	75.02		0.58	1616		----		----
631	D6304	57.2		-0.33	1631	ISO12937	64		0.02
663	D6304	80		0.83	1654	ISO12937	67.02		0.17
671		----		----	1677	D6304	52		-0.60
704	ISO12937	69.1		0.28	1720		----		----
750	D6304	65		0.07	1724	ISO12937	77		0.68
754	ISO12937	53.1		-0.54	1730		----		----
781	ISO12937	62.1		-0.08	1740	ISO12937	81		0.88
784		----		----	1742		----		----
785	D6304	56.85		-0.35	1746	D1744	55		-0.44
863	D6304	70		0.32	1751	ISO12937	52.52		-0.57
873	ISO12937	64.2		0.03	1773		----		----
874	ISO12937	65		0.07	1776	ISO12937	55		-0.44
875	D6304	66		0.12	1784		----		----
904	D6304	57.6		-0.31	1807	ISO12937	57		-0.34
912		----		----	1813		----		----
1832	ISO12937	60.50		-0.16	1950	ISO6296	73.3		0.49

1833	ISO12937	66	0.12	1967		----	----
1834	ISO12937	73.3	0.49	1968	D6304	45.46	-0.93
1849	ISO12937	45	-0.95	1971	ISO12937	62.3	-0.07
1854	D6304	80	0.83	1976	ISO12937	46.26	-0.89
1857	ISO12937	68.4	0.24	1979	ISO12937	65.1	0.07
1861		----	----	1980	ISO12937	61	-0.14
1862	ISO12937	61	-0.14	1984	ISO12937	58.2	-0.28
1872	ISO12937	53.4	-0.52	1985	D6304	59.620	-0.21
1881		----	----	2129	IP439	102.5	R(0.05) 1.98
1911	ISO12937	70.0	0.32	2146		----	----
1936	ISO12937	60	-0.19	7006		----	----
1937	ISO12937	70	0.32	9057	D6304	70.64	C 0.36
1938	ISO12937	64	0.02				

normality OK
n 124
outliers 6
mean (n) 63.682
st.dev. (n) 9.3584
R(calc.) 26.204
R(ISO12937:00) 54.879

Lab 350: first reported 62.18
Lab 603: first reported 61.0
Lab 9057: first reported 0.07064



