Results of Proficiency Test
PAH in Polymers, total
February 2020

Organized 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 7th, 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.

Since 2015, the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the determination of PAH in Polymers every year. During the annual proficiency testing program 2019/2020, it was decided to continue the proficiency test for the analysis of PAH in Polymers.
In this interlaboratory study 110 laboratories from 26 different countries registered for participation. See appendix 4 for the number of participants per country.
In this report the results of this 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 organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory. It was decided to send 2 different polymer samples of approximately 3 gram each respectively labelled #20502 and #20503. 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/IEC17043:2010. 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 organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The first batch were orange colored rings, which were made positive on PAH by a third-party laboratory. After homogenization 150 subsamples of 3 gram each were prepared and labelled #20502.
The homogeneity was checked by the determination of Acenaphthene and Fluorene using an in-house test method on 8 stratified randomly selected subsamples.

	Acenaphthene in mg/kg	Fluorene in mg/kg
Sample #20502-1	5.96	4.67
Sample #20502-2	5.93	4.58
Sample #20502-3	5.78	4.63
Sample #20502-4	5.87	4.64
Sample #20502-5	5.83	4.67
Sample #20502-6	5.71	4.45
Sample #20502-7	5.81	4.53
Sample #20502-8	5.71	4.45

Table 1: homogeneity test results of subsamples #20502

From the above test results the repeatabilities were calculated and compared with 0.3 times the estimated reproducibility using the Horwitz equation in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Acenaphthene in mg/kg	Fluorene in mg/kg
r (observed)	0.26	0.26
reference method	Horwitz	Horwitz
0.3 * R (reference method)	0.60	0.49

Table 2: evaluation of the repeatabilities of subsamples #20502

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

For the second batch a real-life sample (a black rubber basket) was used. The sample turned out into a mix of black rubber particles and white fibers after grinding of the material. After mixing well 150 subsamples of 3 grams each were prepared and labelled #20503.

The homogeneity was checked by the determination of Acenaphthylene and Total PAH using an in-house test method on 8 stratified randomly selected subsamples.

	Acenaphthylene in mg/kg	Total PAH in mg/kg
Sample #20503-1	0.248	45.387
Sample #20503-2	0.273	49.534
Sample #20503-3	0.273	51.434
Sample #20503-4	0.271	47.939
Sample #20503-5	0.286	57.932
Sample #20503-6	0.294	49.902
Sample #20503-7	0.261	48.315
Sample #20503-8	0.279	50.739

Table 3: homogeneity test results of subsamples #20503

From the above test results the repeatabilities were calculated and compared with 0.3 times the estimated reproducibility using the Horwitz equation in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Acenaphthylene in mg/kg	Total PAH in mg/kg
r (observed)	0.040	10.257
reference method	Horwitz	Horwitz (n=10)
0.3 * R (reference method)	0.045	11.823

Table 4: evaluation of the repeatabilities of subsamples #20503

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

To each of the participating laboratories one sample labelled #20502 and one sample labelled #20503, were sent on January 15, 2020.

2.5 ANALYZES

The participants were asked to determine on samples #20502 and #20503 the concentrations of any of the following PAH (CAS No.)

- Total PAH
- 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)
- Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene
- Benzo[a]anthracene (56-55-3)
- Chrysene (218-01-9)
- Triphenylene (217-59-4)
- 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, it was requested to report some analytical details.

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 evaluations.

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 appropriate 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 are 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.kpmd.co.uk/sgs-iis-cts/. The reported test results are tabulated per determination in appendices 1 and 2 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under ‘Remarks’ in the test 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 organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5).
For the statistical evaluation, the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as '<…' or '>…' were not used in the statistical evaluation.

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test, a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement

of the normality being either ‘unknown’, ‘OK’, ‘suspect’ or ‘not OK’. After removal of outliers, this check was repeated. If a data set does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.

According to ISO5725 the original test results per determination were submitted 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. In this PT, the criterion of ISO13528, paragraph 9.2.1. was met for all evaluated tests, therefore, the uncertainty of all assigned values may be negligible and need not be included in the PT report.

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

3.2 GRAPHICS

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

Furthermore, Kernel Density Graphs were made. 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 literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values were used, like Horwitz or an estimated reproducibility based on former iis proficiency tests.

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

The z-scores were calculated according to:

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

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

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

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

4 EVALUATION

During the execution of this proficiency test some serious problems occurred. Due to COVID-19 outbreak in Asia, participants in Asia were not able to report in time. It was therefore decided that for those participants the deadline was extended with one week to report the test results. Finally, seven participants reported the test results after the second final reporting date and seven participants did not report any test results at all. Not all laboratories were able to report all components.
In total 103 participants reported 2271 numerical test results. Observed were 81 outlying test results, which is 3.6% of the statistically evaluated numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

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

4.1 EVALUATION PER 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 explaned in appendix 5.

The majority of the participants reported to have used AfPS GS 2014:01. A few others reported to have used AfPS GS 2019:01. This test method was published in May 2019 and would supersede AfPS GS 2014:01 in July 2020. The main difference is the number of PAH determined. In the AfPS GS 2019:01 version the number is reduced from 18 to 15 PAH (not listed are Acenaphthylene, Acenaphthene and Fluorene). It became not clear from the test

method why these three PAH were removed. It was therefore decided to evaluate the test result against the AfPS GS 2014:01(2014) version.

Regretfully, in the common test methods AfPS GS 2014:01(2014) and 2019:01(2019) no precision data are mentioned. Neither in any other relevant test method for the determination of PAH. Therefore, it was decided to compare the calculated reproducibility against the reproducibility estimated from the Horwitz equation.

Sample #20502

Total PAH: This determination was not problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated target reproducibility using the Horwitz equation based on 10 components.
The total PAH level was also calculated by iis from components which level exceed 0.2 mg/kg according to AfPS GS 2014:01, chapter §3.2. It appeared that about approximately 30% found a different total level of total PAH.

Naphthalene: This determination may be problematic. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Acenaphthene: This determination was not problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated target reproducibility using the Horwitz equation.

Fluorene: This determination was not problematic. Four statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the estimated target reproducibility using the Horwitz equation.

Phenanthrene: This determination may be problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

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

Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene: This determination may be problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation based on 4 components.

The sum of 4 PAH was also calculated by iis from components which level exceed 0.2 mg/kg according to AfPS GS 2014:01 chapter 3.2. It appeared that about approximately 30% found a different sum of the 4 PAH.

The participants did agree on a concentration near or below the limit of detection for the other PAH. Therefore, no z-scores were calculated. These components are listed in appendix 2.

Sample #20503

Total PAH: This determination was not problematic. One statistical outlier was observed. However, the calculated reproducibility after rejection of the statistical outlier is in agreement with the estimated target reproducibility using the Horwitz equation based on 10 components.
The total PAH level was also calculated by iis from components which level exceed 0.2 mg/kg according to AfPS GS 2014:01. It appeared that about approximately 45% found a different total level of total PAH.

Naphthalene: This determination was not problematic. Six statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the estimated target reproducibility using the Horwitz equation.

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

Acenaphthene: This determination may be problematic. Two statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Fluorene: This determination was not problematic. Two statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the estimated target reproducibility using the Horwitz equation.

Phenanthrene: This determination may be problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Anthracene: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated target reproducibility using the Horwitz equation.

Fluoranthene: This determination may be problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated target reproducibility using the Horwitz equation.

Pyrene: This determination was problematic for a number of laboratories. Eight statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated target reproducibility using the Horwitz equation.

Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated target reproducibility using the Horwitz equation based on 4 components.
The sum of 4 PAH was also calculated by iis from components which level exceed 0.2 mg/kg according to AfPS GS 2014:01. It appeared that about approximately 10% found a different sum of the 4 PAH.

Benzo[a]anthracene: The determination may be problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

Chrysene: This determination may be very problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the estimated target reproducibility using the Horwitz equation.

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

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

Benzo[k]fluoranthene: This determination may be problematic. Two statistical outliers were observed and one other test result was excluded. The calculated 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: This determination was not problematic. One statistical outlier was observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the estimated target reproducibility using the Horwitz equation based on 3 components.
The sum of 3 PAH was also calculated by iis from components which level exceed 0.2 mg/kg according to AfPS GS 2014:01. It appeared that about approximately 15% found a different sum of the 3 PAH.

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

Benzo[a]pyrene: This determination may be problematic. Four statistical outliers were observed and one other test result was excluded. The calculated 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: This determination may be problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated target reproducibility using the Horwitz equation.

Dibenzo[a,h]anthracene: This determination may be problematic. One statistical outlier was observed and two other test results were excluded. The calculated reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility using the Horwitz equation.

Benzo[g,h,i]perylene: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated target reproducibility using the Horwitz equation.

The participants did agree on a concentration near or below the limit of detection for the other PAH. Therefore, no z-scores were calculated. These components are listed in appendix 2.

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 test result, the calculated reproducibility (2.8 * standard deviation) and the estimated target reproducibility are presented in the next tables.

Component	unit	n	average	2.8 * sd	R(target)
Total PAH	mg/kg	67	14.06	4.78	13.38
Naphthalene	mg/kg	83	0.30	0.21	0.16
Acenaphthene	mg/kg	95	6.79	2.37	2.28
Fluorene	mg/kg	94	5.97	2.02	2.04
Phenanthrene	mg/kg	89	0.54	0.56	0.27
Pyrene	mg/kg	52	0.27	0.32	0.15
Sum of Ph, An, Fl and Py *)	mg/kg	64	0.79	1.12	0.73

Table 5: reproducibilities of components on sample #20502

*) Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene

Component	unit	n	average	2.8 * sd	R(target)
Total PAH	mg/kg	67	53.17	22.96	41.42
Naphthalene	mg/kg	81	0.34	0.15	0.18
Acenaphthylene	mg/kg	33	0.15	0.12	0.09
Acenaphthene	mg/kg	90	0.98	0.69	0.44
Fluorene	mg/kg	90	1.34	0.54	0.57
Phenanthrene	mg/kg	92	5.78	2.25	1.99
Anthracene	mg/kg	91	1.10	0.45	0.49
Fluoranthene	mg/kg	93	4.14	1.82	1.50
Pyrene	mg/kg	87	18.45	5.65	5.33
Sum of Ph, An, Fl and Py *)	mg/kg	73	30.08	11.50	16.15
Benzo[a]anthracene	mg/kg	89	1.64	1.16	0.68
Chrysene	mg/kg	87	2.51	2.36	0.98
Benzo[b]fluoranthene	mg/kg	79	1.18	0.89	0.51
Benzo[j]fluoranthene	mg/kg	67	0.33	0.29	0.17
Benzo[k]fluoranthene	mg/kg	67	0.32	0.26	0.17
Sum of [b],[j] and [k] Benzof. **)	mg/kg	67	1.76	1.30	1.25
Benzo[e]pyrene	mg/kg	88	2.69	1.73	1.04
Benzo[a]pyrene	mg/kg	86	1.78	1.31	0.73
Indeno[1,2,3-c,d]pyrene	mg/kg	84	1.25	0.73	0.54
Dibenzo[a,h]anthracene	mg/kg	31	0.30	0.28	0.16
Benzo[g,h,i]perylene	mg/kg	90	7.13	4.27	2.38

Table 6: reproducibilities of components on sample #20503

*) Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene

**) Sum of [b],[j] and [k] Benzofluoranthenes

Without further statistical calculations, it could be concluded that the group of participating laboratories have no problems with the analysis of PAH in polymer at the evaluated concentration levels of sample #20502 but have problems with sample #20503. See also the discussion in paragraphs 4.1, 4.4 and 5.

4.3 COMPARISON OF THE PROFICIENCY TEST OF FEBRUARY 2020 WITH PREVIOUS PTS.

The performance of the determinations of the proficiency test was compared, expressed as relative standard deviation (RSD) of the proficiency tests. The conclusions are given in the next table.

Component	February 2020	February 2019	February 2018	February 2017	February 2016	Target 0.2 - 40 mg/kg
Total PAH	12-15%	15%	n.e.	n.e.	n.e.	64 - 29%
Naphthalene	16-25%	24%	30%	43%	23%	20 - 9%
Acenaphthylene	29%	n.e.	23%	n.e.	n.e.	20 - 9%
Acenaphthene	12-25%	17%	14 - 29%	13%	13 - 22%	20 - 9%
Fluorene	12-14%	16%	n.e.	15%	19%	20 - 9%
Phenanthrene	14-37%	13 - 14%	13%	13 - 41%	14%	20 - 9%
Anthracene	15%	20%	12 - 37%	15%	13 - 25%	20 - 9%
Fluoranthene	16%	12%	14%	12%	17%	20 - 9%
Pyrene	11-42%	16%	12 - 13%	14 - 33%	14 - 18%	20 - 9%
Sum of pH, An, Fl and Py *)	14-51%	n.e.	n.e.	n.e.	n.e.	33%
Benzo[a]anthracene	25%	15 - 18%	23%	17%	23%	20 - 9%
Chrysene	34%	23%	n.e.	n.e.	23%	20 - 9%
Triphenylene	n.e.	n.e.	n.e.	n.e.	n.e.	20 - 9%
Benzo[b]fluoranthene	27%	16 - 18%	22%	n.e.	26%	20 - 9%
Benzo[j]fluoranthene	32%	18%	25%	n.e.	21%	20 - 9%
Benzo[k]fluoranthene	30%	21%	23%	n.e.	27%	20 - 9%
Sum of [b],[j] and [k] Benzof. **)	26%	14 - 18%	30%	n.e.	28%	35 - 16%
Benzo[e]pyrene	23%	20%	19%	n.e.	23%	20 - 9%
Benzo[a]pyrene	26%	21%	26%	17%	24%	20 - 9%
Indeno[1,2,3-c,d]pyrene	21%	23%	29%	n.e.	29%	20 - 9%
Dibenzo[a,h]anthracene	33%	n.e.	n.e.	n.e.	n.e.	20 - 9%
Benzo[g,h,i]perylene	21%	19%	31%	n.e.	25%	20 - 9%
Cyclopenta(c,d)pyrene	n.e.	n.e.	26%	n.e.	n.e.	20 - 9%

Table 7: development of uncertainties (RSD) over the years.
*) Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene
**) Sum of [b],[j] and [k] Benzofluoranthenes
Horwitz estimation based 3 components for Sum of [b],[j] and [k] Benzofluoranthenes, 4 components for sum of Phenanthrene, Antracene, Fluoranthene, Pyrene and based on 10 components for total PAH

The uncertainties observed in this PT are in line with the uncertainties observed in previous PTs. The uncertainties are close to or in line with the requirements mentioned in the target.

4.4 EVALUATION OF THE 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:

- 82% of the participants mentioned that they are accredited for determination of PAH.
- 59% of the participants mentioned that they have further cut the samples before use, and 40% of the participants used the samples as received.
- Almost all participants reported to use ultrasonic as technique to release/extract the analytes. One participant reported to use ASE technique and two participants reported to use thermal desorption.
- Almost all participants reported to use Toluene (mixture) as extraction solvent. Two participants have used n-Hexane and one participant used Dichloromethane.
- Almost all participants used an extraction time of 60 minutes and an extraction temperature of 60°C.

To extract the requested components mentioned in §2.5 from a polymer, the extraction solvent, the extraction conditions and the contact surface area could be important variables. The effect of further cutting/further grinding on the determination of Phenanthrene in sample #20502 and Benzo[a]anthracene in sample #20503 was further investigated, see tables 8 and 9 respectively. It appeared that the effect of reduced sample particles on the determination of Benzo[a]anthracene and Phenanthrene is very small and not statistically significant.

Phenanthrene	unit	n	average	sd
Overall test results	mg/kg	89	0.54	0.56
Further cut (prior to analysis)	mg/kg	52	0.56	0.19
Used as received	mg/kg	24	0.54	0.23

Table 8: effect of analytical details on Phenanthrene in sample #20502.

Benzo[a]anthracene	unit	n	average	sd
Overall test results	mg/kg	89	1.64	1.16
Further cut (prior to analysis)	mg/kg	54	1.64	0.41
Used as received	mg/kg	24	1.63	0.49

Table 9: effect of analytical details on Benzo[a]anthracene in sample #20503

In this PT most of the participants identified the PAH correctly in sample #20502. Sample #20503 was a real-life sample and contained almost the whole spectrum of PAH.

5 DISCUSSION

A number of participants reported to have some inconsistency in the test results found for sample #20503 and questioned the homogeneity of the sample. Sample #20503 is a real life (a shredded black rubber basket) sample which contained black rubber particles and white fibers after grinding. The batch was well mixed and filled over a number of samples. Randomly 8 samples were selected for homogeneity testing. The laboratory that performed the homogeneity testing did not separate the black particles from the white fibers but analyzed the sample as received. The samples turned out to be homogeneous.

Remarkably, some reporting laboratories would have difficulties to judge sample #20502 for too much PAH present in accordance the latest GS-Mark certification on PAH (4 August 2014, see next table). It depends on for which category the sample is analyzed whether the sample will be rejected or accepted. Sample #20502 would be rejected for category 1, 2 and 3 (toys), but would be accepted for category 3 (other products).
Almost all laboratories would have rejected sample #20503 for all categories containing too much Benzo[a]anthracene. Several participants would have accepted sample #20503 for category 3 other products – sum 18 PAH, when only total PAH was reported.

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, Acenapththen, 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 10: Category limits from German GS-Mark per August 2014

6 CONCLUSION

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.

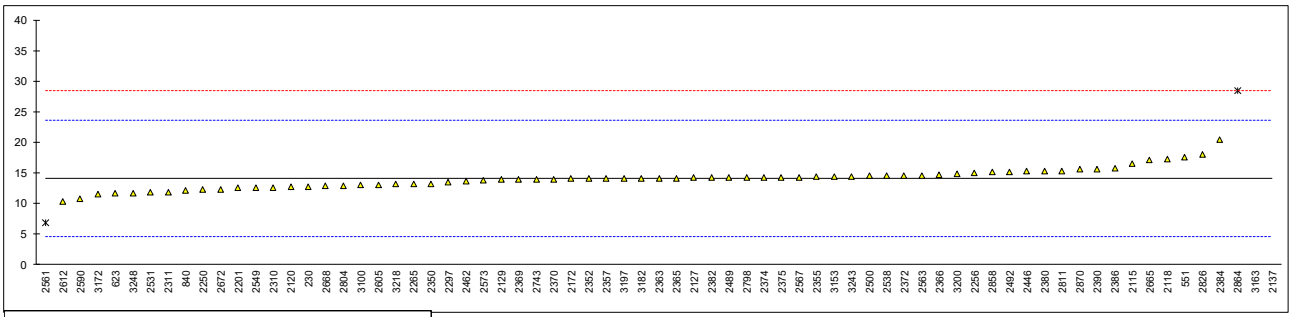
APPENDIX 1

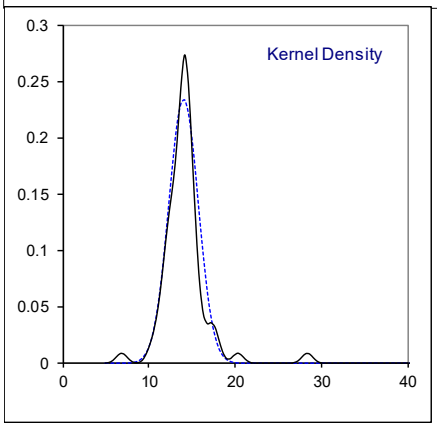
Determination of Total PAH in sample #20502; results in mg/kg

lab	method	value	mark	z(targ)	iis calc.*)	mark	remarks
230	AfPS GS 2014	12.722		-0.28	11.570	E	
310		-----		-----	-----		
339		-----		-----	1.458	R(0.01)	
362		-----		-----	6.73		
551	In house	17.54	C	0.73	16.13	E	First reported 20.41
623	AfPS GS 2014	11.66		-0.50	11.46	E	
840	AfPS GS 2014	12.11		-0.41	11.93	E	
841		-----		-----	12.43		
2108		-----		-----	12.82		
2115	AfPS GS 2014	16.51		0.51	16.39	E	
2118	AfPS GS 2014	17.322		0.68	17.322		
2120	AfPS GS 2014	12.72		-0.28	12.72		
2127	AfPS GS 2014	14.46	C	0.08	14.46		First reported 14.19
2129	AfPS GS 2014	13.9		-0.03	13.7	E	
2137	KS M6956	115.04	R(0.01)	21.13	115.05	R(0.01)	
2165		-----		-----	13.96		
2166		-----		-----	16.30		
2172	AfPS GS 2014	14.02		-0.01	14.02		
2184		-----		-----	13.98		
2201	AfPS GS 2014	12.566		-0.31	12.566		
2218		-----		-----	-----		
2236		-----		-----	11.76		
2247		-----		-----	-----		
2250	AfPS GS 2014	12.28		-0.37	12.28		
2256		15.06		0.21	15.06		
2265	AfPS GS 2014	13.25		-0.17	13.25		
2267		-----		-----	6.69		
2272		-----		-----	14.50		
2293		-----		-----	13.51		
2295		-----		-----	11.62		
2297		13.5		-0.12	13.5		
2310	AfPS GS 2014	12.6		-0.31	12.5	E	
2311	AfPS GS 2014	11.811		-0.47	11.700	E	
2347		-----		-----	13.70		
2350	AfPS GS 2014	13.250		-0.17	13.249		
2352	AfPS GS 2014	14.06		0.00	14.06		
2354	AfPS GS 2014	N/A		-----	15.10		
2355	AfPS GS 2014	14.35		0.06	14.25	E	
2357	AfPS GS 2014	14.09		0.01	13.95	E	
2363	AfPS GS 2019	14.13		0.01	14.01	E	
2365	AfPS GS 2014	14.14		0.02	13.95	E	
2366	AfPS GS 2014	14.65		0.12	13.91	E	
2369	AfPS GS 2014	13.95		-0.02	13.83	E	
2370	AfPS GS 2014	13.97		-0.02	13.58	E	
2372	AfPS GS 2014	14.6		0.11	14.6		
2374	AfPS GS 2014	14.28		0.05	14.15	E	
2375	AfPS GS 2014	14.30		0.05	14.00	E	
2379		-----		-----	13.27		
2380	AfPS GS 2014	15.307		0.26	15.107	E	
2382	AfPS GS 2014	14.22		0.03	14.10	E	
2384	AfPS GS 2014	20.36		1.32	12.47	E	
2386	AfPS GS 2014	15.72		0.35	15.72		
2390	AfPS GS 2014	15.601		0.32	9.722	E	
2425		-----		-----	12.98		
2426		-----		-----	13.46		
2446	AfPS GS 2014	15.255		0.25	15.060	E	
2462	AfPS GS 2019	13.65		-0.09	13.65		
2481		-----		-----	-----		
2489	AfPS GS 2014	14.24		0.04	14.24		
2492	In house	15.105		0.22	15.033	E	
2500	AfPS GS 2019	14.4791		0.09	14.4791		
2511		-----		-----	11.45		
2531	AfPS GS 2014	11.77		-0.48	11.50	E	
2538	§64 LFGB draft	14.529		0.10	14.529		
2549	AfPS GS 2014	12.59		-0.31	12.59		
2561	AfPS GS 2014	6.865	R(0.01)	-1.51	14.725	E	
2563	AfPS GS 2014	14.6		0.11	14.7	E	
2567	AfPS GS 2014	14.31		0.05	14.31		
2573	AfPS GS 2014	13.72		-0.07	13.72		
2590	AfPS GS 2014	10.73		-0.70	10.73		
2605	AfPS GS 2014	13.08		-0.21	13.08		
2612	AfPS GS 2014	10.37		-0.77	10.36		
2614		-----		-----	-----		
2629		-----		-----	1.23	R(0.01)	
2665	In house	17.18		0.65	16.93	E	

lab	method	value	mark	z(targ)	iis calc.*)	mark	remarks
2668	AfPS GS 2014	12.83		-0.26	12.83		
2672	AfPS GS 2014	12.318		-0.36	12.251	E	
2674		-----		-----	13.98		
2689		-----		-----	13.35		
2730		-----		-----	0.21	R(0.01)	
2737		-----		-----	-----		
2743	ISO/TS16190	13.95		-0.02	13.95		
2790		-----		-----	13.55		
2798	AfPS GS 2014	14.25		0.04	14.05	E	
2804	In house	12.84		-0.26	12.84		
2811	AfPS GS 2014	15.32		0.26	15.32		
2812		-----		-----	12.37		
2826	AfPS GS 2014	17.9925		0.82	17.193	E	
2829		-----		-----	-----		
2858	AfPS GS 2014	15.099		0.22	15.099		
2864	AfPS GS 2014	28.41	R(0.01)	3.00	24.40	E,R(0.01)	
2867		-----		-----	14.15		
2870	AfPS GS 2019	15.57		0.32	15.57		
3100		12.99		-0.22	12.99		
3116		-----		-----	14.03		
3153	AfPS GS 2014	14.40		0.07	14.40		
3154		-----		-----	12.42		
3163	In house	68	R(0.01)	11.29	93	E,R(0.01)	
3172	AfPS GS 2014	11.465		-0.54	11.465		
3182	AfPS GS 2014	14.12		0.01	13.99	E	
3185		-----		-----	13.75		
3190		-----		-----	-----		
3197	AfPS GS 2014	14.11		0.01	13.81	E	
3200	AfPS GS 2014	14.90		0.18	14.90		
3210		-----		-----	-----		
3218	AfPS GS 2014	13.23		-0.17	13.23		
3228		-----		-----	13.73		
3237		-----		-----	13.92		
3243	AfPS GS 2014	14.44		0.08	14.44		
3248	In house	11.69		-0.50	11.69		
	normality	not OK			not OK		
	n	67			95		
	outliers	4			6		
	mean (n)	14.0617			13.5191		
	st.dev. (n)	1.7083	RSD = 12%		1.73251		RSD = 13%
	R(calc.)	4.7833			4.8510		
	st.dev.(Horwitz 10 comp)	4.77925			4.62214		
	R(Horwitz 10 comp)	13.3819			12.9420		

*) iis calculated the total of 18 PAH whose level in the material is found to exceed 0.2 mg/kg according to AfPS GS 2014
E = calculation error?



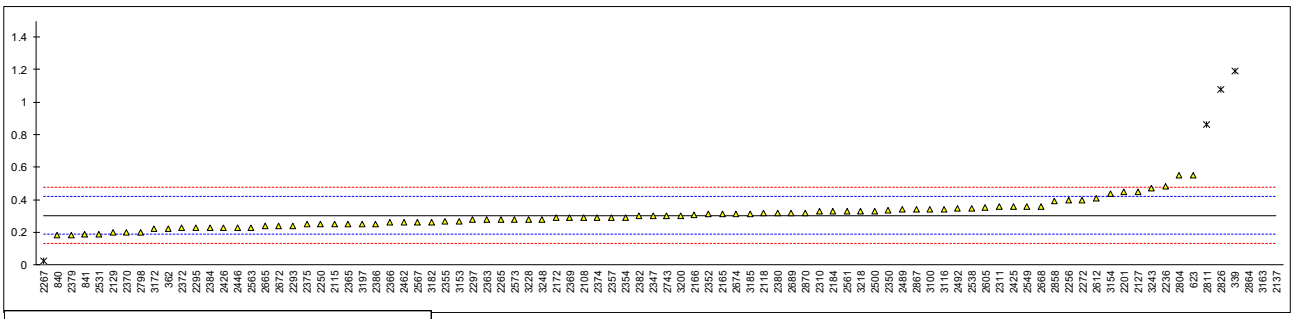


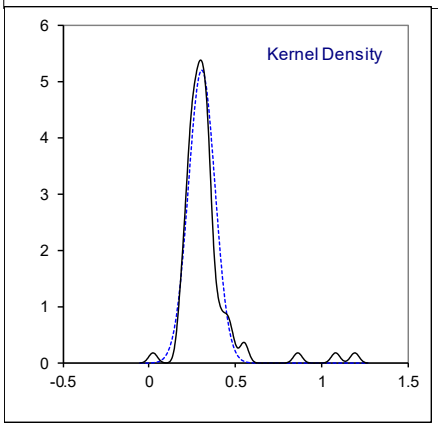
Determination of Naphthalene in sample #20502; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	1.19	R(0.01)	15.23	
362	In house	0.224		-1.37	
551	In house	Not detected	C	-----	First reported 1.65
623	AfPS GS 2014	0.55		4.23	
840	AfPS GS 2014	0.18		-2.13	
841	AfPS GS 2014	0.19		-1.96	
2108	AfPS GS 2014	0.29		-0.24	
2115	AfPS GS 2014	0.25		-0.93	
2118	AfPS GS 2014	0.319		0.26	
2120	AfPS GS 2014	< 0,20		-----	
2127	AfPS GS 2014	0.45		2.51	
2129	AfPS GS 2014	0.20		-1.79	
2137	KS M6956	91.31	R(0.01)	1564.43	
2165	AfPS GS 2019	0.31		0.10	
2166	AfPS GS 2014Mod.	0.306		0.04	
2172	AfPS GS 2014	0.289		-0.26	
2184	AFPS 2019	0.33		0.45	
2201	AfPS GS 2014	0.446		2.44	
2218		-----		-----	
2236	ZEK01.4-08	0.48		3.03	
2247		-----		-----	
2250	AfPS GS 2014	0.25		-0.93	
2256		0.396		1.58	
2265	AfPS GS 2014	0.28		-0.41	
2267	In house	0.0221	R(0.05)	-4.84	
2272	AfPS GS 2019	0.4		1.65	
2293	AfPS GS 2014	0.241		-1.08	
2295	ISO16190	0.23		-1.27	
2297		0.28		-0.41	
2310	AfPS GS 2014	0.33		0.45	
2311	AfPS GS 2014	0.356		0.90	
2347	AfPS GS 2019:01	0.3		-0.07	
2350	AfPS GS 2014	0.335		0.53	
2352	AfPS GS 2014	0.31		0.10	
2354	AfPS GS 2014	0.2918		-0.21	
2355	AfPS GS 2014	0.27		-0.58	
2357	AfPS GS 2014	0.29		-0.24	
2363	AfPS GS 2019	0.28		-0.41	
2365	AfPS GS 2014	0.25		-0.93	
2366	AfPS GS 2014	0.26		-0.75	
2369	AfPS GS 2014	0.29		-0.24	
2370	AfPS GS 2014	0.200		-1.79	
2372	AfPS GS 2014	0.227		-1.32	
2374	AfPS GS 2014	0.29		-0.24	
2375	AfPS GS 2014	0.25		-0.93	
2379	AfPS GS 2014	0.1844		-2.05	
2380	AfPS GS 2014	0.320		0.28	
2382	AfPS GS 2014	0.30		-0.07	
2384	AfPS GS 2014	0.23		-1.27	
2386	AfPS GS 2014	0.252		-0.89	
2390	AfPS GS 2014	Not detected	C	-----	First reported 575
2425	AfPS GS 2014	0.36		0.96	
2426	ZEK01.4-08	0.23		-1.27	
2446	AfPS GS 2014	0.23		-1.27	
2462	AfPS GS 2019	0.26		-0.75	
2481		-----		-----	
2489	AfPS GS 2014	0.34		0.62	
2492	In house	0.345		0.71	
2500	AfPS GS 2019	0.3322		0.49	
2511		-----		-----	
2531	AfPS GS 2014	0.19		-1.96	
2538	§64 LFGB draft	0.3457		0.72	
2549	AfPS GS 2014	0.36		0.96	
2561	AfPS GS 2014	0.33		0.45	
2563	AfPS GS 2014	0.23		-1.27	
2567	AfPS GS 2014	0.26		-0.75	
2573	AfPS GS 2014	0.28		-0.41	
2590		-----		-----	
2605	AfPS GS 2014	0.35		0.79	
2612	AfPS GS 2014	0.41		1.82	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		-----	
2665	In house	0.237		-1.15	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.36		0.96	
2672	AfPS GS 2014	0.24	C	-1.10	First reported 0.093
2674	AfPS GS 2014	0.31		0.10	
2689	AfPS GS 2014	0.32		0.28	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	0.30		-0.07	
2790		-----		-----	
2798	AfPS GS 2014	0.2		-1.79	
2804	In house	0.548		4.20	
2811	AfPS GS 2014	0.86	R(0.05)	9.56	
2812		-----		-----	
2826	AfPS GS 2014	1.079	C,R(0.01)	13.32	First reported 1.679
2829		-----		-----	
2858	AfPS GS 2014	0.394		1.55	
2864	AfPS GS 2014	2.32	C,R(0.01)	34.66	First reported 2.98
2867	AfPS GS 2014	0.34		0.62	
2870	AfPS GS 2019	0.32		0.28	
3100		0.34		0.62	
3116	AfPS GS 2014	0.3420		0.65	
3153	AfPS GS 2014	0.27		-0.58	
3154	AfPS GS 2014	0.44		2.34	
3163	In house	12	R(0.01)	201.06	
3172	AfPS GS 2014	0.223		-1.39	
3182	AfPS GS 2014	0.26		-0.75	
3185	AfPS GS 2019	0.31		0.10	
3190		-----		-----	
3197	AfPS GS 2014	0.25		-0.93	
3200	AfPS GS 2014	0.30		-0.07	
3210		-----		-----	
3218	AfPS GS 2014	0.33		0.45	
3228	AfPS 2019	0.28		-0.41	
3237		-----		-----	
3243	AfPS GS 2014	0.47		2.86	
3248	In house	0.28		-0.41	

	normality	not OK
	n	83
	outliers	7
	mean (n)	0.3039
	st.dev. (n)	0.07676
	R(calc.)	0.2149
	st.dev.(Horwitz)	0.05817
	R(Horwitz)	0.1629



