

REPORT

2018

Interlaboratory Comparison on POPs in Food

The nineteenth round of an international study

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Cathrine Thomsen

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Summary

The 19th round of the Interlaboratory Comparison on POPs in Food was conducted in 2018 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.

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 in regular foodstuffs.

In 2018 the study was performed on unfortified homogenates of Reindeer meat, Salmon and Fish oil.

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 85 laboratories worldwide in January, and results were returned from 77 of these.

A draft report was made available on our webpage www.fhi.no/ILC in July 2018, and the deadline for commenting on the published results was set to September 15th 2018.

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 consensus concentration (assigned value) for each analyte in the three 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 were removed from the calculation. The consensus median and consensus mean as well as standard deviation (SD) were calculated from the remaining data.

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 and consensus mean as well as standard deviation (SD) were calculated from the remaining data.

Toxic equivalents (TEQs) were calculated from the consensus values 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 TEQ, 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 ($\sigma=0.2$) (both on a fresh weight and a lipid weight basis). The z-scores for each congener in all matrixes on a fresh weight basis are also calculated by the same procedure and presented in the report.

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 TEQs (4.8 pg TE/g fw, WHO₂₀₀₆TEFs). For the determination of this sample, Z-scores within ± 1 were obtained by 87 % of the participating laboratories, and Z-scores within ± 2 were achieved by 95 % of the participants (Z scores within ± 1 and ± 2 , corresponding to a trueness of ± 20 % and ± 40 %, respectively). Also for the Salmon-sample (total TEQ=1.0 pg TE/g, WHO₂₀₀₆TEFs, fresh weight), a high percentage of the participants achieved good results when considering z-scores, as Z-scores within ± 1 were obtained by 77 % and ± 2 were achieved by 92 % of the participants.

For the Reindeer meat-sample, which on beforehand rightly was assumed to be the sample with lowest level of contamination (total TEQ=0.53 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 87 % of the participants.

The relative standard deviation (RSD) calculated for the total TEQ after removal of outliers was 8.5-13 % for the two samples that had the highest levels of contamination (Fish oil and Salmon, respectively). For the lower contaminated meat-sample, the same RSD was 16 %. Considering this, it may be concluded that the abilities and performance of laboratories worldwide in determining dioxin-like compounds is generally good for the three food samples included in this study.

For the food samples, 45-59 laboratories reported results for the six indicator PCBs. The total concentrations on fresh weight basis for six indicator PCBs were 707 pg/g (17 %) in Reindeer meat, 5097 pg/g (15 %) in Salmon and 33074 pg/g (13 %) in Fish oil, with total RSDs given in parentheses.

23-30 laboratories reported concentrations for all seven of the tetra- to hepta-PBDEs and 19-23 laboratories reported concentrations for PBDE-209. The concentrations of the sum of the PBDEs with PBDE-209 excluded on fresh weight basis were 10 (16 %), 360 (15 %) and 2582 (16 %) pg/g in Reindeer meat, Salmon and Fish oil, respectively, with total RSD given in parentheses. The consensus concentrations for PBDE-209 were 14 (n=19, RSD=53 %), 18 (n=23, RSD=52 %) and 49 (n=22, RSD=72 %) pg/g fresh weight in Reindeer meat, Salmon and Fish oil, in that order.

The consensus concentrations calculated for HBCDs are just indicative values because only a few laboratories reported results (n=5-11).

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. 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 19th round of a world-wide interlaboratory comparison study on dioxin-like compounds, eight PBDEs, six indicator PCBs and HBCD in food, organized by the Department of Environmental Exposure and Epidemiology, at the Norwegian Institute of Public Health (NIPH), Oslo, Norway.

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 2018, when the samples were shipped to the laboratories for analysis, until the reporting deadline in April 2018, 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 July, 2018.

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 77 laboratories that submitted results, and thereby contributed to the study results, are presented in Table 1.

Table 1. Participants that reported results in the 19th round of Interlaboratory Comparison on POP's in Food 2018

Agri-Food & Veterinary Authority of Singapore Veterinary Public Health Center Republic of Singapore	ALcontrol AB Sweden Linköping, Sweden
ALS Czech Republic Pardubice, Czech Republic	ALS Environmental - Burlington Burlington, Ontario, Canada
Analytical Biochemistry Research Centre (ABrC) Penang, Malaysia	Animal, Plant and Food Inspection Center (APFIC) of Jiangsu Entry-Exit Inspection and Quarantine Bureau Yu Keyao, China
Arkansas Regional Laboratory Office of Regulatory Affairs Jefferson, Arkansas, United States of America	Australian Ultra Trace Laboratory National Measurement Institute - North Ryde Sydney, Australia
Bayerisches Landesamt für Umwelt Referat 74 - Organische Analytik Augsburg, Germany	Bioassay and Safety Assessment Laboratory Shanghai Academy of Public Measurement Shanghai, P.R.China

BioDetection Systems B.V. Amsterdam, The Netherlands	Bureau of Quality and Safety of Food (BQSF) Department of Medical Sciences Ministry of Public Health Bangkok, Thailand
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	Centre for Environment, Fisheries and Aquaculture Science (CEFAS) Lowestoft, United Kingdom
Chemisches und mikrobiologisches Institut UEG GmbH Wetzlar, 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
Concept Life Sciences Manchester, United Kingdom	CVUA MEL Münster, Germany
Danish Veterinary and Food Administration Ringsted, Denmark	Environmental Laboratory – IQS Barcelona, Spain
Eurofins ANATECH SÃO PAULO, Brasil	Eurofins BioPharma Product Testing Hamburg GmbH Hamburg, Germany
Eurofins GfA Lab Service GmbH Hamburg, Germany	Eurofins Laboratorium Zeeuws Vlaanderen Graauw, The Netherlands
Fera Science Ltd. York, United Kingdom	Government Laboratory Additives, Contaminants and Composition Section Hong Kong, China
Havforskningsinstituttet Bergen, Norway	Health Canada Health Products and Food Branch Ottawa, Canada
Hubei Dioxin Lab Hubei Provincial Centre for Disease Control and Prevention Wuhan, Hubei Province, China	Institute for Agro-food Standards and Testing Technology Shanghai Academy of Agricultural Sciences Shanghai, China
Istituto Zooprofilattico Sperimentale Lombardia Emilia Romagna-Bologna Chemical Department Bologna Bologna, Italy	Japan Food Research Laboratories Nagayama Tama-city, Tokyo, Japan
La Drôme Laboratoire Valence, France	LABERCA - ONIRIS Route de Gachet, France
Laboratorios Tecnológicos de Levante, S.L. Paterna, Spain	Laboratory of SGS Bulgaria Ltd Varna, Bulgaria
Laboratory of Vendee (LEAV) la Roche sur Yon, France	Landesamt für Umweltschutz Sachsen-Anhalt Halle/Saale, Germany
Landesuntersuchungsamt Insitut für Lebensmittelchemie 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
National Institute for Health and Welfare Environmental Health Unit Chemical Risks team Kuopio, Finland	NEOTRON S.p.A. Modena, Italy
Niedersächsisches Landesamt für Verbraucherschutz und Lebensmittelsicherheit Lebensmittel-und Veterinärinstitut Oldenburg Oldenburg, Germany	NILU (Norwegian Institute for Air Research) Kjeller, Norway
Nofalab Schiedam , The Netherlands	Pacific Rim Laboratories Inc. Surrey BC, Canada
POP Lab Shenzhen Center for Disease Control & Prevention Shenzhen, Guangdong, China	RIKILT Wageningen, The Netherlands
SGS Belgium NV Division IAC Antwerpen, Belgium	SGS do Brasil Ltda. Rio de Janeiro, Brazil
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 Environment Division Kyoto, Japan
SIA Analysis Laboratory Edirne, Turkey	SIA Analysis Laboratory Izmir Branch Office Izmir, Turkey
SINTEF Materials and Chemistry Department of Biotechnology and Nanomedicine 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 Umweltinstitut GmbH - Lebensmittelinstitut Jena Jena, Germany
The State Laboratory - Ireland Celbridge, Kildare, Ireland	TLR International Laboratories Rotterdam, The Netherlands
Umeå University Department of Chemistry Trace Analysis Platform Umeå, Sweden	United States Food and Drug Administration College Park, USA
Vista Analytical Laboratory El Dorado Hills, USA	Wellington Laboratories Inc. Guelph, Ontario, Canada
WESSLING GmbH Altenberge, Germany	Worthies Engineering Consultants Corp. Environmental & Ultra Trace Testing Lab Taichung, Taiwan
Ökometric Bayreuth, Germany	

Design and practical implementation

Study design and reporting of results

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 Reindeer meat, the Salmon sample and the sample of Fish oil.

The laboratories were to report the concentration of each detected congener in the food items on fresh weight basis (e.g. $S/N \geq 3$) 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 Reindeer meat, Salmon and Fish oil. The laboratories could choose to analyze one, two or all three food samples.

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 July, 2018.

Collection, preparation, and distribution of samples

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

- Reindeer meat (~100 g)
- Salmon (~100 g)
- Fish oil (~60 g)

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

The Reindeer meat was from Jarfjorden in the north of Norway, close to the Russian border. The salmon was pooled filet of salmon from the Baltic sea and Norwegian commercial farmed salmon. The Fish oil was a kind gift from the Norwegian producer of fish oil, Vedde AS and originated from the coast along the northern part of Norway.

The Reindeer meat arrived as whole, frozen peaces of legs of Reindeer. The Reindeer meat was cut from the bones, grinded and homogenized thouroughly in a large, industrial food grinder.

The Salmon filets from the Baltic sea and filets of commercially farmed salmon were pooled, grinded and homogenized thouroughly.

All Fish oil used to make the Fish oil-sample came from the same production batch. At arrival to the Norwegian Institute of Public Health the oil was gently heated while stirring to ensure the homogeneity of the sample.

Sub-samples of at least 100 g of Reindeer meat (Reindeer meat -2018), 100 g of Salmon (Salmon-2018) and 60 g of Fish oil (Fish oil-2018) 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 °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.

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

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 values 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 $\pm 20\%$ from the consensus value.

The final report and certificate

The draft of the final report was prepared by the coordinators and published electronically in July 2018.

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 2018.

Coordination

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

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Results

Presentation in the report

Seventy-seven 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 Reindeer meat, Salmon and Fish oil in Appendix 2, 3 and 4. Results of the lipid determinations are presented in Appendix 5.

Summarizing comments on results

PCDDs/PCDFs

Analyte solution-2018

Concentrations of PCDDs/PCDFs were reported by 68 laboratories. The average RSD for the 17 congeners was 7.3 % ranging from 5.9 % for 2,3,4,6,7,8-HxCDF to 9.9 % for 1,2,3,7,8,9-HxCDD. 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 99 % 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.

Reindeer meat-2018

For the sample of reindeer meat, PCDD/PCDF results from 53 laboratories were received. From these results, the calculated consensus TEQ (PCDD/PCDF TEQ based on WHO₂₀₀₆-TEFs) was 0.15 pg TE/g fresh weight and 1.1 pg TE/g lipid weight.

The average RSD was 36 %, ranging from 22-71 % for 2,3,4,7,8-PeCDF and 1,2,3,7,8,9-HxCDF respectively. Z-scores within ± 1 were obtained by 61 % of the laboratories and 83 % of the laboratories had Z-scores within ± 2 (fresh weight basis).

Salmon-2018

PCDD/PCDF concentrations in the Salmon sample were reported by 69 laboratories. The consensus TEQ was 0.38 pg TEQ/g fresh weight, and 3.8 pg TEQ/g lipid weight (PCDD/PCDF TEQ based on WHO₂₀₀₆-TEFs). The average RSD was 40 % ranging from 17-

68 % (2,3,4,7,8-PeCDF and 1,2,3,7,8,9-HxCDF respectively). Z-scores were within ± 1 for 79 % of the laboratories and within ± 2 for 91 % of the laboratories (fresh weight basis).

Fish oil-2018

PCDD/PCDF concentrations in the Fish oil-sample were determined by 61 laboratories. The consensus TEQ for PCDD/PCDF based on WHO₂₀₀₆TEFs was 2.3 pg TEQ/g fresh weight (PCDD/PCDF TEQ based on WHO₂₀₀₆TEFs). The average RSD was 38 % ranging from 18-68 % (2,3,4,7,8-PeCDF and 1,2,3,4,6,7,8,9-OCDF respectively). Z-scores for PCDD/PCDF TEQ within ± 1 were obtained by 77 % of the laboratories and 92 % had Z-scores within ± 2 (fresh weight basis).

Dioxin-like PCBs

Analyte solution-2018

The 12 dioxin-like PCBs in the analyte solution were analyzed and reported by 67-69 laboratories. The RSDs for the different congeners were ranging from 5.9 % for PCB-126 to 8.0 % for PCB-156, with an average of 6.8 %.

Reindeer meat-2018

Dioxin-like PCB concentrations in the Reindeer meat sample were reported from 54 laboratories. The concentrations of the 12 congeners varied between 0.32 pg/g fresh weight (PCB-81) and 184 pg/g fresh weight (PCB-118). The average RSD for concentrations of individual dioxin-like PCB congeners was 24 % ranging from 17 % for PCB-157 to 38, % for PCB-123

The dioxin-like PCBs contribute 72 % to the total TEQ (WHO TEF₂₀₀₆) in the sample with PCB-126 as the main contributor (66 %).

Salmon-2018

Of the participating laboratories, 70 measured and reported dioxin-like PCB concentrations in the Salmon sample. The concentrations ranged from 0.39 pg/g fresh weight for PCB-81 to 756 pg/g fresh weight for PCB-118. The average RSD for concentrations of individual dioxin-like PCB congeners on fresh weight basis was 24 % ranging from 19 % for PCB-157 to 33 % for PCB-123.

The dioxin-like PCBs contribute to about 62 % of the total TEQ in the sample with PCB-126 as the main contributor (55 %).

Fish oil-2018

Dioxin-like PCBs in the Fish oil sample were reported by 62 laboratories. Levels were ranging from 0.93 pg/g fresh weigh for PCB-81 to 5668 pg/g fresh weight for PCB-118. The average RSD for concentrations of individual dioxin-like PCB congeners on fresh weight basis was 19 % ranging from 8.4 % for PCB-156 to 42 % for PCB-81.

The contribution of the dioxin-like PCBs to the total TEQ was about 52 % with PCB-126 as the main contributor (39 % of total TEQ).

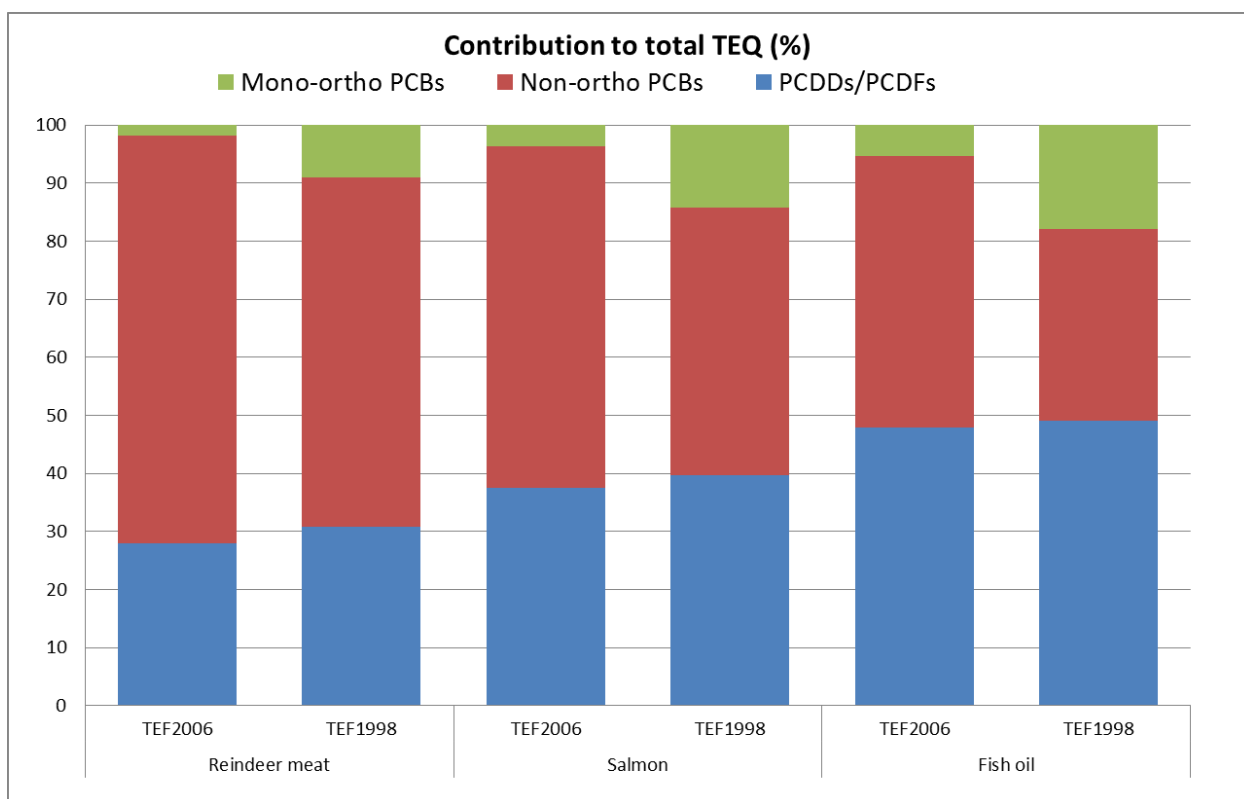
Total TEQ

The total TEQ for the Reindeer meat sample was 0.53 pg TEQ/g fresh weight and 4.0 pg TEQ/g lipid weight (WHO TEF₂₀₀₆). The total TEQ of the Salmon-sample was 1.0 pg TEQ/g fresh weight and 10 pg TEQ/g lipid weight, and the Fish oil contained 4.8 pg TEQ/g on fresh weight basis.

The RSDs for total TEQs on fresh weight basis calculated from the RSD of individual congeners were 16 % for Reindeer meat, 13 % for Salmon and 8.5 % 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 52 % to 72 % 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-2018

59 laboratories reported indicator PCBs in the analyte solution. The average RSD was 6.4 % ranging from 5.9 to 7.3 % (outliers removed).

Reindeer meat-2018

For the sample of Reindeer meat, results for indicator PCBs were received from 45 laboratories. The consensus concentrations varied between 50 pg/g fresh weight (PCB-52) and 276 pg/g fresh weight (PCB-153). The RSDs were ranging from 32 to 36 % for PCB-101 and PCB-153 respectively, with an average of 34 % for all indicator PCBs. The consensus median for the sum of indicator PCBs was 707 pg/g fresh weight.

Salmon-2018

Within the deadline, 59 laboratories reported results for indicator PCBs in the Salmon sample. The consensus concentrations ranged from 152 pg/g fresh weight (PCB-28) to 1859 pg/g fresh weight (PCB-153) with a consensus median for the sum of indicator PCBs of 5097 pg/g fresh weight. The average RSD was 32 %, ranging from 29 to 34 % for PCB-153 and PCB-28 respectively.

Fish oil-2018

Results were obtained from 55 laboratories. The concentrations of indicator PCBs in the Fish oil sample ranged from 1238 pg/g fresh weight (PCB-28) to 10503 pg/g (PCB-153) and the consensus median for the sum was 33074 pg/g fresh weight. The average RSD was 29 %, ranging from 27 to 34 % for PCB-153 and PCB-28 respectively.

PBDEs

Analyte solution-2018

The tri- to hepta-PBDE standard solution was analyzed by 29 laboratories and 23 laboratories reported values for PBDE-209. The RSDs were between 6.6-9.9 % for all congeners.

Reindeer meat-2018

The PBDE concentrations in Reindeer meat were reported by 23 laboratories, except for PBDE-209 for which 19 results were received. The consensus concentrations were in the range of 0.25 pg/g fresh weight for PBDE-154 to 4.0 pg/g fresh weight for PBDE-47. The consensus concentration for PBDE-209 was 14 pg/g fresh weight. The sum of tri- to hepta-PBDEs was 10 pg/g fresh weight. The range of RSDs on fresh weight basis was 22-53 %, with an average of 35 % including PBDE-209.

Salmon-2018

Within the deadline, 30 laboratories had reported results for tri- to hepta-PBDEs in Salmon and 23 laboratories had reported results for PBDE-209. The consensus concentrations varied between 1,3 pg/g fresh weight (PBDE-183) and 214 pg/g fresh weight (PBDE-47). The concentration for PBDE-209 was 18 pg/g fresh weight. The sum of tri- to hepta-PBDEs was 360 pg/g fresh weight. The RSD calculated from the concentrations on fresh weight ranged from 23-52 %, with an average of 32 % for PBDEs including PBDE-209.

Fish oil-2018

28-29 laboratories reported results for tri- to hepta-PBDEs in Fish oil, and 22 reported results for PBDE-209. The concentrations varied between 3.2 pg/g fresh weight (PBDE-183) and 1823 pg/g (PBDE-47). The concentration for PBDE-209 was 49 pg/g. The sum of tri- to hepta-PBDEs was 2582 pg/g fresh weight. The RSDs for the individual congeners were ranging from 22 to 72 % with an average of 38 % 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 9 laboratories reported α -HBCD in the standard solution and 5-11 laboratories reported one or more of the three isomers in the food samples. The consensus concentrations for the sum of individual HBCD isomers were 4.9 pg/g fresh weight for the Reindeer meat sample, 378 pg/g for the Salmon and 1541 pg/g fresh weight for the Fish oil sample. Since only a few laboratories reported HBCD, these results must be regarded as indicative values.

Lipid content

The mean and RSDs (in parentheses) for the lipid contents of the food samples were calculated to be 13 % (RSD=12 %) for the Reindeer meat sample, 10 % (RSD=16 %) for the Salmon sample and 100 % (0,43 %) 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 Vedde AS, Norway, for generously donating the Fish oil sample and Cambridge Isotope Laboratories, Inc. for providing the standard solutions for this interlaboratory study.

Appendix A:

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Appendix B:

Study announcement and
instructions for participants

Announcement for Interlaboratory Comparison on POPs in Food 2018

Introduction

We hereby announce the 19th 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 Department of Environmental Exposure and Epidemiology at the Norwegian Institute of Public Health, Oslo, Norway. The study is scheduled to take place from January to April 2018.

A draft report will be available by mid-June 2018, and the final report will be available to the participants by October 2018. 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 and HBCDs 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 world-wide 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.

The test materials 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.

We also include standard solutions of all analytes 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:

- Reindeer meat (labelled “Reindeer meat-2018”) ~100 g
- Salmon (labelled “Salmon-2018”) ~100 g
- Fish oil (labelled “Fish oil-2018”) ~60 g

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

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

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

Time schedule

Announcement	December 2017
Return of registration form	January 15th, 2018
Shipment of test material	Third and fourth week, 2018
Confirmation of receipt of test material by participant	Within 7 days after receivment
Reporting of test results ^{a)}	April 20th, 2018
Publication of draft report on web-site	June 2018
Final report available to all participants	October 2018

- a) Please be sure that your results are reported on time as there will be **no extension of the deadline.**

Participation fee

All laboratories that have received the test materials will also 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, and for the complete set of all three food items 13 900 NOK.

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Interlaboratory Comparison on Dioxins in Food 2018

Instructions for participants

January 2018

1. Introduction

This is the 19th Round of the Interlaboratory Comparison Study on the Determination of POPs in Food organised by the Department 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.

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:

- Reindeer (Reindeer-2018)
- Salmon (Salmon-2018)
- Fish oil (Fish oil-2018)

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.

2. Participants

A list of participants is attached. 83 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. 100 g reindeer meat
- approx. 100 g salmon
- approx. 60 g fish oil

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 third parties.

Coding of samples

Reindeer meat	Reindeer-2018
Salmon	Salmon-2018
Fish oil	Fish oil-2018

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:

- Reindeer meat (estimated to be low to medium contaminated): ≈ 10 %
- Salmon (estimated to be low contaminated): 15-20 %
- Fish oil (estimated to be medium to high contaminated): 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.

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.

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

Three 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

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 April 20th, 2018 to enable us to prepare the draft report to be published by the end of June 2018. 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 October 2018 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 and HBCD is

- NOK 9500 for one food item
- NOK 11700 for two food items
- NOK 13900 for the complete set of all three 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	December 2017
Return of registration form	December 31th, 2017
Shipment of test material	Third and fourth week, 2018
Confirmation of receipt of test material by participant	Within 7 days after reception
Reporting of test results ^{a)}	April 20th, 2018
Publication of draft report on web-site	June 2018
Final report available to all participants	October 2018

^{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 2006 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 $RSD^2_{\text{inhomogeneity}} = RSD^2_{\text{between}} - RSD^2_{\text{within}}$ 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 congener concentrations

	Reindeer		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	0,023	0,17	0,048	0,47	0,097	0,097
1,2,3,7,8 PeCDD	0,046	0,34	0,082	0,80	0,48	0,48
1,2,3,4,7,8 HxCDD	0,018	0,13	0,0072	0,071	0,070	0,070
1,2,3,6,7,8 HxCDD	0,031	0,23	0,031	0,30	0,36	0,36
1,2,3,7,8,9 HxCDD	0,0056	0,042	0,0072	0,071	0,063	0,063
1,2,3,4,6,7,8 HpCDD	0,026	0,20	0,015	0,15	0,11	0,11
1,2,3,4,6,7,8,9 OCDD	0,062	0,46	0,041	0,41	0,11	0,11
2,3,7,8 TCDF	0,060	0,45	0,74	7,3	5,5	5,5
1,2,3,7,8 PeCDF	0,013	0,096	0,11	1,1	0,74	0,74
2,3,4,7,8 PeCDF	0,18	1,3	0,54	5,3	3,4	3,4
1,2,3,4,7,8 HxCDF	0,066	0,50	0,016	0,16	0,15	0,15
1,2,3,6,7,8 HxCDF	0,035	0,26	0,021	0,21	0,26	0,26
2,3,4,6,7,8 HxCDF	0,025	0,19	0,020	0,20	0,30	0,30
1,2,3,7,8,9 HxCDF	0,0050	0,037	0,0051	0,050	0,034	0,034
1,2,3,4,6,7,8 HpCDF	0,021	0,16	0,010	0,099	0,062	0,062
1,2,3,4,7,8,9 HpCDF	0,0056	0,042	0,0063	0,061	0,044	0,044
1,2,3,4,6,7,8,9 OCDF	0,012	0,090	0,011	0,11	0,052	0,052
PCB 77	2,2	16	15	143	35	35
PCB 126	3,5	26	5,6	54	19	19
PCB 169	0,68	5,1	1,3	13	12	12
PCB 81	0,32	2,4	0,38	3,8	0,93	0,93
PCB 105	80	599	266	2609	1819	1819
PCB 114	5,9	44	16	157	120	120
PCB 118	184	1376	767	7521	5673	5673
PCB 123	1,2	9,0	9,8	96	55	55
PCB 156	39	293	100	980	412	412
PCB 157	10	75	24	239	130	130
PCB 167	9,6	72	54	532	212	212
PCB 189	3,1	23	11	105	32	32

fw. - fresh weight

lw. - lipid weight

Consensus congener concentrations

	Reindeer		Salmon		Fish oil	
	pg/g fw.	pg/g lw.	pg/g fw.	pg/g lw.	pg/g fw.	pg/g lw.
PCB 28	54	406	152	1489	1256	1256
PCB 52	50	377	295	2890	4455	4455
PCB 101	127	949	850	8333	7103	7103
PCB 138	107	801	1382	13546	7508	7508
PCB 153	276	2070	1850	18137	10503	10503
PCB 180	92	692	539	5281	2294	2294
PBDE 28	0,35	2,6	9,4	92	104	104
PBDE 47	4,0	30	214	2097	1821	1821
PBDE 99	1,5	11	40	396	85	85
PBDE 100	0,51	3,8	51	505	344	344
PBDE 153	3,2	24	10	102	27	27
PBDE 154	0,27	2,0	34	337	193	193
PBDE 183	0,48	3,6	1,3	12	3,2	3,2
PBDE 209	21	157	18	175	49	49
α-HBCD	3,0	22	328	3216	1470	1470
β-HBCD	14	105	11	108	10	10
γ-HBCD	0,16	1,2	20	196	22	22
Tot HBCD	4,7	35	369	3613	1519	1519
Sum PCB	707	5295	5067	49677	33118	33118
Sum PBDE without 209	10	77	361	3541	2577	2577
Sum PBDE	31	235	379	3716	2626	2626

fw. - fresh weight

lw. - lipid weight

Consensus of TEQs

TEF₂₀₀₆

	Reindeer		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	0,023	0,17	0,048	0,47	0,098	0,098
1,2,3,7,8-PeCDD	0,046	0,35	0,082	0,81	0,48	0,48
1,2,3,4,7,8-HxCDD	0,0018	0,013	0,00075	0,0074	0,0070	0,0070
1,2,3,6,7,8-HxCDD	0,0031	0,023	0,0031	0,031	0,036	0,036
1,2,3,7,8,9-HxCDD	0,00056	0,0042	0,00074	0,0073	0,0065	0,0065
1,2,3,4,6,7,8-HpCDD	0,00027	0,0020	0,00016	0,0015	0,0011	0,0011
1,2,3,4,6,7,8,9-OCDD	0,000019	0,00014	0,000012	0,00012	0,000035	0,000035
2,3,7,8-TCDF	0,0060	0,045	0,075	0,74	0,55	0,55
1,2,3,7,8-PeCDF	0,00039	0,0029	0,0032	0,032	0,022	0,022
2,3,4,7,8-PeCDF	0,054	0,41	0,16	1,6	1,0	1,0
1,2,3,4,7,8-HxCDF	0,0068	0,051	0,0016	0,016	0,015	0,015
1,2,3,6,7,8-HxCDF	0,0035	0,026	0,0021	0,021	0,026	0,026
2,3,4,6,7,8-HxCDF	0,0025	0,019	0,0020	0,020	0,030	0,030
1,2,3,7,8,9-HxCDF	0,00050	0,0038	0,00051	0,0050	0,0032	0,0032
1,2,3,4,6,7,8-HpCDF	0,00021	0,0016	0,00010	0,00099	0,00062	0,00062
1,2,3,4,7,8,9-HpCDF	0,000055	0,00041	0,000065	0,00064	0,00042	0,00042
1,2,3,4,6,7,8,9-OCDF	0,0000037	0,000028	0,0000033	0,000033	0,000015	0,000015
PCB 77	0,00022	0,0016	0,0015	0,014	0,0035	0,0035
PCB 126	0,35	2,7	0,56	5,5	1,9	1,9
PCB 169	0,020	0,15	0,040	0,39	0,37	0,37
PCB 81	0,000095	0,00072	0,00012	0,0011	0,00028	0,00028
PCB 105	0,0024	0,018	0,0080	0,079	0,054	0,054
PCB 114	0,00018	0,0013	0,00048	0,0047	0,0036	0,0036
PCB 118	0,0055	0,041	0,023	0,23	0,17	0,17
PCB 123	0,000038	0,00028	0,00029	0,0029	0,0016	0,0016
PCB 156	0,0012	0,0088	0,0030	0,030	0,012	0,012
PCB 157	0,00030	0,0023	0,00073	0,0072	0,0039	0,0039
PCB 167	0,00029	0,0022	0,0016	0,016	0,0064	0,0064
PCB 189	0,000093	0,00070	0,00032	0,0032	0,00096	0,00096
PCDDs/PCDFs	0,15	1,1	0,38	3,8	2,3	2,3
Non-ortho PCBs	0,37	2,8	0,60	5,9	2,3	2,3
Mono-ortho PCBs	0,010	0,075	0,037	0,37	0,25	0,25
Total TEQ	0,53	4,0	1,0	10	4,8	4,8

fw. - fresh weight

lw. - lipid weight

Consensus of TEQs

TEF₁₉₉₈

	Reindeer		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	0,023	0,17	0,048	0,47	0,098	0,098
1,2,3,7,8-PeCDD	0,046	0,35	0,082	0,81	0,48	0,48
1,2,3,4,7,8-HxCDD	0,0018	0,013	0,00075	0,0074	0,0070	0,0070
1,2,3,6,7,8-HxCDD	0,0031	0,023	0,0031	0,031	0,036	0,036
1,2,3,7,8,9-HxCDD	0,00056	0,0042	0,00074	0,0073	0,0065	0,0065
1,2,3,4,6,7,8-HpCDD	0,00027	0,0020	0,00016	0,0015	0,0011	0,0011
1,2,3,4,6,7,8,9-OCDD	0,0000062	0,000046	0,0000041	0,000041	0,000012	0,000012
2,3,7,8-TCDF	0,0060	0,045	0,075	0,74	0,55	0,55
1,2,3,7,8-PeCDF	0,00065	0,0048	0,0054	0,053	0,037	0,037
2,3,4,7,8-PeCDF	0,090	0,68	0,27	2,7	1,7	1,7
1,2,3,4,7,8-HxCDF	0,0068	0,051	0,0016	0,016	0,015	0,015
1,2,3,6,7,8-HxCDF	0,0035	0,026	0,0021	0,021	0,026	0,026
2,3,4,6,7,8-HxCDF	0,0025	0,019	0,0020	0,020	0,030	0,030
1,2,3,7,8,9-HxCDF	0,00050	0,0038	0,00051	0,0050	0,0032	0,0032
1,2,3,4,6,7,8-HpCDF	0,00021	0,0016	0,00010	0,00099	0,00062	0,00062
1,2,3,4,7,8,9-HpCDF	0,000055	0,00041	0,000065	0,00064	0,00042	0,00042
1,2,3,4,6,7,8,9-OCDF	0,0000012	0,0000092	0,0000011	0,000011	0,0000050	0,0000050
PCB 77	0,00022	0,0016	0,0015	0,014	0,0035	0,0035
PCB 126	0,35	2,7	0,56	5,5	1,9	1,9
PCB 169	0,0068	0,051	0,013	0,13	0,12	0,12
PCB 81	0,000032	0,00024	0,000039	0,00038	0,000093	0,000093
PCB 105	0,0080	0,060	0,027	0,26	0,18	0,18
PCB 114	0,0030	0,022	0,0080	0,079	0,060	0,060
PCB 118	0,018	0,14	0,077	0,76	0,57	0,57
PCB 123	0,00013	0,00094	0,00098	0,0097	0,0054	0,0054
PCB 156	0,020	0,15	0,050	0,49	0,21	0,21
PCB 157	0,0050	0,038	0,012	0,12	0,065	0,065
PCB 167	0,000096	0,00072	0,00054	0,0053	0,0021	0,0021
PCB 189	0,00031	0,0023	0,0011	0,011	0,0032	0,0032
PCDDs/PCDFs	0,18	1,4	0,49	4,9	3,0	3,0
Non-ortho PCBs	0,36	2,7	0,57	5,6	2,0	2,0
Mono-ortho PCBs	0,054	0,41	0,18	1,7	1,1	1,1
Total TEQ	0,60	4,5	1,2	12	6,1	6,1

fw. - fresh weight

lw. - lipid weight

Consensus statistics

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	0,16	7,9	68	0
1,2,3,7,8 PeCDD	5,0	5,0	5,0	5,0	0,35	7,0	68	0
1,2,3,4,7,8 HxCDD	5,0	4,9	4,9	4,9	0,38	7,8	68	0
1,2,3,6,7,8 HxCDD	5,0	5,0	5,0	4,9	0,39	8,0	68	0
1,2,3,7,8,9 HxCDD	5,0	5,0	5,0	5,0	0,50	10	68	0
1,2,3,4,6,7,8 HpCDD	5,0	5,0	5,0	4,9	0,34	7,0	68	1
1,2,3,4,6,7,8,9 OCDD	10	9,8	9,8	9,7	0,74	7,7	68	0
2,3,7,8 TCDF	2,0	2,0	2,0	2,0	0,13	6,7	68	1
1,2,3,7,8 PeCDF	5,0	4,9	4,9	4,9	0,33	6,8	68	0
2,3,4,7,8 PeCDF	5,0	4,9	4,9	4,8	0,32	6,7	68	1
1,2,3,4,7,8 HxCDF	5,0	5,0	5,0	5,0	0,33	6,6	68	0
1,2,3,6,7,8 HxCDF	5,0	5,0	5,0	4,9	0,30	6,0	68	0
2,3,4,6,7,8 HxCDF	5,0	5,0	5,0	4,9	0,29	5,9	68	0
1,2,3,7,8,9 HxCDF	5,0	5,0	5,0	5,0	0,33	6,6	68	0
1,2,3,4,6,7,8 HpCDF	5,0	4,9	4,9	4,8	0,34	7,0	68	1
1,2,3,4,7,8,9 HpCDF	5,0	4,9	5,0	4,9	0,42	8,6	68	1
1,2,3,4,6,7,8,9 OCDF	10	9,9	9,9	9,8	0,74	7,5	68	0
PCB 77	10	10	10	10	0,67	6,7	69	2
PCB 126	10	10	10	10	0,58	5,9	69	2
PCB 169	10	9,9	9,9	10	0,62	6,2	69	2
PCB 81	10	10	10	10	0,66	6,6	69	2
PCB 105	100	100	99	100	6,8	6,8	67	2
PCB 114	100	100	100	100	7,4	7,4	68	3
PCB 118	100	100	101	100	6,7	6,7	68	3
PCB 123	100	100	100	101	6,4	6,3	68	3
PCB 156	100	100	100	101	8,0	8,0	68	3
PCB 157	100	100	100	100	7,6	7,6	68	2
PCB 167	100	100	100	101	6,8	6,7	68	3
PCB 189	100	100	100	101	6,9	6,8	68	3

Consensus statistics

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	100	100	97	98
PCB 52	100	100	100	98	99
PCB 101	100	99	99	97	99
PCB 138	100	101	101	100	101
PCB 153	100	100	100	99	101
PCB 180	100	100	100	98	100
PBDE 28	25	25	25	25	25
PBDE 47	25	24	24	24	24
PBDE 99	25	25	25	25	25
PBDE 100	25	25	25	24	24
PBDE 153	25	24	24	24	24
PBDE 154	25	24	24	24	24
PBDE 183	25	24	24	24	24
PBDE 209	100	95	95	94	94
α-HBCD *	500	491	491	495	495

	Relative standard deviation, % all values	Relative standard deviation, % outliers removed	Number of reported values	Number of reported outliers
PCB 28	14	7,3	59	1
PCB 52	14	6,0	59	1
PCB 101	14	7,1	59	1
PCB 138	14	5,9	59	1
PCB 153	14	6,1	59	1
PCB 180	14	6,0	59	1
PBDE 28	6,9	6,9	29	0
PBDE 47	8,2	8,2	29	0
PBDE 99	10	10	29	0
PBDE 100	7,2	7,2	29	0
PBDE 153	6,9	6,9	29	0
PBDE 154	6,6	6,6	29	0
PBDE 183	7,6	7,6	29	0
PBDE 209	9,7	9,7	23	0
α-HBCD *	7,5	7,5	9	0

NDs: Non-detects

* : Indicative value due to few reported values

Consensus statistics

Reindeer, 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	0,023	0,023	0,023	0,0059	26	53	5	7
1,2,3,7,8-PeCDD	0,046	0,047	0,047	0,012	26	53	3	3
1,2,3,4,7,8-HxCDD	0,018	0,018	0,018	0,0057	32	53	5	12
1,2,3,6,7,8-HxCDD	0,031	0,031	0,031	0,0072	23	53	5	7
1,2,3,7,8,9-HxCDD	0,0056	0,0080	0,0066	0,0034	51	53	13	35
1,2,3,4,6,7,8-HpCDD	0,027	0,028	0,029	0,010	36	53	4	8
1,2,3,4,6,7,8,9-OCDD	0,062	0,068	0,065	0,026	40	53	9	8
2,3,7,8-TCDF	0,060	0,064	0,062	0,017	28	53	3	4
1,2,3,7,8-PeCDF	0,013	0,014	0,012	0,0040	32	53	9	13
2,3,4,7,8-PeCDF	0,18	0,18	0,18	0,039	22	53	0	1
1,2,3,4,7,8-HxCDF	0,068	0,070	0,067	0,017	26	53	3	3
1,2,3,6,7,8-HxCDF	0,035	0,035	0,036	0,011	29	53	2	5
2,3,4,6,7,8-HxCDF	0,025	0,025	0,026	0,0067	26	53	4	7
1,2,3,7,8,9-HxCDF	0,0050	0,0070	0,0053	0,0038	71	53	16	39
1,2,3,4,6,7,8-HpCDF	0,021	0,022	0,022	0,0067	30	53	7	11
1,2,3,4,7,8,9-HpCDF	0,0055	0,0078	0,0059	0,0036	60	53	15	33
1,2,3,4,6,7,8,9-OCDF	0,012	0,017	0,015	0,0090	58	53	11	31
PCB 77	2,2	2,2	2,2	0,66	30	54	1	2
PCB 126	3,5	3,5	3,4	0,93	27	54	0	1
PCB 169	0,68	0,68	0,67	0,14	21	54	3	3
PCB 81	0,32	0,32	0,31	0,068	22	54	8	2
PCB 105	80	80	77	14	18	54	2	1
PCB 114	5,9	5,9	5,9	1,6	26	54	0	4
PCB 118	184	184	179	41	23	54	0	0
PCB 123	1,3	1,4	1,3	0,49	38	54	11	12
PCB 156	39	39	38	7,0	18	54	1	0
PCB 157	10	10	9,8	1,6	17	54	1	1
PCB 167	9,6	9,6	9,5	2,6	27	54	2	3
PCB 189	3,1	3,1	3,1	0,64	20	54	3	6

Consensus statistics

Reindeer, 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	55	54	54	57	56	56
PCB 52	50	50	50	53	51	51
PCB 101	126	126	127	120	120	122
PCB 138	107	107	107	111	107	110
PCB 153	276	276	276	255	255	255
PCB 180	92	92	92	86	86	88
PBDE 28	0,38	0,35	0,34	0,60	0,38	0,36
PBDE 47	4,4	4,0	4,0	8,0	4,4	4,4
PBDE 99	1,6	1,5	1,5	8,3	1,5	1,6
PBDE 100	0,55	0,50	0,49	2,0	0,54	0,5
PBDE 153	3,2	3,2	3,2	3,8	3,2	3,2
PBDE 154	0,36	0,29	0,25	0,93	0,32	0,29
PBDE 183	0,58	0,42	0,45	2,0	0,55	0,57
PBDE 209	25	18	14	69	17	16
α-HBCD *	3,6	3,0	3,0	21	2,5	2,5
β-HBCD *	0,61	0,40	0,36	16	0,4	0,36
γ-HBCD *	1,0	0,83	0,50	14	0,7	0,50
Tot HBCD *	11	4,9	4,9	32	7,0	7,0

	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	41	40	35	45	1	2
PCB 52	40	38	32	45	1	2
PCB 101	35	35	32	45	0	1
PCB 138	43	38	35	45	1	2
PCB 153	36	36	36	45	0	0
PCB 180	37	37	33	45	0	2
PBDE 28	84	31	27	23	5	4
PBDE 47	151	29	29	23	5	0
PBDE 99	343	36	36	23	5	2
PBDE 100	270	39	34	23	6	5
PBDE 153	77	22	22	23	1	0
PBDE 154	213	38	29	23	5	6
PBDE 183	265	48	48	23	6	9
PBDE 209	156	50	53	19	7	4
α-HBCD *	162	57	57	5	2	0
β-HBCD *	142	69	101	5	2	2
γ-HBCD *	150	67	96	5	2	3
Tot HBCD *	134	99	99	6	2	0

NDs: Non-detects

* : Indicative value due to few reported values

Consensus statistics

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	0,048	0,049	0,048	0,0093	19	69	4	7
1,2,3,7,8-PeCDD	0,082	0,083	0,083	0,022	26	69	4	6
1,2,3,4,7,8-HxCDD	0,0075	0,010	0,0082	0,0044	54	69	16	36
1,2,3,6,7,8-HxCDD	0,031	0,031	0,032	0,0087	27	69	6	12
1,2,3,7,8,9-HxCDD	0,0074	0,0090	0,0075	0,0038	51	69	15	40
1,2,3,4,6,7,8-HpCDD	0,016	0,018	0,017	0,0077	45	69	14	19
1,2,3,4,6,7,8,9-OCDD	0,041	0,052	0,047	0,021	45	69	21	13
2,3,7,8-TCDF	0,75	0,75	0,73	0,15	20	69	1	0
1,2,3,7,8-PeCDF	0,11	0,11	0,11	0,029	26	69	2	3
2,3,4,7,8-PeCDF	0,54	0,54	0,55	0,093	17	69	1	0
1,2,3,4,7,8-HxCDF	0,016	0,019	0,017	0,0058	34	69	15	14
1,2,3,6,7,8-HxCDF	0,021	0,023	0,023	0,0066	29	69	12	11
2,3,4,6,7,8-HxCDF	0,020	0,022	0,022	0,0070	31	69	10	14
1,2,3,7,8,9-HxCDF	0,0051	0,0090	0,0065	0,0045	68	69	18	50
1,2,3,4,6,7,8-HpCDF	0,010	0,013	0,011	0,0061	54	69	20	33
1,2,3,4,7,8,9-HpCDF	0,0065	0,0091	0,0069	0,0044	65	69	16	51
1,2,3,4,6,7,8,9-OCDF	0,011	0,017	0,014	0,0094	65	69	16	39
PCB 77	15	15	15	3,2	22	70	1	0
PCB 126	5,6	5,6	5,5	1,6	28	70	0	0
PCB 169	1,3	1,3	1,3	0,32	25	70	2	4
PCB 81	0,39	0,41	0,40	0,099	25	70	12	6
PCB 105	266	266	267	63	24	70	2	1
PCB 114	16	16	16	3,9	24	70	1	2
PCB 118	766	766	756	170	23	70	0	0
PCB 123	9,8	10	9,9	3,3	33	70	9	6
PCB 156	100	100	101	21	21	70	1	0
PCB 157	24	25	25	4,8	19	70	3	2
PCB 167	54	55	55	12	22	70	3	1
PCB 189	11	11	11	2,2	21	70	1	3

Consensus statistics

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	152	152	152	153	150	152
PCB 52	296	295	295	294	286	286
PCB 101	856	856	856	816	816	816
PCB 138	1400	1400	1400	1336	1336	1336
PCB 153	1859	1859	1859	1776	1776	1776
PCB 180	535	535	535	512	512	512
PBDE 28	9,4	9,3	9,3	10	9,6	9,6
PBDE 47	214	214	214	207	207	207
PBDE 99	40	40	40	41	41	41
PBDE 100	52	52	52	49	49	49
PBDE 153	11	10	10	12	11	11
PBDE 154	33	33	33	32	32	32
PBDE 183	1,3	1,2	1,3	4,3	1,2	1,2
PBDE 209	29	17	18	48	22	24
α-HBCD *	342	342	342	363	363	363
β-HBCD *	11	11	11	13	10	10
γ-HBCD *	20	20	20	22	19	19
Tot HBCD *	378	378	378	403	403	403

	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	40	37	34	59	1	1
PCB 52	38	32	32	59	1	0
PCB 101	32	32	32	59	0	0
PCB 138	33	33	33	59	0	0
PCB 153	29	29	29	59	0	0
PCB 180	32	32	32	59	0	0
PBDE 28	38	28	28	30	2	2
PBDE 47	23	23	23	30	0	0
PBDE 99	28	28	28	30	0	0
PBDE 100	28	28	28	30	0	0
PBDE 153	58	26	27	30	1	2
PBDE 154	36	36	31	30	0	2
PBDE 183	212	50	40	30	6	11
PBDE 209	98	53	52	23	7	7
α-HBCD *	19	19	19	8	0	0
β-HBCD *	56	18	20	8	1	2
γ-HBCD *	48	26	26	8	1	0
Tot HBCD *	19	19	19	9	0	0

NDs: Non-detects

* : Indicative value due to few reported values

Consensus statistics

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	0,098	0,098	0,095	0,035	37	61	4	10
1,2,3,7,8-PeCDD	0,48	0,48	0,45	0,15	33	61	2	3
1,2,3,4,7,8-HxCDD	0,070	0,073	0,071	0,029	40	61	7	13
1,2,3,6,7,8-HxCDD	0,36	0,36	0,35	0,12	35	61	2	5
1,2,3,7,8,9-HxCDD	0,065	0,070	0,066	0,027	41	61	9	20
1,2,3,4,6,7,8-HpCDD	0,11	0,12	0,11	0,045	40	61	12	12
1,2,3,4,6,7,8,9-OCDD	0,12	0,15	0,12	0,064	54	61	20	19
2,3,7,8-TCDF	5,5	5,5	5,4	1,0	19	61	1	1
1,2,3,7,8-PeCDF	0,74	0,74	0,74	0,14	18	61	1	1
2,3,4,7,8-PeCDF	3,4	3,4	3,4	0,61	18	61	1	0
1,2,3,4,7,8-HxCDF	0,15	0,15	0,15	0,041	27	61	7	5
1,2,3,6,7,8-HxCDF	0,26	0,26	0,27	0,076	29	61	2	3
2,3,4,6,7,8-HxCDF	0,30	0,30	0,30	0,086	29	61	2	3
1,2,3,7,8,9-HxCDF	0,032	0,044	0,036	0,023	64	61	9	42
1,2,3,4,6,7,8-HpCDF	0,062	0,071	0,067	0,025	38	61	13	22
1,2,3,4,7,8,9-HpCDF	0,042	0,050	0,041	0,026	62	61	9	44
1,2,3,4,6,7,8,9-OCDF	0,050	0,080	0,062	0,042	68	61	16	38
PCB 77	35	35	34	6,3	18	62	2	1
PCB 126	19	19	19	4,4	23	62	0	1
PCB 169	12	12	12	2,8	24	62	2	2
PCB 81	0,93	0,98	0,91	0,38	42	62	7	11
PCB 105	1815	1815	1769	304	17	62	0	1
PCB 114	120	120	122	25	20	62	0	1
PCB 118	5668	5668	5595	526	9	62	0	0
PCB 123	54	58	54	16	30	62	10	3
PCB 156	412	412	415	35	8	62	0	0
PCB 157	130	130	129	13	10	62	0	0
PCB 167	212	213	209	21	10	62	4	0
PCB 189	32	32	33	5,1	15	62	1	2

Consensus statistics

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	1276	1238	1238	1383	1256	1256
PCB 52	4455	4455	4455	4291	4291	4291
PCB 101	7103	7103	7103	6864	6864	6864
PCB 138	7508	7508	7508	7391	7391	7391
PCB 153	10503	10503	10503	10023	10023	10023
PCB 180	2268	2268	2268	2193	2193	2193
PBDE 28	107	105	105	119	102	98
PBDE 47	1823	1823	1823	1733	1733	1733
PBDE 99	87	86	86	94	83	83
PBDE 100	346	346	346	323	323	323
PBDE 153	27	26	26	43	25	26
PBDE 154	207	200	192	225	217	210
PBDE 183	6,2	3,2	3,2	56	4,9	5,0
PBDE 209	92	49	49	281	59	62
α-HBCD *	1500	1500	1500	1504	1504	1504
β-HBCD *	11	10	10	19	10	11
γ-HBCD *	29	28	27	34	26	26
Tot HBCD *	1519	1519	1541	1438	1438	1582

	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	49	34	34	55	3	0
PCB 52	27	27	27	55	0	0
PCB 101	27	27	27	55	0	0
PCB 138	31	31	31	55	0	0
PCB 153	27	27	27	55	0	0
PCB 180	27	27	27	55	0	0
PBDE 28	52	31	26	29	3	1
PBDE 47	22	22	22	29	0	0
PBDE 99	56	34	34	29	2	1
PBDE 100	25	25	25	29	0	0
PBDE 153	172	33	26	29	2	4
PBDE 154	43	41	39	29	1	1
PBDE 183	252	64	61	28	7	11
PBDE 209	156	70	72	22	8	7
α-HBCD *	30	30	30	9	0	0
β-HBCD *	68	15	16	8	3	4
γ-HBCD *	65	18	17	8	1	3
Tot HBCD *	45	45	29	11	0	1

NDs: Non-detects

* : Indicative value due to few reported values

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
Reindeer, fresh weight							
PCDD/PCDF TEQ	0,15	0,22	0,13	61	0,019	0,89	54
Non-ortho PCB TEQ	0,38	0,41	0,29	71	0,088	2,4	54
Mono-ortho PCB TEQ	0,010	0,0099	0,0021	21	0,0027	0,020	54
Total TEQ	0,54	0,60	0,30	49	0,28	2,5	55
Sum indicator PCB	724	682	232	34	0,72	1350	45
Sum PBDE without PBDE 209	11	26	51	197	6,4	254	23
Salmon, fresh weight							
PCDD/PCDF TEQ	0,39	0,58	0,45	78	0,20	4,0	70
Non-ortho PCB TEQ	0,60	0,71	0,90	127	0,21	8,0	70
Mono-ortho PCB TEQ	0,038	0,038	0,0075	20	0,014	0,065	70
Total TEQ	1,0	1,2	1,0	84	0,42	8,4	71
Sum indicator PCB	5188	4887	1416	29	4,8	6890	59
Sum PBDE without PBDE 209	364	354	82	23	0,38	458	30
Fish oil, fresh weight							
PCDD/PCDF TEQ	2,3	3,2	1,5	47	1,2	14	62
Non-ortho PCB TEQ	2,3	2,3	0,57	25	0,70	5,4	62
Mono-ortho PCB TEQ	0,26	0,25	0,024	9,4	0,19	0,29	62
Total TEQ	4,9	5,1	1,8	35	2,7	18	63
Sum indicator PCB	33643	32145	8592	27	32	47084	55
Sum PBDE without PBDE 209	2634	2591	620	24	3,0	3785	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
Reindeer, fresh weight							
PCDD/PCDF TEQ	0,19	0,22	0,13	62	0,019	0,92	54
Non-ortho PCB TEQ	0,36	0,36	0,11	30	0,078	0,86	54
Mono-ortho PCB TEQ	0,054	0,054	0,011	21	0,016	0,11	54
Total TEQ	0,61	0,64	0,15	24	0,32	1,1	55
Sum indicator PCB	724	682	232	34	0,72	1350	45
Sum PBDE without PBDE 209	11	26	51	197	6,4	254	23
Salmon, fresh weight							
PCDD/PCDF TEQ	0,50	0,58	0,48	84	0,23	4,4	70
Non-ortho PCB TEQ	0,57	0,60	0,29	48	0,11	2,7	70
Mono-ortho PCB TEQ	0,18	0,18	0,037	21	0,062	0,33	70
Total TEQ	1,3	1,3	0,59	44	0,49	5,4	71
Sum indicator PCB	5188	4887	1416	29	4,8	6890	59
Sum PBDE without PBDE 209	364	354	82	23	0,38	458	30
Fish oil, fresh weight							
PCDD/PCDF TEQ	3,0	3,2	1,6	51	1,7	15	62
Non-ortho PCB TEQ	2,0	2,0	0,39	19	0,30	3,1	62
Mono-ortho PCB TEQ	1,1	1,1	0,095	8,7	0,82	1,3	62
Total TEQ	6,2	6,3	1,6	25	3,2	18	63
Sum indicator PCB	33643	32145	8592	27	32	47084	55
Sum PBDE without PBDE 209	2634	2591	620	24	3,0	3785	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	0,0058	0,0054	0,0082	0,065			
2							
3	-0,083	-0,048	-0,42	-0,39	-0,91		
4	0,22	0,20	0,31	0,51	-0,057		
5							
6	-0,76	-0,87	0,24	-0,39			
7	-0,028	-0,051	0,19	0,19	-0,19	-0,062	-0,084
8							
9	-0,035	-0,016	-0,22	0,12	0,26		
10							
11	0,48	0,51	0,25	-0,013	-0,015	-0,055	0,24
12							
13							
14							
15	-0,42	-0,45	-0,10	-0,67	-0,38		
16	0,24	0,26	0,098	0,14	-0,053	0,043	0,091
17	-0,086	-0,070	-0,24	-0,025	-0,21	0,37	0,27
18	-1,1	-1,2	0,81		-0,26		
19	0,0040	0,0092	-0,045	-0,035			
20	0,042	0,015	0,30	0,036	-0,0105		
21							
22	-0,35	-0,43	0,33	0,37			
23							
24	-0,15	-0,15	-0,20	-0,33			
25	0,089	0,10	-0,027	0,13	-0,048	0,11	0,12
26							
27	-0,15	-0,22	0,47	1,1	-0,23	-1,9	-0,23
28							
29							
30							
31	-0,41	-0,41	-0,45	-0,069	0,039	0,57	0,70
32	-0,16	-0,14	-0,30	-0,21	-0,19	0,015	0,16
33	0,10	0,083	0,30	0,17	0,21		
34	0,021	0,013	0,093	0,041	0,14		
35	0,099	0,037	0,71	-0,44	-0,15	-0,77	-0,54
36	-0,27	-0,28	-0,22	-0,085	-0,19		
37							
38	0,085	0,12	-0,24	0,094	0,17		
39	-4,5		-0,17	-0,47	0,27	0,063	0,040
40	-0,089	-0,10	0,054	-0,11	-0,28	-2,1	-0,45
41							
42							
43							
44	0,20	0,23	-0,036	-0,024	-0,19		
45	0,036	0,042	-0,017	-0,091	-0,11		
46	-0,19	-0,19	-0,14	-0,088			
47							
48							
49	2,7	-0,30	32	-2,3			
50							
51							
52	0,81	0,91	-0,14	0,12	0,11	-0,096	-0,056
53	-0,034	-0,059	0,20	0,14	-0,022	0,043	-0,039
54					-0,24		
55							
56	-0,12	-0,11	-0,24	-0,027	0,074	0,40	0,45
57	-0,17	-0,14	-0,45	-0,0097	-0,26		
58	-0,0059	-0,57	5,3	7,2			
59	-0,0026	-0,0028	-0,00012	-0,0063	-0,027	0,19	0,14
60							
61							
62	0,19	0,24	-0,22	-4,5	-4,6		
63							
64	-0,11	-0,11	-0,10	-0,012	-0,070		
65	0,0062	0,0064	0,0	0,25	-0,25		
66							
67							
68							
69	0,19	0,18	0,24	0,44	0,29	-0,044	-0,068
70	0,37	0,43	-0,28	0,0086	0,11	-1,7	0,17

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	0,0022	0,00079	0,0092	0,34	0,38	-0,016	-0,20
72							
73							
74	0,073	0,063	0,17	0,11	0,051		
75	0,11	0,19	-0,59	-0,32	0,011		
76	-0,10	-0,16	0,47	0,21	0,21		
77	-0,32	-0,36	0,12	0,088			
78							
79	0,25	0,31	-0,29	0,59		-2,0	-0,31
80	0,023	0,025	-0,00092	-0,015	0,030		
81	0,20	0,18	0,38	0,066	0,82	0,23	0,060
82							
83							
84	0,026	0,038	-0,084	-0,12	-0,14		
85	0,30	0,32	0,038	-0,53	-0,60		
86	0,21	0,23	0,015	-0,33	0,089	-0,17	-0,16
87							
88	0,23	0,27	-0,16	0,44	0,28	-0,38	-0,26
89	0,031	0,021	0,12	-0,0063	-0,019		
90							
91							
92	-0,30	-0,29	-0,36	-0,34	-0,10	0,23	-0,066
93	-0,34	-0,34	-0,35	0,063	0,17		
94							
95							
96							
97							
98	0,13	0,16	-0,14	0,15	0,20		
99	-0,0086	-0,0055	-0,038	0,0025			
100	-0,032	-0,032	-0,032	-0,41	0,039	-1,9	-0,13
101							
102	0,082	0,091	0,0053	-0,34	0,33		
103							
104							
105							
106	0,0097	0,012	-0,010	-0,0038	0,026		
107							
108							
109	0,22	0,26	-0,20	0,24	-0,032	0,097	0,13
110							
111							
112	-0,17	-0,19	0,018	0,42	0,069	-0,16	-0,19
113	-0,30	-0,26	-0,64	-0,079	-0,38	-1,7	0,17
114	-0,025	-0,017	-0,10	-0,074	-0,063		
115							
116	-0,17	-0,21	0,22	0,27	0,076	-0,23	-0,19
117							
118	-0,015	0,011	-0,26	-0,043	-0,14		
119	-0,027	-0,00015	-0,29	0,34	0,13		
120	-0,14	-0,15	-0,11	-0,021	-0,055	-0,60	-0,35

Laboratories' Z-scores: Reindeer, 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	-0,087	-0,43	0,041	0,29			
2							
3	0,78	2,1	0,25	0,39	0,91		
4	-2,4	-1,8	-2,6	-2,1	-0,79		
5							
6							
7	0,44	-1,2	1,1	0,70	-0,22	-2,2	-1,9
8							
9	0,34	0,96	0,11	-0,14	-0,40		
10							
11	0,024	-0,28	0,15	-0,076	0,33	3,9	4,1
12							
13							
14							
15	-1,0	-0,96	-1,0	-0,89	0,42		
16	-0,12	0,26	-0,29	0,42	0,23	37	5,8
17	-1,6	1,2	-2,8	0,31	0,69	0,46	3,4
18							
19	19	-0,88	27	-1,0			
20							
21							
22	0,14	-0,19	0,27	0,29			
23							
24	1,1	3,7	0,14	0,31			
25							
26							
27							
28							
29							
30	0,43	-0,017	0,62	0,20	0,33	1,7	4,0
31	-0,71	0,17	-1,1	-0,51	-0,72		
32	-0,098	-0,29	-0,025	0,062	0,12	2,9	-0,39
33							
34							
35	0,11	0,64	-0,10	-0,042	-0,12	22	2,5
36	2,0	6,5	0,30	0,54	0,77		
37							
38	0,39	1,3	0,053	-0,39	0,69		
39	0,34	1,1	0,050	-0,018	0,57	2,9	11
40							
41							
42							
43							
44	-0,19	-0,22	-0,18	-0,012	0,27		
45							
46							
47	0,26	0,30	0,25	-0,23			
48	2,2	2,6	2,1	0,11	-5,0		
49	0,16	-0,29	0,34	0,27			
50							
51							
52	0,78	0,81	0,76	0,91	0,44	7,1	-0,72
53	0,46	1,5	0,050	0,53	-0,068	51	120
54	3,4	-4,4			-1,1		
55							
56	-0,084	0,62	-0,35	-0,59	-0,098	2,2	-0,89
57	-0,92	-1,5	-0,68	-1,2	-0,85		
58	4,2	25	-3,8	-3,6			
59							
60							
61							
62	-1,1	-1,0	-1,1	-1,2	-0,55		
63							
64	0,11	-0,25	0,24	0,23	0,41		
65	4,0	4,4	3,8	5,0	4,5		
66							
67							
68							
69	-0,22	-0,50	-0,11	0,035	-0,13	38	0,58
70	1,0	0,15	1,4	1,4	1,8	-2,6	0,82

Laboratories' Z-scores: Reindeer, 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	-0,46	-0,17	-0,58	-0,42	-0,54	14	15
72							
73							
74	-1,1		0,43	0,18	0,49		
75	-0,40	-0,88	-0,21	-0,22	-5,0		
76	0,73	0,36	0,90	0,045	-0,091		
77	0,69	1,5	0,37	0,21			
78							
79	-0,21	-0,15	-0,26	0,43		-2,8	0,42
80							
81	0,063	-0,012	0,089	0,19	0,27		
82							
83							
84							
85	0,11	-0,074	0,19	-0,071	-2,9		
86	0,0037	0,59	-0,22	-0,25	0,39	1,4	0,21
87							
88	0,44	0,18	0,54	0,40	0,16	8,9	-0,38
89	1,2	1,3	1,2	0,019	1,3		
90							
91							
92							
93	-0,033	-0,14	-0,0013	0,38	-5,0	-1,9	2,6
94							
95							
96							
97							
98	0,39	1,4	0,013	-0,30	0,66		
99							
100							
101							
102	3,9	18	-1,7	-0,49	1,1		
103							
104							
105							
106							
107							
108							
109	-0,64	-1,1	-0,46	-0,47	-0,67	-0,71	-0,29
110							
111							
112	0,26	-0,074	0,39	0,75	0,072	87	-1,2
113	-0,67	-0,13	-0,90	-0,25	-0,50	1,2	10
114							
115	-0,77	-2,1	-0,25	0,084			
116	0,72	0,97	0,63	0,51	0,48	1,7	0,45
117							
118							
119	-1,1	-0,49	-1,4	-0,57	-0,72		
120	-0,34	-0,84	-0,14	-0,76	0,027	-1,7	0,54

Laboratories' Z-scores: Reindeer, 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	-3,2	-3,3	-3,2	-3,1			
2							
3	0,89	2,3	0,35	0,49	1,0		
4	-1,3	-0,55	-1,7	-1,0	0,78		
5							
6							
7	1,2	-0,61	2,0	1,5	0,46	-2,4	-1,5
8							
9	-0,085	0,49	-0,30	-0,52	-0,78		
10							
11	-0,12	-0,42	-0,0032	-0,22	0,16	1,7	3,7
12							
13							
14							
15	-1,2	-1,2	-1,3	-1,1	0,086		
16	-0,30	0,061	-0,46	0,22	0,024	26	5,3
17	-1,7	0,96	-2,9	0,11	0,46	-0,87	3,0
18							
19	12	-2,1	18	-2,2			
20							
21							
22	-0,36	-0,66	-0,25	-0,22			
23							
24	0,89	3,3	-0,058	0,10			
25							
26							
27							
28							
29							
30	0,69	0,22	0,89	0,44	0,57	0,48	4,3
31	-0,53	0,38	-0,90	-0,32	-0,56		
32	0,012	-0,19	0,086	0,18	0,22	1,3	-0,36
33							
34							
35	-0,13	0,37	-0,33	-0,27	-0,36	15	2,0
36							
37							
38	0,79	1,7	0,43	-0,041	1,1		
39	0,55	1,3	0,25	0,18	0,77	1,5	11
40							
41							
42							
43							
44	-0,23	-0,25	-0,22	-0,049	0,21		
45							
46							
47	0,18	0,23	0,17	-0,30			
48	2,2	2,6	2,1	0,077	-5,0		
49							
50							
51							
52	0,62	0,65	0,60	0,75	0,27	4,3	-0,90
53	1,1	2,3	0,64	1,2	0,49	44	132
54	8,41	-4,0			1,3		
55							
56	-0,23	0,45	-0,49	-0,72	-0,26	0,48	-1,1
57	-0,62	-1,2	-0,37	-0,97	-0,56		
58	22	84	-1,5	-0,89			
59							
60							
61							
62	-0,38	-0,28	-0,41	-0,45	0,27		
63							
64	-0,11	-0,45	0,017	0,0044	0,16		
65	0,07	0,32	-0,039	0,64	0,36		
66							
67							
68							
69	-0,19	-0,47	-0,082	0,067	-0,11	29	0,53
70	1,0	0,15	1,4	1,4	1,8	-3,1	0,73

Laboratories' Z-scores: Reindeer, 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	-0,43	-0,14	-0,55	-0,39	-0,53	10	14
72							
73							
74			0,27	0,035	0,31		
75	-0,22	-0,72	-0,0237	-0,033	-5,0		
76	0,98	0,59	1,2	0,26	0,10		
77	1,3	2,2	0,94	0,75			
78							
79	0,045	0,11	0,0	0,72		-3,1	0,62
80							
81	0,43	0,35	0,46	0,57	0,63		
82							
83							
84							
85	-0,40	-0,57	-0,33	-0,57	-3,2		
86	-0,99	-0,52	-1,2	-1,2	-0,70	-0,96	-0,89
87							
88	0,40	0,14	0,50	0,36	0,10	5,8	-0,48
89	0,50	0,62	0,49	-0,56	0,57		
90							
91							
92							
93	-0,070	-0,18	-0,039	0,34	-5,0	-2,6	2,4
94							
95							
96							
97							
98	0,78	1,8	0,38	0,042	1,0		
99							
100							
101							
102	2,3	14	-2,3	-1,3	0,037		
103							
104							
105							
106							
107							
108							
109	-0,36	-0,84	-0,17	-0,18	-0,41	-1,4	-0,066
110							
111							
112	0,073	-0,25	0,19	0,54	-0,13	65	-1,4
113	-0,57	-0,016	-0,81	-0,14	-0,42	-0,030	10
114							
115							
116	1,0	1,3	0,95	0,82	0,77	0,51	0,67
117							
118							
119	-1,2	-0,55	-1,5	-0,64	-0,80		
120	-0,27	-0,77	-0,062	-0,70	0,086	-2,3	0,54

Laboratories' Z-scores: Salmon, 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	0,0099	-0,16	0,10	0,22			
2							
3							
4	-1,2	0,34	-2,1	-1,5	0,082		
5							
6	0,69	1,1	0,45	0,30			
7	0,71	-0,43	1,4	0,70	-0,0026	-0,53	-0,73
8							
9	0,071	0,025	0,12	-0,29	-1,1		
10							
11	0,015	-0,049	0,074	-0,26	-0,043	0,037	-0,27
12							
13							
14							
15	-0,70	-0,11	-1,0	-1,1	-0,72		
16	-0,22	0,13	-0,46	-0,024	0,043	3,1	0,87
17	-1,0	1,8	-2,9	0,56	0,47	0,33	0,20
18	0,79	1,3	0,42	1,5	0,79		
19	37	0,40	62	-0,65			
20	-0,78	-0,52	-0,95	-0,84	-1,4		
21							
22	1,6	0,16	2,7	0,60			
23							
24	0,79	1,3	0,47	0,54			
25	1,6	5,0	-0,53	1,1	1,0	2,1	1,0
26							
27	-0,84	-0,54	-1,1	0,26	0,31	1,1	1,4
28							
29							
30	0,44	0,14	0,67	-0,12	0,088	0,53	0,56
31	-0,52	0,17	-0,95	-0,67	-0,63		
32	1,8	0,19	2,8	1,3	0,42	0,056	-0,049
33							
34							
35	-0,0025	0,14	-0,089	-0,024	-0,13	0,023	-0,58
36	0,86	2,2	0,031	0,84	0,33		
37							
38	0,68	1,4	0,26	-0,47	0,56		
39	0,24	0,92	-0,18	-0,048	0,089	0,27	0,32
40							
41							
42							
43							
44	0,043	0,097	-0,00093	0,21	-0,12		
45	-0,087	0,24	-0,33	0,38	0,36		
46	-0,28	-0,59	-0,094	0,0014			
47	0,20	-0,11	0,39	0,18			
48	0,75	0,56	0,94	-0,54	-5,0		
49	0,49	-0,38	1,0	0,67			
50							
51	-0,54	-0,36	-0,67	-0,38	-0,46	-5,0	-5,0
52	0,51	0,57	0,46	0,75	0,72	-0,57	-1,1
53	1,4	0,69	1,6	3,7	1,0	0,50	0,56
54	-0,62	0,64			-1,8		
55							
56	-0,66	-0,61	-0,68	-0,85	-0,40	-0,50	-0,49
57	0,37	-0,24	0,79	-0,052	0,24		
58	2,7	9,9	-1,6	-1,7			
59	0,095	0,19	0,057	-0,32	-0,35	-0,025	0,23
60							
61							
62	0,16	0,38	0,0098	0,25	0,19		
63							
64	0,30	0,36	0,26	0,20	0,38		
65	-2,9	-2,3	-3,3	-3,1	-3,4		
66							
67							
68							
69	-0,26	-0,47	-0,13	-0,23	-0,30	-0,32	-0,26
70	0,66	0,36	0,88	0,059	0,56	0,52	0,80

Laboratories' Z-scores: Salmon, 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	-0,21	0,029	-0,37	-0,13	-0,30	1,5	0,53
72							
73							
74			-1,6	-1,5	-1,3		
75	-0,60	-0,57	-0,63	-0,38	-5,0		
76	0,31	0,27	0,38	-0,27	-0,34		
77	1,4	2,3	0,83	0,64			
78							
79	-1,0	-1,1	-1,0	-0,45		-0,83	-0,61
80	0,54	1,0	0,19	1,4	0,87		
81	0,89	1,1	0,75	1,6	1,7	0,54	-0,12
82							
83							
84	0,36	0,53	0,23	0,59	1,2		
85	-0,25	-0,76	0,061	-0,12	0,64		
86	-0,076	0,49	-0,42	-0,47	-0,0056	0,16	0,20
87							
88	0,57	0,41	0,69	0,42	0,31	-0,068	-0,080
89	-1,2	-1,2	-1,1	-1,4	-1,2		
90							
91							
92	0,35	-0,61	0,99	0,087	0,44	0,13	0,22
93	-0,14	-0,093	-0,18	0,15	-5,0	-0,54	-1,4
94							
95	-0,064	-0,18	0,00048	0,079	0,50		
96							
97	-0,32	-0,82	-0,023	0,097	-0,56		
98	0,57	1,4	0,095	-0,48	0,52		
99	-0,22	-0,26	-0,18	-0,39			
100	19	48	1,8	0,30	0,0043	1,0	1,3
101							
102	-1,5	-0,93	-2,0	-0,53	1,8		
103							
104							
105							
106	0,10	0,75	-0,38	1,3	0,73		
107							
108							
109	2,6	0,22	4,0	3,7	0,34	0,12	-0,11
110							
111							
112	0,47	-0,097	0,81	0,95	0,15	1,3	-0,30
113	-0,79	-0,58	-0,96	-0,31	-0,77	-0,33	-0,088
114	-0,030	0,077	-0,11	0,20	0,10		
115							
116	0,69	0,76	0,63	0,92	0,61	0,052	0,17
117							
118							
119	-0,15	-0,12	-0,15	-0,54	-0,29		
120	0,45	-0,64	1,2	-0,30	0,91	0,41	0,56

Laboratories' Z-scores: Salmon, 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	-3,4	-3,5	-3,4	-3,3			
2							
3							
4	-0,22	1,7	-1,4	-0,61	1,3		
5							
6	0,058	0,43	-0,16	-0,29			
7	0,45	-0,63	1,1	0,45	-0,22	-0,72	-0,92
8							
9	-0,13	-0,18	-0,084	-0,48	-1,3		
10							
11	0,08	0,017	0,14	-0,20	0,023	0,10	-0,21
12							
13							
14							
15	-1,0	-0,49	-1,4	-1,4	-1,0		
16	-0,38	-0,040	-0,61	-0,19	-0,12	2,9	0,67
17	-1,1	1,6	-3,0	0,42	0,33	0,19	0,066
18	-1,4	-1,0	-1,6	-0,90	-1,4		
19	19	-1,8	34	-2,4			
20	-0,36	-0,066	-0,54	-0,42	-1,0		
21							
22	0,90	-0,42	1,8	-0,023			
23							
24	0,48	0,99	0,17	0,24			
25	1,9	5,4	-0,34	1,3	1,3	2,4	1,3
26							
27	-0,78	-0,48	-1,0	0,33	0,38	1,1	1,5
28							
29							
30	0,41	0,10	0,63	-0,15	0,054	0,49	0,53
31	-0,49	0,21	-0,92	-0,63	-0,60		
32	2,1	0,47	3,2	1,6	0,71	0,33	0,22
33							
34							
35	-0,46	-0,34	-0,54	-0,48	-0,58	-0,44	-0,98
36							
37							
38	0,79	1,6	0,37	-0,38	0,67		
39	0,26	0,94	-0,16	-0,032	0,11	0,29	0,33
40							
41							
42							
43							
44							
45	-0,17	0,16	-0,40	0,30	0,27		
46	-0,075	-0,40	0,11	0,21			
47	0,014	-0,28	0,20	-0,0053			
48	0,95	0,76	1,2	-0,38	-5,0		
49							
50							
51							
52	0,11	0,17	0,067	0,34	0,31	-0,88	-1,3
53	3,2	2,3	3,5	6,1	2,8	2,1	2,1
54	0,16	1,6			-1,3		
55							
56	-0,42	-0,36	-0,44	-0,61	-0,14	-0,25	-0,24
57	0,040	-0,54	0,43	-0,36	-0,082		
58	3,7	12	-1,1	-1,3			
59	-0,18	-0,081	-0,21	-0,57	-0,60	-0,29	-0,047
60							
61							
62	-0,25	-0,049	-0,39	-0,17	-0,22		
63							
64	0,015	0,073	-0,017	-0,072	0,093		
65							
66							
67							
68							
69	-0,25	-0,46	-0,11	-0,22	-0,29	-0,31	-0,24
70	1,2	0,87	1,4	0,54	1,1	1,0	1,4

Laboratories' Z-scores: Salmon, 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	-0,38	-0,15	-0,54	-0,30	-0,46	1,3	0,33
72							
73							
74			0,23	0,44	0,74		
75	-0,22	-0,18	-0,25	0,024	-5,0		
76	1,7	1,6	1,8	0,94	0,85		
77	-1,2	-0,62	-1,5	-1,6			
78							
79	0,61	0,48	0,65	1,4		0,89	1,2
80	1,2	1,7	0,78	2,1	1,5		
81	-0,82	-0,71	-0,93	-0,30	-0,28	-1,1	-1,5
82							
83							
84	0,74	0,92	0,60	0,99	1,7		
85	-0,71	-1,2	-0,42	-0,59	0,10		
86	-0,34	0,20	-0,66	-0,71	-0,27	-0,11	-0,077
87							
88	0,53	0,37	0,65	0,39	0,27	-0,10	-0,11
89	0,088	-0,032	0,18	-0,18	0,066		
90							
91							
92	-0,67	-1,5	-0,16	-0,89	-0,61	-0,86	-0,78
93	-0,68	-0,64	-0,72	-0,42	-5,0	-1,0	-1,8
94							
95	-0,14	-0,26	-0,081	-0,0037	0,41		
96							
97							
98	0,70	1,6	0,21	-0,37	0,65		
99	0,27	0,23	0,32	0,079			
100	17	44	1,3	-0,075	-0,35	0,60	0,88
101							
102	-2,1	-1,6	-2,5	-1,3	0,56		
103							
104							
105							
106	1,3	2,1	0,67	2,7	2,0		
107							
108							
109	2,9	0,46	4,4	4,1	0,58	0,34	0,10
110							
111							
112	0,38	-0,18	0,71	0,86	0,071	1,2	-0,37
113	-0,49	-0,26	-0,67	0,031	-0,47	0,0096	0,27
114	0,25	0,36	0,16	0,49	0,38		
115							
116	0,69	0,76	0,63	0,92	0,61	0,052	0,17
117							
118							
119	-0,091	-0,057	-0,088	-0,49	-0,23		
120	0,16	-0,87	0,87	-0,55	0,59	0,13	0,27

Laboratories' Z-scores: Fish oil, 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							
2							
3							
4							
5							
6							
7	0,25	-0,84	1,4	0,38	-0,039	0,96	0,24
8							
9	-0,38	-0,44	-0,30	-0,51	-0,77		
10							
11	0,22	0,057	0,46	-0,51			
12							
13							
14							
15	-0,12	0,080	-0,24	-0,90	-0,17		
16	-0,063	0,12	-0,32	0,58	0,96	4,5	0,87
17	-0,95	1,4	-3,4	0,39	0,43	2,4	2,3
18	-0,97	-2,1	0,040	0,19	0,39		
19							
20							
21							
22	0,34	-0,44	1,2	-0,16			
23							
24	0,027	-0,27	0,28	0,47			
25							
26							
27							
28							
29							
30	0,12	0,094	0,13	0,23	-0,13	-0,15	-0,067
31	-0,52	-0,10	-0,92	-0,65	-0,58		
32	-0,58	-0,96	-0,23	-0,33	-0,50	0,19	0,10
33	0,19	-0,0083	0,45	-0,29	0,036		
34	-0,47	-0,84	-0,078	-0,70	0,15		
35	0,14	0,051	0,28	-0,36	-0,24	0,10	-0,49
36	0,042	0,16	-0,13	0,47			
37							
38	0,31	0,98	-0,26	-0,77	0,39		
39	-0,16	0,16	-0,49	-0,073			
40	0,21	0,15	0,31	-0,053	-0,22	-0,068	0,026
41							
42							
43							
44	2,7	-1,2	7,1	-0,077	-0,15		
45							
46	0,26	0,21	0,33	0,13			
47	0,14	-0,17	0,48	-0,033			
48	0,50	0,11	1,0	-0,34	-5,0		
49	0,036	-1,6	1,7	0,17			
50							
51	-0,48	-0,44	-0,56	-0,13			
52	0,036	0,047	-0,0094	0,34	0,24	-0,75	-0,78
53	0,12	0,38	-0,19	0,51	-0,0082	0,87	0,55
54	1,7	5,2			0,19		
55							
56	0,017	0,077	0,011	-0,49	0,36	0,18	0,22
57	0,16	-0,40	0,75	0,11	0,92		
58	0,11	1,7	-1,3	-1,2			
59	0,27	0,43	0,092	0,48	0,085	-0,020	0,075
60							
61							
62	0,35	0,53	0,14	0,57	1,5		
63							
64	0,14	0,25	0,044	0,022	0,25		
65	-0,013	-0,20	0,092	0,75			
66							
67							
68							
69	-0,15	-0,12	-0,19	0,015	0,24	-0,17	-0,18
70	1,3	0,95	1,6	0,77	1,2	1,0	1,2

Laboratories' Z-scores: Fish oil, 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	-0,35	-0,28	-0,42	-0,35	-0,37	2,1	0,61
72							
73							
74			0,29	0,26	0,086		
75	0,59	1,4	-0,14	0,21	-5,0		
76	0,59	0,57	0,65	0,31	0,30		
77	0,98	1,3	0,74	0,12			
78							
79	-0,52	-0,58	-0,52	0,086		-0,54	-0,46
80							
81	0,091	0,38	-0,25	0,48	0,63	1,7	0,10
82							
83							
84							
85	0,16	0,053	0,23	0,40	-0,75		
86	-0,021	0,33	-0,31	-0,61	0,013	0,12	0,15
87							
88	0,60	0,25	1,0	0,18	0,14	0,059	-0,092
89	1,9	3,7	0,21	-0,15	0,41		
90							
91							
92	-0,35	-1,2	0,44	-0,052	0,054	-1,6	-1,6
93	-0,32	-0,41	-0,29	0,099			
94							
95	-0,22	-0,28	-0,19	0,029	0,48		
96							
97	-0,20	-0,60	0,16	0,19	-0,39		
98	0,36	1,0	-0,17	-0,74	0,37		
99							
100	14	25	3,8	-0,43	-0,38	1,6	1,7
101							
102	-1,0	-0,48	-1,7	0,050	2,1		
103							
104							
105							
106							
107							
108							
109	-0,21	0,11	-0,43	-1,3	-1,2	0,30	0,31
110							
111							
112	0,15	-0,27	0,51	0,67	-0,049	0,14	-0,41
113	-0,32	-0,20	-0,49	0,054	-0,30	0,28	0,38
114							
115	-1,4	-2,3	-0,70	0,81	1,3		
116	0,81	1,2	0,39	0,65	0,46	0,45	0,45
117							
118	-0,18	0,024	-0,40	-0,073	0,31		
119	0,12	0,12	0,16	-0,16	-0,096		
120	-0,53	0,00056	-1,1	0,097	0,45	0,77	0,81

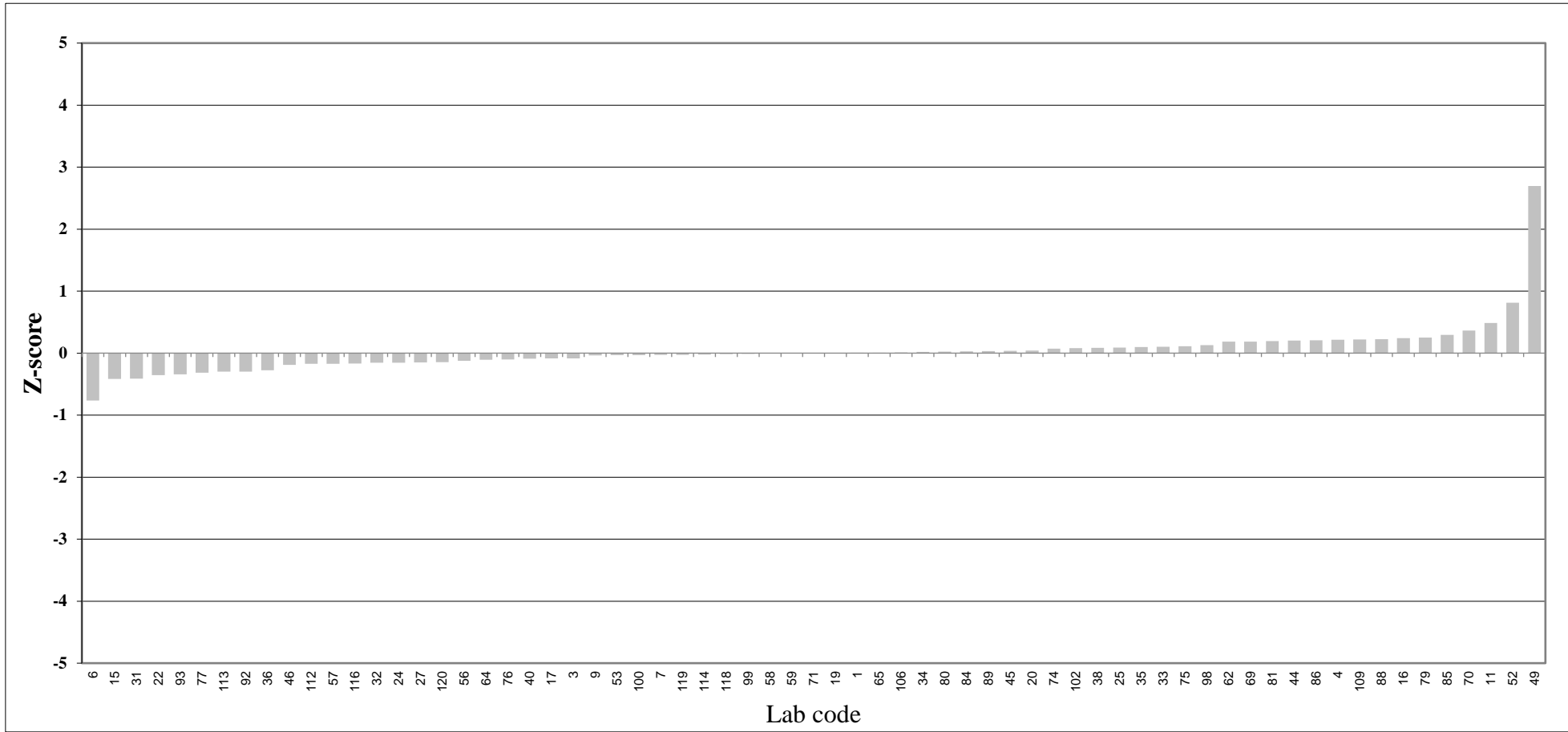
Laboratories' Z-scores: Fish oil, lipid weight

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							
2							
3							
4							
5							
6							
7	0,25	-0,84	1,4	0,38	-0,039	0,96	0,24
8							
9	-0,38	-0,44	-0,30	-0,51	-0,77		
10							
11							
12							
13							
14							
15	-0,12	0,082	-0,24	-0,90	-0,17		
16	0,10	0,29	-0,17	0,76	0,96	4,5	0,87
17					0,43	2,4	2,3
18					0,39		
19							
20							
21							
22	0,51	-0,30	1,4	-0,0083			
23							
24							
25							
26							
27							
28							
29							
30	0,13	0,11	0,14	0,24	-0,13	-0,15	-0,067
31					-0,58		
32	-0,58	-0,96	-0,23	-0,33	-0,50	0,19	0,10
33	0,41	0,20	0,68	-0,090	0,036		
34	-0,47	-0,84	-0,078	-0,70	0,15		
35	0,14	0,051	0,28	-0,36	-0,24	0,10	-0,49
36							
37							
38					0,39		
39							
40	0,21	0,15	0,31	-0,05	-0,22	-0,068	0,026
41							
42							
43							
44	2,7	-1,24	7,1	-0,077	-0,15		
45							
46	0,26	0,21	0,33	0,13			
47	0,14	-0,17	0,48	-0,033			
48	0,50	0,11	1,0	-0,34	-5,0		
49							
50							
51							
52	0,036	0,047	-0,0094	0,34	0,24	-0,75	-0,78
53	0,12	0,38	-0,19	0,51	-0,0082	0,87	0,55
54	1,7	5,2			0,19		
55							
56	0,042	0,10	0,037	-0,46	0,36	0,18	0,22
57	0,33	-0,25	0,93	0,27	0,92		
58							
59					0,085	-0,020	0,075
60							
61							
62	0,35	0,53	0,14	0,57	1,5		
63							
64	0,14	0,25	0,044	0,022	0,25		
65							
66							
67							
68							
69	-0,14	-0,12	-0,18	0,022	0,24	-0,17	-0,18
70	1,3	0,95	1,6	0,77	1,2	1,0	1,2

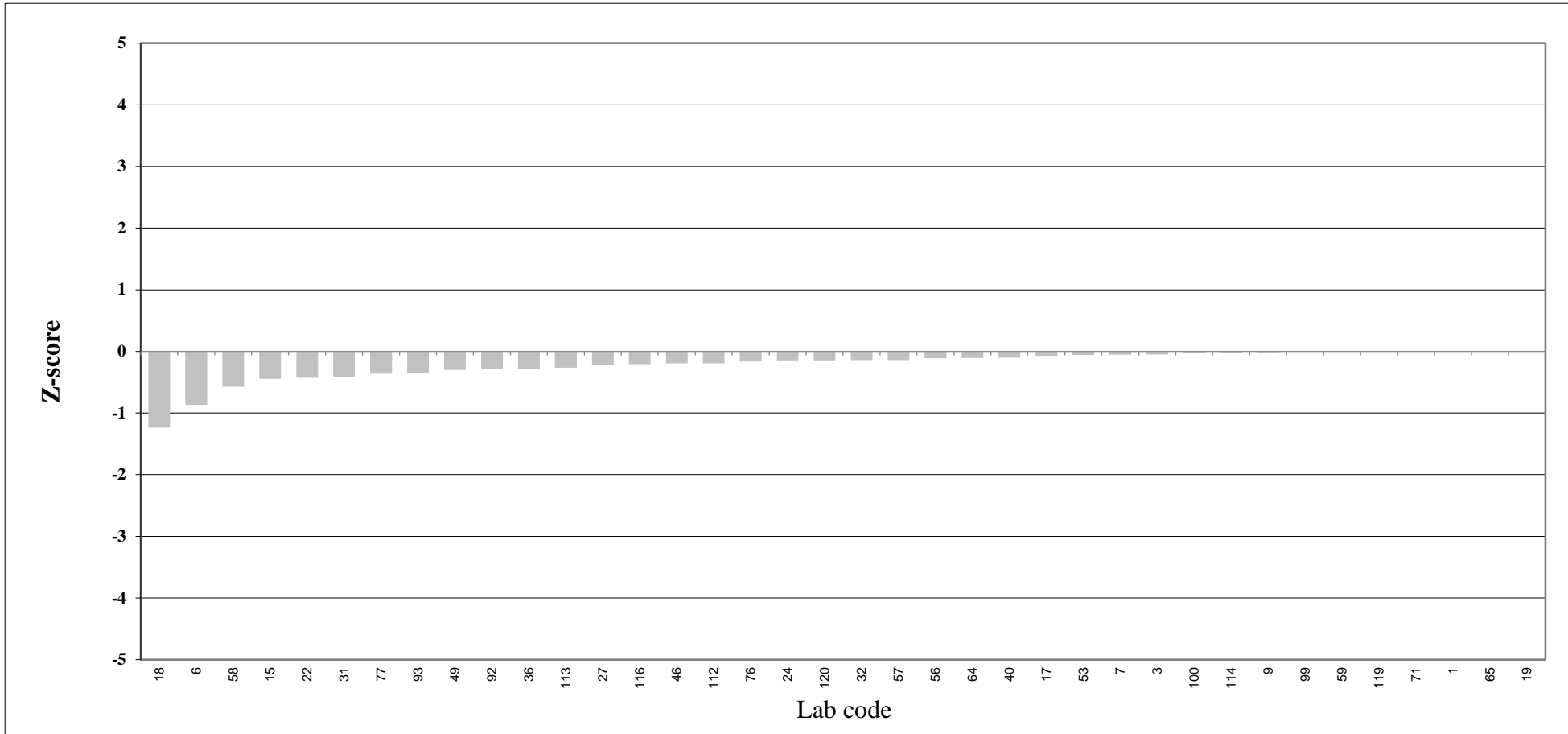
Laboratories' Z-scores: Fish oil, lipid weight (continued)

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	-0,35	-0,28	-0,42	-0,35	-0,37	2,1	0,61
72							
73							
74			0,29	0,26	0,086		
75	0,62	1,4	-0,11	0,24	-5,0		
76	0,71	0,68	0,77	0,42	0,30		
77	1,0	1,4	0,79	0,16			
78							
79	-0,52	-0,58	-0,52	0,086		-0,54	-0,46
80							
81	0,091	0,38	-0,25	0,48	0,63	1,7	0,10
82							
83							
84							
85	0,16	0,053	0,23	0,40	-0,75		
86	-0,021	0,33	-0,31	-0,61	0,013	0,12	0,15
87							
88	0,60	0,25	1,0	0,18	0,14	0,059	-0,092
89	1,9	3,7	0,21	-0,15	0,41		
90							
91							
92	-0,35	-1,2	0,44	-0,052	0,054	-1,6	-1,6
93							
94							
95	-0,21	-0,27	-0,18	0,039	0,48		
96							
97	-0,20	-0,60	0,16	0,19	-0,39		
98	0,36	1,0	-0,17	-0,74	0,37		
99							
100					-0,38	1,6	1,7
101							
102					2,1		
103							
104							
105							
106							
107							
108							
109	-0,21	0,11	-0,43	-1,3	-1,2	0,30	0,31
110							
111							
112	0,15	-0,27	0,51	0,67	-0,049	0,14	-0,41
113	-0,32	-0,20	-0,49	0,054	-0,30	0,28	0,38
114							
115	-1,4	-2,3	-0,70	0,82	1,3		
116	0,90	1,3	0,47	0,73	0,46	0,45	0,45
117							
118	-0,18	0,024	-0,40	-0,073	0,31		
119	0,12	0,12	0,16	-0,16	-0,096		
120	-0,50	0,026	-1,1	0,12	0,45	0,77	0,81

