Results of Proficiency Test
PAH in Polymers
February 2016

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Poly Aromatic Hydrocarbons (PAH) are often, not intentionally, introduced in plastic and rubber with processing additives of plastics and rubber. As essential raw materials of consumer components in articles under REACH, plastics and rubbers PAH risk shall be identified. Enterprises shall strictly monitor PAH in high-risk materials, to ensure that the products comply with regulation requirements and with trust of consumers. As early as 2008, the Board of Technical Work Equipment and Consumer Products (AtAV) of Germany includes 16 types of PAH in GS certification. On December 7, 2013, Regulation (EU) 1272/2013 was published and new PAH requirements have been added under entry 50 of ANNEX XVII of REACH. On August 4th, 2014, the committee for product safety amended the PAH testing requirements under GS-Mark in accordance with § 21, subsection no.3 of the German Product Safety Act.
Only a few reference materials (RMs) for PAH in polymers are available to optimise the determination of PAH. As an alternative, participation in a proficiency test may enable the laboratories to check their performance and thus to increase this comparability. Therefore, a proficiency testing scheme (laboratory-evaluating interlaboratory study) for the determination of PAH was started by the Institute for Interlaboratory Studies in 2015 and continued in the 2015/2016 proficiency testing program.
In the international interlaboratory study of February 2016, 75 laboratories from 21 different countries participated (See appendix 3). In this report the results of the proficiency test are presented and discussed. This report is also electronically available through the iis internet site ww.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies in Spijkenisse was the organizer of this proficiency test. It was decided to send 2 different polymer samples both positive on PAH of approx. 3 grams each and labelled respectively #16505 and #16506. Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO17025 accredited laboratory. Participants were requested to report rounded and unrounded test results. These unrounded test results were preferably used for statistical evaluation.

2.1 QUALITY SYSTEM

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, has implemented a quality system based on ISO/IEC 17043:2010. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on a regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3). This protocol is electronically available through the iis internet site www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The first batch, small plastic (pink) pieces, artificially fortified with three PAH, was selected. Samples of approx. 3 gram each were prepared. Eight stratified randomly selected samples were tested using an in house test method to check the homogeneity of the batch.

	Acenaphthene in mg/kg	*Anthracene in mg/kg*	*Pyrene in mg/kg*
Sample #16505-1	14.4	21.0	33.9
Sample #16505-2	14.5	20.0	34.0
Sample #16505-3	14.6	21.4	34.5
Sample #16505-4	14.7	21.6	34.5
Sample #16505-5	13.8	20.9	34.0
Sample #16505-6	15.4	21.7	34.6
Sample #16505-7	14.9	21.2	34.3
Sample #16505-8	14.4	21.3	34.5

Table 1: homogeneity test results of subsamples #16505

From the test results of table 1, the repeatability was calculated and compared with 0.3 times the corresponding estimated target reproducibility in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Acenaphthene in mg/kg	*Anthracene in mg/kg*	*Pyrene in mg/kg*
r (observed)	1.3	1.5	0.8
reference	Horwitz	Horwitz	Horwitz
0.3 x R (reference)	1.3	1.8	2.7

Table 2: repeatability of subsamples #16505

The second batch, a milled and sieved polymer (black) powder (originally knife grips), positive on PAH, was obtained from the market via a third party laboratory. Samples of approx. 3 gram each were prepared. Eight stratified randomly selected samples were tested using an in house test method to check the homogeneity of the batch.

	Acenaphthene in mg/kg	*Fluoranthene in mg/kg*	*Pyrene in mg/kg*
Sample #16506-1	0.91	6.16	4.22
Sample #16506-2	0.99	6.46	4.49
Sample #16506-3	0.95	6.19	4.54
Sample #16506-4	1.00	6.44	4.53
Sample #16506-5	0.96	6.12	4.29
Sample #16506-6	0.90	6.39	4.31
Sample #16506-7	0.97	6.62	4.44
Sample #16506-8	0.88	6.34	4.35

Table 3: homogeneity test results of subsamples #16506

From the test results of table 1, the repeatability was calculated and compared with 0.3 times the corresponding estimated target reproducibility in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Acenaphthene in mg/kg	*Fluoranthene in mg/kg*	*Pyrene in mg/kg*
r (observed)	0.12	0.48	0.34
reference	Horwitz	Horwitz	Horwitz
0.3 x R (reference)	0.13	0.65	0.47

Table 4: repeatability of subsamples #16506

The calculated repeatability of the test results was in agreement with 0.3 times the estimated reproducibility using the Horwitz equation. Therefore, homogeneity of the subsamples was assumed.

One sample of approx. 3 grams labelled #16505 and one sample of approx. 3 grams labelled #16506 was sent to each of the participating laboratories on January 20, 2016.

2.5 ANALYSES

The participants were asked to determine the concentration of 17 PAH applying the analysis procedure that is routinely used in the laboratory.
To get comparable results a detailed report form, on which the units were prescribed as well as the reference standards and a letter of instructions were prepared and made available on the data entry portal www.kpmd.co.uk/sgs-iis-cts/. The laboratories were also requested to report some of the test conditions that the laboratory has used. A form to confirm receipt of the samples and a letter of instructions were added to the samples.

3 RESULTS

During five weeks after sample despatch, the results of the individual laboratories were gathered via the data entry portal www.kmpd.co.uk/sgs-iis-cts/. The reported test results are tabulated per sample in appendix 1 of this report. The laboratories are represented by the code numbers.
Directly after the deadline, a reminder was sent to those laboratories that did not report results at that moment.
Shortly after the deadline, the available results were screened for suspect data. A result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the results. Additional or corrected results are used for the data analysis and the original results are placed under 'Remarks' in the result tables in appendix 1.
Results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

The protocol followed in the organisation of this proficiency test is described in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3).

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

In accordance to ISO 5725 the original results per determination were submitted subsequently to Dixon, Grubbs and or Rosner General ESD 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 and by R(0.01) for the Rosner General ESD test. Stragglers are marked by D(0.05) for the Dixon test, by G(0.05) or DG(0.05) for the Grubbs test and by R(0.05) for the Rosner General ESD test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.
Finally, the reproducibilities were calculated from the standard deviations by multiplying them with a factor of 2.8.

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 significant consequences for the evaluation of the test results.

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 on the X-axis.
The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected 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. Also a normal Gauss curve was projected over the Kernel Density Graph for reference.

3.3 Z-SCORES

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

The target standard deviation was calculated from the target reproducibility (preferably taken from a standardized test method) by division with 2.8.
The z-scores were calculated in accordance with:

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

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

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 should be done in order to evaluate whether the reported test results are fit-for-purpose.

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

	$\lvert z \rvert$	< 1	good
1 <	$\lvert z \rvert$	< 2	satisfactory
2 <	$\lvert z \rvert$	< 3	questionable
3 <	$\lvert z \rvert$		unsatisfactory

4 EVALUATION

During the execution of this proficiency test no reporting problems occurred. Six participants reported the test results after the final reporting date. Two participants did not report any test results. Finally, 73 participants did report 1572 numerical results. Observed were 79 outlying results, which is 5.2% of the numerical results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

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

4.1 EVALUATION PER COMPONENT

In this section, the reported results are discussed per component. All statistical results reported on the samples are summarised in appendix 1 and analytical details are summarised in appendix 2.

Regretfully, in the common test method ZEK01.4-08 (and AfPS GS 2014:01) no precision data are mentioned. Neither in any other relevant standard test method for the determination of PAH. Therefore, it was decided to use for comparison the Horwitz equation to estimate a target reproducibility.

Sample #16505 was a polymer to which only Acenaphthene, Anthracene and Pyrene were added. During the proficiency test it appeared that also Naphthalene, Fluorene and Phenanthrene were detected around the detection limit. As no further study was carried out on these three components, it was decided not to calculate z-scores for Naphthalene, Fluorene and Phenanthrene.

Naphthalene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from 0.05 – 4.1 mg/kg for sample #16506. Four statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Acenaphthene: The determination of this PAH may be problematic for sample #16505 and #16506. The test results reported by the participants vary from 4.72 – 49.9 mg/kg for sample #16505 and from 0.413 – 13.7 mg/kg for sample #16505. In total six statistical outliers (from 3 laboratories) were observed. Both observed reproducibilities after rejection of the statistical outliers are not in agreement with the estimated target reproducibilities using the Horwitz equation.

Fluorene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from <0.20 – 5.7 mg/kg for sample #16506. Two statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Phenanthrene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from 1.73 – 31.1 mg/kg for sample #16506. Five statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation

Anthracene: The determination of this PAH may be problematic. The test results reported by the participants vary from 1.121 – 97.7 mg/kg for sample #16505 and vary from 0.435 – 13.9 mg/kg for sample #16506. In total seven statistical outliers were observed. Both observed reproducibilities after rejection of the statistical outliers are not in agreement with the estimated target reproducibilities using the Horwitz equation.

Fluoranthene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from 2.31 – 24.9 mg/kg for sample #16506. Three statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Pyrene: The determination of this PAH may be problematic. The test results reported by the participants vary from <0.2 – 154.3 mg/kg for sample #16505 and vary from 1.46 – 24.8 mg/kg for sample #16506. In total seven statistical outliers were observed. Both observed reproducibilities after rejection of the statistical outliers are not in agreement with the estimated target reproducibilities using the Horwitz equation.

Benzo[a]anthracene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from 0.535 – 9.12 mg/kg for sample #16506. Five statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Chrysene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from 0.51 – 7.0 mg/kg for sample #16506. Three statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Sum Chrysene + Triphenylene: The summation of these two PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn. It appeared that the majority of participants did not determine Triphenylene. A number of participants reported this value as 'not applicable" or reported a result the same to Chrysene. Therefore no significant conclusions were drawn.

Benzo[b]fluoranthene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from <0.01 – 2.152 mg/kg for sample #16506. Two statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[j]fluoranthene: The determination of this PAH may not be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.
The test results reported by the participants vary from <0.01 – 1.0 mg/kg for sample #16506. Only one statistical outlier was observed. The observed reproducibility after rejection of the statistical outlier is in full agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[k]fluoranthene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn. The test results reported by the participants vary from <0.01 – 1.90 mg/kg for sample #16506. Only one statistical outlier was observed. The observed reproducibility after rejection of the statistical outlier is not in agreement with the estimated target reproducibility using the Horwitz equation.

Sum of [b],[j],[k]Benzofluoranthene: Almost all participants reported the sum of the three Benzofluoranthenes for sample #16506 as mentioned in test method ZEK01.4-08. The summation may be not problematic. The test results reported by the participants vary from <0.01 – 2.52 mg/kg. No statistical outliers were observed. However, six results were excluded for statistical evaluation. Two were statistical outliers in an individual component and four made probably a calculation error. The observed reproducibility after rejection of the suspect data is in full agreement with the estimated target reproducibility using the Horwitz equation. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn.

Benzo[e]pyrene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn. The test results reported by the participants vary from <0.2 – 6.2 mg/kg for sample #16506. Two statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[a]pyrene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn. The test results reported by the participants vary from <0.2 – 7.98 mg/kg for sample #16506. Seven statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Indeno[1,2,3-cd]pyrene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn. The test results reported by the participants vary from <0.01 – 2.1 mg/kg for sample #16506. Three statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[g,h,i]perylene: The determination of this PAH may be problematic for sample #16506. The consensus value for sample #16505 appeared to be below the limit of detection and therefore no significant conclusions were drawn. The test results reported by the participants vary from 0.13 – 5.99 mg/kg for sample #16506. Four statistical outliers were observed. The observed reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Acenaphthylene, Dibenzo[a,h]anthracene and Cyclopenta(c,d)pyrene:

For these three PAH the consensus values for both samples appeared to be below the limit of detection and therefore no significant conclusions were drawn.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant standard method and the reproducibility as found for the group of participating laboratories.

The number of significant test results, the average result, the calculated reproducibility (standard deviation*2.8) and the estimated target reproducibility are presented in the next table.

Parameter	unit	n	Average	2.8 * sd	R(target)
Naphthalene	mg/kg	56	<1	n.a.	n.a.
Acenaphthene	mg/kg	66	9.15	3.44	2.94
Fluorene	mg/kg	53	<1	n.a.	n.a.
Phenanthrene	mg/kg	58	<1	n.a.	n.a.
Anthracene	mg/kg	66	18.4	6.8	5.3
Pyrene	mg/kg	66	27.5	14.0	7.5

Table 5: reproducibility of PAH in sample #16505

Parameter	unit	n	Average	2.8 * sd	R(target)
Naphthalene	mg/kg	60	0.53	0.35	0.26
Acenaphthene	mg/kg	67	1.50	0.94	0.63
Fluorene	mg/kg	67	1.27	0.69	0.55
Phenanthrene	mg/kg	66	7.01	2.79	2.34
Anthracene	mg/kg	67	1.56	1.09	0.66
Fluoranthene	mg/kg	69	4.76	2.24	1.69
Pyrene	mg/kg	65	3.75	1.51	1.38
Benzo[a]anthracene	mg/kg	61	1.25	0.80	0.54
Chrysene	mg/kg	62	1.35	0.88	0.58
Sum of Chrysene and Triphenylene	mg/kg	20	1.39	n.a.	n.a.
Benzo[b]fluoranthene	mg/kg	52	0.68	0.51	0.32
Benzo[j]fluoranthene	mg/kg	43	0.30	0.18	0.16
Benzo[k]fluoranthene	mg/kg	48	0.31	0.24	0.17
Sum of [b],[j],[k] benzofluoranthene	mg/kg	50	1.16	0.91	0.88
Benzo[e]pyrene	mg/kg	58	0.59	0.38	0.29
Benzo[a]pyrene	mg/kg	56	0.57	0.38	0.28
Indeno[1,2,3-cd]pyrene	mg/kg	44	0.30	0.24	0.16
Benzo[g,h,i]perylene	mg/kg	55	0.36	0.26	0.19

Table 6: reproducibility of PAH in sample #16506

Without further statistical calculations, it can be concluded that the group of participating laboratories may have problems with the analysis of PAH in polymer at the evaluated concentration levels. See also the discussion in paragraphs 4.1 and 5.

4.3 COMPARISON OF THE PROFICIENCY TEST OF FEBRUARY 2016 WITH THE PREVIOUS PT

	February 2016	February 2015
Number of reporting labs	73	78
Number of results reported	1527	1365
Number of statistical outliers	79	57
Percentage outliers	5.2%	4.2%

Table 7: Comparison with previous proficiency test

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

The uncertainty in the test results of PAH in the iis16P02 PT seems for the majority of the parameters not improved compared to the previous PT. However the uncertainties of the PT from February 2015 were calculated after exclusion of several test results (see iis15P02) and therefore may not be compared to the uncertainties of the 2016 PT.

Parameter	February 2016	February 2015
Naphthalene	23%	55%
Acenaphthylene	n.e.	32%
Acenaphthene	13-22%	26%
Fluorene	19%	18%
Phenanthrene	14%	12%
Anthracene	13-25%	16%
Fluoranthene	17%	11%
Pyrene	14-18%	11%
Benzo[a]anthracene	23%	18%
Chrysene	23%	15%
Sum of Chrysene and Triphenylene	21%	n.e.
Benzo[b]fluoranthene	26%	14%
Benzo[j]fluoranthene	21%	22%
Benzo[k]fluoranthene	27%	21%
Sum of [b],[j],[k] benzofluoranthene	28%	28%
Benzo[e]pyrene	23%	18%
Benzo[a]pyrene	24%	13%
Indeno[1,2,3-c,d]pyrene	29%	19%
Benzo[g,h,i]perylene	25%	17%
Dibenzo[a,h]anthracene	n.e.	17%
Cyclopenta(c,d)pyrene	n.e.	n.e.

Table 8: Development of relative uncertainties over the years

5 DISCUSSION

A number of different test methods were reported to have been used. Most often “ZEK01.4-08 or AfPS GS 2014:01 (61 laboratories) was mentioned as test method used, followed by in house (9 laboratories). Regretfully, from the the specific details which were requested to report, no significant conclusions could be drawn to judge the performance of each laboratory on this PAH determination.
However, it is clear that a number of laboratories would judge both samples different when decisions of rejection or acceptance have to be made according the latest GS-Mark certification on PAH (4 August 2014, see table below).

Parameter	Category 1	Category 2		Category 3	
	Materials, that are intended to be put into the mouth or materials in toys with intended and prolonged skin-contact (longer than 30 s)	Materials, not covered by category 1, with foreseeable skin-contact of > 30 s (prolonged skin-contact) or short-term repetitive contact with the human skin [4]		Materials, not covered by category 1 or 2, with foreseeable skin-contact of up to 30 s (short-term skin contact)	
[mg/kg]		Toys according to Toy Directive 2009/48/EU	Other products according to Product Safety Act	Toys according to Toy Directive 2009/48/EU	Other products according to Product Safety Act
Benzo[a]pyrene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Benzo[e]pyrene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Benzo[a]anthracene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Benzo[b]fluoroanthene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Benzo[j]fluoroanthene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Benzo[k]fluoroanthene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Chrysene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Dibenzo[a,h]anthracene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Benzo[g,h,i]perylene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Indeno[1,2,3-cd]pyrene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
Acenaphthylene, Acenaphthen, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	Sum < 1	Sum < 5	Sum < 10	Sum < 20	Sum < 50
Naphthalene	< 1	< 2		< 10	
Sum 18 PAH	< 1	< 5	< 10	< 20	< 50

Table 9: Category limits from German GS-Mark per July 2015

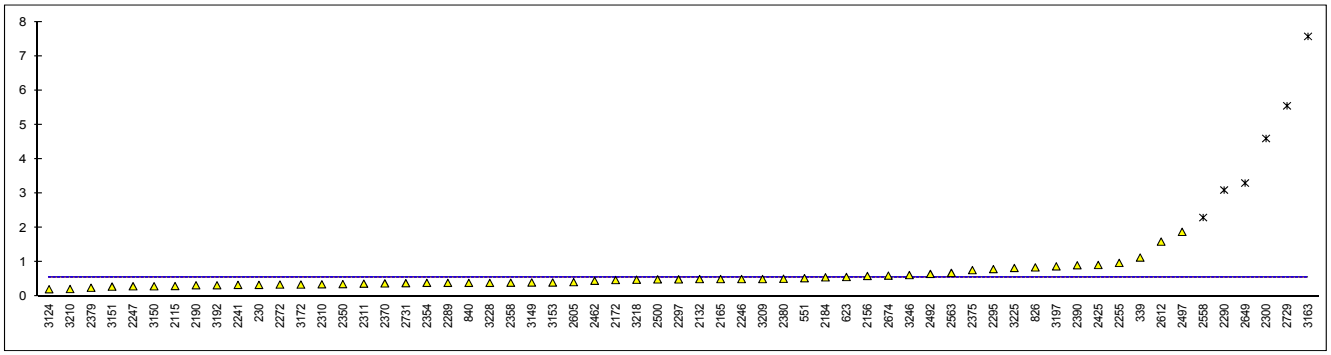
It can be concluded that the observed spread in this interlaboratory study may not be caused by just one critical point in the analysis. Each participating laboratory will have to evaluate its performance in this study and decide about any corrective actions if necessary. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and the quality of the analytical results.

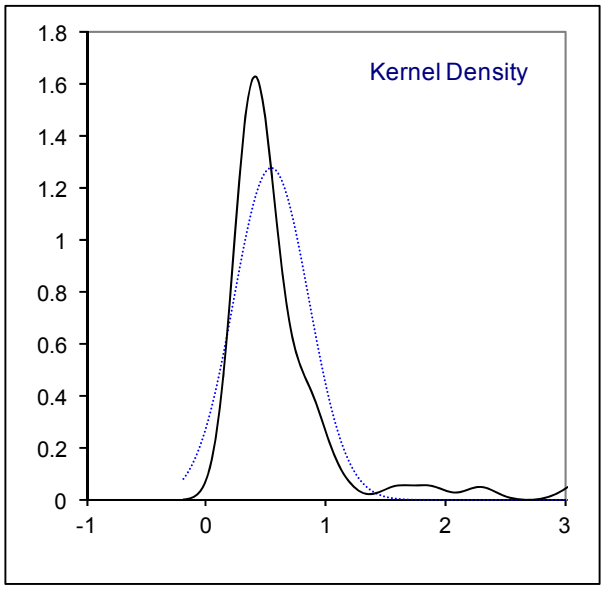
APPENDIX 1

Determination of Naphthalene in sample #16505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.34		-----	
330		-----		-----	
339	In house	1.136		-----	False positive test result?
551	AfPS GS 2014	0.5357		-----	
623	AfPS GS 2014	0.57		-----	
826	ZEK01.4-08	0.85		-----	
840	AfPS GS 2014	0.4		-----	
2115	AfPS GS 2014	0.306		-----	
2131	In house	<0.01		-----	
2132	AfPS GS 2014	0.51		-----	
2156	AfPS GS 2014	0.6		-----	
2165	AfPS GS 2014	0.51		-----	
2172	AfPS GS 2014	0.4820		-----	
2184	AfPS GS 2014	0.56		-----	
2190	AfPS GS 2014	0.33		-----	
2212		-----		-----	
2223		-----	W	-----	Result withdrawn, reported 6.57
2241	AfPS GS 2014	0.34		-----	
2246	AfPS GS 2014	0.51		-----	
2247	ZEK01.4-08	0.3		-----	
2255	In house	0.98		-----	
2272	ISO16190:2013	0.35		-----	
2289	AfPS GS 2014	0.4		-----	
2290	AfPS GS 2014	3.1	C,R(0.01)	-----	First reported 1.92, Fals positive test result?
2295	ZEK01.4-08	0.8		-----	
2297	AfPS GS 2014	0.501		-----	
2300	In house	4.6	R(0.01)	-----	False positive test result?
2310	AfPS GS 2014	0.358		-----	
2311	AfPS GS 2014	0.376		-----	
2320		-----		-----	
2350	AfPS GS 2014	0.3629		-----	
2354	AfPS GS 2014	0.40		-----	
2370	AfPS GS 2014	0.3840		-----	
2375	AfPS GS 2014	0.77		-----	
2379	AfPS GS 2014	0.257		-----	
2380	AfPS GS 2014	0.518		-----	
2384	AfPS GS 2014	not detected		-----	
2386	AfPS GS 2014	<0.2		-----	
2390	AfPS GS 2014	0.911		-----	First reported 2.459
2425	ZEK01.4-08	0.92	C	-----	
2446		-----		-----	
2462	AfPS GS 2014	0.46		-----	
2492	In house	0.660		-----	
2497	ZEK01.4-08	1.883		-----	False positive test result?
2500	AfPS GS 2014	0.50		-----	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	<0.20		-----	
2558	AfPS GS 2014	2.3	R(0.01)	-----	False positive test result?
2563	AfPS GS 2014	0.69		-----	
2590		-----		-----	
2605	AfPS GS 2014	0.42		-----	
2612	AfPS GS 2014	1.6	C	-----	First reported 2.2. False positive test result?
2649	ZEK01.4-08	3.3035	R(0.01)	-----	False positive test result?
2674	AfPS GS 2014	0.61		-----	
2729		5.55	C,R(0.01)	-----	First reported 147.69. False positive test result?
2731	AfPS GS 2014	0.39		-----	
3124	In house	0.214		-----	
3146		<0.2		-----	
3149	ZEK01.4-08	0.41		-----	
3150	AfPS GS 2014	0.30		-----	
3151	AfPS GS 2014	0.29		-----	
3153	AfPS GS 2014	0.41		-----	
3154		-----		-----	
3163	In house	7.57	R(0.01)	-----	False positive test result?
3172	AfPS GS 2014	0.35		-----	
3192	AfPS GS 2014	0.33		-----	
3197	AfPS GS 2014	0.88		-----	
3209	AfPS GS 2014	0.51		-----	
3210	In house	0.220		-----	
3218	AfPS GS 2014	0.49		-----	
3220	ZEK01.4-08	Not detected		-----	
3225	ZEK01.4-08	0.832		-----	
3228	AfPS GS 2014	0.4		-----	
3233		-----		-----	
3246	AfPS GS 2014	0.625		-----	

normality	n.a.
n	56
outliers	6
mean (n)	<1
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit)	n.a.

