Results of Proficiency Test
Gasoline (EN specification)
October 2013

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

Authors: ing. L.Dijkstra & ing. R.J. Starink
Correctors: dr. R.G. Visser & ing. L. Sweere

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1 INTRODUCTION

Since 1995, the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for Gasoline. During the annual proficiency testing program 2013/2014, it was decided to continue the round robin for the analysis of Gasoline in accordance with the latest applicable version of EN228 specification. In this interlaboratory study 140 laboratories in 57 different countries have participated. See appendix 3 for the number of participants per country. In this report, the results of the Gasoline 2013 proficiency test are presented and discussed.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organiser of this proficiency test. Sample analyses for fit-for-use and homogeneity testing were subcontracted. In this proficiency test, the participants received, depending on their registration, two times a 1 litre bottle containing euro 95 Gasoline (labelled #13186) and/or 1 litre bottle (± 800 mL filled) with euro 95 Gasoline (labelled #13187) for DVPE only. 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, since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie, R007). This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentially 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 January 2010 (iis-protocol, version 3.2).

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The necessary sample material of 400 litre of Gasoline Euro 95 was obtained from a local gasoline station. After homogenisation in a 500 L mixing vessel, 310 amber glass bottles of 1 litre were filled and labelled #13186.
The homogeneity of the subsamples #13186 was checked by determination of Density @15°C in accordance with ASTM D4052:11 on 10 stratified randomly selected samples.

	Density @ 15°C in kg/L
Sample #13186-1	0.74130
Sample #13186-2	0.74137
Sample #13186-3	0.74140
Sample #13186-4	0.74135
Sample #13186-5	0.74136
Sample #13186-6	0.74138
Sample #13186-7	0.74138
Sample #13186-8	0.74140
Sample #13186-9	0.74147
Sample #13186-10	0.74145

Table 1: homogeneity test results of subsamples #13186

For the second batch, specifically for Dry Vapour Pressure Equivalent (DVPE), the necessary sample material of 200 litre of Gasoline Euro 95 was also obtained from a local gasoline station. After homogenisation, 125 amber glass bottles of 1 litre were filled with approx. 800 mL for DVPE only and labelled #13187. The homogeneity of the subsamples #13187 was checked by determination of DVPE in accordance with ASTM D5191:12 on 7 stratified randomly selected samples.

	DVPE in kPa
Sample #13187-1	90.6
Sample #13187-2	90.7
Sample #13187-3	91.0
Sample #13187-4	91.1
Sample #13187-5	91.1
Sample #13187-6	91.1
Sample #13187-7	90.5

Table 2: homogeneity test resulta of subsamples #13187

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/L	DVPE in kPa
r (sample #13186)	0.00014	----
r (sample #13187)	----	0.74
reference method	ISO12185:96	EN13016-1:07
0.3 x R (ref. method)	0.00015	0.76

Table 3: repeatabilities of subsamples #13186 and #13187

The repeatability of the results of homogeneity test for Density and DVPE were in agreement with 0.3 times the corresponding reproducibility of the respective reference method. Therefore, homogeneity of subsamples #13186 and #13187 was assumed.

To the participants, depending on their registration, two 1 litre bottles of sample #13186 and/or 1 litre bottle (± 800 mL filled) of sample #13187 were sent on October 2, 2013.

2.5 STABILITY OF THE SAMPLES

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

2.6 ANALYSIS

The participants were requested to determine API Gravity, Aromatics by FIA, Aromatics by GC, (%V/V and %M/M), Appearance, Benzene, Copper Strip Corrosion, Density @ 15°C, Distillation (automated and manual), Doctor Test, Existent gum, Lead, Manganese, Olefins by FIA, Olefins by GC (%V/V and %M/M), Ethanol, Ethers >C5, MTBE, DIPE, ETBE, Iso-Butanol, Iso-Propanol, Methanol, TAME, t-Butanol, Oxygen, Oxidation Stability, Sulphur, RON and MON on sample #13186.
On sample #13187, the participants were requested to determine Air Saturated Vapour Pressure (ASVP) and Dry Vapour Pressure Equivalent (DVPE) according to EN13016-1.

To get comparable results a detailed report form, on which the units were prescribed as well as some of the required standards and a letter of instructions were prepared and 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 gathered. The original data are tabulated per determination in appendix 1 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder fax was sent to the laboratories that had not reported 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 results. 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 ‘iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation’ of January 2010 (iis-protocol, version 3.2).

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. 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 to 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. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

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

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

3.2 GRAPHICS

In order to visualise the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported 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 cross. Accepted data are represented as a triangle.
Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms (see appendix 4; nos.13 and 14).

3.3 Z-SCORES

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

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-scores were calculated in accordance with:

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

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

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

4 EVALUATION

In this proficiency test, problems were encountered during the transport of the samples to the laboratories in Australia, Belarus Republic, Cote D'Ivoire, Mozambique, Oman and Russia. The samples to these laboratories arrived near of after the final reporting date. From the 140 participants, 14 participants did report the results after the deadline for reporting and 14 participants did not report any results at all. The 126 reporting laboratories did send in 2425 numerical results. Observed were 74 outlying results, which is 3.1%. 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.

Not all data sets proved to have a normal distribution. Not normal distributions were found for the following determinations: Aromatics by GC (%V/V, %M/M), Benzene, Density, Distillation automated (10%evap, 90%evap and FBP, %vol 70ºC, %vol 100ºC and %vol 150ºC) and DVPE. In these cases, the statistical evaluation should be used with care.

API Gravity: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ASTM D1298:12b.

Aromatics by FIA: This determination was problematic. Only one statistical outlier was observed. However, the calculated reproducibility after rejection of the statistical outlier is not in agreement with the requirements of EN15553:07.

Aromatics by GC: The determination in %V/V was problematic for a number of laboratories. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of EN22854:08.
One statistical outlier was observed for the test results in %M/M. Regretfully for the determination in %M/M no precision data are available. Therefore, no significant conclusions were drawn.

Appearance: No problems have been observed. Sixty-nine participants agreed on the appearance as Clear and Bright. Other laboratories reported the appearance as clear, pass or undyed.

Benzene: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the requirements of EN22854:08.

Copper strip: No problems have been observed, all participants agreed on a result of 1 or 1A, except two. These laboratories reported A (Class A) and 1B.

Density @ 15°C: This determination was very problematic. Ten (!) statistical outliers were observed. The calculated reproducibility, after rejection of the statistical outliers, is not at all in agreement with the requirements of ISO12185:96.

Distillation The automated mode determination was not problematic. In total 15 statistical outliers were observed. All calculated reproducibilities after rejection of the statistical outliers are in agreement with the requirements of ISO3405:11, except for 50% evaporated and volume at 150ºC.
The manual mode determination was somewhat problematic. In total 6 statistical outliers were observed. All calculated reproducibilities after rejection of the statistical outliers are in agreement with the requirements of ISO3405:11, except for 10% evaporated, 50% evaporated and volume at 70ºC.

Doctor Test: No analytical problems have been observed, all participants agreed on the absence of Mercaptans.

Existent Gum: This determination was problematic for a number of laboratories. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ISO6246:98.

Lead: The consensus value of the group was below the application range (2.5 - 25 mg/L) and most participants reported a “less then” result. Therefore, no significant conclusions were drawn.

Manganese This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of EN16135:11.
The average recovery of Manganese (theoretical increment of 2.98 mg Mn/kg) may be good: “less then 118%” (the actual blank Manganese content is unknown).

Olefins by FIA: This determination was somewhat problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is almost in agreement with the requirements of EN15553:07.

Olefins by GC: The determination in %V/V was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of EN22854:08. Regretfully for the determination in %M/M no precision data are available. Therefore, no significant conclusions were drawn.

Ethanol: This determination was problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of EN1601:97.

MTBE: This determination was problematic. One statistical outlier was observed. The calculated reproducibility, after rejection of the statistical outlier, is not in agreement with the requirements of EN1601:97.

Ethers This determination is problematic for a number of laboratories. In EN228:2013 (table 1 and table 2), the ‘ethers’ test result is defined as ethers with “C5 or more C atoms”. This is identical to the summation of “Ethers C5” and “Ethers >C5”. As MTBE is an ether with 5 C atoms, it is clear that the content of “C5 or more C atoms” includes the amount of MTBE.
Remarkably a number of laboratories (laboratories 92, 391, 399, 704, 823 and 1707) reported a “less then” result for “Ethers C5 or more C atoms”. Furthermore, three laboratories did obviously not recoginize MTBE as C5 ether.
Finally, no statistical outliers were observed. However, the calculated reproducibility (“C5 or more C atoms”) is in full agreement with the requirements of EN1601:97.

Other Oxygenates: The concentrations of other oxygenates were all near or below the detection limit of the method used and most of the participants reported a “less then” result. Therefore, no significant conclusions were drawn. Eight false positive test results were observed, two for DIPE, two for ETBE, two for Methanol and two for TAME.

Oxygen content: 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 agreement with the requirements of EN1601:97.

Oxidation stability: All laboratories agreed that the Oxidation Stability is >360 minutes.

Sulphur: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ISO20846:11.

RON: The determination of RON was not problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO5164:05.

MON: The determination of MON was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements ISO5163:05.

ASVP: This determination was problematic. One statistical outlier was observed and one result was excluded for statistical evaluation as the test method used is not technically equivalent. The calculated reproducibility, after rejection of the suspect data, is not in agreement with the requirements of EN13016-1:07.

DVPE: The Air Saturated Vapour Pressure can be converted to Dry Vapour Pressure Equivalent (DVPE) according to EN13016-1. This conversion was problematic. One statistical outlier was observed and two results were excluded for statistical evaluation for different reasons. The calculated reproducibility of DVPE after rejection of the suspect data is not in agreement with the requirements of EN13016-1:07.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the standard and the reproducibility as found for the group of participating laboratories. The average results of sample #13186 and #13187, calculated reproducibilities and reproducibilities, derived from literature standards (in casu ASTM standards) are compared in the next table.

Parameter		unit	n	mean	2.8 * sd	R (lit)
API Gravity			46	59.21	0.29	0.30
Aromatics by FIA		%V/V	53	31.82	4.40	3.70
Aromatics by GC		%V/V	54	30.28	1.65	1.50
Aromatics by GC		%M/M	40	35.93	2.22	n.a.
Benzene		%V/V	76	0.88	0.07	0.04
Copper Strip 3 hrs @ 50°C			90	1/1A	n.a.	n.a.
Density @ 15°C		kg/m^3	107	741.76	0.78	0.50
Dist. Auto.	IBP	ºC	104	28.25	4.23	4.73
	10%-evap.	ºC	102	41.61	2.60	3.20
	50%-evap.	ºC	98	88.73	3.64	1.88
	90%-evap.	ºC	99	147.19	2.48	3.93
	FBP	ºC	103	179.25	6.66	6.78
	%vol at 70ºC	%	98	40.89	2.55	2.70
	%vol at 100ºC	%	98	56.18	1.90	2.20
	%vol at 150ºC	%	97	91.77	1.51	1.30
Dist. Man.	IBP	ºC	17	30.10	3.78	5.60
	10%-evap.	ºC	16	42.48	4.57	4.08
	50%-evap.	ºC	15	89.46	7.78	4.28
	90%-evap.	ºC	16	147.85	3.52	3.84
	FBP	ºC	17	178.69	7.25	7.20
	%vol at 70ºC	%	16	39.24	5.27	3.41
	%vol at 100ºC	%	15	55.94	3.01	3.12
	%vol at 150ºC	%	15	91.45	1.99	2.86
Doctor Test			63	negative	n.a.	n.a.
Existent gum (washed)		mg/100mL	44	0.57	0.76	0.76
Lead as Pb		mg/L	16	0.72	1.87	(2.00)
Manganese as Mn		mg/L	26	3.53	2.20	1.21
Olefins by FIA		%V/V	52	8.11	3.19	2.87
Olefins by GC		%V/V	49	9.05	1.12	1.58
Olefins by GC		%M/M	35	8.25	1.39	n.a.
Ethanol		%V/V	72	4.73	0.56	0.40
MTBE		%V/V	68	3.28	0.43	0.30
Ethers C5 or more C atoms		%V/V	26	3.33	0.44	0.40
Oxygen content		%M/M	66	2.37	0.25	0.30
Oxidation Stability		min	57	>360	n.a.	n.a.
Sulphur		mg/kg	96	5.43	1.90	1.91
RON			60	96.49	0.72	0.70
MON			50	85.47	1.17	0.90

table 4: performance evaluation sample #13186

* results between brackets should be used with care, because the average found was below the application range

Parameter	Unit	n	mean	2.8 * sd	R (lit)
ASVP	kPa	74	97.38	2.96	2.61
DVPE acc. to EN13016	kPa	93	90.13	2.86	2.54

table 5: performance evaluation sample #13187

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

4.3 COMPARISON OF THE PROFICIENCY TEST OF OCTOBER 2013 WITH PREVIOUS PTS

	October 2013	*October 2012*	*October 2011*	*October 2010*
Number of rep. participants	126	95	111	91
Number of results reported	2425	1709	2153	1827
Statistical outliers	74	55	68	77
Percentage outliers	3.1%	3.2%	3.2%	4.2%

table 6: 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:

Determination	*October 2013*	*October 2012*	*October 2011*	*October 2010*
API Gravity	+/-	+	+	+
Aromatics by FIA	-	+	-	++
Aromatics by GC	-	+	-	++
Benzene	--	--	--	--
Density @ 15°C	--	--	+	-
Distillation Automated	+	-	-	+
Distillation Manual	+/-	+/-	+/-	-
Existent gum (washed)	+/-	(+)	(-)	(+/-)
Manganese	--	(+/-)	n.e.	n.e
Lead as Pb	(+)	(++)	(++)	(++)
Olefins by FIA	-	(-)	--	(--)
Olefins by GC	++	(++)	+	++
Ethanol	-	-	--	--
MTBE	--	-	+	-
Ethers C5 or more C atoms	-	n.e.	n.e.	n.e.
Oxygen	+	+	-	+
Sulphur	+/-	-	+	+/-
RON	+/-	+/-	+	+/-
MON	-	+	+	-
ASVP	-	+/-	+	++
DVPE EN13016-1	-	+/-	+	++

table 7: comparison determinations against the standard

* Results between brackets do not meet the application range of the test method.

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 equals the standard
- :	group performed worse than the standard
-- :	group performed much worse than the standard
n.e.:	not evaluated

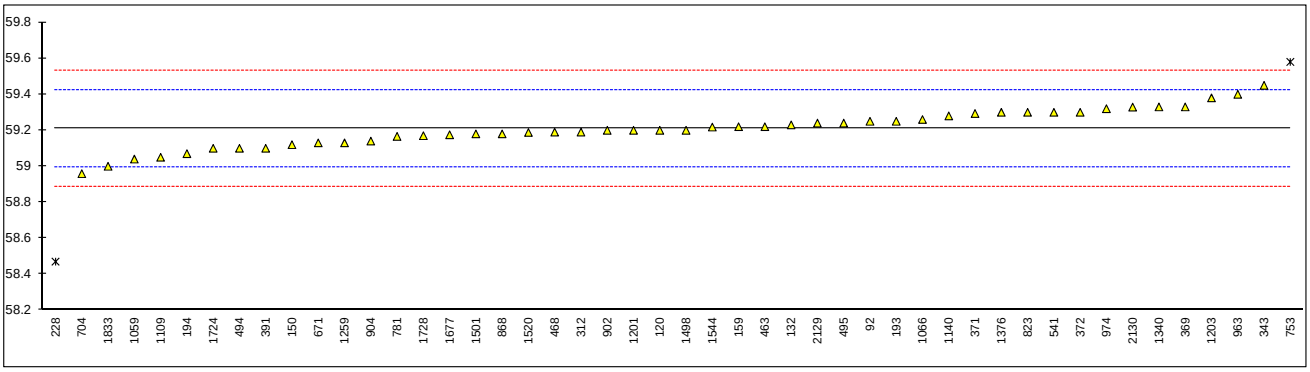
APPENDIX 1

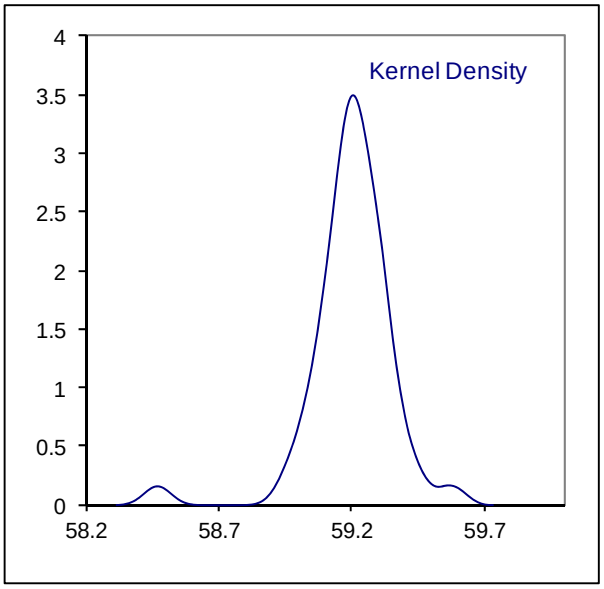
Determination of API Gravity on sample #13186;

lab	method	value	Mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D287	59.05		-1.48
92	D4052	59.25		0.38	1126		-----		-----
120	D4052	59.2		-0.08	1134		-----		-----
132	D4052	59.23		0.20	1140	IP160	59.28		0.66
150	D4052	59.12		-0.83	1167		-----		-----
159	D4052	59.22		0.10	1186		-----		-----
193	D4052	59.25		0.38	1191		-----		-----
194	D4052	59.07		-1.30	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201	D1298	59.2		-0.08
225		-----		-----	1203	D1298	59.38		1.60
228	Conv.	58.47	C,G(0.01)	-6.90	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	D1298	59.13		-0.74
311		-----		-----	1266		-----		-----
312	D1298	59.19		-0.18	1299		-----		-----
323		-----		-----	1340	D1298	59.33		1.13
334		-----		-----	1357		-----		-----
335		-----		-----	1376	D4052	59.3		0.85
336		-----		-----	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404		-----		-----
343	D1298	59.45		2.25	1409		-----		-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369	D4052Calc.	59.33		1.13	1428		-----		-----
370		-----		-----	1432		-----		-----
371	D1298	59.2933		0.79	1483		-----		-----
372	D4052Calc.	59.3		0.85	1491		-----		-----
391	D1298	59.1		-1.02	1498	D1298	59.20		-0.08
399		-----		-----	1501	D4052	59.18		-0.27
402		-----		-----	1510		-----		-----
403		-----		-----	1520	D1298	59.188		-0.20
420		-----		-----	1538		-----		-----
430		-----		-----	1544	D1298Conv.	59.218		0.08
431		-----		-----	1564		-----		-----
440		-----		-----	1569		-----		-----
444		-----		-----	1570		-----		-----
445		-----		-----	1616		-----		-----
447		-----		-----	1631		-----		-----
463	D1298	59.22		0.10	1634		-----		-----
468	D1298	59.19		-0.18	1635		-----		-----
485		-----		-----	1636		-----		-----
494	Calc.	59.1		-1.02	1650		-----		-----
495	D1298	59.24		0.29	1654		-----		-----
496		-----		-----	1677	D1298	59.175		-0.32
541	D4052	59.3		0.85	1707		-----		-----
671	D4052	59.13		-0.74	1709		-----		-----
704	D1250	58.959		-2.33	1710		-----		-----
753	D4052	59.58	G(0.05)	3.46	1720		-----		-----
781	D1298	59.166		-0.40	1724	D1298	59.1		-1.02
823	D1298	59.3		0.85	1728	D1298	59.17		-0.36
824		-----		-----	1742		-----		-----
868	D4052	59.18		-0.27	1807		-----		-----
902	D4052	59.20		-0.08	1810		-----		-----
904	D1298	59.14		-0.64	1811		-----		-----
963	D4052	59.4		1.78	1833	D1298	59.00		-1.95
970		-----		-----	1842		-----		-----
974	Calc.	59.32		1.04	1849		-----		-----
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059	D4052	59.04		-1.58	1948		-----		-----
1066	D1298	59.26		0.48	1951		-----		-----
1081		-----		-----	2129	D1298Calc.	59.24		0.29
1082		-----		-----	2130	D1298	59.329		1.12
1108		-----		-----	2146		-----		-----

normality	OK
n	46
outliers	2
mean (n)	59.209
st.dev. (n)	0.1034
R(calc.)	0.290
R(D1298:12b)	0.300

Lab 228: first reported 58.72



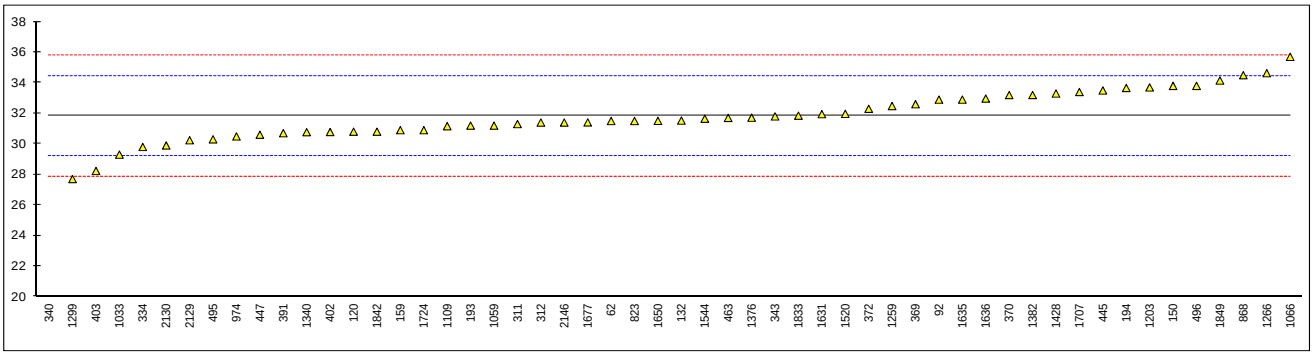


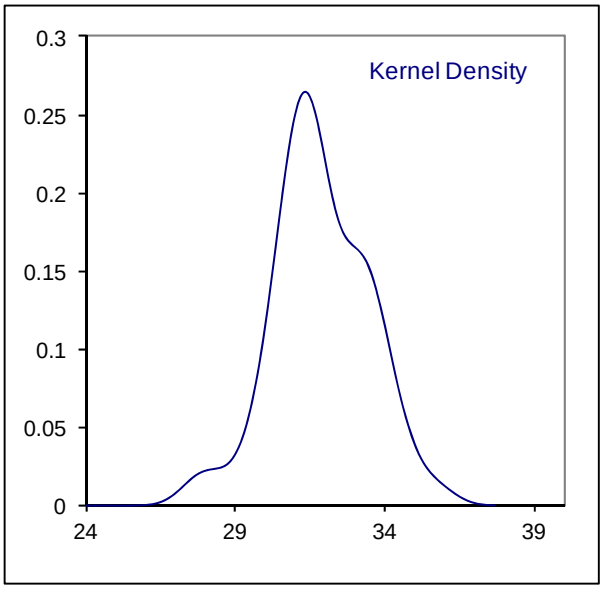
Determination of Aromatics by FIA on sample #13186; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D1319	31.5	C	-0.24	1109	D1319	31.16		-0.50
92	D1319	32.9		0.81	1126		-----		-----
120	D1319	30.8		-0.77	1134		-----		-----
132	D1319	31.53		-0.22	1140		-----		-----
150	D1319	33.8		1.50	1167		-----		-----
159	D1319	30.9		-0.70	1186		-----		-----
193	D1319	31.2		-0.47	1191		-----		-----
194	D1319	33.66		1.39	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201		-----		-----
225		-----		-----	1203	EN15553	33.7		1.42
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN15553	32.48		0.50
311	D1319	31.3		-0.40	1266	in house	34.63		2.12
312	D1319	31.4		-0.32	1299	D1319	27.7		-3.12
323		-----		-----	1340	D1319	30.77		-0.80
334	D1319	29.8		-1.53	1357		-----		-----
335		-----		-----	1376	D1319	31.72		-0.08
336		-----		-----	1382	GB/T11132	33.2		1.04
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340	D1319	7.58	G(0.01)	-18.35	1404		-----		-----
343	D1319	31.8	C	-0.02	1409		-----		-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369	EN15553	32.6		0.59	1428	EN15553	33.3		1.12
370	D1319	33.2		1.04	1432		-----		-----
371		-----		-----	1483		-----		-----
372	EN15553	32.3		0.36	1491		-----		-----
391	EN15553	30.7		-0.85	1498		-----		-----
399		-----		-----	1501		-----		-----
402	D1319	30.78		-0.79	1510		-----		-----
403	EN15553	28.23		-2.72	1520	EN15553	31.97		0.11
420		-----		-----	1538		-----		-----
430		-----		-----	1544	D1319	31.65		-0.13
431		-----		-----	1564		-----		-----
440		-----		-----	1569		-----		-----
444		-----		-----	1570		-----		-----
445	IP156	33.5		1.27	1616		-----		-----
447	D1319	30.6		-0.93	1631	EN15553	31.95		0.10
463	D1319	31.7		-0.09	1634		-----		-----
468		-----		-----	1635	EN15553	32.9		0.81
485		-----		-----	1636	EN15553	32.97		0.87
494		-----		-----	1650	D1319	31.51		-0.24
495	EN15553	30.3		-1.15	1654		-----		-----
496	EN15553	33.80		1.50	1677	D1319	31.41		-0.31
541		-----		-----	1707	EN15553	33.4		1.19
671		-----		-----	1709		-----		-----
704		-----		-----	1710		-----		-----
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN15553	30.9		-0.70
823	D1319	31.5		-0.24	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D1319	34.50		2.03	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		-----		-----
963		-----		-----	1833	EN15553	31.85		0.02
970		-----		-----	1842	IP156	30.8		-0.77
974	D1319	30.49		-1.01	1849	D1319	34.15		1.76
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033	IP156	29.3		-1.91	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059	EN15553	31.2		-0.47	1948		-----		-----
1066	EN15553	35.7		2.93	1951		-----		-----
1081		-----		-----	2129	EN15553	30.24		-1.20
1082		-----		-----	2130	EN15553	29.9		-1.46
1108		-----		-----	2146	D1319	31.4		-0.32

normality	OK
n	53
outliers	1
mean (n)	31.82
st.dev. (n)	1.571
R(calc.)	4.40
R(EN15553:07)	3.70

Lab 62: first reported 40.1
Lab 343: first reported 37.2



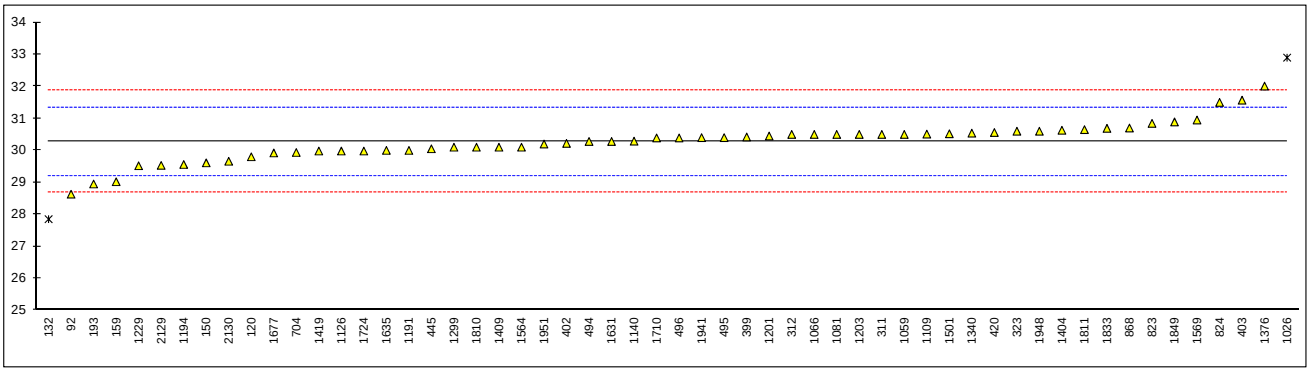


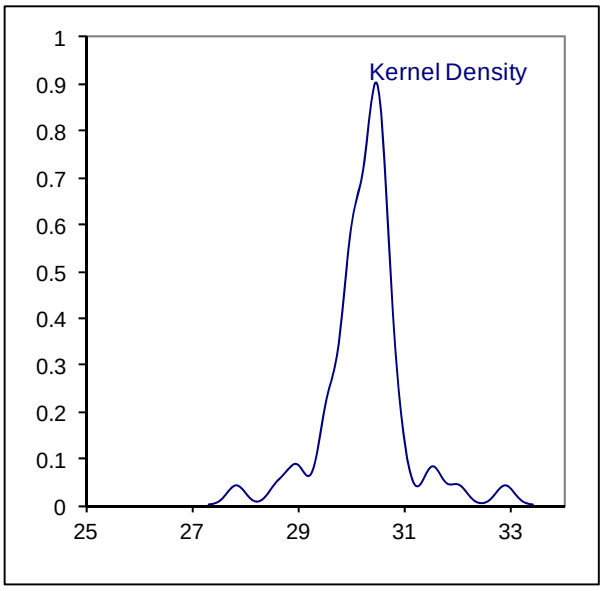
Determination of Aromatics by GC on sample #13186; results in %V/V

lab	method	value	Mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	30.51		0.43
92	INH-99	28.63		-3.07	1126	in house	29.98		-0.56
120	D5769	29.8		-0.89	1134		-----		-----
132	D5769	27.85	G(0.05)	-4.53	1140	IP566	30.29		0.02
150	D5769	29.61	C	-1.25	1167		-----		-----
159	D5769	29.02		-2.35	1186		-----		-----
193	D5769	28.95		-2.48	1191	EN22854	30.0		-0.52
194		-----		-----	1194	EN22854	29.56		-1.34
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN22854	30.45		0.32
225		-----		-----	1203	EN22854	30.50		0.41
228		-----		-----	1229	EN22854	29.52		-1.41
258		-----		-----	1257		-----		-----
273		-----		-----	1259		-----		-----
311	EN22854	30.5		0.41	1266		-----		-----
312	EN22854	30.5		0.41	1299	EN22854	30.1		-0.33
323	EN22854	30.6		0.60	1340	EN22854	30.54		0.49
334		-----		-----	1357		-----		-----
335		-----		-----	1376	D6730	32.01	C	3.23
336		-----		-----	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404	EN22854	30.63		0.66
343		-----		-----	1409	EN22854	30.1		-0.33
344		-----		-----	1419	EN22854	29.98		-0.56
353		-----		-----	1426		-----		-----
369		-----		-----	1428		-----		-----
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399	EN22854	30.42		0.26	1501	D6839	30.52		0.45
402	EN22854	30.22		-0.11	1510		-----		-----
403	EN22854	31.57		2.41	1520		-----		-----
420	EN22854	30.56		0.53	1538		-----		-----
430		-----		-----	1544		-----		-----
431		-----		-----	1564	EN22854	30.1		-0.33
440		-----		-----	1569	EN22854	30.95		1.25
444		-----		-----	1570		-----		-----
445	EN14517	30.05		-0.43	1616		-----		-----
447		-----		-----	1631	EN22854	30.28		0.00
463		-----		-----	1634		-----		-----
468		-----		-----	1635	EN22854	30.0		-0.52
485		-----		-----	1636		-----		-----
494	EN22854	30.28		0.00	1650		-----		-----
495	EN22854	30.4		0.23	1654		-----		-----
496	EN22854	30.39		0.21	1677	EN22854	29.92		-0.67
541		-----		-----	1707		-----		-----
671		-----		-----	1709		-----		-----
704	D5580	29.935		-0.64	1710	EN22854	30.39		0.21
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	29.98		-0.56
823	D6730	30.844		1.06	1728		-----		-----
824	EN22854	31.50		2.28	1742		-----		-----
868	D6839	30.70		0.79	1807		-----		-----
902		-----		-----	1810	EN22854	30.1		-0.33
904		-----		-----	1811	EN22854	30.65		0.69
963		-----		-----	1833	EN22854	30.69		0.77
970		-----		-----	1842		-----		-----
974		-----		-----	1849	EN22854	30.89		1.14
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	D6729	32.9	G(0.05)	4.89	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	in house	30.4		0.23
1059	EN22854	30.5		0.41	1948	EN22854	30.60		0.60
1066	EN22854	30.5		0.41	1951	EN22854	30.20		-0.15
1081	EN22854	30.5		0.41	2129	D6730	29.531		-1.39
1082		-----		-----	2130	D6730	29.66		-1.15
1108		-----		-----	2146		-----		-----
							-----		-----

normality	not OK
n	54
outliers	2
mean (n)	30.278
st.dev. (n)	0.5894
R(calc.)	1.650
R(EN22854:08)	1.501