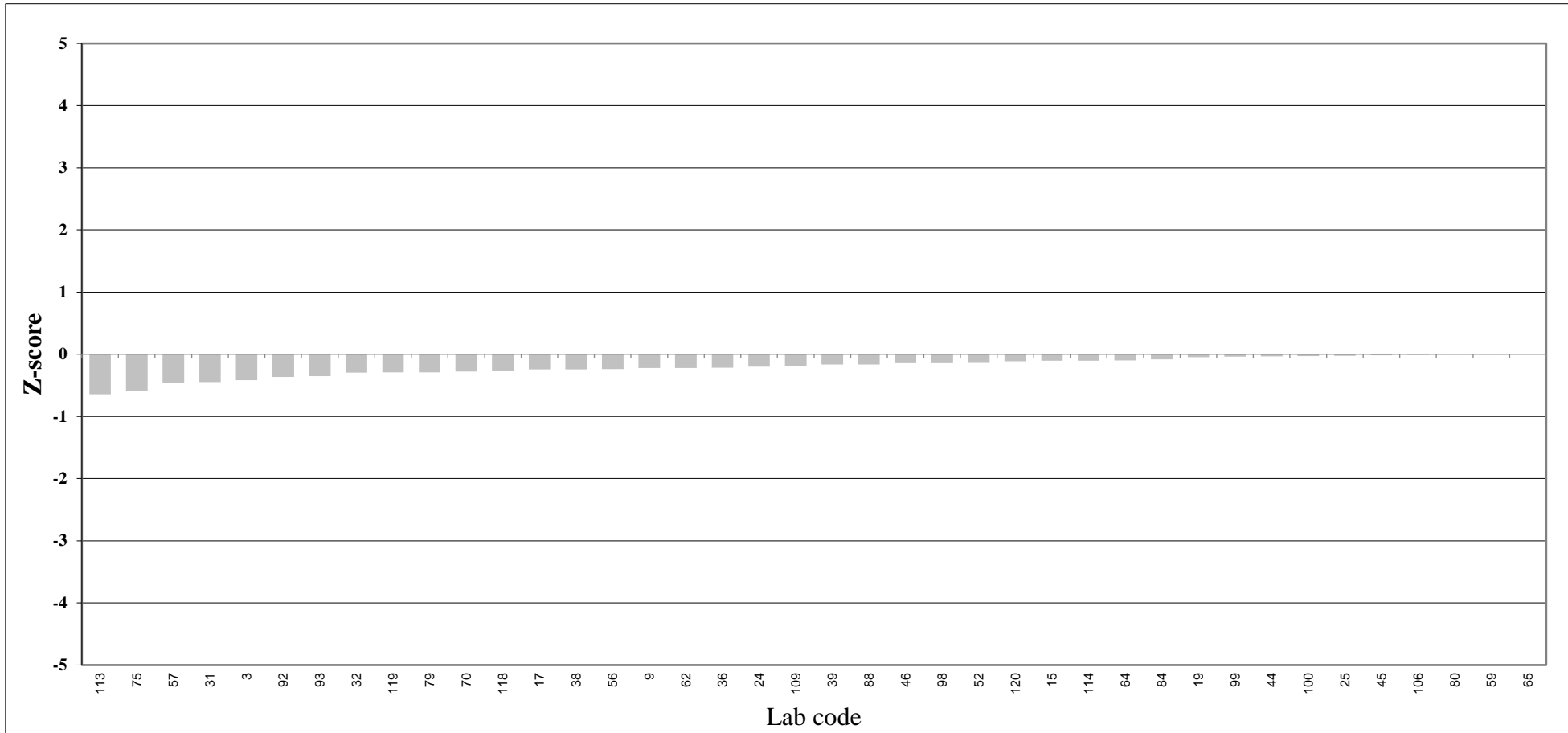
Z-score analyte solution; total TEQ



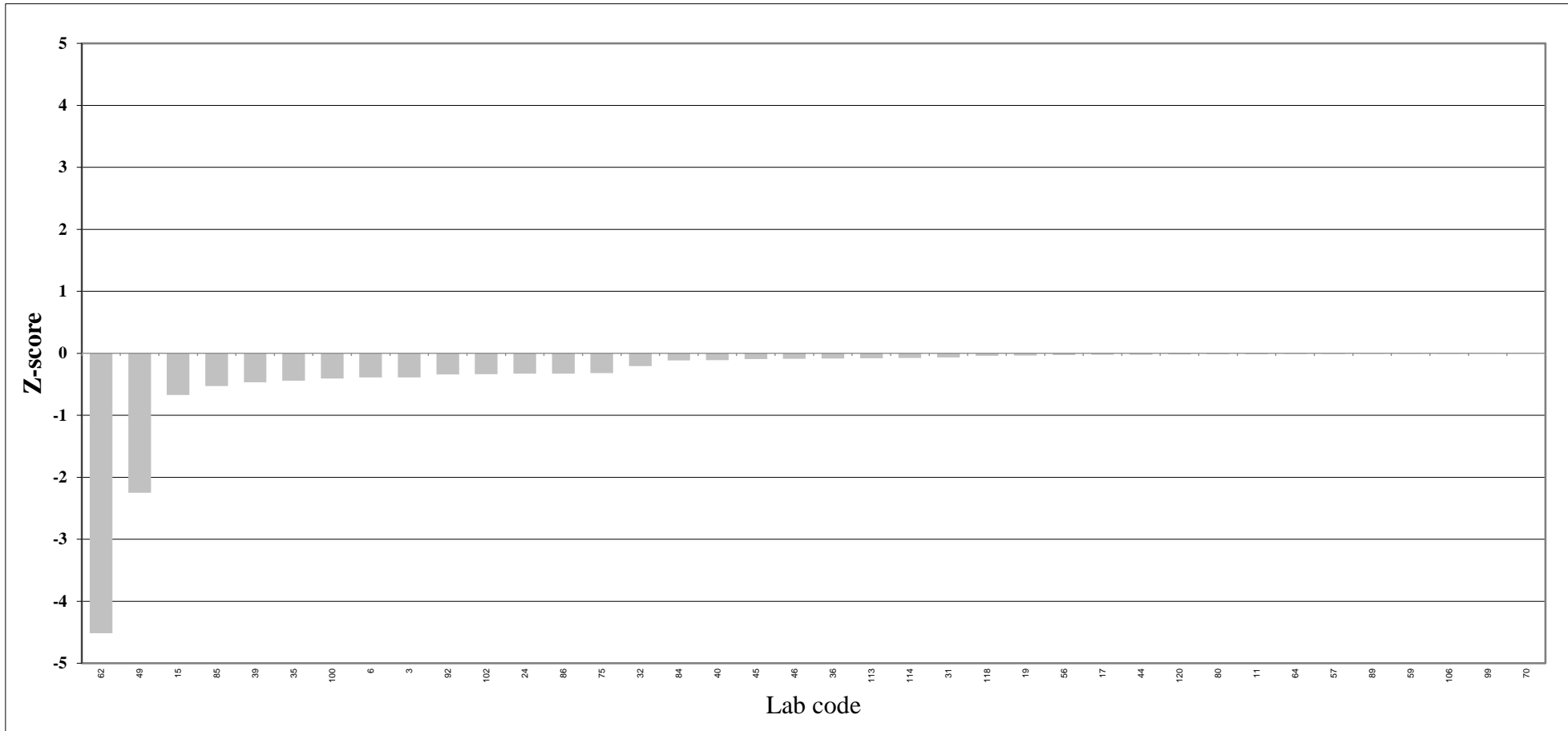
Z-score analyte solution; PCDD/PCDF TEQ



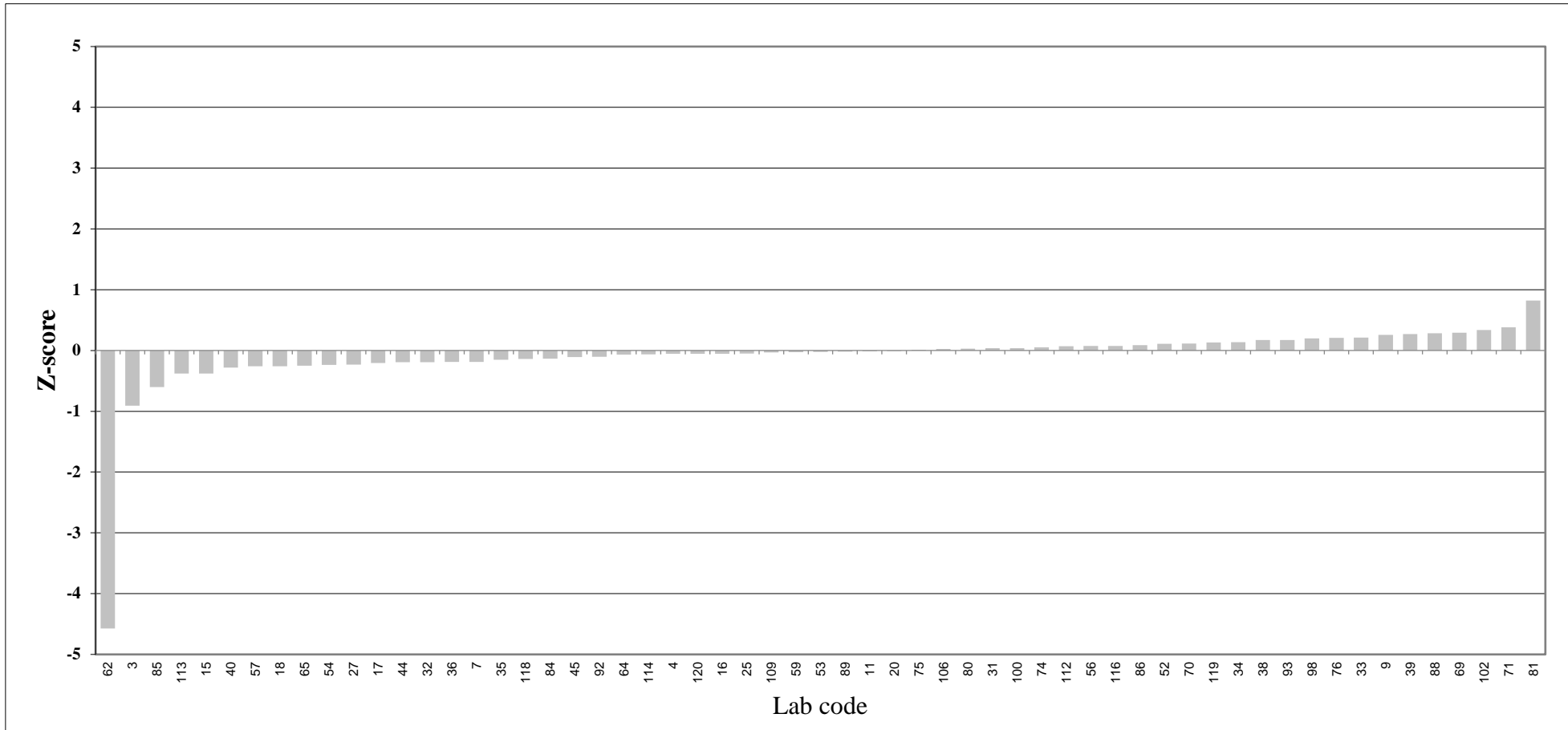
Z-score analyte solution; non-ortho PCB TEQ



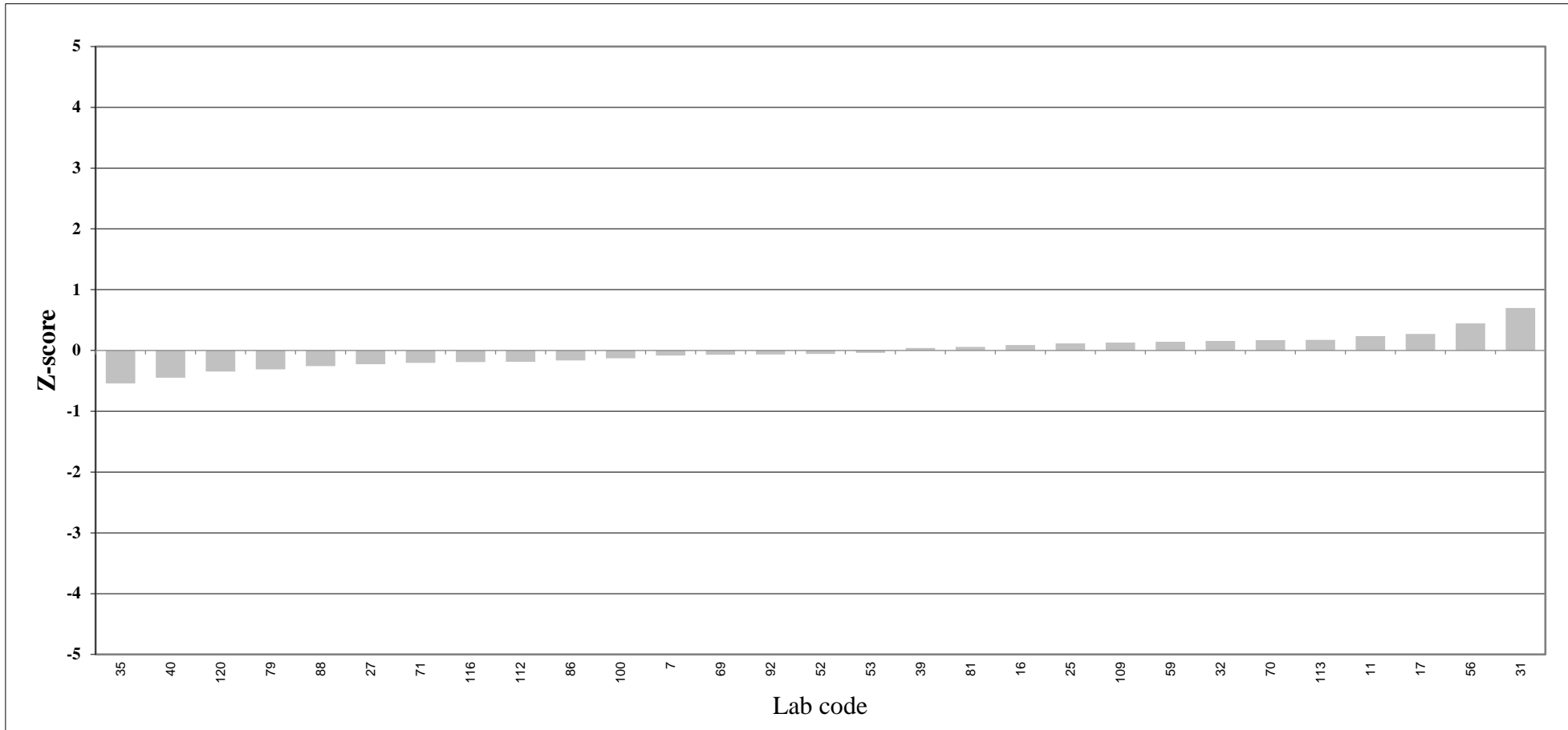
Z-score analyte solution; mono-ortho PCB TEQ



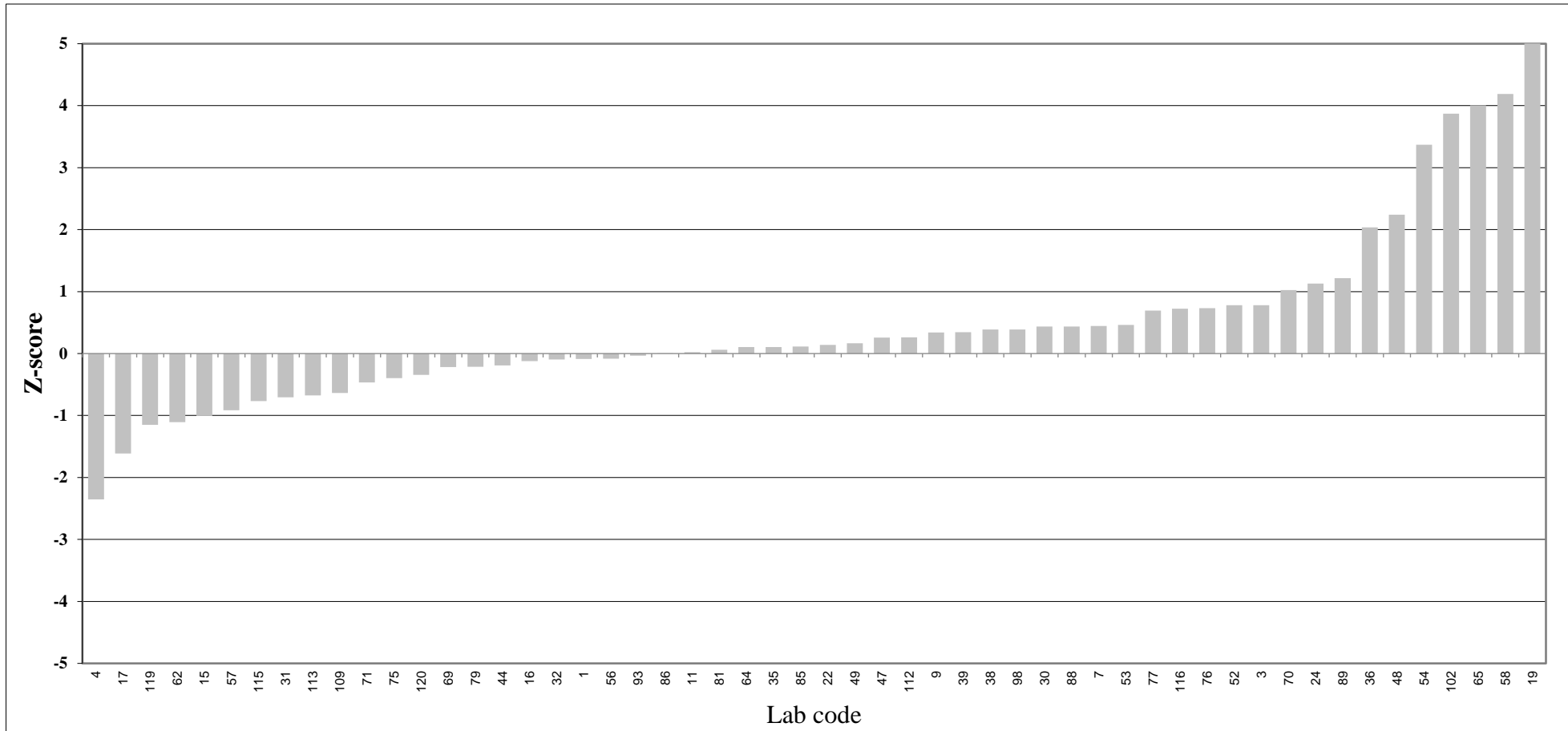
Z-score analyte solution; sum indicator PCB



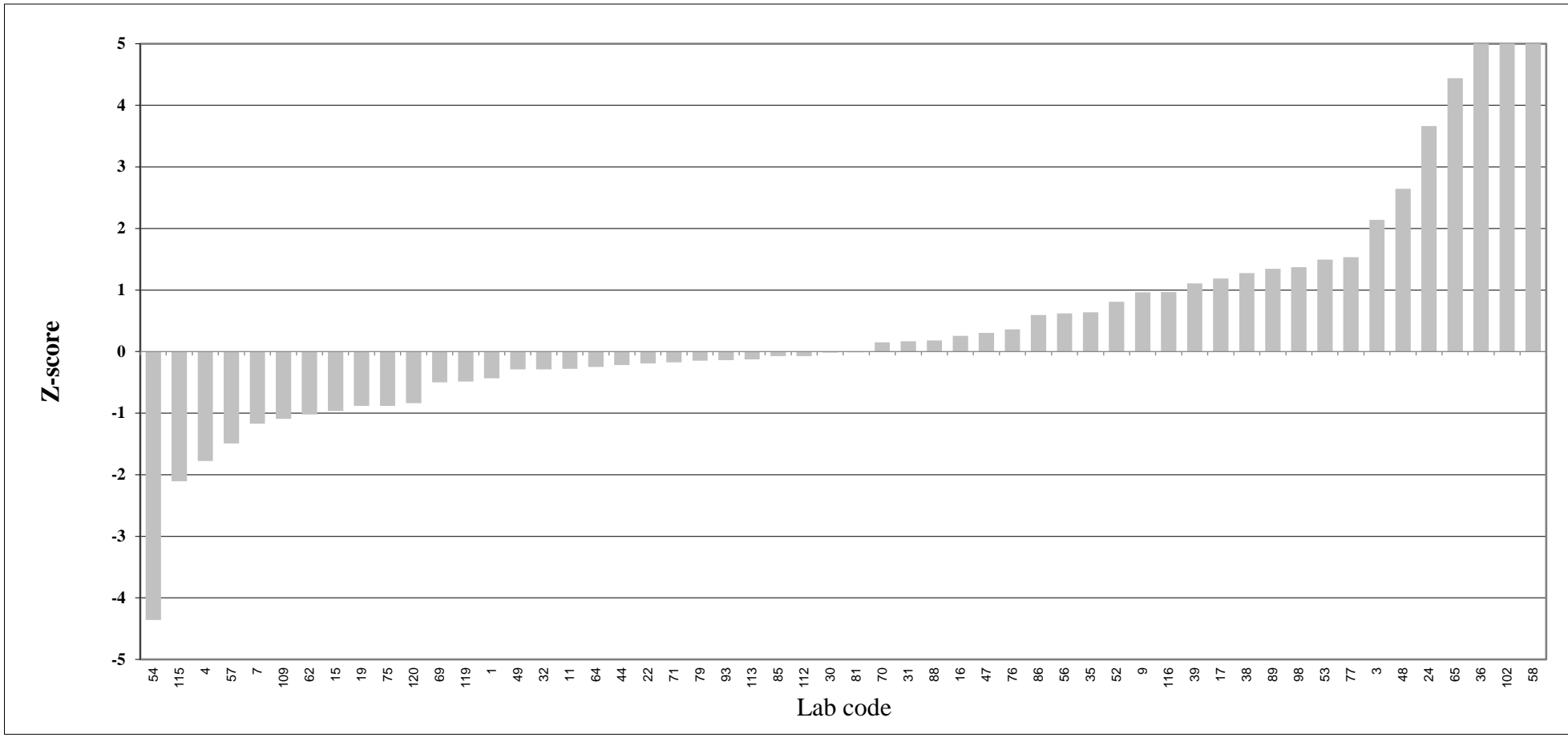
Z-score analyte solution; sum PBDE without PBDE-209



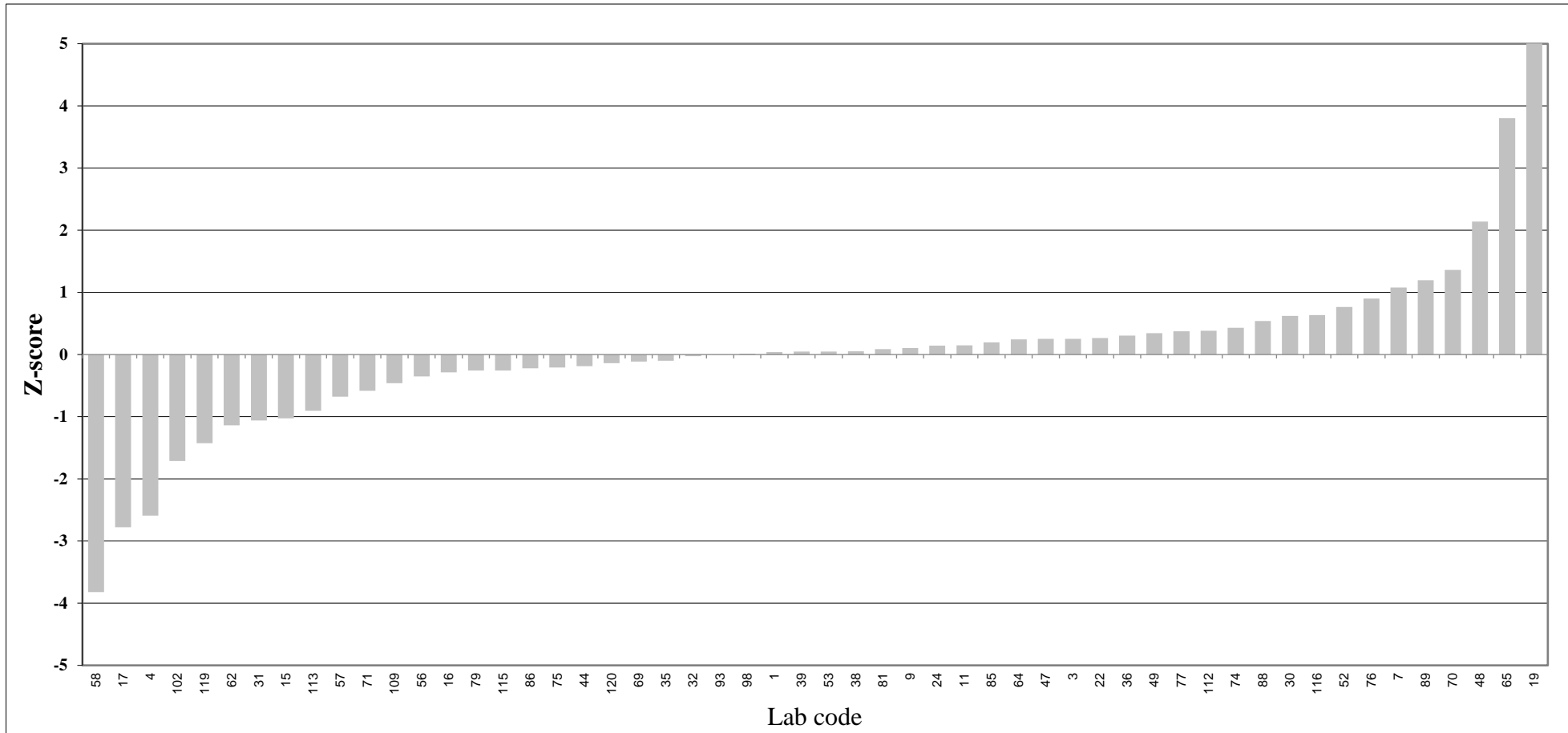
Z-score Reindeer, fresh weight; total TEQ



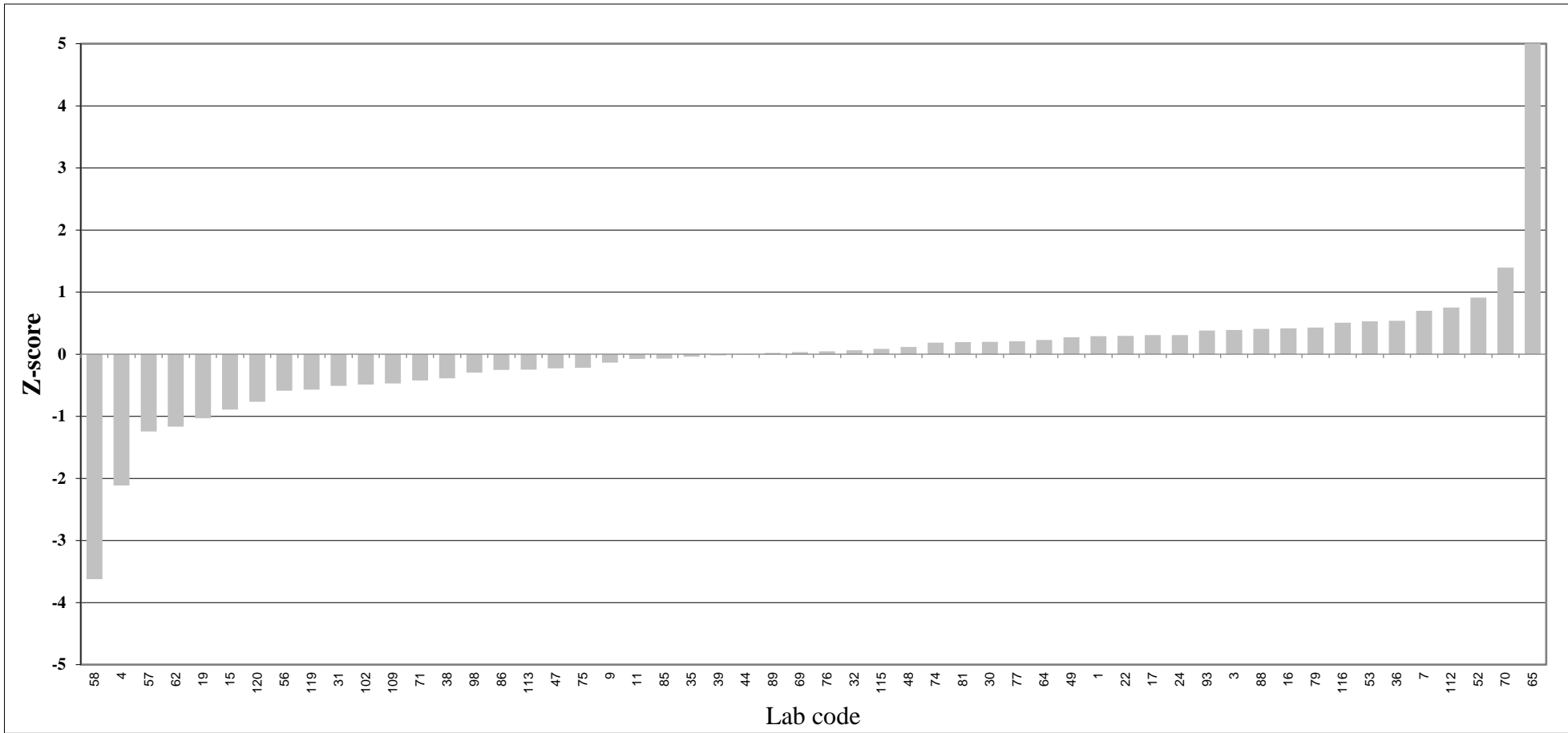
Z-score Reindeer, fresh weight; PCDD/PCDF TEQ



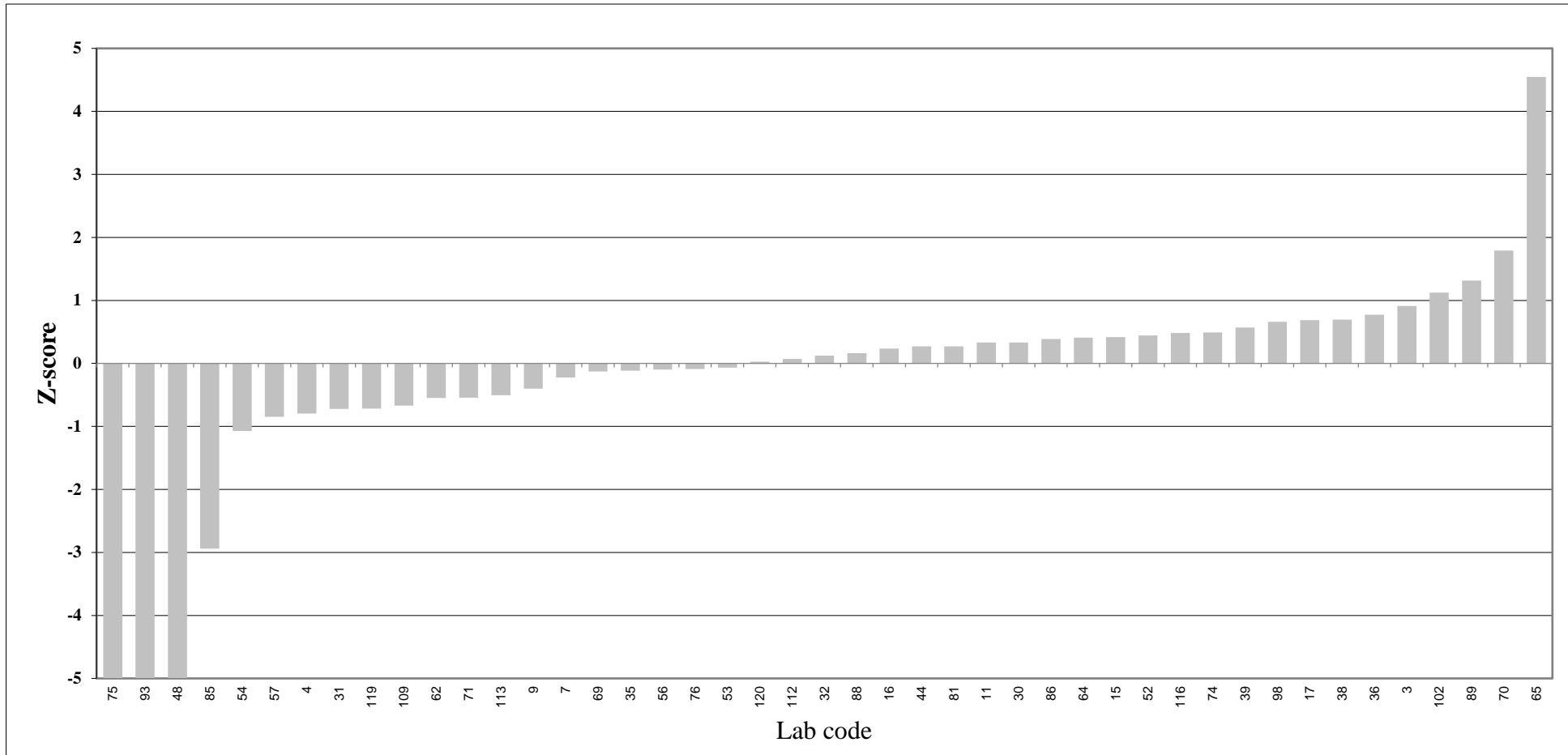
Z-score Reindeer, fresh weight; non-ortho PCB TEQ



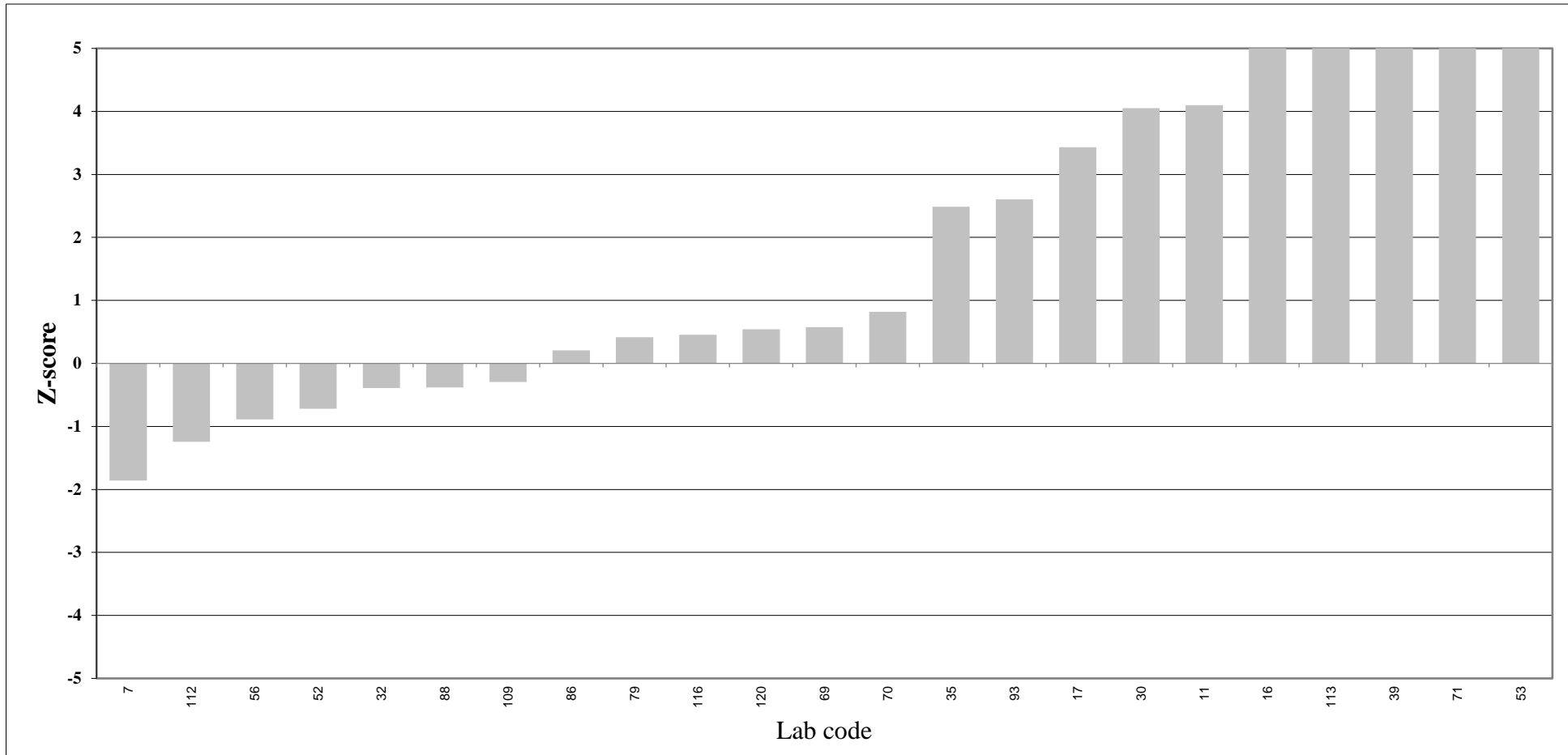
Z-score Reindeer, fresh weight; mono-ortho PCB TEQ



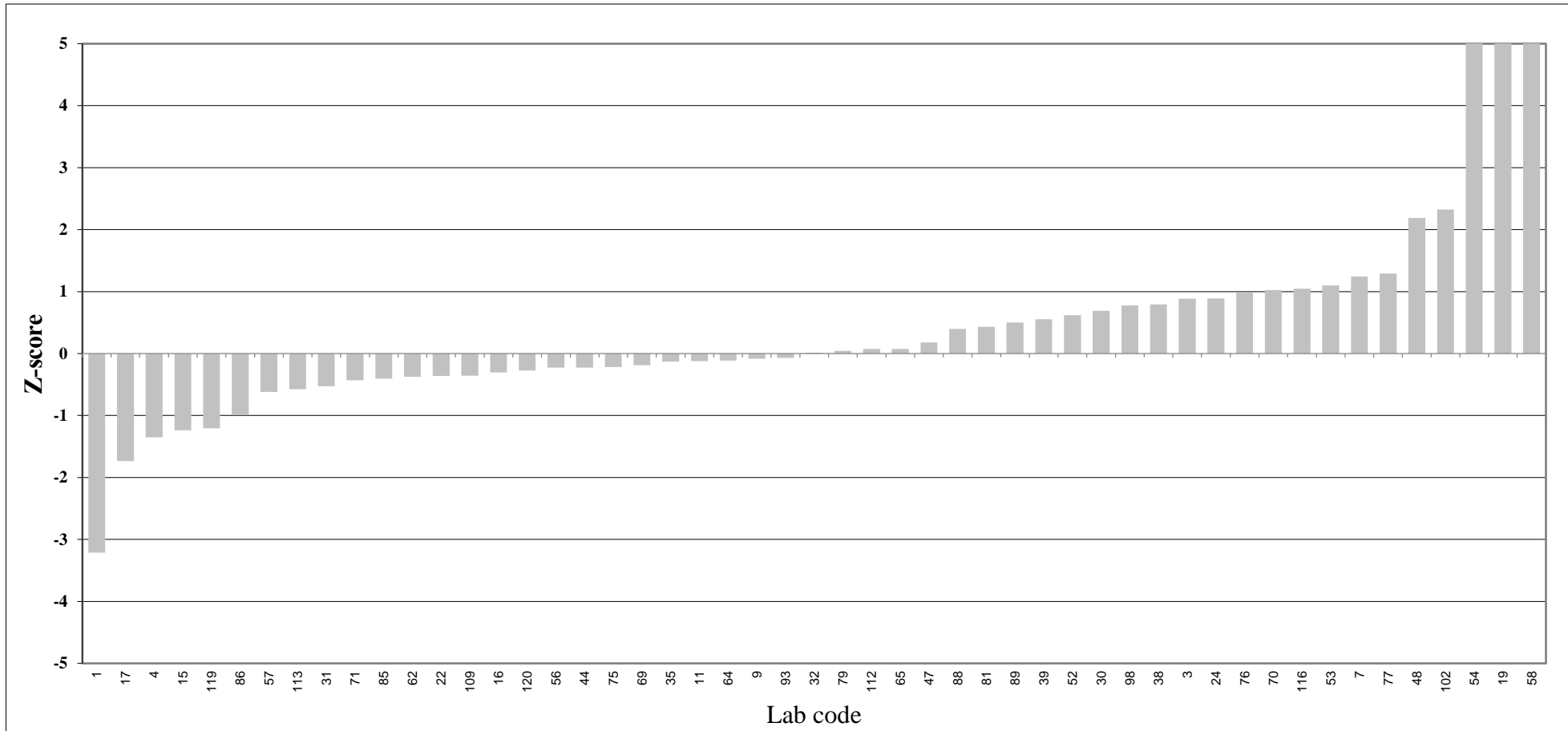
Z-score Reindeer, fresh weight; sum indicator PCB



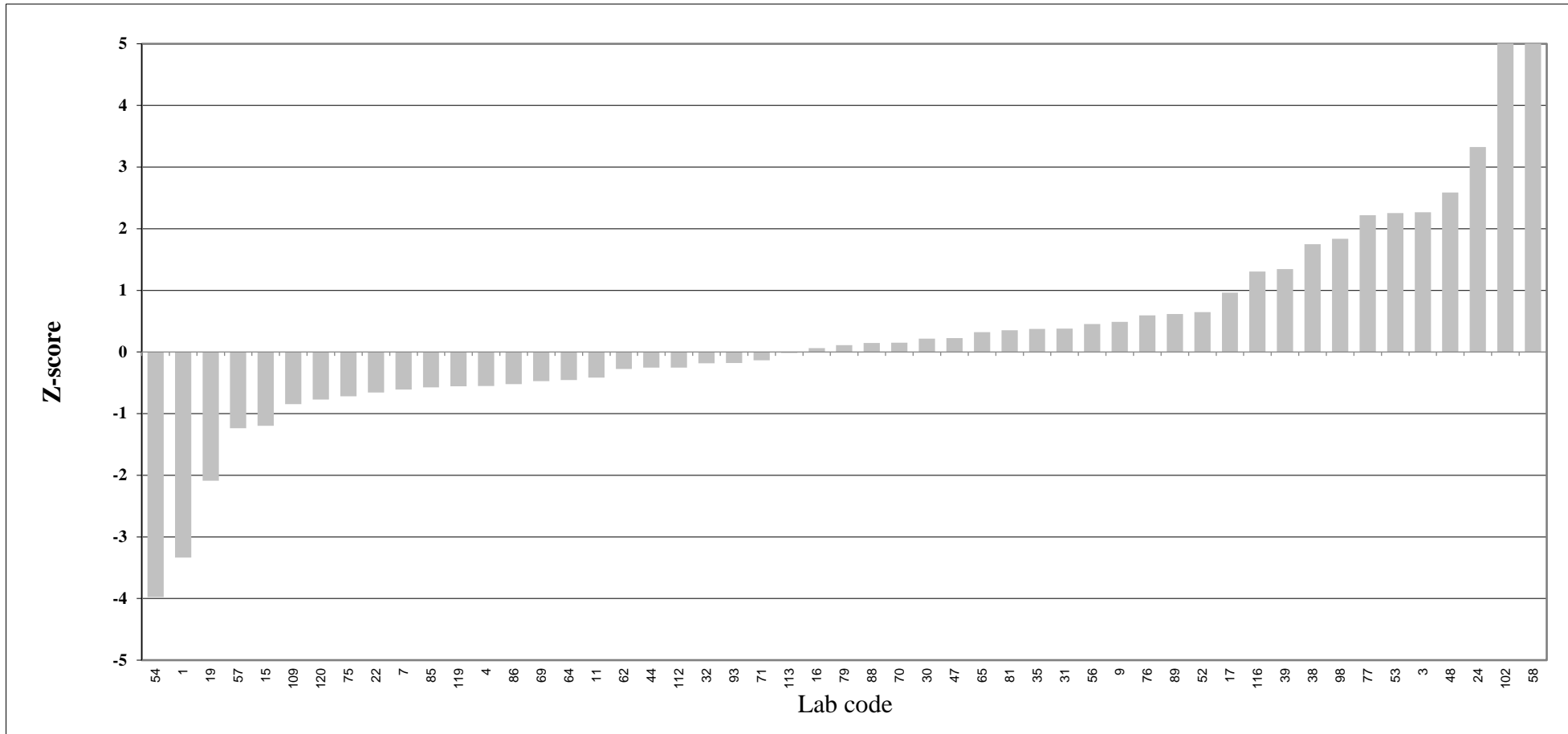
Z-score Reindeer, fresh weight; sum PBDE without PBDE-209



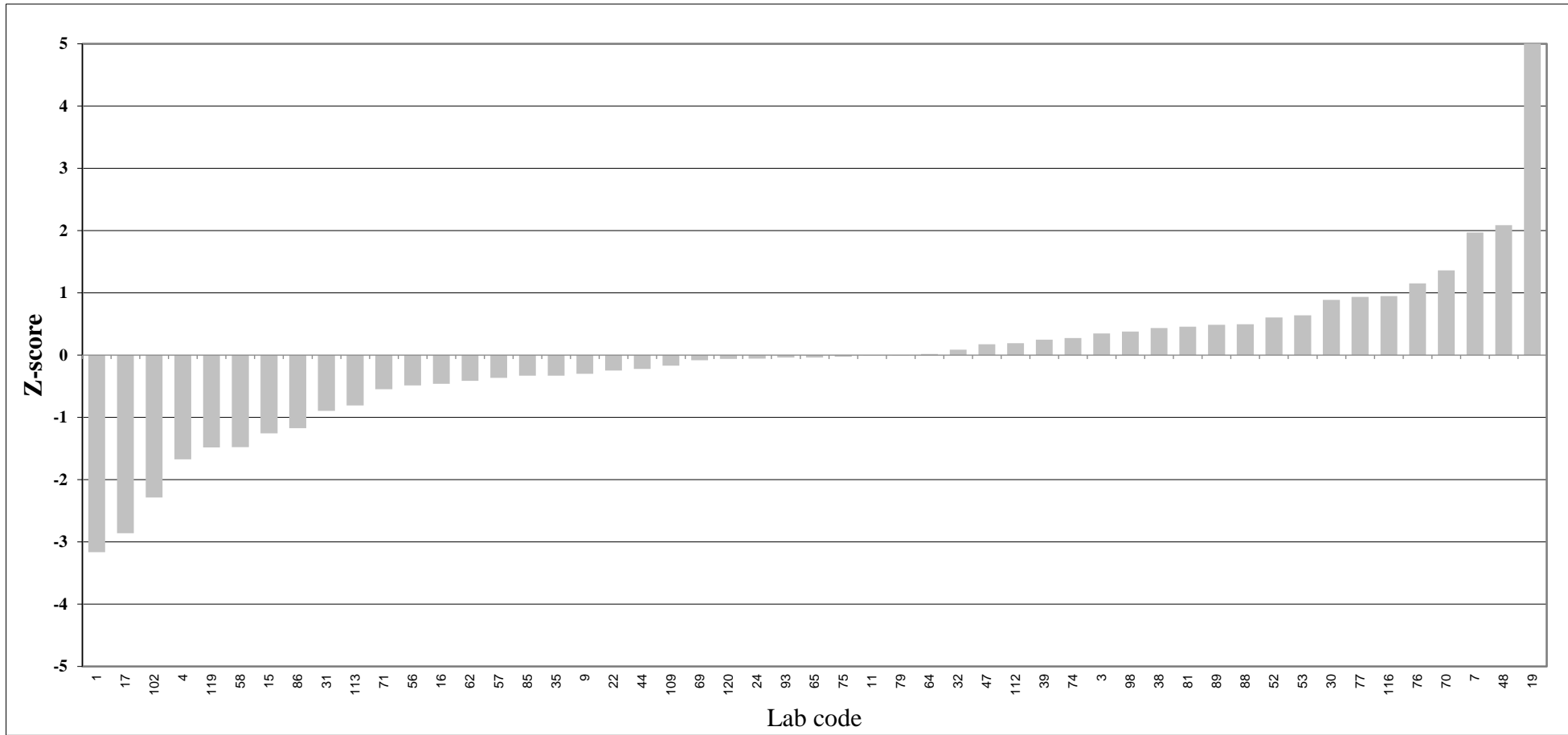
Z-score Reindeer, lipid weight; total TEQ



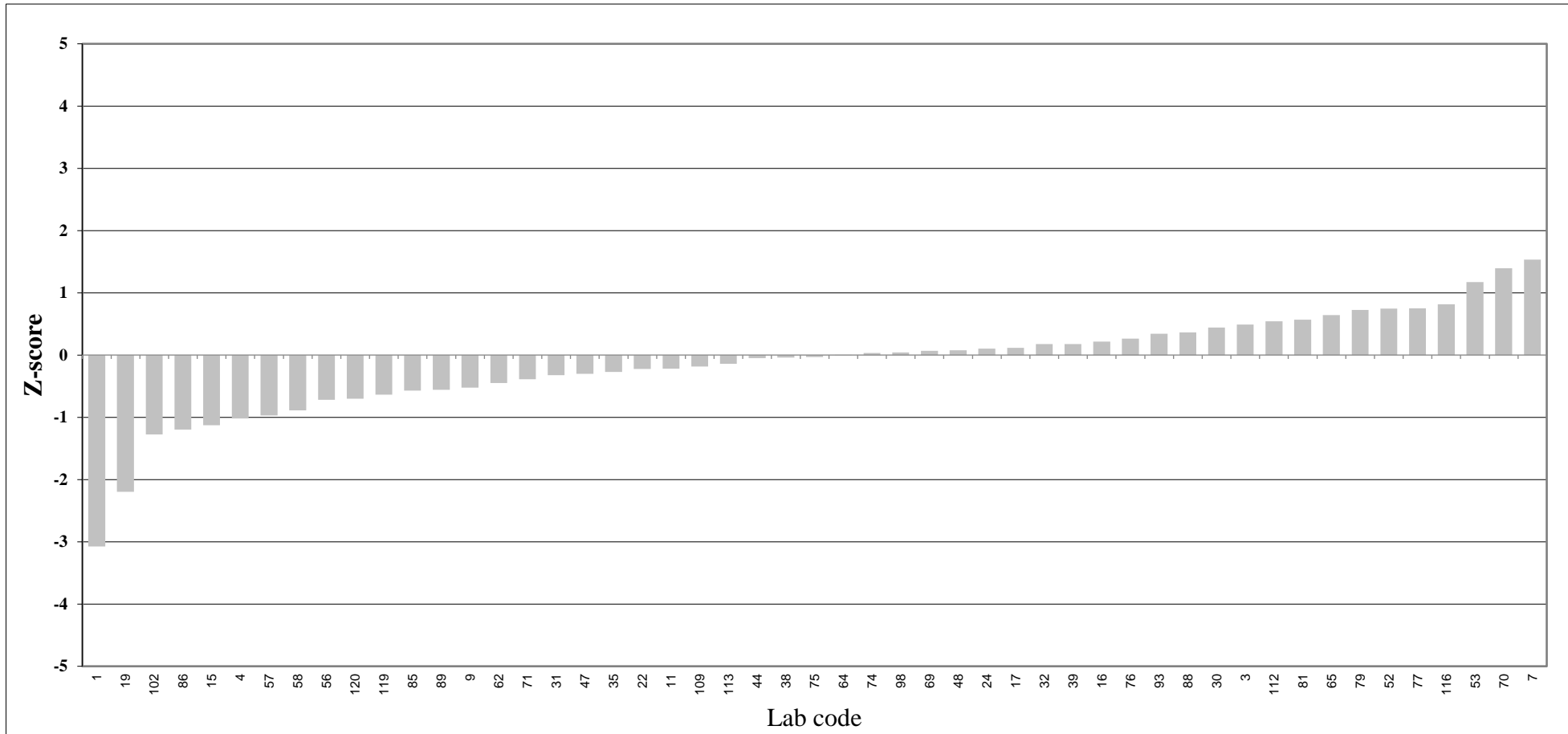
Z-score Reindeer, lipid weight; PCDD/PCDF TEQ



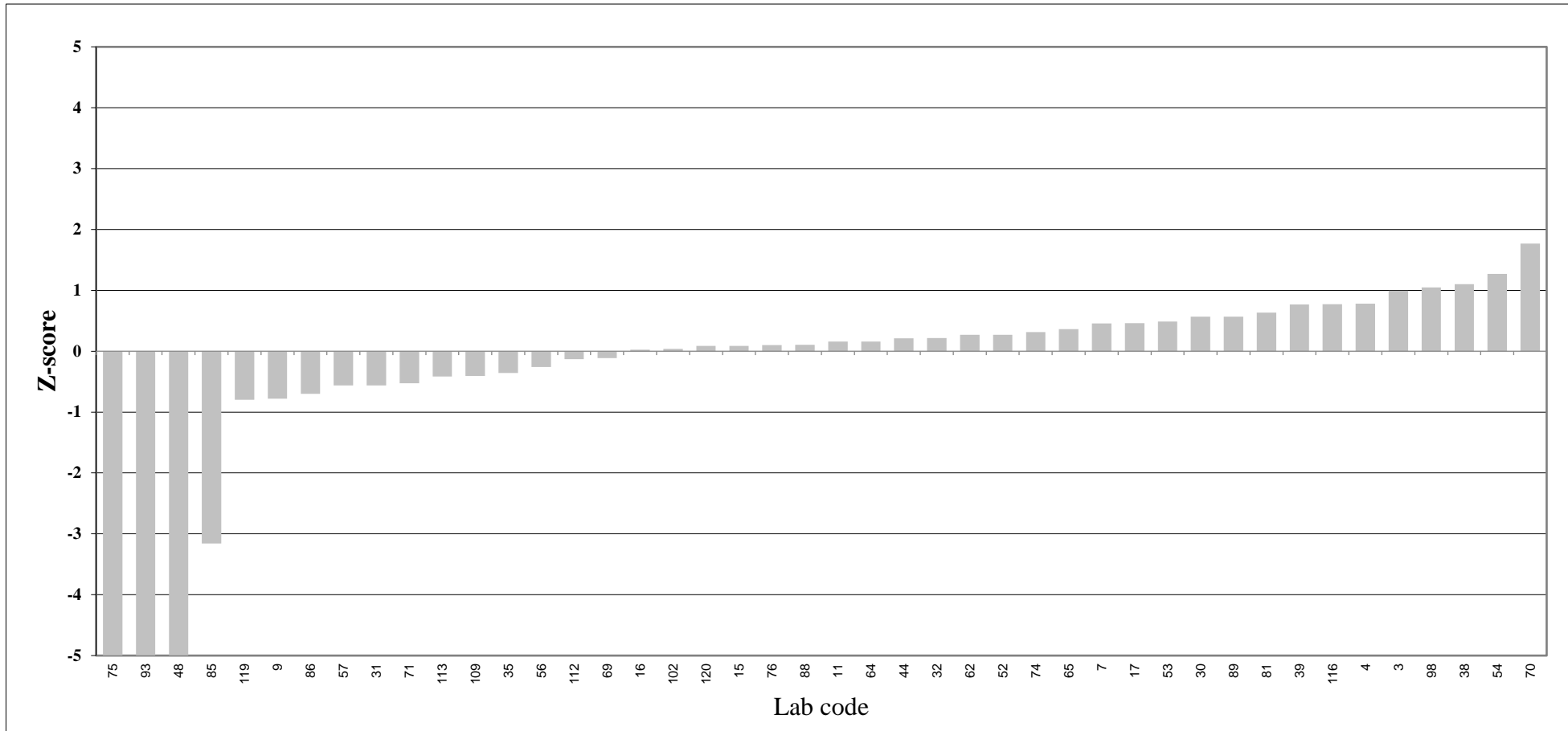
Z-score Reindeer; non-ortho PCB TEQ



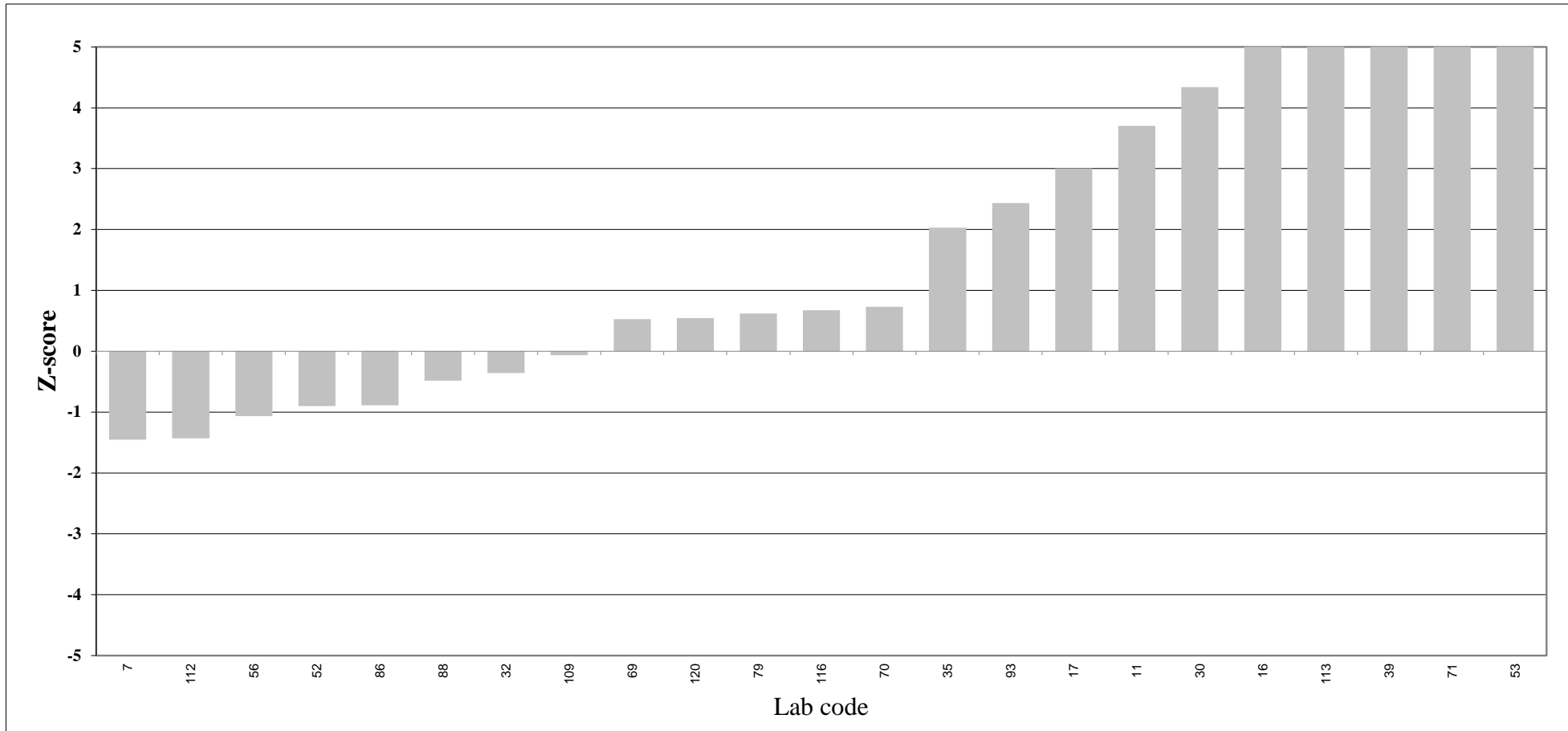
Z-score Reindeer, lipid weight; mono-ortho PCB TEQ



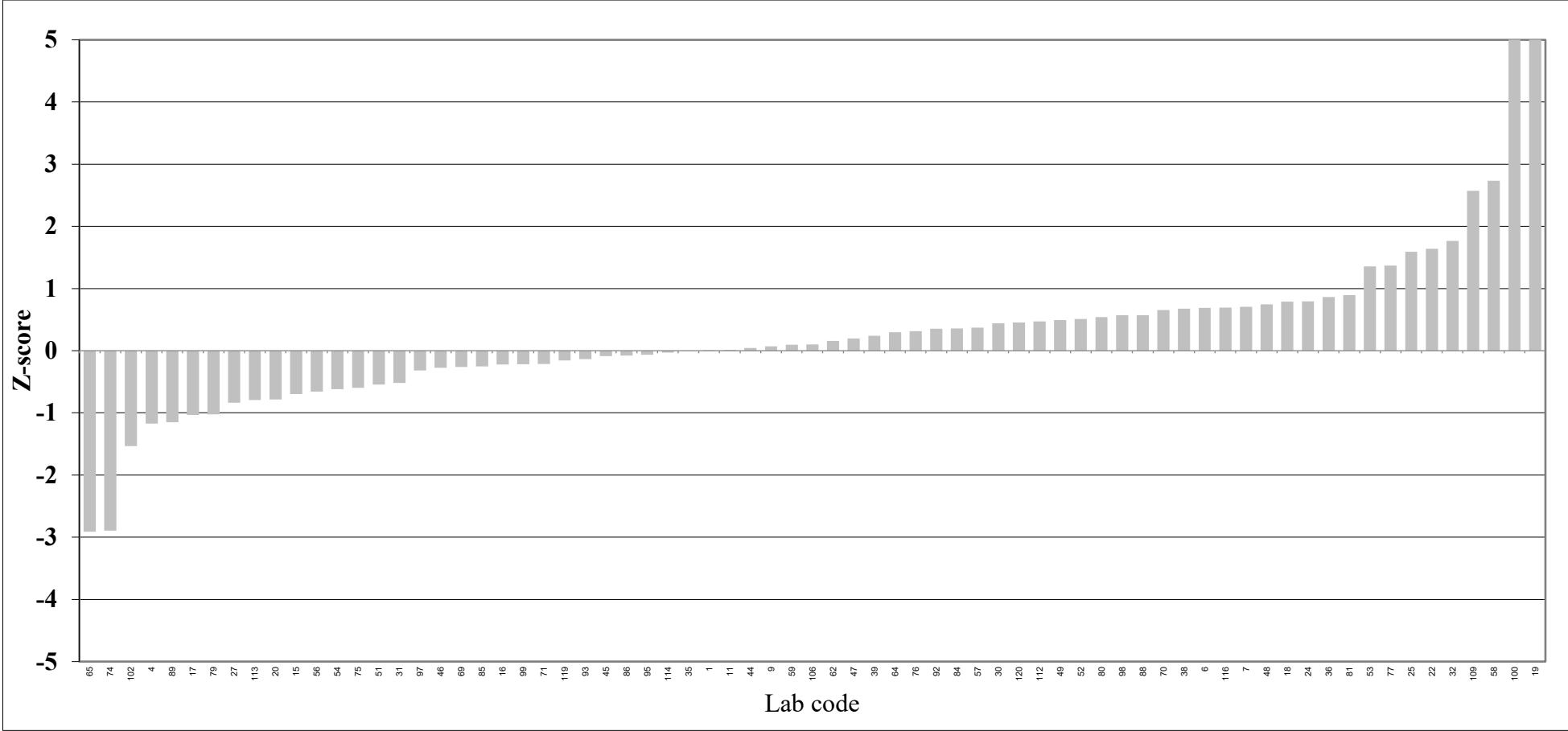
Z-score Reindeer, lipid weight; sum indicator PCB



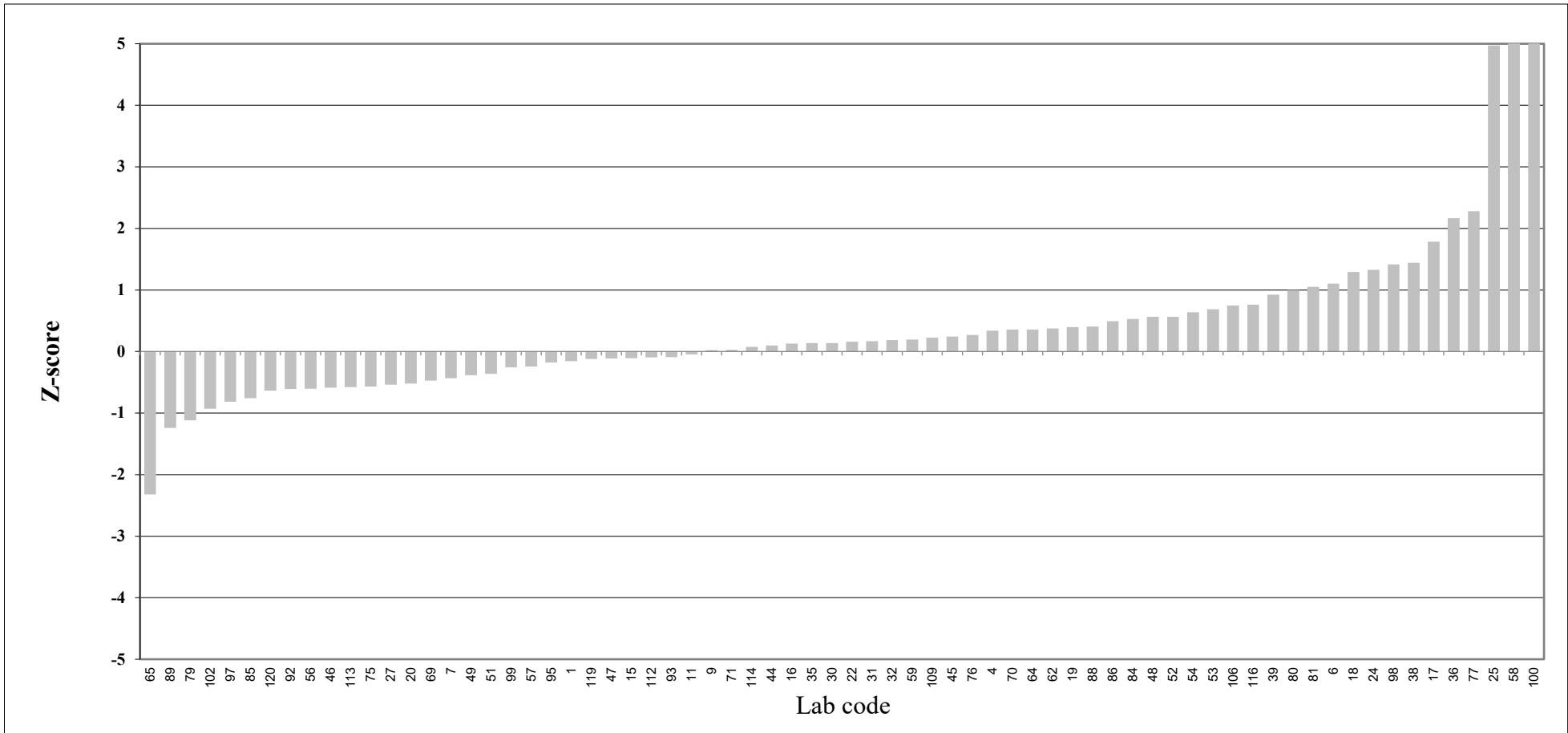
Z-score Reindeer, lipid weight; sum PBDE without PBDE-209



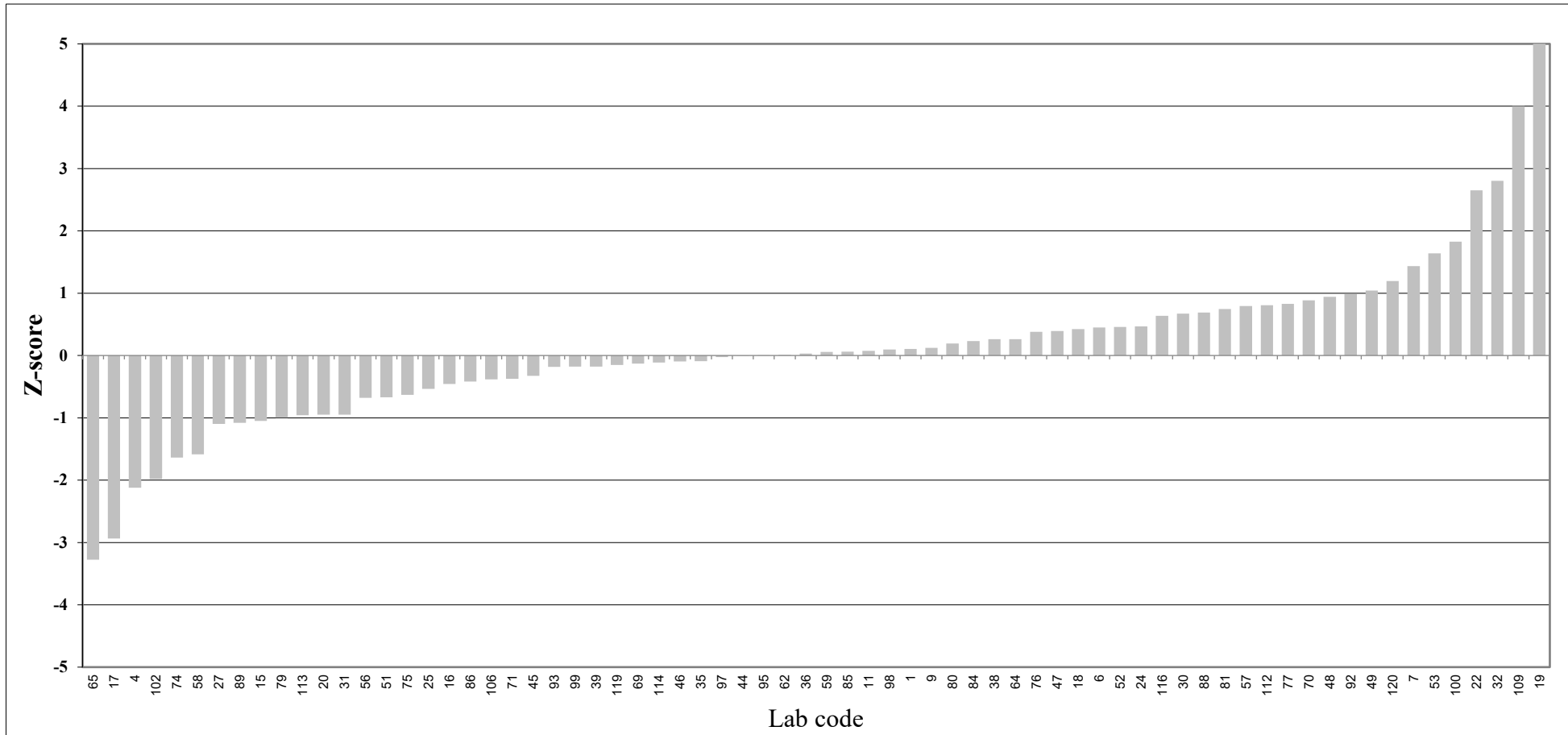
Z-score Salmon, fresh weight; total TEQ



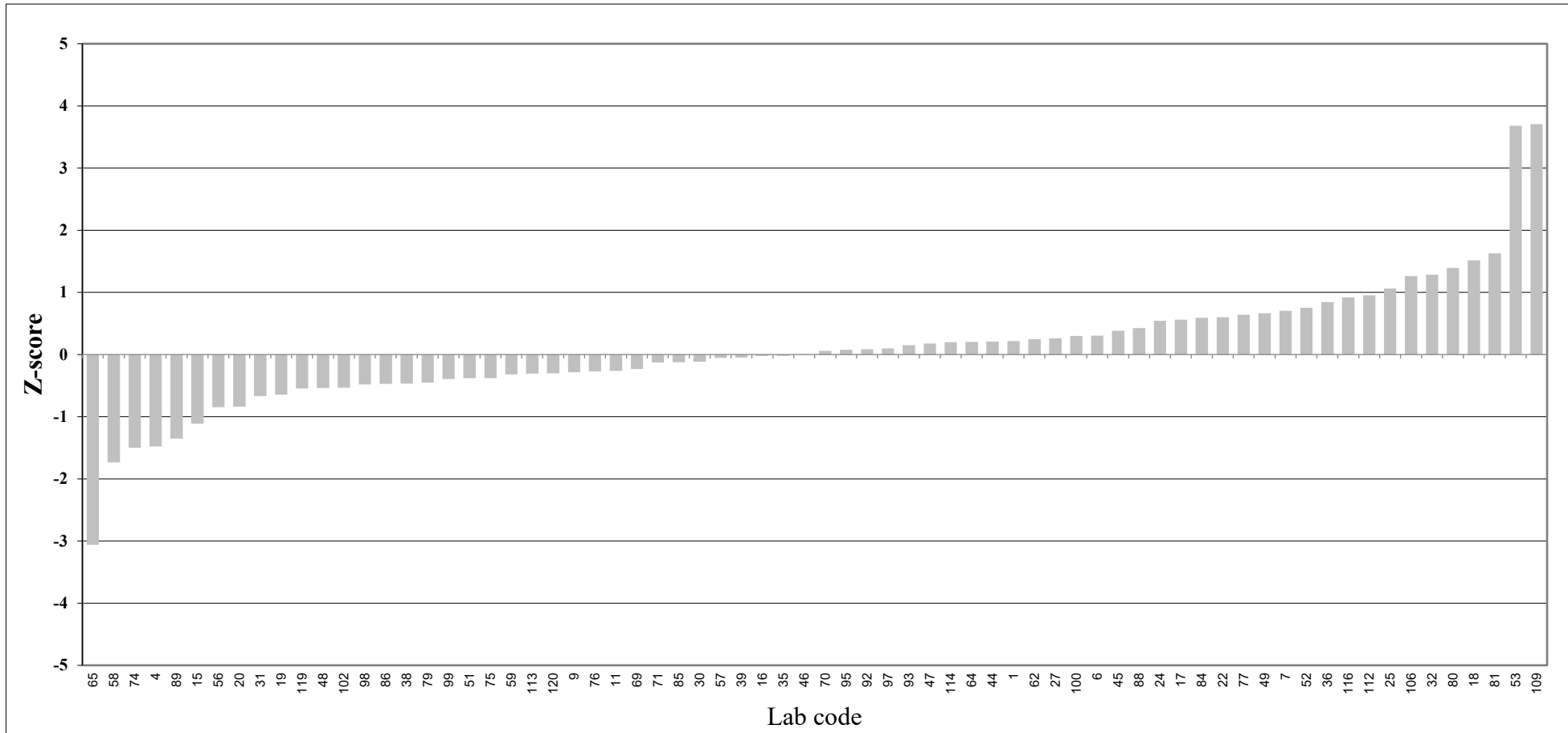
Z-score Salmon, fresh weight; PCDD/PCDF TEQ



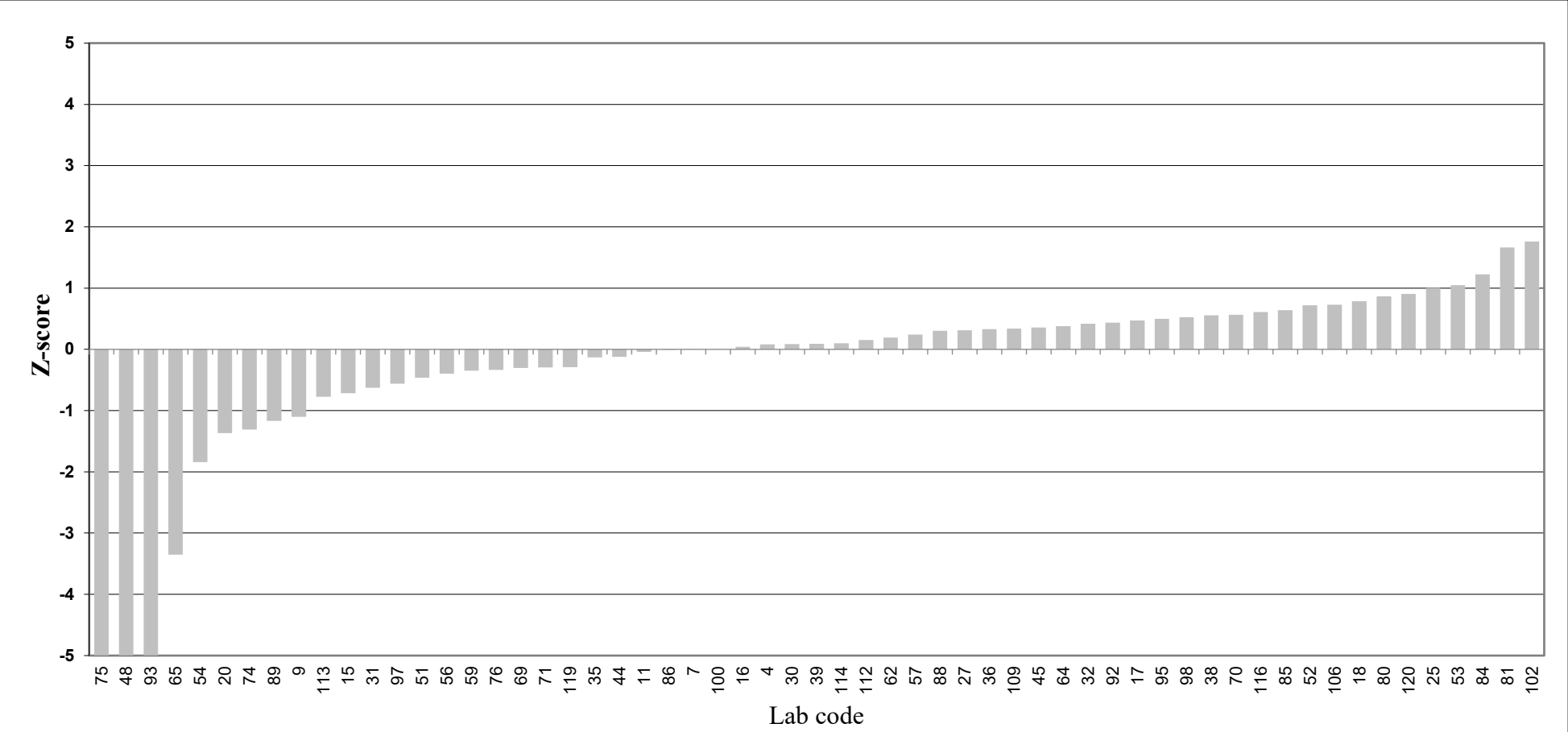
Z-score Salmon, fresh weight; non-ortho PCB TEQ



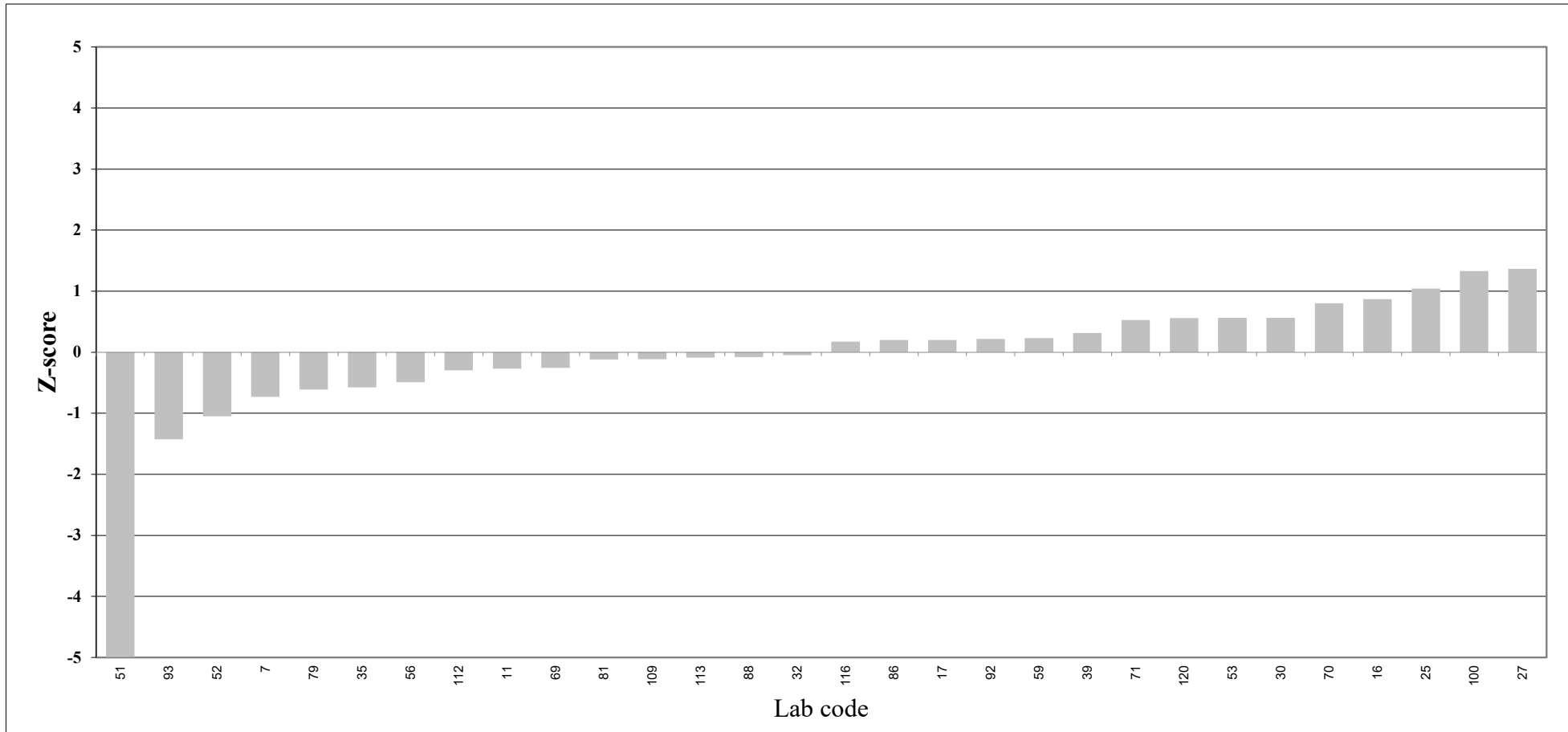
Z-score Salmon, fresh weight; mono-ortho PCB TEQ



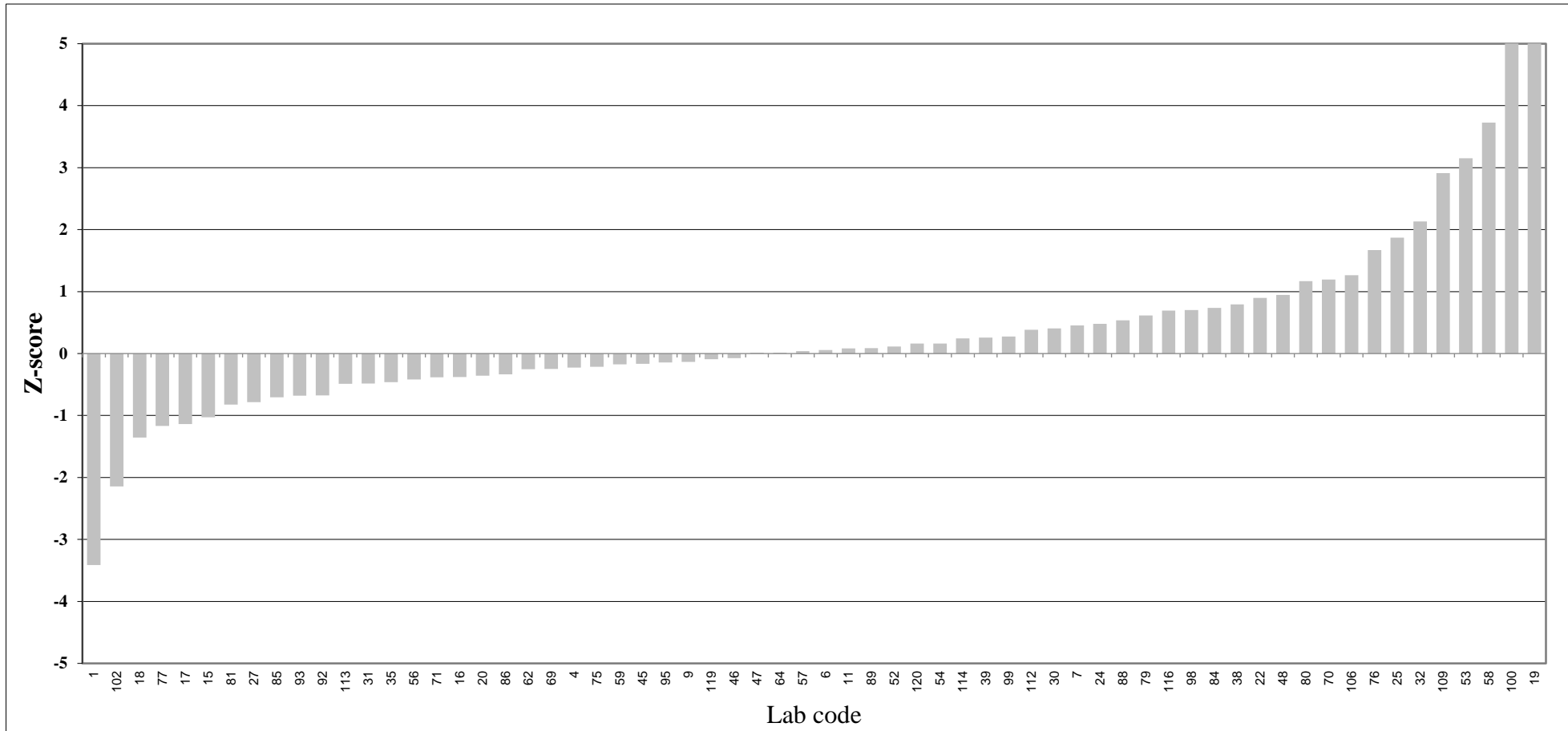
Z-score Salmon, fresh weight; sum indicator PCB



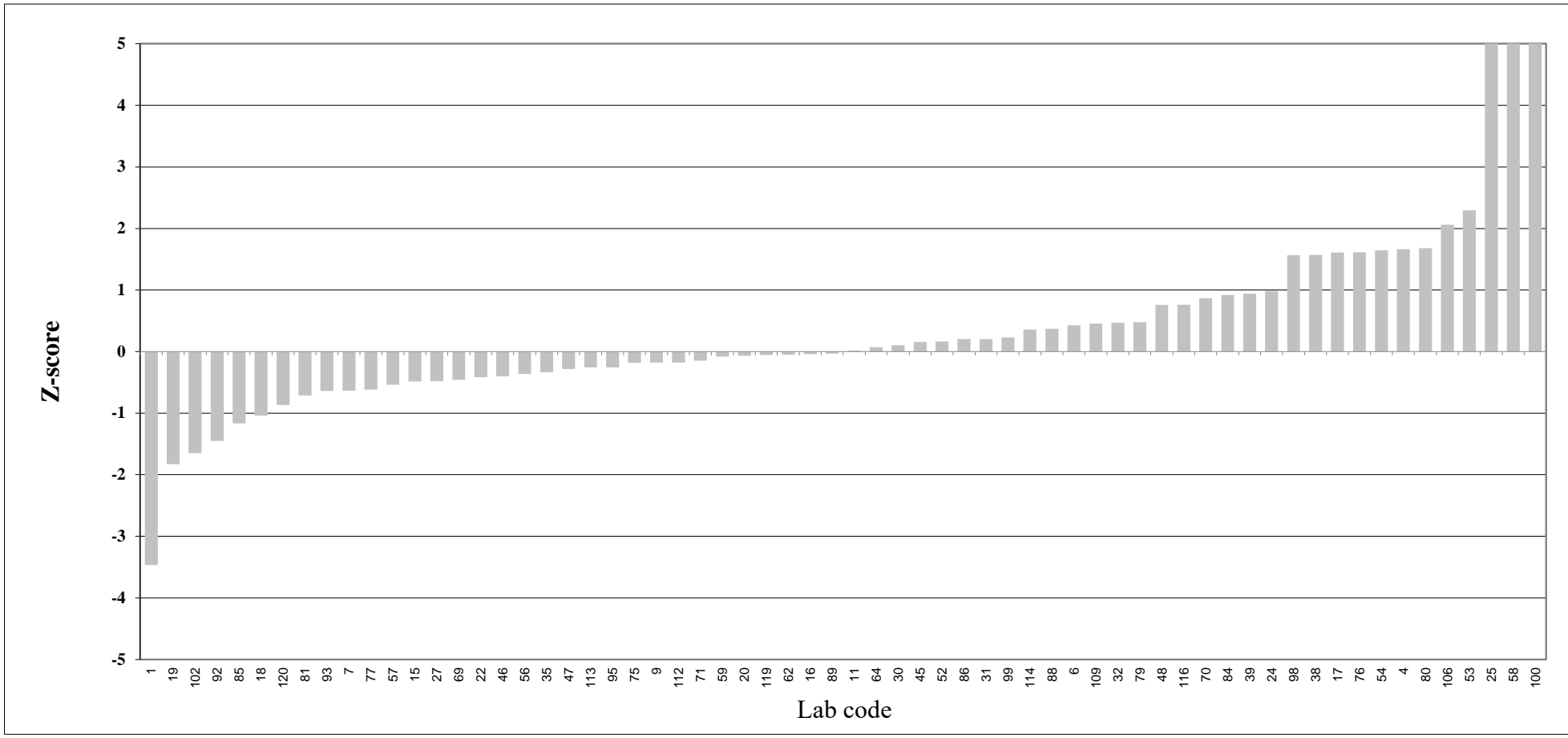
Z-score Salmon, fresh weight; sum PBDE without PBDE-209



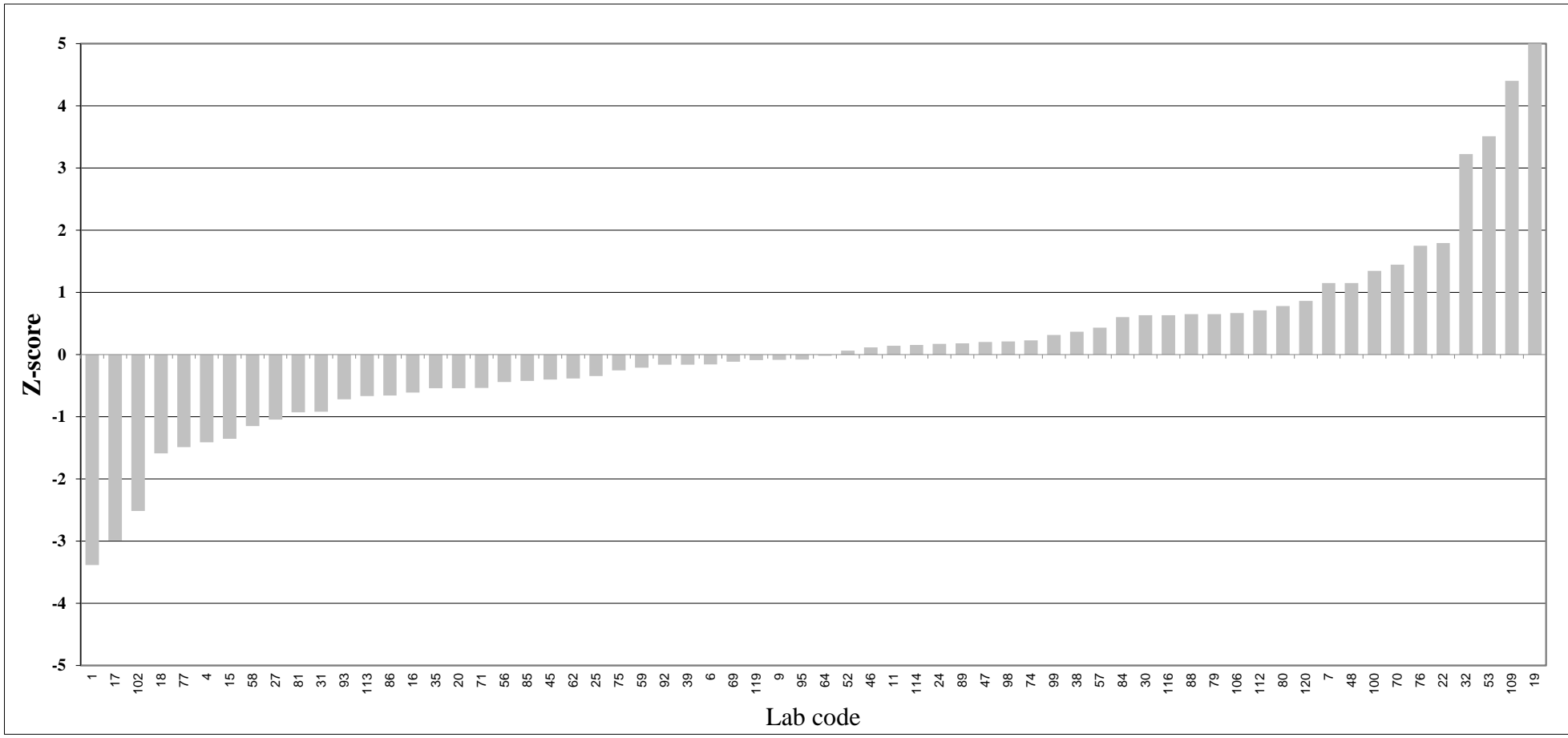
Z-score Salmon, lipid weight; total TEQ



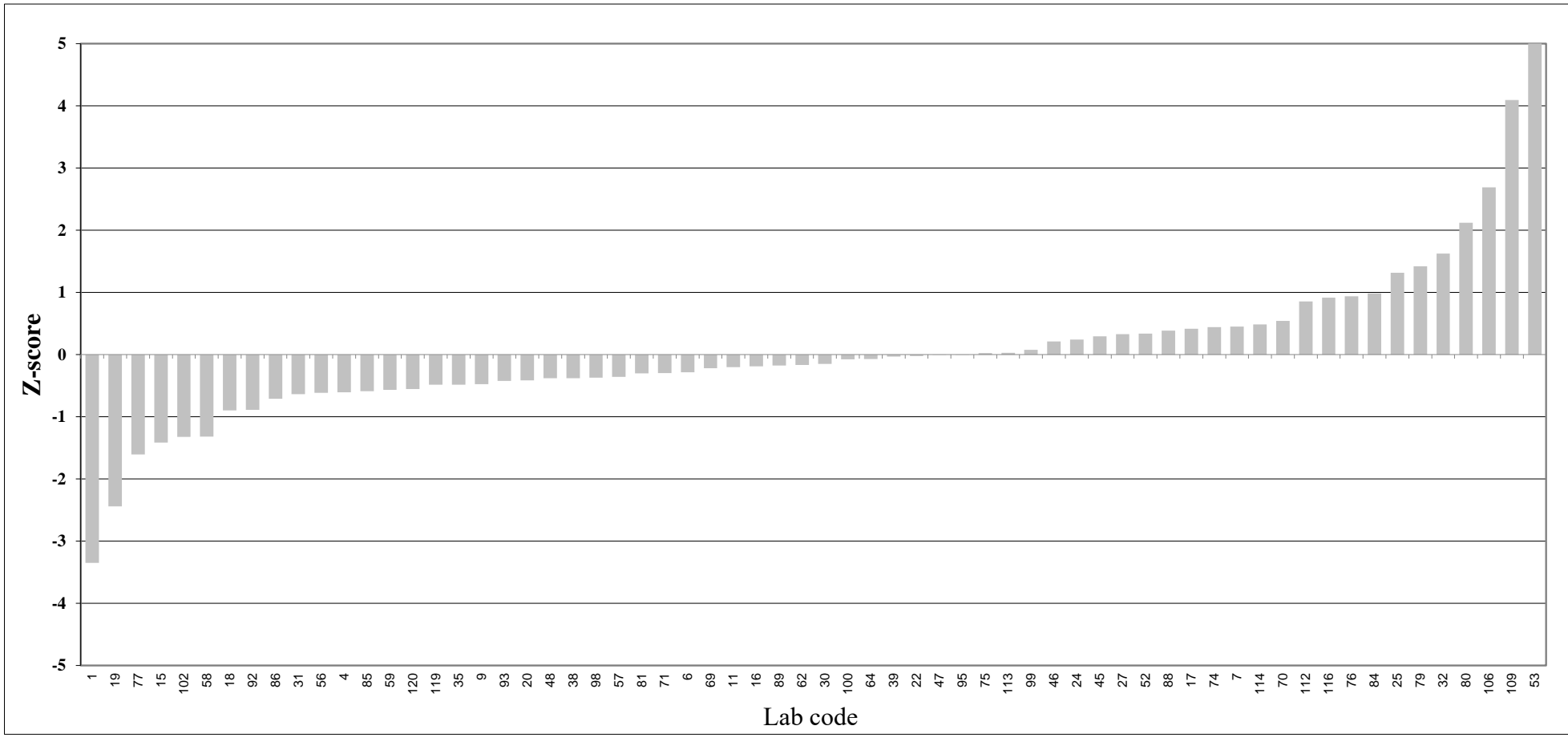
Z-score Salmon, lipid weight; PCDD/PCDF TEQ