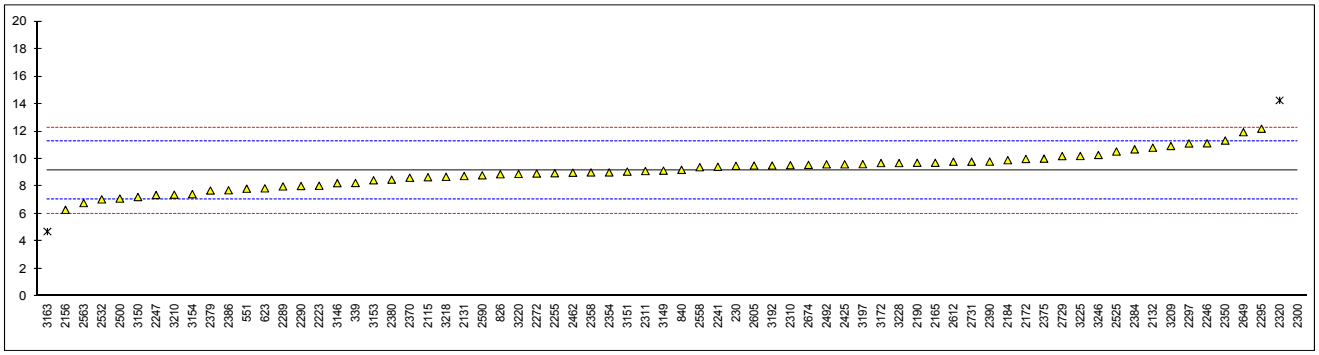


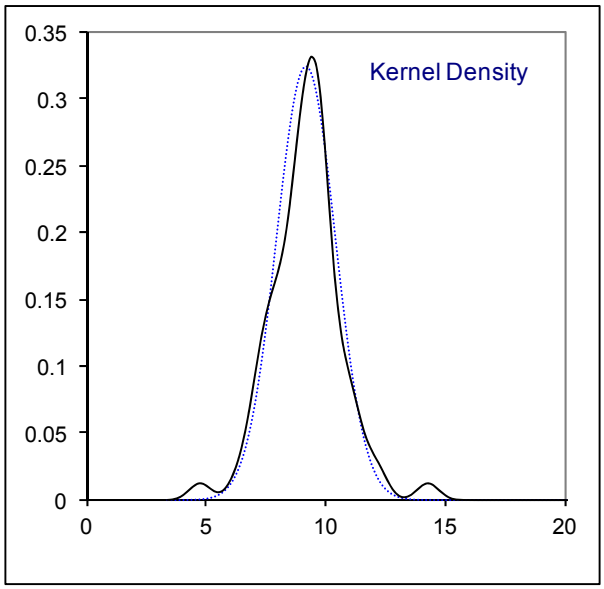


Determination of Acenaphthene in sample #16505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	9.5		0.33	
330		-----		-----	
339	In house	8.25		-0.86	
551	AfPS GS 2014	7.8370		-1.25	
623	AfPS GS 2014	7.86		-1.23	
826	ZEK01.4-08	8.89		-0.25	
840	AfPS GS 2014	9.21		0.05	
2115	AfPS GS 2014	8.673		-0.46	
2131	In house	8.76		-0.37	
2132	AfPS GS 2014	10.82		1.59	
2156	AfPS GS 2014	6.3		-2.72	
2165	AfPS GS 2014	9.72		0.54	
2172	AfPS GS 2014	10.00		0.81	
2184	AfPS GS 2014	9.91		0.72	
2190	AfPS GS 2014	9.72		0.54	
2212		-----		-----	
2223	In house	8.05		-1.05	
2241	AfPS GS 2014	9.43		0.26	
2246	AfPS GS 2014	11.14		1.89	
2247	ZEK01.4-08	7.38		-1.69	
2255	In house	8.96		-0.18	
2272	ISO16190:2013	8.94		-0.20	
2289	AfPS GS 2014	8.0		-1.10	
2290	AfPS GS 2014	8.03		-1.07	
2295	ZEK01.4-08	12.2		2.90	
2297	AfPS GS 2014	11.13		1.88	
2300	In house	49.9	R(0.01)	38.83	
2310	AfPS GS 2014	9.544		0.37	
2311	AfPS GS 2014	9.118		-0.03	
2320	In house	14.263	R(0.01)	4.87	
2350	AfPS GS 2014	11.3394		2.08	
2354	AfPS GS 2014	9.02		-0.13	
2370	AfPS GS 2014	8.633		-0.49	
2375	AfPS GS 2014	10.02		0.83	
2379	AfPS GS 2014	7.705		-1.38	
2380	AfPS GS 2014	8.496		-0.63	
2384	AfPS GS 2014	10.7		1.47	
2386	AfPS GS 2014	7.72		-1.36	
2390	AfPS GS 2014	9.807		0.62	
2425	ZEK01.4-08	9.61		0.44	
2446		-----		-----	
2462	AfPS GS 2014	9.00		-0.15	
2492	In house	9.608		0.43	
2497		-----		-----	
2500	AfPS GS 2014	7.12		-1.94	
2525	AfPS GS 2014	10.54	C	1.32	First reported 2.09
2532	ZEK01.4-08	7.06		-1.99	
2558	AfPS GS 2014	9.4		0.24	
2563	AfPS GS 2014	6.79		-2.25	
2590	AfPS GS 2014	8.81		-0.33	
2605	AfPS GS 2014	9.52		0.35	
2612	AfPS GS 2014	9.8		0.62	
2649	ZEK01.4-08	11.94681		2.66	
2674	AfPS GS 2014	9.57		0.40	
2729		10.21		1.01	
2731	AfPS GS 2014	9.80		0.62	
3124		-----		-----	
3146		8.24		-0.87	
3149	ZEK01.4-08	9.15		0.00	
3150	AfPS GS 2014	7.23		-1.83	
3151	AfPS GS 2014	9.08		-0.07	
3153	AfPS GS 2014	8.45		-0.67	
3154	ZEK01.4-08	7.44		-1.63	
3163	In house	4.72	R(0.01)	-4.22	
3172	AfPS GS 2014	9.70	C	0.52	First reported 13.39
3192	AfPS GS 2014	9.52		0.35	
3197	AfPS GS 2014	9.62		0.45	
3209	AfPS GS 2014	10.94		1.70	
3210	In house	7.400		-1.67	
3218	AfPS GS 2014	8.70		-0.43	
3220	ZEK01.4-08	8.91		-0.23	
3225	ZEK01.4-08	10.216		1.01	
3228	AfPS GS 2014	9.7		0.52	
3233		-----		-----	
3246	AfPS GS 2014	10.29		1.08	

normality	OK
n	66
outliers	3
mean (n)	9.1523
st.dev. (n)	1.23013
R(calc.)	3.4444
R(Horwitz)	2.9382

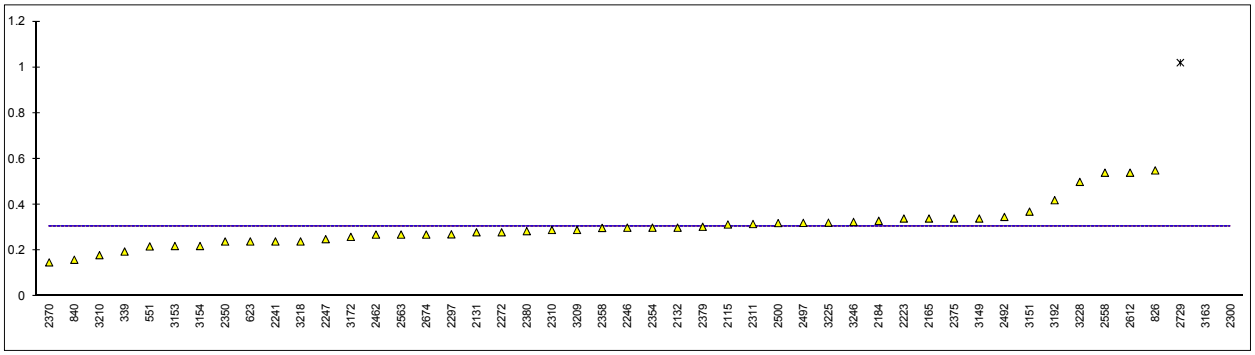


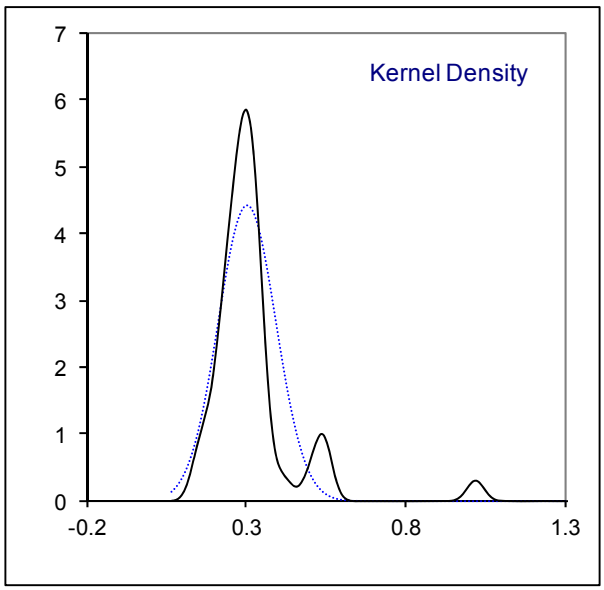


Determination of Fluorene in sample #16505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339	In house	0.196		-----	
551	AfPS GS 2014	0.2183		-----	
623	AfPS GS 2014	0.24		-----	
826	ZEK01.4-08	0.55		-----	
840	AfPS GS 2014	0.16		-----	
2115	AfPS GS 2014	0.314		-----	
2131	In house	0.28		-----	
2132	AfPS GS 2014	0.30		-----	
2156	AfPS GS 2014	<0.2		-----	
2165	AfPS GS 2014	0.34		-----	
2172		-----		-----	
2184	AfPS GS 2014	0.33		-----	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.34		-----	
2241	AfPS GS 2014	0.24		-----	
2246	AfPS GS 2014	0.30		-----	
2247	ZEK01.4-08	0.25		-----	
2255	In house	<0.2		-----	
2272	ISO16190:2013	0.28		-----	
2289	AfPS GS 2014	ND		-----	
2290	AfPS GS 2014	<0.2		-----	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.271		-----	
2300	In house	2.7	R(0.01)	-----	False positive test result?
2310	AfPS GS 2014	0.290		-----	
2311	AfPS GS 2014	0.316		-----	
2320		-----		-----	
2350	AfPS GS 2014	0.2397		-----	
2354	AfPS GS 2014	0.30		-----	
2370	AfPS GS 2014	0.1487		-----	
2375	AfPS GS 2014	0.34		-----	
2379	AfPS GS 2014	0.304		-----	
2380	AfPS GS 2014	0.285		-----	
2384	AfPS GS 2014	not detected		-----	
2386	AfPS GS 2014	<0.2		-----	
2390		-----		-----	
2425		-----	W	-----	Result withdrawn, reported 0.68
2446		-----		-----	
2462	AfPS GS 2014	0.27		-----	
2492	In house	0.347		-----	
2497	ZEK01.4-08	0.321		-----	
2500	AfPS GS 2014	0.32		-----	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	<0.20		-----	
2558	AfPS GS 2014	0.54		-----	
2563	AfPS GS 2014	0.27		-----	
2590		-----		-----	
2605	AfPS GS 2014	Not Detected		-----	
2612	AfPS GS 2014	0.54	C	-----	First reported 0.60
2649	ZEK01.4-08	ND		-----	
2674	AfPS GS 2014	0.27		-----	
2729		1.02	C, R(0.01)	-----	First reported 3.14
2731	AfPS GS 2014	<0.20		-----	
3124		-----		-----	
3146		<0.2		-----	
3149	ZEK01.4-08	0.34		-----	
3150		-----		-----	
3151	AfPS GS 2014	0.37		-----	
3153	AfPS GS 2014	0.22		-----	
3154	ZEK01.4-08	0.22		-----	
3163	In house	2.54	R(0.01)	-----	False positive test result?
3172	AfPS GS 2014	0.26		-----	
3192	AfPS GS 2014	0.42		-----	
3197	AfPS GS 2014	<0.2		-----	
3209	AfPS GS 2014	0.29		-----	
3210	In house	0.180		-----	
3218	AfPS GS 2014	0.24		-----	
3220	ZEK01.4-08	Not detected		-----	
3225	ZEK01.4-08	0.322		-----	
3228	AfPS GS 2014	0.5		-----	
3233		-----		-----	
3246	AfPS GS 2014	0.325		-----	

normality	n.a.
n	53
outliers	3
mean (n)	<1.0
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit)	n.a.

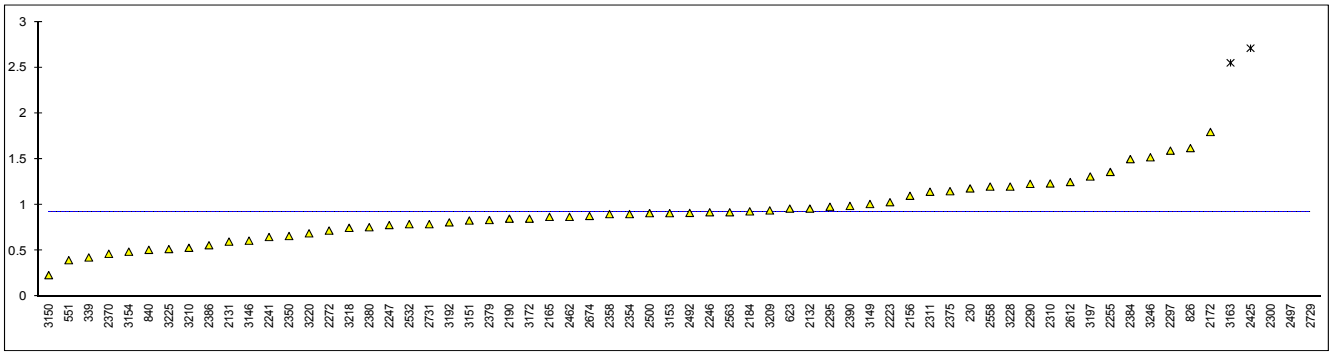


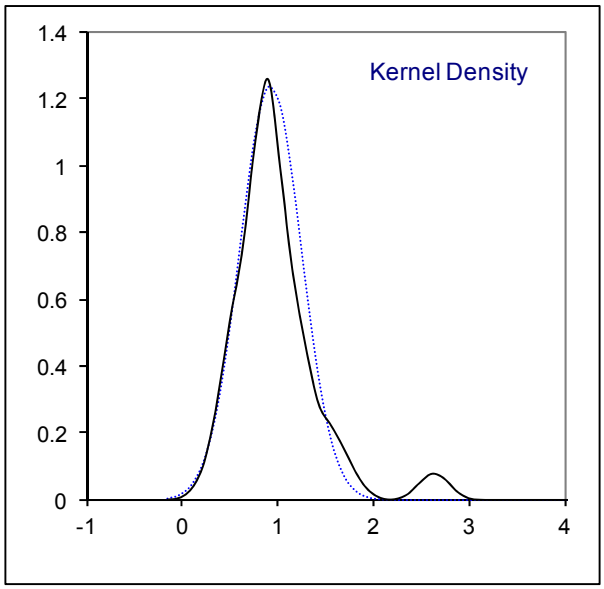


Determination of Phenanthrene in sample #16505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	1.18		-----	
330		-----		-----	
339	In house	0.427		-----	
551	AfPS GS 2014	0.3968		-----	
623	AfPS GS 2014	0.96		-----	
826	ZEK01.4-08	1.62		-----	
840	AfPS GS 2014	0.51		-----	
2115		-----		-----	
2131	In house	0.60		-----	
2132	AfPS GS 2014	0.96		-----	
2156	AfPS GS 2014	1.1		-----	
2165	AfPS GS 2014	0.87		-----	
2172	AfPS GS 2014	1.796		-----	False positive test result?
2184	AfPS GS 2014	0.93		-----	
2190	AfPS GS 2014	0.85		-----	
2212		-----		-----	
2223	In house	1.03		-----	
2241	AfPS GS 2014	0.65		-----	
2246	AfPS GS 2014	0.92		-----	
2247	ZEK01.4-08	0.78		-----	
2255	In house	1.36		-----	
2272	ISO16190:2013	0.72		-----	
2289	AfPS GS 2014	ND		-----	
2290	AfPS GS 2014	1.23		-----	
2295	ZEK01.4-08	0.98		-----	
2297	AfPS GS 2014	1.592		-----	
2300	In house	12.4	R(0.01)	-----	False positive test result?
2310	AfPS GS 2014	1.234		-----	
2311	AfPS GS 2014	1.144		-----	
2320		-----		-----	
2350	AfPS GS 2014	0.6606		-----	
2354	AfPS GS 2014	0.90		-----	
2370	AfPS GS 2014	0.4669		-----	
2375	AfPS GS 2014	1.15		-----	
2379	AfPS GS 2014	0.835		-----	
2380	AfPS GS 2014	0.757		-----	
2384	AfPS GS 2014	1.5		-----	
2386	AfPS GS 2014	0.56		-----	
2390	AfPS GS 2014	0.989		-----	
2425	ZEK01.4-08	2.71	C,R(0.01)	-----	First reported 7.42. False positive test result?
2446		-----		-----	
2462	AfPS GS 2014	0.87		-----	
2492	In house	0.913		-----	
2497	ZEK01.4-08	16.322	R(0.01)	-----	False positive test result?
2500	AfPS GS 2014	0.91		-----	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	0.79		-----	
2558	AfPS GS 2014	1.2		-----	
2563	AfPS GS 2014	0.92		-----	
2590		-----		-----	
2605	AfPS GS 2014	Not Detected		-----	
2612	AfPS GS 2014	1.25		-----	
2649	ZEK01.4-08	ND		-----	
2674	AfPS GS 2014	0.88		-----	
2729		33.02	C,R(0.01)	-----	First reported 42.72. False positive test result?
2731	AfPS GS 2014	0.79		-----	
3124		-----		-----	
3146		0.61		-----	
3149	ZEK01.4-08	1.01		-----	
3150	AfPS GS 2014	0.234		-----	
3151	AfPS GS 2014	0.83		-----	
3153	AfPS GS 2014	0.91		-----	
3154	ZEK01.4-08	0.49		-----	
3163	In house	2.55	R(0.01)	-----	False positive test result?
3172	AfPS GS 2014	0.85		-----	
3192	AfPS GS 2014	0.81		-----	
3197	AfPS GS 2014	1.31		-----	
3209	AfPS GS 2014	0.94		-----	
3210	In house	0.532		-----	
3218	AfPS GS 2014	0.75		-----	
3220	ZEK01.4-08	0.69		-----	
3225	ZEK01.4-08	0.52		-----	
3228	AfPS GS 2014	1.2		-----	
3233		-----		-----	
3246	AfPS GS 2014	1.52		-----	

normality	OK
n	58
outliers	5
mean (n)	<1
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit)	n.a.

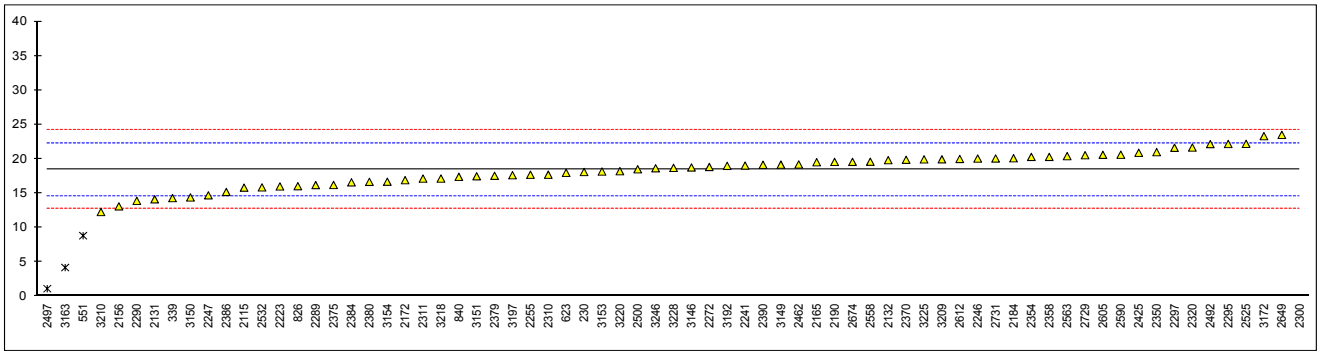


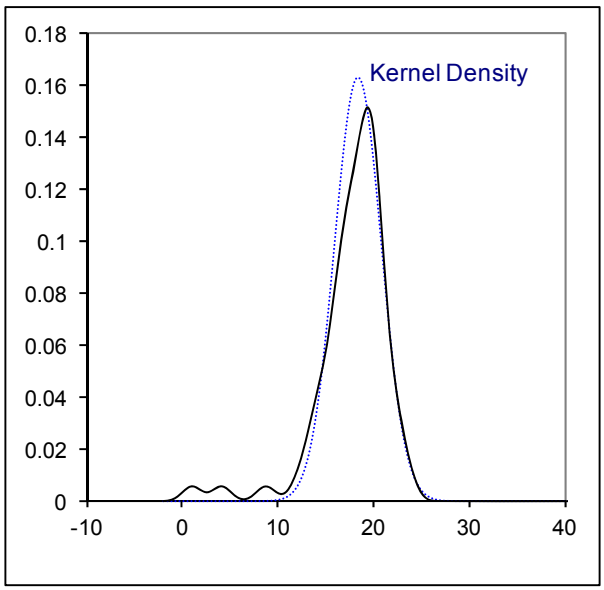


Determination of Anthracene in sample #16505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	18.1		-0.18	
330		-----		-----	
339	In house	14.3		-2.18	
551	AfPS GS 2014	8.8294	R(0.05)	-5.05	
623	AfPS GS 2014	17.98		-0.24	
826	ZEK01.4-08	16.04		-1.26	
840	AfPS GS 2014	17.4		-0.55	
2115	AfPS GS 2014	15.828		-1.37	
2131	In house	14.13		-2.27	
2132	AfPS GS 2014	19.82		0.72	
2156	AfPS GS 2014	13.1		-2.81	
2165	AfPS GS 2014	19.52		0.57	
2172	AfPS GS 2014	16.91		-0.81	
2184	AfPS GS 2014	20.1		0.87	
2190	AfPS GS 2014	19.57		0.59	
2212		-----		-----	
2223	In house	16.0		-1.28	
2241	AfPS GS 2014	19.04		0.31	
2246	AfPS GS 2014	20.06		0.85	
2247	ZEK01.4-08	14.71		-1.96	
2255	In house	17.7		-0.39	
2272	ISO16190:2013	18.83		0.20	
2289	AfPS GS 2014	16.2		-1.18	
2290	AfPS GS 2014	13.91		-2.38	
2295	ZEK01.4-08	22.18		1.96	
2297	AfPS GS 2014	21.63		1.67	
2300	In house	97.7	R(0.01)	41.65	
2310	AfPS GS 2014	17.71		-0.39	
2311	AfPS GS 2014	17.14		-0.68	
2320	In house	21.661		1.69	
2350	AfPS GS 2014	20.987		1.34	
2354	AfPS GS 2014	20.30		0.98	
2370	AfPS GS 2014	19.88		0.76	
2375	AfPS GS 2014	16.22		-1.17	
2379	AfPS GS 2014	17.548		-0.47	
2380	AfPS GS 2014	16.67		-0.93	
2384	AfPS GS 2014	16.6		-0.97	
2386	AfPS GS 2014	15.2		-1.70	
2390	AfPS GS 2014	19.153		0.37	
2425	ZEK01.4-08	20.90	C	1.29	First reported 26.01
2446		-----		-----	
2462	AfPS GS 2014	19.20		0.40	
2492	In house	22.163		1.95	
2497	ZEK01.4-08	1.121	R(0.01)	-9.10	
2500	AfPS GS 2014	18.50		0.03	
2525	AfPS GS 2014	22.20	C	1.97	First reported 4.16
2532	ZEK01.4-08	15.86		-1.36	
2558	AfPS GS 2014	19.6		0.61	
2563	AfPS GS 2014	20.41		1.03	
2590	AfPS GS 2014	20.62		1.14	
2605	AfPS GS 2014	20.60		1.13	
2612	AfPS GS 2014	20.0		0.82	
2649	ZEK01.4-08	23.50693		2.66	
2674	AfPS GS 2014	19.58		0.60	
2729		20.54	C	1.10	First reported 26.61
2731	AfPS GS 2014	20.07		0.86	
3124		-----		-----	
3146		18.763		0.17	
3149	ZEK01.4-08	19.17		0.38	
3150	AfPS GS 2014	14.4		-2.12	
3151	AfPS GS 2014	17.48		-0.51	
3153	AfPS GS 2014	18.17		-0.14	
3154	ZEK01.4-08	16.69		-0.92	
3163	In house	4.20	R(0.01)	-7.48	
3172	AfPS GS 2014	23.32	C	2.56	First reported 27.95
3192	AfPS GS 2014	19.00		0.29	
3197	AfPS GS 2014	17.63		-0.43	
3209	AfPS GS 2014	19.95		0.79	
3210	In house	12.274		-3.24	
3218	AfPS GS 2014	17.15		-0.68	
3220	ZEK01.4-08	18.22		-0.12	
3225	ZEK01.4-08	19.940		0.79	
3228	AfPS GS 2014	18.7		0.14	
3233		-----		-----	
3246	AfPS GS 2014	18.6425		0.10	

normality	OK
n	66
outliers	4
mean (n)	18.4429
st.dev. (n)	2.44584
R(calc.)	6.8484
R(Horwitz)	5.3282

