

REPORT

2021

INTERLABORATORY COMPARISON
ON POPs IN FOOD 2020:

The twenty-first round of an
international study

Interlaboratory Comparison on POPs in Food 2020

The twenty-first round of an international study

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Interlaboratory Study on POPs in Food
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Summary

The 21st round of the Interlaboratory Comparison on POPs in Food was conducted in 2020 by the Norwegian Institute of Public Health (NIPH). The study included the determination of the 2,3,7,8-chlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs), as well as dioxin-like non-ortho and mono-ortho chlorinated biphenyls (PCBs) in three different food items. Additionally, the participating laboratories could determine the concentrations of six indicator PCBs, polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecanes (HBCDs) in the same food samples.

For the second time a fourth matrix was added, designated for the determination of the following poly- and perfluoroalkyl substances (PFASs): Perfluorooctanesulfonate (PFOS), perfluorohexanesulfonate (PFHxS), perfluorooctanoate (PFOA), perfluorononanoate (PFNA), perfluorodecanoate (PFDA) and perfluoroundecanoate (PFUnDA).

The objectives of this interlaboratory comparison study were

- A. To offer a tool for quality assurance to the participating laboratories
- B. To assess the between laboratory reproducibility
- C. To assess the readiness of expert laboratories worldwide to determine levels of chlorinated and brominated persistent organic pollutants, as well as for PFASs, in regular foodstuffs.

With respect to PCDDs/PCDFs, non-ortho PCBs, mono-ortho PCBs, indicator PCBs, PBDEs and α -HBCD, the 2020-round of the study was performed on unfortified homogenates of Egg yolk, Salmon and Fish oil. An unfortified homogenate of perch was offered for the determination of PFASs.

If desired, the laboratories could also determine the concentrations of PCDDs/PCDFs, non-ortho PCBs, mono-ortho PCBs, indicator PCBs, PBDEs and α -HBCD in standard solutions from Cambridge Isotope Laboratories, provided by NIPH.

The test materials were sent to 68 laboratories worldwide in January, and results were returned from 64 of these.

Due to the ongoing corona-pandemic there has been some delays this year. A draft report would normally have been published in July, but due to the extended deadline for submitting results it was not made available on our webpage www.fhi.no/ILC until early November 2020, and the deadline for commenting on the published results was set to December 15th 2020.

This report presents the reported results for all seventeen 2,3,7,8-substituted PCDDs/PCDFs, the four non-ortho substituted PCBs #77, 81, 126 and 169 and the eight

mono-ortho substituted PCBs #105, 114, 118, 123, 156, 157, 167, 189 in the three food items on a fresh weight and lipid weight basis.

The results of eight PBDEs #28, 47, 99, 100, 153, 154, 183 and 209, six indicator PCBs #28, 52, 101, 138, 153 and 180, and total HBCDs as well as the α -, β - and γ -isomers are also presented.

The results of PFOS, PFHxS, PFOA, PFNA, PFDA and PFUnDA in a sample of Perch are also included.

The consensus concentration (assigned value) for each analyte in the four food samples was determined as follows: For the seventeen 2,3,7,8-substituted PCDDs/PCDFs, the four non-ortho substituted PCBs and the eight mono-ortho substituted PCBs non-detected congeners were assigned a concentration corresponding to the reported detection limits. The median of all reported concentrations for each analyte was then calculated. All values above twice the median was removed from the calculation. The consensus median and consensus mean as well as standard deviation (SD) were calculated from the remaining data, and this second median was called consensus value.

For the PBDEs, the indicator PCBs and HBCDs the non-detects were removed from the data set. The median of all reported concentrations for each analyte was then calculated. All values above twice the median were removed from the calculation. The consensus median (consensus value) and consensus mean as well as standard deviation (SD) were calculated from the remaining data.

When calculating the results for PFASs in the sample of Perch, we adopted the same approach as we used for the indicator PCBs and PBDEs. However, as the number of reported results were much lower for PFAS than for the other groups of analytes, outliers would contribute to a larger degree. Therefore we have chosen to remove low outliers, as well as high outliers, from the PFAS data set.

Toxic equivalents (TEQs) were calculated from the consensus medians of individual congeners using the toxic equivalency factors derived by WHO 2006 (from 2012: WHO₂₀₀₆TEQs as opposed to WHO₁₉₉₈TEQs as in the reports published before 2012).

Z-scores for the PCDD/PCDF TEQs were calculated for each laboratory using ± 20 % of the consensus TEQs as a value for target standard deviation ($\sigma=0.2$), on both fresh weight and lipid weight basis. Further, Z-scores were calculated for the non-ortho PCB TEQ, the mono-ortho PCB TEQs, the total TEQ, the sum of six indicator PCBs, the sum of eight PBDEs, total HBCD, and the three isomers of HBCD and for each single congener in all three matrices of Egg yolk, Salmon and Fish oil ($\sigma=0.2$) (both on a fresh weight and a lipid weight basis). The z-scores for PFASs were calculated in the same way, but on fresh weight basis only.

The consensus values of the standard solutions were calculated as mentioned above with the exception of the removal of all values exceeding ± 50 % of the median prior to the final calculation of the consensus median and mean.

The consensus values for the lipid contents were calculated by first excluding results deviating more than two SD from the mean of all values, and then re-calculating the median, mean and SD.

The sample of Fish oil was the sample in this study with the highest total TEQ (4.7 pg TEQ/g fw, WHO₂₀₀₆TEFs). For this sample, Z-scores within ± 1 were obtained by 91 % of the participating laboratories, and Z-scores within ± 2 were achieved by 96 % of the participants (Z scores within ± 1 and ± 2 , corresponds to a trueness of ± 20 % and ± 40 %, respectively).

respectively). The Fish oil -sample was closely followed by the Salmon-sample, with a consensus total TEQ of 4.5 pg TE/g fw (WHO₂₀₀₆TEFs). For this sample 82 % of the participants achieved Z-scores within ± 1 , and 93 % achieved Z-scores within ± 2 .

For the sample of Egg yolk, which on beforehand was assumed to be the sample with lowest level of contamination (total TEQ=0.29 pg TE/g, WHO₂₀₀₆TEFs, fresh weight), Z-scores within ± 1 were obtained by 74 % of the reporting participants on fresh weight basis, and Z-scores within ± 2 was achieved by 90 % of the participants. This clearly mirrors the high number of non-detects reported for the PCDD/PCDFs, and the variation in the reported limits of detection reported by the participants.

The relative standard deviation (RSD) calculated for the total TEQ after removal of outliers was 7.6 and 11 % for the two samples that had the highest levels of contamination (Fish oil and Salmon, respectively). For the lower contaminated Egg yolk-sample, the corresponding RSD was 10 %. Considering the levels of contamination in the three food samples in this study, it may be concluded that the abilities and performance of laboratories worldwide in determining dioxin-like compounds is generally good.

For the food samples, 44-51 laboratories reported results for the six indicator PCBs. The total consensus concentrations on fresh weight basis for six indicator PCBs were 1505 pg/g (17 %) in Egg yolk, 24189 pg/g (16 %) in Salmon and 27557 pg/g (12 %) in Fish oil, with total RSDs given in parentheses.

27-30 laboratories reported concentrations for all seven of the tetra- to hepta-PBDEs and 20 laboratories reported concentrations for PBDE-209. The consensus concentrations of the sum of the PBDEs with PBDE-209 excluded, were on fresh weight basis 52 (16 %), 1245 (11 %) and 2128 (21 %) pg/g in Egg yolk, Salmon and Fish oil, respectively, with total RSDs given in parentheses. The consensus concentrations for PBDE-209 were 202 (n=20, RSD=55 %), 27 (n=20, RSD=71 %) and 75 (n=20, RSD=109 %) pg/g fresh weight in Egg yolk, Salmon and Fish oil, respectively.

The consensus concentrations calculated for HBCDs are indicative, as only a few laboratories reported results (n=4-5).

14-18 laboratories reported results for the different PFASs in the sample of Perch. The sample was known to be contaminated with PFOS (consensus concentration 13526 pg/g fw). 67 % of the participants obtained a Z-score ± 2 for PFOS, and 50 % obtained Z-scores ≤ 1 . For PFDA (consensus concentration 496 pg/g fw), 60 % of the participants obtained z-scores ≤ 1 , and for PFUnDA (consensus concentration was 300 pg/g fw) 57 % obtained z-scores ≤ 1 .

The consensus values for PFHxS, PFOA and PFNA are indicative due to few reported results (many non-detects).

Introduction

Maximum residue limits and official food control systems are established in many countries for the monitoring of the levels of dioxins and dioxin-like PCBs in food and feed, both to map and to reduce human and animal exposure to these highly toxic pollutants. For the same reasons, the European Union introduced levels of legislation in 2014 for the indicator PCBs as well. For PFASs, tolerable weekly intakes for PFASs (more specifically; PFOS, PFOA, PFHx and PFNA) were established by EFSA in 2020. To meet these requirements, there is a large demand for chemical analytical laboratories with the skills and abilities to determine these contaminants at very low concentrations and in complex matrixes.

It is usually required by the authorities that laboratories performing such measurements are accredited according to ISO standards and prove their competence by successful participation in interlaboratory studies.

This is the 21th round of a world-wide interlaboratory comparison study on dioxin-like compounds, eight PBDEs, six indicator PCBs and HBCD in food, organized by the Section of Environmental Exposure and Epidemiology, at the Norwegian Institute of Public Health (NIPH), Oslo, Norway. From 2019 a food sample designated for the determination of six selected PFASs was also added.

The main objective of this exercise is to assess the between laboratory reproducibility of dioxin-like compounds analyses in foods, and to provide a QA/QC instrument for each participating laboratory to contribute to its proficiency.

The exercise took place from January 2020, when the samples were shipped to the laboratories for analysis, until the reporting deadline in July 2020, when the last reports with results were received. A draft report was made available to the participants on our webpage (<http://www.fhi.no/ILC>) in November 2020.

All participants from previous rounds in this series of "Interlaboratory Comparisons on POPs in Food" were invited to participate. In addition, several other laboratories announced their interest and were invited to participate. There was no limit to the total number of participating laboratories. The 64 laboratories that submitted results, and thereby contributed to the study results, are presented in Table 1.

Table 1. Participants that reported results in the 21st round of the Interlaboratory Comparison on POP's in Food 2020

ALS Czech Republic Pardubice, Czech Republic	ALS Environmental - Burlington Burlington, Ontario, Canada
Arkansas Laboratory (ARKL) Office of Regulatory Affairs Jefferson, Arkansas, United States of America	AsureQuality Ltd – Wellington Lower Hutt, New Zealand
Australian Ultra Trace Laboratory National Measurement Institute - North Ryde Sydney, Australia	BioDetection Systems B.V. Amsterdam, The Netherlands
CAIQTEST (Beijing) Company Limited Beijing, China	Canadian Food Inspection Agency (CFIA) Calgary, Alberta, Canada

CARSO-LSEHL Vénissieux, France	Central Lab of Residue Analysis of Pesticides and Heavy Metals in Foods Giza, Egypt
Chemical and Veterinary Control Laboratory Münsterland Emscher Lippe Münster, Germany	Chemisches und Veterinäruntersuchungsamt (CVUA) Freiburg Freiburg, Germany
China National Center for Food Safety Risk Assessment Beijing, China	Chinese Academy of Sciences Research Center for Eco-Environmental Sciences Beijing, China
Danish Veterinary and Food Administration Ringsted, Denmark	Département de la Vendée La Roche Sur Yon Cedex, France
Dioxin laboratory of Comprehensive test center of Chinese Academy of Inspection and Quarantine Hangzhou, Beijing, China	Edward T. Schafer Agricultural Research Center Fargo, North Dakota, USA
Environmental Laboratory – IQS Barcelona, Spain	Eurofins ANATECH São Paulo, Brasil
Eurofins Laboratorium Zeeuws Vlaanderen Graauw, The Netherlands	Eurofins GfA Lab Service GmbH Hamburg, Germany
Fera Science Ltd. York, United Kingdom	Finnish Institute for Health and Welfare Kuopio, Finland
Fraunhofer IVV Freising, Germany	Government Laboratory Additives, Contaminants and Composition Section Hong Kong, China
Havforskningsinstituttet Bergen, Norway	Health Canada BC Food Laboratory Regulatory Operations and Enforcement Branch Burnaby, British Columbia, Canada
Hessisches Landeslabor Wiesbaden, Germany	Institute for Agro-food Standards and Testing Technology Shanghai Academy of Agricultural Sciences Shanghai, China
Institute of Quality Standard & Testing Technology for Agro-Products The Chinese Academy of Agricultural Sciences Beijing, China	Istituto Zooprofilattico Sperimentale Lombardia Emilia Romagna-Bologna Chemical Department Bologna Bologna, Italy
Hubei Provincial Centre for Disease Control and Prevention Institute of Health Inspection and Testing Wuhan, Hubei Province, China	Japan Food Research Laboratories Nagayama Tama-city, Tokyo, Japan
JS Hamilton Gdynia, Poland	La Drôme Laboratoire Valence, France
Laboratory of SGS Bulgaria Ltd Varna, Bulgaria	Landesamt für Umweltschutz Sachsen-Anhalt Halle/Saale, Germany
Landesuntersuchungsamt Speyer, Germany	Marchwood Scientific Services Southampton, United Kingdom
mas münster analytical solutions gmbh Münster, Germany, Germany	Mass Spectrometry and Dioxin Analysis Laboratory NSCR "Demokritos" Athens, Greece

MICROPOLLUANTS TECHNOLOGIE SA Saint Julien-Les-Metz, France	National Cheng Kung University Research Center for Environmental Trace Toxic Substances Tainan, China
Niedersächsisches Landesamt für Verbraucherschutz und Lebensmittelsicherheit Lebensmittel-und Veterinärinstitut Oldenburg Oldenburg, Germany	NILU (Norwegian Institute for Air Research) Kjeller, Norway
Pacific Rim Laboratories Inc. Surrey BC, Canada	POP Lab Shenzhen Center for Disease Control & Prevention Shenzhen, Guangdong, China
SGS AXYS Analytical services Ltd Sidney, British Colombia, Canada	SGS Institut Fresenius GmbH Bayreuth, Germany
SGS Taiwan Ltd. New Taipei City, Taiwan (R.O.C.)	Shanghai Municipal Center for Disease Control and Prevention Shanghai, China
SHIMADZU TECHNO-RESEARCH, INC. Kyoto, Japan	Sintef Industri Avd. for Bioteknologi og Nanomedisin Trondheim, Norway
Sun Dream Environmental Technology Corporation Food Hygiene Laboratory Taichung City, China	Super Micro Mass Research & Technology Center Cheng Shiu University Niaosong District, Kaohsiung City, Taiwan
SYNLAB Analytics & Services Germany GmbH Standort Jena Jena, Germany	T.L.R. Technisch Laboratorium Rotterdam B.V. Rotterdam, The Netherlands
Taiwan Agricultural Chemicals and Toxic Substances Research Institute Taichung, Taiwan (R.O.C.)	The State Laboratory - Ireland Celbridge, Kildare, Ireland
Umeå University Department of Chemistry Trace Analysis Platform Umeå, Sweden	Worthies Engineering Consultants Corp. Environmental & Ultra Trace Testing Lab Taichung, Taiwan
Ökometric Bayreuth, Germany	Zhejiang Provincial Center for Disease Control and Prevention Beijing, China

Design and practical implementation

Study design and reporting of results: PCDDs/PCDFs, non-ortho substituted PCBs, mono-ortho substituted PCBs, indicator PCBs, PBDEs and HBCDs

As in the previous rounds of this interlaboratory comparison study, the test material chosen represented naturally contaminated food items. The analytes to be determined were all seventeen 2,3,7,8-substituted PCDDs/PCDFs, the four non-ortho substituted PCBs #77, 81, 126 and 169 and the eight mono-ortho substituted PCBs #105, 114, 118, 123, 156, 157, 167 and 189. If desired, the laboratories could also determine eight PBDEs #28, 47, 99, 100, 153, 154, 183 and 209, six indicator PCBs #28, 52, 101, 138, 153 and 180, total HBCD and its three isomers (α -, β -, γ -HBCD). The six PCB congeners belong together with the mono-ortho PCB #118 to the selection of PCBs commonly referred to as ICES-7 (ICES-7: Report of the ICES Advisory Committee, 2010; Book 7).

The analysis should be performed using the laboratories' own methods for sample preparation and instrumental analysis, their own quantification standards and quantification procedures, and their own method for lipid determination.

It was recommended that laboratories determined as many as possible of the 2,3,7,8-substituted PCDDs/PCDFs, dioxin-like PCBs, PBDEs, indicator PCBs and HBCD in the samples of Egg yolk, Salmon and Fish oil.

The laboratories were to report the concentration of each detected congener (e.g. $S/N \geq 3$) in the food items on fresh weight basis, as well as the limit of detection (LOD, e.g. $S/N = 3$). Non-detected congeners (e.g. $S/N < 3$) were to be marked "ND" in the comments-column of the Report forms. As the report was to include the determination of lipid percent in the food samples, the laboratories should also include the determined lipid percentage of the samples as well as sample amount used for the analysis.

In addition to the food samples, six standard solutions containing known concentrations of the analytes could be analyzed, using the laboratories' own quantification standards and methods. The provided standard solutions consisted of the following components:

- 1) Seventeen 2,3,7,8-substituted PCDDs/PCDFs (2:5:10 pg/ μ l for tetra:penta-hexa-hepta:octa chlorinated dibenzo-p-dioxins/-dibenzo furans respectively)
- 2) Four non-ortho PCBs (10 pg/ μ l)
- 3) Eight mono-ortho PCBs (100 pg/ μ l)
- 4) Eight PBDEs (100 pg/ μ l)
- 5) Six indicator PCBs (100 pg/ μ l)
- 6) α -HBCD (500 pg/ μ l)

The test materials consisted of homogenates of Egg yolk, Salmon and Fish oil. The laboratories could choose to analyze one, two or all three food samples.

Study design and reporting of results: PFASs

For the 21st round of the Norwegian POPs in Food-study, we also offered a food sample for the determination of the following PFASs: PFOS, PFHxS, PFOA, PFNA, PFDA and PFUnDA. The sample material consisted of Perch caught in an area well known to be contaminated by PFOS. As for the other matrices, the Perch sample was not fortified.

The laboratories' own methods for sample preparation and instrumental analysis, as well as their own quantification standards should be used for the analysis of the sample.

The laboratories were to report the concentration of each detected congener (e.g. $S/N \geq 3$) in the Perch on fresh weight basis as well as the limit of detection (LOD, e.g., $S/N = 3$). Non-detected congeners (e.g. $S/N < 3$) were to be marked "ND" in the comment's column of the Report forms.

Confidentiality

Each participating laboratory was given an exclusive laboratory code by the coordinators. In the present report, the participants are presented in the tables and figures by their unique codes. The participants have access to their own code only, and laboratory codes were not revealed to any third parties.

When received by the coordinators, the raw data from the laboratories were entered into a database. A draft report was generated and made available to all participants on the web page www.fhi.no/ilc in November 2020.

Collection, preparation, and distribution of samples

Samples shipped to the participants consisted of one to three of the following:

- Egg yolk (~40 g)
- Salmon (~100 g)
- Fish oil (~50 g)
- Perch (~25 g)

The test materials were produced from natural products and were not fortified with standards.

The Egg yolk and Salmon was kindly donated by Søren Sørensen from the Danish Veterinary and Food Administration. The Fish oil was a kind gift from Vedde AS, a Norwegian producer of fish oil. The Perch was from a lake in Sweden called Fysingen and given to us by the Department of Environmental Research and Monitoring at the Swedish Museum of Natural History.

The Egg yolk arrived as many singel samples of egg yolks. They were pooled and mixed with commercially produced egg yolk before thorough homogenization and distribution into sub-samples.

The Salmon originated from the Baltic sea, and arrived as filets. All the filets were pooled, grinded and homogenized thoroughly.

The Fish oil arrived as one big frozen sample from the same production batch. At arrival to the Norwegian Institute of Public Health the oil was defrosted and homogenized by continuous stirring while it was heated gently.

The Perch arrived as whole, frozen fishes. The fishes were filleted before they were pooled and homogenized.

Sub-samples of at least 40 g of Egg yolk (Egg yolk-2020), 100 g of Salmon (Salmon-2020), 50 g of Fish oil (Fish oil-2020) and 25 g of Perch (Perch-2020) were placed into screw-cap polystyrene bottles. The bottles were all carefully washed, rinsed with methanol and dried before use. All samples were stored at $-20\text{ }^{\circ}\text{C}$ until shipment to the participating laboratories.

Statistical analysis

Based on experiences from previous rounds, we have chosen the following approach for the calculation of the consensus concentrations (assigned value) for each of the congeners included in the study:

For PCDDs/PCDFs and dioxin-like PCBs: Congener-by-congener medians were calculated from the food sample data of all reporting laboratories. The detection limits were used as concentration for non-detected congeners (upper bound concentration).

For PBDEs, indicator PCBs and HBCD: Non-detected congeners in the food samples were removed from the data set prior to consensus calculation. The same approach was used for the calculation of the PFASs.

Outliers for all congeners were defined as those values exceeding twice the median of all values and thus removed from the data set.

For PFASs, the number of participants were limited compared to the other groups of analytes. Therefore, when identifying low outliers, they were removed from the data set as well as the high outliers.

The consensus values were defined as the median of the remaining data for each congener. The consensus mean and SD were calculated from this data set for each congener. The congener data that were removed prior to consensus calculation are marked accordingly in the tables presenting the individual results.

For the standard solutions, outliers were defined as those values outside $\pm 50\%$ of the median of all reported values and were removed from the data set before the calculation of the median, mean and SD were calculated from the remaining data. The consensus of the lipid content was calculated as the mean after removal of values outside $\pm 2 \cdot \text{SD}$.

TEQs were calculated from the consensus medians for PCDDs/PCDFs, non-ortho PCBs, and mono-ortho PCBs, using the toxic equivalency factors derived by WHO in 1998 and 2006. As the detection limit was used for the concentration of non-detects, these TEQs represent upper bound concentrations.

Z-scores on both fresh weight and lipid weight basis for PCDD/PCDF TEQ as well as for the non-ortho PCB TEQ, the mono-ortho PCB TEQ, the total TEQ (WHO₂₀₀₆TEFs), the sum of six indicator PCBs, the sum of eight PBDEs, total HBCD and for each congener were calculated for each laboratory according to the following equation:

$$Z = (x - X)/\sigma$$

Where x = reported value; X = consensus value (assigned value); σ = target value for standard deviation. A σ of 0.2 multiplied by the consensus value was used, i.e. Z-scores between +1 and -1 reflect a deviation of ± 20 % from the consensus value.

The final report and certificate

The draft of the final report was prepared by the coordinators and published electronically in November 2020.

The final report will be made available to the participants in pdf format at www.fhi.no/ILC.

A certificate of participation, stating the participant's laboratory code, will be sent to each participating laboratory who has contributed to the results by the end of January 2021.

Coordination

The study was initiated and carried out by the Section of Environmental Exposure and Epidemiology, Norwegian Institute of Public Health, Oslo, Norway. Members of the coordination committee were:

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Cathrine Thomsen, Head of Section
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Results

Presentation in the report

Sixty-four laboratories worldwide submitted their results within the deadline and the results are presented in the following chapters. All participating laboratories will be able to compare their own performance, congener by congener, with the other laboratories. Since variations in performances are based on several factors, it is recommended that each laboratory carefully evaluate the factors that, favorably or unfavorably, may have contributed to its performance.

Readers of the report can without being participants in the study or without access to laboratory codes, get a general overview of the analytical performance of laboratories worldwide on the determination on dioxins, dioxin-like PCBs, indicator PCBs, PBDEs and HBCD in regular foodstuffs.

In Appendix E the consensus statistics are given on fresh and lipid weight basis for concentrations of individual congeners and TEQ values, a summary of TEQ values for each food item, and the Z-score plots on both fresh and lipid weight basis, based on a target deviation of ± 20 % from the consensus TEQ₂₀₀₆-values.

Individual results reported by the laboratories for each congener are given for Egg yolk, Salmon and Fish oil in Appendix 2, 3 and 4. The results for PFAS in the sample of Perch are presented in Appendix 5, and results of the lipid determinations are presented in Appendix 6.

Summarizing comments on results

PCDDs/PCDFs

Analyte solution-2020

Concentrations of PCDDs/PCDFs were reported by 52 laboratories. The average RSD for the 17 congeners was 5.9 % ranging from 4.3 % for 1,2,3,4,6,7,8-HpCDD to 7.7 % for 1,2,3,4,6,7,8,9-OCDF. The calculation of Z-scores for the TEQs (target 12.5 pg TEQ/ μ L based on TEF₂₀₀₆-values) of the PCDD/PCDF standard solution showed that 100 % of the laboratories were within the range of ± 20 % of the consensus value. This clearly demonstrates that the calibration solutions used by the laboratories generally are of high quality.

Egg yolk-2020

For the sample of Egg yolk, PCDD/PCDF results from 50 laboratories were received. From these results, the calculated consensus TEQ (PCDD/PCDF TEQ based on WHO₂₀₀₆-TEFs) was 0.17 pg TE/g fresh weight and 0.62 pg TE/g lipid weight.

The average RSD was 30 %, ranging from 20-60 % for 1,2,3,4,6,7,8-HpCDD and 1,2,3,7,8,9-HxCDF respectively. Z-scores for the TEQs within ± 1 were obtained by 74 % of the laboratories and 90 % of the laboratories had Z-scores within ± 2 (fresh weight basis).

Salmon-2020

PCDD/PCDF concentrations in the Salmon sample were reported by 55 laboratories. The consensus TEQ was 1.5 pg TEQ/g fresh weight, and 19 pg TEQ/g lipid weight (PCDD/PCDF TEQ based on WHO₂₀₀₆TEFs). The average RSD was 38 % ranging from 21-70 % (2,3,4,7,8-PeCDF and 1,2,3,4,7,8,9-HpCDF respectively). Z-scores were within ± 1 for 78 % of the laboratories and within ± 2 for 95 % of the laboratories (fresh weight basis).

Fish oil-2020

PCDD/PCDF concentrations in the sample of Fish oil were determined by 55-56 laboratories. The consensus TEQ for PCDD/PCDF based on WHO₂₀₀₆TEFs was 2.1 pg TEQ/g both on fresh weight and lipid weight basis (PCDD/PCDF TEQ based on WHO₂₀₀₆TEFs). The average RSD was 36 % ranging from 10-75 % (2,3,7,8-TCDF and 1,2,3,4,7,8,9-HpCDF respectively). Z-scores for PCDD/PCDF TEQ within ± 1 were obtained by 89 % of the laboratories and 98 % had Z-scores within ± 2 (fresh weight basis).

Dioxin-like PCBs

Analyte solution-2020

The 12 dioxin-like PCBs in the analyte solution were analyzed and reported by 52-53 laboratories. The RSDs for the different congeners were ranging from 6.2 % for PCB-81 to 9.4 % for PCB-167, with an average of 7.9 %.

Egg yolk-2020

Dioxin-like PCB concentrations in the sample of Egg yolk were reported from 49-50 laboratories. The concentrations of the 12 congeners varied between 0.19 pg/g fresh weight (PCB-81) and 157 pg/g fresh weight (PCB-118). The average RSD for concentrations of individual dioxin-like PCB congeners was 26 % ranging from 17 % for PCB-156 to 45 % for PCB-123.

The dioxin-like PCBs contribute 42 % to the total TEQ (WHO TEF₂₀₀₆) in the sample with PCB-126 as the main contributor (37 %).

Salmon-2020

Of the participating laboratories, 54-55 measured and reported dioxin-like PCB concentrations in the Salmon sample. The concentrations ranged from 1.4 pg/g fresh weight for PCB-81 to 3299 pg/g fresh weight for PCB-118. The average RSD for concentrations of individual dioxin-like PCB congeners on fresh weight basis was 27 % ranging from 21 % for PCB-105 to 56 % for PCB-123.

The dioxin-like PCBs contribute to about 66 % of the total TEQ in the sample with PCB-126 as the main contributor (58 %).

Fish oil-2020

Dioxin-like PCBs in Fish oil were reported by 55-56 laboratories. Levels were ranging from 1.5 pg/g fresh weight for PCB-81 to 4347 pg/g fresh weight for PCB-118. The average RSD for concentrations of individual dioxin-like PCB congeners on fresh weight basis was 20 % ranging from 11 % for PCB-118 to 48 % for PCB-123.

The contribution of the dioxin-like PCBs to the total TEQ was about 56 % with PCB-126 as the main contributor (46 % of total TEQ).

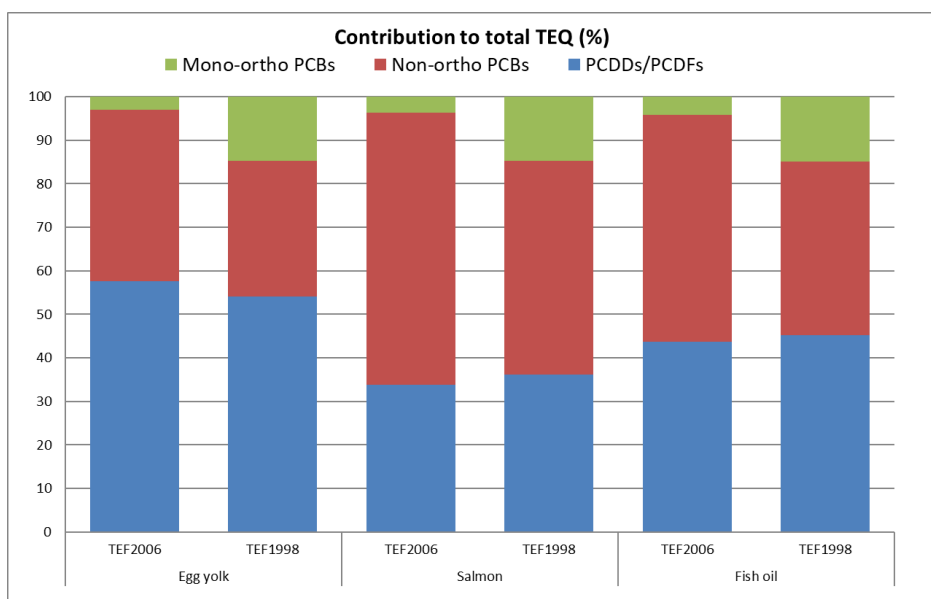
Total TEQ

The total TEQ for the sample of Egg yolk was 0.29 pg TEQ/g fresh weight and 1.1 pg TEQ/g lipid weight (WHO TEF₂₀₀₆). The total TEQ of the Salmon-sample was 4.5 pg TEQ/g fresh weight and 55 pg TEQ/g lipid weight, and the Fish oil contained 4.5 pg TEQ/g both on fresh weight basis and lipid weight basis.

The RSDs for total TEQs on fresh weight basis calculated from the RSD of individual congeners were 10 % for the sample of Egg yolk, 11 % for Salmon and 7.6 % for Fish oil.

In Figure 1 the percentage contribution to the TEQ-values for the three groups of compounds is depicted based on WHO TEF₂₀₀₆ and WHO TEF₁₉₉₈, respectively. For the selection of food-items included in this study the dioxin-like PCBs contributed from 42 % to 66 % to the total TEQ (using WHO TEF₂₀₀₆), demonstrating the variation in contribution, and the importance of the PCBs for the determination of the total TEQs related to the toxic potency of food samples.

Figure 1. The percentage contribution of PCDDs/PCDFs, non-ortho PCBs and mono-ortho PCBs to the total TEQ calculated using both the WHO₂₀₀₆ TEFs and WHO₁₉₉₈ TEFs, in the three food samples.



Indicator PCBs

Analyte solution-2020

46 laboratories reported indicator PCBs in the analyte solution. The average RSD was 10 % ranging from 9.7 to 11 % (outliers removed).

Egg yolk-2020

For the sample of Egg yolk, results for indicator PCBs were received from 44 laboratories. The consensus concentrations varied between 8.2 pg/g fresh weight (PCB-52) and 612 pg/g fresh weight (PCB-153). The RSDs were ranging from 29 to 53 % for PCB-180 and PCB-52 respectively, with an average of 36 % for all indicator PCBs. The consensus median for the sum of indicator PCBs was 1505 pg/g fresh weight.

Salmon-2020

Within the deadline, 48 laboratories reported results for indicator PCBs in the Salmon sample. The consensus concentrations ranged from 419 pg/g fresh weight (PCB-28) to 9352 pg/g fresh weight (PCB-153) with a consensus median for the sum of indicator PCBs of 24189 pg/g fresh weight. The average RSD was 33 %, ranging from 31 to 38 % for PCB-180 and PCB-138 respectively.

Fish oil-2020

Results were obtained from 51 laboratories. The concentrations of indicator PCBs in Fish oil ranged from 1480 pg/g fresh weight (PCB-28) to 8305 pg/g (PCB-153) and the consensus median for the sum was 27557 pg/g fresh weight. The average RSD was 27 %, ranging from 23 to 34 % for PCB-180 and PCB-28 respectively.

PBDEs

Analyte solution-2020

The tri- to hepta-PBDE standard solution was analyzed by 29 laboratories and 24 laboratories reported values for PBDE-209. The RSDs were between 7.2-11 % for all congeners.

Egg yolk-2020

The PBDE concentrations in Egg yolk were reported by 27 laboratories, except for PBDE-209 for which 20 results were received. The consensus concentrations were in the range of 0.27 pg/g fresh weight for PBDE-28 to 14 pg/g fresh weight for PBDE-99. The consensus concentration for PBDE-209 was 202 pg/g fresh weight. The sum of tri- to hepta-PBDEs was 52 pg/g fresh weight. The range of RSDs on fresh weight basis was 34-84 %, with an average of 46 % including PBDE-209.

Salmon-2020

Within the deadline, 30 laboratories had reported results for tri- to hepta-PBDEs in Salmon and 20 laboratories had reported results for PBDE-209. The consensus concentrations varied between 1.1 pg/g fresh weight (PBDE-183) and 753 pg/g fresh weight (PBDE-47). The concentration for PBDE-209 was 27 pg/g fresh weight. The sum of tri- to hepta-PBDEs was 1245 pg/g fresh weight. The RSD calculated from the concentrations on fresh weight ranged from 16-71 %, with an average of 32 % for PBDEs including PBDE-209.

Fish oil-2020

Twenty-nine laboratories reported results for tri- to hepta-PBDEs in Fish oil, and 20 reported results for PBDE-209. The concentrations varied between 3.5 pg/g fresh weight (PBDE-183) and 1373 pg/g (PBDE-47). The concentration for PBDE-209 was 75 pg/g. The sum of tri- to hepta-PBDEs was 2128 pg/g fresh weight. The RSDs for the individual congeners were ranging from 30 to 109 % with an average of 48 % including PBDE-209.

HBCD

Also, in this round of the study, total HBCD and the isomers α -, β - and γ -HBCD could be determined and reported. A total of 4 laboratories reported α -HBCD in the standard solution and 4-5 laboratories reported one or more of the three isomers in the food samples. The consensus concentrations for the sum of individual HBCD isomers were 223 pg/g fresh weight for the sample of Egg yolk, 726 pg/g for the Salmon and 1028 pg/g fresh weight for the Fish oil sample. Since only a few laboratories reported HBCD, these results must be regarded as indicative values.

PFASs

A sample of Perch known to be contaminated with PFOS, was offered to the participants for the determination of PFASs. The participating laboratories were asked to report their results for as many as possible of the following PFASs: PFOS, PFHxS, PFOA, PFNA, PFDA and PFUnDA. Eighteen laboratories reported their results by the deadline, but not all participants reported results for all PFASs. The consensus concentration of the sum of individual PFASs was 14467 pg/g fresh weight, with PFOS as the main contributor (13526 ng/g fw, n=17). The concentration of PFUnDA in the sample was 300 pg/g fw, while the concentration of PFDA was 496 pg/g fw. The consensus values for PFHxS, PFOA and PFNA are only indicative due to many reported non-detects (41 pg/g fw, 14 pg/g fw and 90 pg/g fw respectively).

Lipid content

The mean and RSDs (in parentheses) for the lipid contents of the food samples were calculated to be 26 % (RSD=13 %) for the Egg yolk sample, 7.8 % (RSD=21 %) for the Salmon sample and 100 % (0.38 %) for the sample of Fish oil.

Acknowledgements

The laboratories are acknowledged for their participation in this interlaboratory comparison and in their interest in its overall objectives, thereby making it clear that they value good analytical performance. All the individual analysts are acknowledged for their contributions to the results.

We thank Søren Sørensen from the Danish Veterinary and Food Administration for his kind donation of the Salmon sample and the sample of Egg yolk, Suzanne Faxnel at the Swedish Museum of Natural History for the Perch-sample, Vedde As for the kind gift of Fish oil and Cambridge Isotope Laboratories, Inc. for providing the standard solutions for this interlaboratory study.

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Appendix B:

Study announcement and
instructions for participants

Announcement for Interlaboratory Comparison on POPs in Food 2020

Introduction

We hereby announce the 21th round of the Interlaboratory Comparison on the Determination of POPs in Food (“The Norwegian POPs in Food-study”). The study is open for academic, regulatory as well as commercial laboratories world-wide. The organizer of this study is Section of Environmental Exposure and Epidemiology at the Norwegian Institute of Public Health, Oslo, Norway. The study is scheduled to take place from February to May 2020. A draft report will be available by mid-July 2020, and the final report will be available to the participants by November 2020. All participants who have contributed to the results will receive a certificate of participation in the study.

Objectives

One of the main objectives of this exercise is to assess the interlaboratory consistency in results from analyses of dioxins, PCBs, PBDEs, HBCDs and PFAS in regular food items known to contribute to the intake in the general population. Further, the world-wide readiness and capacity in analysing halogenated persistent organic pollutants in food will be demonstrated. The study also serves as a tool of quality assurance for the participating laboratories.

Participants

We encourage all laboratories working in this field to participate and assess their analytical performance. To do this, participants are requested to completely fill out the Registration Form and mark the desired sample types and what analyte solutions they intend to determine.

Analytical requirements

In this interlaboratory comparison, all the seventeen 2, 3, 7, 8-substituted PCDDs and PCDFs, the four non-ortho PCBs, CB-77, 81, 126 and 169 as well as the eight mono-ortho PCBs, CB-105, 114, 118, 123, 156, 157, 167, and 189 will be assessed.

In addition, the participants are invited to determine six marker PCBs, eight PBDEs and HBCDs. The concentration of the following congeners can be reported: CB-28, 52, 101, 138, 153 and 180 and BDE-28, 47, 99, 100, 153, 154, 183 and 209.

The concentration of α -HBCD, β -HBCD and γ -HBCD as well as the total of these isomers will also be assessed.

For the matrix intended for the determination of PFASs, the participants are asked to report one or more of the following components: Perfluorooctanesulfonate (PFOS), perfluorohexanesulfonate (PFHxS), perfluorooctanoate (PFOA), perfluorononanoate (PFNA), perfluorodecanoate (PFDA) and perfluoroundecanoate (PFUnDA).

The test materials for the lipophilic POPs consist of three fresh food homogenates. You can choose to analyse one, two or all three of the food items. We encourage you to determine as many analytes as possible. You are further requested to determine and report the lipid content of the foods, except for the sample for PFAS.

In addition, one sample Perch for the analysis of selected PFASs will be available.

We also include standard solutions of all analytes, except PFAS, that should be analysed as solutions of known concentration, which may be used to check your own calibration solutions.

Test material

The test materials consist of three unfortified natural food product homogenates:

- Egg yolk (labelled “Egg-2020”) ~40 g
- Salmon (labelled “Salmon-2020”) ~100 g
- Fish oil (labelled “Fish oil-2020”) ~50 g

- Perch (PFASs only) (labelled Perch-2020)

The samples will be distributed by an international courier service to the participating laboratories.

Please note:

In order to avoid delay or retention of the samples at customs, please inform us if there are import restrictions in your country for any of the samples.

Instructions for analysis and reporting

In short, the participating laboratories should:

- use their own standard operation procedures for extraction, clean-up and instrumental determination
- use their own reference standards for identification and quantification
- report one single concentration for each analyte in each food matrix determined on fresh weight basis
- report limits of detection for all measured analytes in each food item
- report the lipid content

Further detailed instructions and reporting forms will be sent by e-mail simultaneously with the dispatch of the samples in January.

Time schedule

Announcement	January 2020
Return of registration form	February 15th, 2020
Shipment of test material	Week 8-9, 2020
Confirmation of receipt of test material by participant	Within 7 days after receipt
Reporting of test results	May 01th, 2020
Publication of draft report on web-site	July 2020

Final report available to all participants

November 2020**Participation fee**

All laboratories that have received the test materials will receive a corresponding invoice in Norwegian kroner (NOK). The participation fee for any combination of the analytes in one food item is 9 500 NOK, in two food items 11 700 NOK, 13 900 NOK for three food items and for the complete set of all four food items 14 900 NOK.

As the inclusion of the PFASs-matrix is new, all the receivers of this invitation are encouraged to spread the words to possibly interested laboratories!

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Interlaboratory Comparison on Dioxins in Food 2020

Instructions for participants

January 2020

1. Introduction

This is the 21th Round of the Interlaboratory Comparison Study on the Determination of POPs in Food organised by the Section of Environmental Exposure and Epidemiology, Norwegian Institute of Public Health, Oslo, Norway.

The objective of this exercise is to assess the interlaboratory comparability of the results from analyses of all dioxins and dioxin-like PCBs included in the WHO-TEF schemes in regular foods. Participants may also determine and report concentrations of six marker PCBs, eight polybrominated diphenylethers (PBDEs) and hexabromocyclododecane (HBCD). The exercise serves as a quality assurance instrument for the participating laboratories. A further purpose is to assess the world-wide readiness and capacity for the determination of dioxin-like compounds, marker PCBs, PBDEs and HBCD in food. Instructions for the analysis and submission of results are given below.

We also offer a sample of perch for the determination of PFAS.

Please read these instructions carefully before starting the experimental work.

The participating laboratories will contribute to the interlaboratory comparability in the analytical performance for determination of

- dioxins and furans: all seventeen 2,3,7,8-substituted PCDDs and PCDFs
- non-ortho PCBs: CB-77, 81, 126 and 169
- mono-ortho PCBs: CB-105, 114, 118, 123, 156, 157, 167 and 189
- indicator PCBs: CB-28, 52, 101, 138, 153 and 180
- PBDEs: BDE-28, 47, 99, 100, 153, 154, 183 and 209
- HBCD α -HBCD, β -HBCD, γ -HBCD and total HBCD

in the following samples:

- Egg yolk (Egg-2020)
- Salmon (Salmon-2020)
- Fish oil (Fish oil-2020)

The mentioned analytes can also be determined in the respective six standard solutions. For HBCD, concentrations of α -HBCD, β -HBCD and γ -HBCD as well as the total of these isomers will be assessed.

This year, as last year, the participants also are given the opportunity to determine

- perfluorooctanesulfonate (PFOS)
- perfluorohexanesulfonate (PFHxS)
- perfluorooctanoate (PFOA)
- perfluorononanoate (PFNA)
- perfluorodecanoate (PFDA)
- perfluoroundecanoate (PFUnDA).

in the following sample:

- Perch (Perch-2020)

2. Participants

A list of participants is attached. 62 laboratories have announced their participation in the study.

3. Design of the study

3.1 Test materials

Samples

One standard solution of each:

- EDF-5008-50 with PCDDs/PCDFs at concentrations 2:5:10 pg/μl for tetra:penta-hexa-hepta:octa chlorinated dibenzo-p-dioxins/-dibenzo furans respectively
- EC-4986/1000 with non-ortho PCBs at concentration 10 pg/μl
- EC-4987/100 with mono-ortho PCBs at concentration 100 pg/μl
- EC-5179/50 with marker PCBs at concentration 100 pg/μl
- EO-5103/100 with PBDEs at concentration 25 pg/μl, except BDE-209 at 100 pg/μl
- ULM-4834-S/100 with α-HBCD at a concentration 500 pg/μl

One sample of each

- approx. 40 g egg yolk
- approx. 100 g salmon
- approx. 50 g fish oil
- approx. 30 g perch (PFAS only)

We do not provide any standard solution for the determination of PFAS.

Fortification

The samples are prepared from regular market foods. There is no fortification or spiking of the target analytes in the food samples.

Shipment

The samples are fresh frozen food homogenates. They are distributed by international courier and should reach the receiving laboratory in good condition within a few days.

3.2 Coding

Coding of laboratories

Upon arrival of the samples in the participant's laboratory, the Microsoft excel file named "Participant confirmation", shall be filled in and **immediately** returned to the coordinators by e-mail. The code of the laboratory will then be given by the co-ordinators. The laboratory codes will not be revealed to the other participants or to any third parties.

Coding of samples

Egg yolk	Egg-2020
Salmon	Salmon-2020
Fish oil	Fish oil-2020
Perch	Perch-2020

The above sample coding is marked on the sample bottles.

3.3 Analytical procedure

Storage of the samples

The samples are fresh, frozen homogenates of natural food items. They are shipped frozen and should be stored frozen until they are analysed.

Methods to be used

Laboratories shall use

- their own methods for sample preparation and instrumental analysis
- their own internal- and quantification standards
- their own lipid determination procedure

Standard solutions

The standard solutions should be analysed using the laboratory's own quantification standards and methods and the results shall be reported.

General

Beware of the high risk of background contamination and positive blank values when analysing food samples with levels of dioxins, PCBs, PBDEs and HBCD in the low ppt range.

Use sample size according to expected levels of dioxins for the determinations in order to achieve a detection level that leaves as few as possible analytes as non-detected. The sample amount dispatched is not meant for replicate analyses.

The samples might become inhomogeneous during freezing and transport. Re-homogenise all received material of each food item before any portion is taken out for analysis.

An estimate of the lipid content in the samples follows below:

- Egg: ≈ 10 %
- Salmon: 15-20 %
- Fish oil: 95-100 %

4. Reporting

4.1 Results to be reported

Laboratories are recommended to report as many as possible of the congeners mentioned in chapter 1.

The reports **should** include the determined lipid percent for the samples, with the exception of the perch-sample.

The analytical report must include concentrations for all the congeners in all the samples on fresh weight basis, see Report forms B, C, D for PCDD/PCDF and dioxin-like PCBs and Report form 2, 3, 4 for marker PCBs, PBDEs and HBCD, and the reportform “PFAS-2020” for PFASs.

Laboratories must report one concentration on fresh weight basis for each congener which is detected ($S/N \geq 3$), **as well as** the limit of determination (LOD, $S/N = 3$) for each sample. Non-detected congeners ($S/N < 3$) must be marked ND in the Comments column of the Report form. **Please note that the LOD will be used as concentration of non-detected congeners.**

4.2 Checklist

Please use the attached checklist before returning the Report forms with your results.

4.3 Submitting results

Four Microsoft Excel files are provided to each participant comprising:

Participants confirmation

- Confirmation of receiving test materials

Report form dioxins and dioxinlike PCBs

- analytical data, Report forms A, B, C and D

Report form marker PCBs, PBDEs and HBCD

- analytical data, Report forms 1, 2, 3 and 4

Report form for PFASs

Participants are requested to submit their reports electronically to avoid possible transcription errors.

Please, do not alter rows or columns in the original Report forms!

The electronic report shall be sent to dioxin@fhi.no within the deadline.

Deadline

The reports must be in our hands no later than May 01th, 2020 to enable us to prepare the draft report to be published by the end of June 2020. There will normally be no extension of this deadline. A confirmation for the receipt of your results will be sent to you by e-mail within a week.

5. Statistical evaluations

Prior to the final report, a draft version will be prepared based on the data reported by April 20th. The co-ordinators will calculate mean, median and between-laboratory standard deviations for each congener. Outliers will be removed, and consensus values will be calculated. In case of extreme deviation from normal distribution, appropriate procedures will be used to get the best estimate of the true value as possible. For the dioxin-like compounds, TEQ values will be calculated for each laboratory and a consensus TEQ value based on the consensus of the congeners. Z-scores will be calculated for laboratories' results for all congeners, and for PCDD/PCDF TEQs and PCB TEQs as well.

6. Final report

The final report will be prepared by the co-ordinators and published in November 2020 and will then be made available for all interested parties in an electronic version on <http://www.fhi.no>. All participants will be presented by their laboratory code. Prior to this, a draft will be published on the Internet by the end of June.

Certificates of participation in the study will be given to all laboratories submitting results.

7. Fee

To all laboratories that have received the materials, an invoice will be sent. The participation fee for any combination of the 29 dioxin-like congeners, six marker PCBs, 8 PBDEs, HBCD and PFAS is

- NOK 9500 for one food item
- NOK 11700 for two food items
- NOK 13900 for three food items.
- NOK 14900 for four food items

Up to six standard solutions will be distributed free of charge to all participants, dependent on which analytes the participating laboratories intend to determine.

Invoices will be sent out after we have received the Participant confirmation from the participants.

8. Time schedule

Announcement	January 2020
Return of registration form	February 15th, 2020
Shipment of test material	Week 8-9, 2020
Confirmation of receipt of test material by participant	Within 7 days after receipt
Reporting of test results	May 01th, 2020
Publication of draft report on web-site	June 2020
Final report available to all participants	November 2020

^{a)} Please be sure that your results are reported in time as there normally will be no extension of the deadline.

9. Co-ordinators of the study

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Checklist

In order to avoid possible misunderstandings and errors when reporting your results, we here give a list of possible pitfalls. Please, check this list and your Report forms before reporting your results.

- Are the results for each congener filled out in the correct order? Be especially aware of 2,3,4,6,7,8- and 1,2,3,7,8,9-HxCDF, and PCB 81.
- Are all congener results reported in pg/ μ l for standards and pg/g for samples?
- Did you remember to report the lipid percent of the samples?
- Are the results of the samples reported on a *fresh weight basis*?
- Are both concentration and LOD reported for each congener?
- Are sample amount and measured lipid content filled in?
- Are not detected congeners marked with ND in the Comments column?

Appendix C:

WHO TEFs for human risk assessment

WHO TEFs for human risk assessment based on the conclusions of the World Health Organisation Meeting in Stockholm, Sweden, 15-18 June 1997 and International Programme on Chemical Safety expert meeting in Geneva, June 2005 (*M. van den Berg et al., Environ Health Perspect* 1998;106:775-792; *M. van den Berg et al., Toxicological sciences* 93(2), 223-241 (2006))

Congener	WHO 1998 TEF	WHO 2005 TEF
<i>chlorinated dibenzo-p-dioxiner</i>		
2,3,7,8-TCDD	1	1
1,2,3,7,8-PeCDD	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1
1,2,3,6,7,8-HxCDD	0.1	0.1
1,2,3,7,8,9-HxCDD	0.1	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01
OCDD	0.0001	0.0003
<i>Chlorinated dibenzofuraner</i>		
2,3,7,8-TCDF	0.1	0.1
1,2,3,7,8-PeCDF	0.05	0.03
2,3,4,7,8-PeCDF	0.5	0.3
1,2,3,4,7,8-HxCDF	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01
OCDF	0.0001	0.0003
<i>non-ortho substituted PCBs</i>		
PCB 77	0.0001	0.0001
PCB 81	0.0001	0.0003
PCB 126	0.1	0.1
PCB 169	0.01	0.03
<i>mono-ortho substituted PCBs</i>		
PCB 105	0.0001	0.00003
PCB 114	0.0005	0.00003
PCB 118	0.0001	0.00003
PCB 123	0.0001	0.00003
PCB 156	0.0005	0.00003
PCB 157	0.0005	0.00003
PCB 167	0.00001	0.00003
PCB 189	0.0001	0.00003

Abbreviations used:

T = tetra; Pe = penta; Hx = hexa; Hp = hepta; O = octa;

CDD = chlorodibenzo-p-dioxin; CDF = chlorodibenzofuran; CB = chlorobiphenyl.

Appendix D:

Homogeneity testing

Homogeneity testing of test materials for “Interlaboratory Comparison on Dioxins in Food” organised by the Norwegian Institute of Public Health

Introduction

The International Harmonized Protocol for the Proficiency Testing of Analytical Chemistry Laboratories (Pure Appl Chem 2006;78:145-96) states that “The bulk material prepared for the proficiency test must be sufficient homogeneous and stable, in respect of each analyte, to ensure that all laboratories receive distribution units that do not differ to any consequential degree in mean analyte concentration. The scheme provider must clearly state the procedure used to establish the homogeneity of the test material”.

The protocol requires that the variation in composition among the distributed units is negligible in relation to variation introduced by the measurements conducted by the participants of the proficiency test (PT). The estimated variation between the samples (s_{sam}) should be less than 30 % of the target standard deviation (σ_p), i.e., $s_{sam} < 0.3 \sigma_p$.

Further the protocol states that homogeneity testing is required to reassure the participants in proficiency testing schemes that the distributed units of the test material are sufficiently similar. The test specified calls for the selection of ten or more units at random after the putative homogenized material has been split and packaged into discrete samples for distribution. The material from each sample is then analyzed in duplicate, under randomized repeatability conditions (that is, all in one run) using a method with sufficient analytical precision. The value of σ_{sam} is then estimated from the mean squares after one-way analysis of variance (ANOVA).

The quality of the analytical method used for homogeneity testing has a large impact on the results. If the analytical precision (σ_{an}) of the homogeneity test is not small, important sampling variation may be obscured by analytical variation. We may get a non-significant result when testing for heterogeneity, not because it is not present, but the test has no power to detect it. It is recommended that the analytical (repeatability) precision of the method used in the homogeneity test should satisfy $\sigma_{an} < 0.5 \sigma_p$

Consequences for the Interlaboratory Comparison on Dioxins in Food

Below follows the consequences for the Interlaboratory Comparison on Dioxin in Food;

1.

The protocol recommends duplicate analysis of at least 10 distribution units. Due to limited amount of test material in each distribution unit and the requirement for sufficiently low analytical standard deviation, the test analysis has to be restricted to PCB, e.g., 6 indicator PCB or CB-153. It is, however, questionable whether analysis of indicator PCB also reflects the distribution of dioxins and other contaminants in the sample, as the test material is often prepared by mixing specifically contaminated material with background contaminated material in order to achieve a sufficient contamination level. Therefore, the distribution of PCBs in the sample might not be relevant for the distribution of dioxins in the sample. The analytical precision of the method used in the homogeneity test should be less than half of the target standard deviation, i.e., $\sigma_{an} < 0.5 \sigma_p$. For determination of dioxins, the target standard deviation may be approximated by the requirement for trueness (Commission Regulation (EC) No 1883/2006) of $\pm 20 \%$ for total TEQ, i.e., the analytical precision should be less than 10 %. This is unrealistic to achieve for the determination of dioxins.

2.

The homogeneity testing using, e.g., the determination of indicator PCBs, requires the analysis of at least 60 samples prior to shipment of the distribution units to the participants. This causes problems for the time schedule of the sample preparation and involves high costs.

3.

The laboratory conducting the homogeneity test on PT analytes would have access to the test material and knowledge of contamination levels prior to the start of the PT and would therefore not be qualified for participation in the PT.

Conclusion

A valid testing of homogeneity of the test materials of the Interlaboratory Comparison (ILC) on Dioxins in Food with respect to the distribution of dioxins and dioxin-like PCBs is not guaranteed using indicator PCBs. It is doubtful that the analytical precision is small enough to detect a lack in sufficient homogeneity. Given the need for annually testing three different matrices for homogeneity, alternative, rapid and low cost homogeneity tests using surrogate should be applied.

Present approach for homogeneity testing for the ILC on Dioxins in Food

The Harmonized Protocol states under Chapter Testing for sufficient homogeneity: “Tests for sufficient homogeneity are in practice never wholly satisfactory... However, given that sufficient homogeneity is a reasonable prior assumption (because proficiency testing scheme providers do their best to ensure it), and that the cost [and time-consumption] of testing for it is often high, it is sensible to make the main emphasis the avoidance of “Type 1 errors” (that is, false rejection of a satisfactory material).

Having this in mind and the facts that it is impossible to determine all analytes for homogeneity testing of food test material and that a single indicator analyte not necessarily reflects the distribution of the other analytes, we have developed an approach that ensures that the test material is thoroughly blended and evenly distributed among the individual test bottles. The homogeneity testing of solid samples is based on the principle of measuring electrolytic conductivity after addition of sodium chloride to a small portion of the coarsely blended test material. A demonstration of homogeneous distribution of the added salt in the sub samples would indicate our ability to evenly blend the food matrix, i.e., with this approach we ensure the efficiency of our blending procedure. This is especially of importance when blending highly contaminated food matrices with background contaminated food matrices.

When testing homogeneity of the food samples, sodium chloride was added to about 10% of the test material in such an amount that the conductivity was about doubled compared to the natural conductivity. This sub-sample was added to the total sample. For example, to 1 kg of homogenised chicken meat, 150 g NaCl were added resulting in an addition of 1 % NaCl to the final test material of 15 kg. Conductivity measurements are performed as follows: boiling water is added to 10.0 g of the test material, and the resulting dispersion is ultrasonicated. After centrifugation, the extract is filtered through folded paper filters and allowed to cool to room temperature. The electrolytic conductivity of the water extract is measured using a conductivity meter.

Homogeneity of the test material was demonstrated by comparing the conductivity in water extracts of 10 samples from the same bottle (variation within bottles), and in extracts from 10 different bottles (variation between bottles).

Example

As an example, the relative standard deviation (RSD) of 10 conductivity measurements within a sample bottle containing chicken meat homogenate was 2 %. The RSD for the measurement of samples from 10 different, randomly selected bottles was 3 %. The contribution of the inhomogeneity to the total variation, calculated from $RSD_{\text{inhomogeneity}}^2 = RSD_{\text{between}}^2 - RSD_{\text{within}}^2$ ¹ was 2.2 % and hence small and acceptable. The total uncertainty for the determination of PCDD/Fs is usually considerably larger, so the measured contribution of inhomogeneity to the total uncertainty can be neglected

¹G. Becher, L.S. Haug, C. Thomsen, World-wide comparison on the quality of analytical determinations of PCDDs/PCDFs and dioxin-like PCBs in food, *Talanta* 63 (2004) 1115-1122.

Appendix E:

Summary results

Consensus of congener concentrations

Consensus of TEQ values

Consensus statistics

Laboratories' reported TEQs

Laboratories' Z-scores

Z-score plots

Consensus of congener concentrations

	Egg yolk		Salmon		Fish oil	
	pg/g fw.	pg/g lw.	pg/g fw.	pg/g lw.	pg/g fw.	pg/g lw.
2,3,7,8-TCDD	0,015	0,057	0,17	2,1	0,12	0,12
1,2,3,7,8-PeCDD	0,049	0,18	0,34	4,1	0,43	0,43
1,2,3,4,7,8-HxCDD	0,041	0,15	0,019	0,23	0,082	0,082
1,2,3,6,7,8-HxCDD	0,13	0,47	0,14	1,7	0,30	0,30
1,2,3,7,8,9-HxCDD	0,047	0,17	0,014	0,17	0,079	0,079
1,2,3,4,6,7,8-HpCDD	0,70	2,6	0,026	0,31	0,12	0,12
1,2,3,4,6,7,8,9-OCDD	2,6	9,9	0,035	0,42	0,10	0,10
2,3,7,8-TCDF	0,13	0,49	3,1	38	6,1	6,1
1,2,3,7,8-PeCDF	0,073	0,27	0,40	4,9	0,70	0,70
2,3,4,7,8-PeCDF	0,11	0,40	2,2	26	2,5	2,5
1,2,3,4,7,8-HxCDF	0,086	0,32	0,058	0,71	0,15	0,15
1,2,3,6,7,8-HxCDF	0,064	0,24	0,084	1,0	0,24	0,24
2,3,4,6,7,8-HxCDF	0,061	0,23	0,073	0,89	0,27	0,27
1,2,3,7,8,9-HxCDF	0,012	0,044	0,0078	0,095	0,030	0,030
1,2,3,4,6,7,8-HpCDF	0,26	0,96	0,010	0,12	0,071	0,071
1,2,3,4,7,8,9-HpCDF	0,020	0,075	0,0080	0,097	0,020	0,020
1,2,3,4,6,7,8,9-OCDF	0,16	0,60	0,011	0,13	0,061	0,061
PCB 77	2,6	9,8	63	763	54	54
PCB 126	1,1	4,0	26	316	22	22
PCB 169	0,20	0,75	6,9	85	9,0	9,0
PCB 81	0,19	0,71	1,4	17	1,5	1,5
PCB 105	47	175	1120	13633	1459	1459
PCB 114	2,5	9,5	65	786	88	88
PCB 118	157	588	3299	40154	4347	4347
PCB 123	1,9	7,0	30	369	54	54
PCB 156	50	186	512	6233	321	321
PCB 157	6,4	24	114	1388	101	101
PCB 167	22	84	262	3189	189	189
PCB 189	8,0	30	53	639	26	26

fw. - fresh weight

lw. - lipid weight

Consensus of congener concentrations

	Egg yolk		Salmon		Fish oil	
	pg/g fw.	pg/g lw.	pg/g fw.	pg/g lw.	pg/g fw.	pg/g lw.
PCB 28	37	140	419	5094	1480	1480
PCB 52	8,1	30	910	11081	4117	4117
PCB 101	19	72	3920	47718	5920	5920
PCB 138	473	1772	6822	83043	5956	5956
PCB 153	623	2331	9452	115054	8305	8305
PCB 180	354	1327	2667	32462	1779	1779
PBDE 28	0,29	1,1	24	295	111	111
PBDE 47	12	44	753	9161	1373	1373
PBDE 99	14	54	136	1653	110	110
PBDE 100	7,4	28	192	2331	277	277
PBDE 153	6,3	24	35	423	29	29
PBDE 154	4,5	17	105	1278	225	225
PBDE 183	7,1	27	1,1	13	3,5	3,5
PBDE 209	202	756	27	334	75	75
α-HBCD	276	1032	805	9799	1057	1057
β-HBCD	12	45	*	*	*	*
γ-HBCD	19	73	20	243	45	45
Tot HBCD	223	833	726	8836	1028	1028
Sum PCB	1514	5672	24189	294452	27557	27557
Sum BDE without 209	52	194	1245	15155	2128	2128
Sum BDE	254	950	1272	15489	2203	2203

fw. - fresh weight

lw. - lipid weight

*unable to calculate consensus value due to few submitted results

Perch-2020: PFAS, consensus values

	Perch pg/g fw.
PFOS	13526
PFHxS*	41
PFOA*	14
PFNA*	90
PFDA	496
PFUnDA	300
Sum PFAS	14467

fw. - fresh weight

**Indicative value due to few reported results*

Consensus of TEQs

TEF₂₀₀₆

	Egg yolk		Salmon		Fish oil	
	pg TE/g fw.	pg TE/g lw.	pg TE/g fw.	pg TE/g lw.	pg TE/g fw.	pg TE/g lw.
2,3,7,8-TCDD	0,015	0,057	0,17	2,1	0,12	0,12
1,2,3,7,8-PeCDD	0,049	0,18	0,34	4,1	0,43	0,43
1,2,3,4,7,8-HxCDD	0,0041	0,015	0,0019	0,023	0,0082	0,0082
1,2,3,6,7,8-HxCDD	0,013	0,047	0,014	0,17	0,030	0,030
1,2,3,7,8,9-HxCDD	0,0047	0,017	0,0014	0,017	0,0079	0,0079
1,2,3,4,6,7,8-HpCDD	0,0070	0,026	0,00026	0,0031	0,0012	0,0012
1,2,3,4,6,7,8,9-OCDD	0,00079	0,0030	0,000010	0,00013	0,000031	0,000031
2,3,7,8-TCDF	0,013	0,049	0,31	3,8	0,61	0,61
1,2,3,7,8-PeCDF	0,0022	0,0082	0,012	0,15	0,021	0,021
2,3,4,7,8-PeCDF	0,032	0,12	0,65	7,9	0,75	0,75
1,2,3,4,7,8-HxCDF	0,0086	0,032	0,0058	0,071	0,015	0,015
1,2,3,6,7,8-HxCDF	0,0064	0,024	0,0084	0,10	0,024	0,024
2,3,4,6,7,8-HxCDF	0,0061	0,023	0,0073	0,089	0,027	0,027
1,2,3,7,8,9-HxCDF	0,0012	0,0044	0,00078	0,0095	0,0030	0,0030
1,2,3,4,6,7,8-HpCDF	0,0026	0,0096	0,00010	0,0012	0,00071	0,00071
1,2,3,4,7,8,9-HpCDF	0,00020	0,00075	0,000080	0,00097	0,00020	0,00020
1,2,3,4,6,7,8,9-OCDF	0,000048	0,00018	0,0000033	0,000040	0,000018	0,000018
PCB-77	0,00026	0,00098	0,0063	0,076	0,0054	0,0054
PCB-126	0,11	0,40	2,6	32	2,2	2,2
PCB-169	0,0060	0,022	0,21	2,5	0,27	0,27
PCB-81	0,000057	0,00021	0,00041	0,0050	0,00046	0,00046
PCB-105	0,0014	0,0053	0,034	0,41	0,044	0,044
PCB-114	0,000076	0,00029	0,0019	0,024	0,0026	0,0026
PCB-118	0,0047	0,018	0,099	1,2	0,13	0,13
PCB-123	0,000056	0,00021	0,00091	0,011	0,0016	0,0016
PCB-156	0,0015	0,0056	0,015	0,19	0,0096	0,0096
PCB-157	0,00019	0,00072	0,0034	0,042	0,0030	0,0030
PCB-167	0,00067	0,0025	0,0079	0,096	0,0057	0,0057
PCB-189	0,00024	0,00090	0,0016	0,019	0,00078	0,00078
PCDDs/PCDFs	0,17	0,62	1,5	19	2,1	2,1
Non-ortho PCBs	0,11	0,42	2,8	34	2,4	2,4
Mono-ortho PCBs	0,0088	0,033	0,16	2,0	0,20	0,20
Total TEQ	0,29	1,1	4,5	55	4,7	4,7

fw. - fresh weight

lw. - lipid weight

Consensus of TEQs

TEF₁₉₉₈

	Egg yolk		Salmon		Fish oil	
	pg TE/g fw.	pg TE/g lw.	pg TE/g fw.	pg TE/g lw.	pg TE/g fw.	pg TE/g lw.
2,3,7,8-TCDD	0,015	0,057	0,17	2,1	0,12	0,12
1,2,3,7,8-PeCDD	0,049	0,18	0,34	4,1	0,43	0,43
1,2,3,4,7,8-HxCDD	0,0041	0,015	0,0019	0,023	0,0082	0,0082
1,2,3,6,7,8-HxCDD	0,013	0,047	0,014	0,17	0,030	0,030
1,2,3,7,8,9-HxCDD	0,0047	0,017	0,0014	0,017	0,0079	0,0079
1,2,3,4,6,7,8-HpCDD	0,0070	0,026	0,00026	0,0031	0,0012	0,0012
1,2,3,4,6,7,8,9-OCDD	0,00026	0,00099	0,0000035	0,000042	0,000010	0,000010
2,3,7,8-TCDF	0,013	0,049	0,31	3,8	0,61	0,61
1,2,3,7,8-PeCDF	0,0036	0,014	0,020	0,24	0,035	0,035
2,3,4,7,8-PeCDF	0,053	0,20	1,1	13	1,3	1,3
1,2,3,4,7,8-HxCDF	0,0086	0,032	0,0058	0,071	0,015	0,015
1,2,3,6,7,8-HxCDF	0,0064	0,024	0,0084	0,10	0,024	0,024
2,3,4,6,7,8-HxCDF	0,0061	0,023	0,0073	0,089	0,027	0,027
1,2,3,7,8,9-HxCDF	0,0012	0,0044	0,00078	0,0095	0,0030	0,0030
1,2,3,4,6,7,8-HpCDF	0,0026	0,0096	0,00010	0,0012	0,00071	0,00071
1,2,3,4,7,8,9-HpCDF	0,00020	0,00075	0,000080	0,00097	0,00020	0,00020
1,2,3,4,6,7,8,9-OCDF	0,000016	0,000060	0,0000011	0,000013	0,0000061	0,0000061
PCB-77	0,00026	0,00098	0,0063	0,076	0,0054	0,0054
PCB-126	0,11	0,40	2,6	32	2,2	2,2
PCB-169	0,0020	0,0075	0,069	0,85	0,090	0,090
PCB-81	0,000019	0,000071	0,00014	0,0017	0,00015	0,00015
PCB-105	0,0047	0,018	0,11	1,4	0,15	0,15
PCB-114	0,0013	0,0048	0,032	0,39	0,044	0,044
PCB-118	0,016	0,059	0,33	4,0	0,43	0,43
PCB-123	0,00019	0,00070	0,0030	0,037	0,0054	0,0054
PCB-156	0,025	0,093	0,26	3,1	0,16	0,16
PCB-157	0,0032	0,012	0,057	0,69	0,051	0,051
PCB-167	0,00022	0,00084	0,0026	0,032	0,0019	0,0019
PCB-189	0,00080	0,0030	0,0053	0,064	0,0026	0,0026
PCDDs/PCDFs	0,19	0,70	2,0	24	2,6	2,6
Non-ortho PCBs	0,11	0,41	2,7	33	2,3	2,3
Mono-ortho PCBs	0,051	0,19	0,80	9,7	0,85	0,85
Total TEQ	0,35	1,3	5,4	66	5,7	5,7

fw. - fresh weight

lw. - lipid weight

Consensus statistics

2020

Analyte solution

	Target value pg/µl	Consensus median, pg/µl	Median all values pg/µl	Consensus mean, pg/µl	Standard deviation, pg/µl	Relative standard deviation, %	No. of values reported	No. of values removed
2,3,7,8-TCDD	2,0	2,0	2,0	2,0	0,11	5,3	52	0
1,2,3,7,8-PeCDD	5,0	5,0	5,0	5,0	0,25	5,0	52	0
1,2,3,4,7,8-HxCDD	5,0	5,0	5,0	4,9	0,31	6,3	52	0
1,2,3,6,7,8-HxCDD	5,0	4,9	4,9	4,8	0,31	6,4	52	0
1,2,3,7,8,9-HxCDD	5,0	5,0	5,0	4,9	0,27	5,4	52	0
1,2,3,4,6,7,8-HpCDD	5,0	4,9	4,9	4,9	0,21	4,3	52	0
1,2,3,4,6,7,8,9-OCDD	10	9,8	9,8	9,7	0,63	6,5	52	0
2,3,7,8-TCDF	2,0	2,0	2,0	2,0	0,11	5,7	52	0
1,2,3,7,8-PeCDF	5,0	5,0	5,0	5,0	0,30	6,0	52	0
2,3,4,7,8-PeCDF	5,0	4,8	4,8	4,8	0,36	7,5	52	0
1,2,3,4,7,8-HxCDF	5,0	4,9	4,9	4,9	0,26	5,2	52	0
1,2,3,6,7,8-HxCDF	5,0	5,0	5,0	5,0	0,26	5,3	52	0
2,3,4,6,7,8-HxCDF	5,0	4,9	4,9	4,9	0,24	4,8	52	0
1,2,3,7,8,9-HxCDF	5,0	5,0	5,0	5,0	0,34	6,8	52	0
1,2,3,4,6,7,8-HpCDF	5,0	4,9	4,9	4,9	0,35	7,1	52	0
1,2,3,4,7,8,9-HpCDF	5,0	4,9	4,9	4,8	0,26	5,3	52	0
1,2,3,4,6,7,8,9-OCDF	10	9,9	9,9	9,8	0,75	7,7	52	0
PCB-77	10	10	10	10,0	0,68	6,8	52	0
PCB-126	10	10	10	10	0,67	6,7	52	0
PCB-169	10	10	10	9,9	0,70	7,1	52	0
PCB-81	10	10	10	9,9	0,62	6,2	52	0
PCB-105	100	100	100	102	7,9	7,7	53	0
PCB-114	100	100	100	101	9,1	9,0	53	0
PCB-118	100	101	101	102	8,3	8,1	53	0
PCB-123	100	102	102	102	9,4	9,2	53	0
PCB-156	100	100	100	102	7,6	7,5	53	1
PCB-157	100	101	101	102	8,8	8,6	53	0
PCB-167	100	101	101	101	9,5	9,4	53	0
PCB-189	100	101	101	102	9,1	9,0	53	0

Consensus statistics

2020

Analyte solution

	Target value pg/μl	Median, pg/μl all values	Median, pg/μl outliers removed	Mean, pg/μl all values	Mean, pg/μl outliers removed
PCB-28	100	99	99	97	97
PCB-52	100	100	100	100	100
PCB-101	100	100	100	100	100
PCB-138	100	100	100	99	99
PCB-153	100	100	100	100	100
PCB-180	100	100	100	101	101
PBDE-28	25	25	25	26	25
PBDE-47	25	25	25	26	25
PBDE-99	25	25	25	26	25
PBDE-100	25	25	25	26	25
PBDE-153	25	25	24	26	24
PBDE-154	25	24	24	26	24
PBDE-183	25	25	25	26	24
PBDE-209	100	96	96	97	97
α-HBCD *	500	394	468	341	439

	Relative standard deviation, % all values	Relative standard deviation, % outliers removed	Number of reported values	Number of reported outliers
PCB-28	10	10	46	0
PCB-52	11	11	46	0
PCB-101	9,7	9,7	46	0
PCB-138	10	10	46	0
PCB-153	11	11	46	0
PCB-180	10	10	46	0
PBDE-28	27	10	29	1
PBDE-47	25	7,3	29	1
PBDE-99	25	7,2	29	1
PBDE-100	29	11	29	1
PBDE-153	30	8,9	29	2
PBDE-154	30	8,5	29	2
PBDE-183	31	12	29	2
PBDE-209	12	12	24	0
α-HBCD *	63	25	4	1

NDs: Non-detects

* : Indicative value due to few reported values

Consensus statistics

2020

Egg yolk, fresh weight

	Consensus median, pg/g	Median all values pg/g	Consensus mean, pg/g	Standard deviation, pg/g	Relative standard deviation, %	No. of values reported	No. of values removed	No. of reported non-detects
2,3,7,8-TCDD	0,015	0,017	0,017	0,0062	37	50	8	18
1,2,3,7,8-PeCDD	0,049	0,050	0,047	0,015	32	50	2	9
1,2,3,4,7,8-HxCDD	0,041	0,041	0,041	0,011	27	50	3	10
1,2,3,6,7,8-HxCDD	0,13	0,13	0,12	0,031	25	50	3	2
1,2,3,7,8,9-HxCDD	0,047	0,047	0,046	0,0098	21	50	3	10
1,2,3,4,6,7,8-HpCDD	0,70	0,71	0,74	0,15	20	50	2	0
1,2,3,4,6,7,8,9-OCDD	2,6	3,0	3,0	1,1	35	50	10	0
2,3,7,8-TCDF	0,13	0,13	0,13	0,036	27	50	3	1
1,2,3,7,8-PeCDF	0,073	0,074	0,076	0,019	25	50	4	2
2,3,4,7,8-PeCDF	0,11	0,11	0,11	0,023	21	50	4	0
1,2,3,4,7,8-HxCDF	0,086	0,090	0,090	0,019	21	50	5	2
1,2,3,6,7,8-HxCDF	0,064	0,065	0,066	0,017	26	50	5	2
2,3,4,6,7,8-HxCDF	0,061	0,063	0,061	0,019	31	50	6	3
1,2,3,7,8,9-HxCDF	0,012	0,018	0,014	0,0083	60	50	16	28
1,2,3,4,6,7,8-HpCDF	0,26	0,26	0,27	0,067	25	50	3	0
1,2,3,4,7,8,9-HpCDF	0,020	0,023	0,021	0,010	49	50	14	15
1,2,3,4,6,7,8,9-OCDF	0,16	0,16	0,16	0,044	28	50	5	3
PCB-77	2,6	2,7	2,8	0,73	26	50	6	2
PCB-126	1,1	1,1	1,1	0,29	27	50	2	2
PCB-169	0,20	0,21	0,21	0,068	33	50	7	6
PCB-81	0,19	0,21	0,20	0,052	27	49	9	6
PCB-105	47	47	50	9,8	20	50	2	1
PCB-114	2,5	2,6	2,5	0,91	36	50	6	11
PCB-118	157	159	164	32	19	50	3	0
PCB-123	1,9	2,1	1,8	0,83	45	50	10	12
PCB-156	50	50	51	8,6	17	50	2	0
PCB-157	6,4	6,5	6,5	1,7	26	50	3	4
PCB-167	22	23	23	4,8	21	50	2	0
PCB-189	8,0	8,0	8,2	1,7	20	50	3	3

Consensus statistics

2020

Egg yolk, fresh weight

	Median, pg/g all values	Median, pg/g outliers removed	Median, pg/g outliers and NDs removed	Mean, pg/g all values	Mean, pg/g outliers removed	Mean, pg/g outliers and NDs removed
PCB-28	40	37	37	66	40	40
PCB-52	11	8,2	8,2	32	8,7	8,7
PCB-101	21	19	19	38	19	18
PCB-138	474	473	473	542	475	475
PCB-153	626	612	612	666	597	597
PCB-180	360	356	356	406	344	344
PBDE-28	0,55	0,26	0,27	4,4	0,38	0,43
PBDE-47	12	12	12	20	12	12
PBDE-99	15	14	14	28	14	14
PBDE-100	7,4	7,4	7,4	9,3	8,0	8,0
PBDE-153	6,6	6,3	6,4	10	6,5	6,6
PBDE-154	4,7	4,2	4,7	15	4,3	4,6
PBDE-183	7,1	6,6	7,0	12	6,2	6,6
PBDE-209	227	202	202	348	220	221
α -HBCD *	271	271	276	217	217	271
β -HBCD *	10	7,5	12	14	7,2	12
γ -HBCD *	10	10	19	71	9,9	19
Tot HBCD *	223	140	223	298	148	223

	Relative standard deviation, % all values	Relative standard deviation, % outliers removed	Relative standard deviation, % outliers and NDs removed	Number of reported values	Number of outliers	Number of reported NDs
PCB-28	150	39	40	44	8	3
PCB-52	128	52	53	44	15	7
PCB-101	92	37	32	44	13	4
PCB-138	64	32	32	44	2	0
PCB-153	58	31	31	44	2	0
PCB-180	66	29	29	44	3	0
PBDE-28	388	90	84	27	10	12
PBDE-47	129	34	34	27	3	1
PBDE-99	215	36	36	27	3	1
PBDE-100	84	40	40	27	1	1
PBDE-153	114	43	42	27	3	2
PBDE-154	238	45	36	27	3	3
PBDE-183	192	44	37	27	3	2
PBDE-209	152	53	55	20	2	2
α -HBCD *	69	69	38	5	0	1
β -HBCD *	113	83	23	5	1	2
γ -HBCD *	193	80	**	5	1	3
Tot HBCD *	109	103	52	4	1	1

NDs: Non-detects

* : Indicative value due to few reported values

** : Not possible to calculate results due to few reported results

Consensus statistics

2020

Salmon, fresh weight

	Consensus median, pg/g	Median all values pg/g	Consensus mean, pg/g	Standard deviation, pg/g	Relative standard deviation, %	No. of values reported	No. of values removed	No. of reported non-detects
2,3,7,8-TCDD	0,17	0,17	0,17	0,041	24	55	0	0
1,2,3,7,8-PeCDD	0,34	0,34	0,33	0,084	25	55	0	0
1,2,3,4,7,8-HxCDD	0,019	0,020	0,020	0,0077	38	55	9	15
1,2,3,6,7,8-HxCDD	0,14	0,14	0,14	0,041	29	55	0	0
1,2,3,7,8,9-HxCDD	0,014	0,015	0,014	0,0058	41	55	11	17
1,2,3,4,6,7,8-HpCDD	0,026	0,028	0,028	0,012	44	55	6	14
1,2,3,4,6,7,8,9-OCDD	0,035	0,045	0,036	0,017	49	55	17	13
2,3,7,8-TCDF	3,1	3,1	3,0	0,72	24	55	0	0
1,2,3,7,8-PeCDF	0,40	0,41	0,42	0,11	25	55	1	0
2,3,4,7,8-PeCDF	2,2	2,2	2,1	0,44	21	55	0	0
1,2,3,4,7,8-HxCDF	0,058	0,059	0,058	0,017	29	55	4	3
1,2,3,6,7,8-HxCDF	0,084	0,085	0,084	0,025	29	55	2	2
2,3,4,6,7,8-HxCDF	0,073	0,075	0,074	0,018	24	55	5	2
1,2,3,7,8,9-HxCDF	0,0078	0,010	0,0085	0,0043	51	55	17	33
1,2,3,4,6,7,8-HpCDF	0,010	0,014	0,012	0,0049	42	55	19	19
1,2,3,4,7,8,9-HpCDF	0,0080	0,011	0,0087	0,0061	70	55	14	39
1,2,3,4,6,7,8,9-OCDF	0,011	0,019	0,012	0,0084	68	55	19	32
PCB-77	63	63	59	14	24	55	0	0
PCB-126	26	26	25	5,5	22	55	1	0
PCB-169	6,9	7,0	6,9	2,2	31	55	2	1
PCB-81	1,4	1,4	1,3	0,45	35	54	5	4
PCB-105	1120	1120	1063	228	21	55	0	0
PCB-114	65	65	63	15	25	55	0	0
PCB-118	3299	3299	3176	757	24	55	0	0
PCB-123	30	40	31	18	56	55	11	5
PCB-156	512	512	478	105	22	55	0	0
PCB-157	114	114	110	23	21	55	0	0
PCB-167	262	262	247	57	23	55	1	0
PCB-189	53	53	49	12	24	55	0	0

Consensus statistics

2020

Salmon, fresh weight

	Median, pg/g all values	Median, pg/g outliers removed	Median, pg/g outliers and NDs removed	Mean, pg/g all values	Mean, pg/g outliers removed	Mean, pg/g outliers and NDs removed
PCB-28	419	419	419	424	412	412
PCB-52	910	910	910	888	888	888
PCB-101	3920	3920	3920	3669	3669	3669
PCB-138	6822	6822	6822	6567	6567	6567
PCB-153	9452	9452	9452	8742	8742	8742
PCB-180	2674	2667	2667	2531	2450	2450
PBDE-28	24	24	24	66	26	26,1
PBDE-47	753	753	753	741	741	741
PBDE-99	136	136	136	136	136	136
PBDE-100	192	192	192	189	189	189
PBDE-153	35	35	35	126	36	36
PBDE-154	107	105	105	878	115	115
PBDE-183	1,3	1,1	1,1	6,3	1,3	1,2
PBDE-209	37	32	27	65	30	28
α -HBCD *	805	805	805	661	661	661
β -HBCD *	6,0	5,5	**	11	5,3	**
γ -HBCD *	12	11	20	32	11	20
Tot HBCD *	726	726	726	663	663	663

	Relative standard deviation, % all values	Relative standard deviation, % outliers removed	Relative standard deviation, % outliers and NDs removed	Number of reported values	Number of outliers	Number of reported NDs
PCB-28	39	35	35	48	1	0
PCB-52	32	32	32	48	0	0
PCB-101	33	33	33	48	0	0
PCB-138	38	38	38	48	0	0
PCB-153	32	32	32	48	0	0
PCB-180	37	31	31	48	1	0
PBDE-28	293	23	23	30	3	0
PBDE-47	16	16	16	30	0	0
PBDE-99	24	24	24	30	0	0
PBDE-100	20	20	20	30	0	0
PBDE-153	374	24	24	30	2	0
PBDE-154	476	33	33	30	1	0
PBDE-183	234	42	42	30	7	7
PBDE-209	132	71	71	20	4	4
α -HBCD *	74	74	74	5	0	0
β -HBCD *	121	78	**	5	1	4
γ -HBCD *	152	78	**	5	1	3
Tot HBCD *	90	90	90	4	0	0

NDs: Non-detects

* : Indicative value due to few reported values

** : Not possible to calculate results due to few reported results

Consensus statistics

2020

Fish oil, fresh weight

	Consensus median, pg/g	Median all values pg/g	Consensus mean, pg/g	Standard deviation, pg/g	Relative standard deviation, %	No. of values reported	No. of values removed	No. of reported non-detects
2,3,7,8-TCDD	0,12	0,12	0,12	0,035	29	56	2	7
1,2,3,7,8-PeCDD	0,43	0,44	0,40	0,13	31	56	1	3
1,2,3,4,7,8-HxCDD	0,082	0,084	0,087	0,031	35	56	5	15
1,2,3,6,7,8-HxCDD	0,30	0,30	0,30	0,081	27	56	1	4
1,2,3,7,8,9-HxCDD	0,079	0,080	0,077	0,028	36	56	5	18
1,2,3,4,6,7,8-HpCDD	0,12	0,13	0,12	0,046	38	56	7	14
1,2,3,4,6,7,8,9-OCDD	0,10	0,13	0,12	0,056	48	56	14	19
2,3,7,8-TCDF	6,1	6,1	6,0	0,61	10	56	1	0
1,2,3,7,8-PeCDF	0,70	0,71	0,71	0,19	26	56	2	2
2,3,4,7,8-PeCDF	2,5	2,5	2,6	0,44	17	56	1	0
1,2,3,4,7,8-HxCDF	0,15	0,15	0,16	0,048	30	56	4	6
1,2,3,6,7,8-HxCDF	0,24	0,24	0,23	0,065	28	56	3	3
2,3,4,6,7,8-HxCDF	0,27	0,27	0,27	0,071	26	56	4	3
1,2,3,7,8,9-HxCDF	0,030	0,038	0,031	0,017	54	56	16	37
1,2,3,4,6,7,8-HpCDF	0,071	0,084	0,081	0,027	33	56	11	16
1,2,3,4,7,8,9-HpCDF	0,020	0,040	0,029	0,022	75	56	15	42
1,2,3,4,6,7,8,9-OCDF	0,061	0,076	0,061	0,037	61	56	16	34
PCB-77	54	54	55	8,4	15	56	1	0
PCB-126	22	22	22	3,4	16	56	2	0
PCB-169	9,0	9,1	8,9	1,7	19	56	2	0
PCB-81	1,5	1,6	1,6	0,55	35	55	6	8
PCB-105	1459	1459	1465	190	13	56	1	0
PCB-114	88	88	88	18	20	56	1	1
PCB-118	4347	4363	4442	487	11	56	1	0
PCB-123	54	58	56	27	48	56	7	4
PCB-156	321	322	323	46	14	56	1	0
PCB-157	101	101	104	15	14	56	1	0
PCB-167	189	189	190	28	15	56	3	0
PCB-189	26	26	26	5,1	19	56	4	2

Consensus statistics

2020

Fish oil, fresh weight

	Median, pg/g all values	Median, pg/g outliers removed	Median, pg/g outliers and NDs removed	Mean, pg/g all values	Mean, pg/g outliers removed	Mean, pg/g outliers and NDs removed
PCB-28	1491	1473	1473	1609	1499	1499
PCB-52	4125	4119	4119	4101	3983	3983
PCB-101	5931	5920	5920	6262	5699	5699
PCB-138	5965	5961	5961	6794	5877	5877
PCB-153	8308	8295	8295	10452	8310	8310
PCB-180	1783	1774	1774	2208	1689	1689
PBDE-28	111	109	109	136	115	115
PBDE-47	1372	1372	1372	1420	1420	1420
PBDE-99	119	110	110	278	115	115
PBDE-100	277	277	277	567	273	273
PBDE-153	29	28	28	92	29	29
PBDE-154	227	194	194	2620	227	227
PBDE-183	6,7	4,0	3,6	29	5,1	4,0
PBDE-209	228	90	75	577	131	134
α-HBCD *	1057	1057	1057	797	797	797
β-HBCD *	20	13	**	30	14	**
γ-HBCD *	45	28	45	82	30	45
Tot HBCD *	1028	1028	1028	802	802	802

	Relative standard deviation, % all values	Relative standard deviation, % outliers removed	Relative standard deviation, % outliers and NDs removed	Number of reported values	Number of outliers	Number of reported NDs
PCB-28	47	35	35	50	2	0
PCB-52	31	24	24	50	1	0
PCB-101	67	25	25	50	1	0
PCB-138	98	28	28	50	1	0
PCB-153	146	27	27	50	1	0
PCB-180	154	23	23	50	2	0
PBDE-28	65	37	37	28	2	0
PBDE-47	31	31	31	28	0	0
PBDE-99	274	31	31	28	4	0
PBDE-100	260	31	31	28	2	0
PBDE-153	301	37	37	28	4	0
PBDE-154	480	44	44	28	3	0
PBDE-183	203	65	64	28	8	8
PBDE-209	180	106	109	20	7	5
α-HBCD *	62	62	62	5	0	0
β-HBCD *	126	100	**	5	1	4
γ-HBCD *	145	101	**	5	1	3
Tot HBCD *	67	67	67	4	0	0

NDs: Non-detects

* : Indicative value due to few reported values

** : Not possible to calculate results due to few reported results

Laboratories' reported TEQs, sum indicator PCB and sum PBDE without PBDE 209

TEF ₂₀₀₆	Median pg/g	Mean pg/g	Standard deviation, pg/g	Relative standard deviation, %	Min pg/g	Max pg/g	Reporting laboratories
Egg yolk, fresh weight							
PCDD/PCDF TEQ	0,18	0,25	0,18	75	0,12	1,3	50
Non-ortho PCB TEQ	0,11	0,14	0,096	70	0,017	0,63	50
Mono-ortho PCB TEQ	0,0090	0,010	0,0049	48	0,0062	0,034	50
Total TEQ	0,30	0,36	0,27	75	0,20	1,9	50
Sum indicator PCB	1551	1750	1028	59	1,4	6502	44
Sum PBDE without PBDE 209	51	99	130	131	0,059	550	27
Salmon, fresh weight							
PCDD/PCDF TEQ	1,5	1,9	0,31	16	0,18	2,1	55
Non-ortho PCB TEQ	2,8	2,8	0,82	29	0,34	6,8	55
Mono-ortho PCB TEQ	0,16	0,16	0,036	23	0,024	0,22	55
Total TEQ	4,5	4,4	1,0	24	0,55	8,6	55
Sum indicator PCB	24259	22822	7008	31	24	37766	48
Sum PBDE without PBDE 209	1277	2142	4689	219	794	26928	30
Fish oil, fresh weight							
PCDD/PCDF TEQ	2,1	3,0	2,1	71	1,4	18	56
Non-ortho PCB TEQ	2,5	3,2	5,5	170	1,4	43	56
Mono-ortho PCB TEQ	0,20	0,24	0,31	126	0,16	2,5	56
Total TEQ	4,7	5,8	7,9	135	3,4	64	56
Sum indicator PCB	27702	31335	30696	98	27	241384	51
Sum PBDE without PBDE 209	2165	5046	14812	294	1,8	81968	29

Laboratories' reported TEQs, sum indicator PCB and sum PBDE without PBDE 209

TEF ₁₉₉₈	Median pg/g	Mean pg/g	Standard deviation, pg/g	Relative standard deviation, %	Min pg/g	Max pg/g	Reporting laboratories
Egg yolk, fresh weight							
PCDD/PCDF TEQ	0,20	0,25	0,20	82	0,13	1,4	50
Non-ortho PCB TEQ	0,11	0,13	0,091	70	0,0089	0,60	50
Mono-ortho PCB TEQ	0,051	0,059	0,028	48	0,041	0,20	50
Total TEQ	0,36	0,44	0,31	70	0,25	2,2	50
Sum indicator PCB	1551	1750	1028	59	1,4	6502	44
Sum PBDE without PBDE 209	51	99	130	131	0,059	550	27
Salmon, fresh weight							
PCDD/PCDF TEQ	2,0	1,9	0,40	21	0,23	2,6	55
Non-ortho PCB TEQ	2,7	2,7	0,78	29	0,32	6,6	55
Mono-ortho PCB TEQ	0,83	0,76	0,16	22	0,10	1,0	55
Total TEQ	5,5	5,3	1,2	22	0,66	9,6	55
Sum indicator PCB	24259	22822	7008	31	24	37766	48
Sum PBDE without PBDE 209	1277	2142	4689	219	794	26928	30
Fish oil, fresh weight							
PCDD/PCDF TEQ	2,6	3,0	2,8	93	1,8	23	56
Non-ortho PCB TEQ	2,3	3,0	5,3	175	1,2	42	56
Mono-ortho PCB TEQ	0,85	1,1	1,4	137	0,69	12	56
Total TEQ	5,7	7,0	9,4	134	4,2	76	56
Sum indicator PCB	27702	31335	30696	98	27	241384	51
Sum PBDE without PBDE 209	2165	5046	14812	294	1,8	81968	29

Laboratories' Z-scores: Analyte solution

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1							
2	-0,016	-0,024	0,071	0,045			
3	0,019	-0,022	0,42	0,64	0,78	-0,23	-0,38
4	-0,24	-0,25	-0,16	0,074	-0,37	-0,045	0,23
5	-0,067	-0,074	0,020	-0,042	-0,086	0,54	0,028
6							
7							
8	0,051	0,055	-0,089	0,61	0,090		
9	0,045	0,052	-0,034	0,0050		0,12	0,053
10	0,13	0,11	0,37	0,30	0,083	0,17	0,12
11	-0,44	-0,44	-0,37	-0,60	-0,41	-2,1	-0,51
12							
13	-0,10	-0,095	-0,146	-0,20	-0,10	-1,7	0,17
14							
15	0,38	0,39	0,23	0,30	-0,025	-0,15	-0,070
16	-0,60	-0,53	-1,5	-0,28	0,22		
17							
18	-0,44	-0,48	-0,13	0,66		0,30	0,46
19	0,012	0,010	0,033	0,0018	0,013		
20							
21	-0,13	-0,19	0,37	1,1	1,5	1,0	1,2
22	-0,19	-0,19	-0,27	0,033	-0,55	-0,45	-0,69
23	-4,9			1,3	1,3	-2,4	-0,89
24	0,12	0,14	-0,20	0,64	0,60		
25	0,40	0,38	0,67	0,42	-0,084	-0,041	-0,097
26	-0,025	-0,029	0,0062	0,079	0,0093		
27	-0,21	-0,21	-0,27	0,0044	-0,40		
28							
29							
30	0,076	0,082	0,095	-0,45	-0,40	0,35	0,061
31							
32						1,8	2,1
33							
34							
35	0,22	0,22	0,18	0,46	-0,55	-2,1	-0,40
36							
37							
38							
39	0,099	0,094	0,19	-0,12	-0,023		
40							
41	0,050	0,044	0,11	0,10	0,036		
42	-0,096	-0,14	0,42	-0,17	0,11	-0,095	0,15
43							
44							
45	-0,15	-0,14	-0,34	0,16	0,022		
46	-0,18	-0,21	0,14	0,37	0,27	0,031	0,015
47							
48							
49							
50							
51	-0,093	-0,088	-0,13	-0,18	0,14	-0,020	0,086
52							
53	-0,14	-0,15	0,0041	0,20	-0,47	0,018	0,14
54							
55							
56	0,075	0,085	-0,060	0,11	0,058		
57							
58	-0,24	-0,23	-0,32	-0,32	-0,0057	0,043	0,20
59	-0,26	-0,29	0,012	0,20	0,15		
60	0,10	0,10	0,11	0,077	-0,35		
61							
62	-0,036	-0,0022	-0,42	-0,25	-0,30	-0,25	-0,19
63							
64							
65	0,091	0,092	0,069	0,16	0,097		
66							
67	0,076	0,061	0,28	0,017	0,075	2,7	6,9
68	0,084	0,089	0,032	0,060	-0,031	-0,30	0,012
69							
70							

Laboratories' Z-scores: Analyte solution (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	-0,055	-0,059	-0,022	0,046			
74	0,20	0,23	-0,26	0,18		-0,44	-0,30
75	0,055	0,069	-0,10	-0,021	-0,087	0,14	0,11
76							
77	-0,095	-0,095	-0,074	-0,25	0,018		
78							
79	0,099	0,12	0,073	-1,6	-0,90		
80	0,054	0,060	-0,0060	0,011	-0,15		
81							
82							
83							
84							
85							
86							
87							
88	-0,24	-0,23	-0,28	-0,36	0,018	0,080	0,030
89							
90							
91							
92							
93							
94							
95	-0,31	-0,36	0,25	0,048	-0,73		
96							
97							
98							
99							
100							
101							
102	0,019	0,025	-0,045	0,0026	0,17		
103							
104	-0,00059	0,0040	-0,057	-0,00059	0,052		
105							
106							
107	-0,14	-0,095	-0,64	-0,37	-0,46	-0,72	-0,68
108	0,19	0,22	-0,067	-0,17			
109							
110							
111							
112							
113	-0,32	-0,42	0,72	0,40	0,43	0,090	0,23
114	0,031	0,030	0,043	-0,019	0,34		
115							
116							
117							
118							
119	-0,33	-0,35	-0,15	-0,16	-0,39		
120	-0,27	-0,33	0,31	0,31			

Laboratories' Z-scores: Egg yolk-2020, fresh weight

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1	-0,91	-1,4	-0,23	-0,17	0,67	4,2	40
2							
3	1,6	0,73	2,9	-0,10	-0,31	5,2	-0,050
4	0,58	0,39	0,92	-0,15	-0,32	-0,69	1,1
5	0,19	0,34	0,0023	-0,15	0,13	2,2	1,4
6							
7							
8	0,38	0,76	-0,15	-0,084	0,28		
9	3,0	2,7	3,4	3,7		4,5	3,9
10							
11							
12							
13	0,97	0,39	1,75	1,9	0,11	-4,1	-0,58
14							
15	-1,0	-0,55	-1,8	-0,91	-5,0	-0,45	-0,66
16	4,4	11	-4,3	-0,63	-1,8	0,73	23
17							
18	0,50	0,87	-0,021	0,16		1,1	-0,050
19	1,1	0,76	1,8	-0,39	-0,31		
20							
21	-0,36	0,26	-1,3	0,17	0,81	-4,0	-0,13
22	0,51	1,0	-0,17	-0,23	-0,37	-0,38	-0,31
23	-0,28	-0,16	-0,55	0,94	1,2	-3,7	1,3
24	-0,044	-0,49	0,64	-0,28	-0,024		
25	-0,47	-0,39	-0,61	-0,24	-0,32	-0,056	-0,67
26	2,0	1,2	3,0	1,8	1,1		
27							
28	0,12	-0,23	0,67	-0,25	0,38		
29							
30	-0,65	-0,63	-0,73	-0,18	-5,0	-5,0	-5,0
31							
32						56	48
33							
34							
35	-0,27	-0,52	0,068	-0,12	-0,81	-4,0	-0,32
36							
37							
38	0,17	0,55	-0,37	-0,11	-0,088		
39	0,65	1,2	-0,13	0,45	1,4		
40							
41							
42	-0,37	-0,99	0,57	-0,73	-0,38	-0,14	-0,28
43	-0,028	-0,20	0,21	0,26			
44	0,61	1,6	-0,83	-0,23	-0,11		
45	0,12	0,39	-0,28	0,057	-0,15		
46	0,14	0,36	-0,17	-0,094	-0,064	-0,98	-0,51
47							
48							
49							
50							
51	-0,59	-1,2	0,28	0,41	0,94	3,7	-0,073
52	0,043	-0,042	0,15	0,26	0,34		
53	-1,5	-0,86	-2,6	0,11	-0,25	-1,7	-0,28
54							
55	17	16	18	14	17		
56	0,14	0,10	0,19	0,27	1,5		
57	-0,57	-0,69	-0,42	-0,45	-0,22		
58	1,2	0,89	1,6	0,64	1,4	1,9	0,51
59	-0,084	-0,19	0,0067	0,69	3,7		
60							
61							
62							
63							
64							
65	0,78	1,0	0,63	-1,5	0,35		
66							
67	1,2	0,99	1,6	0,097	0,75	-3,8	0,86
68	-0,54	-0,92	-0,0061	-0,18	0,15	-3,6	-1,4
69							
70							

Laboratories' Z-scores: Egg yolk-2020, fresh weight (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	0,36	-0,49	1,3	4,2			
74							
75	0,27	0,64	-0,29	0,25	0,18	1,5	0,82
76							
77							
78							
79	1,3	-0,089	3,3	2,3	-0,75		
80							
81							
82							
83							
84							
85							
86							
87							
88	0,80	0,84	0,77	0,41	1,6	1,1	0,68
89							
90							
91							
92							
93							
94							
95	29	34	23	12	12		
96							
97							
98							
99							
100							
101							
102							
103							
104	0,11	0,31	-0,15	-0,23	-0,35		
105							
106							
107	-0,67	-0,93	-0,33	-0,19	0,75	-1,2	-0,45
108	0,94	1,6	0,013	-0,43			
109							
110							
111							
112							
113	0,041	0,17	-0,37	2,8	4,4	6,8	12
114	0,19	0,077	0,37	0,19	1,3		
115							
116							
117							
118							
119	-0,089	-0,038	-0,20	0,37	0,15		
120	5,9	9,9	0,41	0,53			

Laboratories' Z-scores: Egg yolk-2020, lipid weight

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1	-0,15	-0,75	0,66	0,74	1,7	5,9	49
2							
3	0,73	0,0017	1,9	-0,73	-0,91	3,9	-0,69
4	0,60	0,41	0,95	-0,13	-0,31	-0,68	1,2
5	0,078	0,22	-0,11	-0,26	0,0037	2,0	1,3
6							
7							
8	1,2	1,7	0,61	0,68	1,1		
9	-0,67	-0,83	-0,46	-0,28		0,14	-0,18
10							
11							
12							
13	2,2	1,5	3,1	3,3	1,1	-3,92	0,31
14							
15	-1,2	-0,71	-1,9	-1,1	-5,0	-0,62	-0,82
16	3,2	8,5	-4,4	-1,2	-2,2	-0,026	19
17							
18	0,26	0,62	-0,23	-0,066		0,86	-0,27
19	0,62	0,27	1,2	-0,79	-0,72		
20							
21	-0,85	-0,28	-1,7	-0,37	0,20	-4,1	-0,64
22	0,96	1,5	0,22	0,16	0,0021	-0,015	0,060
23	0,72	0,86	0,40	2,2	2,5	-3,4	2,7
24	-2,7	-2,9	-2,4	-2,8	-2,7		
25	-0,61	-0,53	-0,74	-0,39	-0,47	-0,22	-0,81
26	2,2	1,4	3,3	2,1	1,3		
27							
28	0,26	-0,11	0,82	-0,13	0,51		
29							
30	-0,20	-0,17	-0,29	0,32	-5,0	-5,0	-5,0
31							
32						56	49
33							
34							
35	0,60	0,31	1,0	0,78	-0,048	-3,9	0,53
36							
37							
38	-0,099	0,26	-0,61	-0,36	-0,35		
39	2,7	3,4	1,6	2,4	3,7		
40							
41							
42	-0,40	-1,0	0,53	-0,76	-0,42	-0,18	-0,32
43	0,11	-0,074	0,35	0,40			
44	6,0	8,0	3,2	4,4	4,6		
45	0,46	0,75	0,032	0,40	0,17		
46	0,099	0,32	-0,20	-0,13	-0,11	-1,0	-0,55
47							
48							
49							
50							
51	-0,59	-1,2	0,28	0,41	0,93	3,7	-0,082
52	-0,15	-0,23	-0,043	0,062	0,13		
53	5,4	7,4	2,1	10	9,2	4,9	9,1
54							
55	7,4	7,0	8,1	5,8	7,2		
56	0,74	0,70	0,80	0,89	2,2		
57	-1,3	-1,4	-1,2	-1,2	-1,0		
58	0,32	0,071	0,72	-0,14	0,49	0,91	-0,26
59	-0,021	-0,12	0,071	0,76	3,7		
60							
61							
62							
63							
64							
65	1,6	1,9	1,5	-1,0	1,1		
66							
67	1,1	0,87	1,4	-0,0059	0,63	-3,8	0,73
68	-0,20	-0,61	0,37	0,19	0,53	-3,5	-1,2
69							
70							

Laboratories' Z-scores: Egg yolk-2020, lipid weight (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	0,56	-0,33	1,5	4,6			
74							
75	-0,12	0,23	-0,63	-0,13	-0,21	1,0	0,38
76							
77							
78							
79	0,84	-0,46	2,7	1,7	-1,1		
80							
81							
82							
83							
84							
85							
86							
87							
88	-0,18	-0,15	-0,21	-0,50	0,47	0,028	-0,29
89							
90							
91							
92							
93							
94							
95	30	35	24	13	13		
96							
97							
98							
99							
100							
101							
102							
103							
104	-0,13	0,052	-0,38	-0,46	-0,58		
105							
106							
107	0,13	-0,17	0,54	0,70	1,8	-0,54	0,38
108	0,69	1,4	-0,20	-0,62			
109							
110							
111							
112							
113	-2,1	-2,0	-2,3	-0,51	0,41	1,8	4,6
114	0,98	0,84	1,2	0,97	2,3		
115							
116							
117							
118							
119	-0,15	-0,095	-0,25	0,31	0,083		
120	5,3	9,1	0,12	0,24			

Laboratories' Z-scores: Salmon-2020, fresh weight

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1	-0,72	-0,47	-0,85	-0,77	-0,91	-0,24	-0,13
2	0,75	0,43	0,94	0,40			
3	0,38	0,39	0,33	1,1	0,17	0,11	-0,88
4	-0,46	0,047	-0,78	0,34	0,41	0,47	0,56
5	0,52	0,71	0,44	0,12	0,62	0,45	0,42
6							
7							
8	0,57	1,4	0,16	0,23	0,42		
9	-0,87	-1,1	-0,78	-0,66		-0,11	-0,29
10							
11	-0,58	-0,74	-0,60	1,3	2,8	1,2	1,4
12	-0,61	-0,085	-0,89	-0,67	-0,37	-0,22	-0,14
13	0,027	0,098	-0,0064	-0,057	0,29	0,61	0,73
14							
15	-0,16	-1,0	0,35	-0,55	-5,0	0,28	0,20
16	-0,52	1,8	-1,8	0,53	1,4	101	103
17							
18							
19	0,23	0,23	0,27	-0,44	-0,28		
20							
21	0,020	0,53	-0,29	0,55	0,97	-1,9	-1,8
22	-0,80	-0,38	-1,0	-0,84	-1,1	-0,91	-0,96
23	-0,40	-0,84	-0,20	0,16	0,084	0,62	0,74
24	0,077	-0,080	0,22	-0,83	-0,76		
25	0,27	0,39	0,24	-0,14	-0,39	-0,30	-0,20
26	0,61	-0,29	1,1	0,31	-0,12		
27	0,052	0,17	-0,046	0,69	1,6	0,21	0,21
28	-0,017	-0,53	0,31	-0,93	-0,38	0,022	-0,16
29							
30							
31							
32						3,0	1,9
33							
34							
35	-0,52	-0,32	-0,60	-1,1	-1,7	-1,2	-1,2
36							
37							
38	0,79	0,64	0,89	0,38	0,53		
39	0,24	0,48	0,10	0,30	0,17		
40							
41	-0,62	-1,2	-0,30	-0,48	-1,3		
42	-1,3	-1,4	-1,2	-1,4	-1,3	-1,0	-0,95
43	0,34	0,27	0,37	0,65			
44	-2,2	-2,3	-2,1	-1,8	-2,2		
45	0,11	0,69	-0,22	0,35	-0,24		
46	-0,43	-0,49	-0,39	-0,40	-0,53	-0,084	-0,13
47							
48							
49							
50							
51	1,0	0,67	1,3	0,16	0,44	0,50	0,057
52	0,21	-0,074	0,31	1,1	1,0		
53	4,6	0,13	7,2	1,5	-3,0	3,9	4,0
54							
55	-0,15	-0,12	-0,14	-0,70	0,33		
56	0,70	0,64	0,77	0,10	0,72		
57	-1,6	-1,3	-1,8	-2,0	-2,2		
58	1,2	1,7	0,99	0,75	-0,055	0,45	0,41
59	0,15	-0,55	0,48	0,84	0,43		
60	0,81	0,97	0,67	1,7	0,57		
61							
62	0,39	0,87	0,14	0,29	0,25	-1,3	-1,3
63							
64							
65	-2,5	-2,4	-2,6	-2,3	-2,2		
66							
67	0,72	0,58	0,83	0,38	0,77	1,1	1,3
68							
69							
70							

Laboratories' Z-scores: Salmon-2020, fresh weight (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	-0,15	-0,48	-0,036	0,95			
74	-0,39	-0,074	-0,42	-2,8		-0,49	-0,45
75	-0,53	-0,41	-0,58	-0,75	-0,74	0,45	0,57
76							
77							
78							
79	-4,4	-4,4	-4,4	-4,3	-4,6		
80							
81							
82							
83							
84							
85							
86							
87							
88	1,3	0,65	1,6	0,89	1,4	0,46	0,44
89							
90							
91							
92							
93							
94							
95	-0,94	-0,35	-1,3	-0,93	-0,79		
96							
97							
98							
99							
100							
101							
102							
103							
104	-0,74	-0,92	-0,65	-0,56	-0,28		
105							
106							
107	1,4	0,16	2,0	0,97	1,3	0,55	0,64
108	0,15	1,3	-0,42	-0,82			
109							
110							
111							
112							
113	0,42	0,013	0,67	-0,0014	0,25	0,21	-0,018
114	0,70	0,65	0,77	0,033	0,69		
115							
116							
117							
118							
119	-0,77	-0,57	-0,89	-0,75	-0,81		
120	0,33	0,39	0,31	0,015			

Laboratories' Z-scores: Salmon-2020, lipid weight

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1	-0,25	0,025	-0,40	-0,30	-0,46	0,29	0,40
2							
3	-0,26	-0,25	-0,31	0,36	-0,45	-0,50	-1,4
4	-0,34	0,18	-0,67	0,48	0,55	0,61	0,71
5	-0,019	0,15	-0,093	-0,38	0,077	-0,080	-0,11
6							
7							
8	0,65	1,5	0,23	0,31	0,50		
9	-0,18	-0,41	-0,078	0,061		0,71	0,50
10							
11	1,1	0,83	1,0	3,6	5,7	3,5	3,7
12							
13	3,7	3,8	3,6	3,5	4,1	4,7	4,9
14							
15	-0,37	-1,2	0,11	-0,75	-5,0	0,047	-0,033
16	-1,3	0,53	-2,4	-0,47	0,25	82	84
17							
18							
19	-0,24	-0,24	-0,20	-0,85	-0,70		
20							
21	-0,17	0,32	-0,47	0,34	0,75	-2,0	-1,9
22	0,15	0,67	-0,12	0,10	-0,19	0,018	-0,052
23	-1,0	-1,4	-0,83	-0,52	-0,59	-0,12	-0,015
24	-3,3	-3,4	-3,3	-3,6	-3,6		
25	0,55	0,67	0,51	0,11	-0,16	-0,061	0,048
26	0,76	-0,16	1,3	0,46	0,010		
27	-0,62	-0,52	-0,71	-0,073	0,71	-0,48	-0,49
28	-0,38	-0,86	-0,073	-1,2	-0,72	-0,34	-0,51
29							
30							
31							
32						2,8	1,8
33							
34							
35	0,86	1,1	0,76	0,14	-0,72	-0,086	0,023
36							
37							
38	0,48	0,34	0,58	0,10	0,24		
39	2,1	2,4	1,9	2,1	2,0		
40							
41	-0,71	-1,3	-0,40	-0,58	-1,4		
42	0,14	-0,088	0,28	-0,059	0,046	0,53	0,59
43	0,42	0,34	0,44	0,74			
44	0,045	-0,26	0,17	0,72	0,050		
45	0,32	0,92	-0,025	0,56	-0,048		
46	-0,46	-0,53	-0,43	-0,44	-0,57	-0,13	-0,17
47							
48							
49							
50							
51	1,4	0,97	1,6	0,44	0,72	0,79	0,33
52	0,084	-0,19	0,18	0,95	0,88		
53	-1,3	-3,0	-0,27	-2,5	-4,2	-1,5	-1,5
54							
55	15	15	15	13	17		
56	0,51	0,45	0,58	-0,068	0,52		
57	-1,6	-1,3	-1,7	-1,9	-2,1		
58							
59	-0,37	-1,0	-0,066	0,25	-0,11		
60							
61							
62	0,021	0,46	-0,21	-0,072	-0,11	-1,6	-1,6
63							
64							
65	0,24	0,51	0,074	0,63	0,82		
66							
67	0,11	-0,022	0,20	-0,20	0,15	0,46	0,58
68							
69							
70							

Laboratories' Z-scores: Salmon-2020, lipid weight (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	-0,14	-0,47	-0,021	0,96			
74	0,32	0,68	0,28	-2,4		0,20	0,24
75	-0,22	-0,095	-0,27	-0,45	-0,44	0,83	0,96
76							
77							
78							
79	-4,5	-4,5	-4,5	-4,4	-4,6		
80							
81							
82							
83							
84							
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95	-0,61	0,025	-0,95	-0,60	-0,45		
96							
97							
98							
99							
100							
101							
102							
103							
104	-1,5	-1,6	-1,4	-1,3	-1,1		
105							
106							
107	1,2	0,053	1,9	0,84	1,2	0,43	0,53
108	-0,32	0,73	-0,84	-1,2			
109							
110							
111							
112							
113	0,40	-0,0025	0,65	-0,017	0,23	0,19	-0,033
114	0,58	0,52	0,64	-0,078	0,57		
115							
116							
117							
118							
119	-0,40	-0,17	-0,52	-0,37	-0,43		
120	3,5	3,6	3,5	3,0			

Laboratories' Z-scores: Fish oil-2020, fresh weight

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-orto PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1	-1,3	-1,5	-1,2	-0,96	-1,3	2,2	2,5
2							
3	0,23	-0,033	0,48	-0,18	-0,48	8,9	-1,0
4	-0,86	-0,098	-1,6	0,55	-0,054	0,73	0,79
5	0,026	-0,072	0,11	-0,024	-0,023	1,3	0,41
6							
7							
8	0,063	0,47	-0,28	0,029	0,11		
9							
10	-0,67	-0,99	-0,54	0,86	0,58	0,74	0,71
11							
12	0,47	0,26	0,51	2,1	2,4	5,2	5,4
13	-0,17	-0,36	0,0055	-0,33	-0,14	0,30	0,49
14							
15	-0,75	-0,80	-0,73	-0,38	-5,0	-0,17	-0,12
16	-1,2	-0,22	-2,1	-0,042	1,2	181	188
17							
18	0,047	0,065	0,019	0,20		0,95	-0,019
19	0,18	0,42	0,032	-0,41	-0,44		
20							
21	-0,28	0,094	-0,66	0,64	1,1	-0,14	0,034
22	-0,028	0,26	-0,27	-0,026	-0,31	-0,12	-0,012
23	0,57	0,35	0,72	0,98	1,6	2,0	2,2
24	-0,31	-0,17	-0,43	-0,21	-0,29		
25	0,30	0,64	0,043	-0,015	-0,12	-0,32	-0,16
26	0,10	-0,28	0,40	0,37	-0,27		
27							
28	0,37	0,25	0,53	-0,30	0,12	1,5	0,45
29							
30							
31							
32						6,7	1,9
33							
34							
35	0,42	0,50	0,41	-0,38	-0,29	-0,76	-0,61
36							
37							
38	0,50	-0,097	1,1	-0,51	0,21		
39	0,070	0,0017	0,10	0,40	0,22		
40	-0,20	-0,92	0,31	1,1	-5,0	-5,0	-5,0
41	-0,088	0,63	-0,69	-0,050	1,1		
42	0,089	-0,82	0,89	-0,33	-0,34	0,65	0,056
43	-0,031	-0,12	0,028	0,15			
44	-0,50	-0,84	-0,30	0,52	0,19		
45	0,023	0,48	-0,36	0,073	-0,36		
46	-0,32	-0,55	-0,16	0,17	-0,026	1,7	0,087
47							
48							
49							
50							
51	0,47	0,25	0,70	-0,013	0,12	1,2	-0,73
52	0,022	-0,21	0,17	0,49	-0,30		
53	3,6	0,21	6,7	1,1	-0,28	3,1	3,3
54							
55	0,65	0,47	0,85	0,053	0,19		
56	0,20	0,043	0,35	-0,023	0,084		
57	-0,29	-0,91	0,24	-0,35	-0,43		
58	1,2	0,83	1,6	-0,0016	0,61	-0,013	-0,14
59	-0,013	-0,20	0,083	0,71	0,39		
60	0,32	0,68	-0,019	0,77	-0,10		
61							
62	0,15	0,69	-0,27	-0,16	0,33	0,27	-0,55
63							
64							
65	0,034	0,44	-0,34	0,46	1,2		
66							
67	0,55	0,31	0,85	-0,63	-0,21	0,85	1,1
68							
69							
70							

Laboratories' Z-scores: Fish oil-2020, fresh weight (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	-0,59	-0,97	-0,40	1,0			
74							
75	1,0	1,2	0,87	0,16	0,23	-0,031	0,14
76							
77	-0,36	-0,18	-0,50	-0,38	-0,35		
78							
79	63	38	84	58	39		
80	0,41	0,56	0,28	0,32	0,34		
81							
82							
83							
84							
85							
86							
87							
88	0,90	-0,027	1,7	0,29	0,29	0,025	-0,12
89							
90							
91							
92							
93							
94							
95	-0,26	1,2	-1,5	-0,42	-0,49		
96							
97							
98							
99							
100							
101							
102	-0,037	0,13	-0,21	0,43	0,61		
103							
104	-0,38	-0,49	-0,29	-0,31	-0,53		
105							
106							
107	0,40	-0,61	1,3	0,011	0,49	0,12	0,28
108	0,62	1,6	-0,13	-0,35			
109							
110							
111							
112							
113	-0,77	-0,69	-0,87	-0,41	0,026	0,45	-0,11
114	0,13	0,0069	0,24	0,0032	0,057		
115							
116							
117							
118							
119	-0,096	0,41	-0,48	-0,64	-0,54		
120	0,58	1,5	-0,17	0,39			

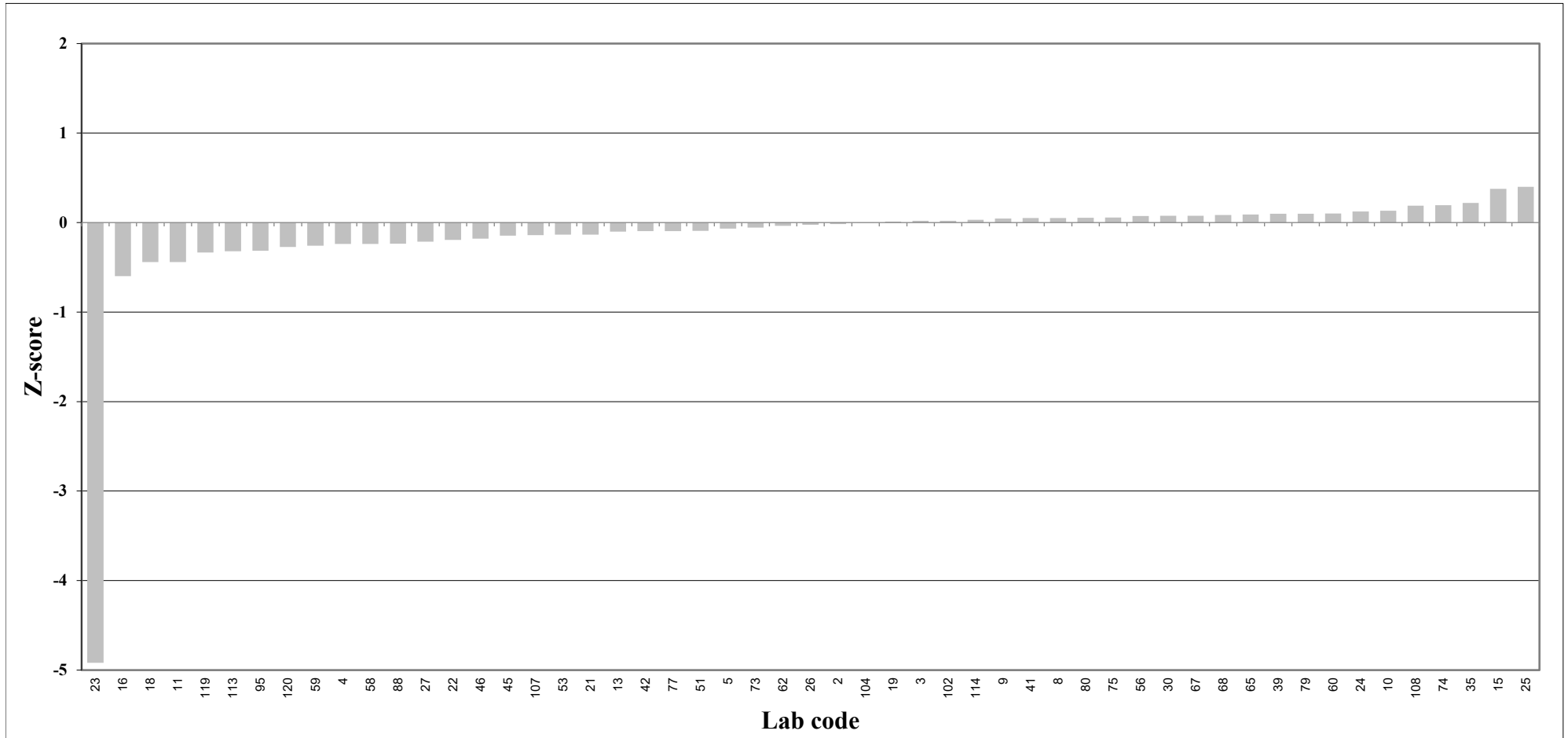
Laboratories' Z-scores: Fish oil-2020, lipid weight

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
1	-0,90	-1,1	-0,76	-0,49	-0,84	3,1	3,4
2							
3	0,23	-0,033	0,48	-0,18	-0,48	8,9	-1,0
4	-0,77	0,0020	-1,5	0,66	0,047	0,85	0,91
5	0,036	-0,062	0,12	-0,014	-0,013	1,3	0,42
6							
7							
8	0,063	0,47	-0,28	0,029	0,11		
9							
10	-0,61	-0,93	-0,47	0,94	0,66	0,82	0,79
11							
12							
13	-0,17	-0,36	0,0055	-0,33	-0,14	0,30	0,49
14							
15	-0,75	-0,80	-0,73	-0,38	-5,0	-0,17	-0,12
16	-1,2	-0,22	-2,1	-0,042	1,2	181	188
17							
18	0,047	0,065	0,019	0,20		0,95	-0,019
19	0,18	0,42	0,032	-0,41	-0,44		
20							
21	-0,28	0,094	-0,66	0,64	1,1	-0,14	0,034
22	-0,028	0,26	-0,27	-0,026	-0,31	-0,12	-0,012
23	0,61	0,39	0,76	1,0	1,7	2,0	2,3
24	-0,30	-0,16	-0,42	-0,20	-0,28		
25	0,30	0,64	0,043	-0,015	-0,12	-0,32	-0,16
26	0,12	-0,27	0,41	0,39	-0,26		
27							
28	0,37	0,25	0,53	-0,30	0,12	1,5	0,45
29							
30							
31							
32						6,3	1,7
33							
34							
35	0,42	0,50	0,41	-0,38	-0,29	-0,76	-0,61
36							
37							
38	0,50	-0,097	1,1	-0,51	0,21		
39	0,070	0,0017	0,10	0,40	0,22		
40	-0,19	-0,91	0,32	1,1	-5,0	-5,0	-5,0
41	-0,088	0,63	-0,69	-0,050	1,1		
42	0,089	-0,82	0,89	-0,33	-0,34	0,65	0,056
43	-0,031	-0,12	0,028	0,15			
44	-0,49	-0,83	-0,29	0,53	0,20		
45	0,023	0,48	-0,36	0,073	-0,36		
46	-0,31	-0,54	-0,15	0,18	-0,016	1,7	0,097
47							
48							
49							
50							
51	0,47	0,25	0,70	-0,013	0,12	1,2	-0,73
52	0,022	-0,21	0,17	0,49	-0,30		
53	3,6	0,21	6,7	1,1	-0,28	3,1	3,3
54							
55	0,71	0,52	0,91	0,10	0,24		
56	0,20	0,043	0,35	-0,023	0,084		
57	-0,29	-0,91	0,24	-0,35	-0,43		
58							
59	-0,013	-0,20	0,083	0,71	0,39		
60							
61							
62	0,15	0,69	-0,27	-0,16	0,33	0,27	-0,55
63							
64							
65	0,034	0,44	-0,34	0,46	1,2		
66							
67	0,55	0,31	0,85	-0,63	-0,21	0,85	1,1
68							
69							
70							

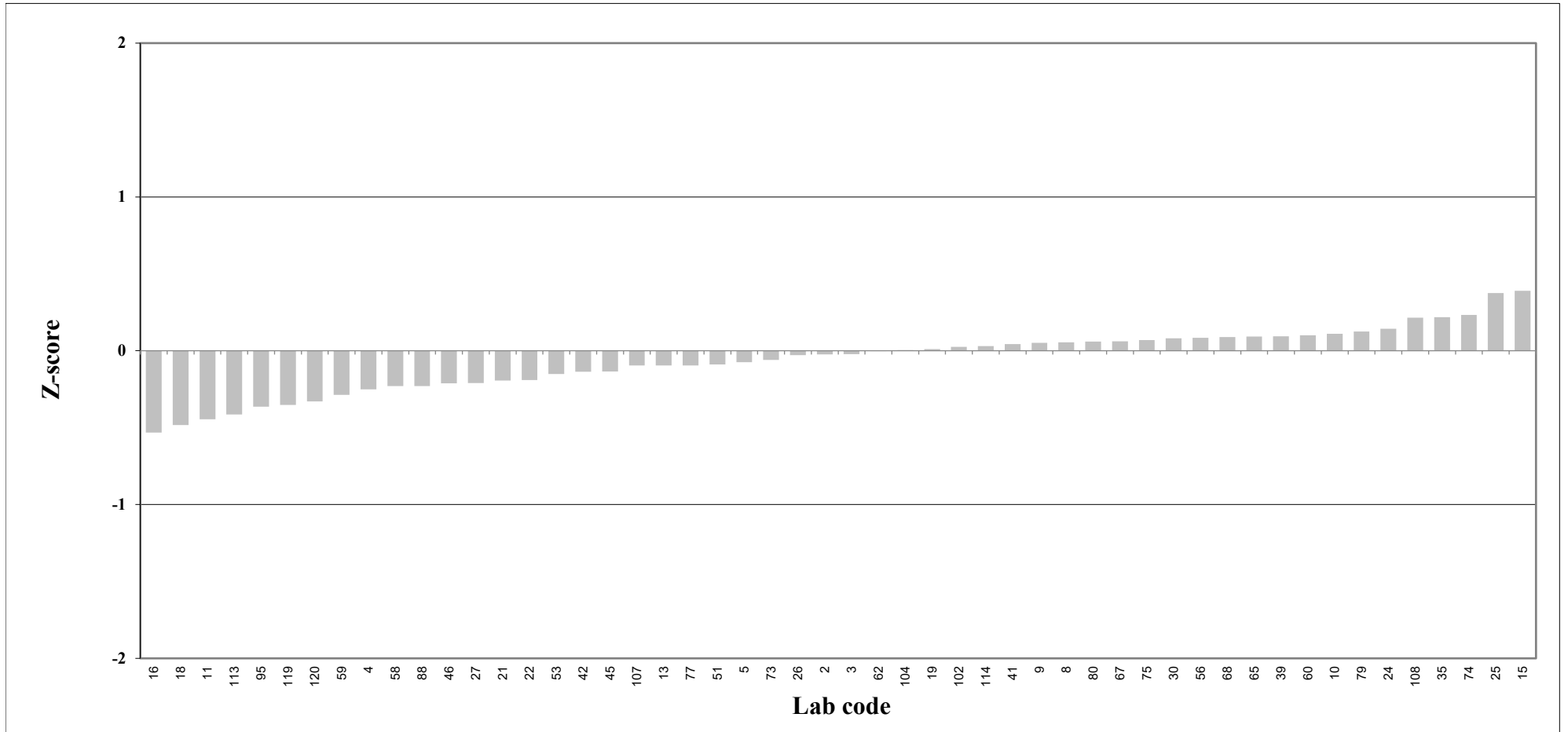
Laboratories' Z-scores: Fish oil-2020, lipid weight (continued)

LAB CODE	Sum TE Total TEQ	Sum TE PCDD/PCDF	Sum TE non-ortho PCB	Sum TE mono-ortho PCB	Sum Indicator PCB	Sum PBDE Sum with 209	Sum PBDE Sum without 209
71							
72							
73	-0,59	-0,97	-0,40	1,0			
74							
75	1,0	1,2	0,87	0,16	0,23	-0,031	0,14
76							
77	-0,36	-0,18	-0,50	-0,38	-0,35		
78							
79	63	38	84	58	39		
80	0,41	0,56	0,28	0,32	0,34		
81							
82							
83							
84							
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95	-0,26	1,2	-1,5	-0,42	-0,49		
96							
97							
98							
99							
100							
101							
102	-0,037	0,13	-0,21	0,43	0,61		
103							
104	-0,37	-0,48	-0,28	-0,29	-0,52		
105							
106							
107	0,40	-0,61	1,3	0,011	0,49	0,12	0,28
108	0,62	1,6	-0,13	-0,35			
109							
110							
111							
112							
113	-0,77	-0,69	-0,87	-0,41	0,026	0,45	-0,11
114	0,13	0,0069	0,24	0,0032	0,057		
115							
116							
117							
118							
119	-0,096	0,41	-0,48	-0,64	-0,54		
120	0,61	1,5	-0,14	0,42			

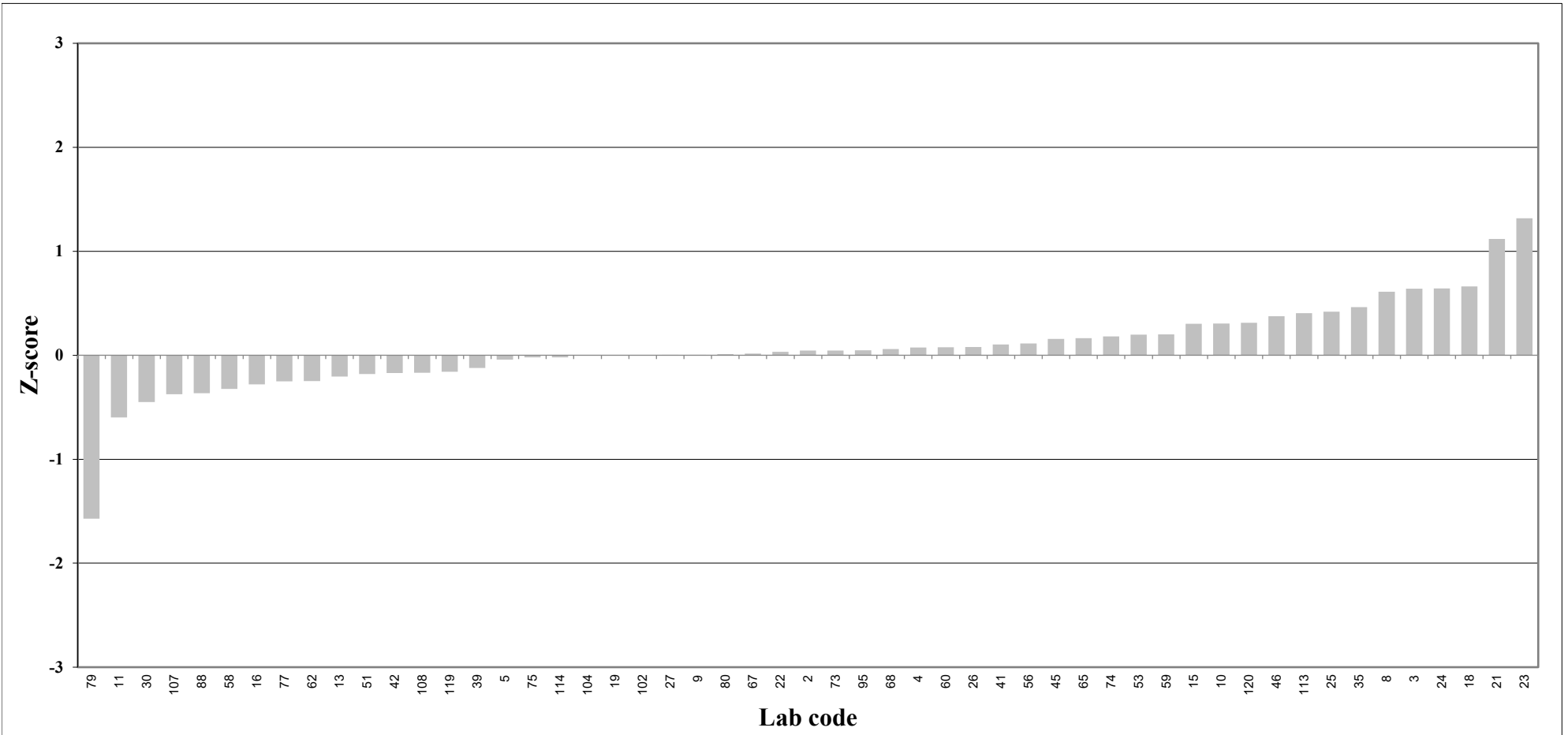
Z-score analyte solution; total TEQ



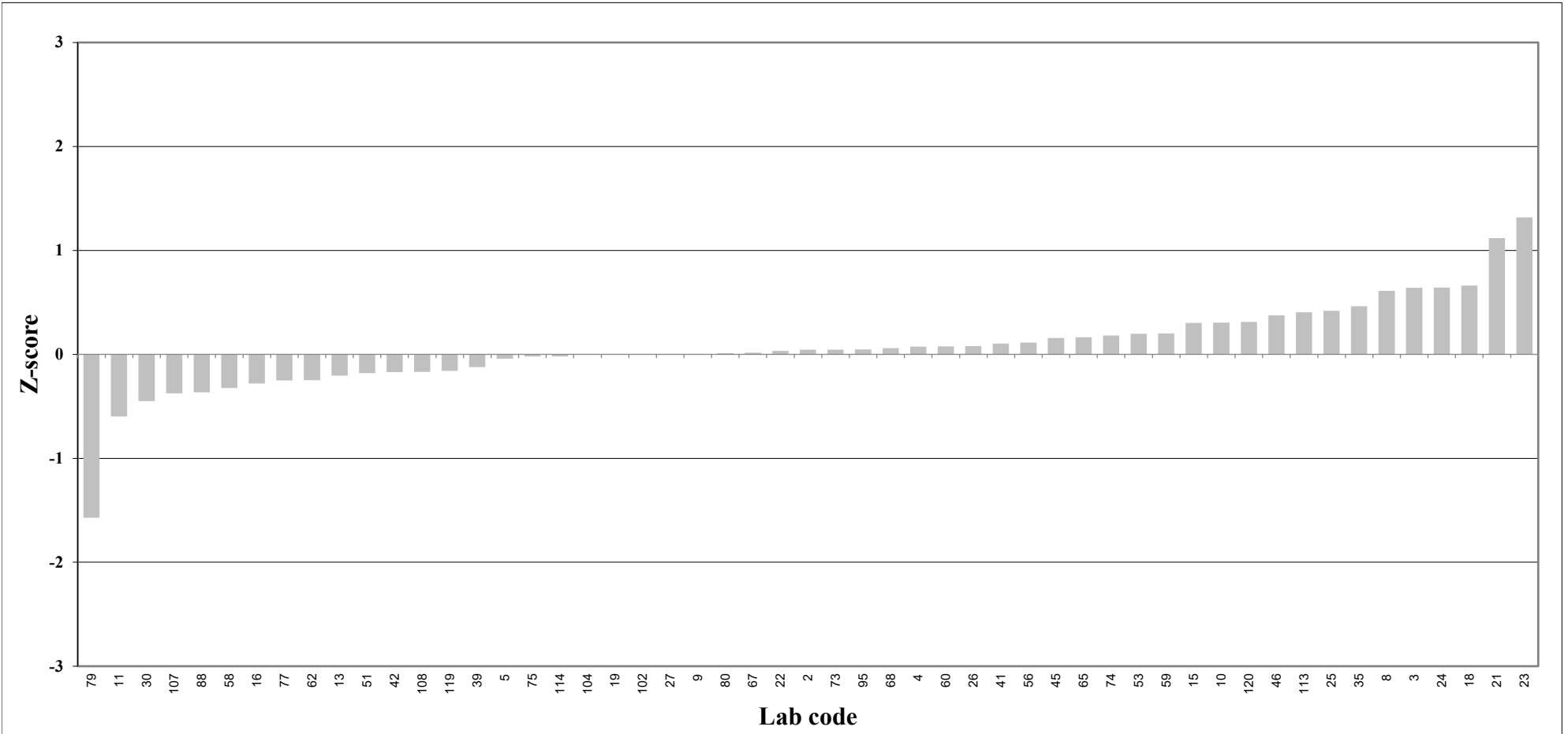
Z-score analyte solution; PCDD/PCDF TEQ



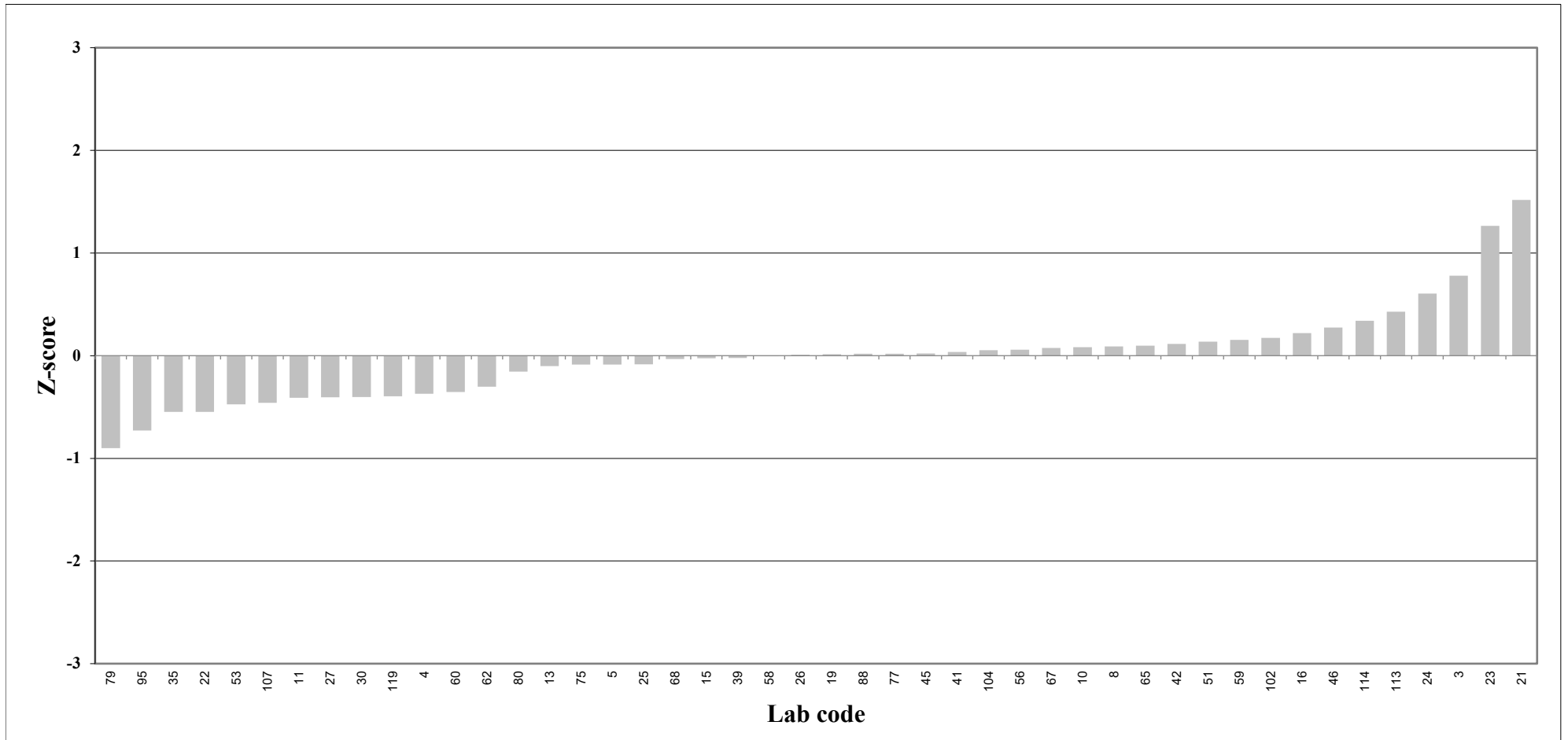
Z-score analyte solution; non-ortho PCB TEQ



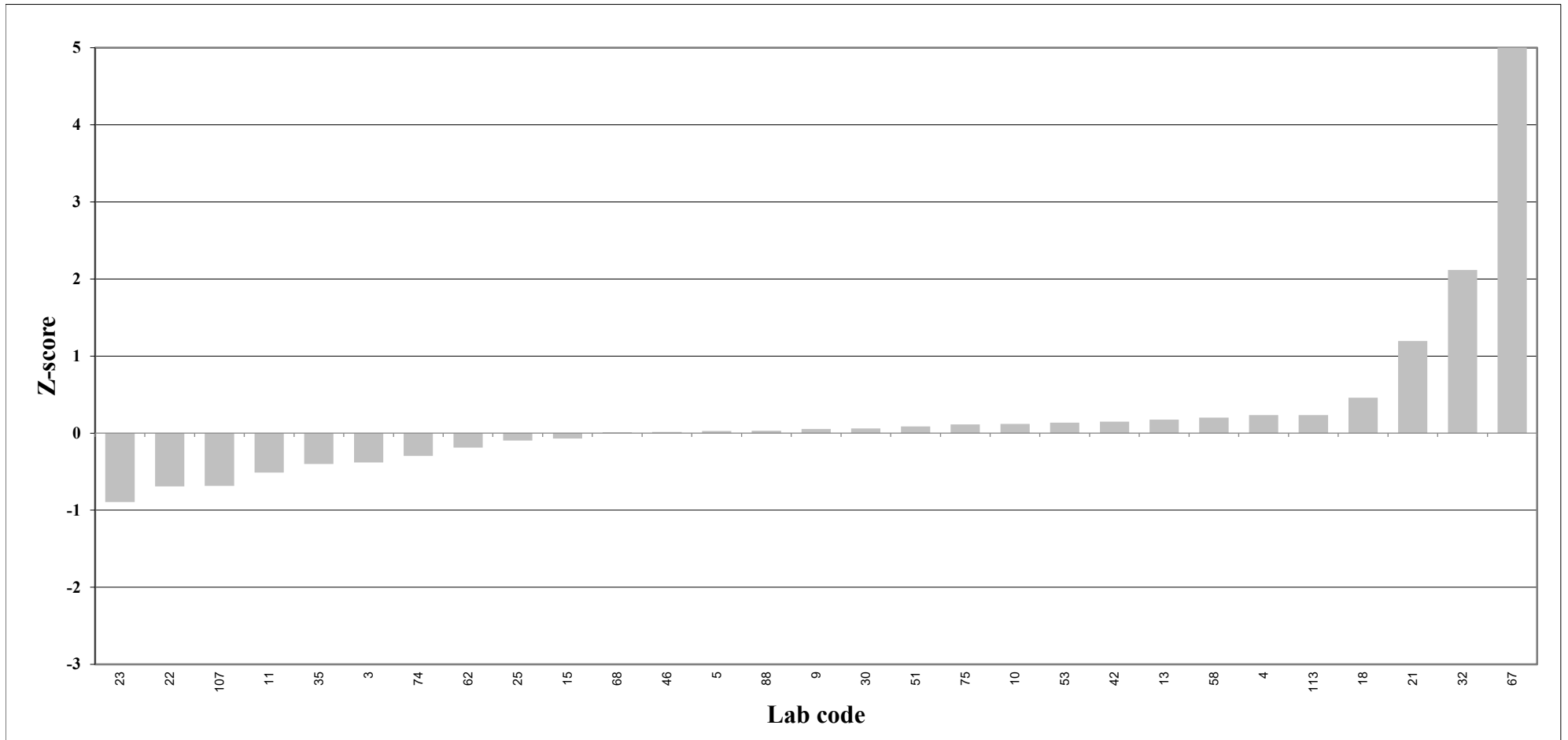
Z-score analyte solution; mono-ortho PCB TEQ



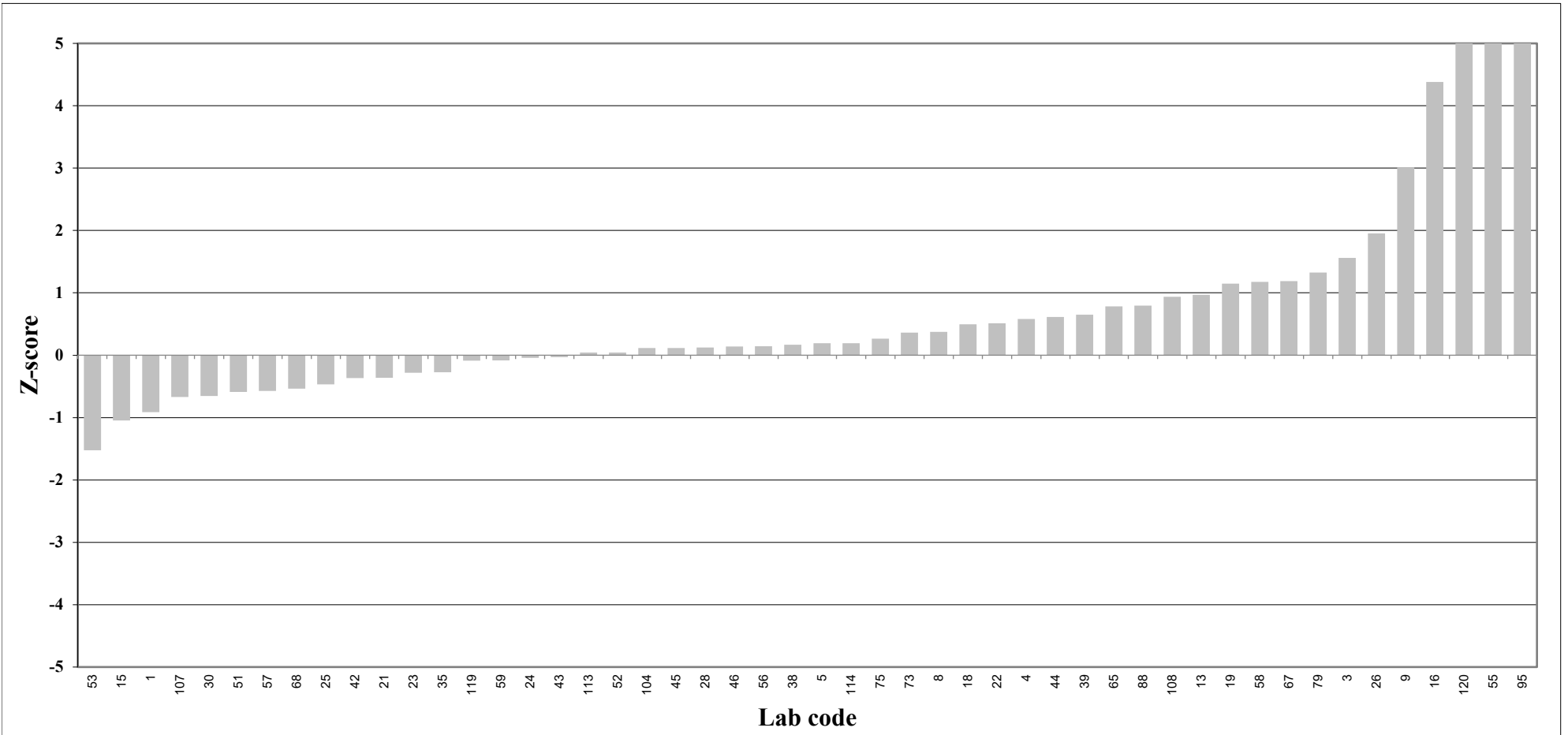
Z-score analyte solution; sum indicator PCB



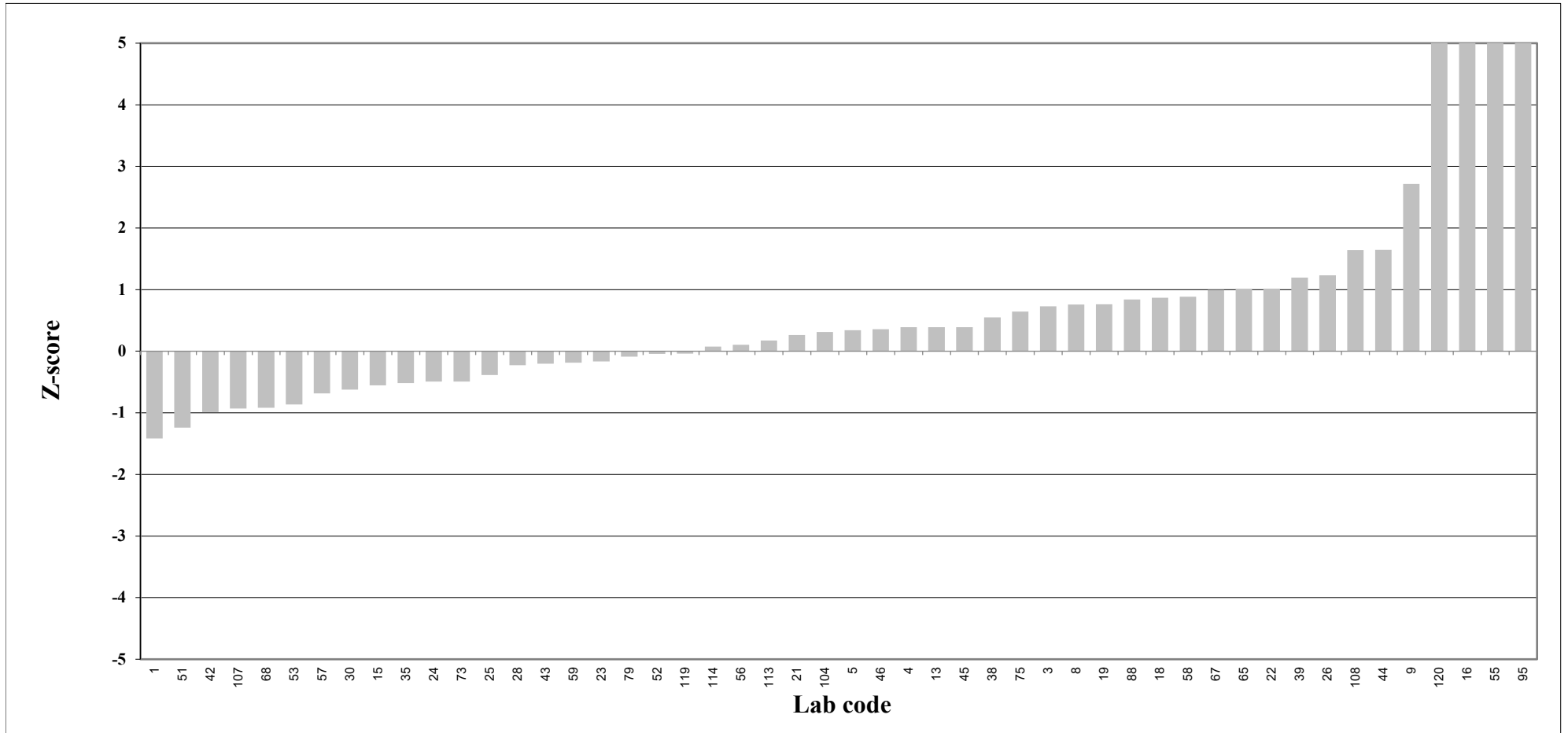
Z-score analyte solution; sum PBDE without PBDE-209



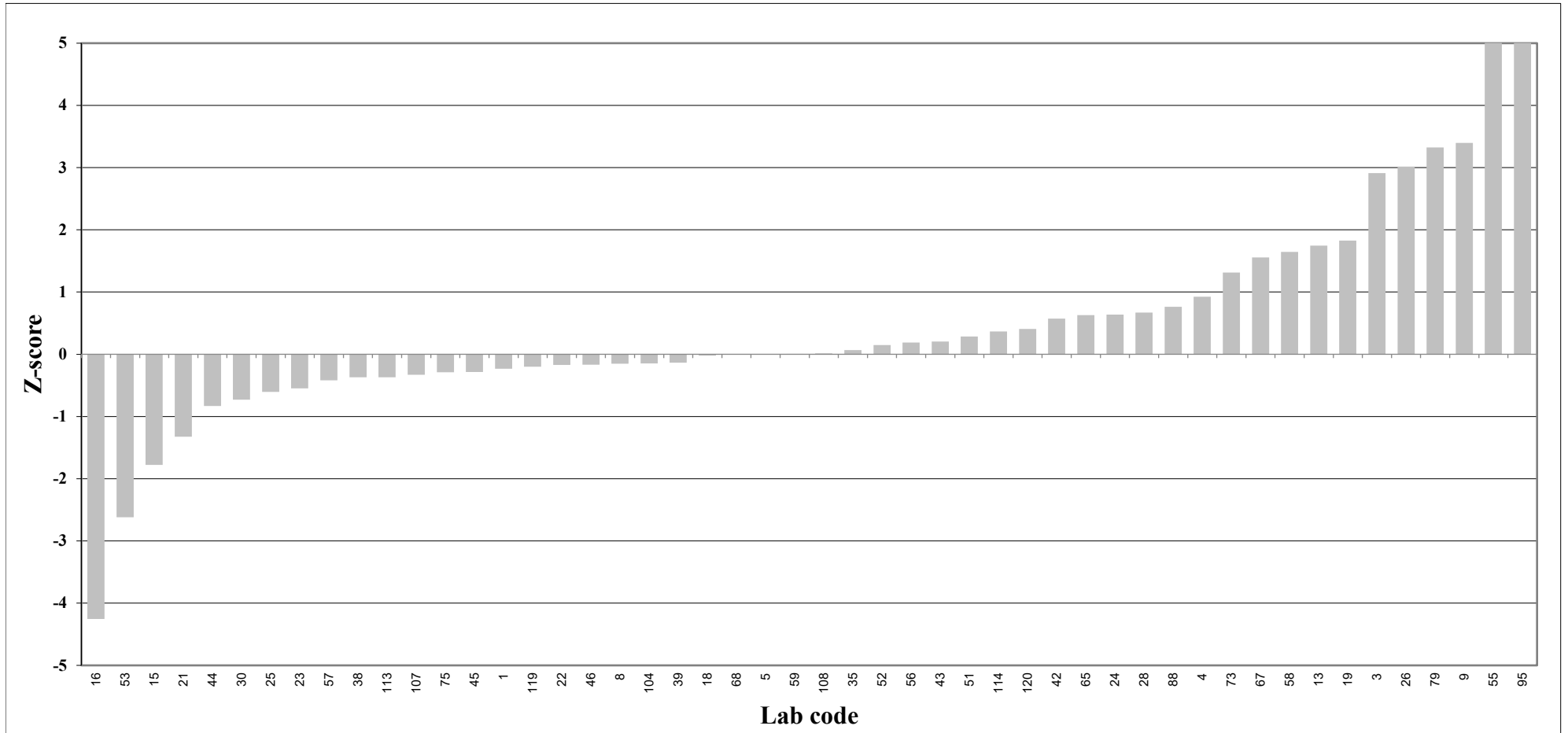
Z-score Egg yolk, fresh weight; total TEQ



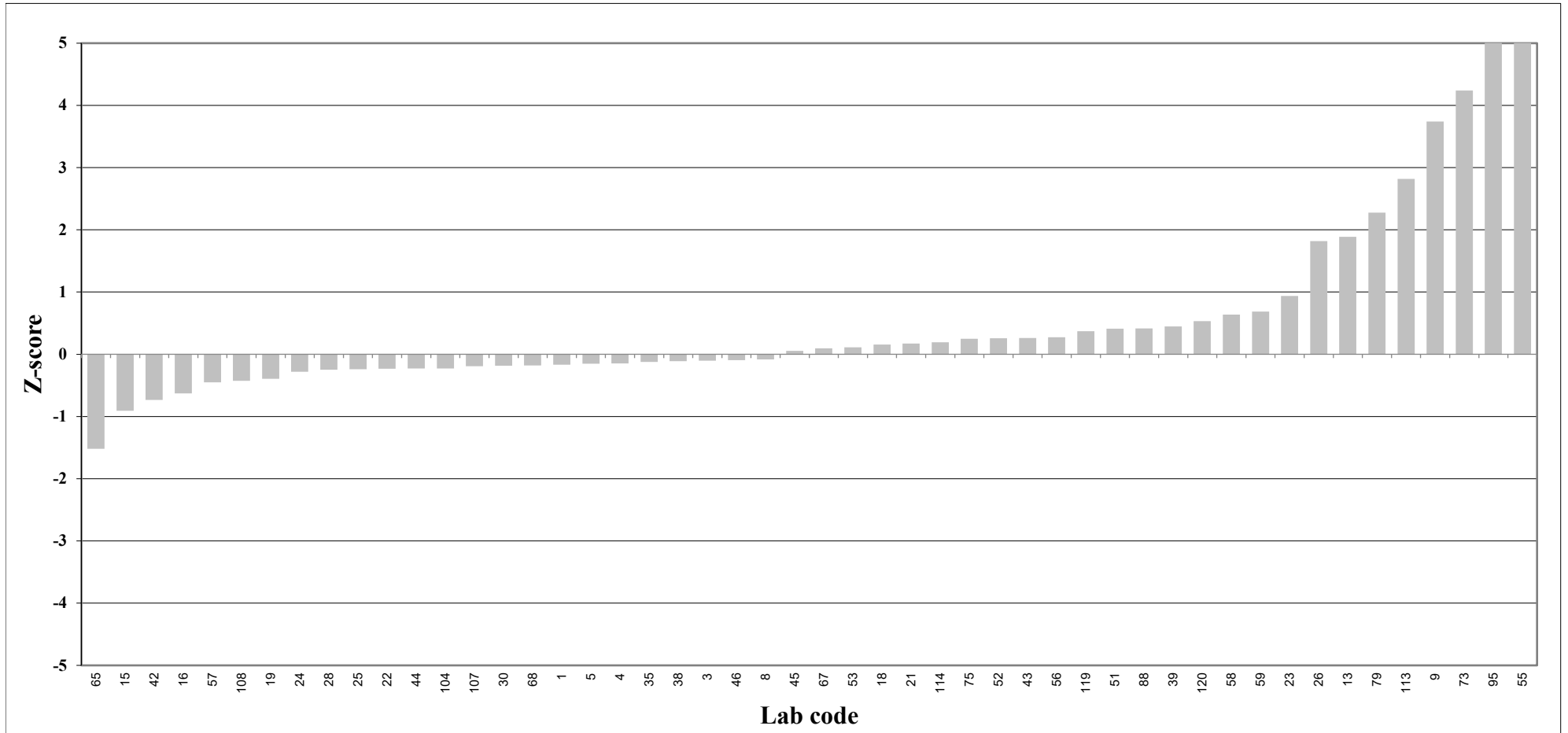
Z-score Egg yolk, fresh weight; PCDD/PCDF TEQ



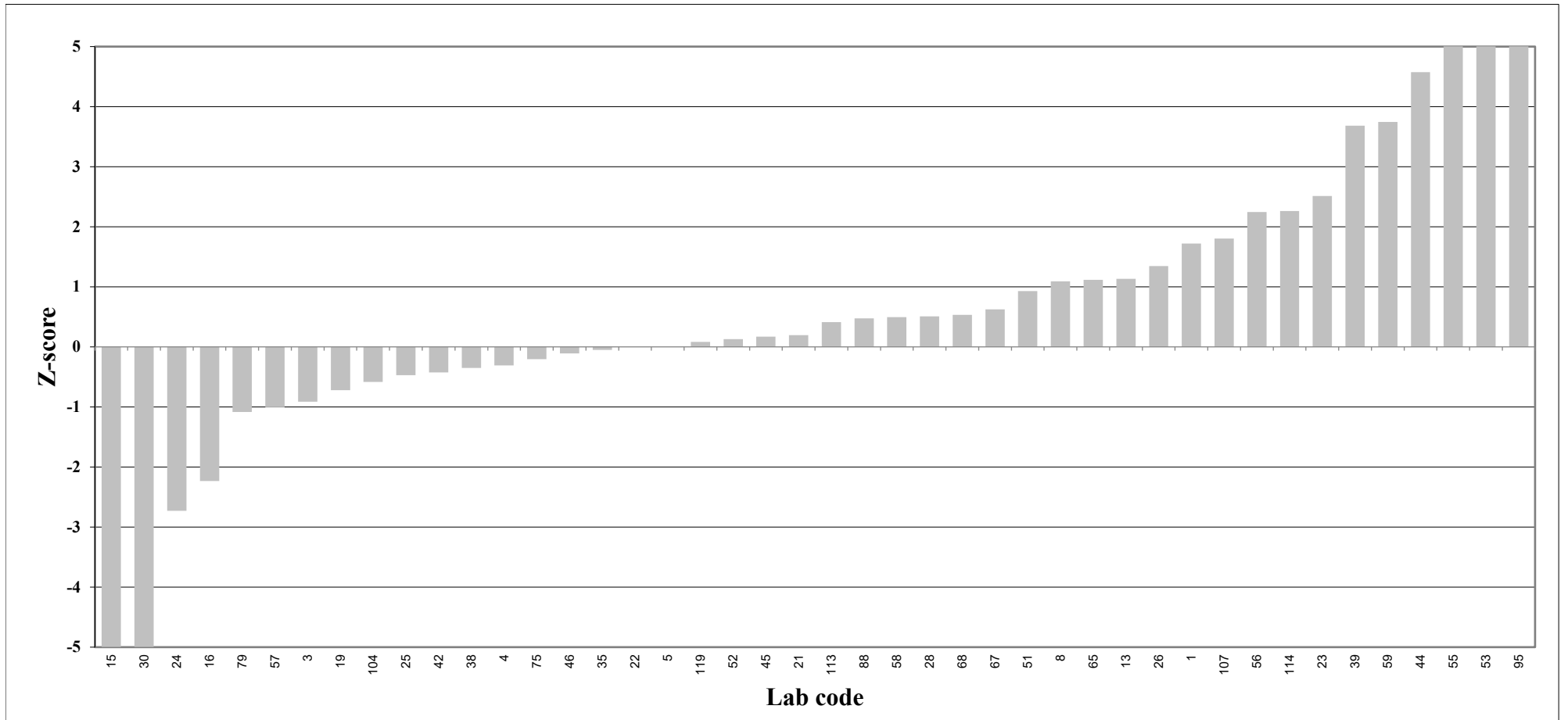
Z-score Egg yolk, fresh weight; non-ortho PCB TEQ



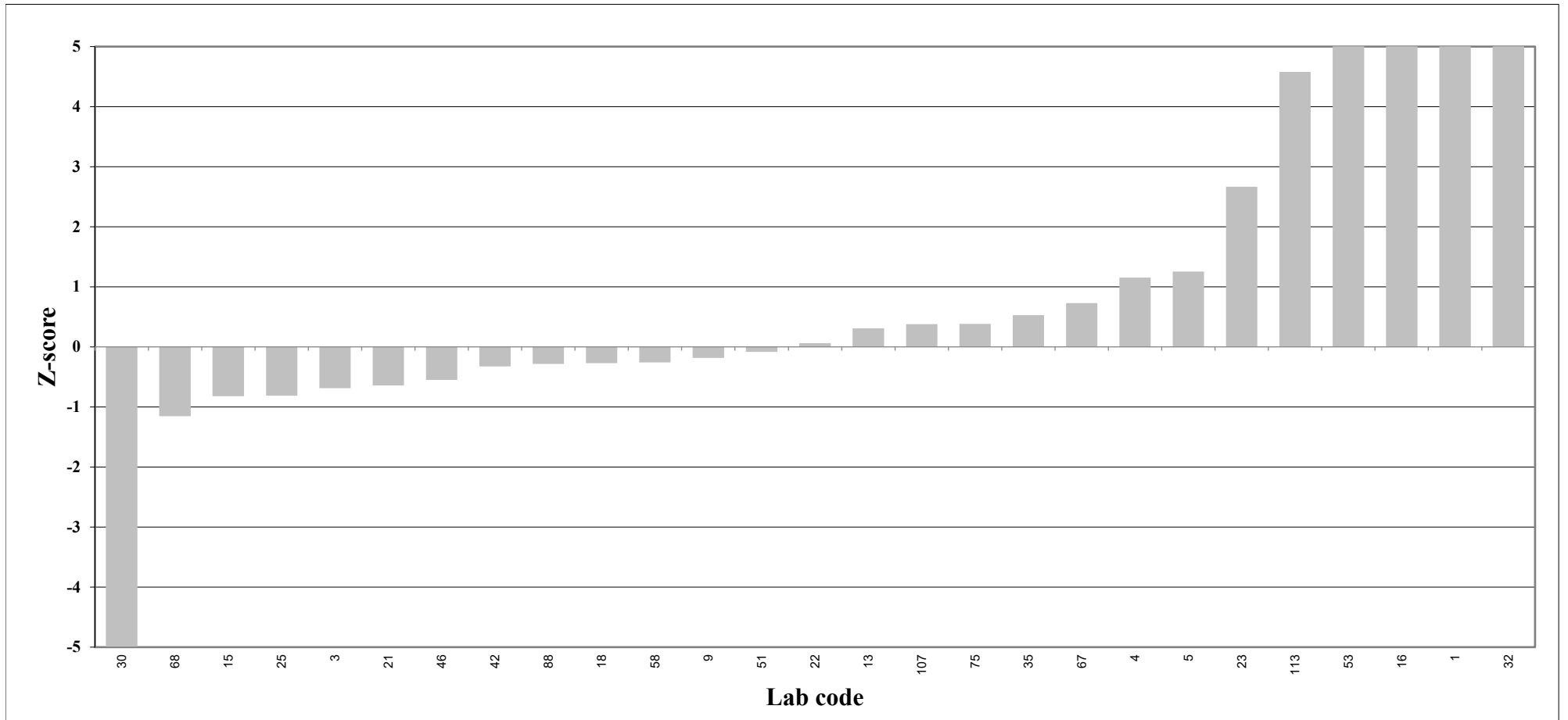
Z-score Egg yolk, fresh weight; mono-ortho PCB TEQ



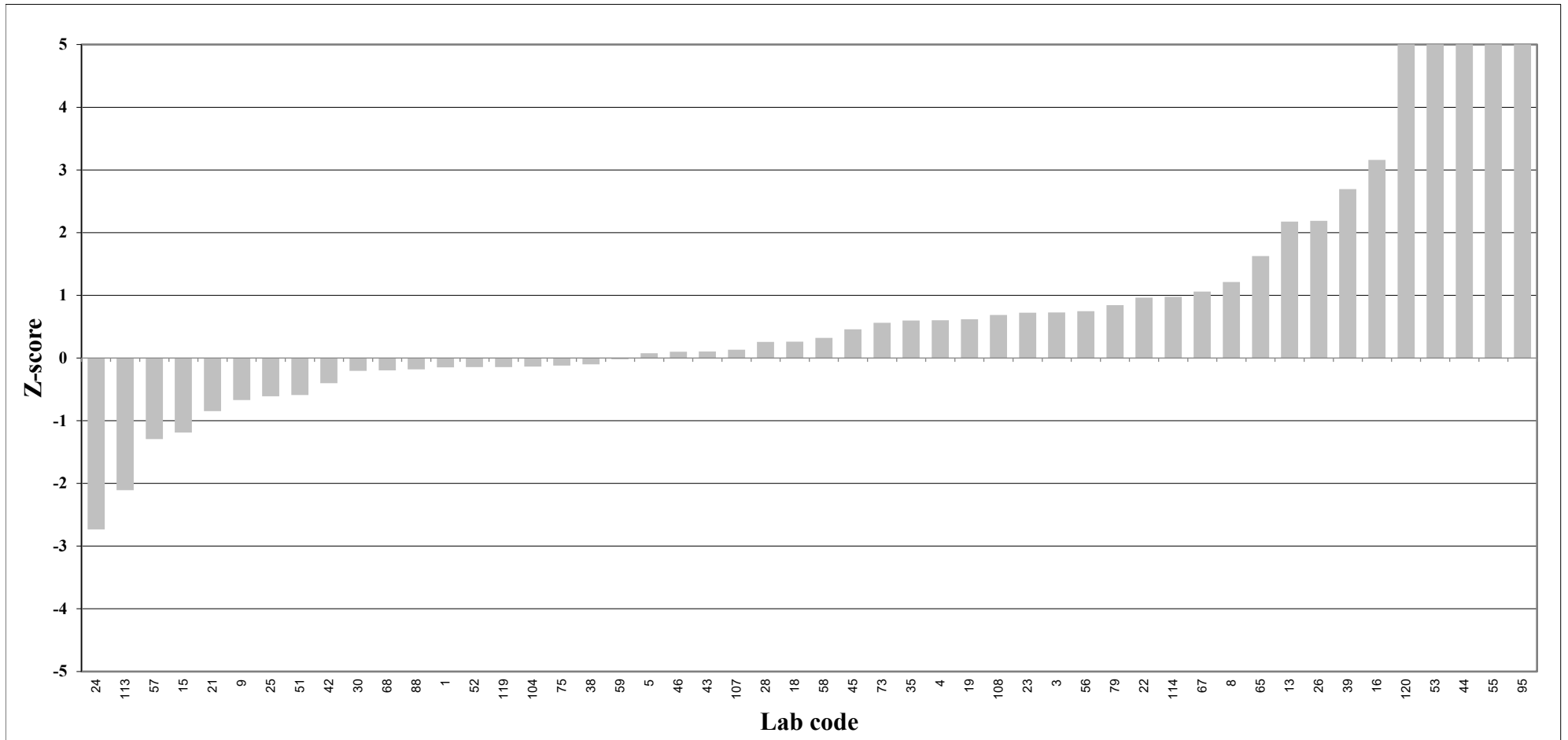
Z-score Egg yolk, fresh weight; sum indicator PCB



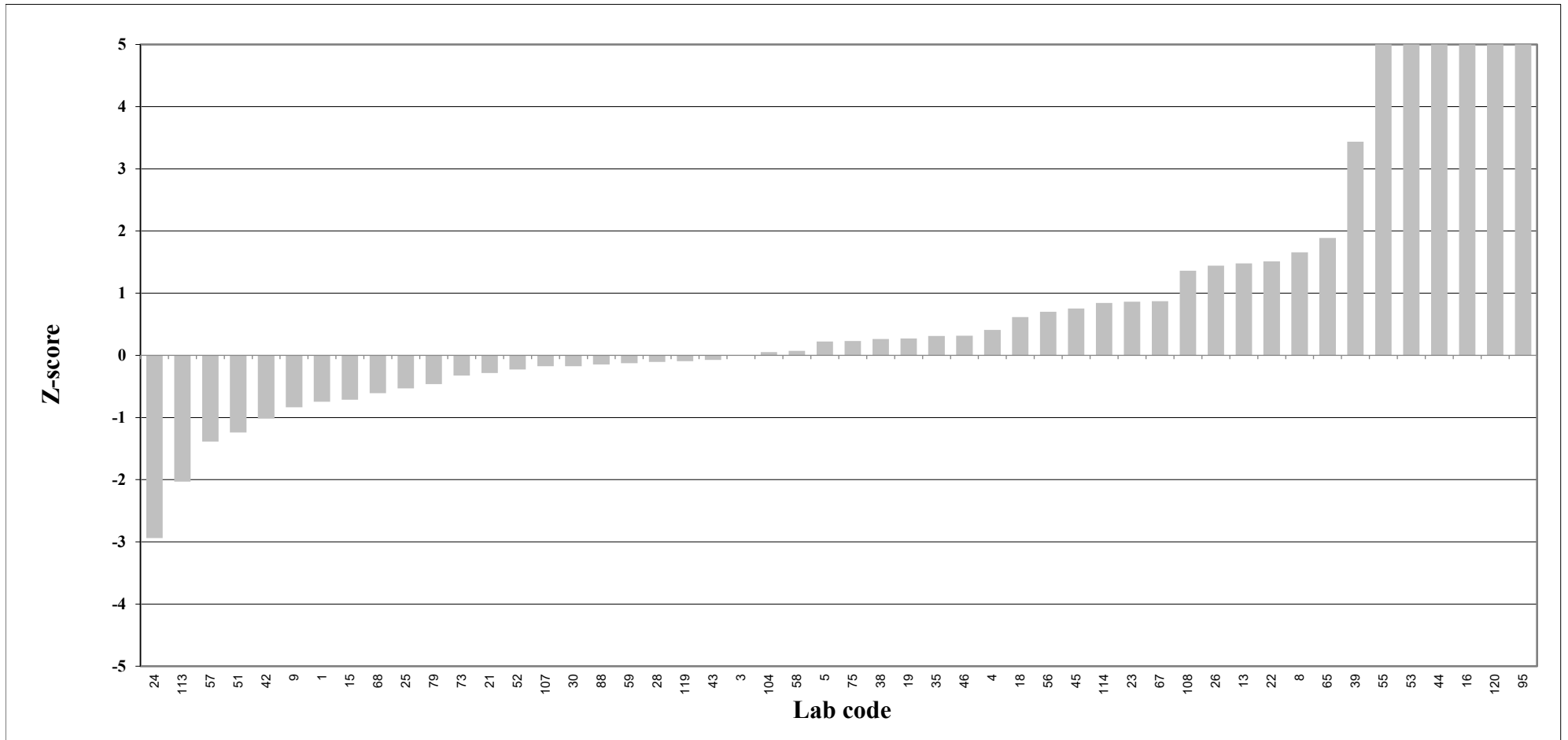
Z-score Egg yolk, fresh weight; sum PBDE without PBDE-209



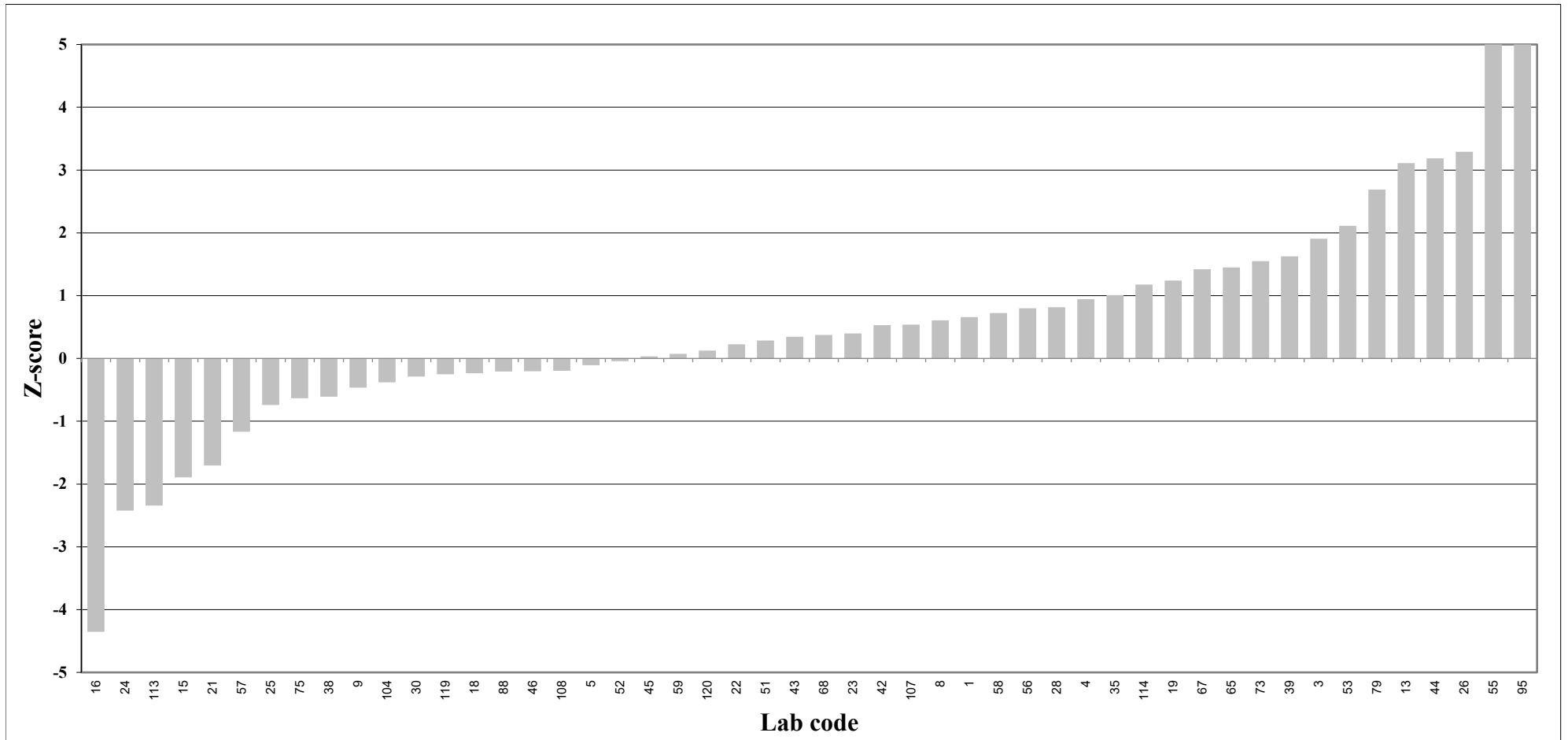
Z-score Egg yolk, lipid weight; total TEQ



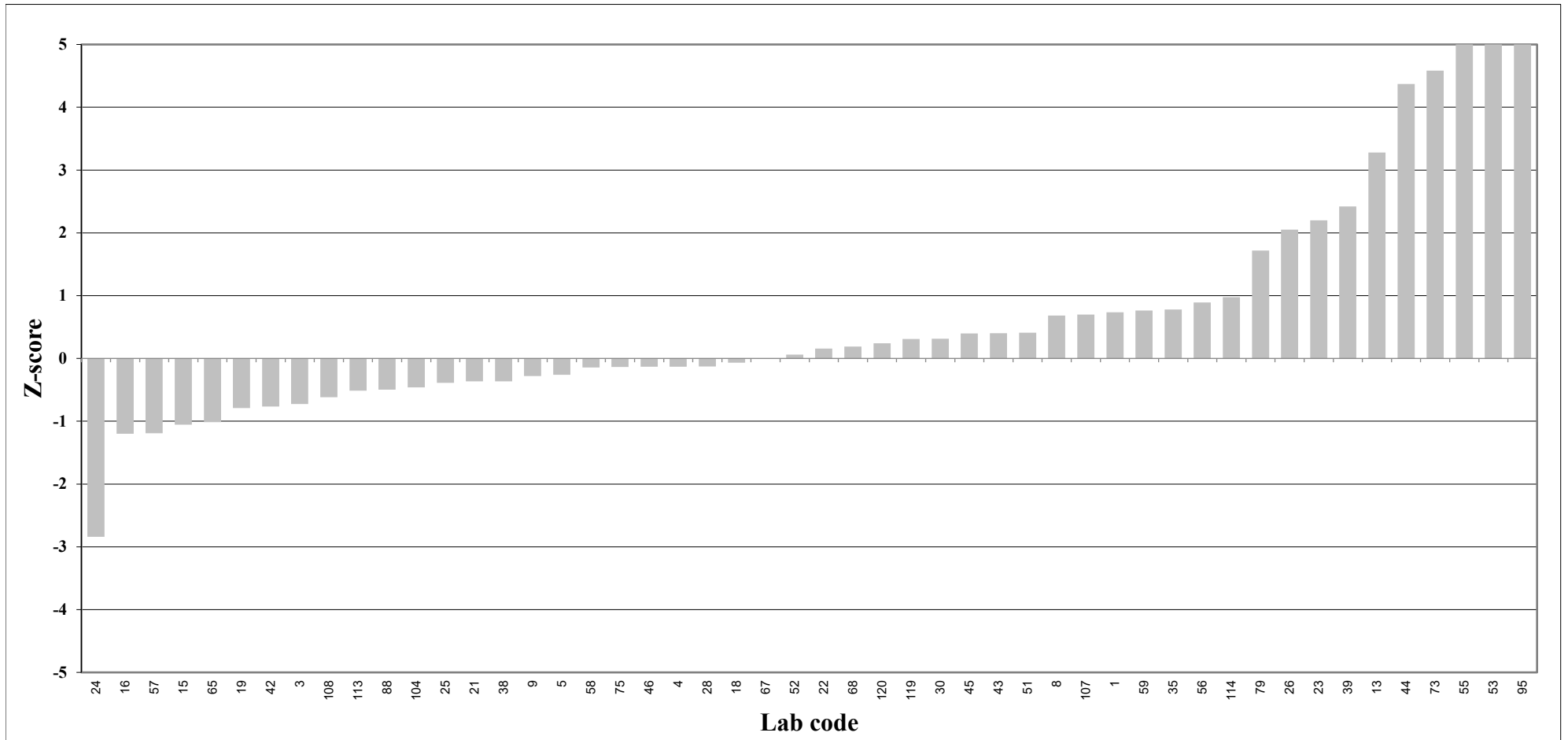
Z-score Egg yolk, lipid weight; PCDD/PCDF TEQ