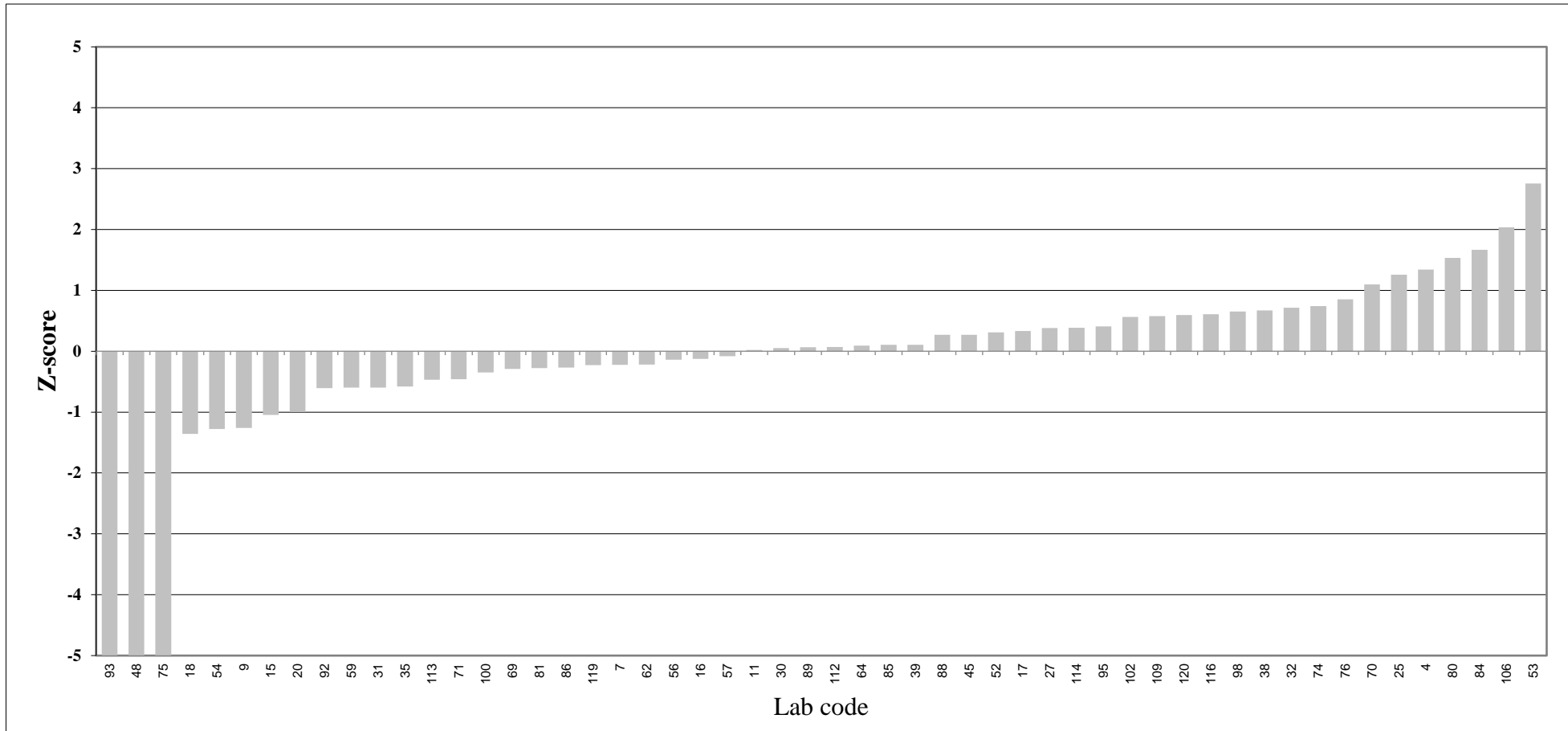
Z-score Salmon, lipid weight; non-ortho PCB TEQ



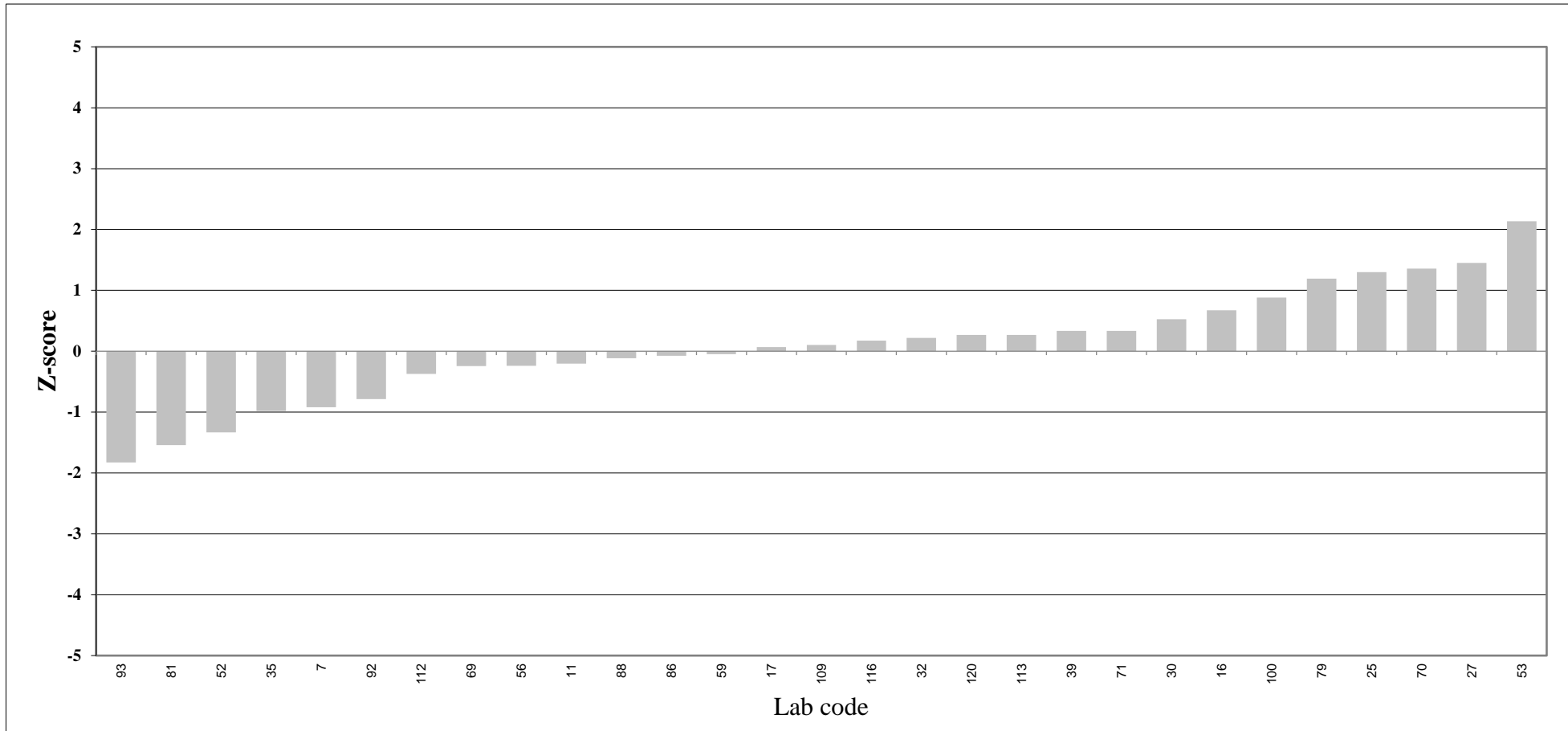
Z-score Salmon, lipid weight; mono-ortho PCB TEQ



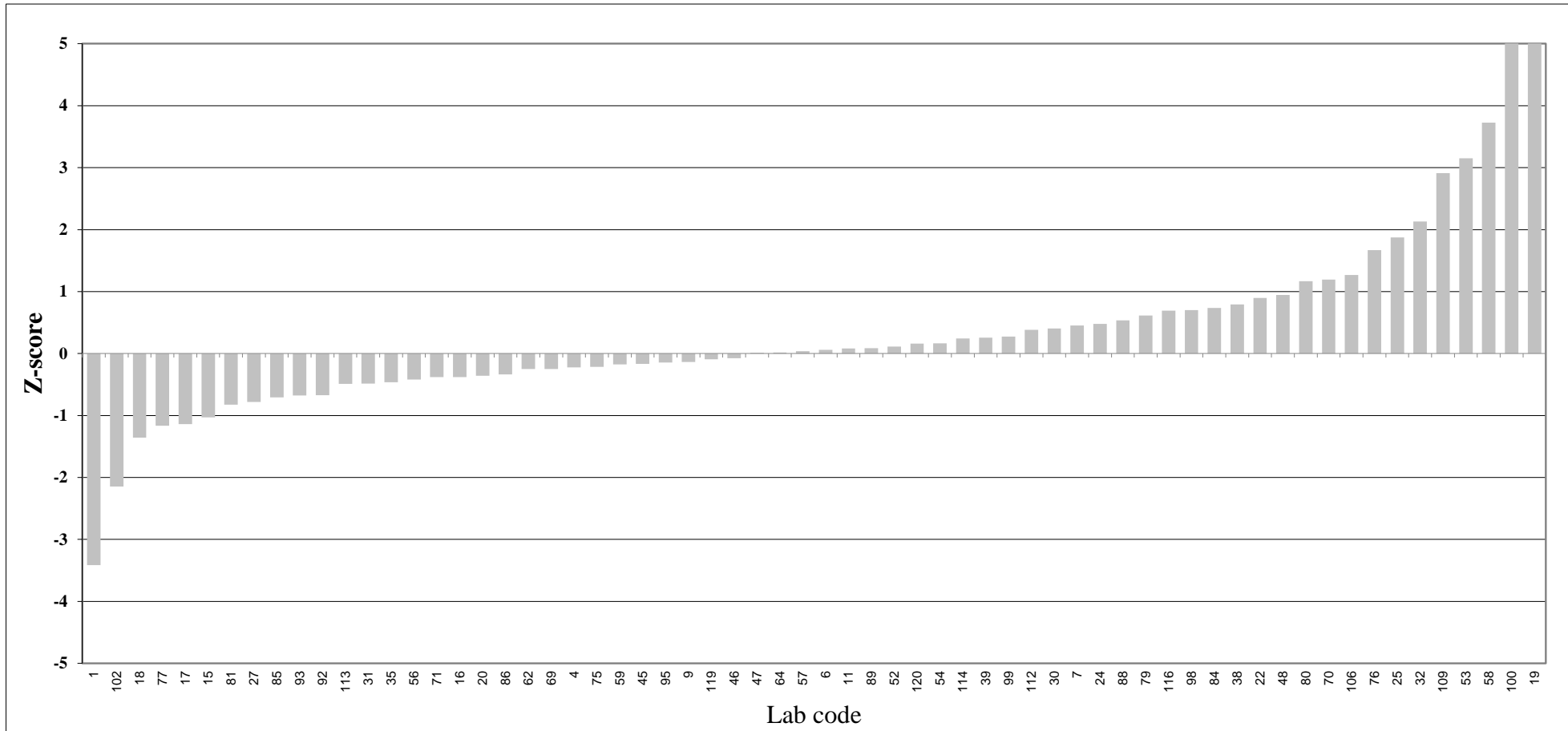
Z-score Salmon, lipid weight; sum indicator PCB



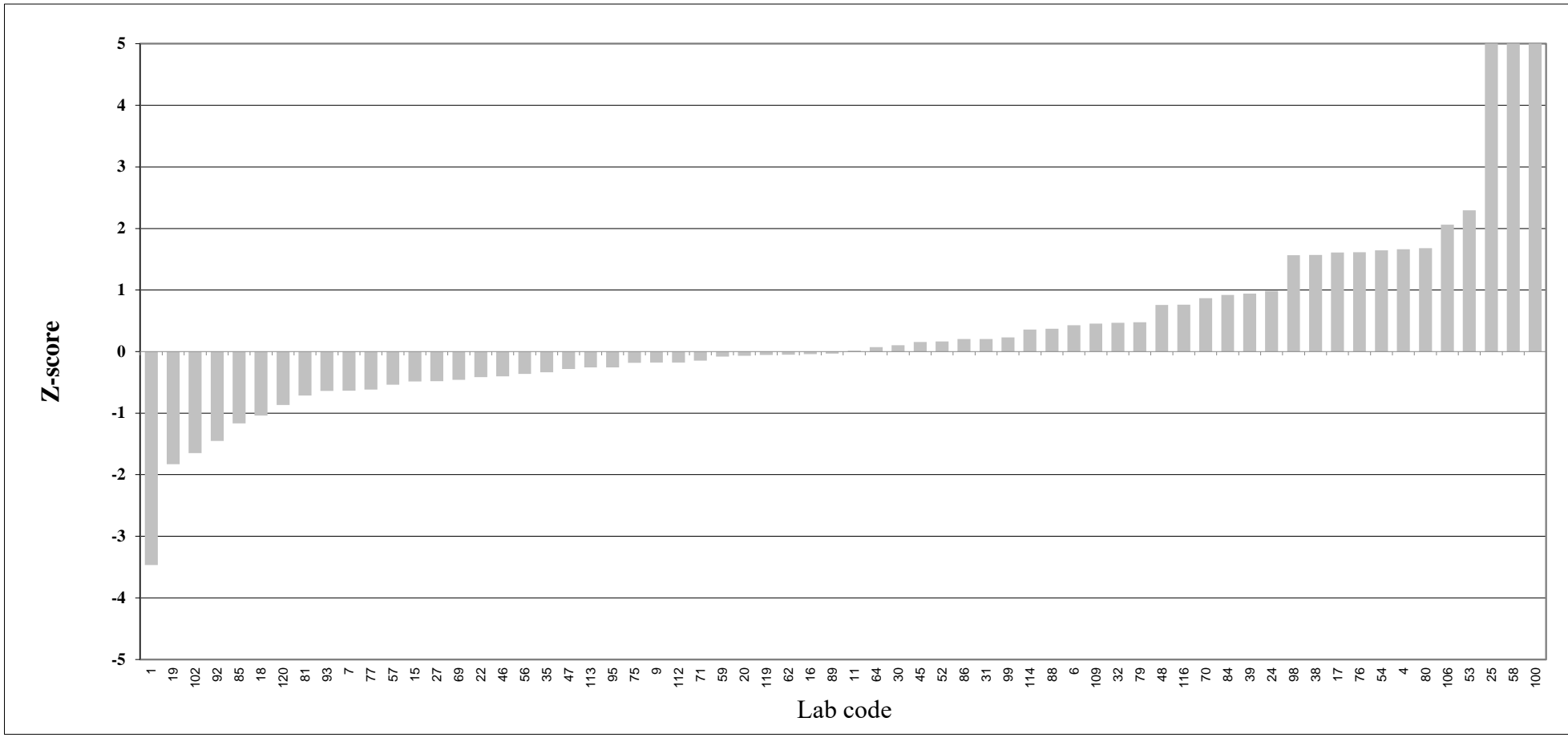
Z-score Salmon; sum PBDE without PBDE-209



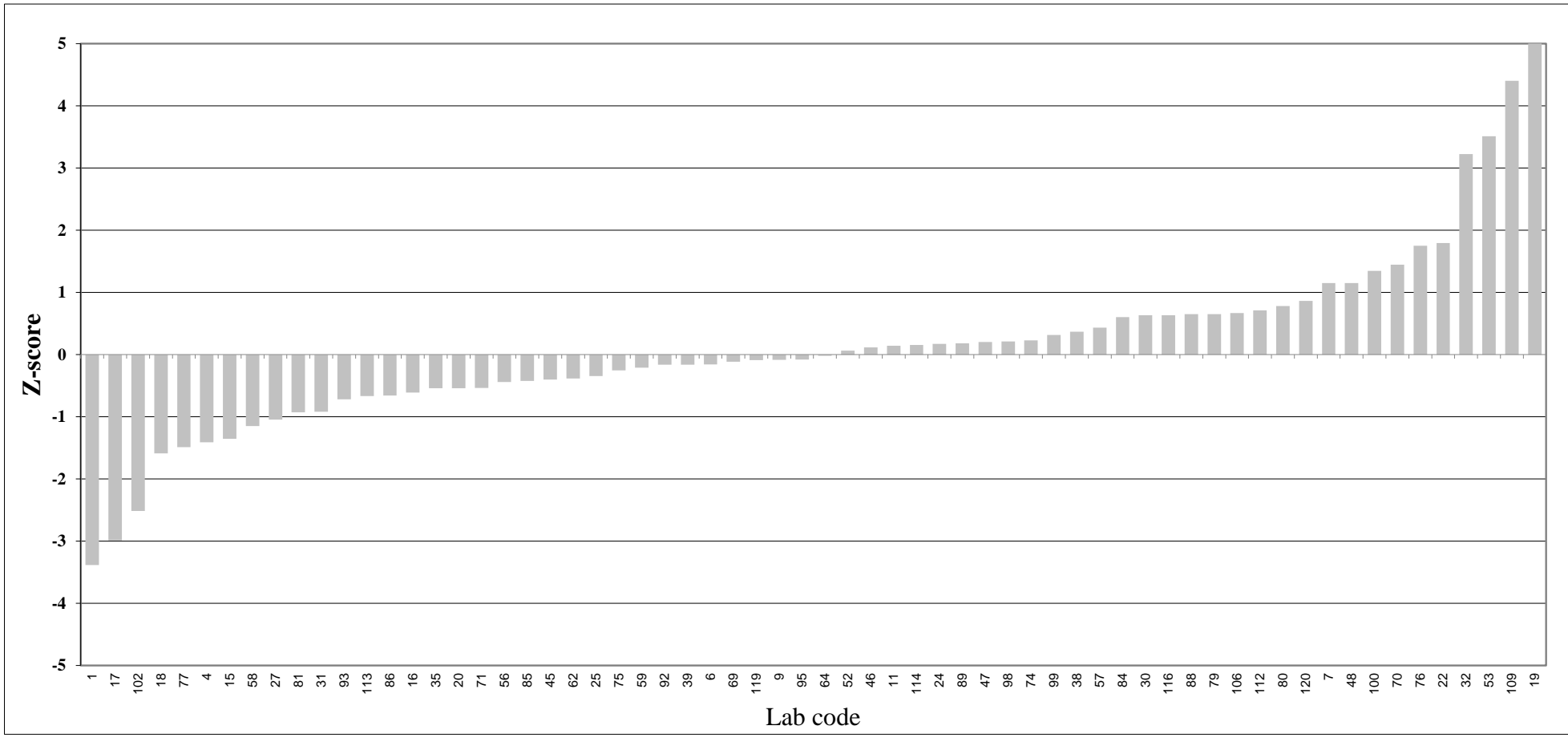
Z-score Salmon, lipid weight; total TEQ



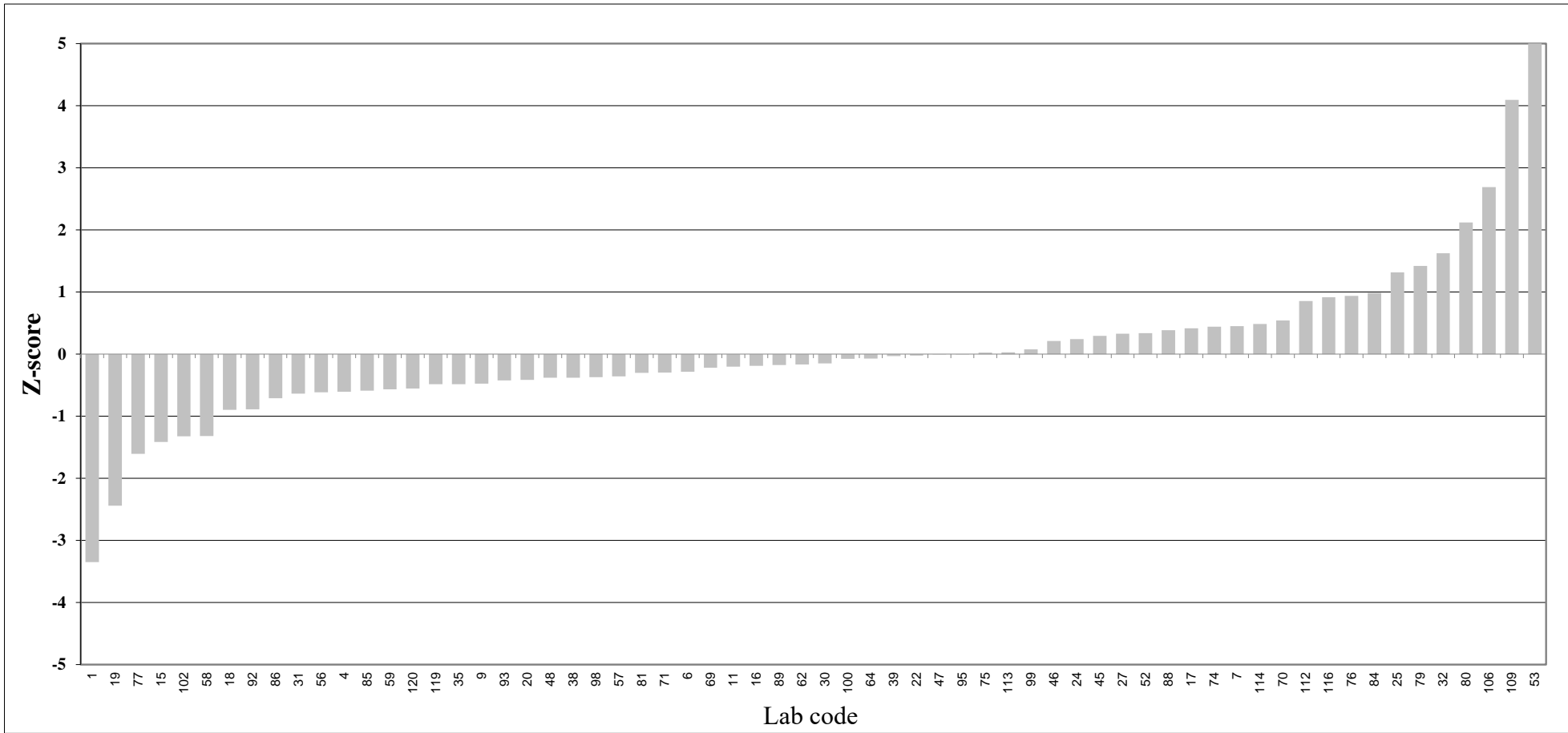
Z-score Salmon, lipid weight; PCDD/PCDF TEQ



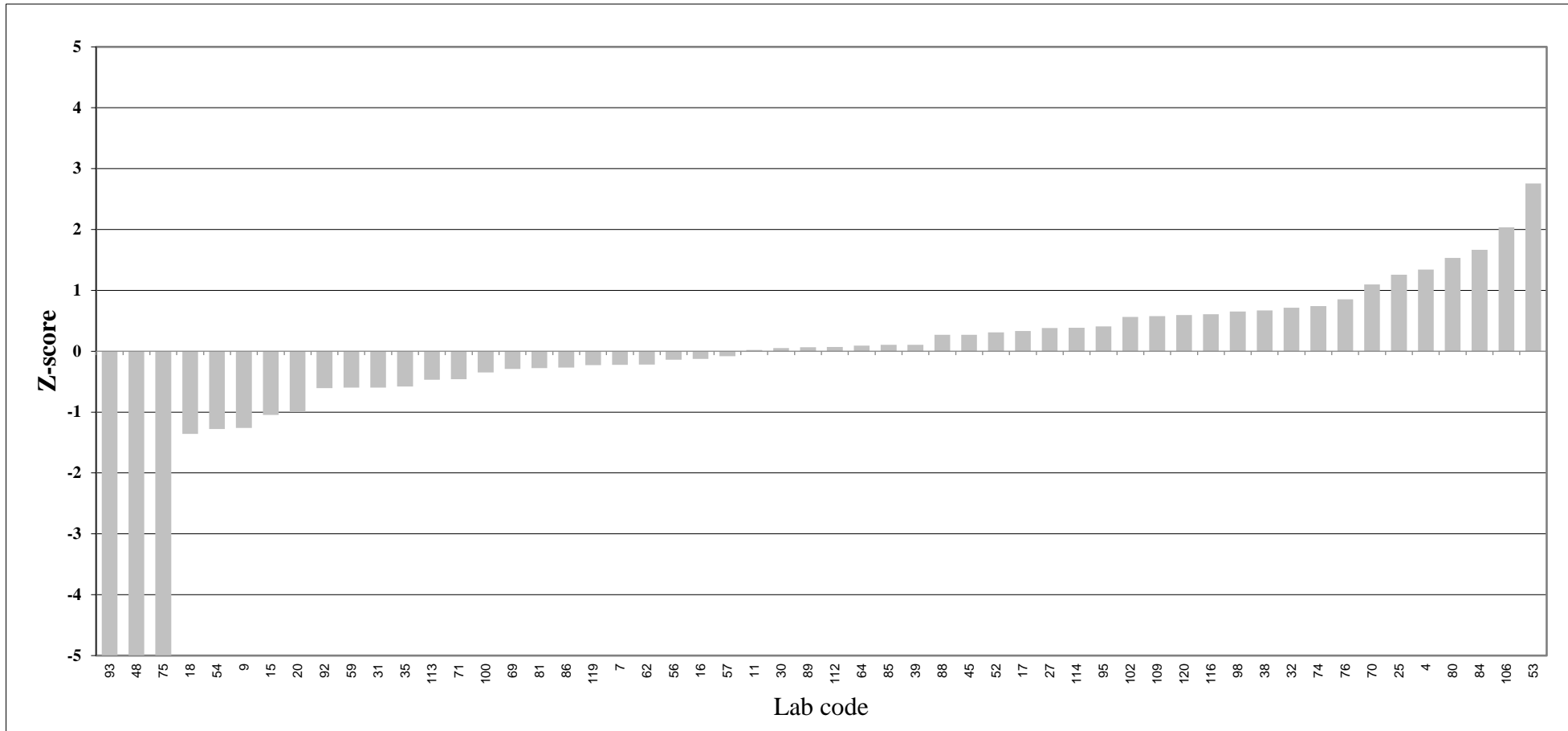
Z-score Salmon, lipid weight; non-ortho PCB TEQ



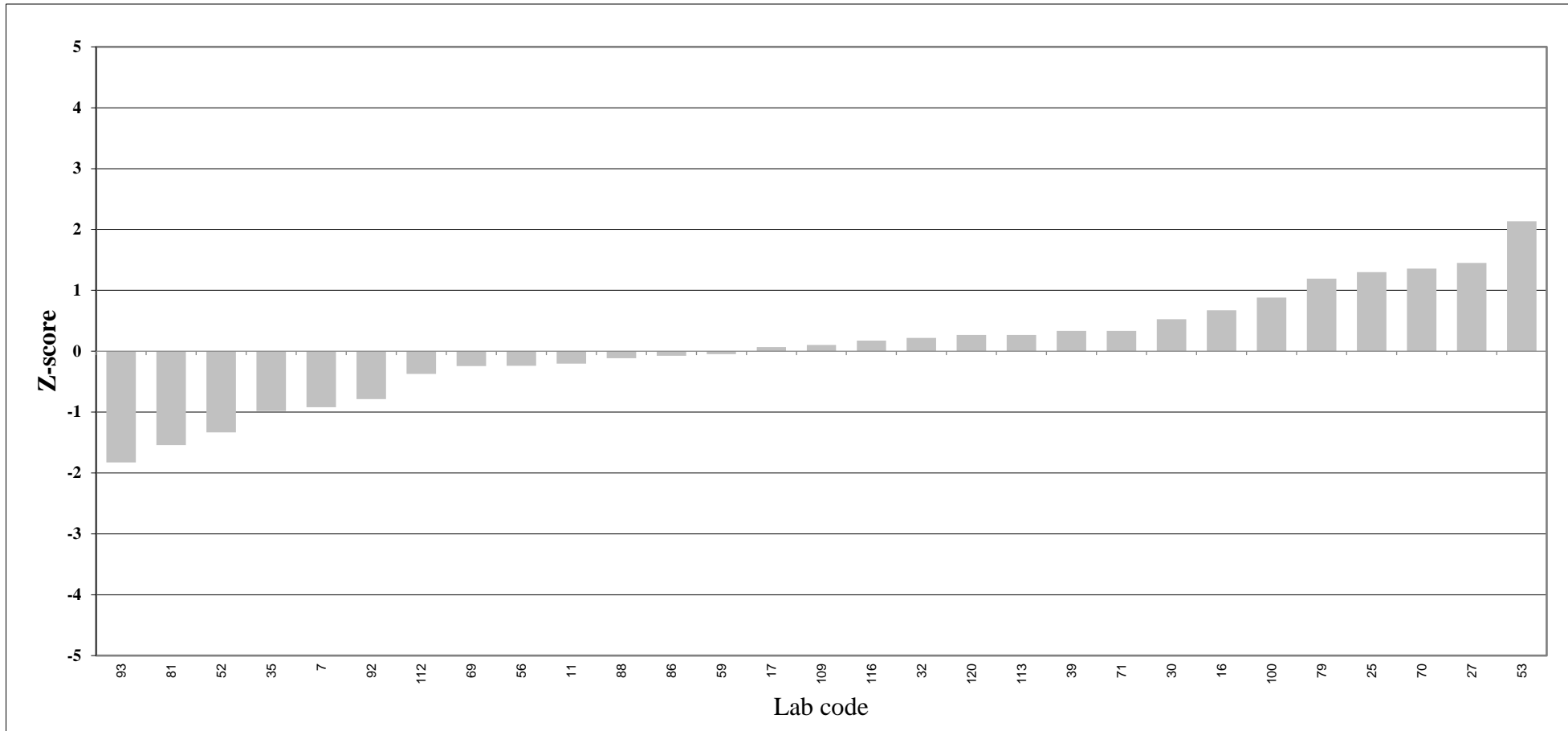
Z-score Salmon, lipid weight; mono-ortho PCB TEQ



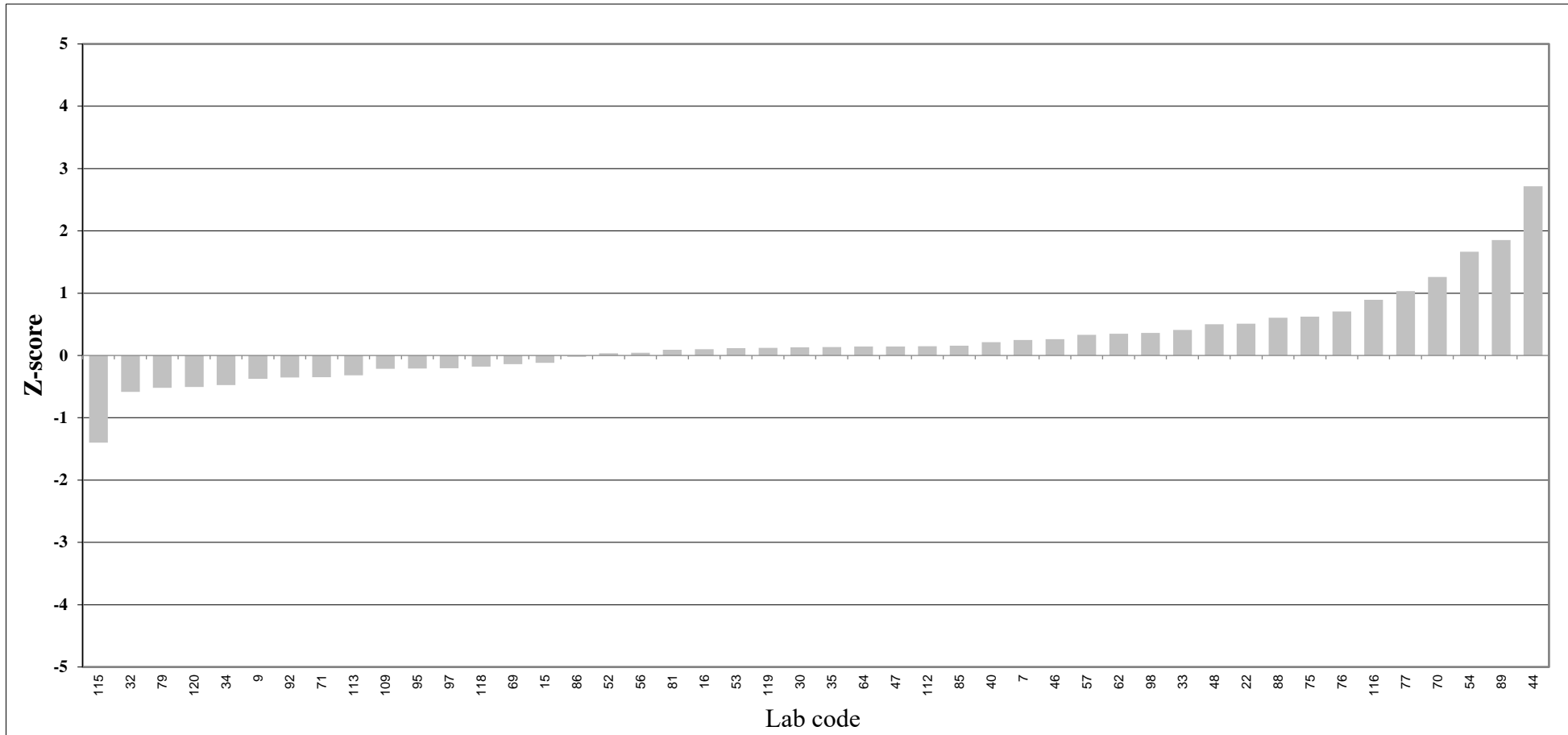
Z-score Salmon, lipid weight; sum indicator PCB



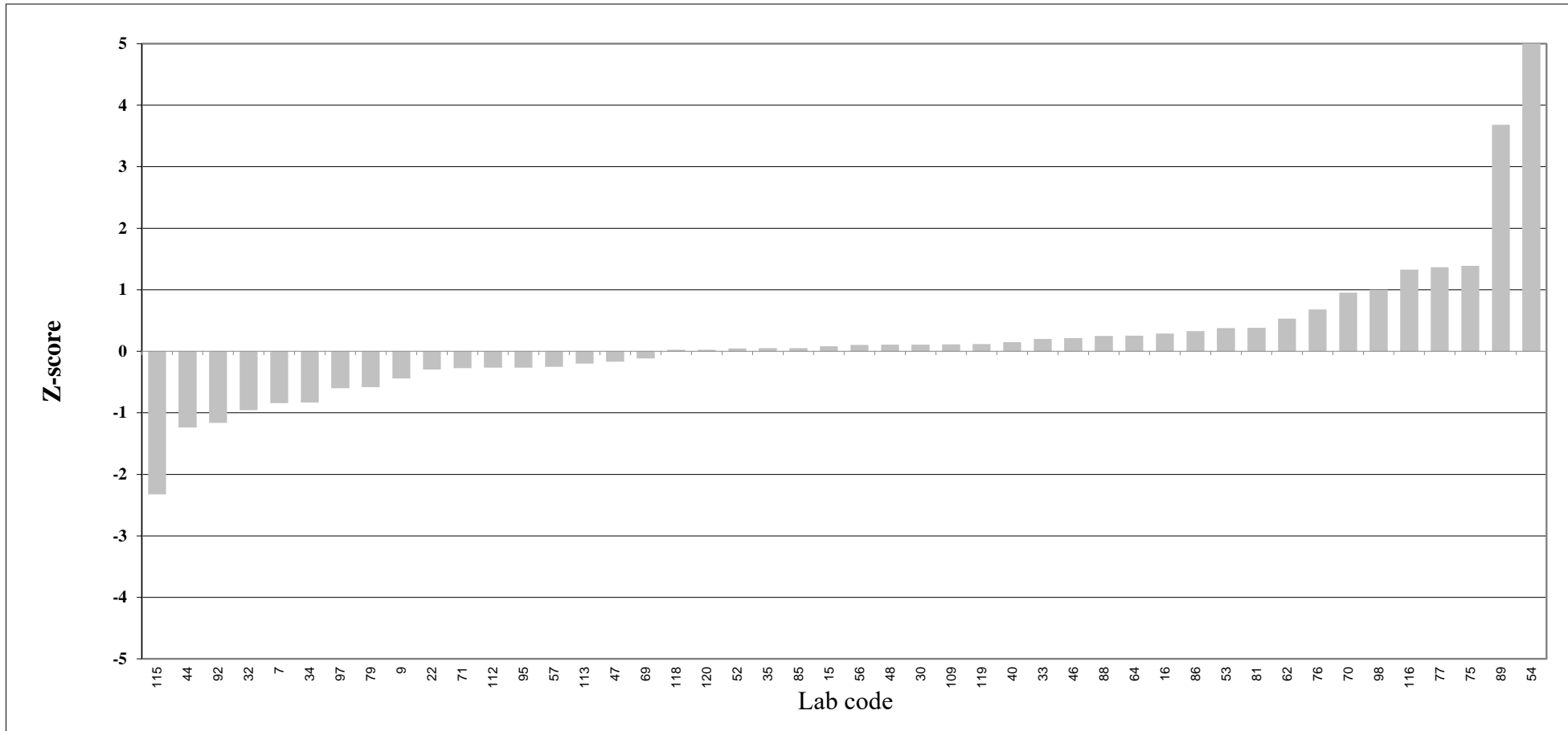
Z-score Salmon; sum PBDE without PBDE-209



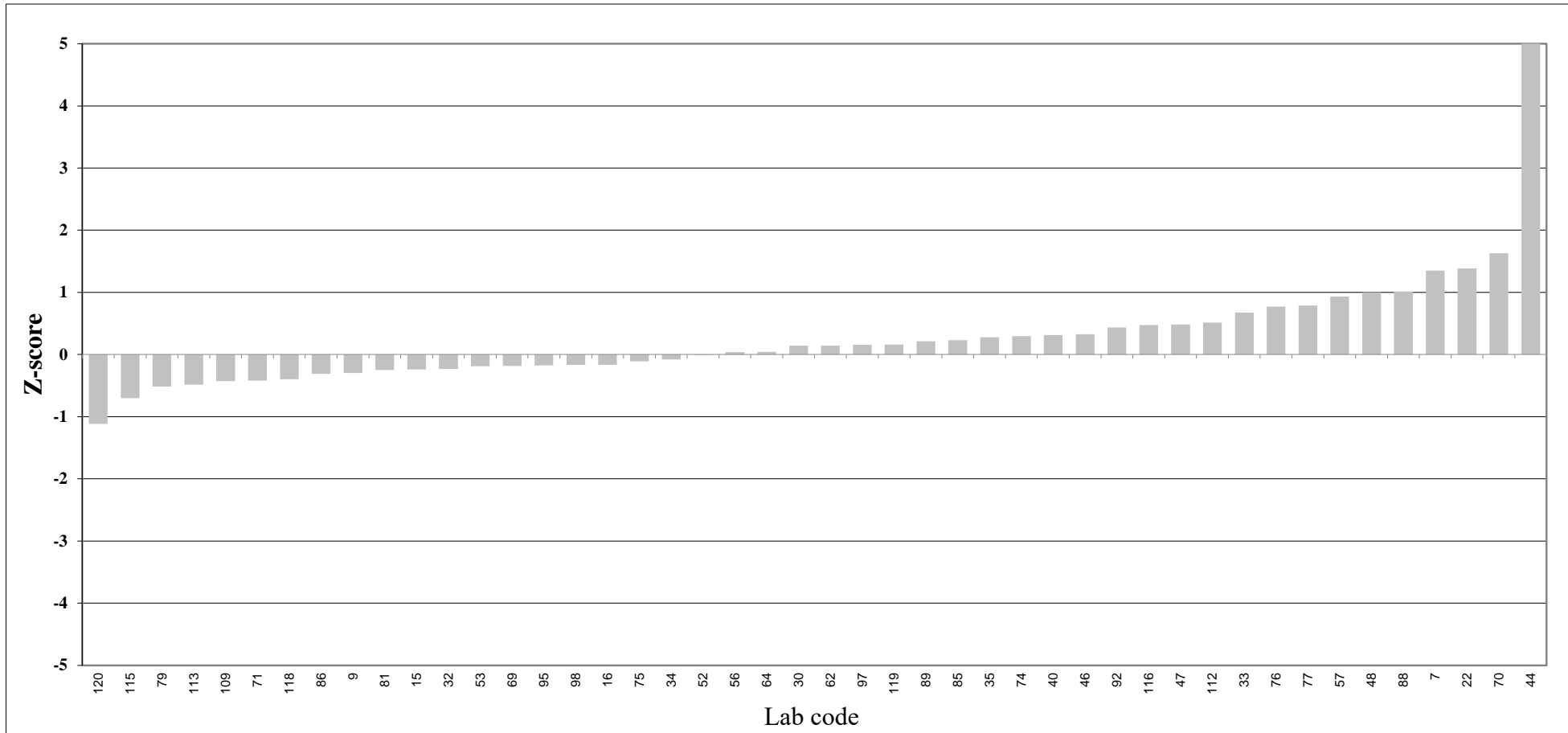
Z-score Fish oil, lipid weight; total TEQ



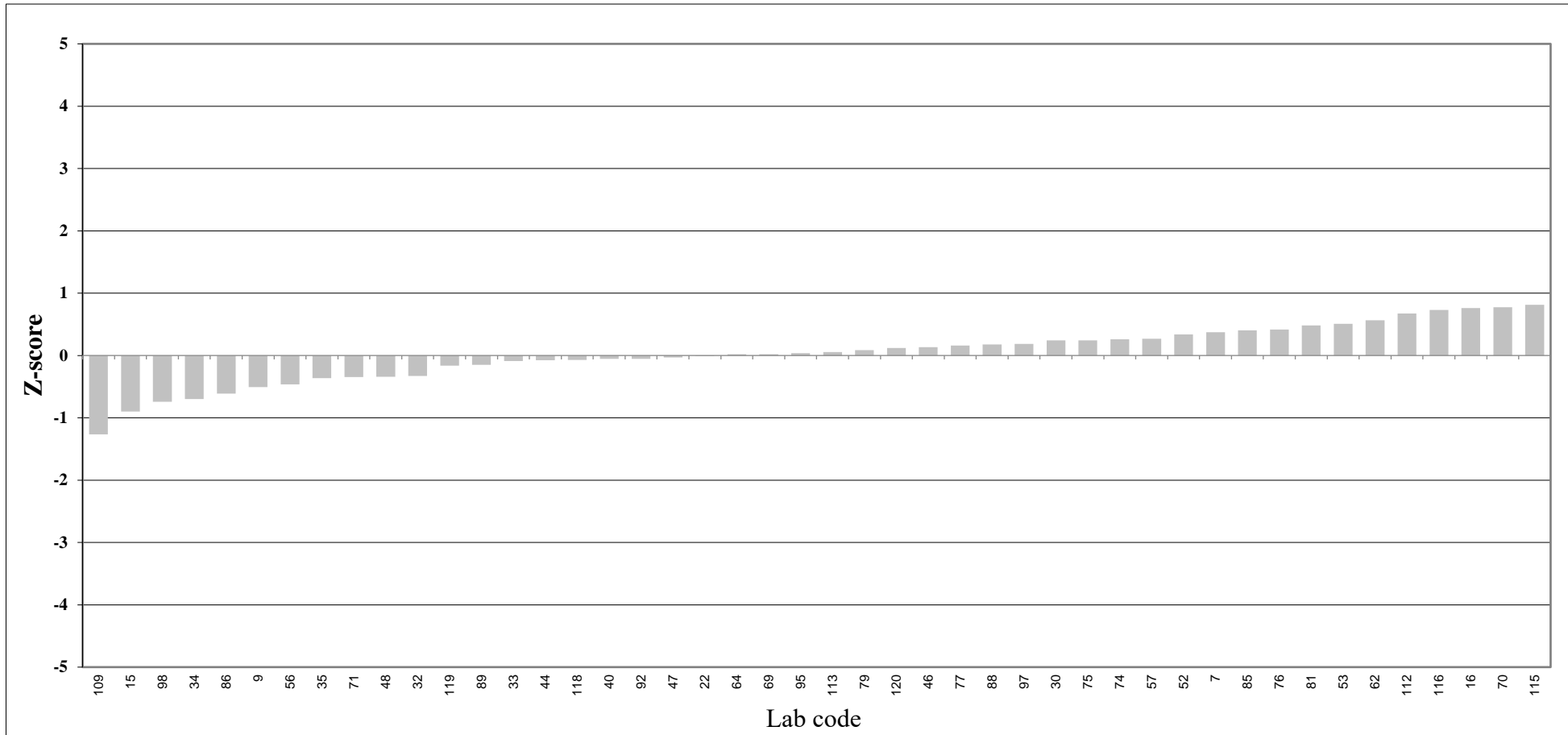
Z-score Fish oil, lipid weight; PCDD/PCDF TEQ



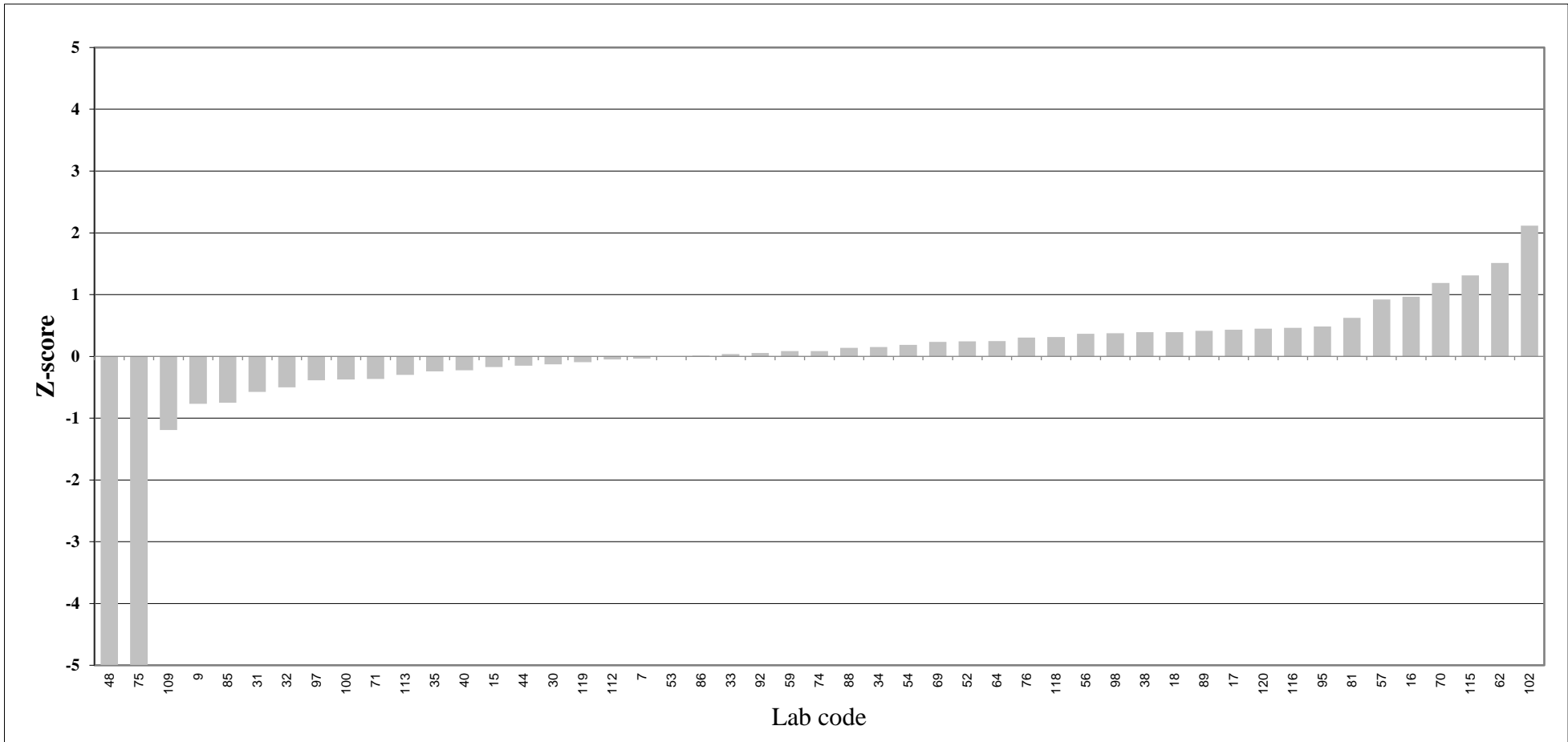
Z-score Fish oil, lipid weight; non-ortho PCB TEQ



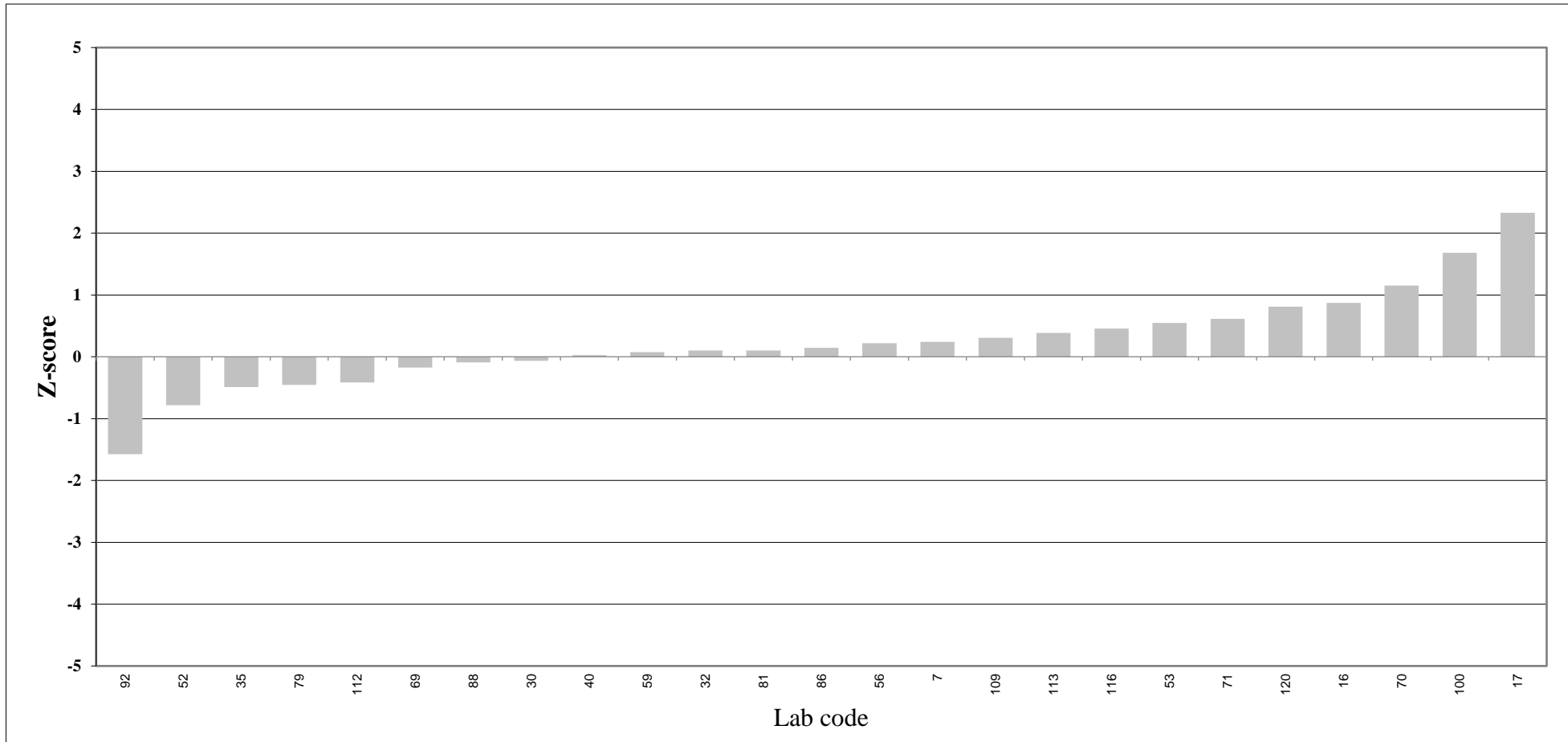
Z-score Fish oil, lipid weight; mono-ortho PCB TEQ



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



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

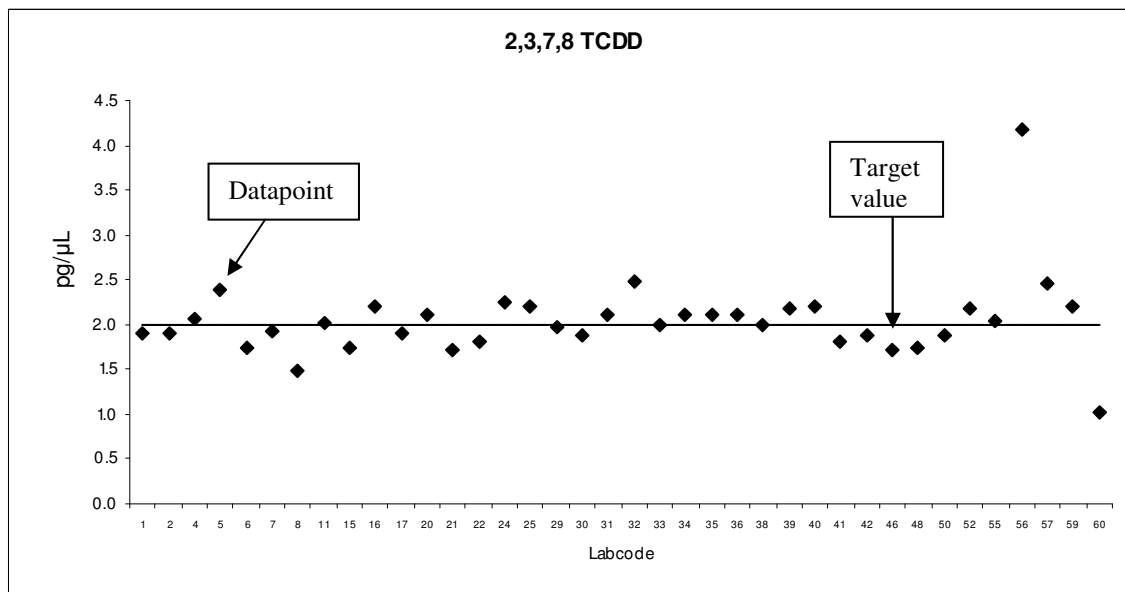
- PCDDs/PCDFs at concentrations of 2:5:10 pg/ μ l for tetra:penta-hexa-hepta:octa chlorinated dibenzodioxins/furans respectively.
- Non-ortho PCBs at concentration of 10 pg/ μ l.
- Mono-ortho PCBs and indicator PCBs at concentration of 100 pg/ μ l.
- PBDE at a concentration of 25 pg/ μ l, except BDE-209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

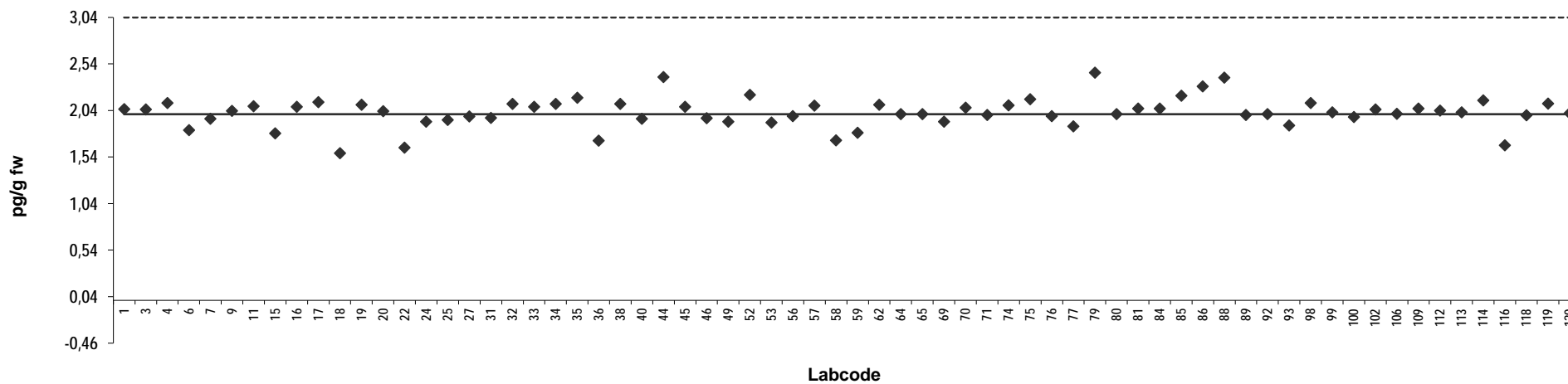
Analyte solution
Congener: 2,3,7,8 TCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	2,1	0,067		79	2,4	1,0	
3	2,1	0,058		80	2,0	-0,062	
4	2,1	0,23		81	2,1	0,083	
6	1,8	-0,48		84	2,1	0,083	
7	1,9	-0,19		85	2,2	0,43	
9	2,0	0,022		86	2,3	0,67	
11	2,1	0,15		88	2,4	0,91	
15	1,8	-0,57		89	2,0	-0,089	
16	2,1	0,13		92	2,0	-0,065	
17	2,1	0,26		93	1,9	-0,36	
18	1,6	-1,1		98	2,1	0,23	
19	2,1	0,18		99	2,0	-0,016	
20	2,0	0,014		100	2,0	-0,14	
22	1,6	-0,95		102	2,1	0,058	
24	1,9	-0,27		106	2,0	-0,056	
25	1,9	-0,21		109	2,1	0,083	
27	2,0	-0,12		112	2,0	0,028	
31	2,0	-0,16		113	2,0	-0,014	
32	2,1	0,21		114	2,2	0,30	
33	2,1	0,13		116	1,7	-0,89	
34	2,1	0,21		118	2,0	-0,092	
35	2,2	0,37		119	2,1	0,22	
36	1,7	-0,77		120	2,0	-0,041	
38	2,1	0,21					
40	2,0	-0,19					
44	2,4	0,92					
45	2,1	0,13					
46	2,0	-0,17					
49	1,9	-0,26					
52	2,2	0,45					
53	1,9	-0,29					
56	2,0	-0,11					
57	2,1	0,16					
58	1,7	-0,76					
59	1,8	-0,56					
62	2,1	0,18					
64	2,0	-0,060					
65	2,0	-0,065					
69	1,9	-0,26					
70	2,1	0,11					
71	2,0	-0,085					
74	2,1	0,17					
75	2,2	0,33					
76	2,0	-0,11					
77	1,9	-0,39					

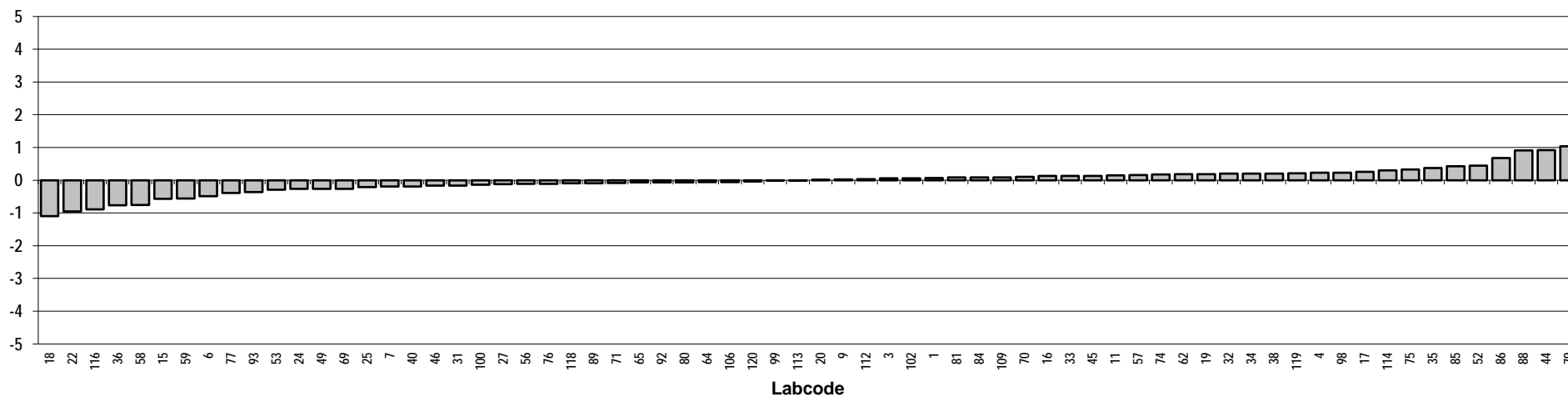
Consensus statistics

Consensus median, pg/g	2,0
Median all values pg/g	2,0
Consensus mean, pg/g	2,0
Standard deviation, pg/g	0,16
Relative standard deviation, %	7,9
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0

2,3,7,8 TCDD



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



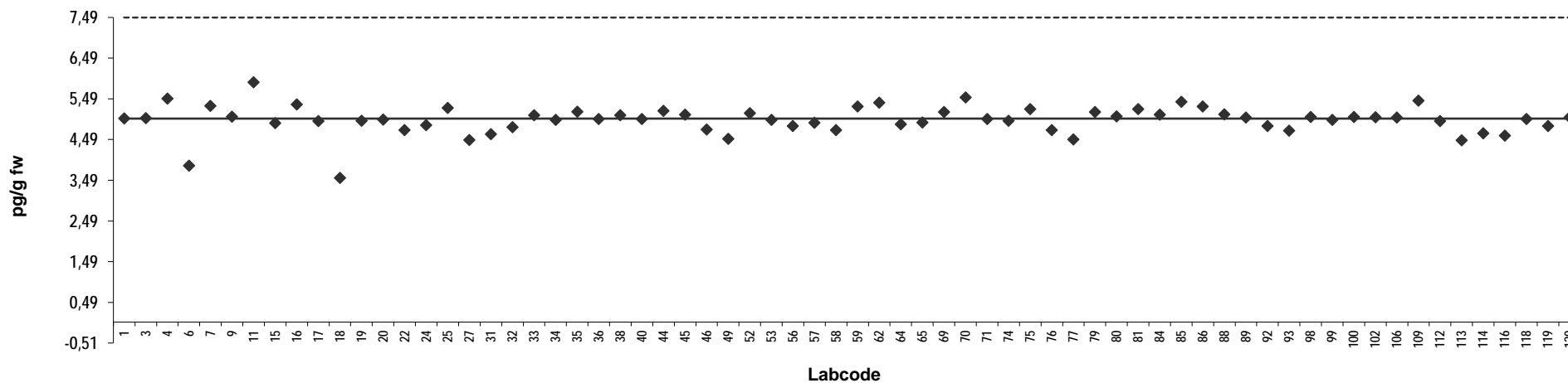
Analyte solution
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,0	0,016		79	5,2	0,17	
3	5,0	0,018		80	5,1	0,065	
4	5,5	0,50		81	5,2	0,24	
6	3,8	-1,2		84	5,1	0,11	
7	5,3	0,32		85	5,4	0,42	
9	5,0	0,057		86	5,3	0,31	
11	5,9	0,91		88	5,1	0,11	
15	4,9	-0,10		89	5,0	0,034	
16	5,4	0,36		92	4,8	-0,17	
17	4,9	-0,050		93	4,7	-0,29	
18	3,5	-1,5		98	5,0	0,050	
19	4,9	-0,047		99	5,0	-0,020	
20	5,0	-0,018		100	5,0	0,050	
22	4,7	-0,27		102	5,0	0,040	
24	4,8	-0,15		106	5,0	0,035	
25	5,3	0,27		109	5,4	0,45	
27	4,5	-0,52		112	4,9	-0,053	
31	4,6	-0,37		113	4,5	-0,52	
32	4,8	-0,20		114	4,6	-0,35	
33	5,1	0,090		116	4,6	-0,41	
34	5,0	-0,020		118	5,0	-0,00080	
35	5,2	0,18		119	4,8	-0,17	
36	5,0	-0,0021		120	5	0,040	
38	5,1	0,09					
40	5,0	-0,000063					
44	5,2	0,20					
45	5,1	0,11					
46	4,7	-0,26					
49	4,5	-0,49					
52	5,1	0,14					
53	5,0	-0,020					
56	4,8	-0,17					
57	4,9	-0,093					
58	4,7	-0,27					
59	5,3	0,31					
62	5,4	0,40					
64	4,9	-0,13					
65	4,9	-0,090					
69	5,2	0,17					
70	5,5	0,53					
71	5,0	0,000063					
74	4,9	-0,044					
75	5,2	0,25					
76	4,7	-0,27					
77	4,5	-0,50					

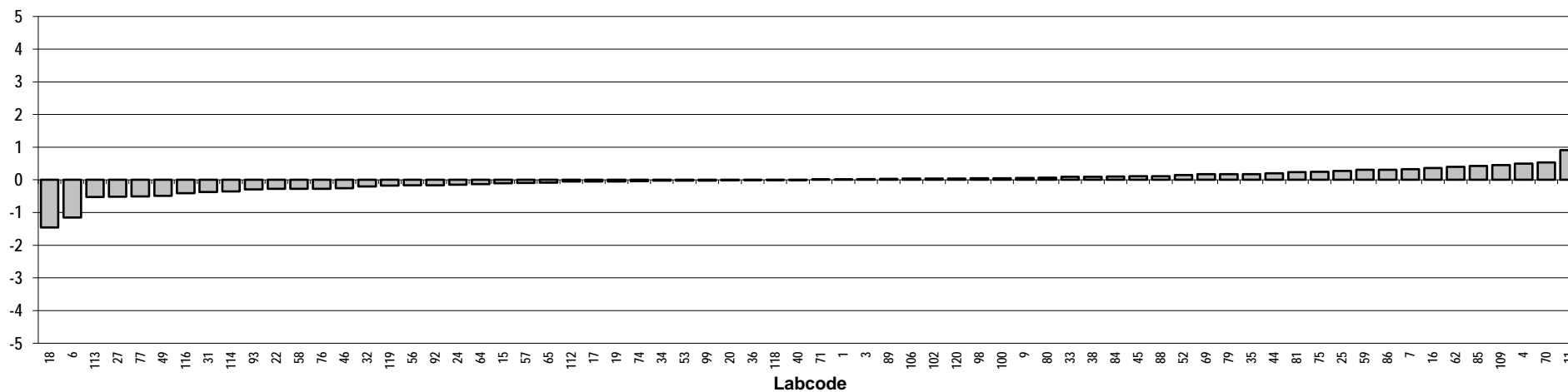
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,35
Relative standard deviation, %	7,0
No. of values reported	68
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

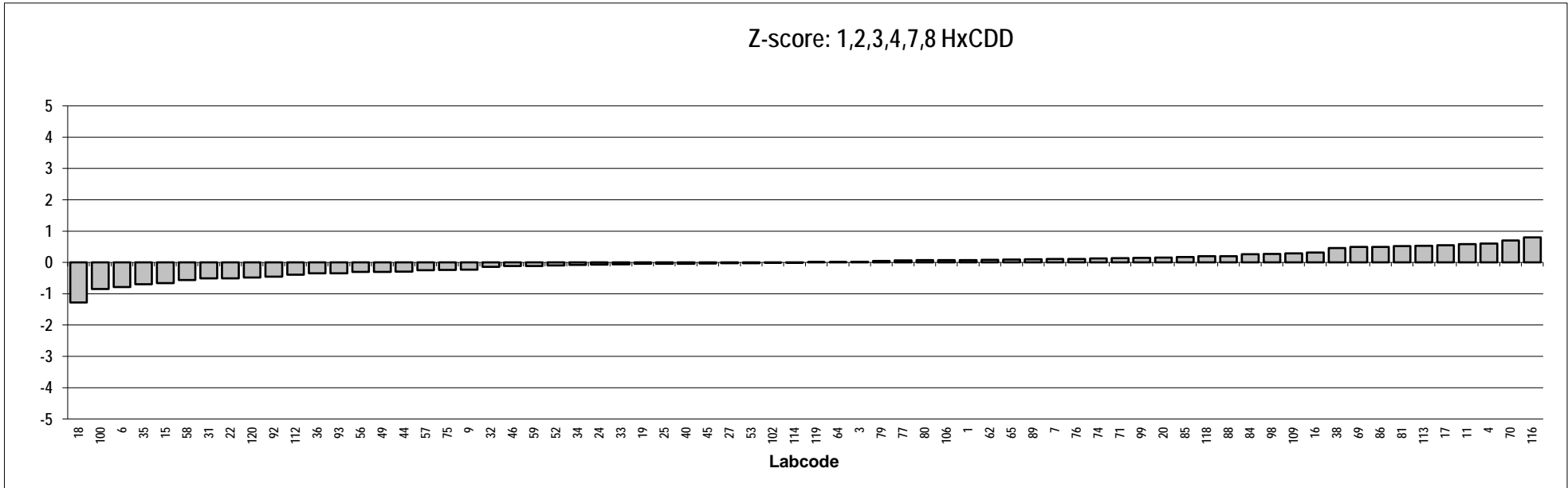
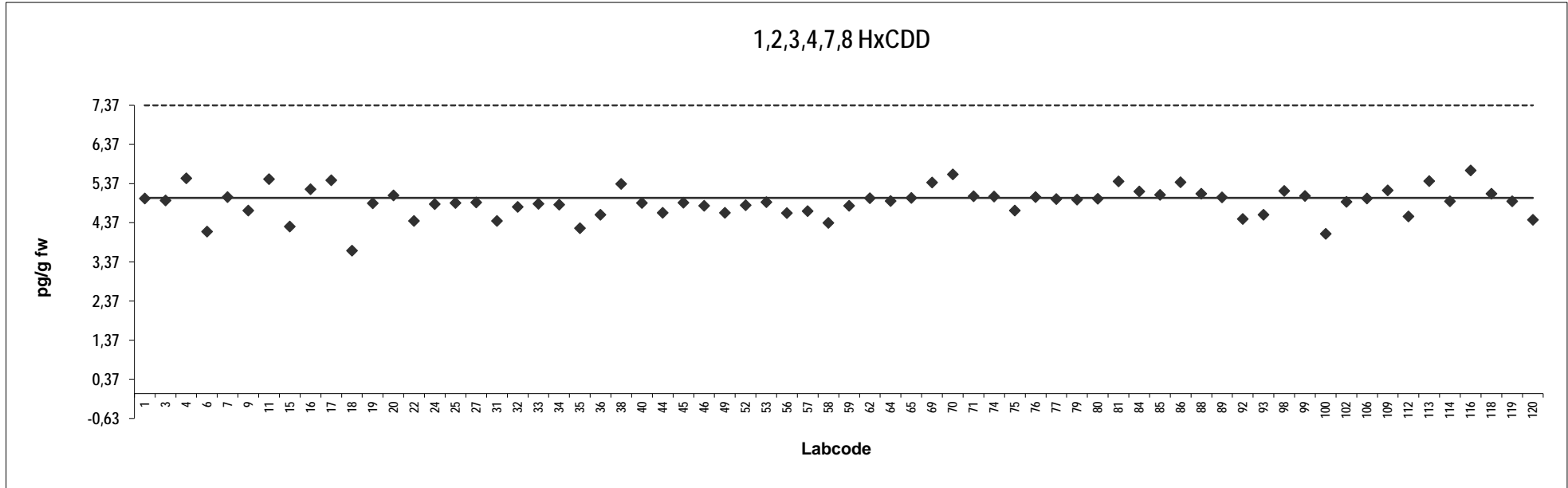


Analyte solution
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,0	0,076		79	5,0	0,046	
3	4,9	0,023		80	5,0	0,070	
4	5,5	0,60		81	5,4	0,52	
6	4,1	-0,78		84	5,2	0,26	
7	5,0	0,11		85	5,1	0,17	
9	4,7	-0,24		86	5,4	0,50	
11	5,5	0,58		88	5,1	0,20	
15	4,3	-0,66		89	5,0	0,10	
16	5,2	0,32		92	4,5	-0,46	
17	5,5	0,55		93	4,6	-0,35	
18	3,7	-1,3		98	5,2	0,27	
19	4,9	-0,046		99	5,1	0,14	
20	5,1	0,15		100	4,1	-0,85	
22	4,4	-0,51		102	4,9	-0,011	
24	4,8	-0,068		106	5,0	0,073	
25	4,9	-0,041		109	5,2	0,28	
27	4,9	-0,026		112	4,5	-0,39	
31	4,4	-0,51		113	5,4	0,53	
32	4,8	-0,14		114	4,9	-0,00051	
33	4,9	-0,062		116	5,7	0,80	
34	4,8	-0,082		118	5,1	0,20	
35	4,2	-0,70		119	4,9	0,00051	
36	4,6	-0,35		120	4,4	-0,48	
38	5,4	0,46					
40	4,9	-0,041					
44	4,6	-0,30					
45	4,9	-0,031					
46	4,8	-0,11					
49	4,6	-0,30					
52	4,8	-0,098					
53	4,9	-0,021					
56	4,6	-0,31					
57	4,7	-0,25					
58	4,4	-0,56					
59	4,8	-0,11					
62	5,0	0,081					
64	4,9	0,0087					
65	5,0	0,091					
69	5,4	0,50					
70	5,6	0,70					
71	5,0	0,14					
74	5,0	0,13					
75	4,7	-0,24					
76	5,0	0,11					
77	5,0	0,061					

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	0,38
Relative standard deviation, %	7,8
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0

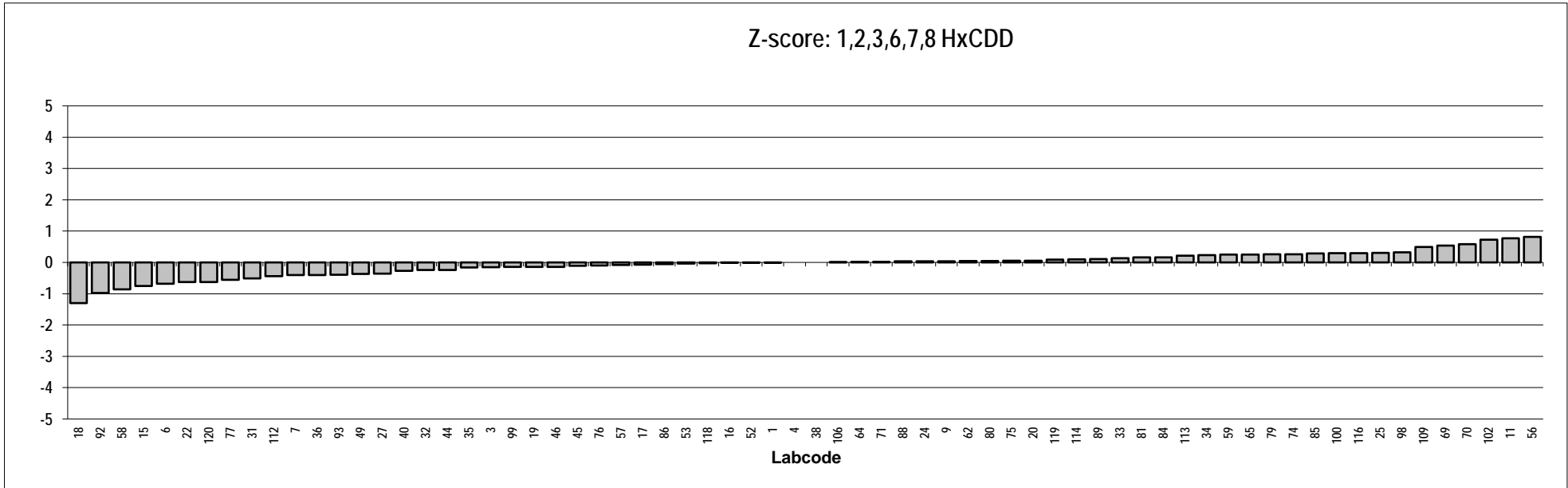
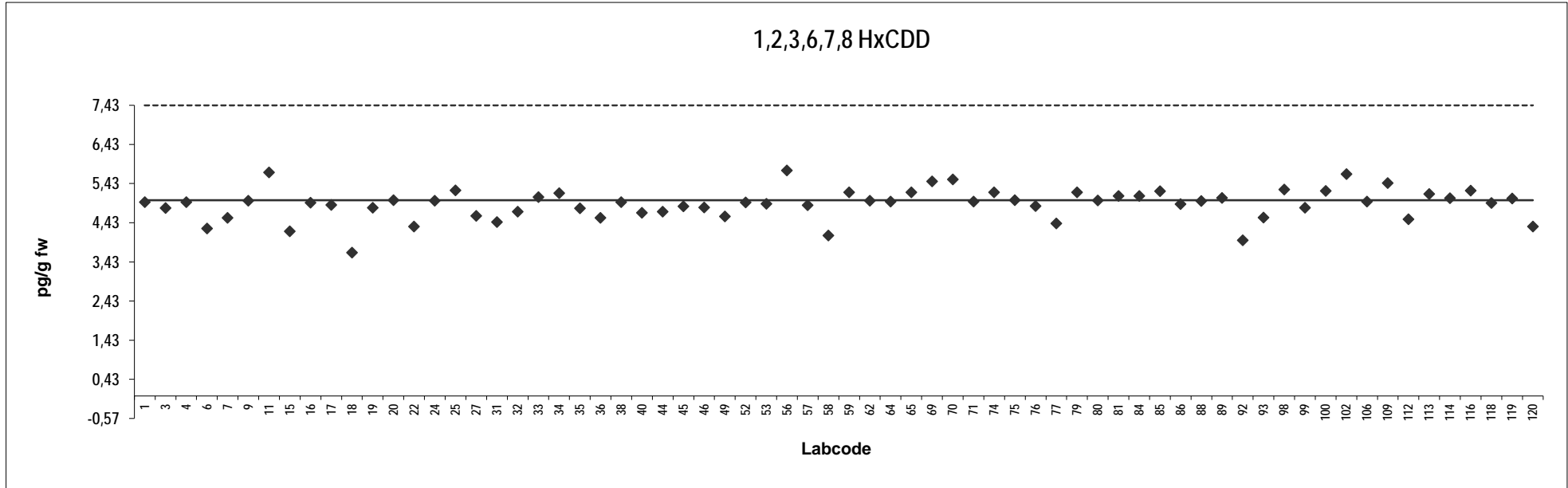


Analyte solution
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	4,9	-0,00081		79	5,2	0,26	
3	4,8	-0,15		80	5,0	0,043	
4	5,0	0,00		81	5,1	0,16	
6	4,3	-0,68		84	5,1	0,16	
7	4,6	-0,40		85	5,2	0,28	
9	5,0	0,038		86	4,9	-0,051	
11	5,7	0,77		88	5,0	0,033	
15	4,2	-0,75		89	5,1	0,11	
16	4,9	-0,010		92	4,0	-0,98	
17	4,9	-0,071		93	4,6	-0,39	
18	3,7	-1,3		98	5,3	0,32	
19	4,8	-0,14		99	4,8	-0,14	
20	5,0	0,052		100	5,2	0,29	
22	4,3	-0,63		102	5,7	0,73	
24	5,0	0,035		106	5,0	0,013	
25	5,3	0,30		109	5,4	0,49	
27	4,6	-0,36		112	4,5	-0,44	
31	4,4	-0,52		113	5,2	0,21	
32	4,7	-0,24		114	5,1	0,10	
33	5,1	0,13		116	5,2	0,30	
34	5,2	0,23		118	4,9	-0,023	
35	4,8	-0,16		119	5,0	0,093	
36	4,6	-0,40		120	4,3	-0,63	
38	5,0	0,00					
40	4,7	-0,27					
44	4,7	-0,24					
45	4,8	-0,11					
46	4,8	-0,14					
49	4,6	-0,37					
52	4,9	-0,0081					
53	4,9	-0,040					
56	5,8	0,82					
57	4,9	-0,079					
58	4,1	-0,86					
59	5,2	0,25					
62	5,0	0,040					
64	5,0	0,015					
65	5,2	0,25					
69	5,5	0,54					
70	5,5	0,59					
71	5,0	0,016					
74	5,2	0,26					
75	5,0	0,051					
76	4,9	-0,10					
77	4,4	-0,55					

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	0,39
Relative standard deviation, %	8,0
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0



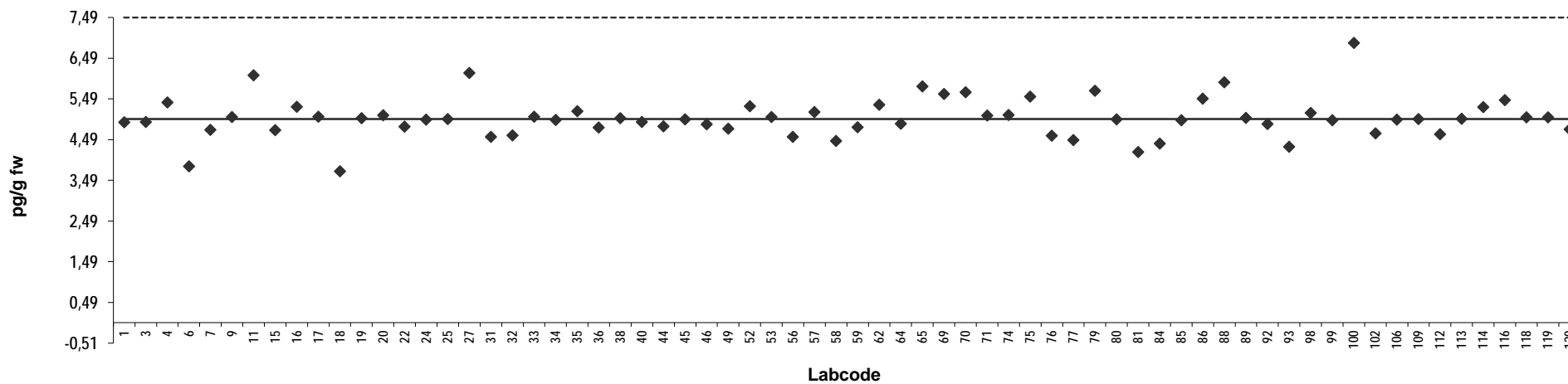
Analyte solution
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	4,9	-0,074		79	5,7	0,70	
3	4,9	-0,066		80	5,0	-0,0035	
4	5,4	0,41		81	4,2	-0,81	
6	3,8	-1,2		84	4,4	-0,60	
7	4,7	-0,26		85	5,0	-0,026	
9	5,0	0,052		86	5,5	0,50	
11	6,1	1,1		88	5,9	0,91	
15	4,7	-0,27		89	5,0	0,032	
16	5,3	0,30		92	4,9	-0,12	
17	5,1	0,064		93	4,3	-0,68	
18	3,7	-1,3		98	5,2	0,15	
19	5,0	0,021		99	5,0	-0,026	
20	5,1	0,093		100	6,9	1,9	
22	4,8	-0,18		102	4,7	-0,35	
24	5,0	-0,0085		106	5,0	-0,013	
25	5,0	0,0035		109	5,0	0,0035	
27	6,1	1,1		112	4,6	-0,37	
31	4,6	-0,44		113	5,0	0,012	
32	4,6	-0,40		114	5,3	0,29	
33	5,1	0,064		116	5,5	0,47	
34	5,0	-0,016		118	5,0	0,047	
35	5,2	0,20		119	5,0	0,044	
36	4,8	-0,21		120	4,8	-0,25	
38	5,0	0,024					
40	4,9	-0,07					
44	4,8	-0,18					
45	5,0	-0,0065					
46	4,9	-0,13					
49	4,8	-0,23					
52	5,3	0,32					
53	5,1	0,054					
56	4,6	-0,44					
57	5,2	0,17					
58	4,5	-0,54					
59	4,8	-0,20					
62	5,4	0,35					
64	4,9	-0,11					
65	5,8	0,80					
69	5,6	0,62					
70	5,7	0,66					
71	5,1	0,090					
74	5,1	0,10					
75	5,6	0,56					
76	4,6	-0,41					
77	4,5	-0,51					

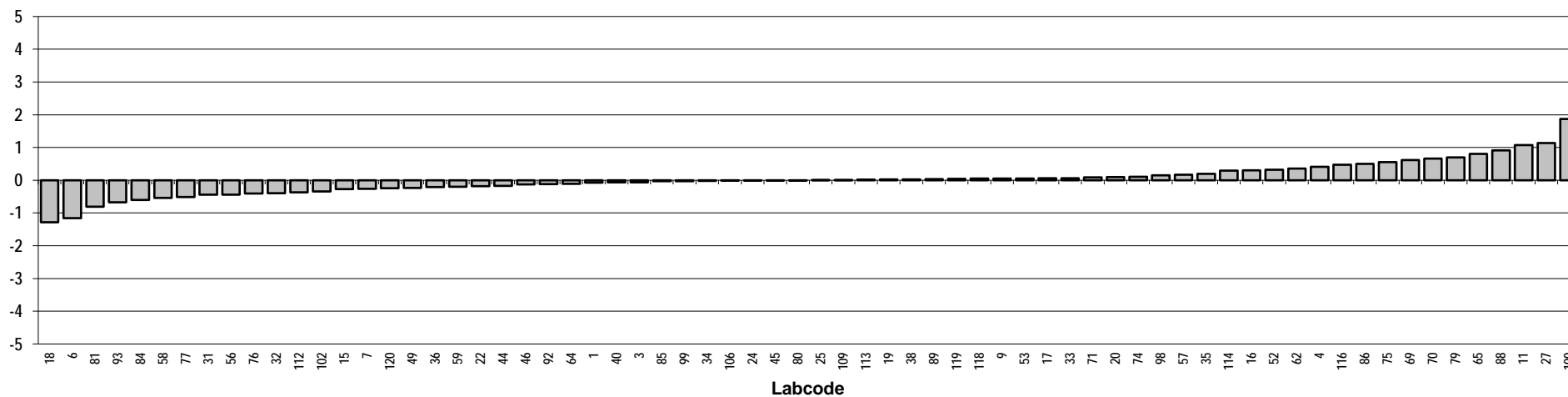
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,50
Relative standard deviation, %	9,9
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0

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



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



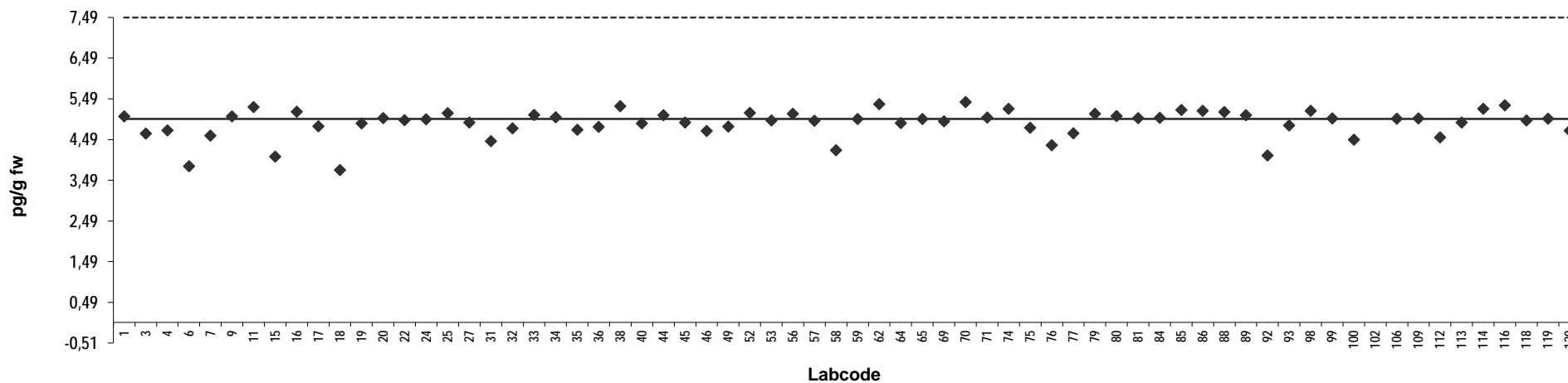
Analyte solution
Congener: 1,2,3,4,6,7,8 HpCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,1	0,070		79	5,1	0,13	
3	4,6	-0,35		80	5,1	0,078	
4	4,7	-0,27		81	5,0	0,029	
6	3,8	-1,2		84	5,0	0,035	
7	4,6	-0,40		85	5,2	0,23	
9	5,1	0,074		86	5,2	0,21	
11	5,3	0,30		88	5,2	0,18	
15	4,1	-0,92		89	5,1	0,099	
16	5,2	0,19		92	4,1	-0,89	
17	4,8	-0,17		93	4,8	-0,15	
18	3,7	-1,2		98	5,2	0,21	
19	4,9	-0,098		99	5,0	0,019	
20	5,0	0,027		100	4,5	-0,50	
22	5,0	-0,021		102	10	5,4	Outlier
24	5,0	0,00		106	5,0	0,012	
25	5,1	0,15		109	5,0	0,019	
27	4,9	-0,077		112	4,5	-0,45	
31	4,5	-0,54		113	4,9	-0,080	
32	4,8	-0,22		114	5,3	0,26	
33	5,1	0,11		116	5,3	0,34	
34	5,0	0,049		118	5,0	-0,030	
35	4,7	-0,26		119	5,0	0,015	
36	4,8	-0,19		120	4,7	-0,28	
38	5,3	0,32					
40	4,9	-0,10					
44	5,1	0,099					
45	4,9	-0,081					
46	4,7	-0,28					
49	4,8	-0,18					
52	5,2	0,16					
53	5,0	-0,031					
56	5,1	0,14					
57	5,0	-0,034					
58	4,2	-0,76					
59	5,0	0,0090					
62	5,4	0,37					
64	4,9	-0,092					
65	5,0	0,0090					
69	4,9	-0,048					
70	5,4	0,42					
71	5,0	0,042					
74	5,2	0,26					
75	4,8	-0,21					
76	4,4	-0,64					
77	4,6	-0,34					

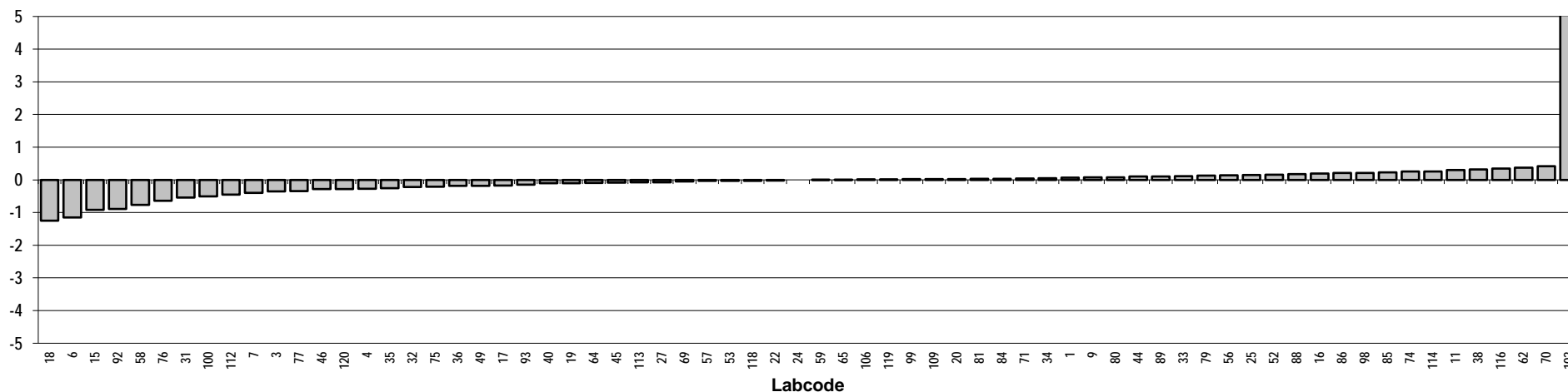
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,34
Relative standard deviation, %	7,0
No. of values reported	68
No. of values removed	1
No. of reported non-detects	0

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



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



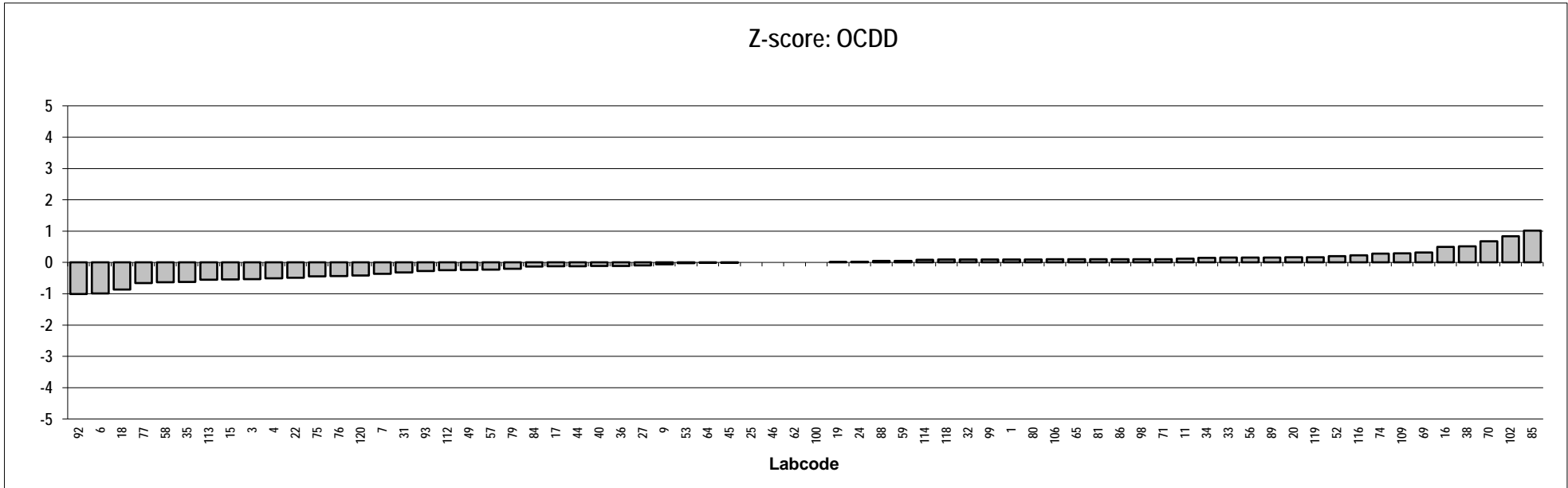
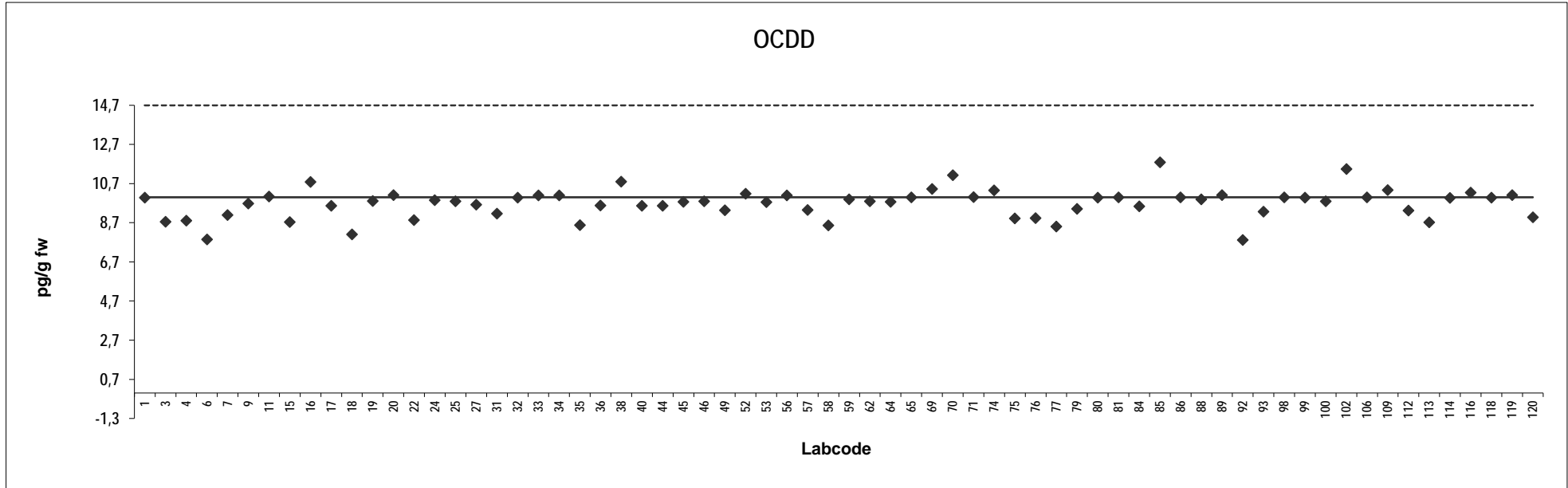
Analyte solution

Congener: OCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	10	0,092		79	9,4	-0,20	
3	8,8	-0,53		80	10	0,096	
4	8,8	-0,51		81	10	0,10	
6	7,9	-0,99		84	9,5	-0,13	
7	9,1	-0,36		85	12	1,0	
9	9,7	-0,063		86	10	0,10	
11	10	0,12		88	9,9	0,045	
15	8,7	-0,55		89	10	0,16	
16	11	0,50		92	7,8	-1,0	
17	9,6	-0,12		93	9,3	-0,27	
18	8,1	-0,87		98	10	0,10	
19	9,8	0,0057		99	10	0,092	
20	10	0,16		100	9,8	0,00	
22	8,8	-0,49		102	11	0,84	
24	9,8	0,023		106	10	0,10	
25	9,8	0,00		109	10	0,29	
27	9,6	-0,093		112	9,3	-0,24	
31	9,2	-0,32		113	8,7	-0,55	
32	10	0,092		114	10	0,087	
33	10	0,15		116	10	0,22	
34	10	0,15		118	10	0,091	
35	8,6	-0,63		119	10	0,16	
36	9,6	-0,11		120	9,0	-0,42	
38	11	0,51					
40	9,6	-0,12					
44	9,6	-0,12					
45	9,8	-0,015					
46	9,8	0,00					
49	9,3	-0,24					
52	10	0,20					
53	9,8	-0,026					
56	10	0,15					
57	9,3	-0,23					
58	8,6	-0,63					
59	9,9	0,051					
62	9,8	0,00					
64	9,8	-0,018					
65	10	0,10					
69	10	0,32					
70	11	0,68					
71	10	0,11					
74	10	0,28					
75	8,9	-0,45					
76	8,9	-0,44					
77	8,5	-0,66					