Determination of Total Contamination on sample #15016; result in mg/kg

lab	method	value	mark	z(targ)	Vol. used (ml)	version	remarks
120	EN12662	17.8		-3.29	800	2014	
132		----		----	----	----	
140	EN12662	20.1		-2.55	800	2008	
171	EN12662	21		-2.26	300	2014	
311	EN12662	27.5		-0.17	300	2014	
312	EN12662	30.0		0.63	300	2014	
317	EN12662	32.7		1.50	300	2014	
323	EN12662	>30		----	290	2014	
334	EN12662	33.3		1.69	300	2014	
335	EN12662	29.2		0.37	284	2012	
337	EN12662	29.5		0.47	300	----	
340	EN12662	29.0		0.31	300	2014	
343	EN12662	30.55		0.81	300	2014	
349	EN12662	32.5		1.43	299.70	2014	
351	EN12662	31.85		1.22	300	2014	
353	IP440	32.128		1.31	830	2008	
360	EN12662	28.0		-0.01	300	2014	
369	EN12662	31		0.95	300	2014	
370	EN12662	33.42		1.73	300	2014	
371	EN12662	28.65		0.20	300	2014	
391	EN12662	32.8		1.53	300	2014	
398	EN12662	28.3		0.08	547	2014	
399	EN12662	29		0.31	600	2013	
420	EN12662	34.48		2.07	----	2014	
440		----		----	----	----	
445	IP440	31.90		1.24	300	2014	
447		----		----	----	----	
453	IP440	30.7		0.86	300	2014	
463	EN12662	31.82		1.22	300	2014	
603		----		----	----	----	
704	EN12662	32.2		1.34	2*300	2014	
784	EN12662	26.03		-0.64	300	2014	
875	EN12662	29.2		0.37	300	2014	
904	EN12662	29.2		0.37	300	----	
963		----		----	----	----	
974	IP440	26.9		-0.36	850	----	
1006	EN12662	28.3		0.08	800	----	
1033		----		----	----	----	
1059	EN12662	32.3		1.37	270.5	2014	
1081	EN12662	34.47		2.07	200	2014	
1095	EN12662	24.0		-1.30	300	2014	
1134	EN12662	16.0	R(0.05)	-3.86	800	2014	
1161	EN12662	23		-1.62	----	----	
1167		----		----	----	----	
1203	EN12662	11.38	R(0.05)	-5.35	300	2014	
1266	EN12662	30.4		0.76	800	2014	
1299	EN12662	14.4	R(0.05)	-4.38	300	2008	
1300	EN12662	25.4145		-0.84	300	2014	
1316	EN12662	31.52691		1.12	300	2014	
1395	EN12662	20.2		-2.52	800	----	
1397	EN12662	18.0		-3.22	300	2014	
1409	EN12662	20.4		-2.45	800	----	
1488	EN12662	27.49		-0.18	300	2014	
1490	EN12662	22.00		-1.94	800	----	
1491	EN12662	32.63		1.48	300	2014	
1510	EN12662	24.1		-1.26	----	1998	
1520	EN12662	29.00		0.31	300	----	
1556	EN12662	0.03	R(0.01)	-8.99	900	2008	
1557	EN12662	21.4		-2.13	800	2008	
1616	IP440	18.9		-2.93	800	----	
1631	EN12662	20.0		-2.58	----	----	
1654	EN12662	25.0		-0.97	300	2014-04	
1724	EN12662	18.6		-3.03	----	----	
1740	EN12662	20.59		-2.39	300	2014	
1784	EN12662	32.0		1.27	300	----	
1807	EN12662	30.0		0.63	300	2014	
1833	EN12662	19		-2.90	----	----	
1854	EN12662	32.1		1.31	300	----	
1911	EN12662	34.04		1.93	218	2014	
1936	EN12662	32.0		1.27	300	2014	
1937	EN12662	33.3		1.69	253.8	----	
1938	EN12662	>30		----	----	----	
1971	EN12662	33.00		1.59	300	2014	
1972	EN12662	28.25		0.07	----	----	
1979	EN12662	31.19		1.01	----	----	

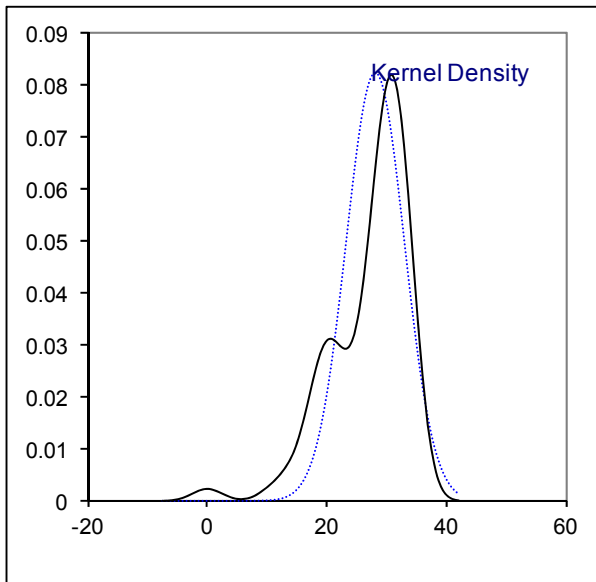
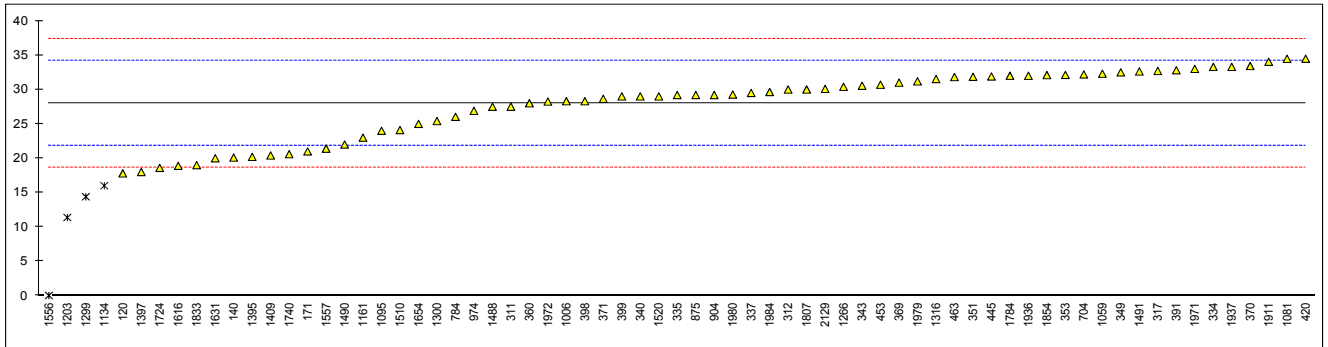
1980	EN12662	29.27	0.40	----	----
1984	EN12662	29.64	0.52	295	2014
2129	EN12662	30.09	0.66	677	----