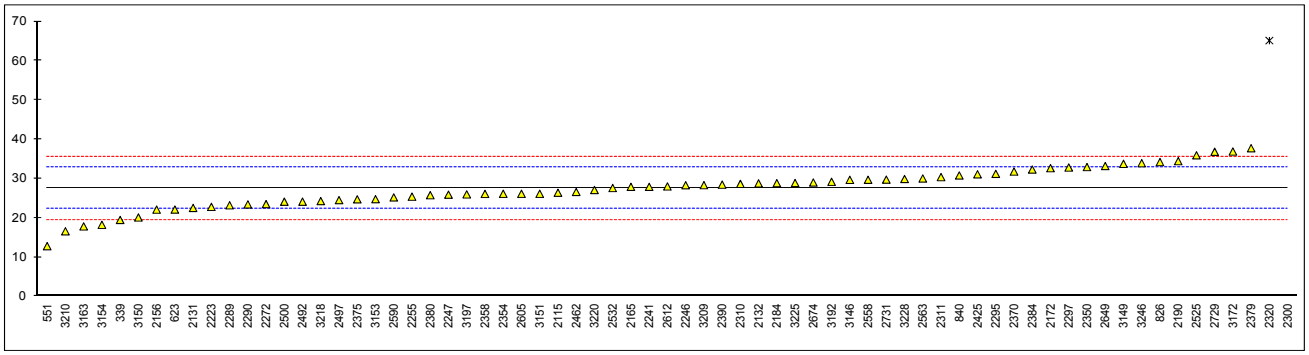


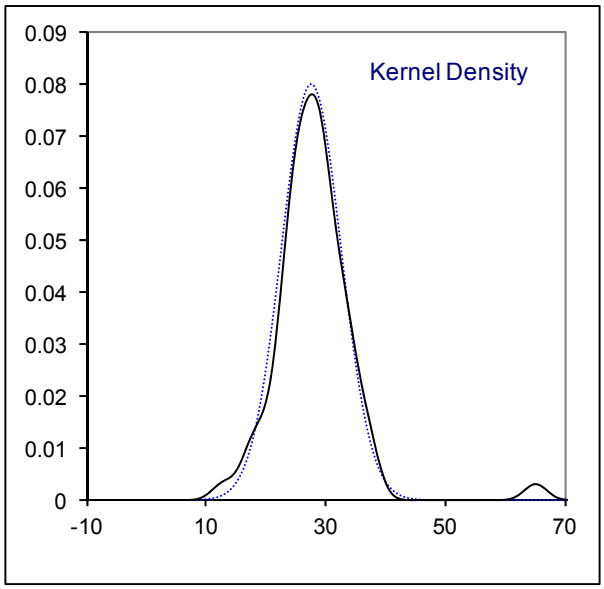


Determination of Pyrene in sample #16505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339	In house	19.47		-3.02	
551	AfPS GS 2014	12.7975		-5.51	
623	AfPS GS 2014	22.11		-2.03	
826	ZEK01.4-08	34.20		2.49	
840	AfPS GS 2014	30.8		1.21	
2115	AfPS GS 2014	26.400		-0.43	
2131	In house	22.53		-1.88	
2132	AfPS GS 2014	28.78		0.46	
2156	AfPS GS 2014	22.1		-2.04	
2165	AfPS GS 2014	27.9		0.13	
2172	AfPS GS 2014	32.65		1.91	
2184	AfPS GS 2014	28.84		0.48	
2190	AfPS GS 2014	34.44		2.58	
2212		-----		-----	
2223	In house	22.8		-1.77	
2241	AfPS GS 2014	27.90		0.13	
2246	AfPS GS 2014	28.31		0.28	
2247	ZEK01.4-08	25.9		-0.62	
2255	In house	25.4		-0.80	
2272	ISO16190:2013	23.50		-1.51	
2289	AfPS GS 2014	23.20		-1.63	
2290	AfPS GS 2014	23.43		-1.54	
2295	ZEK01.4-08	31.2		1.36	
2297	AfPS GS 2014	32.82		1.97	
2300	In house	154.3	R(0.01)	47.37	
2310	AfPS GS 2014	28.65		0.41	
2311	AfPS GS 2014	30.38		1.06	
2320	In house	65.132	R(0.01)	14.04	
2350	AfPS GS 2014	32.93		2.01	
2354	AfPS GS 2014	26.13		-0.53	
2370	AfPS GS 2014	31.79		1.58	
2375	AfPS GS 2014	24.72		-1.06	
2379	AfPS GS 2014	37.732		3.81	
2380	AfPS GS 2014	25.77		-0.66	
2384	AfPS GS 2014	32.3		1.78	
2386	AfPS GS 2014	<0.2		<-10.22	False negative test result?
2390	AfPS GS 2014	28.460		0.34	
2425	ZEK01.4-08	31.09	C	1.32	First reported 41.89
2446		-----		-----	
2462	AfPS GS 2014	26.60		-0.35	
2492	In house	24.125		-1.28	
2497	ZEK01.4-08	24.526		-1.13	
2500	AfPS GS 2014	24.12		-1.28	
2525	AfPS GS 2014	35.93	C	3.13	First reported 6.83
2532	ZEK01.4-08	27.6		0.02	
2558	AfPS GS 2014	29.7		0.80	
2563	AfPS GS 2014	30.03		0.93	
2590	AfPS GS 2014	25.21		-0.87	
2605	AfPS GS 2014	26.13		-0.53	
2612	AfPS GS 2014	28.0		0.17	
2649	ZEK01.4-08	33.2013992		2.11	
2674	AfPS GS 2014	29.01		0.55	
2729		36.82		3.46	
2731	AfPS GS 2014	29.73		0.81	
3124		-----		-----	
3146		29.686		0.80	
3149	ZEK01.4-08	33.76		2.32	
3150	AfPS GS 2014	20.10		-2.78	
3151	AfPS GS 2014	26.13		-0.53	
3153	AfPS GS 2014	24.76		-1.04	
3154	ZEK01.4-08	18.23		-3.48	
3163	In house	17.83		-3.63	
3172	AfPS GS 2014	36.90		3.49	
3192	AfPS GS 2014	29.18		0.61	
3197	AfPS GS 2014	25.98		-0.59	
3209	AfPS GS 2014	28.33		0.29	
3210	In house	16.584		-4.10	
3218	AfPS GS 2014	24.27		-1.23	
3220	ZEK01.4-08	27.1		-0.17	
3225	ZEK01.4-08	28.880		0.50	
3228	AfPS GS 2014	29.9		0.88	
3233		-----		-----	
3246	AfPS GS 2014	33.9175		2.38	

normality	OK
n	66
outliers	2
mean (n)	27.5492
st.dev. (n)	4.99137
R(calc.)	13.9758
R(Horwitz)	7.4925





Determination of other PAH in sample #16505; results in mg/kg

lab	method	Acenaphthylene	Fluoranthene	Benzo(a) anthracene	Chrysene	Chrysene + Triphenylene	Benzo(b) fluoranthene	Benzo(j) fluoranthene
230	AfPS GS 2014	0.24	***27.9***	-----	-----	-----	-----	-----
330		-----	-----	-----	-----	-----	-----	-----
339	In house	<0.1	<0.1	<1	<1	-----	-----	-----
551	AfPS GS 2014	0.0695	-----	-----	-----	-----	-----	-----
623	AfPS GS 2014	0.33	nd	nd	nd	nd	nd	Nd
826	ZEK01.4-08	N.D.	N.D.	N.D.	N.D.	N.A.	N.D.	N.D.
840	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2115		-----	-----	-----	-----	-----	-----	-----
2131	In house	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2132	AfPS GS 2014	<0.08	0.22	<0.08	<0.08	N/A	<0.08	<0.08
2156	AfPS GS 2014	<0.2	0.4	<0.2	<0.2	-----	<0.2	<0.2
2165	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	NA	n.d.	n.d.
2172		-----	-----	-----	-----	-----	-----	-----
2184	AfPS GS 2014	Not Detected	not detected	not detected	not detected	not applicable	not detected	not detected
2190	AfPS GS 2014	ND	0.2	ND	ND	ND	ND	ND
2212		-----	-----	-----	-----	-----	-----	-----
2223	In house	<0.1	<0.1	-----	-----	-----	-----	-----
2241	AfPS GS 2014	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2246		-----	0.19	-----	-----	NA	-----	-----
2247		-----	-----	-----	-----	-----	-----	-----
2255	In house	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2272	ISO16190:2013	<0.1	<0.1	<0.1	<0.1	-----	-----	-----
2289	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2290	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	-----	<0.2	<0.2
2295	ZEK01.4-08	ND	ND	ND	ND	ND	ND	ND
2297	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2300	In house	nd	nd	nd	nd	nd	nd	Nd
2310	AfPS GS 2014	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2311	AfPS GS 2014	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2320		-----	-----	-----	-----	-----	-----	-----
2350	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	-----	<0.2	-----
2354	AfPS GS 2014	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2370	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2379	AfPS GS 2014	Not detected	0.180	Not detected	Not detected	-----	Not detected	Not detected
2380		-----	-----	-----	-----	-----	-----	-----
2384	AfPS GS 2014	not detected	not detected	not detected	not detected	-----	not detected	not detected
2386	AfPS GS 2014	<0.2	***27.0***	<0.2	<0.2	<0.2	<0.2	<0.2
2390		-----	-----	-----	-----	-----	-----	-----
2425		-----	0.38	-----	-----	-----	-----	-----
2446		-----	-----	-----	-----	-----	-----	-----
2462	AfPS GS 2014	N.D.	N.D.	N.D.	N.D.	-----	N.D.	N.D.
2492		-----	-----	-----	-----	-----	-----	-----
2497	ZEK01.4-08	***7.443***	-----	-----	-----	-----	-----	-----
2500	AfPS GS 2014	N.D.	ND	N.D.	N.D.	N.D.	N.D.	N.D.
2525	AfPS GS 2014	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2532	ZEK01.4-08	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2558	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2563	AfPS GS 2014	n.d.	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
2590		-----	-----	-----	-----	-----	-----	-----
2605	AfPS GS 2014	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2612	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	-----	<0.2	<0.2
2649	ZEK01.4-08	ND	ND	ND	ND	ND	ND	ND
2674	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	-----	n.d.	n.d.
2729		***0.80***	***1.61***	***23.00***	***7.64***	-----	-----	-----
2731	AfPS GS 2014	<0.20	<0.20	<0.20	<0.20	-----	<0.20	<0.20
3124		-----	<0.005	-----	-----	-----	<0.03	-----
3146		<0.2	<0.2	<0.50	<0.50	-----	<0.50	<0.50
3149	ZEK01.4-08	0.04	0.20	<0.2	<0.2	-----	<0.2	<0.2
3150		-----	-----	-----	-----	-----	-----	-----
3151	AfPS GS 2014	0	0.20	0	0	0	0	0
3153	AfPS GS 2014	<0.20	<0.20	<0.20	<0.20	-----	-----	<0.20
3154		-----	-----	-----	-----	-----	-----	-----
3163	In house	***3.74***	0	***2.07***	***1.66***	-----	-----	-----
3172	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3192	AfPS GS 2014	< LOD	< LOD	< LOD	< LOD	-----	< LOD	< LOD
3197	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3209	AfPS GS 2014	<0.10	0.20	<0.10	<0.10	-----	<0.10	<0.10
3210	In house	<0.10	<0.10	<0.10	<0.10	-----	-----	-----
3218	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3220	ZEK01.4-08	Not detected	Not Detected	Not detected	Not detected	Not detected	Not detected	Not detected
3225	ZEK01.4-08	Not detected	0.067	Not detected	Not detected	-----	Not detected	Not detected
3228	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.a.	n.d.	n.d.
3233		-----	-----	-----	-----	-----	-----	-----
3246	AfPS GS 2014	n.d.	0.34	n.d.	n.d.	n.d.	n.d.	n.d.

normality	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n	28	34	24	24	12	21	20
outliers	3	2	2	2	0	0	0
mean (n)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
st.dev. (n)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
R(calc.)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
R(lit)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

NB. A bold, Italic and underlined test result is marked as a false positive test result.

Determination of other PAH in sample #16505; results in mg/kg -- continued --

lab	method	Benzo(k) fluoranthene	Sum benzo (b,j,k)fluoran	Benzo(e) pyrene	Benzo(a) pyrene	Indeno(1.2.3-c.d)pyrene	Dibenzo(ah) anthracene	Benzo(ghi) perylene
230	AfPS GS 2014	-----	-----	-----	-----	-----	-----	-----
330		-----	-----	-----	-----	-----	-----	-----
339	In house	-----	<1	<1	<1	<1	<1	<1
551	AfPS GS 2014	-----	-----	-----	-----	-----	-----	-----
623	AfPS GS 2014	nd	nd	nd	nd	nd	nd	nd
826	ZEK01.4-08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
840	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2115		-----	-----	-----	-----	-----	-----	-----
2131	In house	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2132	AfPS GS 2014	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
2156	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2165	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2172		-----	-----	-----	-----	-----	-----	-----
2184	AfPS GS 2014	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2190	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2212		-----	-----	-----	-----	-----	-----	-----
2223	In house	-----	-----	-----	-----	-----	-----	-----
2241	AfPS GS 2014	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2246		-----	-----	-----	-----	-----	-----	-----
2247		-----	-----	-----	-----	-----	-----	-----
2255	In house	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2272	ISO16190:2013	-----	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1
2289	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2290	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2295	ZEK01.4-08	ND	ND	ND	ND	ND	ND	ND
2297	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2300	In house	nd	nd	nd	nd	nd	nd	nd
2310	AfPS GS 2014	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	AfPS GS 2014	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2320		-----	-----	-----	-----	-----	-----	-----
2350	AfPS GS 2014	-----	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2
2354	AfPS GS 2014	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2370	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	AfPS GS 2014	ND	ND	ND	ND	ND	ND	ND
2379	AfPS GS 2014	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2380		-----	-----	-----	-----	-----	-----	-----
2384	AfPS GS 2014	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2386	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2390		-----	-----	-----	-----	-----	-----	-----
2425		-----	-----	-----	-----	-----	-----	-----
2446		-----	-----	-----	-----	-----	-----	-----
2462	AfPS GS 2014	N.D.	-----	N.D.	N.D.	N.D.	N.D.	N.D.
2492		-----	-----	-----	-----	-----	-----	-----
2497	ZEK01.4-08	-----	-----	-----	-----	-----	-----	-----
2500	AfPS GS 2014	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2525	AfPS GS 2014	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2532	ZEK01.4-08	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2558	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2563	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2590		-----	-----	-----	-----	-----	-----	-----
2605	AfPS GS 2014	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2612	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2649	ZEK01.4-08	ND	ND	ND	ND	ND	ND	ND
2674	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2729		0.41	0.75	0.22	0.47	0.09	0.32	0.68
2731	AfPS GS 2014	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
3124		-----	-----	-----	<0.03	<0.03	<0.03	<0.03
3146		<0.50	-----	<0.50	<0.50	<0.50	<0.50	<0.50
3149	ZEK01.4-08	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3150		-----	-----	-----	-----	-----	-----	-----
3151	AfPS GS 2014	0	0	0	0	0	0	0
3153	AfPS GS 2014	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
3154		-----	-----	-----	-----	-----	-----	-----
3163	In house	-----	-----	-----	***9.9***	-----	-----	-----
3172	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3192	AfPS GS 2014	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
3197	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3209	AfPS GS 2014	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
3210	In house	-----	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
3218	AfPS GS 2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
3220	ZEK01.4-08	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3225	ZEK01.4-08	not detected	-----	not detected	not detected	not detected	not detected	not detected
3228	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233		-----	-----	-----	-----	-----	-----	-----
3246	AfPS GS 2014	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

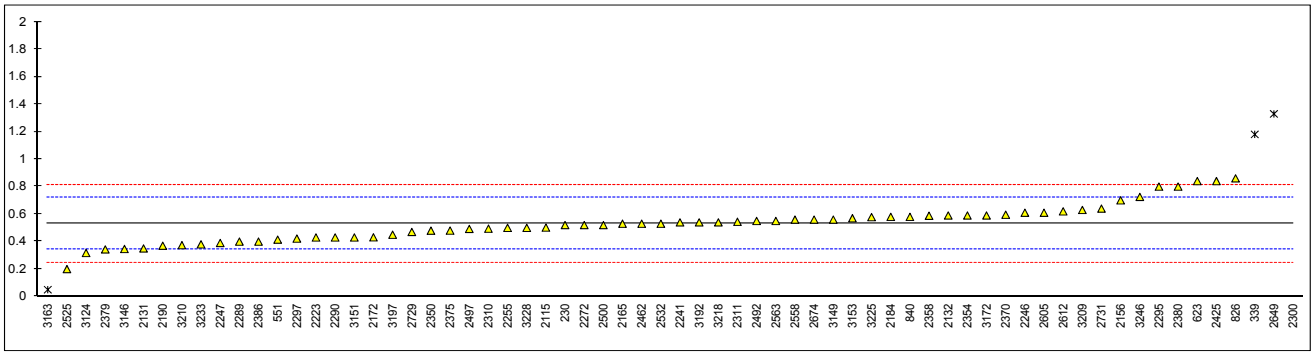
normality	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n	21	24	24	26	26	26	25
outliers	0	0	0	1	0	0	0
mean (n)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
st.dev. (n)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
R(calc.)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
R(lit)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

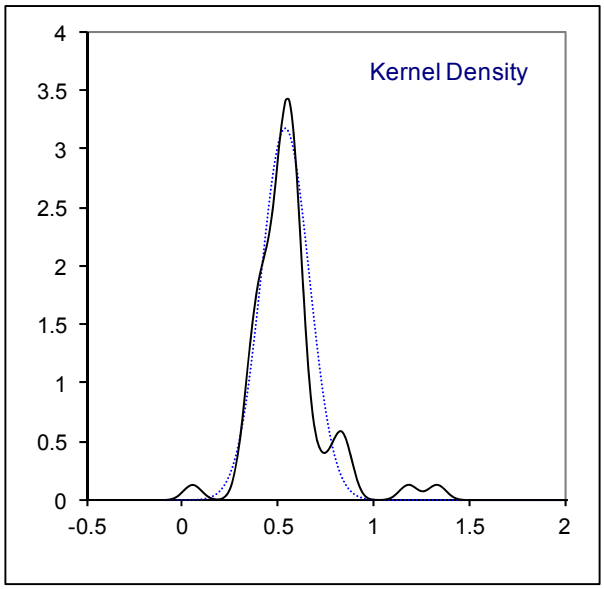
NB. A bold, Italic and underlined test result is marked as a false positive test result.