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	0,74
Relative standard deviation, %	7,7
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0



Analyte solution

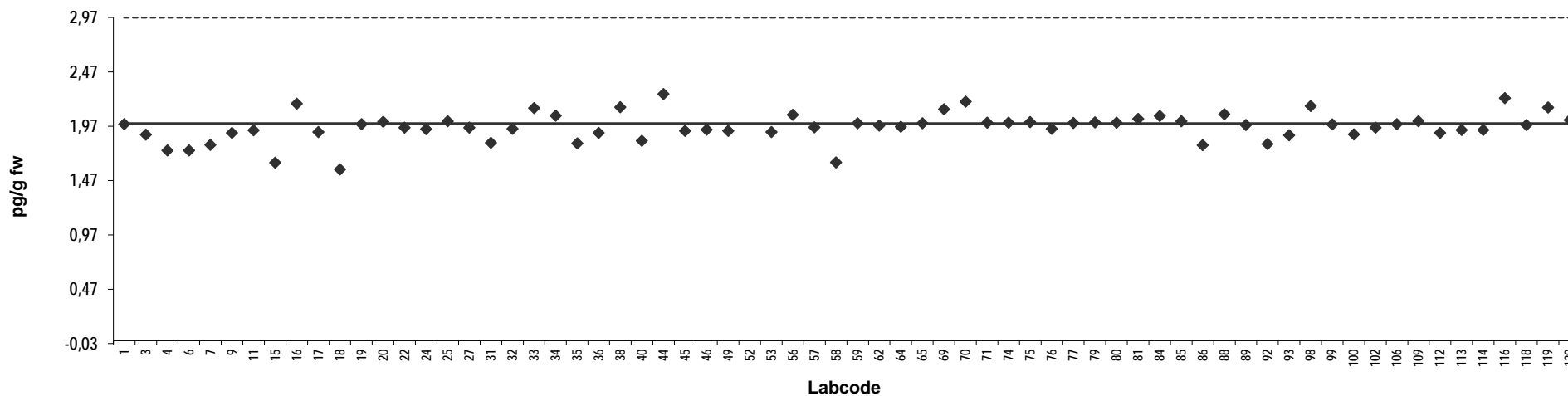
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	2,0	0,032		79	2,0	0,075	
3	1,9	-0,21		80	2,0	0,069	
4	1,8	-0,58		81	2,0	0,15	
6	1,8	-0,58		84	2,1	0,22	
7	1,8	-0,45		85	2,0	0,10	
9	1,9	-0,17		86	1,8	-0,45	
11	1,9	-0,11		88	2,1	0,27	
15	1,6	-0,86		89	2,0	0,016	
16	2,2	0,51		92	1,8	-0,43	
17	1,9	-0,15		93	1,9	-0,23	
18	1,6	-1,0		98	2,2	0,45	
19	2,0	0,035		99	2,0	0,025	
20	2,0	0,088		100	1,9	-0,20	
22	2,0	-0,045		102	2,0	-0,051	
24	1,9	-0,083		106	2,0	0,032	
25	2,0	0,10		109	2,0	0,10	
27	2,0	-0,050		112	1,9	-0,17	
31	1,8	-0,40		113	1,9	-0,10	
32	2,0	-0,076		114	1,9	-0,10	
33	2,1	0,40		116	2,2	0,64	
34	2,1	0,23		118	2,0	0,015	
35	1,8	-0,42		119	2,1	0,42	
36	1,9	-0,17		120	2,0	0,13	
38	2,2	0,43					
40	1,8	-0,35					
44	2,3	0,73					
45	1,9	-0,13					
46	1,9	-0,096					
49	1,9	-0,13					
52	4,7	6,7	Outlier				
53	1,9	-0,15					
56	2,1	0,25					
57	2,0	-0,039					
58	1,6	-0,86					
59	2,0	0,051					
62	2,0	0,00					
64	2,0	-0,025					
65	2,0	0,051					
69	2,1	0,38					
70	2,2	0,56					
71	2,0	0,067					
74	2,0	0,068					
75	2,0	0,081					
76	2,0	-0,076					
77	2,0	0,061					

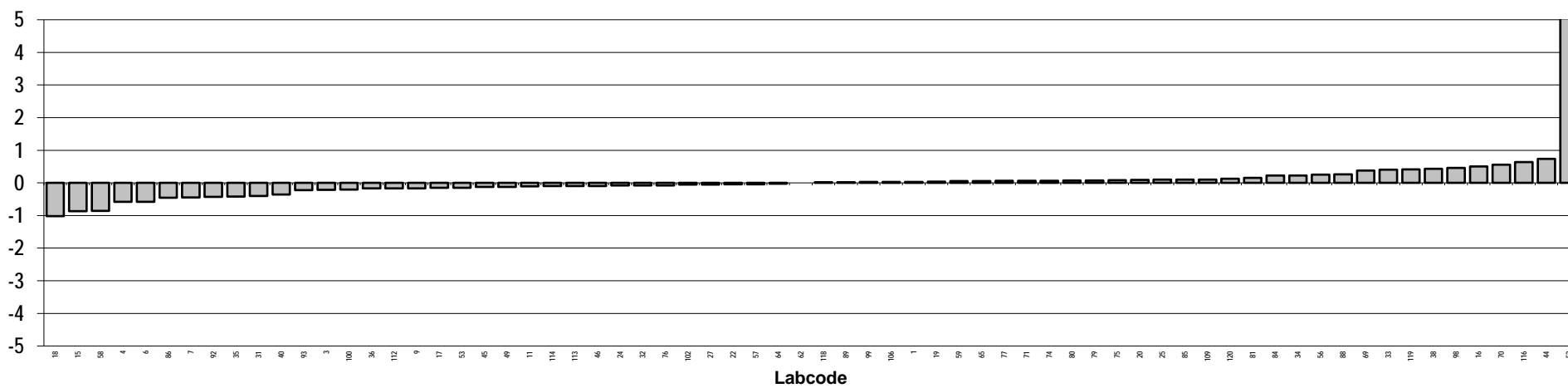
Consensus statistics

Consensus median, pg/g	2,0
Median all values pg/g	2,0
Consensus mean, pg/g	2,0
Standard deviation, pg/g	0,13
Relative standard deviation, %	6,7
No. of values reported	68
No. of values removed	1
No. of reported non-detects	0

2,3,7,8 TCDF



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



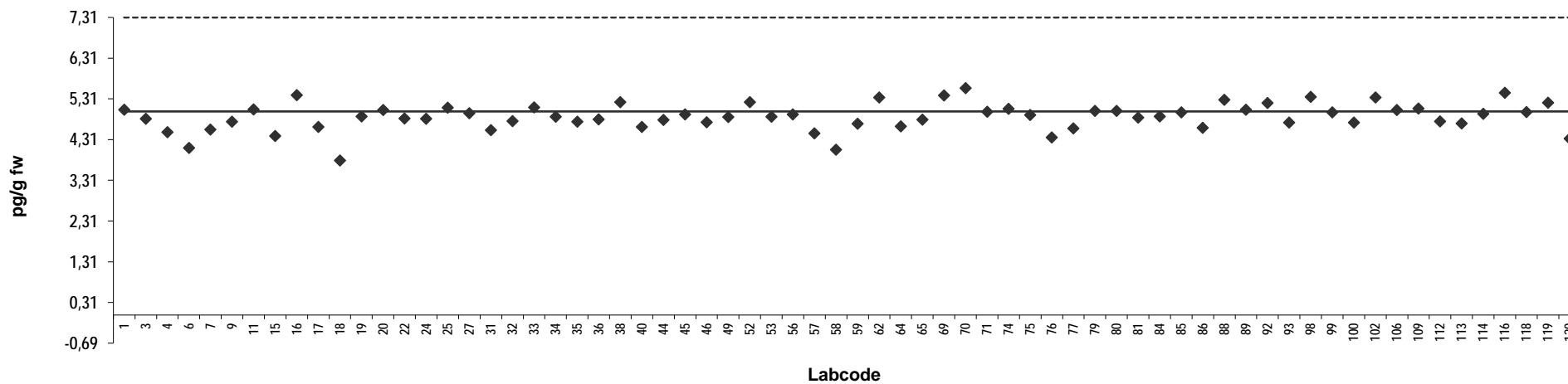
Analyte solution
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,0	0,17		79	5,0	0,14	
3	4,8	-0,052		80	5,0	0,14	
4	4,5	-0,39		81	4,9	-0,023	
6	4,1	-0,79		84	4,9	0,0079	
7	4,6	-0,32		85	5,0	0,11	
9	4,7	-0,13		86	4,6	-0,28	
11	5,1	0,18		88	5,3	0,42	
15	4,4	-0,49		89	5,0	0,18	
16	5,4	0,54		92	5,2	0,35	
17	4,6	-0,26		93	4,7	-0,15	
18	3,8	-1,1		98	5,4	0,50	
19	4,9	0,0024		99	5,0	0,11	
20	5,0	0,17		100	4,7	-0,15	
22	4,8	-0,043		102	5,3	0,48	
24	4,8	-0,056		106	5,0	0,17	
25	5,1	0,22		109	5,1	0,20	
27	5,0	0,089		112	4,8	-0,12	
31	4,5	-0,34		113	4,7	-0,17	
32	4,8	-0,12		114	4,9	0,069	
33	5,1	0,23		116	5,5	0,60	
34	4,9	-0,0024		118	5,0	0,11	
35	4,7	-0,13		119	5,2	0,35	
36	4,8	-0,071		120	4,3	-0,56	
38	5,2	0,37					
40	4,6	-0,26					
44	4,8	-0,084					
45	4,9	0,059					
46	4,7	-0,14					
49	4,9	-0,0079					
52	5,2	0,37					
53	4,9	-0,0024					
56	4,9	0,059					
57	4,5	-0,42					
58	4,1	-0,83					
59	4,7	-0,18					
62	5,3	0,48					
64	4,6	-0,24					
65	4,8	-0,074					
69	5,4	0,53					
70	5,6	0,72					
71	5,0	0,13					
74	5,1	0,20					
75	4,9	0,045					
76	4,4	-0,53					
77	4,6	-0,29					

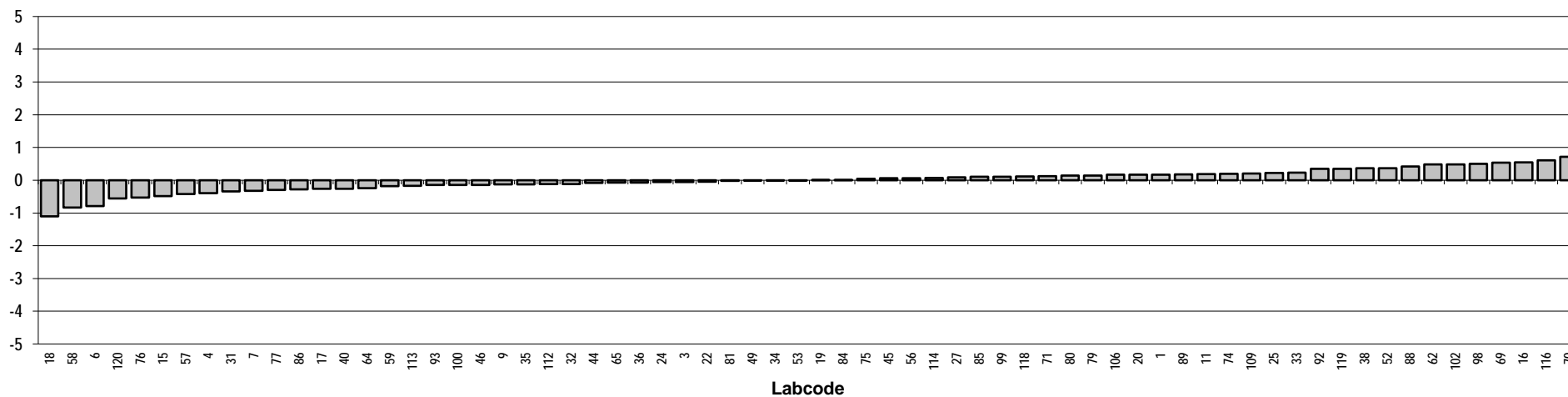
Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	4,9
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,33
Relative standard deviation, %	6,8
No. of values reported	68
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

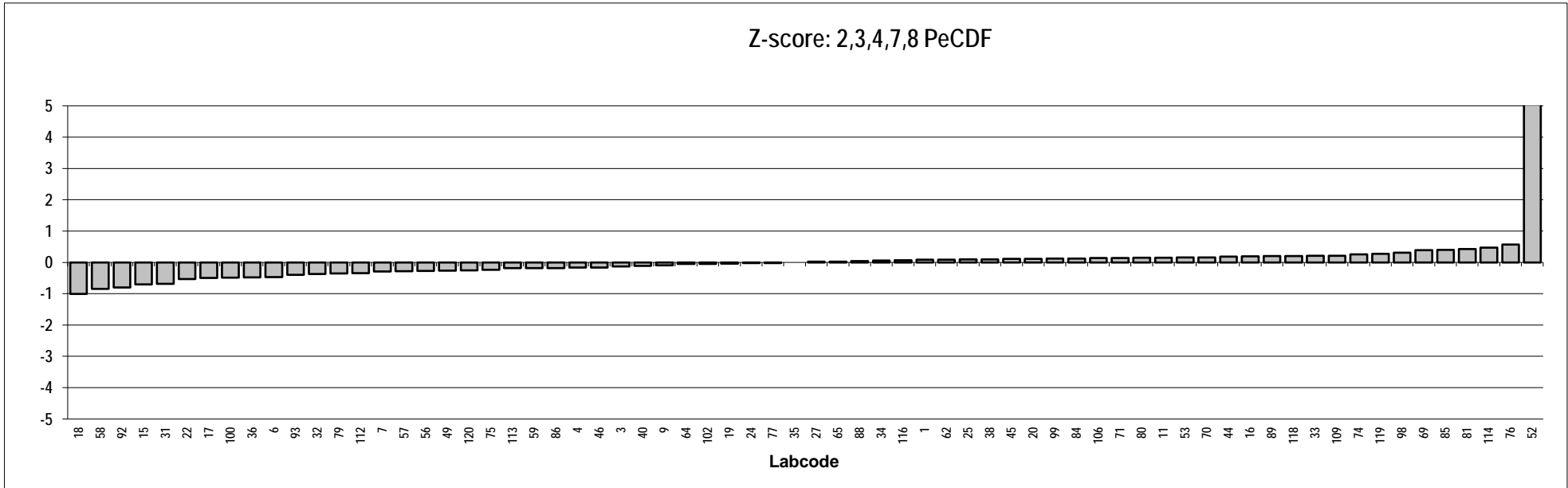
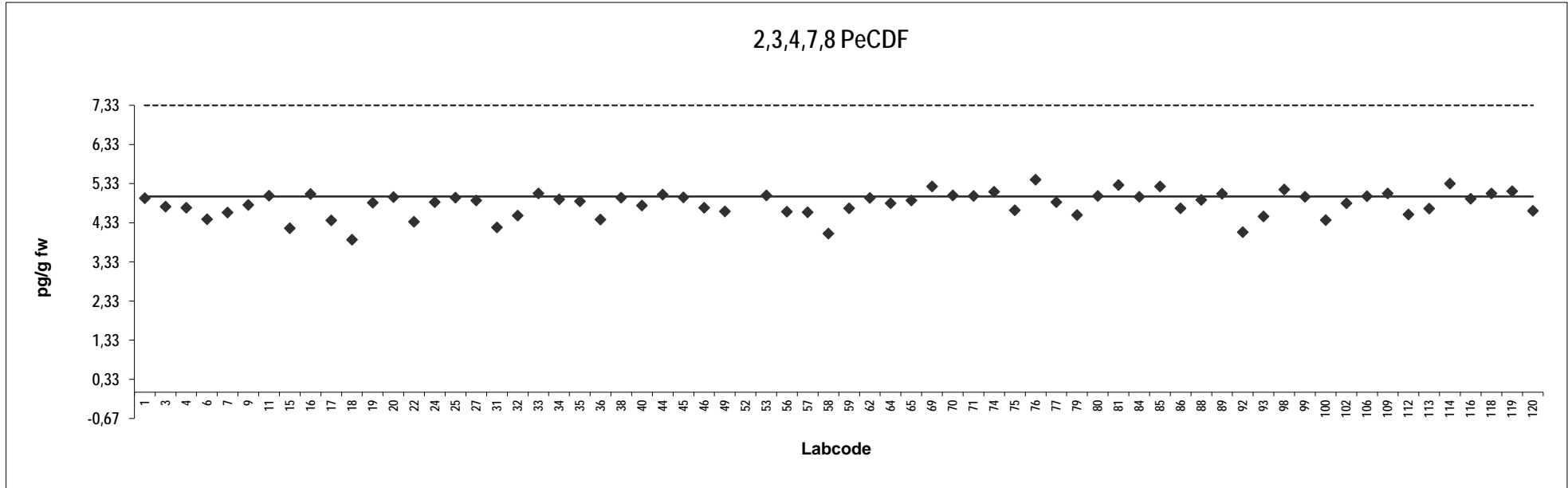


Analyte solution
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,0	0,087		79	4,5	-0,36	
3	4,7	-0,13		80	5,0	0,15	
4	4,7	-0,17		81	5,3	0,43	
6	4,4	-0,47		84	5,0	0,12	
7	4,6	-0,29		85	5,3	0,40	
9	4,8	-0,094		86	4,7	-0,18	
11	5,0	0,15		88	4,9	0,038	
15	4,2	-0,70		89	5,1	0,20	
16	5,1	0,19		92	4,1	-0,80	
17	4,4	-0,50		93	4,5	-0,39	
18	3,9	-1,0		98	5,2	0,31	
19	4,8	-0,034		99	5,0	0,12	
20	5,0	0,11		100	4,4	-0,49	
22	4,4	-0,53		102	4,8	-0,045	
24	4,9	-0,020		106	5,0	0,14	
25	5,0	0,099		109	5,1	0,21	
27	4,9	0,026		112	4,5	-0,34	
31	4,2	-0,68		113	4,7	-0,18	
32	4,5	-0,37		114	5,3	0,47	
33	5,1	0,21		116	4,9	0,068	
34	4,9	0,058		118	5,1	0,21	
35	4,9	0,00		119	5,1	0,27	
36	4,4	-0,48		120	4,6	-0,25	
38	5,0	0,099					
40	4,8	-0,11					
44	5,1	0,18					
45	5,0	0,11					
46	4,7	-0,16					
49	4,6	-0,26					
52	11	5,8	Outlier				
53	5,0	0,16					
56	4,6	-0,27					
57	4,6	-0,28					
58	4,1	-0,84					
59	4,7	-0,18					
62	5,0	0,089					
64	4,8	-0,051					
65	4,9	0,027					
69	5,3	0,39					
70	5,0	0,16					
71	5,0	0,14					
74	5,1	0,25					
75	4,6	-0,23					
76	5,4	0,57					
77	4,9	-0,019					

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	0,32
Relative standard deviation, %	6,7
No. of values reported	68
No. of values removed	1
No. of reported non-detects	0



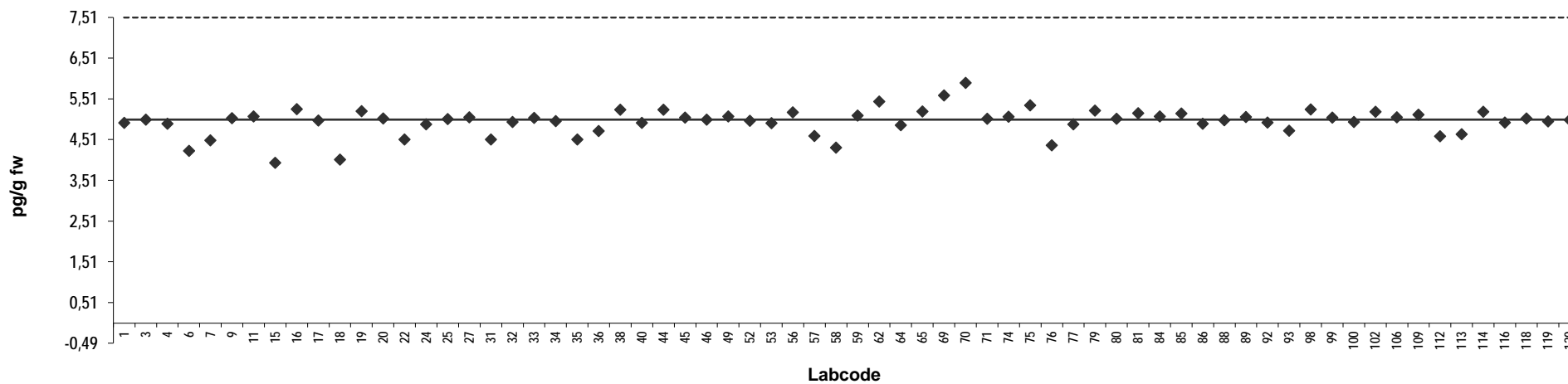
Analyte solution
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	4,9	-0,088		79	5,2	0,21	
3	5,0	-0,0040		80	5,0	0,016	
4	4,9	-0,11		81	5,2	0,15	
6	4,2	-0,78		84	5,1	0,073	
7	4,5	-0,51		85	5,2	0,14	
9	5,0	0,030		86	4,9	-0,11	
11	5,1	0,069		88	5,0	-0,019	
15	3,9	-1,1		89	5,1	0,057	
16	5,3	0,25		92	4,9	-0,076	
17	5,0	-0,026		93	4,7	-0,28	
18	4,0	-0,99		98	5,3	0,24	
19	5,2	0,20		99	5,1	0,044	
20	5,0	0,022		100	4,9	-0,066	
22	4,5	-0,49		102	5,2	0,18	
24	4,9	-0,12		106	5,1	0,053	
25	5,0	0,0040		109	5,1	0,11	
27	5,1	0,051		112	4,6	-0,41	
31	4,5	-0,50		113	4,6	-0,37	
32	4,9	-0,066		114	5,2	0,18	
33	5,0	0,034		116	4,9	-0,077	
34	5,0	-0,046		118	5,0	0,024	
35	4,5	-0,50		119	5,0	-0,052	
36	4,7	-0,29		120	5,0	-0,016	
38	5,2	0,23					
40	4,9	-0,086					
44	5,2	0,23					
45	5,1	0,044					
46	5,0	-0,0090					
49	5,1	0,075					
52	5,0	-0,035					
53	4,9	-0,096					
56	5,2	0,17					
57	4,6	-0,41					
58	4,3	-0,70					
59	5,1	0,094					
62	5,4	0,43					
64	4,9	-0,14					
65	5,2	0,19					
69	5,6	0,59					
70	5,9	0,89					
71	5,0	0,014					
74	5,1	0,065					
75	5,4	0,34					
76	4,4	-0,64					
77	4,9	-0,12					

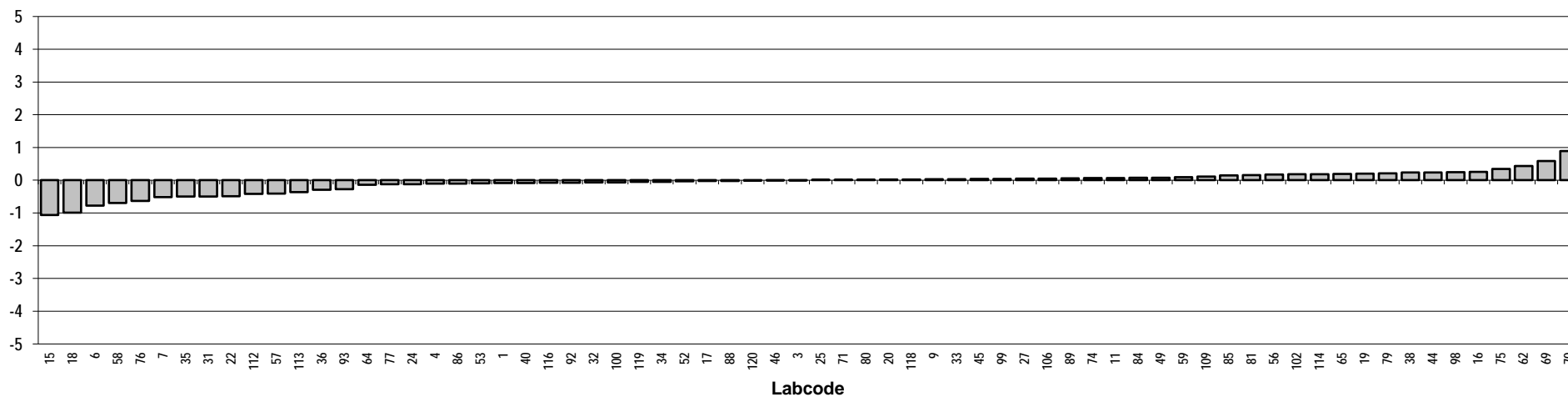
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,33
Relative standard deviation, %	6,6
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0

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



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

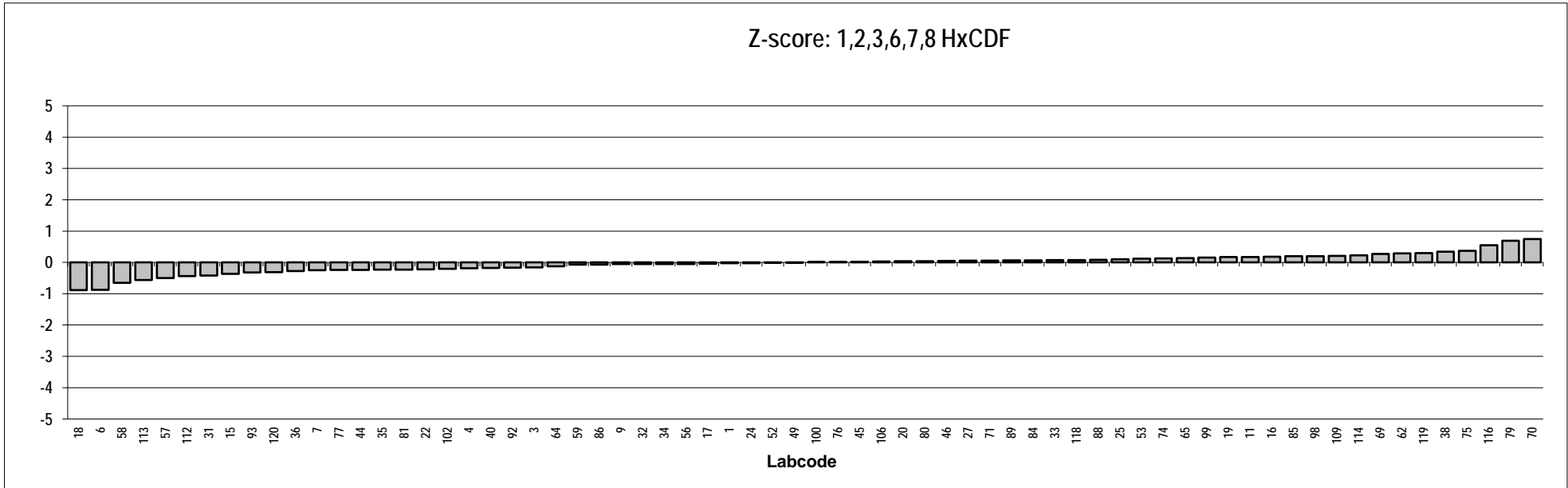
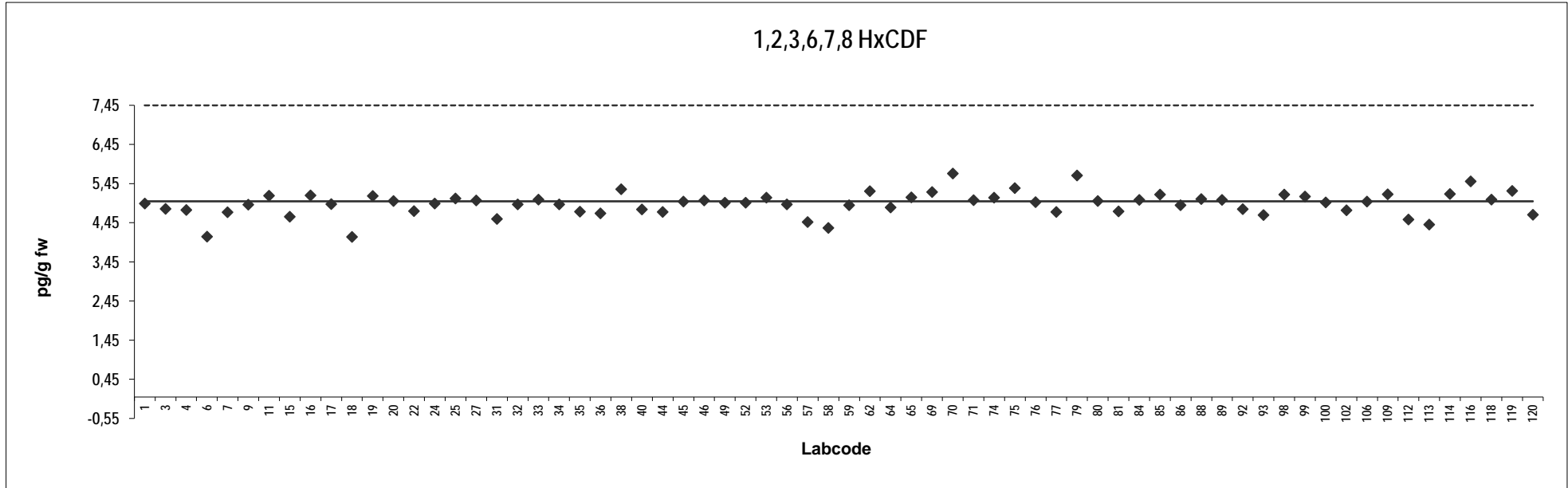


Analyte solution
Congener: 1,2,3,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	4,9	-0,027		79	5,7	0,69	
3	4,8	-0,16		80	5,0	0,040	
4	4,8	-0,19		81	4,7	-0,23	
6	4,1	-0,87		84	5,0	0,068	
7	4,7	-0,25		85	5,2	0,20	
9	4,9	-0,056		86	4,9	-0,069	
11	5,1	0,17		88	5,1	0,087	
15	4,6	-0,37		89	5,0	0,066	
16	5,2	0,18		92	4,8	-0,17	
17	4,9	-0,039		93	4,7	-0,32	
18	4,1	-0,88		98	5,2	0,20	
19	5,1	0,17		99	5,1	0,15	
20	5,0	0,037		100	5,0	0,0014	
22	4,8	-0,22		102	4,8	-0,20	
24	4,9	-0,023		106	5,0	0,025	
25	5,1	0,10		109	5,2	0,21	
27	5,0	0,052		112	4,5	-0,44	
31	4,6	-0,42		113	4,4	-0,56	
32	4,9	-0,049		114	5,2	0,22	
33	5,0	0,072		116	5,5	0,55	
34	4,9	-0,049		118	5,0	0,076	
35	4,7	-0,23		119	5,3	0,30	
36	4,7	-0,28		120	4,7	-0,31	
38	5,3	0,34					
40	4,8	-0,18					
44	4,7	-0,24					
45	5,0	0,021					
46	5,0	0,051					
49	5,0	-0,0014					
52	5,0	-0,0027					
53	5,1	0,12					
56	4,9	-0,049					
57	4,5	-0,50					
58	4,3	-0,65					
59	4,9	-0,069					
62	5,3	0,29					
64	4,8	-0,12					
65	5,1	0,13					
69	5,2	0,27					
70	5,7	0,75					
71	5,0	0,058					
74	5,1	0,13					
75	5,3	0,37					
76	5,0	0,011					
77	4,7	-0,24					

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	0,30
Relative standard deviation, %	6,0
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0



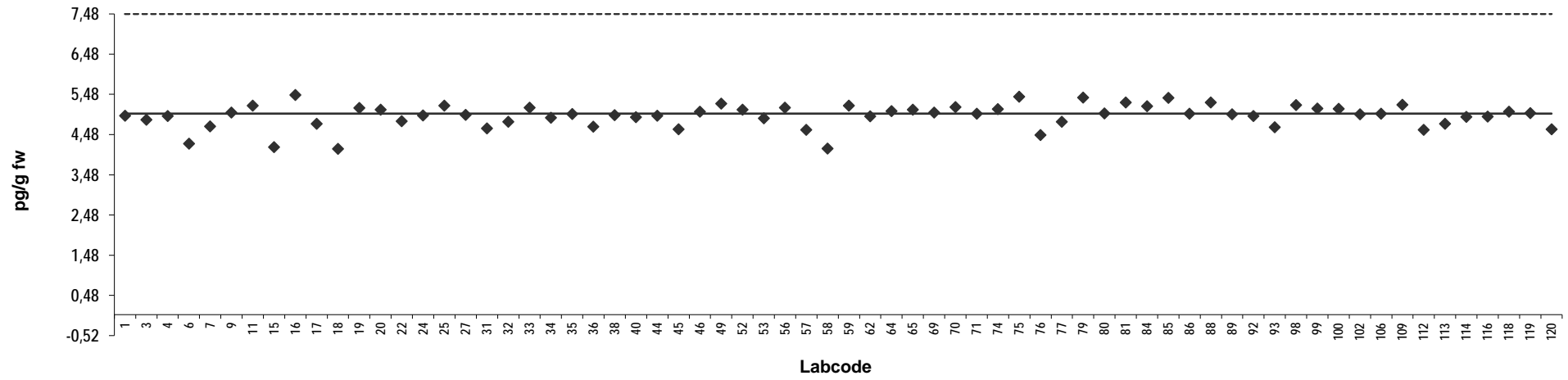
Analyte solution
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	4,9	-0,042		79	5,4	0,42	
3	4,8	-0,14		80	5,0	0,017	
4	4,9	-0,046		81	5,3	0,29	
6	4,3	-0,74		84	5,2	0,20	
7	4,7	-0,30		85	5,4	0,41	
9	5,0	0,039		86	5,0	0,014	
11	5,2	0,22		88	5,3	0,29	
15	4,2	-0,82		89	5,0	-0,0027	
16	5,5	0,48		92	4,9	-0,046	
17	4,8	-0,24		93	4,7	-0,33	
18	4,1	-0,87		98	5,2	0,22	
19	5,1	0,15		99	5,1	0,14	
20	5,1	0,11		100	5,1	0,13	
22	4,8	-0,18		102	5,0	-0,0059	
24	5,0	-0,030		106	5,0	0,010	
25	5,2	0,21		109	5,2	0,23	
27	5,0	-0,020		112	4,6	-0,39	
31	4,6	-0,36		113	4,7	-0,24	
32	4,8	-0,19		114	4,9	-0,066	
33	5,2	0,16		116	4,9	-0,058	
34	4,9	-0,086		118	5,1	0,065	
35	5,0	0,0027		119	5,0	0,026	
36	4,7	-0,31		120	4,6	-0,38	
38	5,0	-0,026					
40	4,9	-0,076					
44	5,0	-0,036					
45	4,6	-0,38					
46	5,0	0,060					
49	5,3	0,27					
52	5,1	0,11					
53	4,9	-0,11					
56	5,2	0,16					
57	4,6	-0,39					
58	4,1	-0,86					
59	5,2	0,21					
62	4,9	-0,056					
64	5,1	0,077					
65	5,1	0,11					
69	5,0	0,044					
70	5,2	0,17					
71	5,0	0,011					
74	5,1	0,13					
75	5,4	0,43					
76	4,5	-0,52					
77	4,8	-0,19					

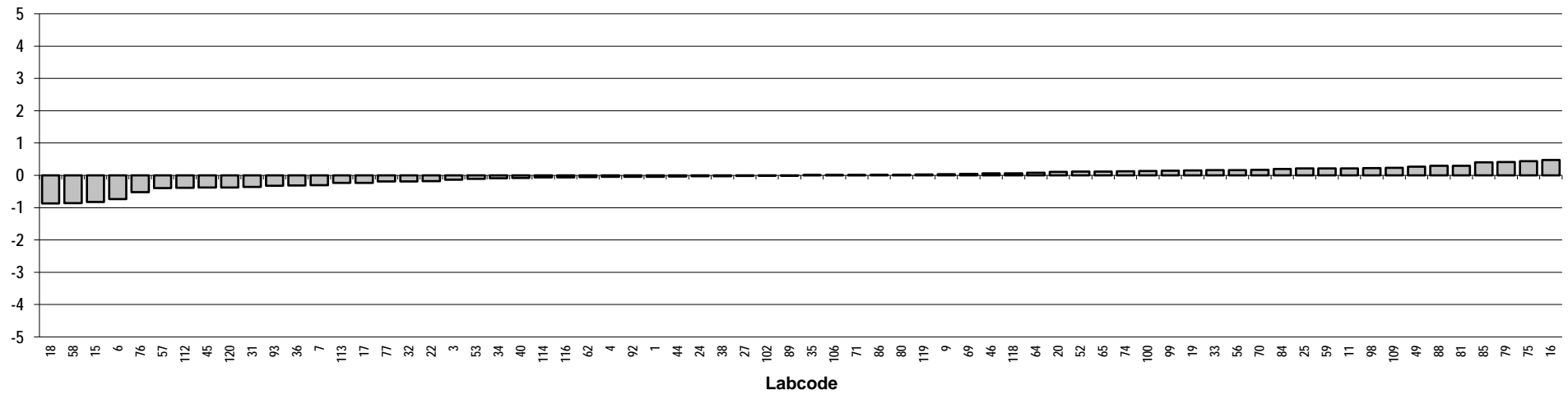
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,29
Relative standard deviation, %	5,9
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0

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



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



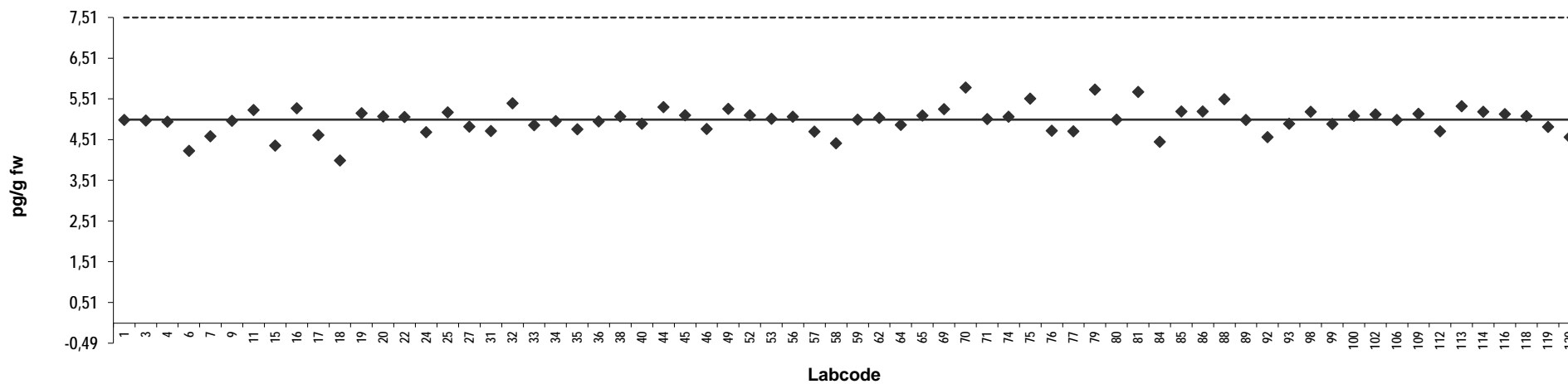
Analyte solution
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,0	-0,012		79	5,7	0,73	
3	5,0	-0,029		80	5,0	-0,0095	
4	5,0	-0,056		81	5,7	0,67	
6	4,2	-0,78		84	4,5	-0,55	
7	4,6	-0,42		85	5,2	0,19	
9	5,0	-0,032		86	5,2	0,19	
11	5,2	0,23		88	5,5	0,49	
15	4,4	-0,64		89	5,0	-0,017	
16	5,3	0,27		92	4,6	-0,44	
17	4,6	-0,39		93	4,9	-0,11	
18	4,0	-1,0		98	5,2	0,18	
19	5,2	0,15		99	4,9	-0,12	
20	5,1	0,069		100	5,1	0,084	
22	5,1	0,060		102	5,1	0,12	
24	4,7	-0,31		106	5,0	-0,015	
25	5,2	0,17		109	5,1	0,13	
27	4,8	-0,18		112	4,7	-0,29	
31	4,7	-0,29		113	5,3	0,32	
32	5,4	0,39		114	5,2	0,18	
33	4,9	-0,15		116	5,1	0,13	
34	5,0	-0,046		118	5,1	0,081	
35	4,8	-0,25		119	4,8	-0,19	
36	5,0	-0,048		120	4,6	-0,44	
38	5,1	0,074					
40	4,9	-0,11					
44	5,3	0,30					
45	5,1	0,10					
46	4,8	-0,23					
49	5,3	0,26					
52	5,1	0,10					
53	5,0	0,014					
56	5,1	0,064					
57	4,7	-0,30					
58	4,4	-0,59					
59	5,0	-0,0061					
62	5,0	0,034					
64	4,9	-0,13					
65	5,1	0,094					
69	5,3	0,25					
70	5,8	0,78					
71	5,0	0,0061					
74	5,1	0,065					
75	5,5	0,51					
76	4,7	-0,28					
77	4,7	-0,29					

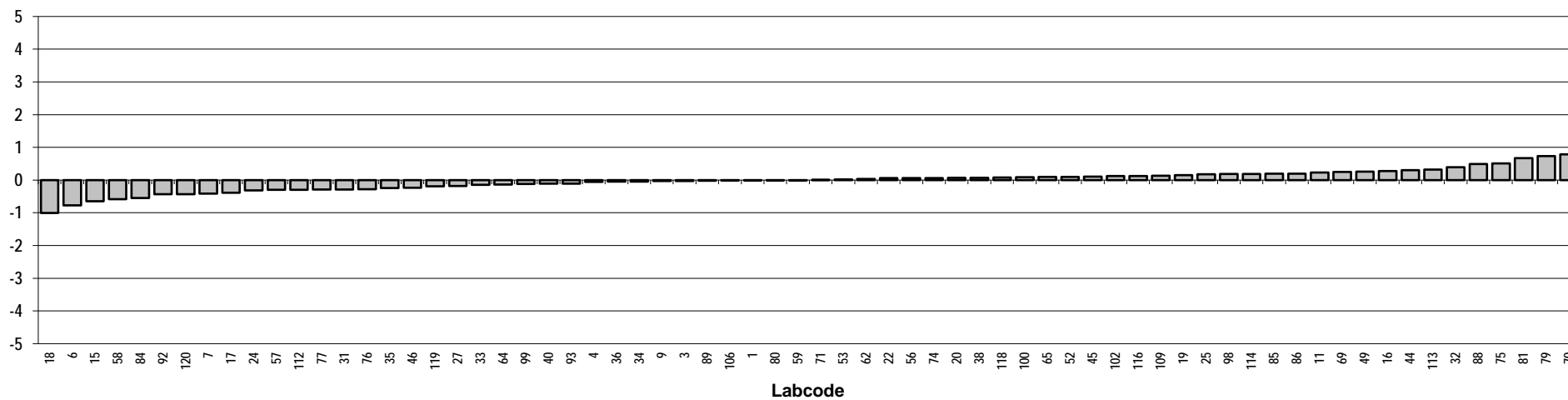
Consensus statistics

Consensus median, pg/g	5,0
Median all values pg/g	5,0
Consensus mean, pg/g	5,0
Standard deviation, pg/g	0,33
Relative standard deviation, %	6,6
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0

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



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

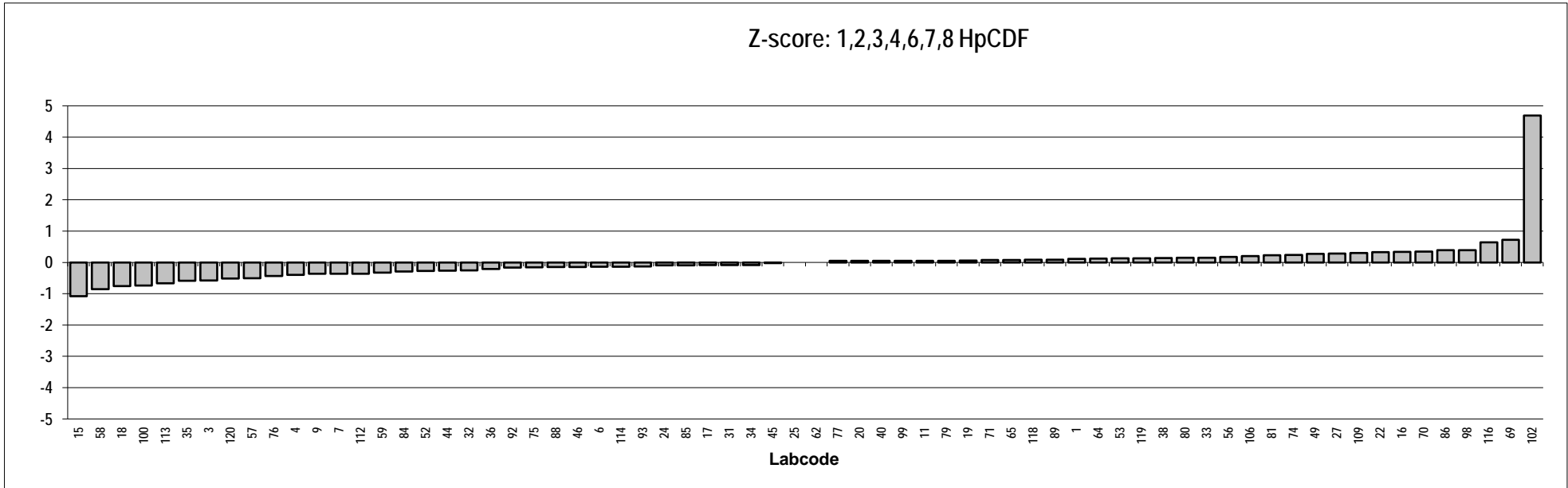
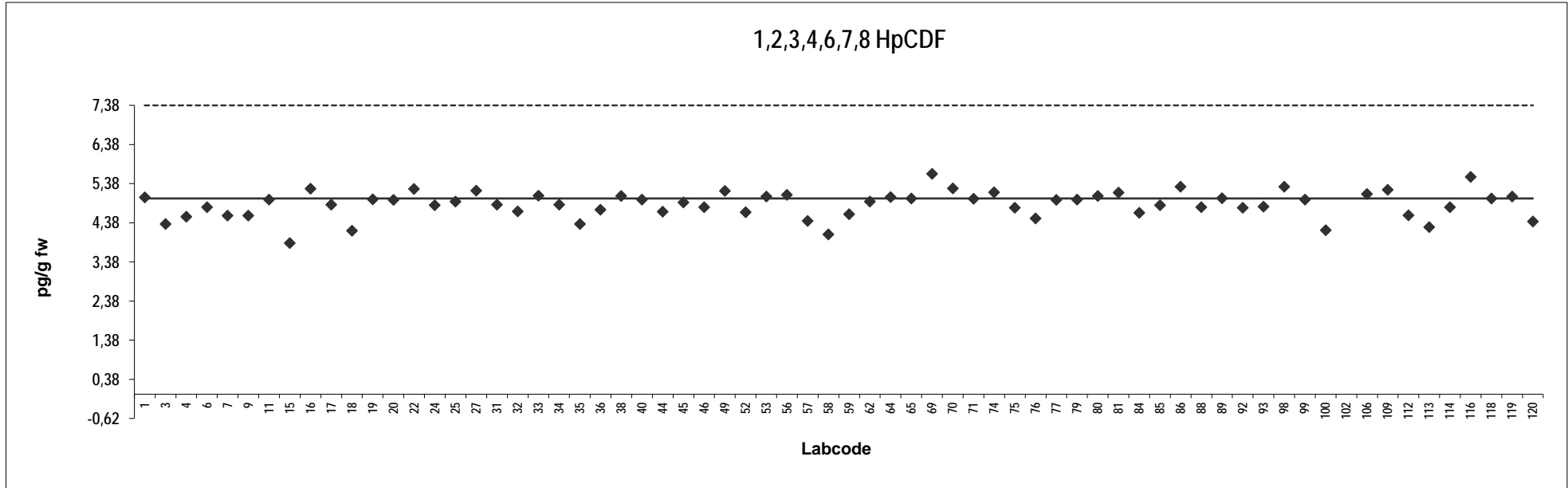


Analyte solution
Congener: 1,2,3,4,6,7,8 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,0	0,11		79	5,0	0,052	
3	4,4	-0,58		80	5,1	0,15	
4	4,5	-0,40		81	5,2	0,23	
6	4,8	-0,14		84	4,6	-0,29	
7	4,6	-0,36		85	4,8	-0,091	
9	4,6	-0,36		86	5,3	0,39	
11	5,0	0,052		88	4,8	-0,15	
15	3,9	-1,1		89	5,0	0,084	
16	5,3	0,34		92	4,8	-0,16	
17	4,8	-0,081		93	4,8	-0,13	
18	4,2	-0,76		98	5,3	0,39	
19	5,0	0,057		99	5,0	0,051	
20	5,0	0,046		100	4,2	-0,74	
22	5,2	0,33		102	9,5	4,7	Outlier
24	4,8	-0,098		106	5,1	0,20	
25	4,9	0,00		109	5,2	0,30	
27	5,2	0,28		112	4,6	-0,36	
31	4,8	-0,081		113	4,3	-0,66	
32	4,7	-0,25		114	4,8	-0,14	
33	5,1	0,15		116	5,5	0,64	
34	4,8	-0,081		118	5,0	0,082	
35	4,3	-0,58		119	5,1	0,13	
36	4,7	-0,21		120	4,4	-0,52	
38	5,1	0,14					
40	5,0	0,051					
44	4,7	-0,26					
45	4,9	-0,020					
46	4,8	-0,14					
49	5,2	0,28					
52	4,7	-0,27					
53	5,1	0,13					
56	5,1	0,17					
57	4,4	-0,50					
58	4,1	-0,85					
59	4,6	-0,33					
62	4,9	0,00					
64	5,0	0,12					
65	5,0	0,081					
69	5,6	0,72					
70	5,3	0,35					
71	5,0	0,076					
74	5,2	0,24					
75	4,8	-0,16					
76	4,5	-0,44					
77	5,0	0,046					

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	0,34
Relative standard deviation, %	7,0
No. of values reported	68
No. of values removed	1
No. of reported non-detects	0

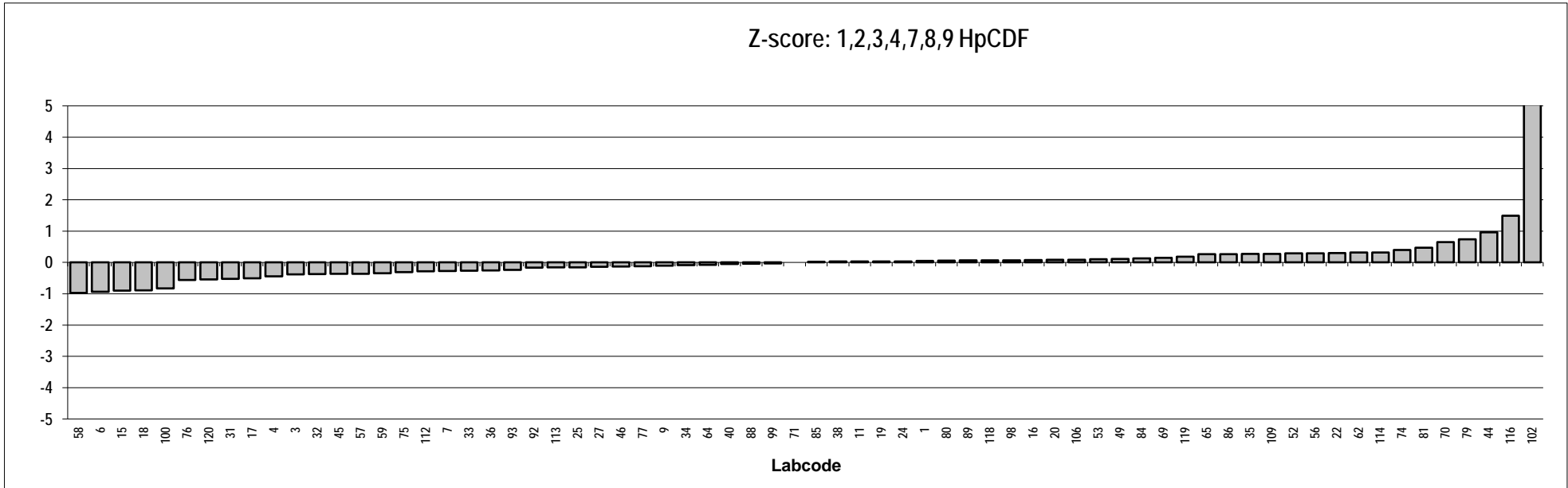
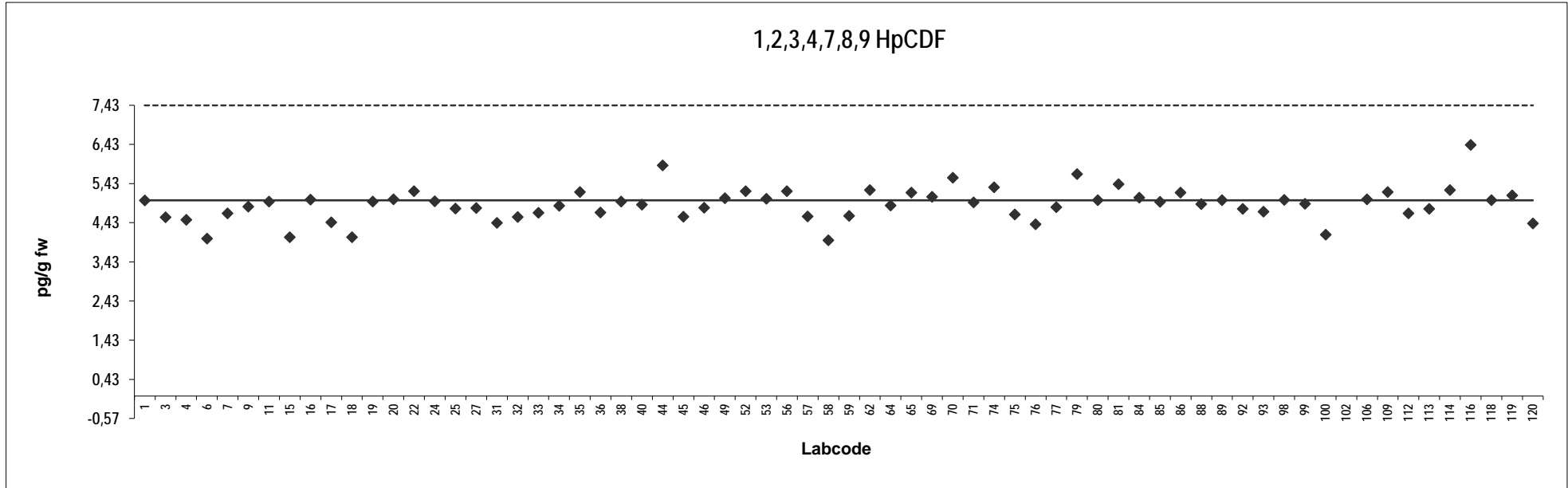


Analyte solution
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5.0	0,051		79	5,7	0,73	
3	4,6	-0,38		80	5,0	0,060	
4	4,5	-0,45		81	5,4	0,47	
6	4,0	-0,93		84	5,1	0,13	
7	4,7	-0,28		85	5,0	0,017	
9	4,8	-0,11		86	5,2	0,26	
11	5,0	0,028		88	4,9	-0,041	
15	4,1	-0,90		89	5,0	0,06	
16	5,0	0,078		92	4,8	-0,16	
17	4,4	-0,51		93	4,7	-0,24	
18	4,1	-0,89		98	5,0	0,068	
19	5,0	0,028		99	4,9	-0,033	
20	5,0	0,083		100	4,1	-0,83	
22	5,2	0,30		102	11	6,5	Outlier
24	5,0	0,032		106	5,0	0,084	
25	4,8	-0,15		109	5,2	0,27	
27	4,8	-0,14		112	4,7	-0,28	
31	4,4	-0,53		113	4,8	-0,16	
32	4,6	-0,38		114	5,3	0,32	
33	4,7	-0,27		116	6,4	1,5	
34	4,9	-0,084		118	5,0	0,063	
35	5,2	0,27		119	5,1	0,19	
36	4,7	-0,26		120	4,4	-0,54	
38	5,0	0,027					
40	4,9	-0,054					
44	5,9	0,96					
45	4,6	-0,37					
46	4,8	-0,13					
49	5,1	0,11					
52	5,2	0,29					
53	5,0	0,098					
56	5,2	0,29					
57	4,6	-0,36					
58	4,0	-0,97					
59	4,6	-0,35					
62	5,3	0,32					
64	4,9	-0,080					
65	5,2	0,26					
69	5,1	0,15					
70	5,6	0,64					
71	4,9	0,00					
74	5,3	0,40					
75	4,6	-0,31					
76	4,4	-0,56					
77	4,8	-0,12					

Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	5,0
Consensus mean, pg/g	4,9
Standard deviation, pg/g	0,42
Relative standard deviation, %	8,6
No. of values reported	68
No. of values removed	1
No. of reported non-detects	0



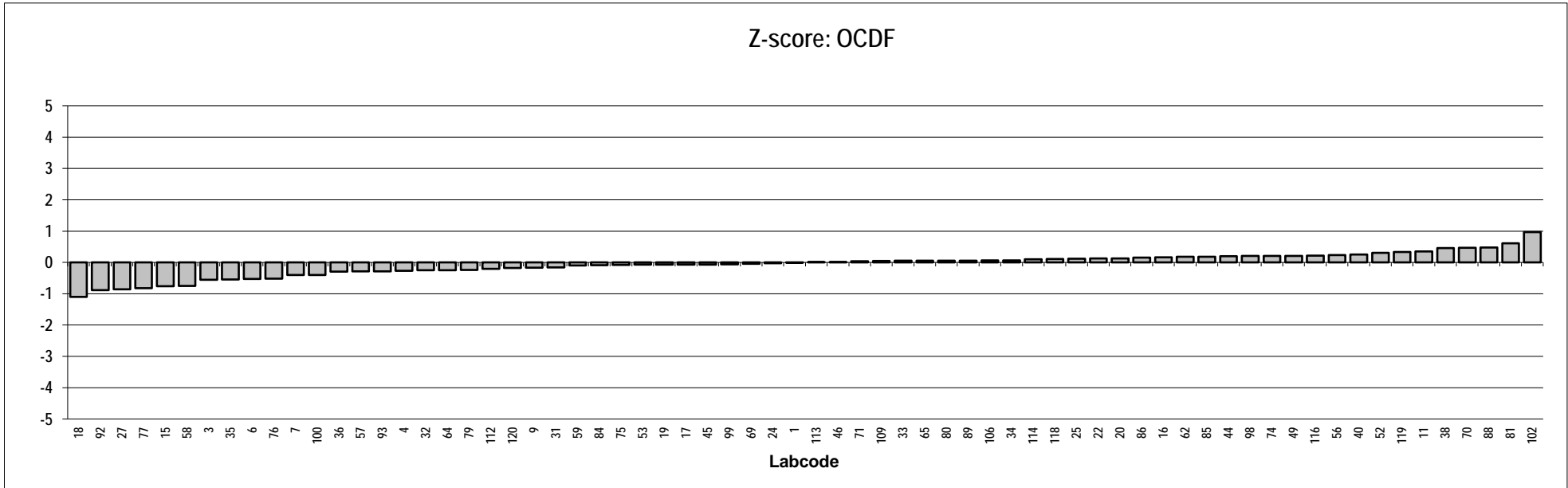
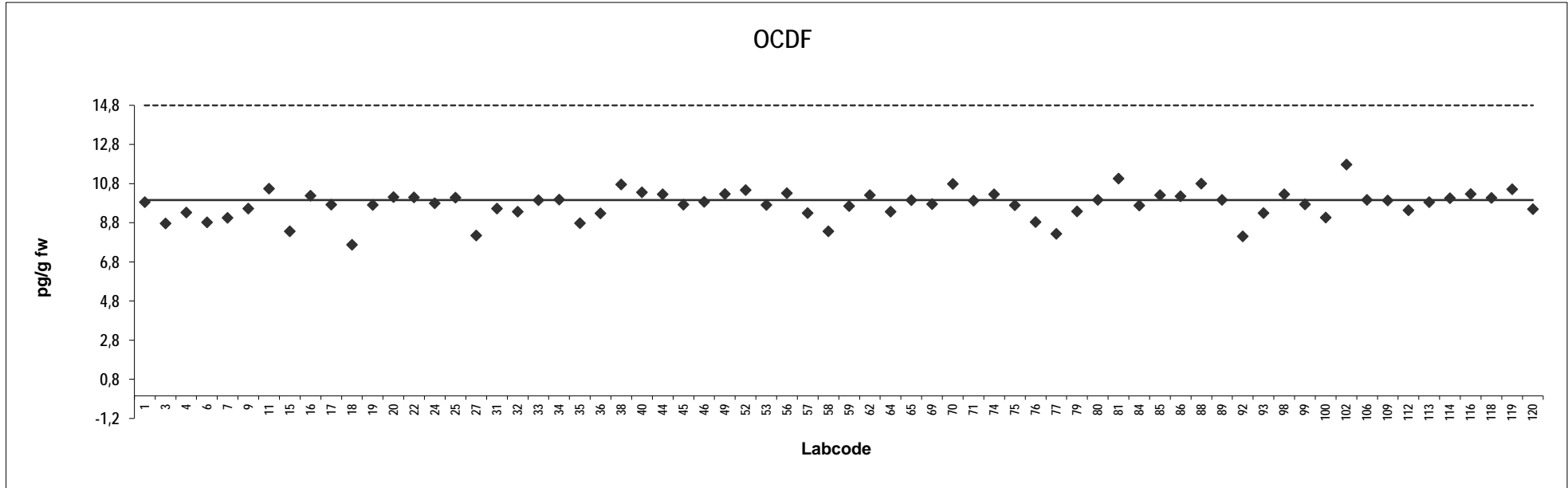
Analyte solution

Congener: OCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	9,9	-0,0014		79	9,4	-0,24	
3	8,8	-0,55		80	10	0,055	
4	9,4	-0,27		81	11	0,61	
6	8,9	-0,52		84	9,7	-0,090	
7	9,1	-0,41		85	10	0,18	
9	9,6	-0,17		86	10	0,15	
11	11	0,35		88	11	0,48	
15	8,4	-0,76		89	10	0,058	
16	10	0,16		92	8,1	-0,89	
17	9,8	-0,068		93	9,3	-0,29	
18	7,7	-1,1		98	10	0,20	
19	9,8	-0,071		99	9,8	-0,058	
20	10	0,13		100	9,1	-0,40	
22	10	0,12		102	12	0,97	
24	9,8	-0,030		106	10	0,061	
25	10	0,12		109	10	0,043	
27	8,2	-0,86		112	9,5	-0,21	
31	9,6	-0,16		113	9,9	0,0014	
32	9,4	-0,25		114	10	0,10	
33	10	0,053		116	10	0,21	
34	10	0,063		118	10	0,11	
35	8,8	-0,54		119	11	0,33	
36	9,3	-0,29		120	9,5	-0,18	
38	11	0,46					
40	10	0,26					
44	10	0,20					
45	9,8	-0,068					
46	9,9	0,0067					
49	10	0,21					
52	11	0,31					
53	9,8	-0,073					
56	10	0,23					
57	9,3	-0,29					
58	8,4	-0,76					
59	9,7	-0,098					
62	10	0,18					
64	9,4	-0,25					
65	10	0,053					
69	9,8	-0,048					
70	11	0,47					
71	10	0,037					
74	10	0,21					
75	9,7	-0,082					
76	8,9	-0,52					
77	8,3	-0,82					

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	0,74
Relative standard deviation, %	7,5
No. of values reported	68
No. of values removed	0
No. of reported non-detects	0



Analyte solution

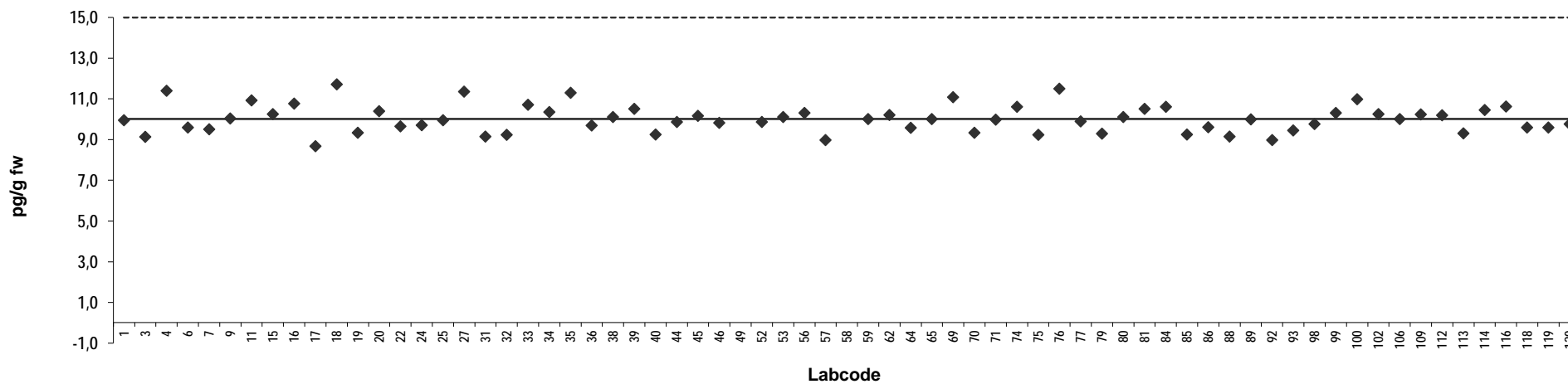
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	9,9	-0,022		77	9,9	-0,051	
3	9,1	-0,43		79	9,3	-0,35	
4	11,4	0,70		80	10	0,056	
6	9,6	-0,20		81	11	0,26	
7	9,5	-0,24		84	11	0,31	
9	10	0,021		85	9,2	-0,37	
11	11	0,47		86	9,6	-0,19	
15	10	0,13		88	9,1	-0,42	
16	11	0,39		89	10	0,00	
17	8,7	-0,66		92	9,0	-0,51	
18	12	0,86		93	9,4	-0,27	
19	9,3	-0,33		98	9,8	-0,11	
20	10	0,20		99	10	0,16	
22	9,6	-0,17		100	11	0,50	
24	9,7	-0,14		102	10	0,13	
25	9,9	-0,019		106	10	0,0063	
27	11	0,68		109	10	0,12	
31	9,1	-0,42		112	10	0,098	
32	9,2	-0,38		113	9,3	-0,34	
33	11	0,36		114	10	0,23	
34	10	0,18		116	11	0,32	
35	11	0,65		118	9,6	-0,20	
36	9,7	-0,15		119	9,6	-0,20	
38	10	0,061		120	9,8	-0,11	
39	11	0,26					
40	9,2	-0,37					
44	9,9	-0,064					
45	10	0,086					
46	9,8	-0,088					
49	132	61	Outlier				
52	9,8	-0,065					
53	10	0,061					
56	10	0,16					
57	9,0	-0,51					
58	25	7,5	Outlier				
59	10	0,011					
62	10	0,11					
64	9,6	-0,21					
65	10	0,011					
69	11	0,55					
70	9,3	-0,33					
71	10	-0,0040					
74	11	0,31					
75	9,2	-0,38					
76	11	0,76					

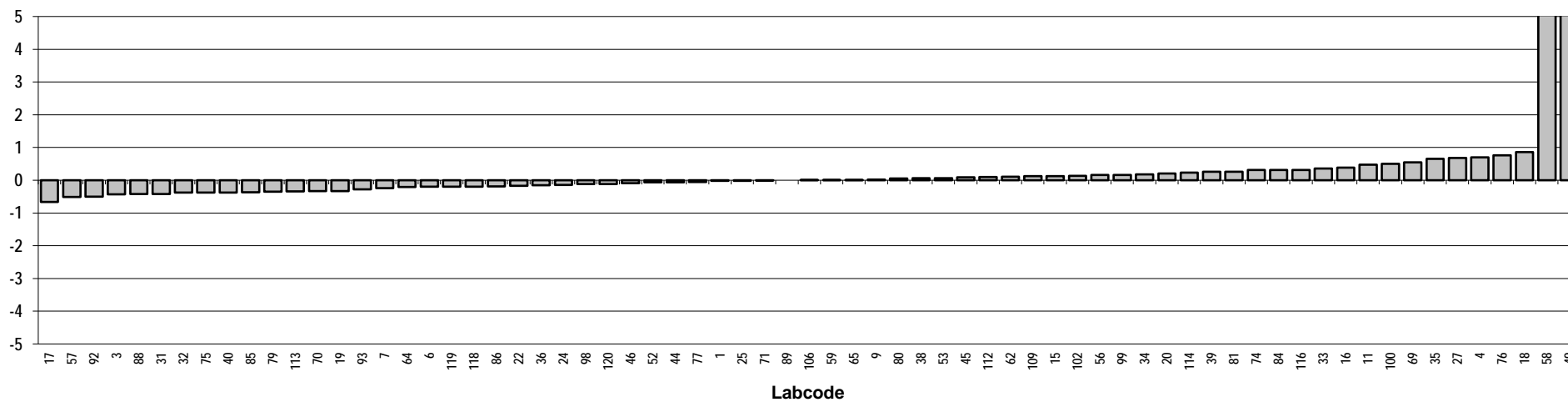
Consensus statistics

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	69
No. of values removed	2
No. of reported non-detects	0

PCB 77



Z-score: PCB 77



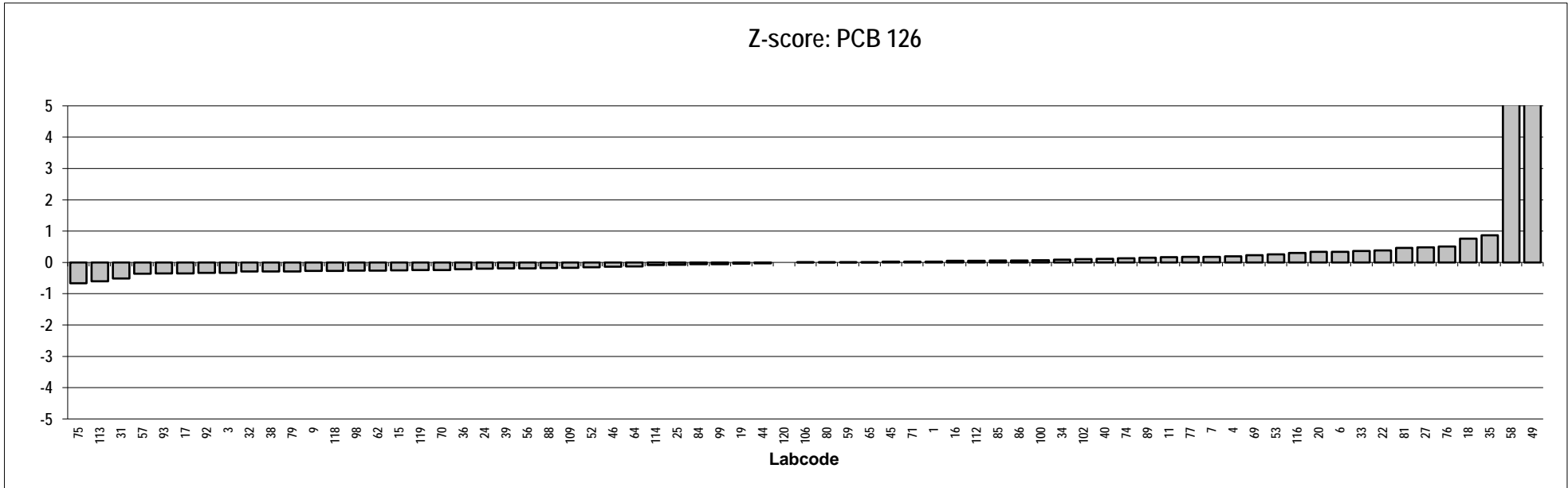
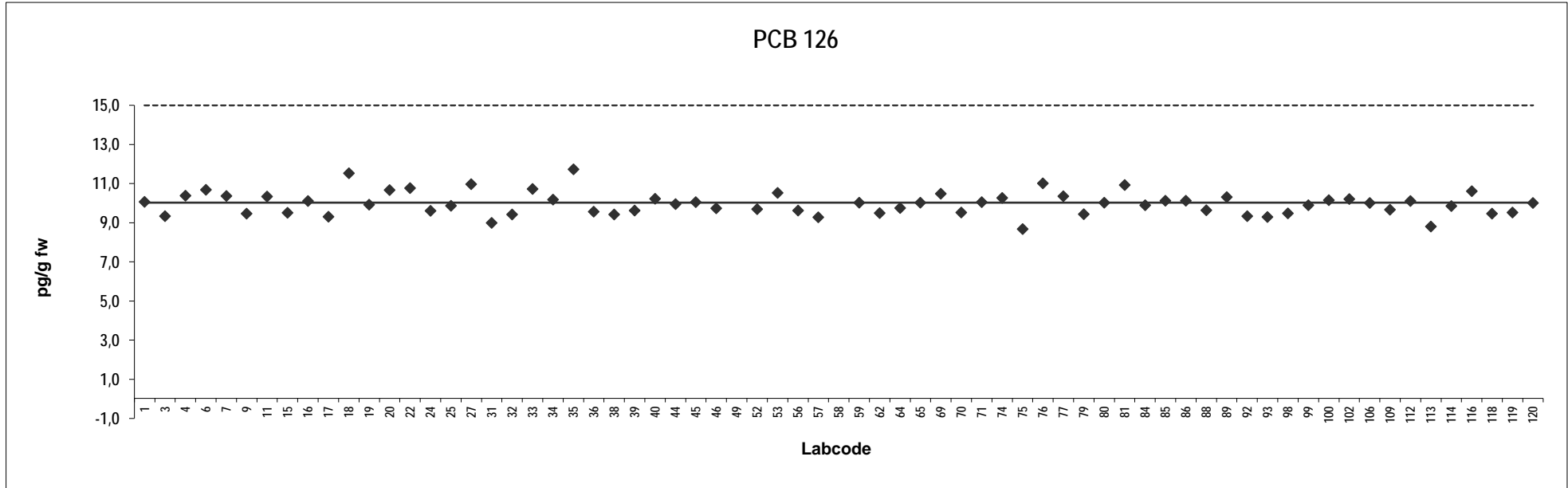
Analyte solution

Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	10	0,029		77	10	0,17	
3	9,3	-0,34		79	9,4	-0,29	
4	10	0,19		80	10	0,0094	
6	11	0,34		81	11	0,46	
7	10	0,18		84	9,9	-0,055	
9	9,4	-0,27		85	10	0,060	
11	10	0,17		86	10	0,060	
15	9,5	-0,25		88	9,6	-0,18	
16	10	0,050		89	10	0,15	
17	9,3	-0,35		92	9,3	-0,34	
18	12	0,76		93	9,3	-0,36	
19	9,9	-0,040		98	9,5	-0,27	
20	11	0,33		99	9,9	-0,055	
22	11	0,38		100	10	0,070	
24	9,6	-0,20		102	10	0,11	
25	9,8	-0,070		106	10	0,0013	
27	11	0,48		109	9,6	-0,17	
31	9,0	-0,51		112	10	0,052	
32	9,4	-0,29		113	8,8	-0,61	
33	11	0,36		114	9,8	-0,080	
34	10	0,085		116	11	0,30	
35	12	0,87		118	9,4	-0,27	
36	9,5	-0,22		119	9,5	-0,24	
38	9,4	-0,29		120	10	0,00	
39	9,6	-0,19					
40	10	0,11					
44	9,9	-0,025					
45	10	0,025					
46	9,7	-0,13					
49	87	39	Outlier				
52	9,7	-0,15					
53	11	0,26					
56	9,6	-0,19					
57	9,3	-0,36					
58	21	5,3	Outlier				
59	10	0,010					
62	9,5	-0,26					
64	9,7	-0,13					
65	10	0,010					
69	10	0,23					
70	9,5	-0,24					
71	10	0,025					
74	10	0,13					
75	8,6	-0,67					
76	11	0,51					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	9,9
Standard deviation, pg/g	0,58
Relative standard deviation, %	5,9
No. of values reported	69
No. of values removed	2
No. of reported non-detects	0



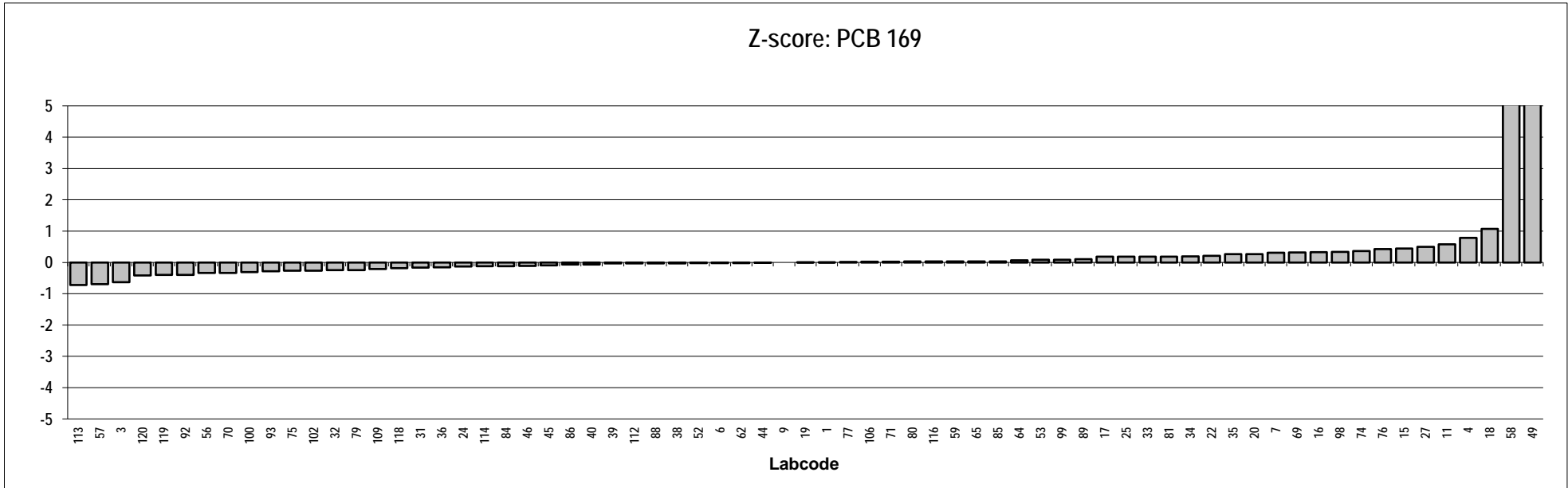
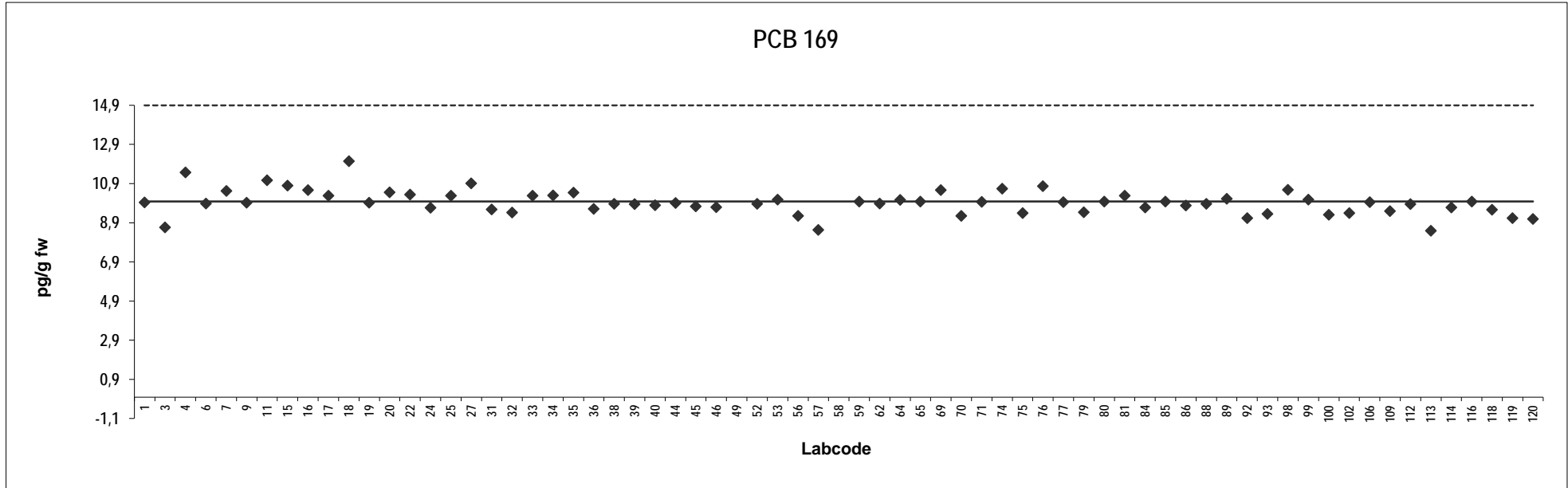
Analyte solution

Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	9,9	0,0063		77	10	0,015	
3	8,7	-0,63		79	9,5	-0,24	
4	11	0,78		80	10	0,031	
6	9,9	-0,022		81	10	0,18	
7	11	0,31		84	9,7	-0,12	
9	9,9	0,00		85	10	0,033	
11	11	0,58		86	9,8	-0,068	
15	11	0,44		88	9,9	-0,029	
16	11	0,32		89	10	0,10	
17	10	0,18		92	9,2	-0,39	
18	12	1,1		93	9,4	-0,28	
19	9,9	0,0041		98	11	0,33	
20	10	0,27		99	10	0,083	
22	10	0,21		100	9,3	-0,31	
24	9,7	-0,13		102	9,4	-0,26	
25	10	0,18		106	10	0,019	
27	11	0,50		109	9,5	-0,21	
31	9,6	-0,17		112	9,9	-0,03	
32	9,4	-0,25		113	8,5	-0,72	
33	10	0,18		114	9,7	-0,12	
34	10	0,19		116	10	0,031	
35	10	0,26		118	9,6	-0,18	
36	9,6	-0,16		119	9,1	-0,40	
38	9,9	-0,027		120	9,1	-0,42	
39	9,9	-0,032					
40	9,8	-0,063					
44	9,9	-0,0073					
45	9,8	-0,093					
46	9,7	-0,11					
49	26	7,9	Outlier				
52	9,9	-0,026					
53	10	0,083					
56	9,3	-0,34					
57	8,5	-0,70					
58	20	5,3	Outlier				
59	10	0,033					
62	9,9	-0,022					
64	10	0,071					
65	10	0,033					
69	11	0,32					
70	9,3	-0,34					
71	10	0,023					
74	11	0,36					
75	9,4	-0,26					
76	11	0,43					

Consensus statistics

Consensus median, pg/g	9,9
Median all values pg/g	9,9
Consensus mean, pg/g	9,9
Standard deviation, pg/g	0,62
Relative standard deviation, %	6,2
No. of values reported	69
No. of values removed	2
No. of reported non-detects	0



Analyte solution

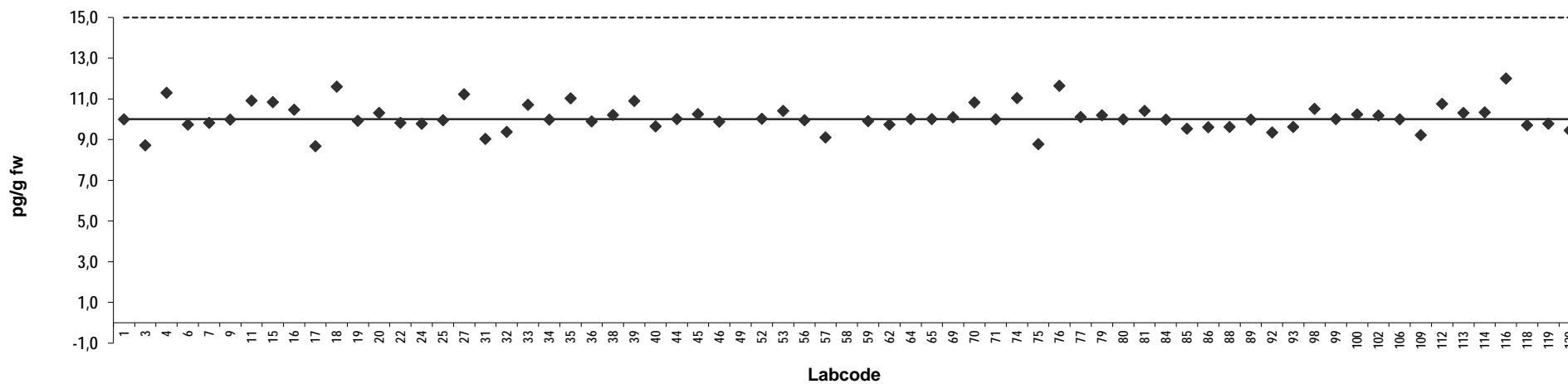
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	10	-0,0062		77	10	0,053	
3	8,7	-0,64		79	10	0,097	
4	11	0,65		80	10	-0,0026	
6	9,7	-0,13		81	10	0,20	
7	9,8	-0,092		84	10	-0,0079	
9	10	-0,0072		85	10	-0,23	
11	11	0,45		86	9,6	-0,20	
15	11	0,42		88	9,6	-0,19	
16	10	0,23		89	10	-0,011	
17	8,7	-0,66		92	9,4	-0,32	
18	12	0,80		93	9,6	-0,19	
19	9,9	-0,036		98	11	0,25	
20	10	0,16		99	10	0,0021	
22	9,8	-0,088		100	10	0,12	
24	9,8	-0,11		102	10	0,092	
25	9,9	-0,028		106	10	0,00	
27	11	0,61		109	9,2	-0,39	
31	9,0	-0,48		112	11	0,37	
32	9,4	-0,31		113	10	0,15	
33	11	0,35		114	10	0,17	
34	10	-0,013		116	12	1,0	
35	11	0,51		118	9,7	-0,15	
36	9,9	-0,051		119	9,8	-0,11	
38	10	0,10		120	9,5	-0,27	
39	11	0,45					
40	9,6	-0,18					
44	10	0,0071					
45	10	0,13					
46	9,9	-0,060					
49	27	8,7	Outlier				
52	10	0,013					
53	10	0,20					
56	9,9	-0,028					
57	9,1	-0,45					
58	28	8,9	Outlier				
59	9,9	-0,048					
62	9,7	-0,13					
64	10	0,0076					
65	10	0,0021					
69	10	0,046					
70	11	0,41					
71	10	0,00060					
74	11	0,52					
75	8,8	-0,61					
76	12	0,82					

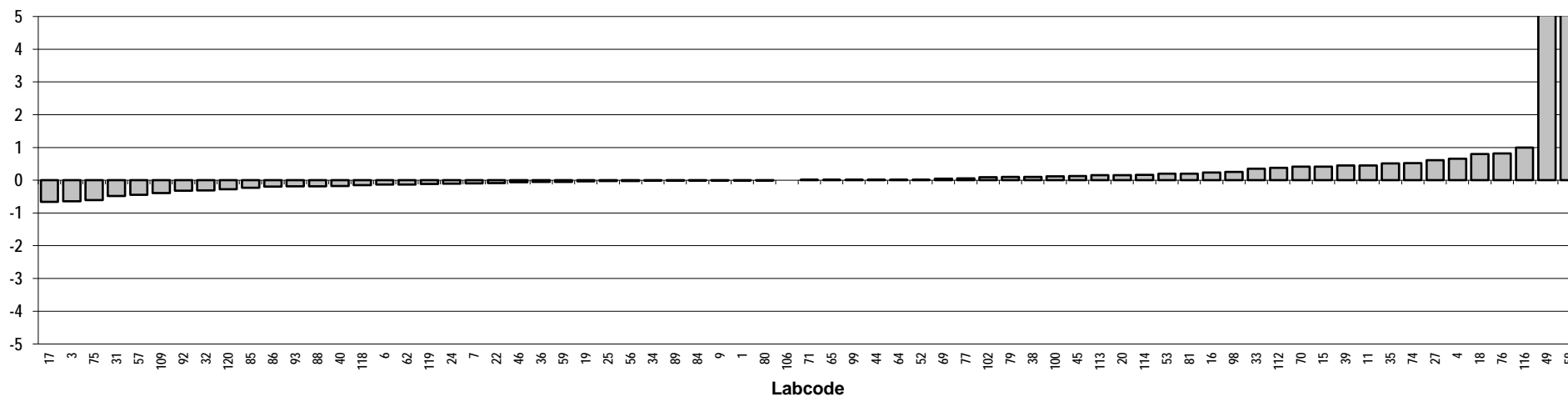
Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	10
Standard deviation, pg/g	0,66
Relative standard deviation, %	6,6
No. of values reported	69
No. of values removed	2
No. of reported non-detects	0

PCB 81



Z-score: PCB 81



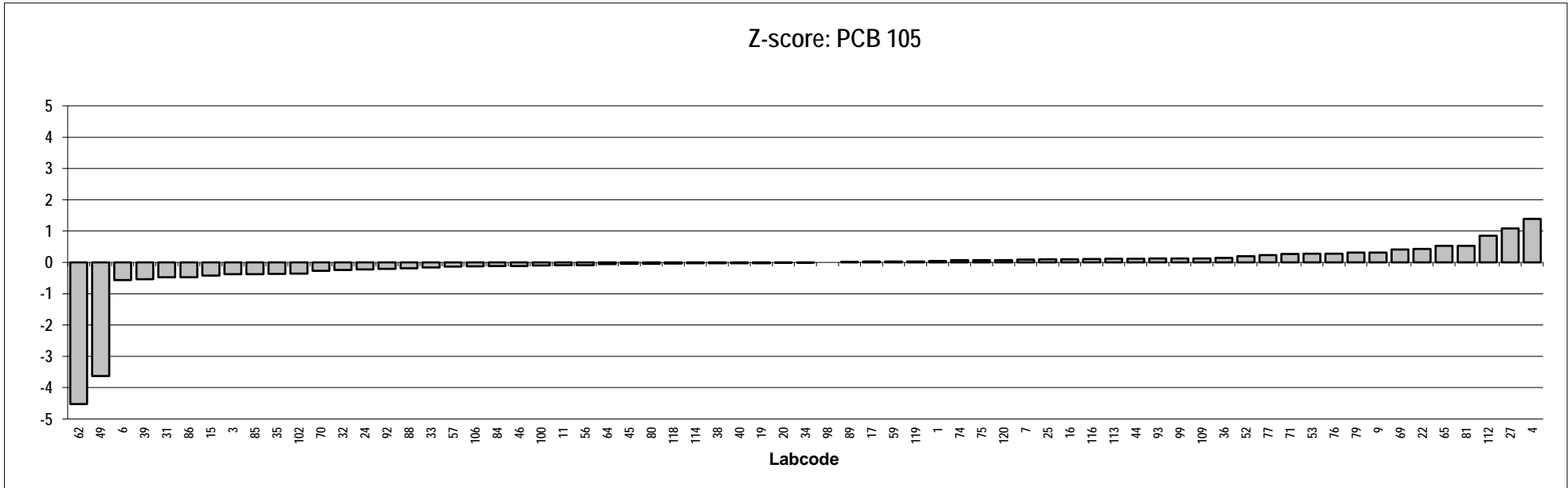
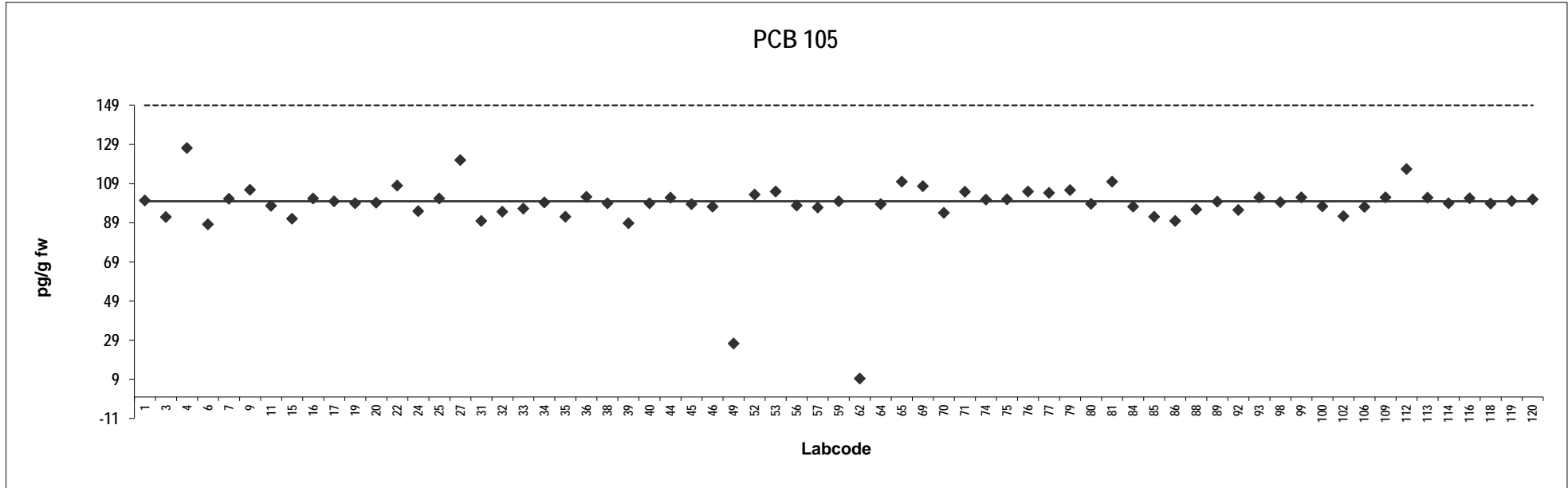
Analyte solution

Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	100	0,049		80	99	-0,043	
3	92	-0,38		81	110	0,53	
4	127	1,4		84	97	-0,11	
6	88	-0,56		85	92	-0,37	
7	101	0,091		86	90	-0,48	
9	106	0,32		88	96	-0,19	
11	98	-0,091		89	100	0,018	
15	91	-0,42		92	96	-0,20	
16	101	0,096		93	102	0,13	
17	100	0,025		98	100	0,000	
19	99	-0,024		99	102	0,13	
20	99	-0,0097		100	97	-0,10	
22	108	0,43		102	92	-0,35	
24	95	-0,23		106	97	-0,12	
25	101	0,095		109	102	0,13	
27	121	1,1		112	116	0,85	
31	90	-0,48		113	102	0,12	
32	95	-0,24		114	99	-0,029	
33	96	-0,16		116	102	0,10	
34	99	-0,0070		118	99	-0,034	
35	92	-0,37		119	100	0,029	
36	102	0,14		120	101	0,075	
38	99	-0,025					
39	89	-0,54					
40	99	-0,025					
44	102	0,12					
45	99	-0,045					
46	97	-0,11					
49	27	-3,6	Outlier				
52	103	0,19					
53	105	0,28					
56	98	-0,085					
57	97	-0,14					
59	100	0,025					
62	9,4	-4,5	Outlier				
64	99	-0,049					
65	110	0,53					
69	108	0,41					
70	94	-0,27					
71	105	0,27					
74	101	0,069					
75	101	0,073					
76	105	0,28					
77	104	0,24					
79	106	0,31					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	99
Consensus mean, pg/g	100
Standard deviation, pg/g	6,8
Relative standard deviation, %	6,8
No. of values reported	67
No. of values removed	2
No. of reported non-detects	0