Lab 150 : first reported 31.92
Lab 1376: first reported 32.55





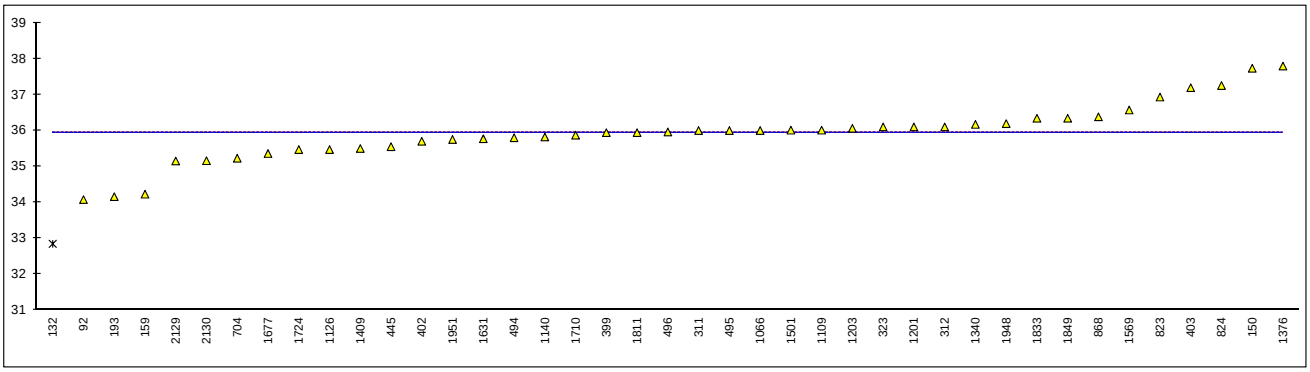
Determination of Aromatics by GC on sample #13186; results in %M/M

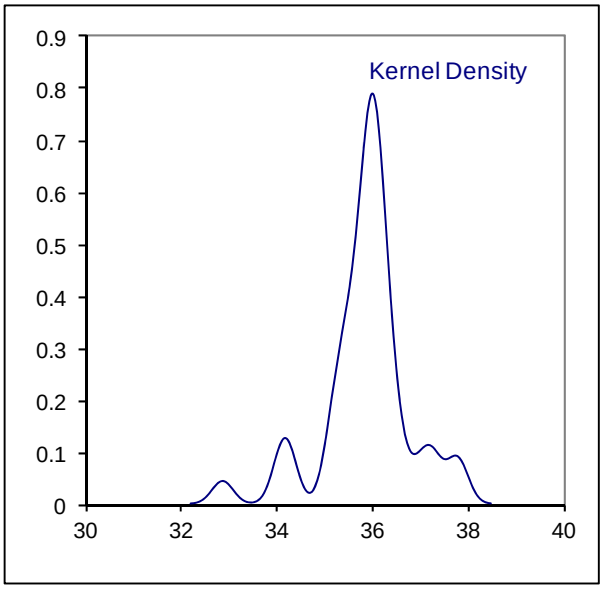
lab	method	value	Mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	36.01		-----
92	INH-99	34.08		-----	1126	in house	35.47		-----
120		-----		-----	1134		-----		-----
132	D5769	32.85	G(0.05)	-----	1140	IP566	35.82		-----
150	D5769	37.73		-----	1167		-----		-----
159	D5769	34.23		-----	1186		-----		-----
193	D5769	34.16		-----	1191		-----		-----
194		-----		-----	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201		36.1		-----
225		-----		-----	1203		36.06		-----
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259		-----		-----
311	EN22854	36.0		-----	1266		-----		-----
312	EN22854	36.1		-----	1299		-----		-----
323	EN22854	36.1		-----	1340	EN22854	36.17		-----
334		-----		-----	1357		-----		-----
335		-----		-----	1376	D6730	37.79	C	-----
336		-----		-----	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404		-----		-----
343		-----		-----	1409	EN22854	35.5	C	-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369		-----		-----	1428		-----		-----
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399	EN22854	35.94		-----	1501	D6839	36.01		-----
402		35.70		-----	1510		-----		-----
403		37.19		-----	1520		-----		-----
420		-----		-----	1538		-----		-----
430		-----		-----	1544		-----		-----
431		-----		-----	1564		-----		-----
440		-----		-----	1569		36.57		-----
444		-----		-----	1570		-----		-----
445	EN14517	35.55		-----	1616		-----		-----
447		-----		-----	1631	EN22854	35.77		-----
463		-----		-----	1634		-----		-----
468		-----		-----	1635		-----		-----
485		-----		-----	1636		-----		-----
494	EN22854	35.80		-----	1650		-----		-----
495		36.0		-----	1654		-----		-----
496	EN22854	35.96		-----	1677	EN22854	35.36		-----
541		-----		-----	1707		-----		-----
671		-----		-----	1709		-----		-----
704	D5580	35.230		-----	1710	EN22854	35.87		-----
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	35.47		-----
823	D6730	36.930		-----	1728		-----		-----
824		37.25		-----	1742		-----		-----
868	D6839	36.38		-----	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		35.94		-----
963		-----		-----	1833	EN22854	36.34		-----
970		-----		-----	1842		-----		-----
974		-----		-----	1849	EN22854	36.34		-----
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059		-----		-----	1948		36.19		-----
1066		36.0		-----	1951		35.75		-----
1081		-----		-----	2129	D6730	35.153		-----
1082		-----		-----	2130	D6730	35.16		-----
1108		-----		-----	2146		-----		-----

normality	not OK
n	40
outliers	1
mean (n)	35.929
st.dev. (n)	0.7940
R(calc.)	2.223
R(EN22854:08)	unknown

Compare R(iis12B05EN) = 1.096

Lab 1376: first reported 38.43
Lab 1409: first reported 30.5





Determination of Appearance on sample #13186;

lab	method	value	mark	z(targ)	remarks
62	Visual	Pass		-----	
92	Visual	C&B		-----	
120	Visual	C&B		-----	
132	D4176	C&B		-----	
150	Visual	C&B		-----	
159	D4176	C&B		-----	
193	D4176	Pass		-----	
194		-----		-----	
212		-----		-----	
221		-----		-----	
225		-----		-----	
228		-----		-----	
258		-----		-----	
273		-----		-----	
311		Clear		-----	
312	Visual	C&B		-----	
323	Visual	C&B		-----	
334		-----		-----	
335		-----		-----	
336		-----		-----	
337		-----		-----	
338		C&B		-----	
340	Visual	Clear		-----	
343	INH-1608	C&B		-----	
344	Visual	C&B		-----	
353	D4176	C&B		-----	
369	Visual	C&B		-----	
370	Visual	C&B		-----	
371		-----		-----	
372		C&B		-----	
391		-----		-----	
399		Pass		-----	
402	Visual	C&B		-----	
403		-----		-----	
420		-----		-----	
430		-----		-----	
431		-----		-----	
440	Visual	C&B		-----	
444		-----		-----	
445	Visual	C&B		-----	
447		C&B		-----	
463	D4176	Pass		-----	
468	D4176	Pass		-----	
485		-----		-----	
494	Visual	C&B		-----	
495		C&B		-----	
496	Visual	C&B		-----	
541	Visual	C&B		-----	
671		C&B		-----	
704	Visual	C&B		-----	
753		C&B		-----	
781	Visual	C&B		-----	
823		-----		-----	
824		C&B		-----	
868	D4176	C&B		-----	
902	Visual	C&B		-----	
904	Visual	C&B		-----	
963	Visual	C&B		-----	
970		-----		-----	
974	Visual	C&B		-----	
1006		-----		-----	
1017		-----		-----	
1026	INH-70	C&B		-----	
1033		-----		-----	
1038		-----		-----	
1059		C&B		-----	
1066		C&B		-----	
1081		C&B		-----	
1082		-----		-----	
1108		-----		-----	
1109	D4176	Pass		-----	
1126		-----		-----	
1134	D4176	C&B		-----	
1140		C&B		-----	
1167		-----		-----	
1186		-----		-----	

1191		-----	-----
1194		-----	-----
1199		-----	-----
1201		C&B	-----
1203		C&B	-----
1229		-----	-----
1257		-----	-----
1259		C&B	-----
1266	Visual	C&B	-----
1299		-----	-----
1340	Visual	C&B	-----
1357		-----	-----
1376		Clear	-----
1382		-----	-----
1395		-----	-----
1397		-----	-----
1404		-----	-----
1409		C&B	-----
1419		-----	-----
1426		-----	-----
1428		C&B	-----
1432		-----	-----
1483		-----	-----
1491		-----	-----
1498		-----	-----
1501	Visual	UNDYED	-----
1510		-----	-----
1520	Visual	C&B	-----
1538		-----	-----
1544	Visual	C&B	-----
1564		-----	-----
1569		-----	-----
1570		-----	-----
1616		-----	-----
1631		-----	-----
1634		-----	-----
1635	Visual	Clear	-----
1636		-----	-----
1650	Visual	C&B	-----
1654		-----	-----
1677		C&B	-----
1707	Visual	C&B	-----
1709		-----	-----
1710		-----	-----
1720		-----	-----
1724		-----	-----
1728	Visual	C&B	-----
1742		-----	-----
1807		-----	-----
1810		-----	-----
1811		-----	-----
1833	Visual	Clear	-----
1842		-----	-----
1849		C&B	-----
1851		-----	-----
1936	in house	C&B	-----
1937		-----	-----
1938		-----	-----
1941	in house	C&B	-----
1948		-----	-----
1951		C&B	-----
2129		C&B	-----
2130		C&B	-----
2146		-----	-----
	n	69	
	mean (n)	C&B	

C&B = Clear and Bright

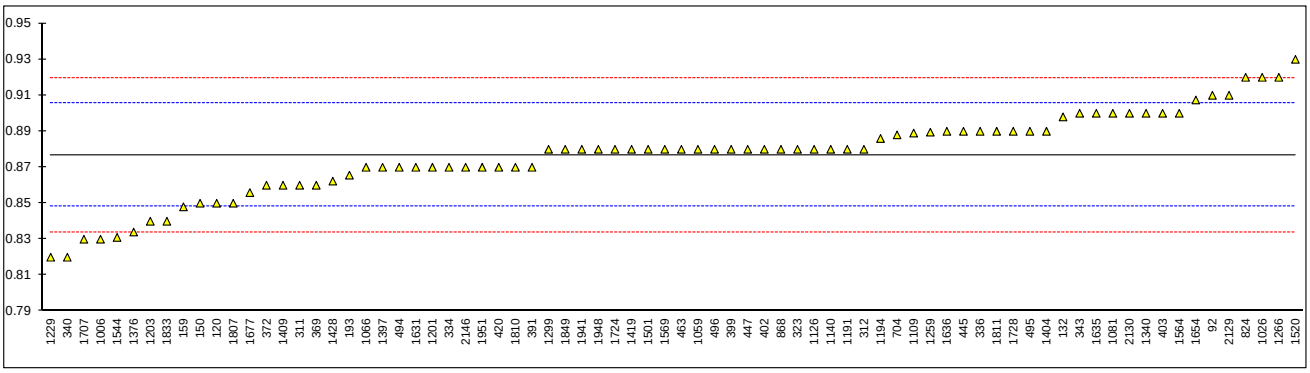
Determination of Benzene on sample #13186; results in %V/V

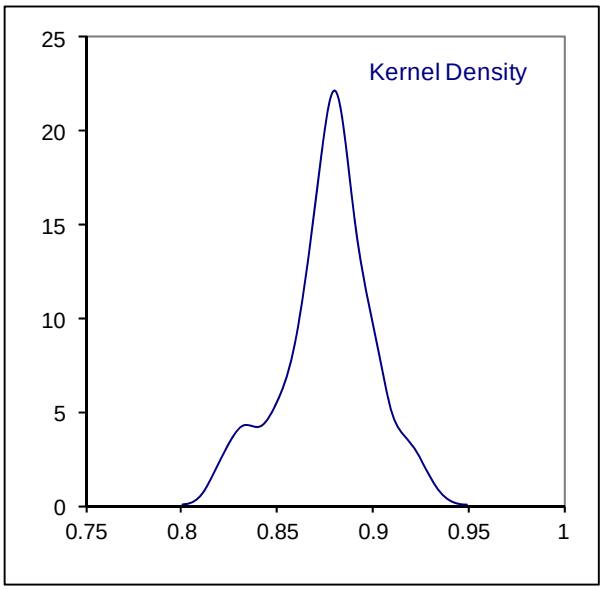
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D3606	0.889		0.86
92	INH-99	0.91		2.33	1126	in house	0.88		0.23
120	D3606	0.85		-1.87	1134		-----		-----
132	D3606	0.898		1.49	1140	IP566	0.88		0.23
150	D3606	0.85		-1.87	1167		-----		-----
159	D3606	0.848		-2.01	1186		-----		-----
193	D3606	0.8656		-0.78	1191	EN22854	0.88		0.23
194		-----		-----	1194	D6277	0.886		0.65
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN22854	0.87		-0.47
225		-----		-----	1203	EN22854	0.84	C	-2.57
228		-----		-----	1229	EN22854	0.82		-3.97
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN12177	0.8895		0.89
311	EN22854	0.86		-1.17	1266	EN238	0.92		3.03
312	EN22854	0.88		0.23	1299	EN22854	0.88		0.23
323	EN22854	0.88		0.23	1340	EN22854	0.90		1.63
334	EN238	0.87		-0.47	1357		-----		-----
335		-----		-----	1376	D6730	0.834		-2.99
336	EN238	0.89		0.93	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397	EN238	0.87		-0.47
340	EN238	0.82		-3.97	1404	EN22854	0.89		0.93
343	EN22854	0.9		1.63	1409	EN22854	0.86		-1.17
344		-----		-----	1419	EN22854	0.88		0.23
353		-----		-----	1426		-----		-----
369	EN238	0.86	C	-1.17	1428	EN12177	0.8623		-1.01
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372	D3606	0.86		-1.17	1491		-----		-----
391	EN12177	0.87		-0.47	1498		-----		-----
399	EN22854	0.88		0.23	1501	D6839	0.88		0.23
402	EN22854	0.88		0.23	1510		-----		-----
403	EN22854	0.90		1.63	1520	EN238	0.93		3.73
420	EN22854	0.87	C	-0.47	1538		-----		-----
430		-----		-----	1544	EN12177	0.831		-3.20
431		-----		-----	1564	EN22854	0.9		1.63
440		-----		-----	1569	EN22854	0.88		0.23
444		-----		-----	1570		-----		-----
445	EN14517	0.89		0.93	1616		-----		-----
447	IP429	0.88		0.23	1631	EN12177	0.87		-0.47
463	EN238	0.88		0.23	1634		-----		-----
468		-----		-----	1635	EN22854	0.9		1.63
485		-----		-----	1636	EN238	0.89		0.93
494	EN22854	0.87		-0.47	1650		-----		-----
495	EN22854	0.89		0.93	1654	D6729	0.9074		2.14
496	EN22854	0.880		0.23	1677	EN12177	0.8559		-1.46
541		-----		-----	1707	EN22854	0.83		-3.27
671		-----		-----	1709		-----		-----
704	D5580	0.888		0.79	1710		-----		-----
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	0.88		0.23
823		-----		-----	1728	EN238	0.89	C	0.93
824	EN22854	0.92		3.03	1742		-----		-----
868	D6839	0.88		0.23	1807	EN22854	0.85		-1.87
902		-----		-----	1810	EN22854	0.87		-0.47
904		-----		-----	1811	EN22854	0.89		0.93
963		-----		-----	1833	EN22854	0.84		-2.57
970		-----		-----	1842		-----		-----
974		-----		-----	1849	D3606	0.88		0.23
1006	D5589	0.83		-3.27	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	EN12177	0.92		3.03	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	D6277	0.88		0.23
1059	EN22854	0.88		0.23	1948	EN22854	0.88		0.23
1066	EN22854	0.87		-0.47	1951	EN22854	0.87		-0.47
1081	EN22854	0.9		1.63	2129	EN238	0.91		2.33
1082		-----		-----	2130	D6730	0.90		1.63
1108		-----		-----	2146	EN12177	0.87		-0.47

Only EN22854:

normality	not OK		not OK
n	76		35
outliers	0		0
mean (n)	0.877		0.876
st.dev. (n)	0.0233		0.0213
R(calc.)	0.065		0.060
R(EN22854:08)	0.040		0.040
R(EN238:96)	0.300	for comparison	

Lab 369: first reported 0.82
Lab 420: first reported 0.79
Lab 1203: first reported 0.80
Lab 1728: first reported 0.98





Determination of Copper strip 3hrs/50°C on sample #13186;

lab	method	value	mark	z(targ)	remarks
62	D130	1A		-----	
92	D130	1A		-----	
120	D130	1A		-----	
132	D130	1A		-----	
150	D130	1A		-----	
159	D130	1A		-----	
193	D130	1A		-----	
194	D130	1A		-----	
212		1A		-----	
221	D130	1A		-----	
225		-----		-----	
228	D130	1A		-----	
258		-----		-----	
273	D130	1A		-----	
311		1A		-----	
312	D130	1A		-----	
323	D130	1A		-----	
334	EN2160	1		-----	
335		-----		-----	
336		-----		-----	
337		-----		-----	
338		-----		-----	
340	D130	1A		-----	
343	D130	1A		-----	
344	ISO2160	1A		-----	
353	D130	1A		-----	
369	ISO2160	1A		-----	
370	ISO2160	1A		-----	
371	ISO2160	1A		-----	
372	ISO2160	1A		-----	
391		-----		-----	
399		1A		-----	
402	ISO2160	A		-----	Reported Class A
403	ISO2160	1		-----	
420	ISO2160	1A		-----	
430		-----		-----	
431		-----		-----	
440	IP154	1A		-----	
444		-----		-----	
445	IP154	1A		-----	
447	D130	1A		-----	
463		1A		-----	
468		1A		-----	
485		-----		-----	
494	ISO2160	1A		-----	
495		1A		-----	
496	ISO2160	1A		-----	
541		-----		-----	
671	D130	1A		-----	
704	D130	1A		-----	
753	D130	1A		-----	
781	D130	1A		-----	
823	D130	1A		-----	
824		1A		-----	
868	D130	1A		-----	
902		-----		-----	
904	D130	1A		-----	
963	D130	1A		-----	
970		-----		-----	
974	D130	1A		-----	
1006	D130	1A		-----	
1017		-----		-----	
1026	ISO2160	1A		-----	
1033	IP154	1A		-----	
1038		-----		-----	
1059	ISO2160	1A		-----	
1066		1A		-----	
1081	D130	1A		-----	
1082		-----		-----	
1108		-----		-----	
1109	D130	1A		-----	
1126		-----		-----	
1134	D130	1A		-----	
1140	IP154	1A		-----	
1167		-----		-----	
1186	D130	1A		-----	

1191		-----	-----
1194		-----	-----
1199		-----	-----
1201		1A	-----
1203		1A	-----
1229		-----	-----
1257		-----	-----
1259		1A	-----
1266	ISO2160	1A	-----
1299		-----	-----
1340	ISO2160	1A	-----
1357		-----	-----
1376	D130	1B	-----
1382	GB/T5096	1A	-----
1395	D130	1A	-----
1397		-----	-----
1404	D130	1A	-----
1409	ISO2160	1A	-----
1419		-----	-----
1426		-----	-----
1428	ISO2160	1A	-----
1432		-----	-----
1483		-----	-----
1491		-----	-----
1498		-----	-----
1501	D130	1A	-----
1510		-----	-----
1520	ISO2160	1A	-----
1538		-----	-----
1544	ISO2160	1A	-----
1564		-----	-----
1569		1A	-----
1570		-----	-----
1616		-----	-----
1631	D130	1A	-----
1634	D130	1A	-----
1635	D130	1A	-----
1636	ISO2160	1A	-----
1650	D130	1A	-----
1654	ISO2160	1A	-----
1677	D130	1A	-----
1707	ISO2160	1A	-----
1709		-----	-----
1710	ISO2160	1A	-----
1720		-----	-----
1724	D130	1A	-----
1728	D130	1A	-----
1742	ISO2160	1	-----
1807	D130	1A	-----
1810		-----	-----
1811		-----	-----
1833	ISO2160	1A	-----
1842		-----	-----
1849	D130	1A	-----
1851		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1941	ISO2160	1	-----
1948		-----	-----
1951		1	-----
2129	ISO2160	1A	-----
2130		1A	-----
2146		-----	-----
	n	90	
	mean (n)	1A	

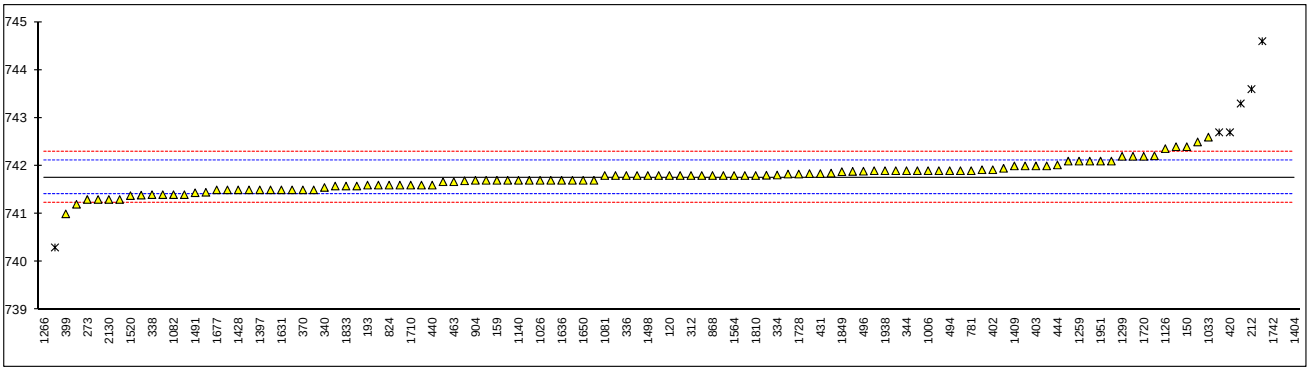
Determination of Density @ 15°C on sample #13186; results in kg/m^3

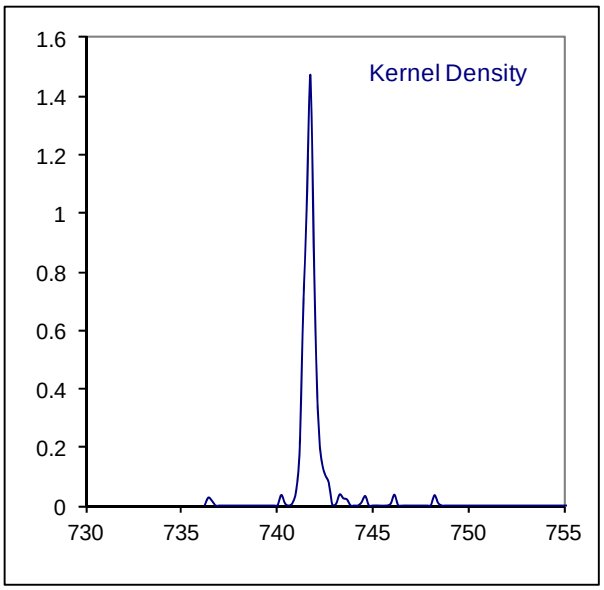
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D4052	741.95		1.06	1109	D4052	741.92		0.89
92		-----		-----	1126	ISO12185	742.36		3.35
120	D4052	741.8		0.22	1134	IP365	741.7		-0.34
132	D4052	741.67		-0.51	1140	IP365	741.7	C	-0.34
150	ISO12185	742.4	C	3.58	1167	ISO12185	742.5		4.14
159	D4052	741.7		-0.34	1186	D1298	743.3	C,G(0.01)	8.62
193	D4052	741.6		-0.90	1191	ISO12185	741.8		0.22
194	D4052	742.2		2.46	1194		-----		-----
212	ISO12185	743.6	G(0.01)	10.30	1199		-----		-----
221	D4052	742.1		1.90	1201	ISO12185	741.9		0.78
225		-----		-----	1203	ISO12185	741.84		0.44
228	D4052	744.6	C,G(0.01)	15.90	1229	ISO12185	741.7		-0.34
258		-----		-----	1257		-----		-----
273	D4052	741.3		-2.58	1259	ISO12185	742.1		1.90
311	ISO12185	741.9		0.78	1266	ISO3675	736.53	G(0.01)	-29.29
312	D4052	741.8		0.22	1299	D4052	742.2		2.46
323	ISO12185	741.9		0.78	1340	ISO12185	741.45		-1.74
334	ISO12185	741.81		0.27	1357		-----		-----
335	ISO12185	741.6		-0.90	1376	D4052	741.5		-1.46
336	ISO12185	741.8		0.22	1382	INH-2000	741.8		0.22
337	ISO12185	742.1		1.90	1395	D4052	742.4		3.58
338	ISO12185	741.4		-2.02	1397	ISO12185	741.5		-1.46
340	ISO12185	741.55		-1.18	1404	ISO12185	784.6	G(0.01)	239.90
343	ISO12185	741.7		-0.34	1409	ISO12185	742.0		1.34
344	D4052	741.9		0.78	1419	ISO12185	741.69		-0.40
353	IP365	741.8		0.22	1426		-----		-----
369	ISO12185	741.3		-2.58	1428	ISO12185	741.5		-1.46
370	ISO12185	741.5		-1.46	1432		-----		-----
371	ISO12185	741.4		-2.02	1483		-----		-----
372	ISO12185	741.5		-1.46	1491	ISO12185	741.44		-1.80
391	ISO12185	742.0		1.34	1498	D1298	741.8		0.22
399	ISO12185	741.0		-4.26	1501	ISO12185	741.8		0.22
402	ISO12185	741.92		0.89	1510		-----		-----
403	ISO12185	742.0		1.34	1520	ISO12185	741.38		-2.13
420	ISO12185	742.7	DG(0.05)	5.26	1538		-----		-----
430		-----		-----	1544	ISO12185	741.70		-0.34
431	ISO12185	741.84		0.44	1564	D4052	741.8		0.22
440	D4052	741.6		-0.90	1569	ISO12185	741.58		-1.01
444	D4052	742.02		1.45	1570		-----		-----
445	IP365	742.7	DG(0.05)	5.26	1616		-----		-----
447	ISO12185	741.39		-2.08	1631	ISO12185	741.5		-1.46
463	ISO12185	741.67		-0.51	1634	ISO12185	741.8855		0.70
468	ISO12185	741.8		0.22	1635	ISO12185	741.7		-0.34
485	ISO12185	741.5		-1.46	1636	ISO12185	741.7		-0.34
494	ISO12185	741.9		0.78	1650	D4052	741.70		-0.34
495	ISO12185	741.6		-0.90	1654	ISO12185	741.806		0.25
496	ISO12185	741.89		0.72	1677	D4052	741.5		-1.46
541	ISO12185	741.7		-0.34	1707	ISO12185	741.6		-0.90
671	D4052	742.0		1.34	1709		-----		-----
704	ISO12185	742.21		2.51	1710	ISO12185	741.6		-0.90
753	ISO12185	740.3	G(0.05)	-8.18	1720	D4052	742.2		2.46
781	ISO12185	741.9		0.78	1724	ISO12185	741.58		-1.01
823	ISO12185	741.4		-2.02	1728	D4052	741.83		0.39
824	ISO12185	741.6		-0.90	1742	ISO12185	746.15	C,G(0.01)	24.58
868	D4052	741.80		0.22	1807	ISO12185	748.31	C,G(0.01)	36.67
902	D4052	741.83		0.39	1810	ISO12185	741.8		0.22
904	ISO12185	741.7		-0.34	1811	ISO12185	742.1		1.90
963	D4052	741.2		-3.14	1833	ISO12185	741.58		-1.01
970		-----		-----	1842		-----		-----
974	D4052	741.3		-2.58	1849	D4052	741.88		0.67
1006	D4052	741.9		0.78	1851		-----		-----
1017		-----		-----	1936	ISO12185	741.8		0.22
1026	D4052	741.7	C	-0.34	1937	ISO12185	741.8		0.22
1033	IP365	742.6		4.70	1938	ISO12185	741.9		0.78
1038		-----		-----	1941	ISO12185	741.85	C	0.50
1059	ISO12185	741.9		0.78	1948		-----		-----
1066	ISO12185	741.5		-1.46	1951	ISO12185	742.1	C	1.90
1081	ISO12185	741.8		0.22	2129	D4052	741.5	C	-1.46
1082	ISO12185	741.4		-2.02	2130	ISO12185	741.3		-2.58
1108		-----		-----	2146	ISO12185	741.90		0.78

normality	not OK
n	107
outliers	10
mean (n)	741.761
st.dev. (n)	0.2795
R(calc.)	0.782
R(ISO12185:96)	0.500

Compare R(D4052:11) = 2.183

Lab 150: first reported 0.7424
Lab 228: first reported 743.6
Lab 1026: first reported 0.7417
Lab 1140: probably unit error, reported: 0.7417
Lab 1186: first reported 740.8
Lab 1742: first reported 0.74615
Lab 1807: first reported 743.7
Lab 1941: first reported 736.14
Lab 1951: first reported 0.7421
Lab 2129: first reported 0.7415





Determination of Distillation ASTM D86 (automated) on sample #13186; results in °C

lab	method	IBP	mark	10% eva	mark	50% eva	mark	90% eva	mark	FBP	Mark
62	D86-A	27.3		41.4		89.3		147.2		179.7	
92	D86-A	29.0		41.0		88.8		147.2		182.4	
120	D86-A	28.7		40.4		87.0		146.1		174.2	
132	D86-A	27.3		41.1		88.9		147.1		179.4	
150	ISO3405-A	26.3		39.6		87.0		146.1		178.5	
159	D86-A	28.6		42.9		89.9		147.9		179.5	
193	D86-A	27.5		40.7		87.9		147.0		178.9	
194	D86-A	29.0		41.4	C	88.9	C	146.1	C	177.8	
212	ISO3405-A	31.3		43.5		92.7		151.0		179.9	
273	D86-A	28.5		41.1		89.8		147.1		177.6	
311	ISO3405-A	28.1		40.7		88.3		147.2		177.5	
312	D86-A	28.1		41.2		88.9		147.0		180.7	
323	ISO3405-A	30.2		40.5		87.0		147.1		180.8	
334	ISO3405-A	27.3		41.8		89.5		145.6		176.7	
335	ISO3405-A	27.0		40.6		88.7		146.8		181.7	
336	ISO3405-A	25.9		40.9		88.1		146.6		176.5	
337	ISO3405-A	27.3		40.8		89.2		147.1		180.1	
338	ISO3405-A	26.6		42.1		88.3		147.0		182.5	
340	ISO3405-A	26.5		40.9		88.1		146.9		180.2	
343	ISO3405-A	25.4		39.4		90.8		145.8		176.4	
344	D86-A	29.9		43.4		93.5	G(0.05)	152.3	G(0.01)	179.6	
353	IP123-A	29.0		42.2		89.7		145.6		180.6	
369	ISO3405-A	26.5		41.4		88.2		148.6		180.2	
370	ISO3405-A	27.5		41.1		87.2		146.6		177.7	
371	ISO3405-A	26.7		41.0		87.0		146.1	C	177.2	
372	ISO3405-A	27.0		42.3		90.4		147.8		182.0	
391		-----		-----		-----		-----		-----	
399	ISO3405-A	27.6		42.9		90.0		146.9		176.9	
402	ISO3405-A	31.3		41.3		87.3	C	146.9	C	180.5	
403		-----		-----		-----		-----		-----	
420	ISO3405-A	27.8		42.7		91.9		150.9		179.2	
430		-----		-----		-----		-----		-----	
431	ISO3405-A	29.3		41.6		89.8		147.5		175.9	
440	D86-A	25.7		41.9		90.0		147.2		179.2	
444	D86-A	32.1		44.3	C	87.1		147.9		173.8	
445	IP123-A	29.3	C	-----		-----		-----		181.7	
447	IP123-A	28.2		40.2		87.4		146.9		180.5	
463	ISO3405-A	28.3		41.8		89.9		147.1		176.7	
468	ISO3405-A	29.2		42.8		89.5	C	146.5	C	178.2	
485	ISO3405-A	29.35		41.40		88.25		146.80		181.75	
494	ISO3405-A	28.2		42.0		88.3		146.8		178.4	
495	ISO3405-A	28.7		40.9		87.5		146.7		180.6	
496	ISO3405-A	27.3		41.2		89.2		147.5		180.7	
541		-----		-----		-----		-----		-----	
671	D86-A	30.1		42.4		89.1		146.6		180.7	
704		-----		-----		-----		-----		-----	
753	ISO3405-A	30.0		44.3		89.4		146.6		174.4	
781		-----		-----		-----		-----		-----	
823	ISO3405-A	29.8		41.8		88.6		147.9	C	183.6	
824	ISO3405-A	28.5		41.4		89.2		146.7		180.6	
868	D86-A	30.1		41.6		88.6		147.8		176.8	
902		-----		-----		-----		-----		-----	
904	ISO3405-A	26.7		41.6		87.8		146.7		181.6	
963		-----		-----		-----		-----		-----	
970		-----		-----		-----		-----		-----	
974		-----		-----		-----		-----		-----	
1006	D86-A	29.3		41.8		89.3		147.6		180.8	
1017		-----		-----		-----		-----		-----	
1026	ISO3405-A	26.2		40.6		87.5		146.4		180.2	
1033	IP123-A	28.2		40.9		87.8		146.9		180.6	
1038		-----		-----		-----		-----		-----	
1059	ISO3405-A	29.0		41.2		88.6		148.0		180.1	
1066	ISO3405-A	27.4		40.7		87.6		146.7		177.3	
1081	D86-A	27.0		41.3		89.4		147.1		177.0	
1082	ISO3405-A	27.1		41.3		88.0		147.5		181.6	
1108		-----		-----		-----		-----		-----	
1109	D86-A	28.3		42.1		90.3		147.3		178.1	
1126	D86-A	28.6		40.9		88.4		147.9		173.0	
1134	D86-A	28.5		43.2		93.5	DG(0.05)	152.9	G(0.01)	182.2	
1140	IP123-A	27.6		41.8		88.6		148.3		182.3	
1167	ISO3405-A	29.0		41.3		86.1		146.7		175.4	
1186		-----		-----		-----		-----		-----	
1191	ISO3405-A	28.1		41.3		88.0		146.8		181.5	
1194	INH-86-A	30.16		40.03		83.76	G(0.05)	143.53	G(0.05)	184.86	
1199		-----		-----		-----		-----		-----	
1201	ISO3405-A	29.0		40.4		85.8		145.9		176.8	

