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**Gulf of Mexico Research Initiative
2014/2015 Hydrocarbon
Intercalibration Experiment:
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Gulf of Mexico Crude Oil and
Candidate SRM 2777 Weathered Gulf
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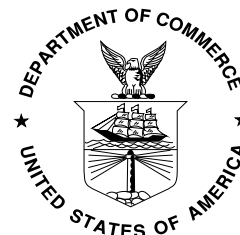
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Description and Results for SRM 2779 Gulf of
Mexico Crude Oil and Candidate SRM 2777
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ABSTRACT

Following an open meeting entitled “Hydrocarbon Chemistry QA/QC” at the 2014 Gulf of Mexico Oil Spill and Ecosystem Science Conference in Mobile, Alabama, the Gulf of Mexico Research Initiative (GoMRI) initiated the Hydrocarbon Intercalibration Experiment (HIE) [1]. The goal of this effort was to address the importance of laboratory quality assurance/quality control (QA/QC) practices and to promote participation in quality assurance programs for hydrocarbon compounds.

Over thirty laboratories expressed interest in participation in the Hydrocarbon Intercalibration Experiment. These laboratories were supplied with two petroleum crude oil samples provided by the National Institute of Standards and Technology (NIST): Standard Reference Material (SRM) 2779 Gulf of Mexico Crude Oil [2], and candidate SRM 2777 Weathered Gulf of Mexico Oil. SRM 2779 was prepared from neat oil collected directly from the leaking Macondo well during the 2010 Deepwater Horizon oil spill event, and candidate SRM 2777 is a field-weathered residue of the Macondo well oil dissolved in toluene.

Twenty laboratories submitted results on traditional analytes (that included saturated hydrocarbons, aromatic hydrocarbons, and biomarkers) measured by gas chromatography coupled with mass spectrometry or flame ionization detection. The results for select hydrocarbons, aromatic hydrocarbons, and biomarkers from this intercomparison exercise are reported along with a summary of the analytical methods used.

INTRODUCTION

On the afternoon of January 26, 2014, the Gulf of Mexico Research Initiative (GoMRI) held a meeting entitled “Hydrocarbon Chemistry QA/QC” at the Gulf of Mexico Oil Spill and Ecosystem Science Conference in Mobile, Alabama. The goals of the meeting were to discuss the current state of knowledge on the analysis of oil and oil residues in water, sediment, soil, and tissue and to elucidate best principles for assessing and confirming high-quality and reproducible results. Of particular interest were refining and improving current methodologies, increasing awareness of new techniques, and expanding target analytes in native oils and weathering products following acute and chronic releases of oil and its refined products to the marine environment.

The meeting was attended by experts in various subfields of oceanography and chemistry as well as those new to or interested in the analytical chemistry of oil spills [1]. Several researchers and GoMRI Research Board members made presentations, with subsequent discussion amongst the audience and presenters. The presentations are available at <http://gulfresearchinitiative.org/hydrocarbon-intercalibration-experiment/>.

After discussions with members of the community, the GoMRI board concluded that an intercomparison study would be timely and fruitful. Intercomparison studies are an excellent tool for assessing the comparability of analytical measurements. In addition, they provide an opportunity for researchers to compare their methods and approaches as well as to report and increase awareness on novel or typically untargeted analytes that may eventually become more standard. Lastly, they provide an opportunity for new researchers to understand and appreciate the demands and rigor needed to contribute positively to the field via a rigorous quality control and quality assurance plan.

In cooperation with the National Institute of Standards and Technology (NIST), which has helped benchmark and improve the quality of analytical data gathered on the marine environment by administering intercomparison exercises, GoMRI then launched the hydrocarbon intercalibration¹ experiment (HIE) to address the need for advancing the importance of laboratory quality assurance/quality control (QA/QC) practices and for interlaboratory comparison for hydrocarbon compounds.

The GoMRI Research Board strongly encouraged all GoMRI-funded Principal Investigators, Co-Principal Investigators, and other GoMRI collaborating laboratories to participate. Other members of the scientific community were invited and two commercial analytical laboratories (Alpha Analytical; Mansfield, MA and Battelle Memorial Institute; Duxbury, MA) who have analyzed 1,000s of samples following the Deepwater Horizon disaster were contracted to be involved in this effort. Researchers who studied other physical, chemical, and biological properties beyond hydrocarbons were invited to participate.

It is important to note that the HIE was not intended to be a proficiency test, and that laboratory-specific results would be anonymous to all, including the GoMRI Research Board members, except for the HIE coordinators and their teams.

Participants were requested to:

- Report their results by December 1, 2014;
- Share information on analytical methods used;
- Allow NIST and GoMRI to use their results;
- Be open to co-author a peer-reviewed manuscript;
- Make a significant effort to attend a workshop to discuss the results of this study at the 2015 GoMRI meeting in Houston, TX (February 16, 2015)

Over thirty laboratories expressed interest and were supplied with two different reference samples for analysis as described in the next section. Due to delays and requests from many participants for additional time, the deadline was extended until noon February 16, 2015. Ultimately, 20 laboratories submitted results on traditional analytes, including saturated hydrocarbons, aromatic hydrocarbons, and biomarkers, measured by gas chromatography (GC). In addition to these traditional analytes, three laboratories reported results for an expanded range of analytes detected by Fourier Transform ion cyclotron resonance mass spectrometry (FT-ICR-MS). Toxicity, shear viscosity, and interfacial tension were also reported by additional laboratories. The results of the interlaboratory study were discussed at a workshop during the 2015 GoMRI meeting in Houston, TX (February 16, 2015).

This report provides a summary and discussion of the HIE results from participants who reported for three classifications of organic constituents: saturated hydrocarbons, aromatic hydrocarbons, and biomarkers. Results for the FT-ICR-MS, toxicity, shear viscosity, and interfacial tension are not reported here. These results will be a topic in an upcoming publication.

¹ While originally termed an "intercalibration", the spirit and goals of this effort are more accurately described as "intercomparison". Hence, the latter term will be used in this report.

SOURCE OF MATERIALS

Participation by the laboratories was voluntary, and study samples were provided free of charge. Participants received two ampoules each of SRM 2779 Gulf of Mexico Crude Oil and the candidate SRM 2777 Weathered Gulf of Mexico Oil. Each ampoule contained 1.3 mL of material.

- I. **SRM 2779.** The petroleum crude oil for SRM 2779 was collected on May 21, 2010, on the drillship *Discoverer Enterprise* from the insertion tube that was receiving oil directly from the Macondo well (MW) during response operations (Figure 1). Using the data from three independent methods of analysis performed at NIST as well as one set of data from an interlaboratory study of 36 participating laboratories coordinated by NIST and the National Oceanic and Atmospheric Administration (NOAA) [3], certified and reference values (as mass fractions) are provided for a number of polycyclic aromatic hydrocarbons (PAHs) along with reference values (as mass fractions) for a number of alkylated PAH groups, hopanes, and steranes, but not *n*-alkanes [2].
- II. **Candidate SRM 2777.** This material was prepared from the Soxhlet extraction (90/10 dichloromethane/methanol) of oiled sand-patties collected on August 31, 2012 at Gulf Shores Beach, Alabama (Figure 2). Geochemical analysis by Aeppli *et al.*, revealed that the residue is weathered MW oil (sample B105 in reference [4]). Solvent was removed to yield a dark, syrupy liquid (Figure 3) that was diluted in toluene at approximately 71 mg/g.

This material was chosen as a true “field” weathered sample and not a laboratory-weathered sample in light of recent studies showing that field weathering via biodegradation had removed some normal alkanes, branched alkanes, and other saturates [5-7]. In addition, the field-based studies have shown a formation of residues non-amenable to GC during “real world” conditions following the release, as revealed by mass balance tracked by elemental analysis, thin-layer chromatography, GC, and FT-ICR-MS [5,6]. It was considered important to include a field-weathered sample with an increased amount of non-GC amenable materials relative to the majority of the traditionally measured analytes to provide analytical challenges representative of field samples.

INSTRUCTIONS TO PARTICIPANTS

Each participant was informed that the candidate SRM 2777 should be treated as an unknown sample and SRM 2779 as a control material with assigned values for many analytes. They were asked to remove three subsamples from one ampoule of SRM 2779 and three subsamples from one ampoule of candidate SRM 2777 and treat each subsample with their laboratory’s and/or program’s analytical protocols. An Excel spreadsheet (see Appendix A for an example spreadsheet) was sent to each participant with specific instructions on how to report values for only the analytes they typically measure and other details. Select

alkanes, aromatics, and biomarkers were listed on the spreadsheet, however, if the spreadsheet did not fit within the analytes or properties studied, reports or memos were accepted. The remaining ampoule of each material would be available to the participants for their own use. The instruction letter that was sent to the participants is provided in Appendix A.

METHODS

Participants were asked to use analytical protocols currently used within their laboratory for the analytes to be determined. A wide range of approaches were used; one laboratory reported results by two independent protocols and one laboratory reported results by three independent protocols. Each data set was independently evaluated as indicated by a unique laboratory code. All analytical protocols utilized GC for separation; two laboratories used two-dimensional GC (GCxGC). Flame ionization detection (FID) and various forms of mass spectrometry (MS) and tandem mass spectrometry (MS-MS) were used for detection. Some laboratories included sample processing steps to remove matrix interferences, while other laboratories analyzed the samples without cleanup. Both internal and external approaches to calibration were employed. In some instances, reference compounds were not readily available for quantification of individual components. In such cases, some laboratories used a “representative compound” for quantification, with the assumption that the response factor for the representative compound would provide a valid estimate of the compound(s) under study. For example, a response factor of a parent PAH was sometimes used to quantify an alkyl PAH group. A summary of method information provided by each laboratory is provided in Appendix B.

EVALUATION OF EXERCISE RESULTS

Laboratory data submission: Each participating laboratory was asked to submit data from three replicate determinations of the “unknown” candidate SRM 2777 material and the control material SRM 2779. Laboratories were requested to report these results to three significant figures.

Treatment of Data: The laboratories reporting values for alkane, aromatic, and biomarkers were assigned numerical identification codes. Twenty laboratories reported results for one or more of these analyte groups (Tables 1- 12). (Please note that some research groups used more than one analytical method, such as using two different types of GCs). For ease, we treated each analytical method as a “laboratory”.

The data were collected and input into ProLab Plus (quo data GmbH, Dresden Germany, version 2016.1.15.0) for data analysis using ISO 5725-2 standard (ISO 1994) [8]. For each analyte reported, a summary page was generated (Appendix C). Each summary page includes a graphical presentation of the individual measurements reported by participating laboratories, and a tabular summary of this data. Summary statistics are provided for each analyte that show the results obtained from each participating laboratory, the mean and the median of all reported values, the certified or reference value for SRM 2779 when available, the uncertainty representing the 95 % confidence level (indicated as green shaded bands), and the range of z-scores from -3 to 3 (indicated as red lines labeled “limit of tolerance”). The reproducibility standard deviation and repeatability standard deviation were calculated for each analyte using ISO 5725-2. The reproducibility standard deviation characterizes the variability between laboratories and the repeatability standard deviation characterizes the variability within the laboratories. To assess the accuracy of each laboratory, z-scores were calculated for each laboratory for each analyte.

Generally, the z-score is calculated using the following equation:

$$z = (x - x_a) / \sigma ;$$

where x is the result from an individual laboratory, x_a is the assigned value and σ is the standard deviation of the test results [9]. In this study, z-scores were calculated using an assigned value x_a calculated from the mean of all reported values, and the reproducibility standard deviation for σ . Outlier detection was limited to removal of data only if the laboratory exceeded an absolute z-score value greater than 3 (the Grubbs and Cochran tests indicated in ISO 5725-2 were not applied). Consequently, almost all of the data were used in calculation of the means. Outliers are indicated in the summary charts in red. Appendix C is organized with data presented alphabetically by analytes for the three analyte categories, with subcategorization for SRM 2777 and SRM 2779.

A few laboratories reported results that did not conform to the instructions, and modifications to the data were required after submission. Laboratories were asked to report mass fraction values of analytes in microgram per gram of SRM material. For candidate SRM 2777, laboratories 6, 8, and 9 originally reported values as microgram per gram of source weathered oil instead of the ampouled solution by using the concentration of weathered oil in toluene in candidate SRM 2777 that was provided in the instruction letter. As a result, these results were uniformly biased by this common factor. After confirming with the individual laboratories, an adjustment was made to convert their reported mass fractions from microgram per gram of weathered oil to microgram per gram of candidate SRM material. The results in this report for laboratories 6, 8, and 9 for candidate SRM 2777 are the adjusted values. It should be noted that the values these laboratories reported for SRM 2779 were not affected and values listed in this report are unchanged. Results for Laboratory 10 were also reported as mass fraction of weathered oil instead of the diluted ampouled solution; however, this laboratory physically removed the solvent before performing analysis on the material. In this case, we assumed that analytes were unaffected by solvent evaporation since most volatile components were eliminated by the weathering process. Corrections were applied to these data by using the mass fraction of weathered oil in solution to adjust levels to be consistent with the instructions.

Laboratory 18 provided data for two analytes. Levels were reported as an average with an associated standard deviation; individual levels for the replicates were not provided. Only the averages were utilized in the statistical analyses for this intercomparison exercise.

Several laboratories reported results for additional analytes not listed on the Data Submission Form. Most of these analytes were alkylated PAHs, although laboratory 2 reported extensive information for additional biomarkers. A summary of the additional data is provided in Appendix D.

Data were submitted by one additional laboratory, designated Lab 21, significantly after the closing date for the intercomparison exercise. This data set was not included in the statistical analysis and does not appear on the summary pages in Appendix C. The data are reported as received is located in Appendix E along with the average and standard deviation of the replicates. The methods used by laboratory 21 are reported along the rest of the laboratories in Appendix B.

DISCUSSION

Results for SRM 2779

a. Normal alkanes. Five to twelve labs reported some data for *n*-alkanes and the branched hydrocarbons, pristane and phytane (Table 1). The mean mass fractions for each laboratory for *n*-alkanes in SRM 2779 are listed in Table 5 and the summary pages for these analytes are located in Appendix C pages C31-C61. It was unexpected that only a few laboratories would submit results for *n*-alkanes since these compounds constitute the most abundant class of compounds in oil, and analytical standards are readily available. Alkanes are also often well resolved by gas chromatographic columns, as is the case for the Macondo well oil. In addition, saturated hydrocarbons are frequently used for gauging the extent of weathering, especially evaporation and biodegradation.

The results varied among laboratories that submitted data. For example, *n*-pentadecane ranged from 2890 mg/kg to 6020 mg/kg with an HIE mean and uncertainty of 4650 mg/kg \pm 654 mg/kg (Table 5). The mean mass fraction and standard deviation for *n*-alkanes ranging from C₁₀-C₂₅ exhibit greater variability in the smaller and more volatile alkanes. This could be a result of sample handling, calibration differences among laboratories, or sample contamination. Three laboratories (9, 10, and 14) that reported values for normal alkanes with some sample preparation or clean-up beyond dilution did not have any apparent patterns due to this additional handling.

b. Polycyclic aromatic hydrocarbons. Parent and alkylated PAHs were determined by more participants than the other compound classes (2 to 16 laboratories; Tables 2 and 3) despite the relatively low levels of PAHs compared with the *n*-alkanes. Interest in these compounds may be attributed to the known bioactivity of PAHs. PAHs are frequently used to identify sources (petrogenic vs. pyrogenic) [10], to characterize the degree of abiotic and biotic weathering [11], and to fingerprint oils (e.g., alkylated phenanthrenes/anthracenes vs. alkylated dibenzothiophenes [12]). The Certificate of Analysis for SRM 2779 has both certified and reference values available for many of the PAHs determined in this study to which the participants could refer to before submitting results.

The mean values of each laboratory for PAHs and alkylated PAHs are listed in Tables 6 and 7, respectively, and the summary pages for these analytes are located in Appendix C, pages C124-C195. Overall, the ranges in participant-reported values for parent PAHs and alkylated PAHs were similar, and levels reported were comparable to the values listed in the Certificate of Analysis [2]. For example, the HIE mean for phenanthrene (287 mg/kg \pm 31.9 mg/kg) were within the expanded uncertainty of the certified value for phenanthrene (258 mg/kg \pm 27 mg/kg). For PAHs at lower concentrations, the HIE mean values were also similar to those in the Certificate of Analysis, but with a greater uncertainty (e.g., benzo[*e*]pyrene (12.7 mg/kg \pm 3.01 mg/kg vs. certified value 10.8 mg/kg \pm 0.6 mg/kg) and fluoranthene (5.01 mg/kg \pm 1.42 mg/kg vs. certified value 4.4 mg/kg \pm 0.4 mg/kg)).

The results for alkylated PAHs, e.g., C1-phenanthrenes/anthracenes (724 mg/kg \pm 90.1 mg/kg vs. the reference value 670 mg/kg \pm 90 mg/kg) were not as tightly grouped as for phenanthrene even though they occurred at much higher concentrations. This may be attributable to subjective bias introduced as a consequence of integration of numerous peaks (that are assumed to constitute the C1-phenanthrene/anthracene compounds, unresolved by GC-MS). With this approach, each laboratory used a response factor based on the parent compound (or similar) to quantify the parent and alkylated PAHs, which may also have also introduced variability. It should be noted that many of the reference values for

alkylated PAHs in SRM 2779 were derived from the 2010 intercomparison, with a majority of the labs using the response factors of the parent PAHs [3].

One participating laboratory based their quantitation on the response of other reference standards they considered to be more representative of alkylated PAHs. For example, this laboratory used the response factor of 1-methylphenanthrene to quantify the C1-phenanthrenes/anthracenes. The use of alkylated reference standards for quantitation of alkyl-substituted PAH isomers may be more defensible than the more common use of the parent PAH; however, this approach often resulted in values somewhat different than those reported by the HIE participants and listed in the Certificate of Analysis for SRM 2779 (see Figure 4) [2]. Thus, it is important that labs describe how they determine alkylated PAHs to ensure values from different laboratories can be compared.

c. Biomarkers. Only eight out of twenty laboratories provided results for biomarkers in SRM 2779 (Table 4), despite the fact that biomarkers are a key factor for oil spill forensics, and that reference values were available in the Certificate of Analysis. For each biomarker, between two to eight laboratories (Table 4) provided results. The use of petroleum biomarkers in fingerprinting oil spills and in assigning source specificity relies on the relative stability of these compounds towards abiotic and biotic degradation processes. Thus, biomarkers are often used as reference compounds to which the weathering of relatively less stable compounds or the formation of new compounds can be compared and/or normalized.

The mean values reported for biomarkers for SRM 2779 are listed in Table 8 and the summary pages for these analytes are located in Appendix C, pages C224-C250. For 17 α (H),21 β (H)-hopane, the biomarker most often used as an “internal” standard for weathering and fingerprinting, intercomparison results were consistent with SRM 2779. Seven of the eight laboratories were within the mean uncertainty range (51.4 mg/kg \pm 6.2 mg/kg vs. reference value 42 mg/kg \pm 10 mg/kg) and five were within the uncertainty range of the reference value in the Certificate of Analysis. Alternatively, the results for 17 α (H),22,29,30-trisnorhopane (9.19 mg/kg \pm 2.02 mg/kg vs. reference value 7.29 mg/kg \pm 0.79 mg/kg) and 5 α (H),14 β (H),17 β (H)-cholestane-20R (29.3 mg/kg \pm 6.04 mg/kg vs. reference value 23.7 mg/kg \pm 2.7 mg/kg) were within the uncertainties of the reference, but there was greater scatter among the data reported by the laboratories. Unlike the n-alkanes and PAHs, pure standards and isotope-labeled biomarker internal standards are costly and often not commercially available, which may explain the variability among the data for the biomarkers. In fairness, it is well recognized that biomarker analysis need only be internally consistent within each laboratory [13], although laboratories should strive for more external consistency.

Results for Candidate SRM 2777

The mean values reported for alkanes, PAHs, alkylated PAHs, and biomarkers for candidate SRM 2777 are listed in Tables 9-12, respectively, and individual laboratory results are reported in Appendix C. This sample presented significant challenges to most of the laboratories due to extreme weathering, and subsequent lower analyte levels. For example, the reported value from the HIE, for phenanthrene was 287 mg/kg \pm 31.9 mg/kg in SRM 2779 vs. 0.607 mg/kg \pm 0.244 mg/kg in candidate SRM 2777 (Tables 6 and 10 and appendix C, page C120). In general, candidate SRM 2777 presented significant analytical challenges that limited the number of analytes that could be characterized.

ACKNOWLEDGMENTS

The time and effort of the analysts and management of the participating laboratories and the assistance of NOAA with obtaining the crude oil and the NIST Standard Reference Materials Program with the preparation of the exercise materials are gratefully acknowledged.

DISCLAIMER

Certain commercial equipment, instruments, or materials are identified in this report to specify adequately the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are the best available for the purpose.

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Figure 1. Image of NIST SRM 2779 Gulf of Mexico Crude Oil used in the HIE. It was collected on May 21, 2010 from the *Discoverer Enterprise* via an insertion tube that was receiving oil directly from the Macondo well during response operations. A portion was subsequently provided to NIST under the authority of the National Oceanic and Atmospheric Administration (NOAA) for use in the preparation of SRM 2779.



Figure 2. Image of oiled-sand patty typical of those collected for preparing candidate SRM 2777. Approximately 1.7 kg of sand patties were collected from Gulf Shores, Alabama in August 2012 and solvent extracted (with volume fraction 90/10 dichloromethane/methanol). The solvent was removed leaving a dark syrupy liquid (Figure 3). One hundred and twenty grams was sent to the NIST who prepared a solution of 71 mg of extract/gram in toluene, added 1.3 mL and then filled the ampoules with argon prior to sealing.



Figure 3. Dark syrupy liquid from the extraction of oiled sand-patties used to prepare candidate SRM 2777.

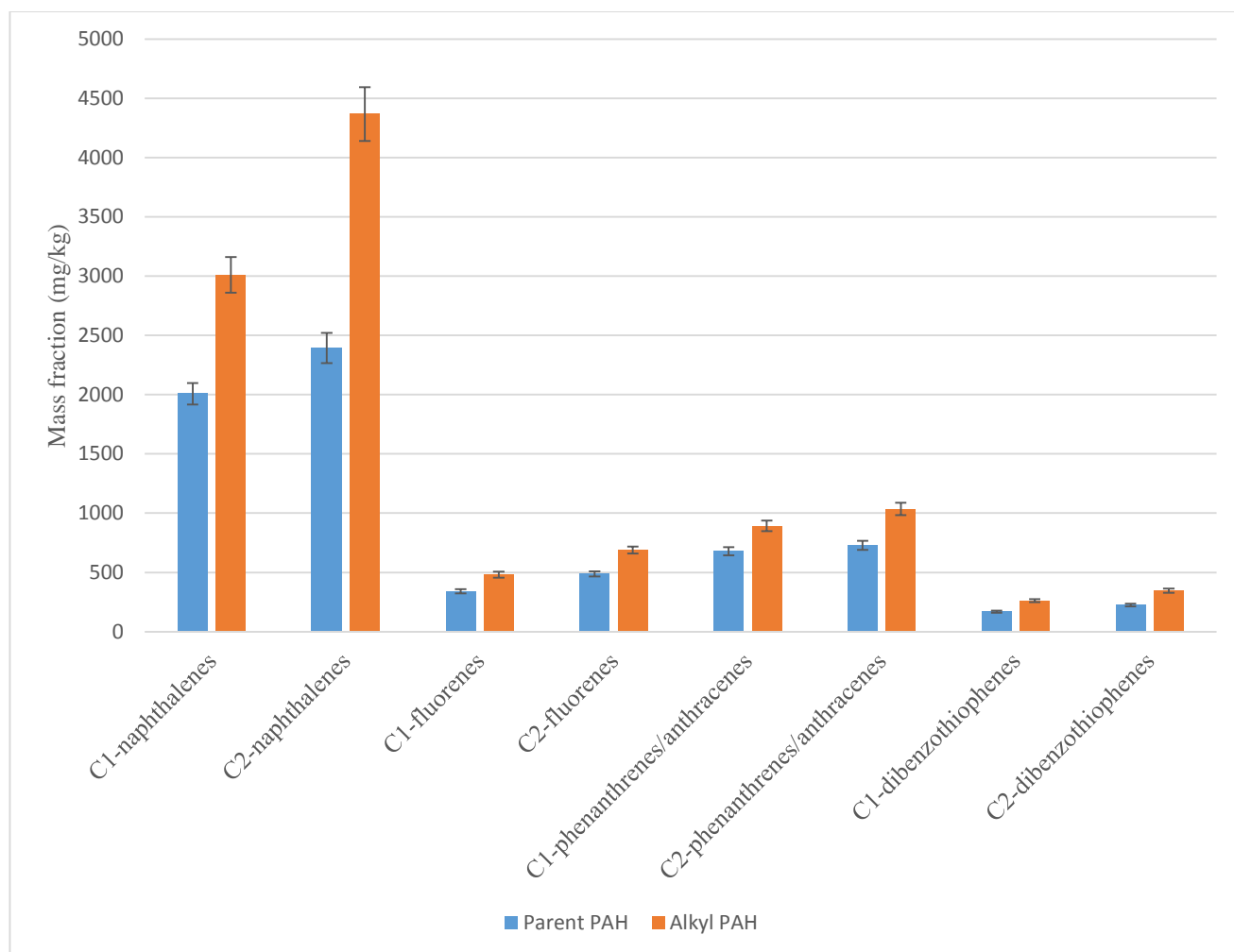


Figure 4. Comparison of levels determined for alkyl PAH isomer groups using response factors based on the unsubstituted parent PAH and representative alkyl PAH. Error bars represents \pm one standard deviation.

Table 1. List of alkanes reported by participants for SRM 2779 and candidate SRM 2777.

	Lab number																																								
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		
Analyte	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	
<i>n</i> -decane	✓		✓		✓						✓		✓		✓		✓		✓		✓		✓		✓						✓										
<i>n</i> -undecane	✓		✓		✓						✓		✓		✓	✓	✓		✓		✓		✓		✓				✓		✓										
<i>n</i> -dodecane	✓		✓		✓						✓		✓	✓	✓		✓		✓		✓		✓		✓				✓		✓										
<i>n</i> -tridecane	✓		✓		✓						✓		✓	✓	✓		✓		✓		✓		✓		✓				✓		✓										
<i>n</i> -tetradecane	✓		✓		✓						✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓										
<i>n</i> -pentadecane	✓		✓		✓						✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓										
<i>n</i> -hexadecane	✓		✓		✓						✓	✓	✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓										
<i>n</i> -heptadecane			✓		✓								✓		✓		✓	✓	✓		✓		✓	✓	✓		✓		✓		✓										
<i>n</i> -octadecane			✓		✓								✓		✓		✓		✓	✓	✓		✓		✓	✓	✓		✓		✓										
<i>n</i> -nonadecane	✓	✓	✓		✓						✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -eicosane	✓	✓	✓		✓						✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -heneicosane	✓	✓	✓		✓						✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -docasane	✓	✓	✓		✓						✓		✓		✓		✓	✓	✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -tricosane	✓	✓	✓		✓						✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -tetracosane	✓	✓	✓		✓						✓		✓	✓	✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -pentacosane	✓	✓	✓		✓						✓		✓	✓	✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -hexacosane	✓	✓	✓		✓						✓		✓	✓	✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -heptacosane	✓	✓	✓		✓						✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -octacosane	✓	✓	✓		✓						✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -nonacosane	✓	✓	✓		✓	✓					✓		✓		✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -triacontane	✓	✓	✓		✓	✓					✓		✓	✓	✓		✓		✓	✓	✓		✓		✓		✓		✓		✓										
<i>n</i> -hentriacontane	✓	✓	✓		✓	✓					✓		✓	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓		✓			✓								
<i>n</i> -dotriacontane	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓		✓			✓								
<i>n</i> -tritriacontane			✓	✓	✓	✓					✓	✓	✓	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓		✓			✓								
<i>n</i> -tetratriacontane			✓	✓	✓	✓					✓	✓	✓	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓		✓				✓							
<i>n</i> -pentatriacontane			✓	✓	✓	✓					✓	✓	✓	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓		✓											
<i>n</i> -hexatriacontane			✓	✓	✓	✓					✓	✓					✓		✓				✓		✓	✓	✓	✓		✓											
<i>n</i> -heptatriacontane			✓	✓	✓	✓					✓	✓					✓		✓				✓		✓	✓	✓	✓		✓											
<i>n</i> -octatriacontane			✓	✓	✓	✓					✓	✓					✓						✓			✓	✓			✓											
<i>n</i> -nonatriacontane			✓	✓	✓	✓					✓	✓					✓						✓				✓	✓													
<i>n</i> -tetracontane			✓	✓	✓	✓					✓	✓					✓						✓				✓														
norpristane			✓		✓	✓																	✓																		
Pristane			✓		✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓												
Phytane			✓		✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓												

Table 2. List of PAHs reported by participants for SRM 2779 and candidate SRM 2777.

Analyte	Lab number																			
	1		2		3		4		5		6		7		8		9		10	
	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777
naphthalene	✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓			✓		✓	✓
biphenyl	✓		✓		✓		✓	✓			✓	✓					✓	✓	✓	
acenaphthene	✓		✓				✓		✓		✓	✓	✓	✓					✓	
acenaphthylene	✓		✓				✓		✓		✓	✓	✓	✓			✓			
fluorene	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
phenanthrene	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
anthracene	✓						✓	✓		✓	✓	✓	✓	✓			✓	✓		
fluoranthene	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	
pyrene	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓		
benzo[b]fluorene			✓															✓	✓	
benz[a]anthracene	✓		✓				✓	✓			✓	✓	✓							
chrysene	✓	✓									✓	✓	✓	✓					✓	✓
triphenylene	✓	✓									✓	✓								
chrysene+triphenylene			✓	✓			✓	✓	✓	✓							✓	✓		
benzo[b]fluoranthene	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓						✓
benzo[j]fluoranthene																				
benzo[k]fluoranthene	✓						✓	✓					✓						✓	
benzo[a]fluoranthene																				
benzo[e]pyrene	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓		
benzo[a]pyrene	✓		✓				✓	✓	✓		✓	✓	✓						✓	
perylene	✓										✓	✓					✓	✓		
indeno[1,2,3-cd]pyrene									✓	✓	✓	✓	✓						✓	✓
benzo[ghi]perylene	✓		✓						✓	✓		✓	✓						✓	✓
dibenz[a,h]anthracene	✓						✓	✓					✓						✓	✓
cis/trans-decalin			✓																	
dibenzofuran	✓		✓				✓	✓			✓	✓					✓	✓		
retene			✓	✓			✓	✓	✓	✓							✓	✓		
benzothiophene			✓				✓												✓	
dibenzothiophene	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					✓		✓	
naphthobenzothiophene			✓				✓	✓											✓	✓

Table 3. List of alkylated PAHs reported by participants for SRM 2779 and candidate SRM 2777.

Analyte	Lab number																			
	1		2		3		4		5		6		7		8		9		10	
	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777
1-methylnaphthalene	✓		✓	✓			✓		✓	✓	✓	✓					✓	✓	✓	✓
2-methylnaphthalene	✓		✓	✓			✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
2,6-dimethylnaphthalene			✓	✓			✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
1,6,7-trimethylnaphthalene			✓				✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
1-methylphenanthrene	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓					✓	✓	✓	✓
2-methylphenanthrene			✓	✓			✓	✓	✓	✓	✓	✓					✓	✓	✓	✓
3-methylphenanthrene			✓	✓			✓	✓	✓	✓	✓	✓					✓	✓	✓	✓
9-methylphenanthrene			✓	✓			✓	✓	✓	✓			✓	✓			✓	✓	✓	✓
2-methylanthracene			✓				✓	✓									✓		✓	✓
C ₁ -decalins																✓				
C ₂ -decalins			✓																	
C ₃ -decalins			✓																	
C ₄ -decalins																				
C ₁ -naphthalenes	✓		✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₂ -naphthalenes	✓		✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₃ -naphthalenes	✓	✓	✓		✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₄ -naphthalenes	✓	✓	✓		✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₁ -benzothiophenes			✓														✓			
C ₂ -benzothiophenes			✓														✓			
C ₃ -benzothiophenes			✓														✓			
C ₄ -benzothiophenes			✓														✓			
C ₁ -fluorenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₂ -fluorenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₃ -fluorenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₁ -phenanthrenes/anthracenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₂ -phenanthrenes/anthracenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₃ -phenanthrenes/anthracenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₄ -phenanthrenes/anthracenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₁ -dibenzothiophenes	✓	✓	✓	✓	✓	✓			✓	✓							✓	✓		
C ₂ -dibenzothiophenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓		
C ₃ -dibenzothiophenes	✓	✓	✓	✓					✓	✓							✓	✓		
C ₄ -dibenzothiophenes	✓	✓	✓	✓					✓	✓							✓	✓		
C ₁ -fluoranthenes/pyrenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₂ -fluoranthenes/pyrenes	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓	✓
C ₃ -fluoranthenes/pyrenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₄ -fluoranthenes/pyrenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₁ -naphthobenzothiophenes			✓	✓													✓	✓	✓	✓
C ₂ -naphthobenzothiophenes			✓	✓													✓	✓	✓	✓
C ₃ -naphthobenzothiophenes			✓	✓													✓	✓	✓	✓
C ₄ -naphthobenzothiophenes			✓														✓	✓	✓	✓
C ₁ -chrysenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₂ -chrysenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₃ -chrysenes	✓	✓	✓	✓					✓	✓	✓	✓					✓	✓	✓	✓
C ₄ -chrysenes			✓						✓	✓							✓	✓	✓	✓

Table 4. List of biomarkers reported by participants for SRM 2779 and candidate SRM 2777.

	Lab number																																									
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20			
	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777	2779	2777		
Analyte																																										
Carbazole			✓				✓	✓											✓	✓			✓	✓																		
18a(H)-22,29,30-Trisnorneohopane			✓	✓			✓	✓											✓	✓			✓	✓	✓	✓																
17a(H)-22,29,30-Trisnorhopane	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
17α(H),21β(H)-30-Norhopane	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
18a(H)-30-Norneohopane			✓	✓																✓	✓			✓	✓	✓	✓	✓	✓													
17a(H)-Diahopane			✓																	✓	✓			✓	✓	✓	✓	✓	✓													
17α(H),21β(H)-Hopane	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
17α(H),21β(H)-22R-Homohopane	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
17α(H),21β(H)-22S-Homohopane	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
13b(H)17a(H)-Diacholestane 20S			✓	✓																✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14a(H),17a(H)-Cholestane 20S			✓	✓			✓	✓												✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14a(H),17a(H)-Cholestane 20R	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14a(H),17a(H)-24-Ethylcholestane 20S			✓	✓			✓	✓												✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14a(H),17a(H)-24-Ethylcholestane 20R	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14b(H),17b(H)-Cholestane 20R	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14b(H),17b(H)-Cholestane 20S			✓	✓			✓	✓												✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14b(H),17b(H)-24-Ethylcholestane 20R	✓	✓	✓	✓			✓	✓										✓	✓	✓	✓			✓	✓	✓	✓	✓	✓													
5a(H),14b(H),17b(H)-24-Ethylcholestane 20S			✓	✓			✓	✓												✓	✓			✓	✓	✓	✓	✓	✓													
C ₂₀ -triaromatic steroid (pregnane derivative)			✓	✓																✓	✓																					
C ₂₁ -triaromatic steroid (homopregnane)			✓	✓																✓	✓																					
C ₂₆ -20S-triaromatic steroid (cholestane derivative)			✓	✓																✓	✓																					
C ₂₆ -20R-triaromatic steroid (cholestane derivative)																																										
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)																																										
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)			✓	✓																✓	✓			✓	✓																	
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)			✓	✓																✓	✓			✓	✓																	
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)			✓	✓																✓	✓			✓	✓																	

Table 5. Lab means and standard deviations (in parentheses) in mg/kg for n-alkanes reported in SRM 2779. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty	n
	1	2	3	4	5	6	7	8	9	10			
<i>n</i> -decane	8100 (417)	9047 (263)	8198 (170)						8647 (142)	1693 (64.3)	7179	1160	9
<i>n</i> -undecane	7033 (357)	8252 (308)	7250 (187)						8379 (252)	1840 (79.4)	6437	1427	10
<i>n</i> -dodecane	6107 (323)	7436 (257)	5945 (395)						7079 (118)	2083 (98.7)	5688	1140	10
<i>n</i> -tridecane	5530 (282)	6903 (235)	5789 (210)						6001 (64.5)	2437 (104)	5600	1107	10
<i>n</i> -tetradecane	5037 (265)	5899 (232)	4770 (153)						5587 (52.7)	2683 (103)	4875	741	11
<i>n</i> -pentadecane	4423 (226)	5741 (192)	4443 (102)						5278 (54.5)	2893 (95.0)	4649	654	11
<i>n</i> -hexadecane	3903 (185)	4943 (129)	3724 (131)					5928 (200)	4388 (42.3)	2670 (75.5)	4260	637	12
<i>n</i> -heptadecane		4241 (162)	3335 (119)						4017 (39.3)	2563 (85)	3563	615	10
<i>n</i> -octadecane		3605 (112)	2690 (109)						3375 (56)	2137 (63.5)	3039	501	10
<i>n</i> -nonadecane	2613 (131)	2794 (80.9)	1920 (31.9)						3472 (172)	1973 (75.7)	2596	425	11
<i>n</i> -eicosane	2277 (116)	2721 (109)	1922 (84.6)						2686 (6.33)	1733 (58.6)	2340	368	11
<i>n</i> -heneicosane	1997 (100)	2165 (65.4)	1751 (116)						2164 (11.5)	1533 (58.6)	1978	297	11
<i>n</i> -docosane	1690 (85.4)	1904 (59.9)	1561 (166)						2050 (21.2)	1377 (55.1)	1761	266	11
<i>n</i> -tricosane	1610 (85.4)	1678 (56.0)	1487 (182)						1766 (7.26)	1200 (52.9)	1546	238	11
<i>n</i> -tetracosane	1403 (70.2)	1512 (48.8)	1386 (114)						1611 (12.1)	1123 (49.3)	1416	206	11
<i>n</i> -pentacosane	1147 (60.3)	1349 (45.1)	961 (70.6)						1578 (10.1)	959 (35.9)	1237	170	11
<i>n</i> -hexacosane	986 (50.4)	1100 (44.6)	888 (154)						1187 (53.3)	835 (32.3)	1078	144	11
<i>n</i> -heptacosane	838 (45.9)	886 (44.5)	795 (55.3)						936 (1.52)	623 (30.8)	916	149	11
<i>n</i> -octacosane	697 (40.3)	732 (38.5)	415 (23.4)						814 (15.8)	494 (24.6)	779	208	11
<i>n</i> -nonacosane	624 (40.3)	598 (9.75)	603 (74.7)						759 (10.9)	443 (21.7)	791	328	11
<i>n</i> -triacontane	539 (33.2)	568 (23.9)	479 (77.2)						656 (1.63)	382 (18.5)	570	105	10
<i>n</i> -hentriacontane	486 (28.6)	546 (26.5)	406 (58.4)						645 (2.27)	353 (16.1)	534	108	10
<i>n</i> -dotriacontane	398 (22.6)	443 (25.4)	352 (20.7)						534 (45.1)	296 (7.57)	445	78.1	10
<i>n</i> -tritriacontane		365 (28.9)	220 (28.1)						480 (39.1)	228 (11.3)	362	93.4	9
<i>n</i> -tetatriacontane		304 (5.88)	211 (33.9)						462 (32.0)	181 (9.01)	301	75.7	9
<i>n</i> -pentatriacontane		272 (4.80)	267 (38.3)						415 (10.3)	151 (11.6)	270	58.4	9
<i>n</i> -hexatriacontane		190 (6.24)	158 (10.4)						321 (17.6)		213	56.8	7
<i>n</i> -heptatriacontane		181 (3.45)	139 (11.4)						310 (23.6)		187	63	7
<i>n</i> -octatriacontane		164 (5.38)	101 (18.4)						273 (14.7)		152	69.4	6
<i>n</i> -nonatriacontane		159 (4.18)	94.6 (15.3)						230 (15.9)		135	64.9	5
<i>n</i> -tetracontane		160 (7.47)	65.1 (20.4)						245 (23.0)		131	78.5	5
norpristane		1718 (112)	1132 (124)								1403	341	3
pristane		2577 (29.9)	1621 (47.6)						2775 (82.4)	1127 (37.9)	2245	437	8
phytane		1409 (24.0)	808 (134)						1631 (88.9)	841 (29.9)	1325	245	8

Table 5 (continued). Lab means and standard deviations (in parentheses) in mg/kg for n-alkanes reported in SRM 2779.

Analyte	Lab number										interlab mean	uncertainty	n
	11	12	13	14	15	16	17	18	19	20			
<i>n</i> -decane	4250 (26.5)	8017 (242)	8153 (250)				8509 (93.0)				7179	1160	9
<i>n</i> -undecane	3777 (32.1)	7617 (216)	7637 (240)			4470 (437)	8113 (150)				6437	1427	10
<i>n</i> -dodecane	3633 (11.5)	6633 (155)	6953 (250)			4050 (328)	6959 (317)				5688	1140	10
<i>n</i> -tridecane	3520 (20)	6277 (197)	6437 (183)			4507 (309)	8599 (306)				5600	1107	10
<i>n</i> -tetradecane	3450 (10.0)	5667 (162)	5637 (246)	6340 (1162)		3137 (208)	5419 (213)				4875	741	11
<i>n</i> -pentadecane	3377 (11.5)	5360 (149)	5390 (305)	6016 (450)		3140 (250)	5077 (23.5)				4649	654	11
<i>n</i> -hexadecane	3123 (20.9)	4917 (110)	4700 (252)	5845 (280)		2607 (235)	4366 (540)				4260	637	12
<i>n</i> -heptadecane	2990 (10.0)	4067 (120)	4353 (285)	5206 (383)		2037 (221)	2825 (79.6)				3563	615	10
<i>n</i> -octadecane	2817 (15.3)	3407 (90.2)	3510 (156)	4393 (537)		1623 (147)	2838 (96.6)				3039	501	10
<i>n</i> -nonadecane	2280 (10.0)	2813 (104)	3107 (224)	3816 (447)		1437 (57.7)	2331 (98.0)				2596	425	11
<i>n</i> -eicosane	2200 (10.0)	2697 (66.6)	2913 (142)	3376 (432)		1220 (91.7)	1999 (49.9)				2340	368	11
<i>n</i> -heneicosane	1900 (0.00)	2220 (45.8)	2460 (123)	2889 (382)		1053 (68.1)	1622 (63.6)				1978	297	11
<i>n</i> -docosane	1690 (10.0)	2000 (52.9)	2210 (106)	2535 (345)		950 (47.4)	1402 (15.9)				1761	266	11
<i>n</i> -tricosane	1517 (5.70)	1670 (45.8)	2020 (131)	2151 (269)		777 (68.6)	1134 (51.3)				1546	238	11
<i>n</i> -tetracosane	1463 (11.5)	1550 (52)	1767 (32.1)	1964 (303)		722 (12.5)	1080 (28.1)				1416	206	11
<i>n</i> -pentacosane	1423 (15.3)	1483 (41.6)	1450 (62.4)	1427 (197)		667 (48.0)	1165 (18.8)				1237	170	11
<i>n</i> -hexacosane	1320 (0.00)	1223 (35.1)	1227 (58.6)	1297 (184)		550 (50.9)	1248 (40.7)				1078	144	11
<i>n</i> -heptacosane	1063 (5.77)	933 (31.2)	1123 (55.1)	1032 (138)		461 (35.6)	1381 (31.2)				916	149	11
<i>n</i> -octacosane	1006 (6.89)	719 (22.7)	902 (32.9)	846 (113)		331 (21.5)	1609 (52.8)				779	208	11
<i>n</i> -nonacosane	873 (2.98)	686 (22.0)	814 (43.5)	676 (84.8)		272 (18.7)	2351 (89.8)				791	328	11
<i>n</i> -triacontane	831 (3.31)	661 (15.0)	737 (58.1)	583 (54.4)		264 (33.5)					570	105	10
<i>n</i> -hentriacontane	823 (7.58)	604 (19.3)	669 (31.2)	576 (39.7)		230 (40.2)					534	108	10
<i>n</i> -dotriacontane	660 (2.74)	504 (23.7)	562 (31.1)	440 (22.8)		265 (88.1)					445	78.1	10
<i>n</i> -tritriacontane	570 (1.90)	426 (8.74)	481 (19.6)	335 (14.1)		155 (40.2)					362	93.4	9
<i>n</i> -tetatriacontane	408 (1.67)	364 (13.5)	395 (17.7)	250 (18.0)		134 (52.5)					301	75.7	9
<i>n</i> -pentatriacontane	329 (1.94)	300 (13.4)	337 (7.57)	168 (25.6)		186 (49.0)					270	58.4	9
<i>n</i> -hexatriacontane		234 (6.90)	278 (15.9)	126 (5.6)		119					213	56.8	7
<i>n</i> -heptatriacontane		209 (13.3)	243 (13.2)	74.6 (13.2)		86.4					187	63	7
<i>n</i> -octatriacontane		198 (12.5)		48.1 (9.65)		86.5					152	69.4	6
<i>n</i> -nonatriacontane		153 (6.00)		37.8 (9.04)							135	64.9	5
<i>n</i> -tetracontane		164 (7.81)		23.3 (13.9)							131	78.5	5
norpristane		1360 (52.0)									1403	341	3
pristane	1930 (20.0)	2527 (127)	2857 (98.1)	2547 (190)							2245	437	8
phytane	1280 (0.00)	1503 (61.1)	1360 (52.9)	1772 (258)							1325	245	8

Table 6. Lab means and standard deviations (in parentheses) in mg/kg for parent PAHs reported in SRM 2779. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Certified (bold) and reference values for SRM 2779 as listed in the Certificate of Analysis (COA) are also displayed. Values in red indicate outliers and were not used to determine the interlaboratory mean and uncertainty. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty	n	COA value	uncertainty
	1	2	3	4	5	6	7	8	9	10					
naphthalene	906 (46.9)	640 (12.9)	677 (34.2)	990 (233)	935 (3.46)	886 (17.3)	726 (64.5)		855 (14.5)	855 (25.1)	808	59.2	14	855	46
biphenyl	174 (8.92)	172 (3.07)	98.8 (3.90)	178 (34.4)		186 (4.58)			170 (12.2)	24.8 (1.33)	246	201	9	195	19
acenaphthene	40.2 (2.63)	14.1 (0.645)		63.9 (13.1)	13.8 (0.451)	17 (0.208)	20.9 (0.950)		19.4 (0.569)		24.2	11.6	9		
acenaphthylene	10.9 (0.622)	8.34 (0.261)		7.49 (1.52)	17 (0.306)	8.03 (0.286)	8.00 (2.16)		8.28 (0.1)		8.61	2.46	9	8.09	0.1
fluorene	149 (7.43)	153 (3.01)	107 (1.12)	231 (44.1)	161 (1.53)	132 (4.00)	162 (20.8)		121 (6.11)		148	21.1	12	145	43
phenanthrene	273 (13.52)	303 (1.83)	254 (10.0)	466 (76.3)	304 (4.36)	315 (9.00)	337 (15.1)	341 (0.529)	224 (3.46)	273 (8.25)	287	31.9	15	258	27
anthracene	6.01 (0.474)			6.49 (1.07)		3.10 (0.290)	3.20 (0.200)		9.25 (0.385)		6.02	2.07	8	3.42	0.59
fluoranthene	4.74 (0.263)	4.97 (0.110)		7.53 (0.450)	6.35 (0.00577)	9.27 (0.258)	3.6 (0.436)		5.44 (0.247)		5.01	1.42	11	4.36	0.4
pyrene	12.9 (0.993)	16.8 (0.631)	6.25 (0.269)	82.1 (24.9)	19.4 (0.400)	14.7 (0.681)	17.4 (1.57)		12.8 (0.557)		15.5	5.36	13	14.81	0.39
benzo[b]fluorene		11.8 (1.04)									8.63	3.15	3		
benz[a]anthracene	6.83 (0.0797)	6.15 (0.226)		36.3 (0.781)		7.69 (0.38)	7.63 (0.416)		5.3 (0.363)		13.9	10.7	11	7.03	0.85
chrysene	26.9 (1.52)		28.1 (0.602)			41.8 (3.84)	51.2 (5.55)				48.1	12.9	9	23.3	5.2
triphenylene	25 (1.31)					27.3 (1.08)					26.1	2.31	2	17.7	6.7
chrysene+triphenylene		51.7 (1.63)		91.5 (9.73)	66.9 (1.63)				38.3 (0.289)		57.9	19.6	5	47.4	1.7
benzo[b]fluoranthene	5.17 (0.450)	6.3 (0.0503)			6.49 (0.288)	5.97 (0.137)	5.57 (0.416)		5.11 (0.356)		5.95	1.02	9	5.62	0.34
benzo[j]fluoranthene														0.75	0.29
benzo[k]fluoranthene	3.31 (0.197)			15.3 (2.83)			1.30 (0.100)		0.221 (0.0458)		5.24	5.18	6	0.66	0.28
benzo[a]fluoranthene															
benzo[e]pyrene	11.7 (0.822)	11 (0.443)			13.2 (0.0577)	10.6 (0.153)			9.88 (0.569)		12.7	3.01	9	10.78	0.6
benzo[a]pyrene	3.93 (0.278)	2.03 (0.139)		89.3 (10.4)	1.54 (0.0557)	2.24 (0.352)	2.33 (0.569)		1.88 (0.145)		12.6	17.4	10	1.36	0.35
perylene	1.22 (0.0912)					0.558 (0.118)			0.496 (0.0482)		0.671	0.368	4	0.71	0.17
indeno[1,2,3-cd]pyrene						0.801 (0.268)	1.10 (0.100)		0.271 (0.0580)		1.41	1.41	4	0.48	0.14
benzo[ghi]perylene	2.02 (0.263)	1.74 (0.0945)			1.36 (0.0346)		2.20 (0.173)		1.57 (0.211)		1.59	0.271	8	2.11	0.26
dibenz[a,h]anthracene	1.19 (0.0737)	1.56 (0.208)		29.6 (2.61)			1.57 (0.115)		1.81 (0.133)		5.53	8.04	7	0.574	0.091
cis/trans-decalin		679 (12.6)									662	35.3	2		
dibenzofuran	25.1 (1.24)	27.8 (0.552)		35 (7.65)		36.9 (0.700)				22.3 (0.727)	28.3	5.11	6	25.7	3.6
retene		16.6 (0.731)		34 (11.9)	7.9 (0.230)				25.5 (1.18)		21	11.3	4		
benzothiophene		7.22 (0.170)		3.65 (0.0346)							5.3	2.08	3		
dibenzothiophene	48.2 (2.36)	54.2 (1.02)	30.7 (0.276)	47.2 (8.30)	60.5 (0.872)	57.8 (2.23)			46.5 (0.721)	44.4 (2.29)	47.4	6.07	12	51.8	2.1
naphthobenzothiophene		31.6 (2.20)		25.7 (5.48)							20.2	10.0	4		

Table 6 (continued). Lab means and standard deviations (in parentheses) in mg/kg for parent PAHs reported in SRM 2779.

	Lab number														
Analyte	11	12	13	14	15	16	17	18	19	20	interlab mean	uncertainty	n	COA value	uncertainty
naphthalene	638 (2.57)	738 (24)	775 (13)	861 (448)	825 (79.5)				5902 (216)		808	59.2	14	855	46
biphenyl		176 (5.03)							1039 (35.9)		246	201	9	195	19
acenaphthene		21.7 (0.971)		6.93 (4.92)							24.2	11.6	9		
acenaphthylene		5.79 (0.215)		3.73 (2.39)							8.61	2.46	9	8.09	0.1
fluorene	124 (0.989)	116 (2.08)	119 (6.24)	197 (96.8)					569 (24.1)		148	21.1	12	145	43
phenanthrene	232 (0.865)	239 (6.11)	246 (10.6)	255 (34.4)	255 (22.9)				731 (1.24)		287	31.9	15	258	27
anthracene	4.84 (0.0304)	11.3 (0.306)		4.03 (2.12)							6.02	2.07	8	3.42	0.59
fluoranthene	6.56 (0.0267)	2.16 (0.165)	2.88 (0.132)	1.63 (0.387)							5.01	1.42	11	4.36	0.4
pyrene	13.9 (0.0297)	10.3 (0.153)	9 (0.515)	7.01 (1.63)				15.6	44.8 (1.54)		15.5	5.36	13	14.81	0.39
benzo[b]fluorene		7.27 (0.254)		6.85 (1.87)							8.63	3.15	3		
benz[a]anthracene	5.26 (0.0213)	4.6 (0.101)	4.51 (0.269)	8.58 (5.77)					59.5 (3.46)		13.9	10.7	11	7.03	0.85
chrysene	45.7 (0.0828)		42.2 (2.00)	40.7 (29.4)	87.3 (9.87)				69.3 (2.60)		48.1	12.9	9	23.3	5.2
triphenylene											26.1	2.31	2	17.7	6.7
chrysene+triphenylene		41.2 (0.361)									57.9	19.6	5	47.4	1.7
benzo[b]fluoranthene	4.76 (0.0237)	4.60 (0.129)							9.62 (1.76)		5.95	1.02	9	5.62	0.34
benzo[j]fluoranthene														0.75	0.29
benzo[k]fluoranthene	0.421 (0.00248)			10.9 (12.9)							5.24	5.18	6	0.66	0.28
benzo[a]fluoranthene															
benzo[e]pyrene	11.0 (0.0803)	9.19 (0.202)						13.3	24.2 (1.75)		12.7	3.01	9	10.78	0.6
benzo[a]pyrene	1.74 (0.0122)	1.91 (0.189)		18.8 (10.3)							12.6	17.4	10	1.36	0.35
perylene	0.413 (0.00149)										0.671	0.368	4	0.71	0.17
indeno[1,2,3-cd]pyrene				3.47 (1.58)							1.41	1.41	4	0.48	0.14
benzo[ghi]perylene	1.44 (0.0113)	1.33 (0.0907)		1.03 (0.266)							1.59	0.271	8	2.11	0.26
dibenz[a,h]anthracene	1.82 (0.0128)			1.13 (0.0556)							5.53	8.04	7	0.574	0.091
cis/trans-decalin		644 (24.0)									662	35.3	2		
dibenzofuran		22.8 (1.08)									28.3	5.11	6	25.7	3.6
retene											21	11.3	4		
benzothiophene		5.04 (0.159)									5.3	2.08	3		
dibenzothiophene	41.3 (0.286)	38.4 (0.666)	34.3 (1.61)	64.9 (16.5)							47.4	6.07	12	51.8	2.1
naphthobenzothiophene	10.8 (0.0569)	12.9 (0.265)									20.2	10	4		

Table 7. Lab means and standard deviations (in parentheses) in mg/kg for alkyl PAHs reported in SRM 2779. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Certified (bold) and reference values for SRM 2779 are provided as listed in the Certificate of Analysis (COA). Values in red indicate outlier and was not used to determine the interlab mean and uncertainty. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty	n	COA value	uncertainty
	1	2	3	4	5	6	7	8	9	10					
1-methylnaphthalene	1207 (60.3)	1020 (16.8)		1089 (164)	1220 (0.00)	1193 (25.2)			994 (18.8)	721 (23.8)	1215	330	11	1140	20
2-methylnaphthalene	1750 (85.4)	1500 (247)		2418 (565)	2153 (5.77)	1683 (32.1)	950 (105)		1463 (25.4)	1157 (32.4)	1877	533	12	1630	50
2,6-dimethylnaphthalene		894 (13.5)		494 (216)	1060 (10.0)	436 (6.66)	605 (65.9)		949 (94.8)		1184	925	9		
1,6,7-trimethylnaphthalene		315 (5.17)			227 (16.5)	244 (3.06)					377	286	5	306	63
1-methylphenanthrene	176 (8.69)	192 (3.61)		354 (70.3)	231 (3.79)	192 (4.58)			170 (6.03)	132 (2.85)	224	85.6	11	169	10
2-methylphenanthrene		182 (3.16)		409 (49.7)		240 (4.93)			204 (4.36)	168 (4.18)	210	61.7	8	230	14
3-methylphenanthrene		163 (3.10)		444 (14.5)	248 (3.06)	223 (5.20)	244 (32)		205 (4.36)	151 (3.53)	215	58.4	10	206	32
9-methylphenanthrene		214 (4.14)		403 (26.7)	325 (4.04)		224 (31.7)		232 (5.51)	198 (6.13)	234	63.5	8	232	19
2-methylantracene		13.4 (0.493)		53.1 (9.27)					25.6 (0.666)		20.1	14.2	6	23.3	2.5
C ₁ -decalins		1045 (34.2)									1000	89.6	2	1040	410
C ₂ -decalins		903 (18.7)									887	31.5	2	1060	470
C ₃ -decalins		399 (12.0)									432	67.1	2	1460	600
C ₄ -decalins		379 (29.0)									416	75.3	2		
C ₁ -naphthalenes	2007 (91.2)	1482 (20.0)	2254 (14.5)		3370 (10.0)	3023 (58.6)			2457 (44.2)	1877 (58.6)	2262	373	13		
C ₂ -naphthalenes	2393 (127)	2014 (28.5)	2971 (87.6)		3970 (26.5)	3783 (280)			1815 (90.4)	2227 (152)	2596	545	13	2170	360
C ₃ -naphthalenes	1743 (90.7)	1464 (22.5)	1959 (94.9)		3050 (26.5)	2033 (47.3)				1307 (110)	1780	377	12	1380	270
C ₄ -naphthalenes	966 (57.6)	756 (9.8)	959 (84.1)		1360 (26.5)					282 (23.0)	794	321	10	700	130
C ₁ -benzothiophenes		27.5 (1.99)									24.2	6.56	2		
C ₂ -benzothiophenes		32.9 (0.626)									26.5	12.7	2	36	13
C ₃ -benzothiophenes		42.3 (3.14)									37.4	9.69	2		
C ₄ -benzothiophenes		23.2 (0.479)									24	1.67	2	30	4
C ₁ -fluorenes	340 (17.9)	342 (7.66)	296 (3.24)		334 (6.81)	562 (22.6)			217 (5.77)		342	71.9	10	300	60
C ₂ -fluorenes	487 (20.7)	459 (14.5)	334 (13.2)		419 (9.29)						421	97.2	8	380	30
C ₃ -fluorenes	411 (20.5)	362 (12.8)			334 (6.43)						325	109	7	270	40
C ₁ -phenanthrenes/anthracenes	679 (34.7)	730 (16.3)	698 (9.28)		964 (16.0)	979 (44.2)			837 (19.7)	649 (16.7)	724	90.1	13	670	90
C ₂ -phenanthrenes/anthracenes	729 (38.4)	820 (13.9)	750 (5.89)		940 (13.0)	1387 (80.8)				639 (13.3)	755	156	12	630	60
C ₃ -phenanthrenes/anthracenes	527 (27.3)	487 (19.9)			733 (171)	1917 (56.9)					661	340	10	400	50
C ₄ -phenanthrenes/anthracenes	292 (14.9)	193 (8.80)			311 (7.23)						259	161	7	200	30
C ₁ -dibenzothiophenes	169 (8.41)	158 (4.95)	130 (4.38)		169 (2.52)				99.1 (1.08)	94.6 (4.62)	139	33.9	10	130	20
C ₂ -dibenzothiophenes	224 (11.3)	224 (7.44)	254 (8.70)		234 (3.21)	399 (12.5)				71.7 (3.68)	204	75	10	160	20
C ₃ -dibenzothiophenes	173 (8.75)	159 (2.86)			152 (3.21)						155	53.2	6	110	10
C ₄ -dibenzothiophenes	94.7 (9.92)	72.7 (2.94)			73.2 (0.608)						87.2	33.1	5	56	10
C ₁ -fluoranthenes/pyrenes	97.2 (4.78)	99.4 (3.24)	52.5 (0.452)		86.2 (1.72)	135 (11.2)			64.7 (0.379)		92.9	19.9	10	67	7
C ₂ -fluoranthenes/pyrenes	153 (8.77)	151 (8.59)	126 (0.793)		137 (5.00)						139	28.3	8	130	20
C ₃ -fluoranthenes/pyrenes	156 (7.66)	173 (6.96)			151 (2.31)						144	42.2	7	120	20
C ₄ -fluoranthenes/pyrenes	133 (5.38)	108 (7.71)			101 (2.34)						117	34.4	6	87	21
C ₁ -naphthobenzothiophenes		68.6 (2.68)									49.9	18.7	3	57	15
C ₂ -naphthobenzothiophenes		84.2 (4.31)									61	24	3	70	19
C ₃ -naphthobenzothiophenes		54.4 (2.79)									41.9	14.7	3	48	12
C ₄ -naphthobenzothiophenes		20.1 (1.29)									26	11.8	2	31	10
C ₁ -chrysenes	125 (6.78)	120 (3.20)	77.3 (1.03)		113 (0.577)	137 (1.73)			84 (1.85)		114	14.2	11	110	7
C ₂ -chrysenes	132 (7.13)	139 (10.2)	117 (10.6)		146 (2.52)	175 (3.79)					140	29.3	10	130	10
C ₃ -chrysenes	128 (4.91)	104 (4.50)			95.7 (3.54)						119	48.8	7	93	12
C ₄ -chrysenes		67.9 (2.78)			68.6 (0.929)						69.8	15.2	4	71	16

Table 7 (continued). Lab means and standard deviations (in parentheses) in mg/kg for alkyl PAHs reported in SRM 2779.

Analyte	Lab number										interlab mean	uncertainty	n	COA value	uncertainty
	11	12	13	14	15	16	17	18	19	20					
1-methylnaphthalene		1029 (31.5)	1022 (36.6)	1052 (625)					2813 (111)		1215	330	11	1140	20
2-methylnaphthalene		1607 (40.4)	1530 (36.1)	1781 (987)					4532 (163)		1877	533	12	1630	50
2,6-dimethylnaphthalene		951 (21.5)		439 (269)					4829 (150)		1184	925	9		
1,6,7-trimethylnaphthalene		157 (2.08)							941 (243)		377	286	5	306	63
1-methylphenanthrene		96.1 (2.12)	153 (9.29)	161 (46.6)					603 (9.34)		224	85.6	11	169	10
2-methylphenanthrene		117 (3.79)	187 (7.00)	175 (55.2)							210	61.7	8	230	14
3-methylphenanthrene		103 (2.65)	167 (6.66)	197 (72.8)							215	58.4	10	206	32
9-methylphenanthrene		142 (2.65)		137 (45.7)							234	63.5	8	232	19
2-methylanthracene		8.16 (0.07)	8.48 (0.380)	11.8 (7.06)							20.1	14.2	6	23.3	2.5
C ₁ -decalins		955 (36.5)									1000	89.6	2	1040	410
C ₂ -decalins		871 (31.4)									887	31.5	2	1060	470
C ₃ -decalins		466 (6.03)									432	67.1	2	1460	600
C ₄ -decalins		454 (26.1)									416	75.3	2		
C ₁ -naphthalenes	1250 (0.129)	1557 (50.3)	2553 (77.7)	2833 (1611)	1738 (54.0)					3010 (151)	2262	373	13		
C ₂ -naphthalenes	1387 (11.5)	1837 (60.3)	3373 (136)	1840 (1055)	1776 (93.0)					4367 (227)	2596	545	13	2170	360
C ₃ -naphthalenes	842 (5.63)	1137 (25.2)	2053 (139)	1754 (792)	1238 (131)					2780 (141)	1780	377	12	1380	270
C ₄ -naphthalenes	270 (1.10)	534 (12.7)	1247 (85)	31.6 (8.25)						1537 (92.9)	794	321	10	700	130
C ₁ -benzothiophenes		21 (0.306)									24.2	6.56	2		
C ₂ -benzothiophenes		20.2 (0.569)									26.5	12.7	2	36	13
C ₃ -benzothiophenes		32.6 (0.839)									37.4	9.69	2		
C ₄ -benzothiophenes		24.8 (1.42)									24	1.67	2	30	4
C ₁ -fluorenes	214 (1.75)	234 (8.74)	396 (20.2)							481 (25.3)	342	71.9	10	300	60
C ₂ -fluorenes	249 (1.7)	290 (6.51)	440 (20.4)							689 (29.2)	421	97.2	8	380	30
C ₃ -fluorenes	163 (0.709)	215 (4.04)	211 (5.29)							581 (29.0)	325	109	7	270	40
C ₁ -phenanthrenes/anthracenes	454 (0.311)	477 (10.6)	733 (31.1)	681 (226)	633 (87.4)					893 (45.6)	724	90.1	13	670	90
C ₂ -phenanthrenes/anthracenes	459 (2.08)	481 (11.5)	751 (38.6)	442 (325)	631 (108)					1035 (52.1)	755	156	12	630	60
C ₃ -phenanthrenes/anthracenes	245 (1.85)	269 (3.21)	428 (15.9)	212 (98.6)	527 (79.7)					1263 (61.1)	661	340	10	400	50
C ₄ -phenanthrenes/anthracenes	110 (0.722)	113 (4.36)	95.2 (4.8)							699 (35.7)	259	161	7	200	30
C ₁ -dibenzothiophenes	116 (0.399)	111 (2.52)		78.0 (40.4)						262 (13.0)	139	33.9	10	130	20
C ₂ -dibenzothiophenes	145 (0.665)	131 (3.06)		9.08 (1.74)						346 (17.5)	204	75	10	160	20
C ₃ -dibenzothiophenes	88.2 (0.743)	93.3 (1.55)								267 (13.6)	155	53.2	6	110	10
C ₄ -dibenzothiophenes		48.6 (0.361)								147 (15.4)	87.2	33.1	5	56	10
C ₁ -fluoranthenes/pyrenes	77.2 (0.545)	57 (1.74)		118 (64.0)						142 (7.00)	92.9	19.9	10	67	7
C ₂ -fluoranthenes/pyrenes	106 (0.717)	91.9 (1.76)		124 (8.72)						224 (12.8)	139	28.3	8	130	20
C ₃ -fluoranthenes/pyrenes	115 (0.928)	116 (3.21)		34 (21.2)						228 (11.2)	144	42.2	7	120	20
C ₄ -fluoranthenes/pyrenes	79.4 (0.164)	87.7 (1.80)								195 (7.86)	117	34.4	6	87	21
C ₁ -naphthobenzothiophenes	40.1 (0.00462)	41 (0.557)									49.9	18.7	3	57	15
C ₂ -naphthobenzothiophenes	44.1 (0.0266)	54.7 (0.416)									61	24	3	70	19
C ₃ -naphthobenzothiophenes	29 (0.0219)	42.3 (1.14)									41.9	14.7	3	48	12
C ₄ -naphthobenzothiophenes		31.9 (1.68)									26	11.8	2	31	10
C ₁ -chrysenes	95.1 (0.764)	105 (1.15)		151 (80.3)	103 (4.73)					141 (7.66)	114	14.2	11	110	7
C ₂ -chrysenes	111 (0.553)	123 (1.53)		102 (44.3)	102 (10.4)					256 (13.9)	140	29.3	10	130	10
C ₃ -chrysenes	73.2 (0.298)	136 (1.00)			47.7 (4.04)					248 (9.55)	119	48.8	7	93	12
C ₄ -chrysenes	52.9 (0.400)	89.8 (4.57)									69.8	15.2	4	71	16

Table 8. Lab means and standard deviations (in parentheses) in mg/kg for biomarkers reported in SRM 2779. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Reference values for SRM 2779 as listed in the Certificate of Analysis (COA) are also displayed. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty	n	COA value	uncertainty
	1	2	3	4	5	6	7	8	9	10					
Carbazole		7.95 (0.371)		5.33 (0.785)							5.64	2.5	3		
18 α (H)-22,29,30-Trisnorneohopane		7.02 (0.376)		12.7 (0.879)						13.4 (0.26)	10	2.99	6	6.9	1.1
17 α (H)-22,29,30-Trisnorhopane	9.84 (0.467)	6.48 (0.197)		10.2 (1.08)					13 (2.11)	11.2 (0.512)	9.19	2.02	8	7.29	0.79
17 α (H),21 β (H)-30-Norhopane	25.8 (1.51)	18.7 (0.849)		23.1 (1.91)					31.4 (2.11)		19.4	8.42	7	17.0	4.6
18 α (H)-30-Norneohopane		7.73 (0.605)								11.4 (0.315)	10.7	3.19	4		
17 α (H)-Diahopane		4.8 (0.332)								11 (0.166)	7.9	2.73	4	4.5	1.2
17 α (H),21 β (H)-Hopane	45.4 (2.64)	43 (1.27)		45.8 (2.54)					56.1 (1.51)	69.2 (2.98)	51.4	6.17	8	42.1	9.9
17 α (H),21 β (H)-22R-Homohopane	16.9 (1.39)	11.6 (0.787)		19.8 (1.08)					22.8 (0.416)	30.9 (1.12)	20	3.91	8	13.8	3.6
17 α (H),21 β (H)-22S-Homohopane	24.5 (1.53)	17.04 (0.617)		23.9 (1.64)					32.8 (1.01)	20.8 (0.176)	22.9	3.83	8	17.3	4.3
13 β (H)17 α (H)-Diacholestane 20S		40.8 (3.13)									48.1	17.6	4	41.2	6.7
5 α (H),14 α (H),17 α (H)-Cholestane 20S		49.5 (1.79)		24.3 (0.176)							42.7	14.2	4		
5 α (H),14 α (H),17 α (H)-Cholestane 20R	14.7 (0.790)	45.3 (4.55)		23 (0.981)					15.8 (0.1)	20.7 (0.798)	24.5	13.2	8		
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20S		18.6 (1.07)		15.7 (0.951)						24.6 (0.767)	22.6	4.61	6		
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20R	22.8 (1.99)	17.5 (0.111)		16.1 (0.596)					15.9 (1.15)	18.4 (0.429)	19.9	2.39	8	16.9	5.0
5 α (H),14 β (H),17 β (H)-Cholestane 20R	36.6 (2.24)	22.4 (1.98)		24.2 (0.797)					40.2 (2.03)	31.4 (0.566)	29.3	6.04	7	23.7	2.7
5 α (H),14 β (H),17 β (H)-Cholestane 20S		22.9 (2.17)		23.3 (2.27)						24.1 (0.27)	25	2.71	6	22.3	7.5
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20R	17.9 (1.04)	27.7 (2.24)		20.1 (1.17)					28.1 (0.586)	29.8 (1.07)	31	6.97	8	21.3	8.2
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20S		23 (1.79)		20.3 (1.09)						24.5 (0.732)	24.4	2.65	6	23.1	6.4
C ₂₀ -triaromatic steroid (pregnane derivative)		10.8 (0.193)								16.4 (0.567)	13.6	5.54	2		
C ₂₁ -triaromatic steroid (homopregnane)		9.58 (0.130)								15.6 (0.378)	12.6	6.05	2		
C ₂₅ -20S-triaromatic steroid (cholestane derivative)		4.69 (0.308)								8.1 (0.17)	6.42	3.46	2		
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)		10 (0.136)								14.3 (0.387)	29.6	35	3		
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)		13.3 (0.372)								21.9 (0.403)	39.3	43.6	3		
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)		9.22 (1.28)								17.3 (0.713)	30.1	34.1	3		

Table 8 (continued). Lab means and standard deviations (in parentheses) in mg/kg for biomarkers reported in SRM 2779.

Analyte	Lab number										interlab mean	uncertainty	n	COA value	uncertainty
	11	12	13	14	15	16	17	18	19	20					
Carbazole		3.64 (0.275)									5.64	2.5	3		
18α(H)-22,29,30-Trisnorhopane		10.3 (0.891)	12.6 (0.252)	4.29 (0.667)							10	2.99	6	6.9	1.1
17α(H)-22,29,30-Trisnorhopane		8.37 (0.446)	10.3 (0.208)	3.98 (0.354)							9.19	2.02	8	7.29	0.79
17α(H),21β(H)-30-Norhopane		4.66 (1.32)	28.3 (0.462)	3.59 (0.617)							19.4	8.42	7	17.0	4.6
18α(H)-30-Norhopane		8.79 (0.528)	14.9 (0.265)								10.7	3.19	4		
17α(H)-Diahopane		6.65 (0.294)	9.11 (0.0896)								7.9	2.73	4	4.5	1.2
17α(H),21β(H)-Hopane		50.1 (0.306)	55.7 (0.896)	45.5 (1.07)							51.4	6.17	8	42.1	9.9
17α(H),21β(H)-22R-Homohopane		17.5 (0.404)	20.9 (0.252)	19.9 (1.03)							20	3.91	8	13.8	3.6
17α(H),21β(H)-22S-Homohopane		21.4 (0.493)	26.9 (0.379)	16.2 (1.12)							22.9	3.83	8	17.3	4.3
13β(H)17α(H)-Diacholestane 20S		46.4 (2.55)	73 (0.777)	32.1 (9.26)							48.1	17.6	4	41.2	6.7
5α(H),14α(H),17α(H)-Cholestane 20S		57.3 (1.05)		39.9 (3.75)							42.7	14.2	4		
5α(H),14α(H),17α(H)-Cholestane 20R		59.8 (2.37)	12.8 (0.0)	3.88 (0.824)							24.5	13.2	8		
5α(H),14α(H),17α(H)-24-Ethylcholestane 20S		32.1 (1.47)	21.5 (0.0577)	23.2 (3.45)							22.6	4.61	6		
5α(H),14α(H),17α(H)-24-Ethylcholestane 20R		23.6 (0.208)	20.4 (0.208)	24.3 (2.2)							19.9	2.39	8	16.9	5.0
5α(H),14β(H),17β(H)-Cholestane 20R		31.9 (0.458)		18.1 (1.01)							29.3	6.04	7	23.7	2.7
5α(H),14β(H),17β(H)-Cholestane 20S		30.2 (0.351)	27.9 (0.907)	21.7 (2.71)							25	2.71	6	22.3	7.5
5α(H),14β(H),17β(H)-24-Ethylcholestane 20R		42.2 (1.89)	45.5 (0.513)	36.5 (2.93)							31	6.97	8	21.3	8.2
5α(H),14β(H),17β(H)-24-Ethylcholestane 20S		25.2 (1.91)	30.1 (0.173)	23.5 (0.97)							24.4	2.65	6	23.1	6.4
C ₂₀ -triaromatic steroid (pregnane derivative)											13.6	5.54	2		
C ₂₁ -triaromatic steroid (homopregnane)											12.6	6.05	2		
C ₂₆ -20S-triaromatic steroid (cholestane derivative)											6.42	3.46	2		
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)		64.5 (2.87)									29.6	35	3		
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)		82.6 (1.5)									39.3	43.6	3		
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)		63.9 (1.31)									30.1	34.1	3		

Table 9. Lab means and standard deviations (in parentheses) in mg/kg for n-alkanes reported in candidate SRM 2777. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Blank fields indicate that values were not reported.

	Lab number												
Analyte	1	2	3	4	5	6	7	8	9	10	interlab mean	uncertainty	n
<i>n</i> -decane													
<i>n</i> -undecane										0.496 (0.102)	0.496		1
<i>n</i> -dodecane										0.426 (0.0455)	0.426		1
<i>n</i> -tridecane										0.416 (0.0445)	0.416		1
<i>n</i> -tetradecane													
<i>n</i> -pentadecane													
<i>n</i> -hexadecane								8.81 (0.154)			4.45	8.74	2
<i>n</i> -heptadecane											2.38	3.25	2
<i>n</i> -octadecane											2.42	3.11	2
<i>n</i> -nonadecane	2.48 (0.0451)										1.92	1.12	2
<i>n</i> -eicosane	2.04 (0.127)										2.39	0.701	2
<i>n</i> -heneicosane	2.17 (0.163)										1.51	1.31	2
<i>n</i> -docosane	1.69 (0.0351)										1.2	0.976	2
<i>n</i> -tricosane	2.52 (0.164)										1.58	1.9	2
<i>n</i> -tetracosane	1.33 (0.0503)									1.48 (0.172)	1.13	0.564	3
<i>n</i> -pentacosane	1.44 (0.150)									11.2 (1.39)	7.81	6.38	3
<i>n</i> -hexacosane	0.66 (0.0173)									5.57 (0.679)	4.25	3.63	3
<i>n</i> -heptacosane	0.74 (0.0173)										0.899	0.318	2
<i>n</i> -octacosane	2.38 (0.156)										1.67	1.42	2
<i>n</i> -nonacosane	6.89 (0.152)		4.21 (0.127)								3.99	3.48	3
<i>n</i> -triacontane	2.28 (0.0907)		12.8 (1.55)							2.33 (0.095)	3.95	4.44	5
<i>n</i> -hentriacontane	2.06 (0.132)		4.62 (0.157)							3.58 (0.307)	4.82	3.21	7
<i>n</i> -dotriacontane	2.5 (0.129)	7.06 (1.01)	10.5 (0.556)						5.57 (0.503)	2.38 (0.075)	5.62	2.59	9
<i>n</i> -tritriacontane		10.7 (3.37)	11.5 (1.45)						11.7 (1.08)	3.29 (0.485)	7.99	3.43	8
<i>n</i> -tettriacontane		20.5 (3.44)	13 (1.73)						19.1 (1.97)	8.65 (0.529)	12.9	6.14	8
<i>n</i> -pentatriacontane		18.4 (2.79)	15.1 (1.84)						21.7 (2.15)	8.53 (1.02)	11.6	5.83	7
<i>n</i> -hexatriacontane		16.2 (0.702)	15.9 (2.29)						16.6 (2.37)		13.2	5.06	5
<i>n</i> -heptatriacontane		16 (1.89)	18.6 (0.500)						20.5 (3.03)		14.5	6.12	5
<i>n</i> -octatriacontane		14.9 (1.28)	22.5 (2.96)						22.7 (4.01)		15.6	9.63	4
<i>n</i> -nonatriacontane		14.9 (0.784)	15.8 (1.72)						26.5 (3.12)		15	9.65	4
<i>n</i> -tetracontane		21.4 (7.17)	9.1 (0.216)						25.1 (4.71)		18.5	9.67	3
norpristane			4.19 (0.144)								4.19		1
Pristane			12.2 (0.620)						18.4 (1.26)	8.04 (0.371)	12.5	2.73	6
Phytane			17.9 (2.53)						21.5 (1.29)	13.8 (0.721)	17.9	3.28	7

Table 9 (continued). Lab means and standard deviations (in parentheses) in mg/kg for n-alkanes reported in candidate SRM 2777.

Analyte	Lab number										interlab mean	uncertainty	n
	11	12	13	14	15	16	17	18	19	20			
n-decane													
n-undecane											0.496		1
n-dodecane											0.426		1
n-tridecane											0.416		1
n-tetradecane													
n-pentadecane													
n-hexadecane	0.0782 (0.00105)										4.45	8.74	2
n-heptadecane	0.762 (0.00409)		4.01 (0.0777)								2.38	3.25	2
n-octadecane	0.861 (0.00344)		3.97 (0.154)								2.42	3.11	2
n-nonadecane	1.36 (0.0114)										1.92	1.12	2
n-eicosane	2.74 (0.0121)										2.39	0.701	2
n-henicosane	0.861 (0.00414)										1.51	1.31	2
n-docasane	0.717 (0.00555)										1.2	0.976	2
n-tricosane	0.628 (0.00228)										1.58	1.9	2
n-tetracosane	0.57 (0.0014)										1.13	0.564	3
n-pentacosane	10.8 (0.0118)										7.81	6.38	3
n-hexacosane	6.51 (0.0554)										4.25	3.63	3
n-heptacosane	1.06 (0.00756)										0.899	0.318	2
n-octacosane	0.956 (0.00987)										1.67	1.42	2
n-nonacosane	0.88 (0.00659)										3.99	3.48	3
n-triacontane	0.859 (0.00354)			1.5 (0.483)							3.95	4.44	5
n-hentriacontane	0.836 (0.00444)		10.1 (0.196)	1.23 (0.466)			11.3 (0.442)				4.82	3.21	7
n-dotriacontane	0.819 (0.00149)		10.5 (0.100)	1.91 (0.224)			9.33 (0.197)				5.62	2.59	9
n-tritriacontane	0.784 (0.00719)		11.1 (0.404)	2.56 (0.357)			12.2 (0.213)				7.99	3.43	8
n-tettriacontane	0.728 (0.00468)		12.6 (0.100)	2.76 (0.707)			25.7 (0.135)				12.9	6.14	8
n-pentatriacontane	0.657 (0.00966)		13.4 (0.208)	3.58 (1.51)							11.6	5.83	7
n-hexatriacontane			14 (0.173)	3.21 (0.627)							13.2	5.06	5
n-heptatriacontane			14.5 (0.231)	3 (0.147)							14.5	6.12	5
n-octatriacontane				2.18 (0.168)							15.6	9.63	4
n-nonatriacontane				2.9 (0.294)							15	9.65	4
n-tetracontane											18.5	9.67	3
norpristane											4.19		1
Pristane	11.5 (0.0575)		11.9 (0.0577)	12.9 (1.76)							12.5	2.73	6
Phytane	15.5 (0.138)	30.8	15.1 (0.115)	19.5 (1.26)							17.9	3.28	7

Table 10. Lab means and standard deviations (in parentheses) in mg/kg for parent PAHs reported in candidate SRM 2777. The interlaboratory mean, uncertainty, and number of reporting labs are also displayed. Values in red indicate outliers and were not used to determine the interlab mean and uncertainty. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty
	1	2	3	4	5	6	7	8	9	10		
naphthalene		1.18 (0.0351)			0.00659 (0.000367)	0.0545 (0.00104)	1.51 (0.126)		0.0329 (0.00234)	0.4 (0.0212)	0.463	0.381
biphenyl				0.0290 (0.00173)		0.0160 (0.00257)			0.0204 (0.00618)		0.022	0.008
acenaphthene						0.00848 (0.00186)	0.760 (0.0300)				0.384	0.752
acenaphthylene						0.00514 (0.00166)					0.005	
fluorene				0.0630 (0.00624)	0.0619 (0.00119)	0.0469 (0.00374)	0.653 (0.0950)		0.0477 (0.00380)		0.186	0.171
phenanthrene	0.543 (0.0115)	0.637 (0.0451)	0.183 (0.0446)	0.847 (0.0814)	0.518 (0.0131)	0.404 (0.0141)	1.82 (0.0757)	6.44 (0.415)	0.526 (0.0139)	0.639 (0.0493)	0.607	0.244
anthracene				0.0433 (0.00666)	0.15 (0.00265)	0.061 (0.0068)	0.343 (0.0115)		0.0805 (0.0106)		0.133	0.09
fluoranthene	0.207 (0.0058)	0.297 (0.0208)		0.430 (0.0346)	0.349 (0.00153)	0.212 (0.0136)			0.229 (0.00651)		0.28	0.067
pyrene	0.427 (0.00577)	0.457 (0.0643)	0.22 (0.0149)	1.56 (0.275)	0.847 (0.0417)	0.423 (0.0303)	1.39 (0.0289)		0.504 (0.0373)		0.62	0.262
benzo[b]fluorene											1.49	
benz[<i>a</i>]anthracene				0.587 (0.0153)		0.0861 (0.0329)					1.97	2.29
chrysene	1.95 (0.0493)		3.46 (0.165)			2.03 (0.0862)	5.12 (0.200)				3.16	1.16
triphenylene	3.10 (0.135)					3.08 (0.0252)					3.09	0.079
chrysene+triphenylene		5.98 (0.153)		8.41 (1.96)	3.22 (0.0361)				4.62 (0.261)		5.56	1.71
benzo[b]fluoranthene	0.477 (0.0252)	0.617 (0.0306)			0.542 (0.00200)	0.0442 (0.00476)	0.9 (0.0954)		0.559 (0.0663)		0.528	0.173
benzo[j]fluoranthene												
benzo[k]fluoranthene				1.36 (0.205)							1.36	
benzo[a]fluoranthene												
benzo[e]pyrene	0.757 (0.0551)	0.857 (0.0503)			0.784 (0.00666)	0.649 (0.0219)			0.617 (0.0150)		0.854	0.16
benzo[a]pyrene				6.04 (1.868)		0.229 (0.0205)					2.12	3.92
perylene						0.0519 (0.00869)			0.184 (0.0139)		0.118	0.132
indeno[1,2,3- <i>cd</i>]pyrene					0.0235 (0.00076)	0.56 (0.0375)			0.028 (0.00581)		0.283	0.298
benzo[ghi]perylene					0.0832 (0.00449)	0.158 (0.0134)			0.117 (0.00265)		0.109	0.027
dibenz[<i>a,h</i>]anthracene				1.30 (0.451)					0.0294 (0.00252)		0.5	0.801
cis/trans-decalin												
dibenzofuran				0.00467 (0.000577)		0.0153 (0.00444)				0.0268 (0.00155)	0.016	0.013
retene		1.73 (0.0702)		2.24 (0.211)	0.591 (0.0539)				1.76 (0.197)		1.58	0.701
benzothiophene												
dibenzothiophene	0.343 (0.00577)	0.400 (0.00)		0.290 (0.0346)	0.405 (0.00306)	0.294 (0.00351)			0.231 (0.0497)	0.357 (0.0248)	0.319	0.049
naphthobenzothiophene				3.37 (0.162)							1.92	1.52

Table 10 (continued). Lab means and standard deviations (in parentheses) in mg/kg for parent PAHs reported in candidate SRM 2777.

Analyte	Lab number										interlab mean	uncertainty	n
	11	12	13	14	15	16	17	18	19	20			
naphthalene	0.0259 (0.0000513)		0.82 (0.0361)	0.126 (0.0924)							0.463	0.381	9
biphenyl											0.0220	0.008	3
acenaphthene											0.384	0.752	2
acenaphthylene											0.00500		1
fluorene	0.031 (0.000165)		0.440	0.377 (0.334)							0.186	0.171	8
phenanthrene	0.346 (0.00297)			0.576 (0.193)	0.250 (0.0100)						0.607	0.244	12
anthracene	0.0351 (0.000122)			0.175 (0.164)							0.133	0.09	7
fluoranthene	0.365 (0.00243)			0.155 (0.0156)							0.280	0.067	8
pyrene	0.438 (0.00295)	0.814		0.235 (0.0903)				0.251			0.620	0.262	12
benzo[b]fluorene				1.49 (0.304)							1.49		1
benzo[a]anthracene	0.340 (0.00201)			6.16 (1.68)					2.69 (0.292)		1.97	2.29	5
chrysene	4.54 (0.0310)			0.183 (0.0696)	4.00 (0.363)				4.00 (0.504)		3.16	1.16	8
triphenylene											3.09	0.079	2
chrysene+triphenylene		5.57 (1.32)									5.56	1.71	5
benzo[b]fluoranthene	0.410 (0.00260)								0.677 (0.0493)		0.528	0.173	8
benzo[j]fluoranthene													
benzo[k]fluoranthene											1.36		1
benzo[a]fluoranthene													
benzo[e]pyrene	0.732 (0.00720)	0.818 (0.211)						1.38	1.1 (0.0902)		0.854	0.16	9
benzo[a]pyrene	0.0805 (0.000738)										2.12	3.92	3
perylene											0.118	0.132	2
indeno[1,2,3-cd]pyrene				0.520 (0.199)							0.283	0.298	4
benzo[ghi]perylene	0.0926 (0.000754)			0.0962 (0.0409)							0.109	0.027	5
dibenz[a,h]anthracene				0.174 (0.108)							0.500	0.801	3
cis/trans-decalin													
dibenzofuran											0.0160	0.013	3
retene											1.58	0.701	4
benzothiophene													
dibenzothiophene	0.229 (0.00190)										0.319	0.0490	8
naphthobenzothiophene	0.817 (0.00438)	1.56 (0.563)									1.92	1.52	3

Table 11. Lab means and standard deviations (in parentheses) in mg/kg for alkylated PAHs reported in candidate SRM 2777. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty	n
	1	2	3	4	5	6	7	8	9	10			
1-methylnaphthalene		0.27 (0.0529)			0.00948 (0.00056)	0.041 (0.00510)			0.0504 (0.00383)	0.0438 (0.00426)	0.156	0.151	7
2-methylnaphthalene		0.43 (0.0872)			0.0119 (0.000721)	0.0798 (0.00461)	1 (0.1)		0.047 (0.00263)	0.0581 (0.006937)	0.403	0.368	8
2,6-dimethylnaphthalene		0.25			0.0120 (0.000503)	0.0254 (0.00187)	0.5 (0.1)		0.0520 (0.00423)		0.155	0.2	5
1,6,7-trimethylnaphthalene					0.203 (0.00404)	0.146 (0.00416)					0.175	0.057	2
1-methylphenanthrene	2.63 (0.0351)	3.08 (0.0557)		3.22 (0.794)	2.86 (0.00577)	2.15 (0.142)			2.28 (0.135)	1.92 (0.0691)	2.69	0.362	11
2-methylphenanthrene		1.64 (0.09)		2.19 (0.548)		1.59 (0.04)			1.57 (0.131)	1.35 (0.0432)	1.62	0.224	8
3-methylphenanthrene		2.96 (0.0493)		4.86 (1.23)	3.62 (0.0252)	3.19 (0.0808)	5.23 (0.208)		2.99 (0.186)	2.59 (0.116)	3.55	0.755	10
9-methylphenanthrene		4.12 (0.07)		4.86 (1.19)	4.84 (0.0173)		12.6 (0.764)		4.12 (0.257)	3.61 (0.123)	5.06	2.21	8
2-methylantracene				0.703 (0.00577)							0.533	0.427	2
C ₁ -decalins													
C ₂ -decalins													
C ₃ -decalins													
C ₄ -decalins													
C ₁ -naphthalenes		0.517 (0.0814)			0.0214 (0.00123)	0.114 (0.00833)			0.0969 (0.00616)	0.102 (0.0111)	0.362	0.446	8
C ₂ -naphthalenes		0.910			0.0655 (0.00133)	1.35 (0.127)			0.0976 (0.0118)	0.0605 (0.00512)	1.51	2.2	8
C ₃ -naphthalenes	1.00 (0.00)		0.856 (0.0476)		1.45 (0.00577)	1.16 (0.00577)				0.629 (0.0467)	1.03	0.283	10
C ₄ -naphthalenes	3.07 (0.127)		2.98 (0.0209)		3.51 (0.0839)					0.575 (0.0336)			
C ₁ -benzothiophenes													
C ₂ -benzothiophenes													
C ₃ -benzothiophenes													
C ₄ -benzothiophenes													
C ₁ -fluorenes	1.57 (0.0666)	1.33 (0.0700)	0.838 (0.0315)		1.11 (0.00)	2.25 (0.0557)			0.527 (0.0228)		1.38	0.415	9
C ₂ -fluorenes	9.13 (0.0889)	7.24 (0.347)	5.08 (0.268)		6.84 (0.0971)						7.19	2.08	8
C ₃ -fluorenes	12.3 (0.200)	11.1 (0.125)			9.72 (0.287)						10.5	4.04	7
C ₁ -phenanthrenes/anthracenes	10.02 (0.0306)	11.3 (0.235)	10.4 (0.590)		14.7 (0.379)	11.6 (0.586)			10.9 (0.7)	9.47 (0.350)	10.5	1.52	13
C ₂ -phenanthrenes/anthracenes	30.47 (0.289)	34.9 (1.204)	34.8 (2.56)		38.4 (0.794)	46.6 (1.18)				27.1 (0.883)	31	5.57	12
C ₃ -phenanthrenes/anthracenes	25.37 (0.252)	23.7 (0.801)			30.5 (0.416)	76.9 (2.46)					30.6	13.5	10
C ₄ -phenanthrenes/anthracenes	14.9 (0.3)	9.23 (0.222)			15.4 (0.346)						13.1	8.29	7
C ₁ -dibenzothiophenes	2.82 (0.0306)	2.68 (0.115)	1.97 (0.128)		2.31 (0.0100)				0.986 (0.212)	1.12 (0.0561)	2.2	0.616	10
C ₂ -dibenzothiophenes	9.90 (0.0643)	10.1 (0.081)	13 (0.813)		10.2 (0.221)	14.3 (0.907)				3.36 (0.159)	10.3	2.59	9
C ₃ -dibenzothiophenes	9.99 (0.115)	9.05 (0.407)			8.83 (0.0361)						9.78	2.85	6
C ₄ -dibenzothiophenes	6.04 (0.140)	5.53 (0.169)			4.61 (0.137)						6.23	1.63	5
C ₁ -fluoranthenes/pyrenes	3.64 (0.0950)	3.76 (0.183)	2 (0.0283)		2.57 (0.0321)	6.54 (0.122)			2.03 (0.0802)		3.58	0.924	10
C ₂ -fluoranthenes/pyrenes	4.66 (0.131)	4.61 (0.435)	3.99 (0.135)		3.59 (0.0361)						4.48	0.821	8
C ₃ -fluoranthenes/pyrenes	3.86 (0.0551)	5.02 (0.260)			3.5 (0.0513)						4.57	1.05	6
C ₄ -fluoranthenes/pyrenes	6.69 (0.363)	5.16 (0.302)			4.19 (0.0681)						6.02	1.89	6
C ₁ -naphthobenzothiophenes		6.31 (0.530)									5.32	2.23	3
C ₂ -naphthobenzothiophenes		6.61 (0.421)									5.65	2.47	3
C ₃ -naphthobenzothiophenes		4.01 (0.295)									3.4	2.03	3
C ₄ -naphthobenzothiophenes											2.38	1.26	7
C ₁ -chrysenes	8.95 (0.423)	9.92 (0.0800)	7.16 (0.323)		5.6 (0.0755)	9.82 (0.599)			7.98 (0.269)		8.12	1.05	11
C ₂ -chrysenes	6.37 (0.314)	8.33 (0.202)	8.57 (0.176)		5.12 (0.0586)	10.3 (2.74)					8.16	1.8	10
C ₃ -chrysenes	4.33 (0.224)	4.65 (0.172)			2.28 (0.0656)						5.72	3.86	7
C ₄ -chrysenes					1.70 (0.0153)						1.72	0.027	2

Table 11 (continued). Lab means and standard deviations (in parentheses) in mg/kg for alkylated PAHs reported in candidate SRM 2777.

Analyte	Lab number										interlab mean	uncertainty	n
	11	12	13	14	15	16	17	18	19	20			
1-methylnaphthalene			0.563 (0.0351)	0.115 (0.0583)							0.156	0.151	7
2-methylnaphthalene			1.31 (0.0854)								0.403	0.368	8
2,6-dimethylnaphthalene											0.155	0.200	5
1,6,7-trimethylnaphthalene											0.175	0.057	2
1-methylphenanthrene		2.45 (0.437)	1.93 (0.0513)	3.52 (0.483)					3.55 (0.480)		2.69	0.362	11
2-methylphenanthrene		1.66 (0.399)	1.13 (0.0473)	1.86 (0.907)							1.62	0.224	8
3-methylphenanthrene		2.51 (0.734)	2.10 (0.0200)	5.4 (1.47)							3.55	0.755	10
9-methylphenanthrene		3.7 (1.06)		2.63 (0.25)							5.06	2.21	8
2-methylanthracene				0.278 (0.174)							0.533	0.427	2
C ₁ -decalins													
C ₂ -decalins													
C ₃ -decalins													
C ₄ -decalins													
C ₁ -naphthalenes	0.0378 (0.000332)		1.87 (0.115)	0.134 (0.0869)							0.362	0.446	8
C ₂ -naphthalenes	0.0738 (0.000414)		8.52 (0.271)	0.143 (0.0492)							1.51	2.2	8
C ₃ -naphthalenes	0.308 (0.00249)	2.16	1.00 (0.0808)	0.874 (0.368)						1.6 (0.00577)	1.03	0.283	10
C ₄ -naphthalenes	0.554 (0.00446)		1.10 (0.0458)							4.89 (0.199)			
C ₁ -benzothiophenes													
C ₂ -benzothiophenes													
C ₃ -benzothiophenes													
C ₄ -benzothiophenes													
C ₁ -fluorenes	0.775 (0.00511)		1.76 (0.133)							2.22 (0.0971)	1.38	0.415	9
C ₂ -fluorenes	3.26 (0.0209)	7.81 (1.5)	5.22 (0.0862)							12.9 (0.100)	7.19	2.08	8
C ₃ -fluorenes	3.75 (0.0224)	15.6 (3.76)	3.61 (0.0208)							17.4 (0.300)	10.5	4.04	7
C ₁ -phenanthrenes/anthracenes	5.49 (0.0181)	11.4 (2.83)	8.22 (0.117)	13.6 (1.70)	5.86 (0.275)					13.2 (0.0577)	10.5	1.52	13
C ₂ -phenanthrenes/anthracenes	14.8 (0.038)	30.7 (7.55)	21.6 (0.265)	32.2 (3.87)	17.6 (1.06)					43.3 (0.436)	31	5.57	12
C ₃ -phenanthrenes/anthracenes	10.1 (0.0644)	19.7 (5.46)	14.7 (0.208)	23.5 (0.774)	20.1 (1.62)					60.8 (0.603)	30.6	13.5	10
C ₄ -phenanthrenes/anthracenes	4.42 (0.0232)	8.97 (2.21)	3.22 (0.0306)							35.6 (0.651)	13.1	8.29	7
C ₁ -dibenzothiophenes	1.52 (0.00869)	2.25 (0.484)		1.99 (0.283)						4.37 (0.0473)	2.2	0.616	10
C ₂ -dibenzothiophenes	5.47 (0.0228)	10.7 (2.63)								15.3 (0.0577)	10.3	2.59	9
C ₃ -dibenzothiophenes	4.65 (0.0396)	10.7 (2.88)								15.5 (0.153)	9.78	2.85	6
C ₄ -dibenzothiophenes		5.63 (1.35)								9.35 (0.215)	6.23	1.63	5
C ₁ -fluoranthenes/pyrenes	2.45 (0.018)	4.01 (0.786)		3.48 (0.508)						5.32 (0.135)	3.58	0.924	10
C ₂ -fluoranthenes/pyrenes	2.96 (0.0226)	5.13 (0.988)		4.05 (2.3)						6.81 (0.191)	4.48	0.821	8
C ₃ -fluoranthenes/pyrenes	3.07 (0.0172)	6.32 (1.58)								5.65 (0.0850)	4.57	1.05	6
C ₄ -fluoranthenes/pyrenes	3.33 (0.0223)	6.99 (1.37)								9.76 (0.511)	6.02	1.89	6
C ₁ -naphthobenzothiophenes	3.09 (0.0291)	6.55 (1.58)									5.32	2.23	3
C ₂ -naphthobenzothiophenes	3.2 (0.0145)	7.15 (1.12)									5.65	2.47	3
C ₃ -naphthobenzothiophenes	1.42 (0.00548)	4.76 (0.321)									3.4	2.03	3
C ₄ -naphthobenzothiophenes											2.38	1.26	7
C ₁ -chrysenes	7.24 (0.0536)	9.87 (2.36)		7.19 (4.65)	5.42 (0.240)					10.1 (0.498)	8.12	1.05	11
C ₂ -chrysenes	5.7 (0.0242)	10.3 (2.02)		10.9 (3.88)	3.67 (0.248)					12.4 (0.611)	8.16	1.80	10
C ₃ -chrysenes	2.3 (0.00758)	16.1 (0.981)			1.91 (0.0929)					8.4 (0.439)	5.72	3.86	7
C ₄ -chrysenes	1.73 (0.0133)										1.72	0.027	2

Table 12. Lab means and standard deviations (in parentheses) in mg/kg for biomarkers reported in candidate SRM 2777. The interlaboratory mean, uncertainty, and number of reporting labs (n) are also displayed. Blank fields indicate that values were not reported.

Analyte	Lab number										interlab mean	uncertainty	n
	1	2	3	4	5	6	7	8	9	10			
Carbazole				0.15 (0.0173)							0.150		1
18a(H)-22,29,30-Trisnorneohopane		1.74 (0.149)		2.47 (0.172)						2.55 (0.0388)	2.03	0.502	6
17a(H)-22,29,30-Trisnorhopane	1.41 (0.0200)	1.14 (0.107)		1.99 (0.241)					2.36 (0.242)	2.1 (0.156)	1.68	0.375	8
17a(H),21β(H)-30-Norhopane	3.98 (0.206)	3.55 (0.245)		4.81 (0.441)					5.58 (0.0404)		3.77	1.42	6
18a(H)-30-Norneohopane		1.76 (0.104)								2.29 (0.051)	2.31	0.563	4
17a(H)-Diahopane										2.08 (0.0769)	1.86	1.27	3
17α(H),21β(H)-Hopane	6.96 (0.413)	8.10 (0.498)		8.64 (0.649)					9.8 (0.384)	13.4 (0.720)	8.92	1.69	8
17α(H),21β(H)-22R-Homohopane	2.44 (0.0929)	2.56 (0.0781)		3.54 (0.354)					3.93 (0.189)	6.01 (0.324)	3.60	0.899	8
17α(H),21β(H)-22S-Homohopane	3.53 (0.220)	3.24 (0.164)		4.46 (0.500)					5.67 (0.285)	3.97 (0.221)	4.11	0.94	8
13b(H),17a(H)-Diacholestane 20S		7.48 (0.390)									8.57	1.82	4
5a(H),14a(H),17a(H)-Cholestane 20S		8.98 (0.378)		4.57 (0.186)							7.49	2.16	4
5a(H),14a(H),17a(H)-Cholestane 20R	2.24 (0.159)	7.41 (0.583)		4.48 (0.370)					2.51 (0.199)	3.29 (0.145)	4.35	2.71	8
5a(H),14a(H),17a(H)-24-Ethylcholestane 20S		2.87 (0.230)		3.13 (0.289)						4.47 (0.280)	3.54	0.677	6
5a(H),14a(H),17a(H)-24-Ethylcholestane 20R	2.52 (0.111)	3.02 (0.211)		2.84 (0.231)					2.93 (0.0208)	3.24 (0.149)	3.16	0.614	8
5a(H),14b(H),17b(H)-Cholestane 20R	5.64 (0.243)	3.8 (0.208)		4.89 (0.543)					7.19 (0.602)	5.65 (0.264)	5.26	0.958	7
5a(H),14b(H),17b(H)-Cholestane 20S		3.85 (0.100)		4.46 (0.710)						4.22 (0.259)	4.19	1.01	6
5a(H),14b(H),17b(H)-24-Ethylcholestane 20R	2.56 (0.0954)	5.15 (0.212)		4.07 (0.624)					4.84 (0.165)	5.26 (0.246)	5.08	1.13	8
5a(H),14b(H),17b(H)-24-Ethylcholestane 20S		3.53 (0.146)		3.03 (0.439)						4.44 (0.172)	4.03	0.721	6
C ₃₀ -triaromatic steroid (pregnane derivative)		0.817 (0.0379)		3.57 (0.0310)						1.26 (0.0374)	1.88	1.70	3
C ₃₁ -triaromatic steroid (homopregnane)		0.723 (0.0416)		3.73 (0.506)						1.14 (0.0527)	1.86	1.88	3
C ₃₅ -20S-triaromatic steroid (cholestane derivative)		0.407 (0.0416)								0.66 (0.0141)	0.531	0.249	2
C ₃₅ -20R-triaromatic steroid (cholestane derivative)													
C ₃₇ -20S-triaromatic steroid (methylcholestane derivative)													
C ₃₇ -20R-triaromatic steroid (methylcholestane derivative)		0.87 (0.115)								1.36 (0.0842)	3.17	4.12	3
C ₃₈ -20S-triaromatic steroid (ethylcholestane derivative)		1.13 (0.0961)								1.82 (0.0944)	4.06	5.18	3
C ₃₈ -20R-triaromatic steroid (ethylcholestane derivative)		0.733 (0.106)								1.49 (0.0302)	3.18	4.16	3

Table 12 (continued). Lab means and standard deviations (in parentheses) in mg/kg for biomarkers reported in candidate SRM 2777.

Analyte	Lab number										interlab mean	uncertainty	n
	11	12	13	14	15	16	17	18	19	20			
Carbazole											0.150		1
18a(H)-22,29,30-Trisnorneohopane		2.72 (0.453)	1.79 (0.00577)	1.11 (0.0688)							2.03	0.502	6
17a(H)-22,29,30-Trisnorhopane		2.56	1.37 (0.00577)	1.09 (0.0998)							1.68	0.375	8
17α(H),21β(H)-30-Norhopane			4.16 (0.0643)	0.525 (0.154)							3.77	1.42	6
18a(H)-30-Norneohopane		3.09 (0.864)	2.12 (0.0208)								2.31	0.563	4
17a(H)-Diahopane		3.62	1.06 (0.01)								1.86	1.27	3
17α(H),21β(H)-Hopane		10.8 (2.68)	7.85 (0.00)	5.79 (0.125)							8.92	1.69	8
17α(H),21β(H)-22R-Homohopane		4.83 (0.866)	2.89 (0.0153)	2.64 (0.235)							3.60	0.899	8
17α(H),21β(H)-22S-Homohopane		6.15 (0.906)	3.89 (0.0115)	1.99 (0.0336)							4.11	0.94	8
13b(H)17a(H)-Diacholestane 20S		9.68 (2.62)	10.5 (0.1)	6.63 (0.324)							8.57	1.82	4
5a(H),14a(H),17a(H)-Cholestane 20S		9.27 (2.39)		7.13 (0.825)							7.49	2.16	4
5a(H),14a(H),17a(H)-Cholestane 20R		12.4 (2.7)	1.76 (0.0551)	0.734 (0.0539)							4.35	2.71	8
5a(H),14a(H),17a(H)-24-Ethylcholestane 20S		4.69 (1.24)	3.33 (0.0551)	2.77 (0.305)							3.54	0.677	6
5a(H),14a(H),17a(H)-24-Ethylcholestane 20R		5.23 (1.48)	2.55 (0.0153)	3 (0.142)							3.16	0.614	8
5a(H),14b(H),17b(H)-Cholestane 20R		6.06 (1.47)		3.62 (0.142)							5.26	0.958	7
5a(H),14b(H),17b(H)-Cholestane 20S		6.37 (1.23)	3.53 (0.0529)	2.7 (0.369)							4.19	1.01	6
5a(H),14b(H),17b(H)-24-Ethylcholestane 20R		7.68 (2.94)	6.83 (0.0503)	4.26 (0.197)							5.08	1.13	8
5a(H),14b(H),17b(H)-24-Ethylcholestane 20S		5.45 (0.773)	4.31 (0.122)	3.41 (0.556)							4.03	0.721	6
C ₂₀ -triaromatic steroid (pregnane derivative)											1.88	1.7	3
C ₂₁ -triaromatic steroid (homopregnane)											1.86	1.88	3
C ₂₆ -20S-triaromatic steroid (cholestane derivative)											0.531	0.249	2
C ₂₆ -20R-triaromatic steroid (cholestane derivative)													
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)													
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)		7.28 (1.53)									3.17	4.12	3
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)		9.23 (2.57)									4.06	5.18	3
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)		7.32 (1.78)									3.18	4.16	3

Appendix A: Instructions to Participants and Data Submission Form

DIRECTIONS FOR 2014 HYDROCARBON INTERCALIBRATION EXPERIMENT (HIE)

1. **SAMPLES FOR ANALYSIS:** The study consists of the analysis of two samples: a neat oil sample (SRM 2779) and a toluene solution of a weathered oil sample (Candidate SRM 2777)

- SRM 2779 Gulf of Mexico Crude Oil

This material was prepared with crude oil that was collected on May 21, 2010 from the *Discoverer Enterprise* from the insertion tube that was receiving oil directly from the Macondo well during response operations. Technical details are available at https://www.nist.gov/srmors/view_detail.cfm?srm=2779.

-Candidate SRM 2777 Weathered Gulf of Mexico Oil

This material was prepared from the Soxhlet extraction (90/10 dichloromethane/methanol) of oiled sand patties collected on August 31, 2012 at Gulf Shores Beach, Alabama. Geochemical analysis revealed that the residue is weathered Macondo well oil (Aeppli et al., 2014; sample B105; Table S2). Solvent was removed to yield a dark, syrupy liquid that was diluted in toluene at approximately 71 mg/g.

For this study the weathered oil sample is an unknown sample and SRM 2779 is a control material with assigned values for many (not all) of the target analytes. However, results for SRM 2779 for analytes that do not currently have values assigned may be used to assign additional values to the SRM.

You will receive two ampoules of SRM 2779 and two ampoules of Candidate SRM 2777. Each ampoule contains approximately 1.3 mL. You are only required to report triplicate analyses from one of the two ampoules for each sample.

2. **STORAGE OF SAMPLES:** Sealed ampoules, as received, should be stored in the dark at temperatures between 10 °C and 30 °C.
3. **INSTRUCTIONS FOR USE:** You are requested to analyze SRM 2779 and Candidate SRM 2777 using your laboratory's and/or program's analytical protocols.

Prior to opening the ampoules, you should sonicate the sample in the ampoule. Samples for analysis should be withdrawn immediately after opening the ampoule and should be processed without delay. Material should not be stored in ampoules that have been opened, even if they are resealed.

4. **ANALYZE IN TRIPPLICATE THROUGHOUT ENTIRE METHOD:** For best success of this experiment, we ask that you analyze three subsamples from one ampoule of each sample using your entire analytical method. That is, do not just inject the same prepared material for analysis three times in your instrument. Rather draw three subsamples from each ampoule and treat each subsample separately by carrying it throughout your analytical methods for measuring your target analytes. Ideally, analyze the three subsamples at the same time to limit variability. For Candidate SRM 2777, report the ampoule identification number for the ampoule you used in the spreadsheet (both box number and ampoule number). Only report the results of the triplicate analysis.
5. **REPORT ONLY WHAT YOU ROUTINELY MEASURE.** In the spreadsheet, we have listed the target analytes for this experiment. You are not required to measure each analyte listed. For example, if you do not routinely measure a specific compound, do not start with this experiment.

We have prepared the spreadsheet to reflect differences in how you report certain compounds. For example, some labs separate triphenylene and chrysene and report values for each. Other labs report the sum of both compounds. In the spreadsheet, you have the opportunity to report the

results either way but do not report both ways.

Report results in $\mu\text{g/g}$. Report the date of analysis of each sample in the requested m/d/y format.

We prefer that concentration values be reported for each analyte determined. However, if you need to report non-numerical data please use the following conventions:

NA	“Not analyzed”, “not determined”
<”value”	“Less than specified concentration”, e.g., <8 $\mu\text{g/g}$
Other	“Other”; add note of explanation at end of data table, e.g., interference
DL	“Below detection limit” may be used however <”value” is preferable

Do not use negative numbers or parentheses to indicate “less than detection limits”. The spreadsheet also includes places for you to list the surrogate/internal standards and type of calibration curve used and provide a brief description of the analyses. Please do not add spaces before entering numbers in the table cells and enter them as "numbers" not as "labels". Please do not insert any columns or rows within the table in the data file.

You may list results from non-routine analysis or non-targeted compounds in the spreadsheet in the “Additional Compounds and Information” section.

6. **SEND RESULTS BY DECEMBER 1, 2014.** The results are due by December 1, 2014, but can be sent earlier. We may contact you thereafter and look forward to seeing you in Houston. Please send them to gomri-hie@aibs.org.

Example Spreadsheet

Hydrocarbon Intercalibration Experiment (HIE)

Samples: Candidate SRM 2777 Weathered Gulf of Mexico Oil and SRM 2779 Gulf of Mexico Crude Oil concentration; Report results as if 3 figures were significant

Please fill in all blanks; Use requested units of

DO NOT INSERT ROWS OR COLUMNS WITHIN THIS TABLE. DO NOT MOVE CELLS.

-If necessary, add additional data/information at the end of the results table.

-Use one of the following if no concentration is reported for an analyte:

NA = Not analyzed/determined; <"conc" = <detection limit conc.; Other = other, explain in a note at end of table

(DoDL not = " usebelow parentheses detection orlimit" negative may numbersbe used, butto indicate <"conc", "less e.g., than <8, detectionis preferable.) limit".

Reporting Date (m/d/y): 2/10/15

Laboratory: Reddy Lab, WHOI Submitted by: Chris Reddy

BRIEF DESCRIPTION OF PROCEDURES USED:

Approximate amount of sample analyzed: 1.067 g SRM 2779 0.119 g

Sample cleanup and/or separation method: Candidate SRM 2777

None

Method of quantitation (IS = internal standard, ES = external standard):

PAH IS

Analytical method used (e.g., GC/MS): GC/MS

		Analyt. Instr.	Column Phase	Col. Length, m	Col. i.d., mm	Col. film thickness, µm	mode of injection (split/splitless/on-column)
Alkylated PAH MS	PAH	Agilent 6890A GC/5973N MS	DB-XLB	60	0.25	0.25	splitless
	Alkanes	Agilent 6890A GC/5973N MS	DB-XLB	60	0.25	0.25	splitless
	Biomarkers	Agilent 6890A GC/5973N MS	DB-XLB	60	0.25	0.25	splitless
	Alkylated PAH	IS					splitless
	Biomarkers	Alkanes	ISIS				

IF internal standard method was used, please complete the following section:

Identity of internal standards/surrogates used that were:

Added PRIOR to extraction of sample: No extraction performed

PAH naphthalene-d8, fluorene-d10, dibenzothiophene-d8, phenanthrene-d10, o-terphenyl, fluoranthene-d10, pyrene-d10, chrysene-d12, benzo[a]pyrene-d12

Alkylated PAH

Alkanes nC20-d42, nC16-d34

Biomarkers

Added after extraction/cleanup and JUST PRIOR to chromatographic analysis:

PAH No extraction performed

Alkylated PAH No extraction performed Alkanes No extraction performed

Biomarkers No extraction performed

Any others? Added at what point in analyses:

PAH

AlkylatedAlkanes PAH

Biomarkers

IS/surrogate standards used for quantitation calculations were:

X those added prior to extraction

those added after extraction/cleanup and just prior to chromatographic analysis

*No extraction performed

If the IS/surrogates added after extraction/cleanup extraction were used for quantitation,

were results corrected for percent recovery?

No

If yes, include the associated percent recovery acceptance ranges in the results table below.

			Calibration Curve
PAH	Points	Conc. Range	If yes, please discuss
	6	45.5-0.2 mg/kg	Number of Calibration Levels Any non-conformances with calibrations?
Alkylated PAH	6	45.5-0.2 mg/kg	
Alkanes	6	37-0.6 mg/kg	
Biomarkers	6	8.9-0.004 mg/kg	

If analytecompound was quantitated for a group using of homologs,a "representative list the compound", compound e.g. used quantitated in the results against table an belo isomew.
r, parent compound, or single alkylated compound for a group of homologs

Please note any differences in procedures used for SRM 2779 analyses from those for Candidate SRM 2777 described above: SRM 2779 was diluted with isooctane prior to the addition of internal standards, whereas SRM 2777 was not diluted.

Analytical method used for elemental analysis:

RESULTS:

PAH ANALYSES

	Candidate SRM 2777 Sample 1	Candidate SRM 2777 Sample 2	Candidate SRM 2777 Sample 3	SRM 2779 Sample 1	SRM 2779 Sample 2	SRM 2779 Sample 3	
Analyst (Initials)	RFS	RFS	RFS	RFS	RFS	RFS	
Date(s) of measurements (m/d/y)	2/7/15	2/7/15	2/7/15	2/7/15	2/7/15	2/7/15	
Sample ampoule number	box 2, ampoules 84	box 2, ampoules 84	box 2, ampoules 84				
	Candidate SRM 2777 Sample 1	Candidate SRM 2777 Sample 2	Candidate SRM 2777 Sample 3	SRM 2779 Sample 1	SRM 2779 Sample 2	SRM 2779 Sample 3	IS/surrogate used for quantitation
	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	
naphthalene	<0.20	<0.20	<0.20	956	899	863	o-terphenyl
biphenyl	<0.20	<0.20	<0.20	183	173	166	o-terphenyl
acenaphthene	<0.20	<0.20	<0.20	43.0	37.9	39.7	o-terphenyl
acenaphthylene	<0.20	<0.20	<0.20	11.5	10.9	10.3	o-terphenyl
fluorene	<0.20	<0.20	<0.20	156	150	142	o-terphenyl
phenanthrene	0.53	0.55	0.55	288	270	261	o-terphenyl
anthracene	<0.20	<0.20	<0.20	6.55	5.69	5.78	o-terphenyl
fluoranthene	0.21	0.21	0.20	5.02	4.68	4.51	o-terphenyl
pyrene	0.43	0.43	0.42	13.9	12.9	12.0	o-terphenyl
benzo[b]fluorene	NA	NA	NA	NA	NA	NA	NA
benz[a]anthracene	<0.20	<0.20	<0.20	6.91	6.83	6.75	o-terphenyl
chrysene	1.98	1.97	1.89	28.5	26.6	25.5	o-terphenyl
triphenylene	3.21	3.14	2.95	26.4	24.8	23.8	o-terphenyl
chrysene+triphenylene	NA	NA	NA	NA	NA	NA	NA
benzo[b]fluoranthene	0.50	0.48	0.45	5.66	5.06	4.78	o-terphenyl
benzo[j]fluoranthene	NA	NA	NA	NA	NA	NA	NA
benzo[k]fluoranthene	<0.20	<0.20	<0.20	3.54	3.20	3.19	o-terphenyl
benzo[a]fluoranthene	NA	NA	NA	NA	NA	NA	NA
benzo[e]pyrene	0.81	0.76	0.70	12.6	11.6	11.0	o-terphenyl
benzo[a]pyrene	<0.20	<0.20	<0.20	4.20	3.95	3.65	o-terphenyl
perylene	<0.20	<0.20	<0.20	1.30	1.23	1.12	o-terphenyl
indeno[1,2,3-cd]pyrene	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	o-terphenyl
benzo[ghi]perylene	<0.20	<0.20	<0.20	2.31	1.96	1.79	o-terphenyl
dibenz[a,h]anthracene	<0.20	<0.20	<0.20	1.24	1.21	1.10	o-terphenyl
cis/trans-decalin	NA	NA	NA	NA	NA	NA	NA
dibenzofuran	<0.20	<0.20	<0.20	26.4	25.1	23.9	o-terphenyl
retene	NA	NA	NA	NA	NA	NA	NA
benzothiophene	NA	NA	NA	NA	NA	NA	NA
dibenzothiophene	0.34	0.35	0.34	50.8	47.8	46.1	o-terphenyl
Naphthobenzothiophene	NA	NA	NA	NA	NA	NA	NA

Appendix B: Method Data Tabulations

Title	page
Method information as provided by laboratories	B2
Analytical method used for PAHs as reported by participating laboratories	B3
Analytical method used for alkylated PAHs as reported by participating laboratories	B4
Analytical method used for alkanes as reported by participating laboratories	B5
Analytical method used for biomarkers as reported by participating laboratories.....	B6
Internal standards used for quantitation of PAHs as reported by participating laboratories	B7
Internal standards used for quantitation of alkylated-PAHs as reported by participating laboratories.....	B10
Internal standards used for quantitation of alkanes as reported by participating laboratories.....	B13
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Representative Compound used for quantitation of PAHs as reported by participating laboratories	B19
Representative Compound used for quantitation of alkylated-PAHs as reported by participating laboratories	B22
Representative Compound used for quantitation of alkanes as reported by participating laboratories.....	B25
Representative Compound used for quantitation of biomarkers as reported by participating laboratories.....	B28

Method information as provided by laboratories

Lab number	Date reported	g used SRM 2777	g used SRM 2779	Box number	Ampoule number	Sample cleanup method	Method of quantitation
1	2/10/2015	1.067	0.119	2	84	None	IS
2	12/23/2014	0.05	0.05	5	35	None	IS
3	1/28/2015	0.2	0.01	1	65	N/A	IS
4	12/1/2014	0.5	0.5	7/1	112/65		ES
5	11/7/2014	0.1	0.1	9	101	Silica/alumina gravity-flow column followed by size exclusion HPLC	IS
6	2/6/2015	6.14E-05	7.00E-05	8	117	Candidate SRM 2777: used as is. SRM 2779: created a 70 mg/mL solution in dichloromethane. No cleanup/separation /etc.	IS
7	2/5/2015	0.1	0.05	6	138	Dilution with hexane/QuEChERS dSPE cleanup (150 mg MgSO ₄ , 25 mg PSA)	IS
8	1/30/2015	0.0001	0.01	1	135	EPA method 3510C, Turbopap	ES
9	1/13/2015	0.025	0.3	8	115	Silica gel fractionation. Samples were diluted in 1 mL of hexane and spiked with labeled surrogates. Clean up using 3 g of silica gel was performed by eluting Fraction 1 (aliphatics) with 12 mL hexane and Fraction 2 (aromatics) with 15 mL hexane:benzene (1:1)	ES
10	1/29/2015	0.025	0.05	4	59	Cleanup: ISOLUTE Florisil 500 mg 3 ml SPE column Separation: Silica Gel 60 0.063-0.200 mm 70-230 mesh	IS
11	11/13/2014	0.1149	0.1072	1	73	Na ₂ SO ₄ in vial. Both SRM 2779 and Candidate SRM 2777 were treated as neat oil samples and weighed directly from each ampule into a clean 12-mL amber vial. Hexane was used as the extraction solvent.	IS
12	12/30/2014	0.1	0.1	6	24	NA	IS
13	2/10/2015	0.091	0.084	6	36	None	ES
14	1/30/2015	0.01	0.01	7	6	SPE (Yang et al. 2011, Anal Methods 3, 68)	IS
15	1/8/2015	0.3034	0.0183	2	88	The technique uses an extraction of the sand using methylene chloride followed by gas chromatographic analysis to assess whether PAHs are present. The final sample is then analyzed by gas chromatography mass spectrometry using deuterated PAHs as internal standards	IS
16	2/12/2015	0.3	0.3	3	3		ES
17	2/8/2015	0.508	0.471	7	121	Stock solutions of SRM 2779 were prepared in Ethyl acetate to produce concentrations around 16000 ppm. Dilutions of stock solutions were supplemented and internal standards (fatty acid methyl esters) were added prior to injection into the GC-MS without further clean up. Candidate SRM sample was diluted with Ethyl acetate to produce concentrations around 38000 ppm and internal standard solution was added prior to injection without further clean up.	IS
18	2/15/2015						
19	11/5/2014	1 mL	1 mL	4	7	Direct dilution with DCM by 10 times for Candidate SRM 2777. Direct dilution with DCM by 100 times for SRM 2779.	ES
20	2/10/2015	1.067	0.119	2	84	None	IS
21*	8/25/2015	0.273	0.00255	5	134	No clean up or extraction on the SRM. The sample was diluted in DCM and surrogates added at that time.	IS

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Analytical method used for PAHs as reported by participating laboratories.

Lab number	Instrument	Injection mode	Column phase	Column dimensions	No. of points in calibration curve	Range of calibration*
1	GC/MS	splitless	DB-XLB	60 m x 0.25 mm x 0.25 µm	6	45.5-0.2 mg/kg
2	GC/MS	splitless	DB-5	60 m x 0.25 mm x 0.25 µm	7	0.01-7 µg/mL
3	GCxGC-FID, GCxGC-TOFMS	splitless	1 st dimension: 100% polysiloxane, 2 nd dimension: 50 % phenyl	1 st dimension: 60 m x 0.25 mm x 0.25 µm 2 nd dimension: 1.4 m x 0.1 mm x 0.1 µm	9	0.05-20 ppm
4	GC-APCI/MS-MS	split (1:10)	100% dimethylpolysiloxane	60 m x 0.25 mm x 0.25 µm	4	
5	GC/MS	on-column	DB-5	60 m x 0.25 mm x 25 µm	8	0.001 - 3 ng/µL
6	GC/MS	splitless	J&W XLB	60 m x 0.25 mm x 0.25 µm	8	0.1-0.83 µg/mL
7	GC/MS/MS	splitless	Restek Rxi-5Sil MS	30 m x 0.25 mm x 0.25 µm	6	10-1000 ng/mL
8	GC-FID	split	5% phenyl, 95% dimethyl polysiloxane	30 m x 0.32 mm x 0.25 µm	6	1 µg/ml – 250 µg/ml
9	GC/MS	split	ZB-5MS	20 m x 0.18 mm x 0.18 µm	6	10-20,000 ng/mL
10	GC/MS	splitless	HP-5MS	30 m x 0.25 mm x 0.25 µm		
11	GC/MS	splitless	ZB-5Msi	30 m x 0.25 mm x 0.25 µm	5	0.5-20 ppm
12	GC/MS	splitless	ZB-5	60 m x 0.25 mm x 0.25 µm	7	10-20,000 ng/mL
13	GCxGC-FID	splitless	1 st dimension: Restek Rtx-1 2 nd dimension: SGE BPX50	1 st dimension: 60 m x 0.25 mm x 0.25 µm 2 nd dimension: 1.5 m x 0.1 mm x 0.1 µm	5	0.11-23 ng/µL
14	GC-MS, full scan	splitless	RXi5 sil	30 m x 0.25 mm x 0.25 µm	5	2.5-7.3 ng/µl
15	GC/MS	split/splitless	HP-5	30 m x 0.32 mm x 0.25 µm	6	1.6-32 µg
16						
17						
18	GC/MS/MS					
19	GC/MS	splitless	SHRXLB	30 m x 0.25 mm x 0.25 µm	2	0-1 µg/g
20						
21†	GC/MS	Splitless	ZB-SemiVolatile	30 m x 0.25 mm x 0.25 µm	5	0.02-1 µg/mL

* Note that units are those provided by the participating laboratory.

† Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Analytical method used for alkylated PAHs as reported by participating laboratories.

Lab number	Instrument	Injection mode	Column phase	Column dimensions	No. of points in calibration curve	Range of calibration*
1	GC/MS	splitless	DB-XLB	60 m x 0.25 mm x 0.25 µm	6	45.5-0.2 mg/kg
2	GC/MS	splitless	DB-5	60 m x 0.25 mm x 0.25 µm	7	0.01-7 µg/mL
3	GCxGC-FID, GCxGC-TOFMS	splitless	1 st dimension: 100% polysiloxane, 2 nd dimension: 50 % phenyl	1 st dimension: 60 m x 0.25 mm x 0.25 µm 2 nd dimension: 1.4 m x 0.1 mm x 0.1 µm	9	0.05-20 ppm
4	GC-APPI/MS-MS	split (1:10)	100% dimethylpolysiloxane	60 m x 0.25 mm x 0.25 µm	4	
5	GC/MS	on-column	DB-5	60 m x 0.25 mm x 25 µm	8	0.001 - 3 ng/µL
6	GC/MS	splitless	J&W XLB	60 m x 0.25 mm x 0.25 µm	8	0.1-0.83 µg/mL
7	GC/MS/MS	splitless	Restek Rxi-5Sil MS	30 m x 0.25 mm x 0.25 µm	9	10-10000 ng/mL
8						
9	GC/MS	split	ZB-5MS	20 m x 0.18 mm x 0.18 µm	6	10 -1000 ng/mL
10	GC/MS	splitless	HP-5MS	30 m x 0.25 mm x 0.25 µm		
11	GC/MS	splitless	ZB-5Msi	30 m x 0.25 mm x 0.25 µm		
12	GC/MS	splitless	ZB-5	60 m x 0.25 mm x 0.25 µm	7	10-20,000 ng/mL
13	GCxGC-FID	splitless	1 st dimension: Restek Rtx-1 2 nd dimension: SGE BPX50	1 st dimension: 60 m x 0.25 mm x 0.25 µm 2 nd dimension: 1.5 m x 0.1 mm x 0.1 µm	5	0.11-23 ng/µL
14	GC/MS	splitless	RXi5 sil	30 m x 0.25 mm x 0.25 µm	5	0.6-1.3
15						
16						
17						
18						
19	GC/MS	splitless	SHRXLB	30 m x 0.25 mm x 0.25 µm	2	0-1 µg/g
20	GC/MS	splitless	DB-XLB	60 m x 0.25 mm x 0.25 µm	6	45.5-0.2 mg/kg
21†	GC/MS	Splitless	ZB-SemiVolatile	30 m x 0.25 mm x 0.25 µm	5	0.02-1 µg/mL

* Note that units are those provided by the participating laboratory.

† Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Analytical method used for alkanes as reported by participating laboratories.

Lab number	Instrument	Injection mode	Column phase	Column dimensions	No. of points in calibration curve	Range of calibration*
1	GC/MS	splitless	DB-XLB	60 m x 0.25 mm x 0.25 µm	6	37-0.6 mg/kg
2	GC/FID	splitless	DB-5	30 m x 0.32 mm x 0.25 µm	6	1-200 µg/mL
3	GCxGC-FID, GCxGC-TOFMS	splitless	1st dimension: 100% polysiloxane 2nd dimension: 50 % phenyl	1st dimension: 60 m x 0.25 mm x 0.25 µm 2nd dimension: 1.4 m x 0.1 mm x 0.1 µm	6	0.5-20 ppm
4	N/A					
5	NA					
6						
7						
8	GC-FID	split	5% phenyl,95% dimethyl polysiloxane	30 m x 0.32 mm x 0.25 µm	6	1ug/ml - 250ug/ml
9	GC/MS	split	Rxi-1ms	30 m x 0.25 mm x 0.25	7	20-40,000 ng/mL
10	GC/MS	splitless	HP-5MS	30 m x 0.25 mm x 0.25 µm		
11	GC-MS	splitless	ZB-5Msi	30 m x 0.25 mm x 0.25 µm	5	0.5-20 ppm
12	GC/FID	splitless	RTX-5	60 m x 0.25 mm x 0.25 µm	6	1-200 µg/mL
13	GCxGC-FID	splitless	1st dimension: Restek Rtx-1 2nd dimension: SGE BPX50	1st dimension: 60 m x 0.25 mm x 0.25 µm 2nd dimension: 1.5 m x 0.1 mm x 0.1 µm	5	0.11-23 ng/µL
14	GC/MS	splitless	RXi5 sil	30 m x 0.25 mm x 0.25 µm	5	2-12 ng/µl
15						
16	GC-FID	on-column	5% diphenyl; 95% polysiloxane (MTX-5 Restek)	30 m x 0.53 mm x 0.5 µm	4	4.69-50 µg/mL
17	GC/MS	splitless	HP-5msUI (5%-Phenyl)-methylpolysiloxane	30 m x 0.25 mm x 0.25 µm	5	0.5-20 mg/L
18						
19						
20						
21†	GC/MS	Splitless	ZB-SemiVolatile	30 m x 0.25 mm x 0.25 µm	0	

* Note that units are those provided by the participating laboratory.

† Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Analytical method used for biomarkers as reported by participating laboratories.

Lab number	Instrument	Injection mode	Column phase	Column dimensions	No. of points in calibration curve	Range of calibration*
1	GC/MS	splitless	DB-XLB	60 m x 0.25 mm x 0.25 µm	6	8.9-0.004 mg/kg
2	GC/MS	splitless	DB-5	60 m x 0.25 mm x 0.25 µm	7	0.01-7 µg/mL
3						
4	GC-APCI/MS-MS	split (1:10)	100% dimethylpolysiloxane	60 m x 0.25 mm x 0.25 µm	4	
5	NA					
6						
7						
8						
9	GC-MS	split	ZB-5MS	20 m x 0.18 mm x 0.18 µm	6	10- 20,000 ng/mL
10	GC-MS	splitless	HP-5MS	30 m x 0.25 mm x 0.25 µm		
11						
12	GC/MS	splitless	ZB-5	60 m x 0.25 mm x 0.25 µm	6	10-20,000 ng/mL
13	GCxGC-FID	splitless	1 st dimension: Restek Rtx-1 2 nd dimension: SGE BPX50	1 st dimension: 60 m x 0.25 mm x 0.25 µm 2 nd dimension: 1.5 m x 0.1 mm x 0.1 µm	5	0.11-23 ng/µL
14	GC-MS/MS	splitless	RXi5 sil	30 m x 0.25 mm x 0.25 µm	5	0.5-5 ng/µl
15						
16						
17						
18						
19						
20						
21†						

* Note that units are those provided by the participating laboratory.

† Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Internal standards/surrogates used for quantitation of PAHs as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
naphthalene	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d8-naphthalene	Naphthalene D8	chrysene-d12
biphenyl	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene			Naphthalene D8	NA
acenaphthene	o-terphenyl	Fluorene-d10			d10-acenaphthene	Fluorene D10	chrysene-d12
acenaphthylene	o-terphenyl	Fluorene-d10			d10-acenaphthene	Fluorene D10	chrysene-d12
fluorene	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Fluorene D10	chrysene-d12
phenanthrene	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Phenanthrene D10	chrysene-d12
anthracene	o-terphenyl	Fluorene-d10			d10-acenaphthene	Phenanthrene D10	chrysene-d12
fluoranthene	o-terphenyl	Fluorene-d10			d10-acenaphthene	Phenanthrene D10	chrysene-d12
pyrene	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Pyrene D10	chrysene-d12
benzo[b]fluorene	NA	Fluorene-d10					NA
benz[a]anthracene	o-terphenyl	Chrysene-d12				Chrysene D12	chrysene-d12
chrysene	o-terphenyl					Chrysene D12	chrysene-d12
triphenylene	o-terphenyl					Chrysene D12	NA
chrysene+triphenylene	NA	Chrysene-d12			d12-benzo[a]pyrene		NA
benzo[b]fluoranthene	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	chrysene-d12
benzo[j]fluoranthene	NA						NA
benzo[k]fluoranthene	o-terphenyl	Chrysene-d12					chrysene-d12
benzo[a]fluoranthene	NA	Chrysene-d12					NA
benzo[e]pyrene	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	NA
benzo[a]pyrene	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	chrysene-d12
perylene	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	NA
indeno[1,2,3-cd]pyrene	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Pyrene D10	chrysene-d12
benzo[ghi]perylene	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	chrysene-d12
dibenz[a,h]anthracene	o-terphenyl	Chrysene-d12					chrysene-d12
cis/trans-decalin	NA	Fluorene-d10					NA
dibenzofuran	o-terphenyl	Fluorene-d10				Fluorene D10	NA
retene	NA	Fluorene-d10			d10-acenaphthene		NA
benzothiophene	NA	Fluorene-d10	2,3-dibromobenzothiophene				NA
dibenzothiophene	o-terphenyl	Fluorene-d10			d10-acenaphthene	Dibenzothiophene D8	NA
naphthobenzothiophene	NA	Fluorene-d10					NA

Internal standards/surrogates used for quantitation of PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
naphthalene			D8-Naphtalene	Naphthalene-d8	Acenaphthene-d10	N/A	Acenaphthene-d10
biphenyl			D10-Phenanthrene	NA	Acenaphthene-d10	N/A	
acenaphthene				NA	Acenaphthene-d10	N/A	Acenaphthene-d10
acenaphthylene				NA	Acenaphthene-d10	N/A	Acenaphthene-d10
fluorene				Acenaphthalene-d10	Acenaphthene-d10	N/A	Acenaphthene-d10
phenanthrene			D10-Phenanthrene	Acenaphthalene-d10	Acenaphthene-d10	N/A	Phenanthrene-d10
anthracene				Acenaphthalene-d10	Acenaphthene-d10	N/A	Phenanthrene-d10
fluoranthene				Chrysene-d12	Acenaphthene-d10	N/A	Fluoranthene-d10
pyrene				Chrysene-d12	Acenaphthene-d10	N/A	Fluoranthene-d10
benzo[b]fluorene				NA	Acenaphthene-d10	N/A	Benz(a)anthracene-d12
benz[a]anthracene				Chrysene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12
chrysene				Chrysene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12
triphenylene				NA	Chrysene-d12	N/A	
chrysene+triphenylene				NA	Chrysene-d12	N/A	
benzo[b]fluoranthene				Perlyene-d12	Chrysene-d12	N/A	
benzo[j]fluoranthene				NA	Chrysene-d12	N/A	
benzo[k]fluoranthene				Perlyene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12
benzo[a]fluoranthene				NA	Chrysene-d12	N/A	
benzo[e]pyrene				Perlyene-d12	Chrysene-d12	N/A	
benzo[a]pyrene				Perlyene-d12	Chrysene-d12	N/A	Benzo(a)pyrene-d12
perylene				Perlyene-d12	Chrysene-d12	N/A	Benzo(a)pyrene-d12
indeno[1,2,3-cd]pyrene				Perlyene-d12	Chrysene-d12	N/A	Benzo(a)pyrene-d12
benzo[ghi]perylene				Perlyene-d12	Chrysene-d12	N/A	Dibenzo(a,h)anthracene-d14
dibenz[a,h]anthracene				Perlyene-d12	Chrysene-d12	N/A	Dibenzo(a,h)anthracene-d14
cis/trans-decalin				NA	Acenaphthene-d10	N/A	
dibenzofuran			D10-Phenanthrene	NA	Acenaphthene-d10	N/A	
retene				NA	Acenaphthene-d10	N/A	
benzothiophene				NA	Acenaphthene-d10	N/A	
dibenzothiophene			D10-Phenanthrene	Acenaphthalene-d10	Acenaphthene-d10	N/A	Acenaphthene-d10
naphthobenzothiophene				Chrysene-d12	Acenaphthene-d10	N/A	

Internal standards/surrogates used for quantitation of PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
naphthalene	naphthalene - d8						Dibenzothiophene d8/naphthalene d8
biphenyl							
acenaphthene							Dibenzothiophene d8/acenaphthene d10
acenaphthylene							Dibenzothiophene d8/acenaphthene d10
fluorene							Dibenzothiophene d8/acenaphthene d10
phenanthrene	phenanthrene - d10						Dibenzothiophene d8/anthracene d10
anthracene							Dibenzothiophene d8/anthracene d10
fluoranthene							Benzo(a)pyrene d12/anthracene d10
pyrene							Benzo(a)pyrene d12/anthracene d10
benzo[b]fluorene							Benzo(a)pyrene d12/anthracene d10
benz[a]anthracene							Benzo(a)pyrene d12/benzo(a)anthracene d12
chrysene	chrysene - d12						Benzo(a)pyrene d12/benzo(a)anthracene d12
triphenylene							
chrysene+triphenylene							
benzo[b]fluoranthene							Benzo(a)pyrene d12/benzo(a)anthracene d12
benzo[j]fluoranthene							
benzo[k]fluoranthene							
benzo[a]fluoranthene							Benzo(a)pyrene d12/benzo(a)anthracene d12
benzo[e]pyrene							Benzo(a)pyrene d12/benzo(a)anthracene d12
benzo[a]pyrene							Benzo(a)pyrene d12/benzo(a)anthracene d12
perylene							Benzo(a)pyrene d12/perylene d12
indeno[1,2,3-cd]pyrene							Benzo(a)pyrene d12/benzo(a)anthracene d12
benzo[ghi]perylene							Benzo(a)pyrene d12/benzo(a)anthracene d12
dibenz[a,h]anthracene							Benzo(a)pyrene d12/benzo(a)anthracene d12
cis/trans-decalin							
dibenzofuran							
retene							
benzothiophene							
dibenzothiophene							Benzo(a)pyrene d12/benzo(a)anthracene d12
naphthobenzothiophene							Benzo(a)pyrene d12/anthracene d10

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Internal standards/surrogates used for quantitation of alkylated-PAHs as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
1-methylnaphthalene	o-terphenyl	Fluorene-d10			d8-naphthalene	Naphthalene D8	NA
2-methylnaphthalene	o-terphenyl	Fluorene-d10			d8-naphthalene	Naphthalene D8	chrysene-d12
2,6-dimethylnaphthalene	NA	Fluorene-d10			d10-acenaphthene	Naphthalene D8	chrysene-d12
1,6,7-trimethylnaphthalene	NA	Fluorene-d10			d10-acenaphthene	Fluorene D10	NA
1-methylphenanthrene	o-terphenyl	Fluorene-d10			d10-acenaphthene	Phenanthrene D10	NA
2-methylphenanthrene	NA	Fluorene-d10				Phenanthrene D10	NA
3-methylphenanthrene	NA	Fluorene-d10			d10-acenaphthene	Phenanthrene D10	chrysene-d12
9-methylphenanthrene	NA	Fluorene-d10			d10-acenaphthene		chrysene-d12
2-methylanthracene	NA	Fluorene-d10					NA
C1-decalins	NA	Fluorene-d10					NA
C2-decalins	NA	Fluorene-d10					NA
C3-decalins	NA	Fluorene-d10					NA
C4-decalins	NA	Fluorene-d10					NA
C1-naphthalenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d8-naphthalene	Naphthalene D8	NA
C2-naphthalenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Naphthalene D8	NA
C3-naphthalenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Naphthalene D8	NA
C4-naphthalenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene		NA
C1-benzothiophenes	NA	Fluorene-d10					NA
C2-benzothiophenes	NA	Fluorene-d10					NA
C3-benzothiophenes	NA	Fluorene-d10					NA
C4-benzothiophenes	NA	Fluorene-d10					NA
C1-fluorenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Fluorene D10	NA
C2-fluorenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene		NA
C3-fluorenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C1-phenanthrenes/anthracenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Phenanthrene D10	NA
C2-phenanthrenes/anthracenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Phenanthrene D10	NA
C3-phenanthrenes/anthracenes	o-terphenyl	Fluorene-d10			d10-acenaphthene	Phenanthrene D10	NA
C4-phenanthrenes/anthracenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C1-dibenzothiophenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C2-dibenzothiophenes	o-terphenyl	Fluorene-d10			d10-acenaphthene	Dibenzothiophene D8	NA
C3-dibenzothiophenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C4-dibenzothiophenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C1-fluoranthenes/pyrenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene	Pyrene D10	NA
C2-fluoranthenes/pyrenes	o-terphenyl	Fluorene-d10	2,3-dibromobenzothiophene		d10-acenaphthene		NA
C3-fluoranthenes/pyrenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C4-fluoranthenes/pyrenes	o-terphenyl	Fluorene-d10			d10-acenaphthene		NA
C1-naphthobenzothiophenes	NA	Fluorene-d10					NA
C2-naphthobenzothiophenes	NA	Fluorene-d10					NA
C3-naphthobenzothiophenes	NA	Fluorene-d10					NA
C4-naphthobenzothiophenes	NA	Fluorene-d10					NA
C1-chrysenes	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	NA
C2-chrysenes	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene	Chrysene D12	NA
C3-chrysenes	o-terphenyl	Chrysene-d12			d12-benzo[a]pyrene		NA
C4-chrysenes	NA	Chrysene-d12			d12-benzo[a]pyrene		NA

Internal standards/surrogates used for quantitation of alkylated-PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
1-methylnaphthalene			D8-Naphtalene	NA	Acenaphthene-d10	N/A	Acenaphthene-d10
2-methylnaphthalene			D8-Naphtalene	NA	Acenaphthene-d10	N/A	Acenaphthene-d10
2,6-dimethylnaphthalene			D8-Naphtalene	NA	Acenaphthene-d10	N/A	Acenaphthene-d10
1,6,7-trimethylnaphthalene			D8-Naphtalene	NA	Acenaphthene-d10	N/A	
1-methylphenanthrene			D10-Phenanthrene	NA	Acenaphthene-d10	N/A	Phenanthrene-d10
2-methylphenanthrene			D10-Phenanthrene	NA	Acenaphthene-d10	N/A	Phenanthrene-d10
3-methylphenanthrene			D10-Phenanthrene	NA	Acenaphthene-d10	N/A	Phenanthrene-d10
9-methylphenanthrene			D10-Phenanthrene	NA	Acenaphthene-d10	N/A	Phenanthrene-d10
2-methylanthracene				NA	Acenaphthene-d10	N/A	Phenanthrene-d10
C1-decalins				NA	Acenaphthene-d10	N/A	
C2-decalins				NA	Acenaphthene-d10	N/A	
C3-decalins				NA	Acenaphthene-d10	N/A	
C4-decalins				NA	Acenaphthene-d10	N/A	
C1-naphthalenes			D8-Naphtalene	Naphthalene-d8	Acenaphthene-d10	N/A	Acenaphthene-d10
C2-naphthalenes			D8-Naphtalene	Naphthalene-d8	Acenaphthene-d10	N/A	Acenaphthene-d10
C3-naphthalenes			D8-Naphtalene	Naphthalene-d8	Acenaphthene-d10	N/A	Acenaphthene-d10
C4-naphthalenes			D8-Naphtalene	Naphthalene-d8	Acenaphthene-d10	N/A	Acenaphthene-d10
C1-benzothiophenes				NA	Acenaphthene-d10	N/A	
C2-benzothiophenes				NA	Acenaphthene-d10	N/A	
C3-benzothiophenes				NA	Acenaphthene-d10	N/A	
C4-benzothiophenes				NA	Acenaphthene-d10	N/A	
C1-fluorenes				Acenaphthalene-d10	Acenaphthene-d10	N/A	
C2-fluorenes				Acenaphthalene-d10	Acenaphthene-d10	N/A	
C3-fluorenes				Acenaphthalene-d10	Acenaphthene-d10	N/A	
C1-phenanthrenes/anthracenes			D10-Phenanthrene	Acenaphthalene-d10	Acenaphthene-d10	N/A	Phenanthrene-d10
C2-phenanthrenes/anthracenes			D10-Phenanthrene	Acenaphthalene-d10	Acenaphthene-d10	N/A	Phenanthrene-d10
C3-phenanthrenes/anthracenes				Acenaphthalene-d10	Acenaphthene-d10	N/A	Phenanthrene-d10
C4-phenanthrenes/anthracenes				Acenaphthalene-d10	Acenaphthene-d10	N/A	Phenanthrene-d10
C1-dibenzothiophenes			D10-Phenanthrene	Acenaphthalene-d10	Acenaphthene-d10	N/A	Acenaphthene-d10
C2-dibenzothiophenes			D10-Phenanthrene	Acenaphthalene-d10	Acenaphthene-d10	N/A	Acenaphthene-d10
C3-dibenzothiophenes				Acenaphthalene-d10	Acenaphthene-d10	N/A	
C4-dibenzothiophenes				NA	Acenaphthene-d10	N/A	
C1-fluoranthenes/pyrenes				Chrysene-d12	Acenaphthene-d10	N/A	Fluoranthene-d10
C2-fluoranthenes/pyrenes				Chrysene-d12	Acenaphthene-d10	N/A	Fluoranthene-d10
C3-fluoranthenes/pyrenes				Chrysene-d12	Acenaphthene-d10	N/A	Fluoranthene-d10
C4-fluoranthenes/pyrenes				Chrysene-d12	Acenaphthene-d10	N/A	Fluoranthene-d10
C1-naphthobenzothiophenes				Chrysene-d12	Acenaphthene-d10	N/A	
C2-naphthobenzothiophenes				Chrysene-d12	Acenaphthene-d10	N/A	
C3-naphthobenzothiophenes				Chrysene-d12	Acenaphthene-d10	N/A	
C4-naphthobenzothiophenes				NA	Acenaphthene-d10	N/A	
C1-chrysenes				Chrysene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12
C2-chrysenes				Chrysene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12
C3-chrysenes				Chrysene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12
C4-chrysenes				Chrysene-d12	Chrysene-d12	N/A	Benz(a)anthracene-d12

Internal standards/surrogates used for quantitation of alkylated-PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
1-methylnaphthalene							
2-methylnaphthalene							
2,6-dimethylnaphthalene							
1,6,7-trimethylnaphthalene							
1-methylphenanthrene							
2-methylphenanthrene							
3-methylphenanthrene							
9-methylphenanthrene							
2-methylanthracene							
C1-decalins							
C2-decalins							
C3-decalins							
C4-decalins							
C1-naphthalenes	naphthalene - d8					o-terphenyl	Dibenzothiophene d8/naphthalene d8
C2-naphthalenes	naphthalene - d8					o-terphenyl	Dibenzothiophene d8/acenaphthene d10
C3-naphthalenes	naphthalene - d8					o-terphenyl	Dibenzothiophene d8/acenaphthene d10
C4-naphthalenes						o-terphenyl	Dibenzothiophene d8/acenaphthene d10
C1-benzothiophenes						NA	
C2-benzothiophenes						NA	
C3-benzothiophenes						NA	
C4-benzothiophenes						NA	
C1-fluorenes						o-terphenyl	Dibenzothiophene d8/acenaphthene d10
C2-fluorenes						o-terphenyl	Dibenzothiophene d8/acenaphthene d10
C3-fluorenes						o-terphenyl	Dibenzothiophene d8/acenaphthene d10
C1-phenanthrenes/anthracenes	phenanthrene - d10					o-terphenyl	Dibenzothiophene d8/anthracene d10
C2-phenanthrenes/anthracenes	phenanthrene - d10					o-terphenyl	Dibenzothiophene d8/anthracene d10
C3-phenanthrenes/anthracenes	phenanthrene - d10					o-terphenyl	Dibenzothiophene d8/anthracene d10
C4-phenanthrenes/anthracenes						o-terphenyl	Dibenzothiophene d8/anthracene d10
C1-dibenzothiophenes						o-terphenyl	Dibenzothiophene d8/anthracene d10
C2-dibenzothiophenes						o-terphenyl	Dibenzothiophene d8/anthracene d10
C3-dibenzothiophenes						o-terphenyl	Dibenzothiophene d8/anthracene d10
C4-dibenzothiophenes						o-terphenyl	Dibenzothiophene d8/anthracene d10
C1-fluoranthenes/pyrenes						o-terphenyl	Benzo(a)pyrene d12/anthracene d10
C2-fluoranthenes/pyrenes						o-terphenyl	Benzo(a)pyrene d12/anthracene d10
C3-fluoranthenes/pyrenes						o-terphenyl	Benzo(a)pyrene d12/anthracene d10
C4-fluoranthenes/pyrenes						o-terphenyl	Benzo(a)pyrene d12/anthracene d10
C1-naphthobenzothiophenes						NA	Benzo(a)pyrene d12/anthracene d10
C2-naphthobenzothiophenes						NA	Benzo(a)pyrene d12/anthracene d10
C3-naphthobenzothiophenes						NA	Benzo(a)pyrene d12/anthracene d10
C4-naphthobenzothiophenes						NA	Benzo(a)pyrene d12/anthracene d10
C1-chrysenes	chrysene - d12					o-terphenyl	
C2-chrysenes	chrysene - d12					o-terphenyl	
C3-chrysenes	chrysene - d12					o-terphenyl	
C4-chrysenes						NA	

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Internal standards/surrogates used for quantitation of alkanes as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
n-decane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-undecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-dodecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-tridecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-tetradecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-pentadecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-hexadecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-heptadecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-octadecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-nonadecane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-eicosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-henicosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-docasane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-tricosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-tetracosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-pentacosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-hexacosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-heptacosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-octacosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-nonacosane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-triacontane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-hentriacontane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-dotriacontane	o-terphenyl	5a-androstane	2,3-dibromobenzothiophene				
n-tritriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-tettratriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-pentatriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-hexatriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-heptatriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-octatriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-nonatriacontane	NA	5a-androstane	2,3-dibromobenzothiophene				
n-tetracontane	NA	5a-androstane	2,3-dibromobenzothiophene				
norpristane	NA	5a-androstane	2,3-dibromobenzothiophene				
Pristane	NA	5a-androstane	2,3-dibromobenzothiophene				
Phytane	NA	5a-androstane	2,3-dibromobenzothiophene				

Internal standards/surrogates used for quantitation of alkanes as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
n-decane			Squalane		5-alpha-Androstane	N/A	
n-undecane			Squalane		5-alpha-Androstane	N/A	
n-dodecane			Squalane		5-alpha-Androstane	N/A	
n-tridecane			Squalane		5-alpha-Androstane	N/A	
n-tetradecane			Squalane		5-alpha-Androstane	N/A	
n-pentadecane			Squalane		5-alpha-Androstane	N/A	
n-hexadecane			Squalane		5-alpha-Androstane	N/A	
n-heptadecane			Squalane		5-alpha-Androstane	N/A	
n-octadecane			Squalane		5-alpha-Androstane	N/A	
n-nonadecane			Squalane		5-alpha-Androstane	N/A	
n-eicosane			Squalane		5-alpha-Androstane	N/A	
n-henicosane			Squalane		5-alpha-Androstane	N/A	
n-docasane			Squalane		5-alpha-Androstane	N/A	
n-tricosane			Squalane		5-alpha-Androstane	N/A	
n-tetracosane			Squalane		5-alpha-Androstane	N/A	
n-pentacosane			Squalane		5-alpha-Androstane	N/A	
n-hexacosane			Squalane		5-alpha-Androstane	N/A	
n-heptacosane			Squalane		5-alpha-Androstane	N/A	
n-octacosane			Squalane		5-alpha-Androstane	N/A	
n-nonacosane			Squalane		5-alpha-Androstane	N/A	
n-triacontane			Squalane		5-alpha-Androstane	N/A	
n-hentriacontane			Squalane		5-alpha-Androstane	N/A	
n-dotriacontane			Squalane		5-alpha-Androstane	N/A	
n-tritriacontane			Squalane		5-alpha-Androstane	N/A	
n-tetratriacontane			Squalane		5-alpha-Androstane	N/A	
n-pentatriacontane			Squalane		5-alpha-Androstane	N/A	
n-hexatriacontane					5-alpha-Androstane	N/A	
n-heptatriacontane					5-alpha-Androstane	N/A	
n-octatriacontane					5-alpha-Androstane	N/A	
n-nonatriacontane					5-alpha-Androstane	N/A	
n-tetracontane					5-alpha-Androstane	N/A	
norpristane					5-alpha-Androstane	N/A	
Pristane			Squalane		5-alpha-Androstane	N/A	
Phytane			Squalane		5-alpha-Androstane	N/A	

Internal standards/surrogates used for quantitation of alkanes as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21 *
n-decane			Methyl decanoate				
n-undecane			Methyl decanoate				
n-dodecane			Methyl decanoate				
n-tridecane			Methyl decanoate				
n-tetradecane			Methyl decanoate				
n-pentadecane			Methyl decanoate				
n-hexadecane			Methyl decanoate				
n-heptadecane			Methyl arachidate				
n-octadecane			Methyl arachidate				
n-nonadecane			Methyl arachidate				
n-eicosane			Methyl arachidate				
n-henicosane			Methyl arachidate				
n-docasane			Methyl arachidate				
n-tricosane			Methyl arachidate				
n-tetracosane			Methyl arachidate				
n-pentacosane			Methyl arachidate				
n-hexacosane			Methyl arachidate				
n-heptacosane			Methyl arachidate				
n-octacosane			Methyl arachidate				
n-nonacosane			Methyl arachidate				
n-triacontane			Methyl aotacosanoate				
n-hentriacontane			Methyl aotacosanoate				
n-dotriacontane			Methyl aotacosanoate				
n-tritriacontane			Methyl aotacosanoate				
n-tetratriacontane			Methyl aotacosanoate				
n-pentatriacontane							
n-hexatriacontane							
n-heptatriacontane							
n-octatriacontane							
n-nonatriacontane							
n-tetracontane							
norpristane							
Pristane							
Phytane							

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Internal standards/surrogates used for quantitation of biomarkers as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
Carbazole	NA						
18 α (H)-22,29,30-Trisnorneohopane	NA	Chrysene-d12					
17 α (H)-22,29,30-Trisnorhopane	o-terphenyl	Chrysene-d12					
17 α (H),21 β (H)-30-Norhopane	o-terphenyl	Chrysene-d12					
18 α (H)-30-Norneohopane	NA	Chrysene-d12					
17 α (H)-Diahopane	NA	Chrysene-d12					
17 α (H),21 β (H)-Hopane	o-terphenyl	Chrysene-d12					
17 α (H),21 β (H)-22R-Homohopane	o-terphenyl	Chrysene-d12					
17 α (H),21 β (H)-22S-Homohopane	o-terphenyl	Chrysene-d12					
13 β (H)17 α (H)-Diacholestane 20S	NA	Chrysene-d12					
5 α (H),14 α (H),17 α (H)-Cholestane 20S	NA	Chrysene-d12					
5 α (H),14 α (H),17 α (H)-Cholestane 20R	o-terphenyl	Chrysene-d12					
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20S	NA	Chrysene-d12					
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20R	o-terphenyl	Chrysene-d12					
5 α (H),14 β (H),17 β (H)-Cholestane 20R	o-terphenyl	Chrysene-d12					
5 α (H),14 β (H),17 β (H)-Cholestane 20S	o-terphenyl	Chrysene-d12					
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20R	o-terphenyl	Chrysene-d12					
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20S	o-terphenyl	Chrysene-d12					
C ₂₀ -triaromatic steroid (pregnane derivative)	o-terphenyl	Chrysene-d12					
C ₂₁ -triaromatic steroid (homopregnane)	o-terphenyl	Chrysene-d12					
C ₂₆ -20S-triaromatic steroid (cholestane derivative)	NA	Chrysene-d12					
C ₂₆ -20R-triaromatic steroid (cholestane derivative)	NA						
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)	NA						
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)	NA	Chrysene-d12					
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)	NA	Chrysene-d12					
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)	NA	Chrysene-d12					

Internal standards/surrogates used for quantitation of biomarkers as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
Carbazole					Chrysene-d12	N/A	
18 α (H)-22,29,30-Trisnorneohopane			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
17 α (H)-22,29,30-Trisnorhopane			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
17 α (H),21 β (H)-30-Norhopane			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
18 α (H)-30-Norneohopane			D4-Cholestane		Chrysene-d12	N/A	
17 α (H)-Diahopane			D4-Cholestane		Chrysene-d12	N/A	
17 α (H),21 β (H)-Hopane			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
17 α (H),21 β (H)-22R-Homohopane			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
17 α (H),21 β (H)-22S-Homohopane			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
13 β (H)17 α (H)-Diacholestane 20S			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 α (H),17 α (H)-Cholestane 20S			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 α (H),17 α (H)-Cholestane 20R			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20S			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20R			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 β (H),17 β (H)-Cholestane 20R			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 β (H),17 β (H)-Cholestane 20S			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20R			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20S			D4-Cholestane		Chrysene-d12	N/A	cholestane 2,2,4,4 D4
C ₂₀ -triaromatic steroid (pregnane derivative)			1,1'-Binaphthyl			N/A	
C ₂₁ -triaromatic steroid (homopregnane)			1,1'-Binaphthyl			N/A	
C ₂₆ -20S-triaromatic steroid (cholestane derivative)			1,1'-Binaphthyl			N/A	
C ₂₆ -20R-triaromatic steroid (cholestane derivative)			1,1'-Binaphthyl			N/A	
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)			1,1'-Binaphthyl			N/A	
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)			1,1'-Binaphthyl		Chrysene-d12	N/A	
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)			1,1'-Binaphthyl		Chrysene-d12	N/A	
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)			1,1'-Binaphthyl		Chrysene-d12	N/A	

Internal standards/surrogates used for quantitation of biomarkers as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
Carbazole							
18 α (H)-22,29,30-Trisnorneohopane							
17 α (H)-22,29,30-Trisnorhopane							
17 α (H),21 β (H)-30-Norhopane							
18 α (H)-30-Norneohopane							
17 α (H)-Diahopane							
17 α (H),21 β (H)-Hopane							
17 α (H),21 β (H)-22R-Homohopane							
17 α (H),21 β (H)-22S-Homohopane							
13 β (H)17 α (H)-Diacholestane 20S							
5 α (H),14 α (H),17 α (H)-Cholestane 20S							
5 α (H),14 α (H),17 α (H)-Cholestane 20R							
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20S							
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20R							
5 α (H),14 β (H),17 β (H)-Cholestane 20R							
5 α (H),14 β (H),17 β (H)-Cholestane 20S							
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20R							
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20S							
C ₂₀ -triaromatic steroid (pregnane derivative)							
C ₂₁ -triaromatic steroid (homopregnane)							
C ₂₆ -20S-triaromatic steroid (cholestane derivative)							
C ₂₆ -20R-triaromatic steroid (cholestane derivative)							
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)							
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)							
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)							
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)							

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Representative Compound used for quantitation of PAHs as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
naphthalene							
biphenyl							
acenaphthene							
acenaphthylene							
fluorene							
phenanthrene							
anthracene				phenanthrene			
fluoranthene							
pyrene							
benzo[b]fluorene							
benz[a]anthracene							
chrysene							
triphenylene							
chrysene+triphenylene		Chrysene			chrysene		
benzo[b]fluoranthene							
benzo[j]fluoranthene							
benzo[k]fluoranthene	benzo[b]fluoranthene						
benzo[a]fluoranthene							
benzo[e]pyrene							
benzo[a]pyrene							
perylene							
indeno[1,2,3-cd]pyrene							
benzo[ghi]perylene							
dibenz[a,h]anthracene	indeno[1,2,3-cd]pyrene						
cis/trans-decalin		sum of cis/trans isomers					
dibenzofuran							
retene					1-methylphenanthrene		
benzothiophene							
dibenzothiophene							
naphthobenzothiophene		benzo(b)naphtho(2,1-d)thiophene					

Representative Compound used for quantitation of PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
naphthalene							
biphenyl							
acenaphthene							
acenaphthylene							
fluorene							
phenanthrene							
anthracene							
fluoranthene							
pyrene							
benzo[b]fluorene							
benz[a]anthracene							
chrysene							
triphenylene							
chrysene+triphenylene							
benzo[b]fluoranthene							
benzo[j]fluoranthene							
benzo[k]fluoranthene							
benzo[a]fluoranthene					benzo[k]fluoranthene		
benzo[e]pyrene							
benzo[a]pyrene							
perylene							
indeno[1,2,3-cd]pyrene							
benzo[ghi]perylene							
dibenz[a,h]anthracene							
cis/trans-decalin							
dibenzofuran							
retene							
benzothiophene							
dibenzothiophene							
naphthobenzothiophene							

Representative Compound used for quantitation of PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
naphthalene							
biphenyl							
acenaphthene							
acenaphthylene							
fluorene							
phenanthrene							
anthracene							
fluoranthene							
pyrene							
benzo[b]fluorene							
benz[a]anthracene							
chrysene							
triphenylene							
chrysene+triphenylene							
benzo[b]fluoranthene							
benzo[j]fluoranthene							
benzo[k]fluoranthene							
benzo[a]fluoranthene							
benzo[e]pyrene							
benzo[a]pyrene							
perylene							
indeno[1,2,3-cd]pyrene							
benzo[ghi]perylene							
dibenz[a,h]anthracene							
cis/trans-decalin							
dibenzofuran							
retene							
benzothiophene							
dibenzothiophene							
naphthobenzothiophene							

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Representative Compound used for quantitation of alkylated-PAHs as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
1-methylnaphthalene							
2-methylnaphthalene							
2,6-dimethylnaphthalene						1,6-dimethylnaphthalene	
1,6,7-trimethylnaphthalene							
1-methylphenanthrene				3-Methylphenanthrene			
2-methylphenanthrene		phenanthrene		3-Methylphenanthrene		1-methylphenanthrene	
3-methylphenanthrene		phenanthrene			1-methylphenanthrene	1-methylphenanthrene	
9-methylphenanthrene		phenanthrene		3-Methylphenanthrene	1-methylphenanthrene		
2-methylanthracene		phenanthrene					
C ₁ -decalins		trans-decalin					
C ₂ -decalins		trans-decalin					
C ₃ -decalins		trans-decalin					
C ₄ -decalins		trans-decalin					
C ₁ -naphthalenes	naphthalene	naphthalene	2,3-dimethylnaphthalene		1-methylphenanthrene	1-methylnaphthalene	
C ₂ -naphthalenes	naphthalene	naphthalene	2,3-dimethylnaphthalene		2,6-dimethylnaphthalene	1,6-dimethylnaphthalene	
C ₃ -naphthalenes	naphthalene	naphthalene	2,3-dimethylnaphthalene		1,6,7-trimethylnaphthalene	1,6,7-trimethylnaphthalene	
C ₄ -naphthalenes	naphthalene	naphthalene	2,3-dimethylnaphthalene		1,6,7-trimethylnaphthalene		
C ₁ -benzothiophenes		benzothiophene					
C ₂ -benzothiophenes		benzothiophene					
C ₃ -benzothiophenes		benzothiophene					
C ₄ -benzothiophenes		benzothiophene					
C ₁ -fluorenes	fluorene	fluorene	fluorene		fluorene	1-methylfluorene	
C ₂ -fluorenes	fluorene	fluorene	fluorene		fluorene		
C ₃ -fluorenes	fluorene	fluorene			fluorene		
C ₁ -phenanthrenes/anthracenes	phenanthrene	phenanthrene	phenanthrene		1-methylphenanthrene		
C ₂ -phenanthrenes/anthracenes	phenanthrene	phenanthrene	phenanthrene		1-methylphenanthrene		
C ₃ -phenanthrenes/anthracenes	phenanthrene	phenanthrene			1-methylphenanthrene		
C ₄ -phenanthrenes/anthracenes	phenanthrene	phenanthrene			1-methylphenanthrene		
C ₁ -dibenzothiophenes	dibenzothiophene	dibenzothiophene			dibenzothiophene		
C ₂ -dibenzothiophenes	dibenzothiophene	dibenzothiophene			dibenzothiophene	4,6-dimethyldibenzothiophene	
C ₃ -dibenzothiophenes	dibenzothiophene	dibenzothiophene			dibenzothiophene		
C ₄ -dibenzothiophenes	dibenzothiophene	dibenzothiophene			dibenzothiophene		
C ₁ -fluoranthenes/pyrenes	pyrene	pyrene	pyrene		fluoranthene	1-methylpyrene	
C ₂ -fluoranthenes/pyrenes	pyrene	pyrene	pyrene		fluoranthene		
C ₃ -fluoranthenes/pyrenes	pyrene	pyrene			fluoranthene		
C ₄ -fluoranthenes/pyrenes	pyrene	pyrene			fluoranthene		
C ₁ -naphthobenzothiophenes		benzo(b)naphtho(2,1-d)thiophene					
C ₂ -naphthobenzothiophenes		benzo(b)naphtho(2,1-d)thiophene					
C ₃ -naphthobenzothiophenes		benzo(b)naphtho(2,1-d)thiophene					
C ₄ -naphthobenzothiophenes		benzo(b)naphtho(2,1-d)thiophene					
C ₁ -chrysenes	chrysene	chrysene			chrysene	6-methylchrysene	
C ₂ -chrysenes	chrysene	chrysene			chrysene	6-ethylchrysene	
C ₃ -chrysenes	chrysene	chrysene			chrysene		
C ₄ -chrysenes		chrysene			chrysene		

Representative Compound used for quantitation of alkylated-PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
1-methylnaphthalene				NA			
2-methylnaphthalene				NA			
2,6-dimethylnaphthalene				NA			
1,6,7-trimethylnaphthalene				NA			
1-methylphenanthrene				NA	phenanthrene		
2-methylphenanthrene				NA	phenanthrene		
3-methylphenanthrene				NA	phenanthrene		
9-methylphenanthrene				NA	phenanthrene		
2-methylanthracene				NA	phenanthrene		
C ₁ -decalins				NA	trans-decalin		
C ₂ -decalins				NA	trans-decalin		
C ₃ -decalins				NA	trans-decalin		
C ₄ -decalins				NA	trans-decalin		
C ₁ -naphthalenes				Avg RF for naphthalene (C0)	naphthalene		
C ₂ -naphthalenes				Avg RF for naphthalene (C0)	naphthalene		
C ₃ -naphthalenes				Avg RF for naphthalene (C0)	naphthalene		
C ₄ -naphthalenes				Avg RF for naphthalene (C0)	naphthalene		
C ₁ -benzothiophenes				NA	benzothiophene		
C ₂ -benzothiophenes				NA	benzothiophene		
C ₃ -benzothiophenes				NA	benzothiophene		
C ₄ -benzothiophenes				NA	benzothiophene		
C ₁ -fluorenes				Avg RF for fluorene (C0)	fluorene		
C ₂ -fluorenes				Avg RF for fluorene (C0)	fluorene		
C ₃ -fluorenes				Avg RF for fluorene (C0)	fluorene		
C ₁ -phenanthrenes/anthracenes				Avg RF for phenanthrene (C0)	phenanthrene		
C ₂ -phenanthrenes/anthracenes				Avg RF for phenanthrene (C0)	phenanthrene		
C ₃ -phenanthrenes/anthracenes				Avg RF for phenanthrene (C0)	phenanthrene		
C ₄ -phenanthrenes/anthracenes				Avg RF for phenanthrene (C0)	phenanthrene		
C ₁ -dibenzothiophenes				Avg RF for DBT (C0)	dibenzothiophene		
C ₂ -dibenzothiophenes				Avg RF for DBT (C0)	dibenzothiophene		
C ₃ -dibenzothiophenes				Avg RF for DBT (C0)	dibenzothiophene		
C ₄ -dibenzothiophenes				NA	dibenzothiophene		
C ₁ -fluoranthenes/pyrenes				Avg RF for pyrene (C0)	pyrene		
C ₂ -fluoranthenes/pyrenes				Avg RF for pyrene (C0)	pyrene		
C ₃ -fluoranthenes/pyrenes				Avg RF for pyrene (C0)	pyrene		
C ₄ -fluoranthenes/pyrenes				Avg RF for pyrene (C0)	pyrene		
C ₁ -naphthobenzothiophenes				Avg RF for DBT (C0)	naphthobenzothiophene		
C ₂ -naphthobenzothiophenes				Avg RF for DBT (C0)	naphthobenzothiophene		
C ₃ -naphthobenzothiophenes				Avg RF for DBT (C0)	naphthobenzothiophene		
C ₄ -naphthobenzothiophenes				NA	naphthobenzothiophene		
C ₁ -chrysenes				Avg RF for chrysene (C0)	chrysene		
C ₂ -chrysenes				Avg RF for chrysene (C0)	chrysene		
C ₃ -chrysenes				Avg RF for chrysene (C0)	chrysene		
C ₄ -chrysenes				Avg RF for chrysene (C0)	chrysene		

Representative Compound used for quantitation of alkylated-PAHs as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
1-methylnaphthalene							
2-methylnaphthalene							
2,6-dimethylnaphthalene							
1,6,7-trimethylnaphthalene							
1-methylphenanthrene							
2-methylphenanthrene							
3-methylphenanthrene							
9-methylphenanthrene							
2-methylanthracene							
C ₁ -decalins							
C ₂ -decalins							
C ₃ -decalins							
C ₄ -decalins							
C ₁ -naphthalenes						average of 1-methylnaphthalene and 2-methylnaphthalene	
C ₂ -naphthalenes						average of 1,2-dimethylnaphthalene and 1,6-dimethylnaphthalene	
C ₃ -naphthalenes						2,3,5-trimethylnaphthalene	
C ₄ -naphthalenes						2,3,5-trimethylnaphthalene	
C ₁ -benzothiophenes							
C ₂ -benzothiophenes							
C ₃ -benzothiophenes							
C ₄ -benzothiophenes							
C ₁ -fluorenes						1-methylfluorene	
C ₂ -fluorenes						1-methylfluorene	
C ₃ -fluorenes						1-methylfluorene	
C ₁ -phenanthrenes/anthracenes						1-methylphenanthrene	
C ₂ -phenanthrenes/anthracenes						3,6-dimethylphenanthrene	
C ₃ -phenanthrenes/anthracenes						9-ethyl-10-methylphenanthrene	
C ₄ -phenanthrenes/anthracenes						9-ethyl-10-methylphenanthrene	
C ₁ -dibenzothiophenes						dibenzothiophene	
C ₂ -dibenzothiophenes						4,6-dimethyldibenzothiophene	
C ₃ -dibenzothiophenes						4,6-dimethyldibenzothiophene	
C ₄ -dibenzothiophenes						4,6-dimethyldibenzothiophene	
C ₁ -fluoranthenes/pyrenes						1-methylpyrene	
C ₂ -fluoranthenes/pyrenes						1-methylpyrene	
C ₃ -fluoranthenes/pyrenes						1-methylpyrene	
C ₄ -fluoranthenes/pyrenes						1-methylpyrene	
C ₁ -naphthobenzothiophenes							
C ₂ -naphthobenzothiophenes							
C ₃ -naphthobenzothiophenes							
C ₄ -naphthobenzothiophenes							
C ₁ -chrysenes						6-methylchrysene	
C ₂ -chrysenes						6-ethylchrysene	
C ₃ -chrysenes						6-ethylchrysene	
C ₄ -chrysenes							

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Representative Compound used for quantitation of alkanes as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
n-decane			n-dodecane				
n-undecane			n-dodecane				
n-dodecane			n-dodecane				
n-tridecane			n-dodecane				
n-tetradecane			n-dodecane				
n-pentadecane			n-dodecane				
n-hexadecane			n-dodecane				
n-heptadecane			n-dodecane				
n-octadecane			n-dodecane				
n-nonadecane			n-dodecane				
n-eicosane			n-dodecane				
n-henicosane			n-dodecane				
n-docasane			n-dodecane				
n-tricosane			n-dodecane				
n-tetracosane			n-dodecane				
n-pentacosane			n-dodecane				
n-hexacosane			n-dodecane				
n-heptacosane			n-dodecane				
n-octacosane			n-dodecane				
n-nonacosane			n-dodecane				
n-triacontane			n-dodecane				
n-hentriacontane			n-dodecane				
n-dotriacontane			n-dodecane				
n-tritriacontane			n-dodecane				
n-tettriacontane			n-dodecane				
n-pentatriacontane			n-dodecane				
n-hexatriacontane			n-dodecane				
n-heptatriacontane			n-dodecane				
n-octatriacontane			n-dodecane				
n-nonatriacontane		average of C38 and C40	n-dodecane				
n-tetracontane			n-dodecane				
norpristane		average of C16 and C17	n-dodecane				
Pristane			n-dodecane				
Phytane			n-dodecane				

Representative Compound used for quantitation of alkanes as reported by participating laboratories, continued.

Analytes	Lab number						
	8	9	10	11	12	13	14
n-decane							
n-undecane							
n-dodecane							
n-tridecane							
n-tetradecane							
n-pentadecane							
n-hexadecane							
n-heptadecane							
n-octadecane							
n-nonadecane							
n-eicosane							
n-henicosane							
n-docasane							
n-tricosane							
n-tetracosane							
n-pentacosane							
n-hexacosane							
n-heptacosane							
n-octacosane							
n-nonacosane							
n-triacontane							
n-hentriacontane							
n-dotriacontane							
n-tritriacontane							
n-tetratriacontane							
n-pentatriacontane							
n-hexatriacontane							
n-heptatriacontane							
n-octatriacontane							
n-nonatriacontane							
n-tetracontane							
norpristane							
Pristane							
Phytane							

Representative Compound used for quantitation of alkanes as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
n-decane							
n-undecane							
n-dodecane							
n-tridecane							
n-tetradecane							
n-pentadecane							
n-hexadecane							
n-heptadecane							
n-octadecane							
n-nonadecane							
n-eicosane							
n-henicosane							
n-docasane							
n-tricosane							
n-tetracosane							
n-pentacosane							
n-hexacosane							
n-heptacosane							
n-octacosane							
n-nonacosane							
n-triacontane							
n-hentriacontane							
n-dotriacontane							
n-tritriacontane							
n-tettratriacontane							
n-pentatriacontane							
n-hexatriacontane							
n-heptatriacontane							
n-octatriacontane							
n-nonatriacontane							
n-tetracontane							
norpristane							
Pristane							
Phytane							

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Representative Compound used for quantitation of biomarkers as reported by participating laboratories.

Analytes	Lab number						
	1	2	3	4	5	6	7
Carbazole							
18 α (H)-22,29,30-Trisnorhopane		17b(H),21b(H)-hopane					
17 α (H)-22,29,30-Trisnorhopane		17b(H),21b(H)-hopane					
17 α (H),21 β (H)-30-Norhopane		17b(H),21b(H)-hopane					
18 α (H)-30-Norneohopane		17b(H),21b(H)-hopane					
17 α (H)-Diahopane		17b(H),21b(H)-hopane					
17 α (H),21 β (H)-Hopane		17b(H),21b(H)-hopane					
17 α (H),21 β (H)-22R-Homohopane		17b(H),21b(H)-hopane					
17 α (H),21 β (H)-22S-Homohopane		17b(H),21b(H)-hopane					
13 β (H)17 α (H)-Diacholestane 20S		14a(H),17a(H)-20R-cholestane					
5 α (H),14 α (H),17 α (H)-Cholestane 20S		14a(H),17a(H)-20R-cholestane		5a(H),14b(H),17b(H)-Cholestane 20R			
5 α (H),14 α (H),17 α (H)-Cholestane 20R							
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20S		14a(H),17a(H)-20R-cholestane		5a(H),14a(H),17a(H)-24-Ethylcholestane 20R			
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20R		14a(H),17a(H)-20R-cholestane					
5 α (H),14 β (H),17 β (H)-Cholestane 20R		14a(H),17a(H)-20R-cholestane		5a(H),14b(H),17b(H)-Cholestane 20R			
5 α (H),14 β (H),17 β (H)-Cholestane 20S		14a(H),17a(H)-20R-cholestane					
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20R		14a(H),17a(H)-20R-cholestane					
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20S		14a(H),17a(H)-20R-cholestane		5a(H),14b(H),17b(H)-24-Ethylcholestane 20R			
C ₂₀ -triaromatic steroid (pregnane derivative)		Chrysene					
C ₂₁ -triaromatic steroid (homopregnane)		Chrysene					
C ₂₆ -20S-triaromatic steroid (cholestane derivative)		Chrysene					
C ₂₆ -20R-triaromatic steroid (cholestane derivative)							
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)							
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)		Chrysene					
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)		Chrysene					
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)		Chrysene					

Representative Compound used for quantitation of biomarkers as reported by participating laboratories, continued.

	Lab number						
Analytes	8	9	10	11	12	13	14
Carbazole					Acenaphthene-d10		
18α(H)-22,29,30-Trisnorneohopane					17α(H),21β(H)-Hopane		
17α(H)-22,29,30-Trisnorhopane					17α(H),21β(H)-Hopane		
17α(H),21β(H)-30-Norhopane					17α(H),21β(H)-Hopane		
18α(H)-30-Norneohopane					17α(H),21β(H)-Hopane		
17α(H)-Diahopane					17α(H),21β(H)-Hopane		
17α(H),21β(H)-Hopane					17α(H),21β(H)-Hopane		
17α(H),21β(H)-22R-Homohopane					17α(H),21β(H)-Hopane		
17α(H),21β(H)-22S-Homohopane					17α(H),21β(H)-Hopane		
13β(H)17α(H)-Diacholestane 20S					5b(H)Cholane		
5α(H),14α(H),17α(H)-Cholestane 20S					5b(H)Cholane		
5α(H),14α(H),17α(H)-Cholestane 20R					5b(H)Cholane		
5α(H),14α(H),17α(H)-24-Ethylcholestane 20S					5b(H)Cholane		
5α(H),14α(H),17α(H)-24-Ethylcholestane 20R					5b(H)Cholane		
5α(H),14β(H),17β(H)-Cholestane 20R					5b(H)Cholane		
5α(H),14β(H),17β(H)-Cholestane 20S					5b(H)Cholane		
5α(H),14β(H),17β(H)-24-Ethylcholestane 20R					5b(H)Cholane		
5α(H),14β(H),17β(H)-24-Ethylcholestane 20S					5b(H)Cholane		
C ₂₀ -triaromatic steroid (pregnane derivative)							
C ₂₁ -triaromatic steroid (homopregnane)							
C ₂₆ -20S-triaromatic steroid (cholestane derivative)							
C ₂₆ -20R-triaromatic steroid (cholestane derivative)							
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)							
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)					5b(H)Cholane		
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)					5b(H)Cholane		
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)					5b(H)Cholane		

Representative Compound used for quantitation of biomarkers as reported by participating laboratories, continued.

Analytes	Lab number						
	15	16	17	18	19	20	21*
Carbazole							
18 α (H)-22,29,30-Trisnorneohopane							
17 α (H)-22,29,30-Trisnorhopane							
17 α (H),21 β (H)-30-Norhopane							
18 α (H)-30-Norneohopane							
17 α (H)-Diahopane							
17 α (H),21 β (H)-Hopane							
17 α (H),21 β (H)-22R-Homohopane							
17 α (H),21 β (H)-22S-Homohopane							
13 β (H)17 α (H)-Diacholestane 20S							
5 α (H),14 α (H),17 α (H)-Cholestane 20S							
5 α (H),14 α (H),17 α (H)-Cholestane 20R							
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20S							
5 α (H),14 α (H),17 α (H)-24-Ethylcholestane 20R							
5 α (H),14 β (H),17 β (H)-Cholestane 20R							
5 α (H),14 β (H),17 β (H)-Cholestane 20S							
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20R							
5 α (H),14 β (H),17 β (H)-24-Ethylcholestane 20S							
C ₂₀ -triaromatic steroid (pregnane derivative)							
C ₂₁ -triaromatic steroid (homopregnane)							
C ₂₆ -20S-triaromatic steroid (cholestane derivative)							
C ₂₆ -20R-triaromatic steroid (cholestane derivative)							
C ₂₇ -20S-triaromatic steroid (methylcholestane derivative)							
C ₂₇ -20R-triaromatic steroid (methylcholestane derivative)							
C ₂₈ -20S-triaromatic steroid (ethylcholestane derivative)							
C ₂₈ -20R-triaromatic steroid (ethylcholestane derivative)							

* Results for lab 21 were not incorporated in the interlaboratory study since the lab reported results late. Lab 21 reported results are listed in Appendix E.

Appendix C: Summary Data

Alkanes

SRM 2777: C3 – C30

SRM 2779: C31 –C61

Aromatic Compounds

SRM 2777: C63 – C123

SRM 2779: C124 – C195

Biomarkers

SRM 2777: C197 – C223

SRM 2779: C224 – C250

Alkanes

Measurand: n-docasane

Sample: 2777

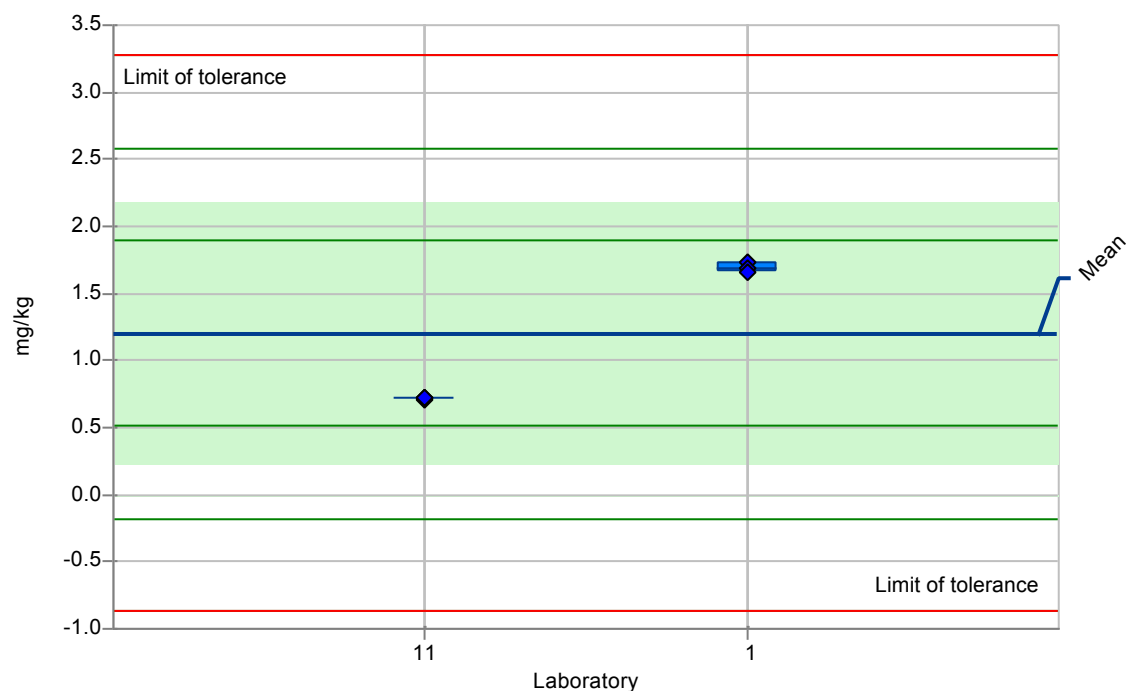
Mean \pm U(Mean): 1.205 \pm 0.976 mg/kg

Median: 1.204

Reproducibility s.d.: 0.691 mg/kg

Repeatability s.d.: 0.025 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.693	0.035	0.707	1.730	1.690	1.660
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.717	0.006	-0.707	0.711	0.722	0.718
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-dodecane

Sample: 2777

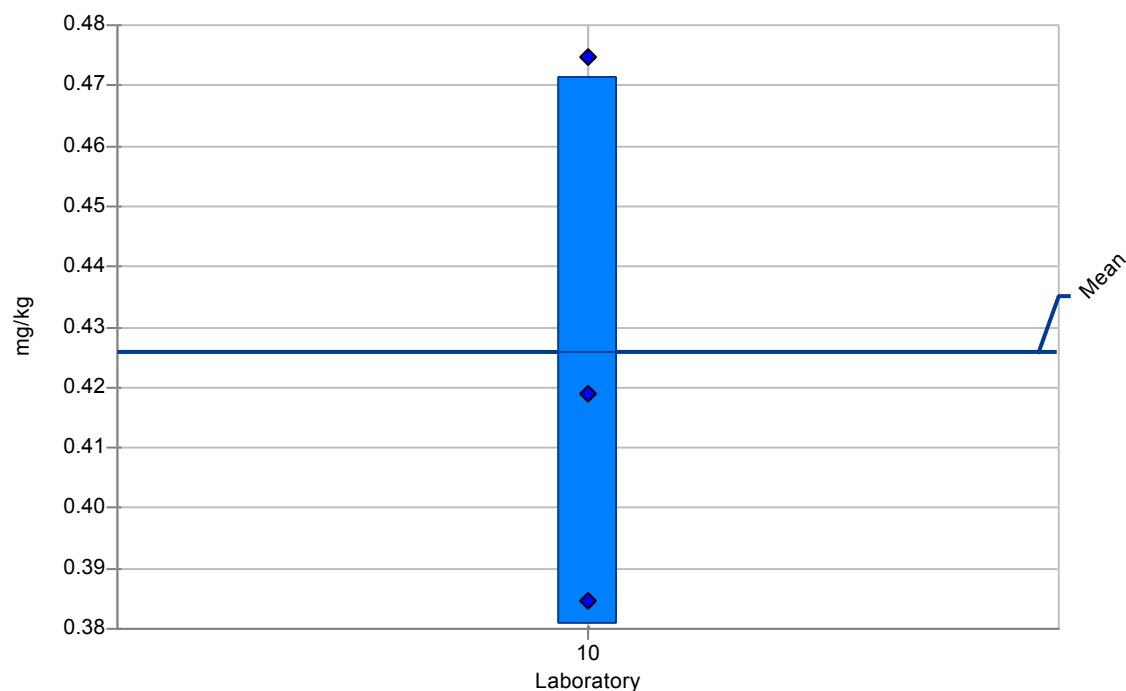
Mean \pm U(Mean): 0.426 mg/kg

Median: 0.419

Reproducibility s.d.:

Repeatability s.d.: 0.045 mg/kg

No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	0.426	0.045		0.419	0.385	0.475
11				<0.008	<0.008	<0.008
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-dottriacontane

Sample: 2777

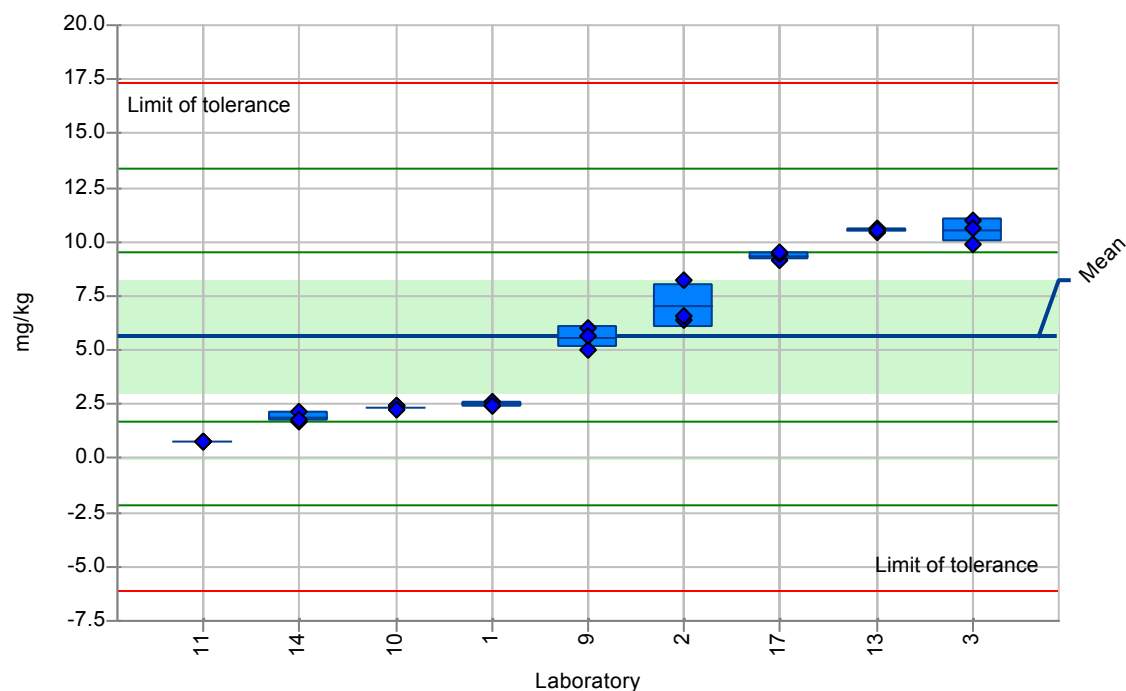
Mean \pm U(Mean): 5.620 \pm 2.588 mg/kg

Median: 5.640

Reproducibility s.d.: 3.899 mg/kg

Repeatability s.d.: 0.435 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.503	0.129	-0.800	2.650	2.450	2.410
2	7.060	1.008	0.369	8.220	6.400	6.560
3	10.507	0.556	1.253	11.018	10.589	9.914
4						
5						
6						
7						
8						
9	5.573	0.503	-0.012	6.040	5.040	5.640
10	2.378	0.075	-0.832	2.418	2.424	2.291
11	0.819	0.001	-1.232	0.818	0.820	0.820
12				<190.000	<190.000	<190.000
13	10.500	0.100	1.252	10.600	10.400	10.500
14	1.911	0.224	-0.952	1.737	2.164	1.831
15						
16				<0.000	<0.000	<0.000
17	9.333	0.197	0.952	9.109	9.408	9.481
18						
19						
20						

Measurand: n-eicosane

Sample: 2777

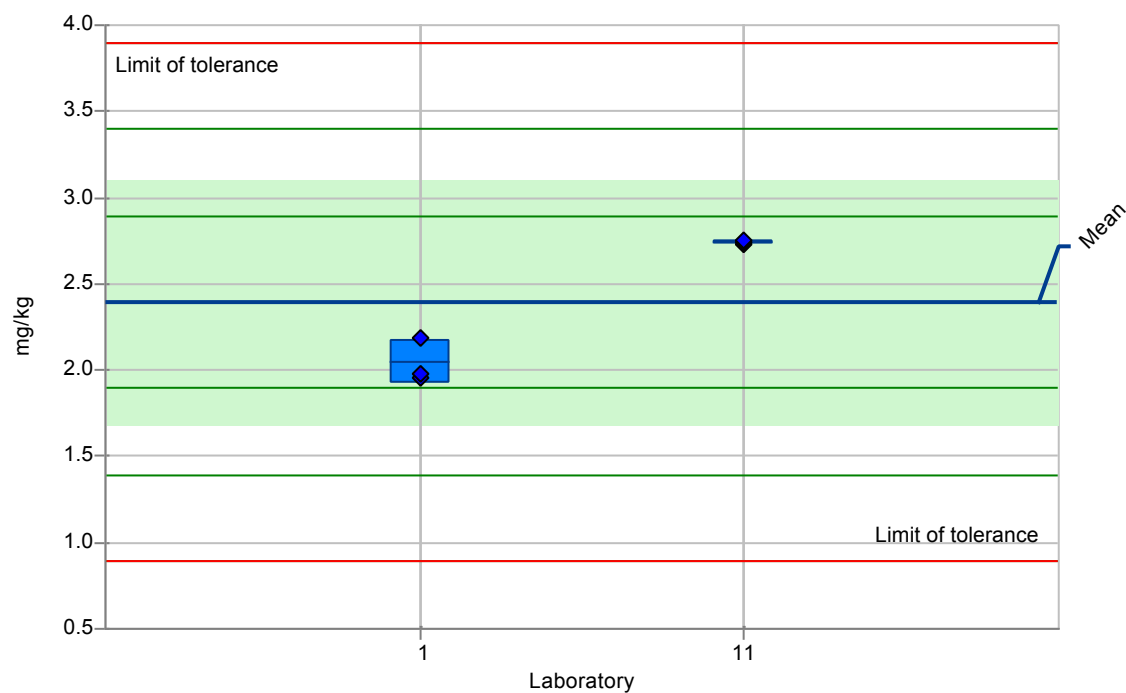
Mean \pm U(Mean): 2.394 \pm 0.701 mg/kg

Median: 2.362

Reproducibility s.d.: 0.501 mg/kg

Repeatability s.d.: 0.090 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.043	0.127	-0.699	2.190	1.960	1.980
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	2.745	0.012	0.699	2.732	2.745	2.756
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-henicosane

Sample: 2777

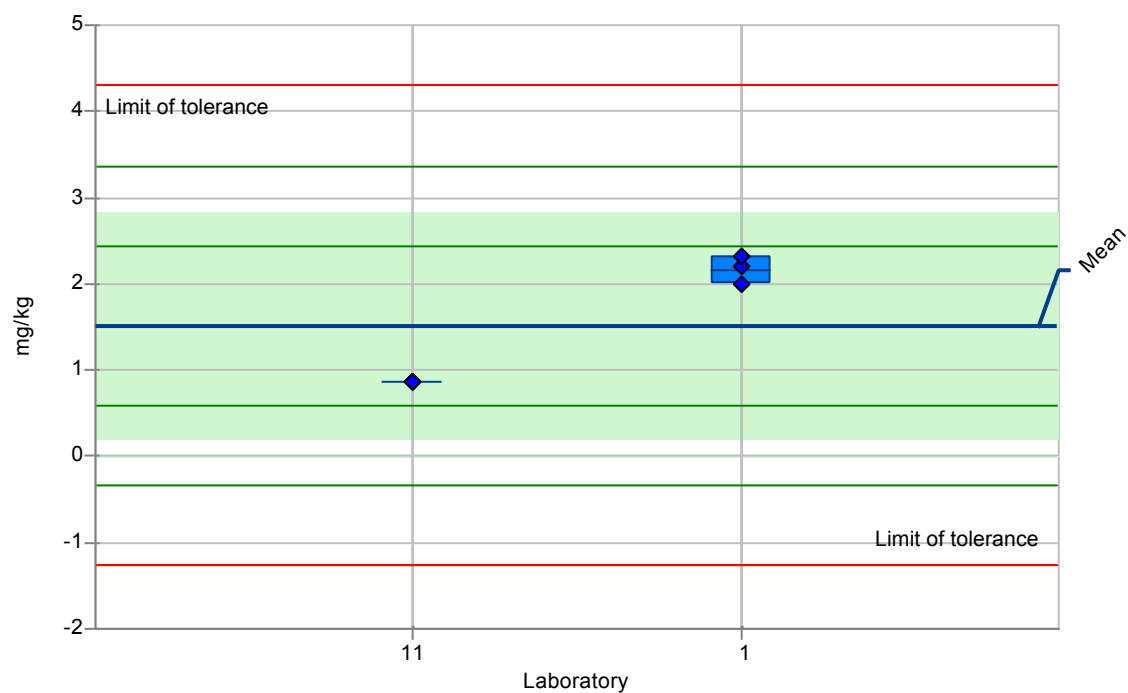
Mean \pm U(Mean): 1.514 \pm 1.305 mg/kg

Median: 1.531

Reproducibility s.d.: 0.928 mg/kg

Repeatability s.d.: 0.115 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.167	0.163	0.703	2.200	2.310	1.990
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.861	0.004	-0.703	0.865	0.863	0.857
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-hentriacontane

Sample: 2777

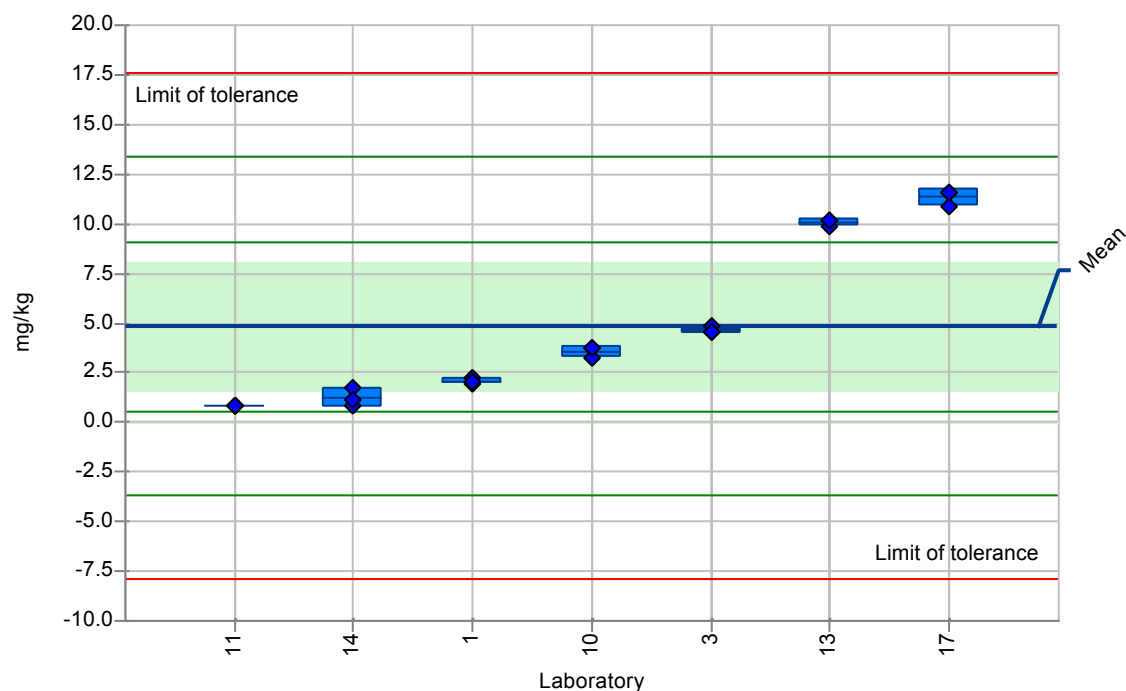
Mean \pm U(Mean): 4.822 \pm 3.211 mg/kg

Median: 3.756

Reproducibility s.d.: 4.255 mg/kg

Repeatability s.d.: 0.290 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.060	0.132	-0.649	1.960	2.210	2.010
2						
3	4.620	0.157	-0.048	4.802	4.527	4.532
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	3.583	0.307	-0.291	3.228	3.756	3.765
11	0.836	0.004	-0.937	0.840	0.831	0.837
12				<190.000	<190.000	<190.000
13	10.087	0.196	1.237	9.860	10.200	10.200
14	1.227	0.466	-0.845	1.737	0.824	1.119
15						
16				<0.000	<0.000	<0.000
17	11.344	0.442	1.533	11.602	10.834	11.596
18						
19						
20						

Measurand: n-heptacosane

Sample: 2777

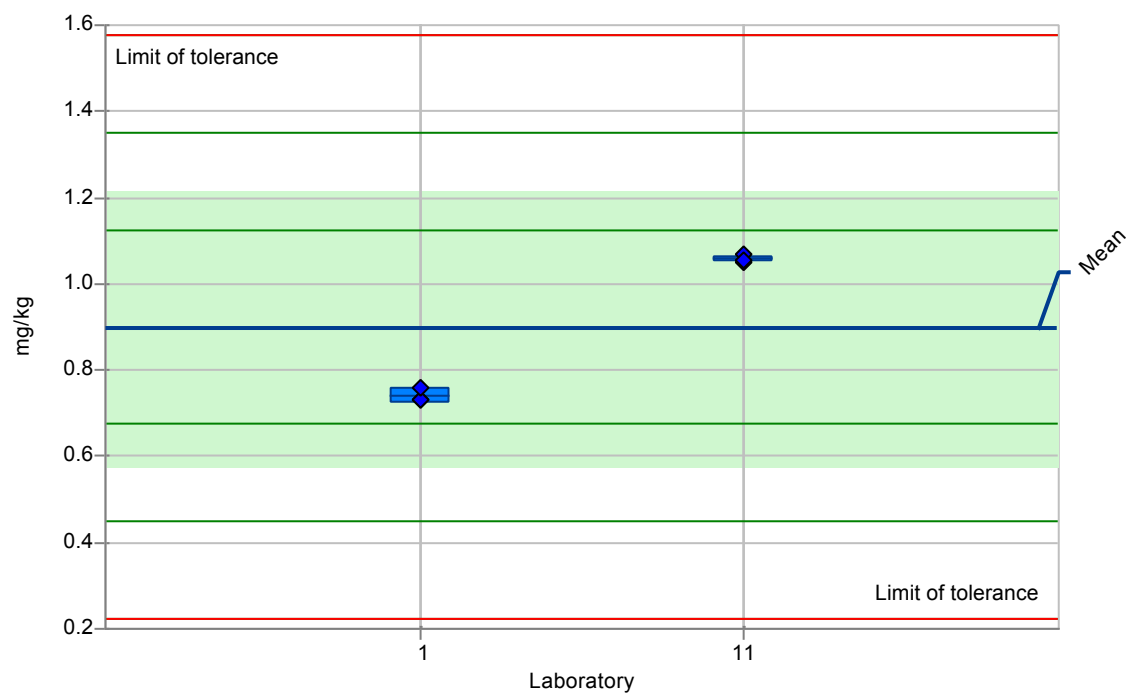
Mean \pm U(Mean): 0.899 \pm 0.318 mg/kg

Median: 0.893

Reproducibility s.d.: 0.225 mg/kg

Repeatability s.d.: 0.013 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.740	0.017	-0.706	0.730	0.730	0.760
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	1.058	0.008	0.706	1.052	1.067	1.056
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-heptadecane

Sample: 2777

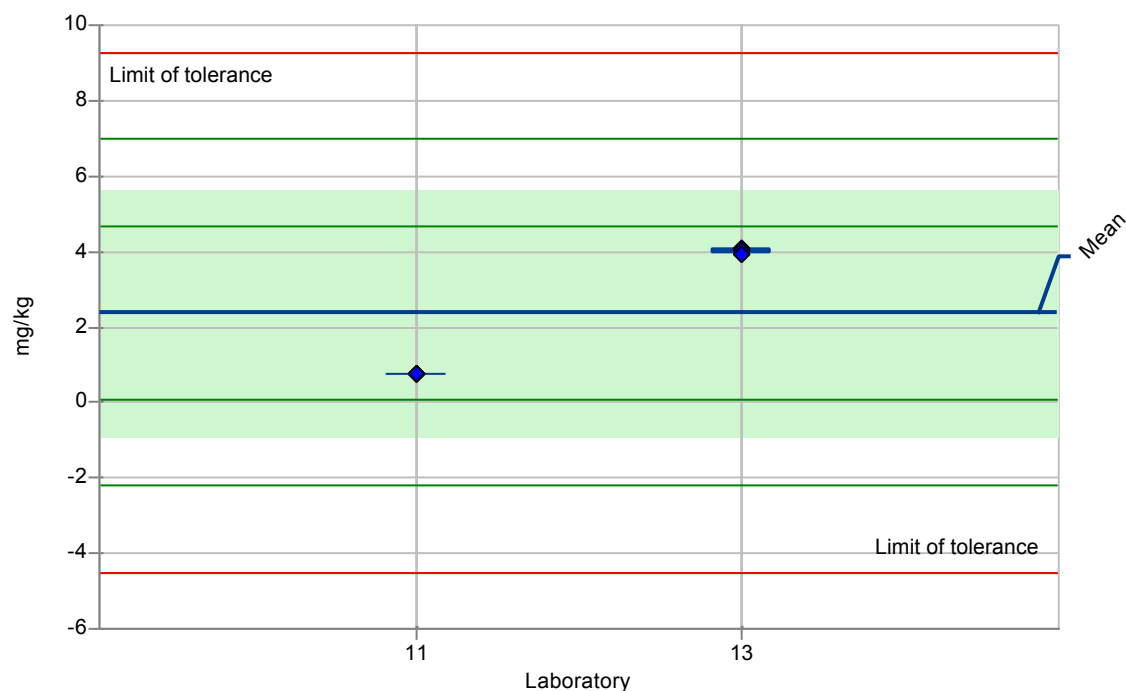
Mean \pm U(Mean): 2.384 \pm 3.245 mg/kg

Median: 2.395

Reproducibility s.d.: 2.295 mg/kg

Repeatability s.d.: 0.055 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.762	0.004	-0.707	0.761	0.759	0.767
12				<190.000	<190.000	<190.000
13	4.007	0.078	0.707	4.070	4.030	3.920
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-heptatriacontane

Sample: 2777

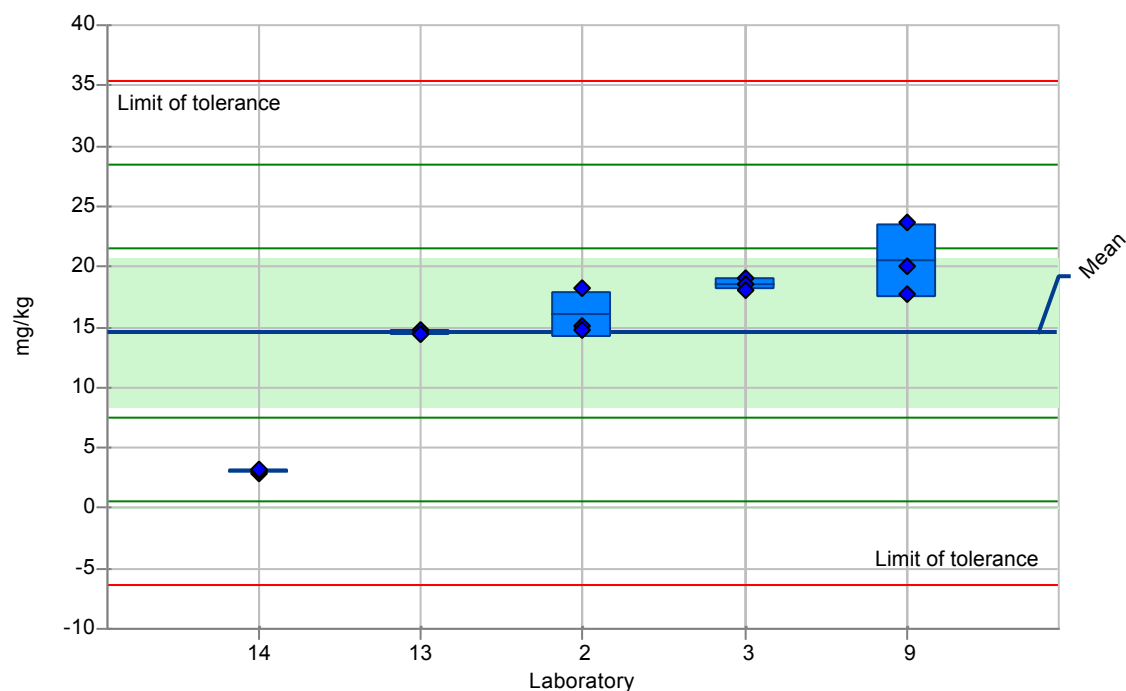
Mean \pm U(Mean): 14.525 \pm 6.116 mg/kg

Median: 15.140

Reproducibility s.d.: 6.964 mg/kg

Repeatability s.d.: 1.617 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	16.010	1.892	0.213	18.180	15.140	14.710
3	18.612	0.500	0.587	19.118	18.599	18.118
4						
5						
6						
7						
8						
9	20.467	3.027	0.853	23.700	20.000	17.700
10						
11						
12				<190.000	<190.000	<190.000
13	14.533	0.231	0.001	14.800	14.400	14.400
14	3.001	0.147	-1.655	2.861	2.988	3.154
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-hexacosane

Sample: 2777

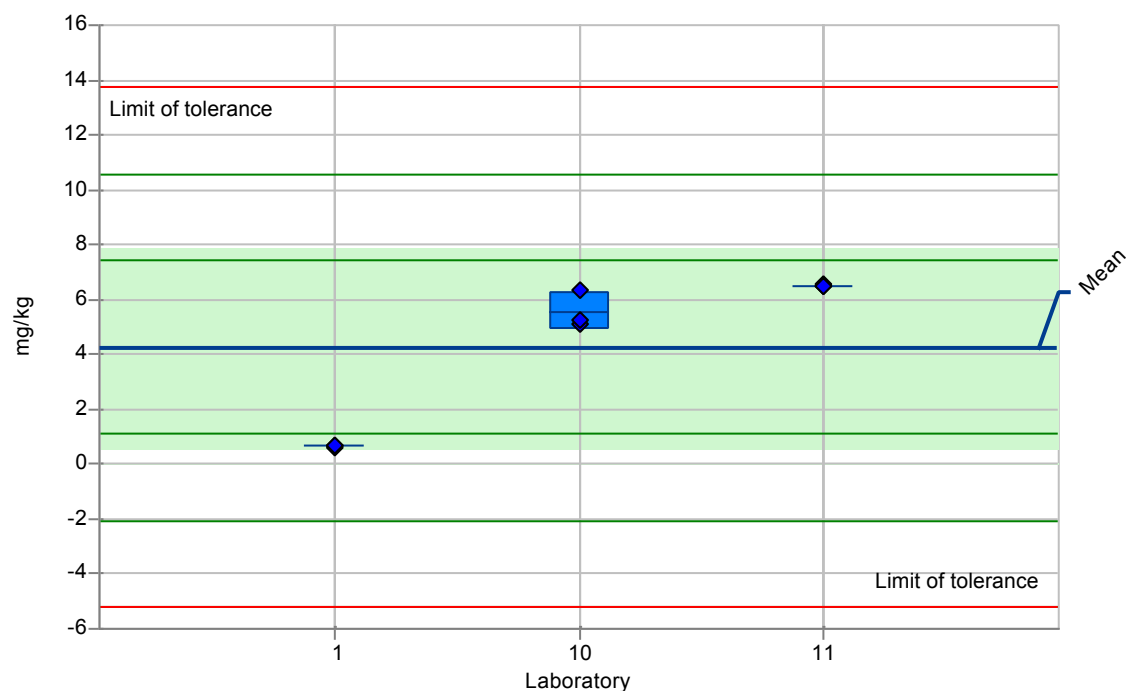
Mean \pm U(Mean): 4.247 \pm 3.628 mg/kg

Median: 5.259

Reproducibility s.d.: 3.159 mg/kg

Repeatability s.d.: 0.393 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.660	0.017	-1.136	0.670	0.640	0.670
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	5.569	0.679	0.419	5.102	6.348	5.259
11	6.512	0.055	0.717	6.521	6.563	6.453
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-hexadecane

Sample: 2777

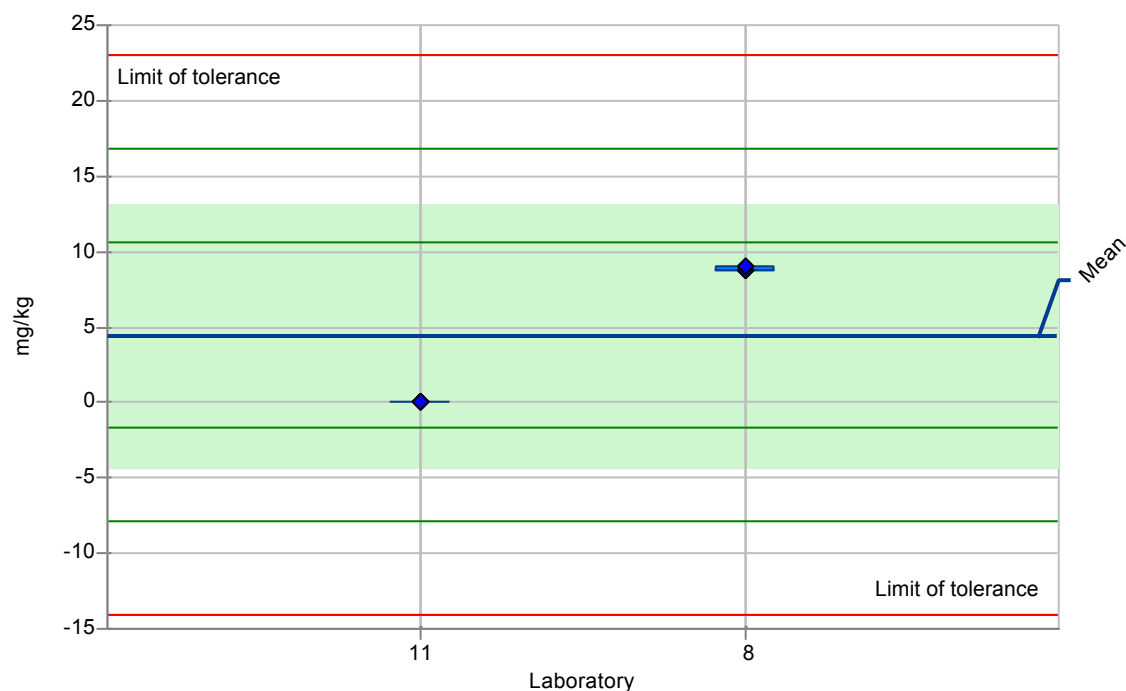
Mean \pm U(Mean): 4.446 \pm 8.736 mg/kg

Median: 4.404

Reproducibility s.d.: 6.178 mg/kg

Repeatability s.d.: 0.109 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5						
6						
7						
8	8.815	0.154	0.707	8.730	8.721	8.993
9				<0.100	<0.100	<0.100
10						
11	0.078	0.001	-0.707	0.077	0.079	0.078
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-hexatriacontane

Sample: 2777

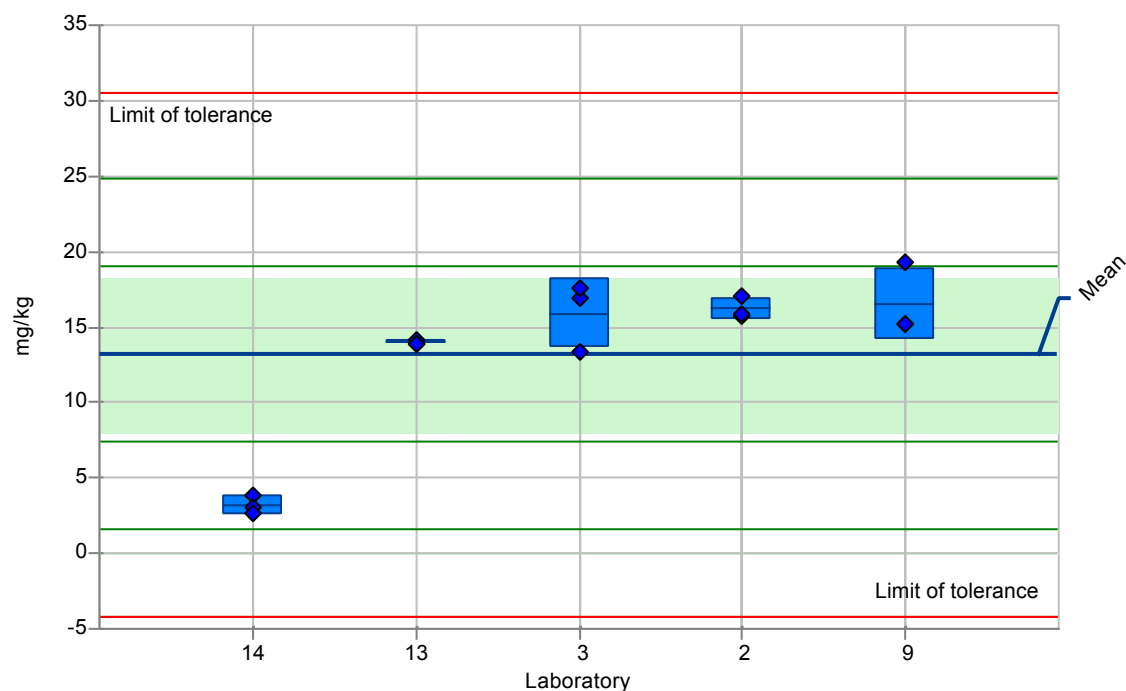
Mean \pm U(Mean): 13.176 \pm 5.063 mg/kg

Median: 15.200

Reproducibility s.d.: 5.798 mg/kg

Repeatability s.d.: 1.535 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	16.190	0.702	0.520	17.000	15.750	15.820
3	15.919	2.293	0.473	16.873	17.581	13.303
4						
5						
6						
7						
8						
9	16.567	2.367	0.585	19.300	15.200	15.200
10						
11						
12				<190.000	<190.000	<190.000
13	14.000	0.173	0.142	14.200	13.900	13.900
14	3.207	0.627	-1.720	3.883	3.092	2.645
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-nonacosane

Sample: 2777

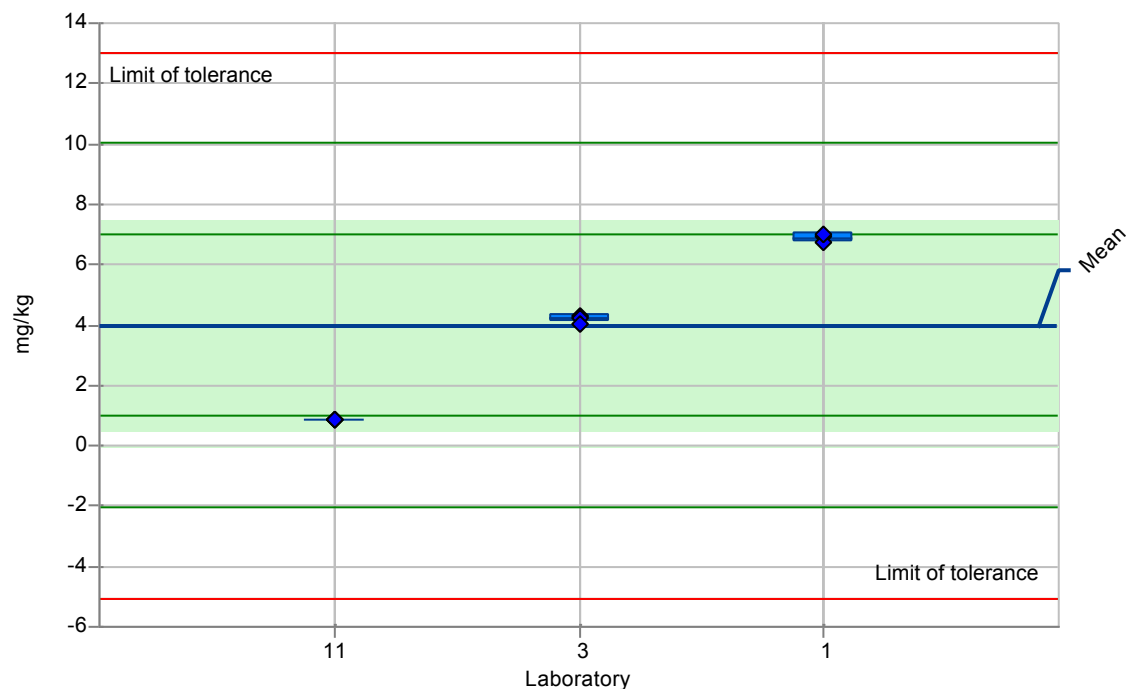
Mean \pm U(Mean): 3.993 \pm 3.478 mg/kg

Median: 4.256

Reproducibility s.d.: 3.014 mg/kg

Repeatability s.d.: 0.114 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.893	0.152	0.962	6.920	6.730	7.030
2						
3	4.206	0.127	0.071	4.300	4.256	4.062
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.880	0.007	-1.033	0.884	0.873	0.884
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-nonadecane

Sample: 2777

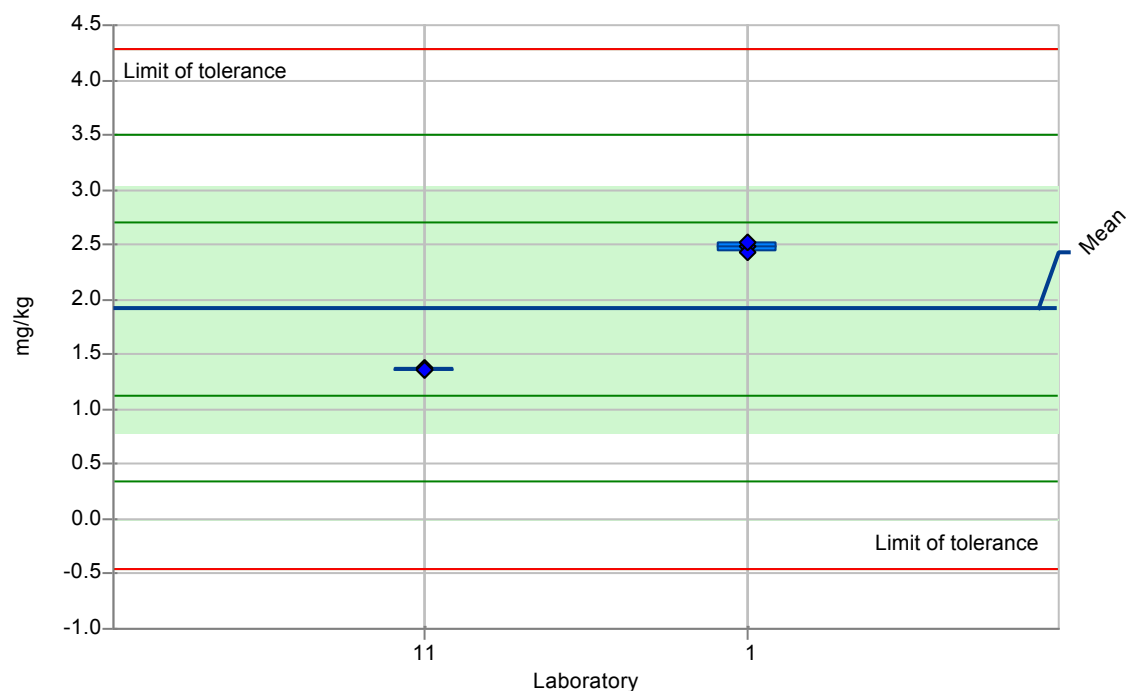
Mean \pm U(Mean): 1.918 \pm 1.117 mg/kg

Median: 1.917

Reproducibility s.d.: 0.790 mg/kg

Repeatability s.d.: 0.033 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.477	0.045	0.707	2.480	2.430	2.520
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	1.360	0.011	-0.707	1.373	1.353	1.354
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-nonatriacontane

Sample: 2777

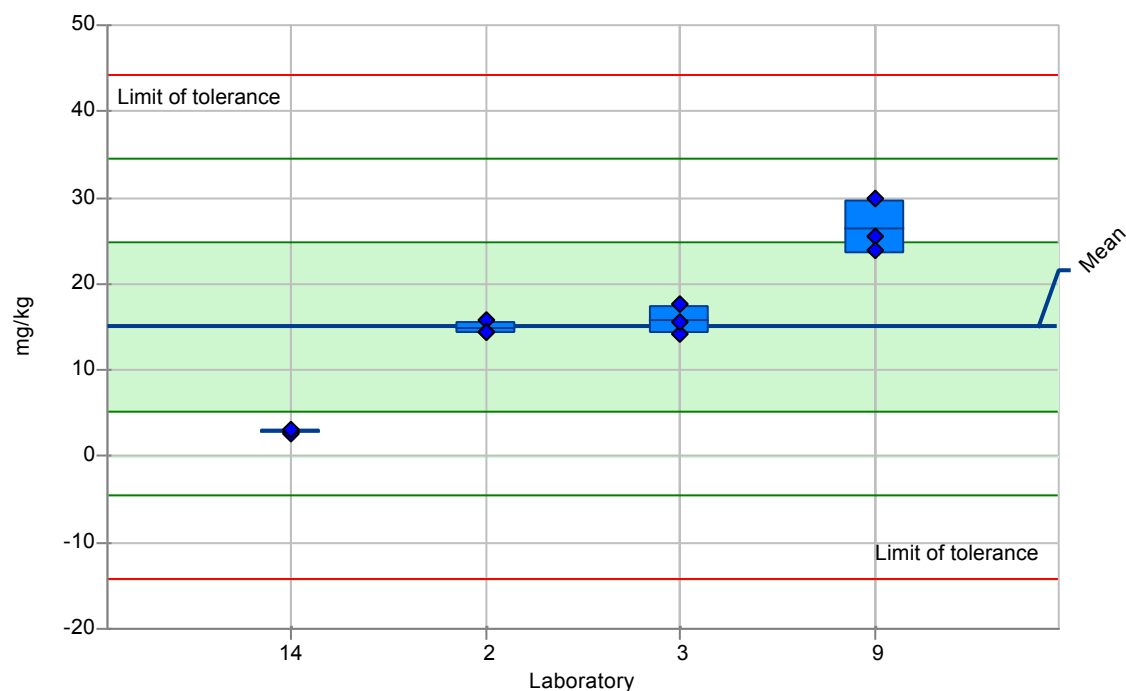
Mean \pm U(Mean): 15.024 \pm 9.650 mg/kg

Median: 15.004

Reproducibility s.d.: 9.766 mg/kg

Repeatability s.d.: 1.831 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	14.877	0.784	-0.015	15.780	14.380	14.470
3	15.820	1.721	0.082	14.258	17.665	15.537
4						
5						
6						
7						
8						
9	26.500	3.122	1.175	30.000	25.500	24.000
10						
11						
12				<190.000	<190.000	<190.000
13						
14	2.898	0.294	-1.242	2.963	2.576	3.154
15						
16						
17						
18						
19						
20						

Measurand: n-octacosane

Sample: 2777

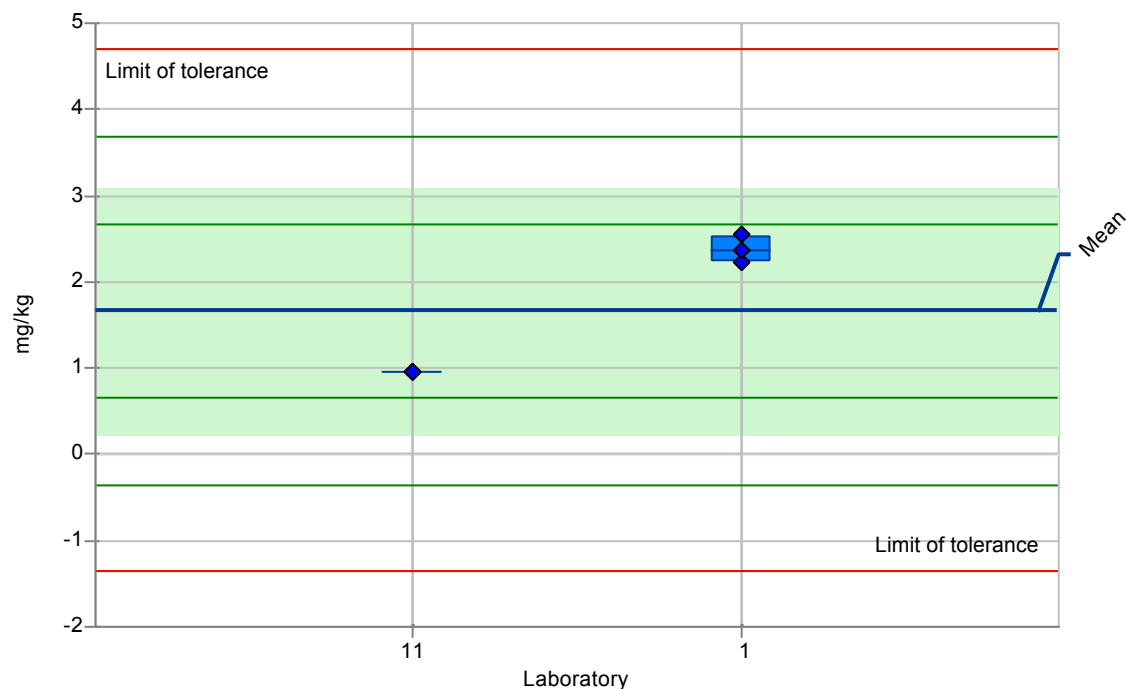
Mean \pm U(Mean): 1.666 \pm 1.420 mg/kg

Median: 1.656

Reproducibility s.d.: 1.008 mg/kg

Repeatability s.d.: 0.110 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.377	0.156	0.704	2.540	2.230	2.360
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.956	0.010	-0.704	0.952	0.950	0.968
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-octadecane

Sample: 2777

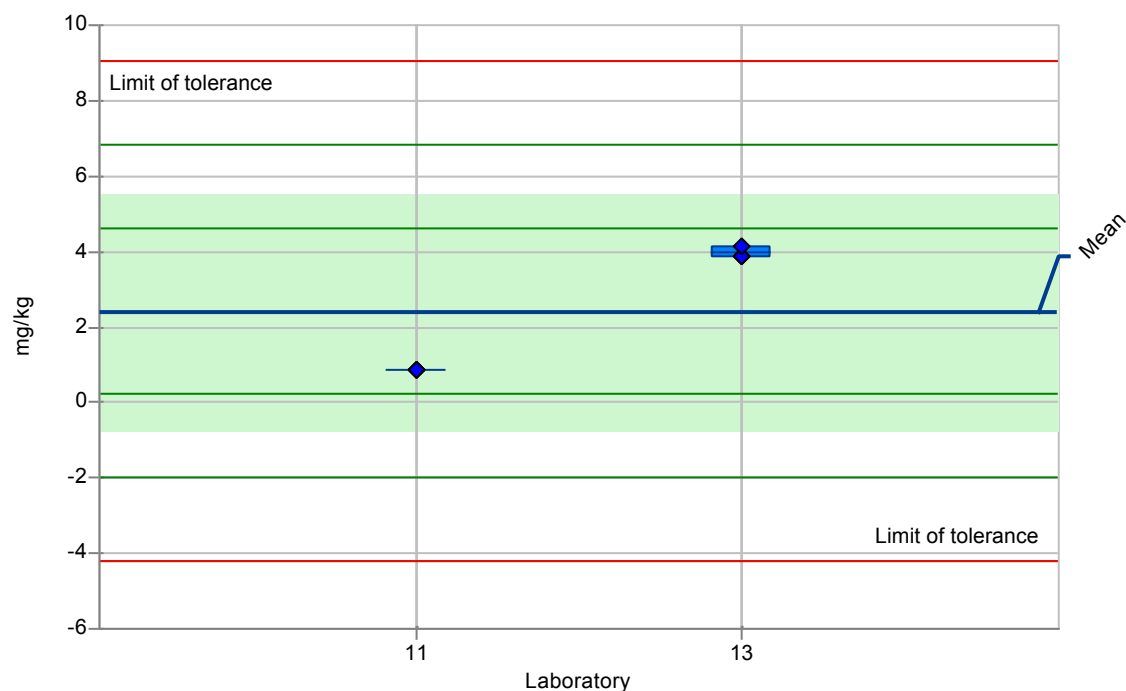
Mean \pm U(Mean): 2.417 \pm 3.112 mg/kg

Median: 2.381

Reproducibility s.d.: 2.203 mg/kg

Repeatability s.d.: 0.109 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.861	0.003	-0.707	0.862	0.864	0.857
12				<190.000	<190.000	<190.000
13	3.973	0.154	0.707	3.870	3.900	4.150
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-octatriacontane

Sample: 2777

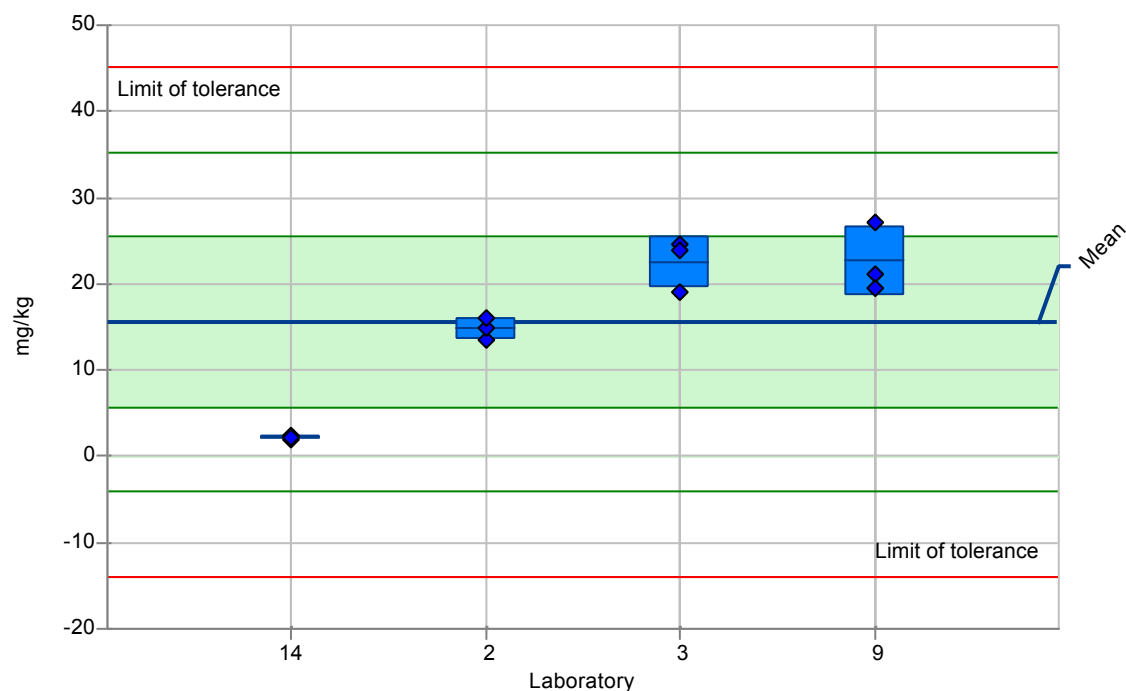
Mean \pm U(Mean): 15.555 \pm 9.633 mg/kg

Median: 18.015

Reproducibility s.d.: 9.859 mg/kg

Repeatability s.d.: 2.574 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	14.850	1.280	-0.071	13.580	14.830	16.140
3	22.518	2.964	0.706	19.112	24.510	23.933
4						
5						
6						
7						
8						
9	22.667	4.007	0.721	27.200	21.200	19.600
10						
11						
12				<190.000	<190.000	<190.000
13						
14	2.183	0.168	-1.356	2.044	2.370	2.137
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-pentacosane

Sample: 2777

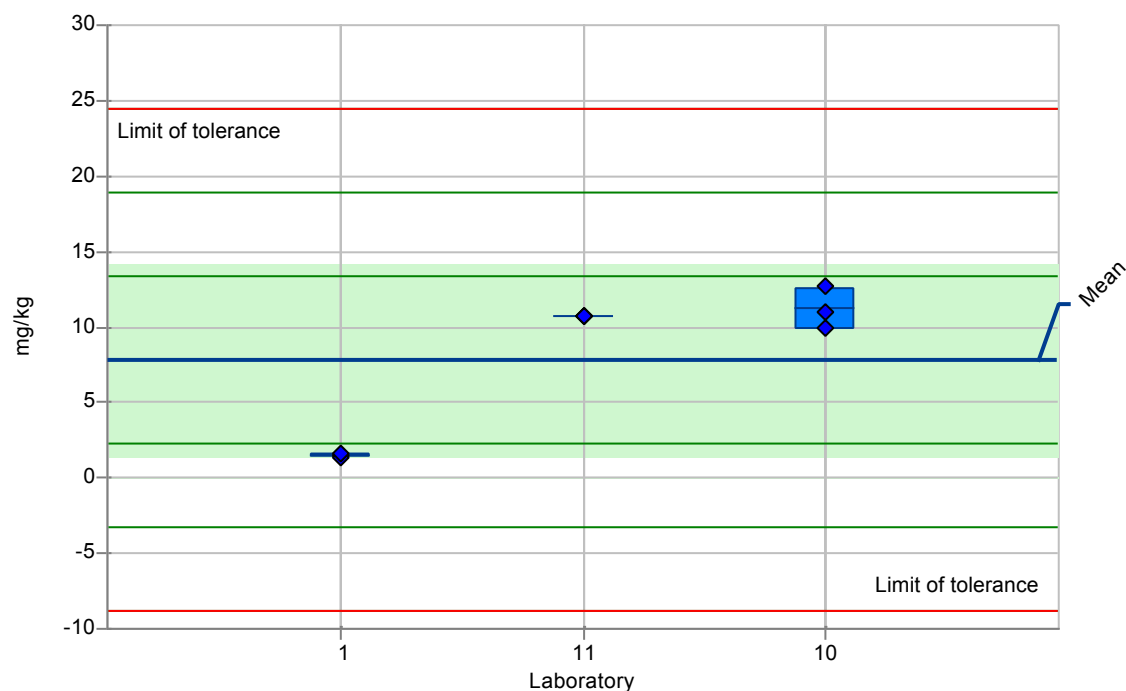
Mean \pm U(Mean): 7.811 \pm 6.377 mg/kg

Median: 10.759

Reproducibility s.d.: 5.562 mg/kg

Repeatability s.d.: 0.809 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.440	0.150	-1.145	1.440	1.290	1.590
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	11.239	1.393	0.616	9.968	12.728	11.021
11	10.754	0.012	0.529	10.740	10.759	10.763
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-pentatriacontane

Sample: 2777

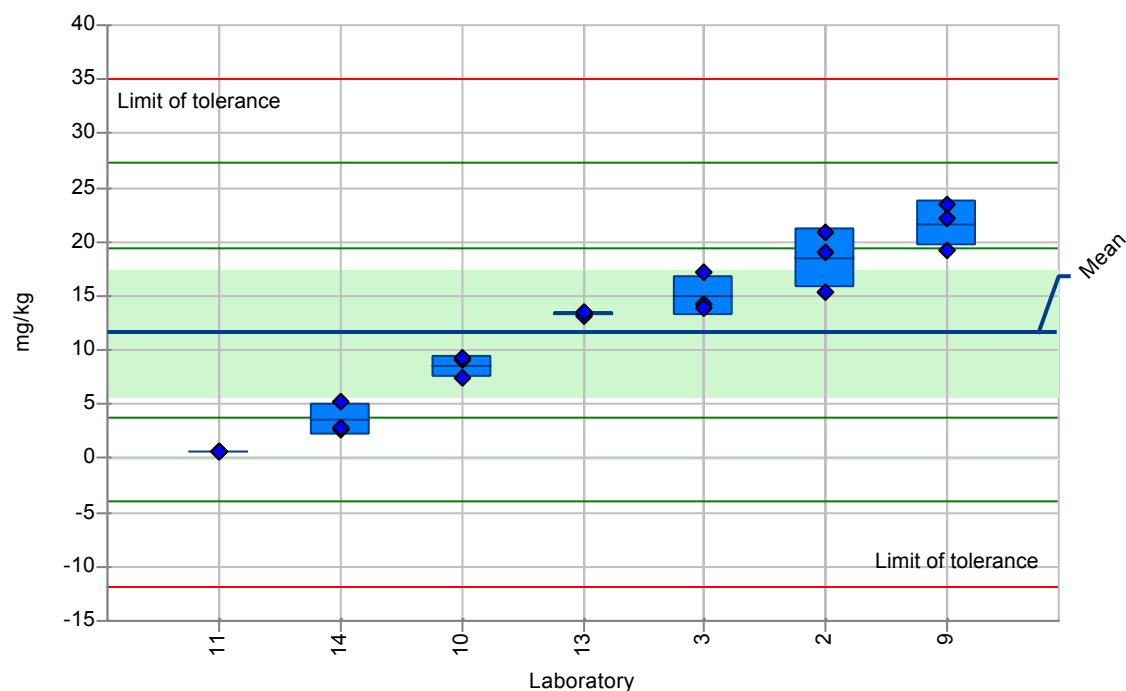
Mean \pm U(Mean): 11.615 \pm 5.829 mg/kg

Median: 13.300

Reproducibility s.d.: 7.828 mg/kg

Repeatability s.d.: 1.656 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	18.447	2.795	0.873	19.110	15.380	20.850
3	15.053	1.841	0.439	17.169	14.169	13.820
4						
5						
6						
7						
8						
9	21.667	2.150	1.284	23.500	22.200	19.300
10	8.534	1.023	-0.394	9.030	9.214	7.357
11	0.657	0.010	-1.400	0.646	0.665	0.659
12				<190.000	<190.000	<190.000
13	13.367	0.208	0.224	13.300	13.200	13.600
14	3.580	1.508	-1.026	5.314	2.576	2.849
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-tetracontane

Sample: 2777

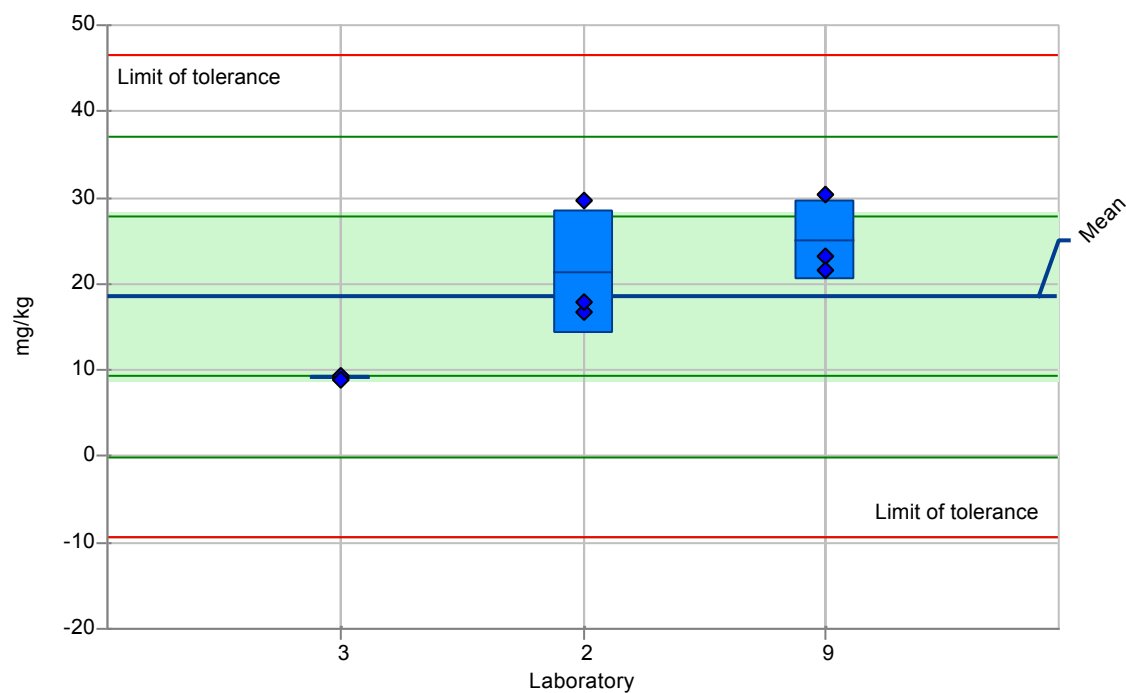
Mean \pm U(Mean): 18.529 \pm 9.673 mg/kg

Median: 17.880

Reproducibility s.d.: 9.303 mg/kg

Repeatability s.d.: 4.955 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	21.433	7.174	0.312	29.690	16.730	17.880
3	9.086	0.216	-1.015	9.064	9.313	8.882
4						
5						
6						
7						
8						
9	25.067	4.706	0.703	30.400	23.300	21.500
10						
11						
12				<190.000	<190.000	<190.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: n-tetracosane

Sample: 2777

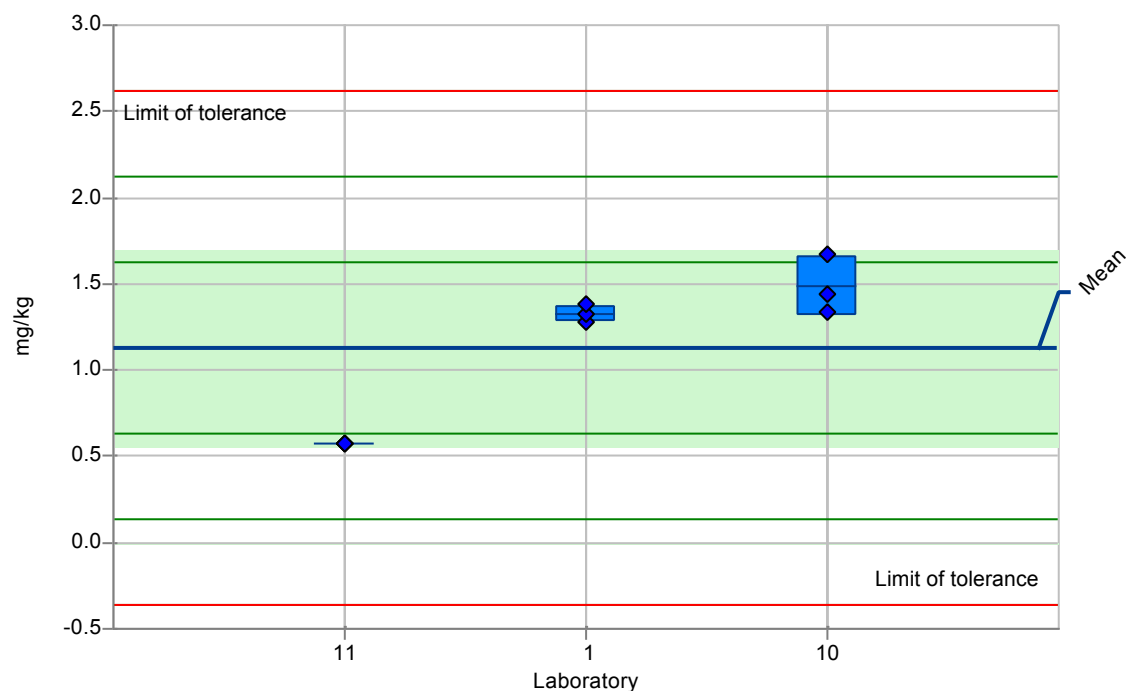
Mean \pm U(Mean): 1.126 \pm 0.564 mg/kg

Median: 1.320

Reproducibility s.d.: 0.496 mg/kg

Repeatability s.d.: 0.103 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.327	0.050	0.404	1.280	1.320	1.380
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	1.483	0.172	0.719	1.671	1.335	1.443
11	0.570	0.001	-1.123	0.571	0.569	0.569
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-tetratriacontane

Sample: 2777

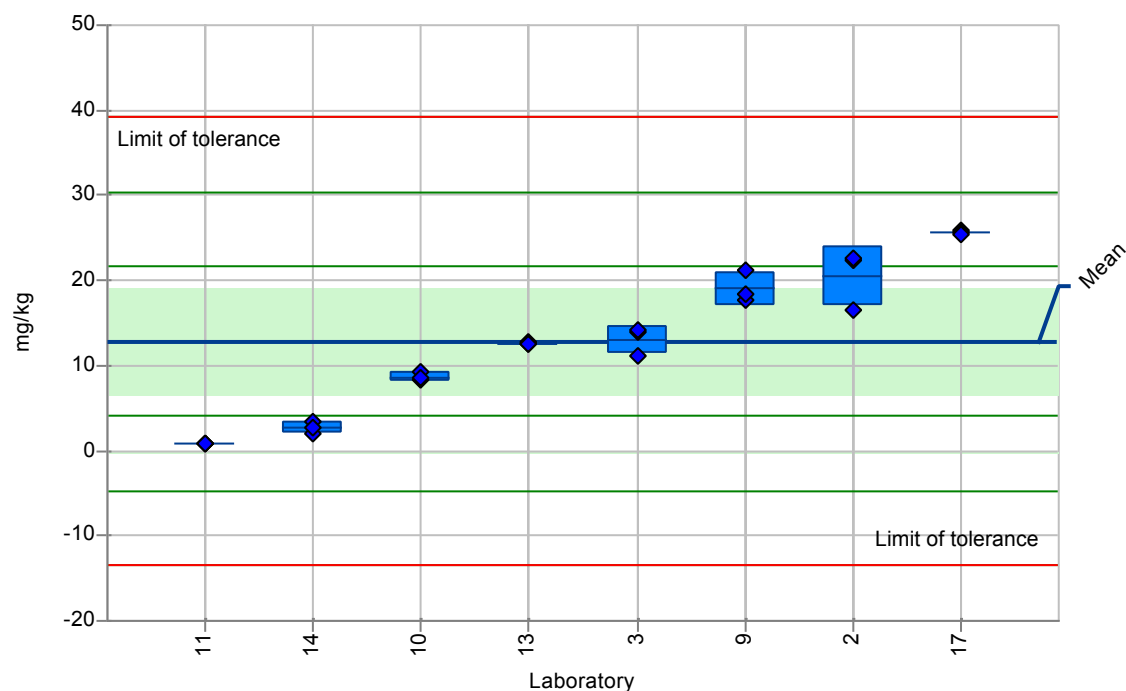
Mean \pm U(Mean): 12.875 \pm 6.143 mg/kg

Median: 13.216

Reproducibility s.d.: 8.781 mg/kg

Repeatability s.d.: 1.561 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	20.507	3.439	0.869	22.320	16.540	22.660
3	13.013	1.732	0.016	11.023	13.833	14.182
4						
5						
6						
7						
8						
9	19.067	1.966	0.705	21.300	17.600	18.300
10	8.646	0.529	-0.482	8.223	9.239	8.476
11	0.728	0.005	-1.383	0.726	0.725	0.734
12				<190.000	<190.000	<190.000
13	12.600	0.100	-0.031	12.700	12.500	12.600
14	2.761	0.707	-1.152	3.474	2.061	2.747
15						
16				<0.000	<0.000	<0.000
17	25.681	0.135	1.458	25.785	25.729	25.529
18						
19						
20						

Measurand: n-triacontane

Sample: 2777

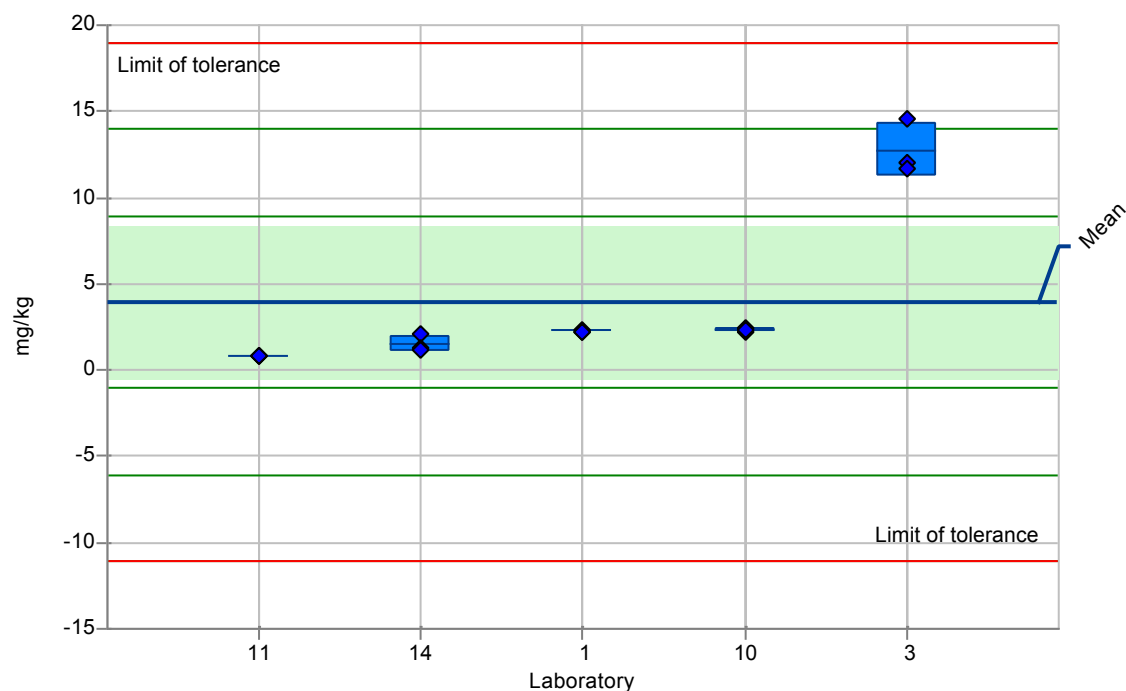
Mean \pm U(Mean): 3.947 \pm 4.442 mg/kg

Median: 2.240

Reproducibility s.d.: 5.002 mg/kg

Repeatability s.d.: 0.730 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.277	0.091	-0.334	2.380	2.240	2.210
2						
3	12.765	1.554	1.763	12.055	11.694	14.547
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	2.332	0.095	-0.323	2.423	2.233	2.341
11	0.859	0.004	-0.617	0.855	0.859	0.862
12				<190.000	<190.000	<190.000
13						
14	1.501	0.483	-0.489	2.044	1.340	1.119
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-tricosane