Determination of Naphthalene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.52		-0.16	
330		-----		-----	
339	In house	1.18	R(0.01)	6.86	
551	AfPS GS 2014	0.4143		-1.28	
623	AfPS GS 2014	0.84		3.25	
826	ZEK01.4-08	0.86		3.46	
840	AfPS GS 2014	0.58		0.48	
2115	AfPS GS 2014	0.502		-0.35	
2131	In house	0.35		-1.97	
2132	AfPS GS 2014	0.59		0.59	
2156	AfPS GS 2014	0.7		1.76	
2165	AfPS GS 2014	0.53		-0.05	
2172	AfPS GS 2014	0.4310		-1.10	
2184	AfPS GS 2014	0.58		0.48	
2190	AfPS GS 2014	0.37		-1.75	
2212		-----		-----	
2223	In house	0.43		-1.12	
2241	AfPS GS 2014	0.54		0.05	
2246	AfPS GS 2014	0.61		0.80	
2247	ZEK01.4-08	0.39		-1.54	
2255	In house	0.5	C	-0.37	First reported 0.92
2272	ISO16190:2013	0.52		-0.16	
2289	AfPS GS 2014	0.4		-1.43	
2290	AfPS GS 2014	0.43		-1.12	
2295	ZEK01.4-08	0.8		2.82	
2297	AfPS GS 2014	0.422		-1.20	
2300	In house	4.1	R(0.01)	37.92	
2310	AfPS GS 2014	0.494		-0.43	
2311	AfPS GS 2014	0.544		0.10	
2320		-----		-----	
2350	AfPS GS 2014	0.4796		-0.59	
2354	AfPS GS 2014	0.59		0.59	
2370	AfPS GS 2014	0.5954		0.64	
2375	AfPS GS 2014	0.48	C	-0.58	First reported 0.97
2379	AfPS GS 2014	0.343		-2.04	
2380	AfPS GS 2014	0.8		2.82	
2384	AfPS GS 2014	not detected		-----	
2386	AfPS GS 2014	0.40		-1.43	
2390		-----		-----	
2425	ZEK01.4-08	0.84		3.25	
2446		-----		-----	
2462	AfPS GS 2014	0.53		-0.05	
2492	In house	0.550		0.16	
2497	ZEK01.4-08	0.492		-0.46	
2500	AfPS GS 2014	0.52		-0.16	
2525	AfPS GS 2014	<0.20		<-3.56	False negative test result?
2532	ZEK01.4-08	0.53		-0.05	
2558	AfPS GS 2014	0.56		0.27	
2563	AfPS GS 2014	0.55		0.16	
2590		-----		-----	
2605	AfPS GS 2014	0.61		0.80	
2612	AfPS GS 2014	0.62		0.91	
2649		1.32892	R(0.01)	8.45	
2674	AfPS GS 2014	0.56		0.27	
2729		0.47	C	-0.69	First reported 1.06
2731	AfPS GS 2014	0.64		1.12	
3124	In house	0.317		-2.32	
3146		0.3463		-2.01	
3149	ZEK01.4-08	0.56		0.27	
3150		-----		-----	
3151	AfPS GS 2014	0.43		-1.12	
3153	AfPS GS 2014	0.57		0.37	
3154		-----		-----	
3163	In house	0.05	R(0.05)	-5.16	
3172	AfPS GS 2014	0.59		0.59	
3192	AfPS GS 2014	0.54		0.05	
3197	AfPS GS 2014	0.45	C	-0.90	First reported 0.94
3209	AfPS GS 2014	0.63		1.01	
3210	In house	0.374		-1.71	
3218	AfPS GS 2014	0.54		0.05	
3220	ZEK01.4-08	Not detected		-----	
3225	ZEK01.4-08	0.578		0.46	
3228	AfPS GS 2014	0.5		-0.37	
3233	In house	0.38		-1.65	
3246	AfPS GS 2014	0.725		2.02	

normality	OK
n	60
outliers	4
mean (n)	0.5348
st.dev. (n)	0.12547
R(calc.)	0.3513
R(Horwitz)	0.2633

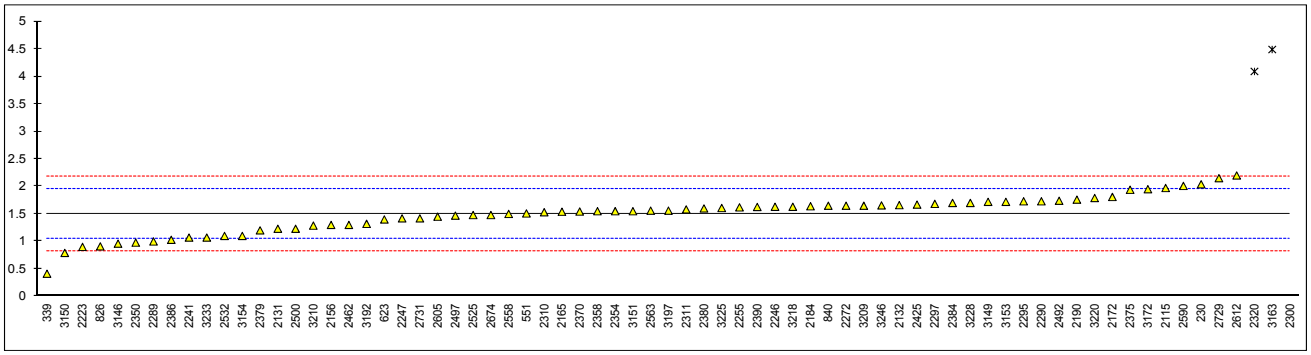


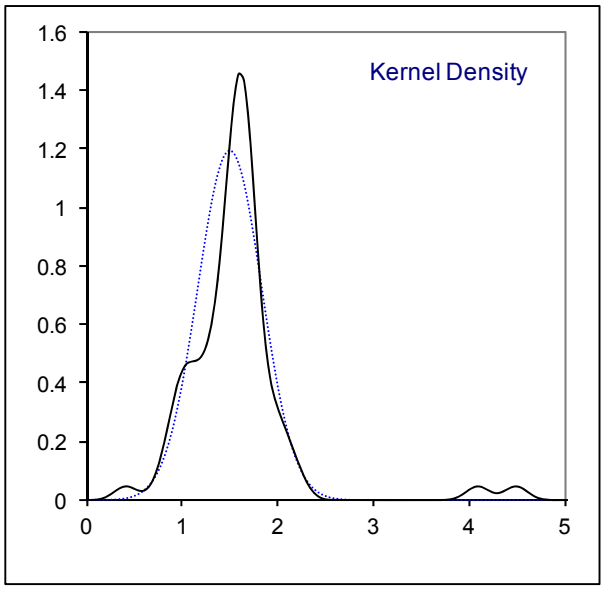


Determination of Acenaphthene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.04		2.40	
330		-----		-----	
339	In house	0.413		-4.81	
551	AfPS GS 2014	1.5090		0.05	
623	AfPS GS 2014	1.40		-0.44	
826	ZEK01.4-08	0.91		-2.61	
840	AfPS GS 2014	1.65		0.67	
2115	AfPS GS 2014	1.972		2.10	
2131	In house	1.23		-1.19	
2132	AfPS GS 2014	1.66		0.71	
2156	AfPS GS 2014	1.3		-0.88	
2165	AfPS GS 2014	1.54		0.18	
2172	AfPS GS 2014	1.809		1.37	
2184	AfPS GS 2014	1.64		0.63	
2190	AfPS GS 2014	1.76		1.16	
2212		-----		-----	
2223	In house	0.90		-2.65	
2241	AfPS GS 2014	1.07		-1.90	
2246	AfPS GS 2014	1.63		0.58	
2247	ZEK01.4-08	1.42		-0.35	
2255	In house	1.62		0.54	
2272	ISO16190:2013	1.65		0.67	
2289	AfPS GS 2014	1.0		-2.21	
2290	AfPS GS 2014	1.73		1.02	
2295	ZEK01.4-08	1.73		1.02	
2297	AfPS GS 2014	1.683		0.82	
2300	In house	13.7	R(0.01)	54.07	
2310	AfPS GS 2014	1.531		0.14	
2311	AfPS GS 2014	1.583		0.37	
2320	In house	4.091	R(0.01)	11.49	
2350	AfPS GS 2014	0.9785		-2.31	
2354	AfPS GS 2014	1.55		0.23	
2370	AfPS GS 2014	1.544		0.20	
2375	AfPS GS 2014	1.94		1.96	
2379	AfPS GS 2014	1.201		-1.32	
2380	AfPS GS 2014	1.6		0.45	
2384	AfPS GS 2014	1.7		0.89	
2386	AfPS GS 2014	1.03		-2.08	
2390	AfPS GS 2014	1.627		0.57	
2425	ZEK01.4-08	1.67	C	0.76	First reported 2.91
2446		-----		-----	
2462	AfPS GS 2014	1.30		-0.88	
2492	In house	1.740		1.07	
2497	ZEK01.4-08	1.469		-0.13	
2500	AfPS GS 2014	1.23		-1.19	
2525	AfPS GS 2014	1.48		-0.08	
2532	ZEK01.4-08	1.1		-1.77	
2558	AfPS GS 2014	1.5		0.01	
2563	AfPS GS 2014	1.56		0.27	
2590	AfPS GS 2014	2.01		2.27	
2605	AfPS GS 2014	1.45		-0.22	
2612	AfPS GS 2014	2.20		3.11	
2649		ND		-----	
2674	AfPS GS 2014	1.48		-0.08	
2729		2.15		2.89	
2731	AfPS GS 2014	1.42		-0.35	
3124		-----		-----	
3146		0.9599		-2.39	
3149	ZEK01.4-08	1.72		0.98	
3150	AfPS GS 2014	0.791		-3.14	
3151	AfPS GS 2014	1.55		0.23	
3153	AfPS GS 2014	1.72		0.98	
3154	ZEK01.4-08	1.10		-1.77	
3163	In house	4.49	R(0.01)	13.26	
3172	AfPS GS 2014	1.95		2.00	
3192	AfPS GS 2014	1.32		-0.79	
3197	AfPS GS 2014	1.56		0.27	
3209	AfPS GS 2014	1.65		0.67	
3210	In house	1.288		-0.93	
3218	AfPS GS 2014	1.63		0.58	
3220	ZEK01.4-08	1.79		1.29	
3225	ZEK01.4-08	1.608		0.48	
3228	AfPS GS 2014	1.7		0.89	
3233	In house	1.07		-1.90	
3246	AfPS GS 2014	1.655		0.69	

normality	OK
n	67
outliers	3
mean (n)	1.4988
st.dev. (n)	0.33498
R(calc.)	0.9379
R(Horwitz)	0.6318

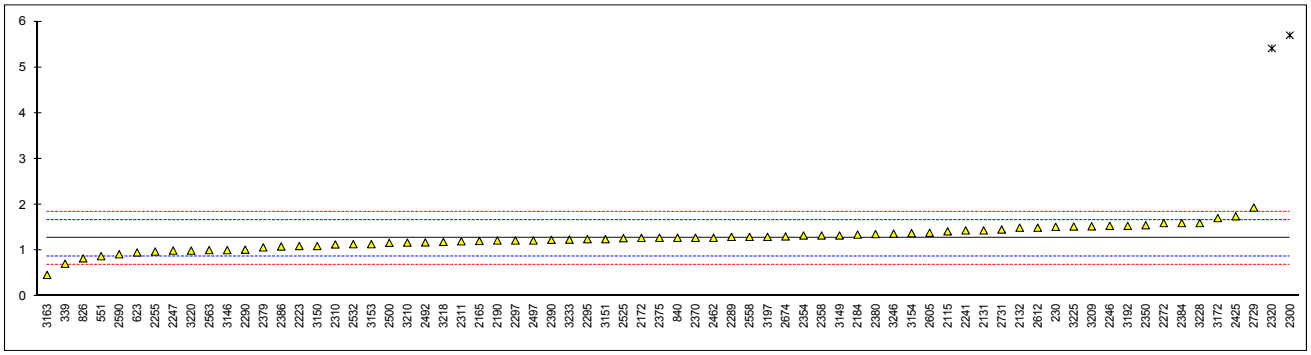


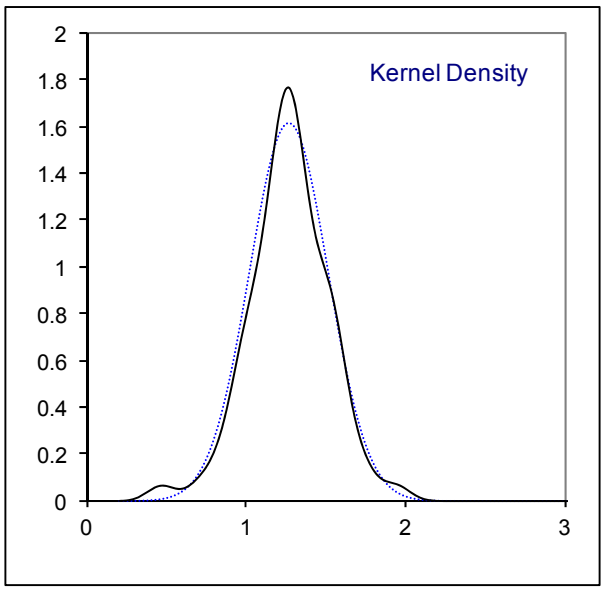


Determination of Fluorene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	1.52		1.29	
330		-----		-----	
339	In house	0.713		-2.83	
551	AfPS GS 2014	0.8778		-1.99	
623	AfPS GS 2014	0.96		-1.57	
826	ZEK01.4-08	0.83		-2.24	
840	AfPS GS 2014	1.28		0.06	
2115	AfPS GS 2014	1.421		0.78	
2131	In house	1.44		0.88	
2132	AfPS GS 2014	1.50		1.19	
2156	AfPS GS 2014	<0.2		<-5.46	False negative test result?
2165	AfPS GS 2014	1.21		-0.30	
2172	AfPS GS 2014	1.276		0.04	
2184	AfPS GS 2014	1.35		0.42	
2190	AfPS GS 2014	1.22		-0.24	
2212		-----		-----	
2223	In house	1.10		-0.86	
2241	AfPS GS 2014	1.44		0.88	
2246	AfPS GS 2014	1.54		1.39	
2247	ZEK01.4-08	1.0		-1.37	
2255	In house	0.98		-1.47	
2272	ISO16190:2013	1.60		1.70	
2289	AfPS GS 2014	1.3		0.16	
2290	AfPS GS 2014	1.02		-1.27	
2295	ZEK01.4-08	1.25		-0.09	
2297	AfPS GS 2014	1.221		-0.24	
2300	In house	5.7	R(0.01)	22.64	
2310	AfPS GS 2014	1.134		-0.68	
2311	AfPS GS 2014	1.203		-0.33	
2320	In house	5.414	R(0.01)	21.18	
2350	AfPS GS 2014	1.554		1.46	
2354	AfPS GS 2014	1.33		0.32	
2370	AfPS GS 2014	1.280		0.06	
2375	AfPS GS 2014	1.28		0.06	
2379	AfPS GS 2014	1.070		-1.01	
2380	AfPS GS 2014	1.36		0.47	
2384	AfPS GS 2014	1.6		1.70	
2386	AfPS GS 2014	1.09		-0.91	
2390	AfPS GS 2014	1.236		-0.16	
2425	ZEK01.4-08	1.75		2.46	
2446		-----		-----	
2462	AfPS GS 2014	1.28		0.06	
2492	In house	1.180		-0.45	
2497	ZEK01.4-08	1.221		-0.24	
2500	AfPS GS 2014	1.17		-0.50	
2525	AfPS GS 2014	1.27		0.01	
2532	ZEK01.4-08	1.14		-0.65	
2558	AfPS GS 2014	1.3		0.16	
2563	AfPS GS 2014	1.01		-1.32	
2590	AfPS GS 2014	0.92		-1.78	
2605	AfPS GS 2014	1.39		0.62	
2612	AfPS GS 2014	1.50		1.19	
2649		ND		-----	
2674	AfPS GS 2014	1.31		0.22	
2729		1.94		3.43	
2731	AfPS GS 2014	1.46		0.98	
3124		-----		-----	
3146		1.011		-1.31	
3149	ZEK01.4-08	1.33		0.32	
3150	AfPS GS 2014	1.10		-0.86	
3151	AfPS GS 2014	1.25		-0.09	
3153	AfPS GS 2014	1.14		-0.65	
3154	ZEK01.4-08	1.38		0.57	
3163	In house	0.47		-4.08	
3172	AfPS GS 2014	1.71		2.26	
3192	AfPS GS 2014	1.54		1.39	
3197	AfPS GS 2014	1.30		0.16	
3209	AfPS GS 2014	1.53		1.34	
3210	In house	1.174		-0.48	
3218	AfPS GS 2014	1.19		-0.40	
3220	ZEK01.4-08	1.0		-1.37	
3225	ZEK01.4-08	1.526		1.32	
3228	AfPS GS 2014	1.6		1.70	
3233	In house	1.24		-0.14	
3246	AfPS GS 2014	1.37		0.52	

normality	suspect
n	67
outliers	2
mean (n)	1.2679
st.dev. (n)	0.24702
R(calc.)	0.6917
R(Horwitz)	0.5481

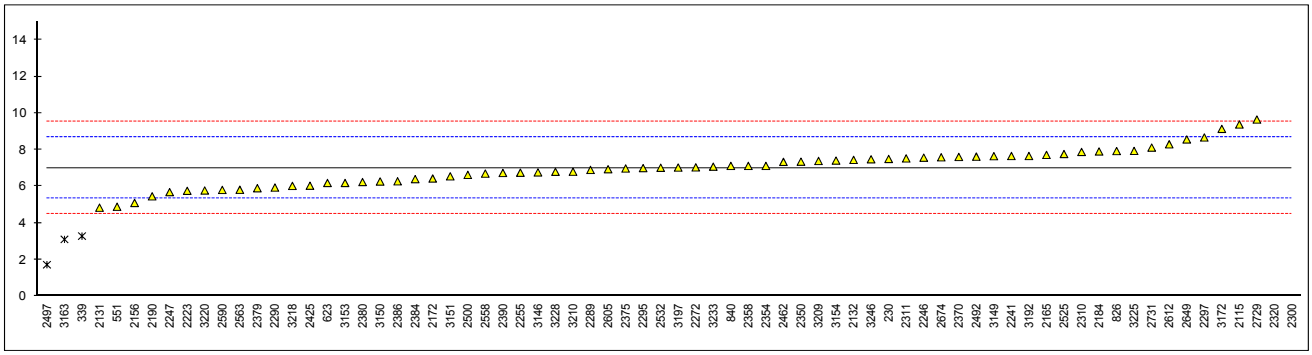


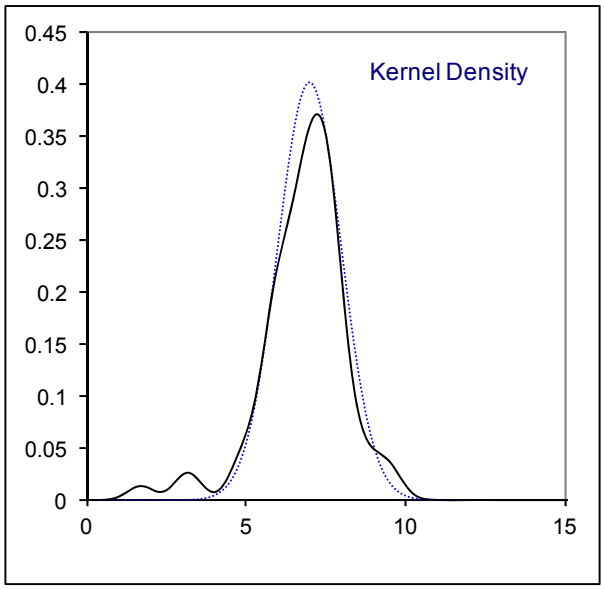


Determination of Phenanthrene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	7.5		0.58	
330		-----		-----	
339	In house	3.29	R(0.05)	-4.45	
551	AfPS GS 2014	4.8919		-2.54	
623	AfPS GS 2014	6.19		-0.98	
826	ZEK01.4-08	7.93		1.09	
840	AfPS GS 2014	7.12		0.13	
2115	AfPS GS 2014	9.379		2.83	
2131	In house	4.84		-2.60	
2132	AfPS GS 2014	7.45		0.52	
2156	AfPS GS 2014	5.1		-2.29	
2165	AfPS GS 2014	7.72		0.84	
2172	AfPS GS 2014	6.434		-0.69	
2184	AfPS GS 2014	7.91		1.07	
2190	AfPS GS 2014	5.46		-1.86	
2212		-----		-----	
2223	In house	5.76		-1.50	
2241	AfPS GS 2014	7.66		0.77	
2246	AfPS GS 2014	7.57		0.66	
2247	ZEK01.4-08	5.69		-1.58	
2255	In house	6.75		-0.32	
2272	ISO16190:2013	7.04		0.03	
2289	AfPS GS 2014	6.9		-0.14	
2290	AfPS GS 2014	5.94		-1.28	
2295	ZEK01.4-08	7		-0.02	
2297	AfPS GS 2014	8.672		1.98	
2300	In house	31.1	R(0.01)	28.77	
2310	AfPS GS 2014	7.883		1.04	
2311	AfPS GS 2014	7.529		0.62	
2320	In house	21.612	R(0.01)	17.44	
2350	AfPS GS 2014	7.352		0.40	
2354	AfPS GS 2014	7.12		0.13	
2370	AfPS GS 2014	7.610		0.71	
2375	AfPS GS 2014	6.98		-0.04	
2379	AfPS GS 2014	5.903		-1.33	
2380	AfPS GS 2014	6.24		-0.92	
2384	AfPS GS 2014	6.4		-0.73	
2386	AfPS GS 2014	6.28		-0.88	
2390	AfPS GS 2014	6.737		-0.33	
2425	ZEK01.4-08	6.04		-1.16	
2446		-----		-----	
2462	AfPS GS 2014	7.34		0.39	
2492	In house	7.625		0.73	
2497	ZEK01.4-08	1.730	R(0.01)	-6.31	
2500	AfPS GS 2014	6.63		-0.46	
2525	AfPS GS 2014	7.77		0.90	
2532	ZEK01.4-08	7.02		0.01	
2558	AfPS GS 2014	6.7		-0.38	
2563	AfPS GS 2014	5.82		-1.43	
2590	AfPS GS 2014	5.81		-1.44	
2605	AfPS GS 2014	6.94		-0.09	
2612	AfPS GS 2014	8.30		1.54	
2649		8.56485		1.85	
2674	AfPS GS 2014	7.59		0.69	
2729		9.65		3.15	
2731	AfPS GS 2014	8.12		1.32	
3124		-----		-----	
3146		6.7669		-0.30	
3149	ZEK01.4-08	7.65		0.76	
3150	AfPS GS 2014	6.27		-0.89	
3151	AfPS GS 2014	6.55		-0.55	
3153	AfPS GS 2014	6.19		-0.98	
3154	ZEK01.4-08	7.41		0.47	
3163	In house	3.11	R(0.05)	-4.66	
3172	AfPS GS 2014	9.14		2.54	
3192	AfPS GS 2014	7.66		0.77	
3197	AfPS GS 2014	7.03		0.02	
3209	AfPS GS 2014	7.39		0.45	
3210	In house	6.803		-0.25	
3218	AfPS GS 2014	6.03		-1.18	
3220	ZEK01.4-08	5.78		-1.47	
3225	ZEK01.4-08	7.938		1.10	
3228	AfPS GS 2014	6.8		-0.26	
3233	In house	7.08		0.08	
3246	AfPS GS 2014	7.48		0.56	

normality	OK
n	66
outliers	5
mean (n)	7.0142
st.dev. (n)	0.99519
R(calc.)	2.7865
R(Horwitz)	2.3438