normality	OK
n	65
outliers	4
mean (n)	28.036
st.dev. (n)	4.8485
R(calc.)	13.576
R(EN12662:14)	8.720

Spike:
14.9

Only 2014 version:

OK
56
2
28.244
4.8431
13.561
8.754



APPENDIX 2

z-scores Distillation (Automated + manual)

Automated										Manual							
lab	IBP	10% rec	50% rec	90% rec	95% rec	FBP	Vol 250°C	Vol 350°C		IBP	10% rec	50% rec	90% rec	95% rec	FBP	Vol 250°C	Vol 350°C
90	----	----	----	----	----	----	----	----		-1.14	-1.61	-2.36	-0.65	0.54	-7.03	0.85	0.01
120	0.07	0.07	-0.79	0.09	-0.03	-0.69	0.08	-0.24		----	----	----	----	----	----	----	----
132	-2.63	-0.97	-1.82	-1.35	-0.80	-0.89	0.80	0.59		----	----	----	----	----	----	----	----
140	0.31	0.69	0.72	0.20	0.19	0.42	-0.86	-0.24		----	----	----	----	----	----	----	----
150	-1.53	-2.08	-2.11	-1.57	-1.12	-0.65	1.43	1.32		----	----	----	----	----	----	----	----
159	0.65	2.35	1.57	0.47	0.41	-0.06	----	----		----	----	----	----	----	----	----	----
171	0.43	1.73	0.53	-0.47	-0.43	-0.53	-1.79	0.28		----	----	----	----	----	----	----	----
194	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
212	1.69	1.79	1.00	0.42	-0.28	1.44	-0.96	1.11		----	----	----	----	----	----	----	----
216	0.00	-0.17	-0.69	-0.41	-0.77	1.36	1.11	1.01		----	----	----	----	----	----	----	----
225	----	----	----	----	----	----	----	----		1.12	-0.97	-0.33	-0.10	0.98	-1.90	0.41	0.01
228	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
237	----	----	----	----	----	----	----	----		-0.18	-1.55	-0.33	-2.18	-3.95	-0.71	1.75	1.36
238	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
240	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
273	0.00	0.07	0.72	0.58	-0.06	-2.62	----	----		----	----	----	----	----	----	----	----
312	-0.06	0.44	0.53	-0.47	-0.31	-0.49	-0.75	0.18		----	----	----	----	----	----	----	----
317	0.59	0.26	0.91	0.42	0.60	0.10	-0.44	-0.45		----	----	----	----	----	----	----	----
323	0.37	0.69	-0.03	0.09	0.32	-0.85	-0.44	-0.34		----	----	----	----	----	----	----	----
333	-1.28	-1.53	-0.79	-0.63	-0.68	-0.21	0.60	0.49		----	----	----	----	----	----	----	----
334	0.92	-1.71	-0.03	0.20	-0.65	0.02	1.63	0.49		----	----	----	----	----	----	----	----
335	-0.12	-1.28	0.82	1.30	1.87	0.50	0.28	-1.17		----	----	----	----	----	----	----	----
337	1.38	1.18	1.76	1.03	0.66	-0.25	-1.58	-0.76		----	----	----	----	----	----	----	----
338	1.32	-0.17	0.53	0.75	0.91	0.57	-0.44	-0.65		----	----	----	----	----	----	----	----
340	0.71	-0.30	-1.07	-1.19	-0.93	-2.11	0.91	0.70		----	----	----	----	----	----	----	----
342	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
343	-1.34	-3.19	-2.86	-1.13	-0.24	-1.24	2.15	0.18		----	----	----	----	----	----	----	----
349	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
350	----	----	----	----	----	----	----	----		-0.03	-1.03	0.34	0.94	1.80	2.89	1.75	0.46
351	-0.06	-0.79	-0.31	0.91	0.41	-1.44	-0.13	-0.86		----	----	----	----	----	----	----	----
353	-1.56	-0.42	1.38	1.97	1.81	1.56	-0.13	-1.38		----	----	----	----	----	----	----	----
356	1.81	1.98	0.53	-0.58	0.07	-0.25	-0.55	0.07		----	----	----	----	----	----	----	----
357	-0.24	0.75	0.35	-0.69	-0.65	-0.25	-0.55	0.49		----	----	----	----	----	----	----	----
360	-1.25	1.30	0.91	1.30	1.84	0.34	-0.03	-1.17		----	----	----	----	----	----	----	----