Sample: 2777

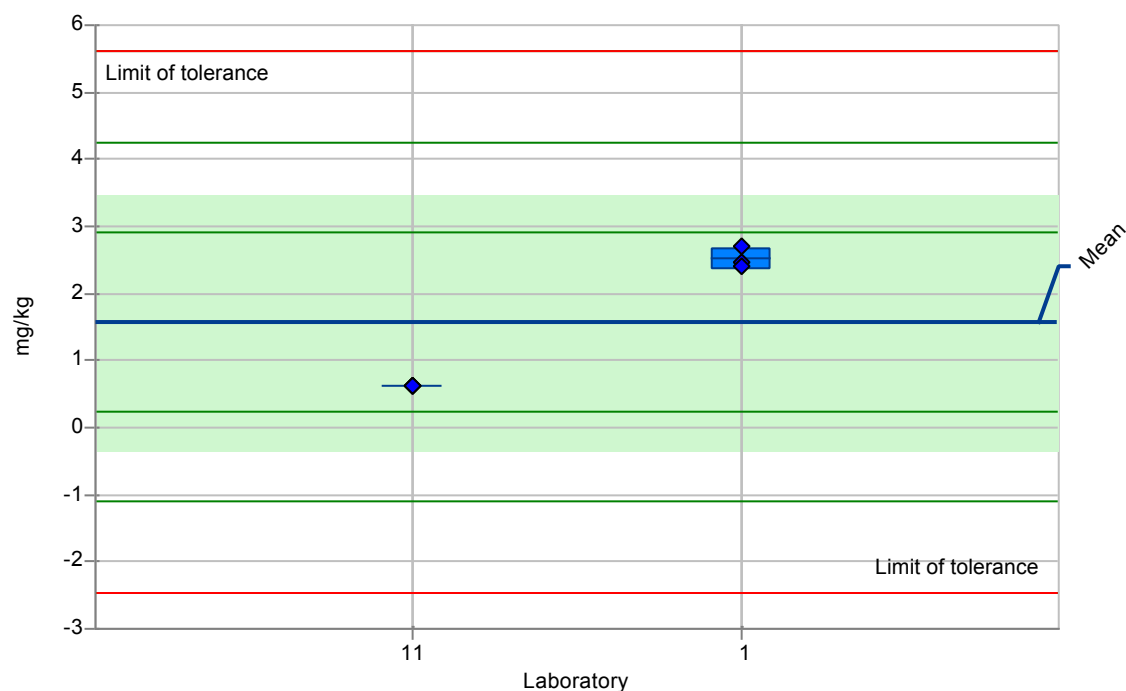
Mean \pm U(Mean): 1.576 \pm 1.895 mg/kg

Median: 1.545

Reproducibility s.d.: 1.343 mg/kg

Repeatability s.d.: 0.116 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.523	0.164	0.705	2.460	2.400	2.710
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.628	0.002	-0.705	0.630	0.629	0.626
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-tridecane

Sample: 2777

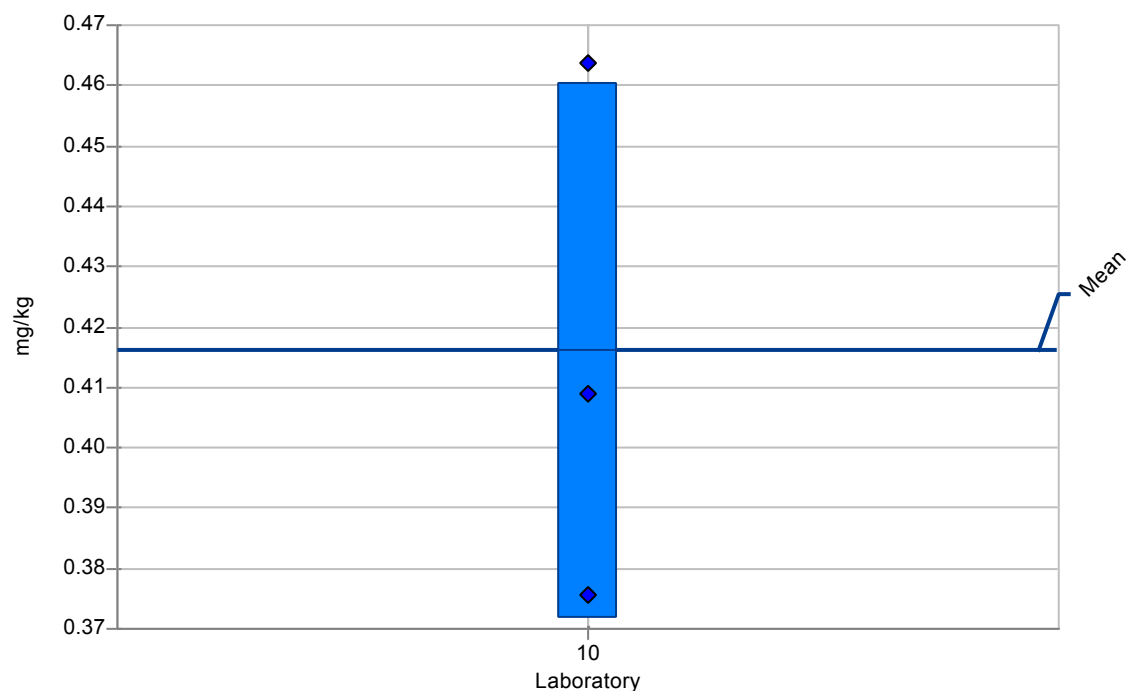
Mean \pm U(Mean): 0.416 mg/kg

Median: 0.409

Reproducibility s.d.:

Repeatability s.d.: 0.044 mg/kg

No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	0.416	0.044		0.409	0.376	0.464
11				<0.018	<0.018	<0.018
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-tritriacontane

Sample: 2777

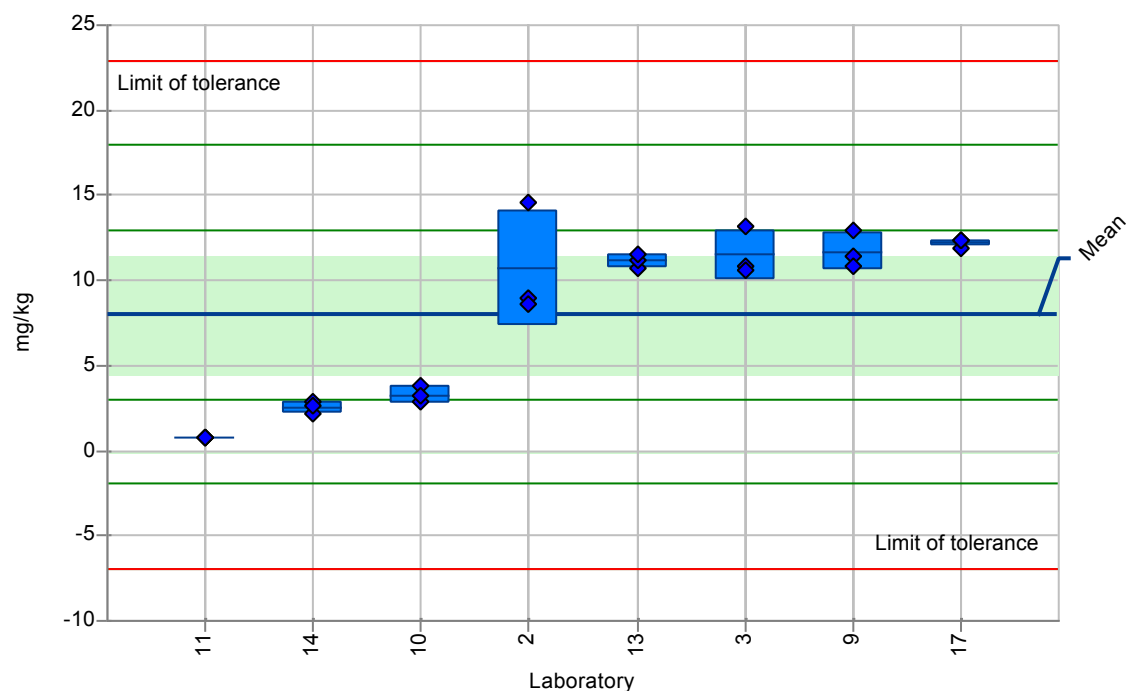
Mean \pm U(Mean): 7.987 \pm 3.431 mg/kg

Median: 9.874

Reproducibility s.d.: 4.982 mg/kg

Repeatability s.d.: 1.379 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	10.720	3.372	0.549	8.930	8.620	14.610
3	11.526	1.451	0.710	10.818	10.565	13.195
4						
5						
6						
7						
8						
9	11.700	1.082	0.745	12.900	11.400	10.800
10	3.285	0.485	-0.944	2.825	3.793	3.237
11	0.784	0.007	-1.446	0.792	0.778	0.782
12				<190.000	<190.000	<190.000
13	11.133	0.404	0.632	10.700	11.200	11.500
14	2.557	0.357	-1.090	2.861	2.164	2.645
15						
16				<0.000	<0.000	<0.000
17	12.193	0.213	0.844	11.948	12.320	12.311
18						
19						
20						

Measurand: n-undecane

Sample: 2777

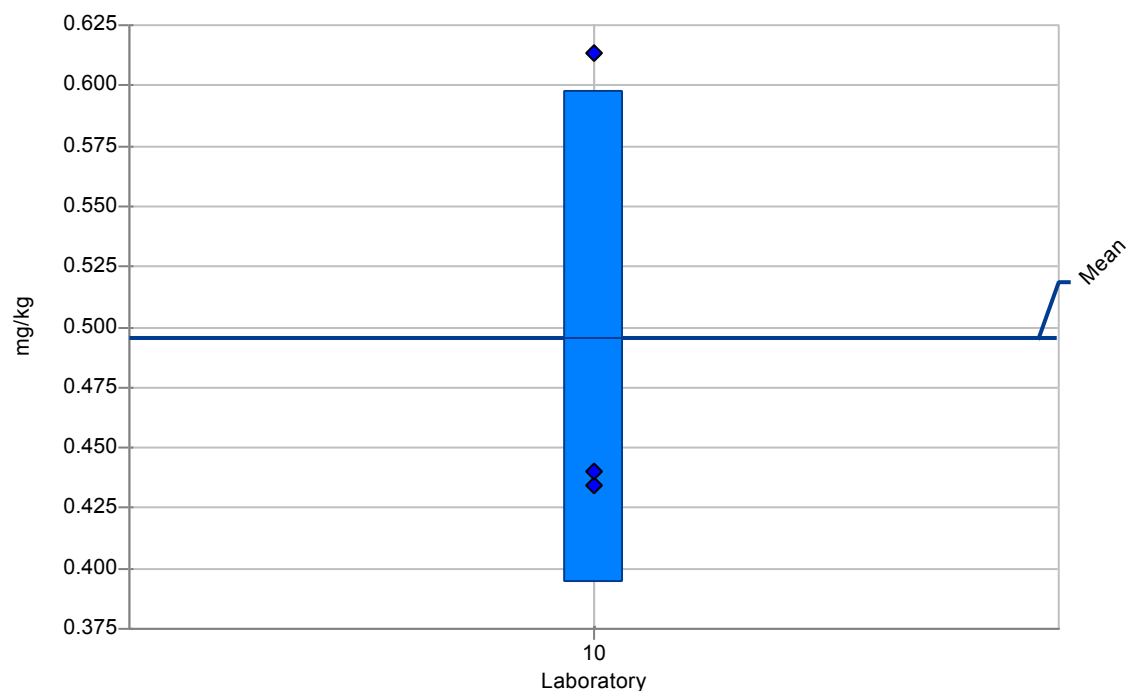
Mean \pm U(Mean): 0.496 mg/kg

Median: 0.440

Reproducibility s.d.:

Repeatability s.d.: 0.102 mg/kg

No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10	0.496	0.102		0.614	0.434	0.440
11				<0.003	<0.003	<0.003
12				<190.000	<190.000	<190.000
13						
14						
15						
16				<0.000	<0.000	<0.000
17						
18						
19						
20						

Measurand: n-decane

Sample: 2779

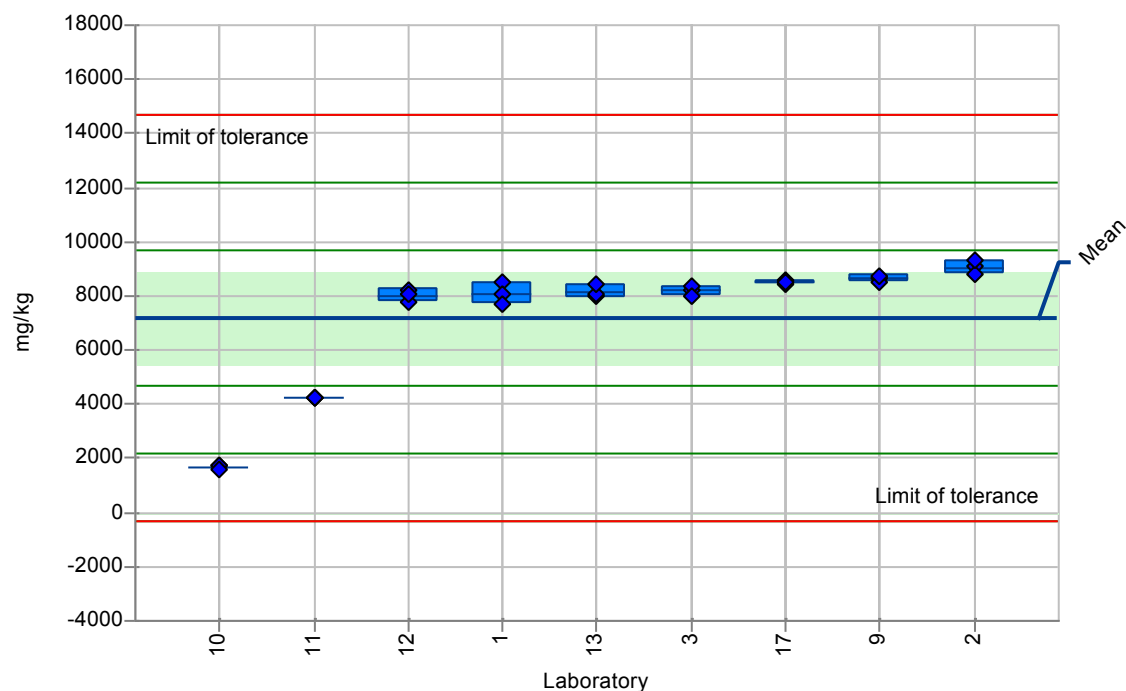
Mean \pm U(Mean): 7179.321 \pm 1660.354 mg/kg

Median: 8050.000

Reproducibility s.d.: 2496.870 mg/kg

Repeatability s.d.: 217.760 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	8100.000	417.253	0.369	8540.000	8050.000	7710.000
2	9047.070	262.990	0.748	9082.930	8767.990	9290.290
3	8197.594	169.989	0.408	8230.542	8348.698	8013.543
4						
5						
6						
7						
8						
9	8647.340	142.024	0.588	8690.891	8488.640	8762.489
10	1693.333	64.291	-2.197	1720.000	1740.000	1620.000
11	4250.000	26.457	-1.173	4260.000	4220.000	4270.000
12	8016.667	241.730	0.335	8240.000	7760.000	8050.000
13	8153.333	250.067	0.390	7980.000	8040.000	8440.000
14						
15						
16						
17	8508.550	93.008	0.532	8584.651	8404.873	8536.127
18						
19						
20						

Measurand: n-docasane

Sample: 2779

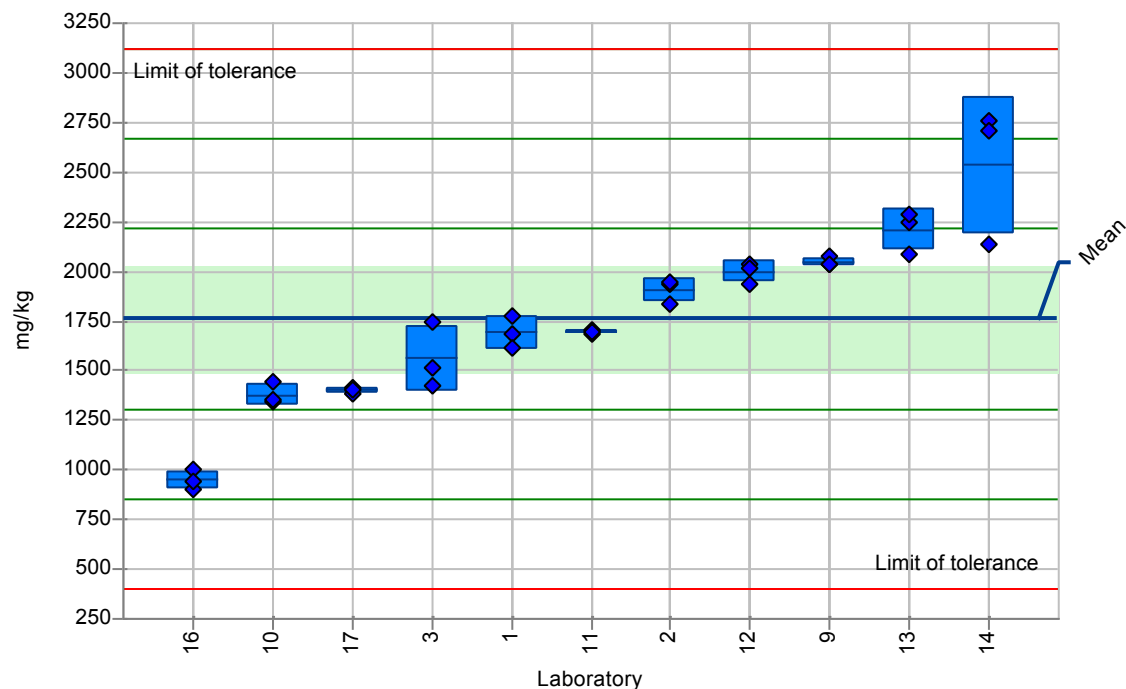
Mean \pm U(Mean): 1760.756 \pm 265.993 mg/kg

Median: 1690.000

Reproducibility s.d.: 453.160 mg/kg

Repeatability s.d.: 127.190 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1690.000	85.440	-0.156	1780.000	1680.000	1610.000
2	1904.470	59.933	0.317	1835.370	1935.730	1942.310
3	1561.040	166.242	-0.441	1746.123	1512.597	1424.400
4						
5						
6						
7						
8						
9	2049.559	21.168	0.637	2039.807	2073.845	2035.025
10	1376.667	55.076	-0.848	1440.000	1340.000	1350.000
11	1690.000	10.000	-0.156	1680.000	1700.000	1690.000
12	2000.000	52.915	0.528	2040.000	1940.000	2020.000
13	2210.000	105.830	0.991	2090.000	2250.000	2290.000
14	2534.590	345.452	1.708	2760.685	2136.941	2706.144
15						
16	949.667	47.353	-1.790	1000.000	906.000	943.000
17	1402.326	15.914	-0.791	1415.471	1384.633	1406.873
18						
19						
20						

Measurand: n-dodecane

Sample: 2779

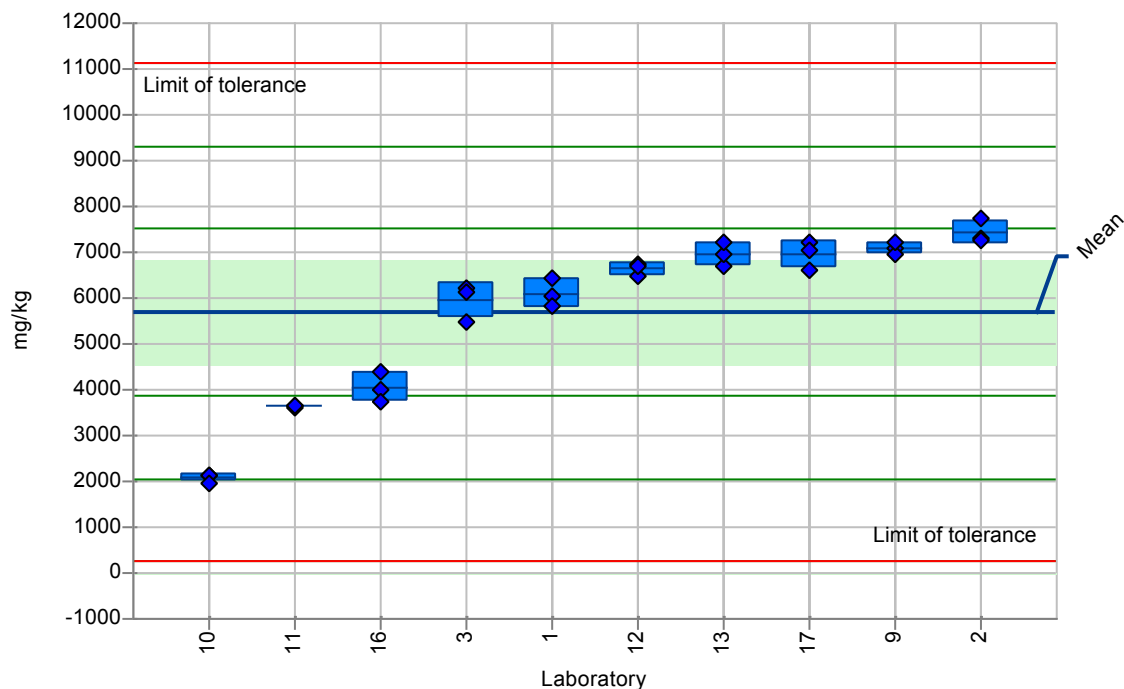
Mean \pm U(Mean): 5687.854 \pm 1139.944 mg/kg

Median: 6397.785

Reproducibility s.d.: 1814.290 mg/kg

Repeatability s.d.: 253.870 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6106.667	322.542	0.231	6450.000	6060.000	5810.000
2	7435.630	257.052	0.963	7315.700	7260.460	7730.730
3	5945.227	394.513	0.142	6225.949	6115.569	5494.162
4						
5						
6						
7						
8						
9	7079.160	117.999	0.767	7080.707	6960.396	7196.378
10	2083.333	98.658	-1.987	2150.000	2130.000	1970.000
11	3633.353	11.513	-1.132	3640.000	3620.060	3640.000
12	6633.333	155.349	0.521	6760.000	6460.000	6680.000
13	6953.333	250.267	0.698	6710.000	6940.000	7210.000
14						
15						
16	4050.000	327.872	-0.903	4400.000	4000.000	3750.000
17	6958.501	317.317	0.700	7216.854	6604.313	7054.335
18						
19						
20						

Measurand: n-dotriacontane

Sample: 2779

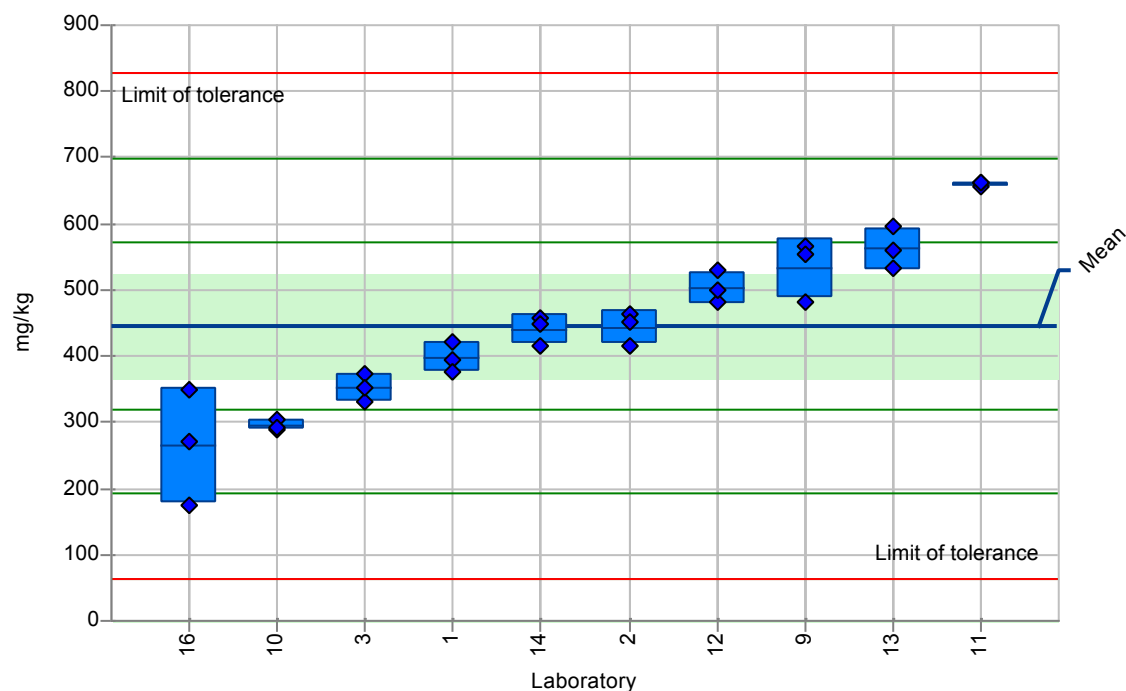
Mean \pm U(Mean): 445.350 \pm 78.069 mg/kg

Median: 449.956

Reproducibility s.d.: 127.031 mg/kg

Repeatability s.d.: 36.744 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	397.653	22.639	-0.375	421.400	395.244	376.315
2	443.163	25.441	-0.017	414.710	463.720	451.060
3	352.449	20.708	-0.731	372.985	331.573	352.789
4						
5						
6						
7						
8						
9	533.807	45.086	0.696	482.124	565.072	554.226
10	295.513	7.571	-1.180	303.984	289.404	293.152
11	660.254	2.742	1.692	657.090	661.723	661.947
12	503.667	23.714	0.459	529.000	482.000	500.000
13	562.333	31.134	0.921	533.000	559.000	595.000
14	439.990	22.761	-0.042	456.986	414.131	448.853
15						
16	264.667	88.121	-1.422	350.000	174.000	270.000
17						
18						
19						
20						

Measurand: n-eicosane

Sample: 2779

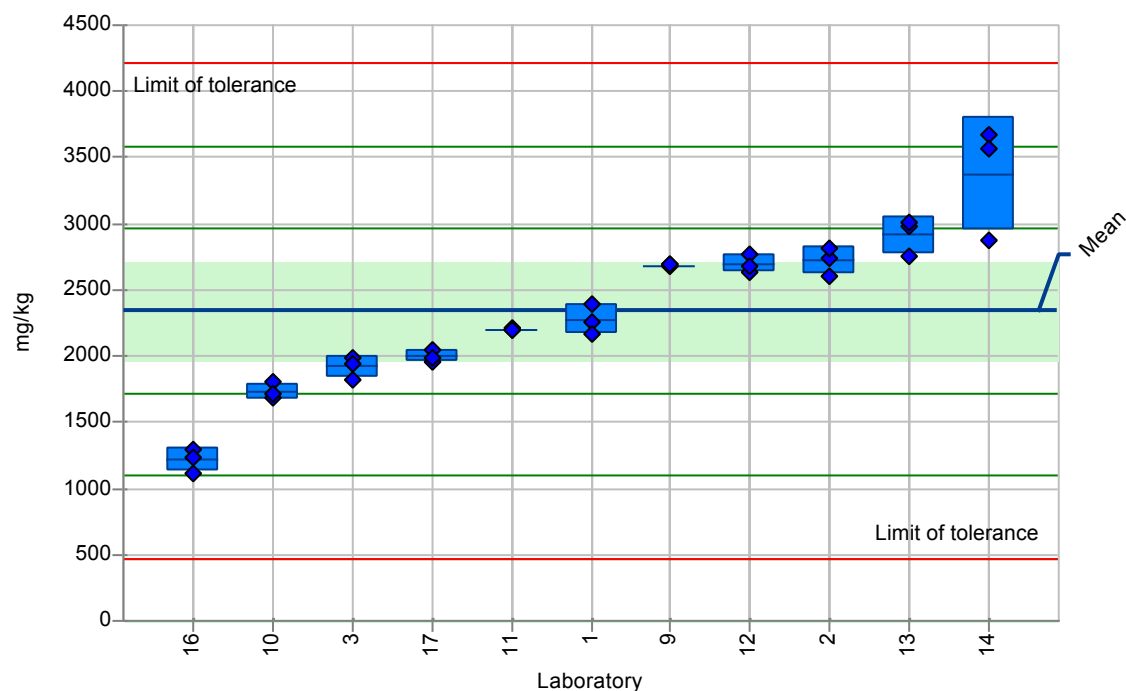
Mean \pm U(Mean): 2340.336 \pm 368.367 mg/kg

Median: 2260.000

Reproducibility s.d.: 623.550 mg/kg

Repeatability s.d.: 153.240 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2276.667	115.902	-0.102	2400.000	2260.000	2170.000
2	2720.533	108.745	0.610	2602.730	2741.790	2817.080
3	1921.600	84.650	-0.672	1993.303	1943.278	1828.220
4						
5						
6						
7						
8						
9	2685.747	6.334	0.554	2678.719	2691.013	2687.511
10	1733.333	58.595	-0.973	1800.000	1690.000	1710.000
11	2200.000	10.000	-0.225	2190.000	2210.000	2200.000
12	2696.667	66.583	0.571	2770.000	2640.000	2680.000
13	2913.333	142.244	0.919	2750.000	2980.000	3010.000
14	3376.443	432.165	1.662	3675.342	2880.928	3573.057
15						
16	1220.000	91.651	-1.797	1300.000	1120.000	1240.000
17	1999.368	49.882	-0.547	2052.378	1953.351	1992.376
18						
19						
20						

Measurand: n-henicosane

Sample: 2779

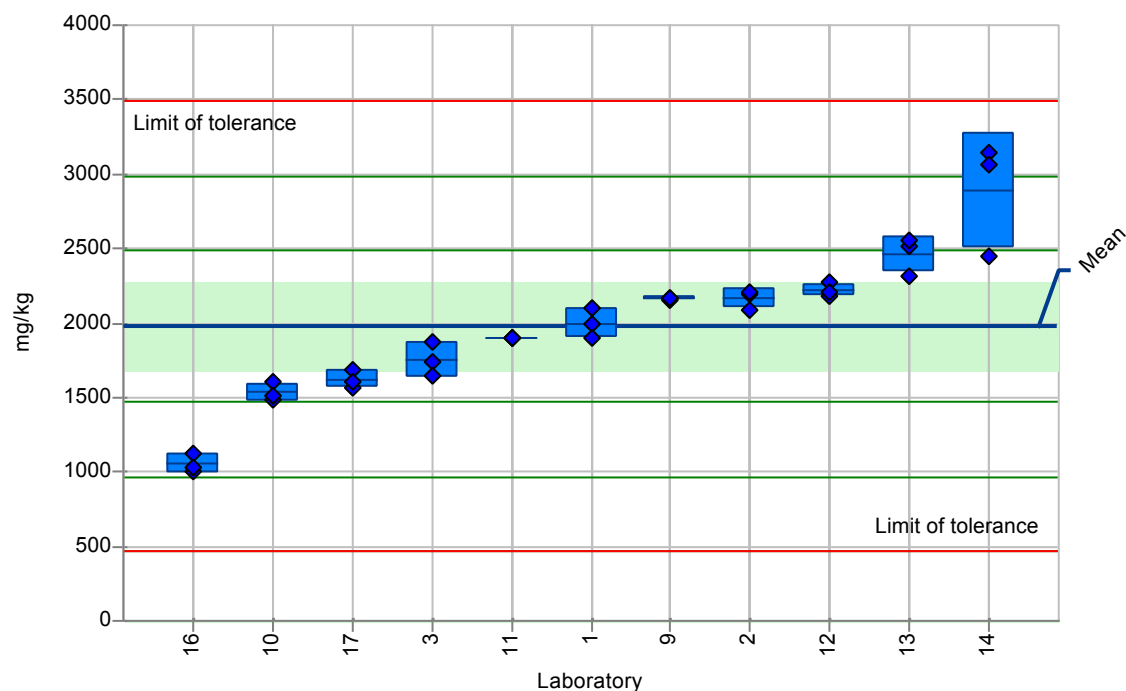
Mean \pm U(Mean): 1977.751 \pm 297.143 mg/kg

Median: 1990.000

Reproducibility s.d.: 505.100 mg/kg

Repeatability s.d.: 135.930 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1996.667	100.166	0.037	2100.000	1990.000	1900.000
2	2164.950	65.412	0.371	2090.320	2192.190	2212.340
3	1750.997	116.210	-0.449	1874.308	1735.177	1643.507
4						
5						
6						
7						
8						
9	2164.416	11.462	0.370	2168.923	2151.385	2172.939
10	1533.333	58.595	-0.880	1600.000	1490.000	1510.000
11	1900.000	0.000	-0.154	1900.000	1900.000	1900.000
12	2220.000	45.826	0.480	2270.000	2180.000	2210.000
13	2460.000	122.882	0.955	2320.000	2510.000	2550.000
14	2889.208	382.099	1.805	3149.178	2450.497	3067.950
15						
16	1053.333	68.069	-1.830	1130.000	1000.000	1030.000
17	1622.353	63.611	-0.704	1691.980	1567.282	1607.796
18						
19						
20						

Measurand: n-hentriacontane

Sample: 2779

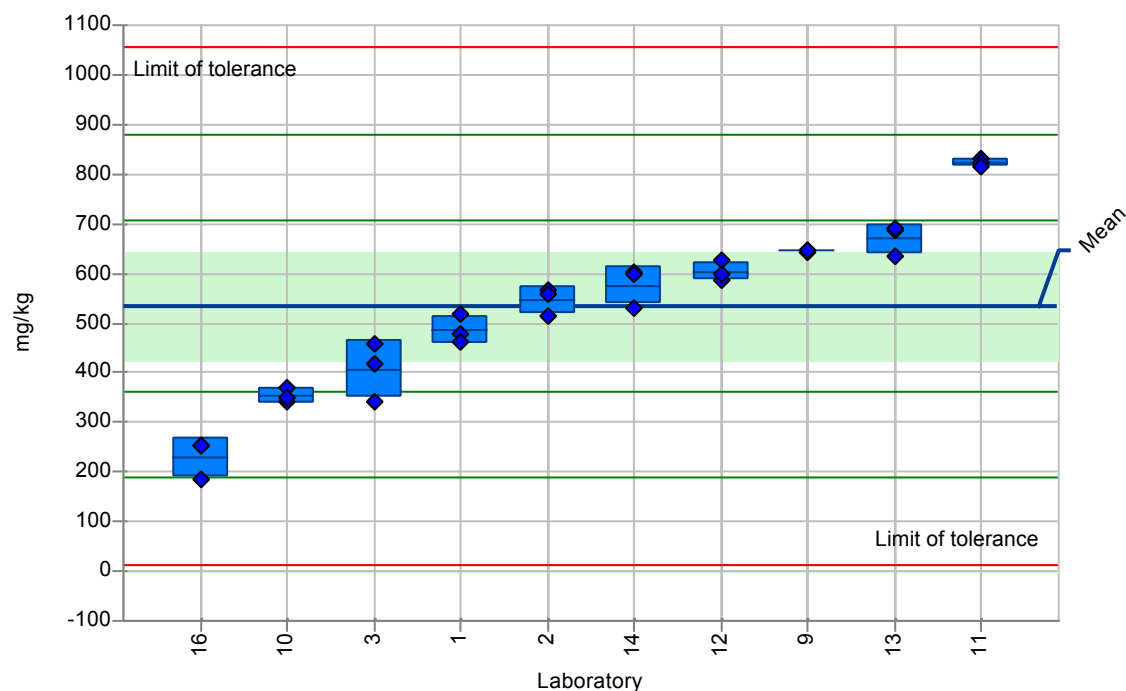
Mean \pm U(Mean): 533.771 \pm 108.453 mg/kg

Median: 577.089

Reproducibility s.d.: 173.373 mg/kg

Repeatability s.d.: 31.302 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	485.673	28.611	-0.277	517.603	477.055	462.361
2	545.980	26.528	0.070	515.720	565.230	556.990
3	405.982	58.417	-0.737	457.040	418.629	342.278
4						
5						
6						
7						
8						
9	644.736	2.271	0.640	642.187	645.480	646.542
10	352.863	16.111	-1.043	370.961	340.083	347.544
11	823.136	7.575	1.669	829.740	824.802	814.867
12	604.000	19.313	0.405	625.000	587.000	600.000
13	669.000	31.241	0.780	633.000	685.000	689.000
14	576.011	39.746	0.244	600.685	530.160	597.187
15						
16	230.333	40.154	-1.750	255.000	252.000	184.000
17						
18						
19						
20						

Measurand: n-heptacosane

Sample: 2779

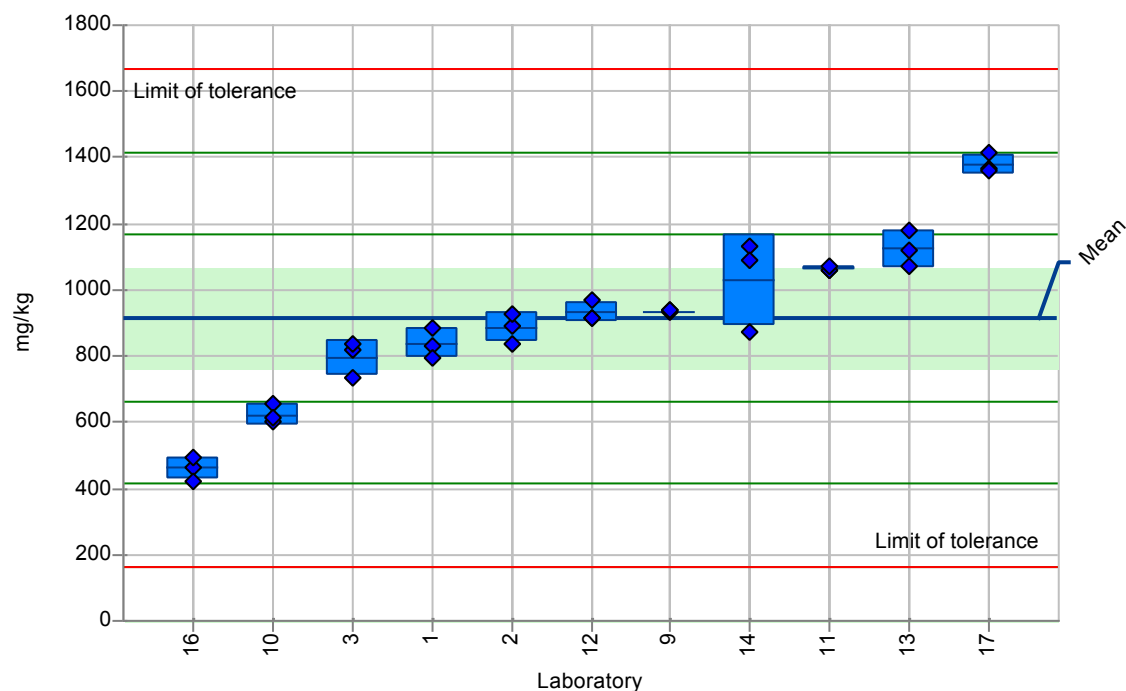
Mean \pm U(Mean): 915.607 \pm 148.856 mg/kg

Median: 916.000

Reproducibility s.d.: 250.934 mg/kg

Repeatability s.d.: 55.227 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	838.212	45.886	-0.308	886.885	832.006	795.744
2	885.973	44.501	-0.118	838.910	891.640	927.370
3	795.493	55.309	-0.479	818.403	835.667	732.410
4						
5						
6						
7						
8						
9	935.940	1.517	0.081	936.831	934.188	936.801
10	622.972	30.807	-1.166	657.859	599.506	611.551
11	1063.333	5.774	0.589	1060.000	1060.000	1070.000
12	933.000	31.193	0.069	969.000	914.000	916.000
13	1123.333	55.076	0.828	1070.000	1120.000	1180.000
14	1032.212	138.485	0.465	1134.521	874.626	1087.491
15						
16	460.667	35.557	-1.813	463.000	424.000	495.000
17	1380.536	31.177	1.853	1364.174	1360.947	1416.488
18						
19						
20						

Measurand: n-heptadecane

Sample: 2779

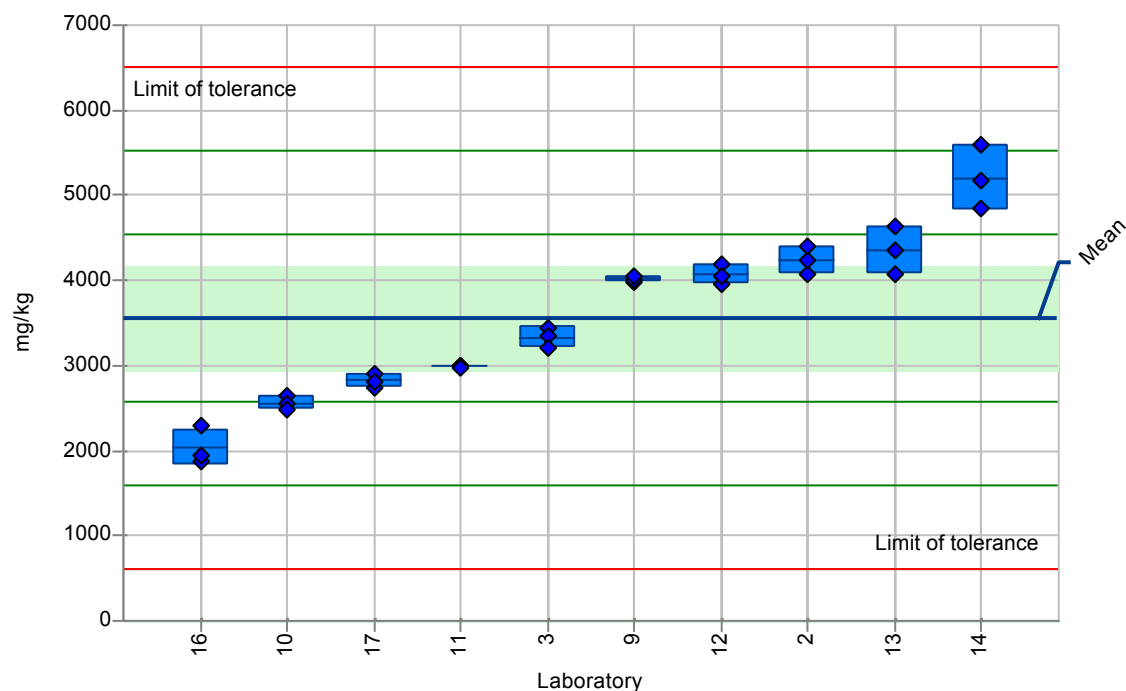
Mean \pm U(Mean): 3563.467 \pm 614.662 mg/kg

Median: 3684.377

Reproducibility s.d.: 983.680 mg/kg

Repeatability s.d.: 186.160 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	4241.480	161.532	0.689	4081.090	4239.220	4404.130
3	3334.888	118.508	-0.232	3439.272	3359.326	3206.067
4						
5						
6						
7						
8						
9	4017.247	39.323	0.461	3982.421	4009.428	4059.891
10	2563.333	85.049	-1.017	2650.000	2560.000	2480.000
11	2990.000	10.000	-0.583	2990.000	3000.000	2980.000
12	4066.667	120.139	0.512	4190.000	3950.000	4060.000
13	4353.333	285.015	0.803	4070.000	4350.000	4640.000
14	5206.472	382.752	1.670	5171.233	4842.558	5605.625
15						
16	2036.667	221.435	-1.552	2290.000	1880.000	1940.000
17	2824.582	79.591	-0.751	2908.682	2750.437	2814.626
18						
19						
20						

Measurand: n-heptatriacontane

Sample: 2779

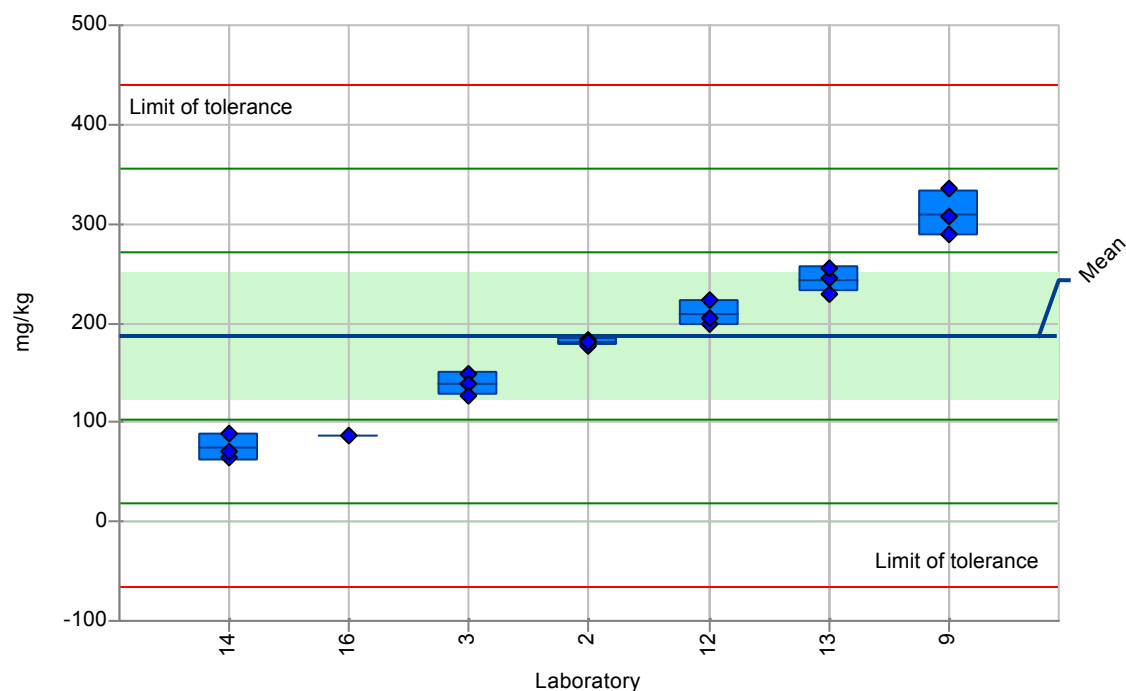
Mean \pm U(Mean): 187.238 \pm 62.952 mg/kg

Median: 181.930

Reproducibility s.d.: 84.091 mg/kg

Repeatability s.d.: 14.287 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	180.807	3.455	-0.076	176.930	183.560	181.930
3	138.626	11.406	-0.578	149.475	139.671	126.733
4						
5						
6						
7						
8						
9	310.349	23.577	1.464	288.424	307.336	335.287
10						
11						
12	209.333	13.317	0.263	224.000	198.000	206.000
13	243.333	13.204	0.667	229.000	246.000	255.000
14	74.593	13.232	-1.340	63.973	70.390	89.415
15						
16	86.400		-1.199	<0.000	<0.000	86.400
17						
18						
19						
20						

Measurand: n-hexacosane

Sample: 2779

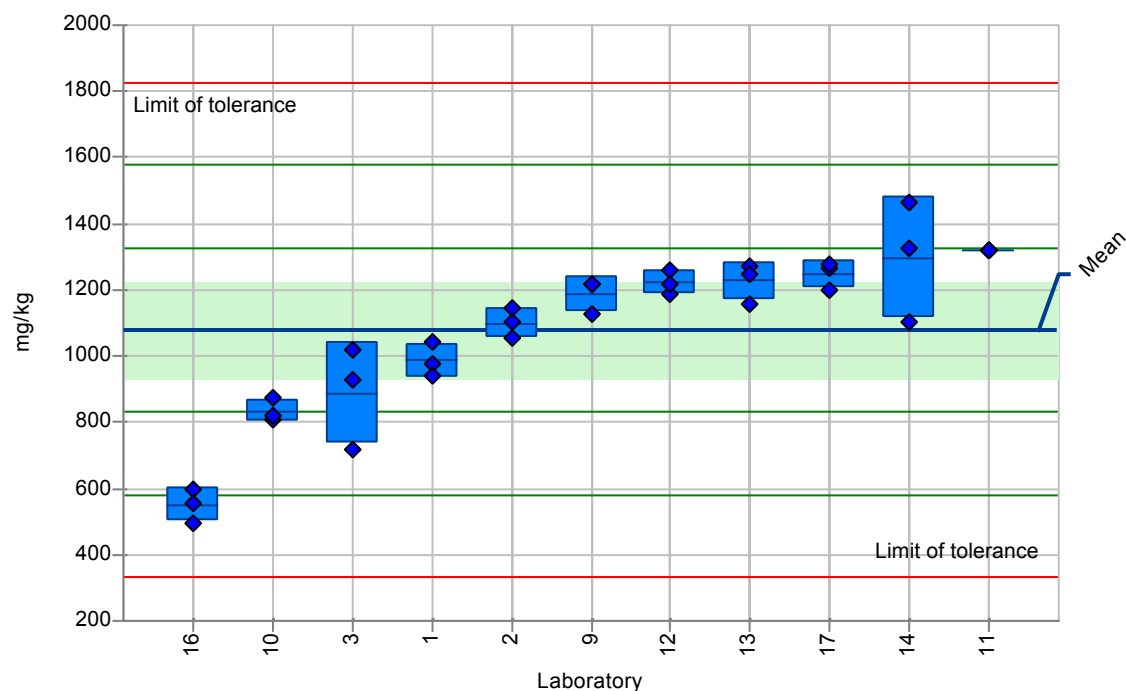
Mean \pm U(Mean): 1078.259 \pm 144.359 mg/kg

Median: 1216.499

Reproducibility s.d.: 248.700 mg/kg

Repeatability s.d.: 82.550 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	986.470	50.404	-0.369	1040.000	979.491	939.918
2	1099.533	44.554	0.086	1054.080	1101.390	1143.130
3	887.934	153.856	-0.765	1018.675	926.734	718.393
4						
5						
6						
7						
8						
9	1186.621	53.311	0.436	1125.071	1218.293	1216.499
10	834.786	32.277	-0.979	871.311	810.100	822.946
11	1320.000	0.000	0.972	1320.000	1320.000	1320.000
12	1223.333	35.119	0.583	1260.000	1190.000	1220.000
13	1226.667	58.595	0.597	1160.000	1270.000	1250.000
14	1297.391	184.283	0.881	1466.164	1100.768	1325.241
15						
16	550.333	50.935	-2.123	597.000	496.000	558.000
17	1247.775	40.683	0.682	1201.427	1264.318	1277.581
18						
19						
20						

Measurand: n-hexadecane

Sample: 2779

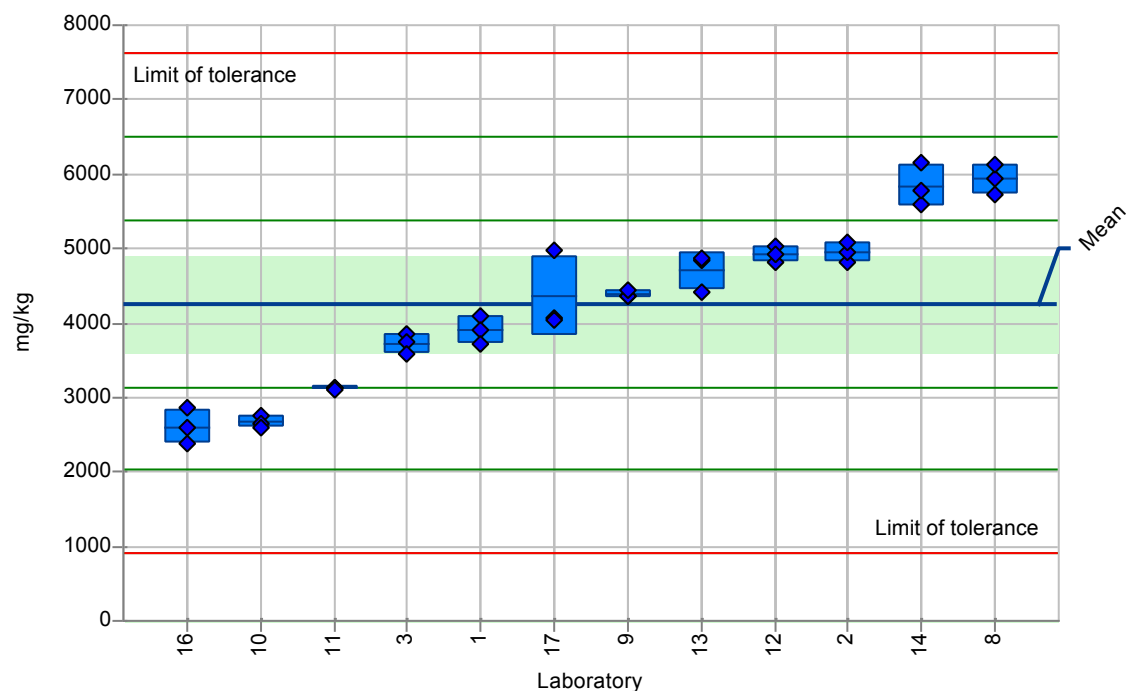
Mean \pm U(Mean): 4259.511 \pm 636.778 mg/kg

Median: 4216.292

Reproducibility s.d.: 1118.360 mg/kg

Repeatability s.d.: 226.730 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3903.333	185.023	-0.318	4090.000	3900.000	3720.000
2	4942.917	129.297	0.611	4811.980	4946.260	5070.510
3	3724.134	130.618	-0.479	3844.336	3742.929	3585.136
4						
5						
6						
7						
8	5928.087	199.922	1.492	5929.181	5727.620	6127.460
9	4387.824	42.331	0.115	4365.435	4361.389	4436.648
10	2670.000	75.498	-1.421	2750.000	2660.000	2600.000
11	3123.298	20.876	-1.016	3130.000	3140.000	3099.894
12	4916.667	110.151	0.588	5030.000	4810.000	4910.000
13	4700.000	251.595	0.394	4410.000	4830.000	4860.000
14	5844.824	279.828	1.418	6151.370	5603.086	5780.015
15						
16	2606.667	235.443	-1.478	2850.000	2380.000	2590.000
17	4366.377	540.167	0.096	4067.148	4042.044	4989.940
18						
19						
20						

Measurand: n-hexatriacontane

Sample: 2779

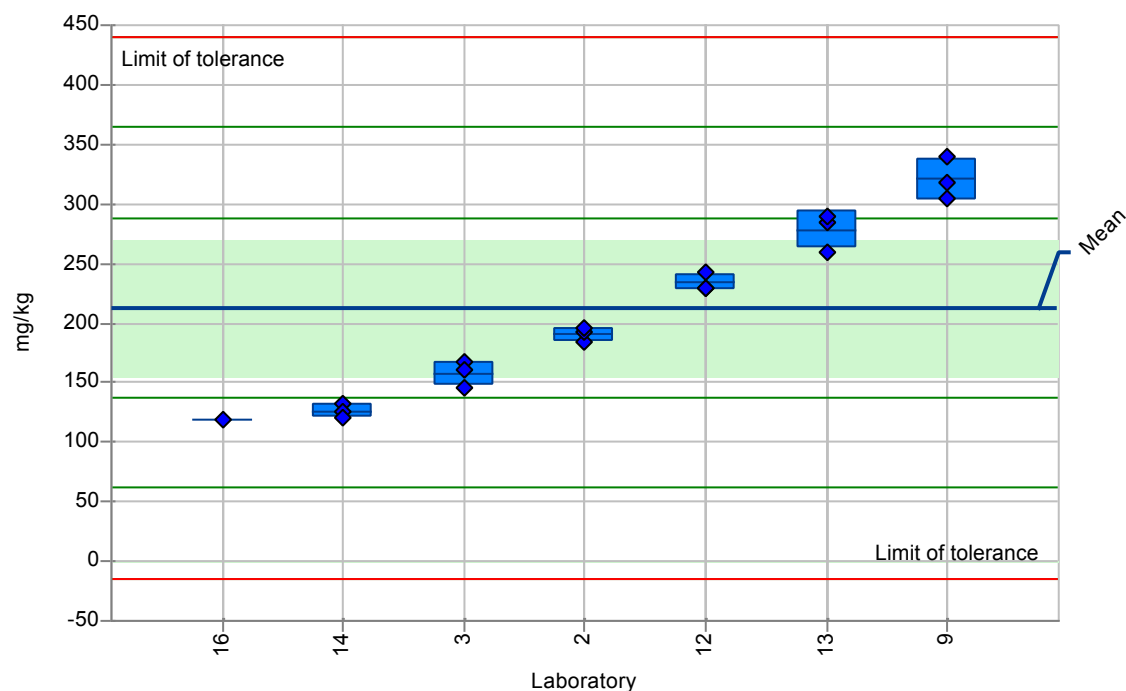
Mean \pm U(Mean): 212.612 \pm 56.755 mg/kg

Median: 191.810

Reproducibility s.d.: 75.661 mg/kg

Repeatability s.d.: 11.469 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	190.370	6.236	-0.294	183.540	191.810	195.760
3	157.725	10.361	-0.725	166.764	159.992	146.418
4						
5						
6						
7						
8						
9	320.588	17.640	1.427	304.073	318.521	339.171
10						
11						
12	234.000	6.928	0.283	242.000	230.000	230.000
13	278.000	15.875	0.864	260.000	284.000	290.000
14	126.192	5.639	-1.142	131.781	126.292	120.503
15						
16	119.000		-1.237	<0.000	<0.000	119.000
17						
18						
19						
20						

Measurand: n-nonacosane

Sample: 2779

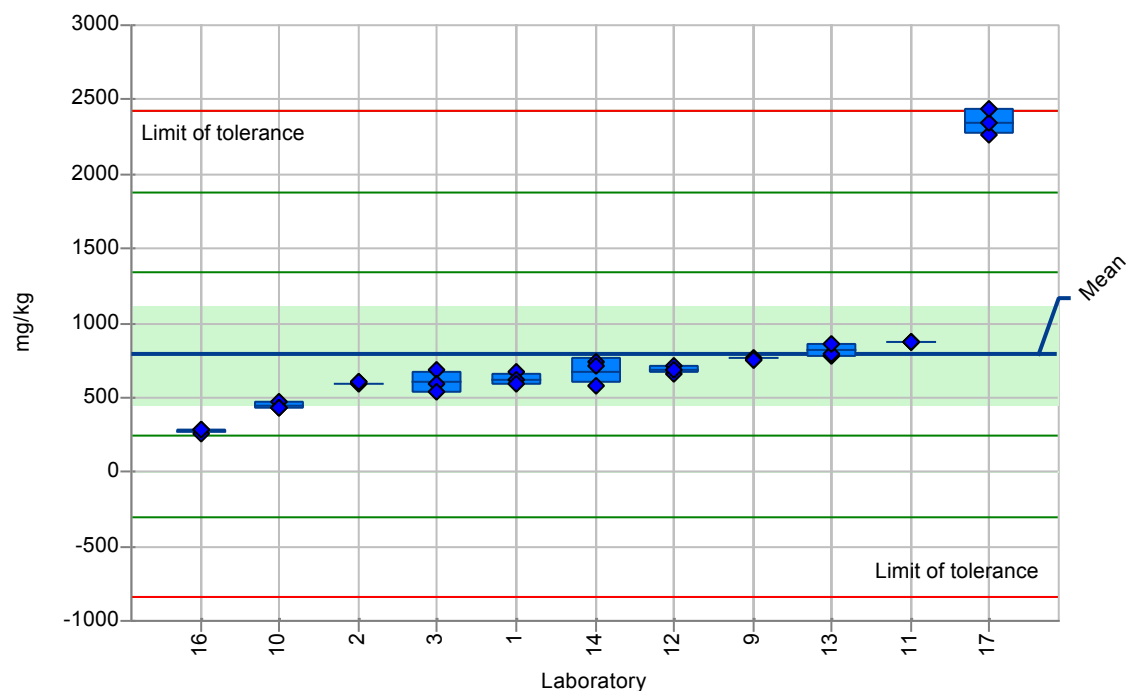
Mean \pm U(Mean): 790.941 \pm 327.881 mg/kg

Median: 687.000

Reproducibility s.d.: 545.171 mg/kg

Repeatability s.d.: 48.516 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	623.825	40.285	-0.307	666.991	617.258	587.228
2	597.803	9.750	-0.354	586.620	602.270	604.520
3	603.169	74.717	-0.344	685.071	585.707	538.730
4						
5						
6						
7						
8						
9	759.496	10.927	-0.058	771.229	757.650	749.609
10	443.450	21.738	-0.637	468.112	427.072	435.168
11	873.255	2.981	0.151	875.414	869.853	874.496
12	685.667	22.030	-0.193	707.000	663.000	687.000
13	814.333	43.501	0.043	783.000	796.000	864.000
14	676.476	84.789	-0.210	736.164	579.421	713.842
15						
16	272.000	18.735	-0.952	287.000	251.000	278.000
17	2350.872	89.849	2.861	2265.237	2342.968	2444.413
18						
19						
20						

Measurand: n-nonadecane

Sample: 2779

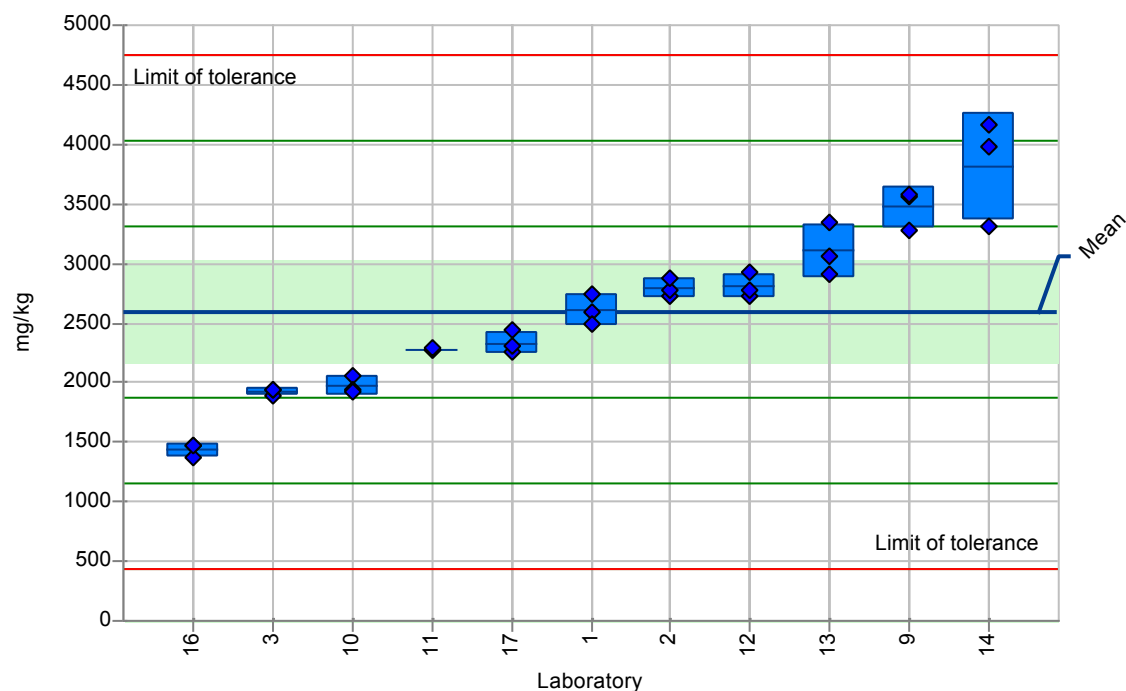
Mean \pm U(Mean): 2596.086 \pm 424.733 mg/kg

Median: 2600.000

Reproducibility s.d.: 718.560 mg/kg

Repeatability s.d.: 174.210 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2613.333	130.512	0.024	2750.000	2600.000	2490.000
2	2794.417	80.921	0.276	2723.490	2777.200	2882.560
3	1920.388	31.878	-0.940	1883.611	1940.125	1937.427
4						
5						
6						
7						
8						
9	3471.828	171.830	1.219	3273.502	3565.917	3576.064
10	1973.333	75.719	-0.867	2060.000	1940.000	1920.000
11	2280.140	10.003	-0.440	2270.000	2280.420	2290.000
12	2813.333	104.083	0.302	2930.000	2730.000	2780.000
13	3106.667	223.681	0.711	2910.000	3060.000	3350.000
14	3815.842	447.307	1.698	4156.575	3309.306	3981.643
15						
16	1436.667	57.735	-1.614	1470.000	1370.000	1470.000
17	2330.999	98.048	-0.369	2440.513	2251.373	2301.113
18						
19						
20						

Measurand: n-nonatriacontane

Sample: 2779

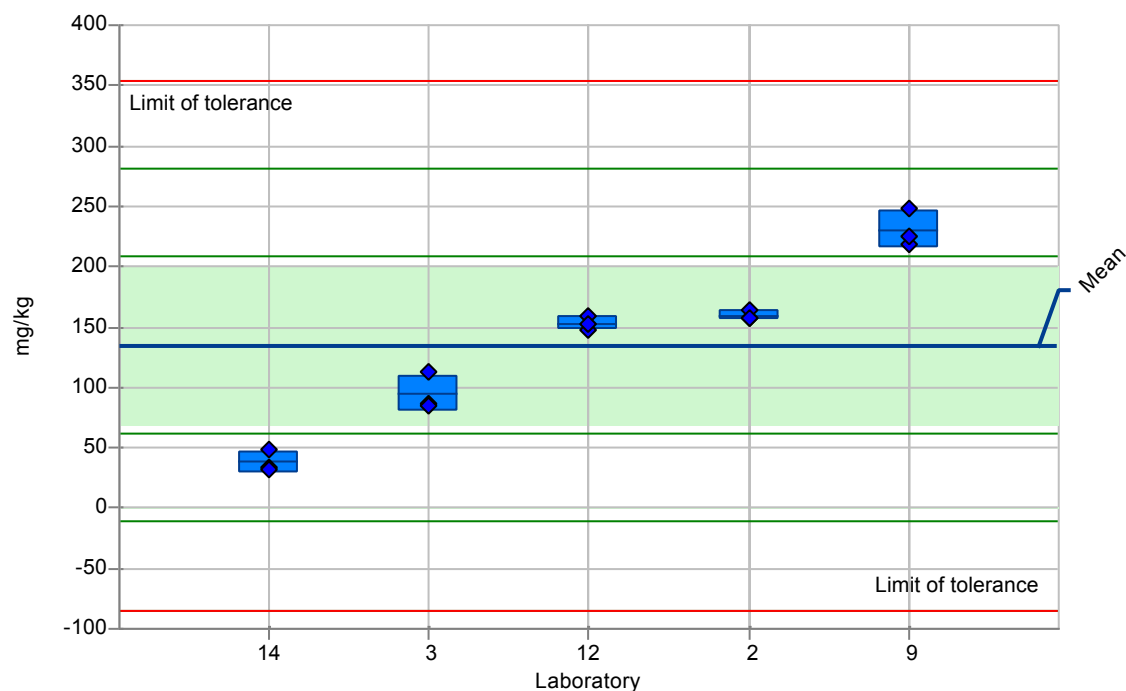
Mean \pm U(Mean): 135.066 \pm 64.942 mg/kg

Median: 153.000

Reproducibility s.d.: 73.176 mg/kg

Repeatability s.d.: 11.156 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	159.493	4.175	0.334	157.260	164.310	156.910
3	94.633	15.261	-0.553	86.311	112.245	85.341
4						
5						
6						
7						
8						
9	230.363	15.945	1.302	218.181	224.499	248.410
10						
11						
12	153.000	6.000	0.245	159.000	147.000	153.000
13						
14	37.843	9.037	-1.329	33.151	32.116	48.261
15						
16						
17						
18						
19						
20						

Measurand: n-octacosane

Sample: 2779

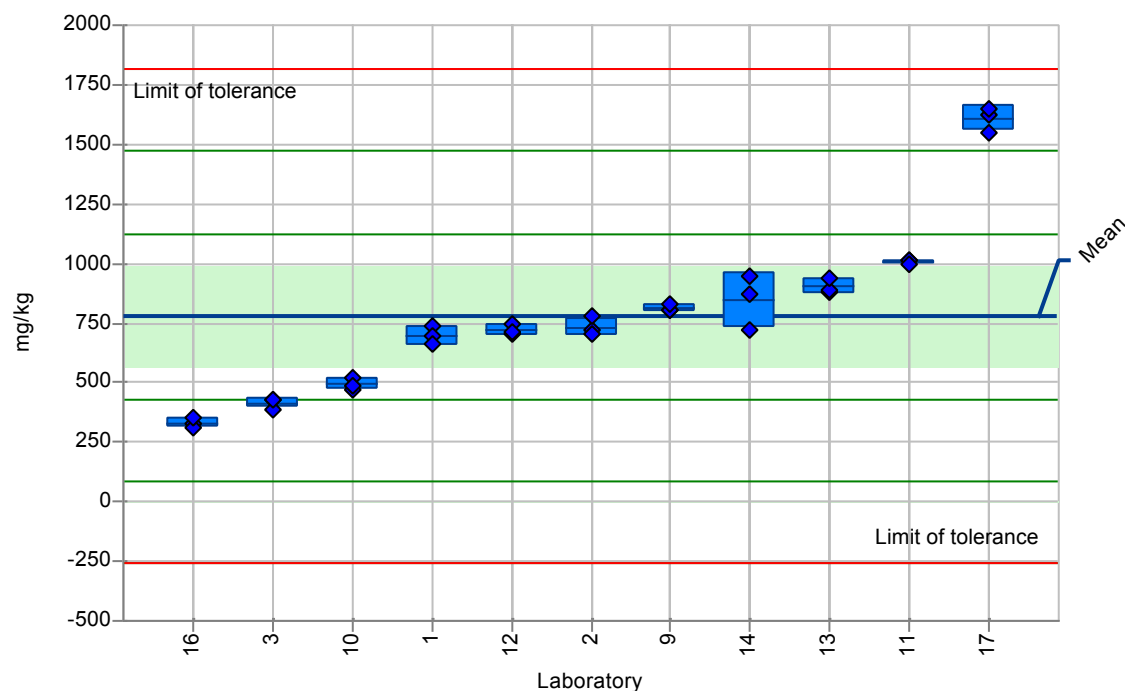
Mean \pm U(Mean): 778.799 \pm 207.899 mg/kg

Median: 716.700

Reproducibility s.d.: 346.712 mg/kg

Repeatability s.d.: 44.981 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	697.388	40.303	-0.235	740.068	692.113	659.982
2	732.230	38.463	-0.134	716.700	776.030	703.960
3	414.959	23.412	-1.049	424.923	388.213	431.740
4						
5						
6						
7						
8						
9	814.463	15.754	0.103	803.974	806.836	832.578
10	494.125	24.611	-0.821	520.686	472.093	489.597
11	1006.020	6.894	0.655	1010.000	1010.000	998.060
12	719.333	22.679	-0.172	745.000	702.000	711.000
13	902.333	32.929	0.356	879.000	888.000	940.000
14	846.221	113.345	0.194	942.466	721.289	874.907
15						
16	330.667	21.548	-1.293	329.000	310.000	353.000
17	1609.053	52.847	2.395	1550.054	1625.057	1652.047
18						
19						
20						

Measurand: n-octadecane

Sample: 2779

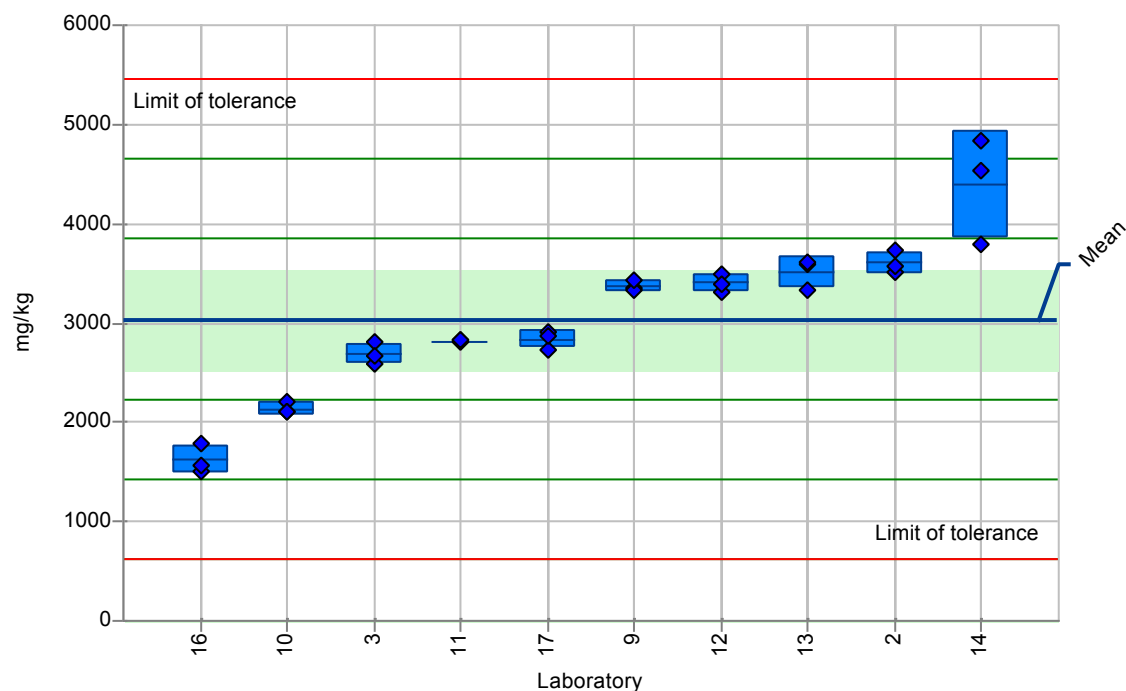
Mean \pm U(Mean): 3039.405 \pm 501.296 mg/kg

Median: 3112.804

Reproducibility s.d.: 808.600 mg/kg

Repeatability s.d.: 195.920 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	3605.437	111.811	0.700	3508.590	3579.920	3727.800
3	2689.831	108.951	-0.432	2596.011	2809.327	2664.153
4						
5						
6						
7						
8						
9	3374.538	56.040	0.414	3355.099	3330.806	3437.708
10	2136.667	63.508	-1.116	2210.000	2100.000	2100.000
11	2816.667	15.275	-0.275	2820.000	2800.000	2830.000
12	3406.667	90.185	0.454	3500.000	3320.000	3400.000
13	3510.000	156.205	0.582	3330.000	3590.000	3610.000
14	4393.121	537.086	1.674	4843.973	3798.899	4536.491
15						
16	1623.333	147.422	-1.751	1790.000	1510.000	1570.000
17	2837.793	96.588	-0.249	2913.774	2729.096	2870.509
18						
19						
20						

Measurand: n-octatriacontane

Sample: 2779

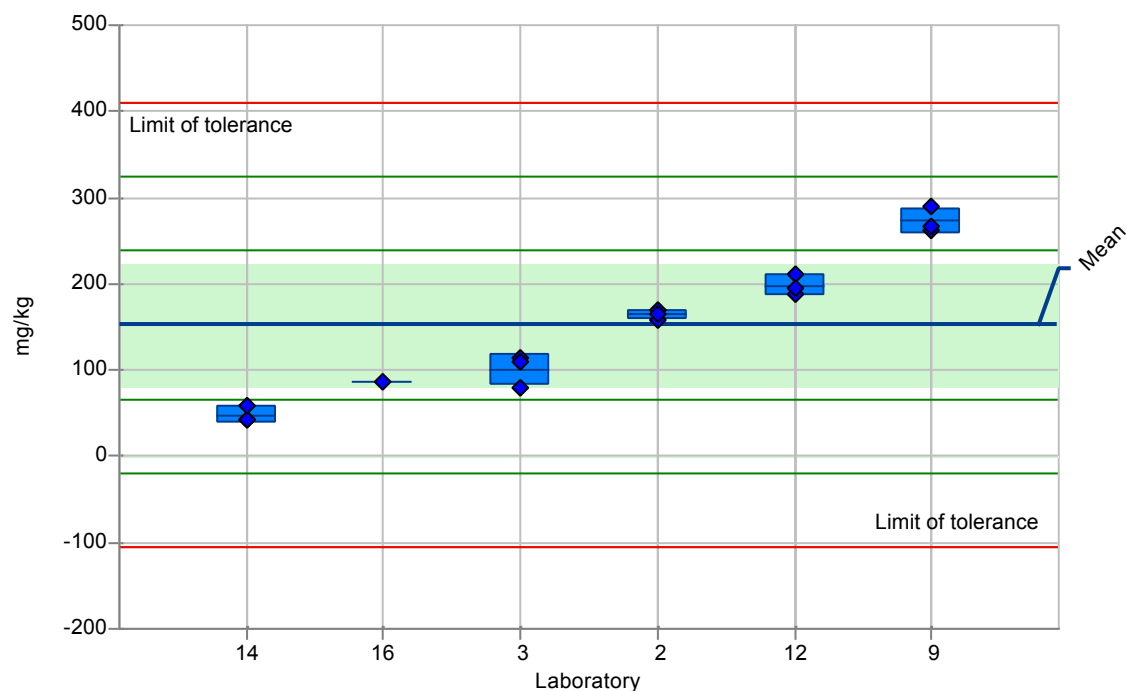
Mean \pm U(Mean): 152.429 \pm 69.430 mg/kg

Median: 137.324

Reproducibility s.d.: 85.685 mg/kg

Repeatability s.d.: 12.908 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	164.377	5.384	0.139	158.880	169.640	164.610
3	100.972	18.403	-0.601	79.795	113.084	110.039
4						
5						
6						
7						
8						
9	272.695	14.706	1.404	262.400	266.147	289.538
10						
11						
12	198.000	12.490	0.532	212.000	188.000	194.000
13						
14	48.077	9.654	-1.218	42.877	42.138	59.215
15						
16	86.500		-0.769	<0.000	<0.000	86.500
17						
18						
19						
20						

Measurand: n-pentacosane

Sample: 2779

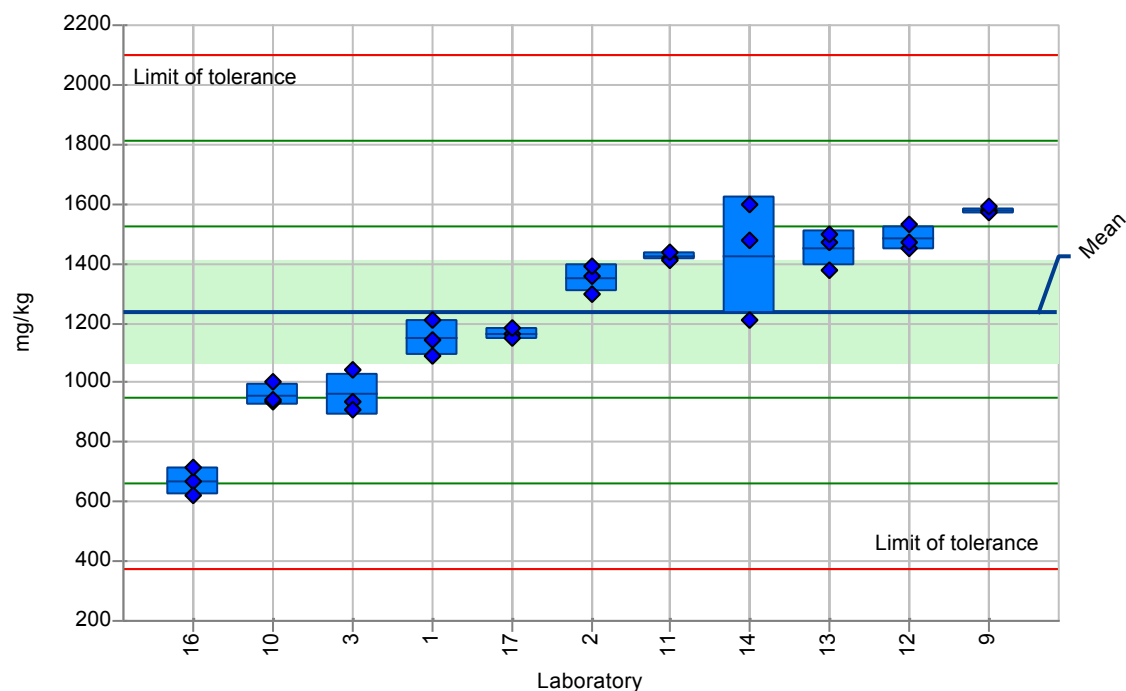
Mean \pm U(Mean): 1237.219 \pm 170.205 mg/kg

Median: 1358.580

Reproducibility s.d.: 288.570 mg/kg

Repeatability s.d.: 73.540 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1146.667	60.277	-0.314	1210.000	1140.000	1090.000
2	1348.993	45.111	0.387	1299.860	1358.580	1388.540
3	961.350	70.584	-0.956	1041.549	933.824	908.676
4						
5						
6						
7						
8						
9	1577.547	10.053	1.179	1575.766	1568.504	1588.371
10	958.729	35.931	-0.965	1000.000	934.410	941.778
11	1423.379	15.260	0.645	1420.138	1410.000	1440.000
12	1483.333	41.633	0.853	1530.000	1450.000	1470.000
13	1450.000	62.450	0.737	1380.000	1470.000	1500.000
14	1427.034	197.300	0.658	1595.890	1210.156	1475.056
15						
16	667.333	48.014	-1.975	666.000	620.000	716.000
17	1165.047	18.758	-0.250	1160.162	1149.216	1185.764
18						
19						
20						

Measurand: n-pentadecane

Sample: 2779

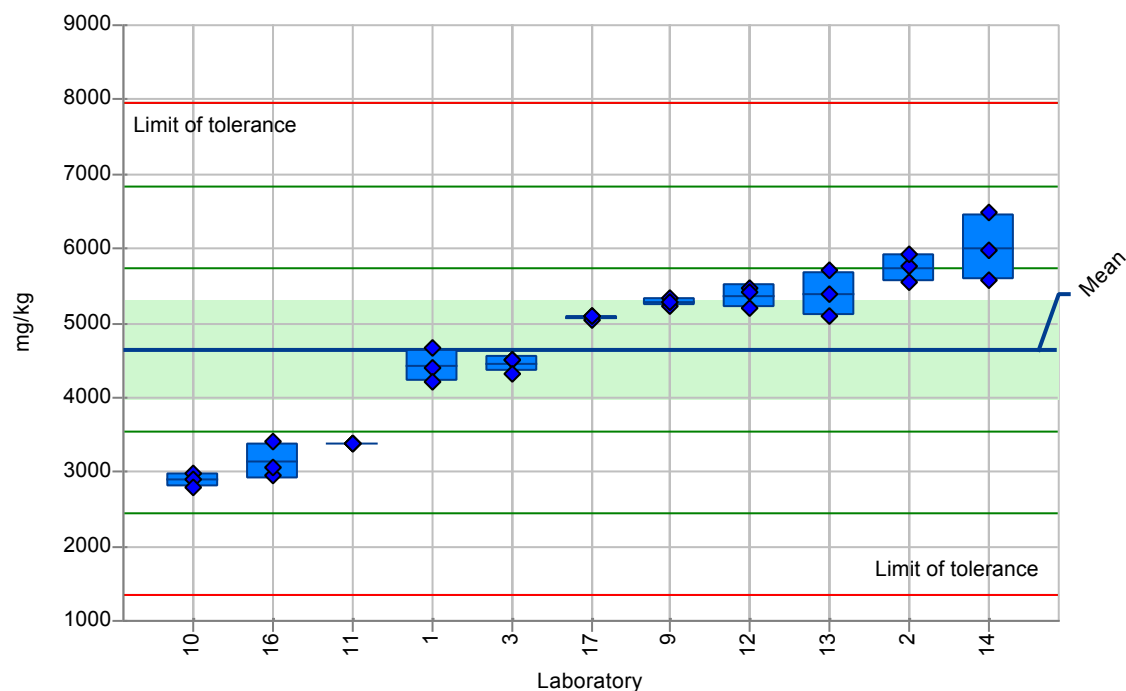
Mean \pm U(Mean): 4648.944 \pm 654.091 mg/kg

Median: 5085.268

Reproducibility s.d.: 1098.330 mg/kg

Repeatability s.d.: 211.360 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	4423.333	225.906	-0.205	4660.000	4400.000	4210.000
2	5741.240	192.162	0.995	5536.900	5768.510	5918.310
3	4443.301	102.039	-0.187	4508.147	4496.073	4325.683
4						
5						
6						
7						
8						
9	5278.176	54.487	0.573	5325.537	5218.628	5290.364
10	2893.333	95.044	-1.598	2990.000	2890.000	2800.000
11	3376.667	11.547	-1.158	3370.000	3390.000	3370.000
12	5360.000	149.332	0.647	5470.000	5190.000	5420.000
13	5390.000	305.123	0.675	5090.000	5380.000	5700.000
14	6015.551	450.046	1.244	5581.370	5985.342	6479.941
15						
16	3140.000	249.800	-1.374	3420.000	2940.000	3060.000
17	5076.778	23.536	0.390	5085.268	5050.175	5094.890
18						
19						
20						

Measurand: n-pentatriacontane

Sample: 2779

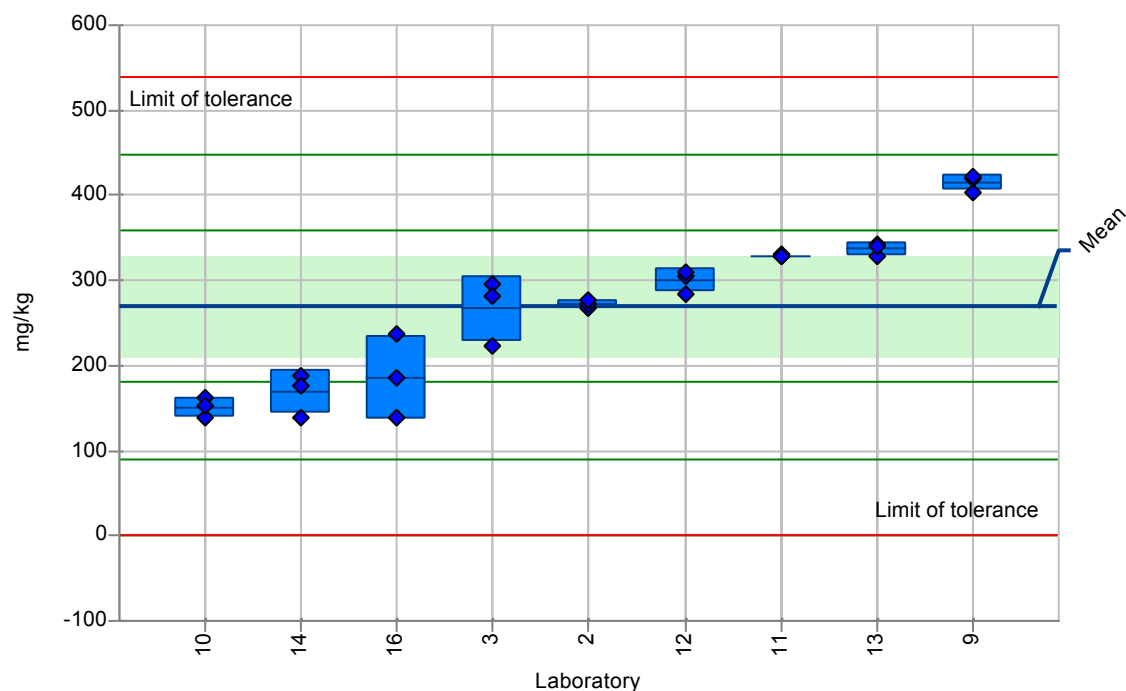
Mean \pm U(Mean): 269.624 \pm 58.372 mg/kg

Median: 281.038

Reproducibility s.d.: 89.659 mg/kg

Repeatability s.d.: 23.634 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	272.360	4.798	0.031	267.820	271.880	277.380
3	266.634	38.306	-0.033	295.650	281.038	223.215
4						
5						
6						
7						
8						
9	414.998	10.299	1.621	403.327	418.856	422.811
10	151.479	11.551	-1.318	162.884	139.788	151.766
11	329.495	1.940	0.668	327.804	331.614	329.067
12	300.333	13.429	0.343	306.000	285.000	310.000
13	336.667	7.572	0.748	328.000	342.000	340.000
14	168.315	25.565	-1.130	189.041	176.157	139.748
15						
16	186.333	49.014	-0.929	185.000	138.000	236.000
17						
18						
19						
20						

Measurand: n-tetracontane

Sample: 2779

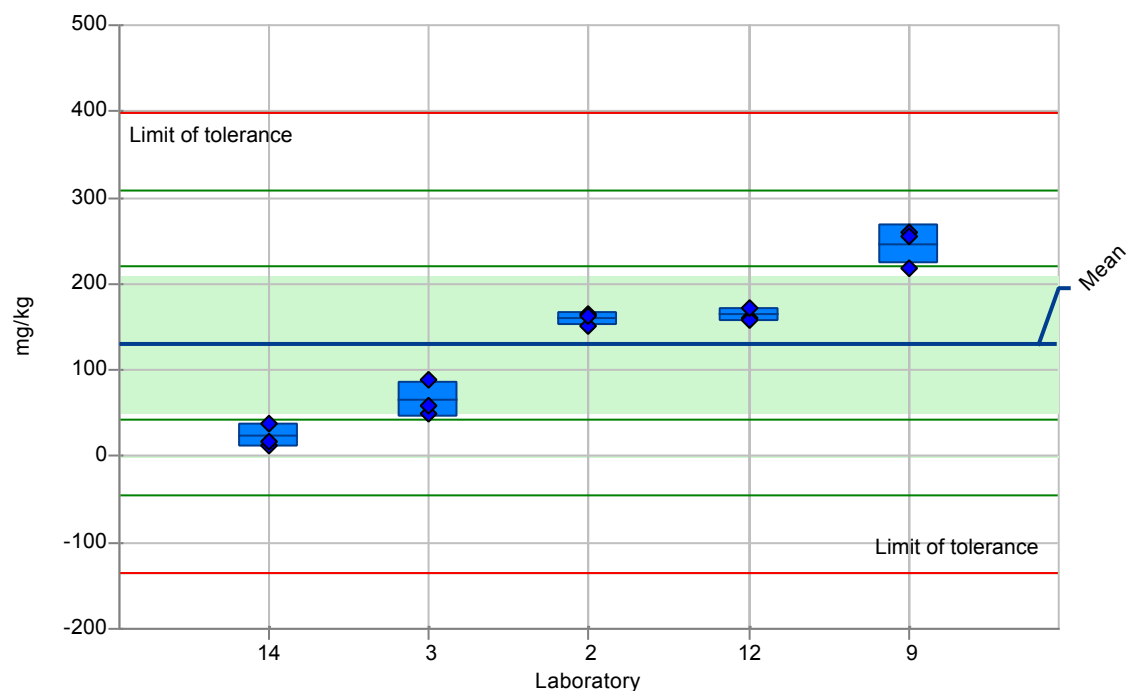
Mean \pm U(Mean): 131.358 \pm 78.492 mg/kg

Median: 160.000

Reproducibility s.d.: 88.705 mg/kg

Repeatability s.d.: 15.840 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	159.620	7.470	0.319	151.200	165.450	162.210
3	65.090	20.358	-0.747	88.103	49.433	57.734
4						
5						
6						
7						
8						
9	244.799	23.033	1.279	218.357	260.502	255.537
10						
11						
12	164.000	7.810	0.368	160.000	159.000	173.000
13						
14	23.281	13.887	-1.218	13.014	17.748	39.082
15						
16						
17						
18						
19						
20						

Measurand: n-tetracosane

Sample: 2779

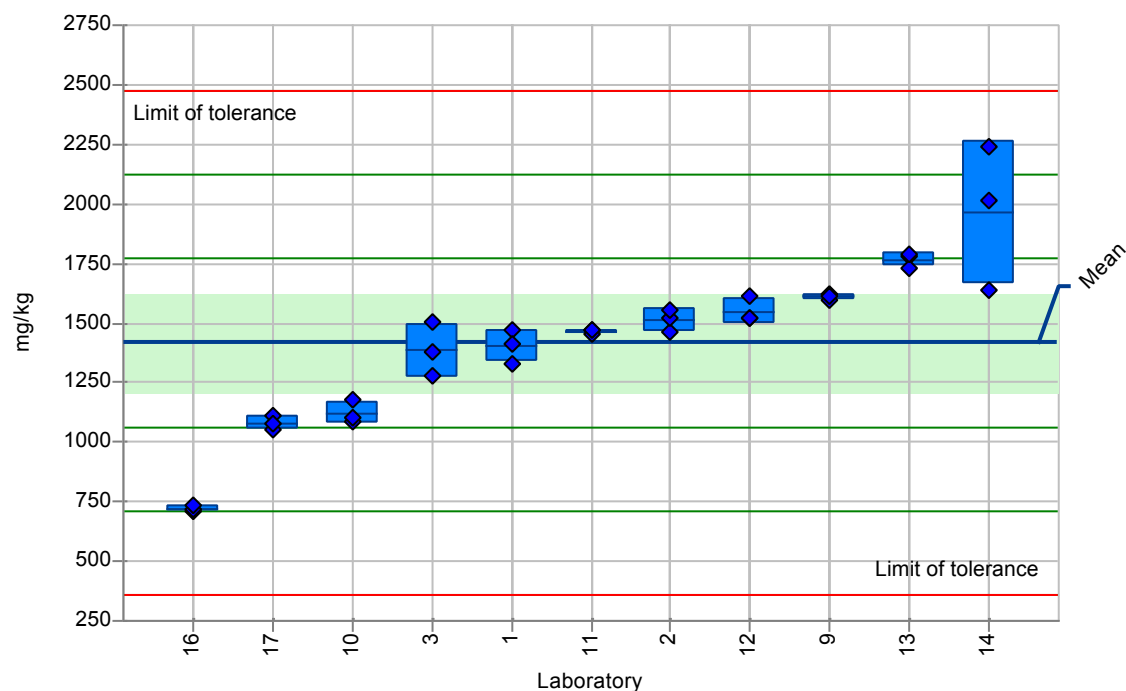
Mean \pm U(Mean): 1416.487 \pm 206.480 mg/kg

Median: 1470.000

Reproducibility s.d.: 352.820 mg/kg

Repeatability s.d.: 104.200 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1403.333	70.238	-0.037	1470.000	1410.000	1330.000
2	1512.490	48.837	0.272	1461.070	1518.150	1558.250
3	1386.072	113.808	-0.086	1505.132	1374.716	1278.367
4						
5						
6						
7						
8						
9	1610.996	12.143	0.551	1619.586	1597.104	1616.299
10	1123.333	49.329	-0.831	1180.000	1090.000	1100.000
11	1463.333	11.547	0.133	1470.000	1450.000	1470.000
12	1550.000	51.962	0.378	1610.000	1520.000	1520.000
13	1766.667	32.145	0.993	1780.000	1730.000	1790.000
14	1963.750	302.943	1.551	2240.137	1639.863	2011.251
15						
16	721.667	12.503	-1.969	713.000	716.000	736.000
17	1079.710	28.114	-0.955	1109.110	1053.088	1076.933
18						
19						
20						

Measurand: n-tetradecane

Sample: 2779

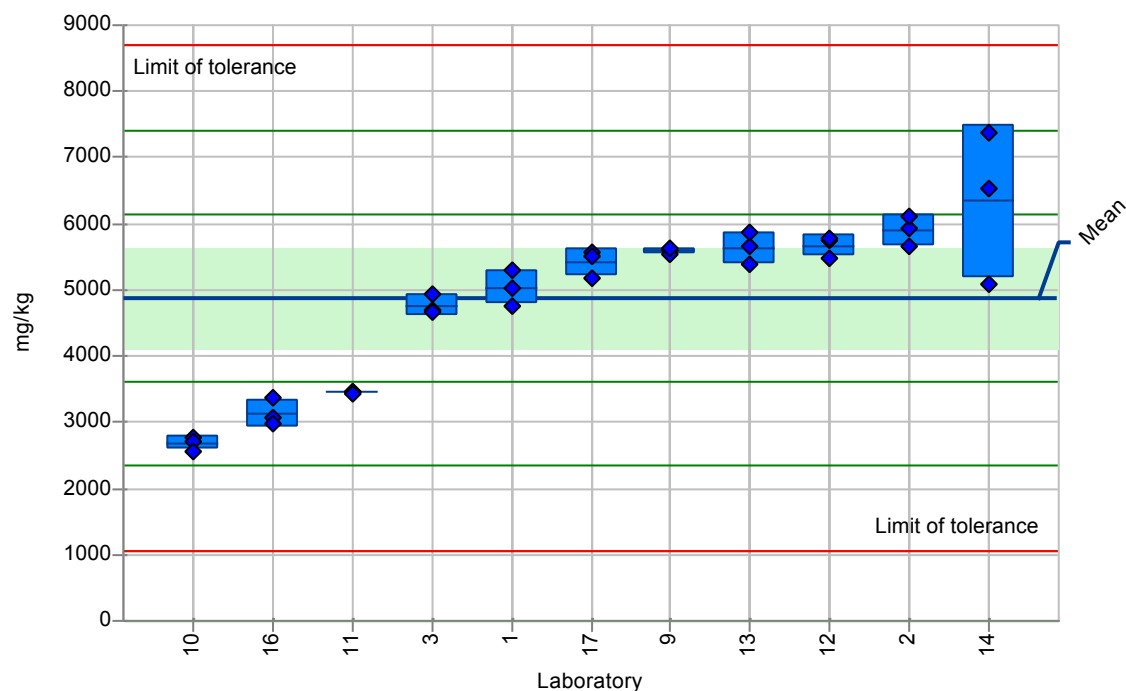
Mean \pm U(Mean): 4875.065 \pm 740.982 mg/kg

Median: 5500.119

Reproducibility s.d.: 1269.670 mg/kg

Repeatability s.d.: 391.460 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	5036.667	265.016	0.127	5300.000	5040.000	4770.000
2	5899.383	232.026	0.807	5659.800	5915.320	6123.030
3	4770.211	152.927	-0.083	4708.529	4657.758	4944.345
4						
5						
6						
7						
8						
9	5587.089	52.737	0.561	5596.182	5530.396	5634.688
10	2683.333	102.632	-1.726	2770.000	2710.000	2570.000
11	3450.000	10.000	-1.122	3460.000	3450.000	3440.000
12	5666.667	161.967	0.623	5750.000	5480.000	5770.000
13	5636.667	245.832	0.600	5380.000	5660.000	5870.000
14	6340.351	1161.649	1.154	5089.726	6545.687	7385.640
15						
16	3136.667	208.167	-1.369	3370.000	3070.000	2970.000
17	5418.680	212.964	0.428	5578.907	5177.014	5500.119
18						
19						
20						

Measurand: n-tetratriacontane

Sample: 2779

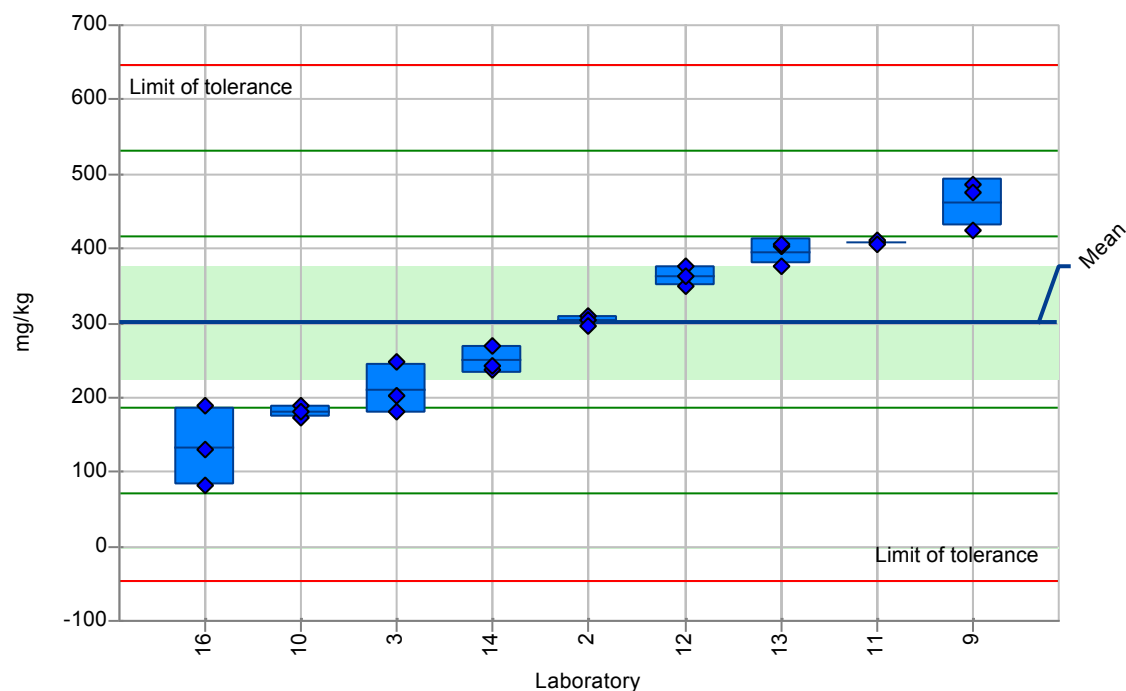
Mean \pm U(Mean): 300.951 \pm 75.735 mg/kg

Median: 305.290

Reproducibility s.d.: 115.497 mg/kg

Repeatability s.d.: 25.518 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	303.793	5.880	0.025	308.780	305.290	297.310
3	211.131	33.897	-0.778	202.681	248.453	182.258
4						
5						
6						
7						
8						
9	462.009	31.965	1.394	425.593	485.430	475.003
10	180.631	9.007	-1.042	189.782	171.775	180.335
11	407.990	1.675	0.927	407.250	409.907	406.813
12	363.667	13.503	0.543	377.000	350.000	364.000
13	395.333	17.673	0.817	375.000	404.000	407.000
14	249.938	17.992	-0.442	270.548	237.371	241.895
15						
16	134.067	52.467	-1.445	188.000	83.200	131.000
17						
18						
19						
20						

Measurand: n-triacontane

Sample: 2779

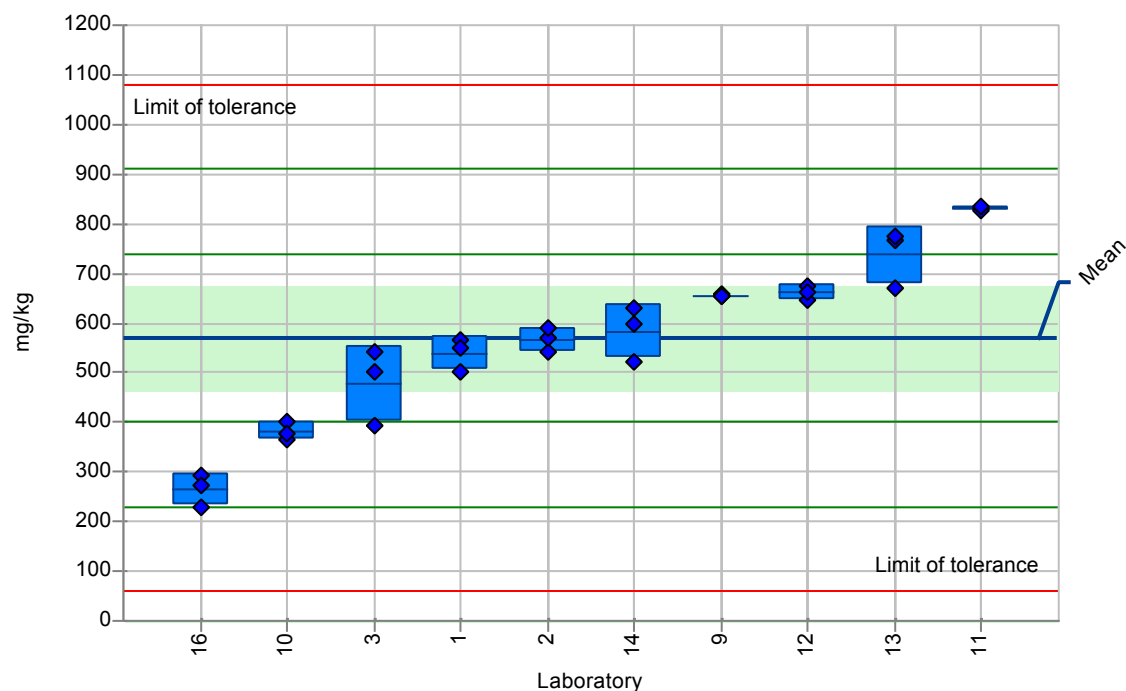
Mean \pm U(Mean): 569.853 \pm 105.379 mg/kg

Median: 584.078

Reproducibility s.d.: 169.725 mg/kg

Repeatability s.d.: 39.585 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	538.989	33.207	-0.182	565.710	549.444	501.813
2	567.533	23.896	-0.014	541.880	571.560	589.160
3	478.599	77.193	-0.538	540.591	503.070	392.137
4						
5						
6						
7						
8						
9	655.583	1.626	0.505	657.443	654.431	654.874
10	381.783	18.543	-1.108	401.814	365.218	378.316
11	830.693	3.313	1.537	831.282	827.125	833.672
12	661.333	15.011	0.539	676.000	646.000	662.000
13	737.000	58.078	0.985	670.000	768.000	773.000
14	582.679	54.398	0.076	628.767	522.675	596.595
15						
16	264.333	33.501	-1.800	294.000	228.000	271.000
17						
18						
19						
20						

Measurand: n-tricosane

Sample: 2779

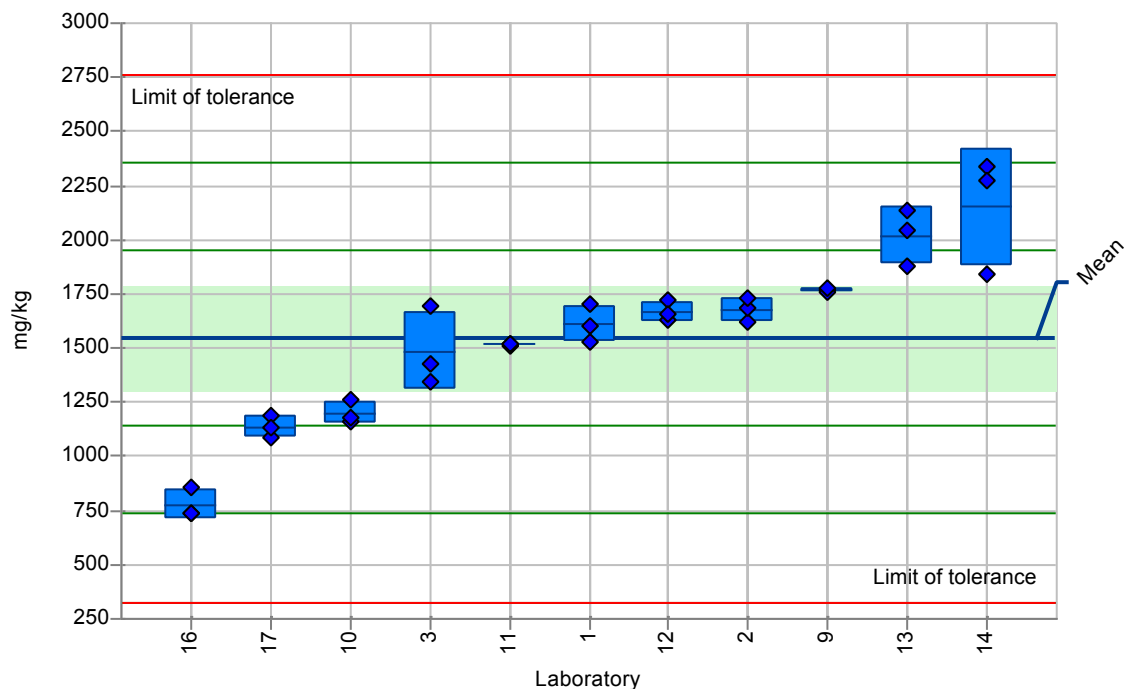
Mean \pm U(Mean): 1546.310 \pm 238.232 mg/kg

Median: 1600.000

Reproducibility s.d.: 406.070 mg/kg

Repeatability s.d.: 115.010 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1610.000	85.440	0.157	1700.000	1600.000	1530.000
2	1678.333	56.033	0.325	1619.360	1684.770	1730.870
3	1486.799	182.023	-0.147	1691.568	1425.461	1343.370
4						
5						
6						
7						
8						
9	1766.094	7.262	0.541	1767.117	1758.375	1772.791
10	1200.000	52.915	-0.853	1260.000	1160.000	1180.000
11	1516.575	5.696	-0.073	1510.000	1519.724	1520.000
12	1670.000	45.826	0.305	1720.000	1630.000	1660.000
13	2020.000	131.149	1.167	1880.000	2040.000	2140.000
14	2150.565	269.104	1.488	2336.438	1841.978	2273.279
15						
16	777.000	68.564	-1.895	742.000	856.000	733.000
17	1134.047	51.288	-1.015	1187.600	1085.373	1129.168
18						
19						
20						

Measurand: n-tridecane

Sample: 2779

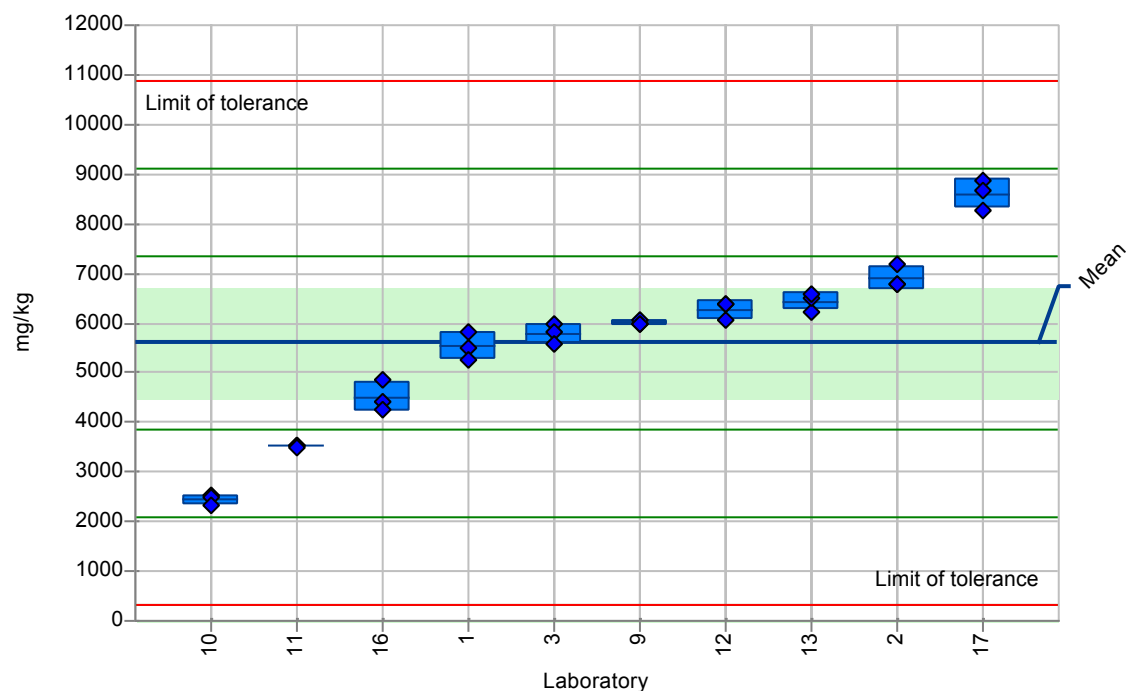
Mean \pm U(Mean): 5599.760 \pm 1107.106 mg/kg

Median: 5900.998

Reproducibility s.d.: 1759.140 mg/kg

Repeatability s.d.: 213.410 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	5530.000	282.135	-0.040	5830.000	5490.000	5270.000
2	6902.723	234.736	0.741	6763.550	6770.880	7173.740
3	5788.756	209.965	0.107	5970.867	5836.308	5559.093
4						
5						
6						
7						
8						
9	6000.543	64.504	0.228	5960.967	6074.976	5965.687
10	2436.667	104.083	-1.798	2520.000	2470.000	2320.000
11	3519.990	20.000	-1.182	3540.000	3519.971	3500.000
12	6276.667	196.554	0.385	6400.000	6050.000	6380.000
13	6436.667	183.394	0.476	6230.000	6500.000	6580.000
14						
15						
16	4506.667	309.246	-0.621	4850.000	4420.000	4250.000
17	8598.924	305.552	1.705	8860.381	8263.032	8673.360
18						
19						
20						

Measurand: n-tritriacontane

Sample: 2779

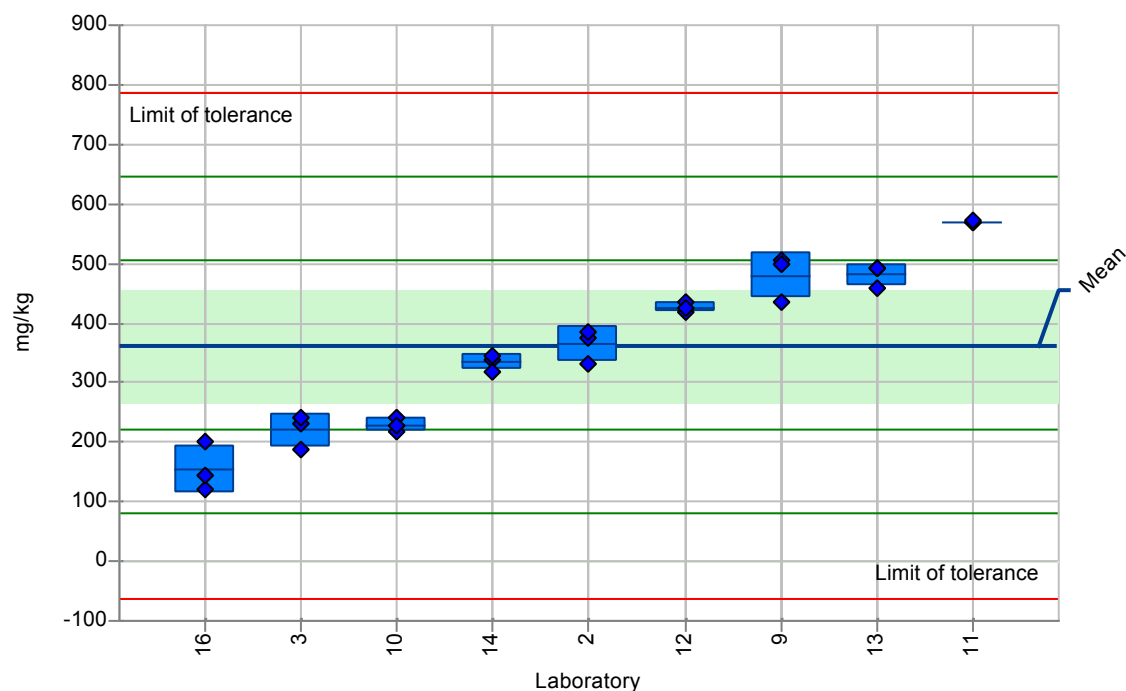
Mean \pm U(Mean): 362.221 \pm 93.362 mg/kg

Median: 375.590

Reproducibility s.d.: 141.506 mg/kg

Repeatability s.d.: 24.861 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	364.663	28.903	0.017	331.890	375.590	386.510
3	219.937	28.061	-1.005	188.151	230.381	241.278
4						
5						
6						
7						
8						
9	479.690	39.126	0.830	434.609	504.799	499.663
10	228.392	11.289	-0.946	240.382	217.967	226.826
11	570.167	1.897	1.470	568.241	570.228	572.033
12	426.333	8.737	0.453	436.000	419.000	424.000
13	480.667	19.630	0.837	458.000	492.000	492.000
14	334.806	14.113	-0.194	339.315	318.990	346.114
15						
16	155.333	40.216	-1.462	200.000	122.000	144.000
17						
18						
19						
20						

Measurand: n-undecane

Sample: 2779

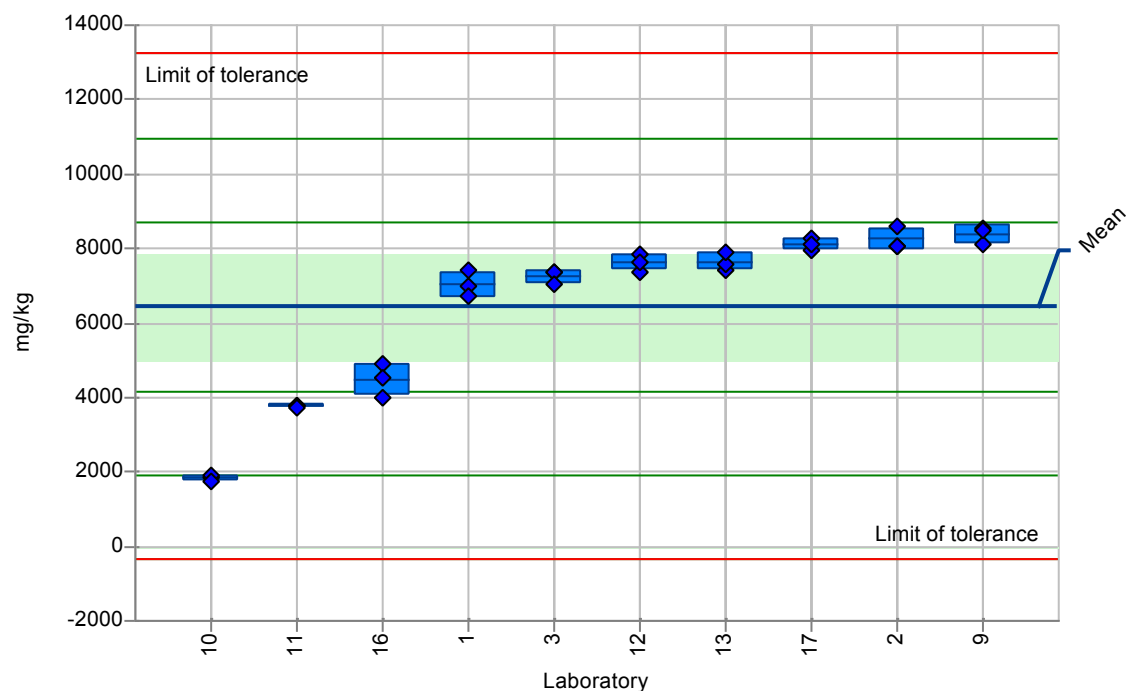
Mean \pm U(Mean): 6436.765 \pm 1426.768 mg/kg

Median: 7463.282

Reproducibility s.d.: 2265.440 mg/kg

Repeatability s.d.: 254.120 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	7033.333	356.978	0.263	7410.000	6990.000	6700.000
2	8252.183	307.531	0.801	8071.370	8077.910	8607.270
3	7249.755	187.142	0.359	7346.564	7368.662	7034.039
4						
5						
6						
7						
8						
9	8379.341	251.822	0.857	8562.979	8092.274	8482.771
10	1840.000	79.373	-2.029	1870.000	1900.000	1750.000
11	3776.667	32.145	-1.174	3800.000	3790.000	3740.000
12	7616.667	215.947	0.521	7820.000	7390.000	7640.000
13	7636.667	240.069	0.530	7430.000	7580.000	7900.000
14						
15						
16	4470.000	437.150	-0.868	4880.000	4520.000	4010.000
17	8113.035	150.383	0.740	8256.998	7956.965	8125.141
18						
19						
20						

Aromatic Compounds

Measurand: 1,6,7-trimethylnaphthalene

Sample: 2777

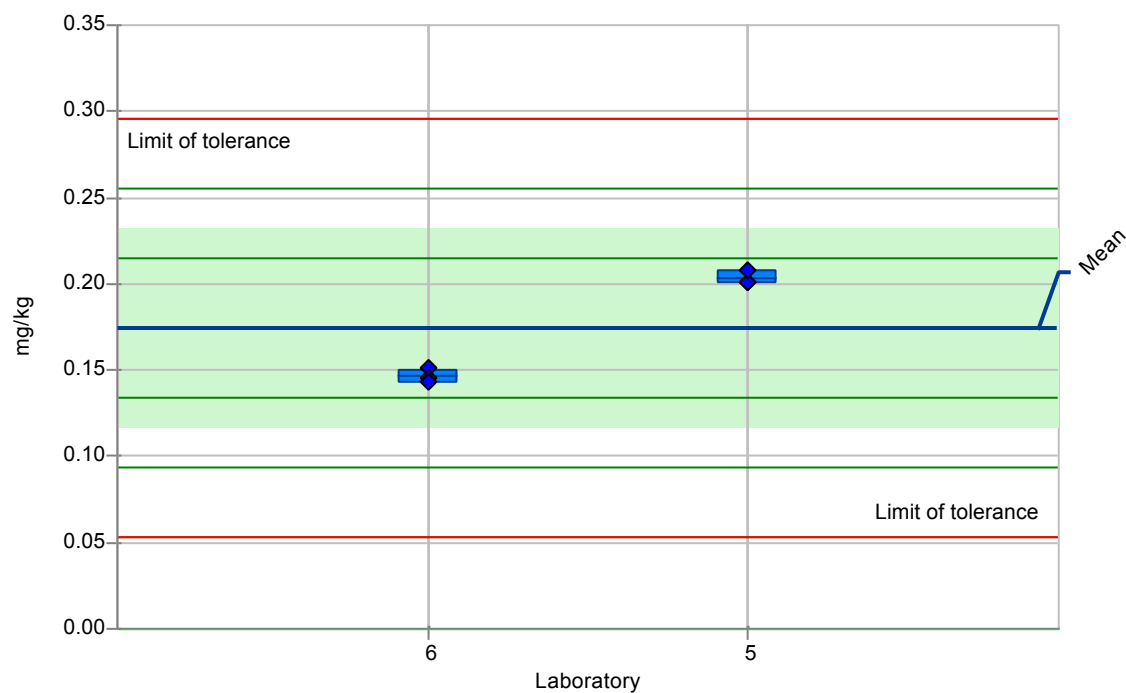
Mean \pm U(Mean): 0.175 \pm 0.057 mg/kg

Median: 0.173

Reproducibility s.d.: 0.040 mg/kg

Repeatability s.d.: 0.004 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4						
5	0.203	0.004	0.705	0.201	0.201	0.208
6	0.146	0.004	-0.705	0.151	0.145	0.143
7						
8						
9						
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: 1-methylnaphthalene

Sample: 2777

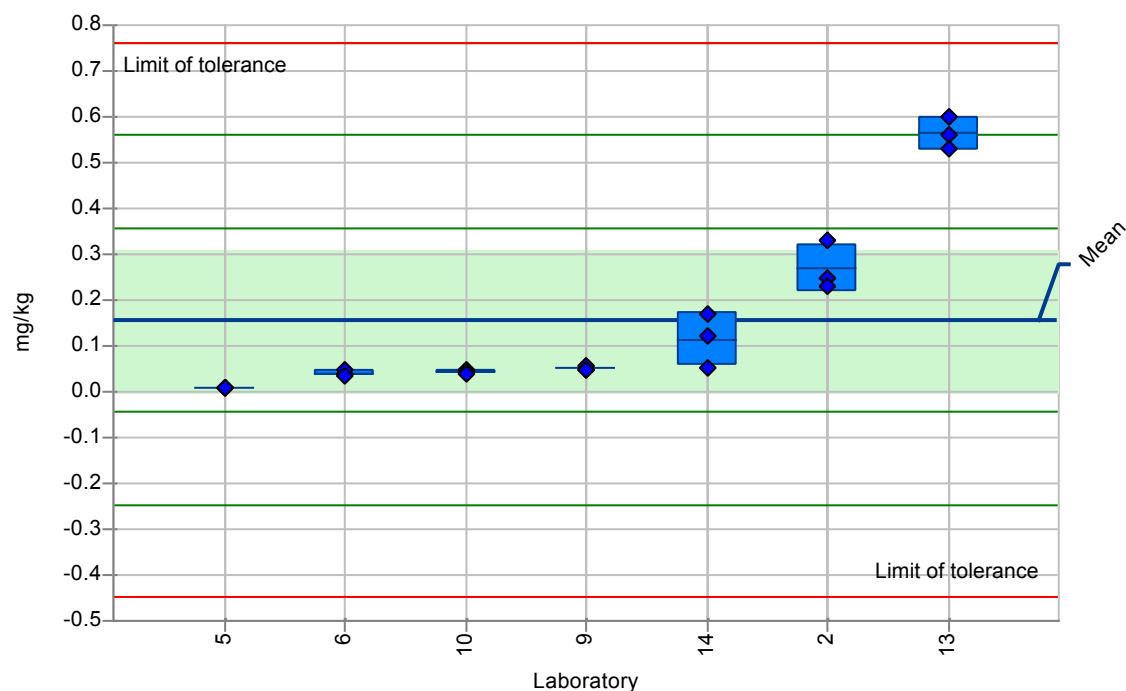
Mean \pm U(Mean): 0.156 \pm 0.151 mg/kg

Median: 0.050

Reproducibility s.d.: 0.201 mg/kg

Repeatability s.d.: 0.033 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2	0.270	0.053	0.565	0.330	0.250	0.230
3						
4						
5	0.009	0.001	-0.728	0.010	0.009	0.010
6	0.041	0.005	-0.572	0.041	0.046	0.036
7						
8						
9	0.050	0.004	-0.525	0.054	0.047	0.050
10	0.044	0.004	-0.558	0.048	0.045	0.039
11						
12				<2.850	<2.850	<2.850
13	0.563	0.035	2.022	0.560	0.530	0.600
14	0.115	0.058	-0.205	0.170	0.120	0.054
15						
16						
17						
18						
19						
20						

Measurand: 1-methylphenanthrene

Sample: 2777

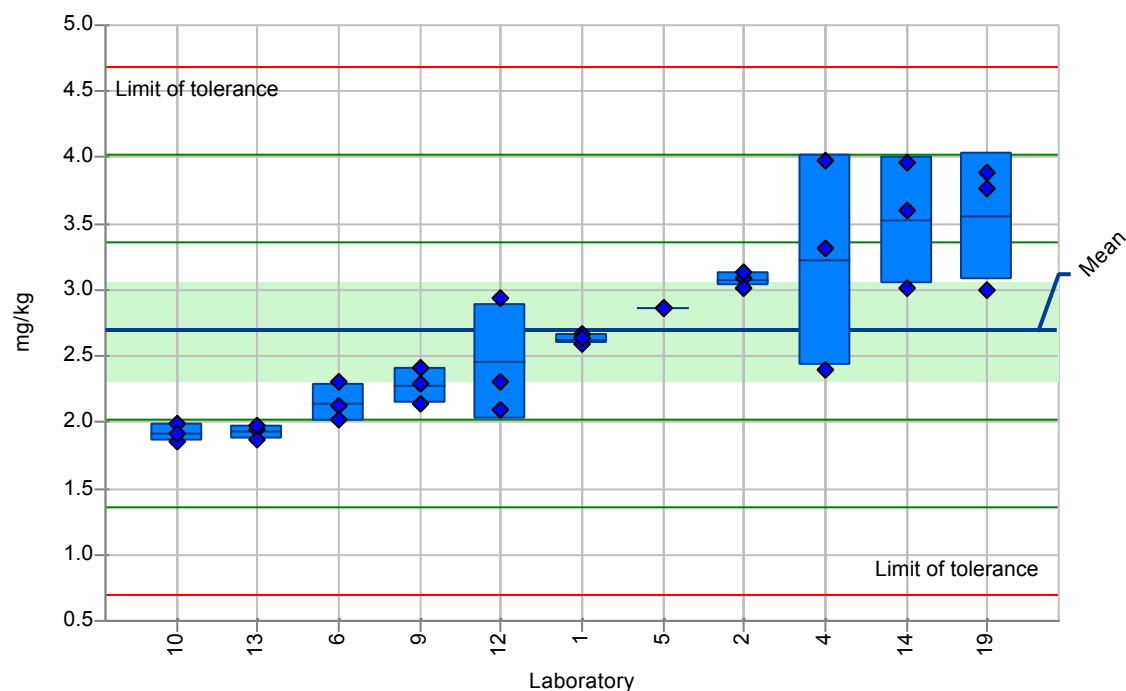
Mean \pm U(Mean): 2.690 \pm 0.362 mg/kg

Median: 2.630

Reproducibility s.d.: 0.665 mg/kg

Repeatability s.d.: 0.348 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.627	0.035	-0.095	2.590	2.660	2.630
2	3.080	0.056	0.587	3.090	3.130	3.020
3						
4	3.223	0.794	0.803	2.390	3.310	3.970
5	2.863	0.006	0.261	2.870	2.860	2.860
6	2.147	0.142	-0.817	2.300	2.120	2.020
7						
8						
9	2.280	0.135	-0.617	2.410	2.290	2.140
10	1.917	0.069	-1.163	1.848	1.986	1.917
11						
12	2.450	0.437	-0.361	2.310	2.100	2.940
13	1.927	0.051	-1.148	1.940	1.870	1.970
14	3.522	0.483	1.251	3.964	3.006	3.594
15						
16						
17						
18						
19	3.553	0.480	1.299	3.003	3.886	3.771
20						