1203	ISO3405-A	30.1	43.3		89.9	C	148.0	C	178.1	
1229	ISO3405-A	27.0	41.0		87.9		147.0		181.3	
1257		-----	-----		-----		-----		-----	
1259	ISO3405-A	29.4	43.1		90.1		147.6		176.3	
1266	ISO3405-A	29.0	41.2		89.0		146.8		171.1	G(0.05)
1299	D86-A	29.0	55.3	G(0.01)	97.0	G(0.01)	147.7		180.7	
1340	ISO3405-A	29.1	42.3		89.4		147.2		180.3	
1357		-----	-----		-----		-----		-----	
1376	D86-A	29.3	41.4		86.9		146.5		173.5	
1382		-----	-----		-----		-----		-----	
1395	D86-A	25.5	41.5		88.6		147.4		174.4	
1397		-----	-----		-----		-----		-----	
1404	ISO3405-A	25.8	41.1		87.8		147.7		182.2	
1409	ISO3405-A	27.3	42.1		92.2		149.2		179.9	
1419	ISO3405-A	29.4	42.2		87.9		146.6		179.4	
1426	D86-A	31.2	42.2		88.9		147.1		177.3	
1428	ISO3405-A	27.5	41.1		88.7		146.7		182.5	
1432		-----	-----		-----		-----		-----	
1483		-----	-----		-----		-----		-----	
1491	ISO3405-A	26.8	41.4		89.1		147.0		178.4	
1498	D86-A	29.7	41.1		87.7		147.2		182.7	
1501		-----	-----		-----		-----		-----	
1510		-----	-----		-----		-----		-----	
1520		-----	-----		-----		-----		-----	
1538		-----	-----		-----		-----		-----	
1544	ISO3405-A	28.4	42.0		89.3		147.5		182.7	
1564	D86-A	28.7	42.8		93.8	DG(0.05)	151.4	G(0.01)	180.7	
1569	ISO3405-A	27.2	41.2		88.2		147.2		178.0	
1570		-----	-----		-----		-----		-----	
1616		-----	-----		-----		-----		-----	
1631	ISO3405-A	27.2	41.9		88.8		147.0		178.0	
1634	ISO3405-A	25.7	40.6		87.5		147.1		178.6	
1635	ISO3405-A	25.5	41.0		88.7		146.7		179.4	
1636	ISO3405-A	25.9	42.8		90.5		147.8		179.5	
1650	ISO3405-A	29.2	41.7		89.4		146.8		177.7	
1654		-----	-----		-----		-----		180.4	
1677	D86-A	28.6	41.7		87.4		146.3		174.4	
1707	ISO3405-A	30.6	42.0		89.7		147.5		180.3	
1709		-----	-----		-----		-----		-----	
1710	ISO3405-A	29.4	42.6		90.3		147.5		182.7	
1720	D86-A	28.3	42.3		88.5		147.2		179.8	
1724	ISO3405-A	25.9	41.9		88.9		146.9		177.7	
1728		-----	-----		-----		-----		-----	
1742	ISO3405-A	27.730	39.445		84.905		146.120		177.89	
1807	ISO3405-A	27.3	41.0		88.3		147.4		180.5	
1810	ISO3405-A	26.9	41.9		88.4		147.3		181.3	
1811	ISO3405-A	28.0	41.1		88.0		147.2		180.6	
1833	ISO3405-A	27.8	41.8		89.2		147.5		181.9	
1842		-----	-----		-----		-----		-----	
1849	D86-A	30.9	43.4		90		147.4		180	
1851		-----	-----		-----		-----		-----	
1936	ISO3405-A	27.4	41.4		87.6		146.3		178.0	
1937	ISO3405-A	30.1	41.4		87.7		146.9		179.5	
1938	ISO3405-A	27.7	41.9		87.6		146.6		178.7	
1941	ISO3405-A	30.0	42.3		89.3		147.8		180.5	
1948	ISO3405-A	26.0	43.2		91.7		150.4		181.2	
1951	ISO3405-A	29.3	40.6		87.9		146.8		179.0	
2129	ISO3405-A	27.4	41.4		89.5		147.1		178.6	
2130	ISO3405-A	29.7	42.0		90.6		148.3		186.7	G(0.05)
2146	ISO3405-A	31.9	41.4		89.8		147.6		176.7	
	normality	OK	not OK		OK		not OK		not OK	
	n	104	102		98		99		103	
	outliers	0	1		5		4		2	
	mean (n)	28.25	41.61		88.73		147.19		179.25	
	st.dev. (n)	1.510	0.930		1.300		0.887		2.378	
	R(calc.)	4.23	2.60		3.64		2.48		6.66	
	R(ISO3405:11)	4.73	3.20		1.88		3.93		6.78	

Lab194: first reported 43.7,94.6,152.1
Lab371: first reported 144.2
Lab402: first reported 84.5, 145.0
Lab444: first reported 45.3
Lab445: first reported 33.2
Lab468: first reported 92.9, 151.2
Lab823: first reported 149.9
Lab1203: first reported 92.9, 150.4

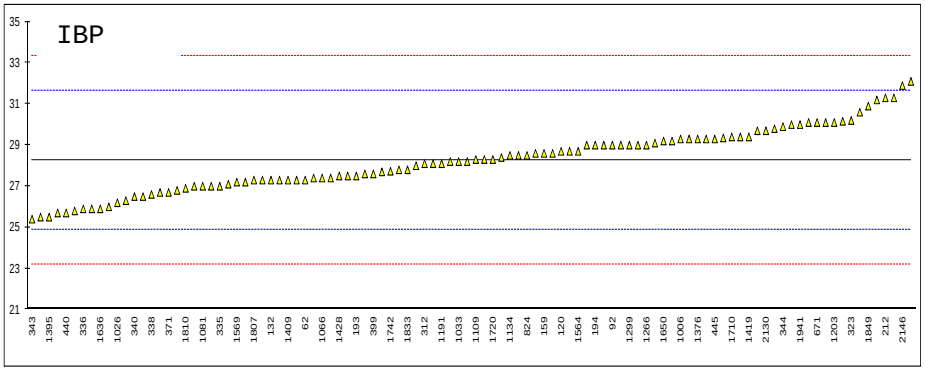
Determination of Distillation ASTM D86 (automated) on sample #13186; results in %VV
--continued--

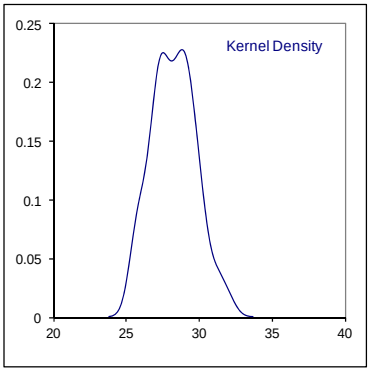
lab	method	%vol 70ºC	mark	%vol 100ºC	mark	%vol 150ºC	mark	%residue	Mark
62	D86-A	41.0		56.0		92.1		1.0	
92	D86-A	41.3		56.1		91.9		1.1	
120	D86-A	42.0		57.1		92.6		1.1	
132	D86-A	41.5		56.1		92.0		0.9	
150	ISO3405-A	42.4		56.9		92.3		1.0	
159		-----		-----		-----		1.1	
193	D86-A	41.5		56.6		92.0		1.2	
194	D86-A	40.8	C	56.3	C	91.8	C	1.0	
212		-----		-----		-----		1.1	
273		-----		-----		-----		1.2	
311	ISO3405-A	41.7		56.6		92.2		1.2	
312	D86-A	41.6		55.9		91.8		1.0	
323	ISO3405-A	41.9		56.8		91.8		1.0	
334	ISO3405-A	40.8		55.7		93.3		1.2	
335	ISO3405-A	41.5		56.5		91.9		1.0	
336	ISO3405-A	41.8		56.6		92.7		1.1	
337	ISO3405-A	41.5		55.7		92.9		0.8	
338	ISO3405-A	40.3	C	54.7		90.7	C	1.0	
340	ISO3405-A	41.5		56.3		91.8		1.1	
343	ISO3405-A	39.8		55.9		92.4		1.3	
344	D86-A	38.0		53.7	G(0.05)	88.8	G(0.01)	0.5	
353	IP123-A	40.8		55.9		91.8		0.9	
369	ISO3405-A	40.2		56.3		90.9		1.0	
370	ISO3405-A	41.8		57.0		92.1		1.0	
371	ISO3405-A	41.2		56.2		92.4		1.1	
372	ISO3405-A	40.0		55.7		91.2		1.1	
391		-----		-----		-----		-----	
399	ISO3405-A	40.35		56.84		92.28		0.5	
402	ISO3405-A	43.0		56.7	C	92.2	C	1.0	
403		-----		-----		-----		-----	
420	ISO3405-A	40.1		55.3		90.4		1.0	
430		-----		-----		-----		-----	
431	ISO3405-A	40.7		56.4		91.8		1.5	
440	D86-A	41.1		55.5		92.3		0.9	
444	D86-A	38.7	C	53.9	C	91.2		1.8	
445	IP123-A	40.6		55.8		91.2		1.2	
447	IP123-A	38.9		57.0	C	91.8	C	1.0	
463	ISO3405-A	40.7		55.6		91.6		1.2	
468	ISO3405-A	38.8		56.0	C	92.0	C	1.2	
485	ISO3405-A	41.20		56.45		92.00		0.9	
494	ISO3405-A	40.9		56.5		92.0		1.0	
495	ISO3405-A	41.7		56.9		91.9		1.0	
496	ISO3405-A	40.9		55.9		91.5		1.0	
541		-----		-----		-----		-----	
671	D86-A	40		56		92		0.9	C
704		-----		-----		-----		-----	
753	ISO3405-A	36.2	G(0.01)	58.0		91.4		1.0	
781		-----		-----		-----		-----	
823	ISO3405-A	41.3		56.0		91.5		1.3	
824	ISO3405-A	41.0		55.9		92.1		1.0	
868	D86-A	41.1		56.1		91.3		1.2	
902		-----		-----		-----		-----	
904	ISO3405-A	41.4		56.5		92.0		1.1	
963		-----		-----		-----		-----	
970		-----		-----		-----		-----	
974		-----		-----		-----		-----	
1006		-----		-----		-----		1.1	
1017		-----		-----		-----		-----	
1026	ISO3405-A	41.8		57.0		92.4		1.0	
1033	IP123-A	39.9		54.9		-----		0.6	
1038		-----		-----		-----		-----	
1059	ISO3405-A	41.2		56.0		91.1		1.8	
1066	ISO3405-A	41.5		56.8		91.9		1.1	
1081	D86-A	40.9		55.8		91.8		1.3	
1082	ISO3405-A	41.5		56.4		91.5		1.1	
1108		-----		-----		-----		-----	
1109	D86-A	40.3		55.5		91.7		1.1	
1126	D86-A	41.4		55.8		91.3		1.5	
1134	D86-A	41.8		56.7		91.4		1.0	
1140	IP123-A	40.5		56.1		91.0		1.9	
1167	ISO3405-A	41.6		57.4		92.4		1.1	
1186		-----		-----		-----		-----	
1191	ISO3405-A	41.5		56.5		91.9		1.1	
1194	INH-86-A	42.7		58.1		91.2		1.1	
1199		-----		-----		-----		-----	
1201	ISO3405-A	43.2		57.4		92.4		0.7	

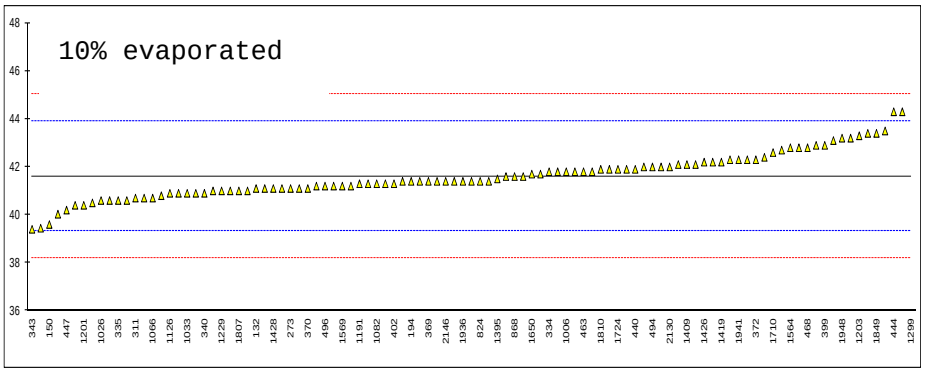
1203	ISO3405-A	38.9		55.8	C	91.0	C	1.0
1229	ISO3405-A	41.2		56.6		91.9		1.0
1257		-----		-----		-----		-----
1259	ISO3405-A	39.6		55.7		91.5		1.0
1266	ISO3405-A	41.4		55.9		92.0		1.2
1299	D86-A	40.9		55.9		90.9		1.8
1340	ISO3405-A	39.3		55.7		91.3		1.0
1357		-----		-----		-----		-----
1376	D86-A	41.7		56.8		91.8		0.8
1382		-----		-----		-----		-----
1395	D86-A	41.1		56.1		91.6		1.1
1397		-----		-----		-----		-----
1404	ISO3405-A	41.4		56.4		92.7		0.5
1409	ISO3405-A	40.9		55.7		92.2		1.1
1419	ISO3405-A	41.3		56.9		92.1		-----
1426	D86-A	40.2		56.1		91.7		1.4
1428	ISO3405-A	40.9		56.2		91.9		1.0
1432		-----		-----		-----		-----
1483		-----		-----		-----		-----
1491	ISO3405-A	40.6		56.2		91.8		1.1
1498	D86-A	41		57		92		0.8
1544	ISO3405-A	40.6		56.0		91.2		1.1
1564	D86-A	40.1		55.4		90.9		1.8
1569	ISO3405-A	41.2		56.5		91.7		1.0
1570		-----		-----		-----		-----
1616		-----		-----		-----		-----
1631	ISO3405-A	41.6		56.1		91.9		1.0
1634	ISO3405-A	41.1		57.1		91.5		1.0
1635	ISO3405-A	41.4		56.3		91.9		1.4
1636	ISO3405-A	40.3		55.2		91.3		0.9
1650	ISO3405-A	41.2		55.9		91.9		1.2
1654	ISO3405-A	41.3		56.1		91.6		1.0
1677	D86-A	40.6		57.0		92.2		0.9
1707	ISO3405-A	40.4		55.8		91.6		1.0
1709		-----		-----		-----		-----
1710	ISO3405-A	40.0		55.3		91.4		1.0
1720		-----		-----		-----		1.0
1724	ISO3405-A	40.5		56.0		91.9		1.0
1728		-----		-----		-----		-----
1742		-----		-----		-----		1
1807	ISO3405-A	41.4		56.3		91.6		1.2
1810	ISO3405-A	39.1		54.8		91.5	C	1.0
1811	ISO3405-A	41.6		56.4		91.6		1.0
1833	ISO3405-A	40.7		56.0		91.6		1.1
1842		-----		-----		-----		-----
1849	D86-A	40.3	C	55.0		90.6		1.1
1851		-----		-----		-----		-----
1936	ISO3405-A	41.1		56.7		92.4		1.0
1937	ISO3405-A	41.2		56.8		92.4		1.0
1938	ISO3405-A	40.6		56.7		92.1		1.0
1941	ISO3405-A	39.7		56.4		91.1		1.2
1948	ISO3405-A	39.1		54.6		90.4	C	1.00
1951	ISO3405-A	42.1		56.6		92.5		1.0
2129	ISO3405-A	40.8		56.0		92.6		1.2
2130	ISO3405-A	40.1		55.2		90.9		1.5
2146	ISO3405-A	41.1		55.7		91.6		1.4

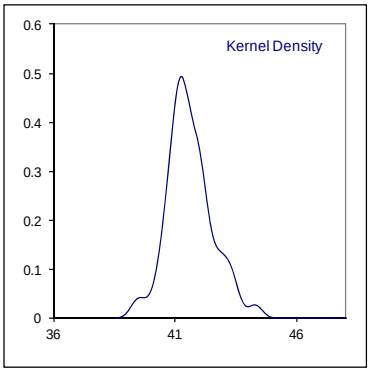
normality	not OK	not OK	not OK
n	98	98	97
outliers	1	1	1
mean (n)	40.89	56.18	91.77
st.dev. (n)	0.909	0.680	0.538
R(calc.)	2.55	1.90	1.51
R(ISO3405:11)	2.70	2.20	1.30

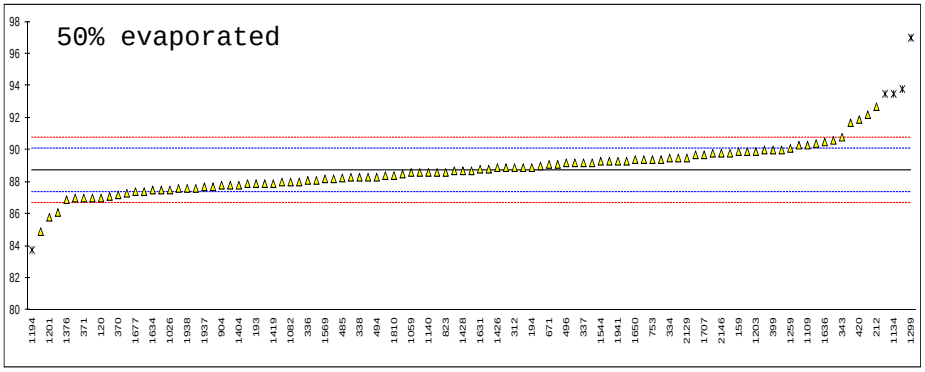
Lab194: first reported 37.1, 53.3, 88.6
Lab338: first reported 38.6, 90.0
Lab402: first reported 58.0, 93.2
Lab444:first reported 38.7, 53.9
Lab447: first reported 57.0, 91.8
Lab463: first reported 54.1, 89.3
Lab671: first reported 2.8
Lab1203: first reported 54.1, 89.8
Lab1810: first reported 90.1
Lab1849: first reported 38.5
Lab1948: first reported 89.9


IBP


Kernel Density


10% evaporated


Kernel Density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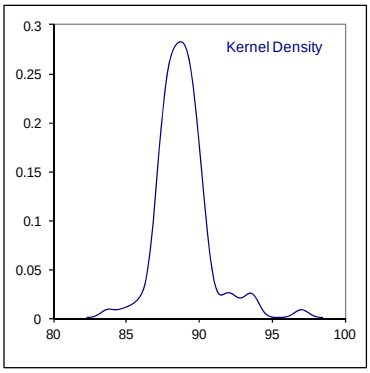
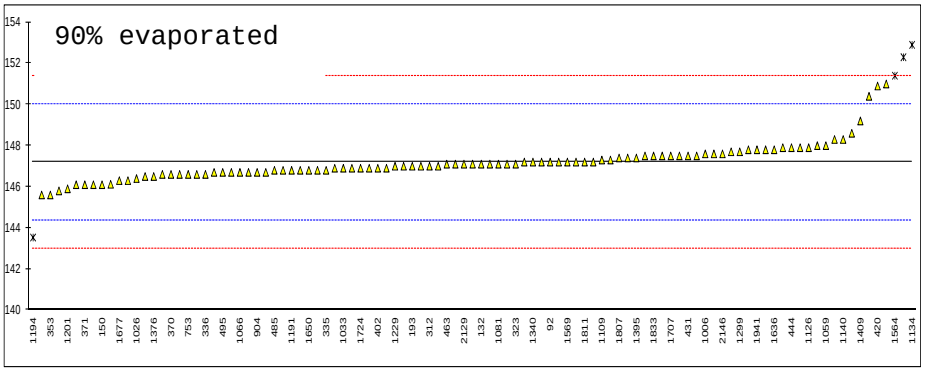
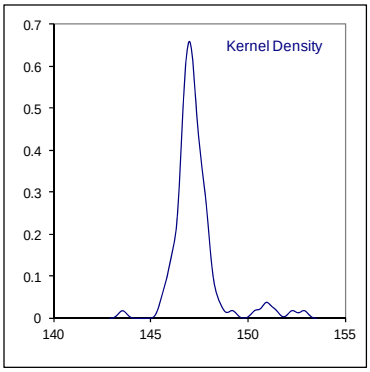
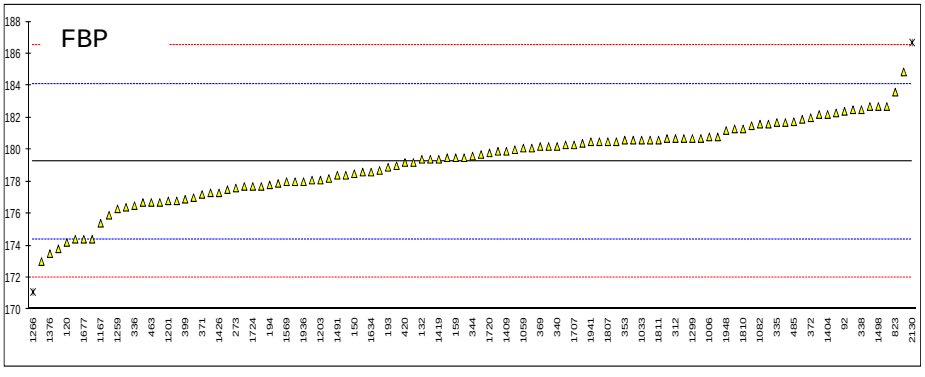
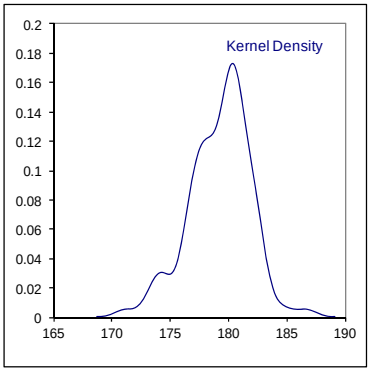
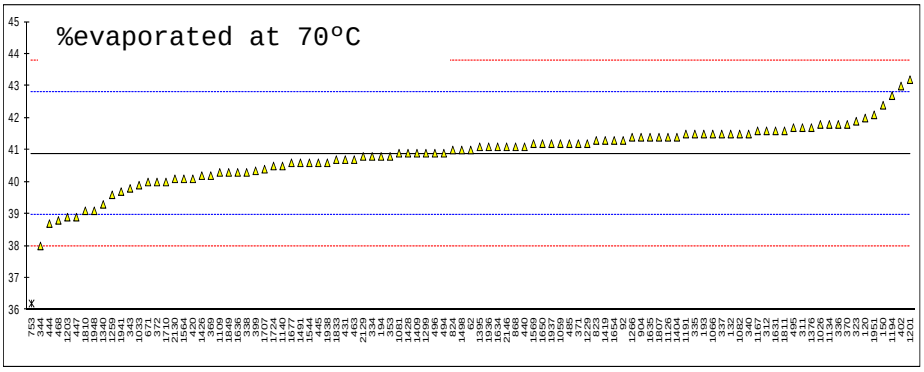

Kernel Density

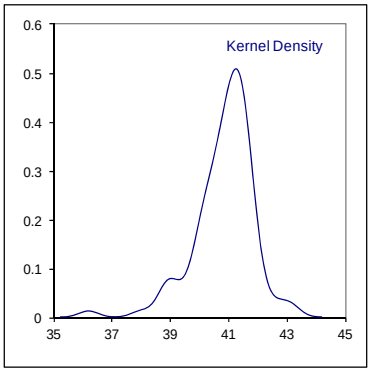

90% evaporated

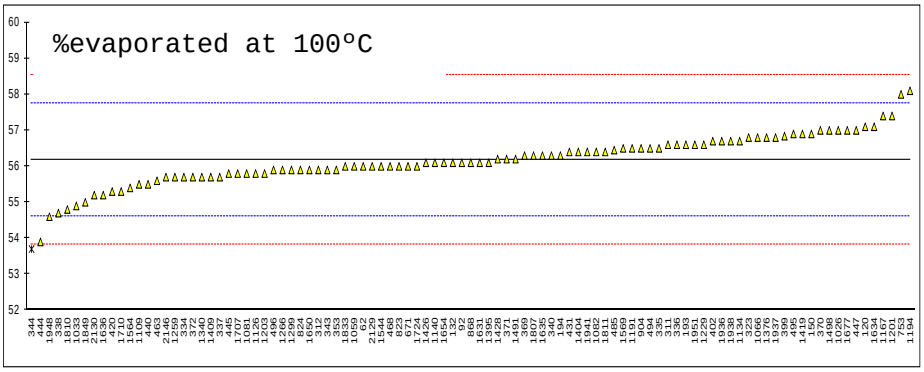

Kernel Density

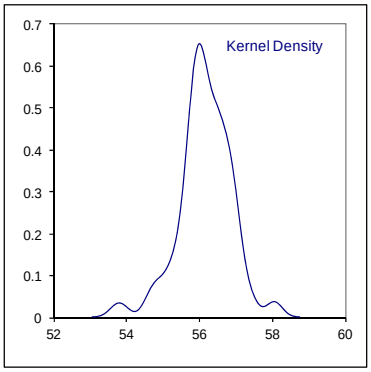

FBP

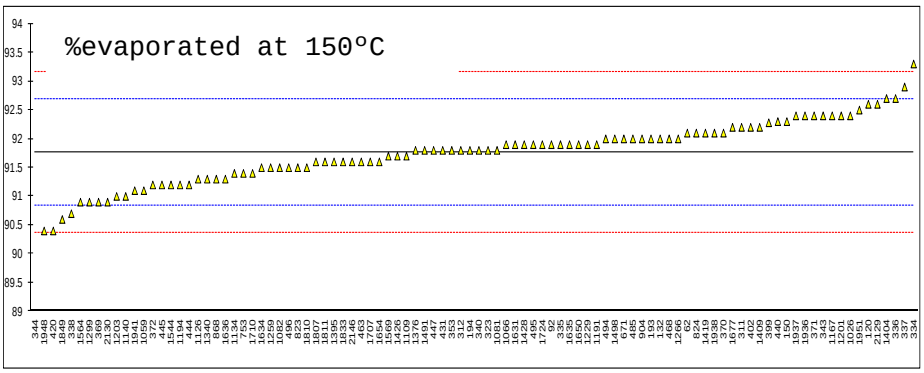

Kernel Density

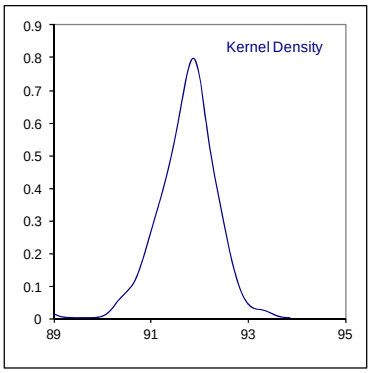

%evaporated at 70°C


Kernel Density


%evaporated at 100°C


Kernel Density


%evaporated at 150°C


Kernel Density

Determination of Distillation ASTM D86 (Manual) on sample #13186; results in °C

lab	method	IBP	Mark	10% eva	mark	50% eva	mark	90% eva	mark	FBP	Mark
62		-----		-----		-----		-----		-----	
92		-----		-----		-----		-----		-----	
120		-----		-----		-----		-----		-----	
132		-----		-----		-----		-----		-----	
150		-----		-----		-----		-----		-----	
159		-----		-----		-----		-----		-----	
193		-----		-----		-----		-----		-----	
194		-----		-----		-----		-----		-----	
212		-----		-----		-----		-----		-----	
221	D86-M	32.0		45.0		92.0		148.0		175.0	
225		-----		-----		-----		-----		-----	
228	D86-M	30.0		42.0		90.0		148.0		185.0	
344		-----		-----		-----		-----		-----	
353		-----		-----		-----		-----		-----	
369		-----		-----		-----		-----		-----	
370		-----		-----		-----		-----		-----	
371		-----		-----		-----		-----		-----	
372		-----		-----		-----		-----		-----	
391		-----		-----		-----		-----		-----	
399		-----		-----		-----		-----		-----	
402		-----		-----		-----		-----		-----	
403	ISO3405-M	31.3		41.3		84.5		148.3		178.4	
420		-----		-----		-----		-----		-----	
430		-----		-----		-----		-----		-----	
431		-----		-----		-----		-----		-----	
440		-----		-----		-----		-----		-----	
444		-----		-----		-----		-----		-----	
445		-----		-----		-----		-----		-----	
447		-----		-----		-----		-----		-----	
463		-----		-----		-----		-----		-----	
468		-----		-----		-----		-----		-----	
485		-----		-----		-----		-----		-----	
494		-----		-----		-----		-----		-----	
495		-----		-----		-----		-----		-----	
496		-----		-----		-----		-----		-----	
541	ISO3405-M	30.0		44.5		92.0		150.0		175.0	
671		-----		-----		-----		-----		-----	
704	D86-M	29.3		41.0		87.0		148.0		179.5	
753		-----		-----		-----		-----		-----	
781	ISO3405-M	31.0		42.3		89.5		147.5		178.5	
823		-----		-----		-----		-----		-----	
824		-----		-----		-----		-----		-----	
868		-----		-----		-----		-----		-----	
902	D86-M	31.6		41.3		91.8		147.2		182.7	
904		-----		-----		-----		-----		-----	
963	ISO3405-M	28.0		42.0		90.4		147.9		179.0	
970		-----		-----		-----		-----		-----	
974	D86-M	30.0		45.0		99.0	G(0.05)	158.0	G(0.01)	176.0	
1006		-----		-----		-----		-----		-----	
1017		-----		-----		-----		-----		-----	
1026		-----		-----		-----		-----		-----	
1033		-----		-----		-----		-----		-----	
1038		-----		-----		-----		-----		-----	
1059		-----		-----		-----		-----		-----	
1066		-----		-----		-----		-----		-----	
1081		-----		-----		-----		-----		-----	
1082		-----		-----		-----		-----		-----	
1108		-----		-----		-----		-----		-----	
1109		-----		-----		-----		-----		-----	
1126		-----		-----		-----		-----		-----	
1134		-----		-----		-----		-----		-----	
1140		-----		-----		-----		-----		-----	
1167		-----		-----		-----		-----		-----	
1186	D86-M	32.1		45.1	C	94.1	C	149.1	C	176.1	C
1191		-----		-----		-----		-----		-----	
1194		-----		-----		-----		-----		-----	
1199		-----		-----		-----		-----		-----	
1201		-----		-----		-----		-----		-----	
1203		-----		-----		-----		-----		-----	
1229		-----		-----		-----		-----		-----	
1257		-----		-----		-----		-----		-----	
1259	ISO3405-M	31.0		43.0		88.0		145.0		178.0	
1266		-----		-----		-----		-----		-----	
1299		-----		-----		-----		-----		-----	
1340		-----		-----		-----		-----		-----	
1357		-----		-----		-----		-----		-----	