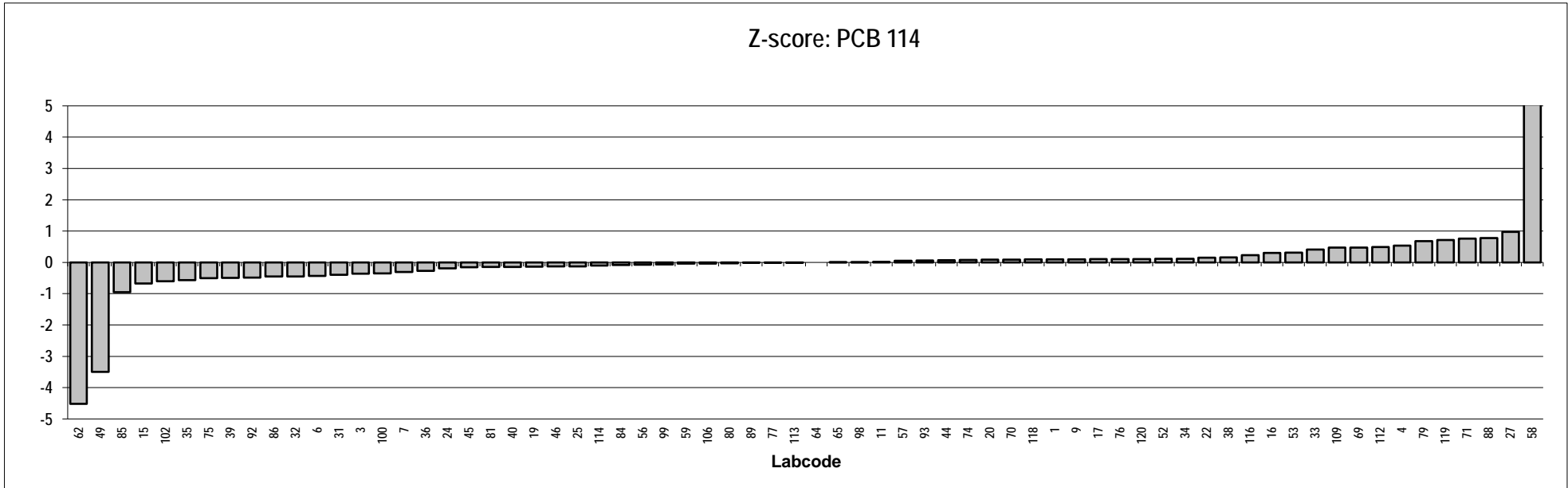
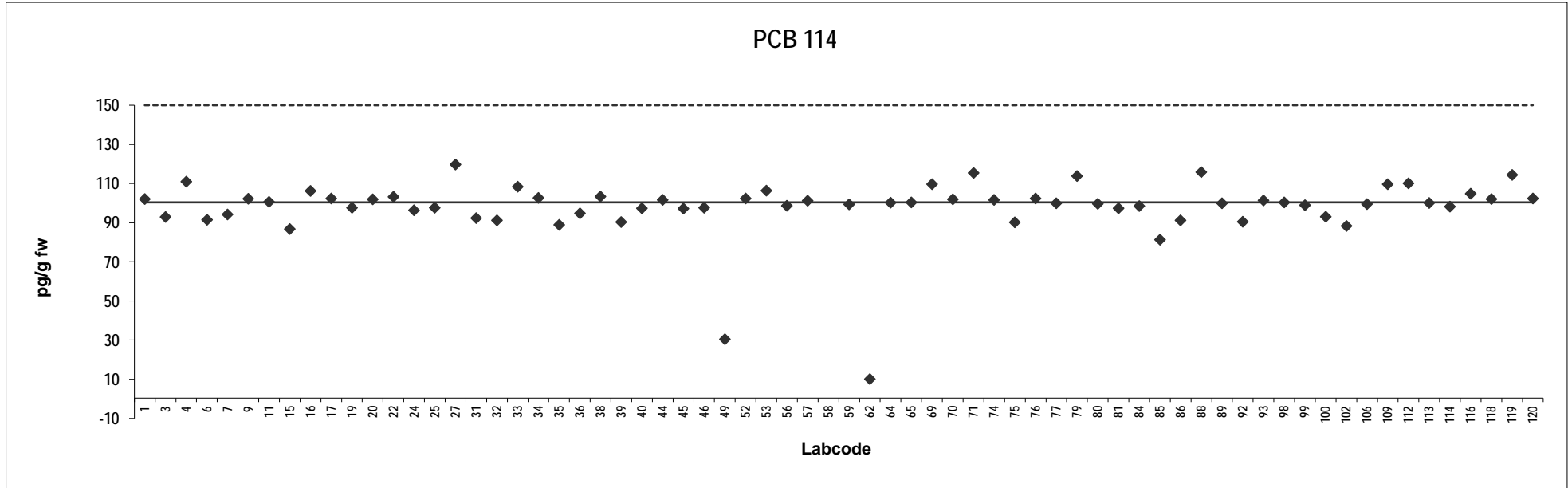
Analyte solution

Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	102	0,096		79	113	0,68	
3	93	-0,36		80	99	-0,028	
4	111	0,54		81	97	-0,15	
6	91	-0,43		84	98	-0,083	
7	94	-0,30		85	81	-0,95	
9	102	0,10		86	91	-0,45	
11	100	0,020		88	115	0,78	
15	86	-0,67		89	100	-0,014	
16	106	0,30		92	90	-0,49	
17	102	0,11		93	101	0,059	
19	97	-0,13		98	100	0,0089	
20	102	0,085		99	99	-0,061	
22	103	0,15		100	93	-0,35	
24	96	-0,19		102	88	-0,60	
25	97	-0,13		106	99	-0,038	
27	119	0,98		109	109	0,47	
31	92	-0,39		112	110	0,49	
32	91	-0,45		113	100	-0,0085	
33	108	0,41		114	98	-0,098	
34	102	0,12		116	104	0,23	
35	88	-0,57		118	102	0,095	
36	94	-0,27		119	114	0,71	
38	103	0,16		120	102	0,11	
39	90	-0,49					
40	97	-0,14					
44	101	0,074					
45	97	-0,15					
46	97	-0,13					
49	30	-3,5	Outlier				
52	102	0,11					
53	106	0,31					
56	98	-0,076					
57	101	0,051					
58	304	10	Outlier				
59	99	-0,041					
62	9,7	-4,5	Outlier				
64	100	0,00					
65	100	0,0089					
69	109	0,47					
70	102	0,088					
71	115	0,76					
74	101	0,076					
75	90	-0,50					
76	102	0,11					
77	100	-0,013					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	100
Standard deviation, pg/g	7,4
Relative standard deviation, %	7,4
No. of values reported	68
No. of values removed	3
No. of reported non-detects	0



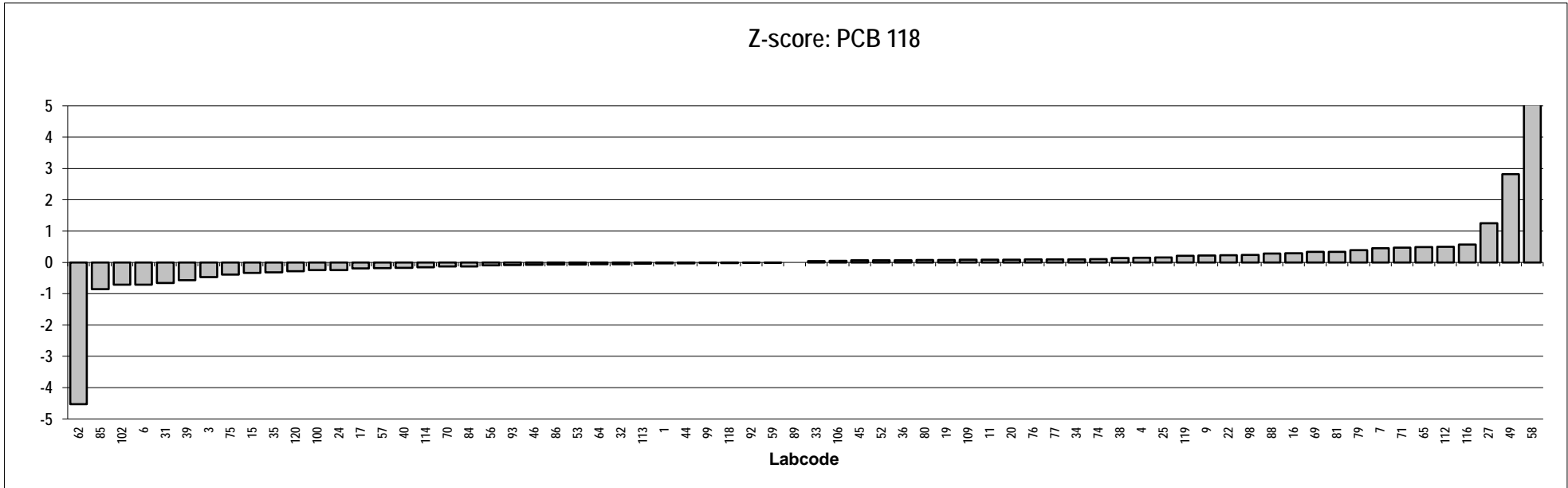
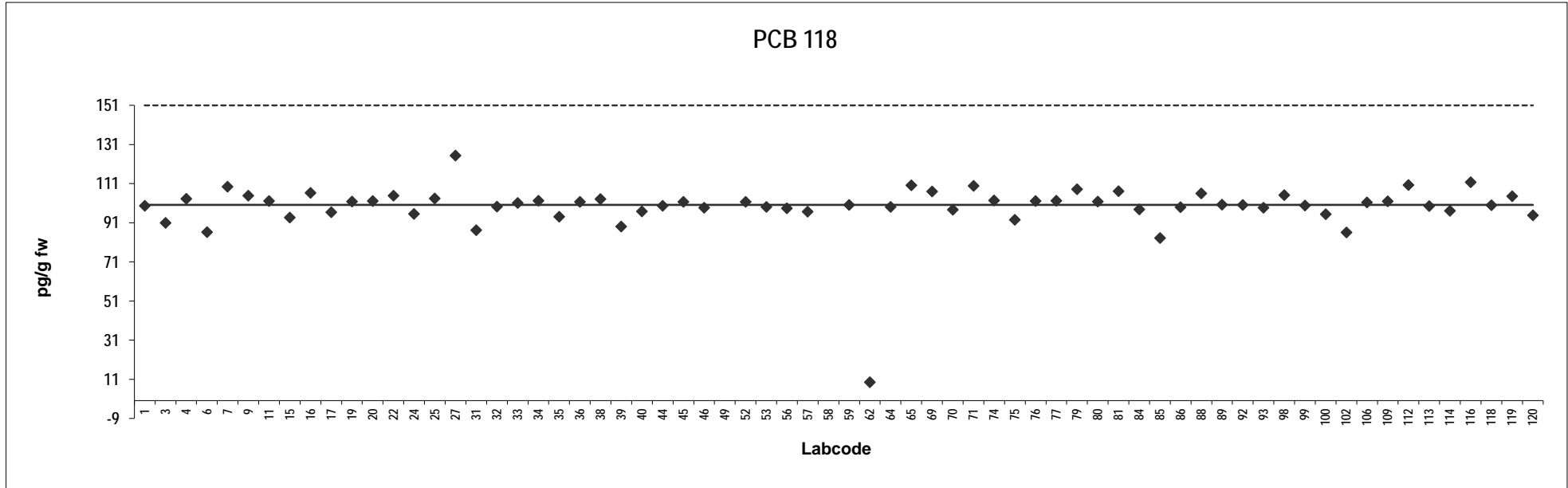
Analyte solution

Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	99	-0,034		79	108	0,39	
3	91	-0,47		80	102	0,073	
4	103	0,15		81	107	0,34	
6	86	-0,71		84	98	-0,13	
7	109	0,46		85	83	-0,85	
9	105	0,22		86	99	-0,068	
11	102	0,087		88	106	0,28	
15	93	-0,33		89	100	0,00	
16	106	0,30		92	100	-0,014	
17	96	-0,19		93	99	-0,083	
19	102	0,075		98	105	0,24	
20	102	0,089		99	100	-0,023	
22	105	0,23		100	95	-0,24	
24	95	-0,24		102	86	-0,71	
25	103	0,16		106	101	0,054	
27	125	1,3		109	102	0,085	
31	87	-0,66		112	110	0,50	
32	99	-0,055		113	99	-0,042	
33	101	0,041		114	97	-0,16	
34	102	0,097		116	112	0,57	
35	94	-0,31		118	100	-0,020	
36	102	0,071		119	104	0,21	
38	103	0,14		120	95	-0,28	
39	89	-0,56					
40	97	-0,17					
44	100	-0,028					
45	102	0,066					
46	99	-0,078					
49	157	2,8	Outlier				
52	102	0,070					
53	99	-0,063					
56	98	-0,093					
57	97	-0,18					
58	286	9,3	Outlier				
59	100	-0,0085					
62	9,4	-4,5	Outlier				
64	99	-0,059					
65	110	0,49					
69	107	0,34					
70	98	-0,13					
71	110	0,48					
74	102	0,11					
75	92	-0,39					
76	102	0,091					
77	102	0,096					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	101
Consensus mean, pg/g	100
Standard deviation, pg/g	6,7
Relative standard deviation, %	6,7
No. of values reported	68
No. of values removed	3
No. of reported non-detects	0



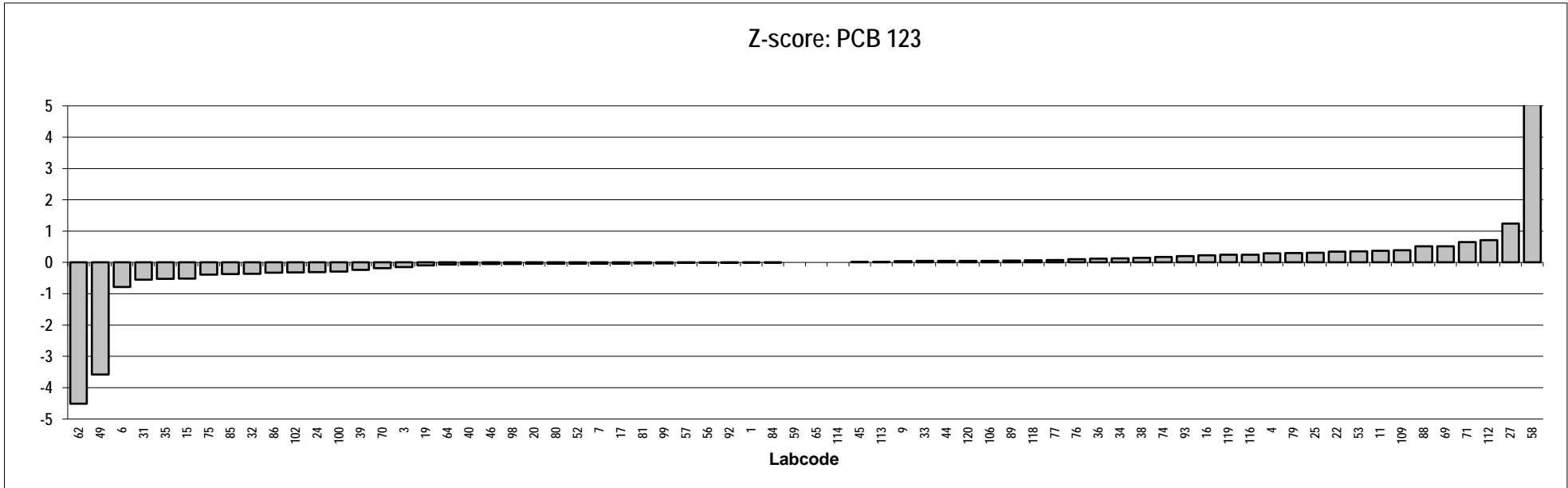
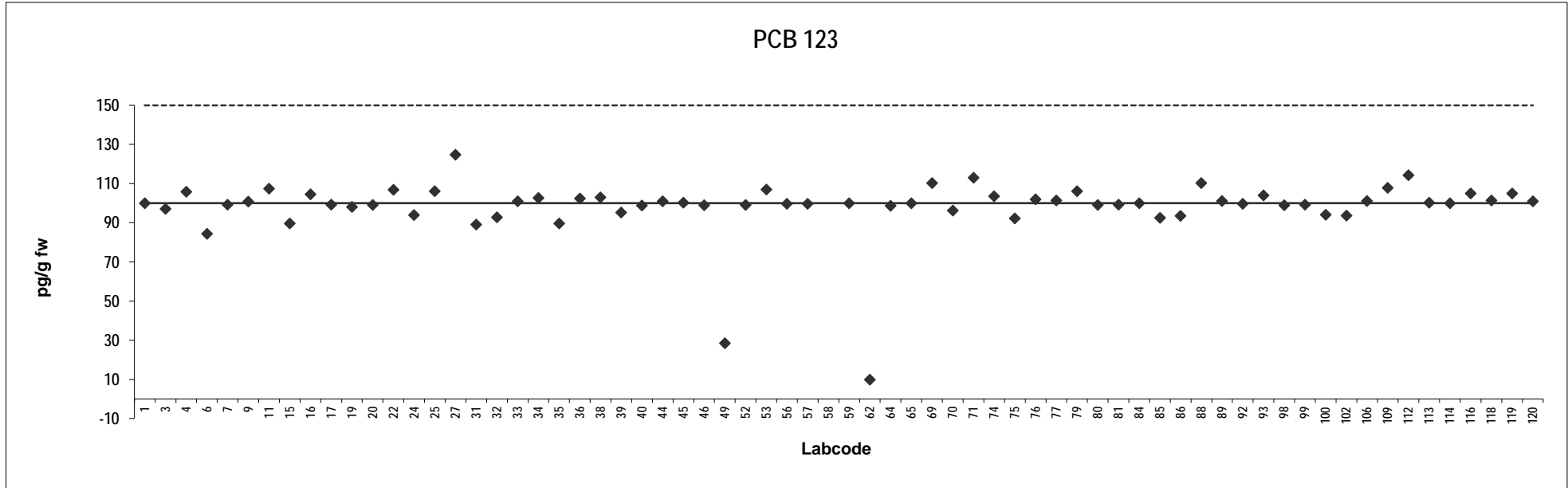
Analyte solution

Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	100	-0,0059		79	106	0,30	
3	97	-0,15		80	99	-0,044	
4	106	0,29		81	99	-0,035	
6	84	-0,79		84	100	-0,00065	
7	99	-0,042		85	93	-0,38	
9	101	0,038		86	94	-0,33	
11	107	0,37		88	110	0,51	
15	90	-0,52		89	101	0,053	
16	105	0,23		92	100	-0,015	
17	99	-0,040		93	104	0,20	
19	98	-0,096		98	99	-0,050	
20	99	-0,045		99	99	-0,035	
22	107	0,34		100	94	-0,30	
24	94	-0,31		102	94	-0,32	
25	106	0,31		106	101	0,051	
27	125	1,2		109	108	0,39	
31	89	-0,55		112	114	0,71	
32	93	-0,36		113	100	0,014	
33	101	0,050		114	100	0,00	
34	103	0,13		116	105	0,25	
35	90	-0,52		118	101	0,066	
36	102	0,12		119	105	0,25	
38	103	0,15		120	101	0,050	
39	95	-0,240					
40	99	-0,060					
44	101	0,050					
45	100	0,010					
46	99	-0,051					
49	28	-3,6	Outlier				
52	99	-0,044					
53	107	0,35					
56	100	-0,015					
57	100	-0,018					
58	257	7,9	Outlier				
59	100	0,00					
62	9,8	-4,5	Outlier				
64	99	-0,067					
65	100	0,00					
69	110	0,52					
70	96	-0,19					
71	113	0,65					
74	104	0,18					
75	92	-0,39					
76	102	0,10					
77	101	0,071					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	6,4
Relative standard deviation, %	6,3
No. of values reported	68
No. of values removed	3
No. of reported non-detects	0



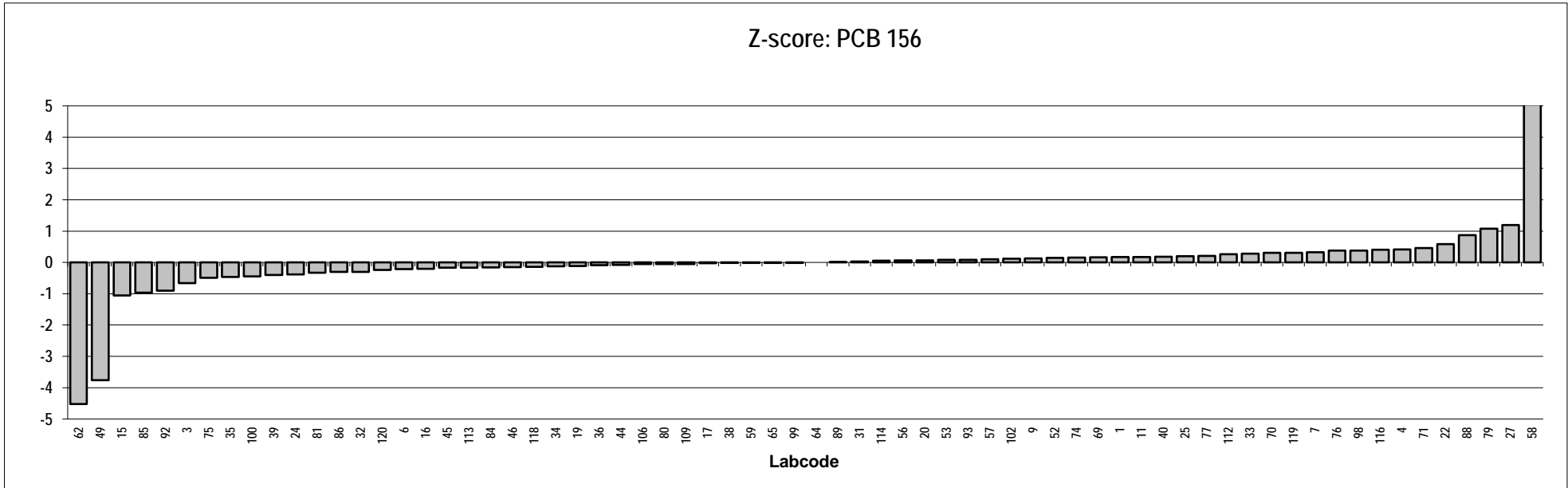
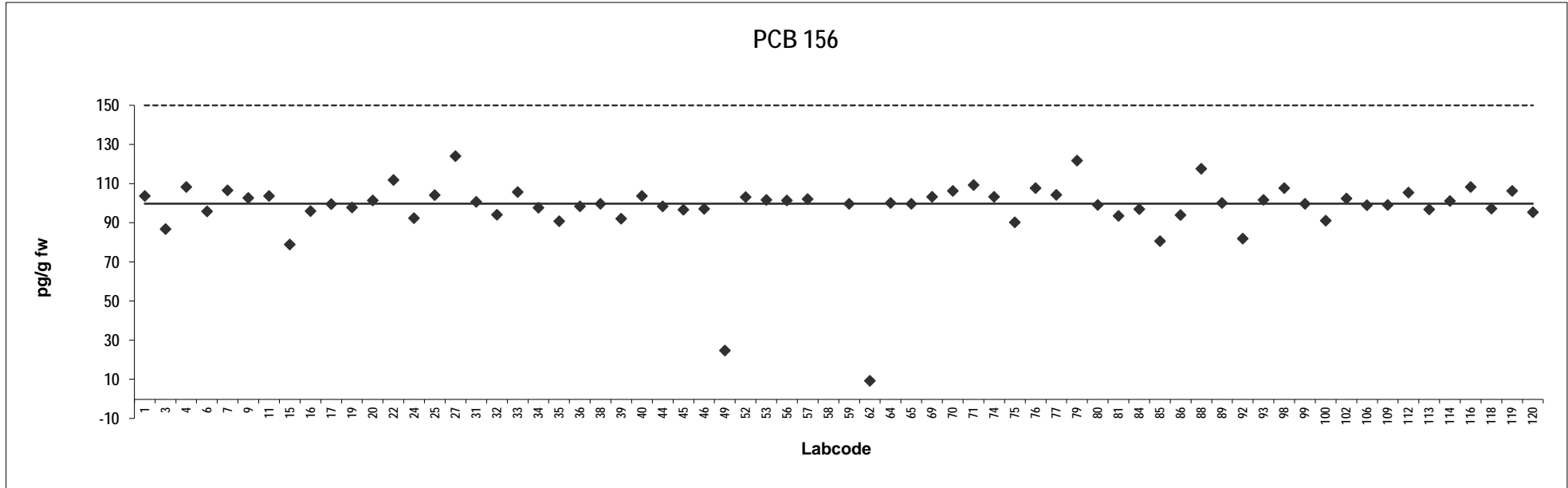
Analyte solution

Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	104	0,18		79	122	1,1	
3	87	-0,66		80	99	-0,049	
4	109	0,41		81	94	-0,33	
6	96	-0,21		84	97	-0,16	
7	107	0,32		85	81	-0,97	
9	103	0,13		86	94	-0,31	
11	104	0,18		88	118	0,87	
15	79	-1,1		89	100	0,00086	
16	96	-0,20		92	82	-0,90	
17	100	-0,028		93	102	0,082	
19	98	-0,11		98	108	0,38	
20	102	0,063		99	100	-0,018	
22	112	0,59		100	91	-0,45	
24	93	-0,38		102	103	0,12	
25	104	0,20		106	99	-0,055	
27	124	1,2		109	99	-0,049	
31	101	0,032		112	106	0,26	
32	94	-0,30		113	97	-0,17	
33	106	0,28		114	101	0,052	
34	98	-0,12		116	108	0,40	
35	91	-0,46		118	97	-0,14	
36	99	-0,084		119	107	0,31	
38	100	-0,02		120	96	-0,24	
39	92	-0,40					
40	104	0,18					
44	99	-0,083					
45	97	-0,17					
46	97	-0,15					
49	25	-3,8	Outlier				
52	103	0,15					
53	102	0,082					
56	102	0,062					
57	102	0,10					
58	287	9,3	Outlier				
59	100	-0,018					
62	9,5	-4,5	Outlier				
64	100	0,00					
65	100	-0,018					
69	104	0,16					
70	106	0,31					
71	110	0,46					
74	103	0,15					
75	90	-0,49					
76	108	0,38					
77	105	0,21					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	8,0
Relative standard deviation, %	8,0
No. of values reported	68
No. of values removed	3
No. of reported non-detects	0



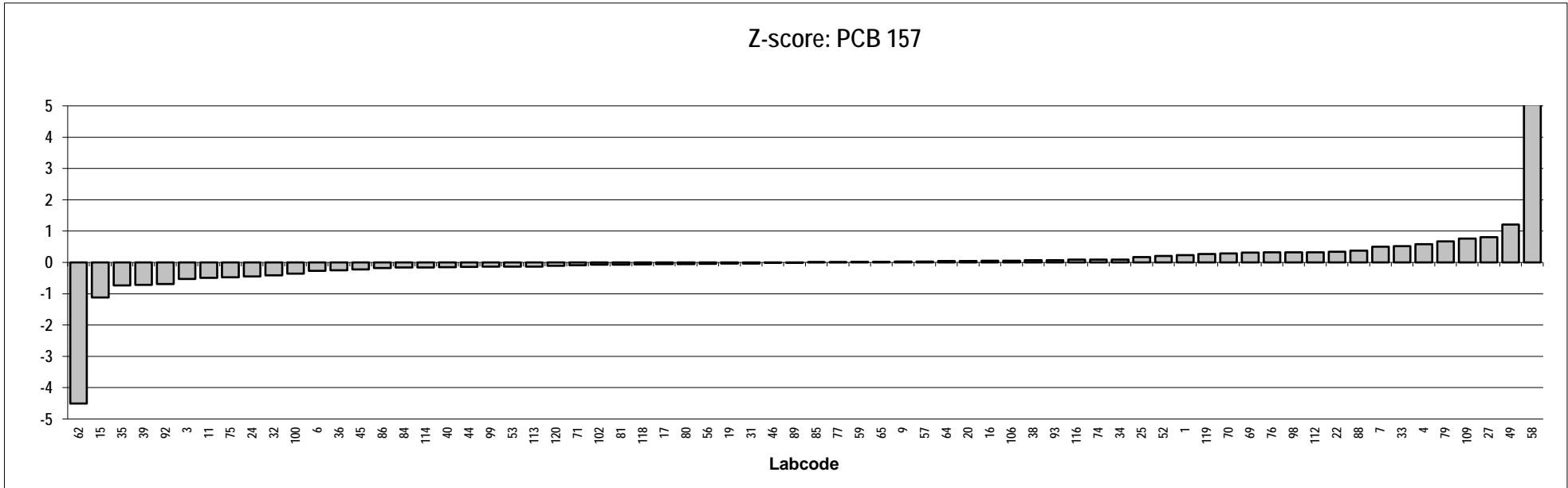
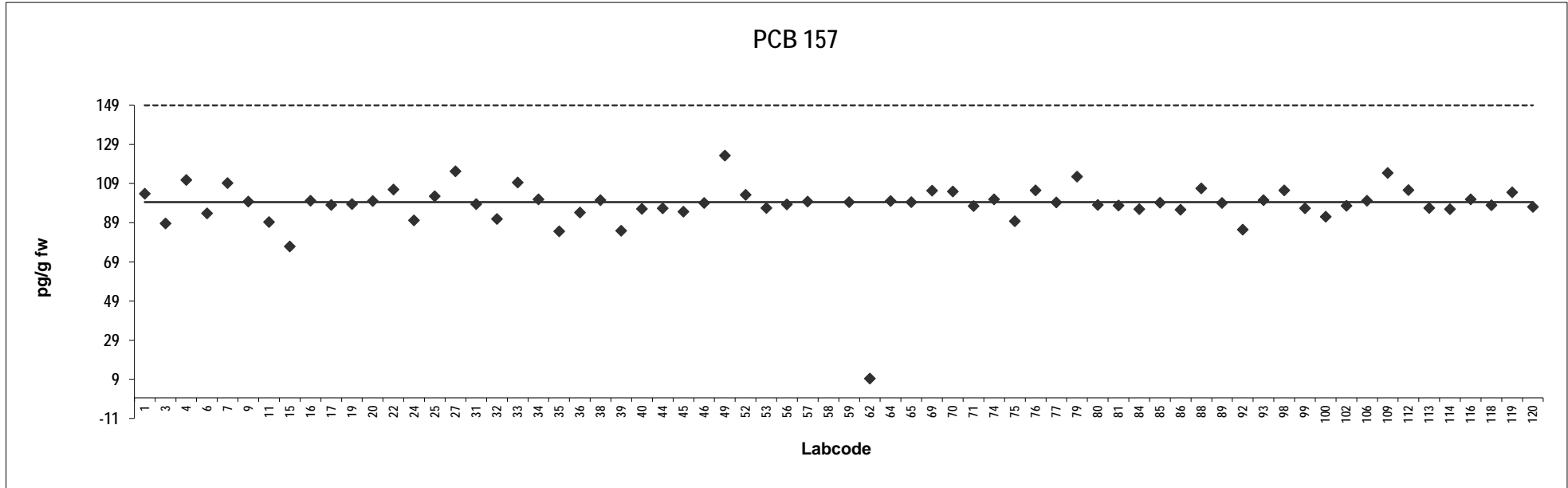
Analyte solution

Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	104	0,23		79	113	0,67	
3	89	-0,53		80	99	-0,052	
4	111	0,59		81	98	-0,068	
6	94	-0,27		84	96	-0,16	
7	110	0,51		85	100	0,0025	
9	100	0,029		86	96	-0,18	
11	90	-0,49		88	107	0,37	
15	77	-1,1		89	100	-0,0025	
16	101	0,050		92	86	-0,69	
17	99	-0,058		93	101	0,068	
19	99	-0,034		98	106	0,32	
20	101	0,047		99	97	-0,14	
22	106	0,34		100	93	-0,36	
24	91	-0,45		102	98	-0,074	
25	103	0,17		106	101	0,054	
27	116	0,81		109	115	0,77	
31	99	-0,033		112	106	0,33	
32	91	-0,41		113	97	-0,13	
33	110	0,52		114	96	-0,16	
34	101	0,090		116	101	0,086	
35	85	-0,73		118	98	-0,061	
36	95	-0,25		119	105	0,27	
38	101	0,068		120	98	-0,11	
39	85	-0,72					
40	97	-0,15					
44	97	-0,14					
45	95	-0,23					
46	100	-0,0074					
49	124	1,2					
52	104	0,20					
53	97	-0,13					
56	99	-0,043					
57	100	0,031					
58	273	8,7	Outlier				
59	100	0,018					
62	9,9	-4,5	Outlier				
64	101	0,044					
65	100	0,018					
69	106	0,31					
70	105	0,29					
71	98	-0,087					
74	101	0,088					
75	90	-0,47					
76	106	0,32					
77	100	0,0097					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	100
Standard deviation, pg/g	7,6
Relative standard deviation, %	7,6
No. of values reported	68
No. of values removed	2
No. of reported non-detects	0



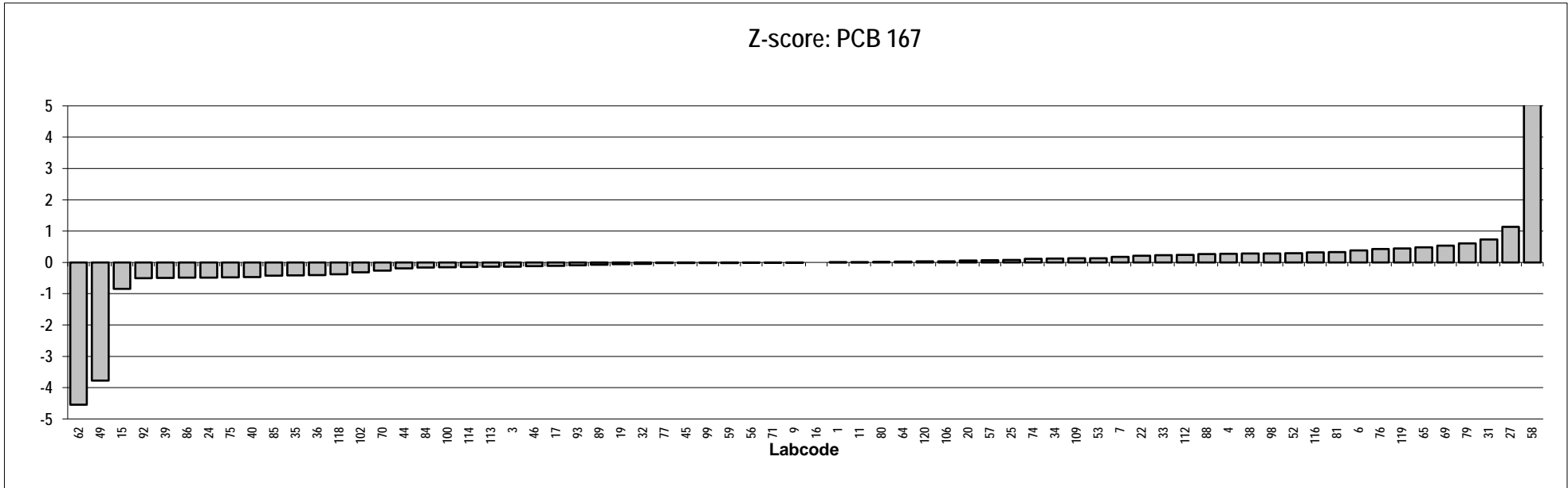
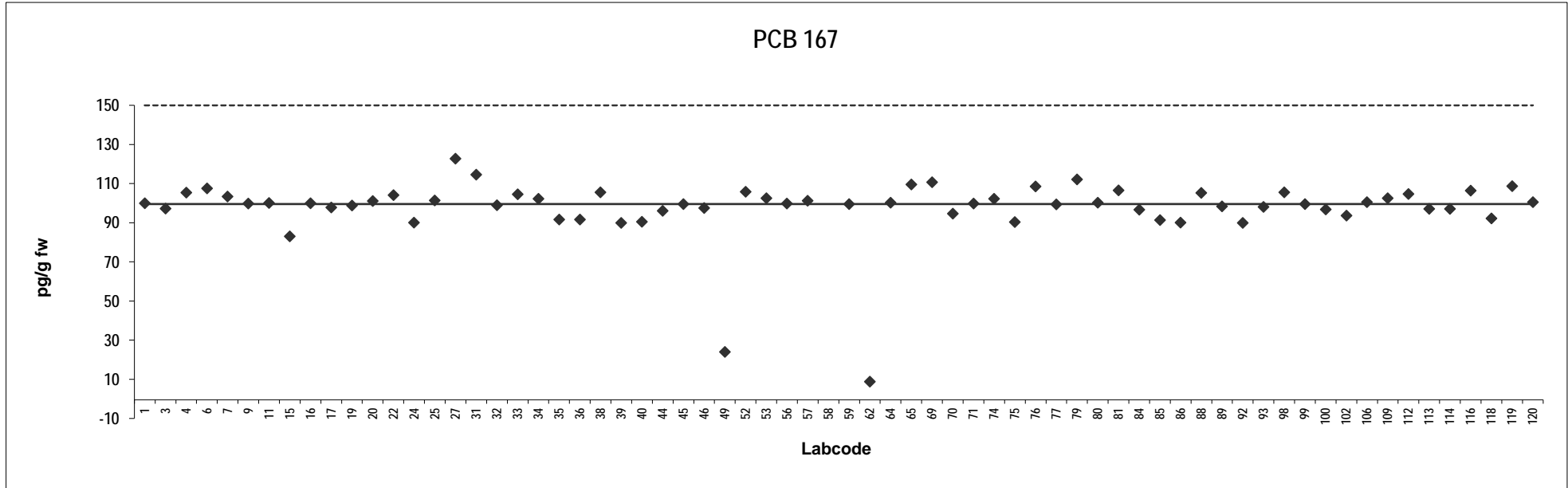
Analyte solution

Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	100	0,0051		79	113	0,61	
3	98	-0,13		80	101	0,020	
4	106	0,28		81	107	0,33	
6	108	0,38		84	97	-0,16	
7	104	0,18		85	92	-0,43	
9	100	-0,0037		86	91	-0,49	
11	100	0,0078		88	106	0,26	
15	83	-0,84		89	99	-0,072	
16	100	0,00		92	90	-0,50	
17	98	-0,11		93	99	-0,092	
19	99	-0,054		98	106	0,28	
20	102	0,061		99	100	-0,022	
22	105	0,21		100	97	-0,16	
24	91	-0,49		102	94	-0,31	
25	102	0,078		106	101	0,033	
27	123	1,1		109	103	0,13	
31	115	0,73		112	105	0,24	
32	99	-0,046		113	98	-0,14	
33	105	0,23		114	97	-0,14	
34	103	0,12		116	107	0,32	
35	92	-0,41		118	93	-0,38	
36	92	-0,41		119	109	0,44	
38	106	0,28		120	101	0,033	
39	90	-0,50					
40	91	-0,47					
44	97	-0,19					
45	100	-0,022					
46	98	-0,12					
49	25	-3,8	Outlier				
52	106	0,30					
53	103	0,13					
56	100	-0,0070					
57	102	0,069					
58	264	8,2	Outlier				
59	100	-0,017					
62	9,2	-4,5	Outlier				
64	101	0,020					
65	110	0,48					
69	111	0,54					
70	95	-0,26					
71	100	-0,0070					
74	103	0,11					
75	91	-0,48					
76	109	0,43					
77	100	-0,022					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	6,8
Relative standard deviation, %	6,7
No. of values reported	68
No. of values removed	3
No. of reported non-detects	0



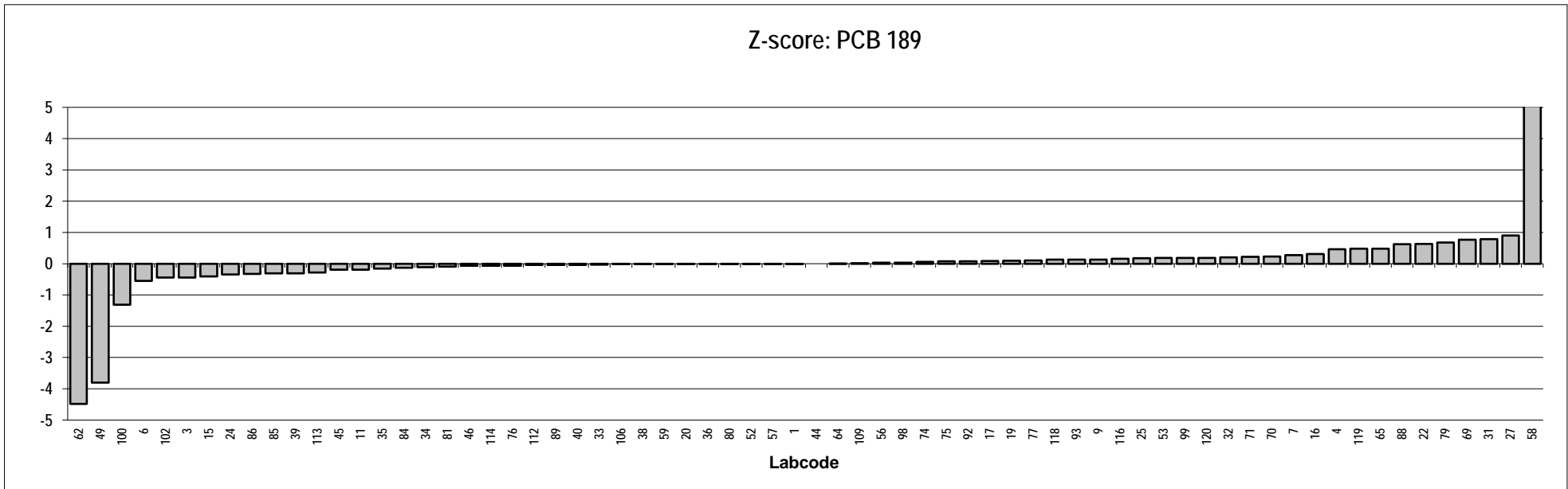
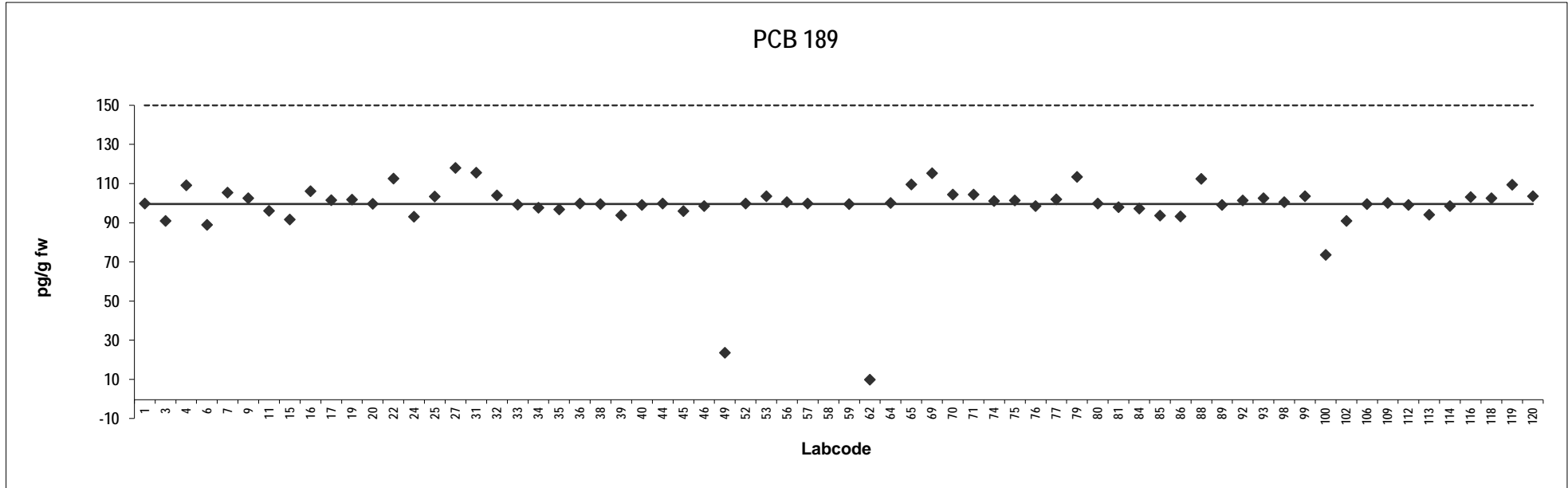
Analyte solution

Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	100	-0,0011		79	114	0,68	
3	91	-0,44		80	100	-0,0037	
4	109	0,46		81	98	-0,095	
6	89	-0,55		84	98	-0,13	
7	106	0,27		85	94	-0,31	
9	103	0,13		86	94	-0,33	
11	96	-0,19		88	113	0,62	
15	92	-0,41		89	99	-0,040	
16	107	0,31		92	102	0,075	
17	102	0,085		93	103	0,13	
19	102	0,094		98	101	0,035	
20	100	-0,011		99	104	0,18	
22	113	0,63		100	74	-1,3	
24	93	-0,34		102	91	-0,44	
25	104	0,17		106	100	-0,016	
27	118	0,91		109	101	0,013	
31	116	0,78		112	99	-0,041	
32	104	0,20		113	95	-0,29	
33	100	-0,030		114	99	-0,066	
34	98	-0,11		116	103	0,16	
35	97	-0,16		118	103	0,13	
36	100	-0,0041		119	110	0,48	
38	100	-0,015		120	104	0,18	
39	94	-0,31					
40	100	-0,040					
44	100	0,00					
45	96	-0,19					
46	99	-0,067					
49	24	-3,8	Outlier				
52	100	-0,0024					
53	104	0,18					
56	101	0,030					
57	100	-0,0020					
58	273	8,6	Outlier				
59	100	-0,015					
62	10	-4,5	Outlier				
64	100	0,0089					
65	110	0,48					
69	116	0,77					
70	105	0,23					
71	105	0,22					
74	101	0,058					
75	102	0,075					
76	99	-0,065					
77	102	0,11					

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	6,9
Relative standard deviation, %	6,8
No. of values reported	68
No. of values removed	3
No. of reported non-detects	0



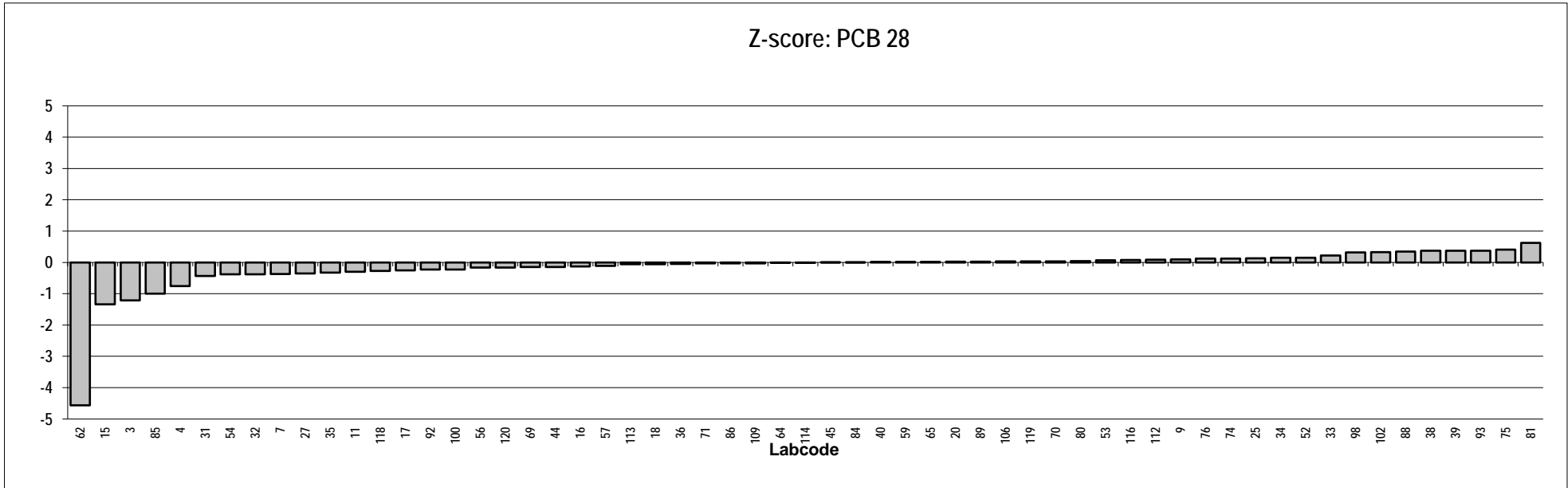
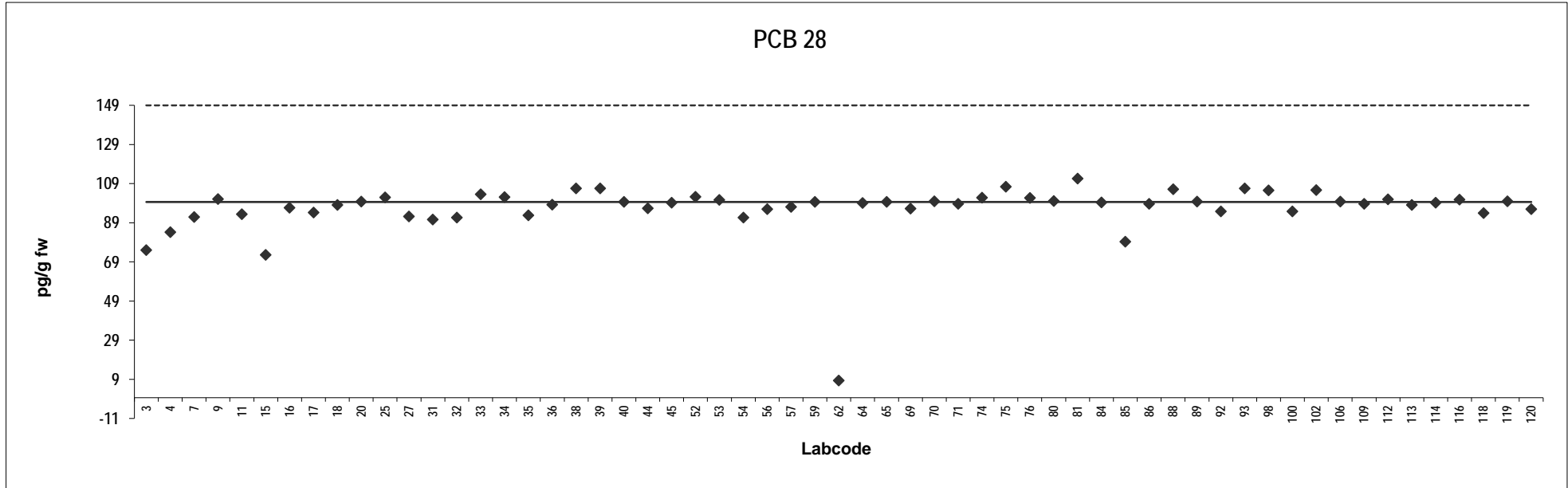
Analyte solution

Congener: PCB 28

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	75		-1,2	92	95	-0,22	
4	85		-0,76	93	107	0,37	
7	92		-0,37	98	106	0,32	
9	102		0,096	100	95	-0,22	
11	94		-0,30	102	106	0,33	
15	73		-1,3	106	100	0,028	
16	97		-0,13	109	99	-0,031	
17	95		-0,25	112	101	0,089	
18	99		-0,055	113	99	-0,056	
20	100		0,025	114	100	-0,0025	
25	102		0,13	116	101	0,079	
27	93		-0,35	118	94	-0,27	
31	91		-0,43	119	100	0,033	
32	92		-0,38	120	96	-0,16	
33	104		0,22				
34	103		0,15				
35	93		-0,32				
36	99		-0,049				
38	107		0,37				
39	107		0,37				
40	100		0,018				
44	97		-0,14				
45	100		0,0025				
52	103		0,15				
53	101		0,068				
54	92		-0,38				
56	96		-0,16				
57	97		-0,11				
59	100		0,018				
62	9	Outlier	-4,6				
64	99		-0,010				
65	100		0,018				
69	97		-0,15				
70	100		0,034				
71	99		-0,033				
74	102		0,13				
75	108		0,41				
76	102		0,12				
80	100		0,040				
81	112		0,62				
84	100		0,0095				
85	80		-1,0				
86	99		-0,033				
88	107		0,35				
89	100		0,025				

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	98
Standard deviation, pg/g	7,1
Relative standard deviation, %	7,3
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0



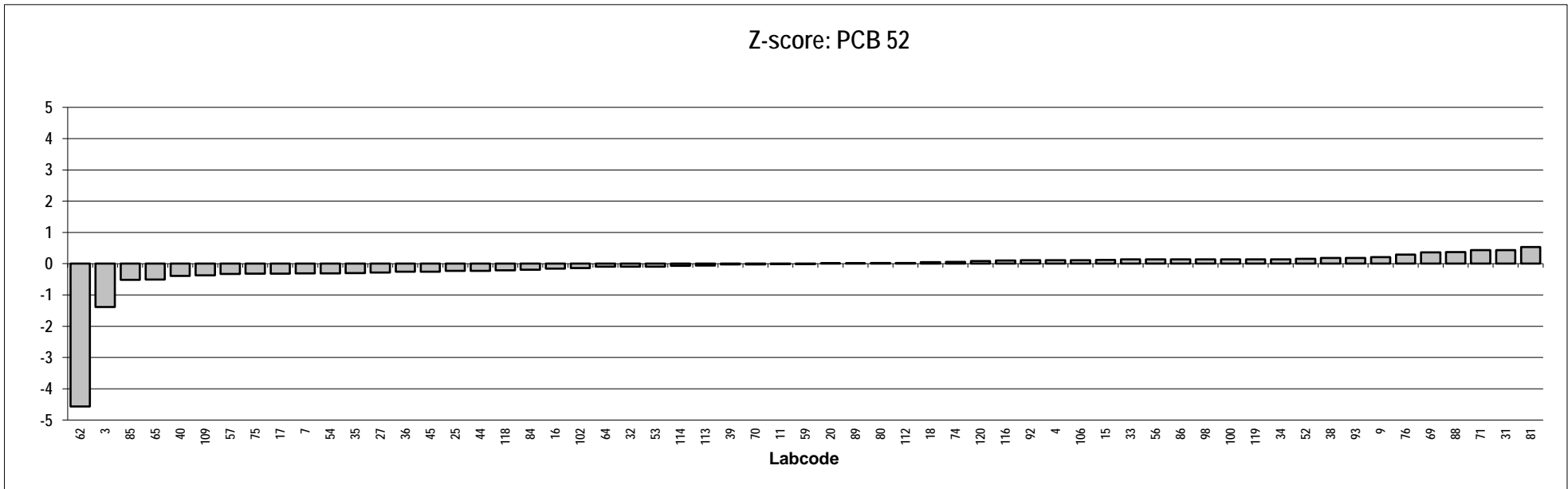
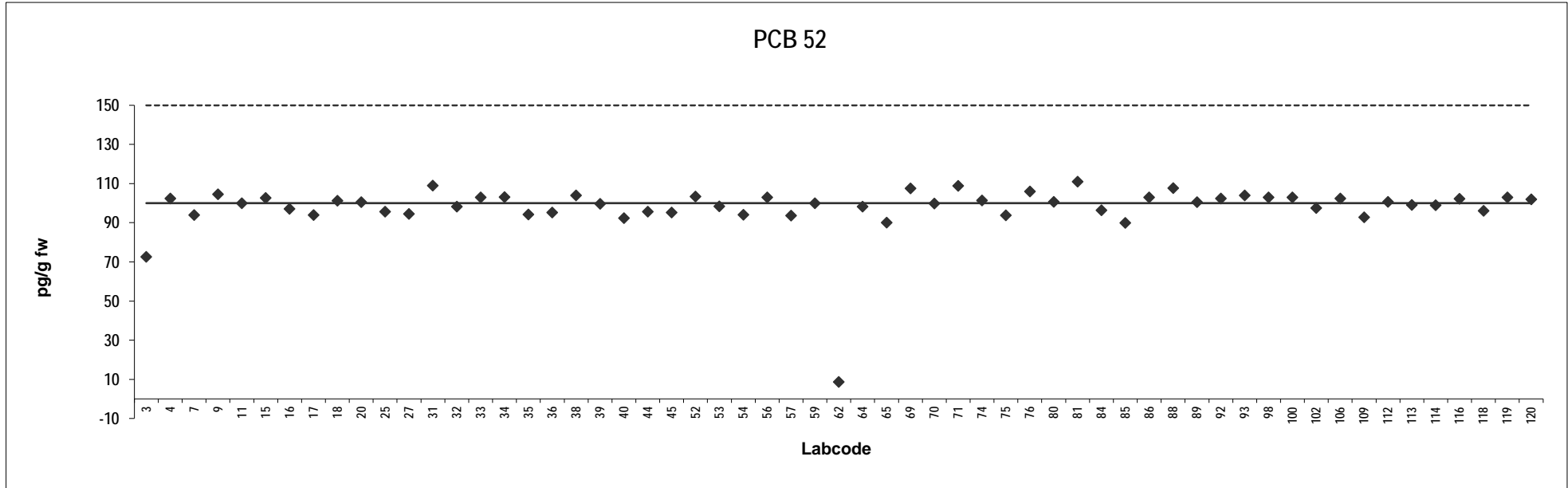
Analyte solution

Congener: PCB 52

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	73		-1,4	92	102	0,11	
4	102		0,11	93	104	0,19	
7	94		-0,31	98	103	0,14	
9	105		0,21	100	103	0,14	
11	100		-0,013	102	98	-0,14	
15	103		0,12	106	102	0,11	
16	97		-0,15	109	93	-0,37	
17	94		-0,32	112	101	0,023	
18	101		0,050	113	99	-0,055	
20	100		0,012	114	99	-0,067	
25	96		-0,23	116	102	0,099	
27	95		-0,29	118	96	-0,21	
31	109		0,44	119	103	0,14	
32	98		-0,098	120	102	0,087	
33	103		0,14				
34	103		0,14				
35	94		-0,30				
36	95		-0,25				
38	104		0,19				
39	100		-0,027				
40	92		-0,39				
44	96		-0,23				
45	95		-0,25				
52	103		0,16				
53	98		-0,097				
54	94		-0,31				
56	103		0,14				
57	94		-0,33				
59	100		-0,012				
62	9	Outlier	-4,6				
64	98		-0,099				
65	90		-0,51				
69	108		0,37				
70	100		-0,023				
71	109		0,43				
74	101		0,055				
75	94		-0,32				
76	106		0,29				
80	101		0,020				
81	111		0,54				
84	96		-0,20				
85	90		-0,52				
86	103		0,14				
88	108		0,37				
89	101		0,016				

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	99
Standard deviation, pg/g	6,0
Relative standard deviation, %	6,0
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0



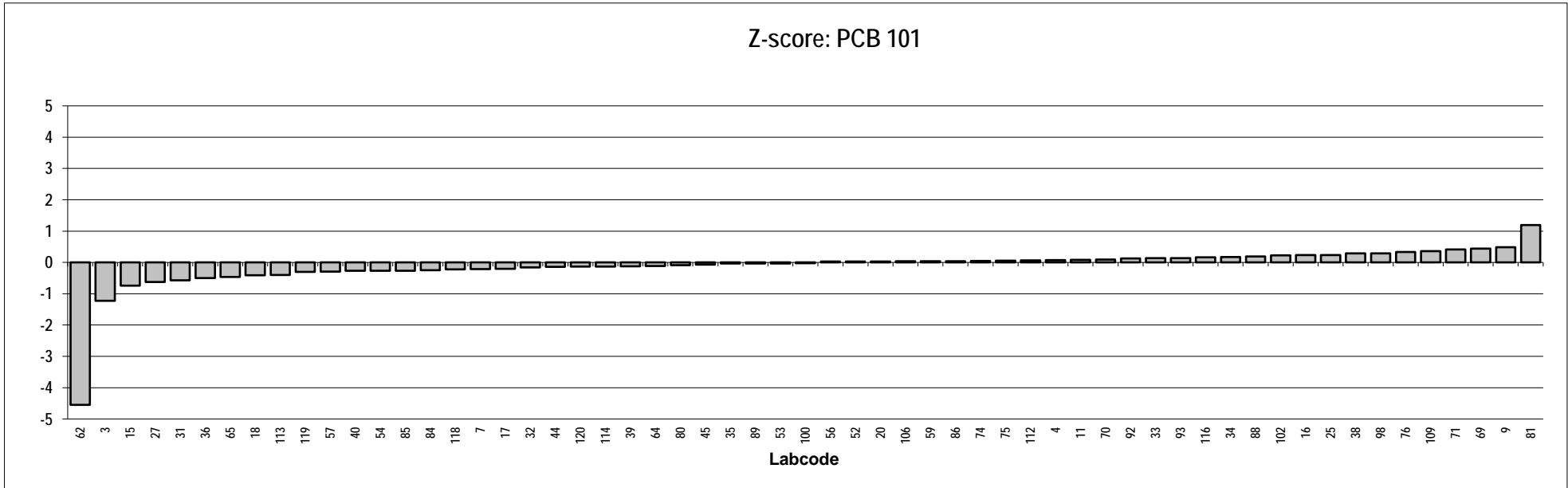
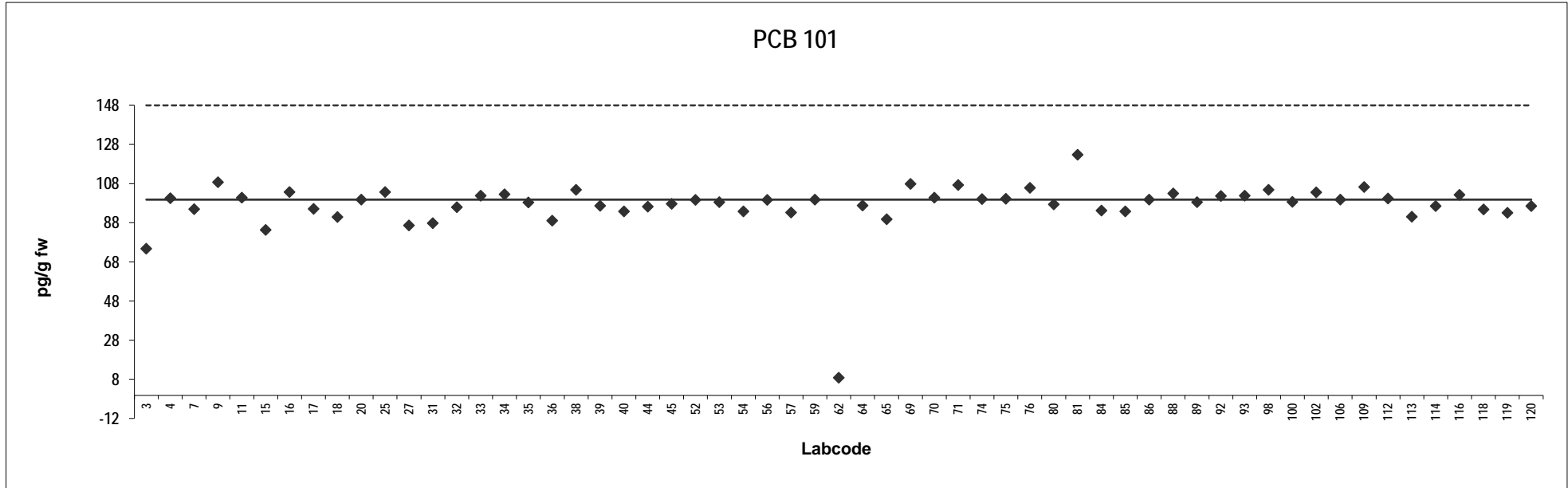
Analyte solution

Congener: PCB 101

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	75		-1,2	92	102	0,13	
4	101		0,073	93	102	0,14	
7	95		-0,21	98	105	0,29	
9	109		0,48	100	99	-0,025	
11	101		0,084	102	104	0,23	
15	85		-0,74	106	100	0,035	
16	104		0,23	109	106	0,36	
17	95		-0,20	112	101	0,062	
18	91		-0,41	113	91	-0,41	
20	100		0,032	114	97	-0,13	
25	104		0,23	116	102	0,16	
27	87		-0,63	118	95	-0,22	
31	88		-0,57	119	93	-0,30	
32	96		-0,16	120	97	-0,13	
33	102		0,14				
34	103		0,17				
35	99		-0,037				
36	89		-0,50				
38	105		0,29				
39	97		-0,13				
40	94		-0,27				
44	96		-0,15				
45	98		-0,070				
52	100		0,025				
53	99		-0,030				
54	94		-0,27				
56	100		0,025				
57	93		-0,30				
59	100		0,035				
62	9	Outlier	-4,5				
64	97		-0,12				
65	90		-0,47				
69	108		0,44				
70	101		0,089				
71	108		0,41				
74	100		0,047				
75	100		0,058				
76	106		0,34				
80	98		-0,084				
81	123		1,2				
84	94		-0,25				
85	94		-0,27				
86	100		0,035				
88	103		0,19				
89	99		-0,032				

Consensus statistics

Consensus median, pg/g	99
Median all values pg/g	99
Consensus mean, pg/g	99
Standard deviation, pg/g	7,0
Relative standard deviation, %	7,1
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0



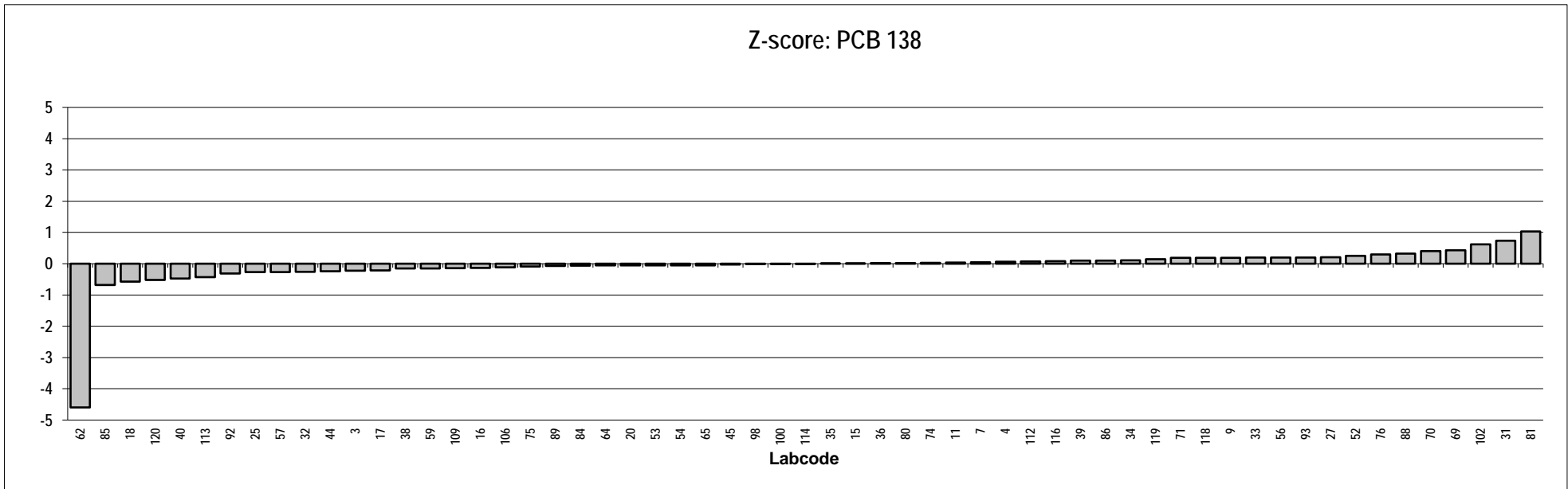
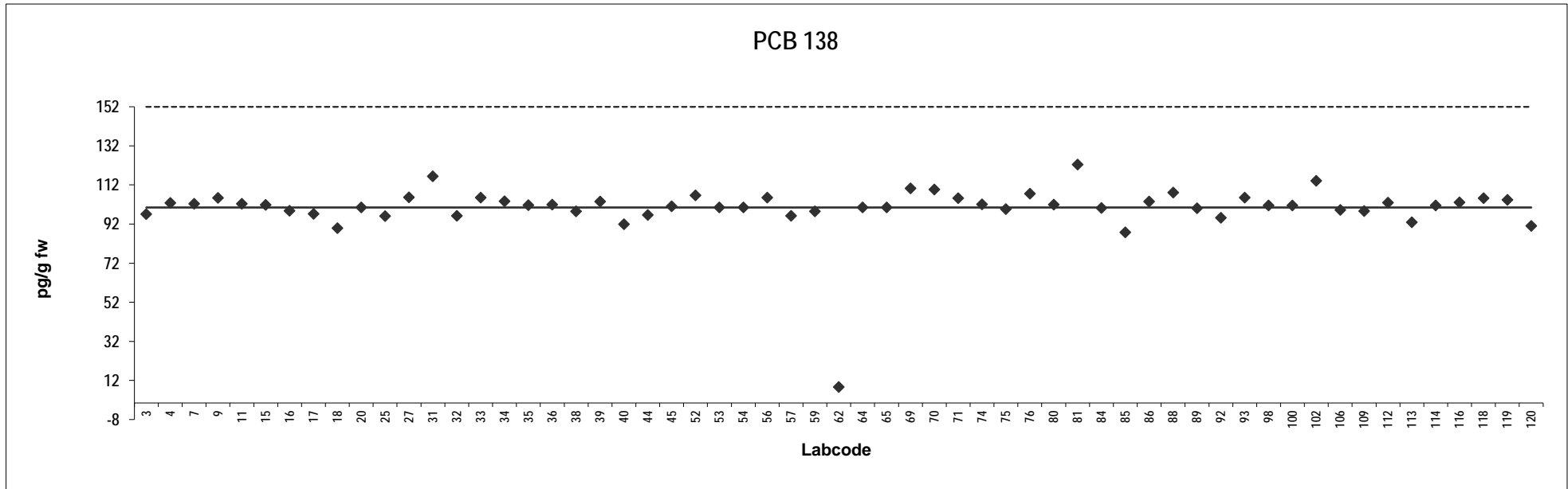
Analyte solution

Congener: PCB 138

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	97		-0,22	92	95	-0,31	
4	102		0,064	93	105	0,19	
7	102		0,043	98	101	-0,0041	
9	105		0,19	100	101	-0,0041	
11	102		0,037	102	114	0,62	
15	101		0,012	106	99	-0,12	
16	98		-0,14	109	98	-0,14	
17	97		-0,21	112	103	0,071	
18	89		-0,58	113	92	-0,43	
20	100		-0,054	114	101	-0,0031	
25	96		-0,27	116	103	0,078	
27	105		0,21	118	105	0,18	
31	116		0,74	119	104	0,14	
32	96		-0,26	120	91	-0,52	
33	105		0,19				
34	103		0,10				
35	101		0,0031				
36	101		0,018				
38	98		-0,15				
39	103		0,095				
40	92		-0,47				
44	96		-0,24				
45	101		-0,024				
52	106		0,25				
53	100		-0,054				
54	100		-0,054				
56	105		0,19				
57	96		-0,27				
59	98		-0,15				
62	8	Outlier	-4,6				
64	100		-0,055				
65	100		-0,054				
69	110		0,43				
70	109		0,40				
71	105		0,18				
74	102		0,029				
75	99		-0,091				
76	107		0,29				
80	102		0,022				
81	122		1,0				
84	100		-0,065				
85	87		-0,68				
86	103		0,095				
88	108		0,33				
89	100		-0,076				

Consensus statistics

Consensus median, pg/g	101
Median all values pg/g	101
Consensus mean, pg/g	101
Standard deviation, pg/g	6,0
Relative standard deviation, %	5,9
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0



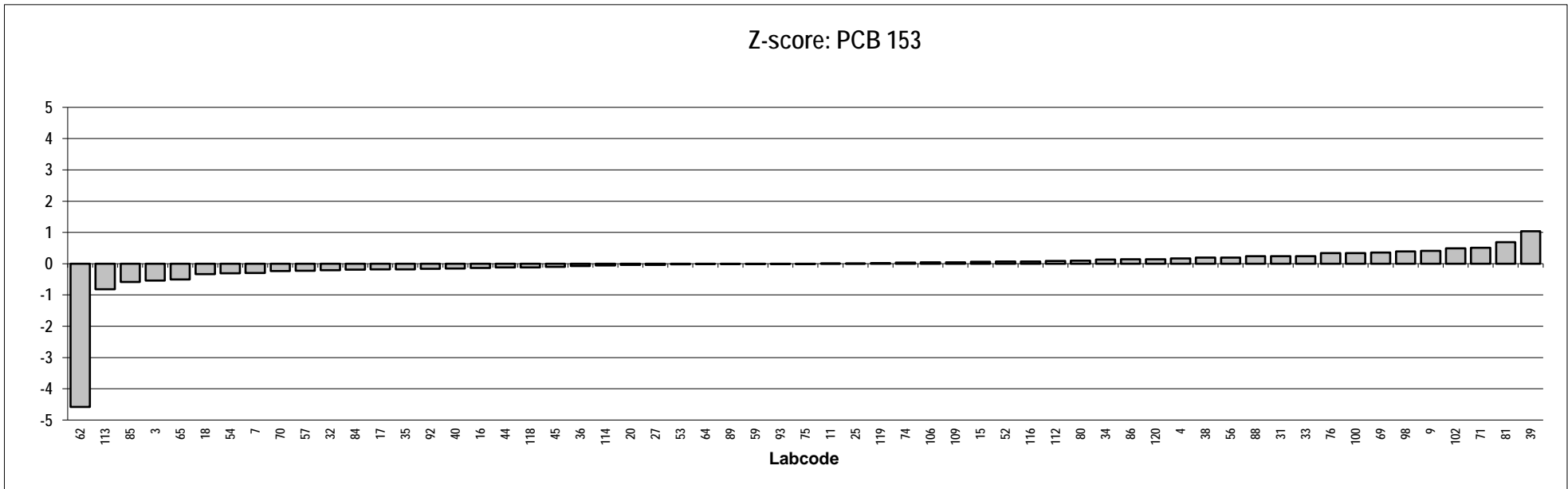
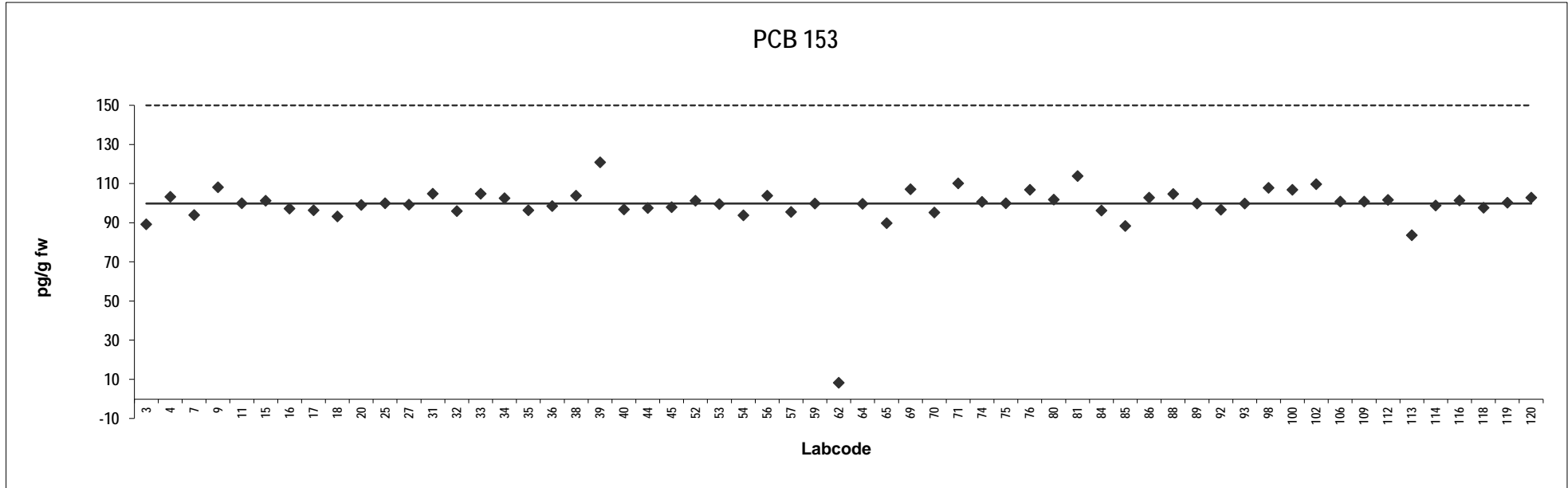
Analyte solution

Congener: PCB 153

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	89		-0,54	92	97	-0,17	
4	103		0,17	93	100	-0,0076	
7	94		-0,30	98	108	0,39	
9	108		0,41	100	107	0,34	
11	100		0,0014	102	110	0,49	
15	101		0,065	106	101	0,043	
16	97		-0,14	109	101	0,045	
17	97		-0,18	112	102	0,087	
18	93		-0,33	113	84	-0,81	
20	99		-0,042	114	99	-0,057	
25	100		0,0024	116	102	0,068	
27	99		-0,040	118	98	-0,12	
31	105		0,24	119	100	0,016	
32	96		-0,20	120	103	0,14	
33	105		0,24				
34	103		0,13				
35	97		-0,18				
36	99		-0,073				
38	104		0,19				
39	121		1,0				
40	97		-0,16				
44	98		-0,12				
45	98		-0,10				
52	101		0,067				
53	100		-0,023				
54	94		-0,31				
56	104		0,19				
57	96		-0,23				
59	100		-0,0076				
62	8	Outlier	-4,6				
64	100		-0,012				
65	90		-0,51				
69	107		0,36				
70	95		-0,24				
71	110		0,51				
74	101		0,032				
75	100		-0,0014				
76	107		0,34				
80	102		0,093				
81	114		0,69				
84	96		-0,19				
85	89		-0,58				
86	103		0,14				
88	105		0,24				
89	100		-0,0094				

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	6,1
Relative standard deviation, %	6,1
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0



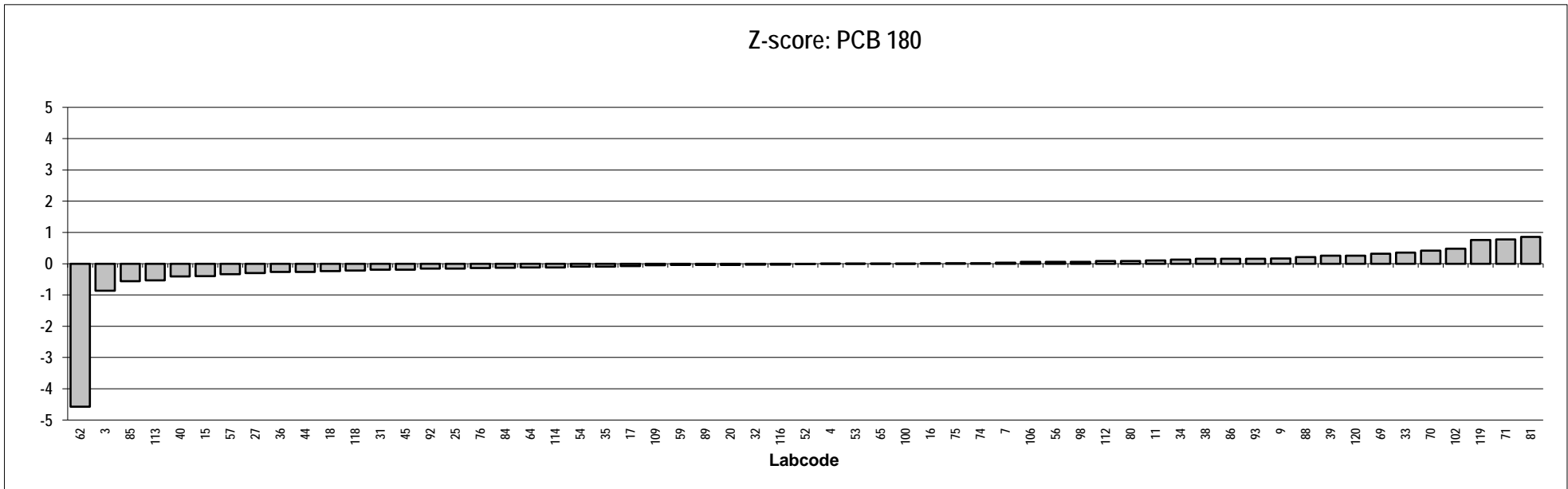
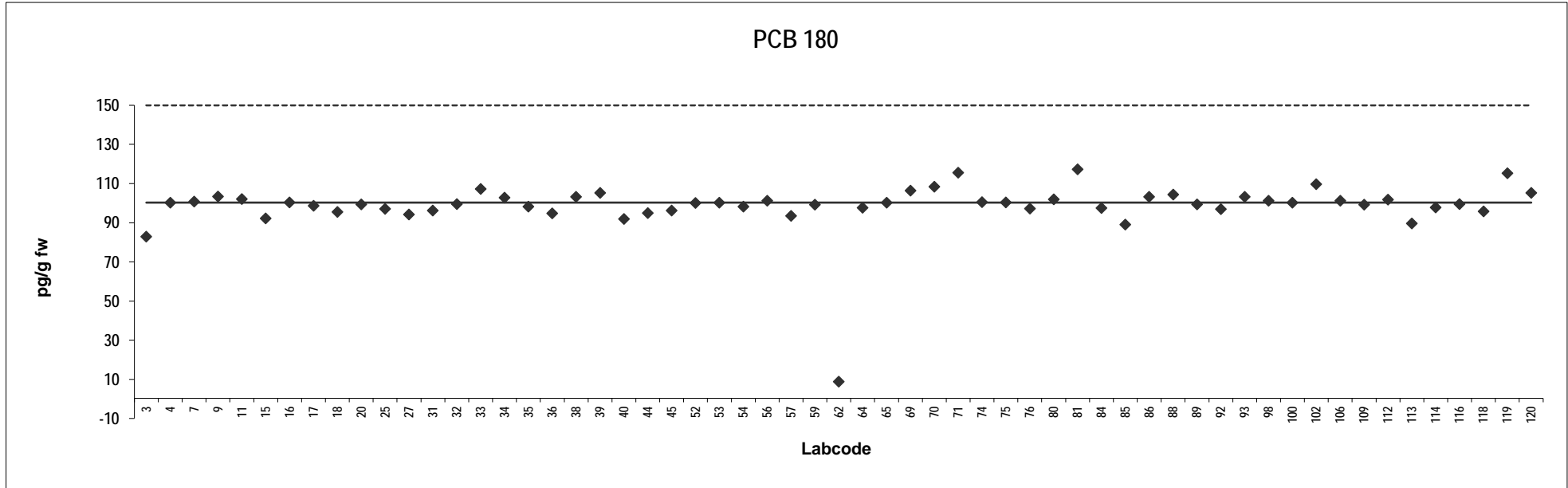
Analyte solution

Congener: PCB 180

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	83		-0,87	92	97	-0,16	
4	100		0,0023	93	103	0,16	
7	100		0,031	98	101	0,057	
9	103		0,16	100	100	0,0073	
11	102		0,099	102	109	0,48	
15	92		-0,39	106	101	0,057	
16	100		0,010	109	99	-0,046	
17	98		-0,073	112	102	0,087	
18	95		-0,23	113	89	-0,53	
20	99		-0,036	114	97	-0,12	
25	97		-0,15	116	99	-0,031	
27	94		-0,30	118	96	-0,22	
31	96		-0,19	119	115	0,76	
32	99		-0,033	120	105	0,26	
33	107		0,36				
34	103		0,13				
35	98		-0,093				
36	95		-0,27				
38	103		0,16				
39	105		0,26				
40	92		-0,41				
44	95		-0,26				
45	96		-0,19				
52	100		-0,0023				
53	100		0,0073				
54	98		-0,093				
56	101		0,057				
57	93		-0,34				
59	99		-0,043				
62	8	Outlier	-4,6				
64	97		-0,12				
65	100		0,0073				
69	106		0,31				
70	108		0,42				
71	115		0,77				
74	100		0,018				
75	100		0,012				
76	97		-0,14				
80	102		0,089				
81	117		0,86				
84	97		-0,13				
85	89		-0,56				
86	103		0,16				
88	104		0,22				
89	99		-0,039				

Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	100
Standard deviation, pg/g	6,0
Relative standard deviation, %	6,0
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0



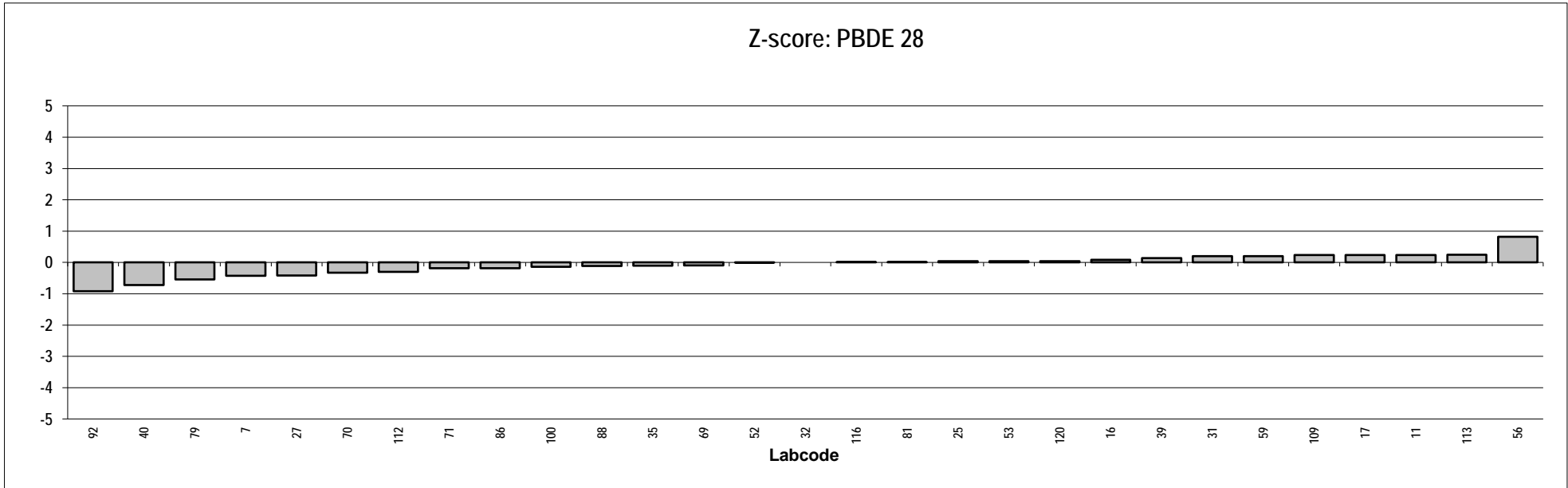
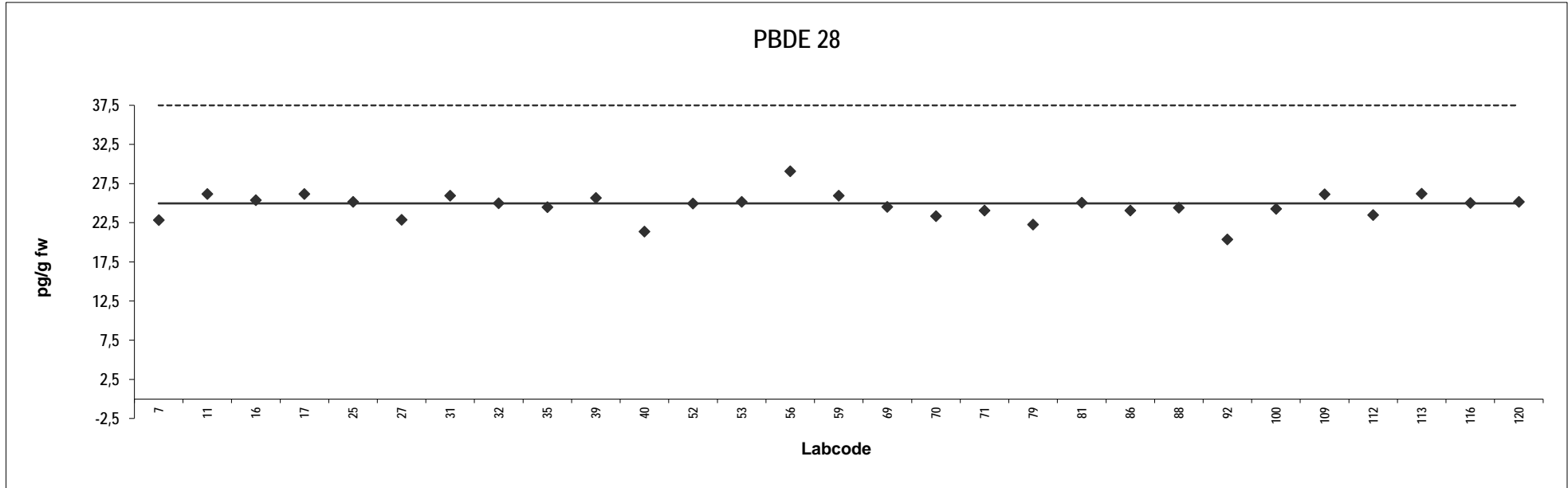
Analyte solution

Congener: PBDE 28

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	23		-0,43				
11	26		0,24				
16	25		0,080				
17	26		0,24				
25	25		0,036				
27	23		-0,42				
31	26		0,20				
32	25		0,00				
35	25		-0,10				
39	26		0,14				
40	21		-0,72				
52	25		-0,0078				
53	25		0,036				
56	29		0,82				
59	26		0,20				
69	25		-0,092				
70	23		-0,33				
71	24		-0,18				
79	22		-0,54				
81	25		0,016				
86	24		-0,18				
88	24		-0,11				
92	20		-0,92				
100	24		-0,14				
109	26		0,23				
112	24		-0,30				
113	26		0,25				
116	25		0,0052				
120	25		0,036				

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	25
Standard deviation, pg/g	1,7
Relative standard deviation, %	6,9
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



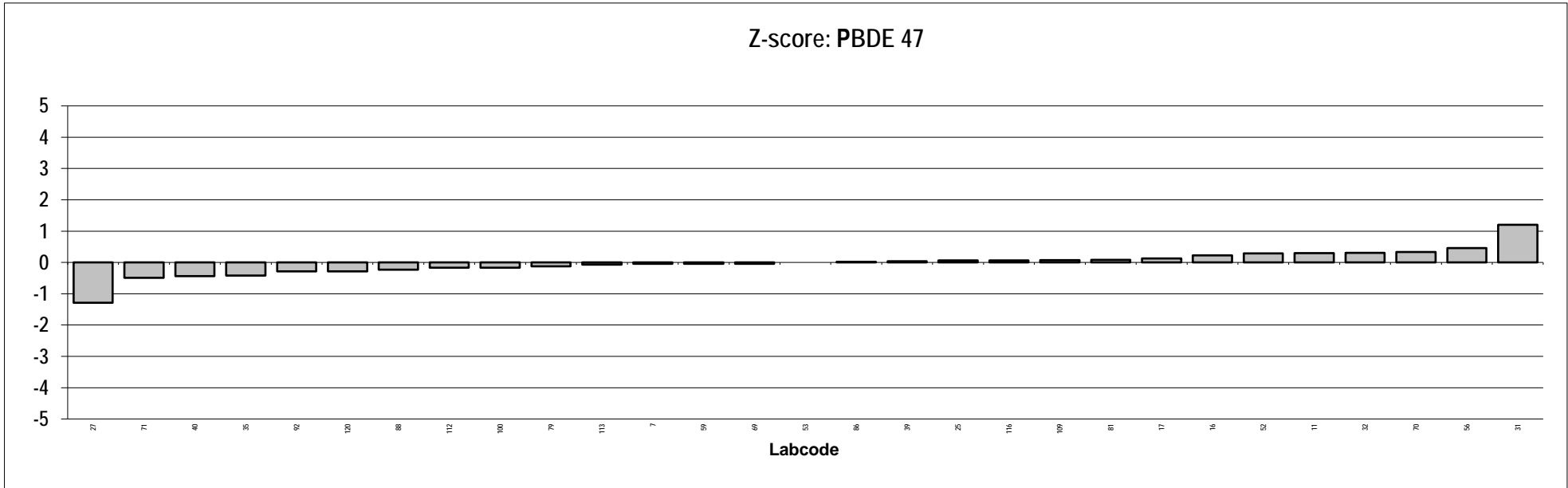
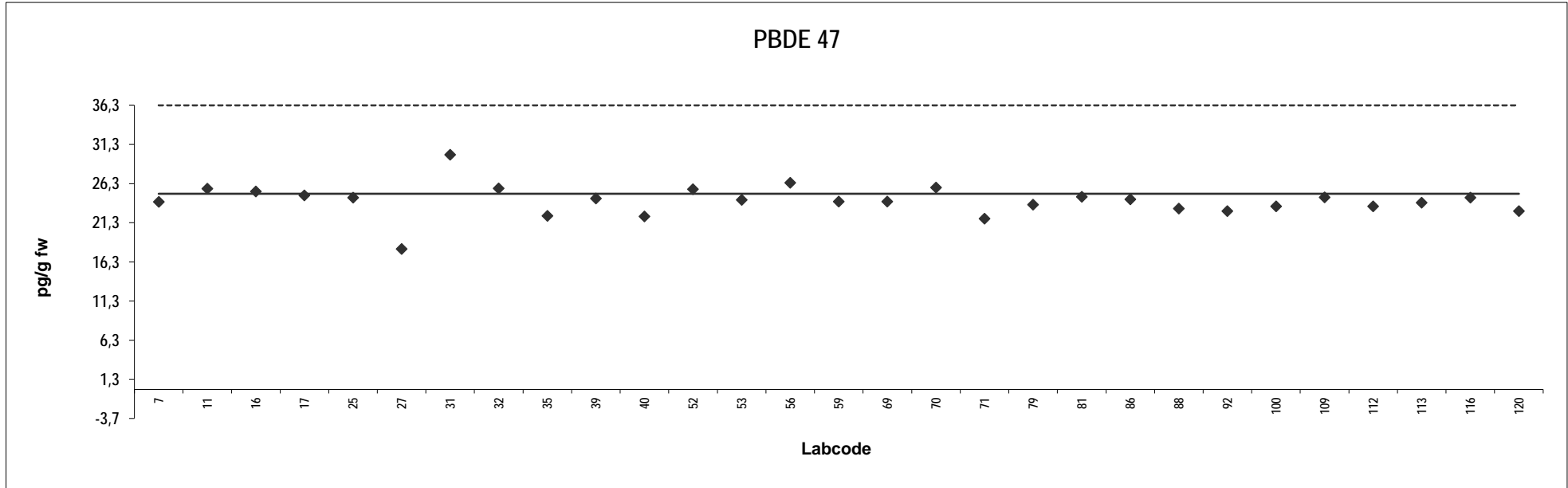
Analyte solution

Congener: PBDE 47

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	24		-0,046				
11	26		0,30				
16	25		0,23				
17	25		0,12				
25	25		0,062				
27	18		-1,3				
31	30		1,2				
32	26		0,30				
35	22		-0,42				
39	24		0,041				
40	22		-0,43				
52	26		0,28				
53	24		0,00				
56	26		0,45				
59	24		-0,041				
69	24		-0,040				
70	26		0,33				
71	22		-0,50				
79	24		-0,12				
81	25		0,083				
86	24		0,021				
88	23		-0,23				
92	23		-0,29				
100	23		-0,17				
109	25		0,072				
112	23		-0,17				
113	24		-0,069				
116	25		0,063				
120	23		-0,29				

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, %	8,2
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