Measurand: 2,6-dimethylnaphthalene

Sample: 2777

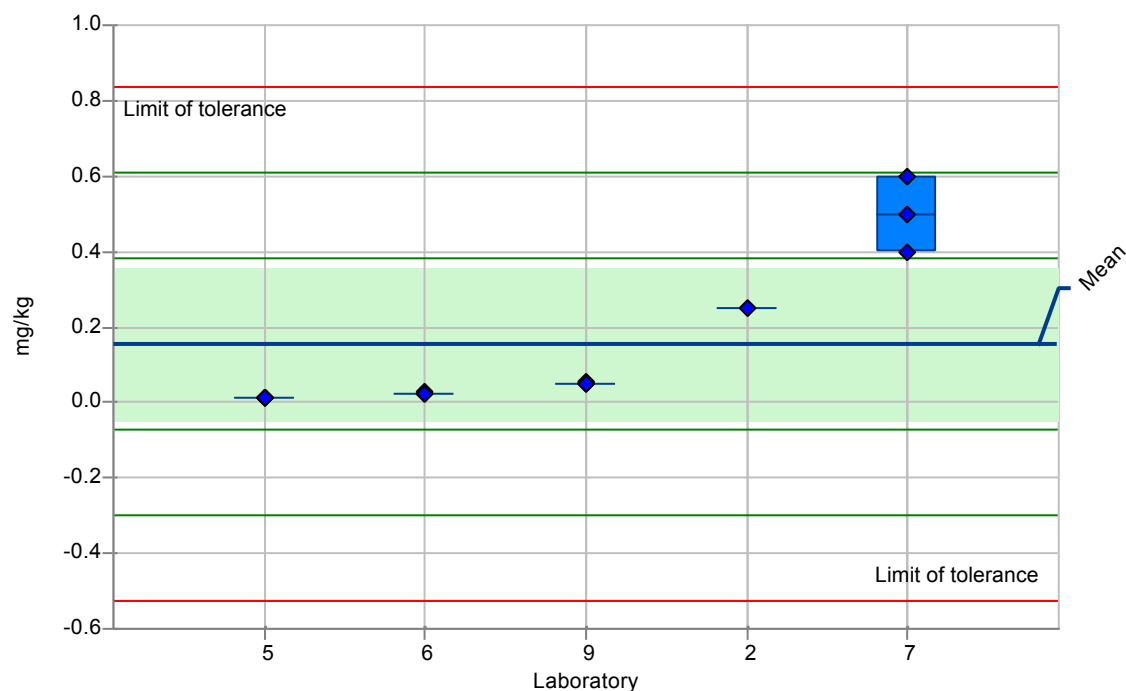
Mean \pm U(Mean): 0.155 \pm 0.200 mg/kg

Median: 0.051

Reproducibility s.d.: 0.227 mg/kg

Repeatability s.d.: 0.050 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	0.250		0.417	0.250		
3						
4						
5	0.012	0.001	-0.630	0.012	0.011	0.013
6	0.025	0.002	-0.571	0.026	0.027	0.023
7	0.500	0.100	1.516	0.400	0.500	0.600
8						
9	0.052	0.004	-0.455	0.056	0.051	0.048
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: 2-methylantracene

Sample: 2777

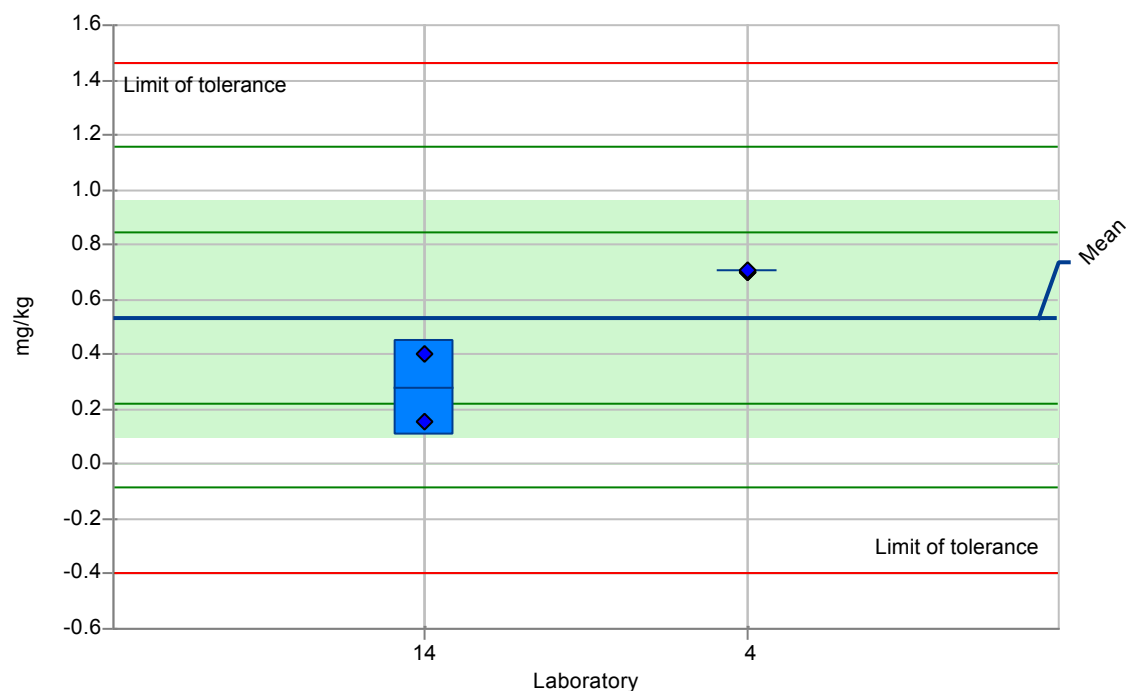
Mean \pm U(Mean): 0.533 \pm 0.427 mg/kg

Median: 0.489

Reproducibility s.d.: 0.310 mg/kg

Repeatability s.d.: 0.100 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4	0.703	0.006	0.548	0.700	0.700	0.710
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11						
12				<2.850	<2.850	<2.850
13				<0.420	<0.420	<0.420
14	0.278	0.174	-0.822	0.401		0.155
15						
16						
17						
18						
19						
20						

Measurand: 2-methylnaphthalene

Sample: 2777

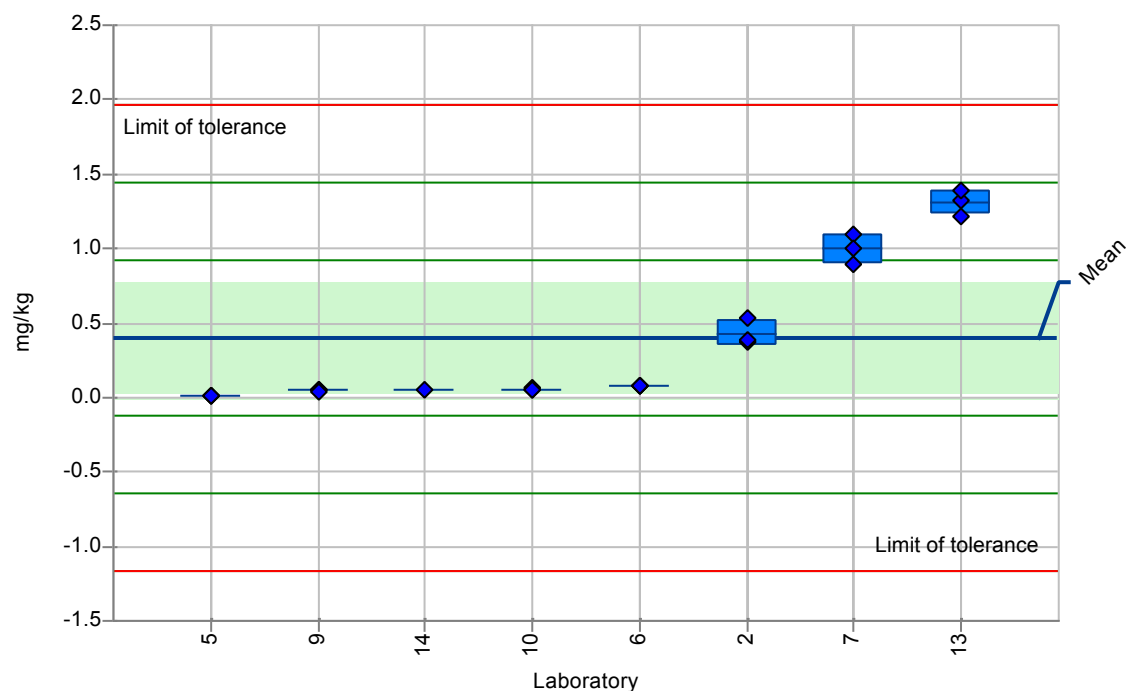
Mean \pm U(Mean): 0.403 \pm 0.368 mg/kg

Median: 0.068

Reproducibility s.d.: 0.523 mg/kg

Repeatability s.d.: 0.060 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2	0.430	0.087	0.052	0.530	0.370	0.390
3						
4						
5	0.012	0.001	-0.748	0.013	0.011	0.012
6	0.080	0.005	-0.618	0.080	0.085	0.075
7	1.000	0.100	1.143	1.100	0.900	1.000
8						
9	0.047	0.003	-0.682	0.049	0.046	0.044
10	0.058	0.007	-0.660	0.066	0.057	0.052
11						
12				<2.850	<2.850	<2.850
13	1.310	0.085	1.736	1.320	1.220	1.390
14	0.056		-0.664	0.056		
15						
16						
17						
18						
19						
20						

Measurand: 2-methylphenanthrene

Sample: 2777

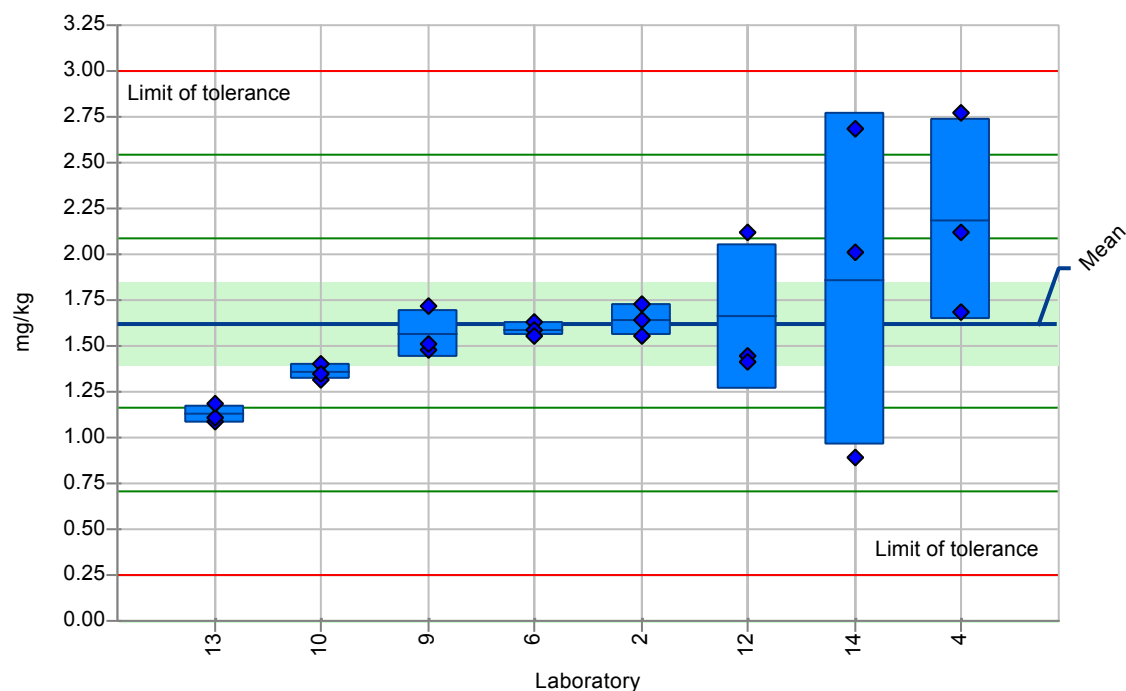
Mean \pm U(Mean): 1.624 \pm 0.224 mg/kg

Median: 1.550

Reproducibility s.d.: 0.458 mg/kg

Repeatability s.d.: 0.405 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1.640	0.090	0.035	1.550	1.640	1.730
3						
4	2.190	0.548	1.236	2.120	1.680	2.770
5						
6	1.590	0.040	-0.074	1.630	1.590	1.550
7						
8						
9	1.570	0.131	-0.118	1.720	1.480	1.510
10	1.354	0.043	-0.589	1.311	1.398	1.353
11						
12	1.660	0.399	0.079	1.450	1.410	2.120
13	1.127	0.047	-1.086	1.090	1.110	1.180
14	1.860	0.907	0.515	0.887	2.010	2.682
15						
16						
17						
18						
19						
20						

Measurand: 3-methylphenanthrene

Sample: 2777

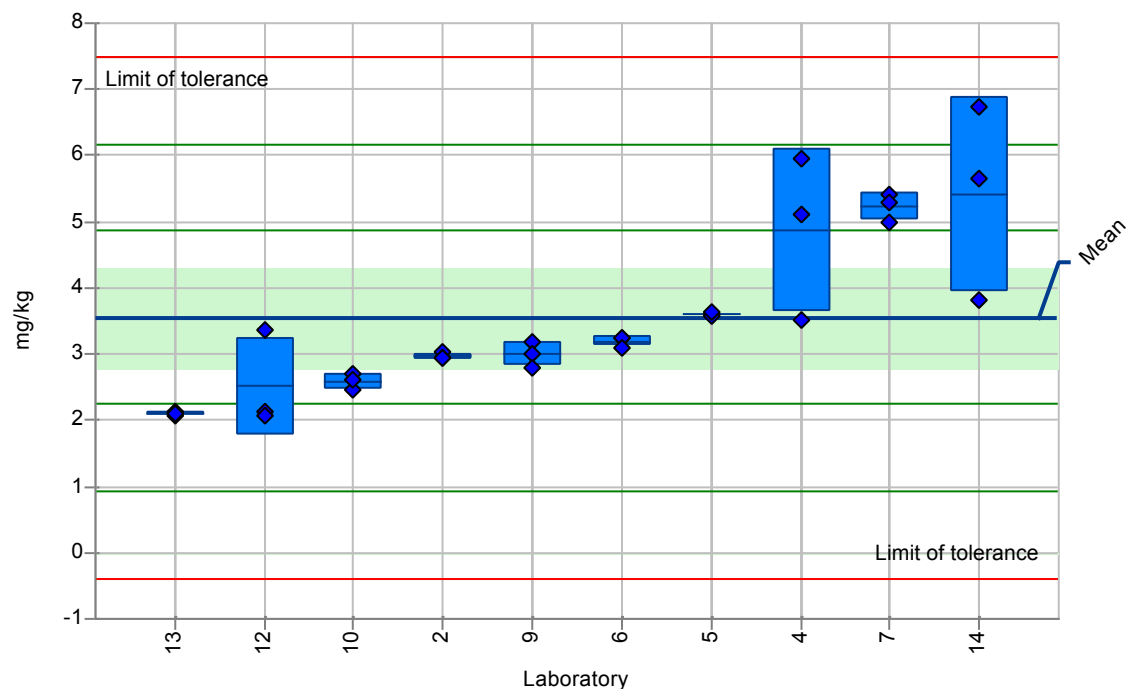
Mean \pm U(Mean): 3.546 \pm 0.755 mg/kg

Median: 3.125

Reproducibility s.d.: 1.310 mg/kg

Repeatability s.d.: 0.658 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	2.963	0.049	-0.445	3.020	2.930	2.940
3						
4	4.857	1.233	1.001	3.520	5.950	5.100
5	3.617	0.025	0.054	3.620	3.590	3.640
6	3.193	0.081	-0.269	3.240	3.240	3.100
7	5.233	0.208	1.288	5.400	5.000	5.300
8						
9	2.993	0.186	-0.422	3.170	3.010	2.800
10	2.591	0.116	-0.729	2.469	2.700	2.604
11						
12	2.513	0.734	-0.788	2.120	2.060	3.360
13	2.100	0.020	-1.104	2.120	2.080	2.100
14	5.399	1.474	1.415	6.728	3.814	5.653
15						
16						
17						
18						
19						
20						

Measurand: 9-methylphenanthrene

Sample: 2777

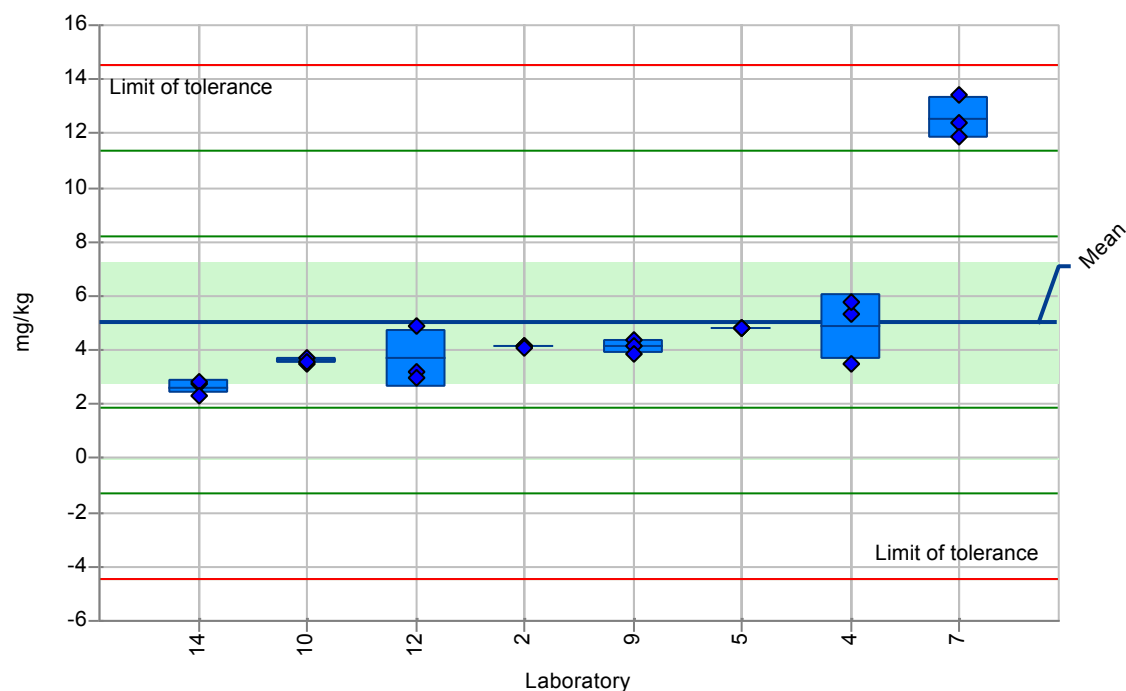
Mean \pm U(Mean): 5.055 \pm 2.205 mg/kg

Median: 4.140

Reproducibility s.d.: 3.162 mg/kg

Repeatability s.d.: 0.639 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	4.120	0.070	-0.296	4.120	4.190	4.050
3						
4	4.857	1.185	-0.063	3.510	5.320	5.740
5	4.840	0.017	-0.068	4.850	4.820	4.850
6						
7	12.567	0.764	2.376	13.400	12.400	11.900
8						
9	4.123	0.257	-0.295	4.360	4.160	3.850
10	3.606	0.123	-0.458	3.496	3.739	3.582
11						
12	3.703	1.061	-0.428	3.220	2.970	4.920
13						
14	2.626	0.250	-0.768	2.738	2.800	2.339
15						
16						
17						
18						
19						
20						

Measurand: acenaphthene

Sample: 2777

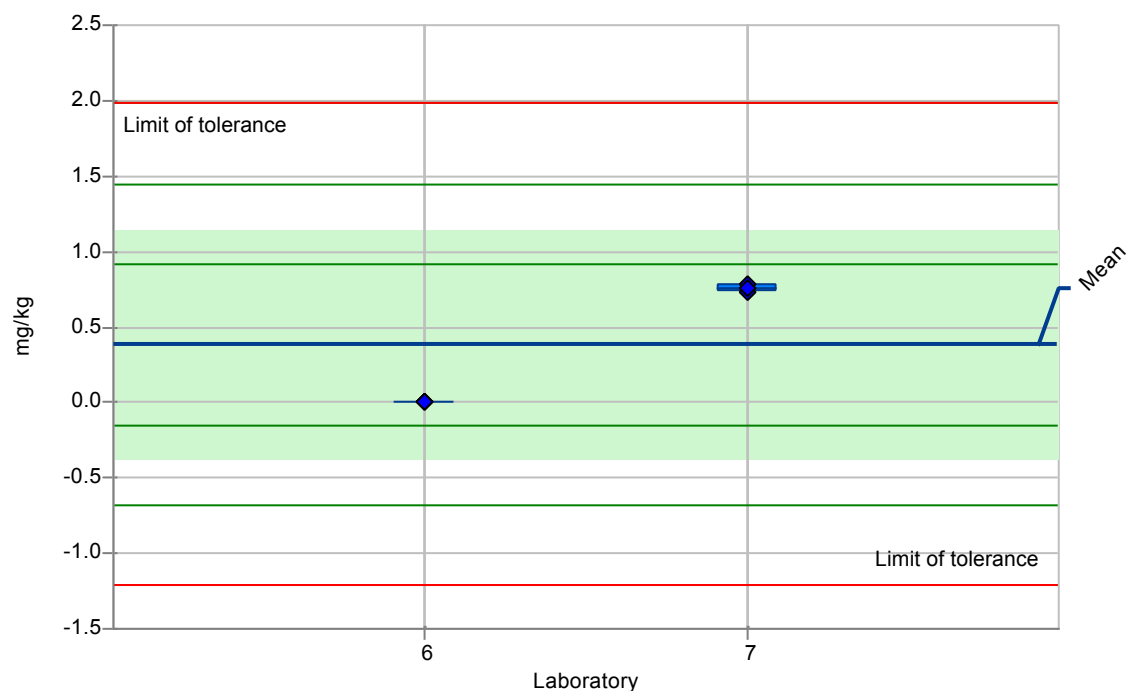
Mean \pm U(Mean): 0.384 \pm 0.752 mg/kg

Median: 0.384

Reproducibility s.d.: 0.532 mg/kg

Repeatability s.d.: 0.021 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5				<0.005	<0.005	<0.005
6	0.008	0.002	-0.707	0.011	0.008	0.007
7	0.760	0.030	0.707	0.730	0.790	0.760
8						
9				<0.100	<0.100	<0.100
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: acenaphthylene

Sample: 2777

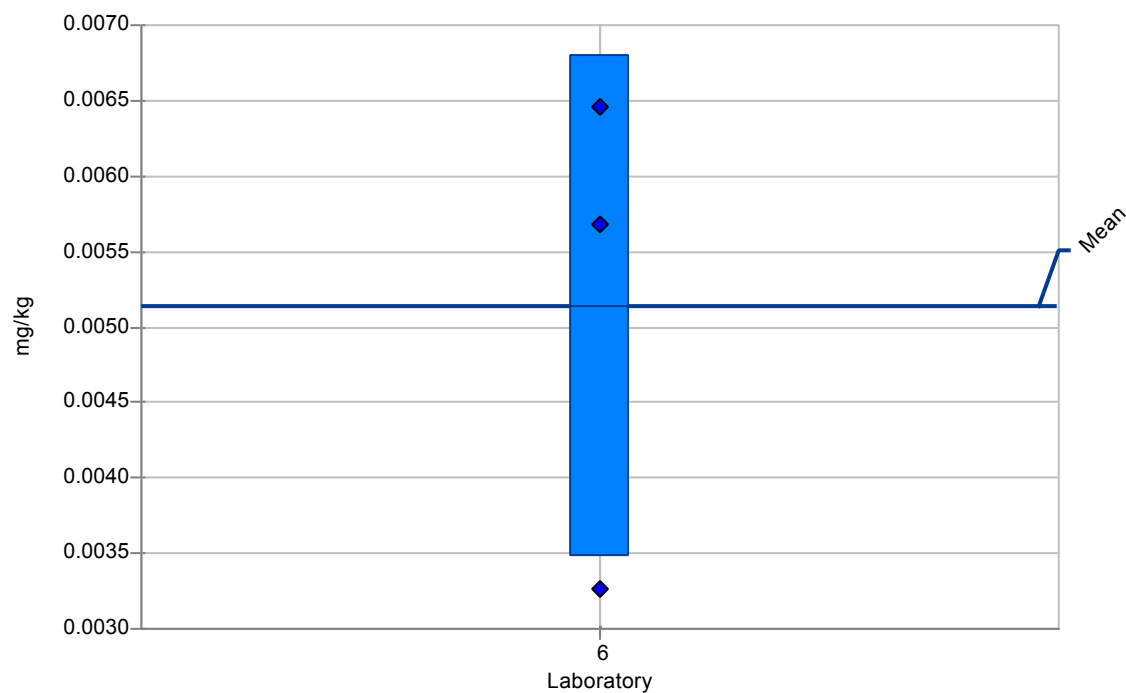
Mean \pm U(Mean): 0.005 mg/kg

Median: 0.006

Reproducibility s.d.:

Repeatability s.d.: 0.002 mg/kg

No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5				<0.005	<0.005	<0.005
6	0.005	0.002		0.006	0.006	0.003
7						
8						
9				<0.100	<0.100	<0.100
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: anthracene

Sample: 2777

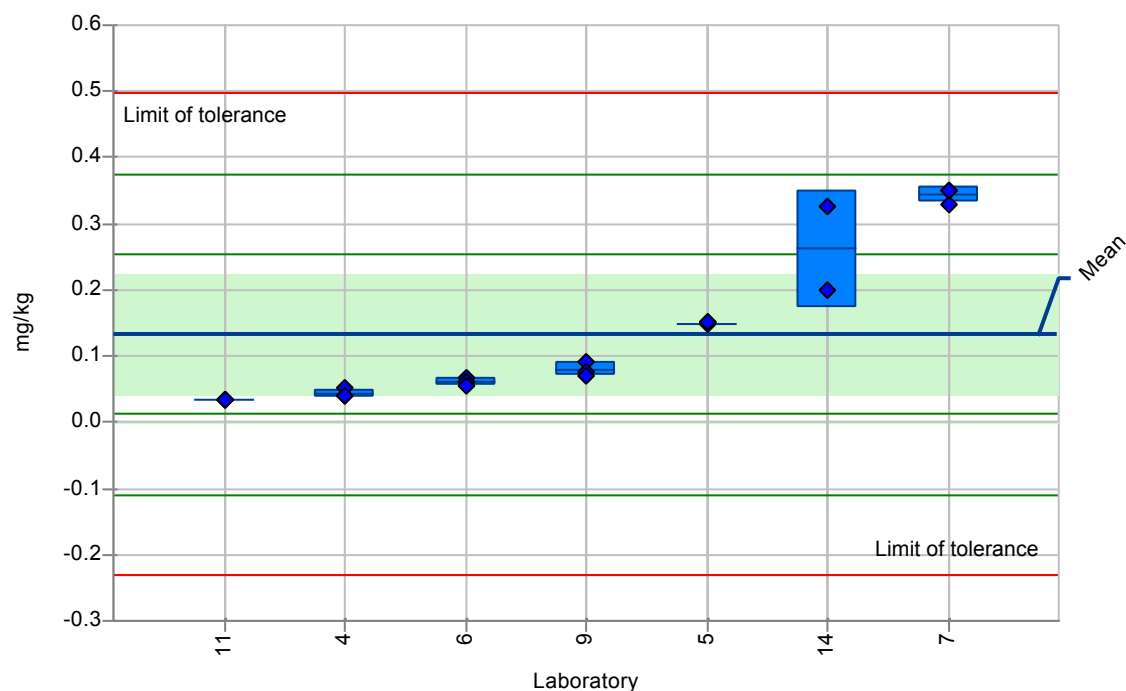
Mean \pm U(Mean): 0.133 \pm 0.090 mg/kg

Median: 0.077

Reproducibility s.d.: 0.121 mg/kg

Repeatability s.d.: 0.026 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	0.043	0.007	-0.742	0.039	0.051	0.040
5	0.150	0.003	0.138	0.152	0.147	0.151
6	0.061	0.007	-0.596	0.068	0.061	0.054
7	0.343	0.012	1.733	0.350	0.330	0.350
8						
9	0.080	0.011	-0.435	0.092	0.077	0.072
10						
11	0.035	0.000	-0.810	0.035	0.035	0.035
12				<2.850	<2.850	<2.850
13						
14	0.263	0.089	1.067	0.326	0.200	
15						
16						
17						
18						
19						
20						

Measurand: benzo[a]pyrene

Sample: 2777

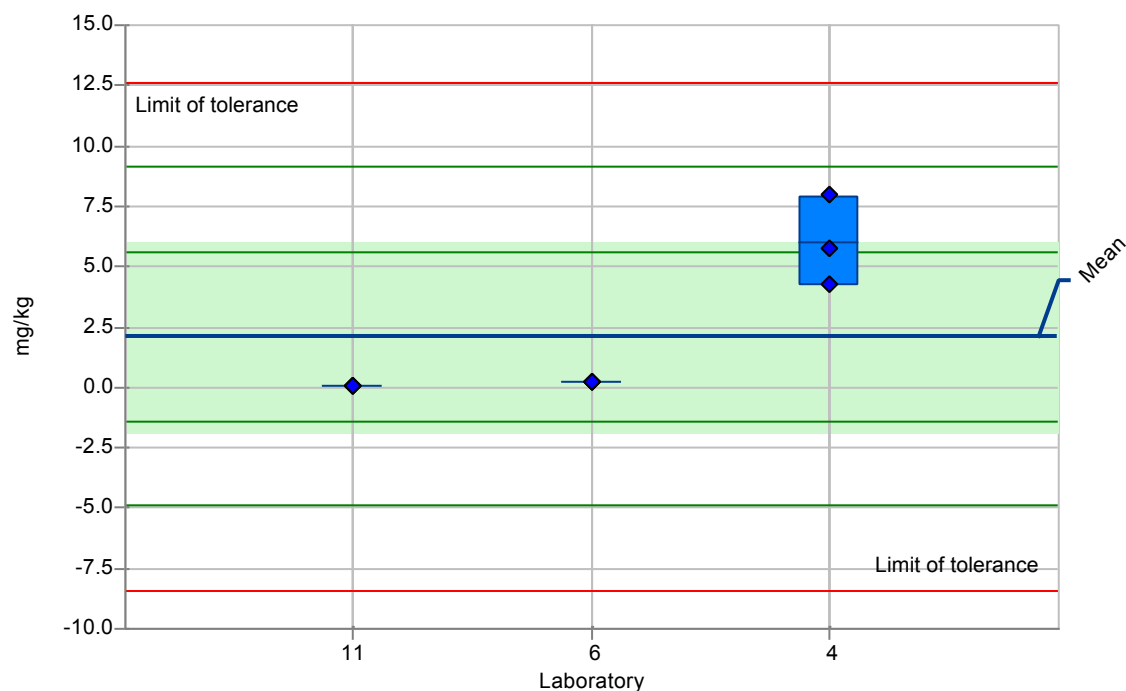
Mean \pm U(Mean): 2.116 \pm 3.922 mg/kg

Median: 0.224

Reproducibility s.d.: 3.509 mg/kg

Repeatability s.d.: 1.079 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	6.037	1.868	1.117	4.310	8.020	5.780
5				<0.003	<0.003	<0.003
6	0.229	0.021	-0.538	0.224	0.252	0.212
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.081	0.001	-0.580	0.080	0.080	0.081
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: benzo[b]fluoranthene

Sample: 2777

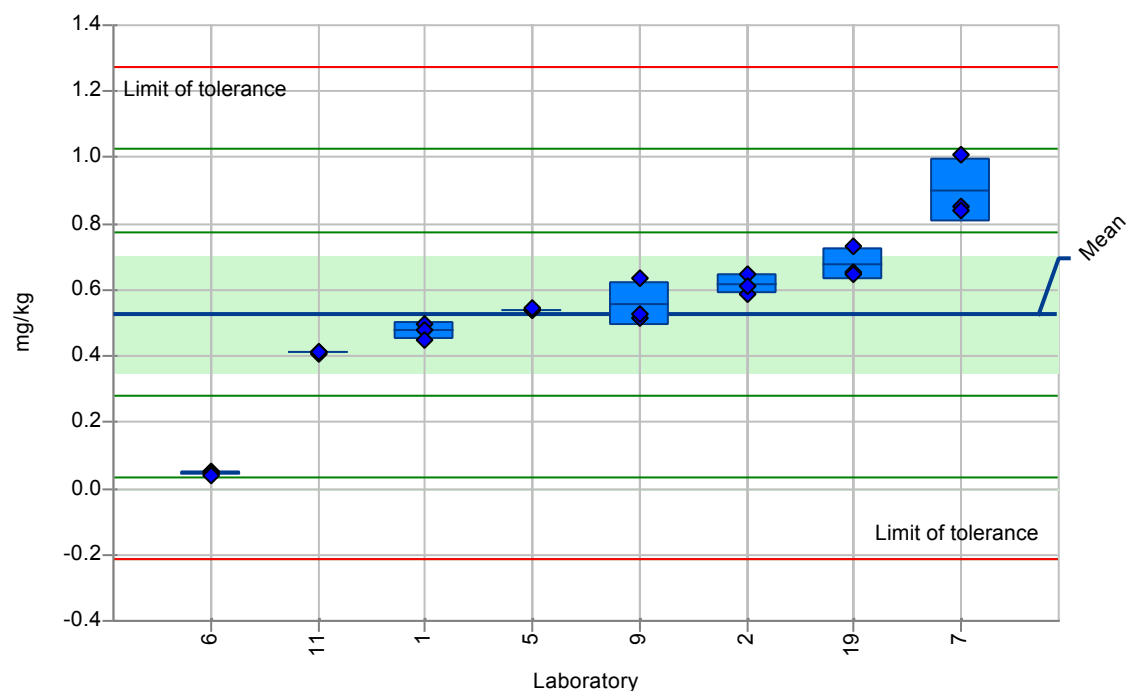
Mean \pm U(Mean): 0.528 \pm 0.173 mg/kg

Median: 0.534

Reproducibility s.d.: 0.248 mg/kg

Repeatability s.d.: 0.047 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.477	0.025	-0.207	0.500	0.480	0.450
2	0.617	0.031	0.357	0.650	0.590	0.610
3						
4						
5	0.542	0.002	0.056	0.540	0.542	0.544
6	0.044	0.005	-1.951	0.049	0.043	0.040
7	0.900	0.095	1.500	1.010	0.850	0.840
8						
9	0.559	0.066	0.123	0.516	0.525	0.635
10						
11	0.410	0.003	-0.477	0.407	0.412	0.410
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19	0.677	0.049	0.600	0.651	0.734	0.646
20						

Measurand: benzo[b]fluorene

Sample: 2777

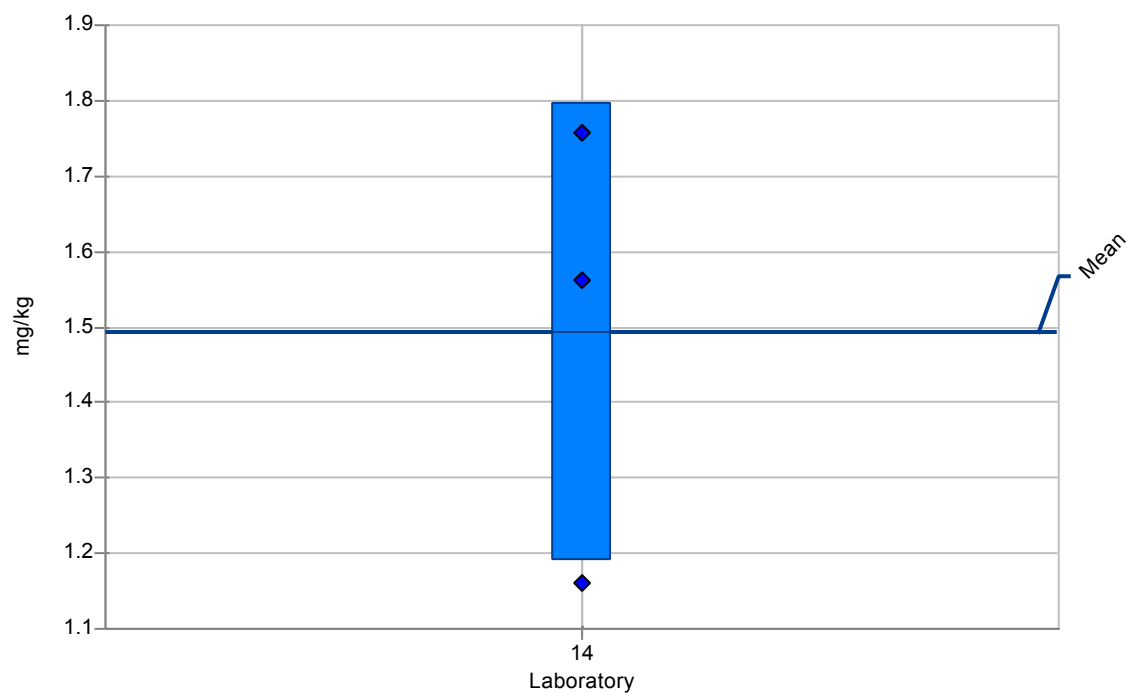
Mean \pm U(Mean): 1.493 mg/kg

Median: 1.563

Reproducibility s.d.:

Repeatability s.d.: 0.304 mg/kg

No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4						
5						
6				<0.100	<0.100	<0.100
7						
8						
9						
10						
11						
12				<2.850	<2.850	<2.850
13						
14	1.493	0.304		1.161	1.757	1.563
15						
16						
17						
18						
19						
20						

Measurand: benzo[e]pyrene

Sample: 2777

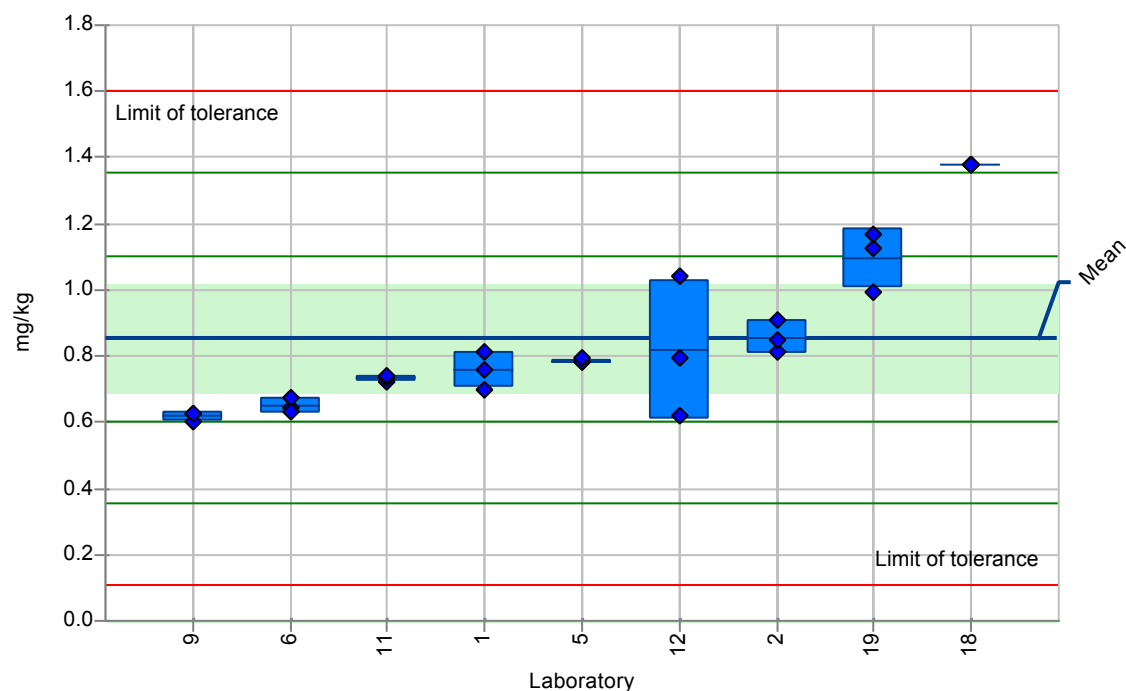
Mean \pm U(Mean): 0.854 \pm 0.160 mg/kg

Median: 0.781

Reproducibility s.d.: 0.250 mg/kg

Repeatability s.d.: 0.081 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.757	0.055	-0.391	0.810	0.760	0.700
2	0.857	0.050	0.009	0.810	0.910	0.850
3						
4						
5	0.784	0.007	-0.281	0.780	0.781	0.792
6	0.649	0.022	-0.821	0.642	0.674	0.632
7						
8						
9	0.617	0.015	-0.950	0.626	0.600	0.626
10						
11	0.732	0.007	-0.490	0.725	0.732	0.739
12	0.818	0.211	-0.147	0.619	0.794	1.040
13						
14						
15						
16						
17						
18	1.380	0.000	2.105	1.380	1.380	1.380
19	1.096	0.090	0.966	0.995	1.124	1.168
20						

Measurand: benzo[ghi]perylene

Sample: 2777

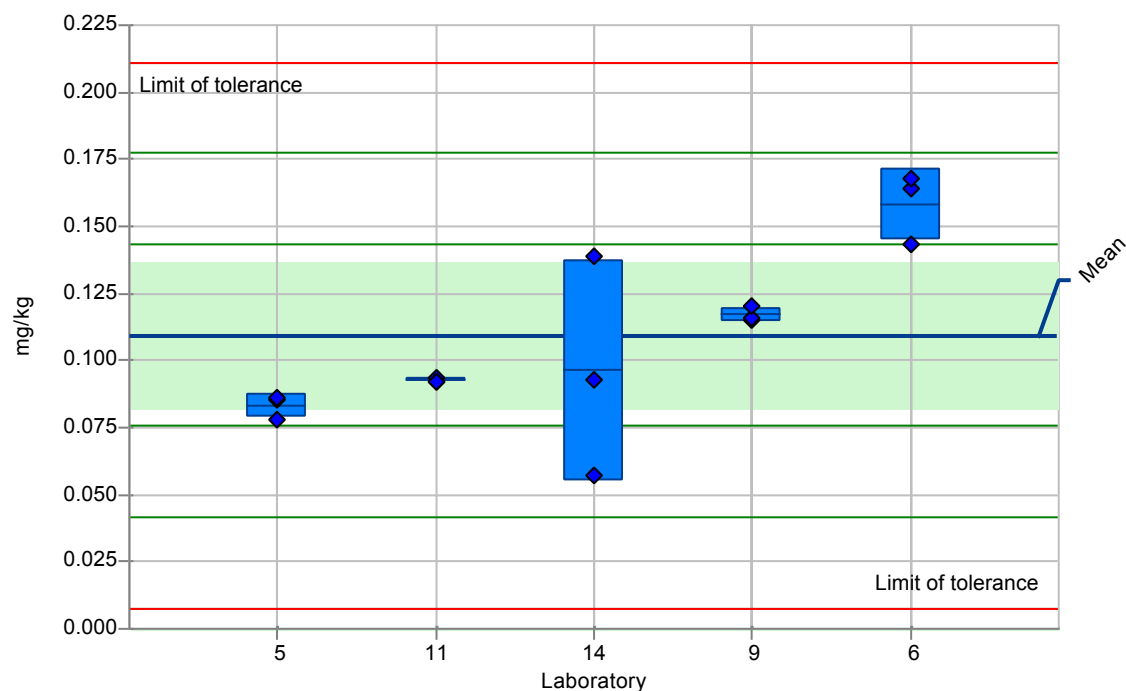
Mean \pm U(Mean): 0.109 \pm 0.027 mg/kg

Median: 0.093

Reproducibility s.d.: 0.034 mg/kg

Repeatability s.d.: 0.019 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5	0.083	0.004	-0.774	0.078	0.085	0.086
6	0.158	0.013	1.441	0.164	0.168	0.143
7						
8						
9	0.117	0.003	0.222	0.115	0.116	0.120
10						
11	0.093	0.001	-0.499	0.093	0.092	0.092
12				<2.850	<2.850	<2.850
13						
14	0.096	0.041	-0.391	0.093	0.057	0.139
15						
16						
17						
18						
19						
20						

Measurand: benzo[k]fluoranthene

Sample: 2777

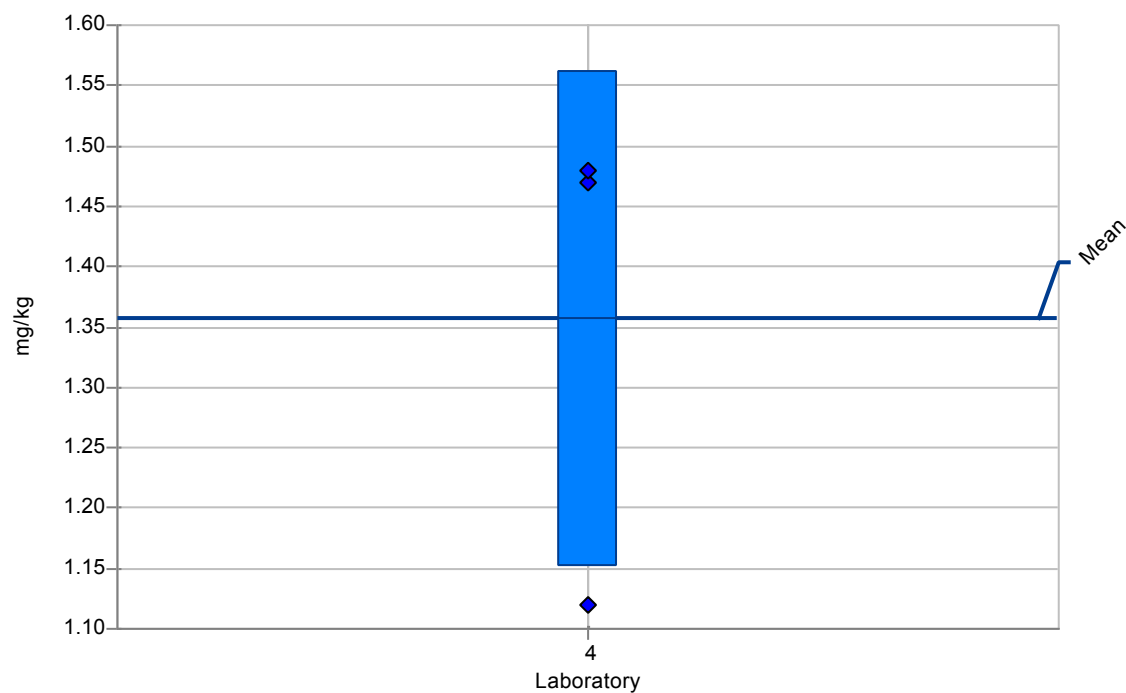
Mean \pm U(Mean): 1.357 mg/kg

Median: 1.470

Reproducibility s.d.:

Repeatability s.d.: 0.205 mg/kg

No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	1.357	0.205		1.120	1.470	1.480
5						
6						
7						
8						
9				<0.100	<0.100	<0.100
10						
11				<0.006	<0.006	<0.006
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: benz[a]anthracene

Sample: 2777

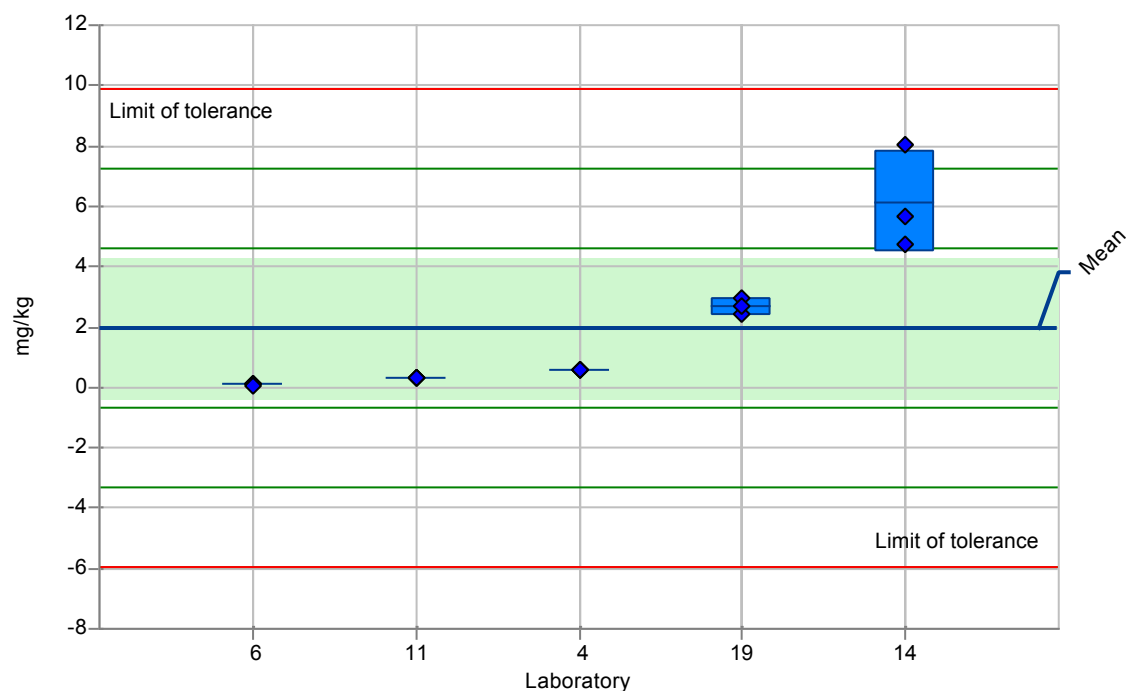
Mean \pm U(Mean): 1.971 \pm 2.287 mg/kg

Median: 0.590

Reproducibility s.d.: 2.632 mg/kg

Repeatability s.d.: 0.762 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	0.587	0.015	-0.526	0.570	0.600	0.590
5						
6	0.086	0.033	-0.716	0.115	0.093	0.050
7						
8						
9				<0.100	<0.100	<0.100
10						
11	0.340	0.002	-0.620	0.342	0.340	0.338
12				<2.850	<2.850	<2.850
13						
14	6.156	1.678	1.590	5.679	8.021	4.768
15						
16						
17						
18						
19	2.688	0.292	0.272	2.397	2.981	2.686
20						

Measurand: biphenyl

Sample: 2777

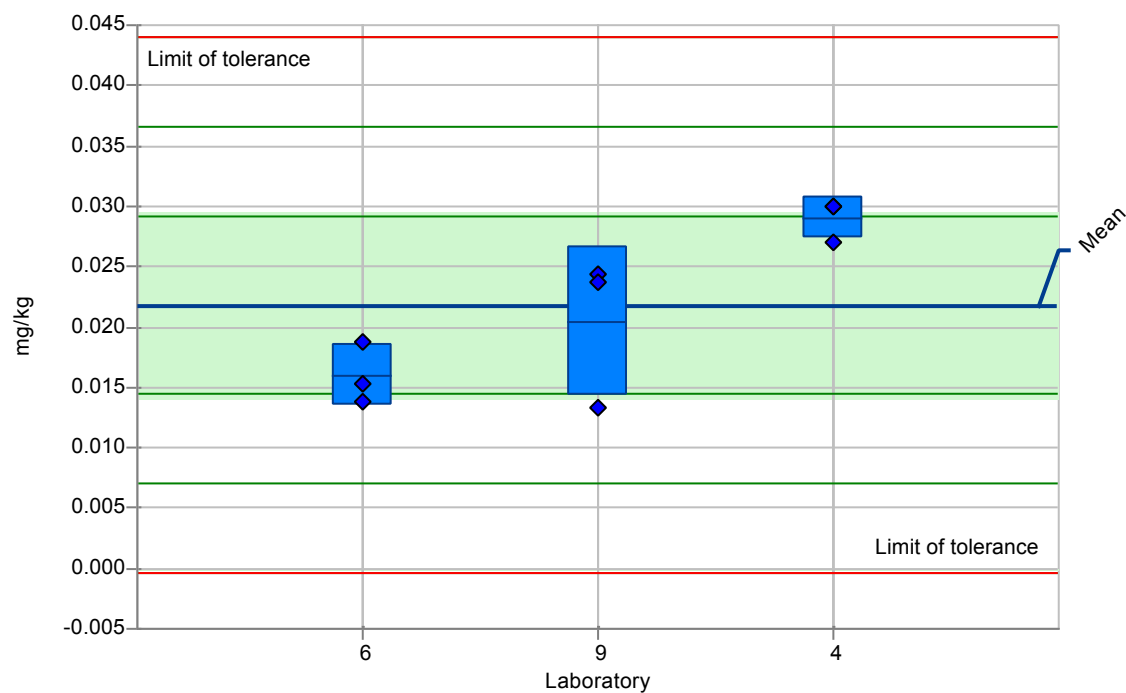
Mean \pm U(Mean): 0.022 \pm 0.008 mg/kg

Median: 0.024

Reproducibility s.d.: 0.007 mg/kg

Repeatability s.d.: 0.004 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	0.029	0.002	0.975	0.027	0.030	0.030
5						
6	0.016	0.003	-0.790	0.015	0.019	0.014
7						
8						
9	0.020	0.006	-0.185	0.024	0.013	0.024
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C1-chrysenes

Sample: 2777

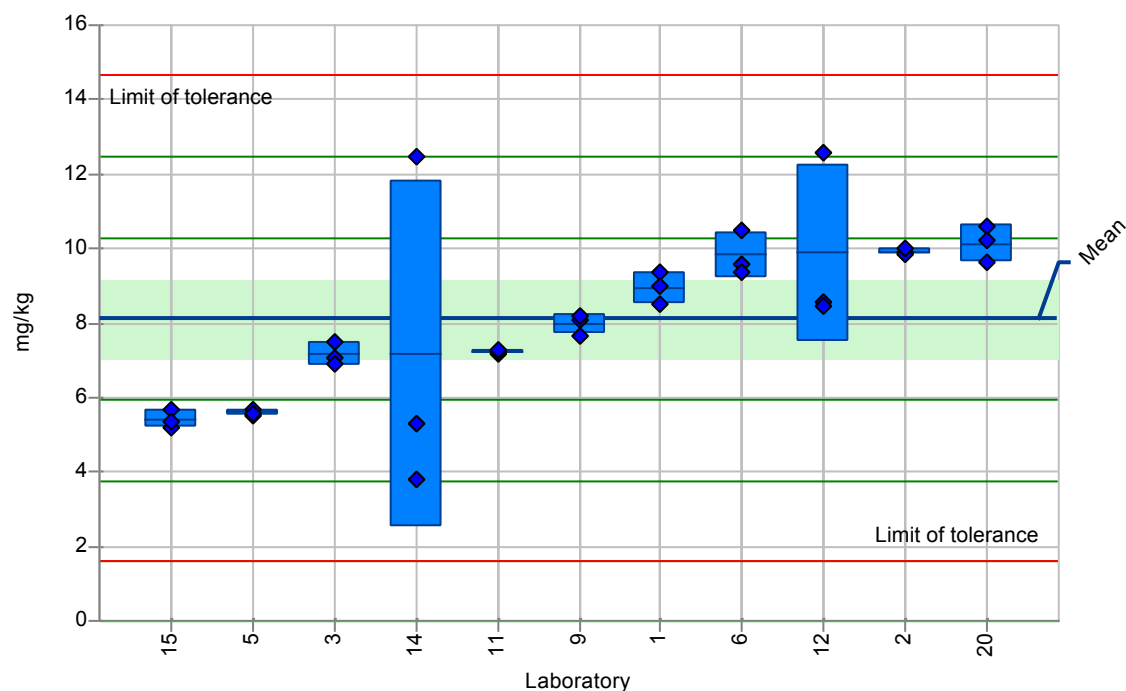
Mean \pm U(Mean): 8.116 \pm 1.048 mg/kg

Median: 8.090

Reproducibility s.d.: 2.175 mg/kg

Repeatability s.d.: 1.601 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	8.947	0.423	0.382	9.340	9.000	8.500
2	9.920	0.080	0.830	9.920	9.840	10.000
3	7.160	0.323	-0.440	7.513	7.087	6.879
4						
5	5.600	0.075	-1.157	5.530	5.680	5.590
6	9.820	0.599	0.784	9.590	9.370	10.500
7						
8						
9	7.977	0.269	-0.064	7.670	8.090	8.170
10						
11	7.237	0.054	-0.404	7.189	7.227	7.295
12	9.873	2.362	0.808	8.580	8.440	12.600
13						
14	7.186	4.646	-0.427	3.777	12.479	5.304
15	5.417	0.240	-1.241	5.680	5.210	5.360
16						
17						
18						
19						
20	10.137	0.498	0.929	10.600	10.200	9.610

Measurand: C1-dibenzothiophenes

Sample: 2777

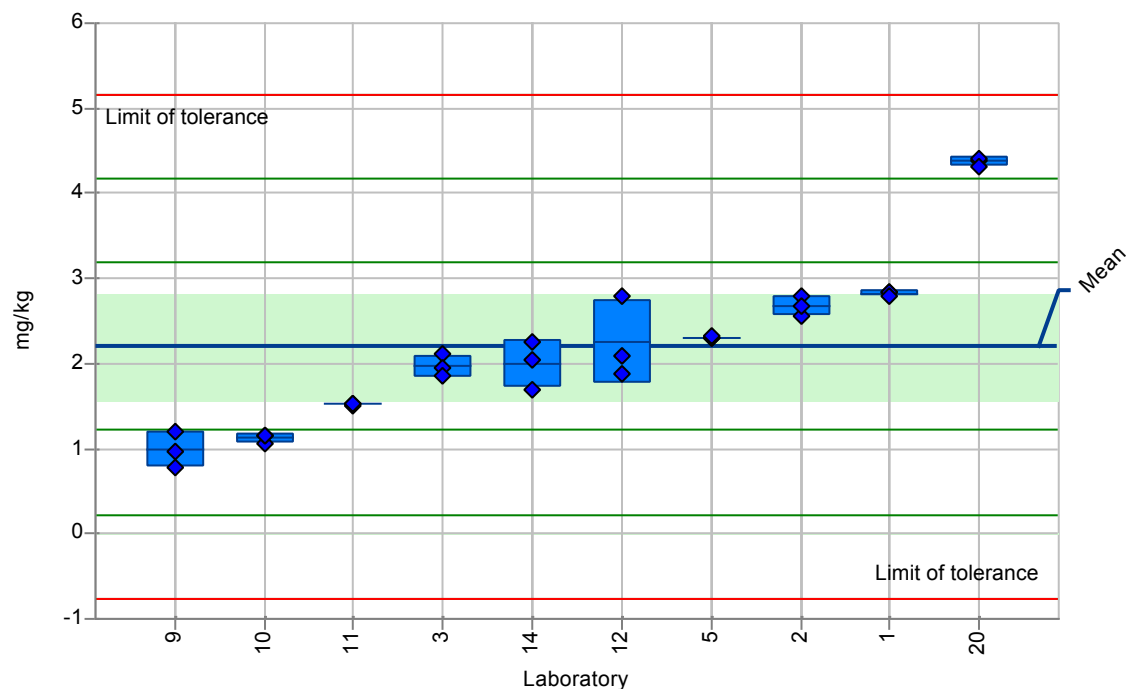
Mean \pm U(Mean): 2.203 \pm 0.616 mg/kg

Median: 2.059

Reproducibility s.d.: 0.988 mg/kg

Repeatability s.d.: 0.199 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.823	0.031	0.628	2.830	2.850	2.790
2	2.677	0.115	0.480	2.560	2.790	2.680
3	1.970	0.128	-0.236	2.104	1.956	1.849
4						
5	2.310	0.010	0.109	2.310	2.300	2.320
6						
7						
8						
9	0.986	0.212	-1.232	1.210	0.959	0.788
10	1.121	0.056	-1.095	1.056	1.154	1.153
11	1.525	0.009	-0.686	1.515	1.528	1.532
12	2.253	0.484	0.051	2.080	1.880	2.800
13						
14	1.989	0.283	-0.216	2.037	1.686	2.245
15						
16						
17						
18						
19						
20	4.373	0.047	2.197	4.390	4.410	4.320

Measurand: C1-fluoranthenes/pyrenes

Sample: 2777

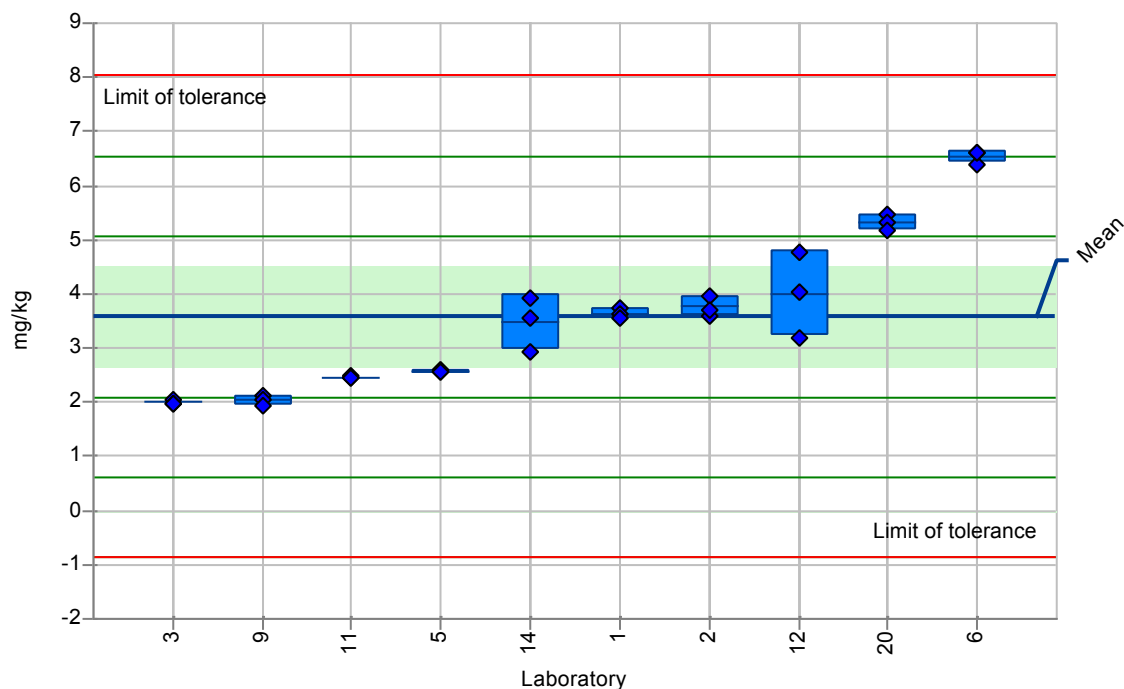
Mean \pm U(Mean): 3.581 \pm 0.924 mg/kg

Median: 3.600

Reproducibility s.d.: 1.482 mg/kg

Repeatability s.d.: 0.310 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.637	0.095	0.038	3.730	3.640	3.540
2	3.760	0.183	0.121	3.960	3.600	3.720
3	2.000	0.028	-1.067	2.032	1.981	1.985
4						
5	2.573	0.032	-0.680	2.610	2.550	2.560
6	6.540	0.122	1.997	6.400	6.620	6.600
7						
8						
9	2.033	0.080	-1.044	2.110	2.040	1.950
10						
11	2.455	0.018	-0.760	2.476	2.445	2.444
12	4.007	0.786	0.287	4.050	3.200	4.770
13						
14	3.479	0.508	-0.069	2.935	3.941	3.560
15						
16						
17						
18						
19						
20	5.323	0.135	1.176	5.460	5.320	5.190

Measurand: C1-fluorenes

Sample: 2777

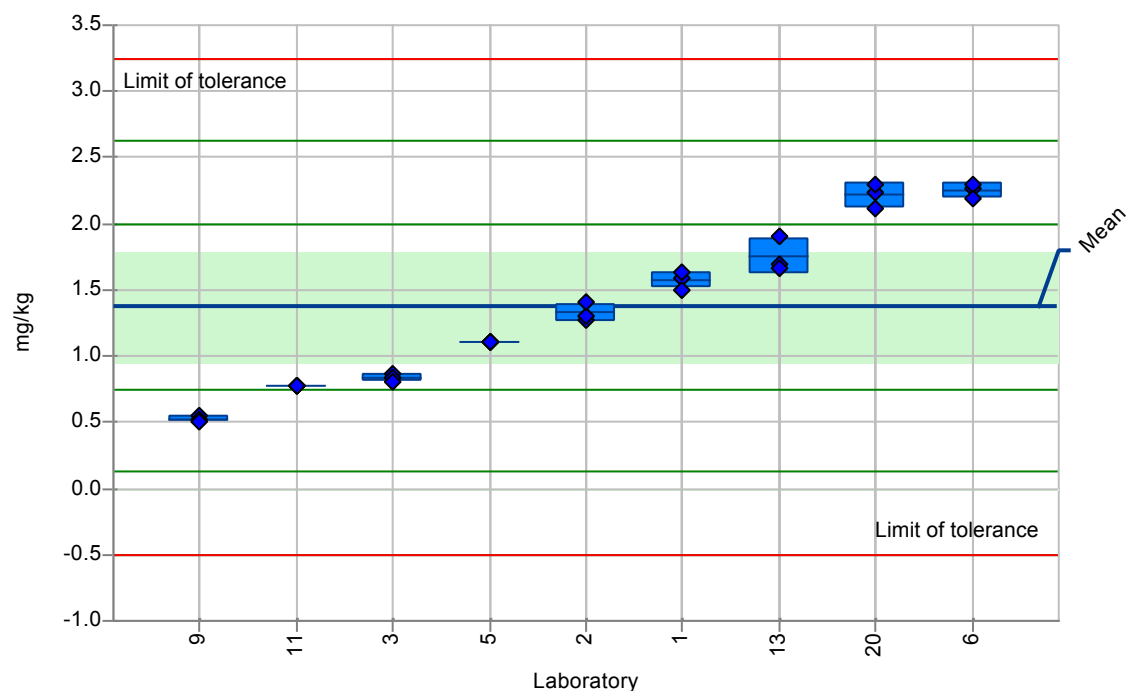
Mean \pm U(Mean): 1.375 \pm 0.415 mg/kg

Median: 1.300

Reproducibility s.d.: 0.625 mg/kg

Repeatability s.d.: 0.068 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.573	0.067	0.317	1.590	1.630	1.500
2	1.330	0.070	-0.072	1.280	1.300	1.410
3	0.838	0.032	-0.860	0.866	0.843	0.804
4						
5	1.110	0.000	-0.424	1.110	1.110	1.110
6	2.250	0.056	1.400	2.260	2.300	2.190
7						
8						
9	0.527	0.023	-1.357	0.552	0.523	0.507
10						
11	0.775	0.005	-0.961	0.777	0.769	0.778
12				<2.850	<2.850	<2.850
13	1.757	0.133	0.611	1.690	1.670	1.910
14						
15						
16						
17						
18						
19						
20	2.217	0.097	1.347	2.240	2.300	2.110

Measurand: C1-naphthalenes

Sample: 2777

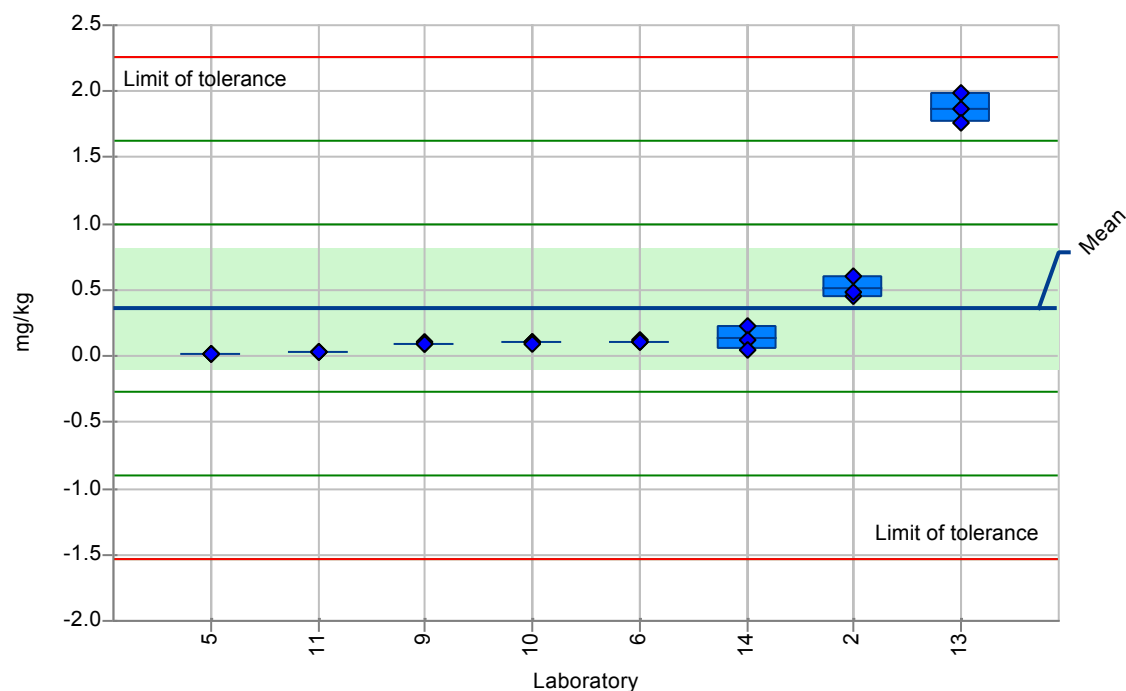
Mean \pm U(Mean): 0.362 \pm 0.446 mg/kg

Median: 0.106

Reproducibility s.d.: 0.632 mg/kg

Repeatability s.d.: 0.059 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2	0.517	0.081	0.245	0.610	0.460	0.480
3						
4						
5	0.021	0.001	-0.539	0.022	0.020	0.022
6	0.114	0.008	-0.393	0.111	0.123	0.107
7						
8						
9	0.097	0.006	-0.419	0.104	0.093	0.094
10	0.102	0.011	-0.411	0.113	0.102	0.091
11	0.038	0.000	-0.513	0.038	0.038	0.037
12				<2.850	<2.850	<2.850
13	1.873	0.115	2.391	1.870	1.760	1.990
14	0.134	0.087	-0.361	0.226	0.120	0.054
15						
16						
17						
18						
19						
20				<0.200	<0.200	<0.200

Measurand: C1-naphthobenzothiophenes

Sample: 2777

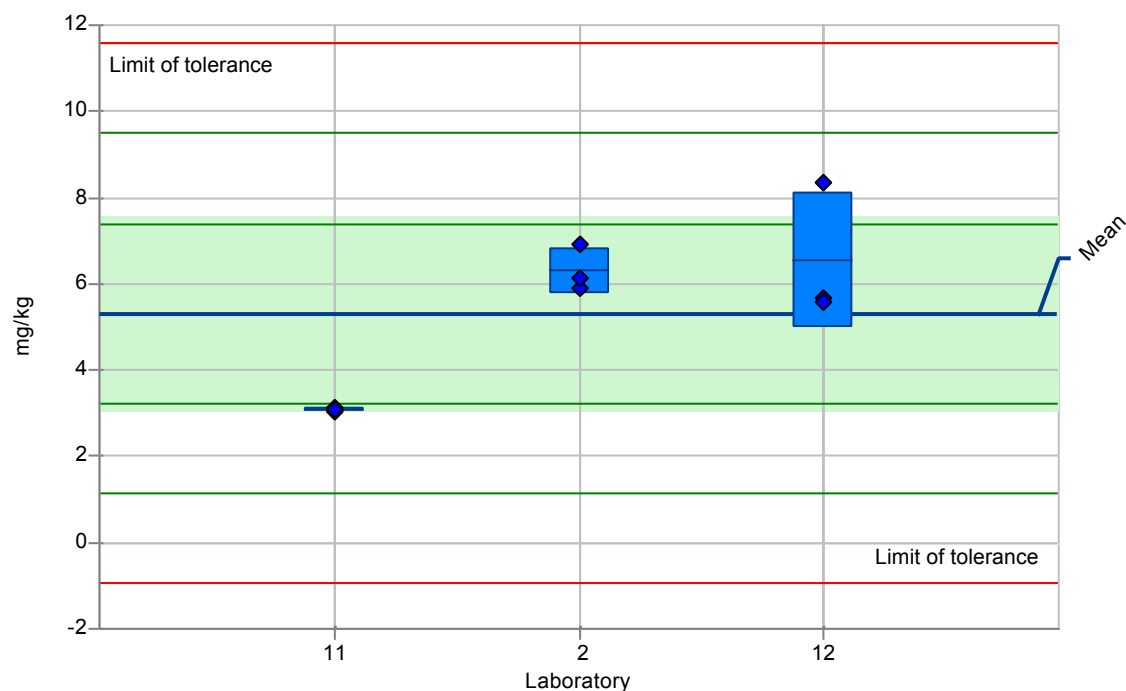
Mean \pm U(Mean): 5.315 \pm 2.231 mg/kg

Median: 5.680

Reproducibility s.d.: 2.086 mg/kg

Repeatability s.d.: 0.961 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	6.307	0.530	0.476	6.900	5.880	6.140
3						
4						
5						
6						
7						
8						
9						
10						
11	3.088	0.029	-1.068	3.113	3.056	3.094
12	6.550	1.577	0.592	5.680	5.600	8.370
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C1-phenanthrenes/anthracenes

Sample: 2777

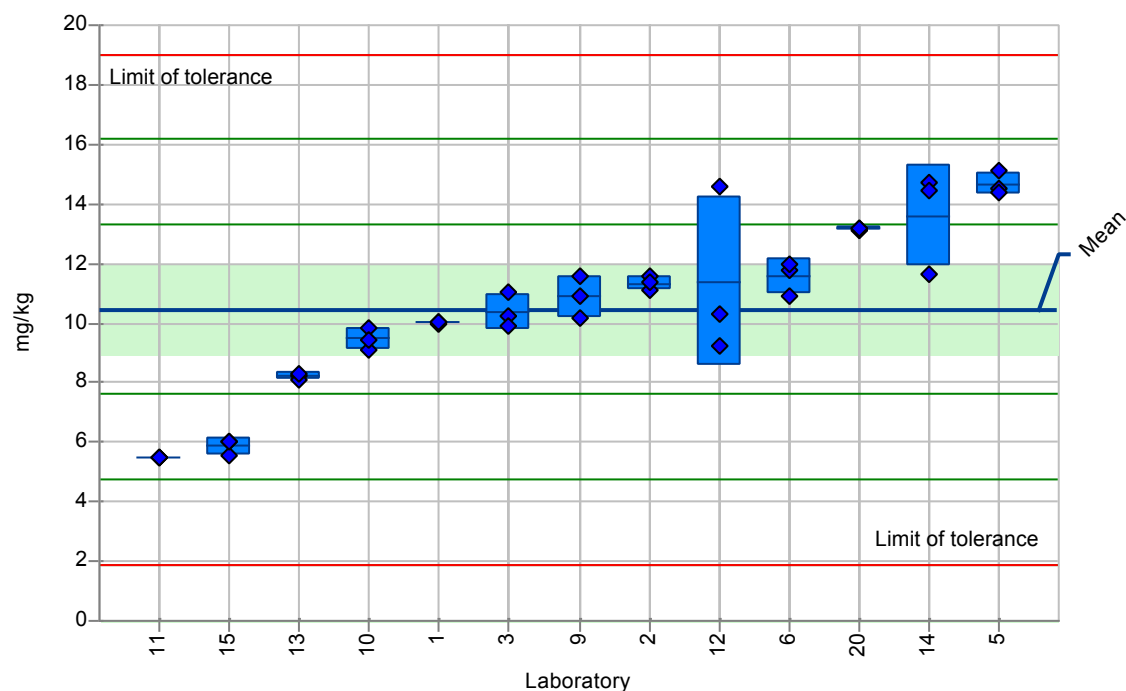
Mean \pm U(Mean): 10.465 \pm 1.519 mg/kg

Median: 10.300

Reproducibility s.d.: 2.853 mg/kg

Repeatability s.d.: 0.981 mg/kg

No. of laboratories: 13



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	10.023	0.031	-0.155	9.990	10.030	10.050
2	11.323	0.235	0.301	11.080	11.550	11.340
3	10.385	0.590	-0.028	11.041	10.215	9.898
4						
5	14.667	0.379	1.473	14.500	14.400	15.100
6	11.567	0.586	0.386	11.800	12.000	10.900
7						
8						
9	10.900	0.700	0.153	11.600	10.900	10.200
10	9.468	0.350	-0.349	9.125	9.824	9.455
11	5.489	0.018	-1.744	5.499	5.500	5.468
12	11.387	2.831	0.323	10.300	9.260	14.600
13	8.217	0.117	-0.788	8.240	8.090	8.320
14	13.591	1.704	1.096	14.719	11.631	14.424
15	5.857	0.275	-1.615	5.540	5.990	6.040
16						
17						
18						
19						
20	13.167	0.058	0.947	13.100	13.200	13.200

Measurand: C2-chrysenes

Sample: 2777

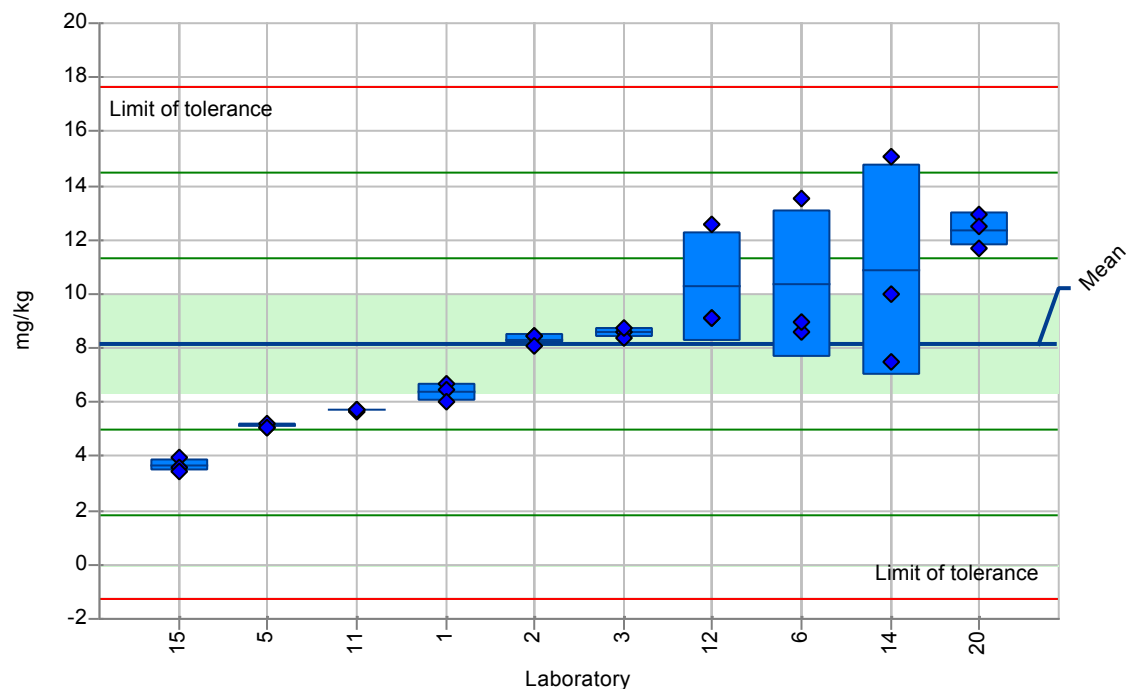
Mean \pm U(Mean): 8.161 \pm 1.802 mg/kg

Median: 8.521

Reproducibility s.d.: 3.151 mg/kg

Repeatability s.d.: 1.651 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.370	0.314	-0.568	6.650	6.430	6.030
2	8.333	0.202	0.055	8.440	8.460	8.100
3	8.569	0.176	0.130	8.602	8.380	8.727
4						
5	5.123	0.059	-0.964	5.080	5.190	5.100
6	10.347	2.737	0.693	8.590	8.950	13.500
7						
8						
9						
10						
11	5.705	0.024	-0.780	5.678	5.710	5.726
12	10.267	2.021	0.668	9.110	9.090	12.600
13						
14	10.861	3.883	0.857	7.470	10.019	15.096
15	3.670	0.248	-1.425	3.950	3.580	3.480
16						
17						
18						
19						
20	12.367	0.611	1.334	12.900	12.500	11.700

Measurand: C2-dibenzothiophenes

Sample: 2777

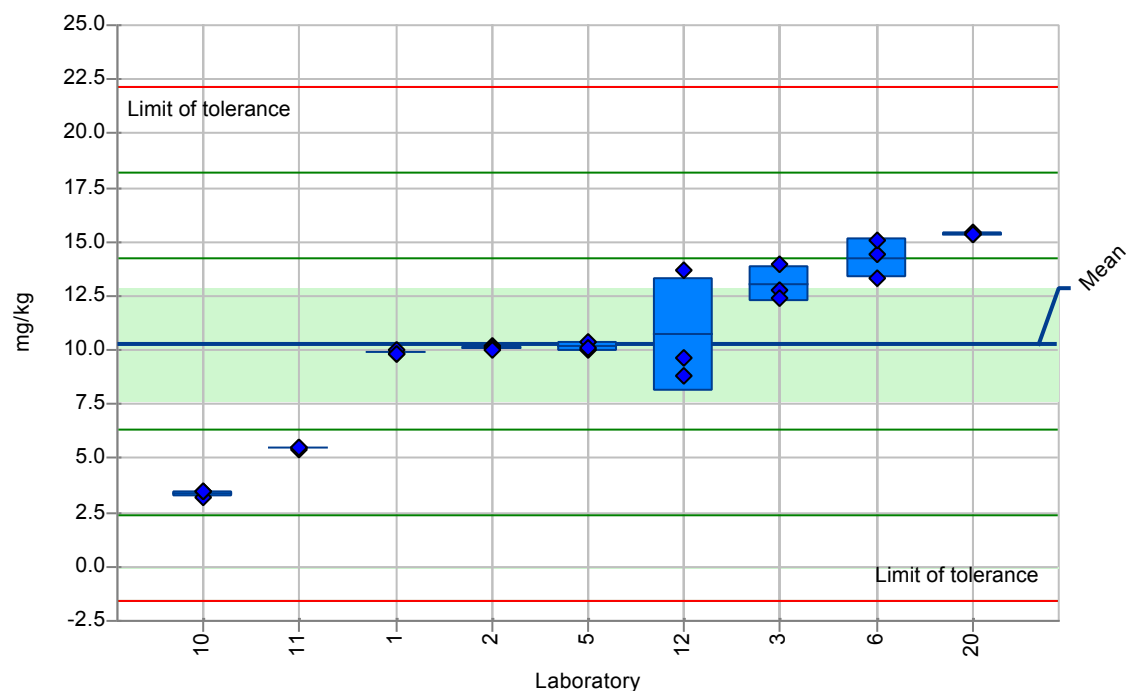
Mean \pm U(Mean): 10.257 \pm 2.587 mg/kg

Median: 10.100

Reproducibility s.d.: 3.960 mg/kg

Repeatability s.d.: 0.971 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	9.897	0.064	-0.091	9.870	9.970	9.850
2	10.103	0.081	-0.039	10.160	10.140	10.010
3	13.031	0.813	0.700	13.939	12.784	12.370
4						
5	10.157	0.221	-0.025	9.970	10.400	10.100
6	14.267	0.907	1.012	14.400	15.100	13.300
7						
8						
9						
10	3.355	0.159	-1.743	3.172	3.447	3.447
11	5.470	0.023	-1.209	5.483	5.444	5.484
12	10.703	2.630	0.113	9.630	8.780	13.700
13						
14						
15						
16						
17						
18						
19						
20	15.333	0.058	1.282	15.300	15.400	15.300

Measurand: C2-fluoranthenes/pyrenes

Sample: 2777

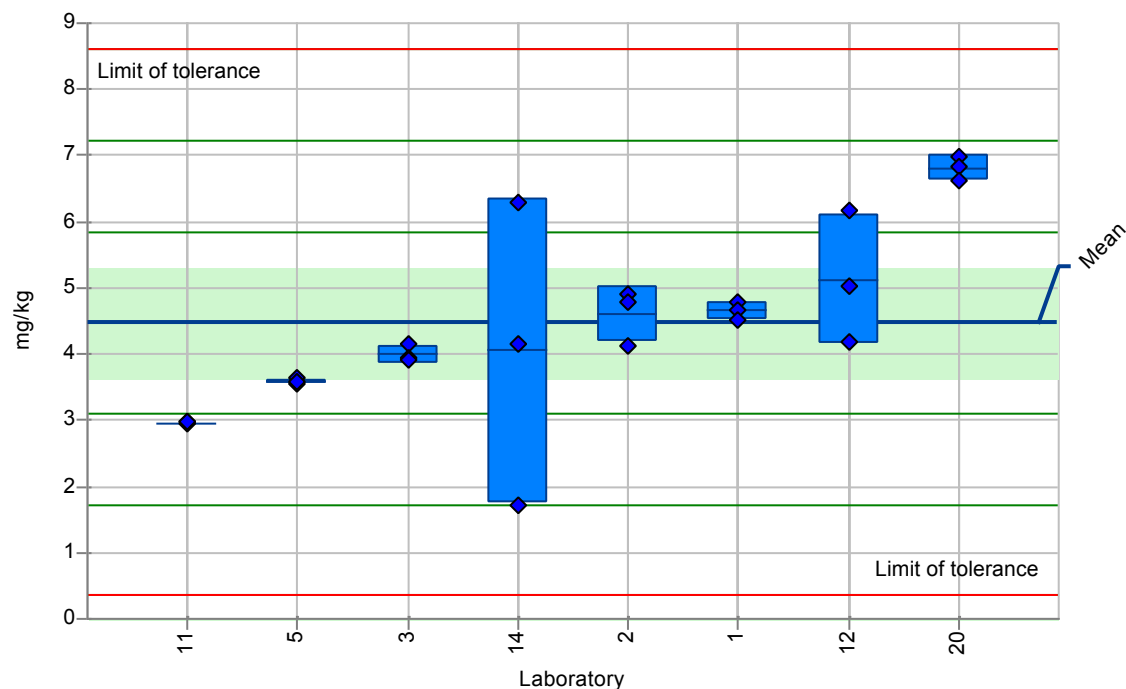
Mean \pm U(Mean): 4.476 \pm 0.821 mg/kg

Median: 4.411

Reproducibility s.d.: 1.375 mg/kg

Repeatability s.d.: 0.903 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	4.657	0.131	0.132	4.780	4.670	4.520
2	4.607	0.435	0.095	4.920	4.790	4.110
3	3.994	0.135	-0.350	4.149	3.934	3.899
4						
5	3.590	0.036	-0.644	3.630	3.560	3.580
6						
7						
8						
9						
10						
11	2.963	0.023	-1.100	2.938	2.966	2.983
12	5.130	0.988	0.476	5.040	4.190	6.160
13						
14	4.052	2.299	-0.308	6.299	1.705	4.151
15						
16						
17						
18						
19						
20	6.813	0.191	1.700	6.990	6.840	6.610

Measurand: C2-fluorenes

Sample: 2777

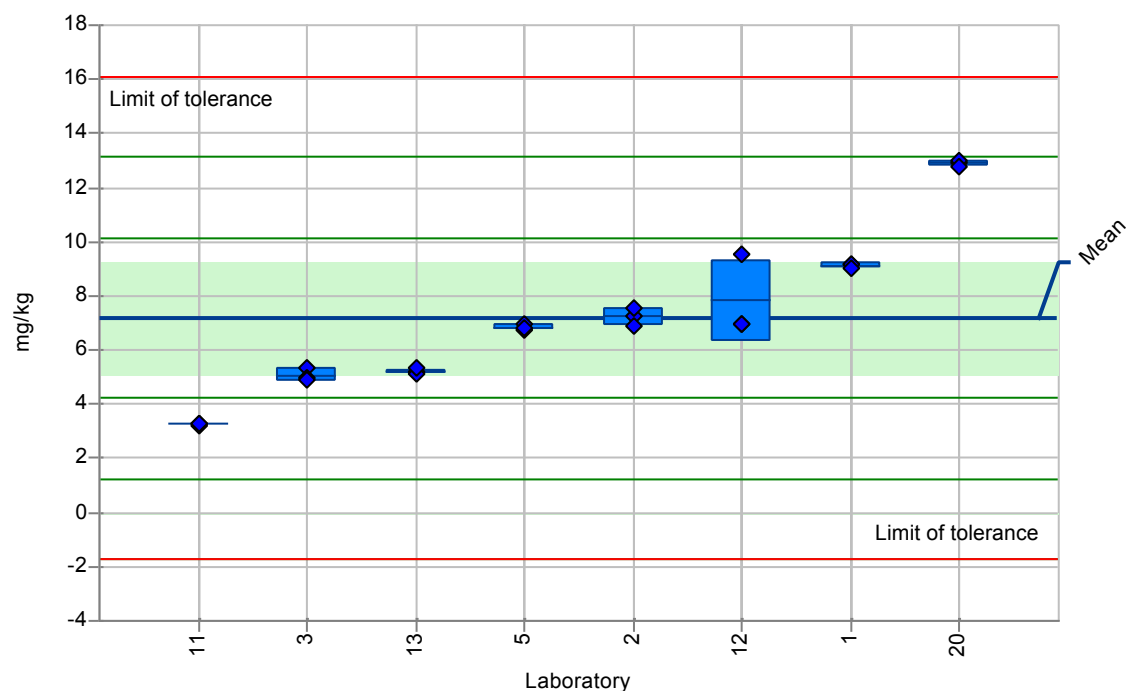
Mean \pm U(Mean): 7.185 \pm 2.082 mg/kg

Median: 6.885

Reproducibility s.d.: 2.979 mg/kg

Repeatability s.d.: 0.555 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	9.130	0.089	0.653	9.160	9.200	9.030
2	7.237	0.347	0.017	7.280	6.870	7.560
3	5.077	0.268	-0.708	5.381	4.979	4.872
4						
5	6.843	0.097	-0.115	6.950	6.760	6.820
6						
7						
8						
9						
10						
11	3.262	0.021	-1.317	3.285	3.245	3.255
12	7.813	1.495	0.211	6.950	6.950	9.540
13	5.217	0.086	-0.661	5.200	5.140	5.310
14						
15						
16						
17						
18						
19						
20	12.900	0.100	1.919	12.900	13.000	12.800

Measurand: C2-naphthalenes

Sample: 2777

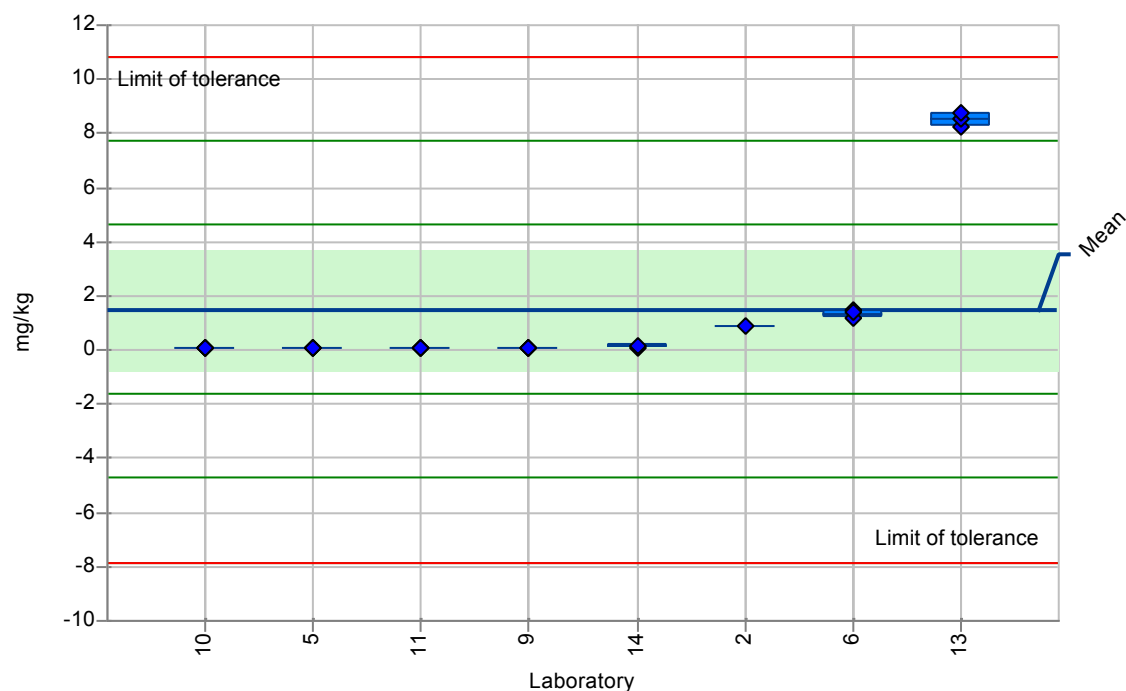
Mean \pm U(Mean): 1.509 \pm 2.202 mg/kg

Median: 0.118

Reproducibility s.d.: 3.116 mg/kg

Repeatability s.d.: 0.118 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2	0.910		-0.192	0.910		
3						
4						
5	0.066	0.001	-0.463	0.067	0.064	0.065
6	1.347	0.127	-0.052	1.460	1.210	1.370
7						
8						
9	0.098	0.012	-0.453	0.111	0.093	0.089
10	0.061	0.005	-0.465	0.065	0.062	0.055
11	0.074	0.000	-0.461	0.073	0.074	0.074
12				<2.850	<2.850	<2.850
13	8.523	0.271	2.251	8.240	8.550	8.780
14	0.143	0.049	-0.438		0.109	0.178
15						
16						
17						
18						
19						
20				<0.200	<0.200	<0.200

Measurand: C2-naphthobenzothiophenes

Sample: 2777

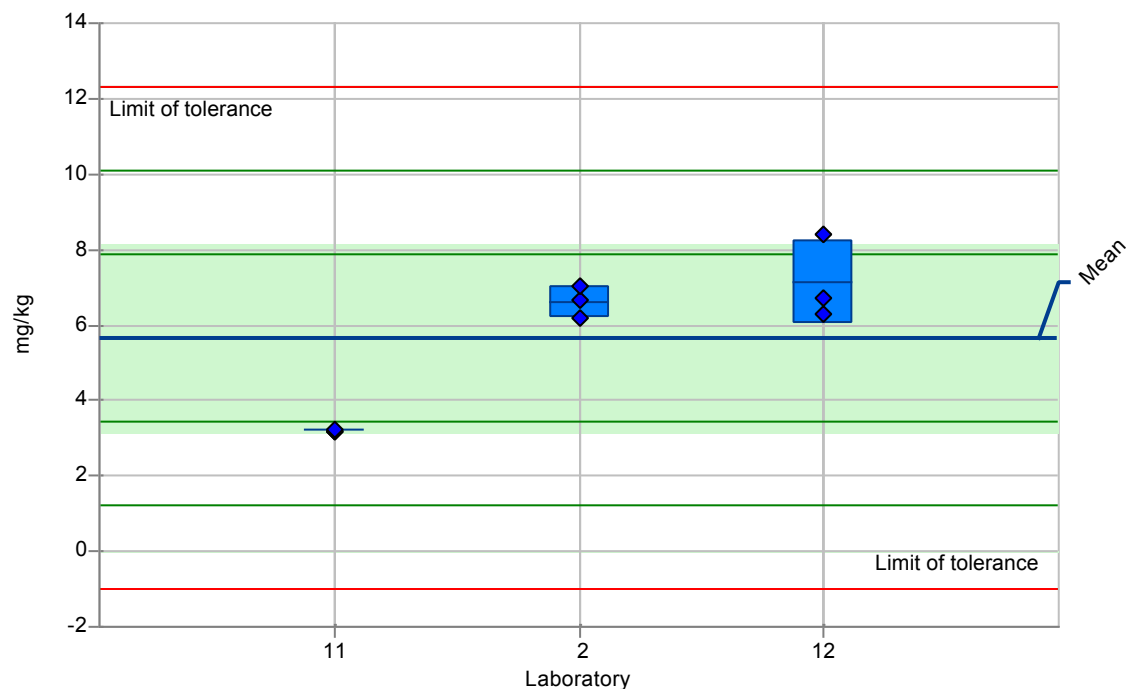
Mean \pm U(Mean): 5.653 \pm 2.470 mg/kg

Median: 6.650

Reproducibility s.d.: 2.213 mg/kg

Repeatability s.d.: 0.692 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	6.610	0.421	0.433	6.650	7.010	6.170
3						
4						
5						
6						
7						
8						
9						
10						
11	3.202	0.014	-1.108	3.200	3.189	3.217
12	7.147	1.123	0.675	6.720	6.300	8.420
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C2-phenanthrenes/anthracenes

Sample: 2777

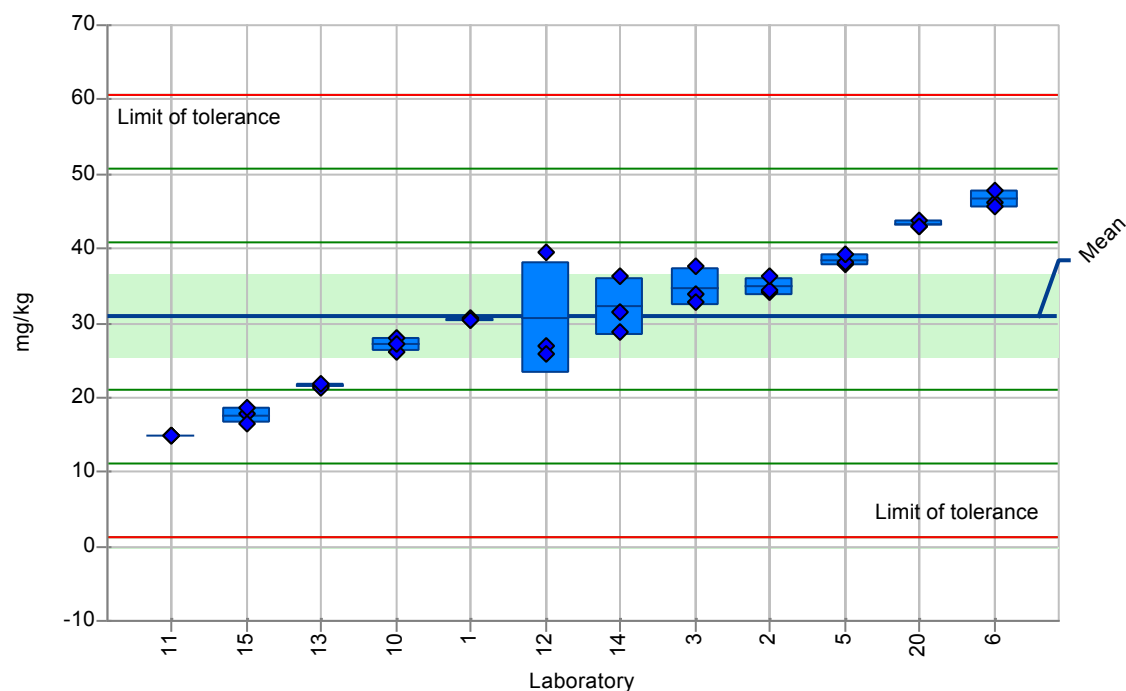
Mean \pm U(Mean): 31.038 \pm 5.574 mg/kg

Median: 30.822

Reproducibility s.d.: 9.894 mg/kg

Repeatability s.d.: 2.651 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	30.467	0.289	-0.058	30.300	30.800	30.300
2	34.947	1.204	0.395	34.140	34.370	36.330
3	34.770	2.563	0.377	37.644	33.944	32.721
4						
5	38.400	0.794	0.744	37.800	38.100	39.300
6	46.600	1.179	1.573	46.300	47.900	45.600
7						
8						
9						
10	27.065	0.883	-0.402	26.128	27.880	27.188
11	14.822	0.038	-1.639	14.858	14.782	14.824
12	30.700	7.554	-0.034	26.900	25.800	39.400
13	21.600	0.265	-0.954	21.500	21.400	21.900
14	32.159	3.870	0.113	36.372	28.761	31.344
15	17.627	1.058	-1.355	17.780	16.500	18.600
16						
17						
18						
19						
20	43.300	0.436	1.239	43.000	43.800	43.100

Measurand: C3-chrysenes

Sample: 2777

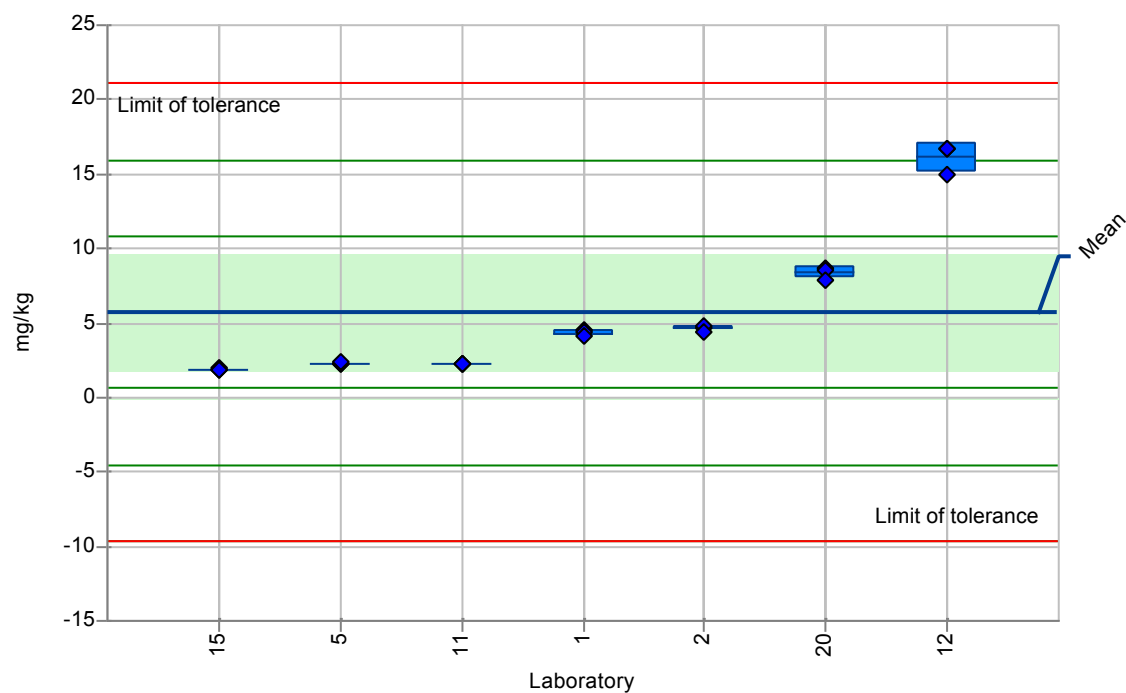
Mean \pm U(Mean): 5.715 \pm 3.864 mg/kg

Median: 4.430

Reproducibility s.d.: 5.123 mg/kg

Repeatability s.d.: 0.422 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	4.327	0.224	-0.271	4.480	4.430	4.070
2	4.653	0.172	-0.207	4.710	4.790	4.460
3						
4						
5	2.280	0.066	-0.670	2.270	2.220	2.350
6						
7						
8						
9						
10						
11	2.302	0.008	-0.666	2.294	2.303	2.309
12	16.133	0.981	2.034	15.000	16.700	16.700
13						
14						
15	1.907	0.093	-0.743	2.010	1.880	1.830
16						
17						
18						
19						
20	8.403	0.439	0.525	8.710	8.600	7.900

Measurand: C3-dibenzothiophenes

Sample: 2777

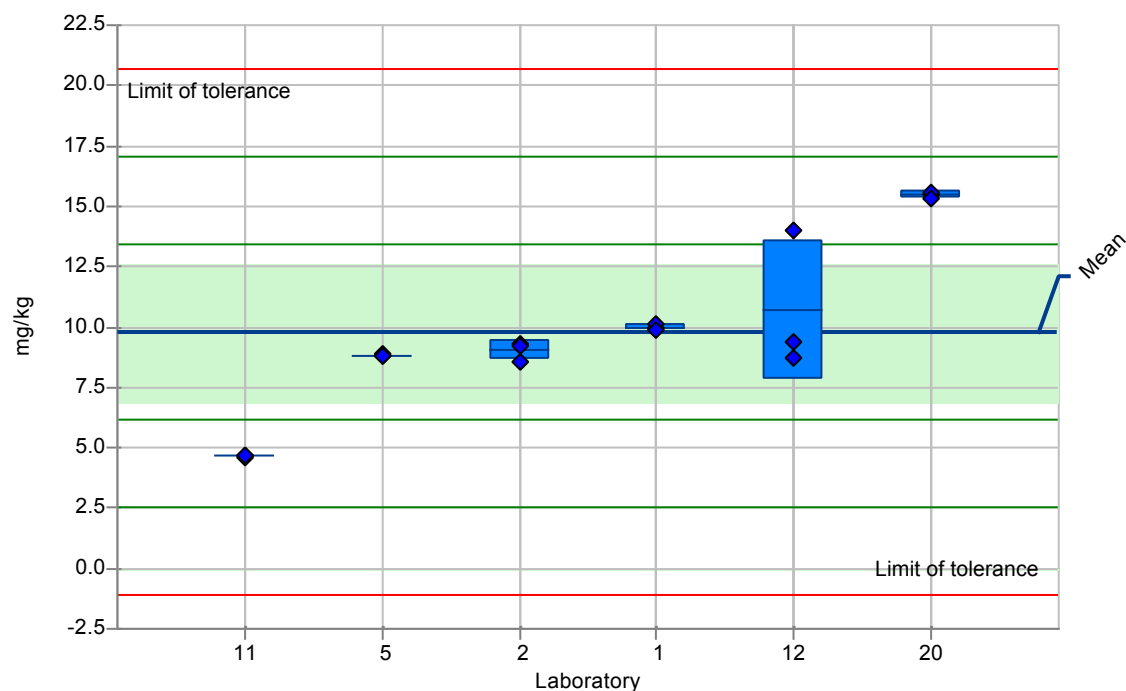
Mean \pm U(Mean): 9.779 \pm 2.852 mg/kg

Median: 9.295

Reproducibility s.d.: 3.625 mg/kg

Repeatability s.d.: 1.191 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	9.990	0.115	0.058	10.000	10.100	9.870
2	9.047	0.407	-0.202	9.330	8.580	9.230
3						
4						
5	8.830	0.036	-0.262	8.800	8.870	8.820
6						
7						
8						
9						
10						
11	4.649	0.040	-1.415	4.693	4.616	4.639
12	10.693	2.881	0.252	9.360	8.720	14.000
13						
14						
15						
16						
17						
18						
19						
20	15.467	0.153	1.569	15.500	15.600	15.300

Measurand: C3-fluoranthenes/pyrenes

Sample: 2777

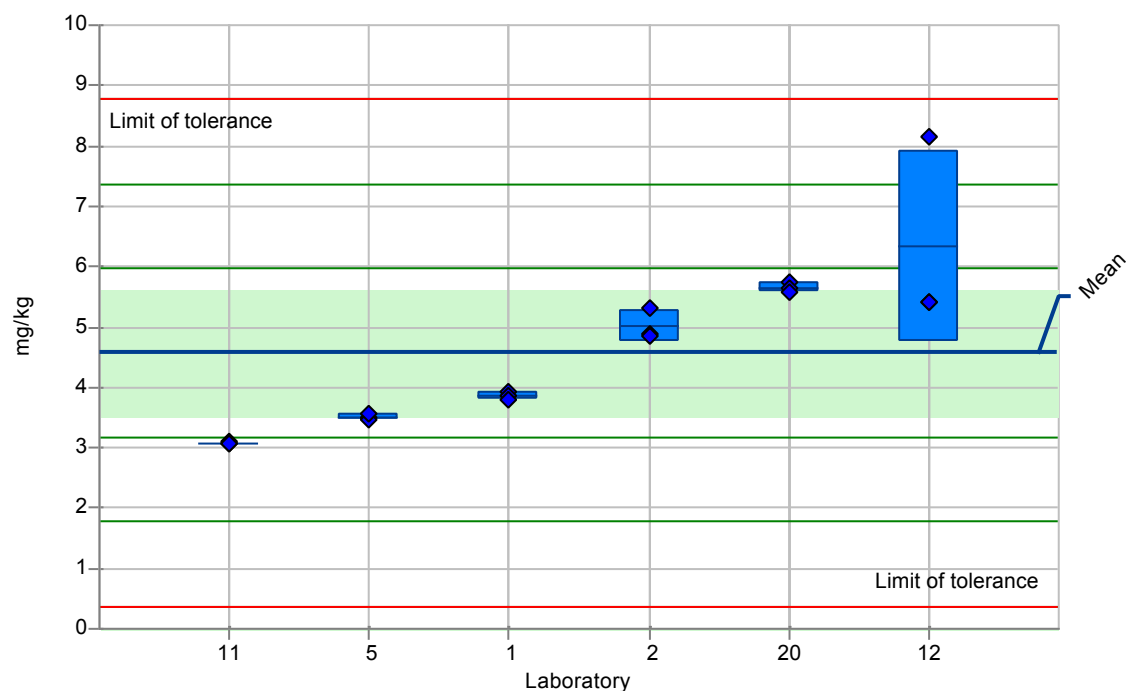
Mean \pm U(Mean): 4.572 \pm 1.054 mg/kg

Median: 4.370

Reproducibility s.d.: 1.398 mg/kg

Repeatability s.d.: 0.656 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.863	0.055	-0.507	3.920	3.860	3.810
2	5.020	0.260	0.320	4.880	5.320	4.860
3						
4						
5	3.503	0.051	-0.765	3.490	3.460	3.560
6						
7						
8						
9						
10						
11	3.071	0.017	-1.074	3.068	3.089	3.055
12	6.323	1.582	1.253	5.420	5.400	8.150
13						
14						
15						
16						
17						
18						
19						
20	5.653	0.085	0.773	5.740	5.650	5.570

Measurand: C3-fluorenes

Sample: 2777

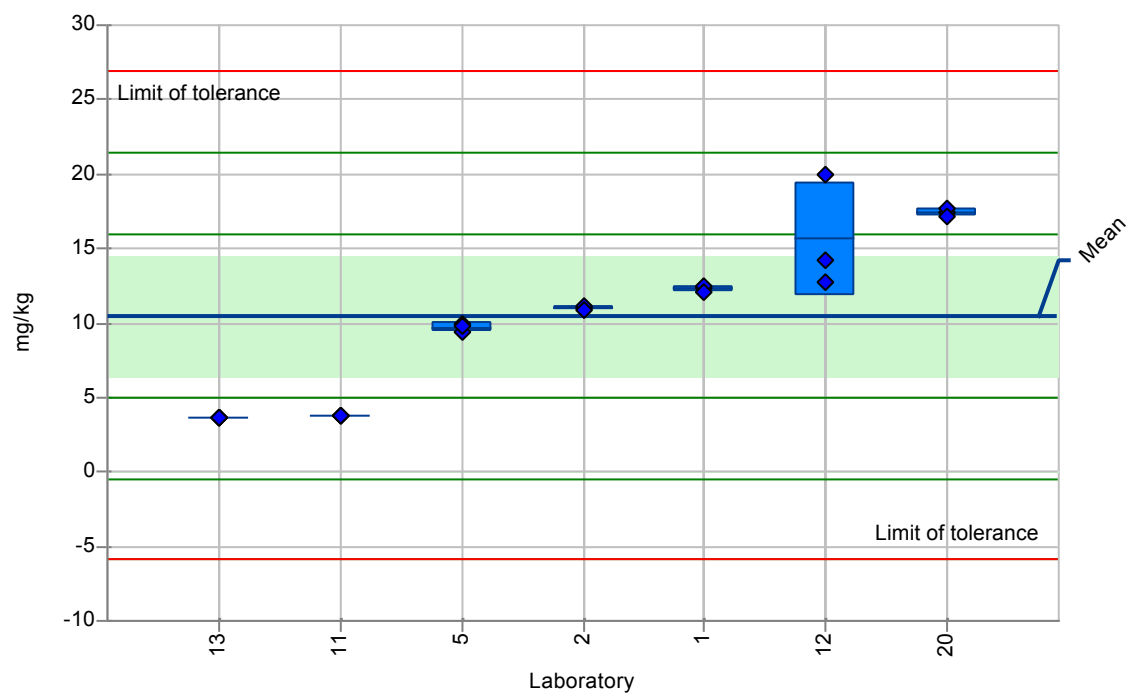
Mean \pm U(Mean): 10.495 \pm 4.037 mg/kg

Median: 11.050

Reproducibility s.d.: 5.467 mg/kg

Repeatability s.d.: 1.433 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	12.300	0.200	0.330	12.300	12.500	12.100
2	11.053	0.125	0.102	11.050	11.180	10.930
3						
4						
5	9.717	0.287	-0.142	9.960	9.400	9.790
6						
7						
8						
9						
10						
11	3.749	0.022	-1.234	3.727	3.771	3.748
12	15.633	3.761	0.940	12.800	14.200	19.900
13	3.613	0.021	-1.259	3.590	3.620	3.630
14						
15						
16						
17						
18						
19						
20	17.400	0.300	1.263	17.400	17.700	17.100

Measurand: C3-naphthalenes

Sample: 2777

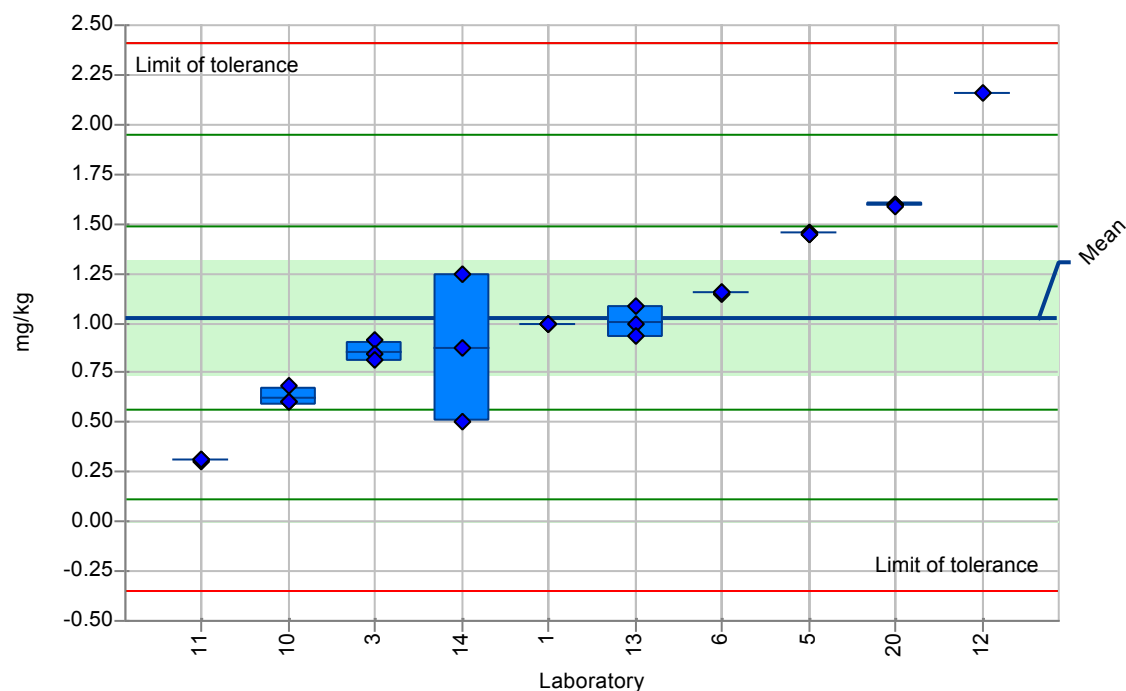
Mean \pm U(Mean): 1.028 \pm 0.283 mg/kg

Median: 0.995

Reproducibility s.d.: 0.460 mg/kg

Repeatability s.d.: 0.127 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.000	0.000	-0.062	1.000	1.000	1.000
2						
3	0.856	0.048	-0.374	0.910	0.840	0.819
4						
5	1.453	0.006	0.924	1.450	1.460	1.450
6	1.157	0.006	0.279	1.160	1.150	1.160
7						
8						
9						
10	0.629	0.047	-0.869	0.683	0.603	0.601
11	0.308	0.002	-1.566	0.306	0.308	0.311
12	2.160		2.461	<2.860	<2.860	2.160
13	1.003	0.081	-0.054	0.990	0.930	1.090
14	0.874	0.368	-0.335	0.508	0.872	1.243
15						
16						
17						
18						
19						
20	1.597	0.006	1.236	1.600	1.600	1.590

Measurand: C3-naphthobenzothiophenes

Sample: 2777

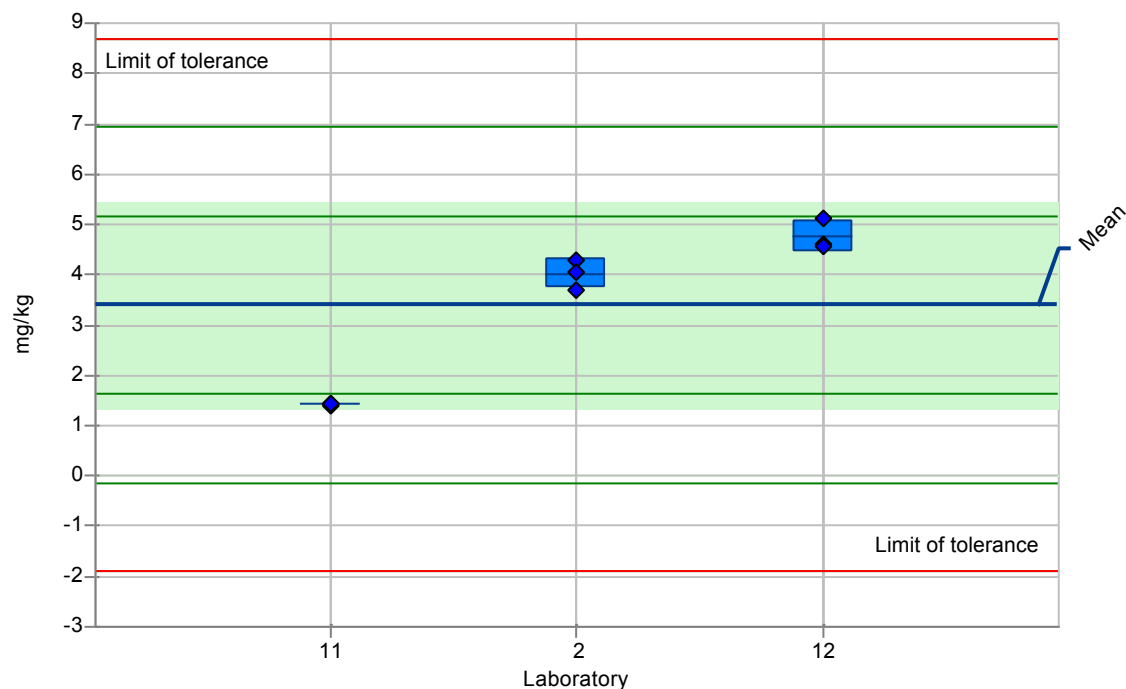
Mean \pm U(Mean): 3.397 \pm 2.025 mg/kg

Median: 4.030

Reproducibility s.d.: 1.766 mg/kg

Repeatability s.d.: 0.252 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	4.013	0.295	0.349	4.300	4.030	3.710
3						
4						
5						
6						
7						
8						
9						
10						
11	1.418	0.005	-1.121	1.423	1.412	1.419
12	4.760	0.321	0.772	4.590	4.560	5.130
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C3-phenanthrenes/anthracenes

Sample: 2777

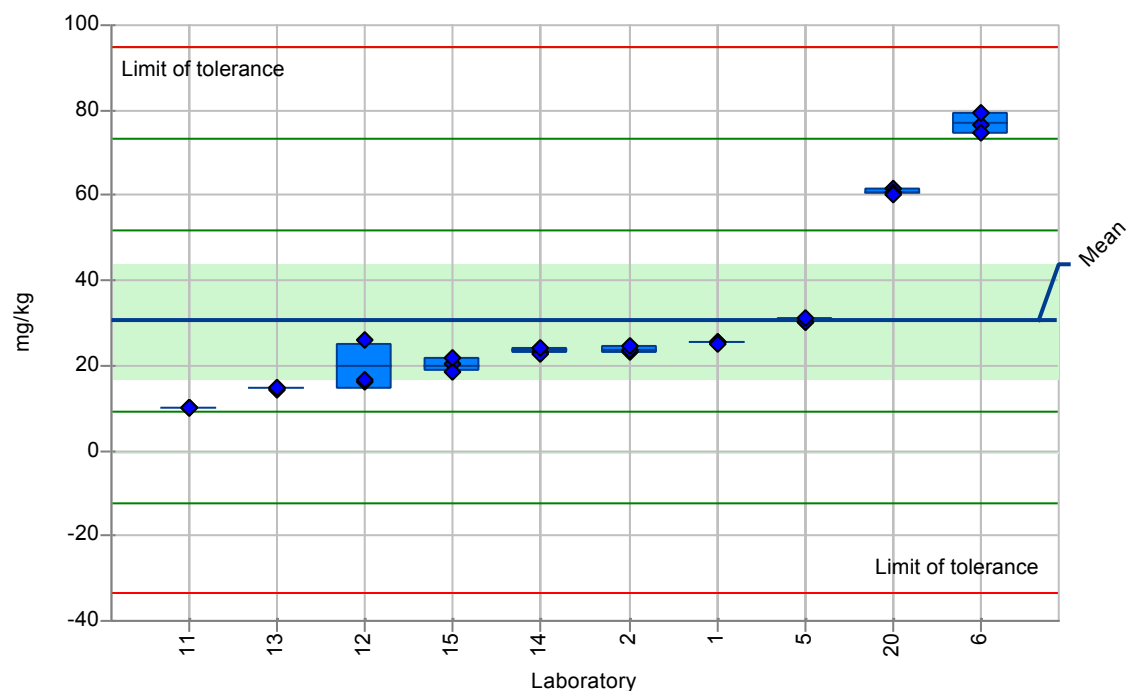
Mean \pm U(Mean): 30.558 \pm 13.474 mg/kg

Median: 23.465

Reproducibility s.d.: 21.368 mg/kg

Repeatability s.d.: 2.009 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	25.367	0.252	-0.243	25.600	25.400	25.100
2	23.743	0.801	-0.319	23.100	23.490	24.640
3						
4						
5	30.533	0.416	-0.001	30.400	30.200	31.000
6	76.933	2.458	2.170	76.700	74.600	79.500
7						
8						
9						
10						
11	10.130	0.064	-0.956	10.100	10.086	10.204
12	19.700	5.458	-0.508	16.400	16.700	26.000
13	14.733	0.208	-0.741	14.900	14.500	14.800
14	23.465	0.774	-0.332	23.440	22.704	24.251
15	20.140	1.623	-0.488	20.330	18.430	21.660
16						
17						
18						
19						
20	60.833	0.603	1.417	61.400	60.900	60.200

Measurand: C4-chrysenes

Sample: 2777

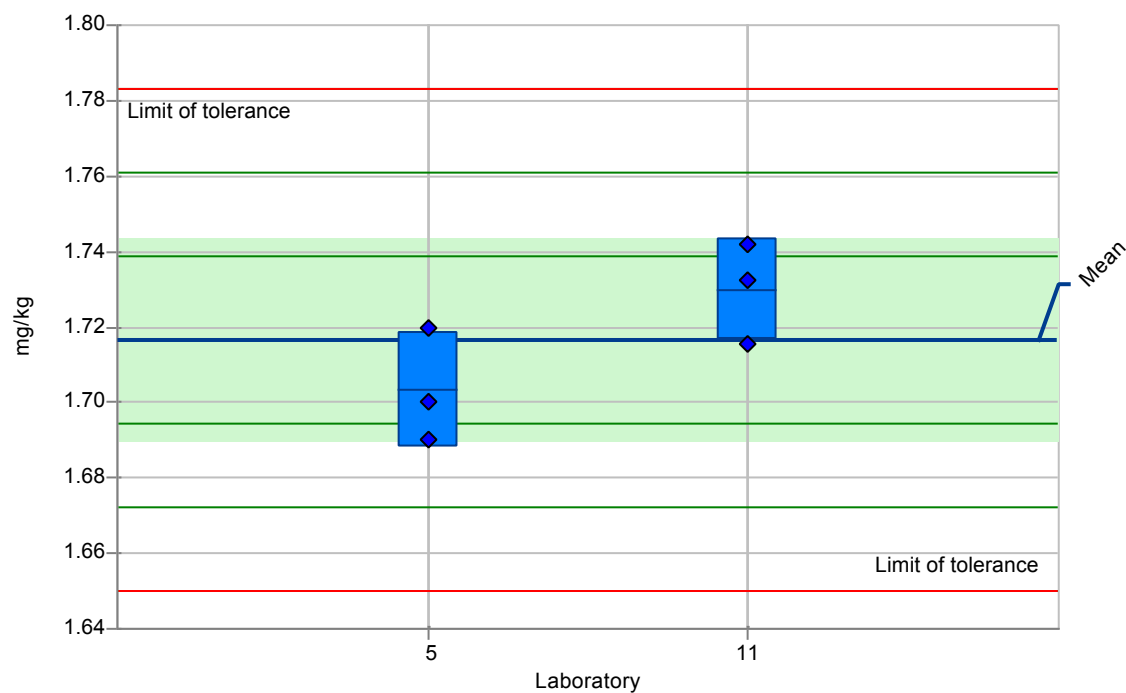
Mean \pm U(Mean): 1.717 \pm 0.027 mg/kg

Median: 1.716

Reproducibility s.d.: 0.022 mg/kg

Repeatability s.d.: 0.014 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4						
5	1.703	0.015	-0.601	1.690	1.700	1.720
6						
7						
8						
9						
10						
11	1.730	0.013	0.601	1.732	1.742	1.716
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C4-dibenzothiophenes

