Results of Proficiency Test
PAH in Polymers
February 2018

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Polycyclic 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, the PAH risk of plastics and rubbers 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.

Since 2015, the Institute for Interlaboratory Studies (iis) organizes a proficiency test scheme for the determination of PAH in Polymers. During the annual testing program 2017/2018, it was decided to continue the PT on PAH in Polymers.
In this interlaboratory study 107 laboratories from 30 different countries registered for participation. See appendix 4 for the number of participants per country. In this report, the results of the 2018 proficiency test are presented and discussed. This report is also electronically available through the iis website ww.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organiser of this proficiency test (PT). Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC 17025 accredited laboratory. It was decided to send 2 different polymer samples (labelled #18505 and #18506, 3 grams each), both positive on PAH. The participants were requested to report rounded and unrounded test results. The 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 March 2017 (iis-protocol, version 3.4). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The first batch (small pieces of pink PVC, artificially fortified with Acenaphthene, Anthracene and Pyrene) was used in a previous interlaboratory study (iis16P02 labelled as sample #16505). Therefore, the subsamples were considered homogeneous (see report iis16P02). Each participant received a subsample of approx. 3 grams (labelled #18505).

The second batch, black rubber granulate, positive on PAH, was obtained from an artificial football field. Subsamples of approx. 3 grams each were prepared and labelled #18506. Eight stratified randomly selected subsamples were tested using an in house test method to check the homogeneity of the batch.

	Acenaphtene in mg/kg	*Fluoranthene in mg/kg*
Sample #18506-1	0.125	7.90
Sample #18506-2	0.131	7.94
Sample #18506-3	0.117	7.48
Sample #18506-4	0.119	7.88
Sample #18506-5	0.128	8.05
Sample #18506-6	0.123	7.87
Sample #18506-7	0.121	7.44
Sample #18506-8	0.118	7.78

Table 1: homogeneity test results of subsamples #18506

From the test results of table 1, the repeatabilities were 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:

	Acenaphtene in mg/kg	*Fluoranthene in mg/kg*
r (observed)	0.01	0.61
reference method	Horwitz	Horwitz
0.3 x R (ref. method)	0.02	0.77

Table 2: evaluation of the repeatabilities of subsamples #18506

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

To each of the participating laboratories one sample, labelled #18505 and one sample, labelled #18506, was sent on January 17, 2018.

2.5 ANALYSES

The participants were asked to determine on samples #18505 and #18506 the concentrations of any of the following PAHs:
- Naphthalene (91-20-3)
- Acenaphthylene (208-96-8)
- Acenaphthene (83-32-9)
- Fluorene (86-73-7)
- Phenanthrene (85-01-8)
- Anthracene (120-12-7)
- Fluoranthene (206-44-0)
- Pyrene (129-00-0)
- Benzo[a]anthracene (56-55-3)
- Chrysene (218-01-9)
- Sum of Chrysene and Triphenylene
- Benzo[b]fluoranthene (205-99-2)
- Benzo[j]fluoranthene (205-82-3)
- Benzo[k]fluoranthene (207-08-9)
- Sum of [b],[j] and [k] Benzofluoranthenes
- Benzo[e]pyrene (192-97-2)
- Benzo[a]pyrene (50-32-8)
- Indeno[1,2,3-c,d]pyrene (193-39-5)
- Dibenzo[a,h]anthracene (53-70-3)
- Benzo[g,h,i]perylene (191-24-2)
- Cyclopenta[c,d]pyrene (27208-37-3)

Also some analytical details were requested to be reported.

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

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

3 RESULTS

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

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment.
Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalyses). Additional or corrected test results are used for the data analysis and the original results are placed under 'Remarks' in the result tables in appendix 1.
Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

The protocol followed in the organisation of this proficiency test wast the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of March 2017 (iis-protocol, version 3.4).

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

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

According to ISO 5725 the original test results per determination were submitted subsequently to Dixon’s and/or Grubbs’ and/or Rosner’s outlier tests. Outliers are marked by D(0.01) for the Dixon’s test, by G(0.01) or DG(0.01) for the Grubbs’ test and by R(0.01) for the Rosner’s test. Stragglers are marked by D(0.05) for the Dixon’s test, by G(0.05) or DG(0.05) for the Grubbs’ test and by R(0.05) for the Rosner’s test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

For each assigned value the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. When the uncertainty passed the evaluation no remarks are made in the report. However, when the uncertainty

failed the evaluation it is mentioned in the report and it will have consequences for the evaluation of the test results.

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

3.2 GRAPHICS

In order to visualise the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected refrence test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

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

3.3 Z-SCORES

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

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

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

The z-scores were calculated according to:

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

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

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

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

4 EVALUATION

During the execution of this proficiency test no serious problems occurred. Eight participants reported the test results after the final reporting date and three participants did not report any test results at all. Not all laboratories were able to report all analyses requested. In total 104 participants reported 2109 numerical test results. Of all reported numerical test results 1772 numerical test results were statistically evaluated (see paragraph 4.1). Observed were 46 outlying test results, which is 2.6 % of the statistically evaluated numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

Most of the participants reported to have used ZEK01.4-08 or AfPS GS 2014. 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 compare the calculated reproducibility against the reproducibility estimated from the Horwitz equation.

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

4.1 EVALUATION PER SAMPLE AND PER COMPONENT

In this section, the reported test results are discussed per sample and per component. The test methods, which were used by the various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables in appendix 1 together with the original data. The abbreviations used in these tables are listed in appendix 5.

The test results of laboratories 339, 551, 2497 and 2807 showed a significant number of statistical outliers and/or deviating test results, as the test results are not independent it was decided to exclude the test results of these laboratories from statistical evaluation.

Sample #18505 was a polymer (PVC) artificially fortified with Acenaphthene, Anthracene and Pyrene. During the proficiency test it appeared that also Naphthalene and Phenanthrene were detected. As no further study was carried out on these components, it was decided to conduct a statistical evaluation on the added components Acenaphthene, Anthracene and Pyrene only.

Sample #18505:

Acenaphthene: The determination may be problematic. Three statistical outliers were observed and three test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Anthracene: The determination may be problematic. Four statistical outliers were observed and one test result was excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Pyrene: The determination may be problematic. Six statistical outliers were observed and one test result was excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Sample #18506:

Naphthalene: The determination may be problematic. Three statistical outliers were observed and four test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Acenaphthylene: The determination may be problematic. Four statistical outliers were observed and three test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Acenaphthene: The determination may be problematic. No statistical outliers were observed, but four test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Phenanthrene: The determination may be problematic for a number of laboratories. Three statistical outliers were observed and three test results were excluded. However, the observed reproducibility after rejection of the suspect data is in agreement with the estimated target reproducibility using the Horwitz equation.

Anthracene: The determination may be very problematic. No statistical outliers were observed, but four test results were excluded. The observed reproducibility after rejection of the suspect data is not at all in agreement with the estimated target reproducibility using the Horwitz equation.

Fluoranthene: The determination may be problematic. Two statistical outliers were observed and two test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Pyrene: The determination may be problematic. Five statistical outliers were observed and one test result was excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[a]anthracene: The determination may be problematic. Two statistical outliers were observed and four test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Chrysene: The determination may be problematic. The reported test results appear to be bimodally distributed. Therefore, it was decided not to calculate z-scores.

Sum of Chrysene and Triphenylene: The determination may be problematic. One statistical outlier was observed and two test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation (based on 2 components).

Benzo[b]fluoranthene: The determination may be problematic. One statistical outlier was observed and four test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[j]fluoranthene: The determination may be problematic. Two statistical outliers were observed and two test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[k]fluoranthene: The determination may be problematic. Two statistical outliers were observed and three test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Sum of [b],[j] and [k] Benzofluoranthenes: The determination may be problematic. No statistical outliers were observed, but three test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation (based on 3 components).

Benzo[e]pyrene: The determination may be problematic. Two statistical outliers were observed and one test result was excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[a]pyrene: The determination may be problematic. No statistical outliers were observed, but three test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Indeno[1,2,3-c,d]pyrene: The determination may be very problematic. Four statistical outliers were observed and three test results were excluded. The observed reproducibility after rejection of the suspect data is not at all in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[g,h,i]perylene: The determination may be very problematic. One statistical outlier was observed and three test results were excluded. The observed reproducibility after rejection of the suspect data is not at all in agreement with the estimated target reproducibility using the Horwitz equation.

Cyclopenta[c,d]pyrene: The determination may be problematic. 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.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the estimated target reproducibility using the Horwitz equation 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 tables.

Component	unit	n	Average	2.8 * sd	R(Horwitz)
Acenaphthene	mg/kg	91	7.62	2.98	2.52
Anthracene	mg/kg	96	17.5	6.0	5.1
Pyrene	mg/kg	92	26.3	8.7	7.2

Table 3: reproducibilities of components on sample #18505

Component	unit	n	Average	2.8 * sd	R(target)
Naphthalene	mg/kg	74	0.40	0.33	0.20
Acenaphtylene	mg/kg	66	0.24	0.16	0.13
Acenaphthene	mg/kg	92	1.26	1.04	0.55
Phenanthrene	mg/kg	91	2.13	0.79	0.85
Anthracene	mg/kg	90	1.18	1.22	0.51
Fluoranthene	mg/kg	94	7.44	2.87	2.46
Pyrene	mg/kg	94	21.9	8.3	6.2
Benzo[a]anthracene	mg/kg	75	1.20	0.78	0.52
Chrysene	mg/kg	83	(2.49)	2.93	(0.97)
Sum of Chrysene and Triphenylene	mg/kg	23	3.62	2.29	1.89
Benzo[b]fluoranthene	mg/kg	63	1.52	0.94	0.64
Benzo[j]fluoranthene	mg/kg	51	0.48	0.33	0.24
Benzo[k]fluoranthene	mg/kg	61	0.48	0.32	0.24
Sum of [b],[j] and [k] Benzofluoranthenes	mg/kg	72	2.30	1.91	1.57
Benzo[e]pyrene:	mg/kg	80	3.37	1.79	1.26
Benzo[a]pyrene	mg/kg	83	1.88	1.37	0.77
Indeno[1,2,3-c,d]pyrene	mg/kg	76	1.47	1.21	0.62
Benzo[g,h,i]perylene	mg/kg	85	8.12	6.99	2.65
Cyclopenta[c,d]pyrene	mg/kg	37	3.22	2.32	1.21

Table 4: reproducibilities of components on sample #18506

Results between brackets should be used with care, because the test results appear bimodally distributed.

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, 4.4 and 5.

4.3 COMPARISON OF THE PROFICIENCY TEST OF FEBRUARY 2018 WITH PREVIOUS PTS

The uncertainty in the test results of the determination of PAH in Polymers in the iis18P02 PT are listed in the next table:

Component	February 2018	February 2017	February 2016	February 2015	Target (Horwitz) 0.2 - 40 mg/kg
Naphthalene	30%	43%	23%	55%	20 - 9%
Acenaphthylene	23%	n.e.	n.e.	32%	20 - 9%
Acenaphthene	14 - 29%	13%	13 - 22%	26%	20 - 9%
Fluorene	n.e.	15%	19%	18%	20 - 9%
Phenanthrene	13%	13 - 41%	14%	12%	20 - 9%
Anthracene	12 - 37%	15%	13 - 25%	16%	20 - 9%
Fluoranthene	14%	12%	17%	11%	20 - 9%
Pyrene	12 - 13%	14 - 33%	14 - 18%	11%	20 - 9%
Benzo[a]anthracene	23%	17%	23%	18%	20 - 9%
Chrysene	n.e.	n.e.	23%	15%	20 - 9%

Component	February 2018	February 2017	February 2016	February 2015	Target (Horwitz) 0.2 - 40 mg/kg
Sum of Chrysene and Triphenylene	23%	n.e.	21%	n.e.	29 - 13% *)
Benzo[b]fluoranthene	22%	n.e.	26%	14%	20 - 9%
Benzo[j]fluoranthene	25%	n.e.	21%	22%	20 - 9%
Benzo[k]fluoranthene	23%	n.e.	27%	21%	20 - 9%
Sum of [b],[j] and [k] Benzofluoranthenes	30%	n.e.	28%	28%	35 - 16% *)
Benzo[e]pyrene	19%	n.e.	23%	18%	20 - 9%
Benzo[a]pyrene	26%	17%	24%	13%	20 - 9%
Indeno[1,2,3-c,d]pyrene	29%	n.e.	29%	19%	20 - 9%
Benzo[g,h,i]perylene	31%	n.e.	25%	17%	20 - 9%
Dibenzo[a,h]anthracene	n.e.	n.e.	n.e.	17%	20 - 9%
Cyclopenta(c,d)pyrene	26%	n.e.	n.e.	n.e.	20 - 9%

Table 5: development of relative uncertainties (RSD) over the years.

*) Horwitz estimation based on 2 components for Sum of Chrysene and Triphenylene, and based on 3 components for Sum of [b],[j] and [k] Benzofluoranthenes

The uncertainties observed in this PT are comparable to the uncertainties observed in previous PTs. The uncertainty is still large in comparison with the requirements mentioned in the target.

4.4 EVALUATION ANALYTICAL DETAILS

For this PT, some analytical details were requested (see appendix 3). Based on the answers given by the participants the following can be summarized:

- 70 of the 104 participants mentioned that they are accredited for determination of PAH.
- Approx. 50 participants mentioned that they have (further) cut the samples before use, and approx. 50 participants used the samples as received. Some participants did (further) cut sample #18505, and used sample #18506 as received.
- Almost all participants reported to have used ultrasonic as technique to release/extract the analytes. One participant reported to have used soxhlet as technique, and one participant reported to have used a combination of ultrasonic and mechanical shaking.
- Almost all participants reported to have used Toluene (mixture) as extraction solvent.
- And almost all participants used an extraction time of 60 minutes and an extraction temperature of 60 °C.

5 DISCUSSION

The materials used in this PT were PVC pieces and black rubber granulate. To extract the requested components (see chapter 2.5) from a polymer, the extraction solvent, the extraction conditions and the contact surface area could be important variables.

In the PT of 2018 most of the group identified all added PAHs correctly: sample #18505 was fortified with Acenaphthene, Anthracene and Pyrene. Sample #18505 was also used in a previous PT, labelled as sample #16505 in iis16P02.

		Sample #18505			Sample #16505		
Component	unit	n	average	2.8 * sd	n	average	2.8 * sd
Acenaphthene	mg/kg	91	7.62	2.98	66	9.15	3.44
Anthracene	mg/kg	96	17.5	6.0	66	18.4	6.8
Pyrene	mg/kg	92	26.3	8.7	66	27.5	14.0

Table 6: comparison sample #18505 vs #16505

It can be concluded from table 6 that the determination of Pyrene in 2018 PT has improved compared to the 2016 PT.

For sample #18505, the average of the homogeneity test results (see previous PT iis16P02, sample #16505) is not in line with the average (consensus value) from the 2018 PT results. There is a feasible explanation for this.
Most important point to make, is that the goal of the homogeneity testing is different from the goal of the evaluation of the reported test results. To prove the homogeneity of the PT samples, a test method is selected with a high precision (smallest variation). The accuracy (trueness) of the selected test method is less relevant.
Then, the homogeneity testing is done by one single laboratory. The test results of this (ISO/IEC 17025 accredited) laboratory will have a bias (systematic deviation) by definition. Also, each test result reported by one of the PT participants will have a bias. However, some will have a positive bias and others a negative bias. These different biases compensate each other in the PT average (consensus value). Therefore, the PT consensus value may deviate from the homogeneity test results. At the same time, the accuracy of the PT consensus value is more reliable than the accuracy of the results of the homogeneity test.

6 CONCLUSION

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 next table).

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 7: Category limits from German GS-Mark per August 2014

It can be concluded that the observed variation 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.

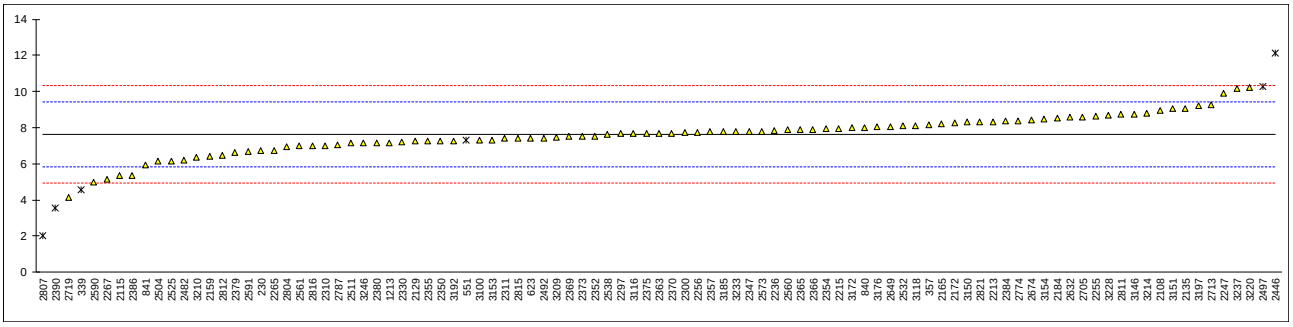
APPENDIX 1

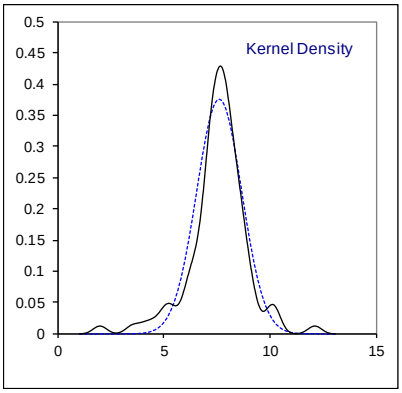
Determination of Acenaphthene in sample #18505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	6.71		-1.02	
330		-----		-----	
339	AfPS GS 2014 mod	4.57	ex	-3.40	test result excluded, see §4.1
357	INH-232	8.17		0.61	
551	AfPS GS 2014	7.2935	ex,C	-0.37	test result excluded, see §4.1, first reported 2.3362
623		7.43		-0.22	
840	AfPS GS 2014	8.02		0.44	
841		5.91		-1.91	
1213	AfPS GS 2014	7.172		-0.50	
2108	AfPS GS 2014	8.94		1.46	
2115		5.36		-2.52	
2129	AfPS GS 2014	7.23		-0.44	
2135	AfPS GS 2014	9.055		1.59	
2146		-----		-----	
2159	ZEK01.4-08	6.39		-1.37	
2165	AfPS GS 2014	8.21		0.65	
2166		-----		-----	
2172	AfPS GS 2014	8.27		0.72	
2184	AfPS GS 2014	8.52		1.00	
2213	AfPS GS 2014	8.33		0.79	
2215	In house	7.94		0.35	
2236	ZEK01.4-08	7.85		0.25	
2247	AfPS GS 2014	9.90		2.53	
2255	AfPS GS 2014	8.653		1.14	
2256	AfPS GS 2014	7.74		0.13	
2265	AfPS GS 2014	6.73		-1.00	
2267		5.13		-2.78	
2297	AfPS GS 2014	7.66		0.04	
2300	ZEK01.4-08	7.72		0.11	
2310	AfPS GS 2014	7.01		-0.68	
2311	AfPS GS 2014	7.423		-0.22	
2330	AfPS GS 2014	7.18		-0.49	
2347	AfPS GS 2014	7.8		0.20	
2350	AfPS GS 2014	7.241		-0.43	
2352	AfPS GS 2014	7.51		-0.13	
2354	AfPS GS 2014	7.93		0.34	
2355	AfPS GS 2014	7.2348		-0.43	
2357	AfPS GS 2014	7.77		0.16	
2363	AfPS GS 2014	7.7		0.08	
2365	AfPS GS 2014	7.89		0.30	
2366	AfPS GS 2014	7.90		0.31	
2369	AfPS GS 2014	7.5		-0.14	
2370	AfPS GS 2014	7.70		0.08	
2372	AfPS GS 2014	N.D.		-----	
2373	AfPS GS 2014	7.5		-0.14	
2375	In house	7.69		0.07	
2379	AfPS GS 2014	6.62		-1.12	
2380	AfPS GS 2014	7.165		-0.51	
2384	AfPS GS 2014	8.36		0.82	
2386	AfPS GS 2014	5.372		-2.51	
2390	AfPS GS 2014	3.53	C,R(0.05)	-4.56	first reported 3.350
2446	AfPS GS 2014	12.13	R(0.05)	5.01	
2481		-----		-----	
2482	AfPS GS 2014	6.19526667		-1.59	
2492	AfPS GS 2014	7.440		-0.21	
2497	ZEK01.4-08	10.261	ex	2.93	test result excluded, see §4.1
2504	AfPS GS 2014	6.13		-1.66	
2510		-----		-----	
2511	AfPS GS 2014	7.125		-0.56	
2525	AfPS GS 2014	6.13		-1.66	
2532	ZEK01.4-08	8.08		0.51	
2538	In house	7.637		0.01	
2560	AfPS GS 2014	7.865		0.27	
2561	AfPS GS 2014	6.98		-0.72	
2573	AfPS GS 2014	7.80		0.20	
2590	AfPS GS 2014	5.0	C	-2.92	first no results reported, sample mixed up with #18506
2591	In house	6.68		-1.05	
2629	ISO 21461	ND		-----	
2632	AfPS GS 2014	8.6		1.09	
2649	AfPS GS 2014	8.07		0.50	
2674	AfPS GS 2014	8.41		0.87	
2683		-----		-----	
2705	In house	8.6		1.09	
2713	ISO/TS16190	9.27		1.83	
2719	AfPS GS 2014	4.12		-3.90	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774	AfPS GS 2014	8.37		0.83	
2787	AfPS GS 2014	7.07		-0.62	
2804	In house	6.944		-0.76	
2807	ZEK01.4-08	2.00	R(0.01)	-6.26	
2811	AfPS GS 2014	8.73		1.23	
2812	ISO/TS16190	6.45		-1.31	
2815	ZEK01.4-08	7.428		-0.22	
2816	EN15527Mod.	7.0	C	-0.69	first reported 7.29
2821	AfPS GS 2014	8.305		0.76	
3100	AfPS GS 2014	7.32		-0.34	
3116	ZEK01.4-08	7.66		0.04	
3118	In house	8.096		0.53	
3146	AfPS GS 2014	8.75		1.25	
3150	AfPS GS 2014	8.29		0.74	
3151		9.047		1.58	
3153	AfPS GS 2014	7.33		-0.33	
3154	ZEK01.4-08	8.49		0.96	
3163		-----		-----	
3172	AfPS GS 2014	7.988		0.40	
3176	In house	8.05		0.47	
3185	AfPS GS 2014	7.77		0.16	
3192	AfPS GS 2014	7.25		-0.42	
3197	AfPS GS 2014	9.23		1.79	
3209	In house	7.472		-0.17	
3210	AfPS GS 2014	6.367		-1.40	
3214	AfPS GS 2014	8.79		1.30	
3220	ZEK01.4-08	10.22		2.89	
3228	AfPS GS 2014	8.66		1.15	
3233	In house	7.78		0.17	
3237	ZEK01.4-08	10.15		2.81	
3246		7.13		-0.55	

normality	suspect
n	91
outliers	3 (+3 ex)
mean (n)	7.6242
st.dev. (n)	1.06363
R(calc.)	2.9782
st.dev.(Horwitz)	0.89853
R(Horwitz)	2.5159