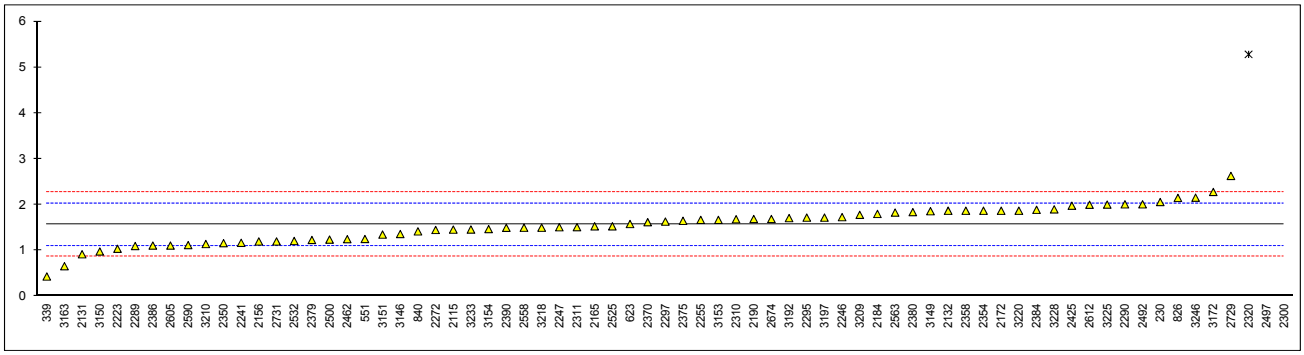


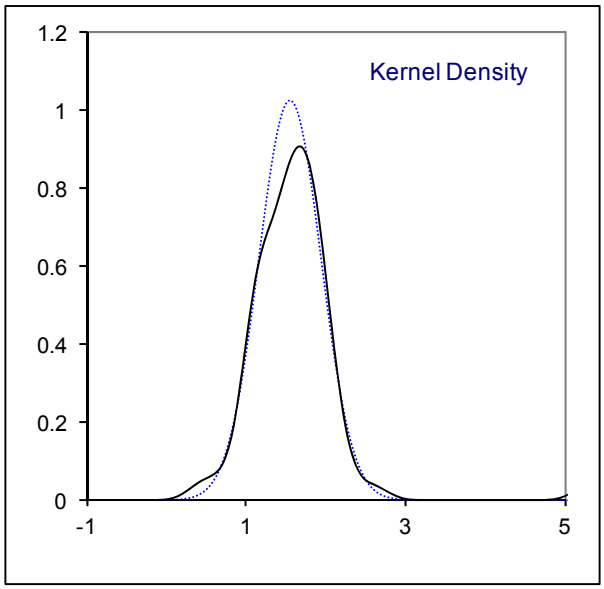


Determination of Anthracene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.06		2.12	
330		-----		-----	
339	In house	0.435		-4.83	
551	AfPS GS 2014	1.2527		-1.33	
623	AfPS GS 2014	1.58		0.07	
826	ZEK01.4-08	2.15		2.50	
840	AfPS GS 2014	1.42		-0.62	
2115	AfPS GS 2014	1.458		-0.45	
2131	In house	0.92		-2.75	
2132	AfPS GS 2014	1.87		1.31	
2156	AfPS GS 2014	1.2		-1.56	
2165	AfPS GS 2014	1.53		-0.15	
2172	AfPS GS 2014	1.870		1.31	
2184	AfPS GS 2014	1.80		1.01	
2190	AfPS GS 2014	1.69		0.54	
2212		-----		-----	
2223	In house	1.04		-2.24	
2241	AfPS GS 2014	1.17		-1.69	
2246	AfPS GS 2014	1.73		0.71	
2247	ZEK01.4-08	1.51		-0.23	
2255	In house	1.67		0.45	
2272	ISO16190:2013	1.45		-0.49	
2289	AfPS GS 2014	1.1		-1.98	
2290	AfPS GS 2014	2.01		1.90	
2295	ZEK01.4-08	1.72		0.66	
2297	AfPS GS 2014	1.633		0.29	
2300	In house	13.9	R(0.01)	52.71	
2310	AfPS GS 2014	1.684		0.51	
2311	AfPS GS 2014	1.512		-0.22	
2320	In house	5.282	R(0.01)	15.89	
2350	AfPS GS 2014	1.163		-1.72	
2354	AfPS GS 2014	1.87		1.31	
2370	AfPS GS 2014	1.620		0.24	
2375	AfPS GS 2014	1.65		0.37	
2379	AfPS GS 2014	1.232		-1.42	
2380	AfPS GS 2014	1.84		1.18	
2384	AfPS GS 2014	1.89	C	1.39	First reported 2.8
2386	AfPS GS 2014	1.11		-1.94	
2390	AfPS GS 2014	1.497		-0.29	
2425	ZEK01.4-08	1.98	C	1.78	First reported 2.95
2446		-----		-----	
2462	AfPS GS 2014	1.25		-1.34	
2492	In house	2.010		1.90	
2497	ZEK01.4-08	6.982	R(0.01)	23.15	
2500	AfPS GS 2014	1.24		-1.39	
2525	AfPS GS 2014	1.53		-0.15	
2532	ZEK01.4-08	1.21		-1.51	
2558	AfPS GS 2014	1.5		-0.28	
2563	AfPS GS 2014	1.83		1.13	
2590	AfPS GS 2014	1.12		-1.90	
2605	AfPS GS 2014	1.11		-1.94	
2612	AfPS GS 2014	2.00		1.86	
2649		ND		-----	
2674	AfPS GS 2014	1.69		0.54	
2729		2.63		4.55	
2731	AfPS GS 2014	1.20		-1.56	
3124		-----		-----	
3146		1.362		-0.87	
3149	ZEK01.4-08	1.86		1.26	
3150	AfPS GS 2014	0.981		-2.49	
3151	AfPS GS 2014	1.35		-0.92	
3153	AfPS GS 2014	1.67		0.45	
3154	ZEK01.4-08	1.47		-0.40	
3163	In house	0.66		-3.87	
3172	AfPS GS 2014	2.28		3.06	
3192	AfPS GS 2014	1.71		0.62	
3197	AfPS GS 2014	1.72		0.66	
3209	AfPS GS 2014	1.78		0.92	
3210	In house	1.144		-1.80	
3218	AfPS GS 2014	1.50		-0.28	
3220	ZEK01.4-08	1.87		1.31	
3225	ZEK01.4-08	2.004		1.88	
3228	AfPS GS 2014	1.9		1.43	
3233	In house	1.46		-0.45	
3246	AfPS GS 2014	2.155		2.52	

normality	OK
n	67
outliers	3
mean (n)	1.5645
st.dev. (n)	0.38940
R(calc.)	1.0903
R(Horwitz)	0.6552

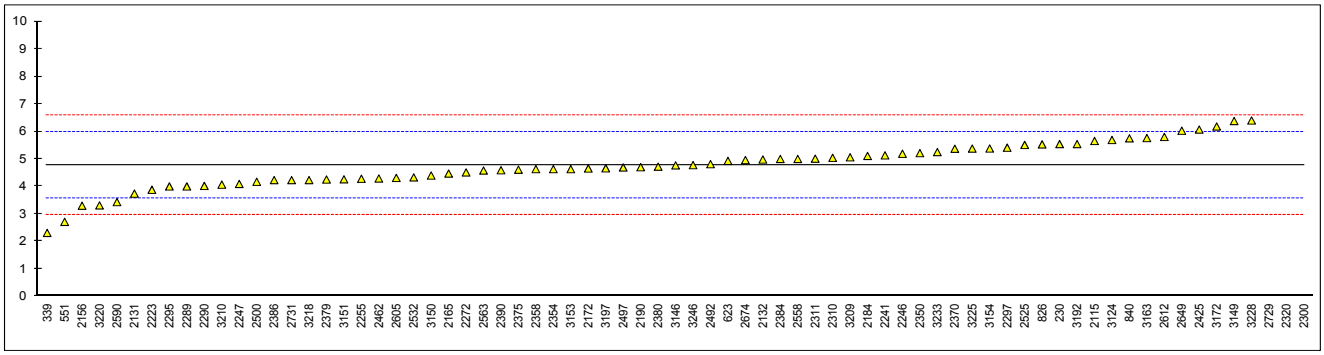


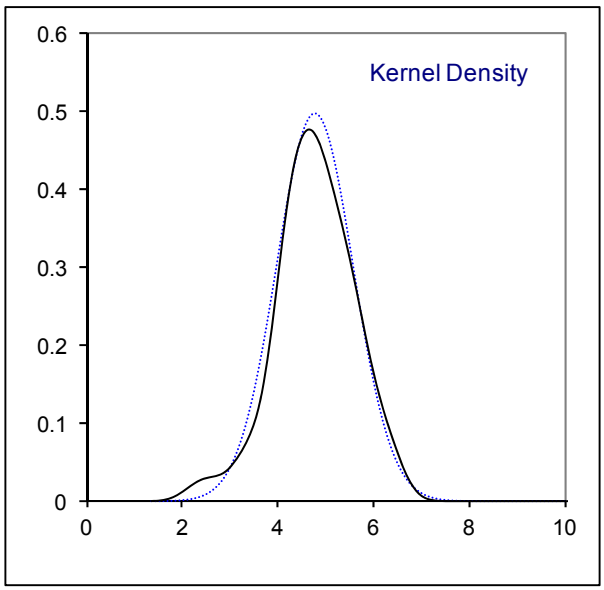


Determination of Fluoranthene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	5.54		1.29	
330		-----		-----	
339	In house	2.31		-4.07	
551	AfPS GS 2014	2.7123		-3.41	
623	AfPS GS 2014	4.93		0.27	
826	ZEK01.4-08	5.53		1.27	
840	AfPS GS 2014	5.75		1.64	
2115	AfPS GS 2014	5.654		1.48	
2131	In house	3.74		-1.70	
2132	AfPS GS 2014	4.98		0.36	
2156	AfPS GS 2014	3.3		-2.43	
2165	AfPS GS 2014	4.47		-0.49	
2172	AfPS GS 2014	4.653		-0.18	
2184	AfPS GS 2014	5.11		0.57	
2190	AfPS GS 2014	4.70		-0.11	
2212		-----		-----	
2223	In house	3.88		-1.47	
2241	AfPS GS 2014	5.13		0.61	
2246	AfPS GS 2014	5.19		0.71	
2247	ZEK01.4-08	4.09		-1.12	
2255	In house	4.28		-0.80	
2272	ISO16190:2013	4.51		-0.42	
2289	AfPS GS 2014	4.0		-1.27	
2290	AfPS GS 2014	4.02		-1.24	
2295	ZEK01.4-08	4		-1.27	
2297	AfPS GS 2014	5.410		1.07	
2300	In house	24.9	R(0.01)	33.41	
2310	AfPS GS 2014	5.042		0.46	
2311	AfPS GS 2014	5.011		0.41	
2320	In house	15.281	R(0.01)	17.45	
2350	AfPS GS 2014	5.211		0.74	
2354	AfPS GS 2014	4.63		-0.22	
2370	AfPS GS 2014	5.372		1.01	
2375	AfPS GS 2014	4.61		-0.26	
2379	AfPS GS 2014	4.252		-0.85	
2380	AfPS GS 2014	4.72		-0.07	
2384	AfPS GS 2014	5.0		0.39	
2386	AfPS GS 2014	4.23		-0.89	
2390	AfPS GS 2014	4.590		-0.29	
2425	ZEK01.4-08	6.07		2.17	
2446		-----		-----	
2462	AfPS GS 2014	4.29		-0.79	
2492	In house	4.810		0.08	
2497	ZEK01.4-08	4.691		-0.12	
2500	AfPS GS 2014	4.17		-0.99	
2525	AfPS GS 2014	5.51		1.24	
2532	ZEK01.4-08	4.33		-0.72	
2558	AfPS GS 2014	5.0		0.39	
2563	AfPS GS 2014	4.58		-0.31	
2590	AfPS GS 2014	3.43		-2.21	
2605	AfPS GS 2014	4.31		-0.75	
2612	AfPS GS 2014	5.80		1.72	
2649		6.02683		2.09	
2674	AfPS GS 2014	4.96		0.32	
2729		13.42	C,R(0.01)	14.36	First reported 7.46
2731	AfPS GS 2014	4.23		-0.89	
3124	In house	5.69		1.54	
3146		4.767		0.00	
3149	ZEK01.4-08	6.38		2.68	
3150	AfPS GS 2014	4.397		-0.61	
3151	AfPS GS 2014	4.26		-0.84	
3153	AfPS GS 2014	4.63		-0.22	
3154	ZEK01.4-08	5.38		1.02	
3163	In house	5.76		1.65	
3172	AfPS GS 2014	6.18		2.35	
3192	AfPS GS 2014	5.54		1.29	
3197	AfPS GS 2014	4.66		-0.17	
3209	AfPS GS 2014	5.06		0.49	
3210	In house	4.066		-1.16	
3218	AfPS GS 2014	4.23		-0.89	
3220	ZEK01.4-08	3.31		-2.41	
3225	ZEK01.4-08	5.378		1.02	
3228	AfPS GS 2014	6.4		2.71	
3233	In house	5.25		0.81	
3246	AfPS GS 2014	4.775		0.02	

normality	OK
n	69
outliers	3
mean (n)	4.7644
st.dev. (n)	0.80123
R(calc.)	2.2434
R(Horwitz)	1.6875

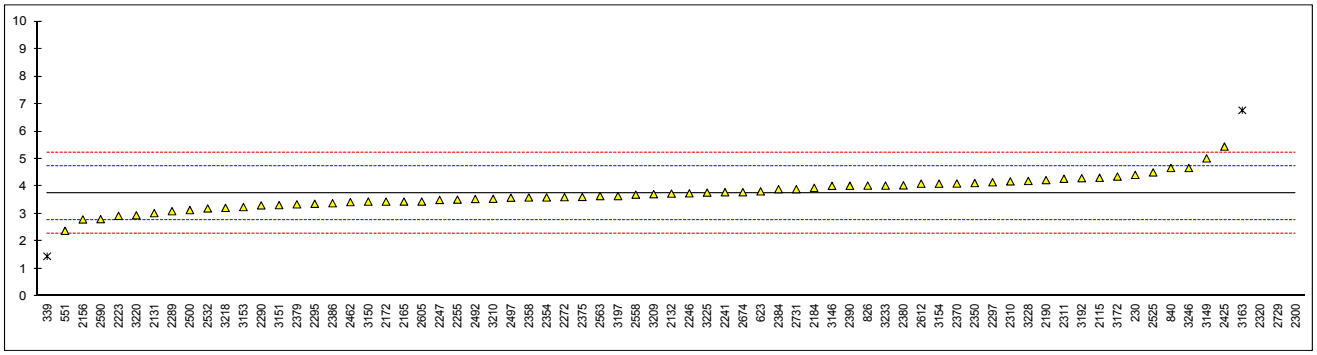


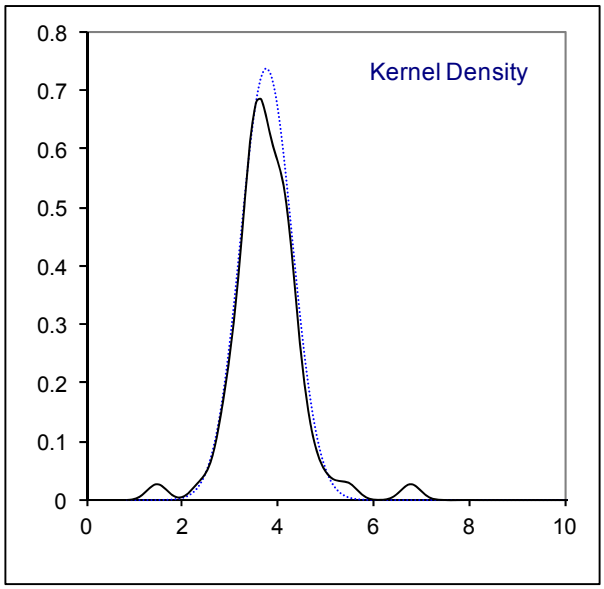


Determination of Pyrene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	4.42		1.37	
330		-----		-----	
339	In house	1.46	R(0.01)	-4.66	
551	AfPS GS 2014	2.3868		-2.77	
623	AfPS GS 2014	3.82		0.15	
826	ZEK01.4-08	4.03		0.57	
840	AfPS GS 2014	4.67		1.87	
2115	AfPS GS 2014	4.315		1.15	
2131	In house	3.03		-1.46	
2132	AfPS GS 2014	3.74		-0.02	
2156	AfPS GS 2014	2.8		-1.93	
2165	AfPS GS 2014	3.45		-0.61	
2172	AfPS GS 2014	3.449		-0.61	
2184	AfPS GS 2014	3.95		0.41	
2190	AfPS GS 2014	4.23		0.98	
2212		-----		-----	
2223	In house	2.93		-1.66	
2241	AfPS GS 2014	3.79		0.08	
2246	AfPS GS 2014	3.75		0.00	
2247	ZEK01.4-08	3.51		-0.49	
2255	In house	3.52		-0.46	
2272	ISO16190:2013	3.61		-0.28	
2289	AfPS GS 2014	3.1		-1.32	
2290	AfPS GS 2014	3.31		-0.89	
2295	ZEK01.4-08	3.37		-0.77	
2297	AfPS GS 2014	4.151		0.82	
2300	In house	24.8	R(0.01)	42.82	
2310	AfPS GS 2014	4.184		0.89	
2311	AfPS GS 2014	4.279		1.08	
2320	In house	10.783	R(0.01)	14.31	
2350	AfPS GS 2014	4.123		0.76	
2354	AfPS GS 2014	3.60		-0.30	
2370	AfPS GS 2014	4.107		0.73	
2375	AfPS GS 2014	3.62		-0.26	
2379	AfPS GS 2014	3.350		-0.81	
2380	AfPS GS 2014	4.04		0.59	
2384	AfPS GS 2014	3.9		0.31	
2386	AfPS GS 2014	3.39		-0.73	
2390	AfPS GS 2014	4.025		0.56	
2425	ZEK01.4-08	5.45		3.46	
2446		-----		-----	
2462	AfPS GS 2014	3.43		-0.65	
2492	In house	3.545		-0.41	
2497	ZEK01.4-08	3.591		-0.32	
2500	AfPS GS 2014	3.14		-1.24	
2525	AfPS GS 2014	4.51		1.55	
2532	ZEK01.4-08	3.2		-1.12	
2558	AfPS GS 2014	3.7		-0.10	
2563	AfPS GS 2014	3.65		-0.20	
2590	AfPS GS 2014	2.81		-1.91	
2605	AfPS GS 2014	3.45		-0.61	
2612	AfPS GS 2014	4.10		0.72	
2649		ND		-----	
2674	AfPS GS 2014	3.79		0.08	
2729		11.10	C,R(0.01)	14.95	First reported 5.77
2731	AfPS GS 2014	3.90		0.31	
3124		-----		-----	
3146		4.0212		0.55	
3149	ZEK01.4-08	5.02		2.59	
3150	AfPS GS 2014	3.448		-0.61	
3151	AfPS GS 2014	3.32		-0.87	
3153	AfPS GS 2014	3.25		-1.01	
3154	ZEK01.4-08	4.10		0.72	
3163	In house	6.77	R(0.01)	6.15	
3172	AfPS GS 2014	4.36		1.24	
3192	AfPS GS 2014	4.30		1.12	
3197	AfPS GS 2014	3.65		-0.20	
3209	AfPS GS 2014	3.72		-0.06	
3210	In house	3.549		-0.41	
3218	AfPS GS 2014	3.22		-1.08	
3220	ZEK01.4-08	2.95		-1.62	
3225	ZEK01.4-08	3.776		0.06	
3228	AfPS GS 2014	4.2		0.92	
3233	In house	4.03		0.57	
3246	AfPS GS 2014	4.67		1.87	

normality	OK
n	65
outliers	5
mean (n)	3.7485
st.dev. (n)	0.54032
R(calc.)	1.5129
R(Horwitz)	1.3764

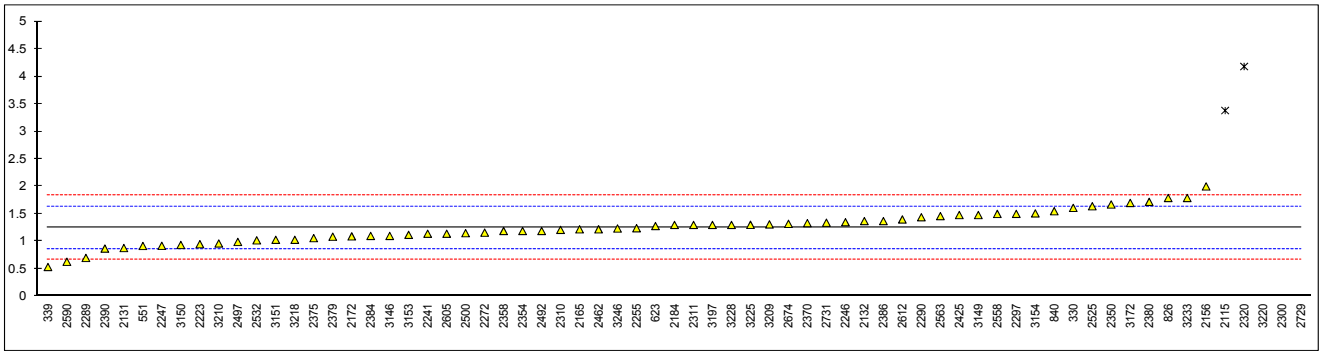


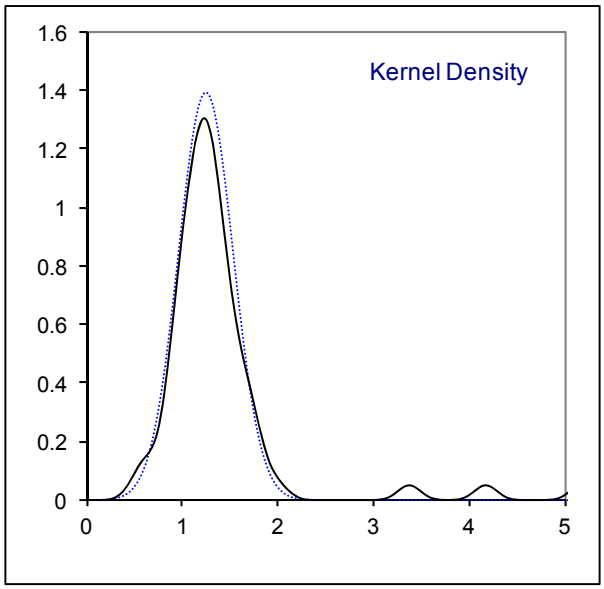


Determination of Benzo[a]anthracene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330	In house	1.61		1.85	
339	In house	0.535		-3.70	
551	AfPS GS 2014	0.9173		-1.73	
623	AfPS GS 2014	1.28		0.14	
826	ZEK01.4-08	1.79		2.78	
840	AfPS GS 2014	1.55		1.54	
2115	AfPS GS 2014	3.38	C,R(0.01)	10.99	First reported 2.639
2131	In house	0.88		-1.92	
2132	AfPS GS 2014	1.37		0.61	
2156	AfPS GS 2014	2.0		3.86	
2165	AfPS GS 2014	1.22		-0.17	
2172	AfPS GS 2014	1.092		-0.83	
2184	AfPS GS 2014	1.30		0.25	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.95		-1.56	
2241	AfPS GS 2014	1.14		-0.58	
2246	AfPS GS 2014	1.35		0.51	
2247	ZEK01.4-08	0.92		-1.71	
2255	In house	1.24		-0.06	
2272	ISO16190:2013	1.16		-0.48	
2289	AfPS GS 2014	0.7		-2.85	
2290	AfPS GS 2014	1.44		0.97	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	1.501		1.28	
2300	In house	7.5	R(0.01)	32.26	
2310	AfPS GS 2014	1.210		-0.22	
2311	AfPS GS 2014	1.300		0.25	
2320	In house	4.181	R(0.01)	15.12	
2350	AfPS GS 2014	1.672		2.17	
2354	AfPS GS 2014	1.19		-0.32	
2370	AfPS GS 2014	1.333		0.42	
2375	AfPS GS 2014	1.06		-0.99	
2379	AfPS GS 2014	1.086		-0.86	
2380	AfPS GS 2014	1.72		2.42	
2384	AfPS GS 2014	1.1		-0.79	
2386	AfPS GS 2014	1.37		0.61	
2390	AfPS GS 2014	0.870		-1.97	
2425	ZEK01.4-08	1.48		1.18	
2446		-----		-----	
2462	AfPS GS 2014	1.22		-0.17	
2492	In house	1.190		-0.32	
2497	ZEK01.4-08	0.991		-1.35	
2500	AfPS GS 2014	1.15		-0.53	
2525	AfPS GS 2014	1.64		2.00	
2532	ZEK01.4-08	1.02		-1.20	
2558	AfPS GS 2014	1.5		1.28	
2563	AfPS GS 2014	1.46	C	1.07	First reported 2.75
2590	AfPS GS 2014	0.63		-3.21	
2605	AfPS GS 2014	1.14		-0.58	
2612	AfPS GS 2014	1.40		0.76	
2649		ND		-----	
2674	AfPS GS 2014	1.32		0.35	
2729		9.12	C,R(0.01)	40.62	First reported 2.84
2731	AfPS GS 2014	1.34		0.45	
3124		-----		-----	
3146		1.10		-0.79	
3149	ZEK01.4-08	1.48		1.18	
3150	AfPS GS 2014	0.936		-1.63	
3151	AfPS GS 2014	1.03		-1.15	
3153	AfPS GS 2014	1.12		-0.68	
3154	ZEK01.4-08	1.51		1.33	
3163		-----		-----	
3172	AfPS GS 2014	1.70		2.31	
3192	AfPS GS 2014	< LOD		-----	
3197	AfPS GS 2014	1.30		0.25	
3209	AfPS GS 2014	1.31		0.30	
3210	In house	0.963		-1.49	
3218	AfPS GS 2014	1.03		-1.15	
3220	ZEK01.4-08	5.18	R(0.01)	20.28	
3225	ZEK01.4-08	1.302		0.26	
3228	AfPS GS 2014	1.3		0.25	
3233	In house	1.79		2.78	
3246	AfPS GS 2014	1.235		-0.09	

normality	OK
n	61
outliers	5
mean (n)	1.2521
st.dev. (n)	0.28600
R(calc.)	0.8008
R(Horwitz)	0.5423