Sample: 2777

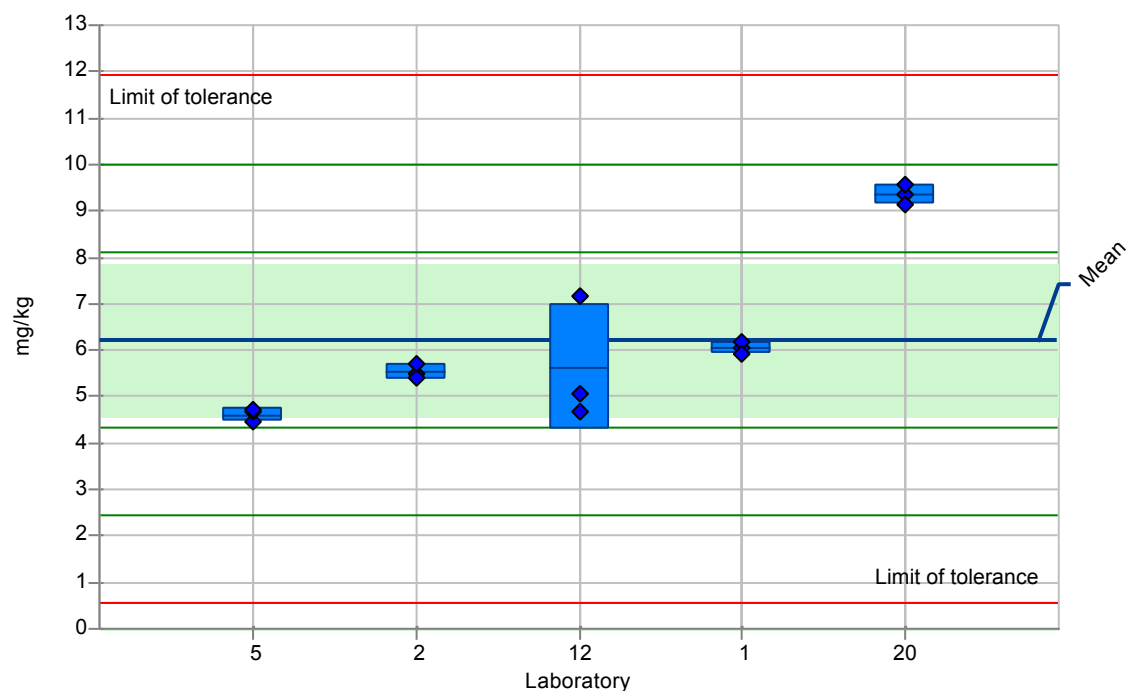
Mean \pm U(Mean): 6.234 \pm 1.629 mg/kg

Median: 5.490

Reproducibility s.d.: 1.891 mg/kg

Repeatability s.d.: 0.623 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.043	0.140	-0.101	6.050	6.180	5.900
2	5.533	0.169	-0.371	5.490	5.390	5.720
3						
4						
5	4.607	0.137	-0.861	4.450	4.670	4.700
6						
7						
8						
9						
10						
11						
12	5.633	1.353	-0.318	5.050	4.670	7.180
13						
14						
15						
16						
17						
18						
19						
20	9.353	0.215	1.650	9.370	9.560	9.130

Measurand: C4-fluoranthenes/pyrenes

Sample: 2777

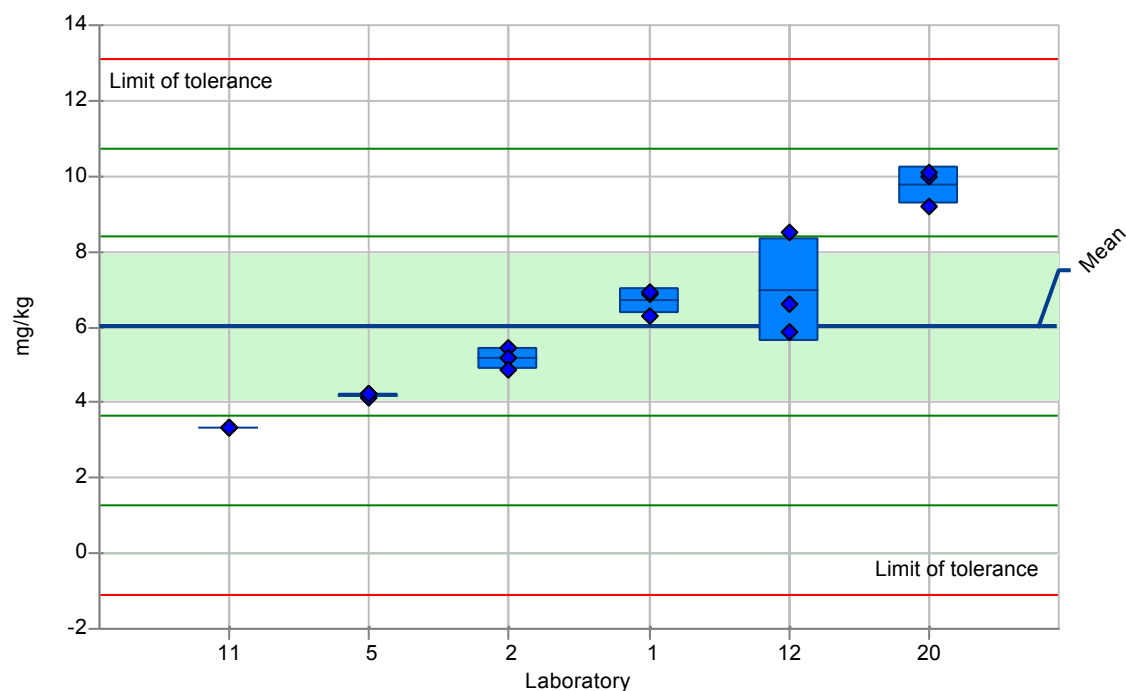
Mean \pm U(Mean): 6.020 \pm 1.886 mg/kg

Median: 5.910

Reproducibility s.d.: 2.366 mg/kg

Repeatability s.d.: 0.627 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.687	0.363	0.282	6.860	6.930	6.270
2	5.160	0.302	-0.363	5.440	5.200	4.840
3						
4						
5	4.187	0.068	-0.775	4.240	4.110	4.210
6						
7						
8						
9						
10						
11	3.334	0.022	-1.135	3.310	3.339	3.354
12	6.993	1.369	0.412	6.620	5.850	8.510
13						
14						
15						
16						
17						
18						
19						
20	9.757	0.511	1.580	10.000	10.100	9.170

Measurand: C4-naphthalenes

Sample: 2777

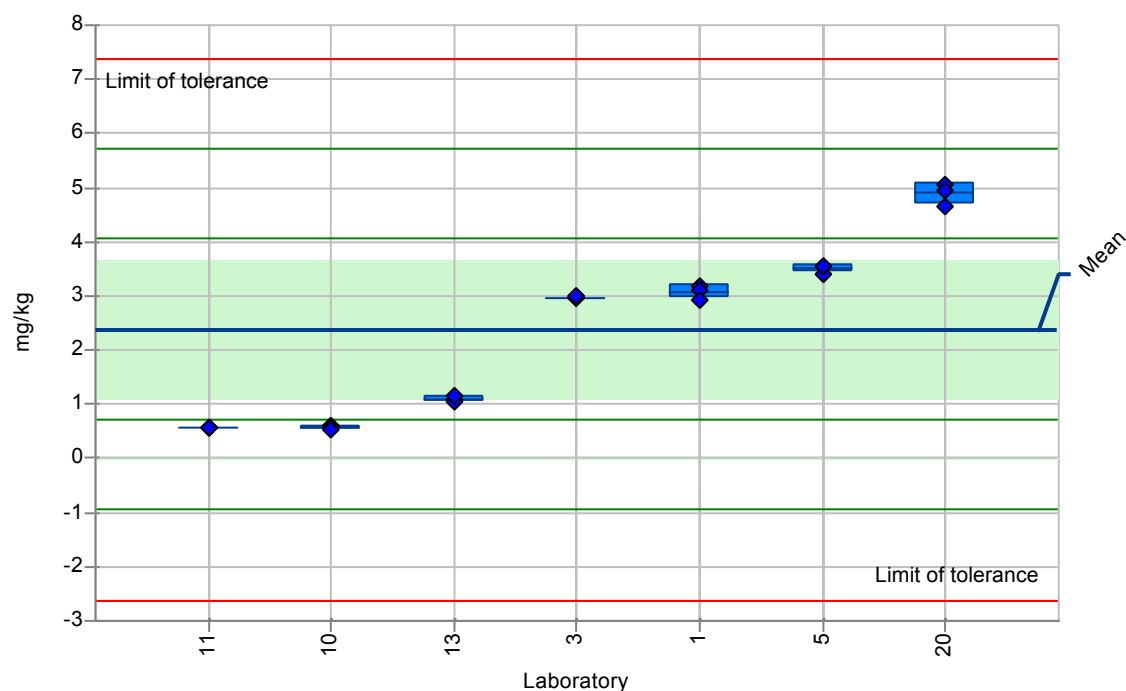
Mean \pm U(Mean): 2.383 \pm 1.259 mg/kg

Median: 2.982

Reproducibility s.d.: 1.668 mg/kg

Repeatability s.d.: 0.097 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.073	0.127	0.414	3.170	3.120	2.930
2						
3	2.976	0.021	0.356	2.993	2.953	2.982
4						
5	3.507	0.084	0.674	3.410	3.550	3.560
6						
7						
8						
9						
10	0.575	0.034	-1.084	0.612	0.568	0.546
11	0.554	0.004	-1.096	0.559	0.552	0.551
12				<2.850	<2.850	<2.850
13	1.100	0.046	-0.769	1.090	1.060	1.150
14						
15						
16						
17						
18						
19						
20	4.893	0.199	1.505	5.050	4.960	4.670

Measurand: C4-phenanthrenes/anthracenes

Sample: 2777

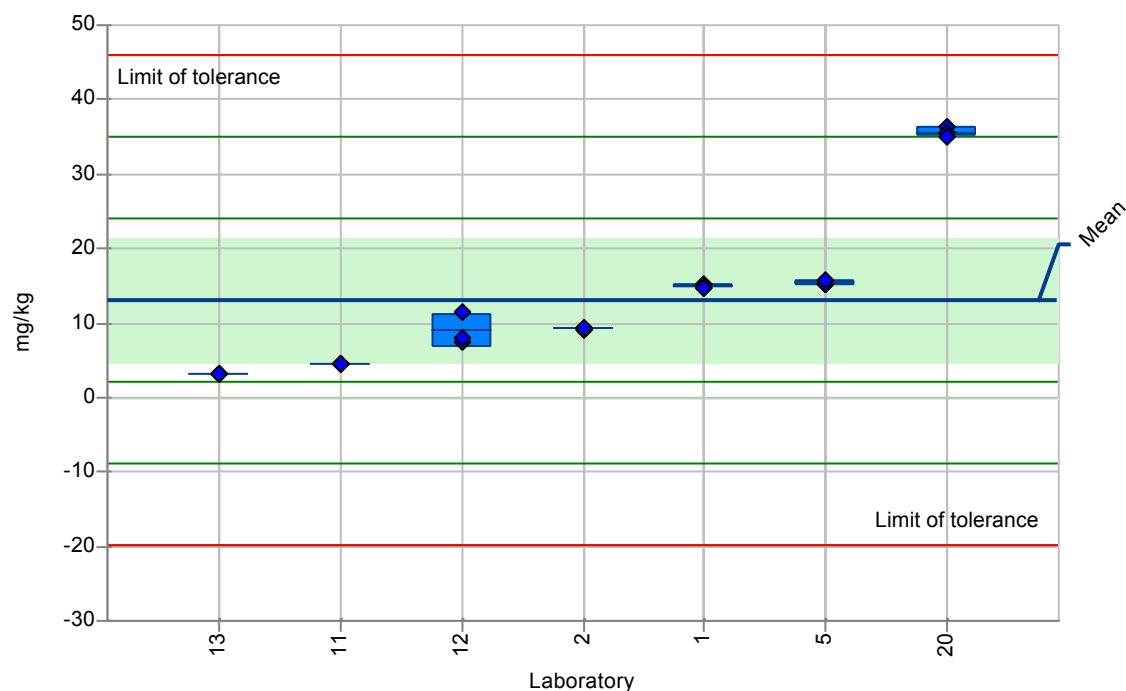
Mean \pm U(Mean): 13.111 \pm 8.287 mg/kg

Median: 9.350

Reproducibility s.d.: 10.987 mg/kg

Repeatability s.d.: 0.891 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	14.900	0.300	0.163	15.200	14.900	14.600
2	9.227	0.222	-0.354	8.970	9.360	9.350
3						
4						
5	15.400	0.346	0.208	15.200	15.200	15.800
6						
7						
8						
9						
10						
11	4.424	0.023	-0.791	4.450	4.409	4.411
12	8.973	2.207	-0.377	7.420	8.000	11.500
13	3.223	0.031	-0.900	3.250	3.190	3.230
14						
15						
16						
17						
18						
19						
20	35.633	0.651	2.050	36.300	35.600	35.000

Measurand: chrysene

Sample: 2777

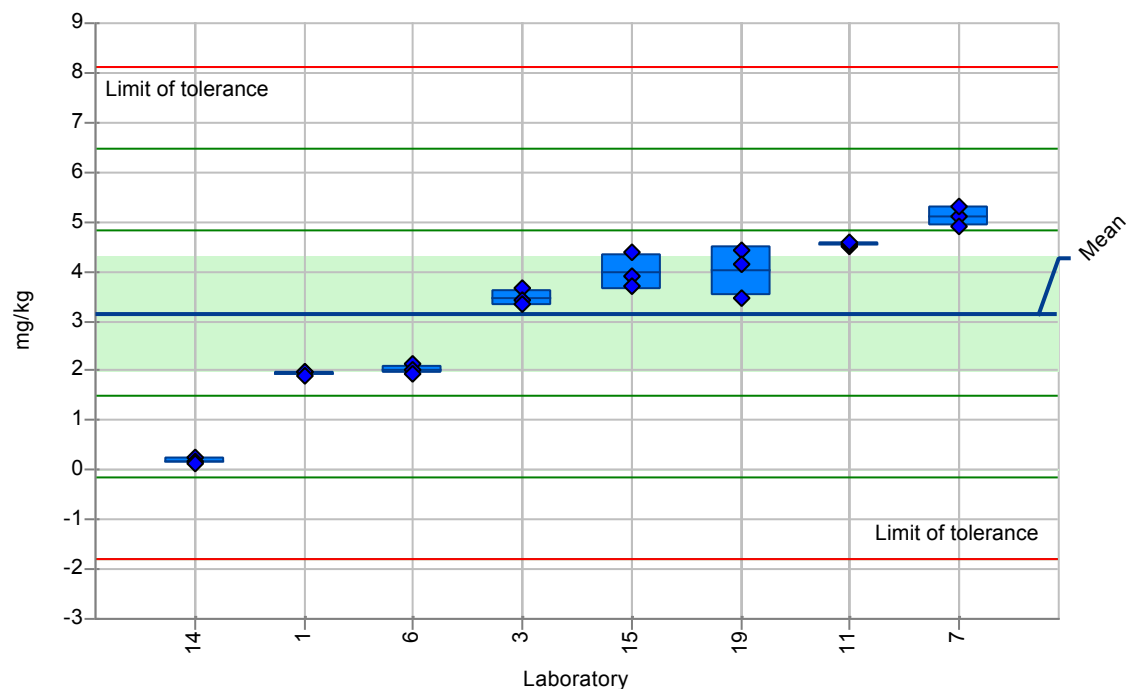
Mean \pm U(Mean): 3.159 \pm 1.160 mg/kg

Median: 3.663

Reproducibility s.d.: 1.653 mg/kg

Repeatability s.d.: 0.242 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.947	0.049	-0.734	1.980	1.970	1.890
2						
3	3.460	0.165	0.182	3.643	3.415	3.322
4						
5						
6	2.027	0.086	-0.685	2.120	2.010	1.950
7	5.117	0.200	1.184	5.110	4.920	5.320
8						
9						
10						
11	4.537	0.031	0.834	4.512	4.527	4.572
12						
13						
14	0.183	0.070	-1.801	0.253	0.182	0.114
15	4.000	0.363	0.509	3.910	3.690	4.400
16						
17						
18						
19	4.004	0.504	0.511	3.445	4.421	4.147
20						

Measurand: chrys_triphen

Sample: 2777

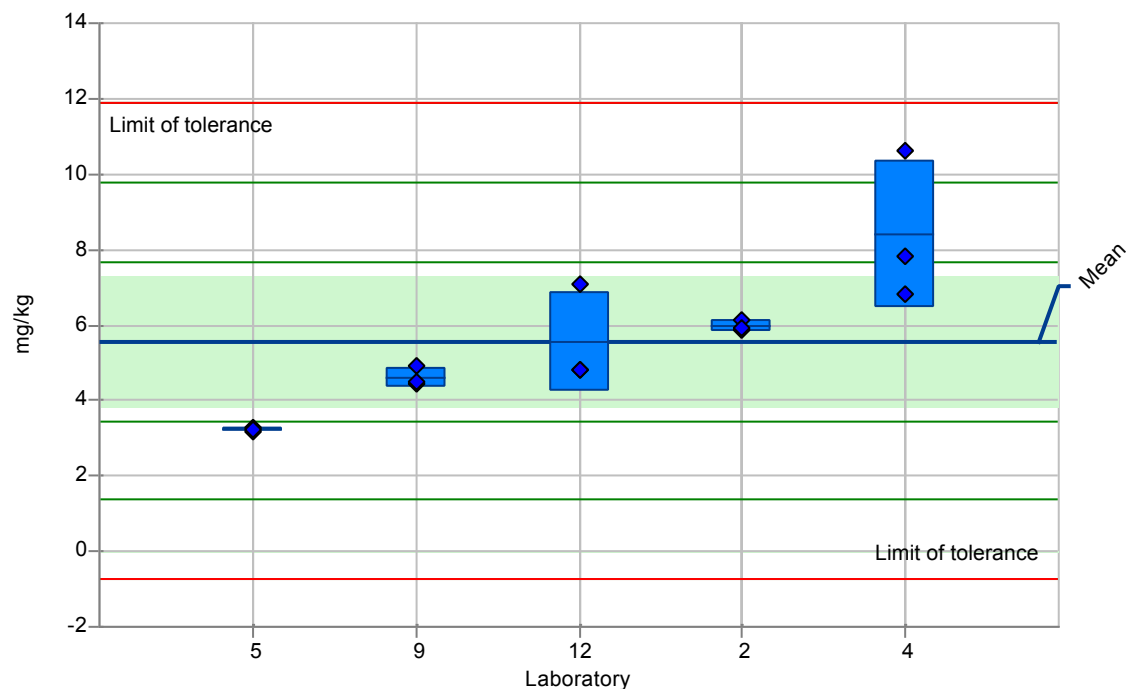
Mean \pm U(Mean): 5.560 \pm 1.713 mg/kg

Median: 4.820

Reproducibility s.d.: 2.103 mg/kg

Repeatability s.d.: 1.063 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	5.977	0.153	0.198	5.860	6.150	5.920
3						
4	8.413	1.956	1.357	6.830	10.600	7.810
5	3.220	0.036	-1.113	3.190	3.260	3.210
6						
7						
8						
9	4.620	0.261	-0.447	4.450	4.490	4.920
10						
11						
12	5.570	1.316	0.005	4.820	4.800	7.090
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: dibenzofuran

Sample: 2777

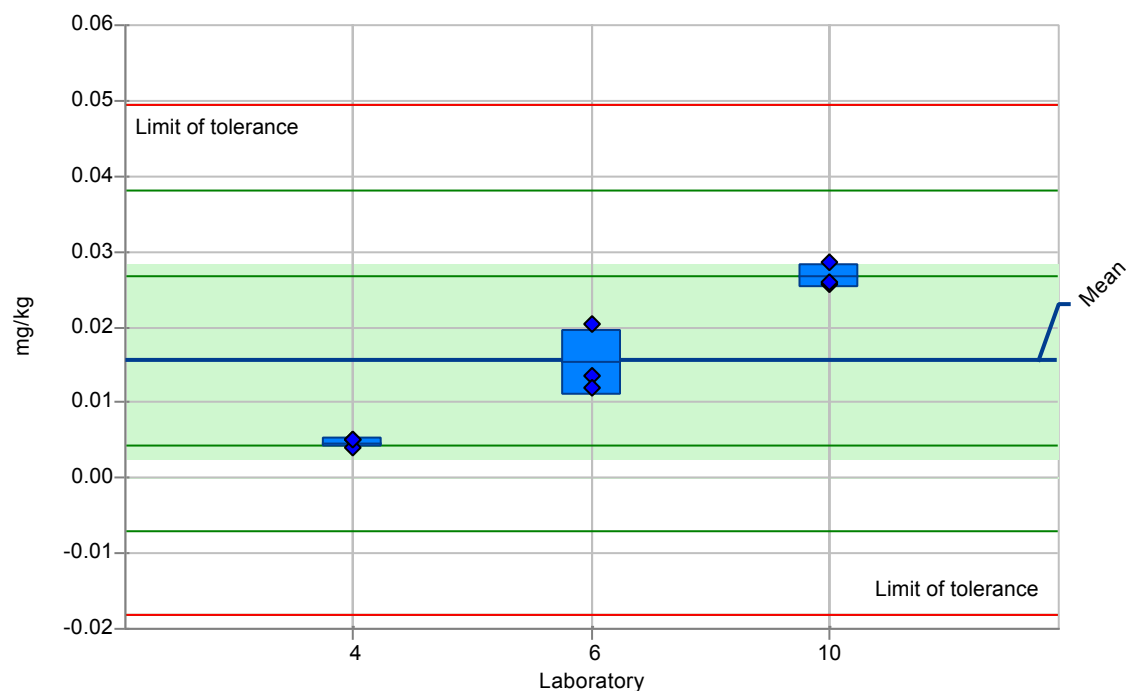
Mean \pm U(Mean): 0.016 \pm 0.013 mg/kg

Median: 0.014

Reproducibility s.d.: 0.011 mg/kg

Repeatability s.d.: 0.003 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	0.005	0.001	-0.966	0.005	0.004	0.005
5						
6	0.015	0.004	-0.027	0.014	0.020	0.012
7						
8						
9						
10	0.027	0.002	0.993	0.026	0.026	0.029
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: dibenzothiophene

Sample: 2777

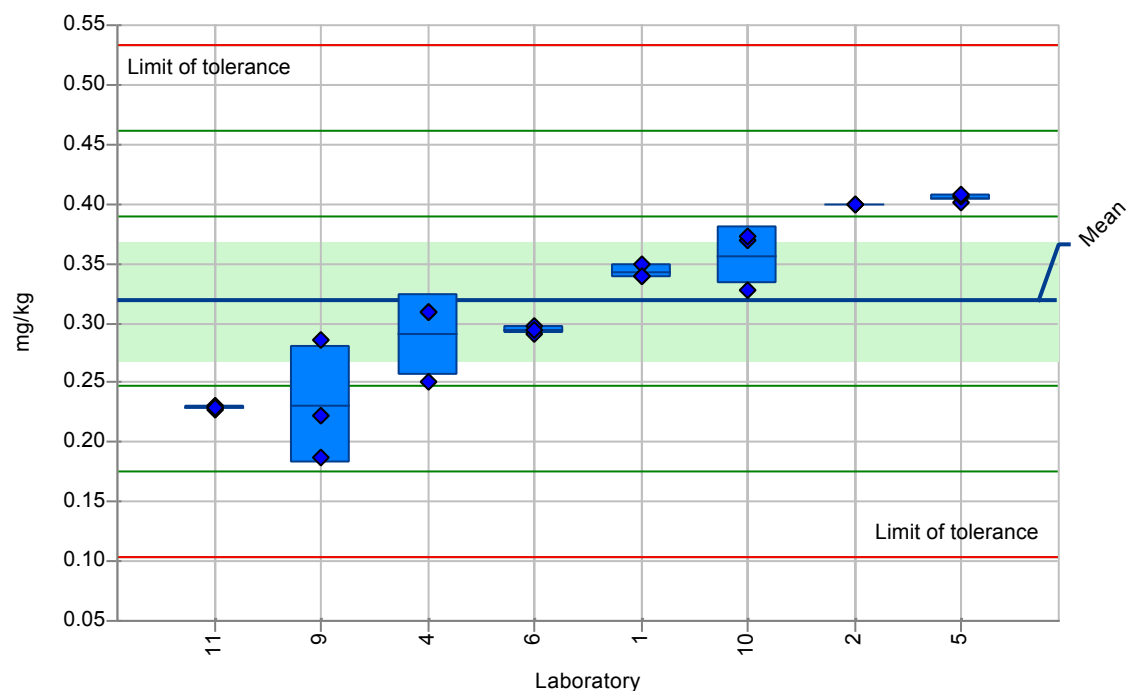
Mean \pm U(Mean): 0.319 \pm 0.049 mg/kg

Median: 0.325

Reproducibility s.d.: 0.072 mg/kg

Repeatability s.d.: 0.023 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.343	0.006	0.345	0.340	0.350	0.340
2	0.400	0.000	1.136	0.400	0.400	0.400
3						
4	0.290	0.035	-0.400	0.250	0.310	0.310
5	0.405	0.003	1.211	0.402	0.406	0.408
6	0.294	0.004	-0.349	0.297	0.290	0.294
7						
8						
9	0.231	0.050	-1.220	0.285	0.222	0.187
10	0.357	0.025	0.533	0.328	0.369	0.373
11	0.229	0.002	-1.256	0.230	0.227	0.229
12				<2.850	<2.850	<2.850
13				<0.420	<0.420	<0.420
14						
15						
16						
17						
18						
19						
20						

Measurand: dibenz[a,h]anthracene

Sample: 2777

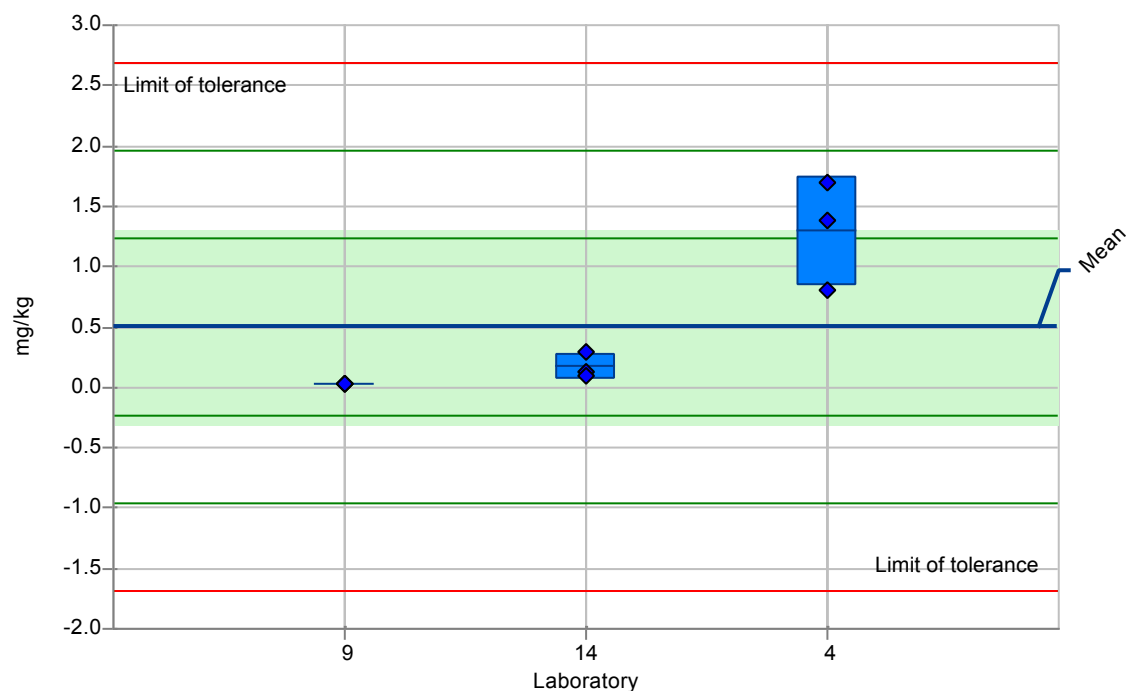
Mean \pm U(Mean): 0.500 \pm 0.801 mg/kg

Median: 0.123

Reproducibility s.d.: 0.727 mg/kg

Repeatability s.d.: 0.268 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	1.297	0.451	1.095	0.810	1.700	1.380
5						
6						
7						
8						
9	0.029	0.003	-0.647	0.031	0.026	0.031
10						
11				<0.002	<0.002	<0.002
12						
13						
14	0.174	0.108	-0.448	0.123	0.299	0.101
15						
16						
17						
18						
19						
20						

Measurand: fluoranthene

Sample: 2777

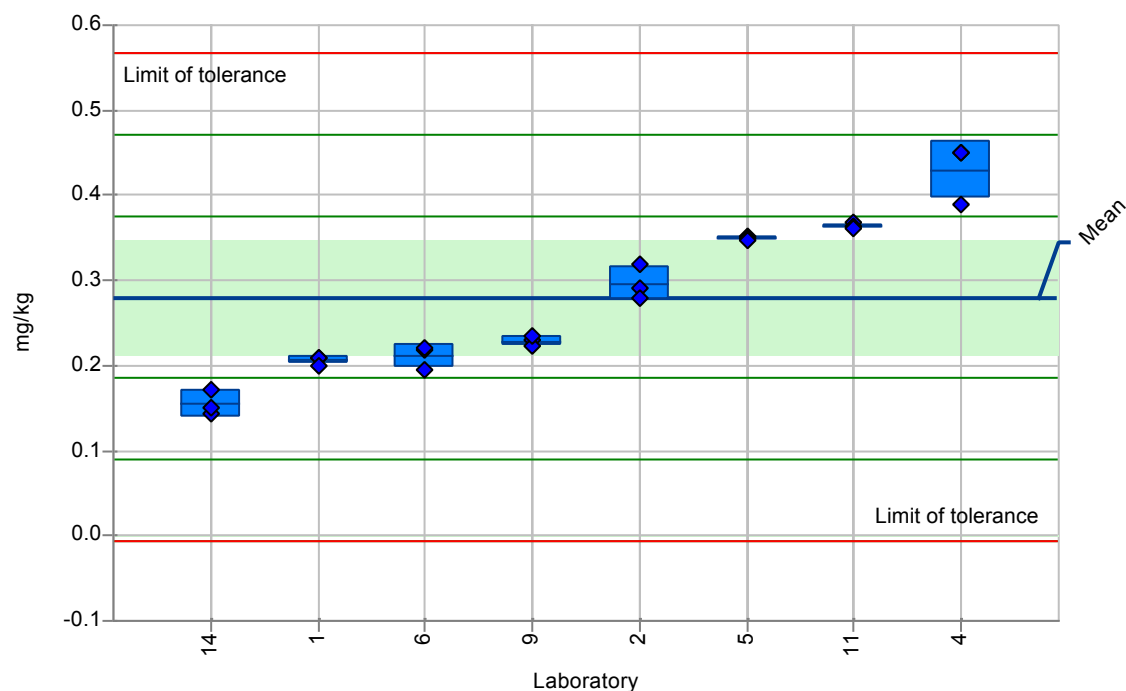
Mean \pm U(Mean): 0.280 \pm 0.067 mg/kg

Median: 0.260

Reproducibility s.d.: 0.096 mg/kg

Repeatability s.d.: 0.016 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.207	0.006	-0.769	0.210	0.210	0.200
2	0.297	0.021	0.170	0.290	0.280	0.320
3						
4	0.430	0.035	1.562	0.390	0.450	0.450
5	0.349	0.002	0.720	0.351	0.349	0.348
6	0.212	0.014	-0.717	0.219	0.220	0.196
7						
8						
9	0.229	0.007	-0.539	0.229	0.222	0.235
10						
11	0.365	0.002	0.879	0.367	0.364	0.362
12				<2.850	<2.850	<2.850
13						
14	0.155	0.016	-1.307	0.143	0.173	0.150
15						
16						
17						
18						
19						
20						

Measurand: fluorene

Sample: 2777

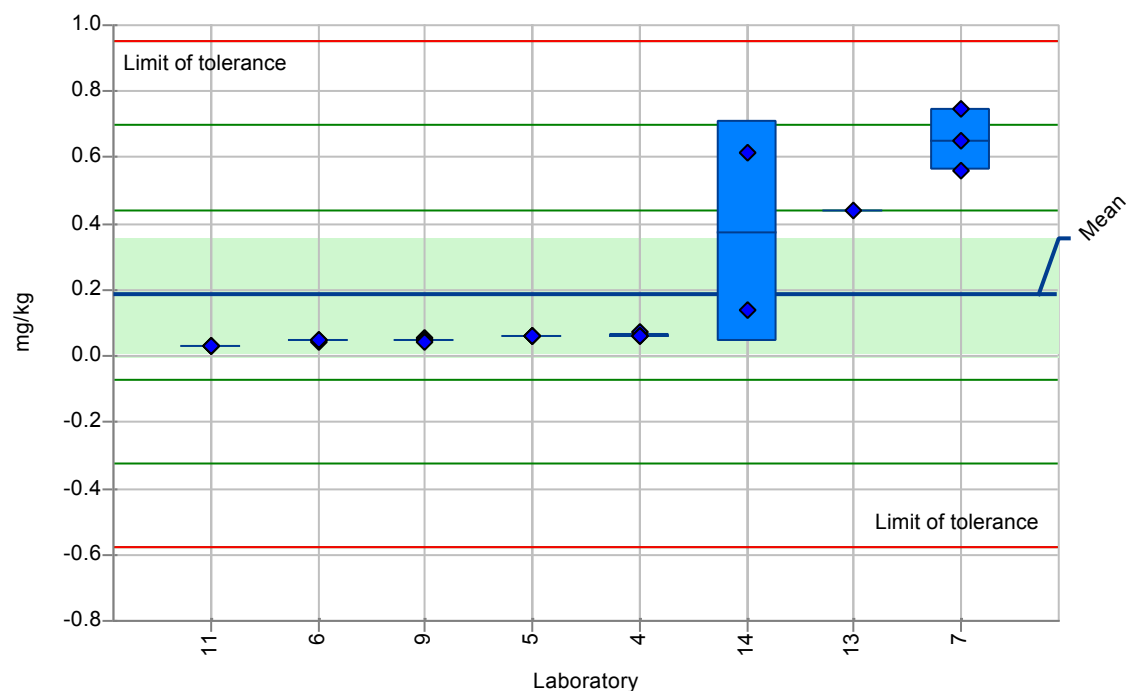
Mean \pm U(Mean): 0.186 \pm 0.171 mg/kg

Median: 0.062

Reproducibility s.d.: 0.255 mg/kg

Repeatability s.d.: 0.100 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4	0.063	0.006	-0.482	0.070	0.061	0.058
5	0.062	0.001	-0.487	0.060	0.063	0.062
6	0.047	0.004	-0.545	0.043	0.050	0.048
7	0.653	0.095	1.833	0.560	0.650	0.750
8						
9	0.048	0.004	-0.542	0.052	0.046	0.045
10						
11	0.031	0.000	-0.608	0.031	0.031	0.031
12				<2.850	<2.850	<2.850
13	0.440		0.996	<0.420	<0.420	0.440
14	0.377	0.334	0.748	0.141		0.613
15						
16						
17						
18						
19						
20						

Measurand: indeno[1,2,3-cd]pyrene

Sample: 2777

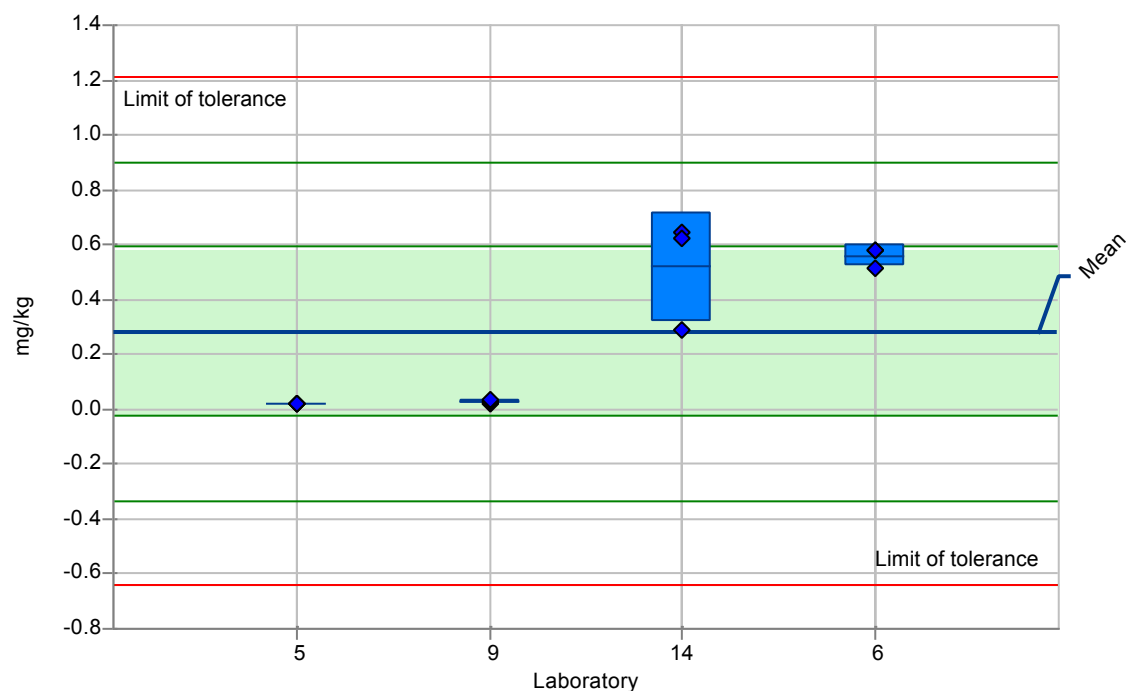
Mean \pm U(Mean): 0.283 \pm 0.298 mg/kg

Median: 0.306

Reproducibility s.d.: 0.309 mg/kg

Repeatability s.d.: 0.101 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5	0.023	0.001	-0.840	0.024	0.024	0.023
6	0.560	0.038	0.898	0.583	0.581	0.517
7						
8						
9	0.028	0.006	-0.826	0.021	0.031	0.032
10						
11				<0.005	<0.005	<0.005
12				<2.850	<2.850	<2.850
13						
14	0.520	0.199	0.769	0.291	0.644	0.627
15						
16						
17						
18						
19						
20						

Measurand: naphthalene

Sample: 2777

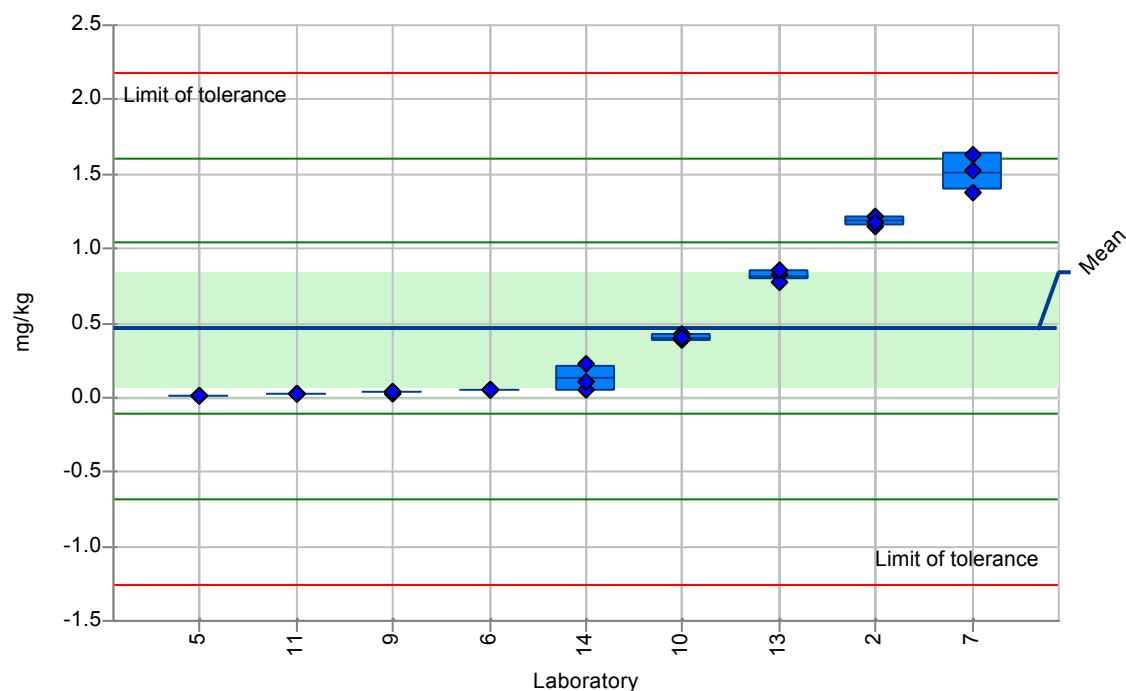
Mean \pm U(Mean): 0.463 \pm 0.381 mg/kg

Median: 0.103

Reproducibility s.d.: 0.574 mg/kg

Repeatability s.d.: 0.055 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2	1.183	0.035	1.256	1.220	1.150	1.180
3						
4						
5	0.007	0.000	-0.794	0.007	0.006	0.007
6	0.055	0.001	-0.711	0.054	0.056	0.054
7	1.513	0.126	1.831	1.630	1.380	1.530
8						
9	0.033	0.002	-0.749	0.034	0.030	0.035
10	0.400	0.021	-0.108	0.422	0.380	0.398
11	0.026	0.000	-0.761	0.026	0.026	0.026
12				<2.850	<2.850	<2.850
13	0.820	0.036	0.623	0.830	0.780	0.850
14	0.126	0.092	-0.587	0.047	0.103	0.227
15						
16						
17						
18						
19						
20						

Measurand: naphthobenzothiophene

Sample: 2777

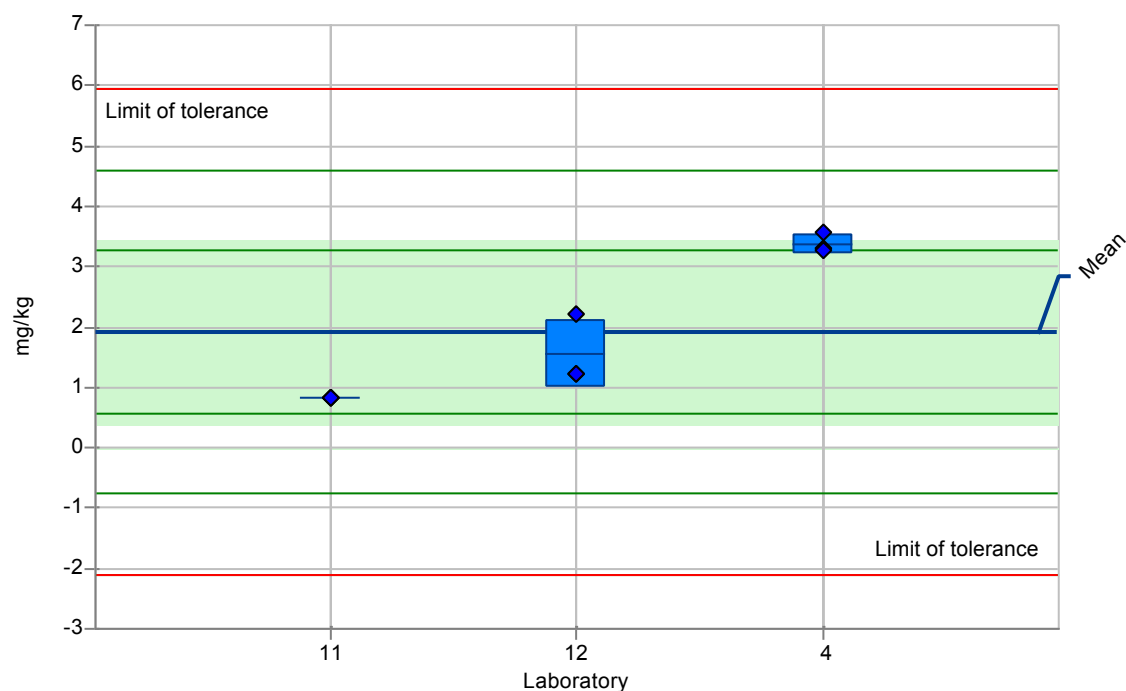
Mean \pm U(Mean): 1.917 \pm 1.519 mg/kg

Median: 1.240

Reproducibility s.d.: 1.344 mg/kg

Repeatability s.d.: 0.338 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4	3.373	0.162	1.084	3.290	3.270	3.560
5						
6						
7						
8						
9						
10						
11	0.817	0.004	-0.819	0.816	0.813	0.822
12	1.560	0.563	-0.265	1.240	1.230	2.210
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: perylene

Sample: 2777

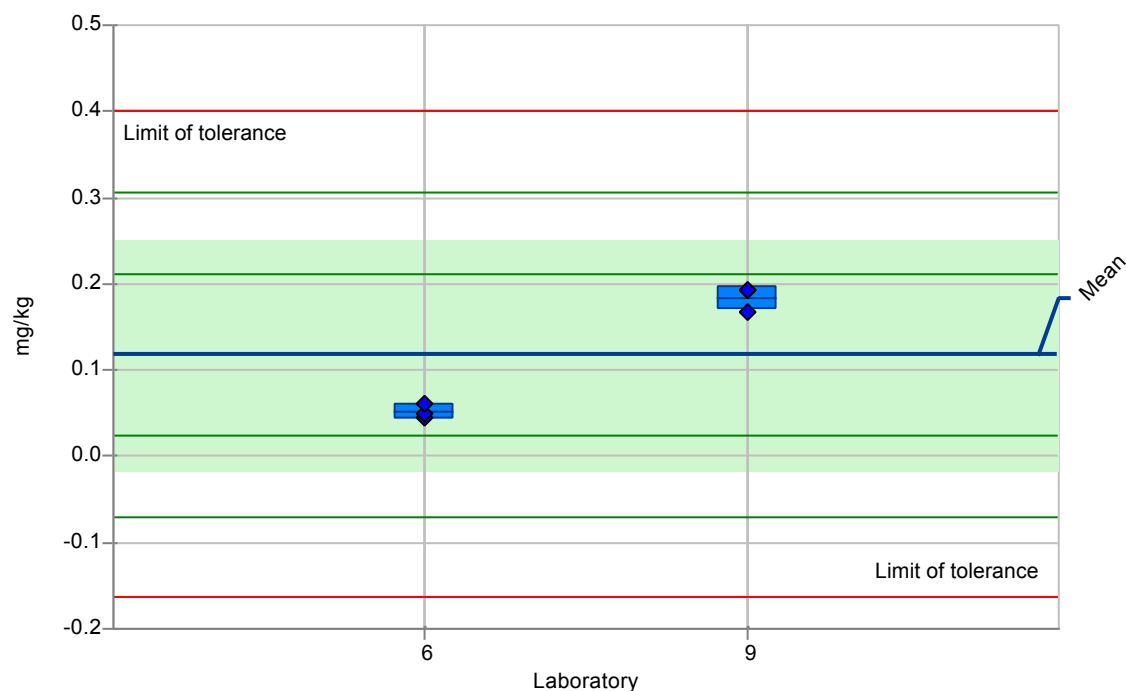
Mean \pm U(Mean): 0.118 \pm 0.132 mg/kg

Median: 0.120

Reproducibility s.d.: 0.094 mg/kg

Repeatability s.d.: 0.012 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5				<0.003	<0.003	<0.003
6	0.052	0.009	-0.704	0.046	0.048	0.062
7						
8						
9	0.184	0.014	0.704	0.192	0.168	0.192
10						
11				<0.004	<0.004	<0.004
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: phenanthrene

Sample: 2777

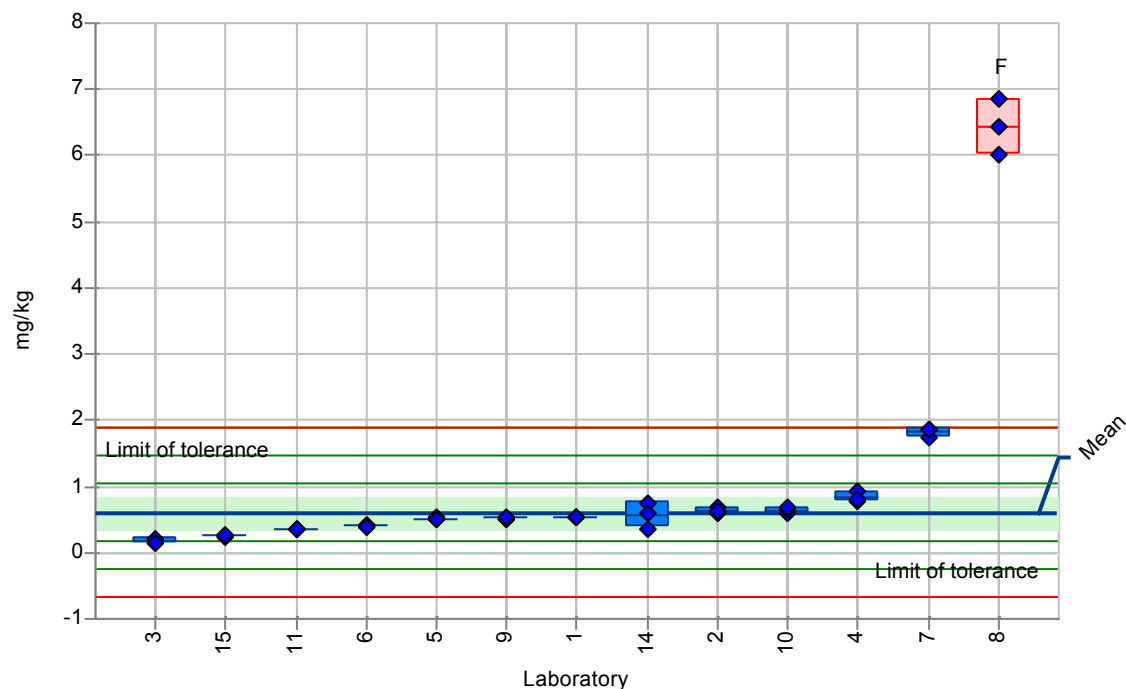
Mean \pm U(Mean): 0.607 \pm 0.244 mg/kg

Median: 0.550

Reproducibility s.d.: 0.426 mg/kg

Repeatability s.d.: 0.069 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.543	0.012	-0.150	0.530	0.550	0.550
2	0.637	0.045	0.070	0.680	0.590	0.640
3	0.183	0.045	-0.996	0.203	0.215	0.132
4	0.847	0.081	0.563	0.790	0.940	0.810
5	0.518	0.013	-0.209	0.533	0.509	0.512
6	0.404	0.014	-0.477	0.417	0.406	0.389
7	1.817	0.076	2.841	1.870	1.730	1.850
8	6.443	0.415	13.709	6.026	6.448	6.855
9	0.526	0.014	-0.190	0.518	0.518	0.542
10	0.639	0.049	0.075	0.582	0.663	0.671
11	0.346	0.003	-0.614	0.343	0.348	0.346
12				<2.850	<2.850	<2.850
13				<0.420	<0.420	<0.420
14	0.576	0.193	-0.074	0.369	0.752	0.606
15	0.250	0.010	-0.839	0.260	0.240	0.250
16						
17						
18						
19						
20						

Measurand: pyrene

Sample: 2777

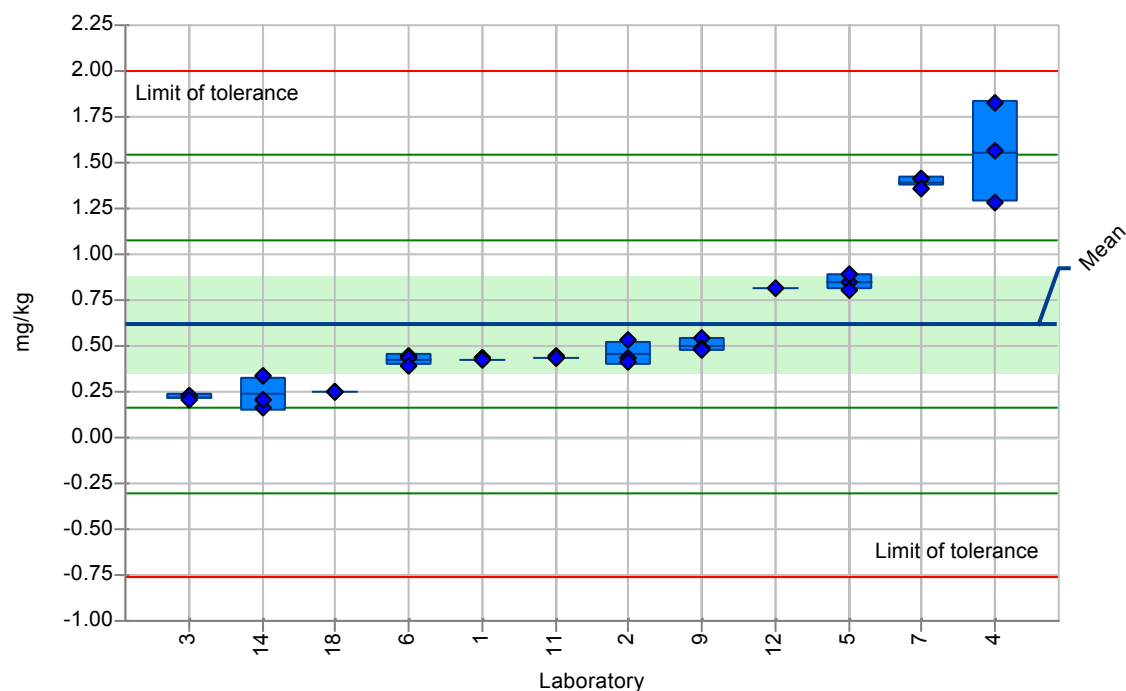
Mean \pm U(Mean): 0.620 \pm 0.262 mg/kg

Median: 0.438

Reproducibility s.d.: 0.460 mg/kg

Repeatability s.d.: 0.092 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	0.427	0.006	-0.420	0.430	0.430	0.420
2	0.457	0.064	-0.354	0.430	0.530	0.410
3	0.220	0.015	-0.869	0.232	0.225	0.203
4	1.557	0.275	2.037	1.280	1.560	1.830
5	0.847	0.042	0.494	0.851	0.886	0.803
6	0.423	0.030	-0.428	0.442	0.439	0.388
7	1.393	0.029	1.682	1.410	1.410	1.360
8						
9	0.504	0.037	-0.251	0.546	0.493	0.474
10						
11	0.438	0.003	-0.394	0.437	0.441	0.436
12	0.814		0.423	<2.860	<2.860	0.814
13						
14	0.235	0.090	-0.837	0.164	0.203	0.336
15						
16						
17						
18	0.251	0.000	-0.802	0.251	0.251	0.251
19						
20						

Measurand: retene

Sample: 2777

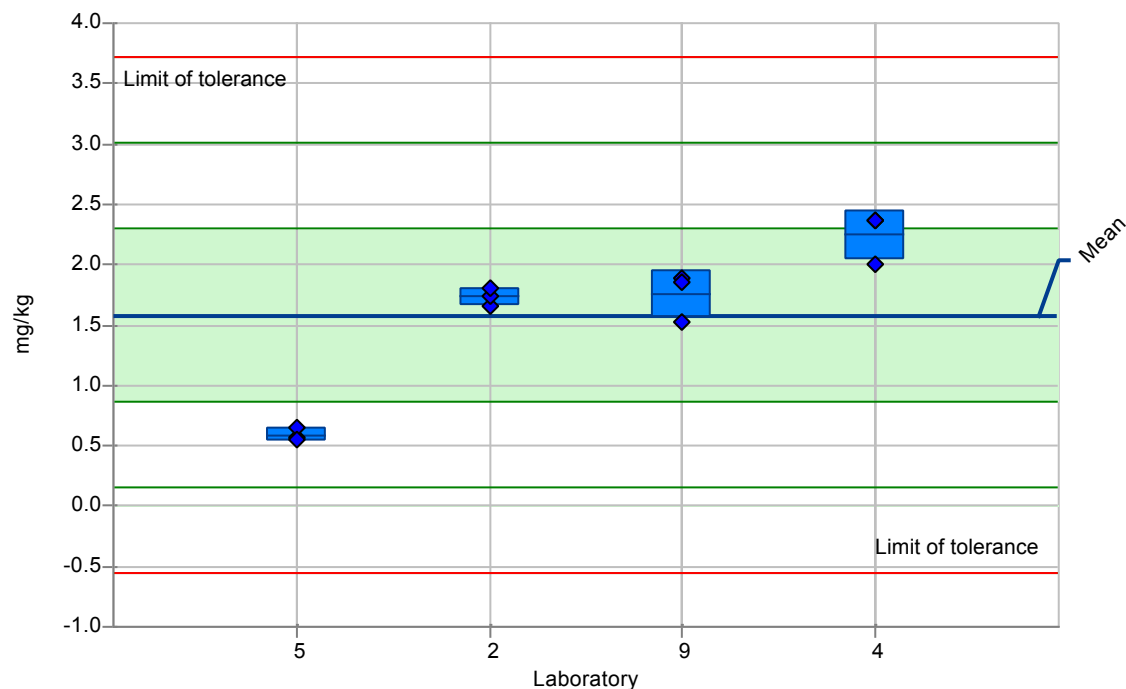
Mean \pm U(Mean): 1.581 \pm 0.701 mg/kg

Median: 1.800

Reproducibility s.d.: 0.711 mg/kg

Repeatability s.d.: 0.151 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1.733	0.070	0.214	1.660	1.740	1.800
3						
4	2.243	0.211	0.931	2.360	2.000	2.370
5	0.591	0.054	-1.392	0.571	0.652	0.550
6						
7						
8						
9	1.757	0.197	0.247	1.880	1.860	1.530
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: triphenylene

Sample: 2777

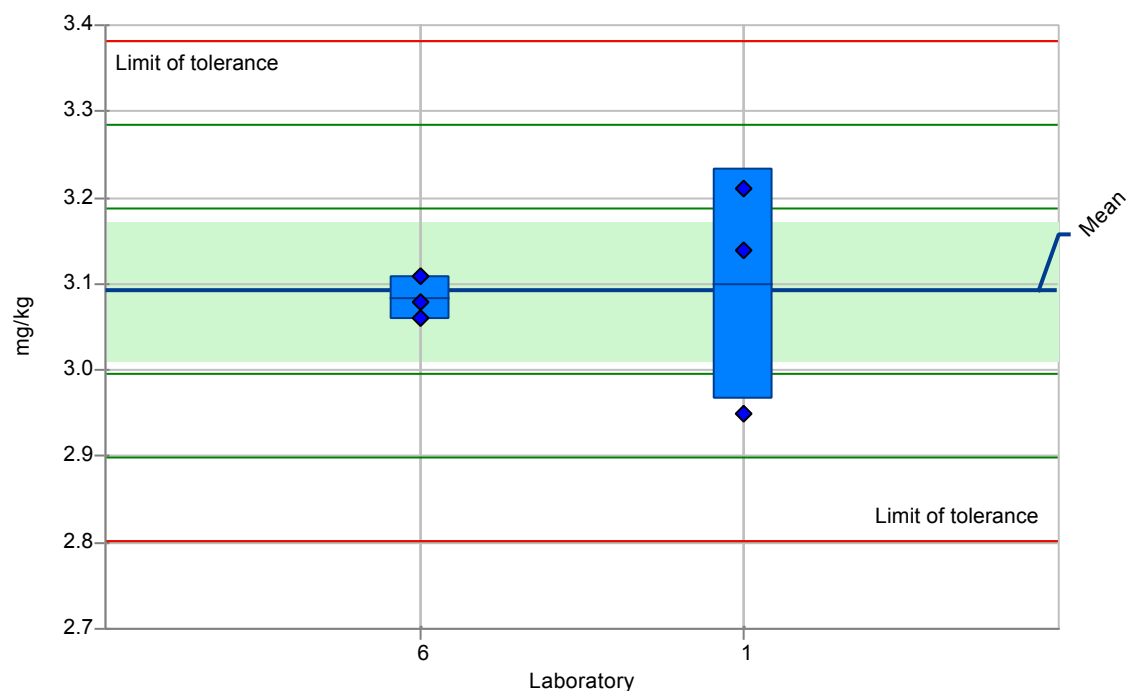
Mean \pm U(Mean): 3.092 \pm 0.079 mg/kg

Median: 3.110

Reproducibility s.d.: 0.097 mg/kg

Repeatability s.d.: 0.097 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.100	0.135	0.086	3.210	3.140	2.950
2						
3						
4						
5						
6	3.083	0.025	-0.086	3.080	3.110	3.060
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: 1,6,7-trimethylnaphthalene

Sample: 2779

Mean \pm U(Mean): 376.581 \pm 286.492 mg/kg

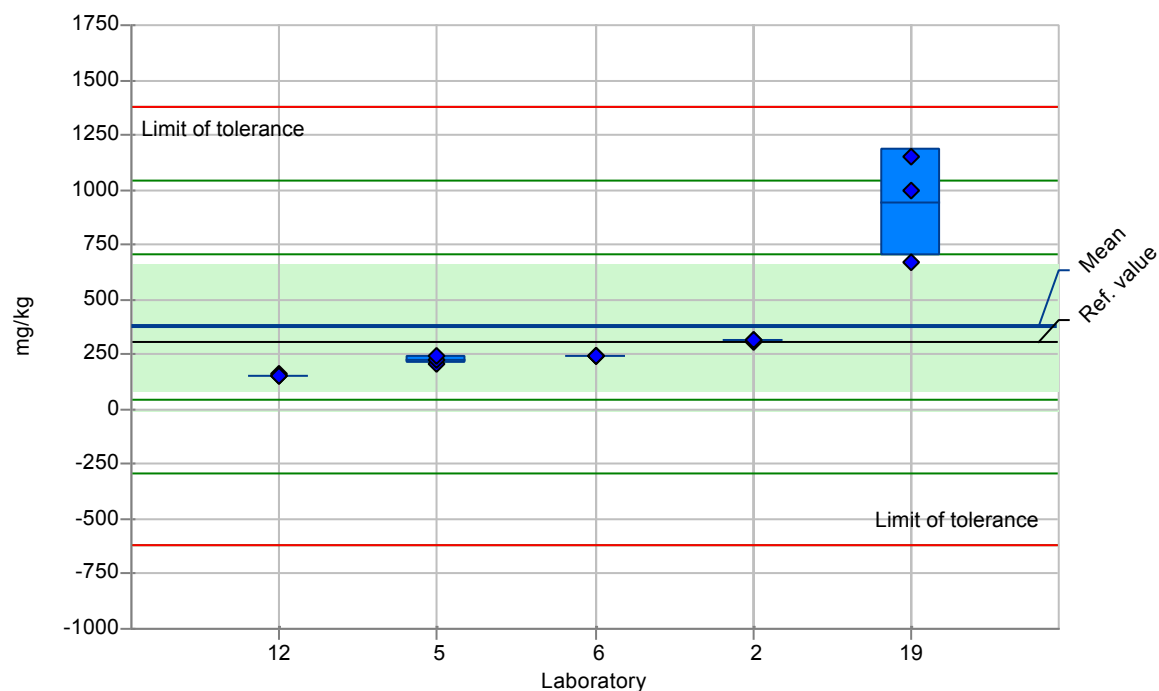
Median: 243.000

Reference value: 306.000 mg/kg

Reproducibility s.d.: 332.480 mg/kg

Repeatability s.d.: 109.173 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	314.533	5.171	-0.187	309.510	314.250	319.840
3						
4						
5	227.333	16.503	-0.449	211.000	227.000	244.000
6	243.667	3.055	-0.400	247.000	243.000	241.000
7						
8						
9						
10						
11						
12	156.667	2.082	-0.661	159.000	155.000	156.000
13						
14						
15						
16						
17						
18						
19	940.704	243.477	1.697	1001.176	1148.246	672.689
20						

Measurand: 1-methylnaphthalene

Sample: 2779

Mean \pm U(Mean): 1214.553 \pm 330.276 mg/kg

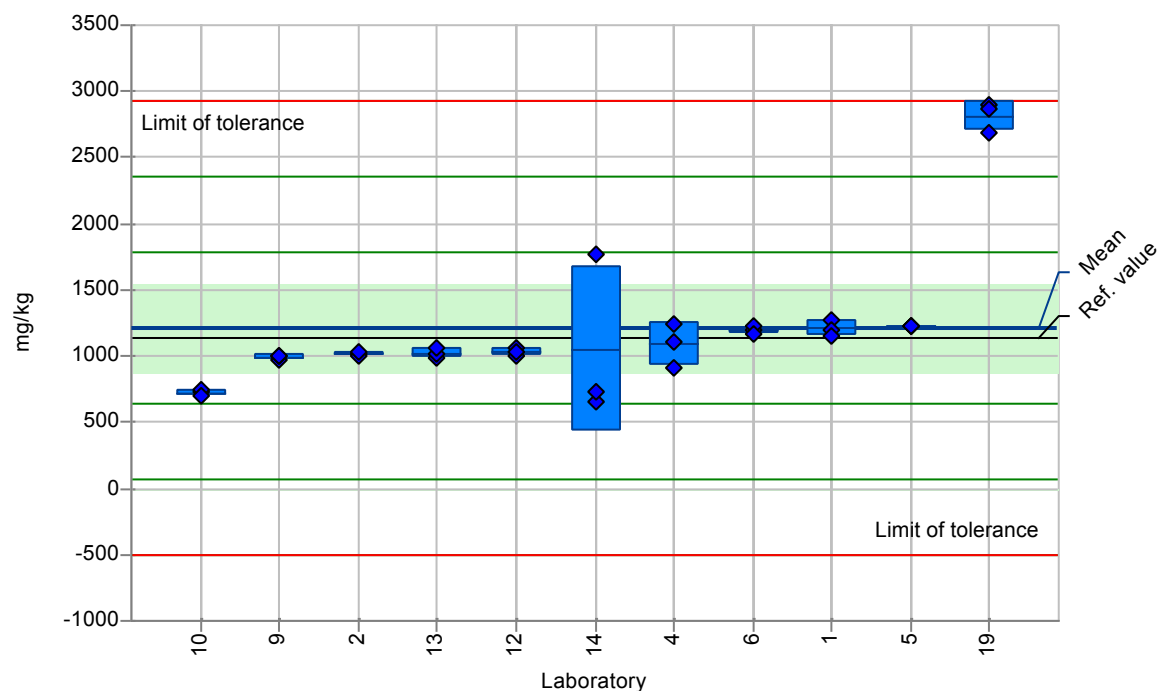
Median: 1030.000

Reference value: 1140.000 mg/kg

Reproducibility s.d.: 571.380 mg/kg

Repeatability s.d.: 199.370 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1206.667	60.277	-0.014	1270.000	1200.000	1150.000
2	1020.147	16.784	-0.340	1022.080	1002.480	1035.880
3						
4	1089.000	163.744	-0.220	1243.000	1107.000	917.000
5	1220.000	0.000	0.010	1220.000	1220.000	1220.000
6	1193.333	25.166	-0.037	1190.000	1220.000	1170.000
7						
8						
9	993.667	18.824	-0.387	972.000	1006.000	1003.000
10	721.138	23.842	-0.864	727.206	741.360	694.848
11						
12	1029.000	31.512	-0.325	1060.000	997.000	1030.000
13	1022.275	36.640	-0.337	986.826	1020.000	1060.000
14	1051.727	624.684	-0.285	655.610	727.723	1771.848
15						
16						
17						
18						
19	2813.134	111.293	2.798	2685.936	2892.595	2860.871
20						

Measurand: 1-methylphenanthrene

Sample: 2779

Mean \pm U(Mean): 223.686 \pm 85.623 mg/kg

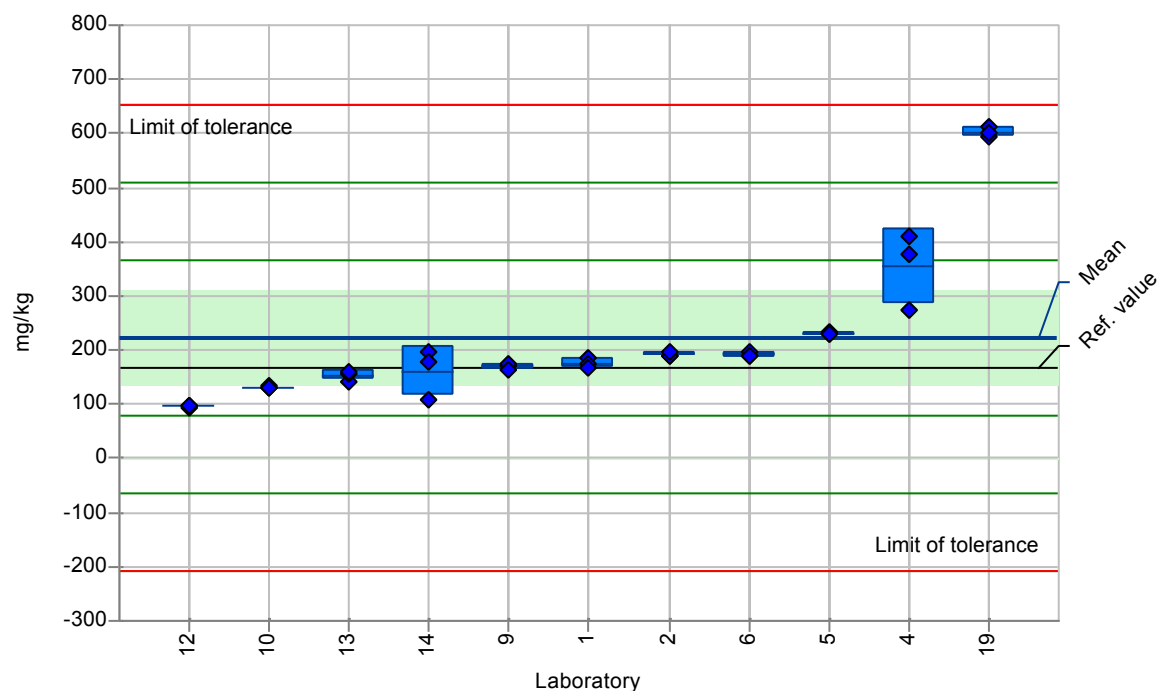
Median: 178.323

Reference value: 169.000 mg/kg

Reproducibility s.d.: 143.572 mg/kg

Repeatability s.d.: 26.035 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	176.373	8.693	-0.330	185.721	174.868	168.532
2	191.683	3.611	-0.223	190.530	188.790	195.730
3						
4	353.967	70.268	0.907	375.700	275.400	410.800
5	230.667	3.786	0.049	235.000	229.000	228.000
6	192.000	4.583	-0.221	191.000	197.000	188.000
7						
8						
9	170.333	6.028	-0.372	171.000	176.000	164.000
10	131.660	2.852	-0.641	134.697	129.039	131.244
11						
12	96.133	2.122	-0.888	97.600	93.700	97.100
13	153.333	9.292	-0.490	143.000	156.000	161.000
14	161.359	46.605	-0.434	197.106	178.323	108.648
15						
16						
17						
18						
19	603.032	9.344	2.642	613.407	595.281	600.409
20						

Measurand: 2,6-dimethylnaphthalene

Sample: 2779

Mean \pm U(Mean): 1184.100 \pm 925.499 mg/kg

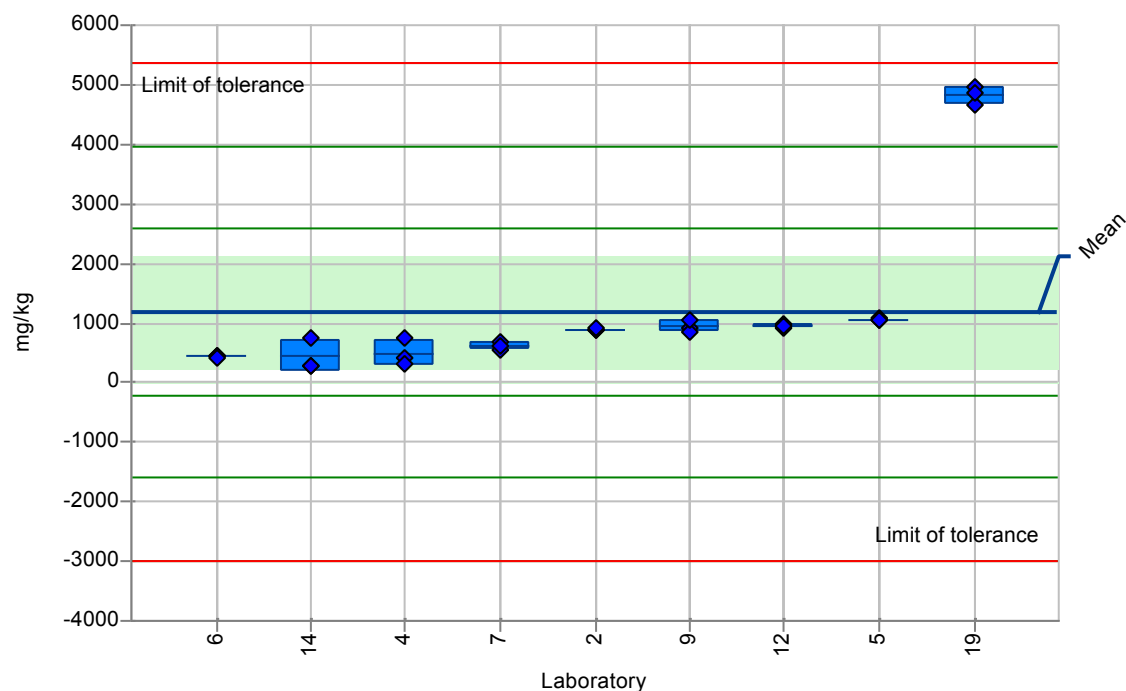
Median: 890.150

Reference value:

Reproducibility s.d.: 1392.390 mg/kg

Repeatability s.d.: 131.440 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	894.460	13.472	-0.208	890.150	883.670	909.560
3						
4	494.000	215.965	-0.496	429.000	735.000	318.000
5	1060.000	10.000	-0.089	1070.000	1050.000	1060.000
6	435.667	6.658	-0.538	439.000	440.000	428.000
7	604.667	65.896	-0.416	666.000	535.000	613.000
8						
9	949.333	94.838	-0.169	931.000	865.000	1052.000
10						
11						
12	951.333	21.502	-0.167	973.000	930.000	951.000
13						
14	438.914	268.706	-0.535	294.811	272.997	748.934
15						
16						
17						
18						
19	4828.529	150.038	2.617	4666.064	4961.869	4857.656
20						

Measurand: 2-methylantracene

Sample: 2779

Mean \pm U(Mean): 20.089 \pm 14.184 mg/kg

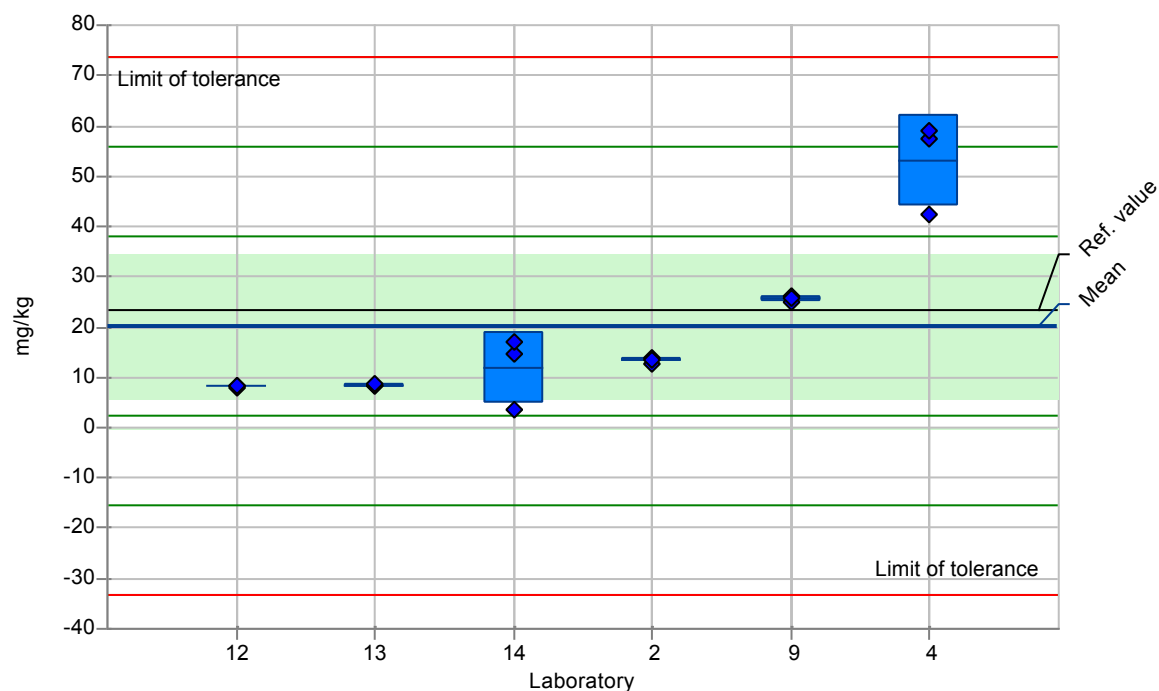
Median: 14.105

Reference value: 23.300 mg/kg

Reproducibility s.d.: 17.803 mg/kg

Repeatability s.d.: 4.772 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	13.427	0.493	-0.374	12.870	13.810	13.600
3						
4	53.067	9.272	1.852	57.600	42.400	59.200
5						
6						
7						
8						
9	25.633	0.666	0.311	24.900	26.200	25.800
10						
11						
12	8.160	0.070	-0.670	8.210	8.080	8.190
13	8.480	0.380	-0.652	8.140	8.410	8.890
14	11.770	7.058	-0.467	14.609	16.966	3.735
15						
16						
17						
18						
19						
20						

Measurand: 2-methylnaphthalene

Sample: 2779

Mean \pm U(Mean): 1877.096 \pm 532.748 mg/kg

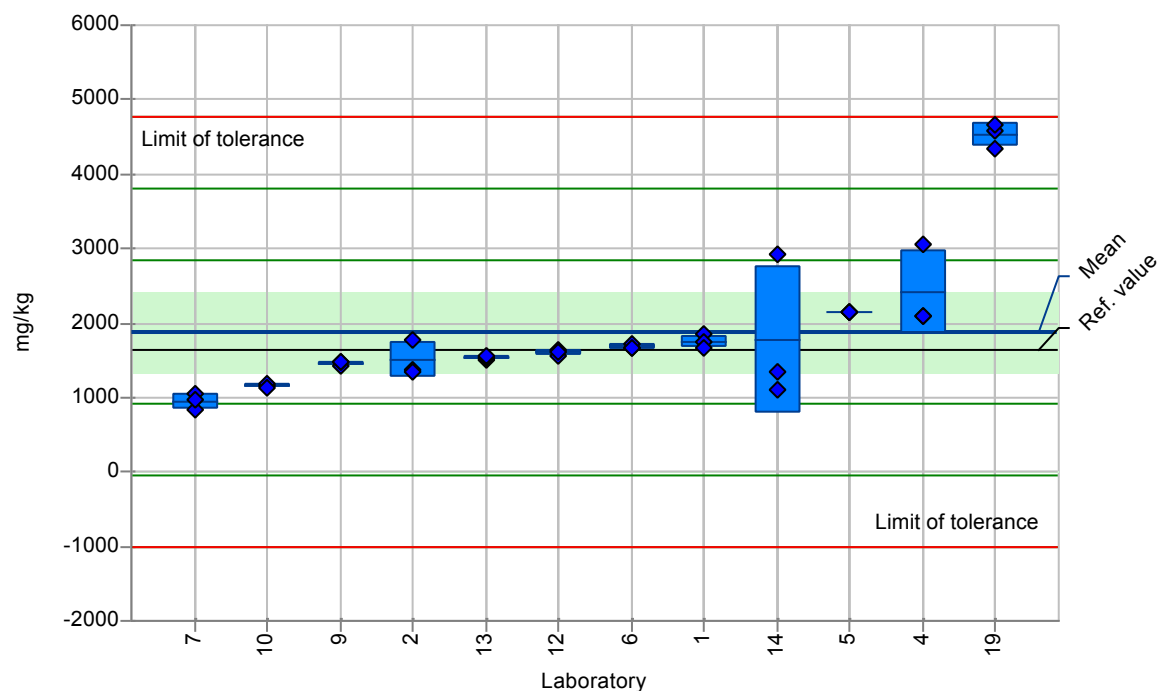
Median: 1560.000

Reference value: 1630.000 mg/kg

Reproducibility s.d.: 964.100 mg/kg

Repeatability s.d.: 342.110 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1750.000	85.440	-0.132	1840.000	1740.000	1670.000
2	1500.443	246.733	-0.391	1372.940	1343.550	1784.840
3						
4	2418.000	564.663	0.561	3070.000	2088.000	2096.000
5	2153.333	5.774	0.287	2160.000	2150.000	2150.000
6	1683.333	32.145	-0.201	1670.000	1720.000	1660.000
7	950.000	104.676	-0.962	1051.000	842.000	957.000
8						
9	1463.333	25.423	-0.429	1434.000	1479.000	1477.000
10	1156.542	32.358	-0.747	1170.000	1180.000	1119.627
11						
12	1606.667	40.414	-0.280	1650.000	1570.000	1600.000
13	1530.000	36.056	-0.360	1500.000	1520.000	1570.000
14	1781.408	987.083	-0.099	1091.404	1340.755	2912.065
15						
16						
17						
18						
19	4532.092	162.653	2.754	4354.222	4568.801	4673.253
20						

Measurand: 2-methylphenanthrene

Sample: 2779

Mean \pm U(Mean): 210.330 \pm 61.727 mg/kg

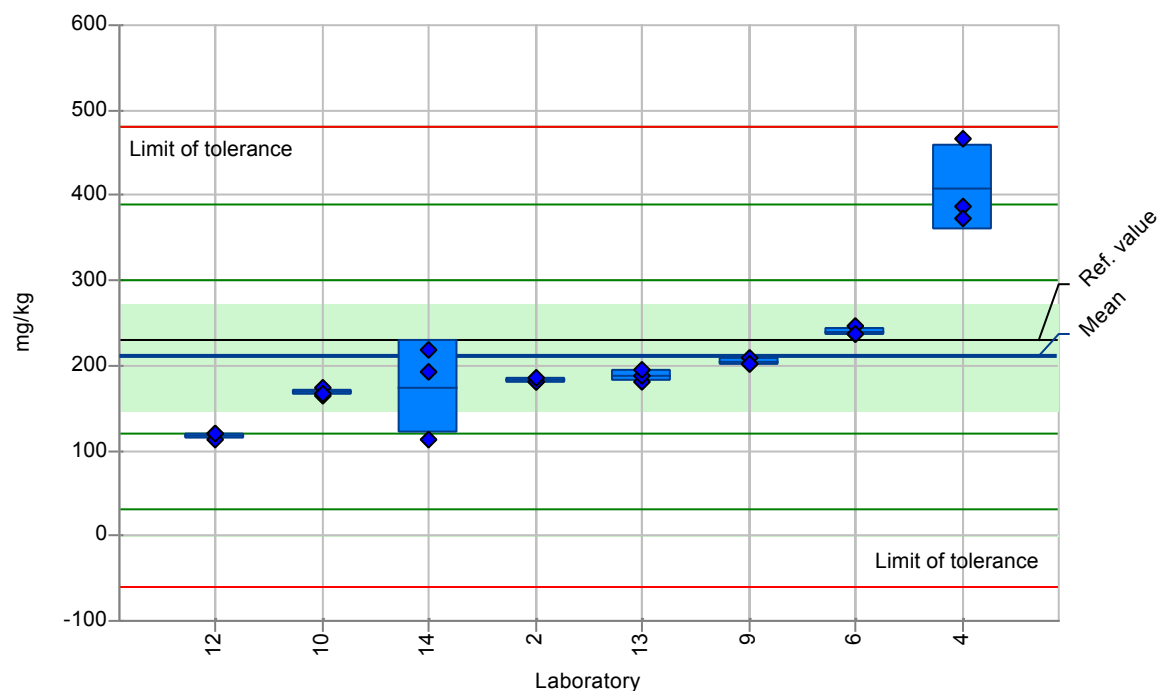
Median: 189.845

Reference value: 230.000 mg/kg

Reproducibility s.d.: 89.950 mg/kg

Repeatability s.d.: 26.569 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	182.477	3.156	-0.310	180.610	180.700	186.120
3						
4	408.767	49.657	2.206	465.500	387.600	373.200
5						
6	240.333	4.933	0.334	237.000	246.000	238.000
7						
8						
9	204.000	4.359	-0.070	201.000	209.000	202.000
10	168.207	4.175	-0.468	172.779	164.597	167.244
11						
12	117.333	3.786	-1.034	120.000	113.000	119.000
13	187.000	7.000	-0.259	180.000	187.000	194.000
14	174.526	55.204	-0.398	218.359	192.690	112.528
15						
16						
17						
18						
19						
20						

Measurand: 3-methylphenanthrene

Sample: 2779

Mean \pm U(Mean): 214.547 \pm 58.383 mg/kg

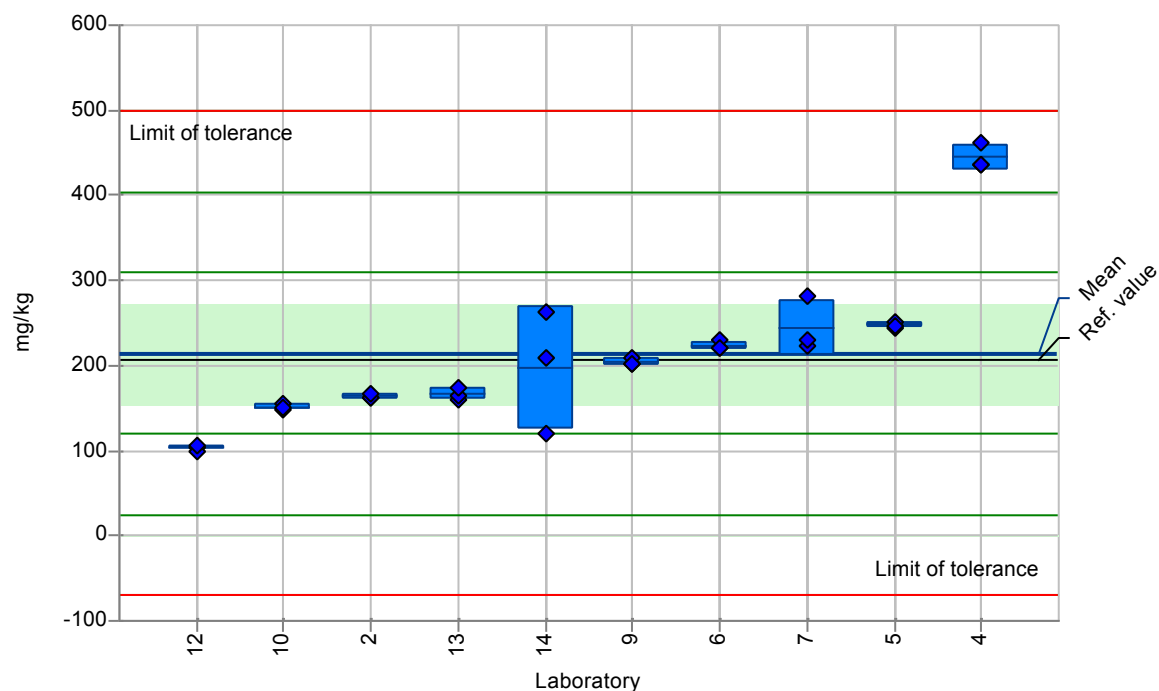
Reproducibility s.d.: 94.686 mg/kg

Median: 205.874

Repeatability s.d.: 25.804 mg/kg

Reference value: 206.000 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	163.427	3.097	-0.540	162.140	161.180	166.960
3						
4	444.400	14.463	2.428	436.200	435.900	461.100
5	247.667	3.055	0.350	251.000	245.000	247.000
6	223.000	5.196	0.089	220.000	229.000	220.000
7	244.333	32.005	0.315	281.000	222.000	230.000
8						
9	205.000	4.359	-0.101	202.000	210.000	203.000
10	150.795	3.528	-0.673	154.685	147.804	149.895
11						
12	103.000	2.646	-1.178	104.000	100.000	105.000
13	166.667	6.658	-0.506	161.000	165.000	174.000
14	197.184	72.775	-0.183	263.485	208.747	119.319
15						
16						
17						
18						
19						
20						

Measurand: 9-methylphenanthrene

Sample: 2779

Mean \pm U(Mean): 234.224 \pm 63.467 mg/kg

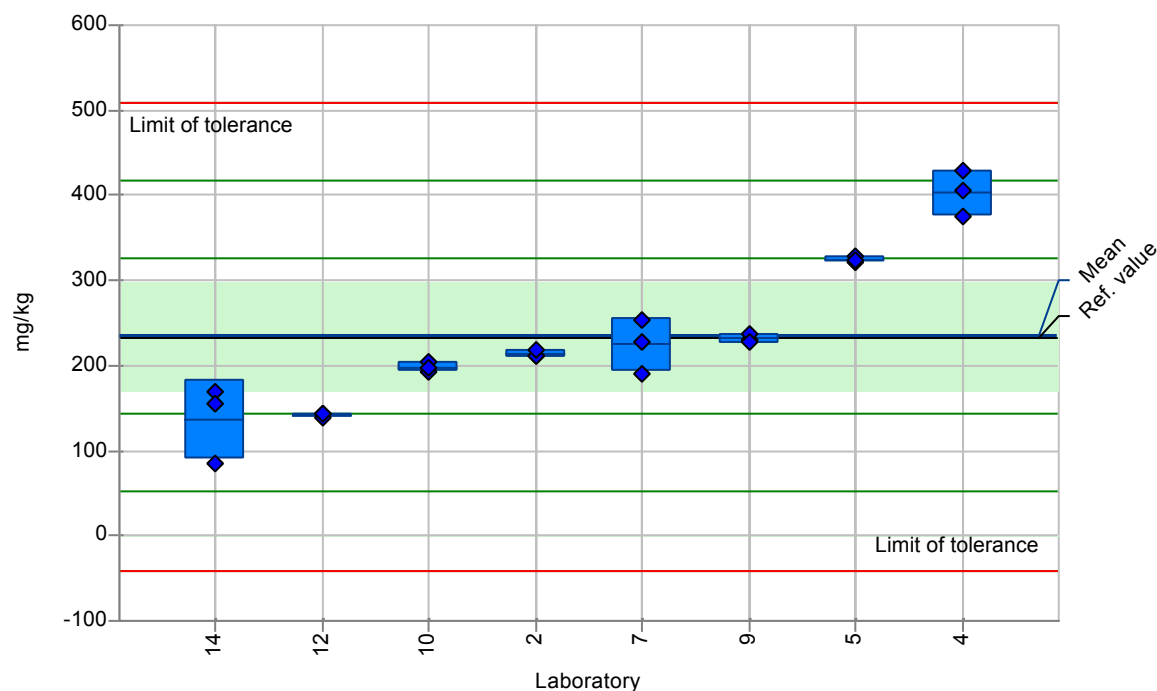
Median: 219.975

Reference value: 232.000 mg/kg

Reproducibility s.d.: 91.556 mg/kg

Repeatability s.d.: 22.123 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	213.920	4.143	-0.222	211.950	211.130	218.680
3						
4	402.567	26.733	1.839	428.000	405.000	374.700
5	324.667	4.041	0.988	329.000	321.000	324.000
6						
7	224.333	31.660	-0.108	254.000	191.000	228.000
8						
9	231.667	5.508	-0.028	229.000	238.000	228.000
10	198.137	6.129	-0.394	204.952	193.077	196.380
11						
12	142.000	2.646	-1.007	144.000	139.000	143.000
13						
14	136.501	45.719	-1.067	170.352	154.659	84.493
15						
16						
17						
18						
19						
20						

Measurand: acenaphthene

Sample: 2779

Mean \pm U(Mean): 24.224 \pm 11.630 mg/kg

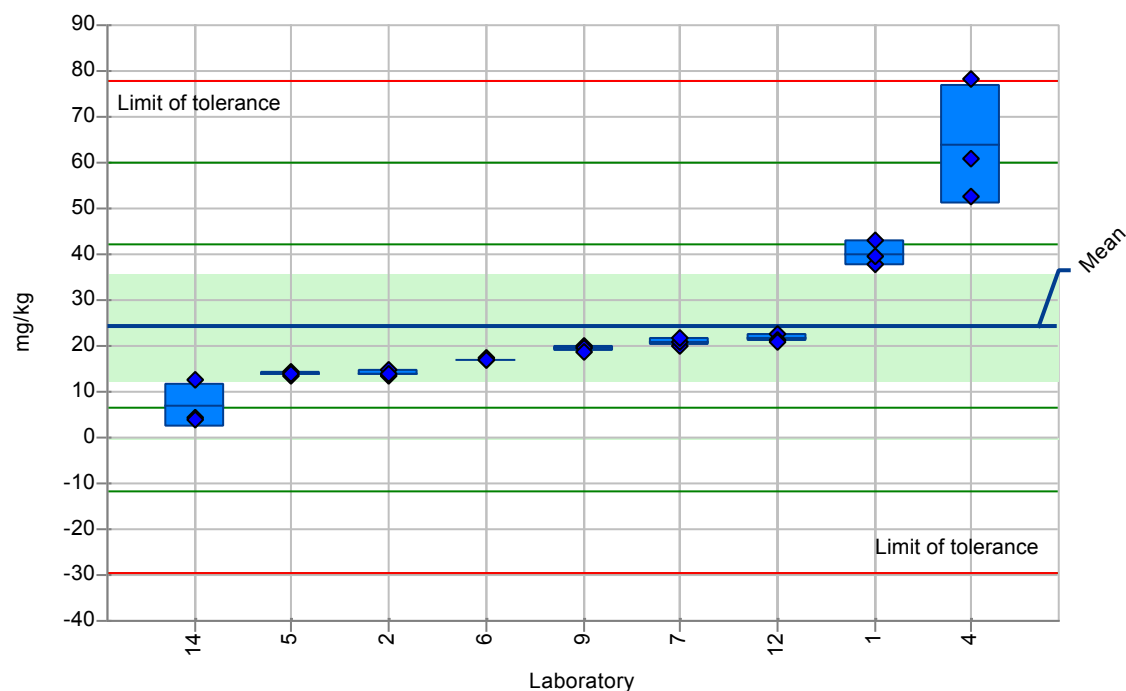
Median: 19.600

Reference value:

Reproducibility s.d.: 17.873 mg/kg

Repeatability s.d.: 4.764 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	40.205	2.626	0.894	43.043	37.862	39.709
2	14.113	0.645	-0.566	14.850	13.650	13.840
3						
4	63.933	13.054	2.222	78.300	52.800	60.700
5	13.833	0.451	-0.581	14.300	13.400	13.800
6	16.967	0.208	-0.406	17.200	16.900	16.800
7	20.867	0.950	-0.188	19.900	20.900	21.800
8						
9	19.433	0.569	-0.268	19.900	19.600	18.800
10						
11						
12	21.733	0.971	-0.139	22.800	21.500	20.900
13						
14	6.930	4.917	-0.968	4.280	3.907	12.603
15						
16						
17						
18						
19						
20						

Measurand: acenaphthylene

Sample: 2779

Mean \pm U(Mean): 8.614 \pm 2.461 mg/kg

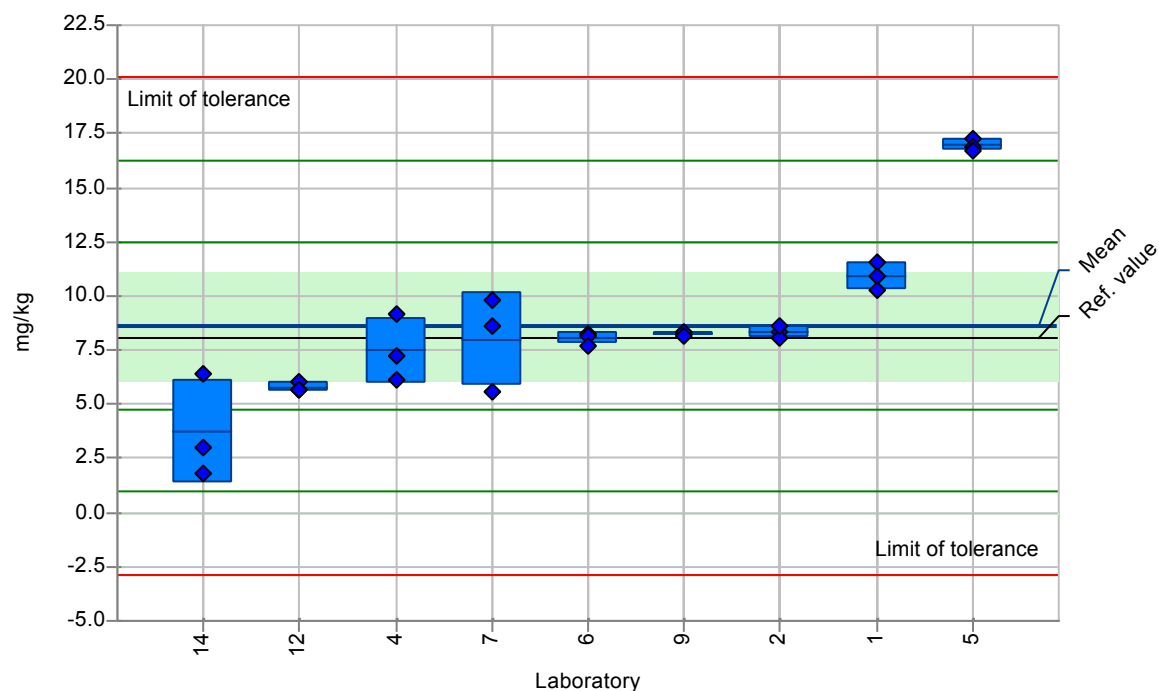
Median: 8.280

Reference value: 8.090 mg/kg

Reproducibility s.d.: 3.824 mg/kg

Repeatability s.d.: 1.219 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	10.902	0.622	0.598	11.530	10.889	10.287
2	8.343	0.261	-0.071	8.370	8.070	8.590
3						
4	7.487	1.517	-0.295	6.140	9.130	7.190
5	16.967	0.306	2.185	17.300	16.900	16.700
6	8.027	0.286	-0.154	8.230	8.150	7.700
7	8.000	2.163	-0.161	8.600	5.600	9.800
8						
9	8.280	0.100	-0.087	8.280	8.380	8.180
10						
11						
12	5.793	0.215	-0.738	6.040	5.690	5.650
13						
14	3.725	2.387	-1.279	2.972	1.806	6.398
15						
16						
17						
18						
19						
20						

Measurand: anthracene

Sample: 2779

Mean \pm U(Mean): 6.023 \pm 2.070 mg/kg

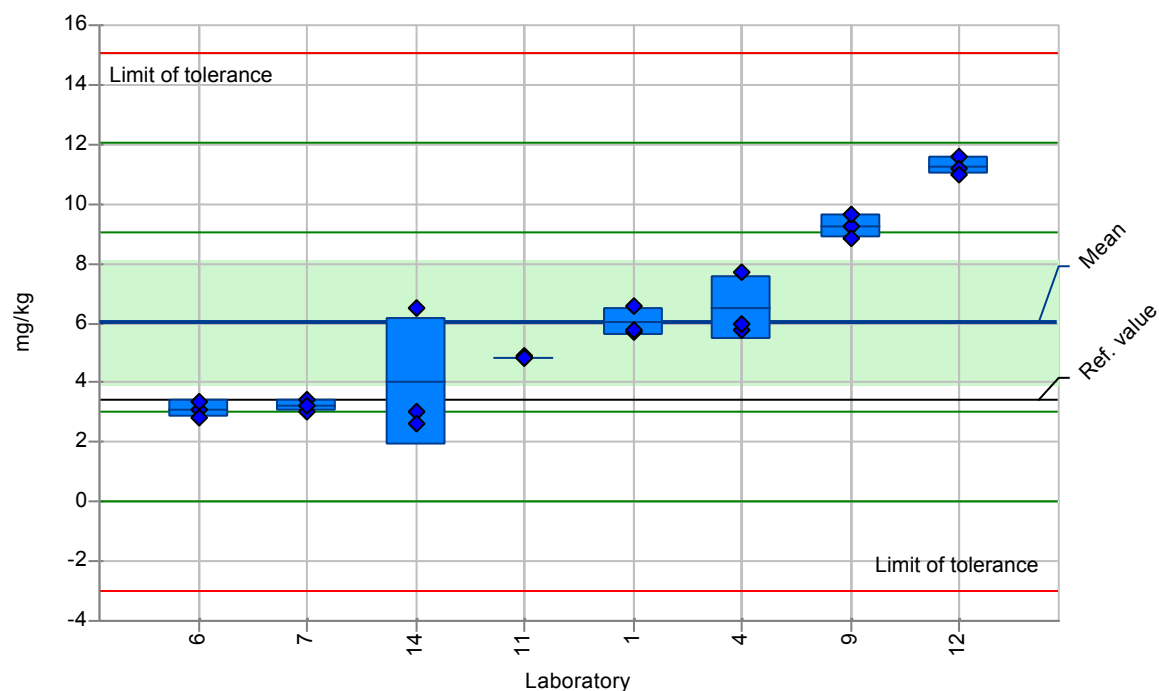
Median: 5.312

Reference value: 3.420 mg/kg

Reproducibility s.d.: 3.015 mg/kg

Repeatability s.d.: 0.882 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.007	0.474	-0.005	6.551	5.689	5.780
2						
3						
4	6.487	1.066	0.154	5.760	5.990	7.710
5						
6	3.103	0.290	-0.969	3.110	3.390	2.810
7	3.200	0.200	-0.936	3.000	3.400	3.200
8						
9	9.250	0.385	1.070	9.240	9.640	8.870
10						
11	4.838	0.030	-0.393	4.844	4.865	4.805
12	11.267	0.306	1.739	11.600	11.200	11.000
13						
14	4.032	2.121	-0.660	6.470	3.012	2.614
15						
16						
17						
18						
19						
20						

Measurand: benzothiophene

Sample: 2779

Mean \pm U(Mean): 5.304 \pm 2.078 mg/kg

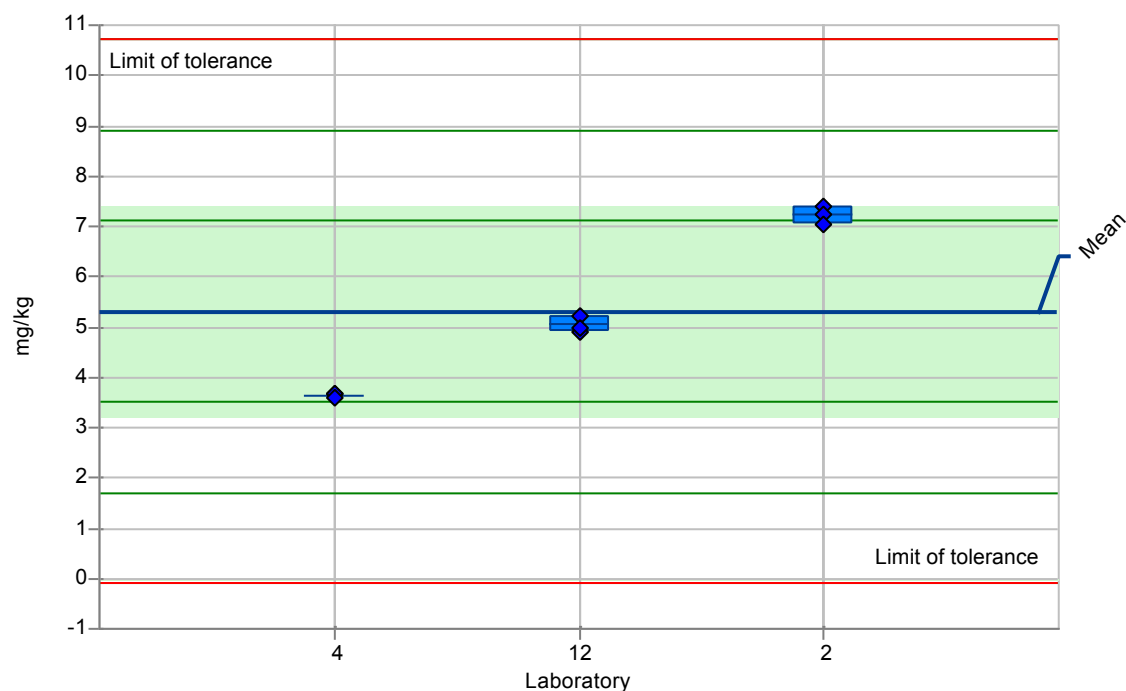
Median: 5.000

Reference value:

Reproducibility s.d.: 1.803 mg/kg

Repeatability s.d.: 0.136 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	7.220	0.170	1.063	7.390	7.220	7.050
3						
4	3.650	0.035	-0.918	3.670	3.670	3.610
5						
6						
7						
8						
9						
10						
11						
12	5.043	0.159	-0.145	5.220	4.910	5.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: benzo[a]pyrene

Sample: 2779

Mean \pm U(Mean): 12.572 \pm 17.372 mg/kg

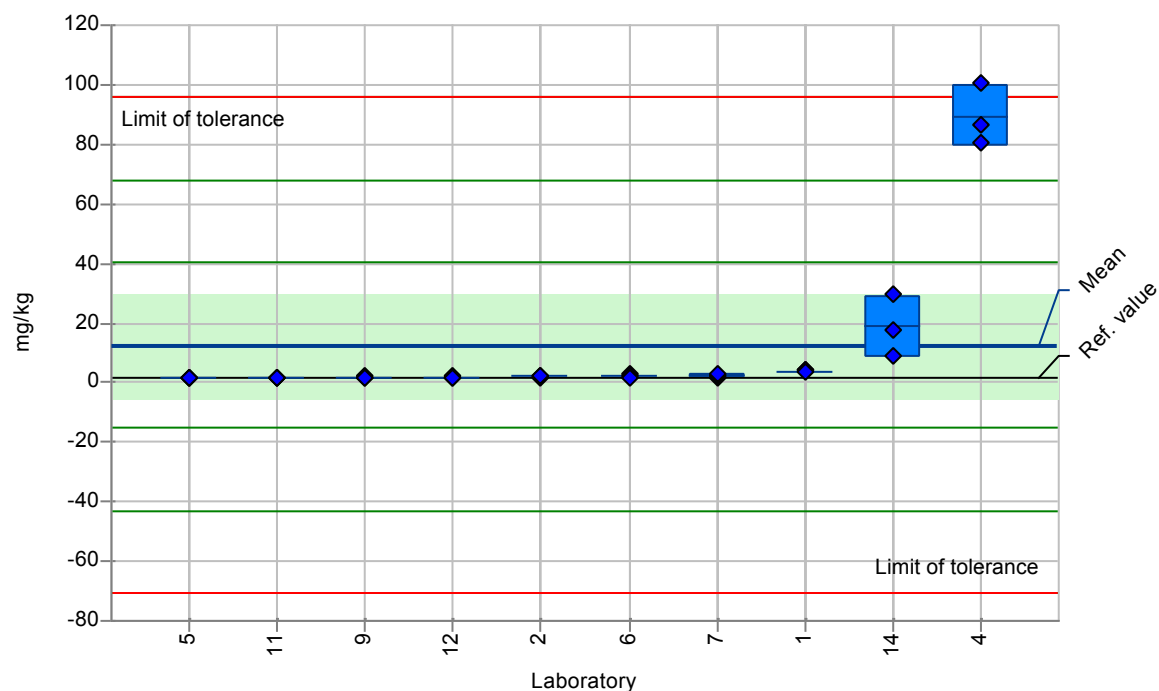
Median: 2.130

Reference value: 1.360 mg/kg

Reproducibility s.d.: 27.726 mg/kg

Repeatability s.d.: 4.625 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.933	0.278	-0.312	4.203	3.949	3.647
2	2.033	0.139	-0.380	1.880	2.150	2.070
3						
4	89.300	10.387	2.767	100.800	80.600	86.500
5	1.540	0.056	-0.398	1.590	1.550	1.480
6	2.237	0.352	-0.373	2.610	2.190	1.910
7	2.333	0.569	-0.369	1.700	2.500	2.800
8						
9	1.883	0.145	-0.386	2.030	1.880	1.740
10						
11	1.740	0.012	-0.391	1.738	1.753	1.729
12	1.913	0.189	-0.384	2.120	1.870	1.750
13						
14	18.809	10.269	0.225	9.291	29.692	17.444
15						
16						
17						
18						
19						
20						

Measurand: benzo[b]fluoranthene

Sample: 2779

Mean \pm U(Mean): 5.953 \pm 1.017 mg/kg

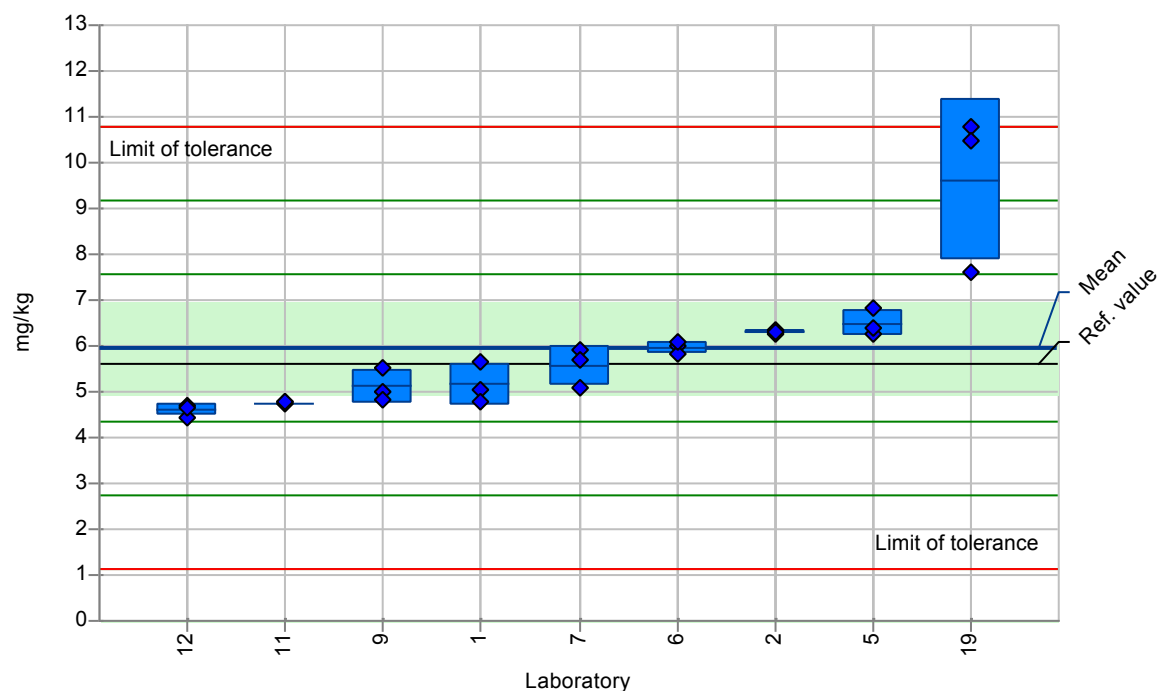
Median: 5.700

Reference value: 5.620 mg/kg

Reproducibility s.d.: 1.613 mg/kg

Repeatability s.d.: 0.642 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	5.167	0.450	-0.487	5.661	5.063	4.778
2	6.303	0.050	0.217	6.350	6.250	6.310
3						
4						
5	6.490	0.288	0.333	6.810	6.250	6.410
6	5.970	0.137	0.010	6.000	5.820	6.090
7	5.567	0.416	-0.240	5.900	5.100	5.700
8						
9	5.110	0.356	-0.523	5.510	4.990	4.830
10						
11	4.757	0.024	-0.742	4.775	4.730	4.766
12	4.597	0.129	-0.841	4.690	4.450	4.650
13						
14						
15						
16						
17						
18						
19	9.620	1.757	2.274	10.790	7.599	10.469
20						

Measurand: benzo[b]fluorene

Sample: 2779

Mean \pm U(Mean): 8.628 \pm 3.148 mg/kg

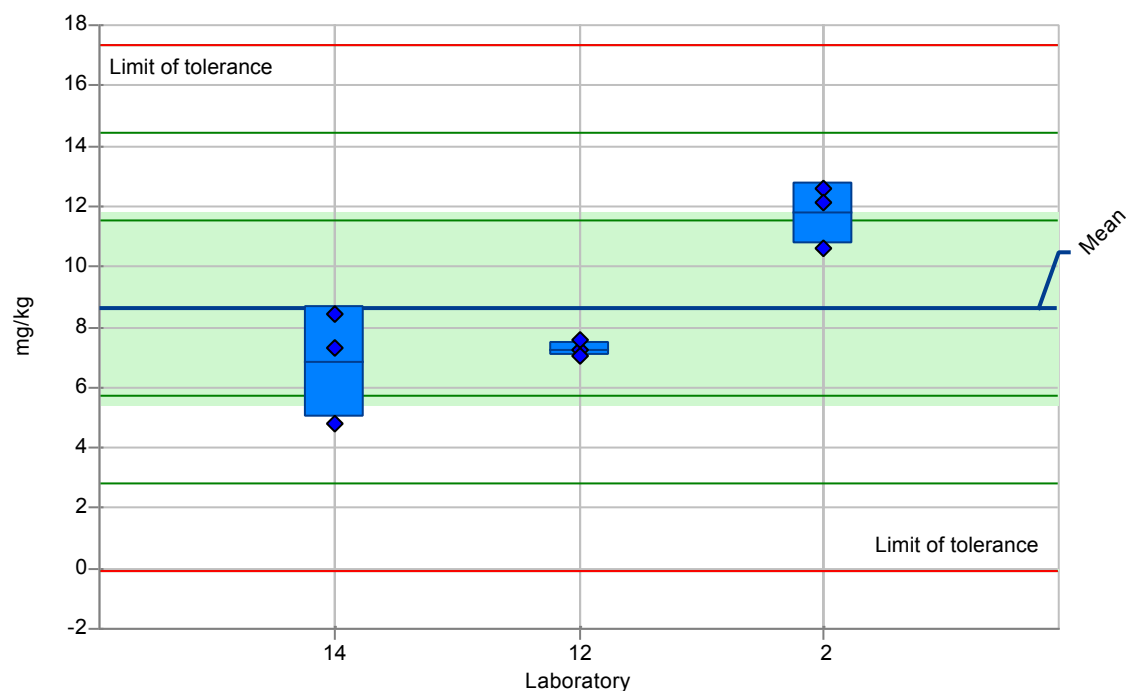
Median: 7.281

Reference value:

Reproducibility s.d.: 2.910 mg/kg

Repeatability s.d.: 1.245 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	11.767	1.041	1.079	10.590	12.570	12.140
3						
4						
5						
6				<0.100	<0.100	<0.100
7						
8						
9						
10						
11						
12	7.273	0.254	-0.466	7.220	7.050	7.550
13						
14	6.845	1.871	-0.613	4.795	7.281	8.460
15						
16						
17						
18						
19						
20						

Measurand: benzo[e]pyrene

Sample: 2779

Mean \pm U(Mean): 12.687 \pm 3.010 mg/kg

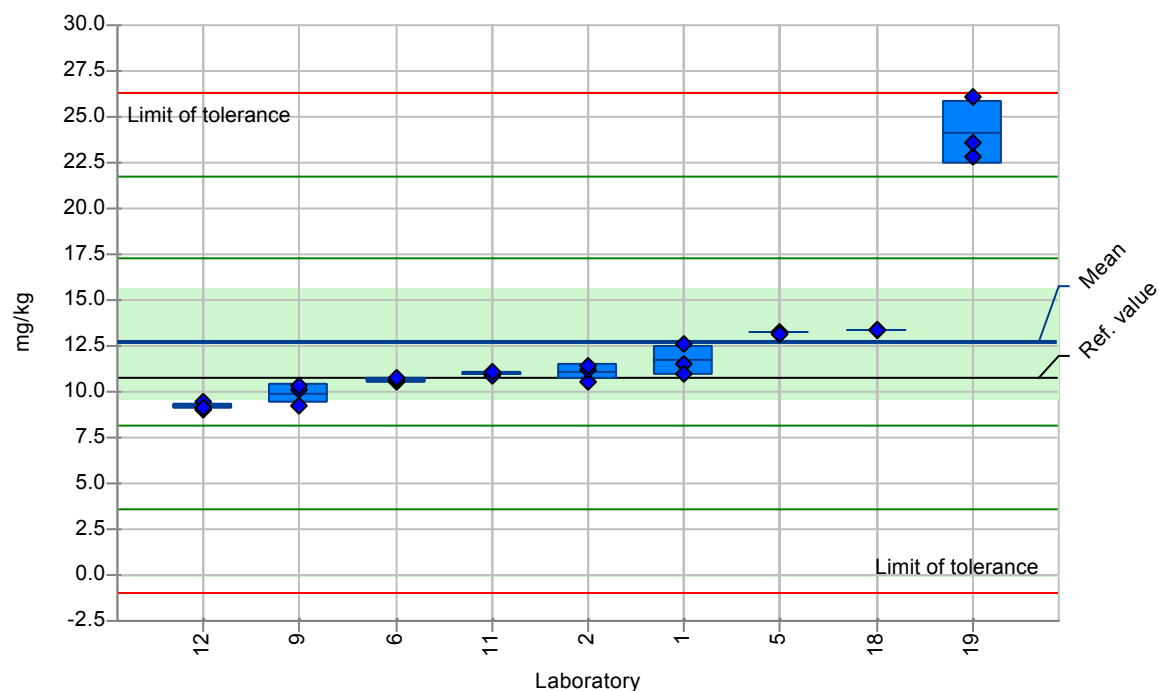
Median: 11.240

Reference value: 10.780 mg/kg

Reproducibility s.d.: 4.550 mg/kg

Repeatability s.d.: 0.694 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	11.731	0.822	-0.210	12.627	11.554	11.012
2	11.047	0.443	-0.361	10.540	11.240	11.360
3						
4						
5	13.233	0.058	0.120	13.300	13.200	13.200
6	10.633	0.153	-0.451	10.500	10.600	10.800
7						
8						
9	9.877	0.569	-0.618	9.230	10.100	10.300
10						
11	10.987	0.080	-0.374	10.983	10.909	11.070
12	9.187	0.202	-0.769	9.420	9.060	9.080
13						
14						
15						
16						
17						
18	13.340	0.000	0.143	13.340	13.340	13.340
19	24.152	1.752	2.520	26.126	22.782	23.548
20						

Measurand: benzo[ghi]perylene

Sample: 2779

Mean \pm U(Mean): 1.588 \pm 0.271 mg/kg

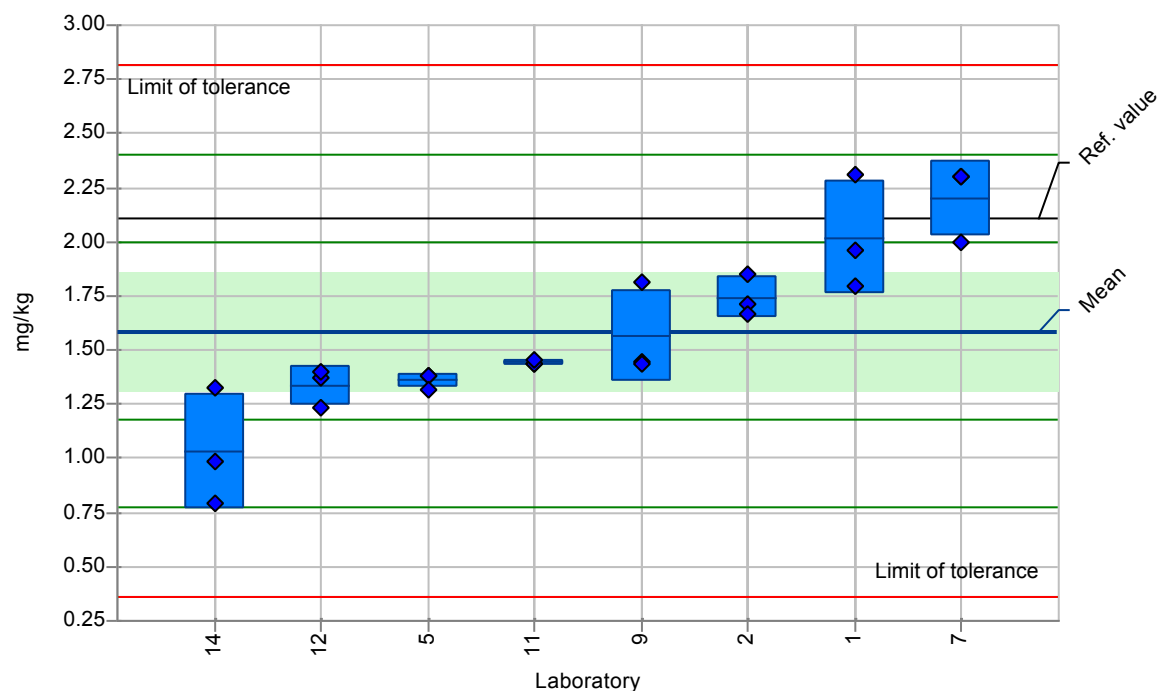
Median: 1.445

Reference value: 2.110 mg/kg

Reproducibility s.d.: 0.408 mg/kg

Repeatability s.d.: 0.171 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.020	0.263	1.060	2.307	1.964	1.791
2	1.743	0.095	0.382	1.710	1.850	1.670
3						
4						
5	1.360	0.035	-0.558	1.380	1.380	1.320
6						
7	2.200	0.173	1.500	2.300	2.000	2.300
8						
9	1.567	0.211	-0.051	1.810	1.450	1.440
10						
11	1.442	0.011	-0.355	1.439	1.433	1.455
12	1.333	0.091	-0.623	1.370	1.400	1.230
13						
14	1.034	0.266	-1.355	0.985	0.796	1.322
15						
16						
17						
18						
19						
20						

Measurand: benzo[k]fluoranthene

Sample: 2779

Mean \pm U(Mean): 5.241 \pm 5.179 mg/kg

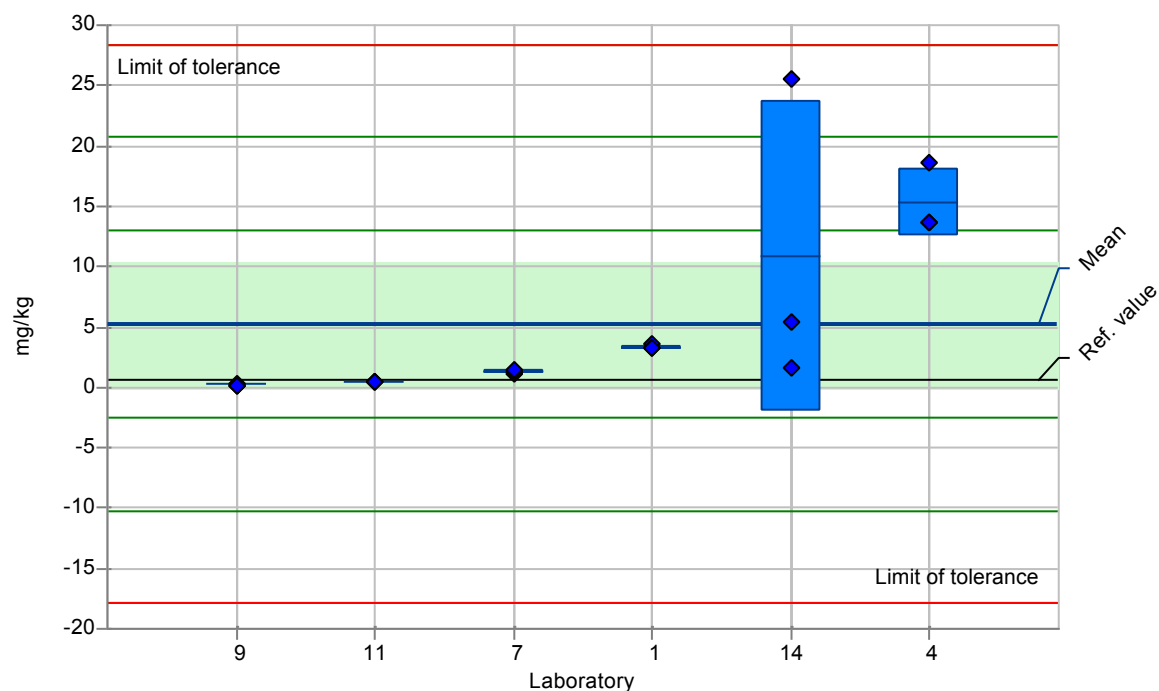
Median: 2.250

Reference value: 0.660 mg/kg

Reproducibility s.d.: 7.719 mg/kg

Repeatability s.d.: 5.387 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.308	0.197	-0.250	3.536	3.201	3.189
2						
3						
4	15.333	2.829	1.307	13.700	18.600	13.700
5						
6						
7	1.300	0.100	-0.511	1.200	1.300	1.400
8						
9	0.221	0.046	-0.650	0.271	0.211	0.181
10						
11	0.421	0.002	-0.625	0.423	0.418	0.421
12						
13						
14	10.864	12.886	0.728	1.665	25.592	5.335
15						
16						
17						
18						
19						
20						