369	-1.43	-2.08	-0.22	0.20	-0.09	1.17	0.80	-0.03		----	----	----	----	----	----	----	----
370	0.62	0.93	0.91	1.14	0.66	1.05	-0.34	-0.65		----	----	----	----	----	----	----	----
371	0.34	1.18	-0.69	-0.19	-0.18	0.46	0.39	0.18		----	----	----	----	----	----	----	----
391	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
398	-0.24	0.38	-0.50	-0.14	-0.52	0.81	-0.03	0.38		----	----	----	----	----	----	----	----
399	0.52	0.63	-0.03	-0.02	-0.09	1.17	-0.23	0.28		----	----	----	----	----	----	----	----
402	0.03	0.50	0.16	28.34	0.66	-0.53	-0.65	-0.65		----	----	----	----	----	----	----	----
403	0.34	0.13	0.63	0.58	0.56	0.26	-0.23	-0.55		----	----	----	----	----	----	----	----
420	-0.70	-0.30	-0.60	-0.58	-0.18	-1.60	0.28	0.18		----	----	----	----	----	----	----	----
431	-0.91	-1.28	-0.69	-0.41	-0.03	-0.85	0.28	-0.03		----	----	----	----	----	----	----	----
432	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
433	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
440	0.25	-0.05	1.29	1.30	1.44	1.40	-0.34	-1.07		----	----	----	----	----	----	----	----
445	-1.01	-0.67	-0.88	-0.58	-0.18	-0.33	-0.23	0.07		----	----	----	----	----	----	----	----
446	-0.30	-0.91	-0.31	-0.41	-0.37	-1.67	0.39	0.18		----	----	----	----	----	----	----	----
447	-1.07	-0.36	0.06	0.09	0.16	0.10	-0.13	-0.13		----	----	----	----	----	----	----	----
453	0.16	0.81	0.16	0.42	0.50	0.57	-0.13	-0.45		----	----	----	----	----	----	----	----
463	1.66	-0.05	0.35	-0.08	-0.21	0.34	-0.65	-0.03		----	----	----	----	----	----	----	----
485	0.83	0.66	0.91	-0.05	-0.06	0.30	-0.80	-0.03		----	----	----	----	----	----	----	----
541	0.89	0.20	0.44	0.80	1.09	0.06	-0.13	-0.86		----	----	----	----	----	----	----	----
575	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
593	----	----	----	----	----	----	----	----		3.12	2.78	1.07	-1.34	-1.65	-3.33	----	----
595	----	----	----	----	----	----	----	----		2.99	3.37	0.79	-1.69	-1.87	-3.93	----	----
603	----	----	----	----	----	----	----	----		-1.05	-1.55	-3.13	-5.64	-1.76	-3.69	-0.93	-0.88
607	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
621	----	----	----	----	----	----	----	----		-0.62	0.20	-0.33	-0.10	-0.12	-8.46	-0.04	0.01
631	----	----	----	----	----	----	----	----		1.12	0.79	1.07	0.60	0.98	-0.71	-0.93	-0.43
663	-1.07	1.36	0.16	-0.30	-0.28	-0.29	-0.23	0.49		----	----	----	----	----	----	----	----
671	----	----	----	----	----	----	----	----		----	----	----	----	----	----	----	----
704	----	----	----	----	----	----	----	----		-0.92	-1.96	-0.61	-1.07	-1.32	-0.95	0.85	0.46
750	----	----	----	----	----	----	----	----		0.25	1.37	1.07	1.29	1.52	2.27	-0.93	-0.43
754	-0.30	1.49	1.19	1.25	1.31	0.26	-0.75	-0.96		----	----	----	----	----	----	----	----
781	-0.03	0.32	0.16	0.25	0.60	-0.18	-0.13	-0.34		----	----	----	----	----	----	----	----
784	----	----	----	----	----	----	----	----		1.03	0.03	0.72	0.39	0.48	-0.47	-0.04	-0.43
785	-0.06	0.07	0.82	0.14	-0.03	0.69	-0.65	-0.03		----	----	----	----	----	----	----	----
863	----	----	----	----	----	----	----	----		0.90	1.08	1.07	-0.79	-1.48	0.48	-0.04	0.82
873	----	----	----	----	----	----	----	----		-0.18	0.79	-0.33	-0.10	-0.94	0.48	-0.49	0.46
874	----	----	----	----	----	----	----	----		0.68	0.79	1.07	-0.10	-0.12	1.08	-0.93	0.01