1376		-----	-----		-----		-----		-----		-----
1382	GB/T6539-M	31	41		86		147		177		
1395		-----	-----		-----		-----		-----		
1397		-----	-----		-----		-----		-----		
1404		-----	-----		-----		-----		-----		
1409		-----	-----		-----		-----		-----		
1419		-----	-----		-----		-----		-----		
1426		-----	-----		-----		-----		-----		
1428		-----	-----		-----		-----		-----		
1432		-----	-----		-----		-----		-----		
1483		-----	-----		-----		-----		-----		
1491		-----	-----		-----		-----		-----		
1498		-----	-----		-----		-----		-----		
1501	D86-M	27.65	40.13		88.07		146.51		178.97		
1510		-----	-----		-----		-----		-----		
1520	ISO3405-M	29.2	41.1		86.8		148.1		179.7		
1538		-----	-----		-----		-----		-----		
1544	ISO3405-M	28.5	41.75		88.75		146.75		180.75		
1564		-----	-----		-----		-----		-----		
1569		-----	-----		-----		-----		-----		
1570		-----	-----		-----		-----		-----		
1616		-----	-----		-----		-----		-----		
1631		-----	-----		-----		-----		-----		
1634		-----	-----		-----		-----		-----		
1635		-----	-----		-----		-----		-----		
1636		-----	-----		-----		-----		-----		
1650		-----	-----		-----		-----		-----		
1654		-----	-----		-----		-----		-----		
1677		-----	-----		-----		-----		-----		
1707		-----	-----		-----		-----		-----		
1709		-----	-----		-----		-----		-----		
1710		-----	-----		-----		-----		-----		
1720		-----	-----		-----		-----		-----		
1724		-----	-----		-----		-----		-----		
1728	ISO3405-M	30.0	43.18		93.04		148.29		178.54		
1742		-----	-----		-----		-----		-----		
1807		-----	-----		-----		-----		-----		
1810		-----	-----		-----		-----		-----		
1811		-----	-----		-----		-----		-----		
1833		-----	-----		-----		-----		-----		
1842	D86-M	29.1	70.0	G(0.01)	140.0	G(0.01)	150.0		179.5		
1849		-----	-----		-----		-----		-----		
1851		-----	-----		-----		-----		-----		
1936		-----	-----		-----		-----		-----		
1937		-----	-----		-----		-----		-----		
1938		-----	-----		-----		-----		-----		
1941		-----	-----		-----		-----		-----		
1948		-----	-----		-----		-----		-----		
1951		-----	-----		-----		-----		-----		
2129		-----	-----		-----		-----		-----		
2130		-----	-----		-----		-----		-----		
2146		-----	-----		-----		-----		-----		
	normality	OK	OK		OK		OK		OK		
	n	17	16		15		16		17		
	outliers	0	1		2		1		0		
	mean (n)	30.10	42.48		89.46		147.85		178.69		
	st.dev. (n)	1.351	1.633		2.780		1.258		2.590		
	R(calc.)	3.78	4.57		7.78		3.52		7.25		
	R(ISO3405:11)	5.60	4.08		4.28		3.84		7.20		

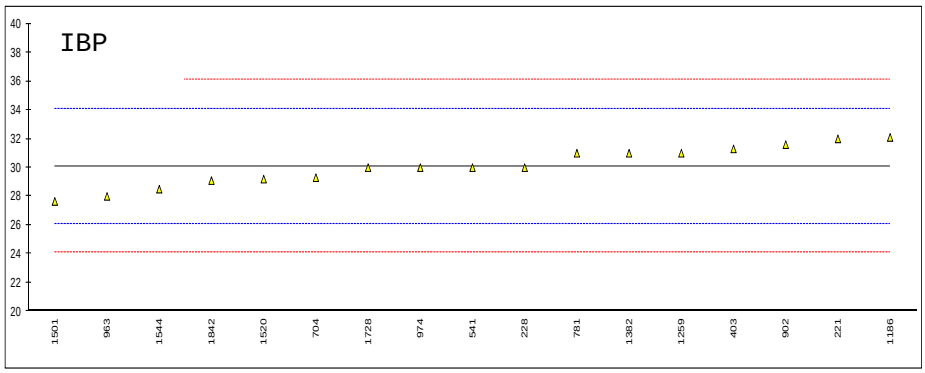
Lab1186: first reported 48.1, 99.1, 158.1, 174.1

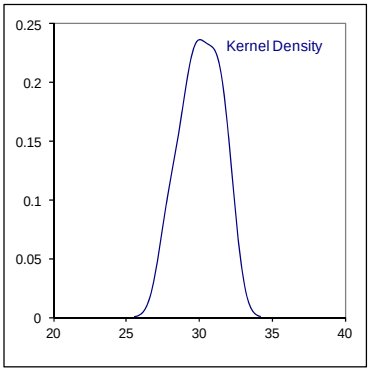
Determination of Distillation ASTM D86 (manual) on sample #13186; results in %V/V
--continued--

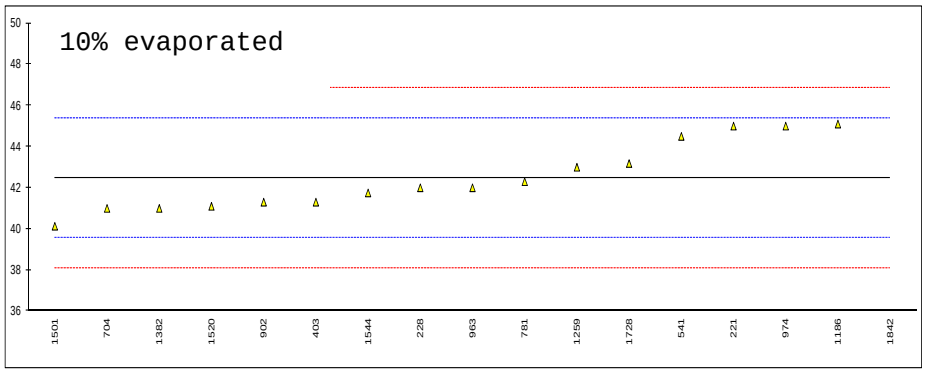
lab	method	%vol 70ºC	mark	%vol 100ºC	mark	%vol 150ºC	mark	%residue	Mark
62		-----		-----		-----		-----	
92		-----		-----		-----		-----	
120		-----		-----		-----		-----	
132		-----		-----		-----		-----	
150		-----		-----		-----		-----	
159		-----		-----		-----		-----	
193		-----		-----		-----		-----	
194		-----		-----		-----		-----	
212		-----		-----		-----		-----	
221	D86-M	37		55		92		1.0	
225		-----		-----		-----		-----	
228	D86-M	39.0		56.0		91.0		1.0	
258		-----		-----		-----		-----	
273		-----		-----		-----		-----	
311		-----		-----		-----		-----	
312		-----		-----		-----		-----	
323		-----		-----		-----		-----	
334		-----		-----		-----		-----	
335		-----		-----		-----		-----	
336		-----		-----		-----		-----	
337		-----		-----		-----		-----	
338		-----		-----		-----		-----	
340		-----		-----		-----		-----	
343		-----		-----		-----		-----	
344		-----		-----		-----		-----	
353		-----		-----		-----		-----	
369		-----		-----		-----		-----	
370		-----		-----		-----		-----	
371		-----		-----		-----		-----	
372		-----		-----		-----		-----	
391		-----		-----		-----		-----	
399		-----		-----		-----		-----	
402		-----		-----		-----		-----	
403	ISO3405-M	42.3		57.3		92.3		0.7	
420		-----		-----		-----		-----	
430		-----		-----		-----		-----	
431		-----		-----		-----		-----	
440		-----		-----		-----		-----	
444		-----		-----		-----		-----	
445		-----		-----		-----		-----	
447		-----		-----		-----		-----	
463		-----		-----		-----		-----	
468		-----		-----		-----		-----	
485		-----		-----		-----		-----	
494		-----		-----		-----		-----	
495		-----		-----		-----		-----	
496		-----		-----		-----		-----	
541	ISO3405-M	39.0		54.0		90.0		1.2	
671		-----		-----		-----		-----	
704	D86-M	41.0		57.0		91.5		1.0	
753		-----		-----		-----		-----	
781	ISO3405-M	40.3		56.1		91.2		0.9	C
823		-----		-----		-----		-----	
824		-----		-----		-----		-----	
868		-----		-----		-----		-----	
902	D86-M	38.5		56.5		91.3		1.0	
904		-----		-----		-----		-----	
963	ISO3405-M	40.3		55.3		91.3		1.2	
970		-----		-----		-----		-----	
974	D86-M	35.1		51.7	G(0.05)	86.4	G(0.01)	1.2	
1006		-----		-----		-----		-----	
1017		-----		-----		-----		-----	
1026		-----		-----		-----		-----	
1033		-----		-----		-----		-----	
1038		-----		-----		-----		-----	
1059		-----		-----		-----		-----	
1066		-----		-----		-----		-----	
1081		-----		-----		-----		-----	
1082		-----		-----		-----		-----	
1108		-----		-----		-----		-----	
1109		-----		-----		-----		-----	
1126		-----		-----		-----		-----	
1134		-----		-----		-----		-----	
1140		-----		-----		-----		-----	
1167		-----		-----		-----		-----	
1186	D86-M	36	C	54	C	91	C	1.0	C

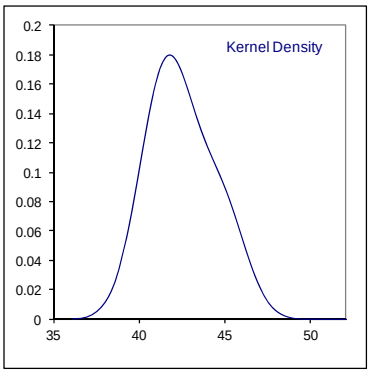
1191		-----	-----	-----	-----
1194		-----	-----	-----	-----
1199		-----	-----	-----	-----
1201		-----	-----	-----	-----
1203		-----	-----	-----	-----
1229		-----	-----	-----	-----
1257		-----	-----	-----	-----
1259	ISO3405-M	40.0	57.0	93.0	1.0
1266		-----	-----	-----	-----
1299		-----	-----	-----	-----
1340		-----	-----	-----	-----
1357		-----	-----	-----	-----
1376		-----	-----	-----	-----
1382		-----	-----	-----	1.2
1483		-----	-----	-----	-----
1491		-----	-----	-----	-----
1498		-----	-----	-----	-----
1501	D86-M	39.2	56.6	92.2	1.0
1510		-----	-----	-----	-----
1520	ISO3405-M	39.1	57.2	90.8	1.2
1538		-----	-----	-----	-----
1544	ISO3405-M	41.0	56.0	91.5	1.1
1564		-----	-----	-----	-----
1569		-----	-----	-----	-----
1570		-----	-----	-----	-----
1616		-----	-----	-----	-----
1631		-----	-----	-----	-----
1634		-----	-----	-----	-----
1635		-----	-----	-----	-----
1636		-----	-----	-----	-----
1650		-----	-----	-----	-----
1654		-----	-----	-----	-----
1677		-----	-----	-----	-----
1707		-----	-----	-----	-----
1709		-----	-----	-----	-----
1710		-----	-----	-----	-----
1720		-----	-----	-----	-----
1724		-----	-----	-----	-----
1728	ISO3405-M	39.79	55.00	91.43	1.32
1742		-----	-----	-----	-----
1807		-----	-----	-----	-----
1810		-----	-----	-----	-----
1811		-----	-----	-----	-----
1833		-----	-----	-----	-----
1842	D86-M	40.3	56.1	91.2	1.4
1849		-----	-----	-----	-----
1851		-----	-----	-----	-----
1936		-----	-----	-----	-----
1937		-----	-----	-----	-----
1938		-----	-----	-----	-----
1941		-----	-----	-----	-----
1948		-----	-----	-----	-----
1951		-----	-----	-----	-----
2129		-----	-----	-----	-----
2130		-----	-----	-----	-----
2146		-----	-----	-----	-----
	normality	OK	OK	OK	
	n	16	15	15	
	outliers	0	1	1	
	mean (n)	39.24	55.94	91.45	
	st.dev. (n)	1.882	1.076	0.712	
	R(calc.)	5.27	3.01	1.99	
	R(ISO3405:11)	3.41	3.12	2.86	

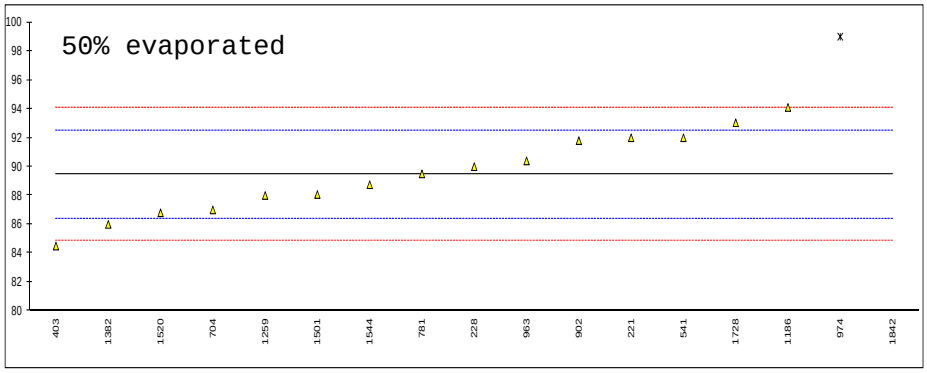
Lab781: first reported 2.1
Lab1186: first reported 32.0, 51.0, 87.0, 1.1

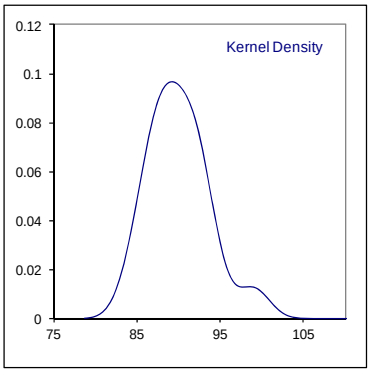

IBP
1501 963 1544 1842 1520 704 1728 974 541 228 781 1382 1259 403 902 221 1186

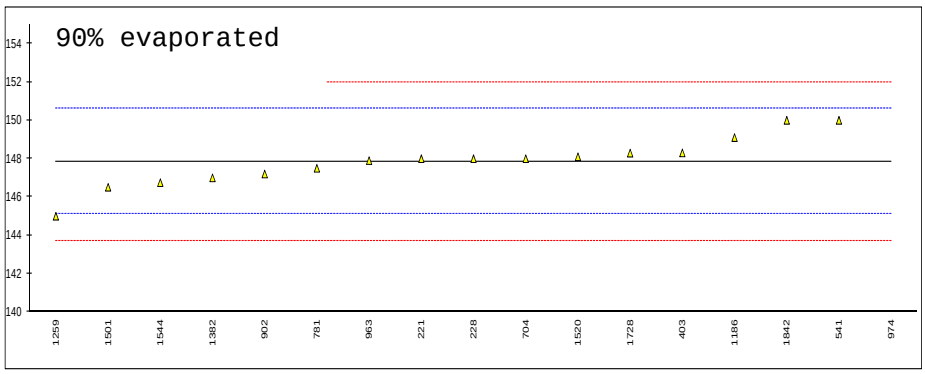

Kernel Density

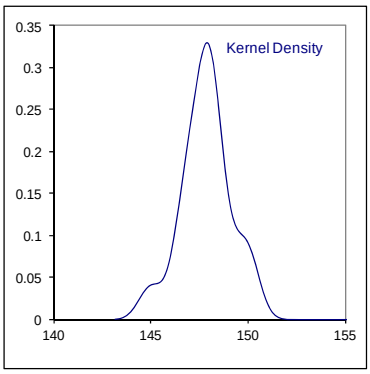

10% evaporated
1501 704 1382 1520 902 403 1544 228 963 781 1259 1728 541 221 974 1186 1842

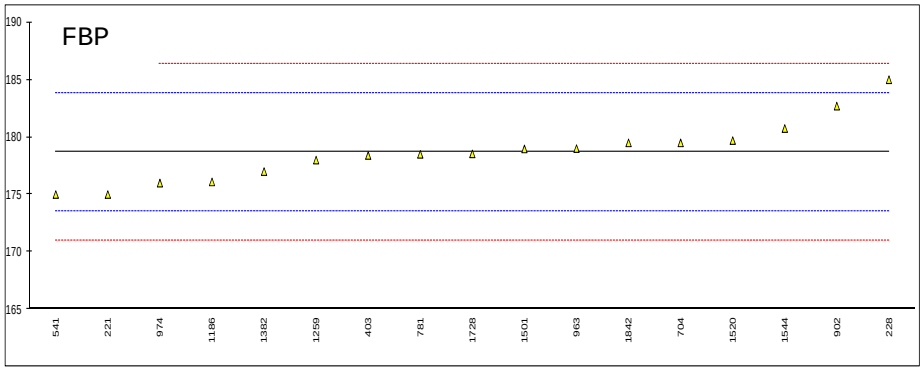

Kernel Density

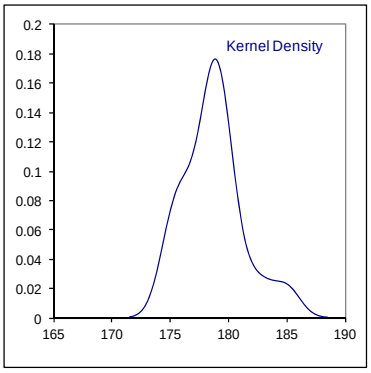

50% evaporated
403 1382 1520 704 1259 1501 1544 781 228 963 902 221 541 1728 1186 974 1842

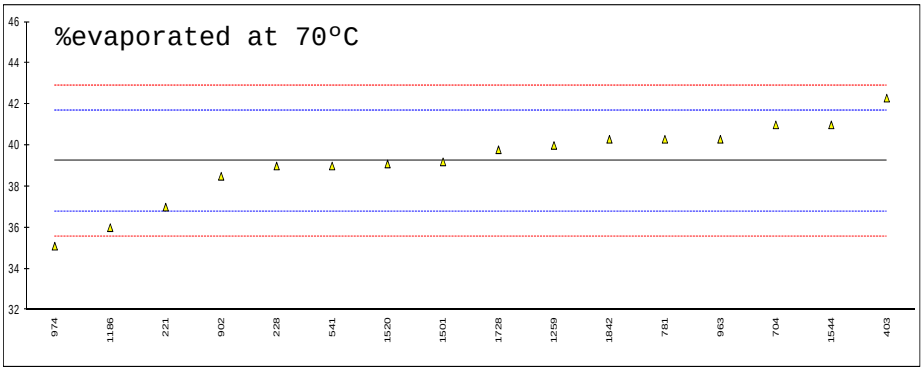

Kernel Density

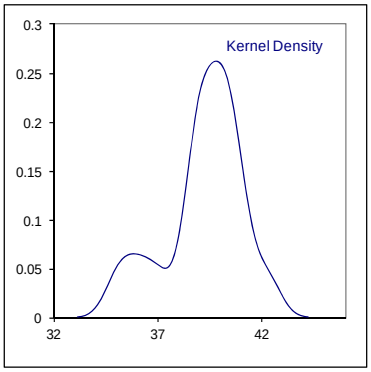

90% evaporated
1259 1501 1544 1382 902 781 963 221 228 704 1520 1728 403 1186 1842 541 974

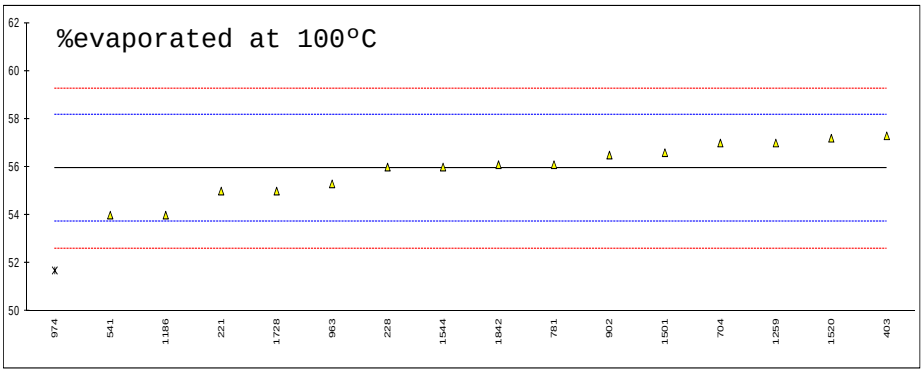

Kernel Density

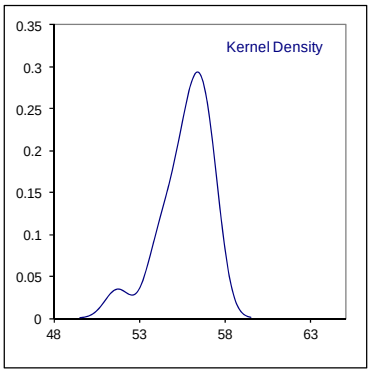

FBP
541 221 974 1186 1382 1259 403 781 1728 1501 963 1842 704 1520 1544 902 228

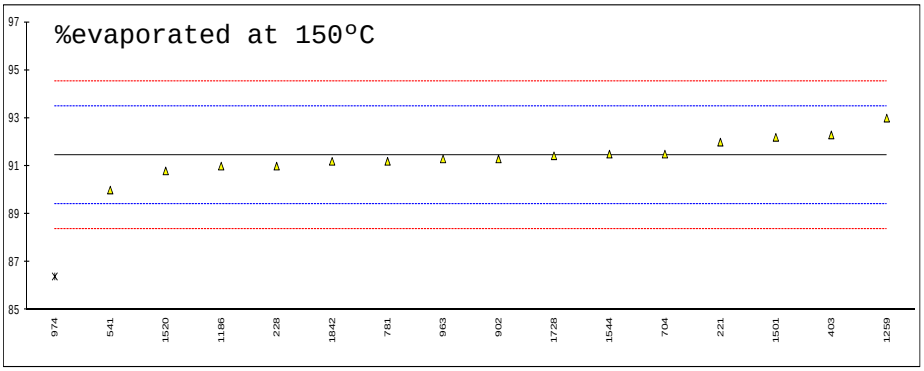

Kernel Density

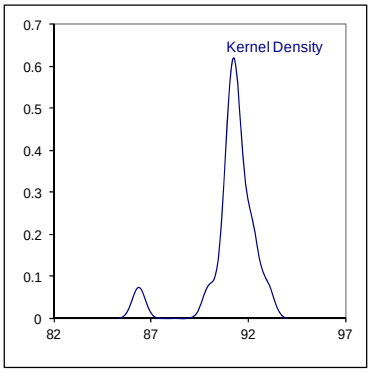

%evaporated at 70°C
46
44
42
40
38
36
34
32
974
1186
221
902
228
541
1520
1501
1728
1259
1842
781
963
704
1544
403


Kernel Density
0.3
0.25
0.2
0.15
0.1
0.05
0
32
37
42


%evaporated at 100°C
62
60
58
56
54
52
50
974
541
1186
221
1728
963
228
1544
1842
781
902
1501
704
1259
1520
403


Kernel Density
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
48
53
58
63


%evaporated at 150°C
97
95
93
91
89
87
85
974
541
1520
1186
228
1842
781
963
902
1728
1544
704
221
1501
403
1259


Kernel Density
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
82
87
92
97

Determination of Doctor Test on sample #13186;

lab	method	value	mark	z(targ)	remarks
62		-----		-----	
92	D4952	NEG		-----	
120	D4952	NEG		-----	
132	D4952	NEG		-----	
150	D4952	NEG		-----	
159	D4952	NEG		-----	
193	D4952	NEG		-----	
194	D4952	NEG		-----	
212		-----		-----	
221		-----		-----	
225		-----		-----	
228		-----		-----	
258		-----		-----	
273	IP30	NEG		-----	
311	D4952	NEG		-----	
312	IP30	NEG		-----	
323		-----		-----	
334		-----		-----	
335		-----		-----	
336		-----		-----	
337		-----		-----	
338		-----		-----	
340	D4952	NEG		-----	
343		-----		-----	
344		-----		-----	
353		-----		-----	
369	D4952	NEG		-----	
370	D4952	NEG		-----	
371		-----		-----	
372	D4952	NEG		-----	
391	IP30	NEG		-----	
399		-----		-----	
402	D4952	NEG		-----	
403		-----		-----	
420		-----		-----	
430		-----		-----	
431		-----		-----	
440	IP30	NEG		-----	
444		-----		-----	
445	IP30	NEG		-----	
447	IP30	NEG		-----	
463	IP30	NEG		-----	
468		-----		-----	
485		-----		-----	
494	D4952	NEG		-----	
495		NEG		-----	
496		-----		-----	
541	IP30	NEG		-----	
671		-----		-----	
704	D4952	NEG		-----	
753		-----		-----	
781	D4952	NEG		-----	
823	IP30	NEG		-----	
824		NEG		-----	
868	D4952	NEG		-----	
902		-----		-----	
904	D4952	NEG		-----	
963	D4952	NEG		-----	
970		-----		-----	
974	D4952	NEG		-----	
1006		-----		-----	
1017		-----		-----	
1026	D4952	NEG		-----	
1033		-----		-----	
1038		-----		-----	
1059	ISO5275	NEG		-----	
1066	D4952	NEG		-----	
1081	D4952	NEG		-----	
1082		-----		-----	
1108		-----		-----	
1109	IP30	NEG		-----	
1126		-----		-----	
1134	IP30	NEG		-----	
1140	IP30	NEG		-----	
1167		-----		-----	
1186		-----		-----	

1191		-----	-----
1194		-----	-----
1199		-----	-----
1201		NEG	-----
1203	D4952	NEG	-----
1229		-----	-----
1257		-----	-----
1259	D4952	NEG	-----
1266		-----	-----
1299		-----	-----
1340	D4952	NEG	-----
1357		-----	-----
1376	D4952	NEG	-----
1382	INH-174	NEG	-----
1395		-----	-----
1397		-----	-----
1404	D4952	NEG	-----
1409		-----	-----
1419		-----	-----
1426		-----	-----
1428	D4952	NEG	-----
1432		-----	-----
1483		-----	-----
1491		-----	-----
1498		-----	-----
1501	D4952	NEG	-----
1510		-----	-----
1520	D4952	NEG	-----
1538		-----	-----
1544	D4952	NEG	-----
1564		-----	-----
1569		-----	-----
1570		-----	-----
1616		-----	-----
1631	IP30	NEG	-----
1634		-----	-----
1635	D4952	NEG	-----
1636	D4952	NEG	-----
1650		-----	-----
1654		-----	-----
1677	IP30	NEG	-----
1707	D4952	NEG	-----
1709		-----	-----
1710	ISO5275	NEG	-----
1720		-----	-----
1724	IP30	NEG	-----
1728	D4952	NEG	-----
1742		-----	-----
1807		-----	-----
1810		-----	-----
1811		NEG	-----
1833	D4952	NEG	-----
1842		-----	-----
1849	D4952	NEG	-----
1851		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1941		-----	-----
1948		-----	-----
1951		NEG	-----
2129		NEG	-----
2130		NEG	-----
2146		-----	-----

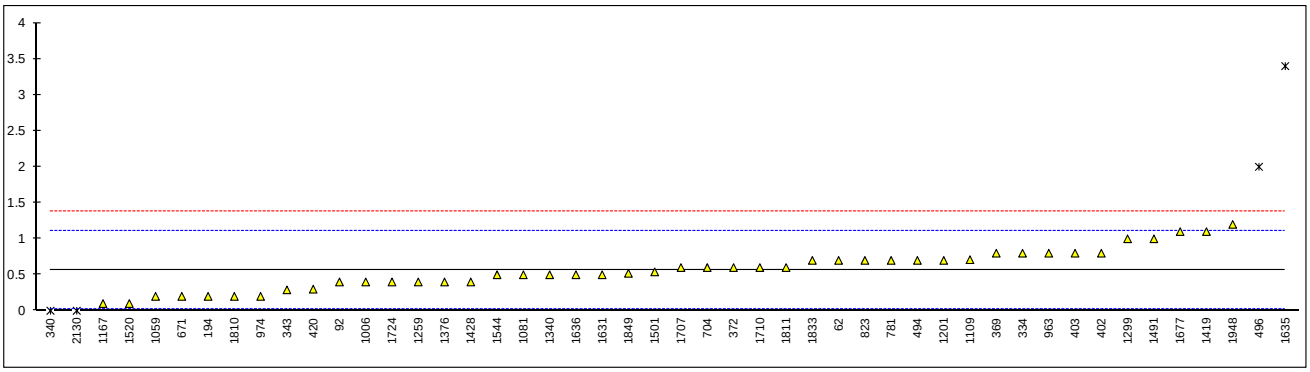
normality	n.a
n	63
outliers	n.a
mean (n)	NEG
st.dev. (n)	n.a
R(calc.)	n.a
R(D4952:09)	n.a

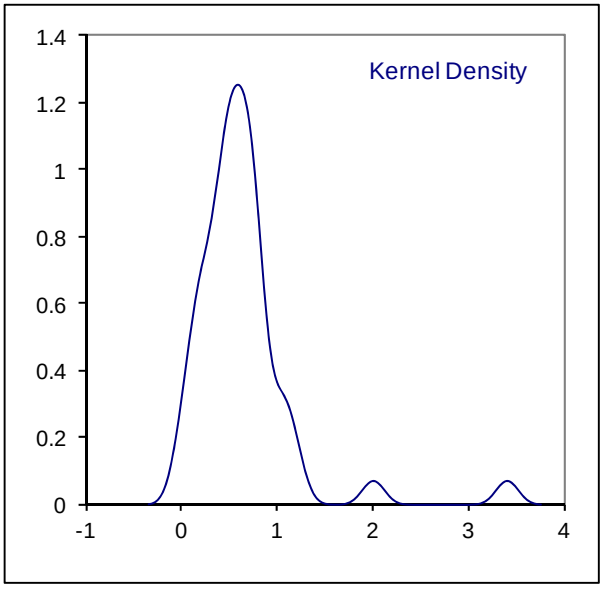
Determination of Existent Gum (washed) on sample #13186; results in mg/100mL

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D381	0.7		0.48	1109	D381	0.71		0.52
92	D381	0.4		-0.63	1126		-----		-----
120		-----		-----	1134	IP131	<1.0		-----
132	D381	<0.5		-----	1140	IP131	<1		-----
150	ISO6246	<0.5		-----	1167	ISO6246	0.1		-1.73
159		-----		-----	1186		-----		-----
193		-----		-----	1191		-----		-----
194	D381	0.2		-1.36	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201	ISO6246	0.7		0.48
225		-----		-----	1203	ISO6246	<0.2		-----
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	ISO6246	0.4		-0.63
311	ISO6246	<1		-----	1266		-----		-----
312	D381	<0.5		-----	1299	ISO6246	1		1.59
323	ISO6246	<1		-----	1340	ISO6246	0.5		-0.26
334	ISO6246	0.8		0.85	1357		-----		-----
335		-----		-----	1376	D381	0.4		-0.63
336		-----		-----	1382	GB/T8019	<0.5		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340	ISO6246	0.0	ex	-2.10	1404	ISO6246	<1		-----
343	ISO6246	0.29	C	-1.03	1409		-----		-----
344		-----		-----	1419	ISO6246	1.1	C	1.96
353	IP131	<1		-----	1426		-----		-----
369	ISO6246	0.8		0.85	1428	ISO6246	0.4		-0.63
370	ISO6246	<1		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372	ISO6246	0.6		0.11	1491	ISO6246	1		1.59
391		-----		-----	1498	D381	<0.5		-----
399		-----		-----	1501	D381	0.54		-0.11
402	ISO6246	0.8		0.85	1510		-----		-----
403	ISO6246	0.8		0.85	1520	ISO6246	0.1		-1.73
420	ISO6246	0.3		-0.99	1538		-----		-----
430		-----		-----	1544	ISO6246	0.5		-0.26
431		-----		-----	1564		-----		-----
440		-----		-----	1569	ISO6246	<1		-----
444		-----		-----	1570		-----		-----
445	IP131	<1		-----	1616		-----		-----
447	ISO6246	<0.5		-----	1631	ISO6246	0.5		-0.26
463	ISO6246	<0.5		-----	1634		-----		-----
468	ISO6246	<0.5		-----	1635	ISO6246	3.4	G(0.01)	10.44
485		-----		-----	1636	ISO6246	0.5		-0.26
494	ISO6246	0.7		0.48	1650		-----		-----
495	ISO6246	<1		-----	1654		-----		-----
496	ISO6246	2.0	G(0.01)	5.28	1677	D381	1.1		1.96
541		-----		-----	1707	ISO6246	0.6		0.11
671	D381	0.2		-1.36	1709		-----		-----
704	ISO6246	0.6		0.11	1710	ISO6246	0.6		0.11
753		-----		-----	1720		-----		-----
781	ISO6246	0.7		0.48	1724	ISO6246	0.4		-0.63
823	D381	0.7	C	0.48	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D381	<0.5		-----	1807	ISO6246	<1		-----
902		-----		-----	1810	ISO6246	0.2		-1.36
904		-----		-----	1811	ISO6246	0.6		0.11
963	D381	0.8		0.85	1833	ISO6246	0.7		0.48
970		-----		-----	1842		-----		-----
974	D381	0.2		-1.36	1849	D381	0.52		-0.18
1006	D381	0.4		-0.63	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	ISO6246	<0.5		-----	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059	ISO6246	0.2		-1.36	1948	ISO6246	1.2		2.33
1066		-----		-----	1951		-----		-----
1081	D381	0.5	C	-0.26	2129	ISO6246	<1		-----
1082		-----		-----	2130	ISO6246	0	ex	-2.10
1108		-----		-----	2146		-----		-----

normality	OK	
n	44	
outliers	2	+2 excl.
mean (n)	0.57	
st.dev. (n)	0.273	
R(calc.)	0.76	
R(ISO6246:98)	0.76	