Measurand: benz[a]anthracene

Sample: 2779

Mean \pm U(Mean): 13.853 \pm 10.656 mg/kg

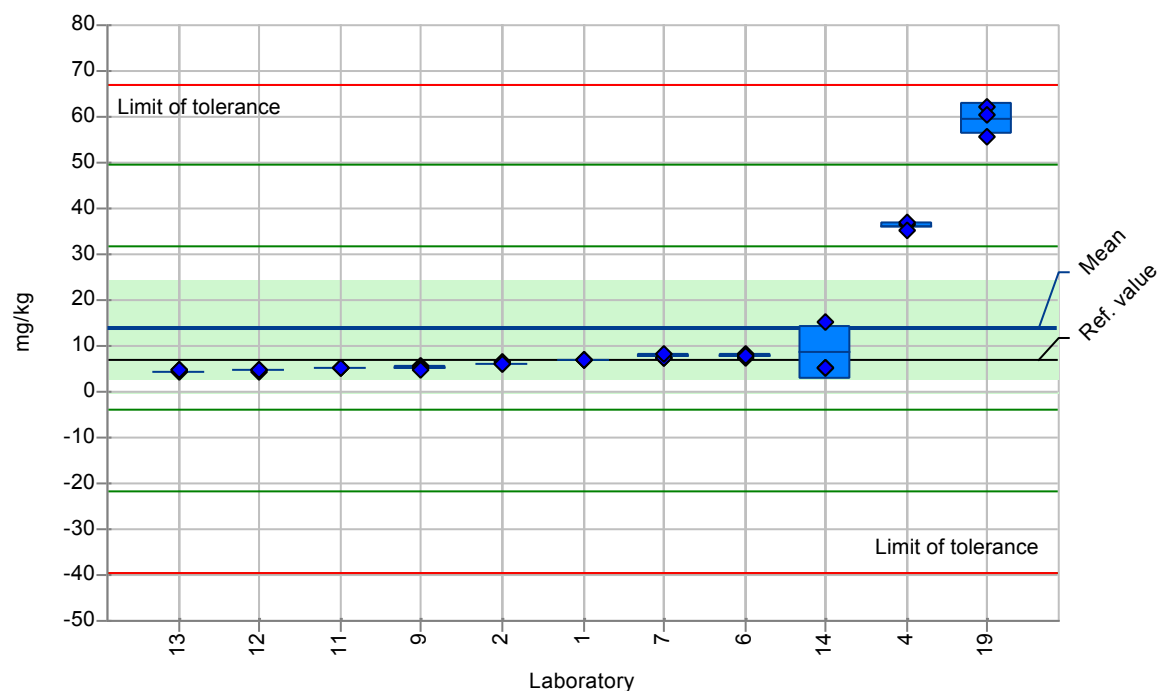
Median: 6.130

Reference value: 7.030 mg/kg

Reproducibility s.d.: 17.750 mg/kg

Repeatability s.d.: 2.056 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.831	0.080	-0.396	6.909	6.833	6.750
2	6.153	0.226	-0.434	6.130	6.390	5.940
3						
4	36.300	0.781	1.265	36.700	36.800	35.400
5						
6	7.693	0.380	-0.347	8.080	7.320	7.680
7	7.633	0.416	-0.350	7.300	7.500	8.100
8						
9	5.300	0.363	-0.482	5.580	5.430	4.890
10						
11	5.263	0.021	-0.484	5.254	5.247	5.287
12	4.597	0.101	-0.521	4.660	4.480	4.650
13	4.510	0.269	-0.526	4.200	4.660	4.670
14	8.583	5.771	-0.297	5.271	15.247	5.232
15						
16						
17						
18						
19	59.524	3.461	2.573	62.295	60.632	55.644
20						

Measurand: biphenyl

Sample: 2779

Mean \pm U(Mean): 246.487 \pm 201.333 mg/kg

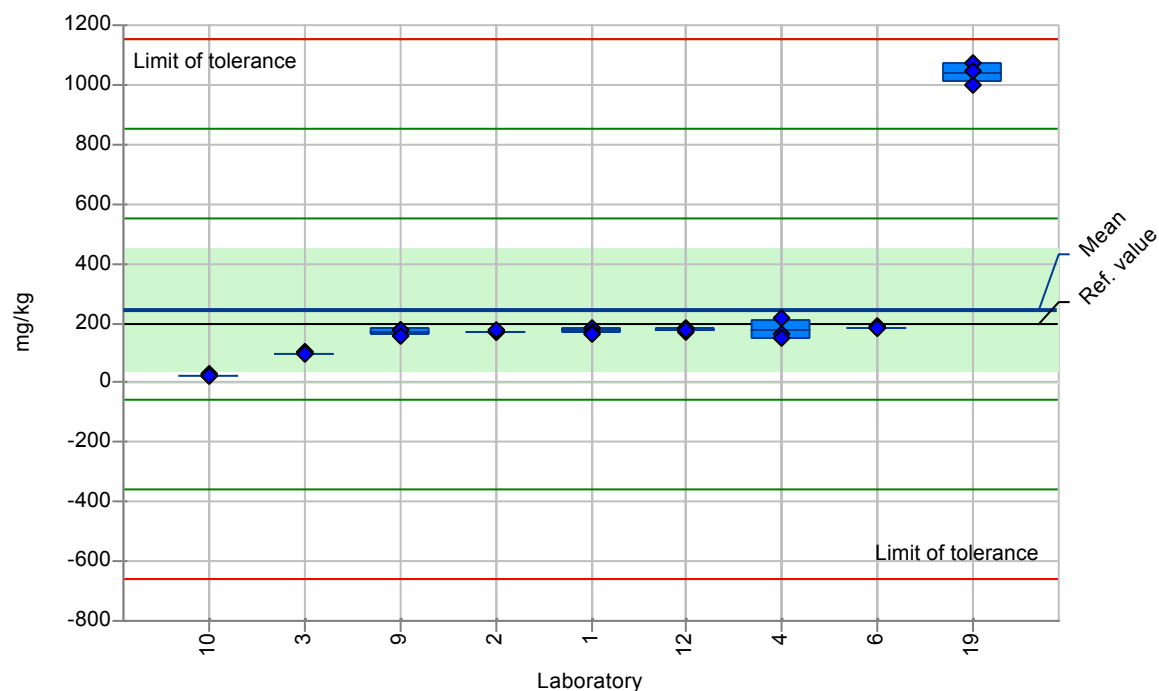
Median: 172.832

Reference value: 195.000 mg/kg

Reproducibility s.d.: 302.340 mg/kg

Repeatability s.d.: 17.554 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	173.954	8.924	-0.240	183.387	172.832	165.644
2	171.587	3.069	-0.248	170.230	169.430	175.100
3	98.833	3.901	-0.488	100.947	101.220	94.332
4	177.533	34.359	-0.228	165.000	151.200	216.400
5						
6	186.000	4.583	-0.200	182.000	191.000	185.000
7						
8						
9	170.000	12.166	-0.253	178.000	176.000	156.000
10	24.795	1.331	-0.733	26.265	23.671	24.449
11						
12	176.333	5.033	-0.232	181.000	171.000	177.000
13						
14						
15						
16						
17						
18						
19	1039.346	35.949	2.622	1000.310	1071.089	1046.637
20						

Measurand: C1-benzothiophenes

Sample: 2779

Mean \pm U(Mean): 24.247 \pm 6.560 mg/kg

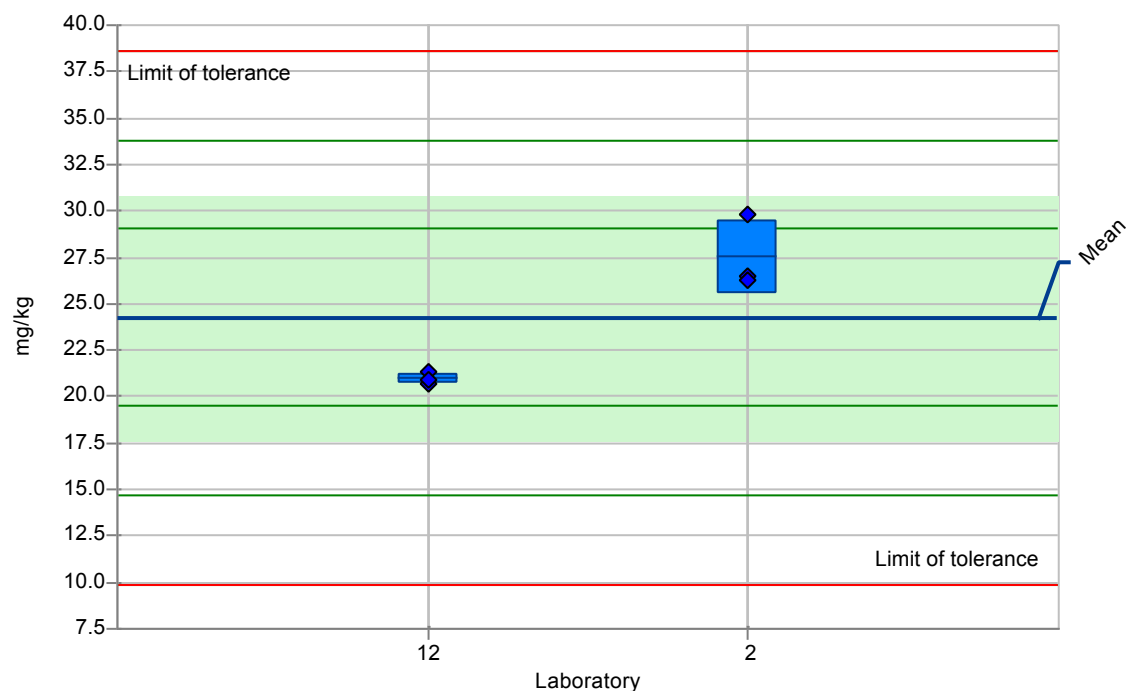
Median: 23.675

Reference value:

Reproducibility s.d.: 4.782 mg/kg

Repeatability s.d.: 1.422 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	27.527	1.987	0.686	26.450	26.310	29.820
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	20.967	0.306	-0.686	21.300	20.700	20.900
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C1-chrysenes

Sample: 2779

Mean \pm U(Mean): 113.654 \pm 14.247 mg/kg

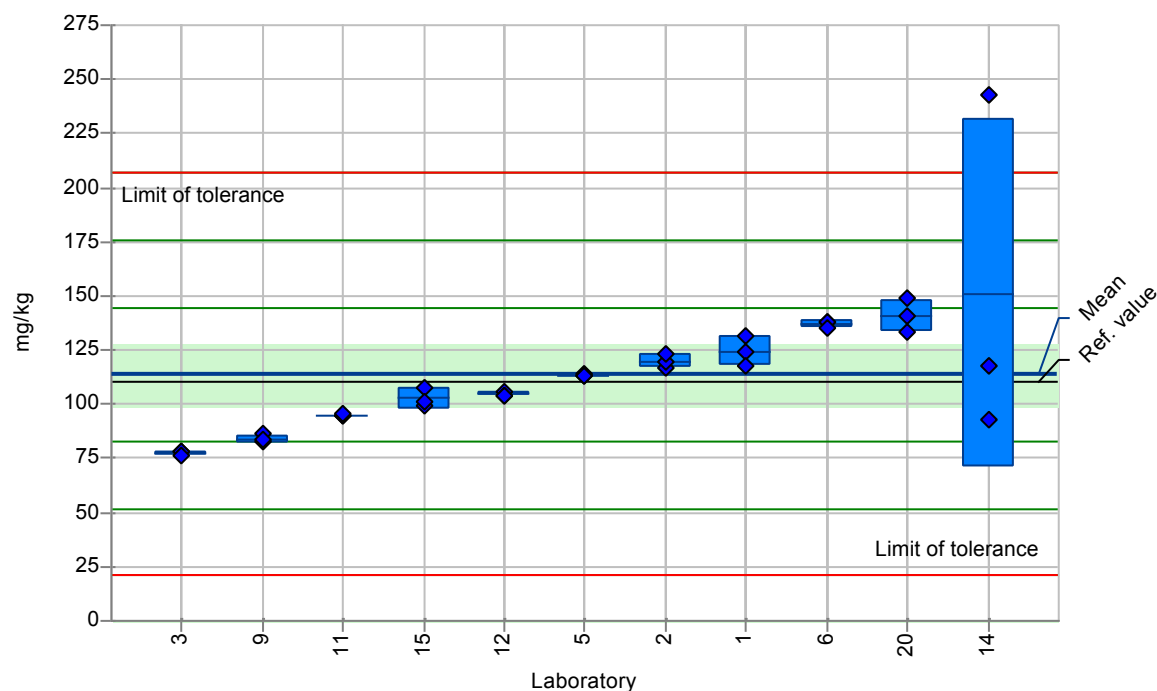
Median: 113.000

Reference value: 110.000 mg/kg

Reproducibility s.d.: 30.947 mg/kg

Repeatability s.d.: 24.481 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	124.573	6.779	0.353	131.438	124.398	117.883
2	119.670	3.195	0.194	116.480	119.660	122.870
3	77.339	1.025	-1.173	77.946	77.915	76.155
4						
5	113.333	0.577	-0.010	114.000	113.000	113.000
6	137.000	1.732	0.754	138.000	138.000	135.000
7						
8						
9	84.000	1.852	-0.958	82.600	86.100	83.300
10						
11	95.077	0.764	-0.600	94.390	94.941	95.899
12	104.667	1.155	-0.290	106.000	104.000	104.000
13						
14	151.052	80.284	1.208	117.969	242.591	92.595
15	102.667	4.726	-0.355	99.000	108.000	101.000
16						
17						
18						
19						
20	140.816	7.663	0.878	148.576	140.618	133.253

Measurand: C1-decalins

Sample: 2779

Mean \pm U(Mean): 1000.120 \pm 89.572 mg/kg

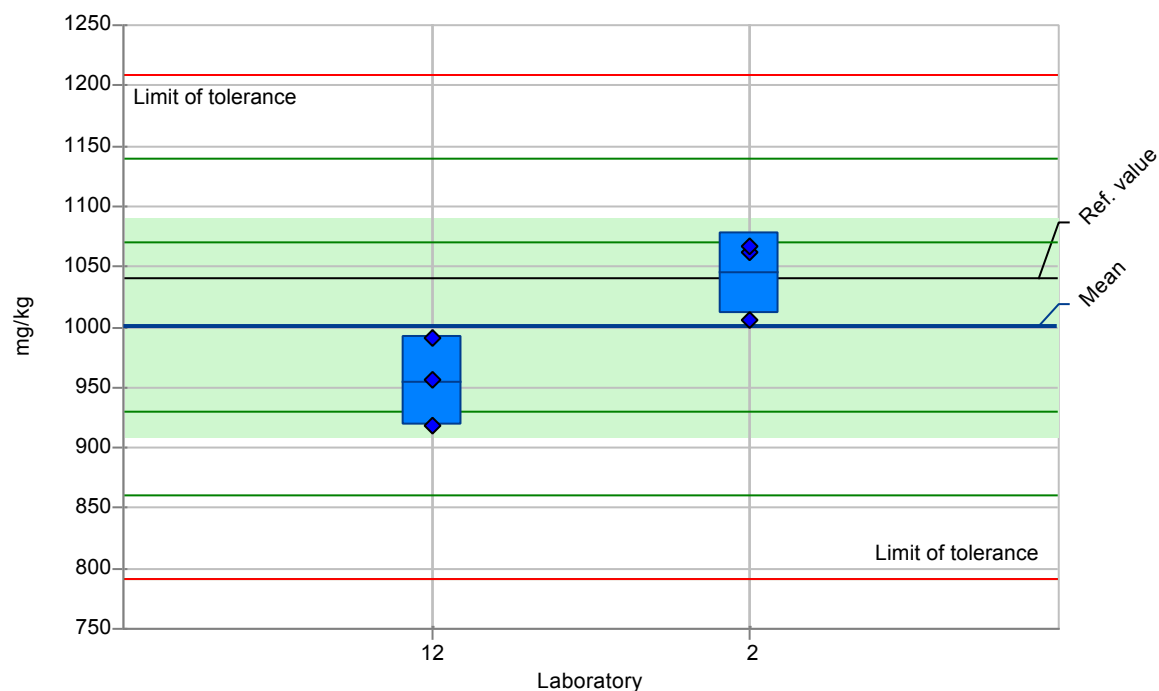
Median: 1009.610

Reference value: 1040.000 mg/kg

Reproducibility s.d.: 69.610 mg/kg

Repeatability s.d.: 35.370 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1044.907	34.166	0.643	1062.220	1005.550	1066.950
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	955.333	36.529	-0.643	991.000	918.000	957.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C1-dibenzothiophenes

Sample: 2779

Mean \pm U(Mean): 138.558 \pm 33.945 mg/kg

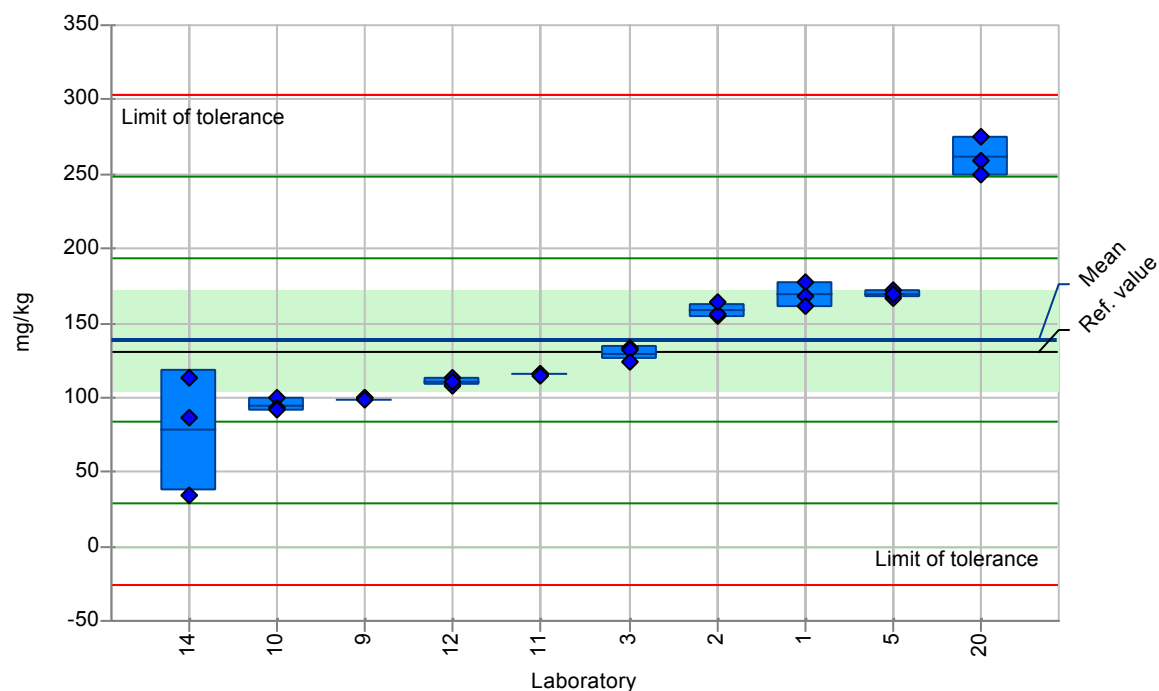
Reproducibility s.d.: 54.871 mg/kg

Median: 123.580

Repeatability s.d.: 13.973 mg/kg

Reference value: 130.000 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	168.976	8.407	0.554	178.024	167.499	161.406
2	158.177	4.951	0.358	154.880	155.780	163.870
3	129.583	4.383	-0.164	132.746	131.423	124.579
4						
5	169.333	2.517	0.561	172.000	167.000	169.000
6						
7						
8						
9	99.100	1.082	-0.719	100.000	99.400	97.900
10	94.645	4.623	-0.800	99.949	92.512	91.474
11	115.604	0.399	-0.418	115.920	115.736	115.156
12	110.667	2.517	-0.508	113.000	108.000	111.000
13						
14	77.952	40.413	-1.105	86.952	33.797	113.107
15						
16						
17						
18						
19						
20	261.543	13.013	2.241	275.548	259.256	249.826

Measurand: C1-fluoranthenes/pyrenes

Sample: 2779

Mean \pm U(Mean): 92.897 \pm 19.860 mg/kg

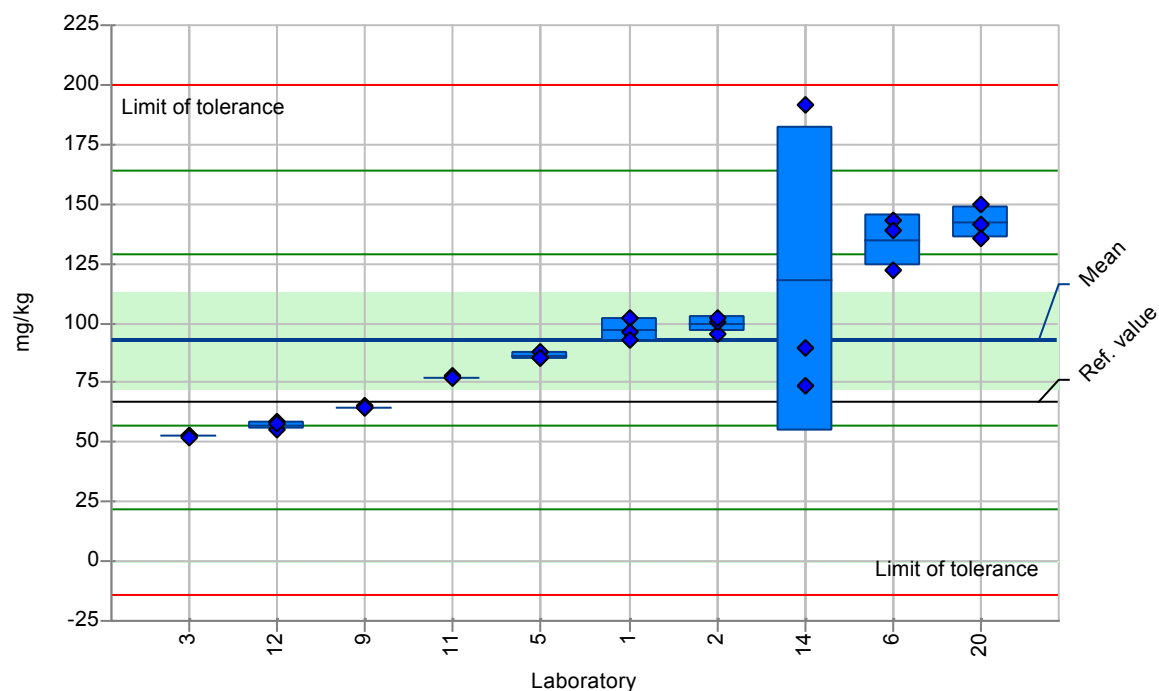
Median: 87.348

Reference value: 67.000 mg/kg

Reproducibility s.d.: 35.679 mg/kg

Repeatability s.d.: 20.747 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	97.172	4.782	0.120	102.288	96.412	92.815
2	99.353	3.235	0.181	95.770	100.230	102.060
3	52.488	0.452	-1.133	52.355	52.992	52.118
4						
5	86.233	1.721	-0.187	88.200	85.000	85.500
6	134.667	11.150	1.171	122.000	143.000	139.000
7						
8						
9	64.667	0.379	-0.791	64.400	65.100	64.500
10						
11	77.182	0.545	-0.440	77.018	77.790	76.738
12	57.000	1.744	-1.006	58.200	55.000	57.800
13						
14	118.038	63.962	0.705	73.577	89.196	191.343
15						
16						
17						
18						
19						
20	142.173	6.996	1.381	149.658	141.062	135.799

Measurand: C1-fluorenes

Sample: 2779

Mean \pm U(Mean): 341.754 \pm 71.929 mg/kg

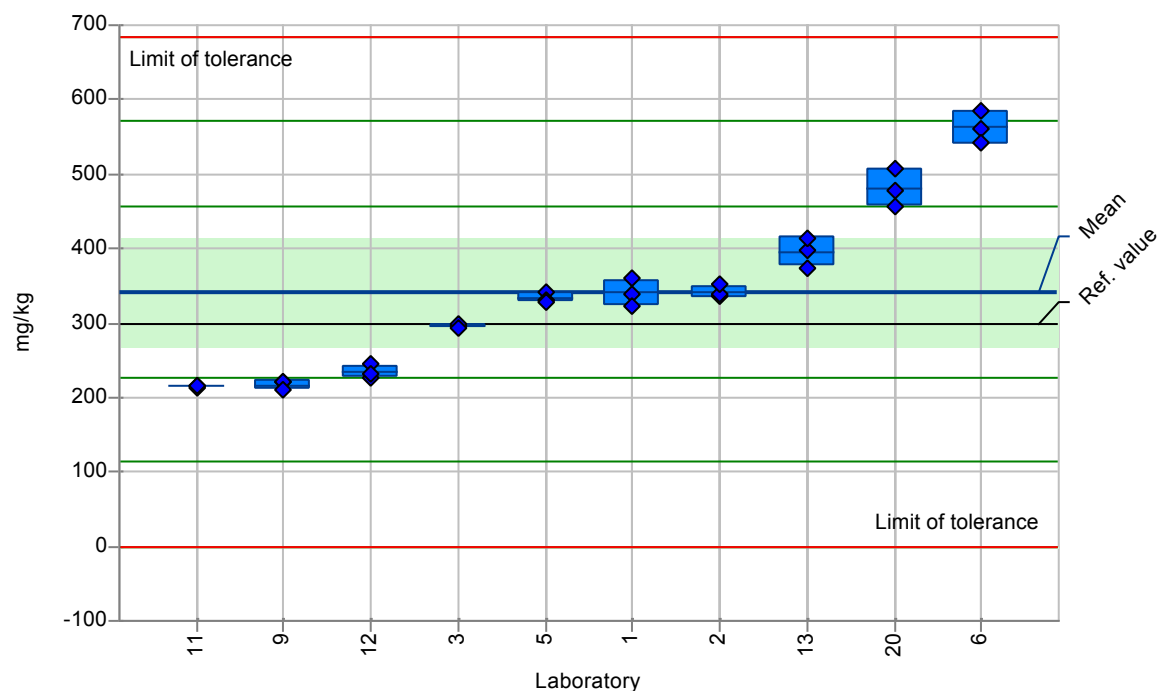
Median: 334.848

Reference value: 300.000 mg/kg

Reproducibility s.d.: 114.345 mg/kg

Repeatability s.d.: 14.508 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	340.230	17.878	-0.013	359.239	337.696	323.753
2	342.427	7.664	0.006	336.570	339.610	351.100
3	296.306	3.240	-0.397	296.595	299.391	292.930
4						
5	334.333	6.807	-0.065	342.000	332.000	329.000
6	562.333	22.591	1.929	560.000	586.000	541.000
7						
8						
9	216.667	5.774	-1.094	220.000	220.000	210.000
10						
11	214.446	1.746	-1.113	212.616	214.632	216.092
12	234.333	8.737	-0.939	244.000	227.000	232.000
13	395.667	20.207	0.471	374.000	399.000	414.000
14						
15						
16						
17						
18						
19						
20	480.795	25.265	1.216	507.659	477.214	457.512

Measurand: C1-naphthalenes

Sample: 2779

Mean \pm U(Mean): 2262.490 \pm 373.243 mg/kg

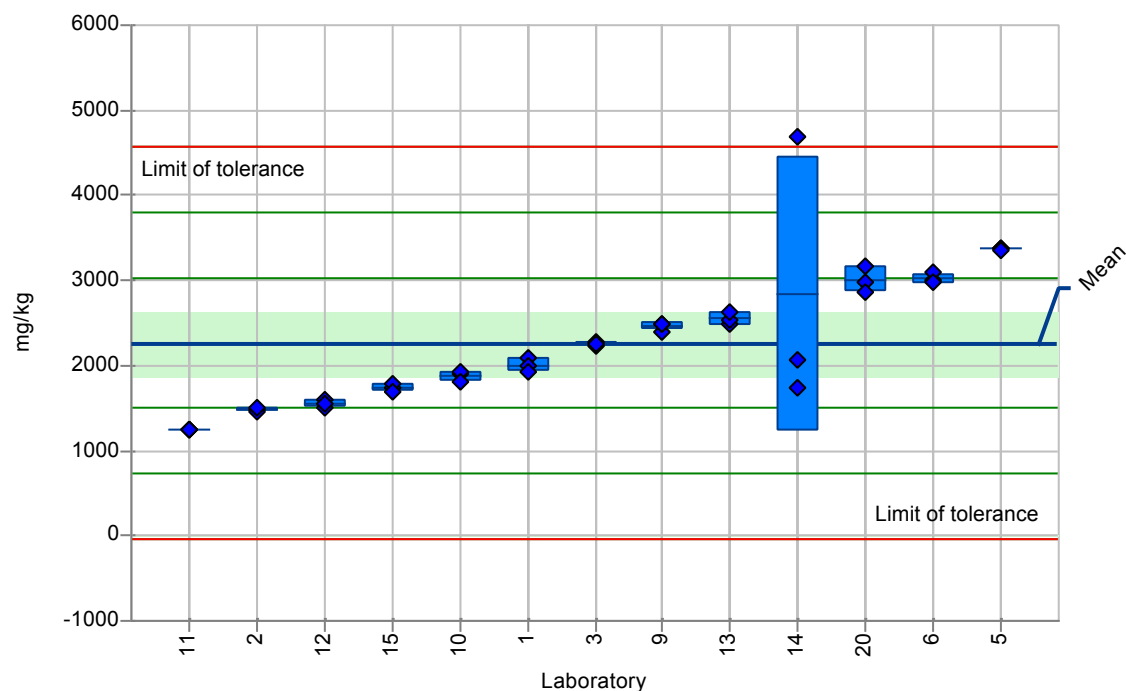
Median: 2068.479

Reference value:

Reproducibility s.d.: 767.140 mg/kg

Repeatability s.d.: 451.240 mg/kg

No. of laboratories: 13



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2007.333	91.221	-0.333	2102.000	2000.000	1920.000
2	1482.190	20.002	-1.017	1488.840	1459.710	1498.020
3	2254.304	14.523	-0.011	2238.499	2267.061	2257.352
4						
5	3370.000	10.000	1.444	3380.000	3370.000	3360.000
6	3023.333	58.595	0.992	3000.000	3090.000	2980.000
7						
8						
9	2457.000	44.238	0.254	2406.000	2485.000	2480.000
10	1876.667	58.595	-0.503	1900.000	1920.000	1810.000
11	1250.075	0.129	-1.320	1250.224	1250.000	1250.000
12	1556.667	50.332	-0.920	1610.000	1510.000	1550.000
13	2553.333	77.674	0.379	2490.000	2530.000	2640.000
14	2833.135	1610.860	0.744	1747.013	2068.479	4683.913
15	1738.333	53.985	-0.683	1730.000	1796.000	1689.000
16						
17						
18						
19						
20	3010.000	150.997	0.974	3170.000	2990.000	2870.000

Measurand: C1-naphthobenzothiophenes

Sample: 2779

Mean \pm U(Mean): 49.890 \pm 18.711 mg/kg

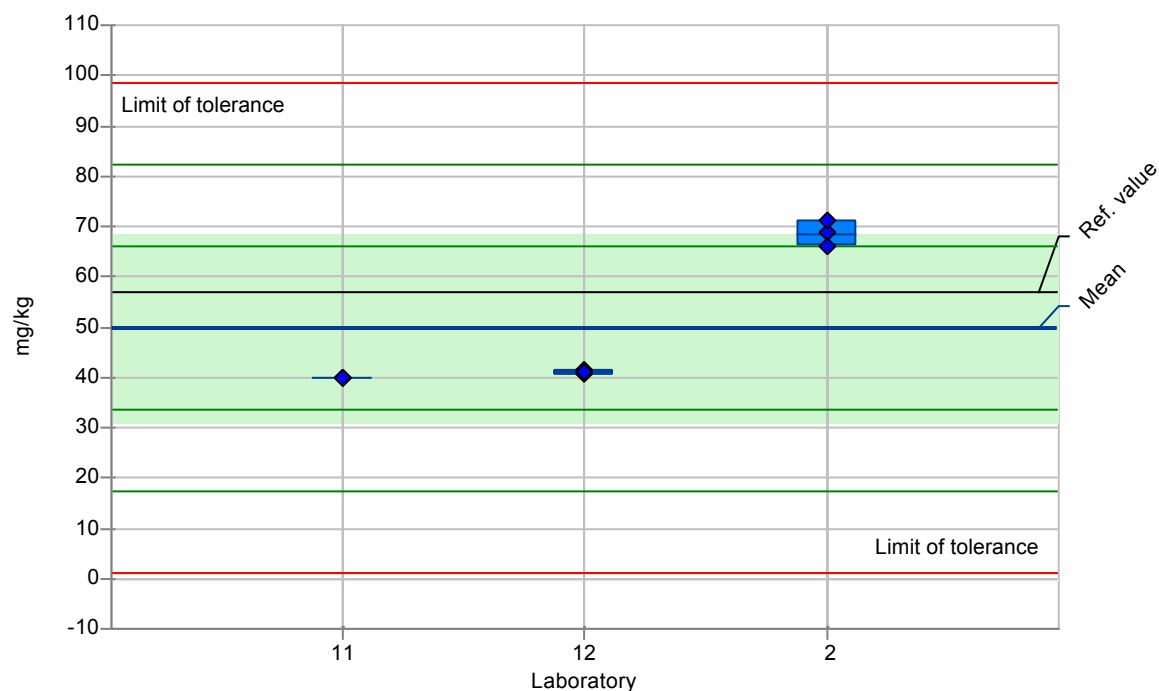
Median: 40.900

Reference value: 57.000 mg/kg

Reproducibility s.d.: 16.255 mg/kg

Repeatability s.d.: 1.578 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	68.593	2.675	1.151	68.650	65.890	71.240
3						
4						
5						
6						
7						
8						
9						
10						
11	40.076	0.005	-0.604	40.071	40.076	40.081
12	41.000	0.557	-0.547	41.600	40.500	40.900
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C1-phenanthrenes/anthracenes

Sample: 2779

Mean \pm U(Mean): 723.645 \pm 90.091 mg/kg

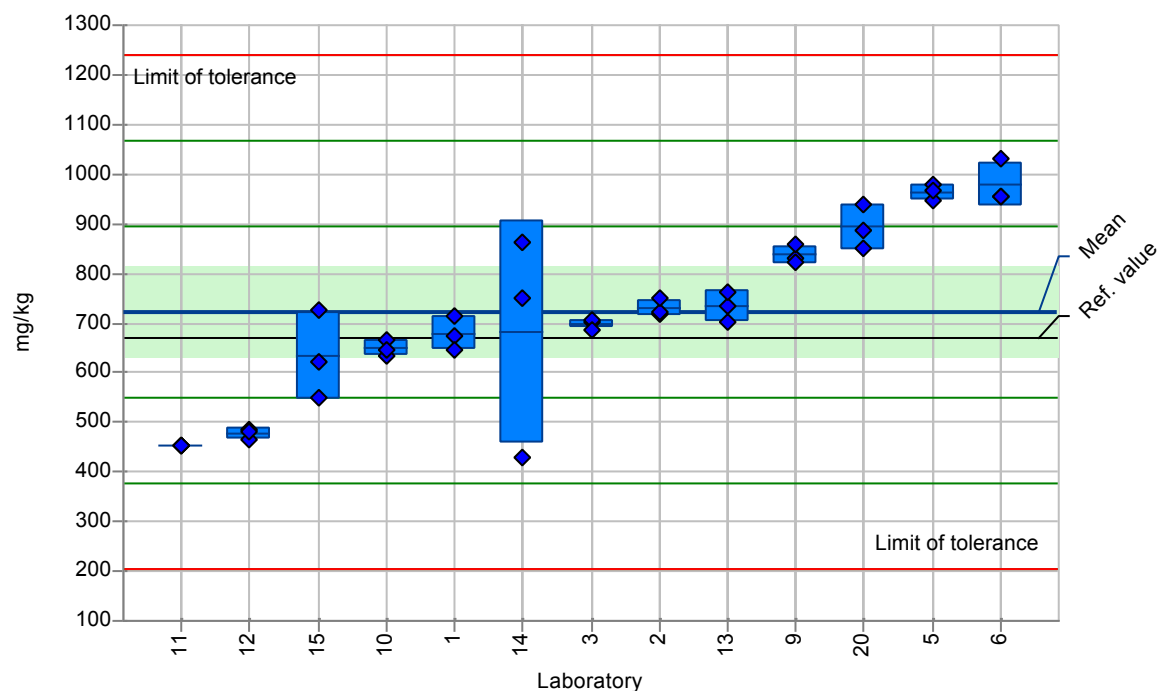
Reproducibility s.d.: 172.559 mg/kg

Median: 722.810

Repeatability s.d.: 71.394 mg/kg

Reference value: 670.000 mg/kg

No. of laboratories: 13



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	679.445	34.733	-0.256	715.868	675.772	646.695
2	730.417	16.310	0.039	719.300	722.810	749.140
3	697.581	9.279	-0.151	700.755	704.856	687.132
4						
5	964.333	16.010	1.395	980.000	948.000	965.000
6	979.000	44.170	1.480	954.000	1030.000	953.000
7						
8						
9	836.667	19.655	0.655	829.000	859.000	822.000
10	648.798	16.669	-0.434	667.113	634.516	644.763
11	453.765	0.311	-1.564	453.961	453.406	453.927
12	477.000	10.583	-1.429	485.000	465.000	481.000
13	733.333	31.086	0.056	701.000	736.000	763.000
14	681.339	225.891	-0.245	863.910	751.384	428.724
15	633.000	87.430	-0.525	623.000	725.000	551.000
16						
17						
18						
19						
20	892.702	45.634	0.980	940.557	887.875	849.673

Measurand: C2-benzothiophenes

Sample: 2779

Mean \pm U(Mean): 26.532 \pm 12.730 mg/kg

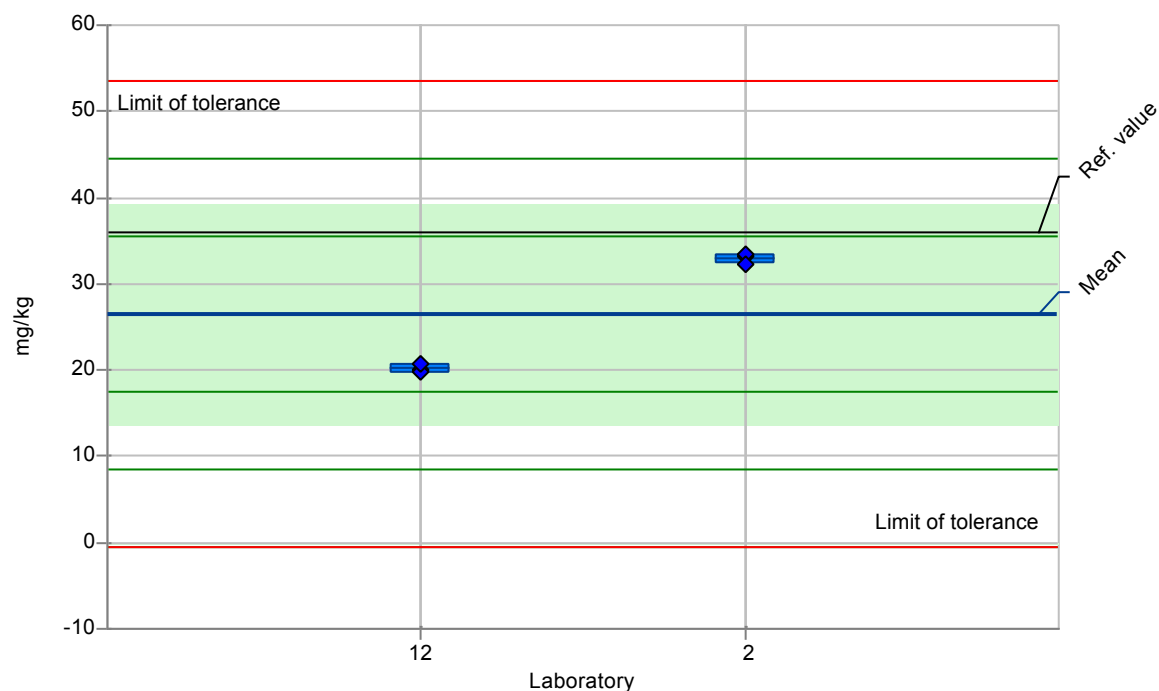
Median: 26.585

Reference value: 36.000 mg/kg

Reproducibility s.d.: 9.015 mg/kg

Repeatability s.d.: 0.598 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	32.897	0.626	0.706	33.170	33.340	32.180
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	20.167	0.569	-0.706	20.000	19.700	20.800
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C2-chrysenes

Sample: 2779

Mean \pm U(Mean): 140.349 \pm 29.327 mg/kg

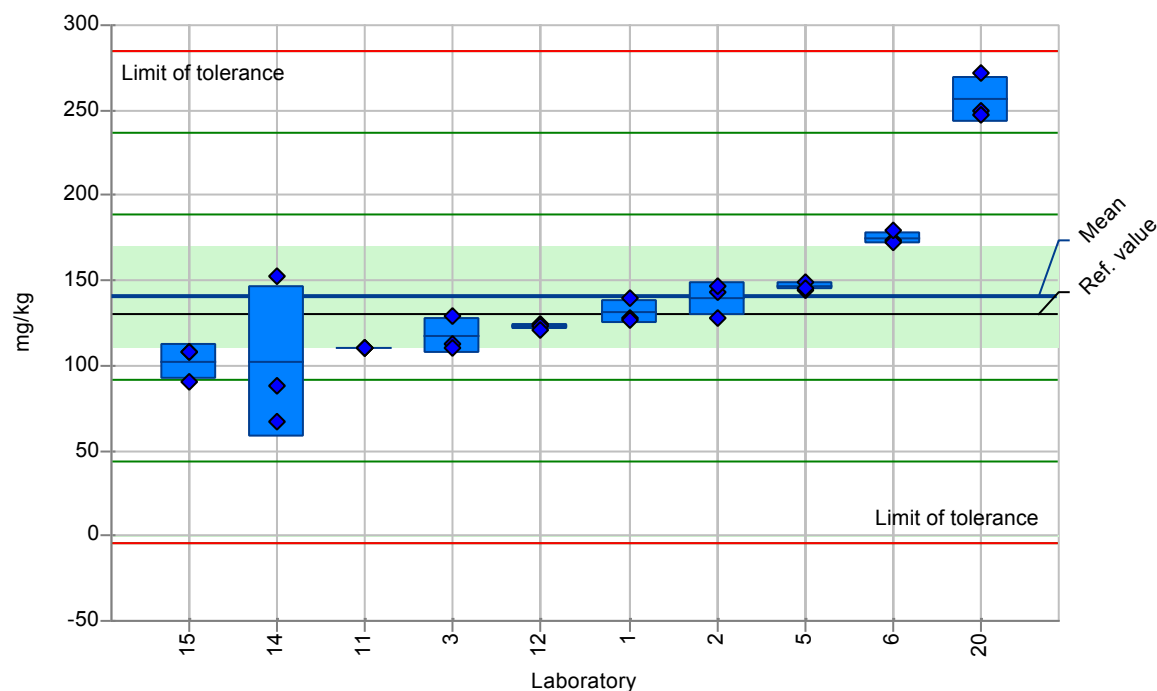
Median: 125.635

Reference value: 130.000 mg/kg

Reproducibility s.d.: 48.170 mg/kg

Repeatability s.d.: 15.974 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	131.890	7.132	-0.176	140.106	128.271	127.295
2	139.153	10.187	-0.025	127.580	143.120	146.760
3	117.479	10.636	-0.475	129.624	112.993	109.821
4						
5	146.333	2.517	0.124	149.000	144.000	146.000
6	174.667	3.786	0.712	173.000	172.000	179.000
7						
8						
9						
10						
11	110.534	0.553	-0.619	110.759	110.939	109.903
12	122.667	1.528	-0.367	124.000	123.000	121.000
13						
14	102.496	44.279	-0.786	88.151	152.169	67.169
15	102.000	10.392	-0.796	108.000	108.000	90.000
16						
17						
18						
19						
20	256.268	13.857	2.406	272.231	249.234	247.338

Measurand: C2-decalins

Sample: 2779

Mean \pm U(Mean): 886.775 \pm 31.549 mg/kg

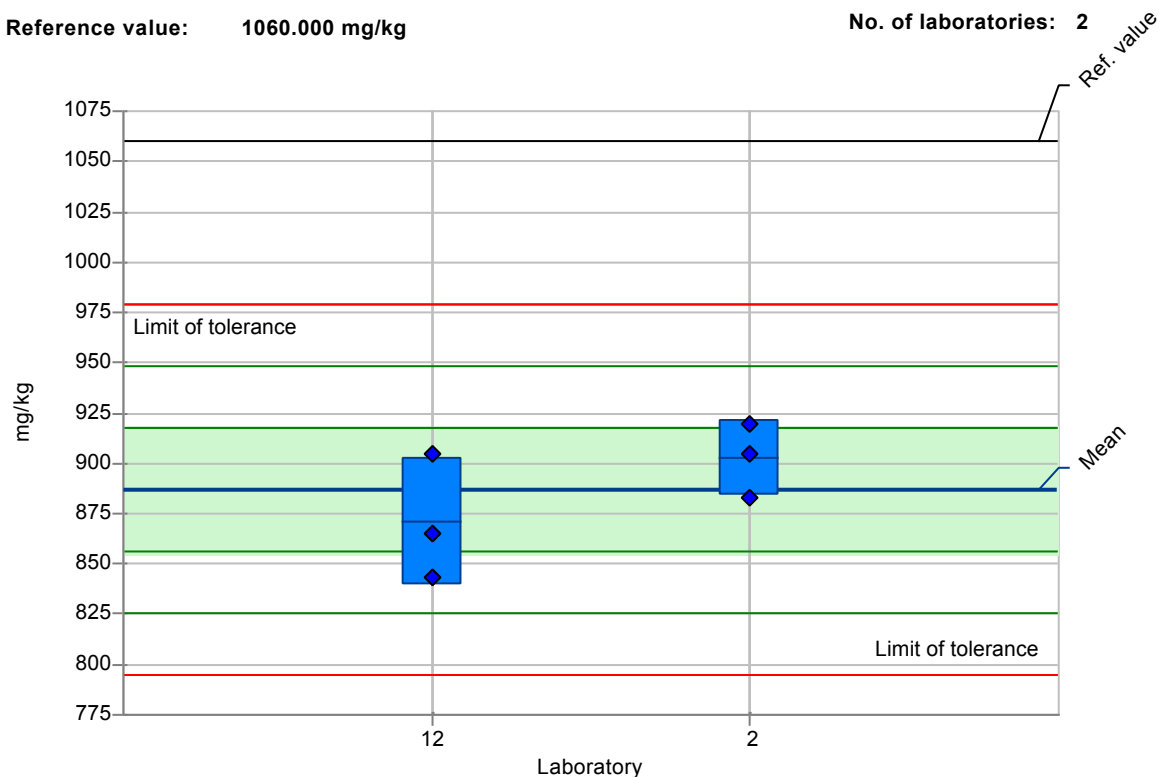
Median: 884.875

Reference value: 1060.000 mg/kg

Reproducibility s.d.: 30.717 mg/kg

Repeatability s.d.: 25.861 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	902.550	18.697	0.514	904.750	882.850	920.050
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	871.000	31.432	-0.514	905.000	843.000	865.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C2-dibenzothiophenes

Sample: 2779

Mean \pm U(Mean): 203.771 \pm 75.037 mg/kg

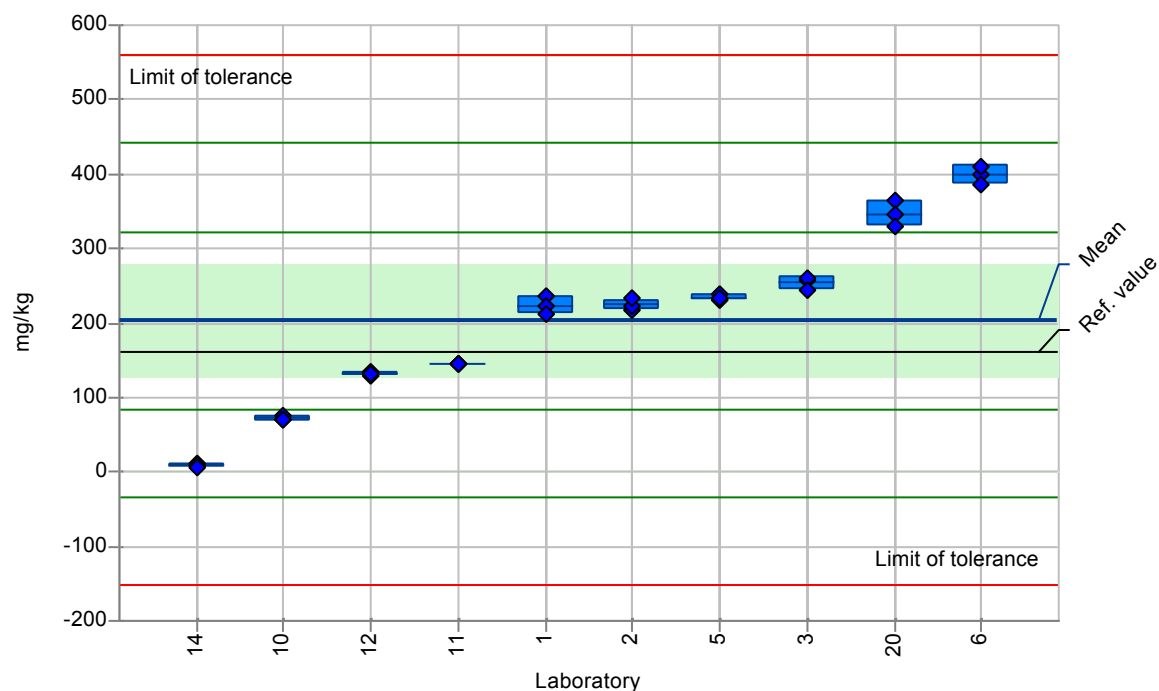
Median: 222.685

Reference value: 160.000 mg/kg

Reproducibility s.d.: 118.857 mg/kg

Repeatability s.d.: 8.711 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	223.562	11.306	0.167	235.269	222.710	212.705
2	224.203	7.436	0.172	217.660	222.660	232.290
3	253.835	8.704	0.421	256.919	260.577	244.009
4						
5	234.333	3.215	0.257	238.000	232.000	233.000
6	399.000	12.530	1.643	400.000	411.000	386.000
7						
8						
9						
10	71.750	3.680	-1.111	75.969	70.069	69.210
11	144.588	0.665	-0.498	144.044	144.390	145.329
12	131.333	3.055	-0.609	134.000	128.000	132.000
13						
14	9.077	1.744	-1.638	10.669	9.350	7.213
15						
16						
17						
18						
19						
20	346.031	17.500	1.197	364.152	344.713	329.227

Measurand: C2-fluoranthenes/pyrenes

Sample: 2779

Mean \pm U(Mean): 139.114 \pm 28.292 mg/kg

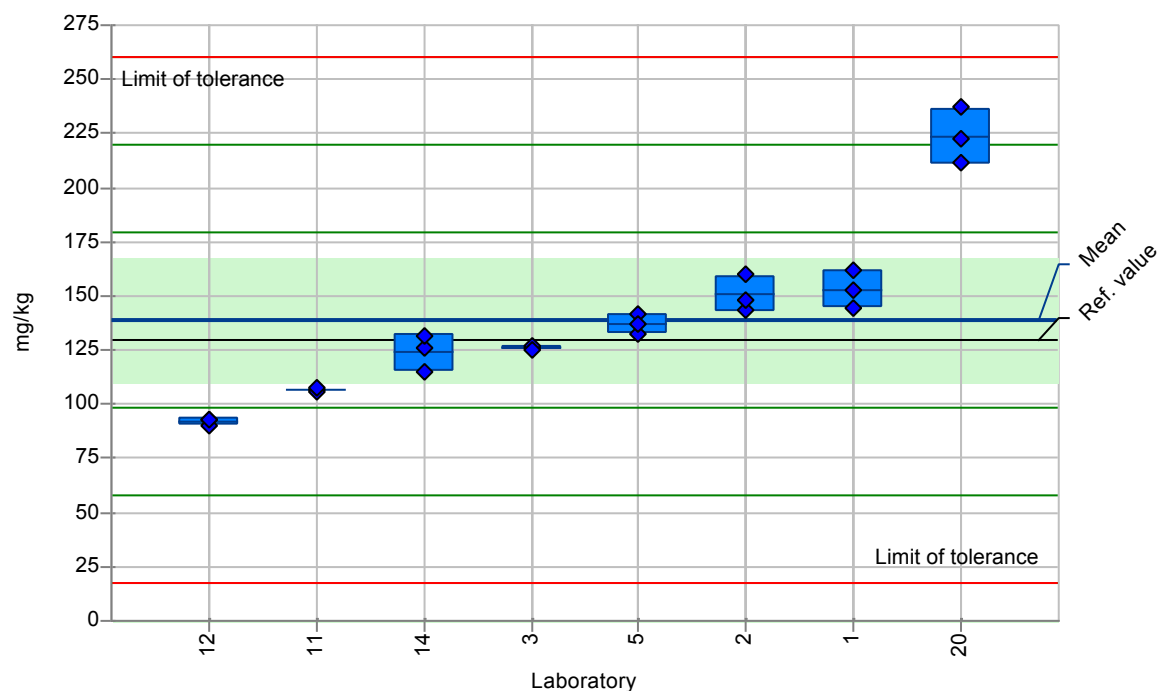
Reproducibility s.d.: 40.447 mg/kg

Median: 131.421

Repeatability s.d.: 7.250 mg/kg

Reference value: 130.000 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	152.977	8.769	0.343	162.024	152.390	144.516
2	150.837	8.587	0.290	143.760	148.360	160.390
3	125.910	0.793	-0.326	125.841	126.735	125.153
4						
5	137.000	5.000	-0.052	142.000	132.000	137.000
6						
7						
8						
9						
10						
11	106.432	0.717	-0.808	106.355	105.757	107.184
12	91.933	1.762	-1.166	92.900	89.900	93.000
13						
14	124.003	8.717	-0.374	125.551	114.615	131.842
15						
16						
17						
18						
19						
20	223.822	12.829	2.094	237.059	222.965	211.443

Measurand: C2-fluorenes

Sample: 2779

Mean \pm U(Mean): 420.811 \pm 97.154 mg/kg

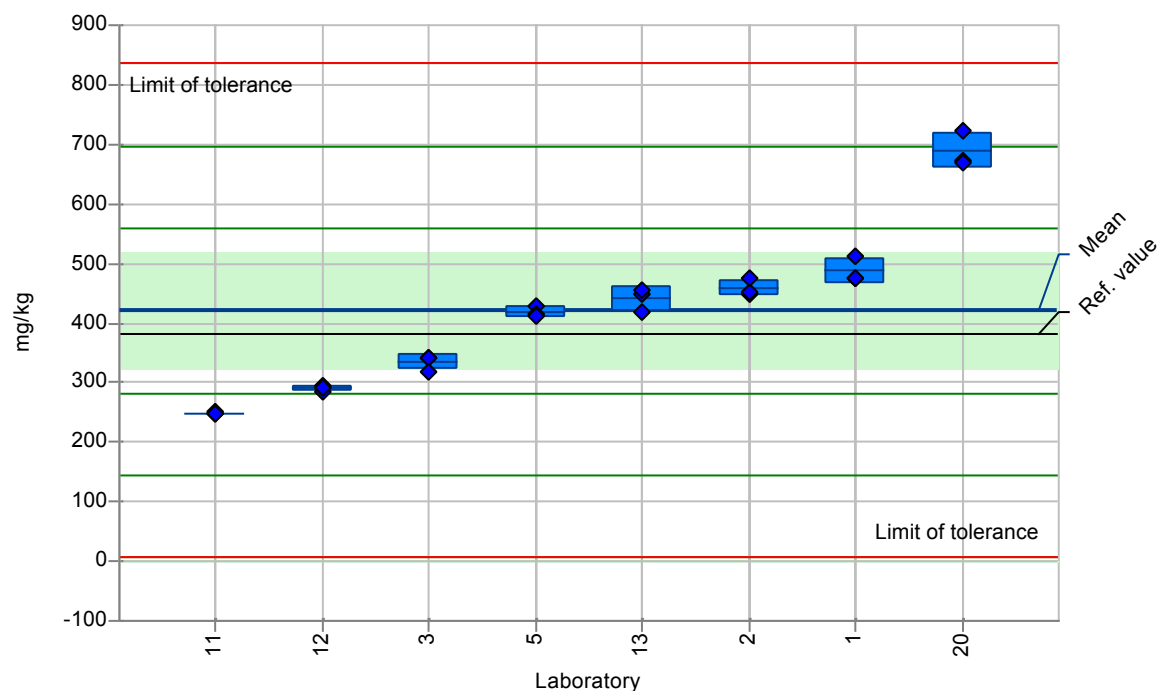
Median: 432.500

Reference value: 380.000 mg/kg

Reproducibility s.d.: 138.066 mg/kg

Repeatability s.d.: 16.636 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	487.227	20.684	0.481	511.078	476.375	474.227
2	458.947	14.465	0.276	448.100	453.370	475.370
3	334.058	13.184	-0.628	340.917	342.399	318.858
4						
5	418.667	9.292	-0.016	429.000	416.000	411.000
6						
7						
8						
9						
10						
11	249.063	1.699	-1.244	250.947	248.594	247.648
12	289.667	6.506	-0.950	296.000	283.000	290.000
13	440.333	20.429	0.141	417.000	449.000	455.000
14						
15						
16						
17						
18						
19						
20	688.524	29.229	1.939	722.230	673.189	670.154

Measurand: C2-naphthalenes

Sample: 2779

Mean \pm U(Mean): 2596.294 \pm 545.081 mg/kg

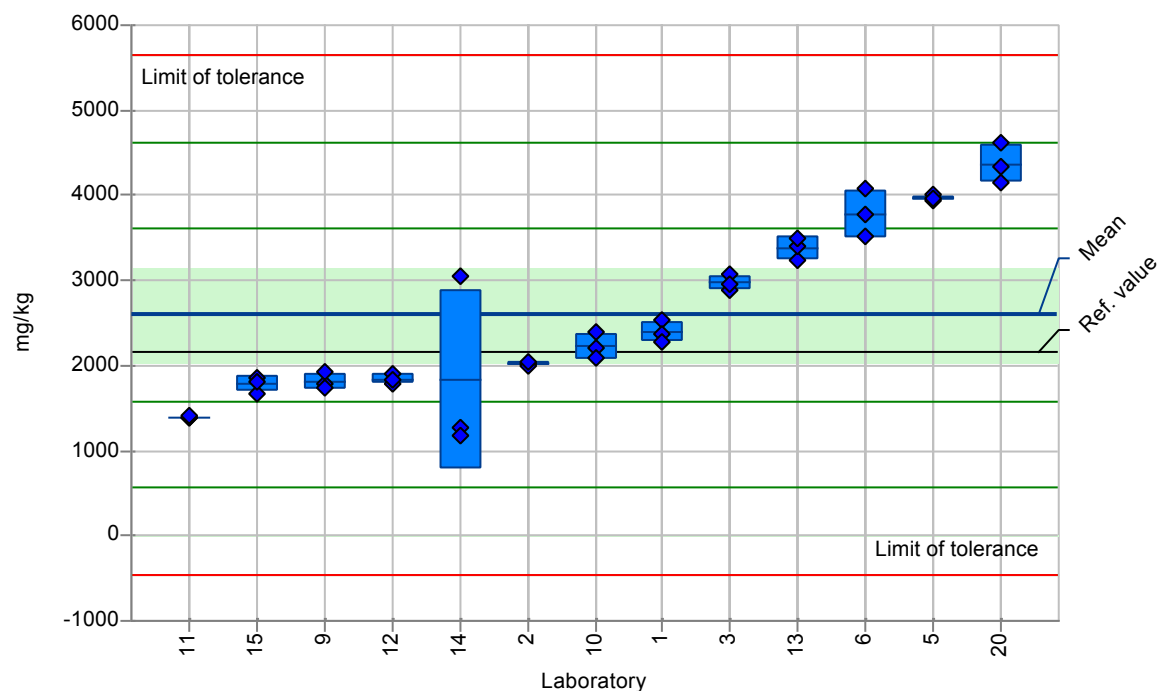
Median: 2200.000

Reference value: 2170.000 mg/kg

Reproducibility s.d.: 1016.770 mg/kg

Repeatability s.d.: 319.850 mg/kg

No. of laboratories: 13



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2393.333	126.623	-0.200	2530.000	2370.000	2280.000
2	2013.693	28.521	-0.573	2008.400	1988.190	2044.490
3	2970.728	87.562	0.368	2896.481	3067.287	2948.416
4						
5	3970.000	26.457	1.351	4000.000	3950.000	3960.000
6	3783.333	280.238	1.167	3770.000	4070.000	3510.000
7						
8						
9	1815.000	90.371	-0.768	1778.000	1749.000	1918.000
10	2226.667	151.767	-0.364	2200.000	2390.000	2090.000
11	1386.667	11.547	-1.190	1380.000	1380.000	1400.000
12	1836.667	60.277	-0.747	1900.000	1780.000	1830.000
13	3373.333	135.769	0.764	3230.000	3390.000	3500.000
14	1839.740	1054.772	-0.744	1279.120	1183.661	3056.438
15	1776.000	93.000	-0.807	1671.000	1848.000	1809.000
16						
17						
18						
19						
20	4366.667	227.230	1.741	4610.000	4330.000	4160.000

Measurand: C2-naphthobenzothiophenes

Sample: 2779

Mean \pm U(Mean): 60.964 \pm 24.001 mg/kg

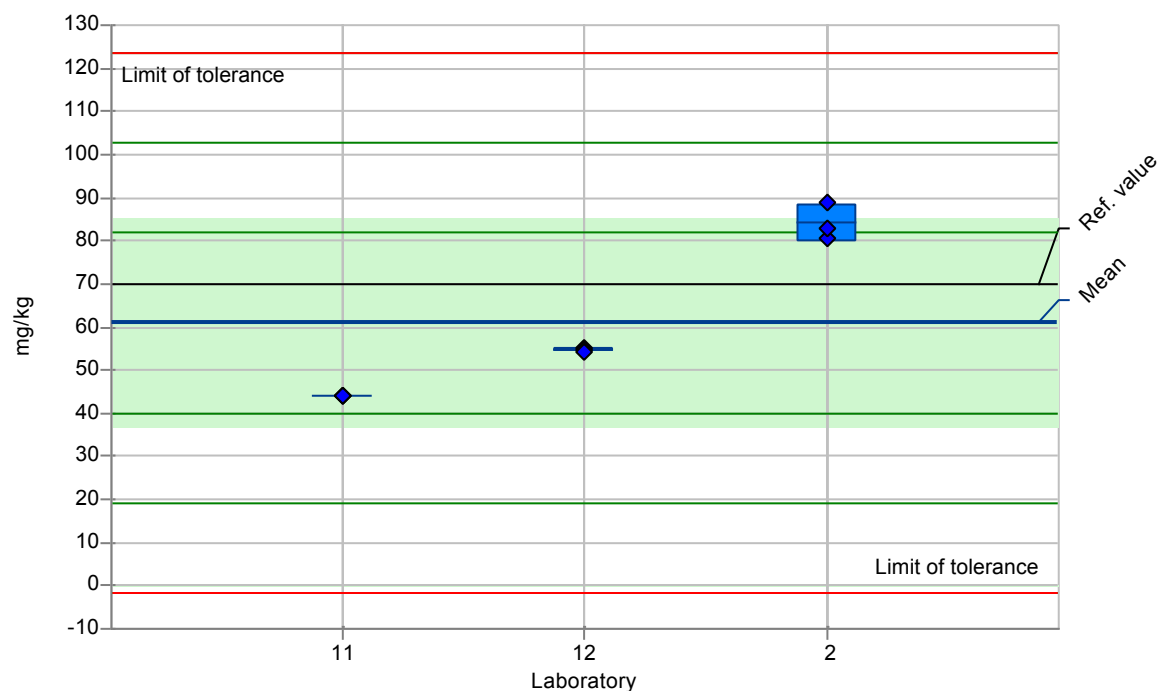
Median: 54.800

Reference value: 70.000 mg/kg

Reproducibility s.d.: 20.886 mg/kg

Repeatability s.d.: 2.500 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	84.170	4.311	1.111	80.530	83.050	88.930
3						
4						
5						
6						
7						
8						
9						
10						
11	44.055	0.027	-0.810	44.025	44.076	44.064
12	54.667	0.416	-0.302	55.000	54.800	54.200
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C2-phenanthrenes/anthracenes

Sample: 2779

Mean \pm U(Mean): 755.268 \pm 156.358 mg/kg

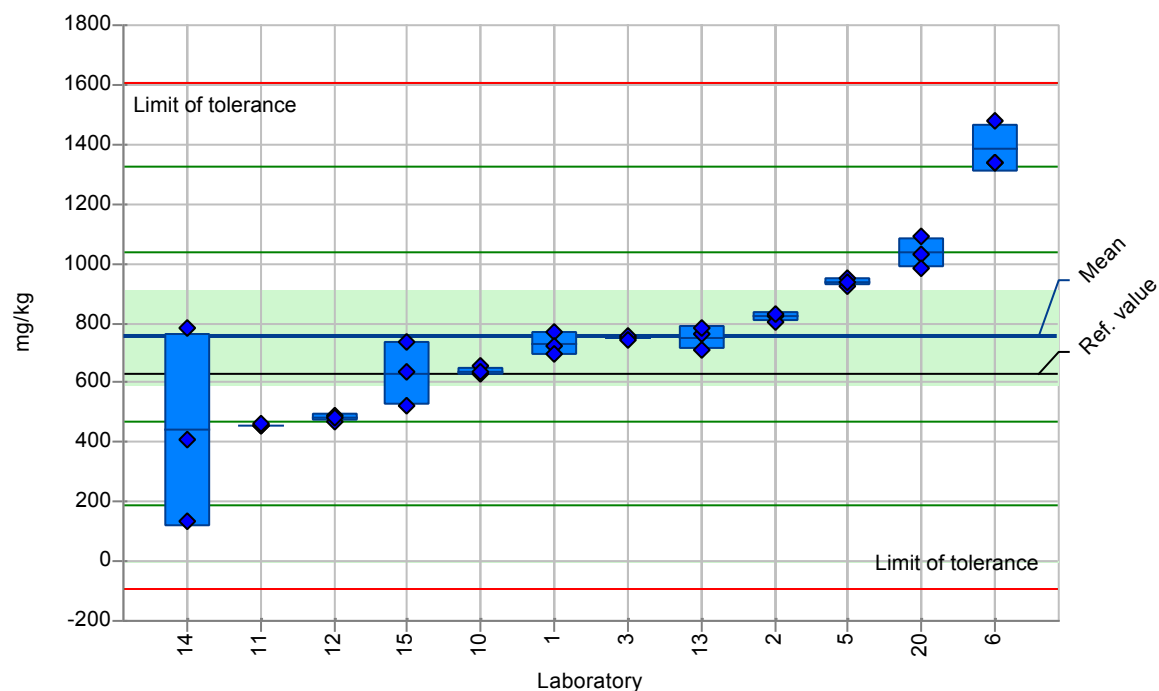
Reproducibility s.d.: 283.842 mg/kg

Median: 737.111

Repeatability s.d.: 104.088 mg/kg

Reference value: 630.000 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	729.129	38.425	-0.092	770.257	722.983	694.147
2	820.287	13.903	0.229	822.880	805.270	832.710
3	750.021	5.888	-0.018	751.239	755.206	743.619
4						
5	939.667	13.013	0.650	953.000	927.000	939.000
6	1386.667	80.829	2.224	1340.000	1480.000	1340.000
7						
8						
9						
10	638.768	13.321	-0.410	653.962	629.096	633.245
11	458.696	2.077	-1.045	456.650	458.634	460.804
12	481.000	11.533	-0.966	492.000	469.000	482.000
13	751.333	38.592	-0.014	708.000	764.000	782.000
14	441.574	324.806	-1.105	782.553	406.360	135.810
15	630.667	107.640	-0.439	637.000	735.000	520.000
16						
17						
18						
19						
20	1035.402	52.107	0.987	1090.000	1030.000	986.206

Measurand: C3-benzothiophenes

Sample: 2779

Mean \pm U(Mean): 37.413 \pm 9.693 mg/kg

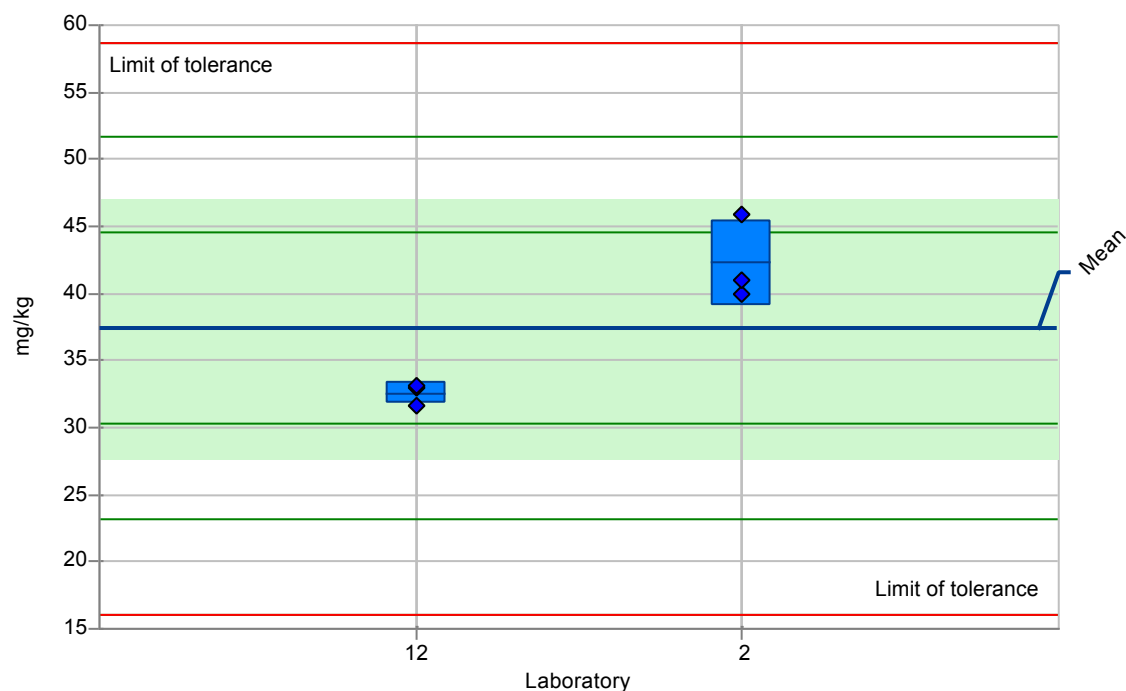
Median: 37.030

Reference value:

Reproducibility s.d.: 7.106 mg/kg

Repeatability s.d.: 2.296 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	42.260	3.137	0.682	39.900	41.060	45.820
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	32.567	0.839	-0.682	33.000	31.600	33.100
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C3-chrysenes

Sample: 2779

Mean \pm U(Mean): 118.898 \pm 48.845 mg/kg

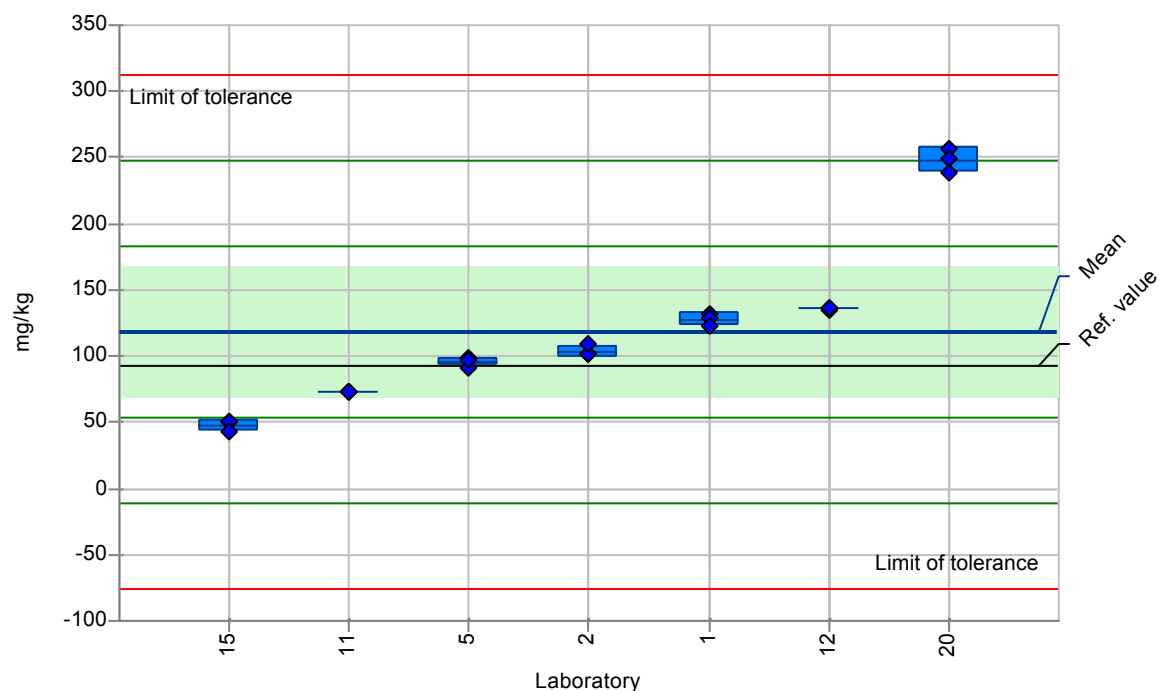
Median: 101.160

Reference value: 93.000 mg/kg

Reproducibility s.d.: 64.738 mg/kg

Repeatability s.d.: 4.862 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	127.792	4.913	0.137	132.293	128.533	122.550
2	103.660	4.496	-0.235	100.970	101.160	108.850
3						
4						
5	95.667	3.544	-0.359	98.100	91.600	97.300
6						
7						
8						
9						
10						
11	73.200	0.298	-0.706	73.003	73.543	73.054
12	136.000	1.000	0.264	135.000	136.000	137.000
13						
14						
15	47.667	4.041	-1.100	50.000	50.000	43.000
16						
17						
18						
19						
20	248.304	9.547	1.999	257.050	249.744	238.119

Measurand: C3-decalins

Sample: 2779

Mean \pm U(Mean): 432.097 \pm 67.140 mg/kg

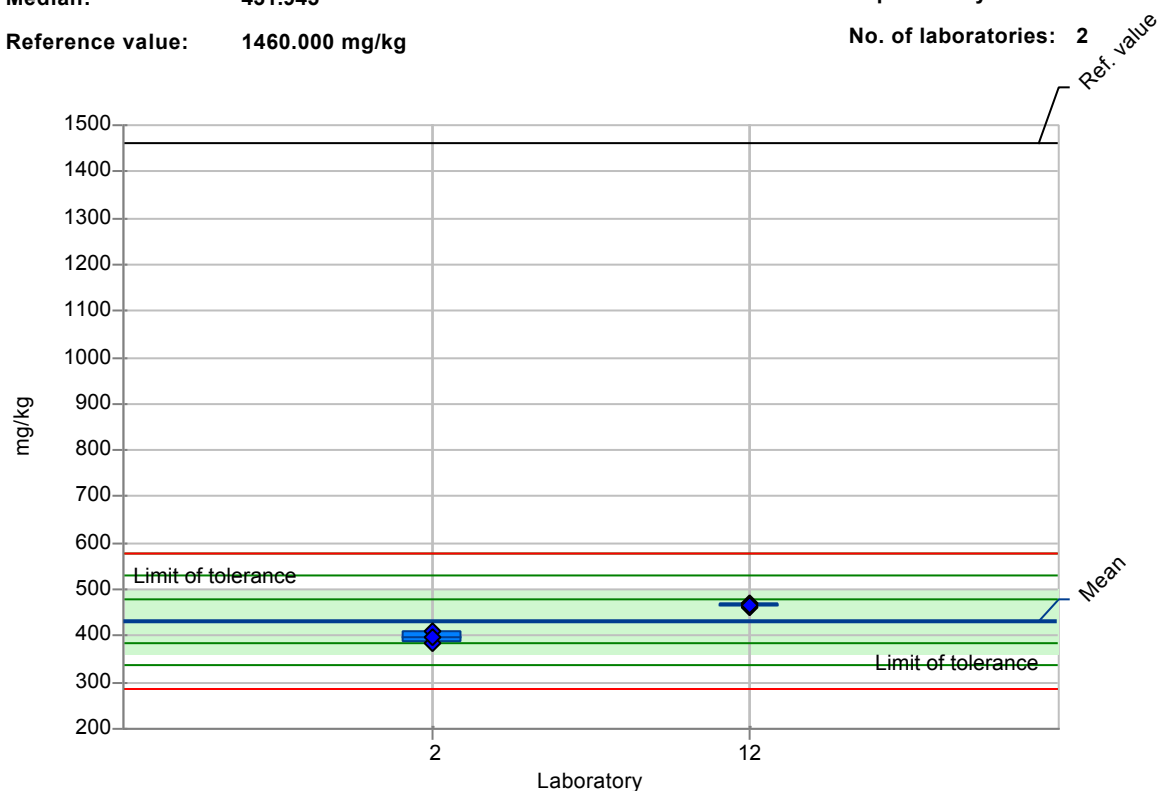
Median: 431.945

Reference value: 1460.000 mg/kg

Reproducibility s.d.: 48.107 mg/kg

Repeatability s.d.: 9.520 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	398.527	12.039	-0.698	386.310	410.380	398.890
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	465.667	6.028	0.698	472.000	460.000	465.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C3-dibenzothiophenes

Sample: 2779

Mean \pm U(Mean): 155.493 \pm 53.229 mg/kg

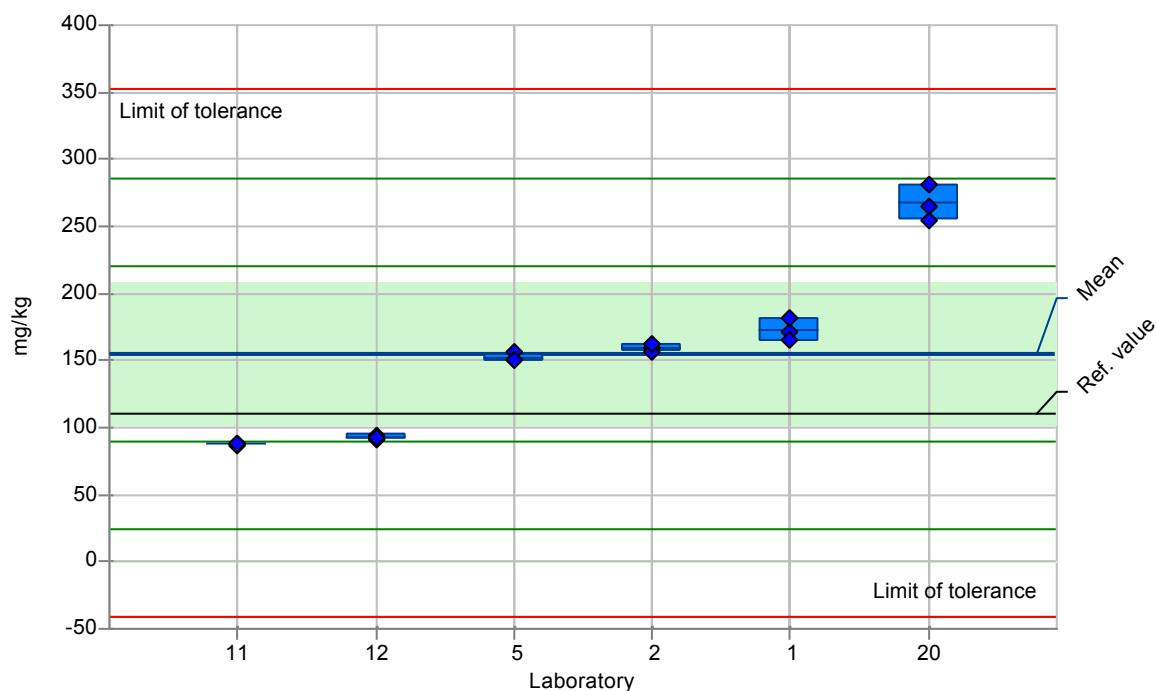
Reproducibility s.d.: 65.432 mg/kg

Median: 154.925

Repeatability s.d.: 6.852 mg/kg

Reference value: 110.000 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	172.761	8.755	0.264	182.046	171.581	164.656
2	159.040	2.860	0.054	158.850	156.280	161.990
3						
4						
5	152.333	3.215	-0.048	156.000	150.000	151.000
6						
7						
8						
9						
10						
11	88.157	0.743	-1.029	88.299	87.353	88.818
12	93.267	1.550	-0.951	94.800	91.700	93.300
13						
14						
15						
16						
17						
18						
19						
20	267.401	13.550	1.710	281.772	265.575	254.857

Measurand: C3-fluoranthenes/pyrenes

Sample: 2779

Mean \pm U(Mean): 144.062 \pm 42.153 mg/kg

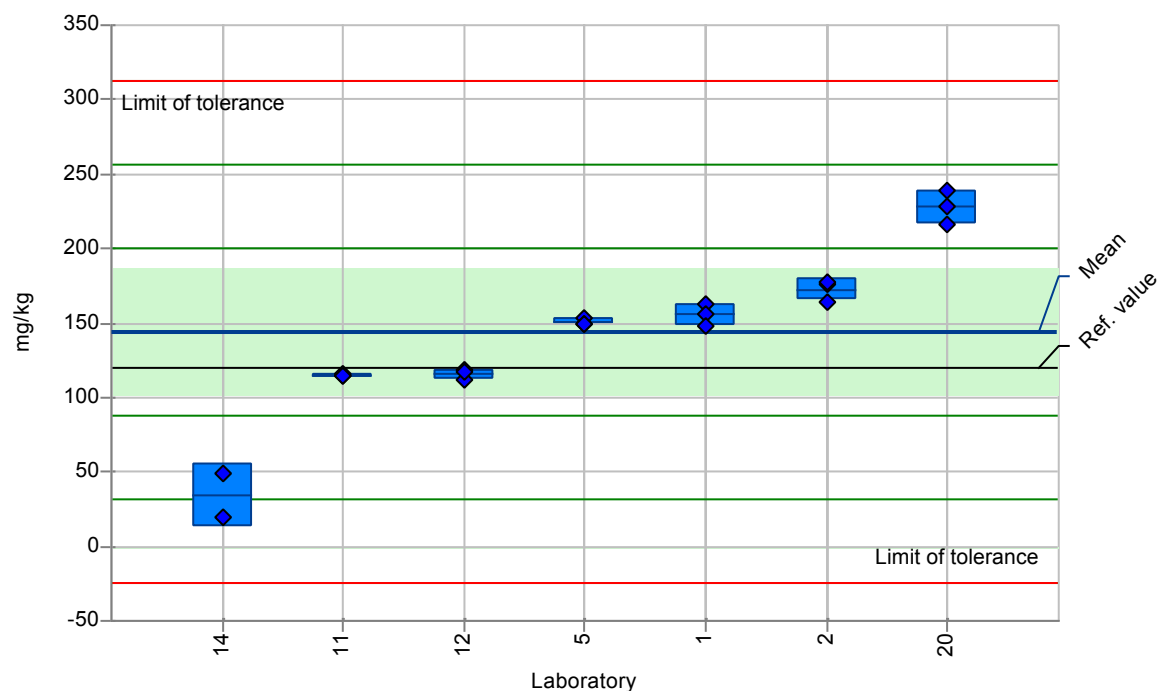
Reproducibility s.d.: 56.197 mg/kg

Median: 150.000

Repeatability s.d.: 8.534 mg/kg

Reference value: 120.000 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	155.642	7.664	0.206	163.001	156.217	147.706
2	172.573	6.962	0.507	164.540	176.320	176.860
3						
4						
5	151.333	2.309	0.129	154.000	150.000	150.000
6						
7						
8						
9						
10						
11	114.779	0.928	-0.521	114.200	115.849	114.288
12	115.667	3.215	-0.505	118.000	112.000	117.000
13						
14	34.045	21.163	-1.958		19.081	49.010
15						
16						
17						
18						
19						
20	227.721	11.213	1.489	238.489	228.563	216.111

Measurand: C3-fluorenes

Sample: 2779

Mean \pm U(Mean): 325.254 \pm 109.358 mg/kg

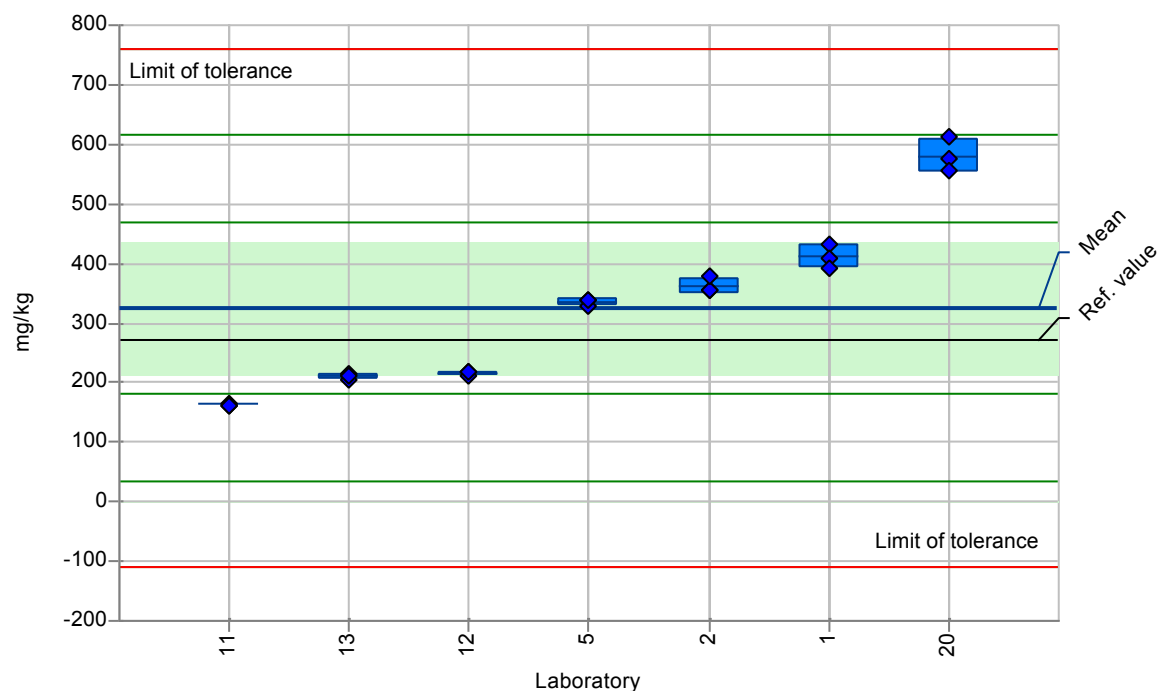
Median: 337.000

Reference value: 270.000 mg/kg

Reproducibility s.d.: 145.163 mg/kg

Repeatability s.d.: 14.676 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	410.851	20.488	0.590	432.868	407.339	392.347
2	362.283	12.790	0.255	356.000	353.850	377.000
3						
4						
5	334.333	6.429	0.063	339.000	327.000	337.000
6						
7						
8						
9						
10						
11	163.048	0.709	-1.117	163.867	162.632	162.646
12	214.667	4.041	-0.762	217.000	210.000	217.000
13	211.000	5.292	-0.787	205.000	215.000	213.000
14						
15						
16						
17						
18						
19						
20	580.594	28.952	1.759	611.707	575.630	554.444

Measurand: C3-naphthalenes

Sample: 2779

Mean \pm U(Mean): 1780.089 \pm 377.225 mg/kg

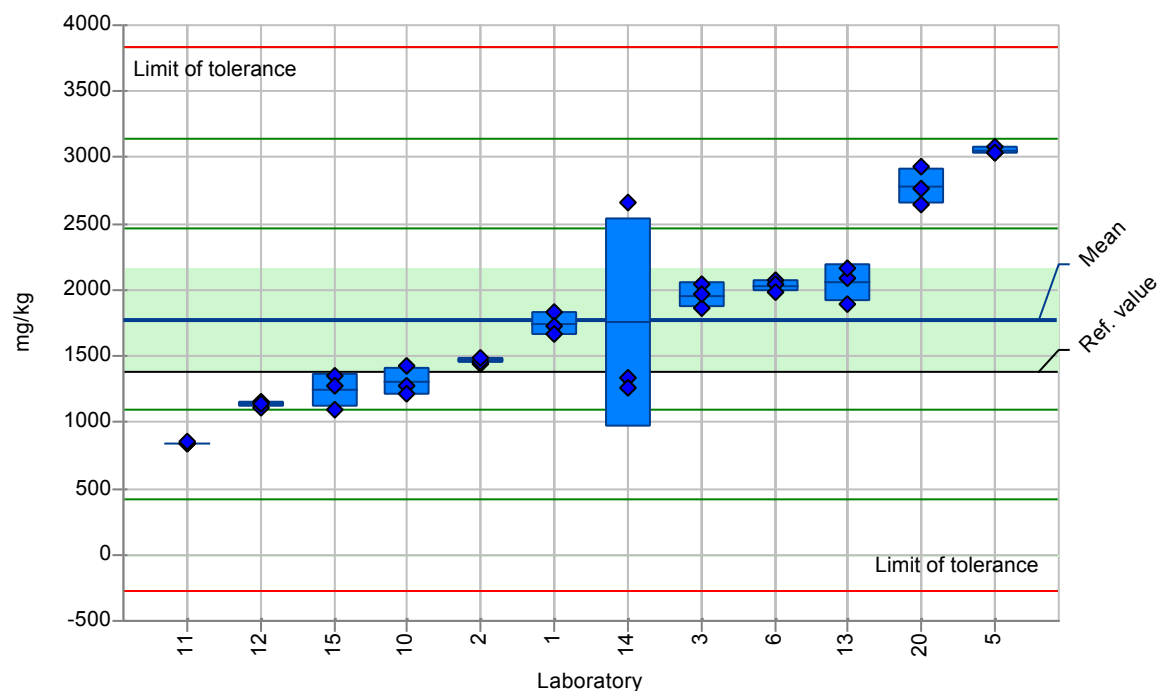
Median: 1592.065

Reference value: 1380.000 mg/kg

Reproducibility s.d.: 683.190 mg/kg

Repeatability s.d.: 244.500 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1743.333	90.738	-0.054	1840.000	1730.000	1660.000
2	1464.420	22.495	-0.462	1448.910	1454.130	1490.220
3	1958.979	94.908	0.262	1859.110	2047.991	1969.836
4						
5	3050.000	26.457	1.859	3080.000	3040.000	3030.000
6	2033.333	47.258	0.371	2070.000	2050.000	1980.000
7						
8						
9						
10	1306.667	109.697	-0.693	1270.000	1430.000	1220.000
11	842.417	5.632	-1.372	840.164	838.261	848.827
12	1136.667	25.166	-0.942	1160.000	1110.000	1140.000
13	2053.333	138.684	0.400	1900.000	2090.000	2170.000
14	1753.588	792.207	-0.039	1332.415	1260.932	2667.419
15	1238.333	131.394	-0.793	1094.000	1351.000	1270.000
16						
17						
18						
19						
20	2780.000	141.067	1.464	2930.000	2760.000	2650.000

Measurand: C3-naphthobenzothiophenes

Sample: 2779

Mean \pm U(Mean): 41.889 \pm 14.719 mg/kg

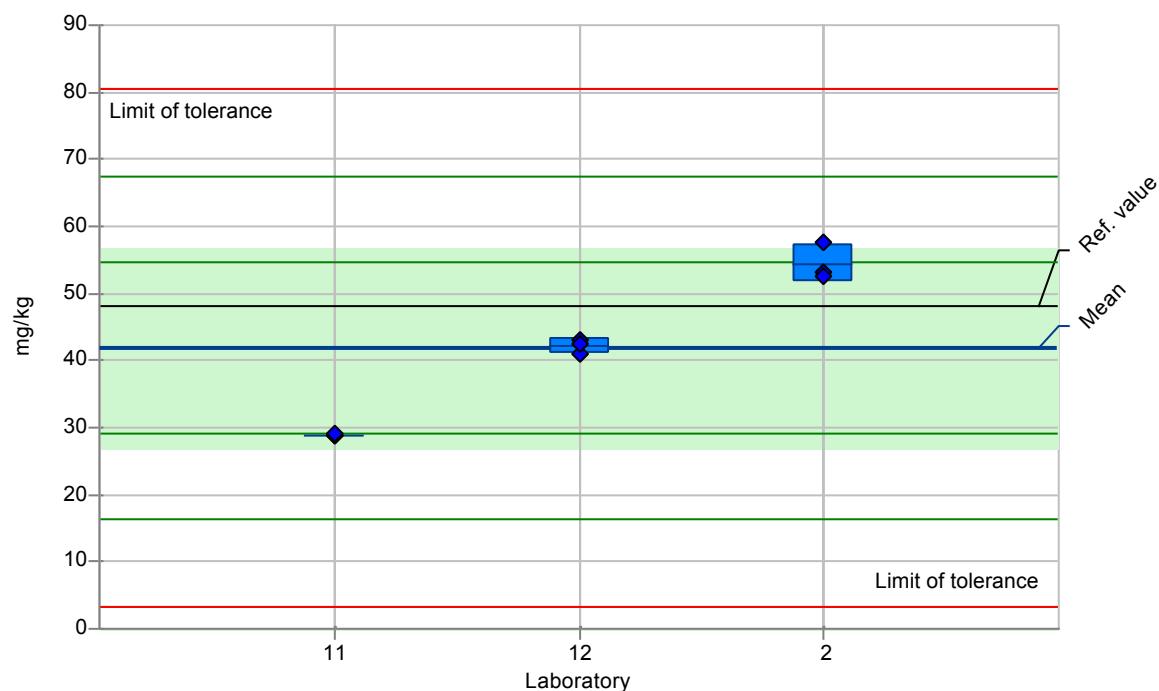
Median: 42.600

Reference value: 48.000 mg/kg

Reproducibility s.d.: 12.826 mg/kg

Repeatability s.d.: 1.742 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	54.443	2.794	0.979	53.150	52.530	57.650
3						
4						
5						
6						
7						
8						
9						
10						
11	28.957	0.022	-1.008	28.938	28.953	28.981
12	42.267	1.137	0.029	43.200	41.000	42.600
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C3-phenanthrenes/anthracenes

Sample: 2779

Mean \pm U(Mean): 660.769 \pm 339.553 mg/kg

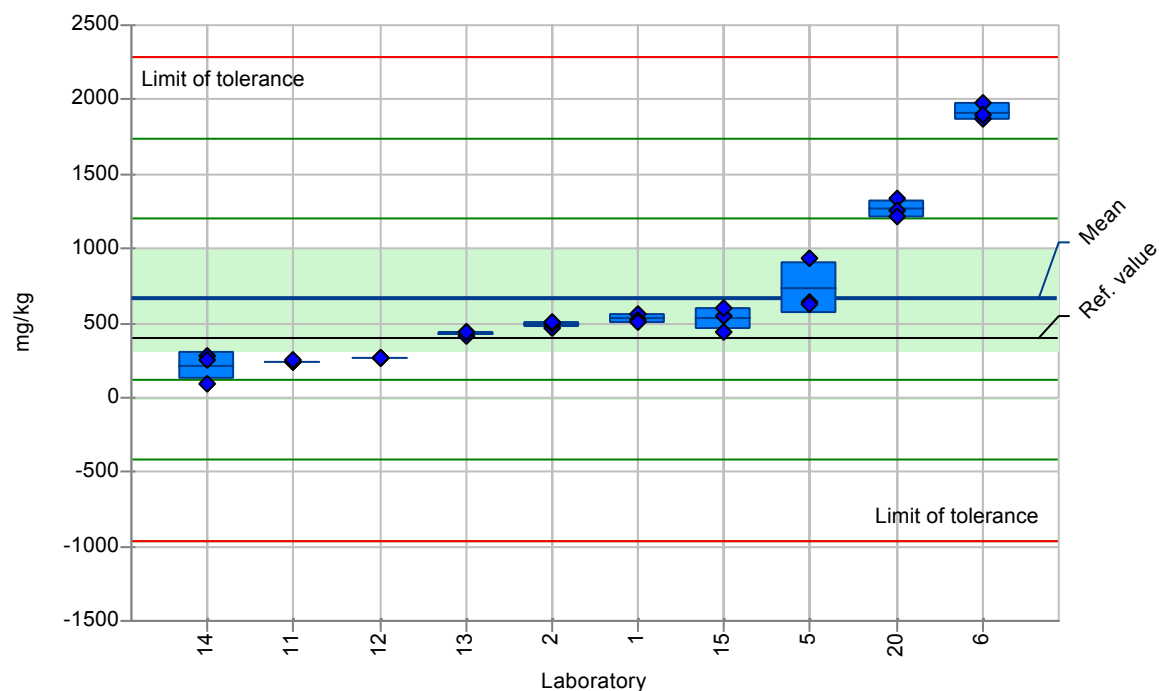
Reproducibility s.d.: 540.200 mg/kg

Median: 506.230

Repeatability s.d.: 73.225 mg/kg

Reference value: 400.000 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	527.272	27.279	-0.247	557.170	520.910	503.737
2	486.907	19.886	-0.322	465.110	491.550	504.060
3						
4						
5	733.000	170.819	0.134	643.000	626.000	930.000
6	1916.667	56.862	2.325	1870.000	1980.000	1900.000
7						
8						
9						
10						
11	244.603	1.852	-0.770	242.533	245.174	246.102
12	268.667	3.215	-0.726	270.000	265.000	271.000
13	428.333	15.885	-0.430	410.000	437.000	438.000
14	211.573	98.602	-0.832	277.755	258.716	98.249
15	527.333	79.658	-0.247	546.000	596.000	440.000
16						
17						
18						
19						
20	1263.333	61.101	1.115	1330.000	1250.000	1210.000

Measurand: C4-benzothiophenes

Sample: 2779

Mean \pm U(Mean): 23.998 \pm 1.670 mg/kg

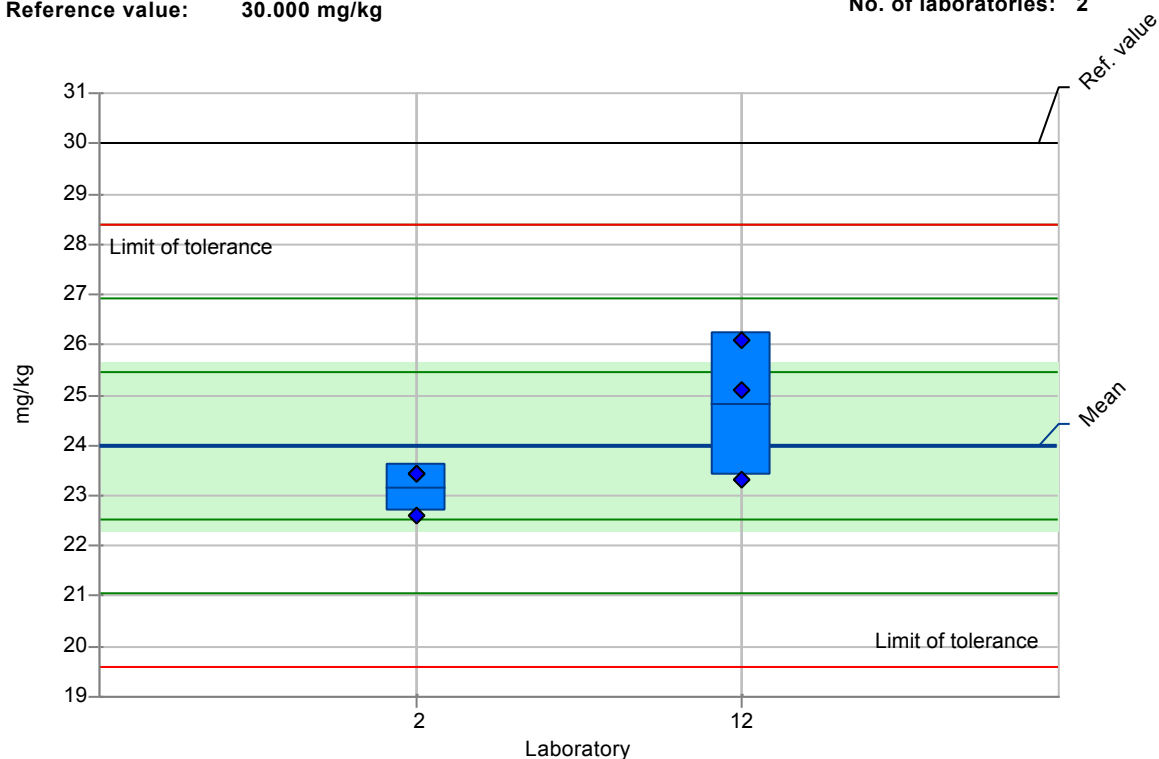
Median: 24.265

Reference value: 30.000 mg/kg

Reproducibility s.d.: 1.464 mg/kg

Repeatability s.d.: 1.059 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	23.163	0.479	-0.571	23.450	22.610	23.430
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	24.833	1.419	0.571	26.100	23.300	25.100
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C4-chrysenes

Sample: 2779

Mean \pm U(Mean): 69.780 \pm 15.189 mg/kg

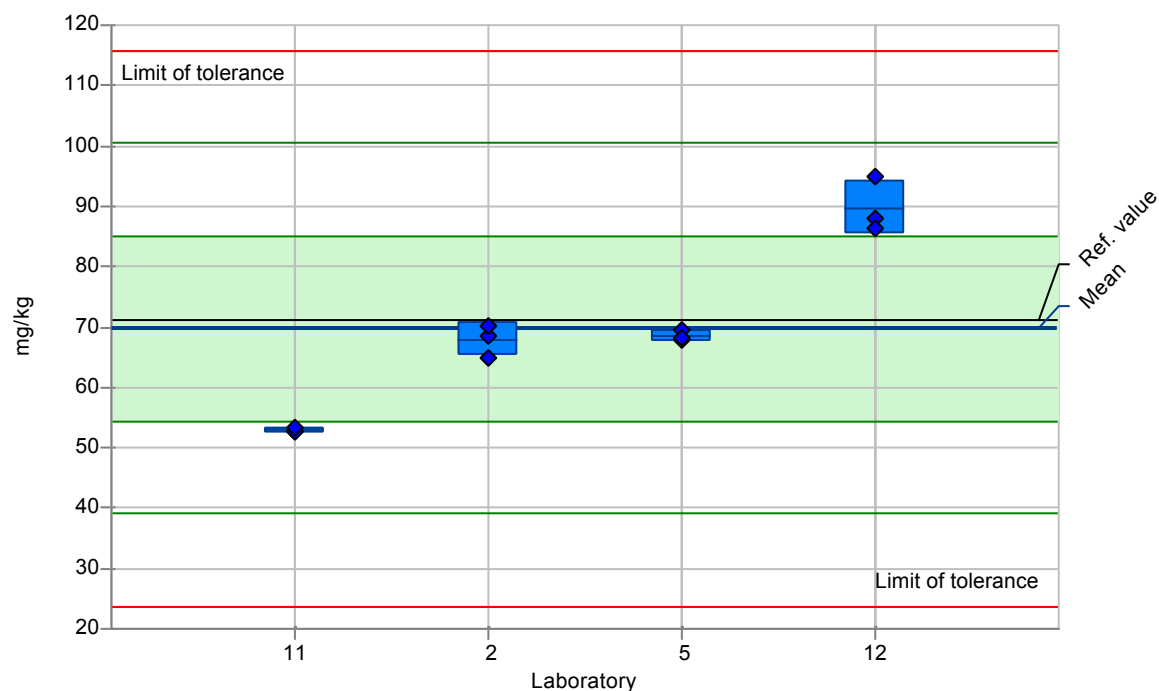
Median: 68.425

Reference value: 71.000 mg/kg

Reproducibility s.d.: 15.351 mg/kg

Repeatability s.d.: 2.724 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	67.893	2.784	-0.123	64.840	68.550	70.290
3						
4						
5	68.567	0.929	-0.079	69.600	67.800	68.300
6						
7						
8						
9						
10						
11	52.860	0.400	-1.102	52.542	52.729	53.308
12	89.800	4.574	1.304	88.000	86.400	95.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C4-decalins

Sample: 2779

Mean \pm U(Mean): 416.362 \pm 75.277 mg/kg

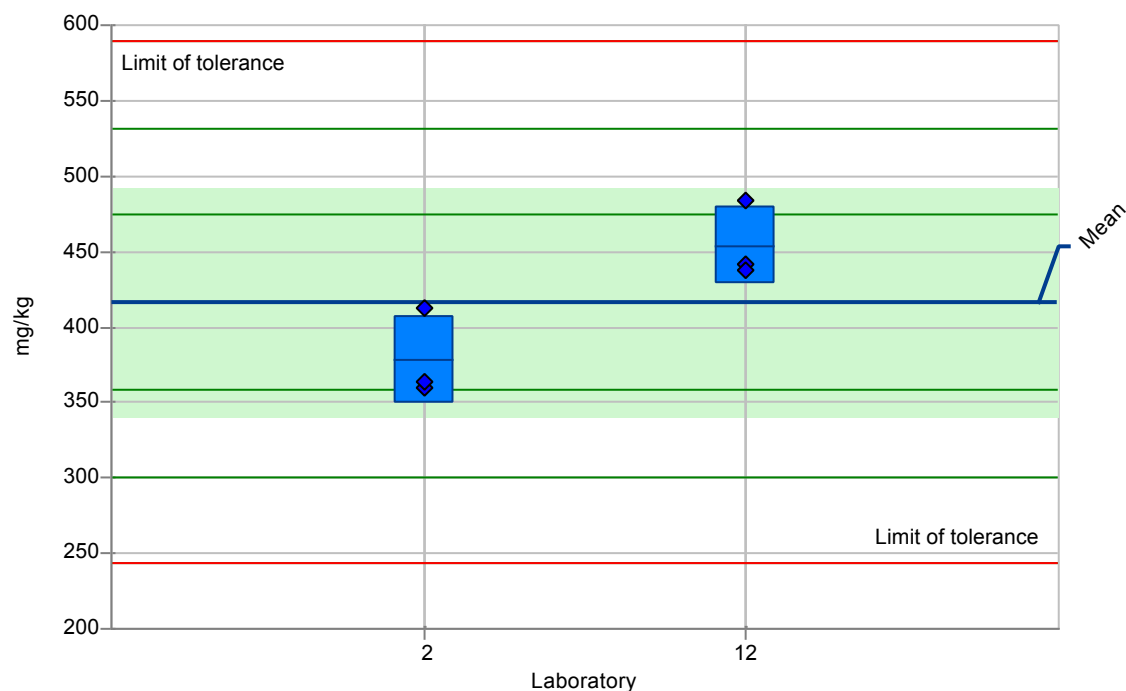
Median: 402.535

Reference value:

Reproducibility s.d.: 57.787 mg/kg

Repeatability s.d.: 27.551 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	378.723	28.968	-0.651	360.010	364.070	412.090
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	454.000	26.058	0.651	484.000	441.000	437.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C4-dibenzothiophenes

Sample: 2779

Mean \pm U(Mean): 87.161 \pm 33.110 mg/kg

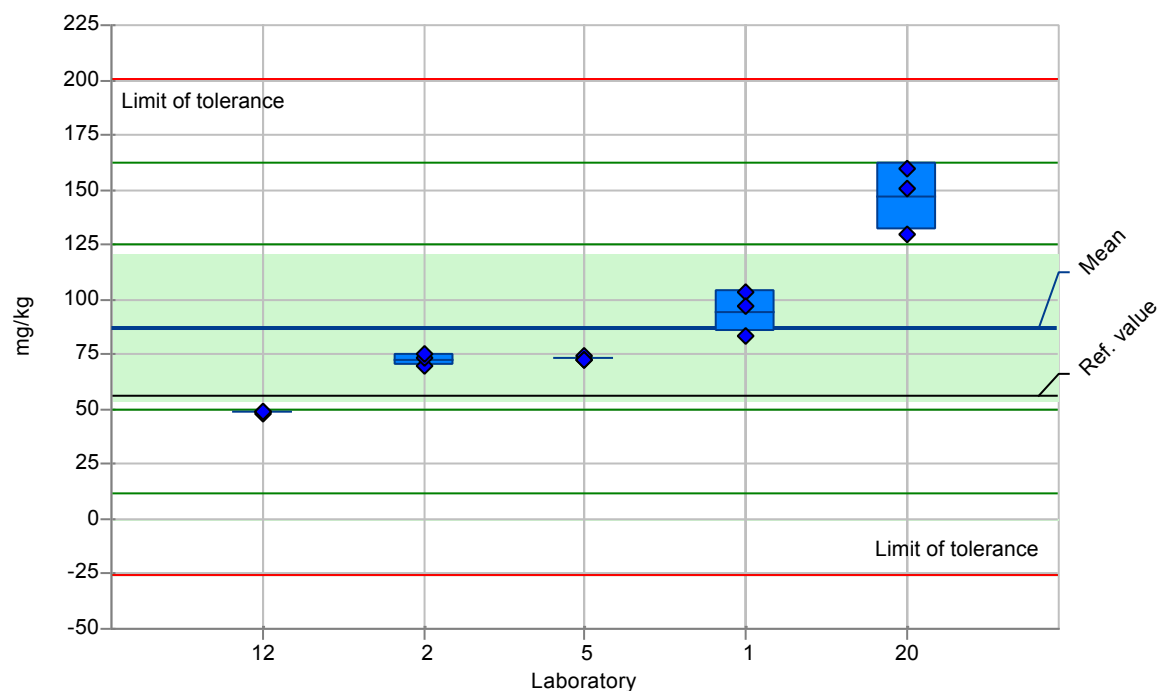
Median: 73.690

Reference value: 56.000 mg/kg

Reproducibility s.d.: 37.632 mg/kg

Repeatability s.d.: 8.287 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	94.715	9.922	0.201	103.083	97.309	83.754
2	72.687	2.937	-0.385	69.380	73.690	74.990
3						
4						
5	73.200	0.608	-0.371	73.900	72.800	72.900
6						
7						
8						
9						
10						
11						
12	48.600	0.361	-1.025	48.500	48.300	49.000
13						
14						
15						
16						
17						
18						
19						
20	146.601	15.357	1.580	159.552	150.615	129.635

Measurand: C4-fluoranthenes/pyrenes

Sample: 2779

Mean \pm U(Mean): 117.305 \pm 34.373 mg/kg

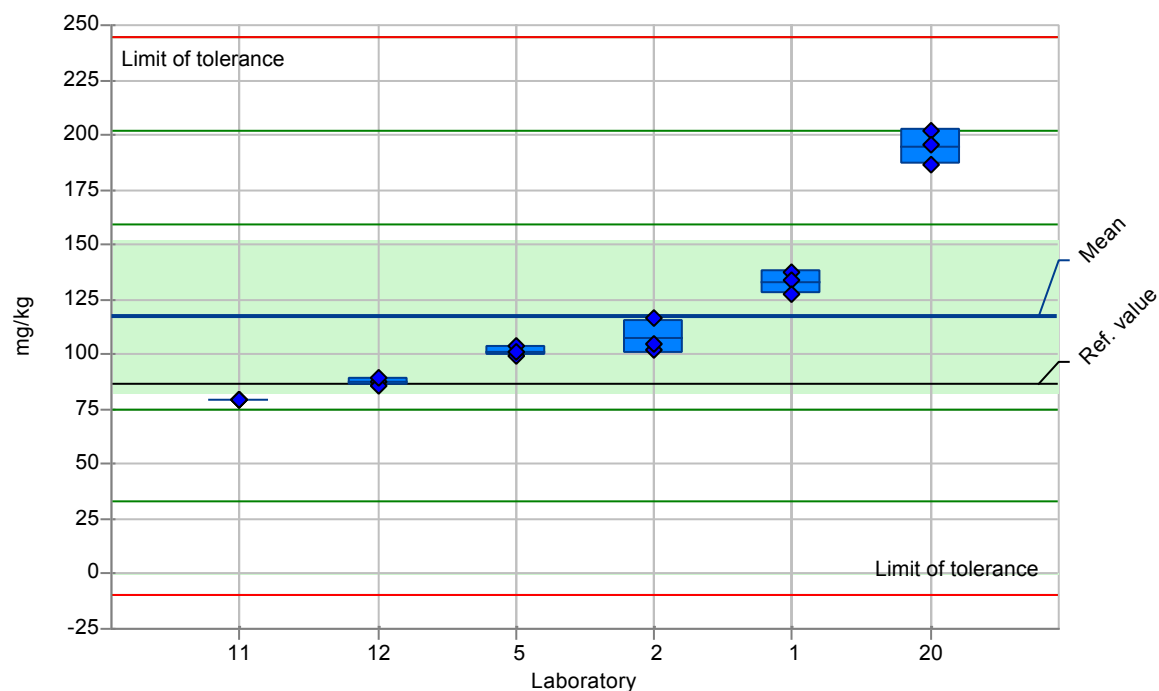
Reproducibility s.d.: 42.307 mg/kg

Median: 102.960

Repeatability s.d.: 5.148 mg/kg

Reference value: 87.000 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	132.946	5.375	0.370	137.816	133.845	127.179
2	107.800	7.714	-0.225	101.940	104.920	116.540
3						
4						
5	101.467	2.335	-0.374	104.000	99.400	101.000
6						
7						
8						
9						
10						
11	79.370	0.164	-0.897	79.359	79.212	79.539
12	87.733	1.804	-0.699	87.600	86.000	89.600
13						
14						
15						
16						
17						
18						
19						
20	194.516	7.864	1.825	201.640	195.830	186.077

Measurand: C4-naphthalenes

Sample: 2779

Mean \pm U(Mean): 794.179 \pm 321.188 mg/kg

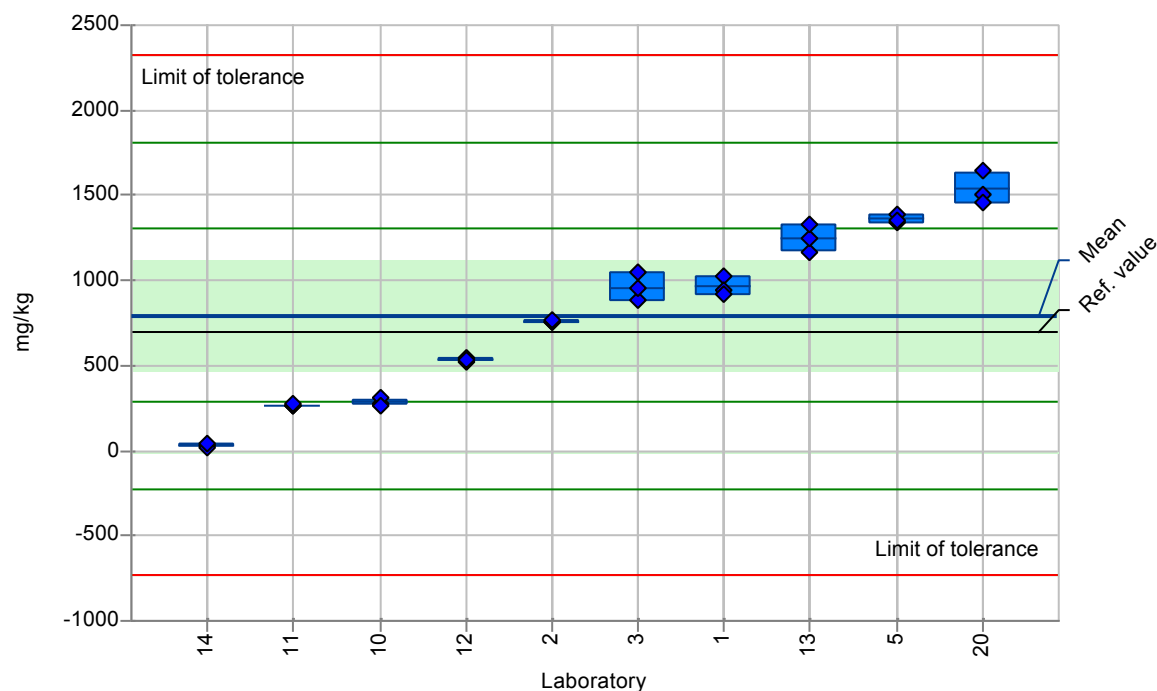
Median: 849.736

Reference value: 700.000 mg/kg

Reproducibility s.d.: 509.664 mg/kg

Repeatability s.d.: 52.730 mg/kg

No. of laboratories: 10



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	965.750	57.555	0.337	1030.000	948.343	918.908
2	756.340	9.832	-0.074	750.210	751.130	767.680
3	959.388	84.091	0.324	879.708	1047.287	951.170
4						
5	1360.000	26.457	1.110	1390.000	1340.000	1350.000
6						
7						
8						
9						
10	282.189	22.965	-1.005	272.837	308.355	265.375
11	269.510	1.096	-1.029	269.438	268.452	270.641
12	533.667	12.662	-0.511	545.000	520.000	536.000
13	1246.667	85.049	0.888	1160.000	1250.000	1330.000
14	31.612	8.253	-1.496	30.083	24.231	40.523
15						
16						
17						
18						
19						
20	1536.667	92.916	1.457	1640.000	1510.000	1460.000

Measurand: C4-naphthobenzothiophenes

Sample: 2779

Mean \pm U(Mean): 26.012 \pm 11.777 mg/kg

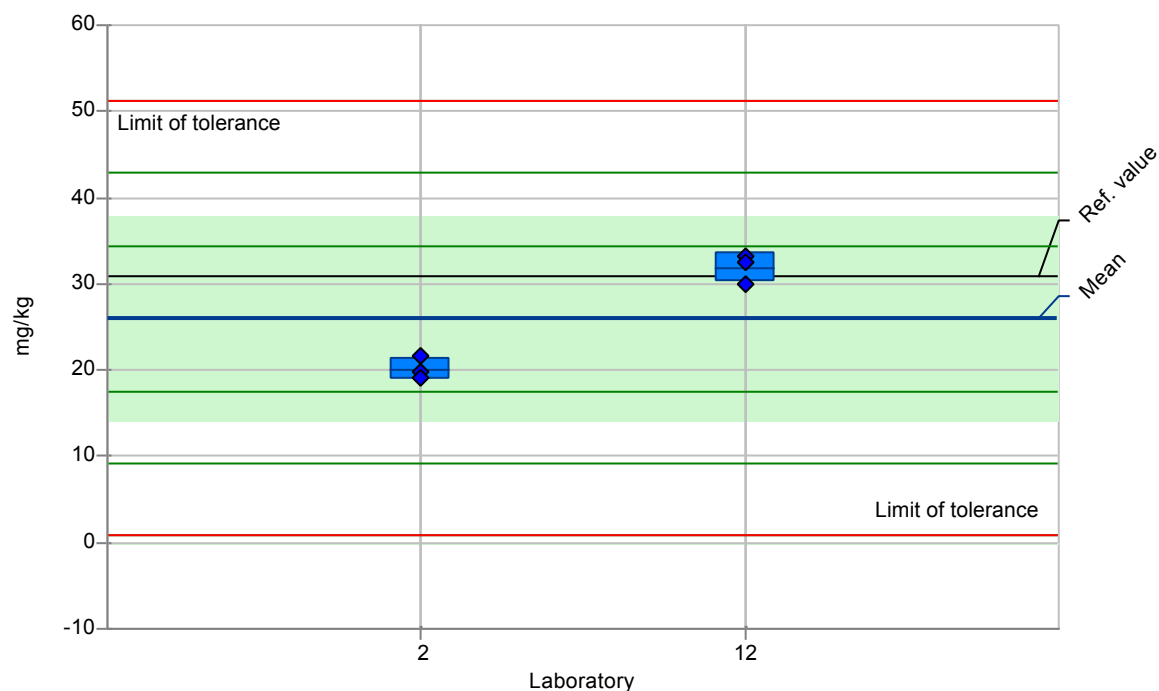
Median: 26.160

Reference value: 31.000 mg/kg

Reproducibility s.d.: 8.417 mg/kg

Repeatability s.d.: 1.500 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	20.123	1.292	-0.700	19.820	19.010	21.540
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	31.900	1.682	0.700	33.200	32.500	30.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C4-phenanthrenes/anthracenes

Sample: 2779

Mean \pm U(Mean): 259.139 \pm 160.993 mg/kg

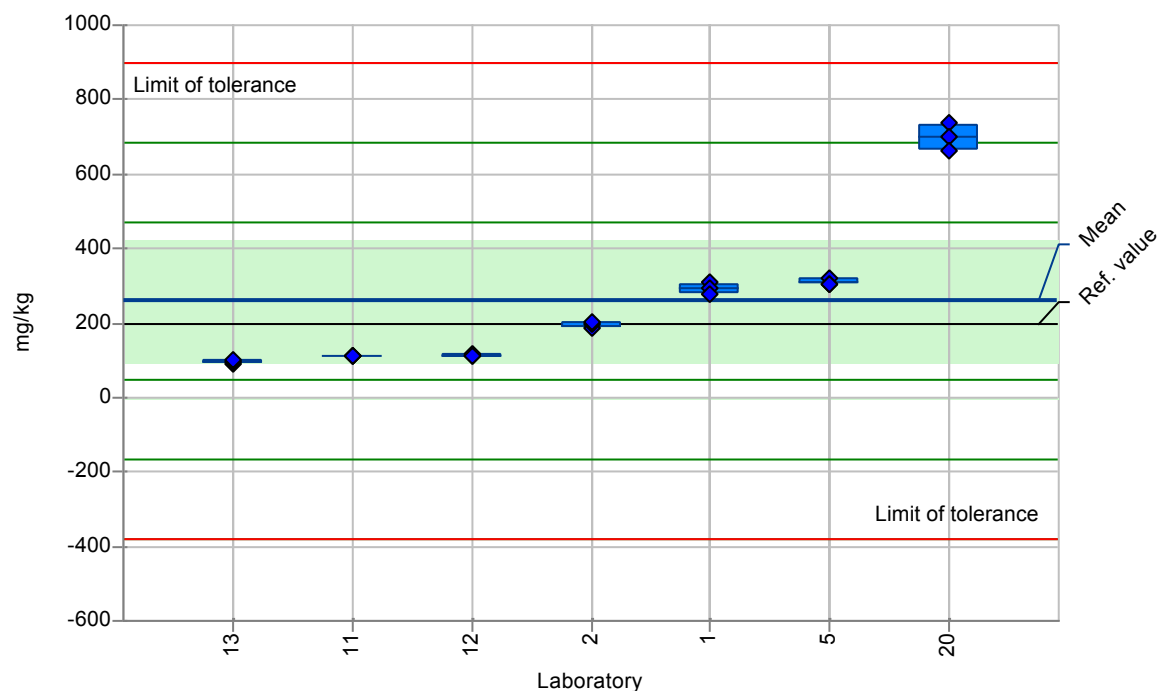
Reproducibility s.d.: 213.346 mg/kg

Median: 194.770

Repeatability s.d.: 15.435 mg/kg

Reference value: 200.000 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	292.047	14.902	0.154	307.208	291.516	277.418
2	193.413	8.804	-0.308	184.010	194.770	201.460
3						
4						
5	310.667	7.234	0.242	319.000	306.000	307.000
6						
7						
8						
9						
10						
11	110.333	0.722	-0.697	110.906	109.523	110.571
12	113.000	4.359	-0.685	118.000	110.000	111.000
13	95.233	4.798	-0.768	89.900	96.600	99.200
14						
15						
16						
17						
18						
19						
20	699.278	35.682	2.063	735.579	698.007	664.249

Measurand: chrysene

Sample: 2779

Mean \pm U(Mean): 48.131 \pm 12.875 mg/kg

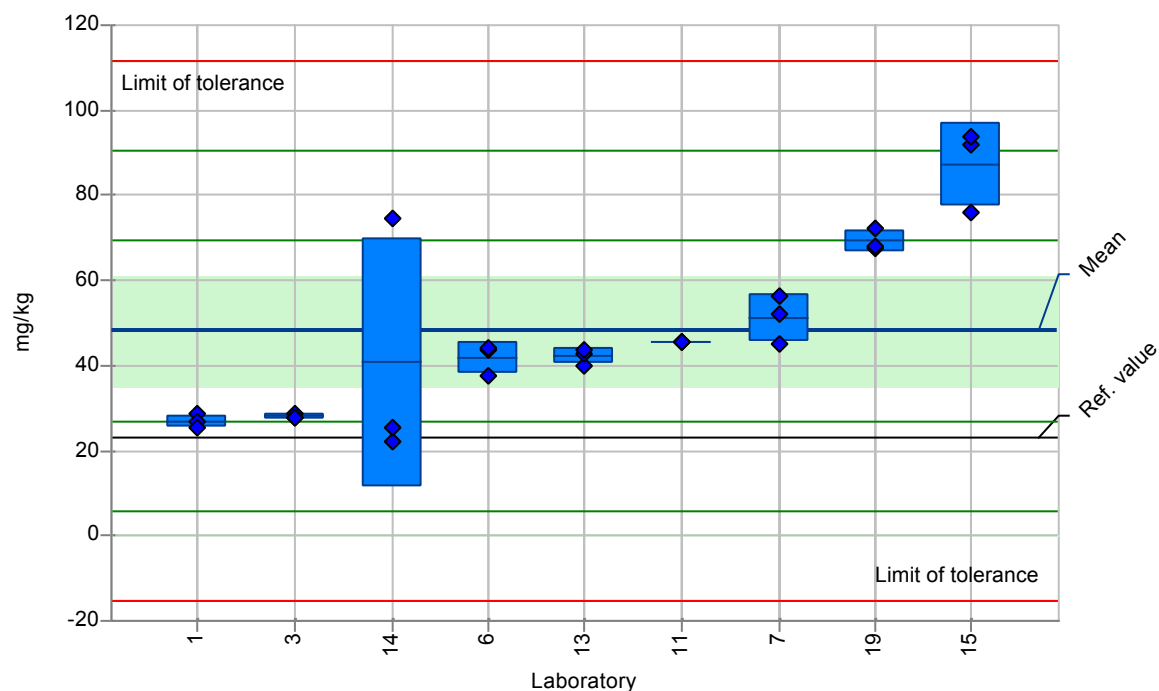
Median: 43.900

Reference value: 23.300 mg/kg

Reproducibility s.d.: 21.175 mg/kg

Repeatability s.d.: 10.635 mg/kg

No. of laboratories: 9



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	26.869	1.521	-1.004	28.495	26.630	25.481
2						
3	28.060	0.602	-0.948	28.717	27.928	27.534
4						
5						
6	41.833	3.842	-0.297	43.900	44.200	37.400
7	51.233	5.551	0.146	52.100	45.300	56.300
8						
9						
10						
11	45.673	0.083	-0.116	45.716	45.725	45.577
12						
13	42.200	1.997	-0.280	40.000	42.700	43.900
14	40.719	29.353	-0.350	22.199	74.563	25.396
15	87.333	9.866	1.851	92.000	94.000	76.000
16						
17						
18						
19	69.262	2.598	0.998	67.348	72.220	68.217
20						