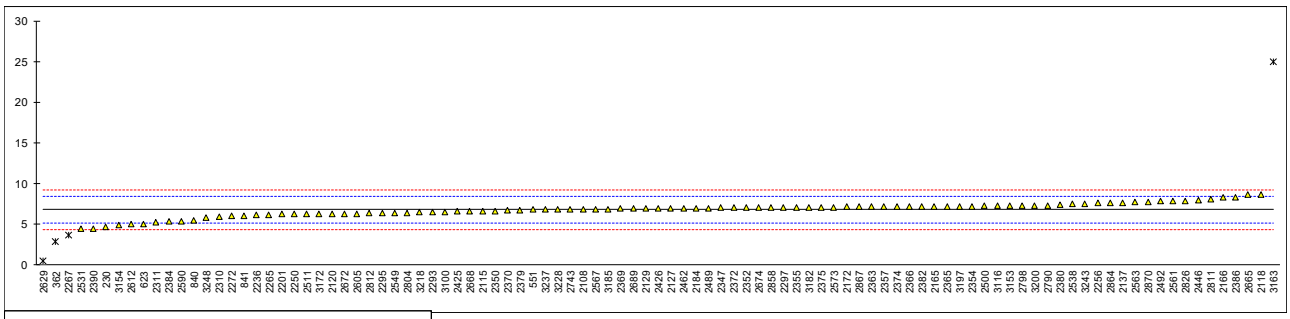


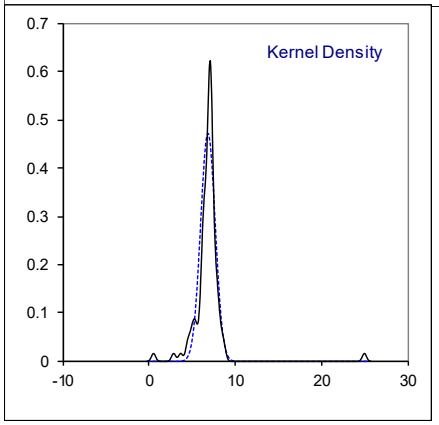
Determination of Acenaphthene in sample #20502; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	4.690		-2.58	
310		-----		-----	
339		-----		-----	
362	In house	2.80	C,R(0.01)	-4.90	First reported 2.43
551	In house	6.77		-0.03	
623	AfPS GS 2014	5.03		-2.16	
840	AfPS GS 2014	5.49		-1.60	
841	AfPS GS 2014	6.02		-0.95	
2108	AfPS GS 2014	6.84		0.06	
2115	AfPS GS 2014	6.63	C	-0.20	First reported 9.78
2118	AfPS GS 2014	8.668		2.30	
2120	AfPS GS 2014	6.29		-0.62	
2127	AfPS GS 2014	6.95		0.19	
2129	AfPS GS 2014	6.93		0.17	
2137	KS M6956	7.65		1.05	
2165	AfPS GS 2019	7.19		0.49	
2166	AfPS GS 2014Mod.	8.248		1.79	
2172	AfPS GS 2014	7.12		0.40	
2184	AFPS 2019	6.98		0.23	
2201	AfPS GS 2014	6.209		-0.72	
2218		-----		-----	
2236	ZEK01.4-08	6.14		-0.80	
2247		-----		-----	
2250	AfPS GS 2014	6.22		-0.70	
2256		7.57		0.95	
2265	AfPS GS 2014	6.18		-0.75	
2267	In house	3.62	R(0.05)	-3.89	
2272	AfPS GS 2019	6.0		-0.97	
2293	AfPS GS 2014	6.457		-0.41	
2295	ISO16190	6.35		-0.54	
2297		7.06		0.33	
2310	AfPS GS 2014	5.89		-1.11	
2311	AfPS GS 2014	5.275		-1.86	
2347	AfPS GS 2019:01	7.0		0.26	
2350	AfPS GS 2014	6.638		-0.19	
2352	AfPS GS 2014	7.02		0.28	
2354	AfPS GS 2014	7.2190		0.52	
2355	AfPS GS 2014	7.08		0.35	
2357	AfPS GS 2014	7.15		0.44	
2363	AfPS GS 2019	7.15		0.44	
2365	AfPS GS 2014	7.20		0.50	
2366	AfPS GS 2014	7.17		0.46	
2369	AfPS GS 2014	6.91		0.14	
2370	AfPS GS 2014	6.66		-0.16	
2372	AfPS GS 2014	7.00		0.26	
2374	AfPS GS 2014	7.17		0.46	
2375	AfPS GS 2014	7.10		0.38	
2379	AfPS GS 2014	6.7605		-0.04	
2380	AfPS GS 2014	7.434		0.79	
2382	AfPS GS 2014	7.18		0.48	
2384	AfPS GS 2014	5.34	C	-1.78	First reported 9.88
2386	AfPS GS 2014	8.281		1.83	
2390	AfPS GS 2014	4.461		-2.86	
2425	AfPS GS 2014	6.58		-0.26	
2426	ZEK01.4-08	6.94		0.18	
2446	AfPS GS 2014	8.01		1.49	
2462	AfPS GS 2019	6.95		0.19	
2481		-----		-----	
2489	AfPS GS 2014	6.98		0.23	
2492	In house	7.813		1.25	
2500	AfPS GS 2019	7.2313		0.54	
2511	AfPS GS 2014	6.251		-0.66	
2531	AfPS GS 2014	4.39		-2.95	
2538	§64 LFGB draft	7.4827		0.85	
2549	AfPS GS 2014	6.38		-0.51	
2561	AfPS GS 2014	7.86	C	1.31	First reported 0
2563	AfPS GS 2014	7.78		1.21	
2567	AfPS GS 2014	6.84		0.06	
2573	AfPS GS 2014	7.10		0.38	
2590	AfPS GS 2014	5.383		-1.73	
2605	AfPS GS 2014	6.31		-0.59	
2612	AfPS GS 2014	5.01		-2.19	
2614		-----		-----	
2629	AfPS GS 2014	0.462	C,R(0.01)	-7.77	First reported <0.2
2665	In house	8.59		2.21	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	6.58		-0.26	
2672	AfPS GS 2014	6.293		-0.61	
2674	AfPS GS 2014	7.04		0.30	
2689	AfPS GS 2014	6.92		0.16	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	6.83		0.05	
2790		7.32		0.65	
2798	AfPS GS 2014	7.3		0.62	
2804	In house	6.42		-0.46	
2811	AfPS GS 2014	8.07		1.57	
2812	AfPS GS 2014	6.33		-0.57	
2826	AfPS GS 2014	7.8615		1.31	
2829		-----		-----	
2858	AfPS GS 2014	7.052		0.32	
2864	AfPS GS 2014	7.62		1.02	
2867	AfPS GS 2014	7.12		0.40	
2870	AfPS GS 2019	7.78		1.21	
3100		6.47		-0.40	
3116	AfPS GS 2014	7.250		0.56	
3153	AfPS GS 2014	7.26		0.57	
3154	AfPS GS 2014	4.94		-2.27	
3163	In house	25	R(0.01)	22.35	
3172	AfPS GS 2014	6.279		-0.63	
3182	AfPS GS 2014	7.09		0.37	
3185	AfPS GS 2019	6.85		0.07	
3190		-----		-----	
3197	AfPS GS 2014	7.20		0.50	
3200	AfPS GS 2014	7.30		0.62	
3210		-----		-----	
3218	AfPS GS 2014	6.43		-0.44	
3228	AfPS 2019	6.82		0.03	
3237	AfPS GS 2014	6.8		0.01	
3243	AfPS GS 2014	7.54		0.92	
3248	In house	5.85		-1.16	

normality	OK	
n	95	
outliers	4	
mean (n)	6.7923	
st.dev. (n)	0.84543	RSD = 12%
R(calc.)	2.3672	
st.dev.(Horwitz)	0.81453	
R(Horwitz)	2.2807	





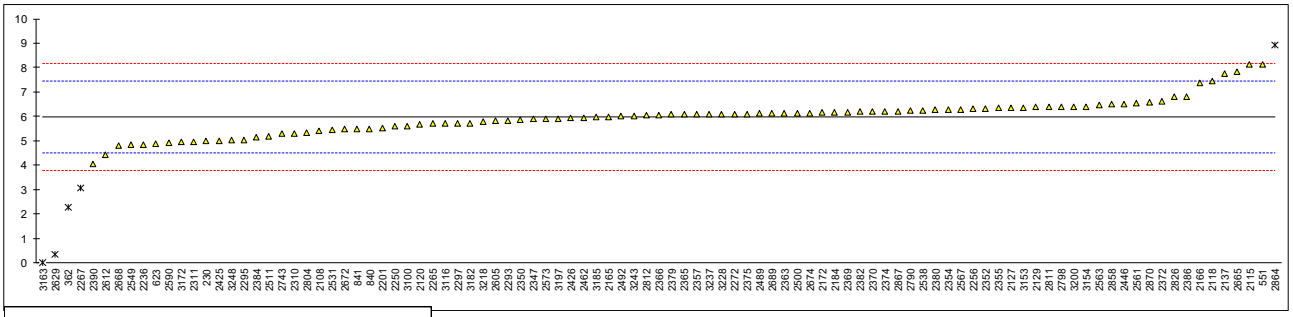
Determination of Fluorene in sample #20502; results in mg/kg

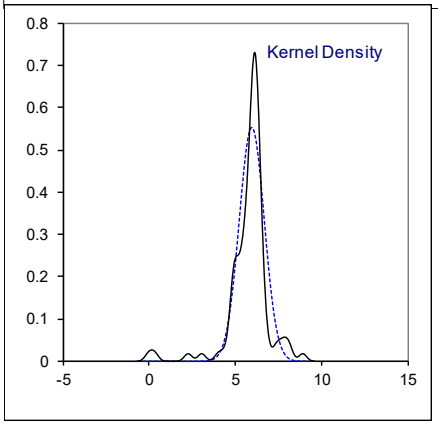
lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	4.984		-1.35	
310		-----		-----	
339		-----		-----	
362	In house	2.28	C,R(0.01)	-5.06	First reported 2.15
551	In house	8.12	C	2.94	First reported 9.34
623	AfPS GS 2014	4.88		-1.50	
840	AfPS GS 2014	5.50		-0.65	
841	AfPS GS 2014	5.50		-0.65	
2108	AfPS GS 2014	5.41		-0.77	
2115	AfPS GS 2014	8.12		2.94	
2118	AfPS GS 2014	7.445		2.02	
2120	AfPS GS 2014	5.68		-0.40	
2127	AfPS GS 2014	6.34		0.50	
2129	AfPS GS 2014	6.38		0.56	
2137	KS M6956	7.77		2.46	
2165	AfPS GS 2019	5.98		0.01	
2166	AfPS GS 2014Mod.	7.364		1.91	
2172	AfPS GS 2014	6.15		0.24	
2184	AFPS 2019	6.15		0.24	
2201	AfPS GS 2014	5.513		-0.63	
2218		-----		-----	
2236	ZEK01.4-08	4.86		-1.52	
2247		-----		-----	
2250	AfPS GS 2014	5.59		-0.52	
2256		6.32		0.48	
2265	AfPS GS 2014	5.70		-0.37	
2267	In house	3.07	R(0.05)	-3.97	
2272	AfPS GS 2019	6.1		0.17	
2293	AfPS GS 2014	5.819		-0.21	
2295	ISO16190	5.04		-1.28	
2297		5.73		-0.33	
2310	AfPS GS 2014	5.3		-0.92	
2311	AfPS GS 2014	4.968		-1.38	
2347	AfPS GS 2019:01	5.9		-0.10	
2350	AfPS GS 2014	5.867		-0.14	
2352	AfPS GS 2014	6.33		0.49	
2354	AfPS GS 2014	6.2767		0.42	
2355	AfPS GS 2014	6.34		0.50	
2357	AfPS GS 2014	6.08		0.15	
2363	AfPS GS 2019	6.12		0.20	
2365	AfPS GS 2014	6.08		0.15	
2366	AfPS GS 2014	6.06		0.12	
2369	AfPS GS 2014	6.17		0.27	
2370	AfPS GS 2014	6.20		0.31	
2372	AfPS GS 2014	6.60		0.86	
2374	AfPS GS 2014	6.22		0.34	
2375	AfPS GS 2014	6.10		0.17	
2379	AfPS GS 2014	6.0743		0.14	
2380	AfPS GS 2014	6.274		0.41	
2382	AfPS GS 2014	6.20		0.31	
2384	AfPS GS 2014	5.16	C	-1.11	First reported 8.51
2386	AfPS GS 2014	6.804		1.14	
2390	AfPS GS 2014	4.04		-2.65	
2425	AfPS GS 2014	5.0		-1.33	
2426	ZEK01.4-08	5.92		-0.07	
2446	AfPS GS 2014	6.51		0.74	
2462	AfPS GS 2019	5.93		-0.06	
2481		-----		-----	
2489	AfPS GS 2014	6.11		0.19	
2492	In house	6.000		0.04	
2500	AfPS GS 2019	6.1213		0.20	
2511	AfPS GS 2014	5.201		-1.06	
2531	AfPS GS 2014	5.46		-0.70	
2538	§64 LFGB draft	6.2356		0.36	
2549	AfPS GS 2014	4.84		-1.55	
2561	AfPS GS 2014	6.535		0.77	
2563	AfPS GS 2014	6.45		0.65	
2567	AfPS GS 2014	6.28		0.42	
2573	AfPS GS 2014	5.90		-0.10	
2590	AfPS GS 2014	4.906		-1.46	
2605	AfPS GS 2014	5.81		-0.22	
2612	AfPS GS 2014	4.43		-2.11	
2614		-----		-----	
2629	AfPS GS 2014	0.342	C,R(0.01)	-7.71	First reported 0.642
2665	In house	7.81		2.52	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	4.82		-1.58	
2672	AfPS GS 2014	5.472		-0.69	
2674	AfPS GS 2014	6.14		0.23	
2689	AfPS GS 2014	6.11		0.19	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	5.28		-0.95	
2790		6.23		0.35	
2798	AfPS GS 2014	6.4		0.59	
2804	In house	5.34		-0.87	
2811	AfPS GS 2014	6.39		0.57	
2812	AfPS GS 2014	6.04		0.09	
2826	AfPS GS 2014	6.8005		1.13	
2829		-----		-----	
2858	AfPS GS 2014	6.494		0.71	
2864	AfPS GS 2014	8.93	C,R(0.05)	4.05	First reported 11.24
2867	AfPS GS 2014	6.22		0.34	
2870	AfPS GS 2019	6.57		0.82	
3100		5.59		-0.52	
3116	AfPS GS 2014	5.723		-0.34	
3153	AfPS GS 2014	6.34		0.50	
3154	AfPS GS 2014	6.41		0.60	
3163	In house	0	ex	-8.18	Test result excluded zero is not a real test result
3172	AfPS GS 2014	4.963		-1.38	
3182	AfPS GS 2014	5.73		-0.33	
3185	AfPS GS 2019	5.97		0.00	
3190		-----		-----	
3197	AfPS GS 2014	5.91		-0.09	
3200	AfPS GS 2014	6.40		0.59	
3210		-----		-----	
3218	AfPS GS 2014	5.80		-0.24	
3228	AfPS 2019	6.09		0.16	
3237	AfPS GS 2014	6.08		0.15	
3243	AfPS GS 2014	6.02		0.07	
3248	In house	5.02		-1.30	

	normality	suspect
	n	94
	outliers	4 (+1)
	mean (n)	5.9725
	st.dev. (n)	0.72227
	R(calc.)	2.0223
	st.dev.(Horwitz)	0.73021
	R(Horwitz)	2.0446

RSD = 12%





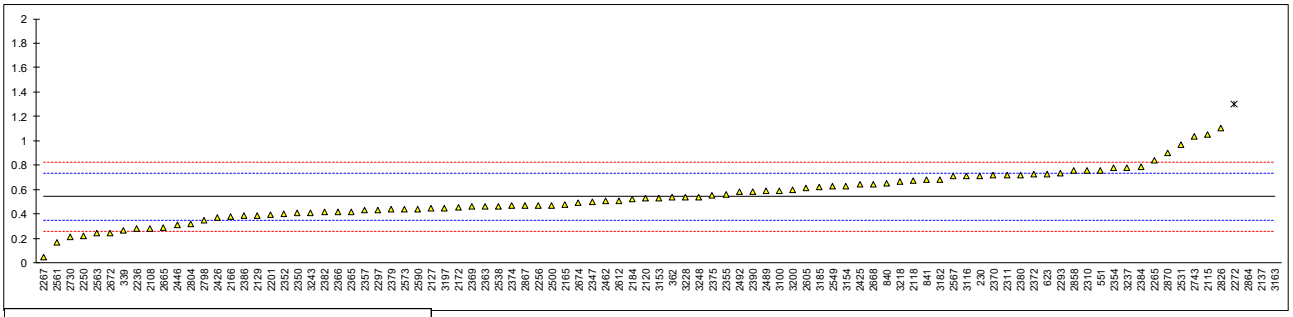
Determination of Phenanthrene in sample #20502; results in mg/kg

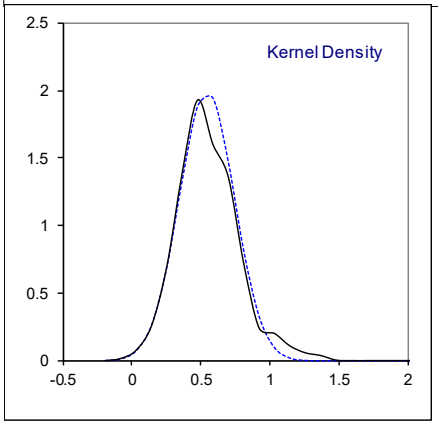
lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.712	C	1.78	First reported 1.317
310		-----		-----	
339	In house	0.268		-2.89	
362	In house	0.540		-0.03	
551	In house	0.76		2.28	
623	AfPS GS 2014	0.73		1.97	
840	AfPS GS 2014	0.65		1.13	
841	AfPS GS 2014	0.68		1.44	
2108	AfPS GS 2014	0.28		-2.76	
2115	AfPS GS 2014	1.05		5.33	
2118	AfPS GS 2014	0.676		1.40	
2120	AfPS GS 2014	0.53		-0.13	
2127	AfPS GS 2014	0.45		-0.97	
2129	AfPS GS 2014	0.388		-1.63	
2137	KS M6956	8.32	R(0.01)	81.69	
2165	AfPS GS 2019	0.48		-0.66	
2166	AfPS GS 2014Mod.	0.378		-1.73	
2172	AfPS GS 2014	0.456		-0.91	
2184	AFPS 2019	0.52		-0.24	
2201	AfPS GS 2014	0.398		-1.52	
2218		-----		-----	
2236	ZEK01.4-08	0.28		-2.76	
2247		-----		-----	
2250	AfPS GS 2014	0.22		-3.39	
2256		0.471		-0.75	
2265	AfPS GS 2014	0.84		3.12	
2267	In house	0.044		-5.24	
2272	AfPS GS 2019	1.3	R(0.05)	7.95	
2293	AfPS GS 2014	0.735		2.02	
2295		-----		-----	
2297		0.43		-1.18	
2310	AfPS GS 2014	0.76		2.28	
2311	AfPS GS 2014	0.718		1.84	
2347	AfPS GS 2019:01	0.5		-0.45	
2350	AfPS GS 2014	0.409		-1.40	
2352	AfPS GS 2014	0.4		-1.50	
2354	AfPS GS 2014	0.7771		2.46	
2355	AfPS GS 2014	0.56		0.18	
2357	AfPS GS 2014	0.43		-1.18	
2363	AfPS GS 2019	0.46		-0.87	
2365	AfPS GS 2014	0.42		-1.29	
2366	AfPS GS 2014	0.42		-1.29	
2369	AfPS GS 2014	0.46		-0.87	
2370	AfPS GS 2014	0.716		1.82	
2372	AfPS GS 2014	0.726		1.93	
2374	AfPS GS 2014	0.47		-0.76	
2375	AfPS GS 2014	0.55		0.08	
2379	AfPS GS 2014	0.4385		-1.09	
2380	AfPS GS 2014	0.719		1.85	
2382	AfPS GS 2014	0.42		-1.29	
2384	AfPS GS 2014	0.79		2.60	
2386	AfPS GS 2014	0.384		-1.67	
2390	AfPS GS 2014	0.587		0.46	
2425	AfPS GS 2014	0.64		1.02	
2426	ZEK01.4-08	0.37		-1.81	
2446	AfPS GS 2014	0.31		-2.44	
2462	AfPS GS 2019	0.51		-0.34	
2481		-----		-----	
2489	AfPS GS 2014	0.59		0.50	
2492	In house	0.585		0.44	
2500	AfPS GS 2019	0.4732		-0.73	
2511		-----		-----	
2531	AfPS GS 2014	0.97		4.49	
2538	§64 LFGB draft	0.4650		-0.82	
2549	AfPS GS 2014	0.63		0.92	
2561	AfPS GS 2014	0.17	C	-3.92	First reported 0
2563	AfPS GS 2014	0.24	C	-3.18	First reported 0.12
2567	AfPS GS 2014	0.71		1.76	
2573	AfPS GS 2014	0.44		-1.08	
2590	AfPS GS 2014	0.441		-1.07	
2605	AfPS GS 2014	0.61		0.71	
2612	AfPS GS 2014	0.51		-0.34	
2614		-----		-----	
2629	AfPS GS 2014	<0.2		<-3.60	Possibly a false negative test result?
2665	In house	0.288		-2.68	

lab	method	value	Mark	z(targ)	Remarks
2668	AfPS GS 2014	0.64		1.02	
2672	AfPS GS 2014	0.246		-3.12	
2674	AfPS GS 2014	0.49		-0.55	
2689		-----		-----	
2730		0.21		-3.49	
2737		-----		-----	
2743	ISO/TS16190	1.04		5.22	
2790		-----		-----	
2798	AfPS GS 2014	0.35		-2.02	
2804	In house	0.316		-2.38	
2811	AfPS GS 2014	<0,2		<-3.60	Possibly a false negative test result?
2812		-----		-----	
2826	AfPS GS 2014	1.1025		5.88	
2829		-----		-----	
2858	AfPS GS 2014	0.754		2.22	
2864	AfPS GS 2014	3.72	C,R(0.01)	33.37	First reported 4.78
2867	AfPS GS 2014	0.47		-0.76	
2870	AfPS GS 2019	0.9		3.75	
3100		0.59		0.50	
3116	AfPS GS 2014	0.7117		1.77	
3153	AfPS GS 2014	0.53		-0.13	
3154	AfPS GS 2014	0.63		0.92	
3163	In house	28	R(0.01)	288.41	
3172	AfPS GS 2014	n.d.		-----	
3182	AfPS GS 2014	0.68		1.44	
3185	AfPS GS 2019	0.62		0.81	
3190		-----		-----	
3197	AfPS GS 2014	0.45		-0.97	
3200	AfPS GS 2014	0.60		0.60	
3210		-----		-----	
3218	AfPS GS 2014	0.67		1.34	
3228	AfPS 2019	0.54		-0.03	
3237	AfPS GS 2014	0.78		2.49	
3243	AfPS GS 2014	0.41		-1.39	
3248	In house	0.54		-0.03	

	normality	OK
	n	89
	outliers	4
	mean (n)	0.5427
	st.dev. (n)	0.19987
	R(calc.)	0.5596
	st.dev.(Horwitz)	0.09520
	R(Horwitz)	0.2666

RSD = 37%



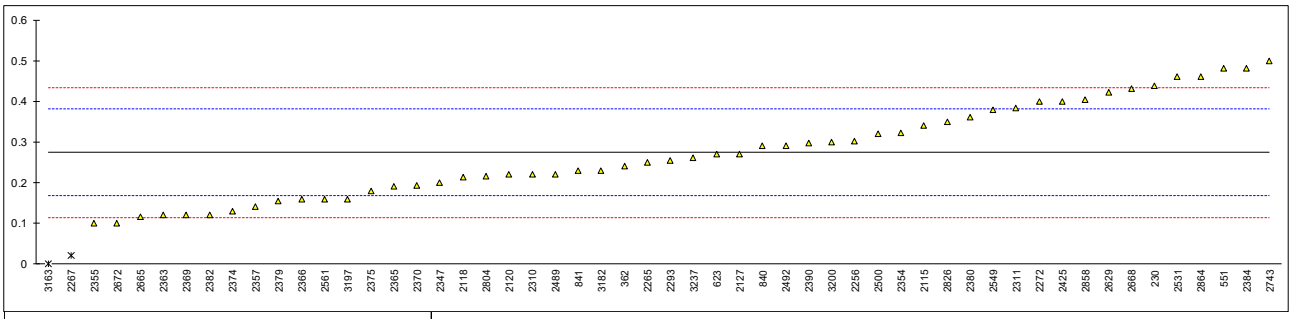


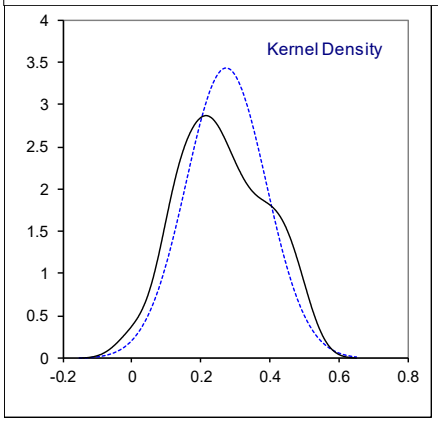
Determination of Pyrene in sample #20502; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230	AfPS GS 2014	0.438	C	3.08	First reported 0.649
310		-----		-----	
339	In house	< 0.1		<-3.27	Possibly a false negative test result?
362	In house	0.240		-0.64	
551	In house	0.48		3.87	
623	AfPS GS 2014	0.27		-0.08	
840	AfPS GS 2014	0.29		0.30	
841	AfPS GS 2014	0.23		-0.83	
2108		-----		-----	
2115	AfPS GS 2014	0.34		1.24	
2118	AfPS GS 2014	0.214		-1.13	
2120	AfPS GS 2014	0.22		-1.01	
2127	AfPS GS 2014	0.27	C	-0.08	First reported <0.1
2129	AfPS GS 2014	<0,2		-----	
2137		-----		-----	
2165	AfPS GS 2019	ND		-----	
2166	AfPS GS 2014Mod.	<0.2		-----	
2172		-----		-----	
2184	AFPS 2019	n.d.		-----	
2201	AfPS GS 2014	ND		-----	
2218		-----		-----	
2236		-----		-----	
2247		-----		-----	
2250		-----		-----	
2256		0.303		0.54	
2265	AfPS GS 2014	0.25		-0.45	
2267	In house	0.02	R(0.05)	-4.77	
2272	AfPS GS 2019	0.4		2.36	
2293	AfPS GS 2014	0.255		-0.36	
2295		-----		-----	
2297		<0.2		-----	
2310	AfPS GS 2014	0.22		-1.01	
2311	AfPS GS 2014	0.383		2.04	
2347	AfPS GS 2019:01	0.2		-1.39	
2350	AfPS GS 2014	< 0.2		-----	
2352		-----		-----	
2354	AfPS GS 2014	0.3234		0.93	
2355	AfPS GS 2014	0.10		-3.27	
2357	AfPS GS 2014	0.14		-2.52	
2363	AfPS GS 2019	0.12		-2.89	
2365	AfPS GS 2014	0.19		-1.58	
2366	AfPS GS 2014	0.16		-2.14	
2369	AfPS GS 2014	0.12		-2.89	
2370	AfPS GS 2014	0.194		-1.50	
2372	AfPS GS 2014	n.d.		-----	
2374	AfPS GS 2014	0.13		-2.70	
2375	AfPS GS 2014	0.18		-1.77	
2379	AfPS GS 2014	0.1546	C	-2.24	First reported not detected
2380	AfPS GS 2014	0.360		1.61	
2382	AfPS GS 2014	0.12		-2.89	
2384	AfPS GS 2014	0.48		3.87	
2386		-----		-----	
2390	AfPS GS 2014	0.297		0.43	
2425	AfPS GS 2014	0.40		2.36	
2426	ZEK01.4-08	ND		-----	
2446		-----		-----	
2462		-----		-----	
2481		-----		-----	
2489	AfPS GS 2014	0.22		-1.01	
2492	In house	0.290		0.30	
2500	AfPS GS 2019	0.3211		0.88	
2511		-----		-----	
2531	AfPS GS 2014	0.46		3.49	
2538	§64 LFGB draft	<0.3	C	-----	First reported <0.15
2549	AfPS GS 2014	0.38		1.99	
2561	AfPS GS 2014	0.16	C	-2.14	First reported 0
2563	AfPS GS 2014	n.d.		-----	
2567	AfPS GS 2014	<0.2		-----	
2573	AfPS GS 2014	ND		-----	
2590		-----		-----	
2605	AfPS GS 2014	ND		-----	
2612	AfPS GS 2014	< 0.2		-----	
2614		-----		-----	
2629	AfPS GS 2014	0.422	C	2.78	First reported <0.2
2665	In house	0.115		-2.99	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.43		2.93	
2672	AfPS GS 2014	0.101		-3.25	
2674	AfPS GS 2014	<0.2	C	-----	First reported not detected
2689	AfPS GS 2014	ND		-----	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	0.50		4.24	
2790		-----		-----	
2798	AfPS GS 2014	ND		-----	
2804	In house	0.216		-1.09	
2811	AfPS GS 2014	<0,2		-----	
2812		-----		-----	
2826	AfPS GS 2014	0.349		1.41	
2829		-----		-----	
2858	AfPS GS 2014	0.405		2.46	
2864	AfPS GS 2014	0.46		3.49	
2867	AfPS GS 2014	<0.20	C	-----	First reported n.d.
2870		-----		-----	
3100		<0.20		-----	
3116		-----		-----	
3153	AfPS GS 2014	<0.20		-----	
3154		-----		-----	
3163	In house	0	ex	-5.14	Test result excluded, zero not a real test result
3172	AfPS GS 2014	n.d.		-----	
3182	AfPS GS 2014	0.23		-0.83	
3185	AfPS GS 2019	<0.2		-----	
3190		-----		-----	
3197	AfPS GS 2014	0.16		-2.14	
3200	AfPS GS 2014	0.30		0.49	
3210		-----		-----	
3218		-----		-----	
3228	AfPS 2019	n.d.		-----	
3237	AfPS GS 2014	0.26		-0.26	
3243	AfPS GS 2014	n.n.		-----	
3248		-----		-----	

normality	OK	
n	52	
outliers	1 (+1 ex)	
mean (n)	0.2741	
st.dev. (n)	0.11489	RSD = 42%
R(calc.)	0.3217	
st.dev.(Horwitz)	0.05328	
R(Horwitz)	0.1492	