Lab 340 ex: result excluded, zero is not a real value
Lab 343: first reported 29
Lab 823: first reported 29.1
Lab1081: first reported 5
Lab1419: first reported 2.1
Lab 2130 ex: result excluded, zero is not a real value



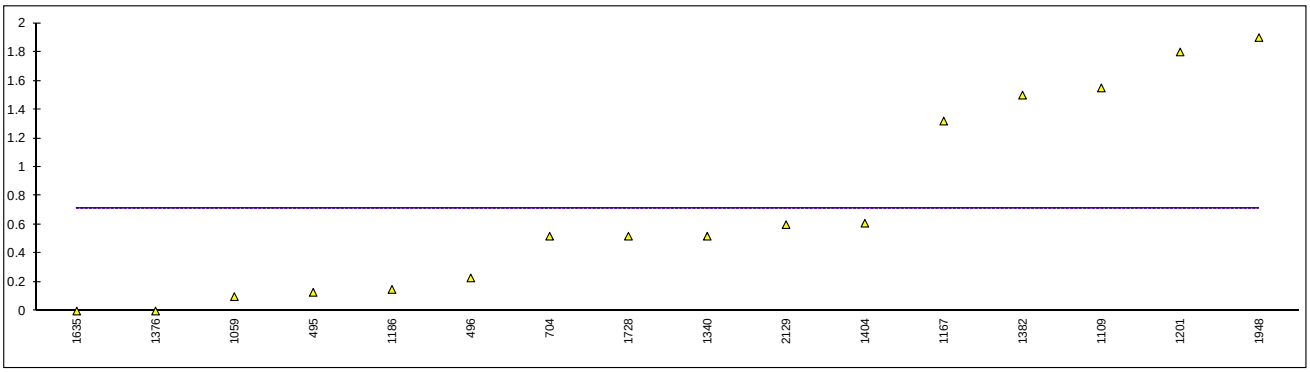


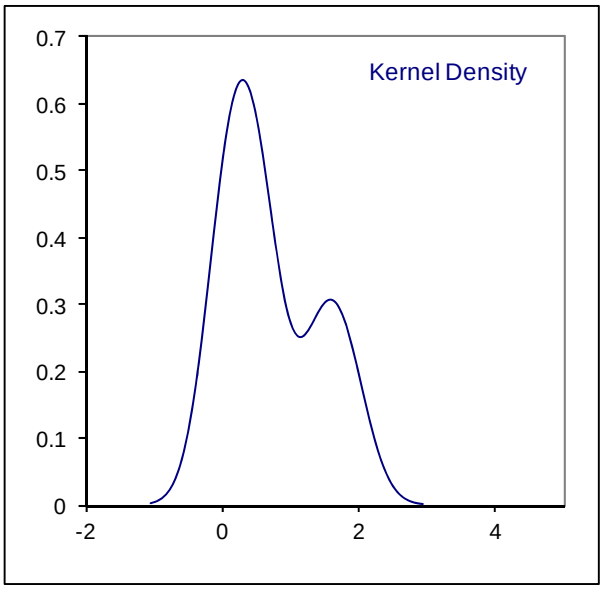
Determination of Lead as Pb on sample #13186; results in mg/L

lab	method	value	Mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D3237	1.55		-----
92		-----		-----	1126		-----		-----
120		-----		-----	1134		-----		-----
132	D3237	<2.5		-----	1140		-----		-----
150	D3237	<2.6		-----	1167	EN237	1.32		-----
159		-----		-----	1186	D3237	0.15		-----
193		-----		-----	1191		-----		-----
194		-----		-----	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN16136Mod.	1.8		-----
225		-----		-----	1203	EN237	<1		-----
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN237	<2.5		-----
311		-----		-----	1266		-----		-----
312	D3237	<2.5		-----	1299	EN237	<0.0025		-----
323	EN237	<2.5		-----	1340	EN237	0.52		-----
334	EN237	<2.5		-----	1357		-----		-----
335		-----		-----	1376	INH48	0.0001		-----
336		-----		-----	1382	GB/T8020	1.5		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404	EN237	0.61		-----
343	D3237	<2.5		-----	1409	EN237	<2.5		-----
344		-----		-----	1419	EN237	<2.0		-----
353		-----		-----	1426		-----		-----
369		-----		-----	1428	EN237	<2.5		-----
370		-----		-----	1432		-----		-----
371	EN237	<2.5		-----	1483		-----		-----
372	EN237	<2.5		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399		-----		-----	1501		-----		-----
402	EN237	<2.5		-----	1510		-----		-----
403	EN237	<2.5		-----	1520	EN237	<3.0		-----
420	EN237	<2.5		-----	1538		-----		-----
430		-----		-----	1544	EN237	<2.5		-----
431		-----		-----	1564		-----		-----
440		-----		-----	1569		-----		-----
444		-----		-----	1570		-----		-----
445	IP428	<2.5		-----	1616		-----		-----
447	IP428	<2.5		-----	1631	EN237	<3.0		-----
463	D3237	<2.5		-----	1634		-----		-----
468		-----		-----	1635	EN237	0.0		-----
485		-----		-----	1636	IP352	<1		-----
494		-----		-----	1650		-----		-----
495	EN237	0.13		-----	1654	EN237	<2.5		-----
496	EN237	0.23		-----	1677	EN237	<0.01		-----
541	D3237	<2.5		-----	1707	EN237	<2.5		-----
671		-----		-----	1709		-----		-----
704	EN237	0.52		-----	1710	EN237	<2.5		-----
753		-----		-----	1720		-----		-----
781	EN237	<1		-----	1724	EN237	<3.0		-----
823		-----		-----	1728	EN237	0.52		-----
824		-----		-----	1742		-----		-----
868	D3237	<2.5		-----	1807		-----		-----
902		-----		-----	1810		-----		-----
904	EN237	<2.5		-----	1811		-----		-----
963		-----		-----	1833	EN237	<3.0		-----
970		-----		-----	1842	INH-01	<1		-----
974		-----		-----	1849	D3237	<2.5		-----
1006	D3237	<2.5		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	EN237	<2.5		-----
1059	EN13723Mod.	0.1		-----	1948	EN237	1.9		-----
1066	EN237	<2.5		-----	1951		-----		-----
1081	D3237	<2.5		-----	2129	EN237	0.6		-----
1082		-----		-----	2130	EN237	<2.5		-----
1108		-----		-----	2146		-----		-----

normality	not OK
n	16
outliers	0
mean (n)	0.72
st.dev. (n)	0.668
R(calc.)	1.87
R(EN237:04)	(2.00)

application range : (2.5 – 25 mg/L)





Determination of Manganese as Mn on sample #13186; results in mg/L

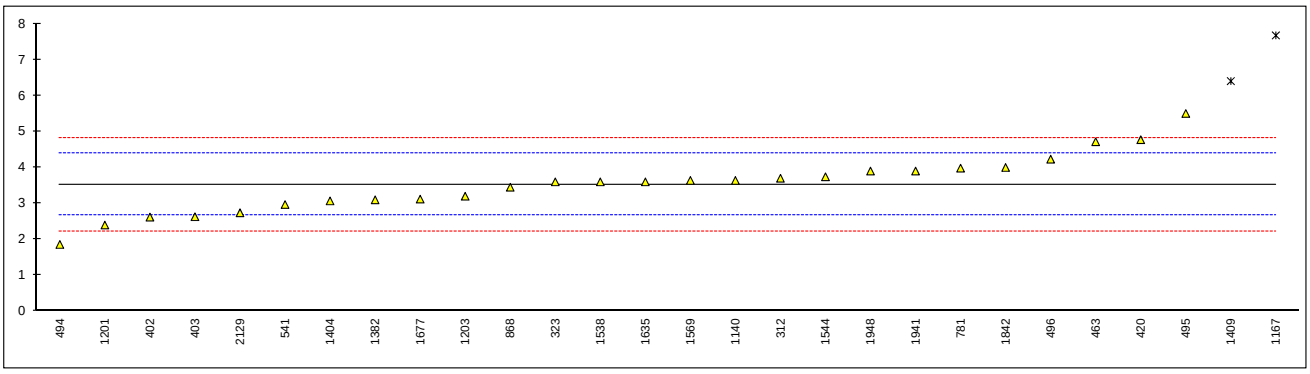
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109		-----		-----
92		-----		-----	1126		-----		-----
120		-----		-----	1134		-----		-----
132		-----		-----	1140	D7111	3.64		0.26
150		-----		-----	1167	D3831	7.67	G(0.01)	9.60
159		-----		-----	1186		-----		-----
193		-----		-----	1191		-----		-----
194		-----		-----	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN16136	2.4		-2.61
225		-----		-----	1203	EN16135	3.2		-0.76
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259		-----		-----
311		-----		-----	1266		-----		-----
312	EN16136	3.7		0.40	1299		-----		-----
323	EN16136	3.6		0.17	1340		-----		-----
334		-----		-----	1357		-----		-----
335		-----		-----	1376		-----		-----
336		-----		-----	1382	INH-711	3.1		-0.99
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404	EN16135	3.07		-1.06
343		-----		-----	1409	EN16135	6.4	G(0.05)	6.66
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369	EN16136	<2		<-3.54	1428		-----		-----
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399		-----		-----	1501		-----		-----
402	EN16135	2.62		-2.10	1510		-----		-----
403	EN16135	2.63		-2.08	1520		-----		-----
420	EN16135	4.77		2.88	1538	EN16135	3.6		0.17
430		-----		-----	1544	EN16135	3.74		0.50
431		-----		-----	1564		-----		-----
440		-----		-----	1569	EN16135	3.64		0.26
444		-----		-----	1570		-----		-----
445		-----		-----	1616		-----		-----
447		-----		-----	1631		-----		-----
463	EN16135	4.714		2.75	1634		-----		-----
468		-----		-----	1635	D5185	3.6		0.17
485		-----		-----	1636		-----		-----
494	EN16135	1.86		-3.86	1650		-----		-----
495	EN16135	5.5		4.57	1654		-----		-----
496	EN16136	4.23		1.63	1677	D3831	3.12		-0.94
541	D3831	2.97		-1.29	1707		-----		-----
671		-----		-----	1709		-----		-----
704		-----		-----	1710		-----		-----
753		-----		-----	1720		-----		-----
781	D3831	3.98		1.05	1724		-----		-----
823		-----		-----	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D3831	3.45		-0.18	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		-----		-----
963		-----		-----	1833		-----		-----
970		-----		-----	1842	INH-01	4.0		1.10
974		-----		-----	1849		-----		-----
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	EN16135	3.9		0.87
1059		-----		-----	1948	EN16135	3.9		0.87
1066		-----		-----	1951		-----		-----
1081		-----		-----	2129	D3831	2.74		-1.82
1082		-----		-----	2130		-----		-----
1108		-----		-----	2146		-----		-----

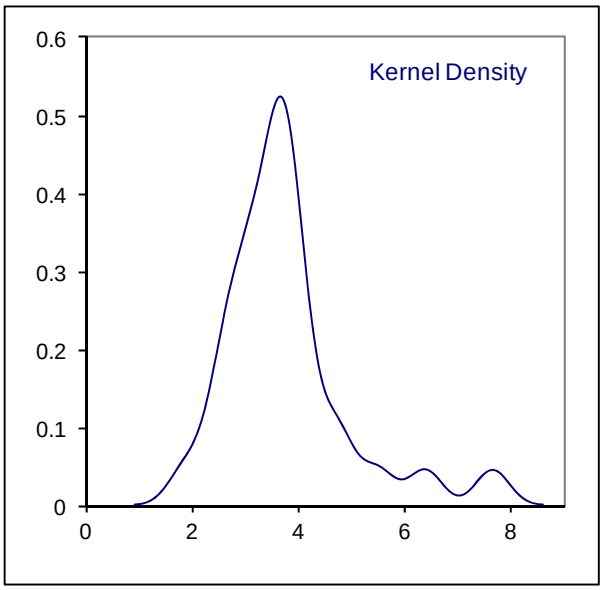
	normality	OK

n	26
outliers	2
mean (n)	3.53
st.dev. (n)	0.786
R(calc.)	2.20
R(EN16135:11)	1.21

Spike
2.98 <118% recovered

Compare R (EN16136:12) = 1.34
application range : 2 - 8 mg/L



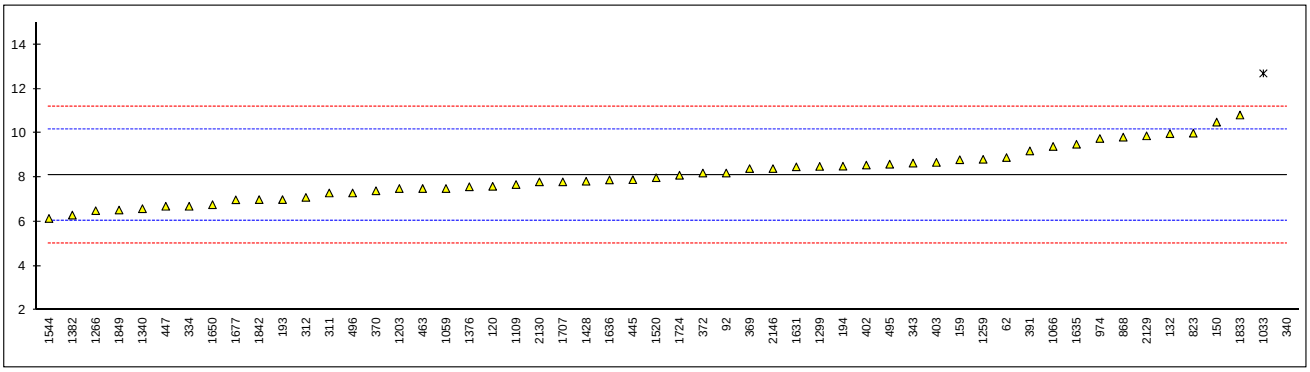


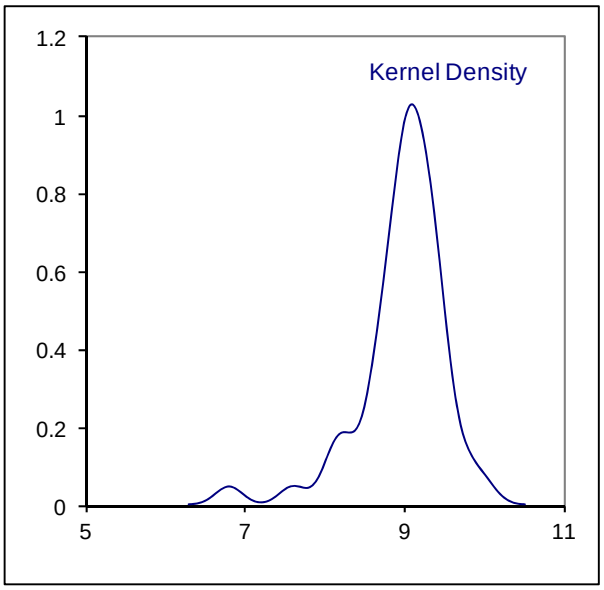
Determination of Olefins by FIA on sample #13186; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D1319	8.9	C	0.77	1109	D1319	7.68		-0.42
92	D1319	8.2		0.09	1126		-----		-----
120	D1319	7.6		-0.49	1134		-----		-----
132	D1319	9.98		1.83	1140		-----		-----
150	D1319	10.5		2.33	1167		-----		-----
159	D1319	8.8		0.68	1186		-----		-----
193	D1319	7.0		-1.08	1191		-----		-----
194	D1319	8.51		0.39	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201		-----		-----
225		-----		-----	1203	EN15553	7.5		-0.59
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN15553	8.82		0.69
311	D1319	7.3		-0.79	1266	in house	6.5		-1.57
312	D1319	7.1		-0.98	1299	D1319	8.5		0.38
323		-----		-----	1340	D1319	6.59		-1.48
334	D1319	6.7		-1.37	1357		-----		-----
335		-----		-----	1376	D1319	7.58		-0.51
336		-----		-----	1382	GB/T11132	6.3		-1.76
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340	D1319	30.65	G(0.01)	21.97	1404		-----		-----
343	D1319	8.65	C	0.53	1409		-----		-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369	EN15553	8.4		0.29	1428	EN15553	7.83		-0.27
370	D1319	7.4		-0.69	1432		-----		-----
371		-----		-----	1483		-----		-----
372	EN15553	8.2		0.09	1491		-----		-----
391	EN15553	9.2		1.07	1498		-----		-----
399		-----		-----	1501		-----		-----
402	D1319	8.56		0.44	1510		-----		-----
403	EN15553	8.68		0.56	1520	EN15553	7.99		-0.11
420		-----		-----	1538		-----		-----
430		-----		-----	1544	D1319	6.15		-1.91
431		-----		-----	1564		-----		-----
440		-----		-----	1569		-----		-----
444		-----		-----	1570		-----		-----
445	IP156	7.9		-0.20	1616		-----		-----
447	D1319	6.7		-1.37	1631	EN15553	8.48		0.36
463	D1319	7.5		-0.59	1634		-----		-----
468		-----		-----	1635	EN15553	9.5		1.36
485		-----		-----	1636	EN15553	7.89		-0.21
494		-----		-----	1650	D1319	6.77		-1.30
495	EN15553	8.6		0.48	1654		-----		-----
496	EN15553	7.30		-0.79	1677	D1319	6.99		-1.09
541		-----		-----	1707	EN15553	7.8		-0.30
671		-----		-----	1709		-----		-----
704		-----		-----	1710		-----		-----
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN15553	8.1		-0.01
823	D1319	10.0		1.84	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D1319	9.82		1.67	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		-----		-----
963		-----		-----	1833	EN15553	10.82		2.64
970		-----		-----	1842	IP156	7.0		-1.08
974	D1319	9.76		1.61	1849	D1319	6.53		-1.54
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033	IP156	12.7	G(0.05)	4.48	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059	EN15553	7.5		-0.59	1948		-----		-----
1066	EN15553	9.4		1.26	1951		-----		-----
1081		-----		-----	2129	EN15553	9.88		1.73
1082		-----		-----	2130	EN15553	7.8		-0.30
1108		-----		-----	2146	D1319	8.4		0.29

normality	OK
n	52
outliers	2
mean (n)	8.11
st.dev. (n)	1.138
R(calc.)	3.19
R(EN15553:07)	2.87

Lab 62: first reported 2.5
Lab 343: first reported 29.7



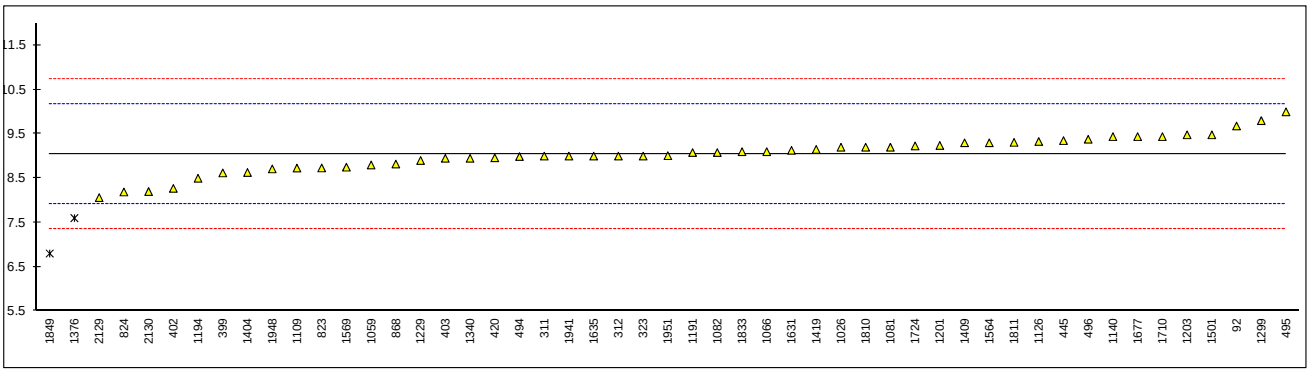


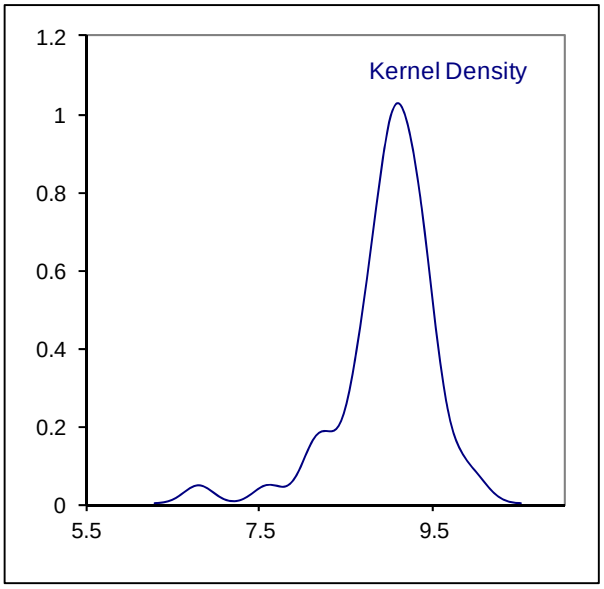
Determination of Olefins by GC on sample #13186; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	8.73		-0.56
92	INH-99	9.68		1.13	1126	in house	9.33		0.51
120		-----		-----	1134		-----		-----
132		-----		-----	1140	IP566	9.44		0.70
150		-----		-----	1167		-----		-----
159		-----		-----	1186		-----		-----
193		-----		-----	1191	EN22854	9.08		0.06
194		-----		-----	1194	EN22854	8.5		-0.97
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN22854	9.24		0.35
225		-----		-----	1203	EN22854	9.48		0.77
228		-----		-----	1229	EN22854	8.90		-0.26
258		-----		-----	1257		-----		-----
273		-----		-----	1259		-----		-----
311	EN22854	9.0		-0.08	1266		-----		-----
312	EN22854	9.0		-0.08	1299	EN22854	9.8		1.34
323	EN22854	9.0		-0.08	1340	EN22854	8.95		-0.17
334		-----		-----	1357		-----		-----
335		-----		-----	1376	D6730	7.60	C,G(0.05)	-2.57
336		-----		-----	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404	EN22854	8.63		-0.74
343		-----		-----	1409	EN22854	9.3		0.45
344		-----		-----	1419	EN22854	9.15		0.19
353		-----		-----	1426		-----		-----
369		-----		-----	1428		-----		-----
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399	EN22854	8.62		-0.76	1501	D6839	9.48		0.77
402	EN22854	8.27		-1.38	1510		-----		-----
403	EN22854	8.95		-0.17	1520		-----		-----
420	EN22854	8.96		-0.15	1538		-----		-----
430		-----		-----	1544		-----		-----
431		-----		-----	1564	EN22854	9.3		0.45
440		-----		-----	1569	EN22854	8.75		-0.52
444		-----		-----	1570		-----		-----
445	EN14517	9.35		0.54	1616		-----		-----
447		-----		-----	1631	EN22854	9.13		0.15
463		-----		-----	1634		-----		-----
468		-----		-----	1635	EN22854	9.0		-0.08
485		-----		-----	1636		-----		-----
494	EN22854	8.99		-0.10	1650		-----		-----
495	EN22854	10.0		1.70	1654		-----		-----
496	EN22854	9.38		0.60	1677	EN22854	9.44		0.70
541		-----		-----	1707		-----		-----
671		-----		-----	1709		-----		-----
704		-----		-----	1710	EN22854	9.44		0.70
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	9.23		0.33
823	D6730	8.732		-0.56	1728		-----		-----
824	EN22854	8.19		-1.52	1742		-----		-----
868	D6839	8.82		-0.40	1807		-----		-----
902		-----		-----	1810	EN22854	9.2		0.28
904		-----		-----	1811	EN22854	9.31		0.47
963		-----		-----	1833	EN22854	9.10		0.10
970		-----		-----	1842		-----		-----
974		-----		-----	1849	EN22854	6.8	C,G(0.01)	-3.99
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	D6729	9.2		0.28	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	in house	9.0	C	-0.08
1059	EN22854	8.8		-0.44	1948	EN22854	8.71		-0.60
1066	EN15553	9.1		0.10	1951	EN22854	9.01		-0.06
1081	EN22854	9.2		0.28	2129	D6730	8.062		-1.75
1082	EN22854	9.08		0.06	2130	D6730	8.20		-1.50
1108		-----		-----	2146		-----		-----

normality	OK
n	49
outliers	2
mean (n)	9.045
st.dev. (n)	0.3984
R(calc.)	1.116
R(EN22854:08)	1.576

Lab1376: first reported 7.70
Lab1849: first reported 6.3
Lab1941: first reported 10.8





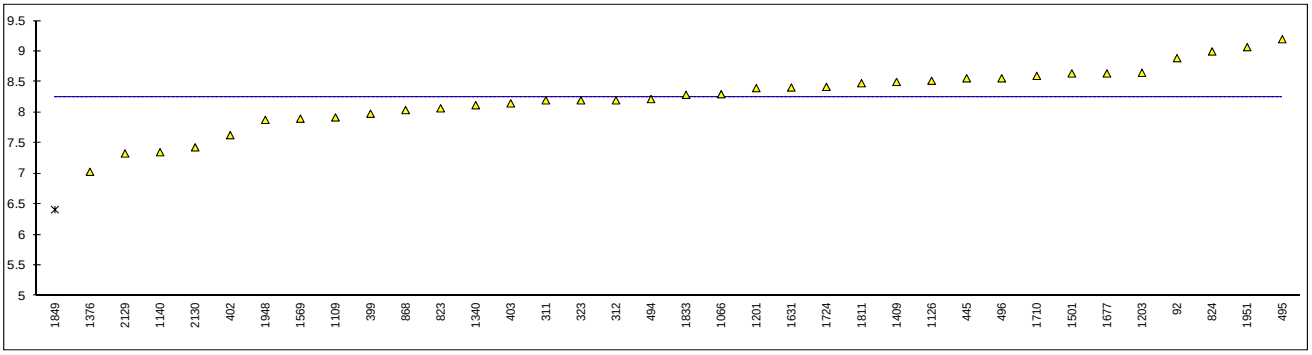
Determination of Olefins by GC on sample #13186; results in %M/M

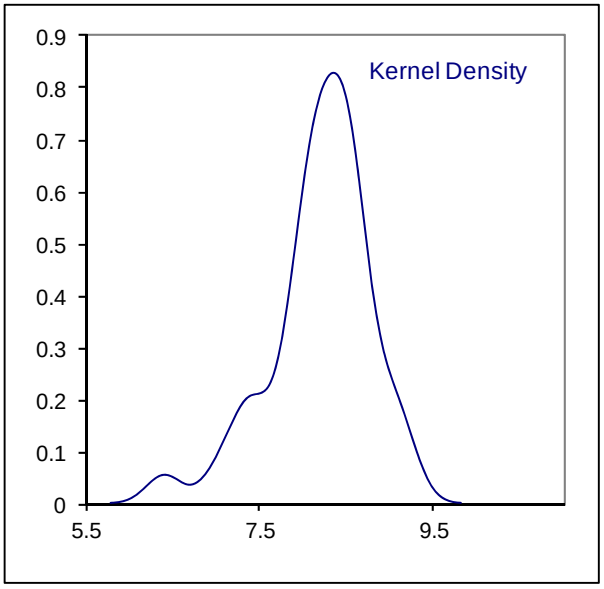
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	7.92		-----
92	INH-99	8.89		-----	1126	in house	8.52		-----
120		-----		-----	1134		-----		-----
132		-----		-----	1140	IP566	7.35		-----
150		-----		-----	1167		-----		-----
159		-----		-----	1186		-----		-----
193		-----		-----	1191		-----		-----
194		-----		-----	1194		-----		-----
212		-----		-----	1199		-----		-----
221		-----		-----	1201		8.40		-----
225		-----		-----	1203		8.65		-----
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259		-----		-----
311	EN22854	8.2		-----	1266		-----		-----
312	EN22854	8.2		-----	1299		-----		-----
323	EN22854	8.2		-----	1340	EN22854	8.12		-----
334		-----		-----	1357		-----		-----
335		-----		-----	1376	D6730	7.03		-----
336		-----		-----	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404		-----		-----
343		-----		-----	1409		8.5		-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369		-----		-----	1428		-----		-----
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399	EN22854	7.98		-----	1501	D6839	8.64		-----
402		7.63		-----	1510		-----		-----
403		8.15		-----	1520		-----		-----
420		-----		-----	1538		-----		-----
430		-----		-----	1544		-----		-----
431		-----		-----	1564		-----		-----
440		-----		-----	1569	EN22854	7.90		-----
444		-----		-----	1570		-----		-----
445	EN14517	8.56		-----	1616		-----		-----
447		-----		-----	1631	EN22854	8.41		-----
463		-----		-----	1634		-----		-----
468		-----		-----	1635		-----		-----
485		-----		-----	1636		-----		-----
494	EN22854	8.22		-----	1650		-----		-----
495		9.2		-----	1654		-----		-----
496	EN22854	8.56		-----	1677		8.64		-----
541		-----		-----	1707		-----		-----
671		-----		-----	1709		-----		-----
704		-----		-----	1710	EN22854	8.60		-----
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	8.42		-----
823	D6730	8.069		-----	1728		-----		-----
824		9.0		-----	1742		-----		-----
868	D6839	8.04		-----	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		8.48		-----
963		-----		-----	1833	EN22854	8.29		-----
970		-----		-----	1842		-----		-----
974		-----		-----	1849	EN22854	6.41	C, G(0.05)	-----
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026		-----		-----	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059		-----		-----	1948		7.88		-----
1066	EN15553	8.3		-----	1951		9.07		-----
1081		-----		-----	2129	D6730	7.330		-----
1082		-----		-----	2130	D6730	7.43		-----
1108		-----		-----	2146		-----		-----

normality	OK
n	35
outliers	1
mean (n)	8.251
st.dev. (n)	0.4956
R(calc.)	1.388
R(EN22854:08)	unknown

Compare R(iis12B05EN) = 0.751

Lab1849: first reported 5.81





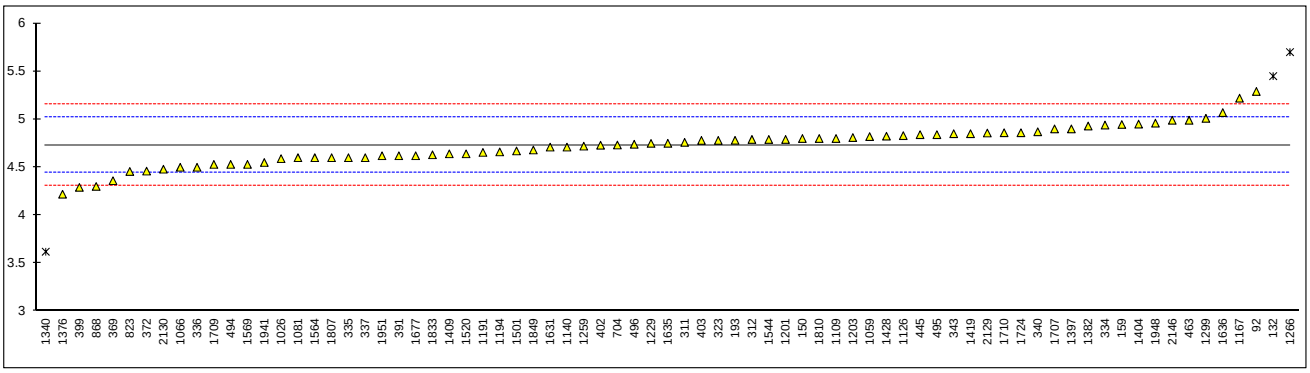
Determination of Ethanol on sample #13186; results in %V/V