Measurand: chrys_triphen

Sample: 2779

Mean \pm U(Mean): 57.920 \pm 19.562 mg/kg

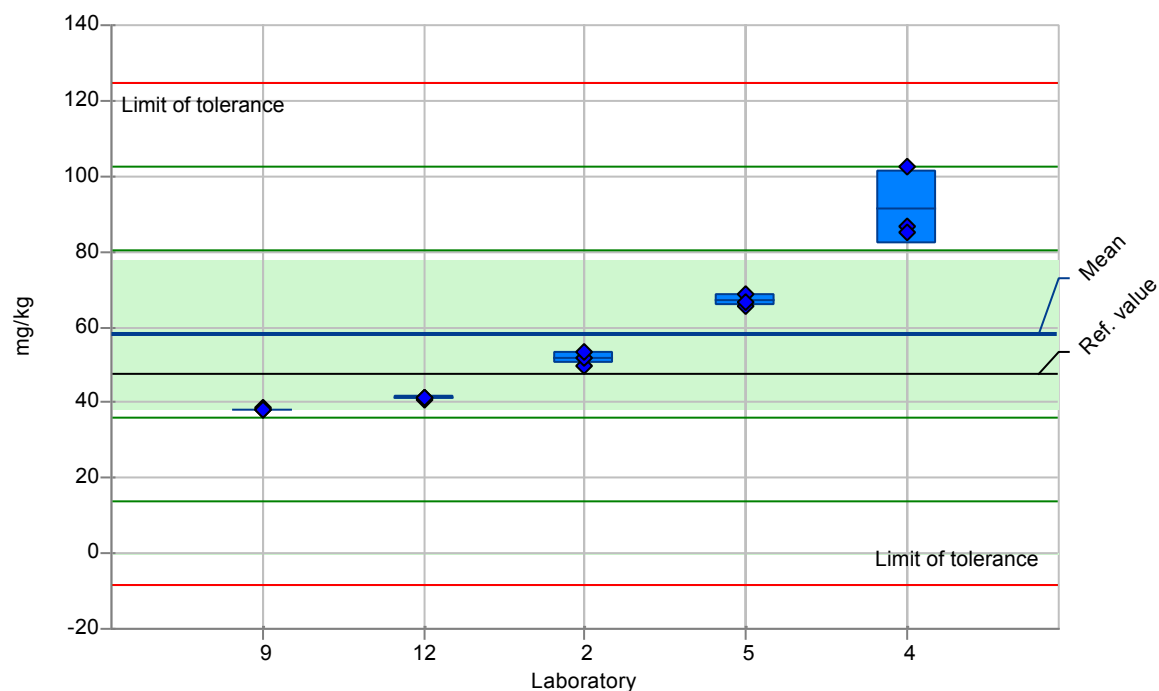
Median: 51.980

Reference value: 47.400 mg/kg

Reproducibility s.d.: 22.174 mg/kg

Repeatability s.d.: 4.477 mg/kg

No. of laboratories: 5



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	51.700	1.628	-0.281	49.950	51.980	53.170
3						
4	91.500	9.732	1.514	102.700	86.700	85.100
5	66.933	1.626	0.406	68.700	65.500	66.600
6						
7						
8						
9	38.267	0.289	-0.886	38.600	38.100	38.100
10						
11						
12	41.200	0.361	-0.754	41.300	40.800	41.500
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: cis/trans-decalin

Sample: 2779

Mean \pm U(Mean): 661.662 \pm 35.323 mg/kg

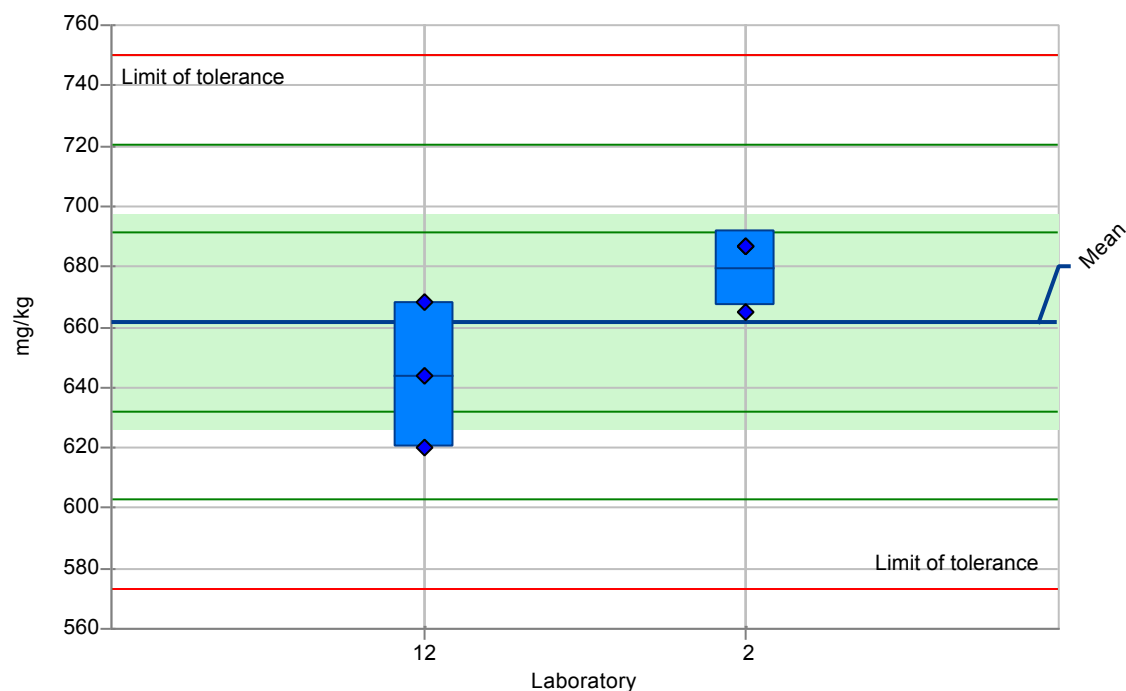
Median: 665.210

Reference value:

Reproducibility s.d.: 29.477 mg/kg

Repeatability s.d.: 19.172 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	679.323	12.614	0.599	686.790	664.760	686.420
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	644.000	24.000	-0.599	668.000	620.000	644.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: dibenzofuran

Sample: 2779

Mean \pm U(Mean): 28.314 \pm 5.109 mg/kg

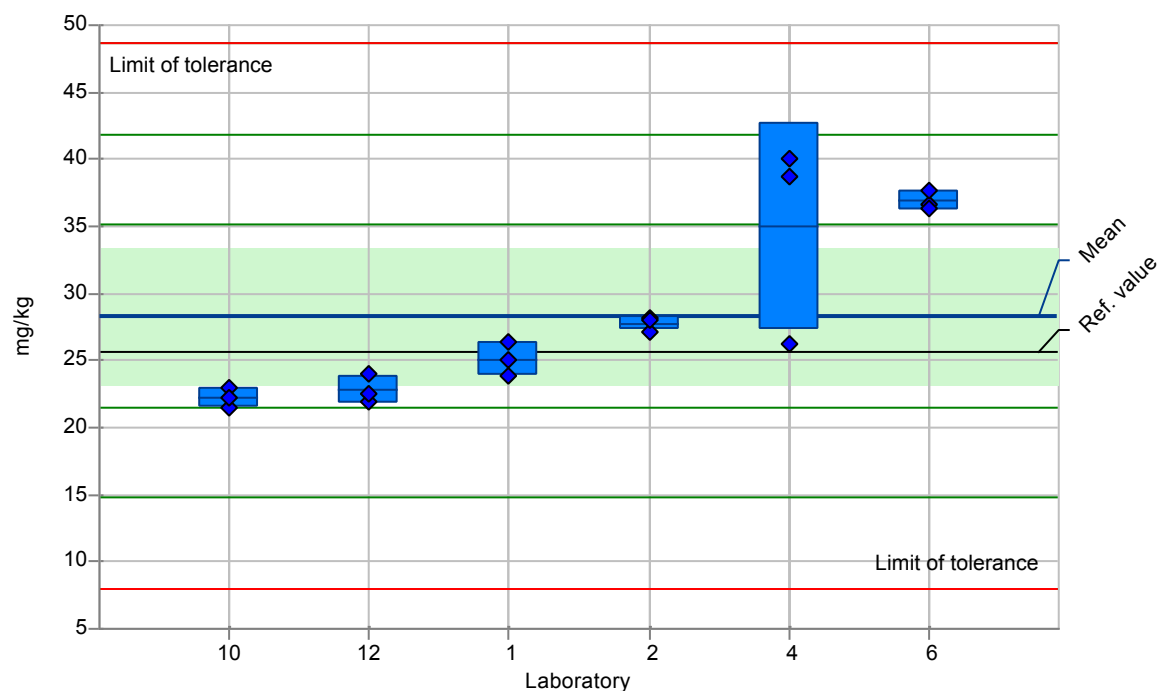
Median: 26.567

Reference value: 25.700 mg/kg

Reproducibility s.d.: 6.790 mg/kg

Repeatability s.d.: 3.230 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	25.123	1.238	-0.470	26.389	25.063	23.916
2	27.787	0.552	-0.078	28.140	27.150	28.070
3						
4	35.000	7.653	0.985	26.200	40.100	38.700
5						
6	36.900	0.700	1.264	36.600	37.700	36.400
7						
8						
9						
10	22.274	0.727	-0.890	22.994	21.541	22.286
11						
12	22.800	1.082	-0.812	24.000	21.900	22.500
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: dibenzothiophene

Sample: 2779

Mean \pm U(Mean): 47.367 \pm 6.065 mg/kg

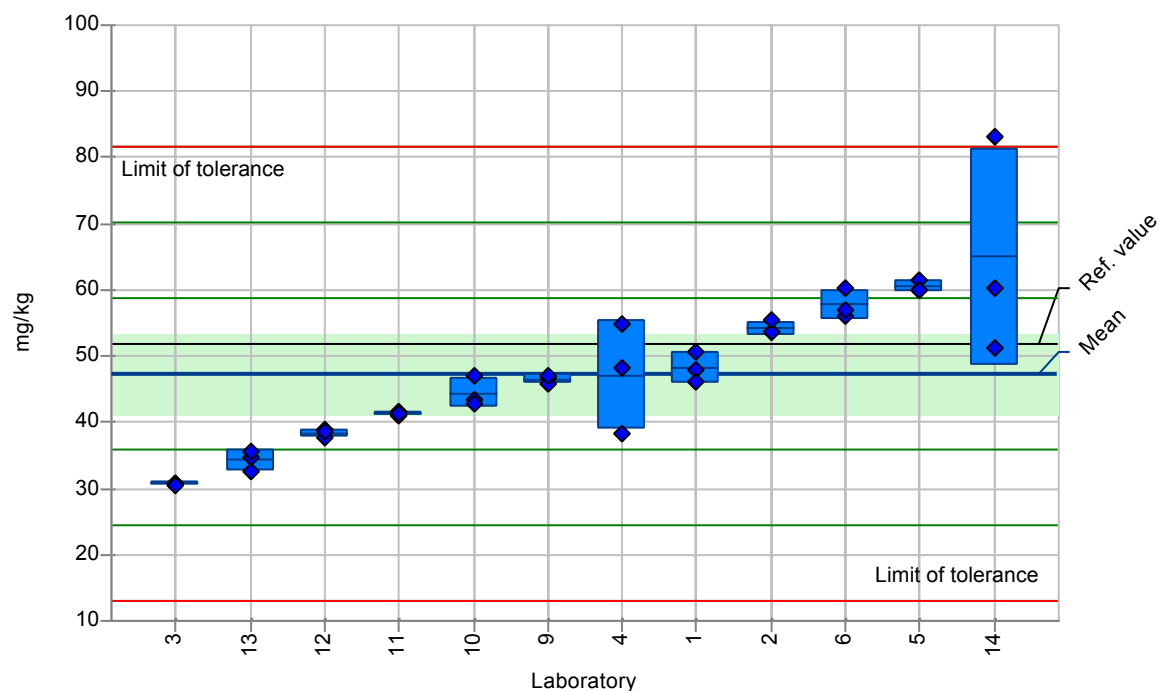
Median: 47.264

Reference value: 51.800 mg/kg

Reproducibility s.d.: 11.421 mg/kg

Repeatability s.d.: 5.486 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	48.248	2.355	0.077	50.785	47.827	46.131
2	54.197	1.021	0.598	53.510	53.710	55.370
3	30.655	0.276	-1.463	30.777	30.848	30.339
4	47.167	8.298	-0.018	38.400	48.200	54.900
5	60.500	0.872	1.150	60.100	61.500	59.900
6	57.800	2.234	0.914	56.000	60.300	57.100
7						
8						
9	46.500	0.721	-0.076	46.700	45.700	47.100
10	44.400	2.294	-0.260	47.038	43.285	42.875
11	41.317	0.286	-0.530	41.620	41.051	41.281
12	38.367	0.666	-0.788	38.800	37.600	38.700
13	34.320	1.613	-1.142	32.520	34.808	35.632
14	64.934	16.462	1.538	60.402	51.212	83.187
15						
16						
17						
18						
19						
20						

Measurand: dibenz[a,h]anthracene

Sample: 2779

Mean \pm U(Mean): 5.530 \pm 8.037 mg/kg

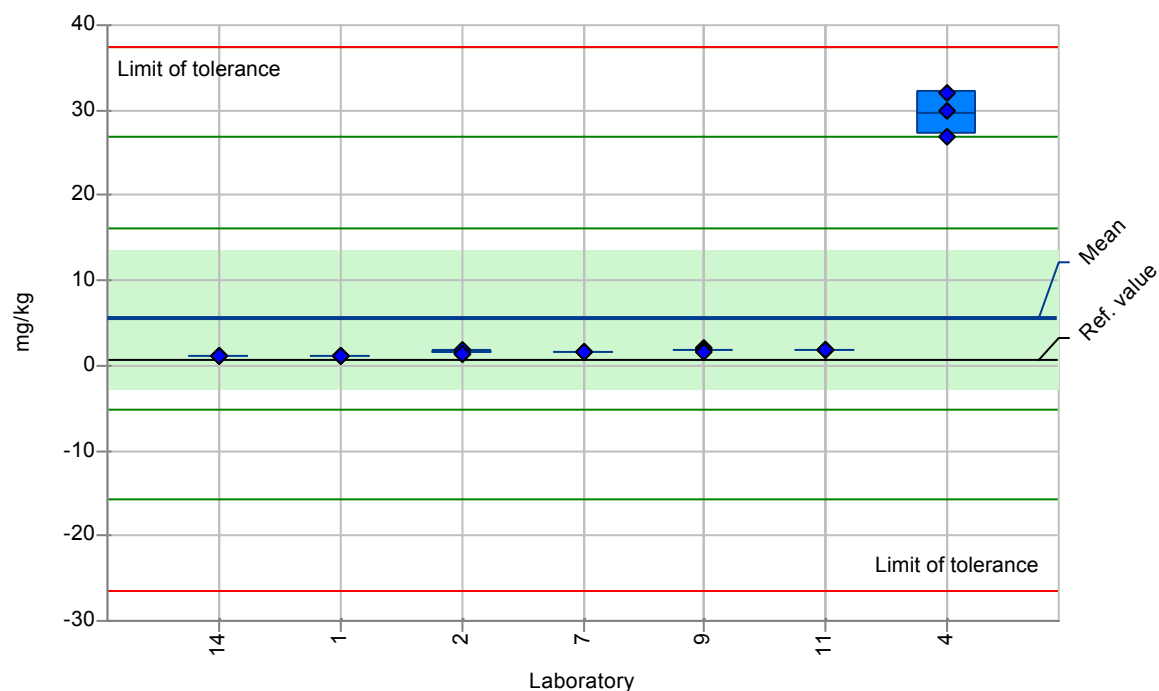
Median: 1.500

Reference value: 0.574 mg/kg

Reproducibility s.d.: 10.663 mg/kg

Repeatability s.d.: 0.993 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.186	0.074	-0.407	1.245	1.211	1.103
2	1.560	0.208	-0.372	1.450	1.800	1.430
3						
4	29.633	2.610	2.260	32.100	26.900	29.900
5						
6						
7	1.567	0.115	-0.372	1.500	1.500	1.700
8						
9	1.813	0.133	-0.349	1.960	1.780	1.700
10						
11	1.819	0.013	-0.348	1.831	1.806	1.819
12						
13						
14	1.129	0.056	-0.413	1.122	1.188	1.077
15						
16						
17						
18						
19						
20						

Measurand: fluoranthene

Sample: 2779

Mean \pm U(Mean): 5.011 \pm 1.415 mg/kg

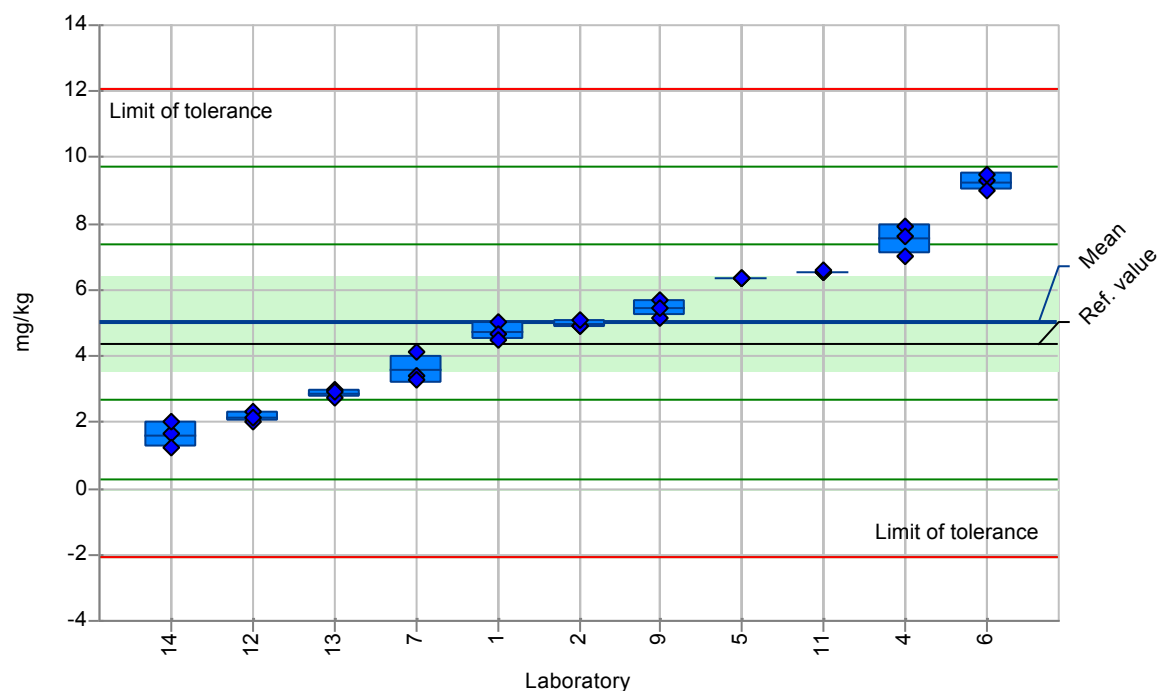
Median: 4.920

Reference value: 4.360 mg/kg

Reproducibility s.d.: 2.356 mg/kg

Repeatability s.d.: 0.269 mg/kg

No. of laboratories: 11



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	4.737	0.263	-0.116	5.024	4.680	4.506
2	4.973	0.110	-0.016	4.920	4.900	5.100
3						
4	7.533	0.450	1.070	7.920	7.640	7.040
5	6.347	0.006	0.567	6.350	6.350	6.340
6	9.267	0.258	1.806	9.310	9.500	8.990
7	3.600	0.436	-0.599	3.400	3.300	4.100
8						
9	5.443	0.247	0.183	5.180	5.670	5.480
10						
11	6.557	0.027	0.656	6.542	6.541	6.588
12	2.157	0.165	-1.211	2.320	1.990	2.160
13	2.880	0.132	-0.904	2.730	2.980	2.930
14	1.626	0.387	-1.436	1.656	1.225	1.997
15						
16						
17						
18						
19						
20						

Measurand: fluorene

Sample: 2779

Mean \pm U(Mean): 147.664 \pm 21.103 mg/kg

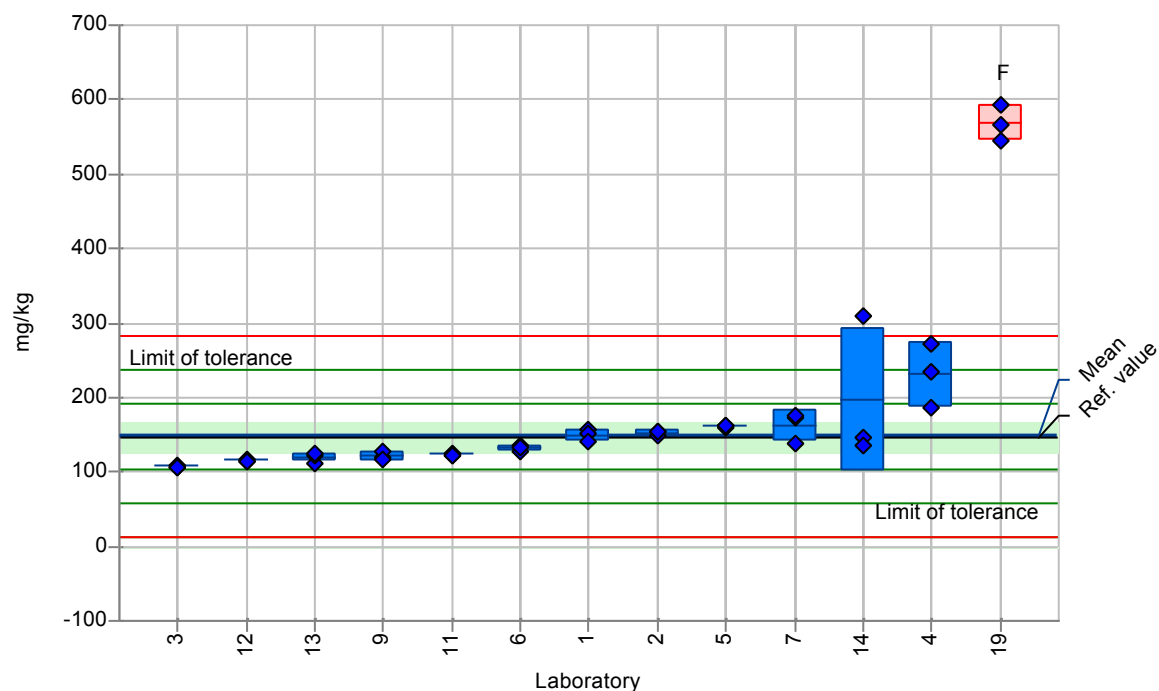
Median: 146.238

Reference value: 145.000 mg/kg

Reproducibility s.d.: 44.697 mg/kg

Repeatability s.d.: 31.508 mg/kg

No. of laboratories: 12



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	149.382	7.427	0.038	156.262	150.377	141.508
2	152.580	3.015	0.110	149.240	153.400	155.100
3	107.433	1.123	-0.900	106.584	108.706	107.009
4	230.667	44.095	1.857	185.000	234.000	273.000
5	161.333	1.528	0.306	163.000	160.000	161.000
6	132.000	4.000	-0.350	128.000	136.000	132.000
7	162.000	20.809	0.321	173.000	138.000	175.000
8						
9	121.333	6.110	-0.589	120.000	128.000	116.000
10						
11	123.776	0.989	-0.534	124.912	123.114	123.300
12	115.667	2.082	-0.716	118.000	114.000	115.000
13	119.000	6.245	-0.641	112.000	121.000	124.000
14	196.797	96.799	1.099	146.238	135.746	308.407
15						
16						
17						
18						
19	568.731	24.097	9.420	545.594	593.686	566.913
20						

Measurand: indeno[1,2,3-cd]pyrene

Sample: 2779

Mean \pm U(Mean): 1.409 \pm 1.413 mg/kg

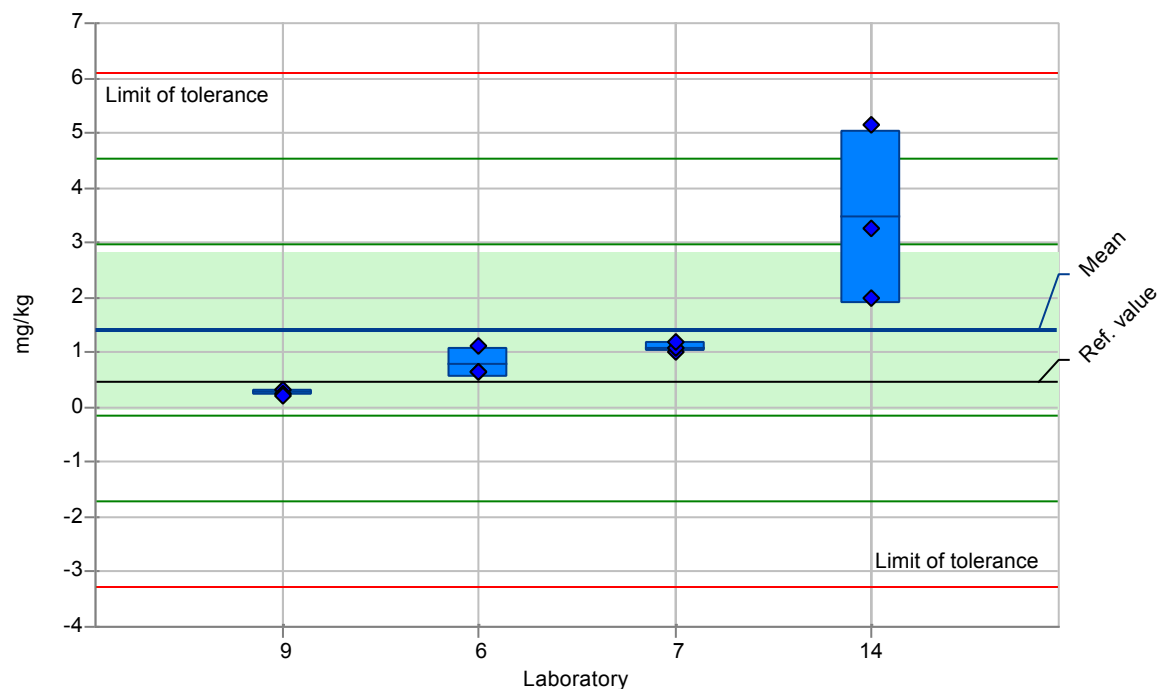
Median: 0.875

Reference value: 0.480 mg/kg

Reproducibility s.d.: 1.558 mg/kg

Repeatability s.d.: 0.805 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1				<0.200	<0.200	<0.200
2						
3						
4						
5				<0.870	<0.870	<0.870
6	0.801	0.268	-0.391	1.110	0.650	0.642
7	1.100	0.100	-0.198	1.000	1.100	1.200
8						
9	0.271	0.058	-0.730	0.335	0.256	0.222
10						
11				<0.005	<0.005	<0.005
12				<2.900	<2.900	<2.900
13						
14	3.466	1.583	1.319	1.997	5.142	3.258
15						
16						
17						
18						
19						
20						

Measurand: naphthalene

Sample: 2779

Mean \pm U(Mean): 807.592 \pm 59.200 mg/kg

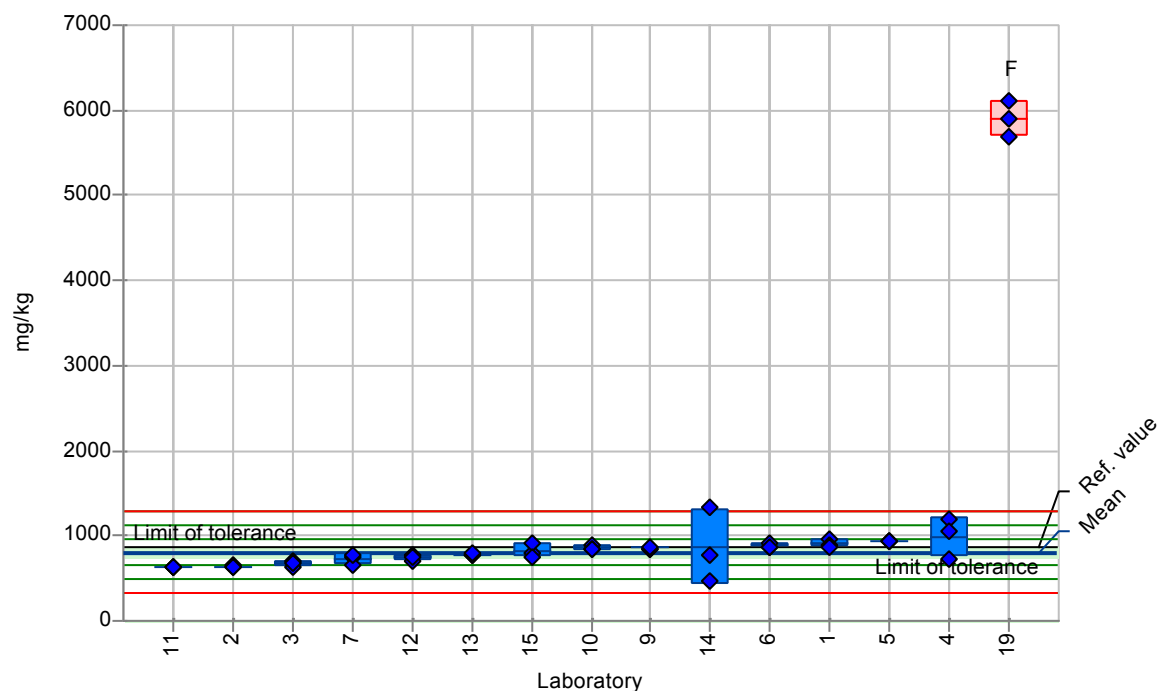
Median: 802.000

Reference value: 855.000 mg/kg

Reproducibility s.d.: 158.589 mg/kg

Repeatability s.d.: 139.019 mg/kg

No. of laboratories: 14



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	905.870	46.854	0.620	955.772	899.021	862.817
2	640.420	12.913	-1.054	654.690	629.540	637.030
3	677.018	34.196	-0.823	705.527	639.104	686.424
4	990.000	232.794	1.150	1189.000	1047.000	734.000
5	935.000	3.464	0.803	939.000	933.000	933.000
6	886.000	17.349	0.494	877.000	906.000	875.000
7	726.000	64.490	-0.514	739.000	656.000	783.000
8						
9	855.333	14.468	0.301	848.000	846.000	872.000
10	854.837	25.100	0.298	882.611	833.776	848.124
11	637.588	2.569	-1.072	639.747	638.270	634.747
12	737.667	24.028	-0.441	761.000	713.000	739.000
13	775.000	13.000	-0.206	767.000	768.000	790.000
14	860.891	447.735	0.336	459.055	780.095	1343.522
15	824.667	79.463	0.108	802.000	913.000	759.000
16						
17						
18						
19	5901.580	216.295	32.121	5689.022	6121.427	5894.289
20						

Measurand: naphthobenzothiophene

Sample: 2779

Mean \pm U(Mean): 20.245 \pm 10.042 mg/kg

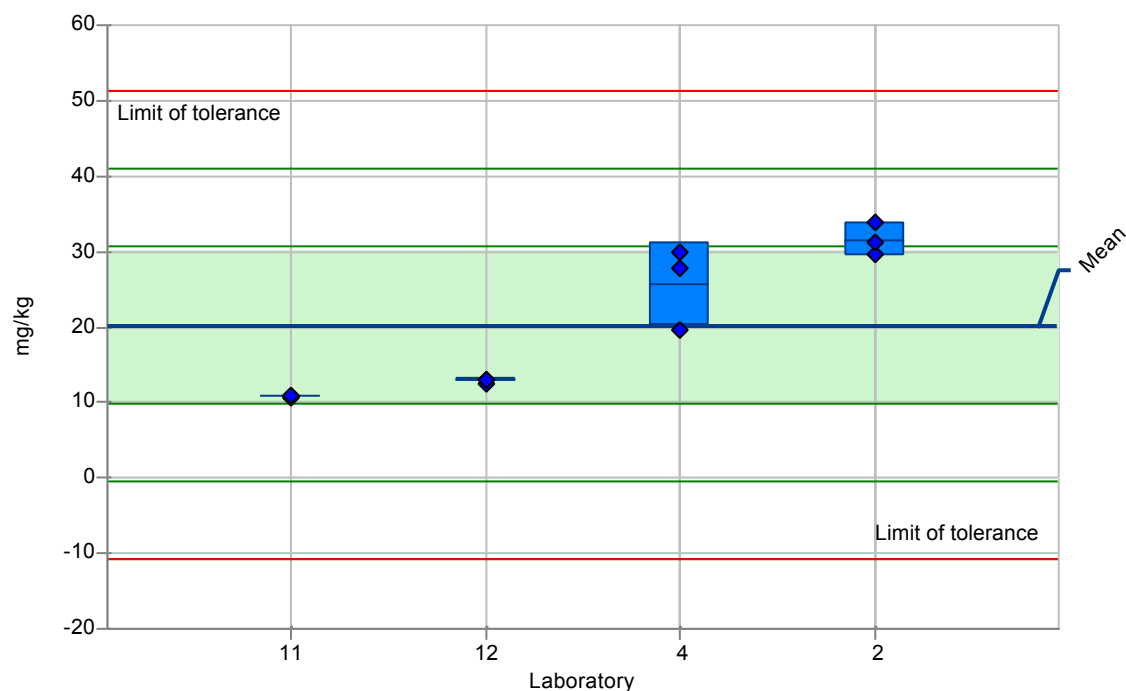
Median: 20.450

Reference value:

Reproducibility s.d.: 10.328 mg/kg

Repeatability s.d.: 2.955 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	31.583	2.195	1.098	29.650	31.130	33.970
3						
4	25.733	5.481	0.531	19.500	27.900	29.800
5						
6						
7						
8						
9						
10						
11	10.764	0.057	-0.918	10.698	10.792	10.801
12	12.900	0.265	-0.711	13.100	12.600	13.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: perylene

Sample: 2779

Mean \pm U(Mean): 0.671 \pm 0.368 mg/kg

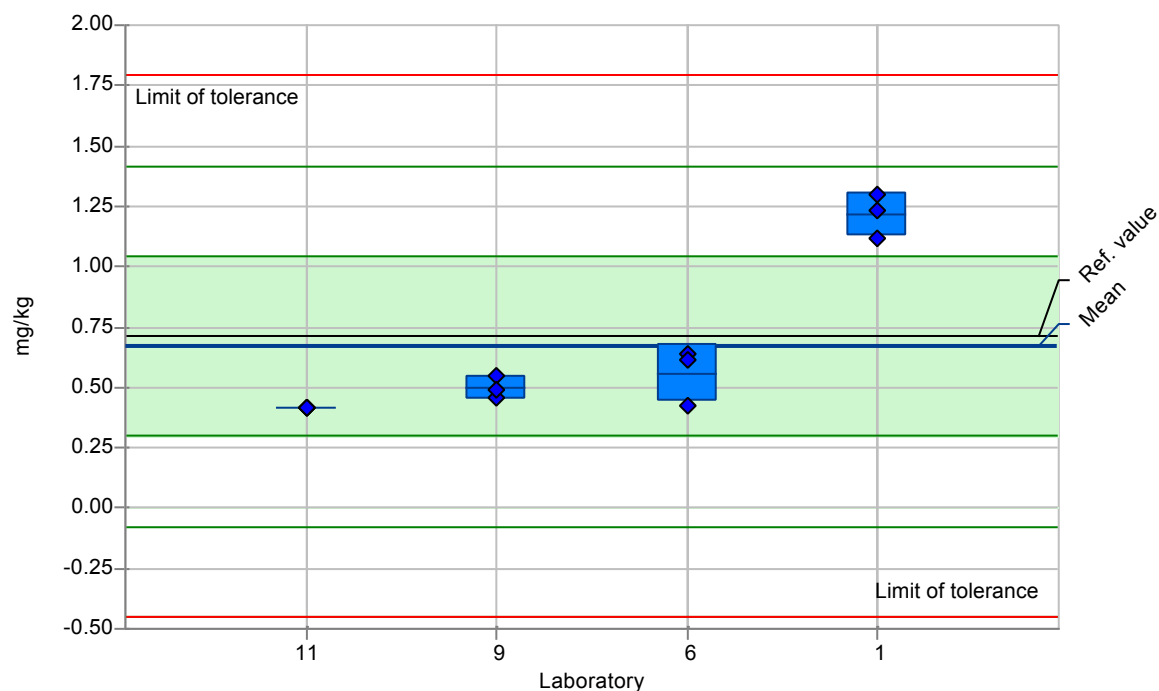
Median: 0.551

Reference value: 0.710 mg/kg

Reproducibility s.d.: 0.374 mg/kg

Repeatability s.d.: 0.078 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.216	0.091	1.459	1.297	1.234	1.117
2						
3						
4						
5				<0.736	<0.736	<0.736
6	0.558	0.118	-0.301	0.422	0.635	0.617
7						
8						
9	0.496	0.048	-0.468	0.453	0.548	0.486
10						
11	0.413	0.001	-0.689	0.415	0.412	0.413
12				<2.900	<2.900	<2.900
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: phenanthrene

Sample: 2779

Mean \pm U(Mean): 286.613 \pm 31.949 mg/kg

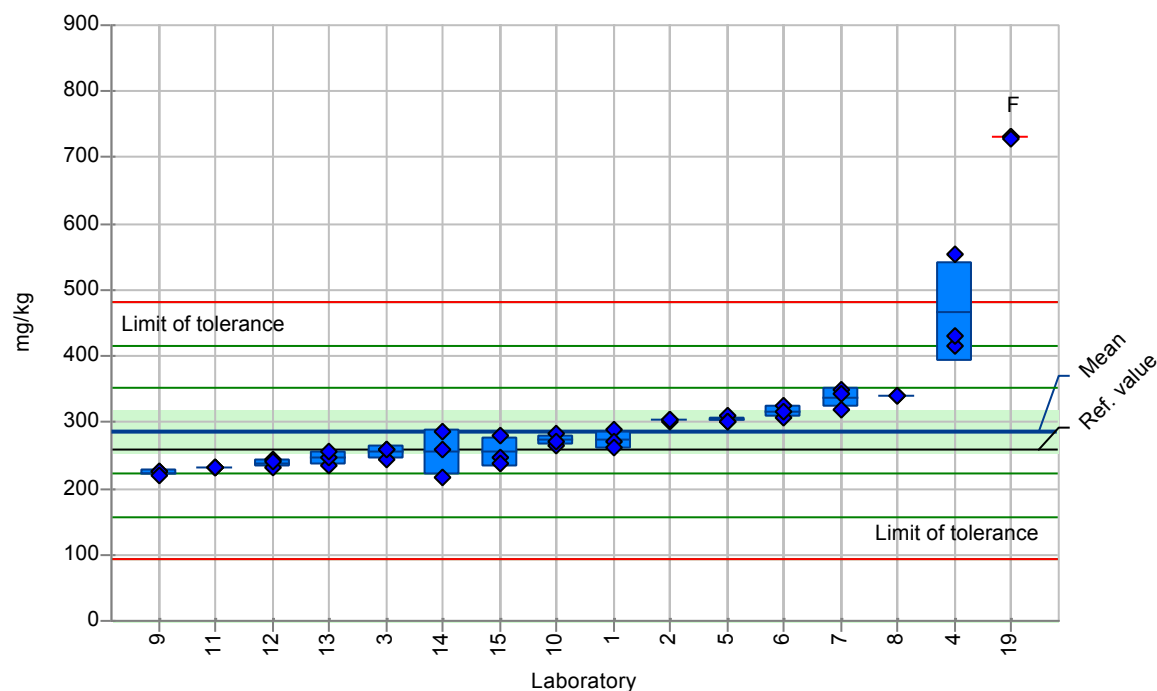
Median: 270.289

Reference value: 258.000 mg/kg

Reproducibility s.d.: 64.907 mg/kg

Repeatability s.d.: 24.033 mg/kg

No. of laboratories: 15



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	273.182	13.516	-0.207	287.891	270.344	261.311
2	303.193	1.825	0.255	302.780	301.610	305.190
3	254.406	10.027	-0.496	260.097	242.828	260.292
4	466.333	76.291	2.769	415.000	554.000	430.000
5	304.000	4.359	0.268	309.000	301.000	302.000
6	315.000	9.000	0.437	306.000	324.000	315.000
7	337.000	15.133	0.776	349.000	320.000	342.000
8	340.684	0.529	0.833		341.058	340.310
9	224.000	3.464	-0.965	226.000	226.000	220.000
10	272.697	8.252	-0.214	281.900	265.957	270.234
11	231.788	0.865	-0.845	232.638	231.816	230.909
12	238.667	6.110	-0.739	244.000	232.000	240.000
13	246.333	10.599	-0.621	235.000	248.000	256.000
14	254.599	34.410	-0.493	259.837	286.090	217.870
15	255.333	22.898	-0.482	248.000	281.000	237.000
16						
17						
18						
19	731.063	1.238	6.847	731.722	731.832	729.635
20						

Measurand: pyrene

Sample: 2779

Mean \pm U(Mean): 15.452 \pm 5.363 mg/kg

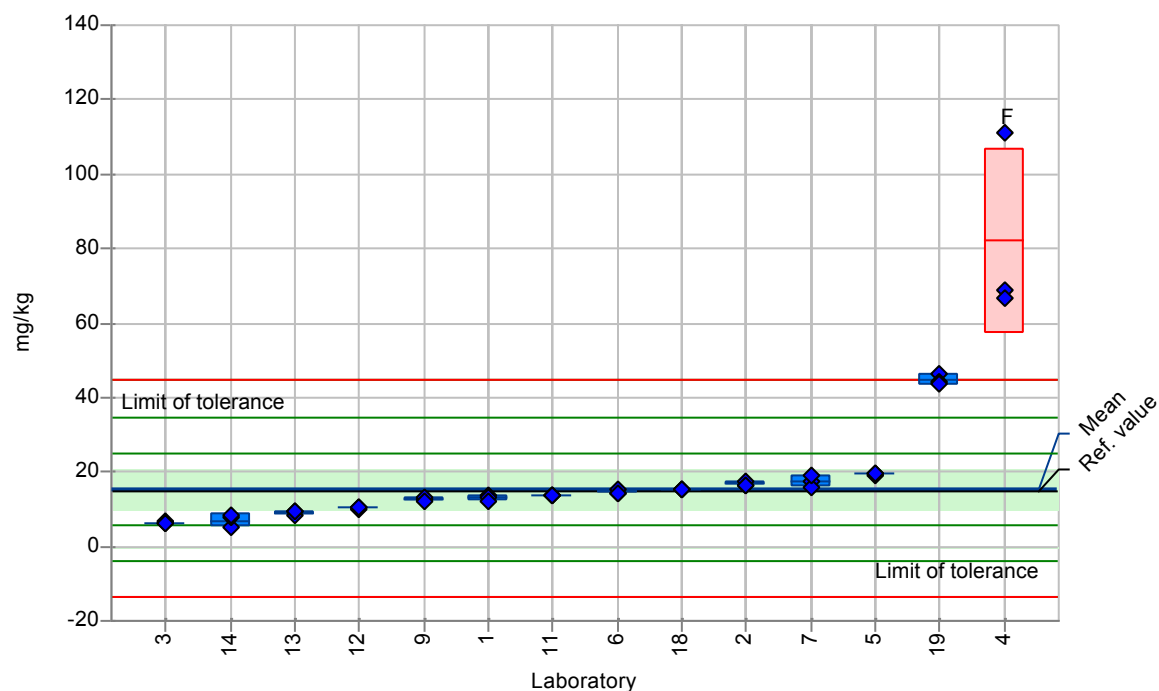
Median: 14.199

Reference value: 14.810 mg/kg

Reproducibility s.d.: 9.695 mg/kg

Repeatability s.d.: 0.885 mg/kg

No. of laboratories: 13



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	12.949	0.993	-0.258	13.942	12.949	11.956
2	16.827	0.631	0.142	16.310	17.530	16.640
3	6.250	0.269	-0.949	6.506	6.276	5.969
4	82.133	24.935	6.878	68.800	66.700	110.900
5	19.400	0.400	0.407	19.400	19.000	19.800
6	14.733	0.681	-0.074	14.500	15.500	14.200
7	17.400	1.572	0.201	17.700	15.700	18.800
8						
9	12.800	0.557	-0.274	12.700	13.400	12.300
10						
11	13.903	0.030	-0.160	13.935	13.876	13.898
12	10.267	0.153	-0.535	10.400	10.100	10.300
13	9.003	0.515	-0.665	8.410	9.260	9.340
14	7.006	1.631	-0.871	5.170	7.561	8.288
15						
16						
17						
18	15.564	0.000	0.012	15.564	15.564	15.564
19	44.774	1.544	3.024	46.514	44.237	43.569
20						

Measurand: retene

Sample: 2779

Mean \pm U(Mean): 21.008 \pm 11.280 mg/kg

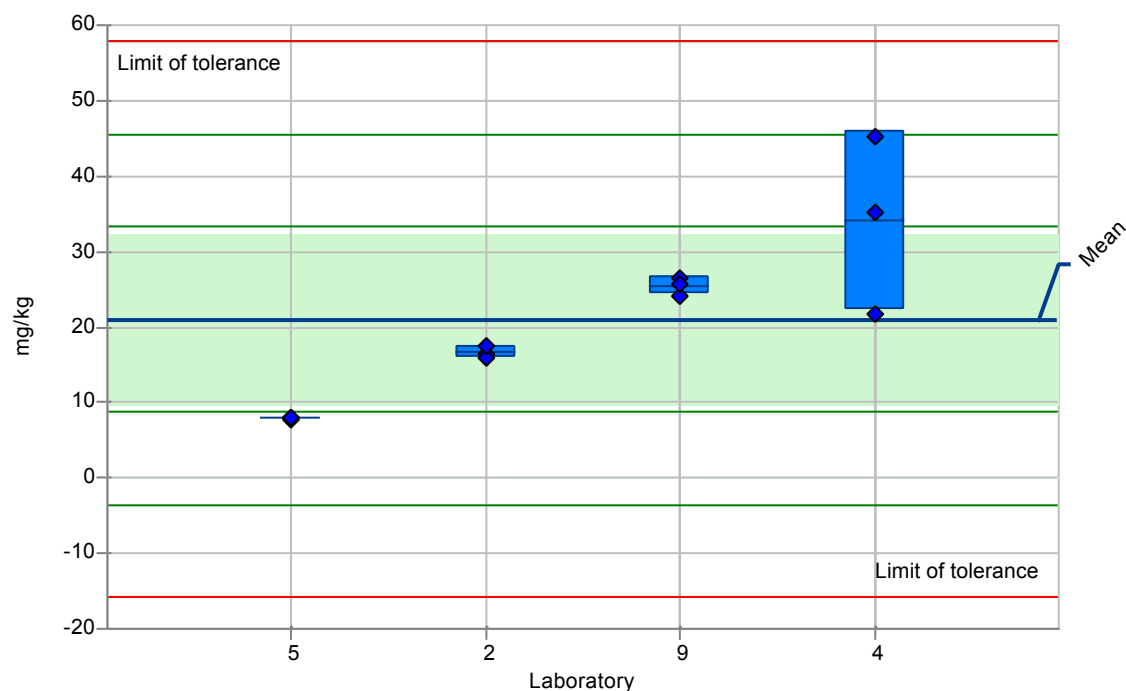
Median: 21.160

Reference value:

Reproducibility s.d.: 12.287 mg/kg

Repeatability s.d.: 5.967 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	16.630	0.731	-0.356	16.520	15.960	17.410
3						
4	34.033	11.851	1.060	35.300	21.600	45.200
5	7.867	0.230	-1.069	7.860	7.640	8.100
6						
7						
8						
9	25.500	1.179	0.366	24.200	26.500	25.800
10						
11						
12				<2.900	<2.900	<2.900
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: triphenylene

Sample: 2779

Mean \pm U(Mean): 26.146 \pm 2.309 mg/kg

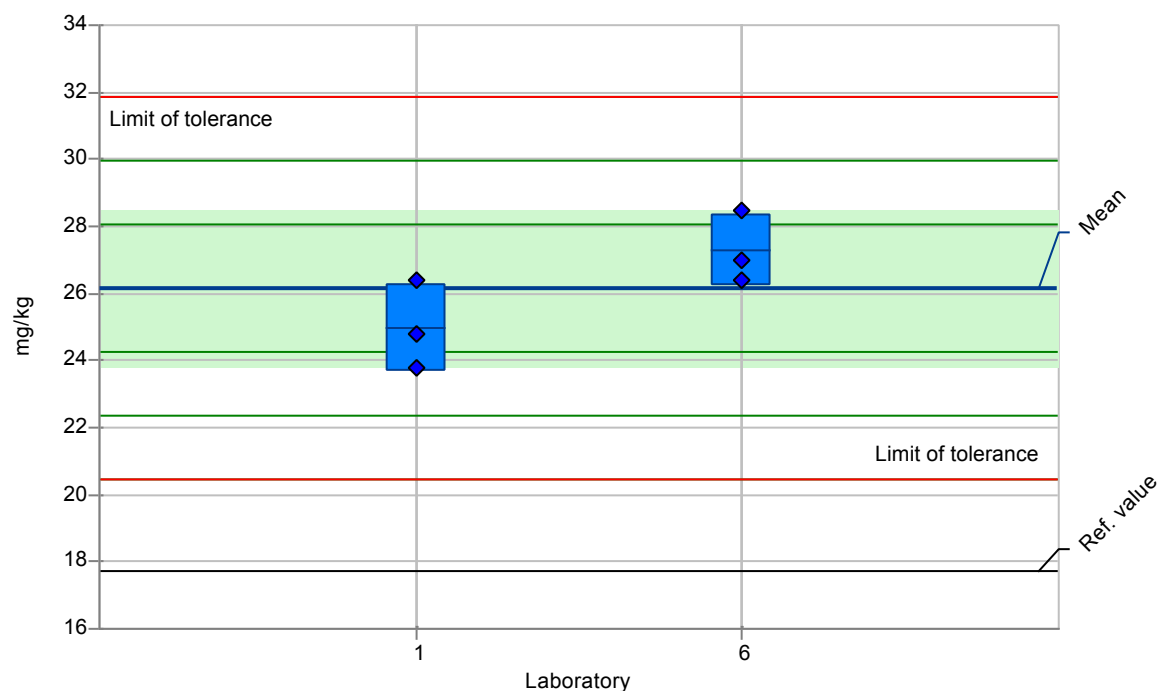
Median: 25.883

Reference value: 17.700 mg/kg

Reproducibility s.d.: 1.905 mg/kg

Repeatability s.d.: 1.202 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	24.991	1.312	-0.606	26.401	24.766	23.806
2						
3						
4						
5						
6	27.300	1.082	0.606	27.000	28.500	26.400
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Biomarkers

Measurand: 5a(H),14a(H),17a(H)-24-Ethylcholestane 20R

Sample: 2777

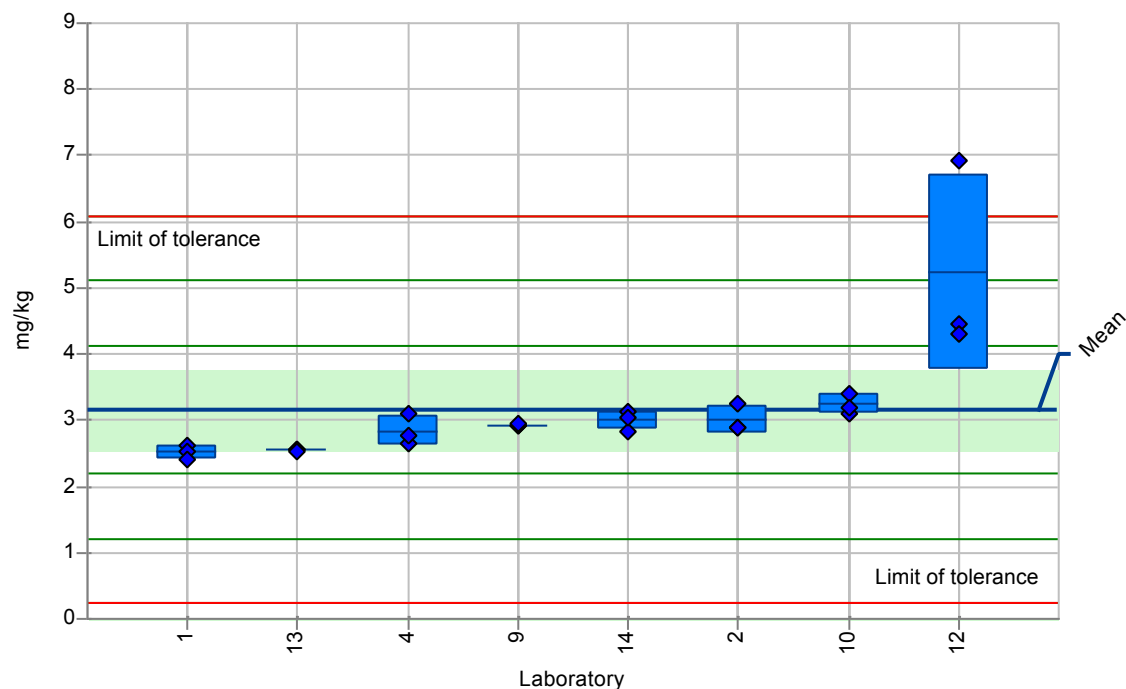
Mean \pm U(Mean): 3.164 \pm 0.614 mg/kg

Median: 2.910

Reproducibility s.d.: 0.974 mg/kg

Repeatability s.d.: 0.540 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.517	0.111	-0.665	2.620	2.530	2.400
2	3.017	0.211	-0.151	2.900	3.260	2.890
3						
4	2.840	0.231	-0.333	2.660	2.760	3.100
5						
6						
7						
8						
9	2.927	0.021	-0.244	2.910	2.920	2.950
10	3.240	0.149	0.078	3.114	3.404	3.202
11						
12	5.227	1.478	2.119	4.460	4.290	6.930
13	2.547	0.015	-0.634	2.560	2.550	2.530
14	2.997	0.142	-0.171	3.116	2.841	3.035
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-24-Ethylcholestane 20S

Sample: 2777

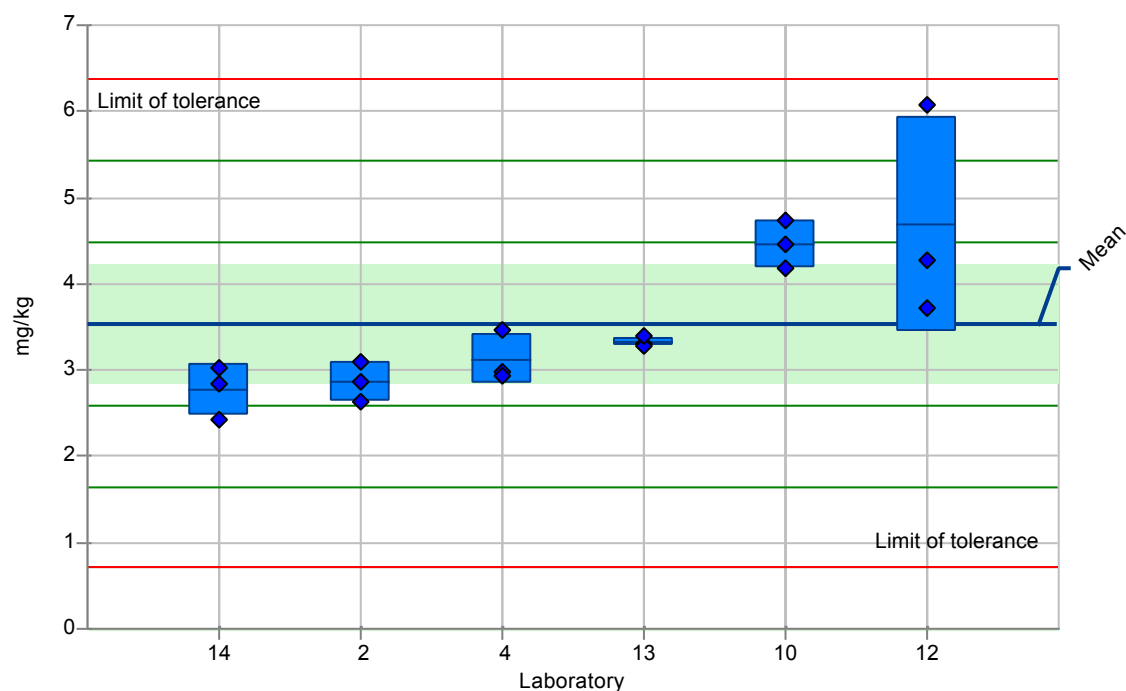
Mean \pm U(Mean): 3.541 \pm 0.677 mg/kg

Median: 3.140

Reproducibility s.d.: 0.945 mg/kg

Repeatability s.d.: 0.554 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	2.867	0.230	-0.714	2.640	3.100	2.860
3						
4	3.127	0.289	-0.438	2.980	2.940	3.460
5						
6						
7						
8						
9						
10	4.465	0.280	0.978	4.186	4.746	4.463
11						
12	4.690	1.237	1.216	3.710	4.280	6.080
13	3.327	0.055	-0.227	3.300	3.290	3.390
14	2.770	0.305	-0.816	2.435	3.031	2.845
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-Cholestane 20R

Sample: 2777

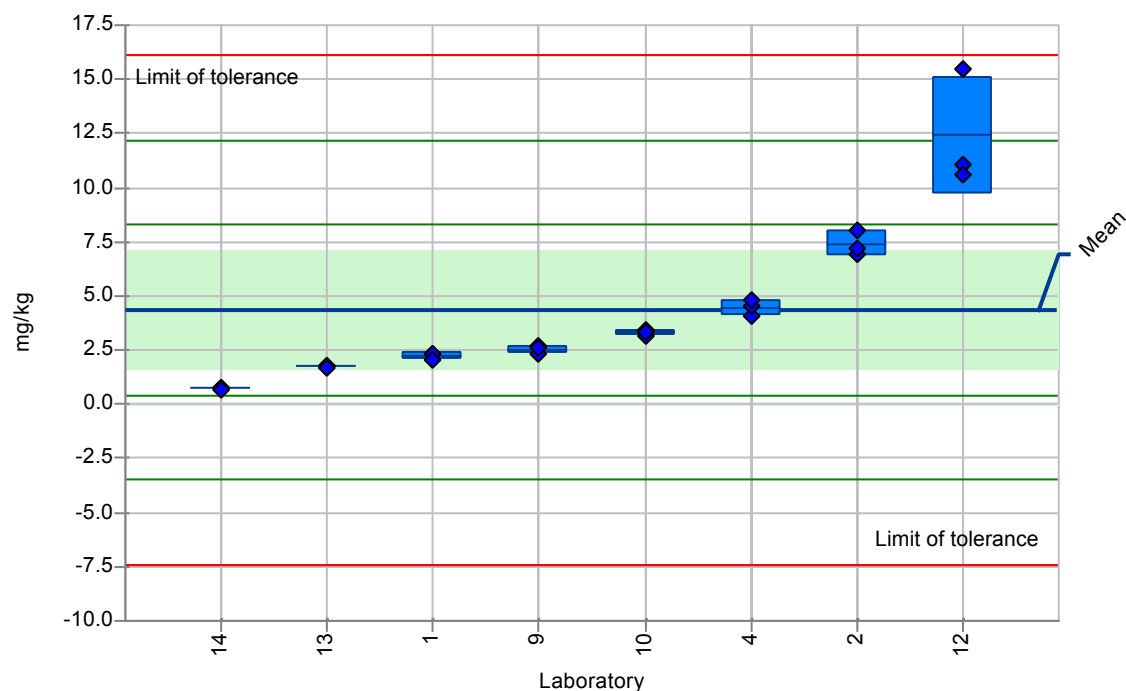
Mean \pm U(Mean): 4.354 \pm 2.711 mg/kg

Median: 2.953

Reproducibility s.d.: 3.918 mg/kg

Repeatability s.d.: 0.990 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.240	0.159	-0.540	2.300	2.360	2.060
2	7.407	0.583	0.779	6.940	8.060	7.220
3						
4	4.480	0.370	0.032	4.100	4.500	4.840
5						
6						
7						
8						
9	2.513	0.199	-0.470	2.290	2.670	2.580
10	3.294	0.145	-0.271	3.136	3.420	3.326
11						
12	12.400	2.696	2.054	11.100	10.600	15.500
13	1.763	0.055	-0.661	1.800	1.790	1.700
14	0.734	0.054	-0.924	0.777	0.752	0.673
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-Cholestane 20S

Sample: 2777

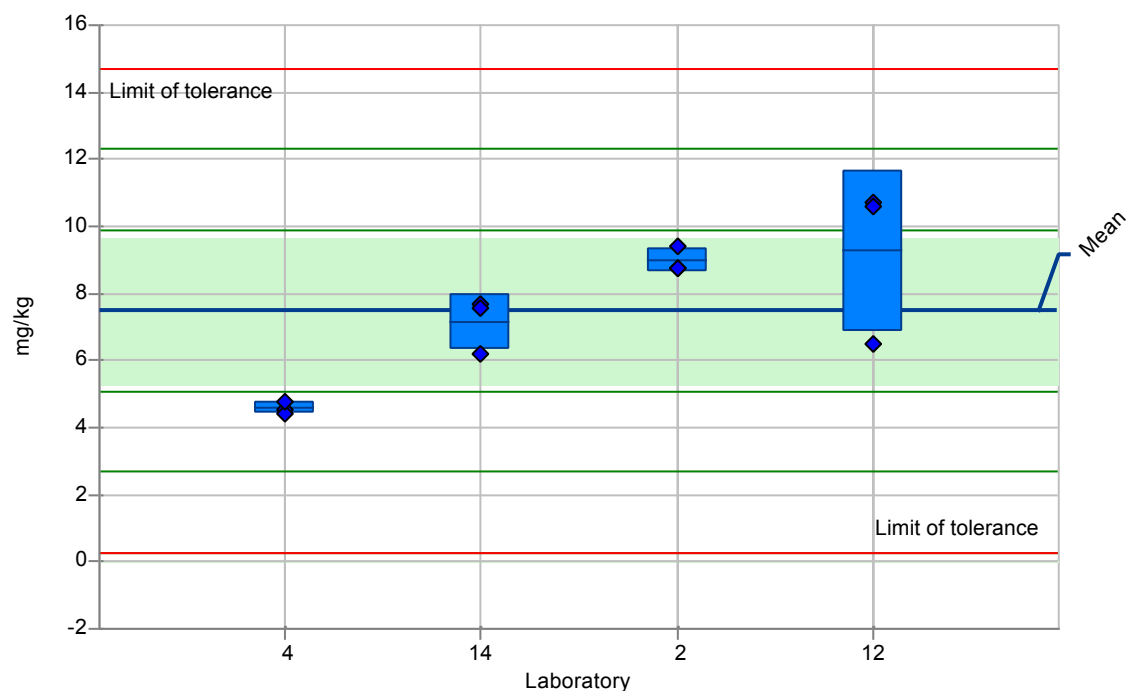
Mean \pm U(Mean): 7.489 \pm 2.163 mg/kg

Median: 8.153

Reproducibility s.d.: 2.403 mg/kg

Repeatability s.d.: 1.282 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	8.983	0.378	0.622	8.760	9.420	8.770
3						
4	4.573	0.186	-1.213	4.520	4.420	4.780
5						
6						
7						
8						
9						
10						
11						
12	9.270	2.391	0.741	10.700	10.600	6.510
13						
14	7.130	0.825	-0.149	7.675	6.181	7.535
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-24-Ethylcholestane 20R

Sample: 2777

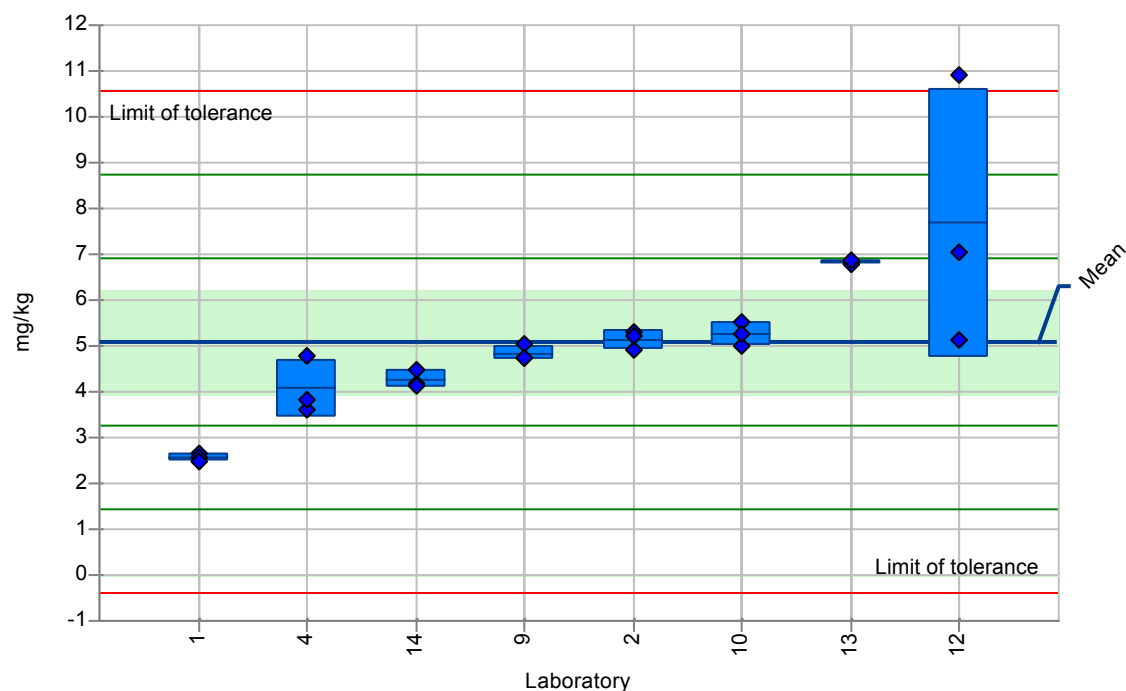
Mean \pm U(Mean): 5.081 \pm 1.132 mg/kg

Median: 4.980

Reproducibility s.d.: 1.826 mg/kg

Repeatability s.d.: 1.075 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.560	0.095	-1.381	2.660	2.550	2.470
2	5.147	0.212	0.036	5.320	4.910	5.210
3						
4	4.073	0.624	-0.552	3.600	3.840	4.780
5						
6						
7						
8						
9	4.840	0.165	-0.132	4.740	5.030	4.750
10	5.256	0.246	0.096	5.014	5.507	5.247
11						
12	7.683	2.945	1.425	7.030	5.120	10.900
13	6.827	0.050	0.956	6.820	6.780	6.880
14	4.264	0.197	-0.448	4.186	4.488	4.118
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-24-Ethylcholestane 20S

Sample: 2777

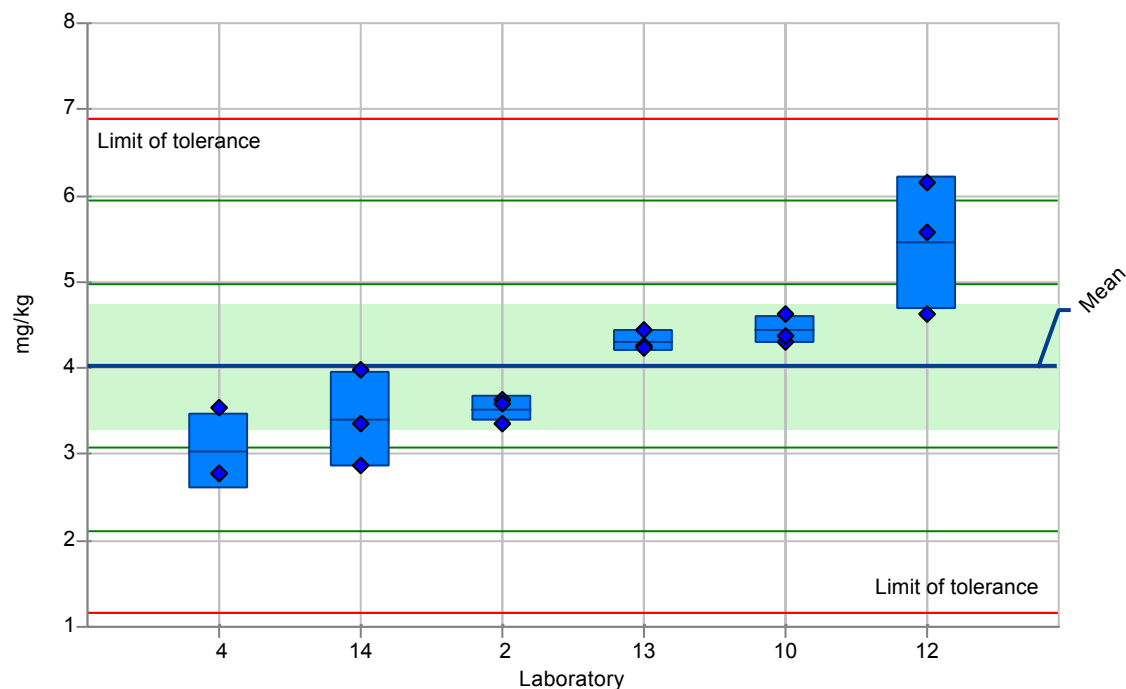
Mean \pm U(Mean): 4.028 \pm 0.721 mg/kg

Median: 3.920

Reproducibility s.d.: 0.954 mg/kg

Repeatability s.d.: 0.441 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	3.527	0.146	-0.525	3.630	3.360	3.590
3						
4	3.033	0.439	-1.043	2.780	2.780	3.540
5						
6						
7						
8						
9						
10	4.442	0.172	0.434	4.308	4.636	4.383
11						
12	5.450	0.773	1.491	4.620	5.580	6.150
13	4.310	0.122	0.296	4.250	4.230	4.450
14	3.405	0.556	-0.653	3.984	3.357	2.875
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-Cholestane 20R

Sample: 2777

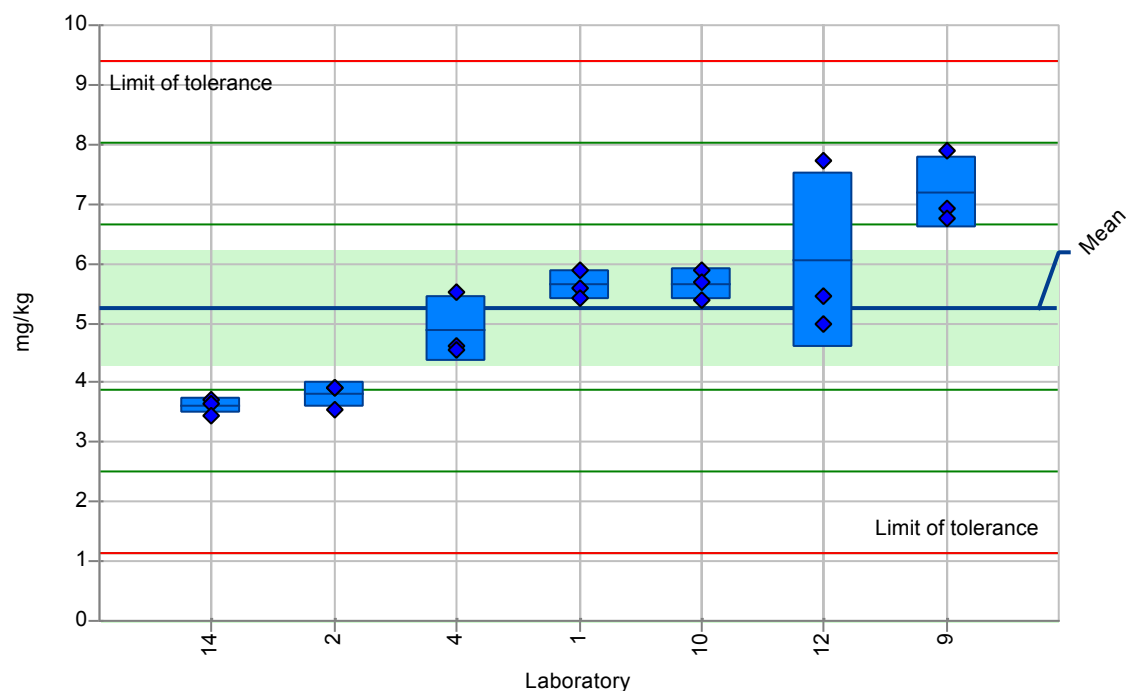
Mean \pm U(Mean): 5.264 \pm 0.958 mg/kg

Median: 5.460

Reproducibility s.d.: 1.376 mg/kg

Repeatability s.d.: 0.657 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	5.637	0.243	0.271	5.900	5.590	5.420
2	3.800	0.208	-1.064	3.920	3.920	3.560
3						
4	4.893	0.543	-0.269	4.600	4.560	5.520
5						
6						
7						
8						
9	7.190	0.602	1.400	6.920	7.880	6.770
10	5.649	0.264	0.280	5.371	5.897	5.680
11						
12	6.060	1.475	0.579	4.980	5.460	7.740
13						
14	3.616	0.142	-1.198	3.729	3.661	3.457
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-Cholestane 20S

Sample: 2777

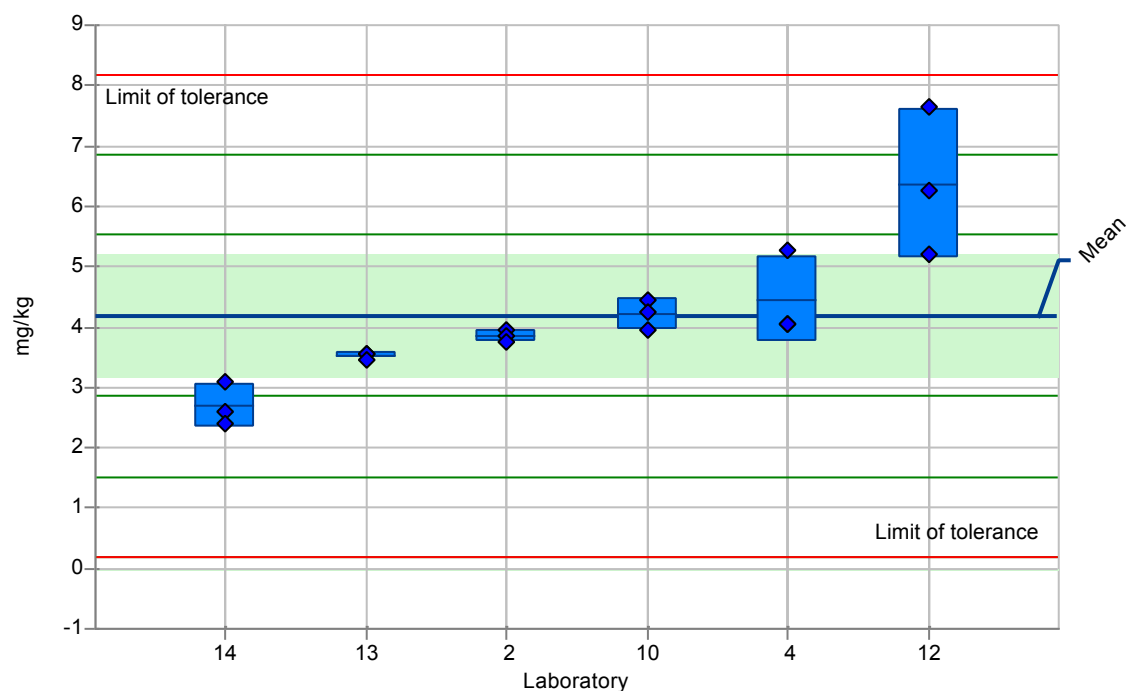
Mean \pm U(Mean): 4.188 \pm 1.009 mg/kg

Median: 3.950

Reproducibility s.d.: 1.332 mg/kg

Repeatability s.d.: 0.610 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	3.847	0.100	-0.256	3.950	3.840	3.750
3						
4	4.460	0.710	0.205	4.060	4.040	5.280
5						
6						
7						
8						
9						
10	4.220	0.259	0.024	3.944	4.458	4.259
11						
12	6.373	1.230	1.641	5.210	6.250	7.660
13	3.530	0.053	-0.494	3.570	3.550	3.470
14	2.695	0.369	-1.120	3.108	2.582	2.396
15						
16						
17						
18						
19						
20						

Measurand: 13b(H)17a(H)-Diacholestane 20S

Sample: 2777

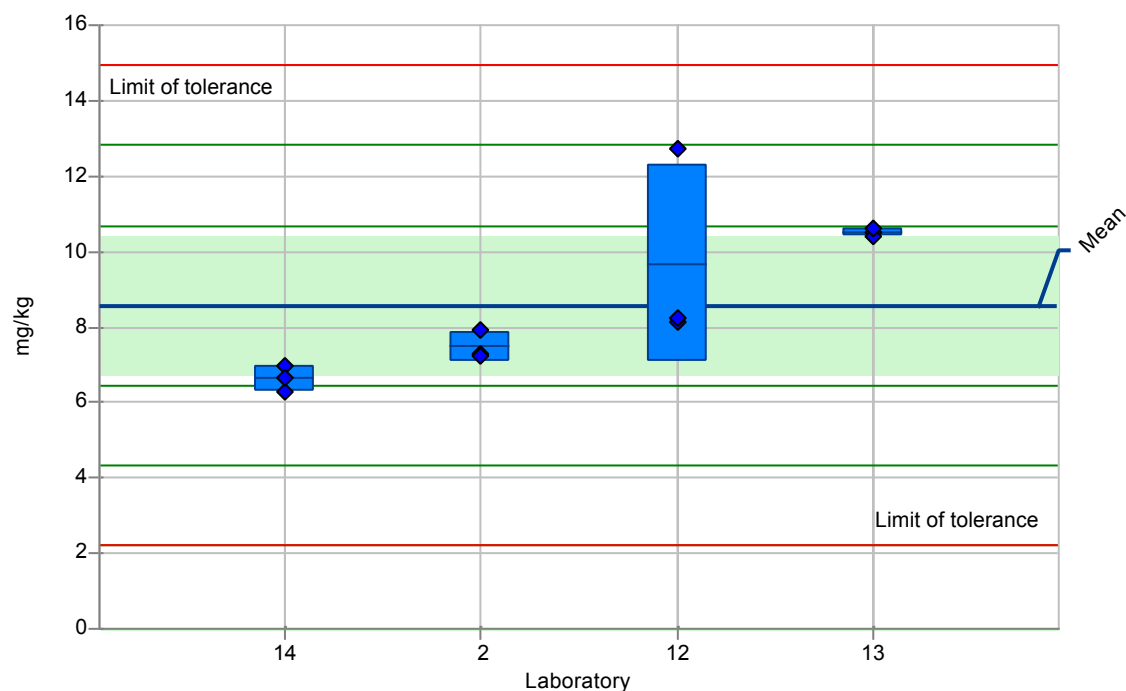
Mean \pm U(Mean): 8.573 \pm 1.816 mg/kg

Median: 7.745

Reproducibility s.d.: 2.117 mg/kg

Repeatability s.d.: 1.333 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	7.480	0.390	-0.516	7.270	7.930	7.240
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	9.680	2.616	0.523	8.120	8.220	12.700
13	10.500	0.100	0.910	10.500	10.400	10.600
14	6.634	0.324	-0.916	6.303	6.951	6.647
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-22R-Homohopane

Sample: 2777

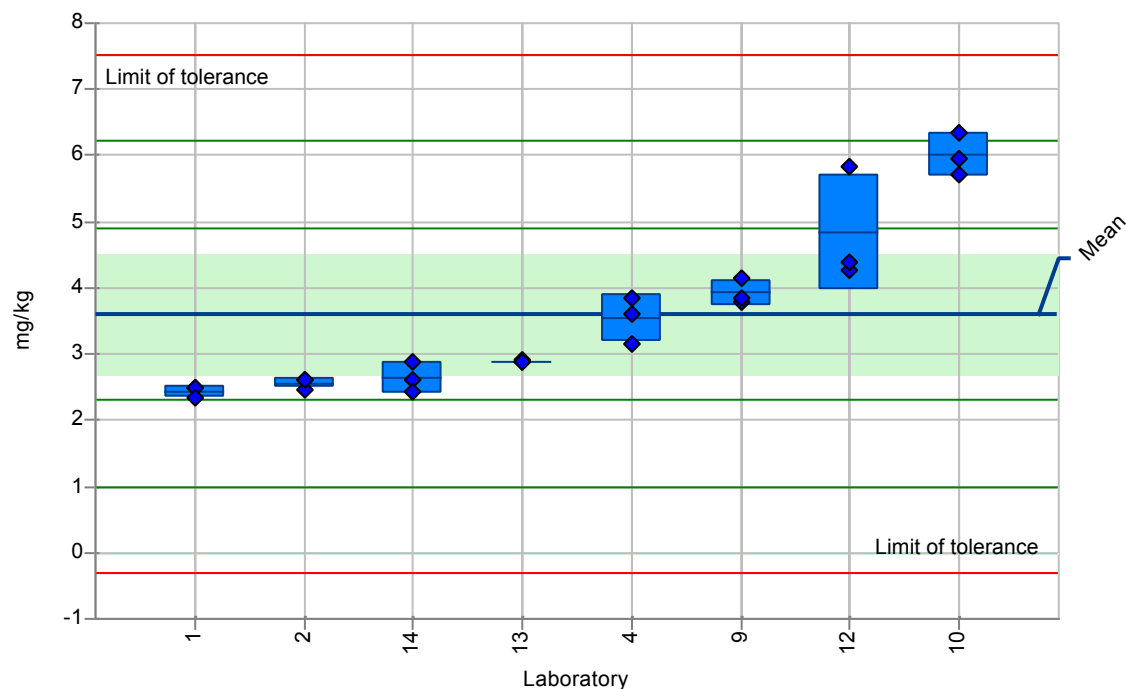
Mean ± U(Mean): 3.604 ± 0.899 mg/kg

Median: 3.245

Reproducibility s.d.: 1.307 mg/kg

Repeatability s.d.: 0.368 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	2.437	0.093	-0.893	2.500	2.480	2.330
2	2.560	0.078	-0.799	2.610	2.470	2.600
3						
4	3.540	0.354	-0.049	3.160	3.600	3.860
5						
6						
7						
8						
9	3.927	0.189	0.247	3.780	4.140	3.860
10	6.011	0.324	1.842	5.711	6.356	5.967
11						
12	4.833	0.866	0.941	4.270	4.400	5.830
13	2.887	0.015	-0.549	2.900	2.890	2.870
14	2.636	0.235	-0.741	2.598	2.887	2.423
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-22S-Homohopane

Sample: 2777

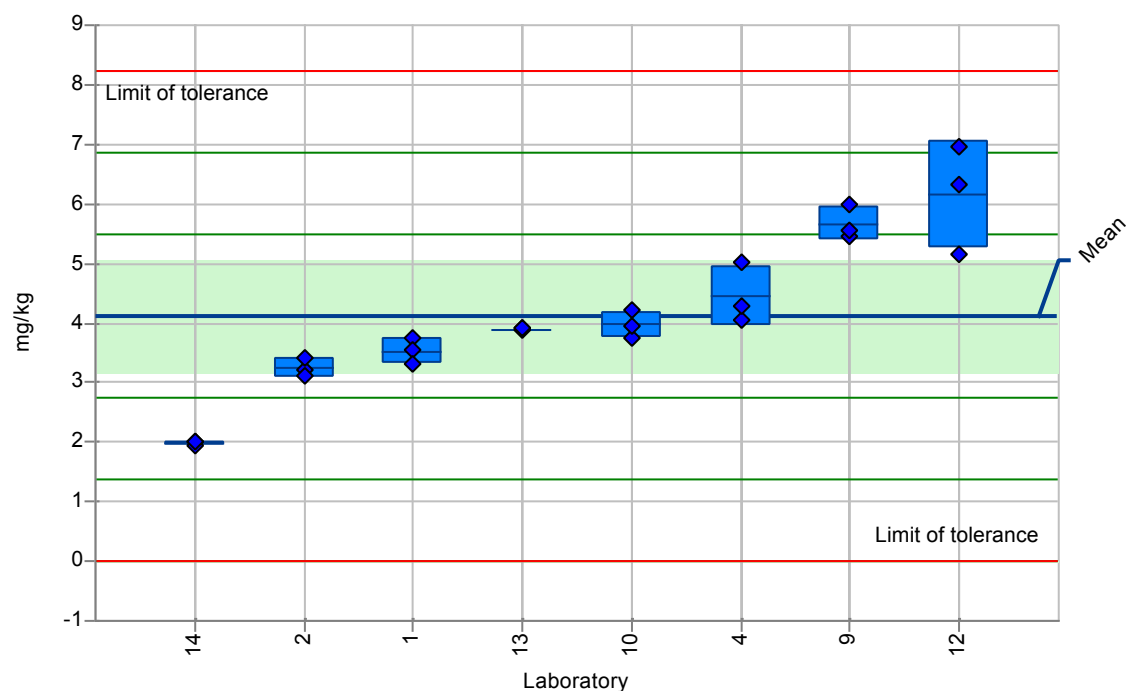
Mean ± U(Mean): 4.111 ± 0.940 mg/kg

Median: 3.921

Reproducibility s.d.: 1.368 mg/kg

Repeatability s.d.: 0.400 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.527	0.220	-0.427	3.740	3.540	3.300
2	3.240	0.164	-0.637	3.200	3.100	3.420
3						
4	4.460	0.500	0.255	5.020	4.060	4.300
5						
6						
7						
8						
9	5.667	0.285	1.137	5.450	5.990	5.560
10	3.969	0.221	-0.104	3.763	4.203	3.942
11						
12	6.147	0.906	1.487	5.170	6.960	6.310
13	3.893	0.012	-0.159	3.900	3.880	3.900
14	1.988	0.034	-1.552	2.016	1.951	1.996
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-30-Norhopane

Sample: 2777

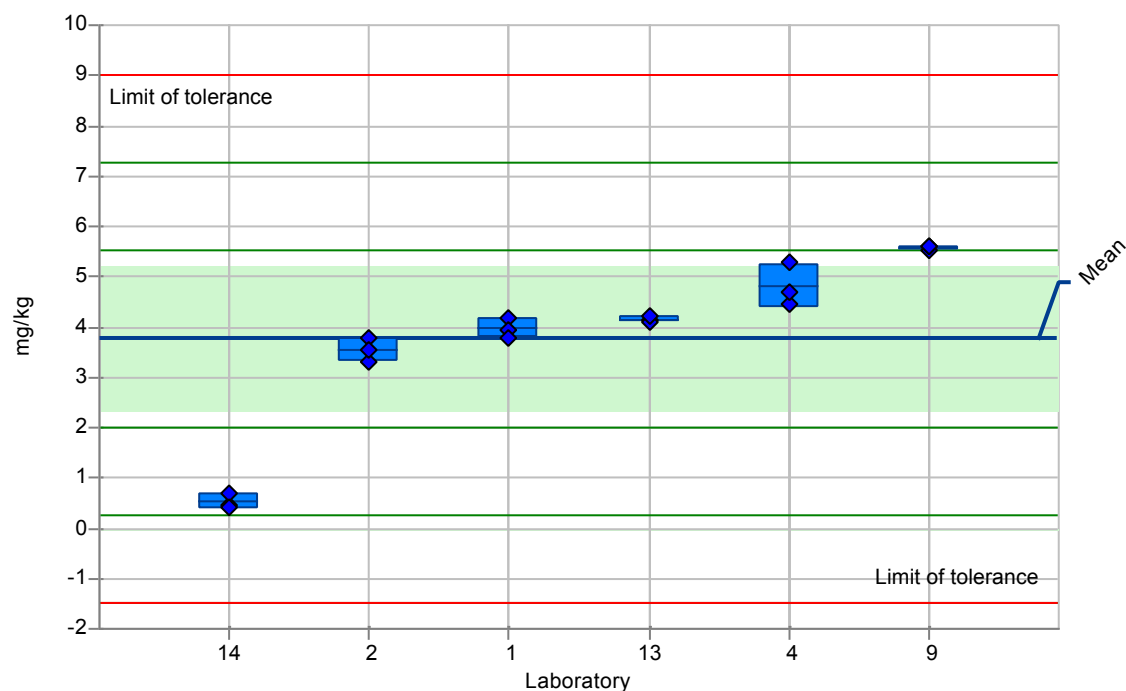
Mean ± U(Mean): 3.767 ± 1.421 mg/kg

Median: 4.045

Reproducibility s.d.: 1.751 mg/kg

Repeatability s.d.: 0.233 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	3.977	0.206	0.120	4.190	3.960	3.780
2	3.547	0.245	-0.126	3.310	3.800	3.530
3						
4	4.813	0.441	0.598	4.440	4.700	5.300
5						
6						
7						
8						
9	5.583	0.040	1.037	5.540	5.620	5.590
10						
11						
12				<2.850	<2.850	<2.850
13	4.157	0.064	0.223	4.130	4.110	4.230
14	0.525	0.154	-1.852	0.442	0.702	0.430
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-Hopane

Sample: 2777

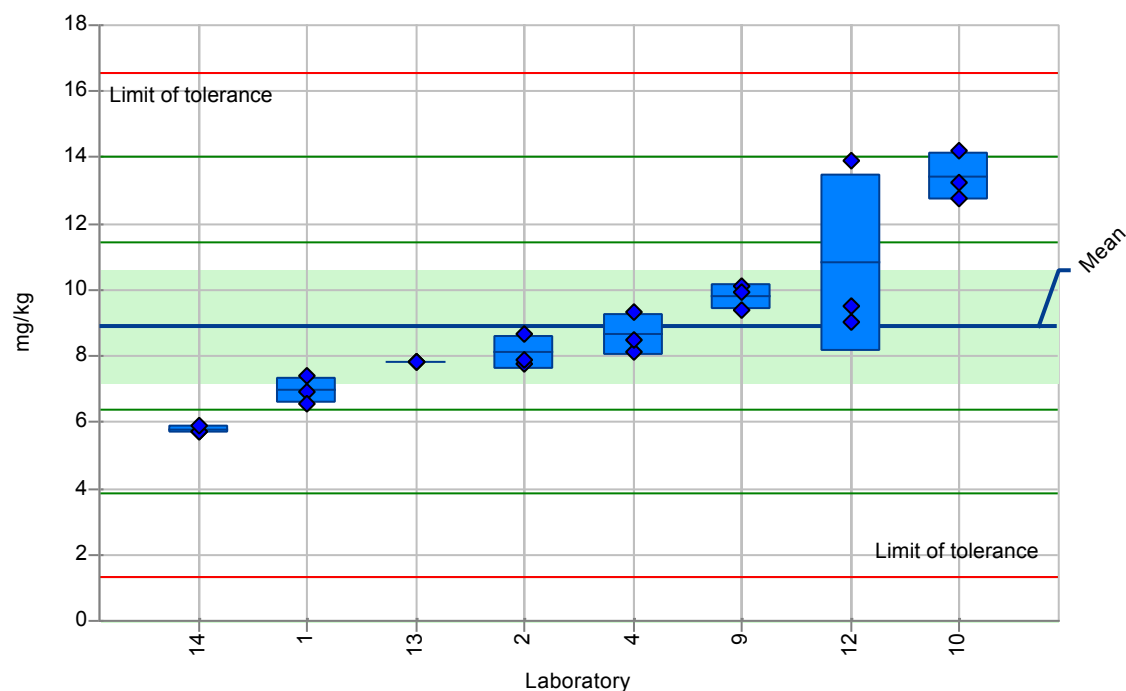
Mean ± U(Mean): 8.920 ± 1.691 mg/kg

Median: 8.170

Reproducibility s.d.: 2.539 mg/kg

Repeatability s.d.: 1.044 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	6.960	0.413	-0.772	7.400	6.900	6.580
2	8.100	0.498	-0.323	7.750	8.670	7.880
3						
4	8.640	0.649	-0.110	8.100	8.460	9.360
5						
6						
7						
8						
9	9.803	0.384	0.348	9.370	10.100	9.940
10	13.404	0.720	1.766	12.772	14.188	13.253
11						
12	10.817	2.681	0.747	9.520	9.030	13.900
13	7.850	0.000	-0.422	7.850	7.850	7.850
14	5.788	0.125	-1.234	5.693	5.742	5.929
15						
16						
17						
18						
19						
20						

Measurand: 17a(H)-22,29,30-Trisnorhopane

Sample: 2777

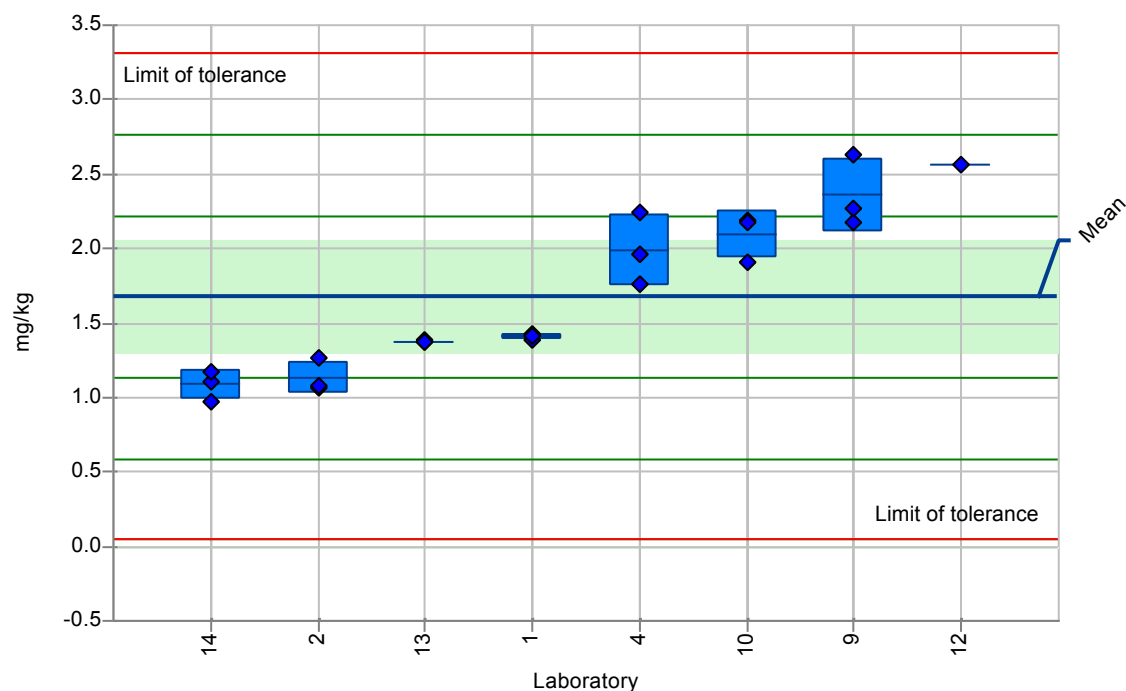
Mean \pm U(Mean): 1.677 \pm 0.375 mg/kg

Median: 1.685

Reproducibility s.d.: 0.545 mg/kg

Repeatability s.d.: 0.153 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	1.410	0.020	-0.490	1.390	1.430	1.410
2	1.137	0.107	-0.992	1.070	1.260	1.080
3						
4	1.987	0.241	0.568	1.760	1.960	2.240
5						
6						
7						
8						
9	2.357	0.242	1.247	2.170	2.630	2.270
10	2.095	0.156	0.767	1.915	2.190	2.182
11						
12	2.560		1.620	<2.860	<2.860	2.560
13	1.373	0.006	-0.557	1.380	1.370	1.370
14	1.087	0.100	-1.083	0.977	1.111	1.172
15						
16						
17						
18						
19						
20						

Measurand: 17a(H)-Diahopane

Sample: 2777

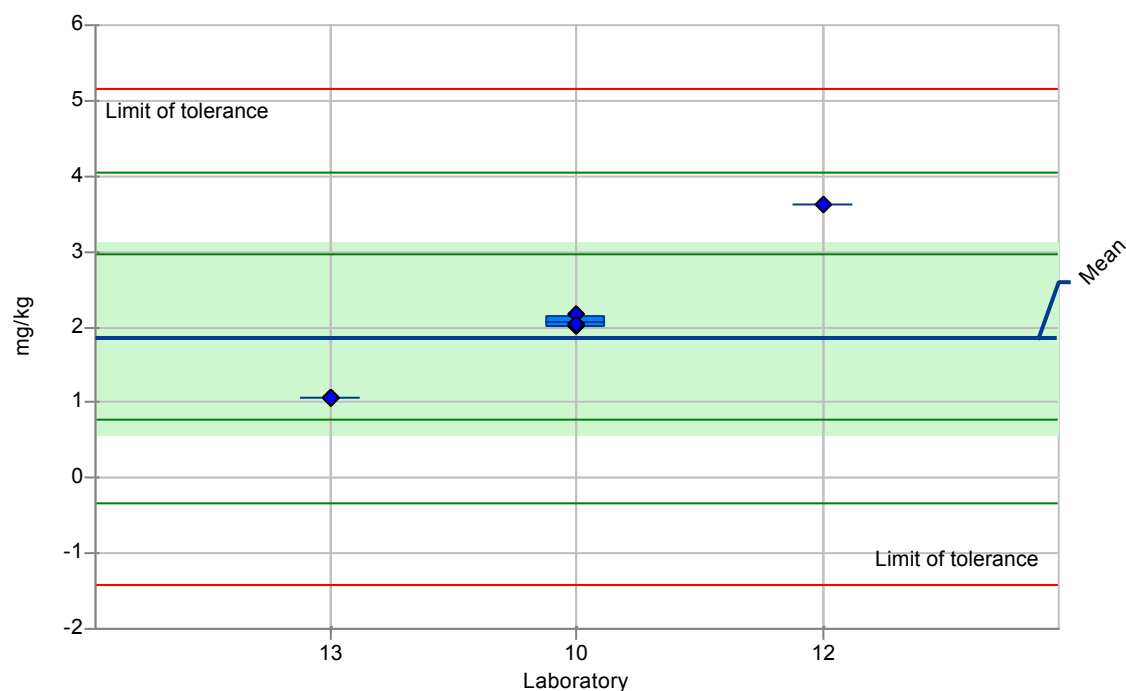
Mean \pm U(Mean): 1.861 \pm 1.267 mg/kg

Median: 2.043

Reproducibility s.d.: 1.098 mg/kg

Repeatability s.d.: 0.055 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4						
5						
6						
7						
8						
9						
10	2.075	0.077	0.195	2.020	2.163	2.043
11						
12	3.620		1.603	<2.860	<2.860	3.620
13	1.060	0.010	-0.730	1.070	1.060	1.050
14						
15						
16						
17						
18						
19						
20						

Measurand: 18a(H)-22,29,30-Trisnorneohopane

Sample: 2777

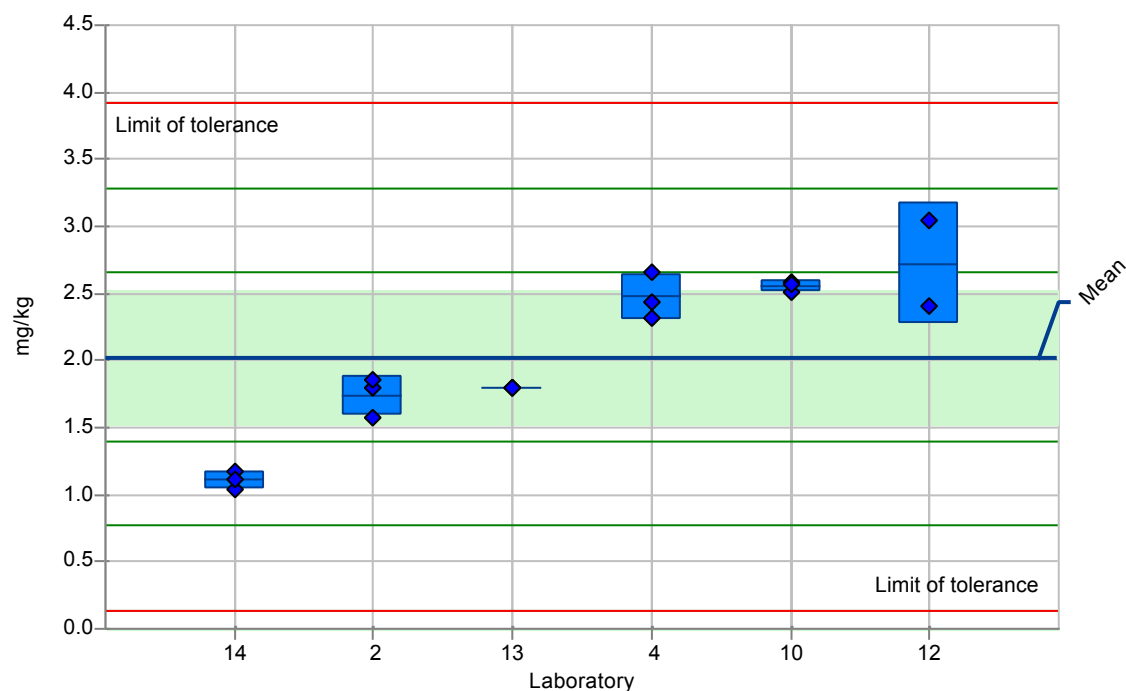
Mean \pm U(Mean): 2.026 \pm 0.502 mg/kg

Median: 2.120

Reproducibility s.d.: 0.630 mg/kg

Repeatability s.d.: 0.171 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1.740	0.149	-0.454	1.800	1.570	1.850
3						
4	2.473	0.172	0.709	2.320	2.440	2.660
5						
6						
7						
8						
9						
10	2.555	0.039	0.838	2.511	2.586	2.566
11						
12	2.720	0.453	1.101	<2.980	3.040	2.400
13	1.793	0.006	-0.370	1.800	1.790	1.790
14	1.107	0.069	-1.458	1.037	1.175	1.110
15						
16						
17						
18						
19						
20						

Measurand: 18a(H)-30-Norneohopane

Sample: 2777

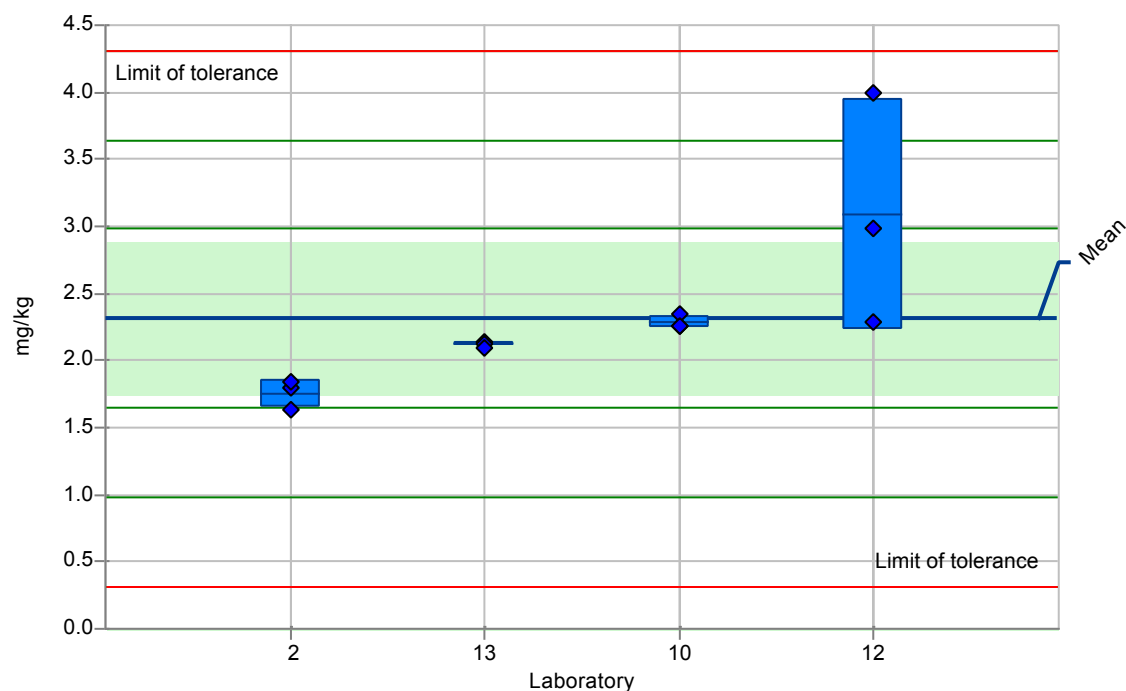
Mean \pm U(Mean): 2.314 \pm 0.563 mg/kg

Median: 2.194

Reproducibility s.d.: 0.666 mg/kg

Repeatability s.d.: 0.436 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1.757	0.104	-0.837	1.790	1.840	1.640
3						
4						
5						
6						
7						
8						
9						
10	2.287	0.051	-0.041	2.257	2.346	2.258
11						
12	3.090	0.864	1.165	2.990	2.280	4.000
13	2.123	0.021	-0.287	2.140	2.130	2.100
14						
15						
16						
17						
18						
19						
20						

Measurand: C20-triaromatic steroid (pregnane derivative)

Sample: 2777

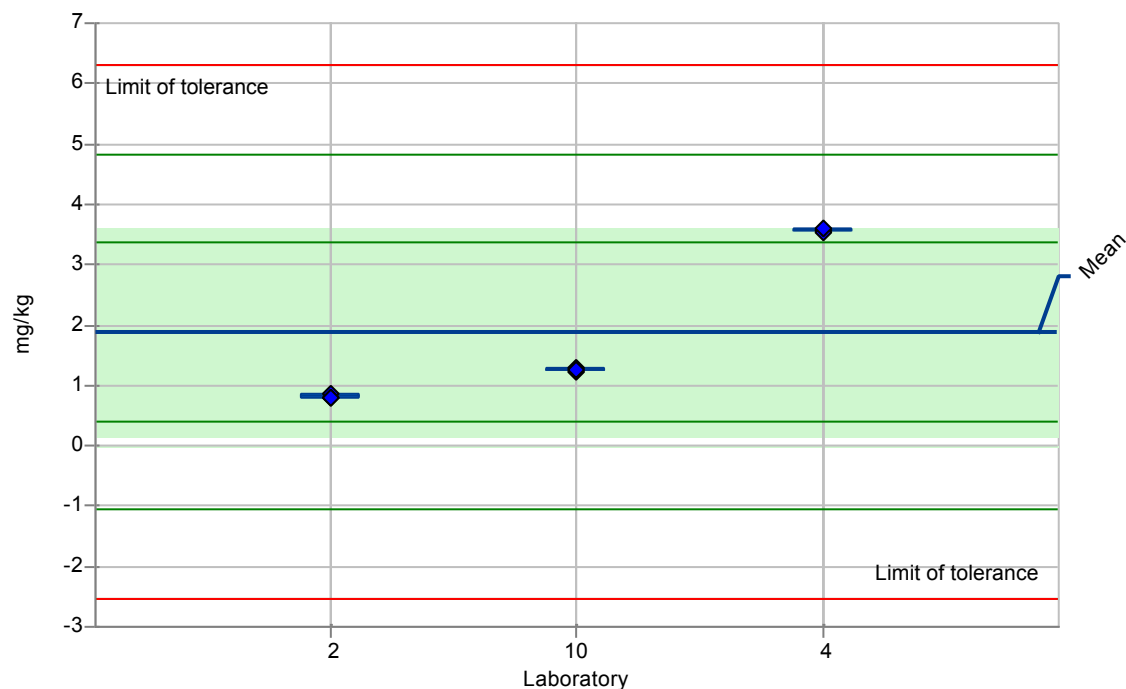
Mean \pm U(Mean): 1.883 \pm 1.704 mg/kg

Median: 1.266

Reproducibility s.d.: 1.476 mg/kg

Repeatability s.d.: 0.035 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	0.817	0.038	-0.722	0.860	0.800	0.790
3						
4	3.567	0.031	1.141	3.560	3.540	3.600
5						
6						
7						
8						
9						
10	1.265	0.037	-0.419	1.227	1.301	1.266
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C21-triaromatic steroid (homopregnane)

Sample: 2777

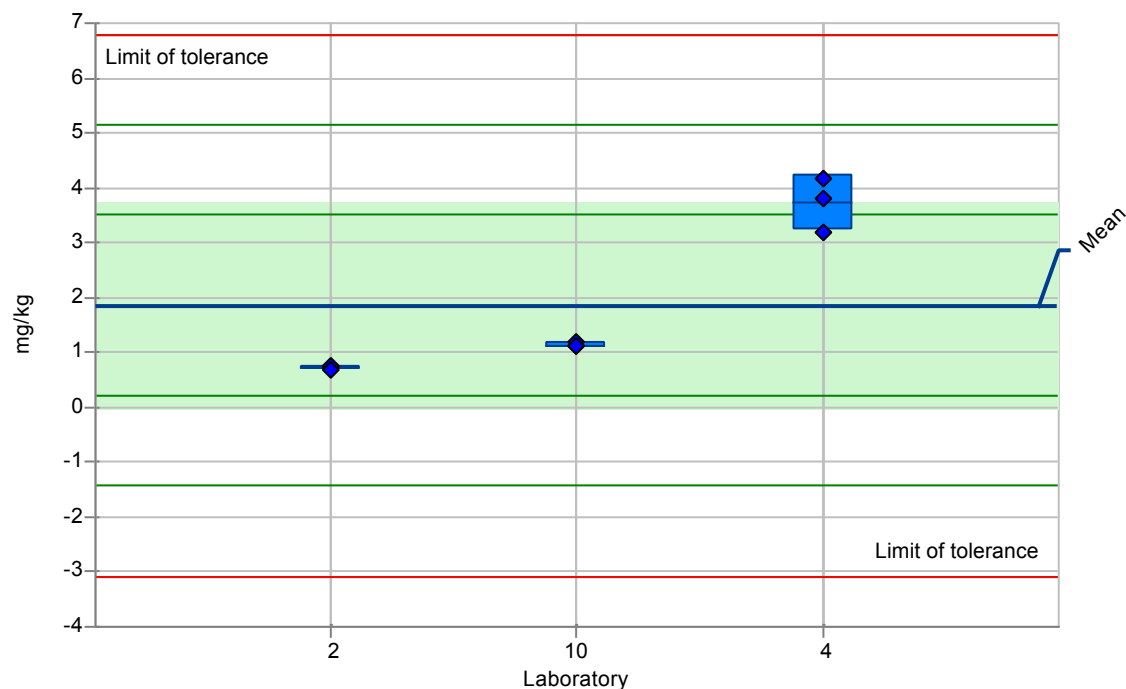
Mean \pm U(Mean): 1.862 \pm 1.880 mg/kg

Median: 1.106

Reproducibility s.d.: 1.646 mg/kg

Repeatability s.d.: 0.295 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	0.723	0.042	-0.692	0.710	0.770	0.690
3						
4	3.727	0.506	1.133	3.180	3.820	4.180
5						
6						
7						
8						
9						
10	1.135	0.053	-0.441	1.104	1.196	1.106
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C26-20S-triaromatic steroid (cholestane derivative)

Sample: 2777

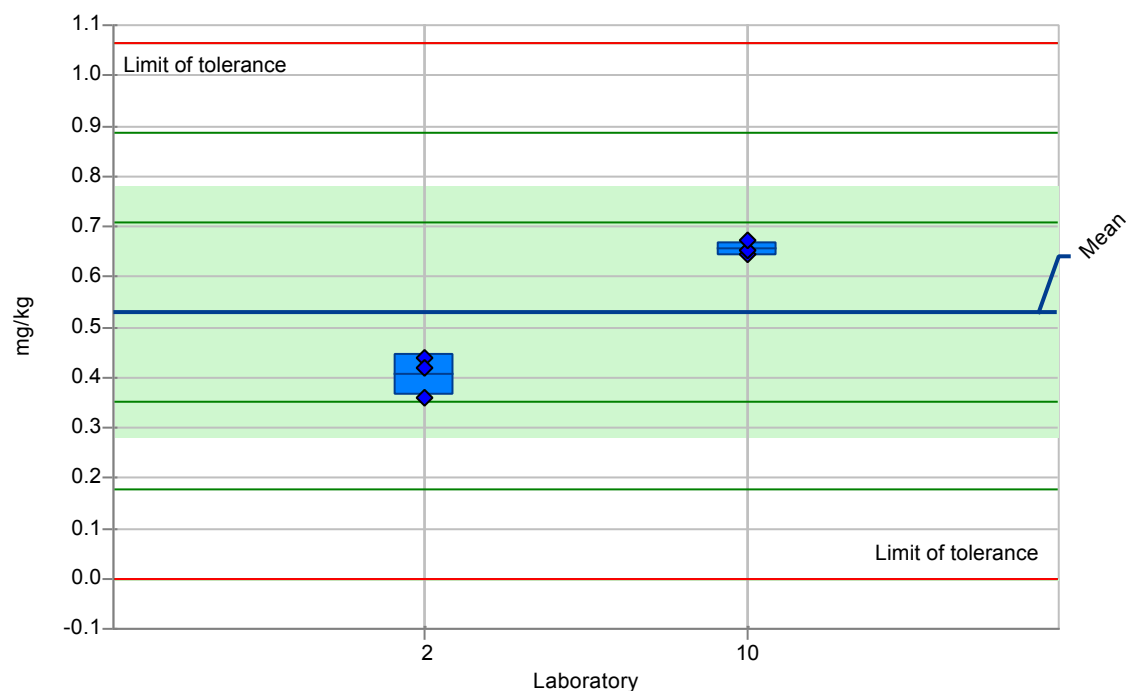
Mean \pm U(Mean): 0.531 \pm 0.249 mg/kg

Reproducibility s.d.: 0.178 mg/kg

Median: 0.537

Repeatability s.d.: 0.031 mg/kg

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	0.407	0.042	-0.700	0.440	0.420	0.360
3						
4						
5						
6						
7						
8						
9						
10	0.656	0.014	0.700	0.643	0.653	0.671
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C27-20R-triaromatic steroid (methylcholestane derivative)

Sample: 2777

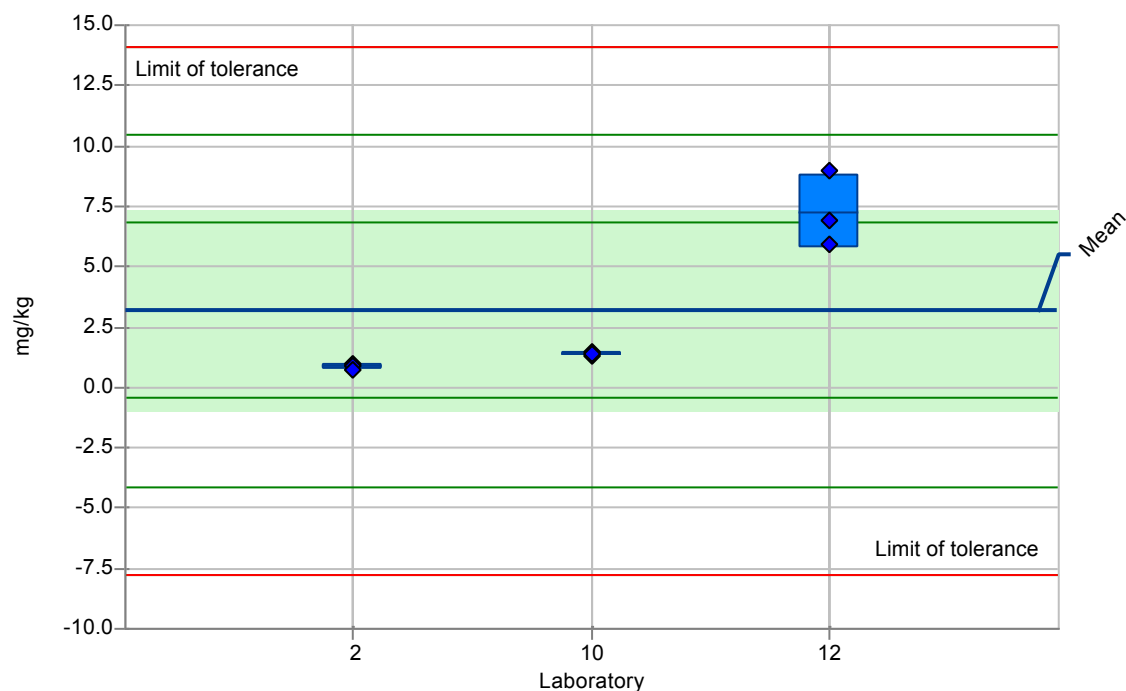
Mean \pm U(Mean): 3.169 \pm 4.117 mg/kg

Median: 1.372

Reproducibility s.d.: 3.639 mg/kg

Repeatability s.d.: 0.887 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	0.870	0.115	-0.632	0.980	0.880	0.750
3						
4						
5						
6						
7						
8						
9						
10	1.361	0.084	-0.497	1.271	1.438	1.372
11						
12	7.277	1.530	1.129	6.930	5.950	8.950
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C28-20R-triaromatic steroid (ethylcholestane derivative)

Sample: 2777

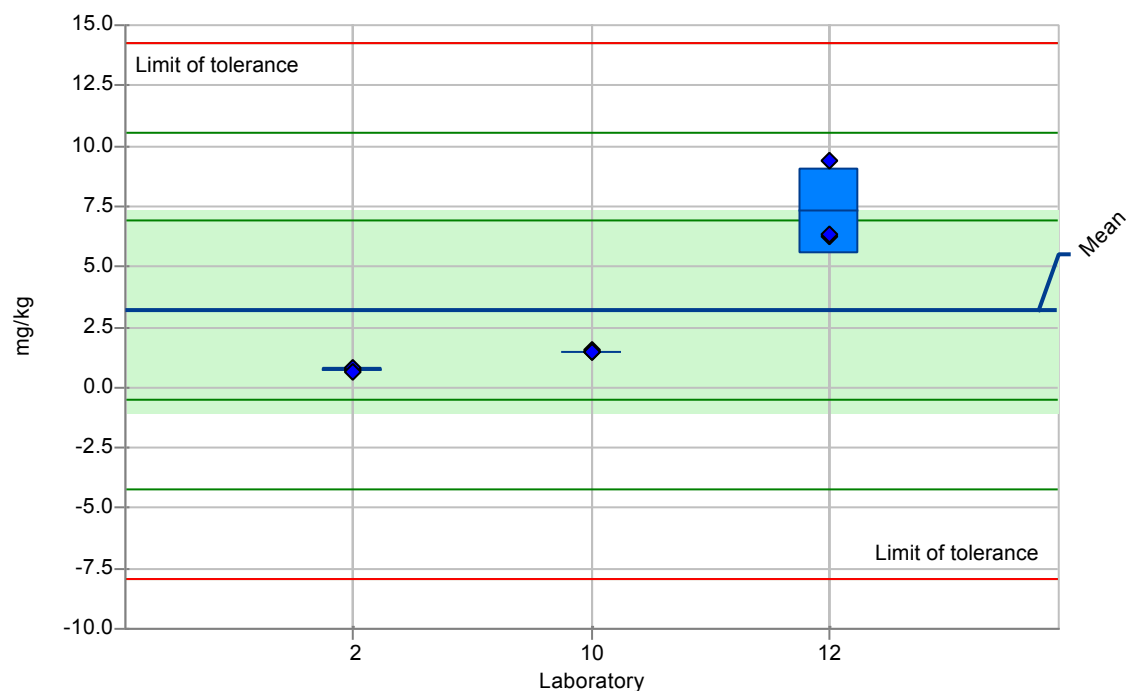
Mean \pm U(Mean): 3.181 \pm 4.162 mg/kg

Median: 1.478

Reproducibility s.d.: 3.701 mg/kg

Repeatability s.d.: 1.027 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	0.733	0.106	-0.661	0.750	0.830	0.620
3						
4						
5						
6						
7						
8						
9						
10	1.489	0.030	-0.457	1.465	1.523	1.478
11						
12	7.320	1.775	1.118	6.280	6.310	9.370
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C28-20S-triaromatic steroid (ethylcholestane derivative)

Sample: 2777

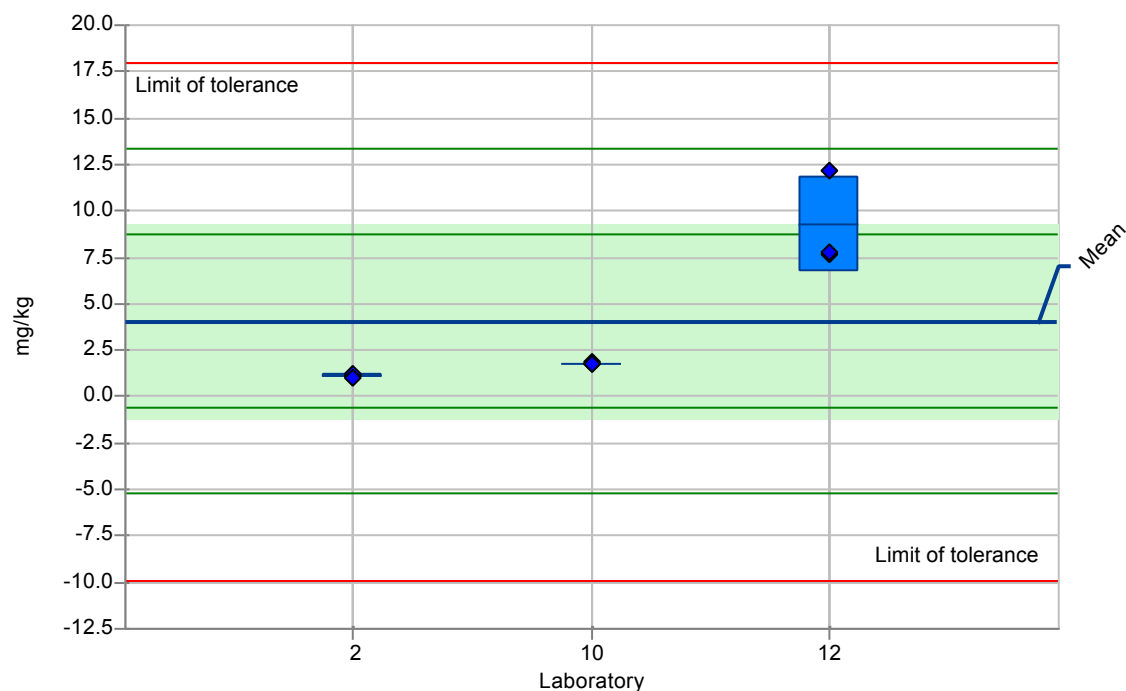
Mean \pm U(Mean): 4.061 \pm 5.184 mg/kg

Median: 1.804

Reproducibility s.d.: 4.651 mg/kg

Repeatability s.d.: 1.487 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1.133	0.096	-0.629	1.150	1.220	1.030
3						
4						
5						
6						
7						
8						
9						
10	1.819	0.094	-0.482	1.733	1.920	1.804
11						
12	9.230	2.573	1.111	7.690	7.800	12.200
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: Carbazole

Sample: 2777

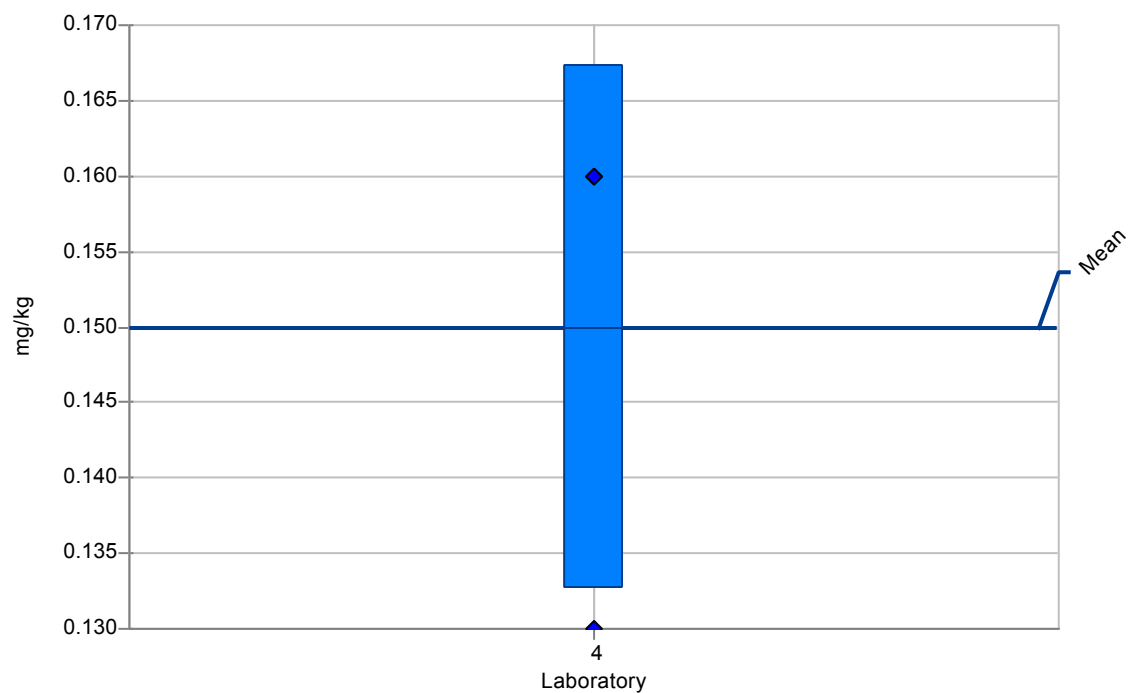
Mean \pm U(Mean): 0.150 mg/kg

Median: 0.160

Reproducibility s.d.:

Repeatability s.d.: 0.017 mg/kg

No. of laboratories: 1



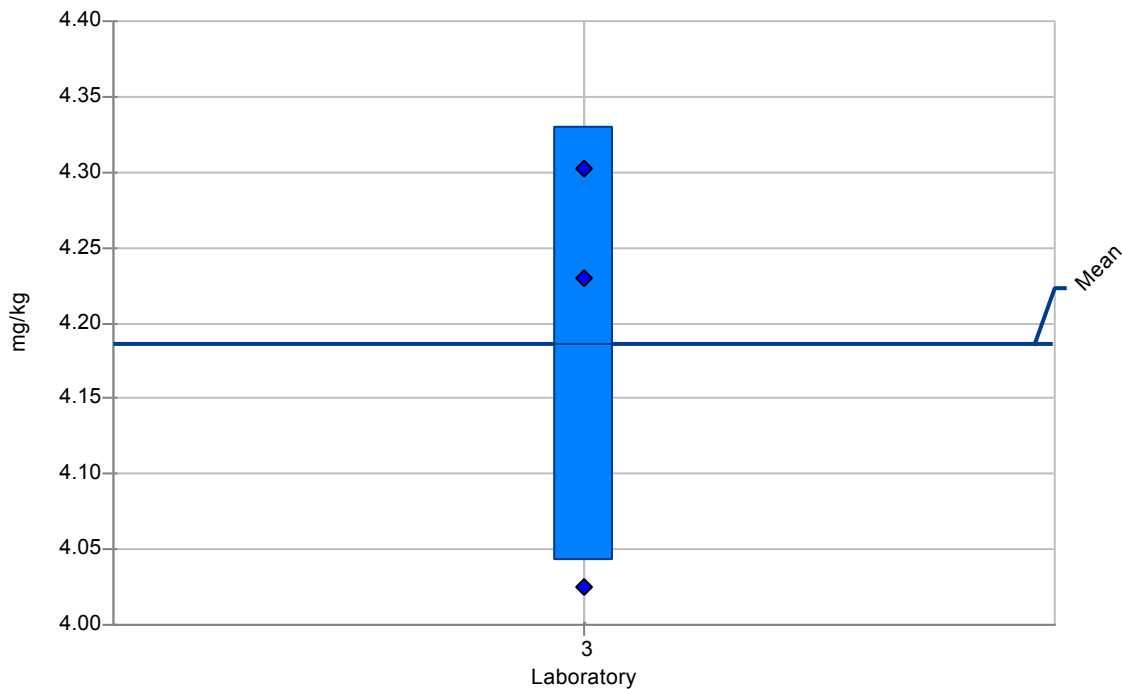
Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3						
4	0.150	0.017		0.160	0.160	0.130
5						
6						
7						
8						
9						
10						
11						
12				<2.850	<2.850	<2.850
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: norpristane