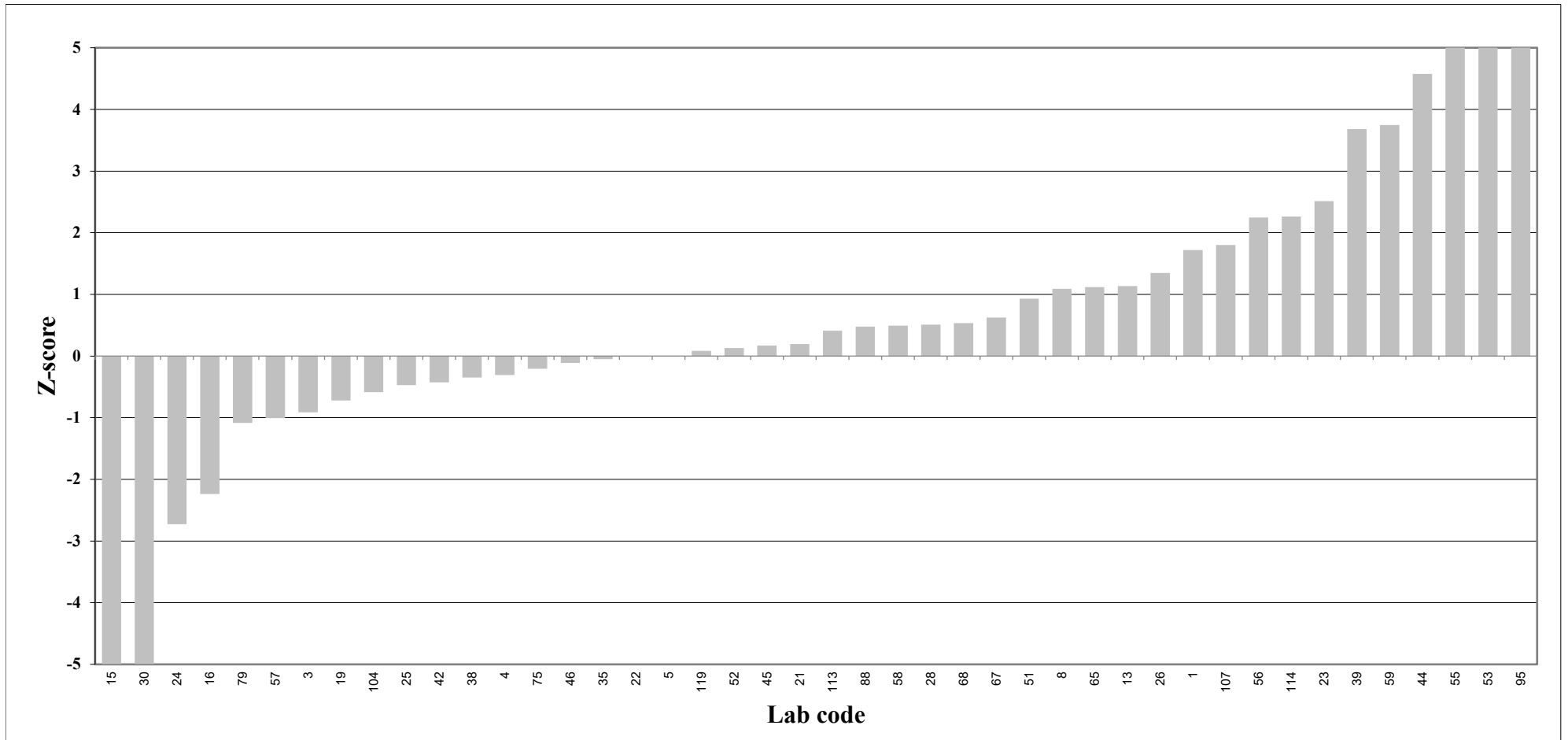
Z-score Egg yolk, lipid weight; non-ortho PCB TEQ



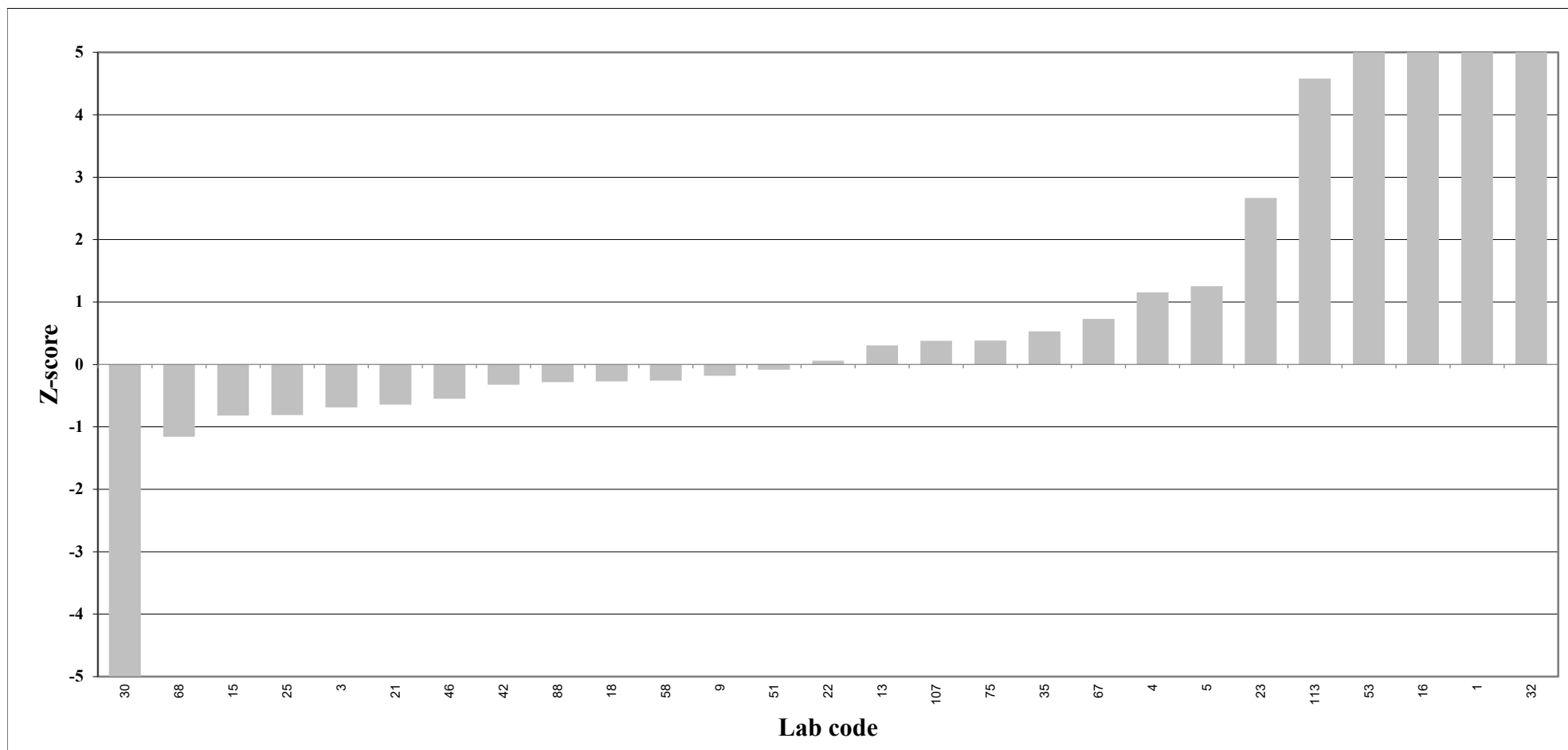
Z-score Egg yolk, lipid weight; mono-ortho PCB TEQ



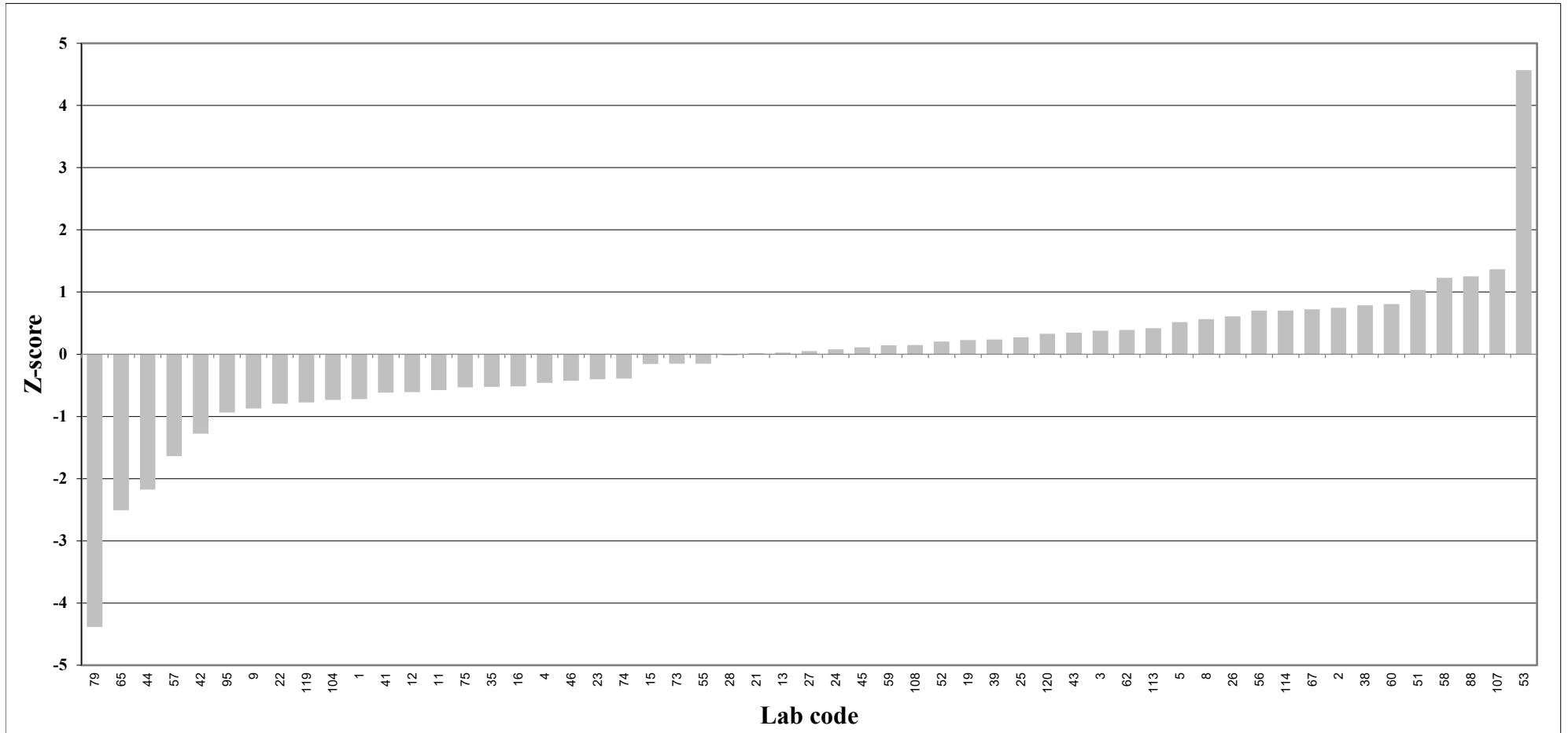
Z-score Egg yolk, lipid weight; sum indicator PCB



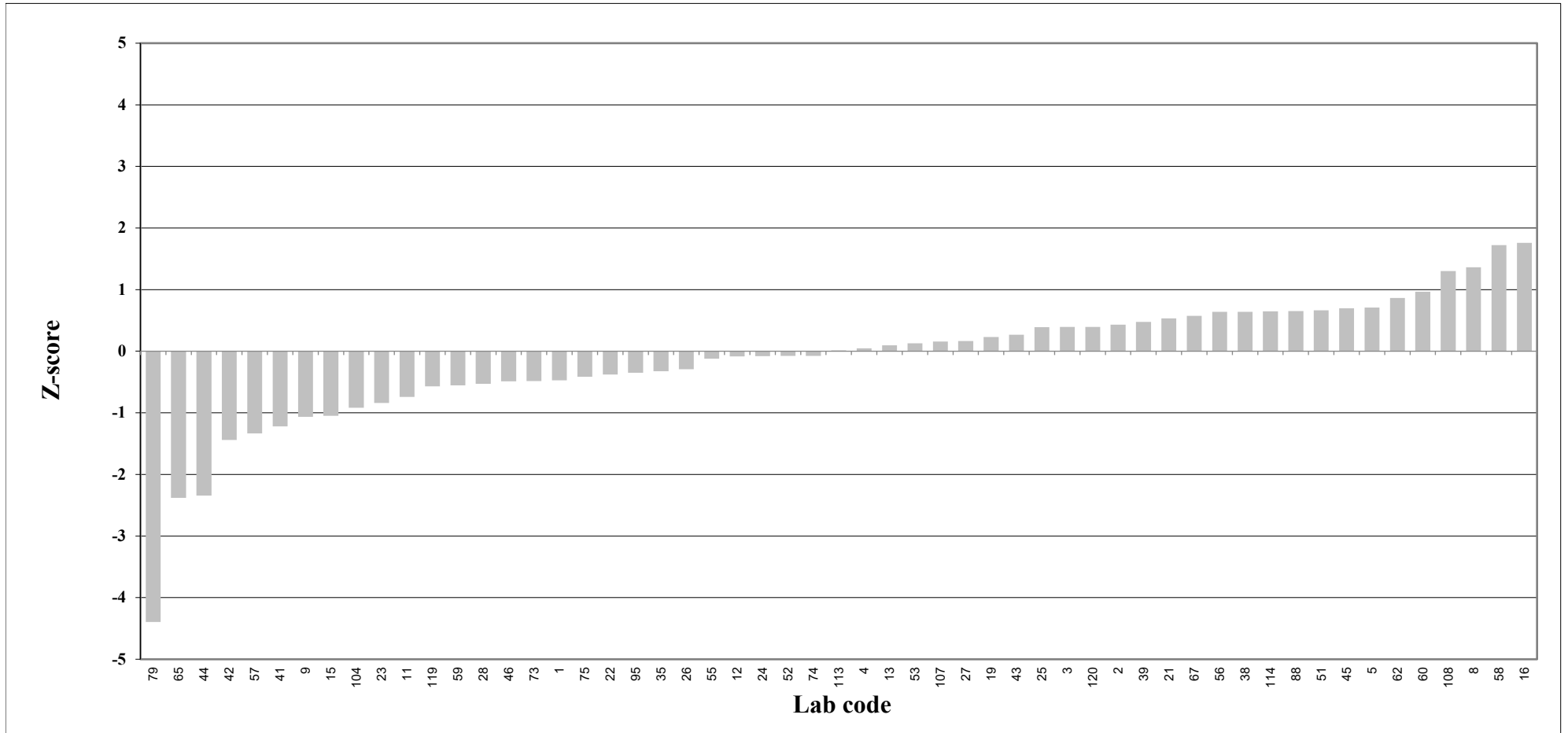
Z-score Egg yolk, lipid weight; sum PBDE without PBDE-209



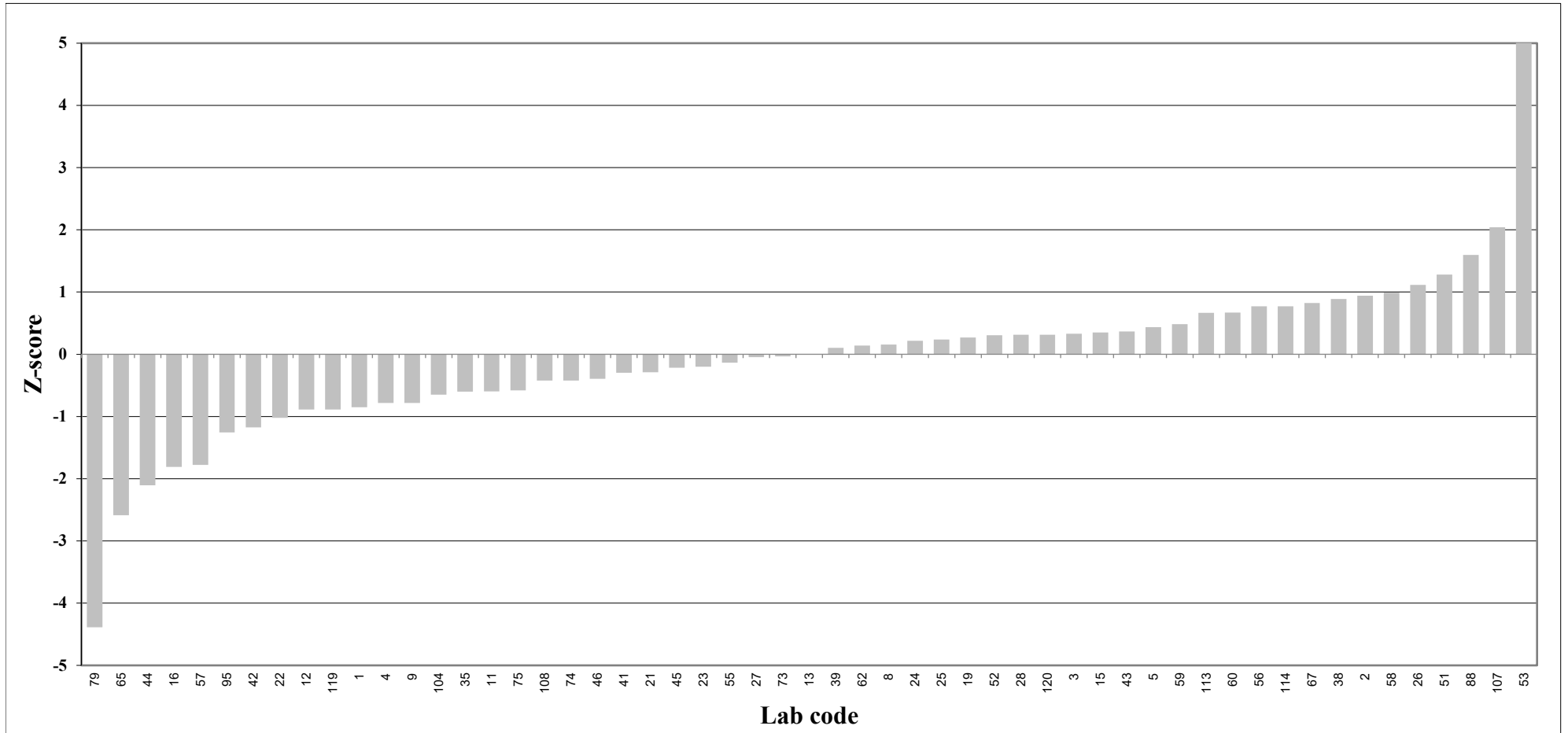
Z-score Salmon, fresh weight; total TEQ



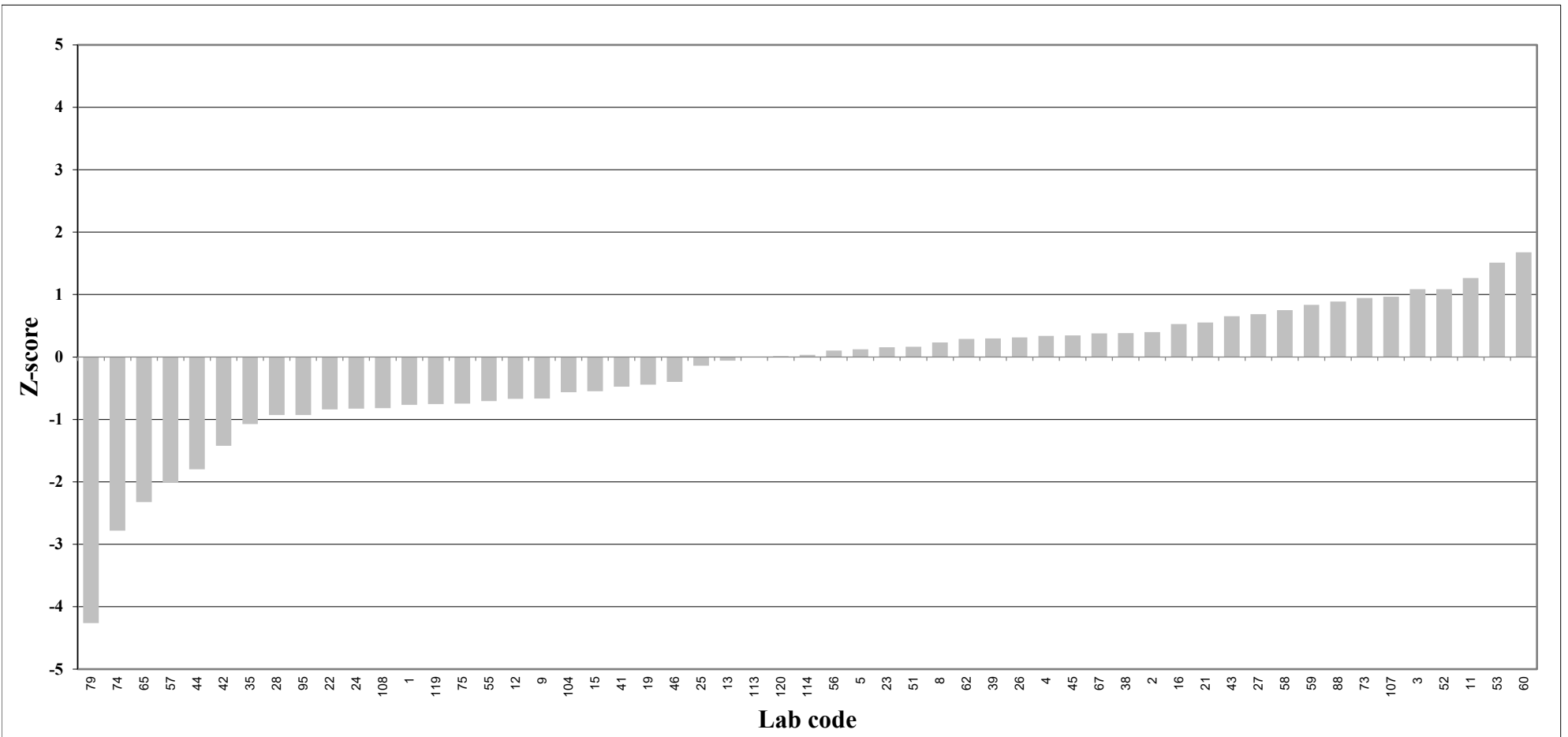
Z-score Salmon, fresh weight; PCDD/PCDF TEQ



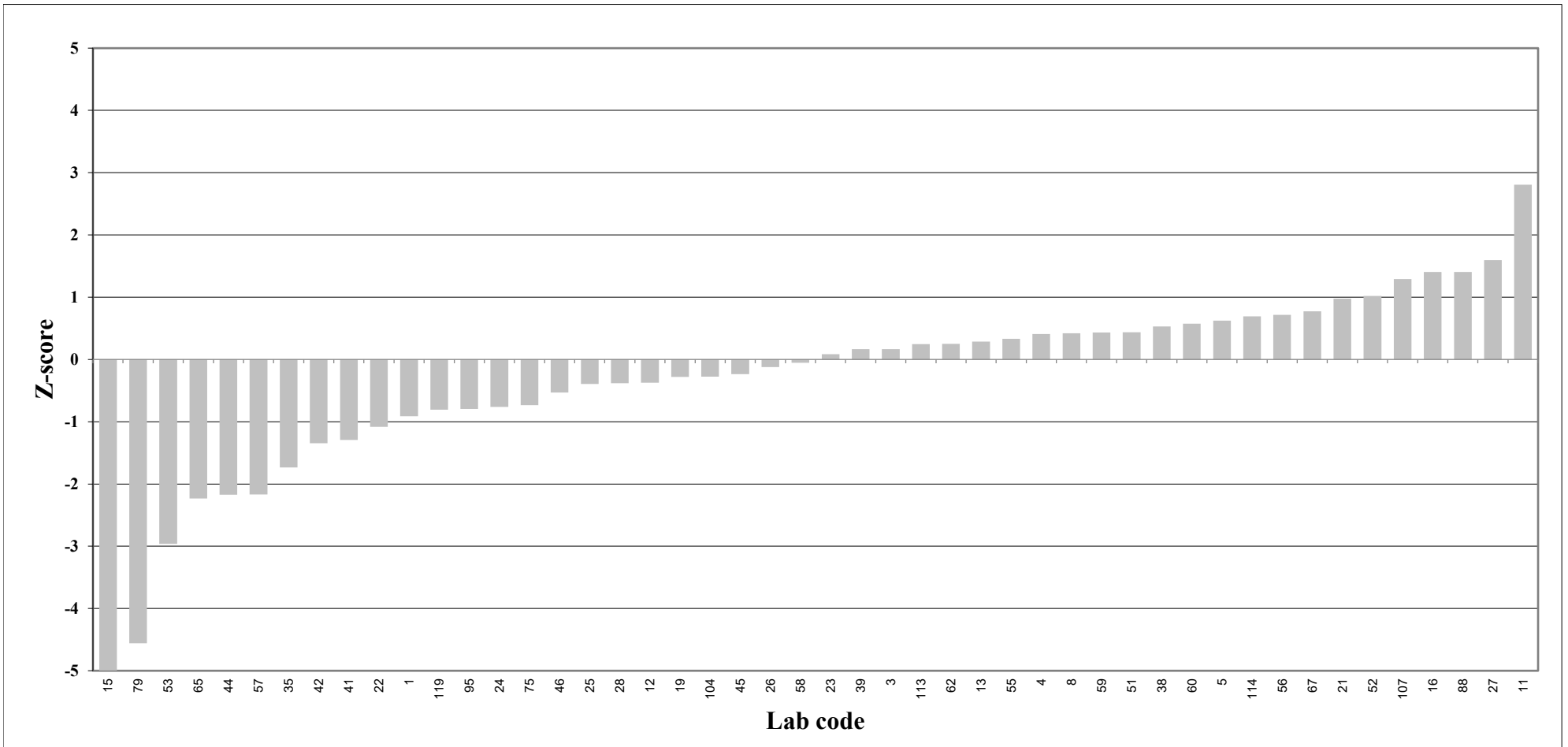
Z-score Salmon, fresh weight; non-ortho PCB TEQ



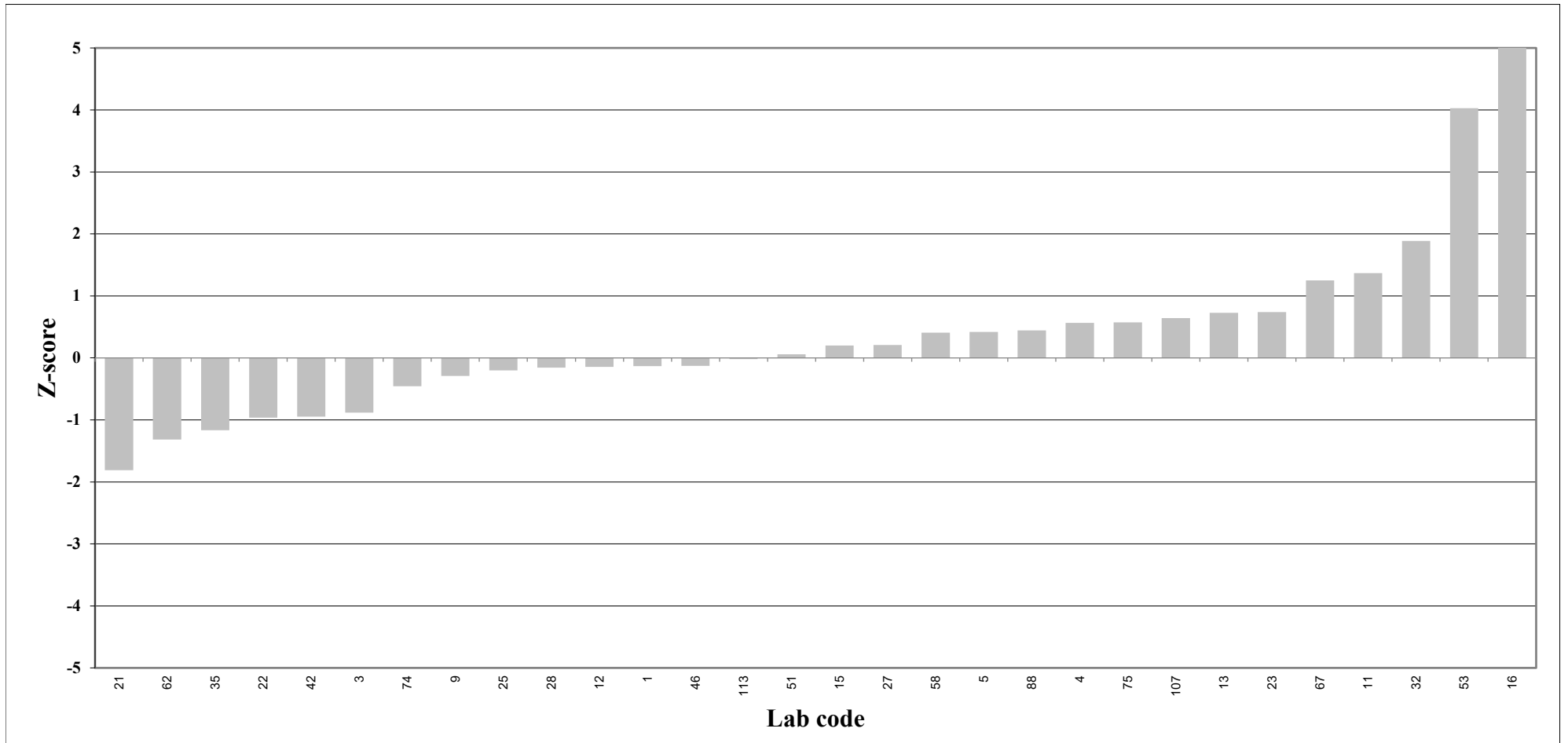
Z-score Salmon, fresh weight; mono-ortho PCB TEQ



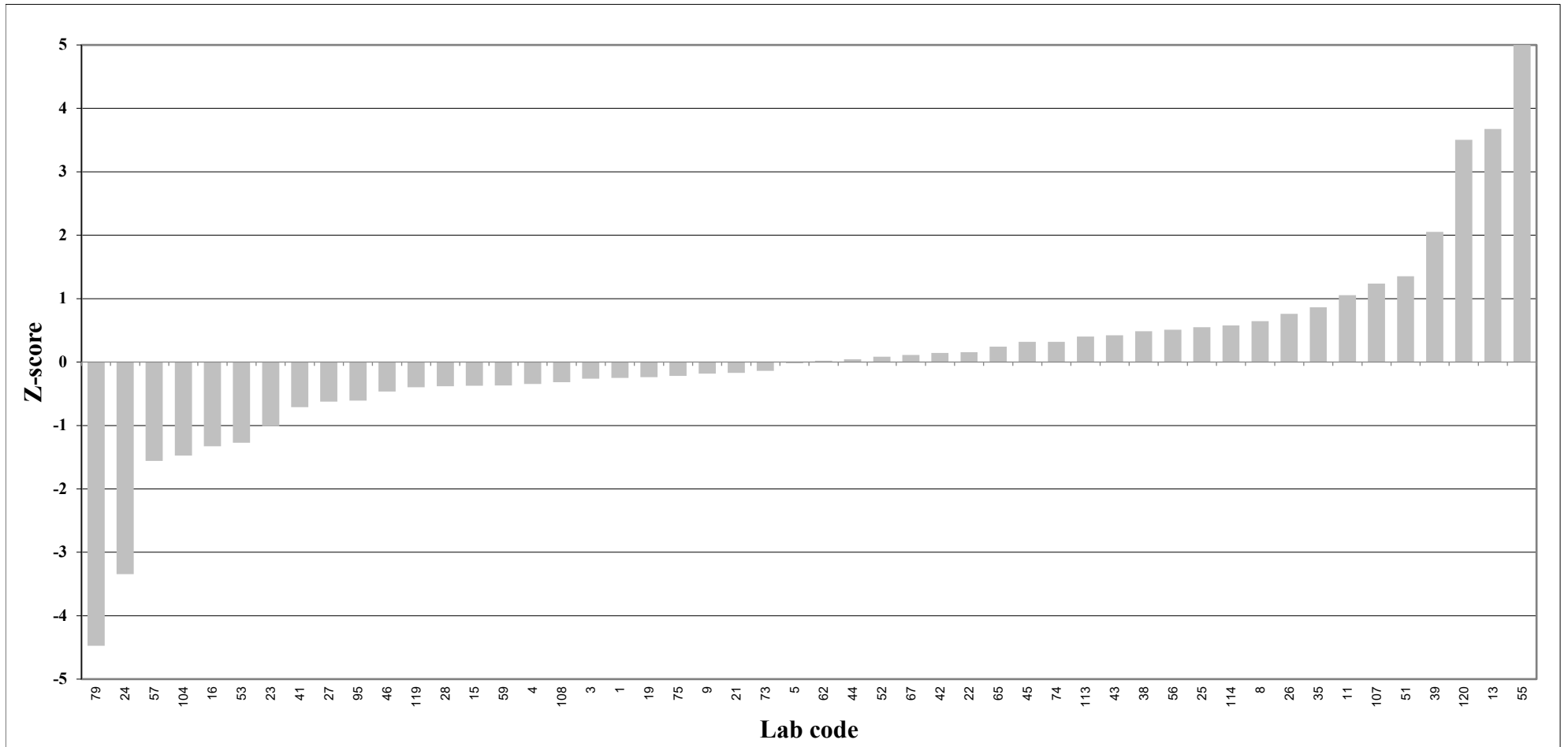
Z-score Salmon, fresh weight; sum indicator PCB



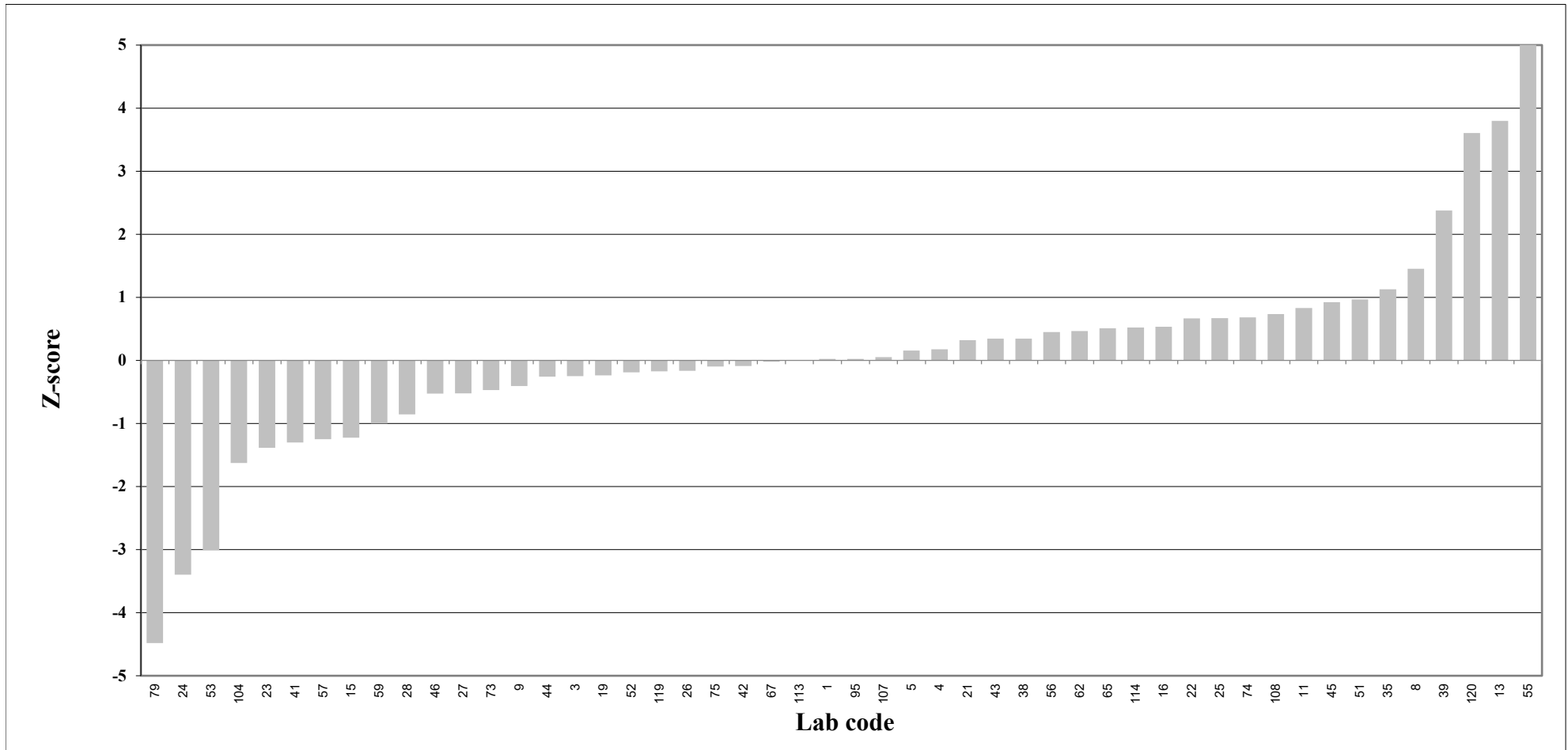
Z-score Salmon, fresh weight; sum PBDE without BDE-209



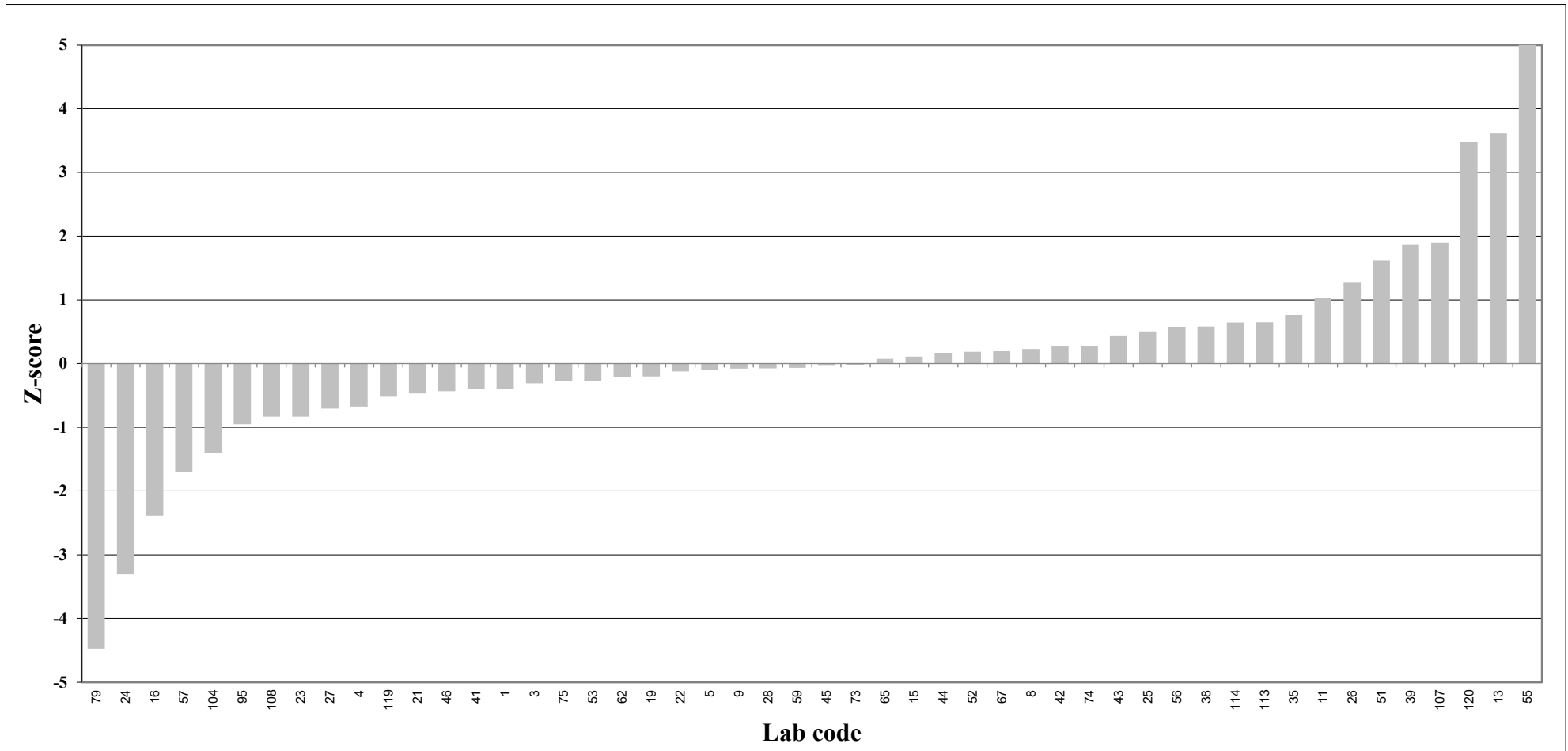
Z-score Salmon, lipid weight; total TEQ



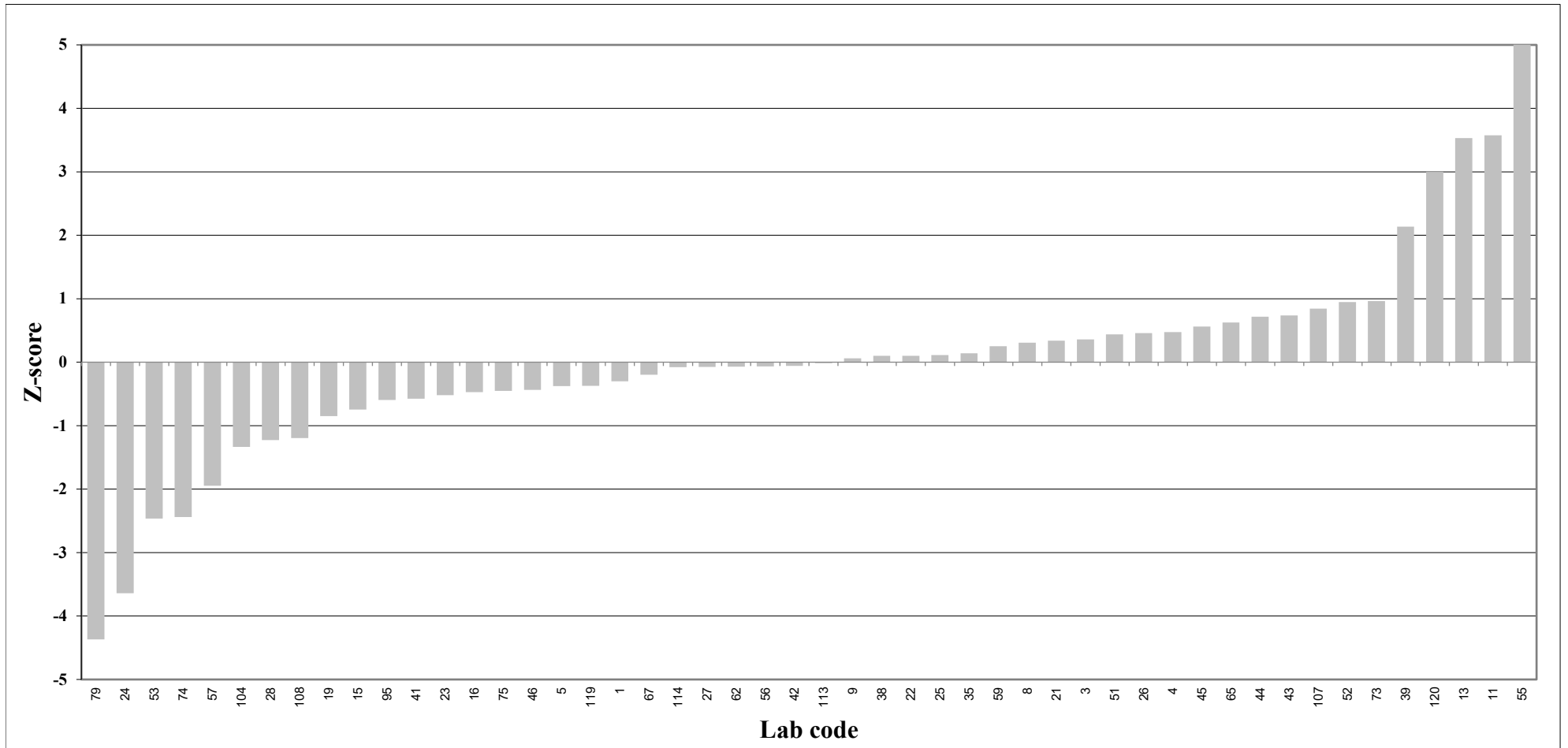
Z-score Salmon, lipid weight; PCDD/PCDF TEQ



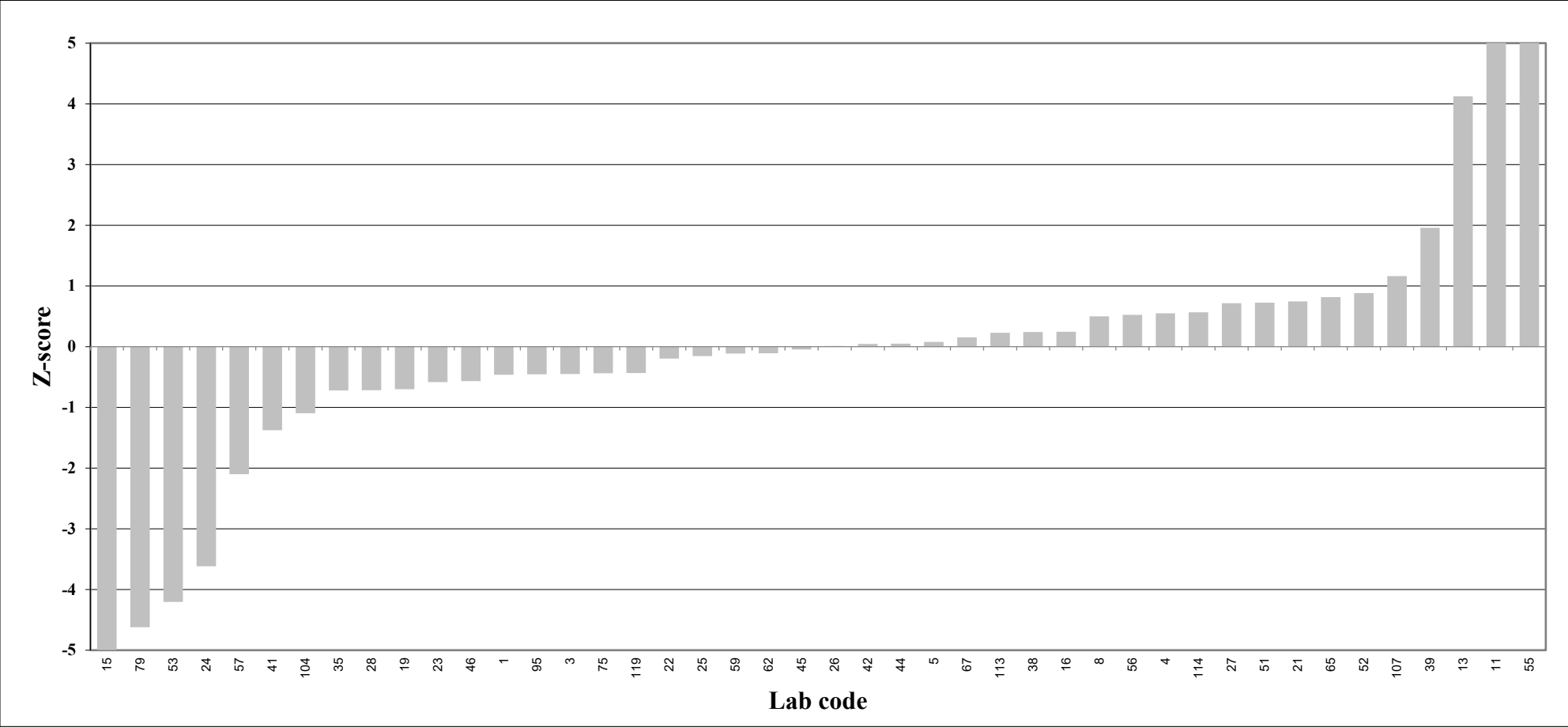
Z-score Salmon, lipid weight; non-ortho PCB TEQ



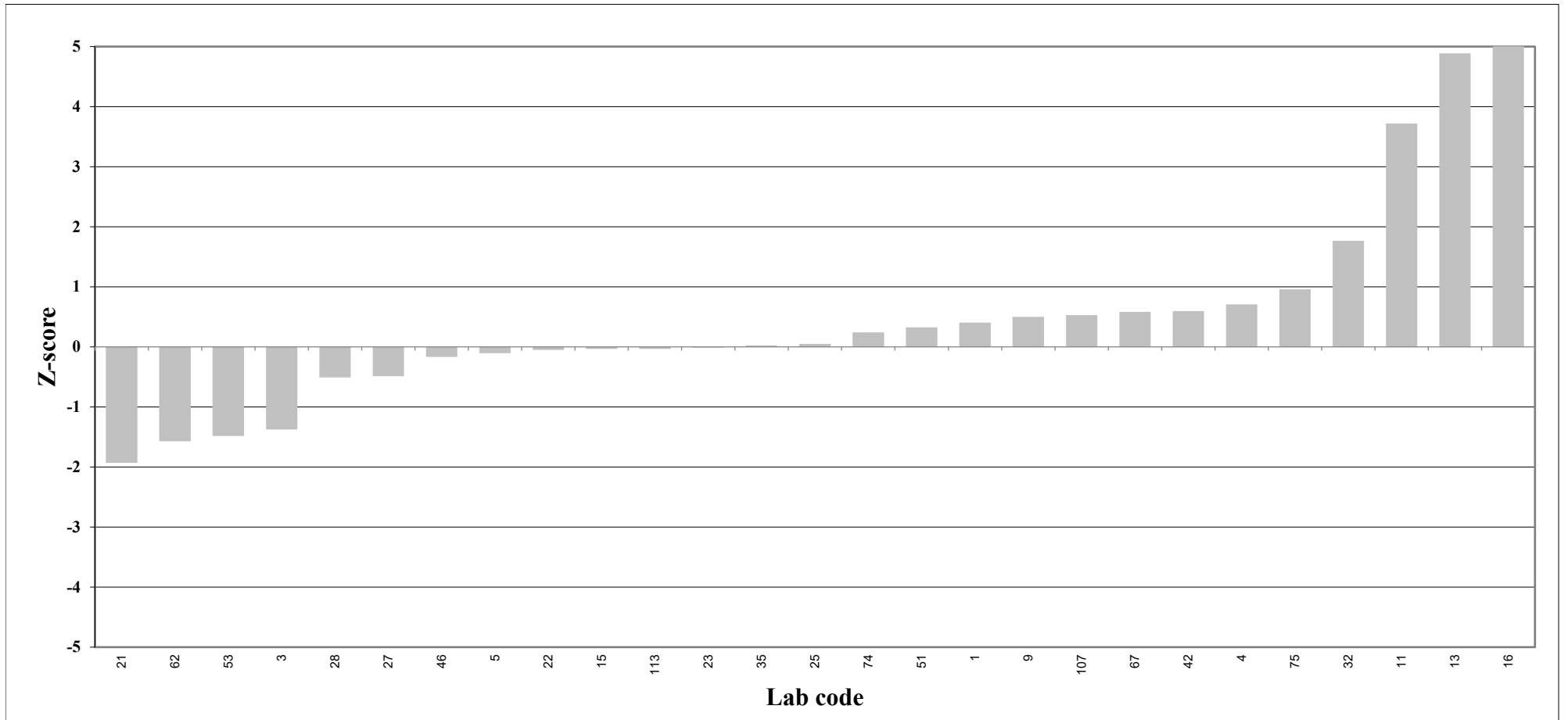
Z-score Salmon, lipid weight; mono-ortho PCB TEQ



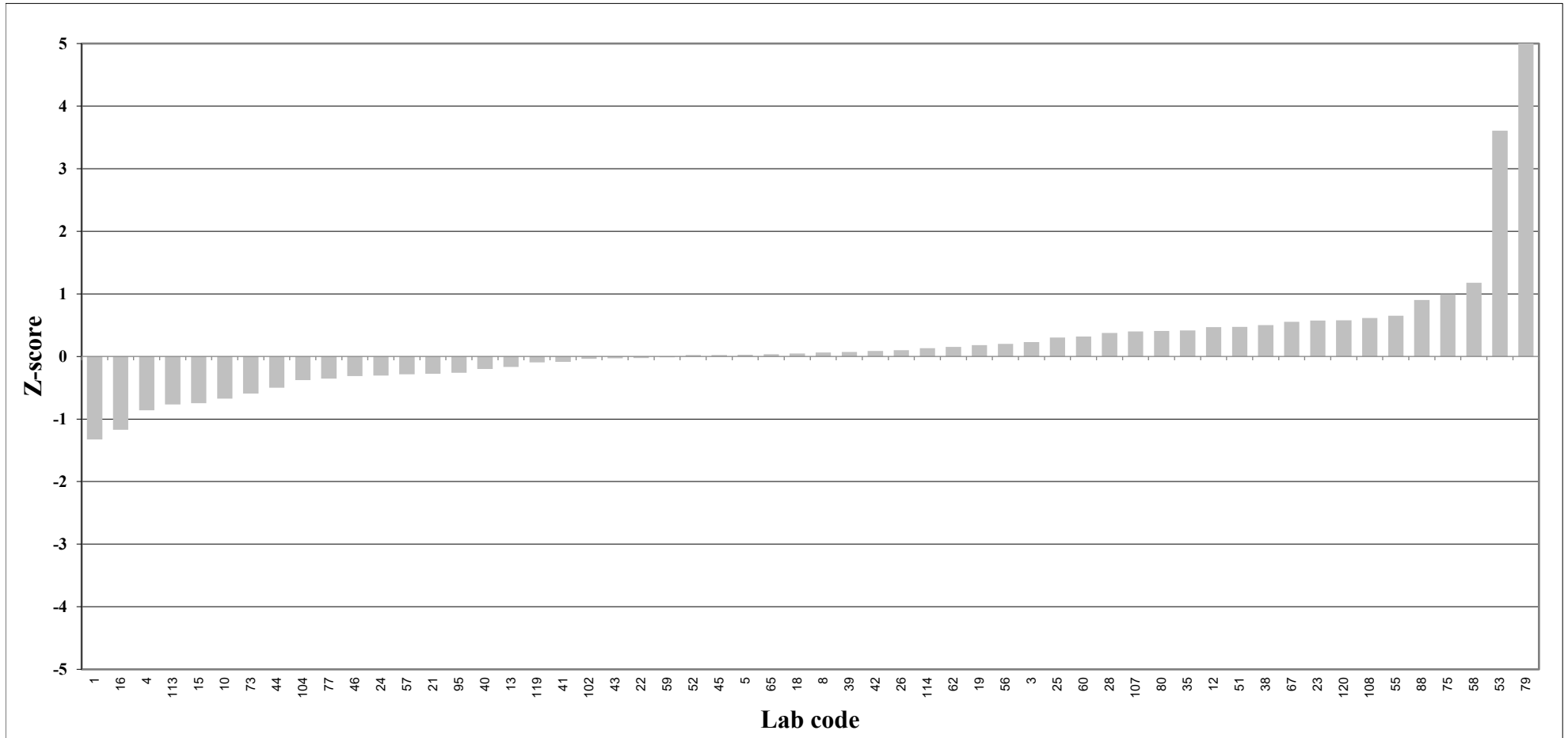
Z-score Herring, lipid weight; sum indicator PCB



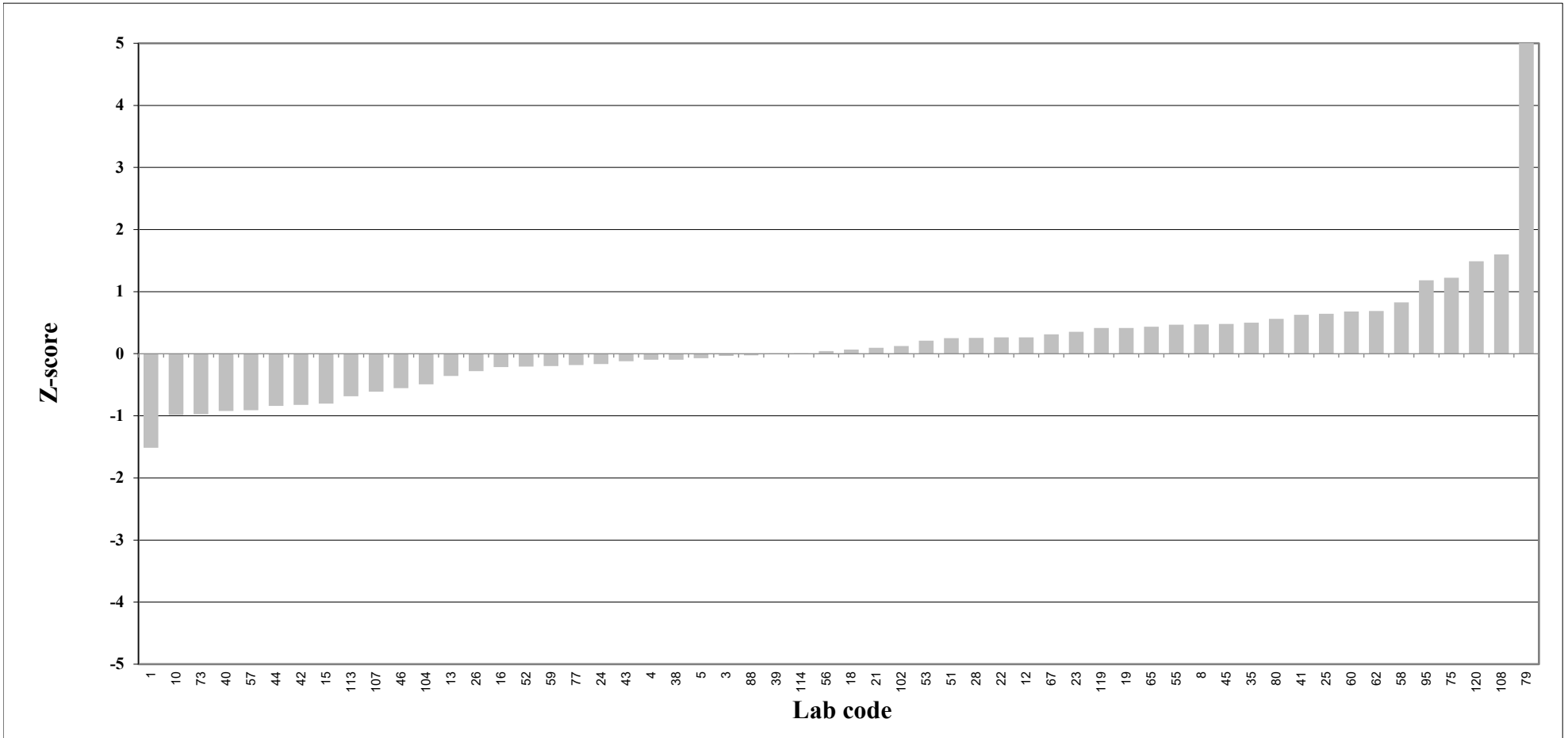
Z-score Herring, lipid weight; sum PBDE without BDE-209



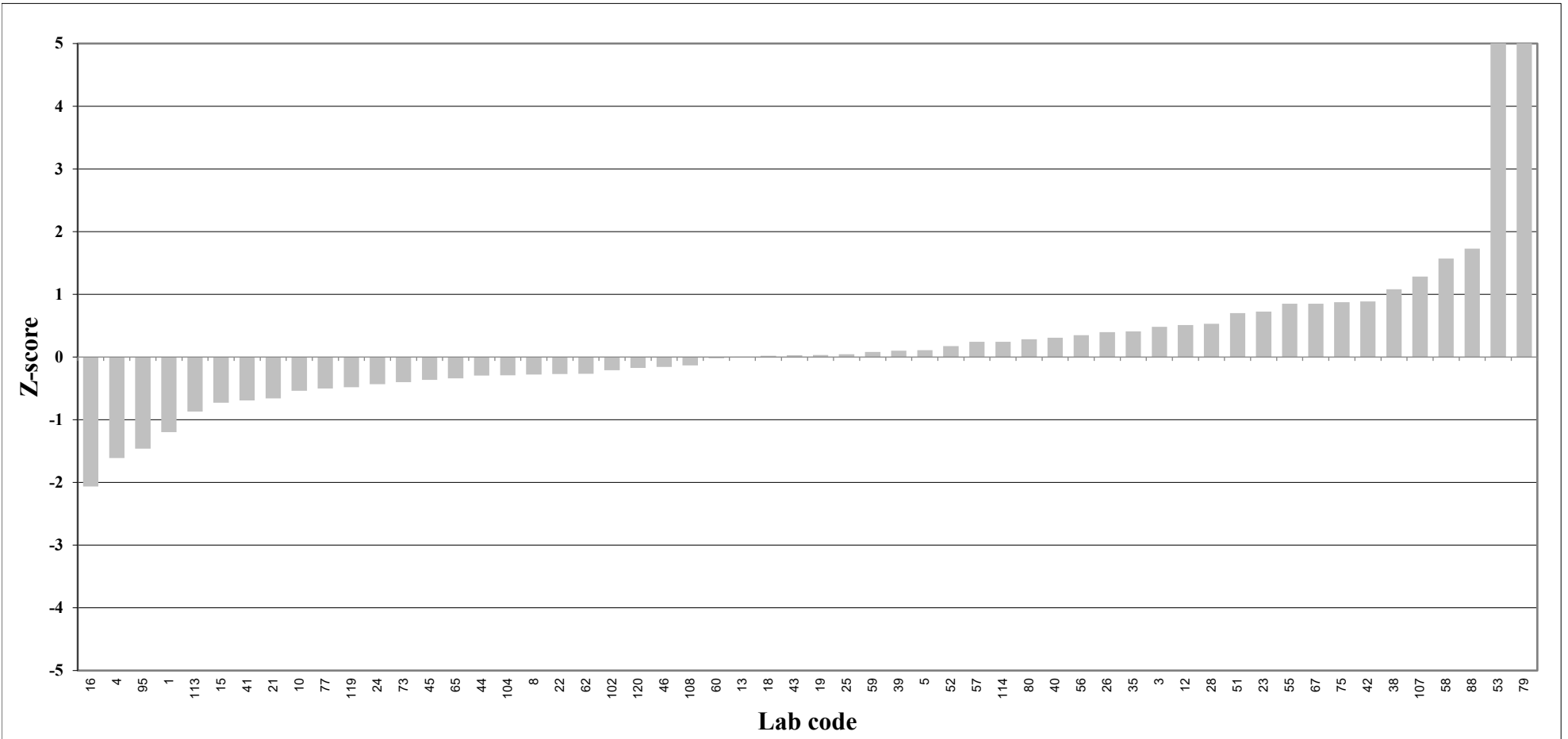
Z-score Fish oil, fresh weight; total TEQ



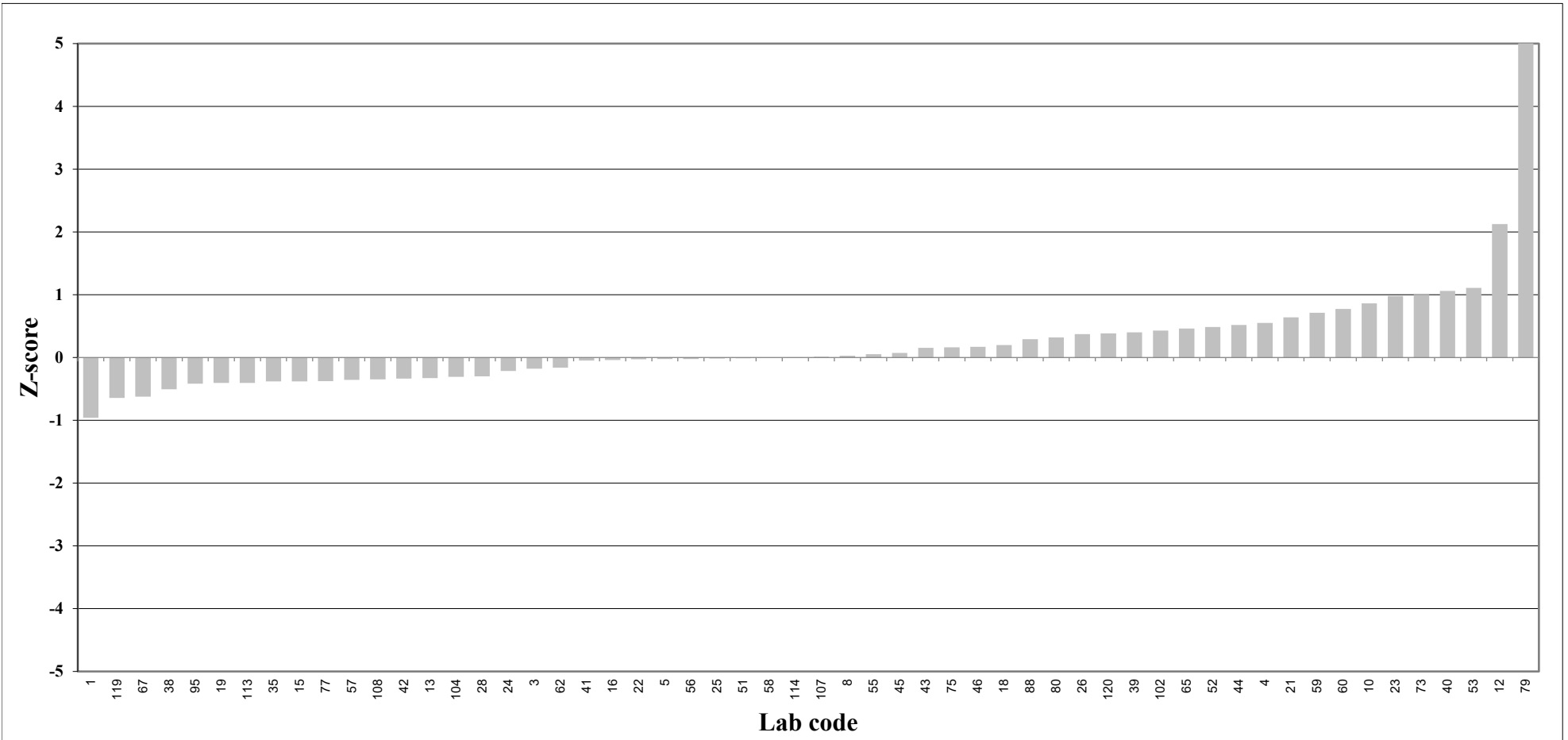
Z-score Fish oil, fresh weight; PCDD/PCDF TEQ



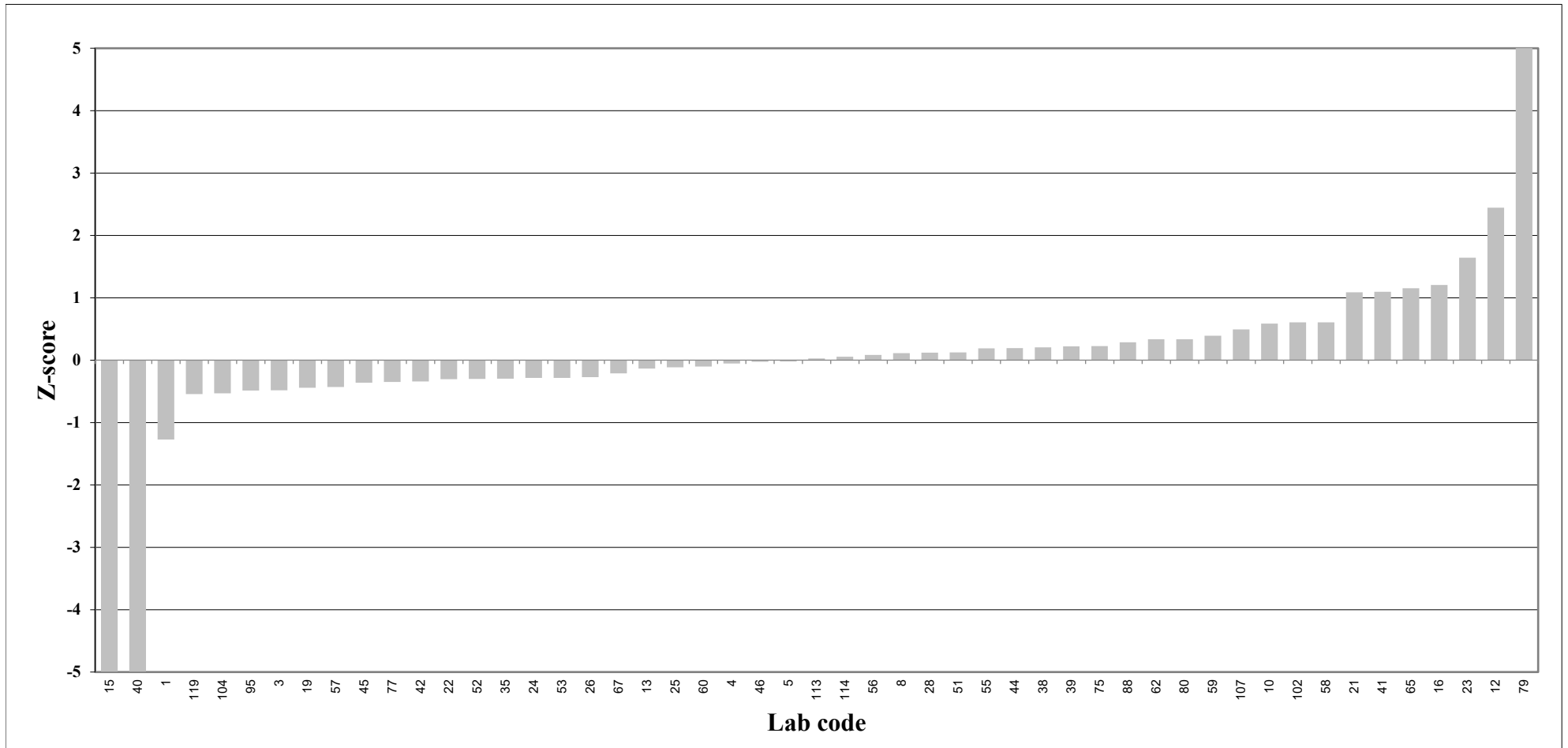
Z-score Fish oil, fresh weight; non-ortho PCB TEQ



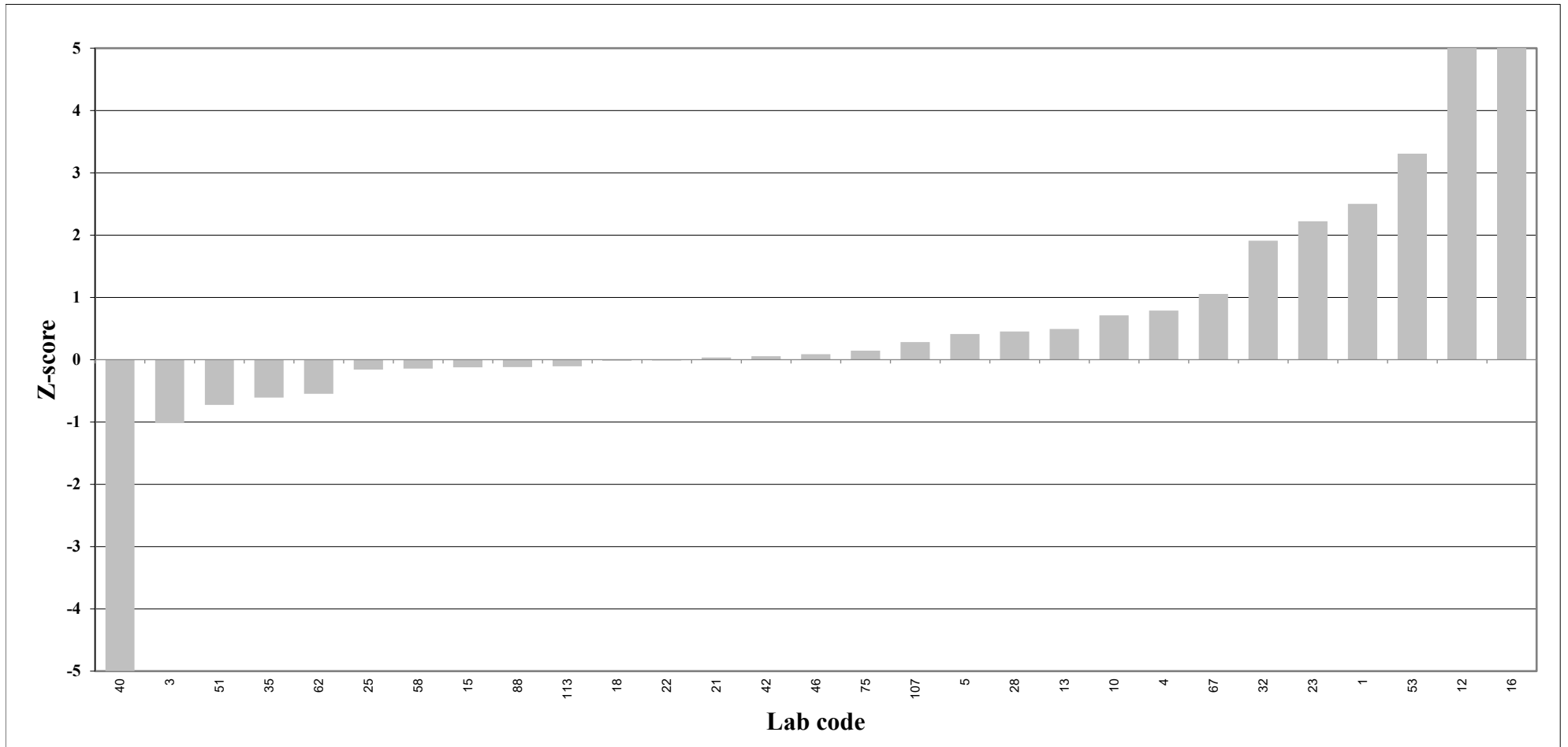
Z-score Fish oil; mono-ortho PCB TEQ



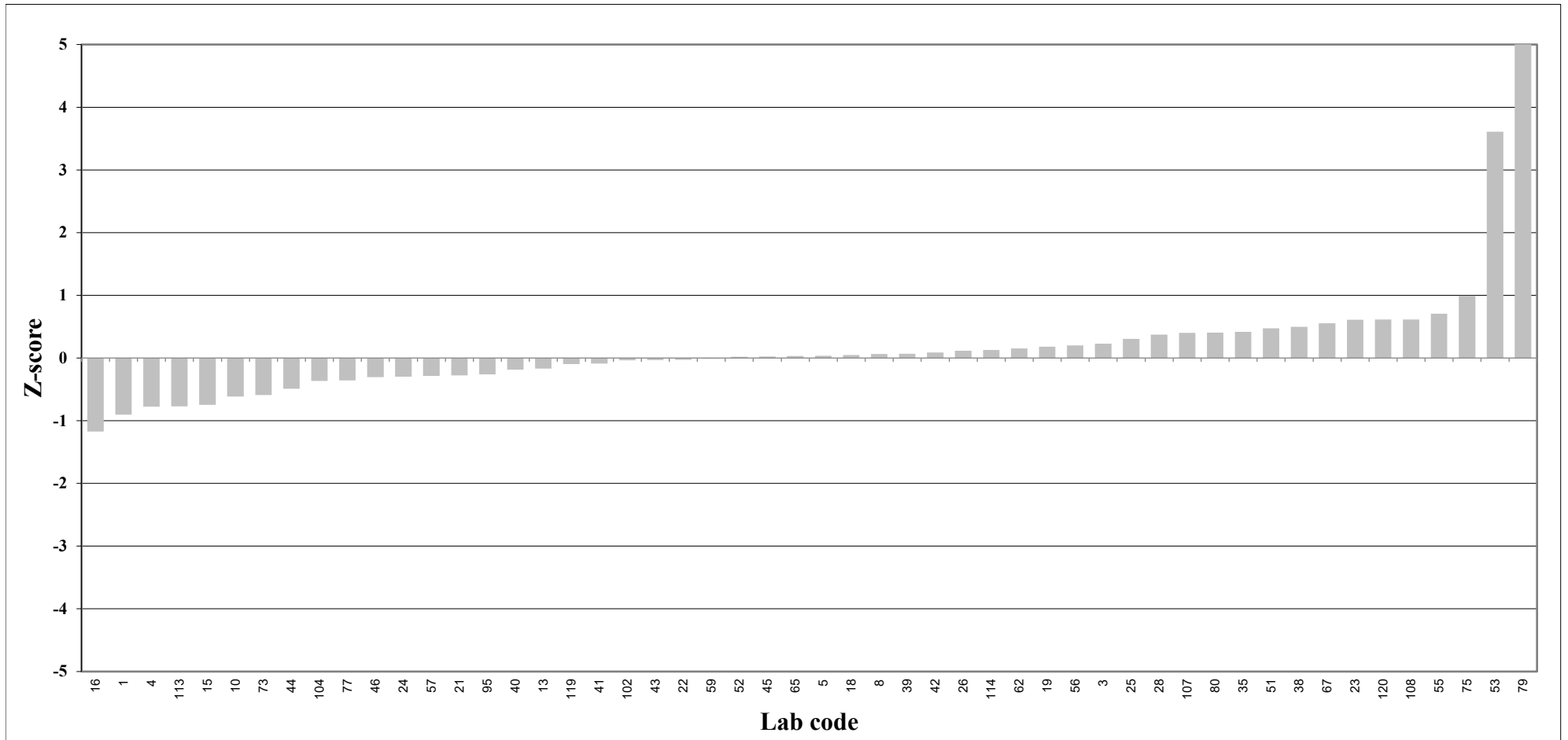
Z-score Fish oil, fresh weight; sum indicator PCB



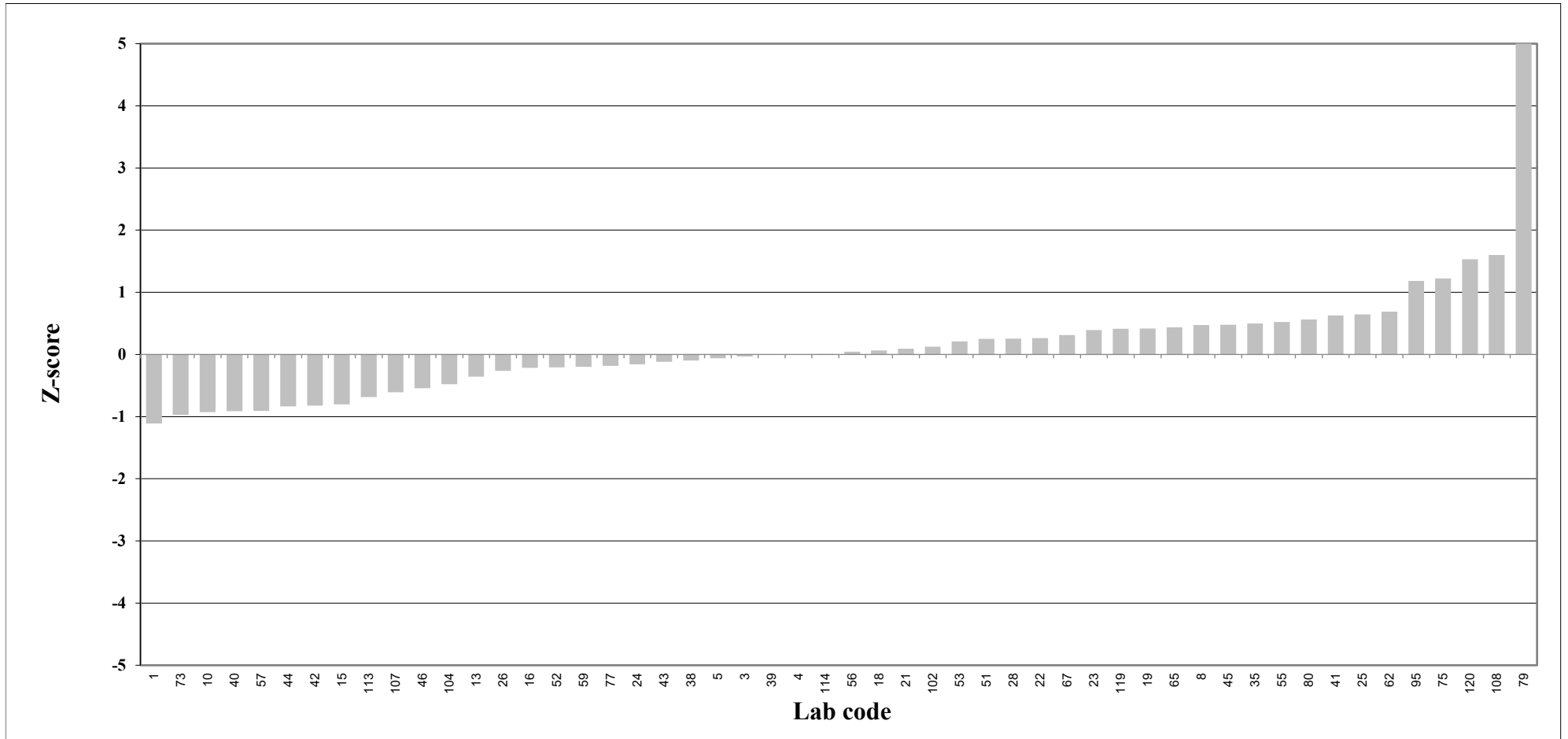
Z-score Fish oil, fresh weight; sum PBDE without PBDE-209



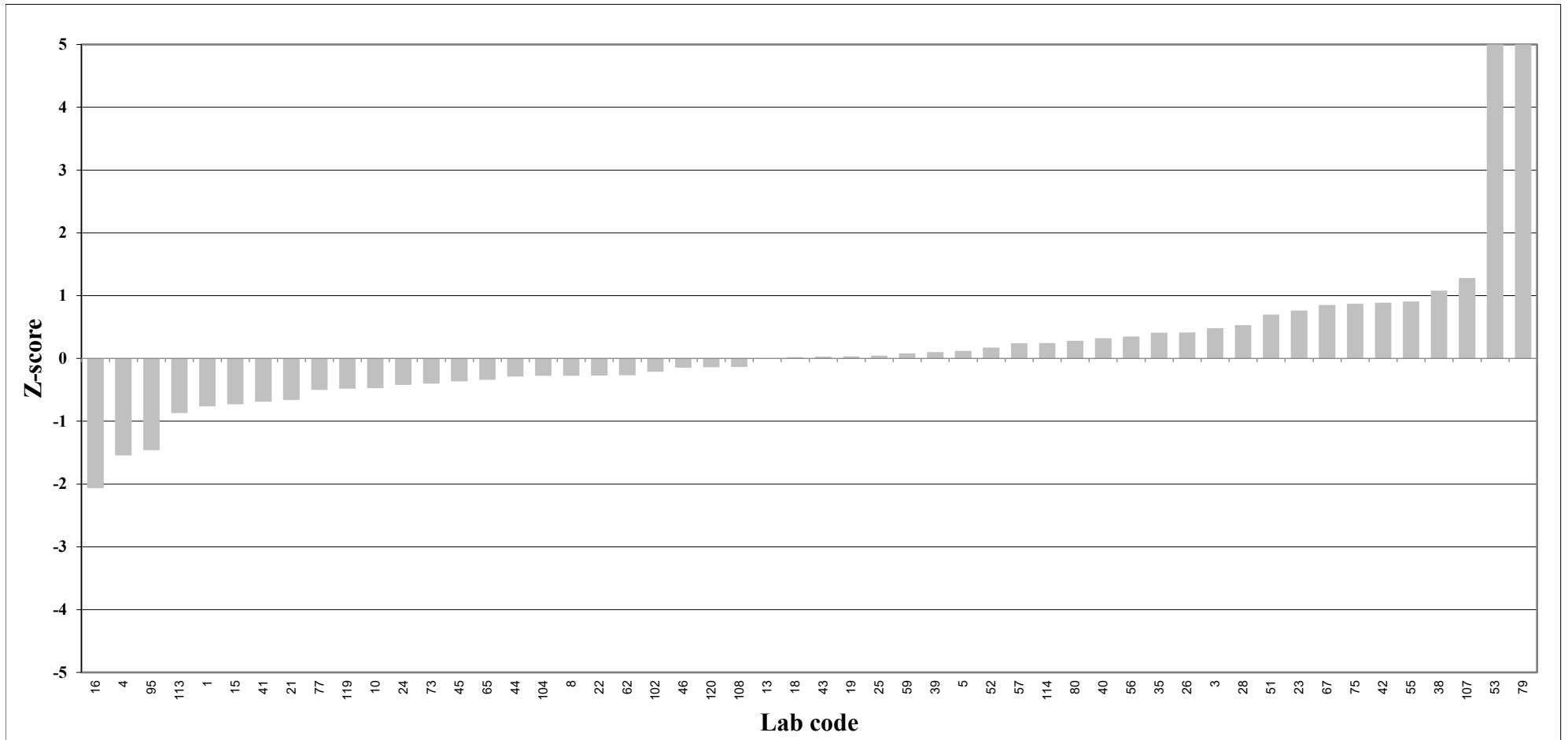
Z-score Fish oil, lipid weight; total TEQ



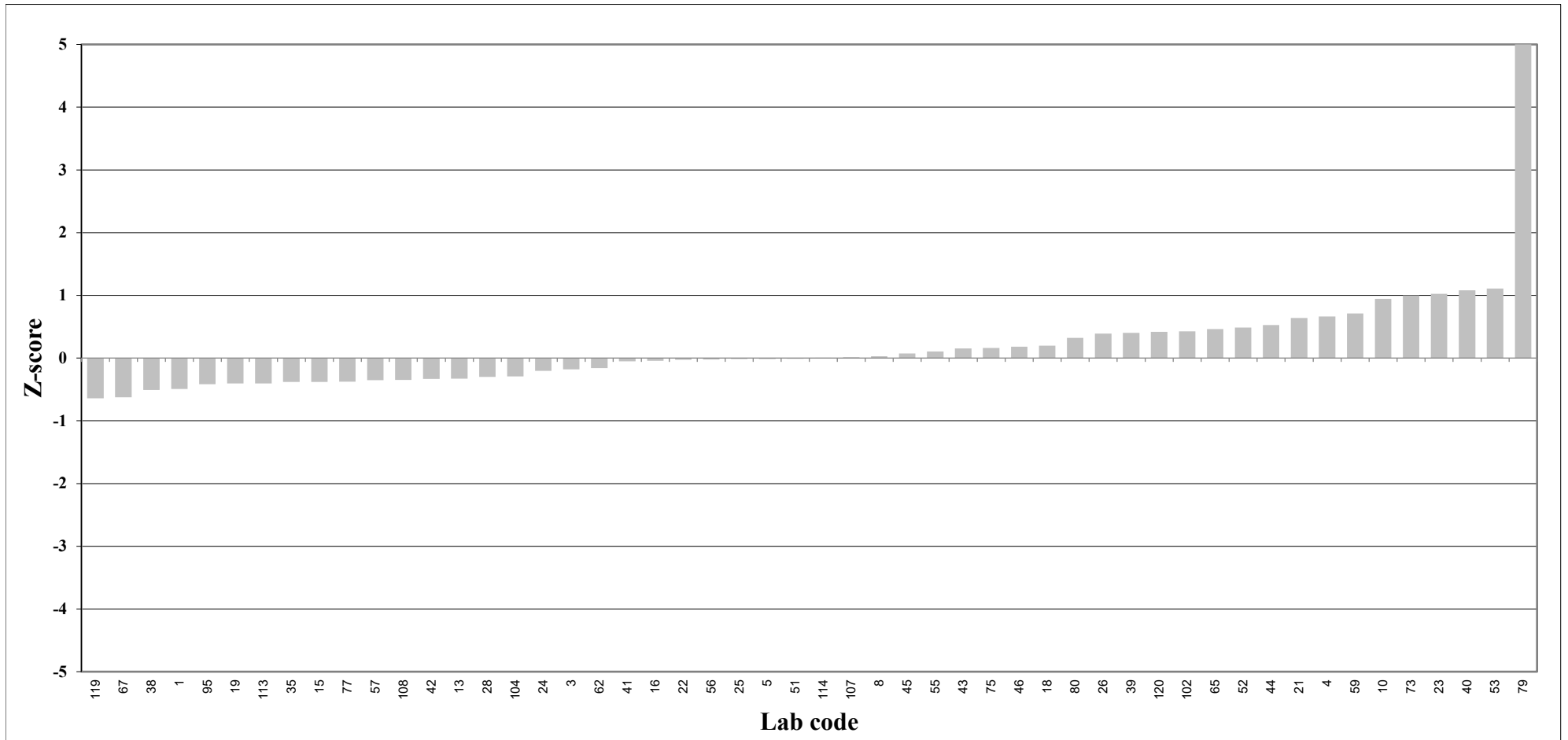
Z-score Fish oil, lipid weight; PCDD/PCDF TEQ



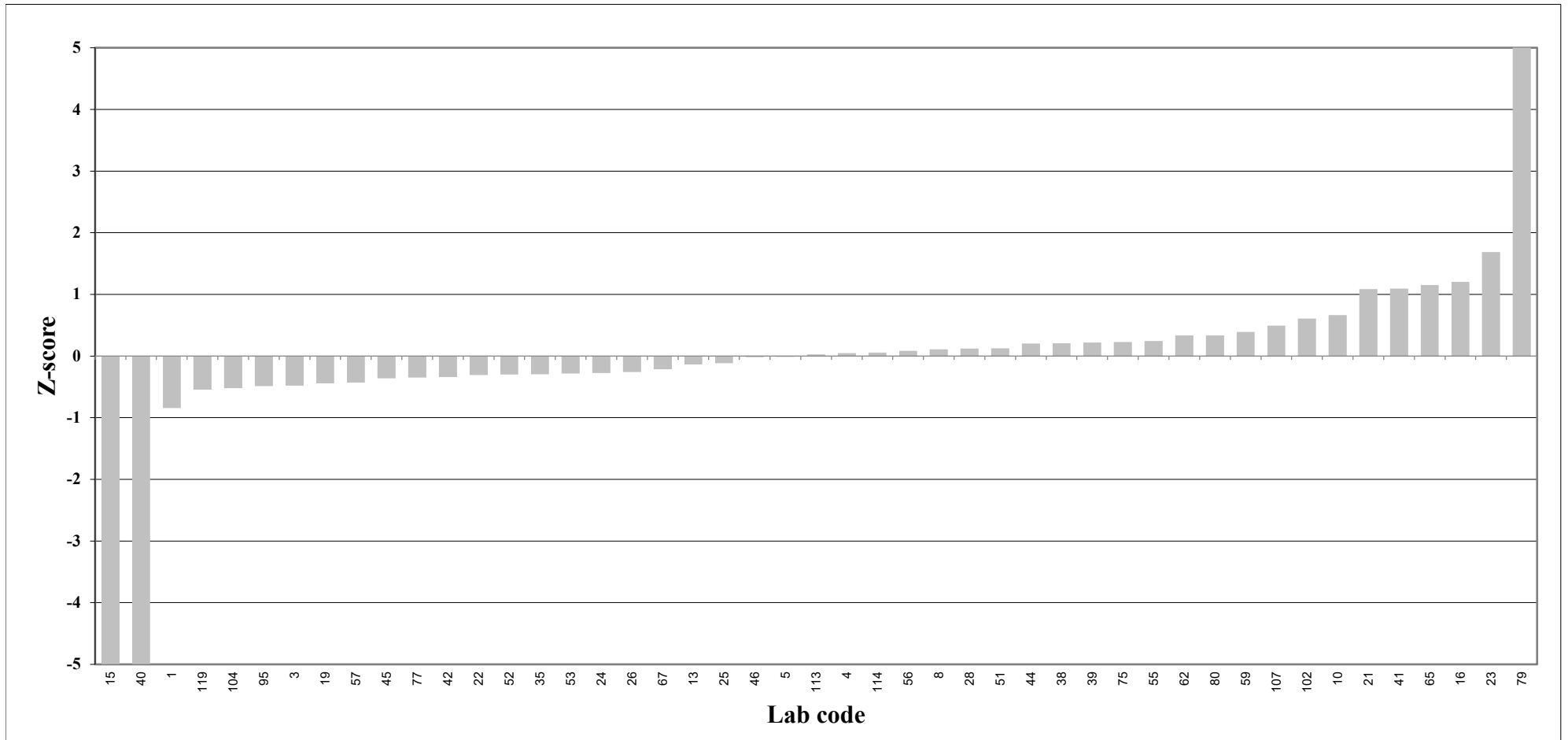
Z-score Fish oil, lipid weight; non-ortho PCB TEQ



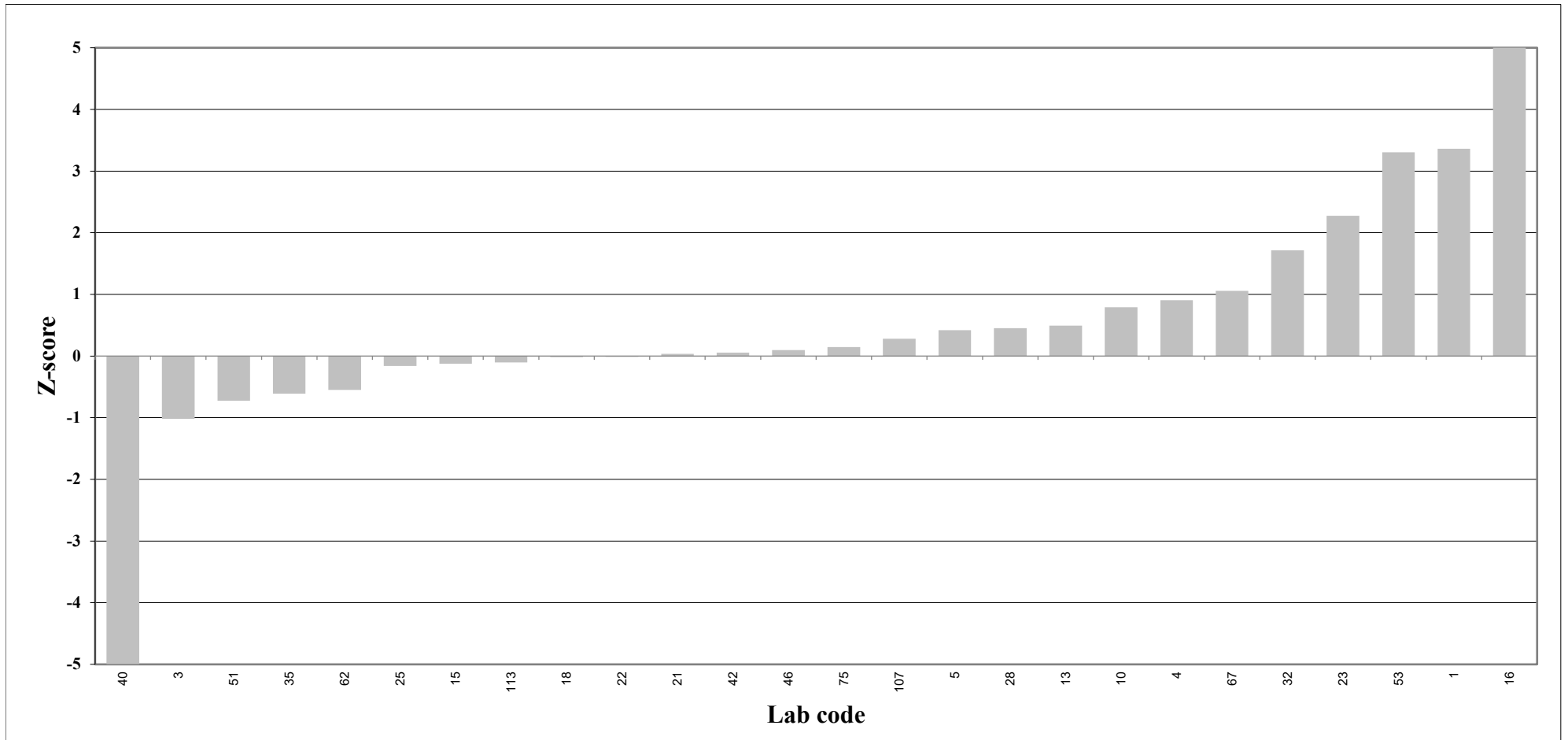
Z-score Fish oil, lipid weight; mono-ortho PCB TEQ



Z-score Fish oil, lipid weight; sum indicator PCB



Z-score Fish oil, lipid weight; sum PBDE without BDE-209



Appendix 1:

Presentation of results
for analyte solution

Appendix 1: Presentation of results: Analyte solution

Statistic calculations for PCDDs, PCDFs, dioxin-like PCBs, indicator PCBs, PBDEs and α -HBCD

The analyte solution contained

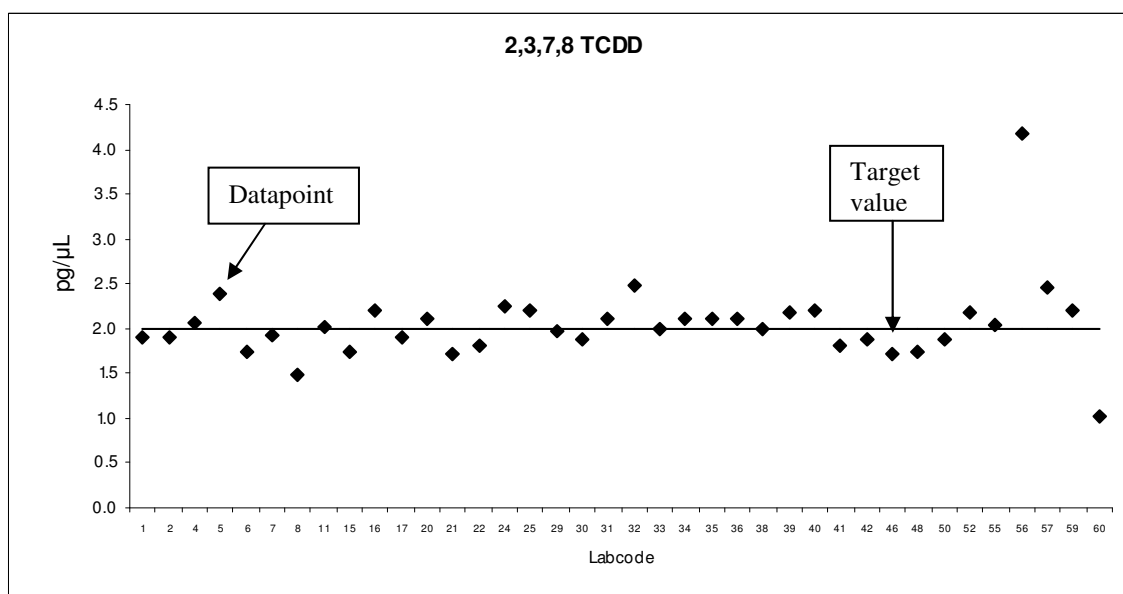
- PCDDs/PCDFs at concentrations of 2:5:10 pg/ μ l for tetra:penta-hexa-hepta:octa chlorinated dibenzodioxins/furans respectively.
- Non-ortho PCBs at concentration of 10 pg/ μ l.
- Mono-ortho PCBs and indicator PCBs at concentration of 100 pg/ μ l.
- PBDE at a concentration of 25 pg/ μ l, except BDE-209 at 100 pg/ μ l.
- α -HBCD at a concentration of 500 pg/ μ l.

These concentrations are called the congeners' target value.

For each congener, the outliers were removed and the consensus calculated according to the following procedure:

1. The median was calculated from all the reported data.
2. Values outside a range of 50 % to 150 % of this median, were defined as outliers and removed from the data set.
3. Median, mean and standard deviation were re-calculated from the remaining data. This median and mean were called consensus median and mean.

The diagram shows the target value and the reported data. Values outside a range of 50 % to 150 % of “median of all values”, were defined as outliers and are not shown in the plot.



Z-Scores of individual congeners

Z-scores of each congener were calculated for each laboratory according to the following equation:

$$z = (x - X)/\sigma$$

Where x = reported value; X = assigned value (consensus); σ = target value for standard deviation. A σ of 20% of the consensus was used, i.e. z-scores between +1 and -1 reflect a deviation of $\pm 20\%$ from the consensus value.

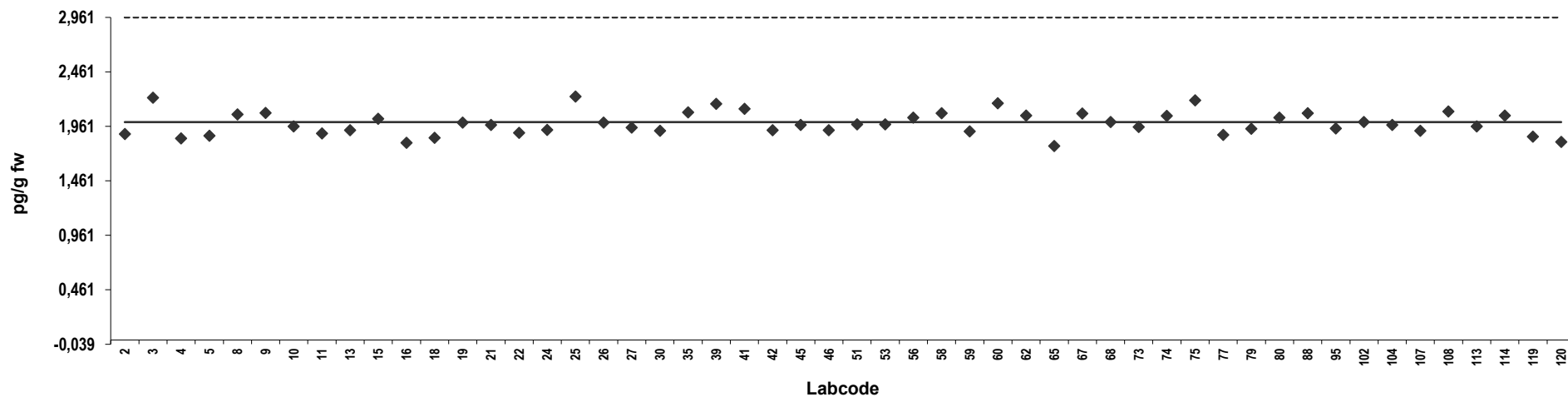
Analyte solution
Congener: 2,3,7,8 TCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	1,9	-0,21		104	2,0	0,0021	
3	2,2	0,63		107	1,9	-0,13	
4	1,9	-0,31		108	2,1	0,31	
5	1,9	-0,25		113	2,0	-0,035	
8	2,1	0,25		114	2,1	0,22	
9	2,1	0,28		119	1,9	-0,27	
10	2,0	-0,035		120	1,8	-0,39	
11	1,9	-0,20					
13	1,9	-0,12					
15	2,0	0,14					
16	1,8	-0,42					
18	1,9	-0,30					
19	2,0	0,054					
21	2,0	-0,0021					
22	1,9	-0,18					
24	1,9	-0,12					
25	2,2	0,66					
26	2,0	0,057					
27	2,0	-0,058					
30	1,9	-0,14					
35	2,1	0,29					
39	2,2	0,49					
41	2,1	0,38					
42	1,9	-0,12					
45	2,0	-0,0023					
46	1,9	-0,12					
51	2,0	0,015					
53	2,0	0,015					
56	2,0	0,17					
58	2,1	0,27					
59	1,9	-0,15					
60	2,2	0,51					
62	2,1	0,22					
65	1,8	-0,49					
67	2,1	0,27					
68	2,0	0,066					
73	2,0	-0,045					
74	2,1	0,21					
75	2,2	0,57					
77	1,9	-0,23					
79	1,9	-0,086					
80	2,0	0,17					
88	2,1	0,27					
95	1,9	-0,078					
102	2,0	0,066					

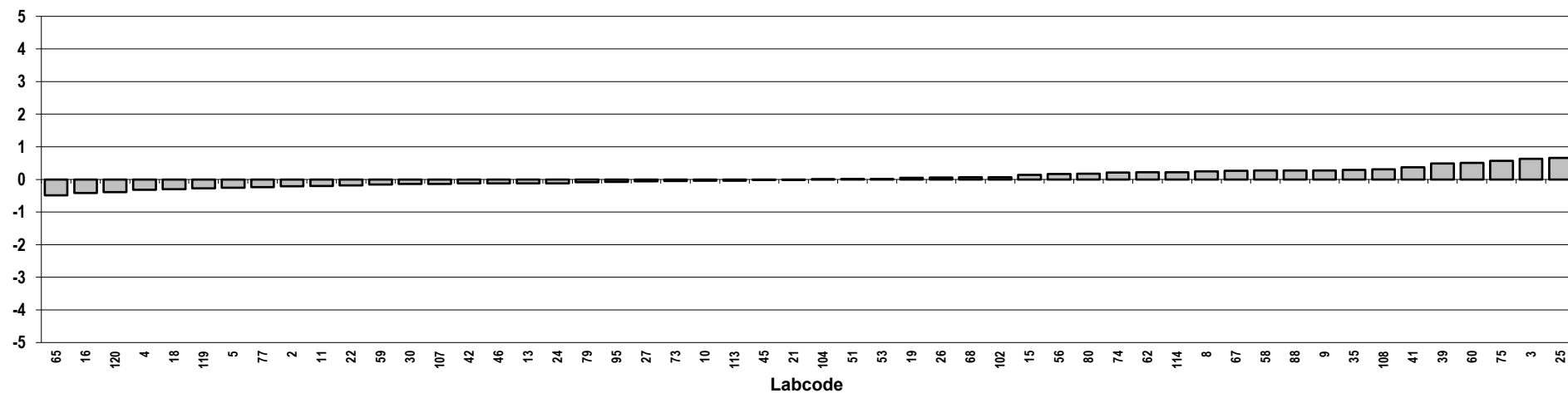
Consensus statistics

Consensus median, pg/g	2,0
Median all values pg/g	2,0
Consensus mean, pg/g	2,0
Standard deviation, pg/g	0,11
Relative standard deviation, %	5,3
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

2,3,7,8 TCDD



Z-score: 2,3,7,8 TCDD

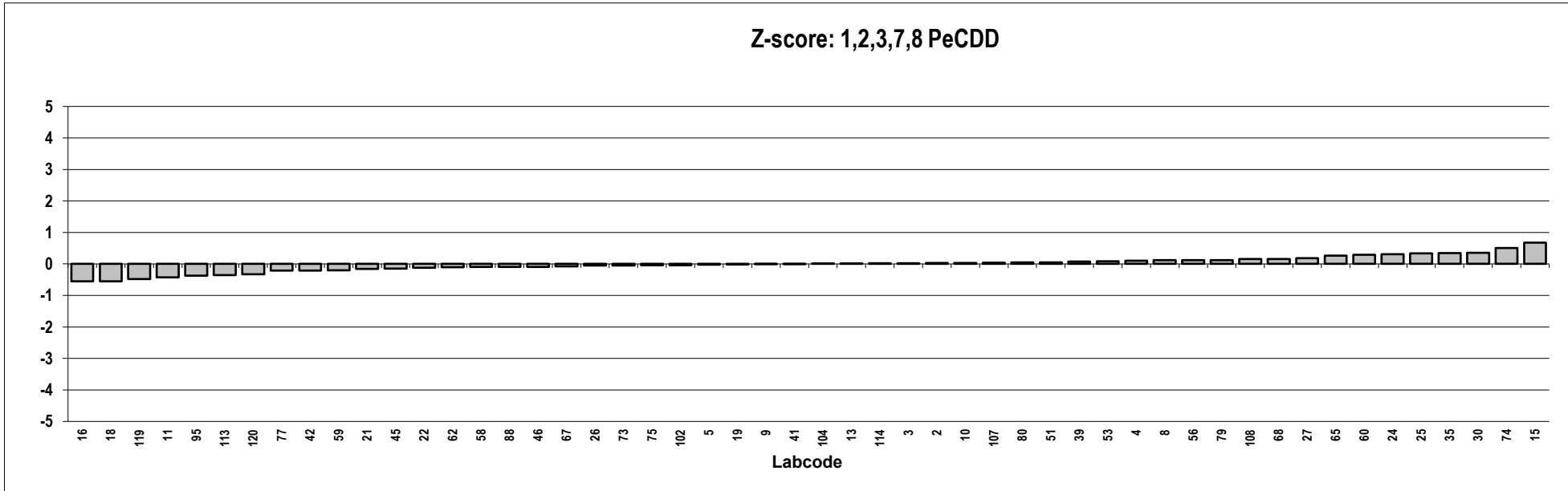
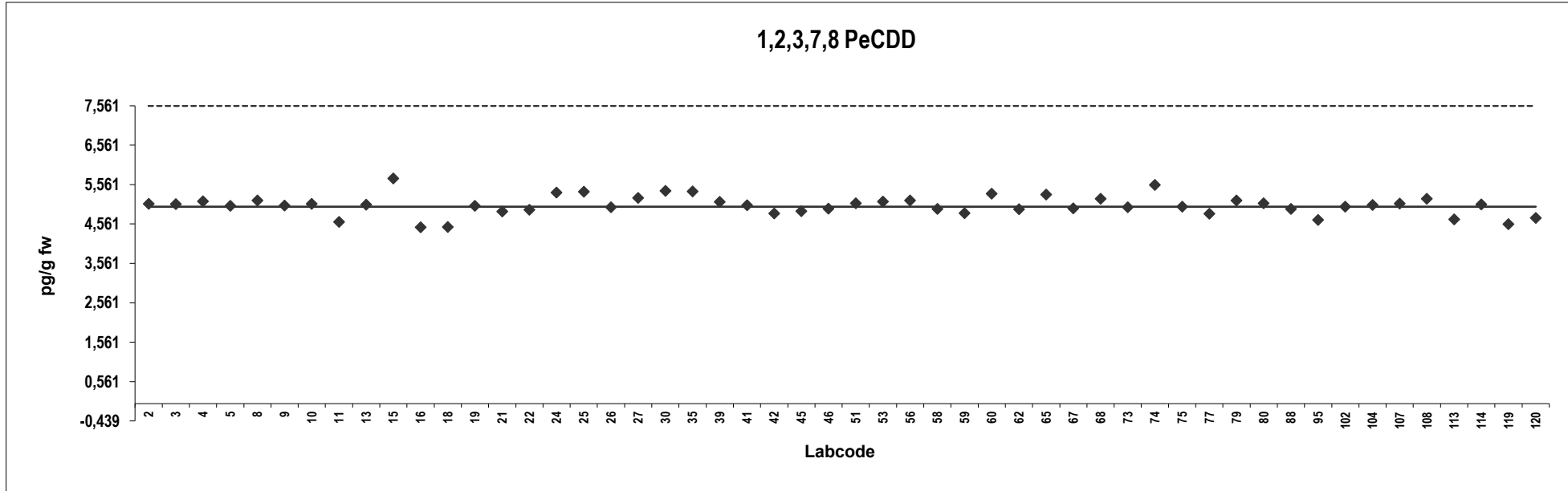


Analyte solution
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,1	0,029		104	5,0	0,00050	
3	5,1	0,024		107	5,1	0,040	
4	5,1	0,099		108	5,2	0,16	
5	5,0	-0,020		113	4,7	-0,36	
8	5,2	0,12		114	5,1	0,019	
9	5,0	-0,0081		119	4,6	-0,48	
10	5,1	0,029		120	4,7	-0,33	
11	4,6	-0,43					
13	5,1	0,011					
15	5,7	0,67					
16	4,5	-0,56					
18	4,5	-0,55					
19	5,0	-0,018					
21	4,9	-0,16					
22	4,9	-0,12					
24	5,4	0,31					
25	5,4	0,34					
26	5,0	-0,052					
27	5,2	0,18					
30	5,4	0,36					
35	5,4	0,35					
39	5,1	0,079					
41	5,0	-0,00050					
42	4,8	-0,21					
45	4,9	-0,15					
46	4,9	-0,092					
51	5,1	0,046					
53	5,1	0,089					
56	5,2	0,12					
58	4,9	-0,093					
59	4,8	-0,20					
60	5,3	0,29					
62	4,9	-0,10					
65	5,3	0,27					
67	5,0	-0,080					
68	5,2	0,16					
73	5,0	-0,051					
74	5,6	0,51					
75	5,0	-0,040					
77	4,8	-0,21					
79	5,2	0,12					
80	5,1	0,046					
88	4,9	-0,093					
95	4,7	-0,37					
102	5,0	-0,040					

Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,25
Relative standard deviation, %	5,0
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

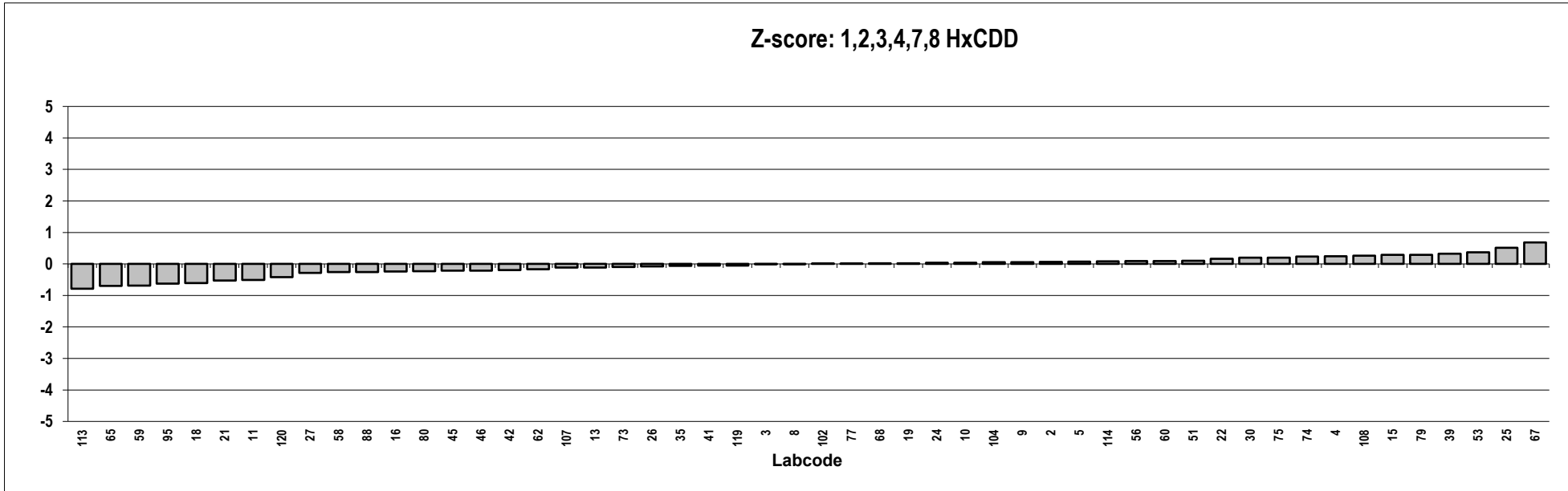
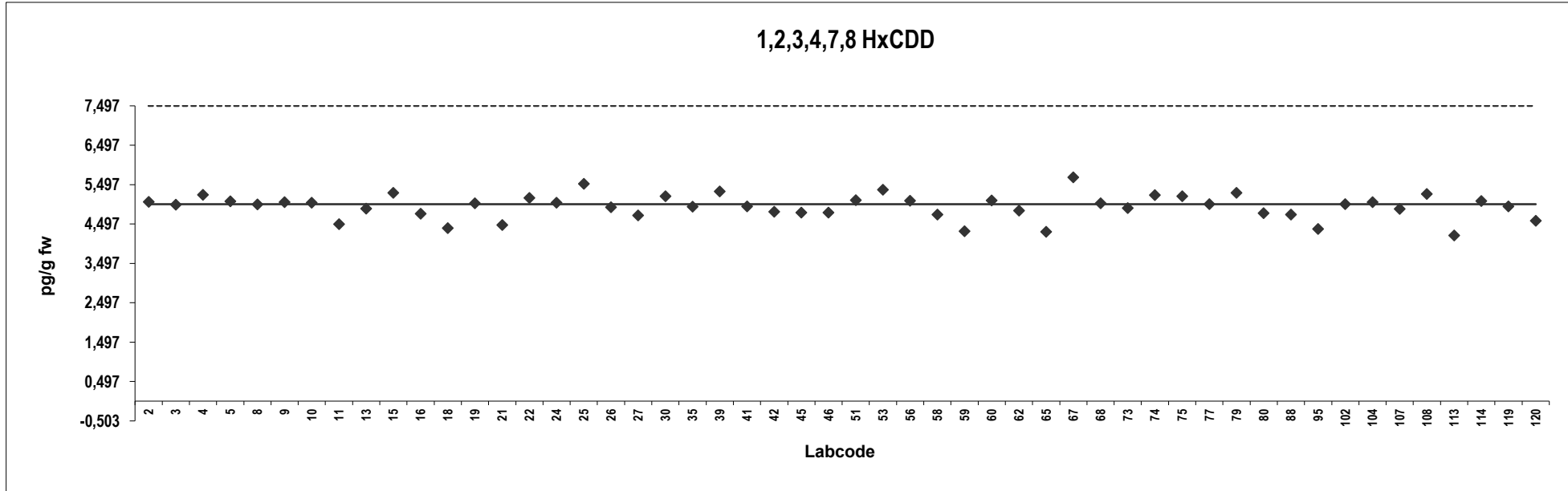


Analyte solution
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,1	0,062		104	5,1	0,052	
3	5,0	-0,011		107	4,9	-0,12	
4	5,2	0,24		108	5,3	0,26	
5	5,1	0,076		113	4,2	-0,79	
8	5,0	-0,0018		114	5,1	0,082	
9	5,1	0,054		119	4,9	-0,051	
10	5,0	0,042		120	4,6	-0,42	
11	4,5	-0,51					
13	4,9	-0,11					
15	5,3	0,29					
16	4,8	-0,24					
18	4,4	-0,60					
19	5,0	0,022					
21	4,5	-0,53					
22	5,2	0,16					
24	5,0	0,041					
25	5,5	0,52					
26	4,9	-0,075					
27	4,7	-0,28					
30	5,2	0,20					
35	4,9	-0,058					
39	5,3	0,32					
41	4,9	-0,056					
42	4,8	-0,19					
45	4,8	-0,21					
46	4,8	-0,21					
51	5,1	0,10					
53	5,4	0,37					
56	5,1	0,092					
58	4,7	-0,26					
59	4,3	-0,69					
60	5,1	0,093					
62	4,8	-0,16					
65	4,3	-0,70					
67	5,7	0,68					
68	5,0	0,022					
73	4,9	-0,099					
74	5,2	0,24					
75	5,2	0,20					
77	5,0	0,0045					
79	5,3	0,29					
80	4,8	-0,23					
88	4,7	-0,26					
95	4,4	-0,63					
102	5,0	0,0018					

Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,31
Relative standard deviation, %	6,3
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



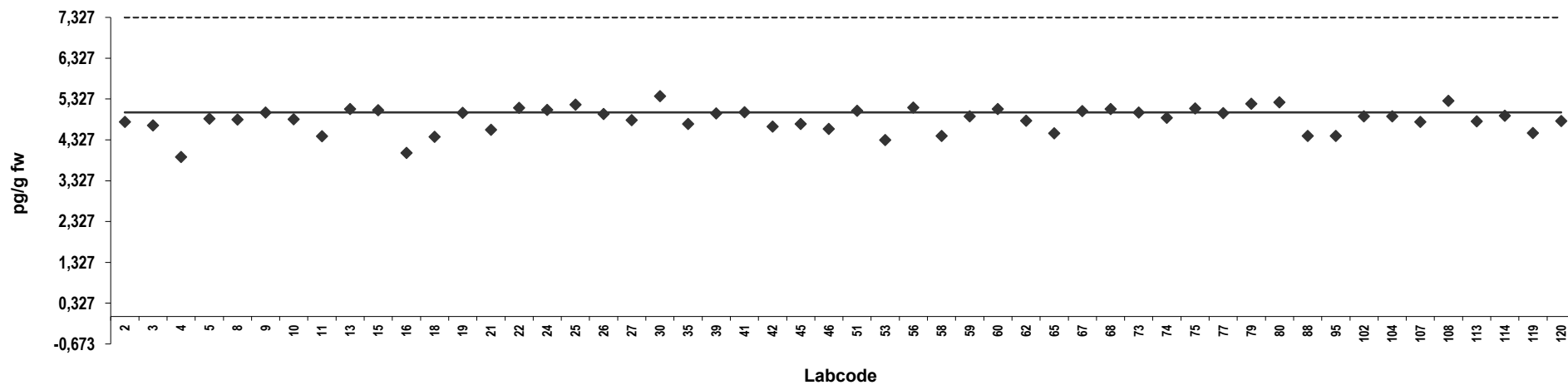
Analyte solution
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	4,8	-0,12		104	4,9	0,016	
3	4,7	-0,21		107	4,8	-0,12	
4	3,9	-1,0		108	5,3	0,41	
5	4,8	-0,040		113	4,8	-0,11	
8	4,8	-0,060		114	4,9	0,036	
9	5,0	0,11		119	4,5	-0,40	
10	4,8	-0,056		120	4,8	-0,10	
11	4,4	-0,48					
13	5,1	0,20					
15	5,1	0,17					
16	4,0	-0,90					
18	4,4	-0,50					
19	5,0	0,11					
21	4,6	-0,32					
22	5,1	0,23					
24	5,1	0,18					
25	5,2	0,31					
26	5,0	0,077					
27	4,8	-0,076					
30	5,4	0,53					
35	4,7	-0,17					
39	5,0	0,095					
41	5,0	0,12					
42	4,7	-0,24					
45	4,7	-0,17					
46	4,6	-0,30					
51	5,0	0,16					
53	4,3	-0,58					
56	5,1	0,24					
58	4,4	-0,47					
59	4,9	0,021					
60	5,1	0,20					
62	4,8	-0,092					
65	4,5	-0,41					
67	5,0	0,15					
68	5,1	0,20					
73	5,0	0,11					
74	4,9	-0,016					
75	5,1	0,22					
77	5,0	0,10					
79	5,2	0,33					
80	5,2	0,37					
88	4,4	-0,47					
95	4,4	-0,47					
102	4,9	0,016					

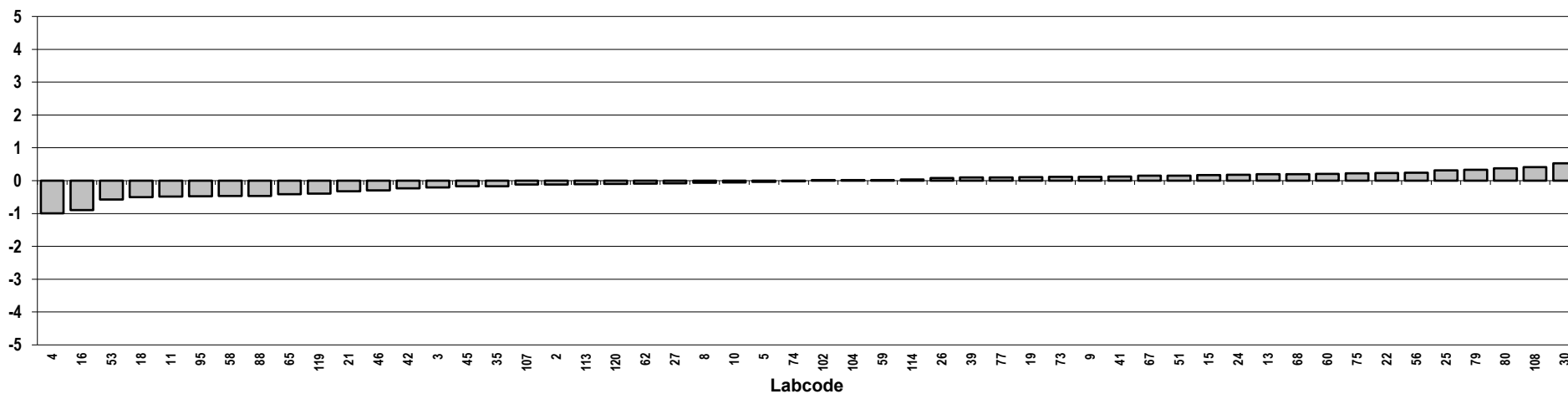
Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,8
Standard deviation, pg/g	0,31
Relative standard deviation, %	6,4
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

1,2,3,6,7,8 HxCDD



Z-score: 1,2,3,6,7,8 HxCDD

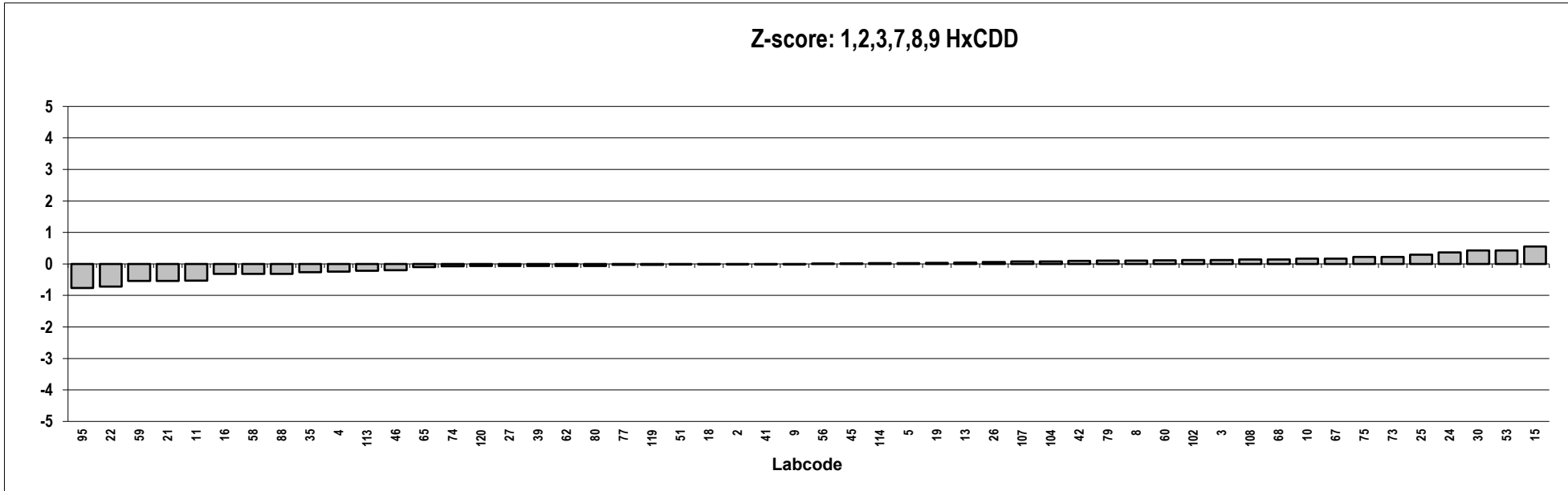
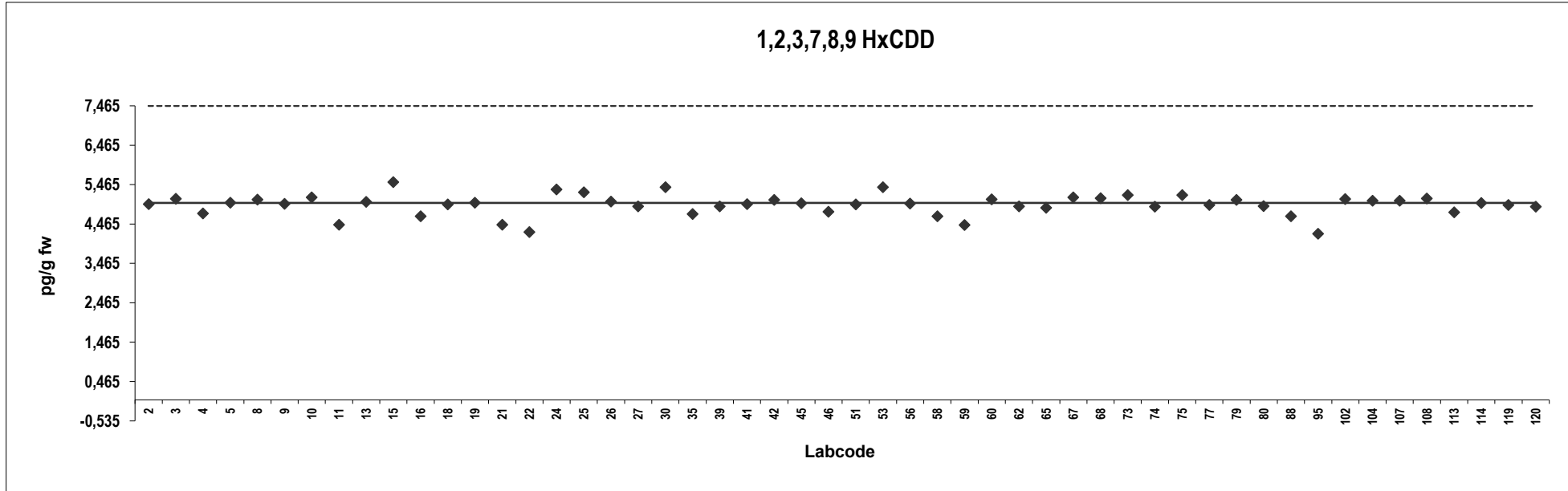


Analyte solution
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,0	-0,0065		104	5,1	0,081	
3	5,1	0,13		107	5,1	0,078	
4	4,7	-0,25		108	5,1	0,14	
5	5,0	0,027		113	4,8	-0,22	
8	5,1	0,10		114	5,0	0,024	
9	5,0	-0,0036		119	4,9	-0,029	
10	5,1	0,16		120	4,9	-0,069	
11	4,4	-0,53					
13	5,0	0,047					
15	5,5	0,56					
16	4,7	-0,32					
18	5,0	-0,015					
19	5,0	0,030					
21	4,4	-0,54					
22	4,3	-0,72					
24	5,3	0,37					
25	5,3	0,29					
26	5,0	0,061					
27	4,9	-0,068					
30	5,4	0,43					
35	4,7	-0,26					
39	4,9	-0,068					
41	5,0	-0,0055					
42	5,1	0,098					
45	5,0	0,018					
46	4,8	-0,20					
51	5,0	-0,017					
53	5,4	0,43					
56	5,0	0,0036					
58	4,7	-0,32					
59	4,4	-0,54					
60	5,1	0,11					
62	4,9	-0,065					
65	4,9	-0,10					
67	5,1	0,16					
68	5,1	0,14					
73	5,2	0,23					
74	4,9	-0,071					
75	5,2	0,22					
77	4,9	-0,032					
79	5,1	0,10					
80	4,9	-0,060					
88	4,7	-0,32					
95	4,2	-0,76					
102	5,1	0,12					

Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,27
Relative standard deviation, %	5,4
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



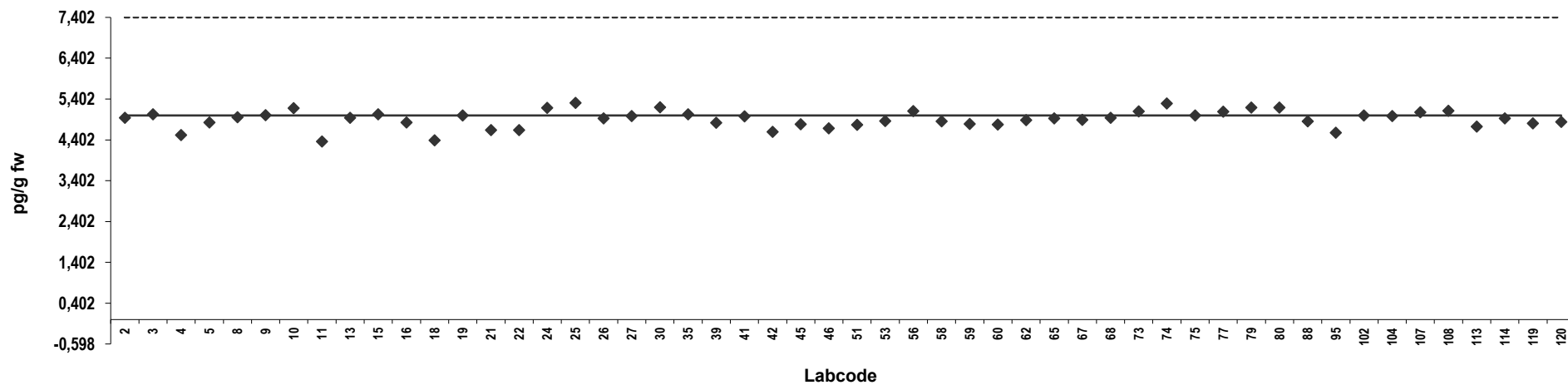
Analyte solution
Congener: 1,2,3,4,6,7,8 HpCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	4,9	0,0053		104	5,0	0,055	
3	5,0	0,093		107	5,1	0,15	
4	4,5	-0,42		108	5,1	0,18	
5	4,8	-0,11		113	4,7	-0,21	
8	5,0	0,025		114	4,9	-0,0048	
9	5,0	0,071		119	4,8	-0,13	
10	5,2	0,25		120	4,8	-0,097	
11	4,4	-0,58					
13	4,9	0,0048					
15	5,0	0,097					
16	4,8	-0,11					
18	4,4	-0,55					
19	5,0	0,066					
21	4,6	-0,30					
22	4,6	-0,30					
24	5,2	0,25					
25	5,3	0,38					
26	4,9	-0,0048					
27	5,0	0,050					
30	5,2	0,27					
35	5,0	0,097					
39	4,8	-0,12					
41	5,0	0,047					
42	4,6	-0,34					
45	4,8	-0,15					
46	4,7	-0,25					
51	4,8	-0,17					
53	4,9	-0,076					
56	5,1	0,18					
58	4,9	-0,081					
59	4,8	-0,14					
60	4,8	-0,16					
62	4,9	-0,050					
65	4,9	-0,0055					
67	4,9	-0,045					
68	4,9	0,0053					
73	5,1	0,17					
74	5,3	0,36					
75	5,0	0,066					
77	5,1	0,16					
79	5,2	0,26					
80	5,2	0,26					
88	4,9	-0,081					
95	4,6	-0,37					
102	5,0	0,066					

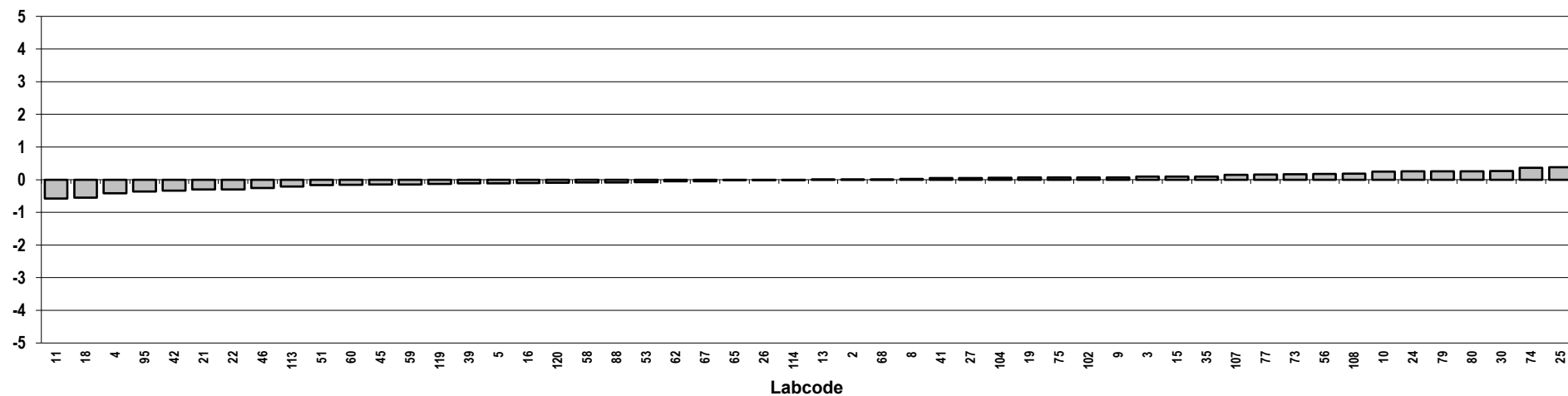
Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,21
Relative standard deviation, %	4,3
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

1,2,3,4,6,7,8 HpCDD



Z-score: 1,2,3,4,6,7,8 HpCDD



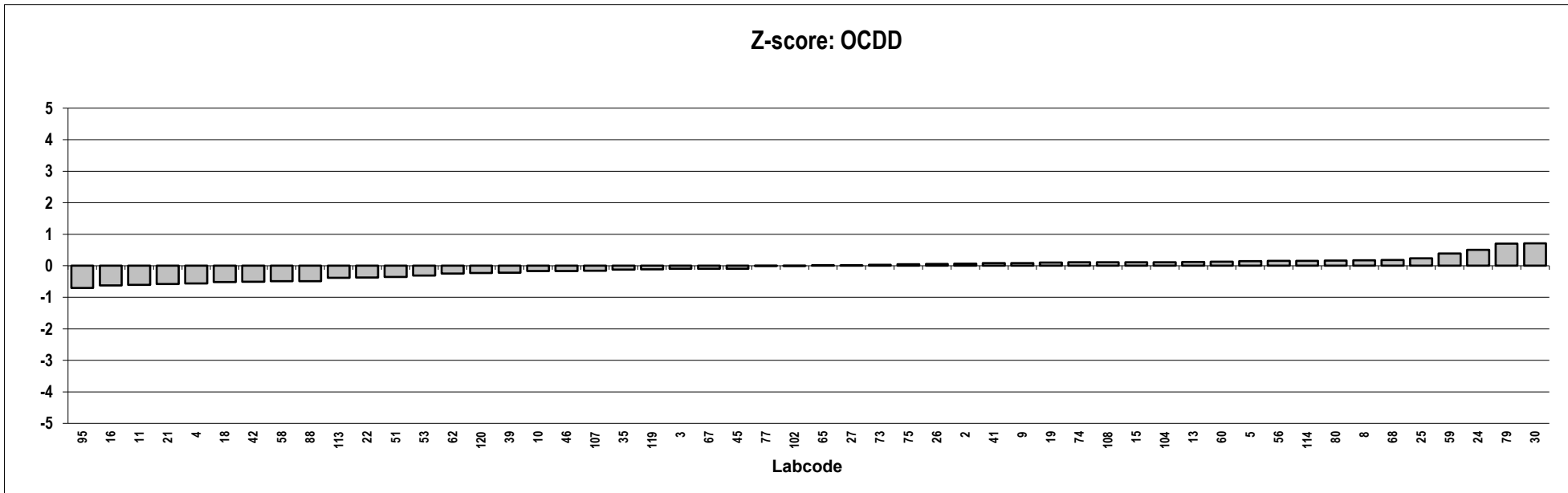
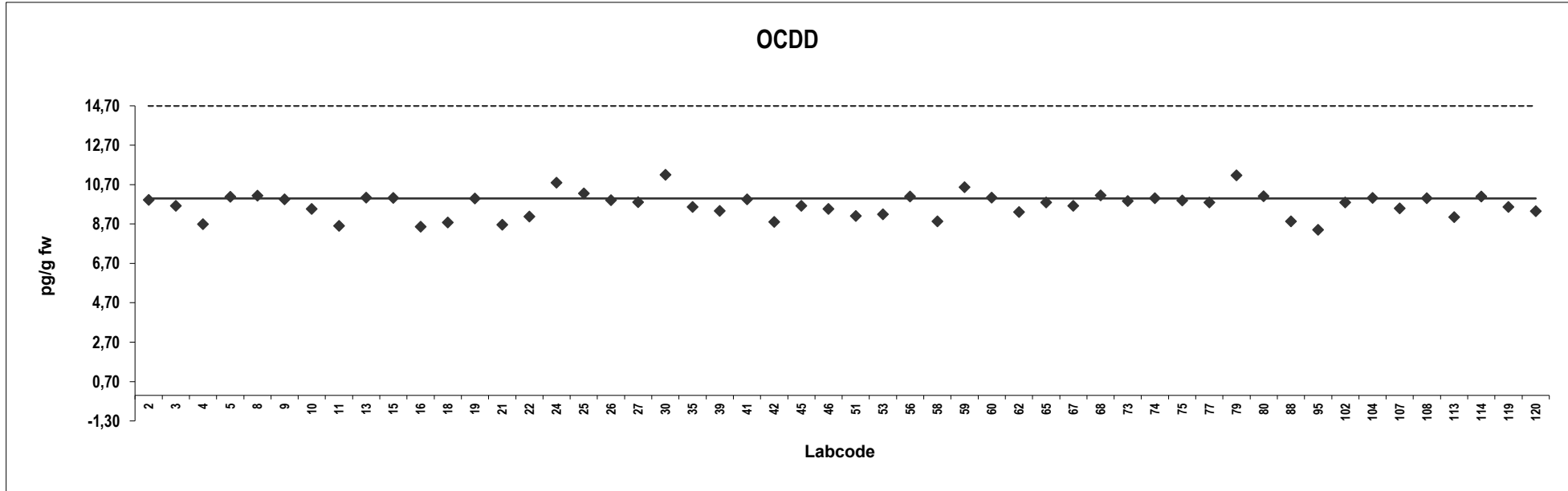
Analyte solution

Congener: OCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	9,9	0,065		104	10	0,11	
3	9,6	-0,093		107	9,5	-0,16	
4	8,7	-0,56		108	10	0,11	
5	10	0,14		113	9,1	-0,38	
8	10	0,17		114	10	0,15	
9	10	0,079		119	9,6	-0,12	
10	9,5	-0,17		120	9,4	-0,23	
11	8,6	-0,61					
13	10	0,12					
15	10	0,11					
16	8,6	-0,63					
18	8,8	-0,52					
19	10	0,10					
21	8,7	-0,58					
22	9,1	-0,37					
24	11	0,51					
25	10	0,23					
26	9,9	0,053					
27	9,8	0,0022					
30	11	0,71					
35	9,6	-0,12					
39	9,4	-0,22					
41	10	0,079					
42	8,8	-0,51					
45	9,6	-0,091					
46	9,5	-0,17					
51	9,1	-0,36					
53	9,2	-0,31					
56	10	0,15					
58	8,8	-0,49					
59	11	0,39					
60	10	0,13					
62	9,3	-0,25					
65	9,8	0,00083					
67	9,6	-0,093					
68	10	0,18					
73	9,9	0,032					
74	10	0,11					
75	9,9	0,050					
77	9,8	-0,0042					
79	11	0,70					
80	10	0,16					
88	8,8	-0,49					
95	8,4	-0,71					
102	9,8	-0,00083					

Consensus statistics

Consensus median, pg/g	9,8
Median all values pg/g	9,8
Consensus mean, pg/g	9,7
Standard deviation, pg/g	0,63
Relative standard deviation, %	6,5
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



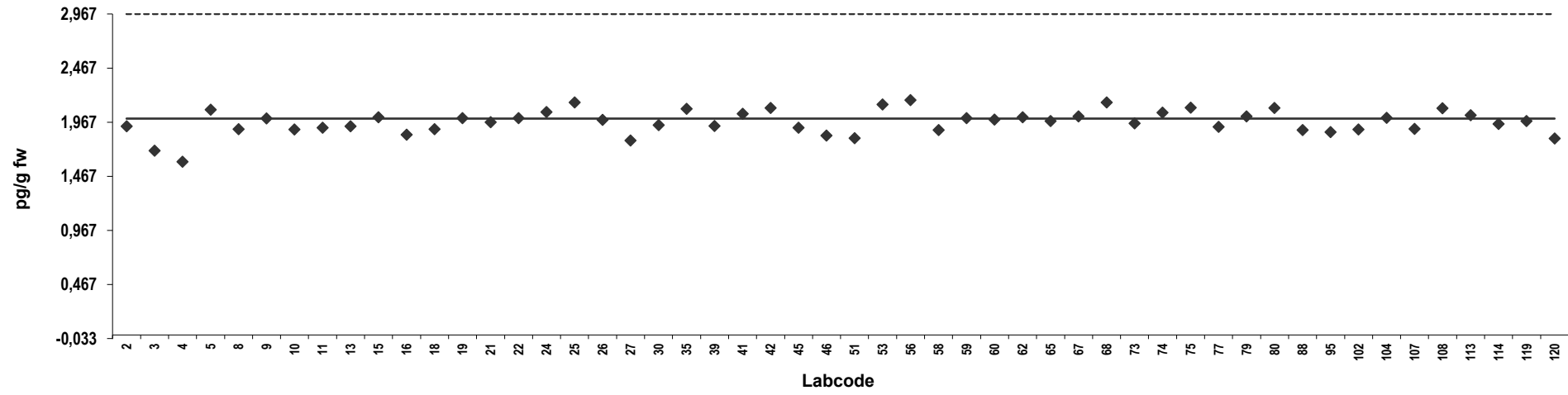
Analyte solution
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	1,9	-0,12		104	2,0	0,075	
3	1,7	-0,70		107	1,9	-0,18	
4	1,6	-0,96		108	2,1	0,30	
5	2,1	0,26		113	2,0	0,13	
8	1,9	-0,19		114	2,0	-0,071	
9	2,0	0,060		119	2,0	-0,0018	
10	1,9	-0,20		120	1,8	-0,41	
11	1,9	-0,16					
13	1,9	-0,12					
15	2,0	0,083					
16	1,9	-0,32					
18	1,9	-0,19					
19	2,0	0,067					
21	2,0	-0,027					
22	2,0	0,066					
24	2,1	0,21					
25	2,2	0,43					
26	2,0	0,027					
27	1,8	-0,46					
30	1,9	-0,096					
35	2,1	0,28					
39	1,9	-0,11					
41	2,0	0,17					
42	2,1	0,30					
45	1,9	-0,16					
46	1,8	-0,34					
51	1,8	-0,40					
53	2,1	0,38					
56	2,2	0,49					
58	1,9	-0,21					
59	2,0	0,066					
60	2,0	0,033					
62	2,0	0,090					
65	2,0	0,0018					
67	2,0	0,11					
68	2,2	0,43					
73	2,0	-0,056					
74	2,1	0,20					
75	2,1	0,31					
77	1,9	-0,14					
79	2,0	0,11					
80	2,1	0,30					
88	1,9	-0,21					
95	1,9	-0,26					
102	1,9	-0,20					

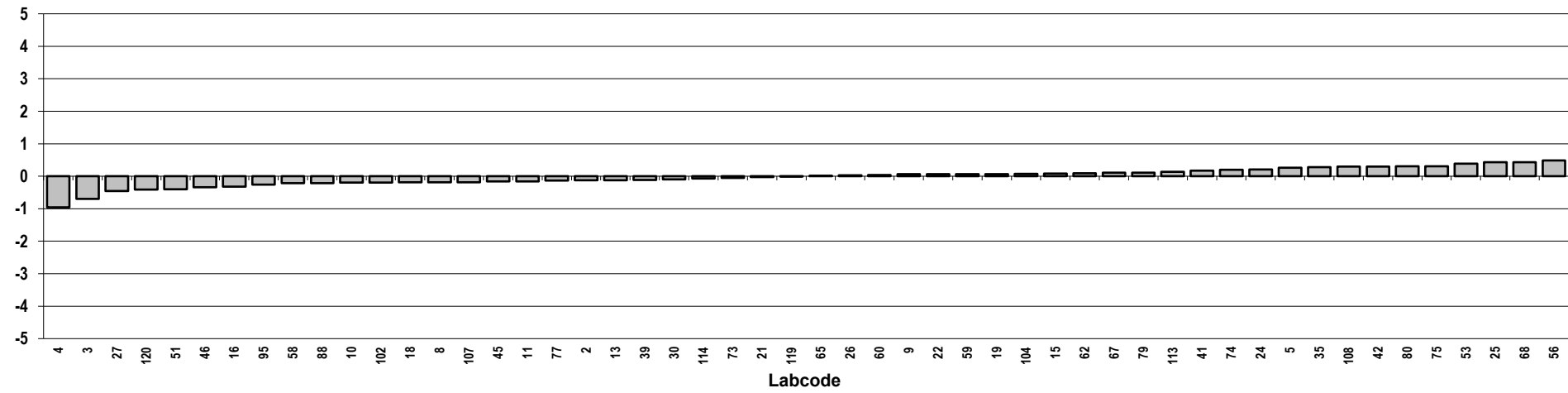
Consensus statistics

Consensus median, pg/g	2,0
Median all values pg/g	2,0
Consensus mean, pg/g	2,0
Standard deviation, pg/g	0,11
Relative standard deviation, %	5,7
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

2,3,7,8 TCDF



Z-score: 2,3,7,8 TCDF



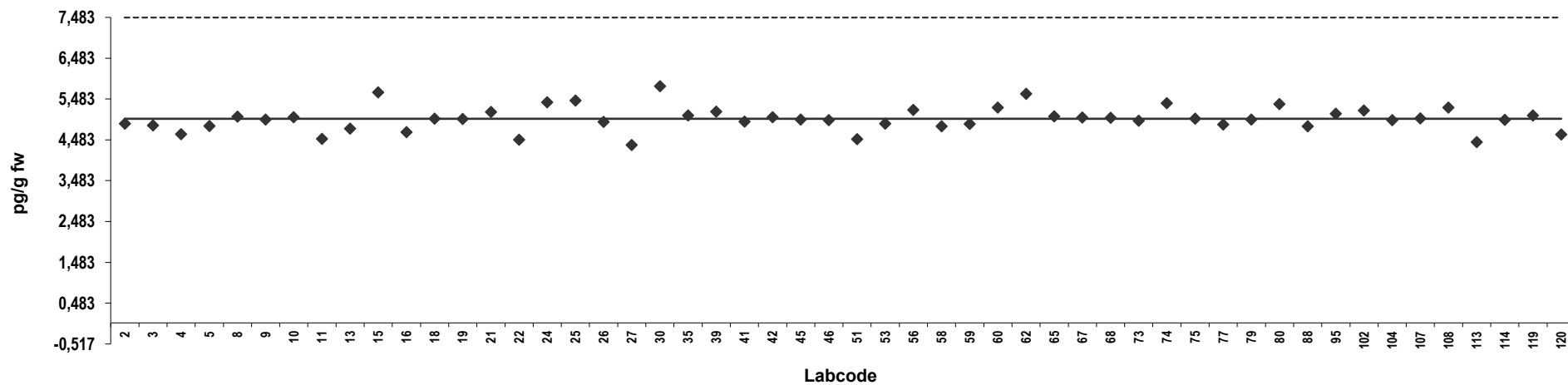
Analyte solution
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	4,9	-0,11		104	5,0	-0,023	
3	4,8	-0,15		107	5,0	0,018	
4	4,6	-0,37		108	5,3	0,29	
5	4,8	-0,17		113	4,4	-0,56	
8	5,1	0,064		114	5,0	-0,019	
9	5,0	-0,0070		119	5,1	0,094	
10	5,0	0,051		120	4,6	-0,37	
11	4,5	-0,48					
13	4,8	-0,23					
15	5,7	0,66					
16	4,7	-0,32					
18	5,0	0,016					
19	5,0	0,0048					
21	5,2	0,18					
22	4,5	-0,50					
24	5,4	0,41					
25	5,4	0,46					
26	4,9	-0,067					
27	4,4	-0,64					
30	5,8	0,81					
35	5,1	0,091					
39	5,2	0,19					
41	4,9	-0,059					
42	5,0	0,051					
45	5,0	-0,0048					
46	5,0	-0,023					
51	4,5	-0,49					
53	4,9	-0,11					
56	5,2	0,23					
58	4,8	-0,18					
59	4,9	-0,11					
60	5,3	0,28					
62	5,6	0,62					
65	5,1	0,071					
67	5,0	0,041					
68	5,0	0,031					
73	5,0	-0,039					
74	5,4	0,40					
75	5,0	0,011					
77	4,9	-0,13					
79	5,0	-0,0088					
80	5,4	0,37					
88	4,8	-0,18					
95	5,1	0,14					
102	5,2	0,21					

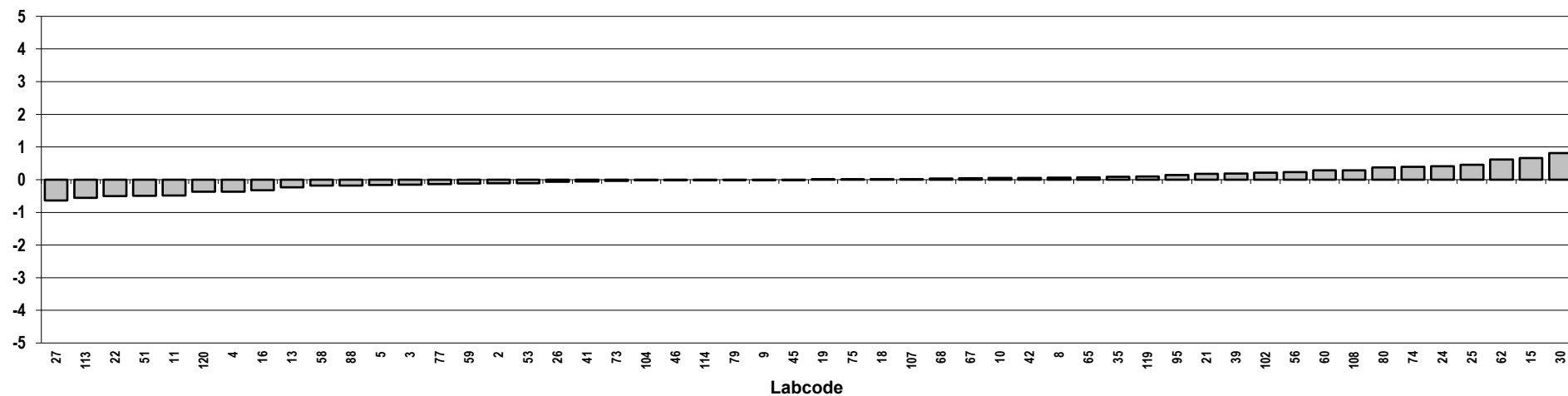
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,30
Relative standard deviation, %	6,0
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

1,2,3,7,8 PeCDF



Z-score: 1,2,3,7,8 PeCDF

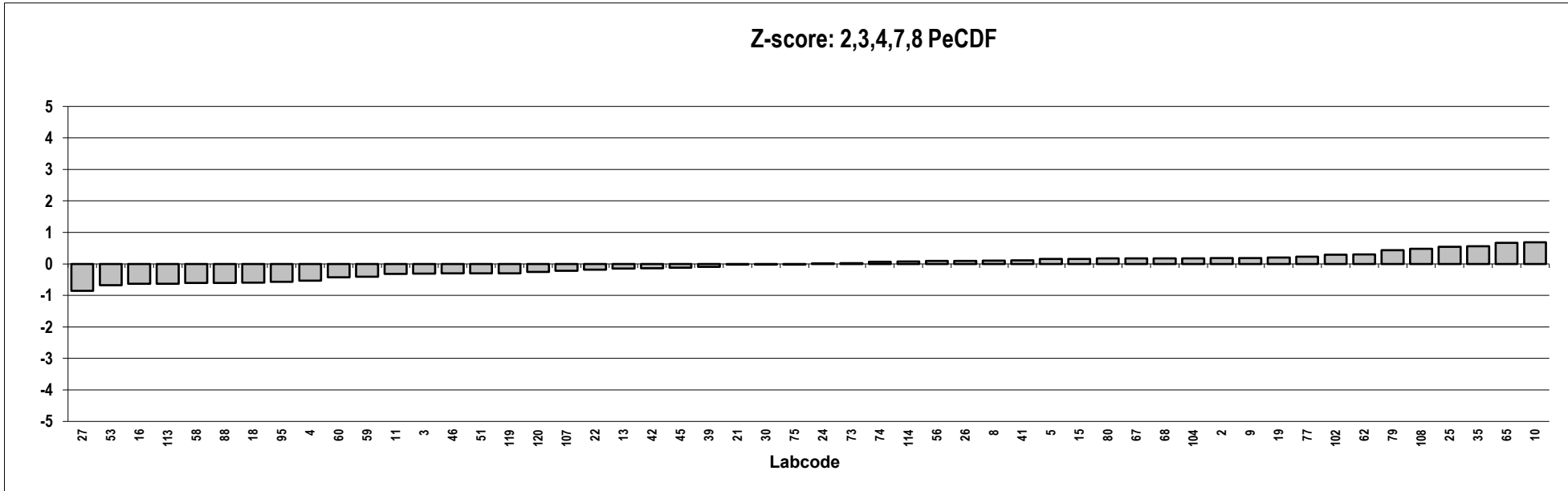
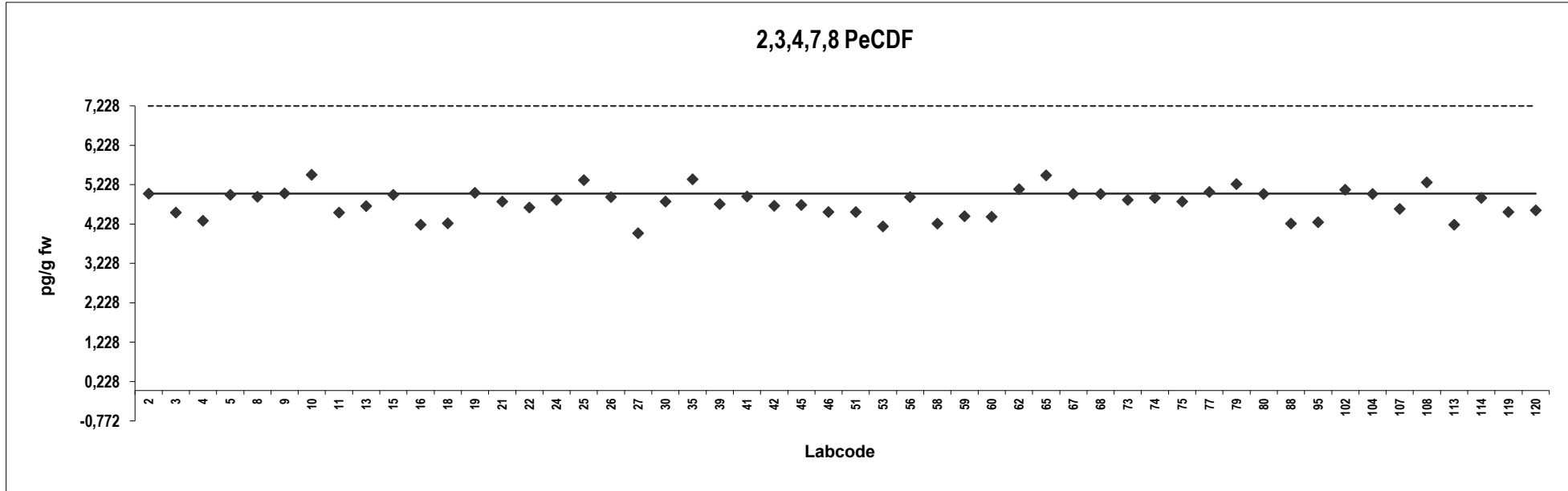


Analyte solution
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,0	0,19		104	5,0	0,18	
3	4,5	-0,31		107	4,6	-0,22	
4	4,3	-0,53		108	5,3	0,48	
5	5,0	0,16		113	4,2	-0,63	
8	4,9	0,10		114	4,9	0,074	
9	5,0	0,19		119	4,5	-0,30	
10	5,5	0,69		120	4,6	-0,25	
11	4,5	-0,31					
13	4,7	-0,14					
15	5,0	0,16					
16	4,2	-0,63					
18	4,2	-0,60					
19	5,0	0,21					
21	4,8	-0,020					
22	4,6	-0,18					
24	4,8	0,019					
25	5,3	0,55					
26	4,9	0,098					
27	4,0	-0,86					
30	4,8	-0,019					
35	5,4	0,56					
39	4,7	-0,093					
41	4,9	0,11					
42	4,7	-0,14					
45	4,7	-0,11					
46	4,5	-0,30					
51	4,5	-0,30					
53	4,2	-0,67					
56	4,9	0,095					
58	4,2	-0,60					
59	4,4	-0,41					
60	4,4	-0,42					
62	5,1	0,30					
65	5,5	0,67					
67	5,0	0,18					
68	5,0	0,18					
73	4,8	0,021					
74	4,9	0,071					
75	4,8	-0,019					
77	5,0	0,23					
79	5,2	0,44					
80	5,0	0,17					
88	4,2	-0,60					
95	4,3	-0,56					
102	5,1	0,29					

Consensus statistics

Consensus median, pg/g	4,8
Median all values pg/g	4,8
Consensus mean, pg/g	4,8
Standard deviation, pg/g	0,36
Relative standard deviation, %	7,5
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

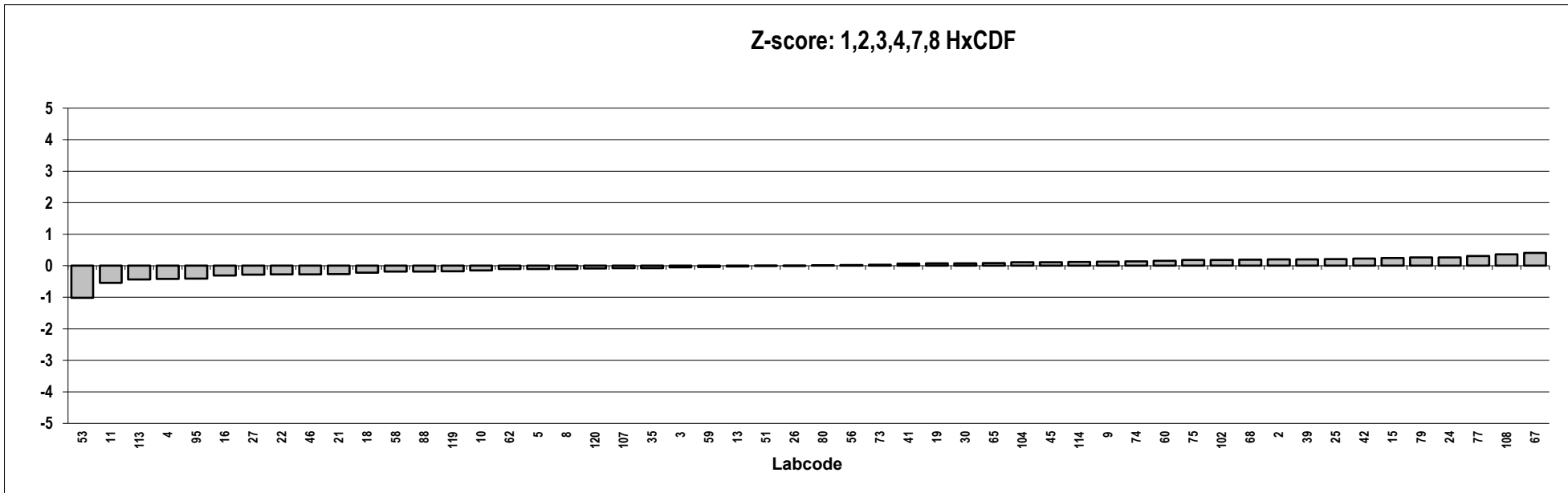
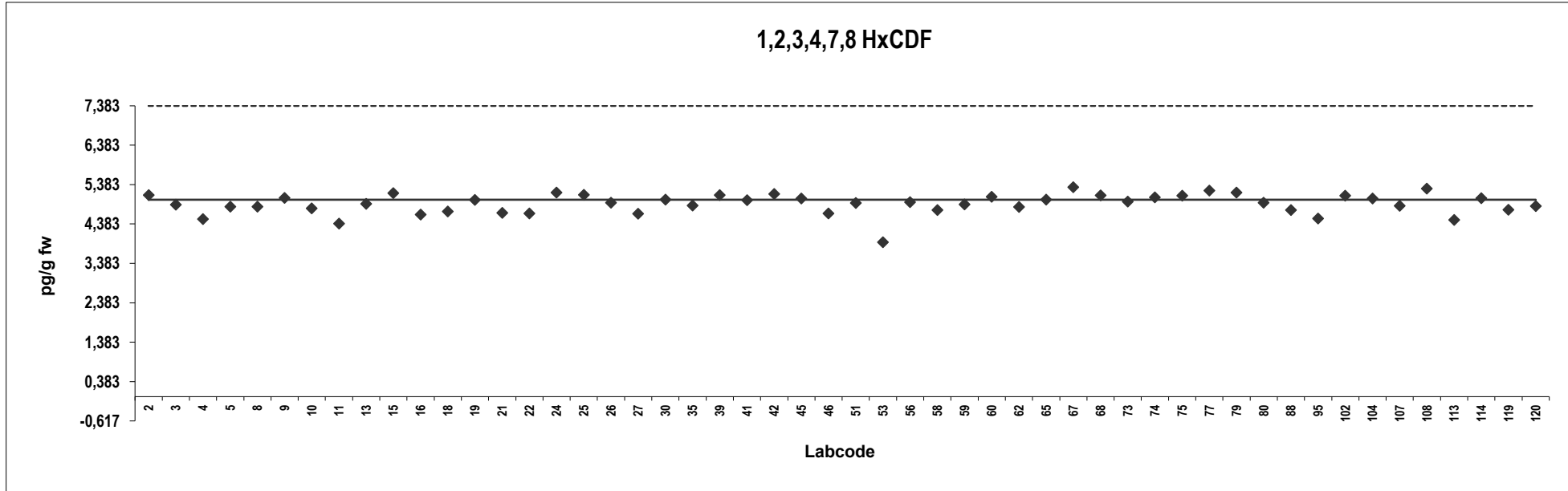


Analyte solution
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,1	0,20		104	5,0	0,11	
3	4,9	-0,046		107	4,8	-0,076	
4	4,5	-0,42		108	5,3	0,37	
5	4,8	-0,10		113	4,5	-0,44	
8	4,8	-0,10		114	5,0	0,12	
9	5,0	0,13		119	4,7	-0,18	
10	4,8	-0,14		120	4,8	-0,086	
11	4,4	-0,54					
13	4,9	-0,026					
15	5,2	0,25					
16	4,6	-0,31					
18	4,7	-0,22					
19	5,0	0,074					
21	4,7	-0,26					
22	4,6	-0,28					
24	5,2	0,26					
25	5,1	0,21					
26	4,9	-0,00049					
27	4,6	-0,28					
30	5,0	0,079					
35	4,9	-0,073					
39	5,1	0,20					
41	5,0	0,067					
42	5,1	0,23					
45	5,0	0,11					
46	4,7	-0,27					
51	4,9	-0,0076					
53	3,9	-1,0					
56	4,9	0,018					
58	4,7	-0,19					
59	4,9	-0,041					
60	5,1	0,15					
62	4,8	-0,10					
65	5,0	0,084					
67	5,3	0,40					
68	5,1	0,19					
73	5,0	0,034					
74	5,1	0,14					
75	5,1	0,18					
77	5,2	0,31					
79	5,2	0,26					
80	4,9	0,00049					
88	4,7	-0,19					
95	4,5	-0,40					
102	5,1	0,18					

Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,26
Relative standard deviation, %	5,2
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

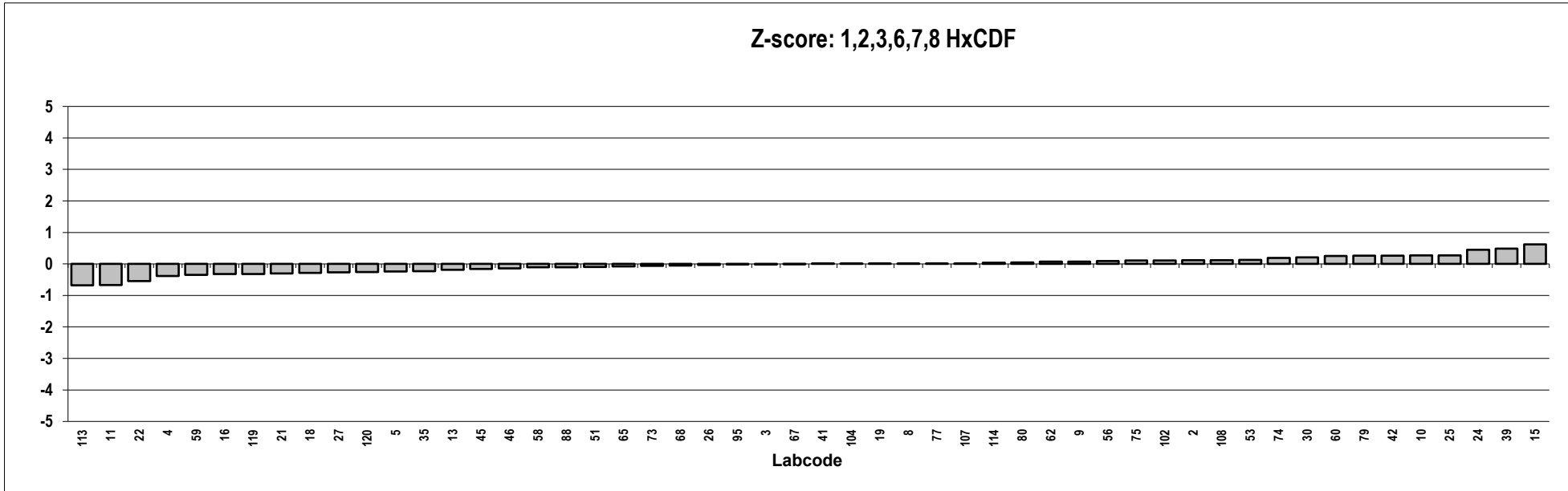
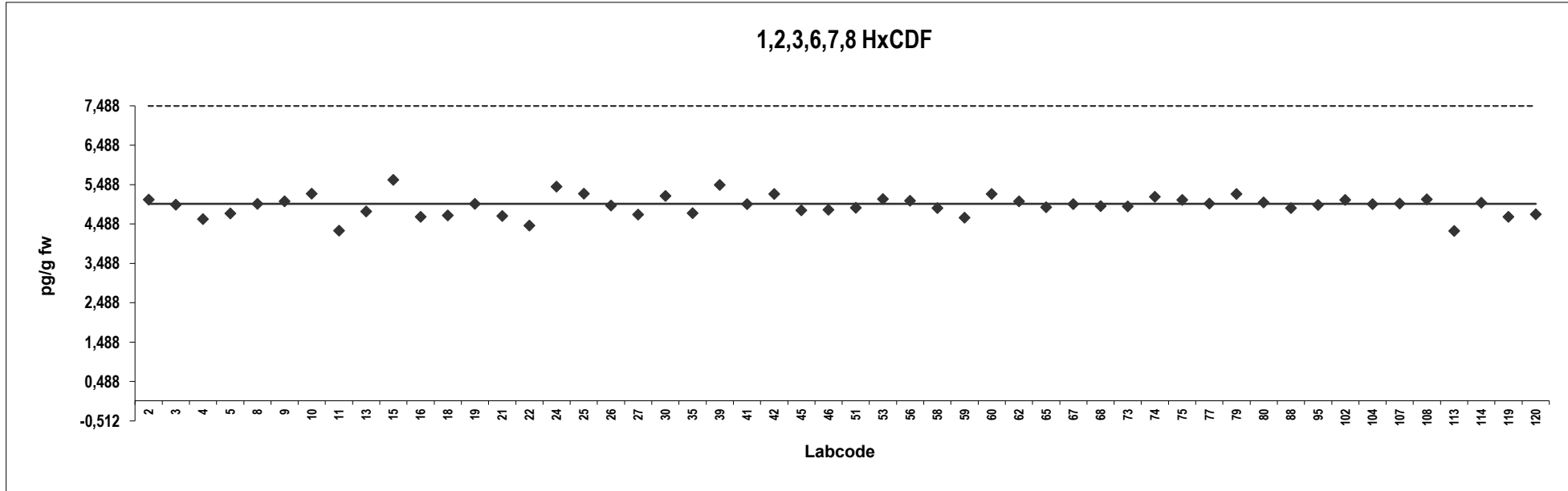


Analyte solution
Congener: 1,2,3,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,1	0,12		104	5,0	0,0035	
3	5,0	-0,013		107	5,0	0,014	
4	4,6	-0,38		108	5,1	0,12	
5	4,8	-0,24		113	4,3	-0,68	
8	5,0	0,0058		114	5,0	0,038	
9	5,1	0,075		119	4,7	-0,32	
10	5,3	0,27		120	4,7	-0,26	
11	4,3	-0,67					
13	4,8	-0,19					
15	5,6	0,62					
16	4,7	-0,32					
18	4,7	-0,29					
19	5,0	0,0040					
21	4,7	-0,30					
22	4,4	-0,54					
24	5,4	0,45					
25	5,3	0,27					
26	5,0	-0,038					
27	4,7	-0,27					
30	5,2	0,21					
35	4,8	-0,23					
39	5,5	0,49					
41	5,0	0,0020					
42	5,3	0,26					
45	4,8	-0,16					
46	4,8	-0,14					
51	4,9	-0,092					
53	5,1	0,13					
56	5,1	0,088					
58	4,9	-0,10					
59	4,6	-0,34					
60	5,2	0,26					
62	5,1	0,073					
65	4,9	-0,082					
67	5,0	-0,0020					
68	4,9	-0,052					
73	4,9	-0,057					
74	5,2	0,19					
75	5,1	0,11					
77	5,0	0,013					
79	5,3	0,26					
80	5,0	0,046					
88	4,9	-0,10					
95	5,0	-0,019					
102	5,1	0,11					

Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,26
Relative standard deviation, %	5,3
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

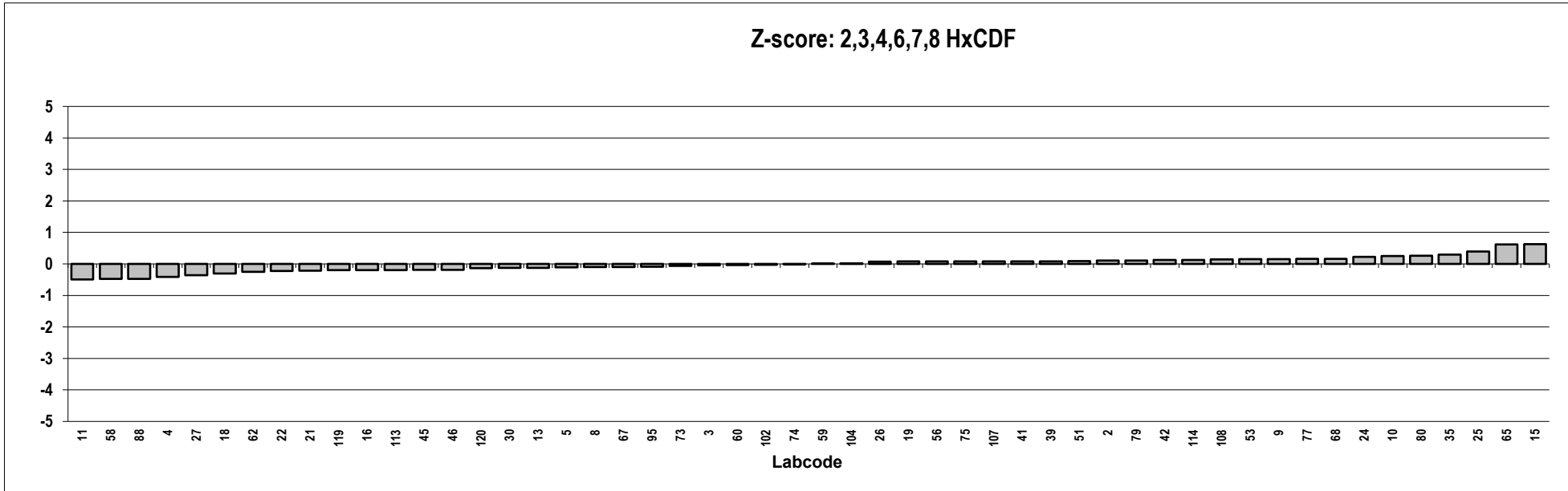
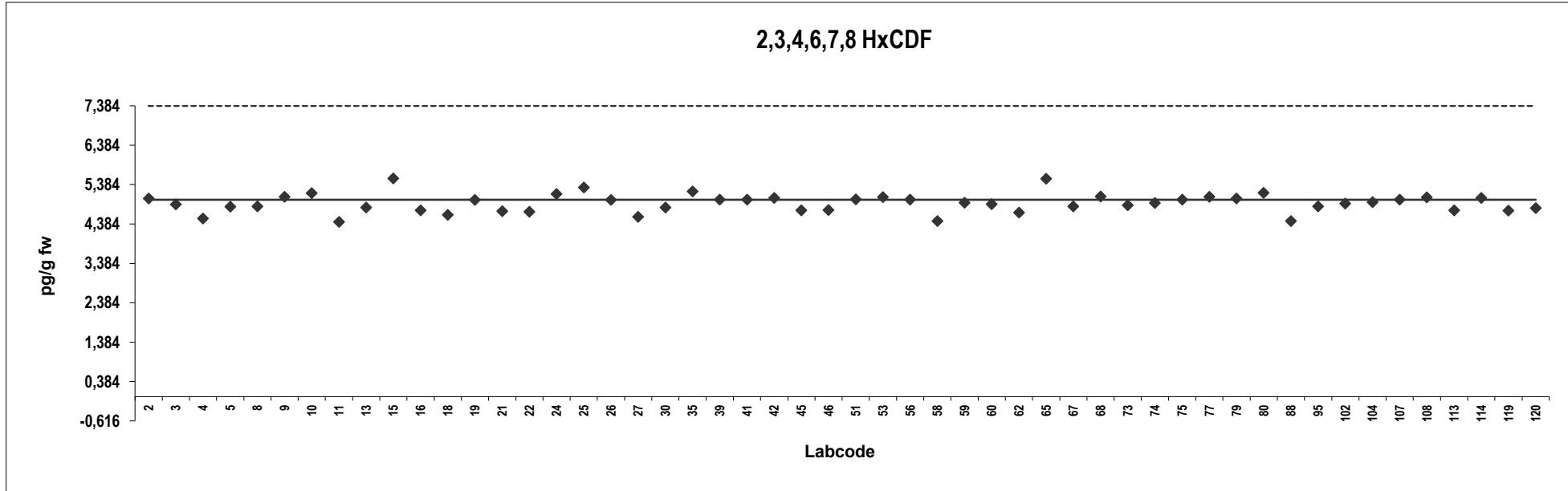


Analyte solution
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	5,0	0,11		104	4,9	0,015	
3	4,9	-0,043		107	5,0	0,080	
4	4,5	-0,41		108	5,1	0,14	
5	4,8	-0,10		113	4,7	-0,20	
8	4,8	-0,094		114	5,1	0,13	
9	5,1	0,15		119	4,7	-0,20	
10	5,2	0,25		120	4,8	-0,13	
11	4,4	-0,50					
13	4,8	-0,12					
15	5,5	0,63					
16	4,7	-0,20					
18	4,6	-0,31					
19	5,0	0,077					
21	4,7	-0,22					
22	4,7	-0,23					
24	5,1	0,23					
25	5,3	0,39					
26	5,0	0,073					
27	4,6	-0,36					
30	4,8	-0,12					
35	5,2	0,29					
39	5,0	0,082					
41	5,0	0,082					
42	5,0	0,12					
45	4,7	-0,19					
46	4,7	-0,19					
51	5,0	0,088					
53	5,1	0,15					
56	5,0	0,078					
58	4,5	-0,47					
59	4,9	0,0036					
60	4,9	-0,032					
62	4,7	-0,25					
65	5,5	0,62					
67	4,8	-0,094					
68	5,1	0,16					
73	4,9	-0,063					
74	4,9	-0,0036					
75	5,0	0,078					
77	5,1	0,16					
79	5,0	0,11					
80	5,2	0,26					
88	4,5	-0,47					
95	4,8	-0,090					
102	4,9	-0,023					

Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,24
Relative standard deviation, %	4,8
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

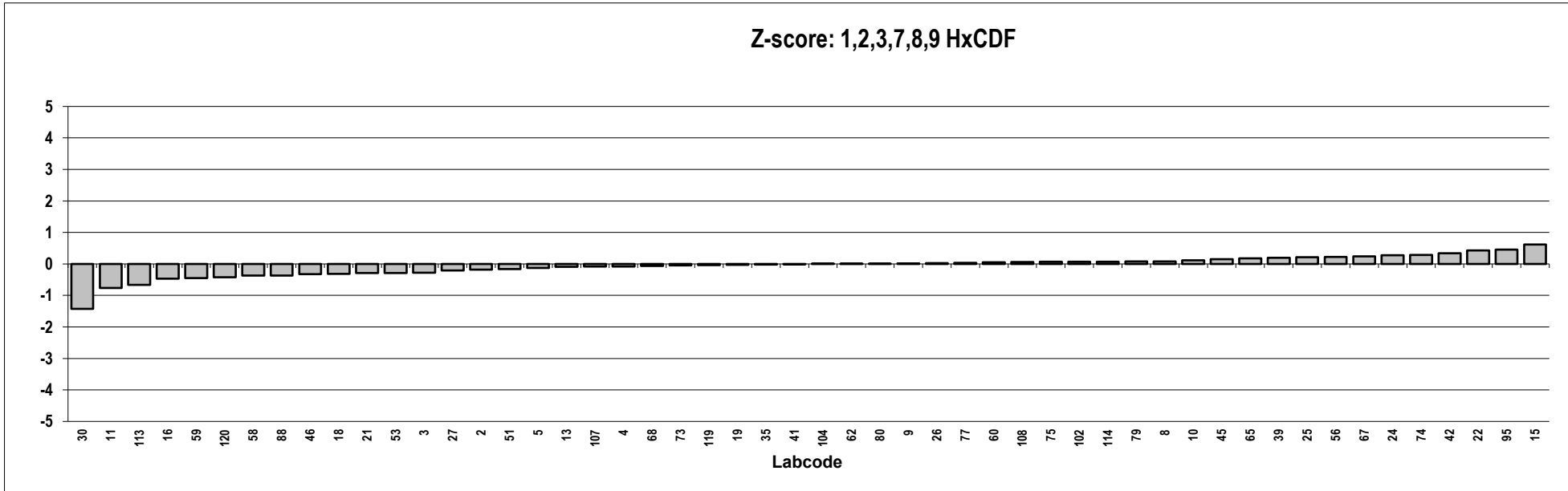
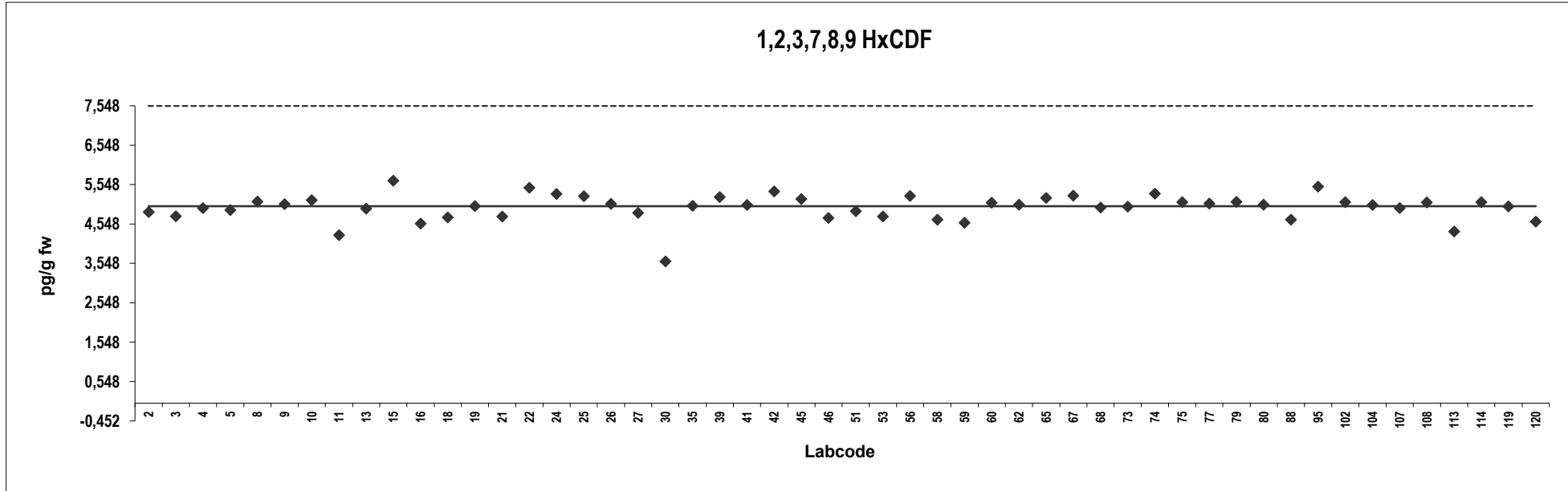