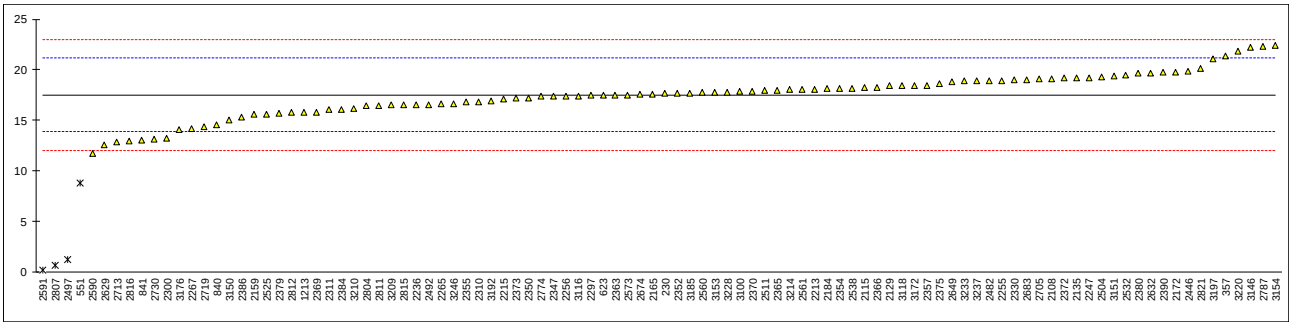


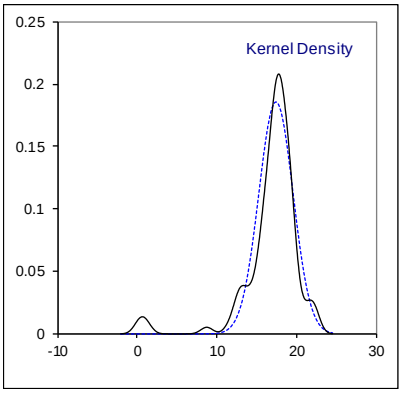
Determination of Anthracene in sample #18505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	17.64		0.08	
330		-----		-----	
339	AfPS GS 2014 mod	<0.1	ex	<-9.56	test result excluded, see §4.1, possible false negative test result?
357	INH-232	21.4		2.14	
551	AfPS GS 2014	8.801	C,R(0.05)	-4.78	first reported 6.0901
623		17.46		-0.02	
840	AfPS GS 2014	14.58		-1.61	
841		13.08		-2.43	
1213	AfPS GS 2014	15.76		-0.96	
2108	AfPS GS 2014	19.10		0.88	
2115		18.2	C	0.38	first reported 11.09
2129	AfPS GS 2014	18.4		0.49	
2135	AfPS GS 2014	19.210	C	0.94	first reported as Phenanthrene 17.311
2146		-----		-----	
2159	ZEK01.4-08	15.58		-1.06	
2165	AfPS GS 2014	17.56		0.03	
2166		-----		-----	
2172	AfPS GS 2014	19.8		1.26	
2184	AfPS GS 2014	18.11		0.33	
2213	AfPS GS 2014	18.1		0.33	
2215	In house	17.10		-0.22	
2236	ZEK01.4-08	16.58		-0.51	
2247	AfPS GS 2014	19.21	C	0.94	first reported 23.88
2255	AfPS GS 2014	18.91		0.77	
2256	AfPS GS 2014	17.4		-0.06	
2265	AfPS GS 2014	16.60		-0.50	
2267		14.16		-1.84	
2297	AfPS GS 2014	17.45		-0.03	
2300	ZEK01.4-08	13.26		-2.33	
2310	AfPS GS 2014	16.86		-0.35	
2311	AfPS GS 2014	16.047		-0.80	
2330	AfPS GS 2014	18.96		0.80	
2347	AfPS GS 2014	17.4		-0.06	
2350	AfPS GS 2014	17.24		-0.14	
2352	AfPS GS 2014	17.64		0.08	
2354	AfPS GS 2014	18.12		0.34	
2355	AfPS GS 2014	16.8302		-0.37	
2357	AfPS GS 2014	18.47		0.53	
2363	AfPS GS 2014	17.5		0.00	
2365	AfPS GS 2014	17.93		0.24	
2366	AfPS GS 2014	18.20		0.38	
2369	AfPS GS 2014	15.8		-0.94	
2370	AfPS GS 2014	17.9		0.22	
2372	AfPS GS 2014	19.2		0.93	
2373	AfPS GS 2014	17.2		-0.17	
2375	In house	18.62		0.61	
2379	AfPS GS 2014	15.68		-1.00	
2380	AfPS GS 2014	19.635		1.17	
2384	AfPS GS 2014	16.06		-0.79	
2386	AfPS GS 2014	15.306		-1.21	
2390	AfPS GS 2014	19.740		1.23	
2446	AfPS GS 2014	19.85		1.29	
2481		-----		-----	
2482	AfPS GS 2014	18.9019		0.77	
2492	AfPS GS 2014	16.590		-0.50	
2497	ZEK01.4-08	1.265	C,R(0.01)	-8.92	first reported 0.0001
2504	AfPS GS 2014	19.27		0.97	
2510		-----		-----	
2511	AfPS GS 2014	17.927		0.23	
2525	AfPS GS 2014	15.62		-1.03	
2532	ZEK01.4-08	19.5		1.10	
2538	In house	18.163		0.36	
2560	AfPS GS 2014	17.748		0.14	
2561	AfPS GS 2014	18.09		0.32	
2573	AfPS GS 2014	17.50		0.00	
2590	AfPS GS 2014	11.7	C	-3.19	first reported 12.094, sample mixed up with #18506
2591	In house	0.25	R(0.01)	-9.48	
2629	ISO 21461	12.58		-2.70	
2632	AfPS GS 2014	19.7		1.21	
2649	AfPS GS 2014	18.77		0.70	
2674	AfPS GS 2014	17.54		0.02	
2683	AfPS GS 2014	18.976		0.81	
2705	In house	19.05		0.85	
2713	ISO/TS16190	12.82		-2.57	
2719	AfPS GS 2014	14.34		-1.74	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	13.13		-2.40	
2774	AfPS GS 2014	17.35		-0.08	
2787	AfPS GS 2014	22.29		2.63	
2804	In house	16.42		-0.59	
2807	ZEK01.4-08	0.68	R(0.01)	-9.24	
2811	AfPS GS 2014	16.49		-0.56	
2812	ISO/TS16190	15.75		-0.96	
2815	ZEK01.4-08	16.531		-0.53	
2816	EN15527Mod.	13	C	-2.47	first reported 7.29
2821	AfPS GS 2014	20.164		1.46	
3100	AfPS GS 2014	17.84		0.19	
3116	ZEK01.4-08	17.4		-0.06	
3118	In house	18.453		0.52	
3146	AfPS GS 2014	22.255		2.61	
3150	AfPS GS 2014	15.02		-1.36	
3151		19.36		1.02	
3153	AfPS GS 2014	17.78		0.15	
3154	ZEK01.4-08	22.37		2.67	
3163		-----		-----	
3172	AfPS GS 2014	18.459		0.53	
3176	In house	14.05		-1.90	
3185	AfPS GS 2014	17.64		0.08	
3192	AfPS GS 2014	16.94		-0.31	
3197	AfPS GS 2014	21.05		1.95	
3209	In house	16.512		-0.54	
3210	AfPS GS 2014	16.169		-0.73	
3214	AfPS GS 2014	18.02		0.28	
3220	ZEK01.4-08	21.88		2.41	
3228	AfPS GS 2014	17.81		0.17	
3233	In house	18.90		0.77	
3237	ZEK01.4-08	18.9		0.77	
3246		16.63		-0.48	

normality	OK
n	96
outliers	4 (+1 ex)
mean (n)	17.5019
st.dev. (n)	2.14995
R(calc.)	6.0199
st.dev.(Horwitz)	1.82013
R(Horwitz)	5.0964



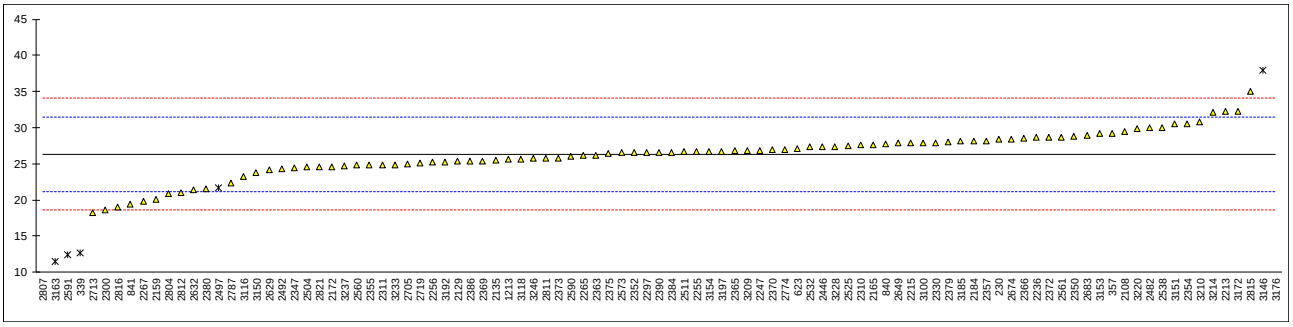


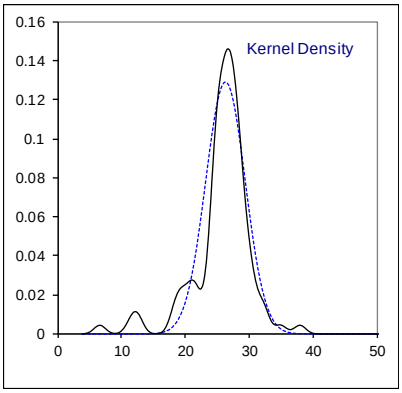
Determination of Pyrene in sample #18505; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	28.41		0.80	
330		-----		-----	
339	AfPS GS 2014 mod	12.7	R(0.01)	-5.30	
357	INH-232	29.2		1.11	
551	AfPS GS 2014	N.D.		-----	
623		27.14		0.31	
840	AfPS GS 2014	27.68		0.52	
841		19.39		-2.70	
1213	AfPS GS 2014	25.64		-0.27	
2108	AfPS GS 2014	29.49		1.22	
2115		N.D.	C	-----	first reported 16.25
2129	AfPS GS 2014	25.3		-0.41	
2135	AfPS GS 2014	25.529		-0.32	
2146		-----		-----	
2159	ZEK01.4-08	20.01		-2.46	
2165	AfPS GS 2014	27.62		0.49	
2166		-----		-----	
2172	AfPS GS 2014	24.6		-0.68	
2184	AfPS GS 2014	28.11		0.69	
2213	AfPS GS 2014	32.3		2.31	
2215	In house	27.91		0.61	
2236	ZEK01.4-08	28.65		0.89	
2247	AfPS GS 2014	26.86		0.20	
2255	AfPS GS 2014	26.73		0.15	
2256	AfPS GS 2014	25.2		-0.44	
2265	AfPS GS 2014	26.12		-0.09	
2267		19.84		-2.52	
2297	AfPS GS 2014	26.52		0.07	
2300	ZEK01.4-08	18.57		-3.02	
2310	AfPS GS 2014	27.56		0.47	
2311	AfPS GS 2014	24.877		-0.57	
2330	AfPS GS 2014	27.94		0.62	
2347	AfPS GS 2014	24.5		-0.72	
2350	AfPS GS 2014	28.78		0.95	
2352	AfPS GS 2014	26.52		0.07	
2354	AfPS GS 2014	30.58		1.64	
2355	AfPS GS 2014	24.8409		-0.58	
2357	AfPS GS 2014	28.13		0.69	
2363	AfPS GS 2014	26.2		-0.06	
2365	AfPS GS 2014	26.81		0.18	
2366	AfPS GS 2014	28.60		0.88	
2369	AfPS GS 2014	25.4		-0.37	
2370	AfPS GS 2014	27.0		0.25	
2372	AfPS GS 2014	28.7		0.91	
2373	AfPS GS 2014	25.8		-0.21	
2375	In house	26.44		0.04	
2379	AfPS GS 2014	27.95		0.62	
2380	AfPS GS 2014	21.498		-1.88	
2384	AfPS GS 2014	26.62		0.11	
2386	AfPS GS 2014	25.357		-0.38	
2390	AfPS GS 2014	26.58	C	0.09	first reported 36.260
2446	AfPS GS 2014	27.32		0.38	
2481		-----		-----	
2482	AfPS GS 2014	29.9871333		1.41	
2492	AfPS GS 2014	24.363		-0.77	
2497	ZEK01.4-08	21.692	ex	-1.81	test result excluded, see §4.1
2504	AfPS GS 2014	24.5114	C	-0.71	first reported 37.48
2510		-----		-----	
2511	AfPS GS 2014	26.644		0.12	
2525	AfPS GS 2014	27.43		0.42	
2532	ZEK01.4-08	27.3		0.37	
2538	In house	30.020		1.43	
2560	AfPS GS 2014	24.819		-0.59	
2561	AfPS GS 2014	28.71		0.92	
2573	AfPS GS 2014	26.50		0.06	
2590	AfPS GS 2014	26.0	C	-0.13	first reported 27.634, sample mixed up with #18506
2591	In house	12.38	R(0.01)	-5.42	
2629	ISO 21461	24.14		-0.86	
2632	AfPS GS 2014	21.4		-1.92	
2649	AfPS GS 2014	27.82		0.57	
2674	AfPS GS 2014	28.44		0.81	
2683	AfPS GS 2014	28.987		1.03	
2705	In house	25		-0.52	
2713	ISO/TS16190	18.22		-3.15	
2719	AfPS GS 2014	25.09		-0.49	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774	AfPS GS 2014	27.00		0.25	
2787	AfPS GS 2014	22.37	C	-1.54	first reported 35.38
2804	In house	20.93		-2.10	
2807	ZEK01.4-08	6.68	R(0.01)	-7.63	
2811	AfPS GS 2014	25.77		-0.22	
2812	ISO/TS16190	21.02		-2.07	
2815	ZEK01.4-08	34.954		3.34	
2816	EN15527Mod.	19	C	-2.85	first reported 19.3
2821	AfPS GS 2014	24.562		-0.69	
3100	AfPS GS 2014	27.91		0.61	
3116	ZEK01.4-08	23.3		-1.18	
3118	In house	25.662		-0.27	
3146	AfPS GS 2014	37.99	R(0.05)	4.52	
3150	AfPS GS 2014	23.83		-0.98	
3151		30.577		1.64	
3153	AfPS GS 2014	29.18		1.10	
3154	ZEK01.4-08	26.73		0.15	
3163	In house	11.5	R(0.01)	-5.76	
3172	AfPS GS 2014	32.305		2.31	
3176	In house	90.4	C,R(0.01)	24.86	first reported 17.3
3185	AfPS GS 2014	28.09		0.68	
3192	AfPS GS 2014	25.29		-0.41	
3197	AfPS GS 2014	26.73		0.15	
3209	In house	26.842		0.19	
3210	AfPS GS 2014	30.754		1.71	
3214	AfPS GS 2014	32.17		2.26	
3220	ZEK01.4-08	29.88		1.37	
3228	AfPS GS 2014	27.32		0.38	
3233	In house	24.90		-0.56	
3237	ZEK01.4-08	24.7		-0.64	
3246		25.75		-0.23	

normality	OK
n	92
outliers	6 (+1 ex)
mean (n)	26.3449
st.dev. (n)	3.09075
R(calc.)	8.6541
st.dev.(Horwitz)	2.57620
R(Horwitz)	7.2134



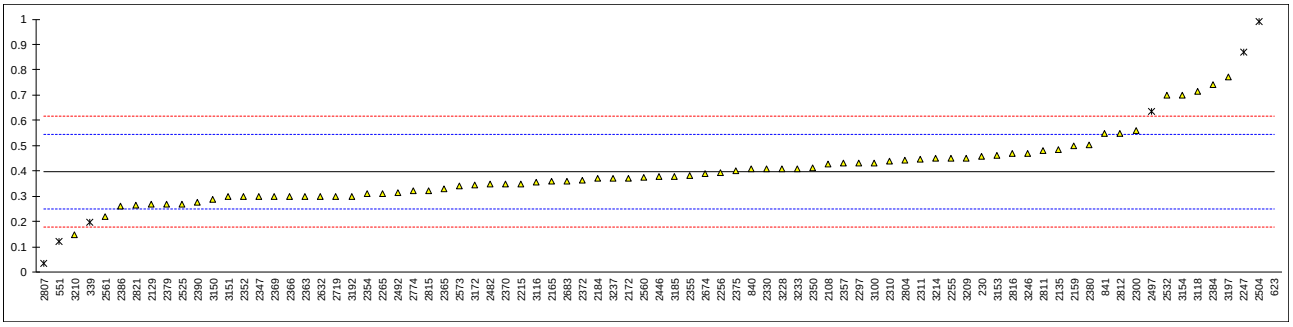


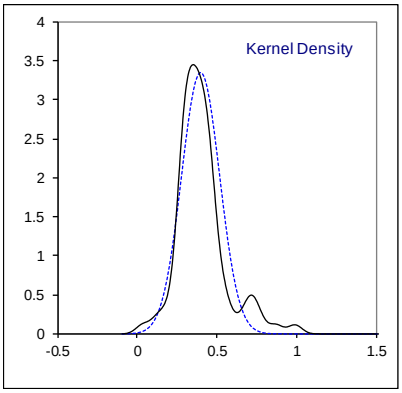
Determination of Naphthalene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.459		0.84	
330		-----		-----	
339	AfPS GS 2014 mod	0.199	ex	-2.72	test result excluded, see §4.1
357	INH-232	<0.2		-----	
551	AfPS GS 2014	0.1198	ex	-3.80	test result excluded, see §4.1
623		1.94	R(0.01)	21.10	
840	AfPS GS 2014	0.41		0.17	
841		0.55	C	2.09	first reported 1.58
1213	AfPS GS 2014	NA		-----	
2108	AfPS GS 2014	0.429		0.43	
2115		-----		-----	
2129	AfPS GS 2014	0.27		-1.75	
2135	AfPS GS 2014	0.484		1.18	
2146		-----		-----	
2159	ZEK01.4-08	0.50		1.40	
2165	AfPS GS 2014	0.36		-0.51	
2166		-----		-----	
2172	AfPS GS 2014	0.372		-0.35	
2184	AfPS GS 2014	0.37		-0.38	
2213	AfPS GS 2014	<0.2		-----	
2215	In house	0.35		-0.65	
2236	ZEK01.4-08	<0.5		-----	
2247	AfPS GS 2014	0.87	R(0.05)	6.46	
2255	AfPS GS 2014	0.451		0.73	
2256	AfPS GS 2014	0.394		-0.05	
2265	AfPS GS 2014	0.31		-1.20	
2267		-----		-----	
2297	AfPS GS 2014	0.43		0.44	
2300	ZEK01.4-08	0.56		2.22	
2310	AfPS GS 2014	0.44		0.58	
2311	AfPS GS 2014	0.446		0.66	
2330	AfPS GS 2014	0.41		0.17	
2347	AfPS GS 2014	0.3		-1.34	
2350	AfPS GS 2014	0.412		0.20	
2352	AfPS GS 2014	0.30		-1.34	
2354	AfPS GS 2014	0.31		-1.20	
2355	AfPS GS 2014	0.3805		-0.23	
2357	AfPS GS 2014	0.43		0.44	
2363	AfPS GS 2014	0.3		-1.34	
2365	AfPS GS 2014	0.33		-0.92	
2366	AfPS GS 2014	0.30		-1.34	
2369	AfPS GS 2014	0.3		-1.34	
2370	AfPS GS 2014	0.349		-0.66	
2372	AfPS GS 2014	0.362		-0.49	
2373		-----		-----	
2375	In house	0.40		0.03	
2379	AfPS GS 2014	0.27		-1.75	
2380		0.503		1.44	
2384	AfPS GS 2014	0.74		4.69	
2386	AfPS GS 2014	0.260		-1.88	
2390	AfPS GS 2014	0.276		-1.66	
2446	AfPS GS 2014	0.38		-0.24	
2481		-----		-----	
2482	AfPS GS 2014	0.34823333		-0.68	
2492	AfPS GS 2014	0.313		-1.16	
2497	AfPS GS 2014	0.635	ex,C	3.25	test result excluded, see §4.1, first reported 1.442
2504	AfPS GS 2014	0.99	R(0.01)	8.11	
2510		-----		-----	
2511		-----		-----	
2525	AfPS GS 2014	0.27		-1.75	
2532	ZEK01.4-08	0.7		4.14	
2538	In house	< 0,2		-----	
2560	AfPS GS 2014	0.376		-0.30	
2561	AfPS GS 2014	0.22		-2.43	
2573	AfPS GS 2014	0.34		-0.79	
2590		-----		-----	
2591	In house	<0.2		-----	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.3		-1.34	
2649		-----		-----	
2674	AfPS GS 2014	0.39		-0.10	
2683	AfPS GS 2014	0.36		-0.51	
2705		-----		-----	
2713		-----		-----	
2719	AfPS GS 2014	0.30		-1.34	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		0.32		-1.06	
2787	AfPS GS 2014	<0.4		-----	
2804	In house	0.444		0.64	
2807	ZEK01.4-08	0.035	ex	-4.96	test result excluded, see §4.1
2811	AfPS GS 2014	0.48		1.13	
2812	ISO/TS16190	0.55		2.09	
2815	ZEK01.4-08	0.323		-1.02	
2816	EN15527Mod.	0.47		0.99	
2821	AfPS GS 2014	0.267		-1.79	
3100	AfPS GS 2014	0.43		0.44	
3116	ZEK01.4-08	0.356		-0.57	
3118	In house	0.714		4.33	
3146	AfPS GS 2014	<0,5		-----	
3150	AfPS GS 2014	0.287		-1.51	
3151	AfPS GS 2014	0.298		-1.36	
3153		0.46		0.85	
3154	ZEK01.4-08	0.70		4.14	
3163		-----		-----	
3172	AfPS GS 2014	0.346		-0.71	
3176		-----		-----	
3185	AfPS GS 2014	0.38		-0.24	
3192	AfPS GS 2014	0.30		-1.34	
3197	AfPS GS 2014	0.77		5.10	
3209	In house	0.452		0.74	
3210	AfPS GS 2014	0.149		-3.40	
3214	AfPS GS 2014	0.45		0.72	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	0.41		0.17	
3233	In house	0.41		0.17	
3237	ZEK01.4-08	0.37		-0.38	
3246		0.47		0.99	

normality	not OK
n	74
outliers	3 (+4 ex)
mean (n)	0.3976
st.dev. (n)	0.11925
R(calc.)	0.3339
st.dev.(Horwitz)	0.07309
R(Horwitz)	0.2046



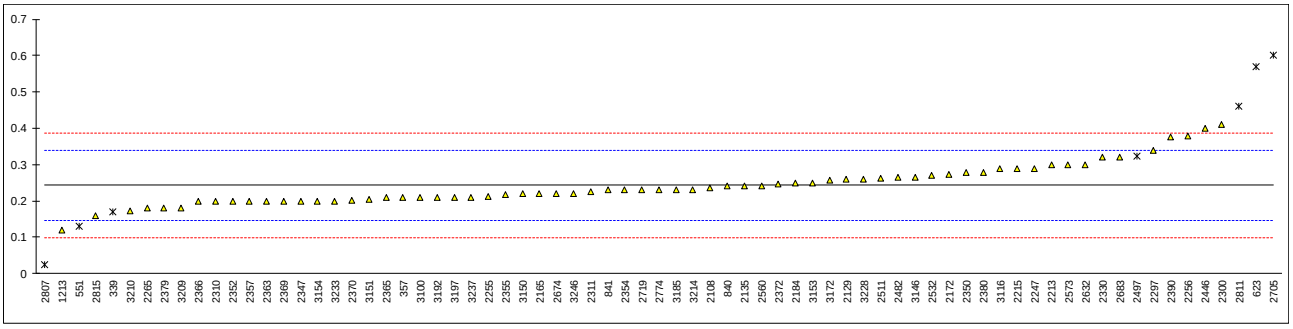


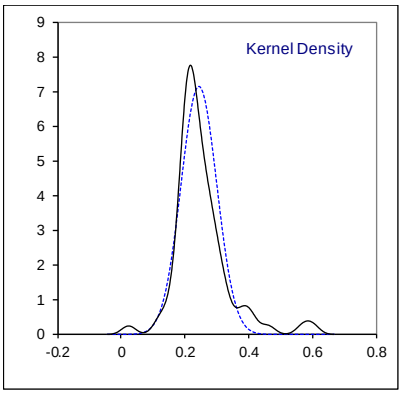
Determination of Acenapthylene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339	AfPS GS 2014 mod	0.169	ex	-1.54	test result excluded, see §4.1
357	INH-232	0.21		-0.69	
551	AfPS GS 2014	0.1298	ex	-2.36	test result excluded, see §4.1
623		0.57	R(0.01)	6.79	
840	AfPS GS 2014	0.24		-0.07	
841		0.23		-0.28	
1213	AfPS GS 2014	0.119		-2.58	
2108	AfPS GS 2014	0.237		-0.13	
2115		-----		-----	
2129	AfPS GS 2014	0.26		0.35	
2135	AfPS GS 2014	0.24		-0.07	
2146		-----		-----	
2159		-----		-----	
2165	AfPS GS 2014	0.22		-0.48	
2166		-----		-----	
2172	AfPS GS 2014	0.274		0.64	
2184	AfPS GS 2014	0.25		0.14	
2213	AfPS GS 2014	0.3		1.18	
2215	In house	0.29		0.97	
2236	ZEK01.4-08	<0.5	C	-----	first reported 0.99
2247	AfPS GS 2014	0.29		0.97	
2255	AfPS GS 2014	0.213		-0.63	
2256	AfPS GS 2014	0.379		2.82	
2265	AfPS GS 2014	0.18		-1.31	
2267		-----		-----	
2297	AfPS GS 2014	0.34		2.01	
2300	ZEK01.4-08	0.41		3.46	
2310	AfPS GS 2014	0.20		-0.90	
2311	AfPS GS 2014	0.224		-0.40	
2330	AfPS GS 2014	0.32		1.59	
2347	AfPS GS 2014	0.2		-0.90	
2350	AfPS GS 2014	0.279		0.74	
2352	AfPS GS 2014	0.20		-0.90	
2354	AfPS GS 2014	0.23		-0.28	
2355	AfPS GS 2014	0.2185		-0.51	
2357	AfPS GS 2014	0.20		-0.90	
2363	AfPS GS 2014	0.2		-0.90	
2365	AfPS GS 2014	0.21		-0.69	
2366	AfPS GS 2014	0.20		-0.90	
2369	AfPS GS 2014	0.2		-0.90	
2370	AfPS GS 2014	0.202		-0.86	
2372	AfPS GS 2014	0.247		0.08	
2373		-----		-----	
2375		-----		-----	
2379	AfPS GS 2014	0.18		-1.31	
2380		0.279		0.74	
2384	AfPS GS 2014	ND [<0.10]		<-2.98	possible false negative test result?
2386		-----		-----	
2390	AfPS GS 2014	0.375		2.74	
2446	AfPS GS 2014	0.40		3.25	
2481		-----		-----	
2482	AfPS GS 2014	0.26493333		0.45	
2492		-----		-----	
2497	AfPS GS 2014	0.322	ex	1.63	test result excluded, see §4.1
2504	AfPS GS 2014	n.d.		-----	
2510		-----		-----	
2511	AfPS GS 2014	0.263		0.41	
2525	AfPS GS 2014	<0.2		-----	
2532	ZEK01.4-08	0.27		0.55	
2538	In house	< 0,2		-----	
2560	AfPS GS 2014	0.240		-0.07	
2561	AfPS GS 2014	<0.2		-----	
2573	AfPS GS 2014	0.30		1.18	
2590		-----		-----	
2591	In house	<0.2		-----	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.3		1.18	
2649		-----		-----	
2674	AfPS GS 2014	0.22		-0.48	
2683	AfPS GS 2014	0.32		1.59	
2705	In house	0.6	R(0.01)	7.41	
2713		-----		-----	
2719	AfPS GS 2014	0.23		-0.28	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		0.23		-0.28	
2787	AfPS GS 2014	<0.4		-----	
2804		-----		-----	
2807	ZEK01.4-08	0.023	R(0.05)	-4.57	
2811	AfPS GS 2014	0.46	R(0.05)	4.50	
2812		-----		-----	
2815	ZEK01.4-08	0.158		-1.77	
2816	EN15527Mod.	<0.20	C	-----	first reported 0.148
2821	AfPS GS 2014	<0,2		-----	
3100	AfPS GS 2014	0.21		-0.69	
3116	ZEK01.4-08	0.288		0.93	
3118	In house	<0.5		-----	
3146	AfPS GS 2014	0.265		0.45	
3150	AfPS GS 2014	0.219	C	-0.50	first reported 0.928
3151	AfPS GS 2014	0.203		-0.84	
3153		0.25		0.14	
3154	ZEK01.4-08	0.20		-0.90	
3163		-----		-----	
3172	AfPS GS 2014	0.256		0.26	
3176		-----		-----	
3185	AfPS GS 2014	0.23		-0.28	
3192	AfPS GS 2014	0.21		-0.69	
3197	AfPS GS 2014	0.21		-0.69	
3209	In house	0.181		-1.29	
3210	AfPS GS 2014	0.172		-1.48	
3214	AfPS GS 2014	0.23		-0.28	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	0.26		0.35	
3233	In house	0.20		-0.90	
3237	ZEK01.4-08	0.21		-0.69	
3246		0.22		-0.48	

normality	not OK
n	66
outliers	4 (+3 ex)
mean (n)	0.2433
st.dev. (n)	0.05594
R(calc.)	0.1566
st.dev.(Horwitz)	0.04815
R(Horwitz)	0.1348