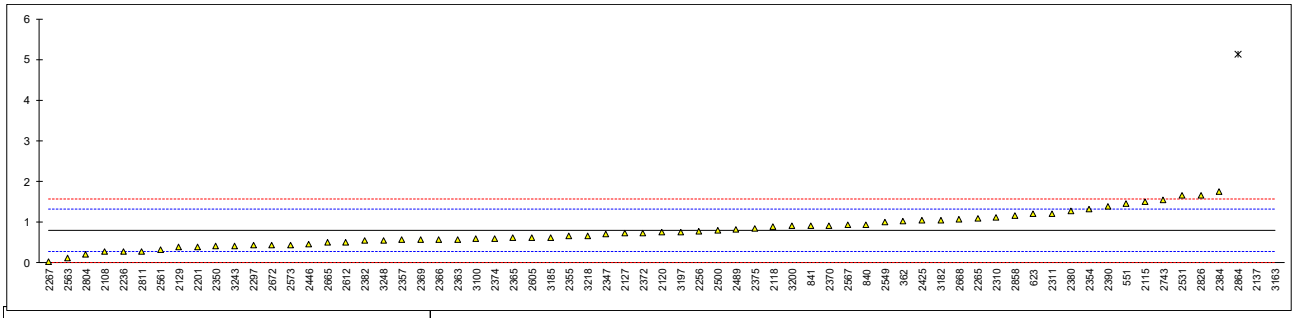


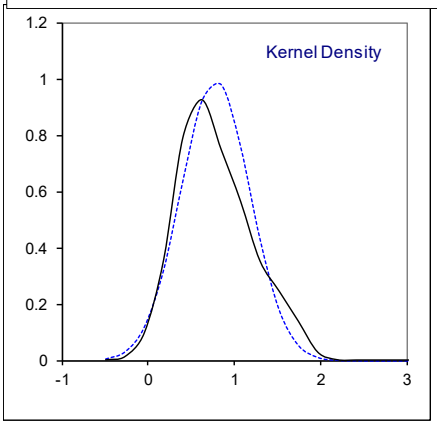
Determination of Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene in sample #20502; results in mg/kg

lab	method	value	mark	z(targ)	iis calc*)	mark	remarks
230		-----		-----	1.90		
310		-----		-----	-----		
339		-----		-----	0.27		
362	In house	1.03		0.92	0.78	E	
551	In house	1.46		2.56	1.24	E	
623	AfPS GS 2014	1.2		1.57	1.0	E	
840	AfPS GS 2014	0.94		0.58	0.94		
841	AfPS GS 2014	0.91		0.46	0.91		
2108	AfPS GS 2014	0.28		-1.95	0.28		
2115	AfPS GS 2014	1.51		2.76	1.39	E	
2118	AfPS GS 2014	0.890		0.39	0.890		
2120	AfPS GS 2014	0.75		-0.15	0.75		
2127	AfPS GS 2014	0.72	C	-0.26	0.72		First reported 0.45
2129	AfPS GS 2014	0.388		-1.53	0.388		
2137	KS M6956	8.32	R(0.01)	28.78	8.32	R(0.01)	
2165		-----		-----	0.48		
2166		-----		-----	0.38		
2172		-----		-----	0.46		
2184		-----		-----	0.52		
2201	AfPS GS 2014	0.398		-1.49	0.398		
2218		-----		-----	-----		
2236	ZEK01.4-08	0.28		-1.95	0.28		
2247		-----		-----	-----		
2250		-----		-----	0.22		
2256		0.774		-0.06	0.774		
2265	AfPS GS 2014	1.09		1.15	1.09		
2267	In house	0.02		-2.94	-----		
2272		-----		-----	2.00		
2293	AfPS GS 2014	ND		-----	0.99	E	
2295		-----		-----	-----		
2297		0.43		-1.37	0.43		
2310	AfPS GS 2014	1.11		1.23	0.98	E	
2311	AfPS GS 2014	1.212		1.62	1.101	E	
2347	AfPS GS 2019:01	0.7		-0.34	0.5	E	
2350	AfPS GS 2014	0.409		-1.45	0.409		
2352		-----		-----	0.40		
2354	AfPS GS 2014	1.3098		1.99	1.310		
2355	AfPS GS 2014	0.66		-0.49	0.56	E	
2357	AfPS GS 2014	0.57		-0.84	0.43	E	
2363	AfPS GS 2019	0.58		-0.80	0.46	E	
2365	AfPS GS 2014	0.61		-0.68	0.42	E	
2366	AfPS GS 2014	0.58		-0.80	0.42	E	
2369	AfPS GS 2014	0.58		-0.80	0.46	E	
2370	AfPS GS 2014	0.910		0.46	0.716	E	
2372	AfPS GS 2014	0.726		-0.24	0.726		
2374	AfPS GS 2014	0.60		-0.72	0.47	E	
2375	AfPS GS 2014	0.85		0.23	0.55	E	
2379		-----		-----	0.44		
2380	AfPS GS 2014	1.279		1.87	1.079	E	
2382	AfPS GS 2014	0.54		-0.95	0.42	E	
2384	AfPS GS 2014	1.74		3.63	1.74		
2386		-----		-----	0.38		
2390	AfPS GS 2014	1.378		2.25	1.221	E	
2425	AfPS GS 2014	1.04		0.96	1.04		
2426	ZEK01.4-08	ND		-----	0.37		
2446	AfPS GS 2014	0.46		-1.26	0.31	E	
2462		-----		-----	0.51		
2481		-----		-----	-----		
2489	AfPS GS 2014	0.81		0.08	0.81		
2492		-----		-----	0.88		
2500	AfPS GS 2019	0.7943		0.02	0.794		
2511		-----		-----	-----		
2531	AfPS GS 2014	1.65		3.29	1.65		
2538	§64 LFGB draft	< 0,6		-----	0.47		
2549	AfPS GS 2014	1.01		0.84	1.01		
2561	AfPS GS 2014	0.33	C	-1.75	-----		First reported 0
2563	AfPS GS 2014	0.12		-2.56	0.24	E	
2567	AfPS GS 2014	0.93		0.54	0.93		
2573	AfPS GS 2014	0.44		-1.33	0.44		
2590		-----		-----	0.44		
2605	AfPS GS 2014	0.61		-0.68	0.61		
2612	AfPS GS 2014	0.51		-1.07	0.51		
2614		-----		-----	-----		
2629		-----		-----	0.42		
2665	In house	0.507		-1.08	0.288	E	

lab	method	value	mark	z(targ)	iis calc*)	mark	Remarks
2668	AfPS GS 2014	1.07		1.07	1.07		
2672	AfPS GS 2014	0.435		-1.35	0.246	E	
2674		-----		-----	0.49		
2689		-----		-----	-----		
2730		-----		-----	0.21		
2737		-----		-----	-----		
2743	ISO/TS16190	1.54		2.87	1.54		
2790		-----		-----	-----		
2798		-----		-----	0.35		
2804	In house	0.216		-2.19	0.53	E	
2811	AfPS GS 2014	0.28	C	-1.95	-----		First reported <0.2
2812		-----		-----	-----		
2826	AfPS GS 2014	1.6515		3.30	1.452	E	
2829		-----		-----	-----		
2858	AfPS GS 2014	1.159	C	1.41	1.159		First reported n.d.
2864	AfPS GS 2014	5.13	C,R(0.01)	16.59	4.90	E,R(0.01)	First reported 5.95
2867		-----		-----	0.47		
2870		-----		-----	0.90		
3100		0.59	C	-0.76	0.59		First reported 5.95
3116		-----		-----	0.71		
3153	AfPS GS 2014	<0.20		-----	0.53	E	
3154		-----		-----	0.63		
3163	In house	56	R(0.01)	211.01	56	R(0.01)	
3172	AfPS GS 2014	n.d.		-----	-----		
3182	AfPS GS 2014	1.04		0.96	0.91	E	
3185	AfPS GS 2019	0.62		-0.65	0.62		
3190		-----		-----	-----		
3197	AfPS GS 2014	0.75		-0.15	0.45	E	
3200	AfPS GS 2014	0.90		0.42	0.90		
3210		-----		-----	-----		
3218	AfPS GS 2014	0.67		-0.45	0.67		
3228		-----		-----	0.54		
3237		-----		-----	1.04		
3243	AfPS GS 2014	0.41		-1.45	0.41		
3248	In house	0.54		-0.95	0.54		
	Normality	OK			not OK		
	N	64			90		
	Outliers	3			3		
	mean (n)	0.7890			0.7038		
	st.dev. (n)	0.39823	RSD = 51%		0.39876		RSD = 57%
	R(calc.)	1.1151			1.1165		
	st.dev.(Horwitz)	0.26165			0.23743		
	R(Horwitz)	0.7326	4 components		0.6648		

*) iis calculated the total of 4 PAH whose level in the material is found to exceed 0.2 mg/kg according to AfPS GS 2014
E = calculation error?



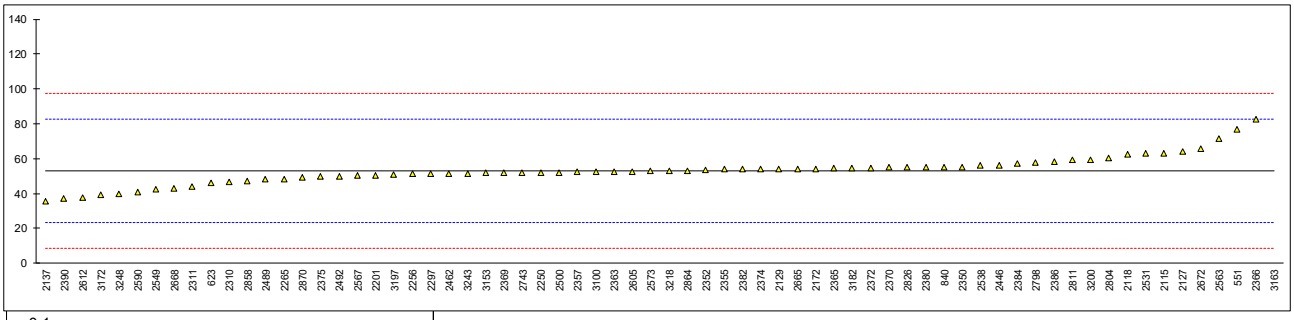


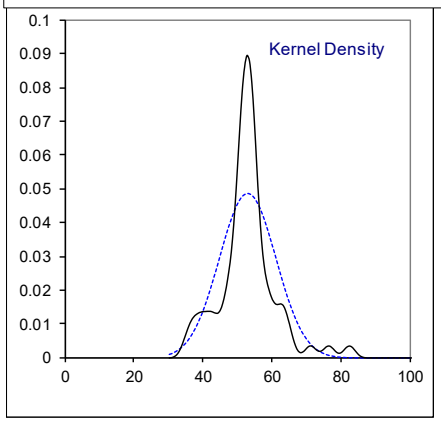
Determination of Total PAH in sample #20503; results in mg/kg

lab	method	Value	mark	z(targ)	iis calc.*)	mark	remarks
230		-----		-----	-----		
310		-----		-----	-----		
339		-----		-----	64.20		
362		-----		-----	33.69		
551	In house	76.70	C	1.59	54.33	E	First reported 92.38
623	AfPS GS 2014	46.06		-0.48	46.06		
840	AfPS GS 2014	55.22		0.14	54.88	E	
841		-----		-----	-----		
2108		-----		-----	54.92		
2115	AfPS GS 2014	63.19	C	0.68	63.25		First reported 69.85
2118	AfPS GS 2014	62.317		0.62	62.321		
2120		-----		-----	-----		
2127	AfPS GS 2014	64.17	C	0.74	64.17		First reported 64.75
2129	AfPS GS 2014	54.0		0.06	53.9	E	
2137	KS M6956	35.42		-1.20	35.43		
2165		-----		-----	49.81		
2166		-----		-----	48.92		
2172	AfPS GS 2014	54.31		0.08	54.32		
2184		-----		-----	49.12		
2201	AfPS GS 2014	50.143		-0.20	47.575	E	
2218		-----		-----	12.10	R(0.01)	
2236		-----		-----	38.08		
2247		-----		-----	-----		
2250	AfPS GS 2014	52.04		-0.08	49.04	E	
2256		51.309		-0.13	51.309		
2265	AfPS GS 2014	48.38		-0.32	48.38		
2267		-----		-----	11.71	R(0.01)	
2272		-----		-----	69.60		
2293		-----		-----	52.17		
2295		-----		-----	38.37		
2297		51.40		-0.12	51.40		
2310	AfPS GS 2014	46.8		-0.43	45.3	E	
2311	AfPS GS 2014	44.017		-0.62	43.836	E	
2347		-----		-----	50.00		
2350	AfPS GS 2014	55.314		0.15	53.53	E	
2352	AfPS GS 2014	53.63		0.03	53.45	E	
2354	AfPS GS 2014	N/A		-----	53.60	E	
2355	AfPS GS 2014	53.87		0.05	53.72	E	
2357	AfPS GS 2014	52.23		-0.06	52.08	E	
2363	AfPS GS 2019	52.48		-0.05	52.68	E	
2365	AfPS GS 2014	54.43		0.09	54.29	E	
2366	AfPS GS 2014	82.69		2.00	51.52	E	
2369	AfPS GS 2014	51.85		-0.09	51.70	E	
2370	AfPS GS 2014	54.942		0.12	54.942		
2372	AfPS GS 2014	54.8		0.11	54.9	E	
2374	AfPS GS 2014	53.90		0.05	53.74	E	
2375	AfPS GS 2014	49.83		-0.23	49.69	E	
2379		-----		-----	50.04		
2380	AfPS GS 2014	55.163		0.13	55.003	E	
2382	AfPS GS 2014	53.88		0.05	53.71	E	
2384	AfPS GS 2014	57.44		0.29	50.72	E	
2386	AfPS GS 2014	58.22		0.34	58.07	E	
2390	AfPS GS 2014	37.0		-1.09	30.1	E	
2425		-----		-----	44.23		
2426		-----		-----	51.43		
2446	AfPS GS 2014	56.055		0.20	56.230	E	
2462	AfPS GS 2019	51.59		-0.11	51.59		
2481		-----		-----	7.01	R(0.01)	
2489	AfPS GS 2014	48.15		-0.34	48.15		
2492	In house	50.026		-0.21	45.523	E	
2500	AfPS GS 2019	52.0858		-0.07	52.0858		
2511		-----		-----	39.31		
2531	AfPS GS 2014	62.93		0.66	63.04	E	
2538	§64 LFGB draft	55.9445		0.19	54.6453	E	
2549	AfPS GS 2014	42.67		-0.71	42.67		
2561		-----		-----	-----		
2563	AfPS GS 2014	71.38		1.23	58.55	E	
2567	AfPS GS 2014	50.09		-0.21	50.09		
2573	AFPS GS 2014	53.15		0.00	53.15		
2590	AfPS GS 2014	40.945		-0.83	40.945		
2605	AfPS GS 2014	52.62		-0.04	52.62		
2612	AfPS GS 2014	37.57		-1.05	39.18	E	
2614		-----		-----	-----		
2629		-----		-----	2.82	R(0.01)	
2665	AfPS GS 2014	54.15		0.07	53.23	E	

lab	method	Value	mark	z(targ)	iis calc.*)	mark	remarks
2668	AfPS GS 2014	42.94		-0.69	42.94		
2672	AfPS GS 2014	65.452		0.83	62.909	E	
2674		-----		-----	49.77		
2689		-----		-----	57.16		
2730		-----		-----	14.10	R(0.01)	
2737		-----		-----	-----		
2743	ISO/TS16190	51.93		-0.08	51.93		
2790		-----		-----	-----		
2798	AfPS GS 2014	57.7		0.31	57.5		
2804	In house	60.2		0.48	49.4	E	
2811	AfPS GS 2014	59.4		0.42	58.4	E	
2812		-----		-----	39.12		
2826	AfPS GS 2014	54.981		0.12	54.981		
2829		-----		-----	-----		
2858	AfPS GS 2014	47.18		-0.40	48.74	E	
2864	AfPS GS 2014	53.23		0.00	54.87	E	
2867		-----		-----	48.62		
2870	AfPS GS 2019	49.4		-0.25	49.4		
3100		52.23		-0.06	52.23		
3116		-----		-----	50.47		
3153	AfPS GS 2014	51.73		-0.10	50.84	E	
3154		-----		-----	35.91		
3163	In house	205	R(0.01)	10.26	275	E,R(0.01)	
3172	AfPS GS 2014	39.35		-0.93	39.35		
3182	AfPS GS 2014	54.45		0.09	53.14	E	
3185		-----		-----	52.54		
3190		-----		-----	-----		
3197	AfPS GS 2014	51.13		-0.14	50.99	E	
3200	AfPS GS 2014	59.60		0.43	60.90	E	
3210		-----		-----	-----		
3218	AfPS GS 2014	53.21		0.00	53.21		
3228		-----		-----	49.66		
3237		-----		-----	61.58		
3243	AfPS GS 2014	51.67		-0.10	53.10	E	
3248	In house	39.89		-0.90	38.45	E	
	normality	not OK			OK		
	n	67			92		
	outliers	1			6		
	mean (n)	53.1668			50.8731		
	st.dev. (n)	8.19994	RSD = 15%		7.18465		RSD = 14%
	R(calc.)	22.9598			20.1170		
	st.dev.(Horwitz 10 comp)	14.79195			14.24808		
	R(Horwitz 10 comp)	41.4175			39.8946		

*) iis calculated the total of 18 PAH whose level in the material is found to exceed 0.2 mg/kg according to AfPS GS 2014





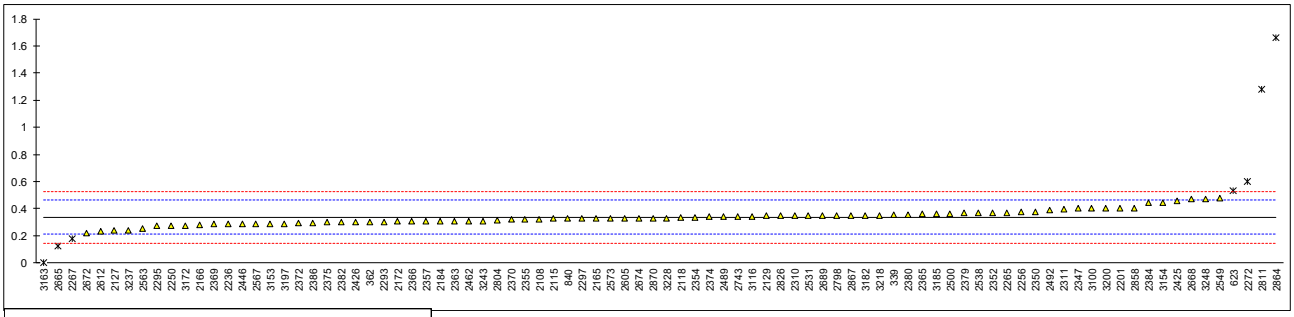
Determination of Naphthalene in sample #20503; results in mg/kg

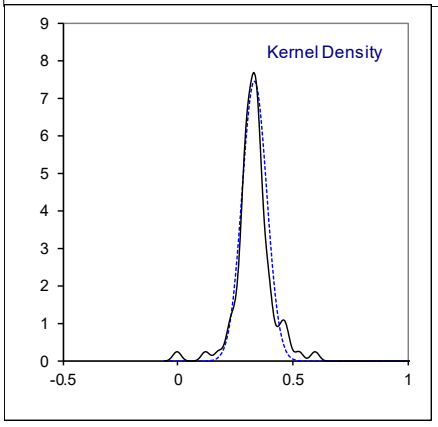
lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	0.353		0.26	
362	In house	0.301		-0.56	
551	In house	Not detected	C	-----	First reported 1.55
623	AfPS GS 2014	0.53	R(0.05)	3.05	
840	AfPS GS 2014	0.33		-0.10	
841		-----		-----	
2108	AfPS GS 2014	0.32		-0.26	
2115	AfPS GS 2014	0.33		-0.10	
2118	AfPS GS 2014	0.335		-0.02	
2120		-----		-----	
2127	AfPS GS 2014	0.24		-1.52	
2129	AfPS GS 2014	0.345		0.13	
2137		-----		-----	
2165	AfPS GS 2019	0.33		-0.10	
2166	AfPS GS 2014Mod.	0.282		-0.86	
2172	AfPS GS 2014	0.304		-0.51	
2184	AfPS 2019	0.31		-0.42	
2201	AfPS GS 2014	0.402		1.03	
2218		-----		-----	
2236	ZEK01.4-08	0.29		-0.73	
2247		-----		-----	
2250	AfPS GS 2014	0.27		-1.05	
2256		0.374		0.59	
2265	AfPS GS 2014	0.37		0.53	
2267	In house	0.18	R(0.05)	-2.47	
2272	AfPS GS 2019	0.6	R(0.01)	4.15	
2293		0.302		-0.54	
2295	ISO16190	0.27		-1.05	
2297		0.33		-0.10	
2310	AfPS GS 2014	0.35		0.21	
2311	AfPS GS 2014	0.396		0.94	
2347	AfPS GS 2019:01	0.4		1.00	
2350	AfPS GS 2014	0.378		0.65	
2352	AfPS GS 2014	0.37		0.53	
2354	AfPS GS 2014	0.3360		-0.01	
2355	AfPS GS 2014	0.32		-0.26	
2357	AfPS GS 2014	0.31		-0.42	
2363	AfPS GS 2019	0.31		-0.42	
2365	AfPS GS 2014	0.36		0.37	
2366	AfPS GS 2014	0.31		-0.42	
2369	AfPS GS 2014	0.29		-0.73	
2370	AfPS GS 2014	0.320		-0.26	
2372	AfPS GS 2014	0.295		-0.65	
2374	AfPS GS 2014	0.34		0.06	
2375	AfPS GS 2014	0.30		-0.58	
2379	AfPS GS 2014	0.3656		0.46	
2380	AfPS GS 2014	0.358		0.34	
2382	AfPS GS 2014	0.30		-0.58	
2384	AfPS GS 2014	0.44		1.63	
2386	AfPS GS 2014	0.295		-0.65	
2390	AfPS GS 2014	ND	C	-----	First reported 5.43
2425	In house	0.46		1.95	
2426	ZEK01.4-08	0.3		-0.58	
2446	AfPS GS 2014	0.29		-0.73	
2462	AfPS GS 2019	0.31		-0.42	
2481		-----		-----	
2489	AfPS GS 2014	0.34		0.06	
2492	In house	0.390		0.84	
2500	AfPS GS 2019	0.3627		0.41	
2511		-----		-----	
2531	AfPS GS 2014	0.35		0.21	
2538	§64 LFGB draft	0.3666		0.47	
2549	AfPS GS 2014	0.48		2.26	
2561		-----		-----	
2563	AfPS GS 2014	0.25		-1.36	
2567	AfPS GS 2014	0.29		-0.73	
2573	AFPS GS 2014	0.33		-0.10	
2590		-----		-----	
2605	AfPS GS 2014	0.33		-0.10	
2612	AfPS GS 2014	0.23		-1.68	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		-----	
2665	AfPS GS 2014	0.124	R(0.05)	-3.35	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.47		2.10	
2672	AfPS GS 2014	0.220		-1.84	
2674	AfPS GS 2014	0.33		-0.10	
2689	AfPS GS 2014	0.35		0.21	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	0.34		0.06	
2790		-----		-----	
2798	AfPS GS 2014	0.35		0.21	
2804	In house	0.316		-0.32	
2811	AfPS GS 2014	1.28	R(0.01)	14.87	
2812		-----		-----	
2826	AfPS GS 2014	0.347		0.17	
2829		-----		-----	
2858	AfPS GS 2014	0.402		1.03	
2864	AfPS GS 2014	1.66	C,R(0.01)	20.86	First reported 0.65
2867	AfPS GS 2014	0.35		0.21	
2870	AfPS GS 2019	0.33		-0.10	
3100		0.40		1.00	
3116	AfPS GS 2014	0.3411		0.07	
3153	AfPS GS 2014	0.29		-0.73	
3154		0.44	C	1.63	First reported 0.62
3163	In house	0	ex	-5.30	Test result excluded zero is not a real test result
3172	AfPS GS 2014	0.270		-1.05	
3182	AfPS GS 2014	0.35		0.21	
3185	AfPS GS 2019	0.36		0.37	
3190		-----		-----	
3197	AfPS GS 2014	0.29		-0.73	
3200	AfPS GS 2014	0.40		1.00	
3210		-----		-----	
3218	AfPS GS 2014	0.35		0.21	
3228	AfPS 2019	0.33		-0.10	
3237	AfPS GS 2014	0.24		-1.52	
3243	AfPS GS 2014	0.31		-0.42	
3248	In house	0.47		2.10	

	normality	OK
	n	81
	outliers	6 (+1 ex)
	mean (n)	0.3365
	st.dev. (n)	0.05341
	R(calc.)	0.1495
	st.dev.(Horwitz)	0.06343
	R(Horwitz)	0.1776

RSD = 16%



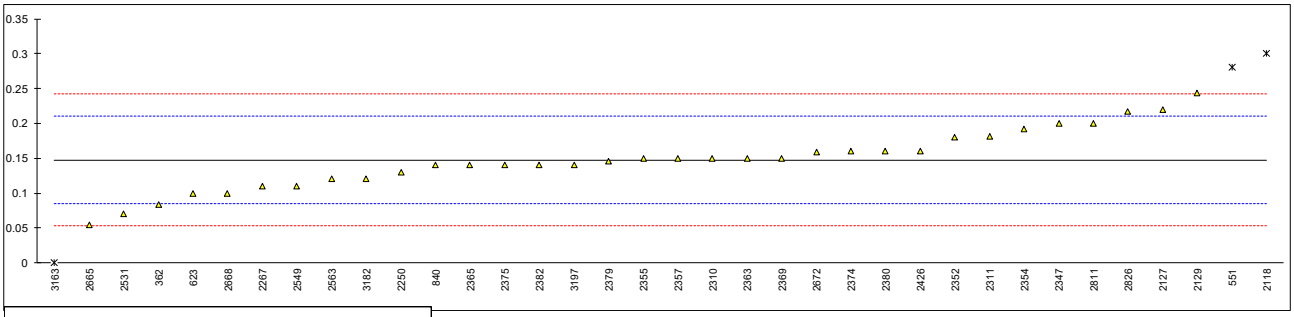


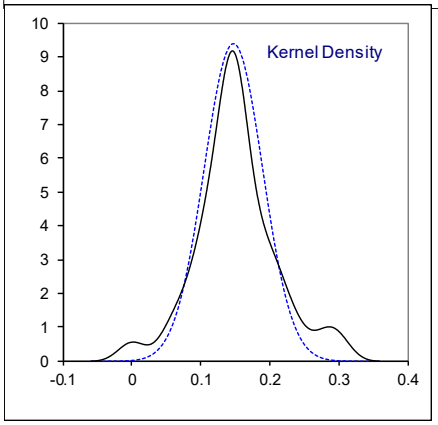
Determination of Acenaphthylene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339		-----		-----	
362	In house	0.084		-2.02	
551	In house	0.28	C,DG(0.05)	4.21	First reported 0.02
623	AfPS GS 2014	0.1	C	-1.51	First reported n.d.
840	AfPS GS 2014	0.14		-0.24	
841		-----		-----	
2108		-----		-----	
2115		-----		-----	
2118	AfPS GS 2014	0.300	DG(0.05)	4.85	
2120		-----		-----	
2127	AfPS GS 2014	0.22		2.30	
2129	AfPS GS 2014	0.243		3.04	
2137		-----		-----	
2165	AfPS GS 2019	ND		-----	
2166	AfPS GS 2014Mod.	<0.2		-----	
2172		-----		-----	
2184	AfPS 2019	n.d.		-----	
2201	AfPS GS 2014	ND		-----	
2218		-----		-----	
2236		-----		-----	
2247		-----		-----	
2250	AfPS GS 2014	0.13		-0.55	
2256		-----		-----	
2265	AfPS GS 2014	< 0,2		-----	
2267	In house	0.11		-1.19	
2272		-----		-----	
2293		ND		-----	
2295		-----		-----	
2297		<0.2		-----	
2310	AfPS GS 2014	0.15		0.08	
2311	AfPS GS 2014	0.181		1.07	
2347	AfPS GS 2019:01	0.2		1.67	
2350	AfPS GS 2014	< 0.2		-----	
2352	AfPS GS 2014	0.18		1.03	
2354	AfPS GS 2014	0.1923		1.42	
2355	AfPS GS 2014	0.15		0.08	
2357	AfPS GS 2014	0.15		0.08	
2363	AfPS GS 2019	0.15		0.08	
2365	AfPS GS 2014	0.14		-0.24	
2366	AfPS GS 2014	<0.1		-----	
2369	AfPS GS 2014	0.15		0.08	
2370	AfPS GS 2014	< 0.1		-----	
2372	AfPS GS 2014	n.d.		-----	
2374	AfPS GS 2014	0.16		0.40	
2375	AfPS GS 2014	0.14		-0.24	
2379	AfPS GS 2014	0.1456	C	-0.06	First reported not detected
2380	AfPS GS 2014	0.160		0.40	
2382	AfPS GS 2014	0.14		-0.24	
2384	AfPS GS 2014	<0.20	C	-----	First reported 0.31
2386		-----		-----	
2390		-----		-----	
2425		-----		-----	
2426	ZEK01.4-08	0.16		0.40	
2446		-----		-----	
2462		-----		-----	
2481		-----		-----	
2489	AfPS GS 2014	<0.2		-----	
2492		-----		-----	
2500	AfPS GS 2019	<0.2		-----	
2511		-----		-----	
2531	AfPS GS 2014	0.07		-2.46	
2538	§64 LFGB draft	< 0,15		-----	
2549	AfPS GS 2014	0.11	C	-1.19	First reported not detected
2561		-----		-----	
2563	AfPS GS 2014	0.12		-0.87	
2567	AfPS GS 2014	<0.2		-----	
2573	AFPS GS 2014	ND		-----	
2590		-----		-----	
2605	AfPS GS 2014	ND		-----	
2612	AfPS GS 2014	< 0.2		-----	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		-----	
2665	AfPS GS 2014	0.054		-2.97	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.1	C	-1.51	First reported not detected
2672	AfPS GS 2014	0.159		0.37	
2674	AfPS GS 2014	n.d.		-----	
2689	AfPS GS 2014	<0.2		-----	
2730		-----		-----	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	<0.2		-----	
2804	In house	<0.2		-----	
2811	AfPS GS 2014	0.2		1.67	
2812		-----		-----	
2826	AfPS GS 2014	0.2175		2.23	
2829		-----		-----	
2858	AfPS GS 2014	n.d		-----	
2864	AfPS GS 2014	ND	C	-----	First reported 0.31
2867	AfPS GS 2014	<0.20		-----	
2870		-----		-----	
3100		<0.20		-----	
3116		-----		-----	
3153	AfPS GS 2014	<0.20		-----	
3154		-----		-----	
3163	In house	0	ex	-4.69	Test result excluded zero is not a real test result.
3172	AfPS GS 2014	n.d.		-----	
3182	AfPS GS 2014	0.12		-0.87	
3185	AfPS GS 2019	<0.2		-----	
3190		-----		-----	
3197	AfPS GS 2014	0.14		-0.24	
3200	AfPS GS 2014	<0.20		-----	
3210		-----		-----	
3218		-----		-----	
3228	AfPS 2019	n.d.		-----	
3237		-----		-----	
3243	AfPS GS 2014	n.n.		-----	
3248		-----		-----	

normality	OK	
n	33	
outliers	3	
mean (n)	0.1475	
st.dev. (n)	0.04251	RSD = 29%
R(calc.)	0.1190	
st.dev.(Horwitz)	0.03147	
R(Horwitz)	0.0881	