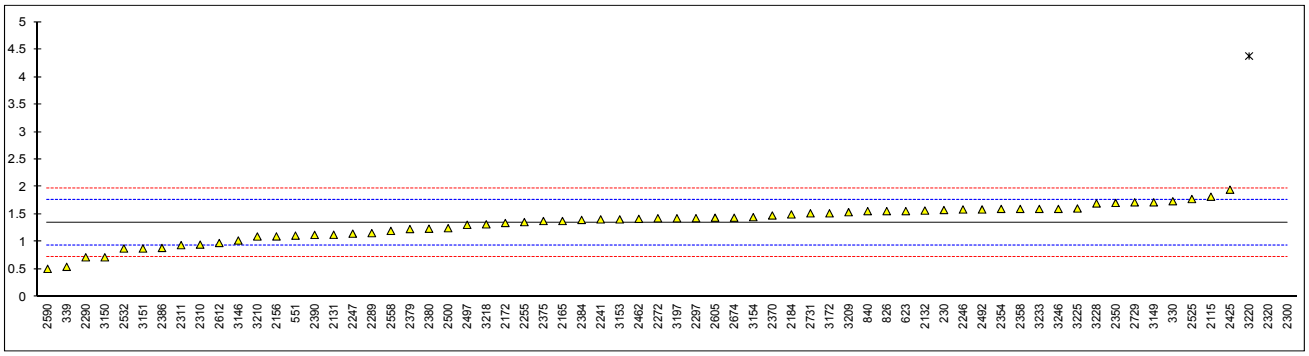


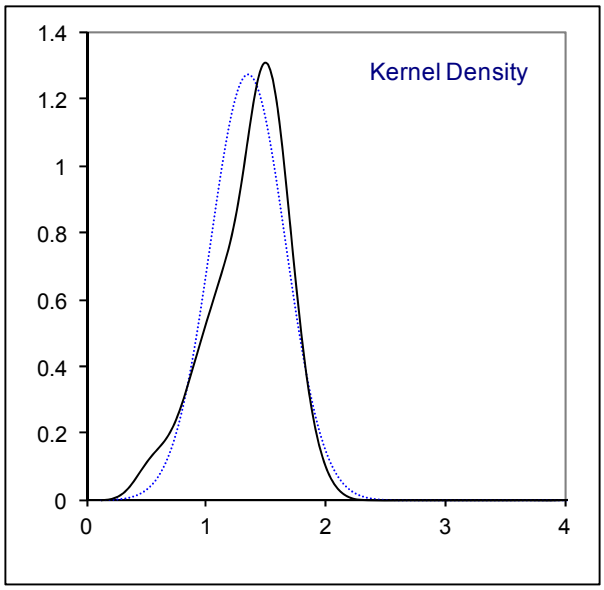


Determination of Chrysene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	1.58		1.12	
330	In house	1.74		1.90	
339	In house	0.547		-3.88	
551	AfPS GS 2014	1.1145		-1.13	
623	AfPS GS 2014	1.56		1.03	
826	ZEK01.4-08	1.56		1.03	
840	AfPS GS 2014	1.56		1.03	
2115	AfPS GS 2014	1.822		2.30	
2131	In house	1.13		-1.06	
2132	AfPS GS 2014	1.57		1.08	
2156	AfPS GS 2014	1.1		-1.20	
2165	AfPS GS 2014	1.38		0.15	
2172	AfPS GS 2014	1.344		-0.02	
2184	AfPS GS 2014	1.50		0.74	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223		-----		-----	
2241	AfPS GS 2014	1.41		0.30	
2246	AfPS GS 2014	1.59		1.17	
2247	ZEK01.4-08	1.15		-0.96	
2255	In house	1.36		0.06	
2272	ISO16190:2013	1.43		0.40	
2289	AfPS GS 2014	1.16		-0.91	
2290	AfPS GS 2014	0.72		-3.05	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	1.432		0.41	
2300	In house	7.0	R(0.01)	27.41	
2310	AfPS GS 2014	0.951		-1.93	
2311	AfPS GS 2014	0.941		-1.97	
2320	In house	5.143	R(0.01)	18.40	
2350	AfPS GS 2014	1.709		1.75	
2354	AfPS GS 2014	1.60		1.22	
2370	AfPS GS 2014	1.481		0.64	
2375	AfPS GS 2014	1.38		0.15	
2379	AfPS GS 2014	1.234		-0.55	
2380	AfPS GS 2014	1.24		-0.52	
2384	AfPS GS 2014	1.4		0.25	
2386	AfPS GS 2014	0.89		-2.22	
2390	AfPS GS 2014	1.128		-1.07	
2425	ZEK01.4-08	1.95		2.92	
2446		-----		-----	
2462	AfPS GS 2014	1.42		0.35	
2492	In house	1.590		1.17	
2497	ZEK01.4-08	1.311		-0.18	
2500	AfPS GS 2014	1.25		-0.48	
2525	AfPS GS 2014	1.78		2.09	
2532	ZEK01.4-08	0.88		-2.27	
2558	AfPS GS 2014	1.2		-0.72	
2563		-----		-----	
2590	AfPS GS 2014	0.51		-4.06	
2605	AfPS GS 2014	1.44		0.45	
2612	AfPS GS 2014	0.98		-1.78	
2649		ND		-----	
2674	AfPS GS 2014	1.44		0.45	
2729		1.72		1.80	
2731	AfPS GS 2014	1.52		0.83	
3124		-----		-----	
3146		1.0252		-1.57	
3149	ZEK01.4-08	1.72		1.80	
3150	AfPS GS 2014	0.72		-3.05	
3151	AfPS GS 2014	0.88		-2.27	
3153	AfPS GS 2014	1.41		0.30	
3154	ZEK01.4-08	1.45		0.49	
3163		-----		-----	
3172	AfPS GS 2014	1.52		0.83	
3192	AfPS GS 2014	< LOD		-----	
3197	AfPS GS 2014	1.43		0.40	
3209	AfPS GS 2014	1.54		0.93	
3210	In house	1.099		-1.21	
3218	AfPS GS 2014	1.32		-0.14	
3220	ZEK01.4-08	4.38	R(0.01)	14.70	
3225	ZEK01.4-08	1.608		1.26	
3228	AfPS GS 2014	1.7		1.71	
3233	In house	1.60		1.22	
3246	AfPS GS 2014	1.60		1.22	

normality	OK
n	62
outliers	3
mean (n)	1.3480
st.dev. (n)	0.31335
R(calc.)	0.8774
R(Horwitz)	0.5774

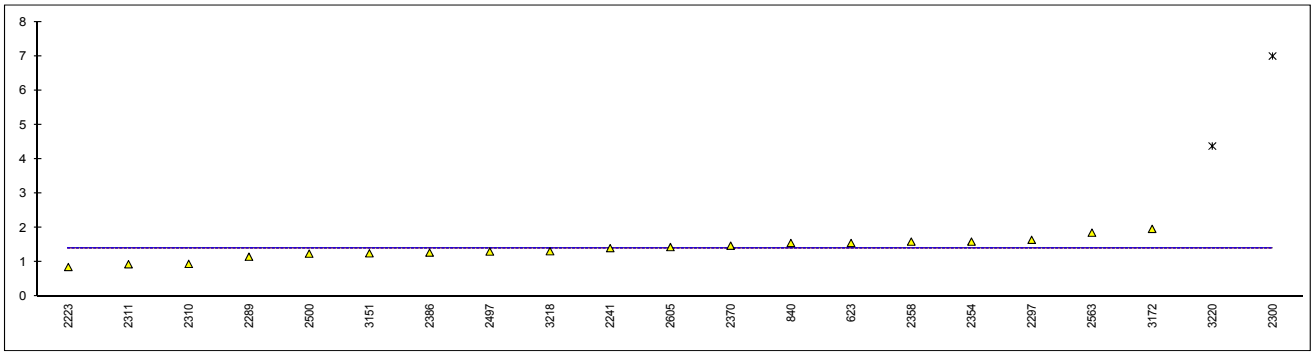


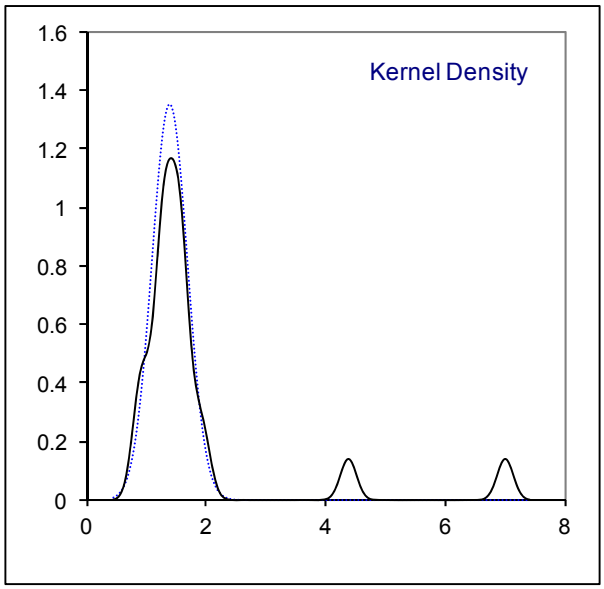


Determination of sum of Chrysene and Triphenylene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
551		-----		-----	
623	AfPS GS 2014	1.56		-----	
826	ZEK01.4-08	N.A.		-----	
840	AfPS GS 2014	1.56		-----	
2115		-----		-----	
2131	In house	<0.01		-----	False negative test result?
2132	AfPS GS 2014	N/A		-----	
2156		-----		-----	
2165	AfPS GS 2014	NA		-----	
2172		-----		-----	
2184	AfPS GS 2014	Not Applicable		-----	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.86		-----	
2241	AfPS GS 2014	1.41		-----	
2246	AfPS GS 2014	NA		-----	
2247		-----		-----	
2255		-----		-----	
2272		-----		-----	
2289	AfPS GS 2014	1.16		-----	
2290		-----		-----	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	1.652		-----	
2300	In house	7.0	R(0.01)	-----	
2310	AfPS GS 2014	0.951		-----	
2311	AfPS GS 2014	0.941		-----	
2320		-----		-----	
2350		-----		-----	
2354	AfPS GS 2014	1.60		-----	
2370	AfPS GS 2014	1.481		-----	
2375		-----		-----	
2379		-----		-----	
2380		-----		-----	
2384		-----		-----	
2386	AfPS GS 2014	1.28		-----	
2390		-----		-----	
2425		-----		-----	
2446		-----		-----	
2462		-----		-----	
2492		-----		-----	
2497	ZEK01.4-08	1.311		-----	
2500	AfPS GS 2014	1.25		-----	
2525	AfPS GS 2014	<0.20		-----	False negative test result?
2532	ZEK01.4-08	Not Reported		-----	
2558		-----		-----	
2563	AfPS GS 2014	1.86		-----	
2590		-----		-----	
2605	AfPS GS 2014	1.44		-----	
2612		-----		-----	
2649		ND		-----	
2674		-----		-----	
2729		-----		-----	
2731		-----		-----	
3124		-----		-----	
3146		-----		-----	
3149		-----		-----	
3150		-----		-----	
3151	AfPS GS 2014	1.26		-----	
3153		-----		-----	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	1.97		-----	
3192		-----		-----	
3197		-----		-----	
3209		-----		-----	
3210		-----		-----	
3218	AfPS GS 2014	1.32		-----	
3220	ZEK01.4-08	4.38		-----	False positive test result?
3225		-----		-----	
3228	AfPS GS 2014	n.a.		-----	
3233		-----		-----	
3246	AfPS GS 2014	n.d.		-----	

normality	n.a.
n	20
outliers	1
mean (n)	1.393
st.dev. (n)	n.a.
R(calc.)	n.a.
R(Horwitz)	n.a.

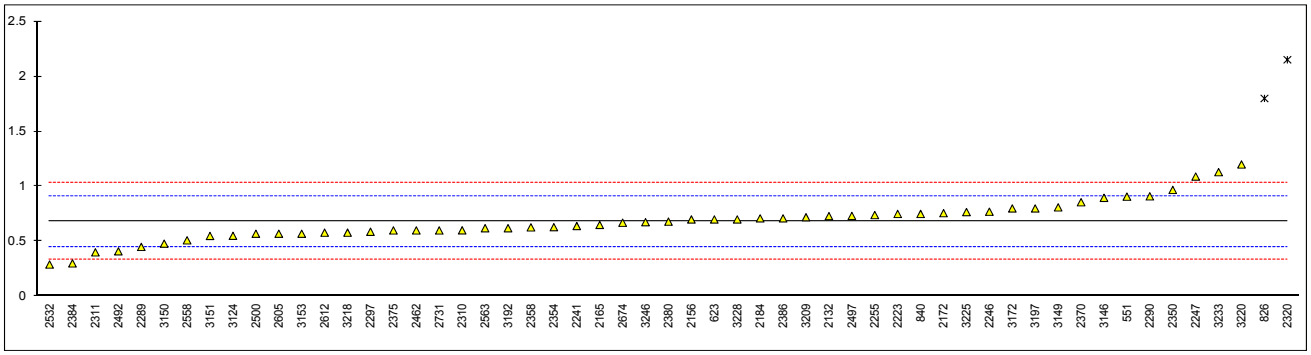


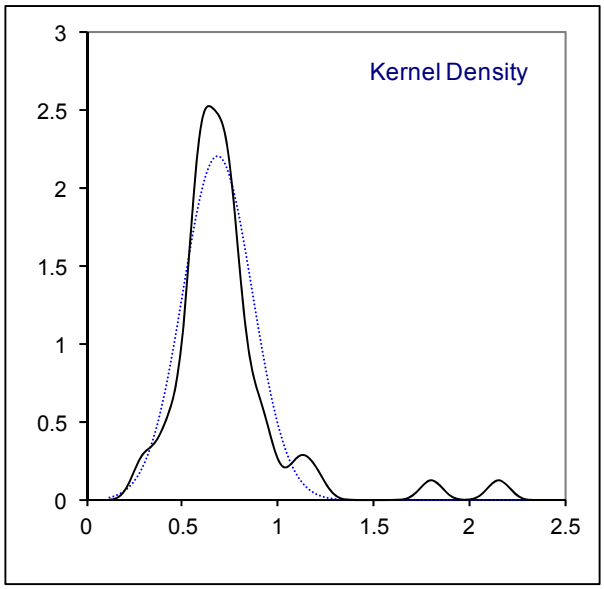


Determination of Benzo[b]fluoranthene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
551	AfPS GS 2014	0.9073		1.93	
623	AfPS GS 2014	0.70		0.14	
826	ZEK01.4-08	1.80	R(0.01)	9.64	
840	AfPS GS 2014	0.75		0.58	
2115		-----		-----	
2131	In house	<0.01		<-5.82	False negative test result?
2132	AfPS GS 2014	0.73		0.40	
2156	AfPS GS 2014	0.7		0.14	
2165	AfPS GS 2014	0.65		-0.29	
2172	AfPS GS 2014	0.7570		0.64	
2184	AfPS GS 2014	0.71		0.23	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.75		0.58	
2241	AfPS GS 2014	0.64		-0.37	
2246	AfPS GS 2014	0.77		0.75	
2247	ZEK01.4-08	1.09		3.51	
2255	In house	0.74		0.49	
2272		-----		-----	
2289	AfPS GS 2014	0.45		-2.02	
2290	AfPS GS 2014	0.91		1.96	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.588		-0.82	
2300	In house	nd		-----	
2310	AfPS GS 2014	0.601		-0.71	
2311	AfPS GS 2014	0.401		-2.44	
2320	In house	2.152	R(0.01)	12.68	
2350	AfPS GS 2014	0.9686		2.46	
2354	AfPS GS 2014	0.63		-0.46	
2370	AfPS GS 2014	0.8564		1.49	
2375	AfPS GS 2014	0.60		-0.72	
2379	AfPS GS 2014	Not detect		-----	
2380	AfPS GS 2014	0.68		-0.03	
2384	AfPS GS 2014	0.3		-3.31	
2386	AfPS GS 2014	0.71		0.23	
2390		-----		-----	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	0.60		-0.72	
2492	In house	0.410		-2.36	
2497	ZEK01.4-08	0.732		0.42	
2500	AfPS GS 2014	0.57		-0.98	
2525	AfPS GS 2014	<0.20		<-4.17	False negative test result?
2532	ZEK01.4-08	0.29		-3.40	
2558	AfPS GS 2014	0.51		-1.50	
2563	AfPS GS 2014	0.62		-0.55	
2590		-----		-----	
2605	AfPS GS 2014	0.57		-0.98	
2612	AfPS GS 2014	0.58		-0.89	
2649		ND		-----	
2674	AfPS GS 2014	0.67		-0.12	
2729		-----		-----	
2731	AfPS GS 2014	0.60		-0.72	
3124	In house	0.551		-1.14	
3146		0.8965		1.84	
3149	ZEK01.4-08	0.81	C	1.09	First reported 1.08
3150	AfPS GS 2014	0.48		-1.76	
3151	AfPS GS 2014	0.55		-1.15	
3153	AfPS GS 2014	0.57		-0.98	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.80		1.01	
3192	AfPS GS 2014	0.62		-0.55	
3197	AfPS GS 2014	0.80		1.01	
3209	AfPS GS 2014	0.72		0.32	
3210		-----		-----	
3218	AfPS GS 2014	0.58		-0.89	
3220	ZEK01.4-08	1.2		4.46	
3225	ZEK01.4-08	0.767		0.72	
3228	AfPS GS 2014	0.7		0.14	
3233	In house	1.13		3.86	
3246	AfPS GS 2014	0.675		-0.07	

normality	suspect
n	52
outliers	2
mean (n)	0.6834
st.dev. (n)	0.18105
R(calc.)	0.5069
R(Horwitz)	0.3242

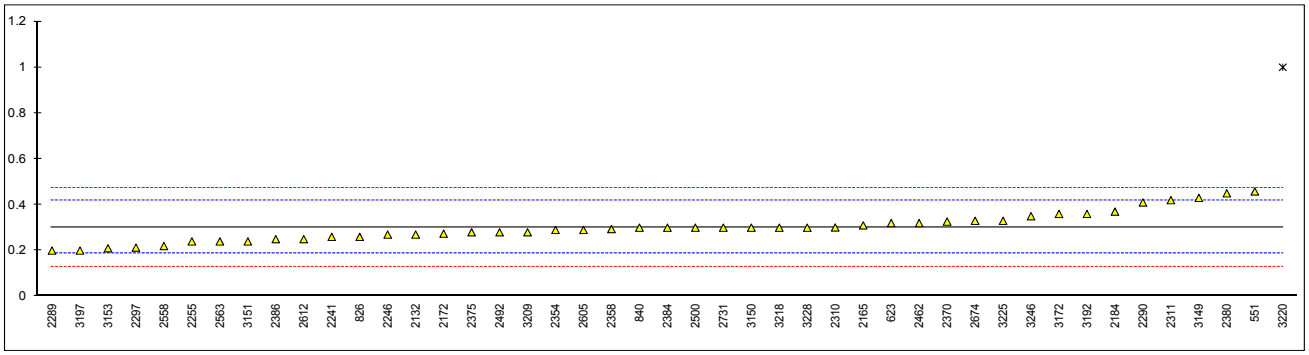


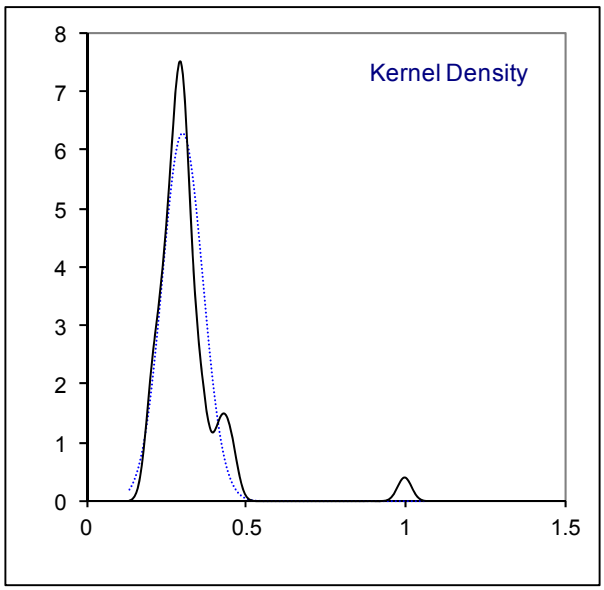


Determination of Benzo[j]fluoranthene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
551	AfPS GS 2014	0.458	C	2.71	First reported 0.8975
623	AfPS GS 2014	0.32		0.32	
826	ZEK01.4-08	0.26		-0.71	
840	AfPS GS 2014	0.3		-0.02	
2115		-----		-----	
2131	In house	<0.01		<-5.04	False negative test result?
2132	AfPS GS 2014	0.27		-0.54	
2156	AfPS GS 2014	<0.2		-----	
2165	AfPS GS 2014	0.31		0.15	
2172	AfPS GS 2014	0.2740		-0.47	
2184	AfPS GS 2014	0.37		1.19	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223		-----		-----	
2241	AfPS GS 2014	0.26		-0.71	
2246	AfPS GS 2014	0.27		-0.54	
2247		-----		-----	
2255	In house	0.24		-1.06	
2272		-----		-----	
2289	AfPS GS 2014	0.2		-1.75	
2290	AfPS GS 2014	0.41		1.88	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.213		-1.53	
2300	In house	nd		-----	
2310	AfPS GS 2014	0.301		0.00	
2311	AfPS GS 2014	0.420		2.06	
2320		-----		-----	
2350		-----		-----	
2354	AfPS GS 2014	0.29		-0.20	
2370	AfPS GS 2014	0.3266		0.44	
2375	AfPS GS 2014	0.28		-0.37	
2379	AfPS GS 2014	Not detected		-----	
2380	AfPS GS 2014	0.45		2.58	
2384	AfPS GS 2014	0.3		-0.02	
2386	AfPS GS 2014	0.25		-0.89	
2390		-----		-----	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	0.32		0.32	
2492	In house	0.280		-0.37	
2497		-----		-----	
2500	AfPS GS 2014	0.30		-0.02	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	<0.20		-----	
2558	AfPS GS 2014	0.22		-1.41	
2563	AfPS GS 2014	0.24		-1.06	
2590		-----		-----	
2605	AfPS GS 2014	0.29		-0.20	
2612	AfPS GS 2014	0.25		-0.89	
2649		ND		-----	
2674	AfPS GS 2014	0.33		0.50	
2729		-----		-----	
2731	AfPS GS 2014	0.30		-0.02	
3124		-----		-----	
3146		-----		-----	
3149	ZEK01.4-08	0.43		2.23	
3150	AfPS GS 2014	0.30		-0.02	
3151	AfPS GS 2014	0.24		-1.06	
3153	AfPS GS 2014	0.21		-1.58	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.36		1.02	
3192	AfPS GS 2014	0.36		1.02	
3197	AfPS GS 2014	0.20		-1.75	
3209	AfPS GS 2014	0.28		-0.37	
3210		-----		-----	
3218	AfPS GS 2014	0.30		-0.02	
3220	ZEK01.4-08	1.0	R(0.01)	12.10	
3225	ZEK01.4-08	0.330		0.50	
3228	AfPS GS 2014	0.3		-0.02	
3233	In house	ND		-----	
3246	AfPS GS 2014	0.35	C	0.84	First reported 0.535

normality	OK
n	43
outliers	1
mean (n)	0.3013
st.dev. (n)	0.06357
R(calc.)	0.1780
R(Horwitz)	0.1617