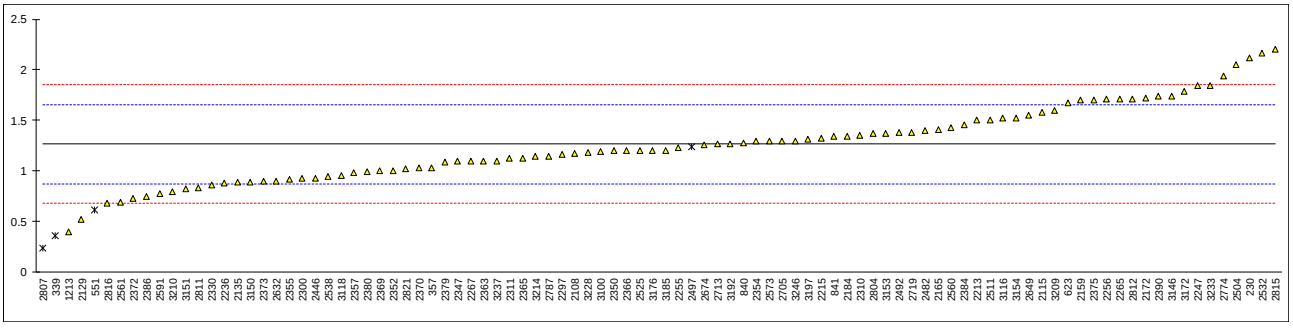


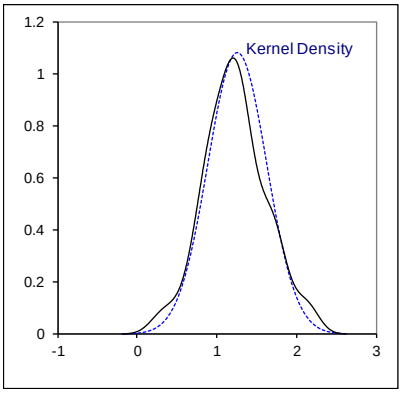
Determination of Acenaphthene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.12	C	4.39	first reported 2.48
330		-----		-----	
339	AfPS GS 2014 mod	0.359	ex	-4.63	test result excluded, see §4.1
357	INH-232	1.03		-1.20	
551	AfPS GS 2014	0.6192	ex	-3.30	test result excluded, see §4.1
623		1.67		2.08	
840	AfPS GS 2014	1.28		0.08	
841		1.34		0.39	
1213	AfPS GS 2014	0.396		-4.45	
2108	AfPS GS 2014	1.17		-0.48	
2115		1.58		1.62	
2129	AfPS GS 2014	0.52		-3.81	
2135	AfPS GS 2014	0.887		-1.93	
2146		-----		-----	
2159	ZEK01.4-08	1.70		2.24	
2165	AfPS GS 2014	1.41		0.75	
2166		-----		-----	
2172	AfPS GS 2014	1.72		2.34	
2184	AfPS GS 2014	1.34		0.39	
2213	AfPS GS 2014	1.5		1.21	
2215	In house	1.32		0.29	
2236	ZEK01.4-08	0.88		-1.97	
2247	AfPS GS 2014	1.84		2.95	
2255	AfPS GS 2014	1.232		-0.16	
2256	AfPS GS 2014	1.71		2.29	
2265	AfPS GS 2014	1.71		2.29	
2267	In house	1.1	C	-0.84	first reported 0.51
2297	AfPS GS 2014	1.16		-0.53	
2300	ZEK01.4-08	0.93		-1.71	
2310	AfPS GS 2014	1.35		0.44	
2311	AfPS GS 2014	1.126		-0.71	
2330	AfPS GS 2014	0.86		-2.07	
2347	AfPS GS 2014	1.1		-0.84	
2350	AfPS GS 2014	1.198		-0.34	
2352	AfPS GS 2014	1.00		-1.35	
2354	AfPS GS 2014	1.30		0.19	
2355	AfPS GS 2014	0.9167		-1.78	
2357	AfPS GS 2014	0.98		-1.45	
2363	AfPS GS 2014	1.1		-0.84	
2365	AfPS GS 2014	1.13		-0.69	
2366	AfPS GS 2014	1.20		-0.33	
2369	AfPS GS 2014	1		-1.35	
2370	AfPS GS 2014	1.03		-1.20	
2372	AfPS GS 2014	0.728		-2.74	
2373	AfPS GS 2014	0.9		-1.86	
2375	In house	1.70		2.24	
2379	AfPS GS 2014	1.09		-0.89	
2380		0.997		-1.37	
2384	AfPS GS 2014	1.46		1.01	
2386	AfPS GS 2014	0.749		-2.64	
2390	AfPS GS 2014	1.739		2.43	
2446	AfPS GS 2014	0.93		-1.71	
2481		-----		-----	
2482	AfPS GS 2014	1.3955		0.68	
2492	AfPS GS 2014	1.380		0.60	
2497	AfPS GS 2014	1.241	ex	-0.12	test result excluded, see §4.1
2504	AfPS GS 2014	2.05		4.03	
2510		-----		-----	
2511	AfPS GS 2014	1.508		1.25	
2525	AfPS GS 2014	1.20		-0.33	
2532	ZEK01.4-08	2.16		4.59	
2538	In house	0.950		-1.61	
2560	AfPS GS 2014	1.429		0.85	
2561	AfPS GS 2014	0.69		-2.94	
2573	AfPS GS 2014	1.30		0.19	
2590		-----	C	-----	first reported 5.194, sample mixed up with #18505
2591	In house	0.78		-2.48	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.9		-1.86	
2649		1.55		1.47	
2674	AfPS GS 2014	1.26		-0.02	
2683		-----		-----	
2705	In house	1.3		0.19	
2713	ISO/TS16190	1.27		0.03	
2719	AfPS GS 2014	1.38		0.60	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		1.94		3.46	
2787	AfPS GS 2014	1.143		-0.62	
2804	In house	1.367		0.53	
2807	ZEK01.4-08	0.24	ex	-5.24	test result excluded, see §4.1
2811	AfPS GS 2014	0.83		-2.22	
2812	ISO/TS16190	1.71		2.29	
2815	ZEK01.4-08	2.205		4.82	
2816	EN15527Mod.	0.68	C	-2.99	first reported 0.673
2821	AfPS GS 2014	1.023		-1.23	
3100	AfPS GS 2014	1.19		-0.38	
3116	ZEK01.4-08	1.52		1.31	
3118	In house	0.953		-1.59	
3146	AfPS GS 2014	1.74		2.44	
3150	AfPS GS 2014	0.892		-1.90	
3151	AfPS GS 2014	0.82		-2.27	
3153		1.37		0.54	
3154	ZEK01.4-08	1.52		1.31	
3163		-----		-----	
3172	AfPS GS 2014	1.79	C	2.70	first reported 2.469
3176	In house	1.20		-0.33	
3185	AfPS GS 2014	1.20		-0.33	
3192	AfPS GS 2014	1.27		0.03	
3197	AfPS GS 2014	1.31		0.24	
3209	In house	1.601		1.73	
3210	AfPS GS 2014	0.796		-2.40	
3214	AfPS GS 2014	1.14		-0.63	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	1.18		-0.43	
3233	In house	1.84		2.95	
3237	ZEK01.4-08	1.1		-0.84	
3246		1.3		0.19	

normality	OK
n	92
outliers	0 (+4 ex)
mean (n)	1.2637
st.dev. (n)	0.36979
R(calc.)	1.0354
st.dev.(Horwitz)	0.19519
R(Horwitz)	0.5465



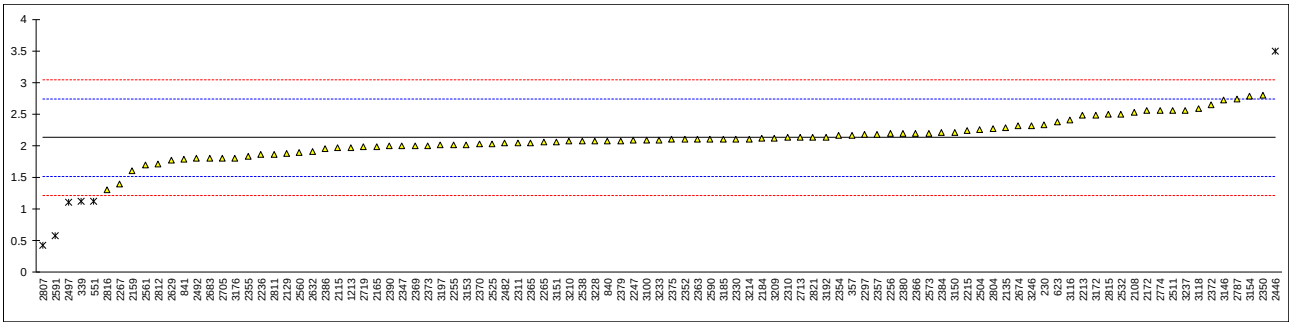


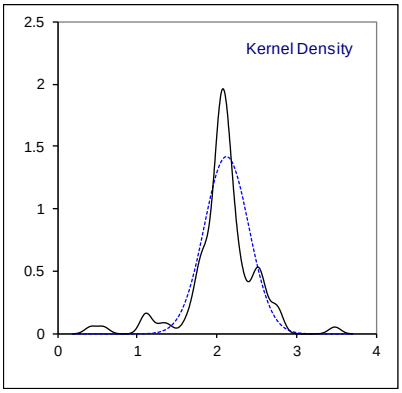
Determination of Phenanthrene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.33		0.66	
330		-----		-----	
339	AfPS GS 2014 mod	1.12	ex	-3.32	test result excluded, see §4.1
357	INH-232	2.17		0.14	
551	AfPS GS 2014	1.1287	ex	-3.29	test result excluded, see §4.1
623		2.38		0.83	
840	AfPS GS 2014	2.08		-0.16	
841		1.79		-1.11	
1213	AfPS GS 2014	1.972		-0.52	
2108	AfPS GS 2014	2.52		1.29	
2115		1.97		-0.52	
2129	AfPS GS 2014	1.87		-0.85	
2135	AfPS GS 2014	2.287		0.52	
2146		-----		-----	
2159	ZEK01.4-08	1.61		-1.71	
2165	AfPS GS 2014	1.99		-0.46	
2166		-----		-----	
2172	AfPS GS 2014	2.55		1.39	
2184	AfPS GS 2014	2.12		-0.03	
2213	AfPS GS 2014	2.48		1.16	
2215	In house	2.24		0.37	
2236	ZEK01.4-08	1.86		-0.88	
2247	AfPS GS 2014	2.09		-0.13	
2255	AfPS GS 2014	2.013		-0.38	
2256	AfPS GS 2014	2.19		0.20	
2265	AfPS GS 2014	2.06		-0.23	
2267	In house	1.4	C	-2.40	first reported 0.83
2297	AfPS GS 2014	2.18		0.17	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	2.13		0.00	
2311	AfPS GS 2014	2.049		-0.26	
2330	AfPS GS 2014	2.11		-0.06	
2347	AfPS GS 2014	2.0		-0.42	
2350	AfPS GS 2014	2.793		2.19	
2352	AfPS GS 2014	2.10		-0.09	
2354	AfPS GS 2014	2.16		0.10	
2355	AfPS GS 2014	1.8312		-0.98	
2357	AfPS GS 2014	2.18		0.17	
2363	AfPS GS 2014	2.1		-0.09	
2365	AfPS GS 2014	2.05		-0.26	
2366	AfPS GS 2014	2.20		0.24	
2369	AfPS GS 2014	2		-0.42	
2370	AfPS GS 2014	2.03		-0.32	
2372	AfPS GS 2014	2.64		1.68	
2373	AfPS GS 2014	2.0		-0.42	
2375	In house	2.10		-0.09	
2379	AfPS GS 2014	2.08		-0.16	
2380		2.193		0.21	
2384	AfPS GS 2014	2.21		0.27	
2386	AfPS GS 2014	1.945		-0.60	
2390	AfPS GS 2014	1.996		-0.44	
2446	AfPS GS 2014	3.49	R(0.01)	4.48	
2481		-----		-----	
2482	AfPS GS 2014	2.04556667		-0.27	
2492	AfPS GS 2014	1.800		-1.08	
2497	AfPS GS 2014	1.103	ex	-3.37	test result excluded, see §4.1
2504	AfPS GS 2014	2.26		0.43	
2510		-----		-----	
2511	AfPS GS 2014	2.560		1.42	
2525	AfPS GS 2014	2.03		-0.32	
2532	ZEK01.4-08	2.5		1.22	
2538	In house	2.070		-0.19	
2560	AfPS GS 2014	1.891		-0.78	
2561	AfPS GS 2014	1.69		-1.44	
2573	AfPS GS 2014	2.20		0.24	
2590	AfPS GS 2014	2.1	C	-0.09	first no results reported, sample mixed up with #18505
2591	In house	0.58	R(0.01)	-5.09	
2629	AfPS GS 2014	1.77		-1.18	
2632	AfPS GS 2014	1.9		-0.75	
2649		-----		-----	
2674	AfPS GS 2014	2.32		0.63	
2683	AfPS GS 2014	1.80		-1.08	
2705	In house	1.8		-1.08	
2713	ISO/TS16190	2.13		0.00	
2719	AfPS GS 2014	1.98		-0.49	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		2.55		1.39	
2787	AfPS GS 2014	2.739		2.01	
2804	In house	2.268		0.46	
2807	ZEK01.4-08	0.42	R(0.01)	-5.62	
2811	AfPS GS 2014	1.86		-0.88	
2812	ISO/TS16190	1.71		-1.38	
2815	ZEK01.4-08	2.489		1.19	
2816	EN15527Mod.	1.3	C	-2.73	first reported 1.43
2821	AfPS GS 2014	2.133		0.01	
3100	AfPS GS 2014	2.09		-0.13	
3116	ZEK01.4-08	2.40		0.89	
3118	In house	2.590		1.52	
3146	AfPS GS 2014	2.73		1.98	
3150	AfPS GS 2014	2.21		0.27	
3151	AfPS GS 2014	2.065		-0.21	
3153		2.02		-0.36	
3154	ZEK01.4-08	2.78		2.14	
3163		-----		-----	
3172	AfPS GS 2014	2.482		1.16	
3176	In house	1.80		-1.08	
3185	AfPS GS 2014	2.10		-0.09	
3192	AfPS GS 2014	2.14		0.04	
3197	AfPS GS 2014	2.01		-0.39	
3209	In house	2.121		-0.02	
3210	AfPS GS 2014	2.066		-0.21	
3214	AfPS GS 2014	2.11		-0.06	
3220	ZEK01.4-08	ND	C	-----	first reported 4.38
3228	AfPS GS 2014	2.07		-0.19	
3233	In house	2.09		-0.13	
3237	ZEK01.4-08	2.56		1.42	
3246		2.32		0.63	

normality	OK
n	91
outliers	3 (+3 ex)
mean (n)	2.1286
st.dev. (n)	0.28041
R(calc.)	0.7851
st.dev.(Horwitz)	0.30397
R(Horwitz)	0.8511



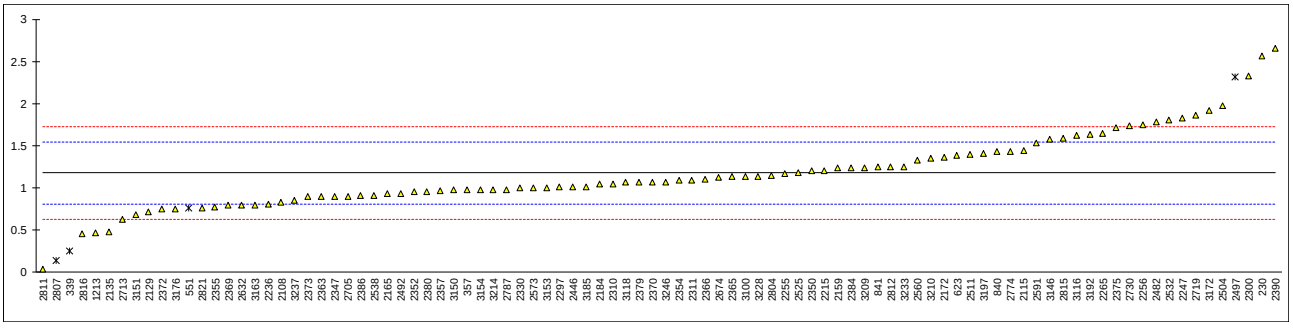


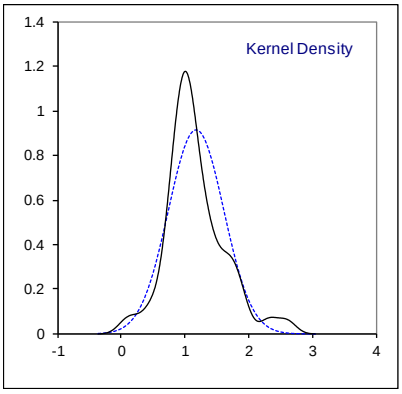
Determination of Anthracene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.56		7.52	
330		-----		-----	
339	AfPS GS 2014 mod	0.248	ex	-5.06	test result excluded, see §4.1
357	INH-232	0.98		-1.08	
551	AfPS GS 2014	0.7591	ex	-2.28	test result excluded, see §4.1
623		1.39		1.15	
840	AfPS GS 2014	1.43		1.37	
841		1.25		0.39	
1213	AfPS GS 2014	0.467		-3.87	
2108	AfPS GS 2014	0.826		-1.91	
2115		1.44		1.43	
2129	AfPS GS 2014	0.72		-2.49	
2135	AfPS GS 2014	0.481		-3.79	
2146		-----		-----	
2159	ZEK01.4-08	1.24		0.34	
2165	AfPS GS 2014	0.93		-1.35	
2166		-----		-----	
2172	AfPS GS 2014	1.36		0.99	
2184	AfPS GS 2014	1.04		-0.75	
2213	AfPS GS 2014	<0.2		<-5.32	possible false negative test result?
2215	In house	1.20		0.12	
2236	ZEK01.4-08	0.81		-2.00	
2247	AfPS GS 2014	1.83		3.55	
2255	AfPS GS 2014	1.164		-0.08	
2256	AfPS GS 2014	1.75		3.11	
2265	AfPS GS 2014	1.64		2.51	
2267		-----		-----	
2297	AfPS GS 2014	1.01		-0.91	
2300	ZEK01.4-08	2.33		6.27	
2310	AfPS GS 2014	1.05		-0.70	
2311	AfPS GS 2014	1.093		-0.46	
2330	AfPS GS 2014	1.00		-0.97	
2347	AfPS GS 2014	0.9		-1.51	
2350	AfPS GS 2014	1.198		0.11	
2352	AfPS GS 2014	0.95		-1.24	
2354	AfPS GS 2014	1.09		-0.48	
2355	AfPS GS 2014	0.7675		-2.23	
2357	AfPS GS 2014	0.97		-1.13	
2363	AfPS GS 2014	0.9		-1.51	
2365	AfPS GS 2014	1.13		-0.26	
2366	AfPS GS 2014	1.10		-0.42	
2369	AfPS GS 2014	0.8		-2.06	
2370	AfPS GS 2014	1.07		-0.59	
2372	AfPS GS 2014	0.745		-2.35	
2373	AfPS GS 2014	0.9		-1.51	
2375	In house	1.71		2.89	
2379	AfPS GS 2014	1.07		-0.59	
2380		0.959		-1.19	
2384	AfPS GS 2014	1.24		0.34	
2386	AfPS GS 2014	0.906		-1.48	
2390	AfPS GS 2014	2.649		8.00	
2446	AfPS GS 2014	1.01		-0.91	
2481		-----		-----	
2482	AfPS GS 2014	1.78376667		3.29	
2492	AfPS GS 2014	0.937		-1.31	
2497	AfPS GS 2014	2.311	ex	6.16	test result excluded, see §4.1
2504	AfPS GS 2014	1.97		4.31	
2510		-----		-----	
2511	AfPS GS 2014	1.399		1.20	
2525	AfPS GS 2014	1.18		0.01	
2532	ZEK01.4-08	1.8		3.38	
2538	In house	0.907		-1.47	
2560	AfPS GS 2014	1.331		0.83	
2561	AfPS GS 2014	<0.2		<-5.32	possible false negative test result?
2573	AfPS GS 2014	1.00		-0.97	
2590		-----	C	-----	first reported 12.094, sample mixed up with #18505
2591	In house	1.53		1.91	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.8		-2.06	
2649		-----		-----	
2674	AfPS GS 2014	1.12		-0.31	
2683		-----		-----	
2705	In house	0.9		-1.51	
2713	ISO/TS16190	0.62		-3.03	
2719	AfPS GS 2014	1.86		3.71	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	1.74		3.06	
2774		1.43		1.37	
2787	AfPS GS 2014	0.982		-1.07	
2804	In house	1.146		-0.17	
2807	ZEK01.4-08	0.14	ex	-5.64	test result excluded, see §4.1
2811	AfPS GS 2014	0.04		-6.19	
2812	ISO/TS16190	1.25		0.39	
2815	ZEK01.4-08	1.593		2.26	
2816	EN15527Mod.	0.45	C	-3.96	first reported 0.673
2821	AfPS GS 2014	0.767		-2.23	
3100	AfPS GS 2014	1.13		-0.26	
3116	ZEK01.4-08	1.62		2.40	
3118	In house	1.063		-0.62	
3146	AfPS GS 2014	1.58		2.19	
3150	AfPS GS 2014	0.974		-1.11	
3151	AfPS GS 2014	0.678		-2.72	
3153		1.00		-0.97	
3154	ZEK01.4-08	0.98		-1.08	
3163	In house	0.8		-2.06	
3172	AfPS GS 2014	1.915		4.01	
3176	In house	0.75		-2.33	
3185	AfPS GS 2014	1.01		-0.91	
3192	AfPS GS 2014	1.63		2.46	
3197	AfPS GS 2014	1.41		1.26	
3209	In house	1.242		0.35	
3210	AfPS GS 2014	1.348		0.93	
3214	AfPS GS 2014	0.98		-1.08	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	1.14		-0.21	
3233	In house	1.25		0.39	
3237	ZEK01.4-08	0.85		-1.78	
3246		1.07		-0.59	

normality	suspect
n	90
outliers	0 (+4 ex)
mean (n)	1.1779
st.dev. (n)	0.43669
R(calc.)	1.2227
st.dev.(Horwitz)	0.18388
R(Horwitz)	0.5149



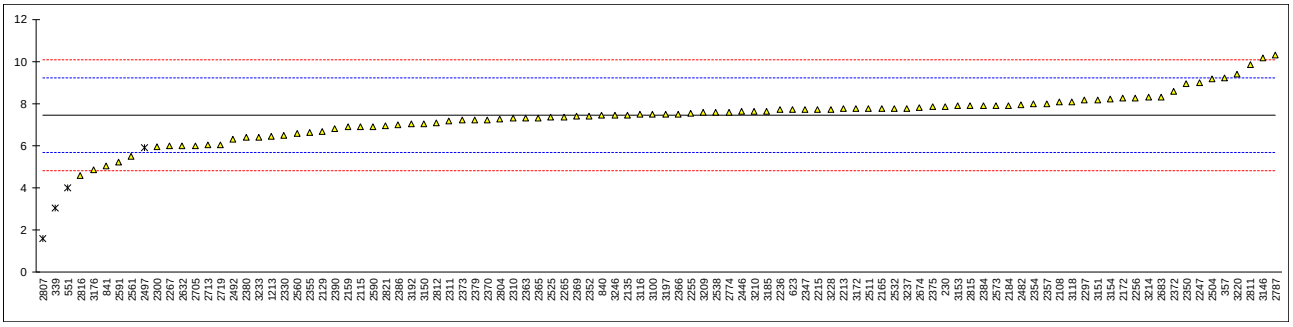


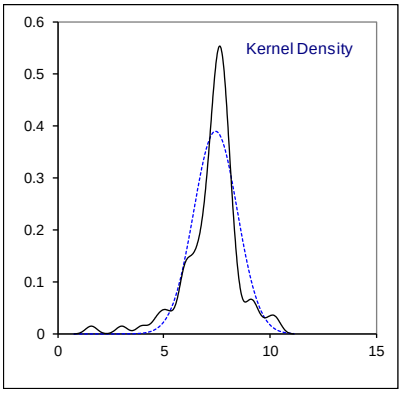
Determination of Fluoranthene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	7.84		0.46	
330		-----		-----	
339	AfPS GS 2014 mod	3.03	R(0.05)	-5.01	
357	INH-232	9.23		2.04	
551	AfPS GS 2014	3.9768	ex,C	-3.93	test result excluded, see §4.1, first reported 3.7156
623		7.70		0.30	
840	AfPS GS 2014	7.43		-0.01	
841		5.06		-2.70	
1213	AfPS GS 2014	6.430		-1.14	
2108	AfPS GS 2014	8.08		0.73	
2115		6.90		-0.61	
2129	AfPS GS 2014	6.69		-0.85	
2135	AfPS GS 2014	7.450		0.02	
2146		-----		-----	
2159	ZEK01.4-08	6.90		-0.61	
2165	AfPS GS 2014	7.76		0.37	
2166		-----		-----	
2172	AfPS GS 2014	8.25		0.92	
2184	AfPS GS 2014	7.91		0.54	
2213	AfPS GS 2014	7.74		0.34	
2215	In house	7.72		0.32	
2236	ZEK01.4-08	7.70		0.30	
2247	AfPS GS 2014	8.99		1.77	
2255	AfPS GS 2014	7.521		0.10	
2256	AfPS GS 2014	8.28		0.96	
2265	AfPS GS 2014	7.37		-0.08	
2267	In house	5.98	C	-1.66	first reported 5.74
2297	AfPS GS 2014	8.15		0.81	
2300	ZEK01.4-08	5.94		-1.70	
2310	AfPS GS 2014	7.30		-0.16	
2311	AfPS GS 2014	7.166		-0.31	
2330	AfPS GS 2014	6.51		-1.05	
2347	AfPS GS 2014	7.7		0.30	
2350	AfPS GS 2014	8.954		1.72	
2352	AfPS GS 2014	7.40		-0.04	
2354	AfPS GS 2014	7.99		0.63	
2355	AfPS GS 2014	6.6213		-0.93	
2357	AfPS GS 2014	8.00		0.64	
2363	AfPS GS 2014	7.3		-0.16	
2365	AfPS GS 2014	7.32		-0.13	
2366	AfPS GS 2014	7.50		0.07	
2369	AfPS GS 2014	7.4		-0.04	
2370	AfPS GS 2014	7.23		-0.23	
2372	AfPS GS 2014	8.56		1.28	
2373	AfPS GS 2014	7.2		-0.27	
2375	In house	7.84		0.46	
2379	AfPS GS 2014	7.22		-0.25	
2380		6.382		-1.20	
2384	AfPS GS 2014	7.89		0.52	
2386	AfPS GS 2014	6.972		-0.53	
2390	AfPS GS 2014	6.83	C	-0.69	first reported 11.570
2446	AfPS GS 2014	7.61		0.20	
2481		-----		-----	
2482	AfPS GS 2014	7.9617		0.60	
2492	AfPS GS 2014	6.310		-1.28	
2497	AfPS GS 2014	5.896	ex,C	-1.75	test result excluded, see §4.1, first reported 11.773
2504	AfPS GS 2014	9.15		1.95	
2510		-----		-----	
2511	AfPS GS 2014	7.745		0.35	
2525	AfPS GS 2014	7.36		-0.09	
2532	ZEK01.4-08	7.78		0.39	
2538	In house	7.563		0.14	
2560	AfPS GS 2014	6.582		-0.97	
2561	AfPS GS 2014	5.51		-2.19	
2573	AfPS GS 2014	7.90		0.53	
2590	AfPS GS 2014	6.9	C	-0.61	first no results reported, sample mixed up with #18505
2591	In house	5.20		-2.54	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	6.0		-1.63	
2649		-----		-----	
2674	AfPS GS 2014	7.81		0.42	
2683	AfPS GS 2014	8.32		1.00	
2705	In house	6.0		-1.63	
2713	ISO/TS16190	6.02		-1.61	
2719	AfPS GS 2014	6.03		-1.60	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		7.59		0.17	
2787	AfPS GS 2014	10.31		3.27	
2804	In house	7.283		-0.17	
2807	ZEK01.4-08	1.60	R(0.01)	-6.63	
2811	AfPS GS 2014	9.85		2.74	
2812	ISO/TS16190	7.10		-0.38	
2815	ZEK01.4-08	7.888		0.51	
2816	EN15527Mod.	4.6	C	-3.22	first reported 5.08
2821	AfPS GS 2014	6.967		-0.53	
3100	AfPS GS 2014	7.48		0.05	
3116	ZEK01.4-08	7.47		0.04	
3118	In house	8.082		0.73	
3146	AfPS GS 2014	10.15		3.08	
3150	AfPS GS 2014	7.04		-0.45	
3151	AfPS GS 2014	8.157		0.82	
3153		7.88		0.50	
3154	ZEK01.4-08	8.23		0.90	
3163		-----		-----	
3172	AfPS GS 2014	7.740		0.34	
3176	In house	4.85		-2.94	
3185	AfPS GS 2014	7.63		0.22	
3192	AfPS GS 2014	7.02		-0.47	
3197	AfPS GS 2014	7.48		0.05	
3209	In house	7.562		0.14	
3210	AfPS GS 2014	7.618		0.21	
3214	AfPS GS 2014	8.29		0.97	
3220	ZEK01.4-08	9.39		2.22	
3228	AfPS GS 2014	7.72		0.32	
3233	In house	6.39		-1.19	
3237	ZEK01.4-08	7.78		0.39	
3246		7.43		-0.01	

normality	suspect
n	94
outliers	2 (+2 ex)
mean (n)	7.4365
st.dev. (n)	1.02454
R(calc.)	2.8687
st.dev.(Horwitz)	0.87970
R(Horwitz)	2.4632