Analyte solution
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	4,9	-0,18		104	5,0	0,0021	
3	4,7	-0,28		107	4,9	-0,082	
4	5,0	-0,082		108	5,1	0,061	
5	4,9	-0,13		113	4,4	-0,67	
8	5,1	0,083		114	5,1	0,067	
9	5,1	0,021		119	5,0	-0,035	
10	5,2	0,12		120	4,6	-0,42	
11	4,3	-0,77					
13	4,9	-0,094					
15	5,7	0,61					
16	4,6	-0,47					
18	4,7	-0,32					
19	5,0	-0,026					
21	4,7	-0,29					
22	5,5	0,43					
24	5,3	0,28					
25	5,3	0,22					
26	5,1	0,025					
27	4,8	-0,20					
30	3,6	-1,4					
35	5,0	-0,022					
39	5,2	0,20					
41	5,0	-0,0021					
42	5,4	0,34					
45	5,2	0,15					
46	4,7	-0,33					
51	4,9	-0,16					
53	4,7	-0,29					
56	5,3	0,23					
58	4,7	-0,37					
59	4,6	-0,45					
60	5,1	0,055					
62	5,0	0,0067					
65	5,2	0,18					
67	5,3	0,24					
68	5,0	-0,062					
73	5,0	-0,046					
74	5,3	0,29					
75	5,1	0,067					
77	5,1	0,038					
79	5,1	0,077					
80	5,0	0,0095					
88	4,7	-0,37					
95	5,5	0,46					
102	5,1	0,067					

Consensus statistics

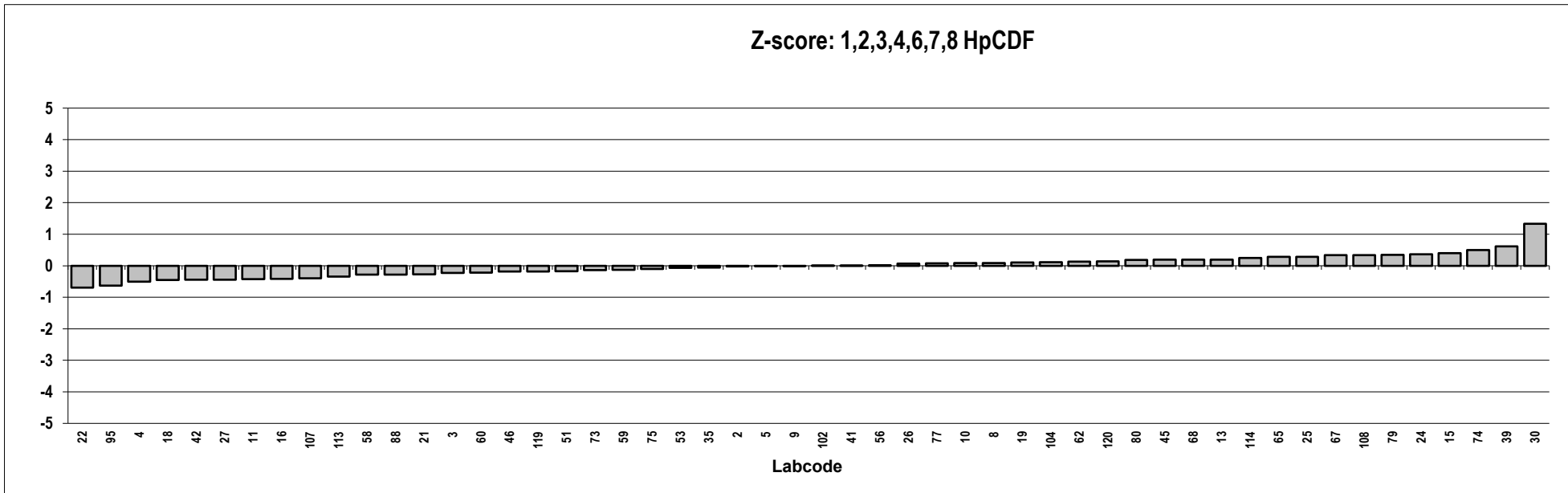
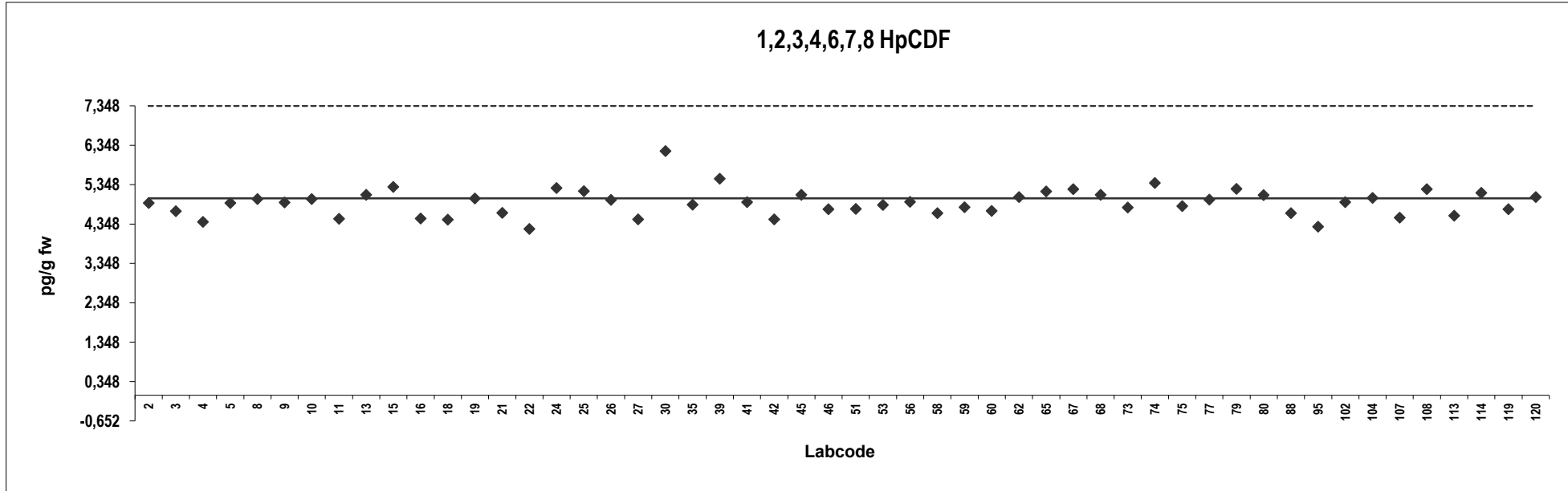
Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,34
Relative standard deviation, %	6,8
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



Analyte solution
Congener: 1,2,3,4,6,7,8 HpCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	4,9	-0,019		104	5,0	0,11	
3	4,7	-0,23		107	4,5	-0,40	
4	4,4	-0,51		108	5,2	0,34	
5	4,9	-0,016		113	4,6	-0,35	
8	5,0	0,087		114	5,1	0,25	
9	4,9	-0,0014		119	4,7	-0,18	
10	5,0	0,083		120	5,0	0,14	
11	4,5	-0,42					
13	5,1	0,20					
15	5,3	0,40					
16	4,5	-0,42					
18	4,5	-0,45					
19	5,0	0,10					
21	4,6	-0,28					
22	4,2	-0,69					
24	5,3	0,37					
25	5,2	0,29					
26	5,0	0,064					
27	4,5	-0,44					
30	6,2	1,3					
35	4,8	-0,060					
39	5,5	0,61					
41	4,9	0,0075					
42	4,5	-0,44					
45	5,1	0,19					
46	4,7	-0,18					
51	4,7	-0,17					
53	4,8	-0,070					
56	4,9	0,012					
58	4,6	-0,28					
59	4,8	-0,12					
60	4,7	-0,22					
62	5,0	0,13					
65	5,2	0,28					
67	5,2	0,34					
68	5,1	0,20					
73	4,8	-0,14					
74	5,4	0,50					
75	4,8	-0,10					
77	5,0	0,073					
79	5,2	0,35					
80	5,1	0,19					
88	4,6	-0,28					
95	4,3	-0,63					
102	4,9	0,0014					

Consensus statistics	
Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,35
Relative standard deviation, %	7,1
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



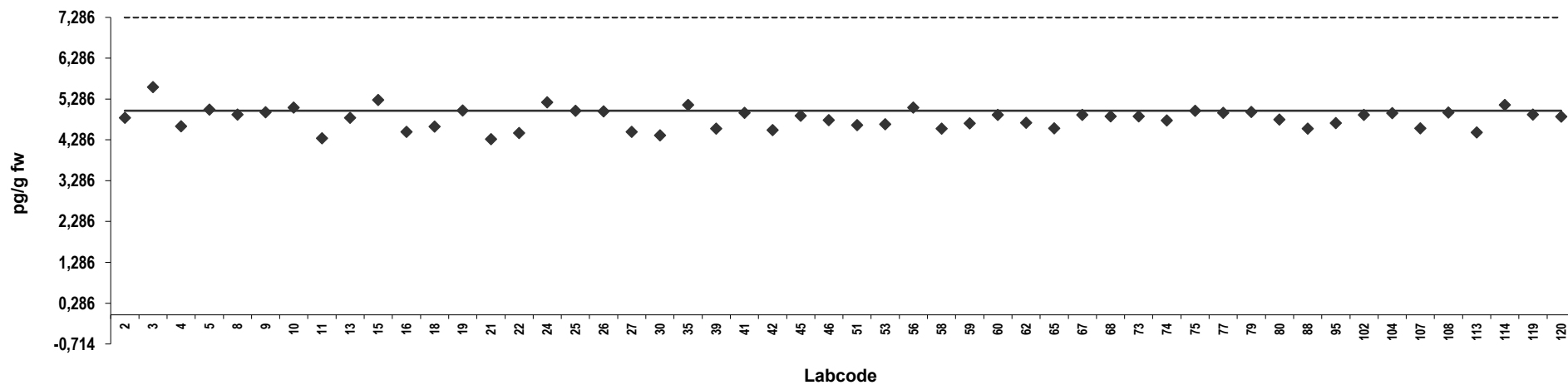
Analyte solution
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	4,8	-0,028		104	4,9	0,086	
3	5,6	0,74		107	4,6	-0,30	
4	4,6	-0,24		108	5,0	0,10	
5	5,0	0,17		113	4,5	-0,40	
8	4,9	0,048		114	5,1	0,29	
9	5,0	0,11		119	4,9	0,046	
10	5,1	0,23		120	4,9	-0,0026	
11	4,3	-0,55					
13	4,8	-0,029					
15	5,3	0,41					
16	4,5	-0,39					
18	4,6	-0,25					
19	5,0	0,15					
21	4,3	-0,57					
22	4,5	-0,41					
24	5,2	0,36					
25	5,0	0,15					
26	5,0	0,13					
27	4,5	-0,39					
30	4,4	-0,47					
35	5,1	0,29					
39	4,6	-0,30					
41	4,9	0,090					
42	4,5	-0,34					
45	4,9	0,021					
46	4,8	-0,094					
51	4,6	-0,22					
53	4,7	-0,19					
56	5,1	0,23					
58	4,6	-0,30					
59	4,7	-0,17					
60	4,9	0,039					
62	4,7	-0,16					
65	4,6	-0,30					
67	4,9	0,044					
68	4,9	0,0026					
73	4,9	0,0057					
74	4,8	-0,10					
75	5,0	0,15					
77	4,9	0,093					
79	5,0	0,12					
80	4,8	-0,077					
88	4,6	-0,30					
95	4,7	-0,17					
102	4,9	0,044					

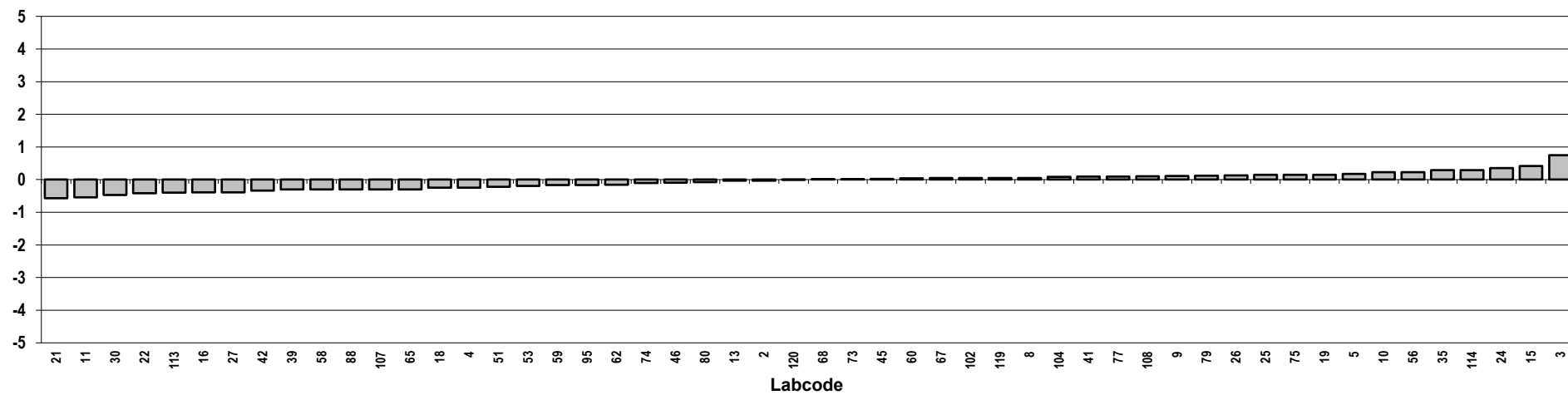
Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,8
Standard deviation, pg/g	0,26
Relative standard deviation, %	5,3
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

1,2,3,4,7,8,9 HpCDF



Z-score: 1,2,3,4,7,8,9 HpCDF



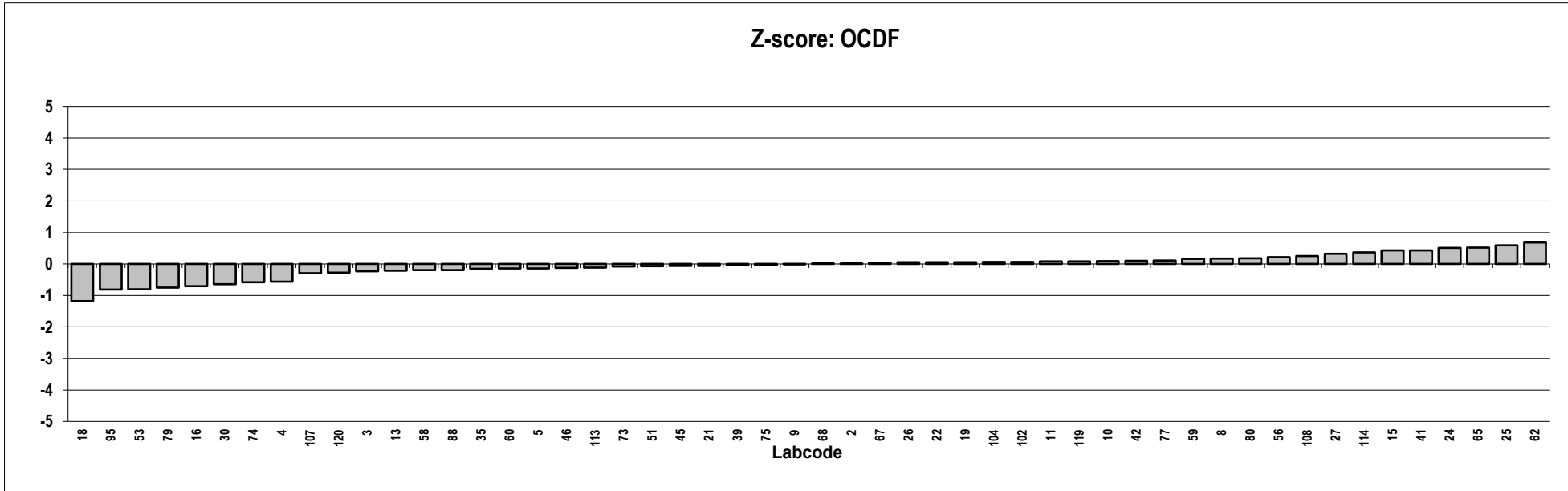
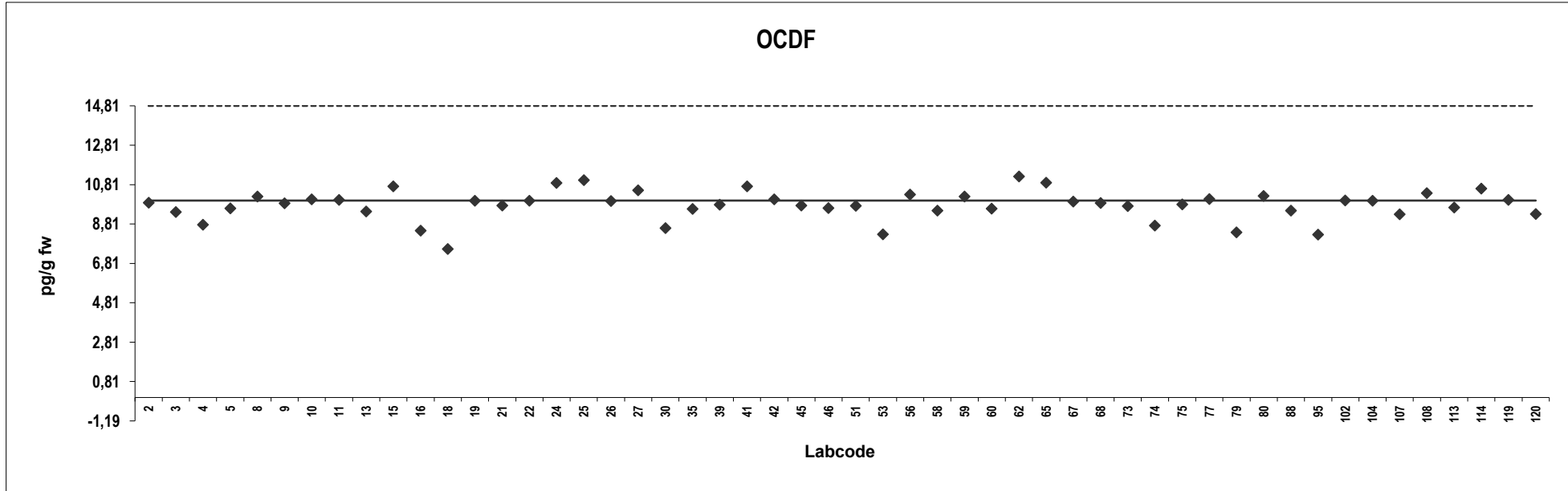
Analyte solution

Congener: OCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	9,9	0,0085		104	10	0,061	
3	9,4	-0,23		107	9,3	-0,29	
4	8,8	-0,56		108	10	0,26	
5	9,6	-0,14		113	9,6	-0,12	
8	10	0,17		114	11	0,37	
9	9,9	-0,0034		119	10	0,084	
10	10	0,095		120	9,3	-0,28	
11	10	0,080					
13	9,4	-0,22					
15	11	0,43					
16	8,5	-0,71					
18	7,5	-1,2					
19	10	0,058					
21	9,8	-0,061					
22	10	0,057					
24	11	0,51					
25	11	0,59					
26	10	0,054					
27	11	0,33					
30	8,6	-0,64					
35	9,6	-0,15					
39	9,8	-0,043					
41	11	0,43					
42	10	0,099					
45	9,7	-0,065					
46	9,6	-0,13					
51	9,7	-0,071					
53	8,3	-0,80					
56	10	0,22					
58	9,5	-0,19					
59	10	0,17					
60	9,6	-0,14					
62	11	0,68					
65	11	0,52					
67	10	0,039					
68	9,9	0,0034					
73	9,7	-0,080					
74	8,7	-0,58					
75	9,8	-0,037					
77	10	0,11					
79	8,4	-0,75					
80	10	0,18					
88	9,5	-0,19					
95	8,3	-0,81					
102	10	0,064					

Consensus statistics

Consensus median, pg/g	9,9
Median all values pg/g	9,9
Consensus mean, pg/g	9,8
Standard deviation, pg/g	0,75
Relative standard deviation, %	7,7
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



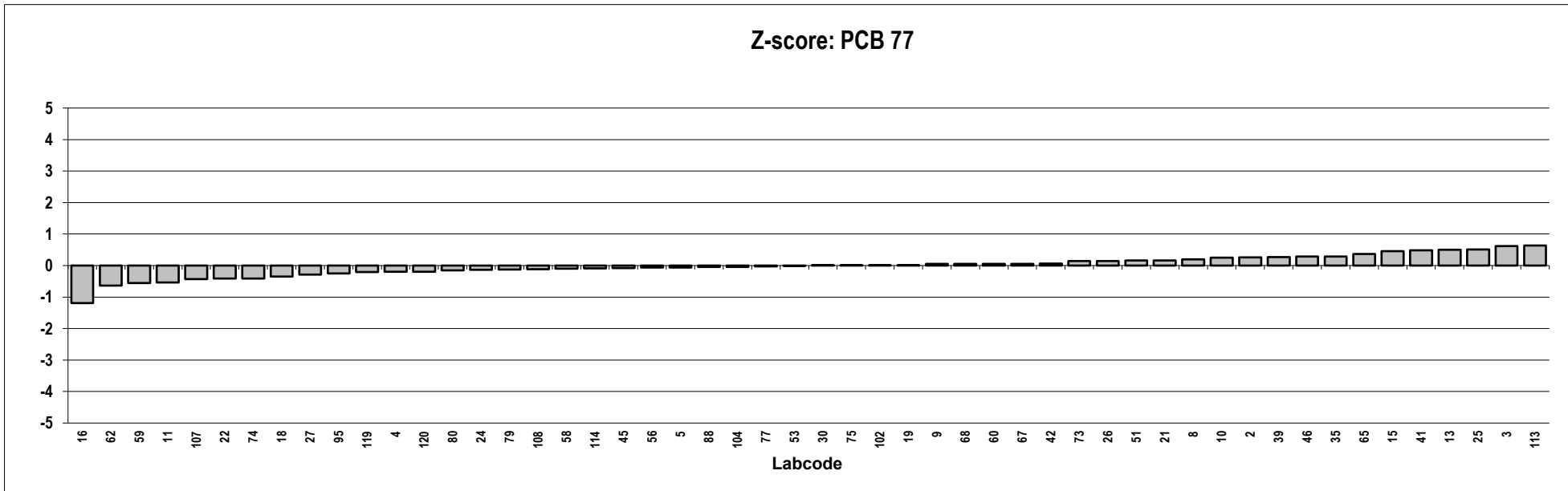
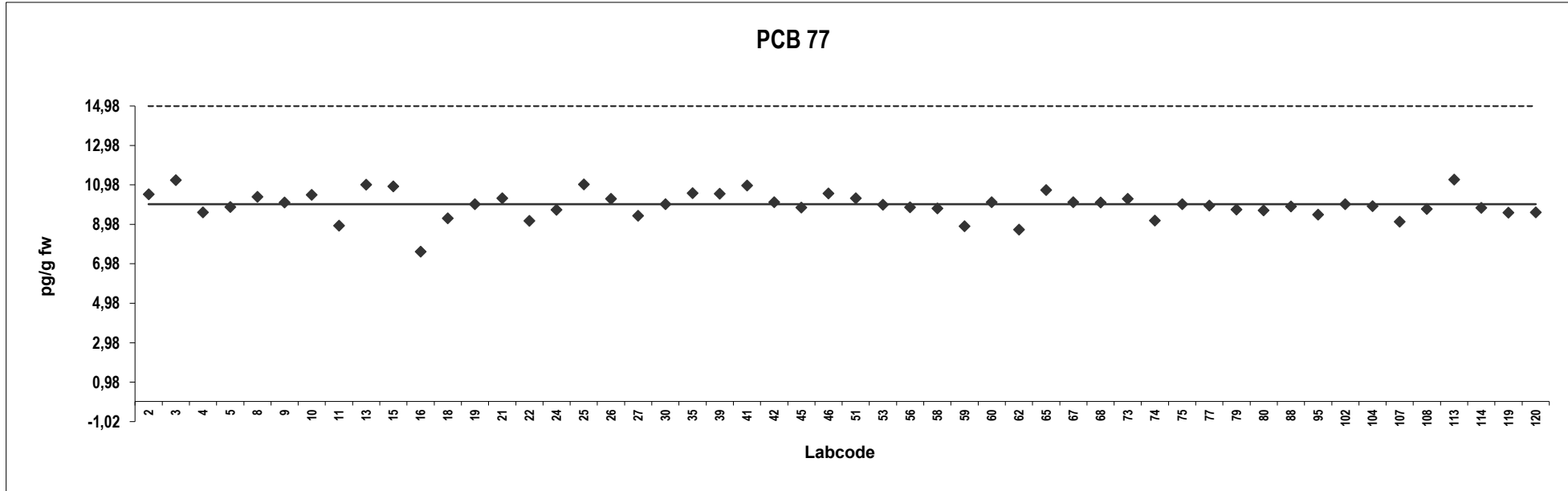
Analyte solution

Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	11	0,26		104	9,9	-0,044	
3	11	0,62		107	9,1	-0,43	
4	9,6	-0,20		108	9,8	-0,12	
5	9,9	-0,065		113	11	0,63	
8	10	0,19		114	9,8	-0,088	
9	10	0,050		119	9,6	-0,21	
10	10	0,25		120	9,6	-0,20	
11	8,9	-0,54					
13	11	0,50					
15	11	0,46					
16	7,6	-1,2					
18	9,3	-0,35					
19	10	0,0095					
21	10	0,16					
22	9,2	-0,42					
24	9,7	-0,14					
25	11	0,51					
26	10	0,14					
27	9,4	-0,28					
30	10	0,0075					
35	11	0,29					
39	11	0,27					
41	11	0,48					
42	10	0,059					
45	9,8	-0,079					
46	11	0,28					
51	10	0,16					
53	10	-0,0075					
56	9,9	-0,068					
58	9,8	-0,10					
59	8,9	-0,55					
60	10	0,056					
62	8,7	-0,64					
65	11	0,37					
67	10	0,058					
68	10	0,053					
73	10	0,14					
74	9,2	-0,41					
75	10	0,0075					
77	9,9	-0,028					
79	9,7	-0,13					
80	9,7	-0,15					
88	9,9	-0,049					
95	9,5	-0,25					
102	10	0,0075					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	10
Standard deviation, pg/g	0,68
Relative standard deviation, %	6,8
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0



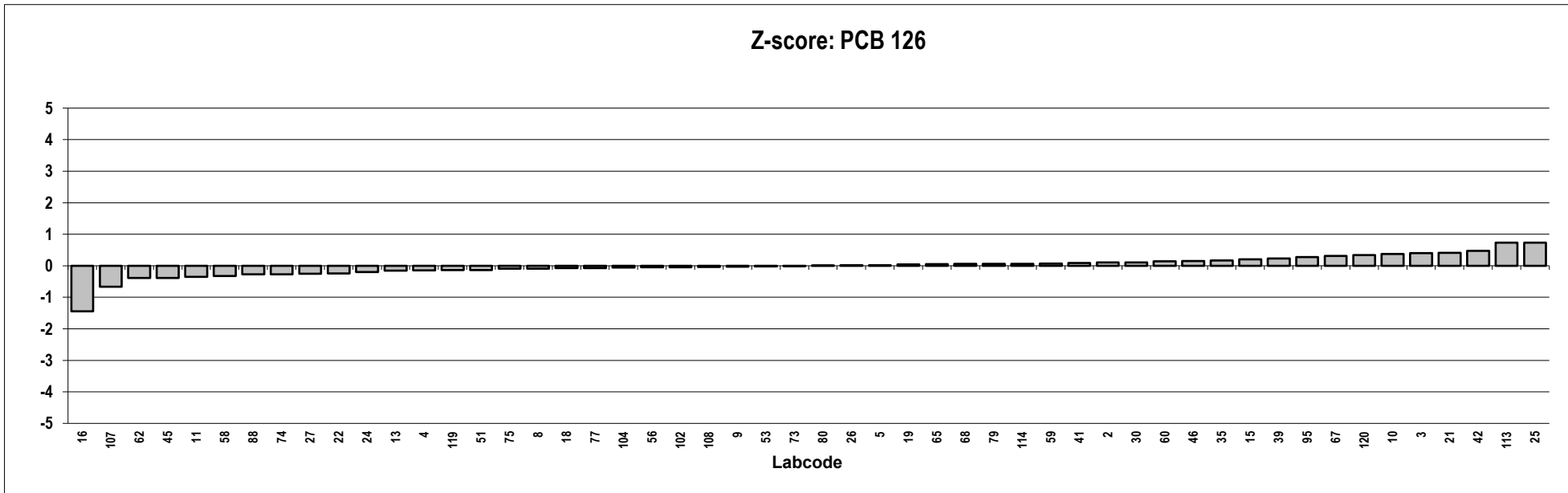
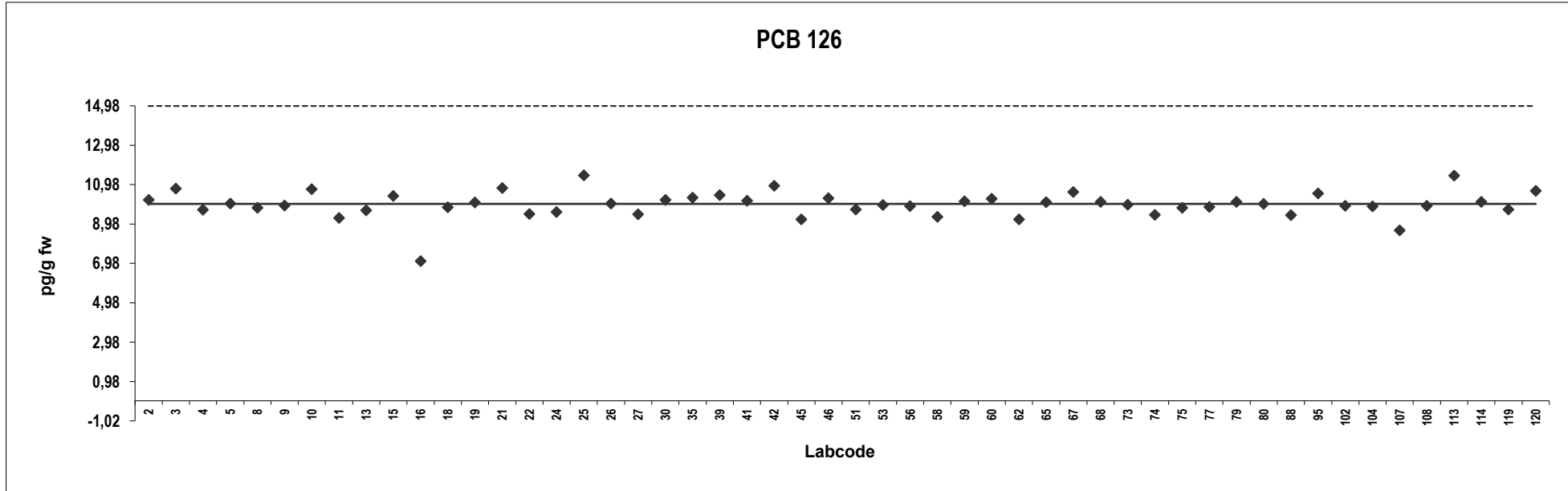
Analyte solution

Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	10	0,11		104	9,9	-0,058	
3	11	0,40		107	8,7	-0,67	
4	9,7	-0,14		108	9,9	-0,042	
5	10	0,018		113	11	0,73	
8	9,8	-0,090		114	10	0,057	
9	9,9	-0,033		119	9,7	-0,13	
10	11	0,38		120	11	0,34	
11	9,3	-0,35					
13	9,7	-0,16					
15	10	0,21					
16	7,1	-1,4					
18	9,8	-0,078					
19	10	0,042					
21	11	0,41					
22	9,5	-0,25					
24	9,6	-0,20					
25	11	0,73					
26	10	0,012					
27	9,5	-0,26					
30	10	0,11					
35	10	0,17					
39	10	0,23					
41	10	0,084					
42	11	0,47					
45	9,2	-0,39					
46	10	0,15					
51	9,7	-0,13					
53	9,9	-0,023					
56	9,9	-0,048					
58	9,3	-0,32					
59	10	0,072					
60	10	0,14					
62	9,2	-0,39					
65	10	0,053					
67	11	0,31					
68	10	0,057					
73	10	-0,010					
74	9,4	-0,27					
75	9,8	-0,093					
77	9,8	-0,071					
79	10	0,057					
80	10	0,010					
88	9,4	-0,28					
95	11	0,28					
102	9,9	-0,043					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	10
Standard deviation, pg/g	0,67
Relative standard deviation, %	6,7
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

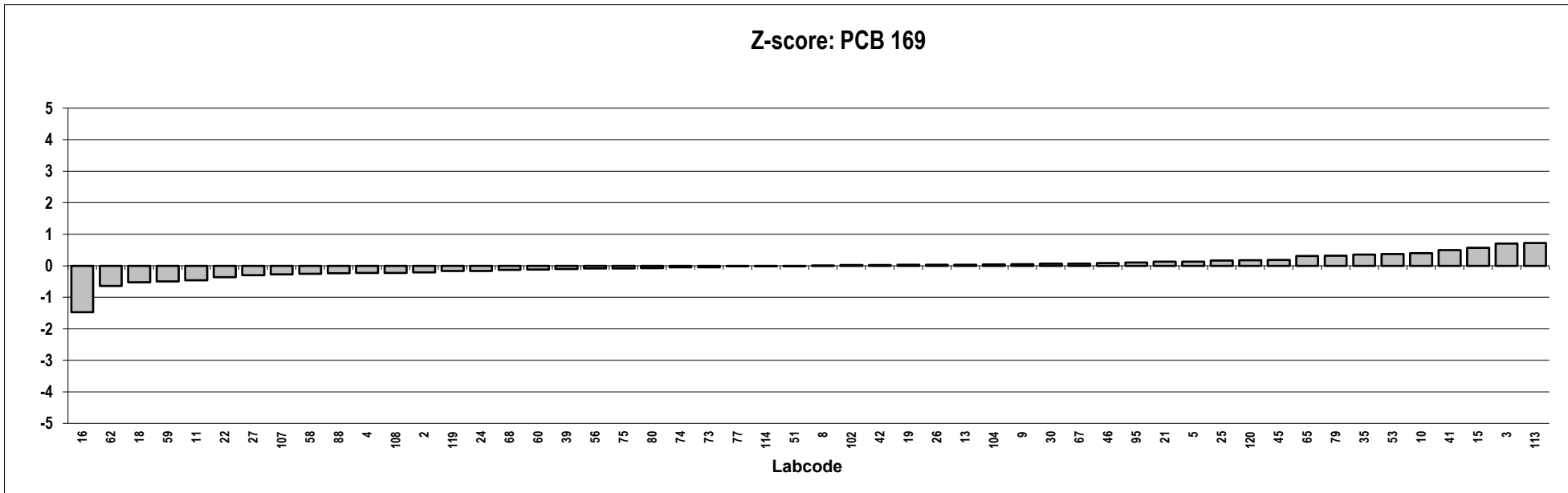
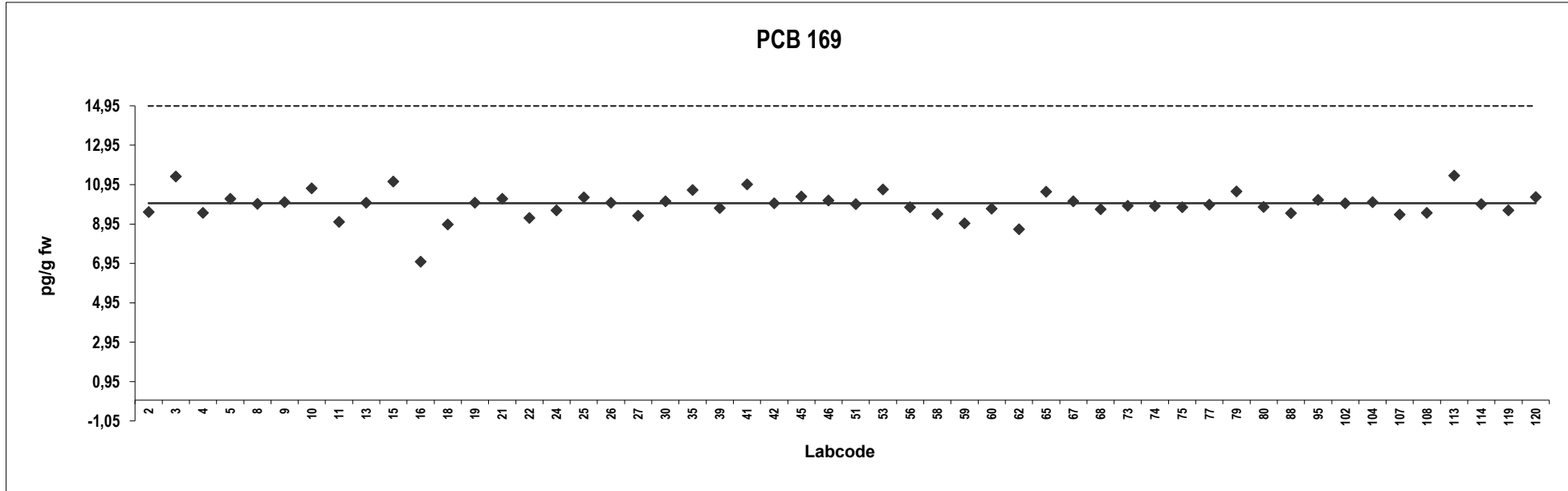


Analyte solution
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	9,6	-0,21		104	10	0,043	
3	11	0,70		107	9,4	-0,27	
4	9,5	-0,23		108	9,5	-0,23	
5	10	0,13		113	11	0,72	
8	10	0,0019		114	10	-0,0069	
9	10	0,046		119	9,6	-0,17	
10	11	0,39		120	10	0,17	
11	9,0	-0,46					
13	10	0,034					
15	11	0,57					
16	7,0	-1,5					
18	8,9	-0,52					
19	10	0,031					
21	10	0,13					
22	9,2	-0,36					
24	9,6	-0,16					
25	10	0,17					
26	10	0,032					
27	9,4	-0,30					
30	10	0,068					
35	11	0,35					
39	9,8	-0,11					
41	11	0,50					
42	10	0,019					
45	10	0,19					
46	10	0,086					
51	10	-0,0019					
53	11	0,37					
56	9,8	-0,087					
58	9,5	-0,26					
59	9,0	-0,49					
60	9,7	-0,12					
62	8,7	-0,64					
65	11	0,31					
67	10	0,068					
68	9,7	-0,13					
73	9,9	-0,050					
74	9,9	-0,053					
75	9,8	-0,082					
77	9,9	-0,016					
79	11	0,32					
80	9,8	-0,079					
88	9,5	-0,24					
95	10	0,10					
102	10	0,018					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	9,9
Standard deviation, pg/g	0,70
Relative standard deviation, %	7,1
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

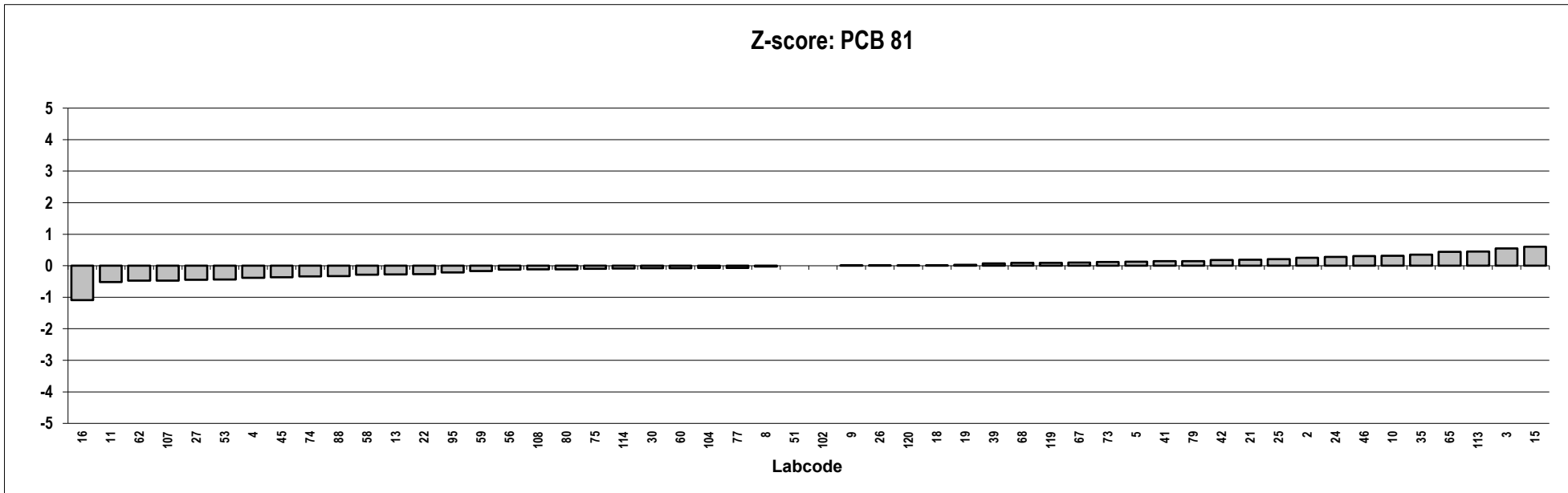
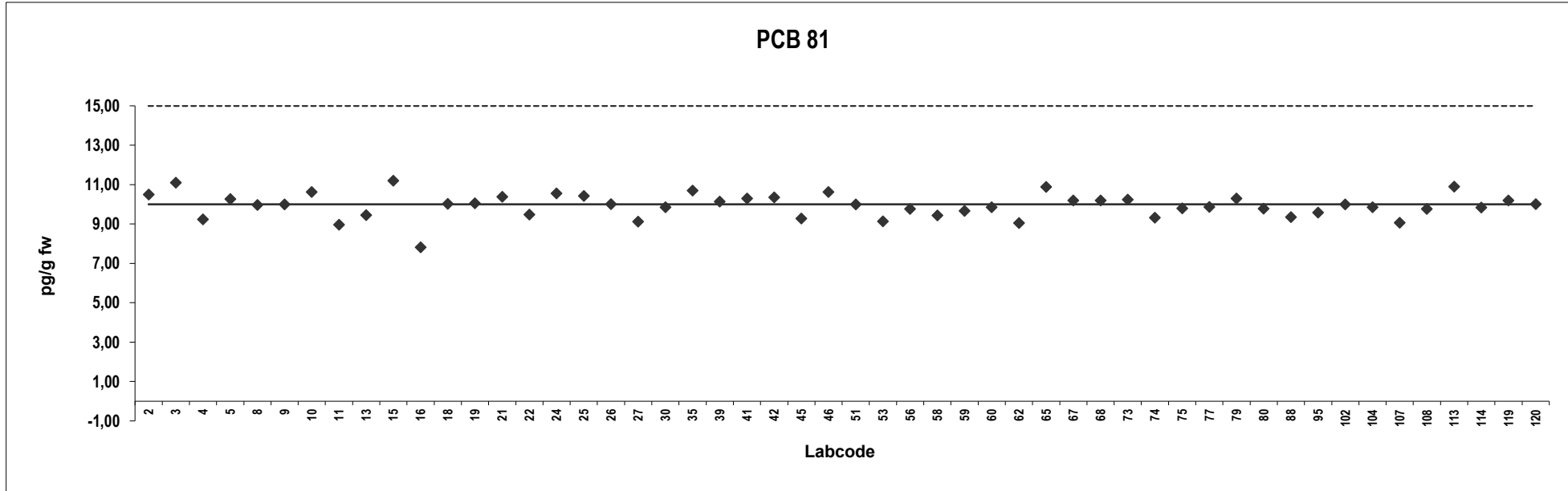


Analyte solution
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	11	0,25		104	9,9	-0,071	
3	11	0,55		107	9,1	-0,47	
4	9,2	-0,39		108	9,8	-0,12	
5	10	0,13		113	11	0,45	
8	10	-0,020		114	9,8	-0,085	
9	10	0,00050		119	10	0,095	
10	11	0,32		120	10	0,0045	
11	9,0	-0,52					
13	9,5	-0,27					
15	11	0,60					
16	7,8	-1,1					
18	10	0,015					
19	10	0,027					
21	10	0,19					
22	9,5	-0,26					
24	11	0,28					
25	10	0,21					
26	10	0,0029					
27	9,1	-0,44					
30	9,9	-0,075					
35	11	0,35					
39	10	0,072					
41	10	0,15					
42	10	0,18					
45	9,3	-0,36					
46	11	0,31					
51	10	0,00					
53	9,1	-0,44					
56	9,8	-0,12					
58	9,4	-0,29					
59	9,7	-0,17					
60	9,9	-0,074					
62	9,1	-0,47					
65	11	0,44					
67	10	0,10					
68	10	0,095					
73	10	0,12					
74	9,3	-0,34					
75	9,8	-0,10					
77	9,9	-0,067					
79	10	0,15					
80	9,8	-0,11					
88	9,3	-0,33					
95	9,6	-0,21					
102	10	0,00					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	9,9
Standard deviation, pg/g	0,62
Relative standard deviation, %	6,2
No. of values reported	52
No. of values removed	0
No. of reported non-detects	0

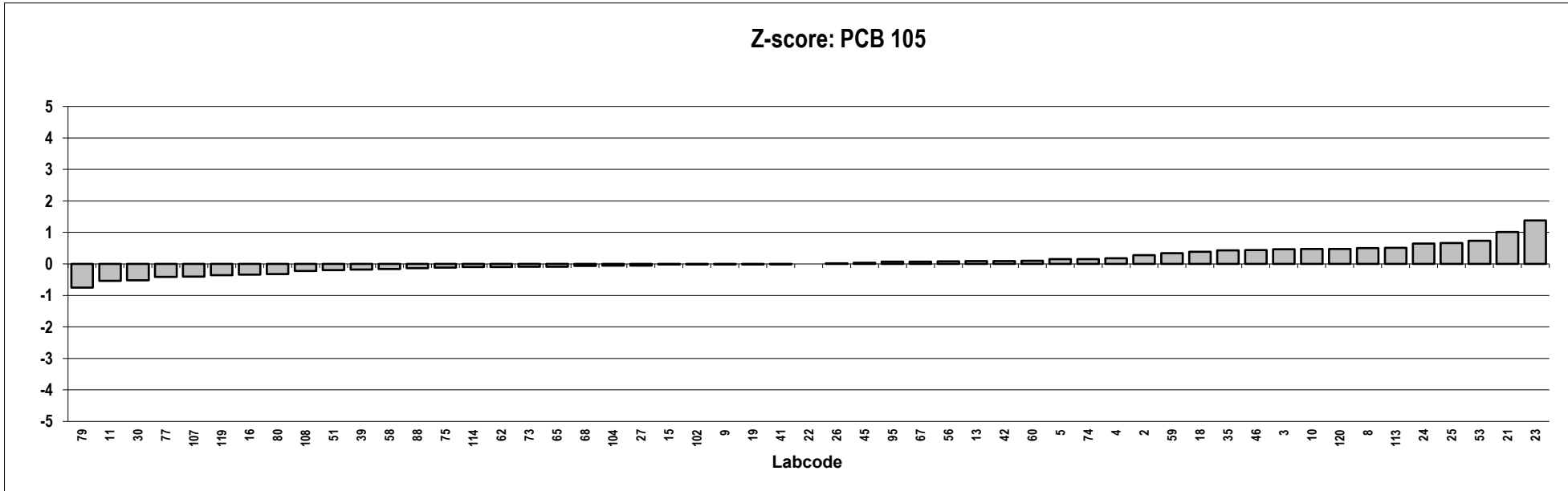
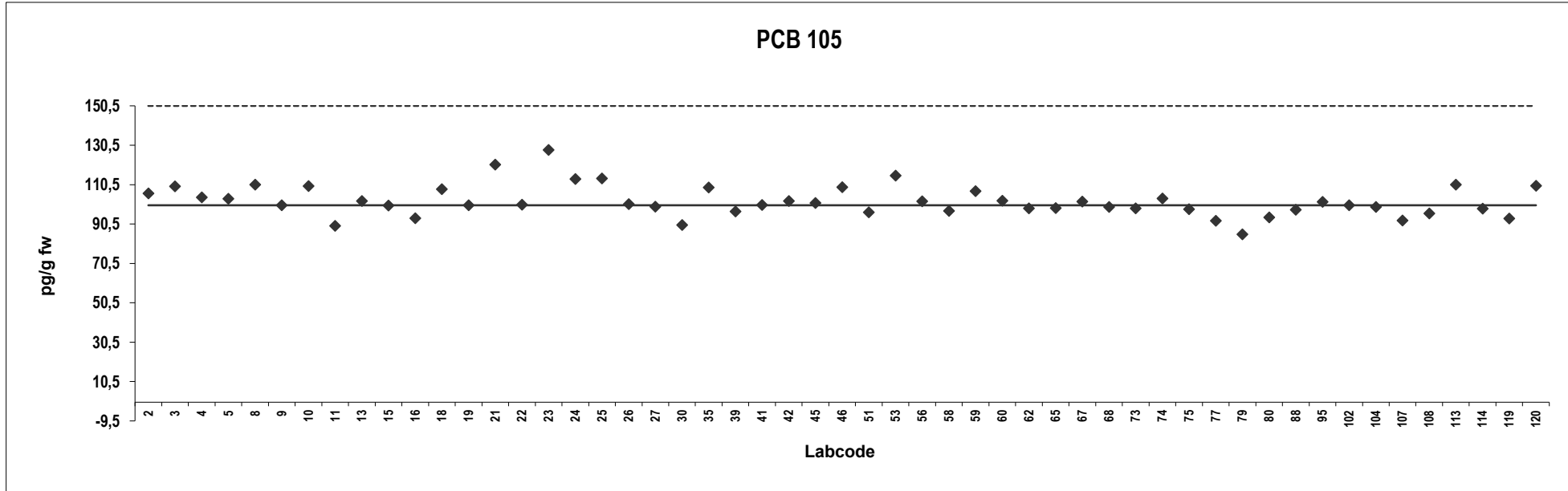


Analyte solution
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	106	0,28		102	100	-0,016	
3	110	0,46		104	99	-0,056	
4	104	0,18		107	92	-0,40	
5	103	0,15		108	96	-0,22	
8	110	0,50		113	111	0,51	
9	100	-0,015		114	98	-0,10	
10	110	0,47		119	93	-0,36	
11	90	-0,54		120	110	0,48	
13	102	0,092					
15	100	-0,021					
16	93	-0,34					
18	108	0,39					
19	100	-0,014					
21	121	1,0					
22	100	0,00					
23	128	1,4					
24	113	0,65					
25	114	0,66					
26	101	0,016					
27	99	-0,055					
30	90	-0,51					
35	109	0,43					
39	97	-0,17					
41	100	-0,010					
42	102	0,093					
45	101	0,038					
46	109	0,44					
51	96	-0,20					
53	115	0,73					
56	102	0,083					
58	97	-0,16					
59	107	0,34					
60	102	0,10					
62	98	-0,094					
65	99	-0,086					
67	102	0,073					
68	99	-0,061					
73	98	-0,093					
74	103	0,15					
75	98	-0,12					
77	92	-0,41					
79	85	-0,75					
80	94	-0,32					
88	98	-0,13					
95	102	0,071					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	102
Standard deviation, pg/g	7,9
Relative standard deviation, %	7,7
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



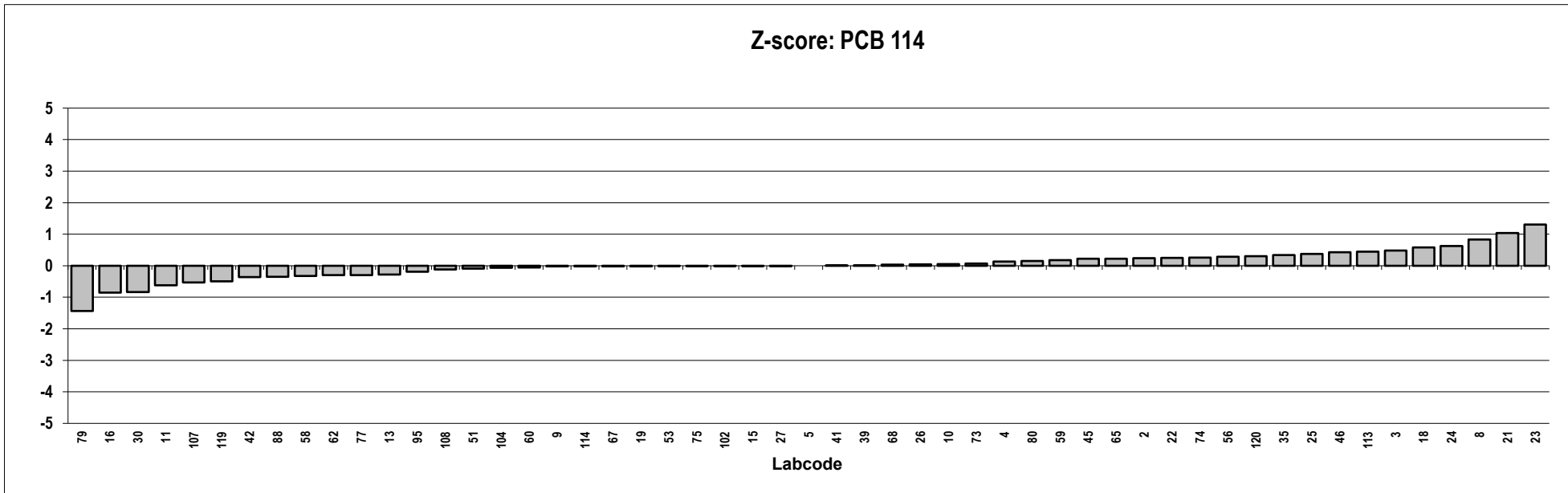
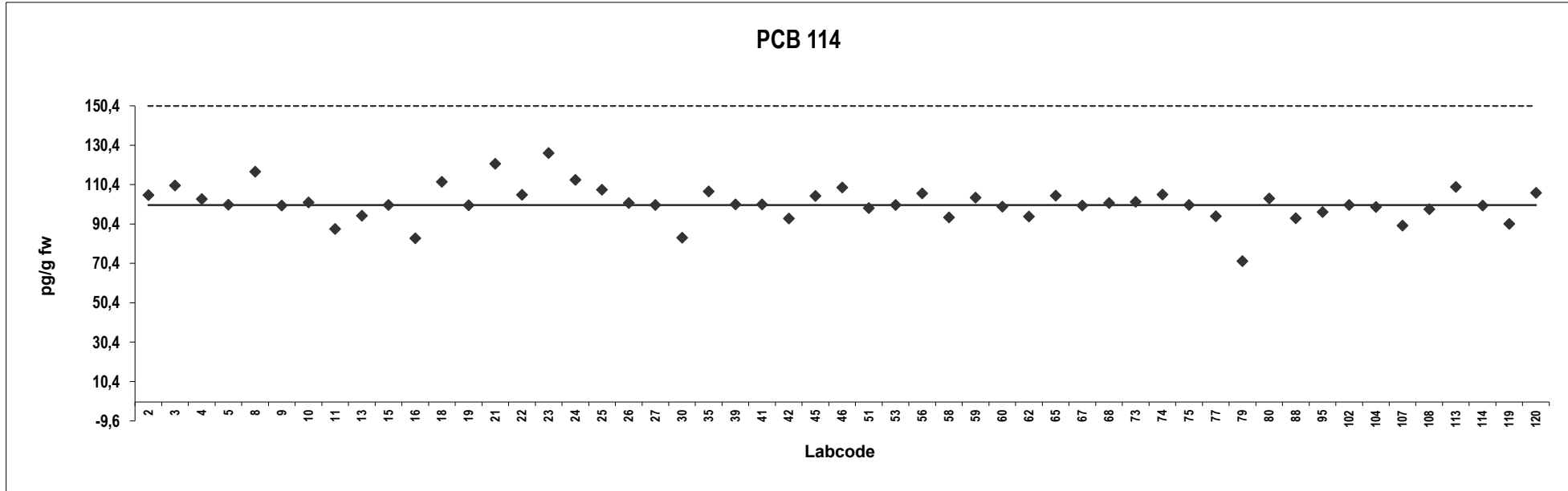
Analyte solution

Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	105	0,24		102	100	-0,013	
3	110	0,48		104	99	-0,062	
4	103	0,14		107	90	-0,53	
5	100	0,00		108	98	-0,12	
8	117	0,83		113	109	0,45	
9	100	-0,023		114	100	-0,023	
10	101	0,052		119	90	-0,49	
11	88	-0,62		120	106	0,30	
13	95	-0,28					
15	100	-0,0081					
16	83	-0,85					
18	112	0,58					
19	100	-0,016					
21	121	1,0					
22	105	0,25					
23	126	1,3					
24	113	0,63					
25	108	0,37					
26	101	0,043					
27	100	-0,0081					
30	84	-0,84					
35	107	0,34					
39	100	0,0033					
41	100	0,0033					
42	93	-0,36					
45	105	0,22					
46	109	0,43					
51	99	-0,087					
53	100	-0,013					
56	106	0,29					
58	94	-0,33					
59	104	0,18					
60	99	-0,052					
62	94	-0,30					
65	105	0,22					
67	100	-0,023					
68	101	0,037					
73	102	0,068					
74	105	0,25					
75	100	-0,013					
77	94	-0,30					
79	72	-1,4					
80	103	0,15					
88	93	-0,35					
95	97	-0,19					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	9,1
Relative standard deviation, %	9,0
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



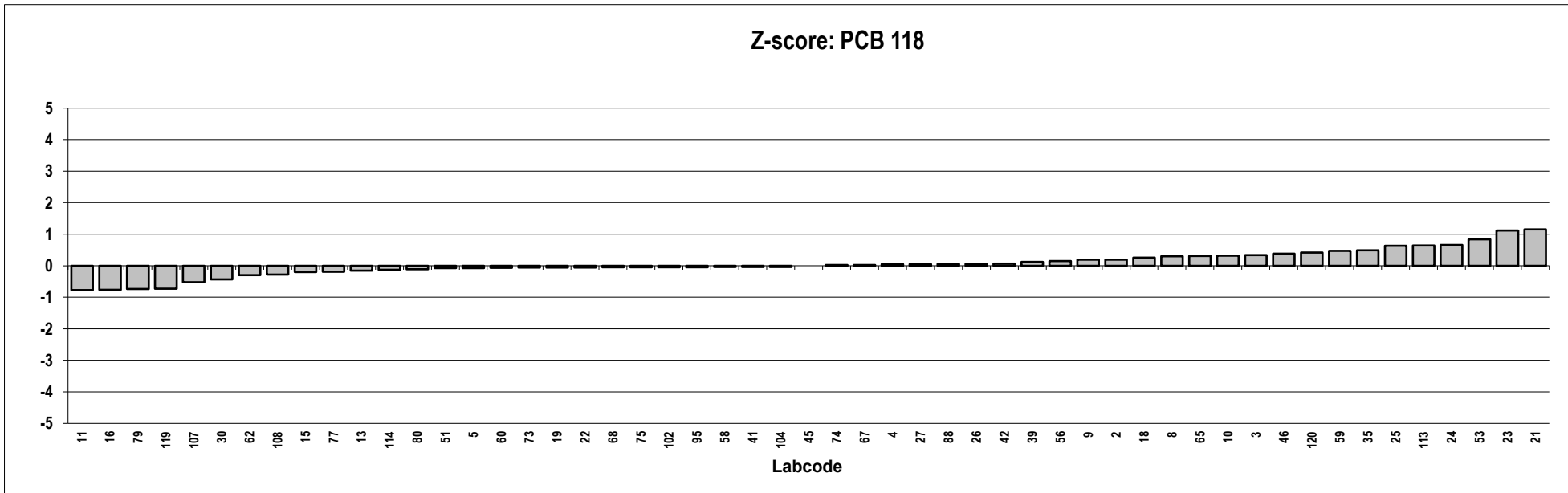
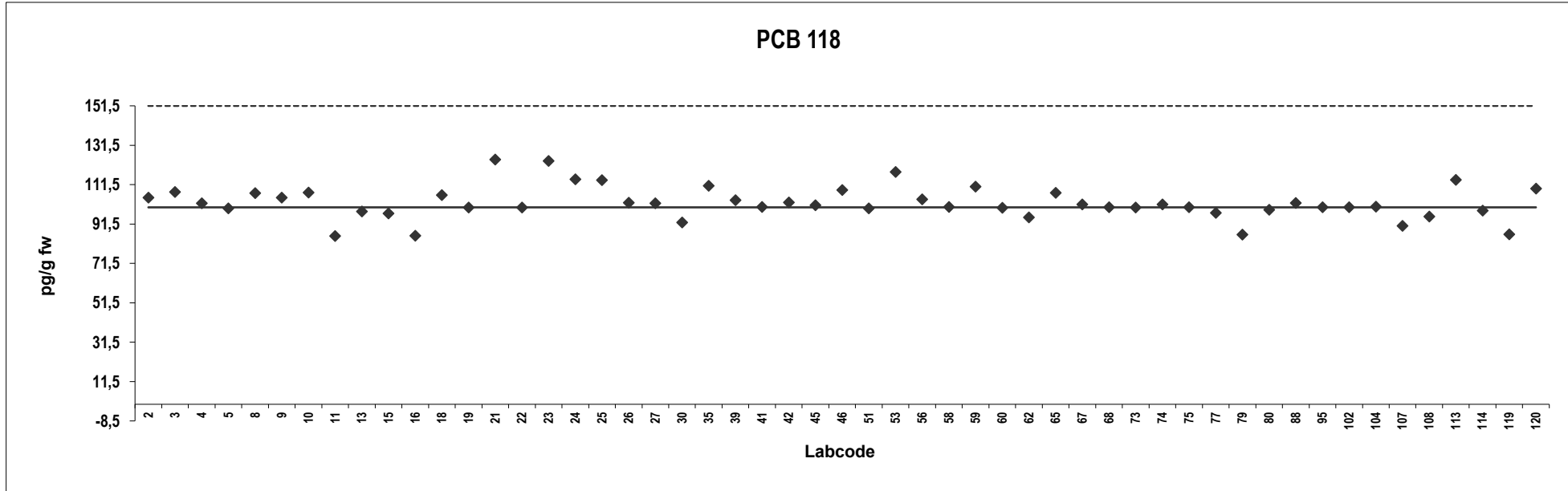
Analyte solution

Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	105	0,20		102	100	-0,051	
3	108	0,33		104	100	-0,037	
4	102	0,048		107	91	-0,52	
5	100	-0,073		108	95	-0,28	
8	107	0,30		113	114	0,64	
9	105	0,19		114	98	-0,13	
10	108	0,32		119	86	-0,73	
11	85	-0,77		120	109	0,42	
13	98	-0,15					
15	97	-0,20					
16	86	-0,76					
18	106	0,26					
19	100	-0,055					
21	124	1,2					
22	100	-0,053					
23	124	1,1					
24	114	0,66					
25	114	0,63					
26	102	0,063					
27	102	0,053					
30	92	-0,43					
35	111	0,49					
39	104	0,13					
41	100	-0,039					
42	102	0,071					
45	101	0,00					
46	109	0,38					
51	100	-0,075					
53	118	0,84					
56	104	0,15					
58	100	-0,042					
59	110	0,47					
60	100	-0,064					
62	95	-0,30					
65	107	0,31					
67	102	0,023					
68	100	-0,051					
73	100	-0,056					
74	101	0,020					
75	100	-0,051					
77	97	-0,19					
79	86	-0,74					
80	99	-0,11					
88	102	0,057					
95	100	-0,048					

Consensus statistics

Consensus median, pg/g	101
Median all values pg/g	101
Consensus mean, pg/g	102
Standard deviation, pg/g	8,3
Relative standard deviation, %	8,1
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



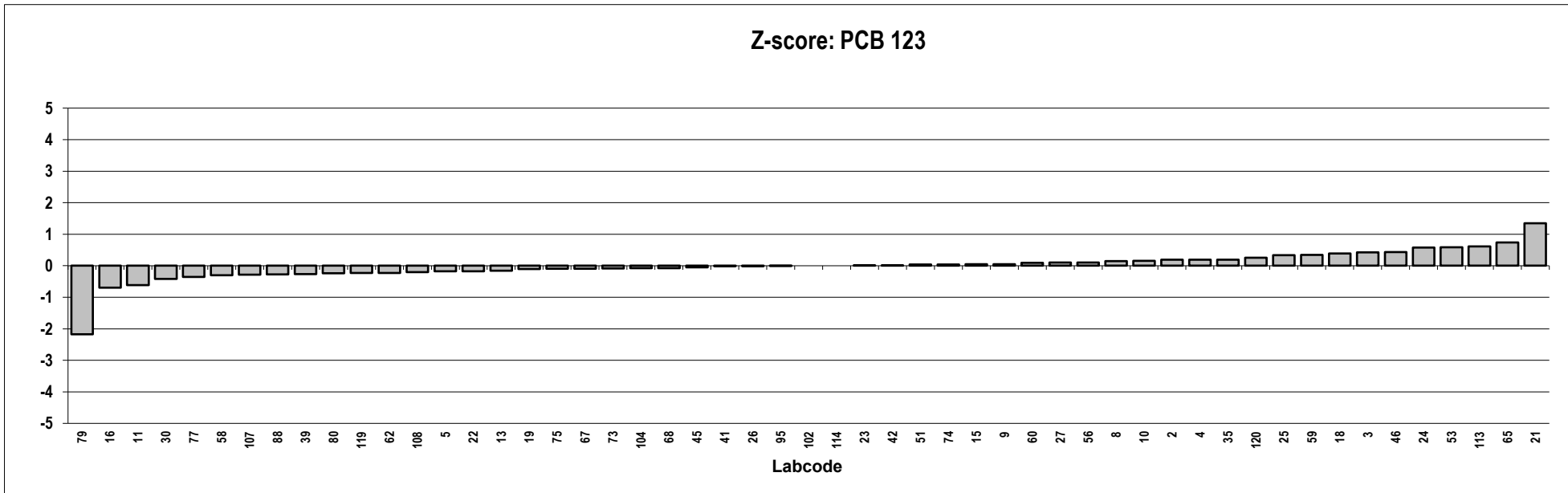
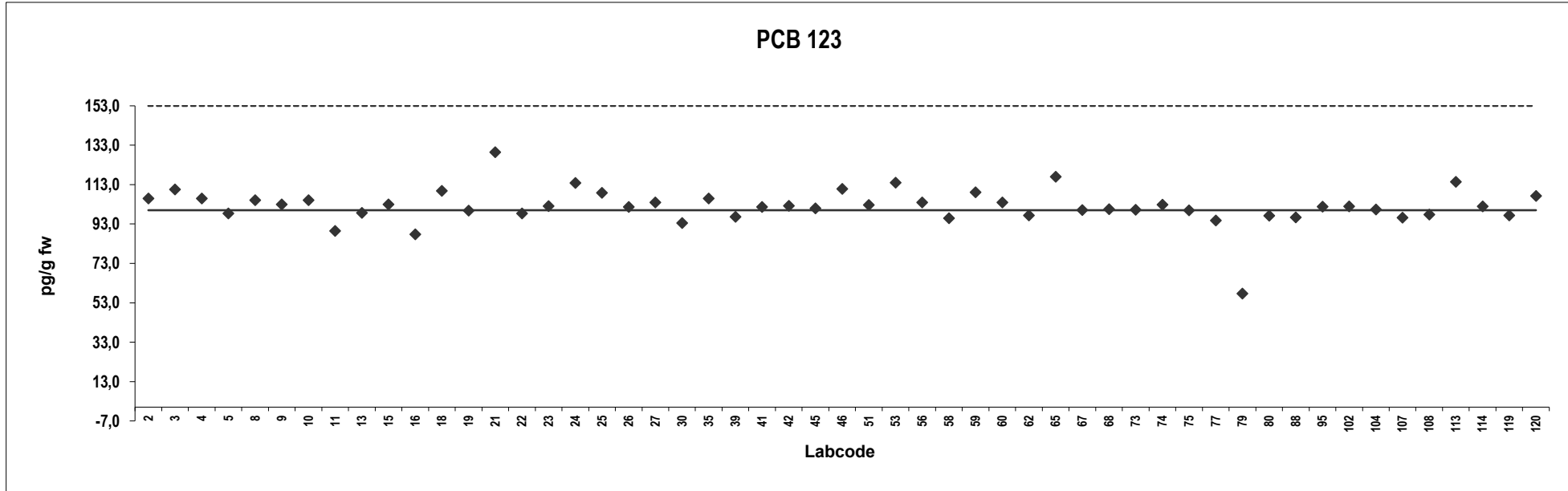
Analyte solution

Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	106	0,20		102	102	0,00	
3	111	0,42		104	100	-0,080	
4	106	0,20		107	96	-0,28	
5	98	-0,18		108	98	-0,21	
8	105	0,15		113	114	0,61	
9	103	0,047		114	102	0,00	
10	105	0,15		119	97	-0,23	
11	89	-0,62		120	107	0,25	
13	99	-0,16					
15	103	0,044					
16	88	-0,70					
18	110	0,39					
19	100	-0,11					
21	129	1,3					
22	98	-0,18					
23	102	0,0050					
24	114	0,58					
25	109	0,33					
26	102	-0,014					
27	104	0,098					
30	94	-0,42					
35	106	0,20					
39	97	-0,26					
41	102	-0,015					
42	102	0,010					
45	101	-0,050					
46	111	0,43					
51	103	0,035					
53	114	0,59					
56	104	0,098					
58	96	-0,30					
59	109	0,35					
60	104	0,094					
62	97	-0,23					
65	117	0,73					
67	100	-0,093					
68	101	-0,074					
73	100	-0,086					
74	103	0,037					
75	100	-0,098					
77	95	-0,36					
79	58	-2,2					
80	97	-0,23					
88	96	-0,27					
95	102	-0,0069					

Consensus statistics

Consensus median, pg/g	102
Median all values pg/g	102
Consensus mean, pg/g	102
Standard deviation, pg/g	9,4
Relative standard deviation, %	9,2
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



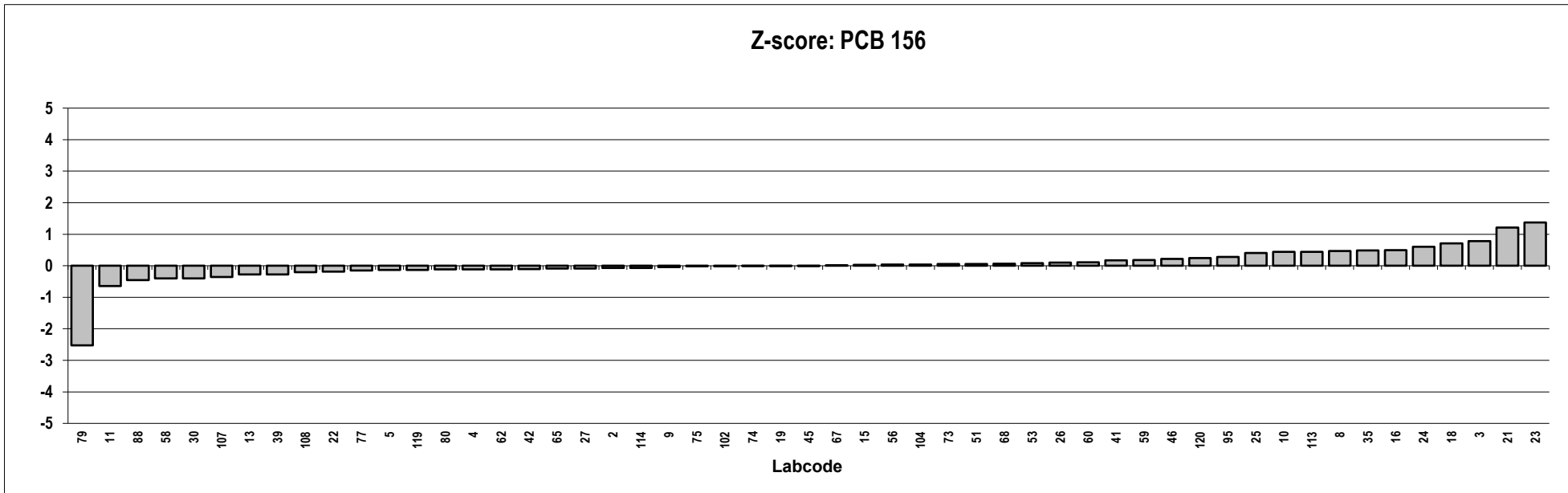
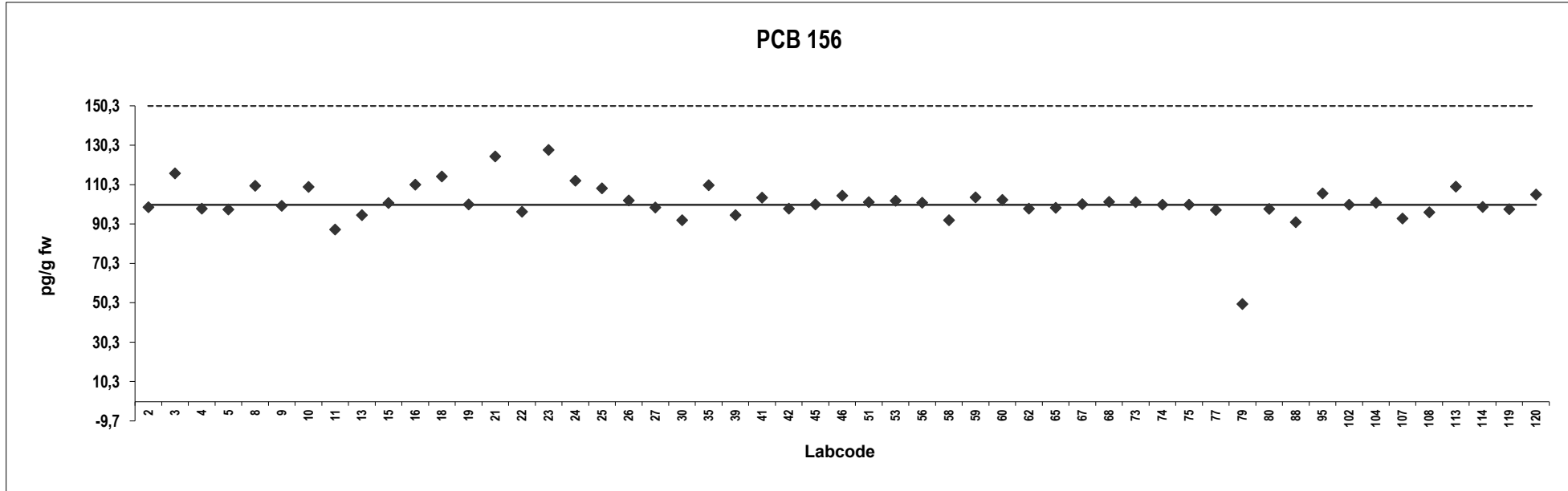
Analyte solution

Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	99	-0,074		102	100	-0,014	
3	116	0,78		104	101	0,040	
4	98	-0,11		107	93	-0,36	
5	98	-0,13		108	96	-0,20	
8	110	0,47		113	109	0,44	
9	99	-0,040		114	99	-0,069	
10	109	0,44		119	98	-0,13	
11	87	-0,64		120	105	0,25	
13	95	-0,28					
15	101	0,031					
16	110	0,49					
18	114	0,71					
19	100	-0,0076					
21	124	1,2					
22	96	-0,19					
23	128	1,4					
24	112	0,60					
25	108	0,40					
26	102	0,096					
27	99	-0,085					
30	92	-0,40					
35	110	0,48					
39	95	-0,27					
41	104	0,17					
42	98	-0,11					
45	100	-0,0057					
46	105	0,22					
51	101	0,055					
53	102	0,086					
56	101	0,036					
58	92	-0,40					
59	104	0,18					
60	103	0,11					
62	98	-0,11					
65	99	-0,086					
67	100	0,0057					
68	102	0,061					
73	101	0,053					
74	100	-0,0095					
75	100	-0,014					
77	97	-0,15					
79	50	-2,5	Outlier				
80	98	-0,12					
88	91	-0,45					
95	106	0,28					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	102
Standard deviation, pg/g	7,6
Relative standard deviation, %	7,5
No. of values reported	53
No. of values removed	1
No. of reported non-detects	0



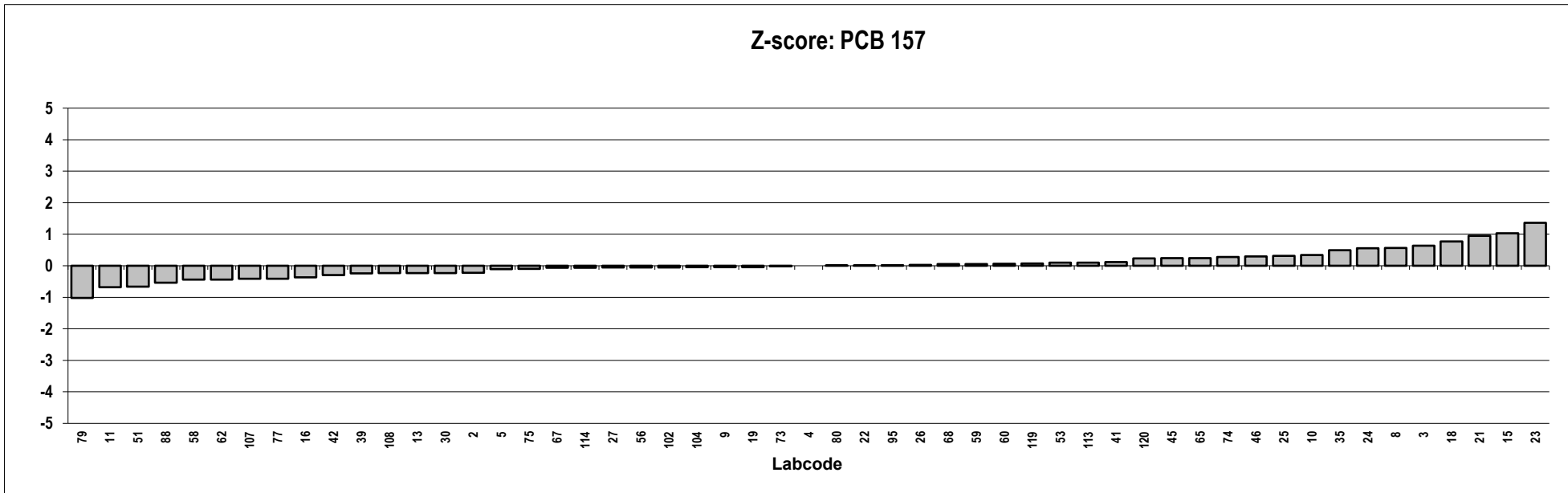
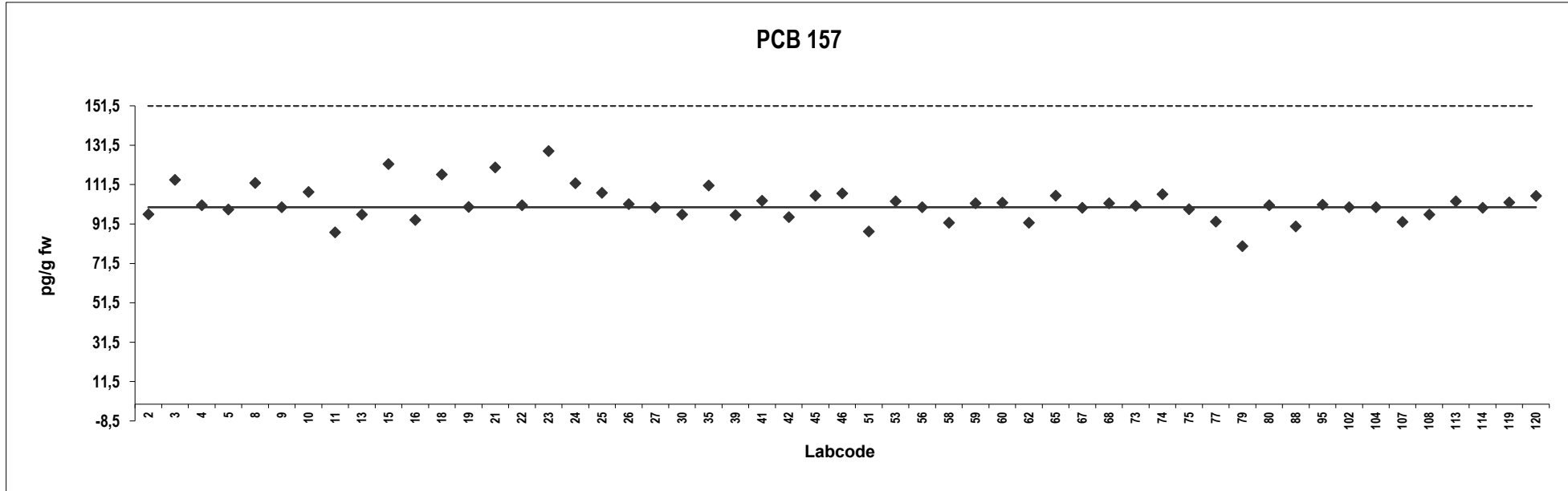
Analyte solution

Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	96	-0,23		102	100	-0,050	
3	114	0,64		104	100	-0,049	
4	101	0,00		107	93	-0,41	
5	99	-0,10		108	96	-0,24	
8	112	0,56		113	103	0,10	
9	100	-0,048		114	100	-0,064	
10	108	0,34		119	102	0,069	
11	87	-0,68		120	106	0,23	
13	96	-0,23					
15	122	1,0					
16	94	-0,36					
18	117	0,77					
19	100	-0,043					
21	120	0,95					
22	101	0,0033					
23	129	1,4					
24	112	0,55					
25	107	0,31					
26	102	0,026					
27	100	-0,055					
30	96	-0,23					
35	111	0,50					
39	96	-0,25					
41	103	0,11					
42	95	-0,30					
45	106	0,24					
46	107	0,30					
51	88	-0,66					
53	103	0,099					
56	100	-0,050					
58	92	-0,44					
59	102	0,051					
60	102	0,062					
62	92	-0,44					
65	106	0,24					
67	100	-0,064					
68	102	0,050					
73	101	-0,015					
74	107	0,28					
75	99	-0,099					
77	93	-0,41					
79	80	-1,0					
80	101	0,0016					
88	90	-0,53					
95	101	0,015					

Consensus statistics

Consensus median, pg/g	101
Median all values pg/g	101
Consensus mean, pg/g	102
Standard deviation, pg/g	8,8
Relative standard deviation, %	8,6
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



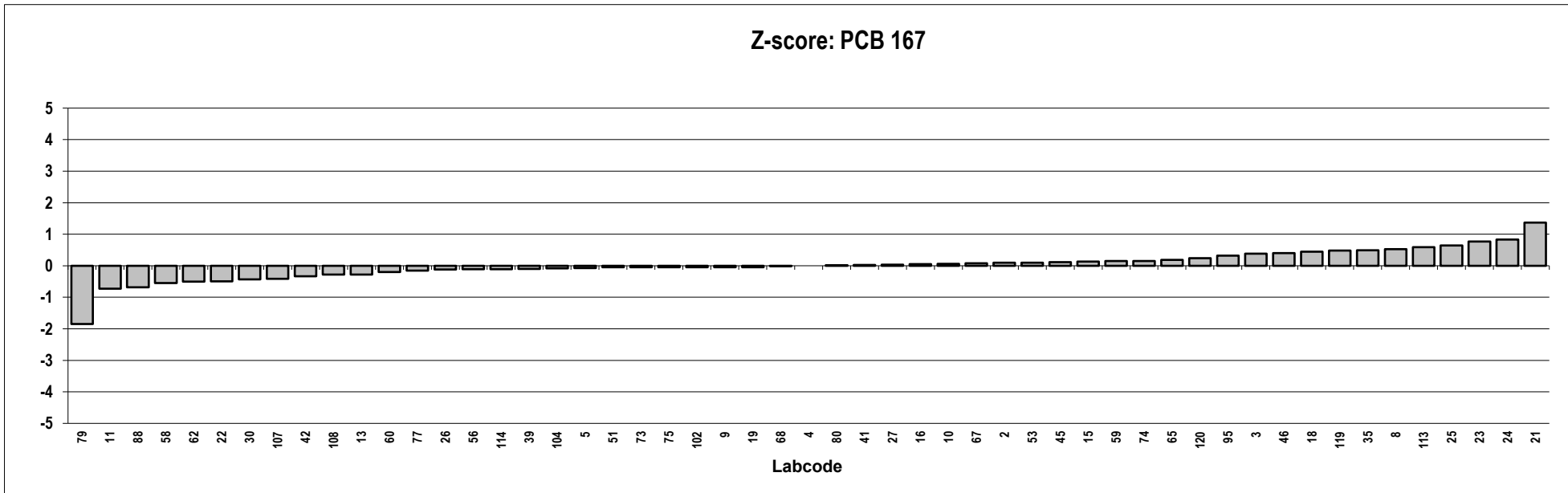
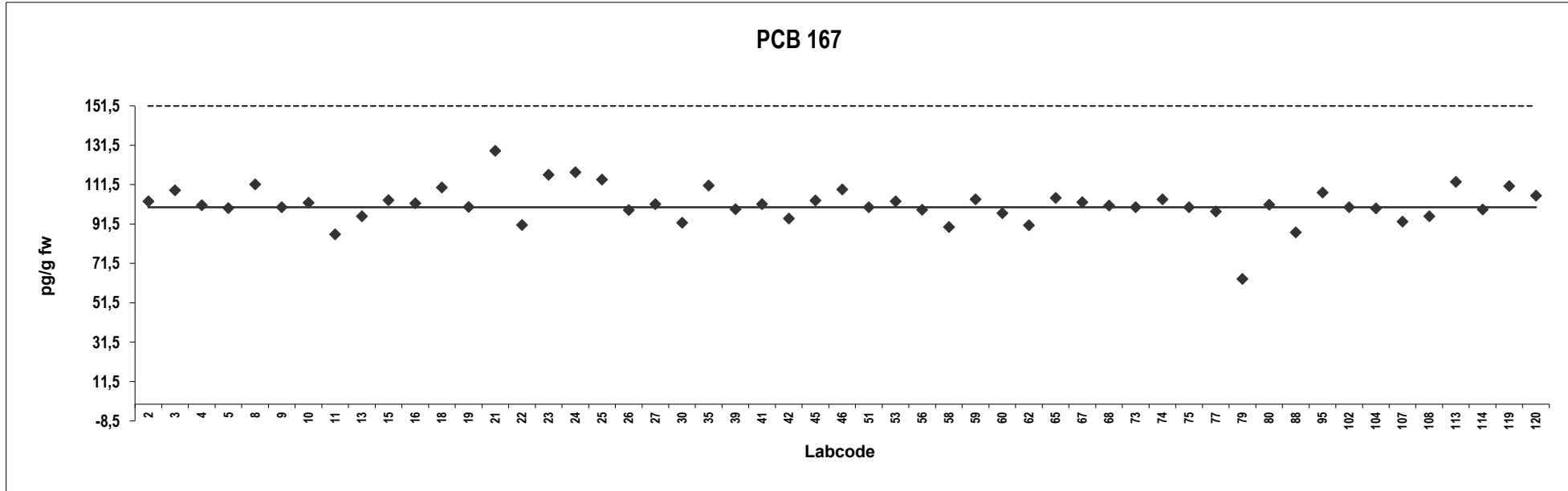
Analyte solution

Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	103	0,099		102	100	-0,050	
3	109	0,38		104	99	-0,081	
4	101	0,00		107	93	-0,41	
5	100	-0,073		108	95	-0,28	
8	112	0,53		113	113	0,59	
9	100	-0,046		114	99	-0,11	
10	102	0,064		119	111	0,48	
11	86	-0,73		120	106	0,24	
13	95	-0,28					
15	104	0,13					
16	102	0,049					
18	110	0,44					
19	100	-0,043					
21	129	1,4					
22	91	-0,50					
23	116	0,77					
24	118	0,83					
25	114	0,65					
26	99	-0,12					
27	102	0,030					
30	92	-0,44					
35	111	0,50					
39	99	-0,097					
41	102	0,029					
42	94	-0,33					
45	103	0,12					
46	109	0,40					
51	100	-0,050					
53	103	0,099					
56	99	-0,11					
58	90	-0,55					
59	104	0,15					
60	97	-0,20					
62	91	-0,50					
65	105	0,19					
67	103	0,079					
68	101	0,00					
73	100	-0,050					
74	104	0,15					
75	100	-0,050					
77	98	-0,16					
79	64	-1,9					
80	101	0,014					
88	87	-0,68					
95	107	0,32					

Consensus statistics

Consensus median, pg/g	101
Median all values pg/g	101
Consensus mean, pg/g	101
Standard deviation, pg/g	9,5
Relative standard deviation, %	9,4
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



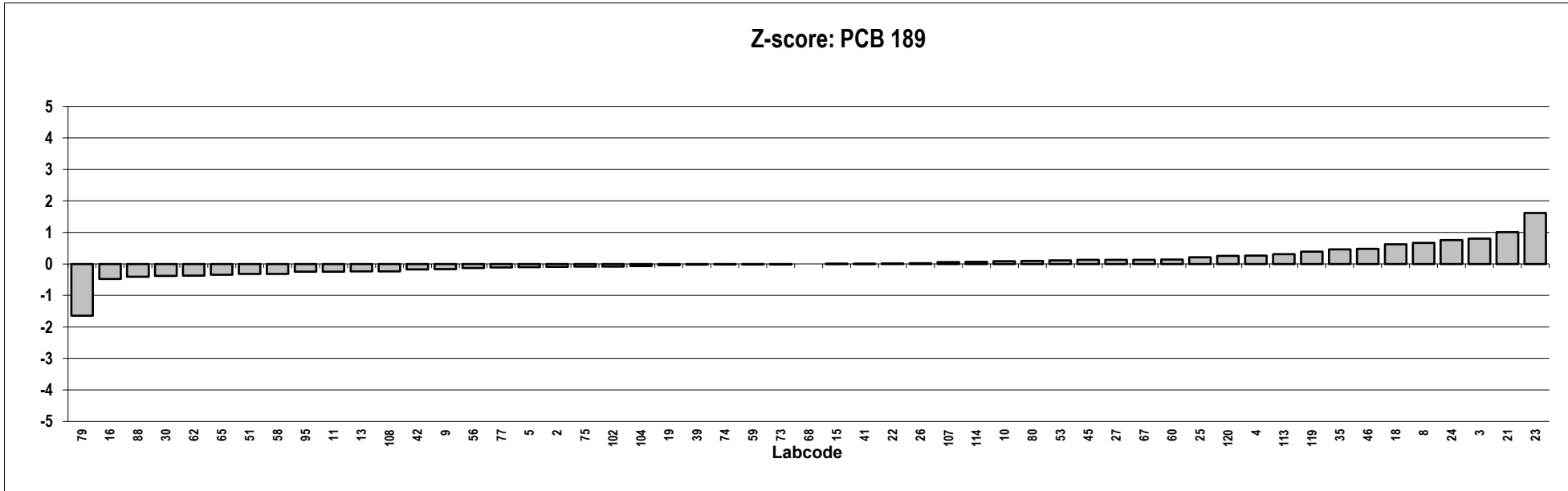
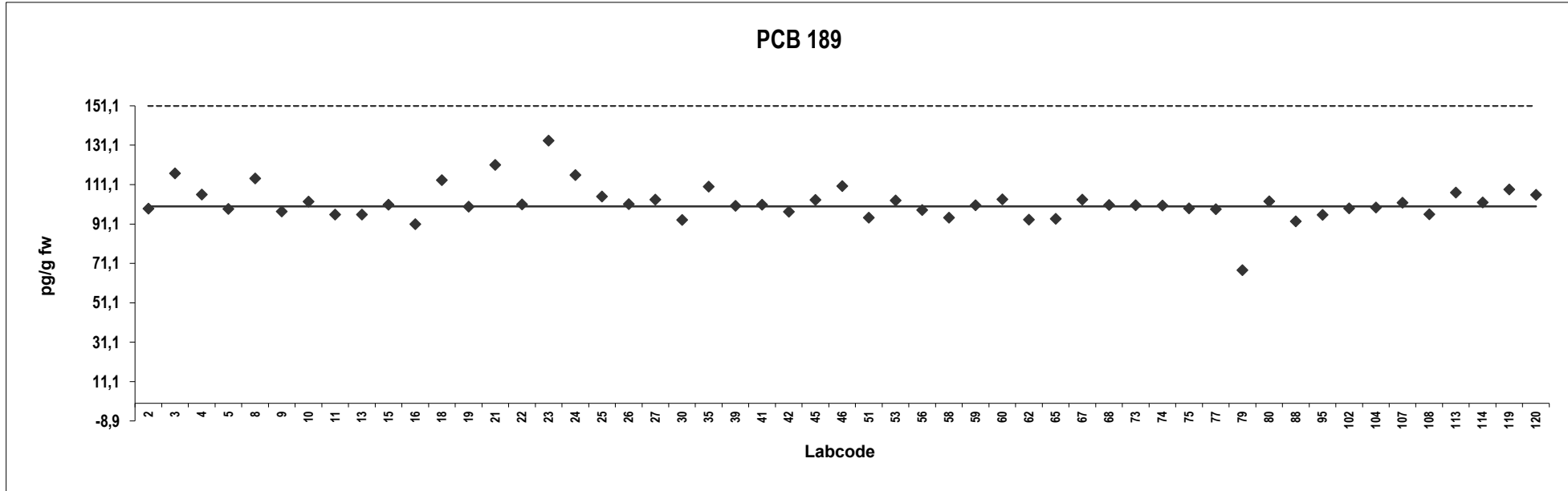
Analyte solution

Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
2	99	-0,094		102	99	-0,084	
3	117	0,80		104	99	-0,065	
4	106	0,26		107	102	0,056	
5	99	-0,10		108	96	-0,24	
8	114	0,67		113	107	0,31	
9	97	-0,16		114	102	0,065	
10	103	0,089		119	109	0,39	
11	96	-0,24		120	106	0,26	
13	96	-0,24					
15	101	0,0050					
16	91	-0,48					
18	113	0,63					
19	100	-0,039					
21	121	1,0					
22	101	0,017					
23	133	1,6					
24	116	0,76					
25	105	0,21					
26	101	0,025					
27	103	0,13					
30	93	-0,38					
35	110	0,46					
39	100	-0,019					
41	101	0,0069					
42	97	-0,17					
45	103	0,13					
46	110	0,48					
51	94	-0,32					
53	103	0,11					
56	98	-0,13					
58	94	-0,32					
59	101	-0,0083					
60	104	0,14					
62	93	-0,37					
65	94	-0,35					
67	103	0,13					
68	101	0,00					
73	101	-0,0051					
74	100	-0,017					
75	99	-0,084					
77	99	-0,11					
79	68	-1,6					
80	103	0,095					
88	92	-0,41					
95	96	-0,25					

Consensus statistics

Consensus median, pg/g	101
Median all values pg/g	101
Consensus mean, pg/g	102
Standard deviation, pg/g	9,1
Relative standard deviation, %	9,0
No. of values reported	53
No. of values removed	0
No. of reported non-detects	0



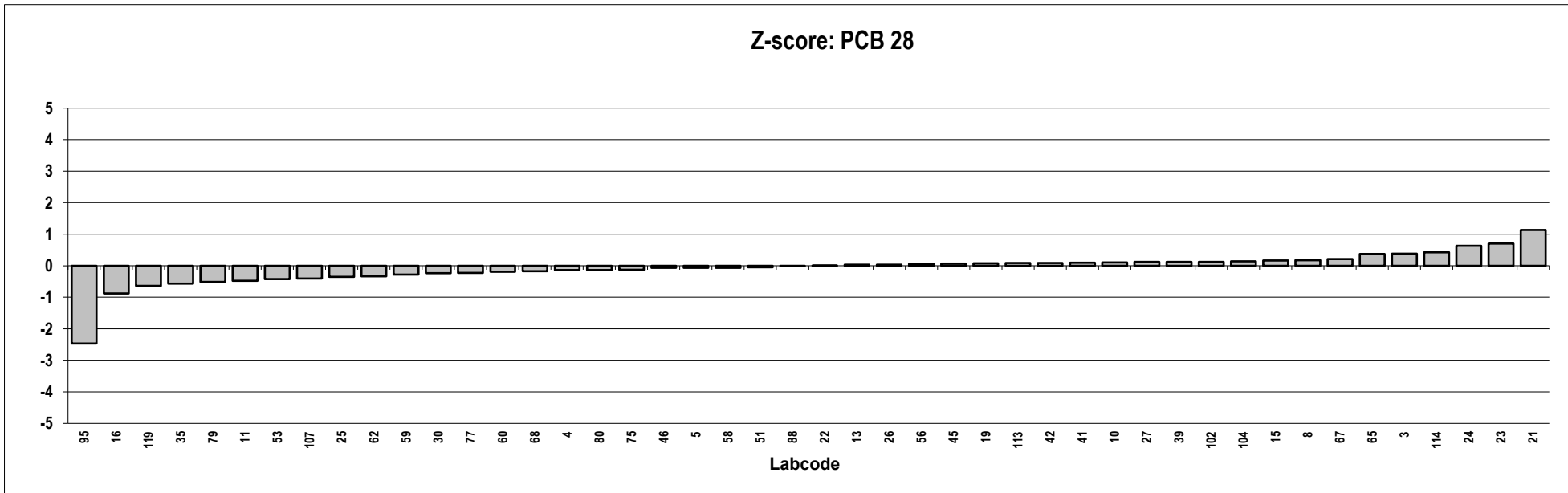
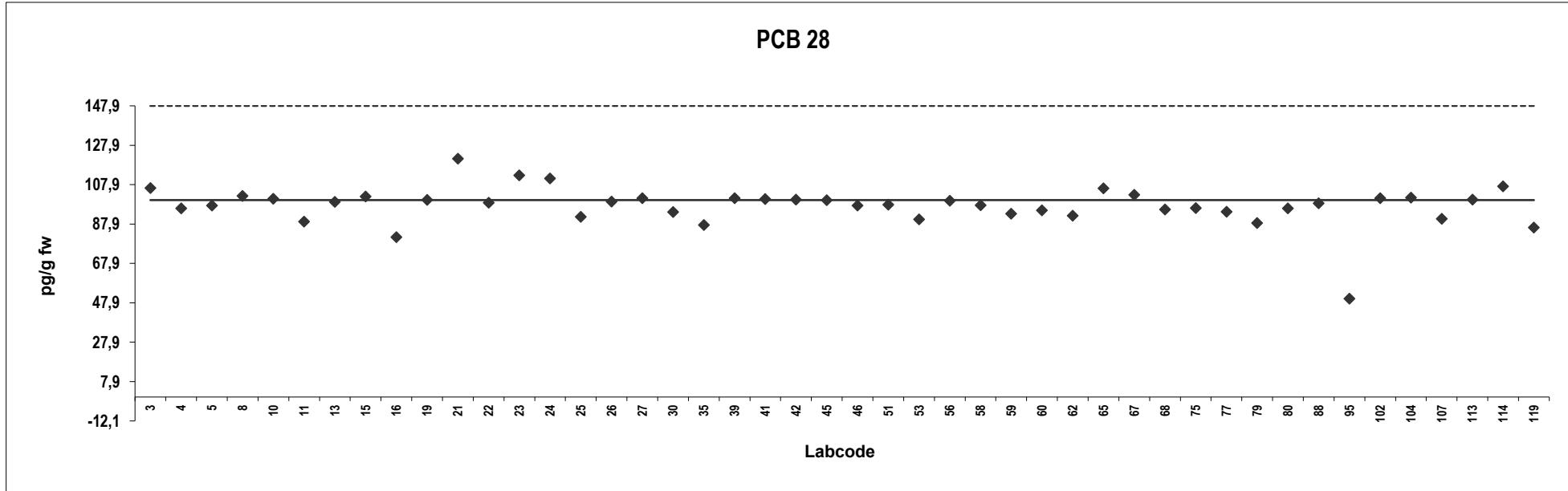
Analyte solution

Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	106	0,39		119	86	-0,64	
4	96	-0,14					
5	97	-0,068					
8	102	0,18					
10	101	0,11					
11	89	-0,48					
13	99	0,029					
15	102	0,16					
16	81	-0,89					
19	100	0,077					
21	121	1,1					
22	99	0,0068					
23	113	0,71					
24	111	0,63					
25	92	-0,36					
26	99	0,033					
27	101	0,12					
30	94	-0,24					
35	87	-0,57					
39	101	0,12					
41	100	0,096					
42	100	0,086					
45	100	0,072					
46	97	-0,069					
51	98	-0,047					
53	90	-0,42					
56	100	0,057					
58	97	-0,062					
59	93	-0,28					
60	95	-0,19					
62	92	-0,33					
65	106	0,38					
67	103	0,21					
68	95	-0,17					
75	96	-0,13					
77	94	-0,23					
79	88	-0,52					
80	96	-0,14					
88	98	-0,0068					
95	50	-2,5					
102	101	0,12					
104	101	0,14					
107	90	-0,41					
113	100	0,085					
114	107	0,43					

Consensus statistics

Consensus median, pg/g	99
Median all values pg/g	99
Consensus mean, pg/g	97
Standard deviation, pg/g	10
Relative standard deviation, %	10
No. of values reported	46
No. of values removed	0
No. of reported non-detects	0

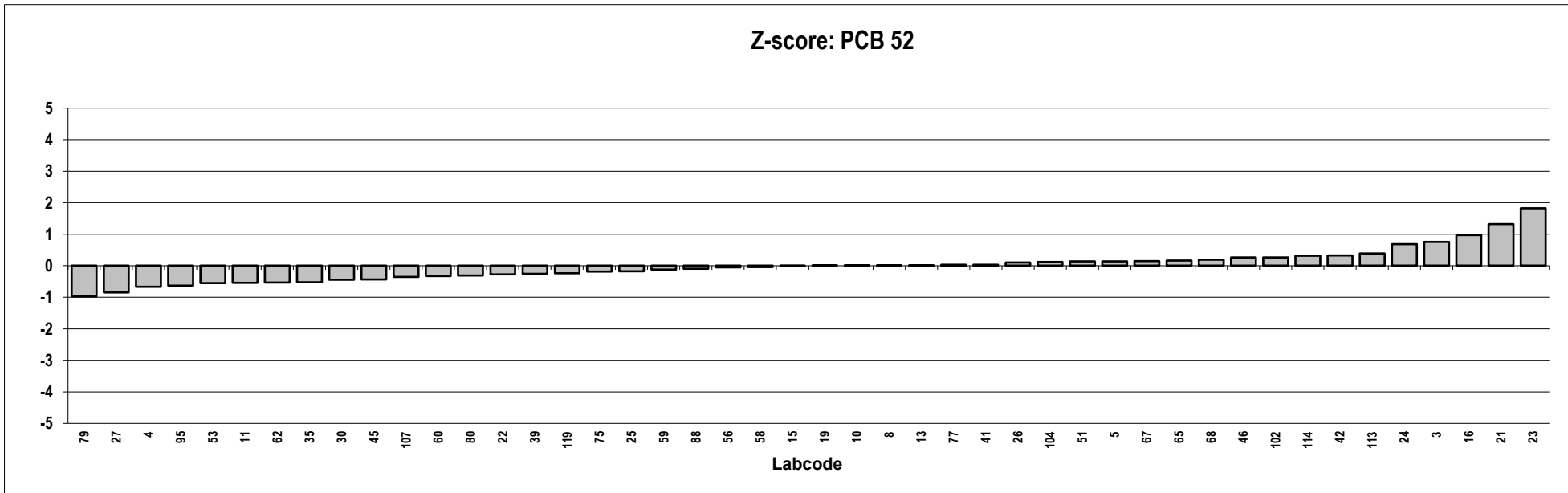
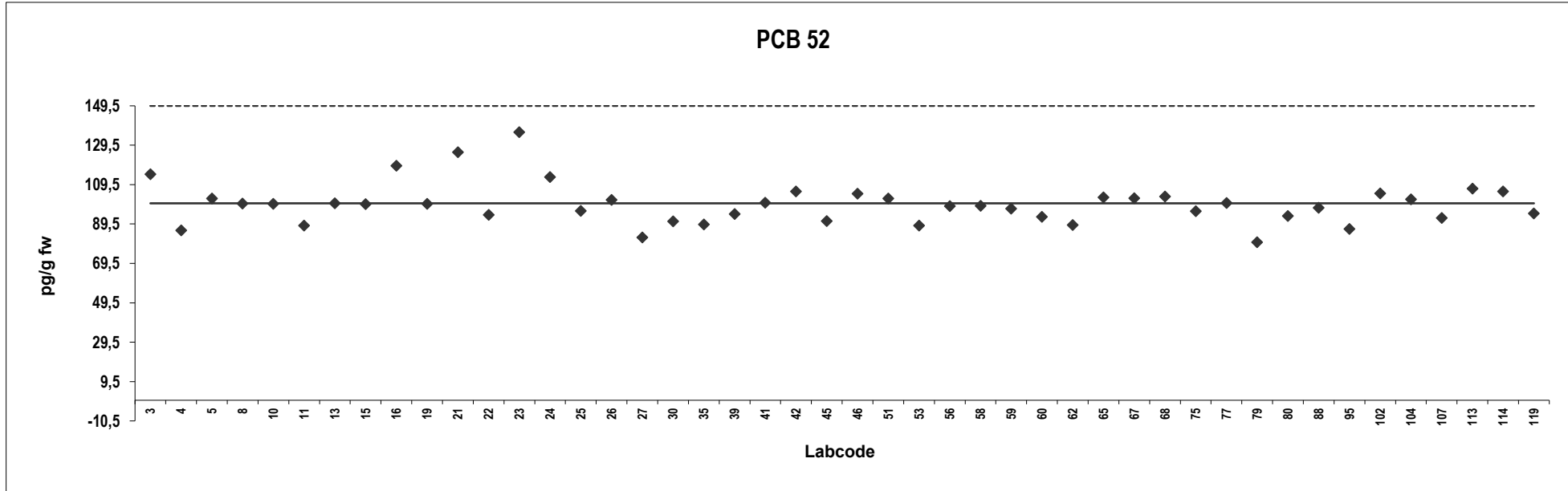


Analyte solution
Congener: PCB 52

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	115	0,76		119	95	-0,24	
4	86	-0,67					
5	102	0,14					
8	100	0,0074					
10	100	0,0067					
11	89	-0,55					
13	100	0,015					
15	100	-0,0034					
16	119	0,97					
19	100	0,0034					
21	126	1,3					
22	94	-0,28					
23	136	1,8					
24	113	0,68					
25	96	-0,18					
26	102	0,10					
27	83	-0,85					
30	91	-0,44					
35	89	-0,53					
39	95	-0,25					
41	100	0,035					
42	106	0,32					
45	91	-0,43					
46	105	0,26					
51	102	0,14					
53	89	-0,55					
56	99	-0,054					
58	99	-0,045					
59	97	-0,12					
60	93	-0,33					
62	89	-0,53					
65	103	0,17					
67	103	0,15					
68	104	0,19					
75	96	-0,18					
77	100	0,027					
79	80	-0,98					
80	94	-0,31					
88	98	-0,094					
95	87	-0,64					
102	105	0,27					
104	102	0,12					
107	93	-0,36					
113	107	0,39					
114	106	0,32					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	100
Standard deviation, pg/g	10
Relative standard deviation, %	11
No. of values reported	46
No. of values removed	0
No. of reported non-detects	0



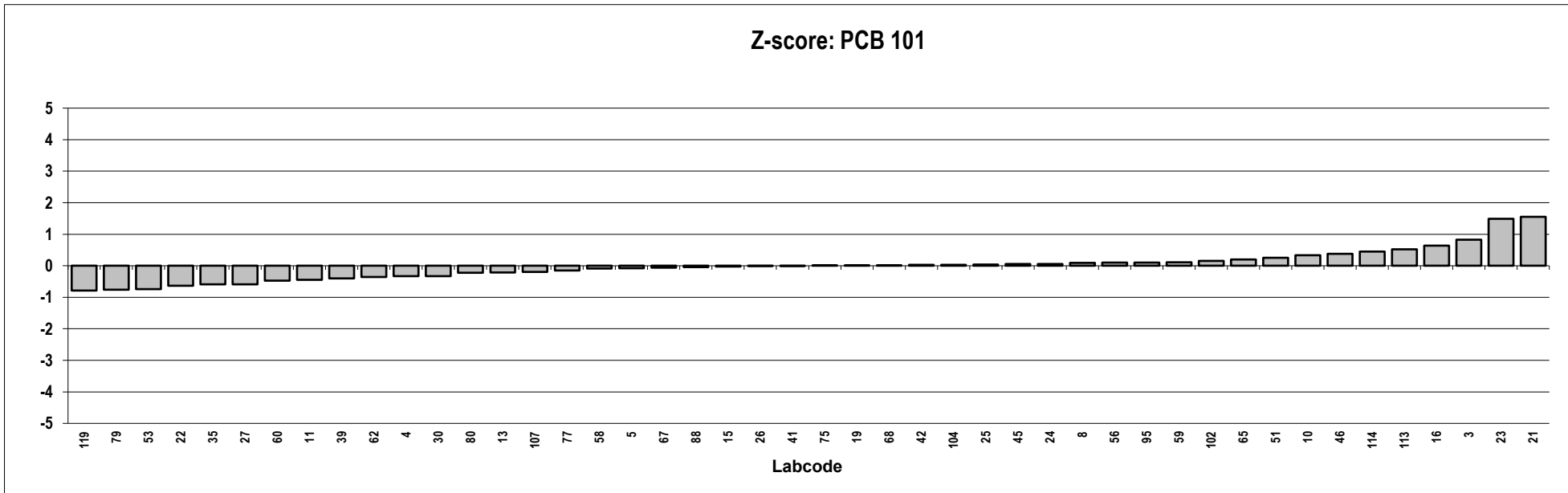
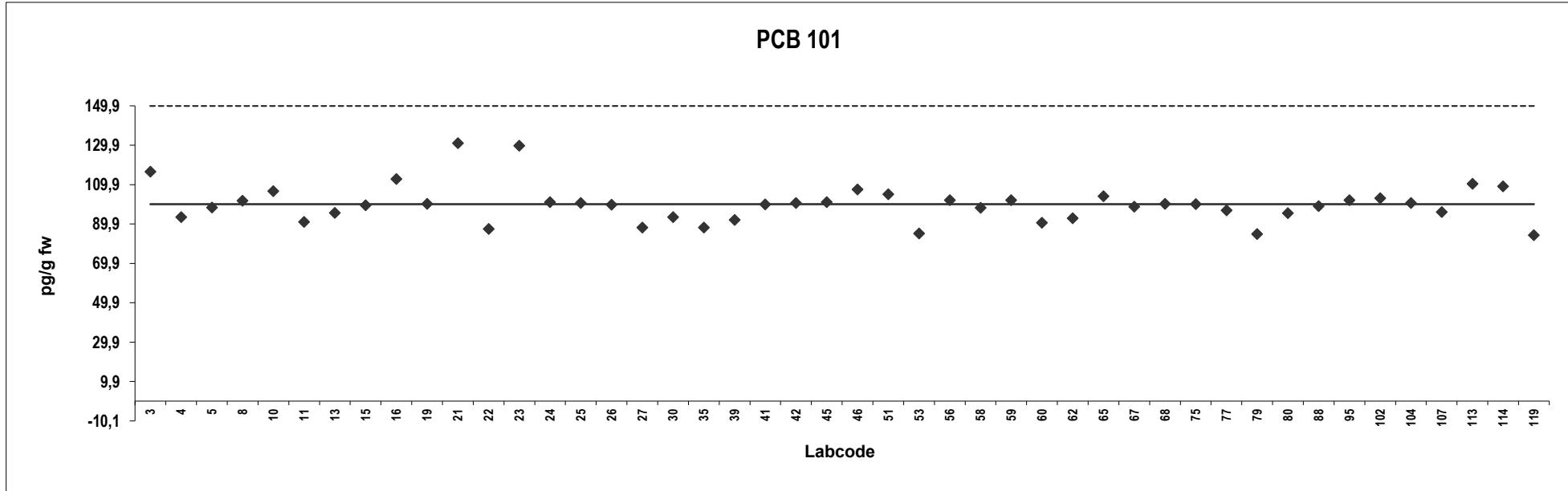
Analyte solution

Congener: PCB 101

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	117	0,83		119	84	-0,79	
4	93	-0,33					
5	98	-0,079					
8	102	0,090					
10	107	0,33					
11	91	-0,45					
13	96	-0,22					
15	99	-0,028					
16	113	0,64					
19	100	0,0070					
21	131	1,6					
22	87	-0,63					
23	130	1,5					
24	101	0,055					
25	101	0,034					
26	100	-0,011					
27	88	-0,59					
30	93	-0,33					
35	88	-0,59					
39	92	-0,40					
41	100	-0,0021					
42	101	0,029					
45	101	0,052					
46	107	0,38					
51	105	0,26					
53	85	-0,74					
56	102	0,10					
58	98	-0,088					
59	102	0,11					
60	91	-0,47					
62	93	-0,35					
65	104	0,20					
67	99	-0,058					
68	100	0,012					
75	100	0,0021					
77	97	-0,15					
79	85	-0,76					
80	96	-0,22					
88	99	-0,047					
95	102	0,10					
102	103	0,15					
104	101	0,029					
107	96	-0,20					
113	110	0,52					
114	109	0,45					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	100
Standard deviation, pg/g	9,7
Relative standard deviation, %	9,7
No. of values reported	46
No. of values removed	0
No. of reported non-detects	0



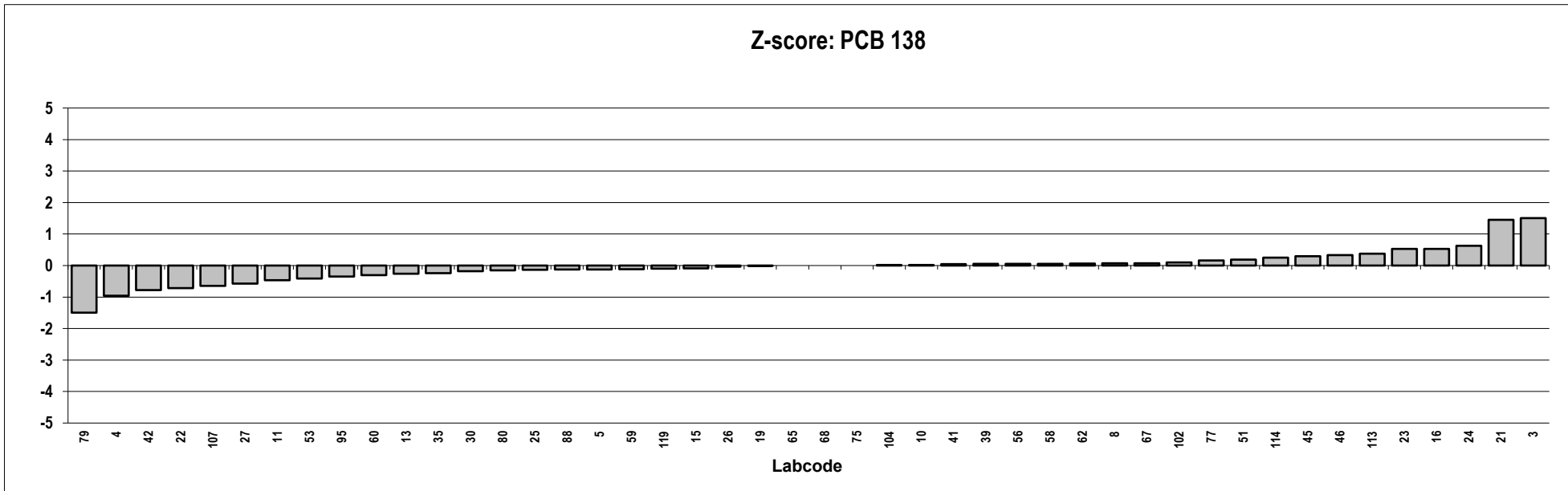
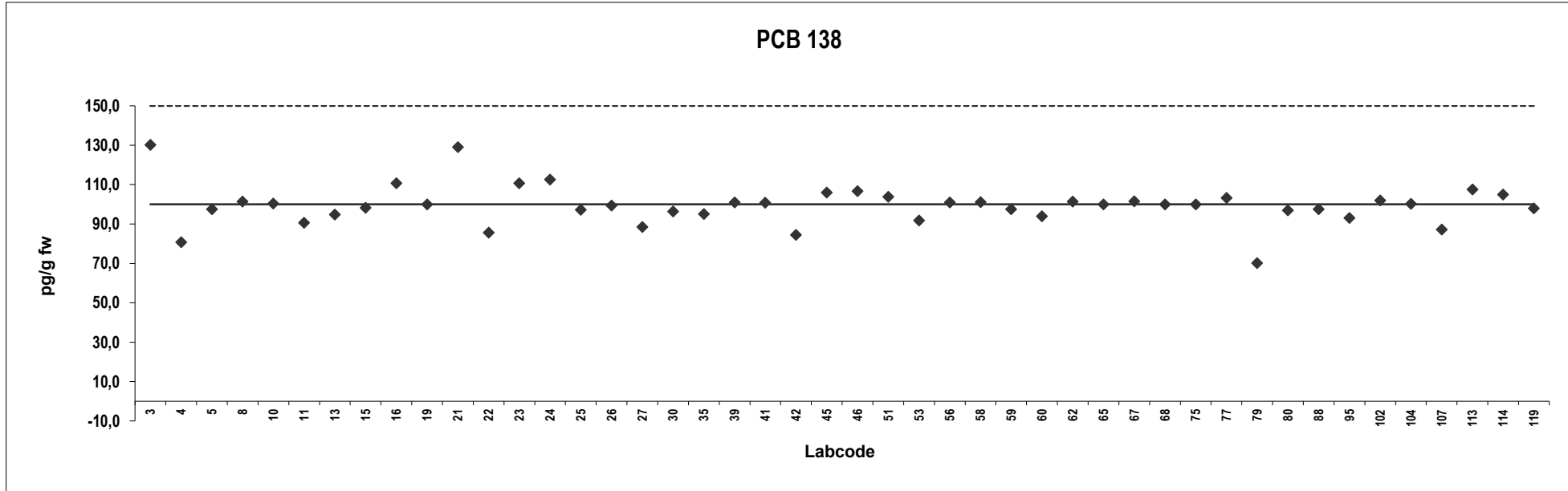
Analyte solution

Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	130	1,5		119	98	-0,10	
4	81	-0,96					
5	98	-0,12					
8	101	0,069					
10	100	0,020					
11	91	-0,47					
13	95	-0,26					
15	98	-0,090					
16	111	0,53					
19	100	-0,0033					
21	129	1,5					
22	86	-0,72					
23	111	0,53					
24	113	0,63					
25	97	-0,14					
26	99	-0,033					
27	88	-0,58					
30	96	-0,18					
35	95	-0,25					
39	101	0,050					
41	101	0,042					
42	84	-0,78					
45	106	0,30					
46	107	0,34					
51	104	0,19					
53	92	-0,41					
56	101	0,050					
58	101	0,053					
59	98	-0,12					
60	94	-0,30					
62	101	0,066					
65	100	0,00					
67	102	0,075					
68	100	0,00					
75	100	0,00					
77	103	0,16					
79	70	-1,5					
80	97	-0,16					
88	98	-0,12					
95	93	-0,35					
102	102	0,10					
104	100	0,014					
107	87	-0,64					
113	108	0,38					
114	105	0,25					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	99
Standard deviation, pg/g	10
Relative standard deviation, %	10
No. of values reported	46
No. of values removed	0
No. of reported non-detects	0



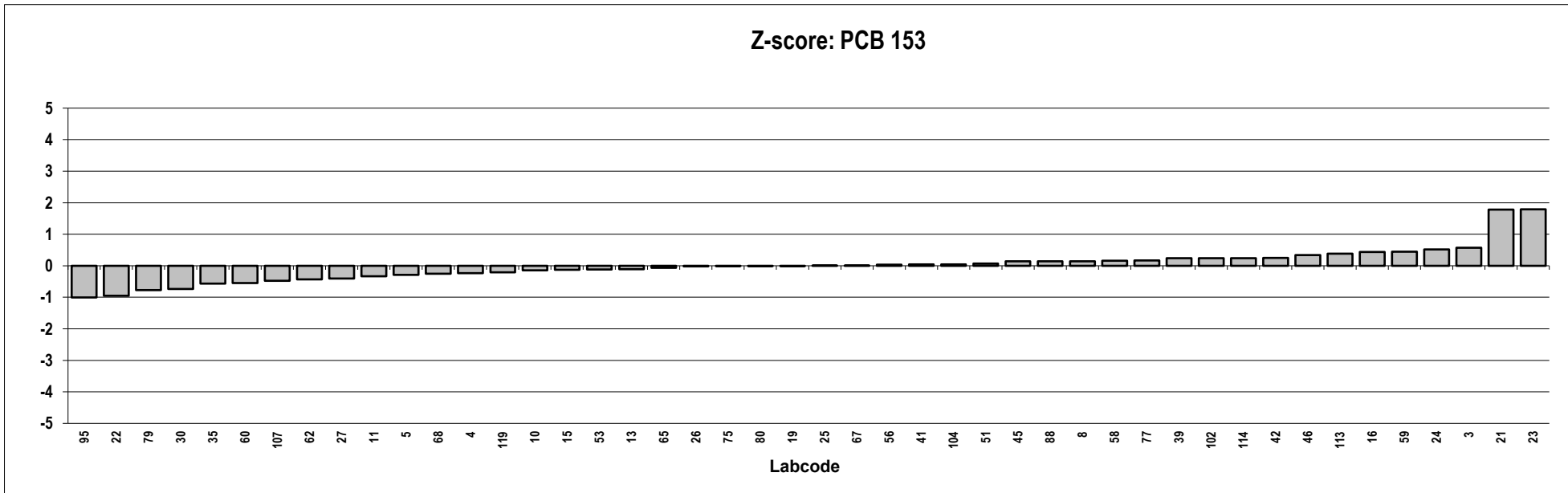
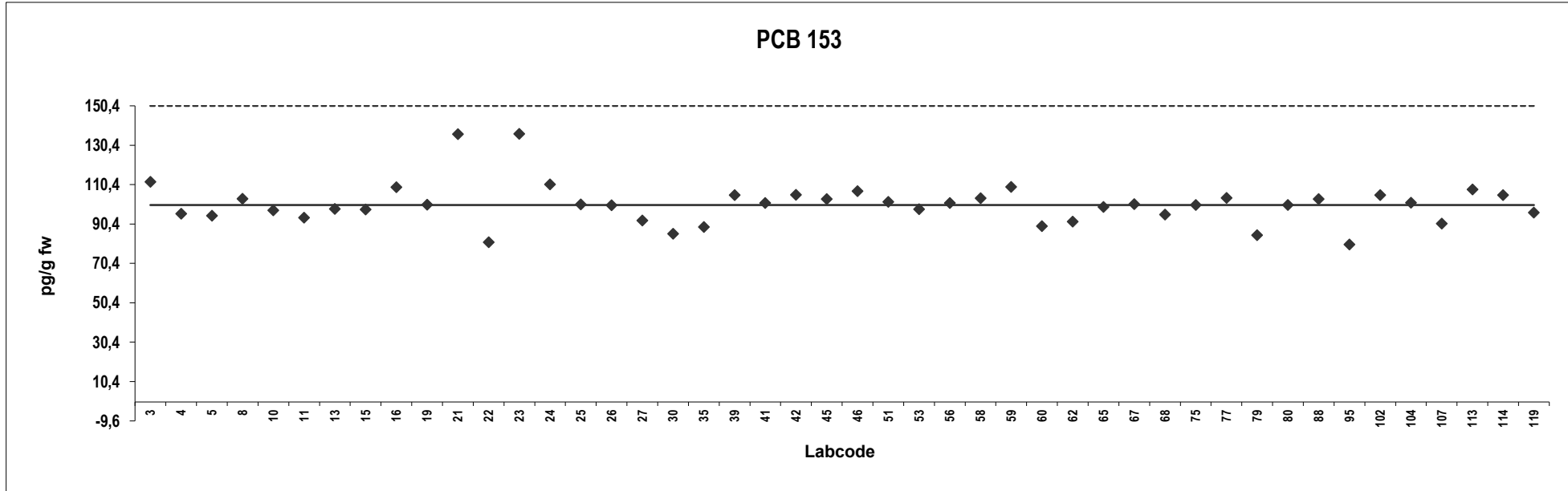
Analyte solution

Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	112	0,57		119	96	-0,21	
4	96	-0,23					
5	95	-0,28					
8	103	0,14					
10	97	-0,15					
11	94	-0,33					
13	98	-0,11					
15	98	-0,13					
16	109	0,44					
19	100	-0,0011					
21	136	1,8					
22	81	-0,95					
23	136	1,8					
24	111	0,51					
25	100	0,0011					
26	100	-0,017					
27	92	-0,40					
30	85	-0,74					
35	89	-0,57					
39	105	0,24					
41	101	0,041					
42	105	0,25					
45	103	0,14					
46	107	0,34					
51	102	0,071					
53	98	-0,12					
56	101	0,038					
58	103	0,16					
59	109	0,45					
60	89	-0,55					
62	92	-0,43					
65	99	-0,062					
67	100	0,0076					
68	95	-0,26					
75	100	-0,012					
77	104	0,16					
79	85	-0,78					
80	100	-0,012					
88	103	0,14					
95	80	-1,0					
102	105	0,24					
104	101	0,043					
107	91	-0,48					
113	108	0,38					
114	105	0,24					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	100
Standard deviation, pg/g	11
Relative standard deviation, %	11
No. of values reported	46
No. of values removed	0
No. of reported non-detects	0



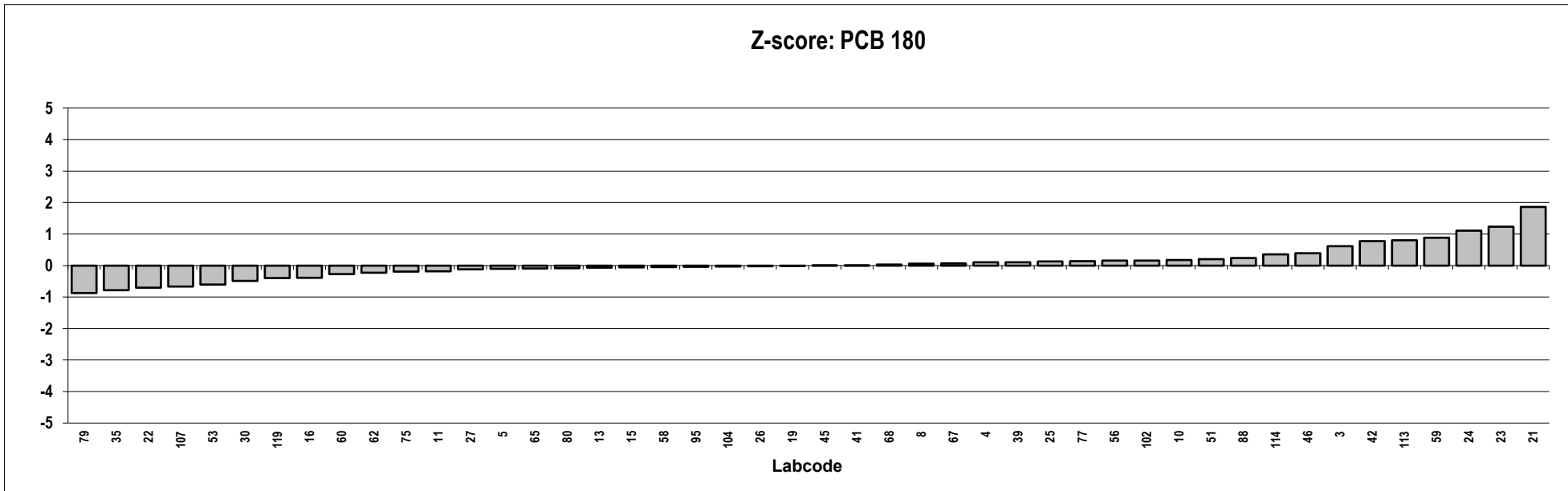
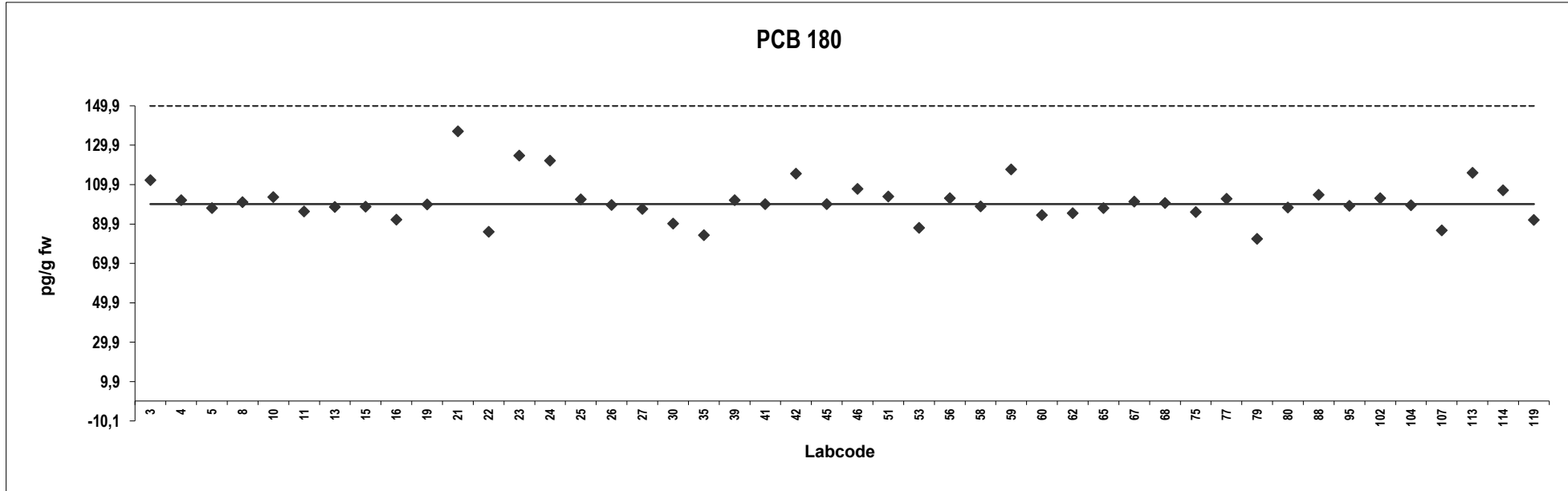
Analyte solution

Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	112	0,62		119	92	-0,40	
4	102	0,10					
5	98	-0,10					
8	101	0,056					
10	104	0,18					
11	96	-0,18					
13	99	-0,067					
15	99	-0,061					
16	92	-0,39					
19	100	-0,0038					
21	137	1,9					
22	86	-0,70					
23	125	1,2					
24	122	1,1					
25	102	0,13					
26	100	-0,018					
27	98	-0,12					
30	90	-0,49					
35	84	-0,79					
39	102	0,10					
41	100	0,0042					
42	115	0,78					
45	100	0,0038					
46	108	0,39					
51	104	0,20					
53	88	-0,60					
56	103	0,15					
58	99	-0,053					
59	118	0,88					
60	94	-0,27					
62	95	-0,23					
65	98	-0,096					
67	101	0,069					
68	101	0,034					
75	96	-0,20					
77	103	0,14					
79	82	-0,88					
80	98	-0,086					
88	105	0,24					
95	99	-0,041					
102	103	0,15					
104	99	-0,028					
107	87	-0,67					
113	116	0,80					
114	107	0,35					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	10
Relative standard deviation, %	10
No. of values reported	46
No. of values removed	0
No. of reported non-detects	0



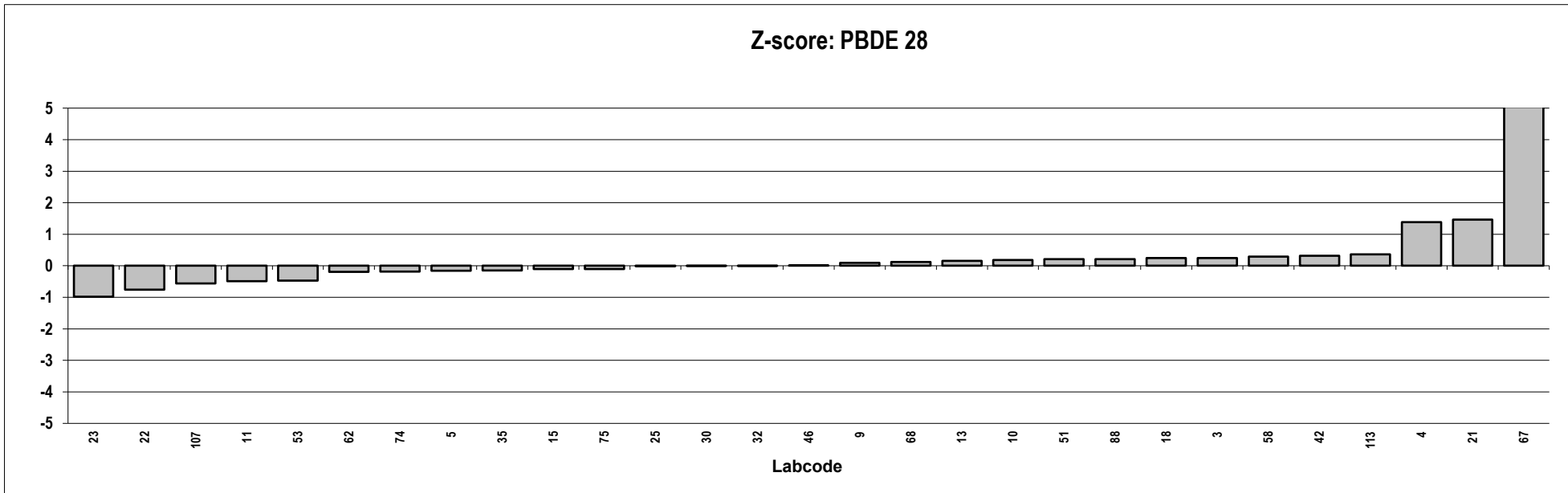
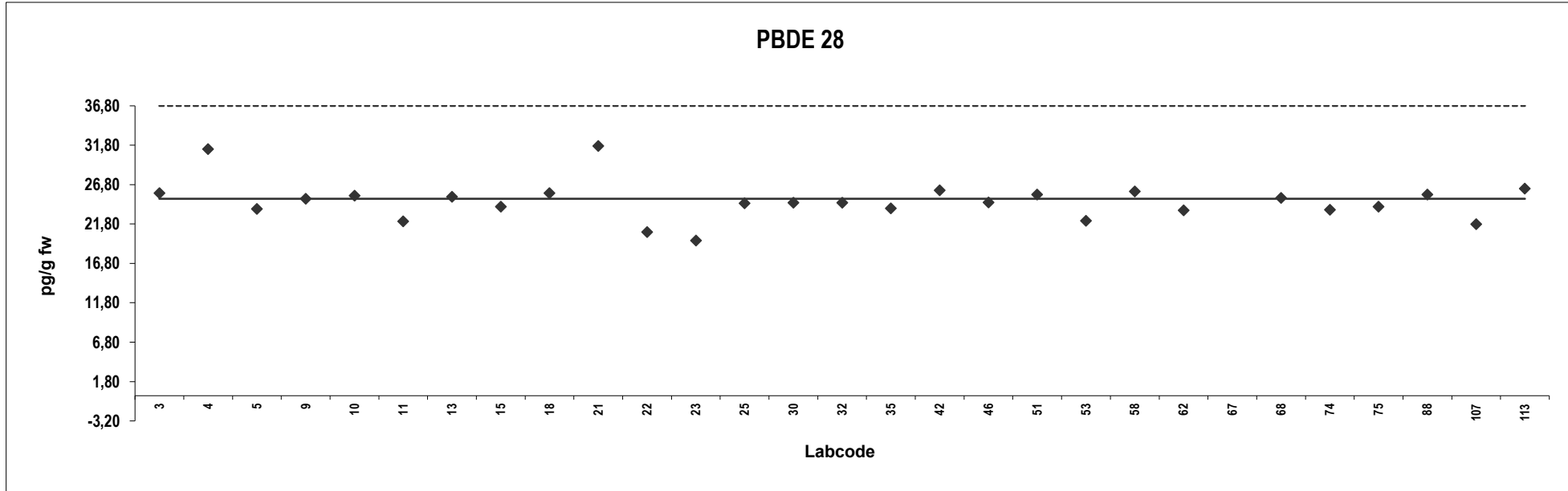
Analyte solution

Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	26	0,25					
4	31	1,4					
5	24	-0,16					
9	25	0,096					
10	25	0,18					
11	22	-0,49					
13	25	0,15					
15	24	-0,11					
18	26	0,24					
21	32	1,5					
22	21	-0,76					
23	20	-0,98					
25	24	-0,019					
30	25	-0,0033					
32	25	-0,0033					
35	24	-0,15					
42	26	0,32					
46	25	0,0033					
51	26	0,21					
53	22	-0,47					
58	26	0,29					
62	24	-0,20					
67	60	7,2	Outlier				
68	25	0,12					
74	24	-0,19					
75	24	-0,11					
88	26	0,21					
107	22	-0,56					
113	26	0,36					

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	25
Standard deviation, pg/g	2,5
Relative standard deviation, %	10
No. of values reported	29
No. of values removed	1
No. of reported non-detects	0



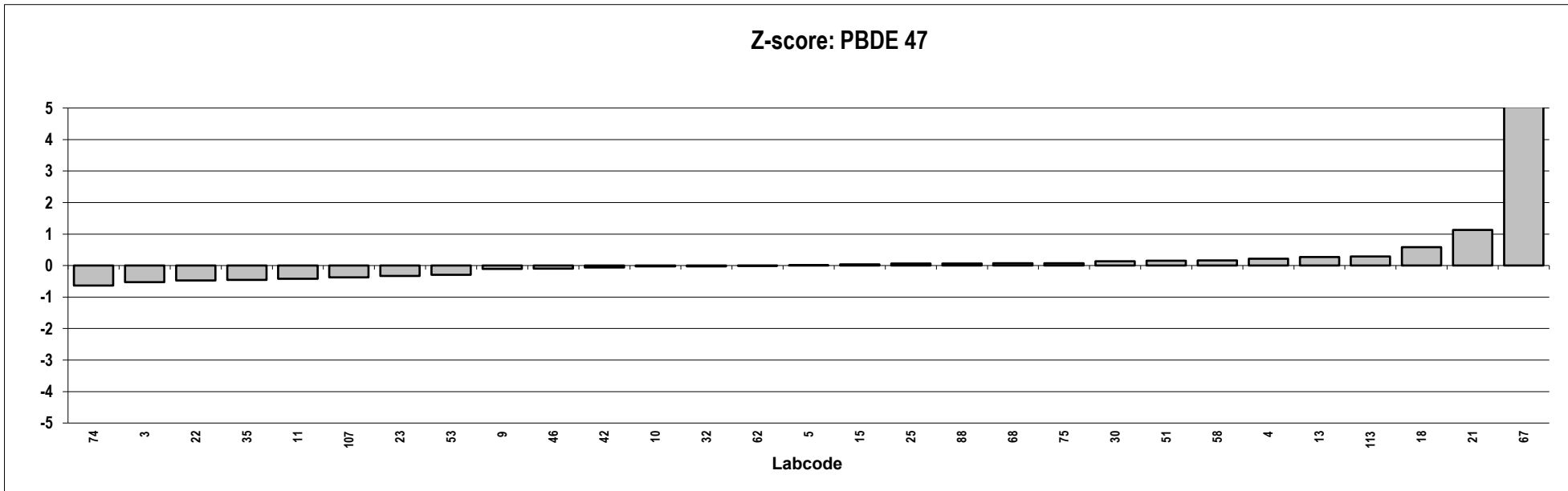
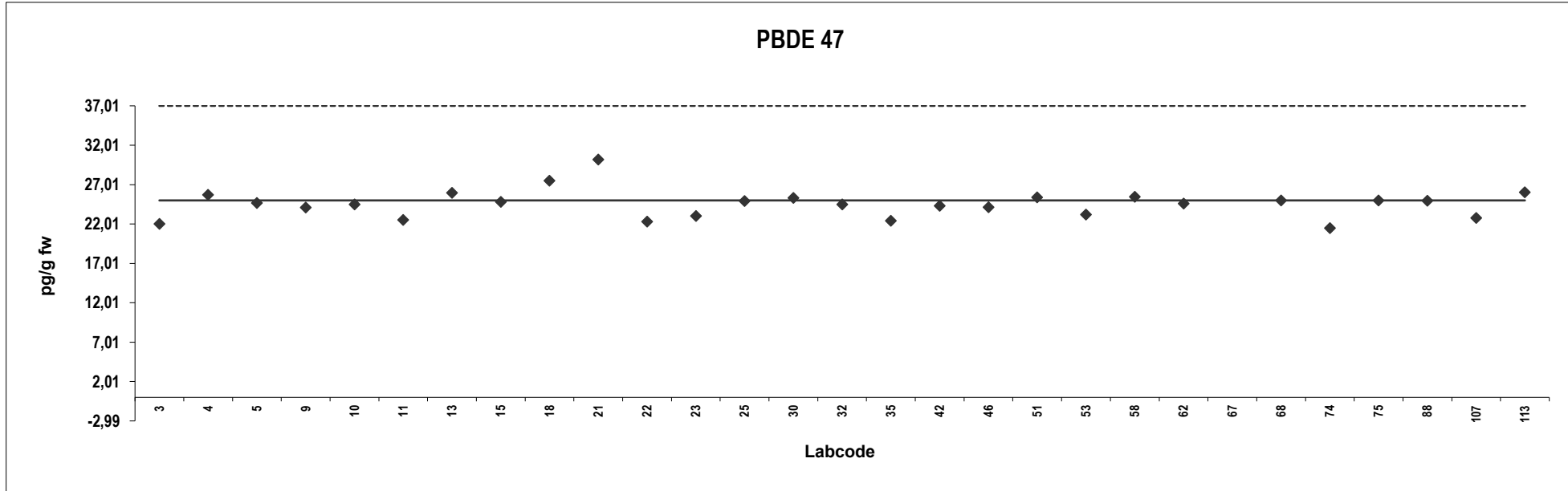
Analyte solution

Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	22	-0,53					
4	26	0,22					
5	25	0,0080					
9	24	-0,11					
10	25	-0,027					
11	23	-0,42					
13	26	0,27					
15	25	0,034					
18	28	0,58					
21	30	1,1					
22	22	-0,47					
23	23	-0,33					
25	25	0,061					
30	25	0,14					
32	25	-0,027					
35	22	-0,45					
42	24	-0,065					
46	24	-0,10					
51	25	0,16					
53	23	-0,29					
58	25	0,17					
62	25	-0,0080					
67	58	6,7	Outlier				
68	25	0,075					
74	22	-0,64					
75	25	0,075					
88	25	0,066					
107	23	-0,38					
113	26	0,29					

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	25
Standard deviation, pg/g	1,8
Relative standard deviation, %	7,3
No. of values reported	29
No. of values removed	1
No. of reported non-detects	0



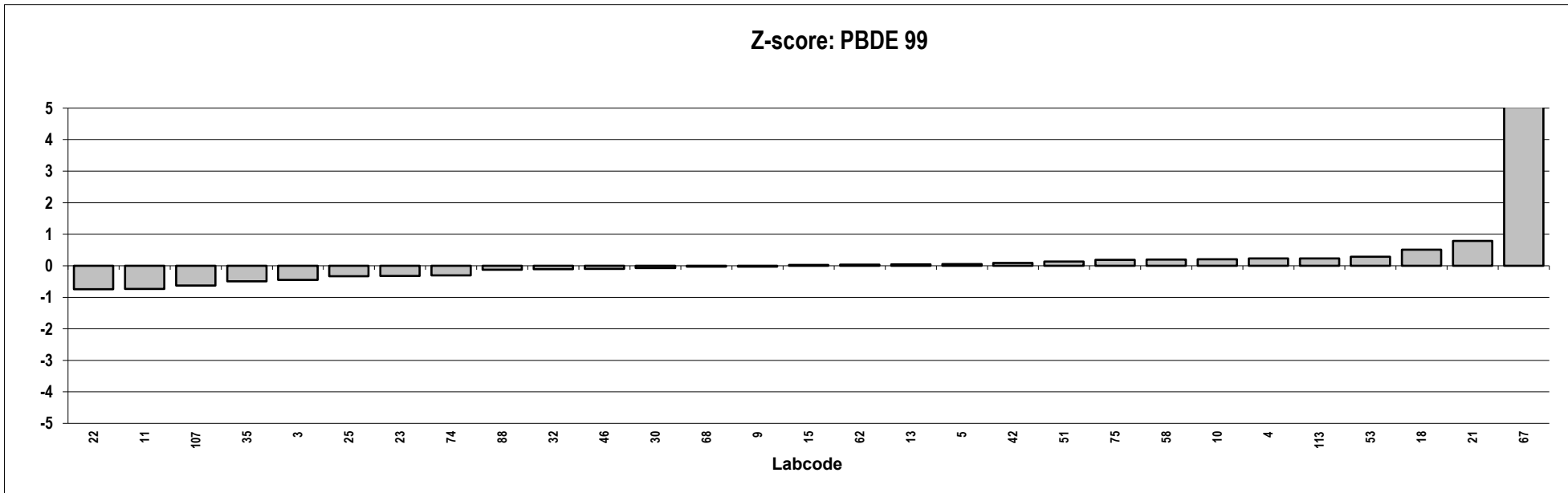
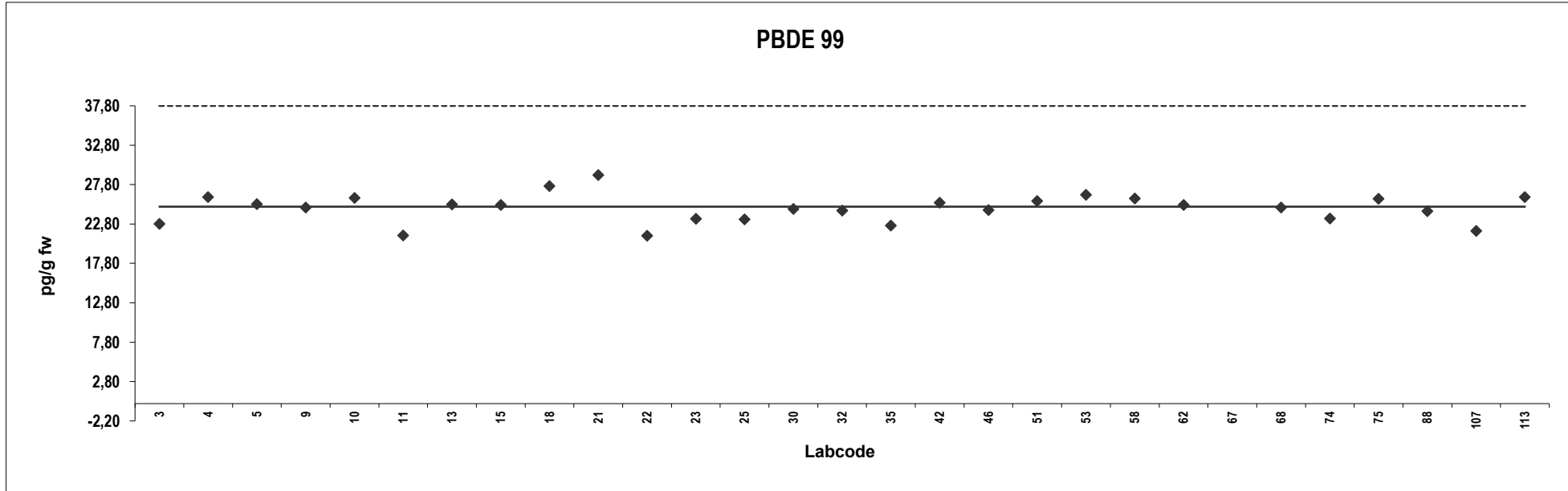
Analyte solution

Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	23	-0,45					
4	26	0,23					
5	25	0,054					
9	25	-0,030					
10	26	0,21					
11	21	-0,74					
13	25	0,044					
15	25	0,030					
18	28	0,51					
21	29	0,79					
22	21	-0,74					
23	23	-0,32					
25	23	-0,33					
30	25	-0,070					
32	25	-0,11					
35	23	-0,49					
42	25	0,086					
46	25	-0,097					
51	26	0,13					
53	27	0,29					
58	26	0,20					
62	25	0,032					
67	59	6,7	Outlier				
68	25	-0,030					
74	24	-0,31					
75	26	0,19					
88	24	-0,13					
107	22	-0,62					
113	26	0,24					

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	25
Standard deviation, pg/g	1,8
Relative standard deviation, %	7,2
No. of values reported	29
No. of values removed	1
No. of reported non-detects	0



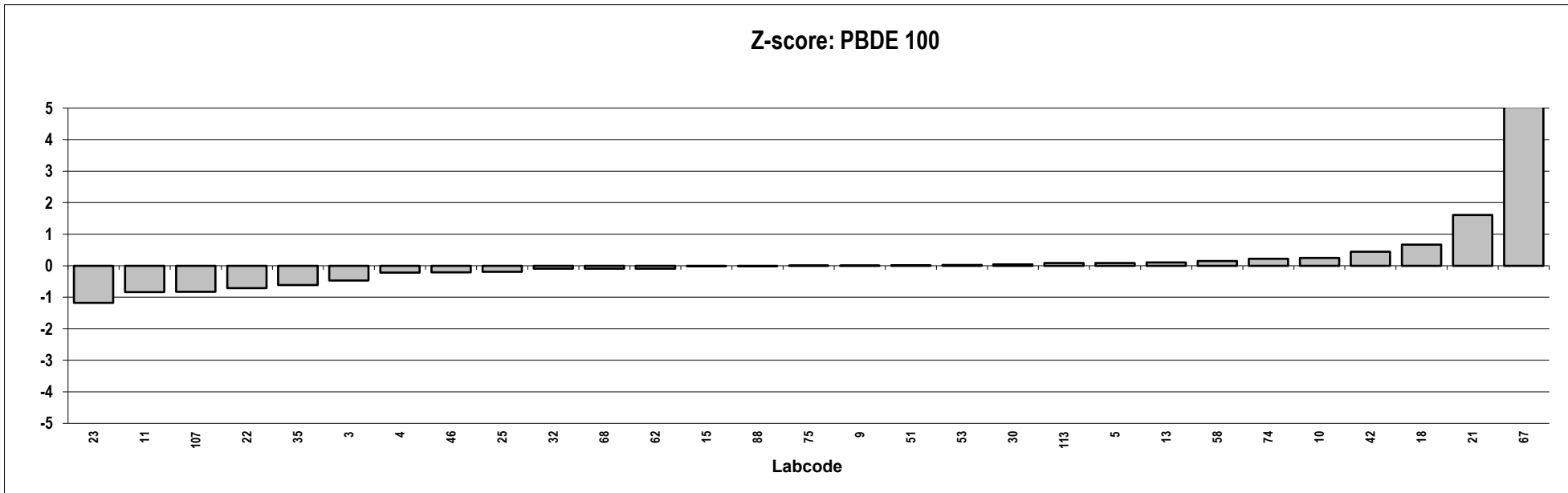
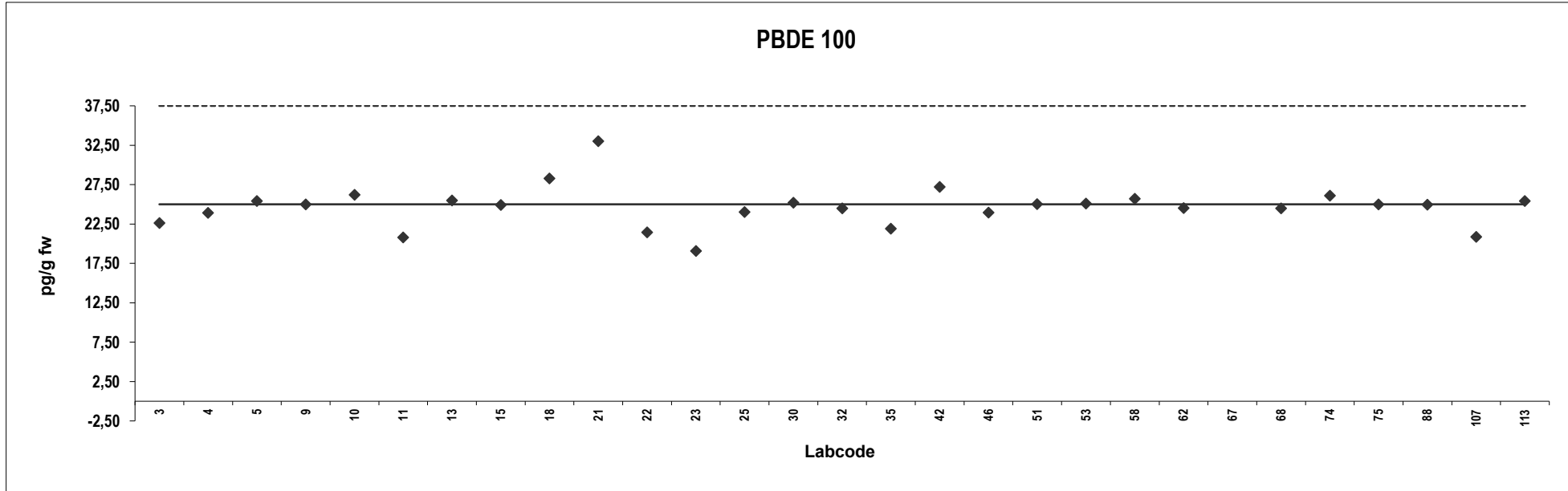
Analyte solution

Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	23	-0,47					
4	24	-0,22					
5	25	0,088					
9	25	0,0047					
10	26	0,24					
11	21	-0,83					
13	25	0,10					
15	25	-0,016					
18	28	0,67					
21	33	1,6					
22	21	-0,71					
23	19	-1,2					
25	24	-0,19					
30	25	0,044					
32	25	-0,096					
35	22	-0,62					
42	27	0,45					
46	24	-0,21					
51	25	0,012					
53	25	0,024					
58	26	0,15					
62	25	-0,093					
67	63	7,6	Outlier				
68	25	-0,096					
74	26	0,22					
75	25	0,0045					
88	25	-0,0045					
107	21	-0,83					
113	25	0,087					

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	25
Standard deviation, pg/g	2,6
Relative standard deviation, %	11
No. of values reported	29
No. of values removed	1
No. of reported non-detects	0



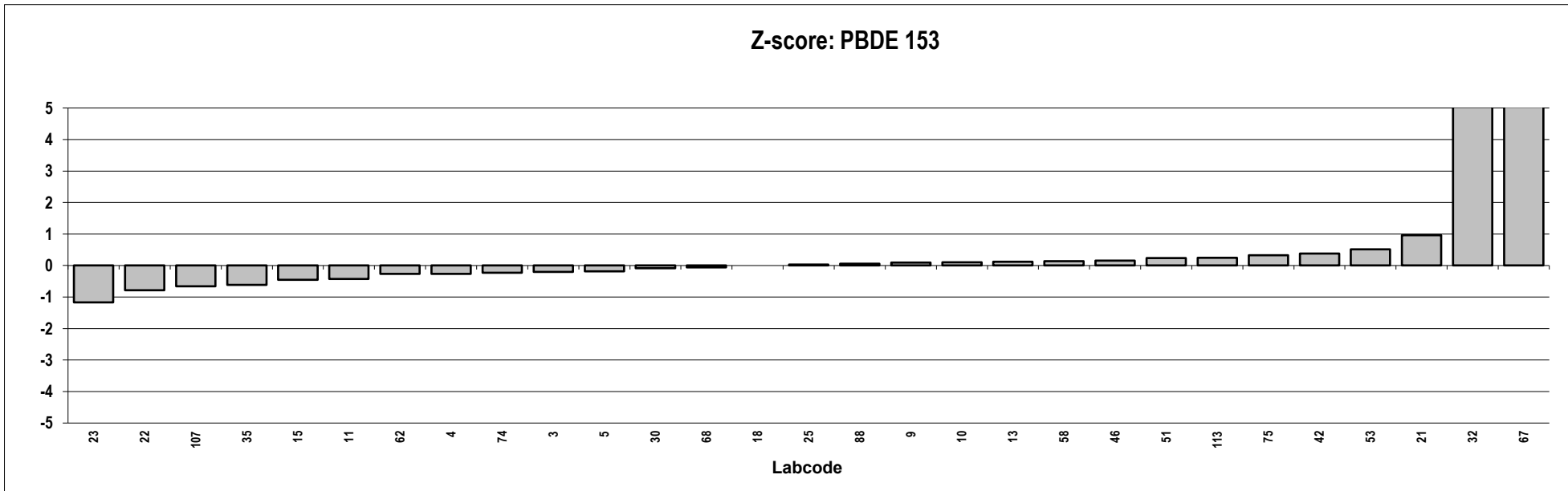
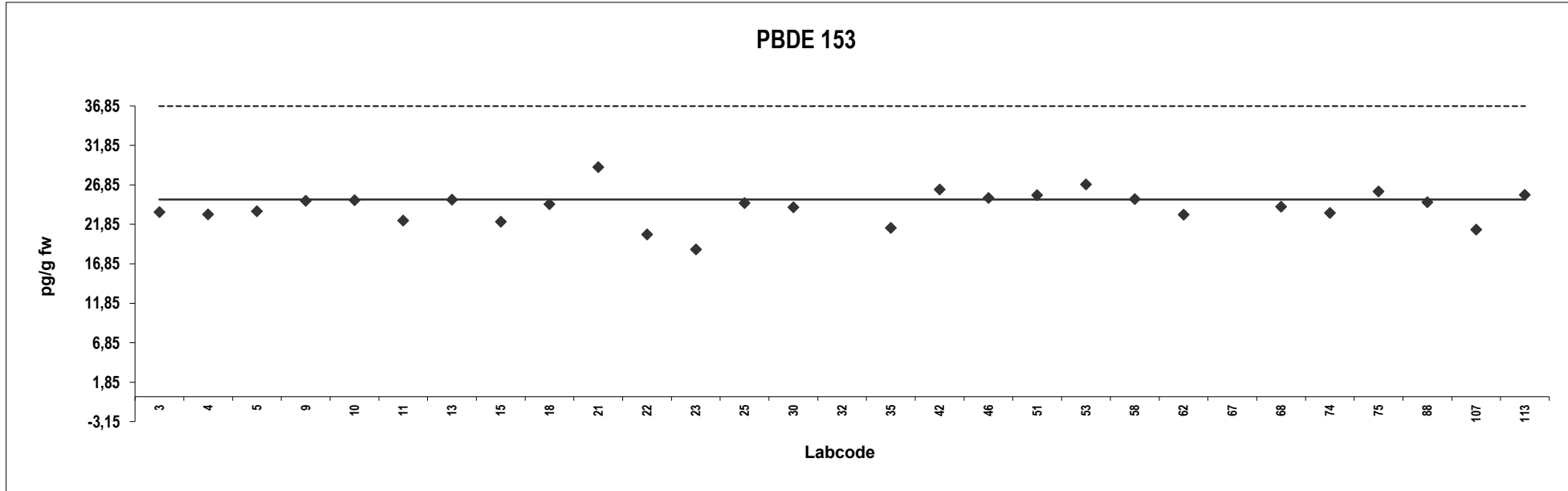
Analyte solution

Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	23	-0,20					
4	23	-0,27					
5	23	-0,19					
9	25	0,091					
10	25	0,10					
11	22	-0,43					
13	25	0,12					
15	22	-0,45					
18	24	0,00					
21	29	0,96					
22	21	-0,78					
23	19	-1,2					
25	25	0,034					
30	24	-0,082					
32	49	5,0	Outlier				
35	21	-0,61					
42	26	0,38					
46	25	0,16					
51	26	0,24					
53	27	0,51					
58	25	0,14					
62	23	-0,27					
67	57	6,8	Outlier				
68	24	-0,061					
74	23	-0,23					
75	26	0,33					
88	25	0,056					
107	21	-0,66					
113	26	0,25					

Consensus statistics

Consensus median, pg/g	24
Median all values pg/g	25
Consensus mean, pg/g	24
Standard deviation, pg/g	2,1
Relative standard deviation, %	8,9
No. of values reported	29
No. of values removed	2
No. of reported non-detects	0



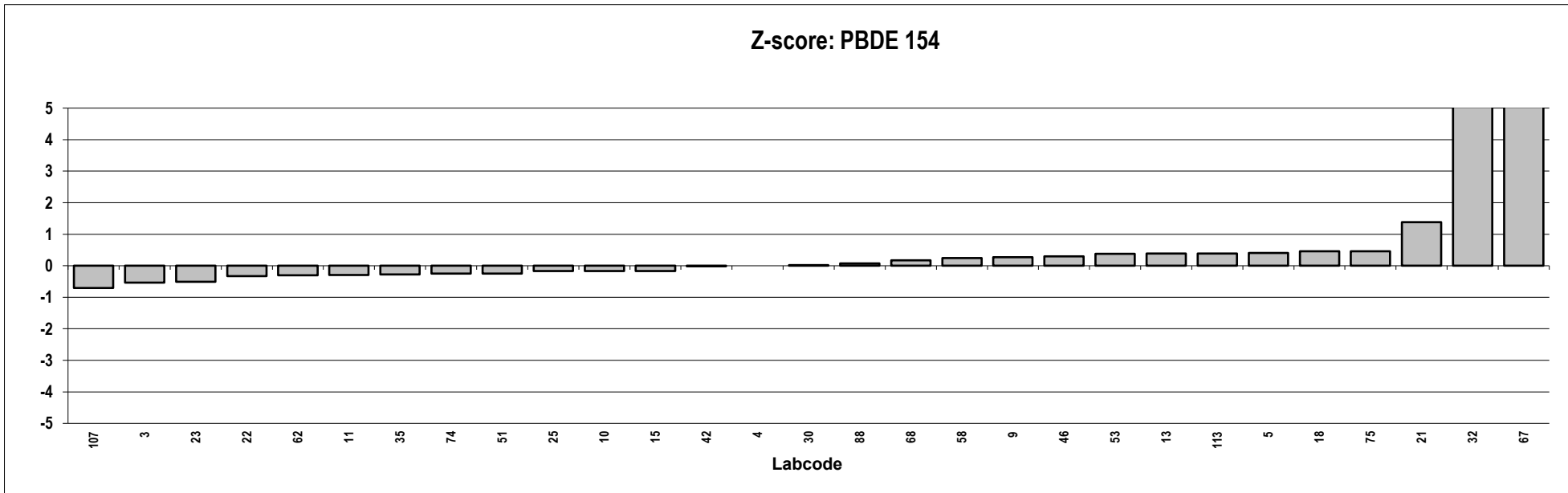
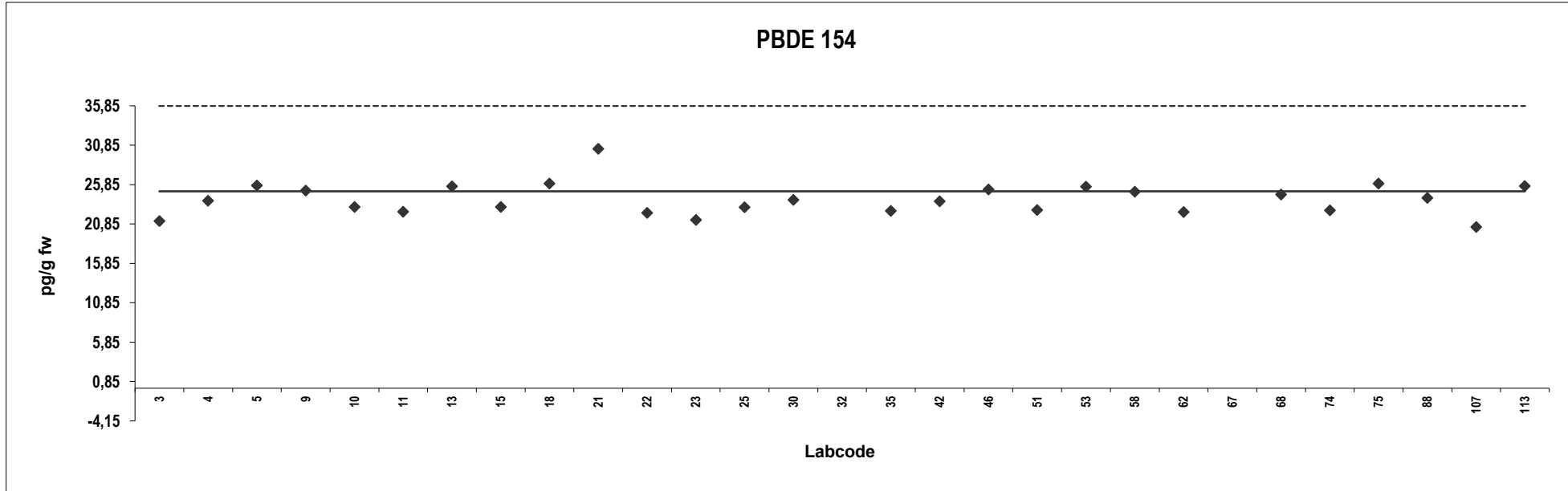
Analyte solution

Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	21	-0,54					
4	24	0,00					
5	26	0,41					
9	25	0,27					
10	23	-0,17					
11	22	-0,29					
13	26	0,39					
15	23	-0,17					
18	26	0,46					
21	30	1,4					
22	22	-0,33					
23	21	-0,51					
25	23	-0,17					
30	24	0,021					
32	49	5,3	Outlier				
35	23	-0,27					
42	24	-0,017					
46	25	0,30					
51	23	-0,24					
53	26	0,38					
58	25	0,24					
62	22	-0,30					
67	58	7,1	Outlier				
68	25	0,17					
74	23	-0,25					
75	26	0,46					
88	24	0,076					
107	20	-0,70					
113	26	0,39					

Consensus statistics

Consensus median, pg/g	24
Median all values pg/g	24
Consensus mean, pg/g	24
Standard deviation, pg/g	2,0
Relative standard deviation, %	8,5
No. of values reported	29
No. of values removed	2
No. of reported non-detects	0



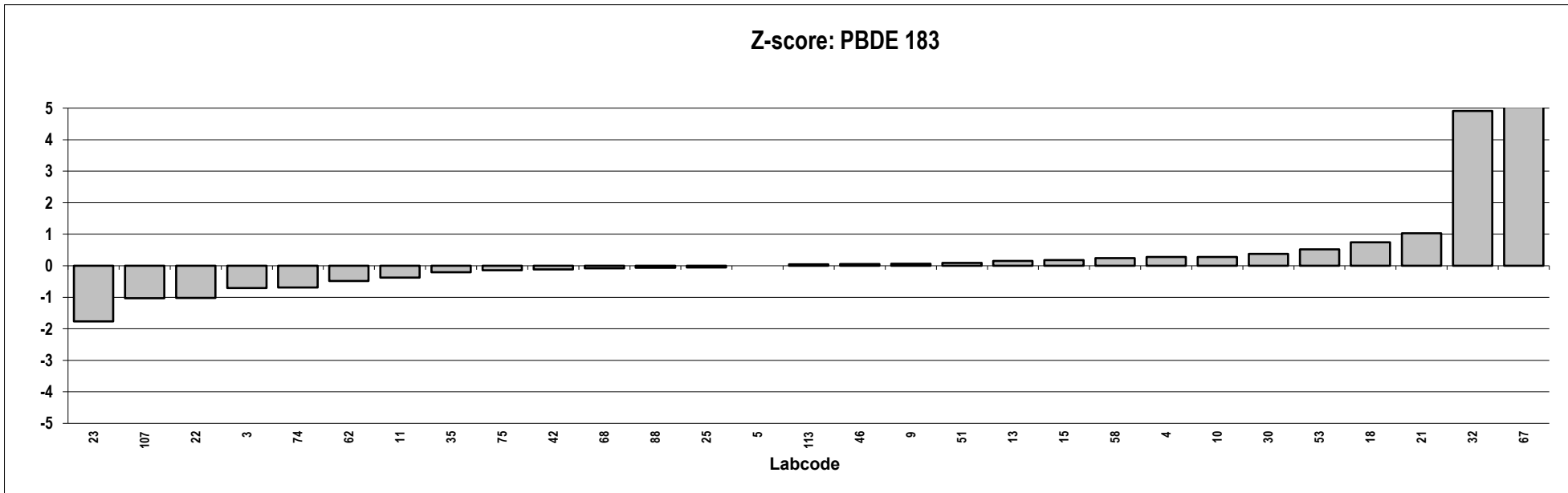
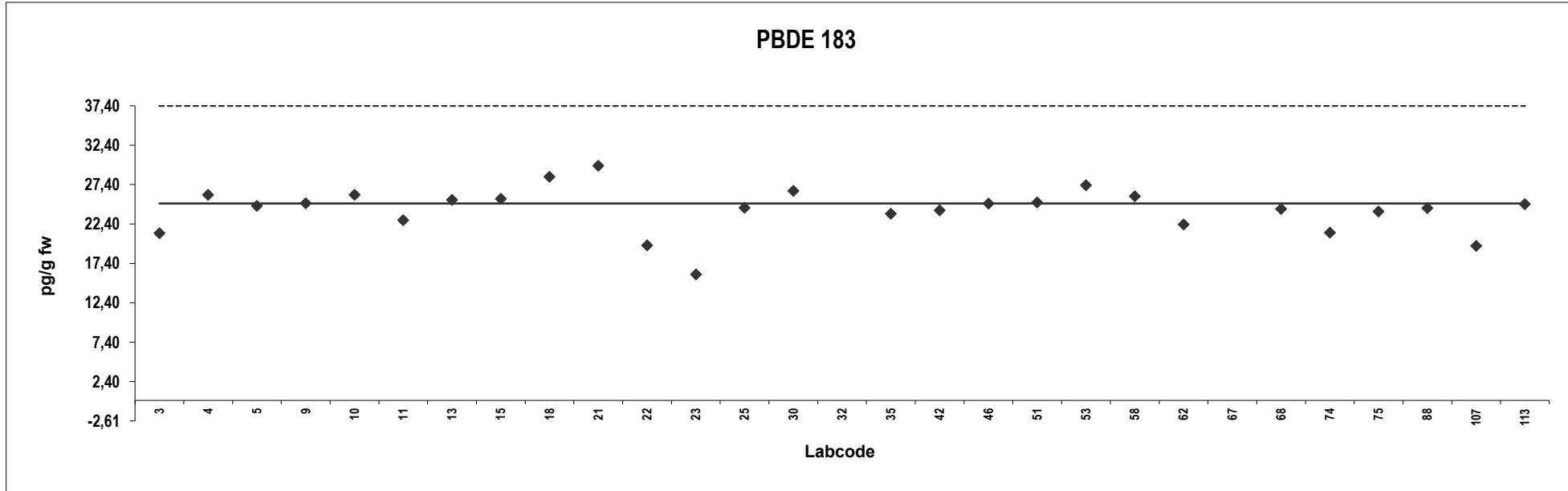
Analyte solution

Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	21	-0,71					
4	26	0,28					
5	25	0,00					
9	25	0,060					
10	26	0,28					
11	23	-0,37					
13	25	0,15					
15	26	0,18					
18	28	0,74					
21	30	1,0					
22	20	-1,0					
23	16	-1,8					
25	24	-0,055					
30	27	0,38					
32	49	4,9	Outlier				
35	24	-0,21					
42	24	-0,12					
46	25	0,057					
51	25	0,087					
53	27	0,52					
58	26	0,24					
62	22	-0,48					
67	58	6,6	Outlier				
68	24	-0,085					
74	21	-0,69					
75	24	-0,15					
88	24	-0,059					
107	20	-1,0					
113	25	0,043					

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	24
Standard deviation, pg/g	2,9
Relative standard deviation, %	12
No. of values reported	29
No. of values removed	2
No. of reported non-detects	0



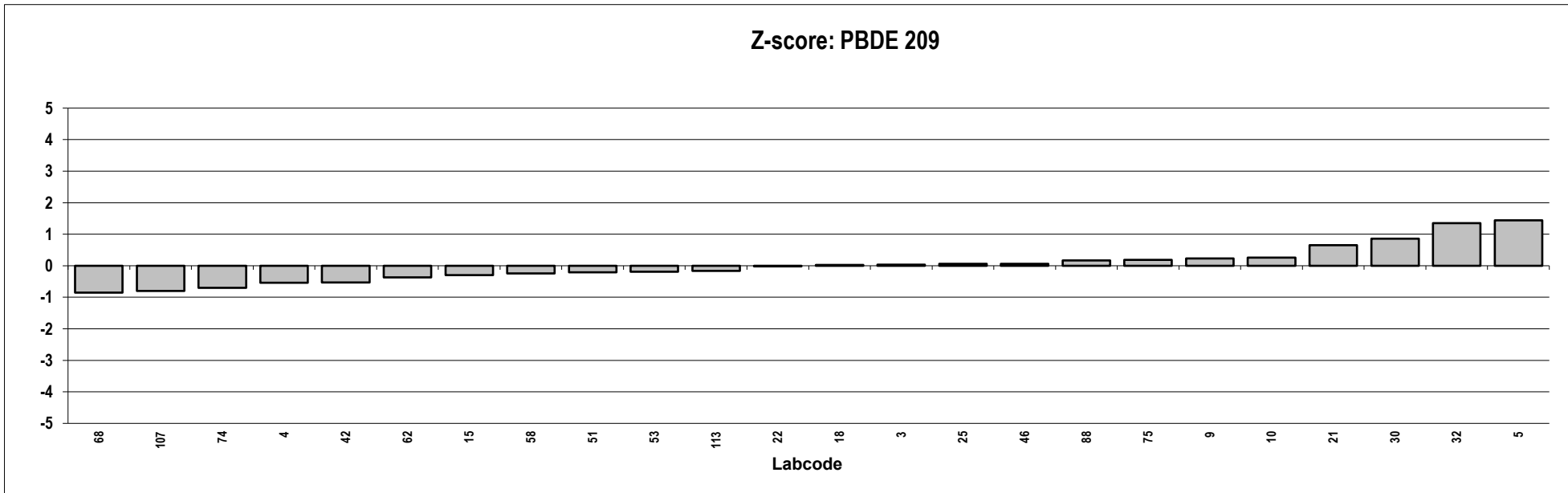
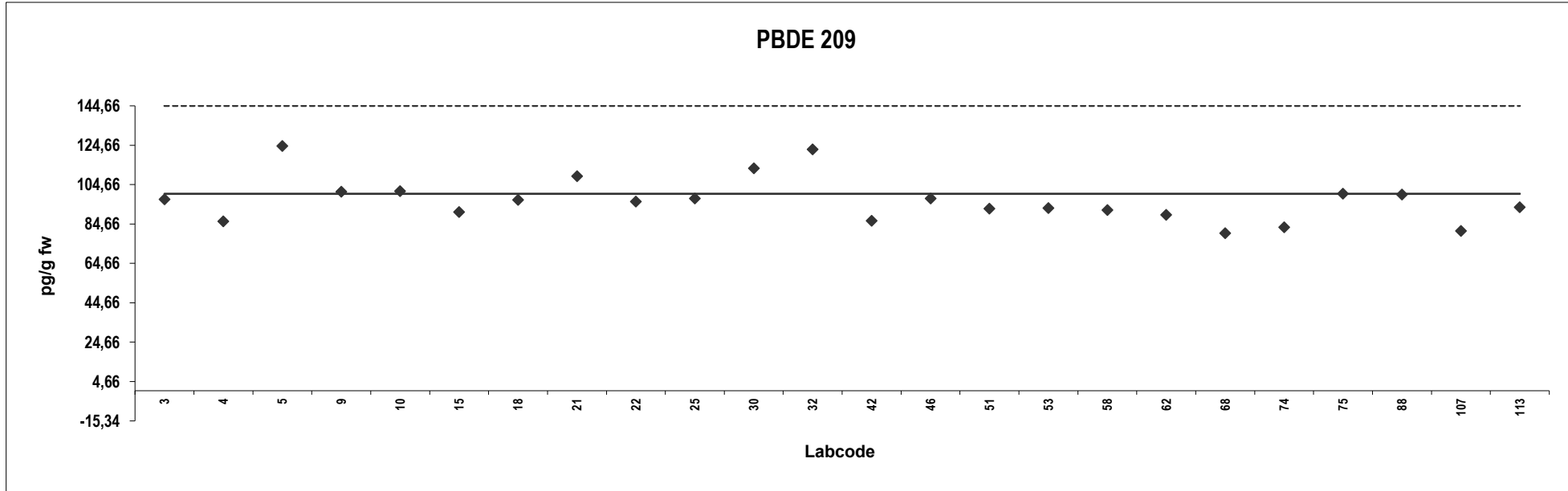
Analyte solution

Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	97	0,037					
4	86	-0,54					
5	124	1,4					
9	101	0,24					
10	101	0,26					
15	91	-0,30					
18	97	0,024					
21	109	0,65					
22	96	-0,024					
25	98	0,058					
30	113	0,86					
32	123	1,4					
42	86	-0,53					
46	98	0,059					
51	92	-0,21					
53	93	-0,19					
58	92	-0,24					
62	89	-0,37					
68	80	-0,85					
74	83	-0,70					
75	100	0,18					
88	100	0,17					
107	81	-0,80					
113	93	-0,17					

Consensus statistics

Consensus median, pg/g	96
Median all values pg/g	96
Consensus mean, pg/g	97
Standard deviation, pg/g	11
Relative standard deviation, %	12
No. of values reported	24
No. of values removed	0
No. of reported non-detects	0



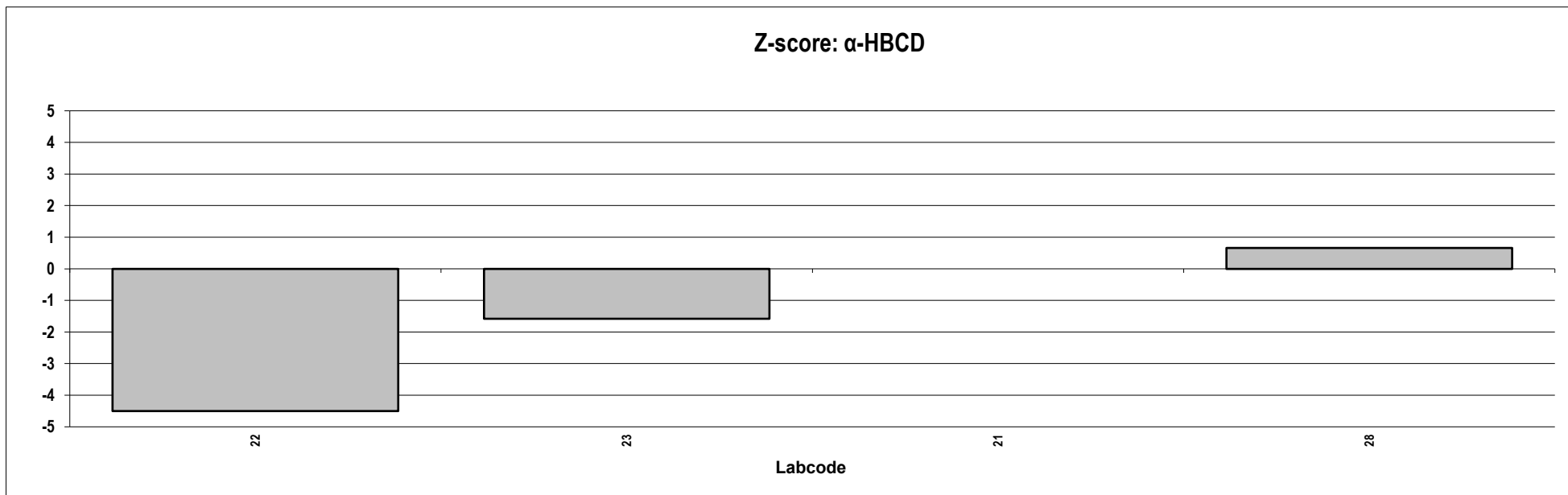
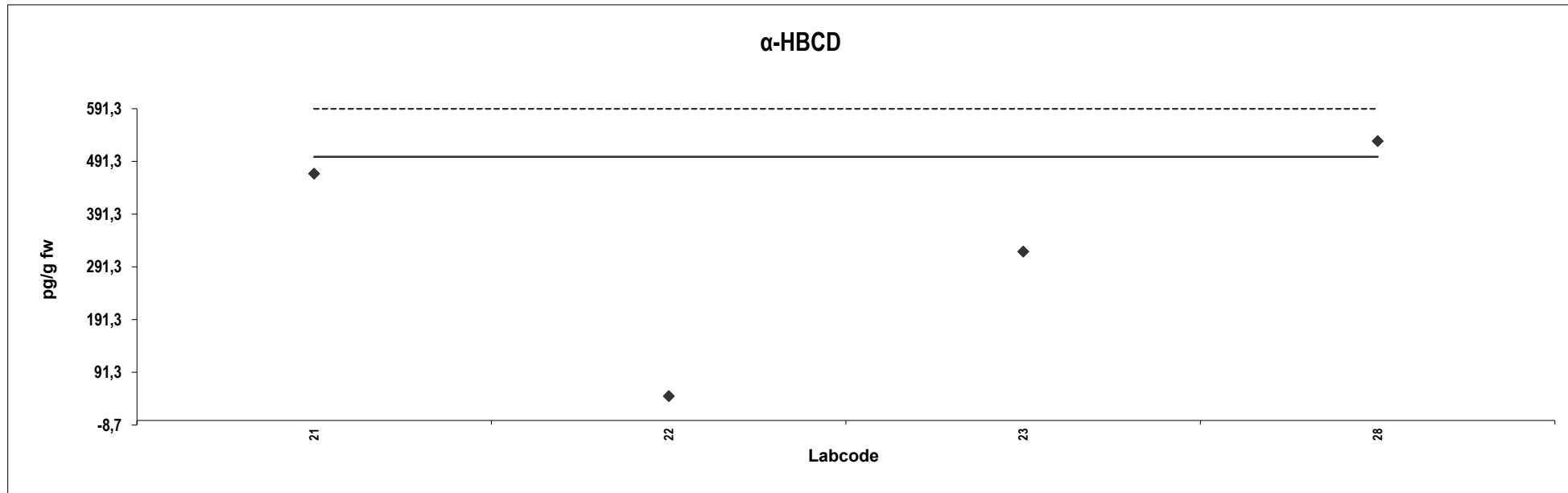
Analyte solution

Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
21	468	0,00					
22	46	-4,5	Outlier				
23	320	-1,6					
28	530	0,66					

Consensus statistics

Consensus median, pg/g	468
Median all values pg/g	394
Consensus mean, pg/g	439
Standard deviation, pg/g	108
Relative standard deviation, %	25
No. of values reported	4
No. of values removed	1
No. of reported non-detects	0





Appendix 2:

Presentation of results for
Egg yolk-2020

Appendix 2: Presentation of results: Egg yolk-2020

Statistic calculations for PCDDs, PCDFs and dioxin-like PCBs

For each congener, the outliers were removed and the consensus calculated according to the following procedure:

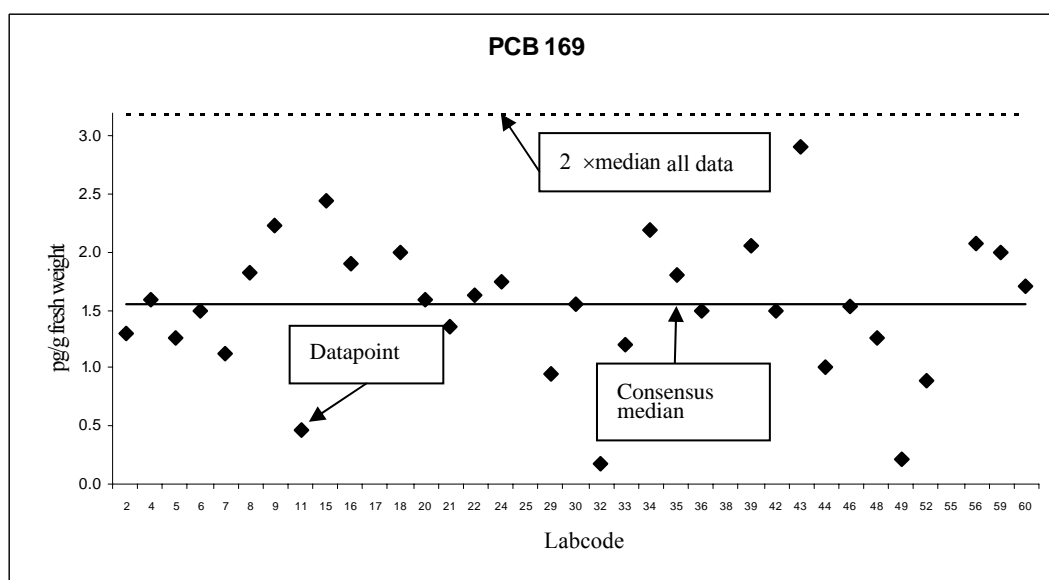
1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners.
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set.
3. Median, mean and standard deviation were re-calculated from the remaining data. This second median was called consensus.