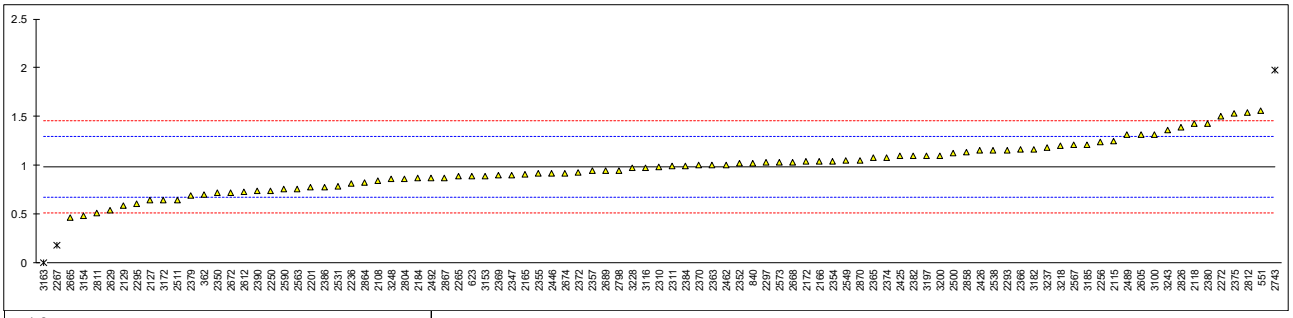
Determination of Acenaphthene in sample #20503; results in mg/kg

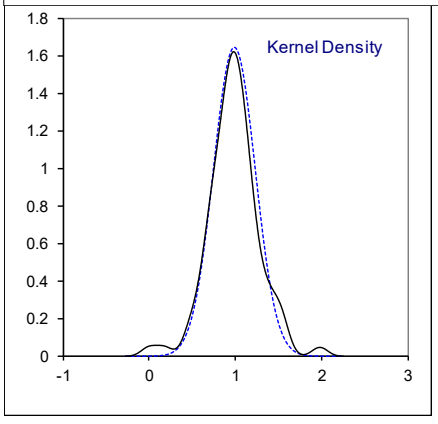
lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339		-----		-----	
362	In house	0.698		-1.81	
551	In house	1.56	C	3.65	First reported 1.71
623	AfPS GS 2014	0.89		-0.60	
840	AfPS GS 2014	1.02		0.23	
841		-----		-----	
2108	AfPS GS 2014	0.84		-0.91	
2115	AfPS GS 2014	1.25	C	1.69	First reported 1.92
2118	AfPS GS 2014	1.424		2.79	
2120		-----		-----	
2127	AfPS GS 2014	0.64		-2.18	
2129	AfPS GS 2014	0.583		-2.54	
2137		-----		-----	
2165	AfPS GS 2019	0.91		-0.47	
2166	AfPS GS 2014Mod.	1.040		0.36	
2172	AfPS GS 2014	1.04		0.36	
2184	AfPS 2019	0.87		-0.72	
2201	AfPS GS 2014	0.776		-1.32	
2218		-----		-----	
2236	ZEK01.4-08	0.81		-1.10	
2247		-----		-----	
2250	AfPS GS 2014	0.74		-1.55	
2256		1.24		1.62	
2265	AfPS GS 2014	0.89		-0.60	
2267	In house	0.18	R(0.05)	-5.09	
2272	AfPS GS 2019	1.5		3.27	
2293		1.157		1.10	
2295	ISO16190	0.61		-2.37	
2297		1.03		0.29	
2310	AfPS GS 2014	0.98	C	-0.02	First reported 1.86
2311	AfPS GS 2014	0.989		0.03	
2347	AfPS GS 2019:01	0.9		-0.53	
2350	AfPS GS 2014	0.721		-1.67	
2352	AfPS GS 2014	1.02		0.23	
2354	AfPS GS 2014	1.0440		0.38	
2355	AfPS GS 2014	0.92		-0.41	
2357	AfPS GS 2014	0.95		-0.21	
2363	AfPS GS 2019	1.00		0.10	
2365	AfPS GS 2014	1.08		0.61	
2366	AfPS GS 2014	1.16		1.12	
2369	AfPS GS 2014	0.9		-0.53	
2370	AfPS GS 2014	1.00		0.10	
2372	AfPS GS 2014	0.923		-0.39	
2374	AfPS GS 2014	1.08		0.61	
2375	AfPS GS 2014	1.53		3.46	
2379	AfPS GS 2014	0.6948		-1.83	
2380	AfPS GS 2014	1.432		2.84	
2382	AfPS GS 2014	1.10		0.74	
2384	AfPS GS 2014	0.99	C	0.04	First reported 1.78
2386	AfPS GS 2014	0.777		-1.31	
2390	AfPS GS 2014	0.737		-1.56	
2425	In house	1.10		0.74	
2426	ZEK01.4-08	1.15		1.05	
2446	AfPS GS 2014	0.92		-0.41	
2462	AfPS GS 2019	1.00		0.10	
2481		-----		-----	
2489	AfPS GS 2014	1.31		2.07	
2492	In house	0.870		-0.72	
2500	AfPS GS 2019	1.1234		0.88	
2511	AfPS GS 2014	0.648		-2.13	
2531	AfPS GS 2014	0.79	C	-1.23	First reported 0.29
2538	§64 LFGB draft	1.1505		1.06	
2549	AfPS GS 2014	1.05		0.42	
2561		-----		-----	
2563	AfPS GS 2014	0.76		-1.42	
2567	AfPS GS 2014	1.21		1.43	
2573	AFPS GS 2014	1.03		0.29	
2590	AfPS GS 2014	0.757		-1.44	
2605	AfPS GS 2014	1.31		2.07	
2612	AfPS GS 2014	0.73		-1.61	
2614		-----		-----	
2629	AfPS GS 2014	0.54		-2.81	
2665	AfPS GS 2014	0.465		-3.29	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	1.03		0.29	
2672	AfPS GS 2014	0.721		-1.67	
2674	AfPS GS 2014	0.92		-0.41	
2689	AfPS GS 2014	0.95		-0.21	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	1.98	R(0.05)	6.31	
2790		-----		-----	
2798	AfPS GS 2014	0.95		-0.21	
2804	In house	0.866		-0.75	
2811	AfPS GS 2014	0.51		-3.00	
2812	AfPS GS 2014	1.54		3.52	
2826	AfPS GS 2014	1.393		2.59	
2829		-----		-----	
2858	AfPS GS 2014	1.136		0.96	
2864	AfPS GS 2014	0.82		-1.04	
2867	AfPS GS 2014	0.87		-0.72	
2870	AfPS GS 2019	1.05		0.42	
3100		1.31		2.07	
3116	AfPS GS 2014	0.9722		-0.07	
3153	AfPS GS 2014	0.89		-0.60	
3154		0.48		-3.19	
3163	In house	0	ex	-6.23	Test result excluded zero not a real test result
3172	AfPS GS 2014	0.645		-2.15	
3182	AfPS GS 2014	1.16		1.12	
3185	AfPS GS 2019	1.21		1.43	
3190		-----		-----	
3197	AfPS GS 2014	1.10		0.74	
3200	AfPS GS 2014	1.10		0.74	
3210		-----		-----	
3218	AfPS GS 2014	1.20		1.37	
3228	AfPS 2019	0.97		-0.09	
3237	AfPS GS 2014	1.18		1.24	
3243	AfPS GS 2014	1.36		2.38	
3248	In house	0.86		-0.79	

	normality	OK
	n	90
	outliers	2 (+1 ex)
	mean (n)	0.9839
	st.dev. (n)	0.24539
	R(calc.)	0.6871
	st.dev.(Horwitz)	0.15781
	R(Horwitz)	0.4419

RSD = 25%



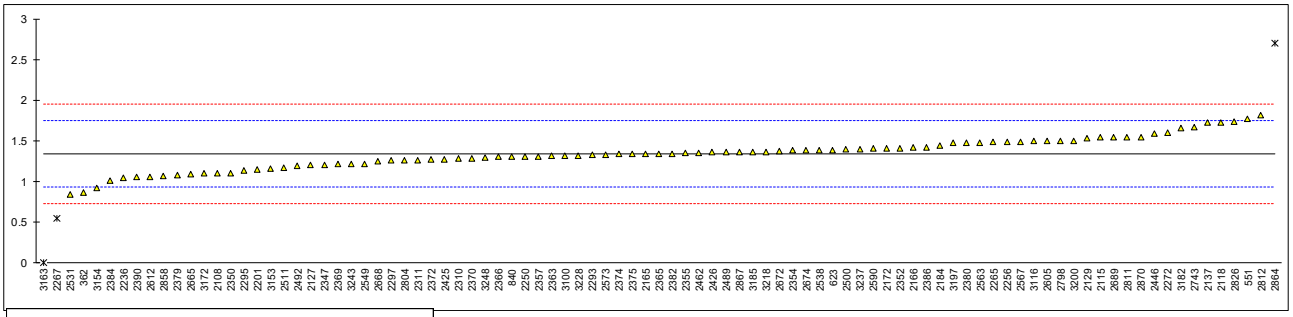


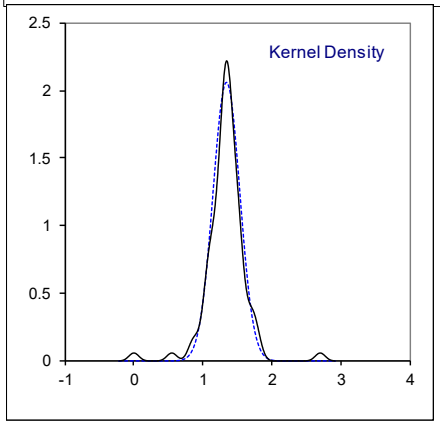
Determination of Fluorene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339		-----		-----	
362	In house	0.865		-2.32	
551	In house	1.77		2.09	
623	AfPS GS 2014	1.39		0.24	
840	AfPS GS 2014	1.30		-0.20	
841		-----		-----	
2108	AfPS GS 2014	1.1		-1.18	
2115	AfPS GS 2014	1.54	C	0.97	First reported 2.15
2118	AfPS GS 2014	1.723		1.86	
2120		-----		-----	
2127	AfPS GS 2014	1.2		-0.69	
2129	AfPS GS 2014	1.53		0.92	
2137	KS M6956	1.72		1.84	
2165	AfPS GS 2019	1.34		-0.01	
2166	AfPS GS 2014Mod.	1.417		0.37	
2172	AfPS GS 2014	1.41		0.33	
2184	AfPS 2019	1.44		0.48	
2201	AfPS GS 2014	1.152		-0.92	
2218		-----		-----	
2236	ZEK01.4-08	1.05		-1.42	
2247		-----		-----	
2250	AfPS GS 2014	1.31		-0.15	
2256		1.49		0.72	
2265	AfPS GS 2014	1.49		0.72	
2267	In house	0.55	R(0.01)	-3.85	
2272	AfPS GS 2019	1.6		1.26	
2293		1.325		-0.08	
2295	ISO16190	1.13		-1.03	
2297		1.26		-0.40	
2310	AfPS GS 2014	1.28		-0.30	
2311	AfPS GS 2014	1.264		-0.38	
2347	AfPS GS 2019:01	1.2		-0.69	
2350	AfPS GS 2014	1.103		-1.16	
2352	AfPS GS 2014	1.41		0.33	
2354	AfPS GS 2014	1.3800		0.19	
2355	AfPS GS 2014	1.35		0.04	
2357	AfPS GS 2014	1.31		-0.15	
2363	AfPS GS 2019	1.32		-0.10	
2365	AfPS GS 2014	1.34		-0.01	
2366	AfPS GS 2014	1.30		-0.20	
2369	AfPS GS 2014	1.21		-0.64	
2370	AfPS GS 2014	1.28		-0.30	
2372	AfPS GS 2014	1.27		-0.35	
2374	AfPS GS 2014	1.34		-0.01	
2375	AfPS GS 2014	1.34		-0.01	
2379	AfPS GS 2014	1.0845		-1.25	
2380	AfPS GS 2014	1.475		0.65	
2382	AfPS GS 2014	1.34		-0.01	
2384	AfPS GS 2014	1.01	C	-1.61	First reported 2.05
2386	AfPS GS 2014	1.424		0.40	
2390	AfPS GS 2014	1.056		-1.39	
2425	In house	1.27		-0.35	
2426	ZEK01.4-08	1.36		0.09	
2446	AfPS GS 2014	1.59		1.21	
2462	AfPS GS 2019	1.35		0.04	
2481		-----		-----	
2489	AfPS GS 2014	1.36		0.09	
2492	In house	1.190		-0.74	
2500	AfPS GS 2019	1.3944		0.26	
2511	AfPS GS 2014	1.175		-0.81	
2531	AfPS GS 2014	0.84		-2.44	
2538	§64 LFGB draft	1.3824		0.20	
2549	AfPS GS 2014	1.22		-0.59	
2561		-----		-----	
2563	AfPS GS 2014	1.48		0.68	
2567	AfPS GS 2014	1.49		0.72	
2573	AFPS GS 2014	1.33		-0.05	
2590	AfPS GS 2014	1.405		0.31	
2605	AfPS GS 2014	1.50		0.77	
2612	AfPS GS 2014	1.06		-1.37	
2614		-----		-----	
2629	AfPS GS 2014	<0.2		<-5.56	Possibly a false negative test result?
2665	AfPS GS 2014	1.091		-1.22	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	1.25		-0.44	
2672	AfPS GS 2014	1.371		0.14	
2674	AfPS GS 2014	1.38		0.19	
2689	AfPS GS 2014	1.54		0.97	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	1.67		1.60	
2790		-----		-----	
2798	AfPS GS 2014	1.5		0.77	
2804	In house	1.26		-0.40	
2811	AfPS GS 2014	1.54		0.97	
2812	AfPS GS 2014	1.81		2.28	
2826	AfPS GS 2014	1.733		1.91	
2829		-----		-----	
2858	AfPS GS 2014	1.069		-1.33	
2864	AfPS GS 2014	2.70	C,R(0.01)	6.62	First reported 2.08
2867	AfPS GS 2014	1.36		0.09	
2870	AfPS GS 2019	1.54		0.97	
3100		1.32		-0.10	
3116	AfPS GS 2014	1.498		0.76	
3153	AfPS GS 2014	1.16		-0.88	
3154		0.92	C	-2.05	First reported 1.99
3163	In house	0	ex	-6.53	Test result excluded zero not a real test result
3172	AfPS GS 2014	1.099		-1.18	
3182	AfPS GS 2014	1.66		1.55	
3185	AfPS GS 2019	1.36		0.09	
3190		-----		-----	
3197	AfPS GS 2014	1.47		0.63	
3200	AfPS GS 2014	1.50		0.77	
3210		-----		-----	
3218	AfPS GS 2014	1.36		0.09	
3228	AfPS 2019	1.32		-0.10	
3237	AfPS GS 2014	1.40		0.29	
3243	AfPS GS 2014	1.21		-0.64	
3248	In house	1.29		-0.25	

	normality	OK	
	n	90	
	outliers	2 (+1ex)	
	mean (n)	1.3413	
	st.dev. (n)	0.19387	RSD = 14%
	R(calc.)	0.5428	
	st.dev.(Horwitz)	0.20533	
	R(Horwitz)	0.5749	



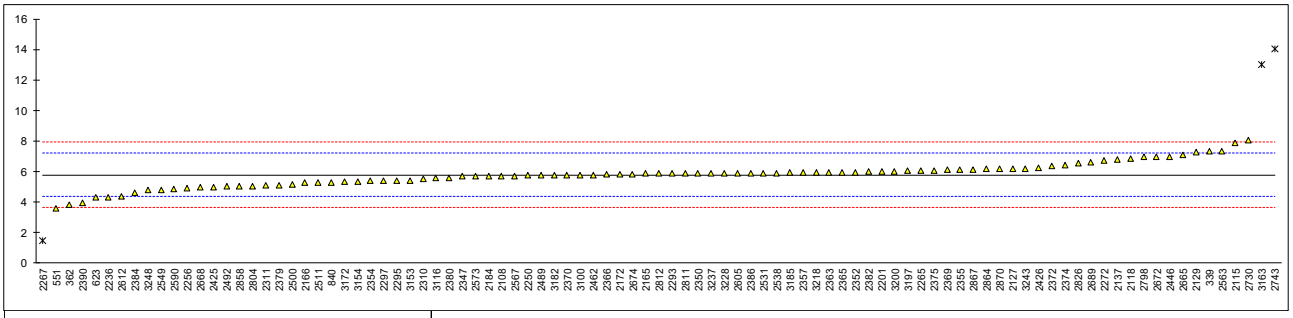


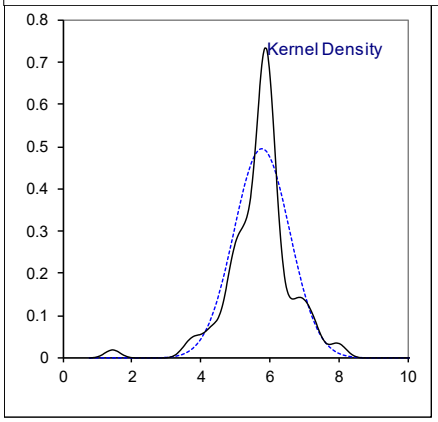
Determination of Phenanthrene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	7.31		2.16	
362	In house	3.826		-2.75	
551	In house	3.60		-3.07	
623	AfPS GS 2014	4.32		-2.05	
840	AfPS GS 2014	5.28		-0.70	
841		-----		-----	
2108	AfPS GS 2014	5.72		-0.08	
2115	AfPS GS 2014	7.86	C	2.93	First reported 9.27
2118	AfPS GS 2014	6.846		1.50	
2120		-----		-----	
2127	AfPS GS 2014	6.18		0.57	
2129	AfPS GS 2014	7.25		2.07	
2137	KS M6956	6.76		1.38	
2165	AfPS GS 2019	5.85		0.10	
2166	AfPS GS 2014Mod.	5.241		-0.76	
2172	AfPS GS 2014	5.82		0.06	
2184	AfPS 2019	5.71		-0.10	
2201	AfPS GS 2014	5.980		0.28	
2218		-----		-----	
2236	ZEK01.4-08	4.32		-2.05	
2247		-----		-----	
2250	AfPS GS 2014	5.75		-0.04	
2256		4.89		-1.25	
2265	AfPS GS 2014	6.06		0.40	
2267	In house	1.45	R(0.01)	-6.10	
2272	AfPS GS 2019	6.7		1.30	
2293		5.852		0.10	
2295	ISO16190	5.40		-0.53	
2297		5.39		-0.55	
2310	AfPS GS 2014	5.54		-0.34	
2311	AfPS GS 2014	5.073		-0.99	
2347	AfPS GS 2019:01	5.7		-0.11	
2350	AfPS GS 2014	5.863		0.12	
2352	AfPS GS 2014	5.96		0.26	
2354	AfPS GS 2014	5.3731		-0.57	
2355	AfPS GS 2014	6.12		0.48	
2357	AfPS GS 2014	5.92		0.20	
2363	AfPS GS 2019	5.96		0.26	
2365	AfPS GS 2014	5.96		0.26	
2366	AfPS GS 2014	5.81		0.04	
2369	AfPS GS 2014	6.1		0.45	
2370	AfPS GS 2014	5.77		-0.01	
2372	AfPS GS 2014	6.36		0.82	
2374	AfPS GS 2014	6.43		0.92	
2375	AfPS GS 2014	6.07		0.41	
2379	AfPS GS 2014	5.0831		-0.98	
2380	AfPS GS 2014	5.572		-0.29	
2382	AfPS GS 2014	5.97		0.27	
2384	AfPS GS 2014	4.63		-1.62	
2386	AfPS GS 2014	5.894		0.16	
2390	AfPS GS 2014	3.928		-2.61	
2425	In house	4.96		-1.15	
2426	ZEK01.4-08	6.26		0.68	
2446	AfPS GS 2014	6.98		1.69	
2462	AfPS GS 2019	5.78		0.00	
2481		-----		-----	
2489	AfPS GS 2014	5.76		-0.03	
2492	In house	5.007		-1.09	
2500	AfPS GS 2019	5.1632		-0.87	
2511	AfPS GS 2014	5.259		-0.73	
2531	AfPS GS 2014	5.90		0.17	
2538	§64 LFGB draft	5.9049		0.18	
2549	AfPS GS 2014	4.81		-1.36	
2561		-----		-----	
2563	AfPS GS 2014	7.34		2.20	
2567	AfPS GS 2014	5.72		-0.08	
2573	AFPS GS 2014	5.70		-0.11	
2590	AfPS GS 2014	4.865		-1.29	
2605	AfPS GS 2014	5.89		0.16	
2612	AfPS GS 2014	4.34		-2.03	
2614		-----		-----	
2629	AfPS GS 2014	<0.2		<-7.86	Possibly a false negative test result?
2665	AfPS GS 2014	7.085		1.84	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	4.94		-1.18	
2672	AfPS GS 2014	6.973		1.68	
2674	AfPS GS 2014	5.82		0.06	
2689	AfPS GS 2014	6.60		1.16	
2730		8.06		3.21	
2737		-----		-----	
2743	ISO/TS16190	14.02	R(0.01)	11.61	
2790		-----		-----	
2798	AfPS GS 2014	6.95		1.65	
2804	In house	5.04		-1.04	
2811	AfPS GS 2014	5.86		0.11	
2812	AfPS GS 2014	5.85		0.10	
2826	AfPS GS 2014	6.565		1.11	
2829		-----		-----	
2858	AfPS GS 2014	5.028		-1.06	
2864	AfPS GS 2014	6.15		0.52	
2867	AfPS GS 2014	6.13		0.49	
2870	AfPS GS 2019	6.17		0.55	
3100		5.77		-0.01	
3116	AfPS GS 2014	5.565		-0.30	
3153	AfPS GS 2014	5.40		-0.53	
3154		5.33	C	-0.63	First reported 18.11
3163	In house	13	R(0.01)	10.17	
3172	AfPS GS 2014	5.304		-0.67	
3182	AfPS GS 2014	5.76		-0.03	
3185	AfPS GS 2019	5.91		0.19	
3190		-----		-----	
3197	AfPS GS 2014	6.05		0.38	
3200	AfPS GS 2014	6.00		0.31	
3210		-----		-----	
3218	AfPS GS 2014	5.93		0.21	
3228	AfPS 2019	5.88		0.14	
3237	AfPS GS 2014	5.87		0.13	
3243	AfPS GS 2014	6.2		0.59	
3248	In house	4.80		-1.38	

normality	OK	
n	92	
outliers	3	
mean (n)	5.7786	
st.dev. (n)	0.80432	RSD = 14%
R(calc.)	2.2521	
st.dev.(Horwitz)	0.71003	
R(Horwitz)	1.9881	



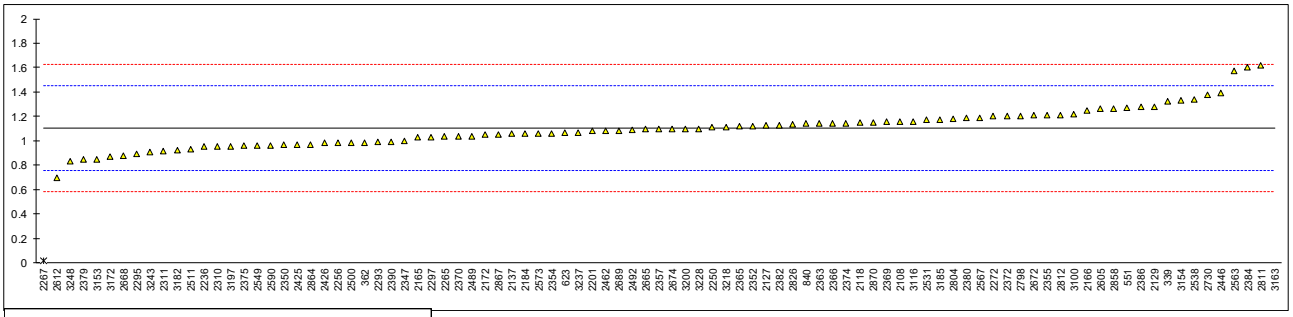


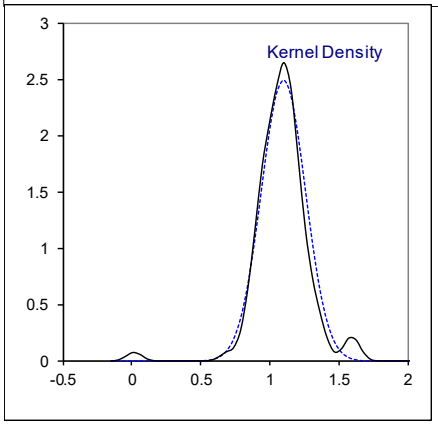
Determination of Anthracene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	1.32		1.26	
362	In house	0.986		-0.67	
551	In house	1.27		0.97	
623	AfPS GS 2014	1.07		-0.18	
840	AfPS GS 2014	1.14		0.22	
841		-----		-----	
2108	AfPS GS 2014	1.16		0.33	
2115		-----		-----	
2118	AfPS GS 2014	1.150		0.28	
2120		-----		-----	
2127	AfPS GS 2014	1.13		0.16	
2129	AfPS GS 2014	1.28		1.02	
2137	KS M6956	1.06		-0.24	
2165	AfPS GS 2019	1.03		-0.41	
2166	AfPS GS 2014Mod.	1.251		0.86	
2172	AfPS GS 2014	1.05		-0.30	
2184	AfPS 2019	1.06		-0.24	
2201	AfPS GS 2014	1.079		-0.13	
2218		-----		-----	
2236	ZEK01.4-08	0.95		-0.87	
2247		-----		-----	
2250	AfPS GS 2014	1.11		0.05	
2256		0.982		-0.69	
2265	AfPS GS 2014	1.04		-0.36	
2267	In house	0.02	R(0.01)	-6.23	
2272	AfPS GS 2019	1.2		0.56	
2293		0.989		-0.65	
2295	ISO16190	0.89		-1.22	
2297		1.03		-0.41	
2310	AfPS GS 2014	0.95		-0.87	
2311	AfPS GS 2014	0.918		-1.06	
2347	AfPS GS 2019:01	1.0		-0.59	
2350	AfPS GS 2014	0.968		-0.77	
2352	AfPS GS 2014	1.12		0.10	
2354	AfPS GS 2014	1.0607		-0.24	
2355	AfPS GS 2014	1.21		0.62	
2357	AfPS GS 2014	1.10		-0.01	
2363	AfPS GS 2019	1.14		0.22	
2365	AfPS GS 2014	1.12		0.10	
2366	AfPS GS 2014	1.14		0.22	
2369	AfPS GS 2014	1.16		0.33	
2370	AfPS GS 2014	1.04		-0.36	
2372	AfPS GS 2014	1.2		0.56	
2374	AfPS GS 2014	1.14		0.22	
2375	AfPS GS 2014	0.96		-0.82	
2379	AfPS GS 2014	0.8440		-1.48	
2380	AfPS GS 2014	1.188		0.50	
2382	AfPS GS 2014	1.13		0.16	
2384	AfPS GS 2014	1.60		2.87	
2386	AfPS GS 2014	1.275		1.00	
2390	AfPS GS 2014	0.995		-0.62	
2425	In house	0.97		-0.76	
2426	ZEK01.4-08	0.98		-0.70	
2446	AfPS GS 2014	1.39		1.66	
2462	AfPS GS 2019	1.08		-0.13	
2481		-----		-----	
2489	AfPS GS 2014	1.04		-0.36	
2492	In house	1.086		-0.09	
2500	AfPS GS 2019	0.9837		-0.68	
2511	AfPS GS 2014	0.931		-0.98	
2531	AfPS GS 2014	1.17		0.39	
2538	§64 LFGB draft	1.3368		1.35	
2549	AfPS GS 2014	0.96		-0.82	
2561		-----		-----	
2563	AfPS GS 2014	1.57		2.69	
2567	AfPS GS 2014	1.19		0.51	
2573	AFPS GS 2014	1.06		-0.24	
2590	AfPS GS 2014	0.963		-0.80	
2605	AfPS GS 2014	1.26		0.91	
2612	AfPS GS 2014	0.70		-2.31	
2614		-----		-----	
2629	AfPS GS 2014	<0.2		<-5.19	Possibly a false negative test result?
2665	AfPS GS 2014	1.095		-0.04	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.88		-1.28	
2672	AfPS GS 2014	1.208		0.61	
2674	AfPS GS 2014	1.10		-0.01	
2689	AfPS GS 2014	1.08		-0.13	
2730		1.38		1.60	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	1.20		0.56	
2804	In house	1.18		0.45	
2811	AfPS GS 2014	1.62		2.98	
2812	AfPS GS 2014	1.21		0.62	
2826	AfPS GS 2014	1.1365		0.20	
2829		-----		-----	
2858	AfPS GS 2014	1.267		0.95	
2864	AfPS GS 2014	0.97		-0.76	
2867	AfPS GS 2014	1.05		-0.30	
2870	AfPS GS 2019	1.15		0.28	
3100		1.22		0.68	
3116	AfPS GS 2014	1.160		0.33	
3153	AfPS GS 2014	0.85		-1.45	
3154		1.33	C	1.31	First reported 3.05
3163	In house	13	R(0.01)	68.48	
3172	AfPS GS 2014	0.872		-1.32	
3182	AfPS GS 2014	0.92		-1.05	
3185	AfPS GS 2019	1.17		0.39	
3190		-----		-----	
3197	AfPS GS 2014	0.95		-0.87	
3200	AfPS GS 2014	1.10		-0.01	
3210		-----		-----	
3218	AfPS GS 2014	1.11		0.05	
3228	AfPS 2019	1.10		-0.01	
3237	AfPS GS 2014	1.07		-0.18	
3243	AfPS GS 2014	0.91		-1.10	
3248	In house	0.83		-1.57	

normality	suspect	
n	91	
outliers	2	
mean (n)	1.1019	
st.dev. (n)	0.15998	RSD = 15%
R(calc.)	0.4479	
st.dev.(Horwitz)	0.17375	
R(Horwitz)	0.4865	