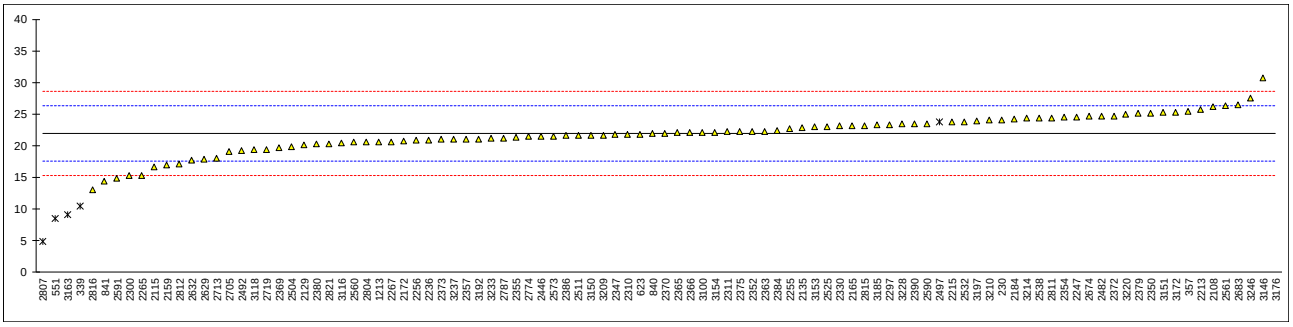


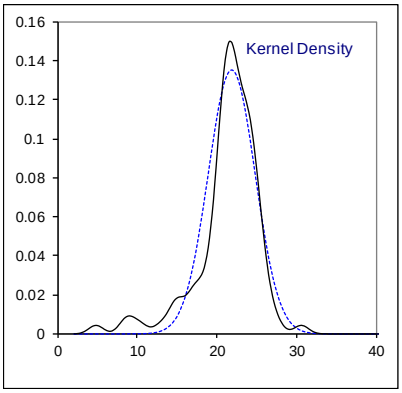
Determination of Pyrene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	24.11		1.00	
330		-----		-----	
339	AfPS GS 2014 mod	10.5	R(0.05)	-5.18	
357	INH-232	25.4		1.58	
551	AfPS GS 2014	8.4932	C,R(0.05)	-6.09	first reported 7.7909
623		21.85		-0.03	
840	AfPS GS 2014	21.87		-0.02	
841		14.45		-3.39	
1213	AfPS GS 2014	20.588		-0.60	
2108	AfPS GS 2014	26.11		1.91	
2115		16.70		-2.37	
2129	AfPS GS 2014	20.1		-0.82	
2135	AfPS GS 2014	22.873		0.44	
2146		-----		-----	
2159	ZEK01.4-08	16.91		-2.27	
2165	AfPS GS 2014	23.14		0.56	
2166		-----		-----	
2172	AfPS GS 2014	20.7		-0.55	
2184	AfPS GS 2014	24.21		1.04	
2213	AfPS GS 2014	25.73		1.73	
2215	In house	23.71		0.82	
2236	ZEK01.4-08	20.91		-0.45	
2247	AfPS GS 2014	24.54		1.19	
2255	AfPS GS 2014	22.713		0.36	
2256	AfPS GS 2014	20.85		-0.48	
2265	AfPS GS 2014	15.36		-2.97	
2267	In house	20.61	C	-0.59	first reported 16.6
2297	AfPS GS 2014	23.37		0.66	
2300	ZEK01.4-08	15.23		-3.03	
2310	AfPS GS 2014	21.83		-0.04	
2311	AfPS GS 2014	22.193		0.13	
2330	AfPS GS 2014	23.10		0.54	
2347	AfPS GS 2014	21.8		-0.05	
2350	AfPS GS 2014	25.16		1.48	
2352	AfPS GS 2014	22.30		0.18	
2354	AfPS GS 2014	24.52		1.18	
2355	AfPS GS 2014	21.2811		-0.29	
2357	AfPS GS 2014	21.10		-0.37	
2363	AfPS GS 2014	22.3		0.18	
2365	AfPS GS 2014	22.04		0.06	
2366	AfPS GS 2014	22.1		0.09	
2369	AfPS GS 2014	19.7		-1.00	
2370	AfPS GS 2014	21.9		0.00	
2372	AfPS GS 2014	24.7		1.27	
2373	AfPS GS 2014	21.0		-0.41	
2375	In house	22.29		0.17	
2379	AfPS GS 2014	25.14		1.47	
2380		20.263		-0.75	
2384	AfPS GS 2014	22.37		0.21	
2386	AfPS GS 2014	21.572		-0.15	
2390	AfPS GS 2014	23.48	C	0.71	first reported 37.270
2446	AfPS GS 2014	21.45		-0.21	
2481		-----		-----	
2482	AfPS GS 2014	24.6461333		1.24	
2492	AfPS GS 2014	19.155		-1.25	
2497	AfPS GS 2014	23.681	ex	0.80	test result excluded, see §4.1
2504	AfPS GS 2014	19.8491	C	-0.94	first reported 29.97
2510		-----		-----	
2511	AfPS GS 2014	21.628		-0.13	
2525	AfPS GS 2014	23.04		0.51	
2532	ZEK01.4-08	23.8		0.86	
2538	In house	24.353		1.11	
2560	AfPS GS 2014	20.518		-0.63	
2561	AfPS GS 2014	26.37		2.02	
2573	AfPS GS 2014	21.50		-0.19	
2590	AfPS GS 2014	23.5	C	0.72	first reported 38.603, sample mixed up with #18505
2591	In house	14.90		-3.18	
2629	AfPS GS 2014	17.87		-1.83	
2632	AfPS GS 2014	17.7		-1.91	
2649		-----		-----	
2674	AfPS GS 2014	24.6		1.22	
2683	AfPS GS 2014	26.52		2.09	
2705	In house	19		-1.32	
2713	ISO/TS16190	18.00		-1.78	
2719	AfPS GS 2014	19.39		-1.14	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		21.42		-0.22	
2787	AfPS GS 2014	21.20	C	-0.32	first reported 32.23
2804	In house	20.57		-0.61	
2807	ZEK01.4-08	4.86	R(0.01)	-7.74	
2811	AfPS GS 2014	24.41		1.13	
2812	ISO/TS16190	17.10		-2.18	
2815	ZEK01.4-08	23.156		0.57	
2816	EN15527Mod.	13	C	-4.04	first reported 14.3
2821	AfPS GS 2014	20.333		-0.72	
3100	AfPS GS 2014	22.14		0.10	
3116	ZEK01.4-08	20.4		-0.69	
3118	In house	19.340		-1.17	
3146	AfPS GS 2014	30.662		3.97	
3150	AfPS GS 2014	21.7		-0.10	
3151	AfPS GS 2014	25.3		1.54	
3153		23.03		0.51	
3154	ZEK01.4-08	22.15		0.11	
3163	In house	9.1	R(0.05)	-5.82	
3172	AfPS GS 2014	25.330		1.55	
3176	In house	83.6	C,R(0.01)	28.00	first reported 12.45
3185	AfPS GS 2014	23.24		0.60	
3192	AfPS GS 2014	21.1		-0.37	
3197	AfPS GS 2014	23.89		0.90	
3209	In house	21.711		-0.09	
3210	AfPS GS 2014	24.023		0.96	
3214	AfPS GS 2014	24.29		1.08	
3220	ZEK01.4-08	24.95		1.38	
3228	AfPS GS 2014	23.40		0.68	
3233	In house	21.17		-0.34	
3237	ZEK01.4-08	21.0		-0.41	
3246		27.6		2.58	

normality	suspect
n	94
outliers	5 (+1 ex)
mean (n)	21.9104
st.dev. (n)	2.94997
R(calc.)	8.2599
st.dev.(Horwitz)	2.20284
R(Horwitz)	6.1679



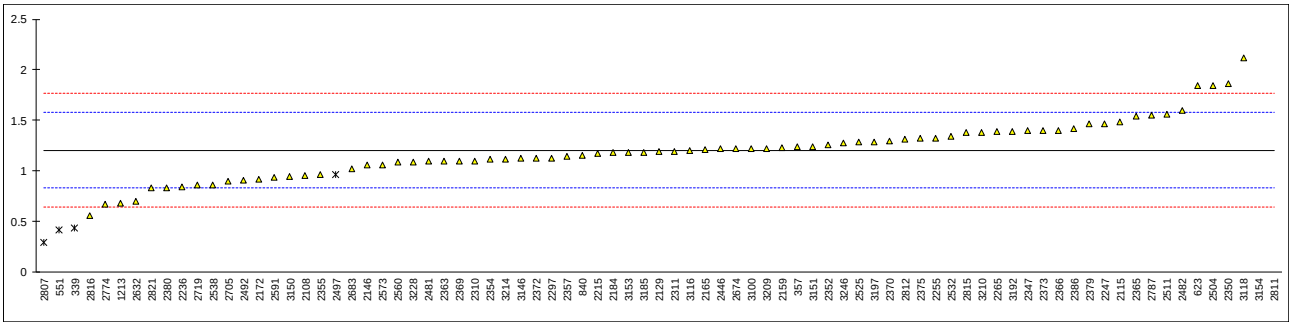


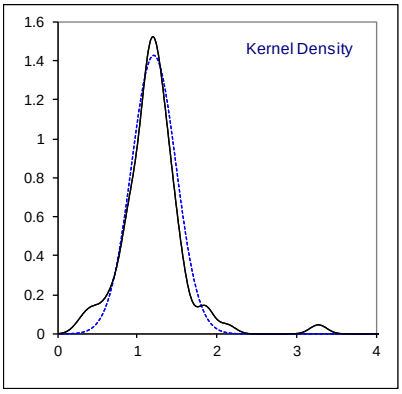
Determination of Benzo[a]anthracene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339	AfPS GS 2014 mod	0.432	ex	-4.12	test result excluded, see §4.1
357	INH-232	1.24		0.19	
551	AfPS GS 2014	0.4195	ex	-4.19	test result excluded, see §4.1
623		1.84		3.40	
840	AfPS GS 2014	1.15		-0.29	
841		n.d		-----	
1213	AfPS GS 2014	0.678		-2.81	
2108	AfPS GS 2014	0.954		-1.33	
2115		1.48		1.47	
2129	AfPS GS 2014	1.19		-0.07	
2135		-----		-----	
2146	In house	1.06		-0.77	
2159	ZEK01.4-08	1.23		0.14	
2165	AfPS GS 2014	1.21		0.03	
2166		-----		-----	
2172	AfPS GS 2014	0.918		-1.53	
2184	AfPS GS 2014	1.18		-0.13	
2213	AfPS GS 2014	<0.2		<-5.36	possible false negative test result?
2215	In house	1.17		-0.18	
2236	ZEK01.4-08	0.84		-1.94	
2247	AfPS GS 2014	1.47	C	1.42	first reported 2.14
2255	AfPS GS 2014	1.322		0.63	
2256	AfPS GS 2014	ND		-----	
2265	AfPS GS 2014	1.39		0.99	
2267		-----		-----	
2297	AfPS GS 2014	1.13		-0.39	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	1.10		-0.55	
2311	AfPS GS 2014	1.191		-0.07	
2330	AfPS GS 2014	ND		-----	
2347	AfPS GS 2014	1.4		1.05	
2350	AfPS GS 2014	1.86	C	3.50	first reported 2.872
2352	AfPS GS 2014	1.26		0.30	
2354	AfPS GS 2014	1.12		-0.45	
2355	AfPS GS 2014	0.9669		-1.27	
2357	AfPS GS 2014	1.14		-0.34	
2363	AfPS GS 2014	1.1		-0.55	
2365	AfPS GS 2014	1.54		1.79	
2366	AfPS GS 2014	1.40		1.05	
2369	AfPS GS 2014	1.1		-0.55	
2370	AfPS GS 2014	1.30		0.51	
2372	AfPS GS 2014	1.13		-0.39	
2373	AfPS GS 2014	1.4		1.05	
2375	In house	1.32		0.62	
2379	AfPS GS 2014	1.47		1.42	
2380		0.837		-1.96	
2384	AfPS GS 2014	ND [<0.10]		<-5.89	possible false negative test result?
2386	AfPS GS 2014	1.415		1.13	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	1.22		0.09	
2481	In house	1.098		-0.57	
2482	AfPS GS 2014	1.5998		2.11	
2492	AfPS GS 2014	0.910		-1.57	
2497	AfPS GS 2014	0.968	ex,C	-1.26	test result excluded, see §4.1, first reported 2.231
2504	AfPS GS 2014	1.84		3.40	
2510		-----		-----	
2511	AfPS GS 2014	1.559		1.90	
2525	AfPS GS 2014	1.29		0.46	
2532	ZEK01.4-08	1.34	C	0.73	first reported 2.27
2538	In house	0.863		-1.82	
2560	AfPS GS 2014	1.09		-0.61	
2561	AfPS GS 2014	<0.2		<-5.36	possible false negative test result?
2573	AfPS GS 2014	1.06		-0.77	
2590		-----		-----	
2591	In house	0.94		-1.41	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.7		-2.69	
2649		-----		-----	
2674	AfPS GS 2014	1.22		0.09	
2683	AfPS GS 2014	1.02		-0.98	
2705	In house	0.9		-1.62	
2713		-----		-----	
2719	AfPS GS 2014	0.86		-1.84	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		0.67		-2.85	
2787	AfPS GS 2014	1.548		1.84	
2804		-----		-----	
2807	ZEK01.4-08	0.29	ex	-4.88	test result excluded, see §4.1
2811	AfPS GS 2014	4.6	C,R(0.01)	18.13	first reported 2.26
2812	ISO/TS16190	1.31		0.57	
2815	ZEK01.4-08	1.377		0.92	
2816	EN15527Mod.	0.56	C	-3.44	first reported 2.3
2821	AfPS GS 2014	0.833		-1.98	
3100	AfPS GS 2014	1.22		0.09	
3116	ZEK01.4-08	1.20		-0.02	
3118	In house	2.122		4.90	
3146	AfPS GS 2014	1.125		-0.42	
3150	AfPS GS 2014	0.944		-1.39	
3151	AfPS GS 2014	1.243		0.21	
3153		1.18		-0.13	
3154	ZEK01.4-08	3.27	R(0.01)	11.03	
3163		-----		-----	
3172		-----		-----	
3176		-----		-----	
3185	AfPS GS 2014	1.18		-0.13	
3192	AfPS GS 2014	1.39		0.99	
3197	AfPS GS 2014	1.29		0.46	
3209	In house	1.221		0.09	
3210	AfPS GS 2014	1.378		0.93	
3214	AfPS GS 2014	1.12		-0.45	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	1.09		-0.61	
3233	In house	< 0.1		<-5.89	possible false negative test result?
3237		-----		-----	
3246		1.28		0.41	

normality	suspect
n	75
outliers	2 (+4 ex)
mean (n)	1.2039
st.dev. (n)	0.27925
R(calc.)	0.7819
st.dev.(Horwitz)	0.18732
R(Horwitz)	0.5245



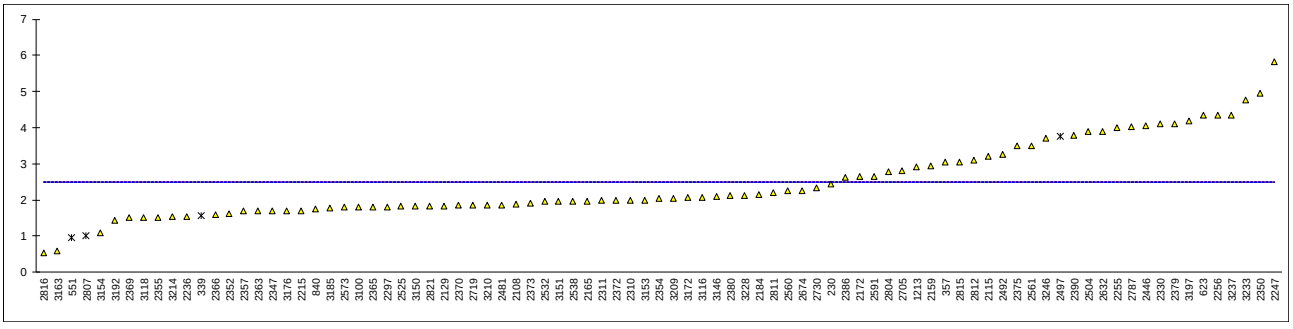


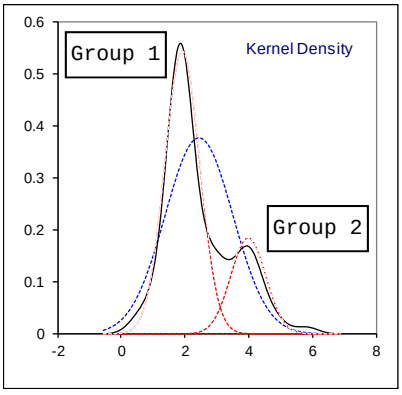
Determination of Chrysene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.43		-----	
330		-----		-----	
339	AfPS GS 2014 mod	1.57	ex	-----	test result excluded, see §4.1
357	INH-232	3.04		-----	
551	AfPS GS 2014	0.9589	ex	-----	test result excluded, see §4.1
623		4.34		-----	
840	AfPS GS 2014	1.75		-----	
841		n.d		-----	
1213	AfPS GS 2014	2.918		-----	
2108	AfPS GS 2014	1.88		-----	
2115		3.20		-----	
2129	AfPS GS 2014	1.84		-----	
2135		-----		-----	
2146		-----		-----	
2159	ZEK01.4-08	2.95		-----	
2165	AfPS GS 2014	1.97		-----	
2166		-----		-----	
2172	AfPS GS 2014	2.66		-----	
2184	AfPS GS 2014	2.15		-----	
2213	AfPS GS 2014	<0.2		-----	possible false negative test result?
2215	In house	1.71		-----	
2236	ZEK01.4-08	1.55		-----	
2247	AfPS GS 2014	5.83		-----	
2255	AfPS GS 2014	3.994		-----	
2256	AfPS GS 2014	4.34		-----	
2265		-----		-----	
2267		-----		-----	
2297	AfPS GS 2014	1.81		-----	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	2.00		-----	
2311	AfPS GS 2014	1.977		-----	
2330	AfPS GS 2014	4.10		-----	
2347	AfPS GS 2014	1.7		-----	
2350	AfPS GS 2014	4.952		-----	
2352	AfPS GS 2014	1.63		-----	
2354	AfPS GS 2014	2.04		-----	
2355	AfPS GS 2014	1.5237		-----	
2357	AfPS GS 2014	1.69		-----	
2363	AfPS GS 2014	1.7		-----	
2365	AfPS GS 2014	1.81		-----	
2366	AfPS GS 2014	1.60		-----	
2369	AfPS GS 2014	1.5		-----	
2370	AfPS GS 2014	1.85		-----	
2372	AfPS GS 2014	2.00		-----	
2373	AfPS GS 2014	1.9		-----	
2375	In house	3.49		-----	
2379	AfPS GS 2014	4.11		-----	
2380		2.112		-----	
2384	AfPS GS 2014	ND [<0.10]		-----	possible false negative test result?
2386	AfPS GS 2014	2.615		-----	
2390	AfPS GS 2014	3.795		-----	
2446	AfPS GS 2014	4.04		-----	
2481	In house	1.864		-----	
2482		-----		-----	
2492	AfPS GS 2014	3.268		-----	
2497	AfPS GS 2014	3.749	ex	-----	test result excluded, see §4.1
2504	AfPS GS 2014	3.88		-----	
2510		-----		-----	
2511		-----		-----	
2525	AfPS GS 2014	1.82		-----	
2532	ZEK01.4-08	1.96		-----	
2538	In house	1.967		-----	
2560	AfPS GS 2014	2.24		-----	
2561	AfPS GS 2014	3.49		-----	
2573	AfPS GS 2014	1.80		-----	
2590		-----		-----	
2591	In house	2.66		-----	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	3.9		-----	
2649		-----		-----	
2674	AfPS GS 2014	2.24		-----	
2683		-----		-----	
2705	In house	2.8		-----	
2713		-----		-----	
2719	AfPS GS 2014	1.86		-----	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	2.33		-----	
2774		< 0.2		-----	possible false negative test result?
2787	AfPS GS 2014	4.025		-----	
2804	In house	2.791		-----	
2807	ZEK01.4-08	1.02	ex	-----	test result excluded, see §4.1
2811	AfPS GS 2014	2.19		-----	
2812	ISO/TS16190	3.10		-----	
2815	ZEK01.4-08	3.050		-----	
2816	EN15527Mod.	0.53	C	-----	first reported 1.73
2821	AfPS GS 2014	1.833		-----	
3100	AfPS GS 2014	1.80		-----	
3116	ZEK01.4-08	2.07		-----	
3118	In house	1.511		-----	
3146	AfPS GS 2014	2.095		-----	
3150	AfPS GS 2014	1.82		-----	
3151	AfPS GS 2014	1.965		-----	
3153		2.00		-----	
3154	ZEK01.4-08	1.10		-----	
3163	In house	0.6		-----	
3172	AfPS GS 2014	2.066		-----	
3176	In house	1.70		-----	
3185	AfPS GS 2014	1.78		-----	
3192	AfPS GS 2014	1.43		-----	
3197	AfPS GS 2014	4.19		-----	
3209	In house	2.041		-----	
3210	AfPS GS 2014	1.862		-----	
3214	AfPS GS 2014	1.53		-----	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	2.12		-----	
3233	In house	4.76		-----	
3237	ZEK01.4-08	4.34		-----	
3246		3.71		-----	

normality	OK
n	83
outliers	0 (+4 ex)
mean (n)	(2.4890)
st.dev. (n)	1.04800
R(calc.)	2.9344
st.dev.(Horwitz)	(0.34716)
R(Horwitz)	(0.9721)