Statistic calculations for indicator PCBs, PBDEs and HBCD

For each congener, the outliers were removed and the consensus calculated according to the following procedure:

1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners (NDs).
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set. The NDs were also removed.
3. Median, mean and standard deviation were re-calculated from the remaining data. This second median was called consensus.
4. For comparison, median, mean and standard deviation were also calculated without removing NDs.

The diagram shows the reported data up to approximately the limit for outliers ($2 \times$ the first median).



Z-Scores of individual congeners

Z-scores of each congener were calculated for each laboratory according to the following equation:

$$z = (x - X) / \sigma$$

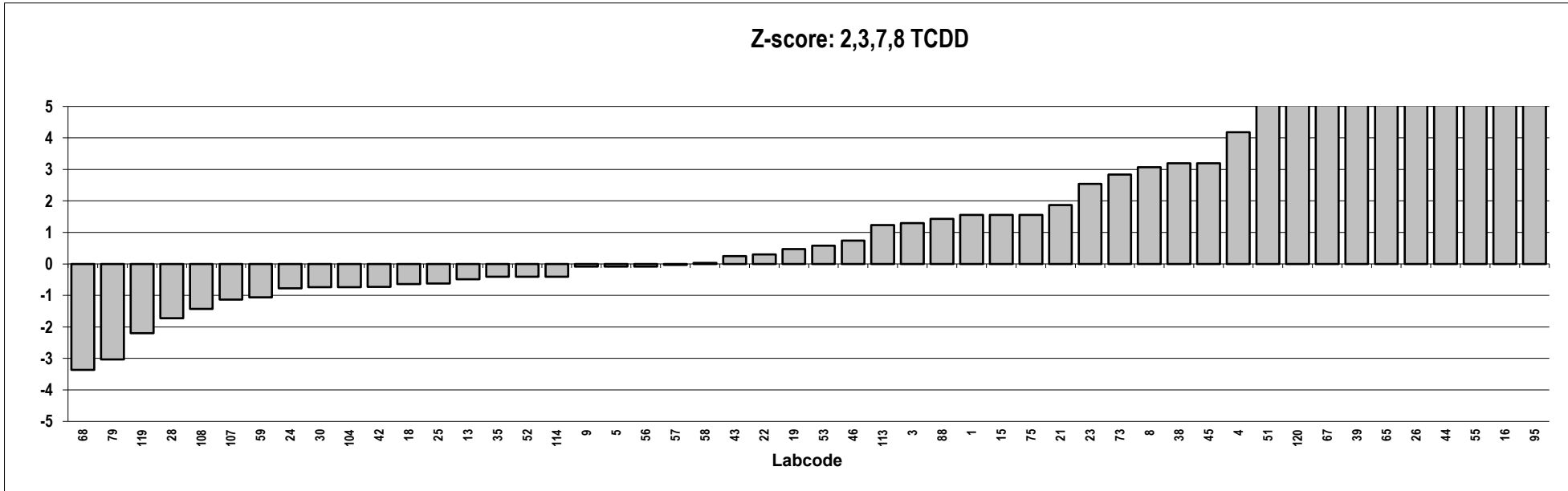
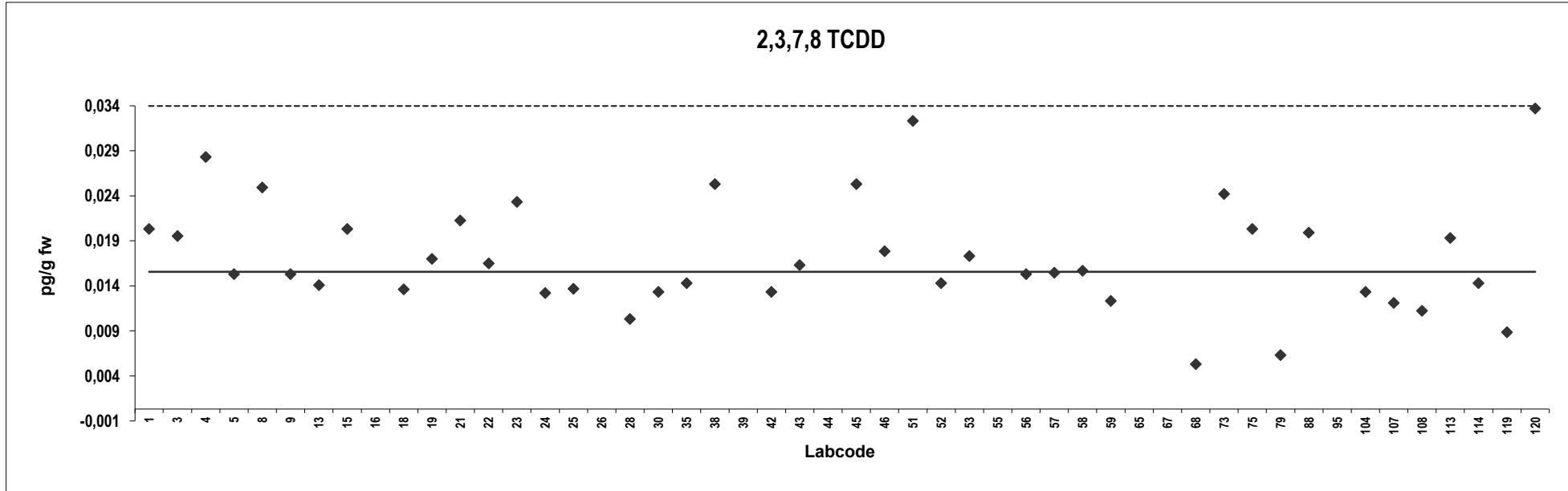
where x = reported value; X = assigned value (consensus); σ = target value for standard deviation. A σ of 20% of the consensus was used, i.e. z-scores between +1 and -1 reflect a deviation of $\pm 20\%$ from the consensus value.

Egg yolk
Congener: 2,3,7,8 TCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,020	1,6	ND	108	0,011	-1,4	
3	0,019	1,3		113	0,019	1,2	
4	0,028	4,2	ND	114	0,014	-0,41	
5	0,015	-0,081		119	0,0085	-2,2	
8	0,025	3,1		120	0,033	6,0	
9	0,015	-0,081					
13	0,014	-0,48					
15	0,020	1,6	ND				
16	0,13	36	Outlier				
18	0,013	-0,64					
19	0,017	0,47	ND				
21	0,021	1,9					
22	0,016	0,30					
23	0,023	2,5	ND				
24	0,013	-0,77					
25	0,013	-0,62					
26	0,056	13	Outlier,ND				
28	0,010	-1,7	ND				
30	0,013	-0,74	ND				
35	0,014	-0,41					
38	0,025	3,2	ND				
39	0,050	11	Outlier,ND				
42	0,013	-0,73					
43	0,016	0,25					
44	0,065	16	Outlier				
45	0,025	3,2	ND				
46	0,018	0,74					
51	0,032	5,5	ND				
52	0,014	-0,41					
53	0,017	0,57	ND				
55	0,070	18	Outlier				
56	0,015	-0,081					
57	0,015	-0,034	ND				
58	0,015	0,034					
59	0,012	-1,1					
65	0,056	13	Outlier				
67	0,034	6,2	Outlier,ND				
68	0,0050	-3,4	ND				
73	0,024	2,8					
75	0,020	1,6					
79	0,0060	-3,0	ND				
88	0,020	1,4					
95	0,30	93	Outlier,ND				
104	0,013	-0,74					
107	0,012	-1,1					

Consensus statistics

Consensus median, pg/g	0,015
Median all values pg/g	0,017
Consensus mean, pg/g	0,017
Standard deviation, pg/g	0,0062
Relative standard deviation, %	37
No. of values reported	50
No. of values removed	8
No. of reported non-detects	18



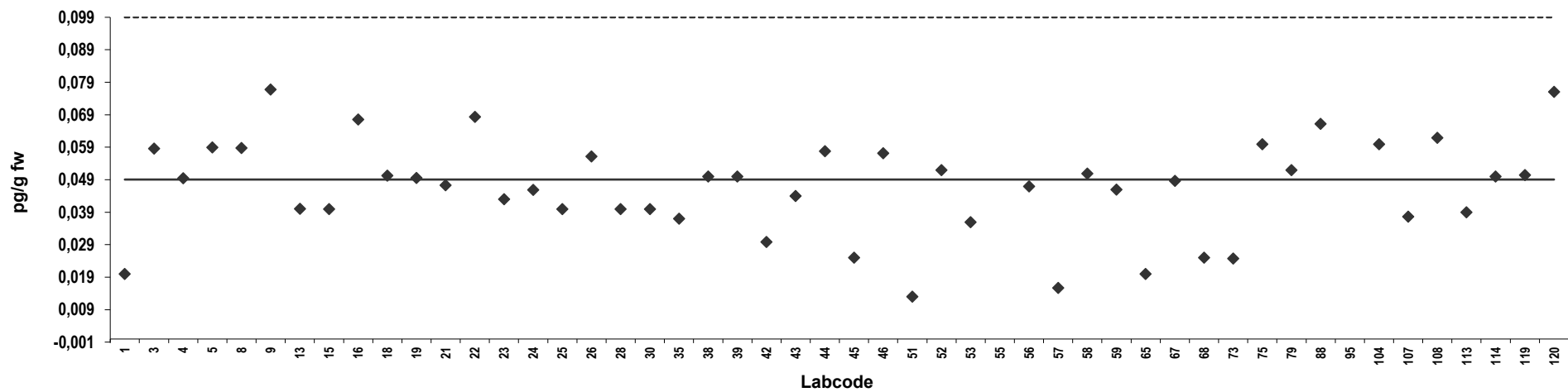
Egg yolk
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,020	-3,0	ND	108	0,062	1,3	
3	0,059	0,97		113	0,039	-1,0	
4	0,050	0,041		114	0,050	0,092	
5	0,059	1,0		119	0,050	0,14	
8	0,059	0,99		120	0,076	2,8	
9	0,077	2,8					
13	0,040	-0,92					
15	0,040	-0,93	ND				
16	0,068	1,9					
18	0,050	0,12					
19	0,050	0,045					
21	0,047	-0,18					
22	0,068	2,0					
23	0,043	-0,62					
24	0,046	-0,33					
25	0,040	-0,93					
26	0,056	0,72	ND				
28	0,040	-0,93					
30	0,040	-0,93					
35	0,037	-1,2					
38	0,050	0,092					
39	0,050	0,092	ND				
42	0,030	-2,0					
43	0,044	-0,52					
44	0,058	0,89					
45	0,025	-2,5	ND				
46	0,057	0,83					
51	0,013	-3,7	ND				
52	0,052	0,30					
53	0,036	-1,3					
55	0,20	15	Outlier				
56	0,047	-0,21					
57	0,016	-3,4	ND				
58	0,051	0,19					
59	0,046	-0,32					
65	0,020	-3,0	ND				
67	0,049	-0,041					
68	0,025	-2,5					
73	0,025	-2,5					
75	0,060	1,1					
79	0,052	0,30					
88	0,066	1,7					
95	0,22	17	Outlier,ND				
104	0,060	1,1					
107	0,038	-1,2					

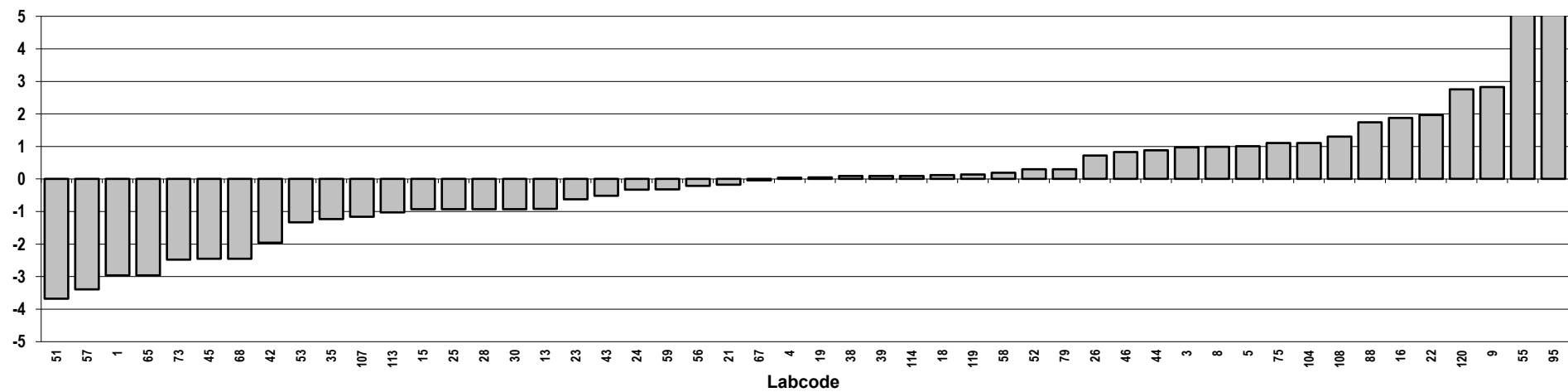
Consensus statistics

Consensus median, pg/g	0,049
Median all values pg/g	0,050
Consensus mean, pg/g	0,047
Standard deviation, pg/g	0,015
Relative standard deviation, %	32
No. of values reported	50
No. of values removed	2
No. of reported non-detects	9

1,2,3,7,8 PeCDD



Z-score: 1,2,3,7,8 PeCDD

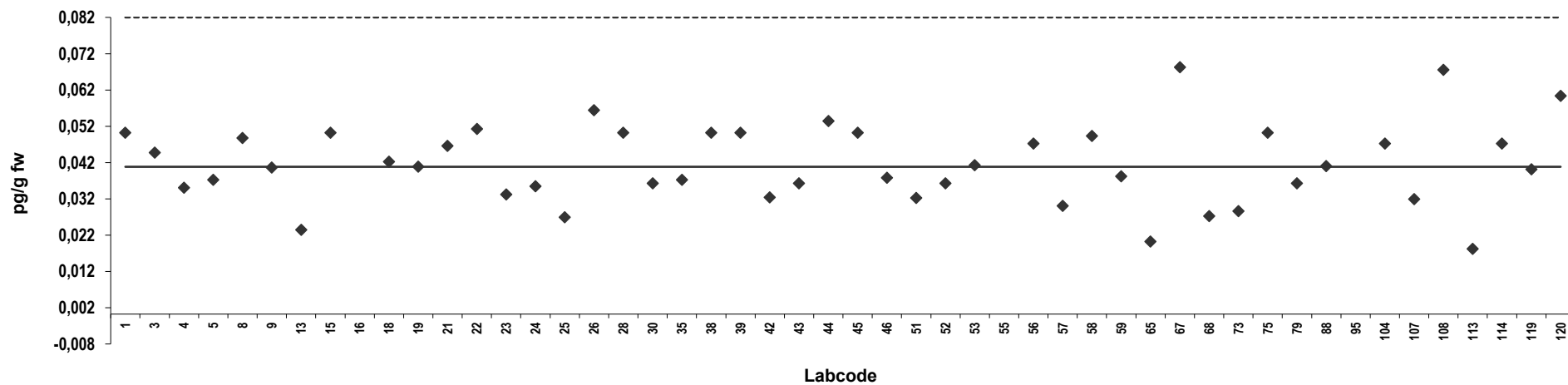


Egg yolk
Congener: 1,2,3,4,7,8 HxCDD

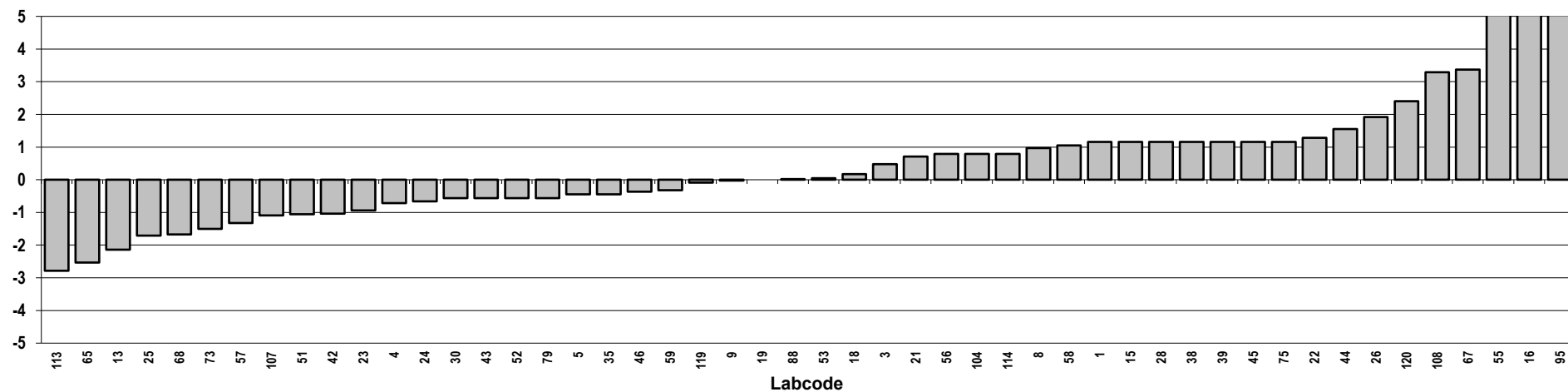
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	1,2	ND	108	0,067	3,3	
3	0,044	0,48		113	0,018	-2,8	
4	0,035	-0,71		114	0,047	0,79	
5	0,037	-0,44		119	0,040	-0,086	
8	0,049	0,97		120	0,060	2,4	
9	0,040	-0,026					
13	0,023	-2,1					
15	0,050	1,2	ND				
16	0,41	45	Outlier				
18	0,042	0,17					
19	0,041	0,00	ND				
21	0,046	0,71					
22	0,051	1,3					
23	0,033	-0,94					
24	0,035	-0,66					
25	0,027	-1,7					
26	0,056	1,9	ND				
28	0,050	1,2					
30	0,036	-0,57					
35	0,037	-0,44					
38	0,050	1,2	ND				
39	0,050	1,2	ND				
42	0,032	-1,0					
43	0,036	-0,57					
44	0,053	1,5					
45	0,050	1,2	ND				
46	0,038	-0,37					
51	0,032	-1,1	ND				
52	0,036	-0,57					
53	0,041	0,050					
55	0,17	16	Outlier				
56	0,047	0,79					
57	0,030	-1,3					
58	0,049	1,1					
59	0,038	-0,32					
65	0,020	-2,5	ND				
67	0,068	3,4					
68	0,027	-1,7					
73	0,028	-1,5					
75	0,050	1,2					
79	0,036	-0,57					
88	0,041	0,021					
95	0,42	46	Outlier,ND				
104	0,047	0,79					
107	0,032	-1,1					

Consensus statistics	
Consensus median, pg/g	0,041
Median all values pg/g	0,041
Consensus mean, pg/g	0,041
Standard deviation, pg/g	0,011
Relative standard deviation, %	27
No. of values reported	50
No. of values removed	3
No. of reported non-detects	10

1,2,3,4,7,8 HxCDD



Z-score: 1,2,3,4,7,8 HxCDD



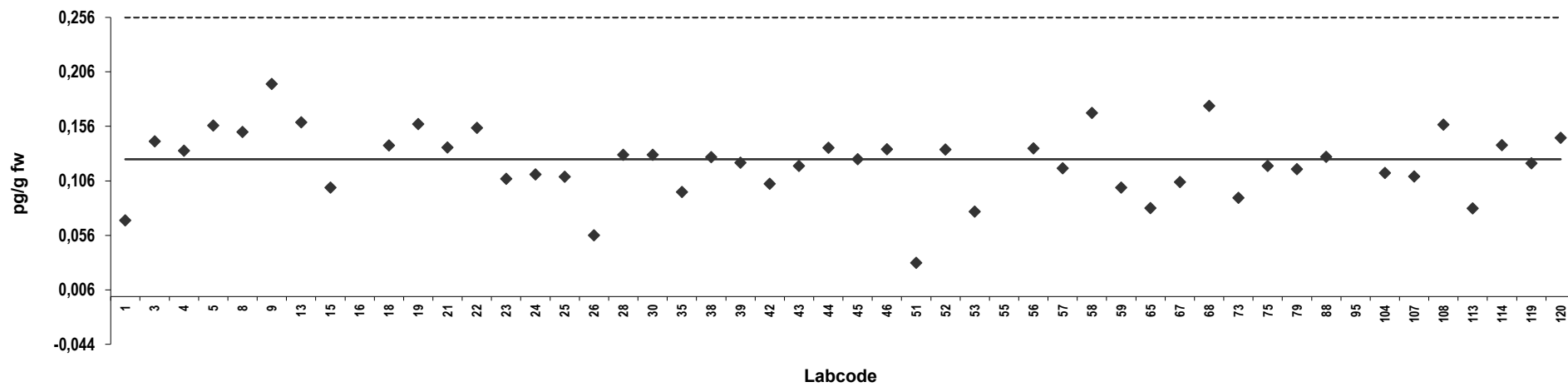
Egg yolk
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,070	-2,2		108	0,16	1,3	
3	0,14	0,66		113	0,081	-1,8	
4	0,13	0,32		114	0,14	0,52	
5	0,16	1,2		119	0,12	-0,14	
8	0,15	1,0		120	0,15	0,78	
9	0,20	2,7					
13	0,16	1,3					
15	0,10	-1,0					
16	0,46	13	Outlier				
18	0,14	0,51					
19	0,16	1,3					
21	0,14	0,43					
22	0,15	1,1					
23	0,11	-0,71					
24	0,11	-0,55					
25	0,11	-0,63					
26	0,056	-2,8	ND				
28	0,13	0,16					
30	0,13	0,16					
35	0,096	-1,2					
38	0,13	0,079					
39	0,12	-0,13					
42	0,10	-0,90					
43	0,12	-0,24					
44	0,14	0,42					
45	0,13	0,00					
46	0,14	0,36					
51	0,031	-3,8	ND				
52	0,14	0,36					
53	0,078	-1,9					
55	0,58	18	Outlier				
56	0,14	0,40					
57	0,12	-0,33					
58	0,17	1,7					
59	0,10	-1,0					
65	0,081	-1,8					
67	0,11	-0,83					
68	0,18	1,9					
73	0,091	-1,4					
75	0,12	-0,24					
79	0,12	-0,36					
88	0,13	0,087					
95	0,81	27	Outlier				
104	0,11	-0,50					
107	0,11	-0,62					

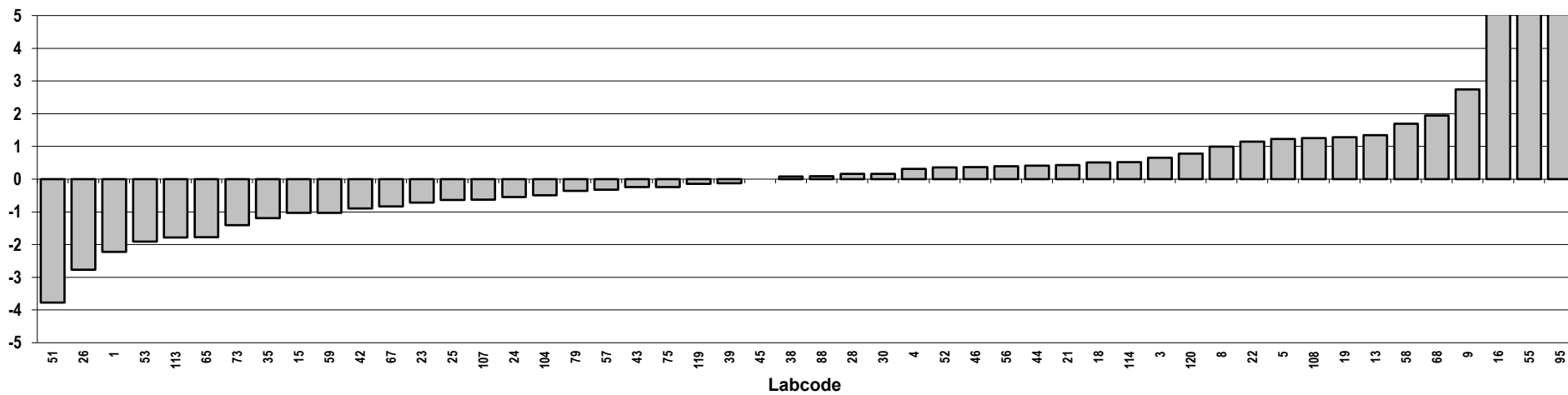
Consensus statistics

Consensus median, pg/g	0,13
Median all values pg/g	0,13
Consensus mean, pg/g	0,12
Standard deviation, pg/g	0,031
Relative standard deviation, %	25
No. of values reported	50
No. of values removed	3
No. of reported non-detects	2

1,2,3,6,7,8 HxCDD



Z-score: 1,2,3,6,7,8 HxCDD



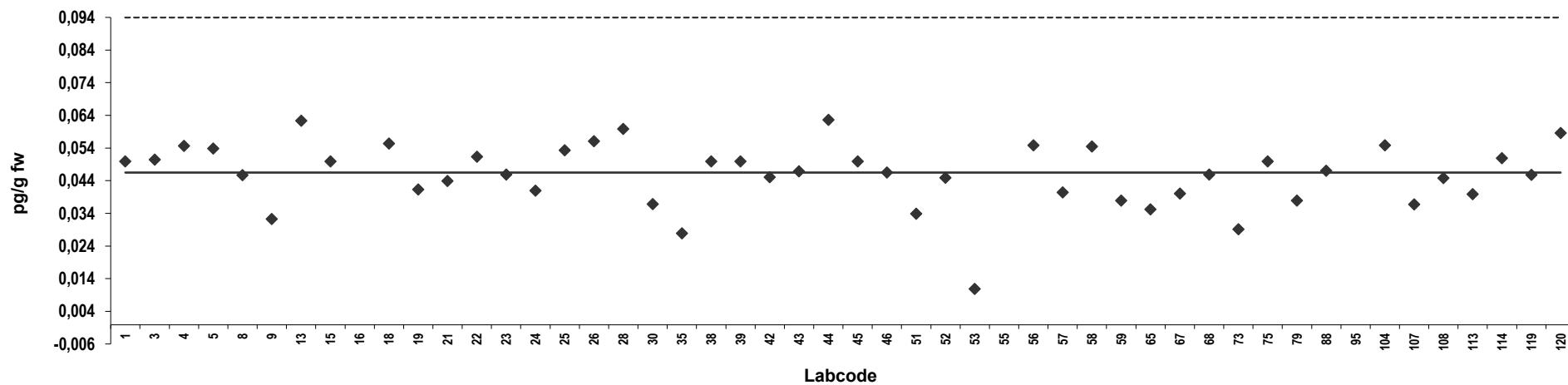
Egg yolk
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	0,36	ND	108	0,045	-0,18	
3	0,051	0,42		113	0,040	-0,71	
4	0,055	0,88		114	0,051	0,47	
5	0,054	0,79		119	0,046	-0,078	
8	0,046	-0,088		120	0,059	1,3	
9	0,032	-1,5					
13	0,062	1,7					
15	0,050	0,36	ND				
16	0,27	24	Outlier				
18	0,056	0,95					
19	0,041	-0,56	ND				
21	0,044	-0,28					
22	0,051	0,52					
23	0,046	-0,066					
24	0,041	-0,59					
25	0,053	0,73					
26	0,056	1,0	ND				
28	0,060	1,4					
30	0,037	-1,0					
35	0,028	-2,0					
38	0,050	0,36	ND				
39	0,050	0,36	ND				
42	0,045	-0,15					
43	0,047	0,041					
44	0,063	1,7					
45	0,050	0,36	ND				
46	0,047	0,00					
51	0,034	-1,4	ND				
52	0,045	-0,17					
53	0,011	-3,8	ND				
55	0,19	15	Outlier				
56	0,055	0,90					
57	0,041	-0,65					
58	0,055	0,85					
59	0,038	-0,92					
65	0,035	-1,2					
67	0,040	-0,69					
68	0,046	-0,066					
73	0,029	-1,9					
75	0,050	0,36					
79	0,038	-0,92					
88	0,047	0,055					
95	0,35	33	Outlier,ND				
104	0,055	0,90					
107	0,037	-1,0					

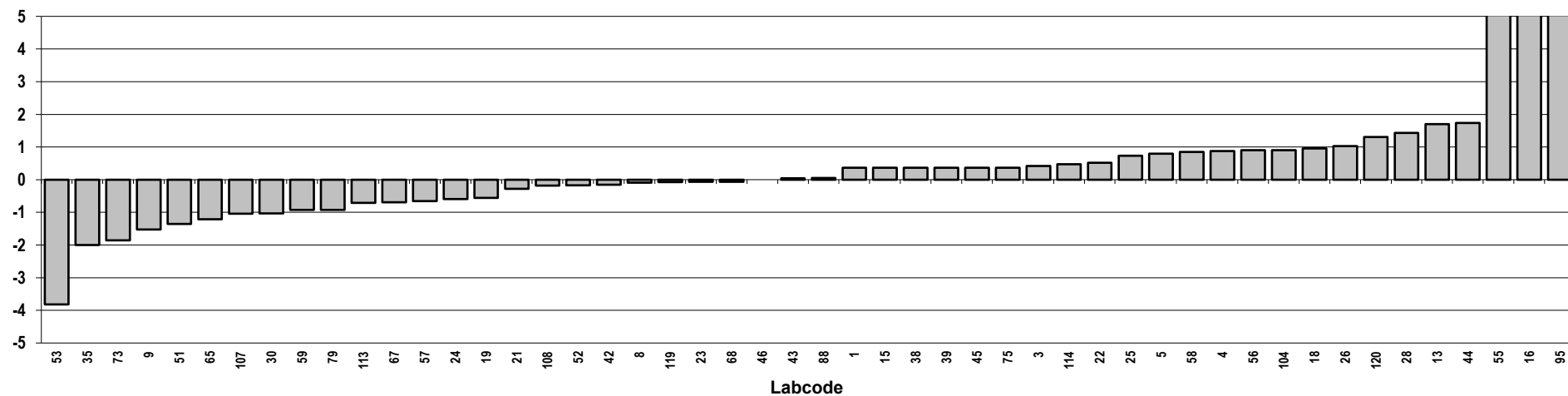
Consensus statistics

Consensus median, pg/g	0,047
Median all values pg/g	0,047
Consensus mean, pg/g	0,046
Standard deviation, pg/g	0,0098
Relative standard deviation, %	21
No. of values reported	50
No. of values removed	3
No. of reported non-detects	10

1,2,3,7,8,9 HxCDD



Z-score: 1,2,3,7,8,9 HxCDD

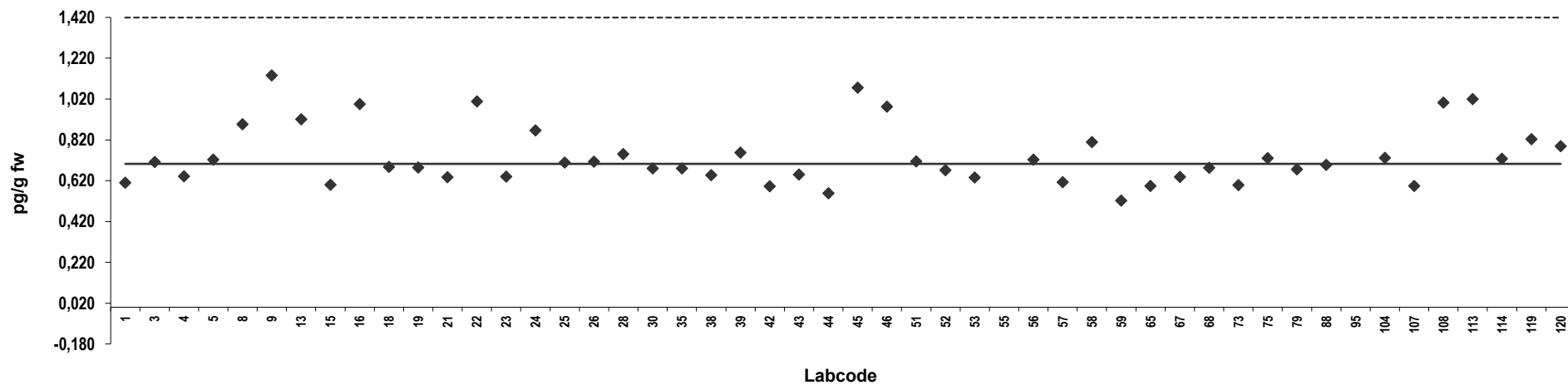


Egg yolk
Congener: 1,2,3,4,6,7,8 HpCDD

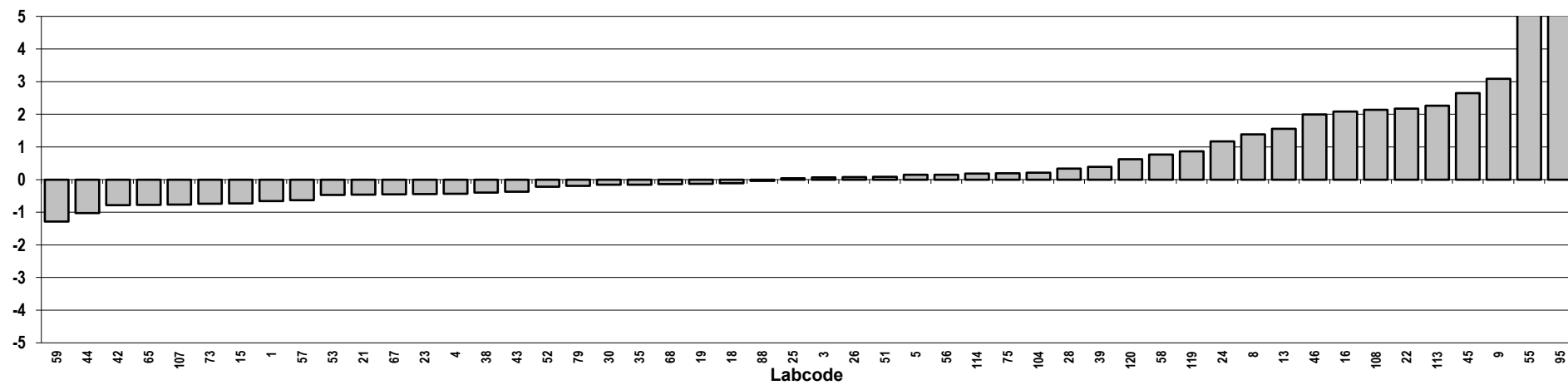
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,61	-0,66		108	1,0	2,1	
3	0,71	0,067		113	1,0	2,3	
4	0,64	-0,43		114	0,73	0,18	
5	0,72	0,15		119	0,82	0,86	
8	0,90	1,4		120	0,79	0,62	
9	1,1	3,1					
13	0,92	1,6					
15	0,60	-0,73					
16	0,99	2,1					
18	0,69	-0,11					
19	0,68	-0,13					
21	0,64	-0,46					
22	1,0	2,2					
23	0,64	-0,44					
24	0,87	1,2					
25	0,71	0,041					
26	0,71	0,079					
28	0,75	0,34					
30	0,68	-0,16					
35	0,68	-0,16					
38	0,65	-0,39					
39	0,76	0,39					
42	0,59	-0,78					
43	0,65	-0,37					
44	0,56	-1,0					
45	1,1	2,7					
46	0,98	2,0					
51	0,71	0,083					
52	0,67	-0,22					
53	0,64	-0,47					
55	3,3	18	Outlier				
56	0,72	0,15					
57	0,61	-0,63					
58	0,81	0,76					
59	0,52	-1,3					
65	0,59	-0,78					
67	0,64	-0,45					
68	0,68	-0,14					
73	0,60	-0,74					
75	0,73	0,20					
79	0,68	-0,19					
88	0,70	-0,041					
95	5,2	32	Outlier				
104	0,73	0,21					
107	0,59	-0,77					

Consensus statistics	
Consensus median, pg/g	0,70
Median all values pg/g	0,71
Consensus mean, pg/g	0,74
Standard deviation, pg/g	0,15
Relative standard deviation, %	20
No. of values reported	50
No. of values removed	2
No. of reported non-detects	0

1,2,3,4,6,7,8 HpCDD



Z-score: 1,2,3,4,6,7,8 HpCDD

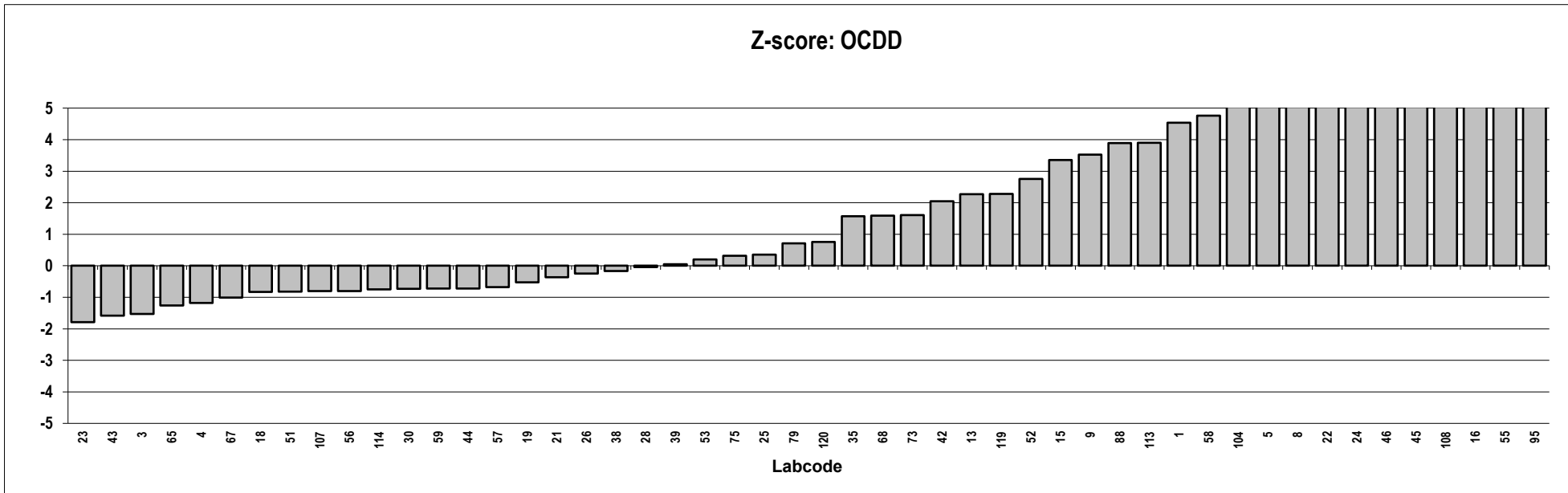
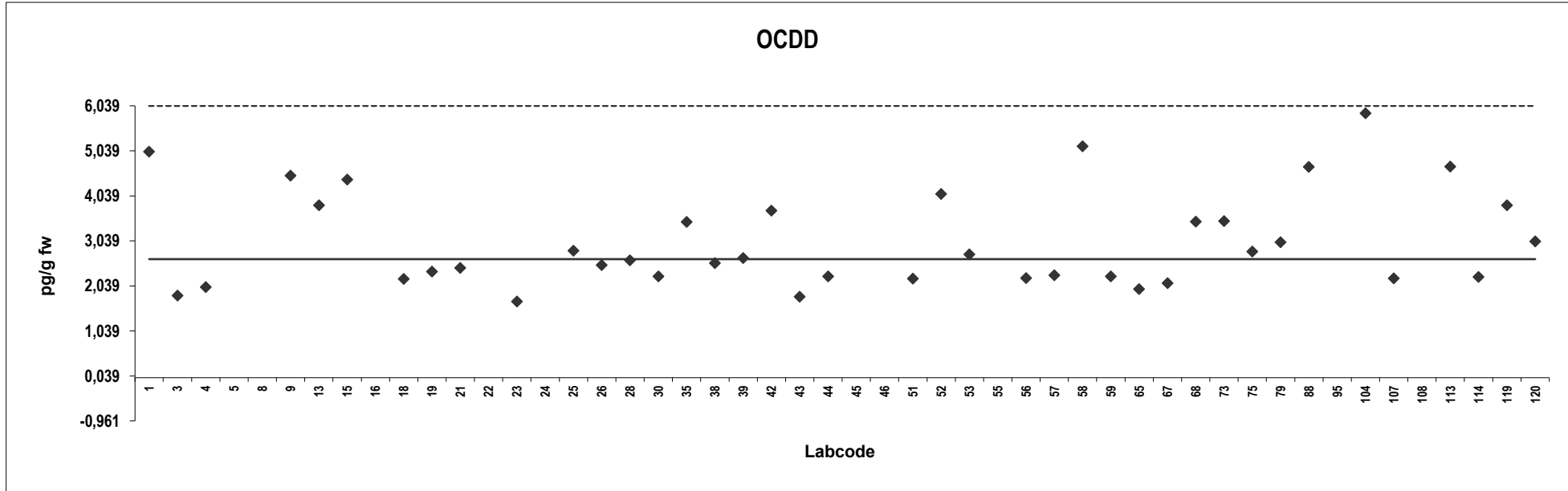


Egg yolk
Congener: OCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	5,0	4,5		108	7,5	9,3	Outlier
3	1,8	-1,5		113	4,7	3,9	
4	2,0	-1,2		114	2,2	-0,75	
5	6,2	6,7	Outlier	119	3,8	2,3	
8	6,3	6,9	Outlier	120	3,0	0,75	
9	4,5	3,5					
13	3,8	2,3					
15	4,4	3,4					
16	9,4	13	Outlier				
18	2,2	-0,83					
19	2,4	-0,52					
21	2,4	-0,37					
22	6,7	7,6	Outlier				
23	1,7	-1,8					
24	6,8	8,0	Outlier				
25	2,8	0,35					
26	2,5	-0,25					
28	2,6	-0,045					
30	2,3	-0,73					
35	3,5	1,6					
38	2,5	-0,16					
39	2,7	0,045					
42	3,7	2,0					
43	1,8	-1,6					
44	2,3	-0,72					
45	7,3	8,9	Outlier				
46	7,0	8,3	Outlier				
51	2,2	-0,82					
52	4,1	2,8					
53	2,7	0,20					
55	22	36	Outlier				
56	2,2	-0,80					
57	2,3	-0,68					
58	5,1	4,8					
59	2,3	-0,72					
65	2,0	-1,3					
67	2,1	-1,0					
68	3,5	1,6					
73	3,5	1,6					
75	2,8	0,32					
79	3,0	0,71					
88	4,7	3,9					
95	28	48	Outlier				
104	5,9	6,2					
107	2,2	-0,81					

Consensus statistics

Consensus median, pg/g	2,6
Median all values pg/g	3,0
Consensus mean, pg/g	3,0
Standard deviation, pg/g	1,1
Relative standard deviation, %	35
No. of values reported	50
No. of values removed	10
No. of reported non-detects	0

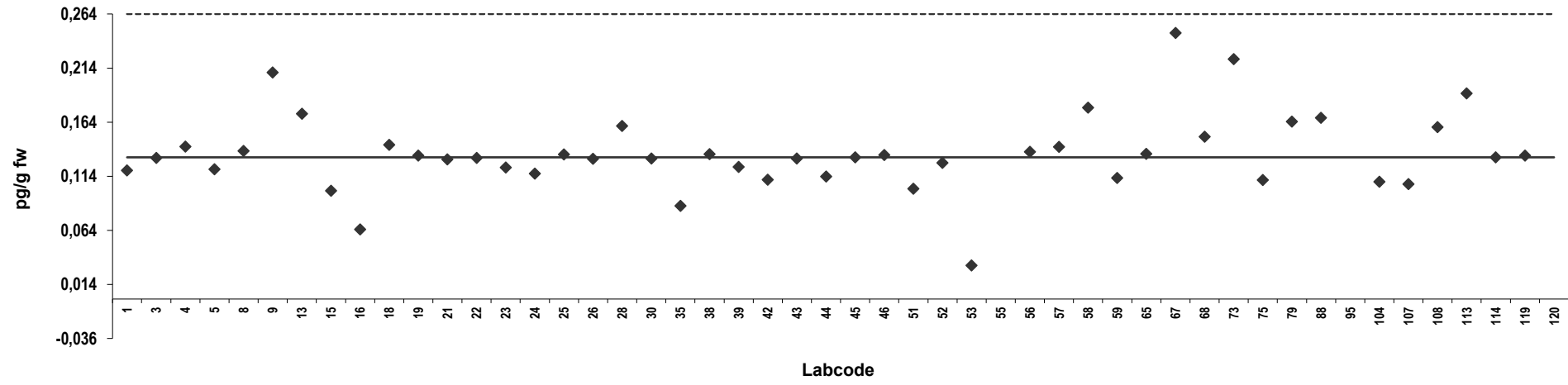


Egg yolk
Congener: 2,3,7,8 TCDF

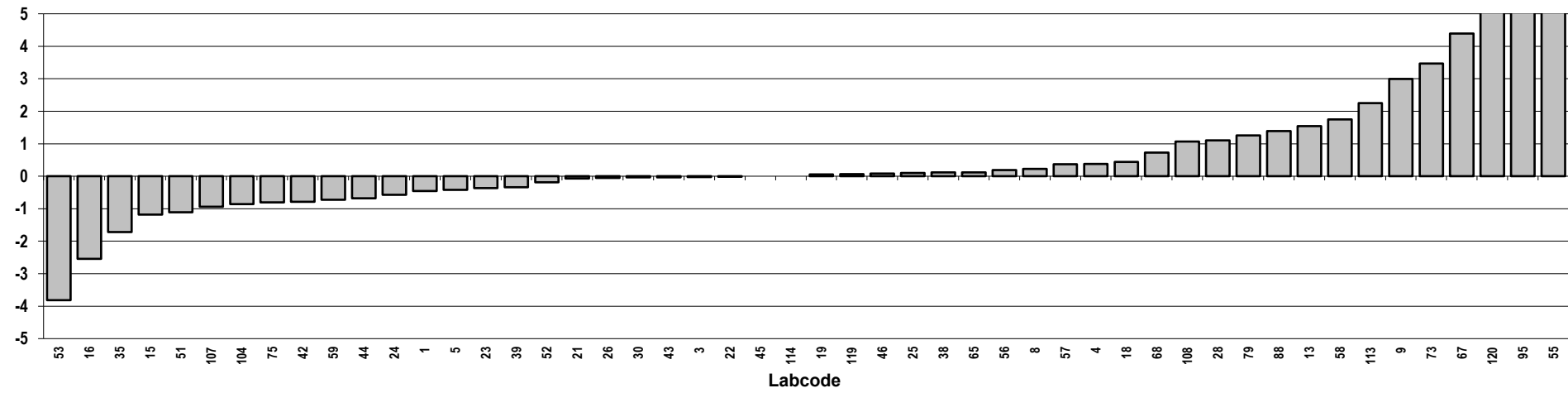
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,12	-0,46		108	0,16	1,1	
3	0,13	-0,022		113	0,19	2,3	
4	0,14	0,38		114	0,13	0,00	
5	0,12	-0,42		119	0,13	0,061	
8	0,14	0,22		120	0,42	11	Outlier
9	0,21	3,0					
13	0,17	1,5					
15	0,10	-1,2					
16	0,064	-2,5					
18	0,14	0,44					
19	0,13	0,058					
21	0,13	-0,075					
22	0,13	-0,017					
23	0,12	-0,36					
24	0,12	-0,57					
25	0,13	0,10					
26	0,13	-0,055					
28	0,16	1,1					
30	0,13	-0,038					
35	0,086	-1,7					
38	0,13	0,11					
39	0,12	-0,34					
42	0,11	-0,79					
43	0,13	-0,038					
44	0,11	-0,68					
45	0,13	0,00					
46	0,13	0,082					
51	0,10	-1,1					
52	0,13	-0,19					
53	0,031	-3,8	ND				
55	0,48	13	Outlier				
56	0,14	0,19					
57	0,14	0,37					
58	0,18	1,8					
59	0,11	-0,73					
65	0,13	0,12					
67	0,25	4,4					
68	0,15	0,73					
73	0,22	3,5					
75	0,11	-0,80					
79	0,16	1,3					
88	0,17	1,4					
95	0,44	12	Outlier				
104	0,11	-0,86					
107	0,11	-0,94					

Consensus statistics	
Consensus median, pg/g	0,13
Median all values pg/g	0,13
Consensus mean, pg/g	0,13
Standard deviation, pg/g	0,036
Relative standard deviation, %	27
No. of values reported	50
No. of values removed	3
No. of reported non-detects	1

2,3,7,8 TCDF



Z-score: 2,3,7,8 TCDF



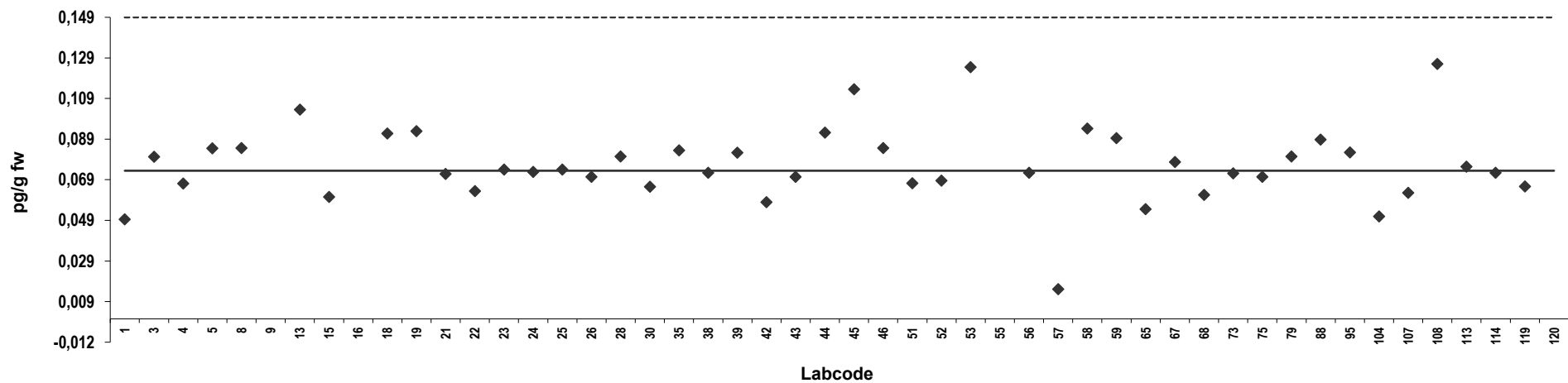
Egg yolk
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,049	-1,6		108	0,13	3,6	
3	0,080	0,47		113	0,075	0,14	
4	0,067	-0,43		114	0,072	-0,065	
5	0,084	0,76		119	0,065	-0,53	
8	0,084	0,76		120	0,29	15	Outlier
9	0,16	5,8	Outlier				
13	0,10	2,1					
15	0,060	-0,89					
16	0,29	15	Outlier				
18	0,091	1,3					
19	0,092	1,3					
21	0,071	-0,11					
22	0,063	-0,69					
23	0,074	0,038					
24	0,072	-0,037					
25	0,073	0,037					
26	0,070	-0,21					
28	0,080	0,48					
30	0,065	-0,54					
35	0,083	0,69					
38	0,072	-0,065					
39	0,082	0,61					
42	0,057	-1,1					
43	0,070	-0,20					
44	0,092	1,3					
45	0,11	2,7					
46	0,084	0,77					
51	0,067	-0,42					
52	0,068	-0,34					
53	0,12	3,5					
55	0,39	22	Outlier				
56	0,072	-0,065					
57	0,015	-4,0	ND				
58	0,094	1,4					
59	0,089	1,1					
65	0,054	-1,3					
67	0,077	0,29					
68	0,061	-0,82					
73	0,072	-0,092					
75	0,070	-0,20					
79	0,080	0,48					
88	0,088	1,0					
95	0,082	0,62	ND				
104	0,051	-1,5					
107	0,062	-0,74					

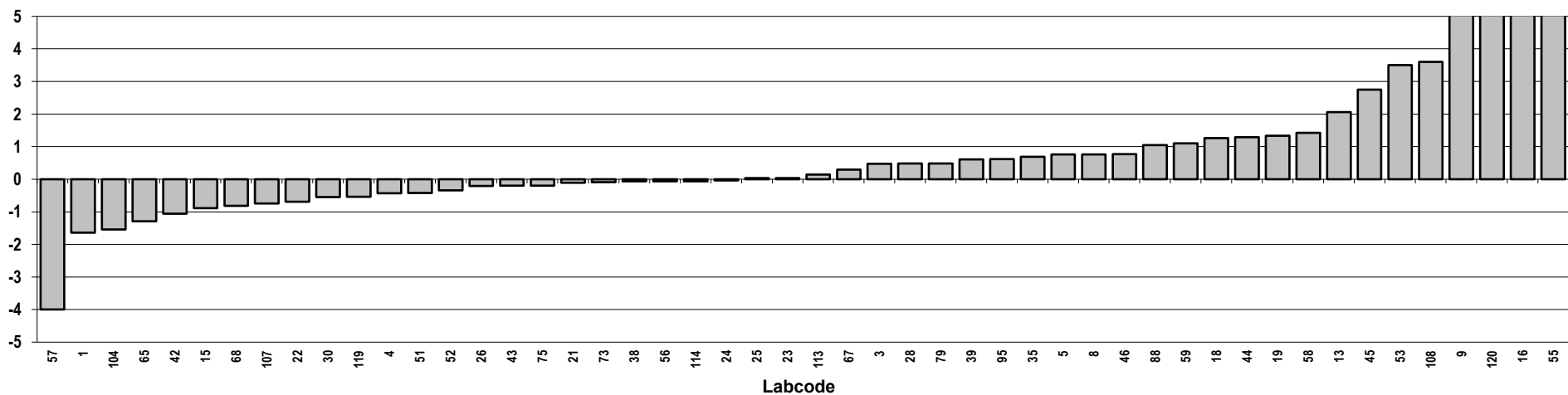
Consensus statistics

Consensus median, pg/g	0,073
Median all values pg/g	0,074
Consensus mean, pg/g	0,076
Standard deviation, pg/g	0,019
Relative standard deviation, %	25
No. of values reported	50
No. of values removed	4
No. of reported non-detects	2

1,2,3,7,8 PeCDF



Z-score: 1,2,3,7,8 PeCDF



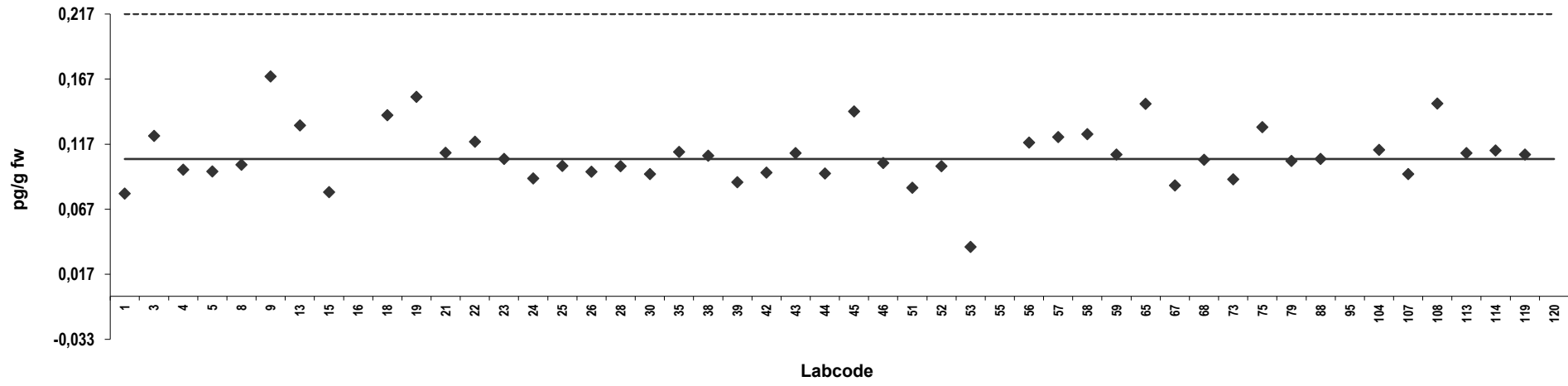
Egg yolk
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,079	-1,3		108	0,15	2,0	
3	0,12	0,85		113	0,11	0,21	
4	0,097	-0,39		114	0,11	0,31	
5	0,096	-0,45		119	0,11	0,16	
8	0,10	-0,20		120	0,56	21	Outlier
9	0,17	3,0					
13	0,13	1,2					
15	0,080	-1,2					
16	0,32	10	Outlier				
18	0,14	1,6					
19	0,15	2,3					
21	0,11	0,22					
22	0,12	0,63					
23	0,11	0,00					
24	0,091	-0,71					
25	0,10	-0,25					
26	0,096	-0,46					
28	0,10	-0,26					
30	0,094	-0,55					
35	0,11	0,26					
38	0,11	0,12					
39	0,088	-0,84					
42	0,095	-0,50					
43	0,11	0,21					
44	0,094	-0,53					
45	0,14	1,7					
46	0,10	-0,15					
51	0,084	-1,0					
52	0,10	-0,26					
53	0,038	-3,2					
55	0,42	15	Outlier				
56	0,12	0,59					
57	0,12	0,80					
58	0,12	0,91					
59	0,11	0,17					
65	0,15	2,0					
67	0,085	-0,96					
68	0,11	-0,024					
73	0,090	-0,73					
75	0,13	1,2					
79	0,10	-0,071					
88	0,11	0,00					
95	0,57	22	Outlier				
104	0,11	0,33					
107	0,094	-0,55					

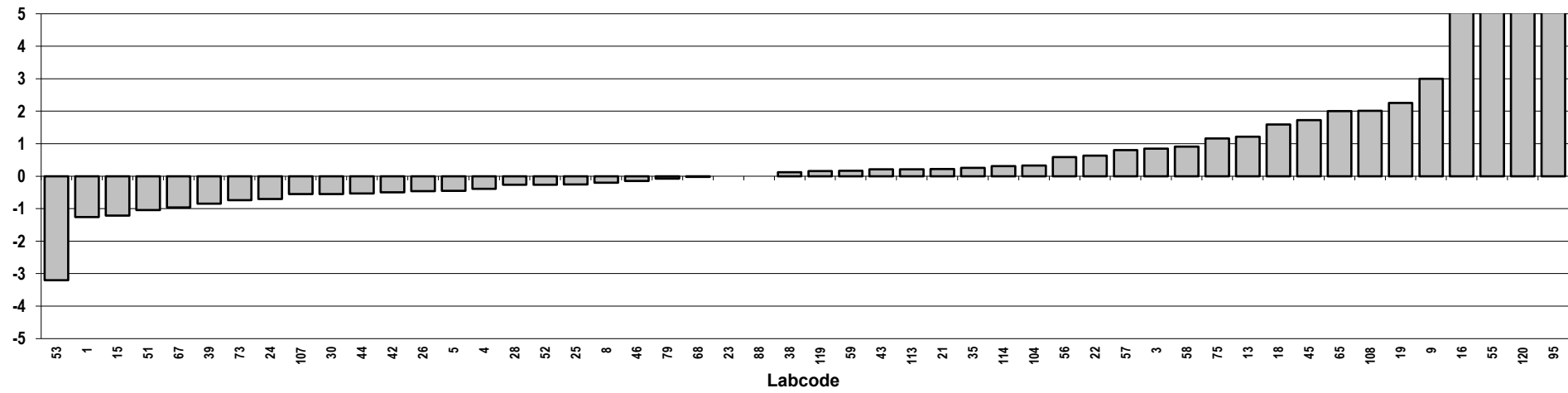
Consensus statistics

Consensus median, pg/g	0,11
Median all values pg/g	0,11
Consensus mean, pg/g	0,11
Standard deviation, pg/g	0,023
Relative standard deviation, %	21
No. of values reported	50
No. of values removed	4
No. of reported non-detects	0

2,3,4,7,8 PeCDF



Z-score: 2,3,4,7,8 PeCDF



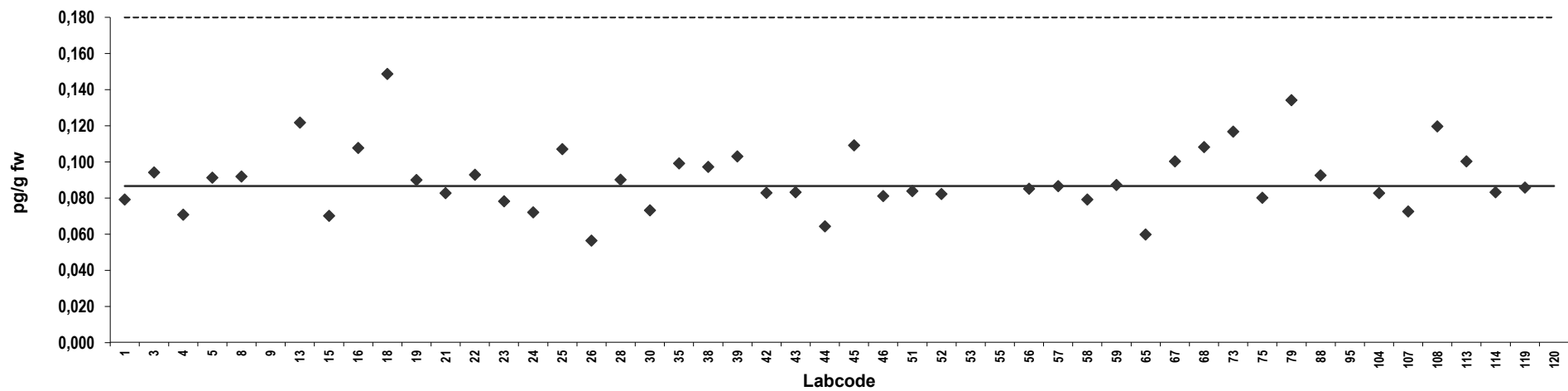
Egg yolk
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,079	-0,43		108	0,12	1,9	
3	0,094	0,44		113	0,10	0,79	
4	0,071	-0,92		114	0,083	-0,20	
5	0,091	0,26		119	0,086	-0,047	
8	0,092	0,31		120	0,43	20	Outlier
9	0,18	5,4	Outlier				
13	0,12	2,0					
15	0,070	-0,95					
16	0,11	1,2					
18	0,15	3,6					
19	0,090	0,19					
21	0,083	-0,23					
22	0,093	0,36					
23	0,078	-0,49					
24	0,072	-0,85					
25	0,11	1,2					
26	0,056	-1,7	ND				
28	0,090	0,21					
30	0,073	-0,78					
35	0,099	0,73					
38	0,097	0,61					
39	0,10	0,95					
42	0,083	-0,21					
43	0,083	-0,20					
44	0,064	-1,3					
45	0,11	1,3					
46	0,081	-0,32					
51	0,084	-0,16					
52	0,082	-0,26					
53	0,19	6,2	Outlier				
55	0,40	18	Outlier				
56	0,085	-0,082					
57	0,086	0,00					
58	0,079	-0,44					
59	0,087	0,033					
65	0,060	-1,6					
67	0,10	0,79					
68	0,11	1,2					
73	0,12	1,7					
75	0,080	-0,37					
79	0,13	2,8					
88	0,092	0,34					
95	0,72	37	Outlier,ND				
104	0,083	-0,23					
107	0,072	-0,81					

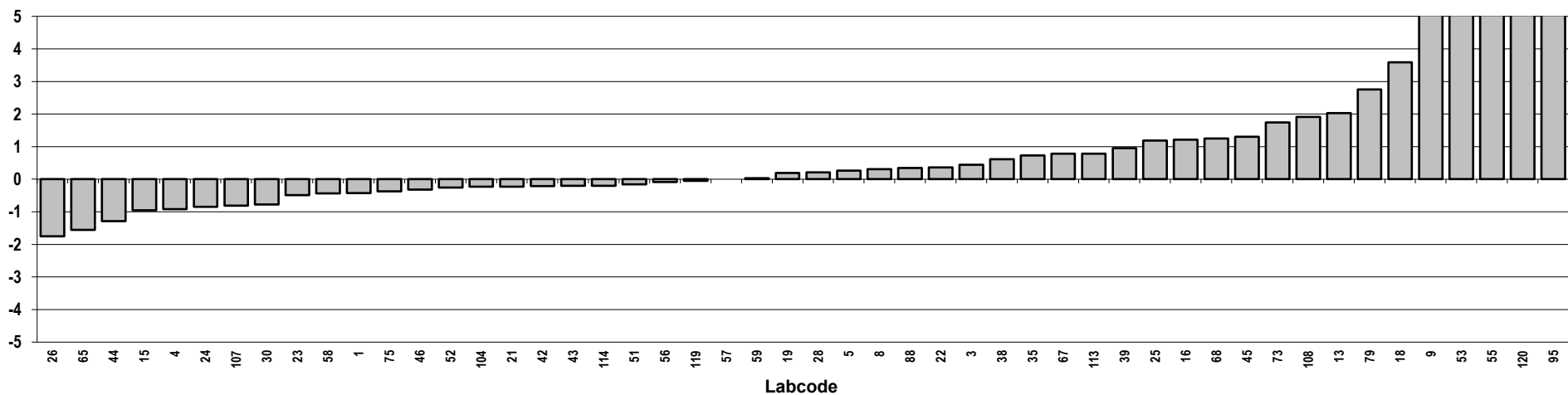
Consensus statistics

Consensus median, pg/g	0,086
Median all values pg/g	0,090
Consensus mean, pg/g	0,090
Standard deviation, pg/g	0,019
Relative standard deviation, %	21
No. of values reported	50
No. of values removed	5
No. of reported non-detects	2

1,2,3,4,7,8 HxCDF



Z-score: 1,2,3,4,7,8 HxCDF

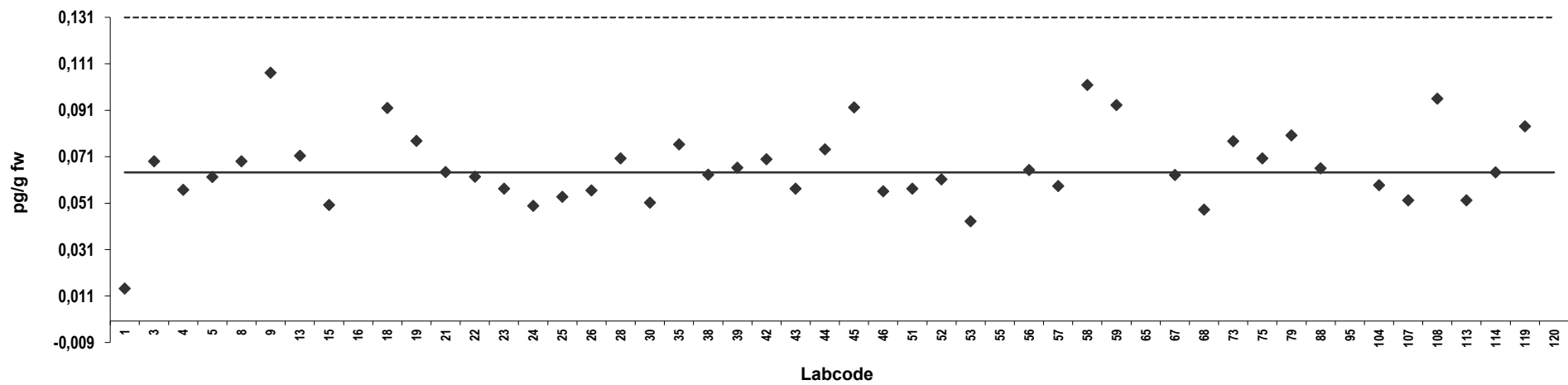


Egg yolk
Congener: 1,2,3,6,7,8 HxCDF

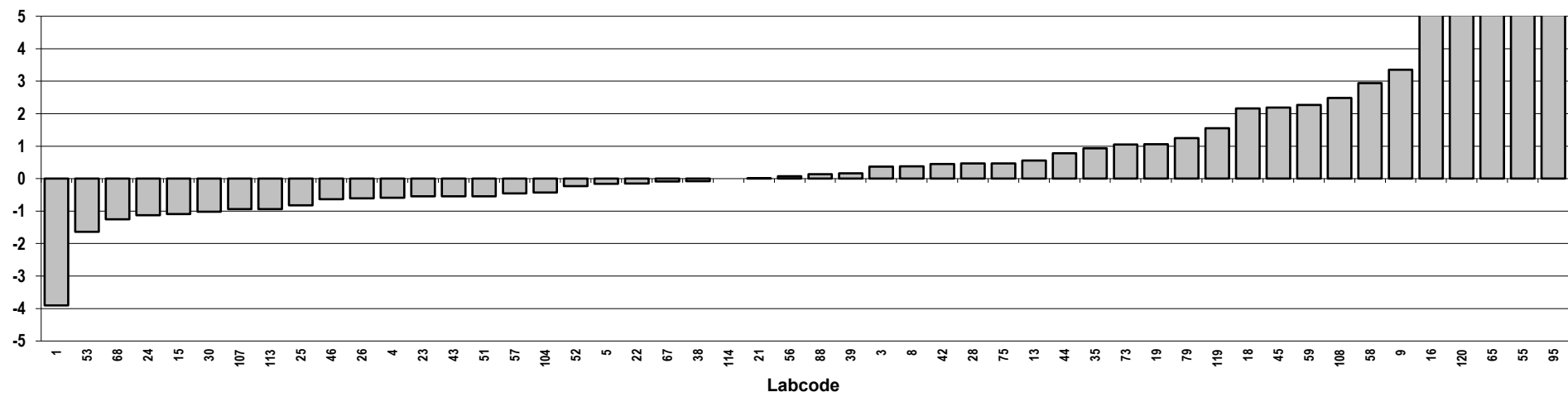
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,014	-3,9		108	0,096	2,5	
3	0,069	0,37		113	0,052	-0,94	
4	0,057	-0,59		114	0,064	0,00	
5	0,062	-0,16		119	0,084	1,6	
8	0,069	0,38		120	0,17	8,2	Outlier
9	0,11	3,4					
13	0,071	0,56					
15	0,050	-1,1					
16	0,15	6,5	Outlier				
18	0,092	2,2					
19	0,078	1,1					
21	0,064	0,016					
22	0,062	-0,15					
23	0,057	-0,55					
24	0,050	-1,1					
25	0,053	-0,82					
26	0,056	-0,61	ND				
28	0,070	0,47					
30	0,051	-1,0					
35	0,076	0,94					
38	0,063	-0,078					
39	0,066	0,16					
42	0,070	0,45					
43	0,057	-0,55					
44	0,074	0,78					
45	0,092	2,2					
46	0,056	-0,63					
51	0,057	-0,55					
52	0,061	-0,23					
53	0,043	-1,6					
55	0,29	18	Outlier				
56	0,065	0,078					
57	0,058	-0,46					
58	0,10	2,9					
59	0,093	2,3					
65	0,21	11	Outlier				
67	0,063	-0,086					
68	0,048	-1,3					
73	0,077	1,0					
75	0,070	0,47					
79	0,080	1,3					
88	0,066	0,14					
95	0,81	58	Outlier,ND				
104	0,059	-0,43					
107	0,052	-0,94					

Consensus statistics	
Consensus median, pg/g	0,064
Median all values pg/g	0,065
Consensus mean, pg/g	0,066
Standard deviation, pg/g	0,017
Relative standard deviation, %	26
No. of values reported	50
No. of values removed	5
No. of reported non-detects	2

1,2,3,6,7,8 HxCDF



Z-score: 1,2,3,6,7,8 HxCDF



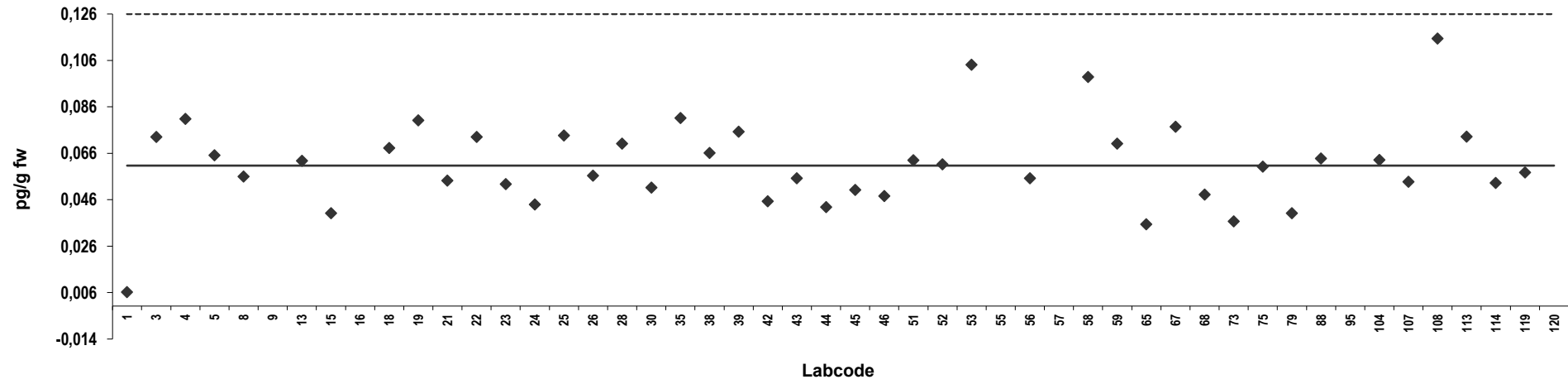
Egg yolk
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,0060	-4,5		108	0,12	4,5	
3	0,073	1,0		113	0,073	1,0	
4	0,081	1,7		114	0,053	-0,62	
5	0,065	0,37		119	0,058	-0,25	
8	0,056	-0,39		120	0,43	31	Outlier
9	0,13	5,5	Outlier				
13	0,063	0,17					
15	0,040	-1,7					
16	0,35	24	Outlier				
18	0,068	0,63					
19	0,080	1,6					
21	0,054	-0,54					
22	0,073	1,0					
23	0,053	-0,66					
24	0,044	-1,4					
25	0,073	1,1					
26	0,056	-0,36	ND				
28	0,070	0,79					
30	0,051	-0,79					
35	0,081	1,7					
38	0,066	0,45					
39	0,075	1,2					
42	0,045	-1,3					
43	0,055	-0,45					
44	0,043	-1,5					
45	0,050	-0,87	ND				
46	0,047	-1,1					
51	0,063	0,19					
52	0,061	0,041					
53	0,10	3,6					
55	0,25	16	Outlier				
56	0,055	-0,45					
57	0,16	8,1	Outlier				
58	0,099	3,2					
59	0,070	0,79					
65	0,035	-2,1					
67	0,077	1,4					
68	0,048	-1,0					
73	0,037	-2,0					
75	0,060	-0,041					
79	0,040	-1,7					
88	0,064	0,26					
95	0,68	51	Outlier,ND				
104	0,063	0,21					
107	0,054	-0,57					

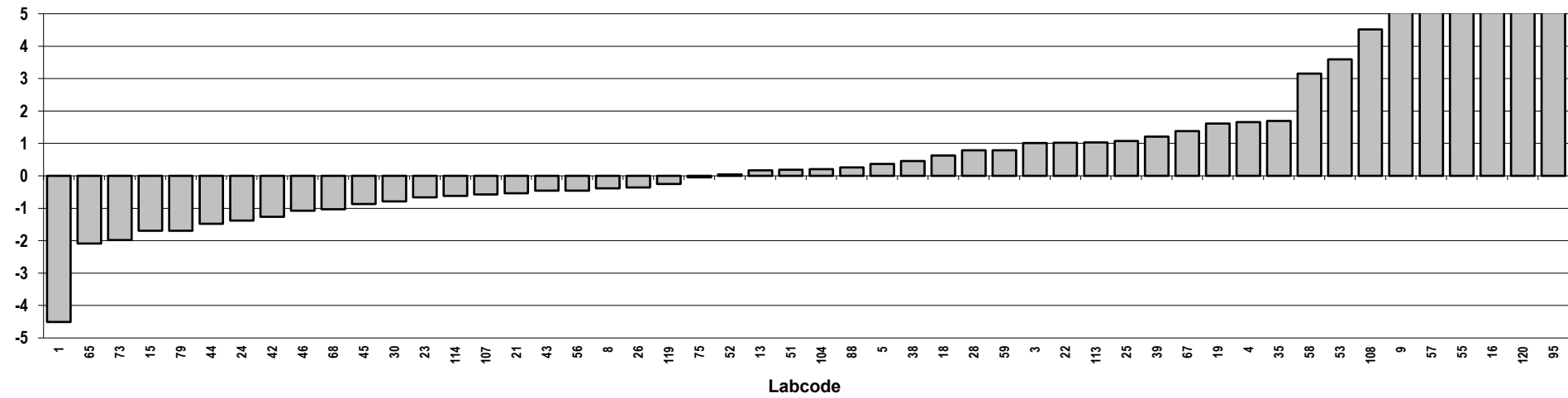
Consensus statistics

Consensus median, pg/g	0,061
Median all values pg/g	0,063
Consensus mean, pg/g	0,061
Standard deviation, pg/g	0,019
Relative standard deviation, %	31
No. of values reported	50
No. of values removed	6
No. of reported non-detects	3

2,3,4,6,7,8 HxCDF



Z-score: 2,3,4,6,7,8 HxCDF



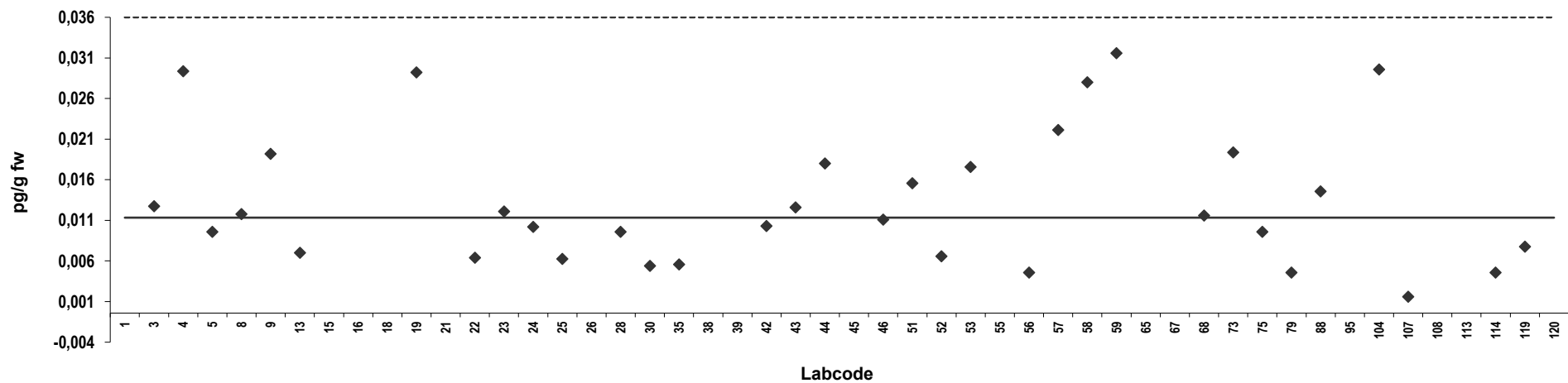
Egg yolk
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	16	Outlier,ND	108	0,062	21	Outlier
3	0,013	0,59		113	0,062	21	Outlier,ND
4	0,030	7,7		114	0,0050	-2,9	ND
5	0,010	-0,75	ND	119	0,0082	-1,5	ND
8	0,012	0,19		120	0,20	80	Outlier
9	0,020	3,3					
13	0,0074	-1,8					
15	0,050	16	Outlier,ND				
16	0,17	69	Outlier				
18	0,060	21	Outlier				
19	0,030	7,6	ND				
21	0,044	14	Outlier				
22	0,0068	-2,1	ND				
23	0,013	0,32	ND				
24	0,011	-0,49	ND				
25	0,0067	-2,2					
26	0,056	19	Outlier,ND				
28	0,010	-0,75	ND				
30	0,0058	-2,5					
35	0,0060	-2,4					
38	0,050	16	Outlier,ND				
39	0,050	16	Outlier,ND				
42	0,011	-0,44					
43	0,013	0,53	ND				
44	0,018	2,8	ND				
45	0,050	16	Outlier,ND				
46	0,012	-0,10	ND				
51	0,016	1,8	ND				
52	0,0070	-2,0					
53	0,018	2,7	ND				
55	0,050	16	Outlier,ND				
56	0,0050	-2,9	ND				
57	0,023	4,6	ND				
58	0,028	7,1					
59	0,032	8,6					
65	0,039	11	Outlier				
67	0,077	28	Outlier				
68	0,012	0,10					
73	0,020	3,4					
75	0,010	-0,75	ND				
79	0,0050	-2,9	ND				
88	0,015	1,4					
95	0,82	343	Outlier,ND				
104	0,030	7,8	ND				
107	0,0020	-4,1	ND				

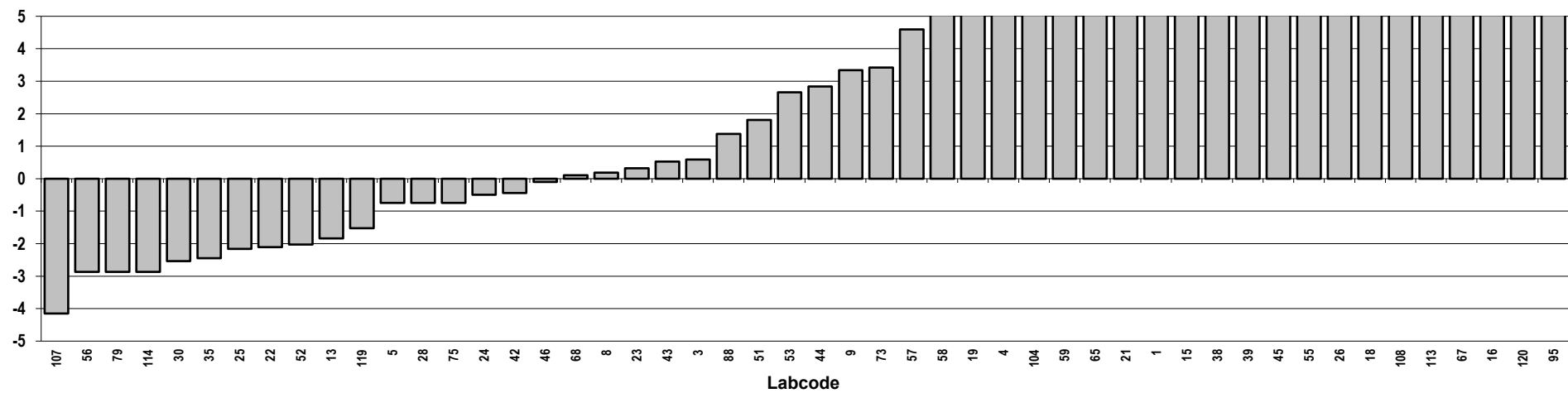
Consensus statistics

Consensus median, pg/g	0,012
Median all values pg/g	0,018
Consensus mean, pg/g	0,014
Standard deviation, pg/g	0,0083
Relative standard deviation, %	60
No. of values reported	50
No. of values removed	16
No. of reported non-detects	28

1,2,3,7,8,9 HxCDF



Z-score: 1,2,3,7,8,9 HxCDF

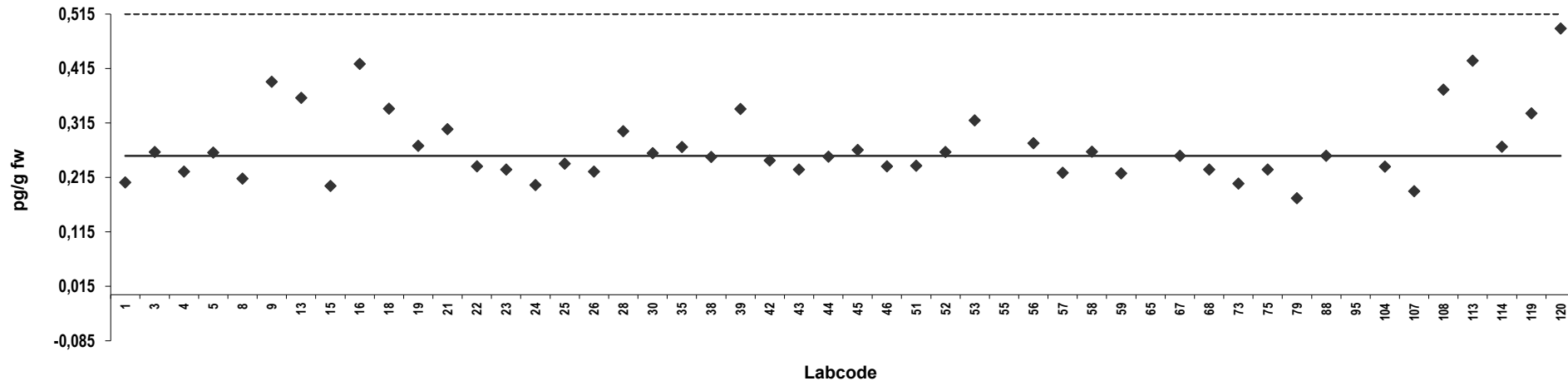


Egg yolk
Congener: 1,2,3,4,6,7,8 HpCDF

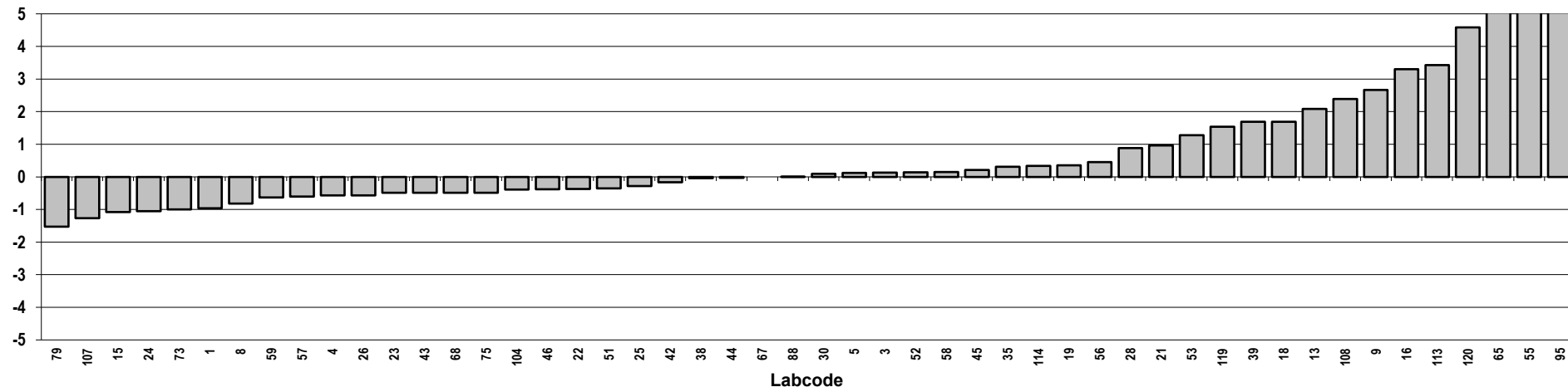
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,21	-0,96		108	0,38	2,4	
3	0,26	0,13		113	0,43	3,4	
4	0,23	-0,57		114	0,27	0,33	
5	0,26	0,12		119	0,33	1,5	
8	0,21	-0,82		120	0,49	4,6	
9	0,39	2,7					
13	0,36	2,1					
15	0,20	-1,1					
16	0,42	3,3					
18	0,34	1,7					
19	0,27	0,36					
21	0,30	0,96					
22	0,24	-0,37					
23	0,23	-0,49					
24	0,20	-1,0					
25	0,24	-0,28					
26	0,23	-0,57					
28	0,30	0,88					
30	0,26	0,098					
35	0,27	0,31					
38	0,25	-0,039					
39	0,34	1,7					
42	0,25	-0,16					
43	0,23	-0,49					
44	0,25	-0,032					
45	0,27	0,22					
46	0,24	-0,38					
51	0,24	-0,35					
52	0,26	0,14					
53	0,32	1,3					
55	1,1	17	Outlier				
56	0,28	0,45					
57	0,22	-0,61					
58	0,26	0,15					
59	0,22	-0,63					
65	0,92	13	Outlier				
67	0,26	0,00					
68	0,23	-0,49					
73	0,20	-1,0					
75	0,23	-0,49					
79	0,18	-1,5					
88	0,26	0,0072					
95	2,2	39	Outlier				
104	0,24	-0,39					
107	0,19	-1,3					

Consensus statistics	
Consensus median, pg/g	0,26
Median all values pg/g	0,26
Consensus mean, pg/g	0,27
Standard deviation, pg/g	0,067
Relative standard deviation, %	25
No. of values reported	50
No. of values removed	3
No. of reported non-detects	0

1,2,3,4,6,7,8 HpCDF



Z-score: 1,2,3,4,6,7,8 HpCDF



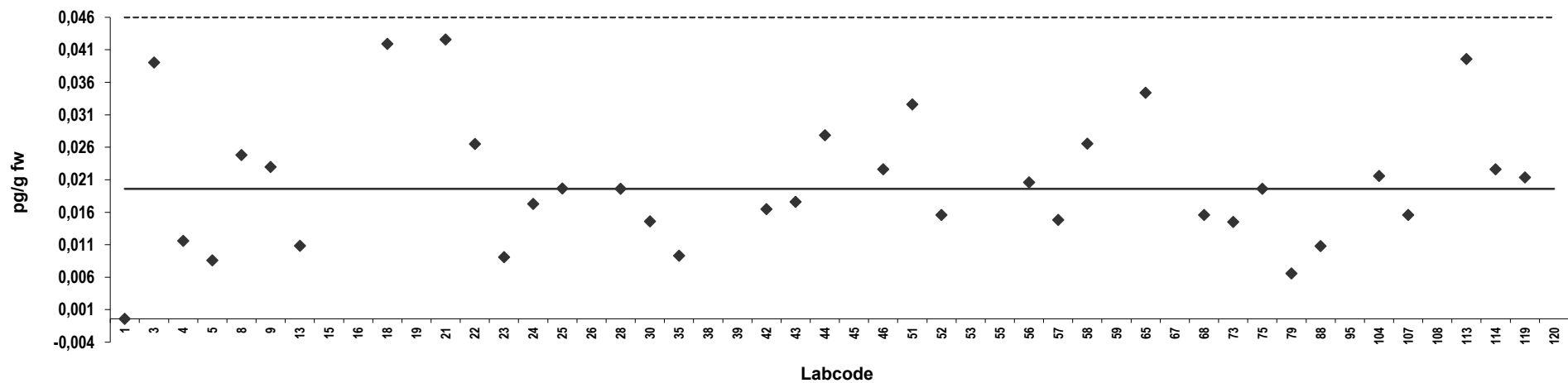
Egg yolk
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,00	-5,0		108	0,063	11	Outlier
3	0,039	4,9		113	0,040	5,0	
4	0,012	-2,0	ND	114	0,023	0,75	
5	0,0090	-2,8		119	0,022	0,44	
8	0,025	1,3		120	0,15	33	Outlier
9	0,023	0,84					
13	0,011	-2,2					
15	0,10	20	Outlier,ND				
16	0,17	39	Outlier				
18	0,042	5,6					
19	0,051	7,7	Outlier,ND				
21	0,043	5,8					
22	0,027	1,7					
23	0,0095	-2,6	ND				
24	0,018	-0,58					
25	0,020	0,011					
26	0,056	9,1	Outlier,ND				
28	0,020	0,00					
30	0,015	-1,3					
35	0,0097	-2,6					
38	0,050	7,5	Outlier,ND				
39	0,050	7,5	Outlier,ND				
42	0,017	-0,79					
43	0,018	-0,50	ND				
44	0,028	2,1					
45	0,10	20	Outlier,ND				
46	0,023	0,76	ND				
51	0,033	3,3	ND				
52	0,016	-1,0					
53	0,64	154	Outlier				
55	0,080	15	Outlier				
56	0,021	0,25					
57	0,015	-1,2	ND				
58	0,027	1,7					
59	0,075	14	Outlier				
65	0,035	3,7					
67	0,049	7,2	Outlier,ND				
68	0,016	-1,0					
73	0,015	-1,3					
75	0,020	0,00					
79	0,0070	-3,3	ND				
88	0,011	-2,2					
95	0,34	79	Outlier,ND				
104	0,022	0,50					
107	0,016	-1,0					

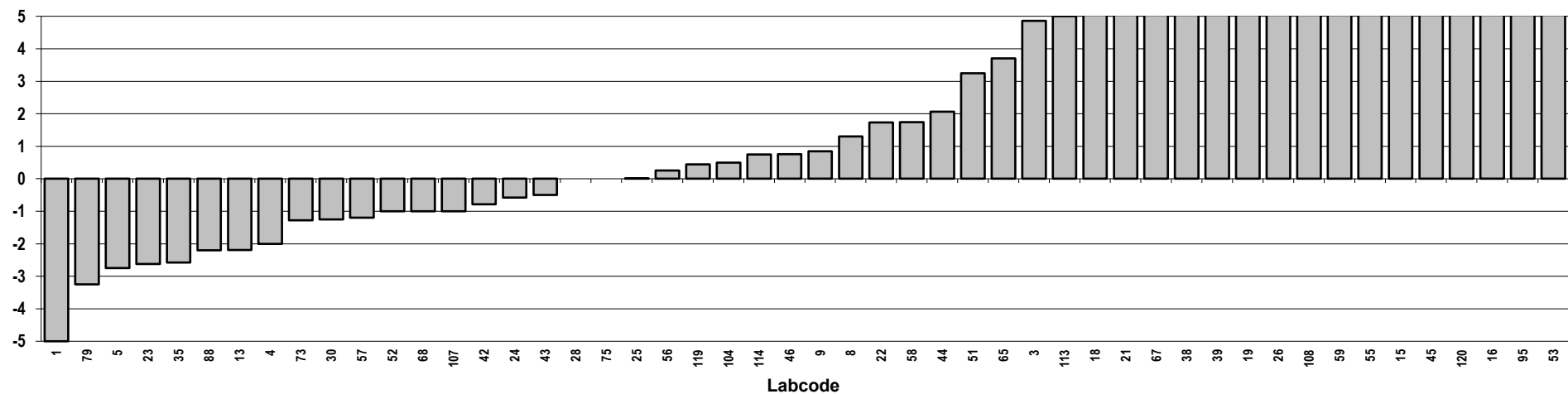
Consensus statistics

Consensus median, pg/g	0,020
Median all values pg/g	0,023
Consensus mean, pg/g	0,021
Standard deviation, pg/g	0,010
Relative standard deviation, %	49
No. of values reported	50
No. of values removed	14
No. of reported non-detects	15

1,2,3,4,7,8,9 HpCDF



Z-score: 1,2,3,4,7,8,9 HpCDF

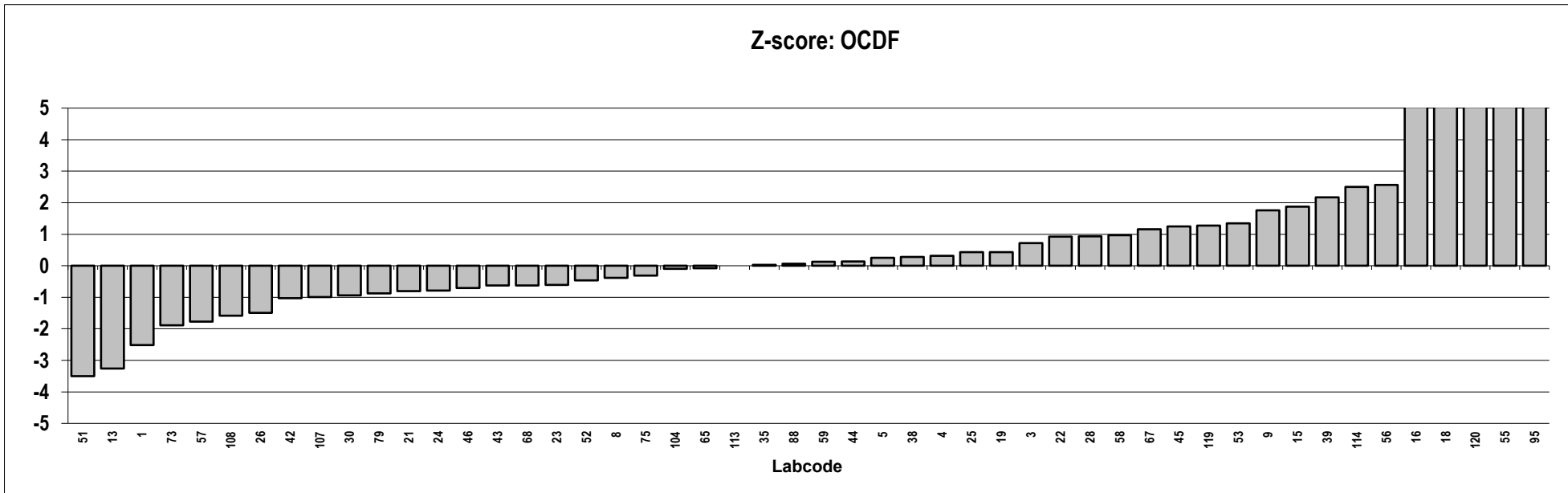
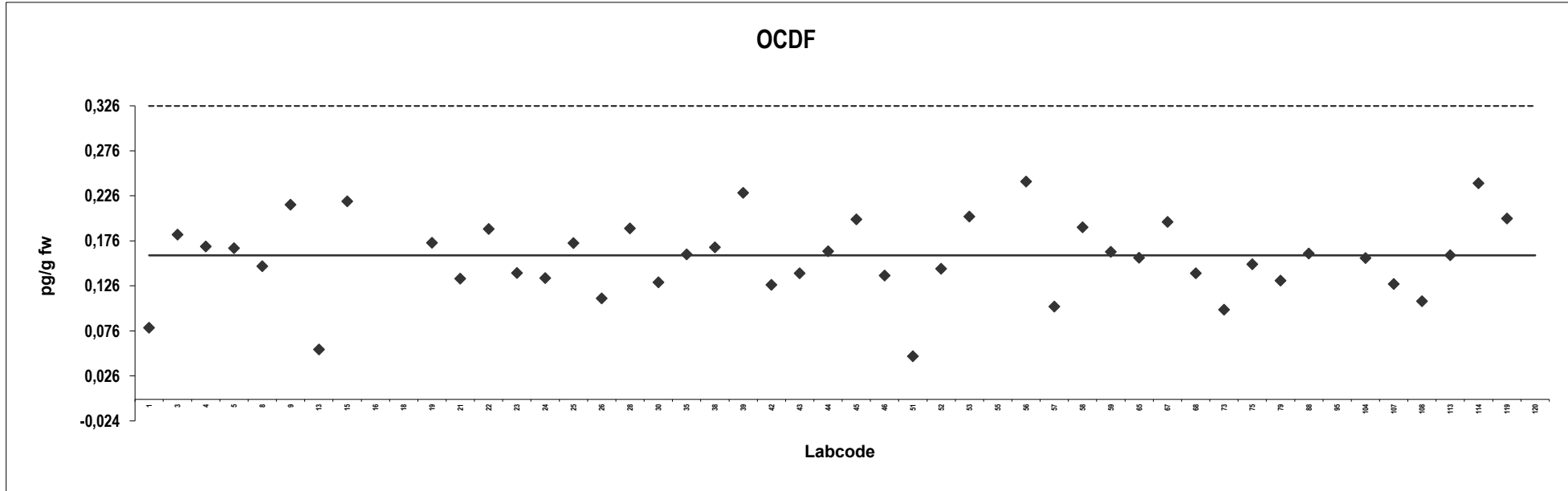


Egg yolk
Congener: OCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,080	-2,5		108	0,11	-1,6	
3	0,18	0,72		113	0,16	0,00	
4	0,17	0,31		114	0,24	2,5	
5	0,17	0,25		119	0,20	1,3	
8	0,15	-0,38		120	0,50	11	Outlier
9	0,22	1,8					
13	0,056	-3,3					
15	0,22	1,9					
16	0,38	6,9	Outlier				
18	0,41	7,7	Outlier				
19	0,17	0,43					
21	0,13	-0,81					
22	0,19	0,92					
23	0,14	-0,61					
24	0,13	-0,79					
25	0,17	0,43					
26	0,11	-1,5	ND				
28	0,19	0,94					
30	0,13	-0,94					
35	0,16	0,031					
38	0,17	0,28					
39	0,23	2,2					
42	0,13	-1,0					
43	0,14	-0,63					
44	0,16	0,14					
45	0,20	1,3	ND				
46	0,14	-0,71					
51	0,048	-3,5	ND				
52	0,15	-0,47					
53	0,20	1,3					
55	0,64	15	Outlier				
56	0,24	2,6					
57	0,10	-1,8					
58	0,19	0,97					
59	0,16	0,13					
65	0,16	-0,080					
67	0,20	1,2					
68	0,14	-0,63					
73	0,10	-1,9					
75	0,15	-0,31					
79	0,13	-0,88					
88	0,16	0,065					
95	0,97	25	Outlier				
104	0,16	-0,094					
107	0,13	-0,99					

Consensus statistics

Consensus median, pg/g	0,16
Median all values pg/g	0,16
Consensus mean, pg/g	0,16
Standard deviation, pg/g	0,044
Relative standard deviation, %	28
No. of values reported	50
No. of values removed	5
No. of reported non-detects	3

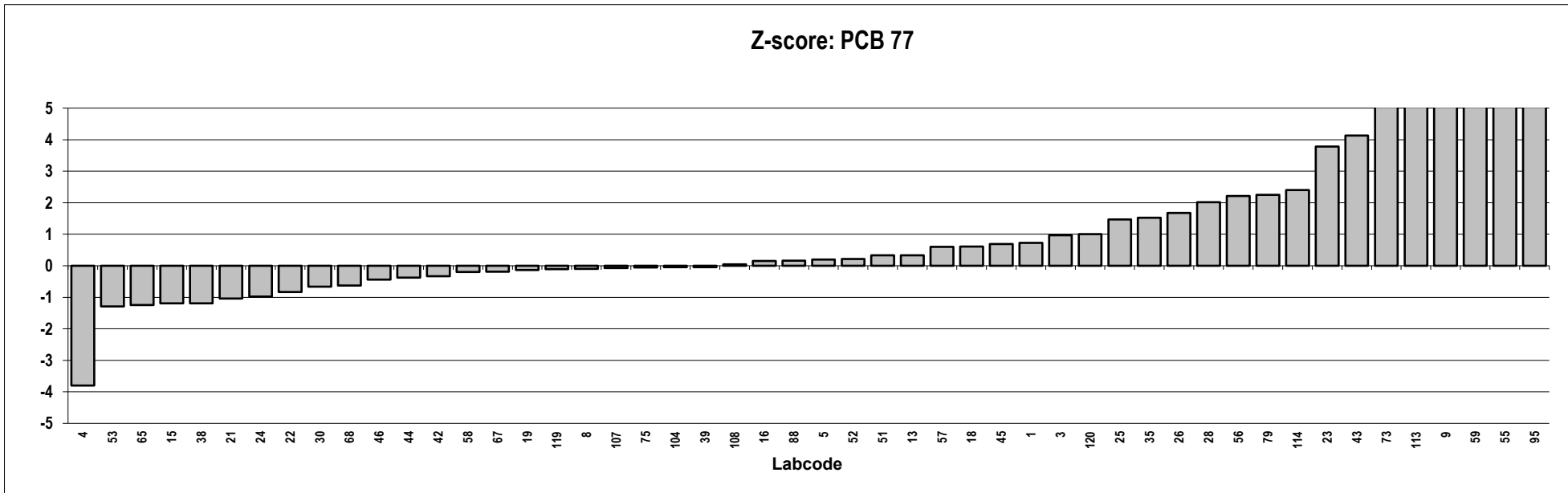
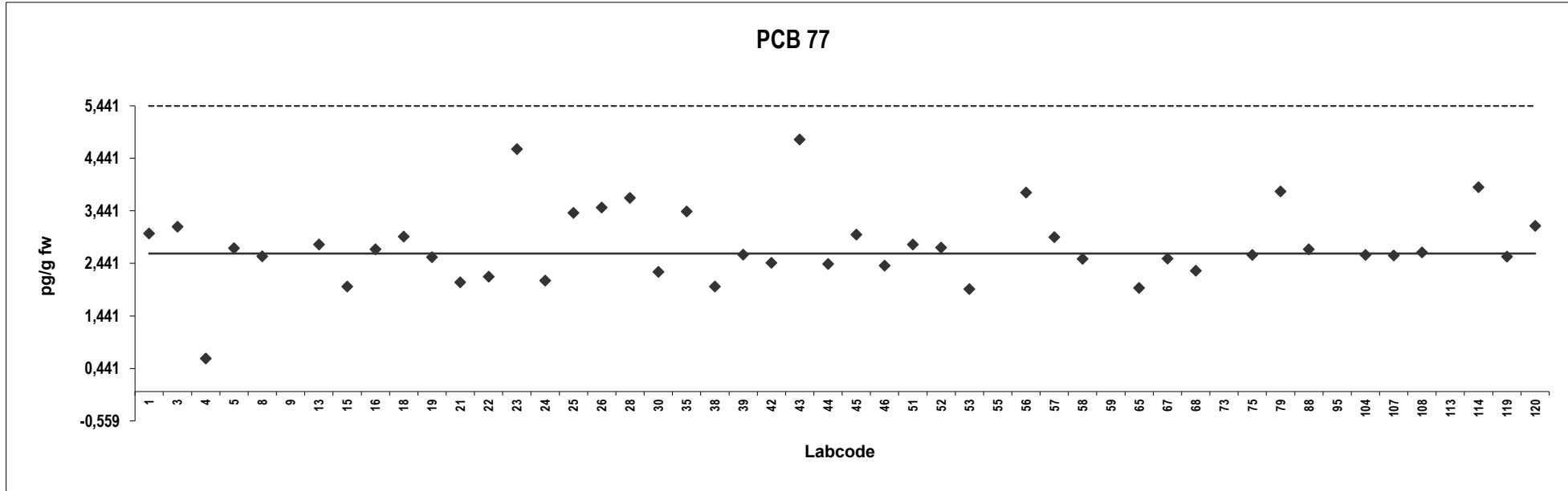


Egg yolk
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	3,0	0,72		108	2,7	0,045	
3	3,1	0,97		113	5,8	6,0	Outlier
4	0,63	-3,8	ND	114	3,9	2,4	
5	2,7	0,19		119	2,6	-0,11	
8	2,6	-0,10		120	3,2	1,0	
9	5,8	6,1	Outlier				
13	2,8	0,33					
15	2,0	-1,2					
16	2,7	0,15					
18	3,0	0,61					
19	2,6	-0,14					
21	2,1	-1,0					
22	2,2	-0,84					
23	4,6	3,8					
24	2,1	-0,98					
25	3,4	1,5					
26	3,5	1,7					
28	3,7	2,0					
30	2,3	-0,66					
35	3,4	1,5					
38	2,0	-1,2	ND				
39	2,6	-0,045					
42	2,5	-0,33					
43	4,8	4,1					
44	2,4	-0,38					
45	3,0	0,69					
46	2,4	-0,44					
51	2,8	0,33					
52	2,7	0,22					
53	2,0	-1,3					
55	11	15	Outlier				
56	3,8	2,2					
57	2,9	0,60					
58	2,5	-0,20					
59	7,2	8,8	Outlier				
65	2,0	-1,2					
67	2,5	-0,19					
68	2,3	-0,62					
73	5,5	5,4	Outlier				
75	2,6	-0,054					
79	3,8	2,2					
88	2,7	0,16					
95	11	16	Outlier				
104	2,6	-0,048					
107	2,6	-0,073					

Consensus statistics

Consensus median, pg/g	2,6
Median all values pg/g	2,7
Consensus mean, pg/g	2,8
Standard deviation, pg/g	0,73
Relative standard deviation, %	26
No. of values reported	50
No. of values removed	6
No. of reported non-detects	2

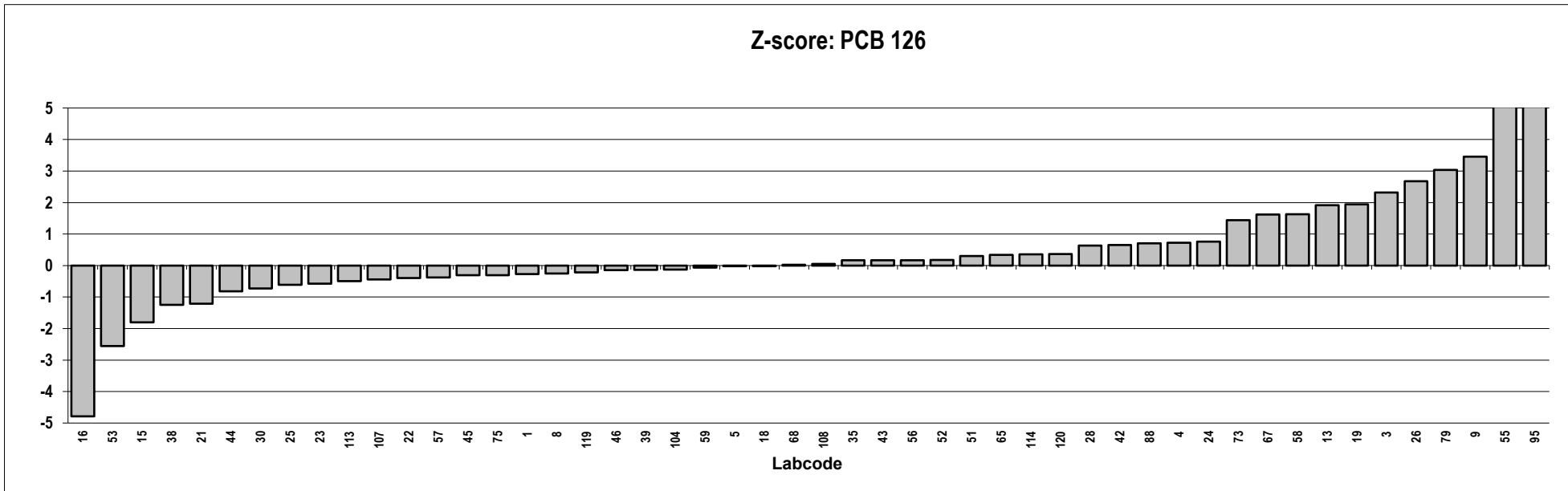
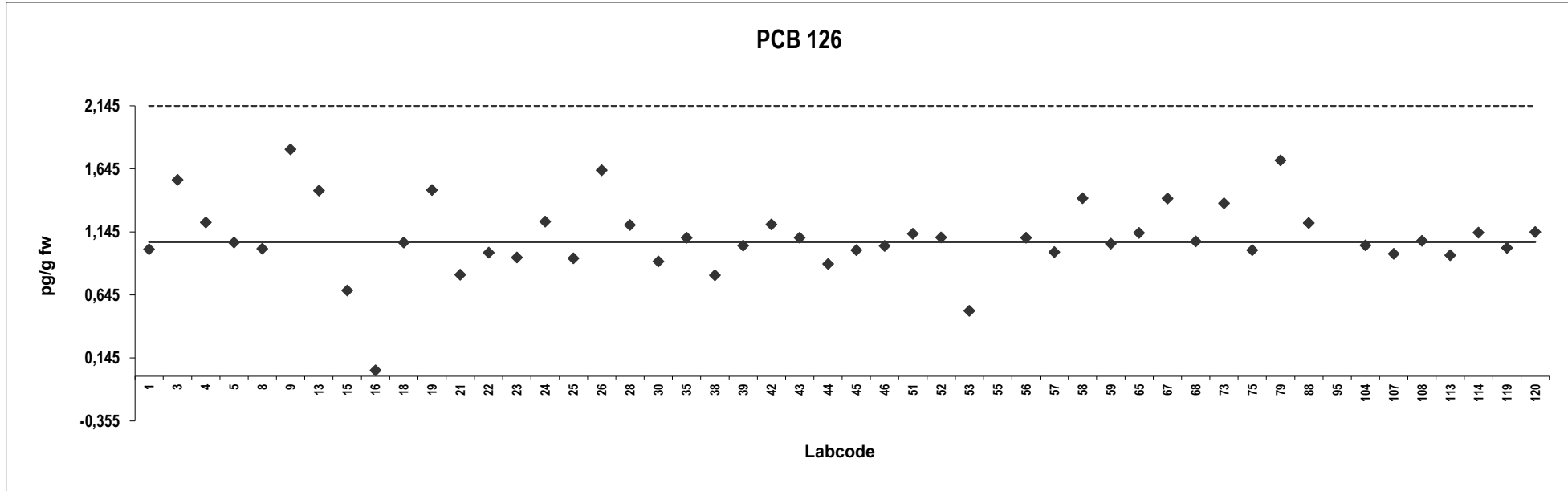


Egg yolk
Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	1,0	-0,27		108	1,1	0,048	
3	1,6	2,3		113	0,96	-0,49	
4	1,2	0,73		114	1,1	0,35	
5	1,1	-0,023		119	1,0	-0,22	
8	1,0	-0,25		120	1,1	0,37	
9	1,8	3,5					
13	1,5	1,9					
15	0,68	-1,8					
16	0,046	-4,8					
18	1,1	-0,023					
19	1,5	1,9					
21	0,81	-1,2					
22	0,98	-0,40					
23	0,94	-0,58					
24	1,2	0,76					
25	0,94	-0,61					
26	1,6	2,7					
28	1,2	0,63					
30	0,91	-0,73					
35	1,1	0,16					
38	0,80	-1,2	ND				
39	1,0	-0,14					
42	1,2	0,65					
43	1,1	0,16					
44	0,89	-0,81					
45	1,0	-0,31					
46	1,0	-0,14					
51	1,1	0,31					
52	1,1	0,17					
53	0,52	-2,6	ND				
55	4,9	18	Outlier				
56	1,1	0,16					
57	0,98	-0,38					
58	1,4	1,6					
59	1,1	-0,066					
65	1,1	0,34					
67	1,4	1,6					
68	1,1	0,023					
73	1,4	1,4					
75	1,0	-0,31					
79	1,7	3,0					
88	1,2	0,70					
95	5,8	22	Outlier				
104	1,0	-0,13					
107	0,97	-0,44					

Consensus statistics

Consensus median, pg/g	1,1
Median all values pg/g	1,1
Consensus mean, pg/g	1,1
Standard deviation, pg/g	0,29
Relative standard deviation, %	27
No. of values reported	50
No. of values removed	2
No. of reported non-detects	2



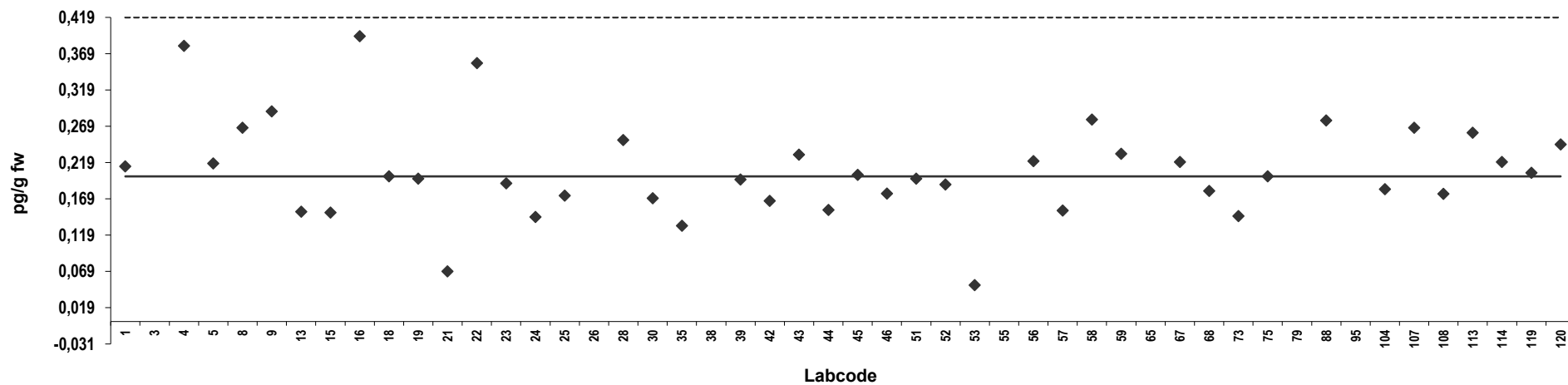
Egg yolk
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,21	0,35		108	0,18	-0,60	
3	0,75	14	Outlier	113	0,26	1,5	
4	0,38	4,5	ND	114	0,22	0,50	
5	0,22	0,45		119	0,21	0,13	
8	0,27	1,7		120	0,24	1,1	
9	0,29	2,2					
13	0,15	-1,2					
15	0,15	-1,3					
16	0,39	4,8					
18	0,20	0,00					
19	0,20	-0,078					
21	0,069	-3,3	ND				
22	0,36	3,9					
23	0,19	-0,24					
24	0,14	-1,4					
25	0,17	-0,66					
26	0,56	9,0	Outlier,ND				
28	0,25	1,3					
30	0,17	-0,75					
35	0,13	-1,7					
38	0,80	15	Outlier,ND				
39	0,20	-0,11					
42	0,17	-0,84					
43	0,23	0,75					
44	0,15	-1,2					
45	0,20	0,050					
46	0,18	-0,59					
51	0,20	-0,075					
52	0,19	-0,28					
53	0,050	-3,8	ND				
55	1,0	20	Outlier				
56	0,22	0,53					
57	0,15	-1,2					
58	0,28	2,0					
59	0,23	0,78					
65	0,43	5,9	Outlier				
67	0,22	0,50					
68	0,18	-0,50					
73	0,15	-1,4					
75	0,20	0,00					
79	0,54	8,5	Outlier				
88	0,28	1,9					
95	1,5	32	Outlier,ND				
104	0,18	-0,44					
107	0,27	1,7					

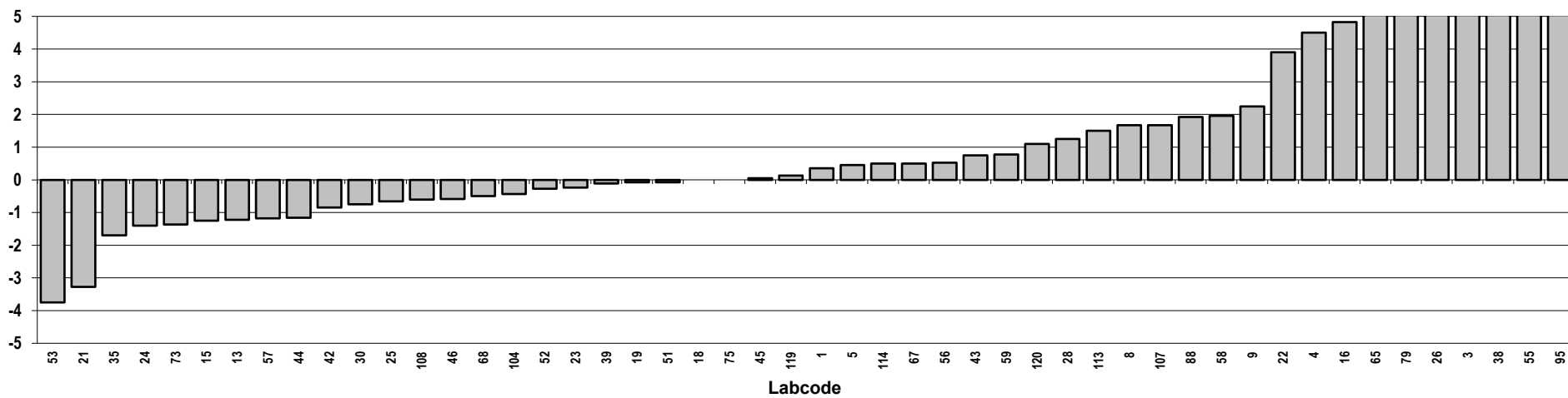
Consensus statistics

Consensus median, pg/g	0,20
Median all values pg/g	0,21
Consensus mean, pg/g	0,21
Standard deviation, pg/g	0,068
Relative standard deviation, %	33
No. of values reported	50
No. of values removed	7
No. of reported non-detects	6

PCB 169



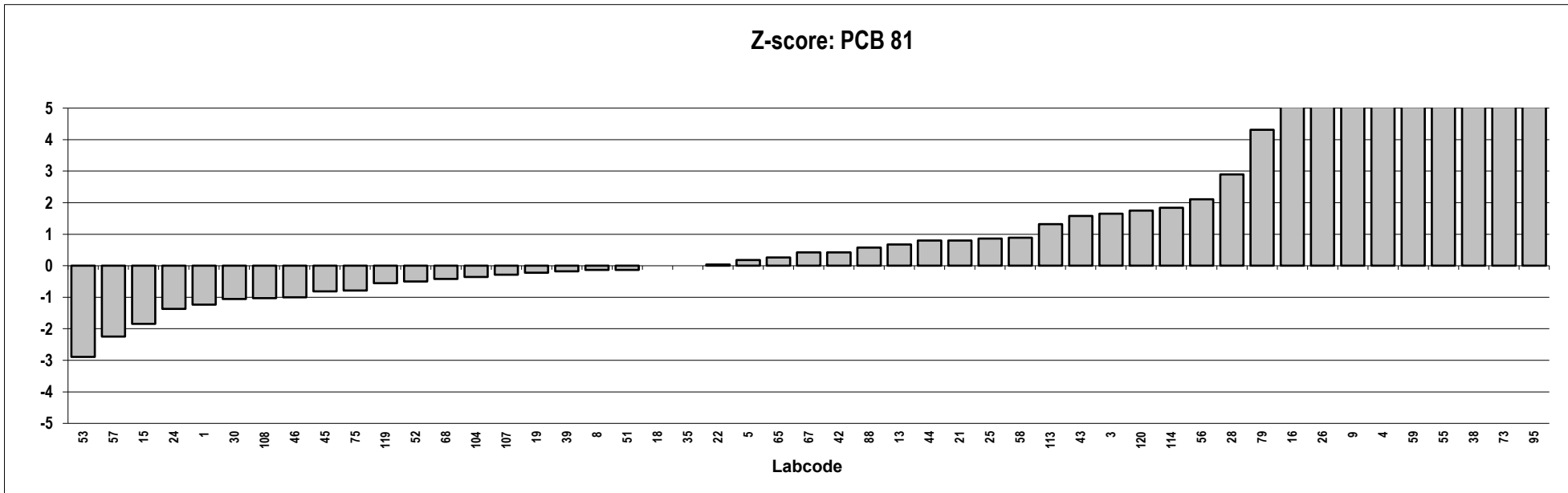
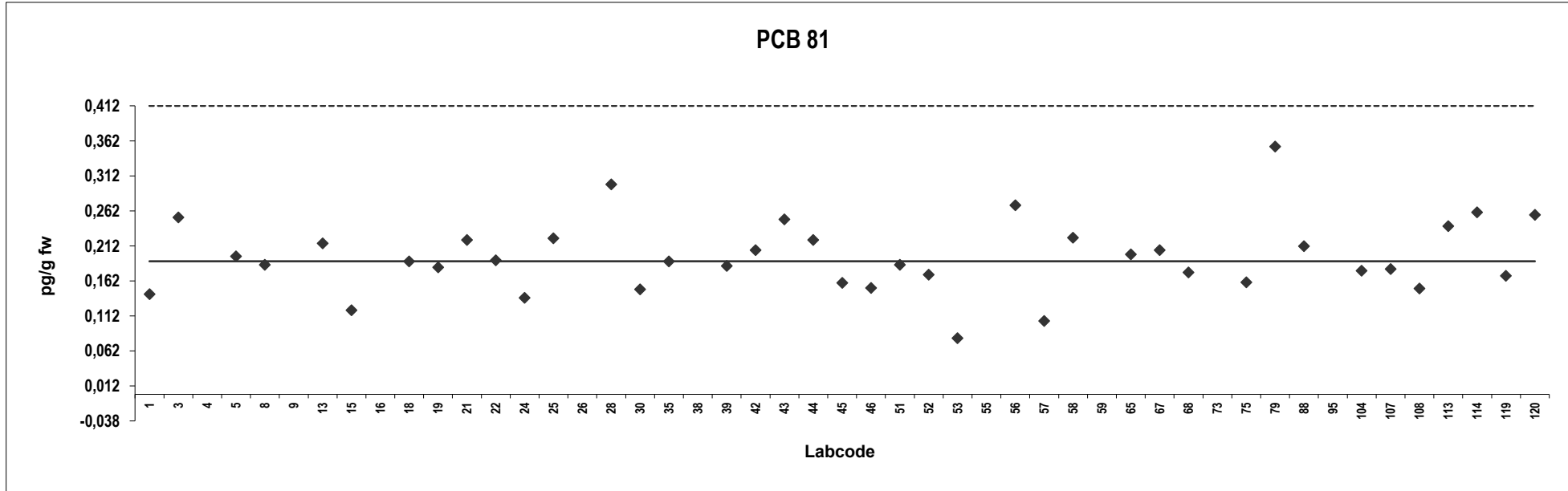
Z-score: PCB 169



Egg yolk
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,14	-1,2		113	0,24	1,3	
3	0,25	1,7		114	0,26	1,8	
4	0,62	11	Outlier,ND	119	0,17	-0,55	
5	0,20	0,18		120	0,26	1,7	
8	0,19	-0,13					
9	0,61	11	Outlier				
13	0,22	0,68					
15	0,12	-1,8					
16	0,48	7,7	Outlier				
18	0,19	0,00					
19	0,18	-0,23					
21	0,22	0,80					
22	0,19	0,041					
24	0,14	-1,4					
25	0,22	0,86					
26	0,56	9,8	Outlier,ND				
28	0,30	2,9					
30	0,15	-1,1					
35	0,19	0,00					
38	0,80	16	Outlier,ND				
39	0,18	-0,18					
42	0,21	0,42					
43	0,25	1,6					
44	0,22	0,80					
45	0,16	-0,82					
46	0,15	-1,0					
51	0,19	-0,13					
52	0,17	-0,50					
53	0,080	-2,9	ND				
55	0,79	16	Outlier				
56	0,27	2,1					
57	0,10	-2,2					
58	0,22	0,89					
59	0,73	14	Outlier				
65	0,20	0,26	ND				
67	0,21	0,42					
68	0,17	-0,42					
73	1,0	21	Outlier				
75	0,16	-0,79					
79	0,35	4,3					
88	0,21	0,57					
95	1,3	28	Outlier,ND				
104	0,18	-0,36					
107	0,18	-0,29					
108	0,15	-1,0					

Consensus statistics	
Consensus median, pg/g	0,19
Median all values pg/g	0,21
Consensus mean, pg/g	0,20
Standard deviation, pg/g	0,052
Relative standard deviation, %	27
No. of values reported	49
No. of values removed	9
No. of reported non-detects	6



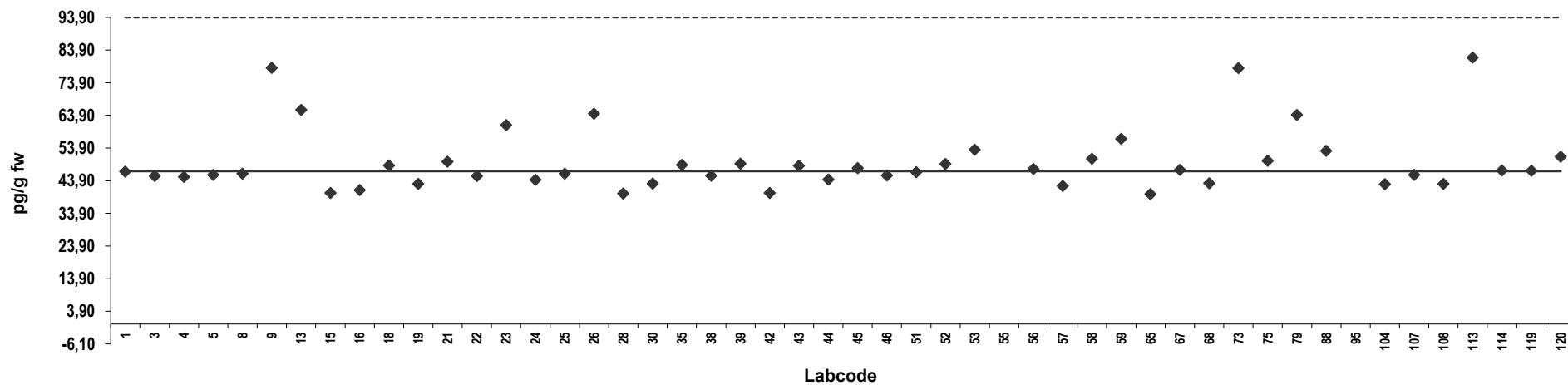
Egg yolk
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	47	-0,011		108	43	-0,41	
3	45	-0,16		113	82	3,7	
4	45	-0,18		114	47	0,022	
5	46	-0,12		119	47	0,011	
8	46	-0,083		120	51	0,48	
9	78	3,4					
13	66	2,0					
15	40	-0,72					
16	41	-0,62					
18	49	0,19					
19	43	-0,42					
21	50	0,31					
22	45	-0,16					
23	61	1,5					
24	44	-0,28					
25	46	-0,079					
26	64	1,9					
28	40	-0,73	ND				
30	43	-0,41					
35	49	0,20					
38	45	-0,15					
39	49	0,25					
42	40	-0,71					
43	49	0,18					
44	44	-0,27					
45	48	0,098					
46	45	-0,14					
51	47	-0,032					
52	49	0,24					
53	53	0,71					
55	171	13	Outlier				
56	48	0,075					
57	42	-0,48					
58	51	0,41					
59	57	1,1					
65	40	-0,75					
67	47	0,043					
68	43	-0,40					
73	78	3,4					
75	50	0,34					
79	64	1,8					
88	53	0,66					
95	181	14	Outlier				
104	43	-0,42					
107	46	-0,11					

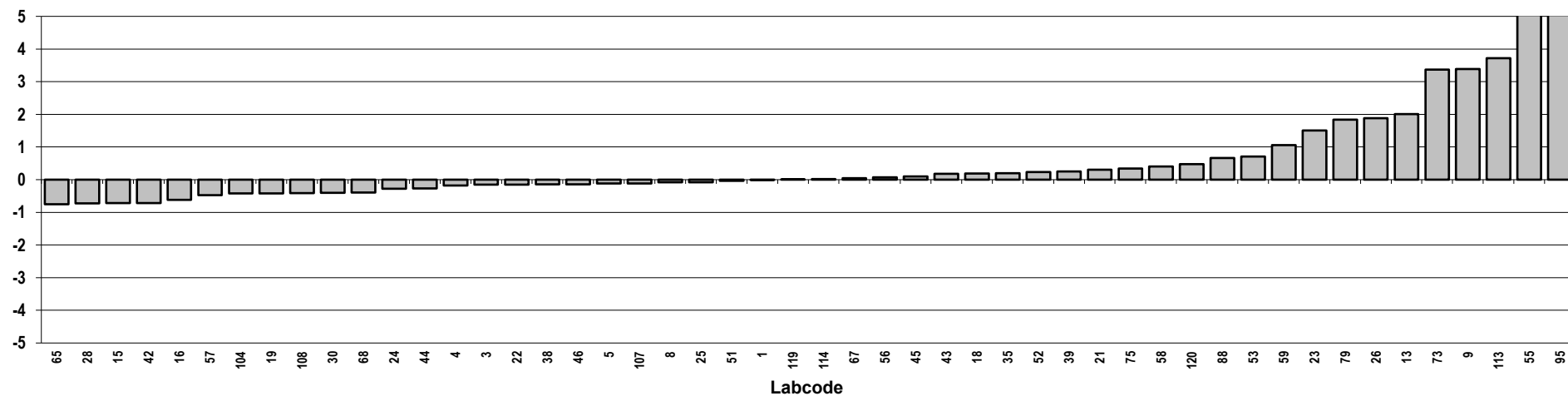
Consensus statistics

Consensus median, pg/g	47
Median all values pg/g	47
Consensus mean, pg/g	50
Standard deviation, pg/g	9,8
Relative standard deviation, %	20
No. of values reported	50
No. of values removed	2
No. of reported non-detects	1

PCB 105



Z-score: PCB 105

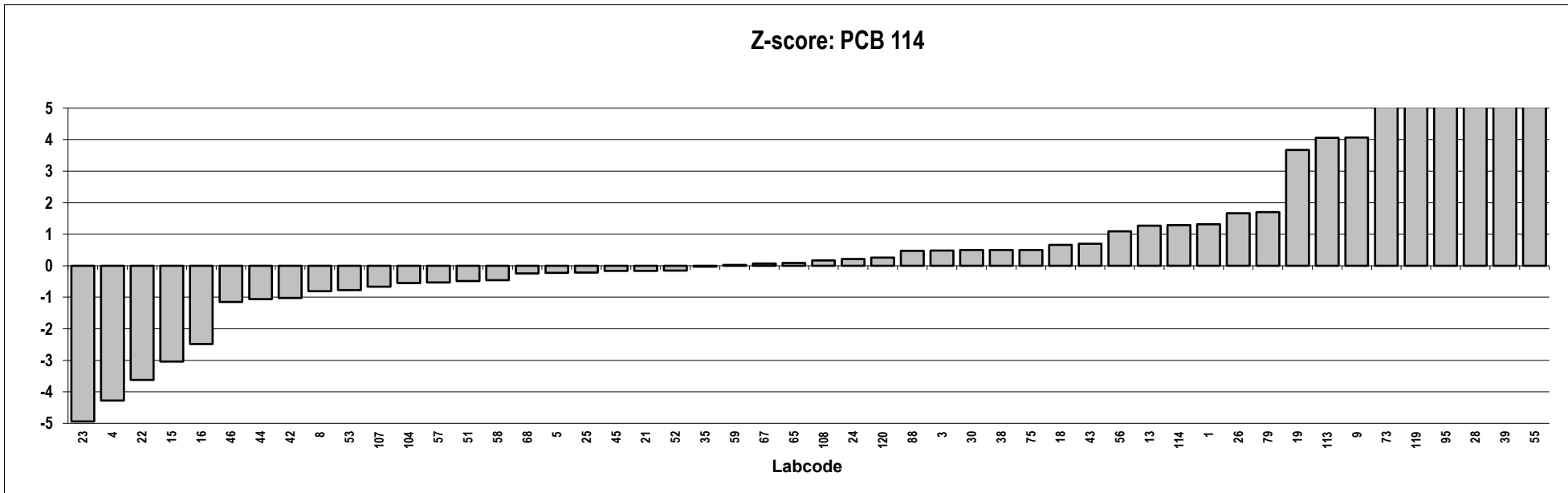
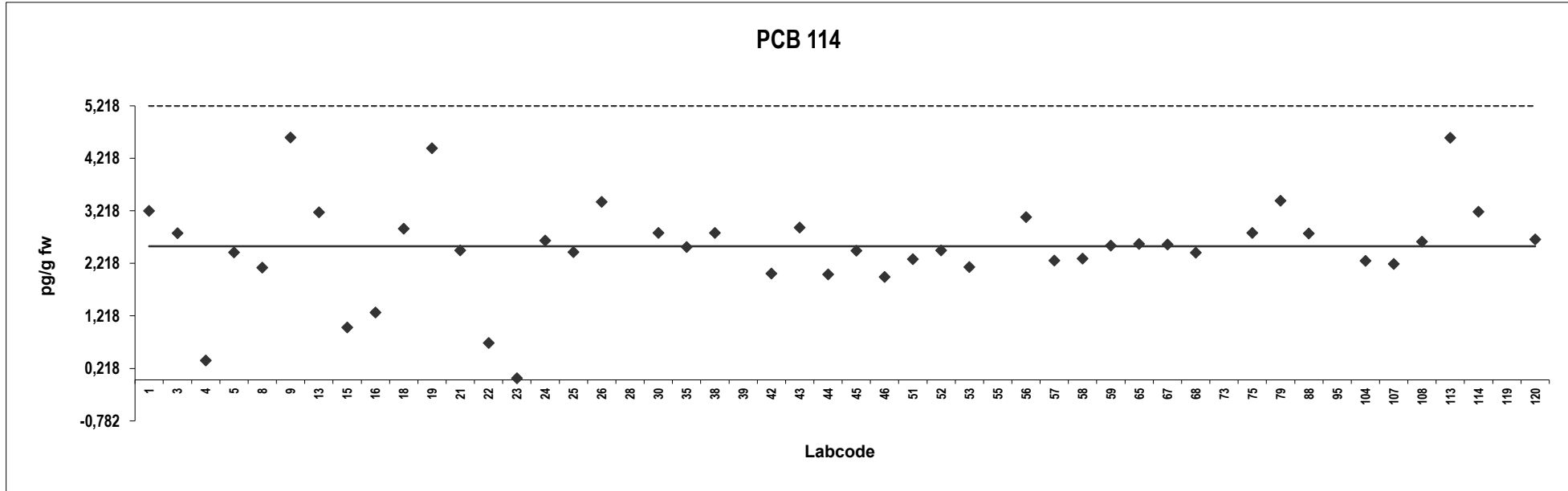


Egg yolk
Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	3,2	1,3		108	2,6	0,17	
3	2,8	0,48		113	4,6	4,1	
4	0,37	-4,3	ND	114	3,2	1,3	
5	2,4	-0,22		119	8,3	11	Outlier,ND
8	2,1	-0,80		120	2,7	0,26	
9	4,6	4,1					
13	3,2	1,3					
15	1,0	-3,0	ND				
16	1,3	-2,5					
18	2,9	0,66					
19	4,4	3,7					
21	2,5	-0,16					
22	0,70	-3,6	ND				
23	0,032	-4,9	ND				
24	2,7	0,22	ND				
25	2,4	-0,22					
26	3,4	1,7					
28	10	15	Outlier,ND				
30	2,8	0,50	ND				
35	2,5	-0,028					
38	2,8	0,50					
39	10	15	Outlier,ND				
42	2,0	-1,0					
43	2,9	0,70					
44	2,0	-1,1					
45	2,5	-0,17					
46	2,0	-1,1					
51	2,3	-0,49	ND				
52	2,5	-0,16					
53	2,2	-0,77					
55	10	15	Outlier,ND				
56	3,1	1,1					
57	2,3	-0,53					
58	2,3	-0,46					
59	2,6	0,028					
65	2,6	0,086					
67	2,6	0,071					
68	2,4	-0,24					
73	5,4	5,7	Outlier				
75	2,8	0,50					
79	3,4	1,7					
88	2,8	0,48					
95	8,6	12	Outlier				
104	2,3	-0,54					
107	2,2	-0,67					

Consensus statistics

Consensus median, pg/g	2,5
Median all values pg/g	2,6
Consensus mean, pg/g	2,5
Standard deviation, pg/g	0,91
Relative standard deviation, %	36
No. of values reported	50
No. of values removed	6
No. of reported non-detects	11

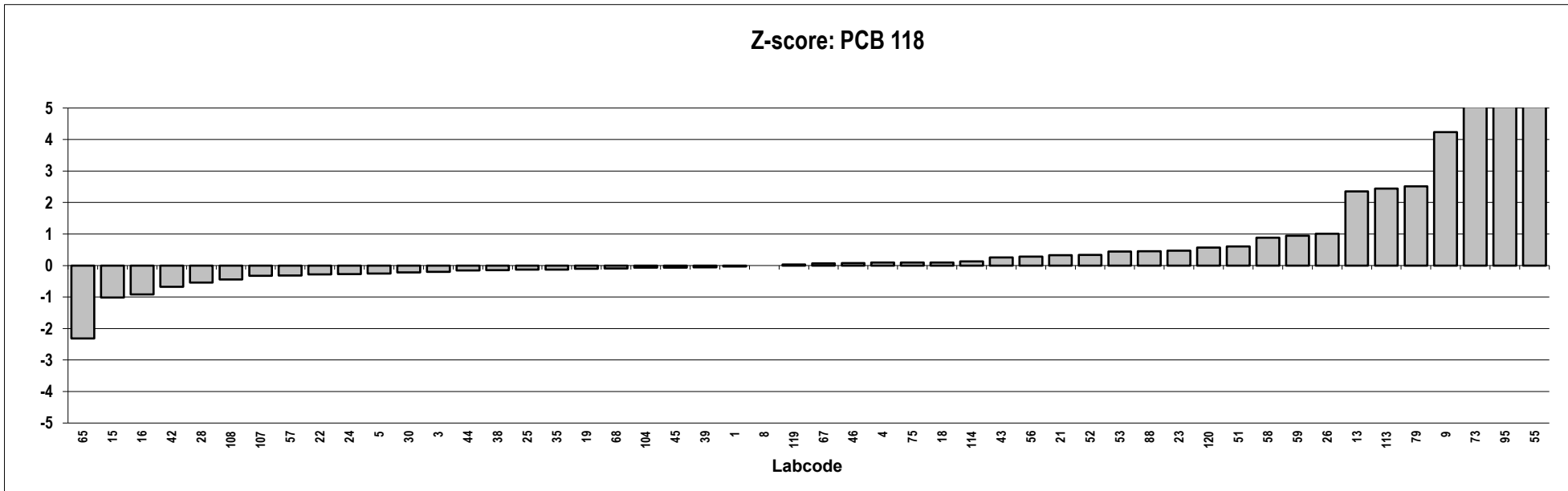
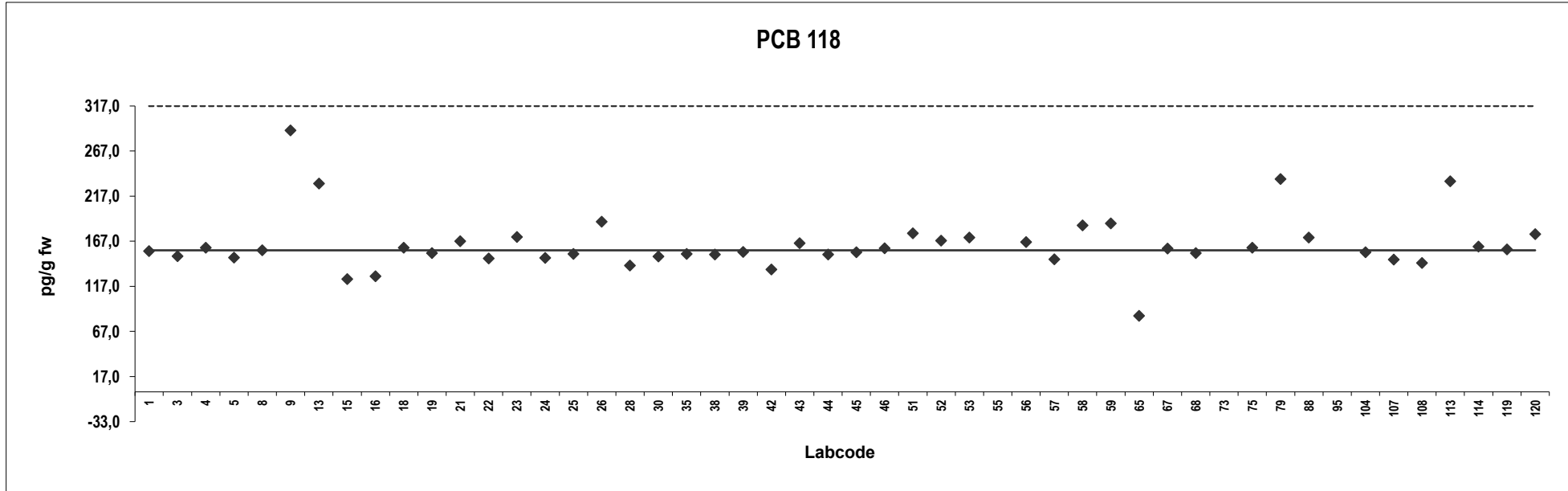


Egg yolk
Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	156	-0,031		108	143	-0,44	
3	151	-0,20		113	234	2,4	
4	160	0,096		114	161	0,13	
5	149	-0,25		119	158	0,033	
8	157	0,00		120	175	1	
9	290	4,2					
13	231	2,4					
15	125	-1,0					
16	128	-0,92					
18	160	0,097					
19	154	-0,10					
21	167	0,32					
22	148	-0,28					
23	172	0,47					
24	149	-0,27					
25	153	-0,13					
26	189	1,0					
28	140	-0,54					
30	150	-0,22					
35	153	-0,13					
38	152	-0,15					
39	155	-0,06					
42	136	-0,67					
43	165	0,26					
44	152	-0,15					
45	155	-0,065					
46	159	0,076					
51	176	0,61					
52	168	0,34					
53	171	0,45					
55	596	14	Outlier				
56	166	0,29					
57	147	-0,32					
58	185	0,88					
59	187	0,95					
65	84	-2,3					
67	159	0,065					
68	154	-0,095					
73	345	6,0	Outlier				
75	160	0,096					
79	236	2,5					
88	171	0,45					
95	535	12	Outlier				
104	155	-0,068					
107	147	-0,33					

Consensus statistics

Consensus median, pg/g	157
Median all values pg/g	159
Consensus mean, pg/g	164
Standard deviation, pg/g	32
Relative standard deviation, %	19
No. of values reported	50
No. of values removed	3
No. of reported non-detects	0



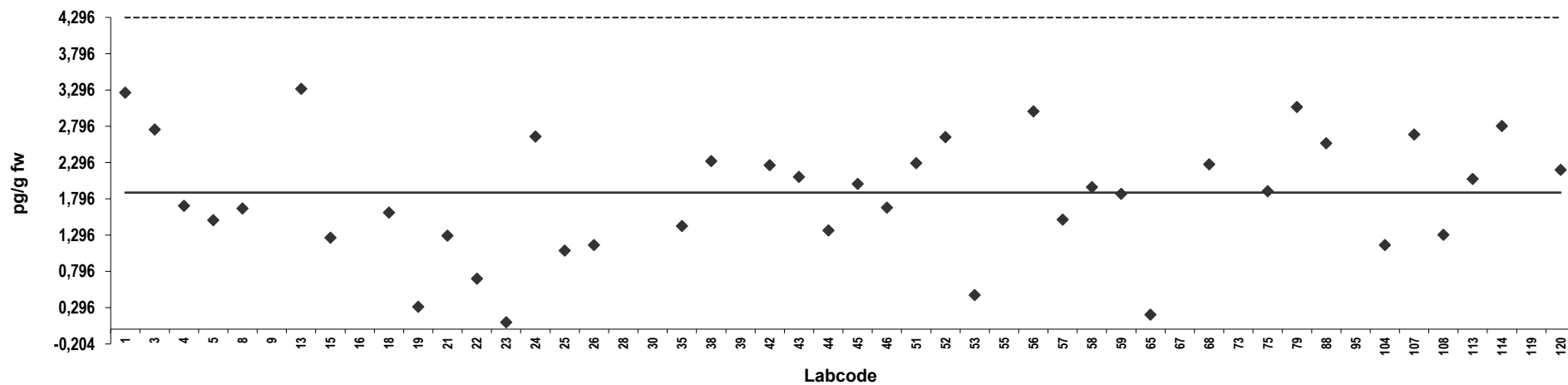
Egg yolk
Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	3,3	3,7		108	1,3	-1,5	
3	2,7	2,3		113	2,1	0,50	
4	1,7	-0,48		114	2,8	2,4	
5	1,5	-1,0		119	9,1	19	Outlier,ND
8	1,7	-0,58		120	2,2	0,83	
9	5,5	9,6	Outlier				
13	3,3	3,8					
15	1,3	-1,7					
16	7,4	15	Outlier				
18	1,6	-0,73					
19	0,31	-4,2	ND				
21	1,3	-1,6					
22	0,69	-3,2	ND				
23	0,096	-4,7	ND				
24	2,7	2,0	ND				
25	1,1	-2,1					
26	1,2	-1,9					
28	10	22	Outlier,ND				
30	9,4	20	Outlier,ND				
35	1,4	-1,2					
38	2,3	1,2					
39	10	22	Outlier,ND				
42	2,3	1,0					
43	2,1	0,58					
44	1,4	-1,4					
45	2,0	0,31	ND				
46	1,7	-0,55					
51	2,3	1,1	ND				
52	2,6	2,0					
53	0,47	-3,8	ND				
55	11	24	Outlier				
56	3,0	3,0					
57	1,5	-0,99					
58	2,0	0,20					
59	1,9	-0,048					
65	0,20	-4,5	ND				
67	4,8	7,8	Outlier				
68	2,3	1,0					
73	9,6	21	Outlier				
75	1,9	0,048					
79	3,1	3,1					
88	2,6	1,8					
95	6,7	13	Outlier				
104	1,2	-1,9					
107	2,7	2,1					

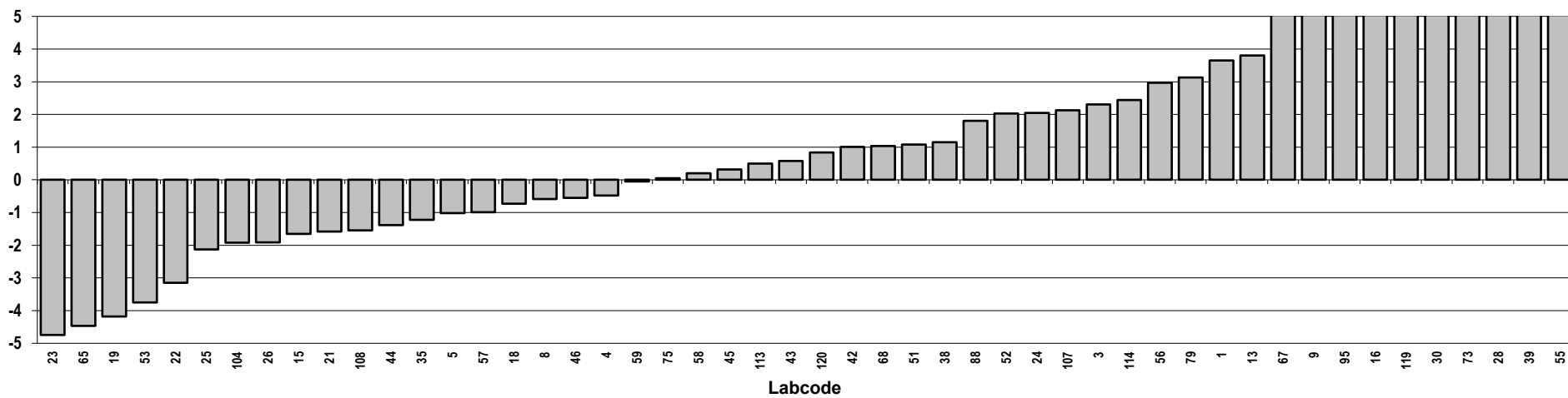
Consensus statistics

Consensus median, pg/g	1,9
Median all values pg/g	2,1
Consensus mean, pg/g	1,8
Standard deviation, pg/g	0,83
Relative standard deviation, %	45
No. of values reported	50
No. of values removed	10
No. of reported non-detects	12

PCB 123



Z-score: PCB 123

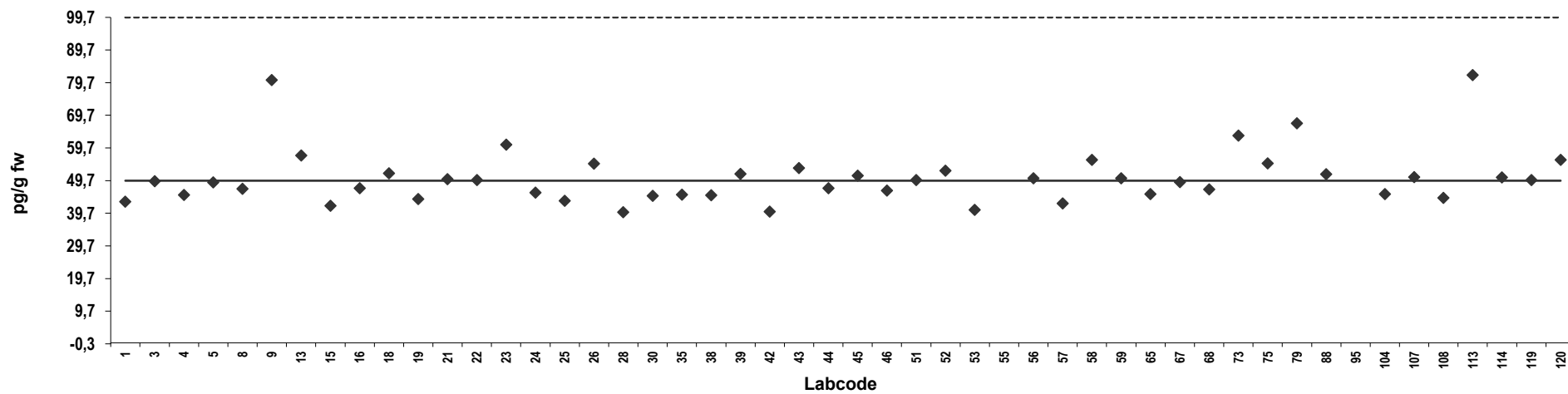


Egg yolk
Congener: PCB 156

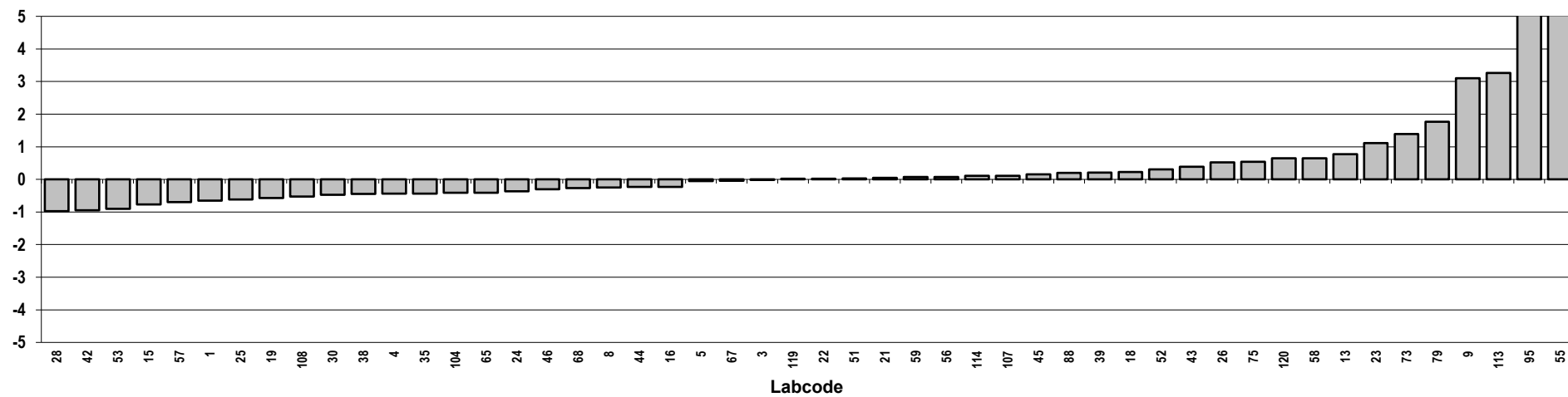
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	43	-0,65		108	44	-0,53	
3	49	-0,016		113	82	3,3	
4	45	-0,44		114	51	0,11	
5	49	-0,056		119	50	0,016	
8	47	-0,25		120	56	0,64	
9	81	3,1					
13	57	0,78					
15	42	-0,77					
16	47	-0,23					
18	52	0,23					
19	44	-0,57					
21	50	0,048					
22	50	0,020					
23	61	1,1					
24	46	-0,37					
25	44	-0,62					
26	55	0,52					
28	40	-0,97					
30	45	-0,47					
35	45	-0,43					
38	45	-0,45					
39	52	0,21					
42	40	-0,95					
43	54	0,39					
44	47	-0,23					
45	51	0,15					
46	47	-0,30					
51	50	0,024					
52	53	0,31					
53	41	-0,90					
55	194	15	Outlier				
56	50	0,075					
57	43	-0,70					
58	56	0,65					
59	50	0,074					
65	46	-0,41					
67	49	-0,046					
68	47	-0,27					
73	63	1,4					
75	55	0,54					
79	67	1,8					
88	52	0,20					
95	175	13	Outlier				
104	46	-0,41					
107	51	0,11					

Consensus statistics	
Consensus median, pg/g	50
Median all values pg/g	50
Consensus mean, pg/g	51
Standard deviation, pg/g	8,6
Relative standard deviation, %	17
No. of values reported	50
No. of values removed	2
No. of reported non-detects	0

PCB 156



Z-score: PCB 156

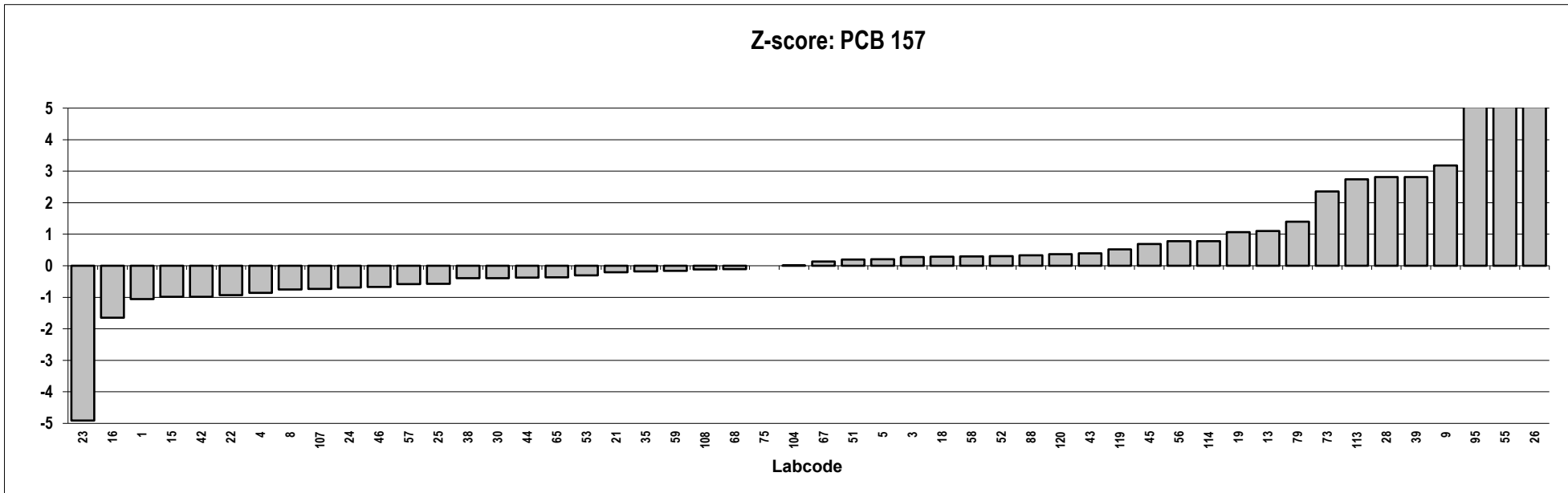
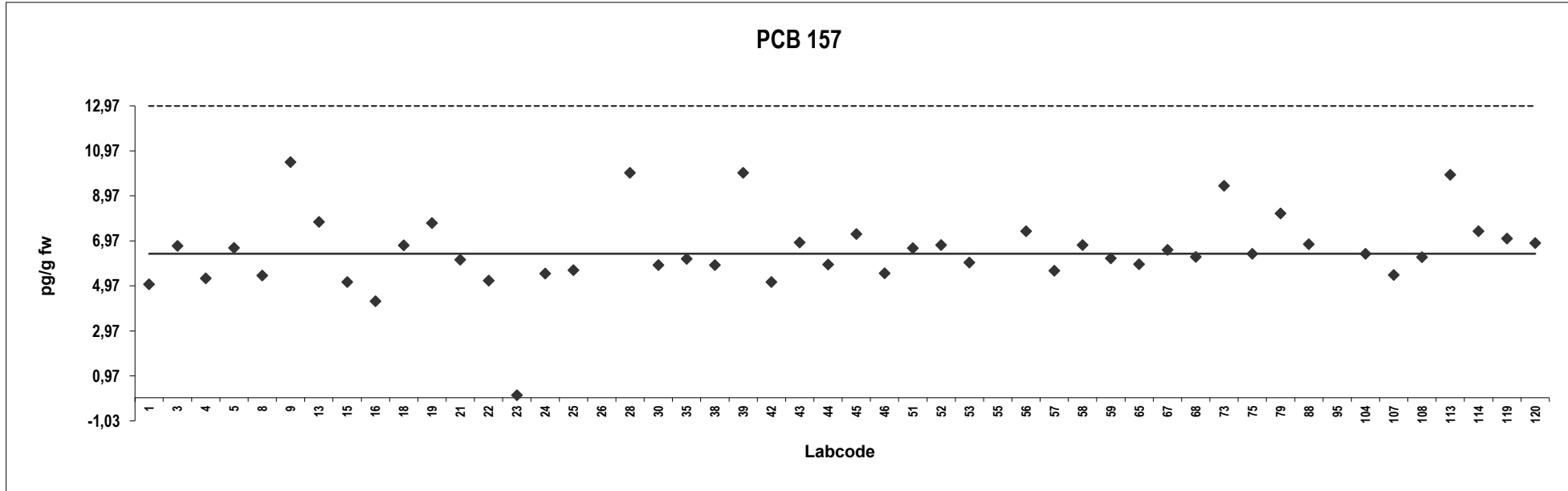


Egg yolk
Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	5,0	-1,1		108	6,3	-0,12	
3	6,8	0,27		113	9,9	2,7	
4	5,3	-0,86		114	7,4	0,78	
5	6,7	0,20		119	7,1	0,52	ND
8	5,4	-0,76		120	6,9	0,36	
9	10	3,2					
13	7,8	1,1					
15	5,1	-0,98					
16	4,3	-1,6					
18	6,8	0,29					
19	7,8	1,1					
21	6,1	-0,21					
22	5,2	-0,93					
23	0,11	-4,9	ND				
24	5,5	-0,69					
25	5,7	-0,57					
26	56	38	Outlier				
28	10	2,8	ND				
30	5,9	-0,39					
35	6,2	-0,18					
38	5,9	-0,40					
39	10	2,8	ND				
42	5,1	-0,98					
43	6,9	0,39					
44	5,9	-0,38					
45	7,3	0,69					
46	5,5	-0,68					
51	6,7	0,20					
52	6,8	0,30					
53	6,0	-0,30					
55	27	16	Outlier				
56	7,4	0,78					
57	5,6	-0,59					
58	6,8	0,30					
59	6,2	-0,16					
65	5,9	-0,36					
67	6,6	0,13					
68	6,3	-0,11					
73	9,4	2,4					
75	6,4	0,00					
79	8,2	1,4					
88	6,8	0,33					
95	18	9,1	Outlier				
104	6,4	0,00039					
107	5,5	-0,74					

Consensus statistics

Consensus median, pg/g	6,4
Median all values pg/g	6,5
Consensus mean, pg/g	6,5
Standard deviation, pg/g	1,7
Relative standard deviation, %	26
No. of values reported	50
No. of values removed	3
No. of reported non-detects	4

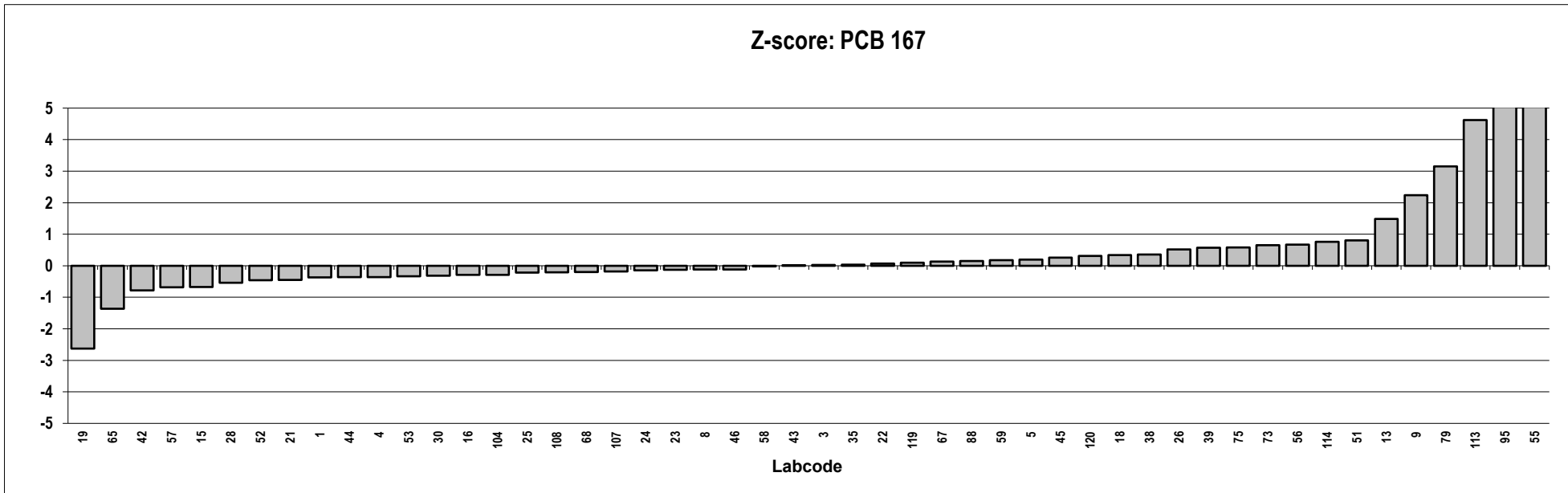
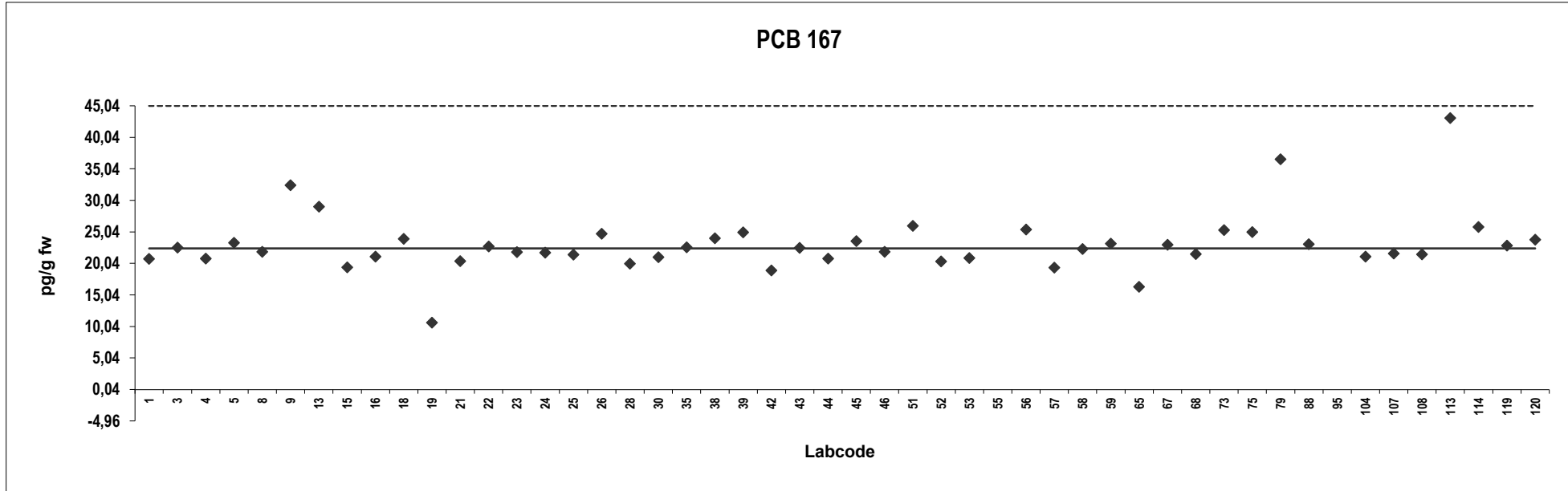


Egg yolk
Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	21	-0,37		108	21	-0,21	
3	23	0,028		113	43	4,6	
4	21	-0,36		114	26	0,76	
5	23	0,20		119	23	0,097	
8	22	-0,12		120	24	0,31	
9	32	2,2					
13	29	1,5					
15	19	-0,67					
16	21	-0,29					
18	24	0,34					
19	11	-2,6					
21	20	-0,45					
22	23	0,068					
23	22	-0,13					
24	22	-0,15					
25	21	-0,22					
26	25	0,52					
28	20	-0,54					
30	21	-0,31					
35	23	0,035					
38	24	0,36					
39	25	0,57					
42	19	-0,78					
43	23	0,020					
44	21	-0,36					
45	24	0,26					
46	22	-0,12					
51	26	0,80					
52	20	-0,46					
53	21	-0,34					
55	84	14	Outlier				
56	25	0,67					
57	19	-0,68					
58	22	-0,020					
59	23	0,17					
65	16	-1,4					
67	23	0,13					
68	22	-0,20					
73	25	0,65					
75	25	0,58					
79	37	3,2					
88	23	0,15					
95	78	12	Outlier				
104	21	-0,29					
107	22	-0,18					

Consensus statistics

Consensus median, pg/g	22
Median all values pg/g	23
Consensus mean, pg/g	23
Standard deviation, pg/g	4,8
Relative standard deviation, %	21
No. of values reported	50
No. of values removed	2
No. of reported non-detects	0

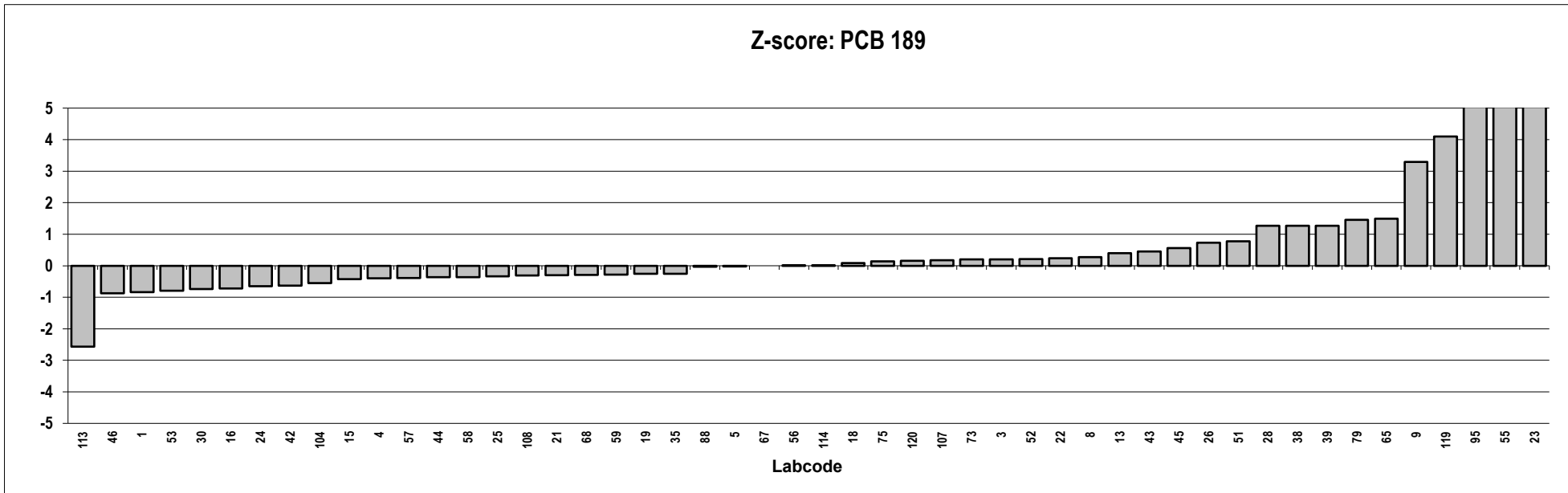
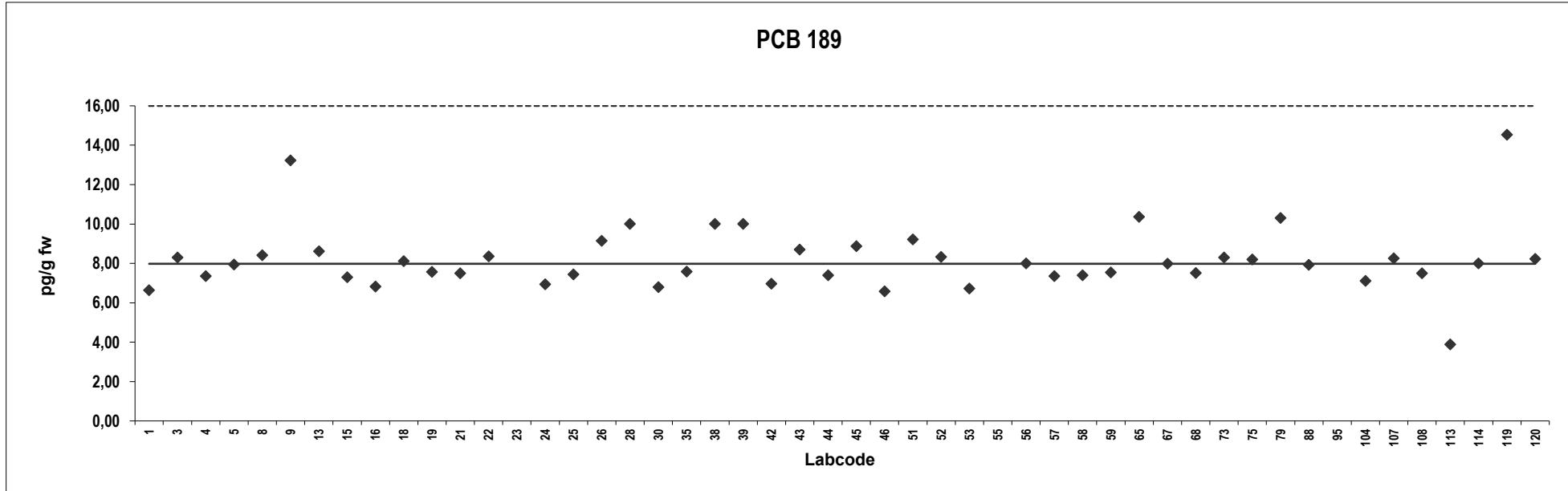


Egg yolk
Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	6,6	-0,84		108	7,5	-0,30	
3	8,3	0,20		113	3,9	-2,6	
4	7,4	-0,39		114	8,0	0,013	
5	7,9	-0,025		119	15	4,1	ND
8	8,4	0,27		120	8,2	0,16	
9	13	3,3					
13	8,6	0,40					
15	7,3	-0,43					
16	6,8	-0,72					
18	8,1	0,081					
19	7,6	-0,26					
21	7,5	-0,30					
22	8,4	0,23					
23	34	16	Outlier				
24	6,9	-0,65					
25	7,4	-0,34					
26	9,1	0,73					
28	10	1,3					
30	6,8	-0,74					
35	7,6	-0,25					
38	10	1,3	ND				
39	10	1,3	ND				
42	7,0	-0,64					
43	8,7	0,45					
44	7,4	-0,36					
45	8,9	0,56					
46	6,6	-0,87					
51	9,2	0,78					
52	8,3	0,21					
53	6,7	-0,79					
55	32	15	Outlier				
56	8,0	0,013					
57	7,4	-0,39					
58	7,4	-0,36					
59	7,5	-0,28					
65	10	1,5					
67	8,0	0,00					
68	7,5	-0,29					
73	8,3	0,20					
75	8,2	0,14					
79	10	1,5					
88	7,9	-0,034					
95	28	12	Outlier				
104	7,1	-0,55					
107	8,3	0,17					

Consensus statistics

Consensus median, pg/g	8,0
Median all values pg/g	8,0
Consensus mean, pg/g	8,2
Standard deviation, pg/g	1,7
Relative standard deviation, %	20
No. of values reported	50
No. of values removed	3
No. of reported non-detects	3

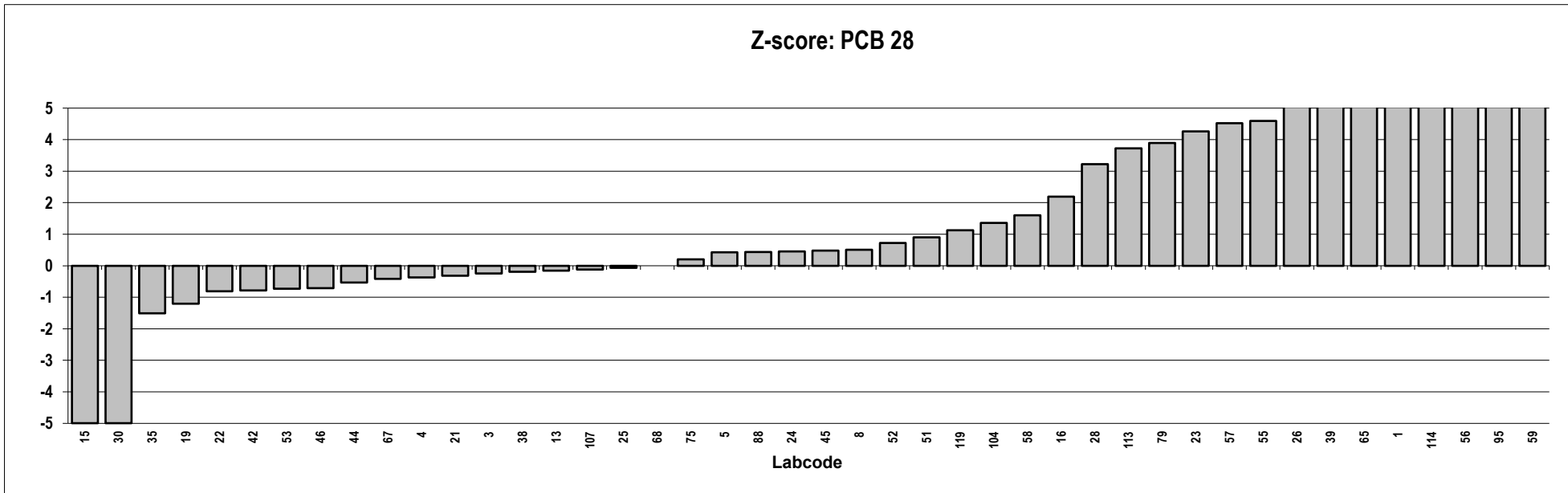
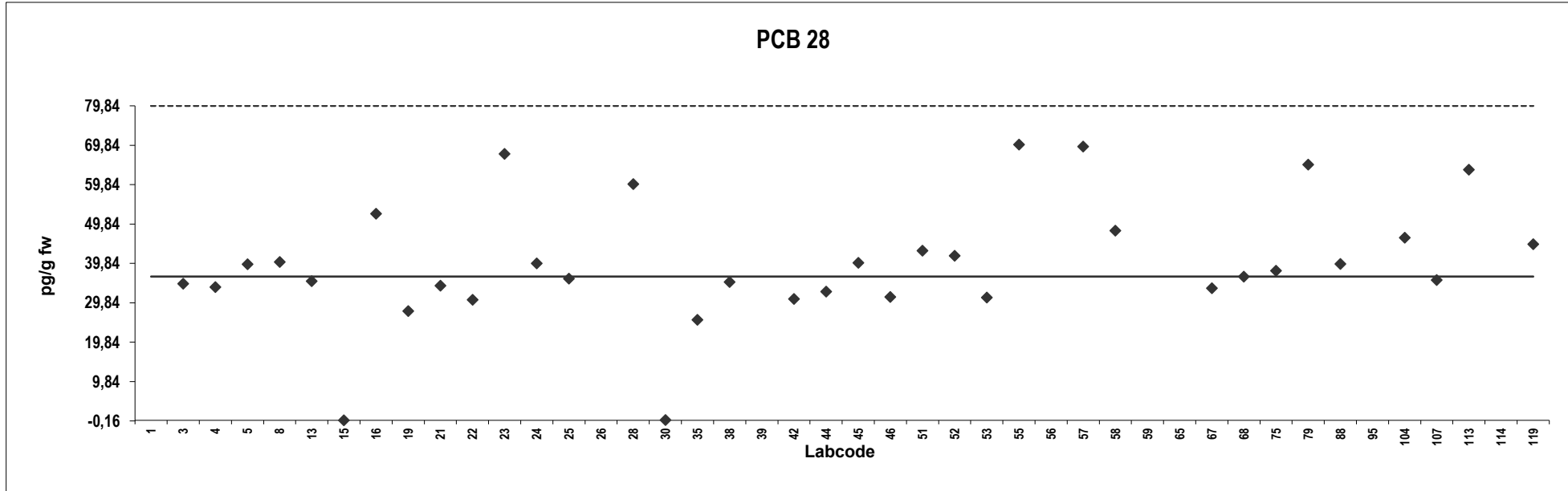