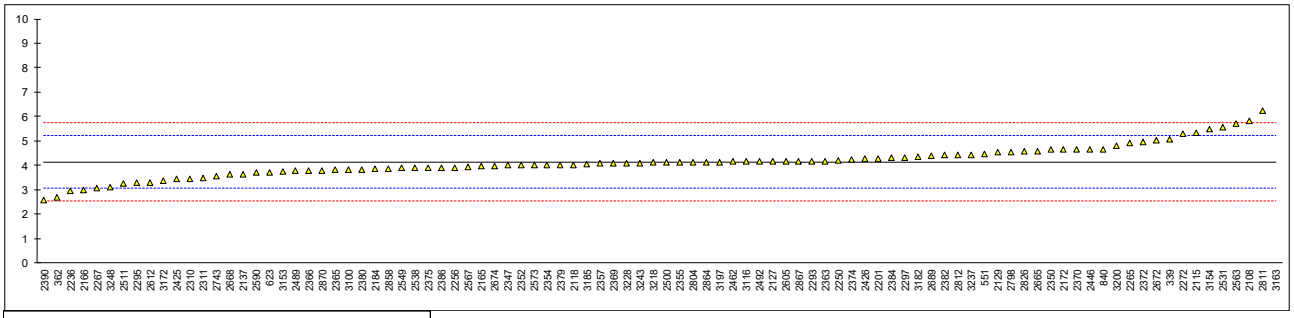


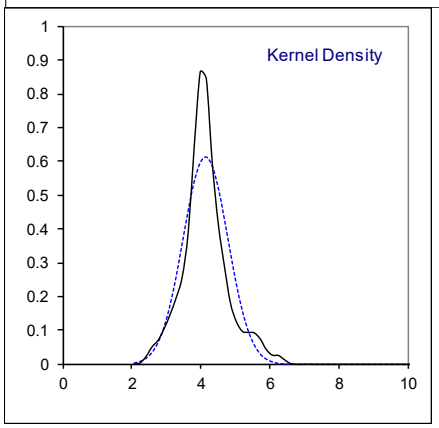
Determination of Fluoranthene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	5.07		1.73	
362	In house	2.688		-2.72	
551	In house	4.45		0.58	
623	AfPS GS 2014	3.71		-0.81	
840	AfPS GS 2014	4.67		0.99	
841		-----		-----	
2108	AfPS GS 2014	5.83		3.16	
2115	AfPS GS 2014	5.34		2.24	
2118	AfPS GS 2014	4.027		-0.21	
2120		-----		-----	
2127	AfPS GS 2014	4.16		0.03	
2129	AfPS GS 2014	4.53		0.73	
2137	KS M6956	3.64		-0.94	
2165	AfPS GS 2019	3.97		-0.32	
2166	AfPS GS 2014Mod.	2.992		-2.15	
2172	AfPS GS 2014	4.65		0.95	
2184	AfPS 2019	3.85		-0.55	
2201	AfPS GS 2014	4.278		0.25	
2218		-----		-----	
2236	ZEK01.4-08	2.94		-2.25	
2247		-----		-----	
2250	AfPS GS 2014	4.20		0.11	
2256		3.91		-0.43	
2265	AfPS GS 2014	4.92		1.45	
2267	In house	3.06		-2.02	
2272	AfPS GS 2019	5.3		2.16	
2293		4.177		0.07	
2295	ISO16190	3.30		-1.57	
2297		4.31		0.31	
2310	AfPS GS 2014	3.46		-1.27	
2311	AfPS GS 2014	3.468		-1.26	
2347	AfPS GS 2019:01	4.0		-0.26	
2350	AfPS GS 2014	4.650		0.95	
2352	AfPS GS 2014	4.00		-0.26	
2354	AfPS GS 2014	4.0001		-0.26	
2355	AfPS GS 2014	4.12		-0.04	
2357	AfPS GS 2014	4.08		-0.12	
2363	AfPS GS 2019	4.18		0.07	
2365	AfPS GS 2014	3.81		-0.62	
2366	AfPS GS 2014	3.79		-0.66	
2369	AfPS GS 2014	4.09		-0.10	
2370	AfPS GS 2014	4.65		0.95	
2372	AfPS GS 2014	4.95		1.51	
2374	AfPS GS 2014	4.23		0.17	
2375	AfPS GS 2014	3.90		-0.45	
2379	AfPS GS 2014	4.0137		-0.24	
2380	AfPS GS 2014	3.821		-0.60	
2382	AfPS GS 2014	4.42		0.52	
2384	AfPS GS 2014	4.30		0.30	
2386	AfPS GS 2014	3.901		-0.45	
2390	AfPS GS 2014	2.580		-2.92	
2425	In house	3.43		-1.33	
2426	ZEK01.4-08	4.26		0.22	
2446	AfPS GS 2014	4.66		0.97	
2462	AfPS GS 2019	4.15		0.02	
2481		-----		-----	
2489	AfPS GS 2014	3.78		-0.68	
2492	In house	4.157		0.03	
2500	AfPS GS 2019	4.1129		-0.05	
2511	AfPS GS 2014	3.266		-1.64	
2531	AfPS GS 2014	5.57		2.67	
2538	§64 LFGB draft	3.8803		-0.49	
2549	AfPS GS 2014	3.88		-0.49	
2561		-----		-----	
2563	AfPS GS 2014	5.7		2.91	
2567	AfPS GS 2014	3.95		-0.36	
2573	AFPS GS 2014	4.00		-0.26	
2590	AfPS GS 2014	3.695		-0.83	
2605	AfPS GS 2014	4.17		0.05	
2612	AfPS GS 2014	3.31		-1.55	
2614		-----		-----	
2629	AfPS GS 2014	<0.2	C	<-7.37	Possibly a false negative test result? First reported 0.578
2665	AfPS GS 2014	4.579		0.82	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	3.63		-0.96	
2672	AfPS GS 2014	5.037		1.67	
2674	AfPS GS 2014	3.98		-0.30	
2689	AfPS GS 2014	4.38		0.45	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	3.54		-1.12	
2790		-----		-----	
2798	AfPS GS 2014	4.55		0.76	
2804	In house	4.12		-0.04	
2811	AfPS GS 2014	6.24		3.92	
2812	AfPS GS 2014	4.44		0.56	
2826	AfPS GS 2014	4.5615		0.78	
2829		-----		-----	
2858	AfPS GS 2014	3.879		-0.49	
2864	AfPS GS 2014	4.13		-0.02	
2867	AfPS GS 2014	4.17		0.05	
2870	AfPS GS 2019	3.8		-0.64	
3100		3.82		-0.60	
3116	AfPS GS 2014	4.150		0.02	
3153	AfPS GS 2014	3.73		-0.77	
3154		5.50		2.54	
3163	In house	46	R(0.01)	78.23	
3172	AfPS GS 2014	3.384		-1.42	
3182	AfPS GS 2014	4.36		0.41	
3185	AfPS GS 2019	4.05		-0.17	
3190		-----		-----	
3197	AfPS GS 2014	4.14		0.00	
3200	AfPS GS 2014	4.80		1.23	
3210		-----		-----	
3218	AfPS GS 2014	4.11		-0.06	
3228	AfPS 2019	4.09		-0.10	
3237	AfPS GS 2014	4.44		0.56	
3243	AfPS GS 2014	4.1		-0.08	
3248	In house	3.11		-1.93	

	normality	suspect	
	n	93	
	outliers	1	
	mean (n)	4.1417	
	st.dev. (n)	0.64931	RSD = 16%
	R(calc.)	1.8181	
	st.dev.(Horwitz)	0.53506	
	R(Horwitz)	1.4982	





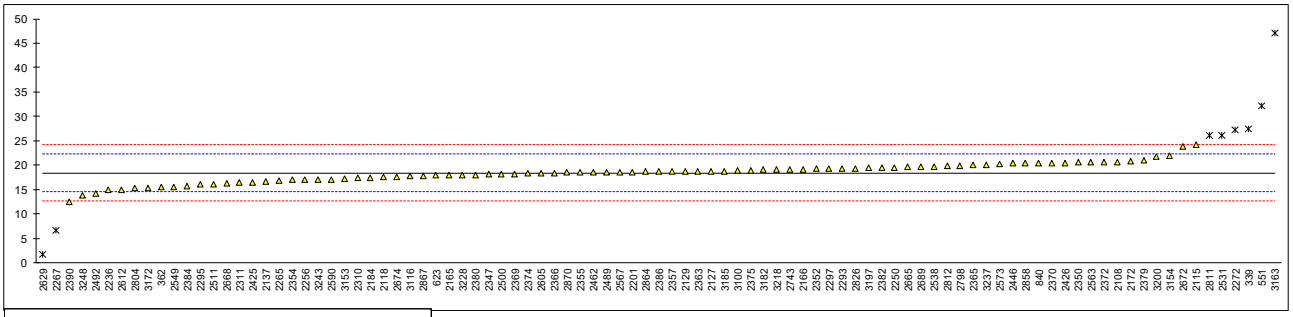
Determination of Pyrene in sample #20503; results in mg/kg

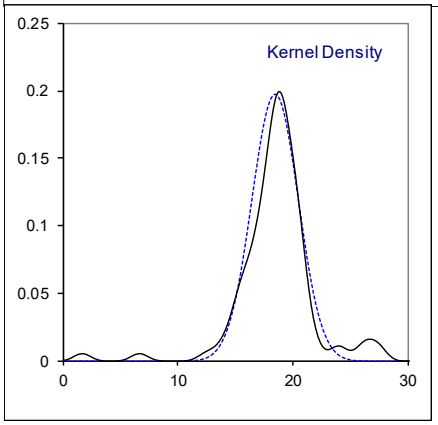
lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	27.5	R(0.05)	4.75	
362	In house	15.45		-1.58	
551	In house	32.22	C,R(0.01)	7.23	First reported 45.21
623	AfPS GS 2014	17.92		-0.28	
840	AfPS GS 2014	20.47		1.06	
841		-----		-----	
2108	AfPS GS 2014	20.68		1.17	
2115	AfPS GS 2014	24.13		2.98	
2118	AfPS GS 2014	17.620		-0.44	
2120		-----		-----	
2127	AfPS GS 2014	18.82		0.19	
2129	AfPS GS 2014	18.8		0.18	
2137	KS M6956	16.65		-0.95	
2165	AfPS GS 2019	17.92		-0.28	
2166	AfPS GS 2014Mod.	19.207		0.40	
2172	AfPS GS 2014	20.9		1.29	
2184	AfPS 2019	17.45		-0.53	
2201	AfPS GS 2014	18.606		0.08	
2218		-----		-----	
2236	ZEK01.4-08	14.97		-1.83	
2247		-----		-----	
2250	AfPS GS 2014	19.54		0.57	
2256		17.0		-0.76	
2265	AfPS GS 2014	16.91		-0.81	
2267	In house	6.65	R(0.01)	-6.20	
2272	AfPS GS 2019	27.2	R(0.05)	4.59	
2293		19.35		0.47	
2295	ISO16190	16.0		-1.29	
2297		19.3		0.44	
2310	AfPS GS 2014	17.38		-0.56	
2311	AfPS GS 2014	16.427		-1.06	
2347	AfPS GS 2019:01	18.1		-0.19	
2350	AfPS GS 2014	20.538		1.10	
2352	AfPS GS 2014	19.25		0.42	
2354	AfPS GS 2014	16.9766		-0.78	
2355	AfPS GS 2014	18.54		0.05	
2357	AfPS GS 2014	18.80		0.18	
2363	AfPS GS 2019	18.80		0.18	
2365	AfPS GS 2014	20.00		0.81	
2366	AfPS GS 2014	18.43		-0.01	
2369	AfPS GS 2014	18.21		-0.13	
2370	AfPS GS 2014	20.5		1.08	
2372	AfPS GS 2014	20.6		1.13	
2374	AfPS GS 2014	18.33		-0.06	
2375	AfPS GS 2014	19.00		0.29	
2379	AfPS GS 2014	20.9481		1.31	
2380	AfPS GS 2014	18.022		-0.23	
2382	AfPS GS 2014	19.50		0.55	
2384	AfPS GS 2014	15.67		-1.46	
2386	AfPS GS 2014	18.77		0.17	
2390	AfPS GS 2014	12.48		-3.14	
2425	In house	16.45		-1.05	
2426	ZEK01.4-08	20.51		1.08	
2446	AfPS GS 2014	20.38		1.01	
2462	AfPS GS 2019	18.57		0.06	
2481		-----		-----	
2489	AfPS GS 2014	18.6		0.08	
2492	In house	14.190		-2.24	
2500	AfPS GS 2019	18.1124		-0.18	
2511	AfPS GS 2014	16.116		-1.23	
2531	AfPS GS 2014	26.19	R(0.05)	4.06	
2538	§64 LFGB draft	19.7687		0.69	
2549	AfPS GS 2014	15.61		-1.49	
2561		-----		-----	
2563	AfPS GS 2014	20.56	C	1.11	First reported 25.63
2567	AfPS GS 2014	18.60		0.08	
2573	AFPS GS 2014	20.30		0.97	
2590	AfPS GS 2014	17.115		-0.70	
2605	AfPS GS 2014	18.38		-0.04	
2612	AfPS GS 2014	15.0		-1.81	
2614		-----		-----	
2629	AfPS GS 2014	1.662	C,R(0.01)	-8.82	First reported 2.422
2665	AfPS GS 2014	19.69		0.65	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	16.32		-1.12	
2672	AfPS GS 2014	23.832		2.83	
2674	AfPS GS 2014	17.63		-0.43	
2689	AfPS GS 2014	19.72		0.67	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	19.12		0.35	
2790		-----		-----	
2798	AfPS GS 2014	19.95		0.79	
2804	In house	15.3	C	-1.66	First reported 25.3
2811	AfPS GS 2014	26.13	R(0.05)	4.03	
2812	AfPS GS 2014	19.94		0.78	
2826	AfPS GS 2014	19.3895		0.49	
2829		-----		-----	
2858	AfPS GS 2014	20.387		1.02	
2864	AfPS GS 2014	18.71		0.13	
2867	AfPS GS 2014	17.71		-0.39	
2870	AfPS GS 2019	18.5		0.02	
3100		18.89		0.23	
3116	AfPS GS 2014	17.70		-0.40	
3153	AfPS GS 2014	17.21		-0.65	
3154		21.91	C	1.82	First reported 29.27
3163	In house	47	R(0.01)	14.99	
3172	AfPS GS 2014	15.388		-1.61	
3182	AfPS GS 2014	19.05		0.31	
3185	AfPS GS 2019	18.82		0.19	
3190		-----		-----	
3197	AfPS GS 2014	19.46		0.53	
3200	AfPS GS 2014	21.70		1.71	
3210		-----		-----	
3218	AfPS GS 2014	19.06		0.32	
3228	AfPS 2019	17.96		-0.26	
3237	AfPS GS 2014	20.04		0.83	
3243	AfPS GS 2014	17.05		-0.74	
3248	In house	13.77		-2.46	

	normality	OK
	n	87
	outliers	8
	mean (n)	18.4533
	st.dev. (n)	2.01911
	R(calc.)	5.6535
	st.dev.(Horwitz)	1.90384
	R(Horwitz)	5.3307

RSD = 11%



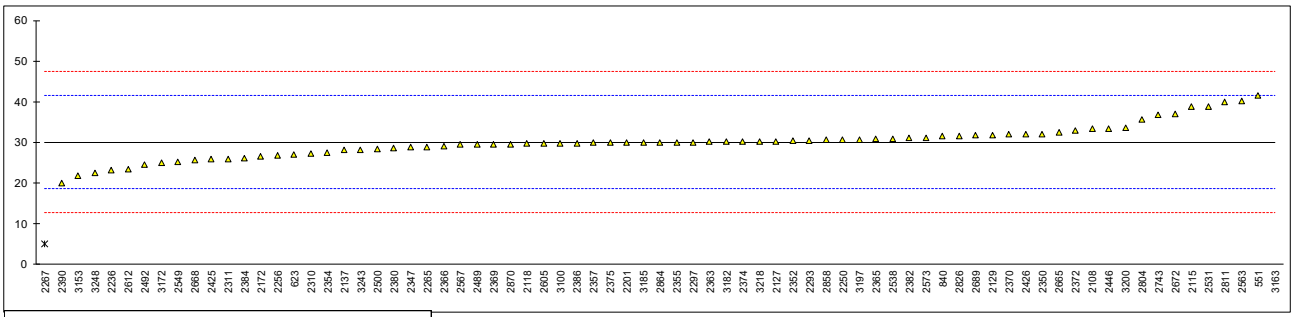


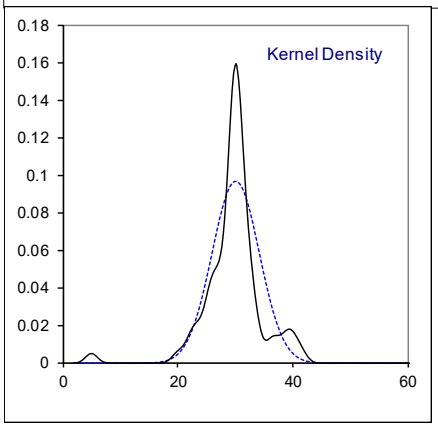
Determination of Sum of Phenanthrene, Anthracene, Fluoranthene and Pyrene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	iis calc*)	mark	remarks
230		-----		-----	-----		
310		-----		-----	-----		
339		-----		-----	41.20		
362		-----		-----	22.95		
551	In house	41.54	C	1.99	41.54		First reported 54.53
623	AfPS GS 2014	27.02		-0.53	27.02		
840	AfPS GS 2014	31.56		0.26	31.56		
841		-----		-----	-----		
2108	AfPS GS 2014	33.39		0.57	33.39		
2115	AfPS GS 2014	38.74		1.50	37.33	E	
2118	AfPS GS 2014	29.642		-0.08	29.643		
2120		-----		-----	-----		
2127	AfPS GS 2014	30.29		0.04	30.29		
2129	AfPS GS 2014	31.8		0.30	31.9	E	
2137	KS M6956	28.11		-0.34	28.11		
2165		-----		-----	28.77		
2166		-----		-----	28.69		
2172	AfPS GS 2014	26.6		-0.60	32.4	E	
2184		-----		-----	28.07		
2201	AfPS GS 2014	29.943		-0.02	29.943		
2218		-----		-----	-----		
2236	ZEK01.4-08	23.17		-1.20	23.18		
2247		-----		-----	-----		
2250	AfPS GS 2014	30.60		0.09	30.60		
2256		26.782		-0.57	26.782		
2265	AfPS GS 2014	28.93		-0.20	28.93		
2267	In house	4.98	R(0.01)	-4.35	11.16	E,R(0.01)	
2272		-----		-----	40.40		
2293		30.37		0.05	30.37		
2295		-----		-----	25.59		
2297		30.03		-0.01	30.03		
2310	AfPS GS 2014	27.33		-0.48	27.33		
2311	AfPS GS 2014	25.886		-0.73	25.886		
2347	AfPS GS 2019:01	28.8		-0.22	28.8		
2350	AfPS GS 2014	32.02		0.34	32.02		
2352	AfPS GS 2014	30.33		0.04	30.33		
2354	AfPS GS 2014	27.4105		-0.46	27.4105		
2355	AfPS GS 2014	29.99		-0.02	29.99		
2357	AfPS GS 2014	29.90		-0.03	29.90		
2363	AfPS GS 2019	30.08		0.00	30.08		
2365	AfPS GS 2014	30.89		0.14	30.89		
2366	AfPS GS 2014	29.17		-0.16	29.17		
2369	AfPS GS 2014	29.56		-0.09	29.56		
2370	AfPS GS 2014	31.96		0.33	31.96		
2372	AfPS GS 2014	33.0		0.51	33.0		
2374	AfPS GS 2014	30.13		0.01	30.13		
2375	AfPS GS 2014	29.93		-0.03	29.93		
2379		-----		-----	30.89		
2380	AfPS GS 2014	28.603		-0.26	28.603		
2382	AfPS GS 2014	31.02		0.16	31.02		
2384	AfPS GS 2014	26.20		-0.67	26.20		
2386	AfPS GS 2014	29.84		-0.04	29.84		
2390	AfPS GS 2014	19.983		-1.75	19.983		
2425	In house	25.81		-0.74	25.81		
2426	ZEK01.4-08	32.01		0.34	32.01		
2446	AfPS GS 2014	33.41		0.58	33.41		
2462		-----		-----	29.58		
2481		-----		-----	-----		
2489	AfPS GS 2014	29.54		-0.09	29.18	E	
2492	In house	24.439		-0.98	24.440		
2500	AfPS GS 2019	28.3722		-0.30	28.3722		
2511		-----		-----	25.57		
2531	AfPS GS 2014	38.83		1.52	38.83		
2538	§64 LFGB draft	30.891		0.14	30.891		
2549	AfPS GS 2014	25.26		-0.84	25.26		
2561		-----		-----	-----		
2563	AfPS GS 2014	40.24		1.76	35.17	E	
2567	AfPS GS 2014	29.46		-0.11	29.46		
2573	AFPS GS 2014	31.06		0.17	31.06		
2590		-----		-----	26.64		
2605	AfPS GS 2014	29.70		-0.07	29.70		
2612	AfPS GS 2014	23.35		-1.17	23.35		
2614		-----		-----	-----		
2629		-----		-----	1.66	R(0.01)	
2665	AfPS GS 2014	32.45		0.41	32.45		

lab	method	value	mark	z(targ)	iis calc*)	mark	Remarks
2668	AfPS GS 2014	25.77		-0.75	25.77		
2672	AfPS GS 2014	37.050		1.21	37.050		
2674		-----		-----	28.53		
2689	AfPS GS 2014	31.78		0.30	31.78		
2730		-----		-----	9.44	R(0.01)	
2737		-----		-----	-----		
2743	ISO/TS16190	36.68		1.15	36.68		
2790		-----		-----	-----		
2798		-----		-----	32.65		
2804	In house	35.64		0.96	25.64	E	
2811	AfPS GS 2014	39.85		1.69	39.85		
2812		-----		-----	31.44		
2826	AfPS GS 2014	31.6525		0.27	31.653		
2829		-----		-----	-----		
2858	AfPS GS 2014	30.561	C	0.08	30.561		First reported not detected
2864	AfPS GS 2014	29.96		-0.02	29.96		
2867		-----		-----	29.06		
2870	AfPS GS 2019	29.62		-0.08	29.62		
3100		29.70		-0.07	29.70		
3116		-----		-----	28.58		
3153	AfPS GS 2014	21.79		-1.44	27.19	E	
3154		-----		-----	34.07		
3163	In house	119	R(0.01)	15.42	119	R(0.01)	
3172	AfPS GS 2014	24.948		-0.89	24.948		
3182	AfPS GS 2014	30.09		0.00	30.09		
3185	AfPS GS 2019	29.95		-0.02	29.95		
3190		-----		-----	-----		
3197	AfPS GS 2014	30.60		0.09	30.60		
3200	AfPS GS 2014	33.60		0.61	33.60		
3210		-----		-----	-----		
3218	AfPS GS 2014	30.21		0.02	30.21		
3228		-----		-----	29.03		
3237		-----		-----	31.42		
3243	AfPS GS 2014	28.26		-0.32	28.26		
3248	In house	22.52		-1.31	22.51		
	normality	suspect			suspect		
	n	73			92		
	outliers	2			4		
	mean (n)	30.0768			29.9665		
	st.dev. (n)	4.10880	RSD = 14%		3.94265		RSD = 13%
	R(calc.)	11.5046			11.0394		
	st.dev.(Horwitz)	5.76614			5.74817		
	R(Horwitz)	16.1452	4 components		16.0949		

*) iis calculated the total of 4 PAH whose level in the material is found to exceed 0.2 mg/kg according to AfPS GS 2014
E = calculation error?





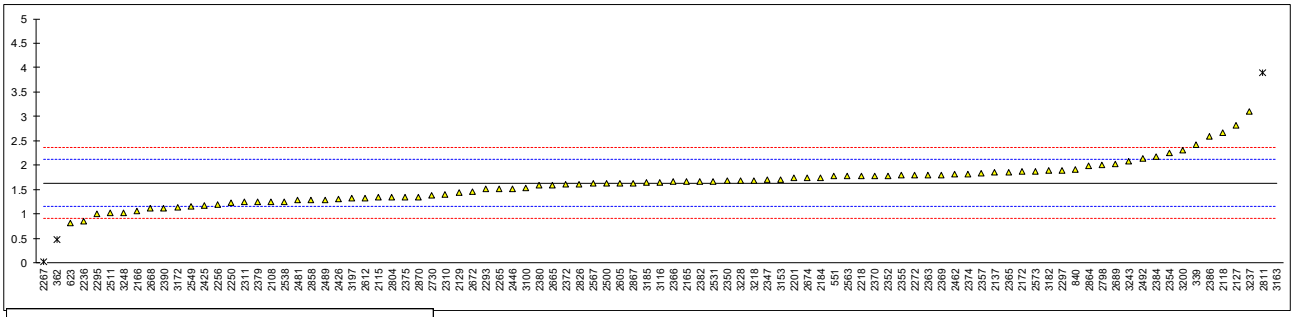
Determination of Benzo[a]anthracene in sample #20503; results in mg/kg

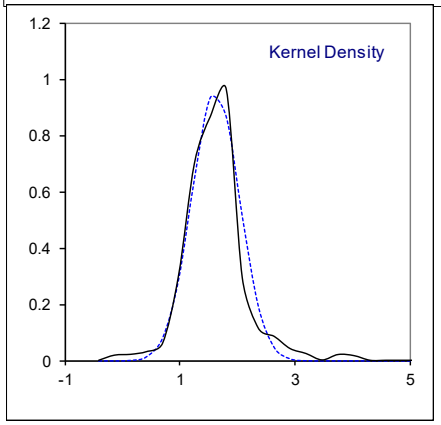
lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	2.42		3.22	
362	In house	0.47	C,R(0.01)	-4.80	First reported 0.505
551	In house	1.77		0.55	
623	AfPS GS 2014	0.82		-3.36	
840	AfPS GS 2014	1.91		1.12	
841		-----		-----	
2108	AfPS GS 2014	1.25		-1.59	
2115	AfPS GS 2014	1.34		-1.22	
2118	AfPS GS 2014	2.672		4.26	
2120		-----		-----	
2127	AfPS GS 2014	2.81		4.83	
2129	AfPS GS 2014	1.43		-0.85	
2137	KS M6956	1.85		0.88	
2165	AfPS GS 2019	1.67		0.14	
2166	AfPS GS 2014Mod.	1.063		-2.36	
2172	AfPS GS 2014	1.87		0.96	
2184	AfPS 2019	1.75		0.47	
2201	AfPS GS 2014	1.736		0.41	
2218	In house	1.775		0.57	
2236	ZEK01.4-08	0.85		-3.23	
2247		-----		-----	
2250	AfPS GS 2014	1.23		-1.67	
2256		1.19		-1.84	
2265	AfPS GS 2014	1.51		-0.52	
2267	In house	0.02	R(0.01)	-6.65	
2272	AfPS GS 2019	1.8		0.67	
2293		1.510		-0.52	
2295	ISO16190	1.0		-2.62	
2297		1.90		1.08	
2310	AfPS GS 2014	1.4		-0.97	
2311	AfPS GS 2014	1.248		-1.60	
2347	AfPS GS 2019:01	1.7		0.26	
2350	AfPS GS 2014	1.678		0.17	
2352	AfPS GS 2014	1.78		0.59	
2354	AfPS GS 2014	2.2604		2.57	
2355	AfPS GS 2014	1.79		0.63	
2357	AfPS GS 2014	1.84		0.84	
2363	AfPS GS 2019	1.80		0.67	
2365	AfPS GS 2014	1.86		0.92	
2366	AfPS GS 2014	1.66		0.10	
2369	AfPS GS 2014	1.8		0.67	
2370	AfPS GS 2014	1.78		0.59	
2372	AfPS GS 2014	1.60		-0.15	
2374	AfPS GS 2014	1.82		0.75	
2375	AfPS GS 2014	1.35		-1.18	
2379	AfPS GS 2014	1.2494		-1.59	
2380	AfPS GS 2014	1.583		-0.22	
2382	AfPS GS 2014	1.67		0.14	
2384	AfPS GS 2014	2.18		2.24	
2386	AfPS GS 2014	2.601		3.97	
2390	AfPS GS 2014	1.12		-2.12	
2425	In house	1.17		-1.92	
2426	ZEK01.4-08	1.31		-1.34	
2446	AfPS GS 2014	1.52		-0.48	
2462	AfPS GS 2019	1.81		0.71	
2481	In house	1.28		-1.47	
2489	AfPS GS 2014	1.29		-1.43	
2492	In house	2.140		2.07	
2500	AfPS GS 2019	1.6211		-0.06	
2511	AfPS GS 2014	1.016		-2.55	
2531	AfPS GS 2014	1.67		0.14	
2538	§64 LFGB draft	1.2582		-1.56	
2549	AfPS GS 2014	1.15		-2.00	
2561		-----		-----	
2563	AfPS GS 2014	1.77	C	0.55	First reported 3.35
2567	AfPS GS 2014	1.62		-0.07	
2573	AFPS GS 2014	1.88		1.00	
2590		-----		-----	
2605	AfPS GS 2014	1.63		-0.03	
2612	AfPS GS 2014	1.33		-1.26	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		<-5.91	Possibly a false negative test result?
2665	AfPS GS 2014	1.595		-0.17	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	1.11		-2.17	
2672	AfPS GS 2014	1.450		-0.77	
2674	AfPS GS 2014	1.74		0.43	
2689	AfPS GS 2014	2.03		1.62	
2730		1.39		-1.01	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	2.0		1.50	
2804	In house	1.34		-1.22	
2811	AfPS GS 2014	3.89	R(0.01)	9.27	
2812		-----		-----	
2826	AfPS GS 2014	1.6165		-0.08	
2829		-----		-----	
2858	AfPS GS 2014	1.28	C	-1.47	First reported not detected
2864	AfPS GS 2014	1.99		1.45	
2867	AfPS GS 2014	1.63		-0.03	
2870	AfPS GS 2019	1.35		-1.18	
3100		1.53		-0.44	
3116	AfPS GS 2014	1.654		0.07	
3153	AfPS GS 2014	1.70		0.26	
3154		-----		-----	
3163	In house	70	R(0.01)	281.18	
3172	AfPS GS 2014	1.141		-2.04	
3182	AfPS GS 2014	1.89		1.04	
3185	AfPS GS 2019	1.64		0.01	
3190		-----		-----	
3197	AfPS GS 2014	1.32		-1.30	
3200	AfPS GS 2014	2.30		2.73	
3210		-----		-----	
3218	AfPS GS 2014	1.69		0.22	
3228	AfPS 2019	1.68		0.18	
3237	AfPS GS 2014	3.11		6.06	
3243	AfPS GS 2014	2.09		1.87	
3248	In house	1.02		-2.54	

	normality	suspect
	n	89
	outliers	4
	mean (n)	1.6365
	st.dev. (n)	0.41553
	R(calc.)	1.1635
	st.dev.(Horwitz)	0.24313
	R(Horwitz)	0.6808

RSD = 25%



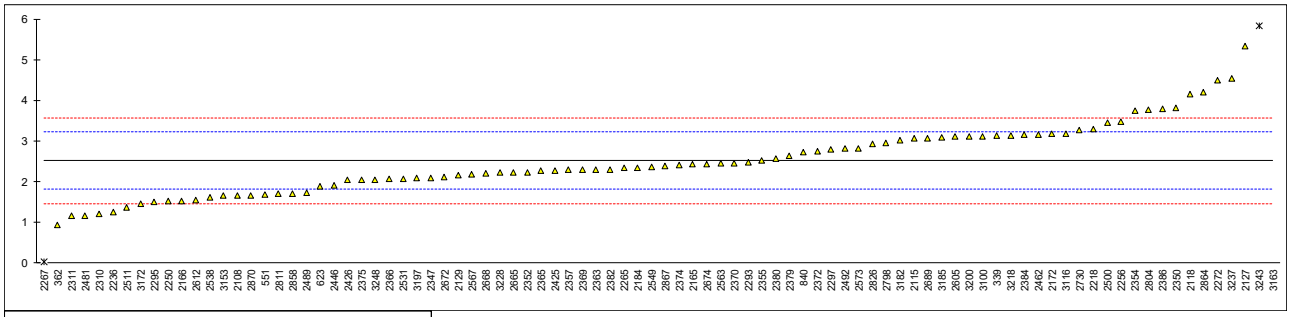


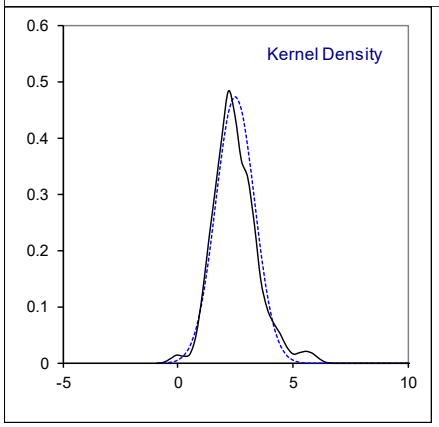
Determination of Chrysene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	3.13		1.76	
362	In house	0.93	C	-4.52	First reported 0.825
551	In house	1.69		-2.35	
623	AfPS GS 2014	1.88		-1.81	
840	AfPS GS 2014	2.72		0.59	
841		-----		-----	
2108	AfPS GS 2014	1.66		-2.44	
2115	AfPS GS 2014	3.06	C	1.56	First reported 5.69
2118	AfPS GS 2014	4.162		4.71	
2120		-----		-----	
2127	AfPS GS 2014	5.34		8.07	
2129	AfPS GS 2014	2.15		-1.04	
2137		-----		-----	
2165	AfPS GS 2019	2.42		-0.27	
2166	AfPS GS 2014Mod.	1.531		-2.81	
2172	AfPS GS 2014	3.18		1.90	
2184	AfPS 2019	2.34		-0.50	
2201	AfPS GS 2014	NA		-----	
2218	In house	3.295		2.23	
2236	ZEK01.4-08	1.24		-3.64	
2247		-----		-----	
2250	AfPS GS 2014	1.52		-2.84	
2256		3.48		2.76	
2265	AfPS GS 2014	2.34		-0.50	
2267	In house	0.02	R(0.05)	-7.12	
2272	AfPS GS 2019	4.5		5.67	
2293		2.481		-0.09	
2295	ISO16190	1.5		-2.90	
2297		2.79		0.79	
2310	AfPS GS 2014	1.2		-3.75	
2311	AfPS GS 2014	1.153		-3.89	
2347	AfPS GS 2019:01	2.1		-1.18	
2350	AfPS GS 2014	3.810		3.70	
2352	AfPS GS 2014	2.23		-0.81	
2354	AfPS GS 2014	3.7443		3.52	
2355	AfPS GS 2014	2.52		0.02	
2357	AfPS GS 2014	2.29		-0.64	
2363	AfPS GS 2019	2.30		-0.61	
2365	AfPS GS 2014	2.28		-0.67	
2366	AfPS GS 2014	2.06		-1.30	
2369	AfPS GS 2014	2.29		-0.64	
2370	AfPS GS 2014	2.46		-0.15	
2372	AfPS GS 2014	2.74		0.65	
2374	AfPS GS 2014	2.41		-0.30	
2375	AfPS GS 2014	2.05		-1.32	
2379	AfPS GS 2014	2.6231		0.31	
2380	AfPS GS 2014	2.573		0.17	
2382	AfPS GS 2014	2.30		-0.61	
2384	AfPS GS 2014	3.16	C	1.85	First reported 4.21
2386	AfPS GS 2014	3.796		3.66	
2390		-----		-----	
2425	In house	2.28		-0.67	
2426	ZEK01.4-08	2.04		-1.35	
2446	AfPS GS 2014	1.90		-1.75	
2462	AfPS GS 2019	3.16		1.85	
2481	In house	1.16	C	-3.87	First reported 0.348
2489	AfPS GS 2014	1.72		-2.27	
2492	In house	2.805		0.83	
2500	AfPS GS 2019	3.4521		2.68	
2511	AfPS GS 2014	1.363		-3.29	
2531	AfPS GS 2014	2.07		-1.27	
2538	§64 LFGB draft	1.6233		-2.54	
2549	AfPS GS 2014	2.36		-0.44	
2561		-----		-----	
2563	AfPS GS 2014	2.45	C	-0.18	First reported 4.31
2567	AfPS GS 2014	2.18		-0.95	
2573	AFPS GS 2014	2.81		0.85	
2590		-----		-----	
2605	AfPS GS 2014	3.10		1.67	
2612	AfPS GS 2014	1.54		-2.78	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		<-6.61	Possibly a false negative test result?
2665	AfPS GS 2014	2.221		-0.84	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	2.21		-0.87	
2672	AfPS GS 2014	2.116		-1.14	
2674	AfPS GS 2014	2.43		-0.24	
2689	AfPS GS 2014	3.07		1.59	
2730		3.27		2.16	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	2.95		1.25	
2804	In house	3.76		3.56	
2811	AfPS GS 2014	1.71		-2.30	
2812		-----		-----	
2826	AfPS GS 2014	2.9175		1.15	
2829		-----		-----	
2858	AfPS GS 2014	1.71	C	-2.30	First reported not detected
2864	AfPS GS 2014	4.20	C	4.82	First reported 3.92
2867	AfPS GS 2014	2.38		-0.38	
2870	AfPS GS 2019	1.67		-2.41	
3100		3.11		1.70	
3116	AfPS GS 2014	3.188		1.93	
3153	AfPS GS 2014	1.65		-2.47	
3154		-----		-----	
3163	In house	70	R(0.01)	192.77	
3172	AfPS GS 2014	1.466		-2.99	
3182	AfPS GS 2014	3.01	C	1.42	First reported 4.20
3185	AfPS GS 2019	3.09		1.65	
3190		-----		-----	
3197	AfPS GS 2014	2.08		-1.24	
3200	AfPS GS 2014	3.10		1.67	
3210		-----		-----	
3218	AfPS GS 2014	3.13		1.76	
3228	AfPS 2019	2.22		-0.84	
3237	AfPS GS 2014	4.54		5.79	
3243	AfPS GS 2014	5.83	C,R(0.05)	9.47	First reported 4.4
3248	In house	2.05		-1.32	

	normality	OK
	n	87
	outliers	3
	mean (n)	2.5137
	st.dev. (n)	0.84408 RSD = 34%
	R(calc.)	2.3634
	st.dev.(Horwitz)	0.35009
	R(Horwitz)	0.9802