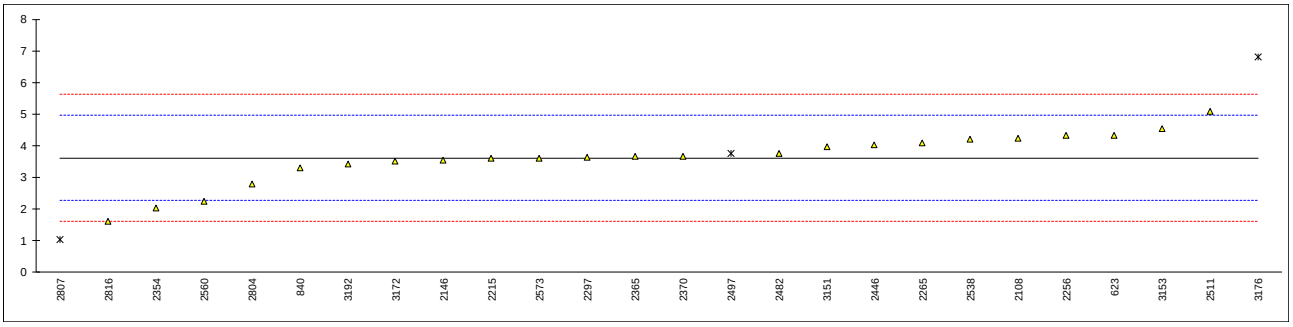


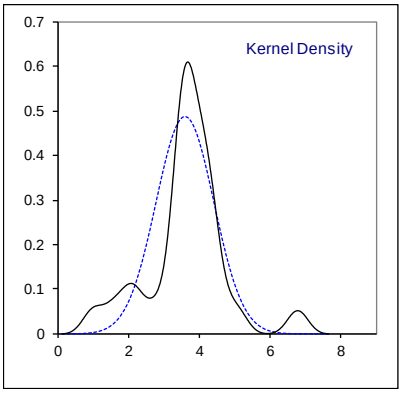
Determination of Sum of Chrysene + Triphenylene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
357		-----		-----	
551		-----		-----	
623		4.34		1.07	
840	AfPS GS 2014	3.29		-0.48	
841		n.d		-----	
1213	AfPS GS 2014	NA		-----	
2108	AfPS GS 2014	4.24		0.92	
2115		-----		-----	
2129	AfPS GS 2014	na		-----	
2135		-----		-----	
2146	In house	3.53		-0.13	
2159		-----		-----	
2165		-----		-----	
2166		-----		-----	
2172		-----		-----	
2184		-----		-----	
2213	AfPS GS 2014	<0.2		<-5.07	possible false negative test result?
2215	In house	3.59		-0.04	
2236		-----		-----	
2247		-----		-----	
2255	AfPS GS 2014	NA		-----	
2256	AfPS GS 2014	4.34		1.07	
2265	AfPS GS 2014	4.1		0.72	
2267		-----		-----	
2297	AfPS GS 2014	3.62		0.00	
2300	ZEK01.4-08	n.d		-----	
2310		-----		-----	
2311		-----		-----	
2330	AfPS GS 2014	NA		-----	
2347		-----	C	-----	first reported 1.7
2350	AfPS GS 2014	N.A.		-----	
2352		-----		-----	
2354	AfPS GS 2014	2.04		-2.34	
2355		-----		-----	
2357	AfPS GS 2014	na		-----	
2363	AfPS GS 2014	NA		-----	
2365	AfPS GS 2014	3.67		0.08	
2366	AfPS GS 2014	out of capabiltiy		-----	
2369		-----		-----	
2370	AfPS GS 2014	3.67		0.08	
2372	AfPS GS 2014	NA		-----	
2373		-----		-----	
2375		-----		-----	
2379	AfPS GS 2014	Not tested		-----	
2380		-----		-----	
2384		-----		-----	
2386		-----		-----	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	4.04		0.63	
2481		-----		-----	
2482	AfPS GS 2014	3.7606		0.21	
2492		-----		-----	
2497	AfPS GS 2014	3.749	ex	0.20	test result excluded, see §4.1
2504	AfPS GS 2014	n.a.		-----	
2510		-----		-----	
2511	AfPS GS 2014	5.085		2.18	
2525		-----		-----	
2532	ZEK01.4-08	Not Reported		-----	
2538	In house	4.213		0.88	
2560	AfPS GS 2014	2.24		-2.04	
2561		-----		-----	
2573	AfPS GS 2014	3.60		-0.03	
2590		-----		-----	
2591		-----		-----	
2629	AfPS GS 2014	ND		-----	
2632		-----		-----	
2649		-----		-----	
2674	AfPS GS 2014	N/A		-----	
2683		-----		-----	
2705		-----		-----	
2713		-----		-----	
2719		-----		-----	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		-----		-----	
2787		-----		-----	
2804	In house	2.791		-1.22	
2807	ZEK01.4-08	1.02	ex	-3.85	test result excluded, see §4.1
2811		-----		-----	
2812		-----		-----	
2815		-----		-----	
2816	EN15527Mod.	1.6	C	-2.99	first reported 1.73
2821		-----		-----	
3100	AfPS GS 2014	---		-----	
3116		-----		-----	
3118		-----		-----	
3146	AfPS GS 2014	n.a.		-----	
3150		-----		-----	
3151	AfPS GS 2014	3.958		0.51	
3153		4.55		1.38	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	3.504		-0.17	
3176	In house	6.8	C,D(0.05)	4.72	first reported 1.70
3185		-----		-----	
3192	AfPS GS 2014	3.42		-0.29	
3197		-----		-----	
3209		-----		-----	
3210		-----		-----	
3214		-----		-----	
3220		-----		-----	
3228		-----		-----	
3233		-----		-----	
3237		-----		-----	
3246		-----		-----	

normality	OK
n	23
outliers	1 (+2 ex)
mean (n)	3.6170
st.dev. (n)	0.81658
R(calc.)	2.2864
st.dev.(Horwitz 2 comp)	0.67444
R(Horwitz 2 comp)	1.8884



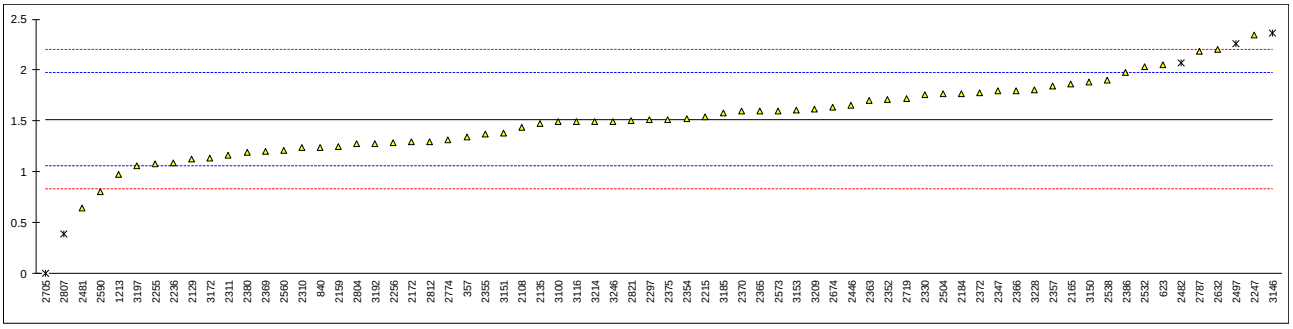


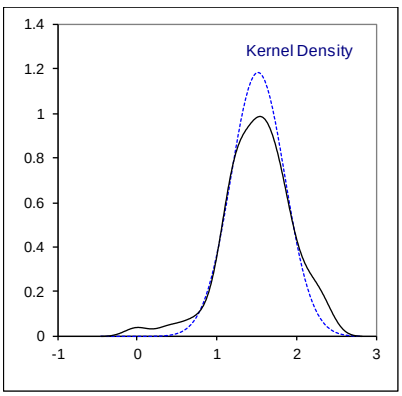
Determination of Benzo[b]fluoranthene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
357	INH-232	1.34		-0.77	
551	AfPS GS 2014	N.D.		-----	
623		2.05		2.35	
840	AfPS GS 2014	1.24		-1.21	
841		n.d		-----	
1213	AfPS GS 2014	0.972		-2.39	
2108	AfPS GS 2014	1.44		-0.33	
2115		-----		-----	
2129	AfPS GS 2014	1.13		-1.69	
2135	AfPS GS 2014	1.474		-0.18	
2146		-----		-----	
2159	ZEK01.4-08	1.25		-1.17	
2165	AfPS GS 2014	1.86		1.51	
2166		-----		-----	
2172	AfPS GS 2014	1.30		-0.95	
2184	AfPS GS 2014	1.77		1.12	
2213	AfPS GS 2014	<0.2		<-5.78	possible false negative test result?
2215	In house	1.54		0.11	
2236	ZEK01.4-08	1.09		-1.87	
2247	AfPS GS 2014	2.34	C	3.62	first reported 3.27
2255	AfPS GS 2014	1.081		-1.91	
2256	AfPS GS 2014	1.29		-0.99	
2265		-----		-----	
2267		-----		-----	
2297	AfPS GS 2014	1.51		-0.02	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	1.24		-1.21	
2311	AfPS GS 2014	1.160		-1.56	
2330	AfPS GS 2014	1.76		1.07	
2347	AfPS GS 2014	1.8		1.25	
2350	AfPS GS 2014	N.A.		-----	
2352	AfPS GS 2014	1.71		0.85	
2354	AfPS GS 2014	1.52		0.02	
2355	AfPS GS 2014	1.3672		-0.65	
2357	AfPS GS 2014	1.84		1.42	
2363	AfPS GS 2014	1.7		0.81	
2365	AfPS GS 2014	1.60		0.37	
2366	AfPS GS 2014	1.80		1.25	
2369	AfPS GS 2014	1.2		-1.39	
2370	AfPS GS 2014	1.60		0.37	
2372	AfPS GS 2014	1.78		1.16	
2373		-----		-----	
2375	In house	1.51		-0.02	
2379	AfPS GS 2014	Not tested		-----	
2380		1.196		-1.40	
2384	AfPS GS 2014	ND [<0.10]		<-6.21	possible false negative test result?
2386	AfPS GS 2014	1.977		2.03	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	1.65		0.59	
2481	In house	0.642		-3.84	
2482	AfPS GS 2014	2.0669	ex	2.42	reported sum Benzo[b]fluoranthene + Benzo[j]fluoranthene
2492		-----		-----	
2497	AfPS GS 2014	2.262	ex	3.28	test result excluded, see §4.1
2504	AfPS GS 2014	1.7689	C	1.11	first reported 2.95
2510		-----		-----	
2511		-----		-----	
2525		-----		-----	
2532	ZEK01.4-08	2.03		2.26	
2538	In house	1.903		1.70	
2560	AfPS GS 2014	1.213		-1.33	
2561		-----		-----	
2573	AfPS GS 2014	1.60		0.37	
2590	AfPS GS 2014	0.8	C	-3.14	first no results reported, sample mixed up with #18505
2591		-----		-----	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	2.2		3.00	
2649		-----		-----	
2674	AfPS GS 2014	1.64		0.55	
2683		-----		-----	
2705	In house	0	R(0.05)	-6.65	
2713	ISO/TS16190	<0.2	C	<-5.78	first reported 1.78, possible false negative test result?
2719	AfPS GS 2014	1.72		0.90	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		1.31		-0.90	
2787	AfPS GS 2014	2.186		2.94	
2804	In house	1.273		-1.06	
2807	ZEK01.4-08	0.39	ex	-4.94	test result excluded, see §4.1
2811		-----		-----	
2812	ISO/TS16190	1.30		-0.95	
2815		-----		-----	
2816		-----		-----	
2821	AfPS GS 2014	1.500		-0.07	
3100	AfPS GS 2014	1.49		-0.11	
3116	ZEK01.4-08	1.49		-0.11	
3118		-----		-----	
3146	AfPS GS 2014	2.365	ex	3.73	reported sum Benzo[b]fluoranthene + Benzo[j]fluoranthene
3150	AfPS GS 2014	1.88		1.60	
3151	AfPS GS 2014	1.38		-0.60	
3153		1.61		0.41	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	1.135		-1.67	
3176		-----		-----	
3185	AfPS GS 2014	1.58		0.28	
3192	AfPS GS 2014	1.28		-1.03	
3197	AfPS GS 2014	1.06		-2.00	
3209	In house	1.613		0.43	
3210		-----		-----	
3214	AfPS GS 2014	1.49		-0.11	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	1.81		1.29	
3233		-----		-----	
3237		-----		-----	
3246		1.49		-0.11	

normality	OK
n	63
outliers	1 (+4 ex)
mean (n)	1.5156
st.dev. (n)	0.33678
R(calc.)	0.9430
st.dev.(Horwitz)	0.22778
R(Horwitz)	0.6378



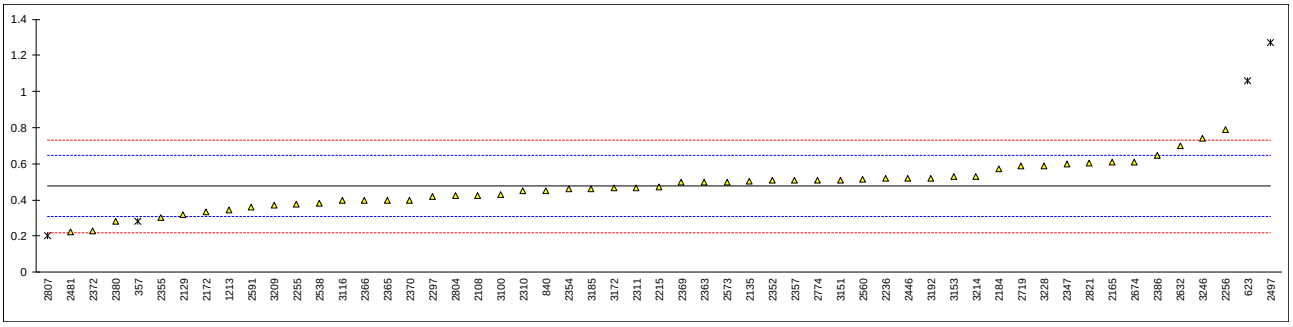


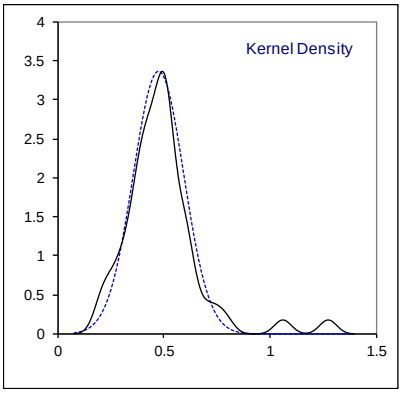
Determination of Benzo[j]fluoranthene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
357	INH-232	0.28	ex	-2.30	reported: Benzo[j]+Benzo[k] coelutes, content is halved
551	AfPS GS 2014	N.D.		-----	
623		1.06	R(0.01)	6.86	
840	AfPS GS 2014	0.45		-0.30	
841		n.d		-----	
1213	AfPS GS 2014	0.347		-1.51	
2108	AfPS GS 2014	0.423		-0.62	
2115		-----		-----	
2129	AfPS GS 2014	0.32		-1.83	
2135	AfPS GS 2014	0.506		0.35	
2146		-----		-----	
2159		-----		-----	
2165	AfPS GS 2014	0.61		1.57	
2166		-----		-----	
2172	AfPS GS 2014	0.336		-1.64	
2184	AfPS GS 2014	0.57		1.11	
2213	AfPS GS 2014	<0.2		<-3.24	possible false negative test result?
2215	In house	0.47		-0.07	
2236	ZEK01.4-08	0.52		0.52	
2247		-----		-----	
2255	AfPS GS 2014	0.378		-1.15	
2256	AfPS GS 2014	0.790		3.69	
2265		-----		-----	
2267		-----		-----	
2297	AfPS GS 2014	0.42		-0.66	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	0.45		-0.30	
2311	AfPS GS 2014	0.465		-0.13	
2330	AfPS GS 2014	NA		-----	
2347	AfPS GS 2014	0.6		1.46	
2350	AfPS GS 2014	N.A.		-----	
2352	AfPS GS 2014	0.51		0.40	
2354	AfPS GS 2014	0.46		-0.19	
2355	AfPS GS 2014	0.3009		-2.06	
2357	AfPS GS 2014	0.51		0.40	
2363	AfPS GS 2014	0.5		0.28	
2365	AfPS GS 2014	0.40		-0.89	
2366	AfPS GS 2014	0.40		-0.89	
2369	AfPS GS 2014	0.5		0.28	
2370	AfPS GS 2014	0.400		-0.89	
2372	AfPS GS 2014	0.23		-2.89	
2373		-----		-----	
2375		-----		-----	
2379	AfPS GS 2014	Not tested		-----	
2380		0.279		-2.31	
2384	AfPS GS 2014	ND [<0.10]		<-4.41	possible false negative test result?
2386	AfPS GS 2014	0.648		2.02	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	0.52		0.52	
2481	In house	0.224		-2.96	
2482		-----		-----	see results Benzo[b]fluoranthene
2492		-----		-----	
2497	AfPS GS 2014	1.273	C,R(0.01)	9.36	first reported 0.001
2504	AfPS GS 2014	<0.5	C	-----	first reported 1.44
2510		-----		-----	
2511		-----		-----	
2525		-----		-----	
2532	ZEK01.4-08	Not Detected		-----	
2538	In house	0.383		-1.09	
2560	AfPS GS 2014	0.514		0.45	
2561		-----		-----	
2573	AfPS GS 2014	0.50		0.28	
2590		-----		-----	
2591	In house	0.36		-1.36	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.7		2.63	
2649		-----		-----	
2674	AfPS GS 2014	0.61		1.57	
2683		-----		-----	
2705		-----		-----	
2713		-----		-----	
2719	AfPS GS 2014	0.59		1.34	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		0.51		0.40	
2787		-----		-----	
2804	In house	0.422		-0.63	
2807	ZEK01.4-08	0.20	ex	-3.24	test result excluded, see §4.1
2811		-----		-----	
2812		-----		-----	
2815		-----		-----	
2816		-----		-----	
2821	AfPS GS 2014	0.603		1.49	
3100	AfPS GS 2014	0.43		-0.54	
3116	ZEK01.4-08	0.396		-0.94	
3118		-----		-----	
3146	AfPS GS 2014	-----		-----	see results Benzo[b]fluoranthene
3150	AfPS GS 2014	<0,2		<-3.24	possible false negative test result?
3151	AfPS GS 2014	0.51		0.40	
3153		0.53		0.64	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.464		-0.14	
3176		-----		-----	
3185	AfPS GS 2014	0.46		-0.19	
3192	AfPS GS 2014	0.52		0.52	
3197	AfPS GS 2014	<0,1		<-4.41	possible false negative test result?
3209	In house	0.372		-1.22	
3210		-----		-----	
3214	AfPS GS 2014	0.53		0.64	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	0.59		1.34	
3233		-----		-----	
3237		-----		-----	
3246		0.74		3.10	

normality	OK
n	51
outliers	2 (+2 ex)
mean (n)	0.4759
st.dev. (n)	0.11867
R(calc.)	0.3323
st.dev.(Horwitz)	0.08515
R(Horwitz)	0.2384



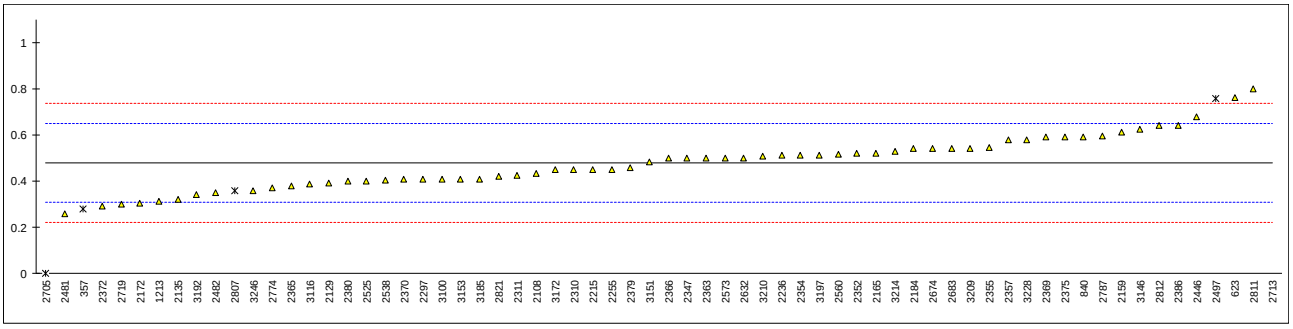


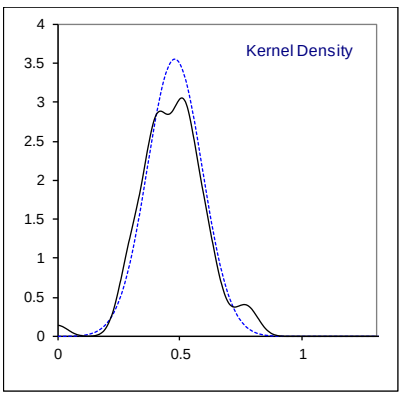
Determination of Benzo[k]fluoranthene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
330		-----		-----	
339		-----		-----	
357	INH-232	0.28	ex	-2.33	reported: Benzo[j]+Benzo[k] coelutes, content is halved
551	AfPS GS 2014	N.D.		-----	
623		0.76		3.27	
840	AfPS GS 2014	0.59		1.29	
841		n.d		-----	
1213	AfPS GS 2014	0.313		-1.94	
2108	AfPS GS 2014	0.435		-0.52	
2115		-----		-----	
2129	AfPS GS 2014	0.39		-1.04	
2135	AfPS GS 2014	0.321		-1.85	
2146		-----		-----	
2159	ZEK01.4-08	0.61		1.52	
2165	AfPS GS 2014	0.52		0.47	
2166		-----		-----	
2172	AfPS GS 2014	0.305		-2.04	
2184	AfPS GS 2014	0.54		0.71	
2213	AfPS GS 2014	<0.2		<-3.26	possible false negative test result?
2215	In house	0.45		-0.34	
2236	ZEK01.4-08	0.51		0.36	
2247		-----		-----	
2255	AfPS GS 2014	0.451		-0.33	
2256	AfPS GS 2014	ND		-----	
2265		-----		-----	
2267		-----		-----	
2297	AfPS GS 2014	0.41		-0.81	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	0.45		-0.34	
2311	AfPS GS 2014	0.423		-0.66	
2330	AfPS GS 2014	NA		-----	
2347	AfPS GS 2014	0.5		0.24	
2350	AfPS GS 2014	N.A.		-----	
2352	AfPS GS 2014	0.52		0.47	
2354	AfPS GS 2014	0.51		0.36	
2355	AfPS GS 2014	0.5467		0.78	
2357	AfPS GS 2014	0.58		1.17	
2363	AfPS GS 2014	0.5		0.24	
2365	AfPS GS 2014	0.38		-1.16	
2366	AfPS GS 2014	0.50		0.24	
2369	AfPS GS 2014	0.59		1.29	
2370	AfPS GS 2014	0.406		-0.86	
2372	AfPS GS 2014	0.29		-2.21	
2373		-----		-----	
2375	In house	0.59		1.29	
2379	AfPS GS 2014	0.46		-0.23	
2380		0.399		-0.94	
2384	AfPS GS 2014	ND [<0.10]		<-4.43	possible false negative test result?
2386	AfPS GS 2014	0.641		1.88	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	0.68		2.34	
2481	In house	0.260		-2.56	
2482	AfPS GS 2014	0.3516		-1.49	
2492		-----		-----	
2497	AfPS GS 2014	0.758	ex,C	3.25	test result excluded, see §4.1, first reported 0.001
2504	AfPS GS 2014	<0.5	C	-----	first reported 1.16
2510		-----		-----	
2511		-----		-----	
2525	AfPS GS 2014	0.40		-0.93	
2532	ZEK01.4-08	Not Detected		-----	
2538	In house	0.405		-0.87	
2560	AfPS GS 2014	0.515		0.41	
2561		-----		-----	
2573	AfPS GS 2014	0.50		0.24	
2590		-----		-----	
2591		-----		-----	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	0.5		0.24	
2649		-----		-----	
2674	AfPS GS 2014	0.54		0.71	
2683	AfPS GS 2014	0.54		0.71	
2705	In house	0	R(0.01)	-5.60	
2713	ISO/TS16190	1.78	C,R(0.01)	15.17	first reported 0.69
2719	AfPS GS 2014	0.30		-2.09	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		0.37		-1.28	
2787	AfPS GS 2014	0.596	C	1.36	first reported 0.958
2804		-----		-----	
2807	ZEK01.4-08	0.36	ex	-1.39	test result excluded, see §4.1
2811	AfPS GS 2014	0.8	C	3.74	first reported 1.63
2812	ISO/TS16190	0.64		1.87	
2815		-----		-----	
2816		-----		-----	
2821	AfPS GS 2014	0.419		-0.71	
3100	AfPS GS 2014	0.41		-0.81	
3116	ZEK01.4-08	0.388		-1.07	
3118		-----		-----	
3146	AfPS GS 2014	0.625		1.70	
3150	AfPS GS 2014	<0,2		<-3.26	possible false negative test result?
3151	AfPS GS 2014	0.483		0.04	
3153		0.41		-0.81	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	0.448		-0.37	
3176		-----		-----	
3185	AfPS GS 2014	0.41		-0.81	
3192	AfPS GS 2014	0.34		-1.63	
3197	AfPS GS 2014	0.51		0.36	
3209	In house	0.542		0.73	
3210	AfPS GS 2014	0.508		0.33	
3214	AfPS GS 2014	0.53		0.59	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	0.58		1.17	
3233		-----		-----	
3237		-----		-----	
3246		0.36		-1.39	

normality	OK
n	61
outliers	2 (+3 ex)
mean (n)	0.4795
st.dev. (n)	0.11240
R(calc.)	0.3147
st.dev.(Horwitz)	0.08570
R(Horwitz)	0.2400