875	0.19	0.20	1.19	0.58	0.50	0.26	-0.75	-0.96	----	----	----	----	----	----	----	----	----
904	1.11	0.50	1.00	0.31	-0.03	0.50	-0.44	-0.13	----	----	----	----	----	----	----	----	----
912	----	----	----	----	----	----	----	----	0.68	0.79	0.37	-0.79	-1.76	-0.11	-0.04	0.91	----
963	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
966	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
970	----	----	----	----	----	----	----	----	-1.05	-2.73	-0.33	-0.10	-1.21	2.27	1.48	0.19	----
971	0.62	0.38	1.10	0.80	1.00	0.38	-1.06	-0.76	----	----	----	----	----	----	----	----	----
974	0.62	0.38	1.57	1.19	1.47	0.30	-1.27	-1.07	----	----	----	----	----	----	----	----	----
998	----	----	----	----	----	----	----	----	-0.18	1.08	0.02	-1.14	-1.48	2.27	0.85	0.46	----
1006	-0.15	-0.17	0.53	-0.74	-0.93	-0.81	----	----	----	----	----	----	----	----	----	----	----
1016	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1026	-0.09	-1.10	-1.16	-0.91	-0.65	0.22	0.39	0.18	----	----	----	----	----	----	----	----	----
1033	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1059	0.07	-0.91	0.82	-0.25	-0.37	-0.10	-0.44	0.18	----	----	----	----	----	----	----	----	----
1080	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1081	-0.67	-0.91	-0.50	-0.52	-0.74	0.46	0.05	0.54	----	----	----	----	----	----	----	----	----
1082	0.03	-0.42	0.16	0.14	0.53	0.34	-0.34	-0.34	----	----	----	----	----	----	----	----	----
1108	0.74	-0.48	0.16	0.64	0.60	0.89	-0.13	-0.45	----	----	----	----	----	----	----	----	----
1109	0.46	0.20	0.35	-0.96	-0.87	-0.14	-0.34	0.70	----	----	----	----	----	----	----	----	----
1121	----	----	----	----	----	----	----	----	-1.92	-3.31	-1.73	-0.44	-0.39	-1.90	-0.04	0.01	----
1126	1.14	1.92	0.91	1.58	1.09	2.66	-0.75	-1.38	----	----	----	----	----	----	----	----	----
1134	-1.10	-1.34	-0.03	0.97	1.56	0.10	1.01	-0.34	----	----	----	----	----	----	----	----	----
1146	-0.42	-0.67	-0.41	-0.80	-0.93	0.10	0.41	0.73	----	----	----	----	----	----	----	----	----
1161	-0.42	-0.48	0.35	-0.02	-0.24	-1.04	-0.34	-0.03	----	----	----	----	----	----	----	----	----
1167	0.55	-1.71	-1.82	0.14	-0.37	-1.48	1.43	0.38	----	----	----	----	----	----	----	----	----
1191	0.31	0.63	1.00	0.64	0.56	-0.10	-0.75	-0.55	----	----	----	----	----	----	----	----	----
1194	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1199	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1203	2.08	0.99	1.76	1.19	0.66	1.40	-1.27	-0.55	----	----	----	----	----	----	----	----	----
1205	-0.06	-1.34	-0.50	-1.02	-0.93	-0.18	0.08	0.70	----	----	----	----	----	----	----	----	----
1227	0.74	-0.30	0.72	0.42	0.53	0.85	-1.17	-0.24	----	----	----	----	----	----	----	----	----
1229	-1.07	-0.42	0.25	0.97	1.62	-0.21	-0.34	-1.07	----	----	----	----	----	----	----	----	----
1238	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1266	2.45	1.24	1.48	1.30	0.50	-1.00	-0.75	-0.96	----	----	----	----	----	----	----	----	----
1281	----	----	----	----	----	----	----	----	1.34	0.73	0.30	1.08	1.74	1.55	-0.04	-0.70	----
1297	-0.61	-0.54	0.44	0.36	0.47	0.14	-0.55	-0.46	----	----	----	----	----	----	----	----	----
1299	-0.03	-0.05	0.16	0.47	0.56	0.46	----	----	----	----	----	----	----	----	----	----	----
1300	0.65	2.59	-2.29	-2.29	-1.49	-2.62	1.43	1.21	----	----	----	----	----	----	----	----	----
1316	-0.94	-0.60	-0.31	-0.14	-0.43	-2.90	0.28	0.18	----	----	----	----	----	----	----	----	----
1318	-0.36	-0.24	-0.31	0.14	-0.40	0.06	0.70	0.28	----	----	----	----	----	----	----	----	----
1345	----	----	----	----	----	----	----	----	-0.62	-0.97	-1.03	-0.10	0.16	-2.50	0.41	-0.43	----