Sample: 2777

Mean ± U(Mean): 4.186 mg/kg
Median: 4.229

Reproducibility s.d.:
Repeatability s.d.: 0.144 mg/kg
No. of laboratories: 1



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3	4.186	0.144		4.026	4.303	4.229
4						
5						
6						
7						
8						
9						
10						
11						
12				<190.0	<190.0	<190.0
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: Phytane

Sample: 2777

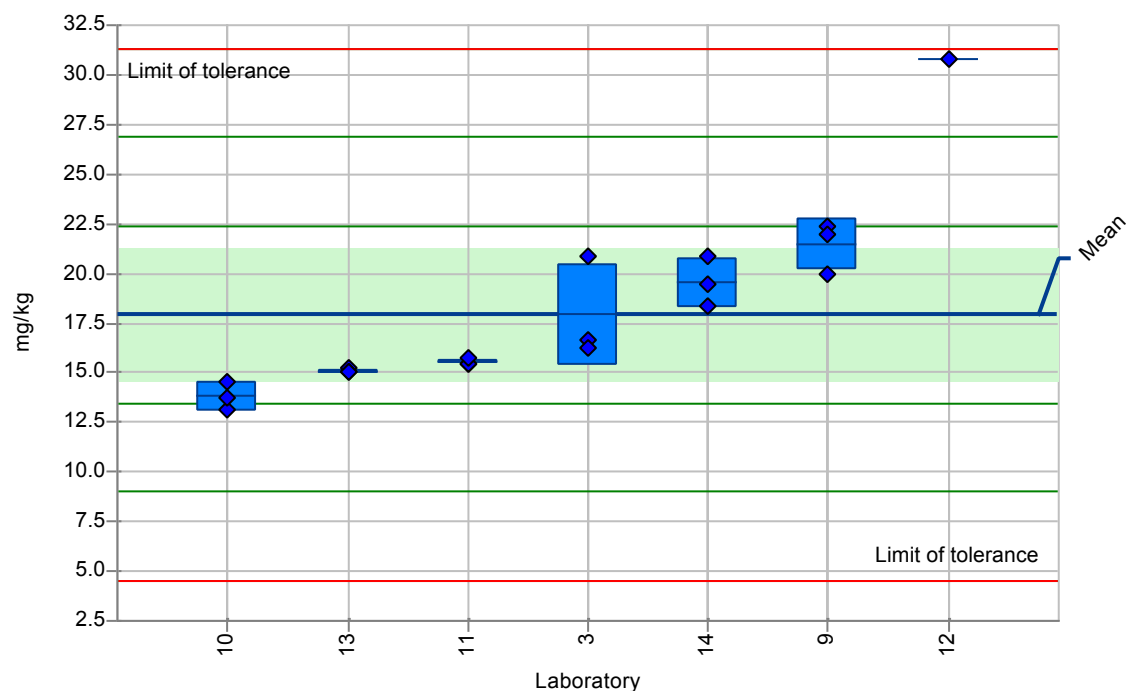
Mean \pm U(Mean): 17.935 \pm 3.278 mg/kg

Median: 16.664

Reproducibility s.d.: 4.465 mg/kg

Repeatability s.d.: 1.305 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3	17.918	2.533	-0.004	20.834	16.664	16.257
4						
5						
6						
7						
8						
9	21.467	1.286	0.791	20.000	22.400	22.000
10	13.796	0.721	-0.927	13.131	14.563	13.694
11	15.538	0.138	-0.537	15.454	15.463	15.697
12	30.800		2.881	<191.0	<191.0	30.800
13	15.067	0.115	-0.642	15.200	15.000	15.000
14	19.538	1.261	0.359	19.415	18.343	20.857
15						
16						
17						
18						
19						
20						

Measurand: Pristane

Sample: 2777

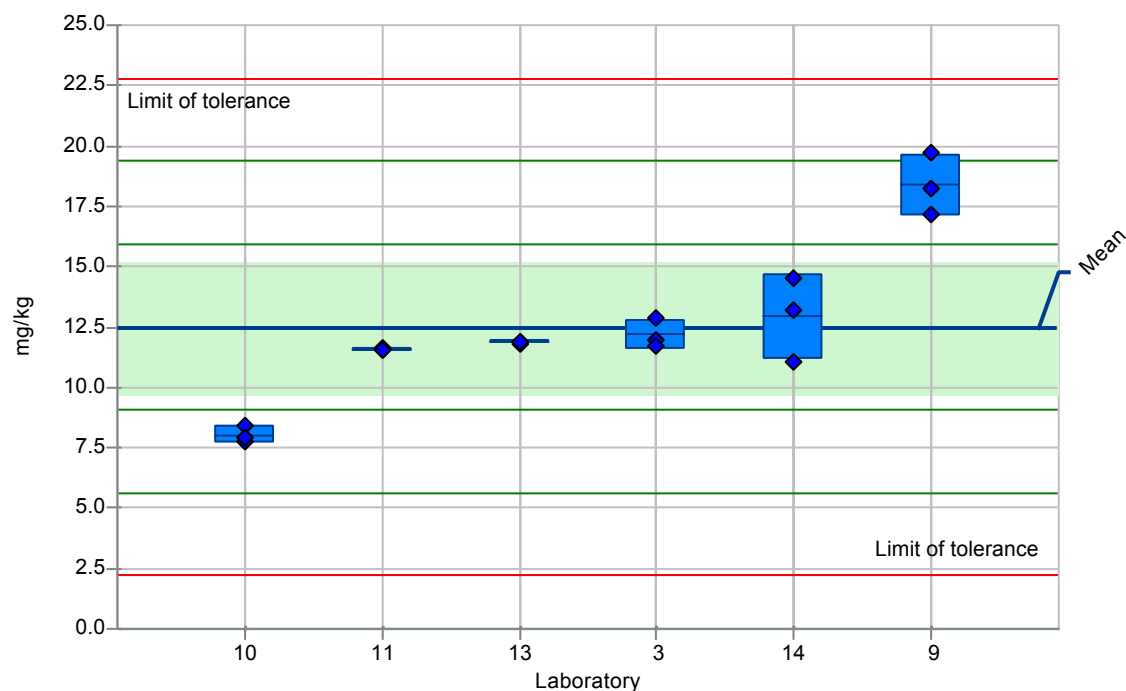
Mean \pm U(Mean): 12.490 \pm 2.731 mg/kg

Median: 11.942

Reproducibility s.d.: 3.430 mg/kg

Repeatability s.d.: 0.932 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2						
3	12.205	0.620	-0.083	12.905	11.984	11.726
4						
5						
6						
7						
8						
9	18.367	1.258	1.713	17.200	19.700	18.200
10	8.035	0.371	-1.299	7.749	8.454	7.903
11	11.547	0.057	-0.275	11.613	11.516	11.511
12				<190.0	<190.0	<190.0
13	11.867	0.058	-0.182	11.900	11.800	11.900
14	12.921	1.762	0.126	14.511	11.026	13.226
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-24-Ethylcholestane 20R

Sample: 2779

Mean \pm U(Mean): 19.870 \pm 2.391 mg/kg

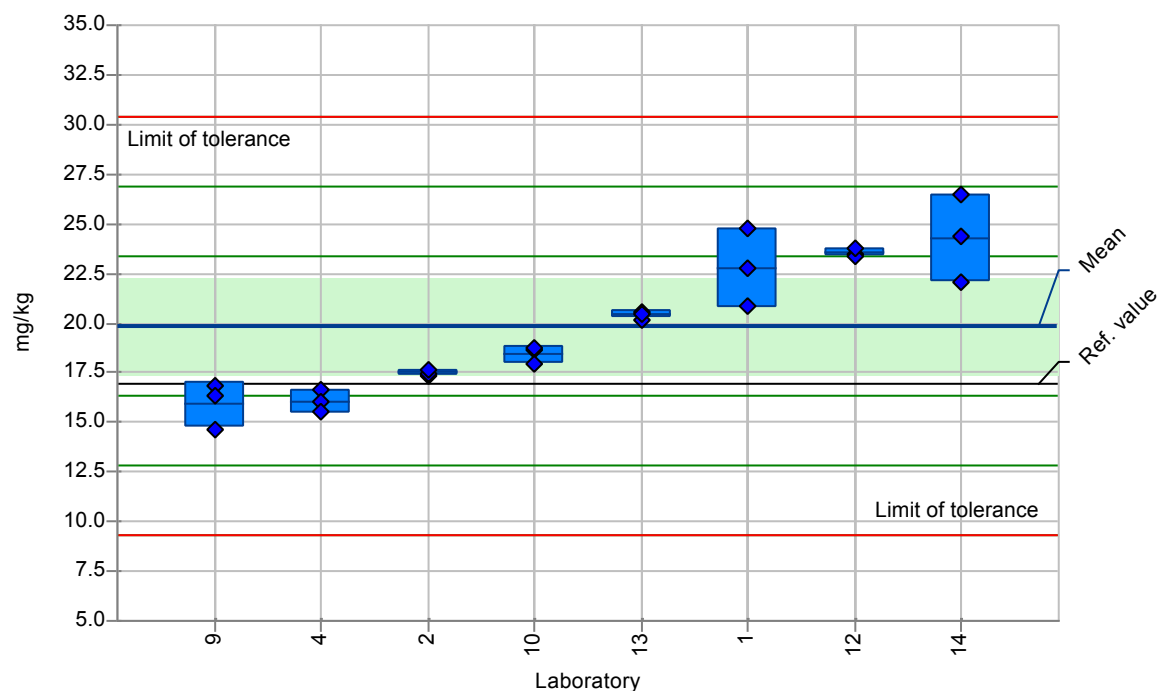
Reproducibility s.d.: 3.513 mg/kg

Median: 19.559

Repeatability s.d.: 1.162 mg/kg

Reference value: 16.900 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	22.794	1.994	0.832	24.809	22.753	20.821
2	17.493	0.111	-0.677	17.390	17.480	17.610
3						
4	16.063	0.596	-1.084	16.680	16.020	15.490
5						
6						
7						
8						
9	15.900	1.153	-1.130	14.600	16.800	16.300
10	18.421	0.429	-0.413	18.619	18.716	17.929
11						
12	23.567	0.208	1.052	23.500	23.400	23.800
13	20.433	0.208	0.160	20.200	20.600	20.500
14	24.290	2.204	1.258	24.369	22.047	26.452
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-24-Ethylcholestane 20S

Sample: 2779

Mean \pm U(Mean): 22.603 \pm 4.608 mg/kg

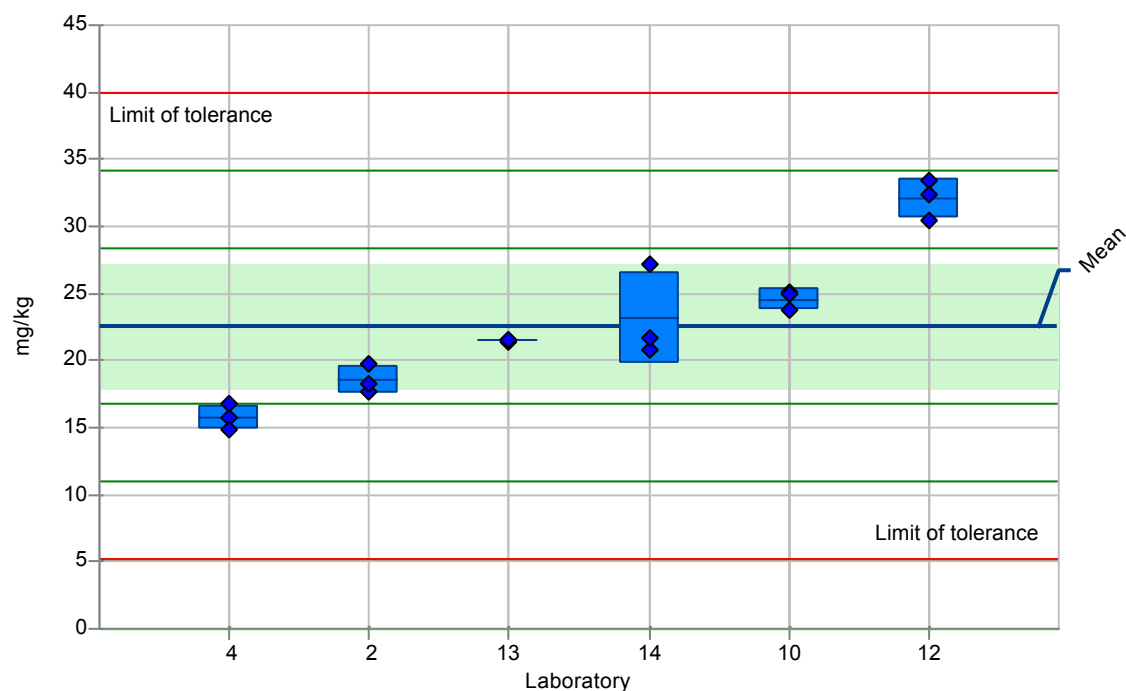
Reproducibility s.d.: 5.806 mg/kg

Median: 21.581

Repeatability s.d.: 1.668 mg/kg

Reference value:

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	18.550	1.071	-0.698	17.640	18.280	19.730
3						
4	15.740	0.951	-1.182	15.700	16.710	14.810
5						
6						
7						
8						
9						
10	24.577	0.767	0.340	25.039	23.692	25.001
11						
12	32.100	1.473	1.636	30.500	33.400	32.400
13	21.467	0.058	-0.196	21.400	21.500	21.500
14	23.182	3.448	0.100	20.755	21.662	27.128
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-Cholestane 20R

Sample: 2779

Mean \pm U(Mean): 24.496 \pm 13.168 mg/kg

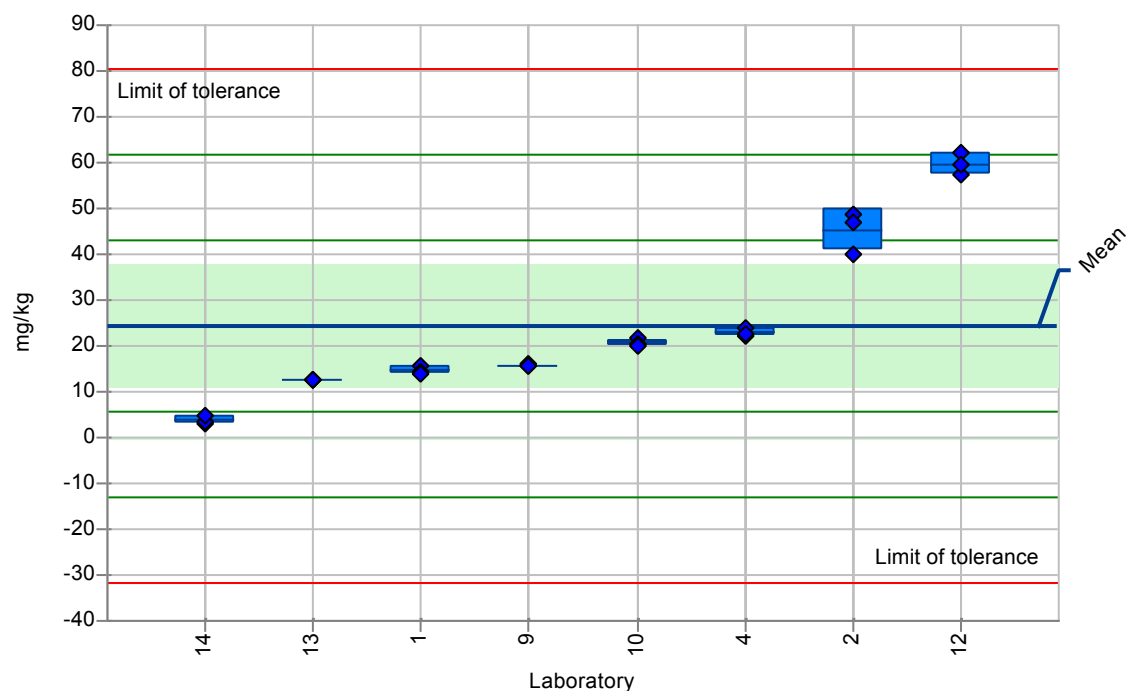
Reproducibility s.d.: 18.688 mg/kg

Median: 18.102

Repeatability s.d.: 1.910 mg/kg

Reference value:

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	14.711	0.785	-0.524	15.587	14.476	14.071
2	45.317	4.545	1.114	48.780	40.170	47.000
3						
4	22.993	0.981	-0.080	22.270	24.110	22.600
5						
6						
7						
8						
9	15.800	0.100	-0.465	15.900	15.700	15.800
10	20.704	0.798	-0.203	21.609	20.404	20.099
11						
12	59.767	2.371	1.887	57.600	62.300	59.400
13	12.800	0.000	-0.626	12.800	12.800	12.800
14	3.876	0.824	-1.103	3.212	3.617	4.798
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14a(H),17a(H)-Cholestane 20S

Sample: 2779

Mean \pm U(Mean): 42.747 \pm 14.219 mg/kg

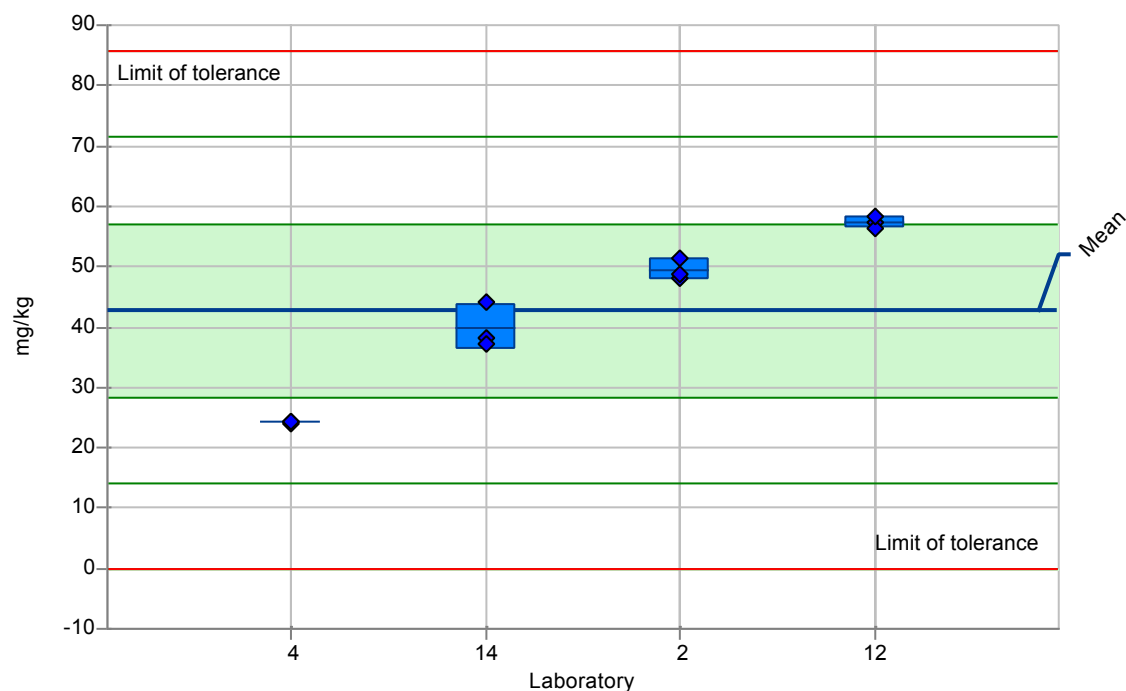
Median: 43.526

Reference value:

Reproducibility s.d.: 14.326 mg/kg

Repeatability s.d.: 2.147 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	49.497	1.790	0.471	48.120	51.520	48.850
3						
4	24.277	0.176	-1.289	24.110	24.460	24.260
5						
6						
7						
8						
9						
10						
11						
12	57.300	1.054	1.016	57.400	56.200	58.300
13						
14	39.915	3.754	-0.198	38.202	44.220	37.322
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-24-Ethylcholestane 20R

Sample: 2779

Mean \pm U(Mean): 30.962 \pm 6.972 mg/kg

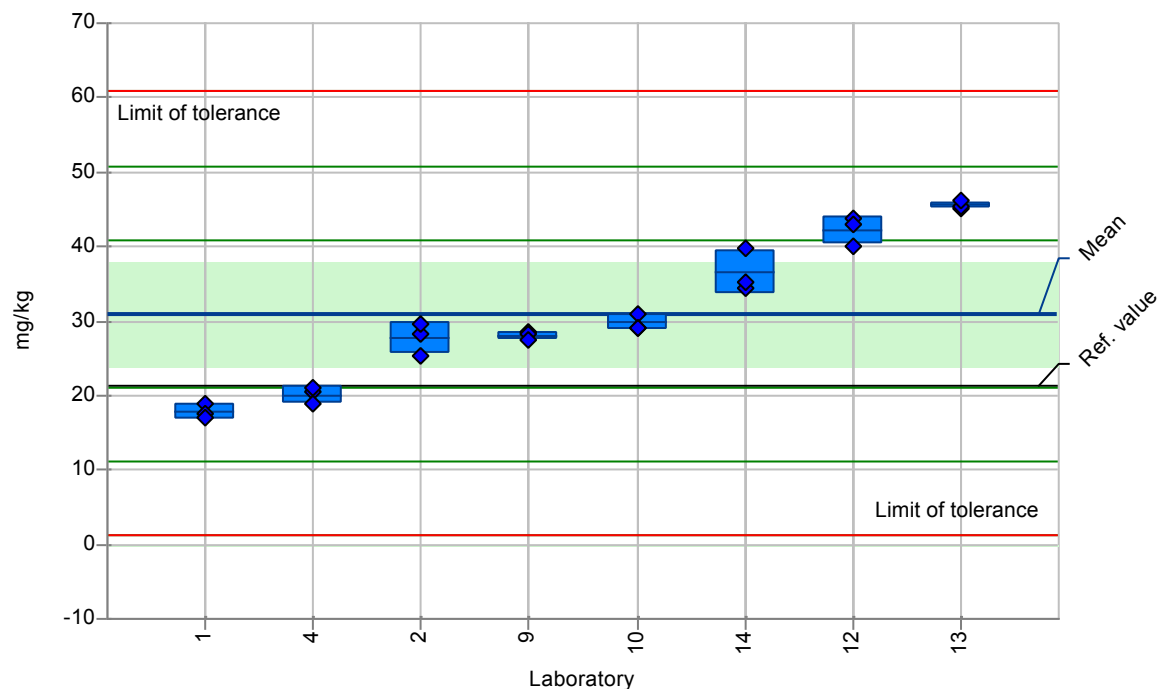
Reproducibility s.d.: 9.950 mg/kg

Median: 28.762

Repeatability s.d.: 1.636 mg/kg

Reference value: 21.300 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	17.853	1.043	-1.318	18.991	17.630	16.940
2	27.713	2.244	-0.327	25.220	28.350	29.570
3						
4	20.070	1.166	-1.095	20.380	21.050	18.780
5						
6						
7						
8						
9	28.067	0.586	-0.291	28.500	28.300	27.400
10	29.765	1.072	-0.120	31.003	29.173	29.120
11						
12	42.233	1.890	1.133	43.700	42.900	40.100
13	45.533	0.513	1.465	45.100	45.400	46.100
14	36.462	2.934	0.553	39.830	34.459	35.097
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-24-Ethylcholestane 20S

Sample: 2779

Mean \pm U(Mean): 24.425 \pm 2.651 mg/kg

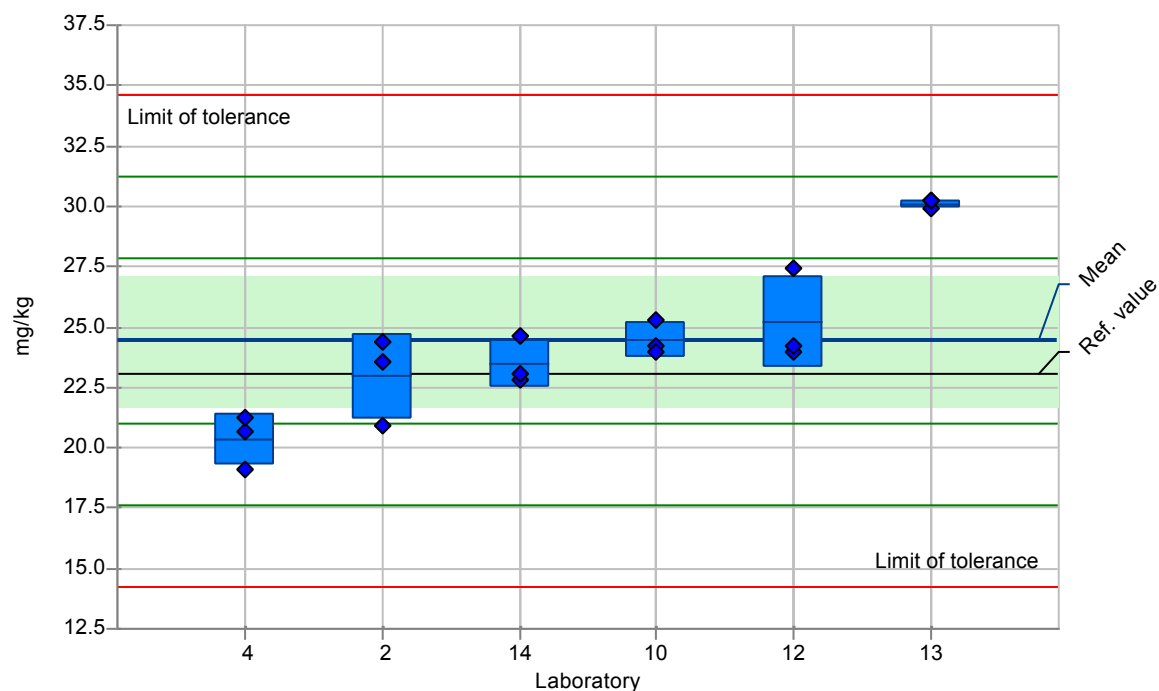
Reproducibility s.d.: 3.406 mg/kg

Median: 23.879

Repeatability s.d.: 1.261 mg/kg

Reference value: 23.100 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	22.963	1.789	-0.429	20.950	24.370	23.570
3						
4	20.317	1.092	-1.206	20.640	19.100	21.210
5						
6						
7						
8						
9						
10	24.485	0.732	0.018	25.318	24.189	23.948
11						
12	25.200	1.908	0.227	24.000	24.200	27.400
13	30.100	0.173	1.666	29.900	30.200	30.200
14	23.487	0.970	-0.275	22.795	23.072	24.596
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-Cholestane 20R

Sample: 2779

Mean \pm U(Mean): 29.264 \pm 6.035 mg/kg

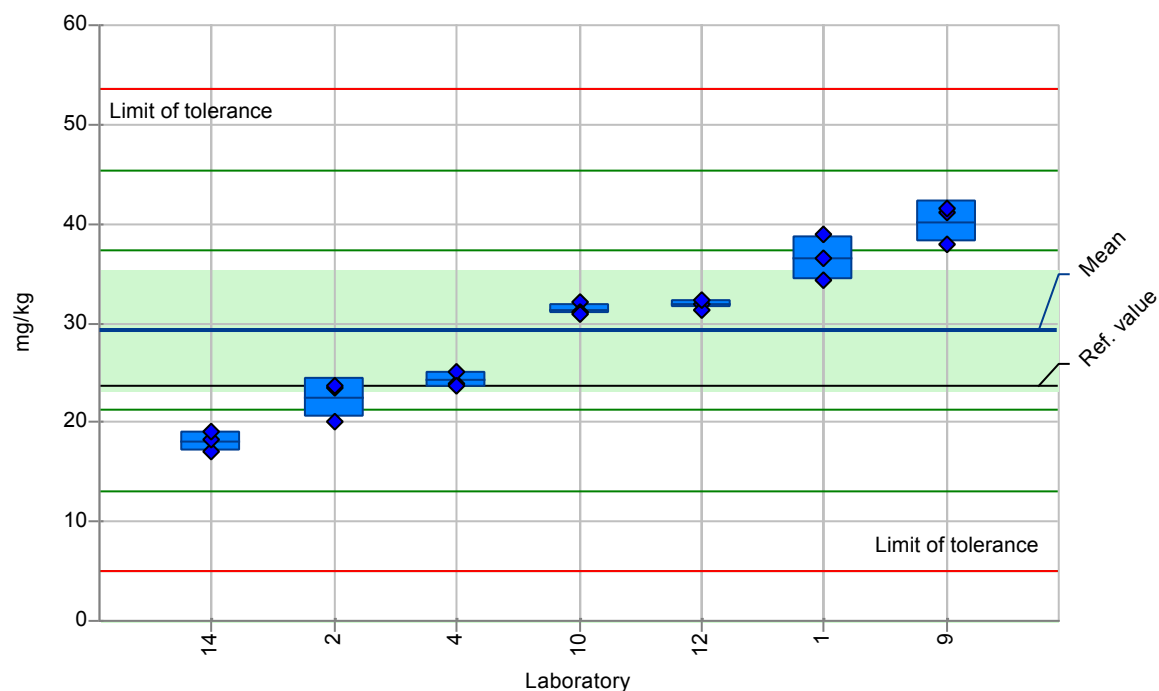
Reproducibility s.d.: 8.074 mg/kg

Median: 31.151

Repeatability s.d.: 1.476 mg/kg

Reference value: 23.700 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	36.590	2.237	0.907	38.857	36.530	34.383
2	22.417	1.983	-0.848	20.130	23.460	23.660
3						
4	24.243	0.797	-0.622	23.850	25.160	23.720
5						
6						
7						
8						
9	40.233	2.031	1.359	41.200	37.900	41.600
10	31.381	0.566	0.262	32.026	31.151	30.965
11						
12	31.900	0.458	0.326	32.000	31.400	32.300
13						
14	18.087	1.008	-1.384	17.012	18.237	19.012
15						
16						
17						
18						
19						
20						

Measurand: 5a(H),14b(H),17b(H)-Cholestane 20S

Sample: 2779

Mean \pm U(Mean): 25.003 \pm 2.707 mg/kg

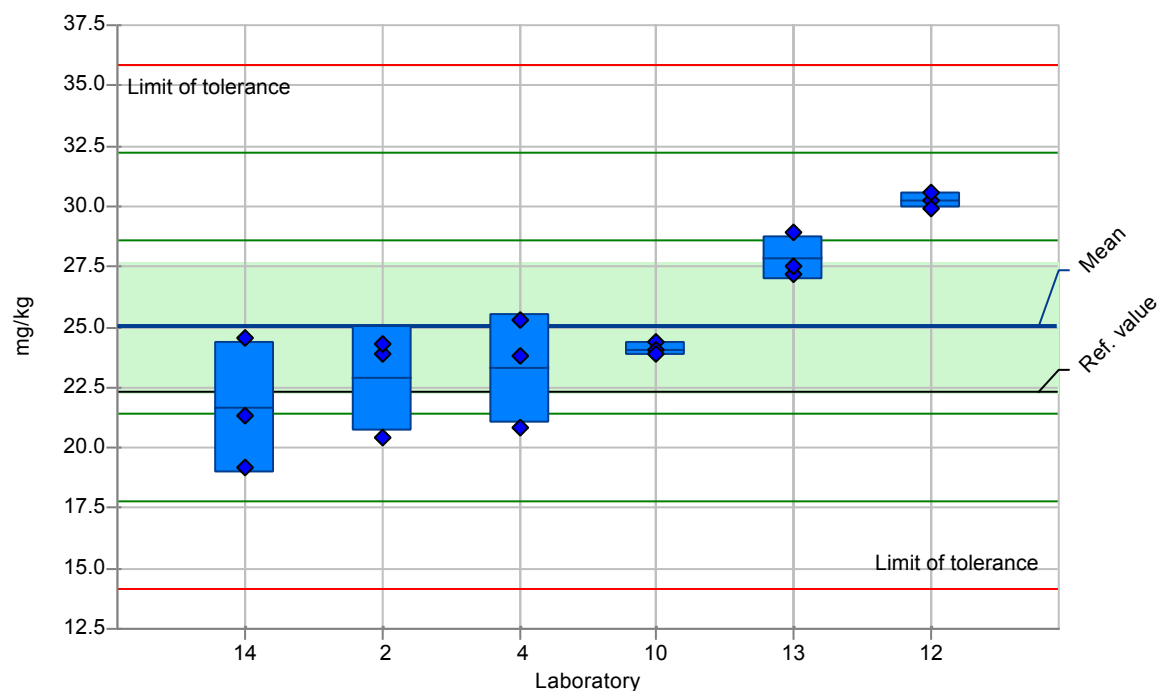
Reproducibility s.d.: 3.608 mg/kg

Median: 23.951

Repeatability s.d.: 1.742 mg/kg

Reference value: 22.300 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	22.870	2.168	-0.591	20.380	23.890	24.340
3						
4	23.293	2.270	-0.474	23.810	25.260	20.810
5						
6						
7						
8						
9						
10	24.078	0.270	-0.256	24.375	24.012	23.847
11						
12	30.233	0.351	1.450	30.200	29.900	30.600
13	27.867	0.907	0.794	27.200	27.500	28.900
14	21.675	2.709	-0.922	19.164	24.547	21.315
15						
16						
17						
18						
19						
20						

Measurand: 13b(H)17a(H)-Diacholestane 20S

Sample: 2779

Mean \pm U(Mean): 48.053 \pm 17.620 mg/kg

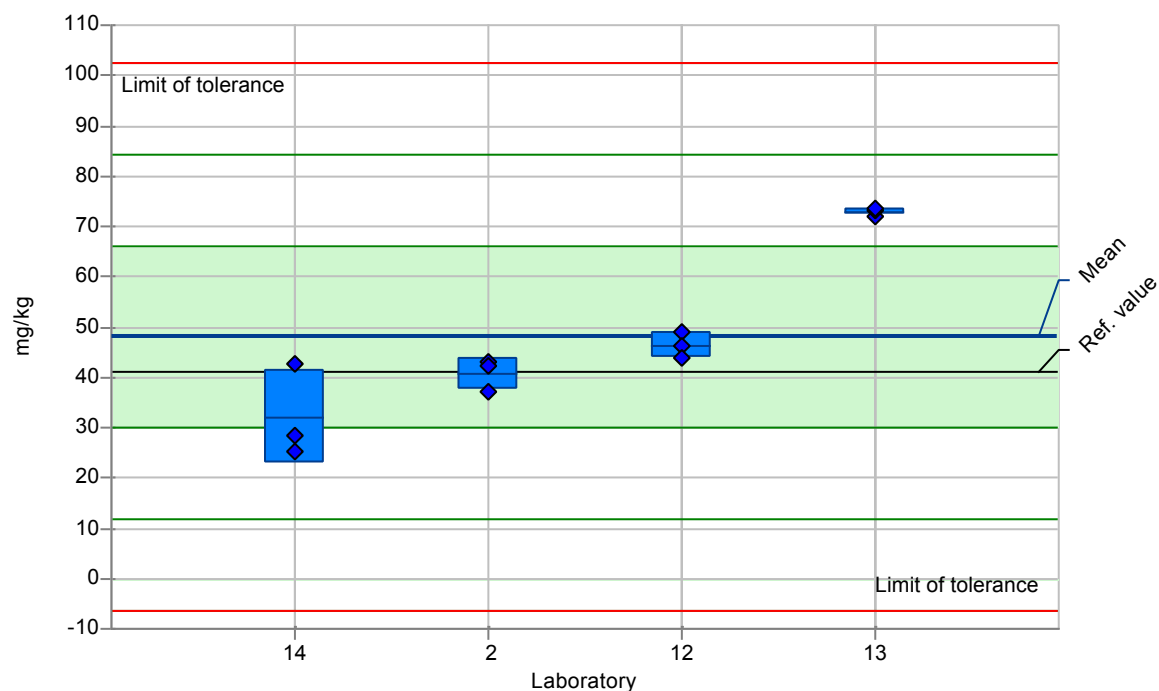
Reproducibility s.d.: 18.099 mg/kg

Median: 44.150

Repeatability s.d.: 5.066 mg/kg

Reference value: 41.200 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	40.803	3.133	-0.401	37.230	43.080	42.100
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	46.367	2.554	-0.093	49.000	46.200	43.900
13	72.967	0.777	1.377	72.100	73.200	73.600
14	32.075	9.258	-0.883	28.553	25.095	42.577
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-22R-Homohopane

Sample: 2779

Mean ± U(Mean): 20.021 ± 3.908 mg/kg

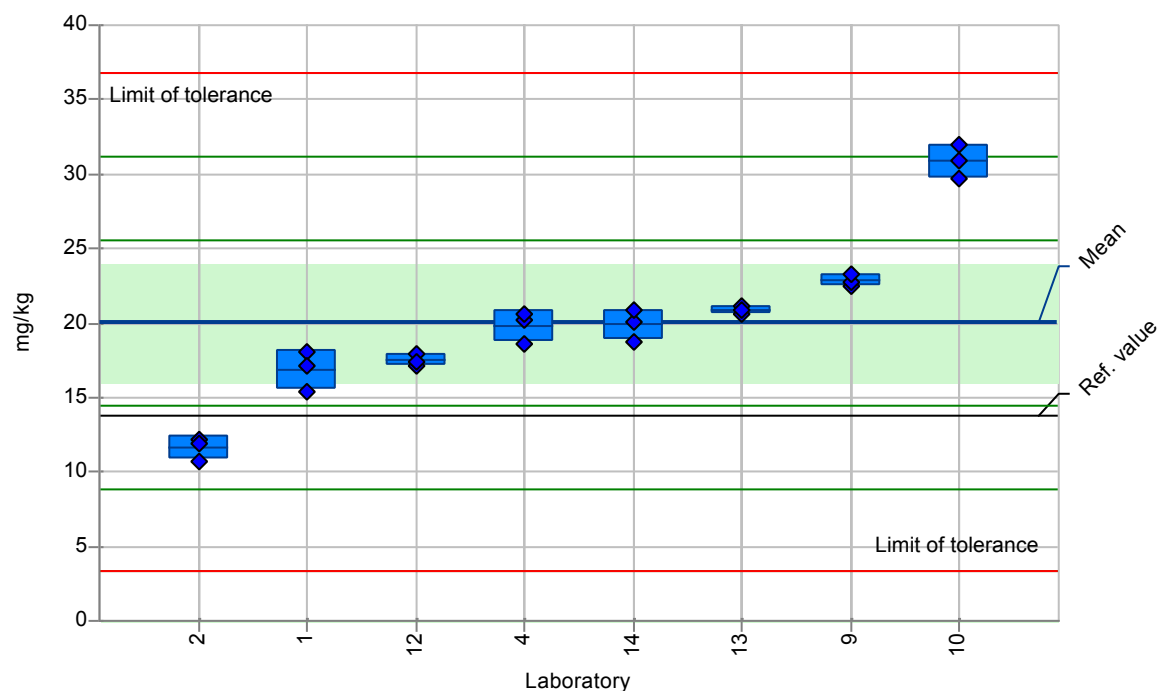
Median: 20.109

Reference value: 13.800 mg/kg

Reproducibility s.d.: 5.575 mg/kg

Repeatability s.d.: 0.896 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	16.871	1.385	-0.565	18.107	17.133	15.374
2	11.607	0.787	-1.509	10.710	12.180	11.930
3						
4	19.753	1.079	-0.048	18.530	20.160	20.570
5						
6						
7						
8						
9	22.833	0.416	0.504	22.500	22.700	23.300
10	30.878	1.120	1.947	31.998	29.758	30.879
11						
12	17.467	0.404	-0.458	17.900	17.100	17.400
13	20.867	0.252	0.152	20.600	21.100	20.900
14	19.893	1.035	-0.023	20.058	20.834	18.785
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-22S-Homohopane

Sample: 2779

Mean ± U(Mean): 22.940 ± 3.827 mg/kg

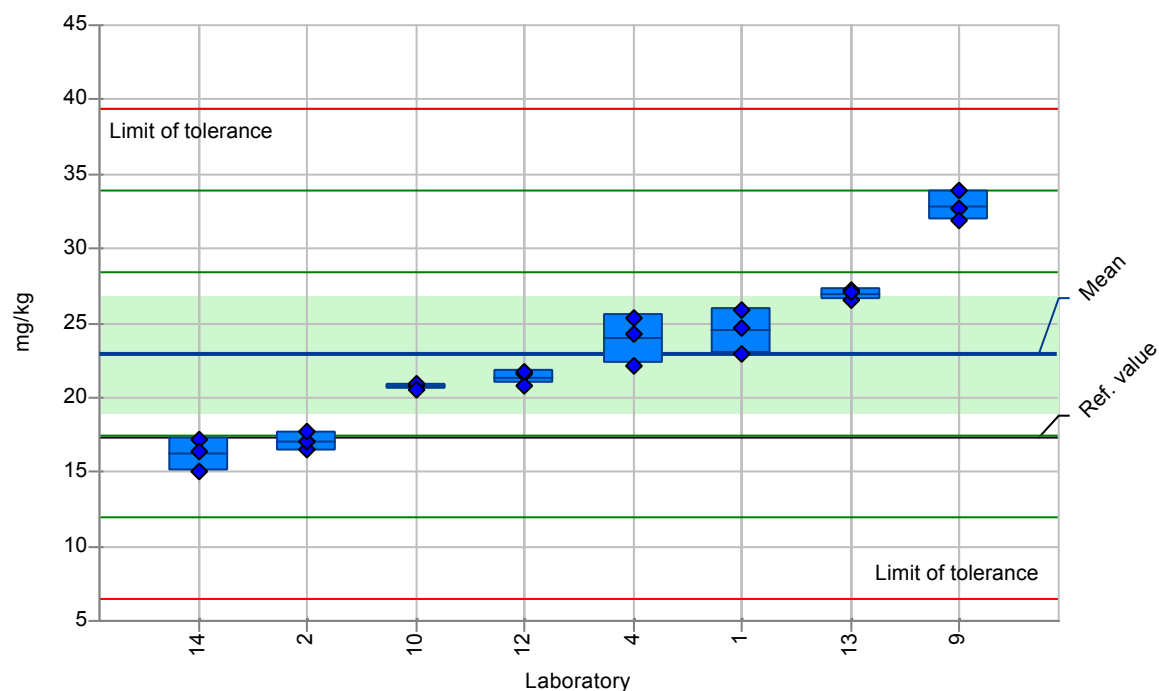
Median: 22.930

Reference value: 17.300 mg/kg

Reproducibility s.d.: 5.474 mg/kg

Repeatability s.d.: 1.005 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	24.477	1.530	0.281	25.923	24.634	22.875
2	17.040	0.617	-1.078	16.450	16.990	17.680
3						
4	23.943	1.638	0.183	22.170	25.400	24.260
5						
6						
7						
8						
9	32.833	1.007	1.807	32.700	31.900	33.900
10	20.755	0.176	-0.399	20.800	20.904	20.561
11						
12	21.367	0.493	-0.287	21.600	20.800	21.700
13	26.933	0.379	0.729	26.500	27.200	27.100
14	16.173	1.117	-1.236	17.173	16.378	14.968
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-30-Norhopane

Sample: 2779

Mean ± U(Mean): 19.358 ± 8.423 mg/kg

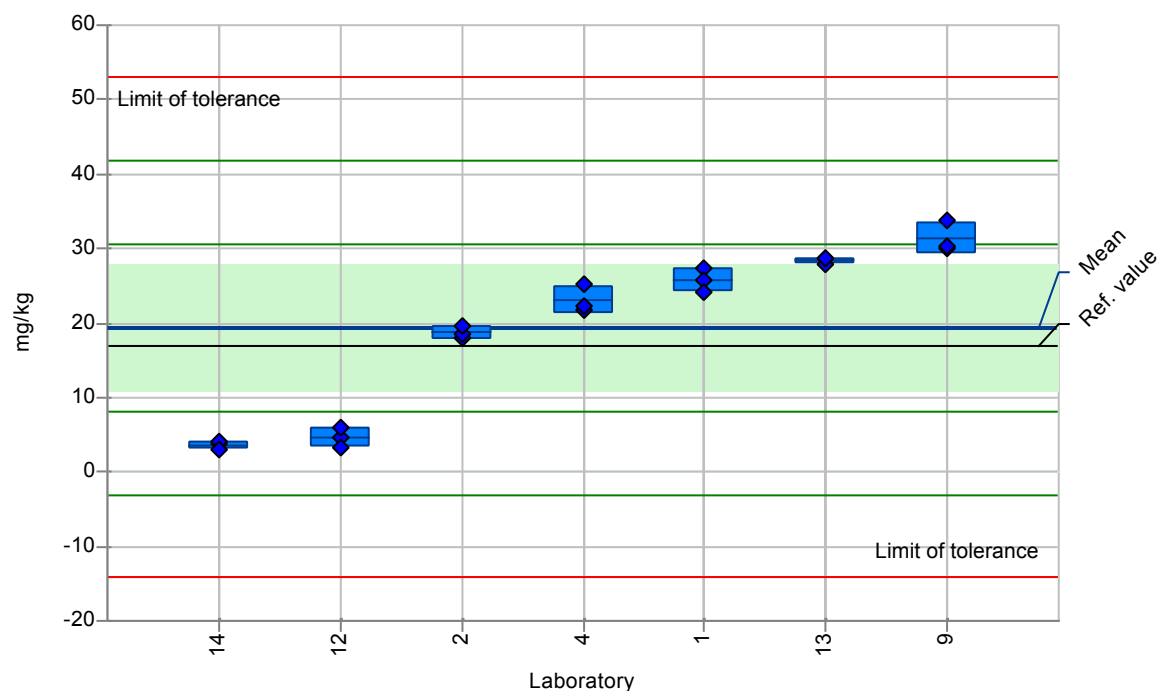
Median: 22.160

Reference value: 17.000 mg/kg

Reproducibility s.d.: 11.200 mg/kg

Repeatability s.d.: 1.385 mg/kg

No. of laboratories: 7



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	25.770	1.513	0.573	27.246	25.843	24.222
2	18.670	0.849	-0.061	17.870	18.580	19.560
3						
4	23.113	1.908	0.335	21.870	25.310	22.160
5						
6						
7						
8						
9	31.367	2.108	1.072	30.100	30.200	33.800
10						
11						
12	4.663	1.321	-1.312	4.710	5.960	3.320
13	28.333	0.462	0.801	27.800	28.600	28.600
14	3.592	0.617	-1.408	3.878	4.014	2.884
15						
16						
17						
18						
19						
20						

Measurand: 17a(H),21β(H)-Hopane

Sample: 2779

Mean ± U(Mean): 51.353 ± 6.170 mg/kg

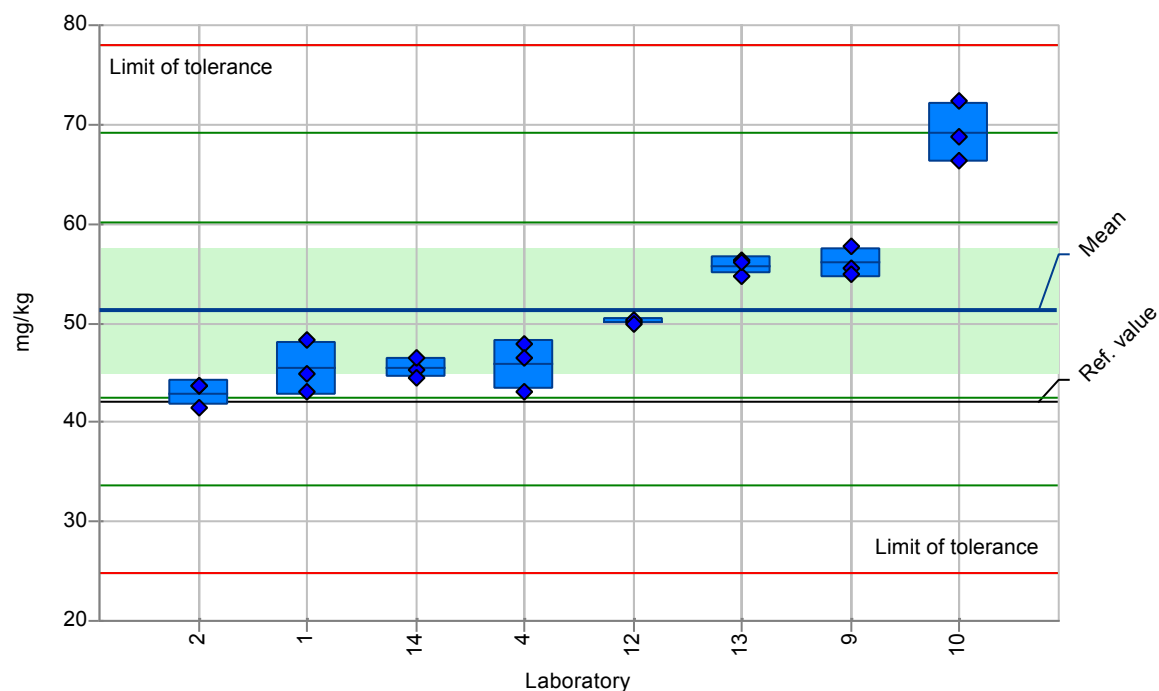
Median: 48.375

Reference value: 42.100 mg/kg

Reproducibility s.d.: 8.860 mg/kg

Repeatability s.d.: 1.877 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	45.393	2.637	-0.673	48.220	44.956	43.001
2	42.973	1.268	-0.946	41.510	43.650	43.760
3						
4	45.820	2.535	-0.625	47.910	46.550	43.000
5						
6						
7						
8						
9	56.100	1.513	0.536	55.600	54.900	57.800
10	69.208	2.980	2.015	72.365	66.444	68.816
11						
12	50.133	0.306	-0.138	50.200	50.400	49.800
13	55.733	0.896	0.494	54.700	56.300	56.200
14	45.466	1.070	-0.664	45.376	46.578	44.445
15						
16						
17						
18						
19						
20						

Measurand: 17a(H)-22,29,30-Trisnorhopane

Sample: 2779

Mean \pm U(Mean): 9.188 \pm 2.016 mg/kg

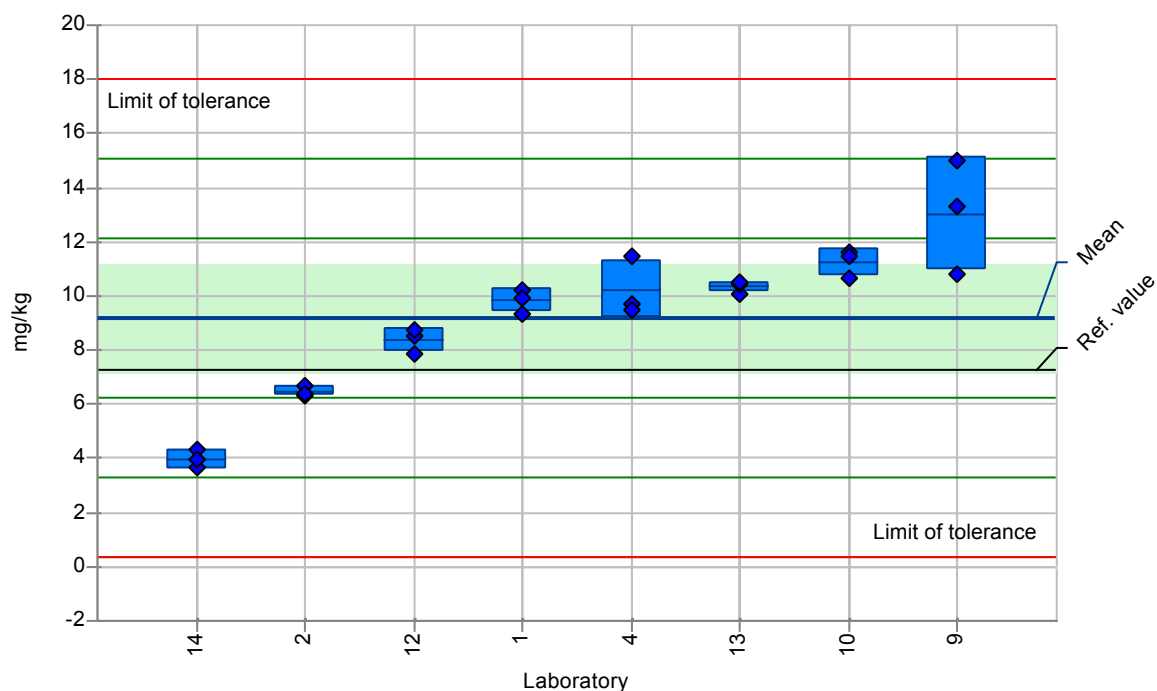
Median: 9.826

Reference value: 7.290 mg/kg

Reproducibility s.d.: 2.945 mg/kg

Repeatability s.d.: 0.902 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1	9.838	0.467	0.221	10.244	9.942	9.328
2	6.480	0.197	-0.920	6.700	6.320	6.420
3						
4	10.230	1.079	0.354	11.470	9.710	9.510
5						
6						
7						
8						
9	13.033	2.113	1.306	10.800	15.000	13.300
10	11.236	0.512	0.695	11.595	10.649	11.463
11						
12	8.373	0.446	-0.277	8.530	8.720	7.870
13	10.333	0.208	0.389	10.100	10.400	10.500
14	3.983	0.354	-1.768	3.659	4.361	3.929
15						
16						
17						
18						
19						
20						

Measurand: 17a(H)-Diahopane

Sample: 2779

Mean \pm U(Mean): 7.895 \pm 2.729 mg/kg

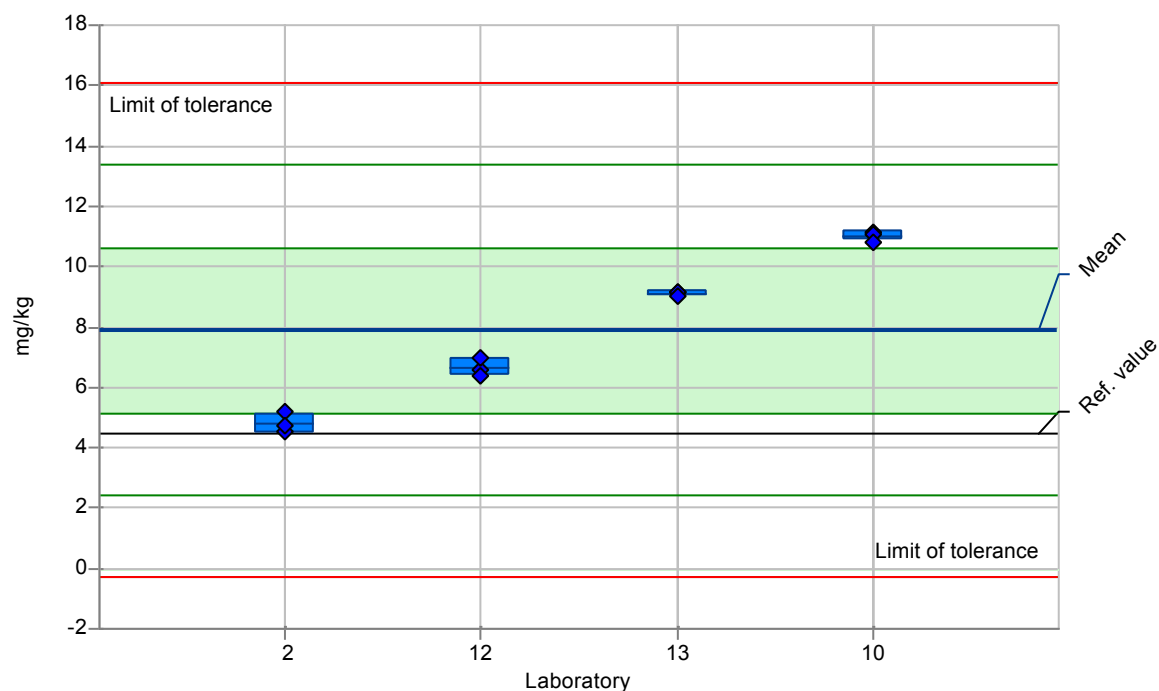
Median: 7.865

Reference value: 4.500 mg/kg

Reproducibility s.d.: 2.736 mg/kg

Repeatability s.d.: 0.241 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	4.800	0.332	-1.131	4.530	5.170	4.700
3						
4						
5						
6						
7						
8						
9						
10	11.015	0.166	1.140	11.162	11.047	10.835
11						
12	6.653	0.294	-0.454	6.570	6.980	6.410
13	9.113	0.090	0.445	9.170	9.160	9.010
14						
15						
16						
17						
18						
19						
20						

Measurand: 18a(H)-22,29,30-Trisnorneohopane

Sample: 2779

Mean \pm U(Mean): 10.043 \pm 2.989 mg/kg

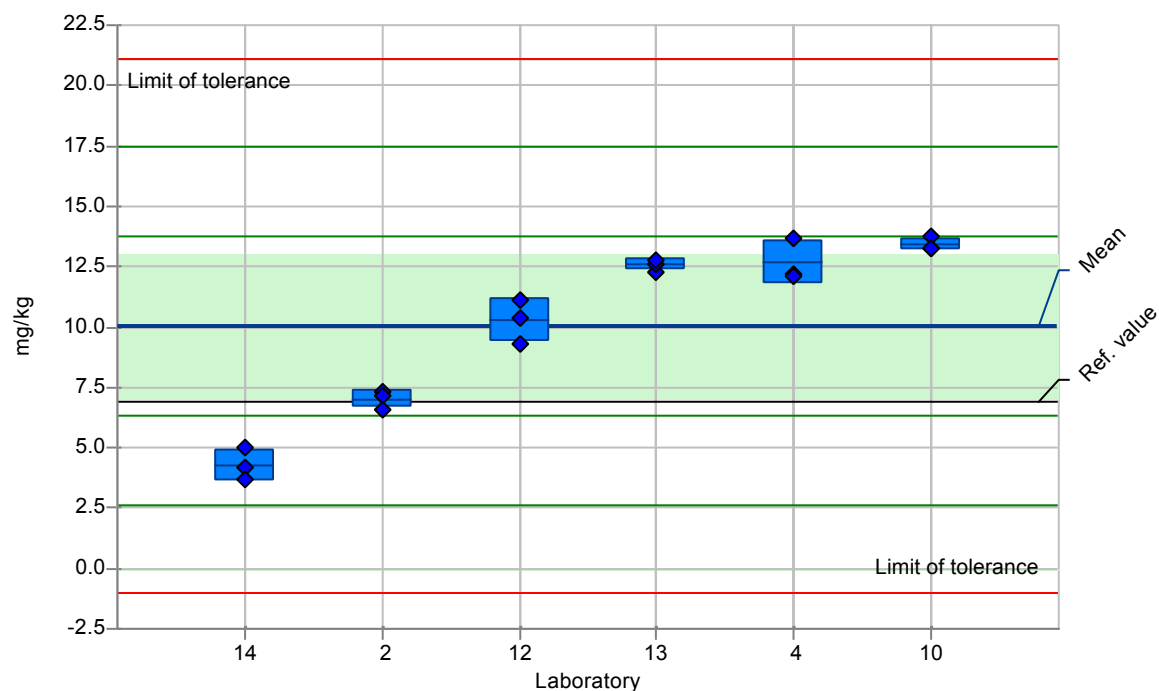
Reproducibility s.d.: 3.695 mg/kg

Median: 11.310

Repeatability s.d.: 0.617 mg/kg

Reference value: 6.900 mg/kg

No. of laboratories: 6



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	7.017	0.376	-0.819	7.300	7.160	6.590
3						
4	12.677	0.879	0.713	13.690	12.220	12.120
5						
6						
7						
8						
9						
10	13.425	0.260	0.915	13.272	13.725	13.277
11						
12	10.277	0.891	0.063	10.400	9.330	11.100
13	12.567	0.252	0.683	12.300	12.600	12.800
14	4.294	0.667	-1.556	4.143	5.024	3.715
15						
16						
17						
18						
19						
20						

Measurand: 18a(H)-30-Norneohopane

Sample: 2779

Mean \pm U(Mean): 10.706 \pm 3.194 mg/kg

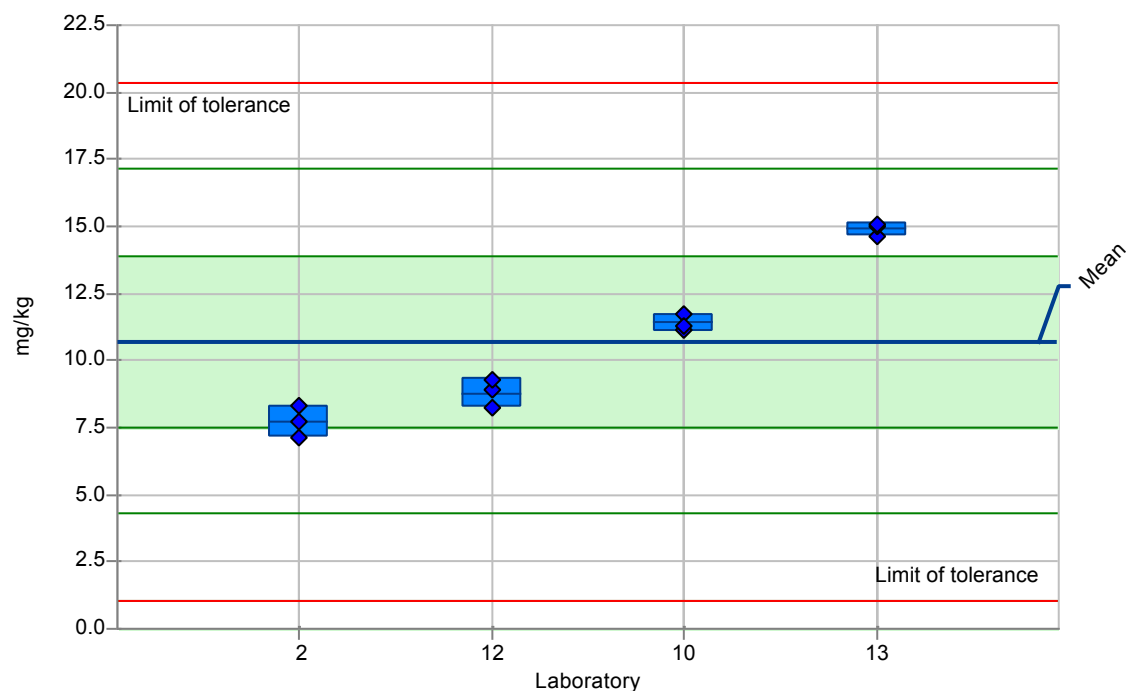
Median: 10.098

Reference value:

Reproducibility s.d.: 3.216 mg/kg

Repeatability s.d.: 0.451 mg/kg

No. of laboratories: 4



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	7.727	0.605	-0.927	8.320	7.750	7.110
3						
4						
5						
6						
7						
8						
9						
10	11.405	0.315	0.217	11.760	11.159	11.296
11						
12	8.793	0.528	-0.595	8.900	9.260	8.220
13	14.900	0.265	1.304	14.600	15.000	15.100
14						
15						
16						
17						
18						
19						
20						

Measurand: C20-triaromatic steroid (pregnane derivative)

Sample: 2779

Mean \pm U(Mean): 13.612 \pm 5.538 mg/kg

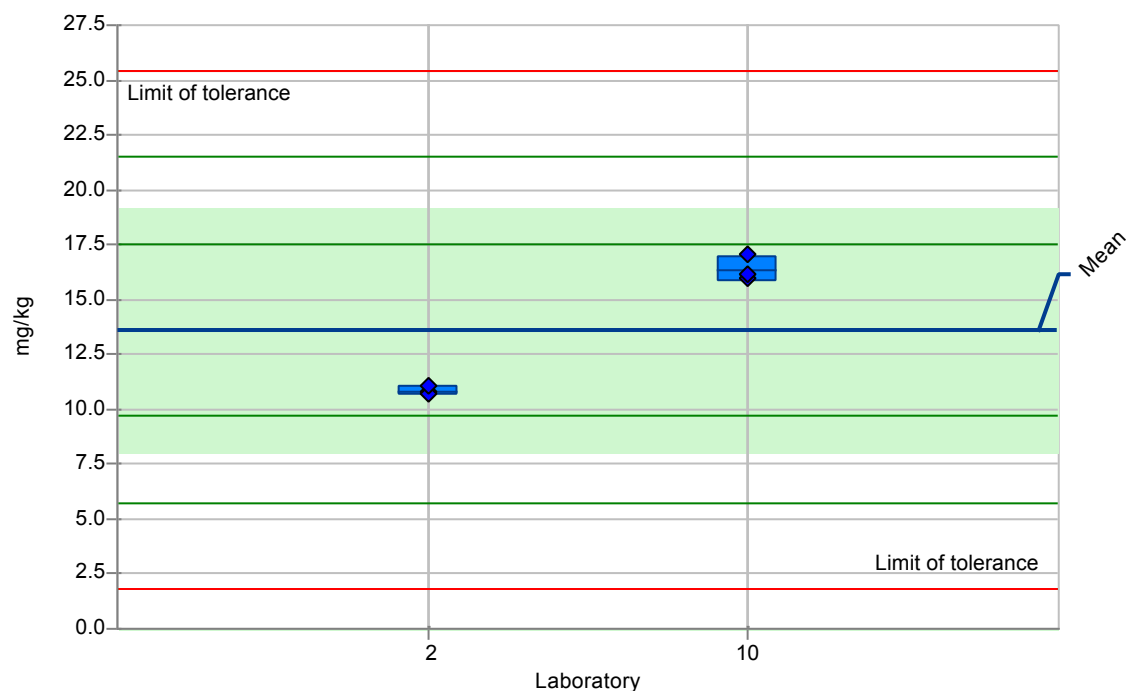
Reproducibility s.d.: 3.931 mg/kg

Median: 13.450

Repeatability s.d.: 0.423 mg/kg

Reference value:

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	10.843	0.193	-0.704	10.780	10.690	11.060
3						
4						
5						
6						
7						
8						
9						
10	16.381	0.567	0.704	17.031	15.992	16.121
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C21-triaromatic steroid (homopregnane)

Sample: 2779

Mean \pm U(Mean): 12.607 \pm 6.048 mg/kg

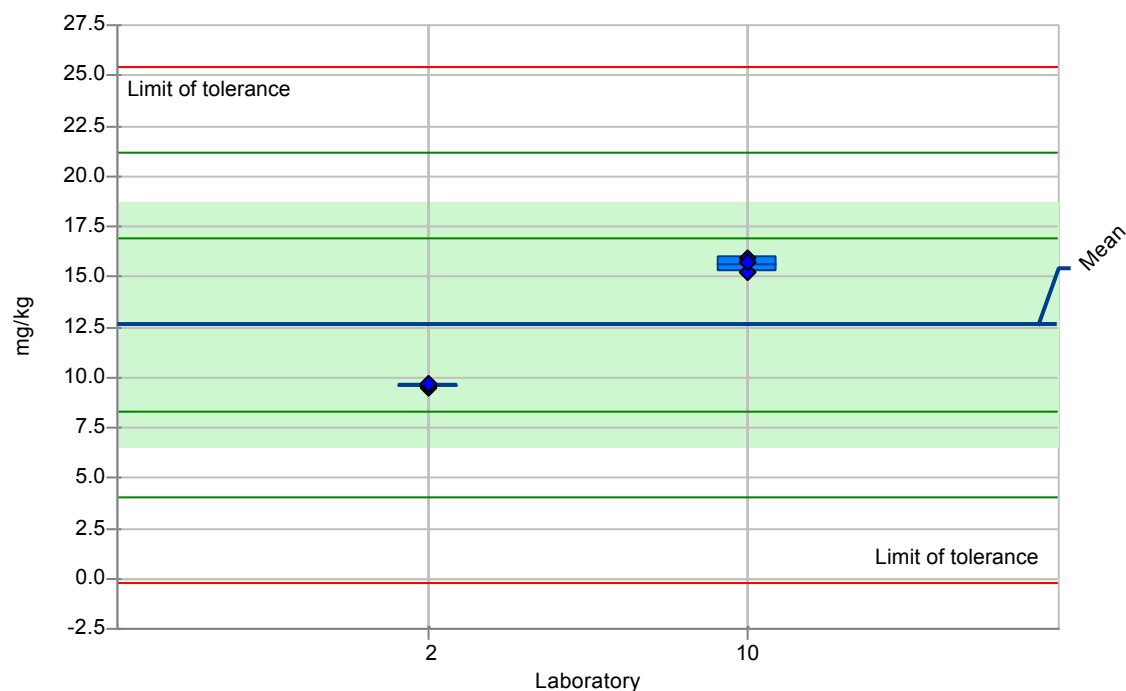
Reproducibility s.d.: 4.282 mg/kg

Median: 12.664

Repeatability s.d.: 0.283 mg/kg

Reference value:

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	9.583	0.130	-0.706	9.450	9.590	9.710
3						
4						
5						
6						
7						
8						
9						
10	15.631	0.378	0.706	15.944	15.211	15.739
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C26-20S-triaromatic steroid (cholestane derivative)

Sample: 2779

Mean \pm U(Mean): 6.418 \pm 3.462 mg/kg

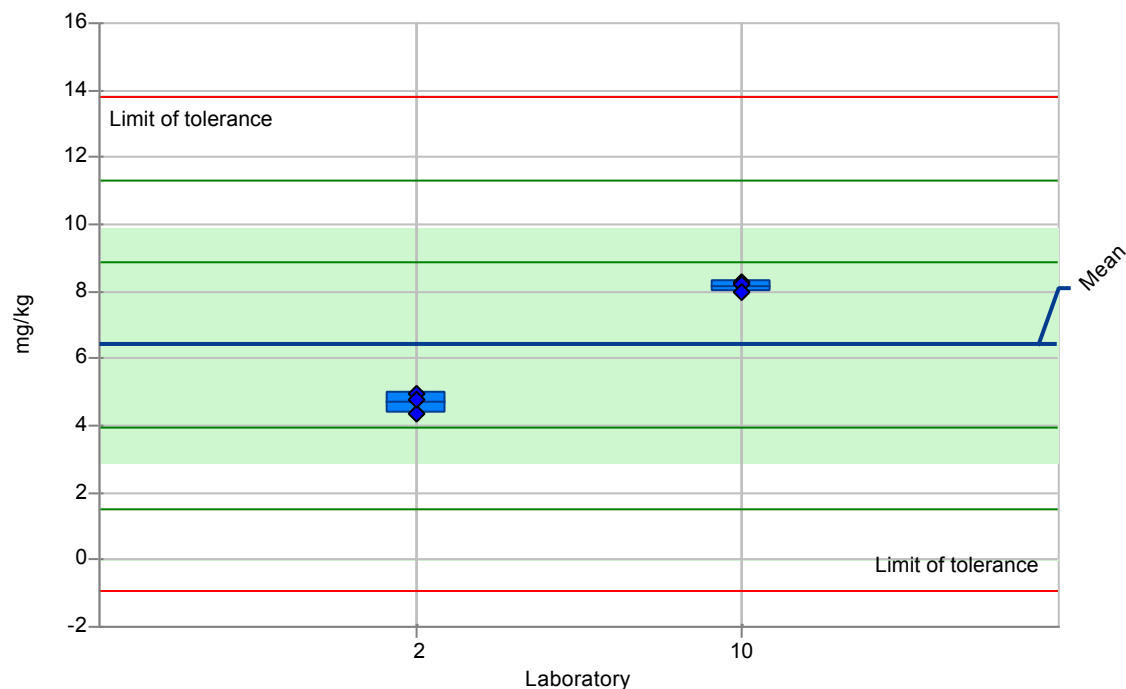
Reproducibility s.d.: 2.456 mg/kg

Median: 6.491

Repeatability s.d.: 0.249 mg/kg

Reference value:

No. of laboratories: 2



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	4.687	0.308	-0.705	4.340	4.930	4.790
3						
4						
5						
6						
7						
8						
9						
10	8.149	0.170	0.705	8.292	8.192	7.961
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C27-20R-triaromatic steroid (methylcholestane derivative)

Sample: 2779

Mean \pm U(Mean): 29.616 \pm 34.972 mg/kg

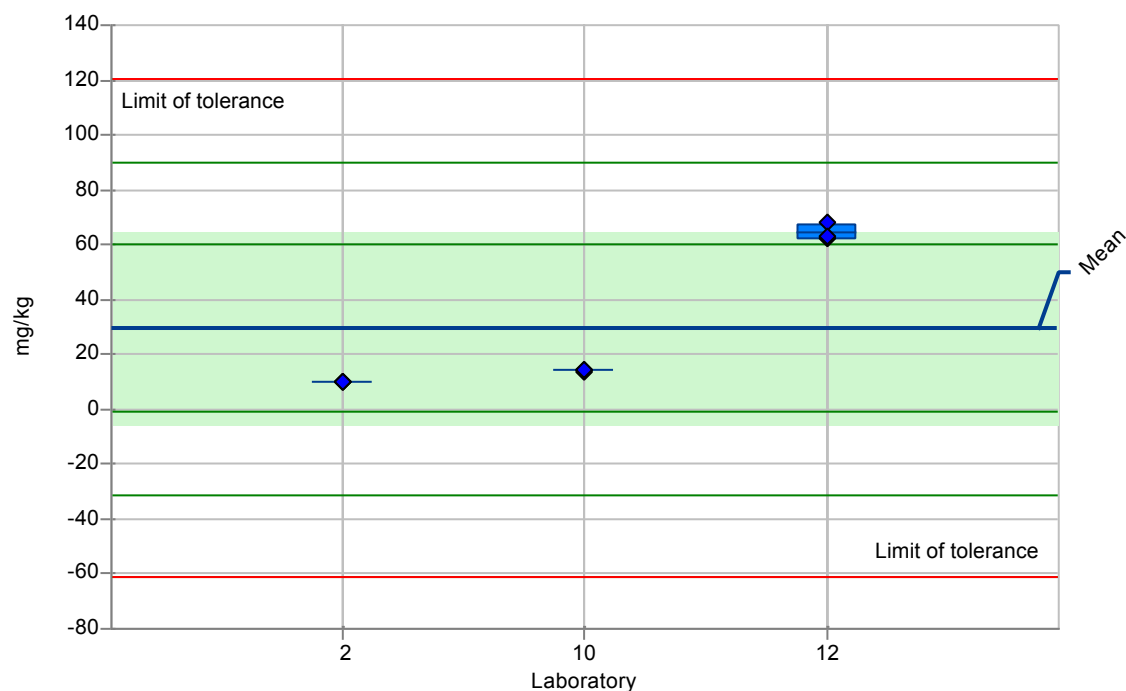
Reproducibility s.d.: 30.317 mg/kg

Median: 14.532

Repeatability s.d.: 1.673 mg/kg

Reference value:

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	10.033	0.136	-0.646	9.890	10.050	10.160
3						
4						
5						
6						
7						
8						
9						
10	14.314	0.387	-0.505	14.543	13.867	14.532
11						
12	64.500	2.869	1.151	62.600	67.800	63.100
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C28-20R-triaromatic steroid (ethylcholestane derivative)

Sample: 2779

Mean \pm U(Mean): 30.139 \pm 34.082 mg/kg

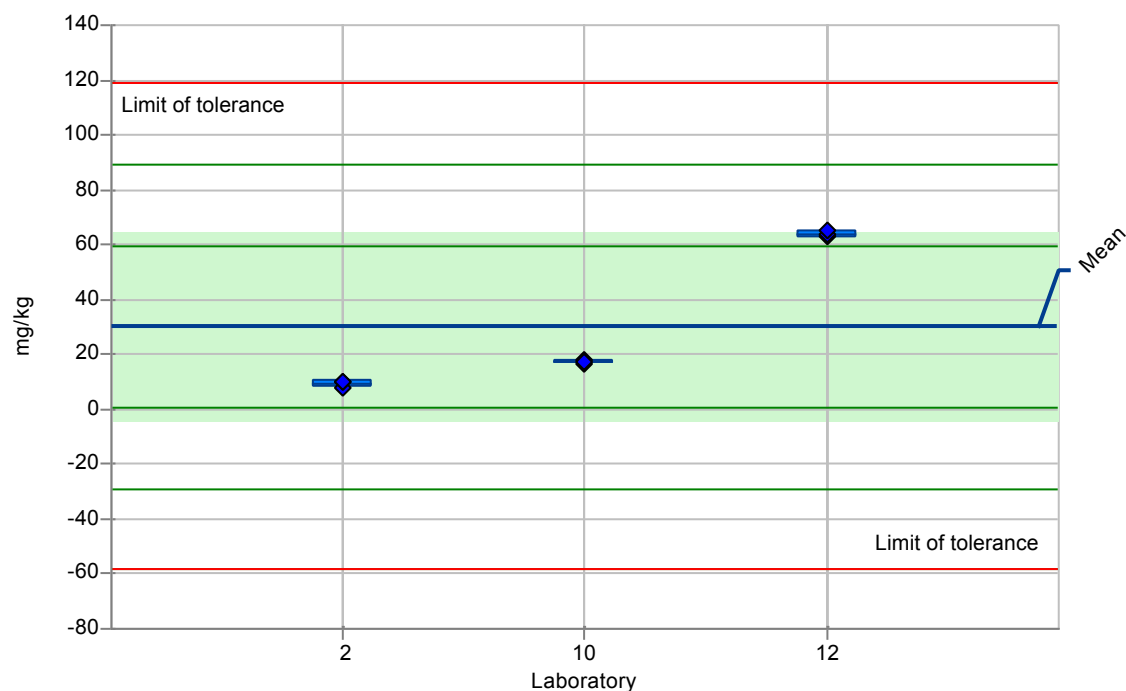
Reproducibility s.d.: 29.530 mg/kg

Median: 17.598

Repeatability s.d.: 1.136 mg/kg

Reference value:

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	9.217	1.282	-0.709	7.740	10.050	9.860
3						
4						
5						
6						
7						
8						
9						
10	17.301	0.713	-0.435	17.817	16.487	17.598
11						
12	63.900	1.311	1.143	62.700	63.700	65.300
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: C28-20S-triaromatic steroid (ethylcholestane derivative)

Sample: 2779

Mean \pm U(Mean): 39.281 \pm 43.606 mg/kg

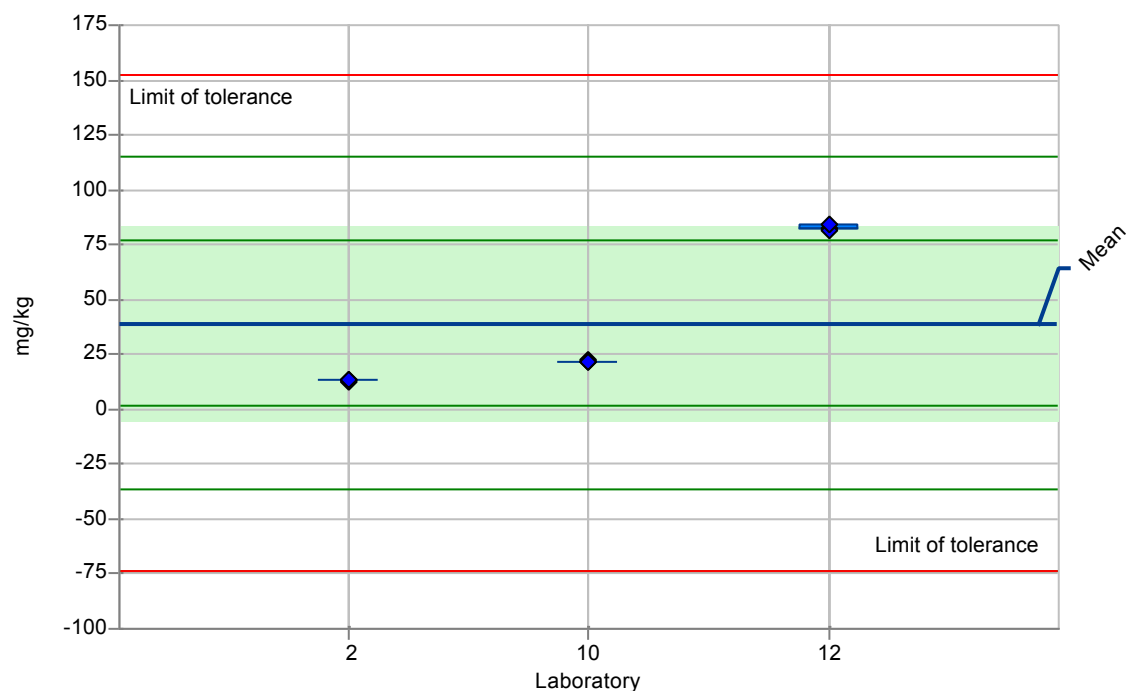
Reproducibility s.d.: 37.771 mg/kg

Median: 21.822

Repeatability s.d.: 0.922 mg/kg

Reference value:

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	13.300	0.372	-0.688	13.690	12.950	13.260
3						
4						
5						
6						
7						
8						
9						
10	21.943	0.403	-0.459	22.392	21.615	21.822
11						
12	82.600	1.500	1.147	82.600	81.100	84.100
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: Carbazole

Sample: 2779

Mean \pm U(Mean): 5.640 \pm 2.504 mg/kg

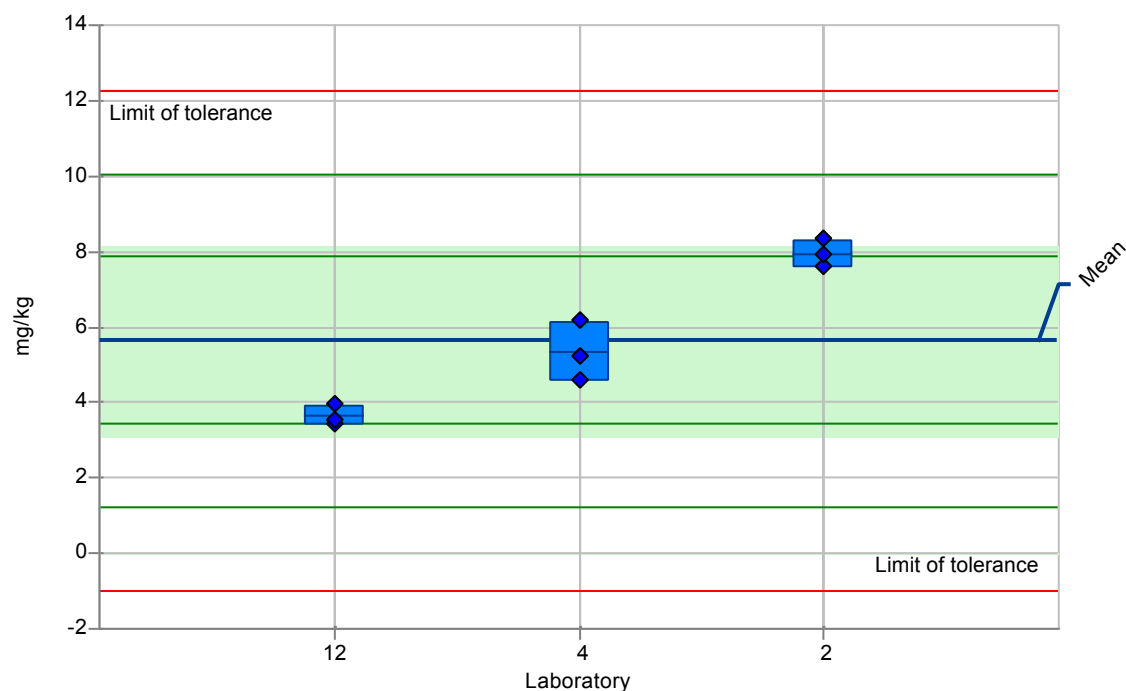
Median: 5.230

Reference value:

Reproducibility s.d.: 2.210 mg/kg

Repeatability s.d.: 0.526 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	7.947	0.371	1.044	7.590	7.920	8.330
3						
4	5.330	0.785	-0.140	5.230	6.160	4.600
5						
6						
7						
8						
9						
10						
11						
12	3.643	0.275	-0.903	3.420	3.560	3.950
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: norpristane

Sample: 2779

Mean \pm U(Mean): 1403.182 \pm 340.876 mg/kg

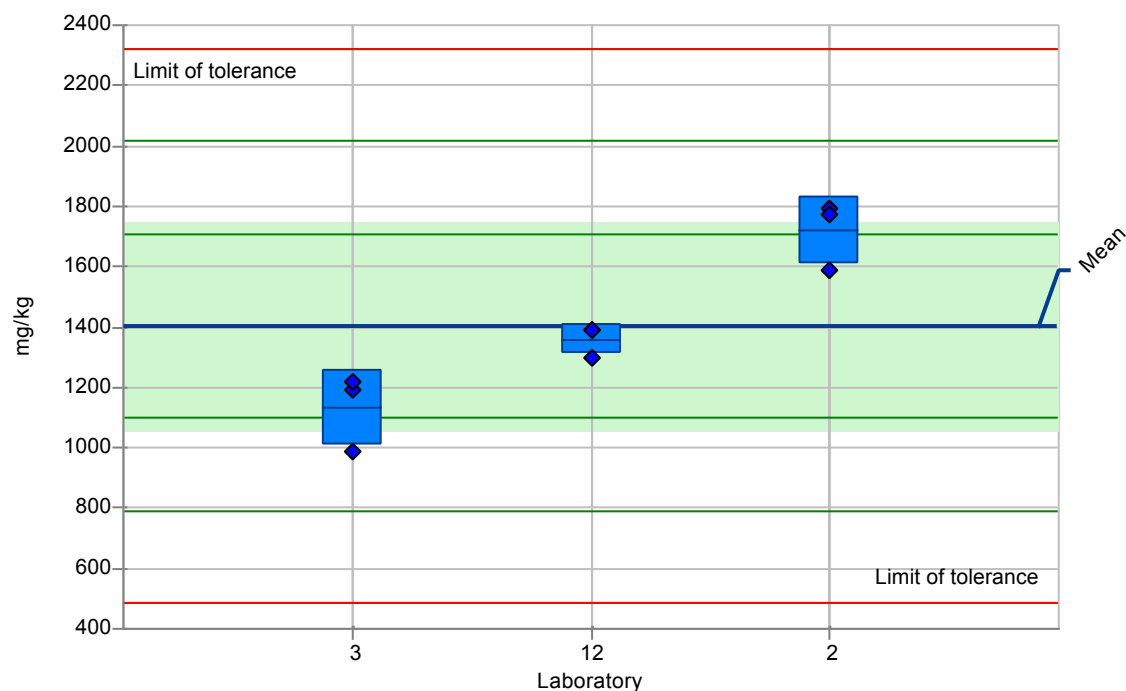
Median: 1390.000

Reference value:

Reproducibility s.d.: 306.490 mg/kg

Repeatability s.d.: 100.910 mg/kg

No. of laboratories: 3



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1717.603	111.72	1.026	1589.340	1793.690	1769.780
3	1131.941	123.96	-0.885	989.610	1189.926	1216.288
4						
5						
6						
7						
8						
9						
10						
11						
12	1360.000	51.962	-0.141	1390.000	1300.000	1390.000
13						
14						
15						
16						
17						
18						
19						
20						

Measurand: Phytane

Sample: 2779

Mean \pm U(Mean): 1325.447 \pm 244.521 mg/kg

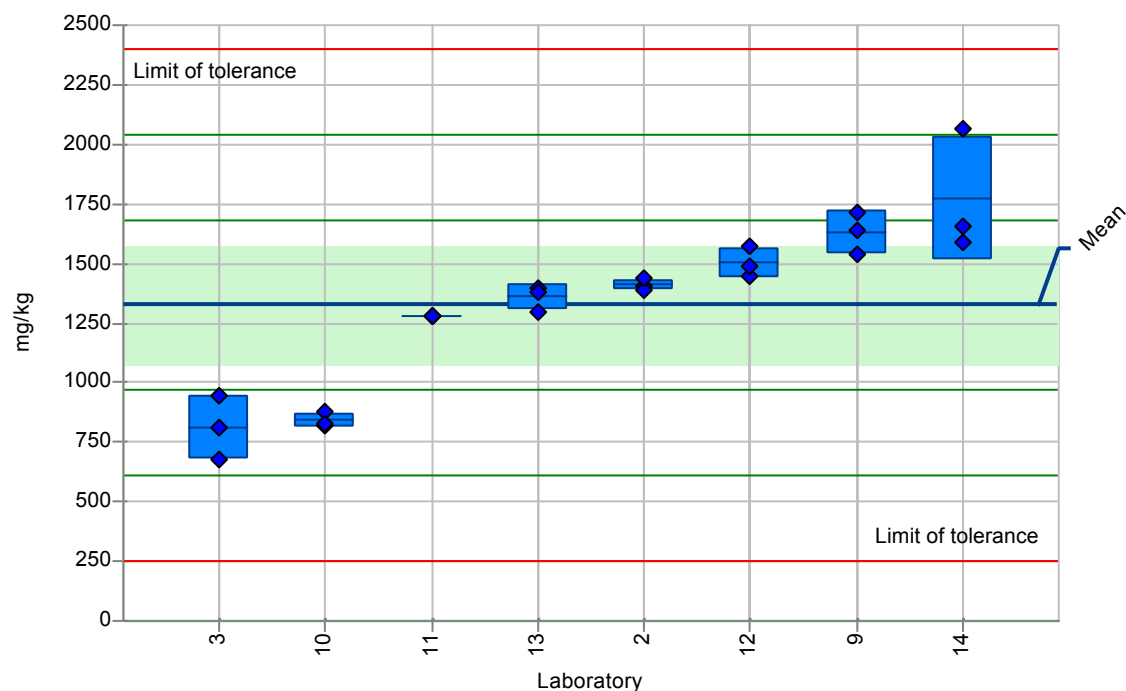
Median: 1392.135

Reference value:

Reproducibility s.d.: 357.720 mg/kg

Repeatability s.d.: 112.130 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	1409.097	23.987	0.234	1404.270	1387.890	1435.130
3	807.942	134.49	-1.447	673.446	807.949	942.432
4						
5						
6						
7						
8						
9	1630.690	88.865	0.853	1713.570	1536.855	1641.645
10	840.724	29.931	-1.355	875.250	822.107	824.815
11	1280.000	0.000	-0.127	1280.000	1280.000	1280.000
12	1503.333	61.101	0.497	1570.000	1450.000	1490.000
13	1360.000	52.915	0.097	1300.000	1400.000	1380.000
14	1771.792	258.05	1.248	1592.192	1655.680	2067.506
15						
16						
17						
18						
19						
20						

Measurand: Pristane

Sample: 2779

Mean \pm U(Mean): 2244.810 \pm 437.087 mg/kg

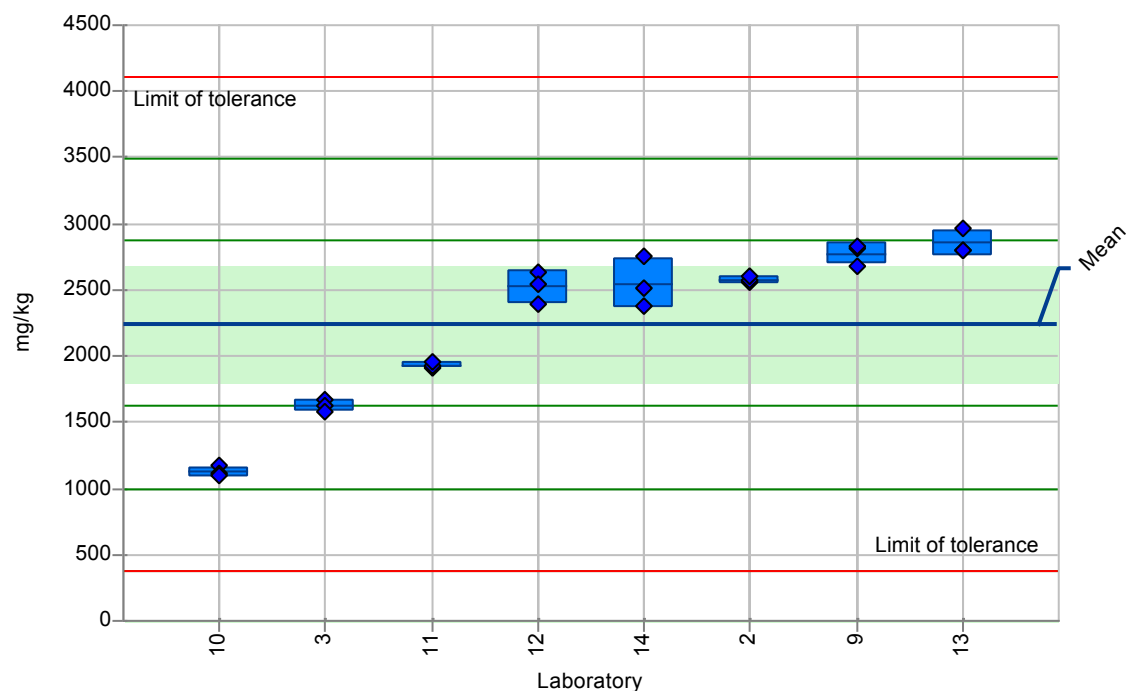
Median: 2533.356

Reference value:

Reproducibility s.d.: 623.080 mg/kg

Repeatability s.d.: 95.960 mg/kg

No. of laboratories: 8



Lab code	Lab mean	s.d.	Z-Score	MV 1	MV 2	MV 3
1						
2	2576.753	29.856	0.533	2552.450	2567.730	2610.080
3	1620.641	47.613	-1.002	1669.100	1618.902	1573.922
4						
5						
6						
7						
8						
9	2774.575	82.394	0.850	2679.492	2819.231	2825.001
10	1126.667	37.859	-1.795	1170.000	1110.000	1100.000
11	1930.000	20.000	-0.505	1910.000	1930.000	1950.000
12	2526.667	126.62	0.452	2640.000	2390.000	2550.000
13	2856.667	98.150	0.982	2800.000	2970.000	2800.000
14	2546.513	190.30	0.484	2516.712	2372.863	2749.963
15						
16						
17						
18						
19						
20						

Appendix D: Additional Analytes Reported

Title	page
Additional analytes reported by lab 1	D2
Additional analytes reported by lab 2.	D3
Additional analytes reported by lab 4, lab 5, lab 7, and lab 9	D4
Additional analytes reported by lab 10.	D5
Additional analytes reported by lab 12	D6
Additional analytes reported by lab 13.	D7

Additional analytes reported by lab 1.

Lab number	1												
	SRM 2779					Candidate SRM 2777							
Analyte	1	2	3	avg	stdev	1	2	3	avg	stdev	IS	Surrogate	
n-heptadecane + pristane	3160	3010	2880	3017	140	7.33	7.10	7.05	7.16	0.149	o-terphenyl		
n-octadecane + phytane	2460	2320	2220	2333	121	10.3	10.1	9.90	10.1	0.200	o-terphenyl		
1,2-dimethylnaphthalene	186	175	169	177	9.04	<0.20	<0.20	<0.20			o-terphenyl		
1,6-dimethylnaphthalene	828	777	750	785	39.9	<0.20	<0.20	<0.20			o-terphenyl		
1-methylfluorene	247	233	224	235	11.9	0.820	0.820	0.800	0.813	0.0115	o-terphenyl		
1-methylpyrene	14.4	13.4	12.9	13.6	0.772	0.260	0.260	0.260	0.260	0.000	o-terphenyl		
2,3,5-trimethylnaphthalene	218	207	197	207	10.4	<0.20	<0.20	<0.20			o-terphenyl		
3,6-dimethylphenanthrene	70.9	66.8	64.0	67	3.45	3.33	3.34	3.29	3.32	0.0265	o-terphenyl		
4,6-dimethyldibenzothiophene	69.2	64.8	62.8	66	3.28	3.07	3.09	3.05	3.07	0.0200	o-terphenyl		
6-ethylchrysene	1.25	1.27	0.995	1.17	0.154	<0.20	<0.20	<0.20			o-terphenyl		
6-methylchrysene	14.7	13.9	13.2	13.9	0.74	0.710	0.680	0.670	0.687	0.0208	o-terphenyl		
9-ethyl-10-methylphenanthrene	32.6	29.8	28.8	30.4	1.97	1.78	1.78	1.73	1.76	0.0289	o-terphenyl		
24-methyl-5 α (H),14 β (H),17 β (H)-20R-cholestane	35.3	31.9	33.4	33.5	1.70	3.99	4.15	4.42	4.19	0.217	o-terphenyl		

Additional analytes reported by lab 2.

Lab number	2											
	SRM 2779					Candidate SRM 2777						
Analyte	1	2	3	avg	stdev	1	2	3	avg	stdev	IS	Surrogate
cis-Decalin	33.1	33.1	32.8	33.0	0.169	0	0	0			Fluorene-d10	
trans-Decalin	654	632	654	646	12.7	0	0	0			Fluorene-d10	
1-Methyldibenzothiophene	25.3	25.3	26.4	25.6	0.618	0.590	0.600	0.590	0.593	0.00577	Fluorene-d10	
2/3-Methyldibenzothiophene	43.0	42.9	45.2	43.7	1.26	0.530	0.510	0.550	0.530	0.0200	Fluorene-d10	
4-Methyldibenzothiophene	81.3	82.4	84.2	82.6	1.44	1.28	1.29	1.26	1.28	0.0153	Fluorene-d10	
C ₂₆ ,C ₂₇ -TAS	14.8	16.4	17.1	16.1	1.21	1.53	1.42	1.35	1.43	0.0907	Chrysene-d12	
13β(H),17α(H)-20R-Diacholestane	22.9	24.1	23.7	23.5	0.638	4.25	4.28	4.13	4.22	0.0794	Chrysene-d12	
13β(H),17α(H)-20S-Methyldiacholestane	15.6	17.5	18.0	17.0	1.28	3.61	3.15	3.50	3.42	0.240	Chrysene-d12	
14α(H),17α(H)-20S-methylcholestane	19.8	18.5	20.7	19.7	1.14	3.62	3.76	3.24	3.54	0.269	Chrysene-d12	
14β(H),17β(H)-20R-Methylcholestane	20.9	22.7	19.5	21.0	1.58	3.90	4.01	3.16	3.69	0.462	Chrysene-d12	
14β(H),17β(H)-20S-Methylcholestane	19.3	20.3	19.6	19.7	0.533	3.21	3.35	2.88	3.15	0.241	Chrysene-d12	
14α(H),17α(H)-20R-methylcholestane	16.1	15.6	17.1	16.2	0.728	2.24	3.22	2.18	2.55	0.584	Chrysene-d12	
C ₂₃ Tricyclic Terpane	5.38	5.04	4.77	5.06	0.306	1.09	1.07	1.14	1.10	0.0361	Chrysene-d12	
C ₂₄ Tricyclic Terpane	5.16	5.37	4.88	5.14	0.246	0.860	0.870	0.810	0.847	0.0321	Chrysene-d12	
C ₂₅ Tricyclic Terpane	4.77	5.08	2.21	4.02	1.58	0	0	0			Chrysene-d12	
C ₂₄ Tetracyclic Terpane	1.84	2.43	1.31	1.86	0.560	0	0	0			Chrysene-d12	
C ₂₆ Tricyclic Terpane-22S	1.75	1.7	2.19	1.88	0.270	0	0	0			Chrysene-d12	
C ₂₆ Tricyclic Terpane-22R	2.58	3.12	3.80	3.17	0.611	0	0	0			Chrysene-d12	
C ₂₈ Tricyclic Terpane-22S	1.39	1.80	2.05	1.75	0.333	0	0	0			Chrysene-d12	
C ₂₈ Tricyclic Terpane-22R	1.86	2.48	2.52	2.29	0.370	0	0	0			Chrysene-d12	
C ₂₉ Tricyclic Terpane-22S	2.08	2.57	3.24	2.63	0.582	0	0	0			Chrysene-d12	
C ₂₉ Tricyclic Terpane-22R	2.39	2.79	2.89	2.69	0.265	0	0	0			Chrysene-d12	
17α(H),21β(H)-28,30-Bisnorhopane	1.79	1.50	1.92	1.74	0.215	0	0	0			Chrysene-d12	
17α(H),21β(H)-25-Norhopane	0	0	0			0	0	0			Chrysene-d12	
30-Normoretane	0	0	0			0	0	0			Chrysene-d12	
18α(H) & 18β(H)-Oleananes	0	0	0			0	0	0			Chrysene-d12	
17β(H),21α(H)-hopane (moretane)	4.83	4.24	4.36	4.48	0.312	0	0	0			Chrysene-d12	
30,31-Bishomohopane-22S	10.0	11.8	11.5	11.1	0.963	2.50	2.29	2.03	2.27	0.235	Chrysene-d12	
30,31-Bishomohopane-22R	7.39	7.41	8.58	7.79	0.681	1.94	0	0	0.647	1.12	Chrysene-d12	
30,31-Bishomomoretane-22R	0	0	0			0	0	0			Chrysene-d12	
17β(H),21β(H)-Homohopane -22R	0	0	0			0	0	0			Chrysene-d12	
30,31,32-Trishomohopane-22S	9.23	9.76	9.67	9.55	0.284	0	0	0			Chrysene-d12	
30,31,32-Trishomohopane-22R	7.65	7.75	6.79	7.40	0.528	0	0	0			Chrysene-d12	
30,31,32,33-Tetrakishomohopane-22S	5.74	5.39	5.30	5.48	0.232	0	0	0			Chrysene-d12	
30,31,32,33-Tetrakishomohopane-22R	3.86	4.22	3.94	4.01	0.189	0	0	0			Chrysene-d12	
30,31,32,33,34-Pentakishomohopane-22S	4.14	4.71	4.74	4.53	0.338	0	0	0			Chrysene-d12	
30,31,32,33,34-Pentakishomohopane-22R	3.5	3.4	3.3	3.4	0.0751	0	0	0			Chrysene-d12	
n-Nonane	9490	9450	10080	9674	353	0	0	0			5α-androstane	
Isoprenoid RRT 1380	1144	1152	1231	1176	48.2	0	0	0			5α-androstane	
Isoprenoid RRT 1470	1982	2048	2092	2041	55.2	0	0	0			5α-androstane	
TPH(C8-C40)	571522	593262	627133	597305	28025	39813	31122	29491	33475	5549	5α-androstane	

Additional analytes reported by lab 4.

Lab number 4												
Analyte	SRM 2779					Candidate SRM 2777					IS	Surrogate
	1	2	3	avg	stdev	1	2	3	avg	stdev		
1,2-dimethylnaphthalene	215	121	183	173	47.8							
1,6-dimethylnaphthalene	929	1185	1183	1099	147							
5 α (H),14 β (H),17 β (H)-24-Methylcholestane 20R	20.5	22.9	21.0	21.4	1.24	1.80	1.92	2.39	2.04	0.312		
5 α (H),14 β (H),17 β (H)-24-Methylcholestane 20S	17.2	17.5	18.1	17.6	0.442	1.39	1.39	1.77	1.52	0.219		5 α (H),14 β (H),17 β (H)-24-Methylcholestane 20R

Additional analytes reported by lab 5.

Lab number 5												
	SRM 2779					Candidate SRM 2777						
Analyte	1	2	3	avg	stdev	1	2	3	avg	stdev	IS	Surrogate
dibenz[a,h]anthracene + dibenz[a,c]anthracene	2.02	2.16	2.10	2.09	0.0702	0.0378	0.0379	0.0378	0.0378	0.0000577	d12-benzo[a]pyrene	dibenz[a,h]anthracene
benzo[j]fluoranthene + benzo[k]fluoranthene	1.27	1.42	1.57	1.42	0.150	0.0909	0.0930	0.0979	0.0939	0.00359	d10-acenaphthene	benzo[k]fluoranthene
1,7-dimethylphenanthrene	105	102	104	104	1.53	3.62	3.52	3.67	3.60	0.0764	d10-acenaphthene	1-methylphenanthrene

Additional analytes reported by lab 7.

Lab number 7												
Analyte	SRM 2779					Candidate SRM 2777					IS	Surrogate
	1	2	3	avg	stdev	1	2	3	avg	stdev		
1,3-dimethylnaphthalene	1260	1025	1136	1140	118	0.600	0.800	0.700	0.700	0.100	chrysene-d12	
1,5-dimethylnaphthalene	435	352	391	393	41.5	0.600	0.600	0.600	0.600	0.000	chrysene-d12	
2,3,5-trimethylnaphthalene	302	242	274	273	30.0	0.800	0.700	0.800	0.767	0.0577	chrysene-d12	
1-methylfluorene	261	203	234	233	29.0	1.50	1.30	1.30	1.37	0.115	chrysene-d12	

Additional analytes reported by lab 9.

Lab number 9												
Analyte	SRM 2779					Candidate SRM 2777					IS	Surrogate
	1	2	3	avg	stdev	1	2	3	avg	stdev		
2,3,5-trimethylnaphthalene	383	376	369	376	7.00	1.87	1.52	1.30	1.56	0.287		
1,7-dimethylphenanthrene	88.6	91.2	90.7	90.2	1.38	43.0	43.7	40.5	42.4	1.69		
4-methyldibenzothiophene	100	99.4	97.9	99.1	1.08	17.0	13.5	11.1	13.9	2.97		
4,6-dimethyldibenzothiophene	56.9	56.8	56.6	56.8	0.153	31.9	25.0	19.8	25.6	6.07		
1 & 3-methylfluoranthrene	35.6	35.9	36.2	35.9	0.300	18.7	18.2	17.7	18.2	0.500		
1-methylpyrene	19.8	20.1	19.3	19.7	0.404	9.13	8.73	8.08	8.65	0.530		
4-methylpyrene	8.98	9.17	8.93	9.03	0.127	1.88	1.81	1.78	1.82	0.0513		
3-methylchrysene	67.2	39.7	67.9	58.3	16.1	97.1	103	104	101	3.73		
6-methylchrysene	15.4	16.4	15.4	15.7	0.577	10.6	11.2	11.0	10.9	0.306		
$\alpha\beta\beta$ 20R 24S-methylcholestane	21.7	20.4	22.7	21.6	1.15	45.1	46.4	49.9	47.1	2.48		

Additional analytes reported by lab 10.

Lab number	10											
	SRM 2779					Candidate SRM 2777						
Analyte	1	2	3	avg	stdev	1	2	3	avg	stdev	IS	Surrogate
2,6-dimethylnaphthalene + 2,7-dimethylnaphthalene	663	716	627	668	44.6	0.321	0.290	0.241	0.284	0.0400	D8-Naphtalene	
1,6,7-trimethylnaphthalene+1,27-trimethylnaphthalene+1,2,6-trimethylnaphthalene	259	291	249	266	22.1	2.31	2.10	2.13	2.18	0.114	D8-Naphtalene	
5 α (H),14 α (H),17 α (H)-Cholestane 20S + C28 5 α (H),13 β (H)- 20S diasterane	47.2	58.1	51.5	52.3	5.53	23.0	23.1	21.6	22.6	0.817	D4-Cholestane	
C ₂₆ -20R-triaromatic steroid + C ₂₇ -20S-triaromatic steroid	29.5	32.3	30.7	30.8	1.42	27.2	26.2	25.7	26.4	0.783	1,1'-Binaphthyl	

Additional analytes reported by lab 12.

Lab number	12											
	SRM 2779					Candidate SRM 2777					IS	Surrogate
Analyte	1	2	3	avg	stdev	1	2	3	avg	stdev		
dibenz[a,h]anthracene + dibenz[a,c]anthracene	1.47	1.42	1.29	1.39	0.0929	1.47	1.42	1.29	1.39	0.0929	Chrysene-d12	
Total Petroleum Hydrocarbons (C ₉ -C ₄₄)	594000	573000	590000	585667	11150	18600	20400	38100	25700	10776	5- α -Androstane	
2,6,10-Trimethyldodecane	1160	1100	1130	1130	30.0	<198	<191	<190			5- α -Androstane	
2,6,10-Trimethyltridecane	2130	1890	2060	2027	123	<198	<191	<190			5- α -Androstane	
benzo[j+k]fluoranthene	<2.96	<2.97	<2.9			<2.98	<2.86	<2.85			Chrysene-d12	
C ₂₃ Tricyclic Terpane	8.03	7.54	7.08	7.55	0.475	1.21	1.50	2.21	1.64	0.514	Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₄ Tricyclic Terpane	5.14	5.36	4.66	5.05	0.358	1.29	0.971	1.40	1.22	0.223	Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₅ Tricyclic Terpane	8.24	7.44	7.84	7.84	0.400	1.85	<2.86	<2.85	1.85		Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₄ Tetracyclic Terpane	2.61	3.10	2.95	2.89	0.251	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₆ Tricyclic Terpane-22S	4.94	4.41	4.37	4.57	0.318	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₆ Tricyclic Terpane-22R	3.49	3.30	3.28	3.36	0.116	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₈ Tricyclic Terpane-22S	2.64	<2.97	2.86	2.75	0.156	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₈ Tricyclic Terpane-22R	3.58	4.97	3.76	4.10	0.756	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₉ Tricyclic Terpane-22S	4.90	4.92	3.98	4.60	0.537	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₂₉ Tricyclic Terpane-22R	4.64	4.63	3.94	4.40	0.401	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₃₀ Tricyclic Terpane-22S	4.85	4.92	4.97	4.91	0.0603	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
C ₃₀ Tricyclic Terpane-22R	3.91	3.69	4.66	4.09	0.509	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
17 α / β ,21 β / α 28,30-Bisnorhopane	4.54	<2.97	4.45	4.50	0.0636	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
17 α (H),21 β (H)-25-Norhopane	1.97	<2.97	2.40	2.19	0.304	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
18 α (H) & 18 β (H)-Oleananes	<2.96	<2.97	<2.9			<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
Moretane	6.31	5.23	6.65	6.06	0.741	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
Gammacerane/C ₃₂ -Diahopane	<2.96	2.73	2.68	2.71	0.0354	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
30,31-Bishomohopane-22S	13.3	14.9	13.8	14.0	0.819	<2.98	<2.86	4.46	4.46		Chrysene-d12	17 α (H),21 β (H)-Hopane
30,31-Bishomohopane-22R	11.1	12.0	10.3	11.1	0.850	<2.98	<2.86	3.68	3.68		Chrysene-d12	17 α (H),21 β (H)-Hopane
30,31-Trishomohopane-22S	15.5	13.4	13.5	14.1	1.18	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
30,31-Trishomohopane-22R	9.83	10.8	10.7	10.4	0.534	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
Tetrakishomohopane-22S	9.53	7.93	10.1	9.19	1.13	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
Tetrakishomohopane-22R	5.85	5.02	<2.9	5.44	0.587	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
Pentakishomohopane-22S	5.77	7.45	5.69	6.30	0.994	<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
Pentakishomohopane-22R	<2.96	<2.97	6.40	6.40		<2.98	<2.86	<2.85			Chrysene-d12	17 α (H),21 β (H)-Hopane
13 β (H),17 α (H)-20R-Diacholestane	28.1	27.7	26.4	27.4	0.889	5.26	4.65	12.7	7.54	4.48	Chrysene-d12	5 β (H)Cholane
13 β ,17 α -20S-Methyldiacholestane	22.8	23.8	23.0	23.2	0.529	3.84	4.31	7.36	5.17	1.91	Chrysene-d12	5 β (H)Cholane
Unknown Sterane	12.7	12.0	12.4	12.4	0.351	2.51	1.82	16.5	6.94	8.28	Chrysene-d12	5 β (H)Cholane
13 α ,17 β -20S-Ethyldiacholestane	1.75	2.72	1.72	2.1	0.569	<2.98	1.10	3.14	2.12	1.44	Chrysene-d12	5 β (H)Cholane
14 α ,17 α -20S-Methylcholestane	24.5	24.2	23.8	24.2	0.351	4.07	4.82	1.16	3.35	1.93	Chrysene-d12	5b(H)Cholane
14 α ,17 α -20R-Methylcholestane	22.5	21.9	22.7	22.4	0.416	4.14	3.85	5.88	4.62	1.10	Chrysene-d12	5 β (H)Cholane
14 β ,17 β -20R-Methylcholestane	28.9	28.1	29.6	28.9	0.751	4.96	4.84	5.81	5.20	0.529	Chrysene-d12	5 β (H)Cholane
14 β ,17 β -20S-Methylcholestane	40.5	39.6	36.7	38.9	1.99	6.46	6.37	6.15	6.33	0.159	Chrysene-d12	5 β (H)Cholane
C ₂₆ ,20R-+C ₂₇ , 20S-triaromatic steroid	110	111	107	109	2.08	9.15	8.52	13.9	10.5	2.94	Chrysene-d12	5 β (H)Cholane

Additional analytes reported by lab 13.

Lab number	13											
	SRM 2779					Candidate SRM 2777						
Analyte	1	2	3	avg	stdev	1	2	3	avg	stdev	IS	Surrogate
n-octane	10800	10800	11400	1100 0	346	<0.42	<0.42	<0.42				
n-nonane	10300	10200	10100	1020 0	100	<0.42	<0.42	<0.42				
13β(H),17α(H)-20R-diacholestane (C ₂₇ H ₄₈)	49.9	51.4	53.7	51.7	1.91	7.35	7.32	7.23	7.30	0.0624		
13α(H),17β(H)-20S-diacholestane (C ₂₇ H ₄₈)	27.3	28.6	28.2	28.0	0.666	4.08	4.06	4.00	4.05	0.0416		
13α(H),17β(H)-20R-diacholestane (C ₂₇ H ₄₈)	24.9	24.7	25.0	24.9	0.153	3.68	3.66	3.60	3.65	0.0416		
24-methyl-13β(H),17α(H)-20S,24R-diacholestane (C ₂₇ H ₄₈)	34.9	37.7	36.5	36.4	1.40	5.36	5.32	5.32	5.33	0.0231		
24-methyl-13β(H),17α(H)-20S,24S-diacholestane (C ₂₇ H ₄₈)	38.8	41.2	41.3	40.4	1.42	5.64	5.61	5.31	5.52	0.182		
24-ethyl-13β(H),17α(H)-20R,24S-diacholestane + 24-ethyl-13β(H),17α(H)-20R,24R-diacholestane (C ₂₇ H ₄₈)	61.2	61.2	61.3	61.2	0.0577	8.62	8.62	8.62	8.62	0.000		
24-methyl-5α(H),14β(H),17β(H)-20S-cholestane (C ₂₈ H ₅₀)	24.4	24.8	24.8	24.7	0.231	3.69	3.67	3.67	3.68	0.0115		
24-methyl-5α(H),14α(H),17α(H)-20R-cholestane (C ₂₈ H ₅₀)	13.4	13.2	13.4	13.3	0.115	1.93	1.92	1.88	1.91	0.0265		
17α(H),21β(H)-28,30-bisnorhopane (C ₂₈ H ₄₈)	7.24	7.64	7.58	7.49	0.216	0.92	0.91	0.90	0.910	0.0100		
24-ethyl-5α(H),14α(H),17α(H)-20R-cholestane (C ₂₉ H ₅₂)	20.2	20.6	20.5	20.4	0.208	2.56	2.55	2.53	2.55	0.0153		
17β(H),21α(H)-30-norhopane (C ₂₉ H ₅₀) normoretane	<5.40	<5.40	<5.40			0.46	0.46	0.46	0.460	0.000		
17β(H),21α(H)-hopane (C ₃₀ H ₅₂) moretane	<5.40	<5.40	<5.40			0.64	0.64	0.67	0.650	0.0173		
17α(H),21β(H)-22S-bishomohopane (C ₃₂ H ₅₆)	18.2	19.0	19.2	18.8	0.529	2.63	2.62	2.61	2.62	0.0100		
17α(H),21β(H)-22R-bishomohopane (C ₃₂ H ₅₆)	13.4	13.8	13.9	13.7	0.265	1.96	1.94	1.94	1.95	0.0115		
17α(H),21β(H)-22S-trishomohopane (C ₃₃ H ₅₈)	14.3	14.8	14.7	14.6	0.265	1.93	1.92	1.93	1.93	0.00577		
17α(H),21β(H)-22R-trishomohopane (C ₃₃ H ₅₈)	8.90	9.17	9.35	9.14	0.226	1.30	1.29	1.30	1.30	0.00577		
17α(H),21β(H)-22S-tetrakishomohopane (C ₃₄ H ₆₀)	8.03	8.34	7.85	8.07	0.248	1.09	1.09	1.10	1.09	0.00577		
17α(H),21β(H)-22R-tetrakishomohopane (C ₃₄ H ₆₀)	4.99	5.06	5.16	5.07	0.0854	0.720	0.720	0.730	0.723	0.00577		
17α(H),21β(H)-22S-pentakishomohopane (C ₃₅ H ₆₂)	6.55	6.71	6.58	6.61	0.0850	0.880	0.870	0.890	0.880	0.0100		
17α(H),21β(H)-22R-pentakishomohopane (C ₃₅ H ₆₂)	4.29	4.30	4.33	4.31	0.0208	0.600	0.600	0.610	0.603	0.00577		

Appendix E: Laboratory 21 Results

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Lab 21 reported results for parent PAHs for SRM 2779 and candidate SRM 2777.

Analyte	SRM 2779					candidate SRM 2777				
	Sample 1	Sample 2	Sample 3	avg	stdev	Sample 1	Sample 2	Sample 3	avg	stdev
naphthalene	842	773	792	802	35.7	0.0092	0.011	0.01	0.010067	0.000902
biphenyl										
acenaphthene	21.6	20.8	18.1	20.1	1.78	0	0	0		
acenaphthylene	0	0	0			0.01	0.00	0	0.01	
fluorene	166	166	158	163	4.23	0.07	0.07	0.07	0.068	0.00208
phenanthrene	266	240	318	275	39.9	0.61	0.51	0.51	0.543	0.0577
anthracene	18.3	10.3	5.8	11.4	6.34	0.17	0.15	0.12	0.145	0.0234
fluoranthene	1.94	1.84	2.32	2.03	0.253	0.00	0.00	0		
pyrene	8.22	8.77	10.82	9.27	1.37	0.29	0.25	0.13	0.222	0.0824
benzo[b]fluorene	16.0	13.8	9.08	13.0	3.52	0.26	0.40	0.41	0.357	0.0839
benz[a]anthracene	8.63	9.82	7.03	8.49	1.40	0.08	0.06	0.05	0.0633	0.0146
chrysene	18.7	16.0	19.9	18.2	1.97	2.86	3.05	2.97	2.96	0.0976
triphenylene										
chrysene+triphenylene										
benzo[b]fluoranthene	7.04	7.12	0	7.08	0.06	0.31	0.32	0.36	0.330	0.0265
benzo[j]fluoranthene										
benzo[k]fluoranthene	0	0	0			0	0	0		
benzo[a]fluoranthene										
benzo[e]pyrene	15.7	12.6	14.2	14.1	1.55	0.62	0.65	0.68	0.650	0.0281
benzo[a]pyrene	1.57	1.23	1.09	1.30	0.247	0.00	0.00	0	0.00	0.00
perylene	2.42	1.95	0	2.19	0.33	0	0	0		
indeno[1,2,3-cd]pyrene	0	2	0	0.593	1.03	0	0	0		
benzo[ghi]perylene	0	0	0			0	0	0		
dibenz[a,h]anthracene	1.67	1.53	0	1.60	0.099	0	0	0		
cis/trans-decalin										
dibenzofuran										
retene										
benzothiophene										
dibenzothiophene	49.7	45.8	48.6	48.0	2.02	0.29	0.29	0.3	0.293	0.00577
naphthobenzothiophene	12.1	11.1	15.9	13.0	2.50	0.71	0.72	0.69	0.707	0.0153

Lab 21 reported results for alkyl-PAHs for SRM 2779 and candidate SRM 2777.

Analyte	SRM 2779					candidate SRM 2777				
	Sample 1	Sample 2	Sample 3	avg	stdev	Sample 1	Sample 2	Sample 3	avg	stdev
1-methylnaphthalene										
2-methylnaphthalene										
2,6-dimethylnaphthalene										
1,6,7-trimethylnaphthalene										
1-methylphenanthrene										
2-methylphenanthrene										
3-methylphenanthrene										
9-methylphenanthrene										
2-methylanthracene										
C ₁ -decalins										
C ₂ -decalins										
C ₃ -decalins										
C ₄ -decalins										
C ₁ -naphthalenes	1824	1553	1588	1655	147	0.14	0.015	0.02	0.058	0.0708
C ₂ -naphthalenes	1901	1833	1817	1851	44.4	0.045	0.044	0.05	0.046	0.0032
C ₃ -naphthalenes	1226	1235	1245	1235	9.62	0.615	0.544	0.58	0.580	0.0355
C ₄ -naphthalenes	705	597	926	743	167	1.42	1.395	1.38	1.40	0.0202
C ₁ -benzothiophenes										
C ₂ -benzothiophenes										
C ₃ -benzothiophenes										
C ₄ -benzothiophenes										
C ₁ -fluorenes	284	285	333	301	28.3	1.10	1.07	1.07	1.08	0.0142
C ₂ -fluorenes	428	463	461	451	19.6	5.19	5.46	5.59	5.41	0.205
C ₃ -fluorenes	337	350	256	314	50.8	9.62	9.40	9.47	9.50	0.110
C ₁ -phenanthrenes/anthracenes	723	683	691	699	21.0	8.06	7.87	8.23	8.05	0.182
C ₂ -phenanthrenes/anthracenes	728	614	648	663	58.2	24.9	23.2	23.6	23.9	0.897
C ₃ -phenanthrenes/anthracenes	490	379	400	423	58.9	17.5	16.4	18.2	17.4	0.887
C ₄ -phenanthrenes/anthracenes	287	265	161	237	67.3	7.21	7.51	8.69	7.80	0.785
C ₁ -dibenzothiophenes	118	113	117	116	2.32	1.60	1.91	1.81	1.77	0.156
C ₂ -dibenzothiophenes	167	152	167	162	8.82	6.86	6.93	6.78	6.85	0.0730
C ₃ -dibenzothiophenes	114	116	106	112	4.98	7.13	9.993	6.62	7.91	1.82
C ₄ -dibenzothiophenes	36	37	30	34	4.18	4.25	4.07	4.45	4.25	0.193
C ₁ -fluoranthenes/pyrenes	55	42	46	47	6.65	1.11	1.01	1.08	1.07	0.0492
C ₂ -fluoranthenes/pyrenes	96	81	89	89	7.69	1.69	1.62	1.78	1.70	0.0801
C ₃ -fluoranthenes/pyrenes	103	94	98	98	4.39	0.835	0.894	0.930	0.886	0.0480
C ₄ -fluoranthenes/pyrenes	83	76	150	103	40.6	1.86	2.04	2.10	2.00	0.127
C ₁ -naphthobenzothiophenes	52.1	50.2	46.5	49.6	2.82	3.28	3.21	2.90	3.13	0.204
C ₂ -naphthobenzothiophenes	76.1	63.8	69.8	69.9	6.16	3.86	3.86	3.07	3.60	0.455
C ₃ -naphthobenzothiophenes	29.9	36.1	34.0	33.3	3.19	2.66	2.33	1.88	2.29	0.390
C ₄ -naphthobenzothiophenes	2.61	2.83	0.860	2.10	1.08	0.629	0.695	0.610	0.645	0.0446
C ₁ -chrysenes										
C ₂ -chrysenes										
C ₃ -chrysenes										
C ₄ -chrysenes										

Lab 21 reported results for alkanes for SRM 2779 and candidate SRM 2777.

Analyte	SRM 2779					candidate SRM 2777				
	Sample 1	Sample 2	Sample 3	avg	stdev	Sample 1	Sample 2	Sample 3	avg	stdev
n-decane	4902	4169	4255	4442	401	0.00	0.00	0.00		
n-undecane	4604	4082	4171	4286	279	0.00	0.00	0.00		
n-dodecane	3922	3754	3752	3809	97.9	0.00	0.00	0.00		
n-tridecane	3644	3484	3489	3539	91.0	0.00	0.00	0.00		
n-tetradecane	3535	3295	3323	3384	131	0.00	0.00	0.00		
n-pentadecane	3151	2921	3024	3032	115	0.00	0.00	0.00		
n-hexadecane	2660	2395	2488	2514	134	0.00	0.00	0.00		
n-heptadecane	1926	1943	1852	1907	48.7	9.74	8.98	8.19	8.97	0.775
n-octadecane	2075	2019	2111	2068	46.5	11.0	9.79	8.94	9.90	1.02
n-nonadecane	1621	1588	1564	1591	28.6	5.51	6.15	5.28	5.65	0.448
n-eicosane	1676	1523	1582	1594	77.2	4.47	0.12	5.48	3.36	2.849
n-henicosane	252	255	258	255	2.78	7.52	7.51	7.41	7.48	0.059
n-docasane	1422	1207	1370	1333	112	8.77	5.75	6.09	6.87	1.65
n-tricosane	1138	909	958	1002	121	4.42	7.65	5.18	5.75	1.69
n-tetracosane	1128	992	936	1019	98.9	0.00	0.00	0.00		
n-pentacosane	1183	973	993	1049	116	4.27	5.17	6.01	5.15	0.871
n-hexacosane	695	647	697	680	28.2	4.49	3.84	4.37	4.23	0.346
n-heptacosane	465	410	400	425	35.2	3.97	4.12	0.36	2.82	2.13
n-octacosane	473	466	430	456	23.2	0.00	0.00	0.00		
n-nonacosane	479	352	430	421	64.3	4.49	3.59	4.20	4.09	0.456
n-triacontane	303	287	343	311	28.7	2.92	0.00	2.11	1.68	1.51
n-hentriacontane	233	225	188	215	23.9	0.00	0.00	0.00		
n-dotriacontane	204	182	167	184	18.7	1.55	2.04	2.77	2.12	0.612
n-tritriacontane	193	168	207	189	20.0	2.21	3.16	3.25	2.87	0.580
n-tetratriacontane	151	116	166	145	25.6	4.16	3.63	4.31	4.03	0.360
n-pentatriacontane	111	91	107	103	10.9	4.63	3.73	4.37	4.24	0.463
n-hexatriacontane	72.1	64.2	60.4	65.6	5.97	2.81	3.63	3.09	3.17	0.414
n-heptatriacontane	76.3	62.3	52.2	63.6	12.1	2.46	3.27	2.87	2.87	0.406
n-octatriacontane	39.1	30.5	44.4	38.0	7.01	2.89	2.94	4.30	3.38	0.803
n-nonatriacontane	50.6	38.3	33.0	40.6	9.00	3.00	3.23	3.54	3.25	0.269
n-tetracontane	36.3	37.0	40.5	38.0	2.24	2.36	2.60	2.73	2.56	0.187
norpristane	2761	1934	2028	2241	453	1.11	1.11	0.96	1.06	0.0861
Pristane	1782	1304	1292	1459	280	2.10	2.98	2.72	2.60	0.452
Phytane	1133	876	872	960	150	1.59	2.00	1.83	1.81	0.204