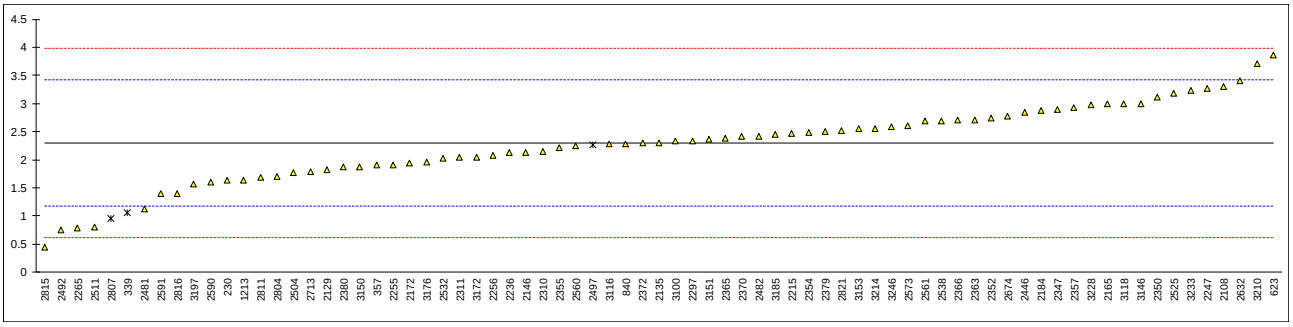


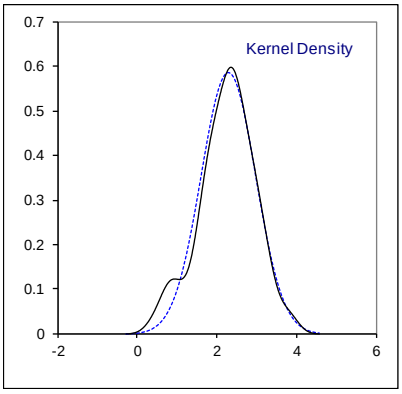
Determination of Sum of [b],[j] and [k] Benzofluoranthenes in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	1.63		-1.19	
330		-----		-----	
339	AfPS GS 2014 mod	1.06	ex	-2.20	test result excluded, see §4.1
357	INH-232	1.90		-0.71	
551	AfPS GS 2014	N.D.		-----	
623		3.87		2.80	
840	AfPS GS 2014	2.28		-0.03	
841		n.d		-----	
1213	AfPS GS 2014	1.632		-1.18	
2108		3.30		1.79	
2115		-----		-----	
2129	AfPS GS 2014	1.83		-0.83	
2135	AfPS GS 2014	2.301		0.01	
2146	In house	2.12		-0.31	
2159		-----		-----	
2165	AfPS GS 2014	2.99		1.23	
2166		-----		-----	
2172	AfPS GS 2014	1.94		-0.64	
2184	AfPS GS 2014	2.88		1.04	
2213	AfPS GS 2014	<0.2		<-3.73	possible false negative test result?
2215	In house	2.46		0.29	
2236	ZEK01.4-08	2.12		-0.31	
2247	AfPS GS 2014	3.27		1.73	
2255	AfPS GS 2014	1.910		-0.69	
2256	AfPS GS 2014	2.08		-0.39	
2265	AfPS GS 2014	0.78		-2.70	
2267		-----		-----	
2297	AfPS GS 2014	2.34		0.08	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	2.14		-0.28	
2311	AfPS GS 2014	2.045		-0.45	
2330	AfPS GS 2014	NA		-----	
2347	AfPS GS 2014	2.9		1.07	
2350	AfPS GS 2014	3.11	C	1.45	first reported 5.586
2352	AfPS GS 2014	2.74		0.79	
2354	AfPS GS 2014	2.49		0.34	
2355	AfPS GS 2014	2.2148		-0.15	
2357	AfPS GS 2014	2.93		1.13	
2363	AfPS GS 2014	2.7		0.72	
2365	AfPS GS 2014	2.38		0.15	
2366	AfPS GS 2014	2.70		0.72	
2369		-----		-----	
2370	AfPS GS 2014	2.41		0.20	
2372	AfPS GS 2014	2.3		0.01	
2373		-----		-----	
2375		-----		-----	
2379	AfPS GS 2014	2.51		0.38	
2380		1.874		-0.75	
2384	AfPS GS 2014	ND [<0.10]		<-3.91	possible false negative test result?
2386		-----		-----	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	2.85		0.98	
2481	In house	1.126		-2.08	
2482	AfPS GS 2014	2.4185		0.22	
2492	AfPS GS 2014	0.745		-2.76	
2497	AfPS GS 2014	2.262	ex	-0.06	test result excluded, see §4.1
2504	AfPS GS 2014	1.7689	C	-0.94	first reported 5.55
2510		-----		-----	
2511	AfPS GS 2014	0.798		-2.67	
2525	AfPS GS 2014	3.18		1.57	
2532	ZEK01.4-08	2.03		-0.48	
2538	In house	2.692		0.70	
2560	AfPS GS 2014	2.242		-0.10	
2561	AfPS GS 2014	2.69		0.70	
2573	AfPS GS 2014	2.60		0.54	
2590	AfPS GS 2014	1.6	C	-1.24	first no results reported, sample mixed up with #18505
2591	In house	1.39		-1.61	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	3.4		1.96	
2649		-----		-----	
2674	AfPS GS 2014	2.78		0.86	
2683		-----		-----	
2705		-----		-----	
2713	ISO/TS16190	1.78	C	-0.92	first reported 2.47
2719		-----		-----	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		-----		-----	
2787		-----		-----	
2804	In house	1.695		-1.07	
2807	ZEK01.4-08	0.95	ex	-2.40	test result excluded, see §4.1
2811	AfPS GS 2014	1.68		-1.10	
2812		-----		-----	
2815	ZEK01.4-08	0.439		-3.31	
2816	EN15527Mod.	1.4	C	-1.60	first reported 1.95
2821	AfPS GS 2014	2.522		0.40	
3100	AfPS GS 2014	2.33		0.06	
3116	ZEK01.4-08	2.274		-0.04	
3118	In house	2.990		1.23	
3146	AfPS GS 2014	2.99		1.23	
3150	AfPS GS 2014	1.88		-0.74	
3151	AfPS GS 2014	2.373		0.14	
3153		2.55		0.45	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	2.047		-0.44	
3176	In house	1.95		-0.62	
3185	AfPS GS 2014	2.45		0.27	
3192		-----		-----	
3197	AfPS GS 2014	1.57		-1.29	
3209		-----		-----	
3210	AfPS GS 2014	3.709		2.51	
3214	AfPS GS 2014	2.55		0.45	
3220		-----		-----	
3228	AfPS GS 2014	2.98		1.22	
3233	In house	3.24		1.68	
3237		-----		-----	
3246		2.59		0.52	

normality	OK
n	72
outliers	0 (+3 ex)
mean (n)	2.2969
st.dev. (n)	0.68122
R(calc.)	1.9074
st.dev.(Horwitz 3 comp)	0.56165
R(Horwitz 3 comp)	1.5726



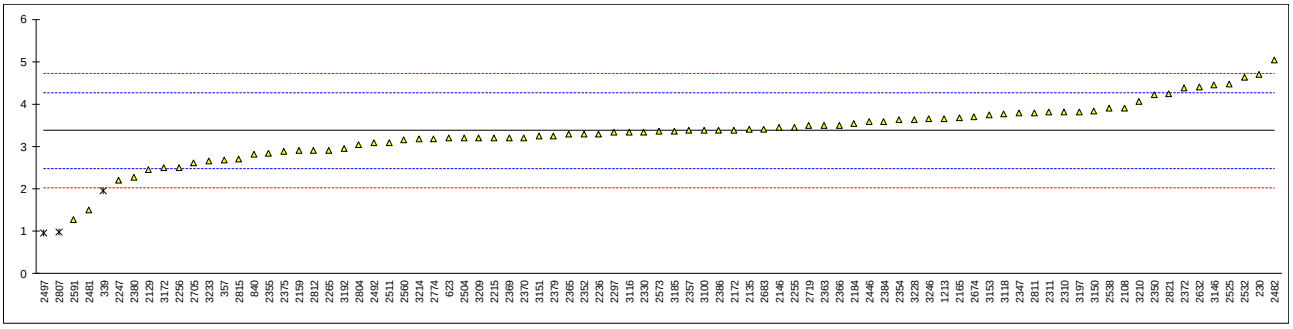


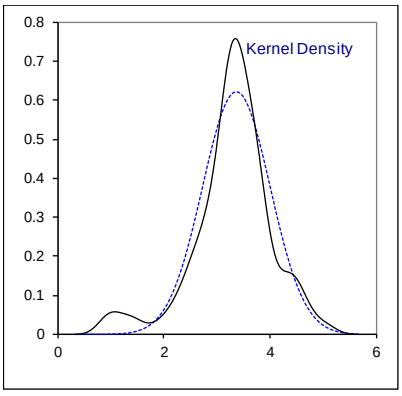
Determination of Benzo[e]pyrene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	4.69	C	2.93	first reported 6.0007
330		-----		-----	
339	AfPS GS 2014 mod	1.96	ex	-3.14	test result excluded, see §4.1
357	INH-232	2.68		-1.54	
551	AfPS GS 2014	N.D.		-----	
623		3.19		-0.40	
840	AfPS GS 2014	2.81		-1.25	
841		n.d		-----	
1213	AfPS GS 2014	3.653		0.63	
2108	AfPS GS 2014	3.91		1.20	
2115		-----		-----	
2129	AfPS GS 2014	2.46		-2.03	
2135	AfPS GS 2014	3.406		0.08	
2146	In house	3.44		0.15	
2159	ZEK01.4-08	2.90		-1.05	
2165	AfPS GS 2014	3.68		0.69	
2166		-----		-----	
2172	AfPS GS 2014	3.39		0.04	
2184	AfPS GS 2014	3.55		0.40	
2213	AfPS GS 2014	<0.2		<-7.06	possible false negative test result?
2215	In house	3.20		-0.38	
2236	ZEK01.4-08	3.30		-0.16	
2247	AfPS GS 2014	2.21	C	-2.59	first reported 4.89
2255	AfPS GS 2014	3.441		0.15	
2256	AfPS GS 2014	2.50		-1.94	
2265	AfPS GS 2014	2.91		-1.03	
2267		-----		-----	
2297	AfPS GS 2014	3.33		-0.09	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	3.82		1.00	
2311	AfPS GS 2014	3.811		0.98	
2330	AfPS GS 2014	3.34		-0.07	
2347	AfPS GS 2014	3.8		0.95	
2350	AfPS GS 2014	4.23	C	1.91	first reported 5.547
2352	AfPS GS 2014	3.30		-0.16	
2354	AfPS GS 2014	3.62		0.55	
2355	AfPS GS 2014	2.8397		-1.18	
2357	AfPS GS 2014	3.38		0.02	
2363	AfPS GS 2014	3.5		0.29	
2365	AfPS GS 2014	3.29		-0.18	
2366	AfPS GS 2014	3.50		0.29	
2369	AfPS GS 2014	3.2		-0.38	
2370	AfPS GS 2014	3.21		-0.36	
2372	AfPS GS 2014	4.39		2.27	
2373		-----		-----	
2375	In house	2.89		-1.07	
2379	AfPS GS 2014	3.25		-0.27	
2380		2.275		-2.44	
2384	AfPS GS 2014	3.59		0.49	
2386	AfPS GS 2014	3.382		0.02	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	3.59		0.49	
2481	In house	1.497		-4.17	
2482	AfPS GS 2014	5.04403333		3.72	
2492	AfPS GS 2014	3.085		-0.64	
2497	AfPS GS 2014	0.958	C,R(0.05)	-5.37	first reported 1.954
2504	AfPS GS 2014	3.19		-0.40	
2510		-----		-----	
2511	AfPS GS 2014	3.097		-0.61	
2525	AfPS GS 2014	4.47		2.44	
2532	ZEK01.4-08	4.63		2.80	
2538	In house	3.907		1.19	
2560	AfPS GS 2014	3.158		-0.48	
2561	AfPS GS 2014	<0.2		<-7.06	possible false negative test result?
2573	AfPS GS 2014	3.36		-0.03	
2590		-----		-----	
2591	In house	1.28		-4.66	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	4.4		2.29	
2649		-----		-----	
2674	AfPS GS 2014	3.71		0.75	
2683	AfPS GS 2014	3.41		0.08	
2705	In house	2.6		-1.72	
2713	ISO/TS16190	<0.2	C	<-7.06	first reported 1.90, possible false negative test result?
2719	AfPS GS 2014	3.49		0.26	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		3.18		-0.43	
2787		-----		-----	
2804	In house	3.042		-0.73	
2807	ZEK01.4-08	0.99	R(0.05)	-5.30	
2811	AfPS GS 2014	3.8	C	0.95	first reported 0.67
2812	ISO/TS16190	2.90		-1.05	
2815	ZEK01.4-08	2.698		-1.50	
2816		-----		-----	
2821	AfPS GS 2014	4.233		1.92	
3100	AfPS GS 2014	3.38		0.02	
3116	ZEK01.4-08	3.33		-0.09	
3118	In house	3.756		0.85	
3146	AfPS GS 2014	4.45		2.40	
3150	AfPS GS 2014	3.83	C	1.02	first reported 1.53
3151	AfPS GS 2014	3.235		-0.30	
3153		3.75		0.84	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	2.493		-1.96	
3176		-----		-----	
3185	AfPS GS 2014	3.36		-0.03	
3192	AfPS GS 2014	2.96		-0.92	
3197	AfPS GS 2014	3.82		1.00	
3209	In house	3.192		-0.40	
3210	AfPS GS 2014	4.055		1.52	
3214	AfPS GS 2014	3.17		-0.45	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	3.63		0.57	
3233	In house	2.65		-1.61	
3237		-----		-----	
3246		3.65		0.62	

normality	suspect
n	80
outliers	2 (+1 ex)
mean (n)	3.3719
st.dev. (n)	0.64028
R(calc.)	1.7928
st.dev.(Horwitz)	0.44930
R(Horwitz)	1.2580



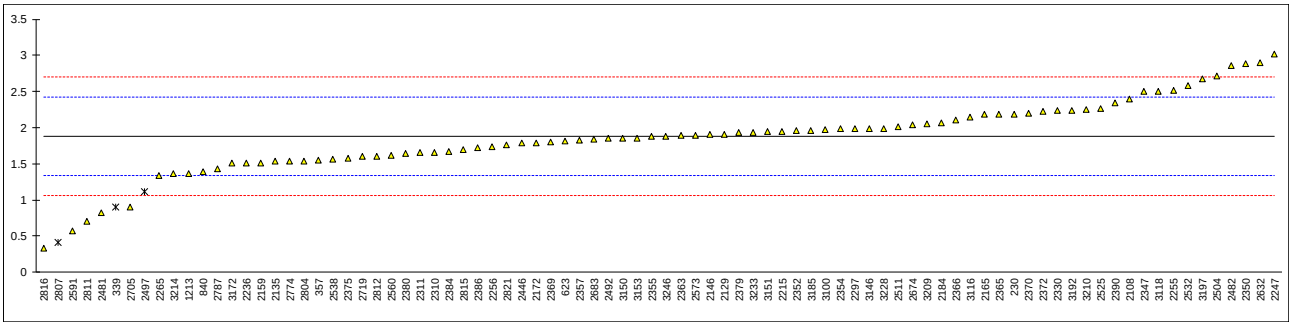


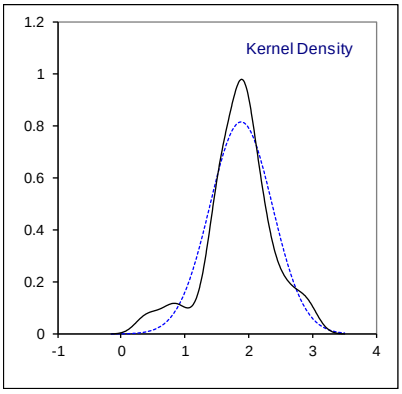
Determination of Benzo[a]pyrene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.19		1.13	
330		-----		-----	
339	AfPS GS 2014 mod	0.9	ex	-3.58	test result excluded, see §4.1
357	INH-232	1.55		-1.21	
551	AfPS GS 2014	N.D.		-----	
623		1.82		-0.22	
840	AfPS GS 2014	1.39		-1.79	
841		n.d		-----	
1213	AfPS GS 2014	1.362		-1.90	
2108	AfPS GS 2014	2.39		1.86	
2115		-----		-----	
2129	AfPS GS 2014	1.91		0.11	
2135	AfPS GS 2014	1.533		-1.27	
2146	In house	1.91		0.11	
2159	ZEK01.4-08	1.51		-1.35	
2165	AfPS GS 2014	2.18		1.09	
2166		-----		-----	
2172	AfPS GS 2014	1.79		-0.33	
2184	AfPS GS 2014	2.07		0.69	
2213	AfPS GS 2014	<0.2		<-6.14	possible false negative test result?
2215	In house	1.95		0.25	
2236	ZEK01.4-08	1.51		-1.35	
2247	AfPS GS 2014	3.02		4.16	
2255	AfPS GS 2014	2.513		2.31	
2256	AfPS GS 2014	1.74		-0.51	
2265	AfPS GS 2014	1.34		-1.98	
2267		-----		-----	
2297	AfPS GS 2014	1.98		0.36	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	1.66		-0.81	
2311	AfPS GS 2014	1.659		-0.81	
2330	AfPS GS 2014	2.24		1.31	
2347	AfPS GS 2014	2.5		2.26	
2350	AfPS GS 2014	2.88	C	3.65	first reported 4.061
2352	AfPS GS 2014	1.96		0.29	
2354	AfPS GS 2014	1.98		0.36	
2355	AfPS GS 2014	1.8782		-0.01	
2357	AfPS GS 2014	1.83		-0.18	
2363	AfPS GS 2014	1.9		0.07	
2365	AfPS GS 2014	2.18		1.09	
2366	AfPS GS 2014	2.10		0.80	
2369	AfPS GS 2014	1.8		-0.29	
2370	AfPS GS 2014	2.20		1.17	
2372	AfPS GS 2014	2.23		1.28	
2373		-----		-----	
2375	In house	1.58		-1.10	
2379	AfPS GS 2014	1.93		0.18	
2380		1.637		-0.89	
2384	AfPS GS 2014	1.67		-0.77	
2386	AfPS GS 2014	1.723		-0.58	
2390	AfPS GS 2014	2.34	C	1.68	first reported 3.815
2446	AfPS GS 2014	1.79		-0.33	
2481	In house	0.818		-3.88	
2482	AfPS GS 2014	2.86366667		3.59	
2492	AfPS GS 2014	1.860		-0.08	
2497	AfPS GS 2014	1.112	ex,C	-2.81	test result excluded, see §4.1, first reported 3.268
2504	AfPS GS 2014	2.7091	C	3.03	first reported 3.77
2510		-----		-----	
2511	AfPS GS 2014	2.013		0.48	
2525	AfPS GS 2014	2.26		1.39	
2532	ZEK01.4-08	2.58		2.56	
2538	In house	1.557		-1.18	
2560	AfPS GS 2014	1.615		-0.97	
2561	AfPS GS 2014	<0.2		<-6.14	possible false negative test result?
2573	AfPS GS 2014	1.90		0.07	
2590		-----		-----	
2591	In house	0.57		-4.79	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	2.9		3.73	
2649		-----		-----	
2674	AfPS GS 2014	2.04		0.58	
2683	AfPS GS 2014	1.84		-0.15	
2705	In house	0.9		-3.58	
2713	ISO/TS16190	<0.2	C	<-6.14	first reported 0.63, possible false negative test result?
2719	AfPS GS 2014	1.60		-1.03	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not detected		-----	
2774		1.54		-1.24	
2787	AfPS GS 2014	1.428		-1.65	
2804	In house	1.540		-1.24	
2807	ZEK01.4-08	0.41	ex	-5.37	test result excluded, see §4.1
2811	AfPS GS 2014	0.7	C	-4.31	first reported 3.76
2812	ISO/TS16190	1.60		-1.03	
2815	ZEK01.4-08	1.699		-0.66	
2816	EN15527Mod.	0.33	C	-5.67	first reported 2.15
2821	AfPS GS 2014	1.767		-0.42	
3100	AfPS GS 2014	1.97		0.33	
3116	ZEK01.4-08	2.15		0.98	
3118	In house	2.508		2.29	
3146	AfPS GS 2014	1.99		0.40	
3150	AfPS GS 2014	1.86		-0.08	
3151	AfPS GS 2014	1.945		0.24	
3153		1.86		-0.08	
3154		-----		-----	
3163		-----		-----	
3172	AfPS GS 2014	1.508		-1.36	
3176		-----		-----	
3185	AfPS GS 2014	1.96		0.29	
3192	AfPS GS 2014	2.24		1.31	
3197	AfPS GS 2014	2.68		2.92	
3209	In house	2.051		0.62	
3210	AfPS GS 2014	2.253	C	1.36	first reported 3.247
3214	AfPS GS 2014	1.36		-1.90	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	1.99		0.40	
3233	In house	1.93		0.18	
3237		-----		-----	
3246		1.88		0.00	

normality	suspect
n	83
outliers	0 (+3 ex)
mean (n)	1.8806
st.dev. (n)	0.48917
R(calc.)	1.3697
st.dev.(Horwitz)	0.27361
R(Horwitz)	0.7661



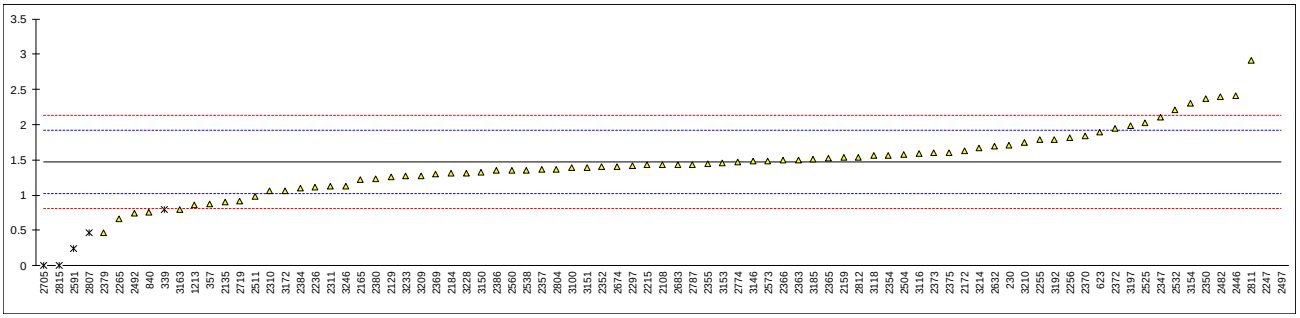


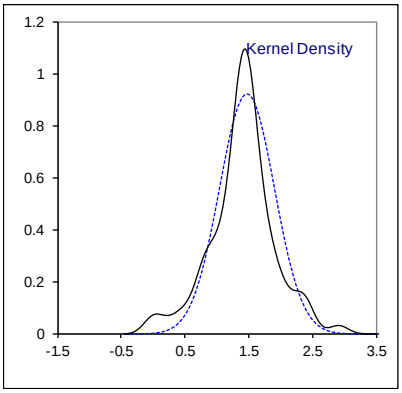
Determination of Indeno[1,2,3-c,d]pyrene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	1.71		1.08	
330		-----		-----	
339	AfPS GS 2014 mod	0.797	ex	-3.03	test result excluded, see §4.1
357	INH-232	0.88		-2.66	
551	AfPS GS 2014	N.D.		-----	
623		1.89		1.89	
840	AfPS GS 2014	0.75		-3.25	
841		n.d		-----	
1213	AfPS GS 2014	0.863		-2.74	
2108	AfPS GS 2014	1.43		-0.18	
2115		-----		-----	
2129	AfPS GS 2014	1.26		-0.95	
2135	AfPS GS 2014	0.905		-2.55	
2146		-----		-----	
2159	ZEK01.4-08	1.54		0.31	
2165	AfPS GS 2014	1.22		-1.13	
2166		-----		-----	
2172	AfPS GS 2014	1.63		0.72	
2184	AfPS GS 2014	1.31		-0.72	
2213	AfPS GS 2014	<0.2		<-5.72	possible false negative test result?
2215	In house	1.43		-0.18	
2236	ZEK01.4-08	1.11		-1.63	
2247	AfPS GS 2014	4.11	C,R(0.01)	11.88	first reported 3.25
2255	AfPS GS 2014	1.783		1.41	
2256	AfPS GS 2014	1.82		1.57	
2265	AfPS GS 2014	0.67		-3.61	
2267		-----		-----	
2297	AfPS GS 2014	1.42		-0.23	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	1.06		-1.85	
2311	AfPS GS 2014	1.128		-1.54	
2330	AfPS GS 2014	ND		-----	
2347	AfPS GS 2014	2.1		2.83	
2350	AfPS GS 2014	2.37	C	4.05	first reported 3.368
2352	AfPS GS 2014	1.41		-0.27	
2354	AfPS GS 2014	1.56		0.40	
2355	AfPS GS 2014	1.4469		-0.11	
2357	AfPS GS 2014	1.36		-0.50	
2363	AfPS GS 2014	1.5		0.13	
2365	AfPS GS 2014	1.52		0.22	
2366	AfPS GS 2014	1.50		0.13	
2369	AfPS GS 2014	1.3		-0.77	
2370	AfPS GS 2014	1.84		1.66	
2372	AfPS GS 2014	1.95		2.16	
2373	AfPS GS 2014	1.6		0.58	
2375	In house	1.60		0.58	
2379	AfPS GS 2014	0.47		-4.51	
2380		1.236		-1.06	
2384	AfPS GS 2014	1.10		-1.67	
2386	AfPS GS 2014	1.349		-0.55	
2390	AfPS GS 2014	ND		-----	
2446	AfPS GS 2014	2.41		4.23	
2481		-----		-----	
2482	AfPS GS 2014	2.40223333		4.19	
2492	AfPS GS 2014	0.748		-3.26	
2497	AfPS GS 2014	7.308	C,R(0.01)	26.28	first reported 17.308
2504	AfPS GS 2014	1.57		0.45	
2510		-----		-----	
2511	AfPS GS 2014	0.987		-2.18	
2525	AfPS GS 2014	2.02		2.47	
2532	ZEK01.4-08	2.21		3.33	
2538	In house	1.357		-0.51	
2560	AfPS GS 2014	1.349		-0.55	
2561	AfPS GS 2014	<0.2		<-5.72	possible false negative test result?
2573	AfPS GS 2014	1.49		0.09	
2590		-----		-----	
2591	In house	0.24	R(0.01)	-5.54	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	1.7		1.03	
2649		-----		-----	
2674	AfPS GS 2014	1.41		-0.27	
2683	AfPS GS 2014	1.43		-0.18	
2705	In house	0	ex	-6.62	Result excluded, zero is not a real result
2713		-----		-----	
2719	AfPS GS 2014	0.91		-2.53	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		1.47		0.00	
2787	AfPS GS 2014	1.435		-0.16	
2804	In house	1.366		-0.47	
2807	ZEK01.4-08	0.46	ex	-4.55	test result excluded, see §4.1
2811	AfPS GS 2014	2.91		6.48	
2812	ISO/TS16190	1.54		0.31	
2815	ZEK01.4-08	0.000	R(0.01)	-6.62	
2816	EN15527Mod.	<0.20	C	<-5.72	first reported 0.325, possible false negative test result?
2821	AfPS GS 2014	<0,2		<-5.72	possible false negative test result?
3100	AfPS GS 2014	1.39		-0.36	
3116	ZEK01.4-08	1.59		0.54	
3118	In house	1.559		0.40	
3146	AfPS GS 2014	1.485		0.06	
3150	AfPS GS 2014	1.33	C	-0.63	first reported 8.08
3151	AfPS GS 2014	1.395		-0.34	
3153		1.46		-0.05	
3154	ZEK01.4-08	2.30		3.73	
3163	In house	0.8		-3.02	
3172	AfPS GS 2014	1.063		-1.84	
3176		-----		-----	
3185	AfPS GS 2014	1.51		0.18	
3192	AfPS GS 2014	1.79		1.44	
3197	AfPS GS 2014	1.98		2.29	
3209	In house	1.271		-0.90	
3210	AfPS GS 2014	1.753	C	1.27	first reported 17.539
3214	AfPS GS 2014	1.67		0.90	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	1.31		-0.72	
3233	In house	1.27		-0.90	
3237		-----		-----	
3246		1.13		-1.54	

normality	suspect
n	76
outliers	4 (+3 ex)
mean (n)	1.4709
st.dev. (n)	0.43241
R(calc.)	1.2108
st.dev.(Horwitz)	0.22207
R(Horwitz)	0.6218