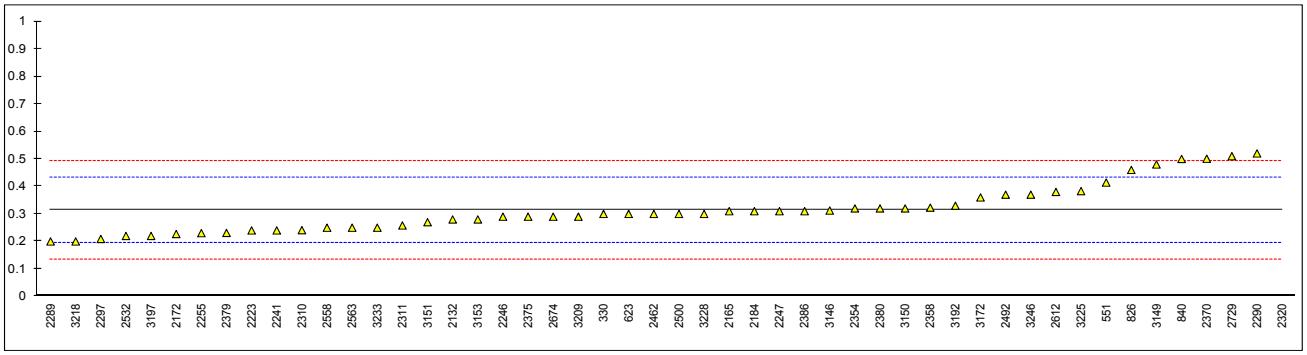


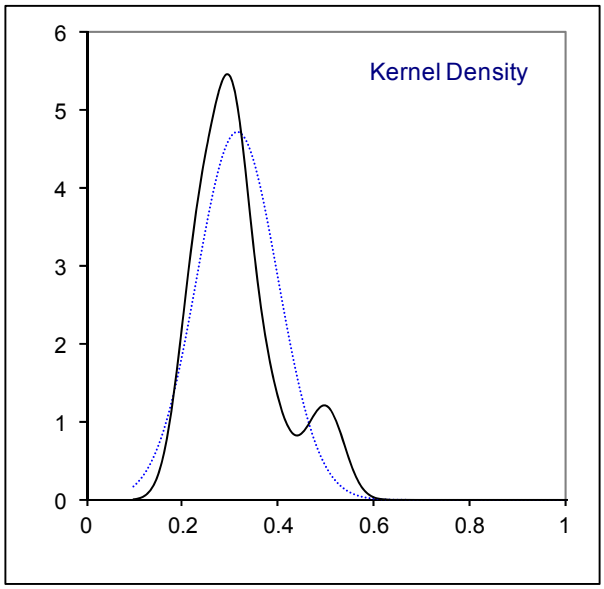


Determination of Benzo[k]fluoranthene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330	In house	0.30		-0.23	
339		-----		-----	
551	AfPS GS 2014	0.4142		1.68	
623	AfPS GS 2014	0.30		-0.23	
826	ZEK01.4-08	0.46		2.45	
840	AfPS GS 2014	0.5		3.12	
2115		-----		-----	
2131	In house	<0.01		<-5.08	False negative test result?
2132	AfPS GS 2014	0.28		-0.56	
2156	AfPS GS 2014	<0.2		-----	
2165	AfPS GS 2014	0.31		-0.06	
2172	AfPS GS 2014	0.2270		-1.45	
2184	AfPS GS 2014	0.31		-0.06	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.24		-1.23	
2241	AfPS GS 2014	0.24		-1.23	
2246	AfPS GS 2014	0.29		-0.40	
2247	ZEK01.4-08	0.31		-0.06	
2255	In house	0.23		-1.40	
2272		-----		-----	
2289	AfPS GS 2014	0.2		-1.90	
2290	AfPS GS 2014	0.52		3.45	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.209		-1.75	
2300	In house	nd		-----	
2310	AfPS GS 2014	0.241		-1.22	
2311	AfPS GS 2014	0.258		-0.93	
2320	In house	1.901	R(0.01)	26.56	
2350		-----		-----	
2354	AfPS GS 2014	0.32		0.11	
2370	AfPS GS 2014	0.5007		3.13	
2375	AfPS GS 2014	0.29		-0.40	
2379	AfPS GS 2014	0.231		-1.38	
2380	AfPS GS 2014	0.32		0.11	
2384	AfPS GS 2014	not detected		-----	
2386	AfPS GS 2014	0.31		-0.06	
2390		-----		-----	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	0.30		-0.23	
2492	In house	0.370		0.94	
2497		-----		-----	
2500	AfPS GS 2014	0.30		-0.23	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	0.22		-1.57	
2558	AfPS GS 2014	0.25		-1.07	
2563	AfPS GS 2014	0.25		-1.07	
2590		-----		-----	
2605	AfPS GS 2014	Not Detected		-----	
2612	AfPS GS 2014	0.38		1.11	
2649		ND		-----	
2674	AfPS GS 2014	0.29		-0.40	
2729		0.51		3.29	
2731	AfPS GS 2014	<0.20		-----	
3124		-----		-----	
3146		0.3122		-0.02	
3149	ZEK01.4-08	0.48		2.78	
3150	AfPS GS 2014	0.32		0.11	
3151	AfPS GS 2014	0.27		-0.73	
3153	AfPS GS 2014	0.28		-0.56	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.36		0.78	
3192	AfPS GS 2014	0.33		0.27	
3197	AfPS GS 2014	0.22		-1.57	
3209	AfPS GS 2014	0.29		-0.40	
3210		-----		-----	
3218	AfPS GS 2014	0.20		-1.90	
3220	ZEK01.4-08	Not detected		-----	
3225	ZEK01.4-08	0.383		1.16	
3228	AfPS GS 2014	0.3		-0.23	
3233	In house	0.25		-1.07	
3246	AfPS GS 2014	0.37		0.94	

normality	suspect
n	48
outliers	1
mean (n)	0.3137
st.dev. (n)	0.08449
R(calc.)	0.2366
R(Horwitz)	0.1673

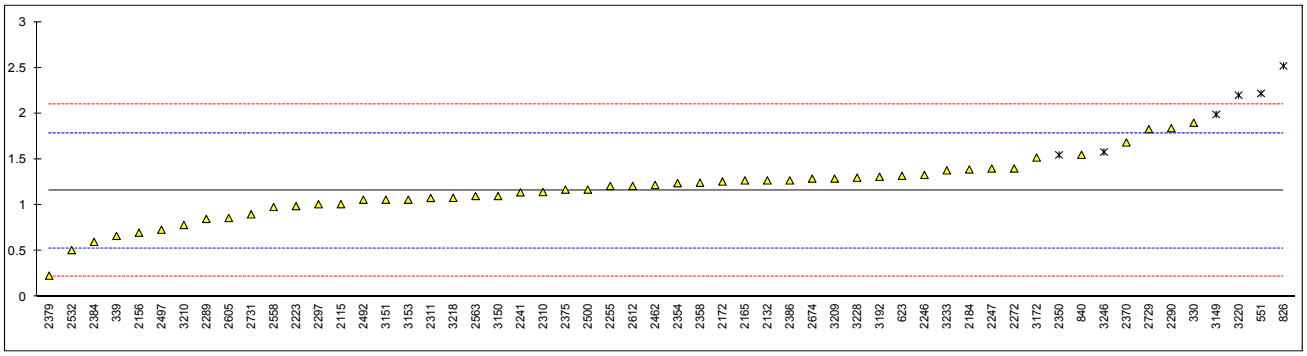


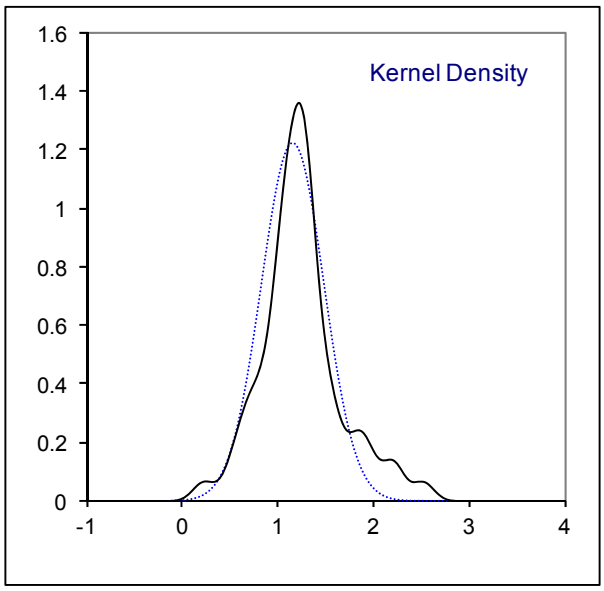


Determination of sum of [b], [j] and [k] Benzofluoranthenes in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330	In house	1.90		2.36	
339	In house	0.665		-1.57	
551	AfPS GS 2014	2.2190	E,ex	3.38	Calculation error? iis calculated 1.7795
623	AfPS GS 2014	1.32		0.52	
826	ZEK01.4-08	2.52	ex	4.34	Result excluded, outlier for benzo{b}fluoranthene
840	AfPS GS 2014	1.55		1.25	
2115	AfPS GS 2014	1.011		-0.47	
2131	In house	<0.01		<-3.70	False negative test result?
2132	AfPS GS 2014	1.27		0.36	
2156	AfPS GS 2014	0.7		-1.46	
2165	AfPS GS 2014	1.27		0.36	
2172	AfPS GS 2014	1.258		0.32	
2184	AfPS GS 2014	1.39		0.74	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.99		-0.54	
2241	AfPS GS 2014	1.14		-0.06	
2246	AfPS GS 2014	1.33		0.55	
2247	ZEK01.4-08	1.4		0.77	
2255		1.21		0.16	
2272	ISO16190:2013	1.40		0.77	
2289	AfPS GS 2014	0.85		-0.98	
2290	AfPS GS 2014	1.84		2.17	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	1.010		-0.47	
2300	In house	nd		-----	
2310	AfPS GS 2014	1.143		-0.05	
2311	AfPS GS 2014	1.079		-0.25	
2320		-----		-----	
2350	AfPS GS 2014	1.5478	E,ex	1.24	Calculation error? iis calculated 0.9686
2354	AfPS GS 2014	1.24		0.26	
2370	AfPS GS 2014	1.684		1.67	
2375	AfPS GS 2014	1.17		0.04	
2379	AfPS GS 2014	0.231		-2.95	
2380		-----		-----	
2384	AfPS GS 2014	0.6		-1.78	
2386	AfPS GS 2014	1.27		0.36	
2390		-----		-----	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	1.22		0.20	
2492	In house	1.060		-0.31	
2497	ZEK01.4-08	0.732		-1.36	
2500	AfPS GS 2014	1.17		0.04	
2525	AfPS GS 2014	<0.20		-----	False negative test result?
2532	ZEK01.4-08	0.51		-2.06	
2558	AfPS GS 2014	0.98		-0.57	
2563	AfPS GS 2014	1.1		-0.19	
2590		-----		-----	
2605	AfPS GS 2014	0.86		-0.95	
2612	AfPS GS 2014	1.21		0.16	
2649		ND		-----	
2674	AfPS GS 2014	1.29		0.42	
2729		1.83		2.14	
2731	AfPS GS 2014	0.90		-0.82	
3124		-----		-----	
3146		-----		-----	
3149	ZEK01.4-08	1.99	E,ex	2.65	Calculation error? iis calculated 1.7200
3150	AfPS GS 2014	1.10		-0.19	
3151	AfPS GS 2014	1.06		-0.31	
3153	AfPS GS 2014	1.06		-0.31	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	1.52		1.15	
3192	AfPS GS 2014	1.31		0.48	
3197		-----		-----	
3209	AfPS GS 2014	1.29		0.42	
3210	In house	0.784		-1.19	
3218	AfPS GS 2014	1.08		-0.25	
3220	ZEK01.4-08	2.2	ex	3.32	Result excluded, outlier for benzo[j]fluoranthene
3225		-----		-----	
3228	AfPS GS 2014	1.3		0.45	
3233	In house	1.38		0.71	
3246	AfPS GS 2014	1.58	E,ex	1.34	Calculation error? Iis calculated 1.3950

normality	OK
n	50
outliers	0 (+6 excl)
mean (n)	1.1582
st.dev. (n)	0.32643
R(calc.)	0.9140
R(Horwitz)	0.8791

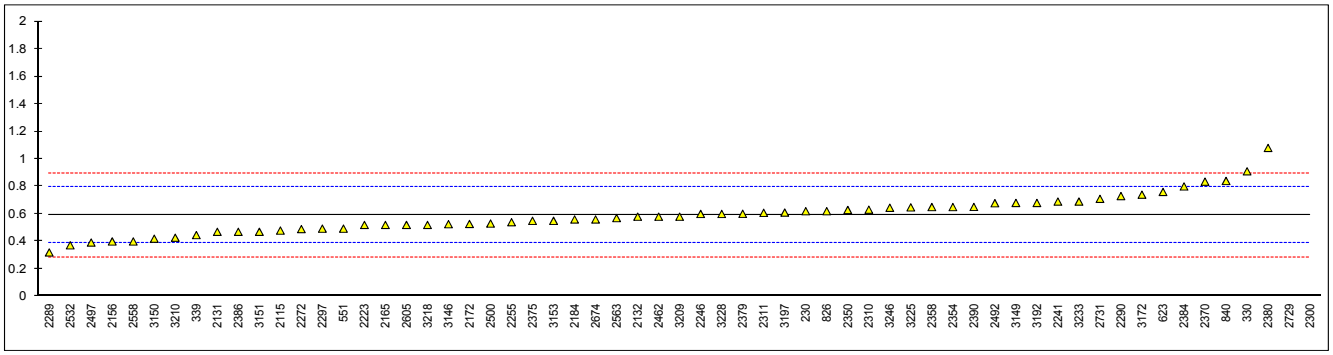


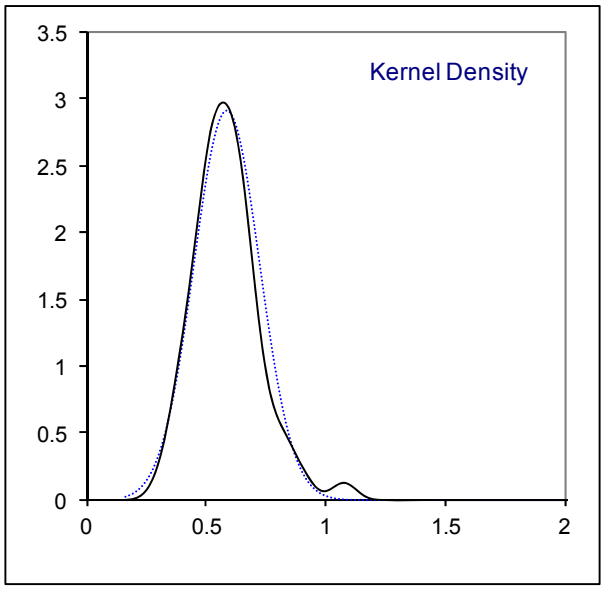


Determination of Benzo[e]pyrene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.62		0.28	
330	In house	0.91		3.12	
339	In house	0.446		-1.42	
551	AfPS GS 2014	0.4931		-0.96	
623	AfPS GS 2014	0.76		1.65	
826	ZEK01.4-08	0.62		0.28	
840	AfPS GS 2014	0.84		2.43	
2115	AfPS GS 2014	0.479		-1.09	
2131	In house	0.47		-1.18	
2132	AfPS GS 2014	0.58		-0.11	
2156	AfPS GS 2014	0.4		-1.87	
2165	AfPS GS 2014	0.52		-0.69	
2172	AfPS GS 2014	0.5270		-0.62	
2184	AfPS GS 2014	0.56		-0.30	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.52		-0.69	
2241	AfPS GS 2014	0.69		0.97	
2246	AfPS GS 2014	0.60		0.09	
2247		-----		-----	
2255	In house	0.54		-0.50	
2272	ISO16190:2013	0.49		-0.99	
2289	AfPS GS 2014	0.32		-2.65	
2290	AfPS GS 2014	0.73		1.36	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.493		-0.96	
2300	In house	6.2	R(0.01)	54.82	
2310	AfPS GS 2014	0.631		0.39	
2311	AfPS GS 2014	0.608		0.17	
2320		-----		-----	
2350	AfPS GS 2014	0.6287		0.37	
2354	AfPS GS 2014	0.65		0.58	
2370	AfPS GS 2014	0.8348		2.38	
2375	AfPS GS 2014	0.55		-0.40	
2379	AfPS GS 2014	0.601		0.10	
2380	AfPS GS 2014	1.08		4.78	
2384	AfPS GS 2014	0.8		2.04	
2386	AfPS GS 2014	0.47		-1.18	
2390	AfPS GS 2014	0.651		0.59	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	0.58		-0.11	
2492	In house	0.678		0.85	
2497	ZEK01.4-08	0.392		-1.94	
2500	AfPS GS 2014	0.53		-0.59	
2525	AfPS GS 2014	<0.20		<-3.82	False negative test result?
2532	ZEK01.4-08	0.372		-2.14	
2558	AfPS GS 2014	0.40		-1.87	
2563	AfPS GS 2014	0.57		-0.20	
2590		-----		-----	
2605	AfPS GS 2014	0.52		-0.69	
2612	AfPS GS 2014	<0.2		<-3.82	False negative test result?
2649		ND		-----	
2674	AfPS GS 2014	0.56		-0.30	
2729		5.34	C,R(0.01)	46.41	First reported 1.31
2731	AfPS GS 2014	0.71		1.16	
3124		-----		-----	
3146		0.5256		-0.64	
3149	ZEK01.4-08	0.68	C	0.87	First reported 0.96
3150	AfPS GS 2014	0.42		-1.67	
3151	AfPS GS 2014	0.47		-1.18	
3153	AfPS GS 2014	0.55		-0.40	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.74		1.46	
3192	AfPS GS 2014	0.68		0.87	
3197	AfPS GS 2014	0.61		0.19	
3209	AfPS GS 2014	0.58		-0.11	
3210	In house	0.427		-1.60	
3218	AfPS GS 2014	0.52		-0.69	
3220	ZEK01.4-08	Not detected		-----	
3225	ZEK01.4-08	0.648		0.56	
3228	AfPS GS 2014	0.6		0.09	
3233	In house	0.69		0.97	
3246	AfPS GS 2014	0.645		0.53	

normality	suspect
n	58
outliers	2
mean (n)	0.5909
st.dev. (n)	0.13731
R(calc.)	0.3845
R(Horwitz)	0.2865

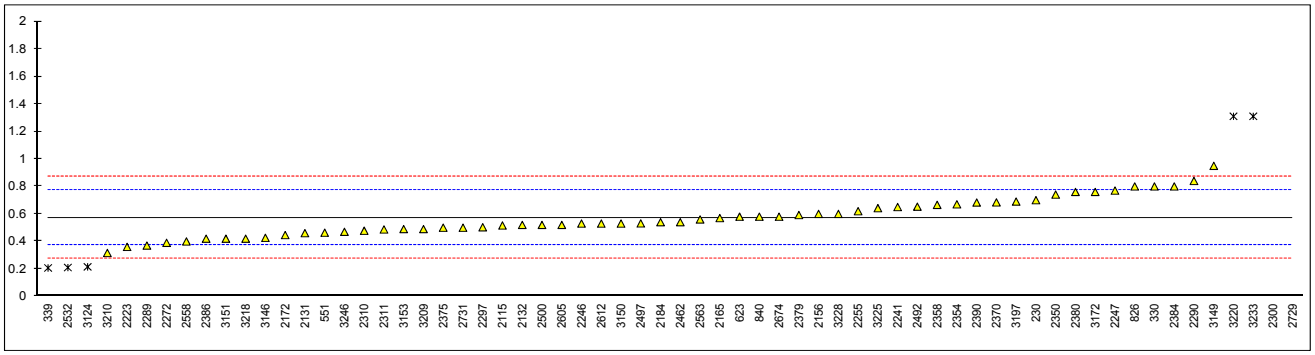


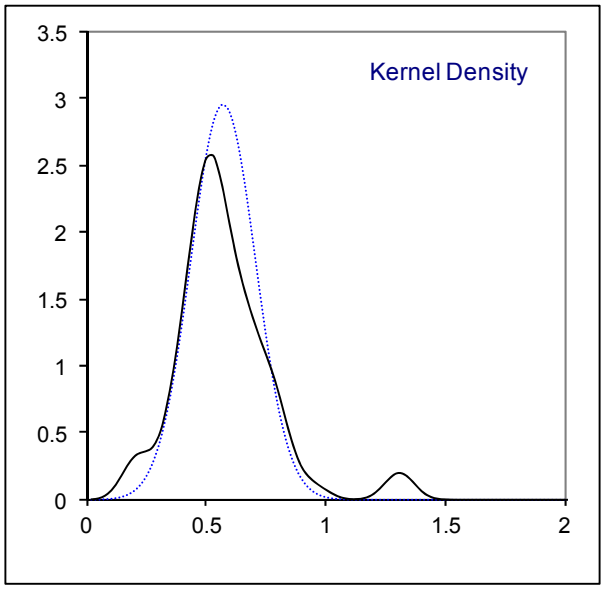


Determination of Benzo[a]pyrene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.7		1.28	
330	In house	0.80		2.28	
339	In house	0.207	R(0.01)	-3.67	
551	AfPS GS 2014	0.4636		-1.09	
623	AfPS GS 2014	0.58		0.08	
826	ZEK01.4-08	0.80		2.28	
840	AfPS GS 2014	0.58		0.08	
2115	AfPS GS 2014	0.516		-0.57	
2131	In house	0.46		-1.13	
2132	AfPS GS 2014	0.52		-0.53	
2156	AfPS GS 2014	0.6		0.28	
2165	AfPS GS 2014	0.57		-0.02	
2172	AfPS GS 2014	0.4460		-1.27	
2184	AfPS GS 2014	0.54		-0.33	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.36		-2.13	
2241	AfPS GS 2014	0.65		0.78	
2246	AfPS GS 2014	0.53		-0.43	
2247	ZEK01.4-08	0.77		1.98	
2255	In house	0.62		0.48	
2272	ISO16190:2013	0.39		-1.83	
2289	AfPS GS 2014	0.37		-2.03	
2290	AfPS GS 2014	0.84		2.69	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.503		-0.70	
2300	In house	5.3	R(0.01)	47.46	
2310	AfPS GS 2014	0.478		-0.95	
2311	AfPS GS 2014	0.487		-0.86	
2320		-----		-----	
2350	AfPS GS 2014	0.7409		1.69	
2354	AfPS GS 2014	0.67		0.98	
2370	AfPS GS 2014	0.6840		1.12	
2375	AfPS GS 2014	0.50		-0.73	
2379	AfPS GS 2014	0.592		0.20	
2380	AfPS GS 2014	0.76		1.88	
2384	AfPS GS 2014	0.8		2.28	
2386	AfPS GS 2014	0.42		-1.53	
2390	AfPS GS 2014	0.683		1.11	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	0.54		-0.33	
2492	In house	0.653		0.81	
2497	ZEK01.4-08	0.531		-0.42	
2500	AfPS GS 2014	0.52		-0.53	
2525	AfPS GS 2014	<0.20		<-3.74	False negative test result?
2532	ZEK01.4-08	0.21	R(0.01)	-3.64	
2558	AfPS GS 2014	0.40		-1.73	
2563	AfPS GS 2014	0.56		-0.12	
2590		-----		-----	
2605	AfPS GS 2014	0.52		-0.53	
2612	AfPS GS 2014	0.53		-0.43	
2649		ND		-----	
2674	AfPS GS 2014	0.58		0.08	
2729		7.98	C,R(0.01)	74.37	First reported 1.42
2731	AfPS GS 2014	0.50		-0.73	
3124	In house	0.215	R(0.01)	-3.59	
3146		0.42627		-1.47	
3149	ZEK01.4-08	0.95		3.79	
3150	AfPS GS 2014	0.53		-0.43	
3151	AfPS GS 2014	0.42		-1.53	
3153	AfPS GS 2014	0.49		-0.83	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.76		1.88	
3192	AfPS GS 2014	< LOD		-----	
3197	AfPS GS 2014	0.69		1.18	
3209	AfPS GS 2014	0.49		-0.83	
3210	In house	0.316		-2.57	
3218	AfPS GS 2014	0.42		-1.53	
3220	ZEK01.4-08	1.31	R(0.01)	7.40	
3225	ZEK01.4-08	0.642		0.70	
3228	AfPS GS 2014	0.6		0.28	
3233	In house	1.31	R(0.01)	7.40	
3246	AfPS GS 2014	0.47		-1.03	

normality	OK
n	56
outliers	7
mean (n)	0.5724
st.dev. (n)	0.13528
R(calc.)	0.3788
R(Horwitz)	0.2789