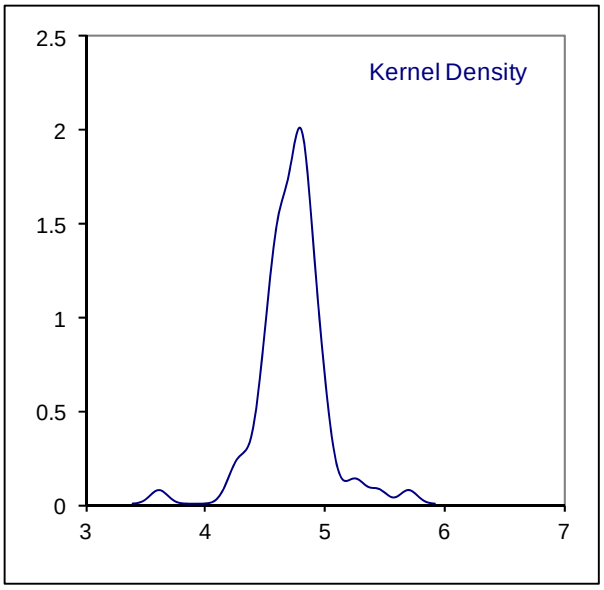
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	4.80		0.48
92	INH-99	5.29		3.91	1126	in house	4.83		0.69
120		-----		-----	1134		-----		-----
132	D5599	5.45	G(0.05)	5.03	1140	IP566	4.71		-0.15
150	D5599	4.80		0.48	1167	EN13132	5.22		3.42
159	D5599	4.946		1.50	1186		-----		-----
193	D5599	4.781		0.35	1191	EN1601	4.655		-0.53
194		-----		-----	1194	D5845	4.66		-0.50
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN1601	4.79		0.41
225		-----		-----	1203	EN22854	4.81		0.55
228		-----		-----	1229	EN22854	4.749		0.12
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN13132	4.72		-0.08
311	EN22854	4.76		0.20	1266	D5845	5.7	G(0.05)	6.78
312	EN22854	4.79		0.41	1299	ISO22854	5.01		1.95
323	EN22854	4.78		0.34	1340	EN22854	3.62	G(0.01)	-7.78
334	EN1601	4.94		1.46	1357		-----		-----
335	EN1601	4.6		-0.92	1376	D6730	4.219		-3.59
336	EN1601	4.5		-1.62	1382	INH-0663	4.93		1.39
337	EN13132	4.6		-0.92	1395		-----		-----
338		-----		-----	1397	EN13132	4.9		1.18
340	EN1601	4.87		0.97	1404	EN22854/D4815	4.95		1.53
343	EN13132	4.85		0.83	1409	EN1601	4.64		-0.64
344		-----		-----	1419	EN22854	4.85		0.83
353		-----		-----	1426		-----		-----
369	D4815	4.36		-2.60	1428	EN13132	4.824		0.65
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372	EN13132	4.46		-1.90	1491		-----		-----
391	EN1601	4.62		-0.78	1498		-----		-----
399	EN22854	4.29		-3.09	1501	D6839	4.67		-0.43
402	EN22854	4.73		-0.01	1510		-----		-----
403	EN22854	4.78		0.34	1520	EN13132	4.64		-0.64
420		-----		-----	1538		-----		-----
430		-----		-----	1544	EN13132	4.79		0.41
431		-----		-----	1564	EN22854	4.6		-0.92
440		-----		-----	1569	EN22854	4.53		-1.41
444		-----		-----	1570		-----		-----
445	D4815	4.84		0.76	1616		-----		-----
447		-----		-----	1631	EN22854	4.71		-0.15
463	EN13132	4.99		1.81	1634		-----		-----
468		-----		-----	1635	EN22854	4.75		0.13
485		-----		-----	1636	EN13132	5.07		2.37
494	EN22854	4.53		-1.41	1650		-----		-----
495	EN22854	4.84		0.76	1654		-----		-----
496	EN1601	4.74		0.06	1677	EN13132	4.62		-0.78
541		-----		-----	1707	EN1601	4.9		1.18
671		-----		-----	1709	D4815	4.53		-1.41
704	D4815	4.732		0.01	1710	EN1601	4.86		0.90
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	4.86		0.90
823	D4815	4.456		-1.93	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D4815	4.30		-3.02	1807	EN13132	4.6		-0.92
902		-----		-----	1810	EN22854	4.8		0.48
904		-----		-----	1811		-----		-----
963		-----		-----	1833	EN22854	4.63	C	-0.71
970		-----		-----	1842		-----		-----
974		-----		-----	1849	D4815	4.68		-0.36
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	EN13132	4.59	C	-0.99	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	EN13132	4.55		-1.27
1059	EN22854	4.82		0.62	1948	EN13132	4.96		1.60
1066	EN22854	4.5		-1.62	1951	EN1601	4.62		-0.78
1081	EN22854	4.6		-0.92	2129	D6730	4.857		0.88
1082		-----		-----	2130	D6730	4.48		-1.76
1108		-----		-----	2146	EN13132	4.99		1.81

Only EN1601 data Only EN22854 data:

normality	OK	OK	OK
n	72	12	23
outliers	3	0	1
mean (n)	4.731	4.728	4.725
st.dev. (n)	0.1983	0.1417	0.1610
R(calc.)	0.555	0.397	0.451
R(EN1601:97)	0.400	0.400	0.470

Lab1026: first reported 1.7
Lab1833: first reported 3.63





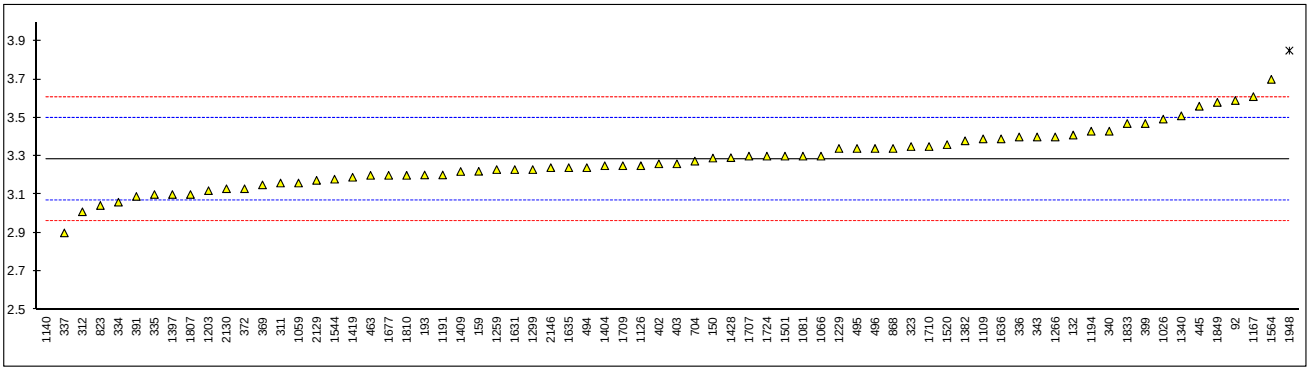
Determination of MTBE on sample #13186; results in %V/V

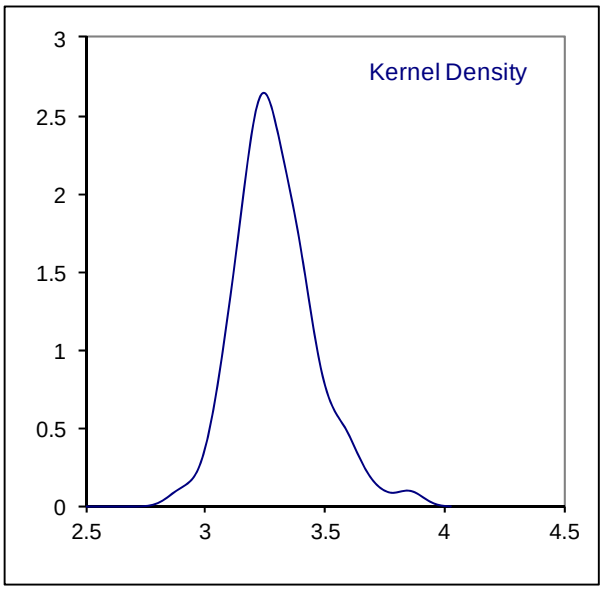
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	3.39		0.99
92	INH-99	3.59		2.86	1126	in house	3.25		-0.32
120		-----		-----	1134		-----		-----
132	D5599	3.41		1.18	1140	IP566	0.0	ex	-30.65
150	D5599	3.29		0.06	1167	EN13132	3.61		3.04
159	D5599	3.221		-0.59	1186		-----		-----
193	D5599	3.202		-0.77	1191	EN1601	3.202		-0.77
194		-----		-----	1194	D5845	3.43		1.36
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN1601	<0.17		-----
225		-----		-----	1203	EN22854	3.12		-1.53
228		-----		-----	1229	EN1601	3.34		0.52
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN13132	3.23		-0.50
311	EN22854	3.16		-1.16	1266	D5845	3.4		1.08
312	EN22854	3.01		-2.56	1299	ISO22854	3.23		-0.50
323	EN22854	3.35		0.62	1340	EN22854	3.51		2.11
334	EN1601	3.06		-2.09	1357		-----		-----
335	EN1601	3.1		-1.72	1376		-----		-----
336	EN1601	3.4		1.08	1382	INH-0663	3.38		0.90
337	EN13132	2.9	C	-3.58	1395		-----		-----
338		-----		-----	1397	EN13132	3.1		-1.72
340	EN1601	3.43		1.36	1404	D4815	3.25		-0.32
343	EN13132	3.4	C	1.08	1409	EN1601	3.22		-0.60
344		-----		-----	1419	EN22854	3.19		-0.88
353		-----		-----	1426		-----		-----
369	D4815	3.15		-1.25	1428	EN13132	3.292		0.07
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372	EN13132	3.13		-1.44	1491		-----		-----
391	EN1601	3.09		-1.81	1498		-----		-----
399	EN22854	3.47		1.74	1501	D6839	3.30		0.15
402	EN22854	3.26		-0.22	1510		-----		-----
403	EN22854	3.26		-0.22	1520	EN13132	3.36		0.71
420		-----		-----	1538		-----		-----
430		-----		-----	1544	EN13132	3.18		-0.97
431		-----		-----	1564	EN22854	3.7		3.88
440		-----		-----	1569		-----		-----
444		-----		-----	1570		-----		-----
445	D4815	3.56		2.58	1616		-----		-----
447		-----		-----	1631	EN13132	3.23		-0.50
463	EN13132	3.20		-0.78	1634		-----		-----
468		-----		-----	1635	EN22854	3.24		-0.41
485		-----		-----	1636	EN13132	3.39		0.99
494	EN22854	3.24		-0.41	1650		-----		-----
495	EN22854	3.34		0.52	1654		-----		-----
496	EN1601	3.34		0.52	1677	EN13132	3.20		-0.78
541		-----		-----	1707	EN1601	3.3		0.15
671		-----		-----	1709	D4815	3.25		-0.32
704	D4815	3.274		-0.09	1710	EN1601	3.35		0.62
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	3.30		0.15
823	D4815	3.043		-2.25	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D4815	3.34		0.52	1807	EN13132	3.1		-1.72
902		-----		-----	1810	EN22854	3.2		-0.78
904		-----		-----	1811		-----		-----
963		-----		-----	1833	EN22854	3.47		1.74
970		-----		-----	1842		-----		-----
974		-----		-----	1849	D4815	3.58		2.76
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	EN13132	3.493	C	1.95	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941		-----		-----
1059	EN22854	3.16		-1.16	1948	EN13132	3.85	C,G(0.05)	5.28
1066	EN22854	3.3		0.15	1951		-----		-----
1081	EN22854	3.3		0.15	2129	D6730	3.174		-1.03
1082		-----		-----	2130	D6730	3.13		-1.44
1108		-----		-----	2146	EN13132	3.24		-0.41

Only EN1601 data Only EN22854 data

normality	OK		OK	OK
n	68		11	20
outliers	1	+ 1 excl.	0	0
mean (n)	3.284		3.257	3.290
st.dev. (n)	0.1519		0.1305	0.1551
R(calc.)	0.425		0.365	0.434
R(EN1601:97)	0.300		0.300	0.434

Lab 337: first reported 2.7
Lab 343: first reported 2.7
Lab 1026: first reported 0.6
Lab 1948: first reported 6.80





Determination of Ethers (C5 or more C atoms, C5 and >C5) on sample #13186; results in %V/V

lab	method	C5 or more C	mark	z(targ)	Ethers C5	mark	Ethers >C5	mark	remarks
62		-----		-----	-----		-----		
92	INH-99	<0.1	E, False -?	-----	<0.1	M, False -?	<0.1		
120		-----		-----	-----		-----		
132	D5599	3.41		0.57	3.41		<0.10		
150	D5599	-----		-----	3.29		<0.1		
159		-----		-----	-----		-----		
193		-----		-----	-----		-----		
194		-----		-----	-----		-----		
212		-----		-----	-----		-----		
221		-----		-----	-----		-----		
225		-----		-----	-----		-----		
228		-----		-----	-----		-----		
258		-----		-----	-----		-----		
273		-----		-----	-----		-----		
311	EN22854	-----		-----	3.16		0.10		
312	EN22854	3.11		-1.53	3.01		0.11		
323	EN22854	3.38		0.36	3.35		<0.10		
334	EN1601	-----		-----	3.06		-----		
335	EN1601	3.1		-1.60	-----		-----		
336	EN1601	3.4		0.50	-----		-----		
337	EN13132	2.9	C	-3.00	-----		-----		fr 2.7
338		-----		-----	-----		-----		
340	EN1601	3.43		0.71	-----		-----		
343	EN13132	3.4	C	0.50	-----		-----		fr 2.7
344		-----		-----	-----		-----		
353		-----		-----	-----		-----		
369		-----		-----	-----		-----		
370		-----		-----	-----		-----		
371		-----		-----	-----		-----		
372		-----		-----	-----		-----		
391	EN1601	<0.20	E, False -?	-----	-----		-----		
399	EN22854	<0.01	E, False -?	-----	<0.01	M, False -?	<0.01		
402	EN22854	3.36		0.22	3.26		0.10		
403		-----		-----	-----		-----		
420		-----		-----	-----		-----		
430		-----		-----	-----		-----		
431		-----		-----	-----		-----		
440		-----		-----	-----		-----		
444		-----		-----	-----		-----		
445	D4815	3.73		2.81	3.56		0.17		
447		-----		-----	-----		-----		
463		-----		-----	-----		-----		
468		-----		-----	-----		-----		
485		-----		-----	-----		-----		
494	EN22854	3.43		0.71	-----		-----		
495	EN22854	3.34		0.08	-----		-----		
496	EN1601	3.45		0.85	3.34		0.11		
541		-----		-----	-----		-----		
671		-----		-----	-----		-----		
704	D4815	<0.20	E, False -?	-----	3.274	C	<0.20		fr <0.20
753		-----		-----	-----		-----		
781		-----		-----	-----		-----		
823	D4815	<0.2	E, False -?	-----	3.043	C	<0.2		fr <0.2
824		-----		-----	-----		-----		
868	D4815	3.34		0.08	3.34		<0.20		
902		-----		-----	-----		-----		
904		-----		-----	-----		-----		
963		-----		-----	-----		-----		
970		-----		-----	-----		-----		
974		-----		-----	-----		-----		
1006		-----		-----	-----		-----		
1017		-----		-----	-----		-----		
1026		-----		-----	-----		0.6		
1033		-----		-----	-----		-----		
1038		-----		-----	-----		-----		
1059	EN22854	3.26		-0.48	3.16		<0.20		
1066	EN22854	3.3		-0.20	3.3		<0.1		
1081		-----		-----	-----		-----		
1082		-----		-----	-----		-----		
1108		-----		-----	-----		-----		
1109		-----		-----	-----		-----		
1126		-----		-----	-----		-----		
1134		-----		-----	-----		-----		
1140	IP566	3.27		-0.41	0.0	ex	0.0		See §4.1
1167	EN13132	-----		-----	3.61		3.61	ex	
1186		-----		-----	-----		-----		

1191		-----		-----		-----		
1194		-----		-----		-----		
1199		-----		-----		-----		
1201	EN1601	3.32		-0.06	3.15	0.17		
1203	EN22854	-----		-----	3.12	0.14		
1229		-----		-----	-----	-----		
1257		-----		-----	-----	-----		
1259		-----		-----	-----	-----		
1266		-----		-----	-----	-----		
1299		-----		-----	-----	3.33	ex	
1340		-----		-----	-----	-----		
1357		-----		-----	-----	-----		
1376		-----		-----	-----	-----		
1382		-----		-----	-----	-----		
1395		-----		-----	-----	-----		
1397		-----		-----	-----	-----		
1404	D4815	3.43		0.71	-----	-----		
1409	EN1601	3.22		-0.76	3.22	-----		
1419		-----		-----	-----	-----		
1426		-----		-----	-----	-----		
1428		-----		-----	-----	-----		
1432		-----		-----	-----	-----		
1483		-----		-----	-----	-----		
1491		-----		-----	-----	-----		
1498		-----		-----	-----	-----		
1501		-----		-----	-----	-----		
1510		-----		-----	-----	-----		
1520	EN13132	3.55		1.55	3.36	0.19		
1538		-----		-----	-----	-----		
1544		-----		-----	-----	-----		
1564		-----		-----	-----	-----		
1569		-----		-----	-----	-----		
1570		-----		-----	-----	-----		
1616		-----		-----	-----	-----		
1631		-----		-----	-----	-----		
1634		-----		-----	-----	-----		
1635	EN22854	3.34		0.08	3.24	0.10		
1636	EN13132	-----		-----	3.39	-----		
1650		-----		-----	-----	-----		
1654		-----		-----	-----	-----		
1677	EN13132	3.30		-0.20	3.20	-----		
1707	EN1601	<0.17	E, False -?	-----	3.3	C	<0.17		fr <0.17
1709		-----		-----	-----	-----		
1710	EN1601	3.35		0.15	3.35	0.00		
1720		-----		-----	-----	-----		
1724		-----		-----	-----	-----		
1728		-----		-----	-----	-----		
1742		-----		-----	-----	-----		
1807	EN13132	-----		-----	3.1	C	<0.2	C	fr<0.2,3.1
1810		-----		-----	-----	-----		
1811		-----		-----	-----	-----		
1833		-----		-----	-----	-----		
1842		-----		-----	-----	-----		
1849		-----		-----	-----	-----		
1851		-----		-----	-----	-----		
1936		-----		-----	-----	-----		
1937		-----		-----	-----	-----		
1938		-----		-----	-----	-----		
1941	EN13132	-----		-----	3.11	-----		
1948		-----		-----	-----	-----		
1951		-----		-----	-----	-----		
2129	D6730	3.174		-1.08	3.174	<0.1		
2130	D6730	0	E, ex	-23.30	0	M, ex	3.13	ex	See §4.1
2146	EN13132	3.24		-0.62	-----	-----		

normality	OK
n	26
outliers	1
mean (n)	3.328
st.dev. (n)	0.1567
R(calc.)	0.439
R(EN1601:97)	0.400

E = Error in summation calculation (result should include MTBE).
M = Error in recogniction of MTBE as “Ethers C5” (result should include MTBE)

Determination of other oxygenates on sample #13186; results in %V/V

lab	method	DIPE	ETBE	i-buOH	i-prOH	MeOH	TAME	Tert-buOH	Others
62		-----	-----	-----	-----	-----	-----	-----	
92		-----	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
120		-----	-----	-----	-----	-----	-----	-----	
132	D5599	<0.10	<0.10	<0.10	<0.10	0.02	<0.10	<0.10	
150	D5599	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
159		-----	-----	-----	-----	0.149	-----	-----	
193	D5599	0.100	0.00	-----	-----	0.068	0.00	0.00	
194		-----	-----	-----	-----	-----	-----	-----	
212		-----	-----	-----	-----	-----	-----	-----	
221		-----	-----	-----	-----	-----	-----	-----	
225		-----	-----	-----	-----	-----	-----	-----	
228		-----	-----	-----	-----	-----	-----	-----	
258		-----	-----	-----	-----	-----	-----	-----	
273		-----	-----	-----	-----	-----	-----	-----	
311	EN22854	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
312	EN22854	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
323	EN22854	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
334		-----	-----	-----	-----	-----	-----	-----	
335		-----	-----	-----	-----	-----	-----	-----	
336		-----	<0.17	-----	-----	-----	-----	-----	
337		-----	-----	-----	-----	-----	-----	-----	
338		-----	-----	-----	-----	-----	-----	-----	
340	EN1601	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
343		-----	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
344		-----	-----	-----	-----	-----	-----	-----	
353		-----	-----	-----	-----	-----	-----	-----	
369	D4815	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
370		-----	-----	-----	-----	-----	-----	-----	
371		-----	-----	-----	-----	-----	-----	-----	
372	EN13132	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
391	EN1601	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
399	EN22854	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
402	EN22854	0.10	-----	-----	-----	-----	-----	0.02	
403	EN22854	0.10	-----	-----	-----	-----	-----	-----	
420		-----	-----	-----	-----	-----	-----	-----	
430		-----	-----	-----	-----	-----	-----	-----	
431		-----	-----	-----	-----	-----	-----	-----	
440		-----	-----	-----	-----	-----	-----	-----	
444		-----	-----	-----	-----	-----	-----	-----	
445	D4815	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
447		-----	-----	-----	-----	-----	-----	-----	
463	EN13132	<0.2	<0.2	<0.2	-----	<0.2	<0.2	<0.2	
468		-----	-----	-----	-----	-----	-----	-----	
485		-----	-----	-----	-----	-----	-----	-----	
494	EN22854	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
495	EN22854	0.10	<0.01	-----	-----	-----	-----	-----	
496	EN1601	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
541		-----	-----	-----	-----	-----	-----	-----	
671		-----	-----	-----	-----	-----	-----	-----	
704	D4815	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
753		-----	-----	-----	-----	-----	-----	-----	
781		-----	-----	-----	-----	-----	-----	-----	
823	D4815	0.056	<0.2	<0.2	<0.2	<0.2	***0.515***	+? <0.2	
824		-----	-----	-----	-----	-----	-----	-----	
868	D4815	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
902		-----	-----	-----	-----	-----	-----	-----	
904		-----	-----	-----	-----	-----	-----	-----	
963		-----	-----	-----	-----	-----	-----	-----	
970		-----	-----	-----	-----	-----	-----	-----	
974		-----	-----	-----	-----	-----	-----	-----	
1006		-----	-----	-----	-----	-----	-----	-----	
1017		-----	-----	-----	-----	-----	-----	-----	
1026		-----	<0.1	<0.1	<0.1	<0.1	-----	<0.1	
1033		-----	-----	-----	-----	-----	-----	-----	
1038		-----	-----	-----	-----	-----	-----	-----	
1059	EN22854	0.10	<0.20	<0.20	0.02	<0.20	<0.20	0.02	
1066	EN22854	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
1081		-----	0	-----	-----	0	-----	-----	
1082		-----	-----	-----	-----	-----	-----	-----	
1108		-----	-----	-----	-----	-----	-----	-----	
1109		-----	<0.1	0.02	0.02	-----	<0.1	-----	
1126		-----	-----	-----	-----	-----	-----	-----	
1134		-----	-----	-----	-----	-----	-----	-----	
1140	IP566	0.00	0.00	0.0	0.0	0.0	0.0	0.0	
1167		-----	<0.1	<0.1	<0.1	***4.04***	+? -----	0.11	
1186		-----	-----	-----	-----	-----	-----	-----	

1191		-----		<0.05		<0.05	<0.05	<0.05		<0.05	<0.05
1194	D5845	***0.63***	+?	0.0		-----	-----	0.0		***0.86***	+? -----
1199		-----		-----		-----	-----	-----		-----	-----
1201	EN1601	0.10		0.17		<0.17	<0.17	<0.17		<0.17	<0.17
1203	EN22854	0.10		0.04		0.11	<0.02	<0.02		<0.02	-----
1229		-----		<0.05		<0.05	<0.05	<0.05		<0.05	<0.05
1257		-----		-----		-----	-----	-----		-----	-----
1259		-----		-----		-----	-----	-----		-----	-----
1266		-----		-----		-----	-----	***0.5***	+?	-----	-----
1299		-----		0.10		-----	-----	<0.01		<0.01	<0.01
1340		-----		-----		-----	-----	-----		-----	-----
1357		-----		-----		-----	-----	-----		-----	-----
1376		-----		-----		-----	-----	-----		-----	-----
1382	INH-0663	n.d.		-----		n.d.	n.d.	n.d.		n.d.	n.d.
1395		-----		-----		-----	-----	-----		-----	-----
1397		-----		***0.3***	+?	-----	-----	-----		<0.2	-----
1404	EN22854/D4815	0.10		<0.20		<0.20	<0.20	0.23		<0.20	0.03
1409	EN1601	<0.8		<0.8		<0.8	<0.8	<0.8		-----	<0.8
1419		-----		-----		-----	-----	-----		-----	-----
1426		-----		-----		-----	-----	-----		-----	-----
1428		-----		<0.17		<0.17	<0.17	<0.17		-----	<0.17
1432		-----		-----		-----	-----	-----		-----	-----
1483		-----		-----		-----	-----	-----		-----	-----
1491		-----		-----		-----	-----	-----		-----	-----
1498		-----		-----		-----	-----	-----		-----	-----
1501		-----		-----		-----	-----	-----		-----	-----
1510		-----		-----		-----	-----	-----		-----	-----
1520		-----		-----		-----	-----	-----		0.19	-----
1538		-----		-----		-----	-----	-----		-----	-----
1544	EN13132	<0.17		<0.17		<0.17	<0.17	<0.17		<0.17	<0.17
1564		-----		0.1		-----	-----	-----		-----	-----
1569		-----		***3.15***	+?	-----	-----	-----		-----	-----
1570		-----		-----		-----	-----	-----		-----	-----
1616		-----		-----		-----	-----	-----		-----	-----
1631		-----		-----		-----	-----	-----		-----	-----
1634		-----		-----		-----	-----	-----		-----	-----
1635	EN22854	0.10		n.d.		n.d.	n.d.	n.d.		n.d.	n.d.
1636	EN13132	<0.17		<0.17		-----	-----	-----		<0.17	-----
1650		-----		-----		-----	-----	-----		-----	-----
1654		-----		-----		-----	-----	-----		-----	-----
1677	EN13132	0.096		<0.001		0.010	0.006	0.025		<0.001	0.011
1707	EN1601	<0.17		<0.17		<0.17	<0.17	<0.17		<0.17	<0.17
1709		-----		-----		-----	-----	-----		-----	-----
1710	EN1601	0.00		0.00		0.00	0.00	0.00		0.00	0.00
1720		-----		-----		-----	-----	-----		-----	-----
1724		-----		-----		-----	-----	-----		-----	-----
1728		-----		-----		-----	-----	-----		-----	-----
1742		-----		-----		-----	-----	-----		-----	-----
1807		-----		<0.2		<0.2	<0.2	<0.2		-----	<0.2
1810		-----		-----		-----	-----	-----		-----	-----
1811		-----		-----		-----	-----	-----		-----	-----
1833		-----		-----		-----	-----	-----		-----	-----
1842		-----		-----		-----	-----	-----		-----	-----
1849		-----		-----		-----	-----	-----		-----	-----
1851		-----		-----		-----	-----	-----		-----	-----
1936		-----		-----		-----	-----	-----		-----	-----
1937		-----		-----		-----	-----	-----		-----	-----
1938		-----		-----		-----	-----	-----		-----	-----
1941		-----		-----		-----	-----	-----		-----	-----
1948	EN13132	0.076		0.13		-----	<0.01	0.088		0.073	<0.01
1951	EN1601	***3.44***	+?	0.10		-----	-----	-----		-----	-----
2129	D6730	<0.1		<0.1		<0.1	<0.1	<0.1		<0.1	<0.1
2130	D6730	0		0		0	0	0		0	0
2146		-----		<0.1		-----	-----	-----		<0.1	-----

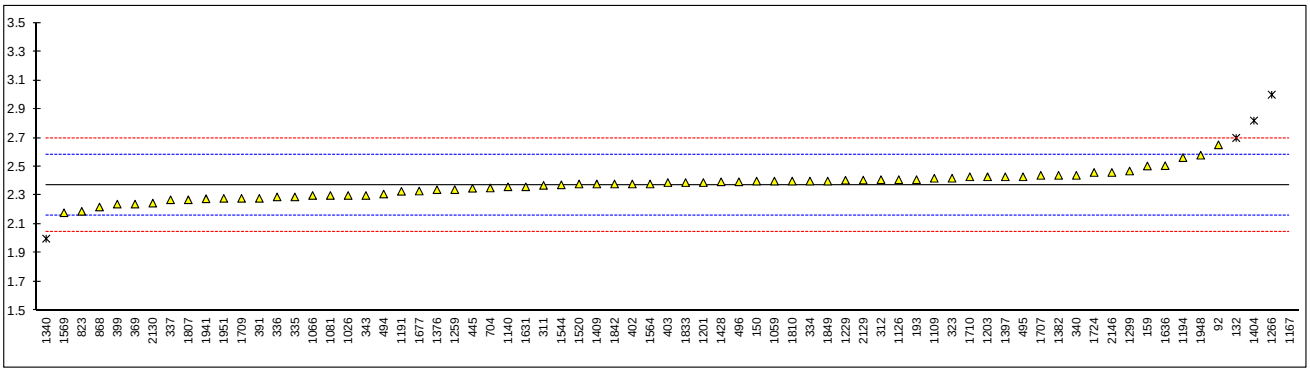
+? = false positive result?
Lab193: first reported MeOH 0.675
Lab1948: first reported 0.28

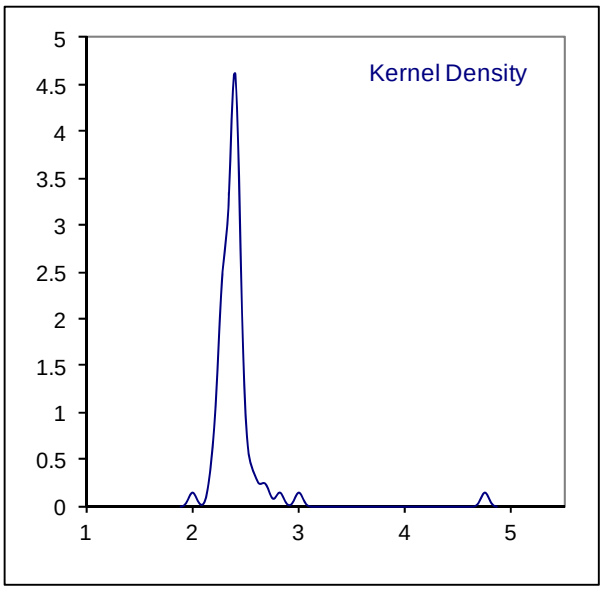
Determination of Oxygen Content on sample #13186; results in %M/M

lab	method	Value	mark	z(targ)	lab	method	value	mark	z(targ)
62		-----		-----	1109	D6839	2.42		0.45
92	INH-99	2.652		2.61	1126	in house	2.41		0.35
120		-----		-----	1134		-----		-----
132	D5599	2.70	G(0.05)	3.06	1140	IP566	2.36		-0.11
150	D5599	2.40		0.26	1167	EN13132	4.750	G(0.01)	22.19
159	D5599	2.505		1.24	1186		-----		-----
193	D5599	2.41	C	0.35	1191	EN1601	2.329		-0.40
194		-----		-----	1194	D5845	2.563		1.78
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN1601	2.39		0.17
225		-----		-----	1203	EN22854	2.43		0.54
228		-----		-----	1229	EN1601	2.406		0.32
258		-----		-----	1257		-----		-----
273		-----		-----	1259	EN13132	2.3405		-0.29
311	EN22854	2.37		-0.02	1266		3.0	G(0.01)	5.86
312	EN22854	2.41		0.35	1299	ISO22854	2.47		0.91
323	EN22854	2.42		0.45	1340	EN22854	2.00	G(0.05)	-3.47
334	EN1601	2.40		0.26	1357		-----		-----
335	EN1601	2.29		-0.77	1376	D6730	2.34	C	-0.30
336	EN1601	2.29		-0.77	1382	INH-0663	2.44		0.63
337	EN13132	2.27		-0.95	1395		-----		-----
338		-----		-----	1397	EN13132	2.43		0.54
340	EN1601	2.44		0.63	1404	D4815	2.82	G(0.01)	4.18
343	EN13132	2.3		-0.67	1409	EN1601	2.38		0.07
344		-----		-----	1419		-----		-----
353		-----		-----	1426		-----		-----
369	D4815	2.24		-1.23	1428	EN13132	2.395		0.21
370		-----		-----	1432		-----		-----
371		-----		-----	1483		-----		-----
372		-----		-----	1491		-----		-----
391	EN1601	2.28		-0.86	1498		-----		-----
399	EN22854	2.24		-1.23	1501		-----		-----
402	EN22854	2.38		0.07	1510		-----		-----
403	EN22854	2.39		0.17	1520	EN13132	2.38		0.07
420		-----		-----	1538		-----		-----
430		-----		-----	1544	EN13132	2.374		0.02
431		-----		-----	1564	EN22854	2.38		0.07
440		-----		-----	1569	EN22854	2.18		-1.79
444		-----		-----	1570		-----		-----
445	D4815	2.35		-0.21	1616		-----		-----
447		-----		-----	1631	EN13132	2.36		-0.11
463		-----		-----	1634		-----		-----
468		-----		-----	1635	EN22854	n.d.		-----
485		-----		-----	1636	EN13132	2.507		1.26
494	EN22854	2.31		-0.58	1650		-----		-----
495	EN22854	2.43		0.54	1654		-----		-----
496	EN1601	2.395		0.21	1677	EN13132	2.331	C	-0.38
541		-----		-----	1707	EN1601	2.44		0.63
671		-----		-----	1709	D4815	2.28		-0.86
704	D4815	2.352		-0.19	1710	EN1601	2.43		0.54
753		-----		-----	1720		-----		-----
781		-----		-----	1724	EN22854	2.46		0.82
823	D4815	2.19		-1.70	1728		-----		-----
824		-----		-----	1742		-----		-----
868	D4815	2.22		-1.42	1807	EN13132	2.27		-0.95
902		-----		-----	1810	EN22854	2.4		0.26
904		-----		-----	1811		-----		-----
963		-----		-----	1833	EN22854	2.39	C	0.17
970		-----		-----	1842	INH-21	2.38		0.07
974		-----		-----	1849	D5599	2.4		0.26
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	EN13132	2.30		-0.67	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	EN13132	2.277		-0.89
1059	EN22854	2.40		0.26	1948	EN13132	2.58	C	1.94
1066	EN22854	2.3		-0.67	1951	EN1601	2.28		-0.86
1081	ISO22854	2.3		-0.67	2129	D6730	2.407		0.33
1082		-----		-----	2130	D6730	2.247		-1.17
1108		-----		-----	2146	EN13132	2.46		0.82

normality	OK
n	66
outliers	5
mean (n)	2.372
st.dev. (n)	0.0884
R(calc.)	0.247
R(EN1601:97)	0.300