1347	----	----	----	----	----	----	----	----	1.12	1.96	1.07	1.29	-0.12	1.08	-0.93	0.01	----
1348	-1.04	-3.31	-2.77	-1.79	-1.55	0.10	2.05	1.21	----	----	----	----	----	----	----	----	----
1356	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1385	----	----	----	----	----	----	----	----	-0.62	-0.97	-1.03	-3.56	-3.40	2.27	1.75	1.80	----
1394	0.28	0.81	0.35	-0.19	0.04	0.10	-0.23	0.38	----	----	----	----	----	----	----	----	----
1395	-0.39	-0.60	0.44	0.25	0.10	1.05	-0.23	-0.24	----	----	----	----	----	----	----	----	----
1397	0.86	0.93	-0.13	-0.25	-0.06	0.34	-0.34	-0.03	----	----	----	----	----	----	----	----	----
1409	-0.76	-1.03	-0.50	-0.19	0.38	-0.57	-0.03	-0.24	----	----	----	----	----	----	----	----	----
1430	1.50	0.99	0.63	-0.25	-0.37	0.30	----	----	----	----	----	----	----	----	----	----	----
1459	-0.61	0.32	0.53	-0.47	-0.49	-0.65	-0.55	0.38	----	----	----	----	----	----	----	----	----
1488	----	----	----	----	----	----	----	----	0.48	0.05	1.91	1.06	1.06	0.67	-1.35	-0.44	----
1490	-4.31	-3.62	-2.39	-0.58	-0.31	-2.58	1.84	0.18	----	----	----	----	----	----	----	----	----
1491	0.92	0.63	0.16	-0.36	-0.06	-0.45	-0.13	0.07	----	----	----	----	----	----	----	----	----
1498	-0.61	-0.73	0.63	0.36	0.10	1.36	-0.65	-0.34	----	----	----	----	----	----	----	----	----
1510	-0.79	-1.53	-1.54	-0.58	0.13	-0.41	1.01	-0.03	----	----	----	----	----	----	----	----	----
1520	----	----	----	----	----	----	----	----	0.25	0.79	-0.33	0.25	0.43	1.67	-0.93	-0.88	----
1544	0.28	0.63	0.44	0.25	0.25	0.30	-0.55	-0.55	----	----	----	----	----	----	----	----	----
1556	0.03	-0.54	0.06	0.14	0.13	0.10	-0.03	-0.13	----	----	----	----	----	----	----	----	----
1557	0.31	-0.60	-0.22	0.64	0.60	-0.57	0.28	-0.55	----	----	----	----	----	----	----	----	----
1569	-0.33	0.01	0.16	-0.25	-0.28	0.18	0.39	-0.34	----	----	----	----	----	----	----	----	----
1612	0.62	-2.91	-0.47	0.28	0.39	-0.20	0.39	1.21	----	----	----	----	----	----	----	----	----
1616	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1631	-0.73	-0.48	-0.31	-0.25	-0.37	1.09	0.28	0.38	----	----	----	----	----	----	----	----	----
1654	----	----	----	----	-0.18	----	0.28	0.18	----	----	----	----	----	----	----	----	----
1677	-0.88	-0.36	2.61	1.58	0.81	0.14	-1.48	-0.86	----	----	----	----	----	----	----	----	----
1720	0.28	0.38	0.72	0.80	0.28	----	----	----	----	----	----	----	----	----	----	----	----
1724	-0.55	0.01	-0.79	-0.19	-0.06	0.18	-0.65	-0.03	----	----	----	----	----	----	----	----	----
1730	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1740	-0.33	0.56	0.25	0.03	-0.09	-0.18	-0.03	-0.24	----	----	----	----	----	----	----	----	----
1742	-0.61	-0.30	-0.60	-0.91	-0.65	-0.14	-0.03	0.49	----	----	----	----	----	----	----	----	----
1746	-1.50	-1.59	-1.63	-0.36	-0.28	0.73	0.39	0.18	----	----	----	----	----	----	----	----	----
1751	0.52	0.44	0.16	0.53	0.50	0.77	-0.75	-0.45	----	----	----	----	----	----	----	----	----
1773	----	----	----	----	----	----	----	----	-0.61	0.51	-0.14	0.78	1.54	1.10	-0.93	-0.66	----
1776	-1.34	-1.40	-1.54	-1.46	-1.18	-0.65	1.01	0.90	----	----	----	----	----	----	----	----	----
1784	0.19	0.44	0.06	-0.41	-0.28	-0.06	-1.06	0.07	----	----	----	----	----	----	----	----	----
1807	1.01	0.20	-0.31	3.18	-0.87	0.73	0.60	0.59	----	----	----	----	----	----	----	----	----
1813	0.33	0.31	0.32	-0.76	-0.63	-0.09	----	----	----	----	----	----	----	----	----	----	----
1832	0.22	1.30	0.25	-0.30	-0.21	0.57	0.18	0.07	----	----	----	----	----	----	----	----	----
1833	-1.31	-1.10	-1.35	-0.91	-0.77	0.42	0.80	0.59	----	----	----	----	----	----	----	----	----