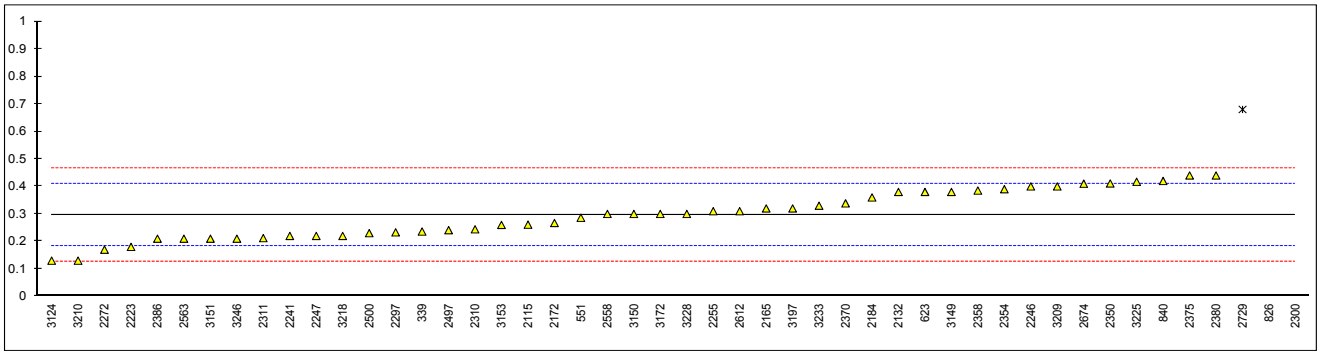


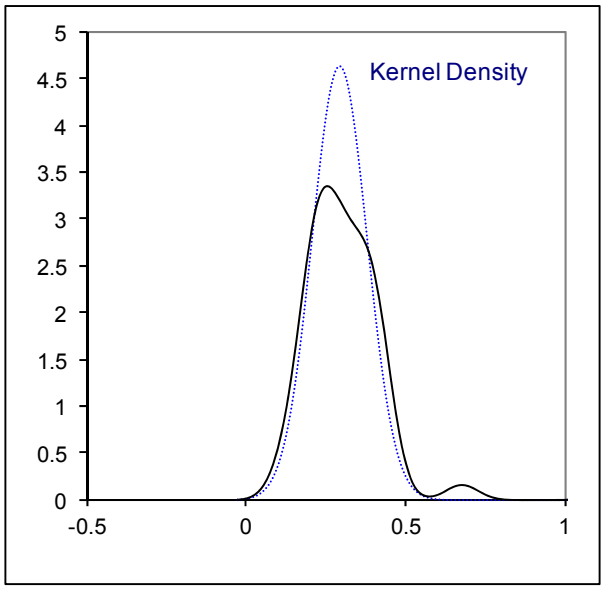


Determination of Indeno[1,2,3-c,d]pyrene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339	In house	0.236		-1.06	
551	AfPS GS 2014	0.2860		-0.18	
623	AfPS GS 2014	0.38		1.48	
826	ZEK01.4-08	1.15	R(0.01)	15.01	
840	AfPS GS 2014	0.42		2.18	
2115	AfPS GS 2014	0.261		-0.62	
2131	In house	<0.01		<-5.03	False negative test result?
2132	AfPS GS 2014	0.38		1.48	
2156	AfPS GS 2014	<0.2		-----	
2165	AfPS GS 2014	0.32		0.42	
2172	AfPS GS 2014	0.2670		-0.51	
2184	AfPS GS 2014	0.36		1.12	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.18		-2.04	
2241	AfPS GS 2014	0.22		-1.34	
2246	AfPS GS 2014	0.40		1.83	
2247	ZEK01.4-08	0.22		-1.34	
2255	In house	0.31		0.25	
2272	ISO16190:2013	0.17		-2.22	
2289	AfPS GS 2014	ND		-----	
2290	AfPS GS 2014	<0.2		-----	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.233		-1.11	
2300	In house	2.1	R(0.01)	31.71	
2310	AfPS GS 2014	0.244		-0.91	
2311	AfPS GS 2014	0.212		-1.48	
2320		-----		-----	
2350	AfPS GS 2014	0.4109		2.02	
2354	AfPS GS 2014	0.39		1.65	
2370	AfPS GS 2014	0.3384		0.74	
2375	AfPS GS 2014	0.44		2.53	
2379	AfPS GS 2014	Not detected		-----	
2380	AfPS GS 2014	0.44		2.53	
2384	AfPS GS 2014	not detected		-----	
2386	AfPS GS 2014	0.21		-1.51	
2390		-----		-----	
2425		-----		-----	
2446		-----		-----	
2462	AfPS GS 2014	N.D.		-----	
2492		-----		-----	
2497		0.241		-0.97	
2500	AfPS GS 2014	0.23		-1.16	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	<0.20		-----	
2558	AfPS GS 2014	0.30		0.07	
2563	AfPS GS 2014	0.21		-1.51	
2590		-----		-----	
2605	AfPS GS 2014	Not Detected		-----	
2612	AfPS GS 2014	0.31		0.25	
2649		ND		-----	
2674	AfPS GS 2014	0.41		2.00	
2729		0.68	C,R(0.01)	6.75	First reported 0.87
2731	AfPS GS 2014	<0.20		-----	
3124	In house	0.13		-2.92	
3146		<0.4		-----	
3149	ZEK01.4-08	0.38	C	1.48	First reported 0.6
3150	AfPS GS 2014	0.30		0.07	
3151	AfPS GS 2014	0.21		-1.51	
3153	AfPS GS 2014	0.26		-0.63	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.30		0.07	
3192	AfPS GS 2014	< LOD		-----	
3197	AfPS GS 2014	0.32		0.42	
3209	AfPS GS 2014	0.40		1.83	
3210	In house	0.130		-2.92	
3218	AfPS GS 2014	0.22		-1.34	
3220	ZEK01.4-08	Not detected		-----	
3225	ZEK01.4-08	0.417		2.13	
3228	AfPS GS 2014	0.3		0.07	
3233	In house	0.33		0.60	
3246	AfPS GS 2014	0.21		-1.51	

normality	OK
n	44
outliers	3
mean (n)	0.2960
st.dev. (n)	0.08600
R(calc.)	0.2408
R(Horwitz)	0.1593

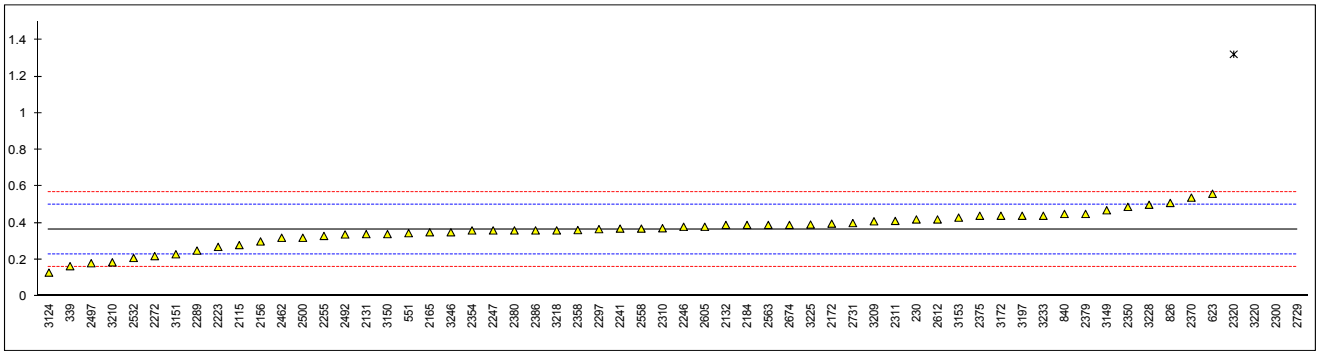


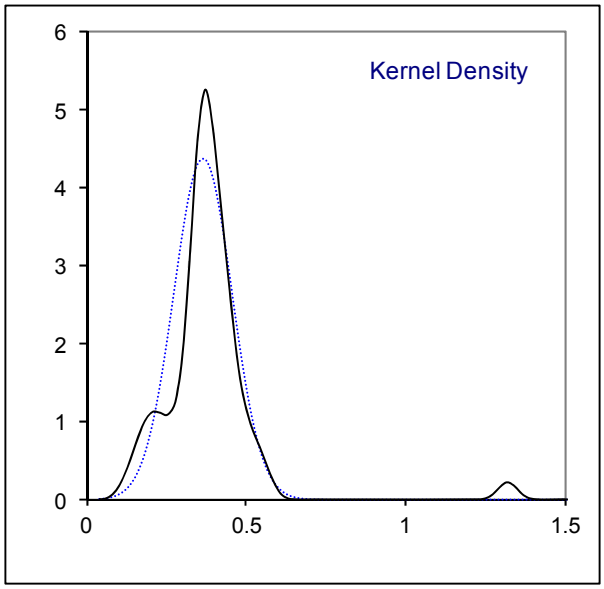


Determination of Benzo[g,h,i]perylene in sample #16506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.42		0.81	
330		-----		-----	
339	In house	0.165		-2.94	
551	AfPS GS 2014	0.3452		-0.29	
623	AfPS GS 2014	0.56		2.87	
826	ZEK01.4-08	0.51		2.14	
840	AfPS GS 2014	0.45		1.26	
2115	AfPS GS 2014	0.280		-1.25	
2131	In house	0.34		-0.36	
2132	AfPS GS 2014	0.39		0.37	
2156	AfPS GS 2014	0.3		-0.95	
2165	AfPS GS 2014	0.35		-0.22	
2172	AfPS GS 2014	0.3970		0.48	
2184	AfPS GS 2014	0.39		0.37	
2190	AfPS GS 2014	ND		-----	
2212		-----		-----	
2223	In house	0.27		-1.39	
2241	AfPS GS 2014	0.37		0.08	
2246	AfPS GS 2014	0.38		0.22	
2247	ZEK01.4-08	0.36		-0.07	
2255	In house	0.33		-0.51	
2272	ISO16190:2013	0.22		-2.13	
2289	AfPS GS 2014	0.25		-1.69	
2290	AfPS GS 2014	<0.2		-----	
2295	ZEK01.4-08	ND		-----	
2297	AfPS GS 2014	0.367		0.03	
2300	In house	3.5	R(0.01)	46.16	
2310	AfPS GS 2014	0.372		0.11	
2311	AfPS GS 2014	0.412		0.70	
2320	In house	1.321	R(0.01)	14.08	
2350	AfPS GS 2014	0.4885		1.82	
2354	AfPS GS 2014	0.36		-0.07	
2370	AfPS GS 2014	0.5389		2.56	
2375	AfPS GS 2014	0.44		1.11	
2379	AfPS GS 2014	0.450		1.26	
2380	AfPS GS 2014	0.36		-0.07	
2384	AfPS GS 2014	not detected		-----	
2386	AfPS GS 2014	0.36		-0.07	
2390		-----		-----	
2425		-----	W	-----	Result with drawn, reported 0.96
2446		-----		-----	
2462	AfPS GS 2014	0.32		-0.66	
2492	In house	0.338		-0.39	
2497	ZEK01.4-08	0.181		-2.70	
2500	AfPS GS 2014	0.32		-0.66	
2525	AfPS GS 2014	<0.20		-----	
2532	ZEK01.4-08	0.21		-2.28	
2558	AfPS GS 2014	0.37		0.08	
2563	AfPS GS 2014	0.39		0.37	
2590		-----		-----	
2605	AfPS GS 2014	0.38		0.22	
2612	AfPS GS 2014	0.42		0.81	
2649		ND		-----	
2674	AfPS GS 2014	0.39		0.37	
2729		5.99	C,R(0.01)	82.82	First reported 1.2
2731	AfPS GS 2014	0.40		0.52	
3124	In house	0.13		-3.46	
3146		<0.4		-----	
3149	ZEK01.4-08	0.47	C	1.55	First reported 0.7
3150	AfPS GS 2014	0.34		-0.36	
3151	AfPS GS 2014	0.23		-1.98	
3153	AfPS GS 2014	0.43		0.96	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.44		1.11	
3192	AfPS GS 2014	< LOD		-----	
3197	AfPS GS 2014	0.44		1.11	
3209	AfPS GS 2014	0.41		0.67	
3210	In house	0.186		-2.63	
3218	AfPS GS 2014	0.36		-0.07	
3220	ZEK01.4-08	1.79	R(0.01)	20.98	
3225	ZEK01.4-08	0.392		0.40	
3228	AfPS GS 2014	0.5		1.99	
3233	In house	0.44		1.11	
3246	AfPS GS 2014	0.35		-0.22	

normality	OK
n	55
outliers	4
mean (n)	0.3647
st.dev. (n)	0.09121
R(calc.)	0.2554
R(Horwitz)	0.1902





Determination of other PAH in sample #16506; results in mg/kg

lab	method	Acenaphthylene	Dibenzo(ah)anthracene	Cyclopenta(c,d)pyrene
230	AfPS GS 2014	0.24	-----	***0.7***
330		-----	0.21	-----
339	In house	<0.1	<0.1	-----
551	AfPS GS 2014	0.0986	0.1578	-----
623	AfPS GS 2014	nd	nd	nd
826	ZEK01.4-08	N.D.	N.D.	N.A.
840	AfPS GS 2014	ND	ND	0.2
2115		-----	0.132	-----
2131	In house	<0.01	<0.01	<0.01
2132	AfPS GS 2014	0.15	<0.08	<0.08
2156	AfPS GS 2014	<0.2	<0.2	-----
2165	AfPS GS 2014	n.d.	n.d.	NA
2172		-----	-----	-----
2184	AfPS GS 2014	not detected	not detected	Not Applicable
2190	AfPS GS 2014	ND	ND	ND
2212		-----	-----	-----
2223	In house	0.12	<0.1	-----
2241	AfPS GS 2014	<0.1	<0.1	<0.1
2246		0.16	-----	-----
2247		-----	-----	-----
2255	In house	<0.2	<0.2	<0.2
2272	ISO16190:2013	0.16	<0.1	-----
2289	AfPS GS 2014	ND	ND	-----
2290	AfPS GS 2014	<0.2	<0.2	<0.2
2295	ZEK01.4-08	ND	ND	ND
2297	AfPS GS 2014	<0.2	<0.2	0.289
2300	In house	Nd	***2.6***	***5.4***
2310	AfPS GS 2014	not detected	not detected	not detected
2311	AfPS GS 2014	Not Detected	Not Detected	Not Detected
2320		-----	-----	-----
2350	AfPS GS 2014	<0.2	<0.2	<0.2
2354	AfPS GS 2014	<0.1	<0.1	-----
2370	AfPS GS 2014	n.d.	n.d.	0.1601
2375	AfPS GS 2014	ND	ND	ND
2379	AfPS GS 2014	Not detect	Not detect	Not detect
2380		-----	-----	-----
2384	AfPS GS 2014	not detected	not detected	-----
2386	AfPS GS 2014	<0.2	<0.2	0.37
2390		-----	-----	-----
2425		-----	-----	-----
2446		-----	-----	-----
2462	AfPS GS 2014	N.D.	N.D.	-----
2492		-----	-----	-----
2497	ZEK01.4-08	-----	-----	-----
2500	AfPS GS 2014	N.D.	N.D.	N.D.
2525	AfPS GS 2014	<0.20	<0.20	<0.20
2532	ZEK01.4-08	<0.20	<0.20	<0.20
2558	AfPS GS 2014	<0.2	<0.2	-----
2563	AfPS GS 2014	n.d.	<0.1	-----
2590		-----	-----	-----
2605	AfPS GS 2014	Not Detected	Not Detected	Not Detected
2612	AfPS GS 2014	<0.2	<0.2	-----
2649	ZEK01.4-08	ND	ND	ND
2674	AfPS GS 2014	n.d.	n.d.	-----
2729		0.20	0.39	-----
2731	AfPS GS 2014	<0.20	<0.20	-----
3124		-----	0.072	-----
3146		<0.2	<0.4	-----
3149	ZEK01.4-08	0.15	0.17	-----
3150		-----	-----	-----
3151	AfPS GS 2014	0	0	0
3153	AfPS GS 2014	<0.20	<0.20	-----
3154		-----	-----	-----
3163	In house	***1.08***	-----	-----
3172	AfPS GS 2014	<0.2	<0.2	---
3192	AfPS GS 2014	< LOD	< LOD	-----
3197	AfPS GS 2014	<0.2	<0.2	<0.2
3209	AfPS GS 2014	0.15	<0.10	-----
3210	In house	<0.10	<0.10	-----
3218	AfPS GS 2014	<0.2	<0.2	<0.2
3220	ZEK01.4-08	Not detected	Not detected	Not detected
3225	ZEK01.4-08	Not detected	Not detected	-----
3228	AfPS GS 2014	n.d.	n.d.	n.a.
3233		0.09	0.12	-----
3246	AfPS GS 2014	n.d.	n.d.	n.d.

normality	n.a.	n.a.	n.a.
n	31	32	14
outliers	n.a.	n.a.	n.a.
mean (n)	<0.5	<2	<2
st.dev. (n)	n.a.	n.a.	n.a.
R(calc.)	n.a.	n.a.	n.a.
R(lit)	n.a.	n.a.	n.a.

NB. A bold, Italic and underlined test result is marked as a false positive test result.

APPENDIX 2
Summary of reported analytical details

Lab	Was the grain size of the granulate reduced?	What was max. particle size before analysis?	How was the final particle size checked?	Which technique was used for release?	What extraction solvent (mixture) was used?	What was the extraction time and temperature?
230	as received	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
330	as received	--	--	Ultrasonic	Chloroform/MeOH	1 hr / 40°C
339	as received	≤ 1 mm	Visual	Ultrasonic	Toluene	1 hr / 60°C
551	Cut	>1 mm	--	Ultrasonic	Toluene and Hexane	1 hr / 60°C
623	Grinded	>1 mm	by ruler	Ultrasonic	Toluene	1 hr / 60°C
826	Grinded	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
840	Cut	≤ 1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2115	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2131	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2132	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2156	Cut	≤ 1 mm	Seive	Ultrasonic	Toluene	1 hr / 60°C
2165	Cut	>1 mm	<=0.3mm	Ultrasonic	Toluene	1 hr / 60°C
2172	Cut	>1 mm	2mm*2mm	Ultrasonic	Toluene	1 hr / 60°C
2184	Cut	>1 mm	<= 0.3mm	Ultrasonic	Toluene	1 hr / 60°C
2190	as received	--	--	Ultrasonic	Toluene	60°C
2212	---	---	--	---		
2223	Milled (cryogenic)	≤ 0.5 mm	--	Mech. Shaking	Toluene	ambient 12 hours
2241	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2246	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2247	Cut / not, as is	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2255	Cut / not	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2272	Cut	>1 mm	--	Ultrasonic	Hexane	1hour
2289	Cut	>1 mm	Ruler	Ultrasonic	Toluene	1 hr / 60°C
2290	Cut	>1 mm	Visual check	Ultrasonic	Toluene	1 hr / 60°C
2295	Cut	≤ 0.5 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2297	as received	--	max. 2-3 mm.	Ultrasonic	Toluene	1 hr / 60°C
2300	Cut / as received	≤ 1 mm/as rec.	Vernier calliper	Ultrasonic	Toluene	1 hr / 60°C
2310	Cut	≤ 1 mm	Vernier caliper	Ultrasonic	Toluene	1 hr / 60°C
2311	Cut	≤ 1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2320	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2350	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2354	as received	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2370	Cut / not reduced	>1 mm	2mm*2mm	Ultrasonic	Toluene	1 hr / 60°C
2375	Cut	≤ 1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2379	Cut	>1 mm	1 ml	Ultrasonic	Toluene	1 hr / 60°C
2380	as received	>1 mm	16505 >2 mm	Ultrasonic	Toluene	1 hr / 60°C
2384	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2386	Cut	≤ 1 mm	Estimated	Ultrasonic	Toluene	1 hr / 60°C
2390	Cut	>1 mm	Vernier Caliper	Ultrasonic	Toluene	1 hr / 60°C
2425	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2446	---	---	--	---		
2462	Cut	≤ 1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2492	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2497	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2500	as received	≤ 0.5 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2525	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2532	Cut	≤ 1 mm	Vernier Caliper	Ultrasonic	Toluene	1 hr / 60°C
2558	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2563	as received	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C

2590	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2605	Cut	>1 mm	2 mm	Ultrasonic	Toluene	1 hr / 60°C
2612	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
2649	as received	≤ 1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2674	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
2729	Cut	≤ 1 mm	--	Soxhlet	Methylene chloride	16 hours
2731	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
3124	as received	--	--	Mech. Shaking	Hexane	1 hour
3146	---	---	--	Ultrasonic	Toluene	1 hr / 60°C
3149	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
3150	as received	>1 mm	--	Ultrasonic	Toluene	30 min, room
3151	as received	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
3153	Cut	>1 mm	Visual check	Ultrasonic	Toluene	1 hr / 60°C
3154	as received	>1 mm	--	Ultrasonic	Hexane	1 hr / 60°C
3163	as received	--	--	--	--	--
3172	Cut	≤ 0.5 mm	--	Ultrasonic	Toluene - Methanol	1 hr / 60°C
3192	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
3197	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
3209	Cut	>1 mm	~2mm	Ultrasonic	Toluene	1 hr / 60°C
3210	as received	≤ 1 mm	--	Ultrasonic	Hexane	1 hr / 60°C
3218	as received	>1 mm	vernier caliper.	Ultrasonic	Toluene	1 hr / 60°C
3220	Cut	>1 mm	--	Ultrasonic	Toluene	1 hr / 60°C
3225	Cut	>1 mm	no	Ultrasonic	Toluene	1 hr / 60°C
3228	Cut	>1 mm	<=0.3mm	Ultrasonic	Toluene	1 hr / 60°C
3233	as received	--	--	Ultrasonic	Toluene	1 hr / 60°C
3246	Cut	>1 mm	1-3 mm	Ultrasonic	Toluene	1 hr / 60°C

APPENDIX 3

Number of participants per country

4 labs in	BANGLADESH
1 lab in	BRAZIL
1 lab in	DENMARK
5 labs in	FRANCE
12 labs in	GERMANY
8 labs in	HONG KONG
6 labs in	INDIA
1 lab in	INDONESIA
4 labs in	ITALY
2 labs in	MALAYSIA
1 lab in	MAURITIUS
14 labs in	P.R. of CHINA
1 lab in	PAKISTAN
3 labs in	SOUTH KOREA
1 lab in	SRI LANKA
2 labs in	SWITZERLAND
1 lab in	TAIWAN R.O.C.
1 lab in	THAILAND
1 labs in	THE NETHERLANDS
3 labs in	TURKEY
3 labs in	VIETNAM

APPENDIX 4

Abbreviations:

C = final result after checking of first reported suspect result
D(0.01) = outlier in Dixon's outlier test
D(0.05) = straggler in Dixon's outlier test
G(0.01) = outlier in Grubbs' outlier test
G(0.05) = straggler in Grubbs' outlier test
DG(0.01) = utlier in Double Grubbs' outlier test
DG(0.05) = straggler in Double Grubbs' outlier test
R(0.01) = outlier in Rosner' outlier test
R(0.05) = straggler in Rosner' outlier test
n.a. = not applicable
n.d. = not detected
W = result withdrawn on request of participant
ex = excluded from calculations
fr. = first reported result

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