Lab193: first reported result 2.74
Lab1376: first reported 1.52
Lab1677: first reported 1.791
Lab1833: first reported 1.99
Lab1948: first reported3.12





Determination of Oxidation Stability on sample #13186; results in minutes

lab	method	value	mark	z(targ)	remarks
62		-----		-----	
92		-----		-----	
120		-----		-----	
132	D525	>1059		-----	
150	D525	>900		-----	
159		-----		-----	
193		-----		-----	
194		-----		-----	
212		-----		-----	
221		-----		-----	
225		-----		-----	
228		-----		-----	
258		-----		-----	
273		-----		-----	
311	D525	>900		-----	
312	D525	>900		-----	
323	ISO7535	>900		-----	
334		-----		-----	
335		-----		-----	
336	ISO7536	>360		-----	
337		-----		-----	
338		-----		-----	
340	ISO7536	>960		-----	
343	D525	>900		-----	
344		-----		-----	
353		-----		-----	
369		-----		-----	
370		-----		-----	
371	ISO7536	>900		-----	
372	ISO7536	>900		-----	
391	ISO7536	>360		-----	
399		-----		-----	
402	ISO7536	>900		-----	
403	ISO7536	>900		-----	
420	ISO7536	>900		-----	
430		-----		-----	
431		-----		-----	
440		-----		-----	
444		-----		-----	
445	IP40	>900		-----	
447	D525	>900		-----	
463	ISO7536	>360		-----	
468		-----		-----	
485		-----		-----	
494	ISO7536	>1200		-----	
495	ISO7536	>900		-----	
496	ISO7536	>1000		-----	
541	D525	>900		-----	
671		-----		-----	
704		-----		-----	
753		-----		-----	
781	ISO7536	>360		-----	
823	D525	>900		-----	
824		-----		-----	
868	D525	>900		-----	
902		-----		-----	
904	ISO7536	>360		-----	
963		-----		-----	
970		-----		-----	
974	D525	1860		-----	
1006		-----		-----	
1017		-----		-----	
1026		-----		-----	
1033		-----		-----	
1038		-----		-----	
1059	ISO7536	>900		-----	
1066		-----		-----	
1081	D525	>360		-----	
1082		-----		-----	
1108		-----		-----	
1109	D525	>1440		-----	
1126		-----		-----	
1134	IP525	>900		-----	
1140		-----		-----	
1167	ISO7536	>900		-----	
1186		-----		-----	

1191		-----	-----
1194		-----	-----
1199		-----	-----
1201	ISO7536	>900	-----
1203	ISO7536	>900	-----
1229		-----	-----
1257		-----	-----
1259		-----	-----
1266		-----	-----
1299	D525	>900	-----
1340	ISO7536	>900	-----
1357		-----	-----
1376		-----	-----
1382		-----	-----
1395	D525	2880	-----
1397		-----	-----
1404	ISO7536	>900	-----
1409	ISO7536	>900	-----
1419	ISO7536	>900	-----
1426		-----	-----
1428	ISO7536	>900	-----
1432		-----	-----
1483		-----	-----
1491		-----	-----
1498		-----	-----
1501	D525	>900	-----
1510		-----	-----
1520	ISO7536	>900	-----
1538		-----	-----
1544	ISO7536	>900	-----
1564		-----	-----
1569	ISO7536	>900	-----
1570		-----	-----
1616		-----	-----
1631	ISO7536	>900	-----
1634		-----	-----
1635	ISO7536	>1000	-----
1636	ISO7536	>970	-----
1650		-----	-----
1654	ISO7536	>360	-----
1677	D525	>900	-----
1707		-----	-----
1709		-----	-----
1710	ISO7536	>900	-----
1720		-----	-----
1724	ISO7536	>900	-----
1728	D525	>900	-----
1742		-----	-----
1807		-----	-----
1810		-----	-----
1811		-----	-----
1833	ISO7536	>900	-----
1842		-----	-----
1849	D525	495	-----
1851		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1941		-----	-----
1948	ISO7536	>900	-----
1951		-----	-----
2129	ISO7536	>900	-----
2130	ISO7536	>900	-----
2146		-----	-----

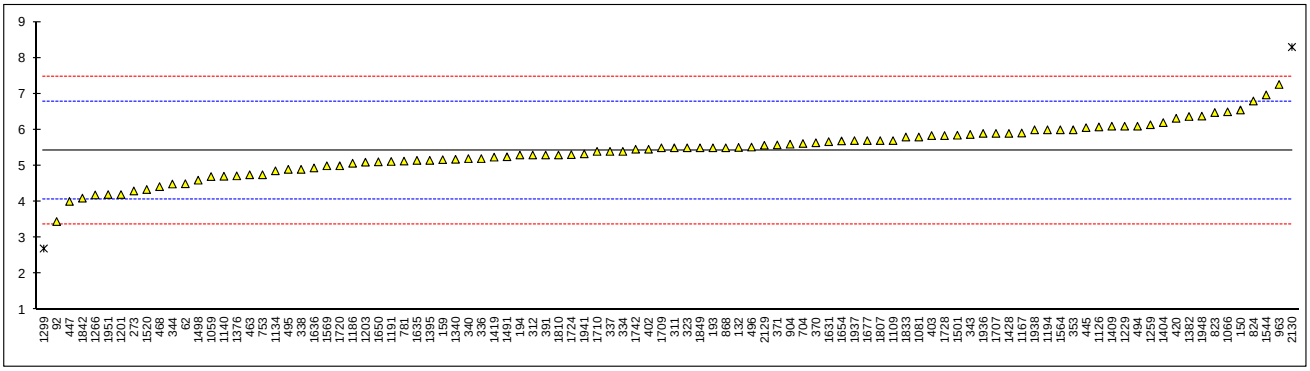
normality	n.a
n	57
outliers	n.a
mean (n)	>360
st.dev. (n)	n.a
R(calc.)	n.a
R(ISO7536:96)	n.a

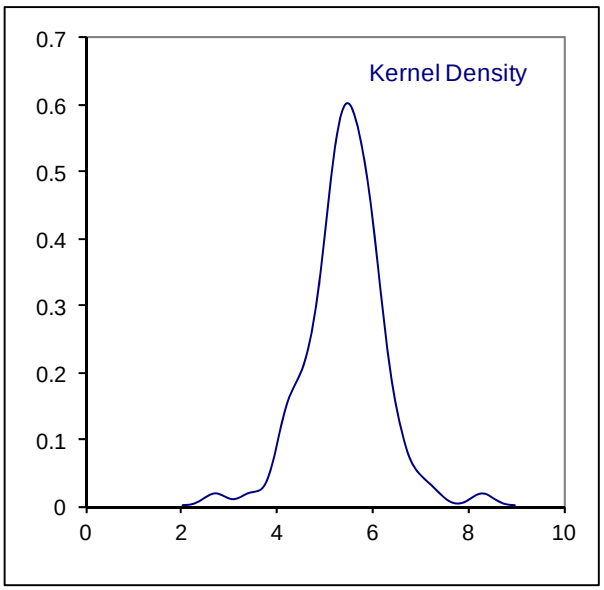
Determination of Sulphur on sample #13186; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D5453	4.5		-1.36	1109	D7039	5.7		0.40
92	D5453	3.45		-2.90	1126	EN20846	6.08		0.95
120		-----		-----	1134	D5453	4.86		-0.84
132	D2622	5.51		0.12	1140	D5453	4.71		-1.06
150	EN20846	6.55		1.64	1167	EN20846	5.91		0.70
159	D2622	5.17		-0.38	1186	D5453	5.07		-0.53
193	D7039	5.5		0.10	1191	EN20846	5.12		-0.45
194	D5453	5.30		-0.19	1194	D4294	6	C	0.84
212		-----		-----	1199		-----		-----
221		-----		-----	1201	EN20846	4.2		-1.80
225		-----		-----	1203	EN20846	5.1		-0.48
228		-----		-----	1229	EN20846	6.1		0.98
258		-----		-----	1257		-----		-----
273	D5453	4.3		-1.66	1259	EN20846	6.14		1.04
311	EN20846	5.5		0.10	1266	EN20846	4.19		-1.82
312	D5453	5.3		-0.19	1299	ISO20884	2.7	G(0.05)	-4.00
323	EN20846	5.5		0.10	1340	EN20846	5.18		-0.37
334	EN20846	5.40		-0.04	1357		-----		-----
335		-----		-----	1376	D5453	4.72		-1.04
336	EN20846	5.2		-0.34	1382	INH-0689	6.37		1.38
337	EN20846	5.4		-0.04	1395	D5453	5.15		-0.41
338	EN20846	4.9		-0.78	1397		-----		-----
340	EN20846	5.20		-0.34	1404	EN20846	6.2		1.13
343	EN20846	5.87		0.65	1409	EN20846	6.1		0.98
344	D5453	4.493		-1.37	1419	D5453	5.24		-0.28
353	IP531	6.00		0.84	1426		-----		-----
369		-----		-----	1428	EN20846	5.9		0.69
370	EN20846	5.64		0.31	1432		-----		-----
371	EN20846	5.58		0.22	1483		-----		-----
372		-----		-----	1491	EN20846	5.25		-0.26
391	EN20846	5.3		-0.19	1498	D5453	4.600		-1.22
399		-----		-----	1501	D5453	5.85		0.62
402	EN20846	5.46		0.04	1510		-----		-----
403	EN20846	5.84		0.60	1520	EN20846	4.34		-1.60
420	ISO20846	6.32		1.30	1538		-----		-----
430		-----		-----	1544	EN20846	6.97		2.26
431		-----		-----	1564	IS20846	6		0.84
440		-----		-----	1569	EN20846	5.00		-0.63
444		-----		-----	1570		-----		-----
445	D5453	6.06		0.92	1616		-----		-----
447	EN20846	4.01		-2.08	1631	EN20846	5.67		0.35
463	D5453	4.75		-1.00	1634		-----		-----
468	EN20846	4.42		-1.48	1635	EN20846	5.15		-0.41
485		-----		-----	1636	EN20846	4.94		-0.72
494	EN20846	6.1		0.98	1650	EN20846	5.11		-0.47
495	EN20846	4.9		-0.78	1654	EN20846	5.69		0.38
496	EN20846	5.52		0.13	1677	D5453	5.7		0.40
541		-----		-----	1707	EN20846	5.9		0.69
671		-----		-----	1709	D5453	5.5		0.10
704	EN20846	5.62		0.28	1710	EN20846	5.4		-0.04
753	D5443	4.75		-1.00	1720	D5453	5.0	C	-0.63
781	EN20846	5.13		-0.44	1724	EN20846	5.31		-0.18
823	D5453	6.48	C	1.54	1728	EN20846	5.84		0.60
824	EN20846	6.8		2.01	1742	EN20846	5.46		0.04
868	D5453	5.5		0.10	1807	EN20846	5.7		0.40
902		-----		-----	1810	EN20846	5.3		-0.19
904	EN20846	5.6		0.25	1811		-----		-----
963	D5453	7.26		2.68	1833	EN20846	5.8		0.54
970		-----		-----	1842	INH-16	4.1		-1.95
974		-----		-----	1849	D5453	5.5		0.10
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936	EN20846	5.9		0.69
1026		-----		-----	1937	EN20846	5.7		0.40
1033		-----		-----	1938	EN20846	6.0		0.84
1038		-----		-----	1941	EN20846	5.33	C	-0.15
1059	EN20846	4.7		-1.07	1948	EN13132	6.38		1.39
1066	EN20846	6.5		1.57	1951	EN20846	4.2		-1.80
1081	ISO20846	5.8		0.54	2129	D5453	5.57		0.21
1082		-----		-----	2130	EN20846	8.3	G(0.05)	4.21
1108		-----		-----	2146		-----		-----

normality	OK
n	96
outliers	2
mean (n)	5.430
st.dev. (n)	0.6803
R(calc.)	1.905
R(EN20846:11)	1.910

Lab823: first reported 8.48
Lab1194: first reported 8.56
Lab1720: first reported 9.0
Lab1941: first reported 3.02



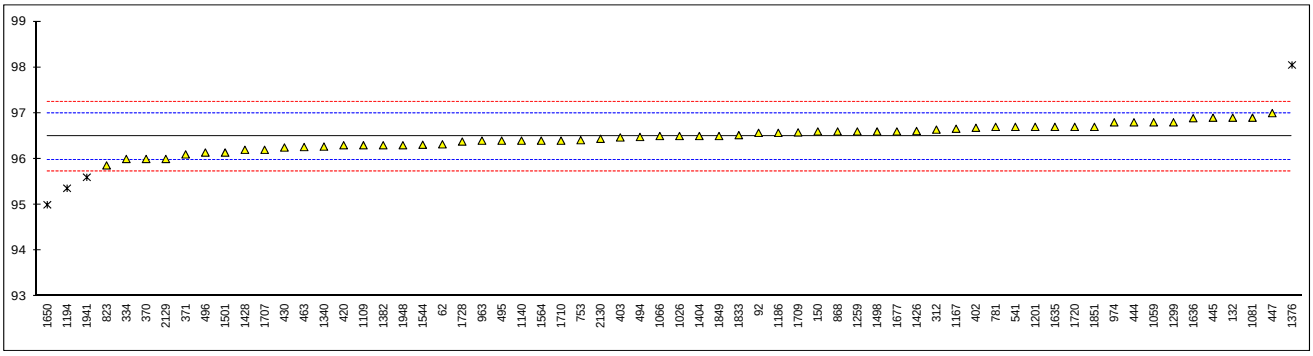


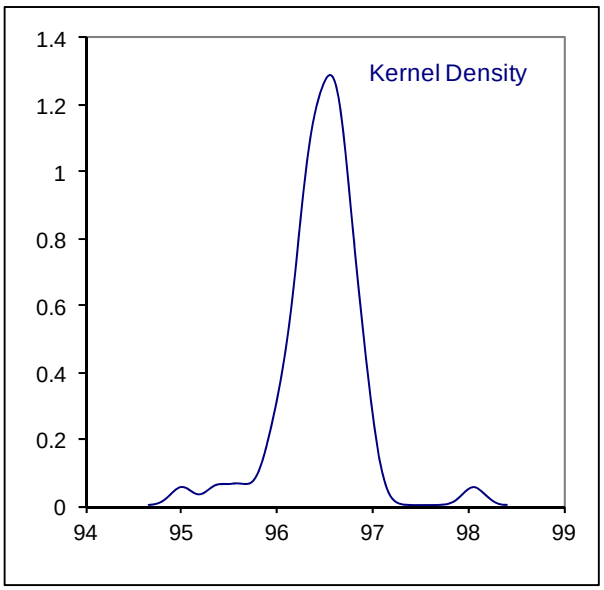
Determination of RON on sample #13186;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D2699	96.32		-0.67	1109	D2699	96.3		-0.75
92	D2699	96.57		0.33	1126		-----		-----
120		-----		-----	1134		-----		-----
132	D2699	96.9		1.65	1140	IP237	96.4		-0.35
150	D2699	96.6		0.45	1167	ISO5164	96.66		0.69
159		-----		-----	1186	D2699	96.57		0.33
193		-----		-----	1191		-----		-----
194		-----		-----	1194	INH-2699	95.36	G(0.01)	-4.51
212		-----		-----	1199		-----		-----
221		-----		-----	1201	ISO5164	96.7		0.85
225		-----		-----	1203		-----		-----
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	ISO5164	96.6		0.45
311		-----		-----	1266		-----		-----
312	ISO5164	96.64		0.61	1299	D2699	96.8		1.25
323		-----		-----	1340	ISO5164	96.27		-0.87
334	ISO5164	96.0		-1.95	1357		-----		-----
335		-----		-----	1376	D2699	98.051	G(0.01)	6.25
336		-----		-----	1382	GB/T5487	96.3		-0.75
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404	ISO5164	96.5		0.05
343		-----		-----	1409		-----		-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426	D2699	96.61		0.49
369		-----		-----	1428	ISO5164	96.2		-1.15
370	ISO5164	96.0	C	-1.95	1432		-----		-----
371	ISO5164	96.1	C	-1.55	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498	D2699	96.6		0.45
399		-----		-----	1501	D2699	96.14		-1.39
402	ISO5164	96.68		0.77	1510		-----		-----
403	ISO5164	96.47		-0.07	1520		-----		-----
420	ISO5164	96.3		-0.75	1538		-----		-----
430	ISO5164	96.25		-0.95	1544	ISO5164	96.31		-0.71
431		-----		-----	1564	D2699	96.4		-0.35
440		-----		-----	1569		-----		-----
444	D2699	96.80		1.25	1570		-----		-----
445	IP237	96.9		1.65	1616		-----		-----
447	ISO5164	97.0		2.05	1631		-----		-----
463	ISO5164	96.26		-0.91	1634		-----		-----
468		-----		-----	1635	ISO5164	96.7		0.85
485		-----		-----	1636	ISO5164	96.89		1.61
494	ISO5164	96.48		-0.03	1650	D2699	95.0	G(0.01)	-5.95
495	ISO5164	96.4		-0.35	1654		-----		-----
496	ISO5164	96.14		-1.39	1677	D2699	96.6		0.45
541	D2699	96.7		0.85	1707	ISO5164	96.2		-1.15
671		-----		-----	1709	D2699	96.58		0.37
704		-----		-----	1710	ISO5164	96.4		-0.35
753	ISO5164	96.41		-0.31	1720	D2699	96.7		0.85
781	ISO5164	96.7		0.85	1724		-----		-----
823	D2699	95.86		-2.51	1728	D2699	96.38		-0.43
824		-----		-----	1742		-----		-----
868	D2699	96.6		0.45	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		-----		-----
963	D2699	96.4		-0.35	1833	ISO5164	96.52		0.13
970		-----		-----	1842		-----		-----
974	D2699	96.8		1.25	1849	D2699	96.5		0.05
1006		-----		-----	1851	D2699	96.7		0.85
1017		-----		-----	1936		-----		-----
1026	ISO5164	96.5		0.05	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	in house	95.6	G(0.05)	-3.55
1059	ISO5164	96.8		1.25	1948	ISO5164	96.3		-0.75
1066	ISO5164	96.5		0.05	1951		-----		-----
1081	D2699	96.9		1.65	2129	ISO5164	96.00		-1.95
1082		-----		-----	2130	ISO5164	96.44		-0.19
1108		-----		-----	2146		-----		-----

normality	OK
n	60
outliers	4
mean (n)	96.488
st.dev. (n)	0.2560
R(calc.)	0.717
R(ISO5164:05)	0.700

Lab 370: first reported 95.4
Lab 371: first reported 95.5

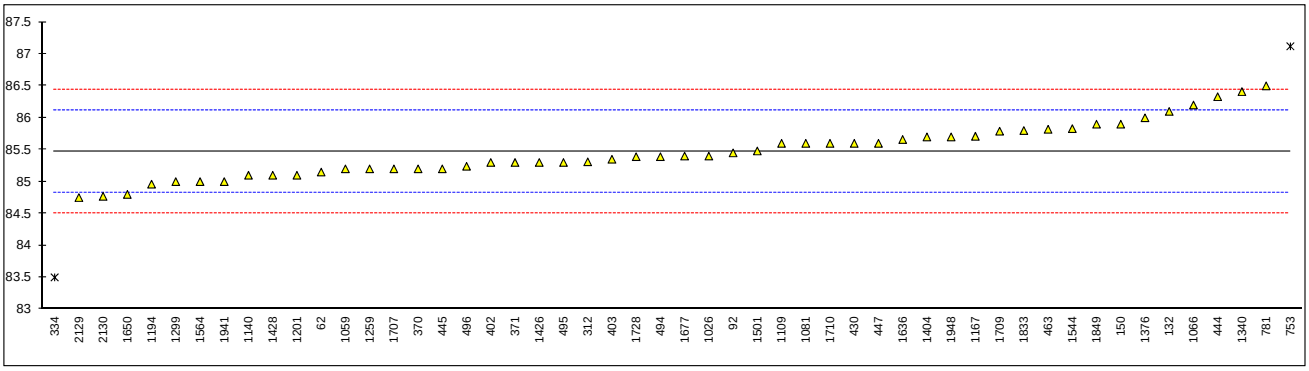


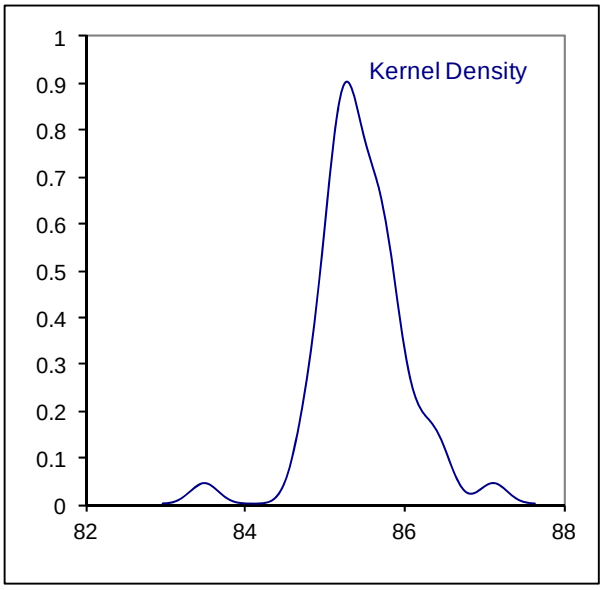


Determination of MON on sample #13186;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
62	D2700	85.15		-1.01	1109	D2700	85.6		0.39
92	D2700	85.45		-0.07	1126		-----		-----
120		-----		-----	1134		-----		-----
132	D2700	86.1		1.95	1140	IP236	85.1		-1.16
150	D2700	85.9		1.33	1167	ISO5163	85.71		0.73
159		-----		-----	1186		-----		-----
193		-----		-----	1191		-----		-----
194		-----		-----	1194	INH-2699	84.96		-1.60
212		-----		-----	1199		-----		-----
221		-----		-----	1201	ISO5163	85.1		-1.16
225		-----		-----	1203		-----		-----
228		-----		-----	1229		-----		-----
258		-----		-----	1257		-----		-----
273		-----		-----	1259	ISO5163	85.2		-0.85
311		-----		-----	1266		-----		-----
312	ISO5163	85.31		-0.51	1299	D2700	85.0		-1.47
323		-----		-----	1340	ISO5163	86.41		2.91
334	ISO5163	83.5	G(0.01)	-6.14	1357		-----		-----
335		-----		-----	1376	D2700	86.00		1.64
336		-----		-----	1382		-----		-----
337		-----		-----	1395		-----		-----
338		-----		-----	1397		-----		-----
340		-----		-----	1404	ISO5163	85.7		0.70
343		-----		-----	1409		-----		-----
344		-----		-----	1419		-----		-----
353		-----		-----	1426	D2700	85.3		-0.54
369		-----		-----	1428	ISO5163	85.1		-1.16
370	ISO5163	85.2		-0.85	1432		-----		-----
371	ISO5163	85.3		-0.54	1483		-----		-----
372		-----		-----	1491		-----		-----
391		-----		-----	1498		-----		-----
399		-----		-----	1501	D2700	85.48		0.02
402	ISO5163	85.30		-0.54	1510		-----		-----
403	ISO5163	85.35		-0.39	1520		-----		-----
420		-----		-----	1538		-----		-----
430	ISO5163	85.6		0.39	1544	ISO5163	85.83		1.11
431		-----		-----	1564	D2700	85.0		-1.47
440		-----		-----	1569		-----		-----
444	D2700	86.33		2.66	1570		-----		-----
445	IP236	85.2		-0.85	1616		-----		-----
447	ISO5163	85.6		0.39	1631		-----		-----
463	ISO5163	85.82		1.08	1634		-----		-----
468		-----		-----	1635		-----		-----
485		-----		-----	1636	ISO5163	85.66		0.58
494	ISO5163	85.39		-0.26	1650	D2700	84.8		-2.10
495	ISO5163	85.3		-0.54	1654		-----		-----
496	ISO5163	85.24		-0.73	1677	D2700	85.4		-0.23
541		-----		-----	1707	ISO5163	85.2		-0.85
671		-----		-----	1709	D2700	85.79		0.98
704		-----		-----	1710	ISO5163	85.6		0.39
753	ISO5163	87.12	G(0.05)	5.12	1720		-----		-----
781	ISO5163	86.5		3.19	1724		-----		-----
823		-----		-----	1728	D2700	85.39		-0.26
824		-----		-----	1742		-----		-----
868		-----		-----	1807		-----		-----
902		-----		-----	1810		-----		-----
904		-----		-----	1811		-----		-----
963		-----		-----	1833	ISO5163	85.8		1.01
970		-----		-----	1842		-----		-----
974		-----		-----	1849	D2700	85.9		1.33
1006		-----		-----	1851		-----		-----
1017		-----		-----	1936		-----		-----
1026	ISO5163	85.4		-0.23	1937		-----		-----
1033		-----		-----	1938		-----		-----
1038		-----		-----	1941	in house	85.0		-1.47
1059	ISO5163	85.2		-0.85	1948	ISO5163	85.7		0.70
1066	ISO5163	86.2		2.26	1951		-----		-----
1081	D2700	85.6		0.39	2129	ISO5163	84.75		-2.25
1082		-----		-----	2130	ISO5163	84.77		-2.19
1108		-----		-----	2146		-----		-----

normality	OK
n	50
outliers	2
mean (n)	85.474
st.dev. (n)	0.4165
R(calc.)	1.166
R(ISO5163:05)	0.900



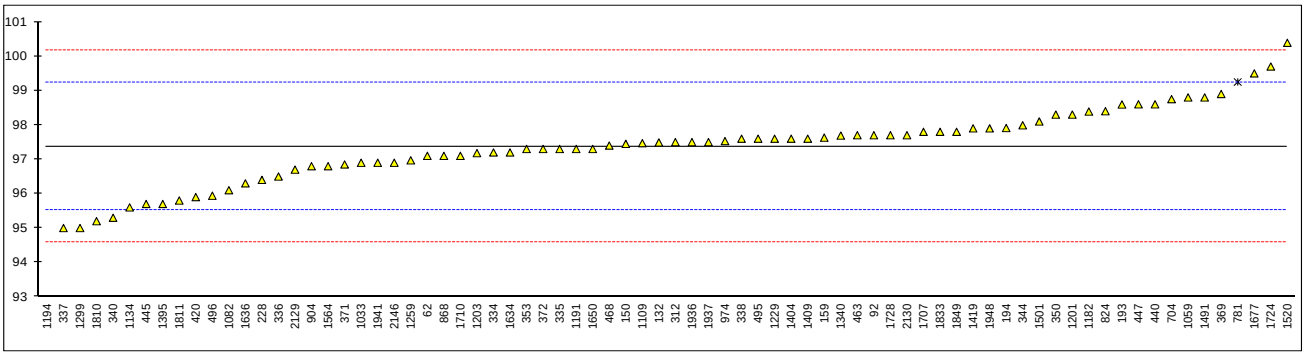


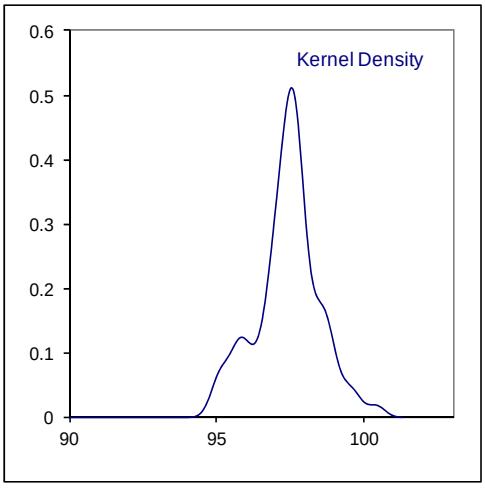
Determination of ASVP on sample #13187; results in kPa

lab	method	value	mark	z(targ)	remarks
62	D5191	97.1		-0.30	
92	D5191	97.7		0.35	
120		-----		-----	
132	D5191	97.49		0.12	
150	EN13016-1	97.45		0.08	
159	D5191	97.63		0.27	
193	D5191	98.595		1.31	
194	D5191	97.91		0.57	
212		-----		-----	
225		-----		-----	
228	D5191	96.4		-1.05	
258		-----		-----	
311		-----		-----	
312	D5191	97.5		0.13	
323		-----		-----	
334	EN13016-1	97.20		-0.19	
335	EN13016-1	97.3		-0.08	
336	EN13016-1	96.5		-0.94	
337	EN13016-1	95.0		-2.55	
338	EN13016-1	97.6		0.24	
340	EN13016-1	95.3		-2.23	
343		-----		-----	
344	EN13016-1	97.99		0.66	
350	EN13016-1	98.3		0.99	
353	D5191	97.3		-0.08	
369	EN13016-1	98.9		1.64	
370		-----		-----	
371	EN13016-1	96.85		-0.56	
372	EN13016-1	97.3		-0.08	
391		-----		-----	
399		-----		-----	
420	EN13016-1	95.9		-1.58	
431		-----		-----	
433		-----		-----	
440	D5191	98.6		1.31	
445	IP394	95.7		-1.80	
447	D5191	98.6		1.31	
463	EN13016-1	97.7		0.35	
468	EN13016-1	97.4		0.03	
485		-----		-----	
495	EN13016-1	97.60		0.24	
496	EN13016-1	95.94		-1.54	
704	EN13016-1	98.75		1.47	
781	D323	99.25	C, ex	2.01	First reported 87.8, result excluded as test method deviate
824	EN13016-1	98.4		1.10	
868	D5191	97.1		-0.30	
904	EN13016-1	96.8		-0.62	
970		-----		-----	
974	D5191	97.53		0.17	
1006		-----		-----	
1017		-----		-----	
1026		-----		-----	
1033	IP394	96.9		-0.51	
1038		-----		-----	
1059	EN13016-1	98.8		1.53	
1081		-----		-----	
1082	EN13016-1	96.1		-1.37	
1108		-----		-----	
1109	D5191	97.47		0.10	
1134	D5191	95.6		-1.91	
1167		-----		-----	
1182	D5191	98.39		1.09	
1191	EN13016-1	97.3		-0.08	
1194	D5191	86.66	G(0.01)	-11.50	
1201	D5191	98.3		0.99	
1203	EN13016-1	97.18	C	-0.21	First reported 90.00
1229	EN13016-1	97.6		0.24	
1257		-----		-----	
1259	EN13016	96.97		-0.44	
1299	EN13016-1	95.0		-2.55	
1340	EN13016-1	97.69		0.34	
1357		-----		-----	
1395	D5191	95.7		-1.80	
1404	EN13016-1	97.6		0.24	
1409	EN13016-1	97.6		0.24	
1419	EN13016-1	97.9		0.56	