1834	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1849	-0.94	-0.73	-1.45	-0.80	-0.52	0.38	0.49	0.54	----	----	----	----	----	----	----	----	----
1854	0.07	0.56	0.44	-0.30	-0.18	-0.29	-1.06	-0.03	----	----	----	----	----	----	----	----	----
1857	-0.33	0.26	0.16	-0.19	-0.15	0.18	-0.13	-0.03	----	----	----	----	----	----	----	----	----
1861	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1862	----	----	----	----	----	----	----	----	0.68	0.79	0.72	1.29	0.98	1.08	-0.93	-0.43	----
1872	-2.02	-1.71	-2.86	-1.52	-1.18	-0.81	1.63	0.90	----	----	----	----	----	----	----	----	----
1881	----	----	----	----	----	----	----	----	-1.05	1.37	0.02	-0.44	-0.12	-1.31	0.41	0.01	----
1911	0.72	0.04	0.20	0.22	0.28	0.53	-0.03	-0.24	----	----	----	----	----	----	----	----	----
1936	-0.12	-0.11	-0.31	-0.41	-0.24	0.06	0.80	0.80	----	----	----	----	----	----	----	----	----
1937	-0.24	-1.22	-0.41	0.14	-1.05	0.06	1.74	0.80	----	----	----	----	----	----	----	----	----
1938	-1.25	-1.59	-1.63	-0.96	-0.74	-0.06	1.43	0.49	----	----	----	----	----	----	----	----	----
1950	----	----	----	----	----	----	----	----	0.47	-0.09	0.02	0.94	1.25	-0.71	-0.93	0.01	----
1967	----	----	----	----	----	----	----	----	-0.62	-1.55	0.37	-0.10	0.43	1.08	-0.04	-0.88	----
1968	----	----	----	----	----	----	----	----	0.68	-0.97	----	1.29	0.43	-7.27	----	-0.43	----
1971	0.65	-0.03	-0.88	-0.22	-0.40	-0.75	0.28	0.38	----	----	----	----	----	----	----	----	----
1976	-0.09	0.50	-0.22	-0.69	-0.68	-0.25	-0.13	0.49	----	----	----	----	----	----	----	----	----
1979	-0.42	-1.34	-0.22	0.80	-0.03	-0.89	1.32	0.90	----	----	----	----	----	----	----	----	----
1980	0.97	-0.05	-1.21	-1.49	-1.55	-0.47	0.34	1.37	----	----	----	----	----	----	----	----	----
1984	0.19	-0.11	0.53	0.31	0.50	0.10	-0.03	0.28	----	----	----	----	----	----	----	----	----
1985	-0.06	1.18	0.25	-0.19	-0.56	1.28	0.08	0.38	----	----	----	----	----	----	----	----	----
2129	1.41	1.73	1.19	0.14	-0.24	1.72	-0.96	0.18	----	----	----	----	----	----	----	----	----
2146	1.38	0.75	1.57	1.91	1.50	0.73	-0.44	-1.48	----	----	----	----	----	----	----	----	----
7006	-0.06	----	----	----	----	1.05	----	----	----	----	----	----	----	----	----	----	----
9057	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