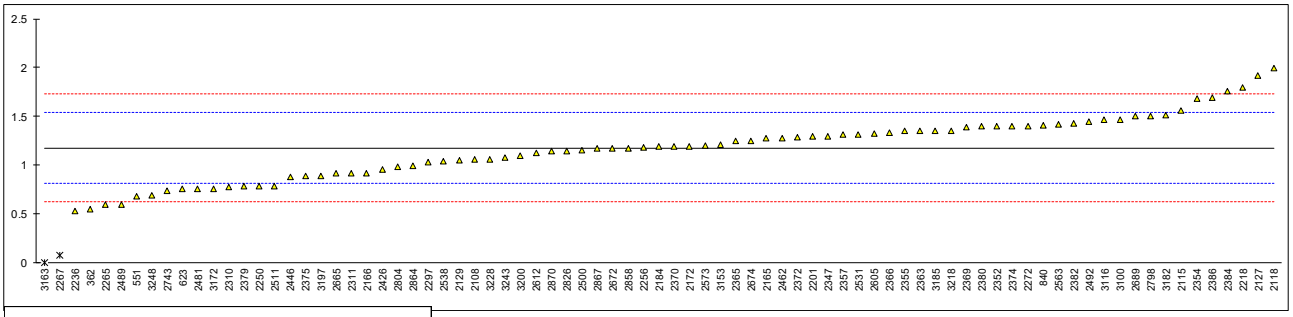


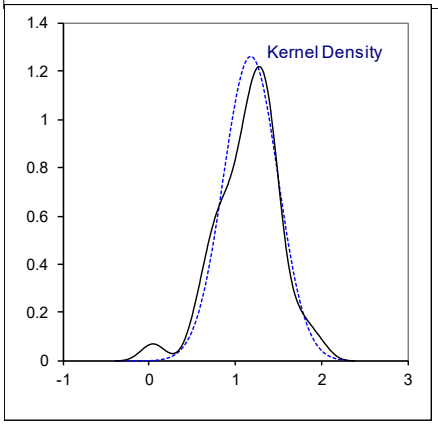
Determination of Benzo[b]fluoranthene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339		-----		-----	
362	In house	0.554		-3.39	
551	In house	0.68		-2.71	
623	AfPS GS 2014	0.76		-2.27	
840	AfPS GS 2014	1.41		1.27	
841		-----		-----	
2108	AfPS GS 2014	1.06		-0.64	
2115	AfPS GS 2014	1.56		2.08	
2118	AfPS GS 2014	1.991		4.43	
2120		-----		-----	
2127	AfPS GS 2014	1.92		4.04	
2129	AfPS GS 2014	1.05		-0.69	
2137		-----		-----	
2165	AfPS GS 2019	1.28		0.56	
2166	AfPS GS 2014Mod.	0.922		-1.39	
2172	AfPS GS 2014	1.19		0.07	
2184	AfPS 2019	1.19		0.07	
2201	AfPS GS 2014	1.293		0.63	
2218	In house	1.793		3.35	
2236	ZEK01.4-08	0.53		-3.52	
2247		-----		-----	
2250	AfPS GS 2014	0.79		-2.11	
2256		1.18		0.02	
2265	AfPS GS 2014	0.60		-3.14	
2267	In house	0.08	R(0.05)	-5.97	
2272	AfPS GS 2019	1.4		1.21	
2293		-----		-----	
2295		-----		-----	
2297		1.03		-0.80	
2310	AfPS GS 2014	0.78		-2.16	
2311	AfPS GS 2014	0.920		-1.40	
2347	AfPS GS 2019:01	1.3		0.67	
2350	AfPS GS 2014	N.A.		-----	
2352	AfPS GS 2014	1.40		1.21	
2354	AfPS GS 2014	1.6875		2.78	
2355	AfPS GS 2014	1.35		0.94	
2357	AfPS GS 2014	1.31		0.72	
2363	AfPS GS 2019	1.35		0.94	
2365	AfPS GS 2014	1.25		0.40	
2366	AfPS GS 2014	1.33		0.83	
2369	AfPS GS 2014	1.39		1.16	
2370	AfPS GS 2014	1.19		0.07	
2372	AfPS GS 2014	1.29		0.61	
2374	AfPS GS 2014	1.40		1.21	
2375	AfPS GS 2014	0.89		-1.56	
2379	AfPS GS 2014	0.7882		-2.12	
2380	AfPS GS 2014	1.395		1.19	
2382	AfPS GS 2014	1.43		1.38	
2384	AfPS GS 2014	1.76		3.17	
2386	AfPS GS 2014	1.691		2.80	
2390		-----		-----	
2425		-----		-----	
2426	ZEK01.4-08	0.96		-1.18	
2446	AfPS GS 2014	0.88		-1.62	
2462	AfPS GS 2019	1.28		0.56	
2481	In house	0.76		-2.27	
2489	AfPS GS 2014	0.60		-3.14	
2492	In house	1.450		1.48	
2500	AfPS GS 2019	1.1532		-0.13	
2511	AfPS GS 2014	0.790		-2.11	
2531	AfPS GS 2014	1.31		0.72	
2538	§64 LFGB draft	1.0396		-0.75	
2549	AfPS GS 2014	ND		-----	
2561		-----		-----	
2563	AfPS GS 2014	1.42		1.32	
2567		-----		-----	
2573	AFPS GS 2014	1.20		0.12	
2590		-----		-----	
2605	AfPS GS 2014	1.32		0.78	
2612	AfPS GS 2014	1.13		-0.26	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		<-5.32	Possibly a false negative test result?
2665	AfPS GS 2014	0.916		-1.42	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	Not Detected		-----	
2672	AfPS GS 2014	1.171		-0.03	
2674	AfPS GS 2014	1.25		0.40	
2689	AfPS GS 2014	1.50		1.76	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	0.74		-2.38	
2790		-----		-----	
2798	AfPS GS 2014	1.5		1.76	
2804	In house	0.984		-1.05	
2811		-----		-----	
2812		-----		-----	
2826	AfPS GS 2014	1.144		-0.18	
2829		-----		-----	
2858	AfPS GS 2014	1.172	C	-0.03	First reported not detected
2864	AfPS GS 2014	0.99		-1.02	
2867	AfPS GS 2014	1.17		-0.04	
2870	AfPS GS 2019	1.14		-0.20	
3100		1.47		1.59	
3116	AfPS GS 2014	1.469		1.59	
3153	AfPS GS 2014	1.21		0.18	
3154		-----		-----	
3163	In house	0	ex	-6.41	Test result excluded, zero is not a real test result
3172	AfPS GS 2014	0.760		-2.27	
3182	AfPS GS 2014	1.51		1.81	
3185	AfPS GS 2019	1.35		0.94	
3190		-----		-----	
3197	AfPS GS 2014	0.89		-1.56	
3200	AfPS GS 2014	1.10		-0.42	
3210		-----		-----	
3218	AfPS GS 2014	1.35		0.94	
3228	AfPS 2019	1.06		-0.64	
3237		-----		-----	
3243	AfPS GS 2014	1.08		-0.53	
3248	In house	0.69		-2.65	

normality	OK	
n	79	
outliers	1 (+1 ex)	
mean (n)	1.1771	
st.dev. (n)	0.31660	RSD = 27%
R(calc.)	0.8865	
st.dev.(Horwitz)	0.18377	
R(Horwitz)	0.5146	





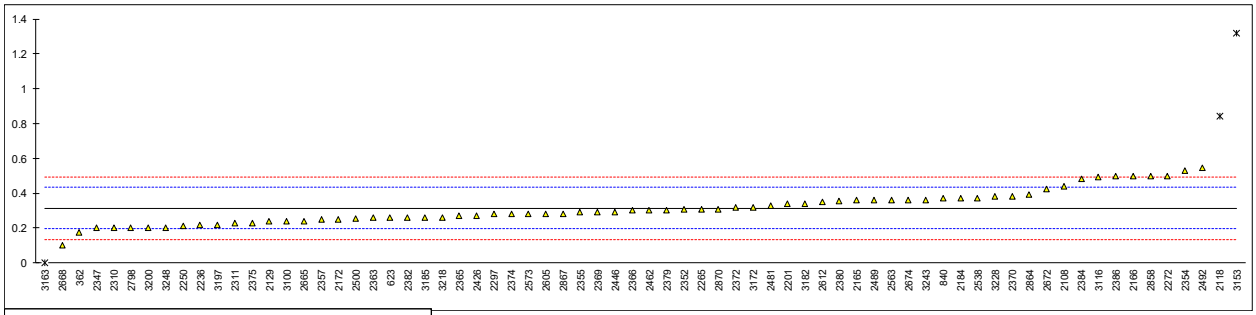
Determination of Benzo[j]fluoranthene in sample #20503; results in mg/kg

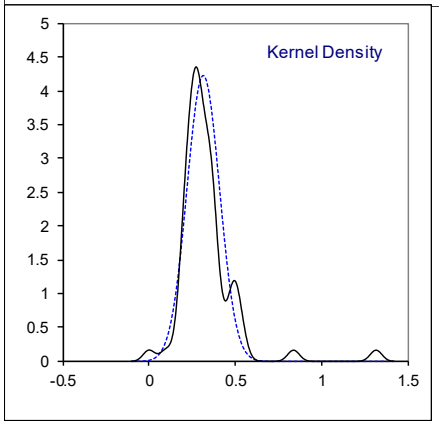
lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339		-----		-----	
362		-----		-----	
551	In house	Not detected	C	-----	First reported 0.68
623	AfPS GS 2014	0.26		-1.12	
840	AfPS GS 2014	0.38		0.80	
841		-----		-----	
2108	AfPS GS 2014	0.29		-0.64	
2115		-----		-----	
2118	AfPS GS 2014	0.516		2.98	
2120		-----		-----	
2127	AfPS GS 2014	0.56		3.68	
2129	AfPS GS 2014	0.168		-2.60	
2137		-----		-----	
2165	AfPS GS 2019	0.51		2.88	
2166	AfPS GS 2014Mod.	0.343		0.21	
2172	AfPS GS 2014	0.356		0.42	
2184	AfPS 2019	0.54		3.36	
2201	AfPS GS 2014	0.210		-1.92	
2218		-----		-----	
2236	ZEK01.4-08	0.25		-1.28	
2247		-----		-----	
2250	AfPS GS 2014	0.19		-2.24	
2256		0.323		-0.11	
2265	AfPS GS 2014	0.21		-1.92	
2267	In house	0.06	R(0.05)	-4.33	
2272	AfPS GS 2019	0.5		2.72	
2293		-----		-----	
2295		-----		-----	
2297		0.30		-0.48	
2310	AfPS GS 2014	0.18		-2.40	
2311	AfPS GS 2014	0.254		-1.22	
2347	AfPS GS 2019:01	0.2		-2.08	
2350	AfPS GS 2014	N.A.		-----	
2352	AfPS GS 2014	0.32		-0.16	
2354	AfPS GS 2014	0.6820	R(0.05)	5.64	
2355	AfPS GS 2014	0.34		0.16	
2357	AfPS GS 2014	0.30		-0.48	
2363	AfPS GS 2019	0.35		0.32	
2365	AfPS GS 2014	0.31		-0.32	
2366	AfPS GS 2014	0.37		0.64	
2369	AfPS GS 2014	0.3		-0.48	
2370	AfPS GS 2014	0.380		0.80	
2372	AfPS GS 2014	0.328		-0.03	
2374	AfPS GS 2014	0.36		0.48	
2375	AfPS GS 2014	0.21		-1.92	
2379	AfPS GS 2014	0.2979		-0.52	
2380	AfPS GS 2014	0.358		0.45	
2382	AfPS GS 2014	0.33		0.00	
2384	AfPS GS 2014	0.33		0.00	
2386	AfPS GS 2014	0.383		0.85	
2390		-----		-----	
2425		-----		-----	
2426	ZEK01.4-08	0.2		-2.08	
2446	AfPS GS 2014	0.17		-2.57	
2462	AfPS GS 2019	0.38		0.80	
2481	In house	0.23		-1.60	
2489	AfPS GS 2014	0.24		-1.44	
2492	In house	0.340		0.16	
2500	AfPS GS 2019	0.3822		0.84	
2511		-----		-----	
2531		-----		-----	
2538	§64 LFGB draft	0.4973		2.68	
2549	AfPS GS 2014	ND		-----	
2561		-----		-----	
2563	AfPS GS 2014	0.35		0.32	
2567		-----		-----	
2573	AFPS GS 2014	0.30		-0.48	
2590		-----		-----	
2605	AfPS GS 2014	0.25		-1.28	
2612		-----		-----	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		-----	
2665	AfPS GS 2014	0.245		-1.36	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.2	C	-2.08	First reported not detected
2672	AfPS GS 2014	0.225		-1.68	
2674	AfPS GS 2014	0.52		3.04	
2689	AfPS GS 2014	ND		-----	
2730		-----		-----	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	ND		-----	
2804	In house	<0.2		-----	
2811		-----		-----	
2812		-----		-----	
2826	AfPS GS 2014	<0.2		-----	
2829		-----		-----	
2858	AfPS GS 2014	0.364	C	0.54	First reported not detected
2864	AfPS GS 2014	0.47		2.24	
2867	AfPS GS 2014	0.29		-0.64	
2870	AfPS GS 2019	0.29		-0.64	
3100		0.23		-1.60	
3116	AfPS GS 2014	0.5470		3.48	
3153	AfPS GS 2014	0.36		0.48	
3154		-----		-----	
3163	In house	0	ex	-5.29	Test result excluded zero is not a real test result
3172	AfPS GS 2014	0.297		-0.53	
3182	AfPS GS 2014	0.33		0.00	
3185	AfPS GS 2019	0.26		-1.12	
3190		-----		-----	
3197	AfPS GS 2014	0.24		-1.44	
3200	AfPS GS 2014	0.50		2.72	
3210		-----		-----	
3218	AfPS GS 2014	0.26		-1.12	
3228	AfPS 2019	0.37		0.64	
3237		-----		-----	
3243	AfPS GS 2014	0.38		0.80	
3248	In house	0.59		4.17	

normality	OK
n	67
outliers	2 (+1 ex)
mean (n)	0.3301
st.dev. (n)	0.10525
R(calc.)	0.2947
st.dev.(Horwitz)	0.06240
R(Horwitz)	0.1747

RSD = 32%



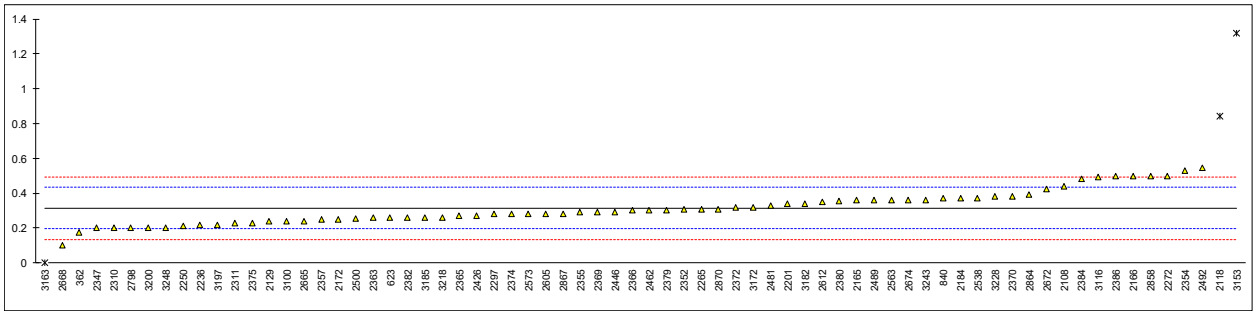


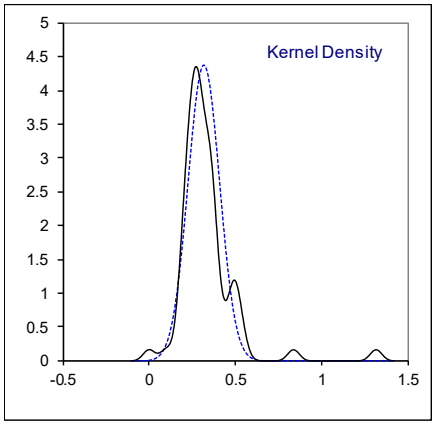
Determination of Benzo[k]fluoranthene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339		-----		-----	
362	In house	0.178		-2.29	
551	In house	Not detected	C	-----	First reported 0.70
623	AfPS GS 2014	0.26		-0.92	
840	AfPS GS 2014	0.37		0.91	
841		-----		-----	
2108	AfPS GS 2014	0.44		2.08	
2115		-----		-----	
2118	AfPS GS 2014	0.840	R(0.01)	8.74	
2120		-----		-----	
2127	AfPS GS 2014	<0.1	C	<-3.59	First reported 0.58. Possibly a false negative test result?
2129	AfPS GS 2014	0.238		-1.29	
2137		-----		-----	
2165	AfPS GS 2019	0.36		0.75	
2166	AfPS GS 2014Mod.	0.497		3.03	
2172	AfPS GS 2014	0.250		-1.09	
2184	AfPS 2019	0.37		0.91	
2201	AfPS GS 2014	0.337		0.36	
2218		-----		-----	
2236	ZEK01.4-08	0.22		-1.59	
2247		-----		-----	
2250	AfPS GS 2014	0.21		-1.75	
2256		-----		-----	
2265	AfPS GS 2014	0.31		-0.09	
2267		-----		-----	
2272	AfPS GS 2019	0.5		3.08	
2293		-----		-----	
2295		-----		-----	
2297		0.28		-0.59	
2310	AfPS GS 2014	0.2		-1.92	
2311	AfPS GS 2014	0.228		-1.45	
2347	AfPS GS 2019:01	0.2		-1.92	
2350	AfPS GS 2014	N.A.		-----	
2352	AfPS GS 2014	0.31		-0.09	
2354	AfPS GS 2014	0.5317		3.61	
2355	AfPS GS 2014	0.29		-0.42	
2357	AfPS GS 2014	0.25		-1.09	
2363	AfPS GS 2019	0.26		-0.92	
2365	AfPS GS 2014	0.27		-0.75	
2366	AfPS GS 2014	0.30		-0.25	
2369	AfPS GS 2014	0.29		-0.42	
2370	AfPS GS 2014	0.382		1.11	
2372	AfPS GS 2014	0.321		0.10	
2374	AfPS GS 2014	0.28		-0.59	
2375	AfPS GS 2014	0.23		-1.42	
2379	AfPS GS 2014	0.3038		-0.19	
2380	AfPS GS 2014	0.358		0.71	
2382	AfPS GS 2014	0.26		-0.92	
2384	AfPS GS 2014	0.48		2.74	
2386	AfPS GS 2014	0.496		3.01	
2390		-----		-----	
2425		-----		-----	
2426	ZEK01.4-08	0.27		-0.75	
2446	AfPS GS 2014	0.29		-0.42	
2462	AfPS GS 2019	0.30		-0.25	
2481	In house	0.33		0.25	
2489	AfPS GS 2014	0.36		0.75	
2492	In house	0.545		3.83	
2500	AfPS GS 2019	0.2532		-1.03	
2511		-----		-----	
2531		-----		-----	
2538	§64 LFGB draft	0.3707		0.92	
2549	AfPS GS 2014	<0.2		-----	
2561		-----		-----	
2563	AfPS GS 2014	0.36		0.75	
2567		-----		-----	
2573	AFPS GS 2014	0.28		-0.59	
2590		-----		-----	
2605	AfPS GS 2014	0.28		-0.59	
2612	AfPS GS 2014	0.35		0.58	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		-----	
2665	AfPS GS 2014	0.241		-1.24	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.1	C	-3.59	First reported not detected
2672	AfPS GS 2014	0.425		1.83	
2674	AfPS GS 2014	0.36		0.75	
2689		-----		-----	
2730		-----		-----	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	0.20		-1.92	
2804	In house	<0.2		-----	
2811	AfPS GS 2014	<0,2		-----	
2812		-----		-----	
2826	AfPS GS 2014	<0.2		-----	
2829		-----		-----	
2858	AfPS GS 2014	0.497	C	3.03	First reported not detected
2864	AfPS GS 2014	0.39		1.24	
2867	AfPS GS 2014	0.28		-0.59	
2870	AfPS GS 2019	0.31		-0.09	
3100		0.24		-1.25	
3116	AfPS GS 2014	0.4907		2.92	
3153	AfPS GS 2014	1.32	R(0.01)	16.74	
3154		-----		-----	
3163	In house	0	ex	-5.25	Test result excluded zero is not a real test result
3172	AfPS GS 2014	0.321		0.10	
3182	AfPS GS 2014	0.34		0.41	
3185	AfPS GS 2019	0.26		-0.92	
3190		-----		-----	
3197	AfPS GS 2014	0.22		-1.59	
3200	AfPS GS 2014	0.20		-1.92	
3210		-----		-----	
3218	AfPS GS 2014	0.26		-0.92	
3228	AfPS 2019	0.38		1.08	
3237		-----		-----	
3243	AfPS GS 2014	0.36		0.75	
3248	In house	0.20		-1.92	

	normality	OK
	n	67
	outliers	2 (+1 ex)
	mean (n)	0.3153
	st.dev. (n)	0.09448
	R(calc.)	0.2645
	st.dev.(Horwitz)	0.06002
	R(Horwitz)	0.1680



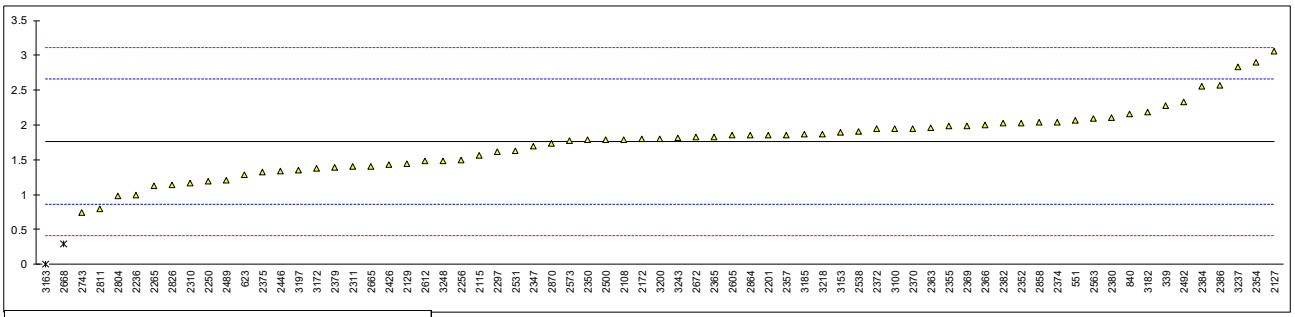


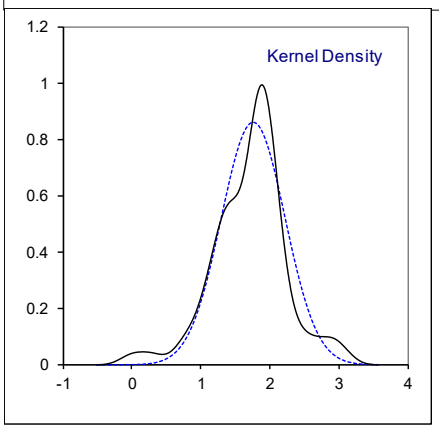
Determination of Sum of [b],[j] and [k] Benzofluoranthenes in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	iis calc*)	mark	remarks
230		-----		-----	-----		
310		-----		-----	-----		
339	In house	2.28		1.16	-----		
362		-----		-----	0.55		
551	In house	2.06		0.67	0.68	E	
623	AfPS GS 2014	1.28		-1.07	1.28		
840	AfPS GS 2014	2.16		0.89	2.16		
841		-----		-----	-----		
2108	AfPS GS 2014	1.79		0.07	1.79		
2115	AfPS GS 2014	1.56		-0.45	1.56		
2118		-----		-----	3.35		
2120		-----		-----	-----		
2127	AfPS GS 2014	3.06		2.90	2.48	E	
2129	AfPS GS 2014	1.45		-0.69	1.29	E	
2137		-----		-----	-----		
2165		-----		-----	2.15		
2166		-----		-----	1.76		
2172	AfPS GS 2014	1.796		0.08	1.796		
2184		-----		-----	2.10		
2201	AfPS GS 2014	1.860		0.22	1.840		
2218		-----		-----	1.79		
2236	ZEK01.4-08	1.00		-1.70	1.00		
2247		-----		-----	-----		
2250	AfPS GS 2014	1.19		-1.27	1.00	E	
2256		1.503		-0.57	1.503		
2265	AfPS GS 2014	1.12		-1.43	1.12		
2267		-----		-----	-----		
2272		-----		-----	2.40		
2293		-----		-----	-----		
2295		-----		-----	-----		
2297		1.61		-0.34	1.61		
2310	AfPS GS 2014	1.16		-1.34	0.78	E	
2311	AfPS GS 2014	1.402		-0.80	1.402		
2347	AfPS GS 2019:01	1.7		-0.14	1.3	E	
2350	AfPS GS 2014	1.783		0.05	-----		
2352	AfPS GS 2014	2.03		0.60	2.03		
2354	AfPS GS 2014	2.9012		2.55	2.901		
2355	AfPS GS 2014	1.98		0.49	1.98		
2357	AfPS GS 2014	1.86		0.22	1.86		
2363	AfPS GS 2019	1.96		0.44	1.96		
2365	AfPS GS 2014	1.83		0.15	1.83		
2366	AfPS GS 2014	2.00		0.53	2.00		
2369	AfPS GS 2014	1.98		0.49	1.98		
2370	AfPS GS 2014	1.952		0.43	1.952		
2372	AfPS GS 2014	1.94		0.40	1.94		
2374	AfPS GS 2014	2.04		0.62	2.04		
2375	AfPS GS 2014	1.33		-0.96	1.33		
2379	AfPS GS 2014	1.3899		-0.83	1.390		
2380	AfPS GS 2014	2.111		0.78	2.111		
2382	AfPS GS 2014	2.02		0.58	2.02		
2384	AfPS GS 2014	2.56		1.78	2.57		
2386	AfPS GS 2014	2.570		1.81	2.570		
2390		-----		-----	-----		
2425		-----		-----	-----		
2426	ZEK01.4-08	1.43		-0.74	1.23	E	
2446	AfPS GS 2014	1.34		-0.94	1.17	E	
2462		-----		-----	1.96		
2481		-----		-----	1.32		
2489	AfPS GS 2014	1.20		-1.25	1.20		
2492	In house	2.335		1.28	2.335		
2500	AfPS GS 2019	1.7886		0.06	1.789		
2511		-----		-----	0.79		
2531	AfPS GS 2014	1.63		-0.29	1.31	E	
2538	§64 LFGB draft	1.908		0.33	1.908		
2549	AfPS GS 2014	ND		-----	-----		
2561		-----		-----	-----		
2563	AfPS GS 2014	2.09		0.74	2.13	E	
2567		-----		-----	-----		
2573	AFPS GS 2014	1.78		0.04	1.78		
2590		-----		-----	-----		
2605	AfPS GS 2014	1.85		0.20	1.85		
2612	AfPS GS 2014	1.48		-0.63	1.48		
2614		-----		-----	-----		
2629	AfPS GS 2014	<0.2		<-3.48	-----		Possibly a false negative test result?
2665	AfPS GS 2014	1.402		-0.80	1.402		

lab	method	value	mark	z(targ)	iis calc*)	mark	Remarks
2668	AfPS GS 2014	0.3	C,R(0.05)	-3.26	-----		First reported not detected
2672	AfPS GS 2014	1.821		0.13	1.821		
2674		-----		-----	2.13		
2689		-----		-----	1.50		
2730		-----		-----	-----		
2737		-----		-----	-----		
2743	ISO/TS16190	0.74		-2.28	-----		
2790		-----		-----	-----		
2798		-----		-----	1.50		
2804	In house	0.984		-1.73	0.984		
2811	AfPS GS 2014	0.79		-2.17	-----		
2812		-----		-----	-----		
2826	AfPS GS 2014	1.144		-1.38	1.144		
2829		-----		-----	-----		
2858	AfPS GS 2014	2.033	C	0.61	2.033		First reported not detected
2864	AfPS GS 2014	1.85		0.20	1.85		
2867		-----		-----	1.74		
2870	AfPS GS 2019	1.74		-0.05	1.74		
3100		1.94		0.40	1.94		
3116		-----		-----	2.51		
3153	AfPS GS 2014	1.89		0.29	2.89	E	
3154		-----		-----	-----		
3163	In house	0	ex	-3.93	-----		Test result excluded zero is not a real test result
3172	AfPS GS 2014	1.378		-0.85	1.378		
3182	AfPS GS 2014	2.18		0.94	2.18		
3185	AfPS GS 2019	1.87		0.24	1.87		
3190		-----		-----	-----		
3197	AfPS GS 2014	1.35		-0.92	1.35		
3200	AfPS GS 2014	1.80		0.09	1.60	E	
3210		-----		-----	-----		
3218	AfPS GS 2014	1.87		0.24	1.87		
3228		-----		-----	1.81		
3237	AfPS GS 2014	2.83		2.39	-----		
3243	AfPS GS 2014	1.82		0.13	1.82		
3248	In house	1.48		-0.63	1.28	E	
	normality	OK			OK		
	n	67			78		
	outliers	1 (+1 ex)			0		
	mean (n)	1.7606			1.7404		
	st.dev. (n)	0.46316	RSD = 26%		0.51582	RSD = 30%	
	R(calc.)	1.2969			1.4443		
	st.dev.(Horwitz)	0.44810			0.44371		
	R(Horwitz)	1.2547	3 components		1.2424		

*) iis calculated the total of 3 PAH whose level in the material is found to exceed 0.2 mg/kg according to AfPS GS 2014
E = calculation error?