Egg yolk
Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	113	10	Outlier				
3	35	-0,24					
4	34	-0,37					
5	40	0,43					
8	40	0,51					
13	35	-0,16					
15	0,030	-5,0					
16	52	2,2					
19	28	-1,2					
21	34	-0,32					
22	31	-0,81					
23	68	4,3					
24	40	0,46					
25	36	-0,068					
26	92	7,7	Outlier				
28	60	3,2					
30	0,041	-5,0					
35	26	-1,5					
38	35	-0,19					
39	100	8,7	Outlier,ND				
42	31	-0,78					
44	33	-0,53					
45	40	0,48	ND				
46	31	-0,71					
51	43	0,90					
52	42	0,72					
53	31	-0,73					
55	70	4,6					
56	120	11	Outlier				
57	69	4,5					
58	48	1,6					
59	677	88	Outlier				
65	110	10	Outlier,ND				
67	34	-0,41					
68	37	0,00					
75	38	0,21					
79	65	3,9					
88	40	0,43					
95	158	17	Outlier				
104	46	1,4					
107	36	-0,12					
113	64	3,7					
114	118	11	Outlier				
119	45	1,1					

Consensus statistics

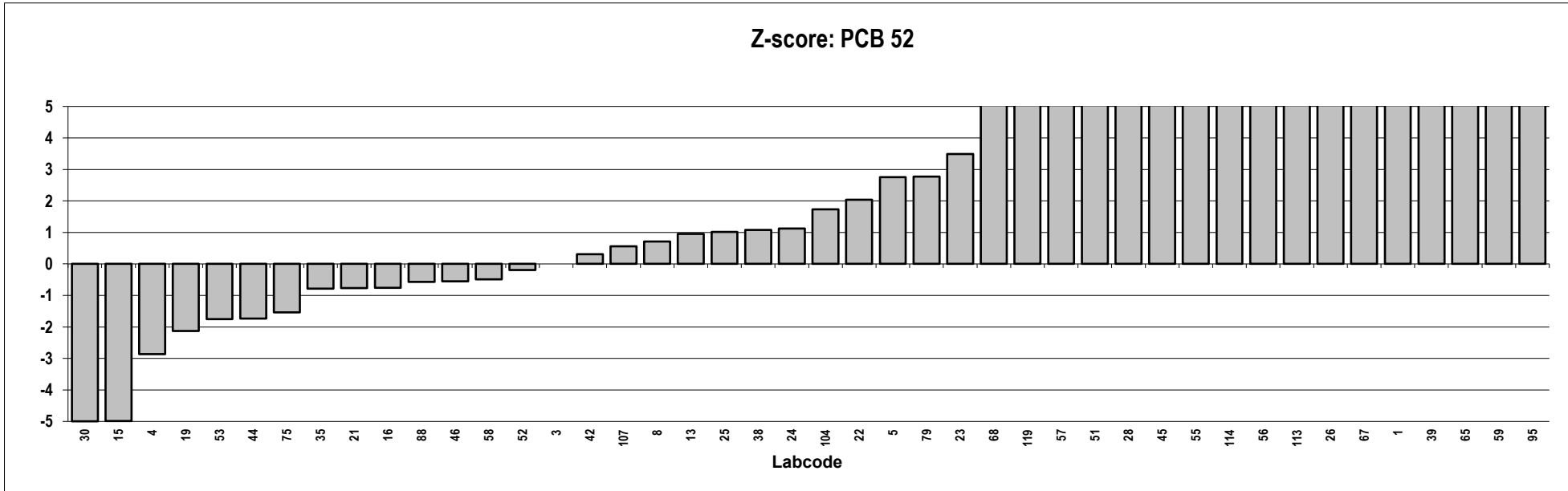
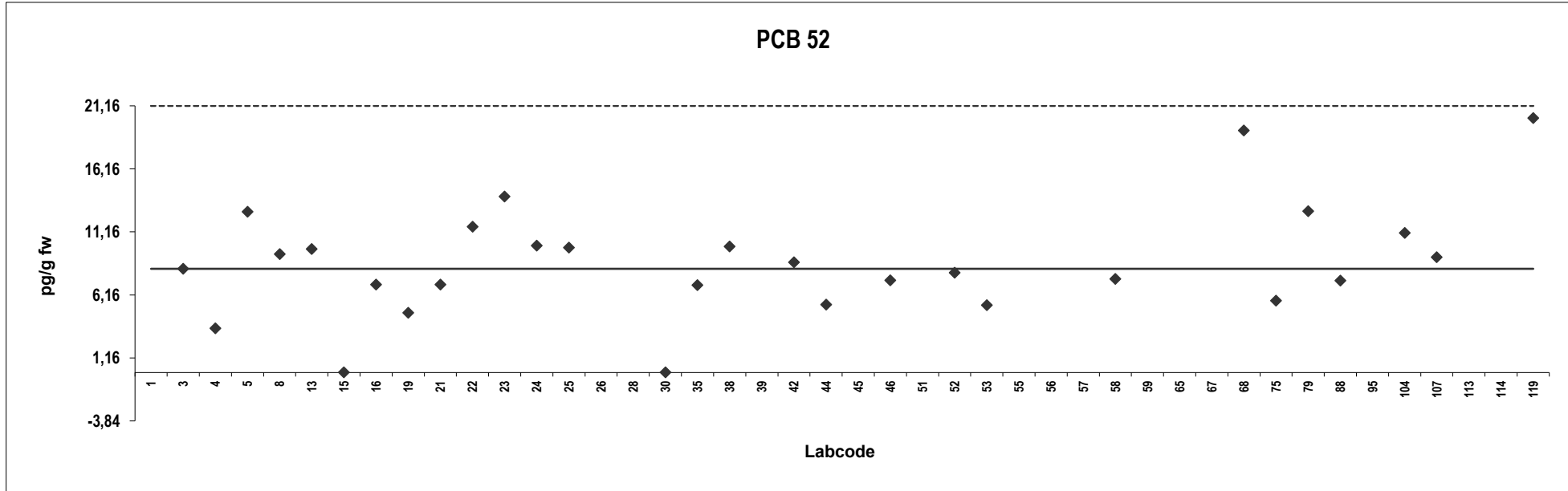
Consensus median, pg/g	37
Median all values pg/g	40
Consensus mean, pg/g	40
Standard deviation, pg/g	16
Relative standard deviation, %	39
No. of values reported	44
No. of values removed	8
No. of reported non-detects	3



Egg yolk
Congener: PCB 52

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	89	49	Outlier				
3	8,2	0,00					
4	3,5	-2,9					
5	13	2,8					
8	9,4	0,71					
13	9,8	0,95					
15	0,014	-5,0					
16	7,0	-0,76					
19	4,7	-2,1					
21	7,0	-0,77					
22	12	2,0					
23	14	3,5					
24	10	1,1					
25	9,9	1,0					
26	83	45	Outlier				
28	40	19	Outlier,ND				
30	0,0057	-5,0					
35	6,9	-0,78					
38	10	1,1	ND				
39	100	56	Outlier,ND				
42	8,7	0,31					
44	5,4	-1,7					
45	40	19	Outlier,ND				
46	7,3	-0,55	ND				
51	35	17	Outlier				
52	7,9	-0,20					
53	5,4	-1,8					
55	50	25	Outlier,ND				
56	54	28	Outlier				
57	26	11	Outlier				
58	7,4	-0,49					
59	150	86	Outlier				
65	110	62	Outlier,ND				
67	83	46	Outlier				
68	19	6,7					
75	5,7	-1,5					
79	13	2,8					
88	7,3	-0,57					
95	172	99	Outlier				
104	11	1,7					
107	9,2	0,56					
113	67	35	Outlier				
114	53	27	Outlier				
119	20	7,3					

Consensus statistics	
Consensus median, pg/g	8,2
Median all values pg/g	11
Consensus mean, pg/g	8,7
Standard deviation, pg/g	4,5
Relative standard deviation, %	52
No. of values reported	44
No. of values removed	15
No. of reported non-detects	7

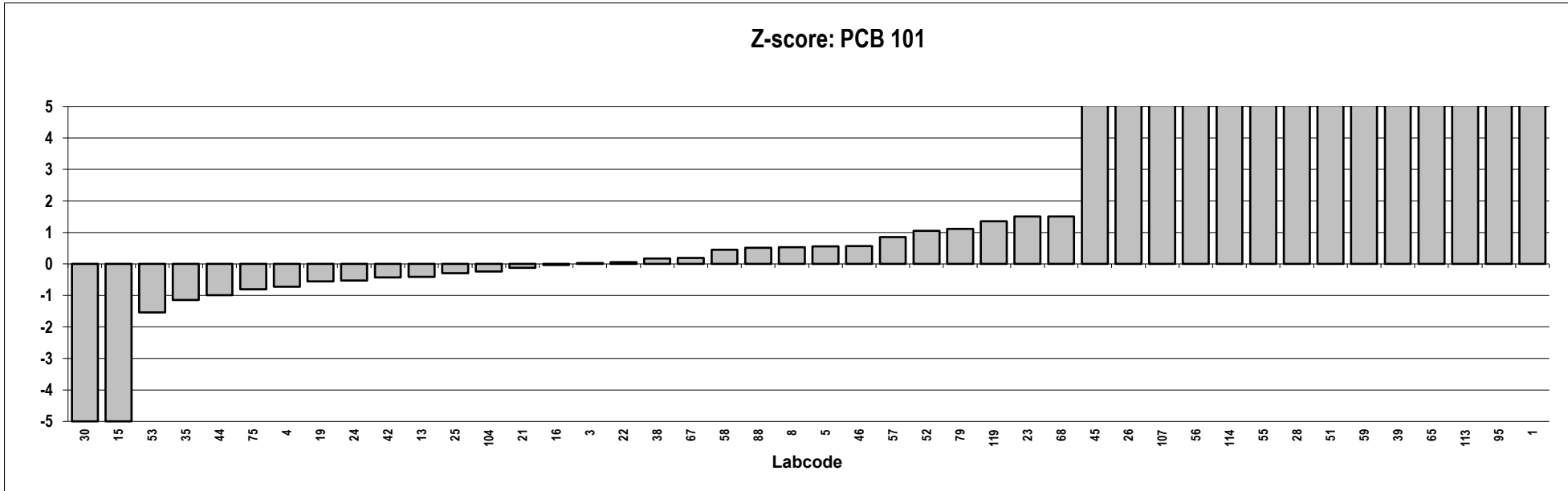
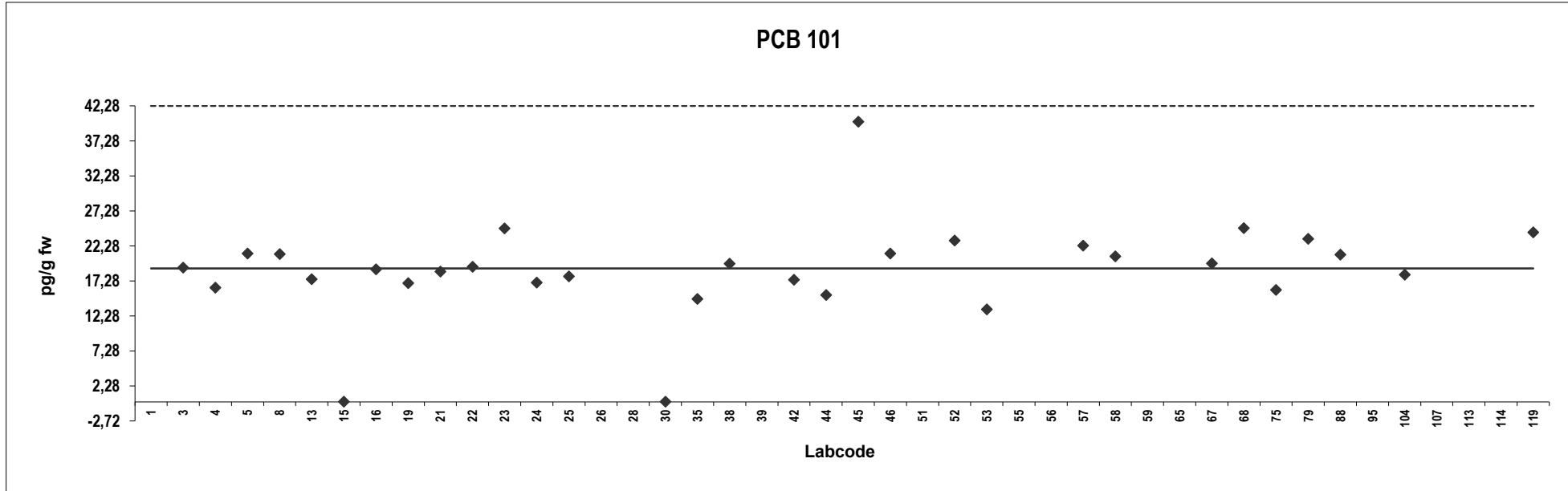


Egg yolk
Congener: PCB 101

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	132	30	Outlier				
3	19	0,030					
4	16	-0,72					
5	21	0,56					
8	21	0,53					
13	18	-0,41					
15	0,019	-5,0					
16	19	-0,030					
19	17	-0,56					
21	19	-0,12					
22	19	0,057					
23	25	1,5					
24	17	-0,53					
25	18	-0,29					
26	44	6,6	Outlier				
28	70	13	Outlier,ND				
30	0,016	-5,0					
35	15	-1,1					
38	20	0,17					
39	100	21	Outlier,ND				
42	17	-0,43					
44	15	-0,99					
45	40	5,5	ND				
46	21	0,56					
51	82	16	Outlier				
52	23	1,0					
53	13	-1,5					
55	60	11	Outlier				
56	49	7,9	Outlier				
57	22	0,86					
58	21	0,45					
59	96	20	Outlier				
65	110	24	Outlier,ND				
67	20	0,19					
68	25	1,5					
75	16	-0,80					
79	23	1,1					
88	21	0,51					
95	123	27	Outlier				
104	18	-0,24					
107	48	7,6	Outlier				
113	121	27	Outlier				
114	49	7,9	Outlier				
119	24	1,4					

Consensus statistics

Consensus median, pg/g	19
Median all values pg/g	21
Consensus mean, pg/g	19
Standard deviation, pg/g	6,9
Relative standard deviation, %	37
No. of values reported	44
No. of values removed	13
No. of reported non-detects	4

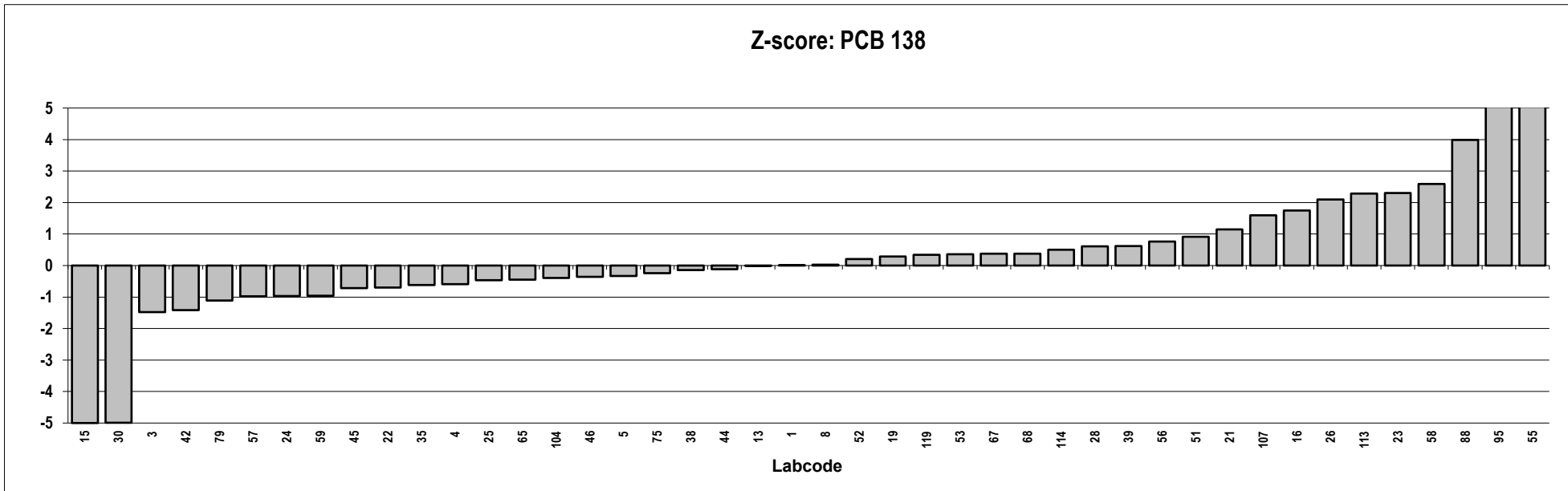
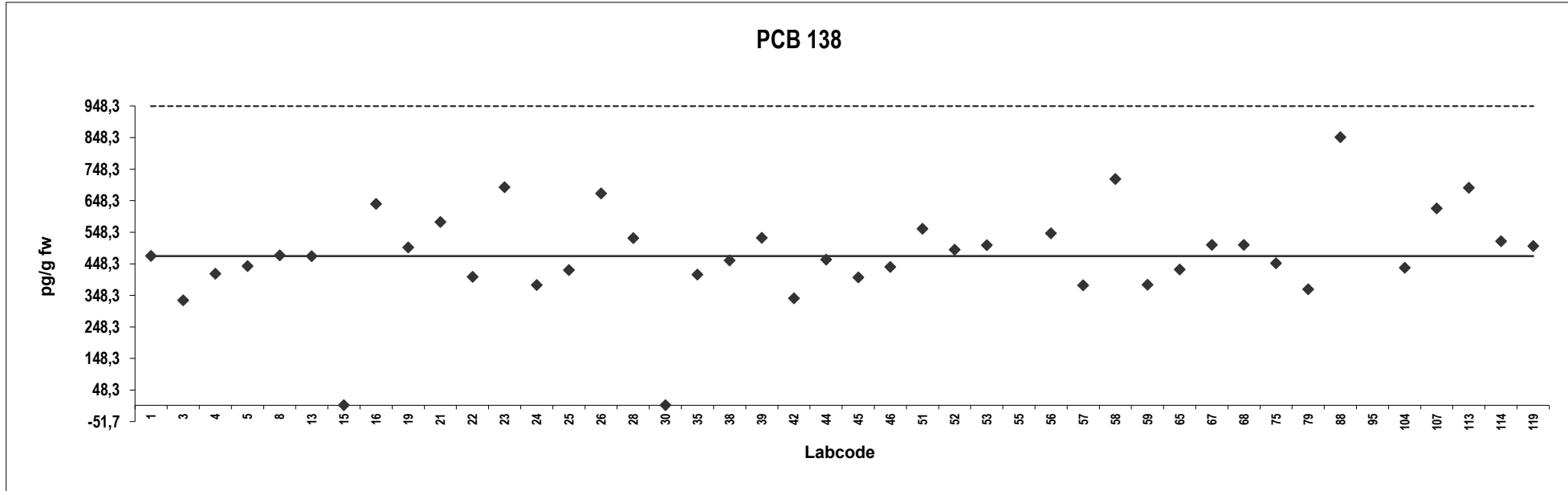


Egg yolk
Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	473	0,0025					
3	333	-1,5					
4	417	-0,59					
5	441	-0,33					
8	475	0,027					
13	473	-0,0025					
15	0,43	-5,0					
16	638	1,7					
19	500	0,29					
21	581	1,1					
22	407	-0,70					
23	691	2,3					
24	381	-0,97					
25	429	-0,46					
26	671	2,1					
28	530	0,61					
30	0,45	-5,0					
35	414	-0,62					
38	459	-0,14					
39	531	0,62					
42	339	-1,4					
44	462	-0,12					
45	405	-0,72					
46	439	-0,36					
51	559	0,91					
52	493	0,21					
53	507	0,36					
55	2070	17	Outlier				
56	545	0,76					
57	380	-0,98					
58	717	2,6					
59	382	-0,96					
65	430	-0,45					
67	508	0,37					
68	508	0,37					
75	450	-0,24					
79	368	-1,1					
88	849	4,0					
95	1833	14	Outlier				
104	436	-0,39					
107	624	1,6					
113	689	2,3					
114	520	0,50					
119	505	0,34					

Consensus statistics

Consensus median, pg/g	473
Median all values pg/g	474
Consensus mean, pg/g	475
Standard deviation, pg/g	154
Relative standard deviation, %	32
No. of values reported	44
No. of values removed	2
No. of reported non-detects	0

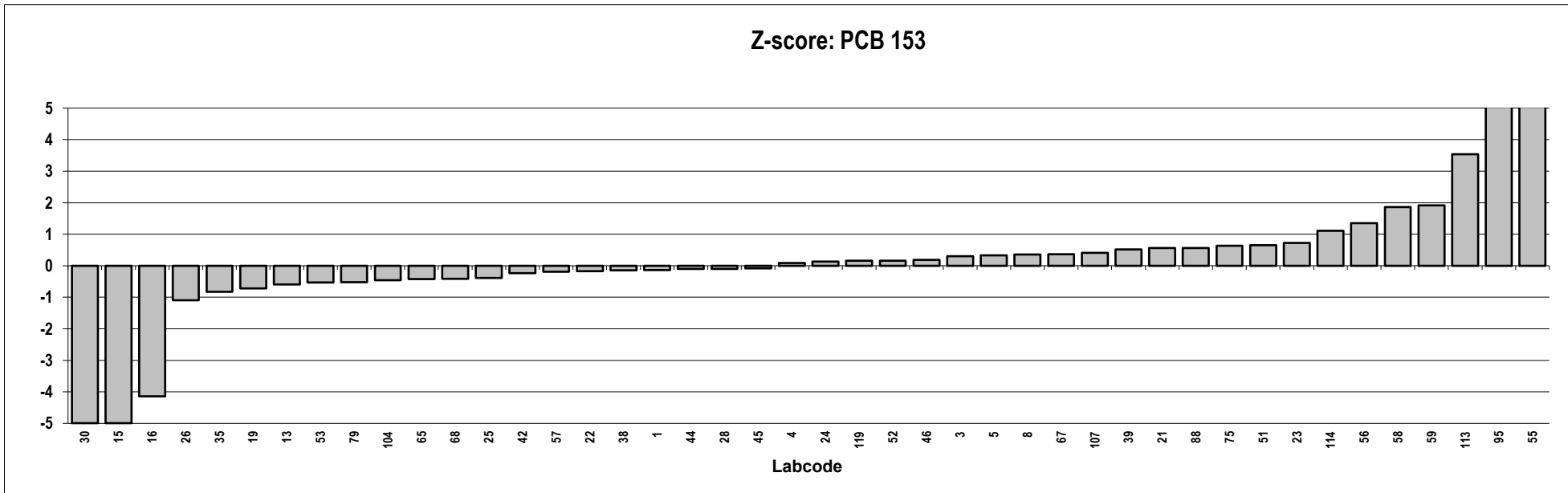
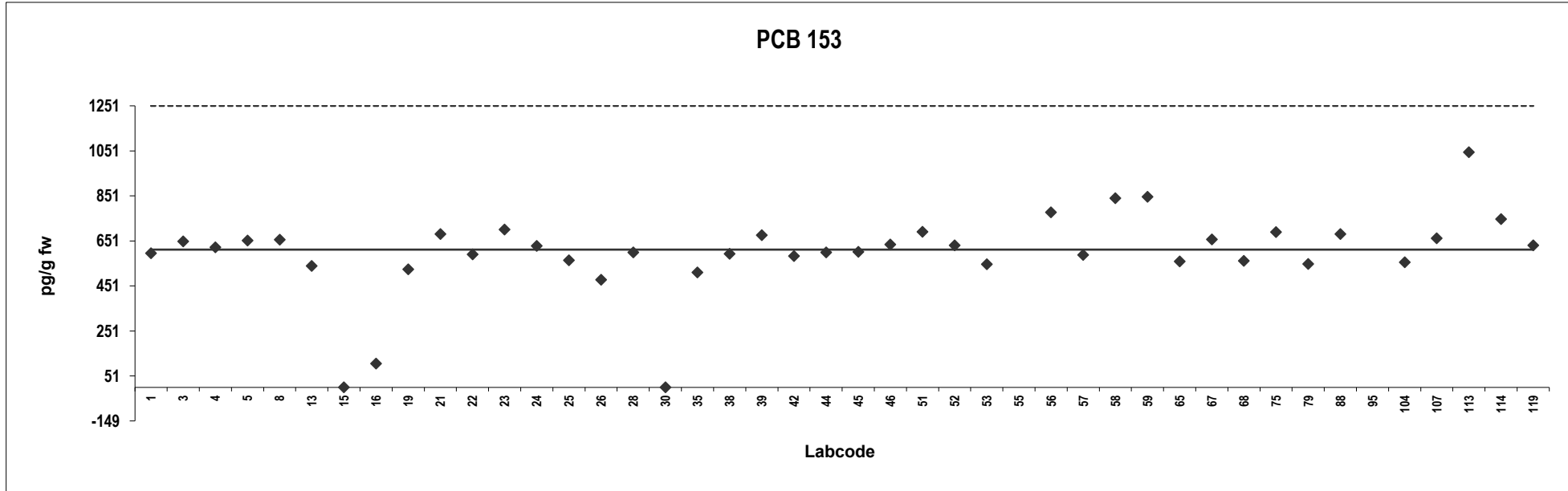


Egg yolk
Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	596	-0,13					
3	649	0,30					
4	623	0,084					
5	652	0,33					
8	656	0,36					
13	540	-0,59					
15	0,59	-5,0					
16	105	-4,1					
19	525	-0,72					
21	681	0,56					
22	591	-0,17					
23	701	0,72					
24	629	0,13					
25	565	-0,38					
26	478	-1,1					
28	600	-0,10					
30	0,56	-5,0					
35	511	-0,83					
38	594	-0,15					
39	676	0,52					
42	583	-0,24					
44	600	-0,10					
45	602	-0,084					
46	635	0,19					
51	692	0,65					
52	632	0,16					
53	547	-0,53					
55	2611	16	Outlier				
56	778	1,4					
57	589	-0,19					
58	840	1,9					
59	846	1,9					
65	560	-0,43					
67	657	0,37					
68	562	-0,41					
75	690	0,63					
79	548	-0,52					
88	681	0,56					
95	1617	8,2	Outlier				
104	556	-0,46					
107	662	0,41					
113	1046	3,5					
114	748	1,1					
119	632	0,16					

Consensus statistics

Consensus median, pg/g	612
Median all values pg/g	626
Consensus mean, pg/g	597
Standard deviation, pg/g	188
Relative standard deviation, %	31
No. of values reported	44
No. of values removed	2
No. of reported non-detects	0

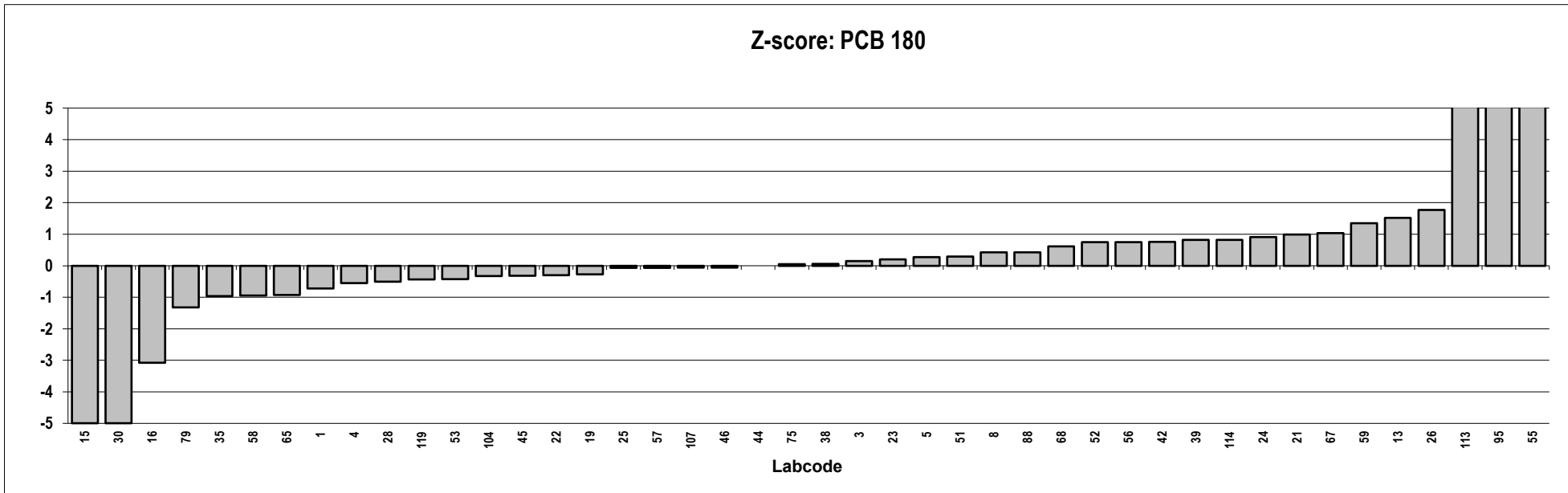
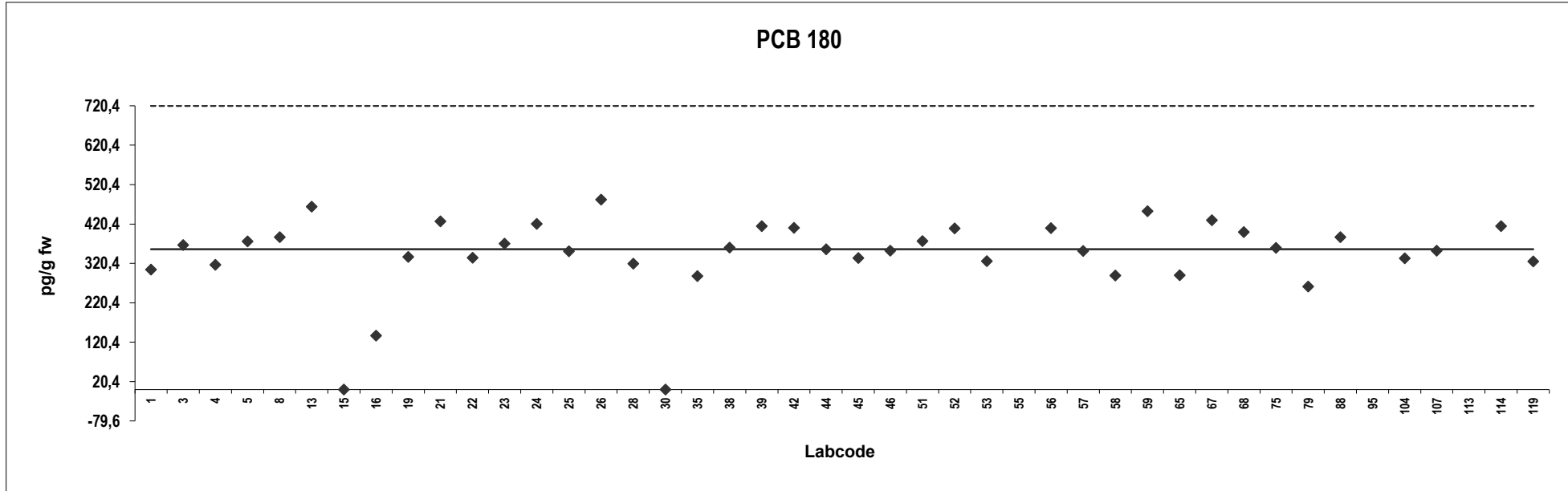


Egg yolk
Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	305	-0,72					
3	367	0,15					
4	317	-0,55					
5	376	0,27					
8	387	0,43					
13	465	1,5					
15	0,33	-5,0					
16	137	-3,1					
19	337	-0,27					
21	427	0,99					
22	335	-0,30					
23	371	0,20					
24	421	0,91					
25	352	-0,067					
26	483	1,8					
28	320	-0,51					
30	0,35	-5,0					
35	288	-0,96					
38	360	0,057					
39	415	0,82					
42	411	0,76					
44	356	0,00					
45	334	-0,31					
46	352	-0,054					
51	377	0,29					
52	410	0,75					
53	326	-0,43					
55	1641	18	Outlier				
56	410	0,75					
57	352	-0,065					
58	289	-0,94					
59	453	1,4					
65	290	-0,93					
67	430	1,0					
68	400	0,61					
75	360	0,051					
79	262	-1,3					
88	387	0,43					
95	1288	13	Outlier				
104	333	-0,33					
107	352	-0,055					
113	859	7,0	Outlier				
114	415	0,82					
119	325	-0,43					

Consensus statistics

Consensus median, pg/g	356
Median all values pg/g	360
Consensus mean, pg/g	344
Standard deviation, pg/g	100
Relative standard deviation, %	29
No. of values reported	44
No. of values removed	3
No. of reported non-detects	0

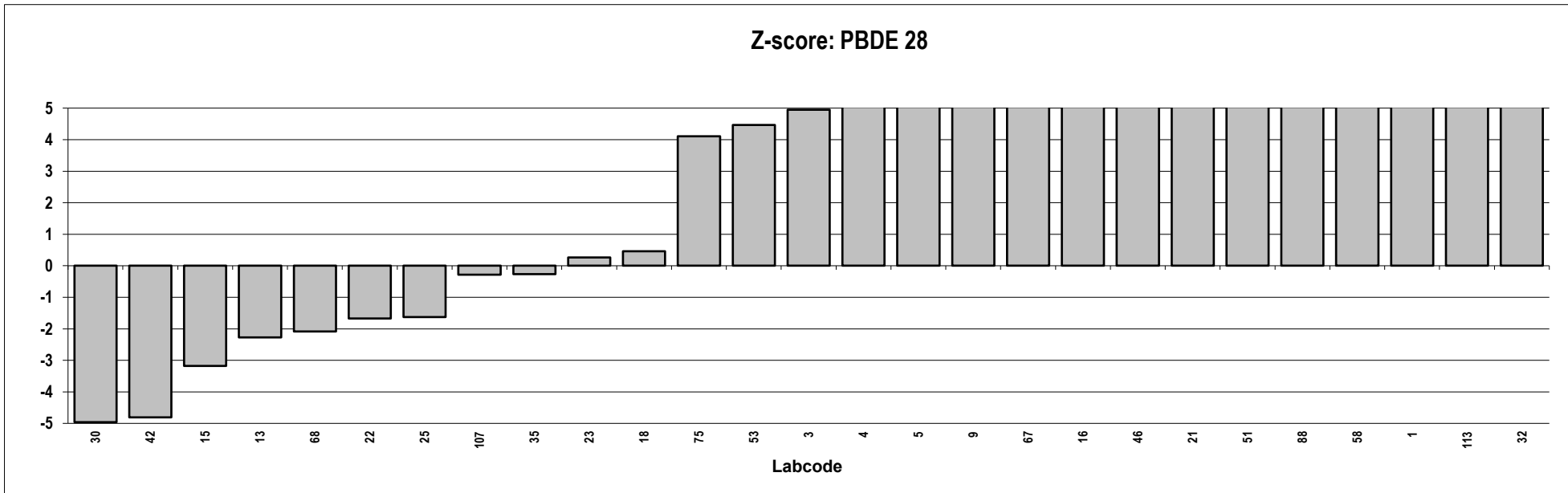
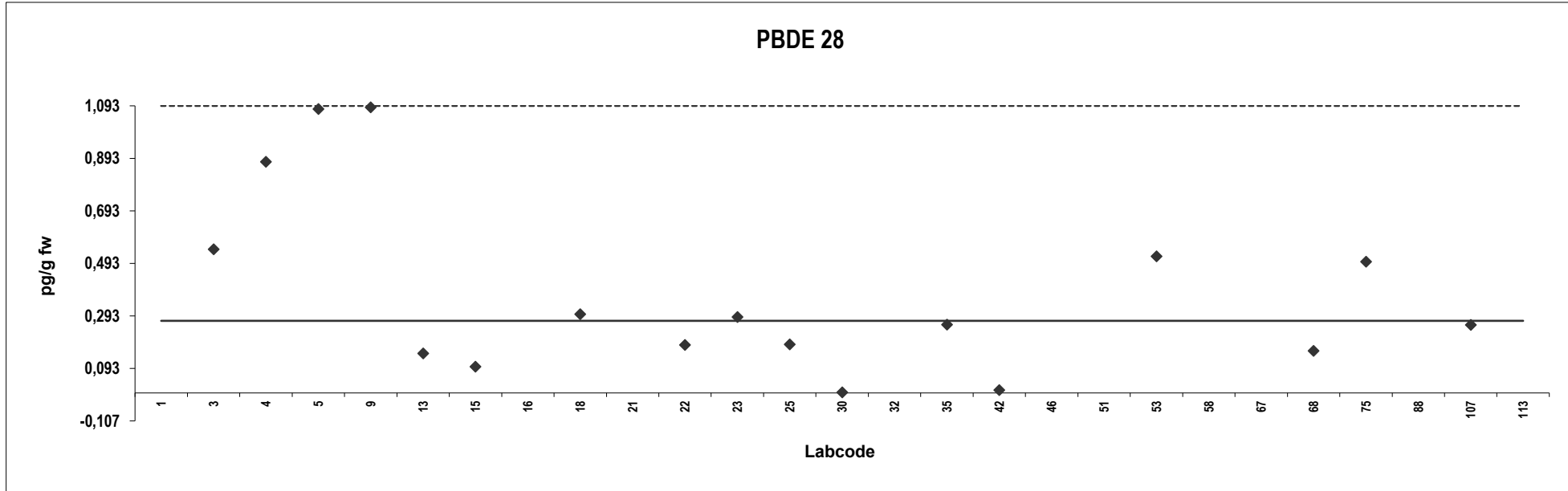


Egg yolk
Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	3,0	50	Outlier				
3	0,55	5					
4	0,88	11	ND				
5	1,1	15					
9	1,1	15					
13	0,15	-2,3					
15	0,10	-3,2	ND				
16	1,5	23	Outlier				
18	0,30	0,46					
21	2,0	31	Outlier,ND				
22	0,18	-1,7	ND				
23	0,29	0,27					
25	0,19	-1,6					
30	0,0023	-5,0	ND				
32	90	1633	Outlier,ND				
35	0,26	-0,27					
42	0,011	-4,8	ND				
46	1,8	28	Outlier,ND				
51	2,1	33	Outlier,ND				
53	0,52	4,5	ND				
58	2,7	44	Outlier				
67	1,1	15	Outlier,ND				
68	0,16	-2,1					
75	0,50	4,1	ND				
88	2,3	36	Outlier				
107	0,26	-0,29					
113	6,4	111	Outlier				

Consensus statistics

Consensus median, pg/g	0,27
Median all values pg/g	0,55
Consensus mean, pg/g	0,38
Standard deviation, pg/g	0,34
Relative standard deviation, %	90
No. of values reported	27
No. of values removed	10
No. of reported non-detects	12

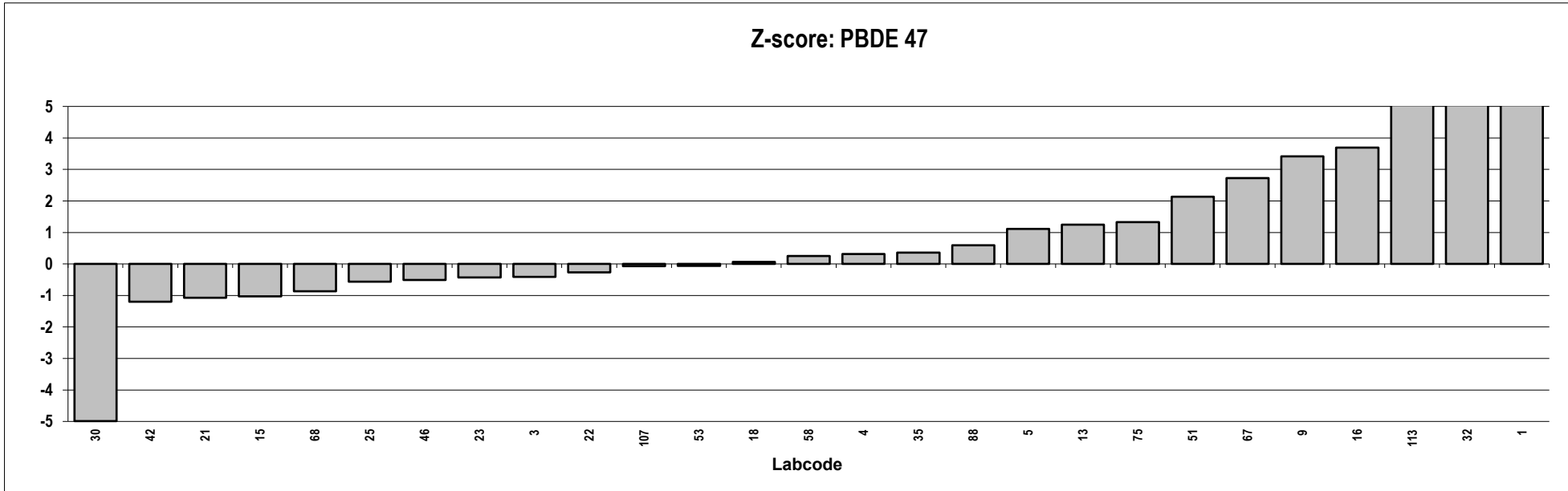
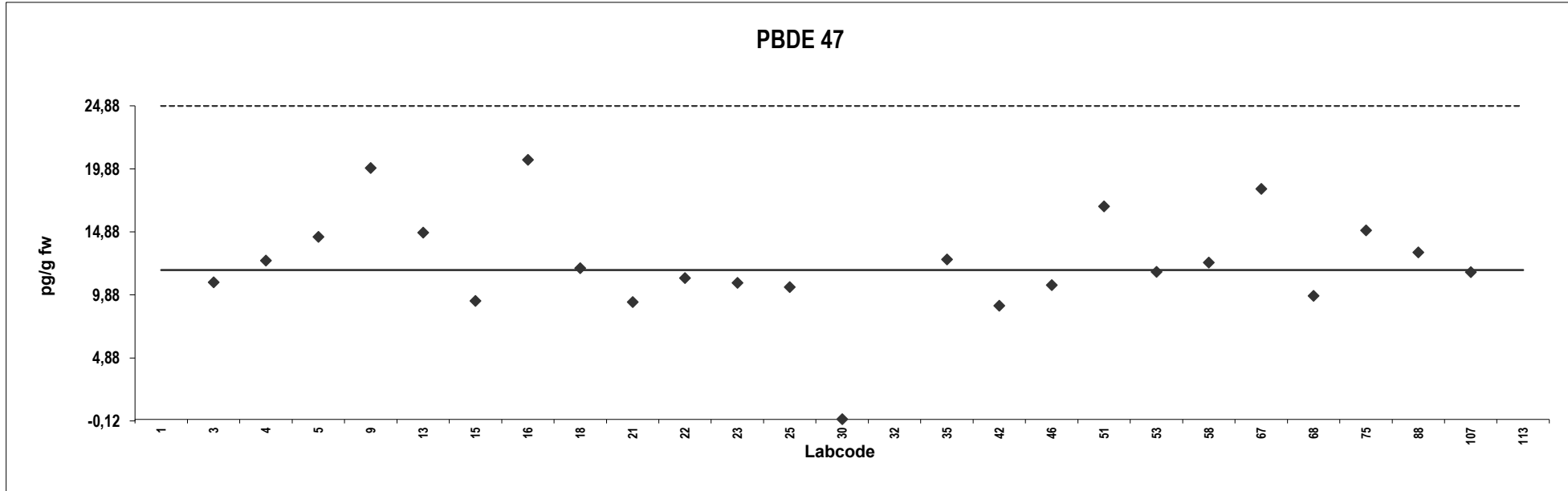


Egg yolk
Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	126	48	Outlier				
3	11	-0,41					
4	13	0,32					
5	14	1,1					
9	20	3,4					
13	15	1,2					
15	9,4	-1,0					
16	21	3,7					
18	12	0,063					
21	9,3	-1,1					
22	11	-0,27					
23	11	-0,43					
25	11	-0,57					
30	0,018	-5,0					
32	90	33	Outlier,ND				
35	13	0,36					
42	9,0	-1,2					
46	11	-0,51					
51	17	2,1					
53	12	-0,063					
58	12	0,25					
67	18	2,7					
68	9,8	-0,86					
75	15	1,3					
88	13	0,59					
107	12	-0,069					
113	39	11	Outlier				

Consensus statistics

Consensus median, pg/g	12
Median all values pg/g	12
Consensus mean, pg/g	12
Standard deviation, pg/g	4,2
Relative standard deviation, %	34
No. of values reported	27
No. of values removed	3
No. of reported non-detects	1

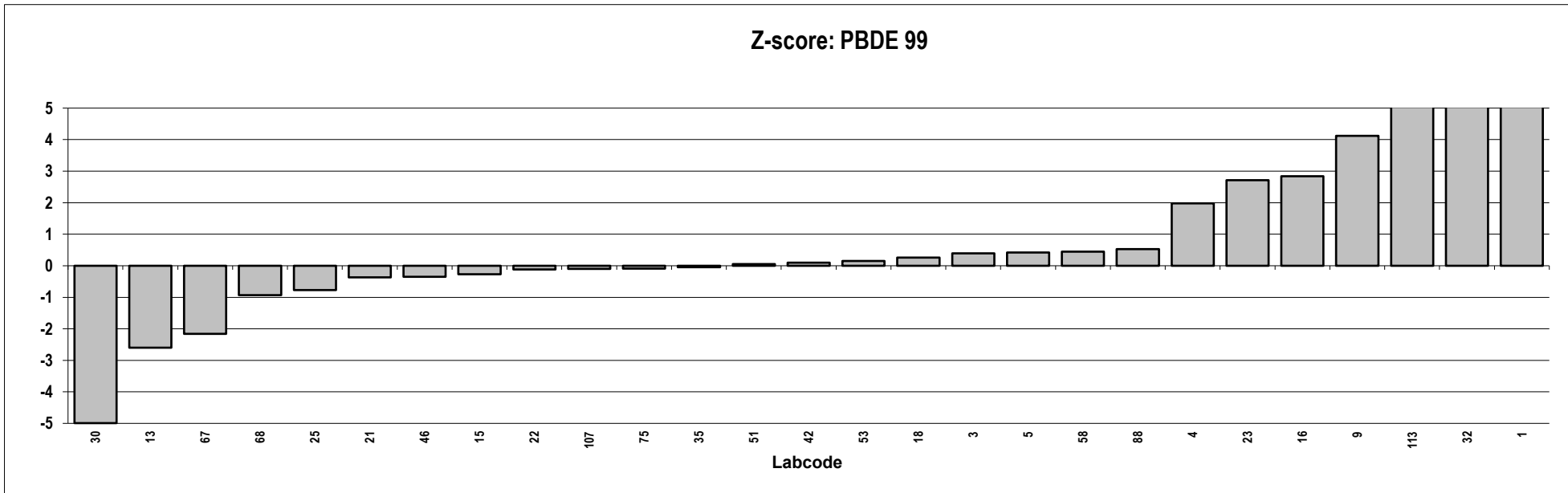
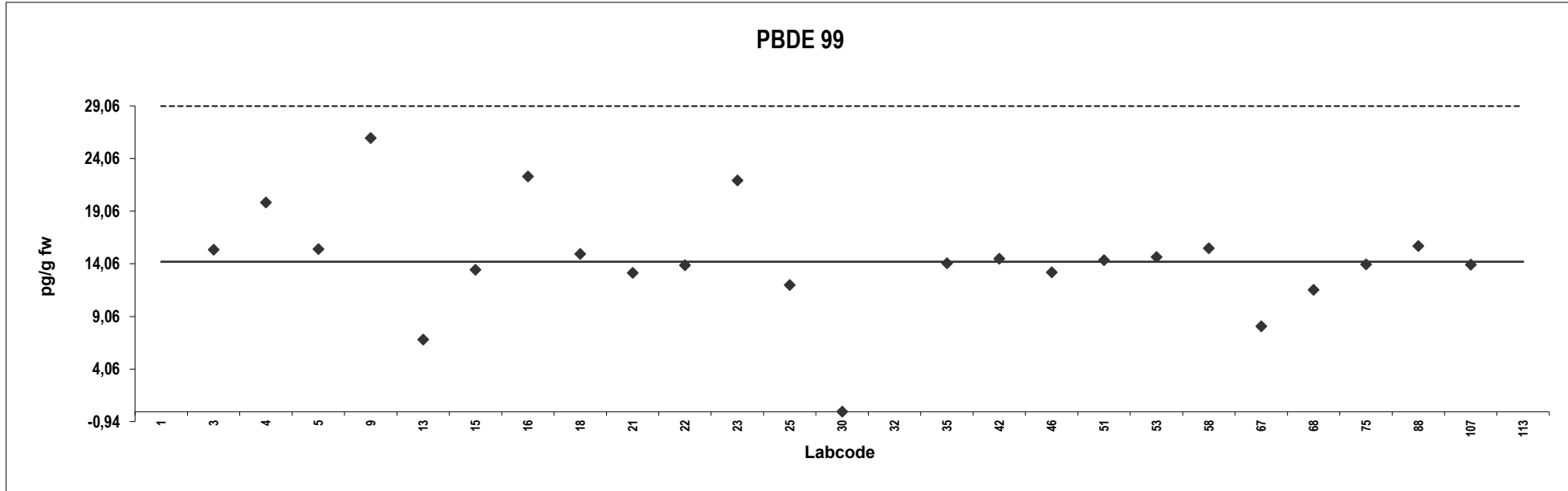


Egg yolk
Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	324	109	Outlier				
3	15	0,40					
4	20	2,0					
5	15	0,42					
9	26	4,1					
13	6,8	-2,6					
15	14	-0,27					
16	22	2,8					
18	15	0,26					
21	13	-0,37					
22	14	-0,12					
23	22	2,7					
25	12	-0,77					
30	0,015	-5,0					
32	45	11	Outlier,ND				
35	14	-0,049					
42	15	0,095					
46	13	-0,35					
51	14	0,049					
53	15	0,15					
58	16	0,45					
67	8,1	-2,2					
68	12	-0,93					
75	14	-0,091					
88	16	0,52					
107	14	-0,098					
113	35	7,2	Outlier				

Consensus statistics

Consensus median, pg/g	14
Median all values pg/g	15
Consensus mean, pg/g	14
Standard deviation, pg/g	5,2
Relative standard deviation, %	36
No. of values reported	27
No. of values removed	3
No. of reported non-detects	1

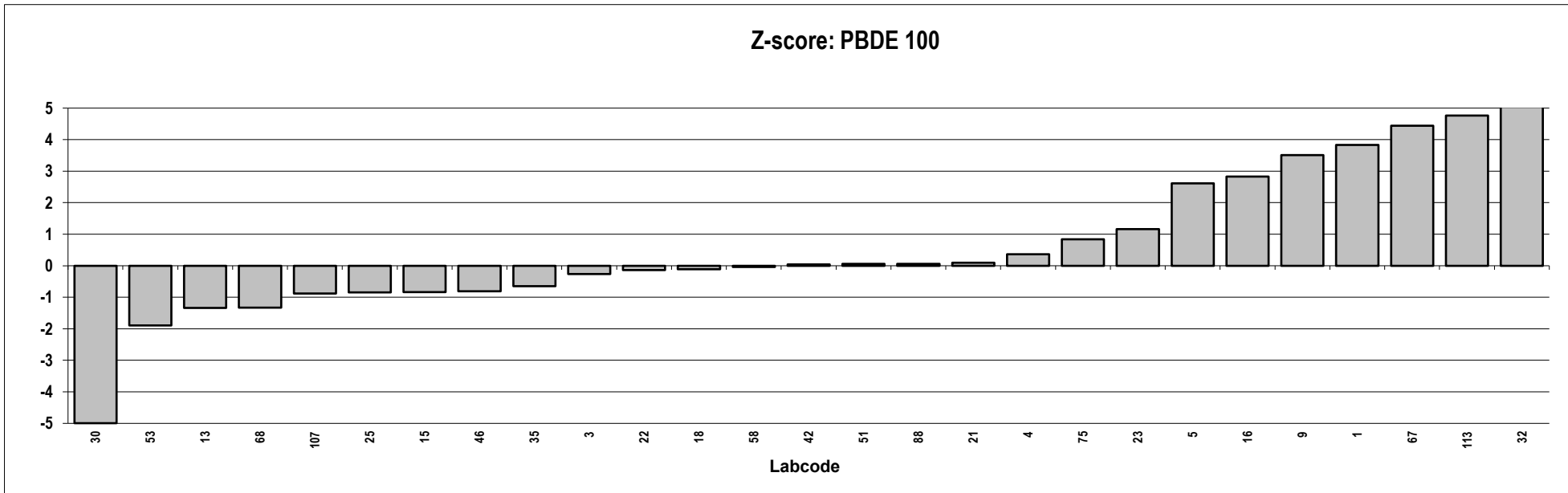
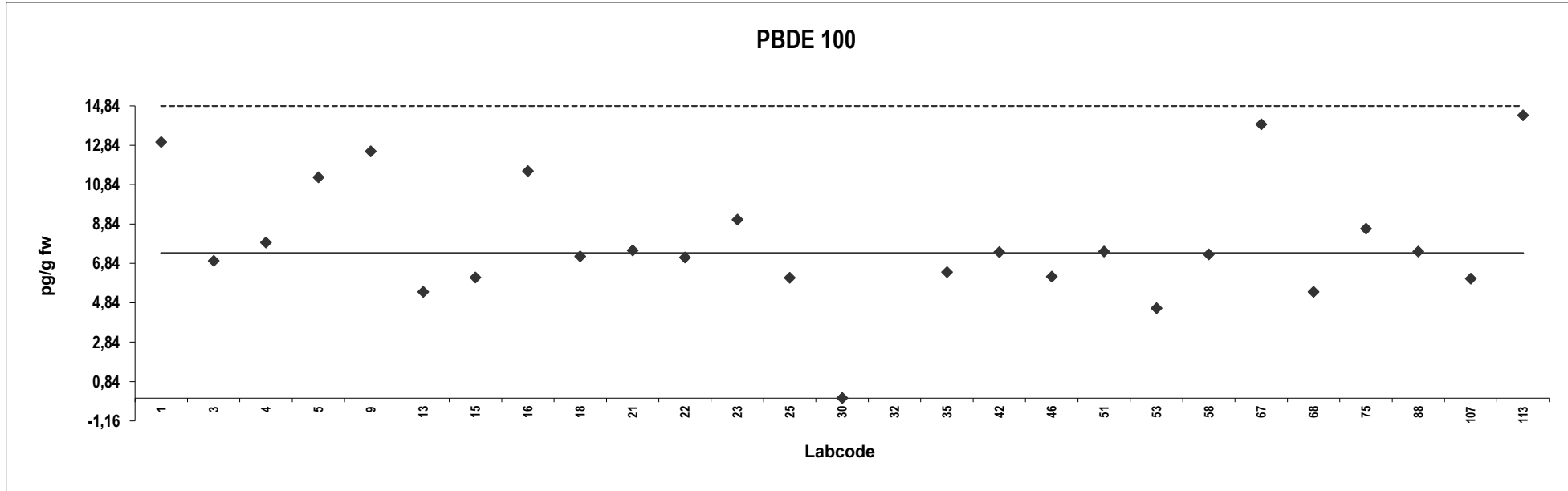


Egg yolk
Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	13	3,8					
3	7,0	-0,27					
4	7,9	0,37					
5	11	2,6					
9	13	3,5					
13	5,4	-1,3					
15	6,1	-0,83					
16	12	2,8					
18	7,2	-0,11					
21	7,5	0,096					
22	7,2	-0,14					
23	9,1	1,2					
25	6,1	-0,85					
30	0,0066	-5,0					
32	45	26	Outlier,ND				
35	6,4	-0,65					
42	7,4	0,043					
46	6,2	-0,81					
51	7,4	0,056					
53	4,6	-1,9					
58	7,3	-0,043					
67	14	4,4					
68	5,4	-1,3					
75	8,6	0,84					
88	7,4	0,056					
107	6,1	-0,88					
113	14	4,8					

Consensus statistics

Consensus median, pg/g	7,4
Median all values pg/g	7,4
Consensus mean, pg/g	8,0
Standard deviation, pg/g	3,2
Relative standard deviation, %	40
No. of values reported	27
No. of values removed	1
No. of reported non-detects	1

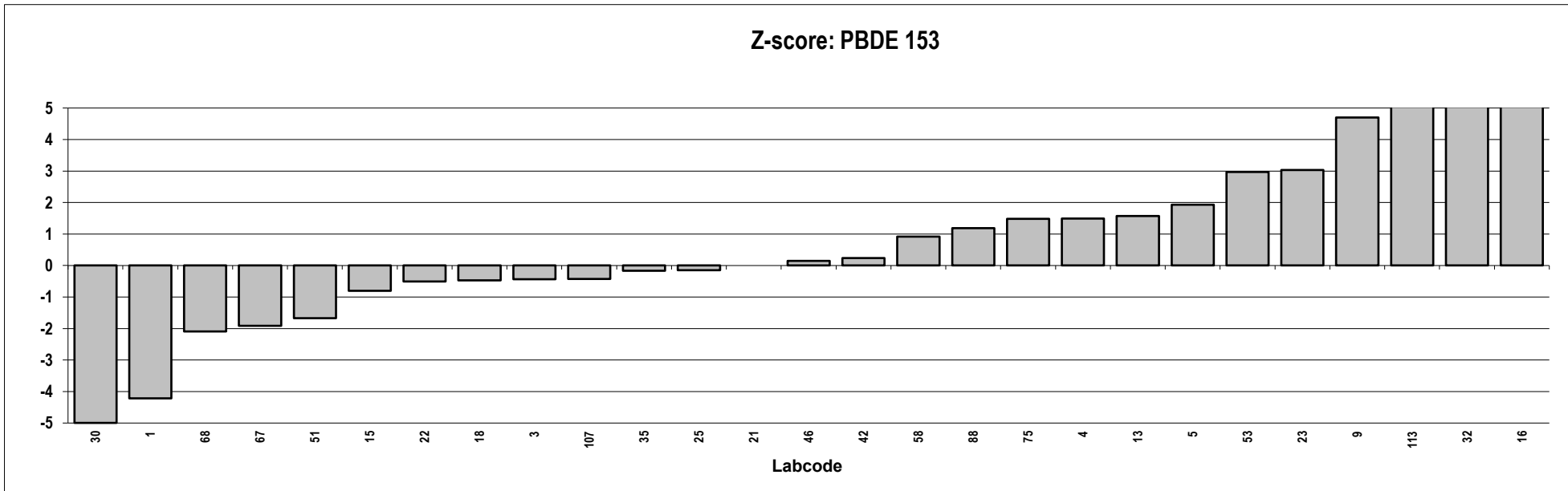
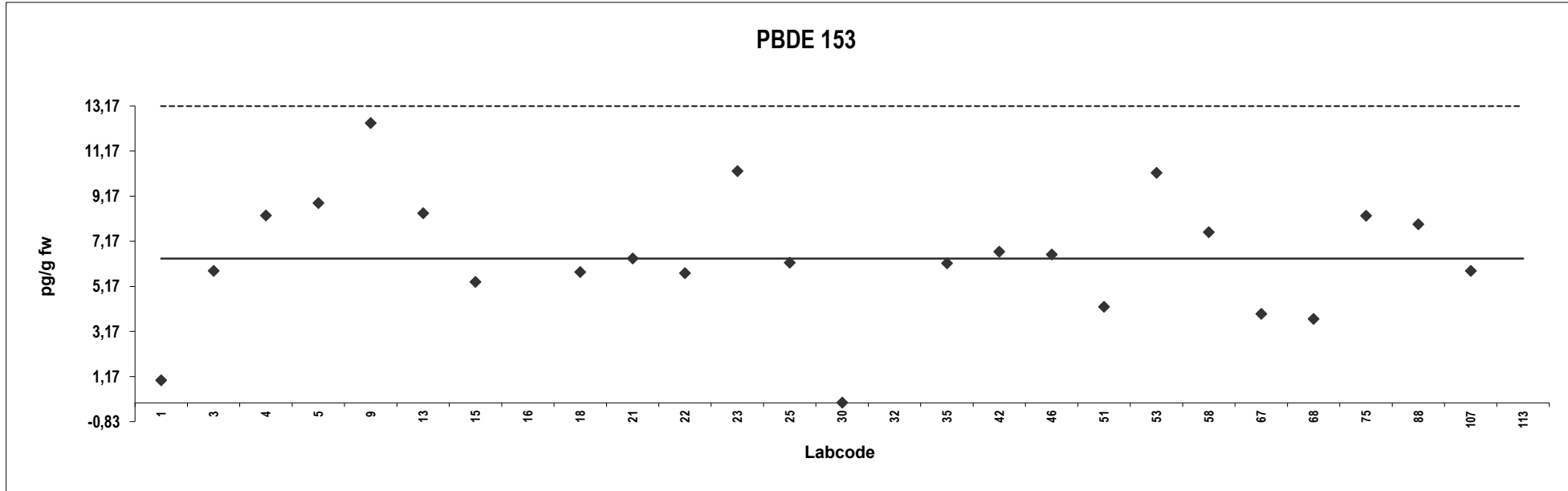


Egg yolk
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	1,0	-4,2					
3	5,8	-0,43					
4	8,3	1,5					
5	8,9	1,9					
9	12	4,7					
13	8,4	1,6					
15	5,4	-0,80					
16	50	34	Outlier				
18	5,8	-0,47					
21	6,4	0,00					
22	5,8	-0,51					
23	10	3,0					
25	6,2	-0,15					
30	0,0069	-5,0					
32	45	30	Outlier,ND				
35	6,2	-0,16					
42	6,7	0,24					
46	6,6	0,14					
51	4,3	-1,7	ND				
53	10	3,0					
58	7,6	0,92					
67	4,0	-1,9					
68	3,7	-2,1					
75	8,3	1,5					
88	7,9	1,2					
107	5,9	-0,43					
113	24	14	Outlier				

Consensus statistics

Consensus median, pg/g	6,4
Median all values pg/g	6,6
Consensus mean, pg/g	6,5
Standard deviation, pg/g	2,8
Relative standard deviation, %	43
No. of values reported	27
No. of values removed	3
No. of reported non-detects	2



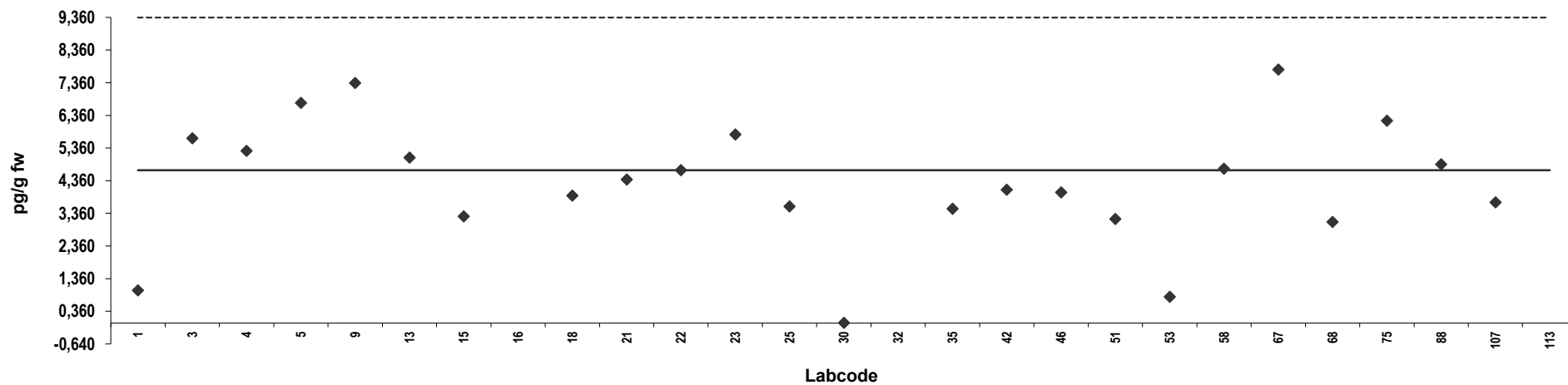
Egg yolk
Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	1,0	-3,9	ND				
3	5,7	1,0					
4	5,3	0,63					
5	6,7	2,2					
9	7,3	2,9					
13	5,1	0,41					
15	3,3	-1,5					
16	154	159	Outlier				
18	3,9	-0,83					
21	4,4	-0,30					
22	4,7	0,00					
23	5,8	1,2					
25	3,6	-1,2					
30	0,0035	-5,0					
32	109	111	Outlier				
35	3,5	-1,3					
42	4,1	-0,64					
46	4,0	-0,73					
51	3,2	-1,6	ND				
53	0,80	-4,1	ND				
58	4,7	0,050					
67	7,8	3,3					
68	3,1	-1,7					
75	6,2	1,6					
88	4,9	0,19					
107	3,7	-1,0					
113	27	24	Outlier				

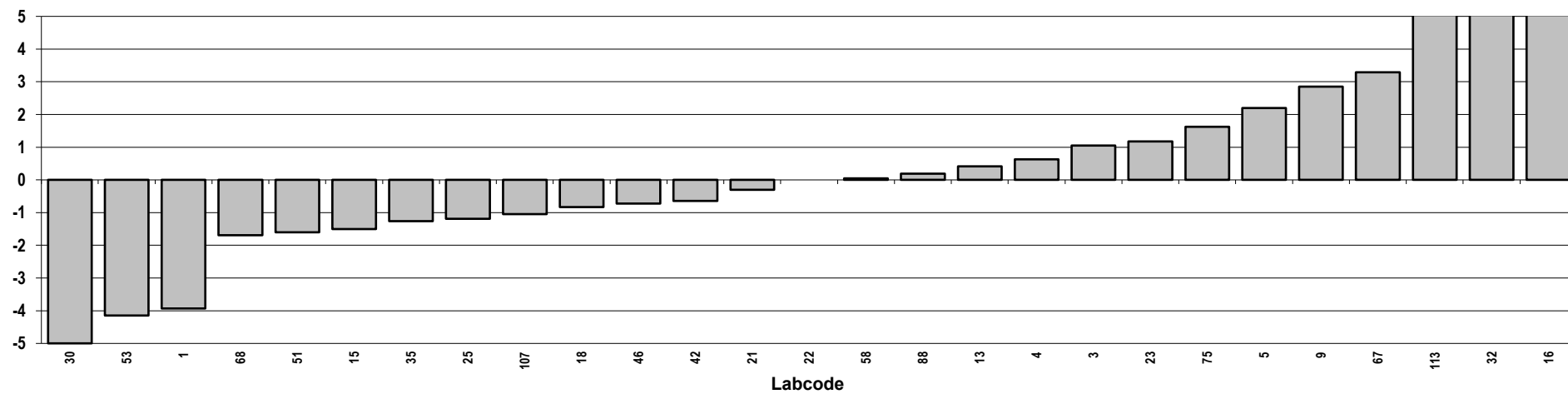
Consensus statistics

Consensus median, pg/g	4,7
Median all values pg/g	4,7
Consensus mean, pg/g	4,3
Standard deviation, pg/g	1,9
Relative standard deviation, %	45
No. of values reported	27
No. of values removed	3
No. of reported non-detects	3

PBDE 154



Z-score: PBDE 154



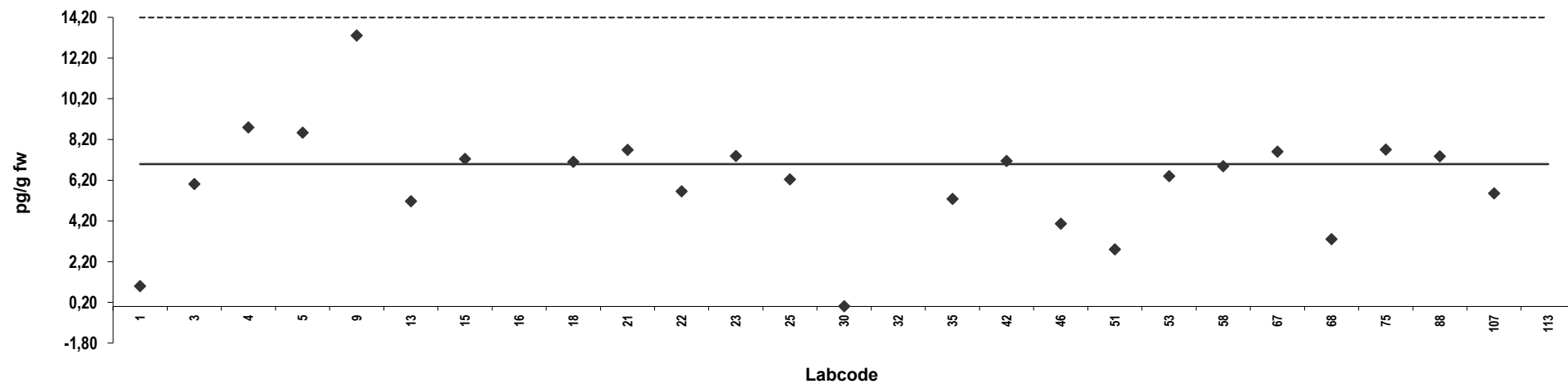
Egg yolk
Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
1	1,0	-4,3	ND				
3	6,0	-0,70					
4	8,8	1,3					
5	8,5	1,1					
9	13	4,5					
13	5,2	-1,3					
15	7,3	0,19					
16	31	17	Outlier				
18	7,1	0,078					
21	7,7	0,50					
22	5,7	-0,96					
23	7,4	0,29					
25	6,2	-0,54					
30	0,0071	-5,0	Outlier				
32	126	85	Outlier				
35	5,3	-1,2					
42	7,2	0,11					
46	4,1	-2,1					
51	2,8	-3,0	ND				
53	6,4	-0,42					
58	6,9	-0,078					
67	7,6	0,44					
68	3,3	-2,6					
75	7,7	0,51					
88	7,4	0,27					
107	5,6	-1,0					
113	27	15	Outlier				

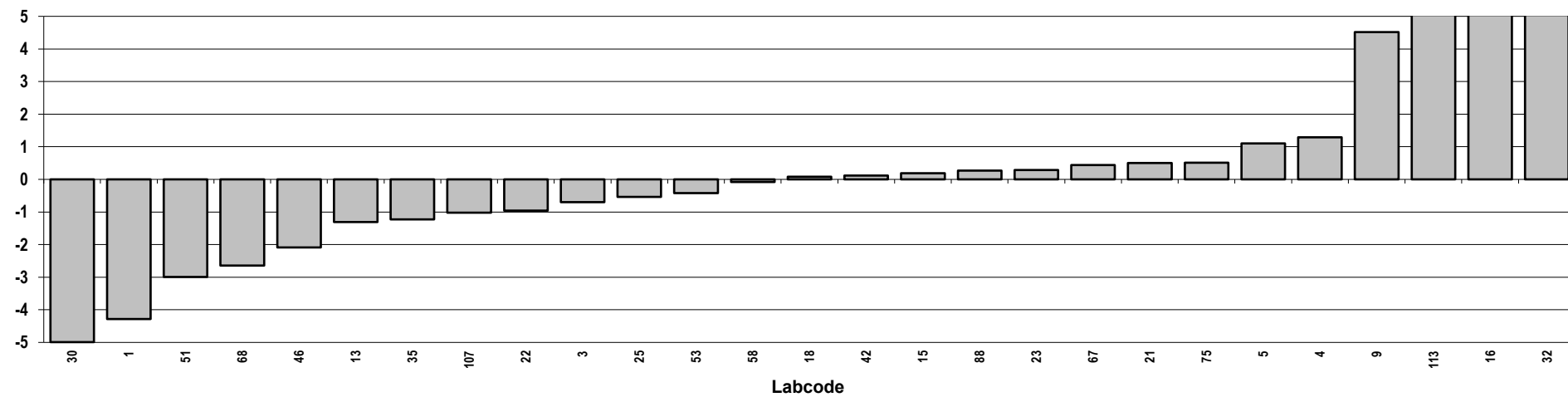
Consensus statistics

Consensus median, pg/g	7,0
Median all values pg/g	7,1
Consensus mean, pg/g	6,2
Standard deviation, pg/g	2,7
Relative standard deviation, %	44
No. of values reported	27
No. of values removed	3
No. of reported non-detects	2

PBDE 183



Z-score: PBDE 183

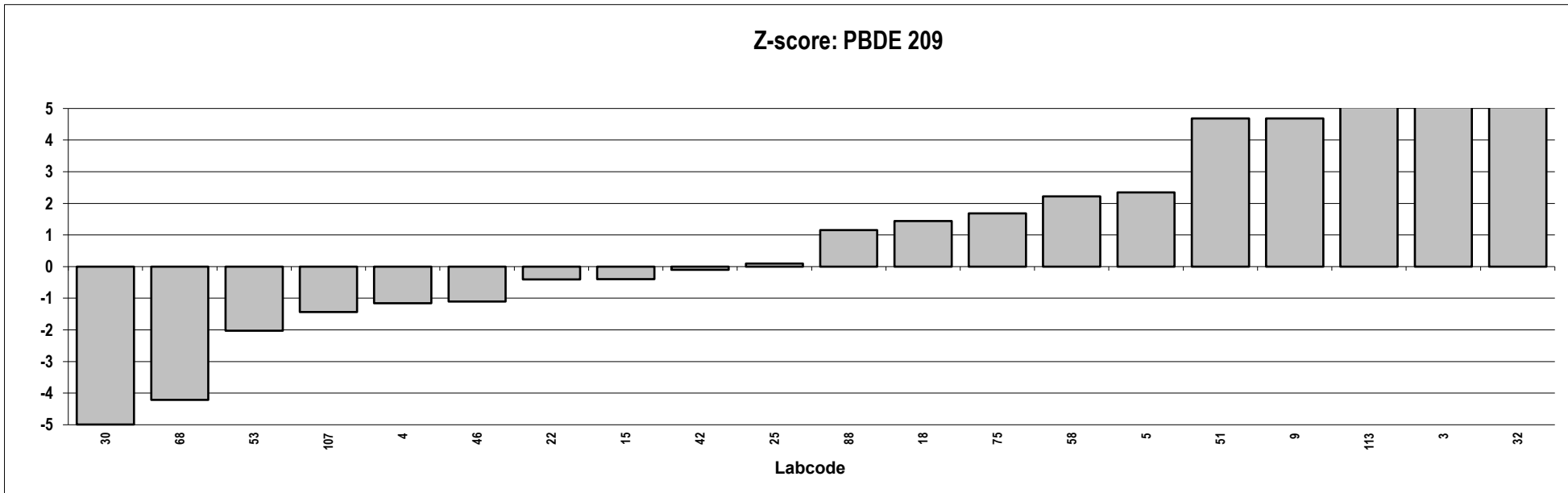
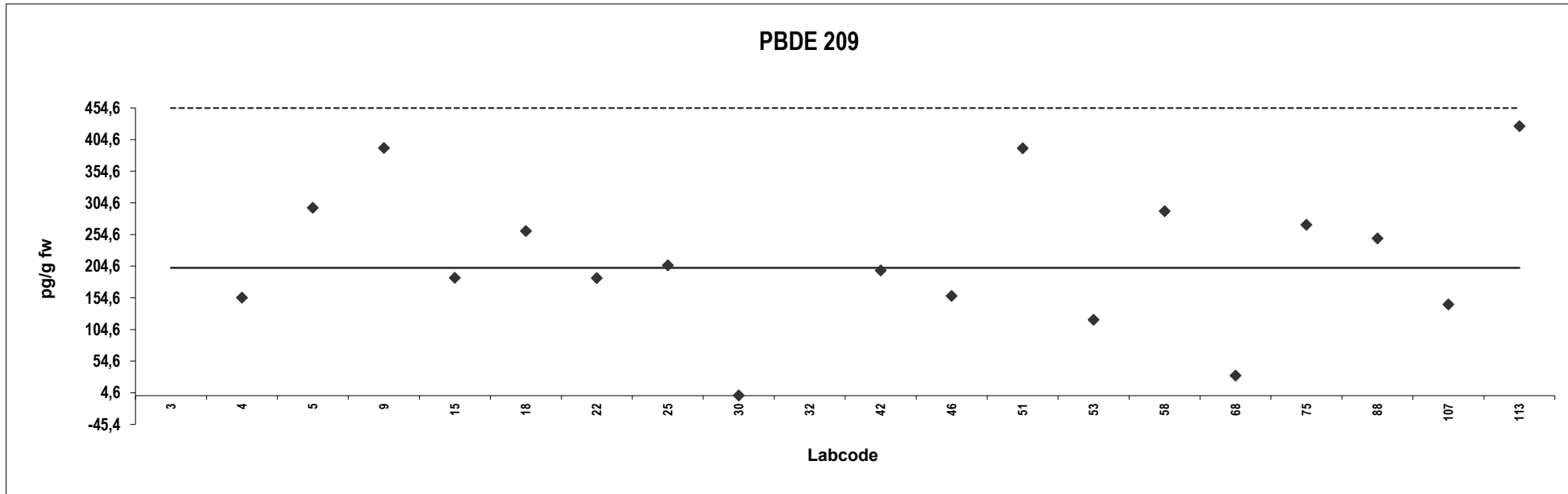


Egg yolk
Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
3	466	6,5	Outlier				
4	155	-1,2					
5	297	2,3					
9	391	4,7					
15	186	-0,39					
18	260	1,4	ND				
22	186	-0,40					
25	206	0,10					
30	0,31	-5,0					
32	2527	58	Outlier				
42	198	-0,10					
46	158	-1,1	ND				
51	391	4,7					
53	120	-2,0					
58	292	2,2					
68	32	-4,2					
75	270	1,7					
88	249	1,2					
107	144	-1,4					
113	426	5,5					

Consensus statistics

Consensus median, pg/g	202
Median all values pg/g	227
Consensus mean, pg/g	220
Standard deviation, pg/g	116
Relative standard deviation, %	53
No. of values reported	20
No. of values removed	2
No. of reported non-detects	2

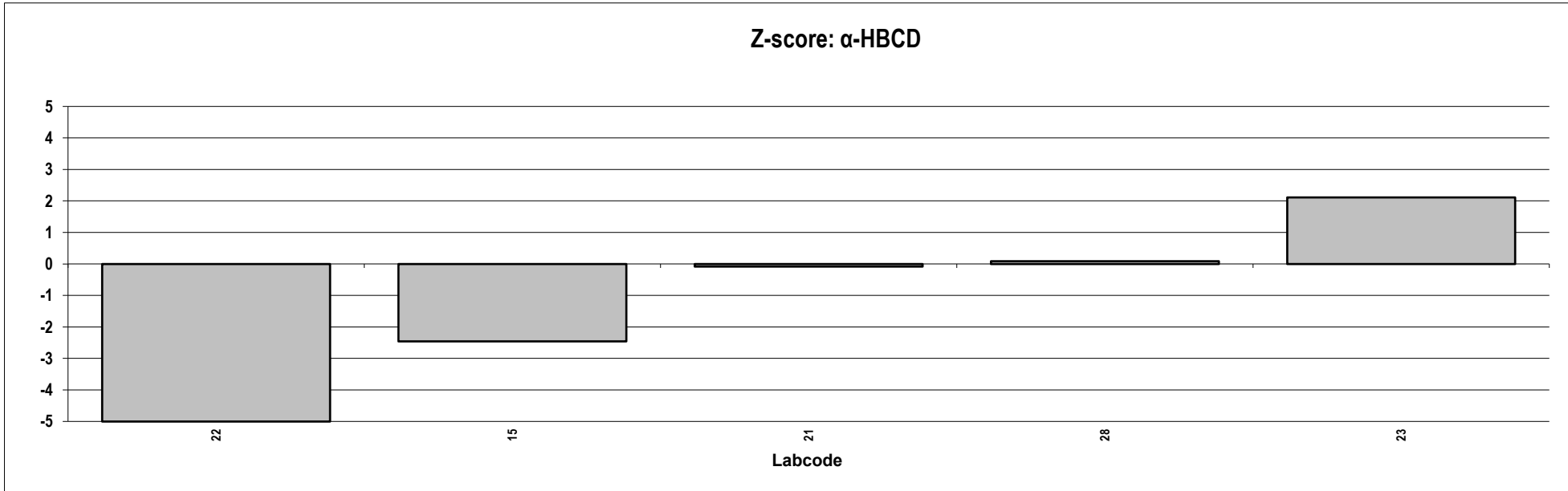
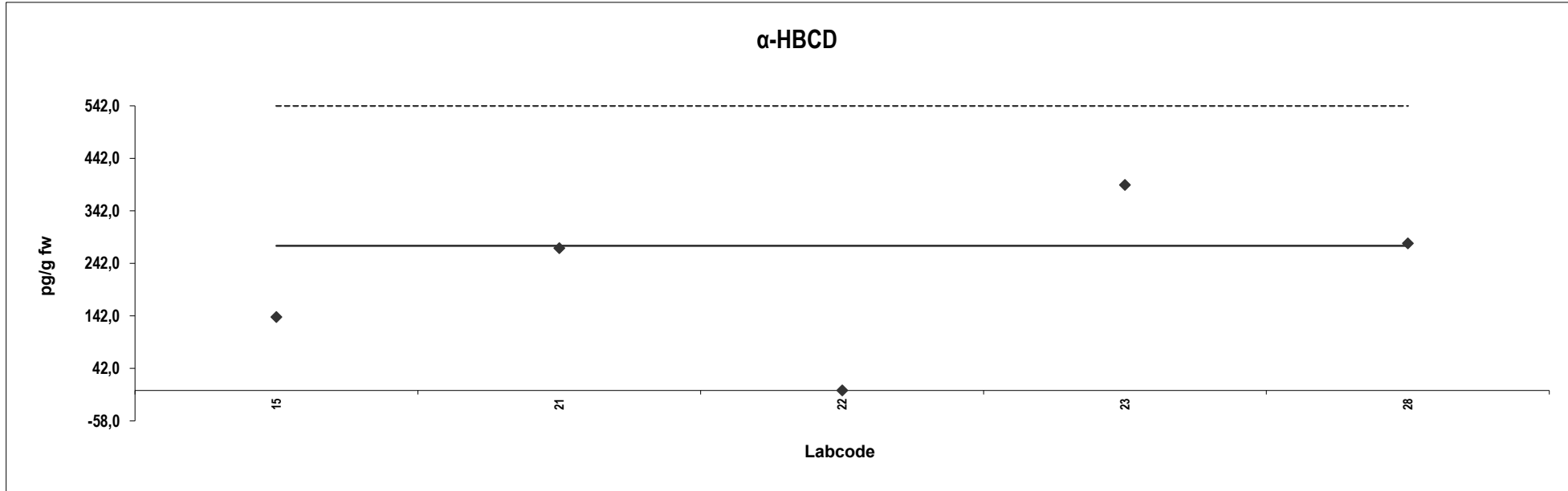


Egg yolk
Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
15	140	-2,5					
21	271	-0,082					
22	0,050	-5,0	ND				
23	392	2,1					
28	280	0,082					

Consensus statistics

Consensus median, pg/g	276
Median all values pg/g	271
Consensus mean, pg/g	217
Standard deviation, pg/g	150
Relative standard deviation, %	69
No. of values reported	5
No. of values removed	0
No. of reported non-detects	1

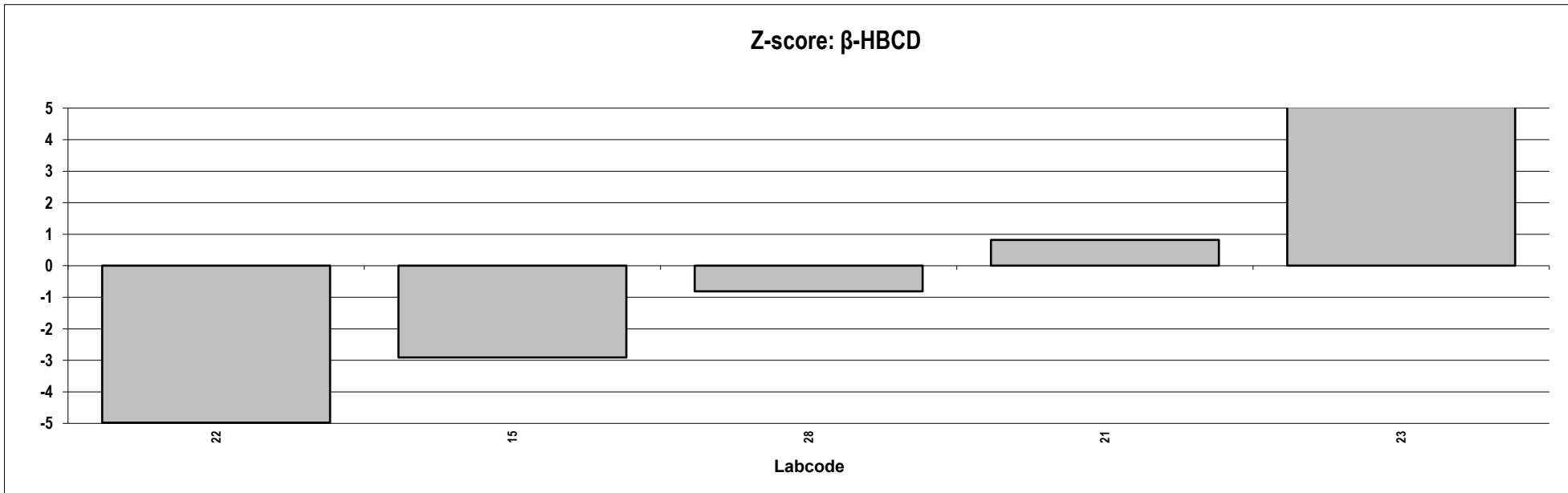
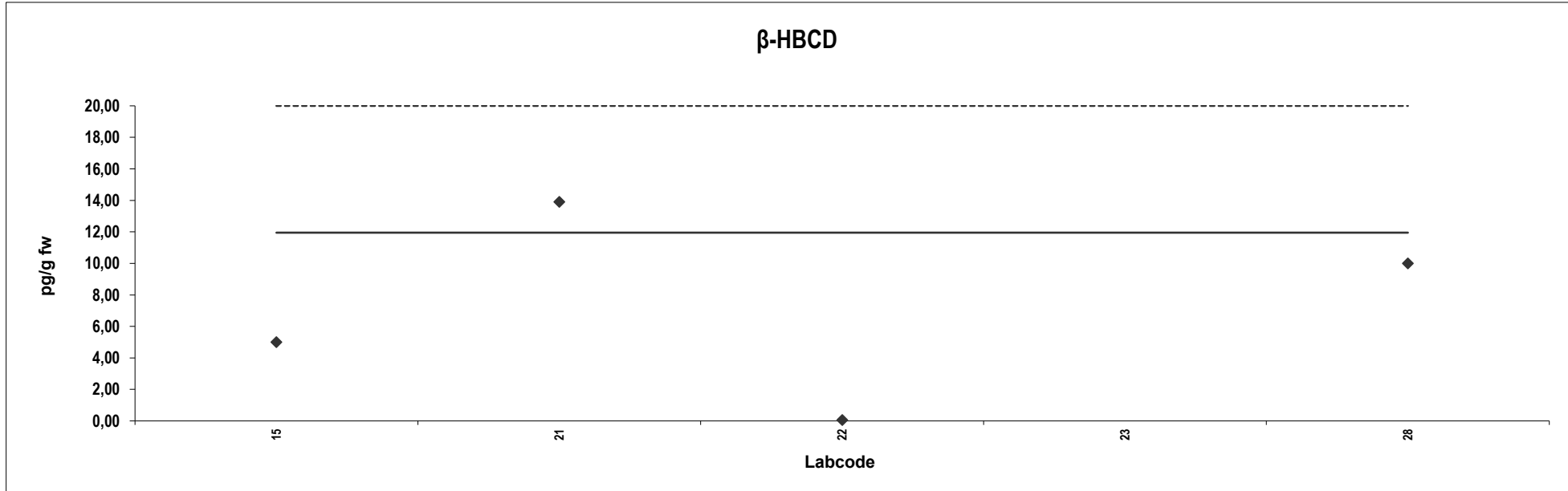


Egg yolk
Congener: β -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
15	5,0	-2,9	ND				
21	14	0,82					
22	0,050	-5,0	ND				
23	40	12	Outlier				
28	10	-0,82					

Consensus statistics

Consensus median, pg/g	12
Median all values pg/g	10
Consensus mean, pg/g	7,2
Standard deviation, pg/g	6,0
Relative standard deviation, %	83
No. of values reported	5
No. of values removed	1
No. of reported non-detects	2

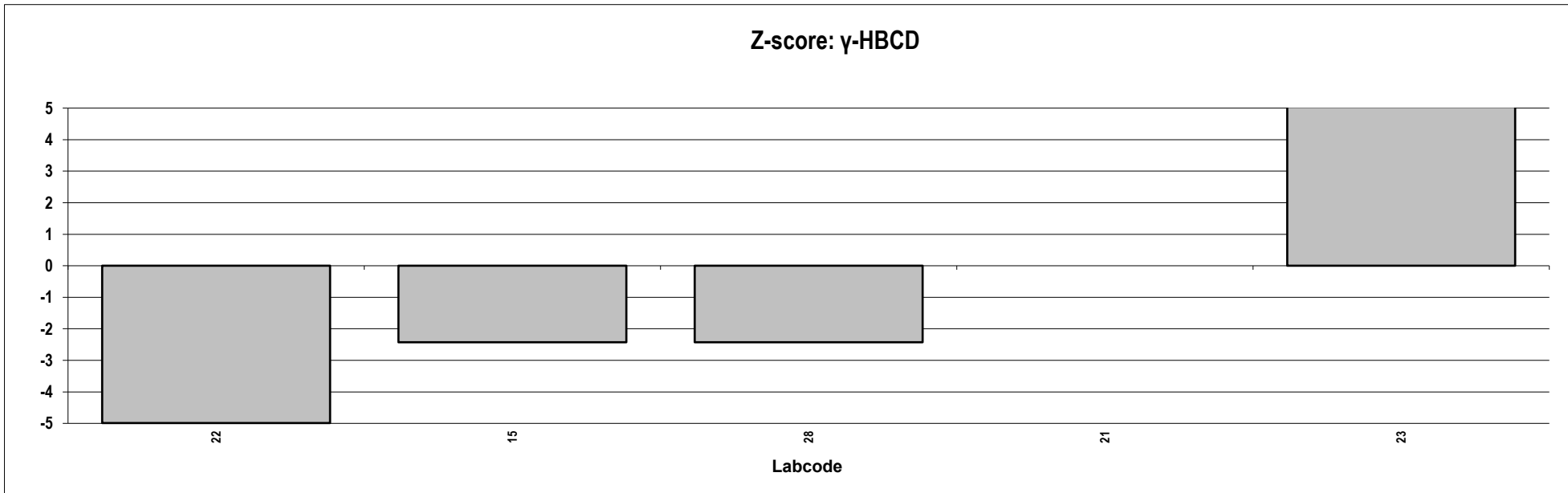
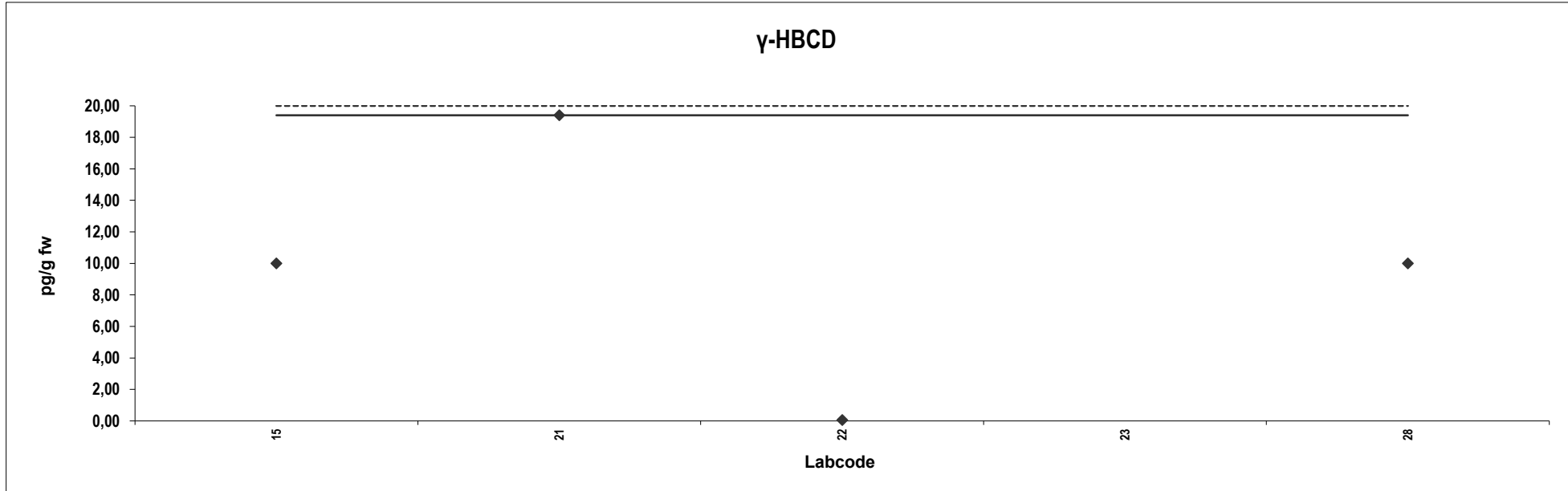


Egg yolk
Congener: γ -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
15	10	-2,4	ND				
21	19	0,00					
22	0,050	-5	ND				
23	315	76	Outlier				
28	10	-2,4	ND				

Consensus statistics

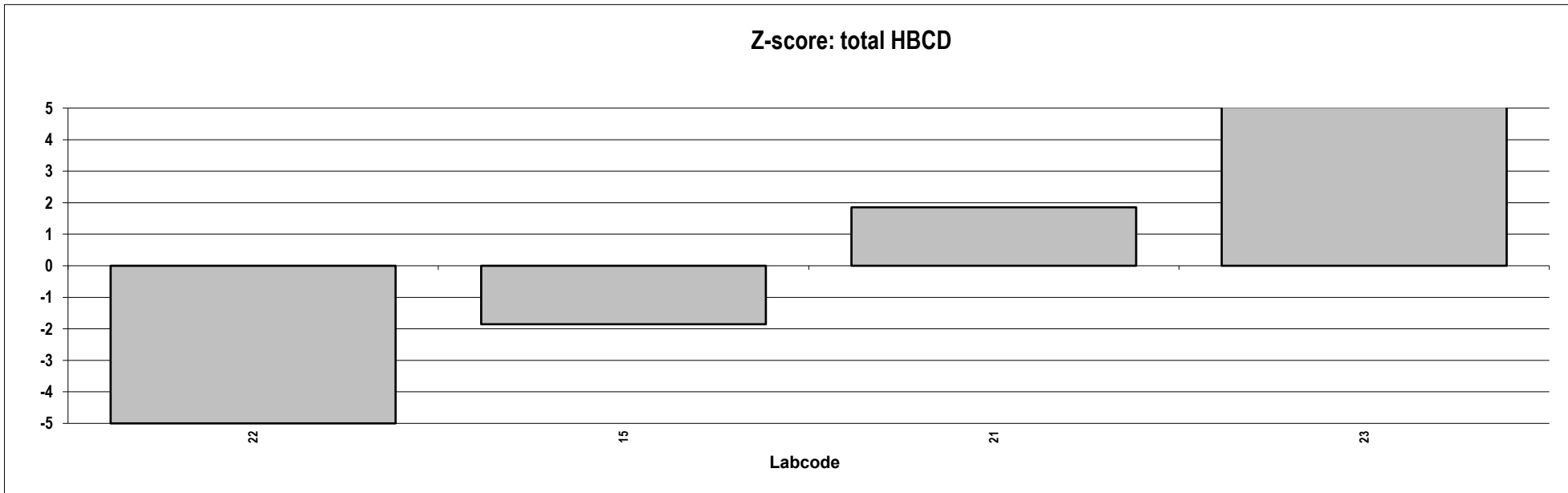
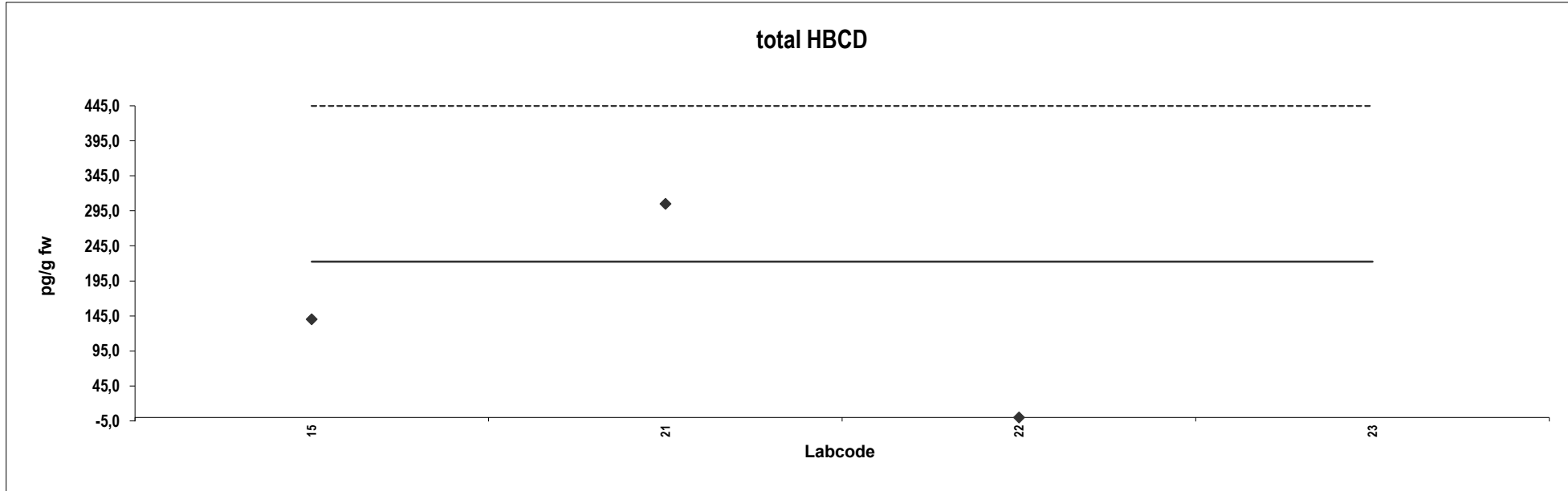
Consensus median, pg/g	19
Median all values pg/g	10
Consensus mean, pg/g	9,9
Standard deviation, pg/g	7,9
Relative standard deviation, %	80
No. of values reported	5
No. of values removed	1
No. of reported non-detects	3



Egg yolk
Congener: total HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Z-score	Conc. pg/g fw.	Notes
15	140	-1,9					
21	305	1,9					
22	0,050	-5,0	ND				
23	747	12	Outlier				

Consensus statistics	
Consensus median, pg/g	223
Median all values pg/g	223
Consensus mean, pg/g	148
Standard deviation, pg/g	153
Relative standard deviation, %	103
No. of values reported	4
No. of values removed	1
No. of reported non-detects	1





Appendix 3:

Presentation of results for
Salmon-2020

Appendix 3: Presentation of results: Salmon-2020

Statistic calculations for PCDDs, PCDFs and dioxin-like PCBs

For each congener, the outliers were removed and the consensus calculated according to the following procedure:

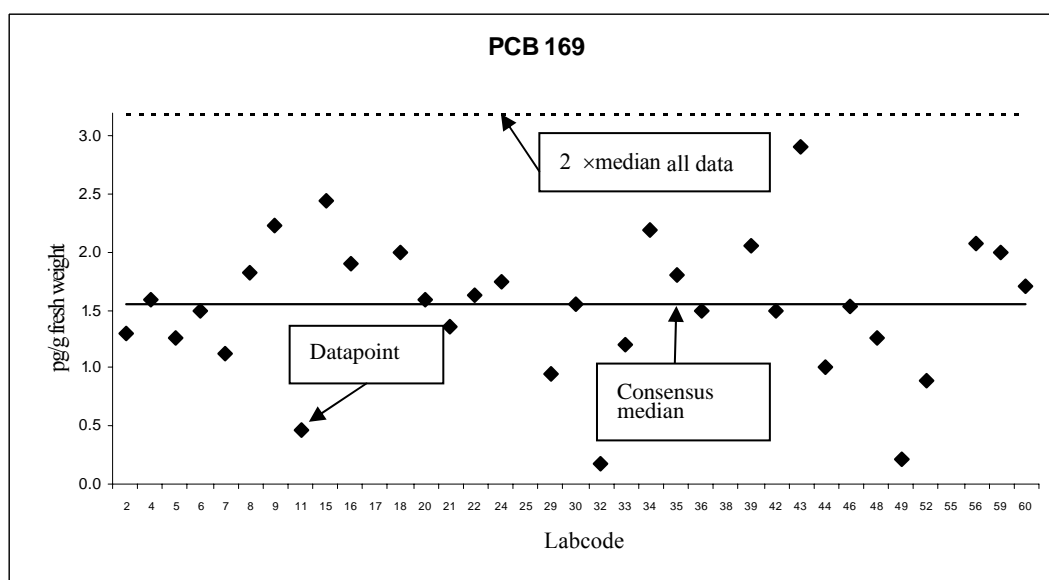
1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners.
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set.
3. Median, mean and standard deviation were re-calculated from the remaining data. This second median was called consensus.

Statistic calculations for indicator PCBs, PBDEs and HBCD

For each congener, the outliers were removed and the consensus calculated according to the following procedure:

1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners (NDs).
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set. The NDs were also removed.
3. Median, mean and standard deviation were re-calculated from the remaining data. This second median was called consensus.
4. For comparison, median, mean and standard deviation were also calculated without removing NDs.

The diagram shows the reported data up to approximately the limit for outliers ($2 \times$ the first median).



Z-Scores of individual congeners

Z-scores of each congener were calculated for each laboratory according to the following equation:

$$z = (x - X) / \sigma$$

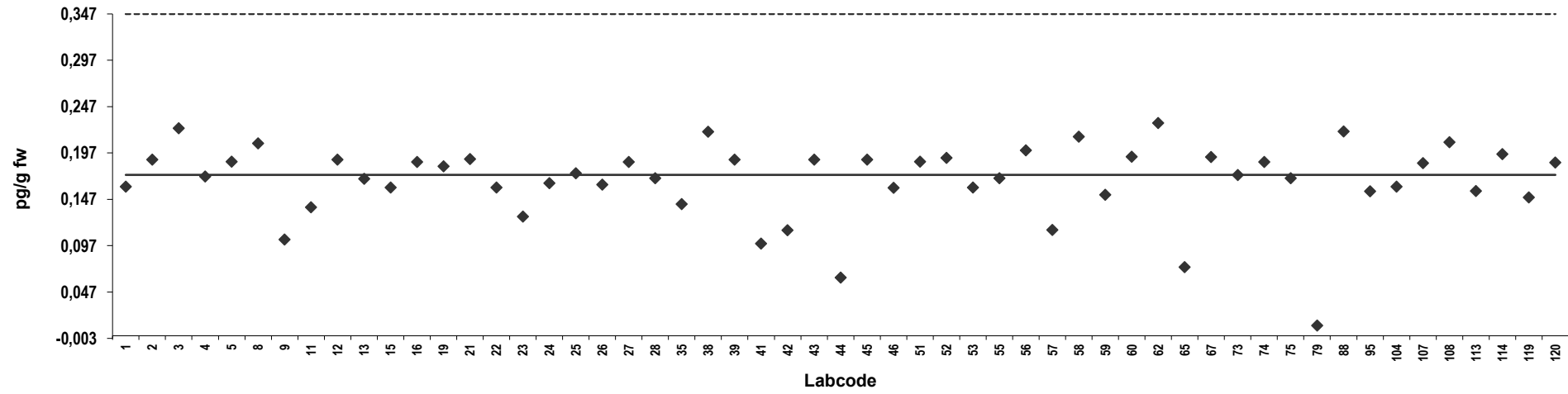
where x = reported value; X = assigned value (consensus); σ = target value for standard deviation. A σ of 20% of the consensus was used, i.e. z-scores between +1 and -1 reflect a deviation of $\pm 20\%$ from the consensus value.

Salmon
Congener: 2,3,7,8 TCDD

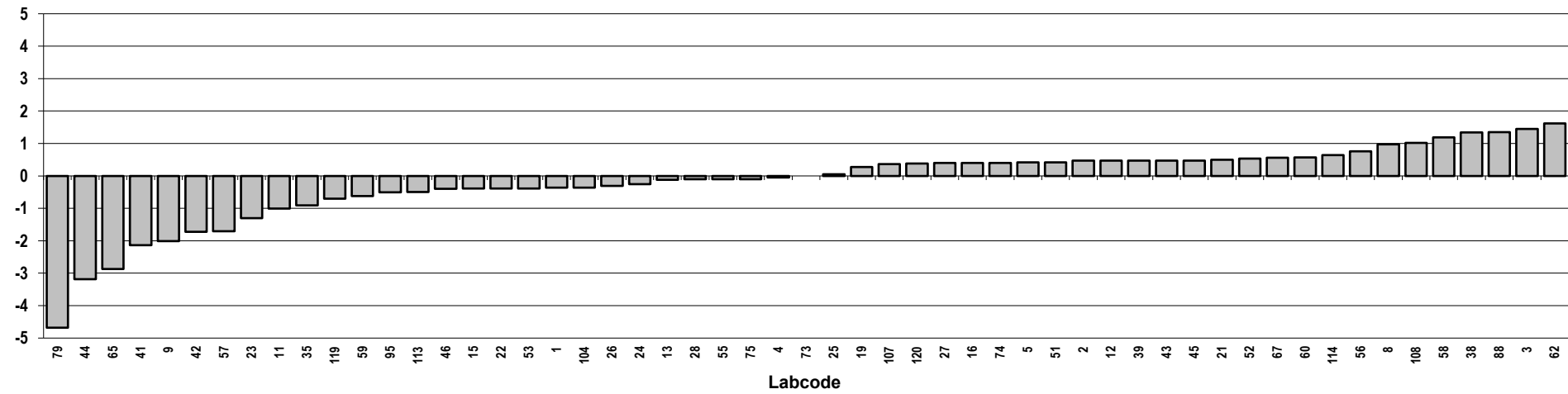
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,16	-0,36		79	0,011	-4,7	
2	0,19	0,47		88	0,22	1,4	
3	0,22	1,4		95	0,16	-0,51	
4	0,17	-0,046		104	0,16	-0,36	
5	0,19	0,41		107	0,19	0,37	
8	0,21	0,98		108	0,21	1,0	
9	0,10	-2,0		113	0,16	-0,50	
11	0,14	-1,0		114	0,20	0,65	
12	0,19	0,47		119	0,15	-0,70	
13	0,17	-0,12		120	0,19	0,39	
15	0,16	-0,39					
16	0,19	0,40					
19	0,18	0,27					
21	0,19	0,50					
22	0,16	-0,39					
23	0,13	-1,3					
24	0,16	-0,25					
25	0,18	0,049					
26	0,16	-0,31					
27	0,19	0,40					
28	0,17	-0,10					
35	0,14	-0,91					
38	0,22	1,3					
39	0,19	0,47					
41	0,099	-2,1					
42	0,11	-1,7					
43	0,19	0,47					
44	0,063	-3,2					
45	0,19	0,47					
46	0,16	-0,40					
51	0,19	0,41					
52	0,19	0,53					
53	0,16	-0,39					
55	0,17	-0,10					
56	0,20	0,76					
57	0,11	-1,7					
58	0,21	1,2					
59	0,15	-0,62					
60	0,19	0,57					
62	0,23	1,6					
65	0,074	-2,9					
67	0,19	0,56					
73	0,17	0,00					
74	0,19	0,40					
75	0,17	-0,10					

Consensus statistics	
Consensus median, pg/g	0,17
Median all values pg/g	0,17
Consensus mean, pg/g	0,17
Standard deviation, pg/g	0,041
Relative standard deviation, %	24
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

2,3,7,8 TCDD



Z-score: 2,3,7,8 TCDD



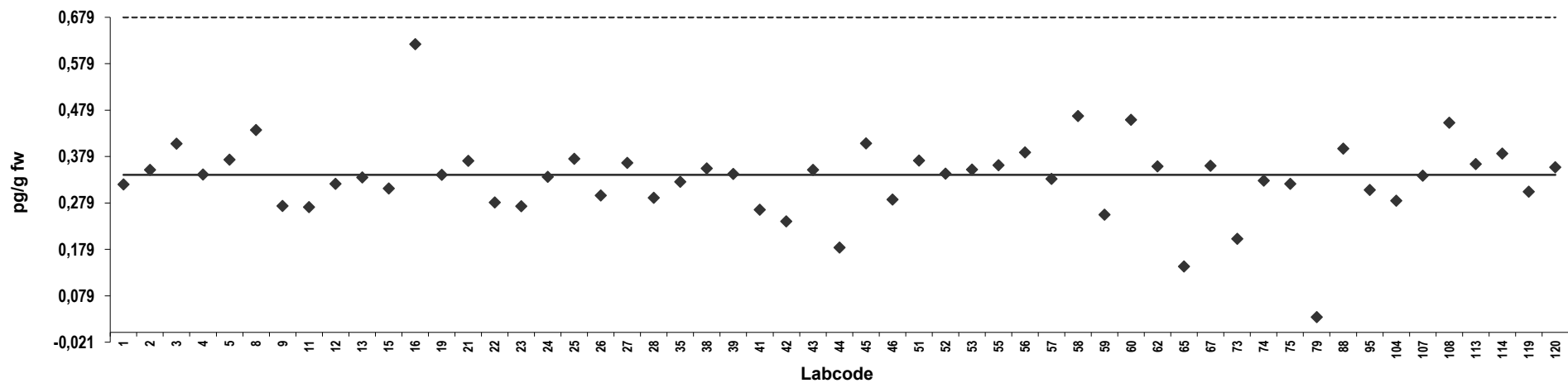
Salmon
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,32	-0,30		79	0,033	-4,5	
2	0,35	0,16		88	0,40	0,83	
3	0,41	0,98		95	0,31	-0,48	
4	0,34	0,0085		104	0,28	-0,82	
5	0,37	0,48		107	0,34	-0,025	
8	0,44	1,4		108	0,45	1,7	
9	0,27	-0,99		113	0,36	0,34	
11	0,27	-1,0		114	0,39	0,67	
12	0,32	-0,29		119	0,30	-0,53	
13	0,33	-0,082		120	0,36	0,24	
15	0,31	-0,43					
16	0,62	4,1					
19	0,34	0,00					
21	0,37	0,44					
22	0,28	-0,88					
23	0,27	-1,0					
24	0,33	-0,067					
25	0,37	0,51					
26	0,30	-0,65					
27	0,37	0,38					
28	0,29	-0,73					
35	0,32	-0,22					
38	0,35	0,20					
39	0,34	0,028					
41	0,26	-1,1					
42	0,24	-1,5					
43	0,35	0,16					
44	0,18	-2,3					
45	0,41	1,0					
46	0,29	-0,79					
51	0,37	0,45					
52	0,34	0,038					
53	0,35	0,17					
55	0,36	0,30					
56	0,39	0,72					
57	0,33	-0,13					
58	0,47	1,9					
59	0,25	-1,3					
60	0,46	1,7					
62	0,36	0,27					
65	0,14	-2,9					
67	0,36	0,29					
73	0,20	-2,0					
74	0,33	-0,19					
75	0,32	-0,29					

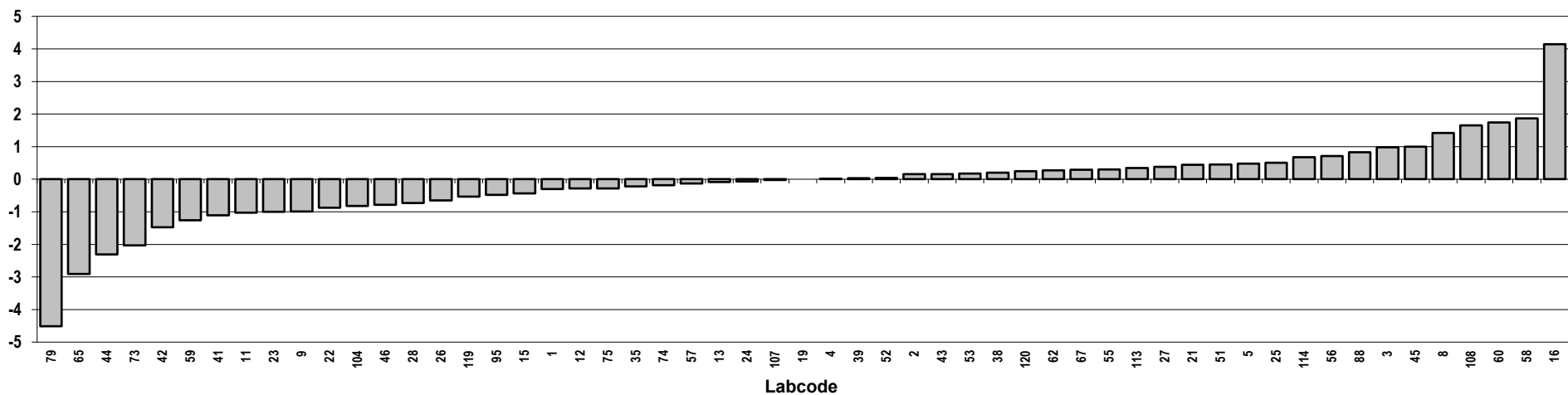
Consensus statistics

Consensus median, pg/g	0,34
Median all values pg/g	0,34
Consensus mean, pg/g	0,33
Standard deviation, pg/g	0,084
Relative standard deviation, %	25
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

1,2,3,7,8 PeCDD



Z-score: 1,2,3,7,8 PeCDD



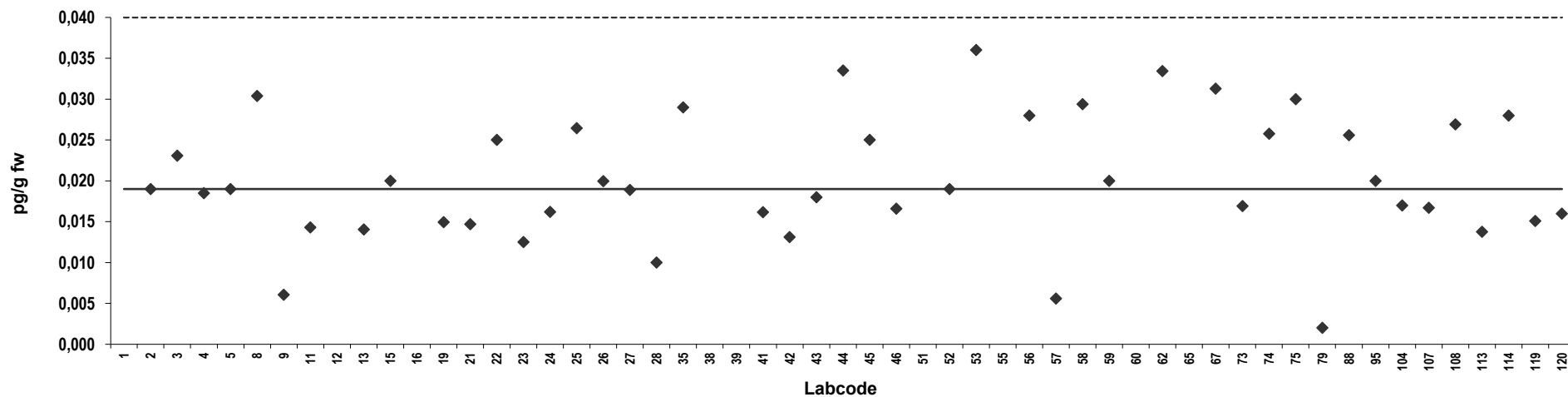
Salmon
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	8,2	Outlier,ND	79	0,0020	-4,5	ND
2	0,019	0,00		88	0,026	1,7	
3	0,023	1,1		95	0,020	0,26	
4	0,019	-0,13		104	0,017	-0,53	
5	0,019	0,00		107	0,017	-0,61	
8	0,030	3,0		108	0,027	2,1	
9	0,0060	-3,4		113	0,014	-1,4	
11	0,014	-1,2	ND	114	0,028	2,4	
12	0,043	6,3	Outlier,ND	119	0,015	-1,0	ND
13	0,014	-1,3		120	0,016	-0,79	
15	0,020	0,26					
16	0,20	48	Outlier				
19	0,015	-1,1					
21	0,015	-1,1	ND				
22	0,025	1,6					
23	0,013	-1,7	ND				
24	0,016	-0,74					
25	0,026	2,0					
26	0,020	0,25					
27	0,019	-0,026					
28	0,010	-2,4	ND				
35	0,029	2,6					
38	0,13	29	Outlier,ND				
39	0,050	8,2	Outlier,ND				
41	0,016	-0,74					
42	0,013	-1,5					
43	0,018	-0,26					
44	0,034	3,8					
45	0,025	1,6	ND				
46	0,017	-0,63					
51	0,15	34	Outlier				
52	0,019	0,00					
53	0,036	4,5					
55	0,050	8,2	Outlier,ND				
56	0,028	2,4					
57	0,0056	-3,5	ND				
58	0,029	2,7					
59	0,020	0,26					
60	0,097	21	Outlier,ND				
62	0,033	3,8					
65	0,050	8,2	Outlier,ND				
67	0,031	3,2					
73	0,017	-0,55					
74	0,026	1,8					
75	0,030	2,9					

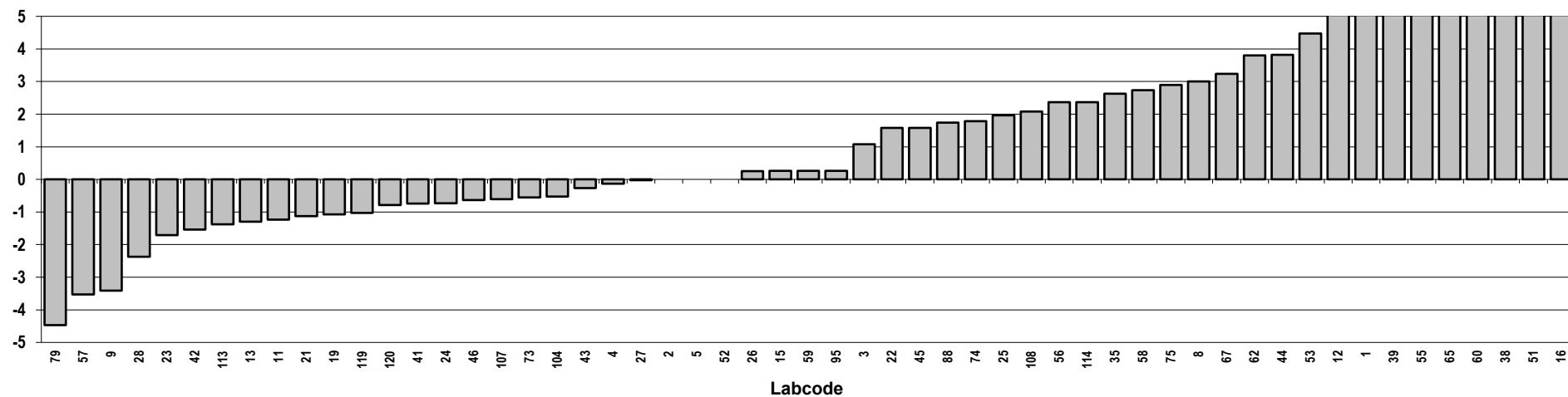
Consensus statistics

Consensus median, pg/g	0,019
Median all values pg/g	0,020
Consensus mean, pg/g	0,020
Standard deviation, pg/g	0,0077
Relative standard deviation, %	38
No. of values reported	55
No. of values removed	9
No. of reported non-detects	15

1,2,3,4,7,8 HxCDD



Z-score: 1,2,3,4,7,8 HxCDD

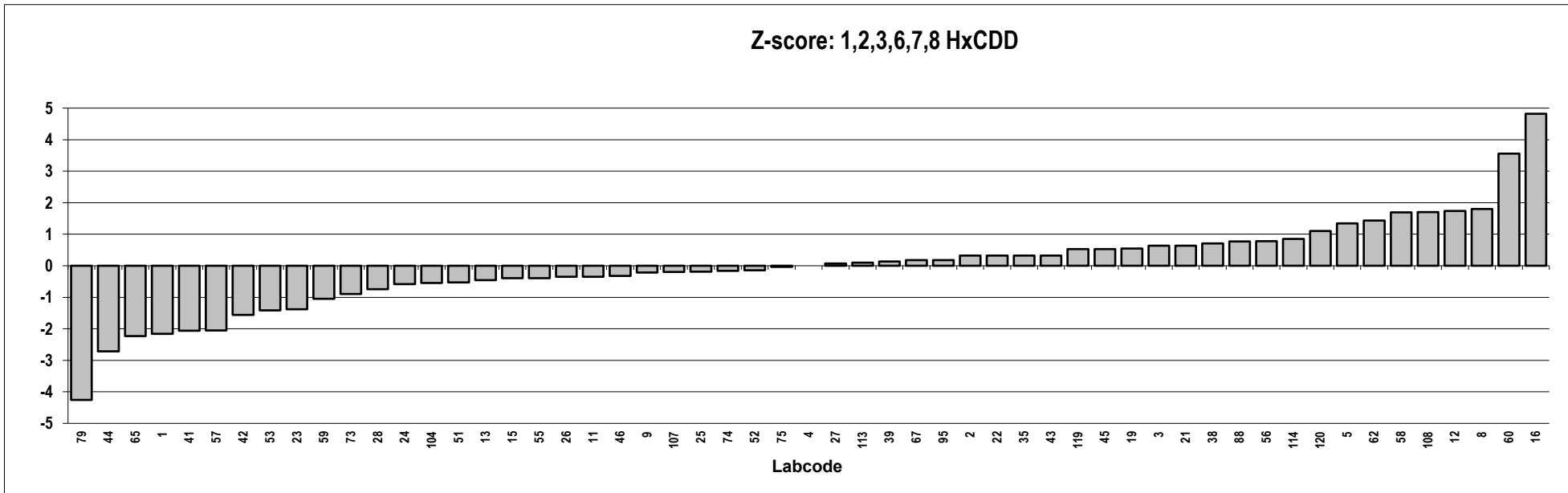
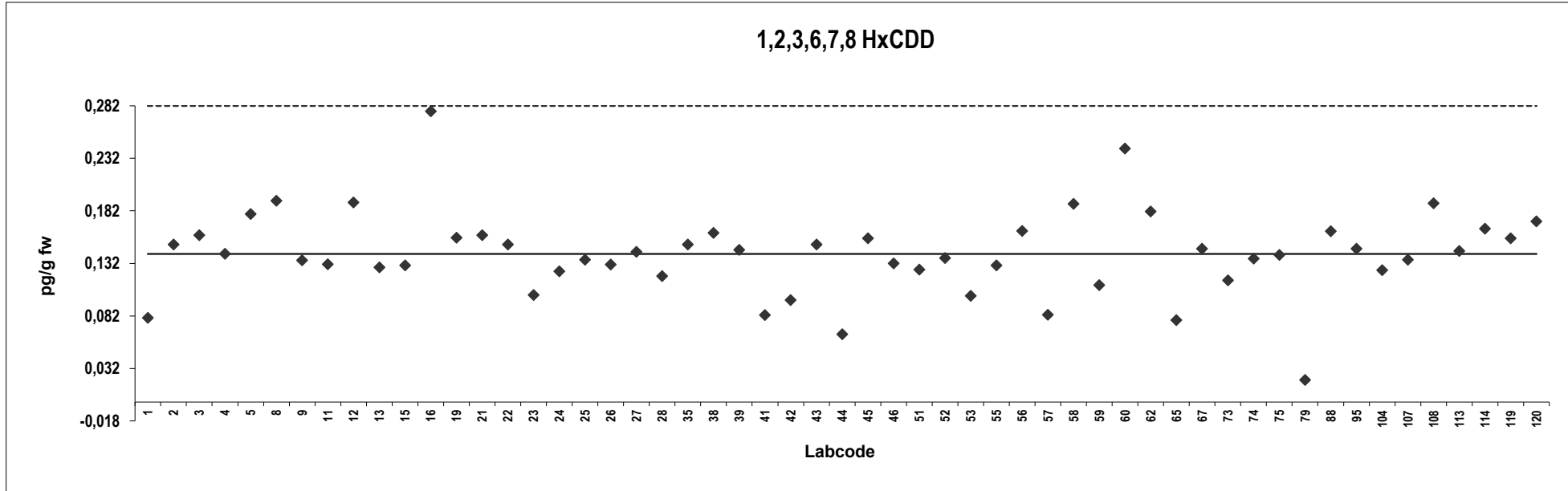


Salmon
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,080	-2,2		79	0,021	-4,3	
2	0,15	0,32		88	0,16	0,77	
3	0,16	0,63		95	0,15	0,18	
4	0,14	0,00		104	0,13	-0,55	
5	0,18	1,3		107	0,14	-0,20	
8	0,19	1,8		108	0,19	1,7	
9	0,14	-0,21		113	0,14	0,098	
11	0,13	-0,35		114	0,17	0,85	
12	0,19	1,7		119	0,16	0,52	
13	0,13	-0,46		120	0,17	1,1	
15	0,13	-0,39					
16	0,28	4,8					
19	0,16	0,55					
21	0,16	0,64					
22	0,15	0,32					
23	0,10	-1,4					
24	0,12	-0,59					
25	0,14	-0,19					
26	0,13	-0,35					
27	0,14	0,074					
28	0,12	-0,74					
35	0,15	0,32					
38	0,16	0,71					
39	0,14	0,14					
41	0,083	-2,1					
42	0,097	-1,6					
43	0,15	0,32					
44	0,064	-2,7					
45	0,16	0,53					
46	0,13	-0,32					
51	0,13	-0,53					
52	0,14	-0,14					
53	0,10	-1,4					
55	0,13	-0,39					
56	0,16	0,78					
57	0,083	-2,1					
58	0,19	1,7					
59	0,11	-1,0					
60	0,24	3,6					
62	0,18	1,4					
65	0,078	-2,2					
67	0,15	0,18					
73	0,12	-0,89					
74	0,14	-0,16					
75	0,14	-0,035					

Consensus statistics

Consensus median, pg/g	0,14
Median all values pg/g	0,14
Consensus mean, pg/g	0,14
Standard deviation, pg/g	0,041
Relative standard deviation, %	29
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

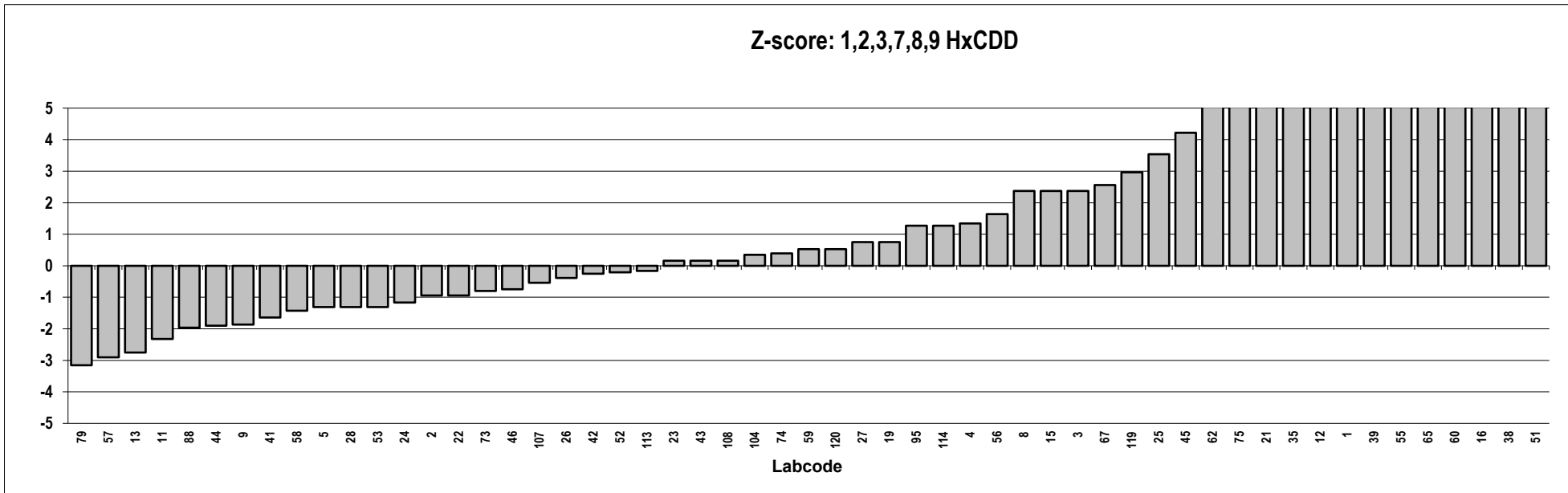
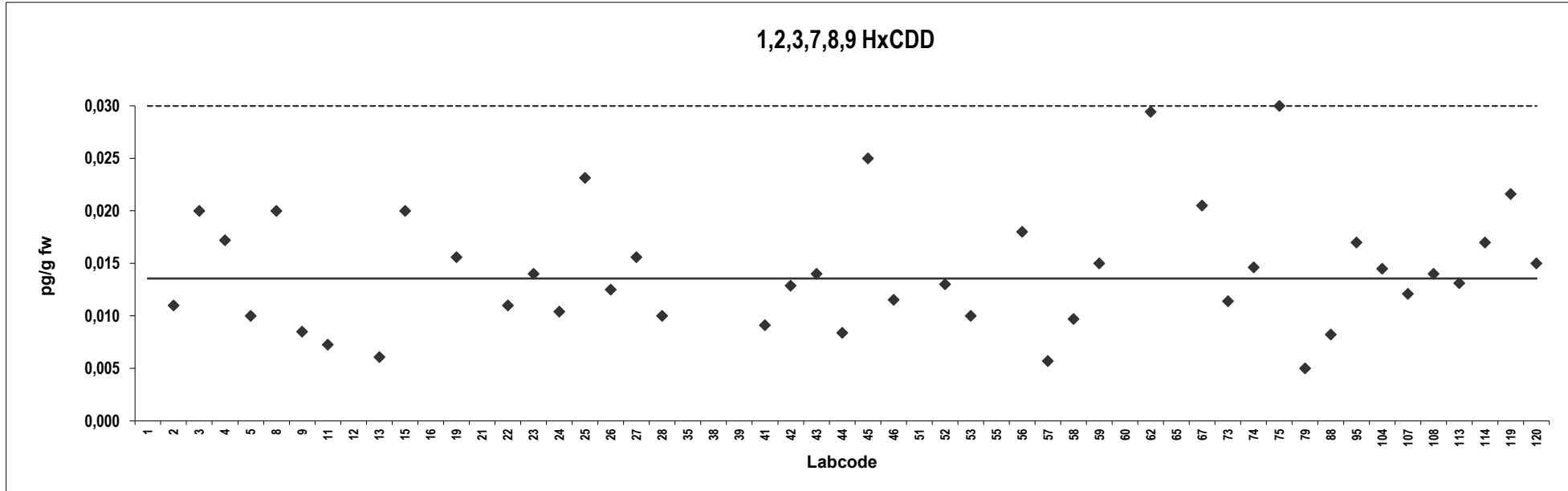


Salmon
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	13	Outlier,ND	79	0,0050	-3,2	
2	0,011	-0,94		88	0,0082	-2,0	
3	0,020	2,4		95	0,017	1,3	
4	0,017	1,3		104	0,015	0,35	
5	0,010	-1,3	ND	107	0,012	-0,54	
8	0,020	2,4		108	0,014	0,16	
9	0,0085	-1,9		113	0,013	-0,16	
11	0,0073	-2,3	ND	114	0,017	1,3	
12	0,046	12	Outlier,ND	119	0,022	3,0	
13	0,0061	-2,8		120	0,015	0,53	
15	0,020	2,4	ND				
16	0,11	36	Outlier				
19	0,016	0,75					
21	0,032	6,9	Outlier,ND				
22	0,011	-0,94					
23	0,014	0,16	ND				
24	0,010	-1,2					
25	0,023	3,5					
26	0,013	-0,39	ND				
27	0,016	0,75					
28	0,010	-1,3					
35	0,033	7,2	Outlier				
38	0,13	43	Outlier,ND				
39	0,050	13	Outlier,ND				
41	0,0091	-1,6					
42	0,013	-0,25					
43	0,014	0,16					
44	0,0084	-1,9	ND				
45	0,025	4,2	ND				
46	0,012	-0,75					
51	0,13	44	Outlier				
52	0,013	-0,21					
53	0,010	-1,3	ND				
55	0,050	13	Outlier,ND				
56	0,018	1,6					
57	0,0057	-2,9	ND				
58	0,0097	-1,4					
59	0,015	0,53					
60	0,097	31	Outlier,ND				
62	0,029	5,8					
65	0,050	13	Outlier,ND				
67	0,021	2,6					
73	0,011	-0,80					
74	0,015	0,39					
75	0,030	6,1					

Consensus statistics

Consensus median, pg/g	0,014
Median all values pg/g	0,015
Consensus mean, pg/g	0,014
Standard deviation, pg/g	0,0058
Relative standard deviation, %	41
No. of values reported	55
No. of values removed	11
No. of reported non-detects	17

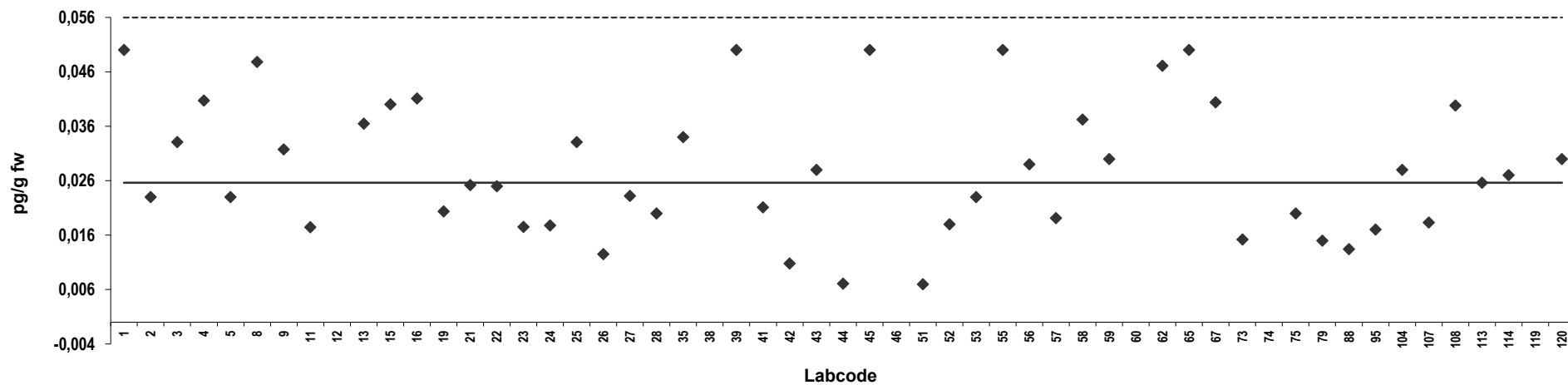


Salmon
Congener: 1,2,3,4,6,7,8 HpCDD

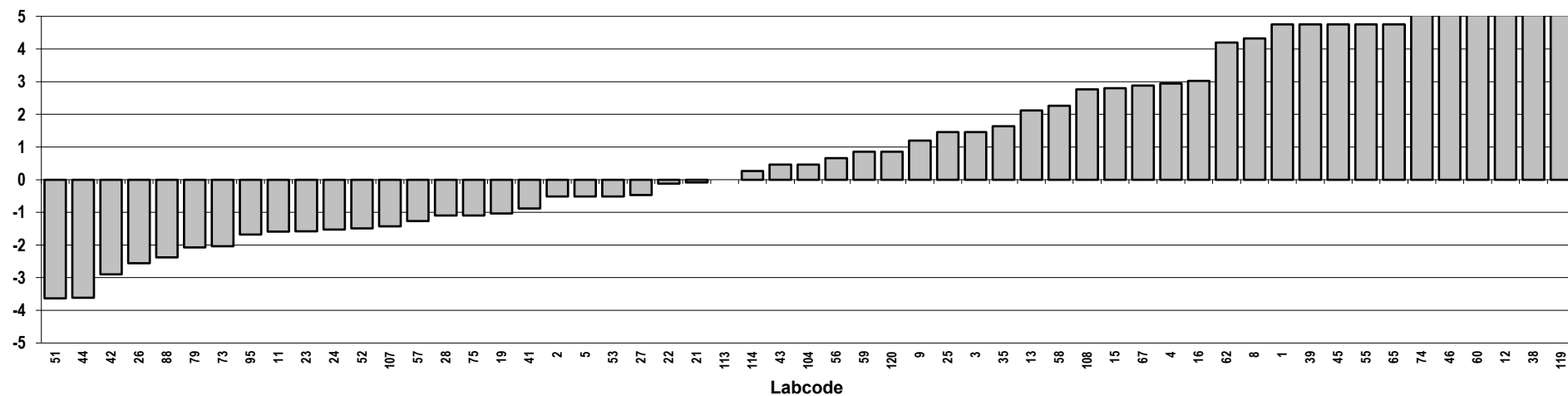
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	4,8	ND	79	0,015	-2,1	
2	0,023	-0,51		88	0,013	-2,4	
3	0,033	1,5		95	0,017	-1,7	
4	0,041	2,9		104	0,028	0,46	
5	0,023	-0,51		107	0,018	-1,4	
8	0,048	4,3		108	0,040	2,8	
9	0,032	1,2		113	0,026	0,00	
11	0,017	-1,6	ND	114	0,027	0,27	
12	0,11	16	Outlier,ND	119	0,20	33	Outlier
13	0,036	2,1		120	0,030	0,85	
15	0,040	2,8					
16	0,041	3,0					
19	0,020	-1,0					
21	0,025	-0,083					
22	0,025	-0,12					
23	0,018	-1,6					
24	0,018	-1,5					
25	0,033	1,5					
26	0,013	-2,6	ND				
27	0,023	-0,47					
28	0,020	-1,1					
35	0,034	1,6					
38	0,13	20	Outlier,ND				
39	0,050	4,8	ND				
41	0,021	-0,88					
42	0,011	-2,9					
43	0,028	0,46					
44	0,0071	-3,6	ND				
45	0,050	4,8	ND				
46	0,062	7,1	Outlier,ND				
51	0,0070	-3,6	ND				
52	0,018	-1,5					
53	0,023	-0,51	ND				
55	0,050	4,8	ND				
56	0,029	0,66					
57	0,019	-1,3					
58	0,037	2,3					
59	0,030	0,85					
60	0,097	14	Outlier,ND				
62	0,047	4,2					
65	0,050	4,8	ND				
67	0,040	2,9					
73	0,015	-2,0					
74	0,061	6,8	Outlier				
75	0,020	-1,1					

Consensus statistics	
Consensus median, pg/g	0,026
Median all values pg/g	0,028
Consensus mean, pg/g	0,028
Standard deviation, pg/g	0,012
Relative standard deviation, %	44
No. of values reported	55
No. of values removed	6
No. of reported non-detects	14

1,2,3,4,6,7,8 HpCDD



Z-score: 1,2,3,4,6,7,8 HpCDD

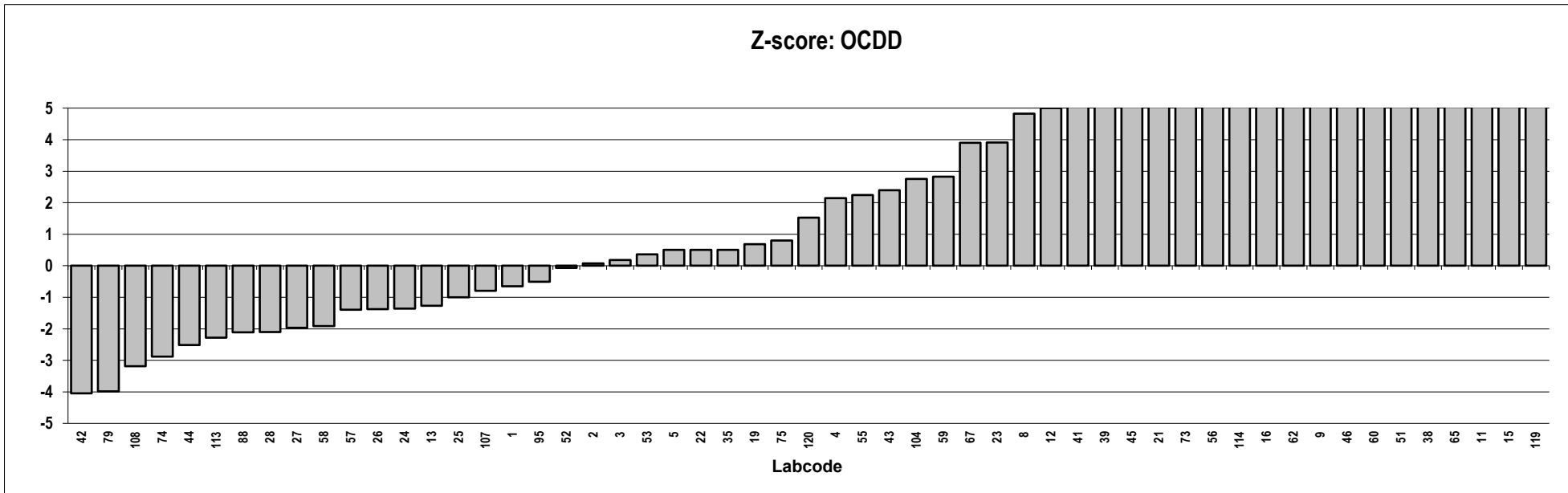
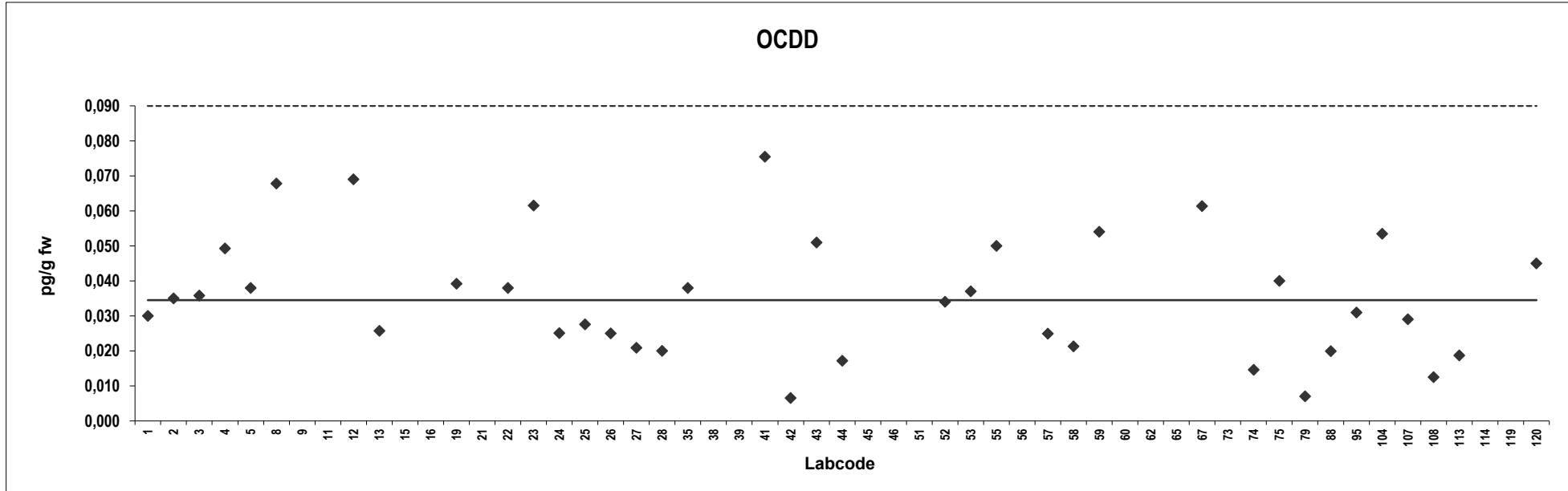


Salmon
Congener: OCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,030	-0,65		79	0,0070	-4,0	
2	0,035	0,072		88	0,020	-2,1	
3	0,036	0,19		95	0,031	-0,51	
4	0,049	2,1		104	0,054	2,8	
5	0,038	0,51		107	0,029	-0,80	
8	0,068	4,8		108	0,013	-3,2	ND
9	0,16	18	Outlier	113	0,019	-2,3	
11	0,58	79	Outlier,ND	114	0,12	13	Outlier
12	0,069	5,0		119	0,70	96	Outlier
13	0,026	-1,3		120	0,045	1,5	
15	0,69	95	Outlier				
16	0,13	14	Outlier				
19	0,039	0,68	ND				
21	0,11	11	Outlier				
22	0,038	0,51					
23	0,062	3,9					
24	0,025	-1,4					
25	0,028	-1,0					
26	0,025	-1,4	ND				
27	0,021	-2,0	ND				
28	0,020	-2,1					
35	0,038	0,51					
38	0,31	40	Outlier,ND				
39	0,10	9,5	Outlier,ND				
41	0,075	5,9					
42	0,0066	-4,0	ND				
43	0,051	2,4					
44	0,017	-2,5	ND				
45	0,10	9,5	Outlier,ND				
46	0,16	18	Outlier				
51	0,28	35	Outlier				
52	0,034	-0,072					
53	0,037	0,36	ND				
55	0,050	2,2					
56	0,12	12	Outlier				
57	0,025	-1,4					
58	0,021	-1,9					
59	0,054	2,8					
60	0,25	31	Outlier				
62	0,14	15	Outlier				
65	0,50	67	Outlier,ND				
67	0,061	3,9					
73	0,12	12	Outlier				
74	0,015	-2,9	ND				
75	0,040	0,80					

Consensus statistics

Consensus median, pg/g	0,035
Median all values pg/g	0,045
Consensus mean, pg/g	0,036
Standard deviation, pg/g	0,017
Relative standard deviation, %	49
No. of values reported	55
No. of values removed	17
No. of reported non-detects	13



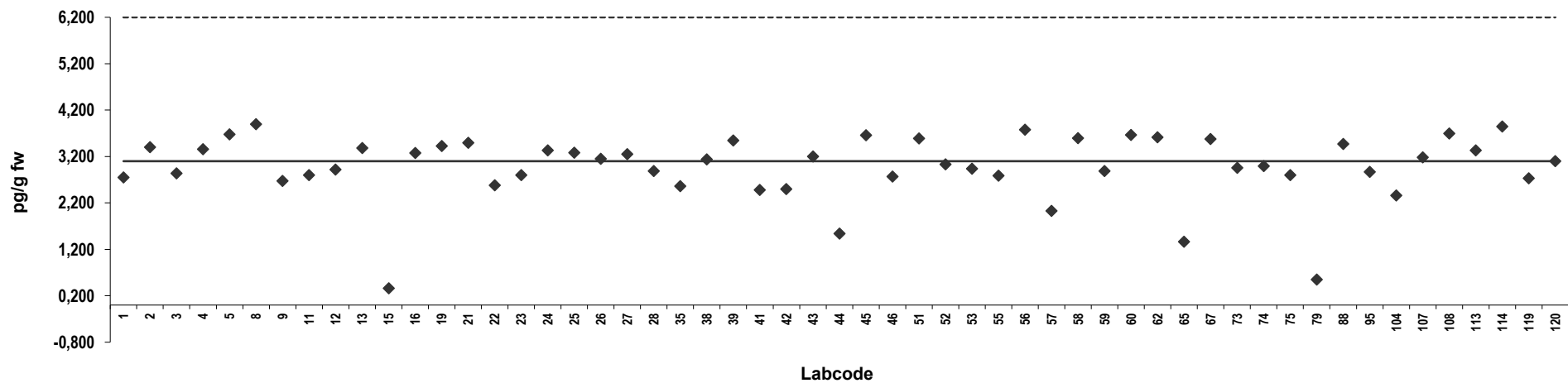
Salmon
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	2,8	-0,56		79	0,55	-4,1	
2	3,4	0,48		88	3,5	0,60	
3	2,8	-0,42		95	2,9	-0,37	
4	3,4	0,42		104	2,4	-1,2	
5	3,7	0,94		107	3,2	0,14	
8	3,9	1,3		108	3,7	0,96	
9	2,7	-0,68		113	3,3	0,37	
11	2,8	-0,49		114	3,9	1,2	
12	2,9	-0,29		119	2,7	-0,60	
13	3,4	0,46		120	3,1	0,00	
15	0,36	-4,4					
16	3,3	0,28					
19	3,4	0,53					
21	3,5	0,64					
22	2,6	-0,84					
23	2,8	-0,49					
24	3,3	0,38					
25	3,3	0,30					
26	3,2	0,085					
27	3,3	0,25					
28	2,9	-0,34					
35	2,6	-0,87					
38	3,1	0,065					
39	3,5	0,72					
41	2,5	-1,0					
42	2,5	-0,97					
43	3,2	0,16					
44	1,5	-2,5					
45	3,7	0,90					
46	2,8	-0,54					
51	3,6	0,79					
52	3,0	-0,11					
53	2,9	-0,26					
55	2,8	-0,50					
56	3,8	1,1					
57	2,0	-1,7					
58	3,6	0,81					
59	2,9	-0,35					
60	3,7	0,91					
62	3,6	0,83					
65	1,4	-2,8					
67	3,6	0,77					
73	3,0	-0,23					
74	3,0	-0,17					
75	2,8	-0,48					

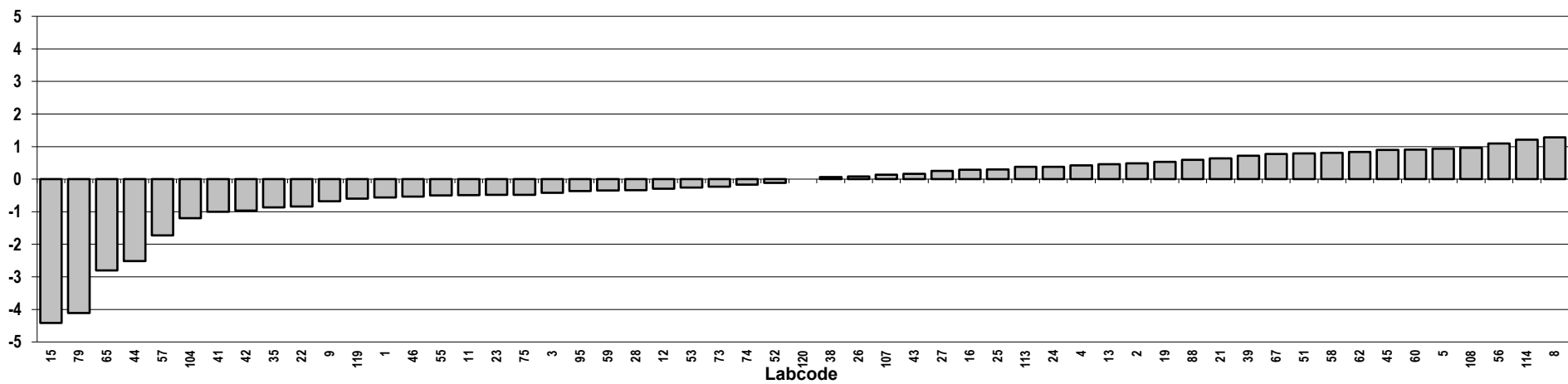
Consensus statistics

Consensus median, pg/g	3,1
Median all values pg/g	3,1
Consensus mean, pg/g	3,0
Standard deviation, pg/g	0,72
Relative standard deviation, %	24
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

2,3,7,8 TCDF



Z-score: 2,3,7,8 TCDF

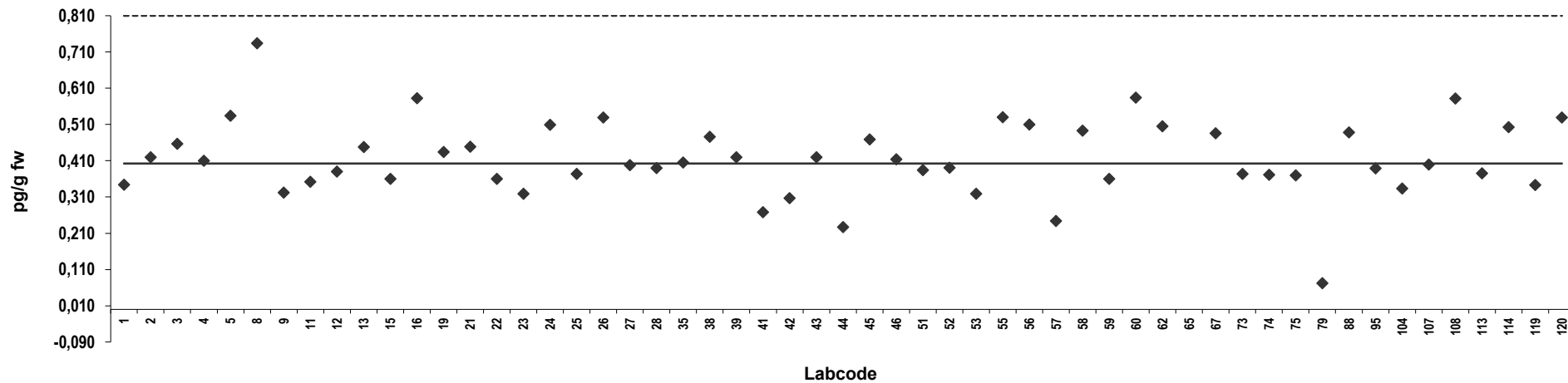


Salmon
Congener: 1,2,3,7,8 PeCDF

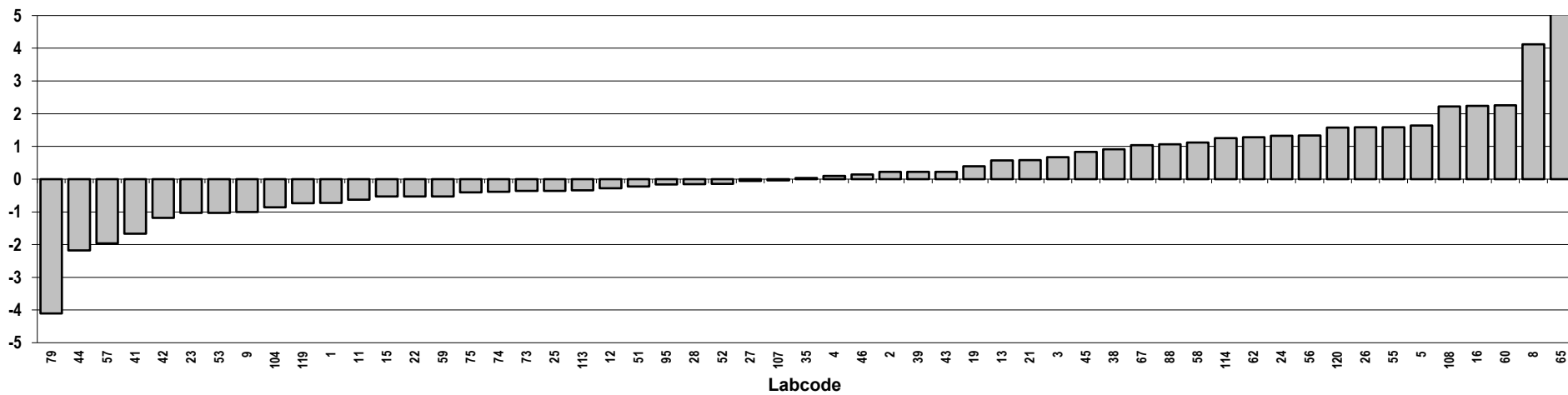
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,34	-0,72		79	0,072	-4,1	
2	0,42	0,22		88	0,49	1,1	
3	0,46	0,68		95	0,39	-0,17	
4	0,41	0,096		104	0,33	-0,86	
5	0,53	1,6		107	0,40	-0,034	
8	0,73	4,1		108	0,58	2,2	
9	0,32	-1,0		113	0,38	-0,34	
11	0,35	-0,63		114	0,50	1,3	
12	0,38	-0,28		119	0,34	-0,74	
13	0,45	0,57		120	0,53	1,6	
15	0,36	-0,53					
16	0,58	2,2					
19	0,43	0,39					
21	0,45	0,58					
22	0,36	-0,53					
23	0,32	-1,0					
24	0,51	1,3					
25	0,37	-0,35					
26	0,53	1,6					
27	0,40	-0,058					
28	0,39	-0,15					
35	0,41	0,034					
38	0,48	0,92					
39	0,42	0,22					
41	0,27	-1,7					
42	0,31	-1,2					
43	0,42	0,22					
44	0,23	-2,2					
45	0,47	0,83					
46	0,41	0,14					
51	0,38	-0,23					
52	0,39	-0,14					
53	0,32	-1,0					
55	0,53	1,6					
56	0,51	1,3					
57	0,24	-2,0					
58	0,49	1,1					
59	0,36	-0,53					
60	0,58	2,3					
62	0,51	1,3					
65	1,3	11	Outlier				
67	0,49	1,0					
73	0,37	-0,36					
74	0,37	-0,39					
75	0,37	-0,40					

Consensus statistics	
Consensus median, pg/g	0,40
Median all values pg/g	0,41
Consensus mean, pg/g	0,42
Standard deviation, pg/g	0,11
Relative standard deviation, %	25
No. of values reported	55
No. of values removed	1
No. of reported non-detects	0

1,2,3,7,8 PeCDF



Z-score: 1,2,3,7,8 PeCDF



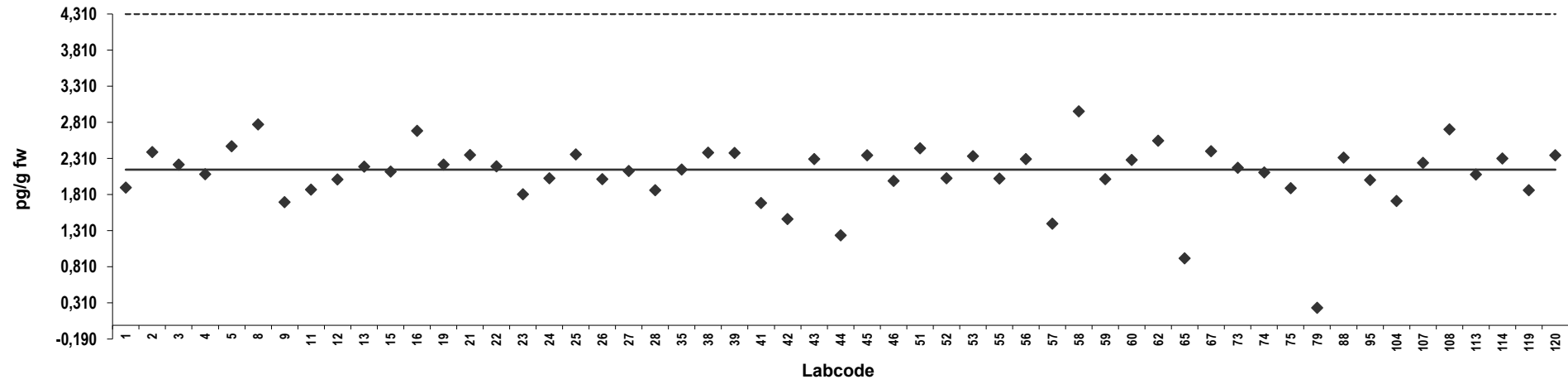
Salmon
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	1,9	-0,58		79	0,24	-4,4	
2	2,4	0,57		88	2,3	0,39	
3	2,2	0,16		95	2,0	-0,33	
4	2,1	-0,15		104	1,7	-1,0	
5	2,5	0,75		107	2,2	0,22	
8	2,8	1,5		108	2,7	1,3	
9	1,7	-1,0		113	2,1	-0,16	
11	1,9	-0,64		114	2,3	0,36	
12	2,0	-0,31		119	1,9	-0,66	
13	2,2	0,097		120	2,4	0,46	
15	2,1	-0,058					
16	2,7	1,2					
19	2,2	0,16					
21	2,4	0,47					
22	2,2	0,10					
23	1,8	-0,79					
24	2,0	-0,27					
25	2,4	0,49					
26	2,0	-0,30					
27	2,1	-0,039					
28	1,9	-0,66					
35	2,2	0,00					
38	2,4	0,55					
39	2,4	0,54					
41	1,7	-1,1					
42	1,5	-1,6					
43	2,3	0,34					
44	1,2	-2,1					
45	2,4	0,46					
46	2,0	-0,36					
51	2,5	0,68					
52	2,0	-0,28					
53	2,3	0,43					
55	2,0	-0,29					
56	2,3	0,34					
57	1,4	-1,7					
58	3,0	1,9					
59	2,0	-0,30					
60	2,3	0,31					
62	2,6	0,93					
65	0,93	-2,8					
67	2,4	0,59					
73	2,2	0,056					
74	2,1	-0,089					
75	1,9	-0,59					

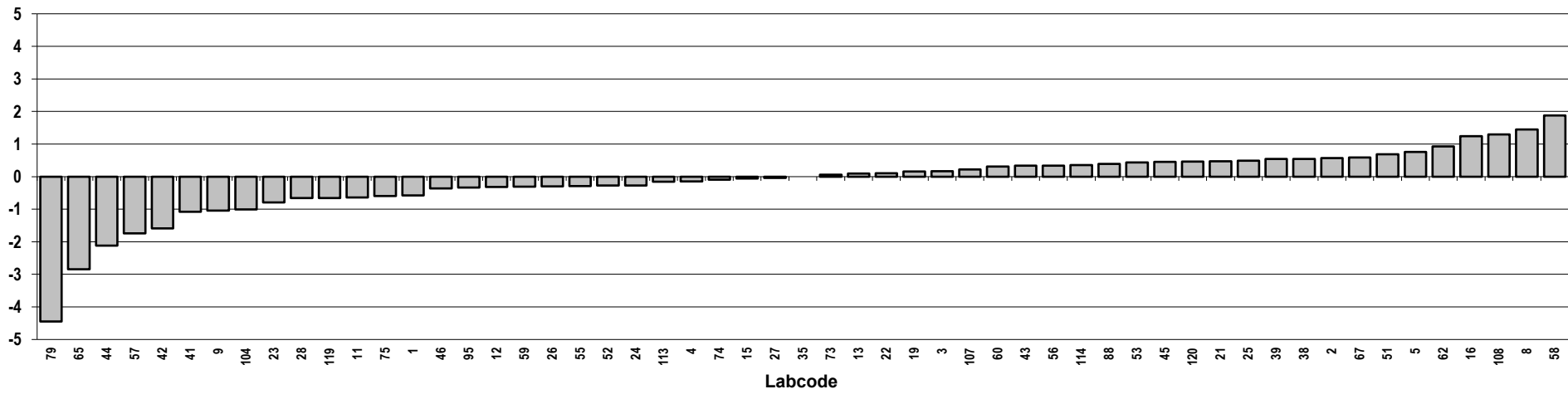
Consensus statistics

Consensus median, pg/g	2,2
Median all values pg/g	2,2
Consensus mean, pg/g	2,1
Standard deviation, pg/g	0,44
Relative standard deviation, %	21
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

2,3,4,7,8 PeCDF



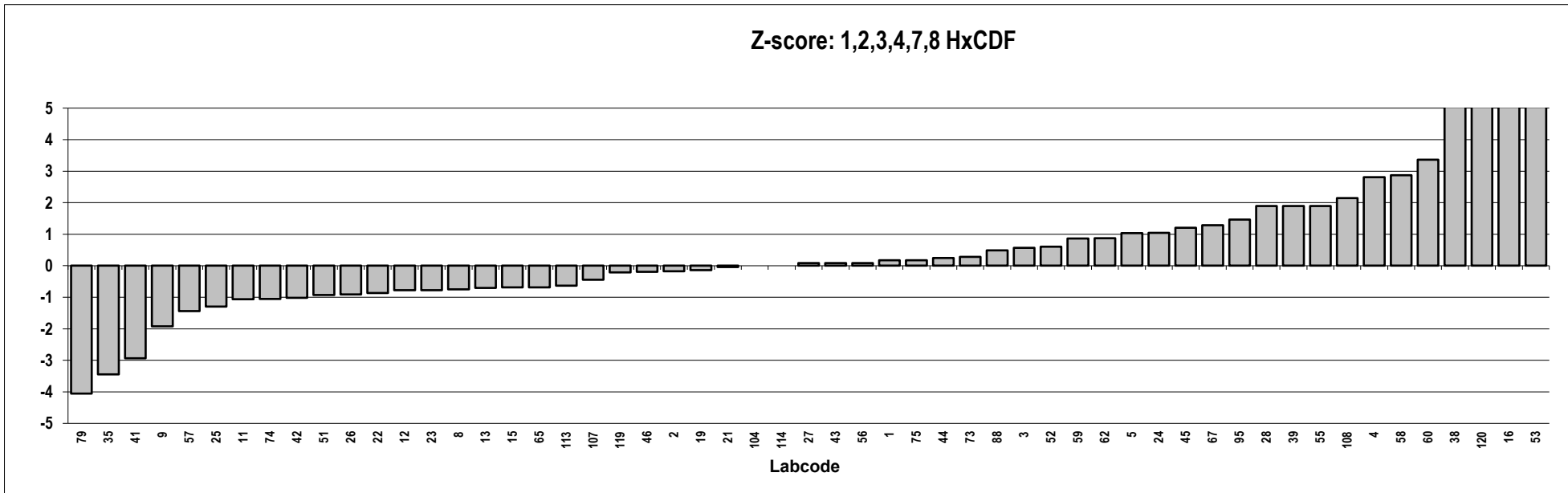
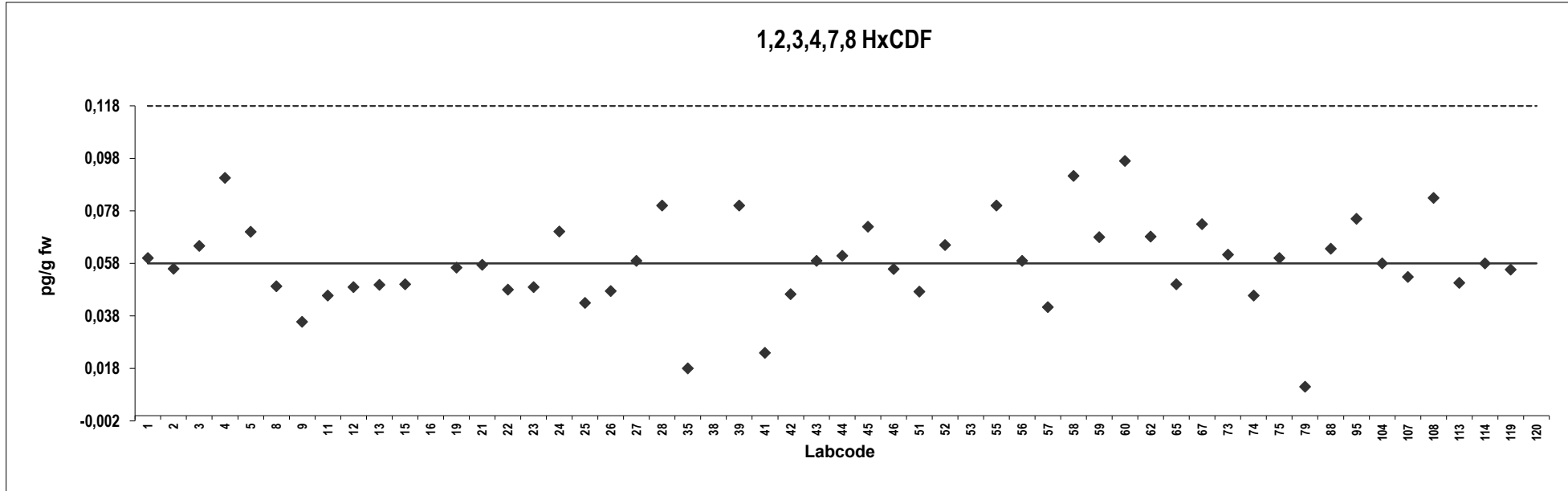
Z-score: 2,3,4,7,8 PeCDF



Salmon
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,060	0,17		79	0,011	-4,1	
2	0,056	-0,17		88	0,064	0,49	
3	0,065	0,57		95	0,075	1,5	
4	0,091	2,8		104	0,058	0,00	
5	0,070	1,0		107	0,053	-0,45	
8	0,049	-0,75		108	0,083	2,1	
9	0,036	-1,9		113	0,051	-0,64	
11	0,046	-1,1		114	0,058	0,00	
12	0,049	-0,78		119	0,056	-0,21	
13	0,050	-0,71		120	0,13	6,5	Outlier
15	0,050	-0,69					
16	0,14	7,4	Outlier				
19	0,056	-0,14					
21	0,057	-0,045					
22	0,048	-0,86					
23	0,049	-0,78					
24	0,070	1,0					
25	0,043	-1,3					
26	0,047	-0,91					
27	0,059	0,086					
28	0,080	1,9					
35	0,018	-3,4					
38	0,13	6,2	Outlier,ND				
39	0,080	1,9					
41	0,024	-2,9					
42	0,046	-1,0					
43	0,059	0,086					
44	0,061	0,25					
45	0,072	1,2					
46	0,056	-0,19					
51	0,047	-0,93					
52	0,065	0,60					
53	0,15	7,6	Outlier				
55	0,080	1,9					
56	0,059	0,086					
57	0,041	-1,4					
58	0,091	2,9					
59	0,068	0,86					
60	0,097	3,4	ND				
62	0,068	0,88					
65	0,050	-0,69	ND				
67	0,073	1,3					
73	0,061	0,28					
74	0,046	-1,1					
75	0,060	0,17					

Consensus statistics	
Consensus median, pg/g	0,058
Median all values pg/g	0,059
Consensus mean, pg/g	0,058
Standard deviation, pg/g	0,017
Relative standard deviation, %	29
No. of values reported	55
No. of values removed	4
No. of reported non-detects	3

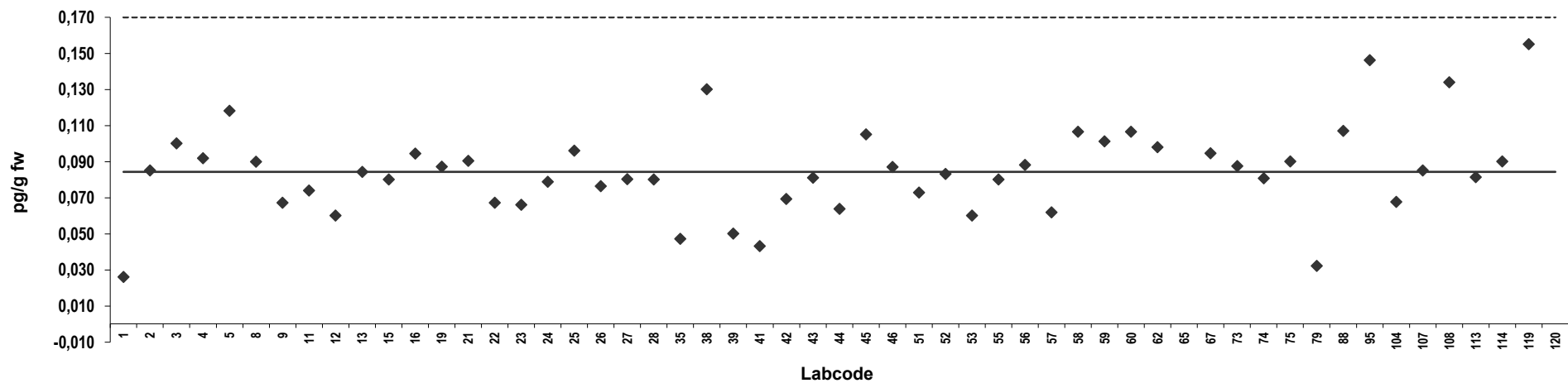


Salmon
Congener: 1,2,3,6,7,8 HxCDF

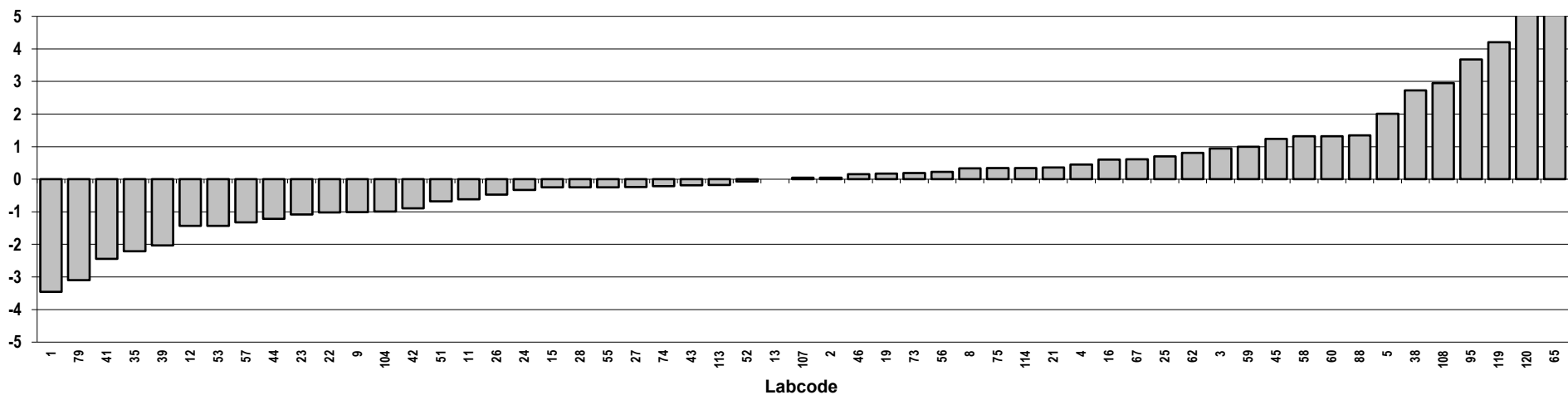
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,026	-3,5		79	0,032	-3,1	
2	0,085	0,049		88	0,11	1,3	
3	0,10	0,94		95	0,15	3,7	
4	0,092	0,45		104	0,068	-0,99	
5	0,12	2,0		107	0,085	0,043	
8	0,090	0,33		108	0,13	2,9	
9	0,067	-1,0		113	0,081	-0,17	
11	0,074	-0,61		114	0,090	0,35	
12	0,060	-1,4		119	0,15	4,2	
13	0,084	0,00		120	0,18	5,5	Outlier
15	0,080	-0,25					
16	0,094	0,60					
19	0,087	0,17					
21	0,090	0,36					
22	0,067	-1,0					
23	0,066	-1,1					
24	0,079	-0,32					
25	0,096	0,70					
26	0,076	-0,47					
27	0,080	-0,24					
28	0,080	-0,25					
35	0,047	-2,2					
38	0,13	2,7	ND				
39	0,050	-2,0	ND				
41	0,043	-2,4					
42	0,069	-0,90					
43	0,081	-0,19					
44	0,064	-1,2					
45	0,11	1,2					
46	0,087	0,16					
51	0,073	-0,68					
52	0,083	-0,069					
53	0,060	-1,4					
55	0,080	-0,25					
56	0,088	0,23					
57	0,062	-1,3					
58	0,11	1,3					
59	0,10	1,0					
60	0,11	1,3					
62	0,098	0,81					
65	0,84	45	Outlier				
67	0,094	0,61					
73	0,087	0,19					
74	0,081	-0,21					
75	0,090	0,35					

Consensus statistics	
Consensus median, pg/g	0,084
Median all values pg/g	0,085
Consensus mean, pg/g	0,084
Standard deviation, pg/g	0,025
Relative standard deviation, %	29
No. of values reported	55
No. of values removed	2
No. of reported non-detects	2

1,2,3,6,7,8 HxCDF



Z-score: 1,2,3,6,7,8 HxCDF

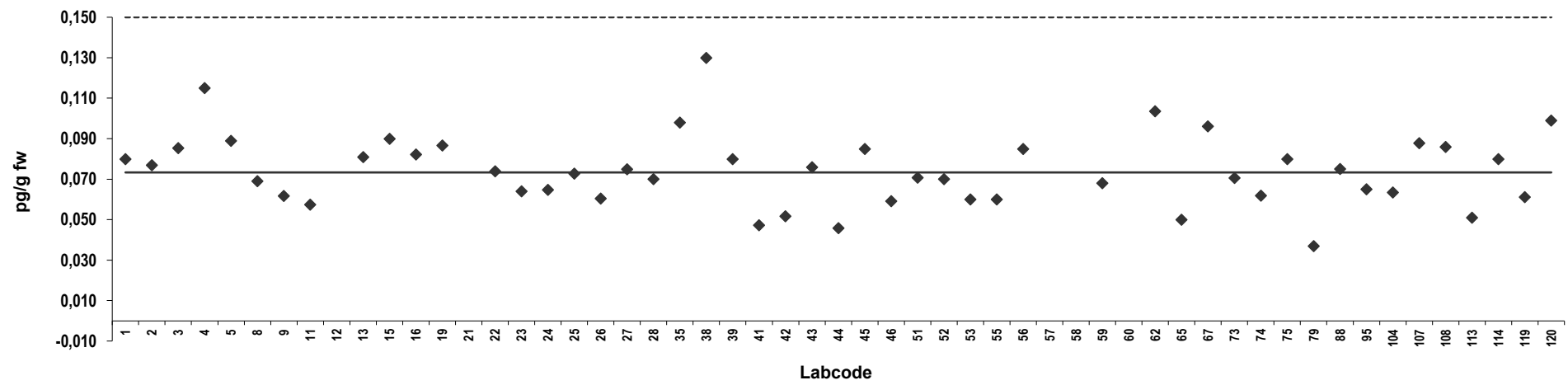


Salmon
Congener: 2,3,4,6,7,8 HxCDF

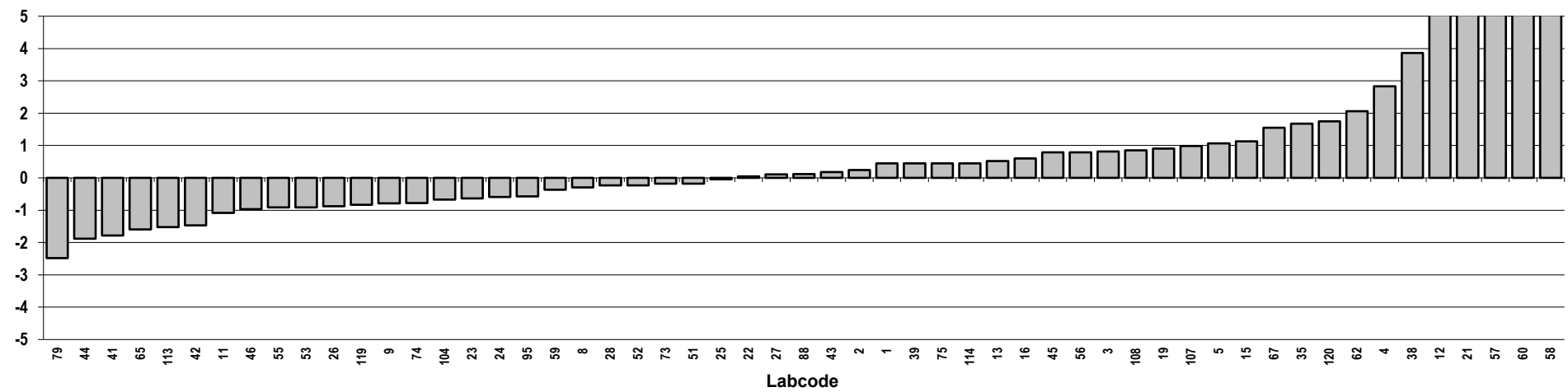
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,080	0,45		79	0,037	-2,5	
2	0,077	0,25		88	0,075	0,11	
3	0,085	0,82		95	0,065	-0,57	
4	0,12	2,8		104	0,064	-0,67	
5	0,089	1,1		107	0,088	0,98	
8	0,069	-0,30		108	0,086	0,85	
9	0,062	-0,79		113	0,051	-1,5	
11	0,057	-1,1		114	0,080	0,45	
12	0,16	5,9	Outlier	119	0,061	-0,84	
13	0,081	0,52		120	0,099	1,7	
15	0,090	1,1					
16	0,082	0,60					
19	0,087	0,91					
21	0,16	6,0	Outlier				
22	0,074	0,042					
23	0,064	-0,64					
24	0,065	-0,59					
25	0,073	-0,042					
26	0,060	-0,88					
27	0,075	0,11					
28	0,070	-0,23					
35	0,098	1,7					
38	0,13	3,9	ND				
39	0,080	0,45					
41	0,047	-1,8					
42	0,052	-1,5					
43	0,076	0,18					
44	0,046	-1,9					
45	0,085	0,79					
46	0,059	-0,96					
51	0,071	-0,18					
52	0,070	-0,23					
53	0,060	-0,91					
55	0,060	-0,91					
56	0,085	0,79					
57	0,18	7,1	Outlier				
58	0,55	33	Outlier				
59	0,068	-0,37					
60	0,18	7,1	Outlier				
62	0,10	2,1					
65	0,050	-1,6	ND				
67	0,096	1,6					
73	0,071	-0,18					
74	0,062	-0,78					
75	0,080	0,45					

Consensus statistics	
Consensus median, pg/g	0,073
Median all values pg/g	0,075
Consensus mean, pg/g	0,074
Standard deviation, pg/g	0,018
Relative standard deviation, %	24
No. of values reported	55
No. of values removed	5
No. of reported non-detects	2