APPENDIX 3**Number of participants per country**

1 lab in AFGHANISTAN	2 labs in MALAYSIA
1 lab in ALGERIA	1 lab in MALTA
1 lab in ARGENTINA	1 lab in MOROCCO
2 labs in AUSTRALIA	1 lab in NIGER
3 labs in AUSTRIA	2 labs in NIGERIA
3 labs in BELGIUM	1 lab in NORWAY
1 lab in BOSNIA and HERZEGOVINA	1 lab in OMAN
4 labs in BULGARIA	1 lab in P.R. of CHINA
1 lab in CANADA	1 lab in PHILIPPINES
1 lab in CHILE	6 labs in POLAND
1 lab in COLOMBIA	2 labs in PORTUGAL
1 lab in CÔTE D'IVOIRE	1 lab in QATAR
1 lab in CROATIA	2 labs in ROMANIA
3 lab in CYPRUS	13 labs in RUSSIA
1 lab in CZECH REPUBLIC	2 labs in SAUDI ARABIA
2 labs in ECUADOR	2 labs in SERBIA
1 lab in EQUATORIAL GUINEA	1 lab in SLOVENIA
4 labs in ESTONIA	1 lab in SOUTH AFRICA
7 labs in FINLAND	2 labs in SOUTH KOREA
8 labs in FRANCE	10 labs in SPAIN
1 lab in GEORGIA	1 lab in SUDAN
6 labs in GREECE	4 labs in SWEDEN
1 lab in GUAM	1 lab in TAIWAN R.O.C.
1 lab in HONG KONG	1 lab in THAILAND
2 labs in HUNGARY	8 labs in THE NETHERLANDS
1 lab in INDIA	1 lab in TOGO
1 lab in INDONESIA	1 lab in TUNESIA
1 lab in IRAN, Islamic Republic of	11 labs in TURKEY
1 lab in IRELAND	2 labs in U.A.E.
3 labs in ITALY	7 labs in U.S.A.
4 labs in LATVIA	1 lab in UKRAINE
3 labs in LEBANON	11 labs in UNITED KINGDOM
3 labs in LITHUANIA	

APPENDIX 4**Abbreviations:**

C	= final result after checking of first reported suspect result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
R(0.01)	= outlier in Rosner's outlier test
R(0.05)	= straggler in Rosner's outlier test
ex	= excluded from calculations
E	= probably error in calculations
U	= probably reported in different unit
n.a.	= not applicable
fr.	= first reported
Rep./R	= reported
W	= withdrawn on request of the participant

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