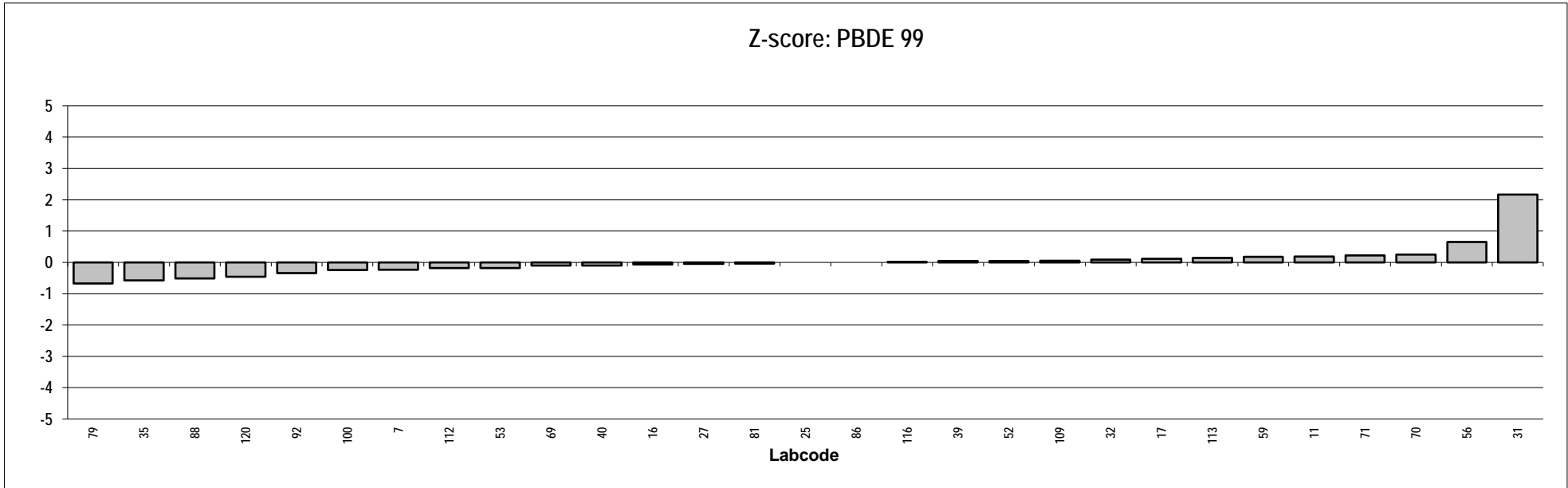
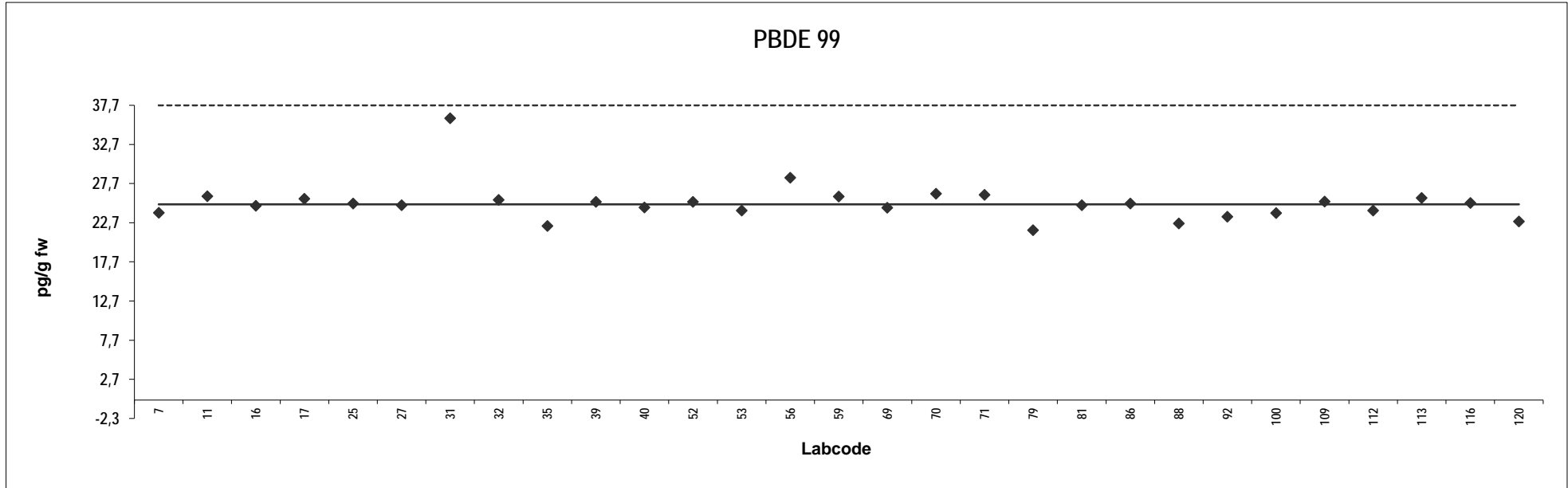
Analyte solution

Congener: PBDE 99

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	24		-0,23				
11	26		0,18				
16	25		-0,060				
17	26		0,12				
25	25		0,00				
27	25		-0,042				
31	36		2,2				
32	26		0,090				
35	22		-0,57				
39	25		0,040				
40	25		-0,10				
52	25		0,040				
53	24		-0,18				
56	28		0,66				
59	26		0,18				
69	25		-0,10				
70	26		0,25				
71	26		0,22				
79	22		-0,68				
81	25		-0,040				
86	25		0,00				
88	23		-0,51				
92	23		-0,34				
100	24		-0,24				
109	25		0,052				
112	24		-0,18				
113	26		0,14				
116	25		0,017				
120	23		-0,46				

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, %	9,9
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



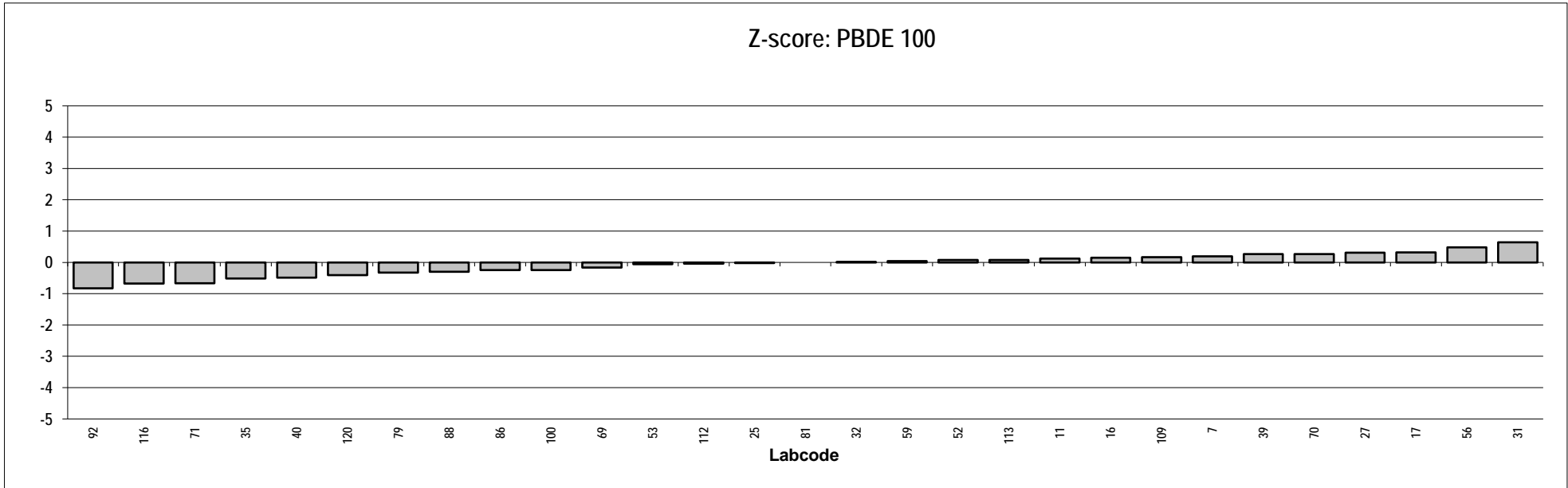
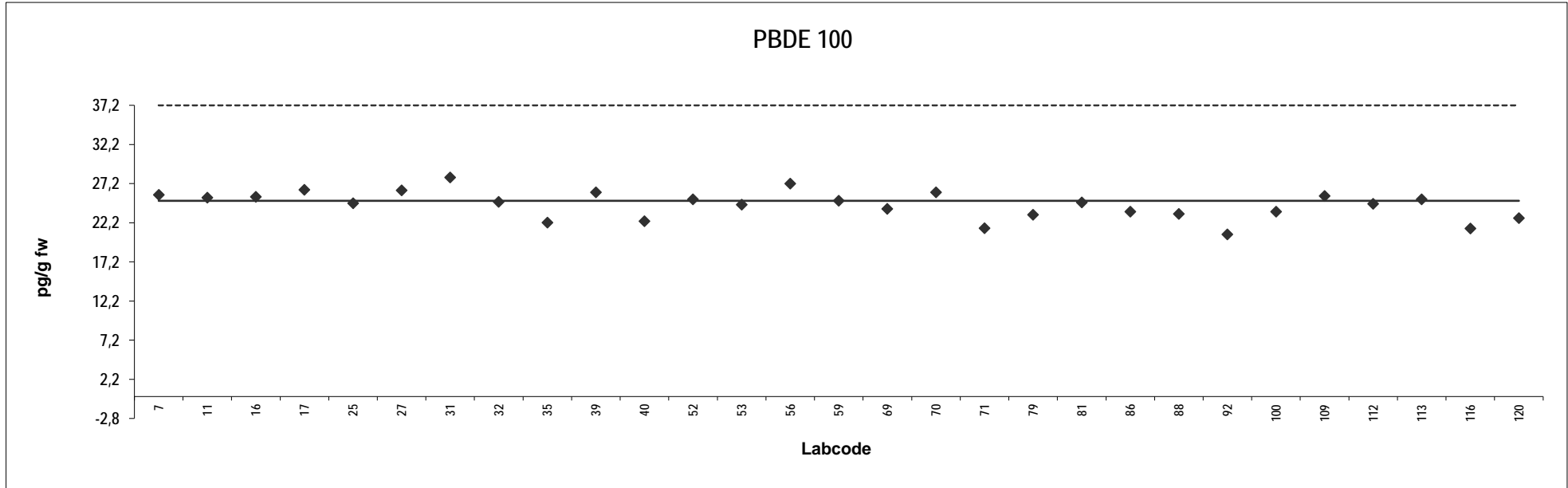
Analyte solution

Congener: PBDE 100

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	26		0,19				
11	25		0,12				
16	26		0,15				
17	26		0,32				
25	25		-0,020				
27	26		0,31				
31	28		0,65				
32	25		0,012				
35	22		-0,52				
39	26		0,26				
40	22		-0,48				
52	25		0,078				
53	25		-0,060				
56	27		0,48				
59	25		0,040				
69	24		-0,17				
70	26		0,26				
71	22		-0,67				
79	23		-0,32				
81	25		0,00				
86	24		-0,24				
88	23		-0,30				
92	21		-0,83				
100	24		-0,24				
109	26		0,17				
112	25		-0,036				
113	25		0,078				
116	21		-0,67				
120	23		-0,40				

Consensus statistics

Consensus median, pg/g	25
Median all values pg/g	25
Consensus mean, pg/g	24
Standard deviation, pg/g	1,8
Relative standard deviation, %	7,2
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



Analyte solution

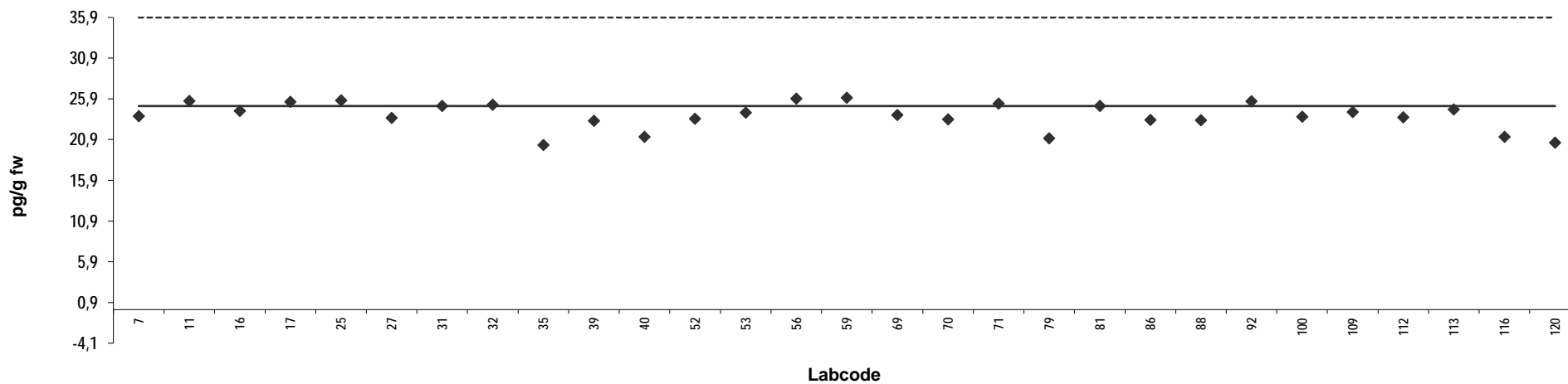
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	24		-0,032				
11	26		0,35				
16	24		0,099				
17	26		0,33				
25	26		0,37				
27	24		-0,079				
31	25		0,23				
32	25		0,26				
35	20		-0,77				
39	23		-0,15				
40	21		-0,57				
52	23		-0,10				
53	24		0,059				
56	26		0,41				
59	26		0,44				
69	24		0,00				
70	23		-0,11				
71	25		0,29				
79	21		-0,60				
81	25		0,23				
86	23		-0,13				
88	23		-0,14				
92	26		0,35				
100	24		-0,046				
109	24		0,069				
112	24		-0,066				
113	25		0,14				
116	21		-0,56				
120	21		-0,71				

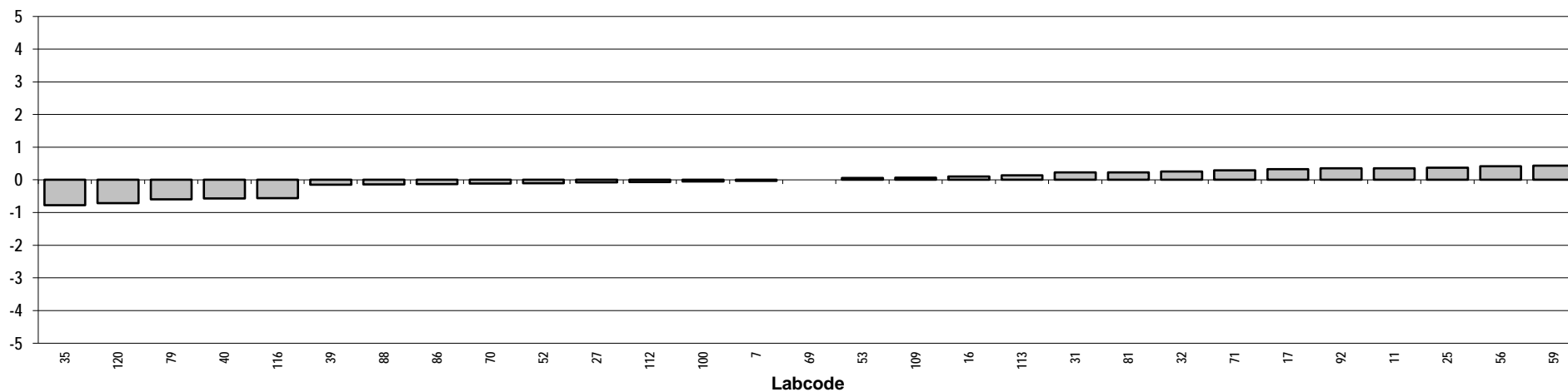
Consensus statistics

Consensus median, pg/g	24
Median all values pg/g	24
Consensus mean, pg/g	24
Standard deviation, pg/g	1,7
Relative standard deviation, %	6,9
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0

PBDE 153



Z-score: PBDE 153



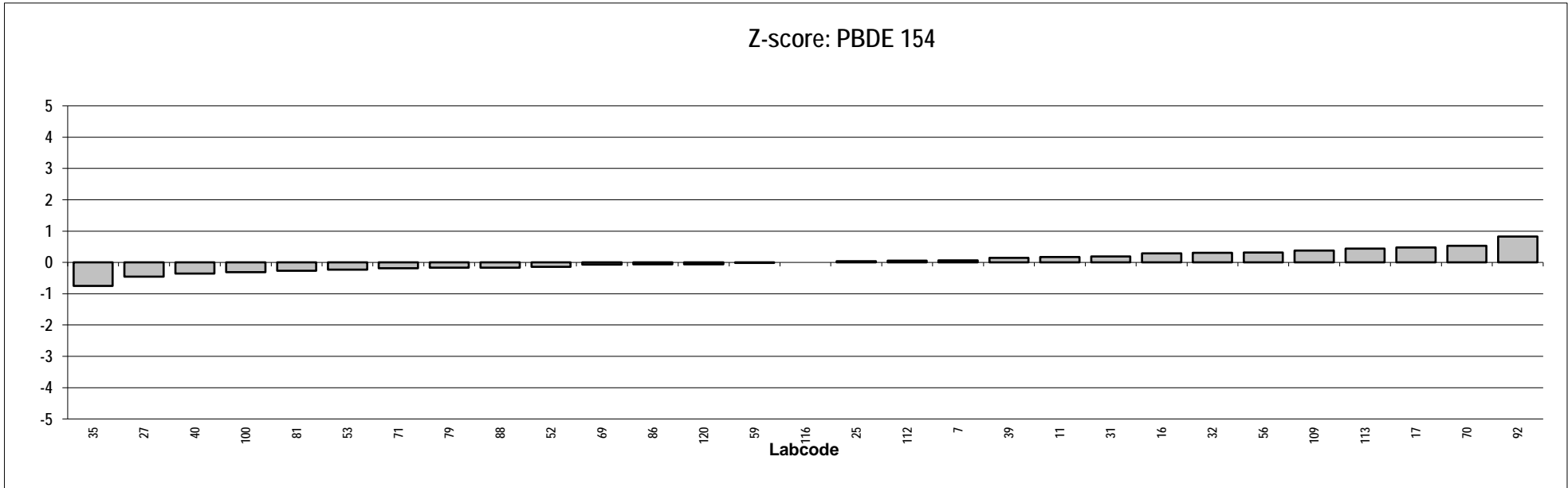
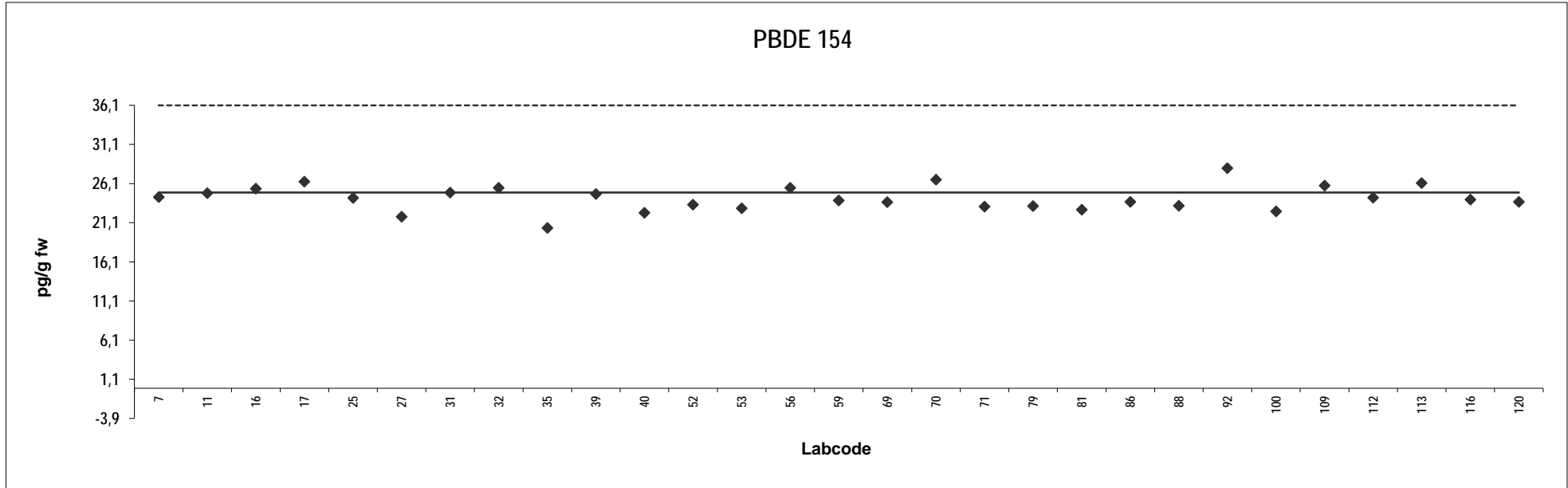
Analyte solution

Congener: PBDE 154

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	24		0,064				
11	25		0,17				
16	25		0,29				
17	26		0,48				
25	24		0,042				
27	22		-0,46				
31	25		0,19				
32	26		0,31				
35	20		-0,75				
39	25		0,15				
40	22		-0,35				
52	23		-0,14				
53	23		-0,23				
56	26		0,31				
59	24		-0,020				
69	24		-0,069				
70	27		0,53				
71	23		-0,19				
79	23		-0,17				
81	23		-0,27				
86	24		-0,061				
88	23		-0,17				
92	28		0,83				
100	23		-0,31				
109	26		0,37				
112	24		0,053				
113	26		0,44				
116	24		0,00				
120	24		-0,061				

Consensus statistics

Consensus median, pg/g	24
Median all values pg/g	24
Consensus mean, pg/g	24
Standard deviation, pg/g	1,6
Relative standard deviation, %	6,6
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



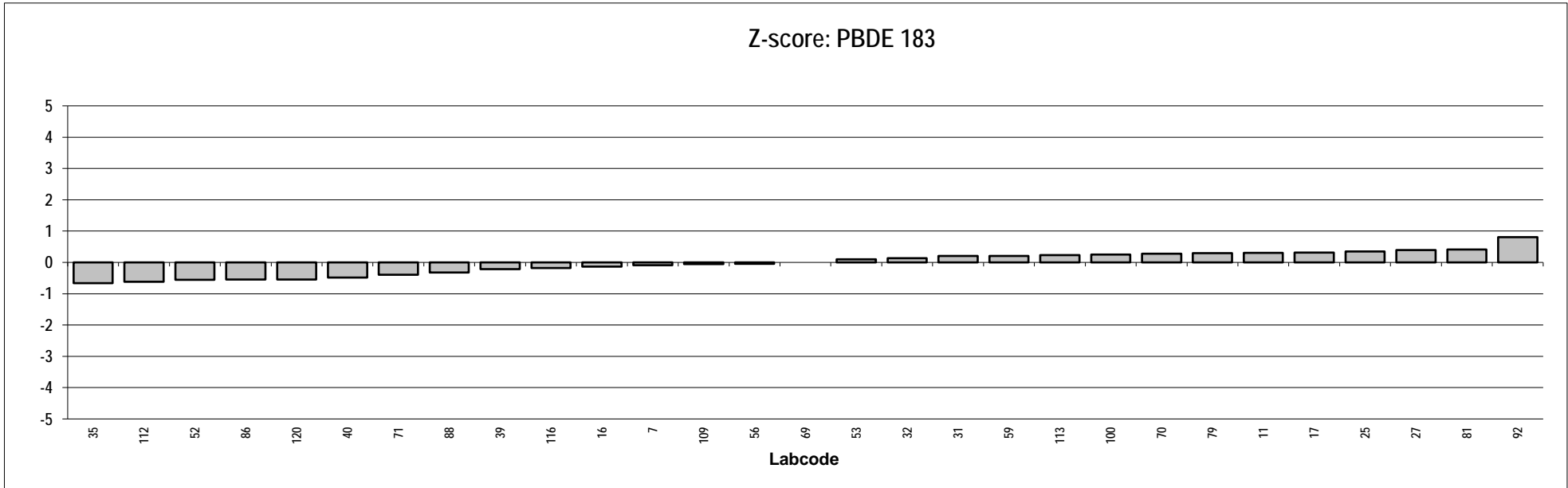
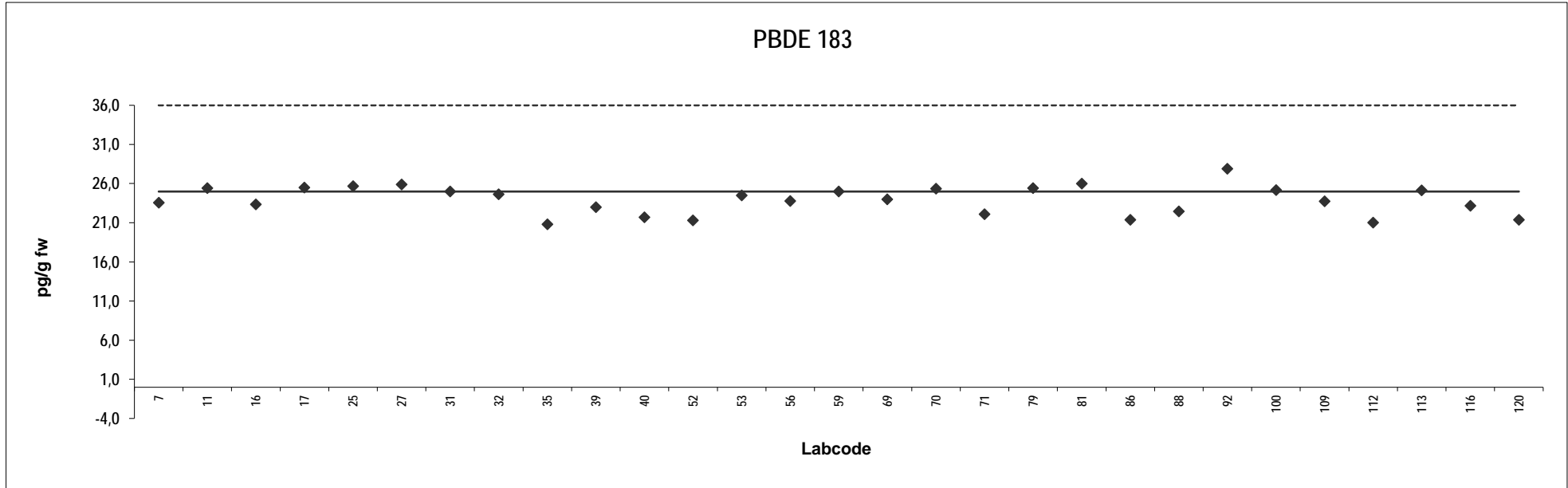
Analyte solution

Congener: PBDE 183

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	24		-0,09				
11	25		0,30				
16	23		-0,14				
17	26		0,31				
25	26		0,35				
27	26		0,39				
31	25		0,21				
32	25		0,13				
35	21		-0,67				
39	23		-0,21				
40	22		-0,48				
52	21		-0,56				
53	25		0,10				
56	24		-0,044				
59	25		0,21				
69	24		0,00				
70	25		0,28				
71	22		-0,40				
79	25		0,29				
81	26		0,41				
86	21		-0,54				
88	22		-0,32				
92	28		0,81				
100	25		0,25				
109	24		-0,054				
112	21		-0,62				
113	25		0,24				
116	23		-0,18				
120	21		-0,54				

Consensus statistics

Consensus median, pg/g	24
Median all values pg/g	24
Consensus mean, pg/g	24
Standard deviation, pg/g	1,8
Relative standard deviation, %	7,6
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0



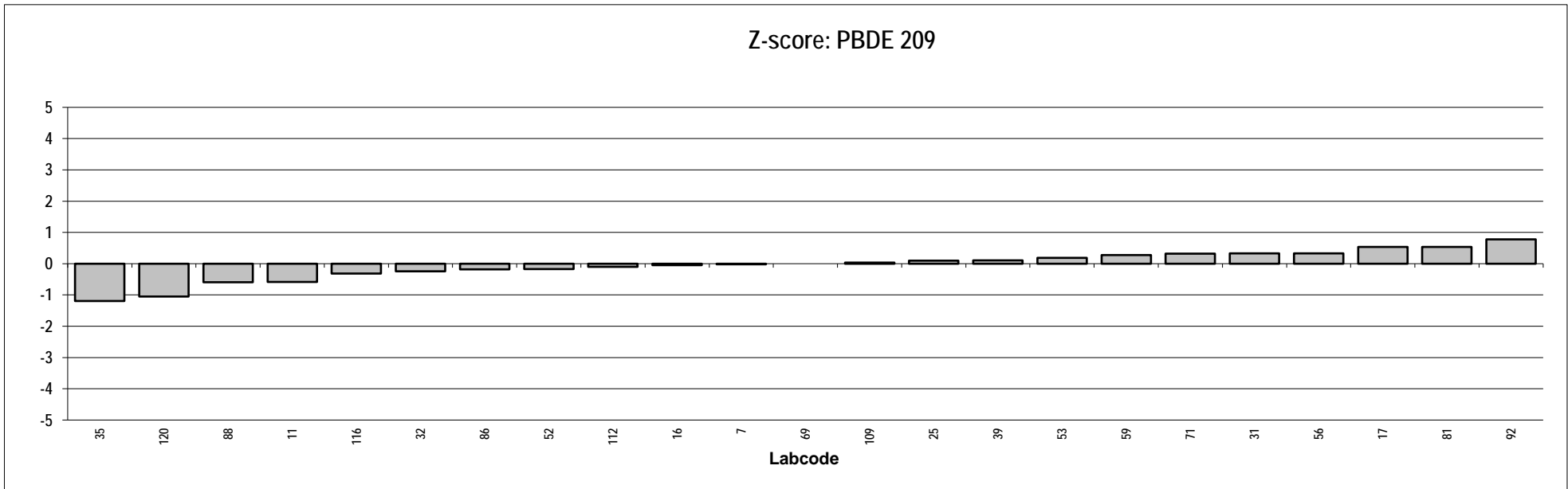
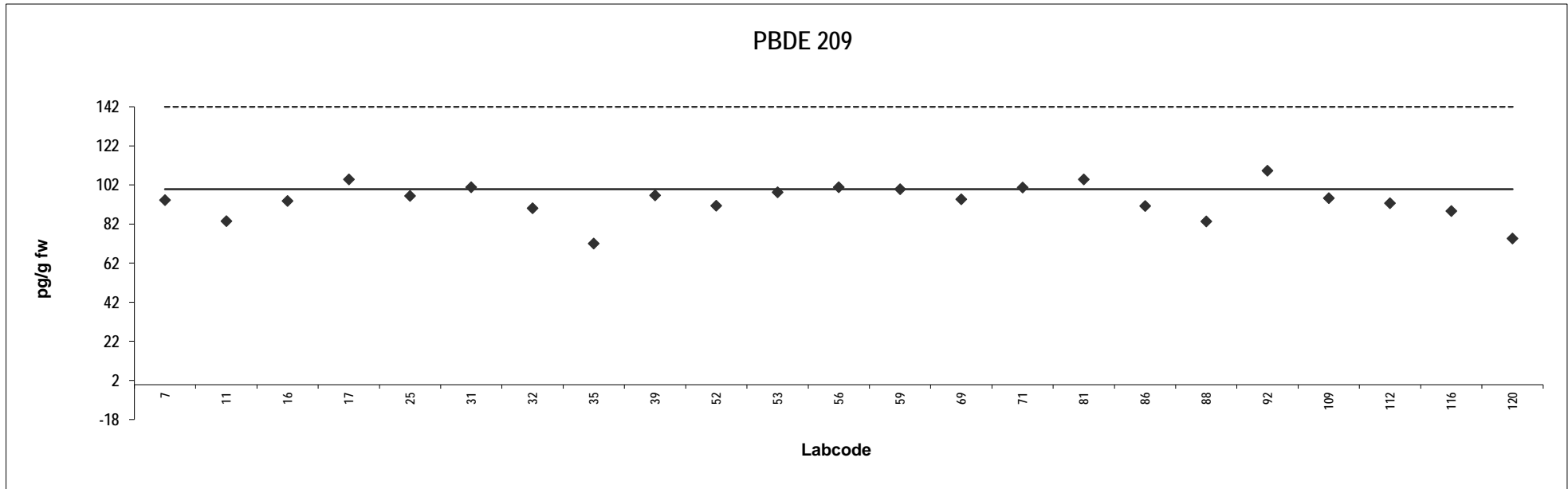
Analyte solution

Congener: PBDE 209

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	94		-0,021				
11	84		-0,58				
16	94		-0,045				
17	105		0,54				
25	97		0,096				
31	101		0,33				
32	90		-0,24				
35	72		-1,2				
39	97		0,11				
52	92		-0,17				
53	98		0,19				
56	101		0,33				
59	100		0,28				
69	95		0,00				
71	101		0,32				
81	105		0,54				
86	91		-0,18				
88	83		-0,60				
92	110		0,78				
109	95		0,036				
112	93		-0,10				
116	89		-0,32				
120	75		-1,1				

Consensus statistics

Consensus median, pg/g	95
Median all values pg/g	95
Consensus mean, pg/g	94
Standard deviation, pg/g	9,1
Relative standard deviation, %	9,7
No. of values reported	23
No. of values removed	0
No. of reported non-detects	0



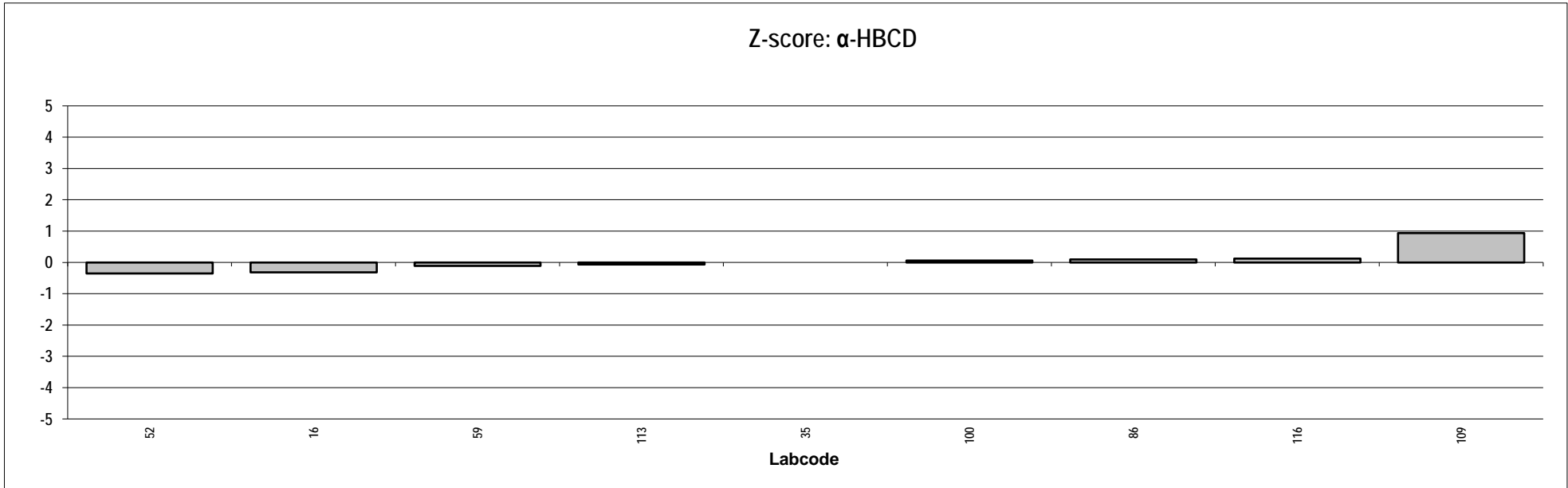
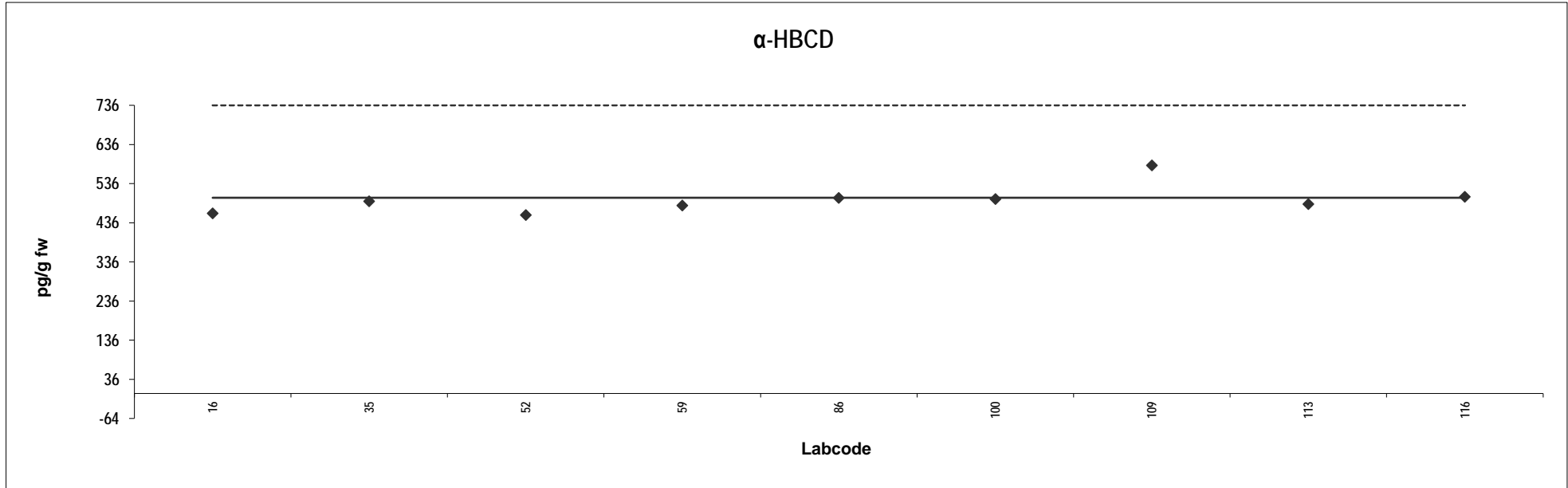
Analyte solution

Congener: α -HBCD

Lab code	Conc. pg/g fw.	Notes	Z-scores	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	460		-0,31				
35	491		0,00				
52	456		-0,35				
59	480		-0,11				
86	500		0,091				
100	497		0,063				
109	583		0,94				
113	484		-0,069				
116	503		0,12				

Consensus statistics

Consensus median, pg/g	491
Median all values pg/g	491
Consensus mean, pg/g	495
Standard deviation, pg/g	37
Relative standard deviation, %	7,5
No. of values reported	9
No. of values removed	0
No. of reported non-detects	0



Appendix 2:



Presentation of results for
Reindeer meat-2018

Appendix 2: Presentation of results: Reindeer meat-2018

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:

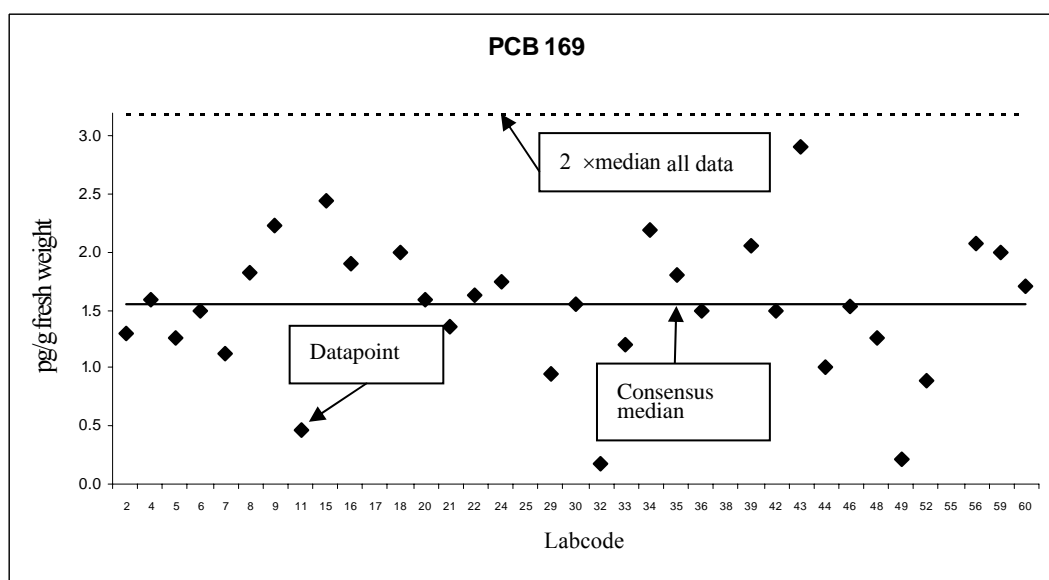
1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners.
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set.
3. Median, mean and standard deviation were re-calculated from the remaining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

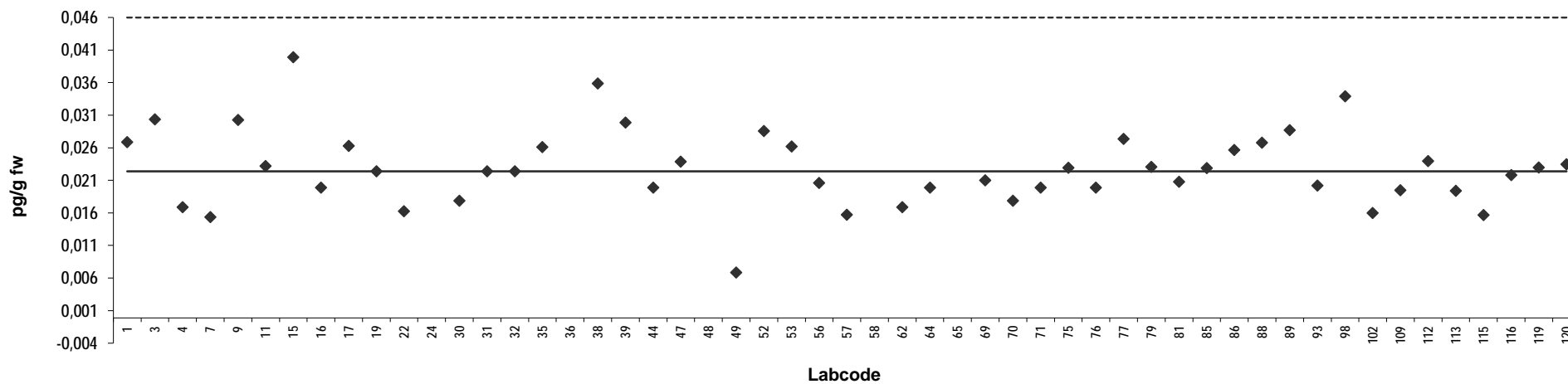
Reindeer
Congener: 2,3,7,8 TCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,027	1,0		102	0,016	-1,4	ND
3	0,031	1,8		109	0,020	-0,65	
4	0,017	-1,2		112	0,024	0,35	
7	0,016	-1,6		113	0,020	-0,67	
9	0,030	1,8		115	0,016	-1,5	ND
11	0,023	0,18		116	0,022	-0,12	
15	0,040	3,9	ND	119	0,023	0,13	
16	0,020	-0,56		120	0,024	0,24	
17	0,026	0,87					
19	0,023	0,00					
22	0,016	-1,4					
24	0,076	12	Outlier				
30	0,018	-1,0					
31	0,023	0,00					
32	0,023	0,00					
35	0,026	0,83					
36	0,075	12	Outlier,ND				
38	0,036	3,0					
39	0,030	1,67					
44	0,020	-0,56					
47	0,024	0,33					
48	0,050	6,1	Outlier,ND				
49	0,0070	-3,5					
52	0,029	1,4					
53	0,026	0,84					
56	0,021	-0,40					
57	0,016	-1,5					
58	0,34	69	Outlier,ND				
62	0,017	-1,2					
64	0,020	-0,56					
65	0,050	6,1	Outlier,ND				
69	0,021	-0,31					
70	0,018	-1,0					
71	0,020	-0,56					
75	0,023	0,12					
76	0,020	-0,56					
77	0,027	1,1					
79	0,023	0,16					
81	0,021	-0,36					
85	0,023	0,11					
86	0,026	0,73					
88	0,027	1,0					
89	0,029	1,4					
93	0,020	-0,49					
98	0,034	2,6					

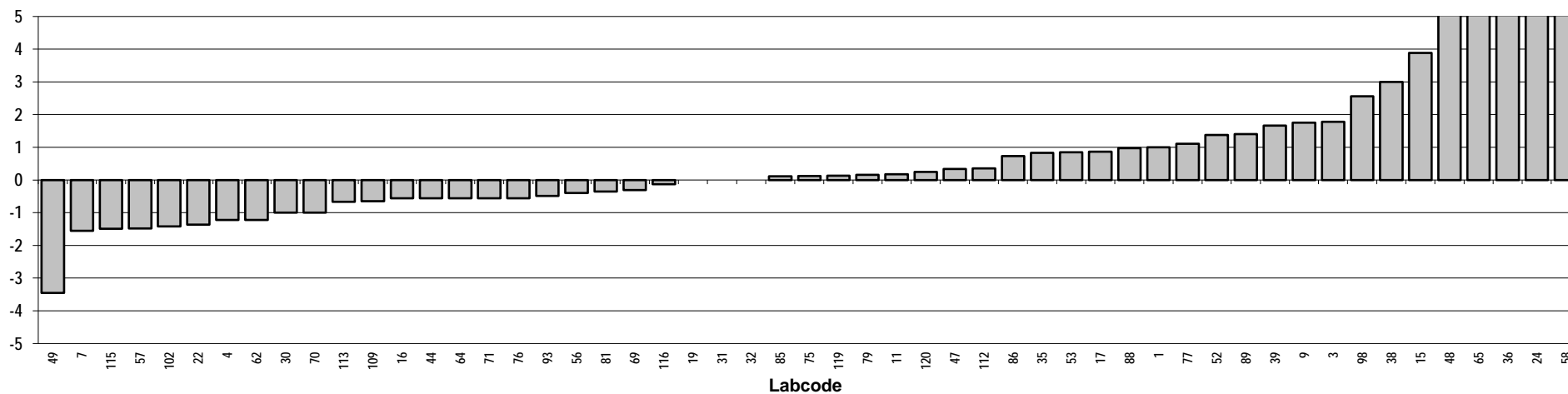
Consensus statistics

Consensus median, pg/g	0,023
Median all values pg/g	0,023
Consensus mean, pg/g	0,023
Standard deviation, pg/g	0,0059
Relative standard deviation, %	26
No. of values reported	53
No. of values removed	5
No. of reported non-detects	7

2,3,7,8 TCDD



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

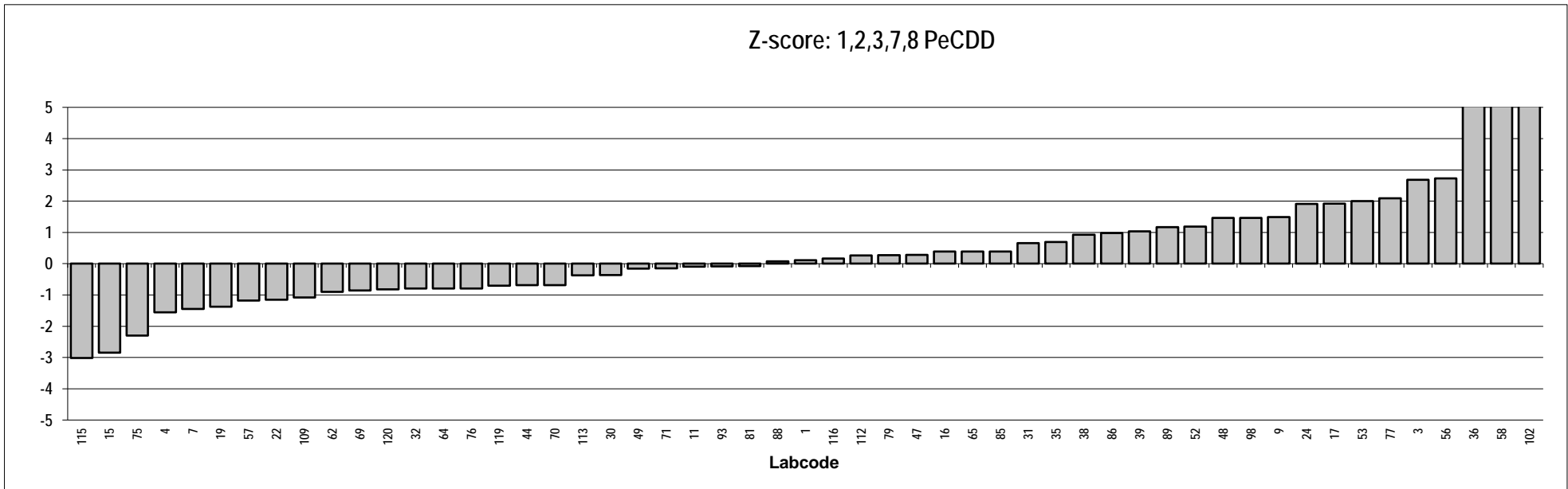
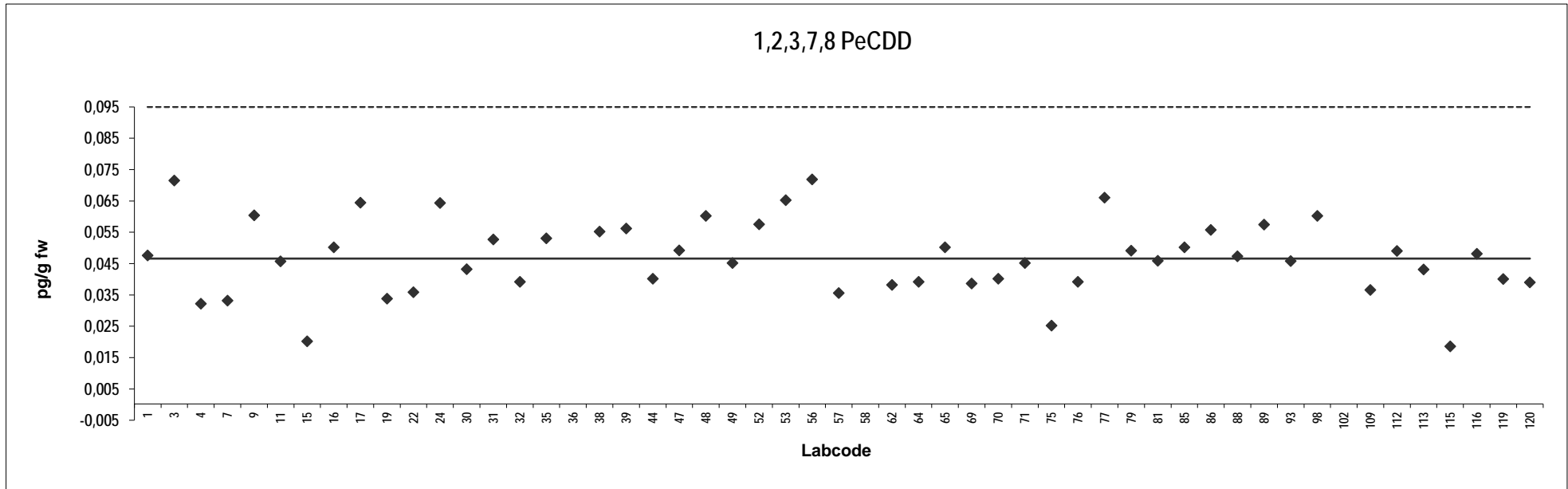


Reindeer
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,047	0,11		102	0,63	63	Outlier
3	0,071	2,7		109	0,036	-1,1	
4	0,032	-1,6		112	0,049	0,26	
7	0,033	-1,4		113	0,043	-0,38	
9	0,060	1,5		115	0,018	-3,0	ND
11	0,046	-0,097		116	0,048	0,16	
15	0,020	-2,8		119	0,040	-0,70	
16	0,050	0,39		120	0,039	-0,82	
17	0,064	1,9					
19	0,034	-1,4					
22	0,036	-1,2					
24	0,064	1,9					
30	0,043	-0,37					
31	0,053	0,66					
32	0,039	-0,80					
35	0,053	0,70					
36	0,14	9,6	Outlier				
38	0,055	0,93					
39	0,056	1,0					
44	0,040	-0,69					
47	0,049	0,28					
48	0,060	1,5					
49	0,045	-0,15					
52	0,057	1,2					
53	0,065	2,0					
56	0,072	2,7					
57	0,035	-1,2					
58	0,28	25	Outlier,ND				
62	0,038	-0,91					
64	0,039	-0,80					
65	0,050	0,39	ND				
69	0,038	-0,85					
70	0,040	-0,69					
71	0,045	-0,15					
75	0,025	-2,3					
76	0,039	-0,80					
77	0,066	2,1					
79	0,049	0,27					
81	0,046	-0,075					
85	0,050	0,39					
86	0,056	0,98					
88	0,047	0,075					
89	0,057	1,2					
93	0,046	-0,086					
98	0,060	1,5					

Consensus statistics

Consensus median, pg/g	0,046
Median all values pg/g	0,047
Consensus mean, pg/g	0,047
Standard deviation, pg/g	0,012
Relative standard deviation, %	26
No. of values reported	53
No. of values removed	3
No. of reported non-detects	3



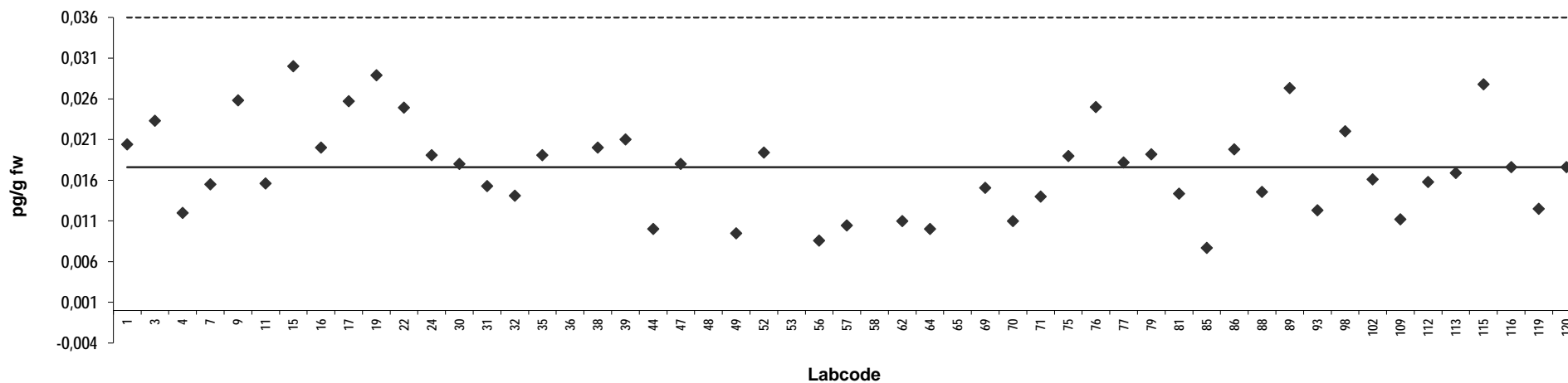
Reindeer
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,020	0,80		102	0,016	-0,42	ND
3	0,023	1,6		109	0,011	-1,8	
4	0,012	-1,6		112	0,016	-0,52	
7	0,016	-0,60		113	0,017	-0,20	
9	0,026	2,3		115	0,028	2,9	ND
11	0,016	-0,57		116	0,018	-0,00036	
15	0,030	3,5	ND	119	0,013	-1,4	
16	0,020	0,68		120	0,018	0,00036	
17	0,026	2,3					
19	0,029	3,2	ND				
22	0,025	2,1	ND				
24	0,019	0,42					
30	0,018	0,11					
31	0,015	-0,65					
32	0,014	-0,99					
35	0,019	0,42					
36	0,10	23	Outlier,ND				
38	0,020	0,68					
39	0,021	0,97					
44	0,010	-2,2					
47	0,018	0,11					
48	0,050	9,2	Outlier,ND				
49	0,0095	-2,3					
52	0,019	0,52					
53	0,087	20	Outlier				
56	0,0086	-2,6					
57	0,010	-2,0					
58	0,30	79	Outlier,ND				
62	0,011	-1,9					
64	0,010	-2,2					
65	0,050	9,2	Outlier,ND				
69	0,015	-0,72					
70	0,011	-1,9					
71	0,014	-1,0					
75	0,019	0,39					
76	0,025	2,1	ND				
77	0,018	0,17					
79	0,019	0,45					
81	0,014	-0,92	ND				
85	0,0077	-2,8					
86	0,020	0,63					
88	0,015	-0,86					
89	0,027	2,8					
93	0,012	-1,5	ND				
98	0,022	1,3					

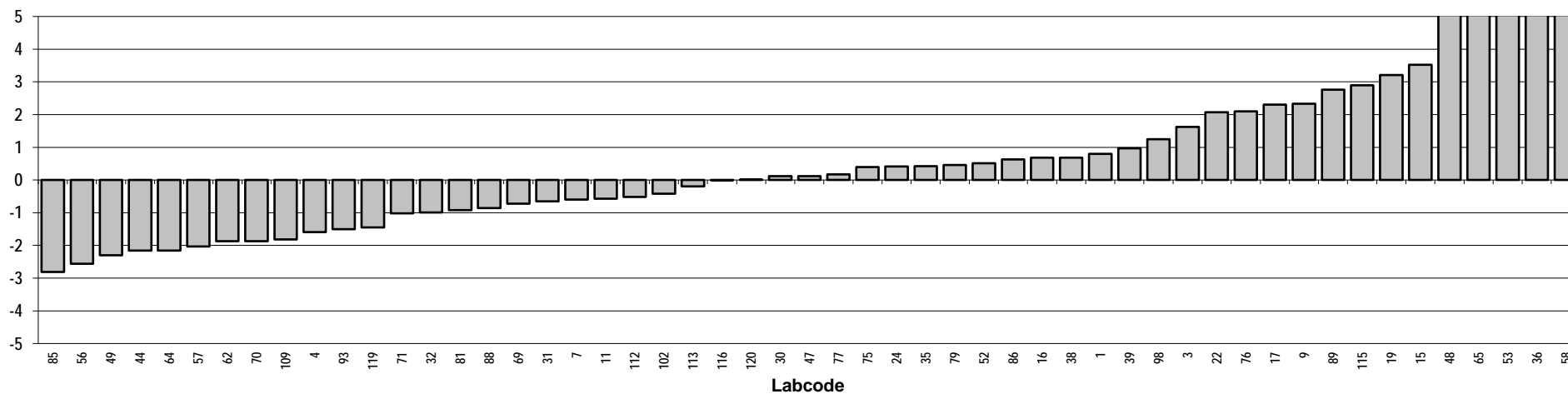
Consensus statistics

Consensus median, pg/g	0,018
Median all values pg/g	0,018
Consensus mean, pg/g	0,018
Standard deviation, pg/g	0,0057
Relative standard deviation, %	32
No. of values reported	53
No. of values removed	5
No. of reported non-detects	12

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



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

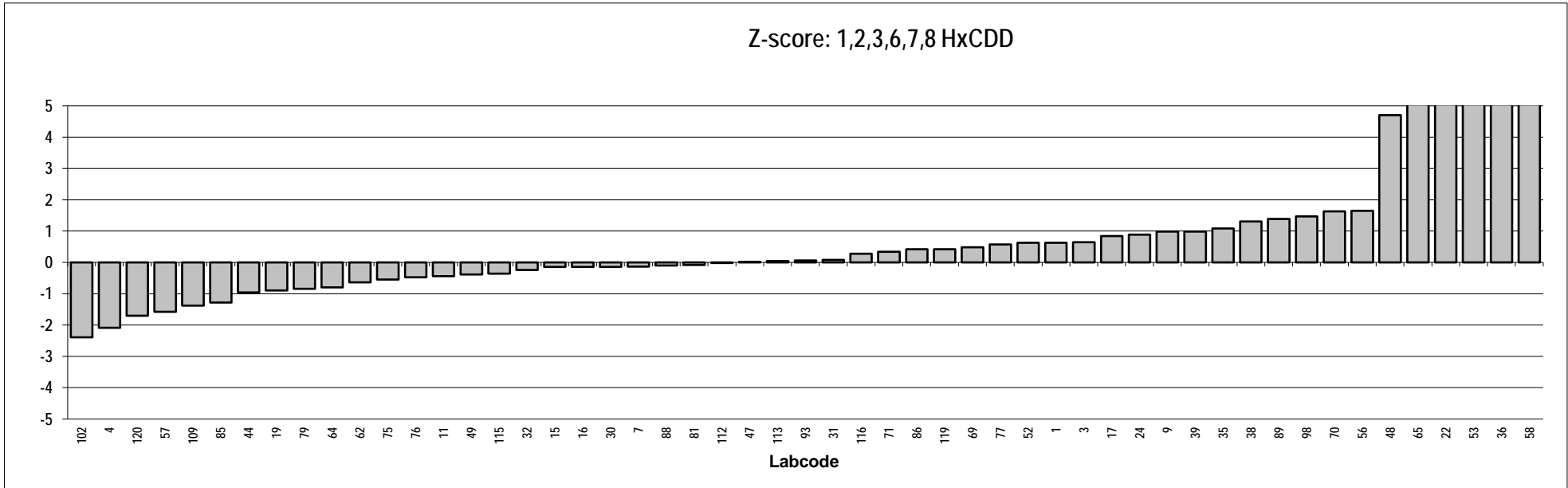
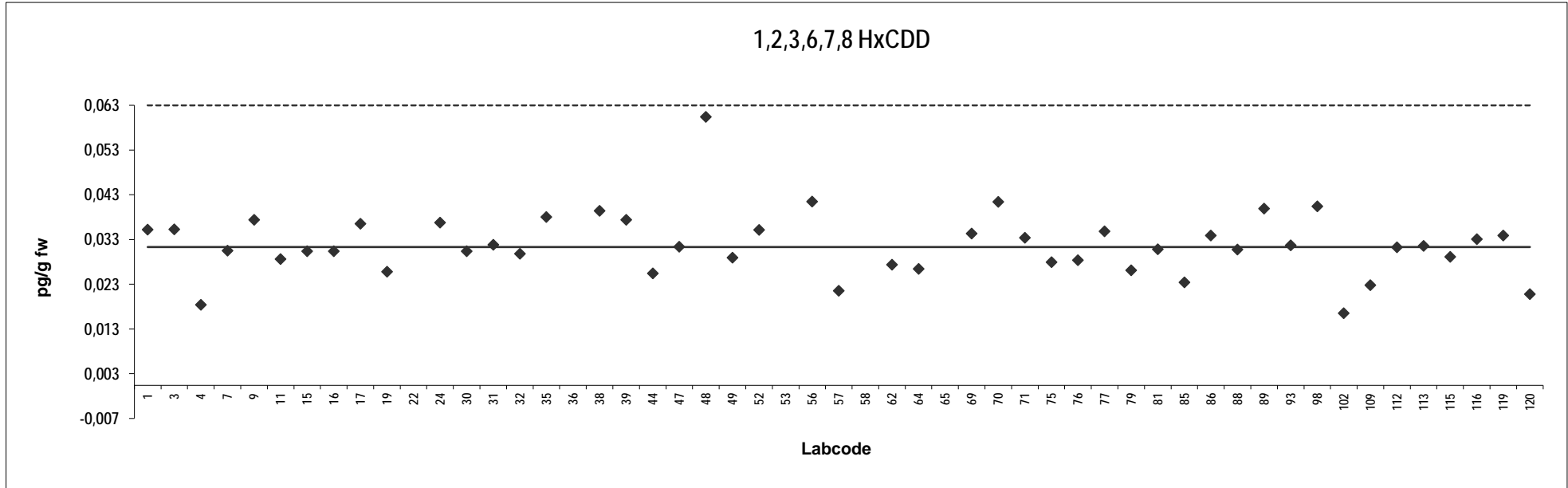


Reindeer
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,035	0,63		102	0,016	-2,4	ND
3	0,035	0,64		109	0,022	-1,4	
4	0,018	-2,1		112	0,031	-0,014	
7	0,030	-0,13		113	0,031	0,046	
9	0,037	0,98		115	0,029	-0,36	ND
11	0,028	-0,44		116	0,033	0,28	
15	0,030	-0,15	ND	119	0,034	0,42	
16	0,030	-0,15		120	0,020	-1,7	
17	0,036	0,84					
19	0,025	-0,89					
22	0,071	6,5	Outlier				
24	0,036	0,89					
30	0,030	-0,15	ND				
31	0,031	0,079					
32	0,029	-0,24					
35	0,038	1,1					
36	0,10	11	Outlier,ND				
38	0,039	1,3					
39	0,037	0,98					
44	0,025	-0,96					
47	0,031	0,014					
48	0,060	4,7					
49	0,029	-0,38					
52	0,035	0,62					
53	0,072	6,6	Outlier				
56	0,041	1,6					
57	0,021	-1,6					
58	0,32	46	Outlier,ND				
62	0,027	-0,63					
64	0,026	-0,79					
65	0,070	6,3	Outlier,ND				
69	0,034	0,49					
70	0,041	1,6					
71	0,033	0,34					
75	0,028	-0,54					
76	0,028	-0,47					
77	0,034	0,57					
79	0,026	-0,84					
81	0,030	-0,083					
85	0,023	-1,3					
86	0,034	0,42					
88	0,030	-0,095					
89	0,040	1,4					
93	0,031	0,062					
98	0,040	1,5					

Consensus statistics

Consensus median, pg/g	0,031
Median all values pg/g	0,031
Consensus mean, pg/g	0,031
Standard deviation, pg/g	0,0072
Relative standard deviation, %	23
No. of values reported	53
No. of values removed	5
No. of reported non-detects	7



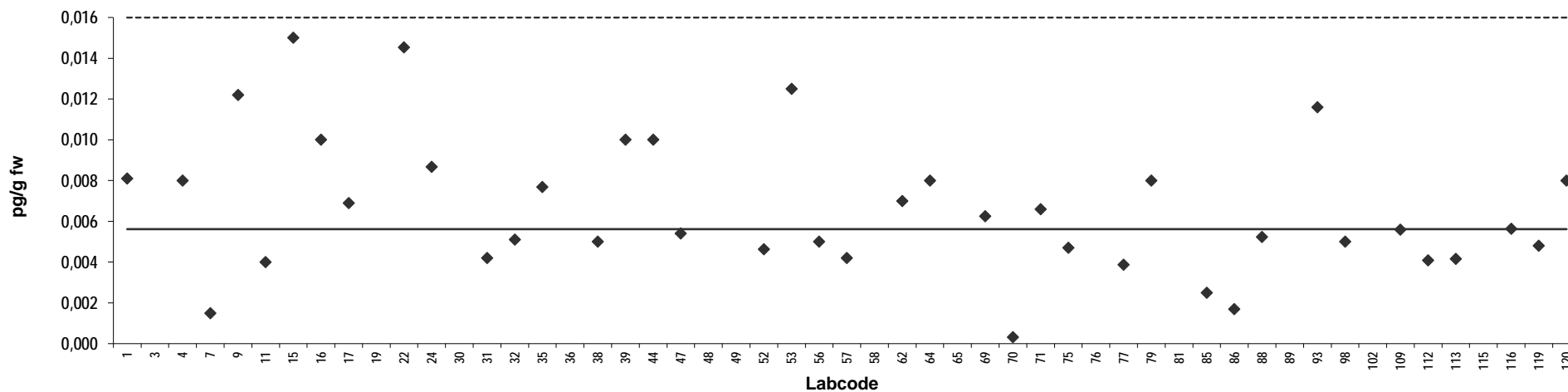
Reindeer
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,0081	2,2		102	0,016	9,3	Outlier,ND
3	0,045	35	Outlier,ND	109	0,0056	-0,020	
4	0,0080	2,1	ND	112	0,0041	-1,4	
7	0,0015	-3,7	ND	113	0,0042	-1,3	
9	0,012	5,9		115	0,030	22	Outlier,ND
11	0,0040	-1,4	ND	116	0,0056	0,020	
15	0,015	8,4	ND	119	0,0048	-0,73	ND
16	0,010	3,9	ND	120	0,0080	2,1	ND
17	0,0069	1,1					
19	0,023	16	Outlier				
22	0,015	7,9	ND				
24	0,0087	2,7					
30	0,030	22	Outlier,ND				
31	0,0042	-1,3					
32	0,0051	-0,46					
35	0,0077	1,8	ND				
36	0,10	84	Outlier,ND				
38	0,0050	-0,55	ND				
39	0,010	3,9	ND				
44	0,010	3,9					
47	0,0054	-0,19	ND				
48	0,050	40	Outlier,ND				
49	0,078	65	Outlier				
52	0,0046	-0,87					
53	0,013	6,1					
56	0,0050	-0,55	ND				
57	0,0042	-1,3					
58	0,30	263	Outlier,ND				
62	0,0070	1,2	ND				
64	0,0080	2,1	ND				
65	0,050	40	Outlier,ND				
69	0,0062	0,56	ND				
70	0,00032	-4,7	ND				
71	0,0066	0,87	ND				
75	0,0047	-0,82	ND				
76	0,025	17	Outlier,ND				
77	0,0039	-1,6					
79	0,0080	2,1	ND				
81	0,019	11	Outlier,ND				
85	0,0025	-2,8	ND				
86	0,0017	-3,5	ND				
88	0,0052	-0,35					
89	0,021	14	Outlier,ND				
93	0,012	5,3	ND				
98	0,0050	-0,55	ND				

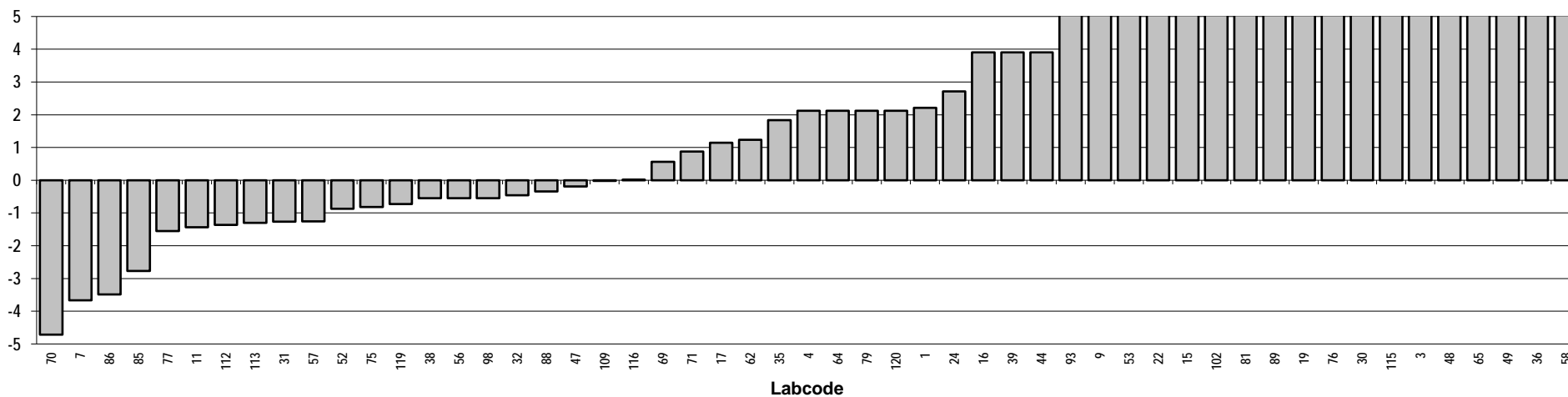
Consensus statistics

Consensus median, pg/g	0,0056
Median all values pg/g	0,0080
Consensus mean, pg/g	0,0066
Standard deviation, pg/g	0,0034
Relative standard deviation, %	51
No. of values reported	53
No. of values removed	13
No. of reported non-detects	35

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



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

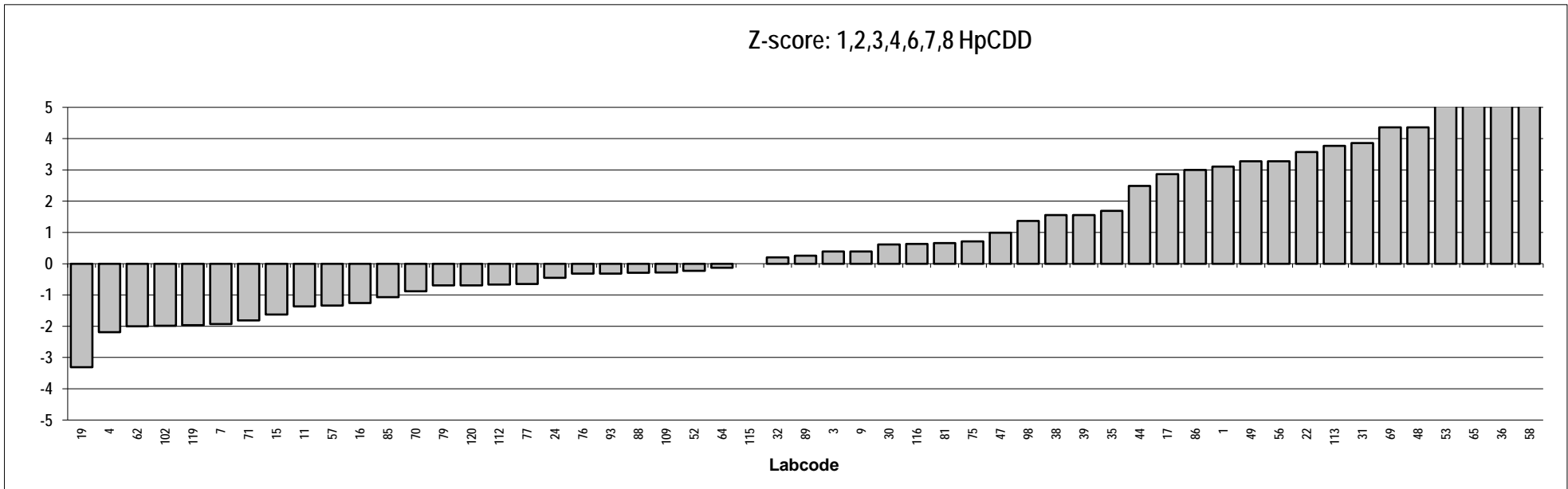
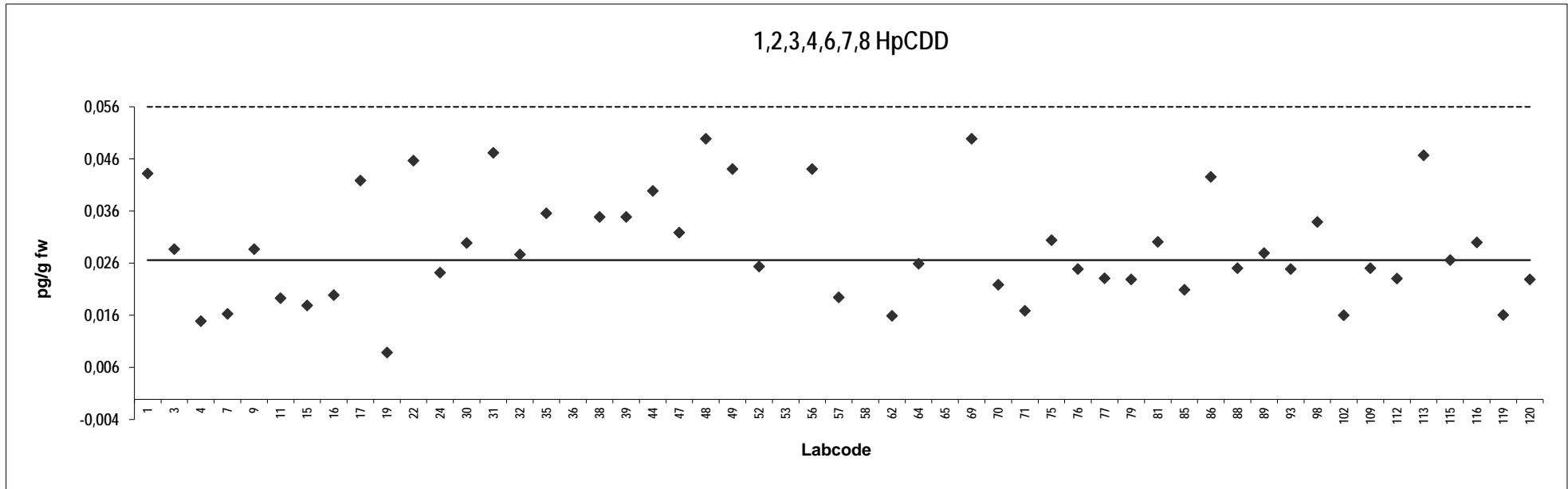


Reindeer
Congener: 1,2,3,4,6,7,8 HpCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,043	3,1		102	0,016	-2,0	
3	0,029	0,39		109	0,025	-0,29	
4	0,015	-2,2		112	0,023	-0,66	
7	0,016	-1,9		113	0,047	3,8	
9	0,029	0,39		115	0,027	0,00	ND
11	0,019	-1,4		116	0,030	0,64	
15	0,018	-1,6		119	0,016	-2,0	
16	0,020	-1,3		120	0,023	-0,69	
17	0,042	2,9					
19	0,0090	-3,3					
22	0,046	3,6					
24	0,024	-0,45					
30	0,030	0,62	ND				
31	0,047	3,9					
32	0,028	0,21					
35	0,036	1,7					
36	0,13	19	Outlier				
38	0,035	1,6					
39	0,035	1,6					
44	0,040	2,5					
47	0,032	0,99					
48	0,050	4,4	ND				
49	0,044	3,3					
52	0,026	-0,22					
53	0,085	11	Outlier				
56	0,044	3,3					
57	0,020	-1,3					
58	0,38	66	Outlier,ND				
62	0,016	-2,0					
64	0,026	-0,13					
65	0,090	12	Outlier,ND				
69	0,050	4,4	ND				
70	0,022	-0,88					
71	0,017	-1,8					
75	0,031	0,72					
76	0,025	-0,32	ND				
77	0,023	-0,65					
79	0,023	-0,69					
81	0,030	0,66	ND				
85	0,021	-1,1					
86	0,043	3,0					
88	0,025	-0,29					
89	0,028	0,26					
93	0,025	-0,32					
98	0,034	1,4					

Consensus statistics

Consensus median, pg/g	0,027
Median all values pg/g	0,028
Consensus mean, pg/g	0,029
Standard deviation, pg/g	0,010
Relative standard deviation, %	36
No. of values reported	53
No. of values removed	4
No. of reported non-detects	8

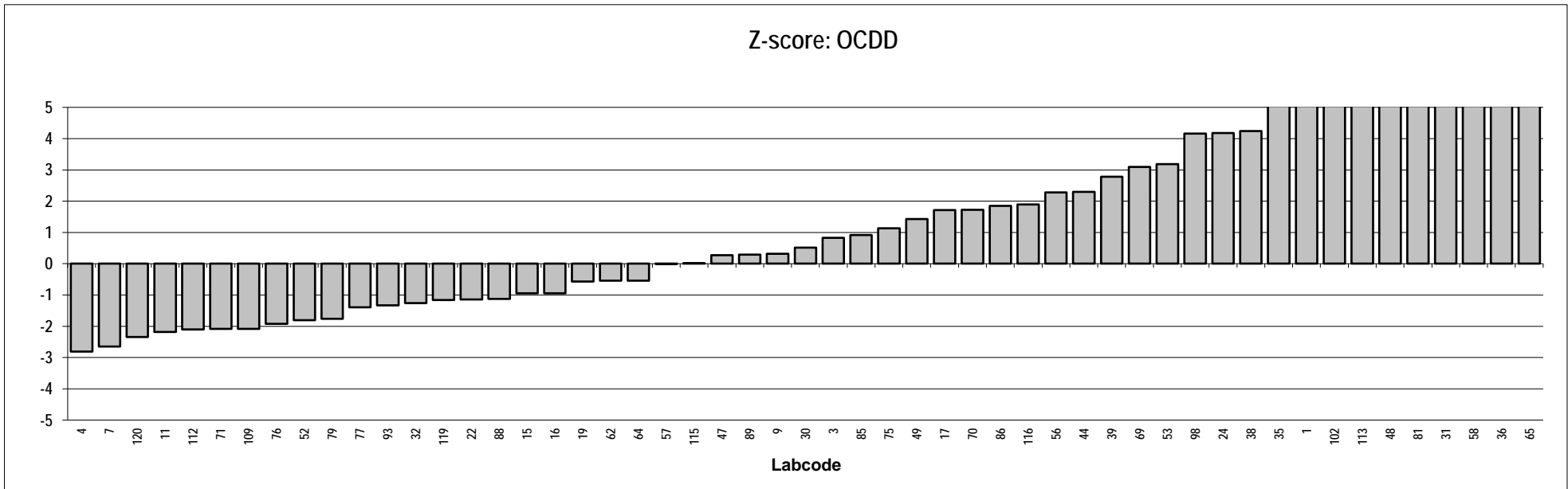
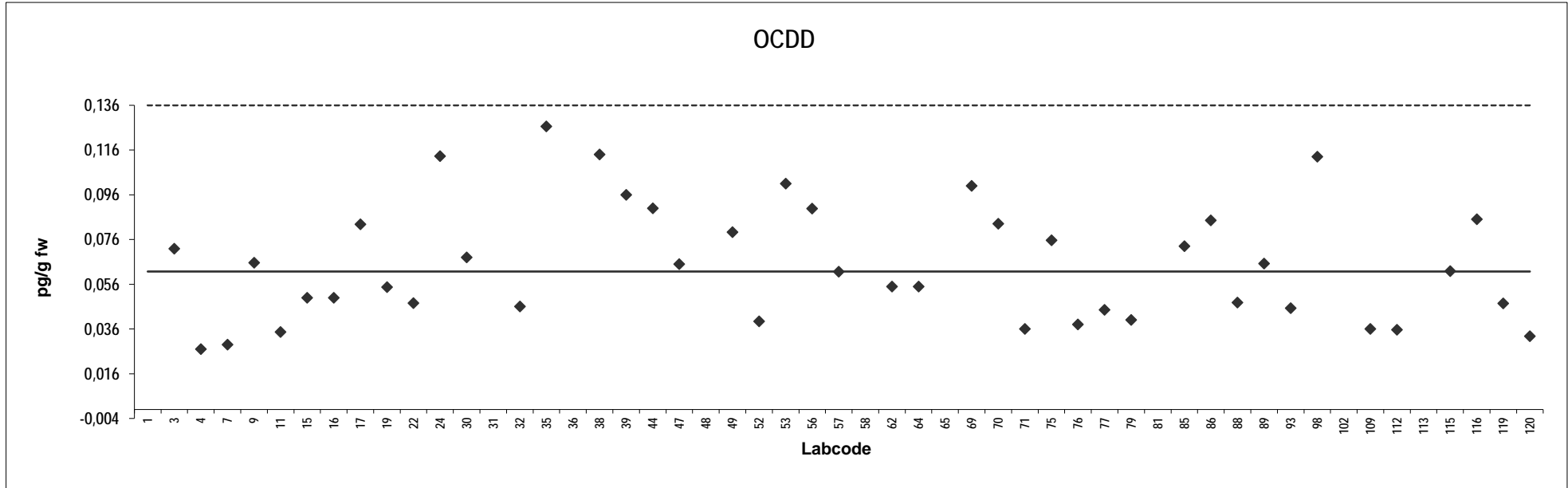


Reindeer
Congener: OCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,17	8,4	Outlier	102	0,17	9,1	Outlier
3	0,072	0,83		109	0,036	-2,1	
4	0,027	-2,8		112	0,036	-2,1	
7	0,029	-2,6	ND	113	0,18	9,3	Outlier
9	0,066	0,32		115	0,062	0,0088	ND
11	0,035	-2,2		116	0,085	1,9	
15	0,050	-0,95		119	0,047	-1,2	
16	0,050	-0,95		120	0,033	-2,3	
17	0,083	1,7					
19	0,055	-0,57					
22	0,048	-1,1					
24	0,11	4,2					
30	0,068	0,51					
31	0,23	14	Outlier				
32	0,046	-1,3					
35	0,13	5,3					
36	0,31	20	Outlier				
38	0,11	4,2					
39	0,096	2,8					
44	0,090	2,29					
47	0,065	0,27					
48	0,20	11	Outlier,ND				
49	0,079	1,4					
52	0,039	-1,8					
53	0,10	3,2					
56	0,090	2,3					
57	0,062	-0,0088					
58	0,27	17	Outlier,ND				
62	0,055	-0,54					
64	0,055	-0,54					
65	0,31	20	Outlier				
69	0,10	3,1	ND				
70	0,083	1,7					
71	0,036	-2,1					
75	0,076	1,1					
76	0,038	-1,9					
77	0,045	-1,4					
79	0,040	-1,8	ND				
81	0,22	13	Outlier,ND				
85	0,073	0,92					
86	0,085	1,8					
88	0,048	-1,1					
89	0,065	0,29	ND				
93	0,045	-1,3					
98	0,11	4,2					

Consensus statistics

Consensus median, pg/g	0,062
Median all values pg/g	0,068
Consensus mean, pg/g	0,065
Standard deviation, pg/g	0,026
Relative standard deviation, %	40
No. of values reported	53
No. of values removed	9
No. of reported non-detects	8



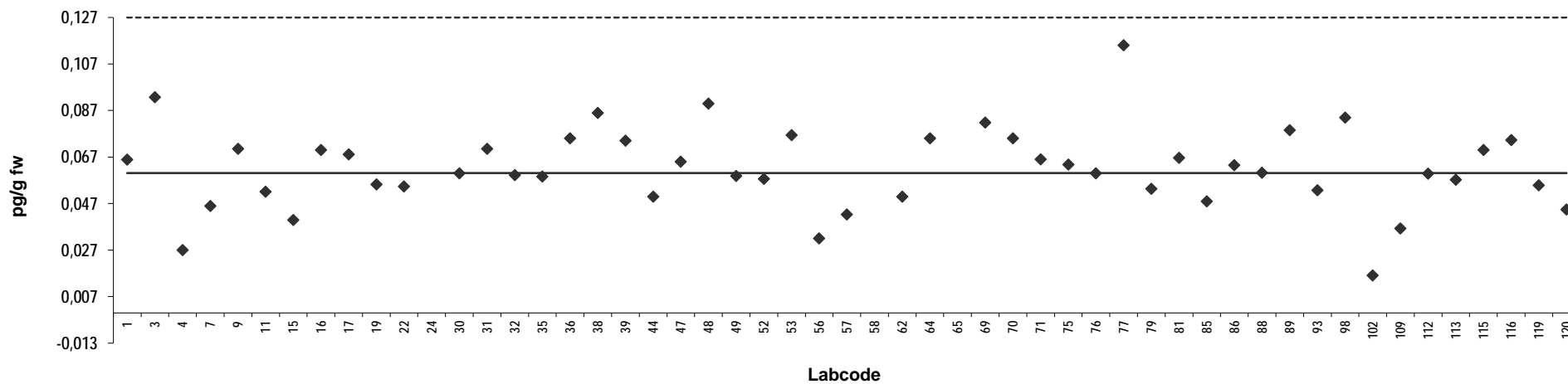
Reindeer
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,066	0,48		102	0,016	-3,7	ND
3	0,093	2,7		109	0,036	-2,0	
4	0,027	-2,8		112	0,060	-0,019	
7	0,046	-1,2		113	0,057	-0,24	
9	0,071	0,87		115	0,070	0,82	
11	0,052	-0,67		116	0,074	1,2	
15	0,040	-1,7	ND	119	0,055	-0,43	
16	0,070	0,82		120	0,045	-1,3	
17	0,068	0,67					
19	0,055	-0,41					
22	0,054	-0,47					
24	0,35	24	Outlier				
30	0,060	-0,0093					
31	0,071	0,87					
32	0,059	-0,076					
35	0,059	-0,12					
36	0,075	1,2	ND				
38	0,086	2,2					
39	0,074	1,2					
44	0,050	-0,84					
47	0,065	0,4					
48	0,090	2,5					
49	0,059	-0,10					
52	0,058	-0,20					
53	0,076	1,4					
56	0,032	-2,3					
57	0,042	-1,5					
58	0,32	22	Outlier,ND				
62	0,050	-0,84					
64	0,075	1,2					
65	0,31	21	Outlier				
69	0,082	1,8					
70	0,075	1,2					
71	0,066	0,49					
75	0,064	0,30					
76	0,060	-0,0093					
77	0,11	4,6					
79	0,053	-0,57					
81	0,067	0,54					
85	0,048	-1,0					
86	0,064	0,28					
88	0,060	0,0093					
89	0,079	1,5					
93	0,053	-0,62					
98	0,084	2,0					

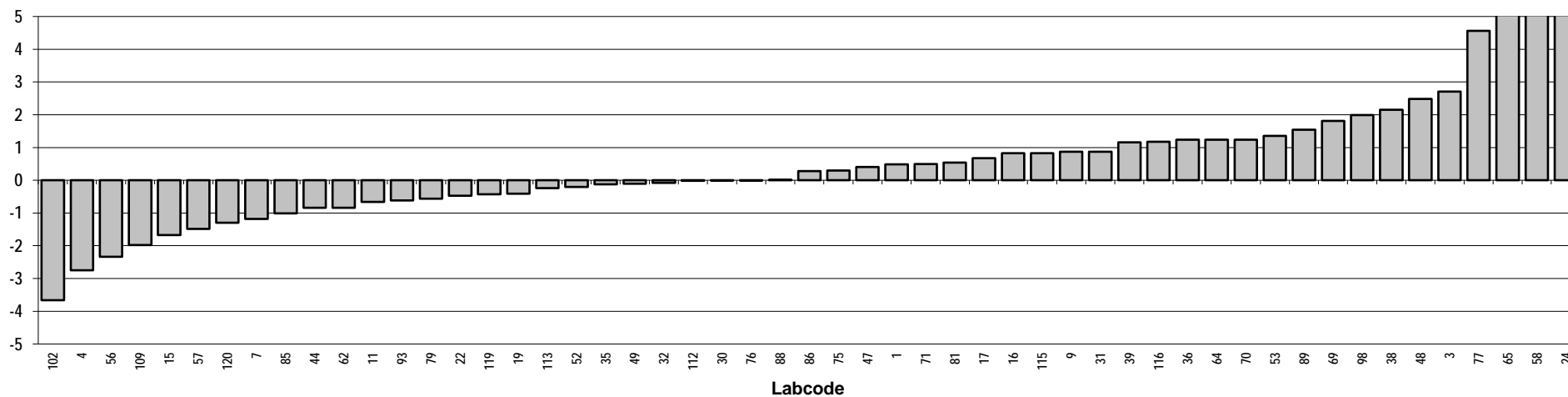
Consensus statistics

Consensus median, pg/g	0,060
Median all values pg/g	0,064
Consensus mean, pg/g	0,062
Standard deviation, pg/g	0,017
Relative standard deviation, %	28
No. of values reported	53
No. of values removed	3
No. of reported non-detects	4

2,3,7,8 TCDF



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

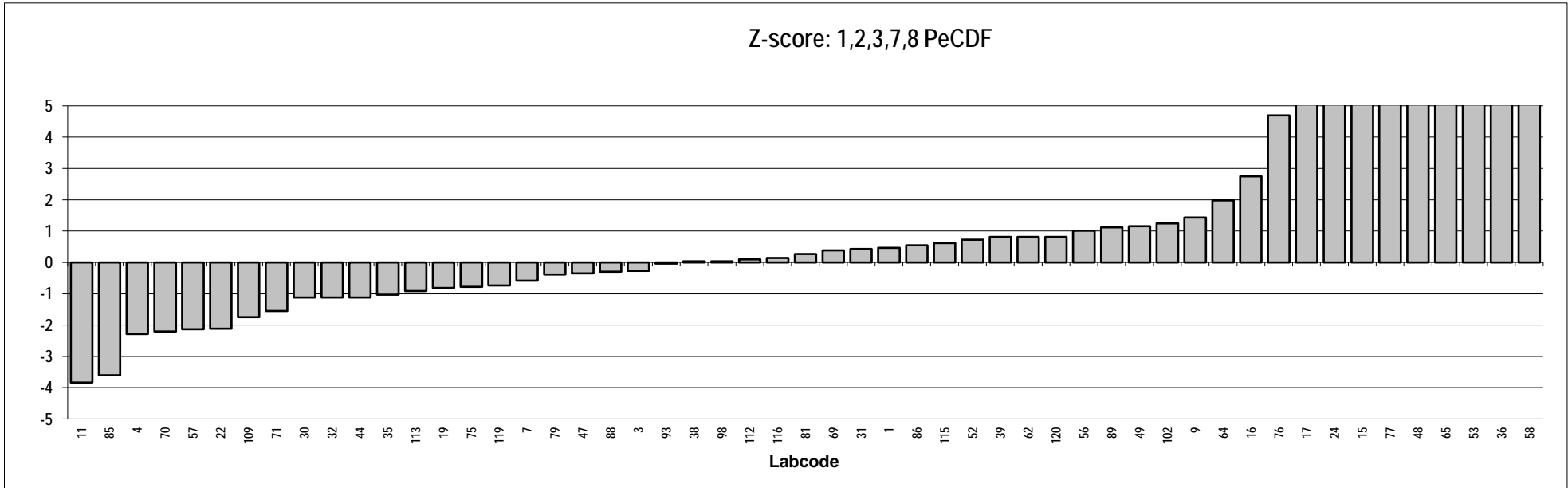
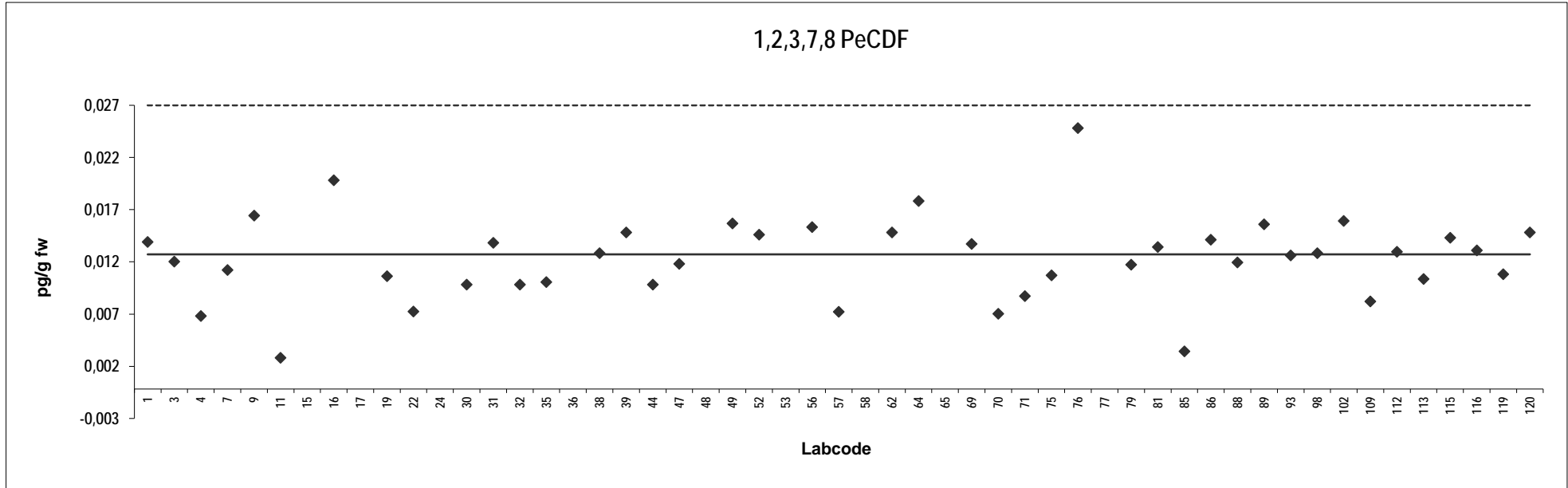


Reindeer
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,014	0,47		102	0,016	1,2	ND
3	0,012	-0,27		109	0,0084	-1,7	
4	0,0070	-2,3		112	0,013	0,099	
7	0,011	-0,58		113	0,011	-0,92	
9	0,017	1,4		115	0,015	0,62	ND
11	0,0030	-3,8	ND	116	0,013	0,15	
15	0,040	11	Outlier,ND	119	0,011	-0,74	
16	0,020	2,8		120	0,015	0,81	
17	0,029	6,1	Outlier				
19	0,011	-0,81					
22	0,0074	-2,1	ND				
24	0,033	7,8	Outlier				
30	0,010	-1,1	ND				
31	0,014	0,43					
32	0,010	-1,1					
35	0,010	-1,0					
36	0,075	24	Outlier,ND				
38	0,013	0,039					
39	0,015	0,81					
44	0,010	-1,1					
47	0,012	-0,35					
48	0,050	14	Outlier,ND				
49	0,016	1,2					
52	0,015	0,73					
53	0,051	15	Outlier				
56	0,016	1,0					
57	0,0074	-2,1					
58	0,18	63	Outlier,ND				
62	0,015	0,81					
64	0,018	2,0					
65	0,050	14	Outlier,ND				
69	0,014	0,38					
70	0,0072	-2,2					
71	0,0089	-1,6					
75	0,011	-0,78					
76	0,025	4,7	ND				
77	0,048	14	Outlier				
79	0,012	-0,39					
81	0,014	0,27	ND				
85	0,0036	-3,6					
86	0,014	0,54					
88	0,012	-0,30					
89	0,016	1,1					
93	0,013	-0,039	ND				
98	0,013	0,039					