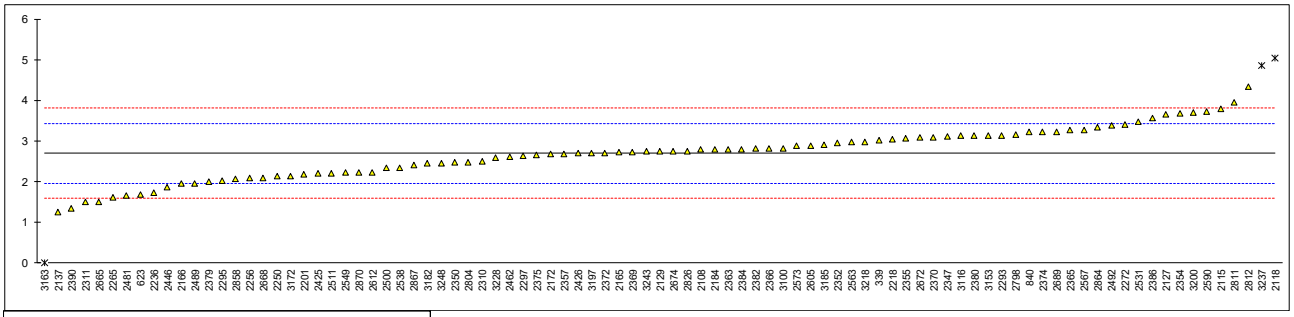


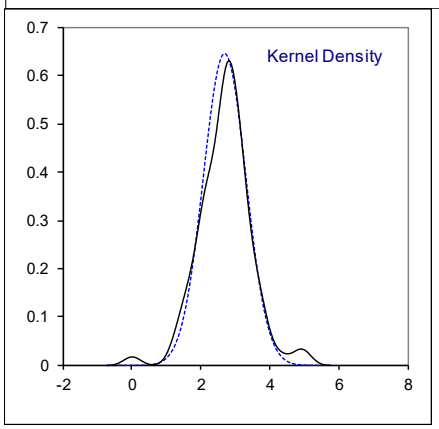


Determination of Benzo[e]pyrene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	3.01		0.85	
362		-----		-----	
551		-----		-----	
623	AfPS GS 2014	1.69		-2.71	
840	AfPS GS 2014	3.22		1.41	
841		-----		-----	
2108	AfPS GS 2014	2.79		0.26	
2115	AfPS GS 2014	3.79		2.95	
2118	AfPS GS 2014	5.035	DG(0.01)	6.30	
2120		-----		-----	
2127	AfPS GS 2014	3.66		2.60	
2129	AfPS GS 2014	2.75		0.15	
2137	KS M6956	1.25		-3.89	
2165	AfPS GS 2019	2.72		0.07	
2166	AfPS GS 2014Mod.	1.952		-2.00	
2172	AfPS GS 2014	2.68		-0.04	
2184	AfPS 2019	2.79		0.26	
2201	AfPS GS 2014	2.177		-1.39	
2218	In house	3.036		0.92	
2236	ZEK01.4-08	1.73		-2.60	
2247		-----		-----	
2250	AfPS GS 2014	2.13		-1.52	
2256		2.08		-1.65	
2265	AfPS GS 2014	1.62		-2.89	
2267		-----		-----	
2272	AfPS GS 2019	3.4		1.90	
2293		3.133		1.18	
2295	ISO16190	2.02		-1.82	
2297		2.63		-0.17	
2310	AfPS GS 2014	2.5		-0.52	
2311	AfPS GS 2014	1.505		-3.20	
2347	AfPS GS 2019:01	3.1		1.09	
2350	AfPS GS 2014	2.469		-0.61	
2352	AfPS GS 2014	2.95		0.69	
2354	AfPS GS 2014	3.6703		2.63	
2355	AfPS GS 2014	3.07		1.01	
2357	AfPS GS 2014	2.68		-0.04	
2363	AfPS GS 2019	2.80		0.28	
2365	AfPS GS 2014	3.26		1.52	
2366	AfPS GS 2014	2.82		0.34	
2369	AfPS GS 2014	2.72		0.07	
2370	AfPS GS 2014	3.09		1.06	
2372	AfPS GS 2014	2.71		0.04	
2374	AfPS GS 2014	3.22		1.41	
2375	AfPS GS 2014	2.65		-0.12	
2379	AfPS GS 2014	2.0044		-1.86	
2380	AfPS GS 2014	3.127		1.16	
2382	AfPS GS 2014	2.82		0.34	
2384	AfPS GS 2014	2.80		0.28	
2386	AfPS GS 2014	3.574		2.37	
2390	AfPS GS 2014	1.341		-3.64	
2425	In house	2.20		-1.33	
2426	ZEK01.4-08	2.7		0.01	
2446	AfPS GS 2014	1.86		-2.25	
2462	AfPS GS 2019	2.62		-0.20	
2481	In house	1.66		-2.79	
2489	AfPS GS 2014	1.96		-1.98	
2492	In house	3.390		1.87	
2500	AfPS GS 2019	2.3319		-0.98	
2511	AfPS GS 2014	2.201		-1.33	
2531	AfPS GS 2014	3.48		2.11	
2538	§64 LFGB draft	2.3326		-0.97	
2549	AfPS GS 2014	2.22		-1.28	
2561		-----		-----	
2563	AfPS GS 2014	2.97	C	0.74	First reported 4.94
2567	AfPS GS 2014	3.27		1.55	
2573	AFPS GS 2014	2.88		0.50	
2590	AfPS GS 2014	3.728		2.78	
2605	AfPS GS 2014	2.88		0.50	
2612	AfPS GS 2014	2.23		-1.25	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		<-6.72	Possibly a false negative test result?
2665	AfPS GS 2014	1.510		-3.19	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	2.09		-1.63	
2672	AfPS GS 2014	3.080		1.04	
2674	AfPS GS 2014	2.75		0.15	
2689	AfPS GS 2014	3.23		1.44	
2730		-----		-----	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	3.15		1.23	
2804	In house	2.48		-0.58	
2811	AfPS GS 2014	3.94		3.35	
2812	AfPS GS 2014	4.33		4.40	
2826	AfPS GS 2014	2.75		0.15	
2829		-----		-----	
2858	AfPS GS 2014	2.062		-1.70	
2864	AfPS GS 2014	3.34		1.74	
2867	AfPS GS 2014	2.41		-0.77	
2870	AfPS GS 2019	2.22		-1.28	
3100		2.82		0.34	
3116	AfPS GS 2014	3.122		1.15	
3153	AfPS GS 2014	3.13		1.17	
3154		-----		-----	
3163	In house	0	ex	-7.26	Test result excluded zero is not a real test result
3172	AfPS GS 2014	2.130		-1.52	
3182	AfPS GS 2014	2.46		-0.63	
3185	AfPS GS 2019	2.90		0.55	
3190		-----		-----	
3197	AfPS GS 2014	2.70		0.01	
3200	AfPS GS 2014	3.70		2.71	
3210		-----		-----	
3218	AfPS GS 2014	2.98		0.77	
3228	AfPS 2019	2.59		-0.28	
3237	AfPS GS 2014	4.85	DG(0.01)	5.80	
3243	AfPS GS 2014	2.74		0.12	
3248	In house	2.46		-0.63	
	normality	OK			
	n	88			
	outliers	2 (+1 ex)			
	mean (n)	2.6946			
	st.dev. (n)	0.61887	RSD = 23%		
	R(calc.)	1.7328			
	st.dev.(Horwitz)	0.37138			
	R(Horwitz)	1.0399			



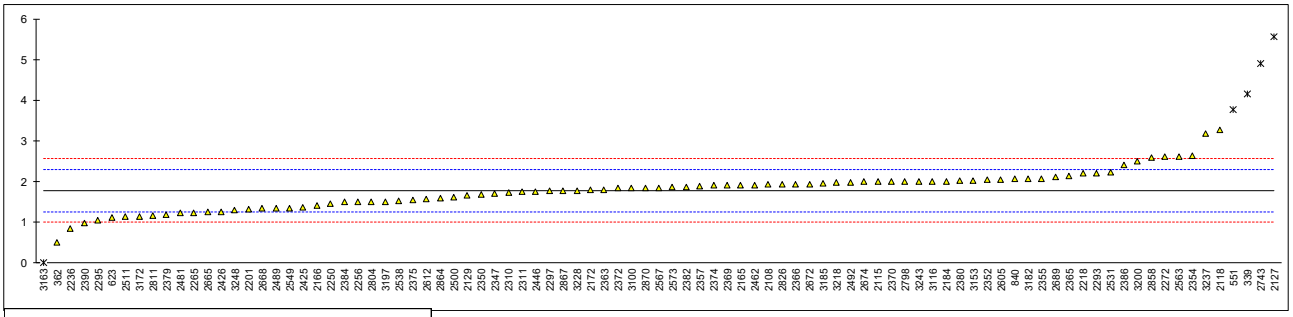


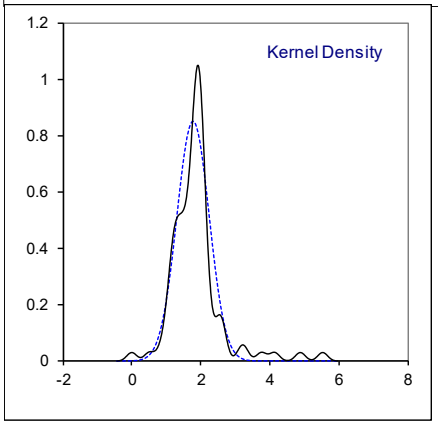
Determination of Benzo[a]pyrene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	4.15	R(0.01)	9.06	
362	In house	0.51	C	-4.87	First reported 0.56
551	In house	3.77	C,R(0.01)	7.61	First reported 3.64
623	AfPS GS 2014	1.12		-2.53	
840	AfPS GS 2014	2.06		1.06	
841		-----		-----	
2108	AfPS GS 2014	1.92		0.53	
2115	AfPS GS 2014	2.0	C	0.84	First reported 3.28
2118	AfPS GS 2014	3.276		5.72	
2120		-----		-----	
2127	AfPS GS 2014	5.55	R(0.01)	14.42	
2129	AfPS GS 2014	1.66		-0.47	
2137		-----		-----	
2165	AfPS GS 2019	1.91		0.49	
2166	AfPS GS 2014Mod.	1.411		-1.42	
2172	AfPS GS 2014	1.79		0.03	
2184	AfPS 2019	2.01		0.87	
2201	AfPS GS 2014	1.323		-1.76	
2218	In house	2.202		1.61	
2236	ZEK01.4-08	0.84		-3.60	
2247		-----		-----	
2250	AfPS GS 2014	1.45		-1.27	
2256		1.49		-1.12	
2265	AfPS GS 2014	1.23		-2.11	
2267		-----		-----	
2272	AfPS GS 2019	2.6		3.13	
2293		2.206		1.62	
2295	ISO16190	1.05		-2.80	
2297		1.78		-0.01	
2310	AfPS GS 2014	1.72		-0.24	
2311	AfPS GS 2014	1.756		-0.10	
2347	AfPS GS 2019:01	1.7		-0.31	
2350	AfPS GS 2014	1.673		-0.42	
2352	AfPS GS 2014	2.05		1.03	
2354	AfPS GS 2014	2.6337		3.26	
2355	AfPS GS 2014	2.07		1.10	
2357	AfPS GS 2014	1.88		0.38	
2363	AfPS GS 2019	1.80		0.07	
2365	AfPS GS 2014	2.14		1.37	
2366	AfPS GS 2014	1.93		0.57	
2369	AfPS GS 2014	1.9		0.45	
2370	AfPS GS 2014	2.00		0.84	
2372	AfPS GS 2014	1.83		0.18	
2374	AfPS GS 2014	1.90		0.45	
2375	AfPS GS 2014	1.54		-0.93	
2379	AfPS GS 2014	1.1818		-2.30	
2380	AfPS GS 2014	2.019		0.91	
2382	AfPS GS 2014	1.87		0.34	
2384	AfPS GS 2014	1.49		-1.12	
2386	AfPS GS 2014	2.404		2.38	
2390	AfPS GS 2014	0.987		-3.04	
2425	In house	1.36		-1.61	
2426	ZEK01.4-08	1.25		-2.03	
2446	AfPS GS 2014	1.76		-0.08	
2462	AfPS GS 2019	1.91		0.49	
2481	In house	1.22		-2.15	
2489	AfPS GS 2014	1.35		-1.65	
2492	In house	1.980		0.76	
2500	AfPS GS 2019	1.6234		-0.61	
2511	AfPS GS 2014	1.134		-2.48	
2531	AfPS GS 2014	2.22		1.68	
2538	§64 LFGB draft	1.5331		-0.95	
2549	AfPS GS 2014	1.35		-1.65	
2561		-----		-----	
2563	AfPS GS 2014	2.62		3.21	
2567	AfPS GS 2014	1.85		0.26	
2573	AFPS GS 2014	1.86		0.30	
2590		-----		-----	
2605	AfPS GS 2014	2.05		1.03	
2612	AfPS GS 2014	1.57		-0.81	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		<-6.05	Possibly a false negative test result?
2665	AfPS GS 2014	1.248		-2.04	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	1.34		-1.69	
2672	AfPS GS 2014	1.930		0.57	
2674	AfPS GS 2014	1.99		0.80	
2689	AfPS GS 2014	2.12		1.29	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	4.90	R(0.01)	11.93	
2790		-----		-----	
2798	AfPS GS 2014	2.0		0.84	
2804	In house	1.5		-1.08	
2811	AfPS GS 2014	1.17		-2.34	
2812		-----		-----	
2826	AfPS GS 2014	1.9285		0.56	
2829		-----		-----	
2858	AfPS GS 2014	2.588		3.08	
2864	AfPS GS 2014	1.60		-0.70	
2867	AfPS GS 2014	1.78		-0.01	
2870	AfPS GS 2019	1.84		0.22	
3100		1.83		0.18	
3116	AfPS GS 2014	2.008		0.87	
3153	AfPS GS 2014	2.02		0.91	
3154		-----		-----	
3163	In house	0	ex	-6.82	Test result excluded zero is not a real test result
3172	AfPS GS 2014	1.147		-2.43	
3182	AfPS GS 2014	2.06		1.06	
3185	AfPS GS 2019	1.96		0.68	
3190		-----		-----	
3197	AfPS GS 2014	1.50		-1.08	
3200	AfPS GS 2014	2.50		2.75	
3210		-----		-----	
3218	AfPS GS 2014	1.97		0.72	
3228	AfPS 2019	1.78		-0.01	
3237	AfPS GS 2014	3.18		5.35	
3243	AfPS GS 2014	2.0		0.84	
3248	In house	1.29		-1.88	

	normality	suspect
	n	86
	outliers	4 (+1 ex)
	mean (n)	1.7818
	st.dev. (n)	0.46830
RSD = 26%		
	R(calc.)	1.3112
	st.dev.(Horwitz)	0.26135
	R(Horwitz)	0.7318



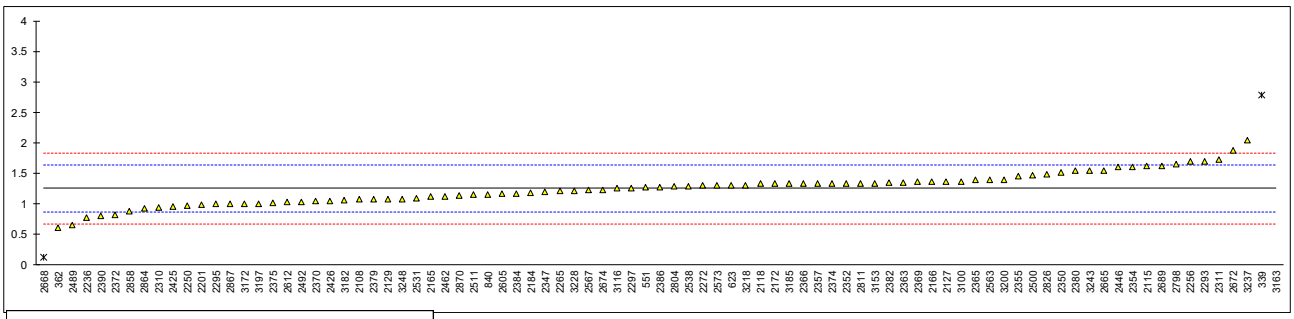


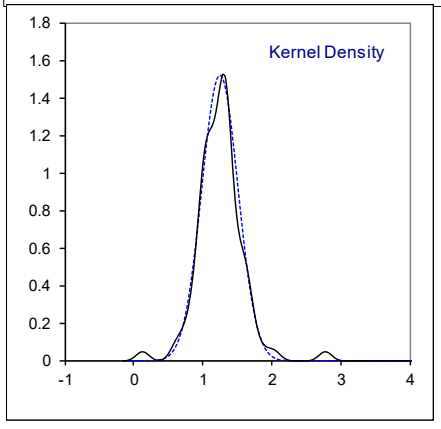
Determination of Indeno[1,2,3-c,d]pyrene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	2.78	R(0.01)	7.89	
362	In house	0.610		-3.32	
551	In house	1.27		0.09	
623	AfPS GS 2014	1.31		0.30	
840	AfPS GS 2014	1.15		-0.53	
841		-----		-----	
2108	AfPS GS 2014	1.07		-0.94	
2115	AfPS GS 2014	1.62		1.90	
2118	AfPS GS 2014	1.326		0.38	
2120		-----		-----	
2127	AfPS GS 2014	1.37		0.61	
2129	AfPS GS 2014	1.08		-0.89	
2137		-----		-----	
2165	AfPS GS 2019	1.12		-0.68	
2166	AfPS GS 2014Mod.	1.367		0.59	
2172	AfPS GS 2014	1.33		0.40	
2184	AfPS 2019	1.18		-0.37	
2201	AfPS GS 2014	0.982		-1.39	
2218		-----		-----	
2236	ZEK01.4-08	0.78		-2.44	
2247		-----		-----	
2250	AfPS GS 2014	0.97		-1.46	
2256		1.69		2.26	
2265	AfPS GS 2014	1.21		-0.22	
2267		-----		-----	
2272	AfPS GS 2019	1.3		0.25	
2293		1.699		2.31	
2295	ISO16190	1.0		-1.30	
2297		1.26		0.04	
2310	AfPS GS 2014	0.94		-1.61	
2311	AfPS GS 2014	1.721		2.42	
2347	AfPS GS 2019:01	1.2		-0.27	
2350	AfPS GS 2014	1.521		1.39	
2352	AfPS GS 2014	1.34		0.45	
2354	AfPS GS 2014	1.6013		1.80	
2355	AfPS GS 2014	1.46		1.07	
2357	AfPS GS 2014	1.34		0.45	
2363	AfPS GS 2019	1.35		0.51	
2365	AfPS GS 2014	1.40		0.76	
2366	AfPS GS 2014	1.34		0.45	
2369	AfPS GS 2014	1.36		0.56	
2370	AfPS GS 2014	1.05		-1.04	
2372	AfPS GS 2014	0.822		-2.22	
2374	AfPS GS 2014	1.34		0.45	
2375	AfPS GS 2014	1.02		-1.20	
2379	AfPS GS 2014	1.0761		-0.91	
2380	AfPS GS 2014	1.544		1.51	
2382	AfPS GS 2014	1.35		0.51	
2384	AfPS GS 2014	1.17	C	-0.42	First reported 2.15
2386	AfPS GS 2014	1.277		0.13	
2390	AfPS GS 2014	0.810		-2.28	
2425	In house	0.96		-1.51	
2426	ZEK01.4-08	1.05		-1.04	
2446	AfPS GS 2014	1.60		1.80	
2462	AfPS GS 2019	1.12		-0.68	
2481		-----		-----	
2489	AfPS GS 2014	0.66		-3.06	
2492	In house	1.033		-1.13	
2500	AfPS GS 2019	1.4628		1.09	
2511	AfPS GS 2014	1.144		-0.56	
2531	AfPS GS 2014	1.09		-0.84	
2538	§64 LFGB draft	1.2929	C	0.21	First reported 0.2824
2549	AfPS GS 2014	ND		-----	
2561		-----		-----	
2563	AfPS GS 2014	1.4		0.76	
2567	AfPS GS 2014	1.22		-0.17	
2573	AFPS GS 2014	1.30		0.25	
2590		-----		-----	
2605	AfPS GS 2014	1.16		-0.47	
2612	AfPS GS 2014	1.03		-1.15	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		<-5.43	Possibly a false negative test result?
2665	AfPS GS 2014	1.551		1.54	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	0.13	C,R(0.01)	-5.79	First reported not detected
2672	AfPS GS 2014	1.875		3.22	
2674	AfPS GS 2014	1.22		-0.17	
2689	AfPS GS 2014	1.62		1.90	
2730		-----		-----	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	1.65		2.06	
2804	In house	1.28	C	0.14	First reported 2.08
2811	AfPS GS 2014	1.34		0.45	
2812		-----		-----	
2826	AfPS GS 2014	1.4855		1.21	
2829		-----		-----	
2858	AfPS GS 2014	0.880		-1.92	
2864	AfPS GS 2014	0.93		-1.66	
2867	AfPS GS 2014	1.00		-1.30	
2870	AfPS GS 2019	1.14		-0.58	
3100		1.37		0.61	
3116	AfPS GS 2014	1.255		0.02	
3153	AfPS GS 2014	1.34		0.45	
3154		-----		-----	
3163	In house	9	R(0.01)	40.01	
3172	AfPS GS 2014	1.000		-1.30	
3182	AfPS GS 2014	1.06		-0.99	
3185	AfPS GS 2019	1.33		0.40	
3190		-----		-----	
3197	AfPS GS 2014	1.00		-1.30	
3200	AfPS GS 2014	1.40		0.76	
3210		-----		-----	
3218	AfPS GS 2014	1.31		0.30	
3228	AfPS 2019	1.21		-0.22	
3237	AfPS GS 2014	2.04		4.07	
3243	AfPS GS 2014	1.55		1.54	
3248	In house	1.08	C	-0.89	First reported 2.32

	normality	OK
	n	84
	outliers	3
	mean (n)	1.2520
	st.dev. (n)	0.26210
	R(calc.)	0.7339
	st.dev.(Horwitz)	0.19365
	R(Horwitz)	0.5422



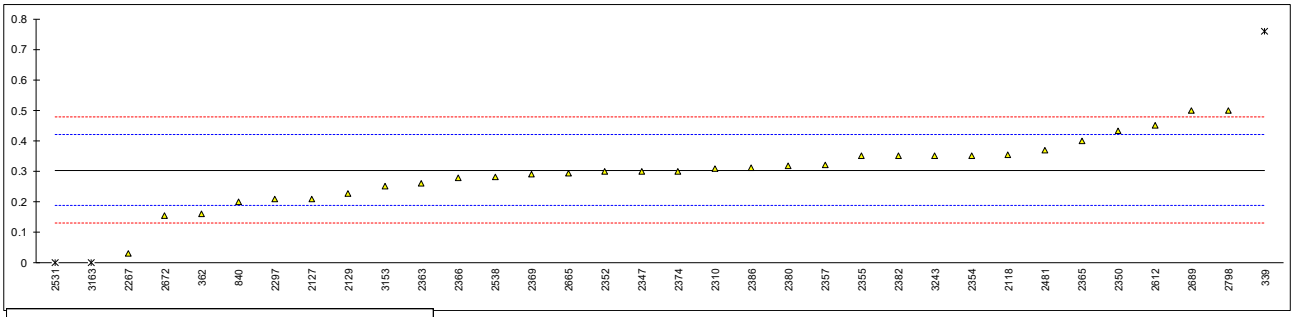


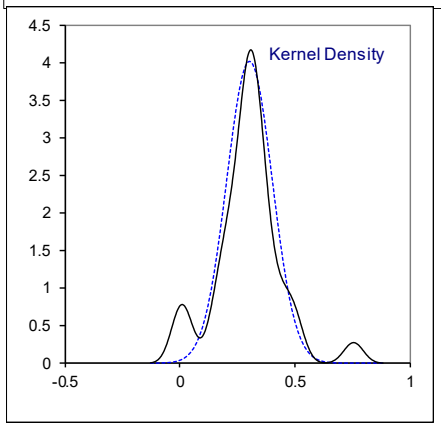
Determination of Dibenzo[a,h]anthracene in sample #20503; results in mg/kg

lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	0.758	R(0.01)	7.81	
362	In house	0.162		-2.44	
551		-----		-----	
623	AfPS GS 2014	n.d.		-----	
840	AfPS GS 2014	0.20		-1.79	
841		-----		-----	
2108		-----		-----	
2115		-----		-----	
2118	AfPS GS 2014	0.355		0.88	
2120		-----		-----	
2127	AfPS GS 2014	0.21		-1.61	
2129	AfPS GS 2014	0.228		-1.30	
2137		-----		-----	
2165		-----		-----	
2166	AfPS GS 2014Mod.	<0.2		-----	
2172		-----		-----	
2184	AfPS 2019	n.d.		-----	
2201	AfPS GS 2014	ND		-----	
2218		-----		-----	
2236		-----		-----	
2247		-----		-----	
2250		-----		-----	
2256		-----		-----	
2265	AfPS GS 2014	< 0,2		-----	
2267	In house	0.031		-4.69	
2272		-----		-----	
2293		ND		-----	
2295		-----		-----	
2297		0.21		-1.61	
2310	AfPS GS 2014	0.31		0.11	
2311	AfPS GS 2014	Not Detected		-----	
2347	AfPS GS 2019:01	0.3		-0.07	
2350	AfPS GS 2014	0.432		2.20	
2352	AfPS GS 2014	0.30		-0.07	
2354	AfPS GS 2014	0.3509		0.81	
2355	AfPS GS 2014	0.35		0.79	
2357	AfPS GS 2014	0.32		0.28	
2363	AfPS GS 2019	0.26		-0.75	
2365	AfPS GS 2014	0.40		1.65	
2366	AfPS GS 2014	0.28		-0.41	
2369	AfPS GS 2014	0.29		-0.24	
2370	AfPS GS 2014	< 0.1		-----	
2372	AfPS GS 2014	n.d.		-----	
2374	AfPS GS 2014	0.30		-0.07	
2375		-----		-----	
2379	AfPS GS 2014	Not detected		-----	
2380	AfPS GS 2014	0.317		0.23	
2382	AfPS GS 2014	0.35		0.79	
2384	AfPS GS 2014	<0.2		-----	
2386	AfPS GS 2014	0.313		0.16	
2390		-----		-----	
2425		-----		-----	
2426	ZEK01.4-08	ND		-----	
2446		-----		-----	
2462		-----		-----	
2481	In house	0.37		1.14	
2489	AfPS GS 2014	ND		-----	
2492		-----		-----	
2500	AfPS GS 2019	<0.2		-----	
2511		-----		-----	
2531	AfPS GS 2014	0	ex	-5.22	Test result excluded zero is not a real test result
2538	§64 LFGB draft	0.2824	C	-0.37	First reported 1.2929
2549	AfPS GS 2014	ND		-----	
2561		-----		-----	
2563	AfPS GS 2014	< 0,2		-----	
2567	AfPS GS 2014	<0.2		-----	
2573	AFPS GS 2014	ND		-----	
2590		-----		-----	
2605	AfPS GS 2014	ND		-----	
2612	AfPS GS 2014	0.45		2.51	
2614		-----		-----	
2629	AfPS GS 2014	< 0.2		-----	
2665	AfPS GS 2014	0.293		-0.19	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	Not Detected		-----	
2672	AfPS GS 2014	0.155		-2.56	
2674	AfPS GS 2014	n.d.		-----	
2689	AfPS GS 2014	0.5		3.37	
2730		-----		-----	
2737		-----		-----	
2743		-----		-----	
2790		-----		-----	
2798	AfPS GS 2014	0.50		3.37	
2804	In house	<0.2		-----	
2811	AfPS GS 2014	<0,2		-----	
2812		-----		-----	
2826	AfPS GS 2014	<0.2		-----	
2829		-----		-----	
2858	AfPS GS 2014	n.d		-----	
2864	AfPS GS 2014	N.D		-----	
2867	AfPS GS 2014	n.d.		-----	
2870		-----		-----	
3100		<0.20		-----	
3116		-----		-----	
3153	AfPS GS 2014	0.25		-0.93	
3154		-----		-----	
3163	In house	0	ex	-5.22	Test result excluded zero is not a real test result
3172	AfPS GS 2014	n.d.		-----	
3182	AfPS GS 2014	<0.10		-----	
3185	AfPS GS 2019	<0.2		-----	
3190		-----		-----	
3197	AfPS GS 2014	<0,1		-----	
3200	AfPS GS 2014	NA		-----	
3210		-----		-----	
3218		-----		-----	
3228	AfPS 2019	n.d		-----	
3237		-----		-----	
3243	AfPS GS 2014	0.35		0.79	
3248		-----		-----	

normality	suspect	
n	31	
outliers	1 (+2 ex)	
mean (n)	0.3038	
st.dev. (n)	0.09953	RSD = 33%
R(calc.)	0.2787	
st.dev.(Horwitz)	0.05816	
R(Horwitz)	0.1629	





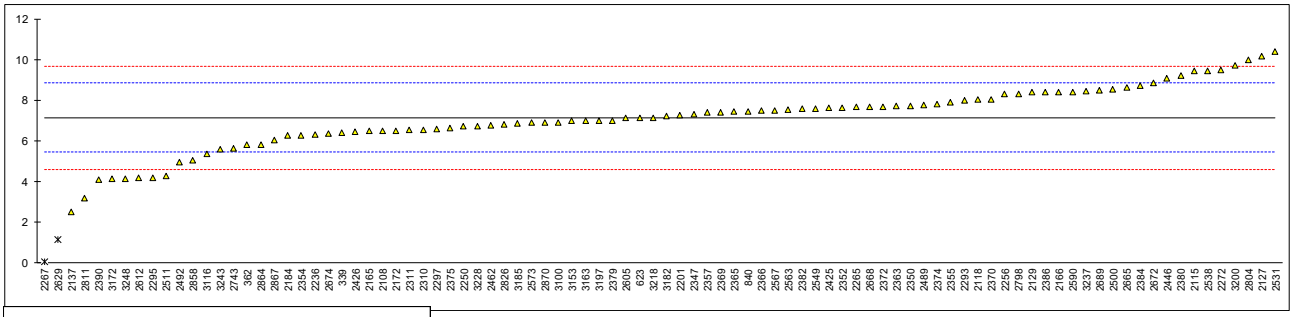
Determination of Benzo[g,h,i]perylene in sample #20503; results in mg/kg