2,3,4,6,7,8 HxCDF



Z-score: 2,3,4,6,7,8 HxCDF



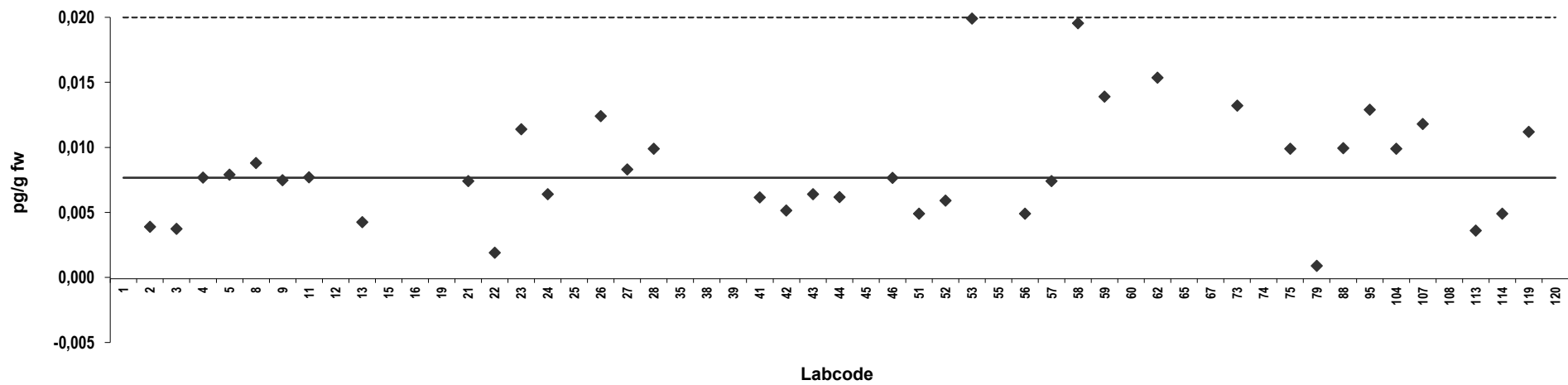
Salmon
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	27	Outlier,ND	79	0,0010	-4,4	ND
2	0,0040	-2,4	ND	88	0,010	1,5	
3	0,0038	-2,5		95	0,013	3,4	ND
4	0,0078	0,0019		104	0,010	1,4	ND
5	0,0080	0,15	ND	107	0,012	2,7	
8	0,0089	0,73		108	0,023	9,9	Outlier
9	0,0076	-0,12		113	0,0037	-2,6	ND
11	0,0078	0,015	ND	114	0,0050	-1,8	ND
12	0,20	124	Outlier	119	0,011	2,3	ND
13	0,0043	-2,2		120	0,028	13	Outlier
15	0,050	27	Outlier,ND				
16	0,035	18	Outlier				
19	0,039	20	Outlier				
21	0,0075	-0,17	ND				
22	0,0020	-3,7	ND				
23	0,012	2,4	ND				
24	0,0065	-0,82	ND				
25	0,023	9,9	Outlier				
26	0,013	3,0	ND				
27	0,0084	0,41	ND				
28	0,010	1,4	ND				
35	0,035	18	Outlier				
38	0,13	79	Outlier,ND				
39	0,050	27	Outlier,ND				
41	0,0063	-0,97					
42	0,0053	-1,6					
43	0,0065	-0,82	ND				
44	0,0063	-0,96	ND				
45	0,025	11	Outlier,ND				
46	0,0078	-0,0019	ND				
51	0,0050	-1,8	ND				
52	0,0060	-1,1					
53	0,020	7,9	ND				
55	0,050	27,2	Outlier,ND				
56	0,0050	-1,8	ND				
57	0,0075	-0,16	ND				
58	0,020	7,6					
59	0,014	4,0					
60	0,097	57	Outlier,ND				
62	0,015	4,9	ND				
65	0,050	27	Outlier,ND				
67	0,021	8,7	Outlier				
73	0,013	3,6					
74	0,021	8,3	Outlier				
75	0,010	1,4	ND				

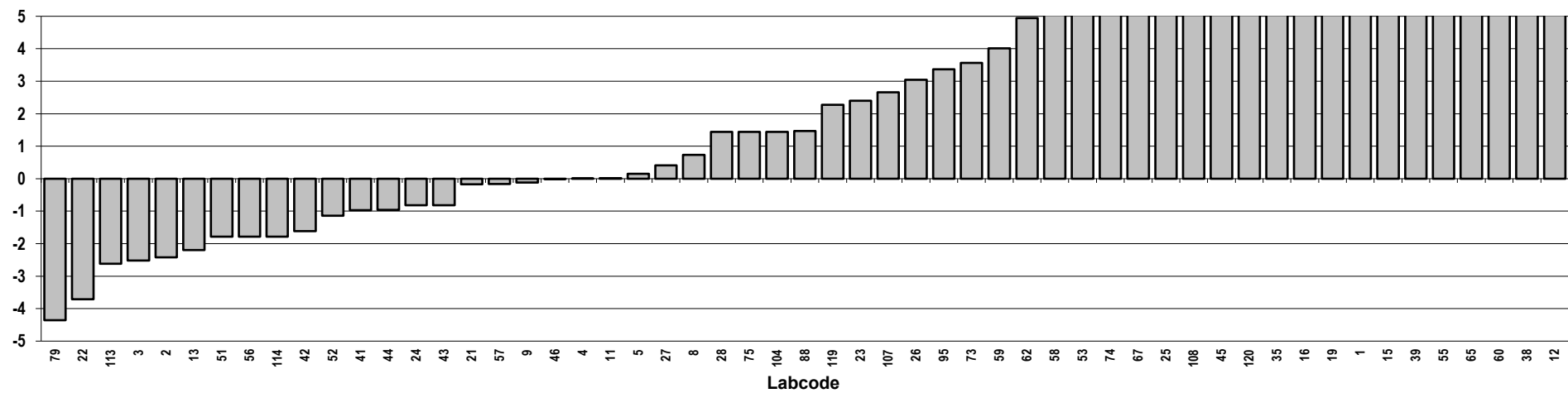
Consensus statistics

Consensus median, pg/g	0,0078
Median all values pg/g	0,010
Consensus mean, pg/g	0,0085
Standard deviation, pg/g	0,0043
Relative standard deviation, %	51
No. of values reported	55
No. of values removed	17
No. of reported non-detects	33

1,2,3,7,8,9 HxCDF



Z-score: 1,2,3,7,8,9 HxCDF

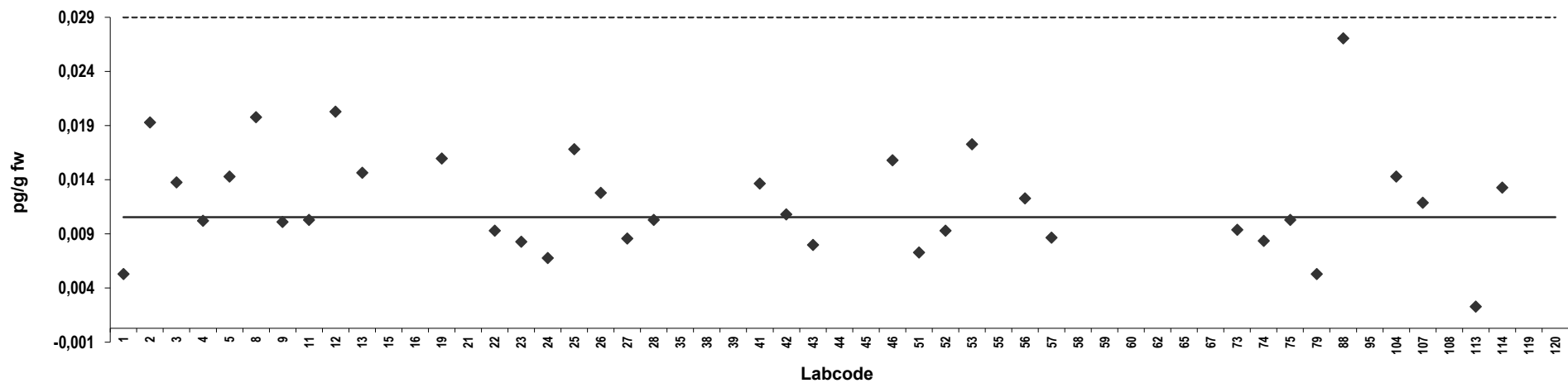


Salmon
Congener: 1,2,3,4,6,7,8 HpCDF

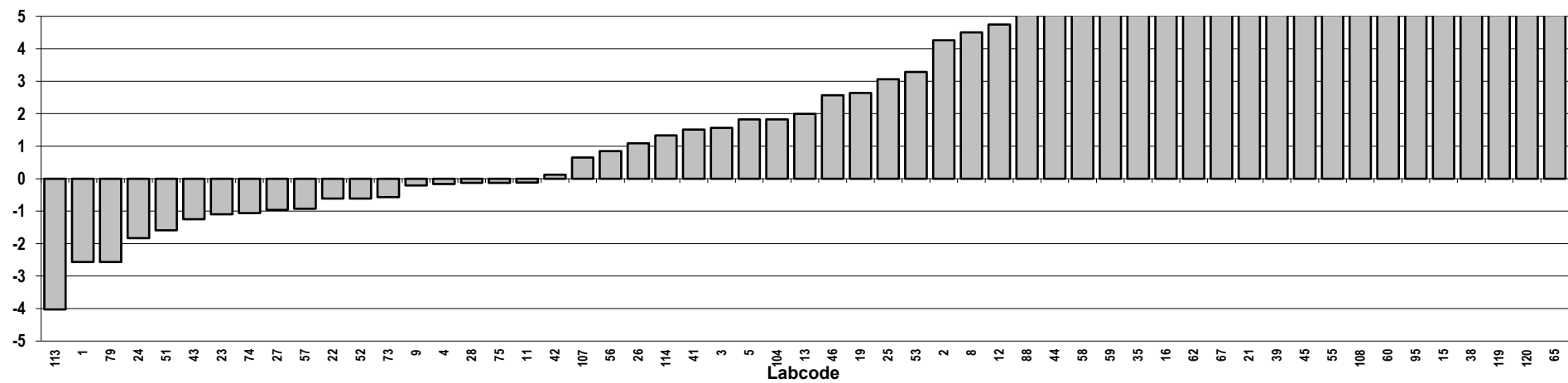
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,0050	-2,6		79	0,0050	-2,6	
2	0,019	4,3		88	0,027	8,0	
3	0,013	1,6		95	0,097	42	Outlier
4	0,0099	-0,17		104	0,014	1,8	
5	0,014	1,8	ND	107	0,012	0,65	
8	0,020	4,5		108	0,081	34	Outlier
9	0,0098	-0,21		113	0,0020	-4,0	
11	0,010	-0,12	ND	114	0,013	1,3	
12	0,020	4,7		119	0,13	59	Outlier
13	0,014	2,0		120	0,21	96	Outlier
15	0,10	44	Outlier,ND				
16	0,034	12	Outlier				
19	0,016	2,6	ND				
21	0,042	16	Outlier,ND				
22	0,0090	-0,61					
23	0,0080	-1,1	ND				
24	0,0065	-1,8	ND				
25	0,017	3,1					
26	0,013	1,1	ND				
27	0,0083	-0,96					
28	0,010	-0,13	ND				
35	0,031	10	Outlier				
38	0,13	58	Outlier,ND				
39	0,050	19	Outlier,ND				
41	0,013	1,5					
42	0,011	0,12					
43	0,0077	-1,2					
44	0,029	9,1	Outlier				
45	0,050	19	Outlier,ND				
46	0,016	2,6	ND				
51	0,0070	-1,6	ND				
52	0,0090	-0,61					
53	0,017	3,3	ND				
55	0,050	19	Outlier,ND				
56	0,012	0,85					
57	0,0084	-0,93	ND				
58	0,029	9,3	Outlier				
59	0,030	9,6	Outlier				
60	0,097	42	Outlier,ND				
62	0,035	12	Outlier				
65	1,1	544	Outlier				
67	0,036	12	Outlier				
73	0,0091	-0,57					
74	0,0081	-1,1					
75	0,010	-0,13	ND				

Consensus statistics	
Consensus median, pg/g	0,010
Median all values pg/g	0,014
Consensus mean, pg/g	0,012
Standard deviation, pg/g	0,0049
Relative standard deviation, %	42
No. of values reported	55
No. of values removed	19
No. of reported non-detects	19

1,2,3,4,6,7,8 HpCDF



Z-score: 1,2,3,4,6,7,8 HpCDF

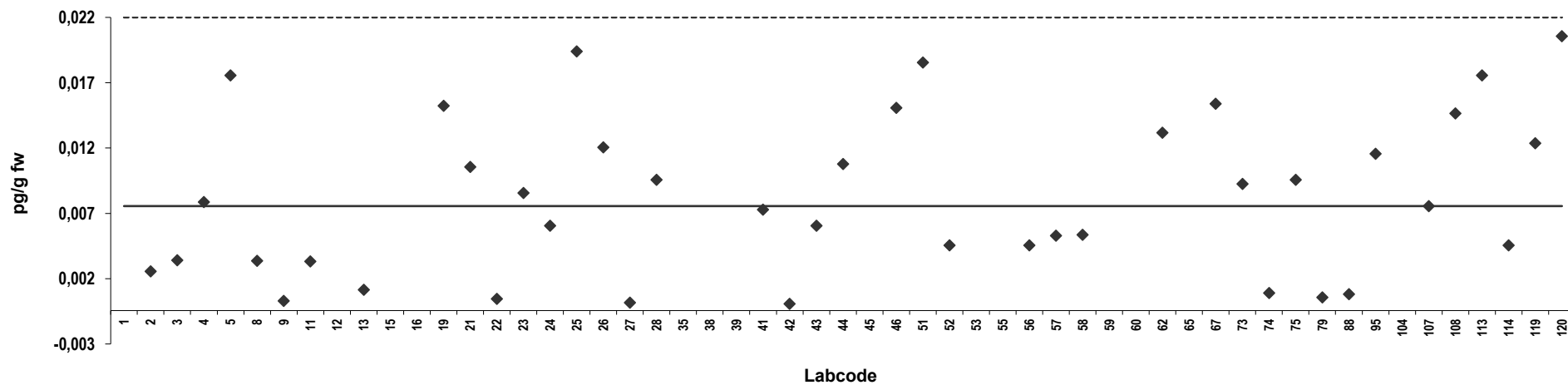


Salmon
Congener: 1,2,3,4,7,8,9 HpCDF

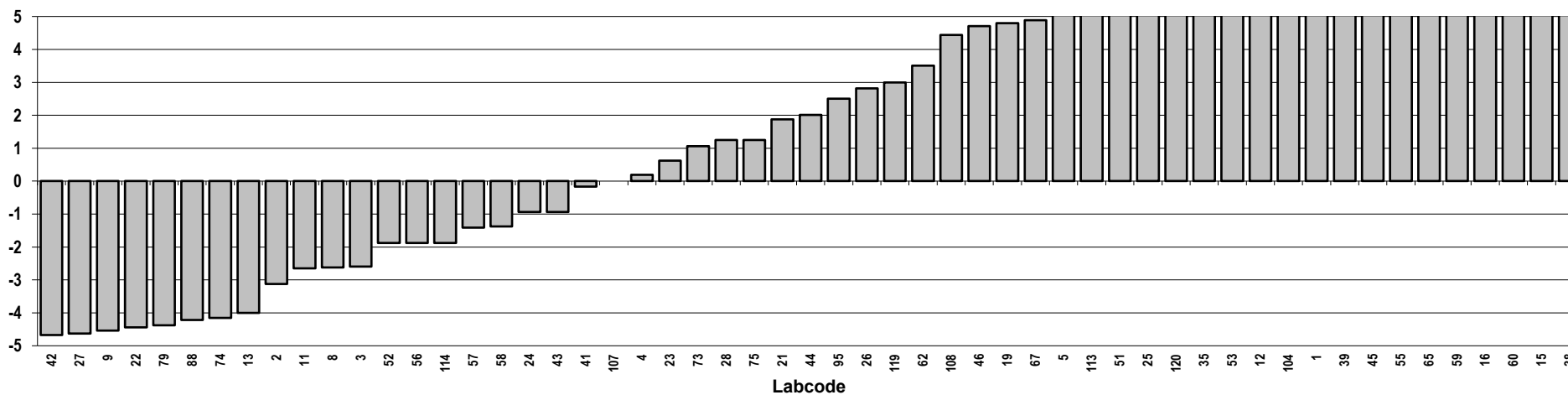
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	26	Outlier,ND	79	0,0010	-4,4	ND
2	0,0030	-3,1	ND	88	0,0013	-4,2	
3	0,0038	-2,6		95	0,012	2,5	ND
4	0,0083	0,19	ND	104	0,030	14	Outlier,ND
5	0,018	6,3	ND	107	0,0080	0,00	
8	0,0038	-2,6		108	0,015	4,4	
9	0,00073	-4,5		113	0,018	6,3	
11	0,0038	-2,7	ND	114	0,0050	-1,9	ND
12	0,030	14	Outlier,ND	119	0,013	3,0	ND
13	0,0016	-4,0		120	0,021	8,1	
15	0,10	58	Outlier,ND				
16	0,055	29	Outlier				
19	0,016	4,8	ND				
21	0,011	1,9	ND				
22	0,00090	-4,4	ND				
23	0,0090	0,62	ND				
24	0,0065	-0,94	ND				
25	0,020	7,4					
26	0,013	2,8	ND				
27	0,00060	-4,6	ND				
28	0,010	1,3	ND				
35	0,029	13	Outlier				
38	0,13	76	Outlier,ND				
39	0,050	26	Outlier,ND				
41	0,0077	-0,17					
42	0,00053	-4,7	ND				
43	0,0065	-0,94	ND				
44	0,011	2,0	ND				
45	0,050	26	Outlier,ND				
46	0,016	4,7	ND				
51	0,019	6,9	ND				
52	0,0050	-1,9	ND				
53	0,029	13	Outlier,ND				
55	0,050	26	Outlier,ND				
56	0,0050	-1,9	ND				
57	0,0057	-1,4	ND				
58	0,0058	-1,4					
59	0,052	28	Outlier				
60	0,097	56	Outlier,ND				
62	0,014	3,5					
65	0,050	26	Outlier,ND				
67	0,016	4,9	ND				
73	0,0097	1,1	ND				
74	0,0013	-4,2	ND				
75	0,010	1,3	ND				

Consensus statistics	
Consensus median, pg/g	0,0080
Median all values pg/g	0,011
Consensus mean, pg/g	0,009
Standard deviation, pg/g	0,0061
Relative standard deviation, %	70
No. of values reported	55
No. of values removed	14
No. of reported non-detects	39

1,2,3,4,7,8,9 HpCDF



Z-score: 1,2,3,4,7,8,9 HpCDF

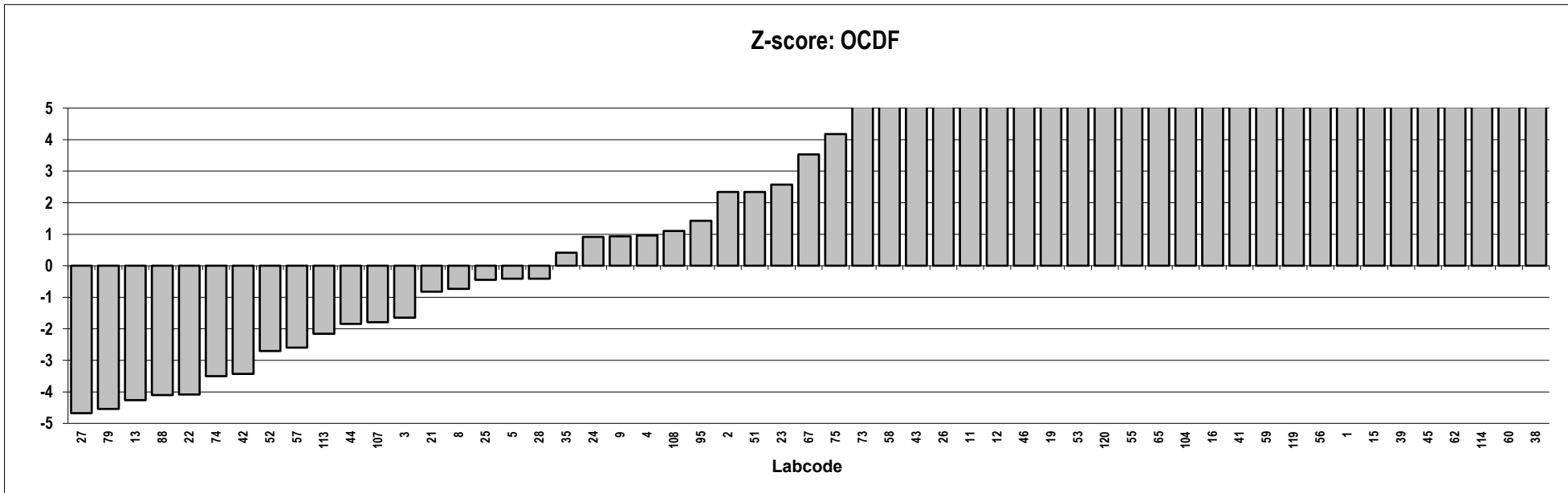
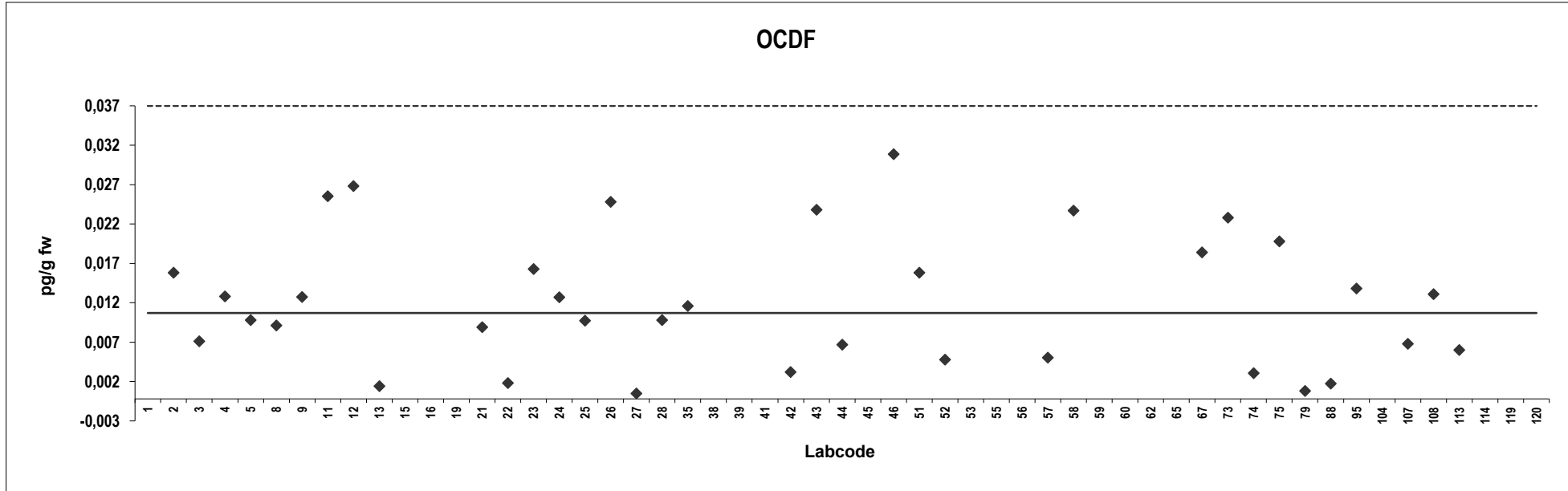


Salmon
Congener: OCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,10	41	Outlier,ND	79	0,0010	-4,5	ND
2	0,016	2,3		88	0,0020	-4,1	
3	0,0073	-1,6		95	0,014	1,4	
4	0,013	0,96	ND	104	0,050	18	Outlier,ND
5	0,010	-0,41	ND	107	0,0070	-1,8	
8	0,0093	-0,73		108	0,013	1,1	
9	0,013	0,93		113	0,0062	-2,2	
11	0,026	6,8	ND	114	0,10	42	Outlier
12	0,027	7,4		119	0,069	27	Outlier
13	0,0016	-4,3		120	0,047	17	Outlier
15	0,10	41	Outlier,ND				
16	0,051	18	Outlier				
19	0,039	13	Outlier,ND				
21	0,0091	-0,83	ND				
22	0,0020	-4,1	ND				
23	0,017	2,6	ND				
24	0,013	0,92	ND				
25	0,0099	-0,45					
26	0,025	6,5	ND				
27	0,00070	-4,7	ND				
28	0,010	-0,41	ND				
35	0,012	0,41					
38	0,31	137	Outlier,ND				
39	0,10	41	Outlier,ND				
41	0,058	22	Outlier				
42	0,0034	-3,4	ND				
43	0,024	6,0	ND				
44	0,0069	-1,8	ND				
45	0,10	41	Outlier,ND				
46	0,031	9,2	ND				
51	0,016	2,3	ND				
52	0,0050	-2,7	ND				
53	0,044	15	Outlier,ND				
55	0,050	18	Outlier,ND				
56	0,098	40	Outlier				
57	0,0052	-2,6	ND				
58	0,024	6,0					
59	0,058	22	Outlier				
60	0,20	84	Outlier,ND				
62	0,10	41	Outlier				
65	0,050	18	Outlier,ND				
67	0,019	3,5					
73	0,023	5,6	ND				
74	0,0033	-3,5	ND				
75	0,020	4,2	ND				

Consensus statistics

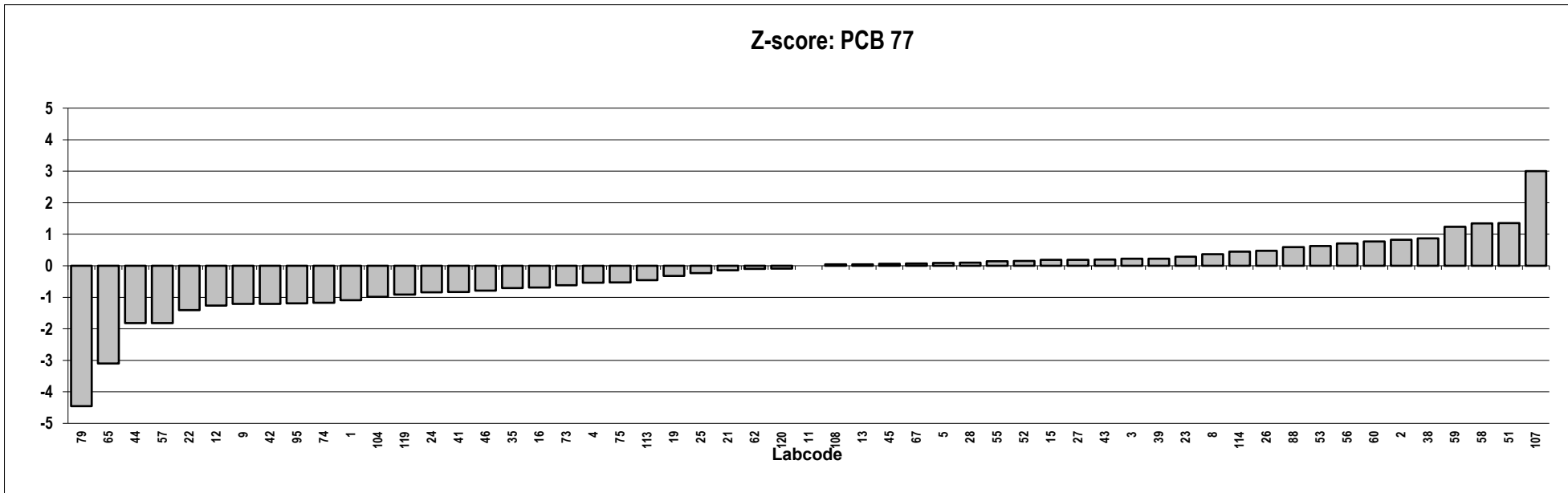
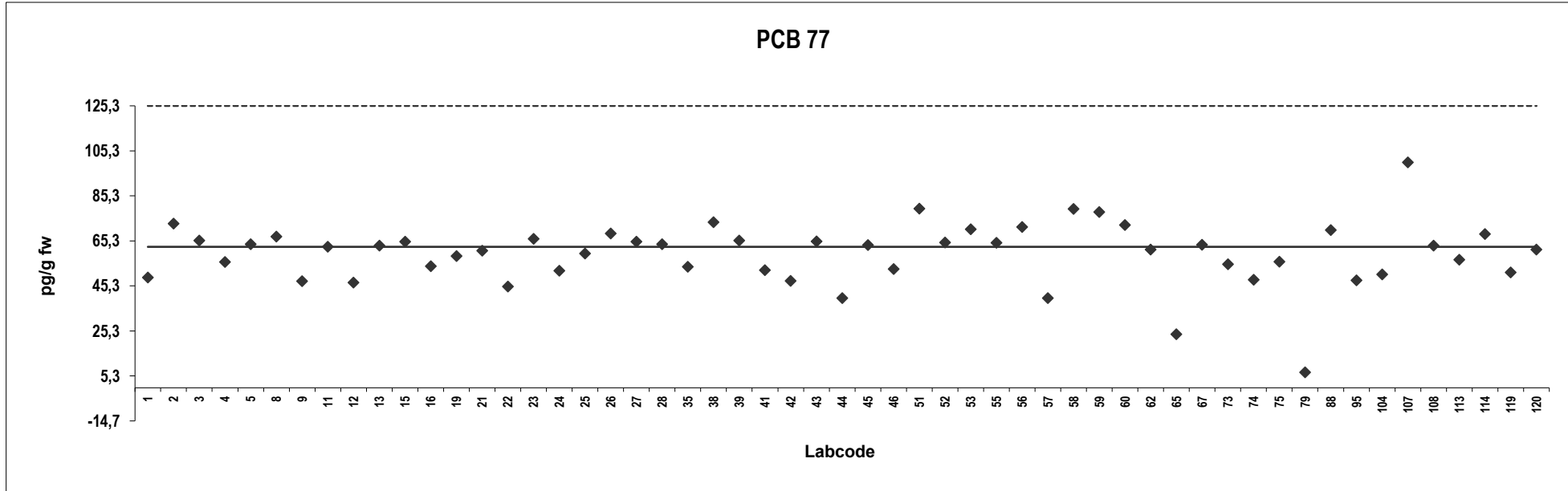
Consensus median, pg/g	0,011
Median all values pg/g	0,019
Consensus mean, pg/g	0,012
Standard deviation, pg/g	0,0084
Relative standard deviation, %	68
No. of values reported	55
No. of values removed	19
No. of reported non-detects	32



Salmon
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	49	-1,1		79	6,8	-4,5	
2	73	0,83		88	70	0,60	
3	65	0,22		95	48	-1,2	
4	56	-0,54		104	50	-0,98	
5	64	0,092		107	100	3,0	
8	67	0,36		108	63	0,043	
9	47	-1,2		113	57	-0,46	
11	63	0,00		114	68	0,45	
12	47	-1,3		119	51	-0,91	
13	63	0,047		120	61	-0,093	
15	65	0,19					
16	54	-0,69					
19	59	-0,33					
21	61	-0,14					
22	45	-1,4					
23	66	0,29					
24	52	-0,84					
25	60	-0,24					
26	69	0,47					
27	65	0,19					
28	64	0,096					
35	54	-0,71					
38	74	0,87					
39	65	0,22					
41	52	-0,83					
42	47	-1,2					
43	65	0,20					
44	40	-1,8					
45	63	0,066					
46	53	-0,79					
51	80	1,4					
52	65	0,15					
53	71	0,63					
55	64	0,14					
56	72	0,71					
57	40	-1,8					
58	79	1,3					
59	78	1,2					
60	72	0,77					
62	61	-0,099					
65	24	-3,1					
67	64	0,068					
73	55	-0,62					
74	48	-1,2					
75	56	-0,53					

Consensus statistics	
Consensus median, pg/g	63
Median all values pg/g	63
Consensus mean, pg/g	59
Standard deviation, pg/g	14
Relative standard deviation, %	24
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

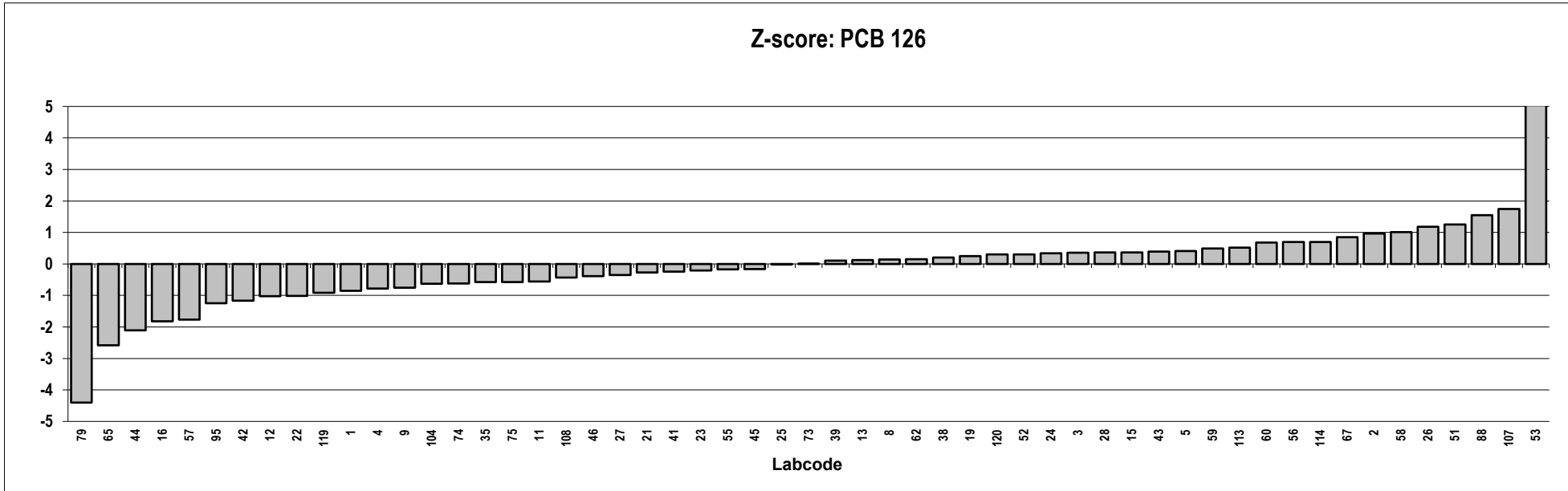
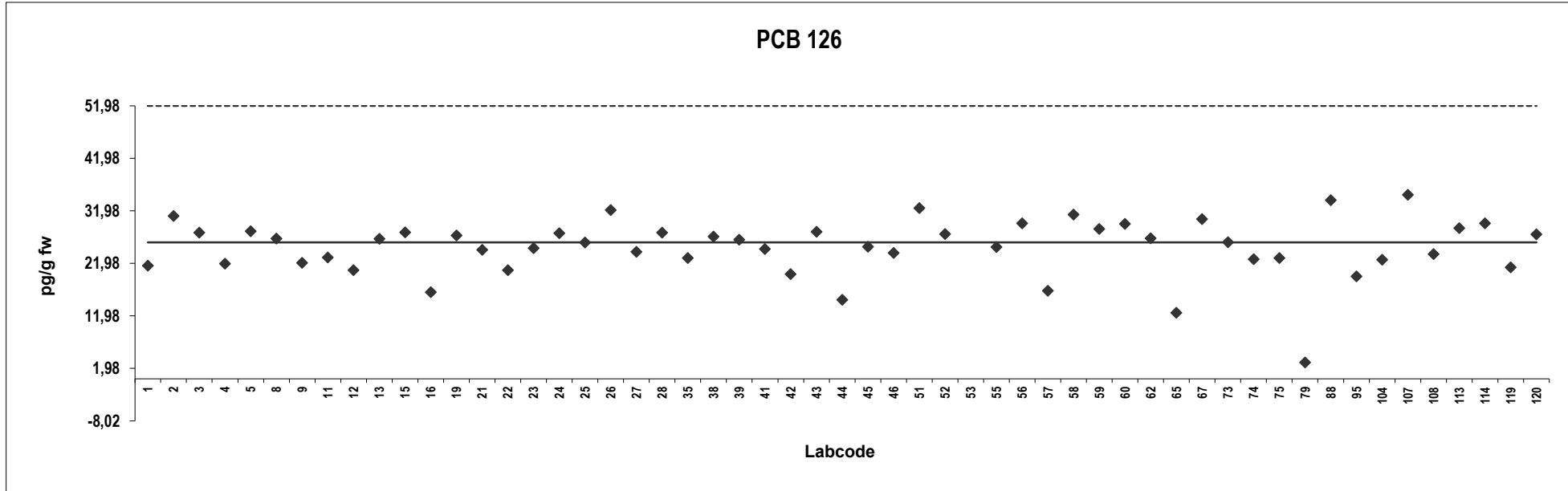


Salmon
Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	22	-0,85		79	3,1	-4,4	
2	31	0,97		88	34	1,5	
3	28	0,36		95	20	-1,2	
4	22	-0,79		104	23	-0,63	
5	28	0,41		107	35	1,7	
8	27	0,14		108	24	-0,43	
9	22	-0,75		113	29	0,52	
11	23	-0,55		114	30	0,70	
12	21	-1,0		119	21	-0,92	
13	27	0,13		120	28	0,30	
15	28	0,37					
16	17	-1,8					
19	27	0,25					
21	25	-0,27					
22	21	-1,0					
23	25	-0,21					
24	28	0,34					
25	26	-0,0016					
26	32	1,2					
27	24	-0,35					
28	28	0,36					
35	23	-0,57					
38	27	0,21					
39	27	0,10					
41	25	-0,24					
42	20	-1,2					
43	28	0,39					
44	15	-2,1					
45	25	-0,16					
46	24	-0,38					
51	33	1,3					
52	28	0,31					
53	64	7,4	Outlier				
55	25	-0,17					
56	30	0,70					
57	17	-1,8					
58	31	1,0					
59	29	0,49					
60	30	0,68					
62	27	0,15					
65	13	-2,6					
67	30	0,85					
73	26	0,0016					
74	23	-0,62					
75	23	-0,57					

Consensus statistics

Consensus median, pg/g	26
Median all values pg/g	26
Consensus mean, pg/g	25
Standard deviation, pg/g	5,5
Relative standard deviation, %	22
No. of values reported	55
No. of values removed	1
No. of reported non-detects	0

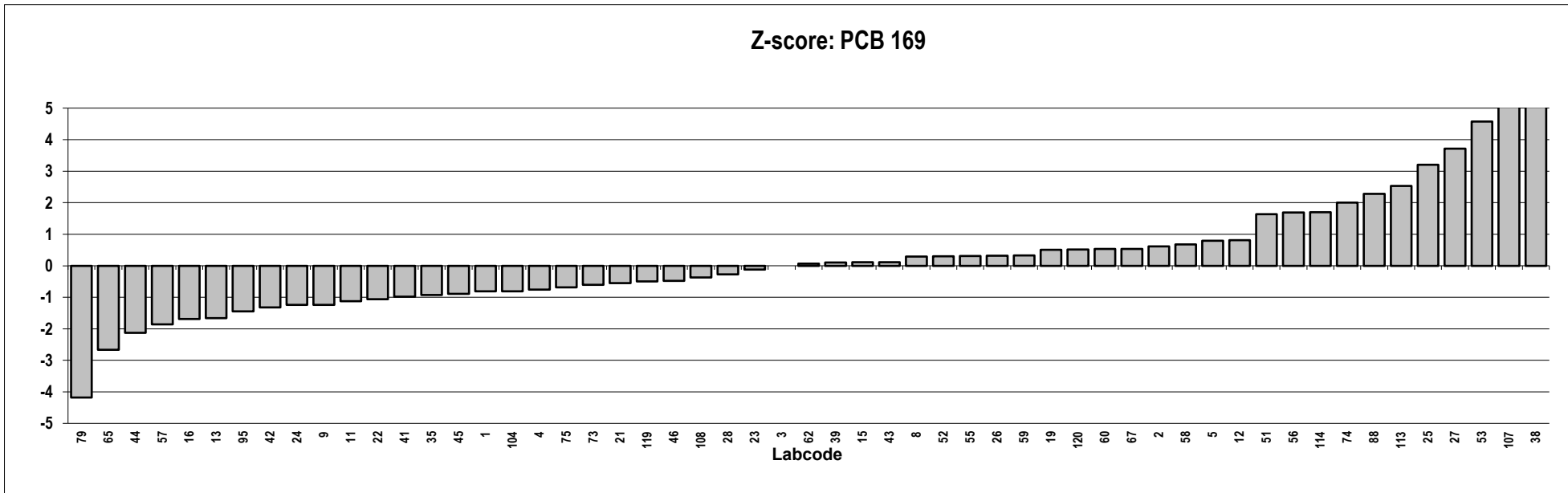
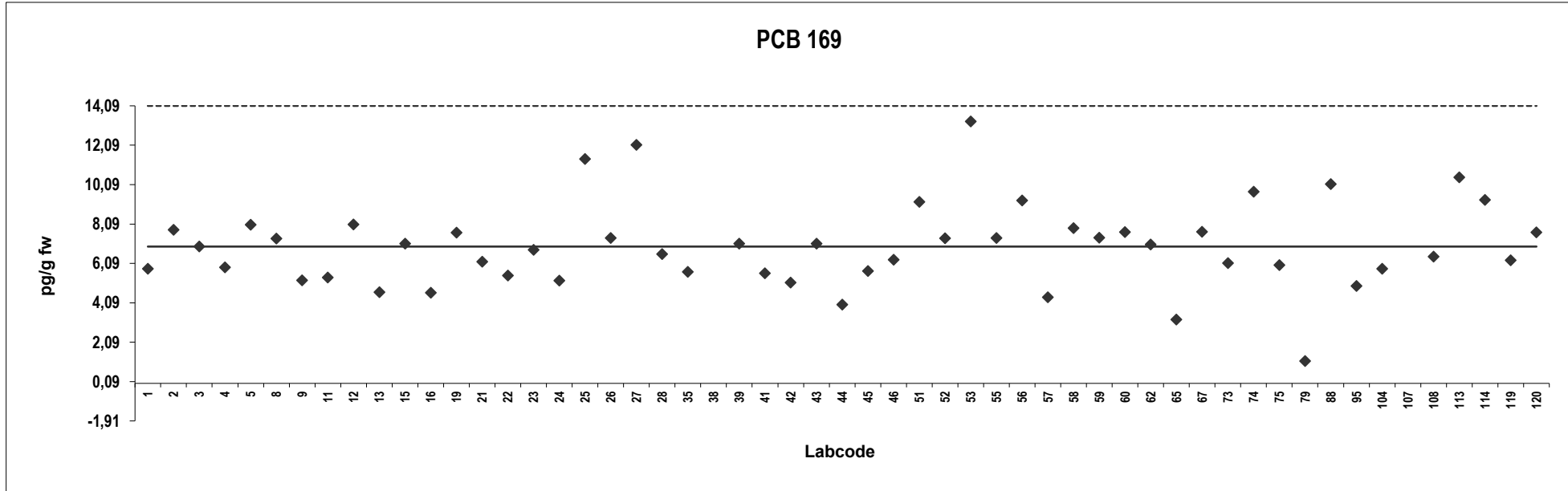


Salmon
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	5,8	-0,81		79	1,1	-4,2	
2	7,8	0,61		88	10	2,3	
3	6,9	0,00		95	4,9	-1,4	
4	5,9	-0,76		104	5,8	-0,81	
5	8,1	0,79		107	15	5,7	Outlier
8	7,4	0,30		108	6,4	-0,37	
9	5,2	-1,2		113	10	2,5	
11	5,4	-1,1		114	9,3	1,7	
12	8,1	0,81		119	6,3	-0,50	
13	4,6	-1,7		120	7,7	0,52	
15	7,1	0,11					
16	4,6	-1,7					
19	7,7	0,51					
21	6,2	-0,55					
22	5,5	-1,1					
23	6,8	-0,12					
24	5,2	-1,2					
25	11	3,2					
26	7,4	0,31					
27	12	3,7					
28	6,6	-0,27					
35	5,7	-0,93					
38	20	9,4	Outlier,ND				
39	7,1	0,10					
41	5,6	-0,98					
42	5,1	-1,3					
43	7,1	0,11					
44	4,0	-2,1					
45	5,7	-0,89					
46	6,3	-0,48					
51	9,2	1,6					
52	7,4	0,30					
53	13	4,6					
55	7,4	0,31					
56	9,3	1,7					
57	4,4	-1,9					
58	7,9	0,67					
59	7,4	0,33					
60	7,7	0,53					
62	7,0	0,072					
65	3,2	-2,7					
67	7,7	0,53					
73	6,1	-0,60					
74	9,7	2,0					
75	6,0	-0,68					

Consensus statistics

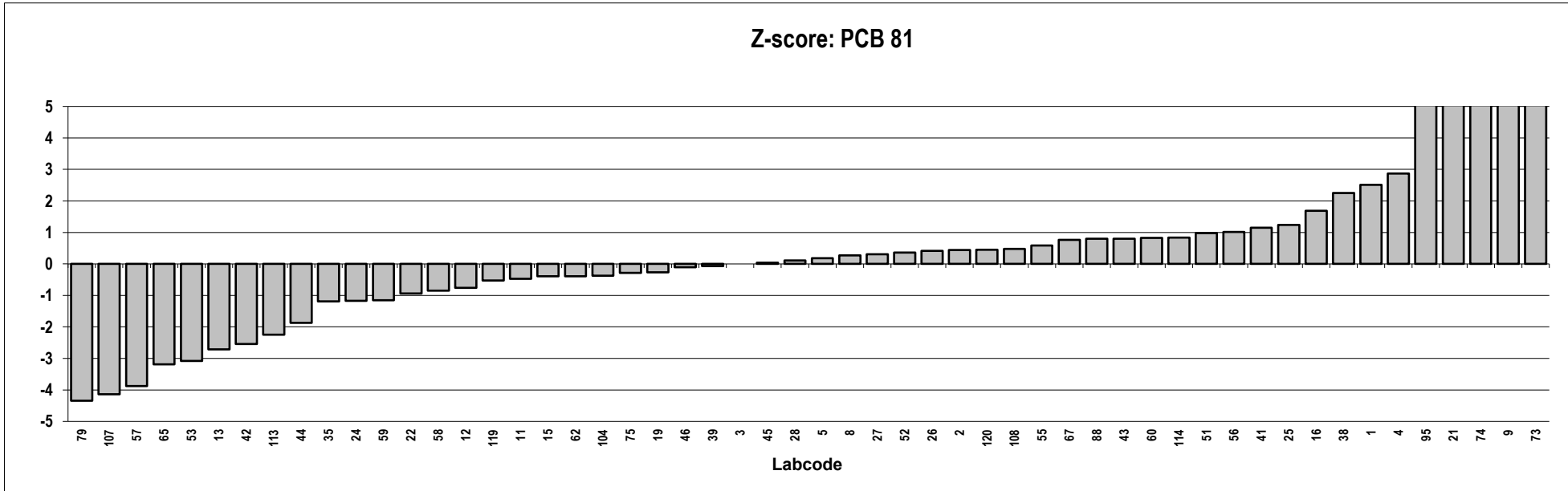
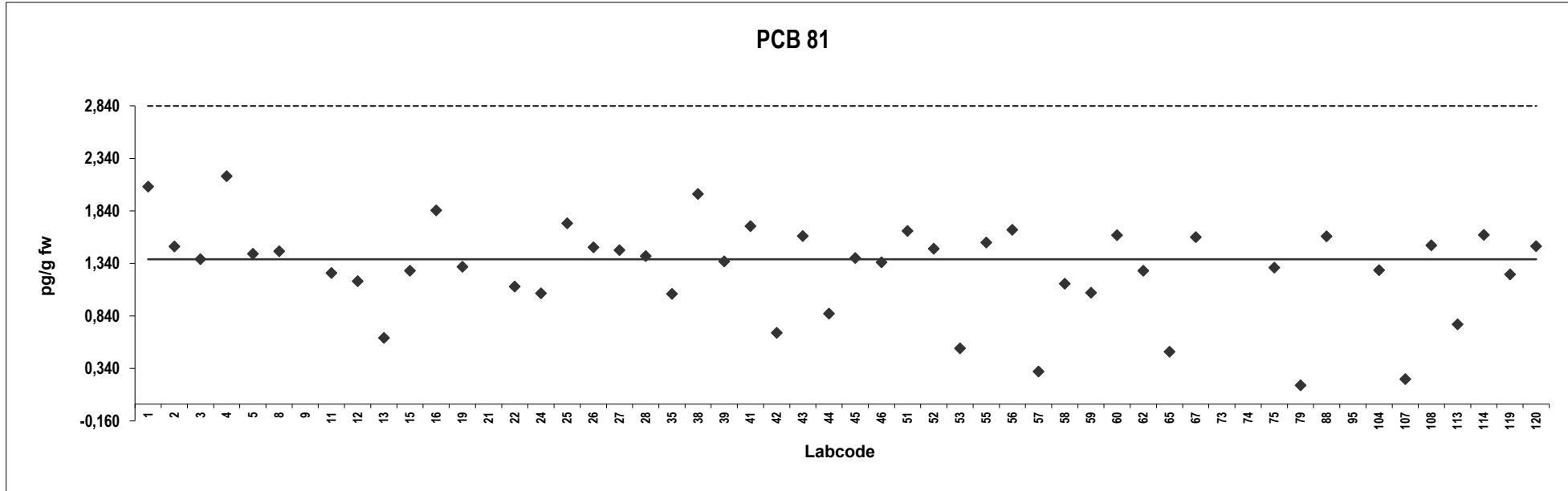
Consensus median, pg/g	6,9
Median all values pg/g	7,0
Consensus mean, pg/g	6,9
Standard deviation, pg/g	2,2
Relative standard deviation, %	31
No. of values reported	55
No. of values removed	2
No. of reported non-detects	1



Salmon
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	2,1	2,5		88	1,6	0,80	
2	1,5	0,44		95	5,4	15	Outlier
3	1,4	0,00		104	1,3	-0,38	
4	2,2	2,9		107	0,24	-4,1	ND
5	1,4	0,18		108	1,5	0,48	
8	1,5	0,27		113	0,76	-2,2	
9	13	41	Outlier	114	1,6	0,84	
11	1,2	-0,47		119	1,2	-0,52	
12	1,2	-0,76		120	1,5	0,45	
13	0,63	-2,7					
15	1,3	-0,40					
16	1,8	1,7					
19	1,3	-0,26					
21	5,9	16	Outlier				
22	1,1	-0,94					
24	1,1	-1,2					
25	1,7	1,2					
26	1,5	0,42					
27	1,5	0,31					
28	1,4	0,11					
35	1,1	-1,2					
38	2,0	2,3	ND				
39	1,4	-0,070					
41	1,7	1,1					
42	0,68	-2,5					
43	1,6	0,80					
44	0,86	-1,9					
45	1,4	0,039					
46	1,4	-0,11					
51	1,7	0,98					
52	1,5	0,36					
53	0,53	-3,1	ND				
55	1,5	0,58					
56	1,7	1,0					
57	0,31	-3,9					
58	1,1	-0,85					
59	1,1	-1,2					
60	1,6	0,83					
62	1,3	-0,39					
65	0,50	-3,2	ND				
67	1,6	0,76					
73	18	60	Outlier				
74	6,7	19	Outlier				
75	1,3	-0,29					
79	0,18	-4,3					

Consensus statistics	
Consensus median, pg/g	1,4
Median all values pg/g	1,4
Consensus mean, pg/g	1,3
Standard deviation, pg/g	0,45
Relative standard deviation, %	35
No. of values reported	54
No. of values removed	5
No. of reported non-detects	4

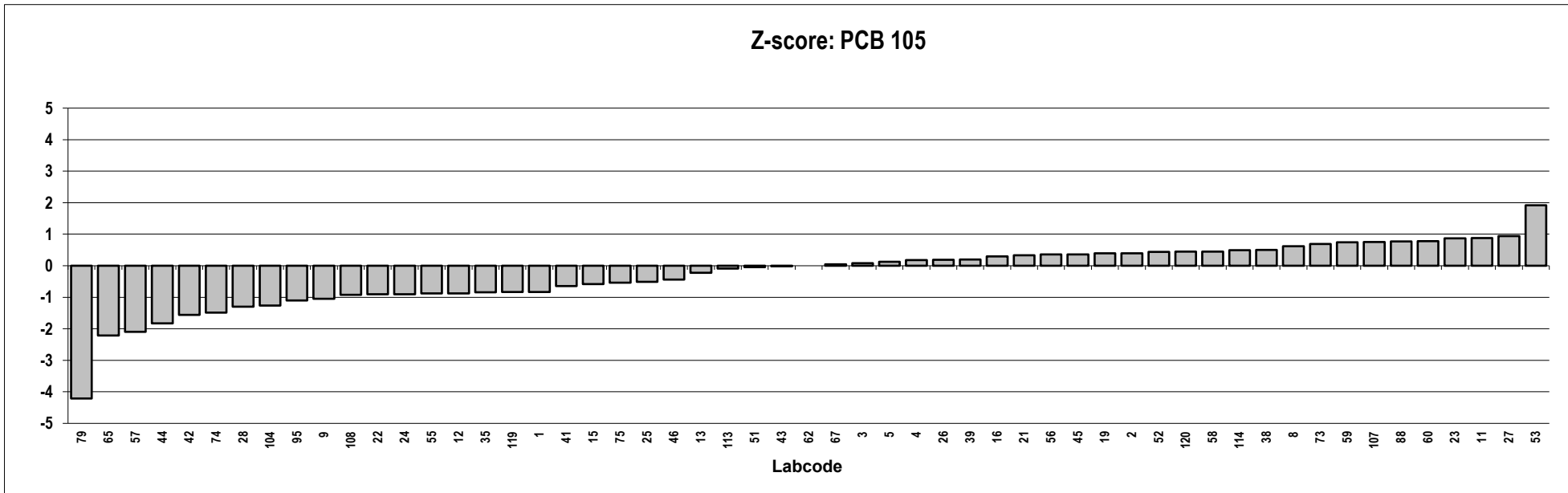
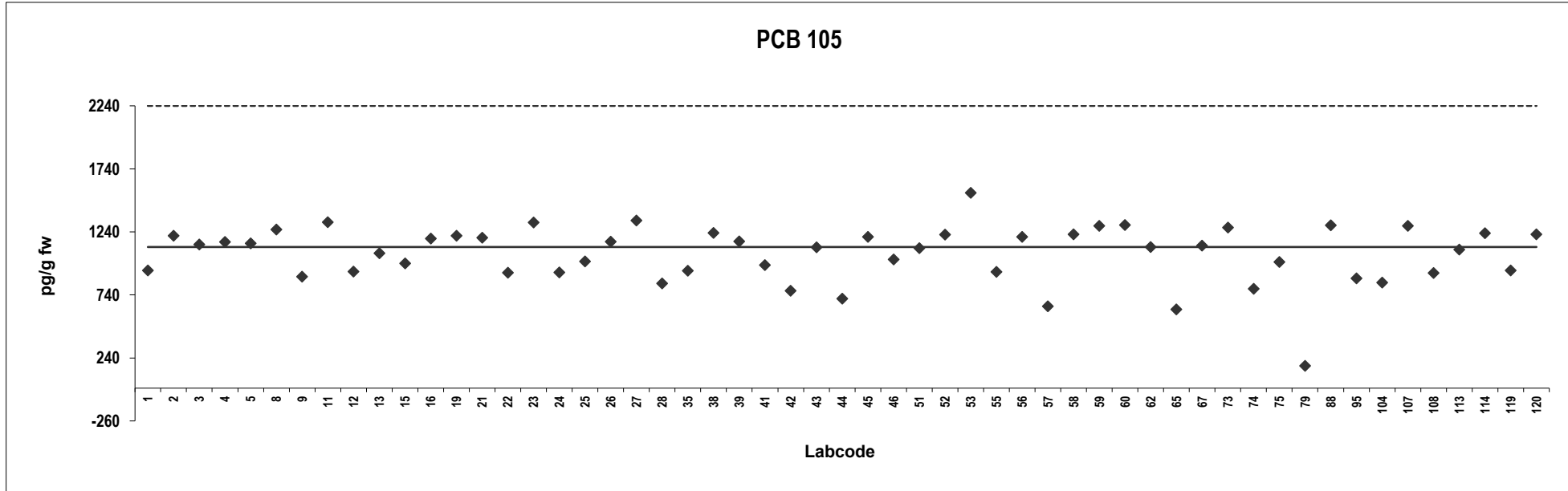


Salmon
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	934	-0,83		79	177	-4,2	
2	1209	0,40		88	1292	0,77	
3	1139	0,084		95	872	-1,1	
4	1160	0,18		104	838	-1,3	
5	1148	0,13		107	1289	0,75	
8	1259	0,62		108	914	-0,92	
9	885	-1,0		113	1100	-0,088	
11	1317	0,88		114	1230	0,49	
12	924	-0,87		119	934	-0,83	
13	1070	-0,22		120	1221	0,45	
15	990	-0,58					
16	1187	0,30					
19	1209	0,40					
21	1194	0,33					
22	917	-0,91					
23	1315	0,87					
24	918	-0,90					
25	1006	-0,51					
26	1163	0,19					
27	1330	0,94					
28	830	-1,3					
35	931	-0,85					
38	1232	0,50					
39	1165	0,20					
41	976	-0,64					
42	772	-1,6					
43	1117	-0,013					
44	711	-1,8					
45	1201	0,36					
46	1022	-0,44					
51	1110	-0,045					
52	1219	0,44					
53	1550	1,9					
55	923	-0,88					
56	1200	0,36					
57	650	-2,1					
58	1221	0,45					
59	1288	0,75					
60	1294	0,78					
62	1120	0,00					
65	624	-2,2					
67	1130	0,045					
73	1274	0,69					
74	787	-1,5					
75	1000	-0,54					

Consensus statistics

Consensus median, pg/g	1120
Median all values pg/g	1120
Consensus mean, pg/g	1063
Standard deviation, pg/g	228
Relative standard deviation, %	21
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

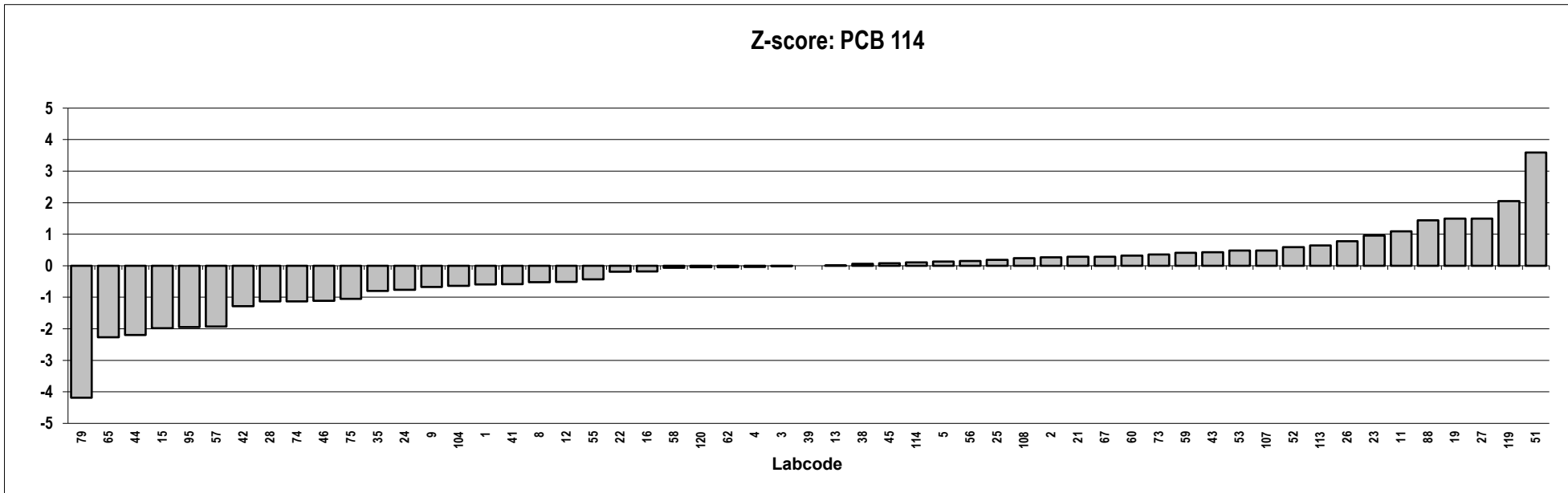
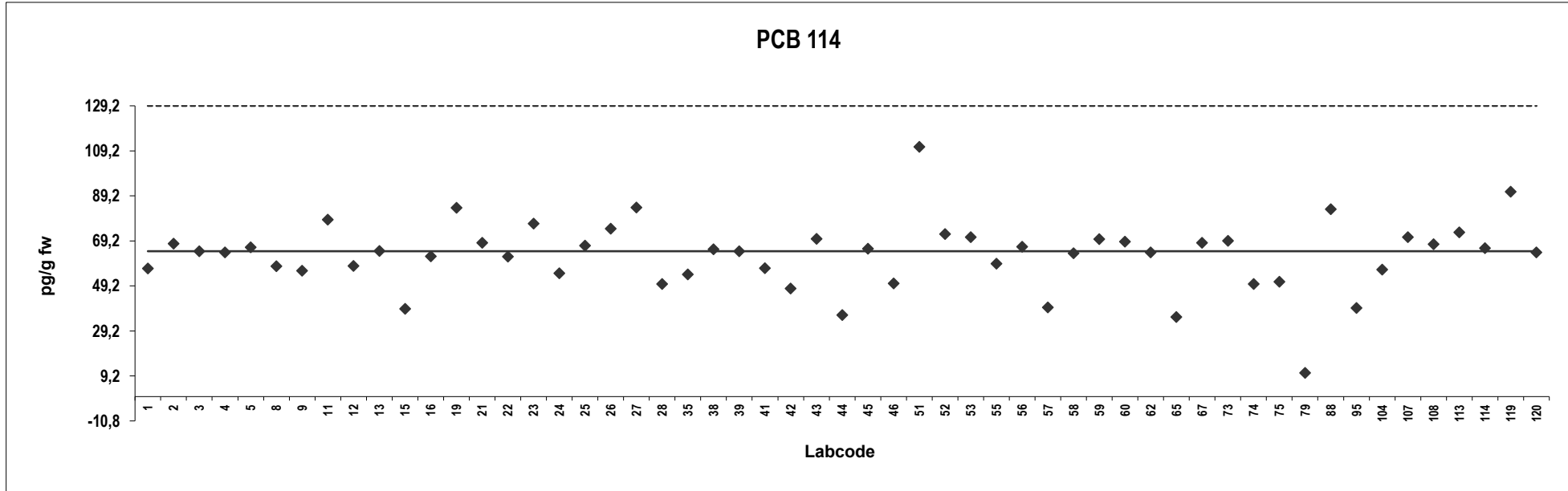


Salmon
Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	57	-0,59		79	11	-4,2	
2	68	0,26		88	83	1,4	
3	65	-0,0044		95	39	-2,0	
4	64	-0,038		104	56	-0,63	
5	66	0,13		107	71	0,48	
8	58	-0,52		108	68	0,24	
9	56	-0,67		113	73	0,65	
11	79	1,1		114	66	0,11	
12	58	-0,51		119	91	2,1	
13	65	0,0094		120	64	-0,045	
15	39	-2,0					
16	62	-0,18					
19	84	1,5					
21	68	0,29					
22	62	-0,19					
23	77	0,95					
24	55	-0,76					
25	67	0,19					
26	75	0,78					
27	84	1,5					
28	50	-1,1					
35	54	-0,80					
38	65	0,065					
39	65	0,00					
41	57	-0,59					
42	48	-1,3					
43	70	0,43					
44	36	-2,2					
45	66	0,082					
46	50	-1,1					
51	111	3,6					
52	72	0,59					
53	71	0,48					
55	59	-0,43					
56	67	0,16					
57	40	-1,9					
58	64	-0,065					
59	70	0,41					
60	69	0,32					
62	64	-0,042					
65	35	-2,3					
67	68	0,29					
73	69	0,36					
74	50	-1,1					
75	51	-1,1					

Consensus statistics

Consensus median, pg/g	65
Median all values pg/g	65
Consensus mean, pg/g	63
Standard deviation, pg/g	15
Relative standard deviation, %	25
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0



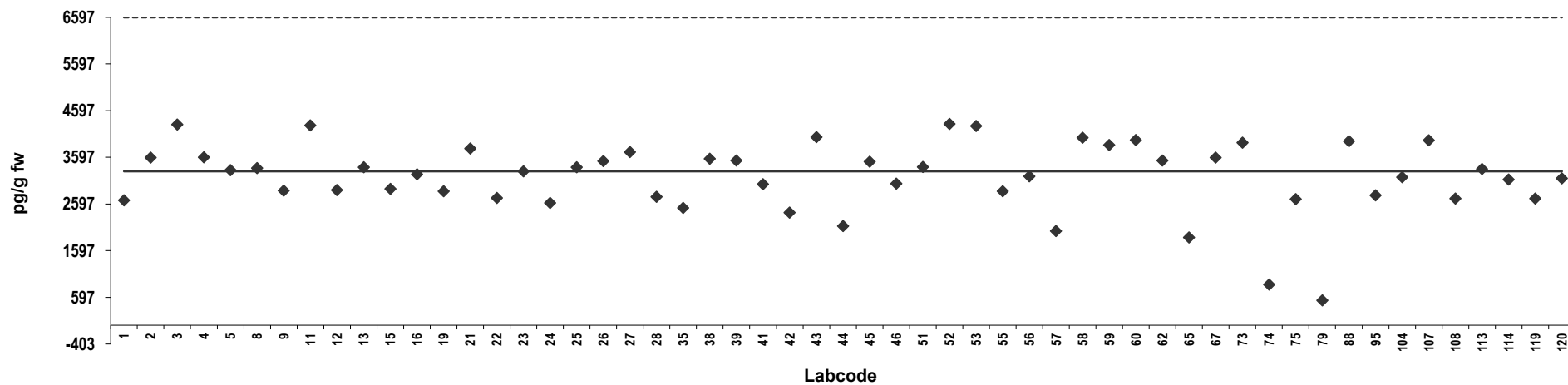
Salmon
Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	2675	-0,94		79	530	-4,2	
2	3592	0,44		88	3942	0,98	
3	4299	1,5		95	2785	-0,78	
4	3600	0,46		104	3173	-0,19	
5	3320	0,032		107	3961	1,0	
8	3369	0,11		108	2715	-0,89	
9	2886	-0,63		113	3347	0,073	
11	4285	1,5		114	3120	-0,27	
12	2895	-0,61		119	2716	-0,88	
13	3385	0,13		120	3147	-0,23	
15	2920	-0,57					
16	3235	-0,096					
19	2870	-0,65					
21	3788	0,74					
22	2730	-0,86					
23	3299	0,00					
24	2618	-1,0					
25	3386	0,13					
26	3514	0,33					
27	3710	0,62					
28	2750	-0,83					
35	2515	-1,2					
38	3566	0,41					
39	3527	0,35					
41	3019	-0,42					
42	2415	-1,3					
43	4029	1,1					
44	2128	-1,8					
45	3507	0,32					
46	3032	-0,40					
51	3390	0,14					
52	4315	1,5					
53	4270	1,5					
55	2872	-0,65					
56	3190	-0,16					
57	2018	-1,9					
58	4020	1,1					
59	3865	0,86					
60	3968	1,0					
62	3531	0,35					
65	1883	-2,1					
67	3590	0,44					
73	3912	0,93					
74	871	-3,7					
75	2700	-0,91					

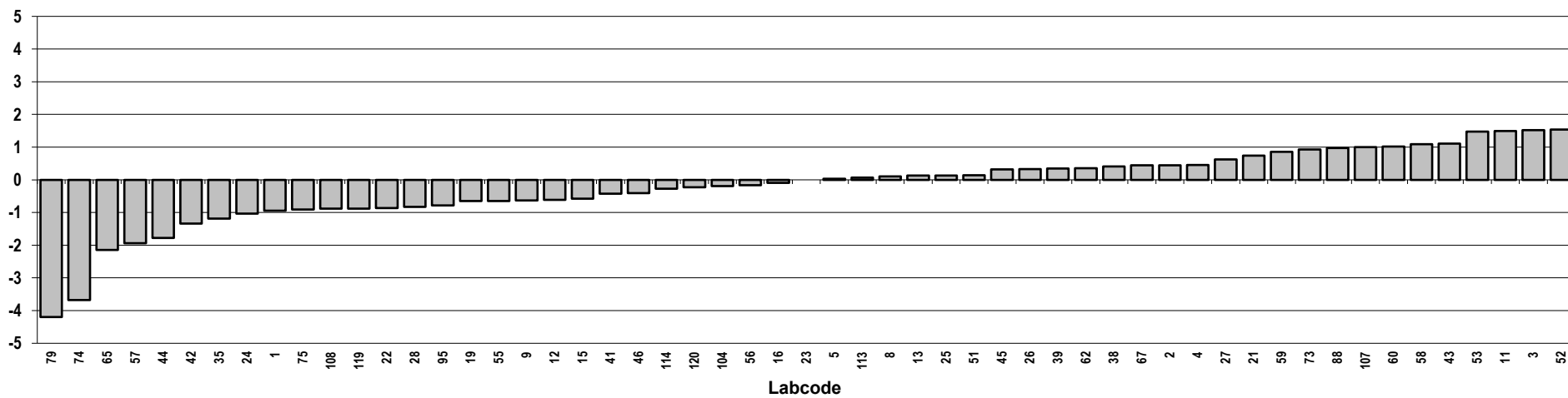
Consensus statistics

Consensus median, pg/g	3299
Median all values pg/g	3299
Consensus mean, pg/g	3176
Standard deviation, pg/g	757
Relative standard deviation, %	24
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

PCB 118



Z-score: PCB 118

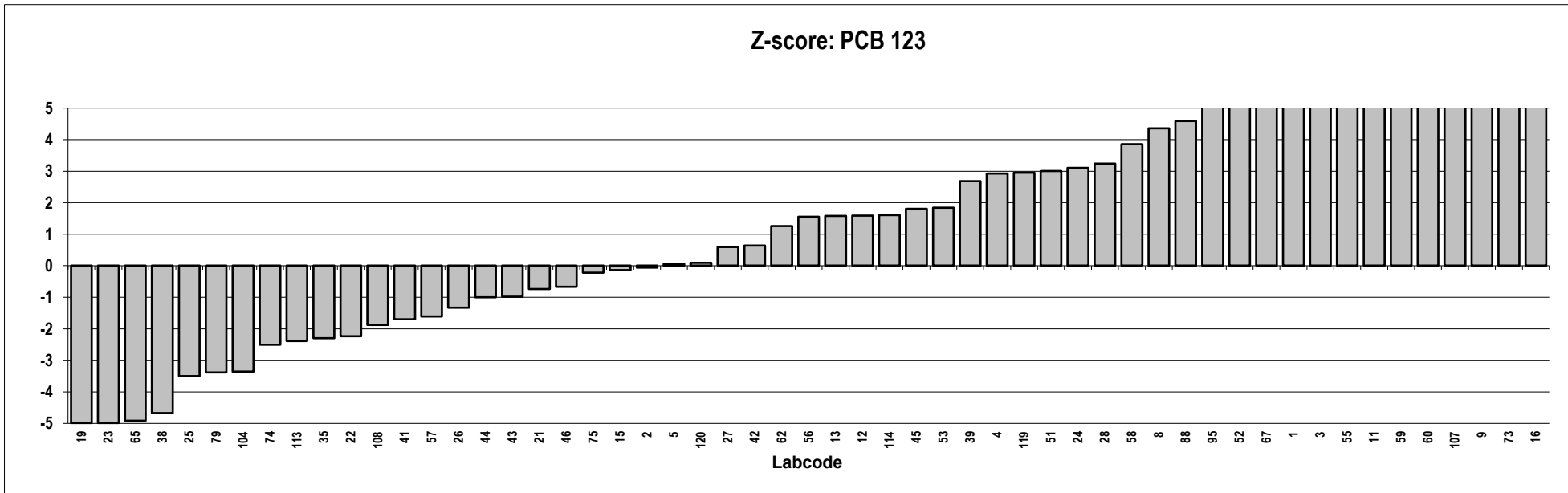
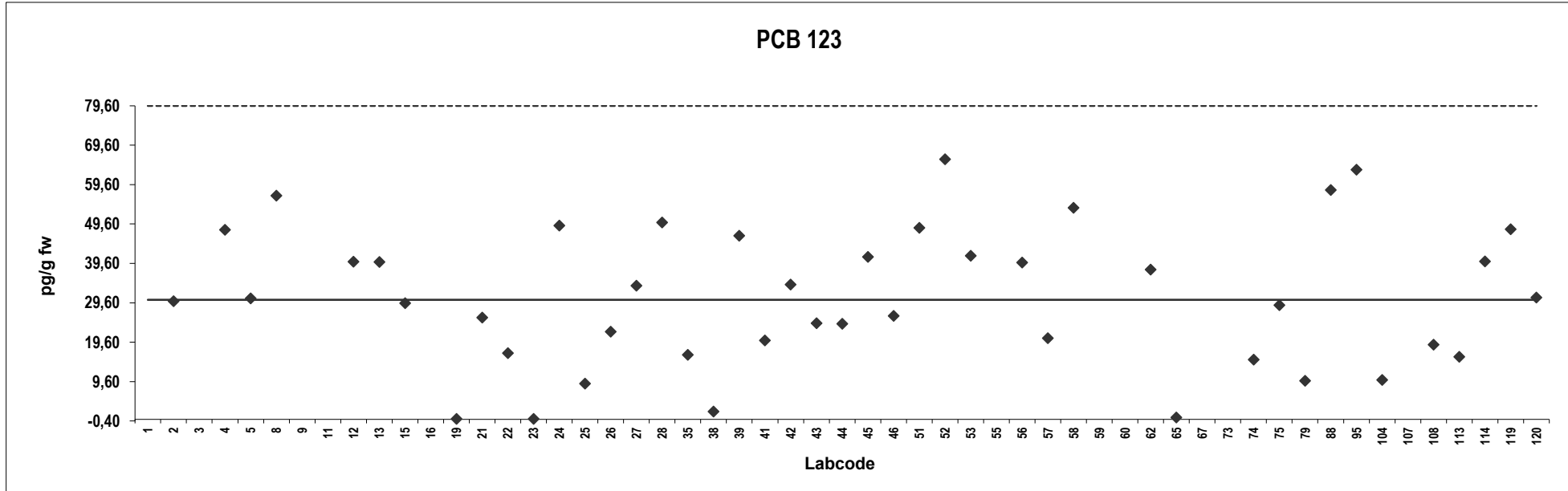


Salmon
Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	84	8,9	Outlier	79	9,8	-3,4	
2	30	-0,058		88	58	4,6	
3	86	9,2	Outlier	95	63	5,4	
4	48	2,9		104	10	-3,4	
5	31	0,058		107	120	15	Outlier
8	57	4,4		108	19	-1,9	
9	187	26	Outlier	113	16	-2,4	
11	94	10	Outlier	114	40	1,6	
12	40	1,6		119	48	3,0	ND
13	40	1,6		120	31	0,090	
15	30	-0,14					
16	530	82	Outlier				
19	0,096	-5,0	ND				
21	26	-0,74					
22	17	-2,2					
23	0,096	-5,0	ND				
24	49	3,1					
25	9,1	-3,5					
26	22	-1,3					
27	34	0,59					
28	50	3,2					
35	16	-2,3					
38	2,0	-4,7	ND				
39	47	2,7					
41	20	-1,7					
42	34	0,64					
43	24	-0,98					
44	24	-1,0					
45	41	1,8					
46	26	-0,67					
51	49	3,0					
52	66	5,9					
53	42	1,8					
55	88	9,5	Outlier				
56	40	1,6					
57	21	-1,6					
58	54	3,9					
59	99	11	Outlier				
60	106	12	Outlier				
62	38	1,3					
65	0,50	-4,9	ND				
67	80	8,1	Outlier				
73	230	33	Outlier				
74	15	-2,5					
75	29	-0,22					

Consensus statistics

Consensus median, pg/g	30
Median all values pg/g	40
Consensus mean, pg/g	31
Standard deviation, pg/g	18
Relative standard deviation, %	56
No. of values reported	55
No. of values removed	11
No. of reported non-detects	5

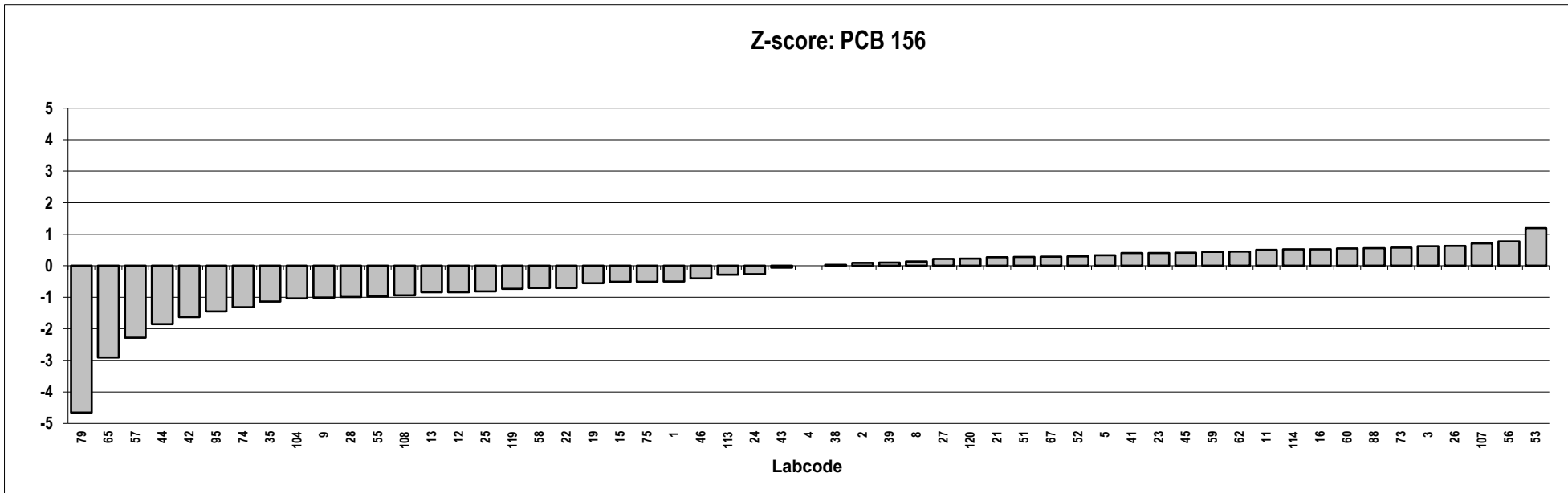
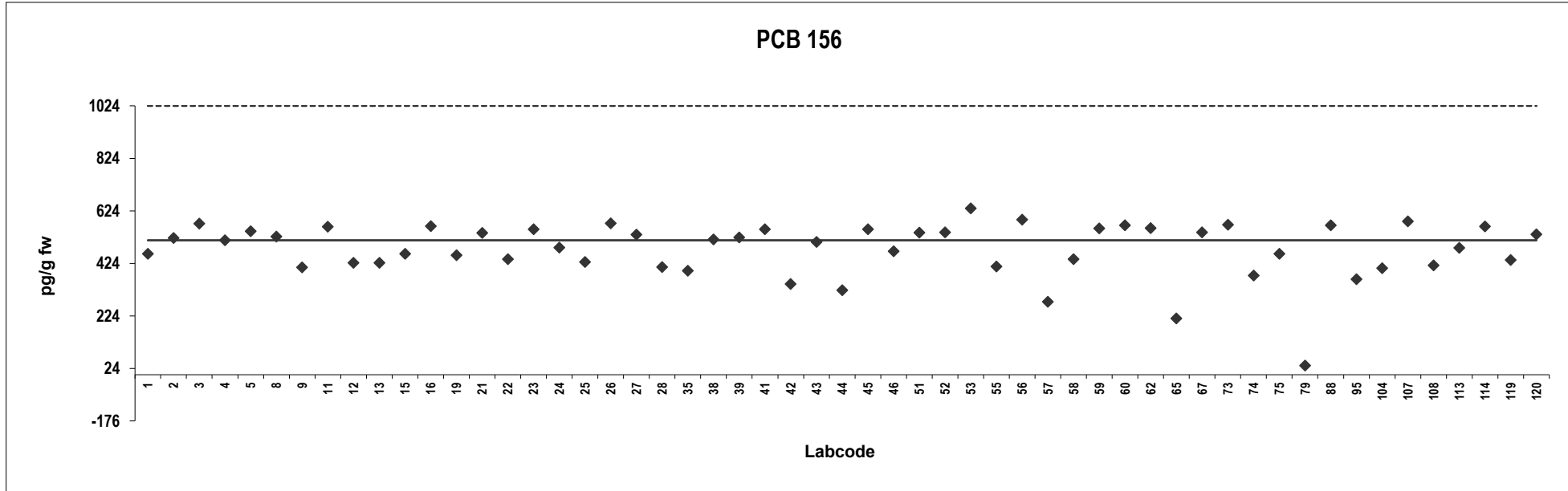


Salmon
Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	460	-0,50		79	35	-4,7	
2	521	0,088		88	569	0,56	
3	575	0,62		95	364	-1,4	
4	512	0,00		104	406	-1,0	
5	546	0,33		107	585	0,71	
8	526	0,13		108	416	-0,94	
9	408	-1,0		113	483	-0,29	
11	563	0,50		114	565	0,52	
12	426	-0,84		119	437	-0,73	
13	426	-0,84		120	535	0,22	
15	460	-0,51					
16	565	0,52					
19	455	-0,55					
21	540	0,27					
22	440	-0,70					
23	554	0,41					
24	485	-0,27					
25	429	-0,81					
26	577	0,63					
27	534	0,22					
28	410	-1,0					
35	396	-1,1					
38	515	0,028					
39	522	0,10					
41	554	0,41					
42	345	-1,6					
43	506	-0,059					
44	322	-1,9					
45	554	0,41					
46	471	-0,40					
51	541	0,28					
52	543	0,30					
53	634	1,2					
55	412	-0,98					
56	591	0,77					
57	278	-2,3					
58	440	-0,71					
59	558	0,44					
60	569	0,55					
62	558	0,45					
65	214	-2,9					
67	542	0,29					
73	571	0,58					
74	378	-1,3					
75	460	-0,51					

Consensus statistics

Consensus median, pg/g	512
Median all values pg/g	512
Consensus mean, pg/g	478
Standard deviation, pg/g	105
Relative standard deviation, %	22
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

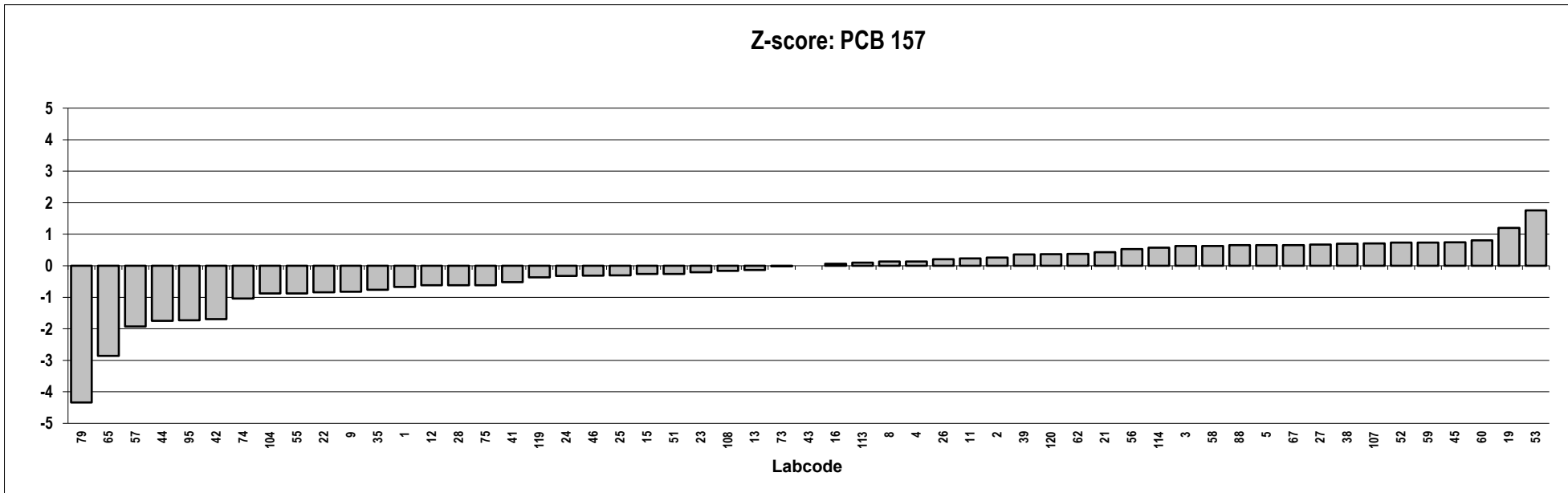
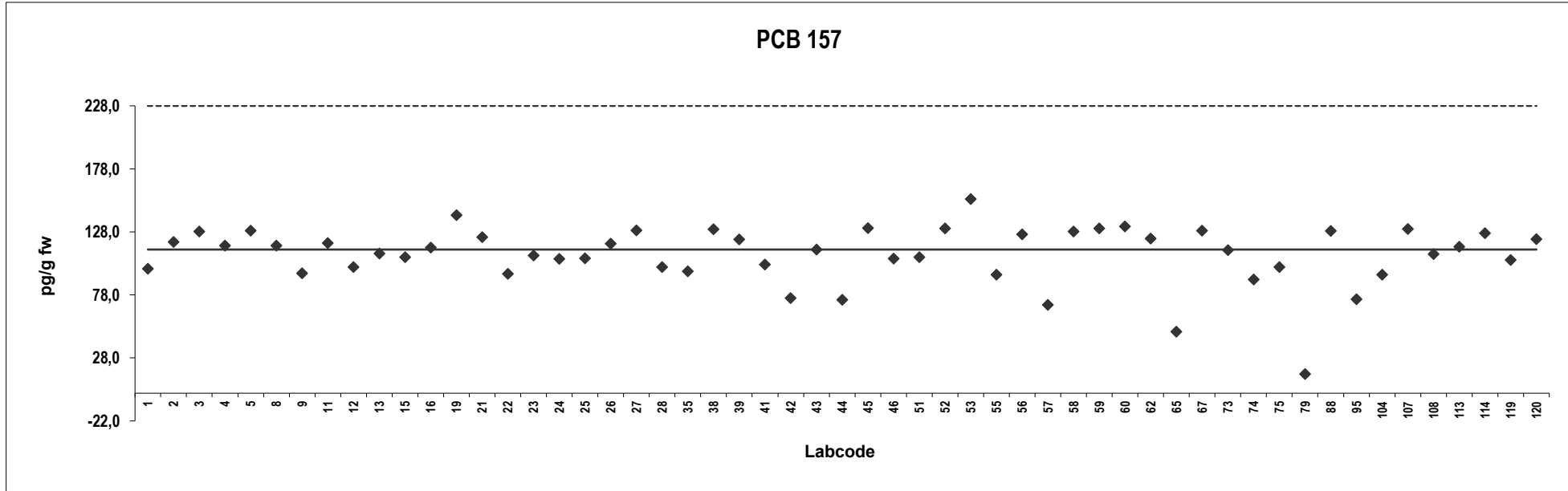


Salmon
Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	99	-0,67		79	15	-4,3	
2	120	0,26		88	129	0,65	
3	128	0,63		95	75	-1,7	
4	117	0,13		104	94	-0,88	
5	129	0,66		107	130	0,71	
8	117	0,13		108	110	-0,16	
9	95	-0,82		113	116	0,095	
11	119	0,23		114	127	0,57	
12	100	-0,61		119	106	-0,37	
13	111	-0,14		120	122	0,37	
15	108	-0,26					
16	115	0,063					
19	141	1,2					
21	124	0,43					
22	95	-0,84					
23	109	-0,21					
24	107	-0,33					
25	107	-0,30					
26	119	0,20					
27	129	0,67					
28	100	-0,61					
35	97	-0,76					
38	130	0,70					
39	122	0,36					
41	102	-0,52					
42	75	-1,7					
43	114	0,00					
44	74	-1,7					
45	131	0,75					
46	107	-0,32					
51	108	-0,26					
52	131	0,73					
53	154	1,8					
55	94	-0,88					
56	126	0,53					
57	70	-1,9					
58	128	0,63					
59	131	0,74					
60	132	0,81					
62	123	0,38					
65	49	-2,9					
67	129	0,66					
73	114	-0,019					
74	90	-1,0					
75	100	-0,61					

Consensus statistics

Consensus median, pg/g	114
Median all values pg/g	114
Consensus mean, pg/g	110
Standard deviation, pg/g	23
Relative standard deviation, %	21
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

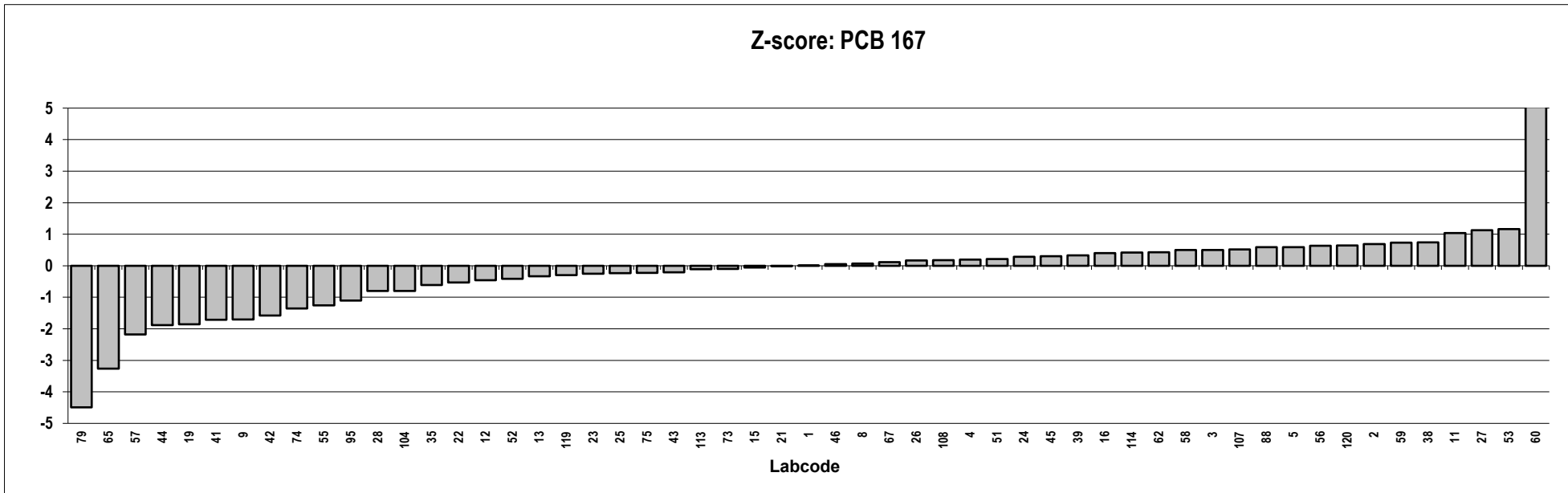
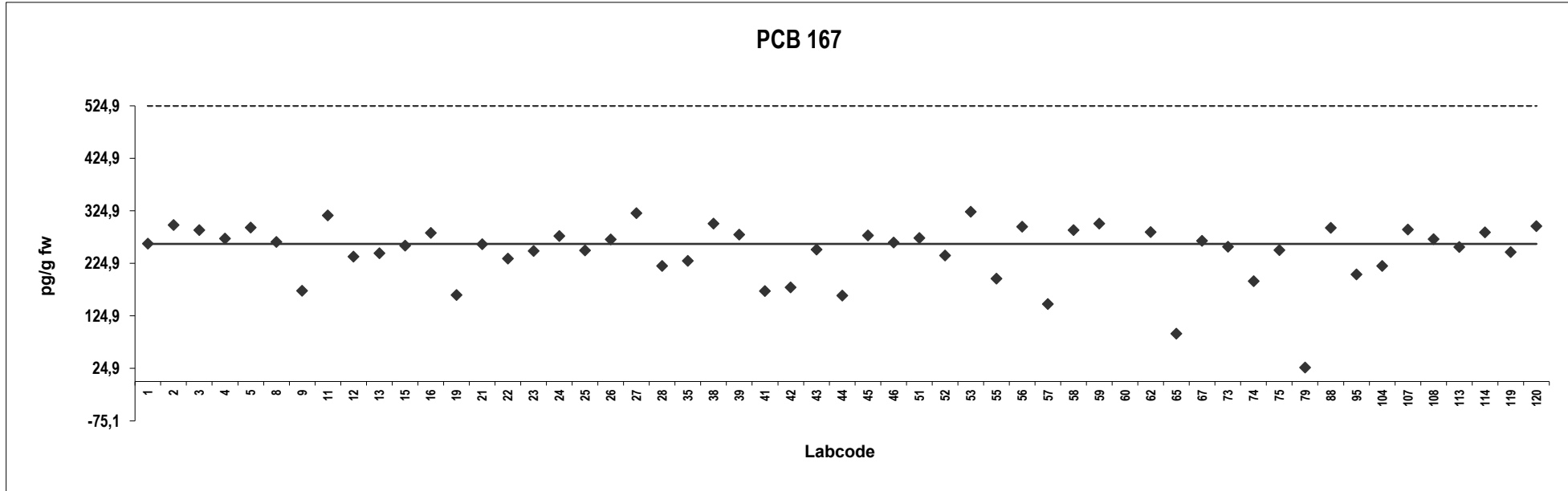


Salmon
Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	262	0,0092		79	27	-4,5	
2	298	0,69		88	293	0,59	
3	288	0,50		95	204	-1,1	
4	272	0,19		104	220	-0,80	
5	293	0,59		107	289	0,52	
8	266	0,073		108	271	0,18	
9	173	-1,7		113	256	-0,11	
11	316	1,0		114	284	0,42	
12	238	-0,46		119	247	-0,29	
13	244	-0,34		120	296	0,64	
15	259	-0,057					
16	283	0,40					
19	165	-1,9					
21	261	-0,0092					
22	234	-0,53					
23	249	-0,25					
24	277	0,28					
25	250	-0,24					
26	271	0,17					
27	321	1,1					
28	220	-0,80					
35	230	-0,62					
38	301	0,74					
39	279	0,33					
41	172	-1,7					
42	179	-1,6					
43	251	-0,21					
44	163	-1,9					
45	278	0,31					
46	265	0,051					
51	273	0,21					
52	240	-0,42					
53	323	1,2					
55	196	-1,3					
56	295	0,63					
57	148	-2,2					
58	288	0,50					
59	300	0,73					
60	1085	16	Outlier				
62	284	0,43					
65	91	-3,3					
67	268	0,12					
73	257	-0,10					
74	191	-1,4					
75	250	-0,23					

Consensus statistics

Consensus median, pg/g	262
Median all values pg/g	262
Consensus mean, pg/g	247
Standard deviation, pg/g	57
Relative standard deviation, %	23
No. of values reported	55
No. of values removed	1
No. of reported non-detects	0

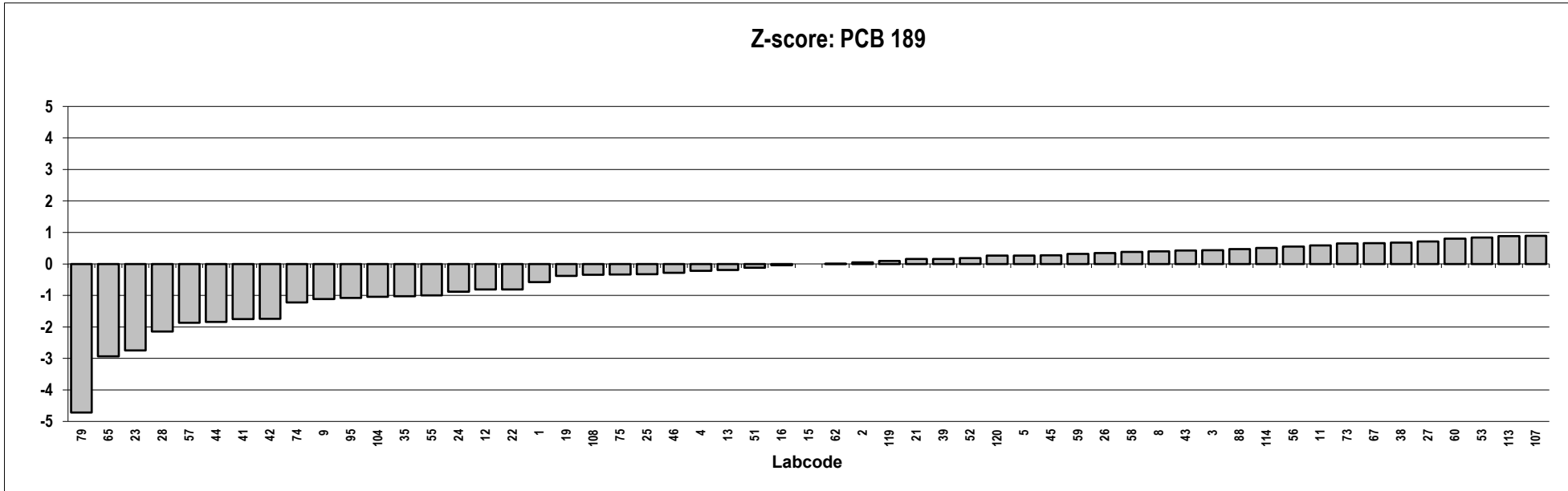
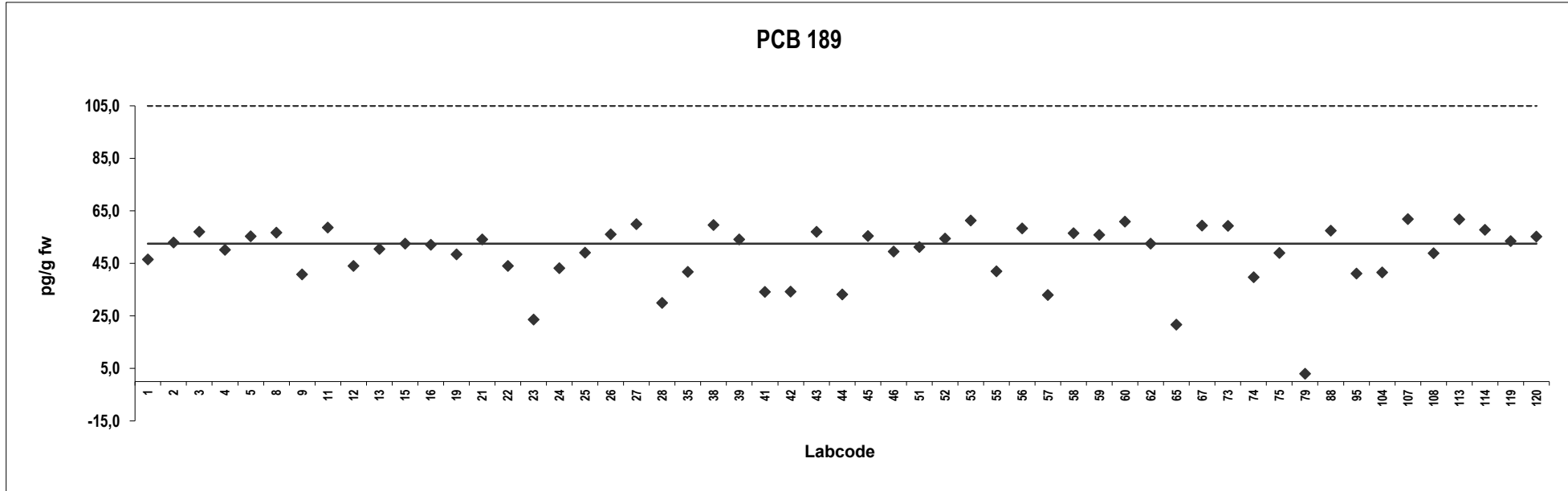


Salmon
Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	46	-0,57		79	3,0	-4,7	
2	53	0,048		88	57	0,47	
3	57	0,43		95	41	-1,1	
4	50	-0,22		104	42	-1,0	
5	55	0,27		107	62	0,89	
8	57	0,40		108	49	-0,34	
9	41	-1,1		113	62	0,88	
11	59	0,58		114	58	0,50	
12	44	-0,81		119	54	0,097	
13	51	-0,19		120	55	0,26	
15	53	0,00					
16	52	-0,040					
19	48	-0,38					
21	54	0,16					
22	44	-0,81					
23	24	-2,7					
24	43	-0,88					
25	49	-0,33					
26	56	0,34					
27	60	0,71					
28	30	-2,1					
35	42	-1,0					
38	60	0,68					
39	54	0,16					
41	34	-1,8					
42	34	-1,7					
43	57	0,43					
44	33	-1,8					
45	55	0,27					
46	50	-0,28					
51	51	-0,12					
52	54	0,18					
53	61	0,84					
55	42	-1,0					
56	58	0,55					
57	33	-1,9					
58	56	0,38					
59	56	0,32					
60	61	0,80					
62	53	0,0015					
65	22	-2,9					
67	59	0,66					
73	59	0,65					
74	40	-1,2					
75	49	-0,33					

Consensus statistics

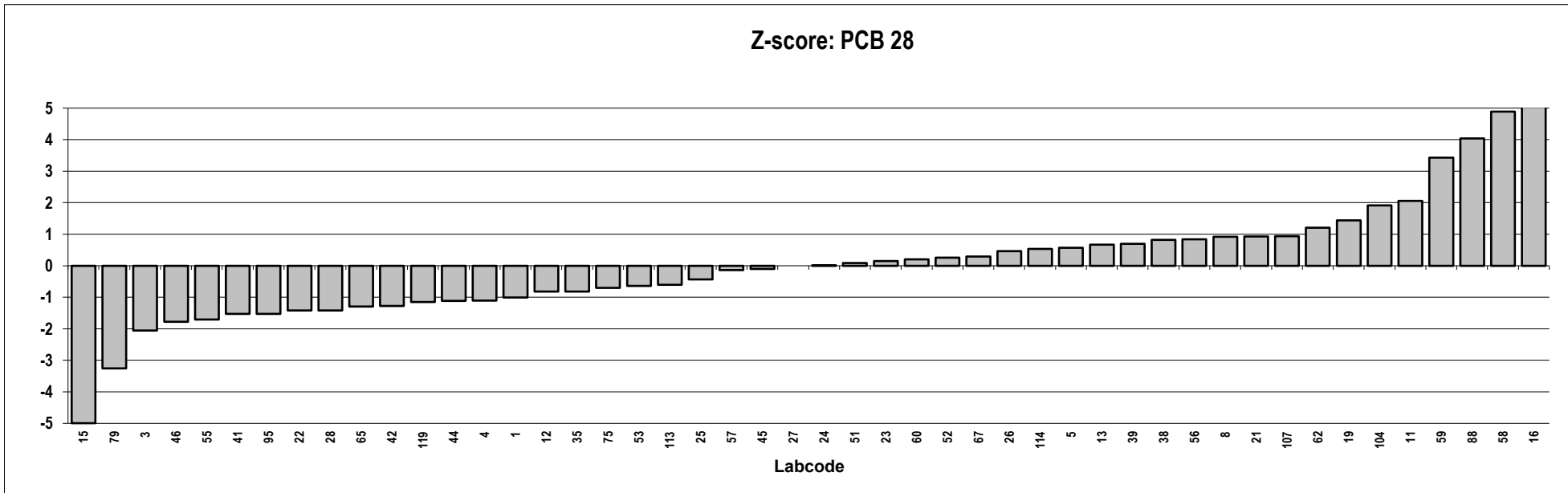
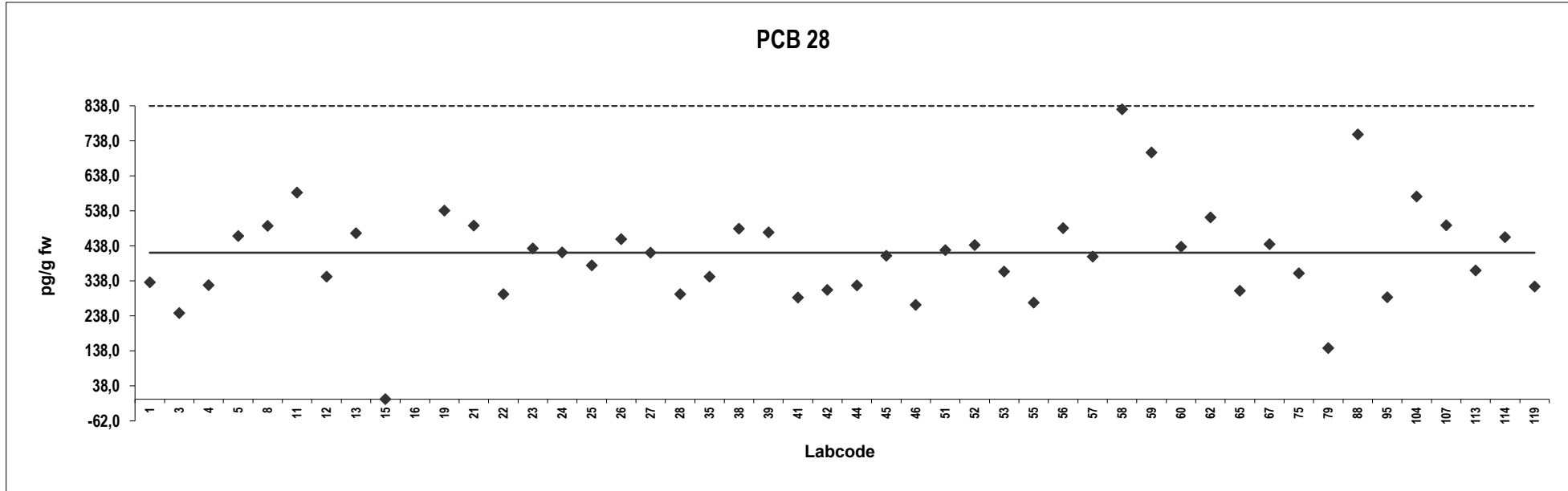
Consensus median, pg/g	53
Median all values pg/g	53
Consensus mean, pg/g	49
Standard deviation, pg/g	12
Relative standard deviation, %	24
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0



Salmon
Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	334	-1,0		113	368	-0,61	
3	246	-2,1		114	463	0,53	
4	326	-1,1		119	322	-1,2	
5	466	0,57					
8	495	0,92					
11	591	2,1					
12	350	-0,8					
13	474	0,67					
15	0,35	-5,0					
16	983	6,7	Outlier				
19	539	1,4					
21	496	0,93					
22	300	-1,4					
23	431	0,15					
24	420	0,012					
25	382	-0,44					
26	457	0,46					
27	419	0,00					
28	300	-1,4					
35	350	-0,82					
38	487	0,82					
39	477	0,70					
41	291	-1,5					
42	312	-1,3					
44	325	-1,1					
45	410	-0,10					
46	270	-1,8					
51	426	0,090					
52	440	0,26					
53	365	-0,64					
55	276	-1,7					
56	489	0,84					
57	407	-0,14					
58	828	4,9					
59	705	3,4					
60	435	0,20					
62	519	1,2					
65	310	-1,3					
67	443	0,29					
75	360	-0,70					
79	146	-3,3					
88	756	4,0					
95	291	-1,5					
104	579	1,9					
107	497	0,94					

Consensus statistics	
Consensus median, pg/g	419
Median all values pg/g	419
Consensus mean, pg/g	412
Standard deviation, pg/g	143
Relative standard deviation, %	35
No. of values reported	48
No. of values removed	1
No. of reported non-detects	0

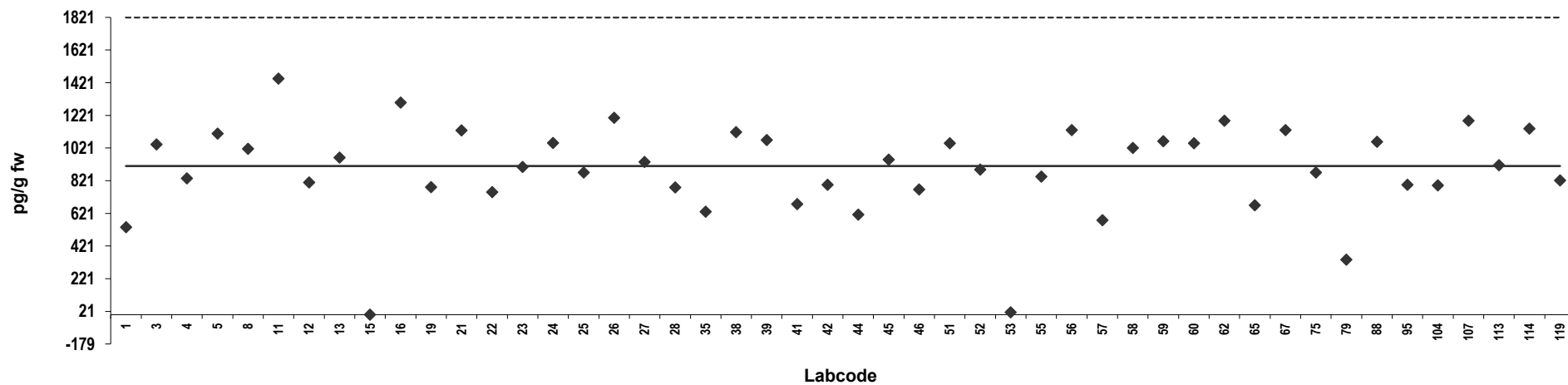


Salmon
Congener: PCB 52

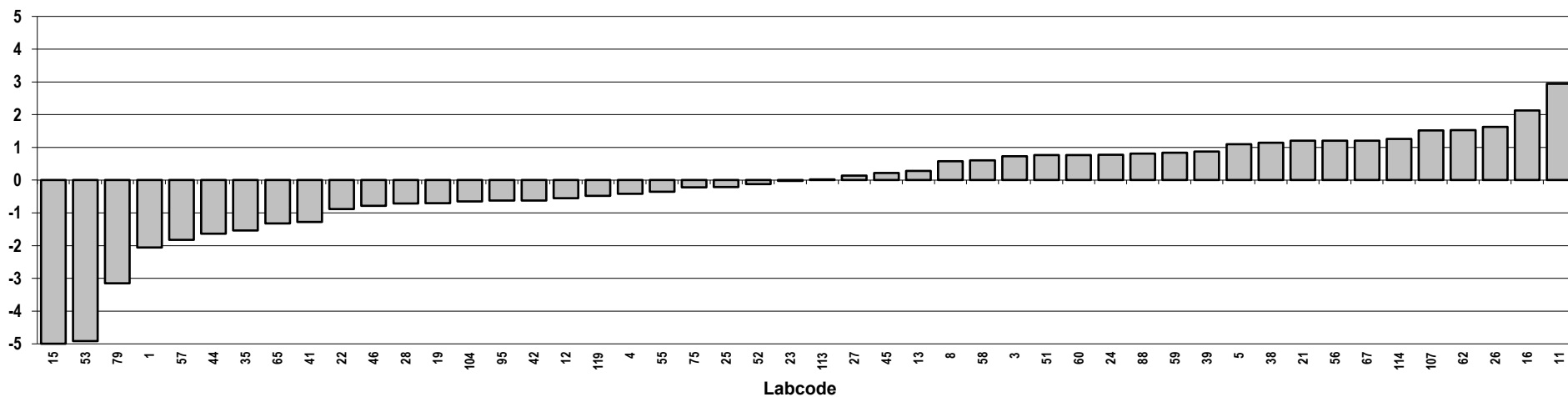
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	536	-2,1		113	915	0,026	
3	1043	0,73		114	1140	1,3	
4	834	-0,42		119	823	-0,48	
5	1109	1,1					
8	1016	0,58					
11	1446	2,9					
12	810	-0,55					
13	961	0,28					
15	1,0	-5,0					
16	1298	2,1					
19	781	-0,71					
21	1129	1,2					
22	750	-0,9					
23	906	-0,026					
24	1051	0,77					
25	871	-0,21					
26	1206	1,63					
27	936	0,14					
28	780	-0,72					
35	630	-1,5					
38	1119	1,1					
39	1069	0,87					
41	677	-1,3					
42	796	-0,63					
44	612	-1,6					
45	950	0,22					
46	768	-0,78					
51	1050	0,77					
52	888	-0,12					
53	15	-4,9					
55	846	-0,35					
56	1130	1,2					
57	579	-1,8					
58	1021	0,61					
59	1063	0,84					
60	1050	0,77					
62	1188	1,5					
65	670	-1,3					
67	1130	1,2					
75	870	-0,22					
79	336	-3,2					
88	1058	0,81					
95	796	-0,63					
104	792	-0,65					
107	1187	1,5					

Consensus statistics	
Consensus median, pg/g	910
Median all values pg/g	910
Consensus mean, pg/g	888
Standard deviation, pg/g	282
Relative standard deviation, %	32
No. of values reported	48
No. of values removed	0
No. of reported non-detects	0

PCB 52



Z-score: PCB 52

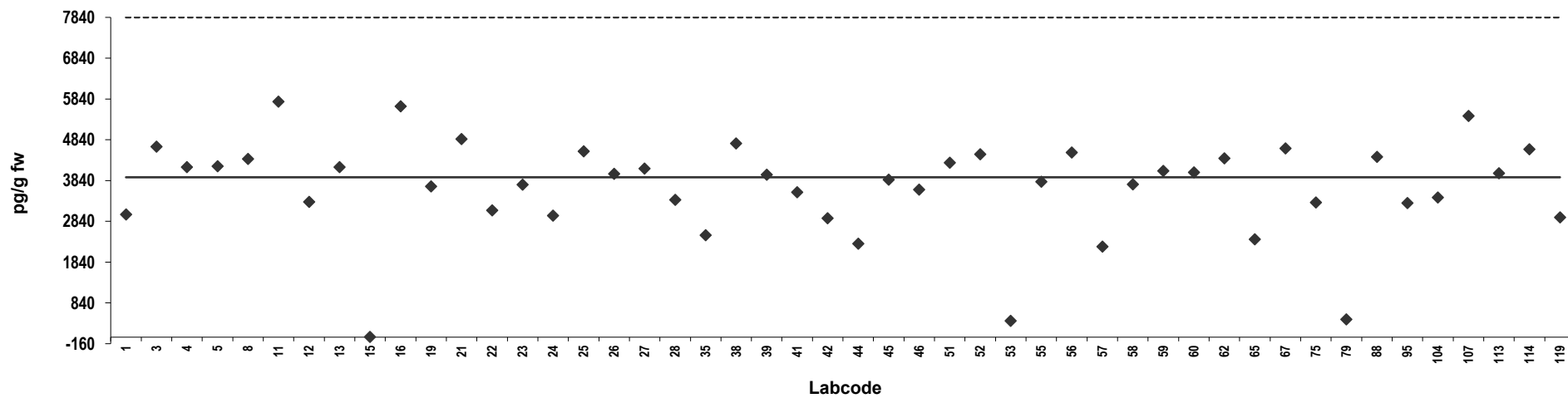


Salmon
Congener: PCB 101

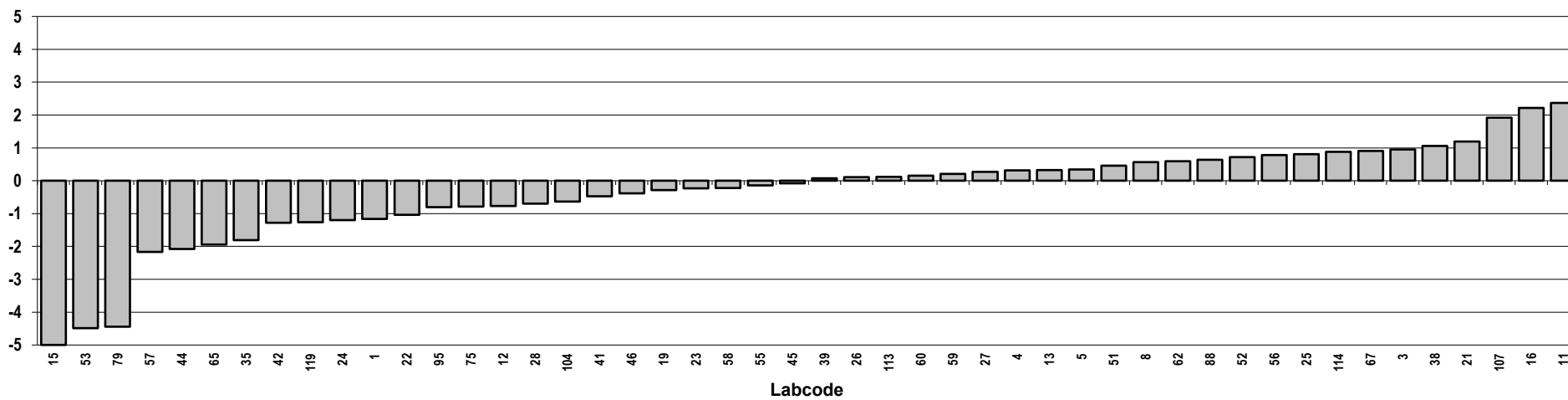
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	3009	-1,2		113	4015	0,12	
3	4668	0,95		114	4610	0,88	
4	4170	0,32		119	2934	-1,3	
5	4187	0,34					
8	4367	0,57					
11	5774	2,4					
12	3320	-0,77					
13	4172	0,32					
15	3,8	-5,0					
16	5659	2,2					
19	3698	-0,28					
21	4855	1,2					
22	3106	-1,0					
23	3737	-0,23					
24	2977	-1,2					
25	4554	0,81					
26	4007	0,11					
27	4130	0,27					
28	3370	-0,70					
35	2500	-1,8					
38	4749	1,1					
39	3980	0,077					
41	3550	-0,47					
42	2915	-1,3					
44	2293	-2,1					
45	3860	-0,077					
46	3620	-0,38					
51	4280	0,46					
52	4481	0,72					
53	403	-4,5					
55	3811	-0,14					
56	4530	0,78					
57	2221	-2,2					
58	3748	-0,22					
59	4080	0,20					
60	4040	0,15					
62	4384	0,59					
65	2400	-1,9					
67	4630	0,91					
75	3300	-0,79					
79	434	-4,4					
88	4421	0,64					
95	3287	-0,81					
104	3426	-0,63					
107	5424	1,9					

Consensus statistics	
Consensus median, pg/g	3920
Median all values pg/g	3920
Consensus mean, pg/g	3669
Standard deviation, pg/g	1195
Relative standard deviation, %	33
No. of values reported	48
No. of values removed	0
No. of reported non-detects	0

PCB 101



Z-score: PCB 101

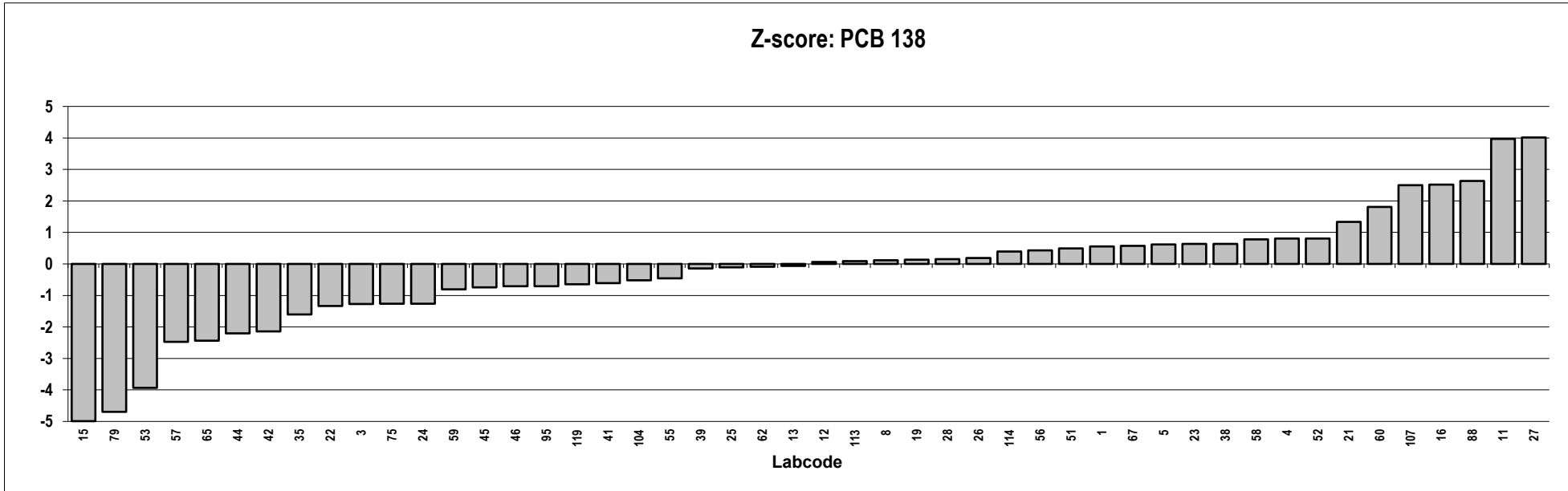
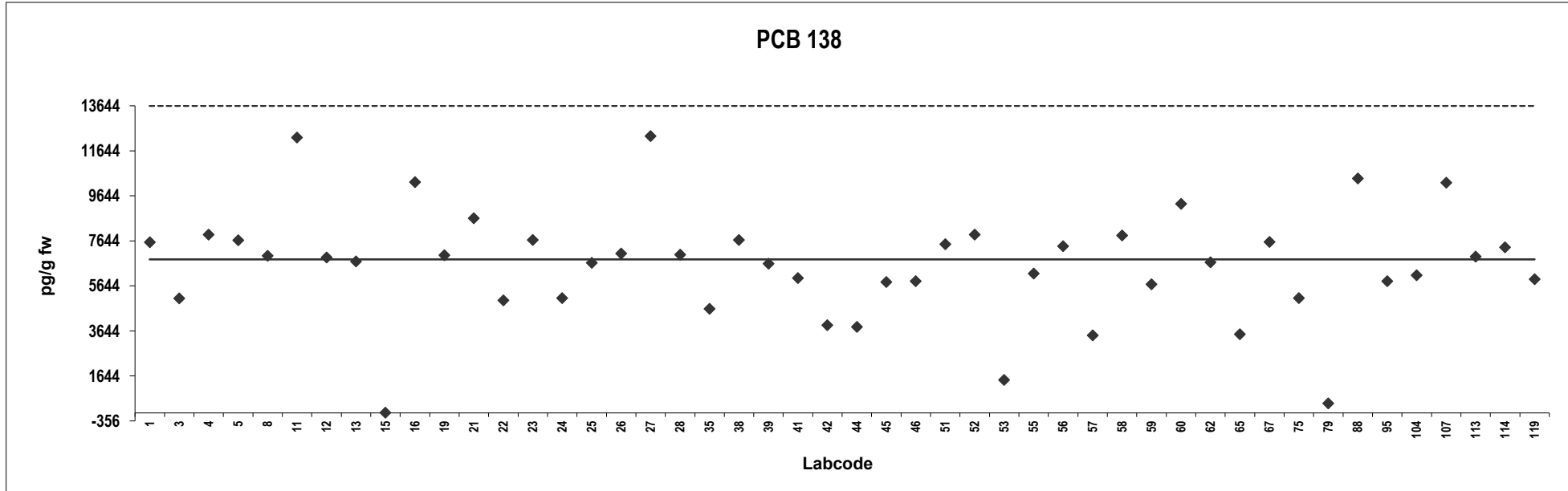


Salmon
Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	7578	0,55		113	6947	0,091	
3	5089	-1,27		114	7360	0,39	
4	7920	0,80		119	5944	-0,64	
5	7668	0,62					
8	6983	0,12					
11	12232	4,0					
12	6910	0,064					
13	6734	-0,064					
15	6,5	-5,0					
16	10254	2,5					
19	7004	0,13					
21	8646	1,3					
22	4995	-1,3					
23	7690	0,64					
24	5102	-1,3					
25	6670	-0,11					
26	7083	0,19					
27	12300	4,0					
28	7030	0,15					
35	4629	-1,6					
38	7690	0,64					
39	6631	-0,14					
41	5986	-0,61					
42	3899	-2,1					
44	3819	-2,2					
45	5810	-0,74					
46	5853	-0,71					
51	7500	0,50					
52	7926	0,81					
53	1460	-3,9					
55	6193	-0,46					
56	7410	0,43					
57	3452	-2,5					
58	7887	0,78					
59	5718	-0,81					
60	9288	1,8					
62	6697	-0,092					
65	3500	-2,4					
67	7600	0,57					
75	5100	-1,3					
79	421	-4,7					
88	10413	2,6					
95	5857	-0,71					
104	6115	-0,52					
107	10227	2,5					

Consensus statistics

Consensus median, pg/g	6822
Median all values pg/g	6822
Consensus mean, pg/g	6567
Standard deviation, pg/g	2483
Relative standard deviation, %	38
No. of values reported	48
No. of values removed	0
No. of reported non-detects	0



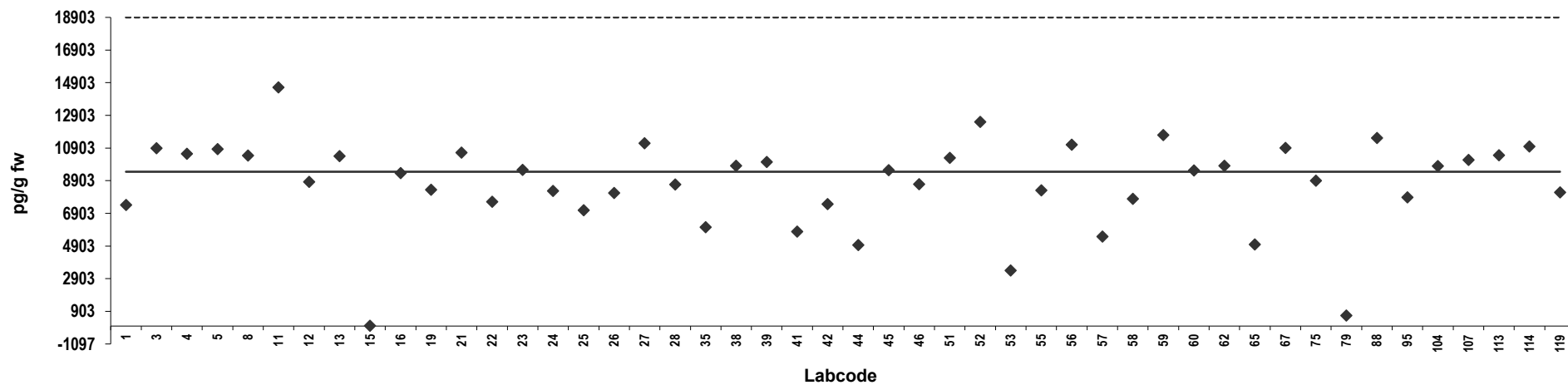
Salmon
Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	7416	-1,1		113	10454	0,53	
3	10895	0,76		114	11000	0,82	
4	10550	0,58		119	8193	-0,67	
5	10838	0,73					
8	10443	0,52					
11	14614	2,7					
12	8830	-0,33					
13	10409	0,51					
15	9,9	-5,0					
16	9376	-0,040					
19	8344	-0,59					
21	10614	0,61					
22	7614	-0,97					
23	9558	0,056					
24	8280	-0,62					
25	7086	-1,3					
26	8148	-0,69					
27	11200	0,92					
28	8670	-0,41					
35	6046	-1,8					
38	9811	0,19					
39	10041	0,31					
41	5791	-1,9					
42	7467	-1,1					
44	4955	-2,4					
45	9550	0,052					
46	8696	-0,40					
51	10300	0,45					
52	12509	1,6					
53	3410	-3,2					
55	8309	-0,60					
56	11100	0,87					
57	5475	-2,1					
58	7797	-0,88					
59	11696	1,2					
60	9527	0,040					
62	9821	0,20					
65	5000	-2,4					
67	10900	0,77					
75	8900	-0,29					
79	644	-4,7					
88	11511	1,1					
95	7881	-0,83					
104	9792	0,18					
107	10166	0,38					

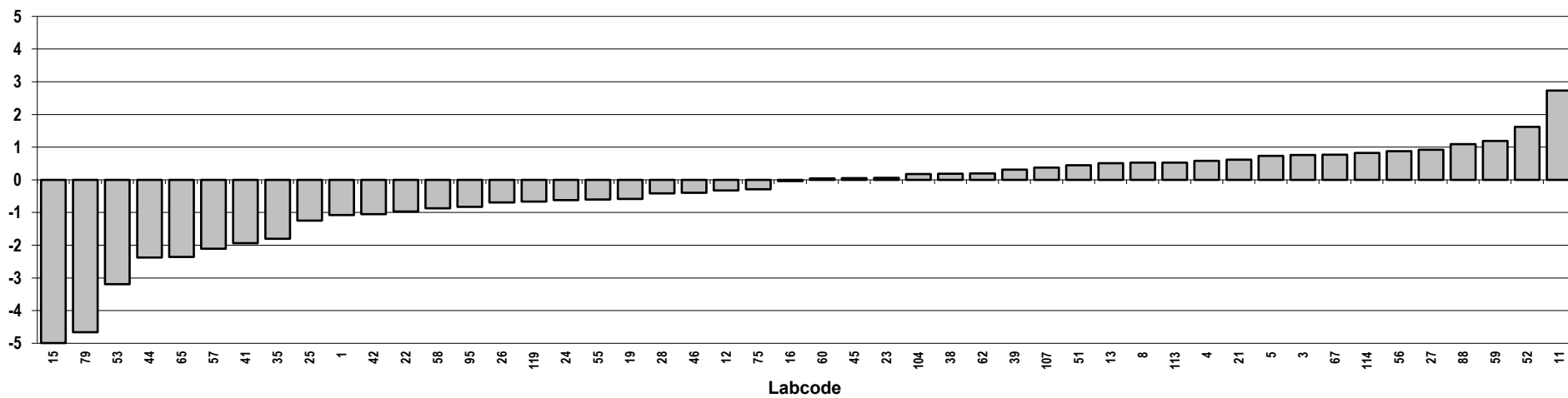
Consensus statistics

Consensus median, pg/g	9452
Median all values pg/g	9452
Consensus mean, pg/g	8742
Standard deviation, pg/g	2761
Relative standard deviation, %	32
No. of values reported	48
No. of values removed	0
No. of reported non-detects	0

PCB 153



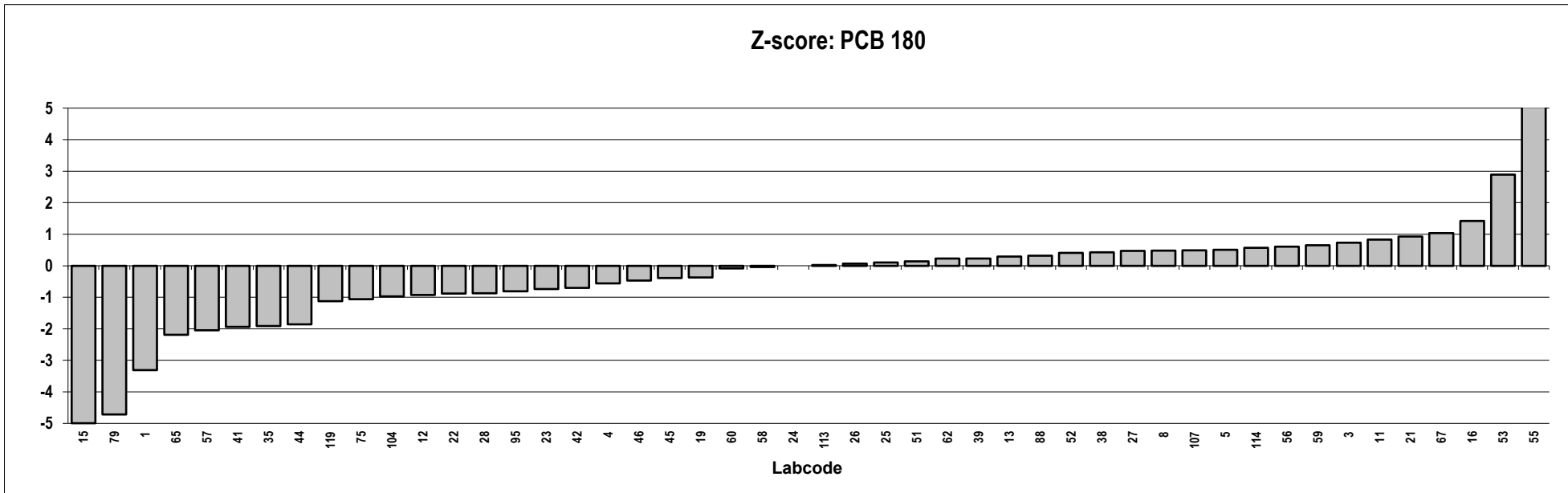
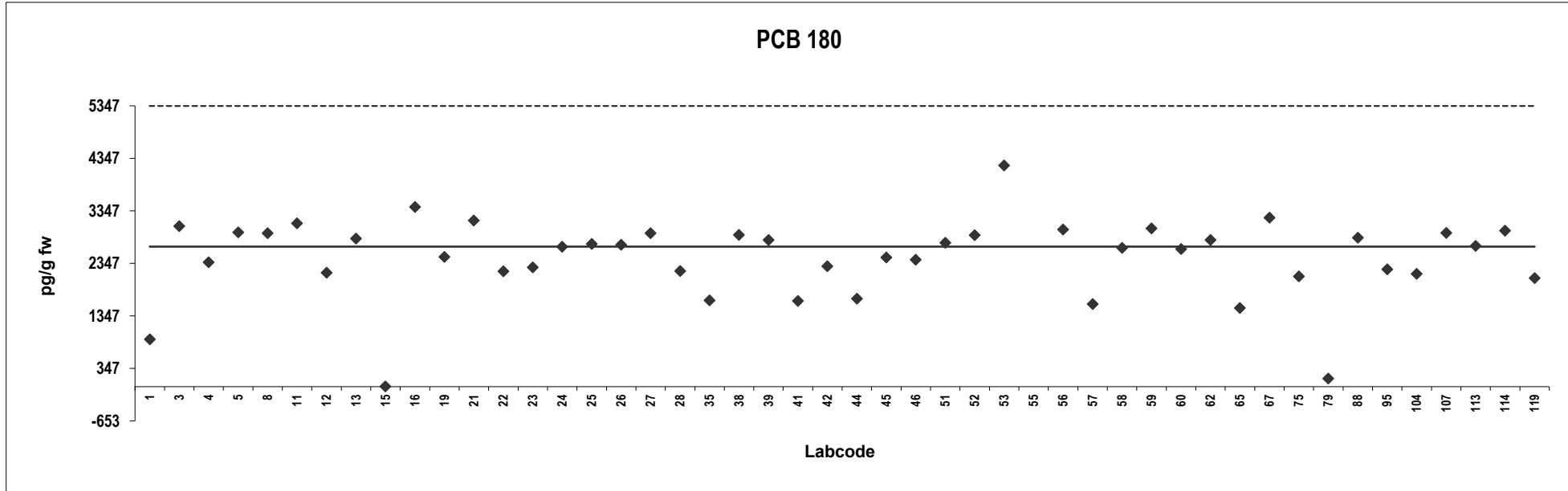
Z-score: PCB 153



Salmon
Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	901	-3,3		113	2681	0,026	
3	3057	0,73		114	2970	0,57	
4	2370	-0,56		119	2068	-1,1	
5	2937	0,51					
8	2921	0,48					
11	3109	0,83					
12	2170	-0,93					
13	2823	0,29					
15	2,4	-5,0					
16	3424	1,4					
19	2469	-0,37					
21	3164	0,93					
22	2195	-0,88					
23	2272	-0,74					
24	2667	0,00					
25	2720	0,10					
26	2704	0,071					
27	2920	0,47					
28	2200	-0,88					
35	1645	-1,9					
38	2892	0,42					
39	2791	0,23					
41	1634	-1,9					
42	2291	-0,70					
44	1676	-1,9					
45	2460	-0,39					
46	2417	-0,47					
51	2740	0,14					
52	2882	0,40					
53	4210	2,9					
55	6368	6,9	Outlier				
56	2990	0,61					
57	1573	-2,0					
58	2643	-0,044					
59	3013	0,65					
60	2621	-0,086					
62	2791	0,23					
65	1500	-2,2					
67	3220	1,0					
75	2100	-1,1					
79	153	-4,7					
88	2838	0,32					
95	2236	-0,81					
104	2150	-0,97					
107	2928	0,49					

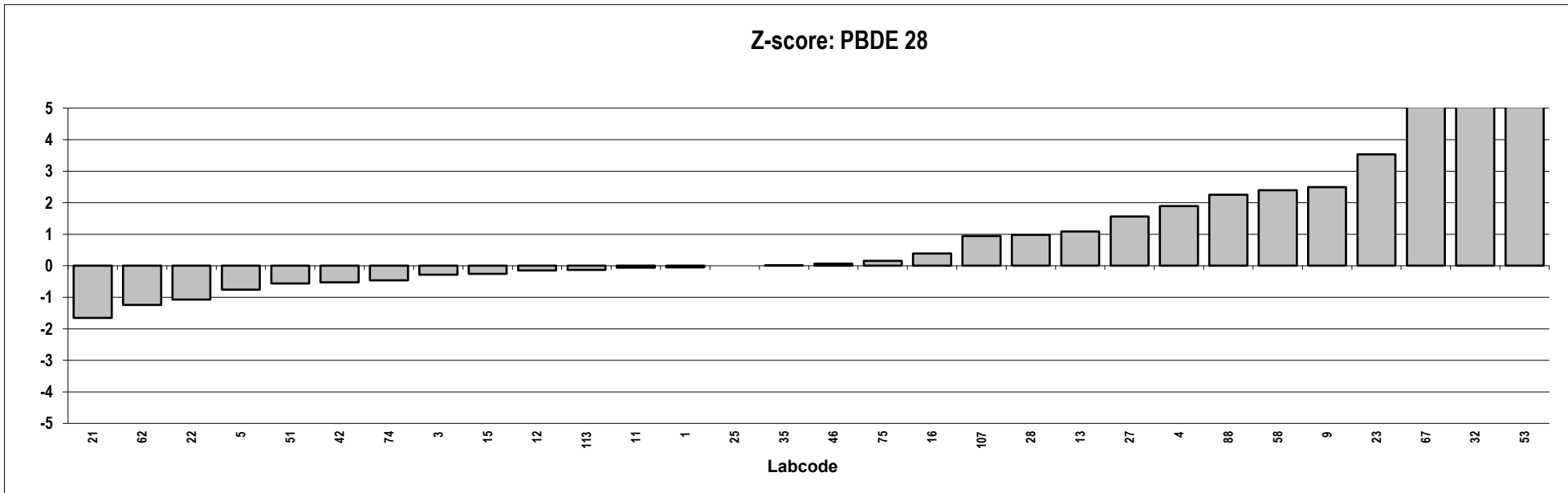
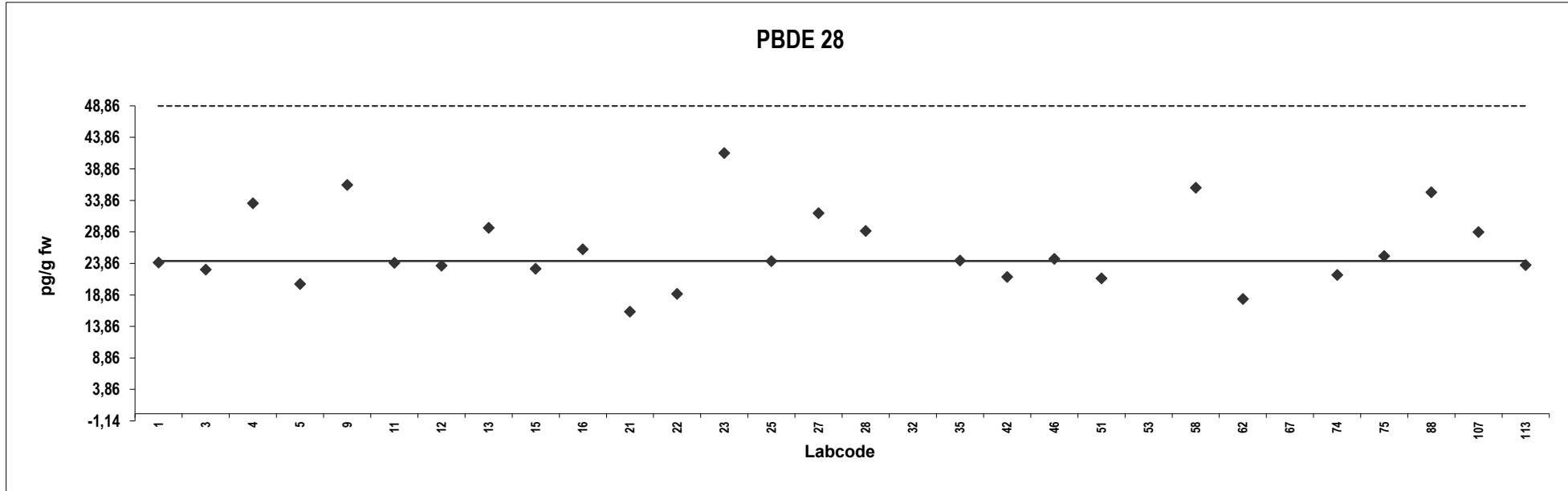
Consensus statistics	
Consensus median, pg/g	2667
Median all values pg/g	2674
Consensus mean, pg/g	2450
Standard deviation, pg/g	766
Relative standard deviation, %	31
No. of values reported	48
No. of values removed	1
No. of reported non-detects	0



Salmon
Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	24	-0,049					
3	23	-0,28					
4	33	1,9					
5	21	-0,76					
9	36	2,5					
11	24	-0,061					
12	24	-0,15					
13	29	1,1					
15	23	-0,26					
16	26	0,39					
21	16	-1,7					
22	19	-1,1					
23	41	3,5					
25	24	0,00					
27	32	1,6					
28	29	0,98					
32	129	22	Outlier				
35	24	0,013					
42	22	-0,52					
46	25	0,067					
51	22	-0,56					
53	1080	218	Outlier				
58	36	2,4					
62	18	-1,2					
67	55	6,3	Outlier				
74	22	-0,46					
75	25	0,16					
88	35	2,2					
107	29	0,94					
113	24	-0,14					

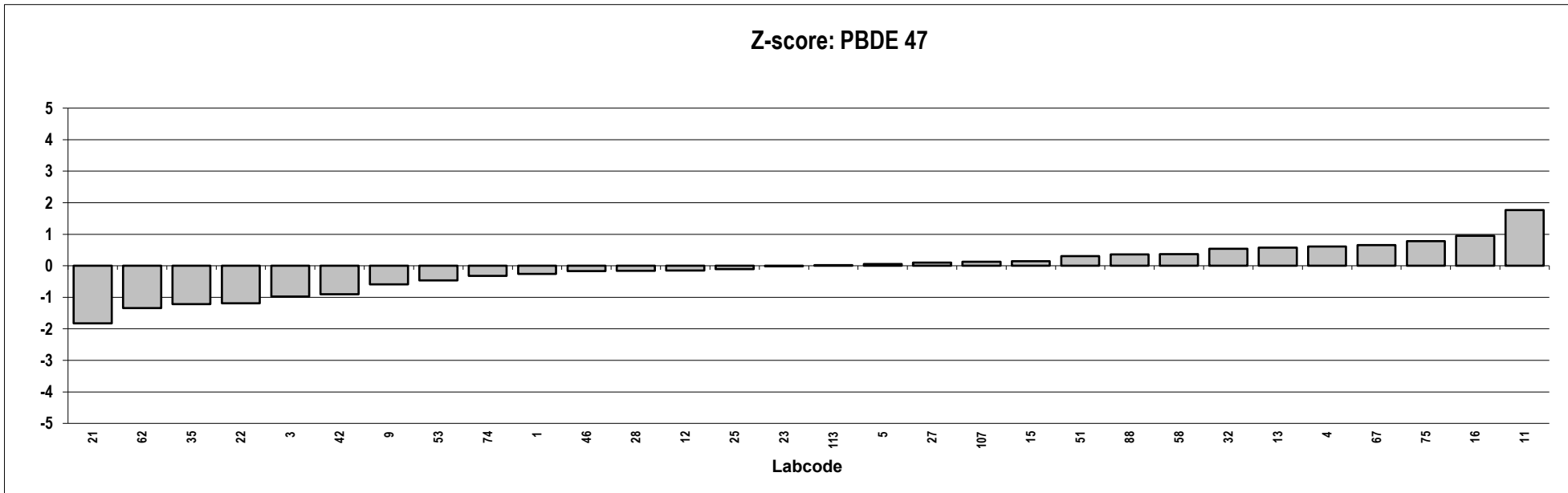
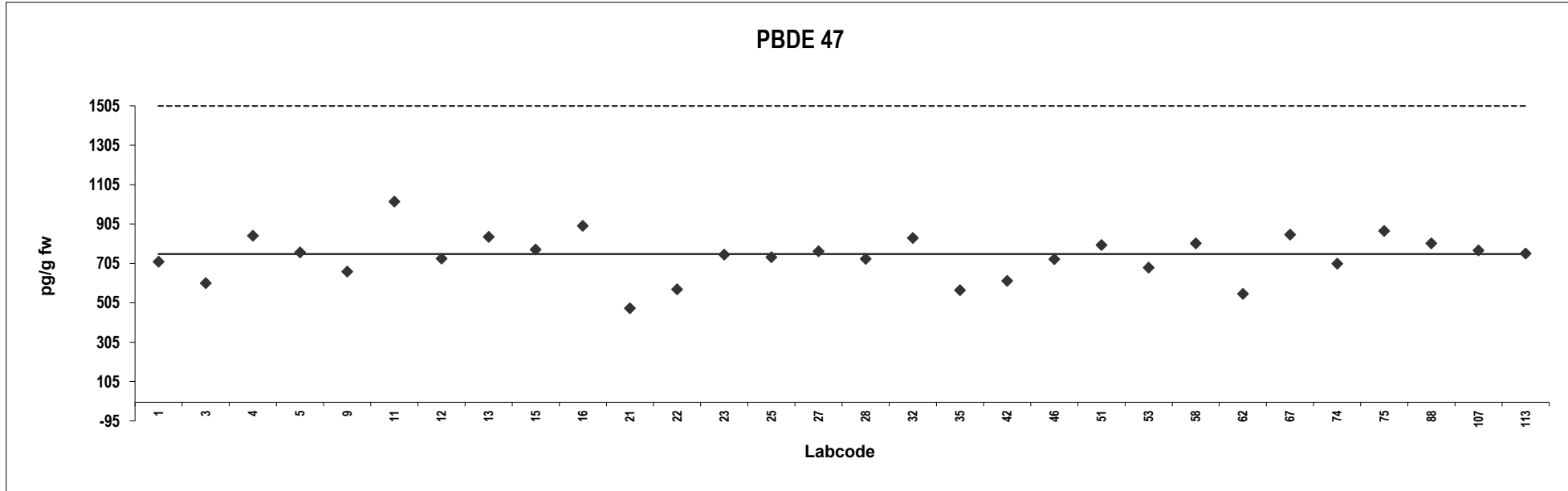
Consensus statistics	
Consensus median, pg/g	24
Median all values pg/g	24
Consensus mean, pg/g	26
Standard deviation, pg/g	6,1
Relative standard deviation, %	23
No. of values reported	30
No. of values removed	3
No. of reported non-detects	0



Salmon
Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	714	-0,26					
3	605	-0,98					
4	845	0,61					
5	761	0,058					
9	663	-0,59					
11	1019	1,8					
12	730	-0,15					
13	839	0,58					
15	775	0,15					
16	895	0,95					
21	477	-1,8					
22	573	-1,2					
23	750	-0,016					
25	737	-0,10					
27	767	0,097					
28	728	-0,16					
32	834	0,54					
35	569	-1,2					
42	616	-0,91					
46	727	-0,17					
51	798	0,30					
53	683	-0,46					
58	807	0,36					
62	551	-1,3					
67	851	0,65					
74	704	-0,32					
75	870	0,78					
88	806	0,36					
107	772	0,13					
113	755	0,016					

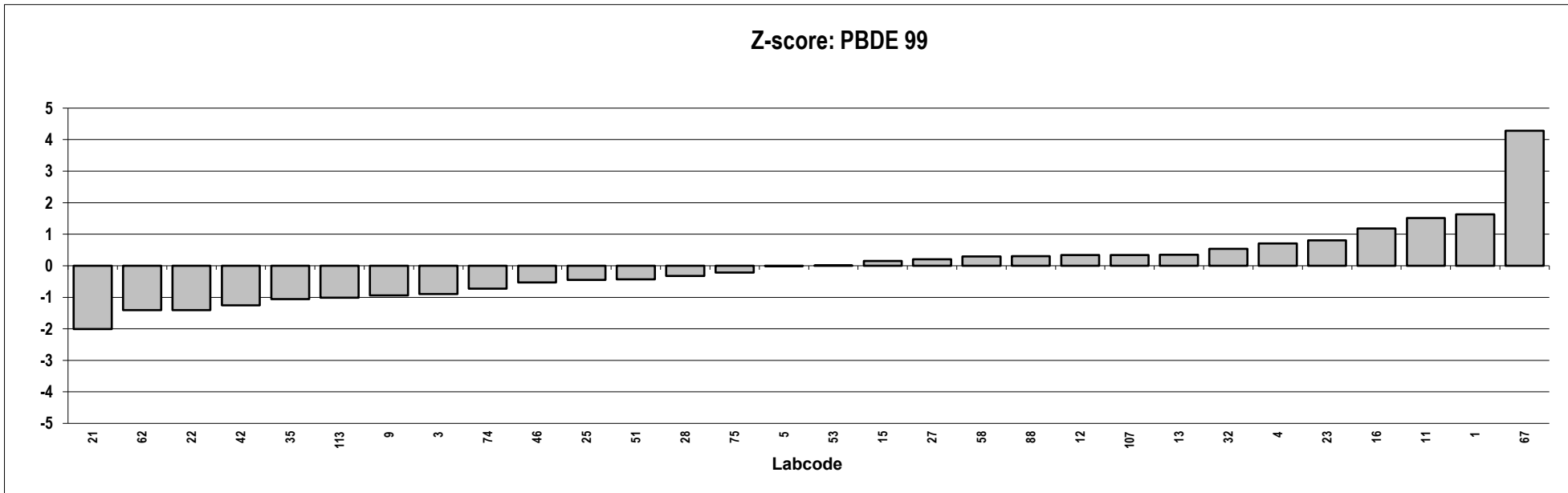
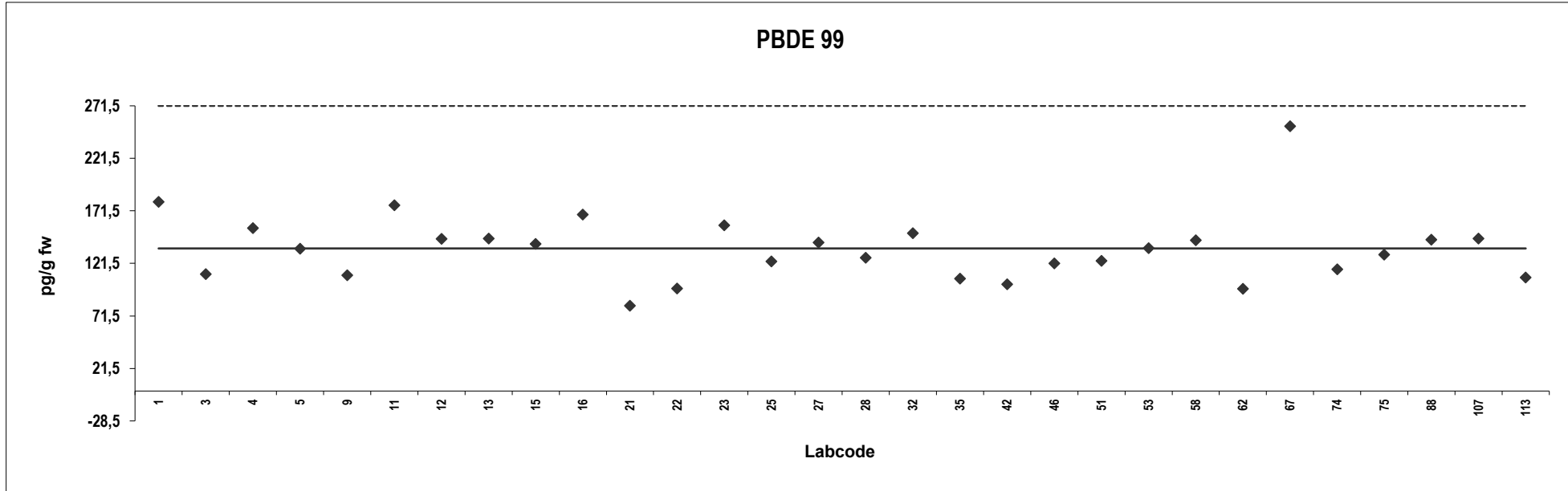
Consensus statistics	
Consensus median, pg/g	753
Median all values pg/g	753
Consensus mean, pg/g	741
Standard deviation, pg/g	115
Relative standard deviation, %	16
No. of values reported	30
No. of values removed	0
No. of reported non-detects	0



Salmon
Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	180	1,6					
3	111	-0,90					
4	155	0,71					
5	136	-0,0084					
9	110	-0,94					
11	177	1,5					
12	145	0,34					
13	145	0,35					
15	140	0,16					
16	168	1,2					
21	81	-2,0					
22	98	-1,4					
23	158	0,81					
25	123	-0,45					
27	141	0,20					
28	127	-0,32					
32	150	0,54					
35	107	-1,1					
42	102	-1,3					
46	121	-0,53					
51	124	-0,43					
53	136	0,0084					
58	144	0,29					
62	97	-1,4					
67	252	4,3					
74	116	-0,73					
75	130	-0,21					
88	144	0,31					
107	145	0,34					
113	108	-1,0					

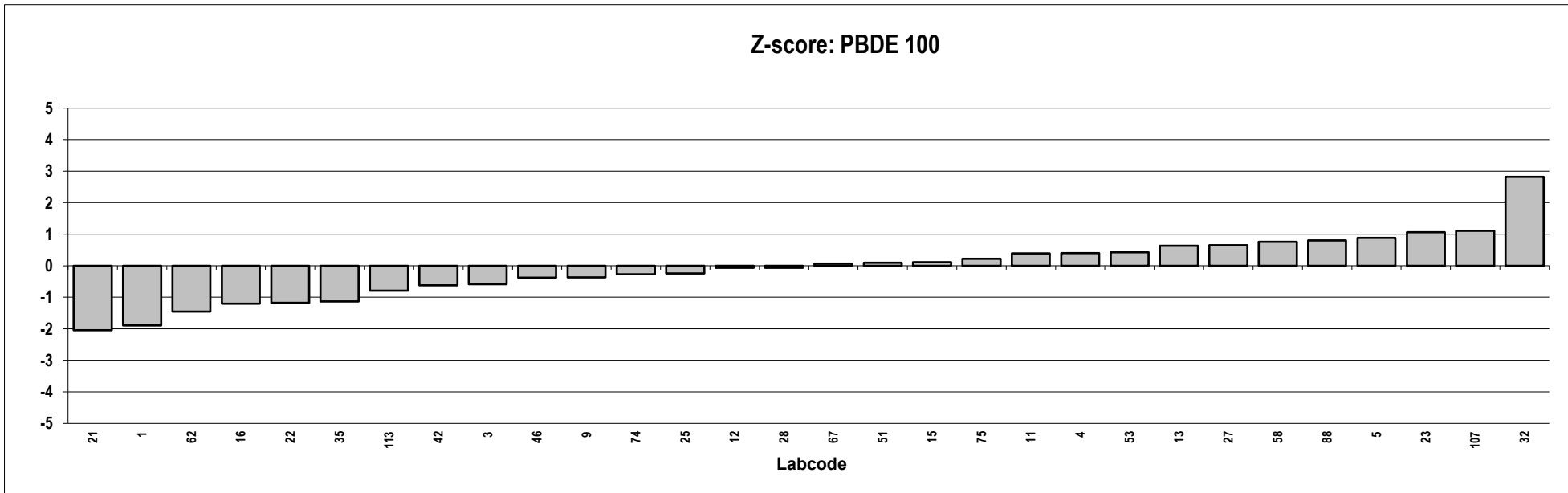
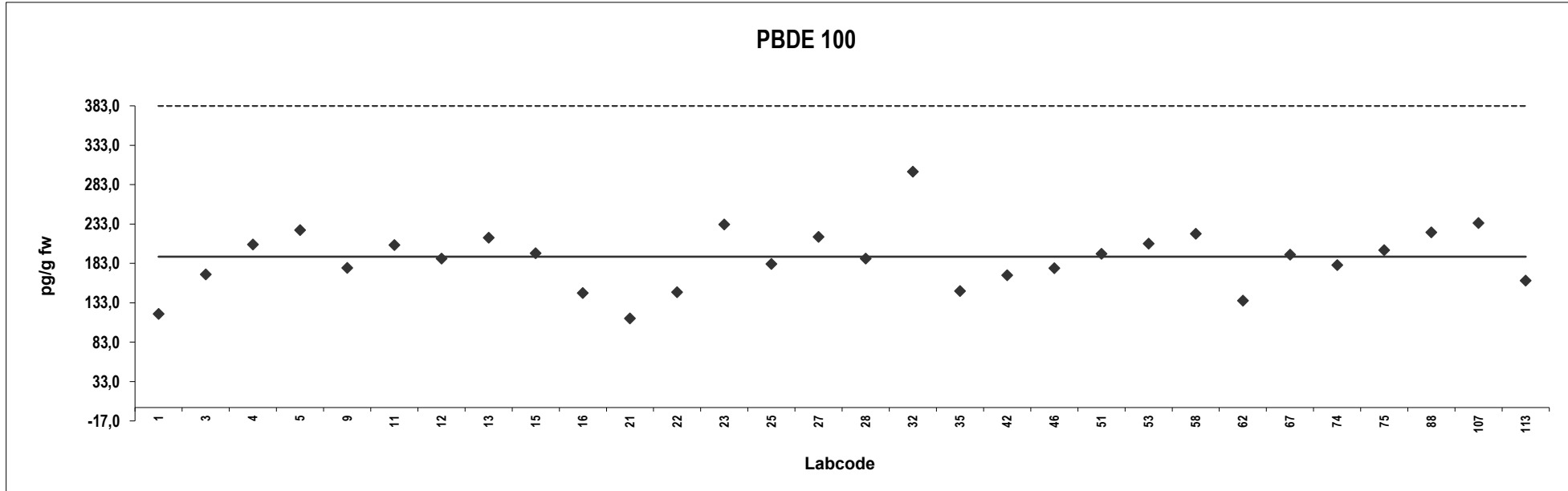
Consensus statistics	
Consensus median, pg/g	136
Median all values pg/g	136
Consensus mean, pg/g	136
Standard deviation, pg/g	32
Relative standard deviation, %	24
No. of values reported	30
No. of values removed	0
No. of reported non-detects	0



Salmon
Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	119	-1,9					
3	169	-0,59					
4	207	0,40					
5	225	0,88					
9	177	-0,37					
11	206	0,39					
12	189	-0,065					
13	216	0,63					
15	196	0,12					
16	145	-1,2					
21	113	-2,0					
22	146	-1,2					
23	232	1,1					
25	182	-0,25					
27	217	0,66					
28	189	-0,065					
32	299	2,8					
35	148	-1,1					
42	168	-0,62					
46	177	-0,38					
51	195	0,091					
53	208	0,43					
58	221	0,76					
62	136	-1,5					
67	194	0,065					
74	181	-0,27					
75	200	0,22					
88	222	0,81					
107	234	1,1					
113	161	-0,79					

Consensus statistics	
Consensus median, pg/g	192
Median all values pg/g	192
Consensus mean, pg/g	189
Standard deviation, pg/g	39
Relative standard deviation, %	20
No. of values reported	30
No. of values removed	0
No. of reported non-detects	0

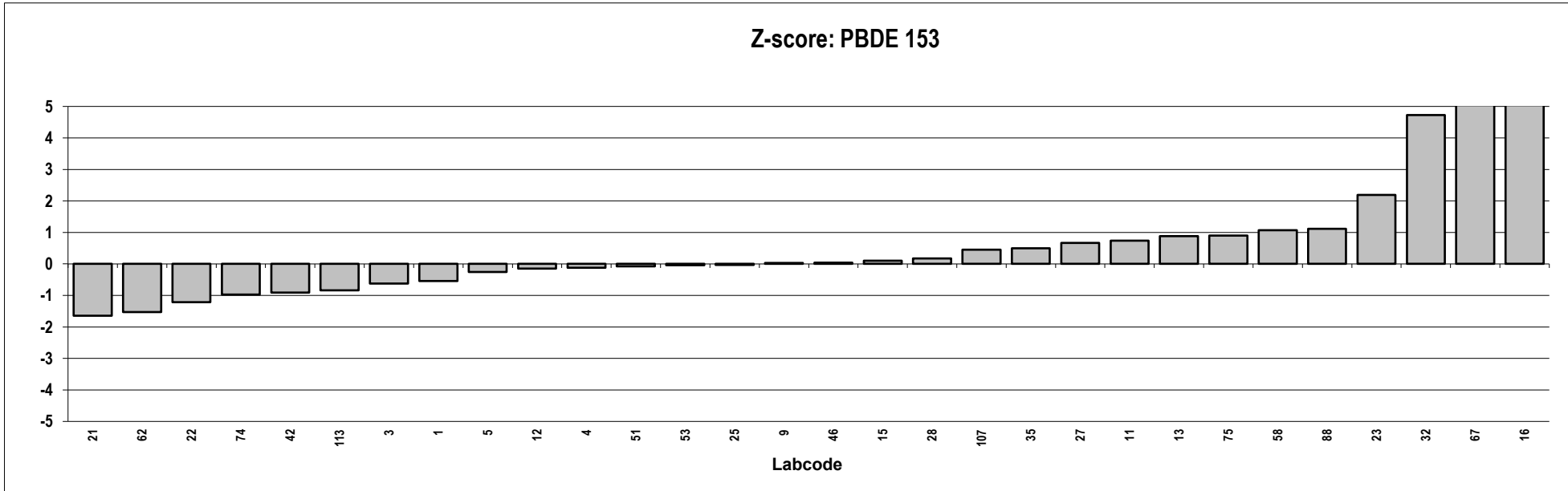
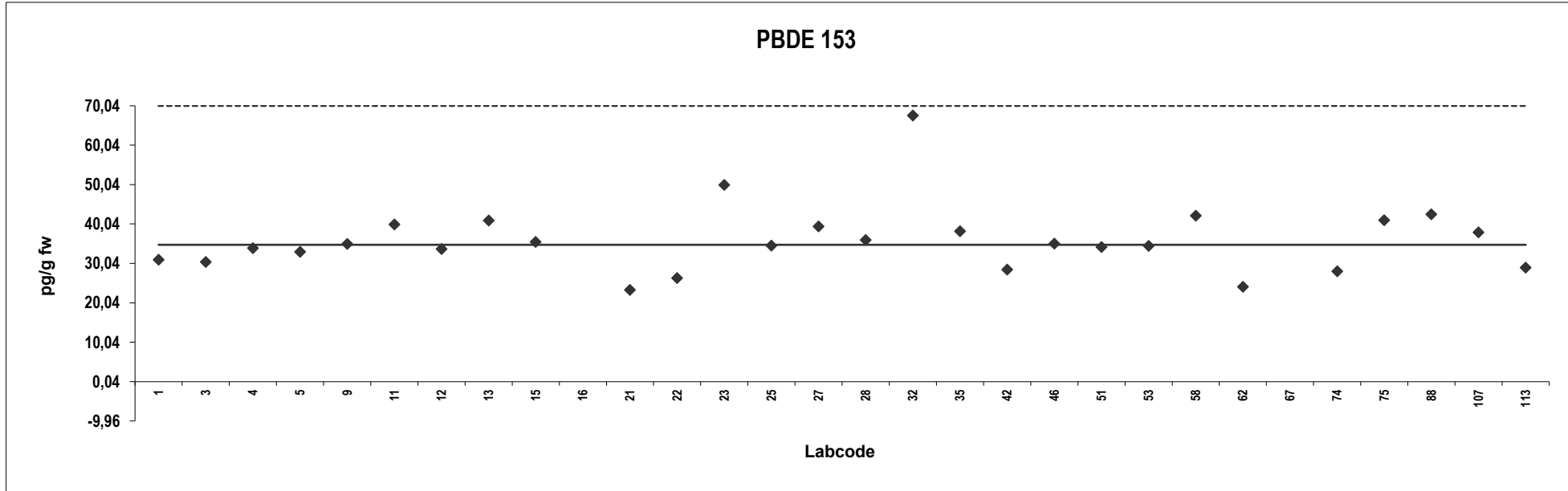


Salmon
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	31	-0,54					
3	30	-0,62					
4	34	-0,12					
5	33	-0,26					
9	35	0,03					
11	40	0,74					
12	34	-0,15					
13	41	0,88					
15	36	0,11					
16	2615	371	Outlier				
21	23	-1,6					
22	26	-1,2					
23	50	2,2					
25	35	-0,033					
27	39	0,67					
28	36	0,18					
32	68	4,7					
35	38	0,50					
42	28	-0,91					
46	35	0,042					
51	34	-0,080					
53	35	-0,037					
58	42	1,1					
62	24	-1,5					
67	154	17	Outlier				
74	28	-0,97					
75	41	0,90					
88	43	1,1					
107	38	0,46					
113	29	-0,84					

Consensus statistics

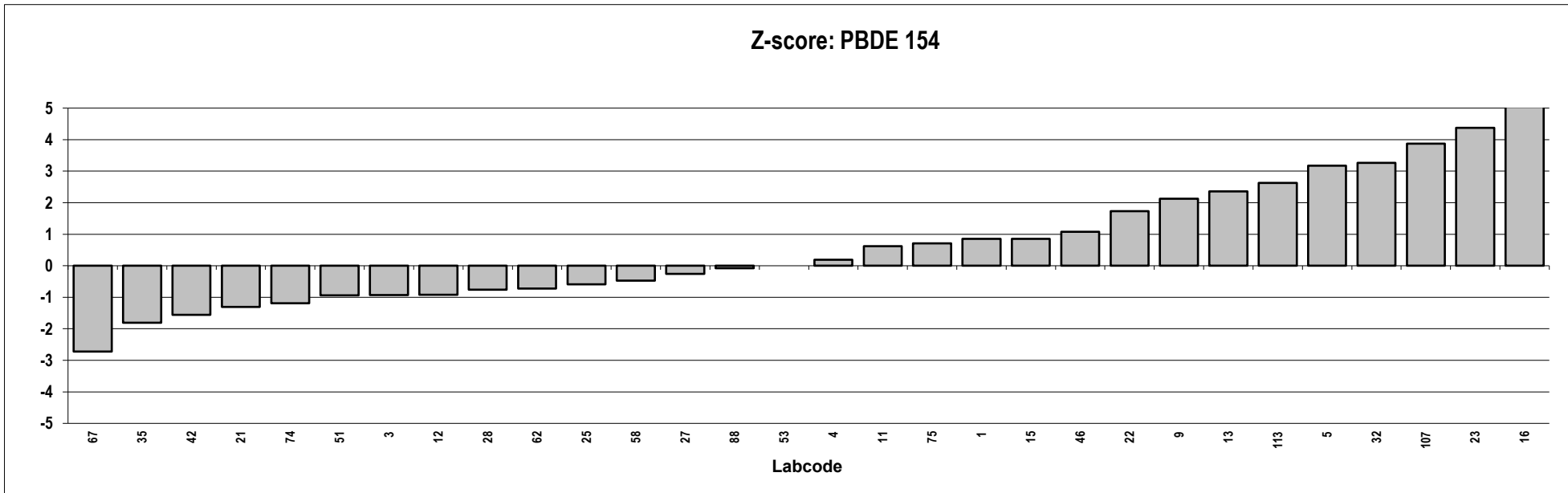
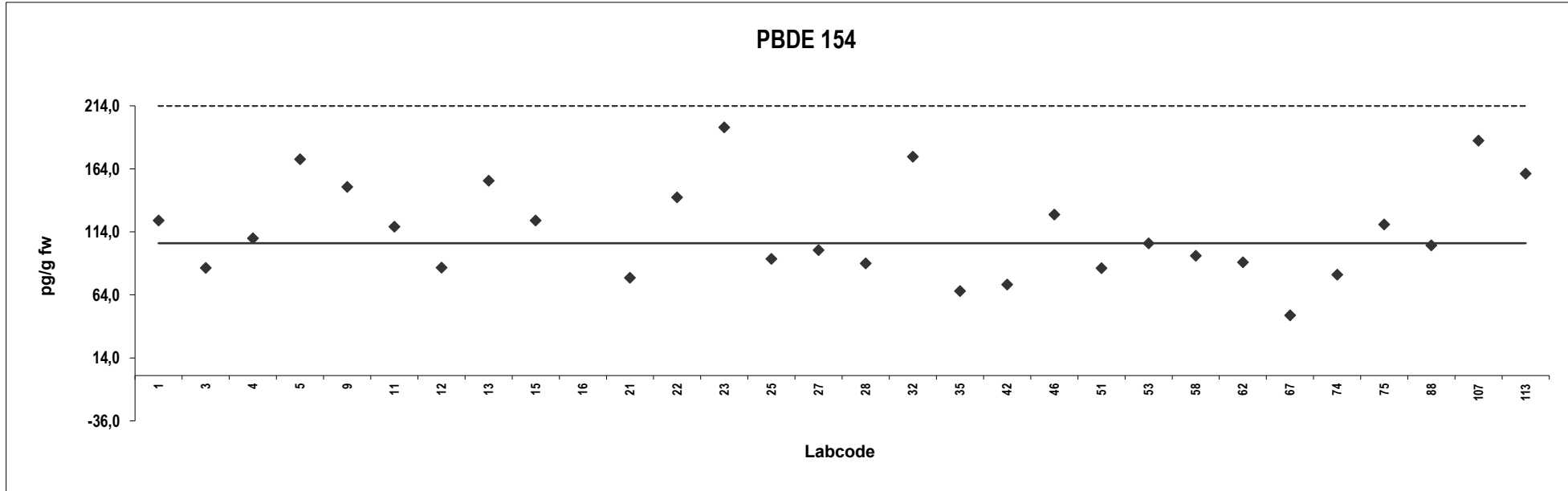
Consensus median, pg/g	35
Median all values pg/g	35
Consensus mean, pg/g	36
Standard deviation, pg/g	8,6
Relative standard deviation, %	24
No. of values reported	30
No. of values removed	2
No. of reported non-detects	0



Salmon
Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	123	0,86					
3	85	-0,93					
4	109	0,19					
5	172	3,2					
9	150	2,1					
11	118	0,62					
12	86	-0,92					
13	155	2,4					
15	123	0,86					
16	23021	1091	Outlier				
21	78	-1,3					
22	141	1,7					
23	197	4,4					
25	93	-0,59					
27	100	-0,26					
28	89	-0,76					
32	174	3,3					
35	67	-1,8					
42	72	-1,6					
46	128	1,1					
51	85	-0,94					
53	105	0,00					
58	95	-0,48					
62	90	-0,72					
67	48	-2,7					
74	80	-1,2					
75	120	0,71					
88	103	-0,080					
107	186	3,9					
113	160	2,6					

Consensus statistics	
Consensus median, pg/g	105
Median all values pg/g	107
Consensus mean, pg/g	115
Standard deviation, pg/g	38
Relative standard deviation, %	33
No. of values reported	30
No. of values removed	1
No. of reported non-detects	0

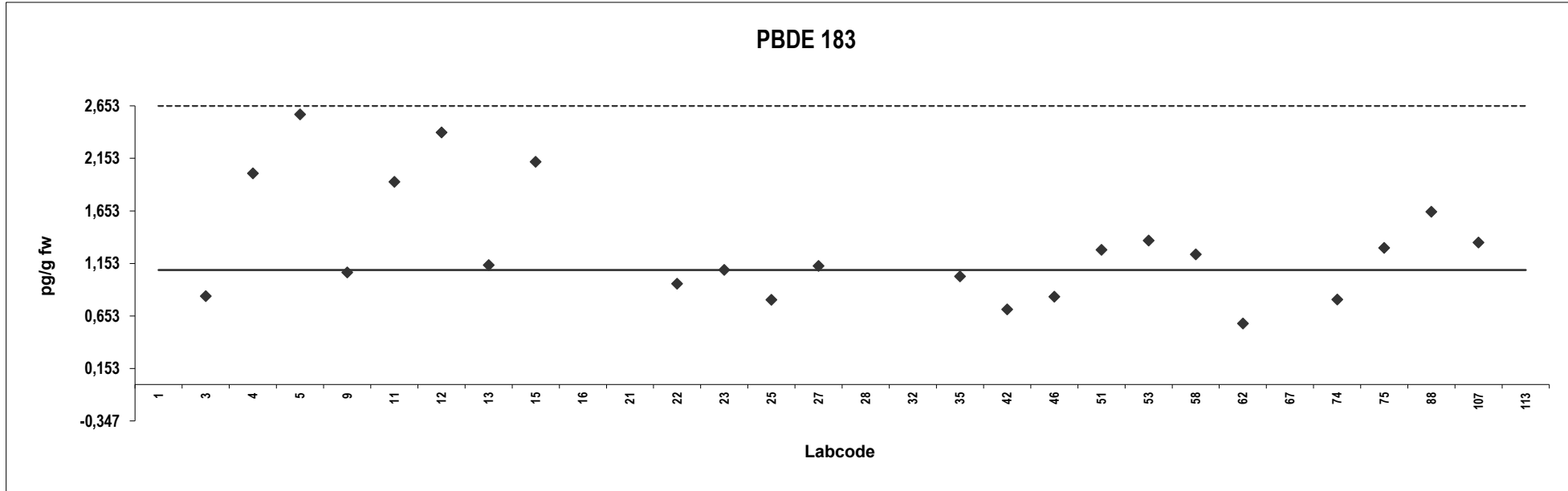


Salmon
Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	21	91	Outlier				
3	0,84	-1,1					
4	2,0	4,2					
5	2,6	6,8					
9	1,1	-0,099					
11	1,9	3,9	ND				
12	2,4	6,0	ND				
13	1,1	0,21					
15	2,1	4,7					
16	57	255	Outlier				
21	6,0	23	Outlier,ND				
22	0,96	-0,60					
23	1,1	0,00					
25	0,81	-1,3					
27	1,1	0,18	ND				
28	8,0	32	Outlier,ND				
32	60	270	Outlier,ND				
35	1,0	-0,28					
42	0,72	-1,7					
46	0,84	-1,2					
51	1,3	0,88	ND				
53	1,4	1,3					
58	1,2	0,68					
62	0,58	-2,3					
67	2,7	7,4	Outlier				
74	0,81	-1,3					
75	1,3	0,96					
88	1,6	2,5					
107	1,4	1,2					
113	3,2	9,8	Outlier				

Consensus statistics

Consensus median, pg/g	1,1
Median all values pg/g	1,3
Consensus mean, pg/g	1,3
Standard deviation, pg/g	0,55
Relative standard deviation, %	42
No. of values reported	30
No. of values removed	7
No. of reported non-detects	7

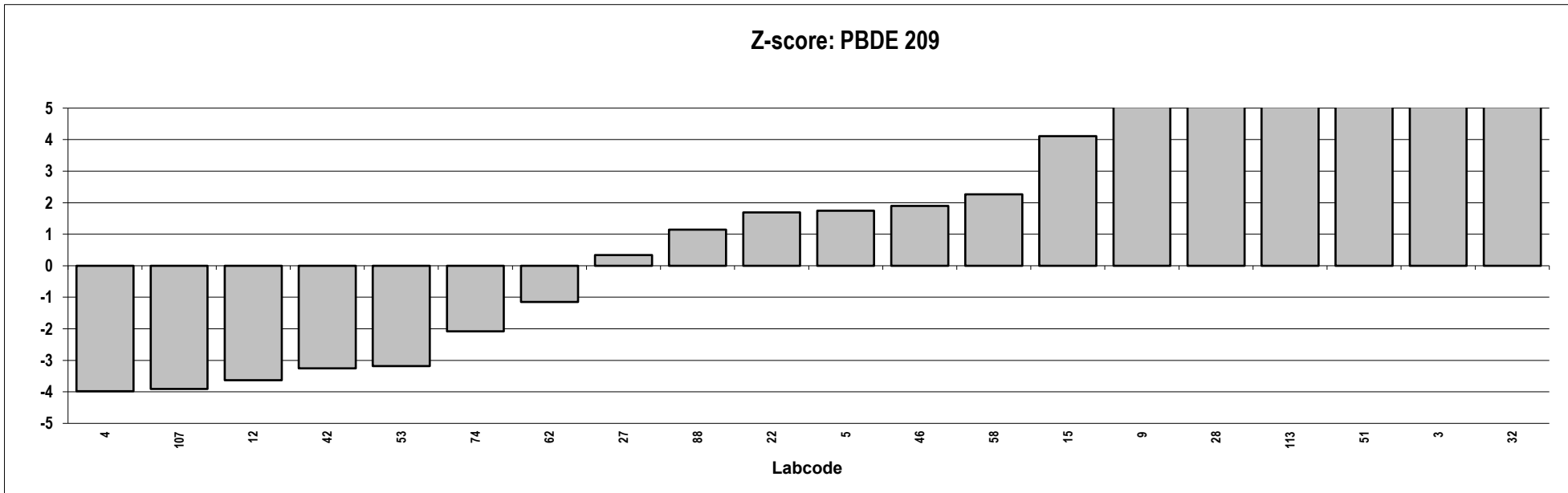
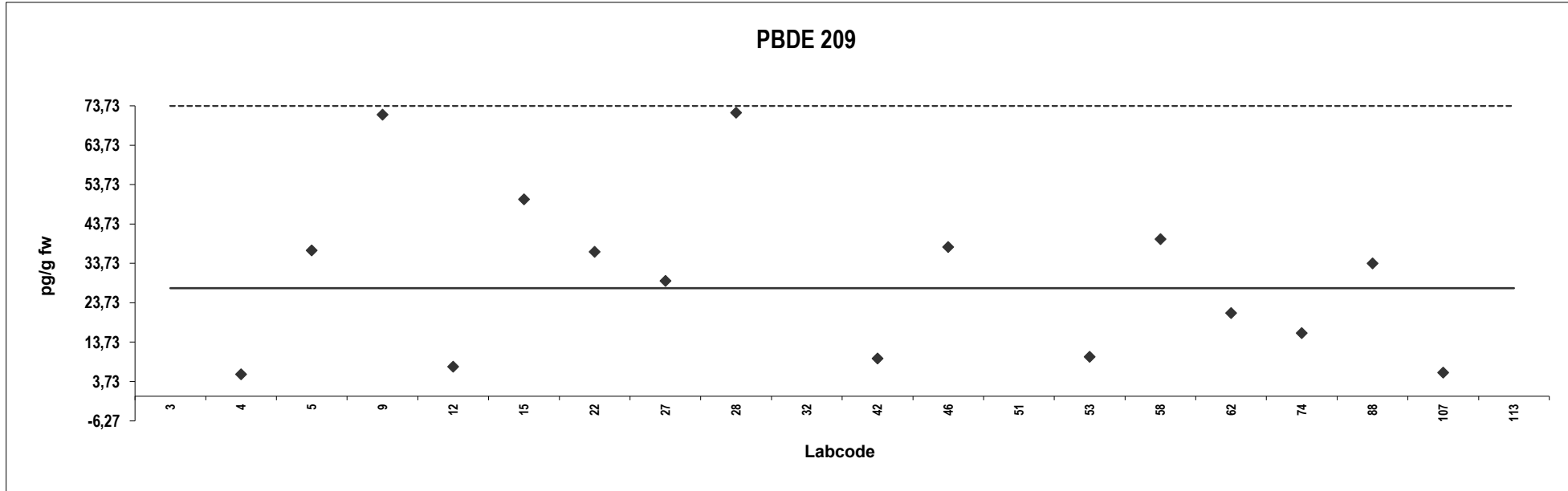


Salmon
Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	275	45	Outlier				
4	5,6	-4,0	ND				
5	37	1,7					
9	71	8,0					
12	7,5	-3,6					
15	50	4,1					
22	37	1,7					
27	29	0,34	ND				
28	72	8,1	ND				
32	318	53	Outlier				
42	9,6	-3,3					
46	38	1,9	ND				
51	141	21	Outlier				
53	10	-3,2					
58	40	2,3					
62	21	-1,1					
74	16	-2,1					
88	34	1,1					
107	6,0	-3,9					
113	84	10	Outlier				

Consensus statistics

Consensus median, pg/g	27
Median all values pg/g	37
Consensus mean, pg/g	30
Standard deviation, pg/g	21
Relative standard deviation, %	71
No. of values reported	20
No. of values removed	4
No. of reported non-detects	4

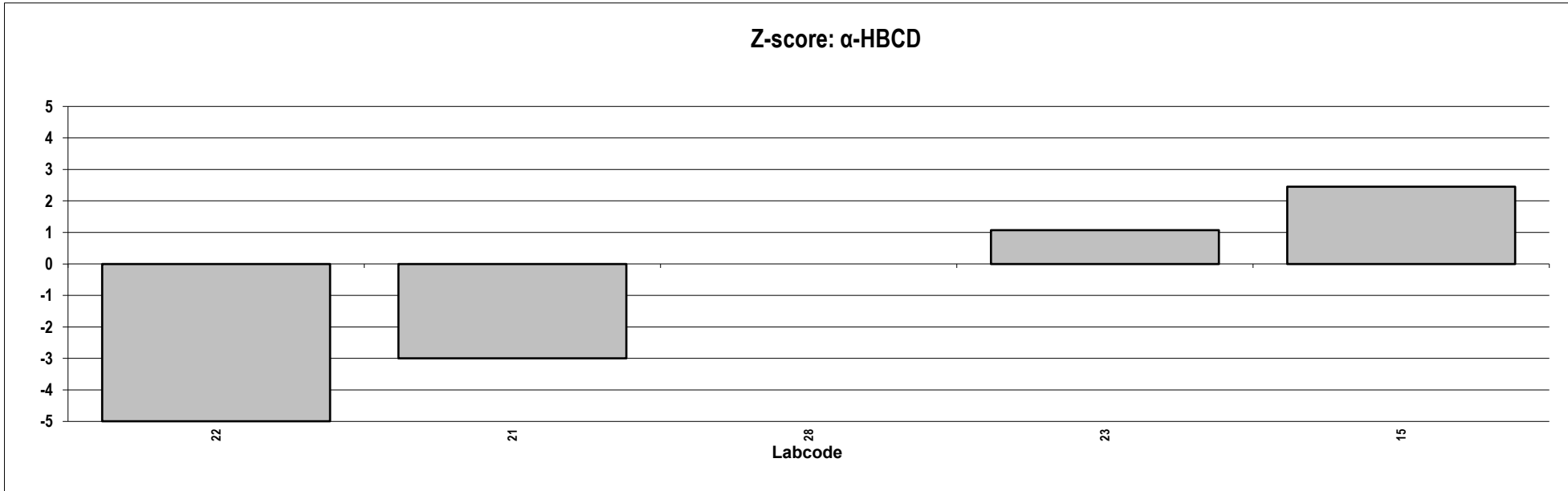
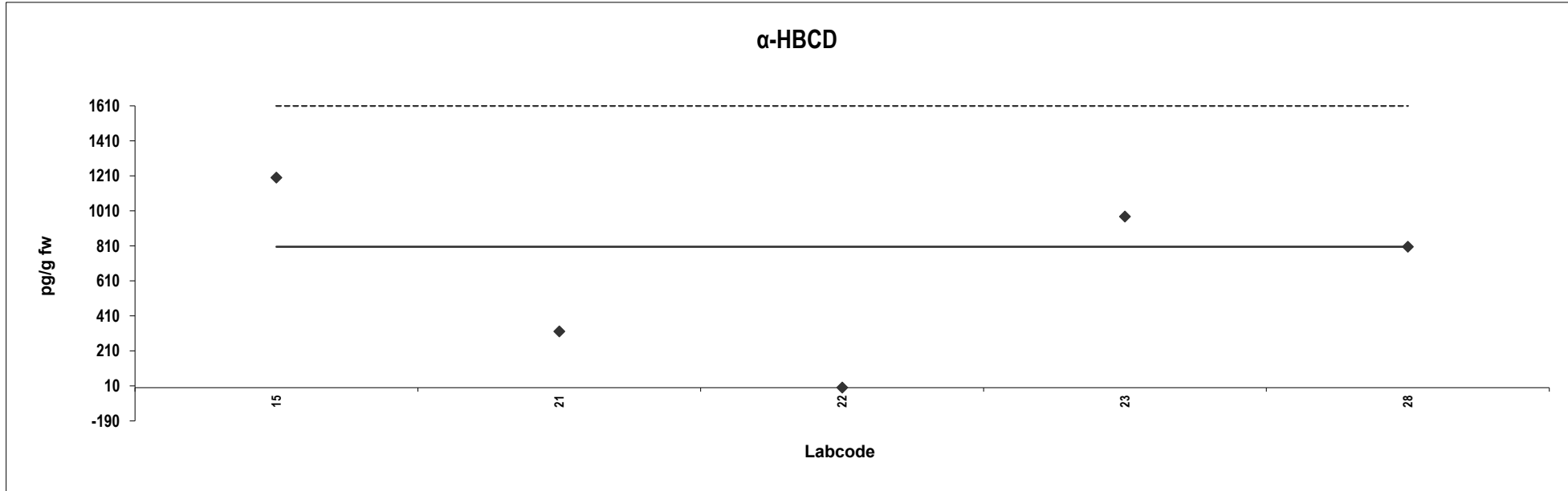