1428		-----	-----
1491	EN13016-1	98.8	1.53
1501	D6378	98.1	0.78
1510		-----	-----
1520	EN13016-1	100.39	3.23
1564	EN13016-1	96.8	-0.62
1570		-----	-----
1616		-----	-----
1631		-----	-----
1634	EN13016-1	97.2	-0.19
1636	EN13016-1	96.3	-1.15
1650	D5191	97.3	-0.08
1654		-----	-----
1677	D5191	99.5	2.28
1707	EN13016-1	97.8	0.45
1710	EN13016-1	97.1	-0.30
1724	EN13016-1	99.7	2.49
1728	EN13016-1	97.7	0.35
1807		-----	-----
1810	EN13016-1	95.2	-2.33
1811	EN13016-1	95.8	-1.69
1833	EN13016-1	97.8	0.45
1849	D5191	97.8	0.45
1851		-----	-----
1936	EN13016-1	97.5	0.13
1937	EN13016-1	97.5	0.13
1938		-----	-----
1941	EN13016-1	96.9	-0.51
1948	EN13016-1	97.9	0.56
1951		-----	-----
2129	D5191	96.7	-0.73
2130	EN13016-1	97.7	0.35
2146	EN13016-1	96.9	-0.51

normality	OK	
n	74	
outliers	1	+ 1 excl
mean (n)	97.376	
st.dev. (n)	1.0577	
R(calc.)	2.962	
R(EN13016:07)	2.610	



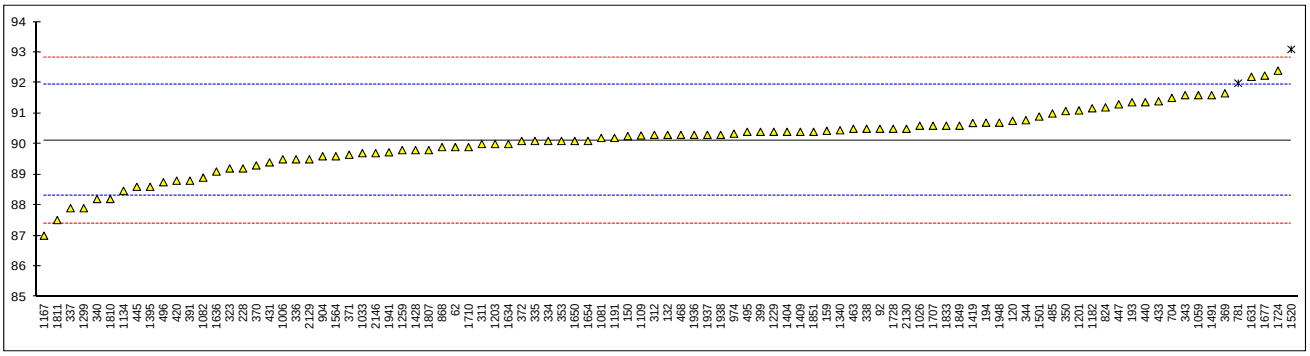


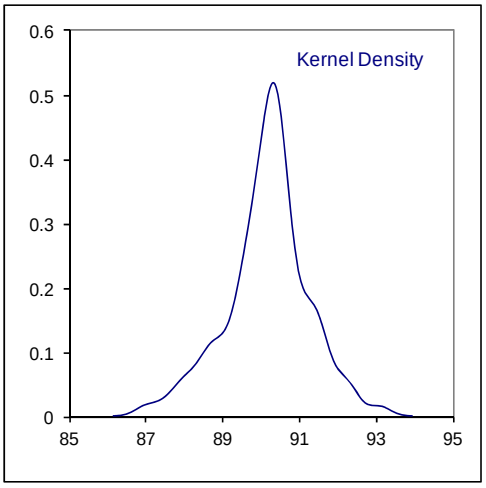
Determination of DVPE (acc. to EN13016-1) on sample #13187; results in kPa

lab	method	value	mark	z(targ)	remarks
62	D5191	89.9		-0.28	
92	D5191	90.5		0.38	
120	D5191	90.76		0.67	
132	D5191	90.30		0.16	
150	D5191	90.26		0.12	
159	D5191	90.43		0.31	
193	D5191	91.366		1.34	
194	D5191	90.70		0.60	
212		-----		-----	
225		-----		-----	
228	D5191	89.2		-1.05	
258		-----		-----	
311	EN13016	90.0		-0.17	
312	D5191	90.3		0.16	
323	EN13016	89.2		-1.05	
334	EN13016-1	90.10		-0.06	
335	EN13016-1	90.1		-0.06	
336	EN13016-1	89.5		-0.72	
337	EN13016-1	87.9		-2.49	
338	EN13016-1	90.5		0.38	
340	EN13016-1	88.2		-2.16	
343	EN13016	91.6		1.60	
344	EN13016-1	90.78		0.69	
350	EN13016-1	91.08		1.02	
353	D5191	90.1		-0.06	
369	EN13016-1	91.66		1.66	
370	D5191	89.3		-0.94	
371	EN13016-1	89.65		-0.56	
372	EN13016-1	90.1		-0.06	
391	EN13016	88.8		-1.49	
399	EN13016	90.4		0.27	
420	EN13016-1	88.8		-1.49	
431	EN13016	89.4		-0.83	
433	EN13016	91.4		1.38	
440	D5191	91.37		1.34	
445	IP394	88.6		-1.71	
447	D5191	91.3		1.27	
463	EN13016-1	90.50		0.38	
468	EN13016-1	90.3		0.16	
485	EN13016	91.0		0.93	
495	EN13016-1	90.40		0.27	
496	EN13016-1	88.75		-1.55	
704	EN13016-1	91.51		1.50	
781	D323	91.99	C,ex	2.03	First reported 80.95, result excluded as test method deviate
824	EN13016-1	91.2		1.16	
868	D5191	89.9		-0.28	
904	EN13016-1	89.6		-0.61	
970		-----		-----	
974	D5191	90.34		0.21	
1006	D5191	89.5		-0.72	
1017		-----		-----	
1026	D5191	90.6		0.49	
1033	IP394	89.7		-0.50	
1038		-----		-----	
1059	EN13016-1	91.6		1.60	
1081	D5191	90.2		0.05	
1082	EN13016-1	88.9		-1.38	
1108		-----		-----	
1109	D5191	90.28		0.14	
1134	D5191	88.47		-1.86	
1167	EN13016-1	87.0		-3.48	
1182	D5191	91.17		1.12	
1191	EN13016-1	90.2		0.05	
1194		-----		-----	
1201	D5191	91.1		1.05	
1203	EN13016-1	90.00	C	-0.17	First reported 83.07
1229	EN13016-1	90.4		0.27	
1257		-----		-----	
1259	EN13016	89.8		-0.39	
1299	D5191	87.9		-2.49	
1340	EN13016-1	90.45		0.33	
1357		-----		-----	
1395	D5191	88.6		-1.71	
1404	EN13016-1	90.4		0.27	
1409	EN13016-1	90.4		0.27	
1419	EN13016-1	90.69		0.59	

1428	EN13016	89.8		-0.39	
1491	EN13016-1	91.6		1.60	
1501	D6378	90.9		0.82	
1510		-----		-----	
1520	EN13016-1	93.10	G(0.01)	3.25	
1564	EN13016-1	89.6		-0.61	
1570		-----		-----	
1616		-----		-----	
1631	EN13016	92.2		2.26	
1634	EN13016-1	90.0		-0.17	
1636	EN13016-1	89.1		-1.16	
1650	EN13016	90.1		-0.06	
1654	EN13016	90.1		-0.06	
1677	D5191	92.24		2.30	
1707	EN13016-1	90.6		0.49	
1710	EN13016-1	89.9		-0.28	
1724	EN13016-1	92.4		2.48	
1728	EN13016-1	90.5		0.38	
1807	EN13016	89.8		-0.39	
1810	EN13016-1	88.2		-2.16	
1811	EN13016-1	87.51	ex	-2.92	Result excluded, calculation error?
1833	EN13016-1	90.6		0.49	
1849	D5191	90.6		0.49	
1851	D6378	90.4		0.27	
1936	EN13016-1	90.3		0.16	
1937	EN13016-1	90.3		0.16	
1938	EN13016	90.3		0.16	
1941	EN13016-1	89.73		-0.47	
1948	EN13016-1	90.7		0.60	
1951		-----		-----	
2129	D5191	89.5		-0.72	
2130	EN13016-1	90.5		0.38	
2146	EN13016-1	89.7		-0.50	

normality	not OK	
n	93	
outliers	1	+2 excl
mean (n)	90.125	
st.dev. (n)	1.0207	
R(calc.)	2.858	
R(EN13016-1:07)	2.536	





APPENDIX 2

z-scores distillation ASTM D86 (automated mode)

lab	IBP	10%eva	50%eva	90%eva	FBP	%vol70	%vol100	%vol150
62	-0.56	-0.18	0.85	0.01	0.18	0.12	-0.23	0.72
92	0.44	-0.53	0.10	0.01	1.30	0.43	-0.10	0.29
120	0.26	-1.06	-2.58	-0.77	-2.09	1.16	1.17	1.79
132	-0.56	-0.45	0.25	-0.06	0.06	0.64	-0.10	0.50
150	-1.16	-1.76	-2.58	-0.77	-0.31	1.57	0.92	1.15
159	0.21	1.13	1.74	0.51	0.10	-----	-----	-----
193	-0.45	-0.80	-1.24	-0.13	-0.15	0.64	0.54	0.50
194	0.44	-0.18	0.25	-0.77	-0.60	-0.09	0.15	0.07
212	1.80	1.65	5.91	2.72	0.27	-----	-----	-----
221	-----	-----	-----	-----	-----	-----	-----	-----
225	-----	-----	-----	-----	-----	-----	-----	-----
228	-----	-----	-----	-----	-----	-----	-----	-----
258	-----	-----	-----	-----	-----	-----	-----	-----
273	0.15	-0.45	1.59	-0.06	-0.68	-----	-----	-----
311	-0.09	-0.80	-0.64	0.01	-0.72	0.84	0.54	0.93
312	-0.09	-0.36	0.25	-0.13	0.60	0.74	-0.35	0.07
323	1.15	-0.97	-2.58	-0.06	0.64	1.05	0.79	0.07
334	-0.56	0.17	1.15	-1.13	-1.05	-0.09	-0.61	3.30
335	-0.74	-0.88	-0.05	-0.28	1.01	0.64	0.41	0.29
336	-1.39	-0.62	-0.94	-0.42	-1.14	0.95	0.54	2.01
337	-0.56	-0.71	0.70	-0.06	0.35	0.64	-0.61	2.44
338	-0.98	0.43	-0.64	-0.13	1.34	-0.61	-1.88	-2.30
340	-1.04	-0.62	-0.94	-0.20	0.39	0.64	0.15	0.07
343	-1.69	-1.93	3.08	-0.99	-1.18	-1.13	-0.35	1.36
344	0.98	1.57	7.10	3.64	0.14	-2.99	-3.15	-6.39
353	0.44	0.52	1.44	-1.13	0.56	-0.09	-0.35	0.07
369	-1.04	-0.18	-0.79	1.01	0.39	-0.71	0.15	-1.87
370	-0.45	-0.45	-2.28	-0.42	-0.64	0.95	1.05	0.72
371	-0.92	-0.53	-2.58	-0.77	-0.85	0.33	0.03	1.36
372	-0.74	0.60	2.49	0.44	1.13	-0.92	-0.61	-1.22
391	-----	-----	-----	-----	-----	-----	-----	-----
399	-0.39	1.13	1.89	-0.20	-0.97	-0.56	0.84	1.11
402	1.80	-0.27	-2.13	-0.20	0.51	2.19	0.66	0.93
403	-----	-----	-----	-----	-----	-----	-----	-----
420	-0.27	0.95	4.72	2.64	-0.02	-0.81	-1.12	-2.94
430	-----	-----	-----	-----	-----	-----	-----	-----
431	0.62	-0.01	1.59	0.22	-1.38	-0.19	0.28	0.07
440	-1.51	0.25	1.89	0.01	-0.02	0.22	-0.86	1.15
444	2.28	2.35	-2.43	0.51	-2.25	-2.27	-2.90	-1.22
445	0.62	-----	-----	-----	1.01	-0.30	-0.48	-1.22
447	-0.03	-1.23	-1.98	-0.20	0.51	-2.06	1.05	0.07
463	0.03	0.17	1.74	-0.06	-1.05	-0.19	-0.74	-0.36
468	0.56	1.04	1.15	-0.49	-0.44	-2.16	-0.23	0.50
485	0.65	-0.18	-0.72	-0.28	1.03	0.33	0.35	0.50
494	-0.03	0.34	-0.64	-0.28	-0.35	0.02	0.41	0.50
495	0.26	-0.62	-1.83	-0.35	0.56	0.84	0.92	0.29
496	-0.56	-0.36	0.70	0.22	0.60	0.02	-0.35	-0.57
541	-----	-----	-----	-----	-----	-----	-----	-----
671	1.09	0.69	0.55	-0.42	0.60	-0.92	-0.23	0.50
704	-----	-----	-----	-----	-----	-----	-----	-----
753	1.03	2.35	1.00	-0.42	-2.00	-4.86	2.32	-0.79
781	-----	-----	-----	-----	-----	-----	-----	-----
823	0.92	0.17	-0.20	0.51	1.80	0.43	-0.23	-0.57
824	0.15	-0.18	0.70	-0.35	0.56	0.12	-0.35	0.72
868	1.09	-0.01	-0.20	0.44	-1.01	0.22	-0.10	-1.01
902	-----	-----	-----	-----	-----	-----	-----	-----
904	-0.92	-0.01	-1.39	-0.35	0.97	0.53	0.41	0.50
963	-----	-----	-----	-----	-----	-----	-----	-----
970	-----	-----	-----	-----	-----	-----	-----	-----
974	-----	-----	-----	-----	-----	-----	-----	-----
1006	0.62	0.17	0.85	0.29	0.64	-----	-----	-----
1017	-----	-----	-----	-----	-----	-----	-----	-----
1026	-1.22	-0.88	-1.83	-0.56	0.39	0.95	1.05	1.36
1033	-0.03	-0.62	-1.39	-0.20	0.56	-1.02	-1.63	-----
1038	-----	-----	-----	-----	-----	-----	-----	-----
1059	0.44	-0.36	-0.20	0.58	0.35	0.33	-0.23	-1.44
1066	-0.51	-0.80	-1.68	-0.35	-0.81	0.64	0.79	0.29
1081	-0.74	-0.27	1.00	-0.06	-0.93	0.02	-0.48	0.07
1082	-0.68	-0.27	-1.09	0.22	0.97	0.64	0.28	-0.57
1108	-----	-----	-----	-----	-----	-----	-----	-----
1109	0.03	0.43	2.34	0.08	-0.48	-0.61	-0.86	-0.14
1126	0.21	-0.62	-0.49	0.51	-2.58	0.53	-0.48	-1.01
1134	0.15	1.39	7.10	4.07	1.22	0.95	0.66	-0.79

1140	-0.39	0.17	-0.20	0.79	1.26	-0.40	-0.10	-1.65
1167	0.44	-0.27	-3.92	-0.35	-1.59	0.74	1.55	1.36
1186	-----	-----	-----	-----	-----	-----	-----	-----
1191	-0.09	-0.27	-1.09	-0.28	0.93	0.64	0.41	0.29
1194	1.13	-1.38	-7.40	-2.60	2.32	1.88	2.45	-1.22
1199	-----	-----	-----	-----	-----	-----	-----	-----
1201	0.44	-1.06	-4.37	-0.92	-1.01	2.40	1.55	1.36
1203	1.09	1.48	1.74	0.58	-0.48	-2.06	-0.48	-1.65
1229	-0.74	-0.53	-1.24	-0.13	0.85	0.33	0.54	0.29
1257	-----	-----	-----	-----	-----	-----	-----	-----
1259	0.68	1.30	2.04	0.29	-1.22	-1.33	-0.61	-0.57
1266	0.44	-0.36	0.40	-0.28	-3.37	0.53	-0.35	0.50
1299	0.44	11.98	12.32	0.37	0.60	0.02	-0.35	-1.87
1340	0.50	0.60	1.00	0.01	0.43	-1.64	-0.61	-1.01
1357	-----	-----	-----	-----	-----	-----	-----	-----
1376	0.62	-0.18	-2.73	-0.49	-2.38	0.84	0.79	0.07
1382	-----	-----	-----	-----	-----	-----	-----	-----
1395	-1.63	-0.10	-0.20	0.15	-2.00	0.22	-0.10	-0.36
1397	-----	-----	-----	-----	-----	-----	-----	-----
1404	-1.45	-0.45	-1.39	0.37	1.22	0.53	0.28	2.01
1409	-0.56	0.43	5.17	1.43	0.27	0.02	-0.61	0.93
1419	0.68	0.52	-1.24	-0.42	0.06	0.43	0.92	0.72
1426	1.75	0.52	0.25	-0.06	-0.81	-0.71	-0.10	-0.14
1428	-0.45	-0.45	-0.05	-0.35	1.34	0.02	0.03	0.29
1432	-----	-----	-----	-----	-----	-----	-----	-----
1483	-----	-----	-----	-----	-----	-----	-----	-----
1491	-0.86	-0.18	0.55	-0.13	-0.35	-0.30	0.03	0.07
1498	0.86	-0.45	-1.54	0.01	1.42	0.12	1.05	0.50
1501	-----	-----	-----	-----	-----	-----	-----	-----
1510	-----	-----	-----	-----	-----	-----	-----	-----
1520	-----	-----	-----	-----	-----	-----	-----	-----
1538	-----	-----	-----	-----	-----	-----	-----	-----
1544	0.09	0.34	0.85	0.22	1.42	-0.30	-0.23	-1.22
1564	0.26	1.04	7.55	3.00	0.60	-0.81	-0.99	-1.87
1569	-0.62	-0.36	-0.79	0.01	-0.52	0.33	0.41	-0.14
1570	-----	-----	-----	-----	-----	-----	-----	-----
1616	-----	-----	-----	-----	-----	-----	-----	-----
1631	-0.62	0.25	0.10	-0.13	-0.52	0.74	-0.10	0.29
1634	-1.51	-0.88	-1.83	-0.06	-0.27	0.22	1.17	-0.57
1635	-1.63	-0.53	-0.05	-0.35	0.06	0.53	0.15	0.29
1636	-1.39	1.04	2.63	0.44	0.10	-0.61	-1.25	-1.01
1650	0.56	0.08	1.00	-0.28	-0.64	0.33	-0.35	0.29
1654	-----	-----	-----	-----	0.47	0.43	-0.10	-0.36
1677	0.21	0.08	-1.98	-0.63	-2.00	-0.30	1.05	0.93
1707	1.39	0.34	1.44	0.22	0.43	-0.50	-0.48	-0.36
1709	-----	-----	-----	-----	-----	-----	-----	-----
1710	0.68	0.87	2.34	0.22	1.42	-0.92	-1.12	-0.79
1720	0.03	0.60	-0.34	0.01	0.23	-----	-----	-----
1724	-1.39	0.25	0.25	-0.20	-0.64	-0.40	-0.23	0.29
1728	-----	-----	-----	-----	-----	-----	-----	-----
1742	-0.31	-1.89	-5.70	-0.76	-0.56	-----	-----	-----
1807	-0.56	-0.53	-0.64	0.15	0.51	0.53	0.15	-0.36
1810	-0.80	0.25	-0.49	0.08	0.85	-1.85	-1.75	-0.57
1811	-0.15	-0.45	-1.09	0.01	0.56	0.74	0.28	-0.36
1833	-0.27	0.17	0.70	0.22	1.09	-0.19	-0.23	-0.36
1842	-----	-----	-----	-----	-----	-----	-----	-----
1849	1.57	1.57	1.89	0.15	0.31	-0.61	-1.50	-2.51
1851	-----	-----	-----	-----	-----	-----	-----	-----
1936	-0.51	-0.18	-1.68	-0.63	-0.52	0.22	0.66	1.36
1937	1.09	-0.18	-1.54	-0.20	0.10	0.33	0.79	1.36
1938	-0.33	0.25	-1.68	-0.42	-0.23	-0.30	0.66	0.72
1941	1.03	0.60	0.85	0.44	0.51	-1.23	0.28	-1.44
1948	-1.33	1.39	4.42	2.29	0.80	-1.85	-2.01	-2.94
1951	0.62	-0.88	-1.24	-0.28	-0.10	1.26	0.54	1.58
2129	-0.51	-0.18	1.15	-0.06	-0.27	-0.09	-0.23	1.79
2130	0.86	0.34	2.78	0.79	3.08	-0.81	-1.25	-1.87
2146	2.16	-0.18	1.59	0.29	-1.05	0.22	-0.61	-0.36

z-scores distillation ASTM D86 (manual mode)

lab	IBP	10%eva	50%eva	90%eva	FBP	%vol70	%vol100	%vol150
62	-----	-----	-----	-----	-----	-----	-----	-----
92	-----	-----	-----	-----	-----	-----	-----	-----
120	-----	-----	-----	-----	-----	-----	-----	-----
132	-----	-----	-----	-----	-----	-----	-----	-----
150	-----	-----	-----	-----	-----	-----	-----	-----
159	-----	-----	-----	-----	-----	-----	-----	-----
193	-----	-----	-----	-----	-----	-----	-----	-----
194	-----	-----	-----	-----	-----	-----	-----	-----
212	-----	-----	-----	-----	-----	-----	-----	-----
221	0.95	1.74	1.66	0.11	-1.43	-1.83	-0.85	0.54
225	-----	-----	-----	-----	-----	-----	-----	-----
228	-0.05	-0.33	0.35	0.11	2.46	-0.20	0.05	-0.44
258	-----	-----	-----	-----	-----	-----	-----	-----
273	-----	-----	-----	-----	-----	-----	-----	-----
311	-----	-----	-----	-----	-----	-----	-----	-----
312	-----	-----	-----	-----	-----	-----	-----	-----
323	-----	-----	-----	-----	-----	-----	-----	-----
334	-----	-----	-----	-----	-----	-----	-----	-----
335	-----	-----	-----	-----	-----	-----	-----	-----
336	-----	-----	-----	-----	-----	-----	-----	-----
337	-----	-----	-----	-----	-----	-----	-----	-----
338	-----	-----	-----	-----	-----	-----	-----	-----
340	-----	-----	-----	-----	-----	-----	-----	-----
343	-----	-----	-----	-----	-----	-----	-----	-----
344	-----	-----	-----	-----	-----	-----	-----	-----
353	-----	-----	-----	-----	-----	-----	-----	-----
369	-----	-----	-----	-----	-----	-----	-----	-----
370	-----	-----	-----	-----	-----	-----	-----	-----
371	-----	-----	-----	-----	-----	-----	-----	-----
372	-----	-----	-----	-----	-----	-----	-----	-----
391	-----	-----	-----	-----	-----	-----	-----	-----
399	-----	-----	-----	-----	-----	-----	-----	-----
402	-----	-----	-----	-----	-----	-----	-----	-----
403	0.60	-0.81	-3.25	0.32	-0.11	2.49	1.23	0.84
420	-----	-----	-----	-----	-----	-----	-----	-----
430	-----	-----	-----	-----	-----	-----	-----	-----
431	-----	-----	-----	-----	-----	-----	-----	-----
440	-----	-----	-----	-----	-----	-----	-----	-----
444	-----	-----	-----	-----	-----	-----	-----	-----
445	-----	-----	-----	-----	-----	-----	-----	-----
447	-----	-----	-----	-----	-----	-----	-----	-----
463	-----	-----	-----	-----	-----	-----	-----	-----
468	-----	-----	-----	-----	-----	-----	-----	-----
485	-----	-----	-----	-----	-----	-----	-----	-----
494	-----	-----	-----	-----	-----	-----	-----	-----
495	-----	-----	-----	-----	-----	-----	-----	-----
496	-----	-----	-----	-----	-----	-----	-----	-----
541	-0.05	1.40	1.66	1.55	-1.43	-0.20	-1.75	-1.42
671	-----	-----	-----	-----	-----	-----	-----	-----
704	-0.40	-1.02	-1.61	0.11	0.32	1.43	0.96	0.05
753	-----	-----	-----	-----	-----	-----	-----	-----
781	0.45	-0.12	0.02	-0.26	-0.07	0.86	0.14	-0.24
823	-----	-----	-----	-----	-----	-----	-----	-----
824	-----	-----	-----	-----	-----	-----	-----	-----
868	-----	-----	-----	-----	-----	-----	-----	-----
902	0.75	-0.81	1.53	-0.47	1.56	-0.61	0.51	-0.15
904	-----	-----	-----	-----	-----	-----	-----	-----
963	-1.05	-0.33	0.61	0.03	0.12	0.86	-0.58	-0.15
970	-----	-----	-----	-----	-----	-----	-----	-----
974	-0.05	1.74	6.24	7.34	-1.04	-3.38	-3.83	-4.95
1006	-----	-----	-----	-----	-----	-----	-----	-----
1017	-----	-----	-----	-----	-----	-----	-----	-----
1026	-----	-----	-----	-----	-----	-----	-----	-----
1033	-----	-----	-----	-----	-----	-----	-----	-----
1038	-----	-----	-----	-----	-----	-----	-----	-----
1059	-----	-----	-----	-----	-----	-----	-----	-----
1066	-----	-----	-----	-----	-----	-----	-----	-----
1081	-----	-----	-----	-----	-----	-----	-----	-----
1082	-----	-----	-----	-----	-----	-----	-----	-----
1108	-----	-----	-----	-----	-----	-----	-----	-----
1109	-----	-----	-----	-----	-----	-----	-----	-----
1126	-----	-----	-----	-----	-----	-----	-----	-----
1134	-----	-----	-----	-----	-----	-----	-----	-----
1140	-----	-----	-----	-----	-----	-----	-----	-----
1167	-----	-----	-----	-----	-----	-----	-----	-----
1186	1.00	1.81	3.03	0.90	-1.01	-2.64	-1.75	-0.44

1191	-----	-----	-----	-----	-----	-----	-----	-----
1194	-----	-----	-----	-----	-----	-----	-----	-----
1199	-----	-----	-----	-----	-----	-----	-----	-----
1201	-----	-----	-----	-----	-----	-----	-----	-----
1203	-----	-----	-----	-----	-----	-----	-----	-----
1229	-----	-----	-----	-----	-----	-----	-----	-----
1257	-----	-----	-----	-----	-----	-----	-----	-----
1259	0.45	0.36	-0.96	-2.06	-0.27	0.62	0.96	1.52
1266	-----	-----	-----	-----	-----	-----	-----	-----
1299	-----	-----	-----	-----	-----	-----	-----	-----
1340	-----	-----	-----	-----	-----	-----	-----	-----
1357	-----	-----	-----	-----	-----	-----	-----	-----
1376	-----	-----	-----	-----	-----	-----	-----	-----
1382	0.45	-1.02	-2.27	-0.62	-0.66	-----	-----	-----
1395	-----	-----	-----	-----	-----	-----	-----	-----
1397	-----	-----	-----	-----	-----	-----	-----	-----
1404	-----	-----	-----	-----	-----	-----	-----	-----
1409	-----	-----	-----	-----	-----	-----	-----	-----
1419	-----	-----	-----	-----	-----	-----	-----	-----
1426	-----	-----	-----	-----	-----	-----	-----	-----
1428	-----	-----	-----	-----	-----	-----	-----	-----
1432	-----	-----	-----	-----	-----	-----	-----	-----
1483	-----	-----	-----	-----	-----	-----	-----	-----
1491	-----	-----	-----	-----	-----	-----	-----	-----
1498	-----	-----	-----	-----	-----	-----	-----	-----
1501	-1.23	-1.62	-0.91	-0.97	0.11	-0.04	0.60	0.74
1510	-----	-----	-----	-----	-----	-----	-----	-----
1520	-0.45	-0.95	-1.74	0.18	0.39	-0.12	1.14	-0.64
1538	-----	-----	-----	-----	-----	-----	-----	-----
1544	-0.80	-0.50	-0.47	-0.80	0.80	1.43	0.05	0.05
1564	-----	-----	-----	-----	-----	-----	-----	-----
1569	-----	-----	-----	-----	-----	-----	-----	-----
1570	-----	-----	-----	-----	-----	-----	-----	-----
1616	-----	-----	-----	-----	-----	-----	-----	-----
1631	-----	-----	-----	-----	-----	-----	-----	-----
1634	-----	-----	-----	-----	-----	-----	-----	-----
1635	-----	-----	-----	-----	-----	-----	-----	-----
1636	-----	-----	-----	-----	-----	-----	-----	-----
1650	-----	-----	-----	-----	-----	-----	-----	-----
1654	-----	-----	-----	-----	-----	-----	-----	-----
1677	-----	-----	-----	-----	-----	-----	-----	-----
1707	-----	-----	-----	-----	-----	-----	-----	-----
1709	-----	-----	-----	-----	-----	-----	-----	-----
1710	-----	-----	-----	-----	-----	-----	-----	-----
1720	-----	-----	-----	-----	-----	-----	-----	-----
1724	-----	-----	-----	-----	-----	-----	-----	-----
1728	-0.05	0.48	2.34	0.32	-0.06	0.45	-0.85	-0.02
1742	-----	-----	-----	-----	-----	-----	-----	-----
1807	-----	-----	-----	-----	-----	-----	-----	-----
1810	-----	-----	-----	-----	-----	-----	-----	-----
1811	-----	-----	-----	-----	-----	-----	-----	-----
1833	-----	-----	-----	-----	-----	-----	-----	-----
1842	-0.50	19.00	33.06	1.55	0.32	0.86	0.14	-0.24
1849	-----	-----	-----	-----	-----	-----	-----	-----
1851	-----	-----	-----	-----	-----	-----	-----	-----
1936	-----	-----	-----	-----	-----	-----	-----	-----
1937	-----	-----	-----	-----	-----	-----	-----	-----
1938	-----	-----	-----	-----	-----	-----	-----	-----
1941	-----	-----	-----	-----	-----	-----	-----	-----
1948	-----	-----	-----	-----	-----	-----	-----	-----
1951	-----	-----	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----
2130	-----	-----	-----	-----	-----	-----	-----	-----
2146	-----	-----	-----	-----	-----	-----	-----	-----

APPENDIX 3

Number of participants per country

1 lab in ARGENTINA
2 labs in AUSTRALIA
3 labs in AUSTRIA
1 lab in BELARUS
3 labs in BELGIUM
1 lab in BOSNIA and HERZEGOVINA
1 lab in BULGARIA
2 labs in CANADA
1 lab in CHILE
2 labs in CHINA, People's Republic
1 lab in COSTA RICA
1 lab in COTE D'IVOIRE
3 labs in CROATIA
1 lab in CYPRUS
3 labs in CZECH REPUBLIC
3 labs in ESTONIA
5 labs in FINLAND
7 labs in FRANCE
3 labs in GERMANY
2 labs in GREECE
1 lab in GUAM
1 lab in HONG KONG
2 labs in HUNGARY
1 lab in IRELAND
1 lab in ISRAEL
2 labs in ITALY
2 labs in LATVIA
2 labs in LITHUANIA
2 labs in MACEDONIA
1 lab in MAURITIUS
1 lab in MOROCCO
1 lab in MOZAMBIQUE
7 labs in NETHERLANDS
2 labs in OMAN
2 labs in POLAND
2 labs in PORTUGAL
1 lab in QATAR
3 labs in ROMANIA
3 labs in RUSSIAN FEDERATION
1 lab in SAUDI ARABIA
1 lab in SENEGAL
1 lab in SERBIA
1 lab in SLOVAKIA
1 lab in SLOVENIA
1 lab in SOUTH AFRICA
2 labs in SOUTH KOREA
9 labs in SPAIN
1 lab in SUDAN
2 labs in SWEDEN
3 labs in TAIWAN
1 lab in TOGO
14 labs in TURKEY
1 lab in UKRAINE
2 labs in UNITED ARAB EMIRATES
12 labs in UNITED KINGDOM
6 labs in UNITED STATES OF AMERICA
1 lab in URUGUAY

APPENDIX 4

Abbreviations:

C	= final result after checking of first reported suspect result
C(0.01)	= outlier in Cochran's outlier test
C(0.05)	= straggler in Cochran's outlier test
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
E	= error in calculations
U	= reported in a different unit
W	= result withdrawn on request of participant
ex	= excluded from calculations
n.a.	= not applicable
n.d.	= not detected
fr.	= first reported
SDS	= Safety Data Sheet

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