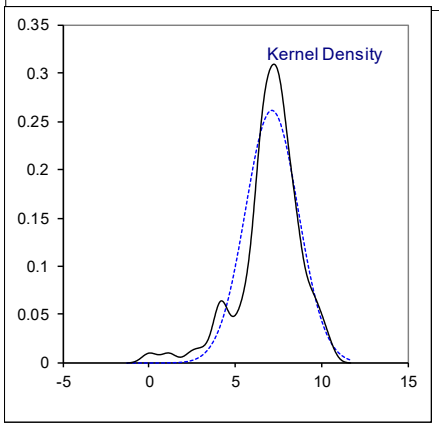
lab	method	value	mark	z(targ)	remarks
230		-----		-----	
310		-----		-----	
339	In house	6.40		-0.86	
362	In house	5.800		-1.57	
551		-----		-----	
623	AfPS GS 2014	7.14		0.01	
840	AfPS GS 2014	7.45		0.38	
841		-----		-----	
2108	AfPS GS 2014	6.48		-0.77	
2115	AfPS GS 2014	9.43		2.71	
2118	AfPS GS 2014	8.014		1.04	
2120		-----		-----	
2127	AfPS GS 2014	10.16		3.57	
2129	AfPS GS 2014	8.38		1.47	
2137	KS M6956	2.50		-5.45	
2165	AfPS GS 2019	6.47		-0.78	
2166	AfPS GS 2014Mod.	8.404		1.50	
2172	AfPS GS 2014	6.50		-0.74	
2184	AfPS 2019	6.26		-1.02	
2201	AfPS GS 2014	7.244		0.13	
2218		-----		-----	
2236	ZEK01.4-08	6.31		-0.97	
2247		-----		-----	
2250	AfPS GS 2014	6.70		-0.51	
2256		8.3		1.38	
2265	AfPS GS 2014	7.67		0.64	
2267	In house	0.038	R(0.01)	-8.36	
2272	AfPS GS 2019	9.5		2.79	
2293		7.986		1.01	
2295	ISO16190	4.2		-3.45	
2297		6.57		-0.66	
2310	AfPS GS 2014	6.52		-0.72	
2311	AfPS GS 2014	6.516		-0.72	
2347	AfPS GS 2019:01	7.3		0.20	
2350	AfPS GS 2014	7.726		0.70	
2352	AfPS GS 2014	7.64		0.60	
2354	AfPS GS 2014	6.2670		-1.02	
2355	AfPS GS 2014	7.90		0.91	
2357	AfPS GS 2014	7.40		0.32	
2363	AfPS GS 2019	7.70		0.67	
2365	AfPS GS 2014	7.45		0.38	
2366	AfPS GS 2014	7.49		0.42	
2369	AfPS GS 2014	7.4		0.32	
2370	AfPS GS 2014	8.05		1.08	
2372	AfPS GS 2014	7.68		0.65	
2374	AfPS GS 2014	7.82		0.81	
2375	AfPS GS 2014	6.65		-0.57	
2379	AfPS GS 2014	7.0011		-0.15	
2380	AfPS GS 2014	9.224		2.47	
2382	AfPS GS 2014	7.57		0.52	
2384	AfPS GS 2014	8.71		1.86	
2386	AfPS GS 2014	8.40		1.50	
2390	AfPS GS 2014	4.07		-3.60	
2425	In house	7.62		0.58	
2426	ZEK01.4-08	6.46		-0.79	
2446	AfPS GS 2014	9.06		2.27	
2462	AfPS GS 2019	6.77		-0.42	
2481		-----		-----	
2489	AfPS GS 2014	7.78		0.77	
2492	In house	4.950		-2.57	
2500	AfPS GS 2019	8.5532		1.68	
2511	AfPS GS 2014	4.270		-3.37	
2531	AfPS GS 2014	10.39		3.84	
2538	§64 LFGB draft	9.4568		2.74	
2549	AfPS GS 2014	7.58		0.53	
2561		-----		-----	
2563	AfPS GS 2014	7.55		0.49	
2567	AfPS GS 2014	7.5		0.44	
2573	AFPS GS 2014	6.89		-0.28	
2590	AfPS GS 2014	8.417		1.52	
2605	AfPS GS 2014	7.11		-0.02	
2612	AfPS GS 2014	4.18		-3.48	
2614		-----		-----	
2629	AfPS GS 2014	1.16	R(0.05)	-7.03	
2665	AfPS GS 2014	8.638		1.78	

lab	method	value	mark	z(targ)	Remarks
2668	AfPS GS 2014	7.67		0.64	
2672	AfPS GS 2014	8.83	C	2.00	First reported 11.059
2674	AfPS GS 2014	6.35		-0.92	
2689	AfPS GS 2014	8.47		1.58	
2730		-----		-----	
2737		-----		-----	
2743	ISO/TS16190	5.62		-1.78	
2790		-----		-----	
2798	AfPS GS 2014	8.30		1.38	
2804	In house	9.96		3.33	
2811	AfPS GS 2014	3.18		-4.65	
2812		-----		-----	
2826	AfPS GS 2014	6.8155		-0.37	
2829		-----		-----	
2858	AfPS GS 2014	5.019		-2.49	
2864	AfPS GS 2014	5.82		-1.54	
2867	AfPS GS 2014	6.04		-1.28	
2870	AfPS GS 2019	6.9		-0.27	
3100		6.90		-0.27	
3116	AfPS GS 2014	5.349		-2.10	
3153	AfPS GS 2014	7.00		-0.15	
3154		-----		-----	
3163	In house	7		-0.15	
3172	AfPS GS 2014	4.126		-3.54	
3182	AfPS GS 2014	7.22		0.11	
3185	AfPS GS 2019	6.87		-0.31	
3190		-----		-----	
3197	AfPS GS 2014	7.00		-0.15	
3200	AfPS GS 2014	9.70		3.03	
3210		-----		-----	
3218	AfPS GS 2014	7.14		0.01	
3228	AfPS 2019	6.72		-0.48	
3237	AfPS GS 2014	8.44		1.54	
3243	AfPS GS 2014	5.58		-1.83	
3248	In house	4.14		-3.52	

	normality	OK
	n	90
	outliers	2
	mean (n)	7.1299
	st.dev. (n)	1.52568
	R(calc.)	4.2719
	st.dev.(Horwitz)	0.84879
	R(Horwitz)	2.3766

RSD = 21%





APPENDIX 2

Other reported PAH in sample #20502; results in mg/kg

lab	Acen	Antr	Fluoran	Ben[a]	Chry	Trip	Sum C&T	Ben[b]	Ben[j]
230	0.156	0.462	0.284	-----	-----	-----	-----	-----	-----
310	-----	-----	-----	-----	-----	-----	-----	-----	-----
339	-----	< 0.1	< 0.1	< 0.1	< 0.1	-----	-----	-----	-----
362	0.650	0.142	0.108	< 0.010	< 0.010	-----	-----	< 0.010	-----
551	-----	0.14	0.08	-----	-----	-----	-----	-----	-----
623	n.d.	0.18	n.d	n.d.	n.d.	-----	n.d.	n.d.	n.d.
840	n.d.	n.d.	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
841	ND	ND	ND	ND	ND	ND	ND	ND	ND
2108	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	0.12	-----	-----	-----	-----	-----	-----
2118	-----	-----	-----	-----	-----	-----	-----	-----	-----
2120	< 0,20	< 0,20	< 0,20	< 0,20	< 0,20	-----	-----	< 0,20	< 0,20
2127	<0,1	<0,1	<0,1	<0,1	<0,1	NA	<0,1	<0,1	<0,1
2129	<0,2	<0,2	<0,2	<0,2	<0,2	NA	NA	<0,2	<0,2
2137	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	-----	-----	ND	ND
2166	<0.2	<0.2	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
2172	-----	-----	-----	-----	-----	-----	-----	-----	-----
2184	n.d.	n.d.	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
2201	ND	ND	ND	ND	ND	ND	ND	ND	ND
2218	-----	-----	-----	-----	-----	-----	-----	-----	-----
2236	-----	-----	-----	-----	-----	-----	-----	-----	-----
2247	-----	-----	-----	-----	-----	-----	-----	-----	-----
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----
2256	-----	-----	-----	-----	-----	-----	-----	-----	-----
2265	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	-----	< 0,2	< 0,2	< 0,2
2267	-----	0.022	0.02	-----	0.02	-----	-----	-----	-----
2272	-----	0.3	-----	-----	-----	-----	-----	-----	-----
2293	ND	ND	ND	ND	ND	-----	-----	-----	-----
2295	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<0.2	<0.2	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
2310	n.d.	0.12	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2311	n.d.	0.111	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
2347	<0.1	<0.1	<0.1	<0.1	<0.1	-----	-----	<0.1	<0.1
2350	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	N.A.	N.A.
2352	-----	-----	-----	-----	-----	-----	-----	-----	-----
2354	ND	0.2093	ND	ND	ND	NA	N/A	ND	ND
2355	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
2357	-----	-----	-----	-----	-----	-----	-----	-----	-----
2363	ND	ND	ND	ND	ND	NA	NA	ND	ND
2365	<0.1	<0.1	<0.1	<0.1	<0.1	-----	-----	<0.1	<0.1
2366	<0.1	<0.1	<0.1	<0.1	<0.1	ND	NA	<0.1	<0.1
2369	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2370	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	NA	N/A	< 0.1	< 0.1
2372	n.d.	n.d.	n.d.	n.d.	n.d.	NA	N/A	n.d.	n.d.
2374	ND	ND	ND	ND	ND	NA	NA	ND	ND
2375	-----	0.12	-----	-----	-----	-----	-----	-----	-----
2379	n.d.	n.d.	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
2380	<0.1	0.200	<0.1	<0.1	<0.1	-----	-----	<0.1	<0.1
2382	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10
2384	<0.2	0.23	0.24	<0.2	<0.2	-----	-----	<0.2	<0.2
2386	-----	-----	-----	-----	-----	-----	-----	-----	-----
2390	-----	0.337	0.157	-----	-----	-----	-----	-----	-----
2425	-----	-----	-----	-----	-----	-----	-----	-----	-----
2426	ND	ND	ND	ND	ND	NA	ND	ND	ND
2446	-----	0.15	-----	-----	-----	-----	-----	-----	-----
2462	-----	-----	-----	-----	-----	-----	-----	-----	-----
2481	-----	-----	-----	0.181	0.199	-----	-----	<0.03	-----
2489	ND	ND	ND	ND	ND	NA	NA	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----
2500	<0.2	<0.2	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----
2531	0.08	0.22	0	0	0	-----	-----	0	-----
2538	< 0,15	< 0,15	< 0,15	< 0,15	< 0,15	< 0,15	< 0,3	< 0,15	< 0,15
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	0	0	0	0	0	0	0	0	0
2563	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2567	<0.2	0.22	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
2573	ND	ND	ND	ND	ND	-----	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----
2605	ND	ND	ND	ND	ND	-----	-----	ND	ND
2612	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-----	-----	< 0.2	< 0.2
2614	-----	-----	-----	-----	-----	-----	-----	-----	-----
2629	< 0.2	<0.2	<0.2	< 0.2	< 0.2	<0.2	<0.2	< 0.2	< 0.2
2665	0.027	0.061	0.042	-----	-----	-----	-----	-----	-----

lab	Acen	Antr	Fluoran	Ben[a]	Chry	Trip	Sum C&T	Ben[b]	Ben[j]
2668	n.d.	n.d.	n.d.	n.d.	n.d.	-----	n.d.	n.d.	n.d.
2672	0.025	0.046	0.043	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2674	n.d.	n.d.	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
2689	ND	ND	ND	ND	ND	-----	ND	ND	ND
2730	-----	-----	-----	-----	-----	-----	-----	-----	-----
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----
2743	-----	-----	-----	-----	-----	-----	-----	-----	-----
2790	-----	-----	-----	-----	-----	-----	-----	-----	-----
2798	ND	ND	ND	ND	ND	-----	-----	ND	ND
2804	<0.2	<0.2	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
2811	<0,2	<0,2	<0,2	<0,2	<0,2	-----	-----	-----	-----
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----
2826	<0.2	0.200	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
2829	-----	-----	-----	-----	-----	-----	-----	-----	-----
2858	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
2864	0.63	0.41	0.31	ND	ND	-----	-----	ND	ND
2867	n.d.	n.d.	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
2870	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<0.20	<0.20	<0.20	<0.20	<0.20	-----	-----	<0.20	<0.20
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----
3153	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----
3163	0	28	0	0	0	0	0	0	0
3172	n.d.	n.d.	n.d.	n.d.	n.d.	-----	n.d.	n.d.	n.d.
3182	<0.10	0.13	<0.10	<0.10	<0.10	-----	-----	<0.10	<0.10
3185	<0.2	<0.2	<0.2	<0.2	<0.2	-----	-----	<0.2	<0.2
3190	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	<0,1	0.14	<0,1	<0,1	<0,1	NA	NA	<0,1	<0,1
3200	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	<0.20	<0.20
3210	-----	-----	-----	-----	-----	-----	-----	-----	-----
3218	-----	-----	-----	-----	-----	-----	-----	-----	-----
3228	n.d.	n.d.	n.d.	n.d.	n.d.	-----	-----	n.d.	n.d.
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----
3243	n.d.	n.d.	n.d.	n.d.	n.d.	-----	n.n.	NA	NA
3248	-----	-----	-----	-----	-----	-----	-----	-----	-----

Acen = Acenaphthylene
Antr = Anthracene
Flouran = Flouranthene
Ben[a] = Benzo[a]anthracene
Chry = Chrysene
Trip = Triphenylene
Sum C&T = sum of Chrysene and Triphenylene
Ben[b] = Benzo[b]fluoranthene
Ben[j] = Benzo[j]fluoranthene

Other reported PAH in sample #20502; results in mg/kg -- continued --

lab	Ben[k]	[b]/[j]/[k]	Ben[e]	Ben[a]	Inden	Ben[a,h]	Ben[g,h,i]	Cy[c,d]
230	-----	-----	-----	-----	-----	-----	-----	-----
310	-----	-----	-----	-----	-----	-----	-----	-----
339	-----	< 0.1	< 0.1	< 0.1	< 0.1	-----	< 0.1	-----
362	< 0.010	-----	-----	< 0.010	< 0.010	< 0.010	0.0123	-----
551	-----	-----	-----	-----	-----	-----	-----	-----
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
841	ND	ND	ND	ND	ND	ND	ND	ND
2108	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----	-----	-----
2118	-----	-----	-----	-----	-----	-----	-----	-----
2120	< 0,20	< 0,20	< 0,20	< 0,20	< 0,20	< 0,20	< 0,20	< 0,20
2127	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	NA
2129	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2
2137	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	-----	ND	ND	ND	ND	ND	-----
2166	<0.2	-----	<0.2	<0.2	<0.2	<0.2	<0.2	-----
2172	-----	-----	-----	-----	-----	-----	-----	-----
2184	n.d.	-----	n.d.	n.d.	n.d.	n.d.	n.d.	-----
2201	ND	ND	ND	ND	ND	ND	ND	ND
2218	-----	-----	-----	-----	-----	-----	-----	-----
2236	-----	-----	-----	-----	-----	-----	-----	-----
2247	-----	-----	-----	-----	-----	-----	-----	-----
2250	-----	-----	-----	-----	-----	-----	-----	-----
2256	-----	-----	-----	-----	-----	-----	-----	-----
2265	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
2267	-----	-----	-----	-----	-----	-----	-----	-----
2272	-----	-----	-----	-----	-----	-----	-----	-----
2293	-----	-----	ND	ND	ND	ND	ND	-----
2295	-----	-----	-----	-----	-----	-----	-----	-----
2297	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-----
2310	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2311	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2347	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-----
2350	N.A.	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2352	-----	-----	-----	-----	-----	-----	-----	-----
2354	ND	ND	ND	ND	ND	ND	ND	NA
2355	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
2357	-----	-----	-----	-----	-----	-----	-----	-----
2363	ND	ND	ND	ND	ND	ND	ND	NA
2365	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-----
2366	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
2369	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2370	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2372	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	NA
2374	ND	ND	ND	ND	ND	ND	ND	NA
2375	-----	-----	-----	-----	-----	-----	-----	-----
2379	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2380	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2382	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20
2384	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-----
2386	-----	-----	-----	-----	-----	-----	-----	-----
2390	-----	-----	-----	-----	-----	-----	-----	-----
2425	-----	-----	-----	-----	-----	-----	-----	-----
2426	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----
2462	-----	-----	-----	-----	-----	-----	-----	-----
2481	<0.03	-----	<0.03	<0.03	-----	<0.03	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----
2500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----
2531	-----	0	0	0	0	0	0	-----
2538	< 0,15	< 0,45	< 0,15	< 0,15	< 0,15	< 0,15	< 0,15	n.d.
2549	ND	ND	ND	ND	ND	ND	ND	ND
2561	0	0	0	0	0	0	0	0
2563	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	-----
2567	<0.2	-----	<0.2	<0.2	<0.2	<0.2	<0.2	-----
2573	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----
2605	ND	ND	ND	ND	ND	ND	ND	-----
2612	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-----
2614	-----	-----	-----	-----	-----	-----	-----	-----
2629	< 0.2	<0.2	< 0.2	< 0.2	0.2	< 0.2	<0.2	<0.2
2665	-----	-----	-----	-----	-----	-----	-----	-----

lab	Ben[k]	[b]/[j]/[k]	Ben[e]p	Ben[a]p	Inden	Ben[a,h]	Ben[g,h,i]	Cy[c,d]
2668	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2672	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2674	n.d.	-----	n.d.	n.d.	n.d.	n.d.	n.d.	-----
2689	ND	ND	ND	ND	ND	ND	ND	ND
2730	-----	-----	-----	-----	-----	-----	-----	-----
2737	-----	-----	-----	-----	-----	-----	-----	-----
2743	-----	-----	-----	-----	-----	-----	-----	-----
2790	-----	-----	-----	-----	-----	-----	-----	-----
2798	ND	-----	ND	ND	ND	ND	ND	-----
2804	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-----
2811	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2	-----
2812	-----	-----	-----	-----	-----	-----	-----	-----
2826	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2829	-----	-----	-----	-----	-----	-----	-----	-----
2858	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
2864	ND	-----	ND	ND	ND	ND	ND	-----
2867	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	-----
2870	-----	-----	-----	-----	-----	-----	-----	-----
3100	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-----
3116	-----	-----	-----	-----	-----	-----	-----	-----
3153	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-----
3154	-----	-----	-----	-----	-----	-----	-----	-----
3163	0	0	0	0	0	0	0	0
3172	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	-----
3182	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-----
3185	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-----
3190	-----	-----	-----	-----	-----	-----	-----	-----
3197	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1
3200	<0.20	NA	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
3210	-----	-----	-----	-----	-----	-----	-----	-----
3218	-----	-----	-----	-----	-----	-----	-----	-----
3228	n.d.	.	n.d.	n.d.	n.d.	n.d.	n.d.	-----
3237	-----	-----	-----	-----	-----	-----	-----	-----
3243	NA	NA	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3248	-----	-----	-----	-----	-----	-----	-----	-----

Ben[k] = Benzo[k]fluoranthene
[b]/[j]/[k] = sum of Benzofluoranthenes
Ben[e]p = Benzo[e]pyrene
Ben[a]p = Benzo[a]pyrene
Inden = Indeno[1,2,3-c,d]pyrene
Ben[a,h] = Dibenzo[a,h]anthracene
Ben[g,h,i] = Benzo[g,h,i]perylene
Cy[c,d] = Cyclopenta[c,d]pyrene

Other reported PAH in sample #20503; results in mg/kg

lab	Trip	Sum C&T	Cy[c,d]
230	-----	-----	-----
310	-----	-----	-----
339	-----	-----	-----
362	-----	-----	-----
551	-----	-----	-----
623	-----	1.88	0.99
840	-----	-----	n.d.
841	-----	-----	-----
2108	1.42	3.08	0.89
2115	-----	5.69	-----
2118	-----	-----	0.709
2120	-----	-----	-----
2127	NA	5.34	NA
2129	n.a.	n.a.	0.385
2137	-----	-----	-----
2165	-----	-----	-----
2166	-----	-----	-----
2172	-----	-----	-----
2184	-----	-----	-----
2201	NA	2.568	ND
2218	-----	-----	-----
2236	-----	-----	-----
2247	-----	-----	-----
2250	1.12	2.64	-----
2256	-----	3.48	1.69
2265	-----	-----	-----
2267	0.02	0.06	-----
2272	-----	-----	-----
2293	-----	-----	-----
2295	-----	-----	-----
2297	-----	-----	-----
2310	-----	-----	n.d.
2311	-----	-----	n.d.
2347	-----	-----	-----
2350	NA	N.A.	NA
2352	-----	-----	-----
2354	NA	N/A	NA
2355	-----	-----	-----
2357	-----	2.29	-----
2363	NA	NA	NA
2365	-----	-----	-----
2366	NA	NA	NA
2369	<0.1	2.29	<0.1
2370	NA	N/A	< 0.1
2372	NA	N/A	NA
2374	NA	NA	NA
2375	-----	-----	-----
2379	n.d.	-----	0.4793
2380	-----	-----	0.637
2382	NA	2.30	<0.20
2384	-----	-----	-----
2386	-----	-----	0.801
2390	-----	-----	-----
2425	-----	2.28	-----
2426	NA	2.04	0.57
2446	1.15	3.05	-----
2462	-----	-----	-----
2481	-----	-----	-----
2489	NA	NA	ND
2492	-----	-----	-----
2500	-----	3.4521	-----
2511	-----	-----	-----
2531	-----	-----	-----
2538	1.1682	2.791	n.d.
2549	ND	ND	ND
2561	-----	-----	-----
2563	-----	4.31	-----
2567	-----	-----	-----
2573	-----	2.81	ND
2590	-----	-----	-----
2605	-----	-----	-----
2612	-----	-----	-----
2614	-----	-----	-----
2629	<0.2	<0.2	<0.2
2665	-----	-----	0.769

lab	Trip	Sum C&T	Cy[c,d]
2668	-----	2.21	n.d
2672	1.549	3.665	0.896
2674	-----	-----	-----
2689	-----	-----	-----
2730	-----	-----	-----
2737	-----	-----	-----
2743	-----	-----	-----
2790	-----	-----	-----
2798	-----	-----	-----
2804	-----	-----	-----
2811	-----	-----	-----
2812	-----	-----	-----
2826	-----	-----	0.9805
2829	-----	-----	-----
2858	-----	1.71	n.d
2864	-----	-----	-----
2867	-----	-----	-----
2870	-----	1.67	-----
3100	-----	-----	-----
3116	-----	-----	-----
3153	1.33	2.98	-----
3154	-----	-----	-----
3163	-----	70	0
3172	-----	1.466	-----
3182	-----	-----	-----
3185	-----	-----	-----
3190	-----	-----	-----
3197	NA	NA	0.58
3200	NA	NA	<0.20
3210	-----	-----	-----
3218	-----	-----	-----
3228	-----	-----	-----
3237	-----	-----	1.18
3243	---	4.4	n.d.
3248	-----	-----	-----

Trip = Triphenylene
Sum C&T = sum of Chrysene and Triphenylene
Cy[c,d] = Cyclopenta[c,d]pyrene

APPENDIX 3 Summary of reported analytical details

lab	ISO/IEC 17025	Sample preparation	Final particle size (mm)	Intake sample	Extraction technique	Extraction solvent	Extraction time (min) and temp (°C)
230	---	---			---		
310	---	---			---		
339	No	Used as received			Ultrasonic		
362	No	Used as received	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
551	No	Further Cut	1.2	0.5g	Ultrasonic	Toluene	60 - 60
623	Yes	Further Cut	2 x 2	0.5	Ultrasonic	Toluene	60 - 60
840	Yes	Further Cut	2 x 2	0.5	Ultrasonic	Toluene	60 - 60
841	---	---			---		60 - 60
2108	Yes	Used as received		0,5 g	Ultrasonic	Toluene	60 - 60
2115	Yes	Further Cut	3	0.5 g	Ultrasonic	Toluene	60 - 60
2118	No	Used as received		0.5g	Ultrasonic	Toluene	60 - 60
2120	No	Other	2-3	0,5 g	Ultrasonic	Toluene	60 - 60
2127	Yes	Used as received		0,5 g	Ultrasonic	Toluene	60 - 60
2129	Yes	Used as received		0,5	Ultrasonic	Tolouene	60 - 60
2137	Yes	Further Cut		1 g	Ultrasonic	DCM	60 - 40
2165	Yes	Used as received	3 x 3	0.5	Ultrasonic	Toluene	60 - 60
2166	Yes	Used as received	5 / 1-5	0.5	Ultrasonic	Toluene	60 - 60
2172	Yes	Further Cut	2 x 2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2184	Yes	Used as received	3 x 3	0.5g	Ultrasonic	Toluene	60 - 60
2201	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2218	No	Used as received		0.5g	Ultrasonic	Toluene	60 - 60
2236	Yes	Further Cut	3 x 3	0.5g	Ultrasonic	Toluene / methanol	60 - 60
2247	---	---			---		
2250	Yes	Further Cut	0,3 - 0,5	0,5	Ultrasonic	Toluene	60 - 60
2256	---	---			---		
2265	Yes	Further Cut	1-3	0,25 g	Ultrasonic	Toluene	60 - 60
2267	---	---			---		
2272	---	---			---		
2293	No	Used as received		0.5	Ultrasonic	Toluene	60 - 60
2295	Yes	Used as received		0.5 g	Ultrasonic	Toluene	60 - 60
2297	---	---			---		
2310	Yes	Used as received	<3	0.5 g	Ultrasonic	Toluene	60 - 60
2311	Yes	Further Cut	<1mm	0.5g	Ultrasonic	Toluene	60 - 60
2347	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2350	No	Further Cut	< 2	>0.5 g	Ultrasonic	Toluene	60 - 60
2352	Yes	Further Cut	2 x 2 x 2	0.2g	Ultrasonic	Toluene	60 - 60
2354	Yes	Used as received	3 x 3	0.5g	Ultrasonic	Toluene	60 - 60
2355	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2357	---	---			---		
2363	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2365	Yes	Further Cut	1 x 1	0.5g	Ultrasonic	Toluene	60 - 60
2366	Yes	Further Cut	2 x 2 x 2	0.1g	Ultrasonic	Toluene	60 - 60
2369	Yes	---			---		
2370	Yes	Further Cut	3 x 3	0.5 g	Ultrasonic	Toluene	60 - 60
2372	Yes	Further Cut	2	0.5g	Ultrasonic	Toluene	60 - 60
2374	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2375	Yes	Further Cut	3	0.5	Ultrasonic	Toluene	60 - 60
2379	Yes	Further Cut	2 x 2.	0.5g	Ultrasonic	Toluene	60 - 60
2380	Yes	Other	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2382	---	---			---		
2384	Yes	Further Grinded	<500um	0.5g	Ultrasonic	Toluene	60 - 60
2386	Yes	Further Cut	3 x 3	0,5	Ultrasonic	Toluene	60 - 60
2390	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2425	Yes	Further Cut	2	0.5 g	Ultrasonic	Toluene	60 - 60
2426	No	Further Cut	3 x 3	0.5 g	Ultrasonic	Toluene	60 - 60
2446	Yes	Used as received		0,5 g	Ultrasonic	Toluene	60 - 60
2462	---	---			---		
2481	Yes	Further Grinded	<4		Ultrasonic	Toluene	60 - 60
2489	Yes	Further Cut	2 x 2	0.5 g	Ultrasonic	Toluene	60 - 60
2492	Yes	Further Cut	0.5cm	0.5	Other	Toluene	
2500	---	---			---		
2511	---	---			---		
2531	Yes	Used as received	0.5 – 2	0.5 g	Ultrasonic	Toluene	60 - 60
2538	Yes	Further Cut	3 x 3	0,5 g	Ultrasonic	Toluene	60 - 60
2549	Yes	Further Cut	2	0.5 g	Ultrasonic	Toluene	120 - 60
2561	Yes	Used as received		0.5	Ultrasonic	Toluene	60 - 60
2563	Yes	Further Cut	< 3	0,5	Ultrasonic	Toluene	60 - 60
2567	Yes	Further Cut	2-3	0.5	Ultrasonic	Toluene	60 - 60
2573	Yes	Used as received		0.5g	Ultrasonic	Toluene	60 - 60
2590	Yes	Further Cut		0.5 g	Ultrasonic	Toluene	60 - 60

lab	ISO/IEC 17025	Sample preparation	Final particle size (mm)	Intake sample	Extraction technique	Extraction solvent	Extraction time (min) and temp (°C)
2605	Yes	Further Cut	2 x 2 x 2	0.500	Ultrasonic	Toluene	60 - 60
2612	Yes	Used as received		0,5 g	Ultrasonic	Toluene	60 - 60
2614	---	---					
2629	No	Used as received		1g	Ultrasonic	Toluene	60 - 70
2665	Yes	Used as received		0,5g	Other	THF - Toluene	60 - 60
2668	Yes	Further Cut	2	0.5g	Ultrasonic	Toluene	60 - 60
2672	Yes	Further Cut	< 2	0.5	Ultrasonic	Toluene	60 - 60
2674	Yes	Further Cut	3 x 3	0.5g	Ultrasonic	Toluene	60 - 60
2689	Yes	Further Cut	2 x 2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2730	No	Used as received		1	Ultrasonic	n-hexane	60 - 60
2737	---	---			---		
2743	Yes	Used as received		1	Ultrasonic	n-hexane	60 - 60
2790	---	---			---		
2798	Yes	Further Cut	2 x 2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2804	No	Further Cut	2 x 2	0.5	Ultrasonic	Toluene	60 - 60
2811	No	Further Cut	1-2mm	0,6 g	Ultrasonic	Toluene	60 - 60
2812	Yes	Further Cut		0.5g	Ultrasonic	Toluene	60 - 60
2826	Yes	Further Cut	2 x 2	0.5g	ASE	Toluene	60 - 60
2829	---	---			---		
2858	Yes	Used as received		0.5g	Ultrasonic	Toluene	60 - 60
2864	Yes	Further Cut	<1 mm	0.5	Ultrasonic	Toluene	60 - 60
2867	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
2870	Yes	Further Cut	2-3 mm	0.5g	Ultrasonic	Toluene	60 - 60
3100	Yes	Further Cut	2~3mm	0.5040	Ultrasonic	Toluene	60 - 60
3116	Yes	Used as received	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
3153	---	---			---		
3154	---	---			---		
3163	No	Further Cut		0.5g	Thermal Desorp.	Toluene	
3172	Yes	Used as received		0.25	Ultrasonic	Toluene-Methanol	30 - 60
3182	No	Further Cut	2-3	0.5 g	Ultrasonic	Toluene	60 - 60
3185	Yes	Further Cut	2 x 2	0.5g	Ultrasonic	Toluene	60 - 60
3190	---	---			---		
3197	Yes	Further Cut	3 x 3	0.5 g	Ultrasonic	Toluene	60 - 60
3200	Yes	Further Cut	5 x 5	0.5g	Ultrasonic	Toluene	60 - 60
3210	---	---			---		
3218	Yes	Used as received	< 3 x 3	0.5g	Ultrasonic	Toluene	60 - 60
3228	Yes	Further Cut	2 x 2	0.5	Ultrasonic	Toluene	60 - 60
3237	Yes	Further Cut	2-3 mm	0,5	Ultrasonic	Toluene	60 - 60
3243	No	Further Cut		0,5	Ultrasonic	Toluene	60 - 70
3248	Yes	Used as received		0.5	Ultrasonic	Toluene	120 - 70

APPENDIX 4

Number of participants per country

3 labs in	BANGLADESH
1 lab in	BELGIUM
1 lab in	BRAZIL
1 lab in	BULGARIA
1 lab in	CAMBODIA
4 labs in	FRANCE
16 labs in	GERMANY
1 lab in	GUATEMALA
9 labs in	HONG KONG
8 labs in	INDIA
1 lab in	INDONESIA
6 labs in	ITALY
1 lab in	MALAYSIA
1 lab in	MAURITIUS
32 labs in	P.R. of CHINA
2 labs in	PAKISTAN
1 lab in	PORTUGAL
2 labs in	SOUTH KOREA
3 labs in	TAIWAN R.O.C.
2 labs in	THAILAND
3 labs in	THE NETHERLANDS
1 lab in	TUNISIA
5 labs in	TURKEY
1 lab in	U.S.A.
1 lab in	UNITED KINGDOM
3 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) = outlier in Double Grubbs' outlier test
DG(0.05) = straggler in Double Grubbs' outlier test
R(0.01) = outlier in Rosner's outlier test
R(0.05) = straggler in Rosner's outlier test
W = test result withdrawn on request of participant
ex = test result excluded from statistical evaluation
n.a. = not applicable
n.e. = not evaluated
n.d. = not detected
fr. = first reported

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