Salmon
Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	1200	2,5					
21	322	-3,0					
22	0,67	-5,0					
23	977	1,1					
28	805	0,00					

Consensus statistics

Consensus median, pg/g	805
Median all values pg/g	805
Consensus mean, pg/g	661
Standard deviation, pg/g	490
Relative standard deviation, %	74
No. of values reported	5
No. of values removed	0
No. of reported non-detects	0



Salmon
Congener: β -HBCD

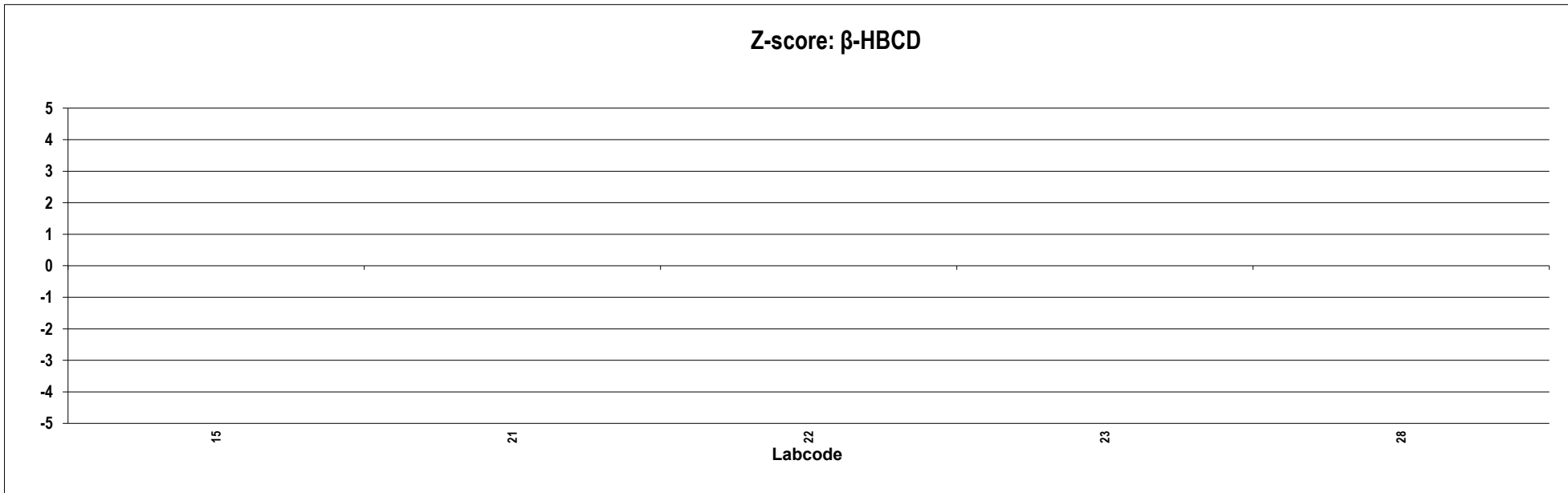
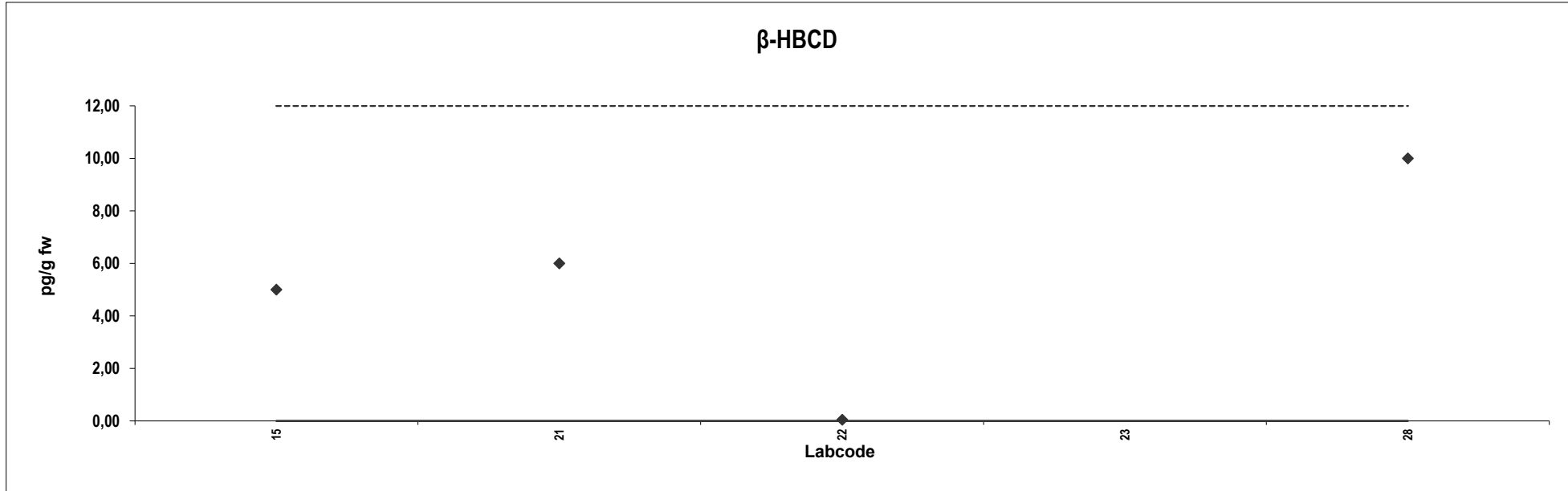
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	5,0	*	ND				
21	6,0	*	ND				
22	0,050	*	ND				
23	34	*	Outlier				
28	10	*	ND				

Consensus statistics

Consensus median, pg/g	**
Median all values pg/g	6,000
Consensus mean, pg/g	5,263
Standard deviation, pg/g	4,0917
Relative standard deviation, %	78
No. of values reported	5
No. of values removed	1
No. of reported non-detects	4

*unable to calculate z-score due to few submitted results

**unable to calculate consensus value due to few submitted results

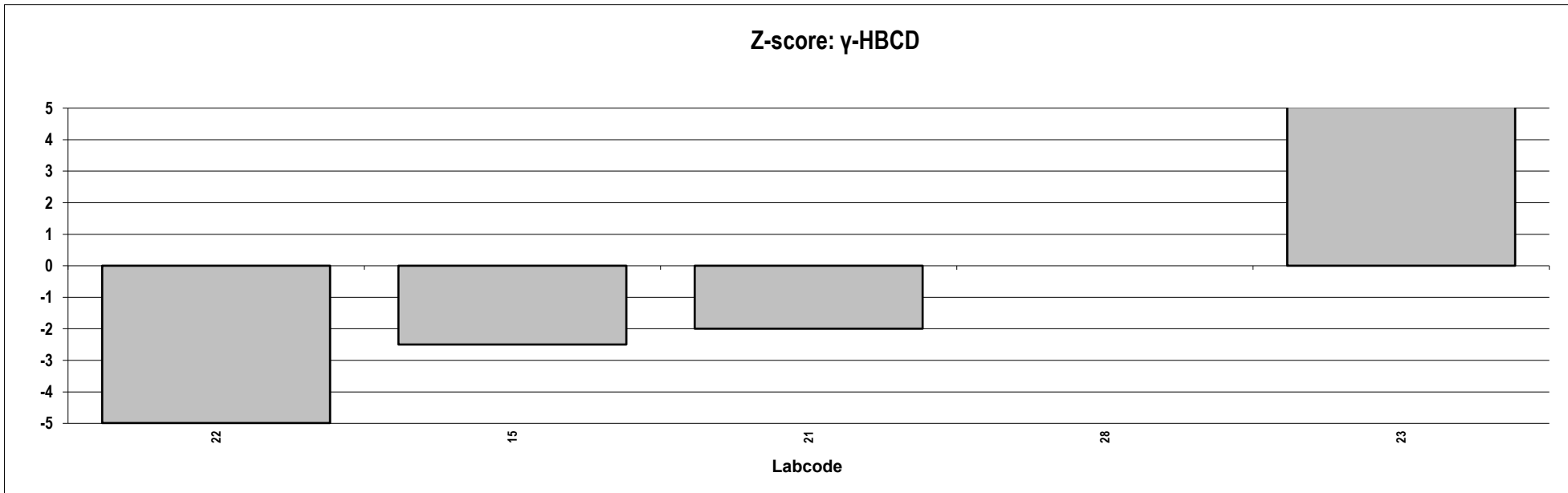
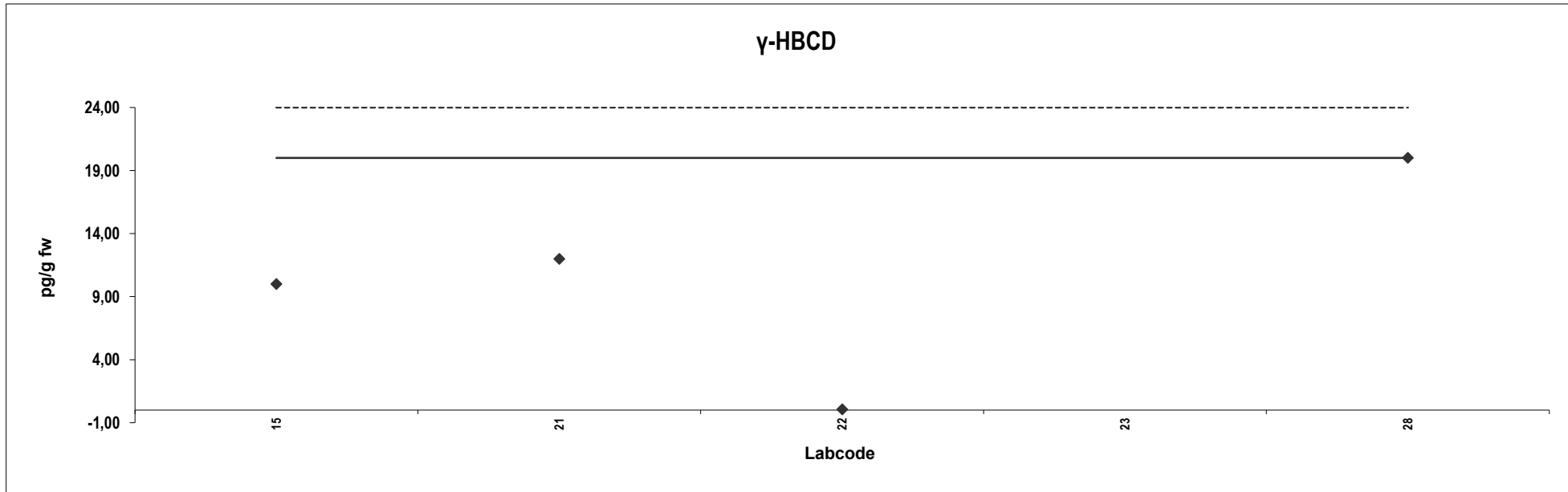


Salmon
Congener: γ -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	10	-2,5	ND				
21	12	-2,0	ND				
22	0,050	-5,0	ND				
23	119	25	Outlier				
28	20	0,00					

Consensus statistics

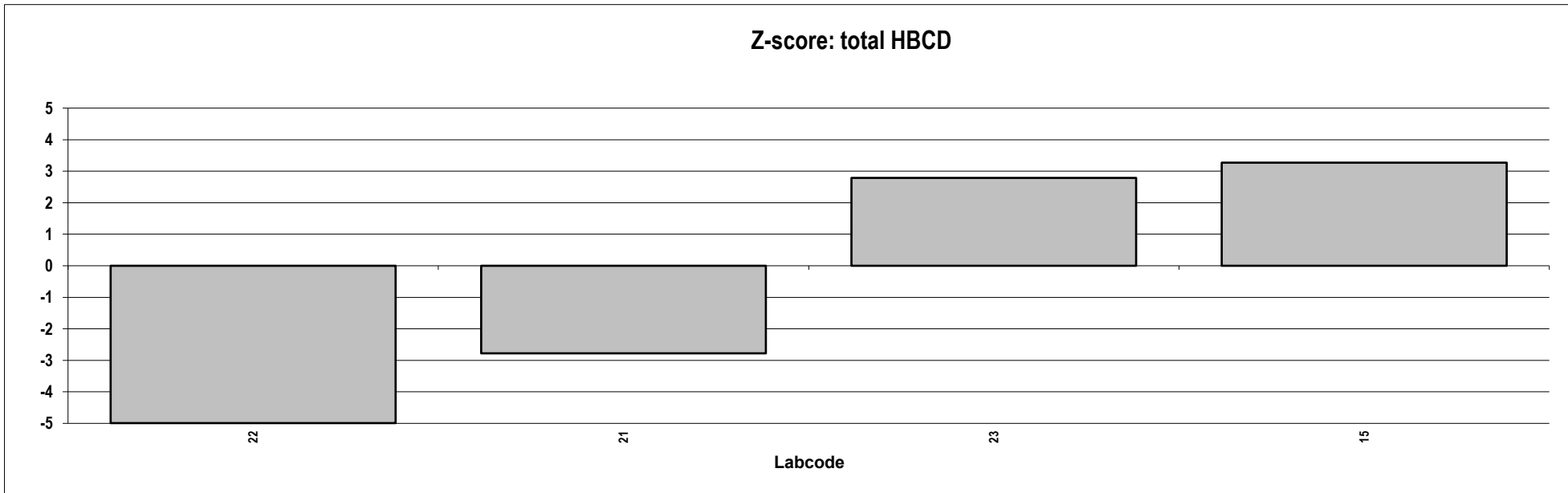
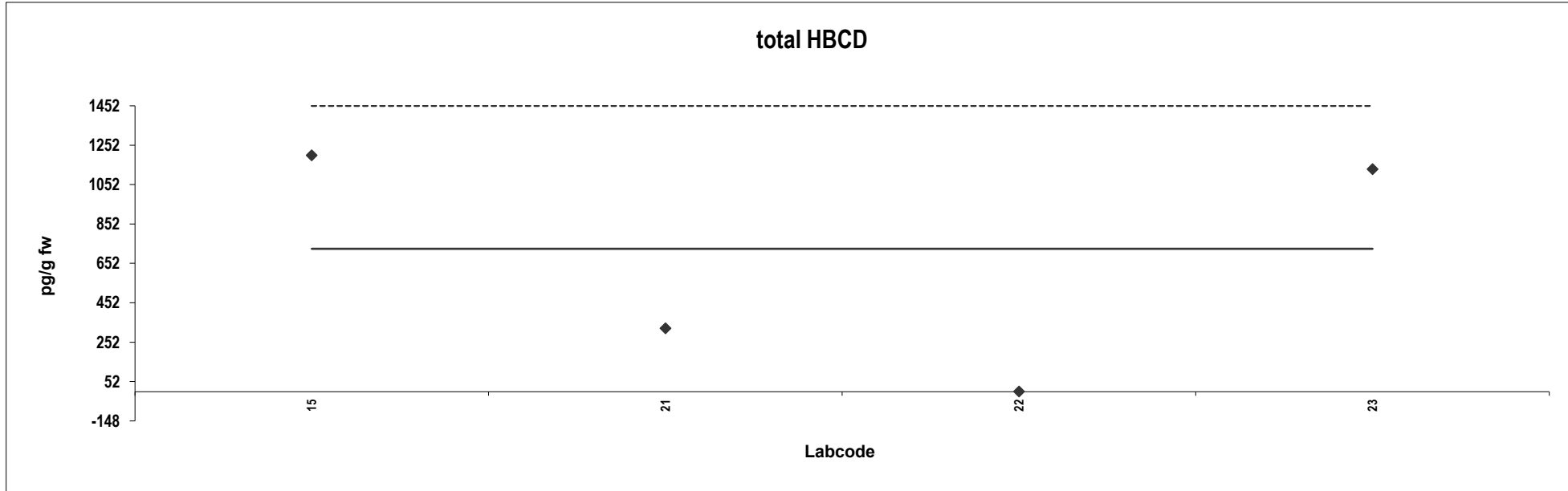
Consensus median, pg/g	20
Median all values pg/g	12
Consensus mean, pg/g	11
Standard deviation, pg/g	8,2
Relative standard deviation, %	78
No. of values reported	5
No. of values removed	1
No. of reported non-detects	3



Salmon
Congener: total HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	1200	3,3					
21	322	-2,8					
22	0,67	-5,0					
23	1130	2,8					

Consensus statistics	
Consensus median, pg/g	726
Median all values pg/g	726
Consensus mean, pg/g	663
Standard deviation, pg/g	595
Relative standard deviation, %	90
No. of values reported	4
No. of values removed	0
No. of reported non-detects	0



Appendix 4:



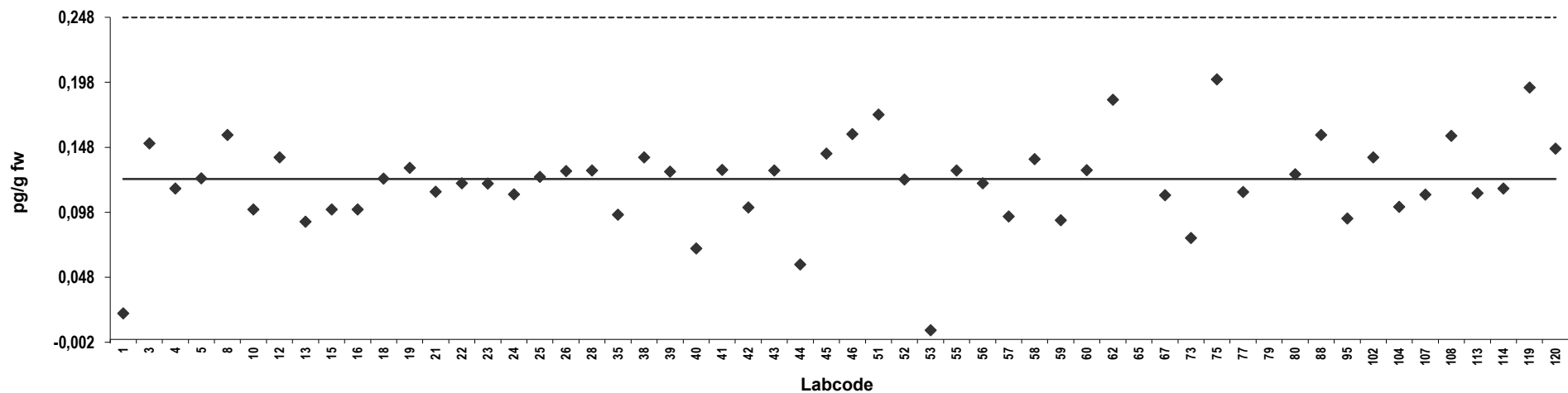
Presentation of results for
Fish oil-2020

Fish oil
Congener: 2,3,7,8 TCDD

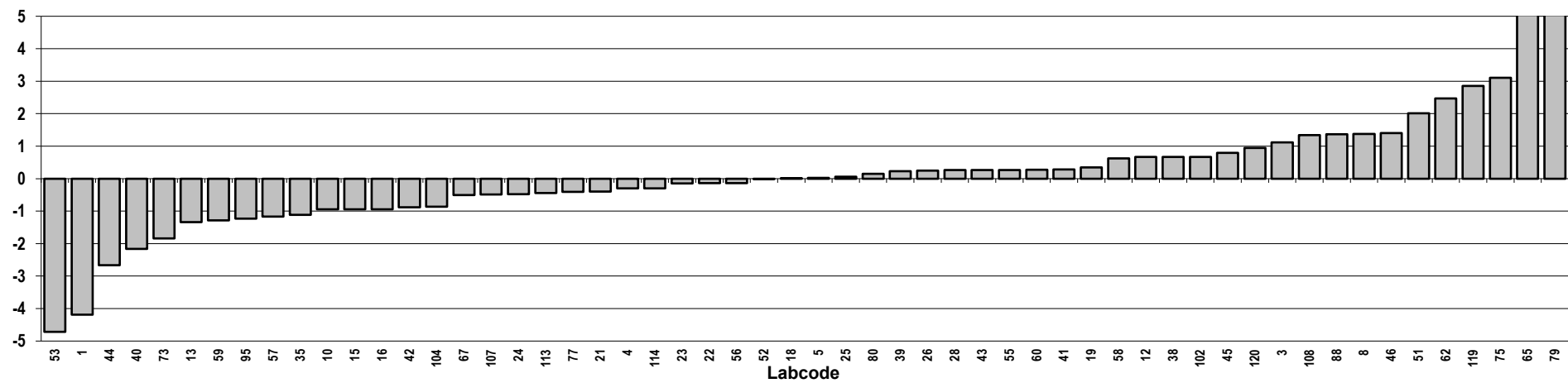
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,020	-4,2	ND	80	0,13	0,15	
3	0,15	1,1		88	0,16	1,4	
4	0,12	-0,3		95	0,093	-1,2	
5	0,12	0,024		102	0,14	0,67	
8	0,16	1,4		104	0,10	-0,87	
10	0,10	-0,95	ND	107	0,11	-0,49	
12	0,14	0,67		108	0,16	1,3	
13	0,090	-1,3		113	0,11	-0,44	
15	0,10	-0,95		114	0,12	-0,30	
16	0,10	-0,95	ND	119	0,19	2,9	
18	0,12	0,016		120	0,15	0,95	
19	0,13	0,35					
21	0,11	-0,39					
22	0,12	-0,14					
23	0,12	-0,14					
24	0,11	-0,47					
25	0,12	0,063					
26	0,13	0,25					
28	0,13	0,27					
35	0,096	-1,1					
38	0,14	0,67					
39	0,13	0,23					
40	0,070	-2,2					
41	0,13	0,28					
42	0,10	-0,88					
43	0,13	0,27					
44	0,058	-2,7	ND				
45	0,14	0,79					
46	0,16	1,4					
51	0,17	2,0					
52	0,12	-0,016					
53	0,0070	-4,7	ND				
55	0,13	0,27					
56	0,12	-0,14					
57	0,095	-1,2	ND				
58	0,14	0,62					
59	0,092	-1,3					
60	0,13	0,27					
62	0,18	2,5					
65	0,30	7,2	Outlier,ND				
67	0,11	-0,50					
73	0,078	-1,8					
75	0,20	3,1					
77	0,11	-0,41					
79	2,1	7,9	Outlier				

Consensus statistics	
Consensus median, pg/g	0,12
Median all values pg/g	0,12
Consensus mean, pg/g	0,12
Standard deviation, pg/g	0,035
Relative standard deviation, %	29
No. of values reported	56
No. of values removed	2
No. of reported non-detects	7

2,3,7,8 TCDD



Z-score: 2,3,7,8 TCDD



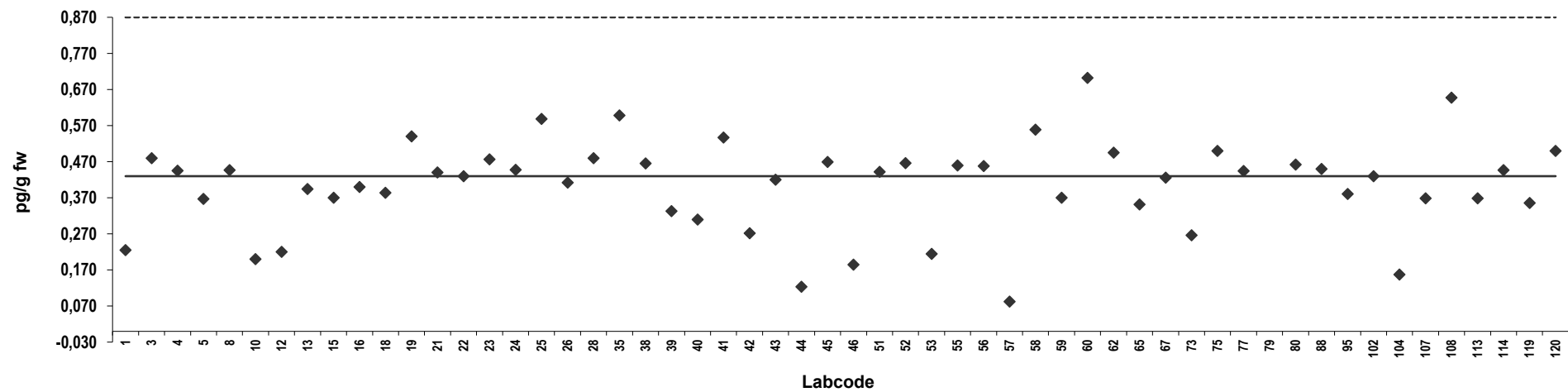
Fish oil

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,23	-2,4		80	0,46	0,37	
3	0,48	0,58		88	0,45	0,24	
4	0,45	0,17		95	0,38	-0,57	
5	0,37	-0,73		102	0,43	0,00	
8	0,45	0,20		104	0,16	-3,2	
10	0,20	-2,7	ND	107	0,37	-0,72	
12	0,22	-2,4		108	0,65	2,5	
13	0,39	-0,42		113	0,37	-0,71	
15	0,37	-0,70		114	0,45	0,20	
16	0,40	-0,35		119	0,36	-0,86	
18	0,38	-0,54		120	0,50	0,81	
19	0,54	1,3					
21	0,44	0,12					
22	0,43	0,00					
23	0,48	0,54					
24	0,45	0,20					
25	0,59	1,8					
26	0,41	-0,21					
28	0,48	0,58					
35	0,60	2,0					
38	0,47	0,41					
39	0,33	-1,1					
40	0,31	-1,4					
41	0,54	1,2					
42	0,27	-1,8					
43	0,42	-0,12					
44	0,12	-3,6	ND				
45	0,47	0,45					
46	0,18	-2,9					
51	0,44	0,14					
52	0,47	0,42					
53	0,22	-2,5					
55	0,46	0,35					
56	0,46	0,33					
57	0,083	-4,0	ND				
58	0,56	1,5					
59	0,37	-0,70					
60	0,70	3,2					
62	0,49	0,75					
65	0,35	-0,91					
67	0,43	-0,047					
73	0,27	-1,9					
75	0,50	0,81					
77	0,44	0,17					
79	3,9	40	Outlier				

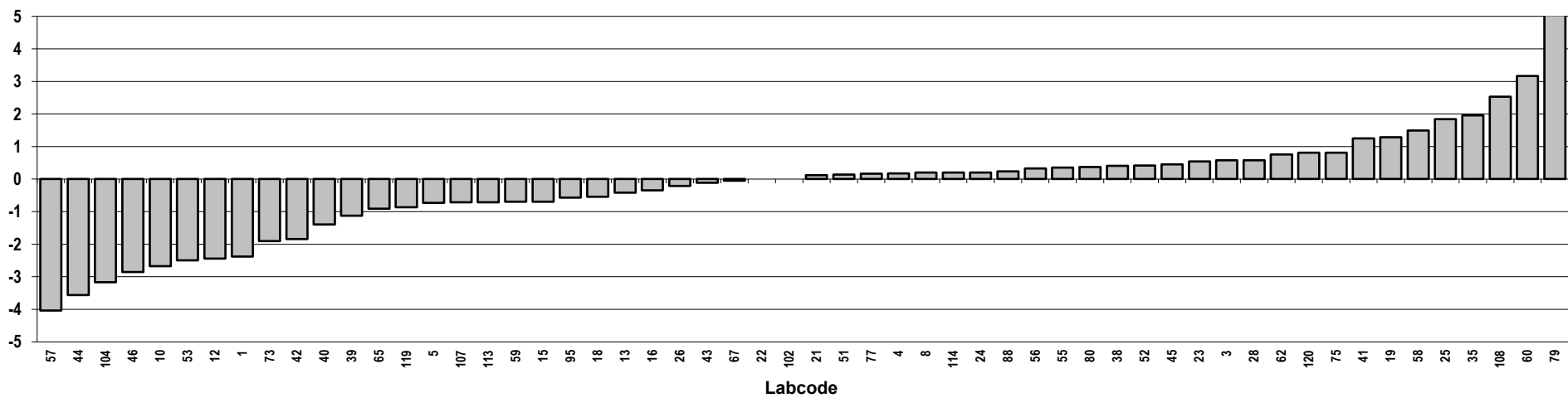
Consensus statistics

Consensus median, pg/g	0,43
Median all values pg/g	0,44
Consensus mean, pg/g	0,40
Standard deviation, pg/g	0,13
Relative standard deviation, %	31
No. of values reported	56
No. of values removed	1
No. of reported non-detects	3

1,2,3,7,8 PeCDD



Z-score: 1,2,3,7,8 PeCDD



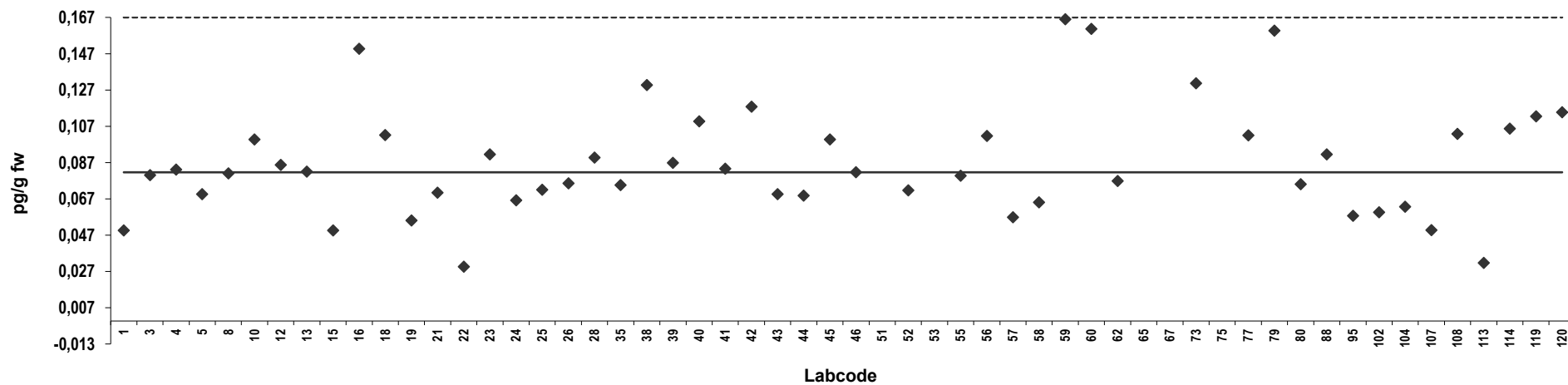
Fish oil
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	-2,0	ND	80	0,075	-0,40	
3	0,080	-0,091		88	0,092	0,61	
4	0,083	0,087		95	0,058	-1,5	
5	0,070	-0,73	ND	102	0,060	-1,3	
8	0,081	-0,035		104	0,063	-1,2	
10	0,10	1,1	ND	107	0,050	-1,9	
12	0,086	0,25	ND	108	0,10	1,3	
13	0,082	0,023		113	0,032	-3,0	
15	0,050	-2,0	ND	114	0,11	1,5	
16	0,15	4,2		119	0,11	1,9	
18	0,10	1,3		120	0,12	2,0	
19	0,055	-1,6	ND				
21	0,071	-0,68					
22	0,030	-3,2	ND				
23	0,092	0,61					
24	0,067	-0,94					
25	0,072	-0,59					
26	0,076	-0,37					
28	0,090	0,49	ND				
35	0,075	-0,43					
38	0,13	2,9	ND				
39	0,087	0,31					
40	0,11	1,7					
41	0,084	0,12					
42	0,12	2,2					
43	0,070	-0,73					
44	0,069	-0,78	ND				
45	0,10	1,1	ND				
46	0,082	0,00	ND				
51	0,37	18	Outlier				
52	0,072	-0,61					
53	0,30	14	Outlier				
55	0,080	-0,12					
56	0,10	1,2					
57	0,057	-1,5	ND				
58	0,065	-1,0					
59	0,17	5,1					
60	0,16	4,8	ND				
62	0,077	-0,30					
65	0,30	13	Outlier,ND				
67	0,22	8,6	Outlier				
73	0,13	3,0					
75	0,20	7,2	Outlier				
77	0,10	1,2					
79	0,16	4,8					

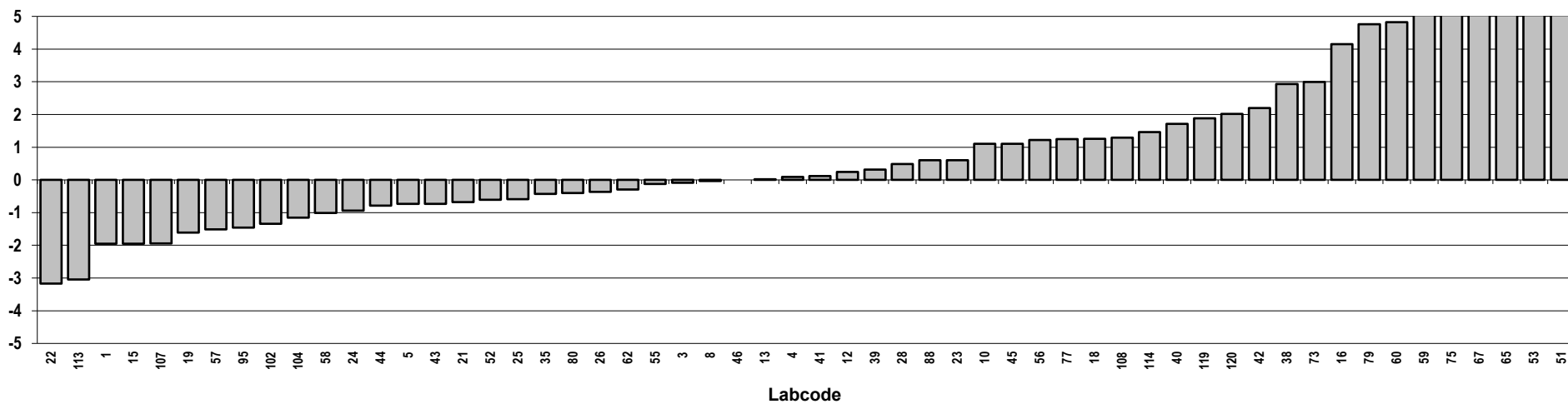
Consensus statistics

Consensus median, pg/g	0,082
Median all values pg/g	0,084
Consensus mean, pg/g	0,087
Standard deviation, pg/g	0,031
Relative standard deviation, %	35
No. of values reported	56
No. of values removed	5
No. of reported non-detects	15

1,2,3,4,7,8 HxCDD



Z-score: 1,2,3,4,7,8 HxCDD

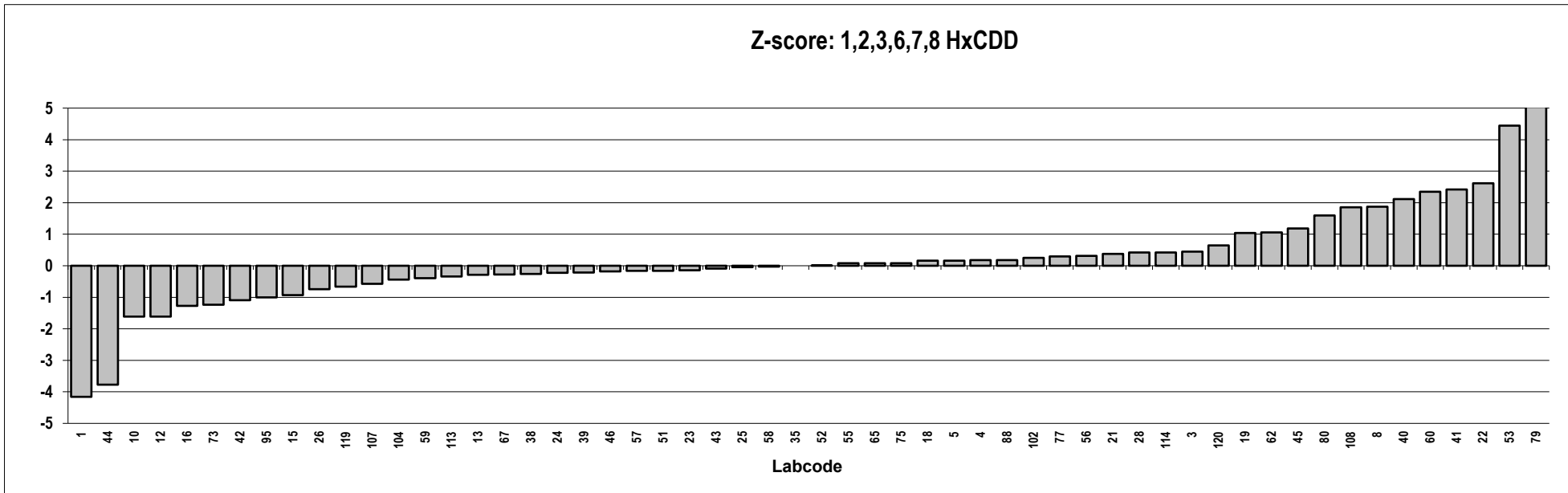
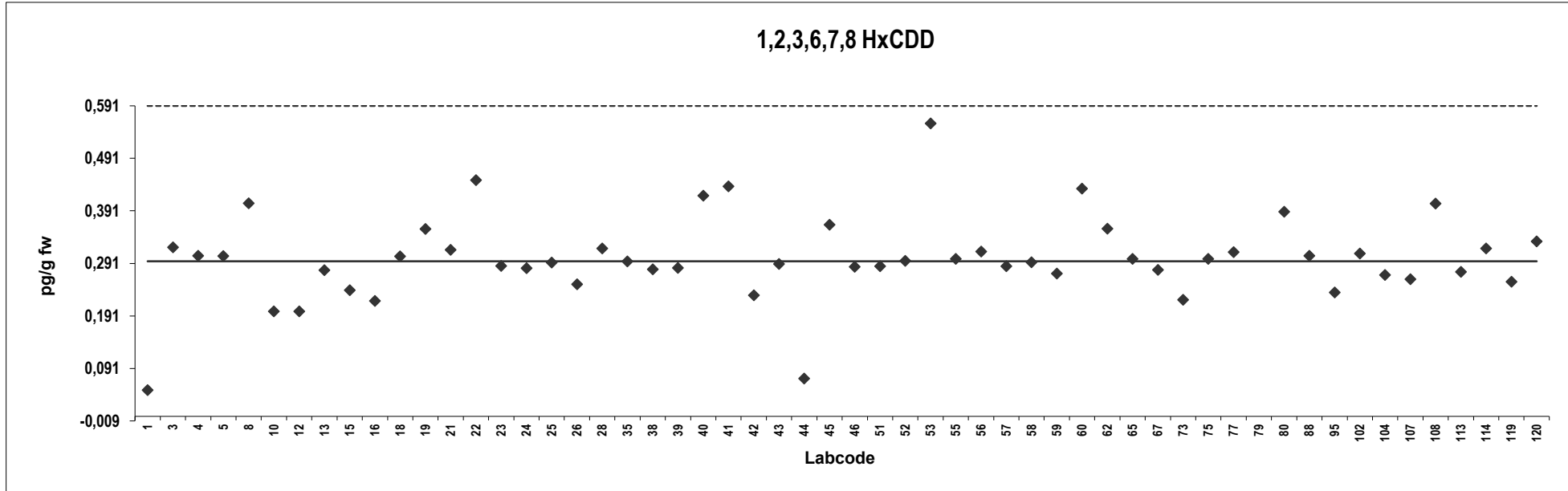


Fish oil
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	-4,2	ND	80	0,39	1,6	
3	0,32	0,45		88	0,31	0,18	
4	0,31	0,18		95	0,24	-1,0	
5	0,31	0,16		102	0,31	0,25	
8	0,41	1,9		104	0,27	-0,44	
10	0,20	-1,6	ND	107	0,26	-0,58	
12	0,20	-1,6		108	0,41	1,9	
13	0,28	-0,29		113	0,28	-0,34	
15	0,24	-0,94		114	0,32	0,42	
16	0,22	-1,3		119	0,26	-0,66	
18	0,30	0,16		120	0,33	0,64	
19	0,36	1,0					
21	0,32	0,37					
22	0,45	2,6					
23	0,29	-0,15					
24	0,28	-0,22					
25	0,29	-0,045					
26	0,25	-0,74					
28	0,32	0,42					
35	0,30	0,00					
38	0,28	-0,26					
39	0,28	-0,21					
40	0,42	2,1					
41	0,44	2,4					
42	0,23	-1,1					
43	0,29	-0,090					
44	0,072	-3,8	ND				
45	0,37	1,2					
46	0,28	-0,18					
51	0,29	-0,16					
52	0,30	0,012					
53	0,56	4,4					
55	0,30	0,080					
56	0,31	0,32					
57	0,29	-0,16					
58	0,29	-0,030					
59	0,27	-0,39					
60	0,43	2,3					
62	0,36	1,1					
65	0,30	0,080	ND				
67	0,28	-0,28					
73	0,22	-1,2					
75	0,30	0,080					
77	0,31	0,29					
79	1,6	21	Outlier				

Consensus statistics

Consensus median, pg/g	0,30
Median all values pg/g	0,30
Consensus mean, pg/g	0,30
Standard deviation, pg/g	0,081
Relative standard deviation, %	27
No. of values reported	56
No. of values removed	1
No. of reported non-detects	4



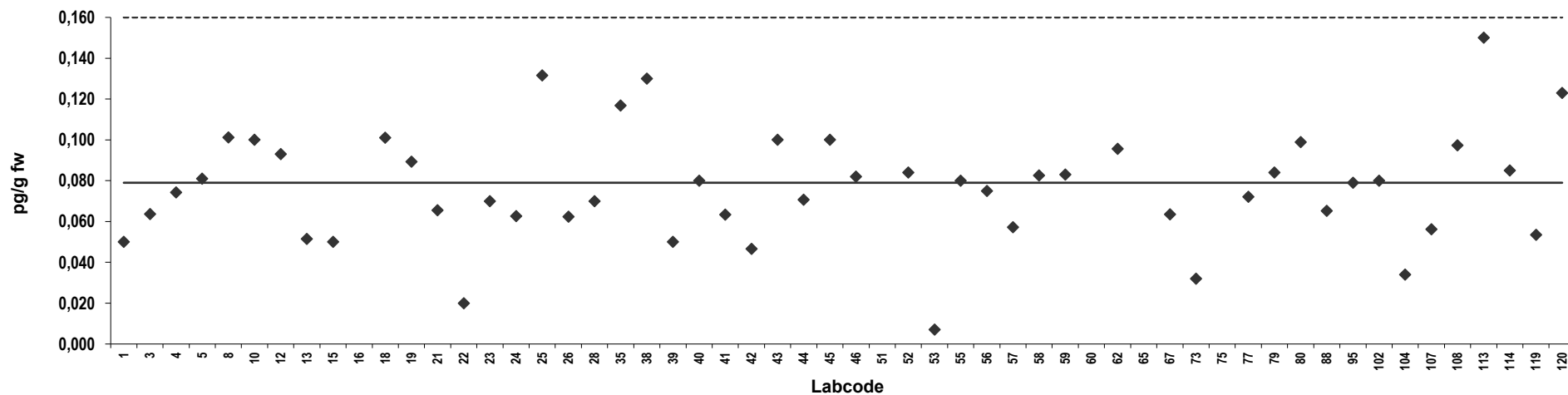
Fish oil
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	-1,8	ND	80	0,099	1,3	
3	0,064	-0,97		88	0,065	-0,87	
4	0,074	-0,30		95	0,079	0,00	
5	0,081	0,13		102	0,080	0,063	
8	0,10	1,4		104	0,034	-2,8	
10	0,10	1,3	ND	107	0,056	-1,4	
12	0,093	0,89	ND	108	0,097	1,2	
13	0,051	-1,7		113	0,15	4,5	
15	0,050	-1,8	ND	114	0,085	0,38	
16	0,44	23	Outlier	119	0,054	-1,6	
18	0,10	1,4		120	0,12	2,8	
19	0,089	0,66	ND				
21	0,066	-0,85					
22	0,020	-3,7	ND				
23	0,070	-0,57					
24	0,063	-1,0					
25	0,13	3,3					
26	0,062	-1,1	ND				
28	0,070	-0,57					
35	0,12	2,4					
38	0,13	3,2	ND				
39	0,050	-1,8	ND				
40	0,080	0,063	ND				
41	0,063	-0,99					
42	0,047	-2,0					
43	0,10	1,3					
44	0,071	-0,53	ND				
45	0,10	1,3	ND				
46	0,082	0,19	ND				
51	0,31	15	Outlier				
52	0,084	0,32					
53	0,0070	-4,6	ND				
55	0,080	0,063					
56	0,075	-0,25					
57	0,057	-1,4	ND				
58	0,083	0,23					
59	0,083	0,25					
60	0,16	5,2	Outlier,ND				
62	0,096	1,1					
65	0,30	14	Outlier,ND				
67	0,064	-0,98	ND				
73	0,032	-3,0					
75	0,20	7,7	Outlier				
77	0,072	-0,43					
79	0,084	0,32					

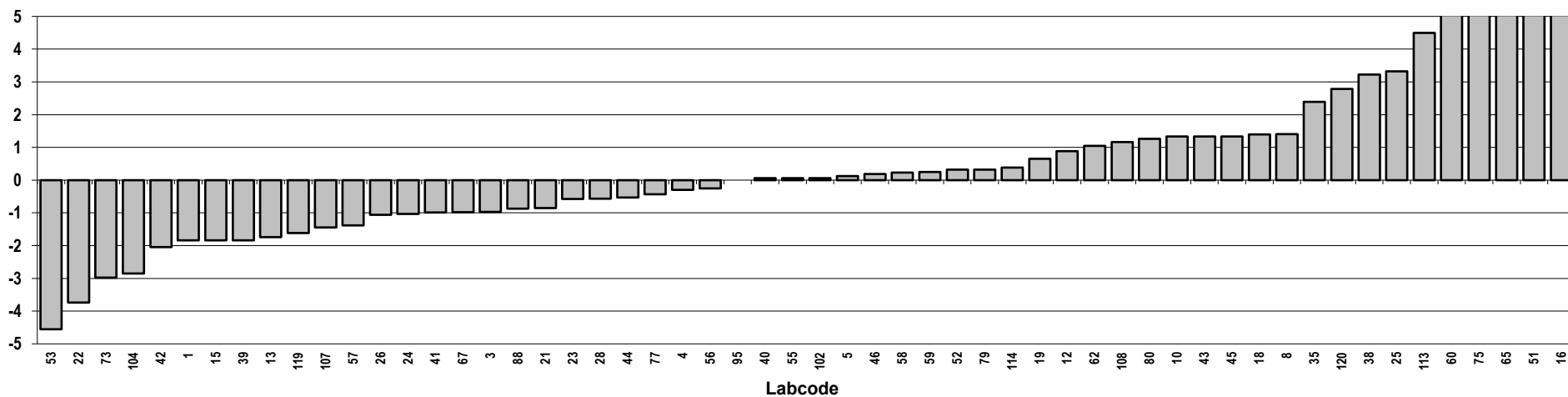
Consensus statistics

Consensus median, pg/g	0,079
Median all values pg/g	0,080
Consensus mean, pg/g	0,077
Standard deviation, pg/g	0,028
Relative standard deviation, %	36
No. of values reported	56
No. of values removed	5
No. of reported non-detects	18

1,2,3,7,8,9 HxCDD



Z-score: 1,2,3,7,8,9 HxCDD



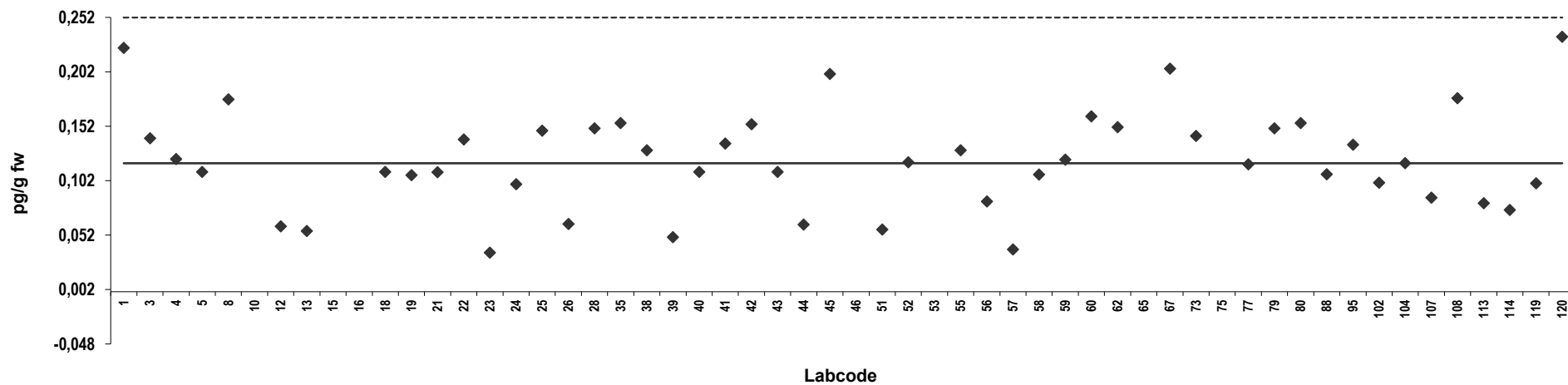
Fish oil
Congener: 1,2,3,4,6,7,8 HpCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,22	4,5		80	0,15	1,6	
3	0,14	0,97		88	0,11	-0,43	
4	0,12	0,17		95	0,14	0,72	
5	0,11	-0,34		102	0,10	-0,76	
8	0,18	2,5		104	0,12	0,00	
10	0,80	29	Outlier,ND	107	0,086	-1,3	
12	0,060	-2,5	ND	108	0,18	2,5	
13	0,056	-2,6		113	0,081	-1,6	
15	0,31	8,1	Outlier	114	0,075	-1,8	
16	0,46	14	Outlier	119	0,10	-0,78	
18	0,11	-0,34	ND	120	0,23	4,9	
19	0,11	-0,46	ND				
21	0,11	-0,35					
22	0,14	0,93					
23	0,036	-3,5					
24	0,099	-0,81					
25	0,15	1,3					
26	0,062	-2,4	ND				
28	0,15	1,4					
35	0,16	1,6					
38	0,13	0,51	ND				
39	0,050	-2,9	ND				
40	0,11	-0,34					
41	0,14	0,77					
42	0,15	1,5					
43	0,11	-0,34					
44	0,062	-2,4	ND				
45	0,20	3,5	ND				
46	0,66	23	Outlier,ND				
51	0,057	-2,6	ND				
52	0,12	0,042					
53	0,30	7,8	Outlier				
55	0,13	0,51					
56	0,083	-1,5					
57	0,039	-3,4	ND				
58	0,11	-0,44					
59	0,12	0,14					
60	0,16	1,8	ND				
62	0,15	1,4					
65	0,30	7,7	Outlier,ND				
67	0,21	3,7					
73	0,14	1,1					
75	0,30	7,7	Outlier				
77	0,12	-0,038					
79	0,15	1,4					

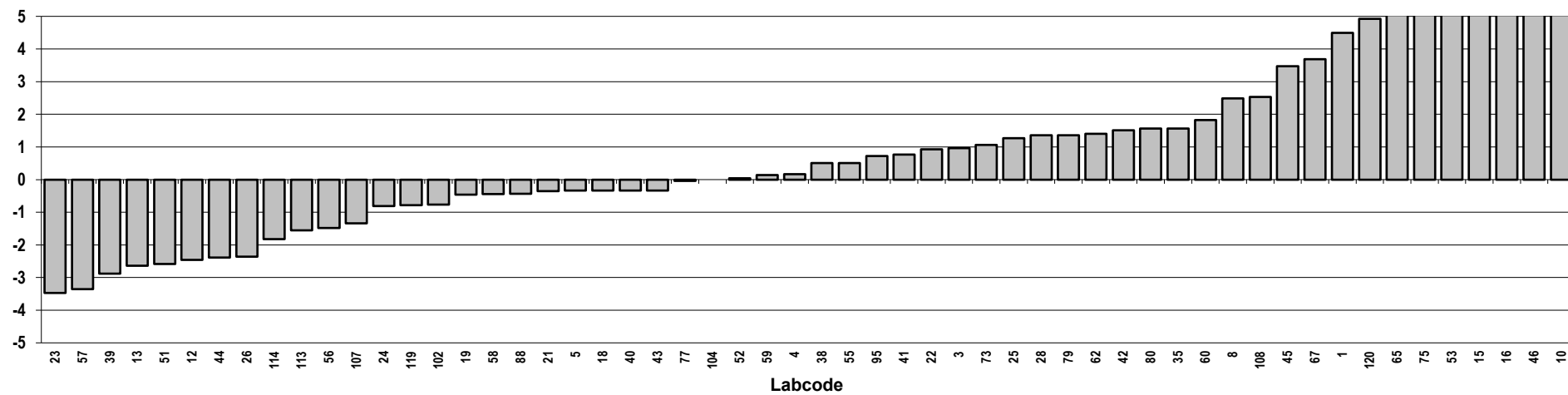
Consensus statistics

Consensus median, pg/g	0,12
Median all values pg/g	0,13
Consensus mean, pg/g	0,12
Standard deviation, pg/g	0,046
Relative standard deviation, %	38
No. of values reported	56
No. of values removed	7
No. of reported non-detects	14

1,2,3,4,6,7,8 HpCDD



Z-score: 1,2,3,4,6,7,8 HpCDD

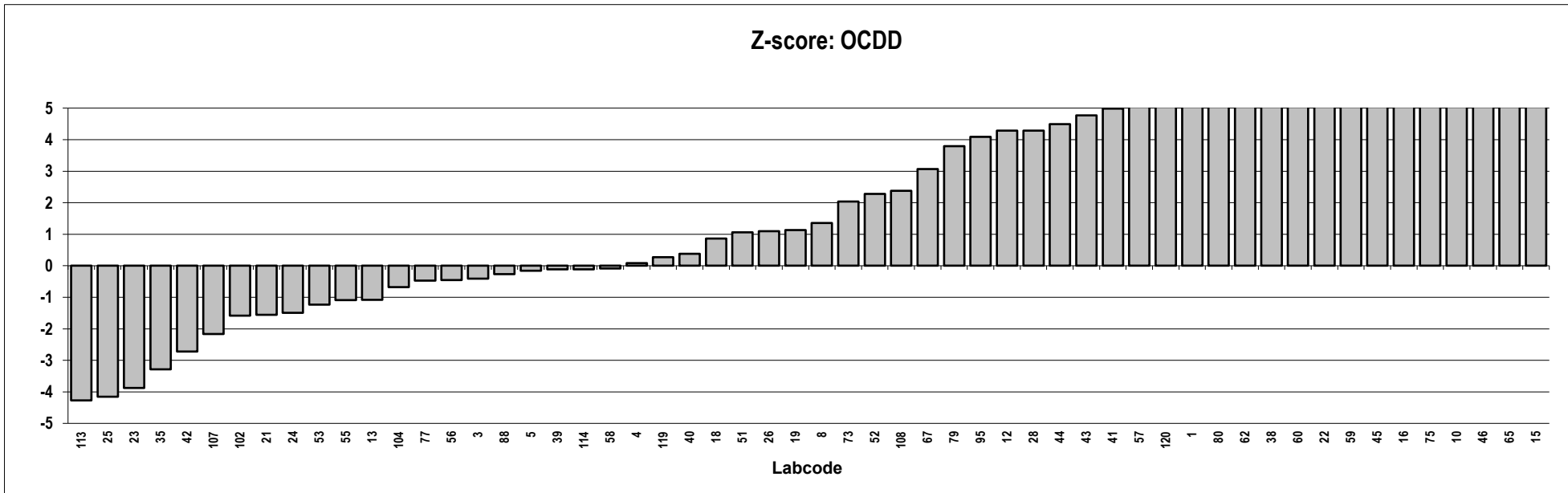
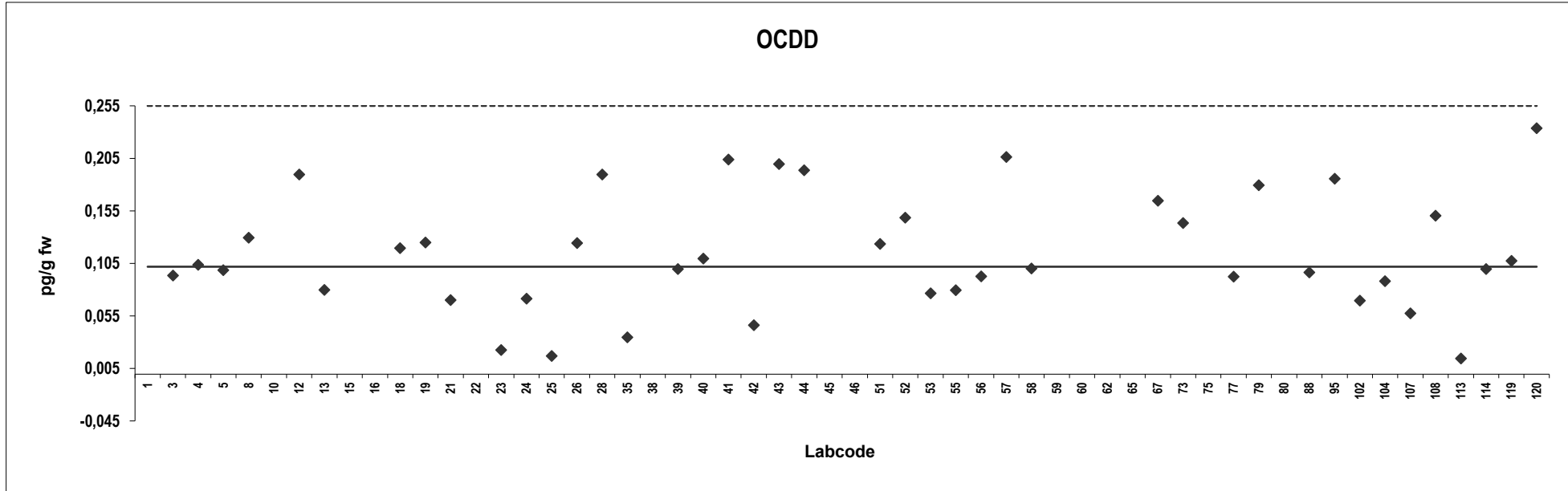


Fish oil
Congener: OCDD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,26	7,8	Outlier	80	0,27	8,2	Outlier
3	0,094	-0,41		88	0,097	-0,27	
4	0,10	0,082		95	0,19	4,1	
5	0,099	-0,16		102	0,070	-1,6	
8	0,13	1,4		104	0,089	-0,68	
10	1,0	44	Outlier,ND	107	0,058	-2,2	
12	0,19	4,3		108	0,15	2,4	
13	0,080	-1,1		113	0,015	-4,3	
15	6,0	288	Outlier	114	0,10	-0,11	
16	0,41	15	Outlier	119	0,11	0,27	
18	0,12	0,86	ND	120	0,23	6,4	
19	0,13	1,1	ND				
21	0,070	-1,6					
22	0,33	11	Outlier				
23	0,023	-3,9	ND				
24	0,072	-1,5	ND				
25	0,017	-4,2					
26	0,12	1,1	ND				
28	0,19	4,3					
35	0,035	-3,3					
38	0,31	10	Outlier,ND				
39	0,10	-0,11	ND				
40	0,11	0,38	ND				
41	0,20	5,0					
42	0,047	-2,7	ND				
43	0,20	4,8	ND				
44	0,19	4,5	ND				
45	0,40	15	Outlier,ND				
46	1,3	59	Outlier,ND				
51	0,12	1,1	ND				
52	0,15	2,3					
53	0,077	-1,2	ND				
55	0,080	-1,1					
56	0,093	-0,46					
57	0,21	5,1					
58	0,10	-0,082					
59	0,39	14	Outlier				
60	0,32	11	Outlier,ND				
62	0,30	9,8	Outlier				
65	3,0	142	Outlier,ND				
67	0,17	3,1					
73	0,14	2,0					
75	0,60	24	Outlier,ND				
77	0,093	-0,47					
79	0,18	3,8					

Consensus statistics

Consensus median, pg/g	0,10
Median all values pg/g	0,13
Consensus mean, pg/g	0,12
Standard deviation, pg/g	0,056
Relative standard deviation, %	48
No. of values reported	56
No. of values removed	14
No. of reported non-detects	19



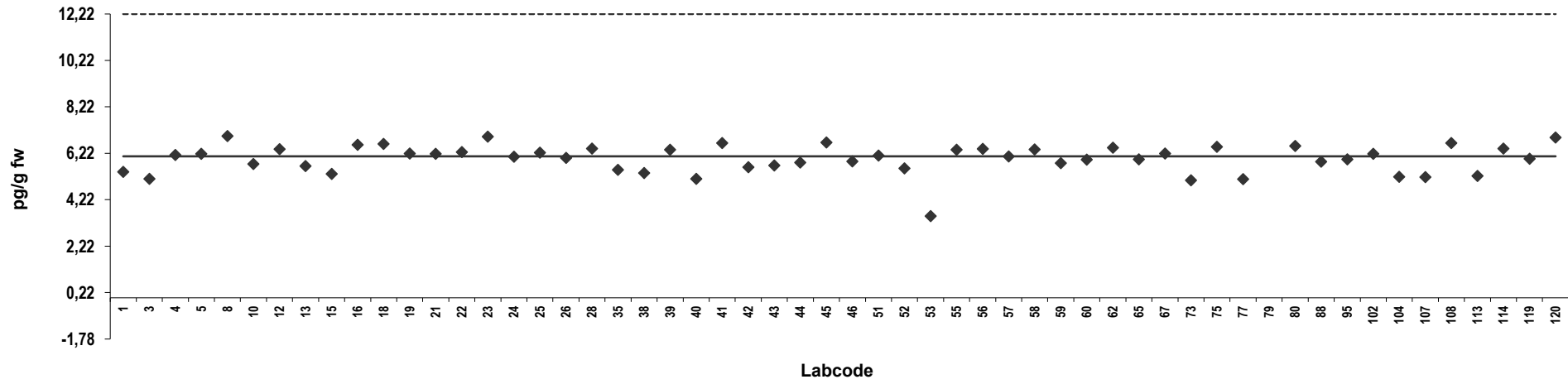
Fish oil
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	5,4	-0,55		80	6,5	0,37	
3	5,1	-0,80		88	5,9	-0,19	
4	6,2	0,046		95	6,0	-0,11	
5	6,2	0,087		102	6,2	0,087	
8	7,0	0,71		104	5,2	-0,73	
10	5,8	-0,27		107	5,2	-0,73	
12	6,4	0,25		108	6,7	0,47	
13	5,7	-0,35		113	5,2	-0,70	
15	5,3	-0,63		114	6,4	0,28	
16	6,6	0,41		119	6,0	-0,082	
18	6,6	0,44		120	6,9	0,67	
19	6,2	0,10					
21	6,2	0,087					
22	6,3	0,15					
23	6,9	0,69					
24	6,1	-0,015					
25	6,3	0,13					
26	6,0	-0,061					
28	6,4	0,28					
35	5,5	-0,48					
38	5,4	-0,59					
39	6,4	0,23					
40	5,1	-0,80					
41	6,7	0,47					
42	5,6	-0,39					
43	5,7	-0,32					
44	5,8	-0,22					
45	6,7	0,49					
46	5,9	-0,18					
51	6,1	0,030					
52	5,6	-0,42					
53	3,5	-2,1					
55	6,4	0,24					
56	6,4	0,26					
57	6,1	0,00					
58	6,4	0,25					
59	5,8	-0,25					
60	6,0	-0,12					
62	6,5	0,31					
65	6,0	-0,10					
67	6,2	0,096					
73	5,1	-0,85					
75	6,5	0,33					
77	5,1	-0,81					
79	33	22	Outlier				

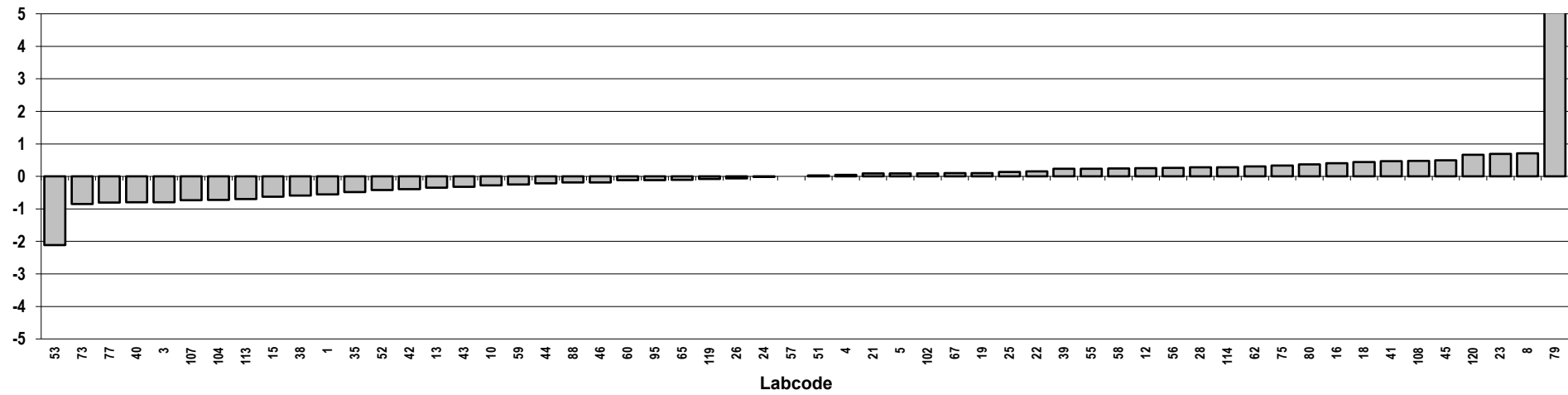
Consensus statistics

Consensus median, pg/g	6,1
Median all values pg/g	6,1
Consensus mean, pg/g	6,0
Standard deviation, pg/g	0,61
Relative standard deviation, %	10
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0

2,3,7,8 TCDF



Z-score: 2,3,7,8 TCDF

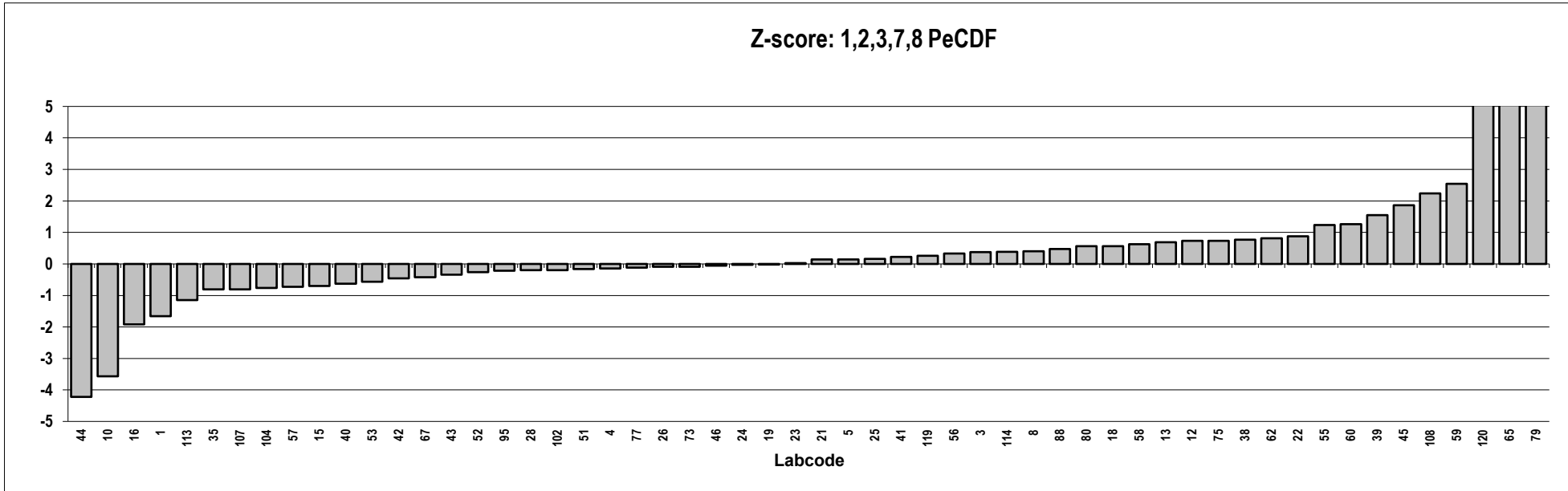
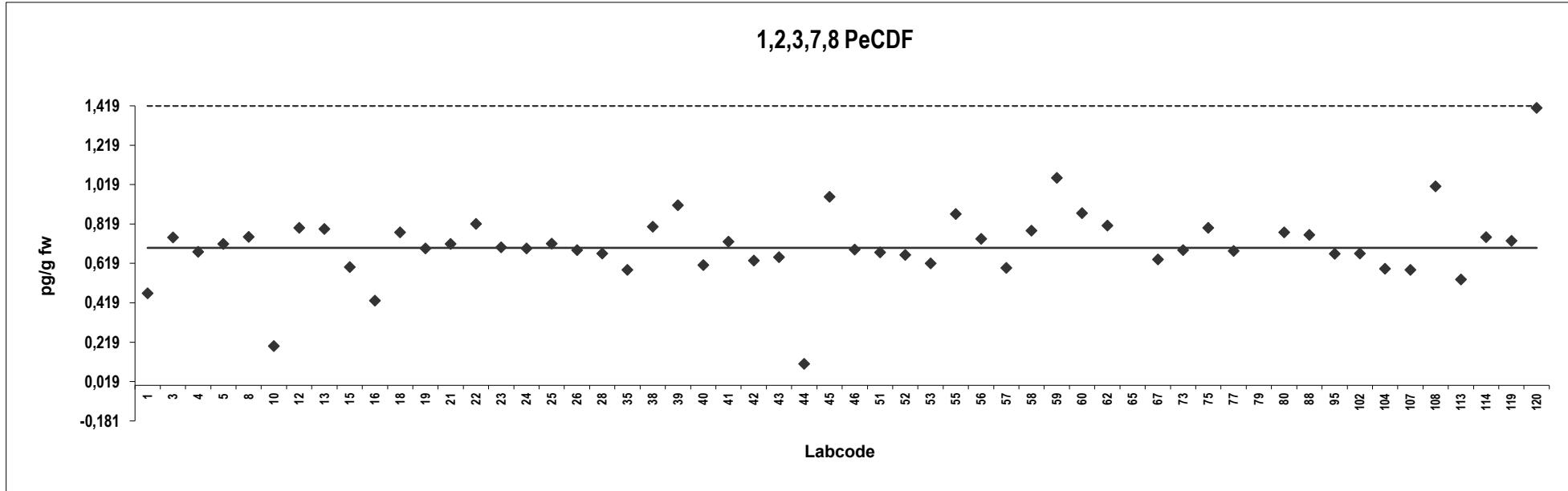


Fish oil
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,47	-1,7		80	0,78	0,56	
3	0,75	0,38		88	0,76	0,48	
4	0,68	-0,14		95	0,67	-0,22	
5	0,72	0,14		102	0,67	-0,20	
8	0,75	0,40		104	0,59	-0,76	
10	0,20	-3,6	ND	107	0,59	-0,81	
12	0,80	0,73		108	1,0	2,2	
13	0,79	0,69		113	0,54	-1,2	
15	0,60	-0,70		114	0,75	0,39	
16	0,43	-1,9		119	0,73	0,26	
18	0,78	0,56		120	1,4	5,1	
19	0,69	-0,023					
21	0,72	0,14					
22	0,82	0,87					
23	0,70	0,023					
24	0,69	-0,023					
25	0,72	0,16					
26	0,69	-0,087					
28	0,67	-0,20					
35	0,59	-0,81					
38	0,81	0,77					
39	0,91	1,5					
40	0,61	-0,63					
41	0,73	0,23					
42	0,63	-0,46					
43	0,65	-0,34					
44	0,11	-4,2	ND				
45	0,96	1,9					
46	0,69	-0,058					
51	0,68	-0,17					
52	0,66	-0,26					
53	0,62	-0,57					
55	0,87	1,2					
56	0,74	0,33					
57	0,60	-0,73					
58	0,79	0,63					
59	1,1	2,5					
60	0,87	1,3					
62	0,81	0,81					
65	2,0	9,6	Outlier				
67	0,64	-0,42					
73	0,69	-0,086					
75	0,80	0,73					
77	0,68	-0,12					
79	3,9	23	Outlier				

Consensus statistics

Consensus median, pg/g	0,70
Median all values pg/g	0,71
Consensus mean, pg/g	0,71
Standard deviation, pg/g	0,19
Relative standard deviation, %	26
No. of values reported	56
No. of values removed	2
No. of reported non-detects	2

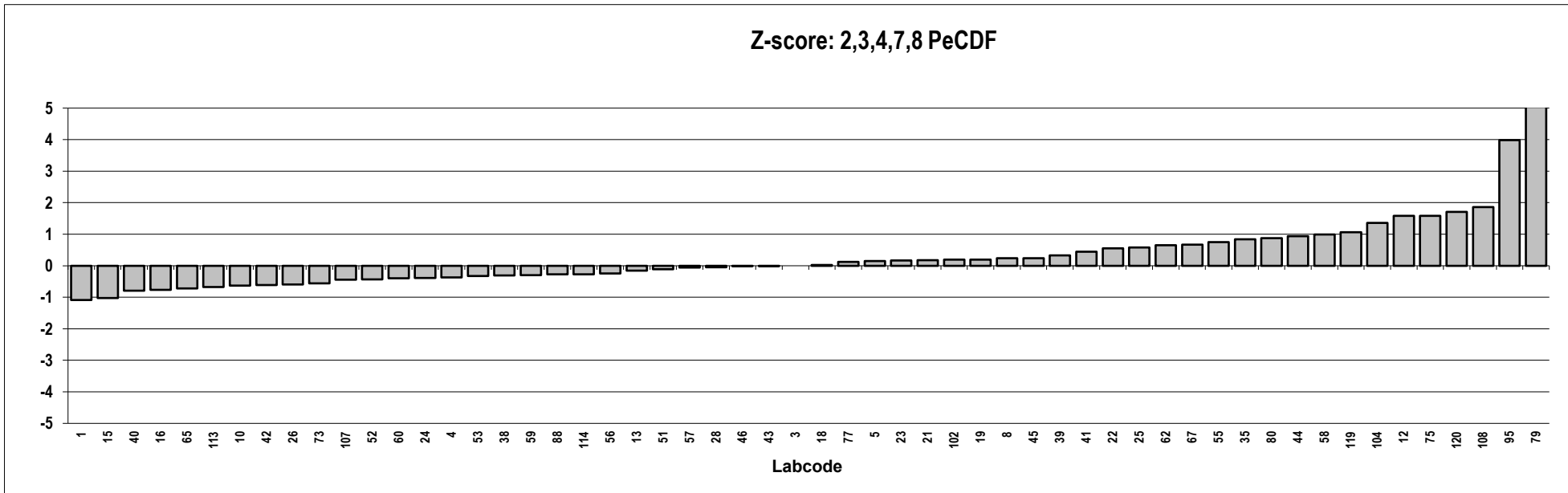
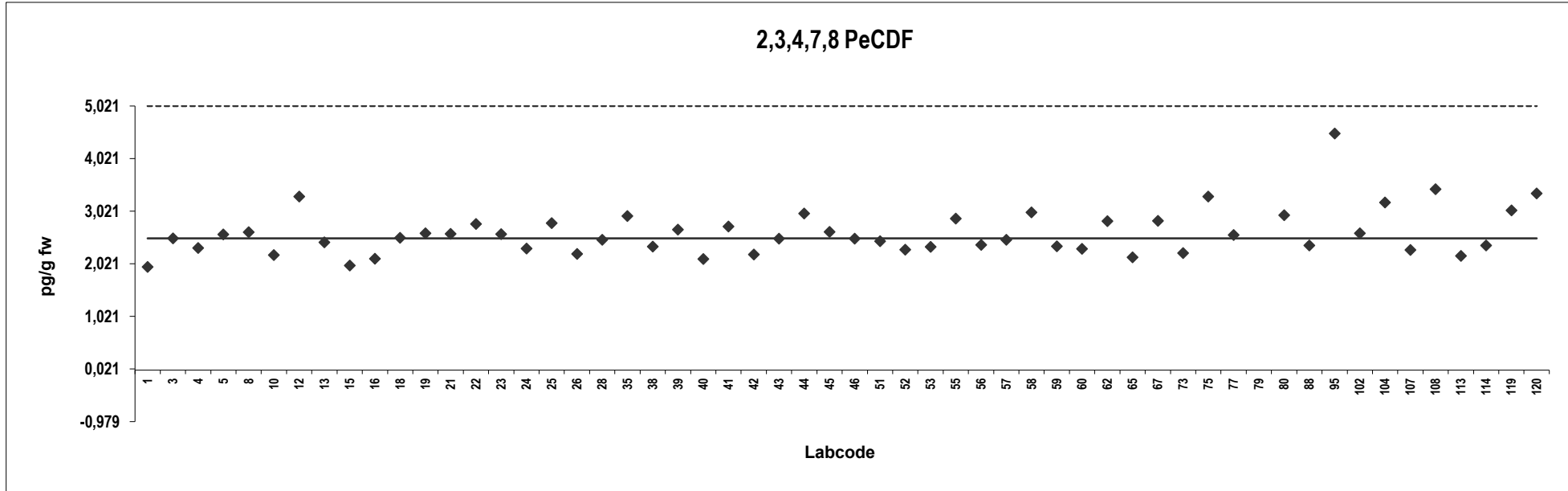


Fish oil
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	2,0	-1,1		80	2,9	0,88	
3	2,5	0,00		88	2,4	-0,27	
4	2,3	-0,37		95	4,5	4,0	
5	2,6	0,15		102	2,6	0,19	
8	2,6	0,24		104	3,2	1,4	
10	2,2	-0,63		107	2,3	-0,44	
12	3,3	1,6		108	3,4	1,86	
13	2,4	-0,16		113	2,2	-0,67	
15	2,0	-1,0		114	2,4	-0,27	
16	2,1	-0,77		119	3,0	1,1	
18	2,5	0,023		120	3,4	1,7	
19	2,6	0,19					
21	2,6	0,17					
22	2,8	0,55					
23	2,6	0,16					
24	2,3	-0,39					
25	2,8	0,58					
26	2,2	-0,60					
28	2,5	-0,049					
35	2,9	0,84					
38	2,4	-0,31					
39	2,7	0,33					
40	2,1	-0,79					
41	2,7	0,45					
42	2,2	-0,62					
43	2,5	-0,0095					
44	3,0	0,94					
45	2,6	0,24					
46	2,5	-0,012					
51	2,5	-0,11					
52	2,3	-0,43					
53	2,3	-0,32					
55	2,9	0,75					
56	2,4	-0,25					
57	2,5	-0,054					
58	3,0	0,99					
59	2,4	-0,30					
60	2,3	-0,39					
62	2,8	0,65					
65	2,1	-0,72					
67	2,8	0,67					
73	2,2	-0,56					
75	3,3	1,6					
77	2,6	0,12					
79	2,7	0,48	Outlier				

Consensus statistics

Consensus median, pg/g	2,5
Median all values pg/g	2,5
Consensus mean, pg/g	2,6
Standard deviation, pg/g	0,44
Relative standard deviation, %	17
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0



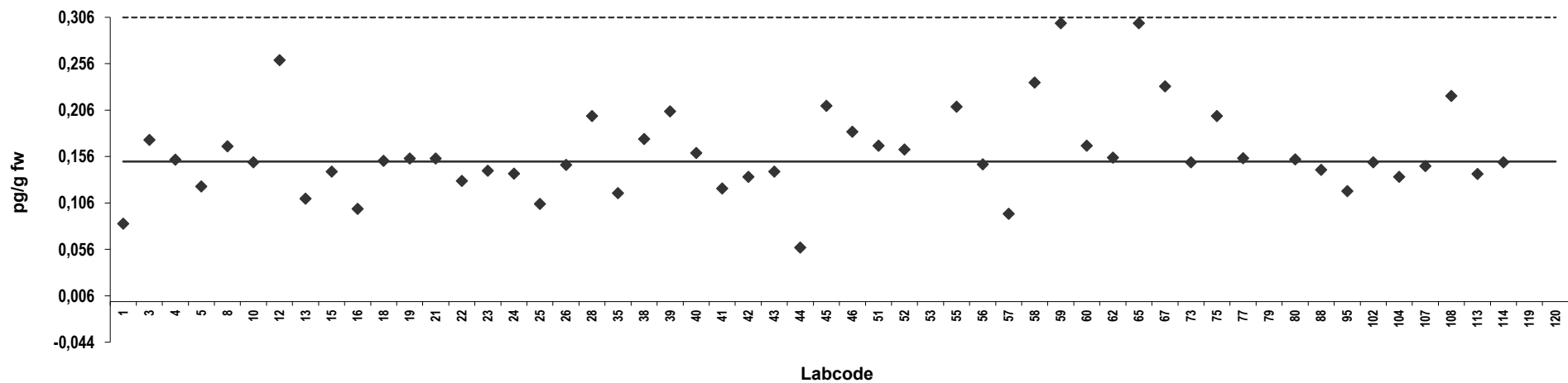
Fish oil
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,084	-2,2		80	0,15	0,079	
3	0,17	0,78		88	0,14	-0,29	
4	0,15	0,070		95	0,12	-1,1	
5	0,12	-0,89		102	0,15	-0,030	
8	0,17	0,54		104	0,13	-0,54	
10	0,15	-0,030	ND	107	0,15	-0,16	
12	0,26	3,6		108	0,22	2,3	
13	0,11	-1,3		113	0,14	-0,44	
15	0,14	-0,36		114	0,15	-0,030	
16	0,10	-1,7	ND	119	0,33	5,8	Outlier
18	0,15	0,030		120	0,60	15	Outlier
19	0,15	0,11					
21	0,15	0,11					
22	0,13	-0,69					
23	0,14	-0,33					
24	0,14	-0,43					
25	0,11	-1,5					
26	0,15	-0,13					
28	0,20	1,6					
35	0,12	-1,1					
38	0,18	0,80					
39	0,21	1,8					
40	0,16	0,30					
41	0,12	-0,97					
42	0,13	-0,54					
43	0,14	-0,36					
44	0,058	-3,1	ND				
45	0,21	2,0					
46	0,18	1,1					
51	0,17	0,57					
52	0,16	0,43					
53	1,3	38	Outlier				
55	0,21	2,0					
56	0,15	-0,096					
57	0,095	-1,9	ND				
58	0,24	2,8					
59	0,30	4,9					
60	0,17	0,56					
62	0,16	0,14					
65	0,30	4,9	ND				
67	0,23	2,7					
73	0,15	-0,030					
75	0,20	1,6	ND				
77	0,15	0,12					
79	0,58	14	Outlier				

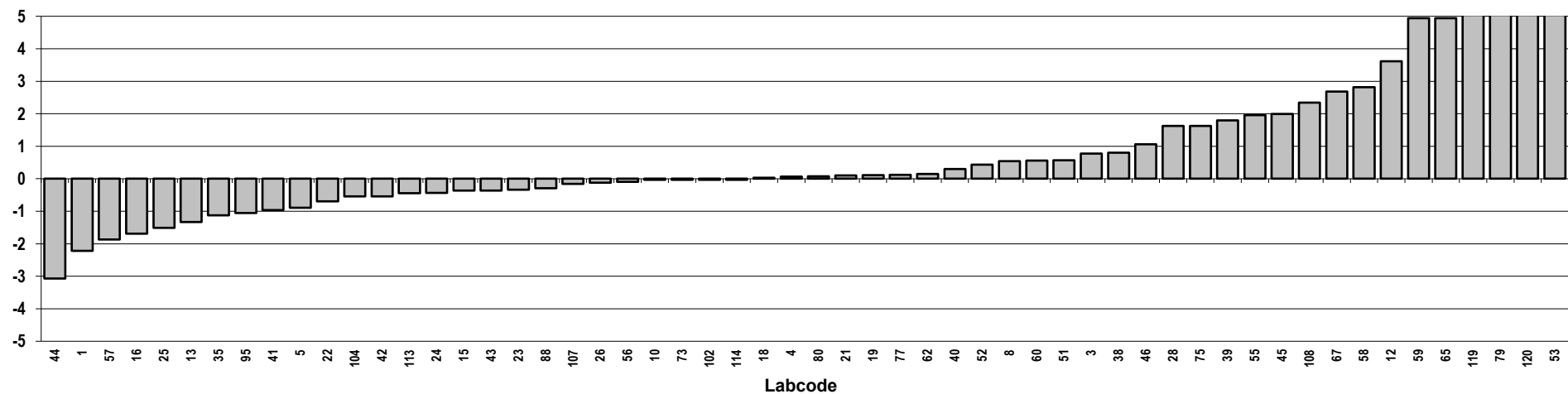
Consensus statistics

Consensus median, pg/g	0,15
Median all values pg/g	0,15
Consensus mean, pg/g	0,16
Standard deviation, pg/g	0,048
Relative standard deviation, %	30
No. of values reported	56
No. of values removed	4
No. of reported non-detects	6

1,2,3,4,7,8 HxCDF



Z-score: 1,2,3,4,7,8 HxCDF

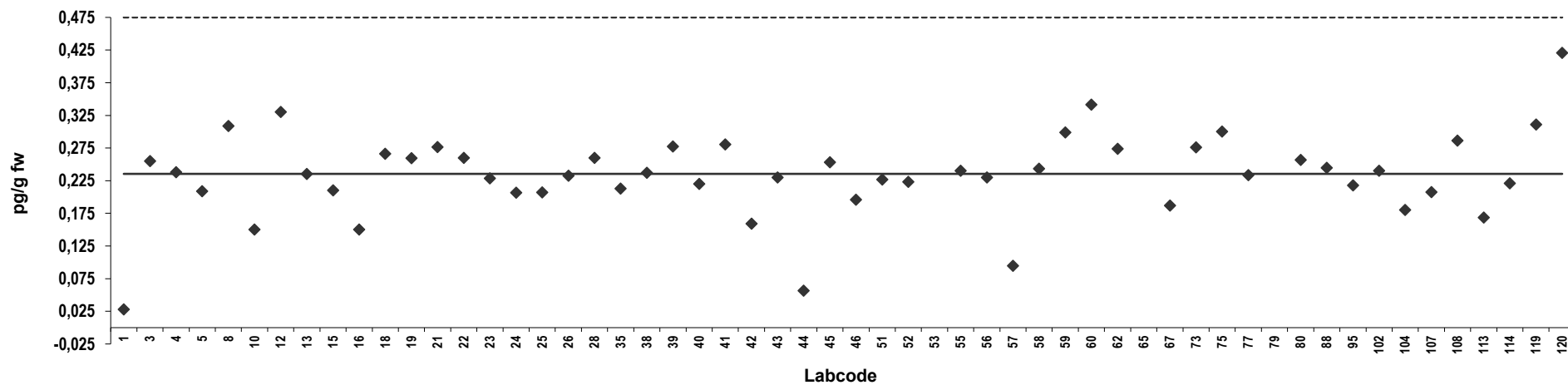


Fish oil
Congener: 1,2,3,6,7,8 HxCDF

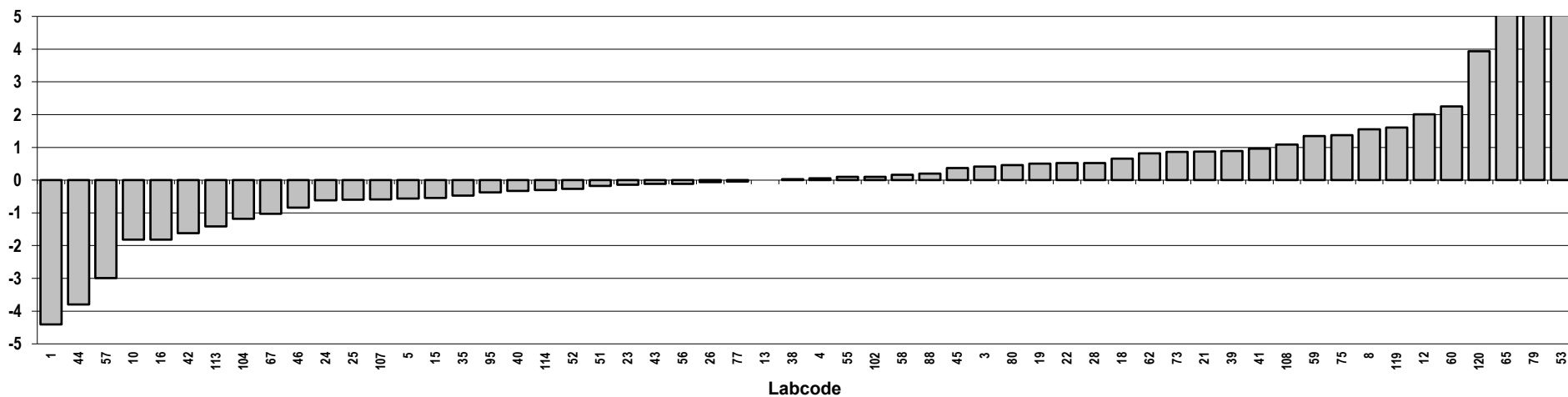
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,028	-4,4		80	0,26	0,46	
3	0,25	0,41		88	0,24	0,20	
4	0,24	0,054		95	0,22	-0,37	
5	0,21	-0,56		102	0,24	0,097	
8	0,31	1,6		104	0,18	-1,2	
10	0,15	-1,8	ND	107	0,21	-0,59	
12	0,33	2,0		108	0,29	1,1	
13	0,24	0,00		113	0,17	-1,4	
15	0,21	-0,54		114	0,22	-0,31	
16	0,15	-1,8		119	0,31	1,6	
18	0,27	0,65		120	0,42	3,9	
19	0,26	0,51					
21	0,28	0,87					
22	0,26	0,52					
23	0,23	-0,14					
24	0,21	-0,61					
25	0,21	-0,60					
26	0,23	-0,064					
28	0,26	0,52					
35	0,21	-0,48					
38	0,24	0,033					
39	0,28	0,89					
40	0,22	-0,33					
41	0,28	0,96					
42	0,16	-1,6					
43	0,23	-0,12					
44	0,057	-3,8	ND				
45	0,25	0,37					
46	0,20	-0,84					
51	0,23	-0,18					
52	0,22	-0,26					
53	1,0	17	Outlier				
55	0,24	0,097					
56	0,23	-0,12					
57	0,095	-3,0	ND				
58	0,24	0,17					
59	0,30	1,3					
60	0,34	2,3					
62	0,27	0,82					
65	0,78	12	Outlier				
67	0,19	-1,0					
73	0,28	0,86					
75	0,30	1,4					
77	0,23	-0,044					
79	0,96	15	Outlier				

Consensus statistics	
Consensus median, pg/g	0,24
Median all values pg/g	0,24
Consensus mean, pg/g	0,23
Standard deviation, pg/g	0,065
Relative standard deviation, %	28
No. of values reported	56
No. of values removed	3
No. of reported non-detects	3

1,2,3,6,7,8 HxCDF



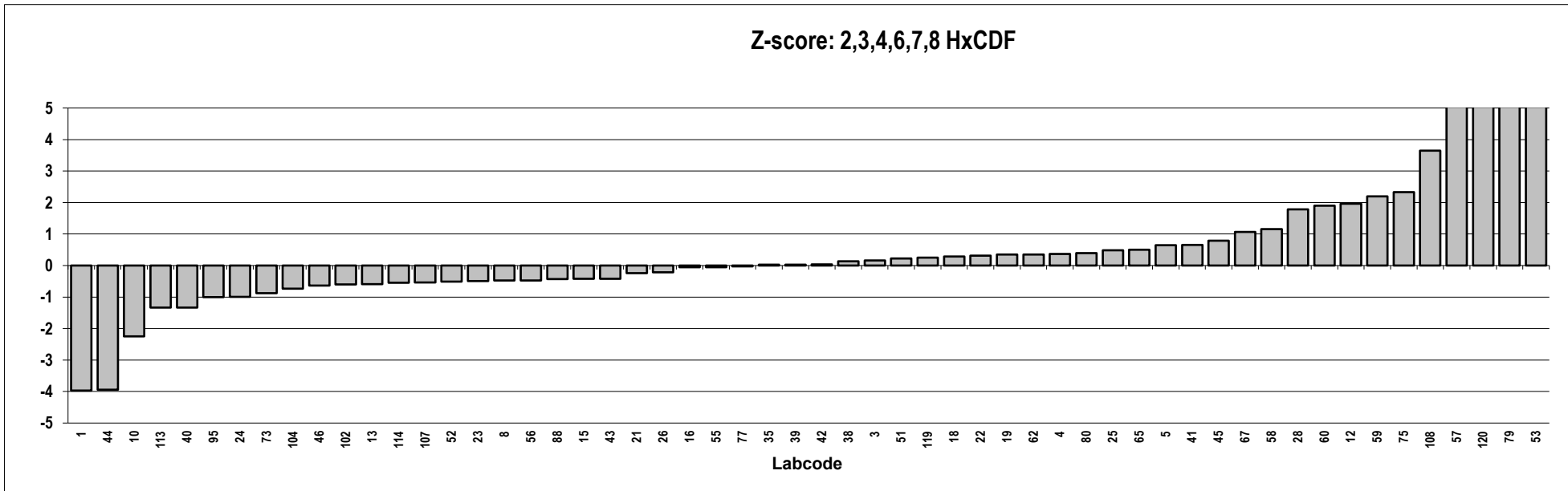
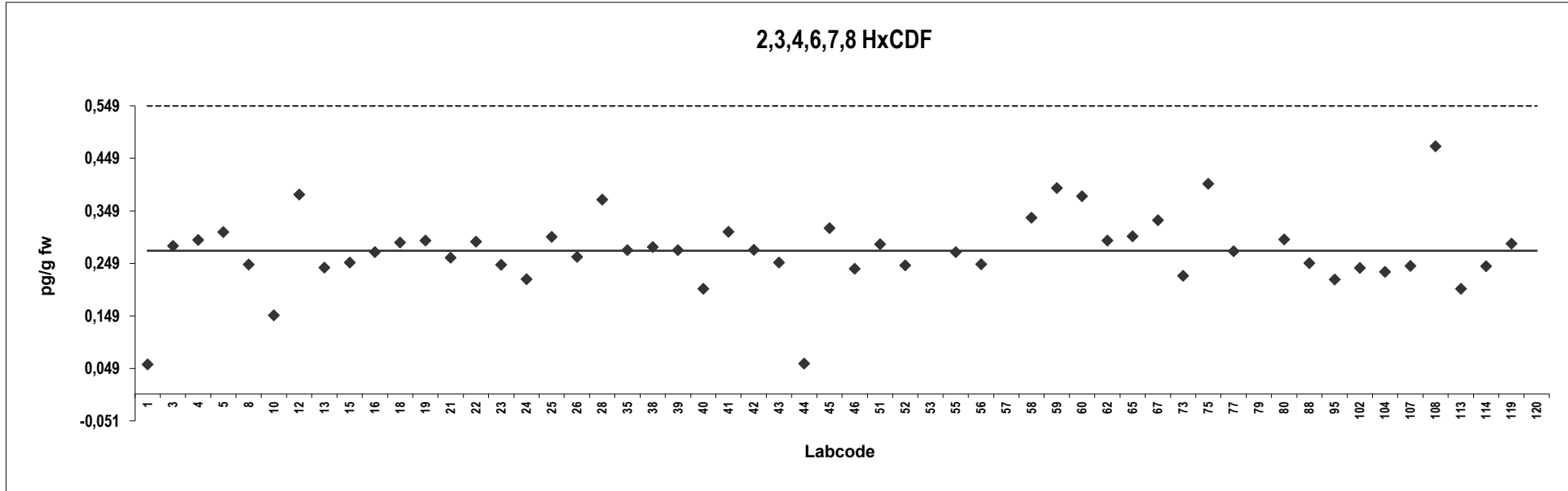
Z-score: 1,2,3,6,7,8 HxCDF



Fish oil
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,056	-4,0		80	0,29	0,40	
3	0,28	0,16		88	0,25	-0,43	
4	0,29	0,37		95	0,22	-1,0	
5	0,31	0,65		102	0,24	-0,60	
8	0,25	-0,48		104	0,23	-0,74	
10	0,15	-2,3	ND	107	0,24	-0,53	
12	0,38	2,0		108	0,47	3,6	
13	0,24	-0,59		113	0,20	-1,3	
15	0,25	-0,42		114	0,24	-0,55	
16	0,27	-0,05		119	0,29	0,25	
18	0,29	0,28		120	0,62	6,3	Outlier
19	0,29	0,35					
21	0,26	-0,24					
22	0,29	0,32					
23	0,25	-0,49					
24	0,22	-1,0					
25	0,30	0,49					
26	0,26	-0,21					
28	0,37	1,8					
35	0,27	0,023					
38	0,28	0,13					
39	0,27	0,025					
40	0,20	-1,3					
41	0,31	0,66					
42	0,27	0,033					
43	0,25	-0,42					
44	0,058	-3,9	ND				
45	0,32	0,79					
46	0,24	-0,63					
51	0,29	0,22					
52	0,25	-0,51					
53	2,1	33	Outlier				
55	0,27	-0,050					
56	0,25	-0,47					
57	0,60	6,0	Outlier				
58	0,34	1,2					
59	0,39	2,2					
60	0,38	1,9					
62	0,29	0,35					
65	0,30	0,50	ND				
67	0,33	1,1					
73	0,23	-0,88					
75	0,40	2,3					
77	0,27	-0,023					
79	0,70	7,8	Outlier				

Consensus statistics	
Consensus median, pg/g	0,27
Median all values pg/g	0,27
Consensus mean, pg/g	0,27
Standard deviation, pg/g	0,071
Relative standard deviation, %	26
No. of values reported	56
No. of values removed	4
No. of reported non-detects	3



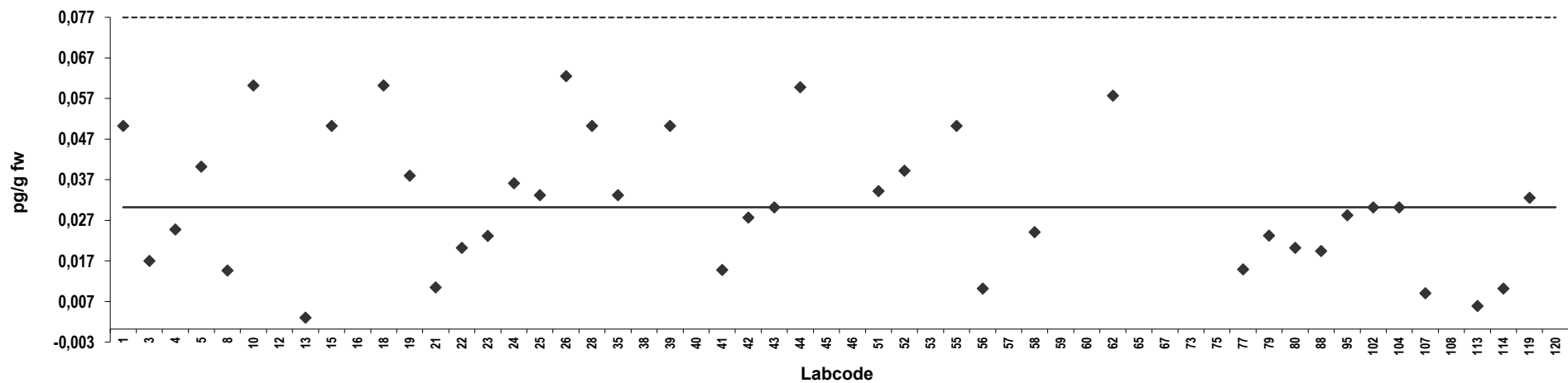
Fish oil
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	3,3	ND	80	0,020	-1,7	ND
3	0,017	-2,2		88	0,019	-1,8	
4	0,025	-0,92		95	0,028	-0,33	ND
5	0,040	1,7	ND	102	0,030	0,00	ND
8	0,014	-2,6	ND	104	0,030	0,00	ND
10	0,060	5,0	ND	107	0,0088	-3,5	ND
12	0,090	10	Outlier,ND	108	0,11	14	Outlier
13	0,0028	-4,5		113	0,0057	-4,1	
15	0,050	3,3	ND	114	0,010	-3,3	ND
16	0,13	17	Outlier	119	0,032	0,39	ND
18	0,060	5,0	ND	120	0,45	70	Outlier
19	0,038	1,3	ND				
21	0,010	-3,3	ND				
22	0,020	-1,7	ND				
23	0,023	-1,2	ND				
24	0,036	0,98	ND				
25	0,033	0,50					
26	0,062	5,4	ND				
28	0,050	3,3	ND				
35	0,033	0,50					
38	0,13	17	Outlier,ND				
39	0,050	3,3	ND				
40	0,080	8,3	Outlier,ND				
41	0,015	-2,6					
42	0,027	-0,42					
43	0,030	0,00	ND				
44	0,060	4,9	ND				
45	0,10	12	Outlier,ND				
46	0,082	8,7	Outlier,ND				
51	0,034	0,67	ND				
52	0,039	1,5					
53	1,5	249	Outlier				
55	0,050	3,3	ND				
56	0,010	-3,3	ND				
57	0,10	12	Outlier,ND				
58	0,024	-1,0					
59	0,29	43	Outlier				
60	0,16	22	Outlier,ND				
62	0,058	4,6	ND				
65	0,30	45	Outlier,ND				
67	0,14	18	Outlier				
73	0,082	8,7	Outlier				
75	0,20	28	Outlier,ND				
77	0,015	-2,5					
79	0,023	-1,2	ND				

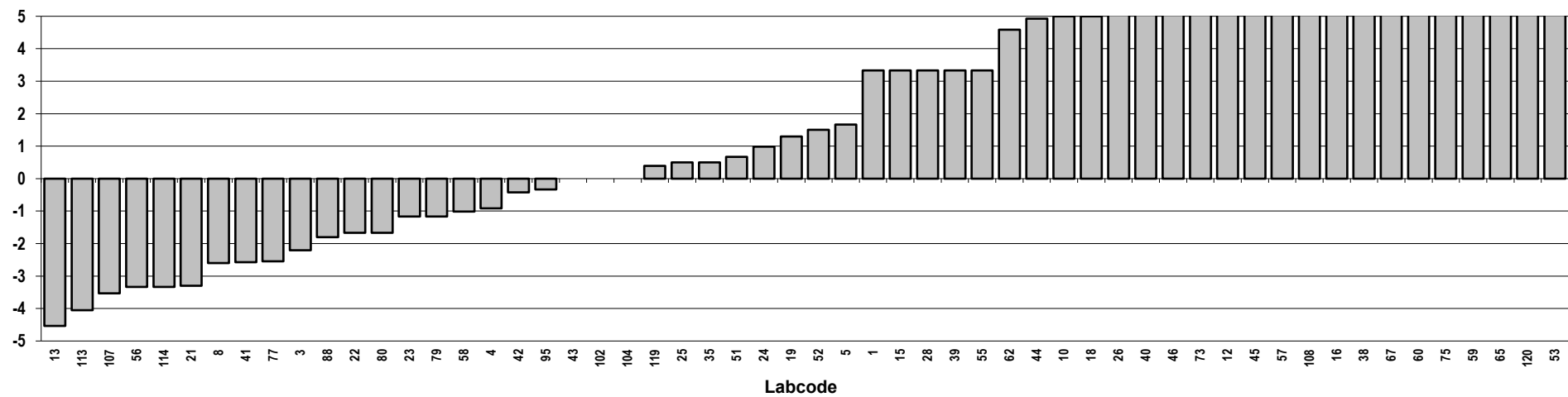
Consensus statistics

Consensus median, pg/g	0,030
Median all values pg/g	0,038
Consensus mean, pg/g	0,031
Standard deviation, pg/g	0,017
Relative standard deviation, %	54
No. of values reported	56
No. of values removed	16
No. of reported non-detects	37

1,2,3,7,8,9 HxCDF



Z-score: 1,2,3,7,8,9 HxCDF



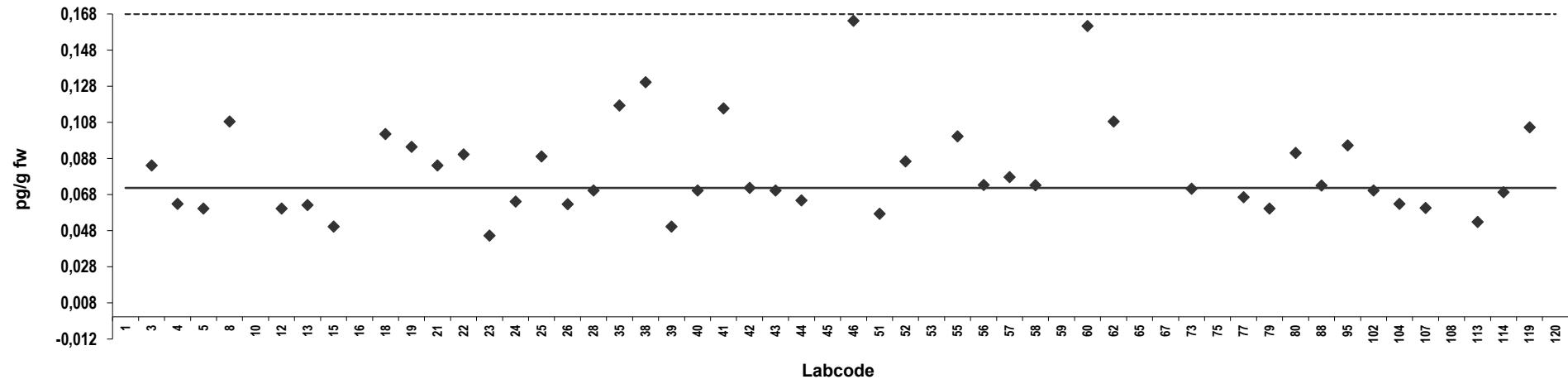
Fish oil
Congener: 1,2,3,4,6,7,8 HpCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,18	7,4	Outlier	80	0,091	1,4	
3	0,084	0,87		88	0,073	0,093	
4	0,063	-0,62		95	0,095	1,7	
5	0,060	-0,80	ND	102	0,070	-0,097	
8	0,11	2,6		104	0,063	-0,62	
10	0,60	37	Outlier,ND	107	0,060	-0,78	
12	0,060	-0,80	ND	108	0,26	13	Outlier
13	0,062	-0,66		113	0,053	-1,3	
15	0,050	-1,5	ND	114	0,069	-0,17	
16	0,37	21	Outlier	119	0,10	2,3	
18	0,10	2,1	ND	120	0,27	14	Outlier
19	0,094	1,6	ND				
21	0,084	0,88					
22	0,090	1,3					
23	0,045	-1,9					
24	0,064	-0,52					
25	0,089	1,2					
26	0,062	-0,64	ND				
28	0,070	-0,097					
35	0,12	3,2					
38	0,13	4,1	ND				
39	0,050	-1,5	ND				
40	0,070	-0,097					
41	0,12	3,1					
42	0,071	0,00					
43	0,070	-0,097					
44	0,065	-0,48	ND				
45	0,20	9,0	Outlier,ND				
46	0,16	6,5	ND				
51	0,057	-1,0	ND				
52	0,086	1,0					
53	0,40	23	Outlier				
55	0,10	2,0					
56	0,073	0,11					
57	0,077	0,42	ND				
58	0,073	0,10					
59	0,27	14	Outlier				
60	0,16	6,3	ND				
62	0,11	2,6					
65	1,2	81	Outlier				
67	0,17	7,0	Outlier				
73	0,071	-0,026					
75	0,30	16	Outlier,ND				
77	0,066	-0,35					
79	0,060	-0,80					

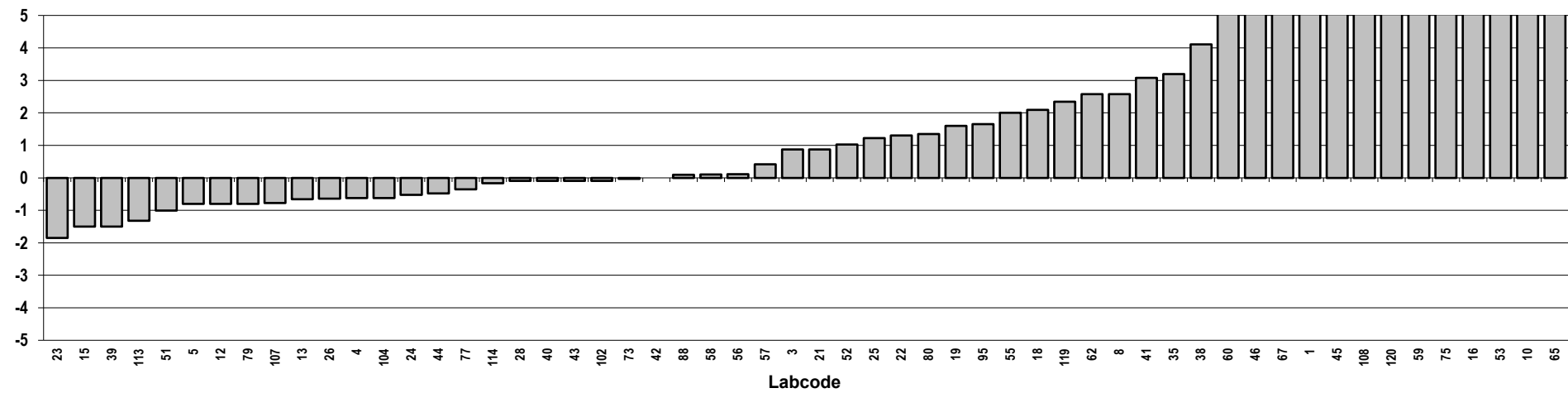
Consensus statistics

Consensus median, pg/g	0,071
Median all values pg/g	0,084
Consensus mean, pg/g	0,081
Standard deviation, pg/g	0,027
Relative standard deviation, %	33
No. of values reported	56
No. of values removed	11
No. of reported non-detects	16

1,2,3,4,6,7,8 HpCDF



Z-score: 1,2,3,4,6,7,8 HpCDF



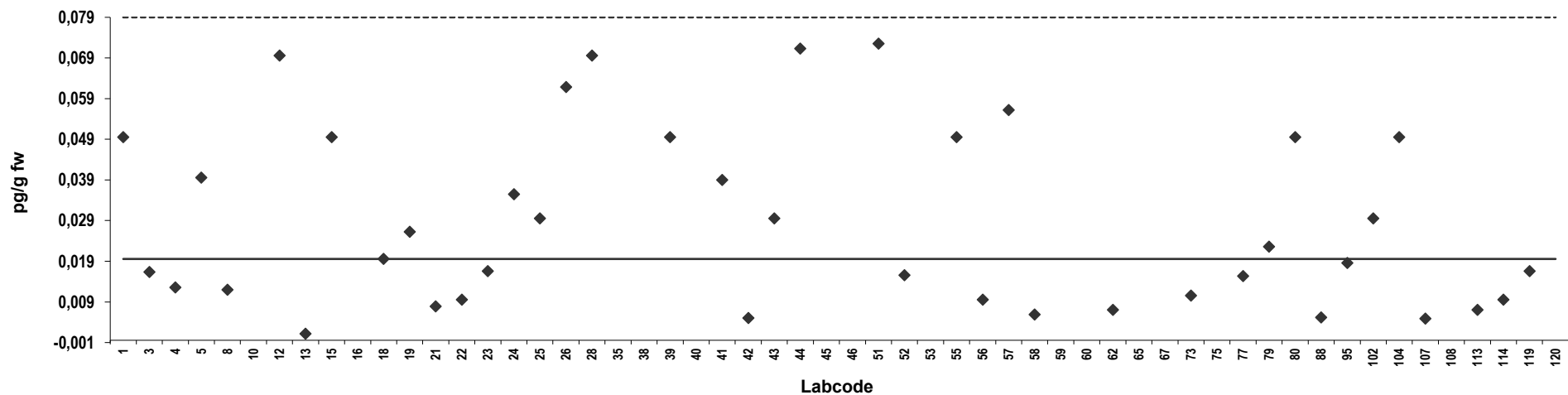
Fish oil
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,050	7,5	ND	80	0,050	7,5	ND
3	0,017	-0,81		88	0,0057	-3,6	
4	0,013	-1,8	ND	95	0,019	-0,25	ND
5	0,040	5,0	ND	102	0,030	2,5	ND
8	0,012	-1,9	ND	104	0,050	7,5	ND
10	0,30	70	Outlier,ND	107	0,0053	-3,7	ND
12	0,070	13	ND	108	0,13	28	Outlier
13	0,0016	-4,6		113	0,0075	-3,1	
15	0,050	7,5	ND	114	0,010	-2,5	ND
16	0,10	20	Outlier	119	0,017	-0,75	ND
18	0,020	0,00	ND	120	0,28	64	Outlier
19	0,027	1,7	ND				
21	0,0084	-2,9	ND				
22	0,010	-2,5	ND				
23	0,017	-0,75	ND				
24	0,036	4,0	ND				
25	0,030	2,5					
26	0,062	11	ND				
28	0,070	13	ND				
35	0,10	20	Outlier				
38	0,13	28	Outlier,ND				
39	0,050	7,5	ND				
40	0,090	18	Outlier,ND				
41	0,039	4,9					
42	0,0055	-3,6	ND				
43	0,030	2,5	ND				
44	0,072	13	ND				
45	0,20	45	Outlier,ND				
46	0,16	36	Outlier,ND				
51	0,073	13	ND				
52	0,016	-1,0	ND				
53	16	3910	Outlier				
55	0,050	7,5	ND				
56	0,010	-2,5	ND				
57	0,057	9,2	ND				
58	0,0063	-3,4					
59	0,74	179	Outlier				
60	0,16	35	Outlier,ND				
62	0,0075	-3,1	ND				
65	0,30	70	Outlier,ND				
67	0,11	21	Outlier,ND				
73	0,011	-2,3					
75	0,30	70	Outlier,ND				
77	0,016	-1,0	ND				
79	0,023	0,75	ND				

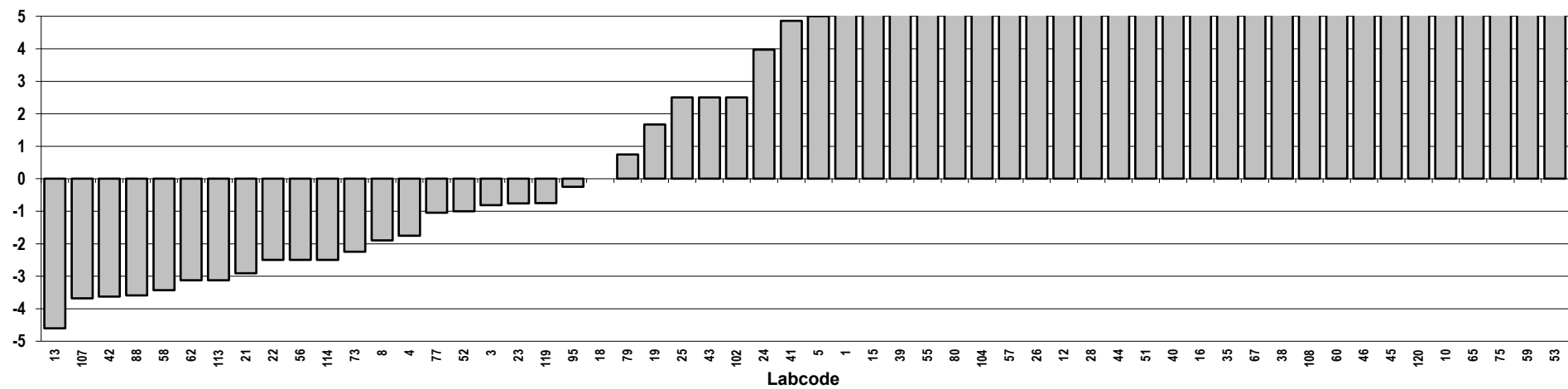
Consensus statistics

Consensus median, pg/g	0,020
Median all values pg/g	0,040
Consensus mean, pg/g	0,029
Standard deviation, pg/g	0,022
Relative standard deviation, %	75
No. of values reported	56
No. of values removed	15
No. of reported non-detects	42

1,2,3,4,7,8,9 HpCDF



Z-score: 1,2,3,4,7,8,9 HpCDF

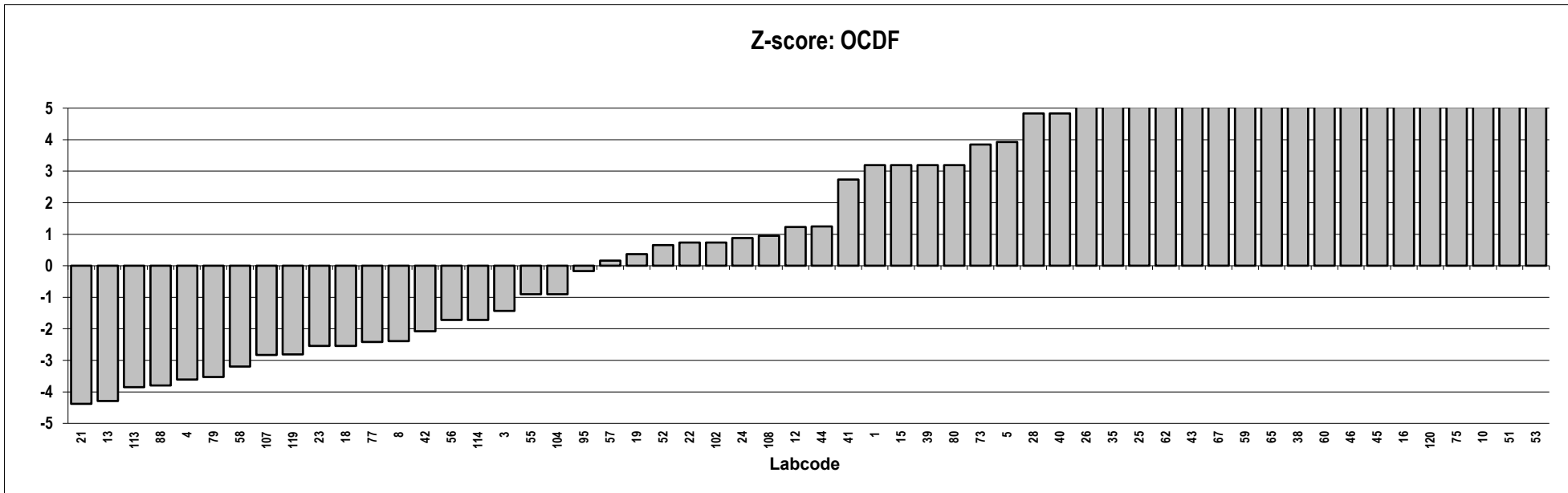
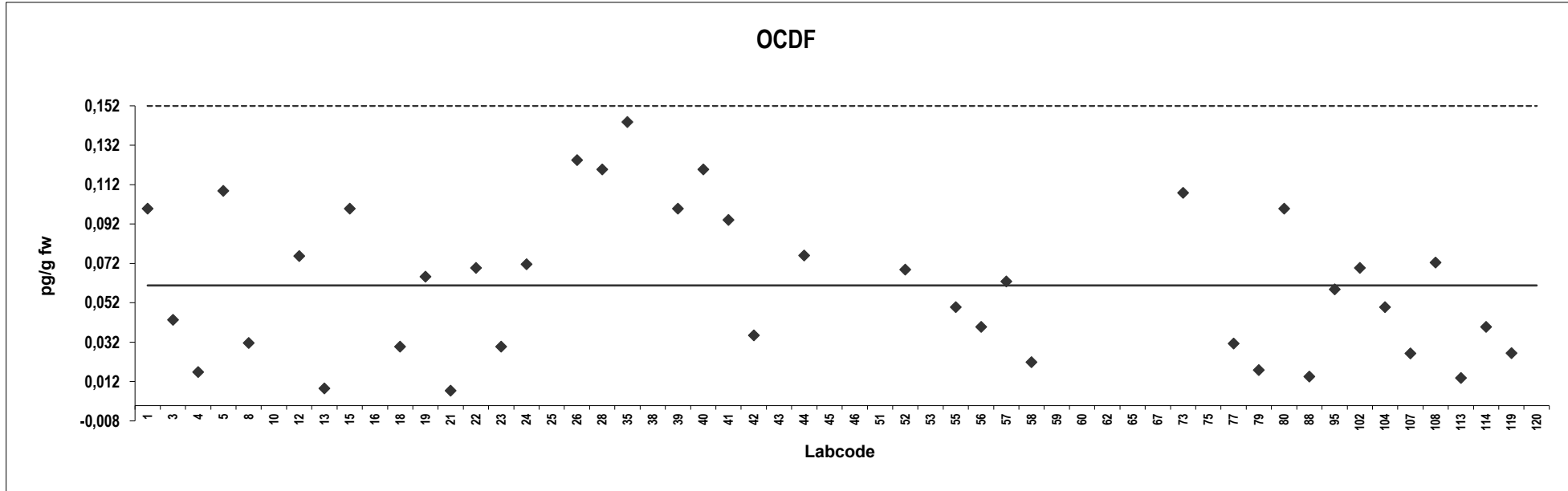


Fish oil
Congener: OCDF

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	0,10	3,2	ND	80	0,10	3,2	ND
3	0,044	-1,4		88	0,015	-3,8	
4	0,017	-3,6	ND	95	0,059	-0,17	
5	0,11	3,9	ND	102	0,070	0,74	ND
8	0,032	-2,4	ND	104	0,050	-0,90	ND
10	1,0	77	Outlier,ND	107	0,027	-2,8	
12	0,076	1,2		108	0,073	0,95	
13	0,0087	-4,3		113	0,014	-3,9	
15	0,10	3,2	ND	114	0,040	-1,7	ND
16	0,44	31	Outlier	119	0,027	-2,8	ND
18	0,030	-2,5	ND	120	0,52	37	Outlier
19	0,065	0,37	ND				
21	0,0076	-4,4	ND				
22	0,070	0,74					
23	0,030	-2,5	ND				
24	0,072	0,88	ND				
25	0,19	11	Outlier				
26	0,12	5,2	ND				
28	0,12	4,8	ND				
35	0,14	6,8					
38	0,31	20	Outlier,ND				
39	0,10	3,2	ND				
40	0,12	4,8	ND				
41	0,094	2,7					
42	0,036	-2,1	ND				
43	0,20	11	Outlier,ND				
44	0,076	1,2	ND				
45	0,40	28	Outlier,ND				
46	0,33	22	Outlier,ND				
51	1,0	80	Outlier				
52	0,069	0,65					
53	3,2	254	Outlier				
55	0,050	-0,90	ND				
56	0,040	-1,7	ND				
57	0,063	0,17	ND				
58	0,022	-3,2					
59	0,29	19	Outlier				
60	0,32	21	Outlier,ND				
62	0,20	11	Outlier				
65	0,30	20	Outlier,ND				
67	0,24	14	Outlier				
73	0,11	3,8					
75	0,60	44	Outlier,ND				
77	0,032	-2,4	ND				
79	0,018	-3,5	ND				

Consensus statistics

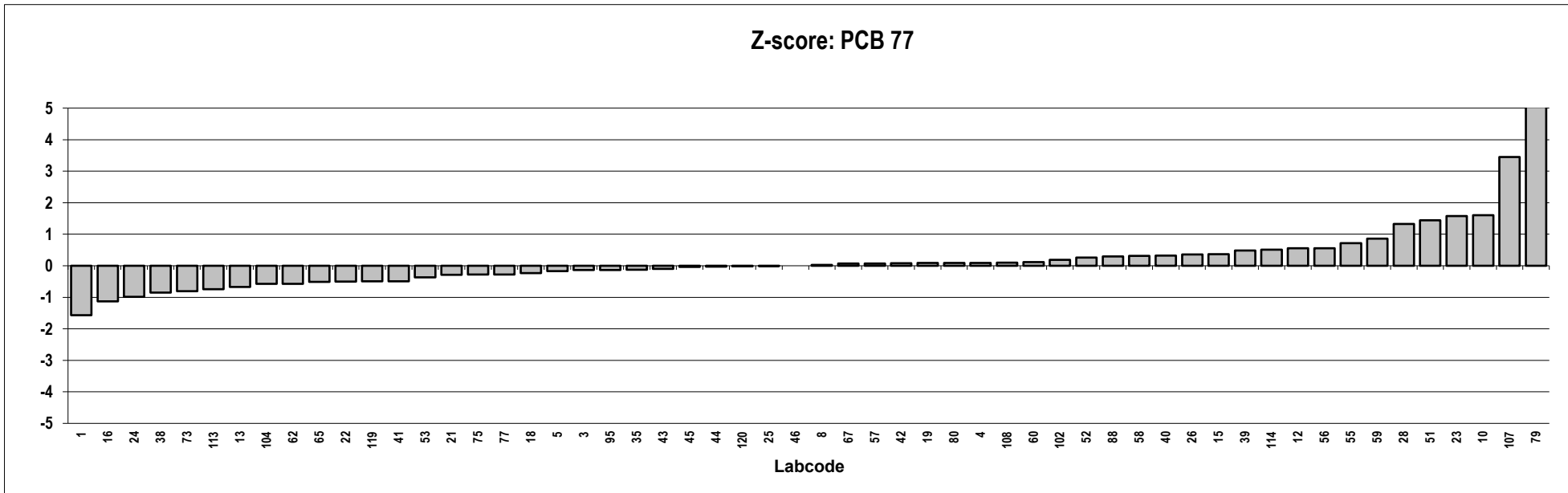
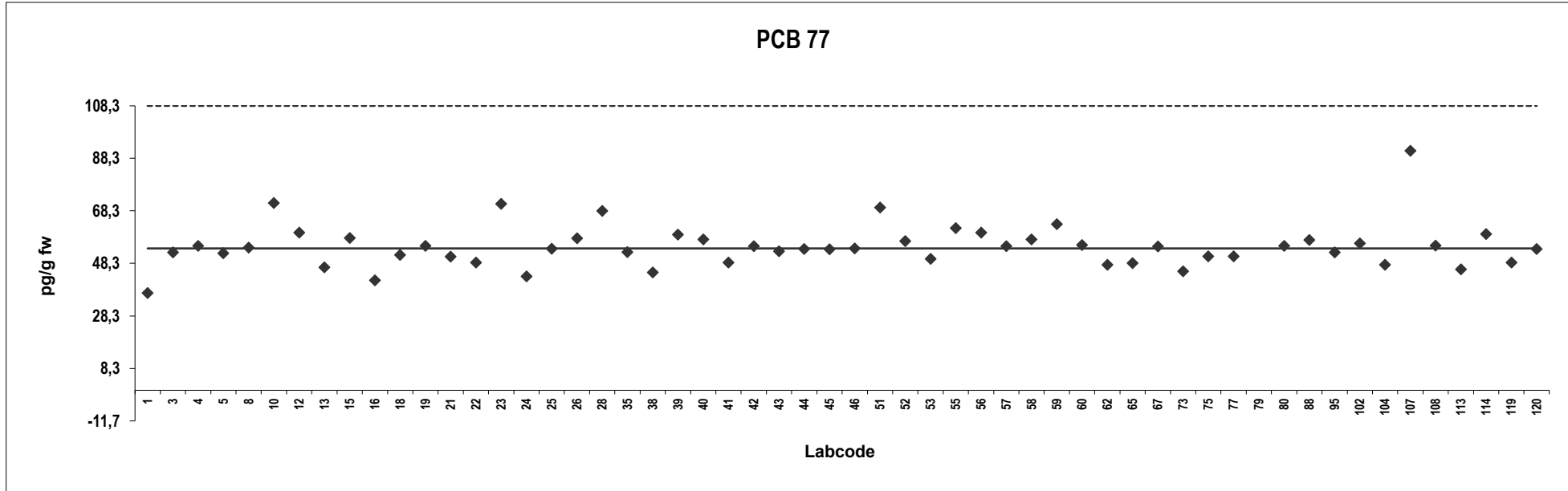
Consensus median, pg/g	0,061
Median all values pg/g	0,076
Consensus mean, pg/g	0,061
Standard deviation, pg/g	0,037
Relative standard deviation, %	61
No. of values reported	56
No. of values removed	16
No. of reported non-detects	34



Fish oil
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	37	-1,6		80	55	0,091	
3	53	-0,14		88	57	0,30	
4	55	0,091		95	53	-0,14	
5	52	-0,17		102	56	0,18	
8	54	0,027		104	48	-0,58	
10	71	1,6		107	91	3,4	
12	60	0,55		108	55	0,097	
13	47	-0,67		113	46	-0,74	
15	58	0,37		114	60	0,51	
16	42	-1,1		119	49	-0,50	
18	52	-0,23		120	54	-0,020	
19	55	0,086					
21	51	-0,29					
22	49	-0,50					
23	71	1,6					
24	43	-0,99					
25	54	-0,011					
26	58	0,36					
28	68	1,3					
35	53	-0,13					
38	45	-0,85					
39	59	0,49					
40	58	0,32					
41	49	-0,49					
42	55	0,082					
43	53	-0,10					
44	54	-0,024					
45	54	-0,034					
46	54	0,00					
51	70	1,4					
52	57	0,26					
53	50	-0,37					
55	62	0,71					
56	60	0,55					
57	55	0,075					
58	57	0,32					
59	63	0,86					
60	55	0,11					
62	48	-0,57					
65	48	-0,51					
67	55	0,072					
73	45	-0,81					
75	51	-0,28					
77	51	-0,28					
79	852	74	Outlier				

Consensus statistics	
Consensus median, pg/g	54
Median all values pg/g	54
Consensus mean, pg/g	55
Standard deviation, pg/g	8,4
Relative standard deviation, %	15
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0

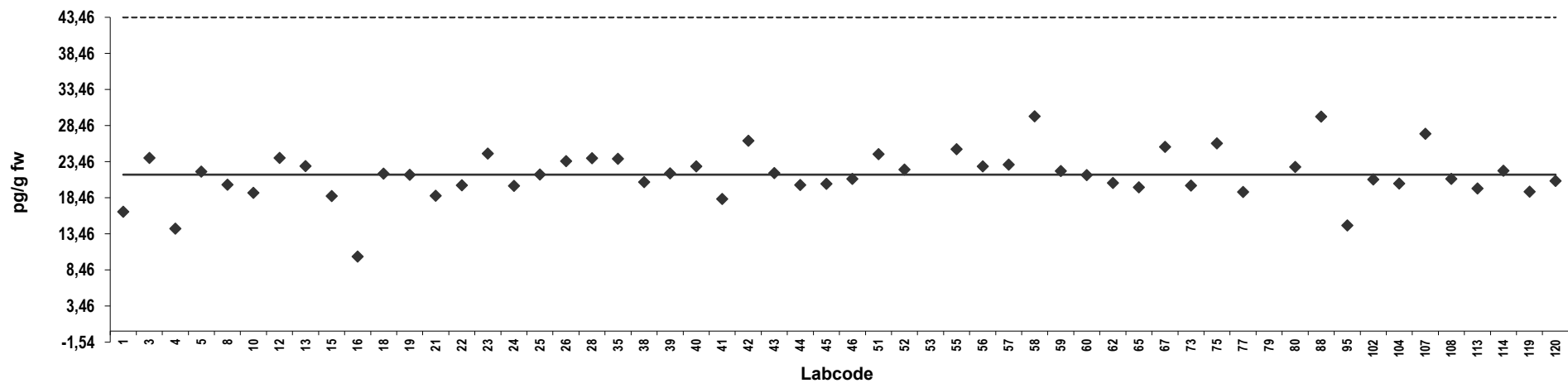


Fish oil
Congener: PCB 126

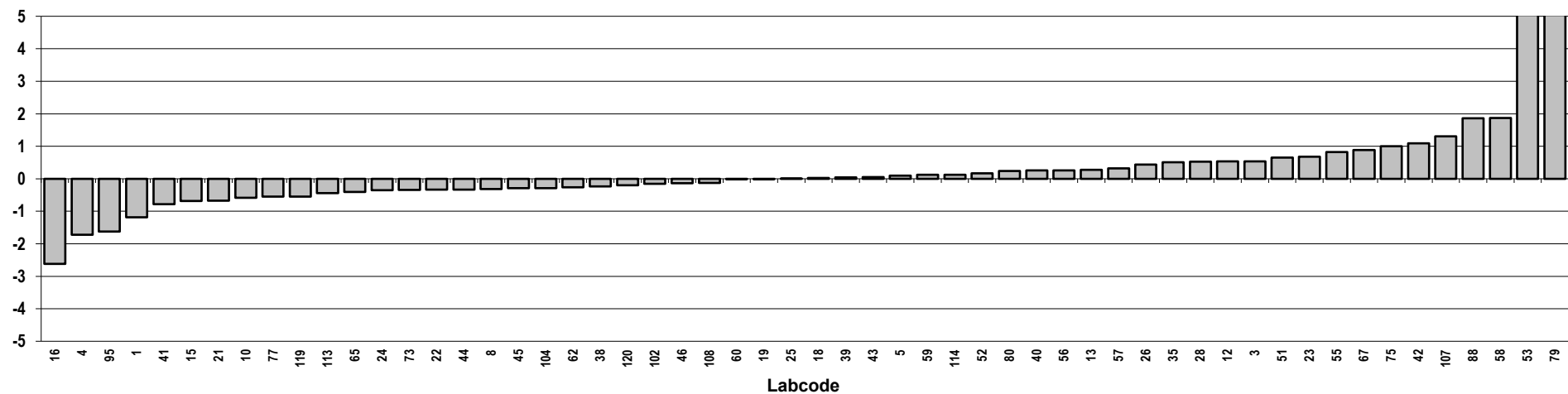
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	17	-1,2		80	23	0,24	
3	24	0,54		88	30	1,9	
4	14	-1,7		95	15	-1,6	
5	22	0,10		102	21	-0,15	
8	20	-0,32		104	20	-0,29	
10	19	-0,58		107	27	1,3	
12	24	0,54		108	21	-0,13	
13	23	0,28		113	20	-0,44	
15	19	-0,68		114	22	0,12	
16	10	-2,6		119	19	-0,55	
18	22	0,029		120	21	-0,20	
19	22	-0,0012					
21	19	-0,67					
22	20	-0,34					
23	25	0,68					
24	20	-0,36					
25	22	0,0012					
26	24	0,44					
28	24	0,52					
35	24	0,51					
38	21	-0,24					
39	22	0,038					
40	23	0,26					
41	18	-0,78					
42	26	1,1					
43	22	0,054					
44	20	-0,33					
45	20	-0,29					
46	21	-0,14					
51	25	0,65					
52	22	0,17					
53	54	7,4	Outlier				
55	25	0,82					
56	23	0,26					
57	23	0,32					
58	30	1,9					
59	22	0,12					
60	22	-0,010					
62	21	-0,26					
65	20	-0,40					
67	26	0,88					
73	20	-0,35					
75	26	1,0					
77	19	-0,55					
79	405	88	Outlier				

Consensus statistics	
Consensus median, pg/g	22
Median all values pg/g	22
Consensus mean, pg/g	22
Standard deviation, pg/g	3,4
Relative standard deviation, %	16
No. of values reported	56
No. of values removed	2
No. of reported non-detects	0

PCB 126



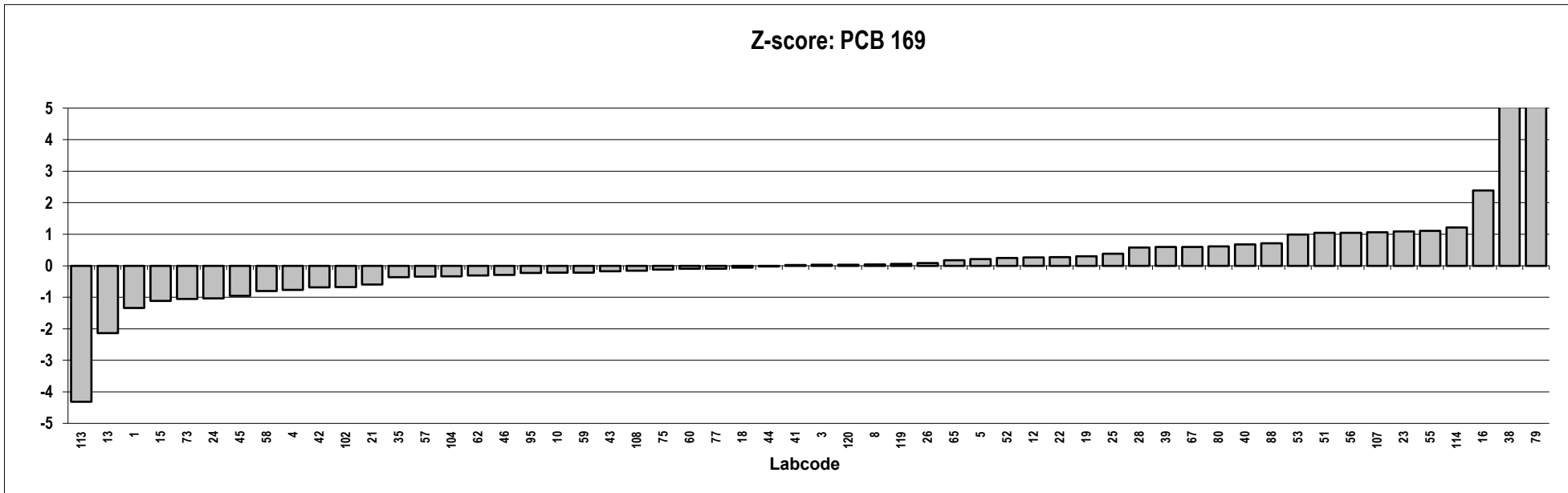
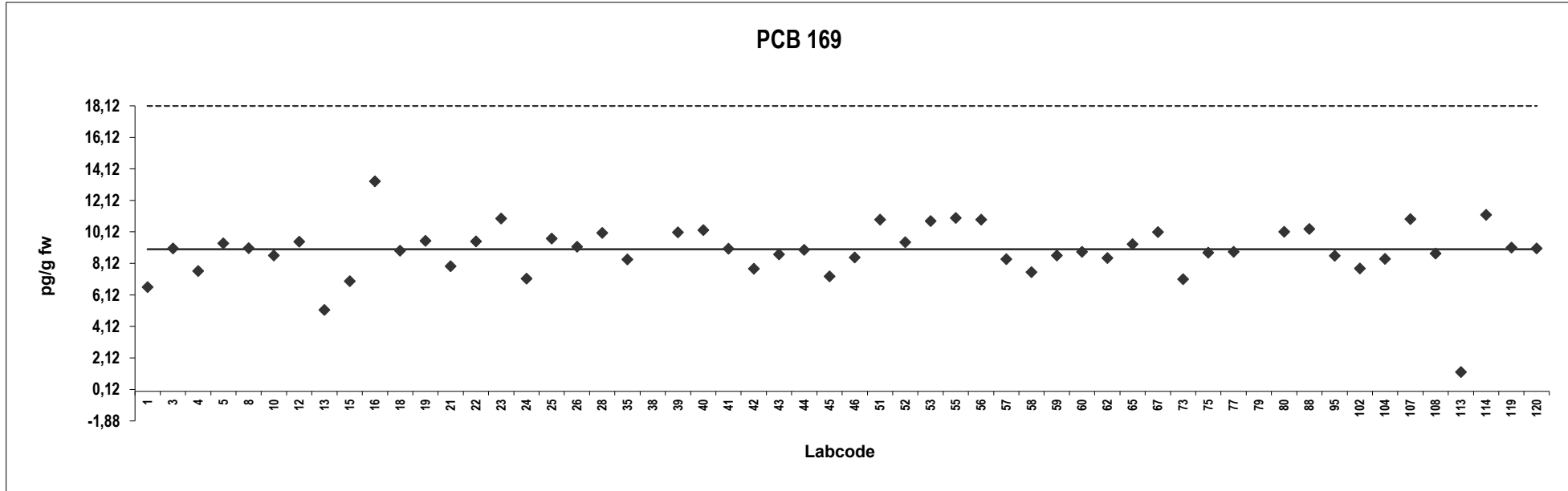
Z-score: PCB 126



Fish oil
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	6,6	-1,3		80	10	0,61	
3	9,1	0,027		88	10	0,72	
4	7,6	-0,77		95	8,6	-0,23	
5	9,4	0,21		102	7,8	-0,68	
8	9,1	0,037		104	8,4	-0,34	
10	8,6	-0,22		107	11	1,1	
12	9,5	0,27		108	8,7	-0,15	
13	5,2	-2,1		113	1,2	-4,3	
15	7,0	-1,1		114	11	1,2	
16	13	2,4		119	9,1	0,057	
18	8,9	-0,054		120	9,1	0,032	
19	9,6	0,30					
21	7,9	-0,60					
22	9,5	0,27					
23	11	1,1					
24	7,2	-1,0					
25	9,7	0,38					
26	9,2	0,088					
28	10	0,58					
35	8,4	-0,36					
38	30	12	Outlier				
39	10	0,59					
40	10	0,68					
41	9,1	0,020					
42	7,8	-0,68					
43	8,7	-0,18					
44	9,0	-0,020					
45	7,3	-0,96					
46	8,5	-0,29					
51	11	1,0					
52	9,5	0,24					
53	11	0,99					
55	11	1,1					
56	11	1,0					
57	8,4	-0,35					
58	7,6	-0,81					
59	8,6	-0,22					
60	8,8	-0,094					
62	8,5	-0,31					
65	9,3	0,17					
67	10	0,60					
73	7,1	-1,0					
75	8,8	-0,12					
77	8,9	-0,093					
79	97	49	Outlier				

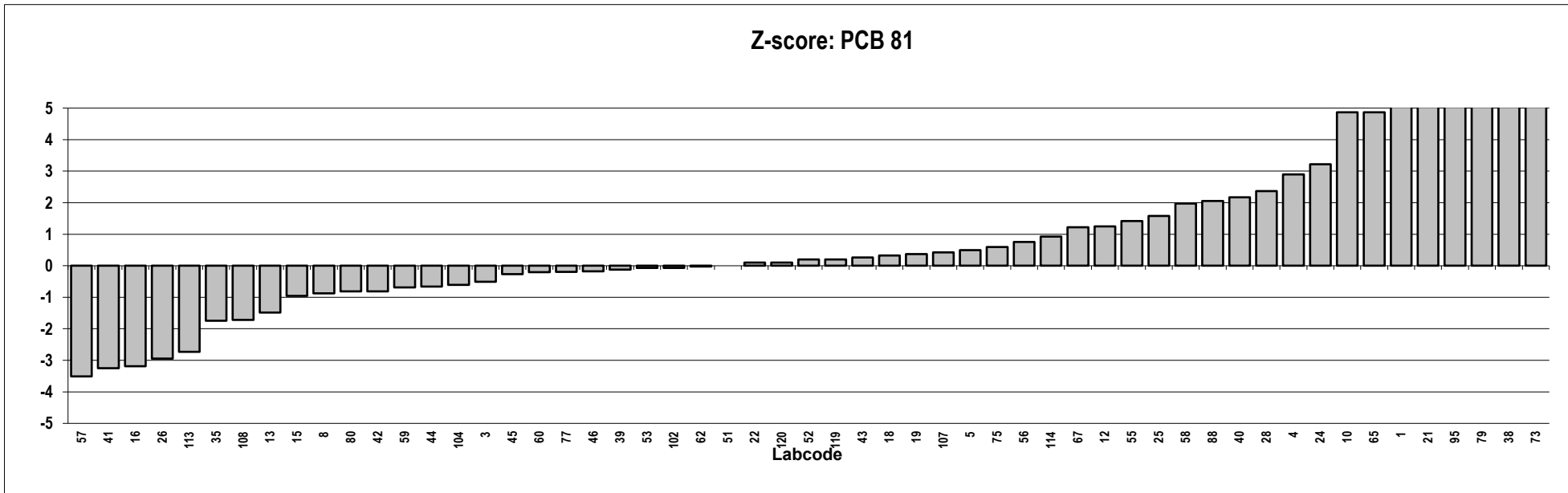
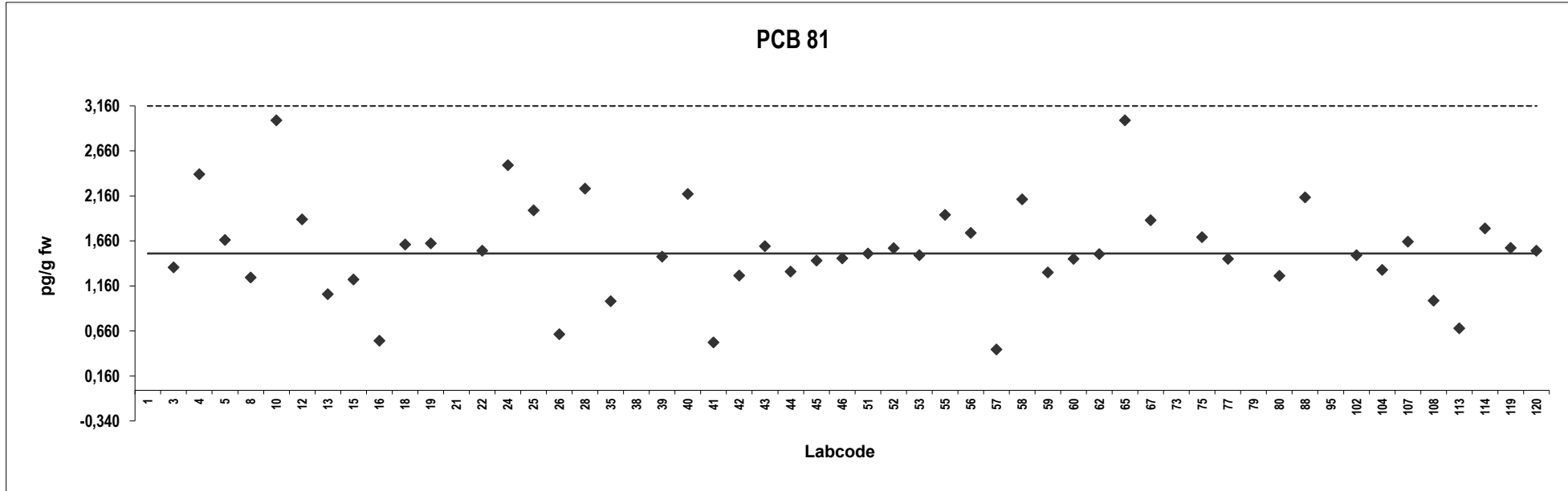
Consensus statistics	
Consensus median, pg/g	9,0
Median all values pg/g	9,1
Consensus mean, pg/g	8,9
Standard deviation, pg/g	1,7
Relative standard deviation, %	19
No. of values reported	56
No. of values removed	2
No. of reported non-detects	0



Fish oil
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	3,8	7,5	Outlier	88	2,1	2,1	
3	1,4	-0,51		95	13	36	Outlier
4	2,4	2,9	ND	102	1,5	-0,066	
5	1,7	0,49		104	1,3	-0,60	
8	1,3	-0,87		107	1,7	0,43	ND
10	3,0	4,9	ND	108	1,0	-1,7	
12	1,9	1,3		113	0,69	-2,7	
13	1,1	-1,5		114	1,8	0,92	
15	1,2	-0,95		119	1,6	0,20	
16	0,55	-3,2		120	1,6	0,10	
18	1,6	0,33					
19	1,6	0,37					
21	7,3	19	Outlier				
22	1,6	0,099					
24	2,5	3,2	ND				
25	2,0	1,6					
26	0,62	-2,9	ND				
28	2,2	2,4					
35	0,99	-1,7					
38	20	61	Outlier,ND				
39	1,5	-0,12					
40	2,2	2,2					
41	0,53	-3,2					
42	1,3	-0,81					
43	1,6	0,26					
44	1,3	-0,66					
45	1,4	-0,26					
46	1,5	-0,17					
51	1,5	0,00					
52	1,6	0,20					
53	1,5	-0,066	ND				
55	2,0	1,4					
56	1,8	0,76					
57	0,45	-3,5					
58	2,1	2,0					
59	1,3	-0,69					
60	1,5	-0,20					
62	1,5	-0,024					
65	3,0	4,9	ND				
67	1,9	1,2					
73	44	139	Outlier				
75	1,7	0,59					
77	1,5	-0,20					
79	19	58	Outlier				
80	1,3	-0,82					

Consensus statistics	
Consensus median, pg/g	1,5
Median all values pg/g	1,6
Consensus mean, pg/g	1,6
Standard deviation, pg/g	0,55
Relative standard deviation, %	35
No. of values reported	55
No. of values removed	6
No. of reported non-detects	8



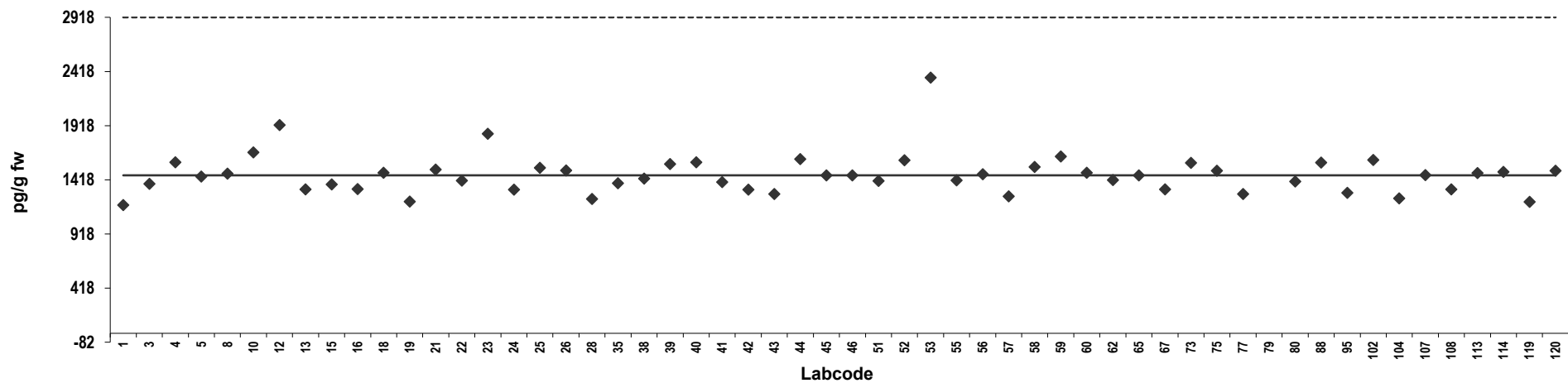
Fish oil
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	1185	-0,94		80	1401	-0,20	
3	1380	-0,27		88	1578	0,41	
4	1580	0,41		95	1296	-0,56	
5	1447	-0,041		102	1600	0,48	
8	1476	0,057		104	1246	-0,73	
10	1671	0,73		107	1462	0,0097	
12	1922	1,6		108	1328	-0,45	
13	1329	-0,45		113	1480	0,072	
15	1374	-0,29		114	1490	0,11	
16	1333	-0,43		119	1214	-0,84	
18	1482	0,079		120	1501	0,14	
19	1216	-0,83					
21	1511	0,18					
22	1410	-0,17					
23	1843	1,3					
24	1327	-0,45					
25	1527	0,23					
26	1503	0,15					
28	1240	-0,75					
35	1386	-0,25					
38	1428	-0,11					
39	1564	0,36					
40	1580	0,41					
41	1395	-0,22					
42	1326	-0,46					
43	1287	-0,59					
44	1609	0,51					
45	1457	-0,0067					
46	1459	0,00056					
51	1406	-0,18					
52	1597	0,47					
53	2360	3,1					
55	1412	-0,16					
56	1470	0,038					
57	1266	-0,66					
58	1537	0,27					
59	1632	0,59					
60	1483	0,082					
62	1416	-0,15					
65	1459	0,00					
67	1330	-0,44					
73	1574	0,39					
75	1500	0,14					
77	1288	-0,59					
79	16162	50	Outlier				

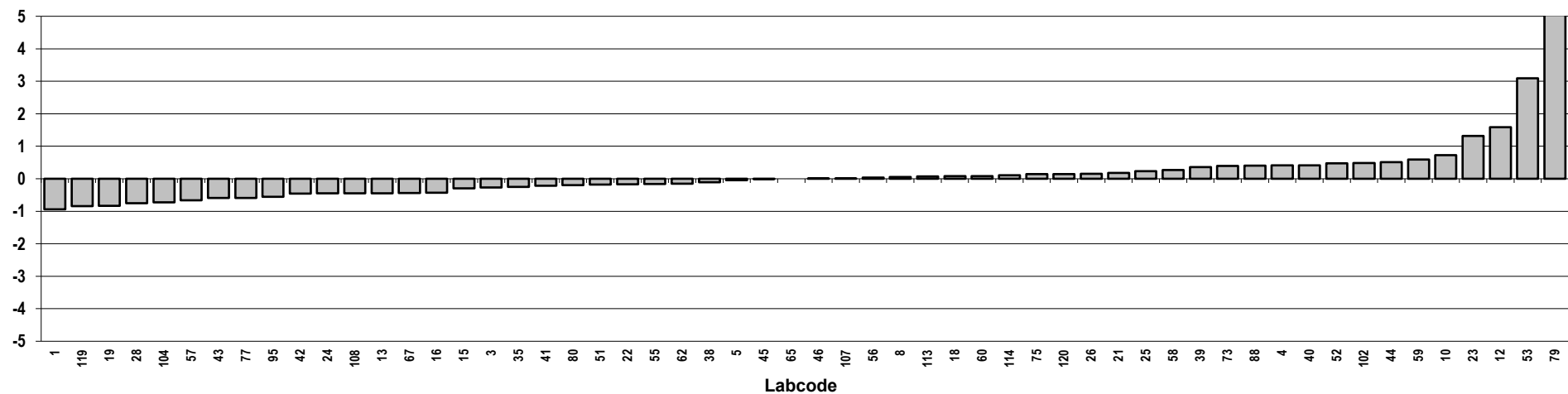
Consensus statistics

Consensus median, pg/g	1459
Median all values pg/g	1459
Consensus mean, pg/g	1465
Standard deviation, pg/g	190
Relative standard deviation, %	13
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0

PCB 105



Z-score: PCB 105



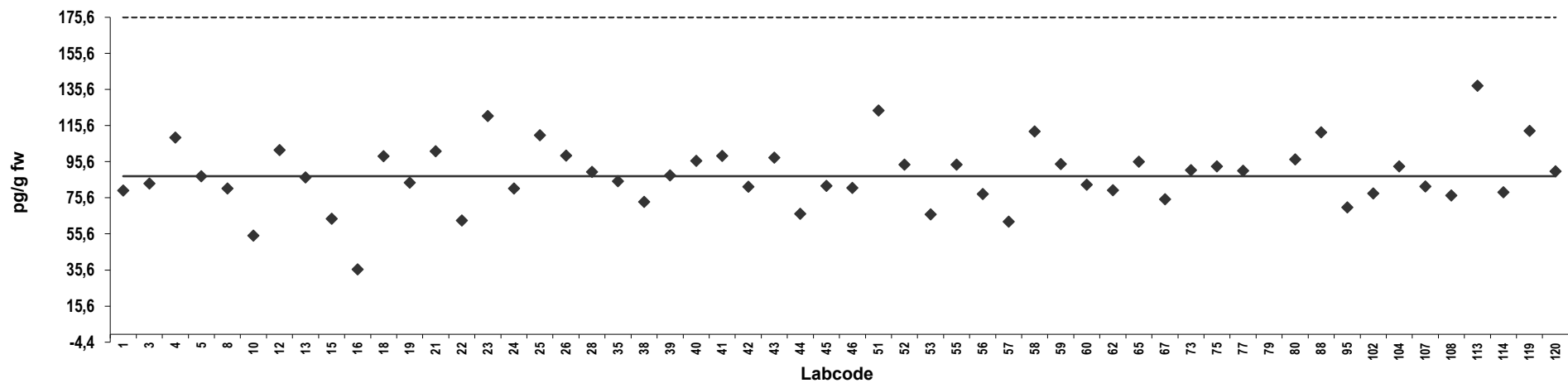
Fish oil
Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	80	-0,45		80	97	0,53	
3	83	-0,23		88	112	1,4	
4	109	1,2		95	70	-0,98	
5	88	0,00		102	78	-0,55	
8	81	-0,39		104	93	0,31	
10	55	-1,9		107	82	-0,33	
12	102	0,82		108	77	-0,61	
13	87	-0,044		113	138	2,9	
15	64	-1,3		114	79	-0,51	
16	36	-3,0		119	113	1,4	
18	99	0,64		120	90	0,15	
19	84	-0,21					
21	101	0,79					
22	63	-1,4					
23	121	1,9					
24	81	-0,38					
25	110	1,3					
26	99	0,65					
28	90	0,14	ND				
35	85	-0,16					
38	73	-0,81					
39	88	0,024					
40	96	0,49					
41	99	0,64					
42	82	-0,33					
43	98	0,59					
44	67	-1,2					
45	82	-0,30					
46	81	-0,37					
51	124	2,1					
52	94	0,36					
53	67	-1,2					
55	94	0,37					
56	78	-0,57					
57	62	-1,4					
58	112	1,4					
59	94	0,39					
60	83	-0,27					
62	80	-0,44					
65	96	0,46					
67	75	-0,72					
73	91	0,19					
75	93	0,31					
77	91	0,17					
79	941	49	Outlier				

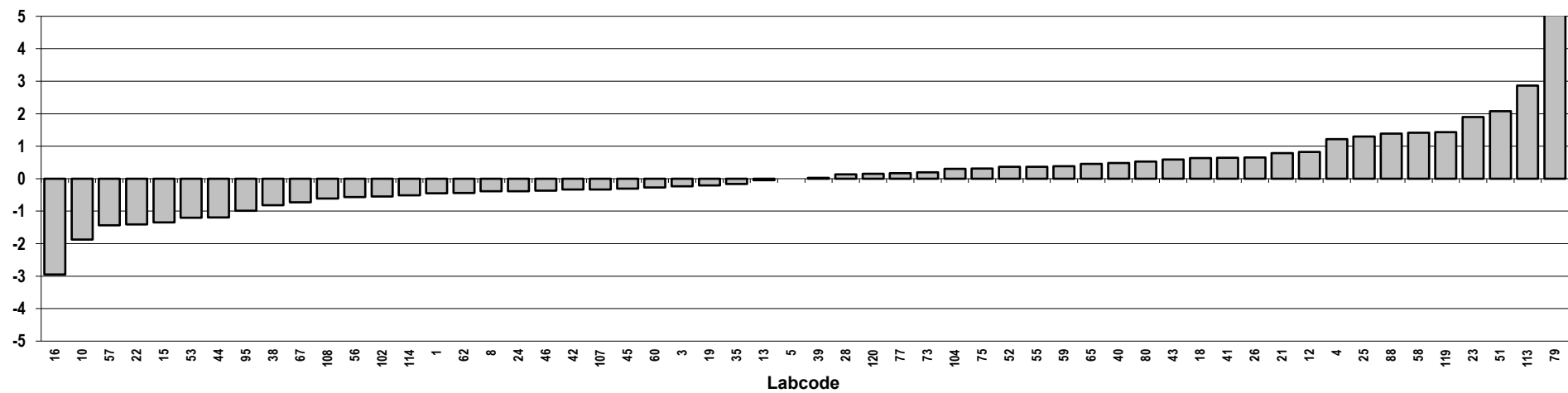
Consensus statistics

Consensus median, pg/g	88
Median all values pg/g	88
Consensus mean, pg/g	88
Standard deviation, pg/g	18
Relative standard deviation, %	20
No. of values reported	56
No. of values removed	1
No. of reported non-detects	1

PCB 114



Z-score: PCB 114



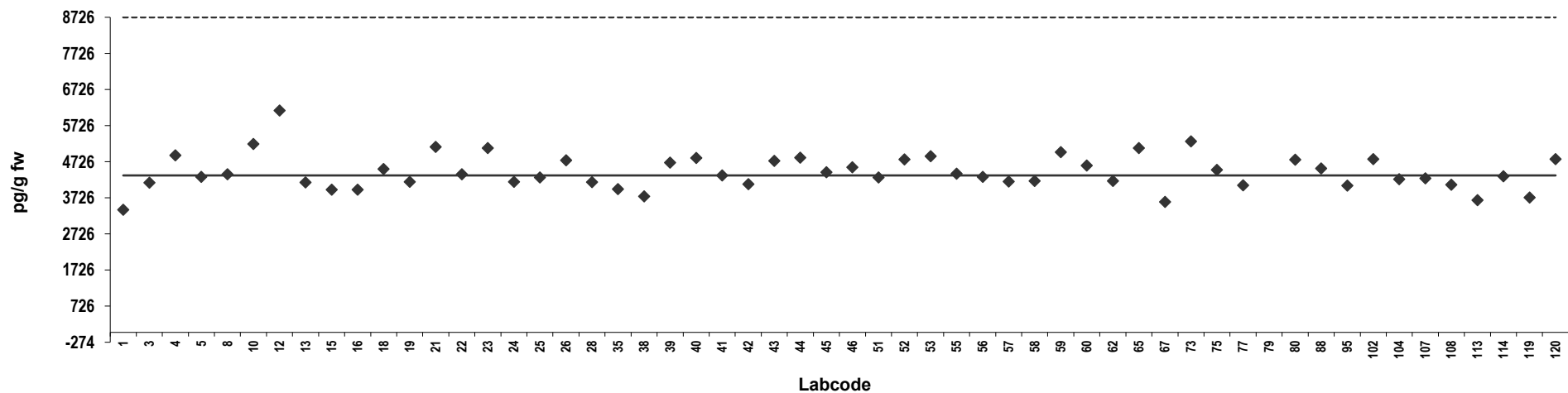
Fish oil
Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	3393	-1,1		80	4783	0,50	
3	4144	-0,23		88	4540	0,22	
4	4900	0,64		95	4062	-0,33	
5	4306	-0,047		102	4800	0,52	
8	4379	0,037		104	4240	-0,12	
10	5221	1,0		107	4269	-0,090	
12	6148	2,1		108	4090	-0,29	
13	4156	-0,22		113	3663	-0,79	
15	3950	-0,46		114	4320	-0,03	
16	3951	-0,46		119	3732	-0,71	
18	4524	0,20		120	4799	0,52	
19	4168	-0,21					
21	5136	0,91					
22	4380	0,038					
23	5104	0,87					
24	4173	-0,20					
25	4292	-0,063					
26	4769	0,49					
28	4160	-0,22					
35	3969	-0,43					
38	3769	-0,67					
39	4699	0,41					
40	4827	0,55					
41	4347	0,00					
42	4103	-0,28					
43	4749	0,46					
44	4840	0,57					
45	4434	0,10					
46	4572	0,26					
51	4290	-0,065					
52	4793	0,51					
53	4880	0,61					
55	4395	0,055					
56	4310	-0,042					
57	4181	-0,19					
58	4197	-0,17					
59	4996	0,75					
60	4619	0,31					
62	4195	-0,18					
65	5104	0,87					
67	3610	-0,85					
73	5288	1,1					
75	4500	0,18					
77	4073	-0,32					
79	52071	55	Outlier				

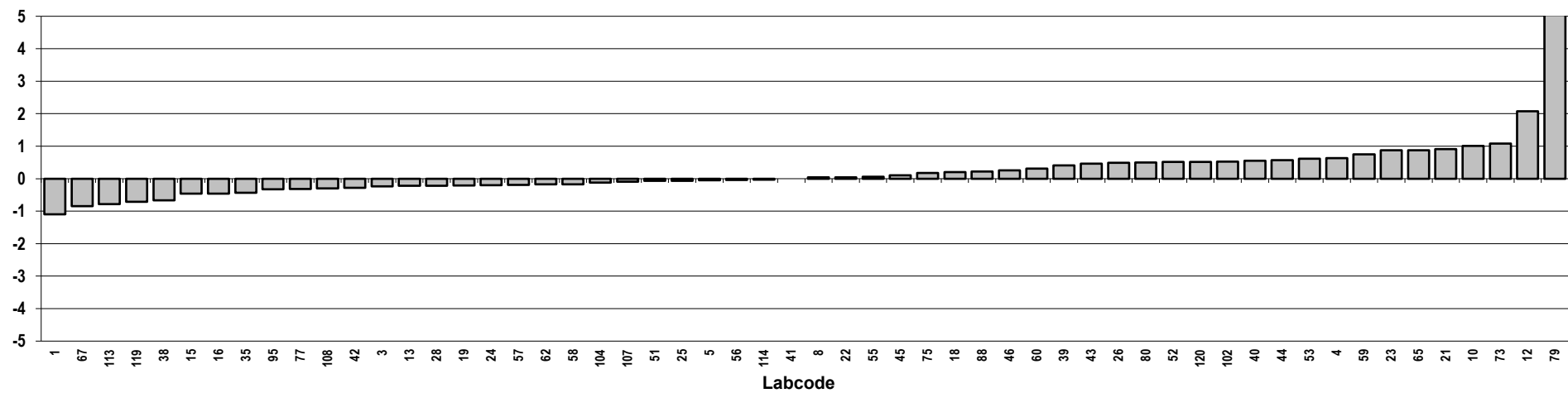
Consensus statistics

Consensus median, pg/g	4347
Median all values pg/g	4363
Consensus mean, pg/g	4442
Standard deviation, pg/g	487
Relative standard deviation, %	11
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0

PCB 118



Z-score: PCB 118

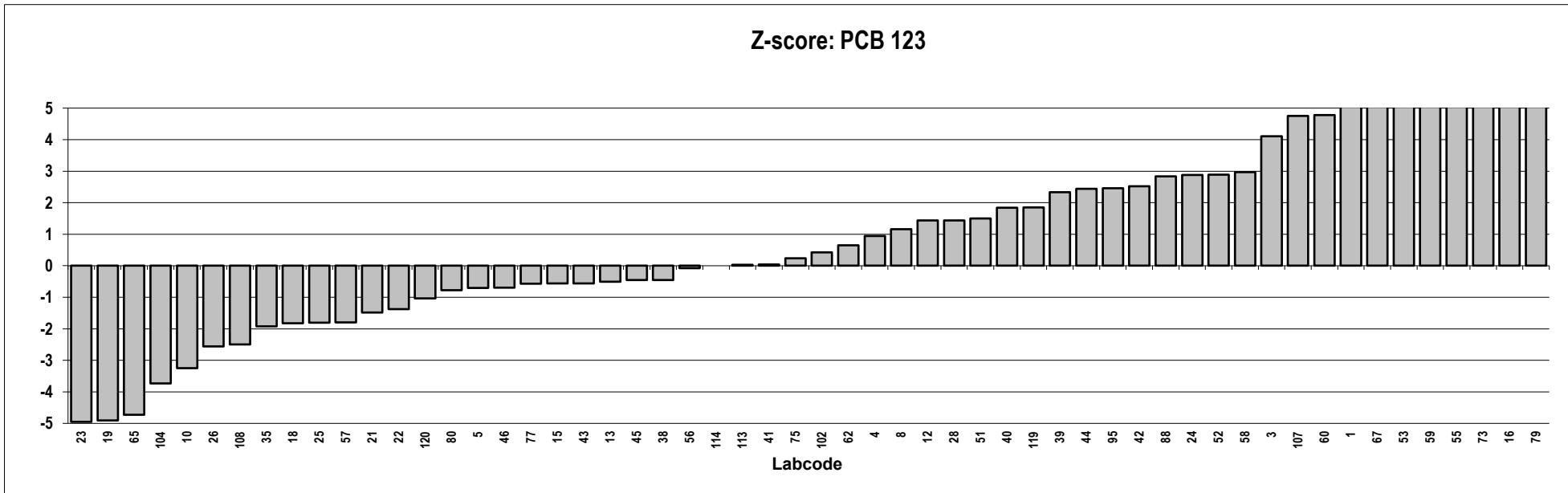
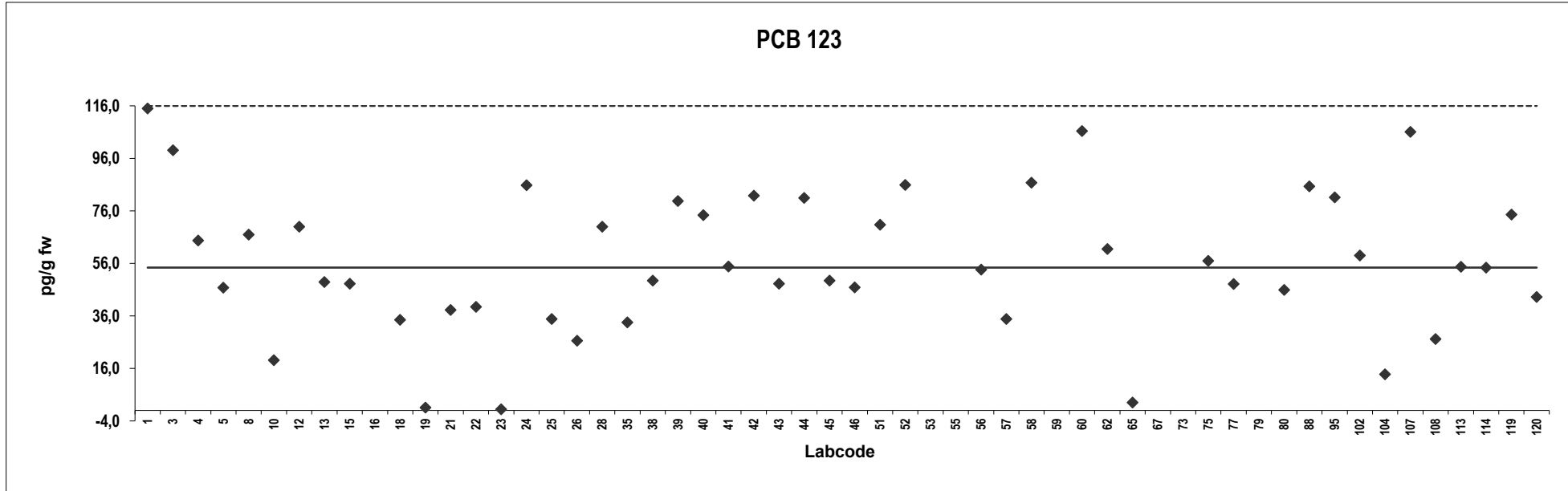


Fish oil
Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	115	5,6		80	46	-0,78	
3	99	4,1		88	85	2,8	
4	65	0,95		95	81	2,5	
5	47	-0,71		102	59	0,42	
8	67	1,2		104	14	-3,7	
10	19	-3,2		107	106	4,8	
12	70	1,4		108	27	-2,5	
13	49	-0,51		113	55	0,028	
15	48	-0,56		114	54	0,00	
16	622	52	Outlier	119	75	1,9	ND
18	35	-1,8		120	43	-1,0	
19	1,1	-4,9	ND				
21	38	-1,5					
22	39	-1,4					
23	0,48	-5,0	ND				
24	86	2,9					
25	35	-1,8					
26	27	-2,6					
28	70	1,4					
35	34	-1,9					
38	49	-0,45					
39	80	2,3					
40	74	1,8					
41	55	0,035					
42	82	2,5					
43	48	-0,56					
44	81	2,4					
45	49	-0,45					
46	47	-0,69					
51	71	1,5					
52	86	2,9					
53	128	6,8	Outlier				
55	163	10	Outlier				
56	54	-0,074					
57	35	-1,8					
58	87	3,0					
59	147	8,5	Outlier				
60	106	4,8					
62	61	0,65					
65	3,0	-4,7	ND				
67	122	6,2	Outlier				
73	271	20	Outlier				
75	57	0,24					
77	48	-0,57					
79	779	67	Outlier				

Consensus statistics

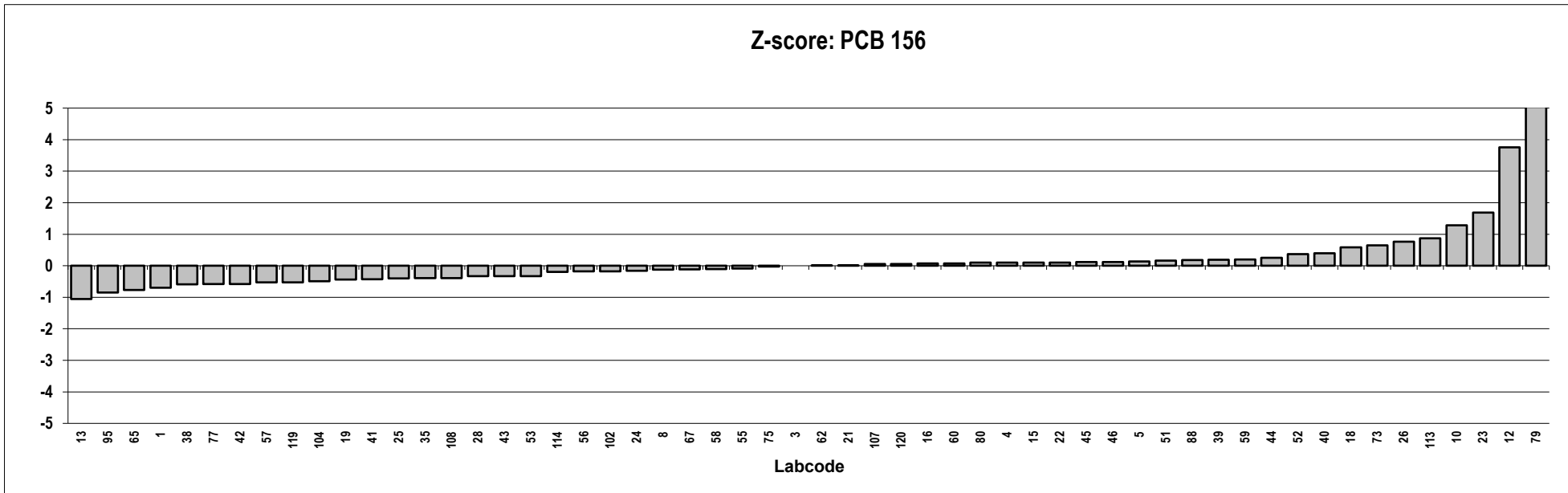
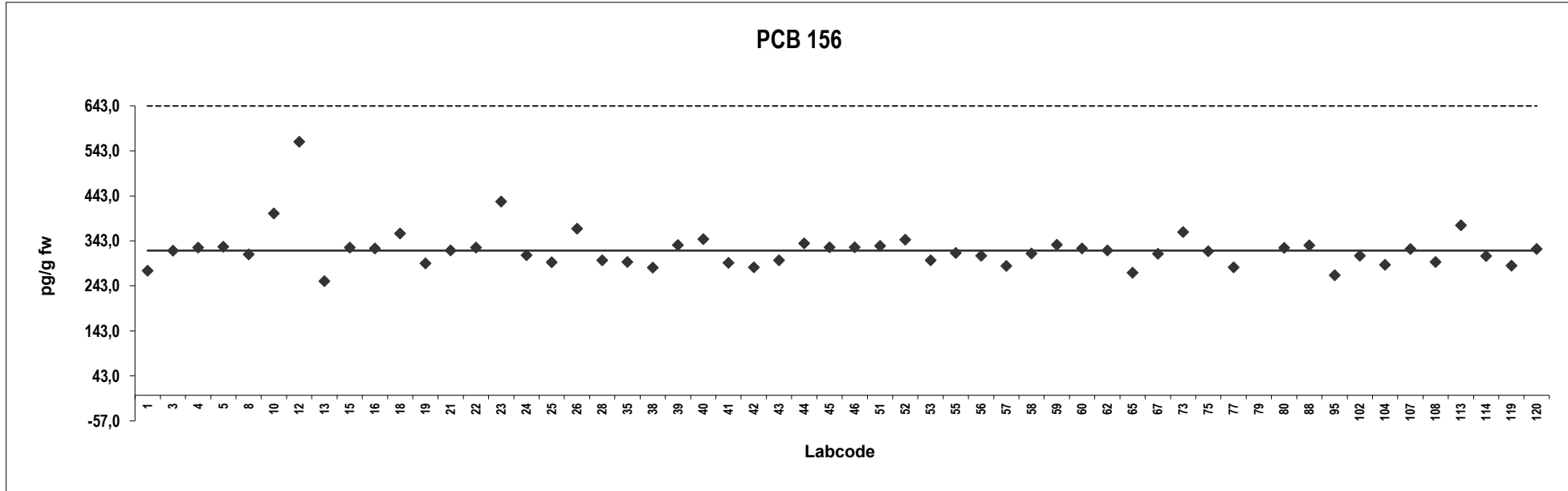
Consensus median, pg/g	54
Median all values pg/g	58
Consensus mean, pg/g	56
Standard deviation, pg/g	27
Relative standard deviation, %	48
No. of values reported	56
No. of values removed	7
No. of reported non-detects	4



Fish oil
Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	277	-0,69		80	328	0,097	
3	321	0,00		88	333	0,18	
4	328	0,10		95	267	-0,85	
5	330	0,13		102	310	-0,18	
8	313	-0,13		104	290	-0,49	
10	404	1,3		107	325	0,052	
12	563	3,8		108	296	-0,39	
13	253	-1,1		113	377	0,87	
15	328	0,10		114	309	-0,19	
16	326	0,071		119	288	-0,52	
18	359	0,59		120	325	0,055	
19	293	-0,44					
21	322	0,0038					
22	328	0,10					
23	430	1,7					
24	311	-0,16					
25	296	-0,40					
26	370	0,76					
28	300	-0,33					
35	296	-0,39					
38	284	-0,59					
39	334	0,19					
40	347	0,40					
41	294	-0,43					
42	284	-0,58					
43	300	-0,33					
44	338	0,25					
45	329	0,12					
46	329	0,12					
51	332	0,16					
52	345	0,37					
53	300	-0,33					
55	316	-0,085					
56	310	-0,18					
57	288	-0,53					
58	315	-0,11					
59	335	0,20					
60	326	0,077					
62	322	0,0016					
65	272	-0,77					
67	314	-0,12					
73	363	0,64					
75	320	-0,023					
77	284	-0,58					
79	6539	97	Outlier				

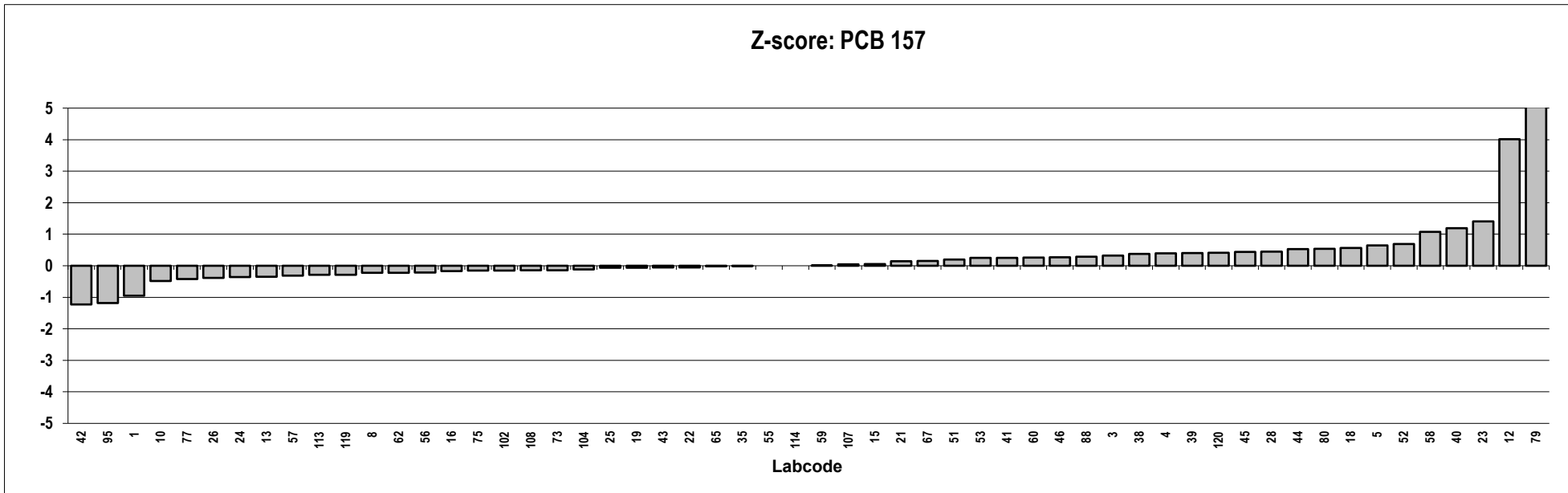
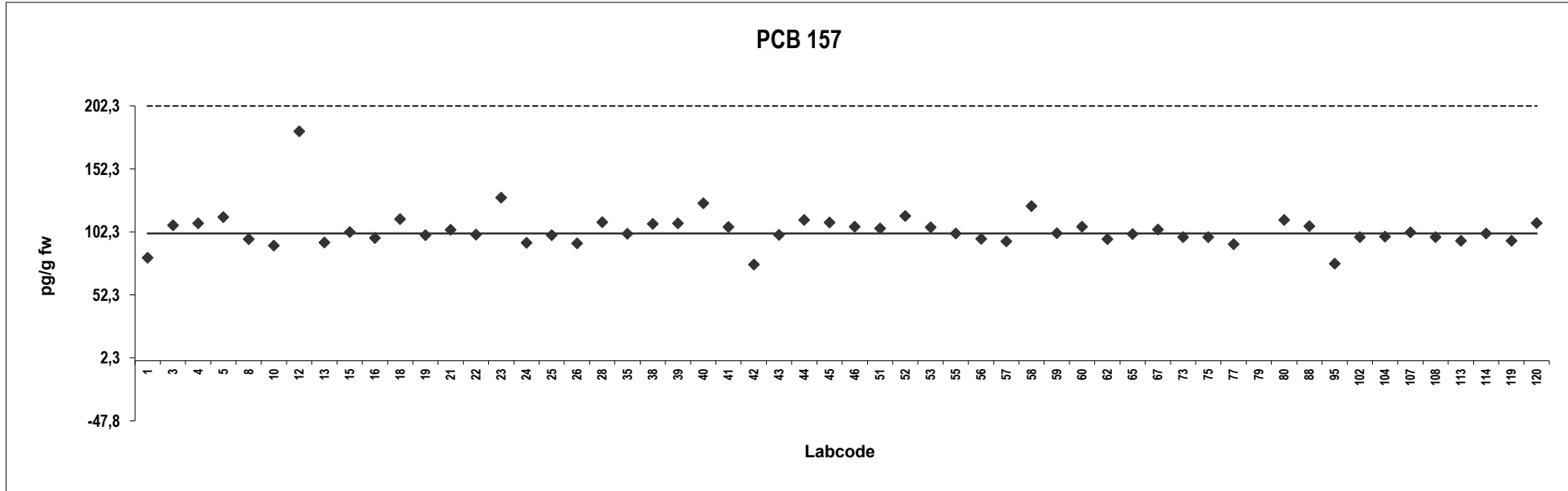
Consensus statistics	
Consensus median, pg/g	321
Median all values pg/g	322
Consensus mean, pg/g	323
Standard deviation, pg/g	46
Relative standard deviation, %	14
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0