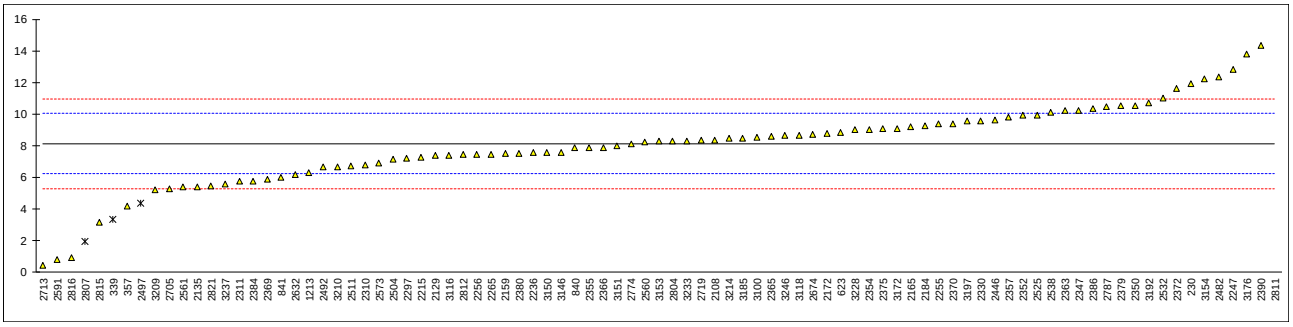


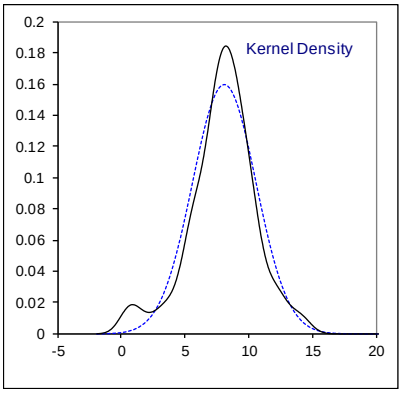
Determination of Benzo[g,h,i]perylene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	11.94		4.03	
330		-----		-----	
339	AfPS GS 2014 mod	3.35	ex	-5.03	test result excluded, see §4.1
357	INH-232	4.17		-4.17	
551	AfPS GS 2014	N.D.		-----	
623		8.85		0.77	
840	AfPS GS 2014	7.85		-0.29	
841		5.99		-2.25	
1213	AfPS GS 2014	6.272		-1.95	
2108	AfPS GS 2014	8.34		0.23	
2115		-----		-----	
2129	AfPS GS 2014	7.38		-0.78	
2135	AfPS GS 2014	5.409		-2.86	
2146		-----		-----	
2159	ZEK01.4-08	7.49		-0.67	
2165	AfPS GS 2014	9.18		1.12	
2166		-----		-----	
2172	AfPS GS 2014	8.77		0.68	
2184	AfPS GS 2014	9.24		1.18	
2213	AfPS GS 2014	<0.2		<-8.36	possible false negative test result?
2215	In house	7.28		-0.89	
2236	ZEK01.4-08	7.54		-0.61	
2247	AfPS GS 2014	12.8		4.94	
2255	AfPS GS 2014	9.354		1.30	
2256	AfPS GS 2014	7.47		-0.69	
2265	AfPS GS 2014	7.47		-0.69	
2267		-----		-----	
2297	AfPS GS 2014	7.21		-0.96	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	6.79		-1.40	
2311	AfPS GS 2014	5.763		-2.49	
2330	AfPS GS 2014	9.59		1.55	
2347	AfPS GS 2014	10.2		2.19	
2350	AfPS GS 2014	10.52		2.53	
2352	AfPS GS 2014	9.90		1.88	
2354	AfPS GS 2014	9.03		0.96	
2355	AfPS GS 2014	7.8503		-0.29	
2357	AfPS GS 2014	9.81		1.78	
2363	AfPS GS 2014	10.2		2.19	
2365	AfPS GS 2014	8.57		0.47	
2366	AfPS GS 2014	7.90		-0.23	
2369	AfPS GS 2014	5.9		-2.34	
2370	AfPS GS 2014	9.36		1.31	
2372	AfPS GS 2014	11.6		3.67	
2373		-----		-----	
2375	In house	9.07		1.00	
2379	AfPS GS 2014	10.50		2.51	
2380		7.499		-0.66	
2384	AfPS GS 2014	5.78		-2.47	
2386	AfPS GS 2014	10.369		2.37	
2390	AfPS GS 2014	14.330		6.55	
2446	AfPS GS 2014	9.65		1.61	
2481		-----		-----	
2482	AfPS GS 2014	12.3455667		4.46	
2492	AfPS GS 2014	6.667		-1.53	
2497	AfPS GS 2014	4.342	ex	-3.99	test result excluded, see §4.1
2504	AfPS GS 2014	7.17		-1.00	
2510		-----		-----	
2511	AfPS GS 2014	6.747		-1.45	
2525	AfPS GS 2014	9.93		1.91	
2532	ZEK01.4-08	10.99		3.03	
2538	In house	10.100		2.09	
2560	AfPS GS 2014	8.257		0.14	
2561	AfPS GS 2014	5.38		-2.89	
2573	AfPS GS 2014	6.90		-1.29	
2590		-----		-----	
2591	In house	0.80		-7.72	
2629	AfPS GS 2014	ND		-----	
2632	AfPS GS 2014	6.2		-2.03	
2649		-----		-----	
2674	AfPS GS 2014	8.72		0.63	
2683		-----		-----	
2705	In house	5.3		-2.98	
2713	ISO/TS16190	0.45	C	-8.09	first reported 1.45
2719	AfPS GS 2014	8.33		0.22	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		8.13		0.01	
2787	AfPS GS 2014	10.49		2.50	
2804	In house	8.279		0.17	
2807	ZEK01.4-08	1.95	ex	-6.51	test result excluded, see §4.1
2811	AfPS GS 2014	28.00	R(0.01)	20.97	
2812	ISO/TS16190	7.45		-0.71	
2815	ZEK01.4-08	3.146		-5.25	
2816	EN15527Mod.	0.94	C	-7.57	first reported 1.26
2821	AfPS GS 2014	5.467		-2.80	
3100	AfPS GS 2014	8.54		0.44	
3116	ZEK01.4-08	7.41		-0.75	
3118	In house	8.680		0.59	
3146	AfPS GS 2014	7.59		-0.56	
3150	AfPS GS 2014	7.56	C	-0.59	first reported 2.78
3151	AfPS GS 2014	7.995		-0.13	
3153		8.27		0.16	
3154	ZEK01.4-08	12.21		4.31	
3163		-----		-----	
3172	AfPS GS 2014	9.104		1.04	
3176	In house	13.8	C	5.99	first reported 0.70
3185	AfPS GS 2014	8.50		0.40	
3192	AfPS GS 2014	10.72		2.74	
3197	AfPS GS 2014	9.57		1.53	
3209	In house	5.223		-3.06	
3210	AfPS GS 2014	6.690		-1.51	
3214	AfPS GS 2014	8.49		0.39	
3220	ZEK01.4-08	ND		-----	
3228	AfPS GS 2014	8.99		0.92	
3233	In house	8.32		0.21	
3237	ZEK01.4-08	5.57		-2.69	
3246		8.67		0.58	

normality	suspect
n	85
outliers	1 (+3 ex)
mean (n)	8.1209
st.dev. (n)	2.49744
R(calc.)	6.9928
st.dev.(Horwitz)	0.94802
R(Horwitz)	2.6544



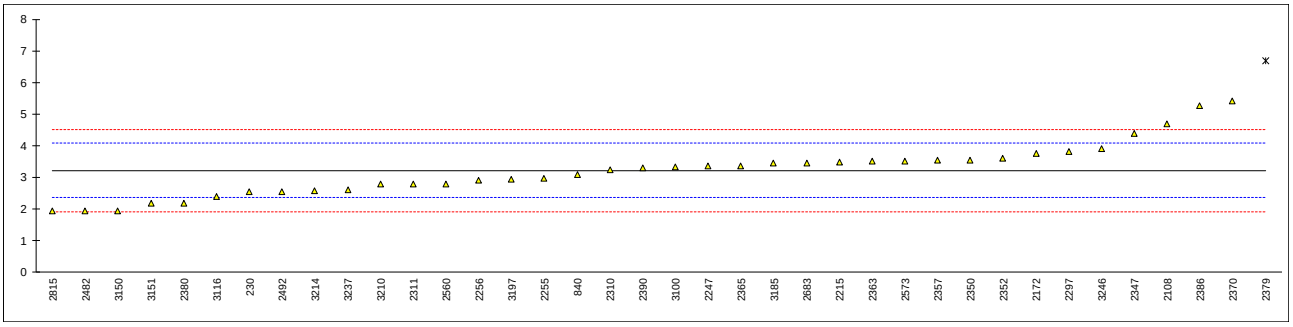


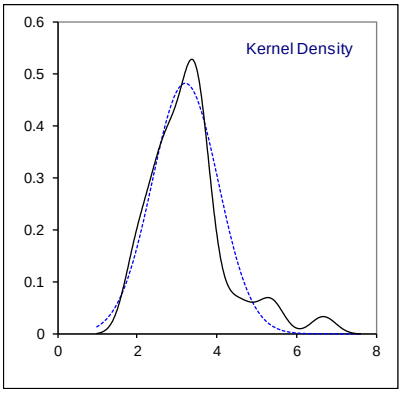
Determination of Cyclopenta[c,d]pyrene in sample #18506; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	2.53		-1.59	
330		-----		-----	
339		-----		-----	
357		-----		-----	
551		-----		-----	
623		n.d.		-----	
840	AfPS GS 2014	3.10		-0.27	
841		n.d		-----	
1213	AfPS GS 2014	NA		-----	
2108	AfPS GS 2014	4.70		3.44	
2115		-----		-----	
2129	AfPS GS 2014	na		-----	
2135		-----		-----	
2146		-----		-----	
2159		-----		-----	
2165		-----		-----	
2166		-----		-----	
2172	AfPS GS 2014	3.74		1.21	
2184		-----		-----	
2213	AfPS GS 2014	<0.2		<-6.99	possible false negative test result?
2215	In house	3.48		0.61	
2236		-----		-----	
2247	AfPS GS 2014	3.35		0.31	
2255	AfPS GS 2014	2.981		-0.55	
2256	AfPS GS 2014	2.92		-0.69	
2265		-----		-----	
2267		-----		-----	
2297	AfPS GS 2014	3.82		1.40	
2300	ZEK01.4-08	n.d		-----	
2310	AfPS GS 2014	3.24		0.05	
2311	AfPS GS 2014	2.780		-1.01	
2330	AfPS GS 2014	NA		-----	
2347	AfPS GS 2014	4.4		2.74	
2350	AfPS GS 2014	3.546		0.76	
2352	AfPS GS 2014	3.60		0.89	
2354	AfPS GS 2014	NA		-----	
2355		-----		-----	
2357	AfPS GS 2014	3.53		0.73	
2363	AfPS GS 2014	3.5		0.66	
2365	AfPS GS 2014	3.37		0.36	
2366	AfPS GS 2014	out of capability		-----	
2369	AfPS GS 2014	<0.1		<-7.22	possible false negative test result?
2370	AfPS GS 2014	5.43		5.13	
2372	AfPS GS 2014	NA		-----	
2373		-----		-----	
2375		-----		-----	
2379	AfPS GS 2014	6.68	R(0.01)	8.02	
2380		2.193		-2.37	
2384		-----		-----	
2386	AfPS GS 2014	5.276		4.77	
2390	AfPS GS 2014	3.301		0.20	
2446		-----		-----	
2481		-----		-----	
2482	AfPS GS 2014	1.9364		-2.97	
2492	AfPS GS 2014	2.548		-1.55	
2497		-----		-----	
2504	AfPS GS 2014	n.a.		-----	
2510		-----		-----	
2511		-----		-----	
2525		-----		-----	
2532	ZEK01.4-08	Not reported		-----	
2538		-----		-----	
2560	AfPS GS 2014	2.78		-1.01	
2561		-----		-----	
2573	AfPS GS 2014	3.50		0.66	
2590		-----		-----	
2591		-----		-----	
2629	AfPS GS 2014	ND		-----	
2632		-----		-----	
2649		-----		-----	
2674	AfPS GS 2014	N/A		-----	
2683	AfPS GS 2014	3.46		0.56	
2705		-----		-----	
2713		-----		-----	
2719		-----		-----	

lab	method	value	mark	z(targ)	remarks
2730	ISO/TS16190	not analysed		-----	
2774		-----		-----	
2787		-----		-----	
2804		-----		-----	
2807		-----		-----	
2811		-----		-----	
2812		-----		-----	
2815	ZEK01.4-08	1.933		-2.97	
2816		-----		-----	
2821		-----		-----	
3100	AfPS GS 2014	3.32		0.24	
3116	ZEK01.4-08	2.40		-1.89	
3118		-----		-----	
3146	AfPS GS 2014	<5		-----	
3150	AfPS GS 2014	1.94		-2.96	
3151	AfPS GS 2014	2.188		-2.38	
3153		-----		-----	
3154		-----		-----	
3163		-----		-----	
3172		-----		-----	
3176		-----		-----	
3185	AfPS GS 2014	3.44		0.52	
3192		-----		-----	
3197	AfPS GS 2014	2.93		-0.66	
3209		-----		-----	
3210	AfPS GS 2014	2.778		-1.02	
3214	AfPS GS 2014	2.56		-1.52	
3220		-----		-----	
3228		-----		-----	
3233		-----		-----	
3237	ZEK01.4-08	2.61		-1.41	
3246		3.9		1.58	

normality	OK
n	37
outliers	1
mean (n)	3.2165
st.dev. (n)	0.83030
R(calc.)	2.3248
st.dev.(Horwitz)	0.43165
R(Horwitz)	1.2086





APPENDIX 2

Other reported PAHs in sample #18505; results in mg/kg

lab	Naphthalene	Acenaphthylene	Fluorene	Phenantrene	Fluoranthene
230	-----	-----	-----	0.535	-----
330	-----	-----	-----	-----	-----
339	0.23	<0.1	<0.1	8.86	<0.1
357	<0.2	<0.2	<0.2	0.43	<0.2
551	0.0599	0.0599	0.0599	0.2496	N.D.
623	0.72	n.d.	n.d.	n.d.	n.d.
840	0.33	not detected	not detected	0.44	not detected
841	0.51 C	n.d	n.d	0.45	n.d
1213	NA	n.d. (<0.1)	n.d. (<0.1)	0.420	n.d. (<0.1)
2108	0.208	-----	-----	0.412	-----
2115	-----	-----	-----	-----	-----
2129	0.25	<0,2	<0,2	0.41	<0,2
2135	0.539	0.024	-----	----- C	-----
2146	-----	-----	-----	-----	-----
2159	-----	-----	-----	0.60	-----
2165	0.42	n.d.	n.d.	0.41	n.d.
2166	-----	-----	-----	-----	-----
2172	0.372	-----	-----	0.721	-----
2184	0.35	n.d	n.d	0.44	n.d
2213	0.297	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg
2215	0.31	ND	ND	0.53	ND
2236	<0.5	7.76	<0.5	<0.5	<0.5
2247	0.65 C	-----	-----	0.75 C	-----
2255	0.581	< 0.1	< 0.1	0.892	< 0.1
2256	0.536	ND	ND	0.524	ND
2265	0.35	-----	-----	0.60	-----
2267	-----	-----	-----	-----	-----
2297	0.32	ND	ND	0.60	ND
2300	n.d	n.d	n.d	1.41	n.d
2310	0.27	Not Detected	Not Detected	0.71	Not Detected
2311	0.2797	<0.2	<0.2	0.454	<0.2
2330	0.17	ND	0.15	0.48	ND
2347	0.3	<0.1	<0.1	0.4	<0.1
2350	< 0.2	< 0.2	< 0.2	0.389	< 0.2
2352	0.30	ND	ND	0.42	ND
2354	0.33	<0.1	<0.1	0.40	<0.1
2355	0.1865	<0.1	<0.1	0.4852	<0.1
2357	0.34	nd	nd	0.42	nd
2363	0.3	ND	ND	0.4	ND
2365	0.27	<0.1	<0.1	0.39	<0.1
2366	0.30	<0.1	<0.1	0.50	<0.1
2369	0.2	<0.1	<0.1	0.5	<0.1
2370	0.200	n.d.	n.d.	0.436	n.d.
2372	0.214	N.D.	N.D.	0.464	N.D.
2373	-----	-----	-----	-----	-----
2375	-----	-----	-----	0.58	-----
2379	Not detected	Not detected	Not detected	Not detected	Not detected
2380	0.358	N.D.	N.D.	0.359	N.D.
2384	0.14	n.d. [<0.10]	n.d. [<0.10]	0.78	n.d. [<0.10]
2386	-----	-----	-----	0.376	-----
2390	0.239	ND	ND	0.698	0.319
2446	2.43	-----	0.665	-----	-----
2481	-----	-----	-----	-----	-----
2482	-----	-----	-----	0.49536667	-----
2492	0.245	-----	-----	0.343	-----
2497	1.345 C	0.0001	0.771	13.45 C	0.0001
2504	<0.5	n.d.	n.d.	n.d.	n.d.
2510	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----
2525	0.25	<0.2	<0.2	<0.2	<0.2
2532	0.23	Not Detected	Not Detected	0.58	0.21
2538	< 0,2	< 0,2	< 0,2	0.477	< 0,2
2560	0.390	-----	-----	0.678	-----
2561	0.46	<0.2	<0.2	<0.2	<0.2
2573	0.30	ND	ND	0.58	ND
2590	-----	-----	-----	----- C	----- C
2591	<0.2	<0.2	<0.2	9.00	<0.2
2629	ND	ND	ND	ND	ND
2632	0.2	N.D.	N.D.	N.D.	N.D.
2649	-----	-----	-----	-----	-----
2674	0.51	n.d.	n.d.	0.48	n.d.
2683	0.268	n.d	n.d	-----	n.d
2705	-----	3.1	0.4	0	0
2713	-----	-----	-----	0.36	-----
2719	0.33	-----	-----	0.53	-----
2730	not analysed	not analysed	not analysed	not analysed	not analysed

lab	Naphthalene	Acenaphthylene	Fluorene	Phenantrene	Fluoranthene
2774	0.13	< 0.2	< 0.2	0.51	< 0.2
2787	<0.4	<0.4	<0.4	0.512	<0.4
2804	-----	-----	-----	-----	-----
2807	0.027	ND	0.018	0.087	ND
2811	0.23	0.19	0.11	0	0
2812	-----	-----	-----	0.60	-----
2815	0.330	0.011	0.134	0.748	0.423
2816	1.4 C	0.2 C	0.25 C	0.41 C	<0.20 C
2821	0.241	<0,2	<0,2	0.511	<0,2
3100	0.26	<0.2	<0.2	0.43	<0.2
3116	<0.2	<0.2	<0.2	0.750	<0.2
3118	0.648	<0.5	<0.5	0.869	<0.5
3146	<0,5	<0,2	<0,2	0.500	<0,2
3150	0.745	<0.2 C	0.225	0.540	<0,2
3151	0.195	-----	-----	0.42	-----
3153	0.37	<0.2	<0.2	0.41	<0.2
3154	0.43	-----	-----	-----	-----
3163	-----	1.1	4.5	-----	-----
3172	0.296	-----	-----	-----	-----
3176	-----	-----	0.10	0.45	0.10
3185	0.28	<0.2	<0.2	0.39	<0.2
3192	<0,2	<0,2	<0,2	0.42	<0,2
3197	0.80	<0,1	<0,1	0.79	<0,1
3209	0.372	-----	-----	0.542	-----
3210	0.121	<0.1	0.111	0.562	0.116
3214	0.46	<0.2	<0.2	0.41	<0.2
3220	ND	ND (<0.2)	ND (<0.2)	ND	ND (<0.2)
3228	0.27	n.d.	n.d.	0.43	n.d.
3233	0.12	<0.1	<0.1	<0.1	<0.1
3237	0.26	-----	-----	0.66	-----
3246	0.18	0	0	0.47	0

Lab 841: first reported 1.95
Lab 2135: first reported 17.311 (corrected to Anthracene 19.210)
Lab 2247: first reported 1.04, 2.75 respectively
Lab 2497: first reported 5.211, 30.472 respectively
Lab 2590: first reported 2.385, 7.838 respectively, sample mixed up with #18506
Lab 2816: first reported1.19, 0.168, 0.229, 0.416, 0.128 respectively
Lab 3150: first reported 8.52

Other reported PAHs in sample #18505; results in mg/kg -- continued --

lab	Benzo(a) anthracene	Chrysene	Chrysene + Triphenylene	Benzo(b) fluoranthene	Benzo(j) fluoranthene
230	-----	-----	-----	-----	-----
330	-----	-----	-----	-----	-----
339	<0.1	<0.1	-----	-----	-----
357	-----	-----	-----	-----	-----
551	N.D.	N.D.	-----	N.D.	N.D.
623	n.d.	n.d.	n.d.	n.d.	n.d.
840	not detected	not detected	not detected	not detected	not detected
841	n.d	n.d	n.d	n.d	n.d
1213	n.d. (<0.1)	n.d. (<0.1)	NA	n.d. (<0.1)	n.d. (<0.1)
2108	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----
2129	<0,2	<0,2	na	<0,2	<0,2
2135	-----	-----	-----	-----	-----
2146	0	-----	0	-----	-----
2159	-----	-----	-----	-----	-----
2165	n.d.	n.d.	-----	n.d.	n.d.
2166	-----	-----	-----	-----	-----
2172	-----	-----	-----	-----	-----
2184	n.d	n.d	-----	n.d	n.d
2213	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg
2215	ND	ND	ND	ND	ND
2236	<0.5	<0.5	-----	<0.5	<0.5
2247	-----	-----	-----	-----	-----
2255	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2256	-----	-----	-----	-----	-----
2265	-----	-----	-----	-----	-----
2267	-----	-----	-----	-----	-----
2297	ND	ND	ND	ND	ND
2300	n.d	n.d	n.d	n.d	n.d
2310	Not Detected	Not Detected	-----	Not Detected	Not Detected
2311	Not Detected	Not Detected	-----	Not Detected	Not Detected
2330	ND	ND	NA	ND	NA
2347	<0.1	<0.1	----- C	<0.1	<0.1
2350	< 0.2	< 0.2	N.A.	N.A.	N.A.
2352	ND	ND	-----	ND	ND
2354	<0.1	<0.1	<0.1	<0.1	<0.1
2355	<0.1	<0.1	-----	<0.1	<0.1
2357	nd	nd	na	nd	nd
2363	ND	ND	ND	ND	ND
2365	<0.1	<0.1	<0.1	<0.1	<0.1
2366	<0.1	<0.1	out of capability	<0.1	<0.1
2369	<0.1	<0.1	<0.1	<0.1	<0.1
2370	n.d.	n.d.	n.d.	n.d.	n.d.
2372	N.D.	N.D.	NA	N.D.	N.D.
2373	-----	-----	-----	-----	-----
2375	-----	-----	-----	-----	-----
2379	Not detected	Not detected	Not tested	Not tested	Not tested
2380	N.D.	N.D.	-----	N.D.	N.D.
2384	n.d. [<0.10]	n.d. [<0.10]	-----	n.d.[<0.10]	n.d.[<0.10]
2386	-----	-----	-----	-----	-----
2390	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----
2481	0	0	-----	0	0
2482	-----	-----	-----	-----	-----
2492	-----	-----	-----	-----	-----
2497	0.078	0.131	0.131	0.001	0.001
2504	n.d.	n.d.	n.a.	n.d.	n.d.
2510	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----
2525	<0.2	<0.2	-----	<0.2	<0.2
2532	Not Detected	Not Detected	Not Reported	Not Detected	Not Detected
2538	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
2560	-----	-----	-----	-----	-----
2561	<0.2	<0.2	-----	-----	-----
2573	ND	ND	ND	ND	ND
2590	-----	-----	-----	----- C	-----
2591	<0.2	<0.2	-----	<0.2	<0.2
2629	ND	ND	ND	ND	ND
2632	N.D.	N.D.	-----	N.D.	N.D.
2649	-----	-----	-----	-----	-----
2674	n.d.	n.d.	N/A	n.d.	n.d.
2683	n.d	n.d	n.d	n.d	n.d
2705	0	0.3	-----	0.2	-----
2713	-----	-----	-----	-----	-----
2719	-----	-----	-----	-----	-----
2730	not detected	not detected	not analysed	not detected	not detected
2774	< 0.2	< 0.2	-----	< 0.2	< 0.2

lab	Benzo(a) anthracene	Chrysene	Chrysene + Triphenylene	Benzo(b) fluoranthene	Benzo(j) fluoranthene
2787	<0.4	<0.4	-----	<0.4	-----
2804	-----	-----	-----	-----	-----
2807	ND	ND	ND	ND	ND
2811	0.19	0.05	-----	-----	-----
2812	-----	-----	-----	-----	-----
2815	0.000	0.000	-----	-----	-----
2816	-----	-----	-----	-----	-----
2821	<0,2	<0,2	-----	<0,2	<0,2
3100	<0.2	<0.2	---	<0.2	<0.2
3116	<0.2	<0.2	-----	<0.2	<0.2
3118	<0.5	<0.5	-----	-----	-----
3146	<0,2	<0,2	n.a.	<0,2 *)	----- *)
3150	<0,2	<0,2	<0,2	<0,2	<0,2
3151	-----	-----	-----	-----	-----
3153	<0.2	<0.2	<0.2	<0.2	<0.2
3154	-----	-----	-----	-----	-----
3163	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----
3185	<0.2	<0.2	-----	<0.2	<0.2
3192	<0,2	<0,2	-----	<0,2	<0,2
3197	<0,1	<0,1	-----	<0,1	<0,1
3209	-----	-----	-----	-----	-----
3210	<0.1	<0.1	<0.1	<0.1	<0.1
3214	<0.2	<0.2	-----	<0.2	<0.2
3220	ND (<0.2)	ND (<0.2)	-----	ND (<0.2)	ND (<0.2)
3228	n.d.	n.d.	-----	n.d.	n.d.
3233	<0.1	<0.1	-----	<0.1	<0.1
3237	-----	-----	-----	-----	-----
3246	0	0	-----	0	0

Lab 2347: first reported <0.1
Lab 2590: first reported 0.770, sample mixed up with #18506