Consensus statistics

Consensus median, pg/g	0,013
Median all values pg/g	0,014
Consensus mean, pg/g	0,012
Standard deviation, pg/g	0,0040
Relative standard deviation, %	32
No. of values reported	53
No. of values removed	9
No. of reported non-detects	13

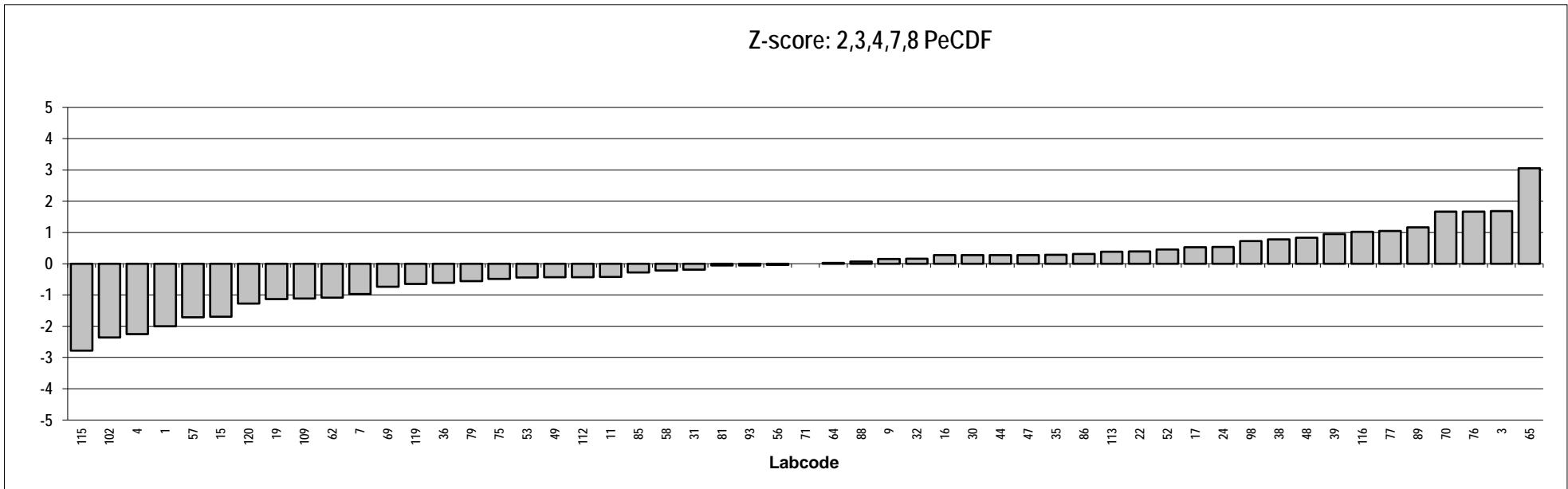
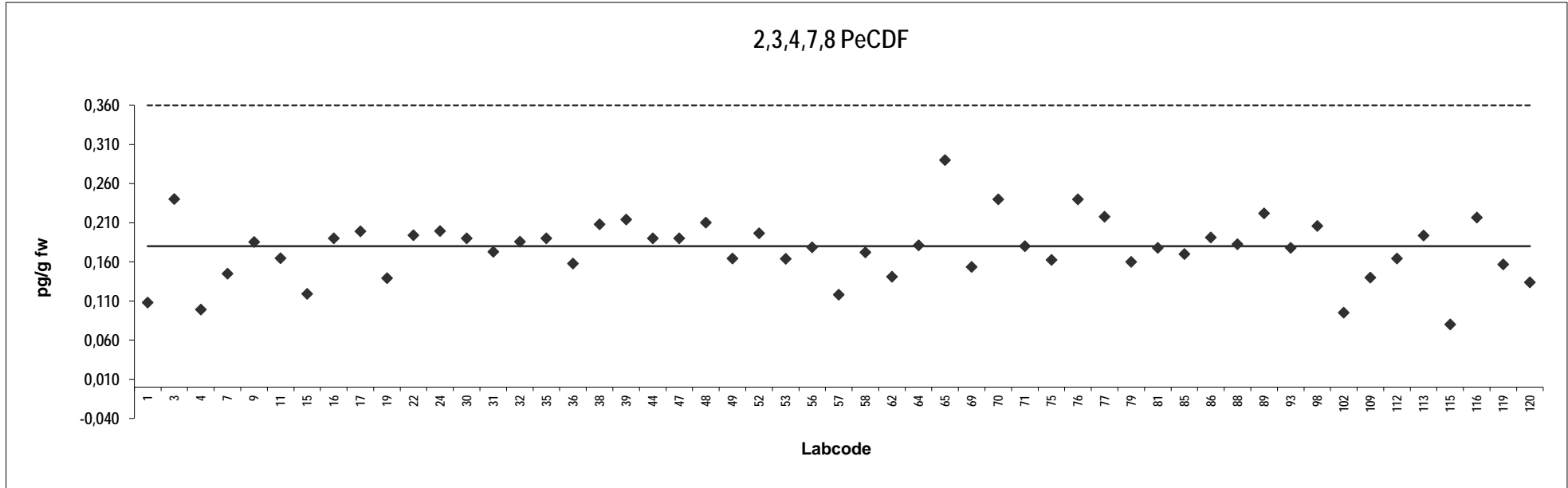


Reindeer
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,11	-2,0		102	0,095	-2,4	
3	0,24	1,7		109	0,14	-1,1	
4	0,099	-2,3		112	0,16	-0,4	
7	0,15	-0,97		113	0,19	0,38	
9	0,19	0,15		115	0,080	-2,8	
11	0,16	-0,42		116	0,22	1,0	
15	0,12	-1,7		119	0,16	-0,65	
16	0,19	0,28		120	0,13	-1,3	
17	0,20	0,53					
19	0,14	-1,1					
22	0,19	0,39					
24	0,20	0,54					
30	0,19	0,28					
31	0,17	-0,19					
32	0,19	0,16					
35	0,19	0,28					
36	0,16	-0,61					
38	0,21	0,78					
39	0,21	0,94					
44	0,19	0,28					
47	0,19	0,28					
48	0,21	0,83					
49	0,16	-0,44					
52	0,20	0,46					
53	0,16	-0,44					
56	0,18	-0,042					
57	0,12	-1,7					
58	0,17	-0,22	ND				
62	0,14	-1,1					
64	0,18	0,028					
65	0,29	3,1					
69	0,15	-0,73					
70	0,24	1,7					
71	0,18	0,00					
75	0,16	-0,49					
76	0,24	1,7					
77	0,22	1,0					
79	0,16	-0,56					
81	0,18	-0,056					
85	0,17	-0,28					
86	0,19	0,31					
88	0,18	0,069					
89	0,22	1,2					
93	0,18	-0,056					
98	0,21	0,72					

Consensus statistics

Consensus median, pg/g	0,18
Median all values pg/g	0,18
Consensus mean, pg/g	0,18
Standard deviation, pg/g	0,039
Relative standard deviation, %	22
No. of values reported	53
No. of values removed	0
No. of reported non-detects	1



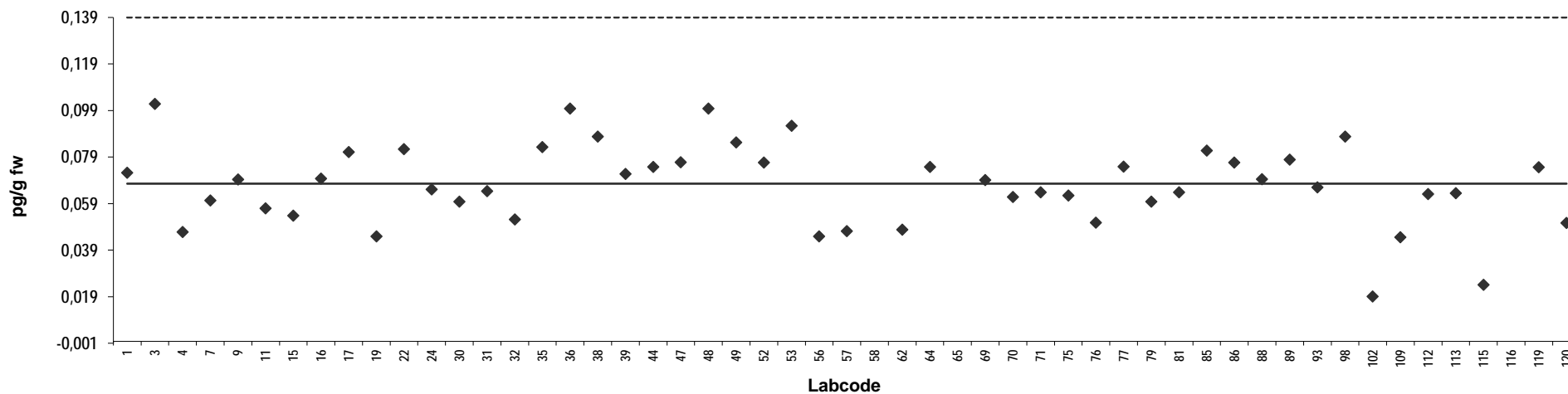
Reindeer
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,072	0,34		102	0,019	-3,6	
3	0,10	2,5		109	0,045	-1,7	
4	0,047	-1,5		112	0,063	-0,33	
7	0,061	-0,54		113	0,064	-0,30	
9	0,070	0,13		115	0,024	-3,2	ND
11	0,057	-0,78		116	0,19	8,9	Outlier
15	0,054	-1,0		119	0,075	0,52	
16	0,070	0,16		120	0,051	-1,2	
17	0,081	1,0					
19	0,045	-1,7					
22	0,083	1,1					
24	0,065	-0,18					
30	0,060	-0,57					
31	0,065	-0,23					
32	0,052	-1,1					
35	0,083	1,2					
36	0,10	2,4	ND				
38	0,088	1,5					
39	0,072	0,31					
44	0,075	0,53					
47	0,077	0,68					
48	0,10	2,4					
49	0,085	1,3					
52	0,077	0,67					
53	0,093	1,8					
56	0,045	-1,7					
57	0,047	-1,5					
58	0,19	8,9	Outlier,ND				
62	0,048	-1,5					
64	0,075	0,53					
65	0,23	12	Outlier				
69	0,069	0,12					
70	0,062	-0,43					
71	0,064	-0,28					
75	0,063	-0,37					
76	0,051	-1,2					
77	0,075	0,54					
79	0,060	-0,57					
81	0,064	-0,27					
85	0,082	1,0					
86	0,077	0,67					
88	0,070	0,15					
89	0,078	0,76					
93	0,066	-0,12					
98	0,088	1,5					

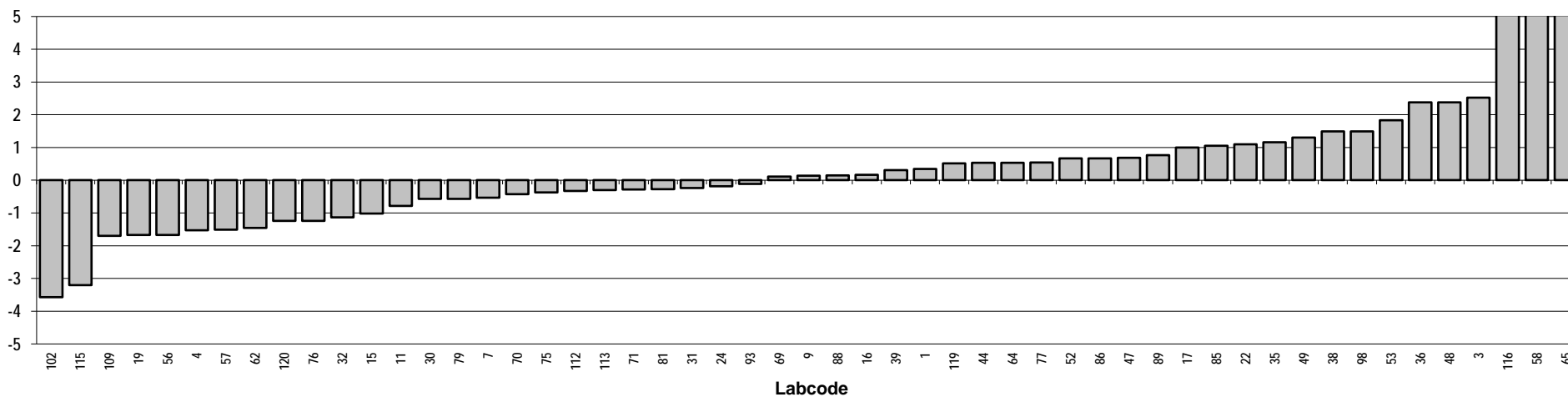
Consensus statistics

Consensus median, pg/g	0,068
Median all values pg/g	0,070
Consensus mean, pg/g	0,067
Standard deviation, pg/g	0,017
Relative standard deviation, %	26
No. of values reported	53
No. of values removed	3
No. of reported non-detects	3

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



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

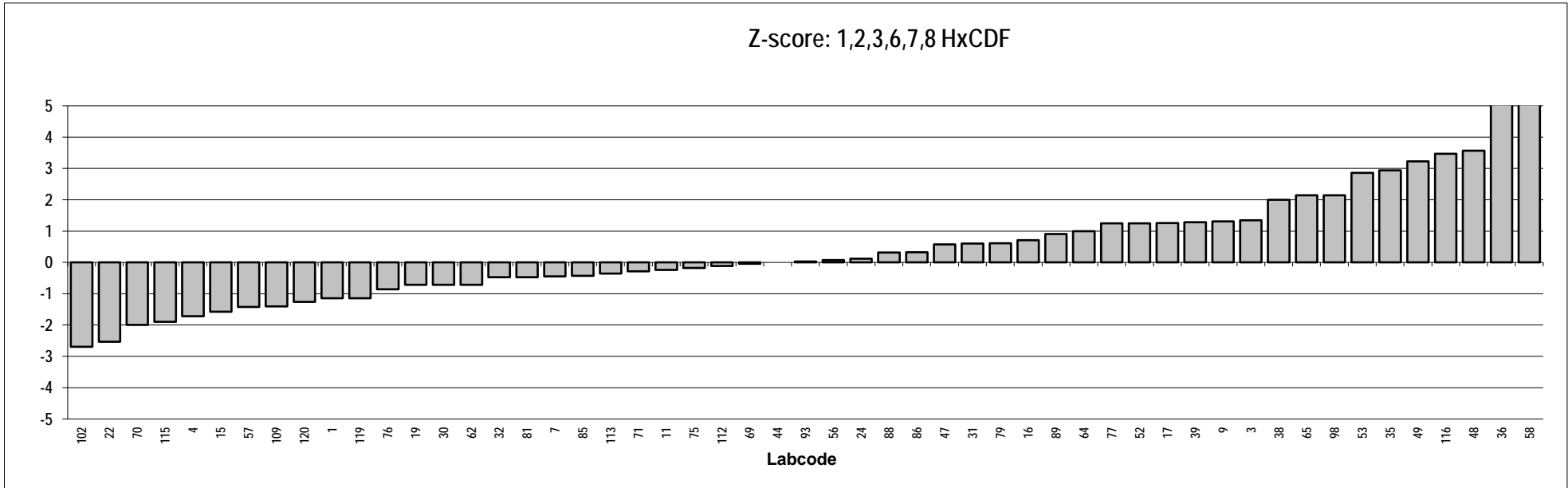
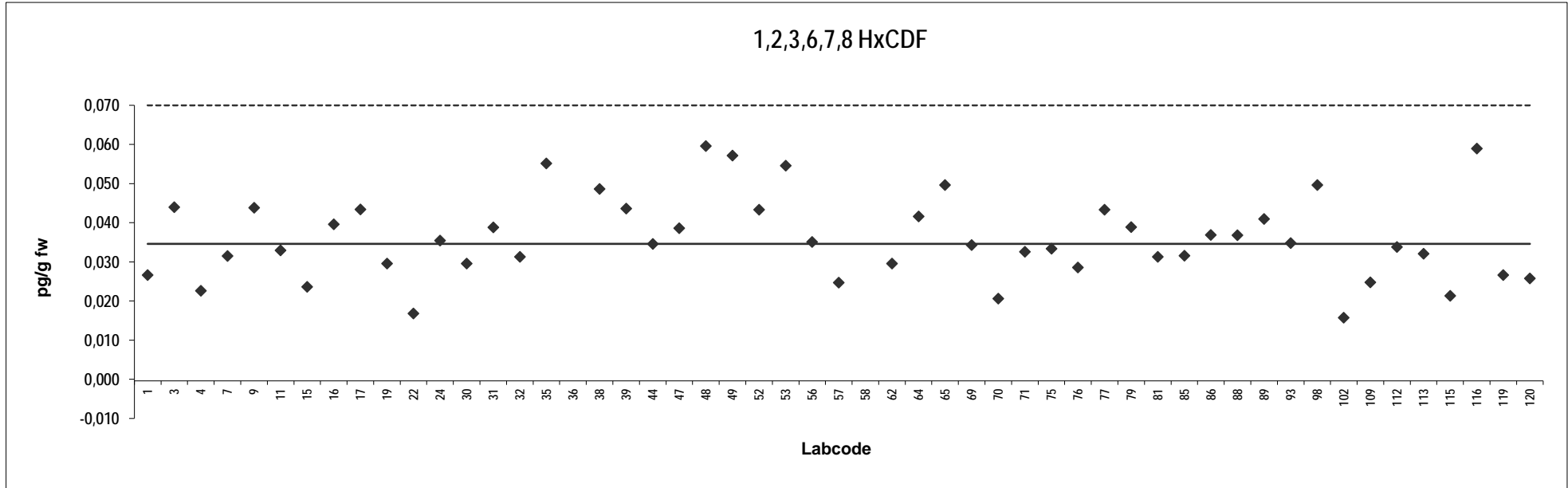


Reindeer
Congener: 1,2,3,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,027	-1,1		102	0,016	-2,7	ND
3	0,044	1,3		109	0,025	-1,4	
4	0,023	-1,7		112	0,034	-0,12	
7	0,032	-0,44		113	0,033	-0,36	
9	0,044	1,3		115	0,022	-1,9	ND
11	0,033	-0,24		116	0,059	3,5	
15	0,024	-1,6		119	0,027	-1,1	
16	0,040	0,71		120	0,026	-1,3	
17	0,044	1,3					
19	0,030	-0,71					
22	0,017	-2,5					
24	0,036	0,12					
30	0,030	-0,71					
31	0,039	0,60					
32	0,032	-0,47					
35	0,056	2,9					
36	0,10	9,3	Outlier,ND				
38	0,049	2,0					
39	0,044	1,3					
44	0,035	0,00					
47	0,039	0,57					
48	0,060	3,6					
49	0,058	3,2					
52	0,044	1,3					
53	0,055	2,9					
56	0,036	0,071					
57	0,025	-1,4					
58	0,18	21	Outlier,ND				
62	0,030	-0,71					
64	0,042	1,0					
65	0,050	2,1	ND				
69	0,035	-0,043					
70	0,021	-2,0					
71	0,033	-0,29					
75	0,034	-0,17					
76	0,029	-0,86					
77	0,044	1,3					
79	0,039	0,61					
81	0,032	-0,47					
85	0,032	-0,43					
86	0,037	0,33					
88	0,037	0,31					
89	0,041	0,91					
93	0,035	0,029					
98	0,050	2,1					

Consensus statistics

Consensus median, pg/g	0,035
Median all values pg/g	0,035
Consensus mean, pg/g	0,036
Standard deviation, pg/g	0,011
Relative standard deviation, %	29
No. of values reported	53
No. of values removed	2
No. of reported non-detects	5

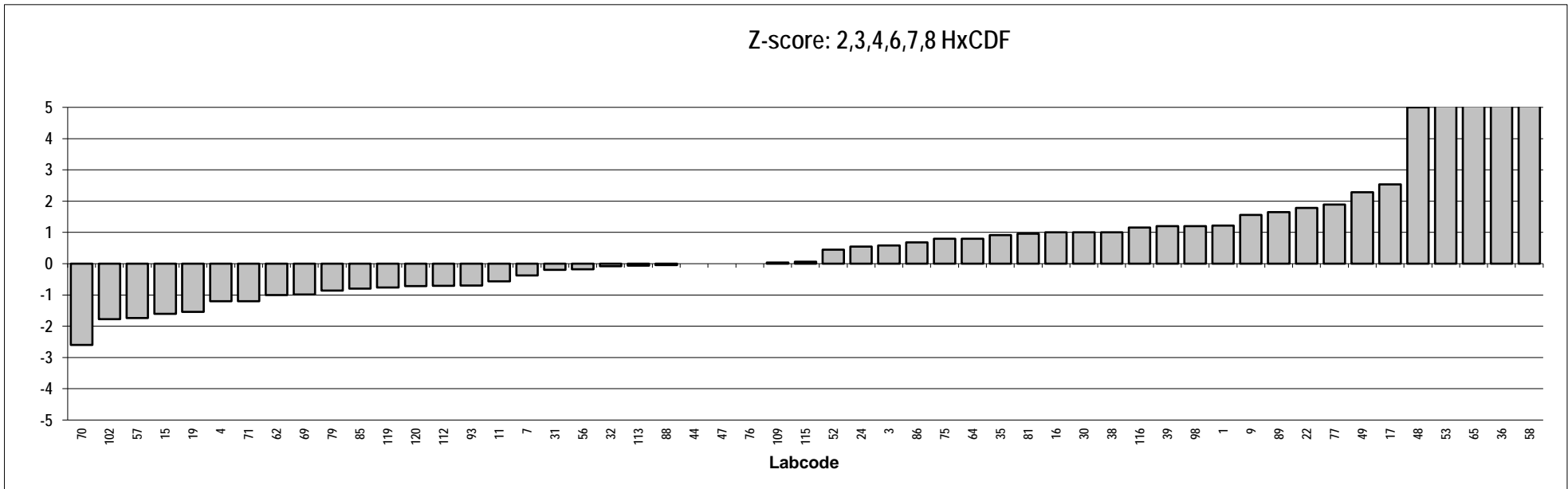
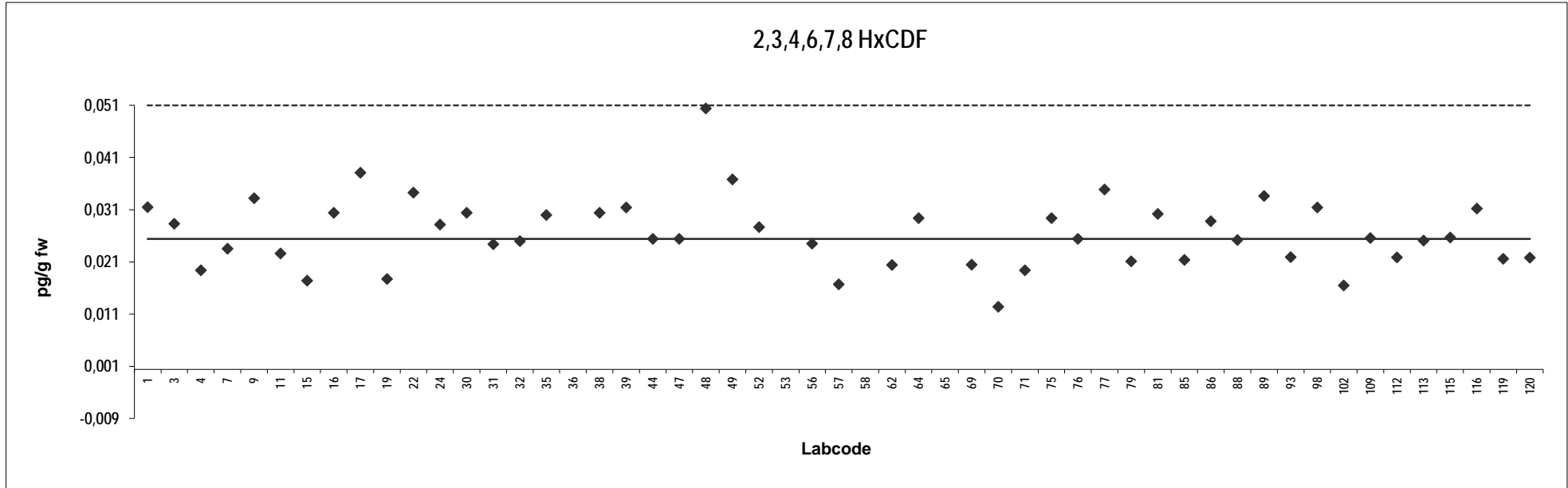


Reindeer
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,031	1,2		102	0,016	-1,8	ND
3	0,028	0,58		109	0,025	0,035	
4	0,019	-1,2		112	0,021	-0,70	
7	0,023	-0,38		113	0,025	-0,060	
9	0,033	1,6		115	0,025	0,060	ND
11	0,022	-0,56		116	0,031	1,2	
15	0,017	-1,6		119	0,021	-0,76	
16	0,030	1,0		120	0,021	-0,72	
17	0,038	2,5					
19	0,017	-1,5					
22	0,034	1,8					
24	0,028	0,55					
30	0,030	1,0					
31	0,024	-0,20					
32	0,025	-0,080					
35	0,030	0,91					
36	0,10	15	Outlier,ND				
38	0,030	1,0					
39	0,031	1,2					
44	0,025	0,00					
47	0,025	0,00					
48	0,050	5,0					
49	0,036	2,3					
52	0,027	0,45					
53	0,067	8,5	Outlier				
56	0,024	-0,18					
57	0,016	-1,7					
58	0,19	34	Outlier,ND				
62	0,020	-1,0					
64	0,029	0,80					
65	0,090	13	Outlier,ND				
69	0,020	-0,99					
70	0,012	-2,6					
71	0,019	-1,2					
75	0,029	0,80					
76	0,025	0,00	ND				
77	0,034	1,9					
79	0,021	-0,86					
81	0,030	0,96	ND				
85	0,021	-0,80					
86	0,028	0,68					
88	0,025	-0,042					
89	0,033	1,6					
93	0,022	-0,70					
98	0,031	1,2					

Consensus statistics

Consensus median, pg/g	0,025
Median all values pg/g	0,025
Consensus mean, pg/g	0,026
Standard deviation, pg/g	0,0067
Relative standard deviation, %	26
No. of values reported	53
No. of values removed	4
No. of reported non-detects	7

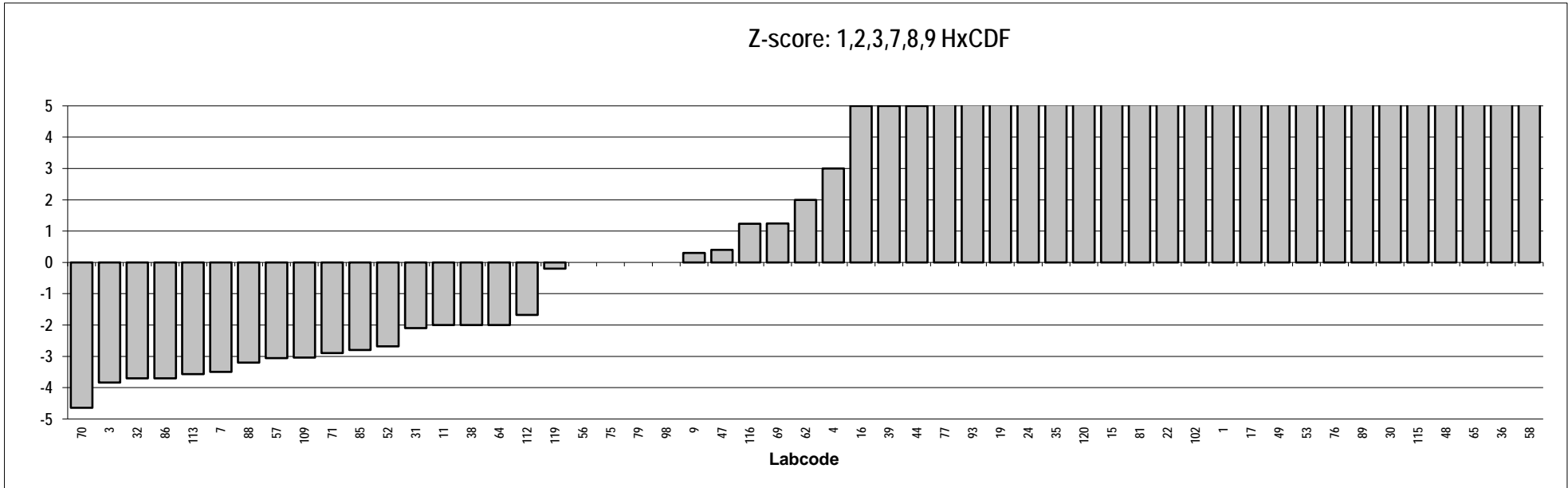
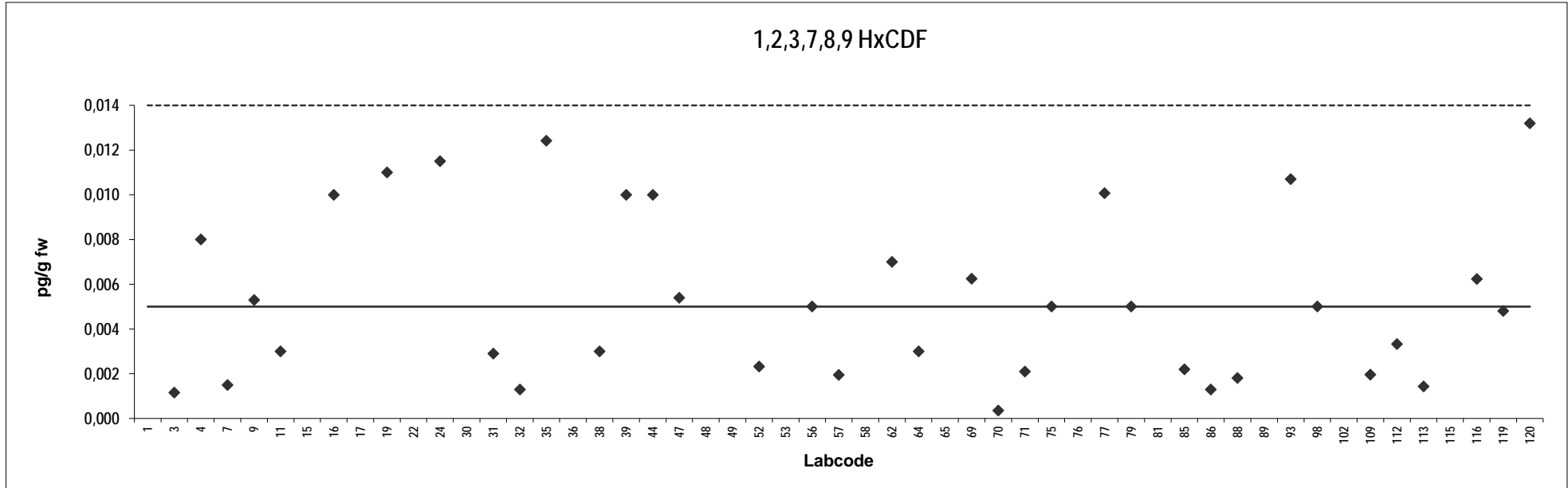


Reindeer
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,017	12	Outlier	102	0,016	11	Outlier,ND
3	0,0012	-3,8	ND	109	0,0020	-3,0	ND
4	0,0080	3,0	ND	112	0,0033	-1,7	
7	0,0015	-3,5	ND	113	0,0014	-3,6	ND
9	0,0053	0,30		115	0,038	33	Outlier,ND
11	0,0030	-2,0	ND	116	0,0062	1,2	ND
15	0,015	10	Outlier,ND	119	0,0048	-0,20	ND
16	0,010	5,0	ND	120	0,013	8,2	
17	0,017	12	Outlier				
19	0,011	6,0	ND				
22	0,015	10	Outlier,ND				
24	0,011	6,5	ND				
30	0,030	25	Outlier,ND				
31	0,0029	-2,1	ND				
32	0,0013	-3,7					
35	0,012	7,4					
36	0,10	95	Outlier,ND				
38	0,0030	-2,0	ND				
39	0,010	5,0	ND				
44	0,010	5,0					
47	0,0054	0,40	ND				
48	0,050	45	Outlier,ND				
49	0,018	13	Outlier				
52	0,0023	-2,7					
53	0,023	18	Outlier				
56	0,0050	0,00	ND				
57	0,0019	-3,1					
58	0,28	271	Outlier,ND				
62	0,0070	2,0	ND				
64	0,0030	-2,0	ND				
65	0,050	45	Outlier,ND				
69	0,0062	1,2	ND				
70	0,00036	-4,6	ND				
71	0,0021	-2,9	ND				
75	0,0050	0,00	ND				
76	0,025	20	Outlier,ND				
77	0,010	5,1					
79	0,0050	0,00	ND				
81	0,015	10	Outlier,ND				
85	0,0022	-2,8	ND				
86	0,0013	-3,7	ND				
88	0,0018	-3,2					
89	0,026	21	Outlier,ND				
93	0,011	5,7	ND				
98	0,0050	0,00	ND				

Consensus statistics

Consensus median, pg/g	0,0050
Median all values pg/g	0,0070
Consensus mean, pg/g	0,0053
Standard deviation, pg/g	0,0038
Relative standard deviation, %	71
No. of values reported	53
No. of values removed	16
No. of reported non-detects	39

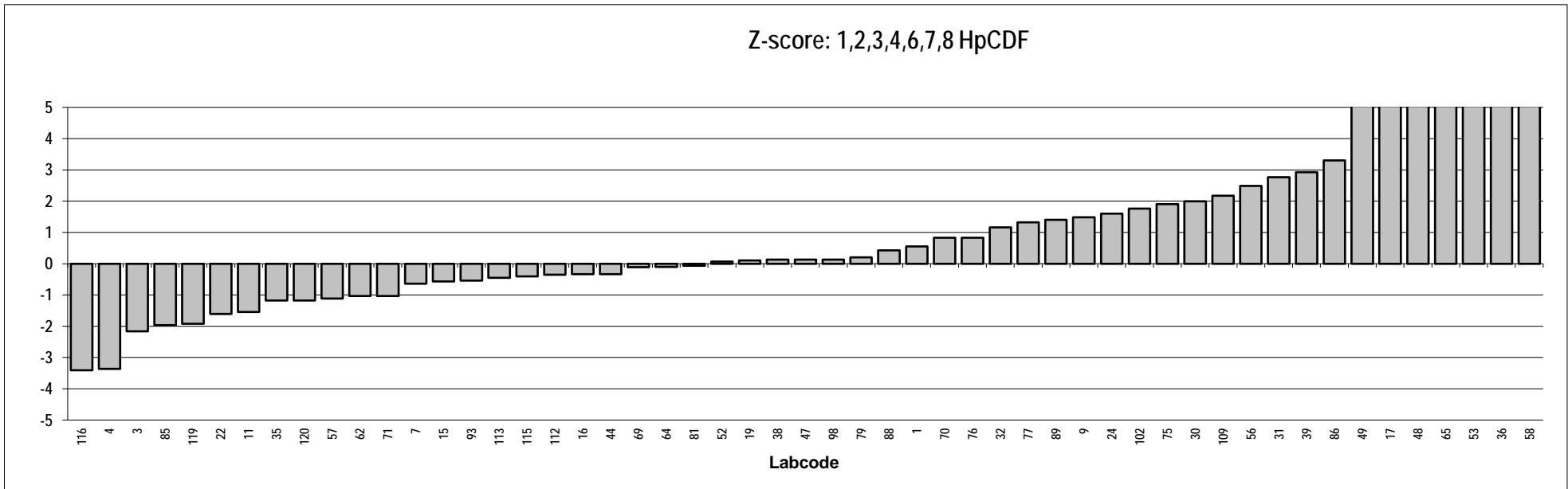
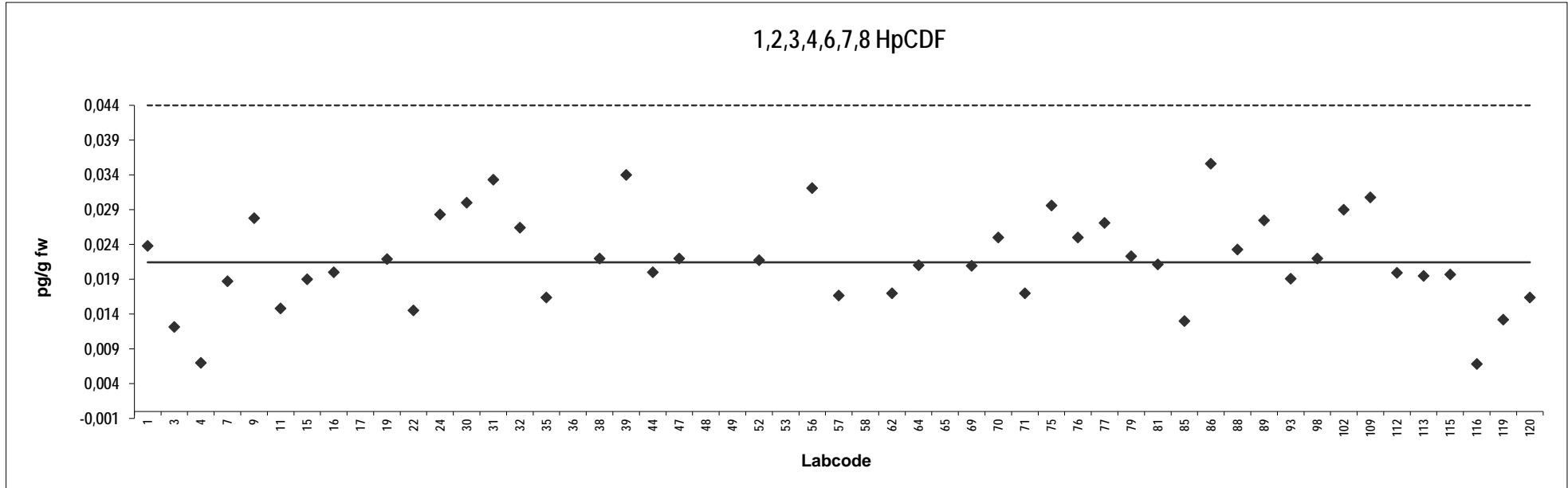


Reindeer
Congener: 1,2,3,4,6,7,8 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,024	0,55		102	0,029	1,8	
3	0,012	-2,2	ND	109	0,031	2,2	
4	0,0070	-3,4		112	0,020	-0,36	
7	0,019	-0,64		113	0,020	-0,45	
9	0,028	1,5		115	0,020	-0,41	ND
11	0,015	-1,5		116	0,0068	-3,4	ND
15	0,019	-0,57		119	0,013	-1,9	
16	0,020	-0,34		120	0,016	-1,2	
17	0,048	6,2	Outlier				
19	0,022	0,11					
22	0,015	-1,6	ND				
24	0,028	1,6					
30	0,030	2,0	ND				
31	0,033	2,8					
32	0,026	1,2					
35	0,016	-1,2					
36	0,10	18	Outlier,ND				
38	0,022	0,13					
39	0,034	2,9					
44	0,020	-0,34					
47	0,022	0,13					
48	0,050	6,7	Outlier,ND				
49	0,044	5,3	Outlier				
52	0,022	0,069					
53	0,080	14	Outlier				
56	0,032	2,5					
57	0,017	-1,1					
58	0,14	27	Outlier,ND				
62	0,017	-1,0					
64	0,021	-0,10					
65	0,050	6,7	Outlier,ND				
69	0,021	-0,11					
70	0,025	0,83					
71	0,017	-1,0					
75	0,030	1,9					
76	0,025	0,83	ND				
77	0,027	1,3					
79	0,022	0,20					
81	0,021	-0,069	ND				
85	0,013	-2,0					
86	0,036	3,3					
88	0,023	0,43					
89	0,027	1,4					
93	0,019	-0,54					
98	0,022	0,13					

Consensus statistics

Consensus median, pg/g	0,021
Median all values pg/g	0,022
Consensus mean, pg/g	0,022
Standard deviation, pg/g	0,0067
Relative standard deviation, %	30
No. of values reported	53
No. of values removed	7
No. of reported non-detects	11

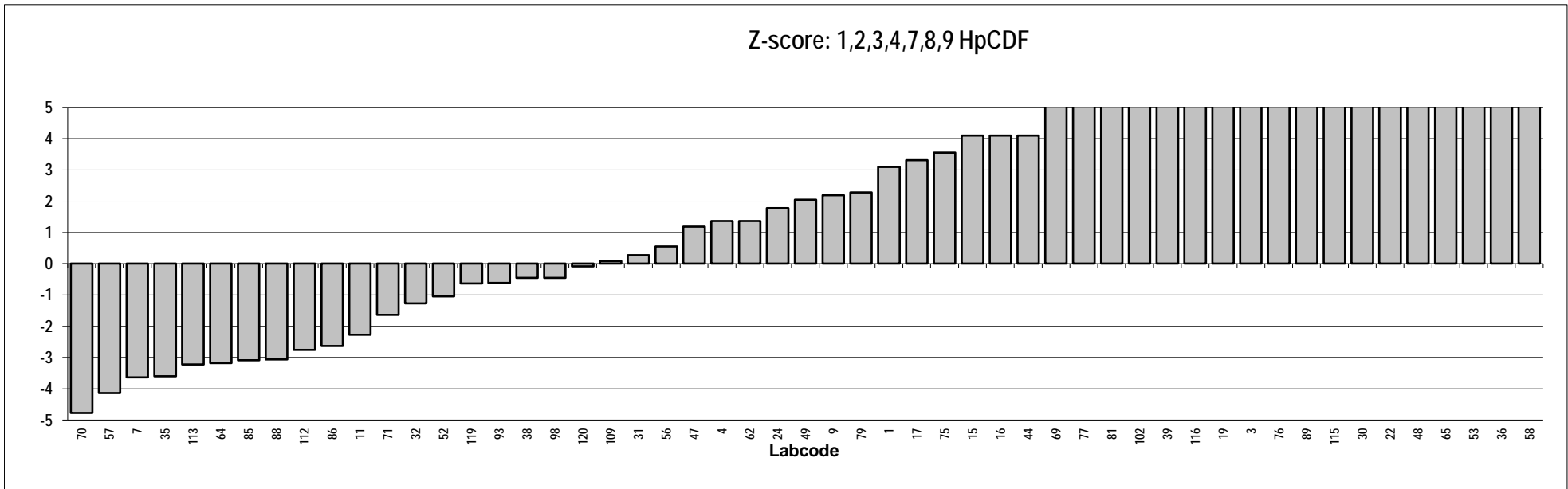
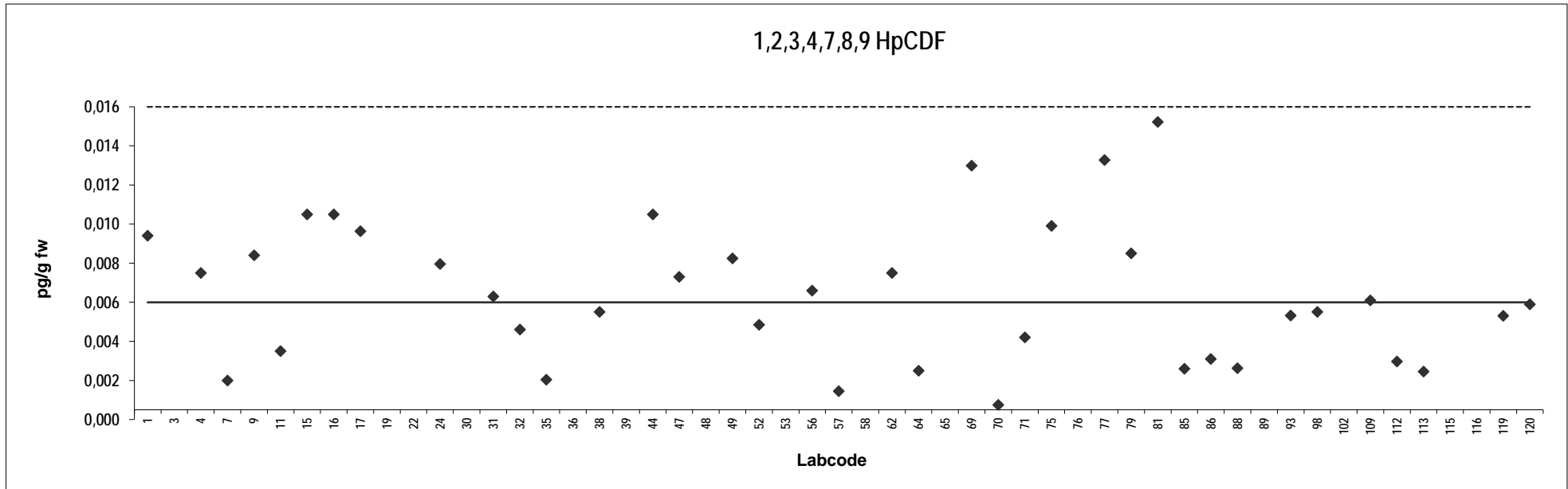


Reindeer
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,0089	3,1		102	0,016	9,7	Outlier,ND
3	0,024	16	Outlier,ND	109	0,0056	0,088	
4	0,0070	1,4		112	0,0025	-2,8	
7	0,0015	-3,6	ND	113	0,0020	-3,2	
9	0,0079	2,2		115	0,028	20	Outlier,ND
11	0,0030	-2,3	ND	116	0,018	12	Outlier
15	0,010	4,1	ND	119	0,0048	-0,63	ND
16	0,010	4,1	ND	120	0,0054	-0,088	ND
17	0,0091	3,3					
19	0,022	15	Outlier,ND				
22	0,032	24	Outlier,ND				
24	0,0075	1,8	ND				
30	0,030	22	Outlier,ND				
31	0,0058	0,28					
32	0,0041	-1,3					
35	0,0015	-3,6	ND				
36	0,10	86	Outlier,ND				
38	0,0050	-0,45	ND				
39	0,017	10	Outlier				
44	0,010	4,1					
47	0,0068	1,2	ND				
48	0,050	40	Outlier,ND				
49	0,0078	2,0					
52	0,0043	-1,0					
53	0,061	50	Outlier				
56	0,0061	0,55					
57	0,00095	-4,1					
58	0,12	107	Outlier,ND				
62	0,0070	1,4	ND				
64	0,0020	-3,2	ND				
65	0,050	40	Outlier,ND				
69	0,012	6,4	ND				
70	0,00025	-4,8	ND				
71	0,0037	-1,6	ND				
75	0,0094	3,5	ND				
76	0,025	18	Outlier,ND				
77	0,013	6,6					
79	0,0080	2,3	ND				
81	0,015	8,4	ND				
85	0,0021	-3,1	ND				
86	0,0026	-2,6					
88	0,0021	-3,1					
89	0,026	19	Outlier,ND				
93	0,0048	-0,62	ND				
98	0,0050	-0,45	ND				

Consensus statistics

Consensus median, pg/g	0,0055
Median all values pg/g	0,0078
Consensus mean, pg/g	0,0059
Standard deviation, pg/g	0,0036
Relative standard deviation, %	60
No. of values reported	53
No. of values removed	15
No. of reported non-detects	33

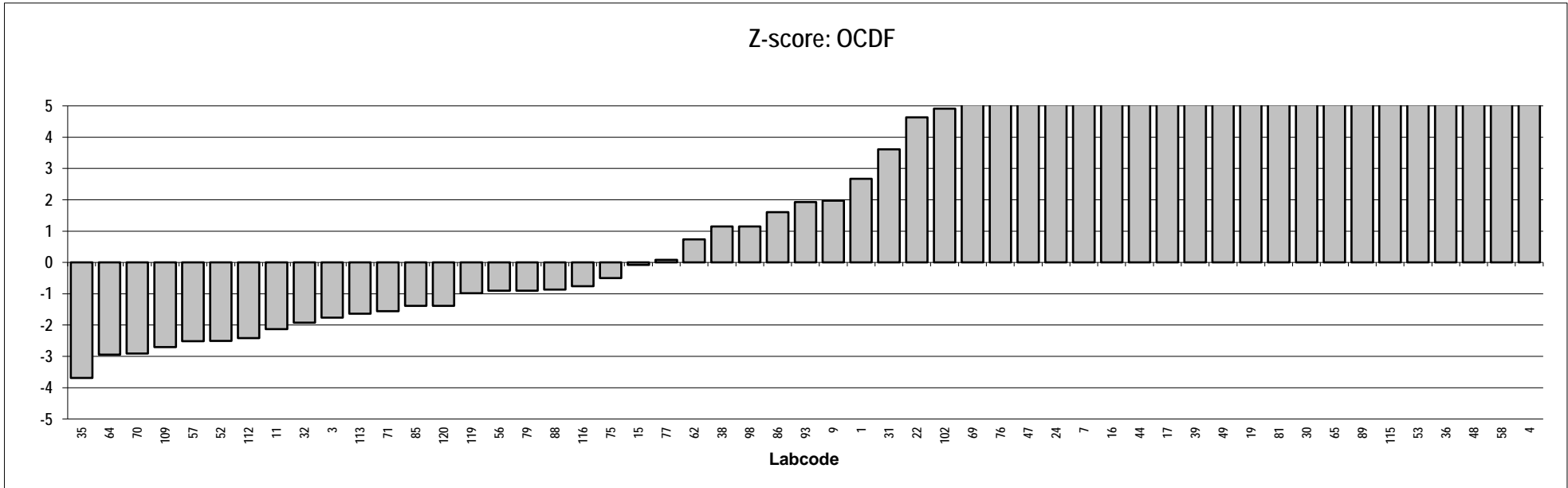
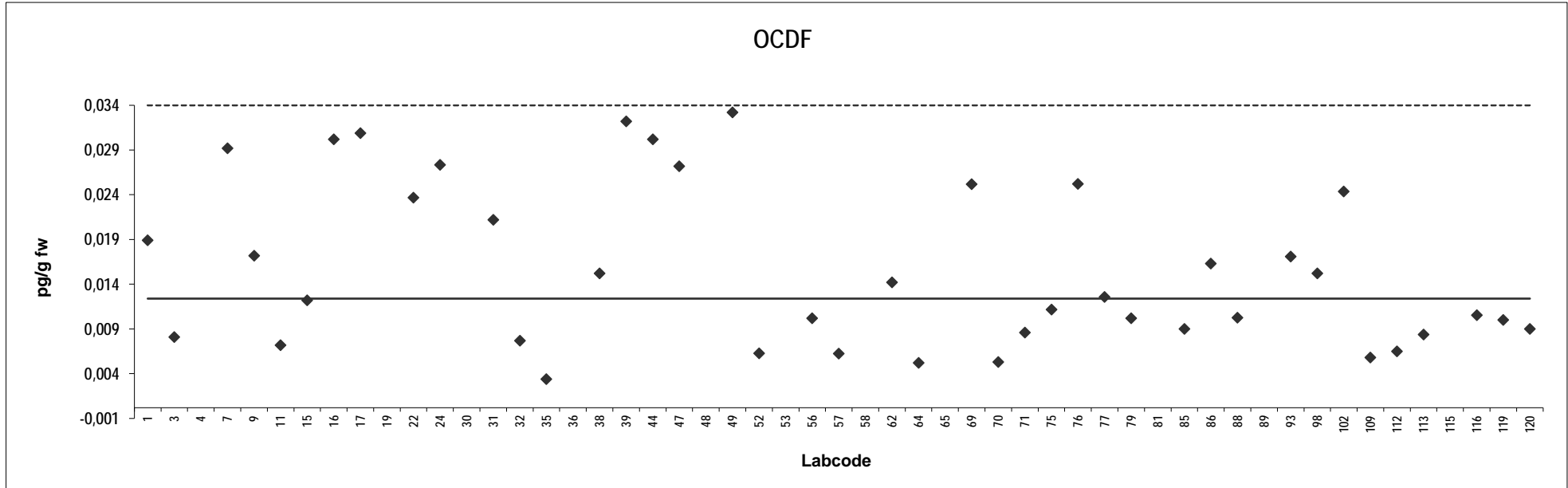


Reindeer
Congener: OCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,019	2,7		102	0,024	4,9	ND
3	0,0079	-1,8	ND	109	0,0056	-2,7	ND
4	1,1	447	Outlier,ND	112	0,0063	-2,4	
7	0,029	6,9	ND	113	0,0082	-1,6	
9	0,017	2,0		115	0,10	37	Outlier,ND
11	0,0070	-2,1	ND	116	0,010	-0,76	ND
15	0,012	-0,080		119	0,0098	-0,98	
16	0,030	7,3	ND	120	0,0088	-1,4	ND
17	0,031	7,6					
19	0,034	9,1	Outlier,ND				
22	0,023	4,6	ND				
24	0,027	6,1					
30	0,050	16	Outlier,ND				
31	0,021	3,6					
32	0,0075	-1,9					
35	0,0032	-3,7	ND				
36	0,20	77	Outlier,ND				
38	0,015	1,2	ND				
39	0,032	8,1					
44	0,030	7,3					
47	0,027	6,1	ND				
48	0,20	77	Outlier,ND				
49	0,033	8,5					
52	0,0061	-2,5					
53	0,11	40	Outlier				
56	0,010	-0,90	ND				
57	0,0060	-2,5					
58	0,59	236	Outlier,ND				
62	0,014	0,74	ND				
64	0,0050	-2,9	ND				
65	0,050	16	Outlier,ND				
69	0,025	5,2	ND				
70	0,0051	-2,9					
71	0,0084	-1,6	ND				
75	0,011	-0,50					
76	0,025	5,3	ND				
77	0,012	0,080					
79	0,010	-0,90	ND				
81	0,045	14	Outlier,ND				
85	0,0088	-1,4					
86	0,016	1,6					
88	0,010	-0,87					
89	0,065	22	Outlier,ND				
93	0,017	1,9	ND				
98	0,015	1,2	ND				

Consensus statistics

Consensus median, pg/g	0,012
Median all values pg/g	0,017
Consensus mean, pg/g	0,015
Standard deviation, pg/g	0,0090
Relative standard deviation, %	58
No. of values reported	53
No. of values removed	11
No. of reported non-detects	31

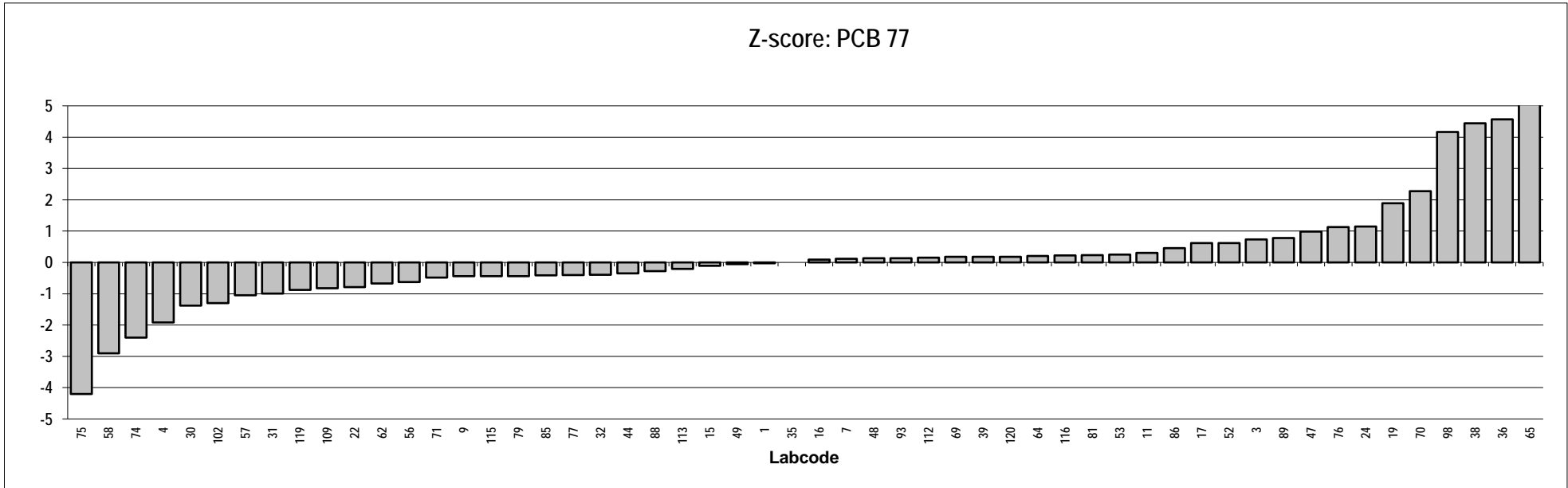
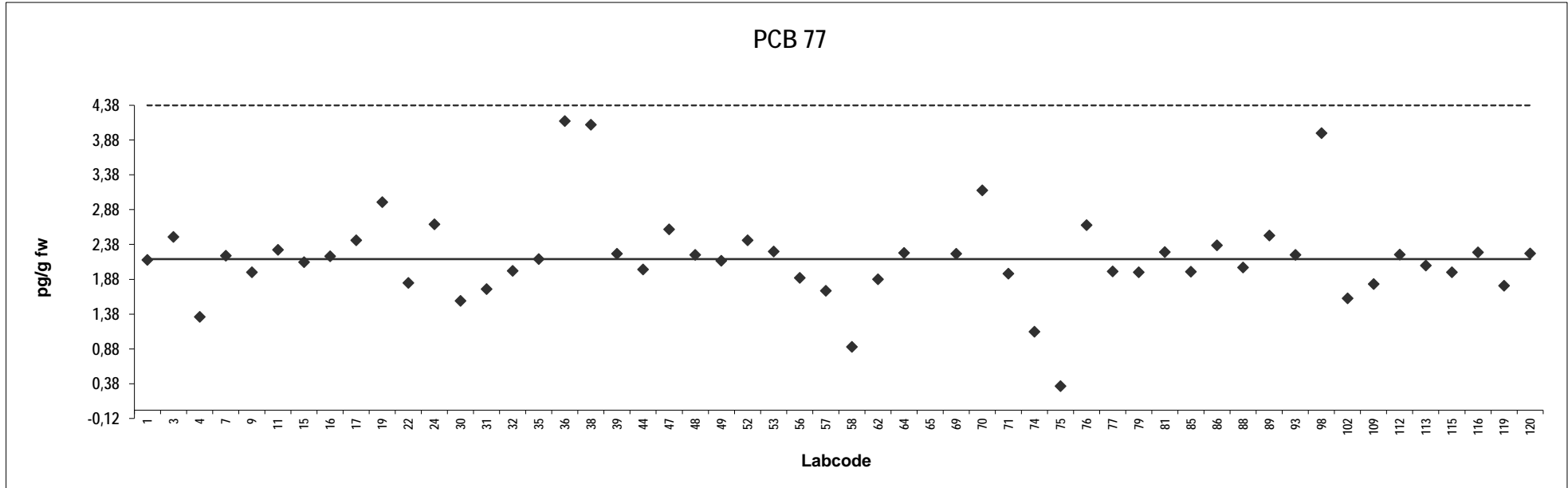


Reindeer
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	2,2	-0,029		98	4,0	4,2	
3	2,5	0,74		102	1,6	-1,3	
4	1,3	-1,9		109	1,8	-0,82	
7	2,2	0,11		112	2,2	0,15	
9	2,0	-0,44		113	2,1	-0,21	
11	2,3	0,31		115	2,0	-0,44	
15	2,1	-0,11		116	2,3	0,22	
16	2,2	0,090		119	1,8	-0,88	
17	2,4	0,62		120	2,3	0,18	
19	3,0	1,9					
22	1,8	-0,79					
24	2,7	1,1					
30	1,6	-1,4					
31	1,7	-0,99					
32	2,0	-0,39					
35	2,2	0,00					
36	4,2	4,6					
38	4,1	4,4					
39	2,2	0,18					
44	2,0	-0,35					
47	2,6	0,99					
48	2,2	0,14					
49	2,1	-0,052					
52	2,4	0,62					
53	2,3	0,25					
56	1,9	-0,62					
57	1,7	-1,1					
58	0,91	-2,9	ND				
62	1,9	-0,67					
64	2,3	0,21					
65	8,3	14	Outlier				
69	2,2	0,17					
70	3,2	2,3					
71	2,0	-0,49					
74	1,1	-2,4					
75	0,35	-4,2					
76	2,7	1,1					
77	2,0	-0,41					
79	2,0	-0,44					
81	2,3	0,23	ND				
85	2,0	-0,42					
86	2,4	0,46					
88	2,0	-0,28					
89	2,5	0,78					
93	2,2	0,14					

Consensus statistics

Consensus median, pg/g	2,2
Median all values pg/g	2,2
Consensus mean, pg/g	2,2
Standard deviation, pg/g	0,66
Relative standard deviation, %	30
No. of values reported	54
No. of values removed	1
No. of reported non-detects	2



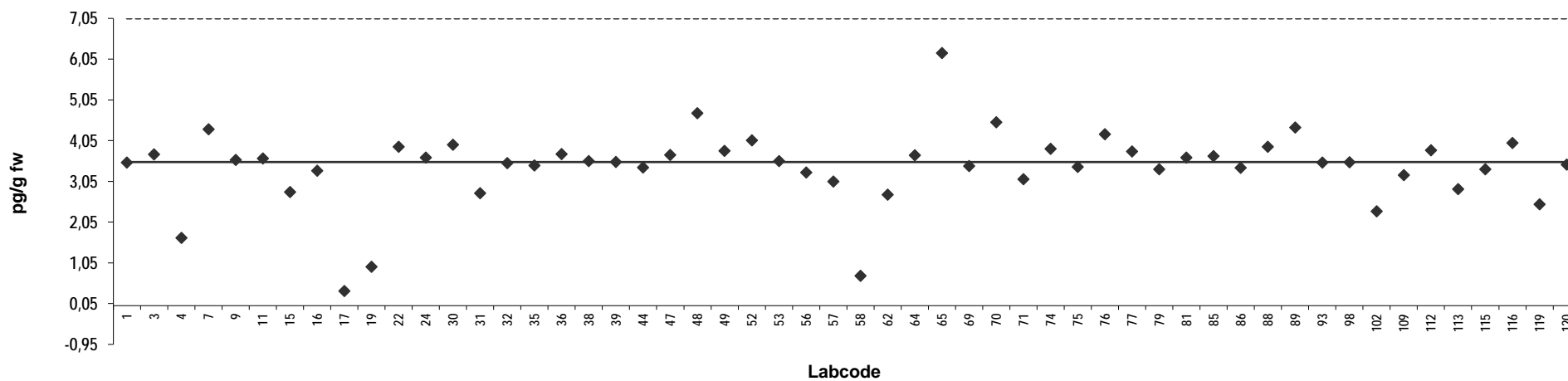
Reindeer
Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	3,5	-0,017		98	3,5	-0,0064	
3	3,7	0,27		102	2,3	-1,7	
4	1,7	-2,6		109	3,2	-0,46	
7	4,3	1,1		112	3,8	0,41	
9	3,6	0,074		113	2,9	-0,94	
11	3,6	0,13		115	3,4	-0,25	
15	2,8	-1,0		116	4,0	0,66	
16	3,3	-0,30		119	2,5	-1,5	
17	0,36	-4,5		120	3,5	-0,092	
19	0,95	-3,6					
22	3,9	0,53					
24	3,6	0,15					
30	3,9	0,60					
31	2,8	-1,1					
32	3,5	-0,035					
35	3,4	-0,12					
36	3,7	0,28					
38	3,6	0,036					
39	3,5	0,0064					
44	3,4	-0,19					
47	3,7	0,25					
48	4,7	1,7					
49	3,8	0,39					
52	4,1	0,75					
53	3,6	0,036					
56	3,3	-0,36					
57	3,0	-0,68					
58	0,73	-4,0	ND				
62	2,7	-1,1					
64	3,7	0,23					
65	6,2	3,8					
69	3,4	-0,14					
70	4,5	1,4					
71	3,1	-0,60					
74	3,8	0,46					
75	3,4	-0,17					
76	4,2	0,97					
77	3,8	0,37					
79	3,3	-0,25					
81	3,6	0,15					
85	3,7	0,21					
86	3,4	-0,20					
88	3,9	0,53					
89	4,4	1,2					
93	3,5	-0,021					

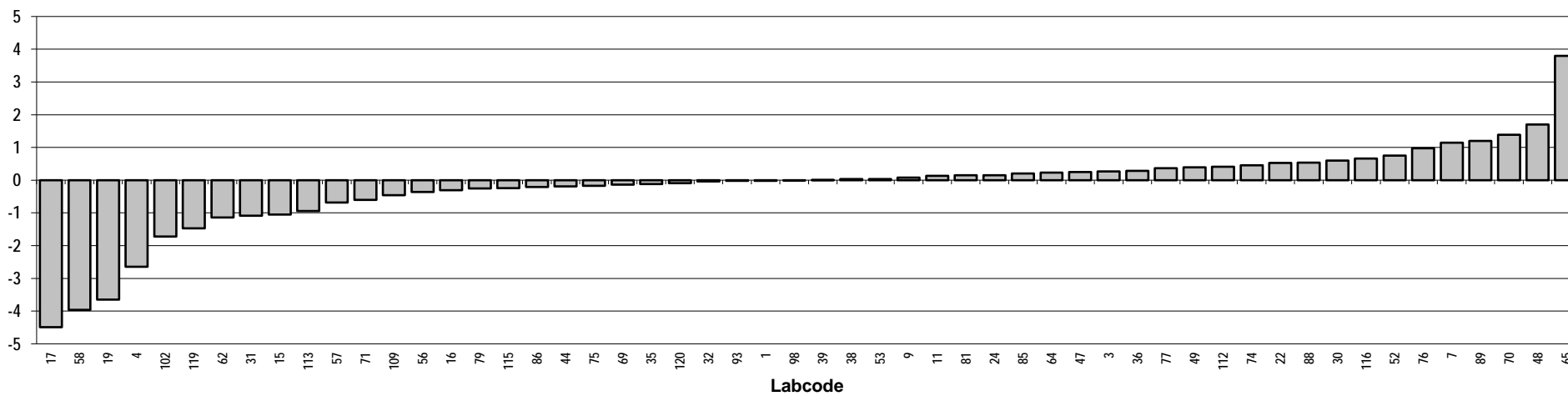
Consensus statistics

Consensus median, pg/g	3,5
Median all values pg/g	3,5
Consensus mean, pg/g	3,4
Standard deviation, pg/g	0,93
Relative standard deviation, %	27
No. of values reported	54
No. of values removed	0
No. of reported non-detects	1

PCB 126



Z-score: PCB 126

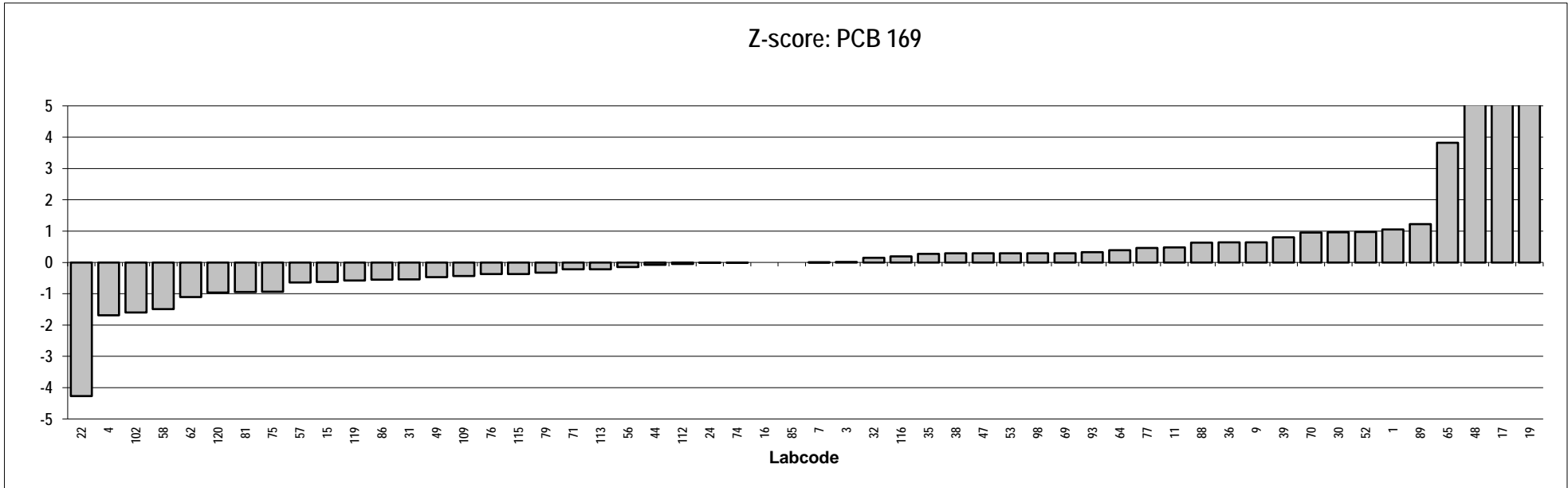
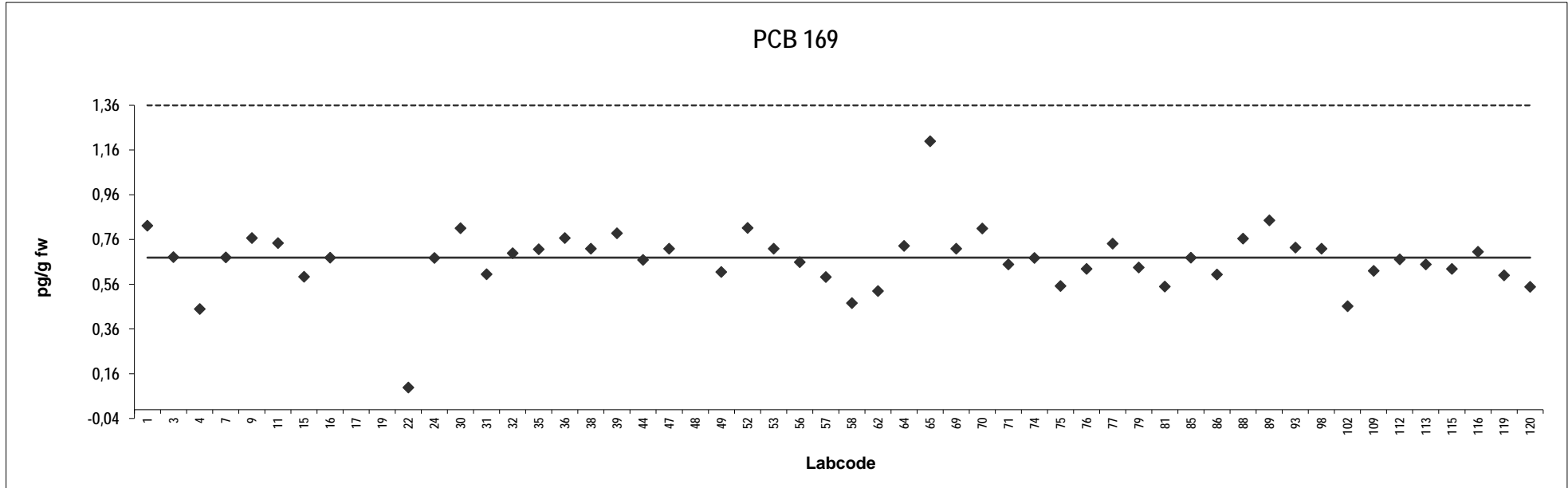


Reindeer
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,82	1,0		98	0,72	0,29	
3	0,68	0,015		102	0,46	-1,6	
4	0,45	-1,7		109	0,62	-0,43	
7	0,68	0,0074		112	0,67	-0,053	
9	0,77	0,64		113	0,65	-0,22	
11	0,74	0,48		115	0,63	-0,37	
15	0,60	-0,63		116	0,71	0,19	
16	0,68	0,00		119	0,60	-0,58	
17	4,3	27	Outlier	120	0,55	-0,96	
19	76	555	Outlier				
22	0,100	-4,3	ND				
24	0,68	-0,012					
30	0,81	0,96					
31	0,61	-0,54					
32	0,70	0,15					
35	0,72	0,28					
36	0,77	0,64					
38	0,72	0,29					
39	0,79	0,80					
44	0,67	-0,074					
47	0,72	0,29					
48	2,0	9,7	Outlier,ND				
49	0,62	-0,47					
52	0,81	0,98					
53	0,72	0,29					
56	0,66	-0,15					
57	0,59	-0,64					
58	0,48	-1,5	ND				
62	0,53	-1,1					
64	0,73	0,39					
65	1,2	3,8					
69	0,72	0,29					
70	0,81	0,96					
71	0,65	-0,22					
74	0,68	-0,0066					
75	0,55	-0,94					
76	0,63	-0,37					
77	0,74	0,46					
79	0,64	-0,32					
81	0,55	-0,95					
85	0,68	0,00					
86	0,61	-0,55					
88	0,77	0,63					
89	0,85	1,2					
93	0,73	0,33					

Consensus statistics

Consensus median, pg/g	0,68
Median all values pg/g	0,68
Consensus mean, pg/g	0,67
Standard deviation, pg/g	0,14
Relative standard deviation, %	21
No. of values reported	54
No. of values removed	3
No. of reported non-detects	3

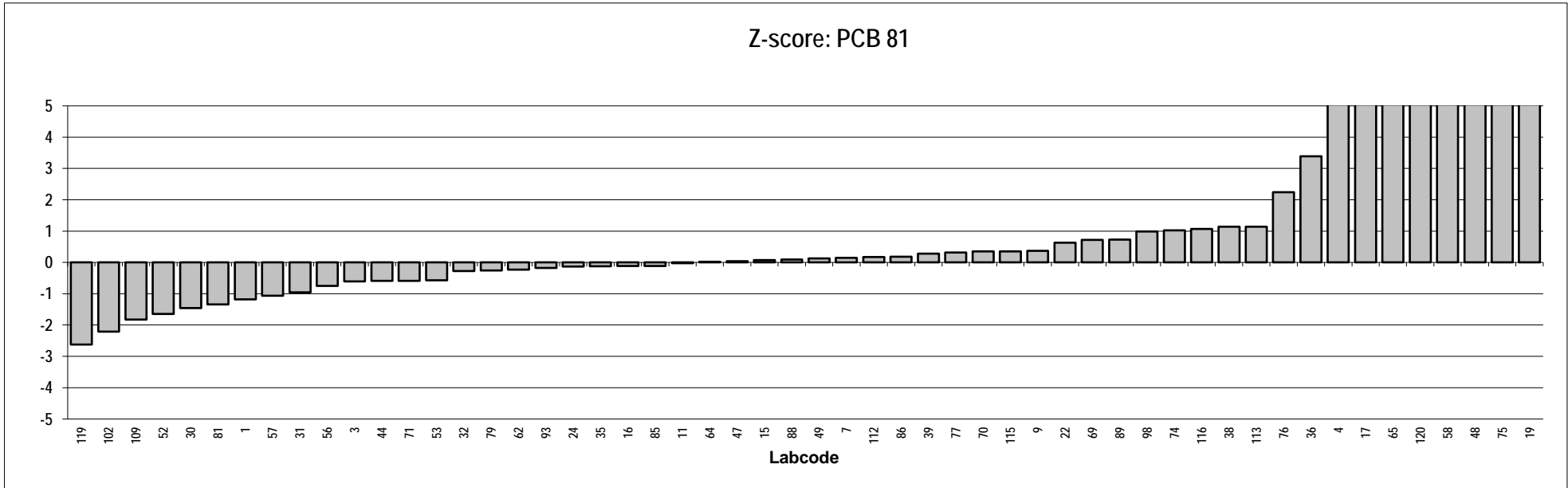
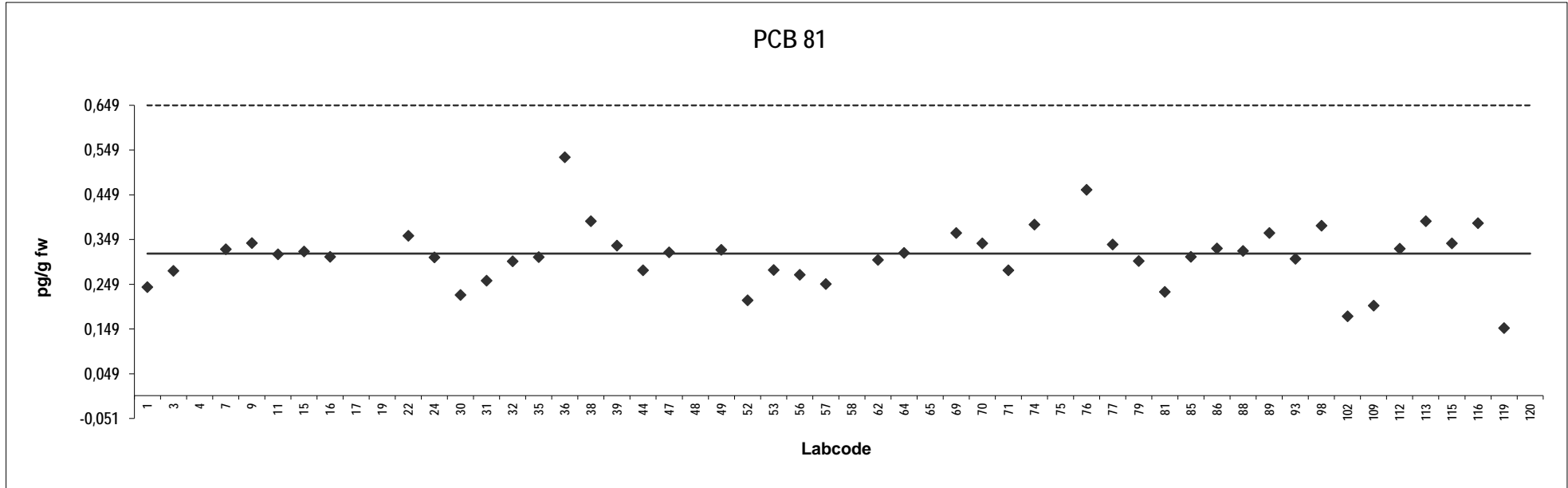


Reindeer
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,24	-1,2		98	0,38	0,99	
3	0,28	-0,61		102	0,18	-2,2	
4	0,68	5,7	Outlier	109	0,20	-1,8	
7	0,33	0,15		112	0,33	0,17	
9	0,34	0,37		113	0,39	1,1	
11	0,32	-0,024		115	0,34	0,36	
15	0,32	0,072		116	0,39	1,1	
16	0,31	-0,12		119	0,15	-2,6	
17	0,69	5,9	Outlier	120	0,92	9,5	Outlier
19	5,9	88	Outlier				
22	0,36	0,63					
24	0,31	-0,13					
30	0,23	-1,5					
31	0,26	-0,95					
32	0,30	-0,27					
35	0,31	-0,12					
36	0,53	3,4					
38	0,39	1,1					
39	0,34	0,28					
44	0,28	-0,59					
47	0,32	0,040					
48	2,0	27	Outlier,ND				
49	0,33	0,13					
52	0,21	-1,6					
53	0,28	-0,57					
56	0,27	-0,75					
57	0,25	-1,1					
58	1,0	11	Outlier,ND				
62	0,30	-0,23					
64	0,32	0,024					
65	0,70	6,0	Outlier				
69	0,36	0,72					
70	0,34	0,36					
71	0,28	-0,59					
74	0,38	1,0					
75	2,2	30	Outlier				
76	0,46	2,2					
77	0,34	0,32					
79	0,30	-0,26					
81	0,23	-1,3					
85	0,31	-0,12					
86	0,33	0,18					
88	0,32	0,091					
89	0,36	0,73					
93	0,31	-0,18					

Consensus statistics

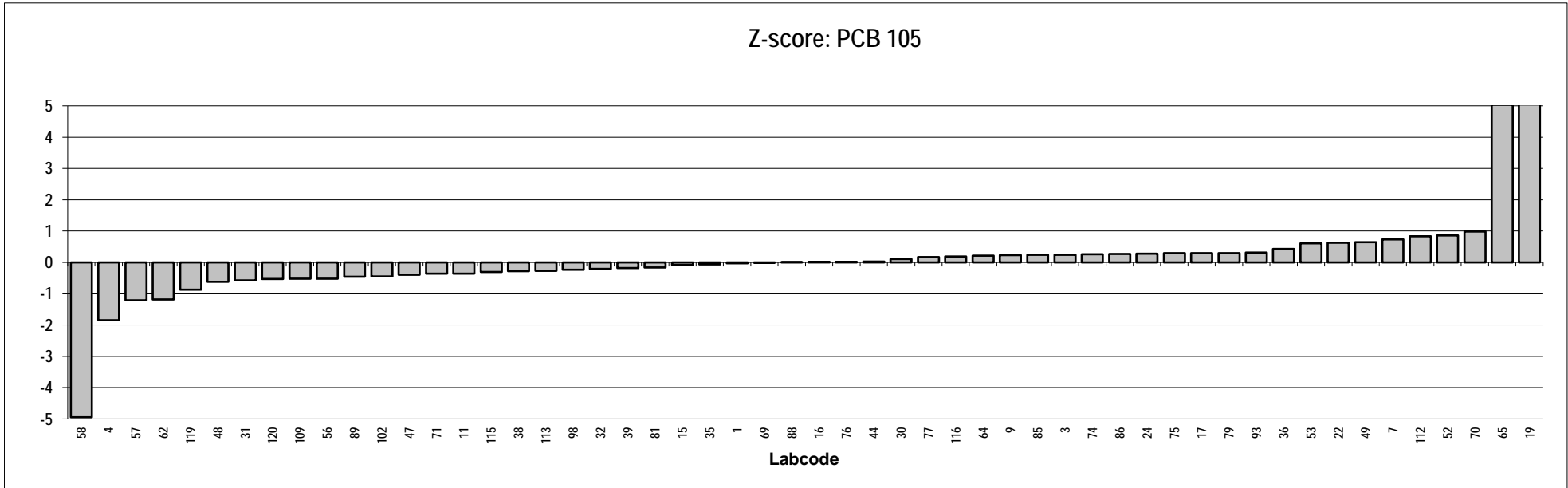
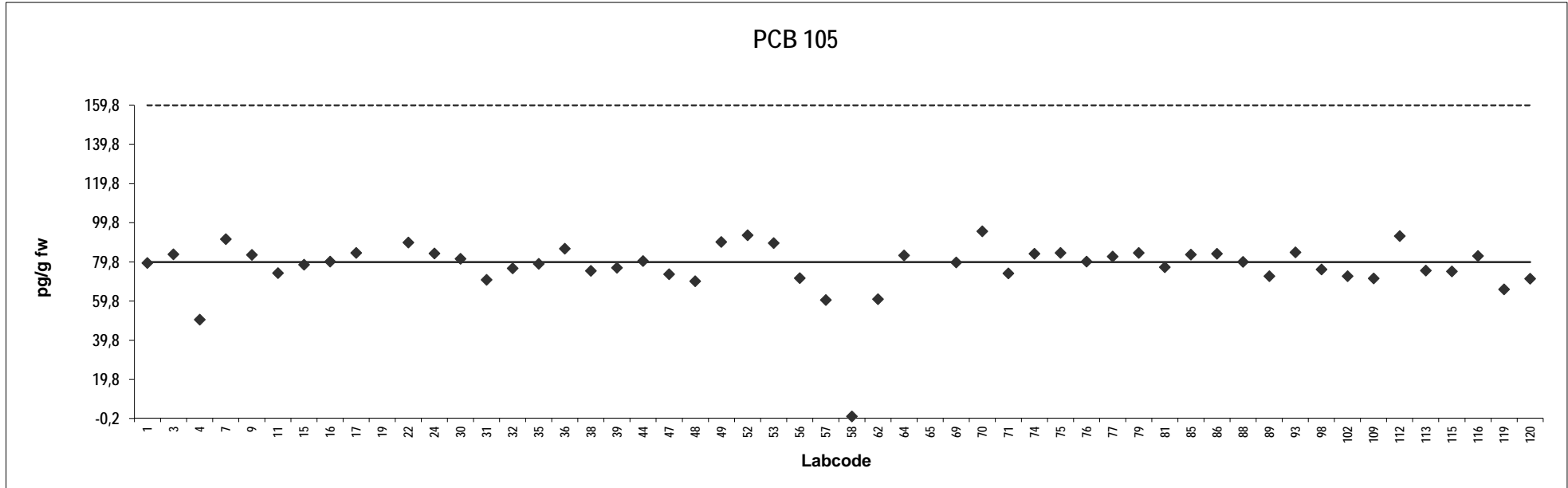
Consensus median, pg/g	0,32
Median all values pg/g	0,32
Consensus mean, pg/g	0,31
Standard deviation, pg/g	0,068
Relative standard deviation, %	22
No. of values reported	54
No. of values removed	8
No. of reported non-detects	2



Reindeer
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	79	-0,026		98	76	-0,23	
3	84	0,25		102	73	-0,45	
4	50	-1,8		109	71	-0,52	
7	92	0,74		112	93	0,84	
9	83	0,23		113	75	-0,27	
11	74	-0,36		115	75	-0,30	
15	78	-0,082		116	83	0,19	
16	80	0,017		119	66	-0,87	
17	84	0,29		120	71	-0,53	
19	195	7,2	Outlier				
22	90	0,63					
24	84	0,27					
30	81	0,11					
31	71	-0,57					
32	77	-0,20					
35	79	-0,060					
36	87	0,43					
38	75	-0,28					
39	77	-0,18					
44	80	0,030					
47	74	-0,39					
48	70	-0,62					
49	90	0,64					
52	94	0,86					
53	90	0,61					
56	72	-0,52					
57	60	-1,2					
58	0,92	-4,9	ND				
62	61	-1,2					
64	83	0,21					
65	160	5,0	Outlier				
69	80	-0,0071					
70	96	0,99					
71	74	-0,36					
74	84	0,26					
75	84	0,29					
76	80	0,017					
77	82	0,17					
79	84	0,30					
81	77	-0,16					
85	84	0,24					
86	84	0,27					
88	80	0,0071					
89	73	-0,45					
93	85	0,31					

Consensus statistics	
Consensus median, pg/g	80
Median all values pg/g	80
Consensus mean, pg/g	77
Standard deviation, pg/g	14
Relative standard deviation, %	18
No. of values reported	54
No. of values removed	2
No. of reported non-detects	1

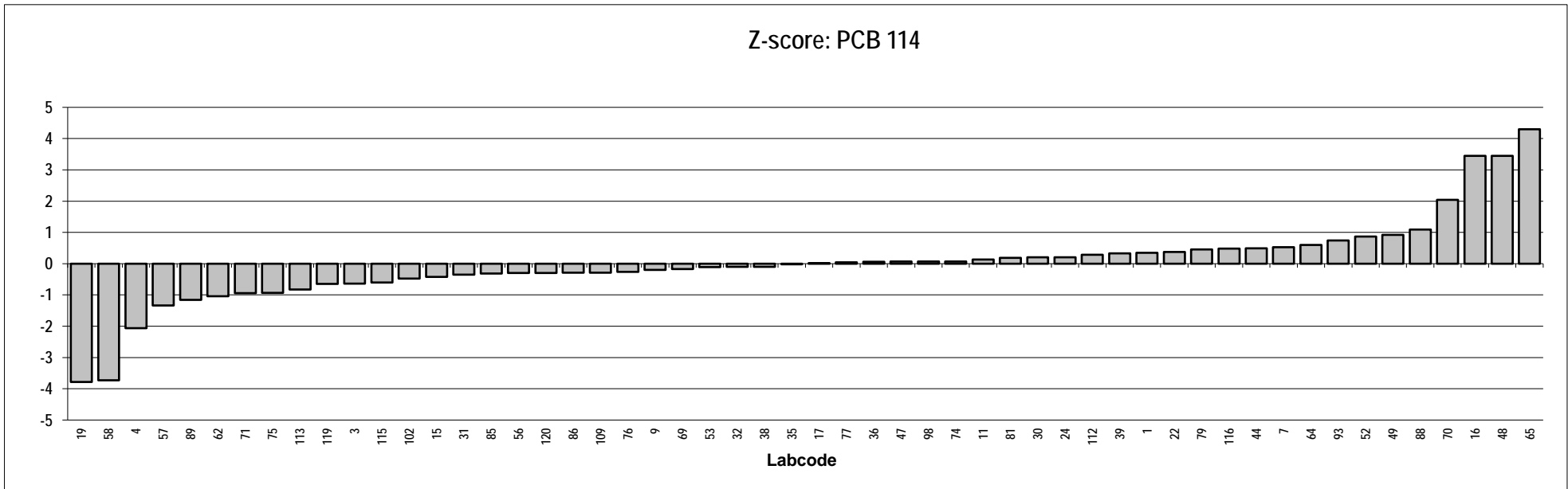
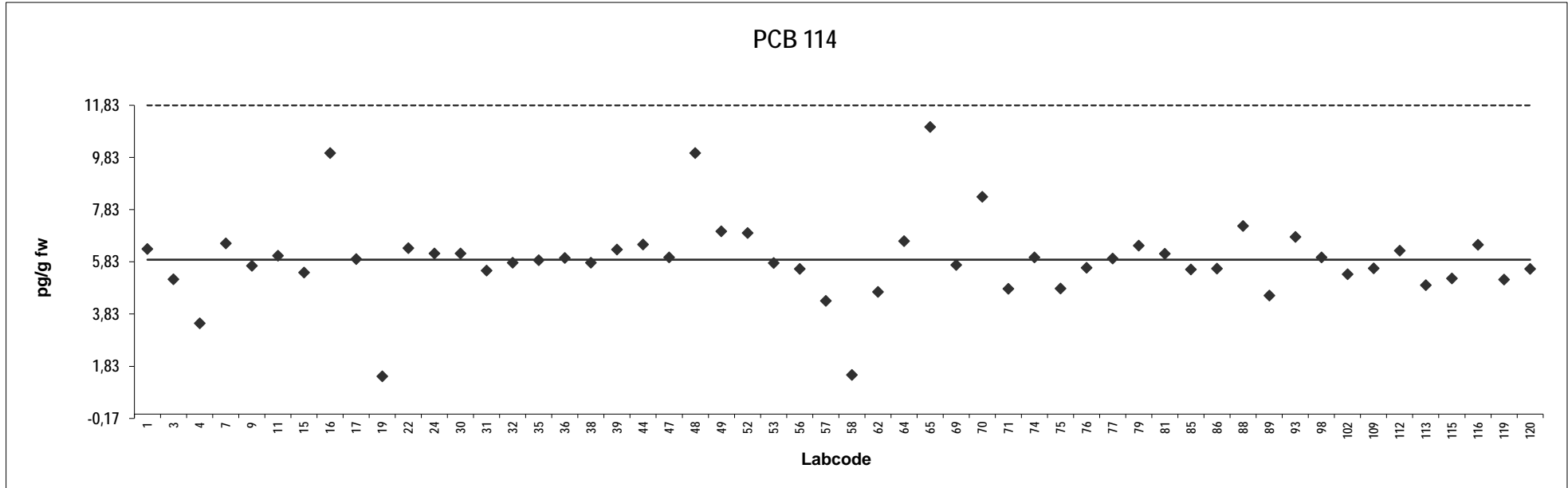


Reindeer
Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	6,3	0,35		98	6,0	0,071	
3	5,2	-0,64		102	5,4	-0,47	
4	3,5	-2,1		109	5,6	-0,28	
7	6,5	0,53		112	6,3	0,29	
9	5,7	-0,20		113	4,9	-0,83	
11	6,1	0,13		115	5,2	-0,61	
15	5,4	-0,42		116	6,5	0,49	
16	10	3,5	ND	119	5,2	-0,65	
17	5,9	0,020		120	5,6	-0,30	
19	1,4	-3,8					
22	6,4	0,37					
24	6,2	0,20					
30	6,2	0,20					
31	5,5	-0,35					
32	5,8	-0,098					
35	5,9	-0,020					
36	6,0	0,059					
38	5,8	-0,098					
39	6,3	0,33					
44	6,5	0,49					
47	6,0	0,071					
48	10	3,5	ND				
49	7,0	0,92					
52	6,9	0,87					
53	5,8	-0,11					
56	5,6	-0,30					
57	4,3	-1,3					
58	1,5	-3,7	ND				
62	4,7	-1,0					
64	6,6	0,60					
65	11	4,3	ND				
69	5,7	-0,17					
70	8,3	2,0					
71	4,8	-0,94					
74	6,0	0,073					
75	4,8	-0,94					
76	5,6	-0,26					
77	6,0	0,041					
79	6,5	0,46					
81	6,1	0,19					
85	5,5	-0,32					
86	5,6	-0,28					
88	7,2	1,1					
89	4,5	-1,2					
93	6,8	0,74					

Consensus statistics

Consensus median, pg/g	5,9
Median all values pg/g	5,9
Consensus mean, pg/g	5,9
Standard deviation, pg/g	1,6
Relative standard deviation, %	26
No. of values reported	54
No. of values removed	0
No. of reported non-detects	4

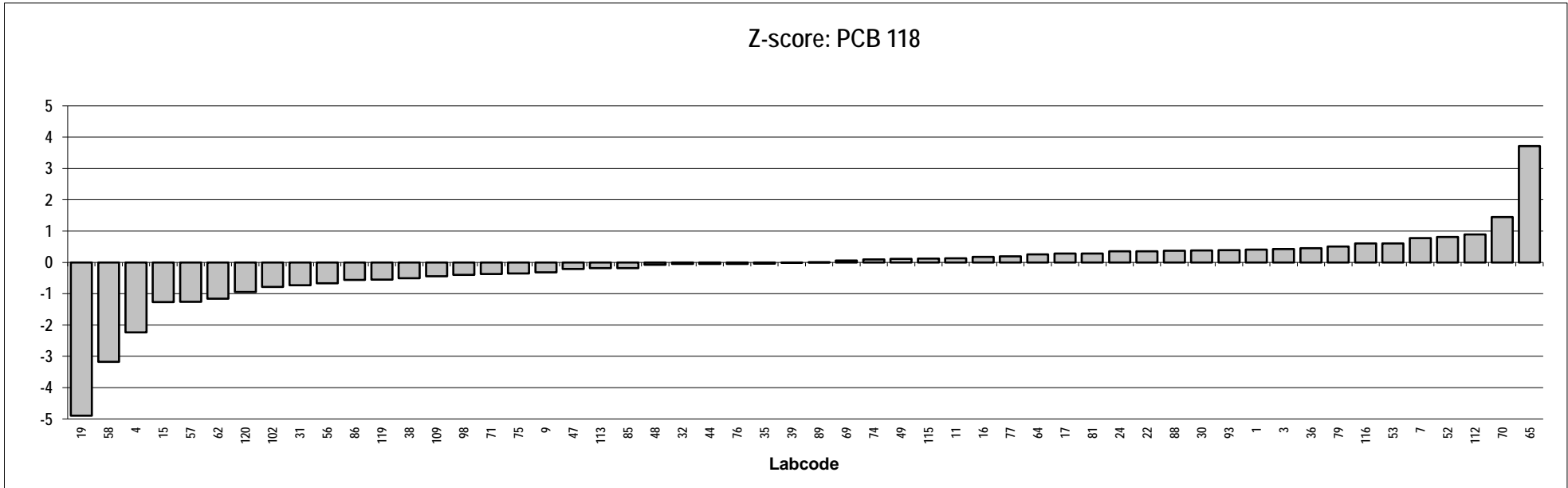
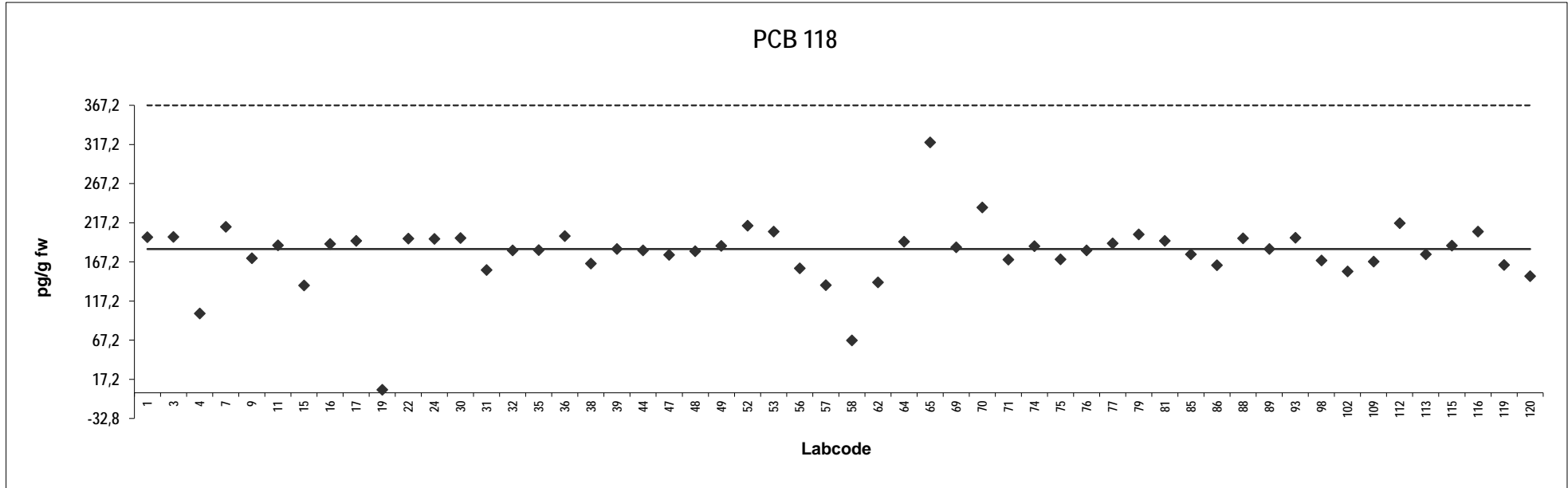