Fish oil
Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	82	-0,95		80	112	0,54	
3	107	0,32		88	107	0,28	
4	109	0,40		95	77	-1,2	
5	114	0,64		102	98	-0,15	
8	97	-0,22		104	99	-0,12	
10	91	-0,48		107	102	0,044	
12	182	4,0		108	98	-0,14	
13	94	-0,35		113	95	-0,29	
15	102	0,050		114	101	0,00	
16	97	-0,17		119	95	-0,28	
18	112	0,57		120	109	0,41	
19	100	-0,063					
21	104	0,14					
22	100	-0,050					
23	129	1,4					
24	94	-0,36					
25	100	-0,064					
26	93	-0,39					
28	110	0,45					
35	101	-0,0069					
38	109	0,38					
39	109	0,40					
40	125	1,2					
41	106	0,25					
42	76	-1,2					
43	100	-0,054					
44	112	0,53					
45	110	0,44					
46	106	0,27					
51	105	0,20					
52	115	0,69					
53	106	0,25					
55	101	0,00					
56	97	-0,21					
57	95	-0,32					
58	123	1,1					
59	101	0,012					
60	106	0,26					
62	97	-0,22					
65	101	-0,021					
67	104	0,15					
73	98	-0,14					
75	98	-0,15					
77	93	-0,42					
79	1695	79	Outlier				

Consensus statistics	
Consensus median, pg/g	101
Median all values pg/g	101
Consensus mean, pg/g	104
Standard deviation, pg/g	15
Relative standard deviation, %	14
No. of values reported	56
No. of values removed	1
No. of reported non-detects	0

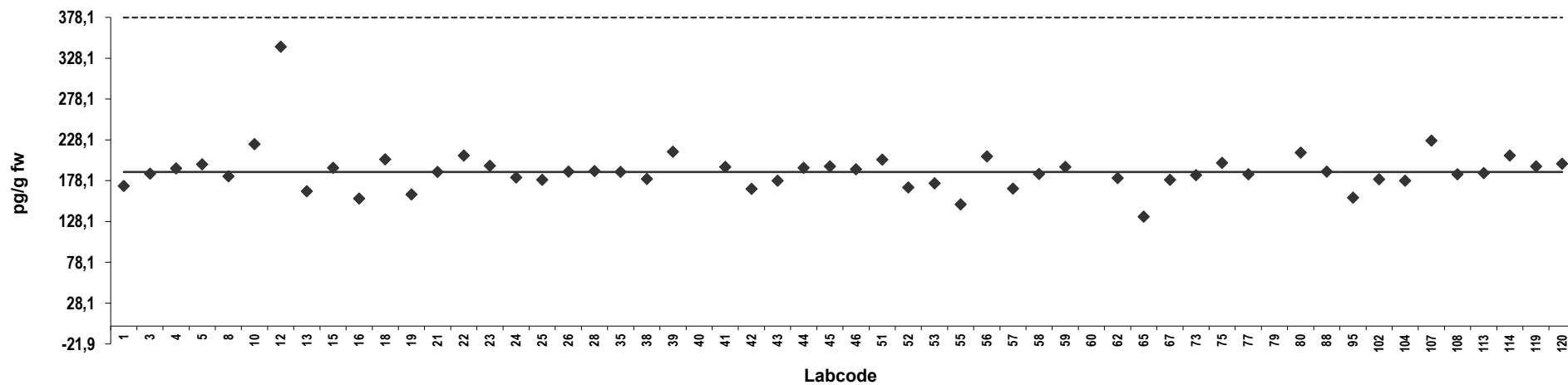


Fish oil
Congener: PCB 167

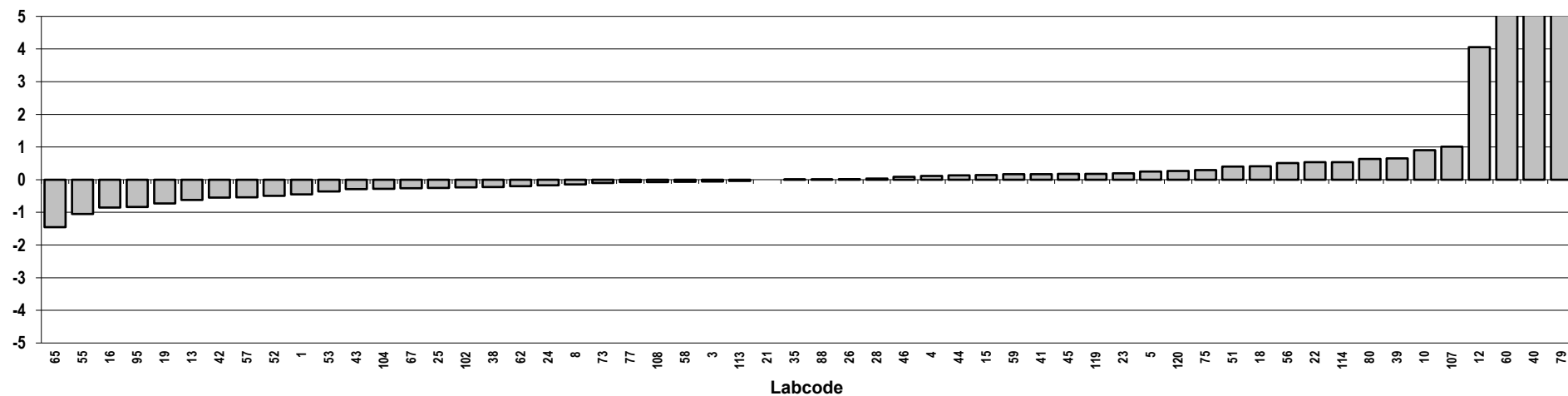
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	172	-0,45		80	213	0,63	
3	187	-0,056		88	189	0,011	
4	193	0,11		95	157	-0,84	
5	198	0,24		102	180	-0,23	
8	183	-0,14		104	178	-0,28	
10	223	0,91		107	227	1,0	
12	342	4,1		108	186	-0,072	
13	165	-0,62		113	187	-0,041	
15	194	0,14		114	209	0,54	
16	156	-0,86		119	196	0,18	
18	204	0,41		120	199	0,27	
19	161	-0,72					
21	189	0,00					
22	209	0,54					
23	196	0,20					
24	182	-0,18					
25	179	-0,25					
26	189	0,013					
28	190	0,032					
35	189	0,0036					
38	180	-0,22					
39	214	0,66					
40	908	19	Outlier				
41	195	0,17					
42	168	-0,55					
43	178	-0,29					
44	194	0,13					
45	196	0,18					
46	192	0,086					
51	204	0,40					
52	170	-0,50					
53	175	-0,36					
55	149	-1,1					
56	208	0,51					
57	168	-0,54					
58	186	-0,064					
59	195	0,17					
60	850	18	Outlier				
62	181	-0,20					
65	134	-1,5					
67	179	-0,26					
73	185	-0,10					
75	200	0,30					
77	186	-0,074					
79	3970	100	Outlier				

Consensus statistics	
Consensus median, pg/g	189
Median all values pg/g	189
Consensus mean, pg/g	190
Standard deviation, pg/g	28
Relative standard deviation, %	15
No. of values reported	56
No. of values removed	3
No. of reported non-detects	0

PCB 167



Z-score: PCB 167

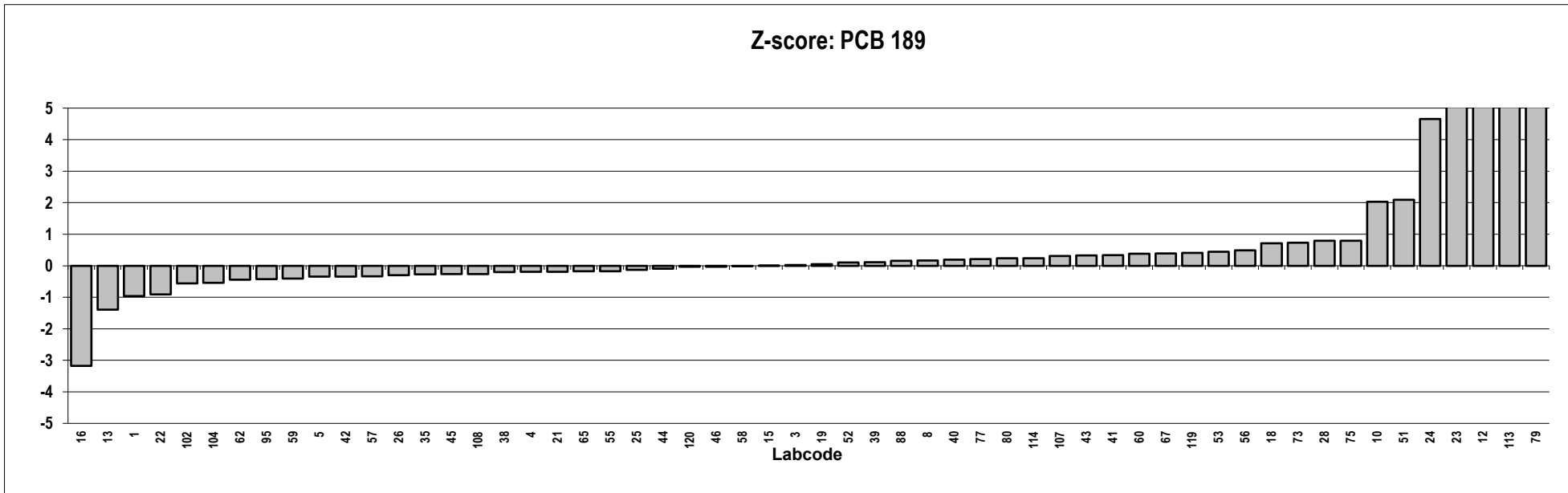
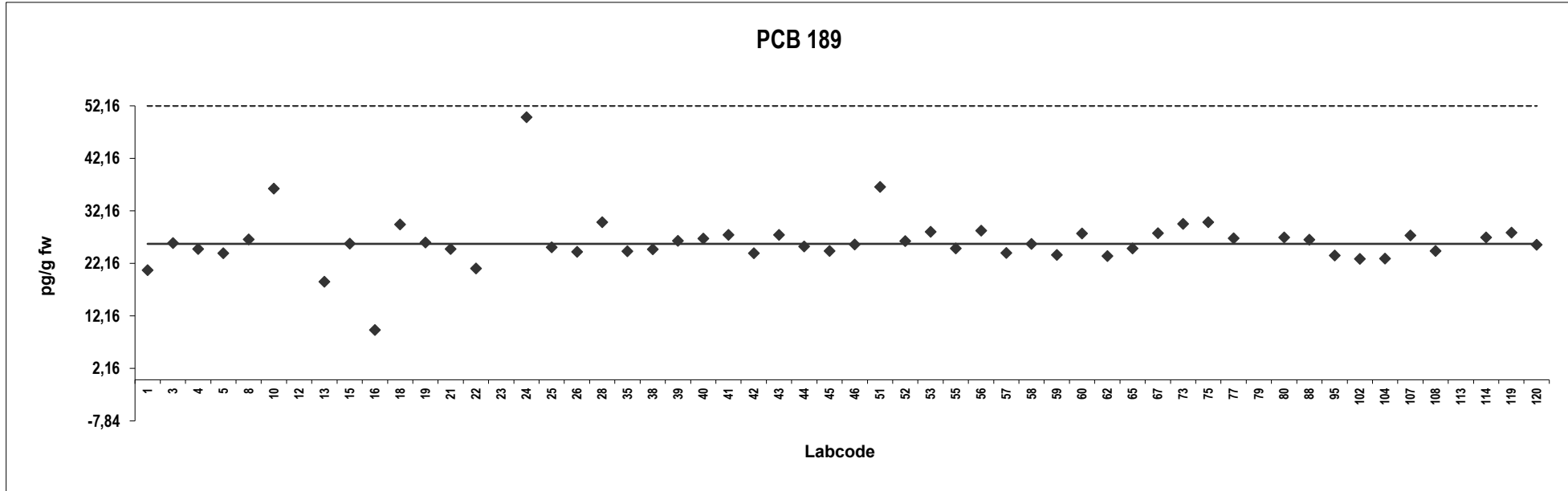


Fish oil
Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	21	-0,96		80	27	0,23	
3	26	0,024		88	27	0,15	
4	25	-0,19		95	24	-0,43	
5	24	-0,34		102	23	-0,56	
8	27	0,16		104	23	-0,54	
10	36	2,0		107	27	0,31	
12	54	5,4	Outlier	108	25	-0,26	
13	19	-1,4		113	56	5,79	Outlier
15	26	0,0031		114	27	0,23	
16	9,5	-3,2		119	28	0,41	
18	30	0,72		120	26	-0,035	
19	26	0,052					
21	25	-0,19					
22	21	-0,90					
23	52	5,1	Outlier				
24	50	4,7	ND				
25	25	-0,13					
26	24	-0,30					
28	30	0,80	ND				
35	24	-0,28					
38	25	-0,20					
39	26	0,11					
40	27	0,20					
41	28	0,33					
42	24	-0,34					
43	28	0,33					
44	25	-0,098					
45	25	-0,26					
46	26	-0,028					
51	37	2,1					
52	26	0,10					
53	28	0,45					
55	25	-0,17					
56	28	0,49					
57	24	-0,34					
58	26	-0,0031					
59	24	-0,41					
60	28	0,38					
62	24	-0,45					
65	25	-0,17					
67	28	0,39					
73	30	0,73					
75	30	0,80					
77	27	0,21					
79	740	138	Outlier				

Consensus statistics

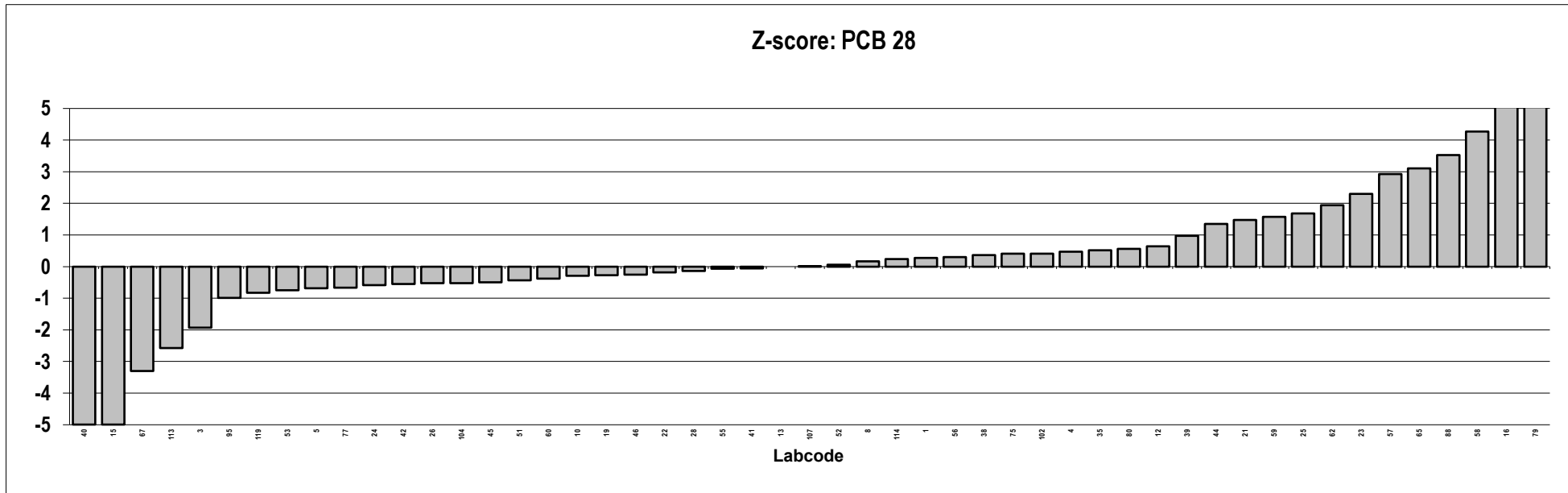
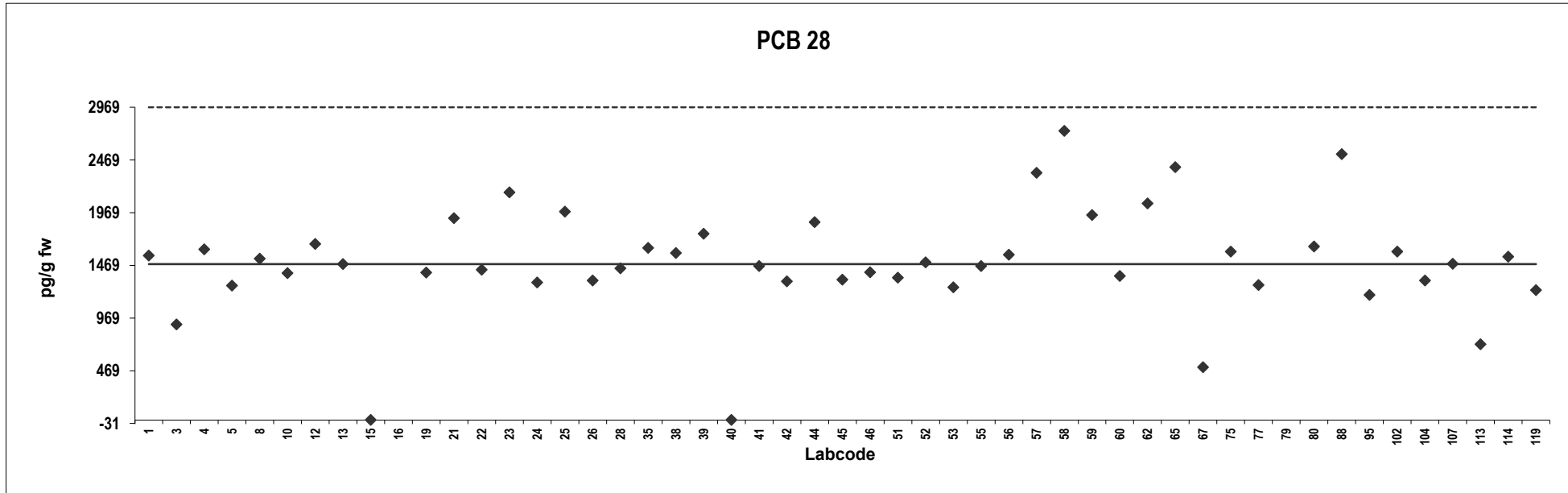
Consensus median, pg/g	26
Median all values pg/g	26
Consensus mean, pg/g	26
Standard deviation, pg/g	5,1
Relative standard deviation, %	19
No. of values reported	56
No. of values removed	4
No. of reported non-detects	2



Fish oil
Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	1562	0,28		102	1600	0,41	
3	909	-1,9		104	1325	-0,53	
4	1620	0,47		107	1484	0,015	
5	1277	-0,69		113	719	-2,6	
8	1530	0,17		114	1550	0,24	
10	1394	-0,29		119	1234	-0,83	
12	1670	0,64					
13	1480	0,00					
15	1,5	-5,0					
16	3622	7,2	Outlier				
19	1400	-0,27					
21	1916	1,5					
22	1426	-0,18					
23	2160	2,3					
24	1305	-0,59					
25	1977	1,7					
26	1324	-0,53					
28	1440	-0,13					
35	1634	0,52					
38	1587	0,36					
39	1767	0,97					
40	1,4	-5,0					
41	1462	-0,060					
42	1317	-0,55					
44	1879	1,3					
45	1333	-0,50					
46	1404	-0,26					
51	1352	-0,43					
52	1497	0,058					
53	1260	-0,74					
55	1461	-0,064					
56	1570	0,30					
57	2346	2,9					
58	2743	4,3					
59	1945	1,6					
60	1367	-0,38					
62	2055	1,9					
65	2400	3,1					
67	502	-3,3					
75	1600	0,41					
77	1282	-0,67					
79	4874	11	Outlier				
80	1647	0,56					
88	2523	3,5					
95	1188	-0,99					

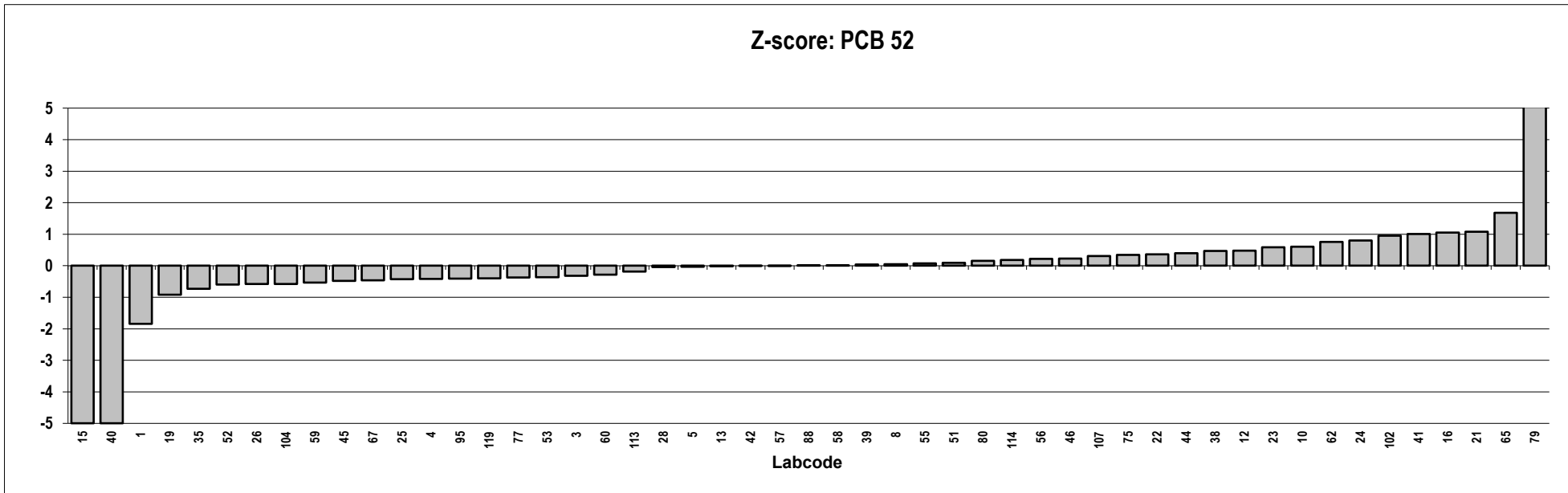
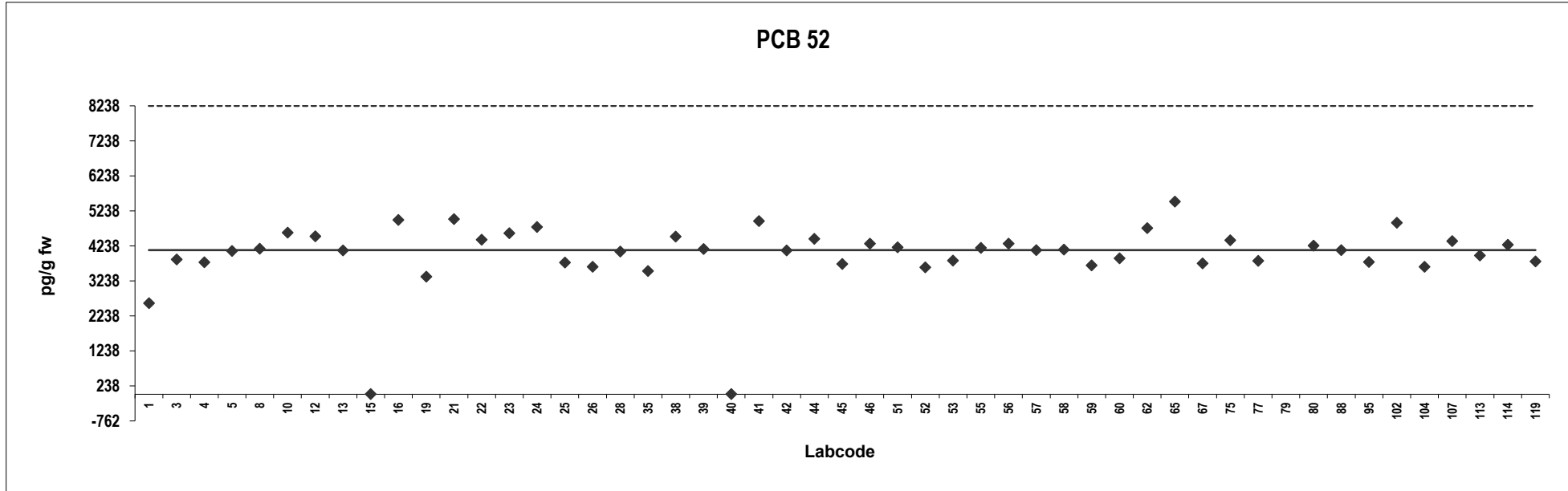
Consensus statistics	
Consensus median, pg/g	1480
Median all values pg/g	1484
Consensus mean, pg/g	1498
Standard deviation, pg/g	517
Relative standard deviation, %	34
No. of values reported	51
No. of values removed	2
No. of reported non-detects	0



Fish oil
Congener: PCB 52

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	2599	-1,8		102	4900	0,95	
3	3853	-0,32		104	3641	-0,58	
4	3770	-0,42		107	4373	0,31	
5	4090	-0,033		113	3967	-0,18	
8	4154	0,044		114	4270	0,19	
10	4616	0,61		119	3791	-0,40	
12	4510	0,48					
13	4108	-0,011					
15	4,2	-5,0					
16	4983	1,1					
19	3360	-0,92					
21	5007	1,1					
22	4416	0,36					
23	4602	0,59					
24	4780	0,81					
25	3763	-0,43					
26	3637	-0,58					
28	4080	-0,045					
35	3518	-0,73					
38	4506	0,47					
39	4150	0,040					
40	4,6	-5,0					
41	4946	1,0					
42	4112	-0,0068					
44	4443	0,40					
45	3725	-0,48					
46	4303	0,23					
51	4196	0,096					
52	3625	-0,60					
53	3820	-0,36					
55	4182	0,079					
56	4300	0,22					
57	4115	-0,0024					
58	4130	0,016					
59	3680	-0,53					
60	3882	-0,29					
62	4743	0,76					
65	5500	1,7					
67	3740	-0,46					
75	4400	0,34					
77	3813	-0,37					
79	9891	7,0	Outlier				
80	4245	0,16					
88	4119	0,0024					
95	3780	-0,41					

Consensus statistics	
Consensus median, pg/g	4117
Median all values pg/g	4119
Consensus mean, pg/g	3985
Standard deviation, pg/g	958
Relative standard deviation, %	24
No. of values reported	51
No. of values removed	1
No. of reported non-detects	0

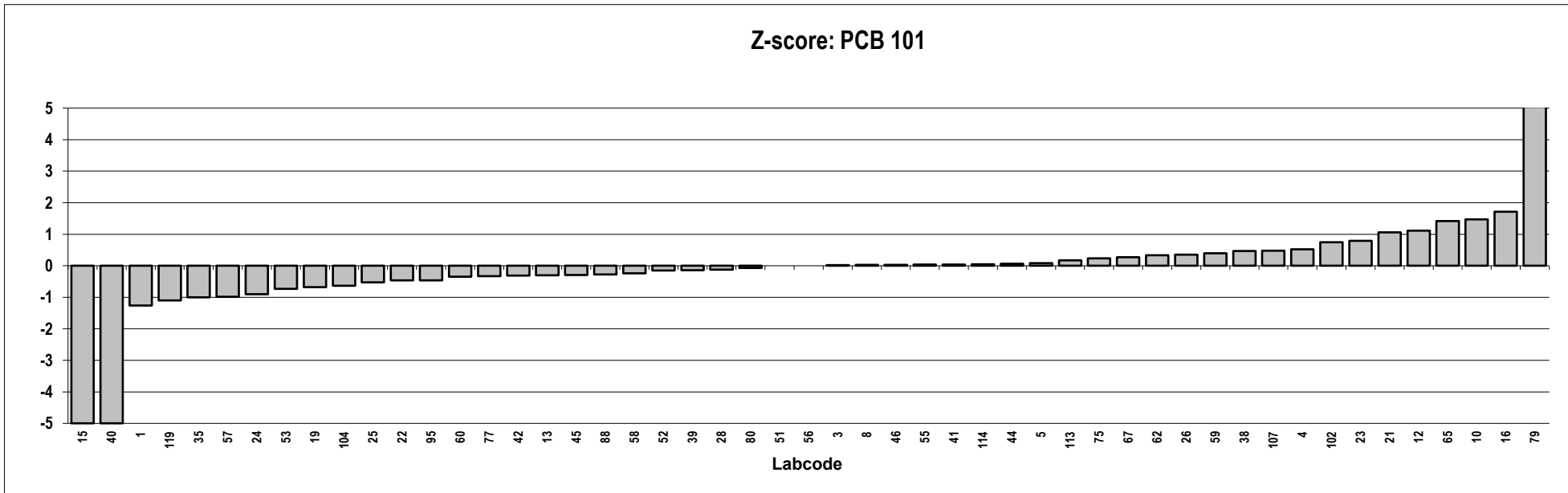
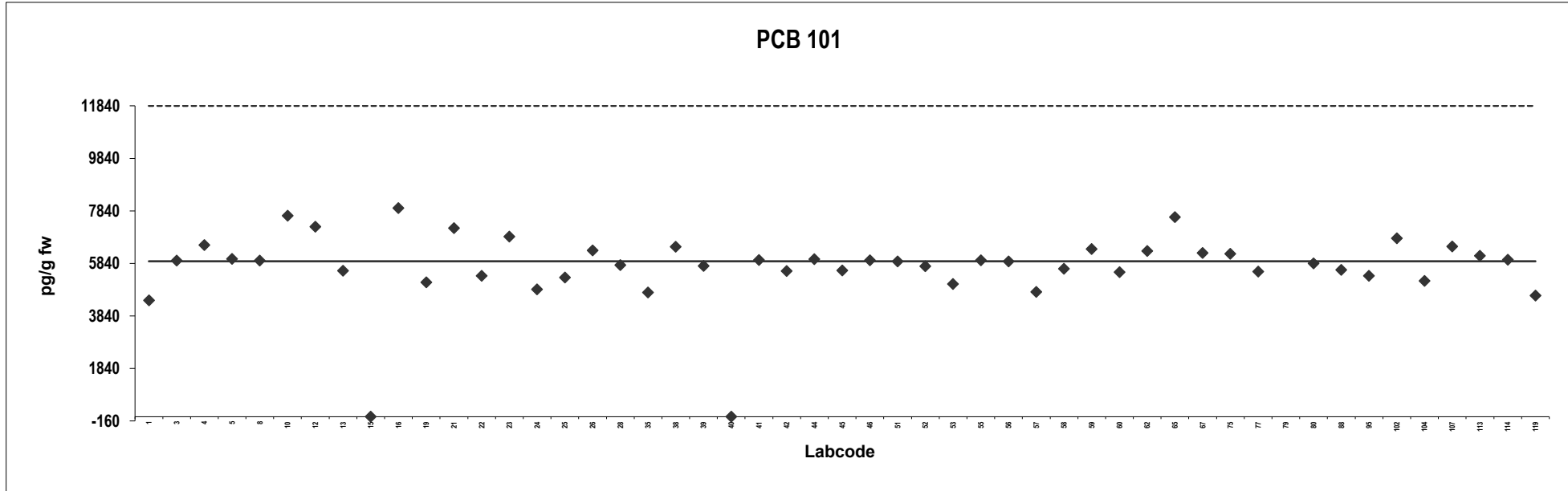


Fish oil
Congener: PCB 101

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	4429	-1,3		102	6800	0,74	
3	5942	0,018		104	5171	-0,63	
4	6540	0,52		107	6480	0,47	
5	6016	0,081		113	6126	0,17	
8	5949	0,025		114	5980	0,051	
10	7657	1,5		119	4614	-1,1	
12	7240	1,1					
13	5558	-0,31					
15	5,8	-5,0					
16	7947	1,7					
19	5119	-0,68					
21	7178	1,1					
22	5368	-0,47					
23	6857	0,79					
24	4854	-0,90					
25	5298	-0,53					
26	6334	0,35					
28	5770	-0,13					
35	4737	-1,0					
38	6472	0,47					
39	5748	-0,15					
40	6,7	-5,0					
41	5963	0,037					
42	5553	-0,31					
44	5999	0,067					
45	5574	-0,29					
46	5955	0,029					
51	5920	0,00					
52	5737	-0,15					
53	5050	-0,73					
55	5961	0,035					
56	5920	0,00					
57	4751	-0,99					
58	5639	-0,24					
59	6389	0,40					
60	5510	-0,35					
62	6315	0,33					
65	7600	1,4					
67	6240	0,27					
75	6200	0,24					
77	5529	-0,33					
79	33869	24	Outlier				
80	5838	-0,069					
88	5589	-0,28					
95	5369	-0,47					

Consensus statistics

Consensus median, pg/g	5920
Median all values pg/g	5920
Consensus mean, pg/g	5696
Standard deviation, pg/g	1399
Relative standard deviation, %	25
No. of values reported	51
No. of values removed	1
No. of reported non-detects	0



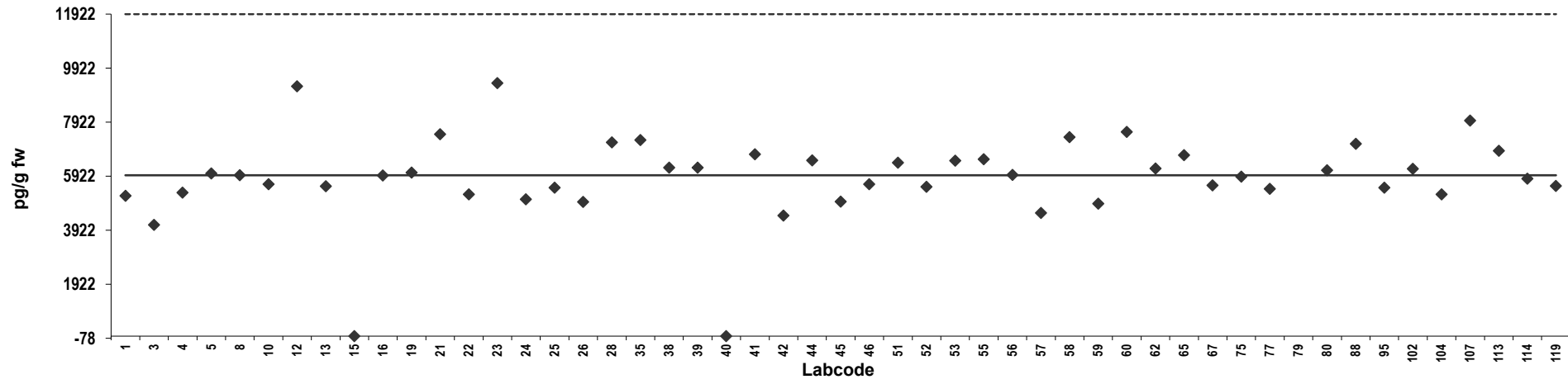
Fish oil
Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	5199	-0,64		102	6200	0,20	
3	4118	-1,5		104	5250	-0,59	
4	5310	-0,54		107	7986	1,7	
5	6026	0,059		113	6866	0,76	
8	5961	0,0042		114	5830	-0,11	
10	5621	-0,28		119	5556	-0,34	
12	9250	2,8					
13	5547	-0,34					
15	5,5	-5,0					
16	5951	-0,0042					
19	6057	0,084					
21	7476	1,3					
22	5244	-0,60					
23	9370	2,9					
24	5065	-0,75					
25	5492	-0,39					
26	4964	-0,83					
28	7170	1,0					
35	7255	1,1					
38	6242	0,24					
39	6234	0,23					
40	5,7	-5,0					
41	6729	0,65					
42	4462	-1,3					
44	6503	0,46					
45	4980	-0,82					
46	5628	-0,28					
51	6420	0,39					
52	5532	-0,36					
53	6500	0,46					
55	6547	0,50					
56	5970	0,012					
57	4560	-1,2					
58	7363	1,2					
59	4900	-0,89					
60	7560	1,3					
62	6210	0,21					
65	6700	0,62					
67	5580	-0,32					
75	5900	-0,047					
77	5458	-0,42					
79	51739	38	Outlier				
80	6140	0,15					
88	7116	0,97					
95	5498	-0,38					

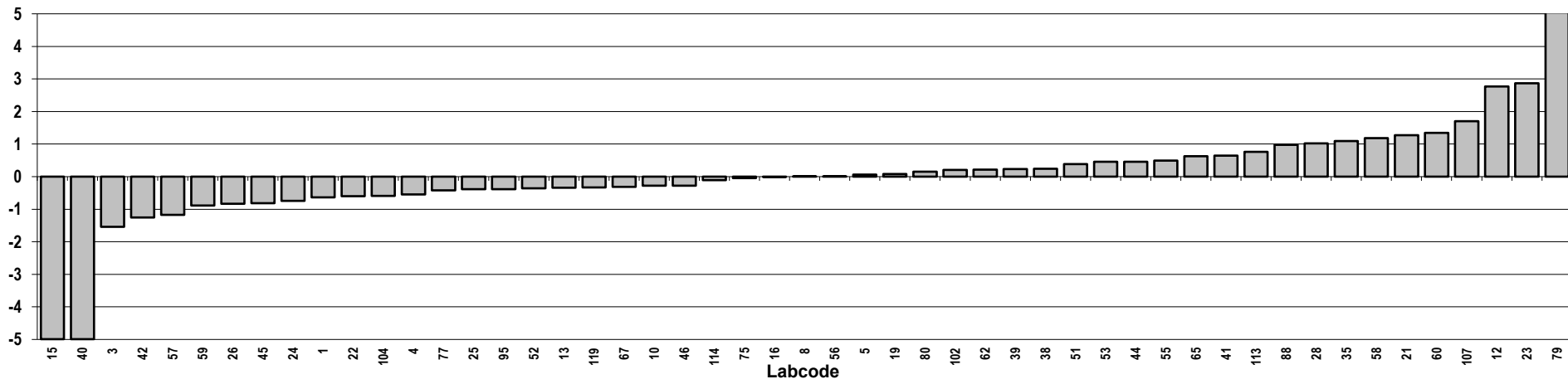
Consensus statistics

Consensus median, pg/g	5956
Median all values pg/g	5961
Consensus mean, pg/g	5870
Standard deviation, pg/g	1609
Relative standard deviation, %	27
No. of values reported	51
No. of values removed	1
No. of reported non-detects	0

PCB 138



Z-score: PCB 138

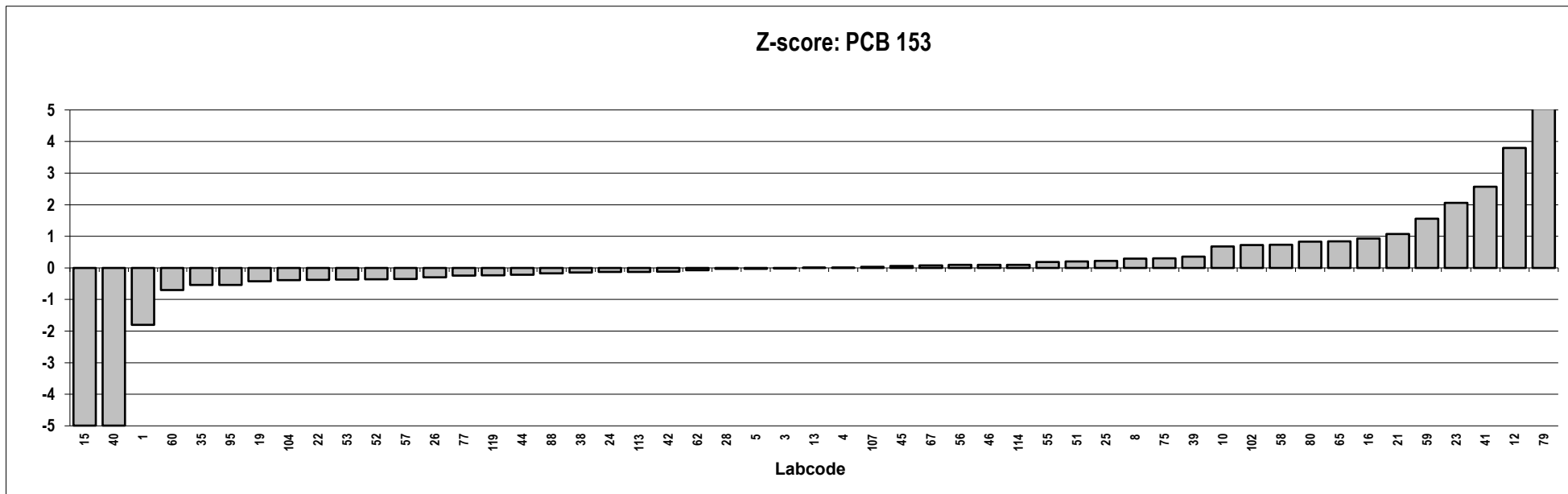
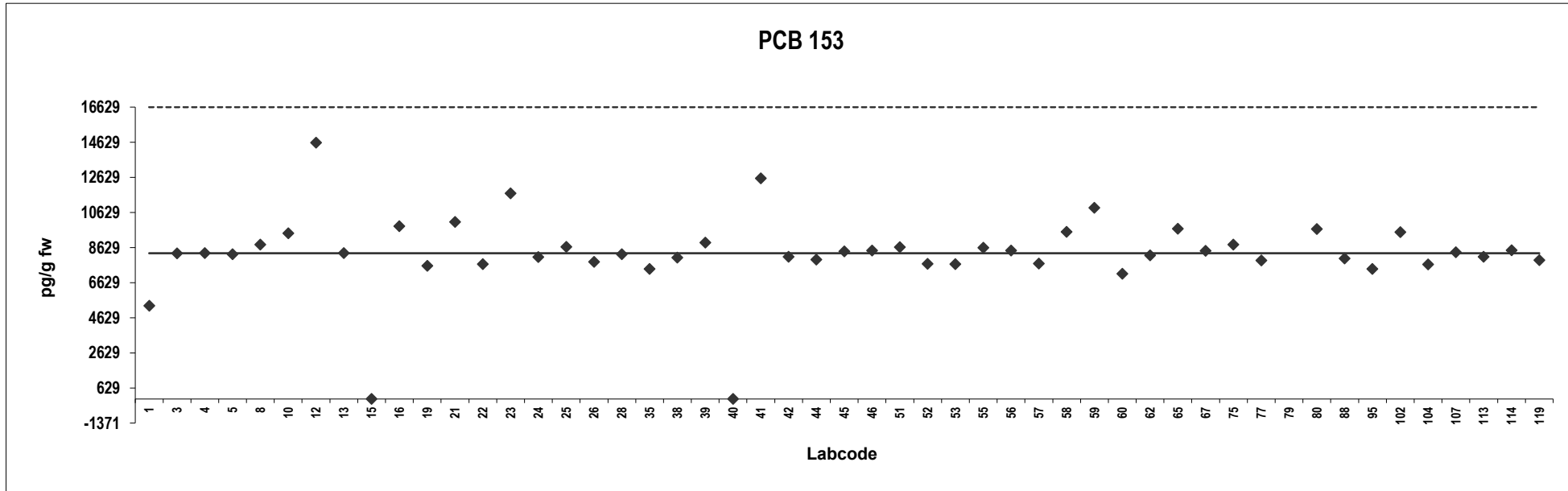


Fish oil
Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	5308	-1,8		102	9500	0,72	
3	8295	-0,0059		104	7666	-0,38	
4	8320	0,0091		107	8365	0,036	
5	8254	-0,030		113	8099	-0,12	
8	8795	0,30		114	8470	0,099	
10	9438	0,68		119	7910	-0,24	
12	14610	3,8					
13	8315	0,0059					
15	8,0	-5,0					
16	9849	0,93					
19	7596	-0,43					
21	10084	1,1					
22	7679	-0,38					
23	11723	2,1					
24	8087	-0,13					
25	8674	0,22					
26	7807	-0,30					
28	8250	-0,033					
35	7404	-0,54					
38	8063	-0,15					
39	8904	0,36					
40	8,7	-5,0					
41	12577	2,6					
42	8106	-0,12					
44	7947	-0,22					
45	8410	0,063					
46	8464	0,096					
51	8648	0,21					
52	7708	-0,36					
53	7690	-0,37					
55	8617	0,19					
56	8460	0,093					
57	7715	-0,36					
58	9523	0,73					
59	10893	1,6					
60	7140	-0,70					
62	8183	-0,073					
65	9700	0,84					
67	8440	0,081					
75	8800	0,30					
77	7899	-0,24					
79	115426	64	Outlier				
80	9683	0,83					
88	8015	-0,17					
95	7414	-0,54					

Consensus statistics

Consensus median, pg/g	8305
Median all values pg/g	8315
Consensus mean, pg/g	8310
Standard deviation, pg/g	2233
Relative standard deviation, %	27
No. of values reported	51
No. of values removed	1
No. of reported non-detects	0

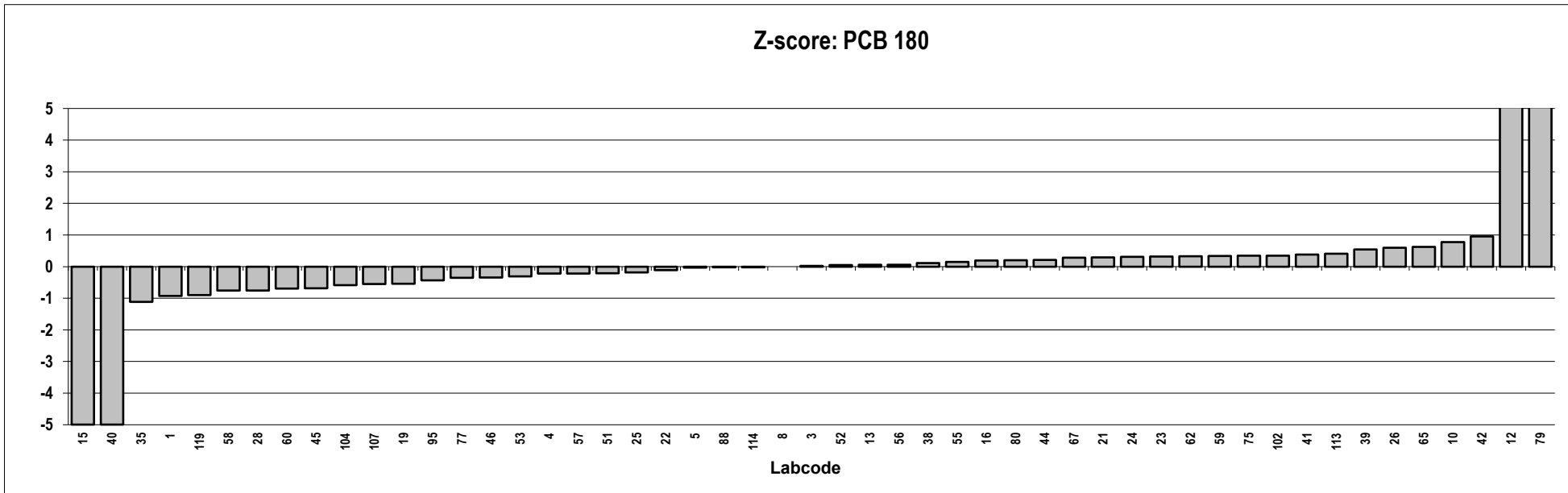
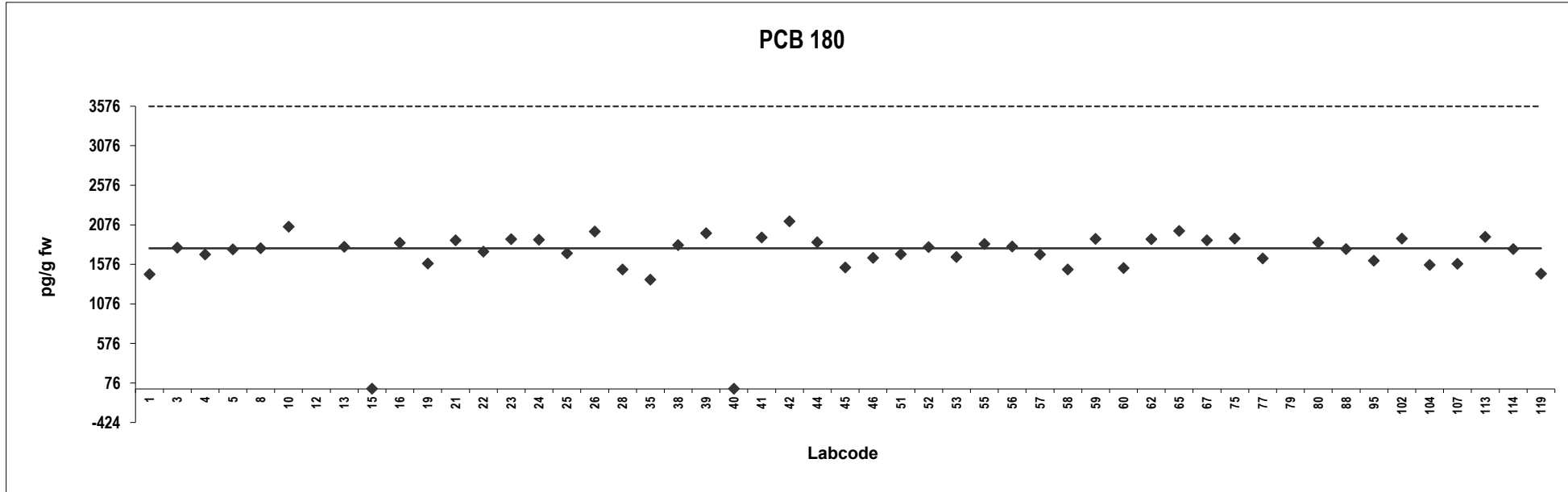


Fish oil
Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	1449	-0,93		102	1900	0,34	
3	1788	0,026		104	1569	-0,59	
4	1700	-0,22		107	1584	-0,55	
5	1767	-0,032		113	1925	0,41	
8	1779	0,00		114	1770	-0,024	
10	2054	0,77		119	1458	-0,90	
12	3740	5,5	Outlier				
13	1799	0,056					
15	1,6	-5,0					
16	1847	0,19					
19	1586	-0,54					
21	1882	0,29					
22	1738	-0,11					
23	1893	0,32					
24	1888	0,31					
25	1714	-0,18					
26	1992	0,60					
28	1510	-0,76					
35	1383	-1,1					
38	1818	0,11					
39	1971	0,54					
40	1,9	-5,0					
41	1915	0,38					
42	2120	0,96					
44	1853	0,21					
45	1535	-0,69					
46	1658	-0,34					
51	1703	-0,21					
52	1796	0,048					
53	1670	-0,31					
55	1833	0,15					
56	1800	0,060					
57	1700	-0,22					
58	1510	-0,76					
59	1898	0,34					
60	1530	-0,70					
62	1896	0,33					
65	2000	0,62					
67	1880	0,28					
75	1900	0,34					
77	1652	-0,36					
79	25585	67	Outlier				
80	1852	0,21					
88	1769	-0,026					
95	1624	-0,43					

Consensus statistics

Consensus median, pg/g	1779
Median all values pg/g	1788
Consensus mean, pg/g	1691
Standard deviation, pg/g	389
Relative standard deviation, %	23
No. of values reported	51
No. of values removed	2
No. of reported non-detects	0

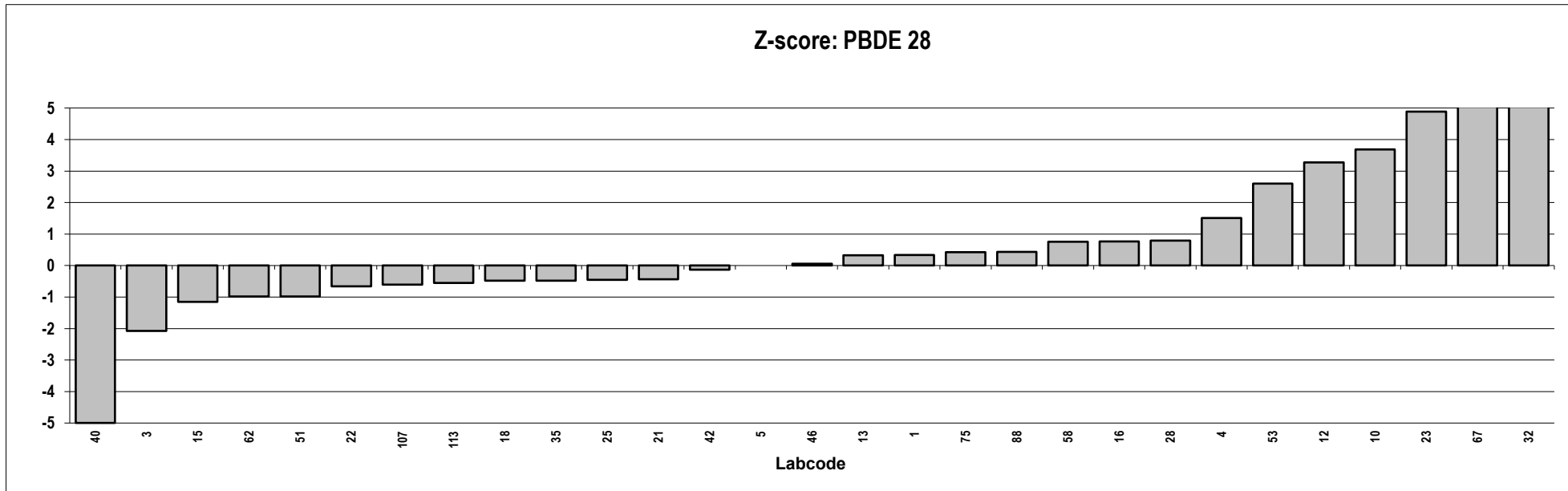
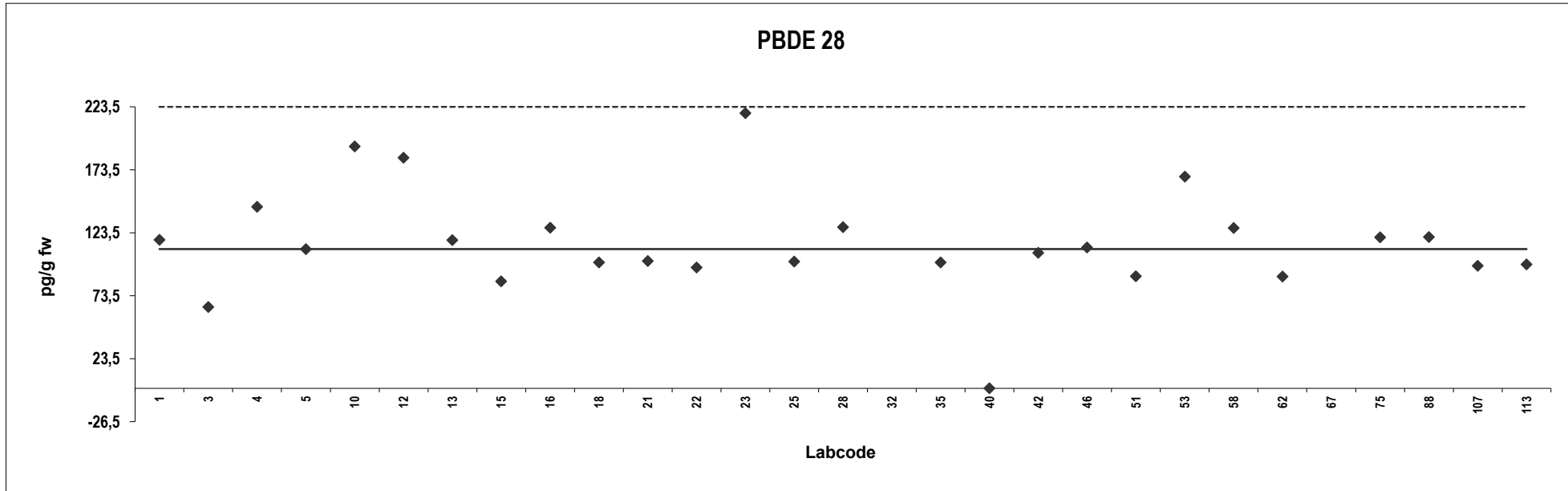


Fish oil
Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	118	0,34					
3	65	-2,1					
4	144	1,5					
5	111	0,00					
10	192	3,7					
12	183	3,3					
13	118	0,33					
15	85	-1,2					
16	128	0,77					
18	100	-0,48					
21	101	-0,43					
22	96	-0,66					
23	219	4,9					
25	101	-0,45					
28	128	0,79					
32	448	15	Outlier				
35	100	-0,48					
40	0,061	-5,0					
42	108	-0,13					
46	112	0,054					
51	89	-0,98					
53	168	2,6					
58	127	0,76					
62	89	-0,98					
67	376	12	Outlier				
75	120	0,43					
88	120	0,44					
107	97	-0,60					
113	98	-0,55					

Consensus statistics

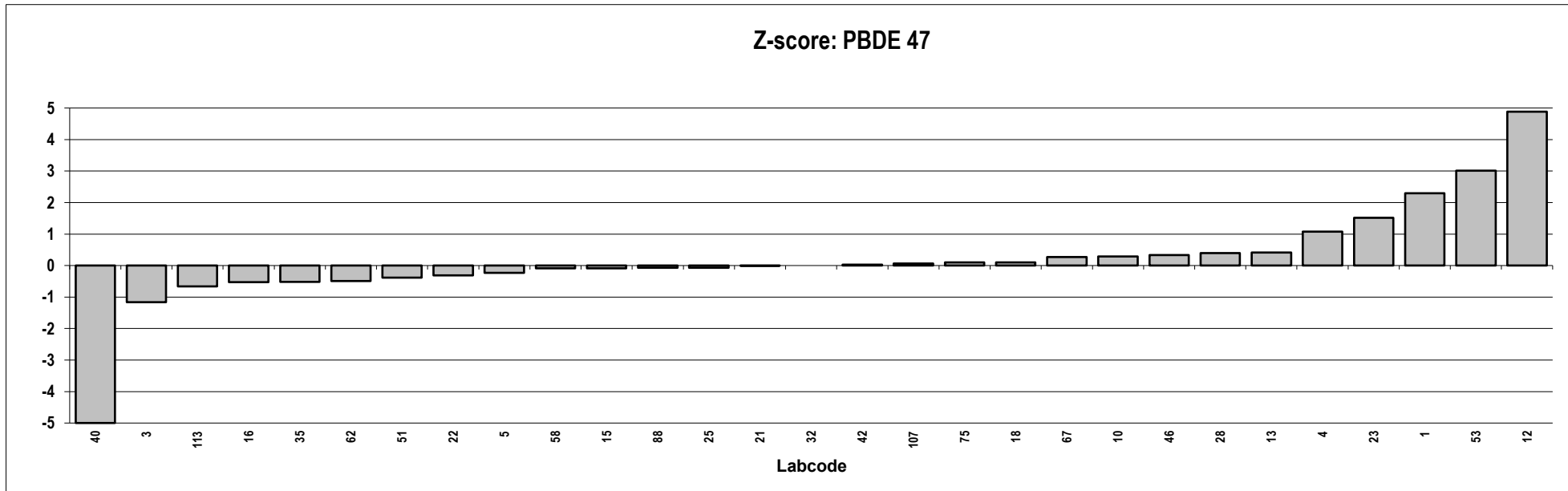
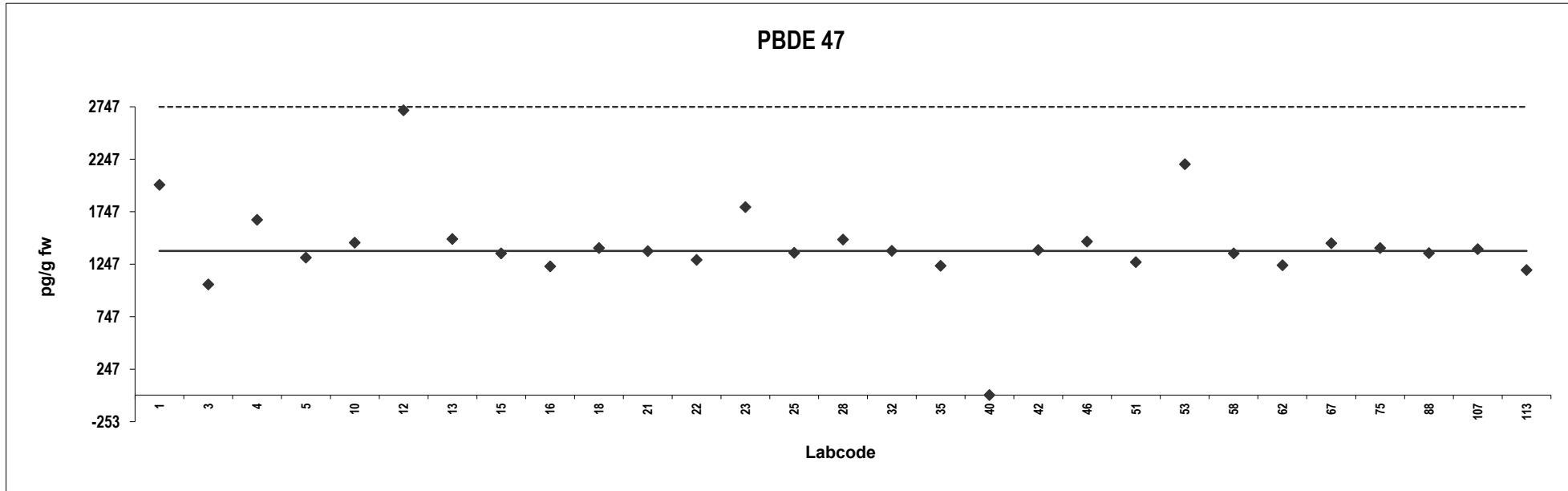
Consensus median, pg/g	111
Median all values pg/g	112
Consensus mean, pg/g	115
Standard deviation, pg/g	42
Relative standard deviation, %	36
No. of values reported	29
No. of values removed	2
No. of reported non-detects	0



Fish oil
Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	2003	2,3					
3	1055	-1,2					
4	1670	1,1					
5	1309	-0,23					
10	1453	0,29					
12	2714	4,9					
13	1488	0,42					
15	1350	-0,085					
16	1227	-0,53					
18	1400	0,097					
21	1371	-0,0087					
22	1288	-0,31					
23	1791	1,5					
25	1354	-0,069					
28	1483	0,40					
32	1373	0,00					
35	1232	-0,51					
40	1,1	-5,0					
42	1382	0,031					
46	1464	0,33					
51	1267	-0,39					
53	2200	3,0					
58	1350	-0,085					
62	1238	-0,49					
67	1447	0,27					
75	1400	0,097					
88	1354	-0,070					
107	1391	0,066					
113	1192	-0,66					

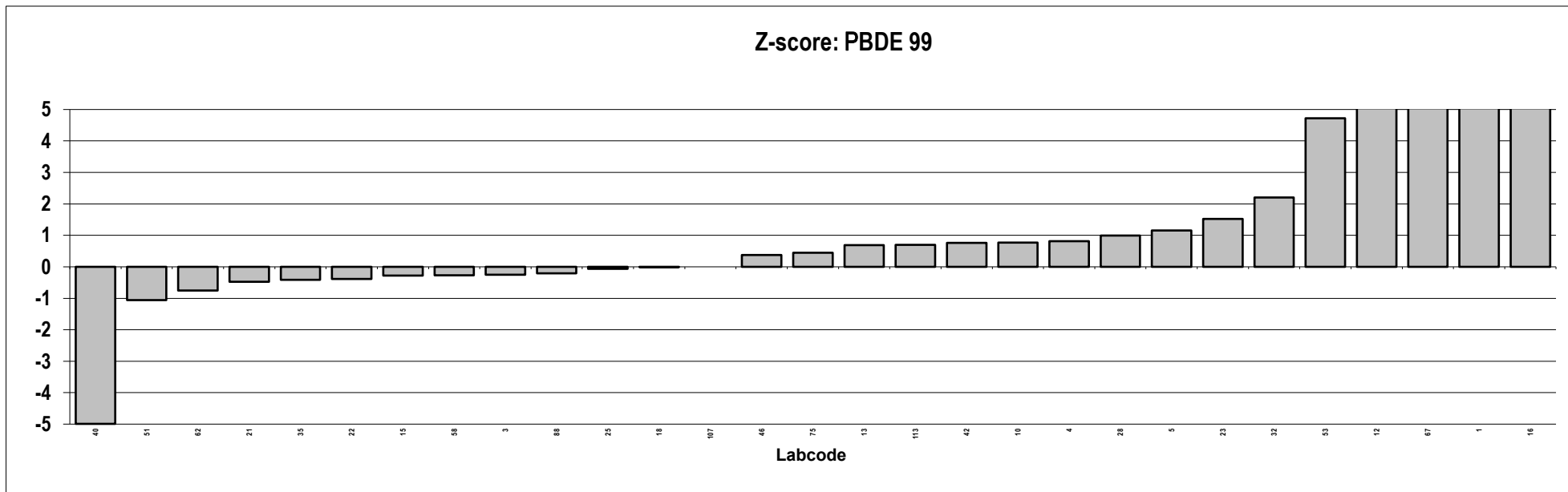
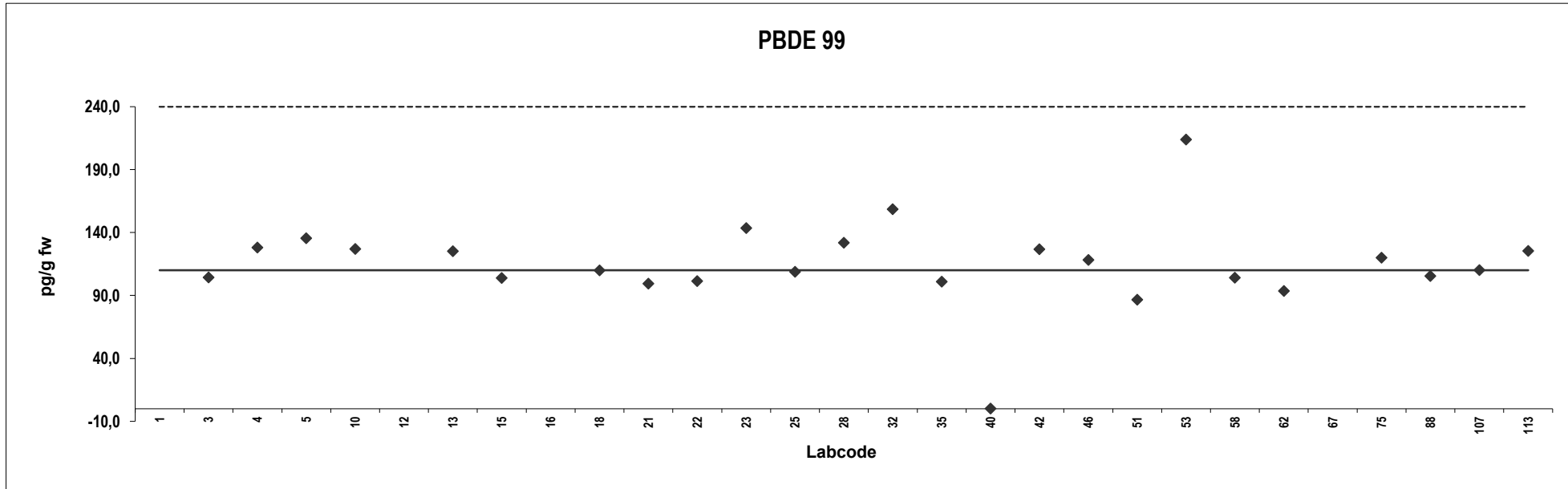
Consensus statistics	
Consensus median, pg/g	1373
Median all values pg/g	1373
Consensus mean, pg/g	1422
Standard deviation, pg/g	432
Relative standard deviation, %	30
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



Fish oil
Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	321	9,6	Outlier				
3	104	-0,25					
4	128	0,81					
5	136	1,2					
10	127	0,77					
12	250	6,4	Outlier				
13	125	0,69					
15	104	-0,28					
16	4142	183	Outlier				
18	110	-0,0030					
21	100	-0,48					
22	102	-0,39					
23	144	1,5					
25	109	-0,059					
28	132	1,0					
32	159	2,2					
35	101	-0,41					
40	0,090	-5,0					
42	127	0,76					
46	118	0,37					
51	87	-1,1					
53	214	4,7					
58	104	-0,27					
62	94	-0,75					
67	304	8,8	Outlier				
75	120	0,45					
88	106	-0,21					
107	110	0,00					
113	125	0,70					

Consensus statistics	
Consensus median, pg/g	110
Median all values pg/g	120
Consensus mean, pg/g	115
Standard deviation, pg/g	35
Relative standard deviation, %	30
No. of values reported	29
No. of values removed	4
No. of reported non-detects	0

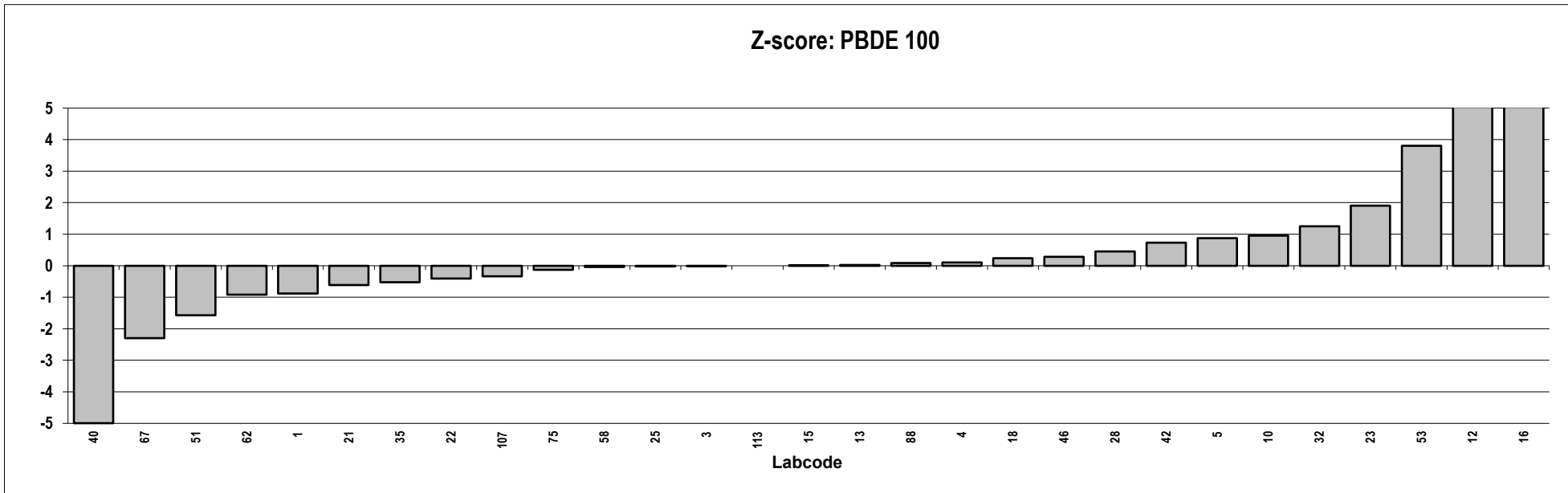
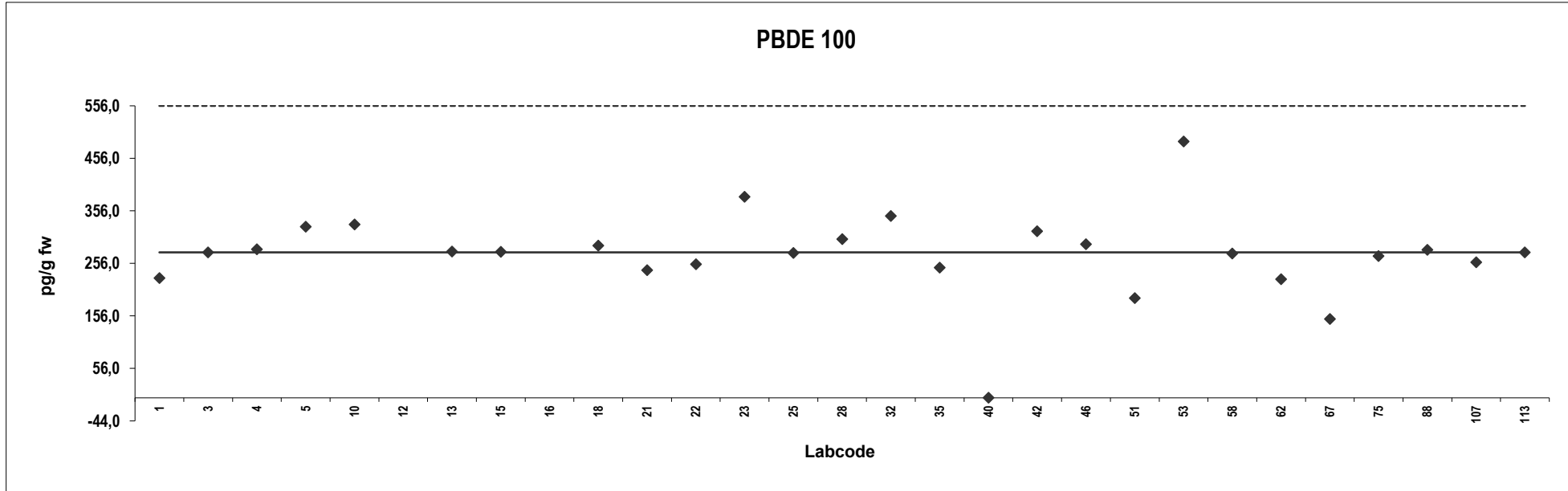


Fish oil
Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	228	-0,88					
3	277	-0,0053					
4	283	0,11					
5	326	0,88					
10	330	0,96					
12	711	7,8	Outlier				
13	279	0,028					
15	278	0,018					
16	8083	141	Outlier				
18	290	0,23					
21	243	-0,61					
22	255	-0,40					
23	383	1,9					
25	276	-0,020					
28	302	0,45					
32	347	1,3					
35	248	-0,52					
40	0,23	-5,0					
42	317	0,73					
46	293	0,28					
51	190	-1,6					
53	488	3,8					
58	275	-0,040					
62	226	-0,92					
67	150	-2,3					
75	270	-0,13					
88	282	0,083					
107	258	-0,34					
113	277	0,00					

Consensus statistics

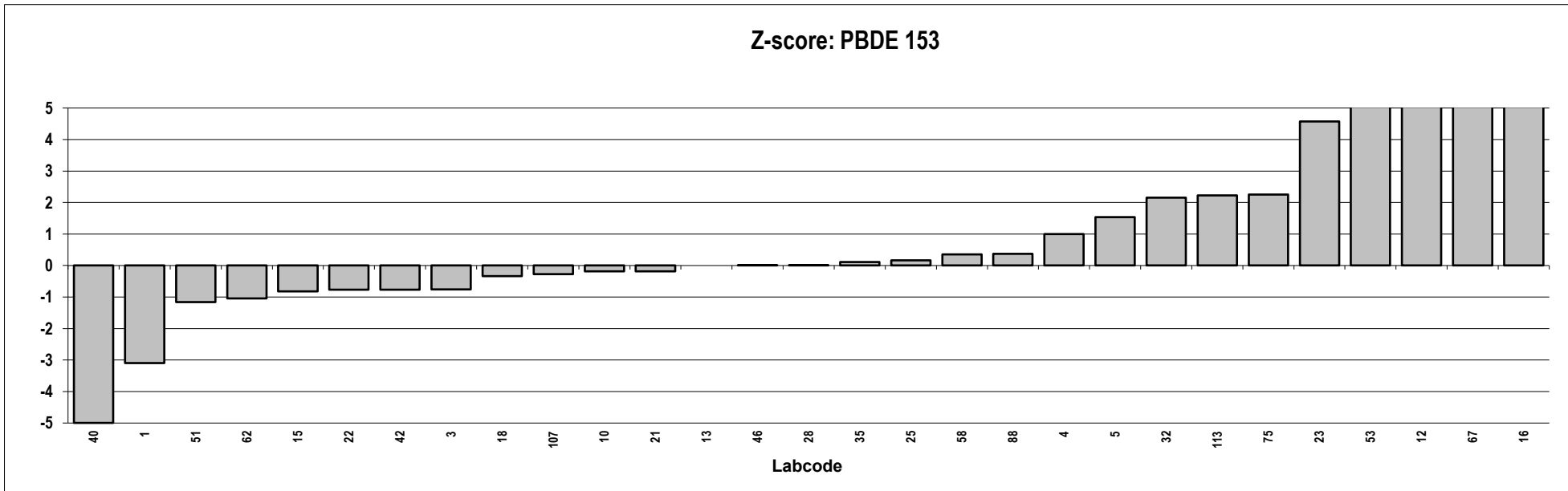
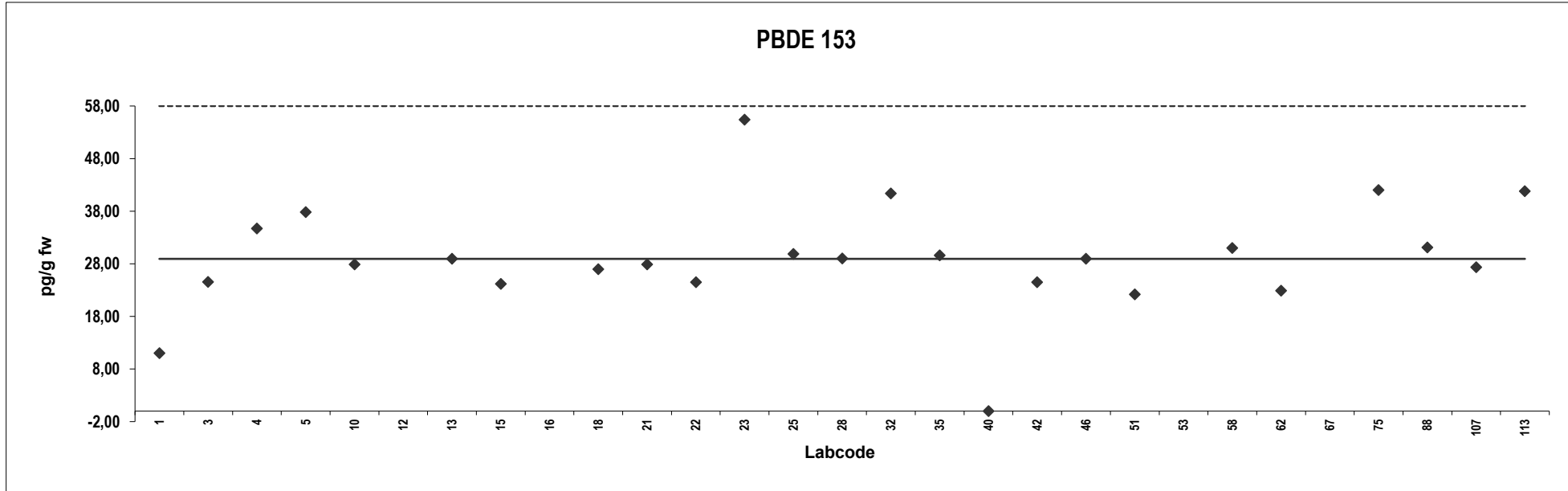
Consensus median, pg/g	277
Median all values pg/g	278
Consensus mean, pg/g	273
Standard deviation, pg/g	82
Relative standard deviation, %	30
No. of values reported	29
No. of values removed	2
No. of reported non-detects	0



Fish oil
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	11	-3,1					
3	25	-0,76					
4	35	0,99					
5	38	1,5					
10	28	-0,18					
12	75	8,0	Outlier				
13	29	0,00					
15	24	-0,82					
16	1487	252	Outlier				
18	27	-0,34					
21	28	-0,18					
22	25	-0,77					
23	55	4,6					
25	30	0,16					
28	29	0,010					
32	41	2,2					
35	30	0,11					
40	0,016	-5,0					
42	25	-0,76					
46	29	0,0045					
51	22	-1,2					
53	68	6,8	Outlier				
58	31	0,35					
62	23	-1,0					
67	250	38	Outlier				
75	42	2,3					
88	31	0,38					
107	27	-0,27					
113	42	2,2					

Consensus statistics	
Consensus median, pg/g	29
Median all values pg/g	29
Consensus mean, pg/g	29
Standard deviation, pg/g	10
Relative standard deviation, %	36
No. of values reported	29
No. of values removed	4
No. of reported non-detects	0

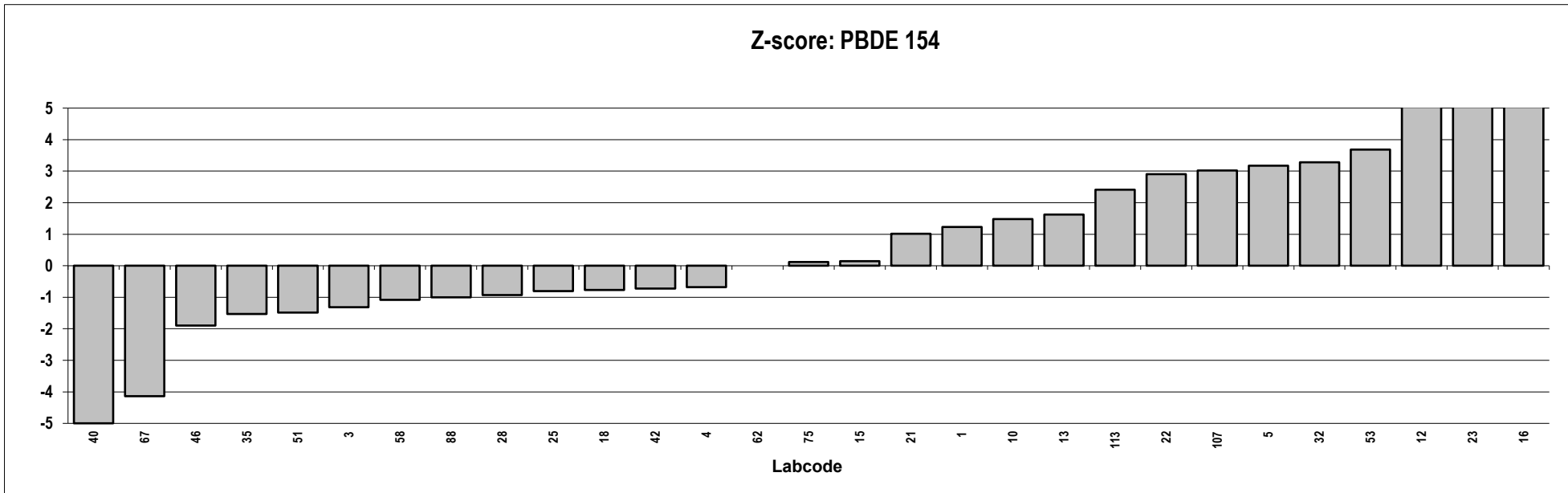
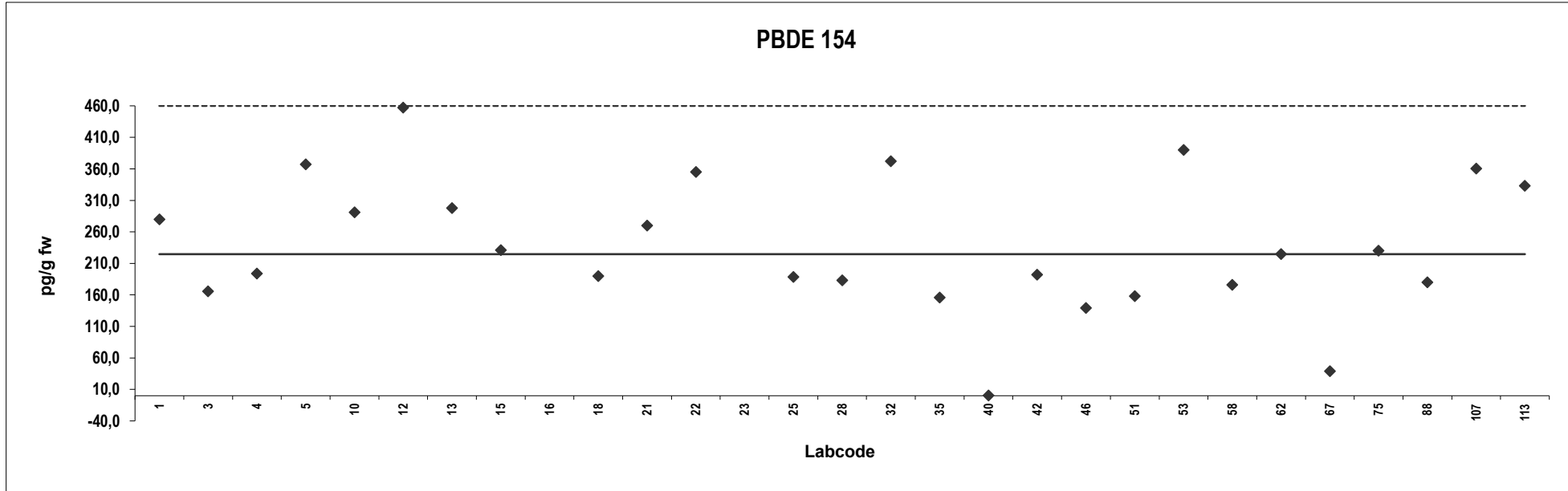


Fish oil
Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	280	1,2					
3	166	-1,3					
4	194	-0,68					
5	367	3,2					
10	291	1,5					
12	457	5,2					
13	298	1,6					
15	231	0,14					
16	66758	1481	Outlier				
18	190	-0,77					
21	270	1,0					
22	355	2,9					
23	479	5,7	Outlier				
25	188	-0,80					
28	183	-0,93					
32	372	3,3					
35	156	-1,5					
40	0,26	-5,0					
42	192	-0,72					
46	139	-1,9					
51	158	-1,5					
53	390	3,7					
58	176	-1,1					
62	225	0,00					
67	39	-4,1					
75	230	0,12					
88	180	-1,0					
107	361	3,0					
113	333	2,4					

Consensus statistics

Consensus median, pg/g	225
Median all values pg/g	230
Consensus mean, pg/g	238
Standard deviation, pg/g	107
Relative standard deviation, %	45
No. of values reported	29
No. of values removed	2
No. of reported non-detects	0

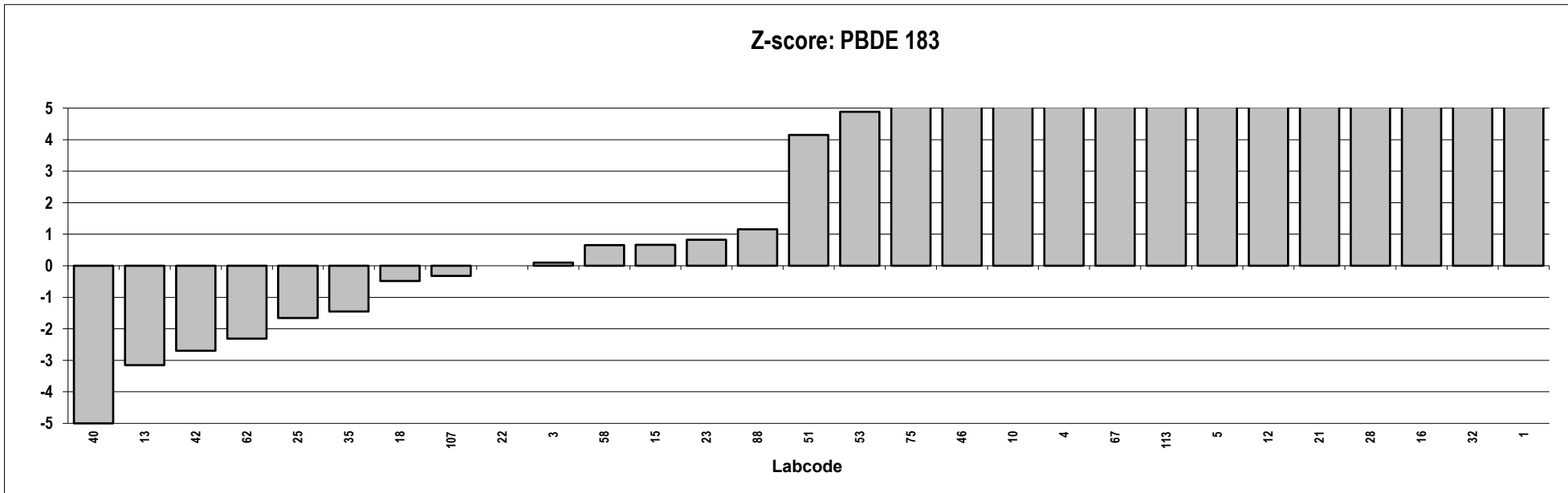
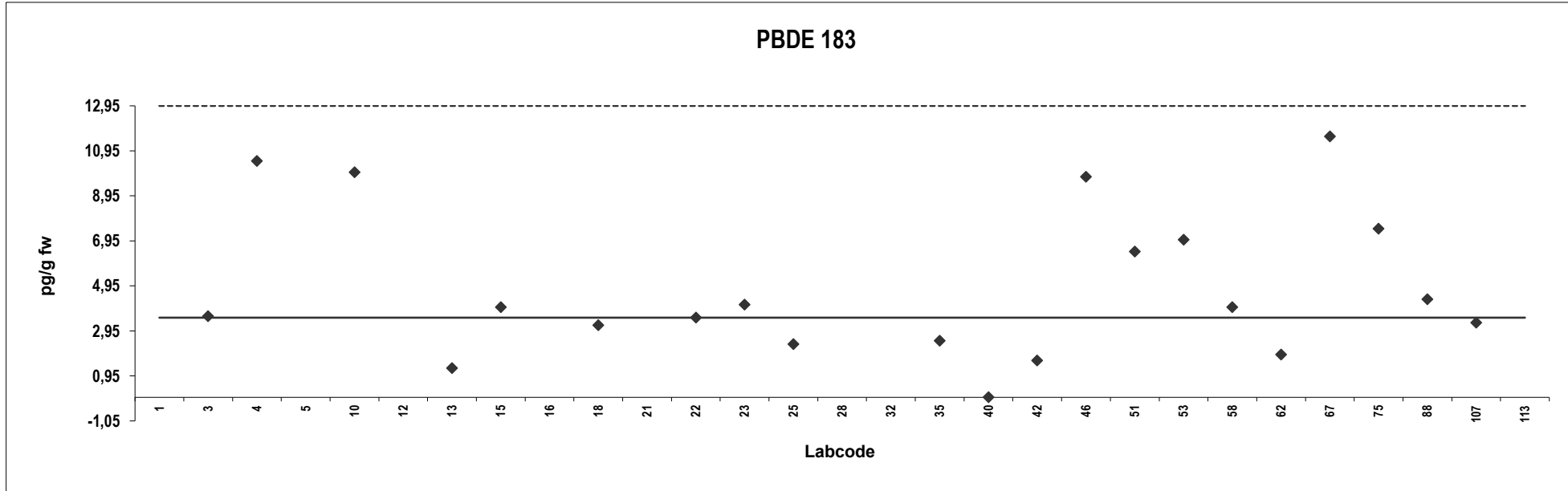


Fish oil
Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
1	232	323	Outlier				
3	3,6	0,099					
4	11	9,8					
5	17	19	Outlier				
10	10	9,1	ND				
12	22	26	Outlier,ND				
13	1,3	-3,2					
15	4,0	0,66					
16	143	196	Outlier				
18	3,2	-0,48					
21	30	37	Outlier,ND				
22	3,5	0,00					
23	4,1	0,83					
25	2,4	-1,7					
28	64	85	Outlier,ND				
32	200	277	Outlier,ND				
35	2,5	-1,5					
40	0,0030	-5,0					
42	1,6	-2,7					
46	9,8	8,8	ND				
51	6,5	4,1	ND				
53	7,0	4,9					
58	4,0	0,65					
62	1,9	-2,3					
67	12	11	ND				
75	7,5	5,6					
88	4,4	1,2					
107	3,3	-0,32					
113	16	17	Outlier				

Consensus statistics

Consensus median, pg/g	3,5
Median all values pg/g	6,5
Consensus mean, pg/g	4,9
Standard deviation, pg/g	3,3
Relative standard deviation, %	68
No. of values reported	29
No. of values removed	8
No. of reported non-detects	8

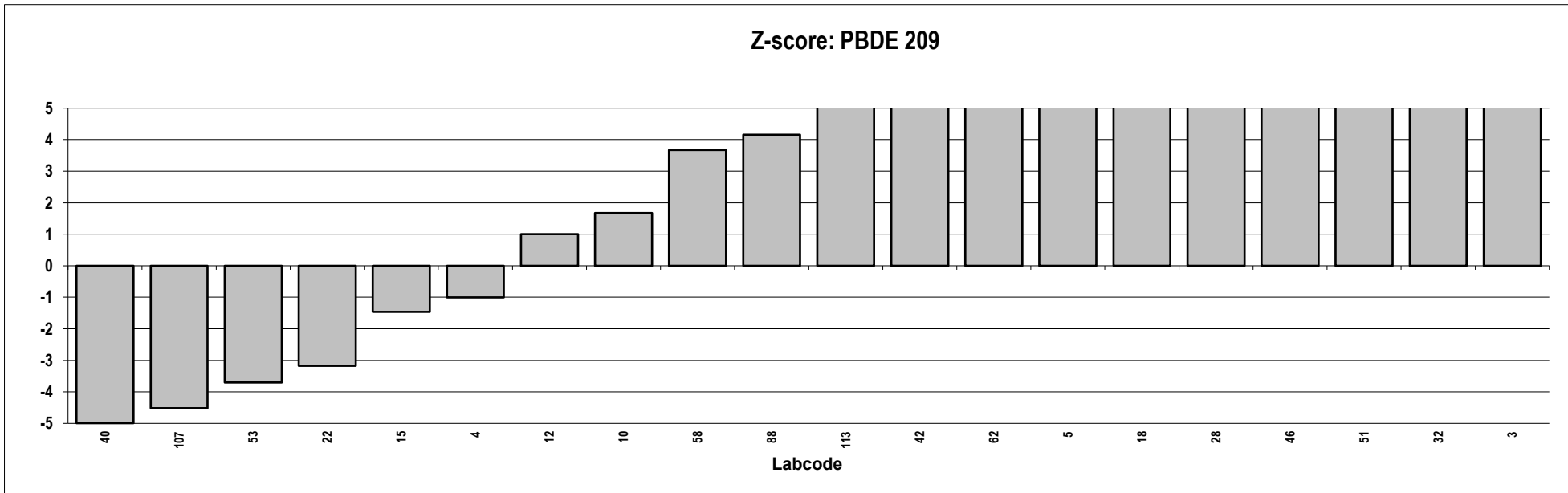
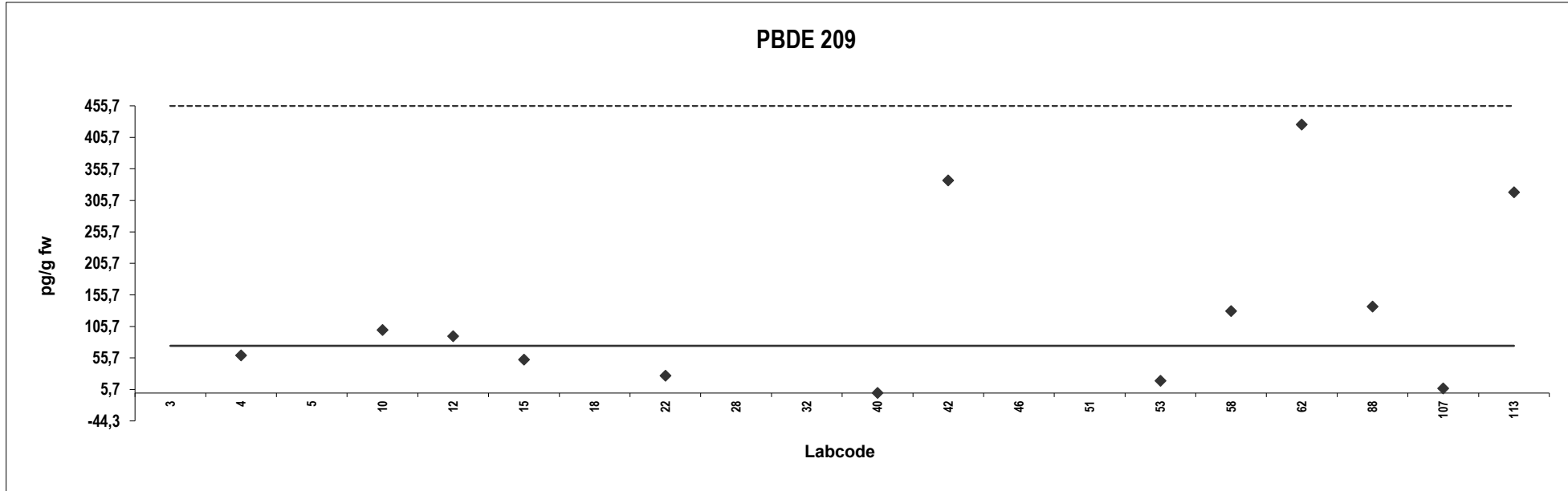


Fish oil
Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
3	4442	291	Outlier				
4	60	-1,0					
5	460	26	Outlier,ND				
10	100	1,7	ND				
12	90	1,0					
15	53	-1,5					
18	500	28	Outlier,ND				
22	27	-3,2					
28	556	32	Outlier,ND				
32	2198	142	Outlier				
40	0,065	-5,0					
42	337	18					
46	784	47	Outlier,ND				
51	894	55	Outlier				
53	20	-3,7					
58	130	3,7					
62	426	23					
88	137	4,2					
107	7,2	-4,5					
113	318	16					

Consensus statistics

Consensus median, pg/g	75
Median all values pg/g	228
Consensus mean, pg/g	131
Standard deviation, pg/g	140
Relative standard deviation, %	106
No. of values reported	20
No. of values removed	7
No. of reported non-detects	5

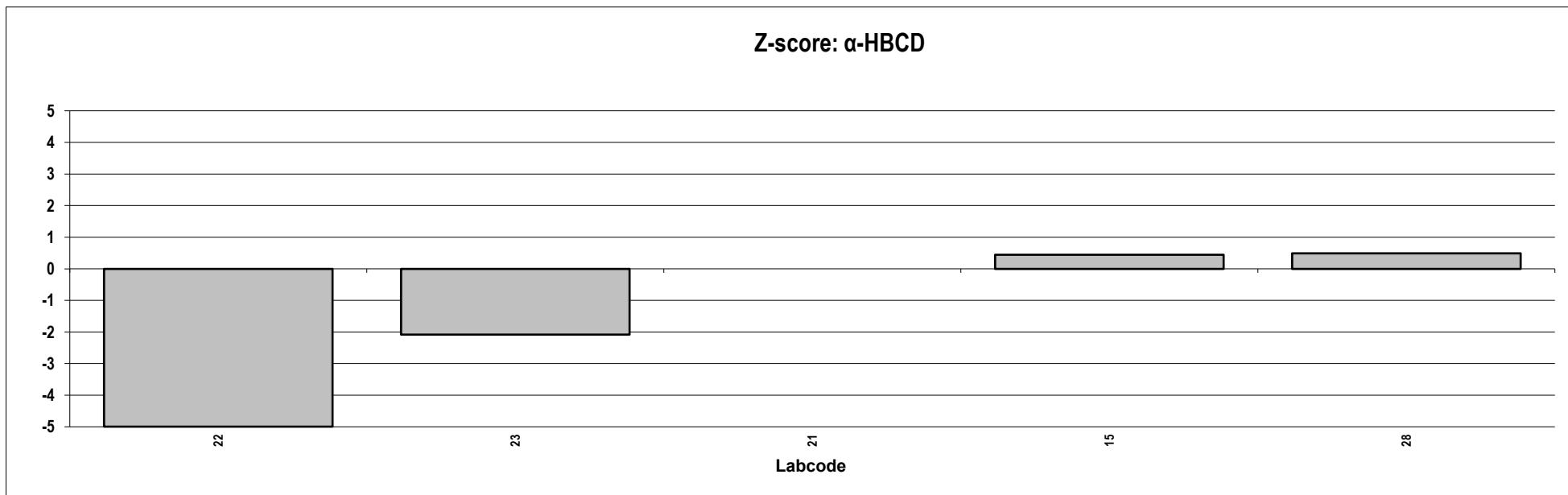
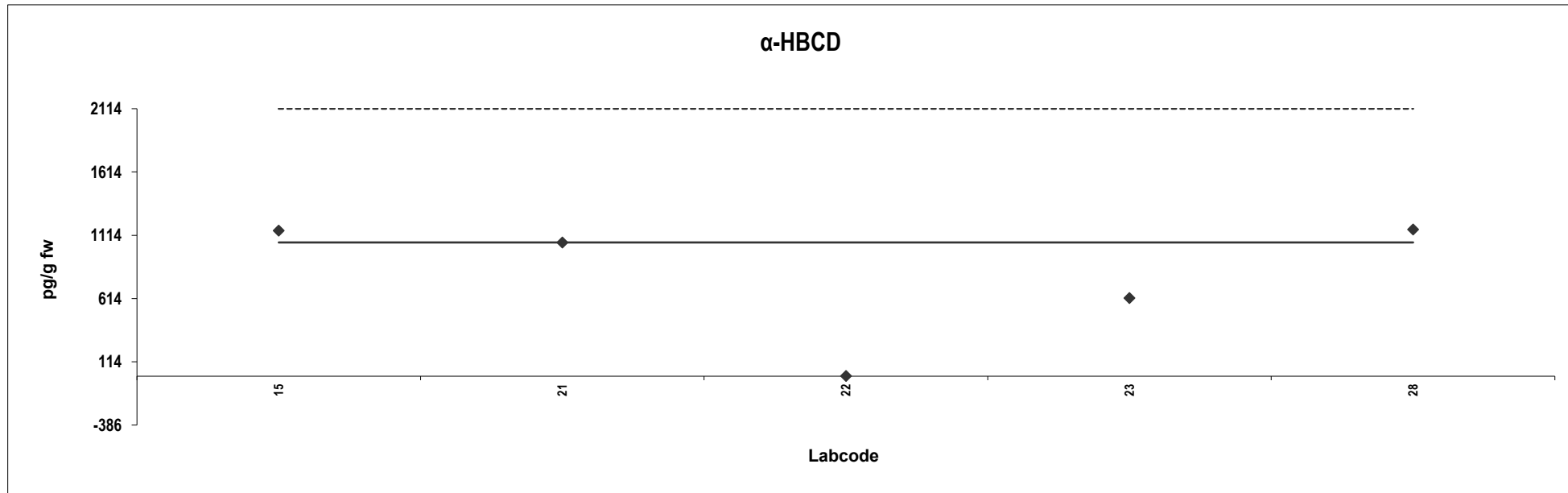


Fish oil
Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	1150	0,44					
21	1057	0,00					
22	1,2	-5,0					
23	617	-2,1					
28	1160	0,49					

Consensus statistics

Consensus median, pg/g	1057
Median all values pg/g	1057
Consensus mean, pg/g	797
Standard deviation, pg/g	497
Relative standard deviation, %	62
No. of values reported	5
No. of values removed	0
No. of reported non-detects	0



Fish oil
Congener: β -HBCD

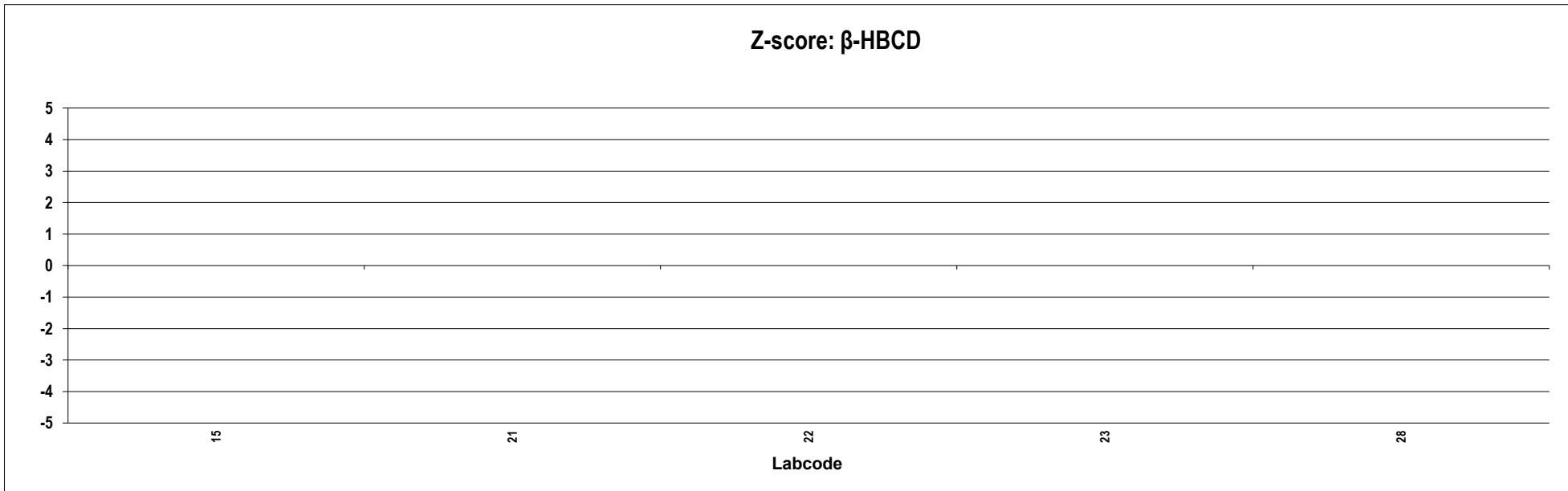
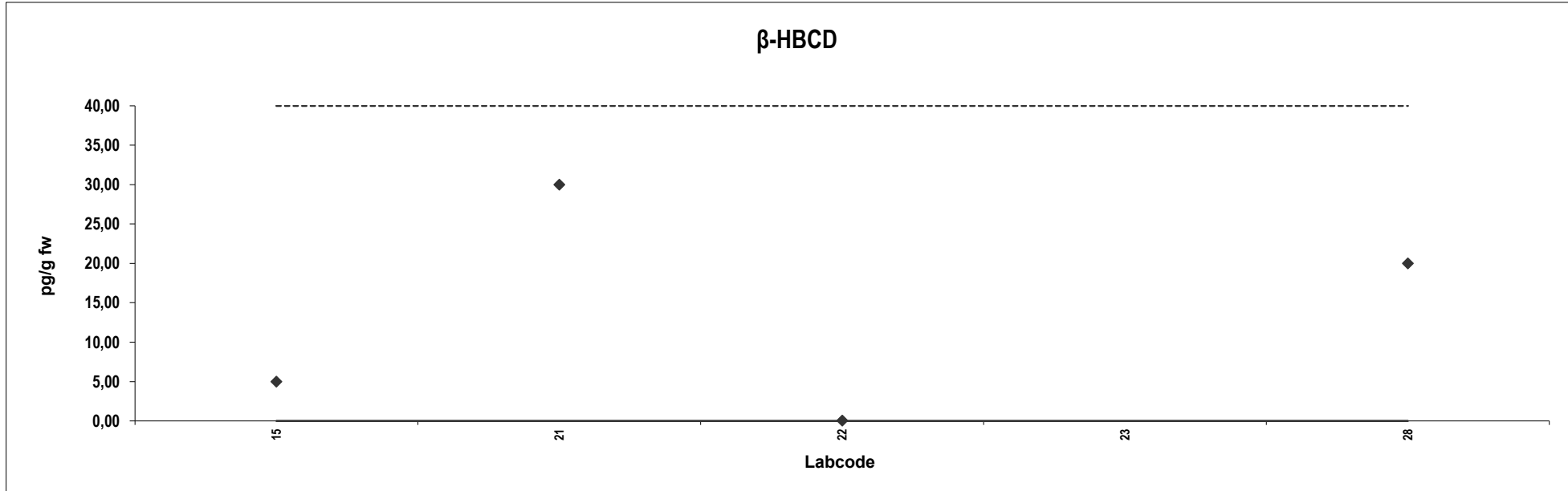
Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	5,0	*	ND				
21	30	*	ND				
22	0,050	*	ND				
23	93	*	Outlier				
28	20	*	ND				

Consensus statistics

Consensus median, pg/g	**
Median all values pg/g	20
Consensus mean, pg/g	14
Standard deviation, pg/g	14
Relative standard deviation, %	100
No. of values reported	5
No. of values removed	1
No. of reported non-detects	4

*unable to calculate z-score due to few submitted results

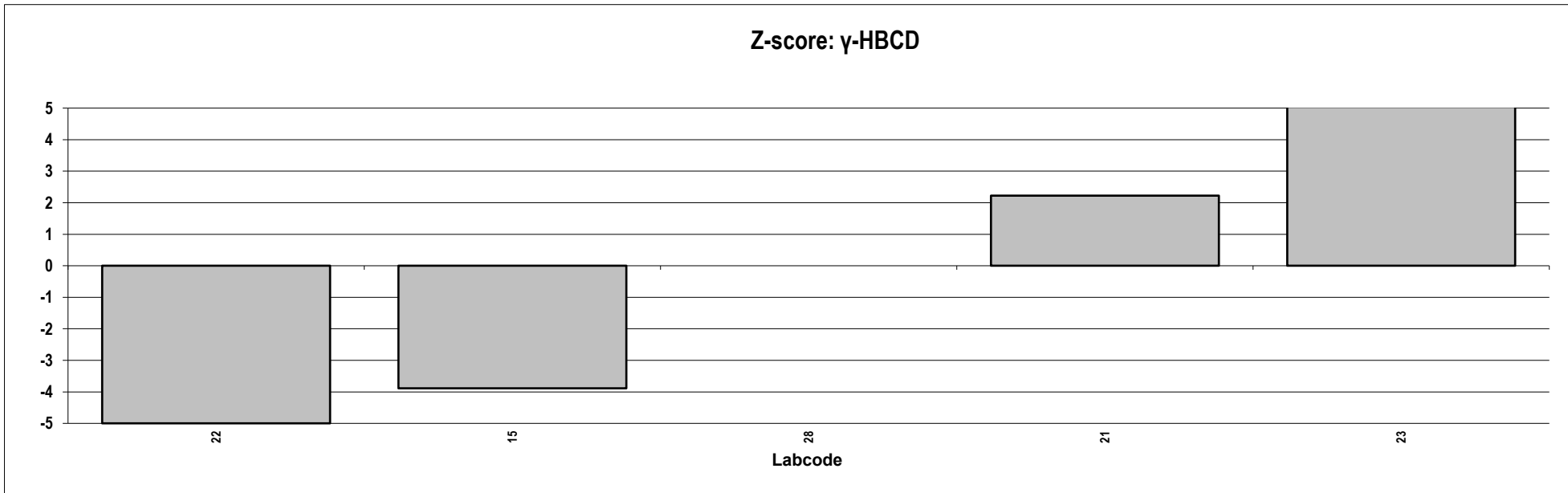
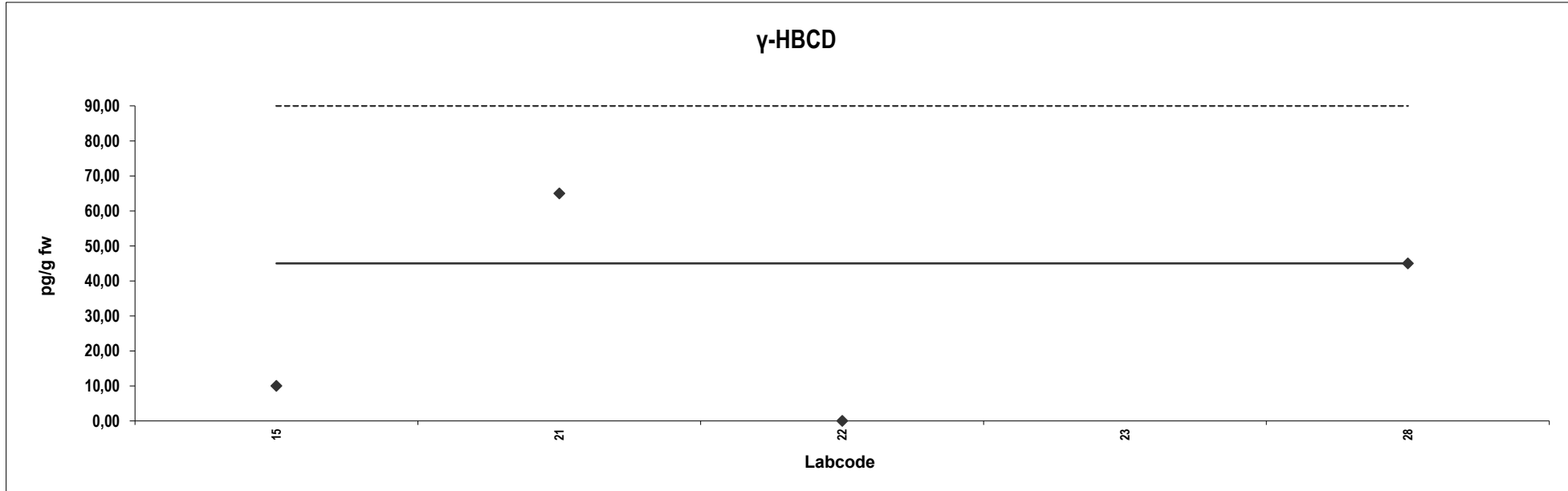
**unable to calculate consensus value due to few submitted results



Fish oil
Congener: γ -HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	10	-3,9	ND				
21	65	2,2	ND				
22	0,050	-5,0	ND				
23	289	27	Outlier				
28	45	0,00					

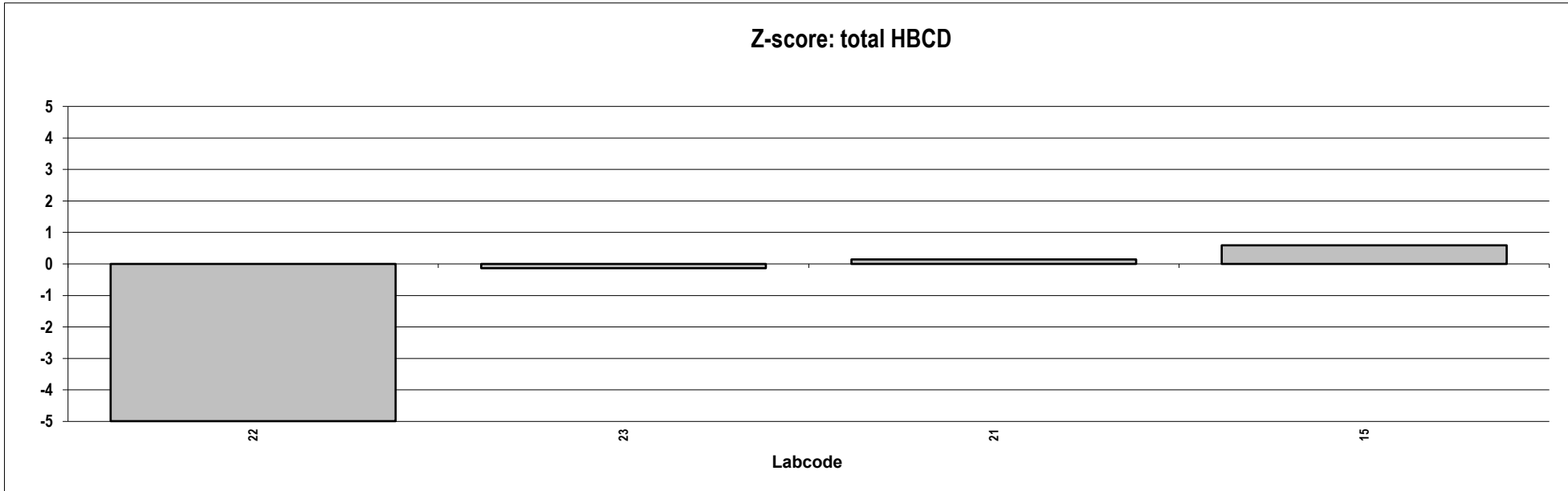
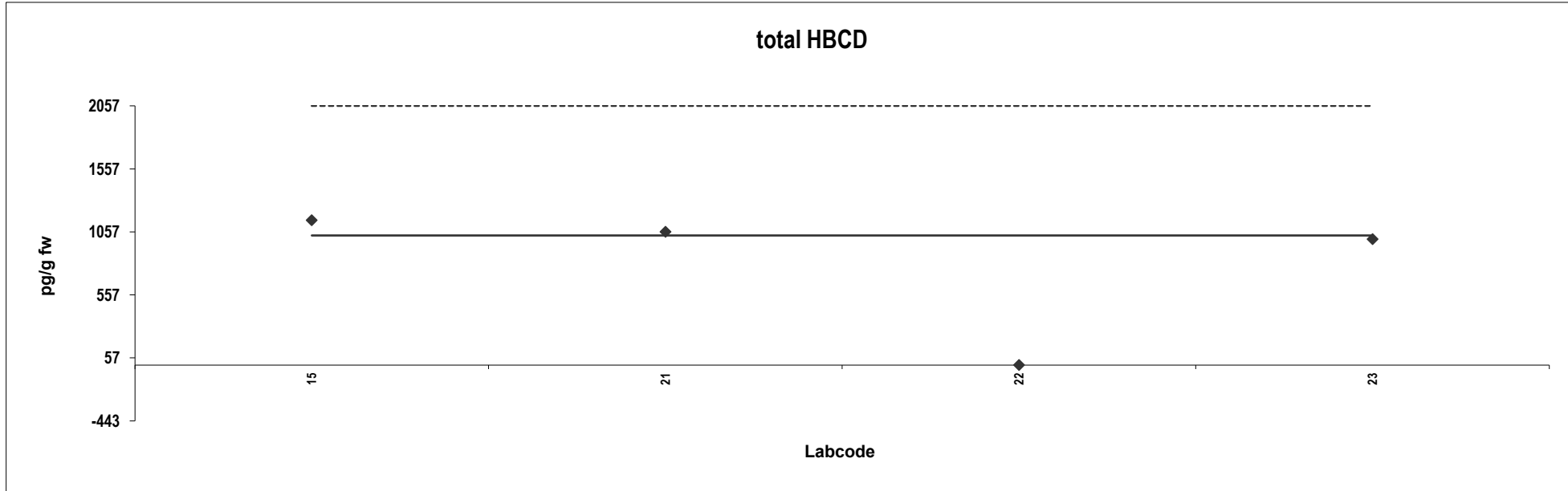
Consensus statistics	
Consensus median, pg/g	45
Median all values pg/g	45
Consensus mean, pg/g	30
Standard deviation, pg/g	30
Relative standard deviation, %	101
No. of values reported	5
No. of values removed	1
No. of reported non-detects	3



Fish oil
Congener: total HBCD

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Z-score	Notes
15	1150	0,59					
21	1057	0,14					
22	1,2	-5,0					
23	1000	-0,14					

Consensus statistics	
Consensus median, pg/g	1028
Median all values pg/g	1028
Consensus mean, pg/g	802
Standard deviation, pg/g	537
Relative standard deviation, %	67
No. of values reported	4
No. of values removed	0
No. of reported non-detects	0





Appendix 5:

Presentation of results for
Perch-2020

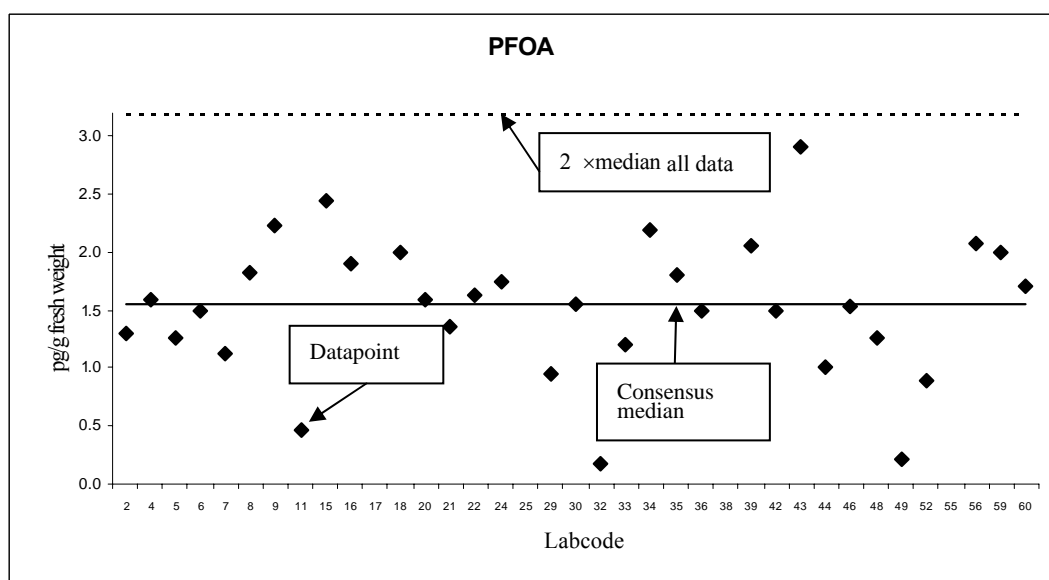
Appendix 5: Presentation of results: Perch-2020

Statistic calculations for PFASs

For each congener, the outliers were removed and the consensus calculated according to the following procedure:

1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners (NDs).
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set. The NDs were also removed.
3. As the number of reported results were limited, we also chose to remove low outliers.
4. Median, mean and standard deviation were re-calculated from the remaining data. This second median was called consensus.
5. For comparison, median, mean and standard deviation were also calculated without removing NDs.

The diagram shows the reported data up to approximately the limit for outliers ($2 \times$ the first median).



Z-Scores of individual congeners

Z-scores of each congener were calculated for each laboratory according to the following equation:

$$z = (x - X) / \sigma$$

where x = reported value; X = assigned value (consensus); σ = target value for standard deviation. A σ of 20% of the consensus was used, i.e. z-scores between +1 and -1 reflect a deviation of $\pm 20\%$ from the consensus value.

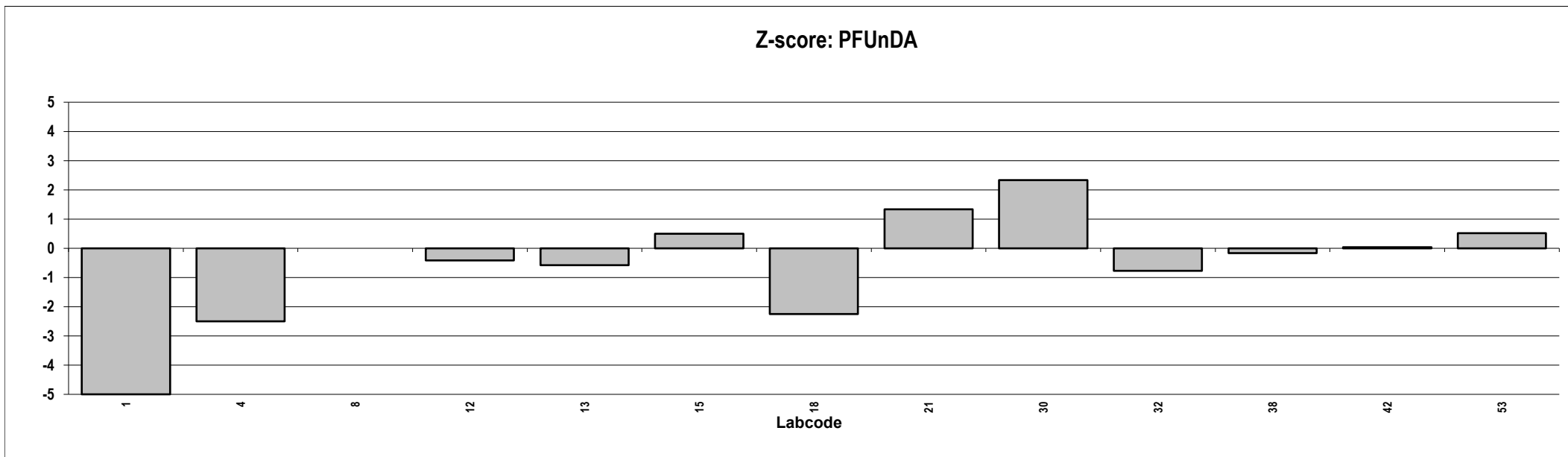
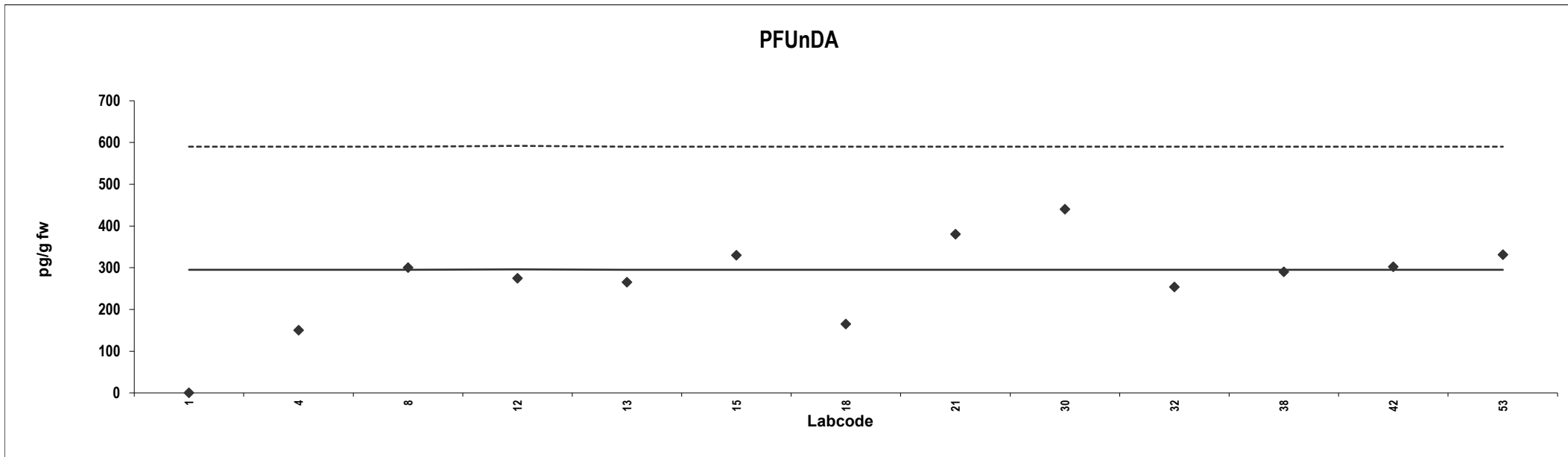
Perch
PFUnDA

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Notes
1	0,20	-5,0	Outlier*, ND			
4	150	-2,5				
12	300	0,00				
13	275	-0,42				
15	265	-0,58				
18	330	0,50				
21	165	-2,3				
30	380	1,3				
32	440	2,3				
38	254	-0,77				
42	290	-0,17				
53	302	0,033				
55	331	0,52				
74	472	2,9				

Consensus statistics

Consensus median, pg/g	300
Median all values pg/g	295
Consensus mean, pg/g	304
Standard deviation, pg/g	92
Relative standard deviation, %	30
No. of values reported	14
No. of values removed	1
No. of reported non-detects	1

*outlier due to very low reported value!

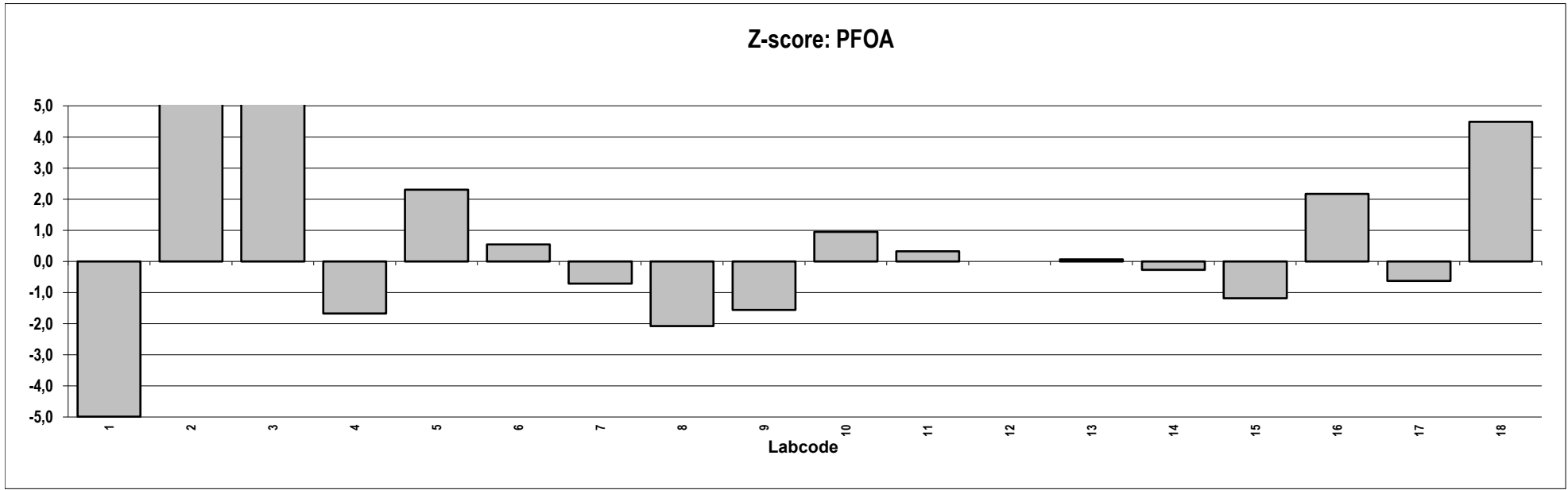
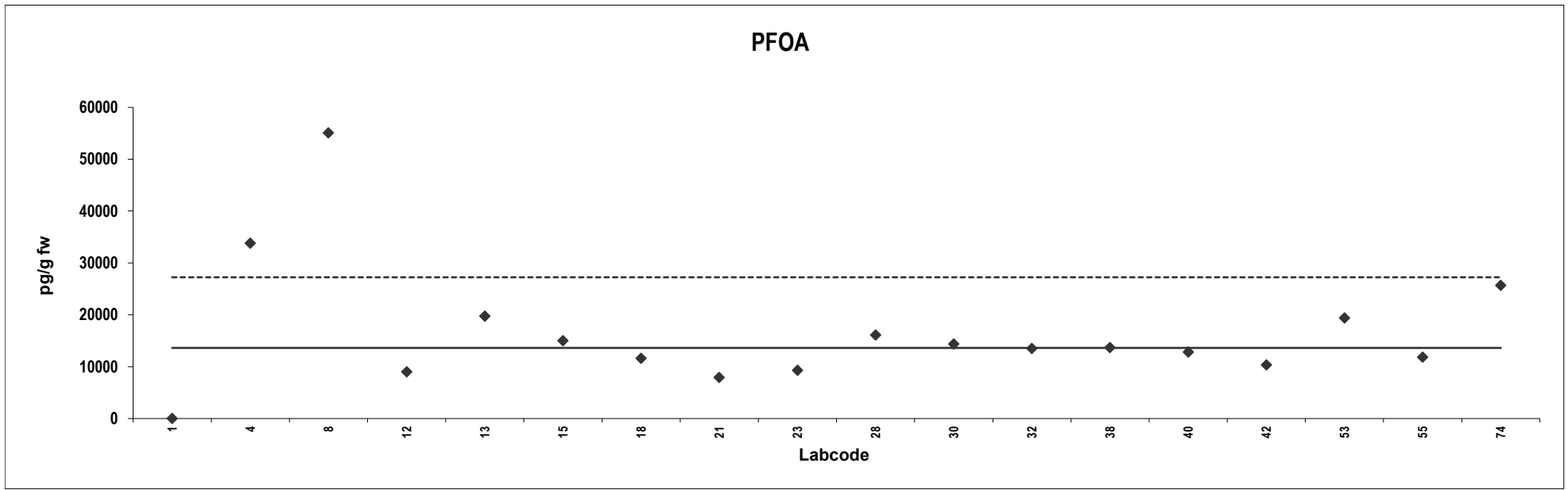


Perch
PFOS

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Notes
1	15	-5,0	Outlier*			
4	33800	7,5	Outlier			
8	55080	15	Outlier			
12	9000	-1,7				
13	19755	2,3				
15	15000	0,54				
18	11600	-0,71				
21	7907	-2,1				
23	9306	-1,6				
28	16092	0,95				
30	14400	0,32				
32	13526	0,00				
38	13711	0,068				
40	12800	-0,27				
42	10319	-1,2				
53	19400	2,2				
55	11822	-0,63				
74	25662	4,5				

*outlier due to very low reported value!

Consensus statistics	
Consensus median, pg/g	13526
Median all values pg/g	13619
Consensus mean, pg/g	14020
Standard deviation, pg/g	4734
Relative standard deviation, %	34
No. of values reported	18
No. of values removed	3
No. of reported non-detects	0



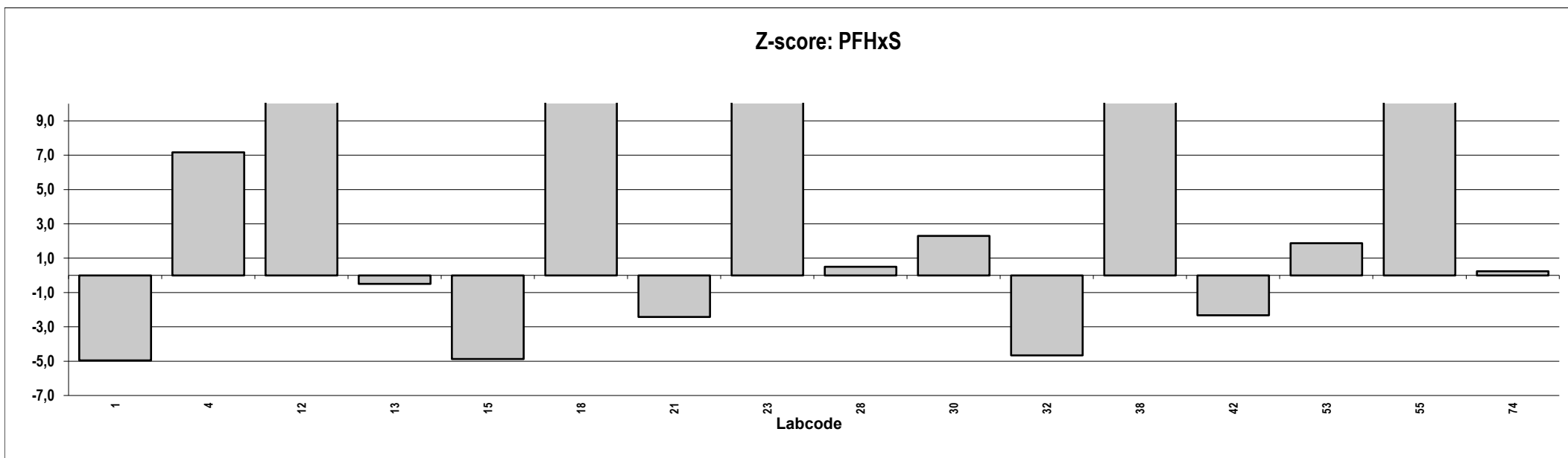
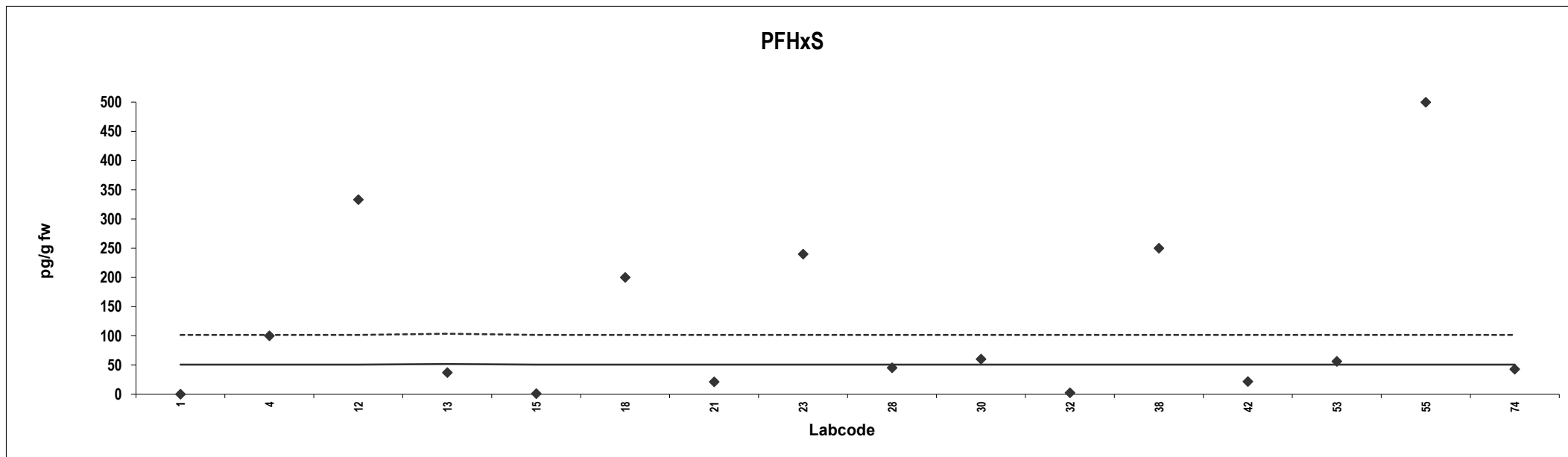
Perch
PFHxS

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Notes
1	0,32	-5,0	Outlier*			
4	100	7,2	ND			
12	333	36	Outlier, ND			
13	37	-0,50				
15	1,0	-4,9	ND			
18	200	19	Outlier, ND			
21	21	-2,4				
23	240	24	Outlier, ND			
28	45	0,50				
30	60	2,3				
32	2,8	-4,7	ND			
38	250	25	Outlier, ND			
42	22	-2,3				
53	57	1,9				
55	500	56	Outlier, ND			
74	43	0,23	ND			

*outlier due to very low reported value!

Consensus statistics

Consensus median, pg/g	41
Median all values pg/g	51
Consensus mean, pg/g	40
Standard deviation, pg/g	17
Relative standard deviation, %	41
No. of values reported	16
No. of values removed	9
No. of reported non-detects	10



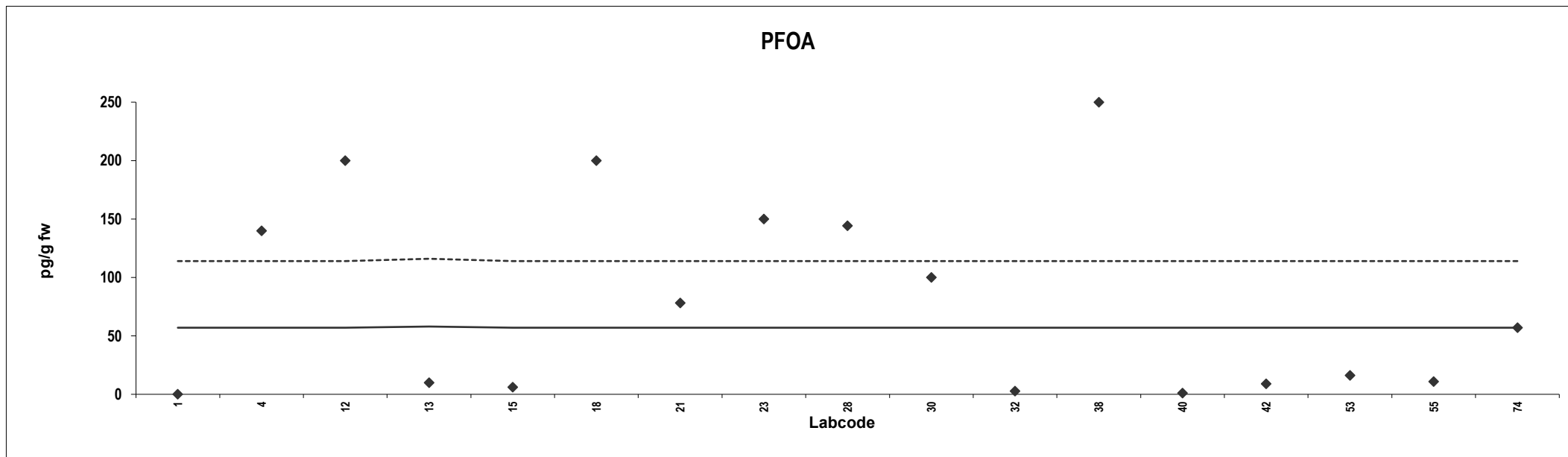
Perch
PFOA

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Notes
1	0,20	-4,9	Outlier*, ND			
4	140	47	Outlier			
12	200	69	Outlier, ND			
13	10	-1,3	ND			
15	6,0	-2,8	ND			
18	200	69	Outlier, ND			
21	78	24				
23	150	50	Outlier, ND			
28	144	48	Outlier, ND			
30	100	32	ND			
32	2,8	-4,0	ND			
38	250	87	Outlier, ND			
40	1,0	-4,6	ND			
42	9,0	-1,7				
53	16	0,94				
55	11	-0,94				
74	57	16	ND			

*outlier due to very low reported value!

Consensus statistics

Consensus median, pg/g	14
Median all values pg/g	57
Consensus mean, pg/g	29
Standard deviation, pg/g	33
Relative standard deviation, %	116
No. of values reported	17
No. of values removed	13
No. of reported non-detects	11



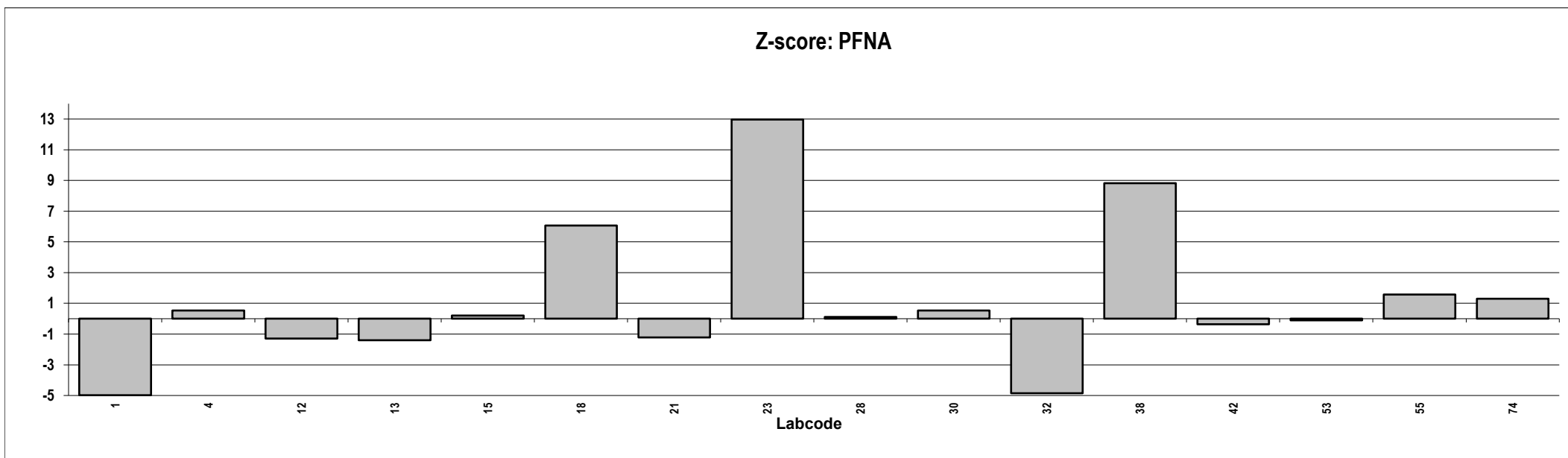
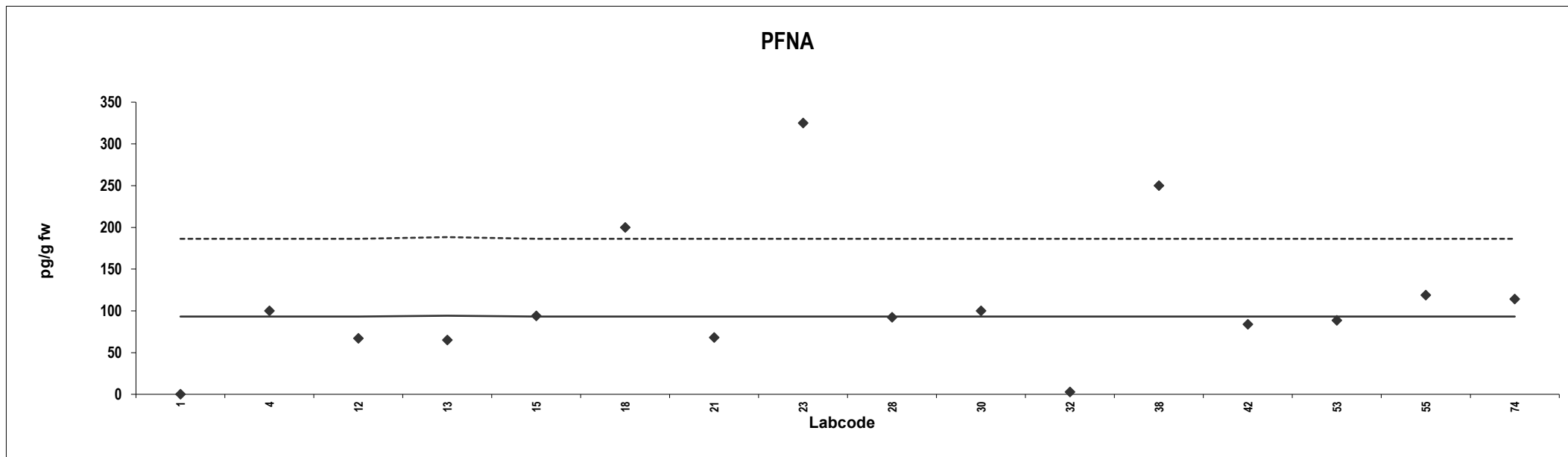
Perch
PFNA

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Notes
1	0,20	-5,0	Outlier*, ND			
4	100	0,53	ND			
12	67	-1,3	ND			
13	65	-1,4				
15	94	0,20				
18	200	6,1	Outlier, ND			
21	68	-1,2				
23	325	13	Outlier, ND			
28	92	0,11				
30	100	0,53				
32	2,8	-4,8	ND			
38	250	8,8	ND			
42	84	-0,35				
53	89	-0,11				
55	119	1,6				
74	114	1,3	ND			

Consensus statistics

Consensus median, pg/g	90
Median all values pg/g	93
Consensus mean, pg/g	89
Standard deviation, pg/g	17
Relative standard deviation, %	19
No. of values reported	16
No. of values removed	8
No. of reported non-detects	8

*outlier due to very low reported value!



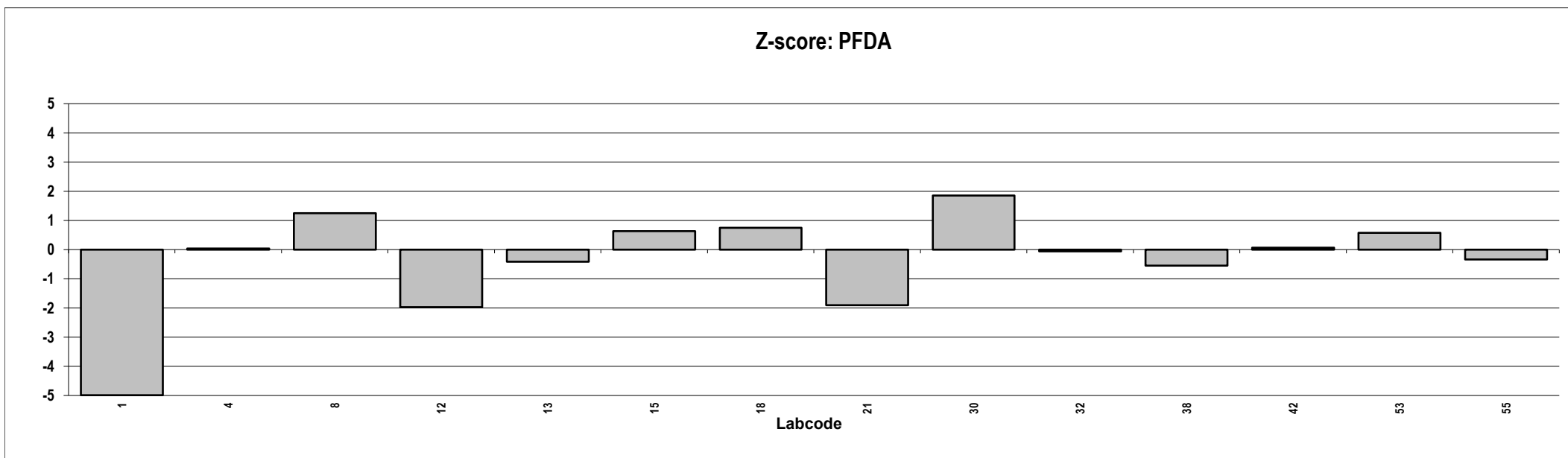
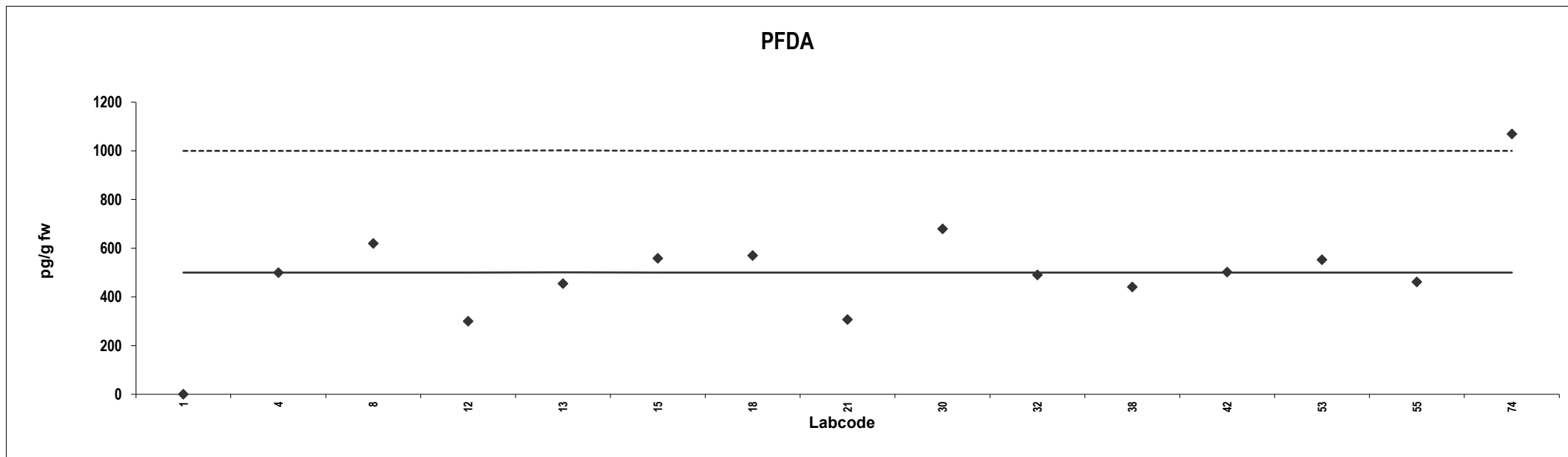
Perch
PFDA

Lab code	Conc. pg/g fw.	Z-score	Notes	Lab code	Conc. pg/g fw.	Notes
1	0,67	-5,0	Outlier*			
4	500	0,040	ND			
8	620	1,3				
12	300	-2,0				
13	455	-0,41				
15	559	0,64				
18	570	0,75				
21	307	-1,9				
30	680	1,9				
32	490	-0,060				
38	441	-0,55				
42	502	0,060				
53	553	0,57				
55	462	-0,34				
74	1069	5,8	Outlier			

Consensus statistics

Consensus median, pg/g	502
Median all values pg/g	496
Consensus mean, pg/g	495
Standard deviation, pg/g	114
Relative standard deviation, %	23
No. of values reported	15
No. of values removed	3
No. of reported non-detects	1

*outlier due to very low reported value!



Appendix 6:

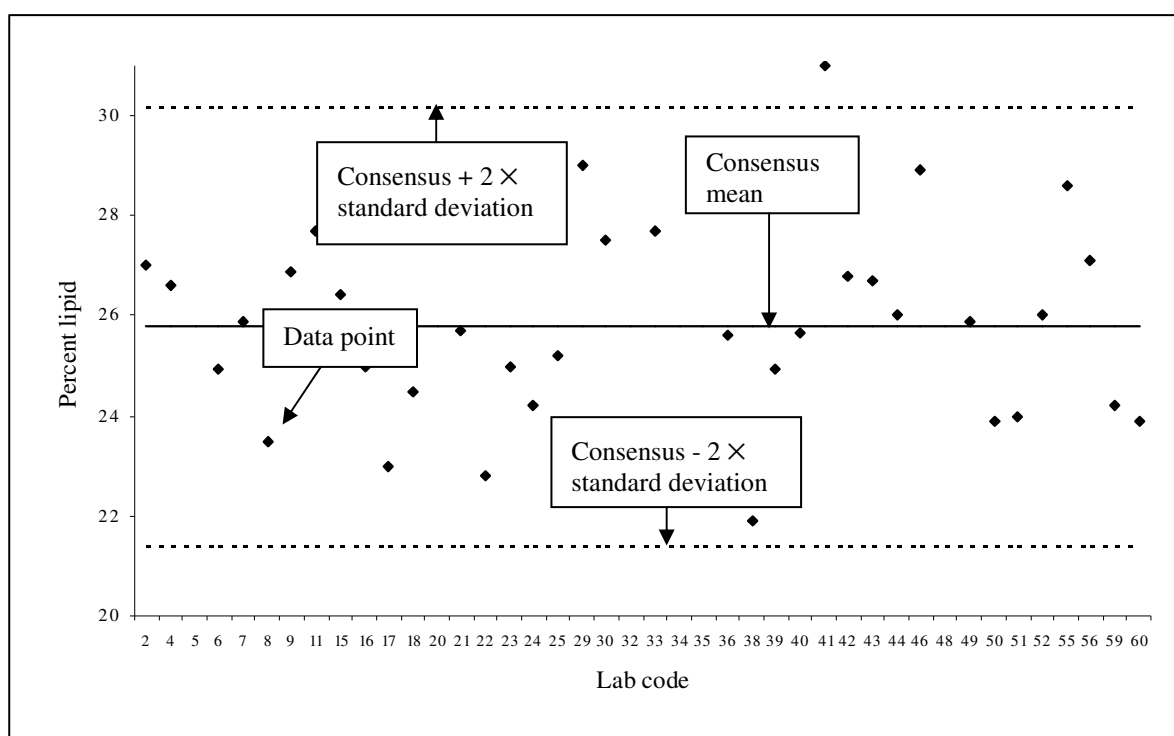
Presentation of results
for lipid determination

Presentation of results for lipid determination

Removal of outliers and calculation of consensus were done by the following procedure:

1. The mean was calculated from all the reported data.
2. Values outside a range of $\pm 2 \times$ the standard deviation of this mean were defined as outliers and removed from the data set.
3. Mean, standard deviation and median were re-calculated from the remaining data. This mean was called consensus.

The diagram shows the reported data with consensus and consensus \pm the new standard deviation $\times 2$.



Z-Scores of lipid content

Z-scores of lipid content were calculated for each laboratory according to the following equation:

$$z = (x - X)/\sigma$$

where x = reported value; X = assigned value (consensus); σ = target value for standard deviation. A σ of 20% of the consensus was used, i.e. z-scores between +1 and -1 reflect a deviation of $\pm 20\%$ from the consensus value.

Lipid determination for Egg yolk

Lab code	% lipid	Notes	Lab code	% lipid	Notes	Lab code	% lipid	Notes
1	23		108	28				
3	31		113	47	outlier			
4	27		114	23				
5	27		119	27				
8	23		120	28				
9	49	outlier						
13	22							
15	28							
16	31							
18	28							
19	29							
21	30							
22	25							
23	22							
24	58	outlier						
25	28							
26	26							
28	26							
30	24							
32	26							
35	23							
38	28							
39	20							
42	27							
43	26							
44	14							
45	25							
46	27							
51	27							
52	28							
53	9	outlier						
55	47	outlier						
56	24							
57	32							
58	31							
59	26							
65	23							
67	27							
68	25							
73	26							
75	29							
79	29							
88	32							
95	26							
104	28							
107	23							

Mean	Standard deviation	Relative standard deviation	Median
26	3,4	13	27

Lipid determination for Salmon

Lab code	% lipid	Notes	Lab code	% lipid	Notes	Lab code	% lipid	Notes
1	7,4		108	9,0				
3	9,3		113	8,2				
4	8,0		114	8,4				
5	9,1		119	7,5				
8	8,1		120	5,2				
9	7,0							
11	6,0							
13	4,8							
15	8,6							
16	10							
19	9,0							
21	8,5							
22	6,7							
23	9,5							
24	25	outlier						
25	7,8							
26	8,0							
27	9,5							
28	8,9							
32	8,4							
35	6,3							
38	8,7							
39	6,1							
41	8,4							
42	6,0							
43	8,1							
44	4,6							
45	7,9							
46	8,3							
51	7,8							
52	8,4							
53	21	outlier						
55	2,0							
56	8,5							
57	8,0							
59	9,1							
62	8,8							
65	3,9							
67	9,2							
73	8,2							
74	7,1							
75	7,7							
79	9,6							
95	7,6							
104	9,9							
107	8,4							

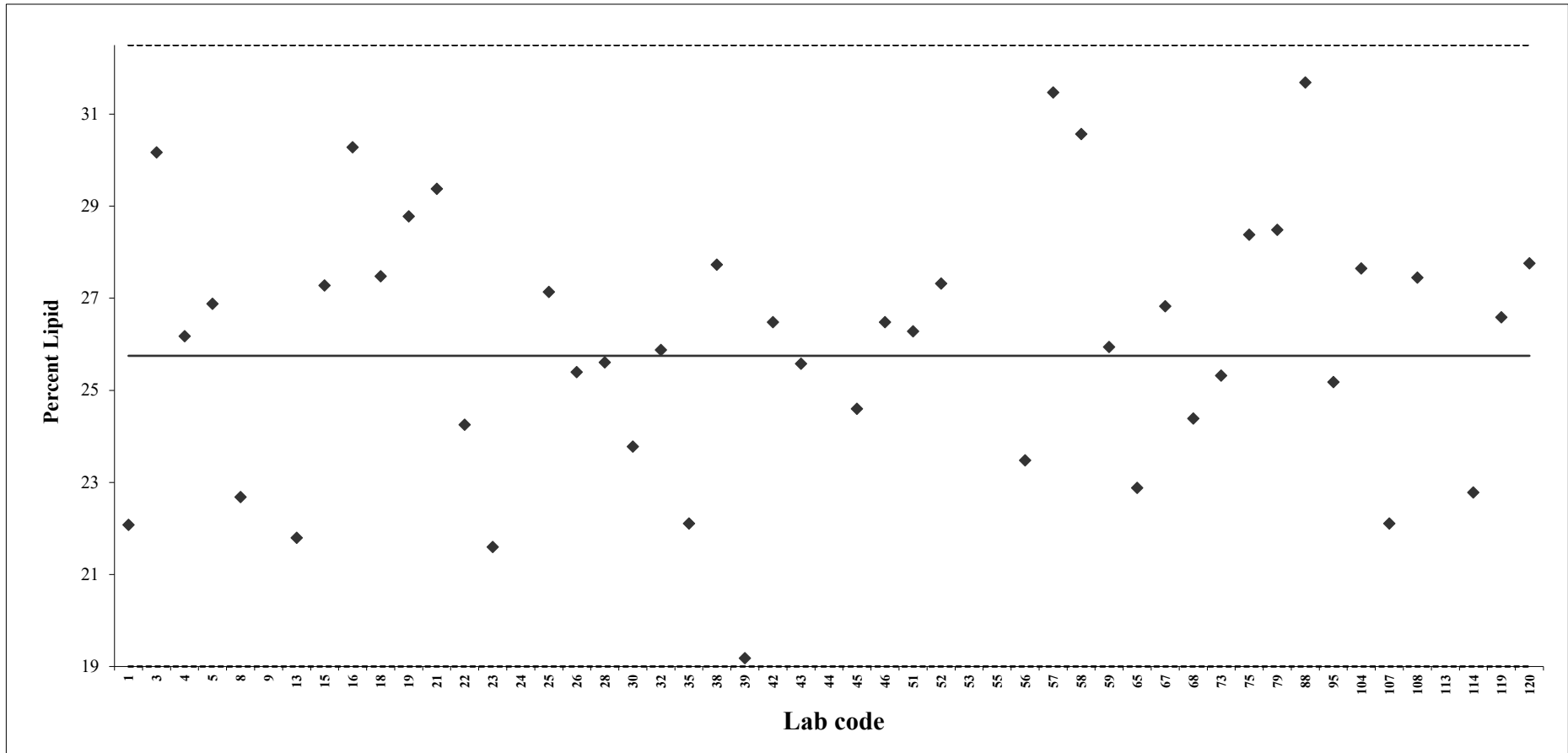
Mean	Standard deviation	Relative standard deviation	Median
7,8	1,6	21	8,2

Lipid determination for Fish oil

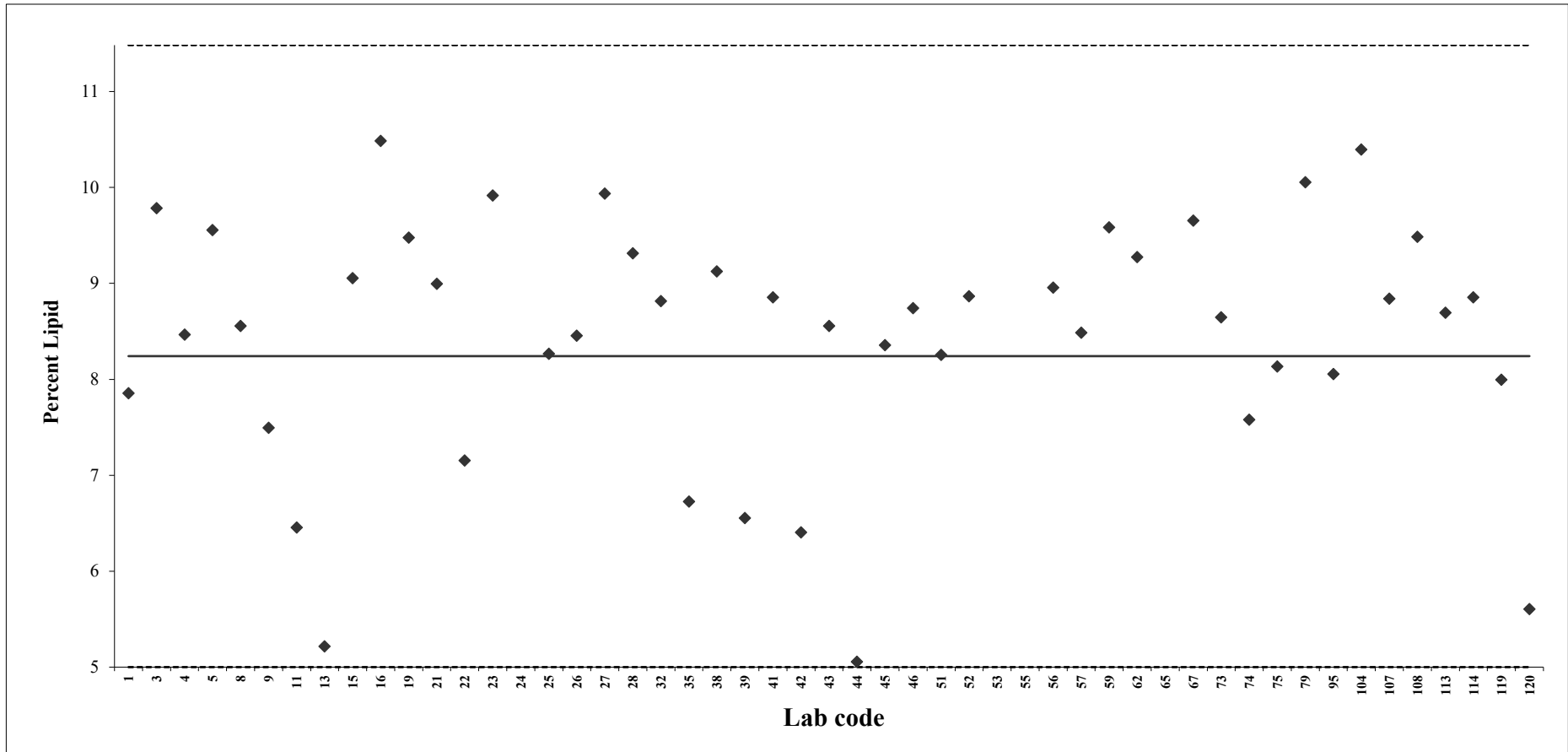
Lab code	% lipid	Notes	Lab code	% lipid	Notes	Lab code	% lipid	Notes
1	90	outlier	104	100				
3	100		107	100				
4	98		108	100				
5	100		113	100				
8	100		114	100				
10	99		119	100				
13	100		120	99				
15	100							
16	100							
18	100							
19	100							
21	100							
22	100							
23	99							
24	100							
25	100							
26	100							
28	100							
32	103		outlier					
35	100							
38	100							
39	100							
40	100							
41	100							
42	100							
43	100							
44	100							
45	100							
46	100							
51	100							
52	100							
53	100							
55	99							
56	100							
57	100							
59	100							
62	100							
65	100							
67	100							
73	100							
75	100							
77	100							
79	100							
80	100							
95	100							
102	100							

Mean	Standard deviation	Relative standard deviation	Median
100	0,38	0,38	100

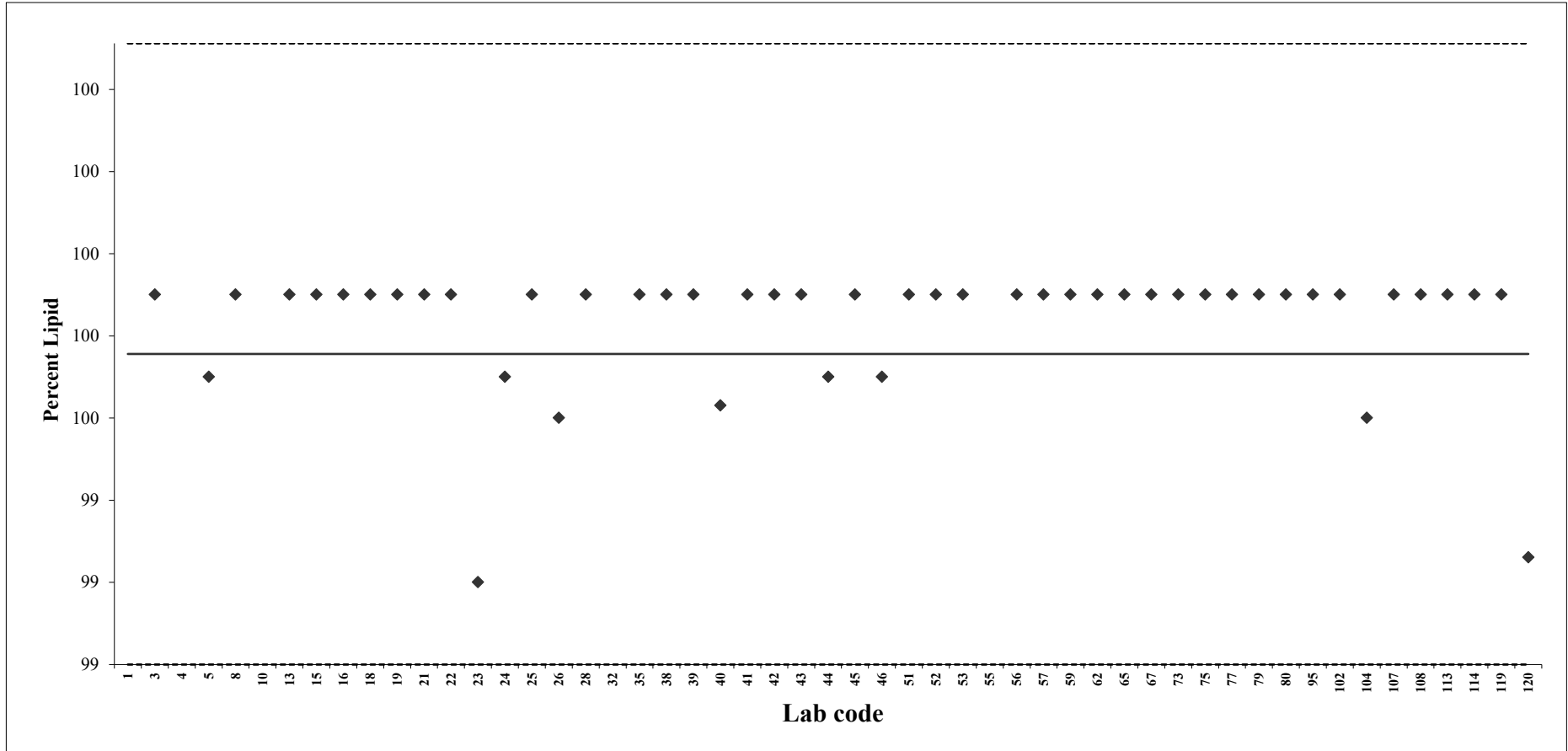
Lipid determination; Egg yolk



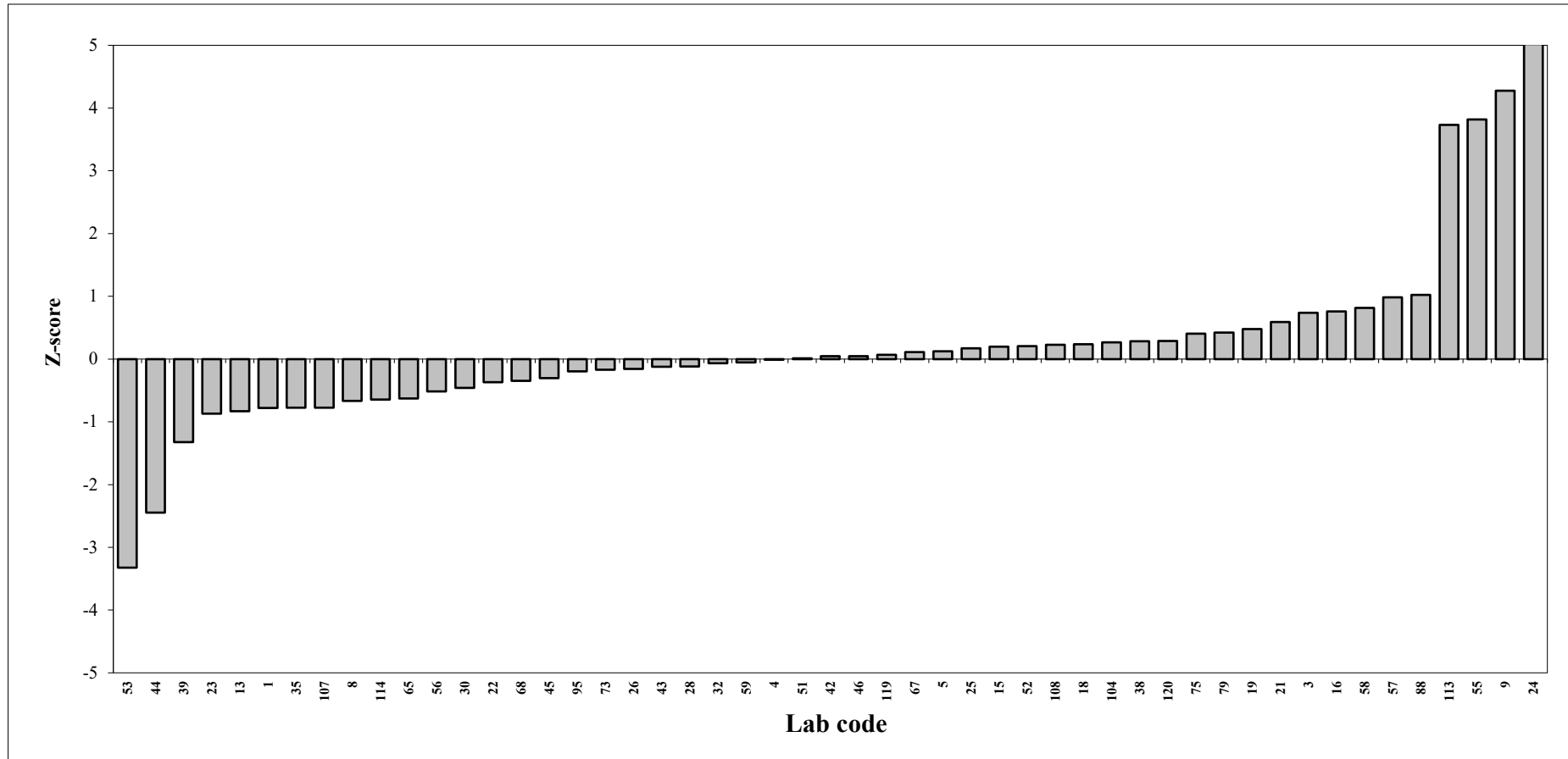
Lipid determination; Salmon



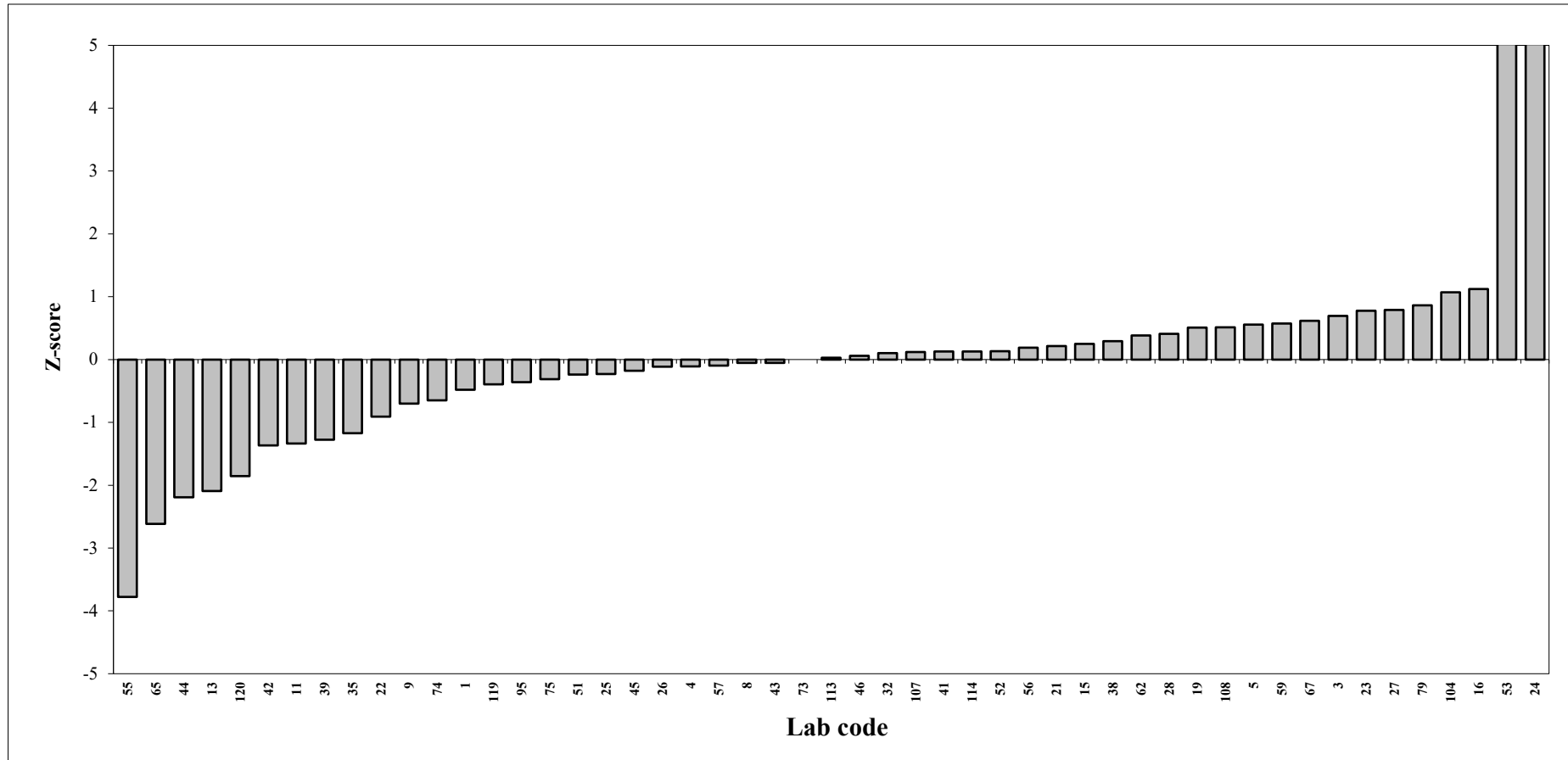
Lipid determination; Fish oil



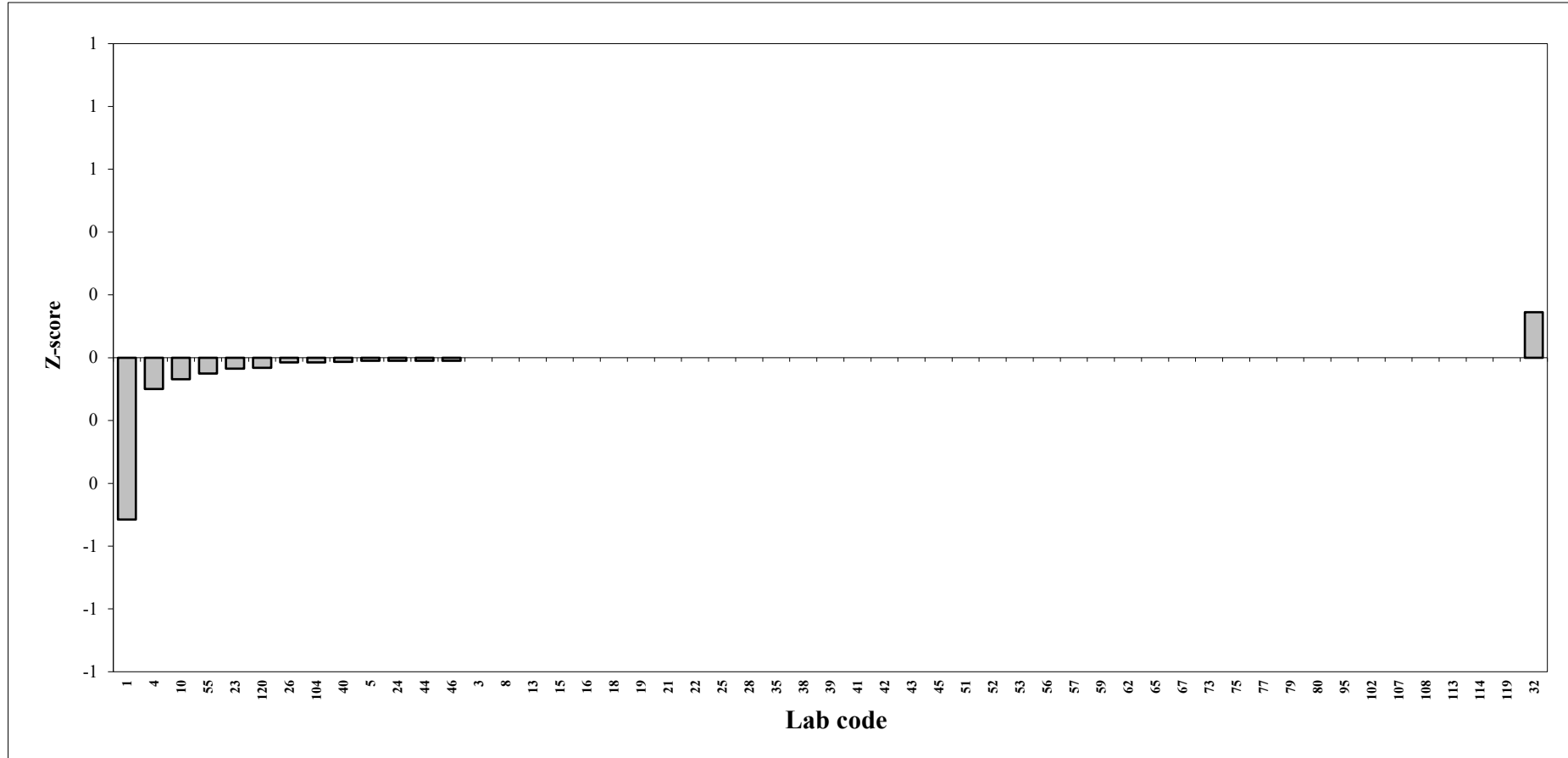
Z-score lipid determination; Egg yolk



Z-score lipid determination; Salmon



Z-score lipid determination; Fish oil



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