*)
Lab 3146: reported Benzo(b)fluoranthene + Benzo(j)fluoranthene as sum <0.2

Other reported PAHs in sample #18505; results in mg/kg -- continued --

lab	Benzo(k) fluoranthene	Sum benzo (b,j,k)fluoran	Benzo(e) pyrene	Benzo(a) pyrene	Indeno(1.2.3-c.d)pyrene
230	-----	-----	-----	-----	-----
330	-----	-----	-----	-----	-----
339	-----	<0.1	<0.1	<0.1	<0.1
357	-----	-----	-----	-----	-----
551	N.D.	N.D.	N.D.	N.D.	N.D.
623	n.d.	n.d.	n.d.	n.d.	n.d.
840	not detected	not detected	not detected	not detected	not detected
841	n.d	n.d	n.d	n.d	n.d
1213	n.d. (<0.1)	n.d. (<0.1)	n.d. (<0.1)	n.d. (<0.1)	Not detected (<0.1)
2108	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----
2129	<0,2	<0,2	<0,2	<0,2	<0,2
2135	-----	-----	-----	-----	-----
2146	-----	0	0	0	-----
2159	-----	-----	-----	-----	-----
2165	n.d.	n.d.	n.d.	n.d.	n.d.
2166	-----	-----	-----	-----	-----
2172	-----	-----	-----	-----	-----
2184	n.d	n.d	n.d	n.d	n.d
2213	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg
2215	ND	ND	ND	ND	ND
2236	<0.5	<0.5	<0.5	<0.5	<0.5
2247	-----	-----	-----	-----	-----
2255	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2256	-----	-----	-----	-----	-----
2265	-----	-----	-----	-----	-----
2267	-----	-----	-----	-----	-----
2297	ND	ND	ND	ND	ND
2300	n.d	n.d	n.d	n.d	n.d
2310	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2330	NA	NA	ND	ND	ND
2347	<0.1	<0.1	<0.1	<0.1	<0.1
2350	N.A.	< 0.2	< 0.2	< 0.2	< 0.2
2352	ND	ND	ND	ND	ND
2354	<0.1	<0.1	<0.1	<0.1	<0.1
2355	<0.1	<0.3	<0.1	<0.1	<0.1
2357	nd	nd	nd	nd	nd
2363	ND	ND	ND	ND	ND
2365	<0.1	<0.1	<0.1	<0.1	<0.1
2366	<0.1	<0.1	<0.1	<0.1	<0.1
2369	<0.1	<0.1	<0.1	<0.1	<0.1
2370	n.d.	n.d.	n.d.	n.d.	n.d.
2372	N.D.	N.D.	N.D.	N.D.	N.D.
2373	-----	-----	-----	-----	-----
2375	-----	-----	-----	-----	-----
2379	Not detected	Not detected	Not detected	Not detected	Not detected
2380	N.D.	N.D.	N.D.	N.D.	N.D.
2384	n.d.[<0.10]	n.d.[<0.10]	n.d.[<0.10]	n.d.[<0.10]	Not detected[<0.10]
2386	-----	-----	-----	-----	-----
2390	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----
2481	0	0	0	0	-----
2482	-----	-----	-----	-----	-----
2492	-----	-----	-----	-----	-----
2497	0.001	0.001	0.001	0.001	0.181
2504	n.d.	n.d.	n.d.	n.d.	n.d.
2510	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----
2525	<0.2	<0.2	<0.2	<0.2	<0.2
2532	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2538	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
2560	-----	-----	-----	-----	-----
2561	-----	<0.2	<0.2	<0.2	<0.2
2573	ND	ND	ND	ND	ND
2590	-----	----- C	-----	-----	-----
2591	<0.2	<0.2	<0.2	<0.2	<0.2
2629	ND	ND	ND	ND	ND
2632	N.D.	N.D.	N.D.	N.D.	N.D.
2649	-----	-----	-----	-----	-----
2674	n.d.	n.d.	n.d.	n.d.	n.d.
2683	n.d	n.d	n.d	n.d	n.d
2705	0	-----	1.1	0	0
2713	-----	-----	-----	-----	-----
2719	-----	-----	-----	-----	-----

lab	Benzo(k) fluoranthene	Sum benzo (b,j,k)fluoran	Benzo(e) pyrene	Benzo(a) pyrene	Indeno(1.2.3-c.d)pyrene
2730	not detected	not detected	not detected	not detected	not analysed
2774	< 0.2	-----	< 0.2	< 0.2	< 0.2
2787	<0.4	-----	-----	<0.4	<0.4
2804	-----	-----	-----	-----	-----
2807	ND	ND	ND	ND	ND
2811	0	0	0.04	1.22	0
2812	-----	-----	-----	-----	-----
2815	-----	0.000	0.000	0.000	0.000
2816	-----	----- C	-----	----- C	----- C
2821	<0,2	-----	<0,2	<0,2	<0,2
3100	<0.2	<0.2	<0.2	<0.2	<0.2
3116	<0.2	<0.2	<0.2	<0.2	<0.2
3118	-----	<0.5	<0.5	<0.5	<0.5
3146	-----	<0,2	<0,2	<0,2	<0,2
3150	<0,2	<0,2	<0,2	<0,2	<0,2
3151	-----	-----	-----	-----	-----
3153	<0.2	<0.2	<0.2	<0.2	<0.2
3154	-----	-----	-----	-----	-----
3163	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----
3185	<0.2	<0.2	<0.2	<0.2	<0.2
3192	<0,2	-----	<0,2	<0,2	-----
3197	<0,1	<0,1	<0,1	<0,1	<0,1
3209	-----	-----	-----	-----	-----
3210	<0.1	<0.1	<0.1	<0.1	<0.1
3214	<0.2	<0.2	<0.2	<0.2	<0.2
3220	ND (<0.2)	-----	ND (<0.2)	ND (<0.2)	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.
3233	<0.1	<0.1	<0.1	<0.1	<0.1
3237	-----	-----	-----	-----	-----
3246	0	-----	0	0	0

Lab 2590: first reported 1.596, sample mixed up with #18506
Lab 2816: first reported <0.20, 0.163, <0.10 respectively

Determination of other PAH in sample #18505; results in mg/kg -- continued --

lab	Dibenzo(ah) anthracene	Benzo(ghi) perylene	Cyclopenta (c,d)pyrene	PAH, Total
230	-----	-----	-----	-----
330	-----	-----	-----	-----
339	<0.1	<0.1	-----	-----
357	-----	-----	-----	-----
551	N.D.	N.D.	-----	-----
623	n.d.	n.d.	n.d.	-----
840	not detected	not detected	not detected	51.05
841	n.d	n.d	n.d	-----
1213	Not detected (<0.1)	Not detected (<0.1)	NA	NA
2108	-----	-----	-----	-----
2115	-----	-----	-----	-----
2129	<0,2	<0,2	na	51.6
2135	-----	-----	-----	-----
2146	0	-----	-----	-----
2159	-----	-----	-----	-----
2165	n.d.	n.d.	-----	-----
2166	-----	-----	-----	-----
2172	-----	-----	-----	53.763
2184	n.d	n.d	-----	-----
2213	<0.2 mg/kg	<0.2 mg/kg	<0.2 mg/kg	59.027
2215	ND	ND	ND	-----
2236	<0.5	<0.5	-----	-----
2247	-----	-----	-----	-----
2255	< 0.1	< 0.1	< 0.1	-----
2256	-----	-----	-----	51.4
2265	-----	-----	-----	50.40
2267	-----	-----	-----	-----
2297	ND	ND	ND	52.55
2300	n.d	n.d	n.d	-----
2310	Not Detected	Not Detected	Not Detected	-----
2311	Not Detected	Not Detected	Not Detected	-----
2330	ND	ND	NA	-----
2347	<0.1	<0.1	<0.1	-----
2350	< 0.2	< 0.2	< 0.2	53.654
2352	ND	ND	ND	52.39
2354	<0.1	<0.1	NA	-----
2355	<0.1	<0.1	-----	49.5767
2357	nd	nd	nd	55.13
2363	ND	ND	ND	52.1
2365	<0.1	<0.1	<0.1	-----
2366	<0.1	<0.1	out of capablity	-----
2369	<0.1	<0.1	<0.1	-----
2370	n.d.	n.d.	n.d.	-----
2372	N.D.	N.D.	NA	-----
2373	-----	-----	-----	50.5
2375	-----	-----	-----	-----
2379	Not detected	Not detected	Not detected	-----
2380	N.D.	N.D.	N.D.	-----
2384	Not detected[<0.10]	Not detected[<0.10]	-----	51.96
2386	-----	-----	-----	-----
2390	ND	ND	ND	-----
2446	-----	-----	-----	-----
2481	0	-----	-----	-----
2482	-----	-----	-----	-----
2492	-----	-----	-----	48.980
2497	0.001	0.001	-----	-----
2504	n.d.	n.d.	n.a.	62.88
2510	-----	-----	-----	-----
2511	-----	-----	-----	-----
2525	<0.2	<0.2	-----	-----
2532	Not Detected	Not Detected	Not reported	Not reported
2538	< 0,2	< 0,2	-----	56.297
2560	-----	-----	-----	-----
2561	<0.2	<0.2	-----	-----
2573	ND	ND	ND	52.68
2590	-----	-----	-----	-----
2591	<0.2	<0.2	-----	28.31
2629	ND	ND	ND	-----
2632	N.D.	N.D.	-----	49.9
2649	-----	-----	-----	-----
2674	n.d.	n.d.	N/A	N/A
2683	n.d	n.d	n.d	-----
2705	0	0	-----	-----
2713	-----	-----	-----	-----
2719	-----	-----	-----	-----

lab	Dibenzo(ah) anthracene	Benzo(ghi) perylene	Cyclopenta (c,d)pyrene	PAH, Total
2730	not detected	not analysed	not analysed	-----
2774	< 0.2	< 0.2	-----	-----
2787	<0.4	<0.4	-----	-----
2804	-----	-----	-----	44.294
2807	ND	ND	ND	9.49
2811	0	0	-----	52.44
2812	-----	-----	-----	-----
2815	0.000	0.000	0.000	-----
2816	----- C	----- C	-----	-----
2821	<0,2	<0,2	-----	53.783
3100	<0.2	<0.2	<0.2	-----
3116	<0.2	<0.2	<0.2	49.1
3118	<0.5	<0.5	-----	-----
3146	<0,2	<0,2	<5,0	-----
3150	<0,2	<0,2	<0,2	57.17
3151	-----	-----	-----	-----
3153	<0.2	<0.2	-----	-----
3154	-----	-----	-----	-----
3163	-----	-----	-----	-----
3172	-----	-----	-----	-----
3176	-----	-----	-----	-----
3185	<0.2	<0.2	<0.2	-----
3192	-----	-----	-----	49.90
3197	<0,1	<0,1	<0,1	-----
3209	-----	-----	-----	-----
3210	<0.1	<0.1	<0.1	54.19
3214	<0.2	<0.2	<0.2	59.84
3220	ND	ND	-----	-----
3228	n.d.	n.d.	-----	-----
3233	<0.1	<0.1	-----	-----
3237	-----	-----	-----	54.67
3246	0	0	0	50.16

Lab 2816: first reported <0.10, <0.10 respectively

Determination of other PAH in sample #18506; results in mg/kg

lab	Fluorene	Dibenzo(ah)anthracene	PAH, Total
230	-----	-----	-----
330	-----	-----	-----
339	<0.1	0.121	-----
357	<0.2	<0.2	-----
551	0.0599	N.D.	-----
623	0.66	n.d.	-----
840	not detected	not detected	55.82
841	n.d	n.d	-----
1213	Not detected, LOD = 0.1	Not detected, LOD = 0.1	NA
2108	-----	0.332	-----
2115	-----	-----	-----
2129	<0,2	<0,2	48.3
2135	-----	0.232	-----
2146	-----	0	-----
2159	-----	-----	-----
2165	n.d.	n.d.	-----
2166	-----	-----	-----
2172	-----	0.276	60.341
2184	n.d	n.d	-----
2213	<0.2	<0.2	37.75
2215	ND	ND	-----
2236	<0.5	<0.5	-----
2247	-----	-----	-----
2255	<0.1	<0.1	NA
2256	ND	ND	58.4
2265	-----	-----	47.27
2267	-----	-----	-----
2297	ND	ND	61.49
2300	n.d	n.d	-----
2310	Not Detected	Not Detected	-----
2311	<0.2	Not detected	-----
2330	0.13	ND	-----
2347	<0.1	<0.1	-----
2350	< 0.2	0.660	81.11
2352	ND	ND	60.05
2354	<0.1	<0.1	-----
2355	<0.1	<0.1	50.7377
2357	nd	nd	62.46
2363	ND	ND	60.3
2365	<0.1	<0.1	-----
2366	<0.1	<0.1	-----
2369	<0.1	<0.1	-----
2370	n.d.	n.d.	-----
2372	N.D.	N.D.	-----
2373	-----	-----	36.9
2375	-----	-----	-----
2379	Not detected	Not detected	-----
2380	N.D.	N.D.	-----
2384	Not detected[<0.10]	Not detected[<0.10]	48.05
2386	-----	-----	-----
2390	ND	ND	-----
2446	0.20	0.39	-----
2481	-----	0	-----
2482	-----	0.37766667	-----
2492	-----	-----	51.133
2497	0.399	0.001	-----
2504	n.d.	n.d.	73.36
2510	-----	-----	-----
2511	-----	-----	-----
2525	<0.2	0.4	-----
2532	Not Detected	Not Detected	Not Reported
2538	< 0,2	< 0,4	60.532
2560	-----	-----	-----
2561	<0.2	<0.2	-----
2573	ND	ND	58.95
2590	-----	-----	-----
2591	<0.2	<0.2	30.87
2629	ND	ND	-----
2632	N.D.	N.D.	51.1
2649	-----	-----	-----
2674	n.d.	n.d.	N/A
2683	-----	-----	-----
2705	0.4	0	-----
2713	-----	-----	-----
2719	-----	-----	-----
2730	not analysed	not detected	-----

lab	Fluorene		Dibenzo(ah)anthracene	PAH, Total
2774	< 0.2		< 0.2	-----
2787	<0.4		<0.4	-----
2804	-----		-----	51.791
2807	0.015		0.11	14.46
2811	0.09		0.15	79.36
2812	-----		-----	-----
2815	0.110		0.000	-----
2816	0.14	C	< 0,10	-----
2821	<0,2		<0,2	48.538
3100	<0.2		<0.2	-----
3116	<0.2		<0.2	56.5
3118	<0.5		<0.5	-----
3146	<0,2		<0,2	-----
3150	<0,2		<0,2	54.865
3151	-----		-----	-----
3153	<0.2		<0.2	-----
3154	-----		-----	-----
3163	2.5		-----	-----
3172	-----		-----	-----
3176	0.10		-----	-----
3185	<0.2		<0.2	-----
3192	<0,2		-----	59.76
3197	<0,2		<0,1	-----
3209	-----		-----	-----
3210	<0.1		0.239	78.66
3214	<0.2		<0.2	59.95
3220	ND		ND	-----
3228	n.d.		n.d.	-----
3233	<0.1		< 0.1	-----
3237	-----		-----	46.39
3246	0		0	69.8

Lab 2816: first reported 0.15

APPENDIX 3 Summary of reported analytical details

lab	ISO/IEC 17025 accredited	Sample preparation	Final particle size	Release/ Extraction technique	Extraction solvent	Extraction time and temperature
230	Yes	Used as received	---	Ultrasonic	Toluene	60 min, 60C
330	---	---	---	---	---	---
339	No	Used as received	#18505 : 1mm #18506 : 3mm	Ultrasonic	toluene + KOH 1M in ethanol	60min/60°C
357	No	Used as received	---	Ultrasonic	Toluene	60 min
551	Yes	Cut	2 mm	Ultrasonic	Toluene	60 min and 60°C
623	Yes	Further Cut	2 mm	Ultrasonic	Toluene	1 hr at 60ºC
840	Yes	Cut	2mmX2mm	Ultrasonic	toluene	60 °C ,1hour
841	---	---	---	---	---	---
1213	No	Further Cut	<2 mm	Ultrasonic	Toluene and Petrolium ether	---
2108	Yes	Used as received	max 5mm	Ultrasonic	Toluene	1h; 60°C
2115	---	---	---	---	---	---
2129	Yes	Used as received	not determined	Ultrasonic	toluene	60 °C / 60 min
2135	---	---	---	---	---	---
2146	No	Cut	2-3 mm	Ultrasonic	toluene	60 min, 60 °C
2159	Yes	#18506-Used as received. #18505-Cutted.	1x1 mm	Ultrasonic	Toluene	60°C, 60 min
2165	Yes	Used as received	3mm*3mm	Ultrasonic	Toluene	60 min, 60 °C
2166	---	---	---	---	---	---
2172	Yes	Used as received	2mm*2mm*2mm	Ultrasonic	Toluene	60min, 60°C
2184	Yes	Used as received	3mm x 3mm	Ultrasonic	Toluene	60 min, 60 °C
2213	Yes	Further Cut	---	Ultrasonic	---	---
2215	No	Cut	2mm*2mm*2mm	Ultrasonic	toluene	60°C for 1 hour
2236	Yes	#18505 cut #18506 used as received	1-2 mm	Ultrasonic	4:1 Toluene:Methanol	60 min, 60 °C
2247	Yes	Used as received	approx 2 mm	Ultrasonic	toluene	60*C for 1 hr
2255	Yes	Used as received	NA	Ultrasonic	Toluene	60 and 60
2256	Yes	Cut	2mm*2mm*2mm	Ultrasonic	toluene	60
2265	No	Cut	2-3 mm	Ultrasonic	Toluene	60 min at 60°C
2267	No	---	---	Ultrasonic	toleen hexaan	120, 80
2297	Yes	Used as received	3 mm	Ultrasonic	TOLUENE	60°C,1HR
2300	Yes	Used as received	May be 1mm or less (as tested as received)	Ultrasonic	Toluene	60 min at 60°C
2310	Yes	#18505 further cut into small pieces # 18506 used as such.	---	Ultrasonic	Toluene	1 hr & 60ºC
2311	Yes	#18505: cut #18506: used as received	<1mm	Ultrasonic	Toluene	1 Hour at 60°C
2330	No	Cut	2x2 mm	Ultrasonic	Toluene	60 min, 60 °C
2347	Yes	Cut		Ultrasonic	Toluene	60min,60°C
2350	No	Cut	< 2 mm	Ultrasonic	Toluene	60min,60°C
2352	Yes	Cut	2mm*2mm*2mm	Ultrasonic	Toluene.	60min,60°C
2354	Yes	Used as received	<3mm	Ultrasonic	Toluene	60min,60°C
2355	Yes	Cut	2mm*2mm	Ultrasonic	Toluene	60min;60°C
2357	Yes	Cut	2mm*2mm	Ultrasonic	toluene	60min,60°C
2363	Yes	Cut	2mm*2mm	Ultrasonic	Toluene	60mins,60°C
2365	Yes	Cut	2mm*2mm	Ultrasonic	Toluene	60°C,60min
2366	Yes	Cut	2mm*2mm*2mm	Ultrasonic	Toluene	60°C 60min
2369	Yes	Cut	2*2mm	Ultrasonic	Toluene	60°C,60min
2370	Yes	Used as received	Test and report sample size was 1.5¡Ñ2(mm)	Ultrasonic	Toluene	60°C
2372	Yes	Cut	2-3mm	Ultrasonic	Toluene	60min & 60°C

lab	ISO/IEC 17025 accredited	Sample preparation	Final particle size	Release/ Extraction technique	Extraction solvent	Extraction time and temperature
2373	Yes	Cut	2mm*2mm	Ultrasonic	toluene	60°C 1H
2375	Yes	Cut	2mmx2mm	Ultrasonic	Toluene	60 min, 60 °C
2379	No	Cut	2x2 mm	Ultrasonic	Toluene	60 C 1 Hr
2380	Yes	Used as received	18505, 3mm x 3mm 18506, 0.4mm x0.4mm	Ultrasonic	Toluene	60 min at 60°C
2384	Yes	Grinded	2-3mm	Ultrasonic	toluene	1 hour at 60 °C
2386	Yes	Cut	2*2mm	Ultrasonic	Toluene	60 min, 60 °C
2390	Yes	Cut	2 mm X 2mm	Ultrasonic	TOULENE	60 min at 60°C
2446	Yes	Used as received	ca. 2-4 mm	Ultrasonic	Toluol	60 min, 60°C
2481	No	Used as received	na	Ultrasonic	toluene	60 minuts - 60°C
2482	---	---	---	---	---	---
2492	Yes	Used as received	0.5 cm	Ultrasonic	Toluene	60 min & 60 °C
2497	Yes	Used as received	---	Ultrasonic	toluene	60min - 60°C
2504	Yes	Cut	2x2 mm	Ultrasonic	Toluene	60min , 60C
2510	---	---	---	---	---	---
2511	---	Used as received	---	Ultrasonic	Toluene	1 hour at 60 °C
2525	Yes	Used as received	---	Ultrasonic	Toluene	60 min, 60 °C
2532	Yes	Cut	3* 3 mm	Ultrasonic	Toluene	1 hour @ 60 °C
2538	Yes	Used as received		Ultrasonic	Toluol	60 min, 60 °C
2560	Yes	Used as received	Used as received	Ultrasonic	Toluene,Petroleum ether	1 hour, 60 min
2561	No	Used as received	---	Ultrasonic	Toluene	60 min 60 °C
2573	Yes	Used as received	Used as received	Ultrasonic	Toluene	60
2590	Yes	only the sample 18505 was cut into smaller pieces	not verified after cutting	Ultrasonic	toluene	60minutes 60°C
2591	No	Further Cut	---	Ultrasonic	n-Hexane	60 minutes, 60ºC
2629	No	Used as received	>1mm	Ultrasonic	18506: Toluene, 18505: Tetrahydrofuran	60 °C for 1 hour without a basket
2632	Yes	#18505: further cut #18506: Used as received	2mm x 2mm (#18505) / Used as received (#18506)	Ultrasonic	Toluene	60 min at 60°C
2649	Yes	Cut	---	Ultrasonic	Tolune	1hour & 60°C
2674	Yes	Used as received	3mm*3mm	Ultrasonic	Toluene	60min, 60 °C
2683	No	Used as received	---	Ultrasonic	Tolene	60
2705	Yes	Used as received	---	Soxhlet	Hexane / Acetone 90/10	120 min, 56°C
2713	No	Cut	3 mm x 3 mm	Ultrasonic	n-Hexane	60 min / 60 °C
2719	Yes	Cut	1mm x 1mm	Ultrasonic	Toluene	60mins/ 60°C
2730	No	Used as received	---	Ultrasonic	n-Hexane	1 hour at 60 °C
2774	Yes	Used as received	---	Ultrasonic	Toluene	60 Min. / 60C
2787	No	Cut	---	Ultrasonic	Toluene	60min and 60°C
2804	No	Used as received	As received	Ultrasonic	Toluene	60 min at 60°C
2807	No	Cut	5 mm square	Ultrasonic	toluene	55 °C 60 minutes
2811	No	Cut	2mm	Ultrasonic	Toluene	60min 60°C
2812	No	Cut	3X3	Ultrasonic	HEXANE	60 Min - 60 °C
2815	Yes *)	#18505: sample cut to ca. 2 mm #18506: used as received	2 mm	Ultrasonic	toluene with internal standards (200 ppb)	60 min at 60°C
2816	No	Cut	1x1x1mm	Extracted by a combination of ultrasonication (15min) and mechanical shaking (4h) under ambient conditions.	Pentane/acetone (1:1)	See release/extraction technique

lab	ISO/IEC 17025 accredited	Sample preparation	Final particle size	Release/ Extraction technique	Extraction solvent	Extraction time and temperature
2821	Yes	Used as received	<1mm	Ultrasonic	toluene	60 min / 60°C
3100	Yes	Cut	2mm*2mm	Ultrasonic	Toluene	60 min, 60 °C
3116	Yes	Used as received	As received	Ultrasonic	Toluene	60 min, 60 °C
3118	No	Cut	1x1 mm	Ultrasonic	Toluene	60 min, 60 °C
3146	Yes	Cut	2x2 mm #18505, used as recieved #18506	Ultrasonic	Toluene	60 min, 60°C
3150	Yes	Used as received	---	Ultrasonic	Toluol	1h 60°C
3151	Yes	Used as received	0.1 cm	Ultrasonic	toluene	1 hour, 60 °C
3153	Yes	#18505: further cut #18506: used as received	3mm x 3mm	Ultrasonic	Toluene	60 mins at 60 °C
3154	Yes	Used as received	---	Ultrasonic	---	---
3163	---	---	---	---	---	---
3172	Yes	Cut	4 mm	Ultrasonic	Toluene	60 min and 60°C
3176	Yes	Cut, 18506: Used as received	10x10 mm	Ultrasonic	Hexane	60 minutes,60°C
3185	Yes	Cut	2mm*2mm	Ultrasonic	Toluene	60mins,60°C
3192	Yes	Used as received	as received	Ultrasonic	Toluol with internal standards	60 min 60°C
3197	Yes	Cut	1 mm * 2 mm	Ultrasonic	Toluene	60 min, 60 °C
3209	Yes	Used as received	---	Ultrasonic	toluene	60 minutes
3210	No	Cut	1-2 mm	Ultrasonic	toluene	60 min, 60 °C
3214	Yes	Cut	< 2mm* 2mm	Ultrasonic	Toluene	1 hr, 60°C
3220	Yes	Cut	approximate 2mm	Ultrasonic	Toluene	60 min, 60 °C
3228	Yes	Used as received	3mm*3mm	Ultrasonic	Toluene	60 min, 60 °C
3233	No	Used as received	---	Ultrasonic	toluene	60 min - 60°C
3237	No	Cut	---	Ultrasonic	10 ml toluene	60 min and 60C
3246	---	---	---	---	---	---

*)
Lab 2816: accredited for Benzo[a]pyrene, Antracene, Benzo[a]anthracene, Sum of [b],[j] and [k] Benzofluoranthene, Chrysene and Dibenz[a,h]anthracene.

APPENDIX 4

Number of participants per country

4 labs in	BANGLADESH
1 lab in	BRAZIL
1 lab in	CAMBODIA
1 lab in	DENMARK
2 labs in	FINLAND
6 labs in	FRANCE
18 labs in	GERMANY
6 labs in	HONG KONG
7 labs in	INDIA
2 labs in	INDONESIA
1 lab in	IRELAND
4 labs in	ITALY
1 lab in	JAPAN
1 lab in	KOREA
1 lab in	LUXEMBOURG
1 lab in	MALAYSIA
1 lab in	MAURITIUS
21 labs in	P.R. of CHINA
1 lab in	PAKISTAN
1 lab in	SERBIA
1 lab in	SPAIN
1 lab in	SWITZERLAND
4 labs in	TAIWAN R.O.C.
2 labs in	THAILAND
2 labs in	THE NETHERLANDS
1 lab in	TUNISIA
7 labs in	TURKEY
1 lab in	U.S.A.
1 lab in	UNITED KINGDOM
6 labs in	VIETNAM

APPENDIX 5

Abbreviations:

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

Literature:

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