Reindeer
Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	199	0,41		98	169	-0,40	
3	199	0,43		102	155	-0,78	
4	101	-2,2		109	167	-0,44	
7	212	0,77		112	217	0,90	
9	172	-0,32		113	177	-0,19	
11	188	0,13		115	188	0,12	
15	137	-1,3		116	206	0,61	
16	190	0,17		119	163	-0,55	
17	194	0,28		120	149	-0,94	
19	3,8	-4,9					
22	197	0,36					
24	197	0,36					
30	198	0,38					
31	157	-0,72					
32	182	-0,044					
35	182	-0,037					
36	200	0,45					
38	165	-0,51					
39	184	-0,00042					
44	182	-0,044					
47	176	-0,21					
48	181	-0,074					
49	188	0,11					
52	213	0,81					
53	206	0,61					
56	159	-0,67					
57	137	-1,3					
58	67	-3,2					
62	141	-1,2					
64	193	0,26					
65	320	3,7					
69	186	0,061					
70	237	1,4					
71	170	-0,37					
74	187	0,099					
75	171	-0,35					
76	182	-0,044					
77	191	0,20					
79	202	0,51					
81	194	0,28					
85	177	-0,18					
86	163	-0,56					
88	197	0,38					
89	184	0,00042					
93	198	0,39					

Consensus statistics

Consensus median, pg/g	184
Median all values pg/g	184
Consensus mean, pg/g	179
Standard deviation, pg/g	41
Relative standard deviation, %	23
No. of values reported	54
No. of values removed	0
No. of reported non-detects	0

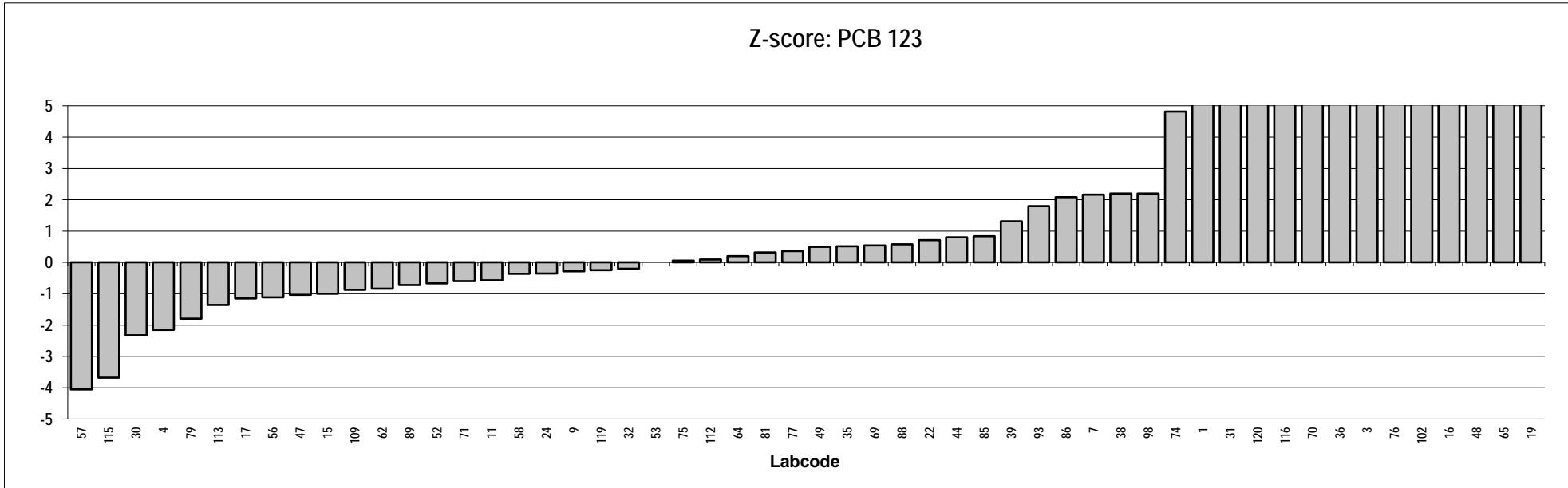
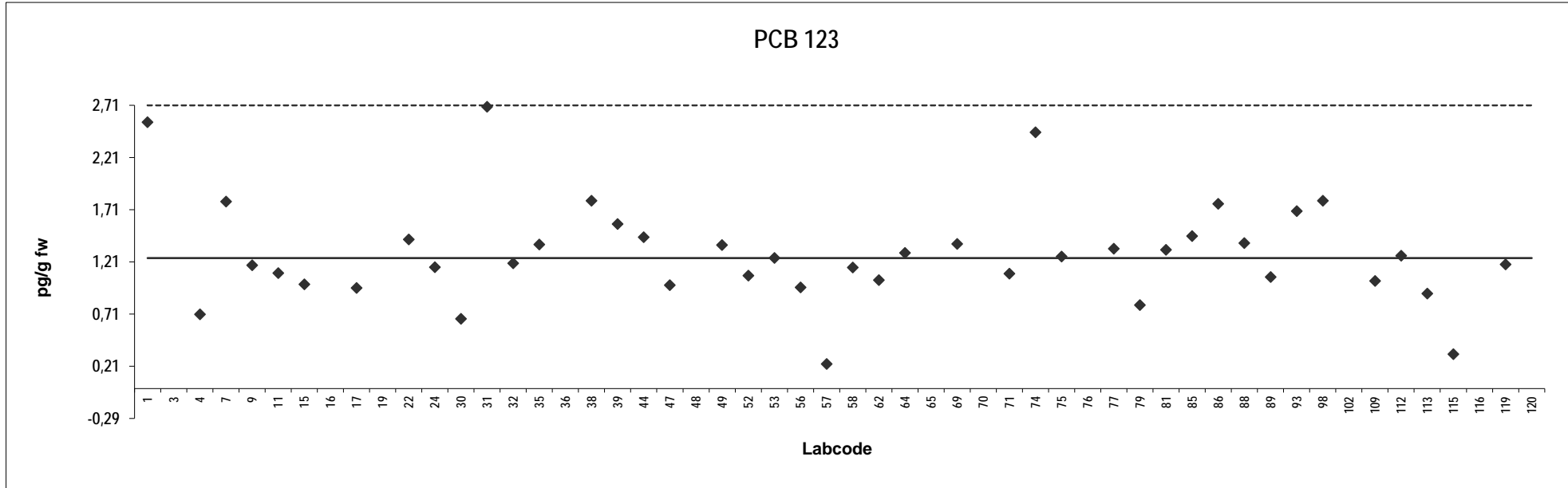


Reindeer
Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	2,6	5,2		98	1,8	2,2	
3	4,5	13	Outlier	102	5,5	17	Outlier
4	0,71	-2,2		109	1,0	-0,88	
7	1,8	2,2		112	1,3	0,09	
9	1,2	-0,28		113	0,91	-1,4	ND
11	1,1	-0,57	ND	115	0,33	-3,7	
15	1,0	-1,0	ND	116	3,6	9,3	Outlier
16	10	35	Outlier,ND	119	1,2	-0,24	ND
17	0,96	-1,1		120	3,4	8,5	Outlier
19	40	156	Outlier				
22	1,4	0,71					
24	1,2	-0,35					
30	0,67	-2,3					
31	2,7	5,8	ND				
32	1,2	-0,20					
35	1,4	0,52					
36	3,9	11	Outlier				
38	1,8	2,2					
39	1,6	1,3					
44	1,5	0,80					
47	0,99	-1,0					
48	10	35	Outlier,ND				
49	1,4	0,50					
52	1,1	-0,67					
53	1,3	0,00					
56	0,97	-1,1					
57	0,24	-4,1					
58	1,2	-0,36	ND				
62	1,0	-0,84					
64	1,3	0,20					
65	12	43	Outlier,ND				
69	1,4	0,54					
70	3,7	9,8	Outlier				
71	1,1	-0,60	ND				
74	2,5	4,8					
75	1,3	0,061					
76	5,0	15	Outlier,ND				
77	1,3	0,36					
79	0,80	-1,8	ND				
81	1,3	0,32					
85	1,5	0,84					
86	1,8	2,1					
88	1,4	0,57					
89	1,1	-0,72					
93	1,7	1,8					

Consensus statistics

Consensus median, pg/g	1,3
Median all values pg/g	1,4
Consensus mean, pg/g	1,3
Standard deviation, pg/g	0,49
Relative standard deviation, %	38
No. of values reported	54
No. of values removed	11
No. of reported non-detects	12

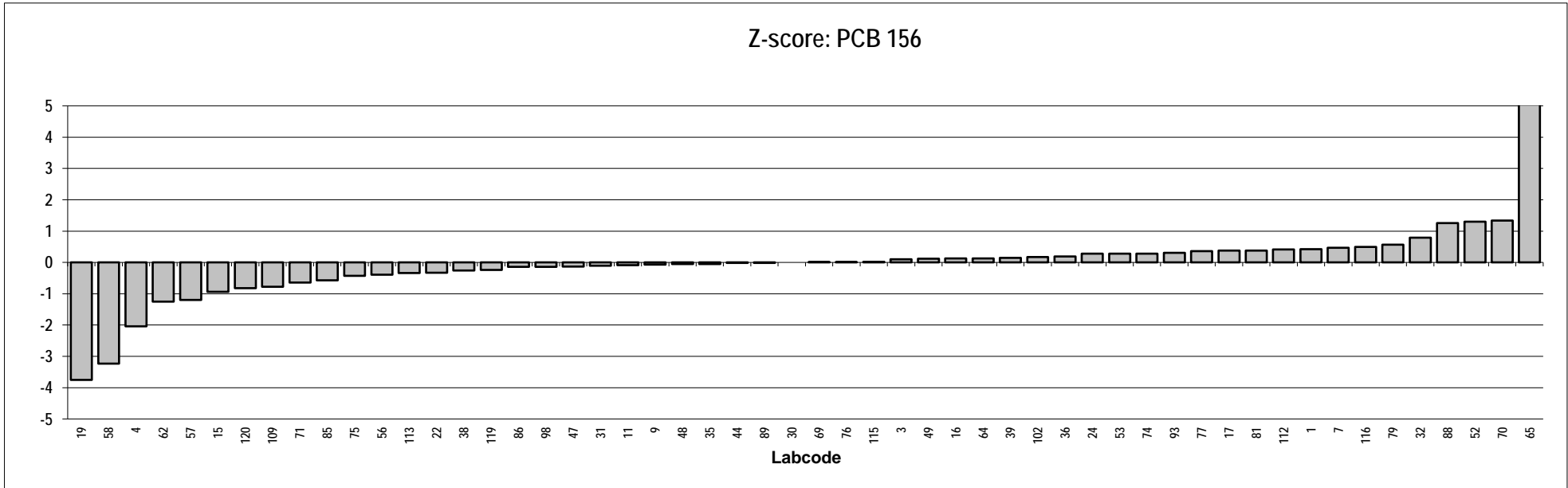
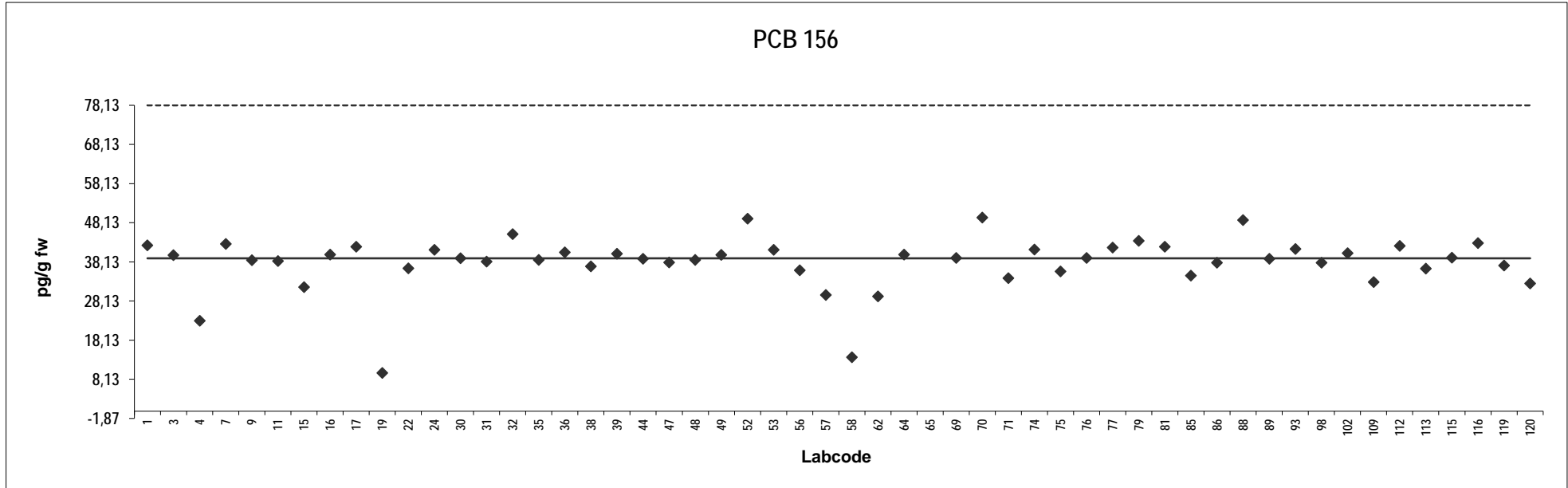


Reindeer
Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	42	0,43		98	38	-0,15	
3	40	0,099		102	40	0,171	
4	23	-2,0		109	33	-0,78	
7	43	0,47		112	42	0,41	
9	39	-0,066		113	36	-0,34	
11	38	-0,086		115	39	0,021	
15	32	-0,94		116	43	0,50	
16	40	0,12		119	37	-0,24	
17	42	0,38		120	33	-0,82	
19	10	-3,8					
22	36	-0,33					
24	41	0,28					
30	39	0,00					
31	38	-0,11					
32	45	0,79					
35	39	-0,049					
36	41	0,19					
38	37	-0,26					
39	40	0,15					
44	39	-0,017					
47	38	-0,13					
48	39	-0,056					
49	40	0,12					
52	49	1,3					
53	41	0,28					
56	36	-0,39					
57	30	-1,2					
58	14	-3,2					
62	29	-1,2					
64	40	0,12					
65	87	6,1	Outlier				
69	39	0,0073					
70	49	1,3					
71	34	-0,64					
74	41	0,28					
75	36	-0,43					
76	39	0,015					
77	42	0,36					
79	43	0,57					
81	42	0,38					
85	35	-0,57					
86	38	-0,15					
88	49	1,3					
89	39	-0,013					
93	41	0,30					

Consensus statistics

Consensus median, pg/g	39
Median all values pg/g	39
Consensus mean, pg/g	38
Standard deviation, pg/g	7,0
Relative standard deviation, %	18
No. of values reported	54
No. of values removed	1
No. of reported non-detects	0

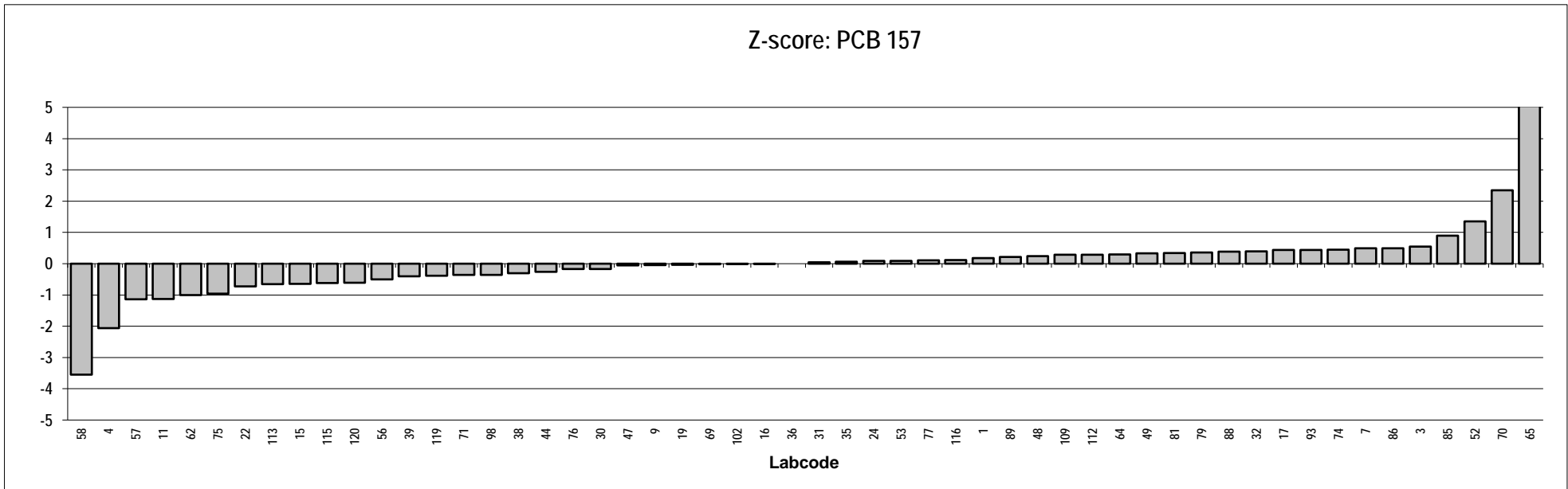
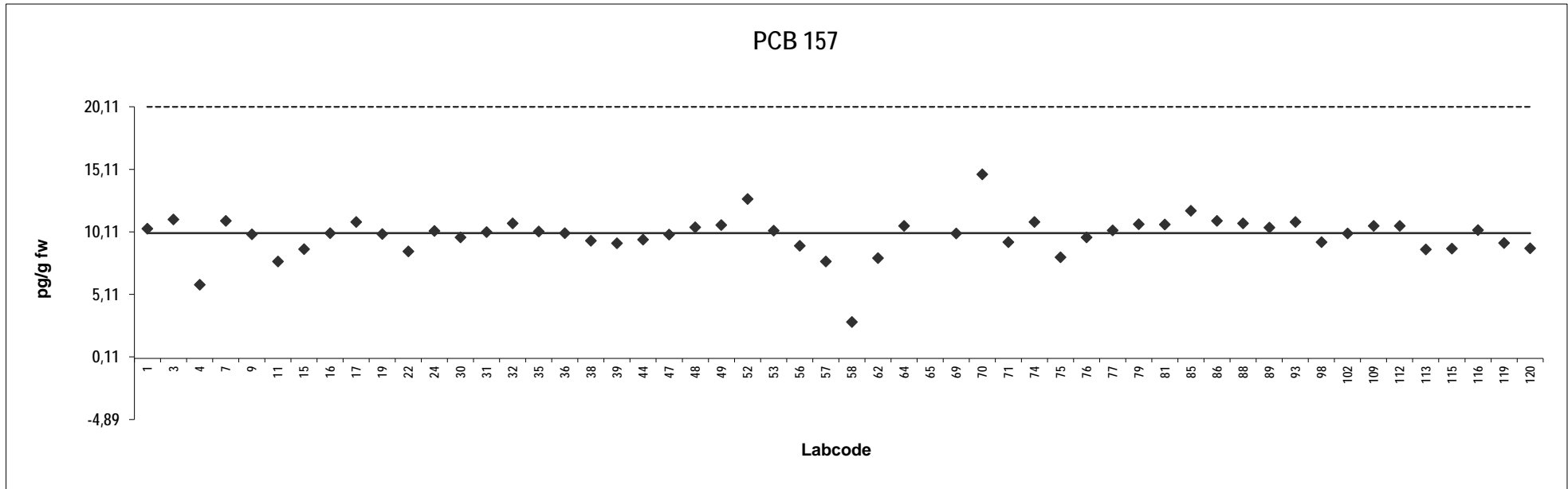


Reindeer
Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	10	0,18		98	9,3	-0,36	
3	11	0,55		102	10	-0,011	
4	5,9	-2,1		109	11	0,29	
7	11	0,49		112	11	0,29	
9	9,9	-0,045		113	8,7	-0,65	
11	7,7	-1,1		115	8,8	-0,62	
15	8,7	-0,65		116	10	0,12	
16	10	-0,0069		119	9,2	-0,39	
17	11	0,44		120	8,8	-0,61	
19	9,9	-0,035					
22	8,6	-0,73					
24	10	0,085					
30	9,7	-0,17					
31	10	0,043					
32	11	0,39					
35	10	0,060					
36	10	0,00					
38	9,4	-0,31					
39	9,2	-0,40					
44	9,5	-0,26					
47	9,9	-0,057					
48	10	0,24					
49	11	0,33					
52	13	1,4					
53	10	0,093					
56	9,0	-0,50					
57	7,7	-1,1					
58	2,9	-3,5					
62	8,0	-1,0					
64	11	0,29					
65	22	6,0	Outlier,ND				
69	10	-0,018					
70	15	2,3					
71	9,3	-0,36					
74	11	0,45					
75	8,1	-0,96					
76	9,7	-0,17					
77	10	0,11					
79	11	0,36					
81	11	0,34					
85	12	0,89					
86	11	0,49					
88	11	0,39					
89	10	0,22					
93	11	0,44					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	10
Consensus mean, pg/g	9,8
Standard deviation, pg/g	1,6
Relative standard deviation, %	17
No. of values reported	54
No. of values removed	1
No. of reported non-detects	1

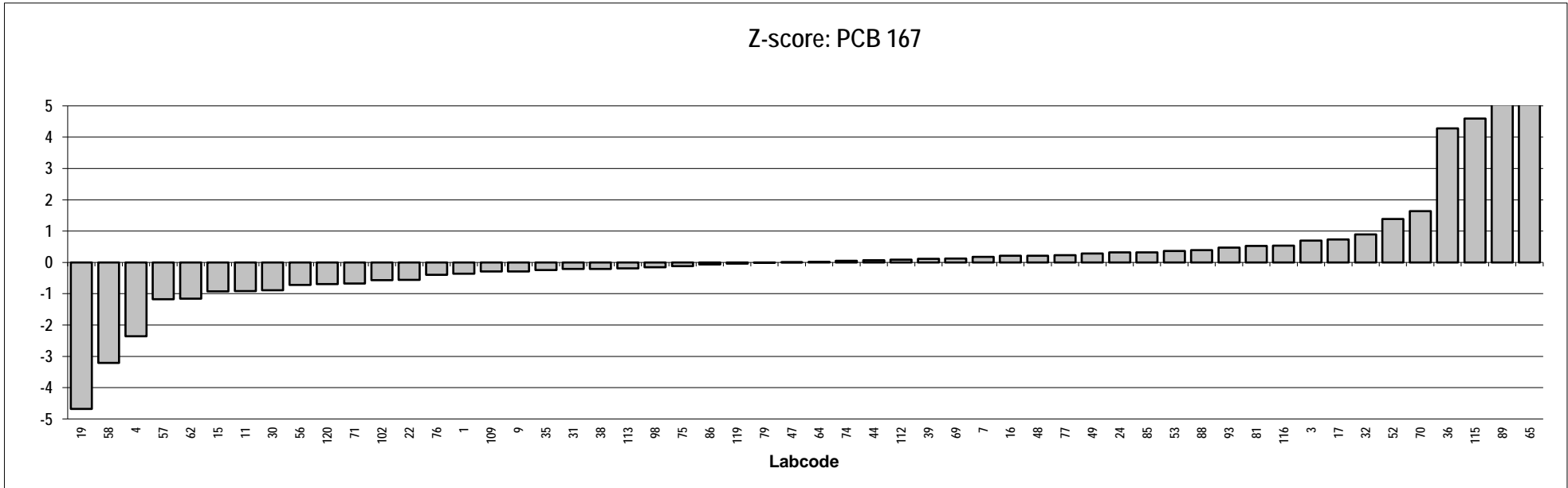
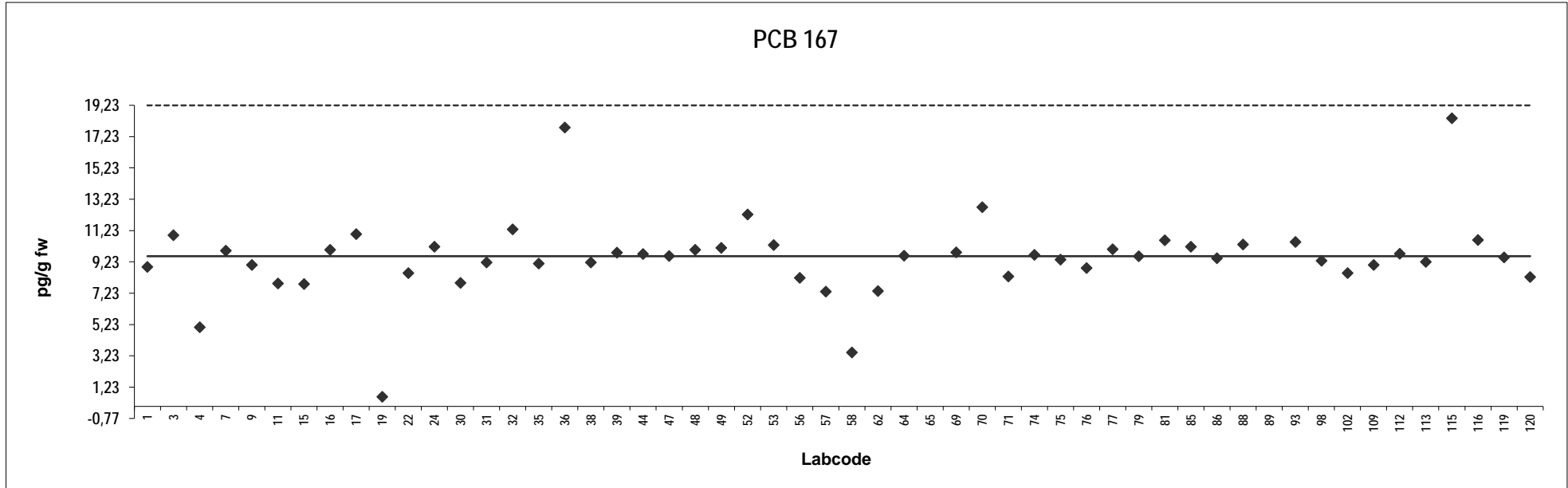


Reindeer
Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	8,9	-0,36		98	9,3	-0,15	
3	11	0,70		102	8,5	-0,56	
4	5,1	-2,4		109	9,0	-0,29	
7	9,9	0,18		112	9,8	0,086	
9	9,0	-0,29		113	9,2	-0,19	
11	7,8	-0,91		115	18	4,6	
15	7,8	-0,93		116	11	0,54	
16	10	0,21	ND	119	9,5	-0,041	
17	11	0,73		120	8,3	-0,69	
19	0,62	-4,7					
22	8,5	-0,56					
24	10	0,32					
30	7,9	-0,89					
31	9,2	-0,20					
32	11	0,89					
35	9,1	-0,25					
36	18	4,3					
38	9,2	-0,20					
39	9,8	0,12					
44	9,7	0,072					
47	9,6	0,0042					
48	10	0,21	ND				
49	10	0,28					
52	12	1,4					
53	10	0,37					
56	8,2	-0,72					
57	7,3	-1,2					
58	3,4	-3,2					
62	7,4	-1,2					
64	9,6	0,020					
65	46	19	Outlier,ND				
69	9,8	0,13					
70	13	1,6					
71	8,3	-0,67					
74	9,7	0,047					
75	9,4	-0,12					
76	8,8	-0,39					
77	10	0,23					
79	9,6	-0,0042					
81	11	0,53					
85	10	0,32					
86	9,5	-0,069					
88	10	0,39					
89	19	5,1	Outlier				
93	11	0,47					

Consensus statistics

Consensus median, pg/g	9,6
Median all values pg/g	9,6
Consensus mean, pg/g	9,5
Standard deviation, pg/g	2,6
Relative standard deviation, %	27
No. of values reported	54
No. of values removed	2
No. of reported non-detects	3

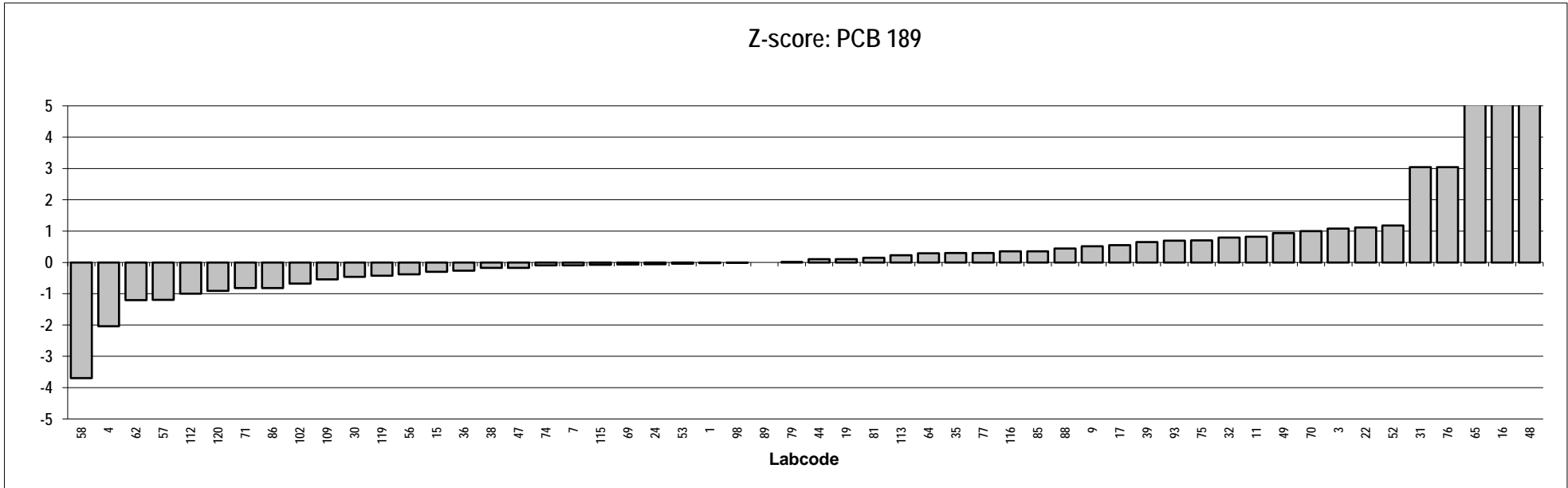
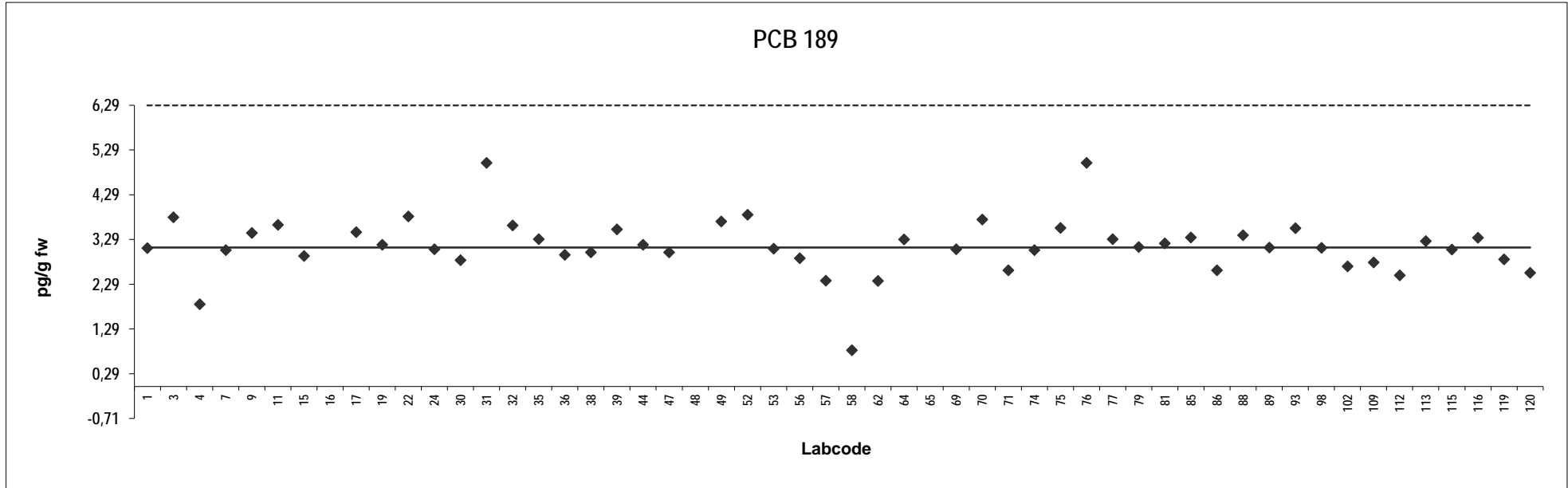


Reindeer
Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	3,1	-0,019		98	3,1	-0,012	
3	3,8	1,1		102	2,7	-0,68	
4	1,8	-2,0		109	2,8	-0,54	
7	3,1	-0,092		112	2,5	-1,0	
9	3,4	0,52		113	3,3	0,23	
11	3,6	0,82		115	3,1	-0,076	
15	2,9	-0,30		116	3,3	0,35	
16	10	11	Outlier,ND	119	2,8	-0,43	
17	3,5	0,55		120	2,5	-0,91	
19	3,2	0,10					
22	3,8	1,1					
24	3,1	-0,061					
30	2,8	-0,46					
31	5,0	3,0	ND				
32	3,6	0,79					
35	3,3	0,30					
36	2,9	-0,27					
38	3,0	-0,17					
39	3,5	0,65					
44	3,2	0,10					
47	3,0	-0,17					
48	10	11	Outlier,ND				
49	3,7	0,93					
52	3,8	1,2					
53	3,1	-0,044					
56	2,9	-0,38					
57	2,4	-1,2					
58	0,81	-3,7	ND				
62	2,4	-1,2					
64	3,3	0,29					
65	7,1	6,4	Outlier,ND				
69	3,1	-0,065					
70	3,7	1,0					
71	2,6	-0,82					
74	3,0	-0,093					
75	3,5	0,70					
76	5,0	3,0	ND				
77	3,3	0,30					
79	3,1	0,014					
81	3,2	0,15					
85	3,3	0,36					
86	2,6	-0,82					
88	3,4	0,44					
89	3,1	0,00					
93	3,5	0,70					

Consensus statistics

Consensus median, pg/g	3,1
Median all values pg/g	3,1
Consensus mean, pg/g	3,1
Standard deviation, pg/g	0,64
Relative standard deviation, %	20
No. of values reported	54
No. of values removed	3
No. of reported non-detects	6

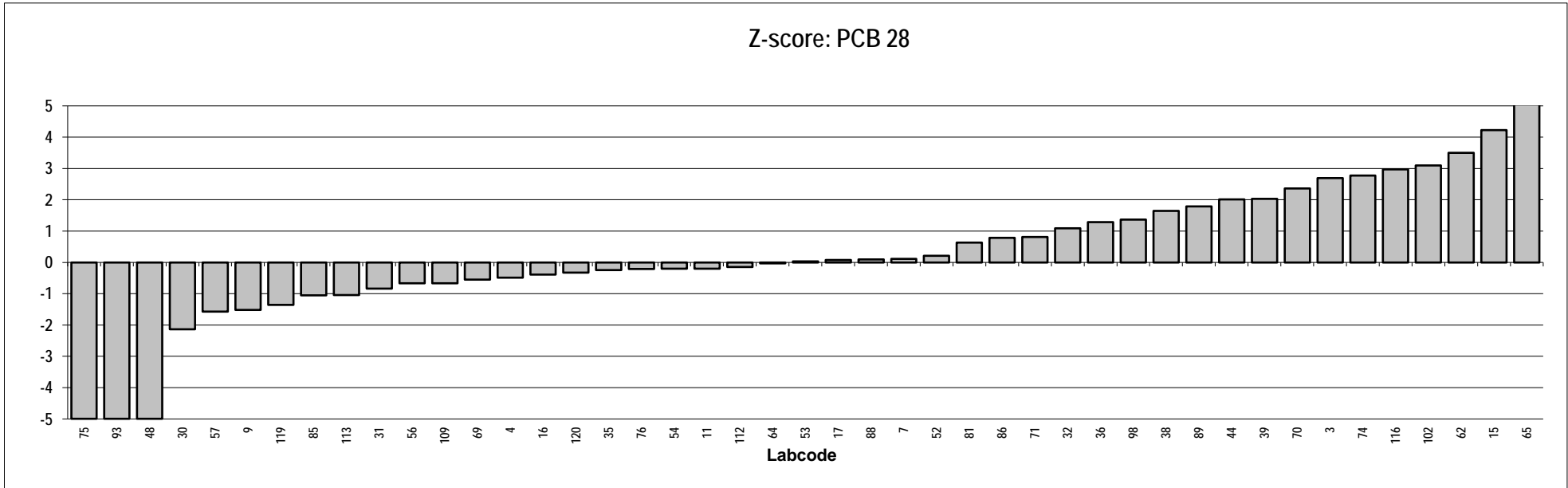
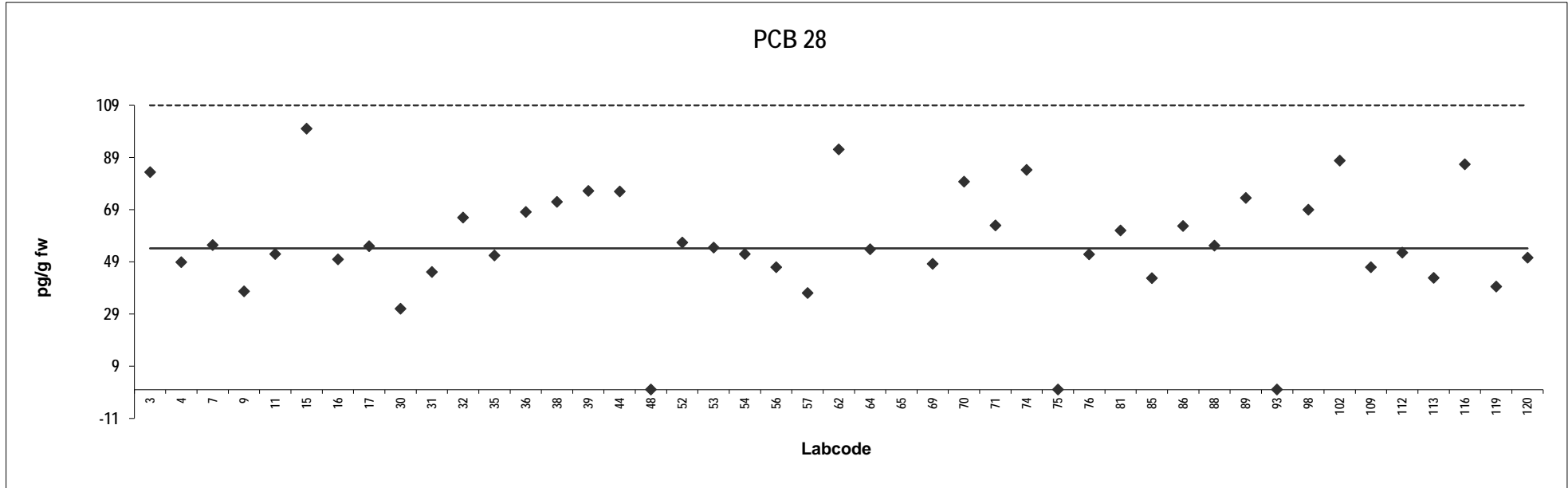


Reindeer
Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	83	2,7					
4	49	-0,49					
7	55	0,11					
9	38	-1,5					
11	52	-0,20					
15	100	4,2	ND				
16	50	-0,39					
17	55	0,076					
30	31	-2,1					
31	45	-0,84					
32	66	1,1					
35	52	-0,25					
36	68	1,3					
38	72	1,6					
39	76	2,0					
44	76	2,0					
48	0,10	-5,0	ND				
52	56	0,21					
53	55	0,03					
54	52	-0,20					
56	47	-0,66					
57	37	-1,6					
62	92	3,5					
64	54	-0,030					
65	110	5,2	Outlier				
69	48	-0,55					
70	80	2,4					
71	63	0,81					
74	84	2,8					
75	0,050	-5,0					
76	52	-0,21					
81	61	0,63					
85	43	-1,1					
86	63	0,79					
88	55	0,096					
89	74	1,8					
93	0,065	-5,0					
98	69	1,4					
102	88	3,1					
109	47	-0,66					
112	53	-0,15					
113	43	-1,0					
116	86	3,0					
119	39	-1,4					
120	51	-0,33					

Consensus statistics

Consensus median, pg/g	54
Median all values pg/g	55
Consensus mean, pg/g	56
Standard deviation, pg/g	22
Relative standard deviation, %	40
No. of values reported	45
No. of values removed	1
No. of reported non-detects	2

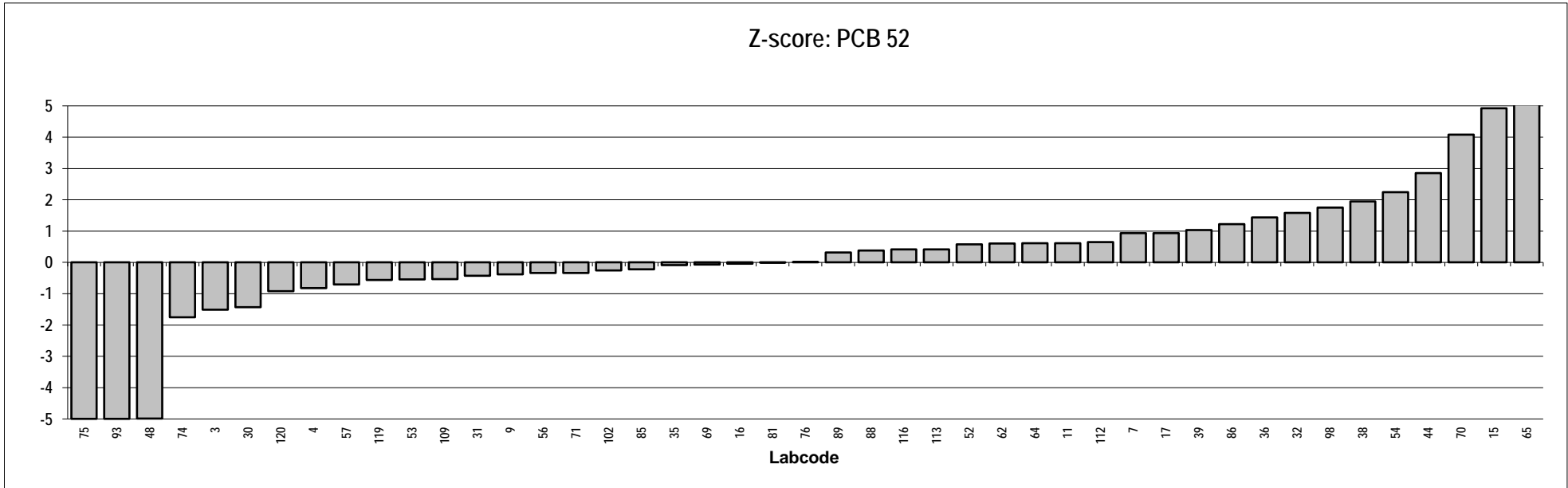
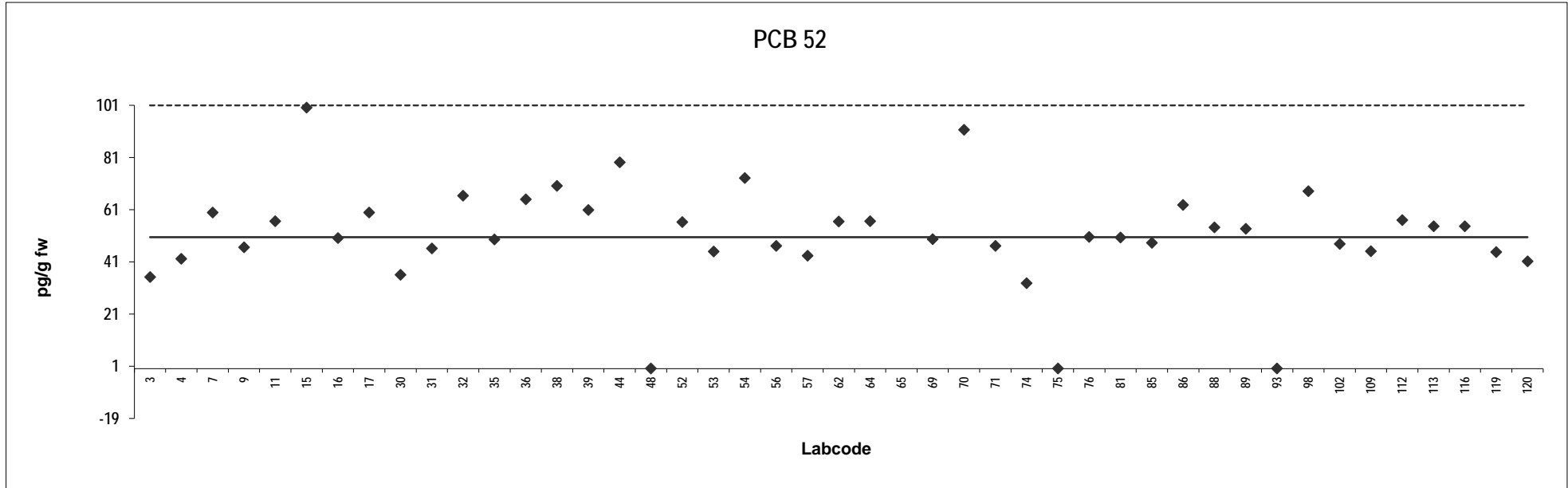


Reindeer
Congener: PCB 52

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	35	-1,5					
4	42	-0,82					
7	60	0,93					
9	47	-0,39					
11	57	0,61					
15	100	4,9	ND				
16	50	-0,038					
17	60	0,93					
30	36	-1,4					
31	46	-0,42					
32	66	1,6					
35	50	-0,081					
36	65	1,4					
38	70	1,9					
39	61	1,0					
44	79	2,9					
48	0,10	-5,0	ND				
52	56	0,58					
53	45	-0,54					
54	73	2,2					
56	47	-0,34					
57	43	-0,70					
62	56	0,60					
64	57	0,61					
65	110	5,9	Outlier				
69	50	-0,072					
70	91	4,1					
71	47	-0,34					
74	33	-1,8					
75	0,052	-5,0					
76	50	0,0079					
81	50	-0,0079					
85	48	-0,22					
86	63	1,2					
88	54	0,38					
89	54	0,31					
93	0,056	-5,0					
98	68	1,7					
102	48	-0,26					
109	45	-0,54					
112	57	0,65					
113	55	0,42					
116	55	0,41					
119	45	-0,56					
120	41	-0,92					

Consensus statistics

Consensus median, pg/g	50
Median all values pg/g	50
Consensus mean, pg/g	51
Standard deviation, pg/g	19
Relative standard deviation, %	38
No. of values reported	45
No. of values removed	1
No. of reported non-detects	2

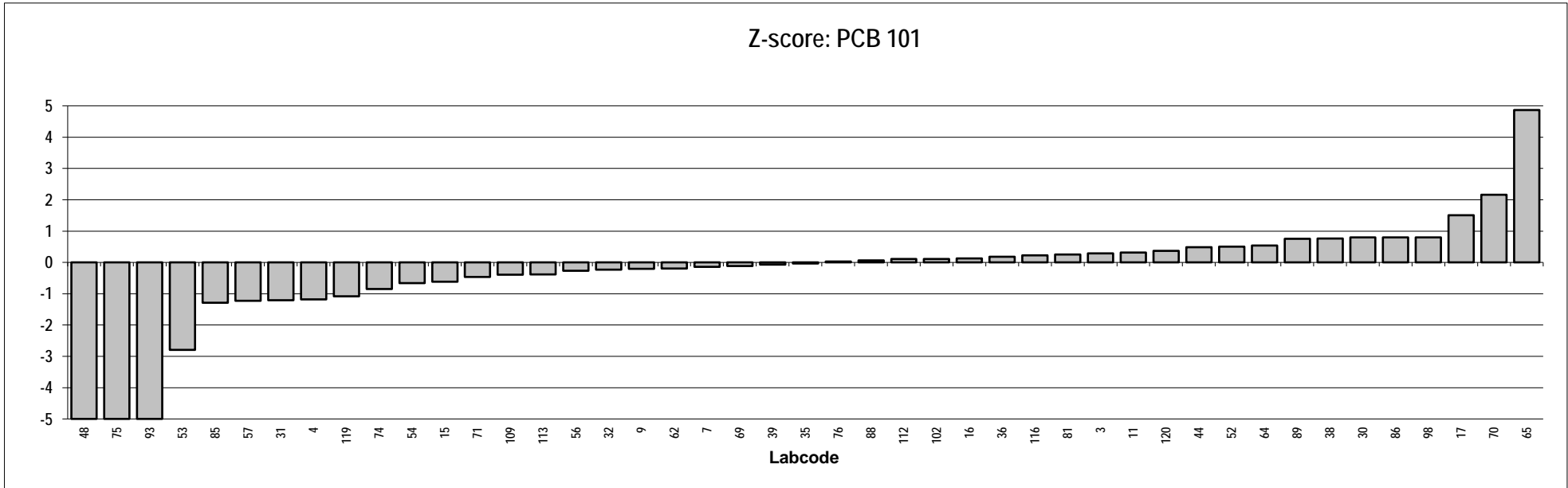
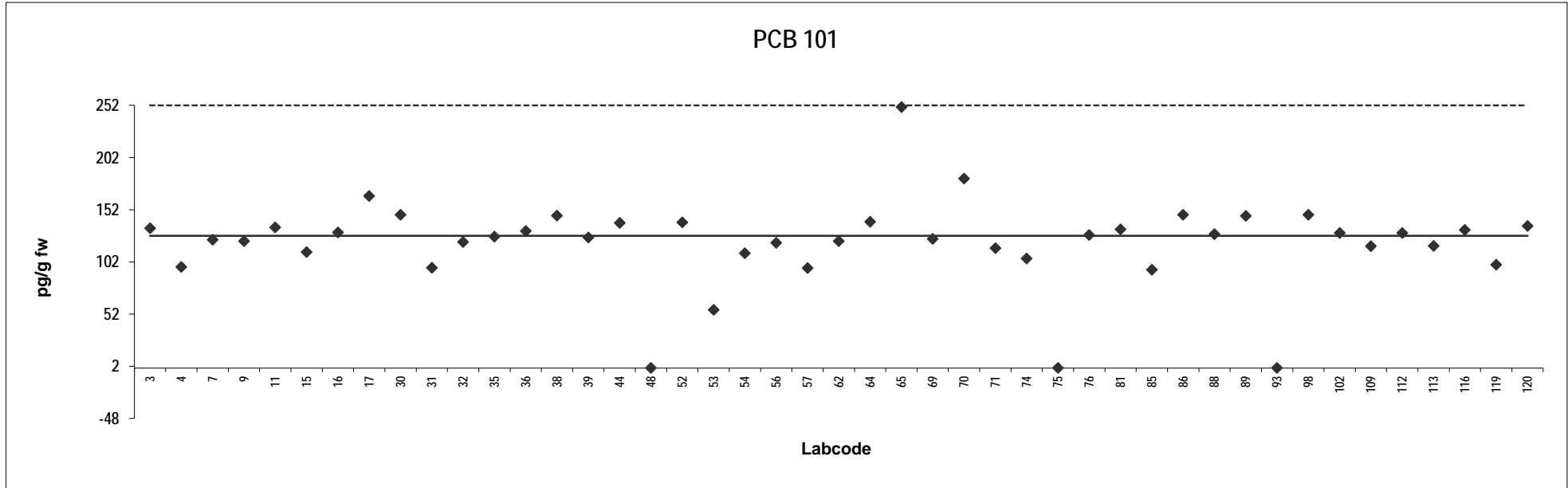


Reindeer
Congener: PCB 101

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	134	0,29					
4	97	-1,2					
7	123	-0,15					
9	122	-0,21					
11	135	0,32					
15	111	-0,62					
16	130	0,13					
17	165	1,5					
30	147	0,80					
31	96	-1,2					
32	121	-0,23					
35	126	-0,033					
36	131	0,18					
38	146	0,76					
39	125	-0,067					
44	139	0,49					
48	0,10	-5,0	ND				
52	140	0,51					
53	56	-2,8					
54	110	-0,66					
56	120	-0,26					
57	96	-1,2					
62	122	-0,20					
64	140	0,54					
65	250	4,9					
69	124	-0,11					
70	182	2,2					
71	115	-0,46					
74	105	-0,85					
75	0,13	-5,0					
76	128	0,03					
81	133	0,25					
85	94	-1,3					
86	147	0,80					
88	128	0,061					
89	146	0,76					
93	0,13	-5,0					
98	147	0,80					
102	130	0,11					
109	117	-0,39					
112	129	0,11					
113	117	-0,38					
116	132	0,23					
119	99	-1,1					
120	136	0,37					

Consensus statistics

Consensus median, pg/g	127
Median all values pg/g	126
Consensus mean, pg/g	120
Standard deviation, pg/g	43
Relative standard deviation, %	35
No. of values reported	45
No. of values removed	0
No. of reported non-detects	1

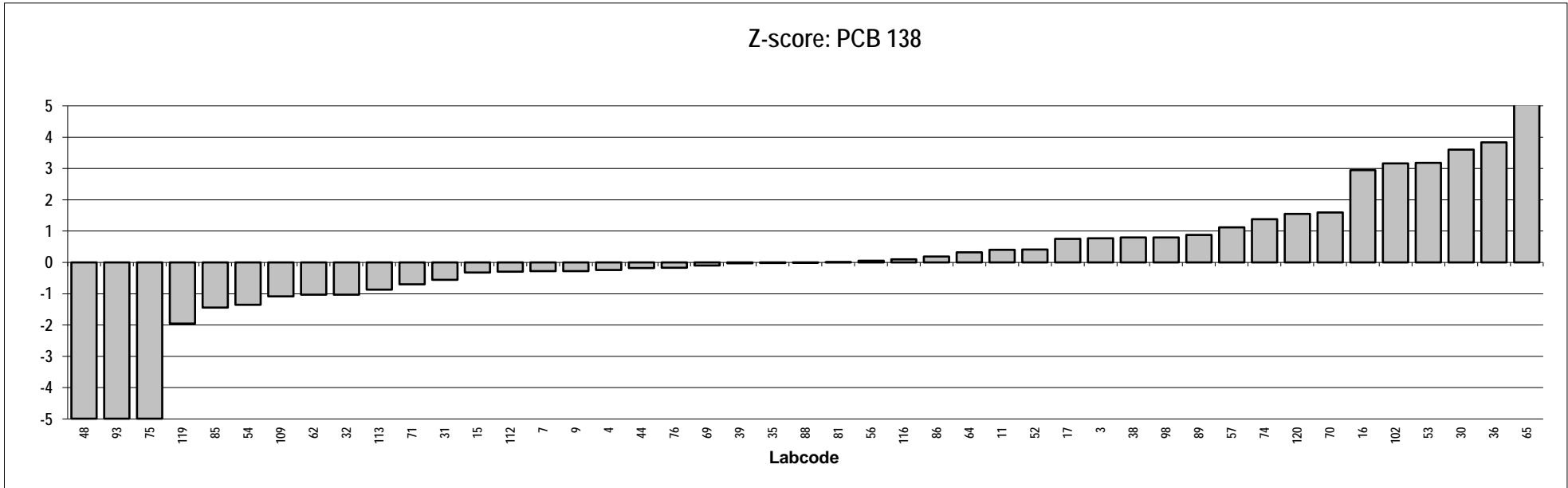
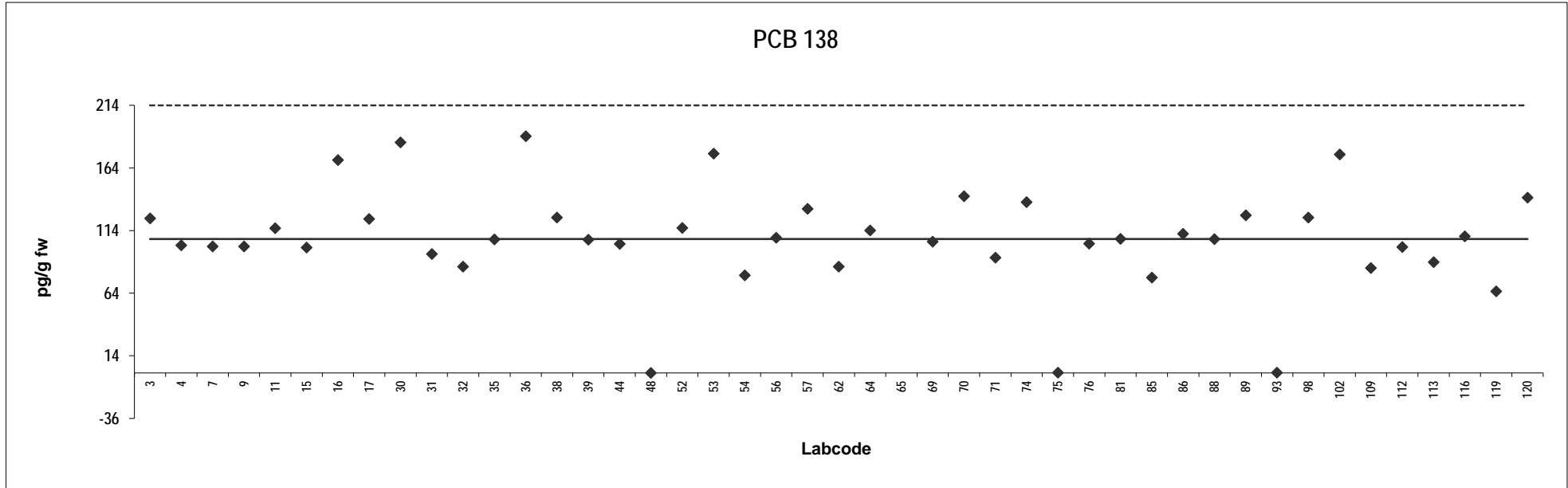


Reindeer
Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	123	0,77					
4	102	-0,24					
7	101	-0,28					
9	101	-0,28					
11	115	0,40					
15	100	-0,32	ND				
16	170	3,0					
17	123	0,75					
30	184	3,6					
31	95	-0,56					
32	85	-1,0					
35	106	-0,020					
36	189	3,8					
38	124	0,80					
39	106	-0,029					
44	103	-0,18					
48	0,10	-5,0	ND				
52	116	0,41					
53	175	3,2					
54	78	-1,4					
56	108	0,051					
57	131	1,1					
62	85	-1,0					
64	114	0,32					
65	280	8,1	Outlier				
69	105	-0,095					
70	141	1,6					
71	92	-0,70					
74	136	1,4					
75	0,13	-5,0					
76	103	-0,17					
81	107	0,0039					
85	76	-1,4					
86	111	0,19					
88	107	-0,0039					
89	126	0,88					
93	0,11	-5,0					
98	124	0,80					
102	175	3,2					
109	84	-1,1					
112	101	-0,30					
113	88	-0,87					
116	109	0,10					
119	65	-2,0					
120	140	1,5					

Consensus statistics

Consensus median, pg/g	107
Median all values pg/g	107
Consensus mean, pg/g	107
Standard deviation, pg/g	41
Relative standard deviation, %	38
No. of values reported	45
No. of values removed	1
No. of reported non-detects	2

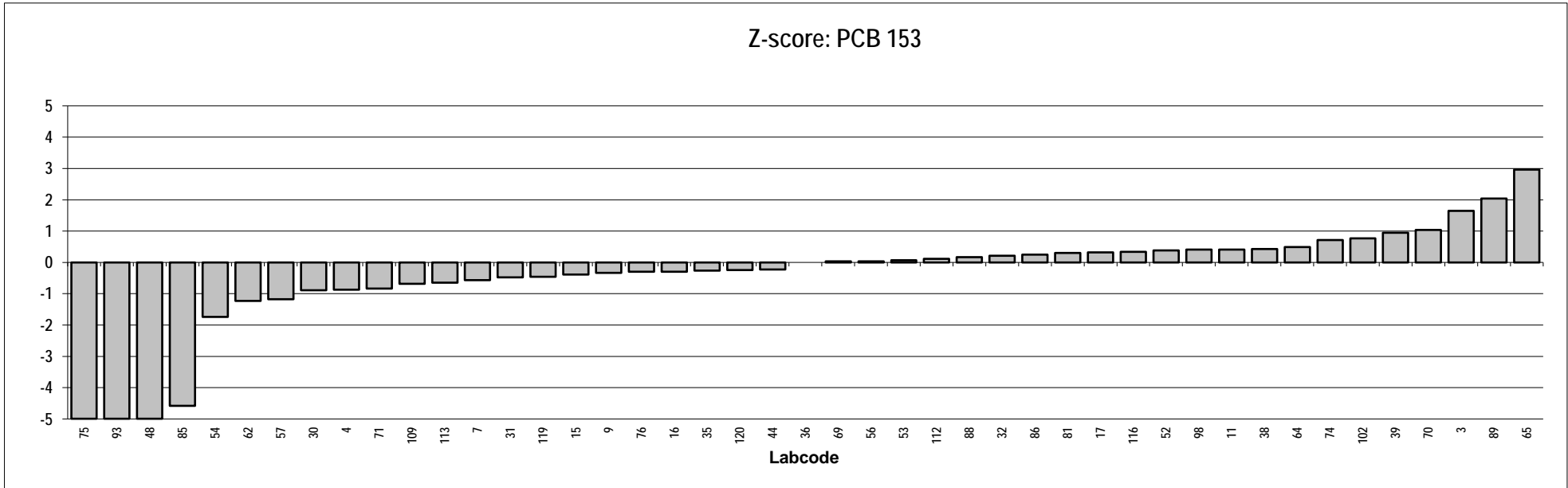
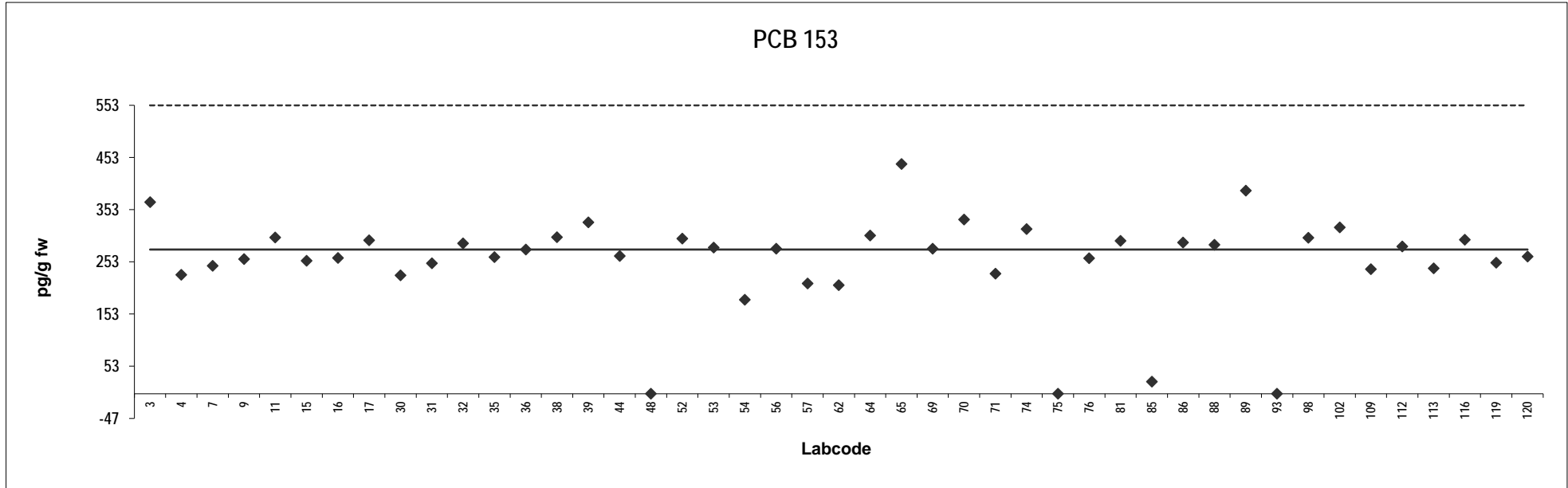


Reindeer
Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	367	1,6					
4	228	-0,87					
7	245	-0,57					
9	258	-0,33					
11	299	0,41					
15	255	-0,39					
16	260	-0,30					
17	294	0,32					
30	227	-0,89					
31	250	-0,48					
32	288	0,21					
35	262	-0,26					
36	276	0,00					
38	300	0,43					
39	329	0,95					
44	264	-0,22					
48	0,34	-5,0					
52	297	0,38					
53	280	0,066					
54	180	-1,7					
56	278	0,030					
57	211	-1,2					
62	208	-1,2					
64	303	0,49					
65	440	3,0					
69	278	0,029					
70	334	1,0					
71	230	-0,84					
74	316	0,71					
75	0,27	-5,0					
76	260	-0,30					
81	293	0,30					
85	23	-4,6					
86	290	0,25					
88	286	0,17					
89	389	2,0					
93	0,29	-5,0					
98	299	0,41					
102	319	0,77					
109	239	-0,68					
112	282	0,11					
113	241	-0,65					
116	295	0,34					
119	251	-0,46					
120	263	-0,24					

Consensus statistics

Consensus median, pg/g	276
Median all values pg/g	276
Consensus mean, pg/g	255
Standard deviation, pg/g	91
Relative standard deviation, %	36
No. of values reported	45
No. of values removed	0
No. of reported non-detects	0

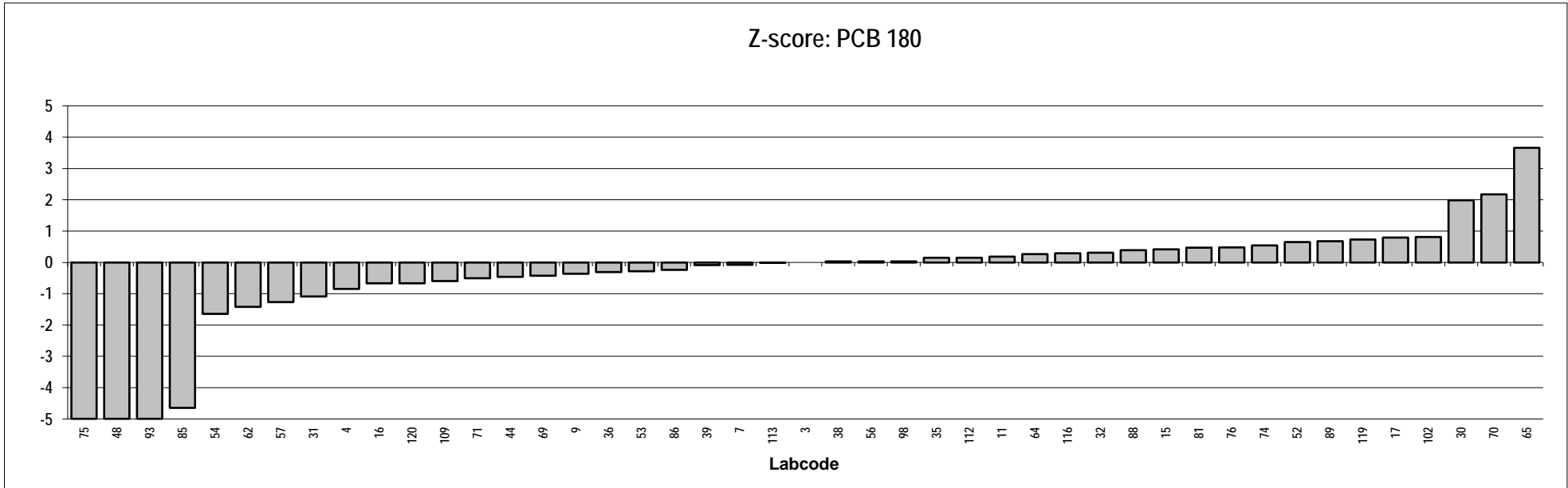
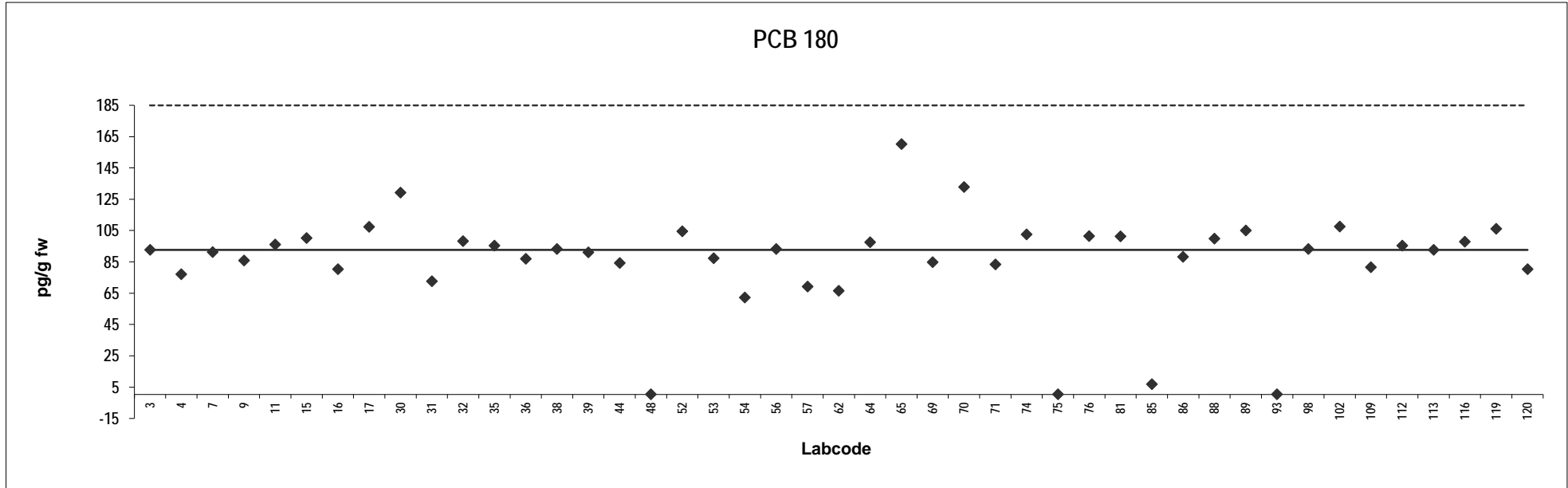


Reindeer
Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
3	92	0,00					
4	77	-0,85					
7	91	-0,078					
9	86	-0,37					
11	96	0,18					
15	100	0,41	ND				
16	80	-0,67					
17	107	0,79					
30	129	2,0					
31	72	-1,1					
32	98	0,31					
35	95	0,14					
36	87	-0,31					
38	93	0,035					
39	91	-0,086					
44	84	-0,46					
48	0,10	-5,0	ND				
52	104	0,65					
53	87	-0,28					
54	62	-1,6					
56	93	0,035					
57	69	-1,3					
62	66	-1,4					
64	97	0,27					
65	160	3,7					
69	84	-0,43					
70	132	2,2					
71	83	-0,51					
74	102	0,54					
75	0,093	-5,0					
76	101	0,48					
81	101	0,47					
85	6,6	-4,6					
86	88	-0,24					
88	100	0,39					
89	105	0,68					
93	0,10	-5,0					
98	93	0,035					
102	107	0,81					
109	81	-0,60					
112	95	0,14					
113	92	-0,0025					
116	98	0,29					
119	106	0,73					
120	80	-0,67					

Consensus statistics

Consensus median, pg/g	92
Median all values pg/g	92
Consensus mean, pg/g	86
Standard deviation, pg/g	31
Relative standard deviation, %	37
No. of values reported	45
No. of values removed	0
No. of reported non-detects	2

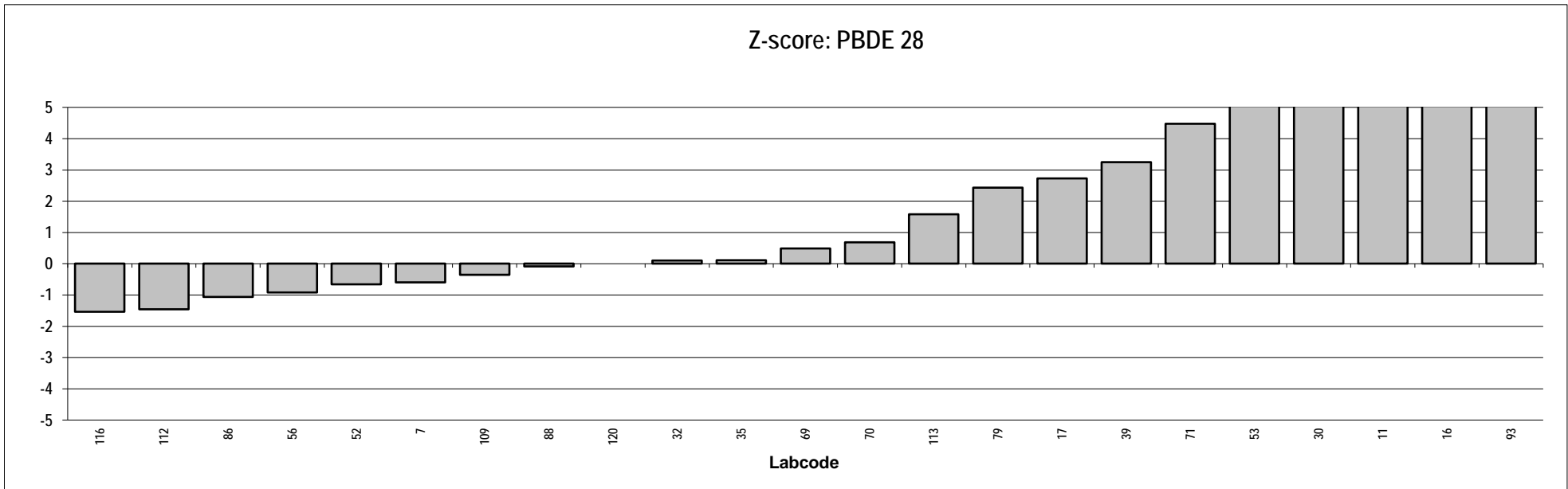
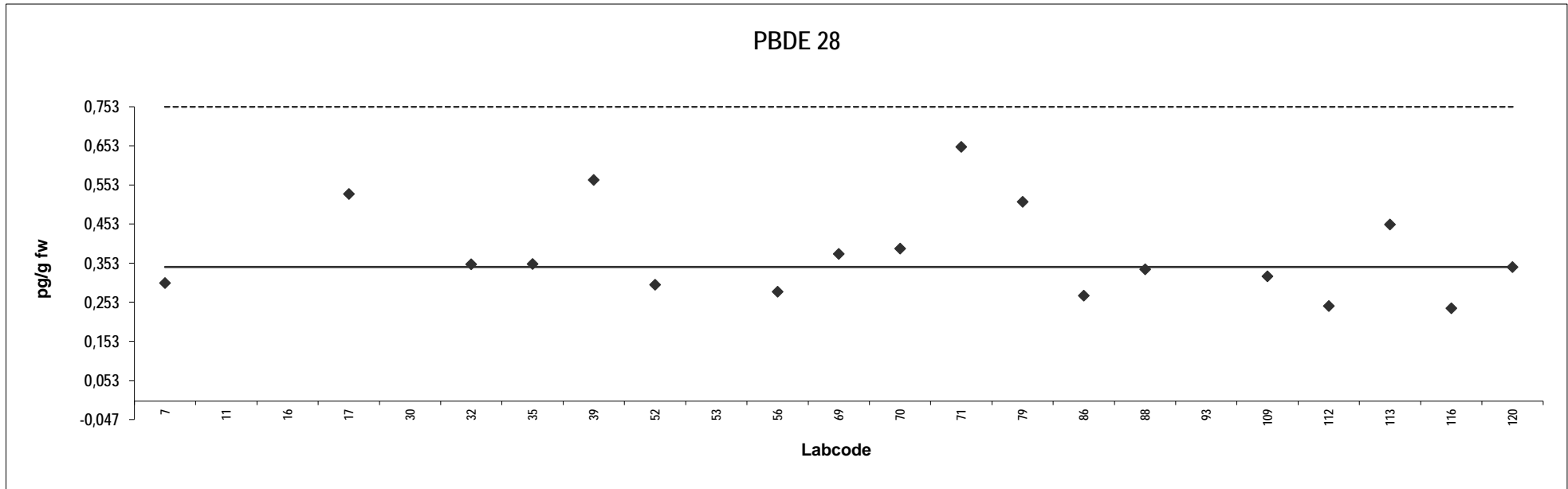


Reindeer
Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,30	-0,60					
11	1,2	13	Outlier				
16	2,0	24	Outlier,ND				
17	0,53	2,7					
30	1,0	9,6	Outlier,ND				
32	0,35	0,10					
35	0,35	0,11					
39	0,57	3,2					
52	0,30	-0,66					
53	0,86	7,6	Outlier				
56	0,28	-0,92					
69	0,38	0,49					
70	0,39	0,69					
71	0,65	4,5	ND				
79	0,51	2,4					
86	0,27	-1,1					
88	0,34	-0,086					
93	2,0	24	Outlier,ND				
109	0,32	-0,35					
112	0,24	-1,5					
113	0,45	1,6					
116	0,24	-1,5					
120	0,34	0,00					

Consensus statistics

Consensus median, pg/g	0,34
Median all values pg/g	0,38
Consensus mean, pg/g	0,38
Standard deviation, pg/g	0,12
Relative standard deviation, %	31
No. of values reported	23
No. of values removed	5
No. of reported non-detects	4

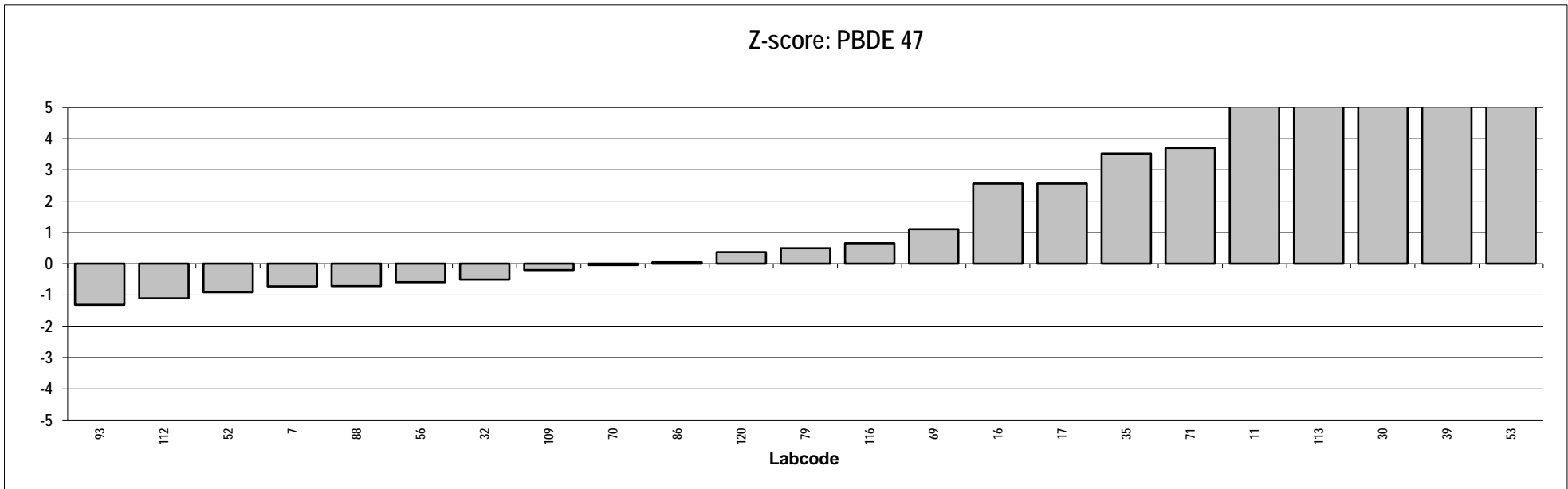
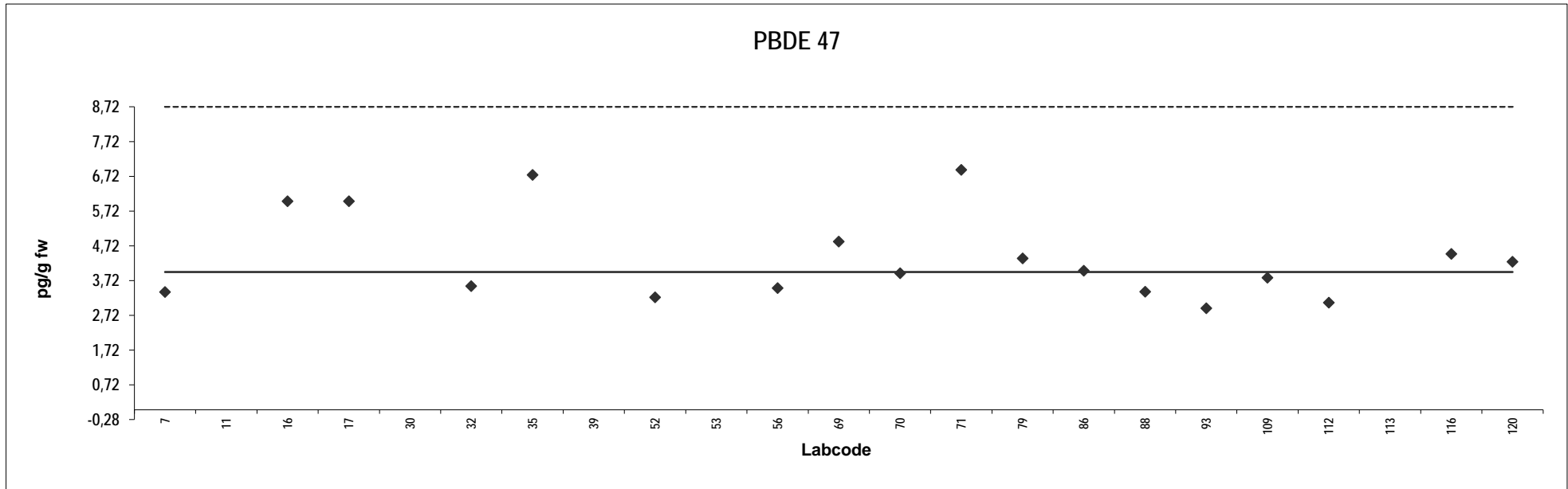


Reindeer
Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	3,4	-0,73					
11	8,9	6,2	Outlier				
16	6,0	2,6					
17	6,0	2,6					
30	9,5	7,0	Outlier				
32	3,6	-0,51					
35	6,8	3,5					
39	17	16	Outlier				
52	3,2	-0,92					
53	62	73	Outlier				
56	3,5	-0,59					
69	4,8	1,1					
70	3,9	-0,044					
71	6,9	3,7					
79	4,4	0,50					
86	4,0	0,044					
88	3,4	-0,72					
93	2,9	-1,3					
109	3,8	-0,20					
112	3,1	-1,1					
113	9,2	6,6	Outlier				
116	4,5	0,66					
120	4,3	0,37					

Consensus statistics

Consensus median, pg/g	4,0
Median all values pg/g	4,4
Consensus mean, pg/g	4,4
Standard deviation, pg/g	1,3
Relative standard deviation, %	29
No. of values reported	23
No. of values removed	5
No. of reported non-detects	0

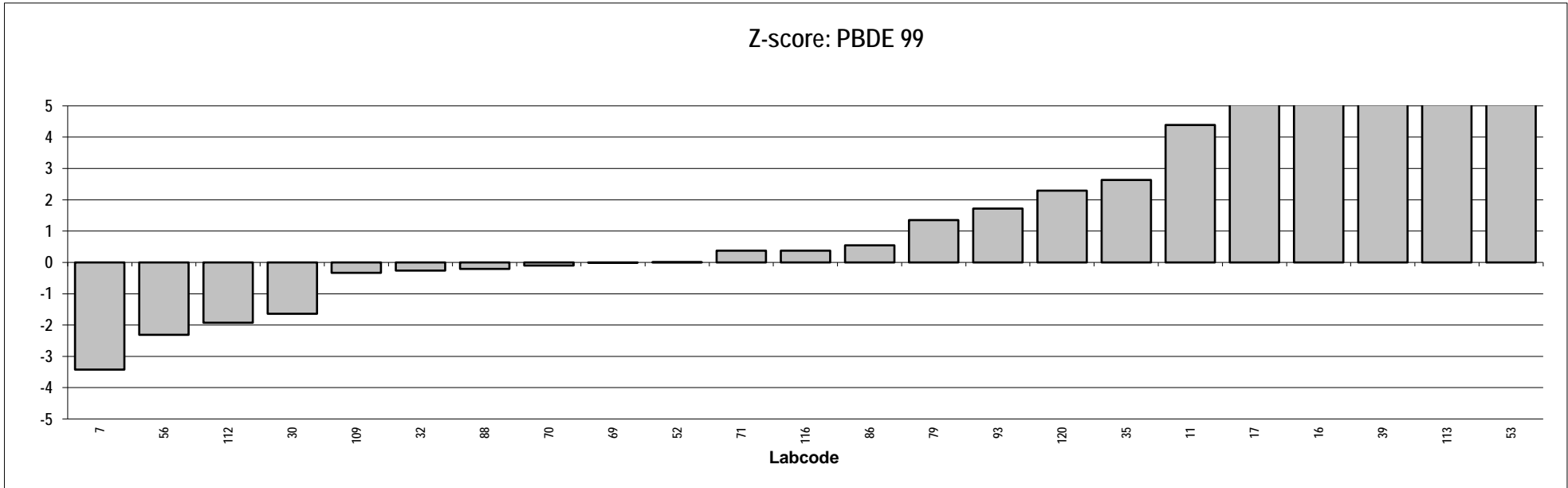
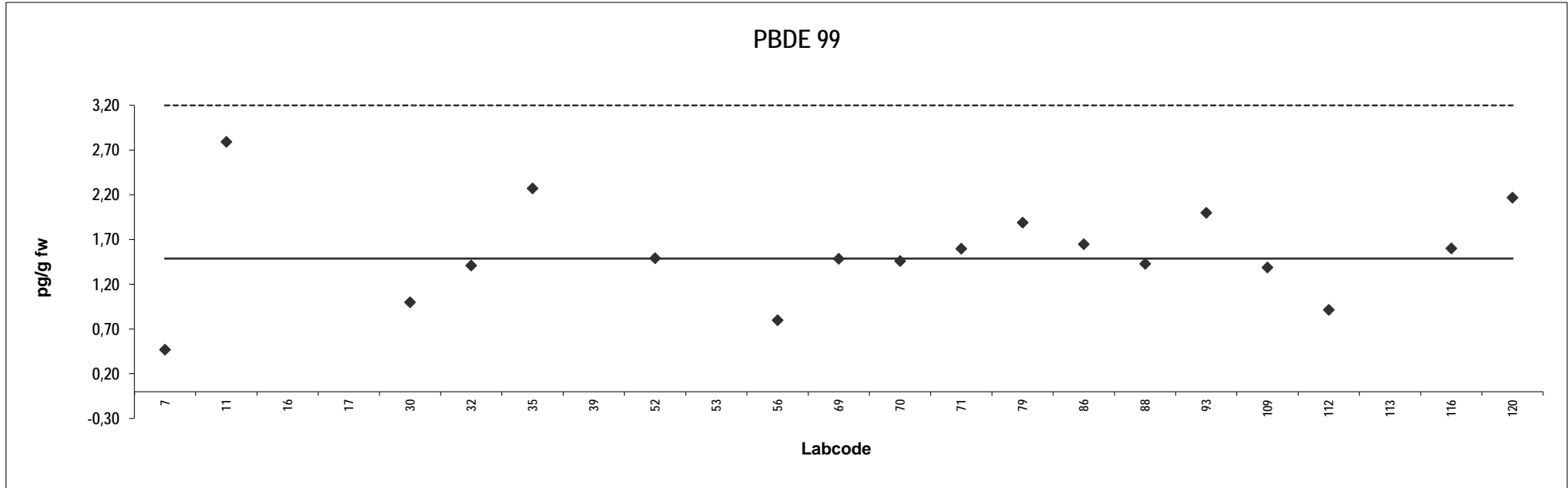


Reindeer
Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,47	-3,4					
11	2,8	4,4					
16	4,0	8,4	Outlier				
17	3,6	7,1	Outlier				
30	1,0	-1,6	ND				
32	1,4	-0,26					
35	2,3	2,6					
39	6,9	18	Outlier				
52	1,5	0,011					
53	138	459	Outlier				
56	0,80	-2,3					
69	1,5	-0,011					
70	1,5	-0,096					
71	1,6	0,37					
79	1,9	1,3					
86	1,7	0,54					
88	1,4	-0,20					
93	2,0	1,7	ND				
109	1,4	-0,33					
112	0,92	-1,9					
113	10	29	Outlier				
116	1,6	0,38					
120	2,2	2,3					

Consensus statistics

Consensus median, pg/g	1,5
Median all values pg/g	1,6
Consensus mean, pg/g	1,5
Standard deviation, pg/g	0,56
Relative standard deviation, %	36
No. of values reported	23
No. of values removed	5
No. of reported non-detects	2

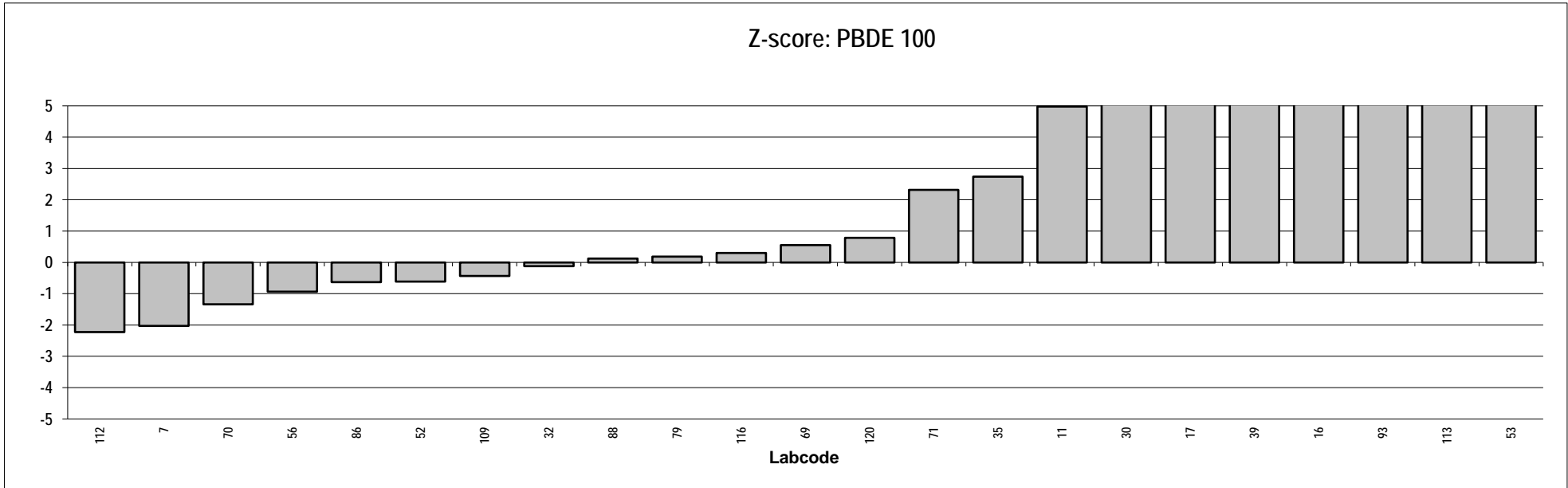
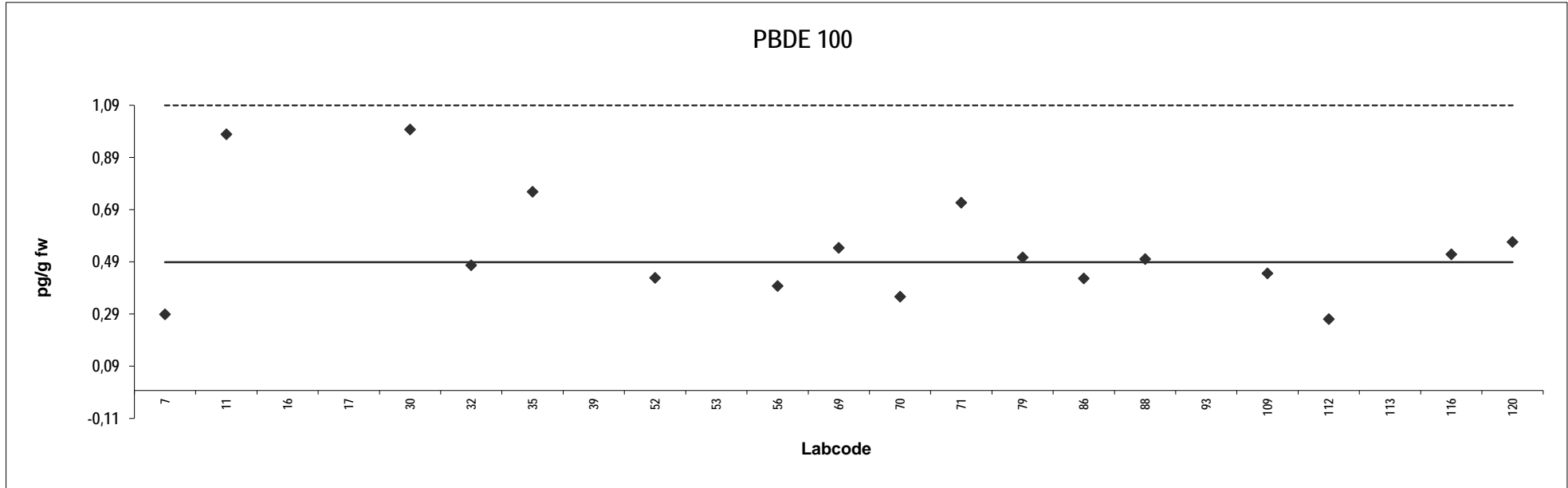


Reindeer
Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,29	-2,0	ND				
11	0,98	5,0					
16	2,0	15	Outlier,ND				
17	1,1	6,2	Outlier				
30	1,0	5,2	ND				
32	0,48	-0,12					
35	0,76	2,7					
39	1,9	14	Outlier				
52	0,43	-0,61					
53	26	260	Outlier				
56	0,40	-0,93					
69	0,55	0,56					
70	0,36	-1,3					
71	0,72	2,3	ND				
79	0,51	0,186					
86	0,43	-0,63					
88	0,50	0,119					
93	2,0	15	Outlier,ND				
109	0,45	-0,43					
112	0,27	-2,2					
113	3,0	25	Outlier				
116	0,52	0,30					
120	0,57	0,79					

Consensus statistics

Consensus median, pg/g	0,49
Median all values pg/g	0,55
Consensus mean, pg/g	0,54
Standard deviation, pg/g	0,21
Relative standard deviation, %	39
No. of values reported	23
No. of values removed	6
No. of reported non-detects	5

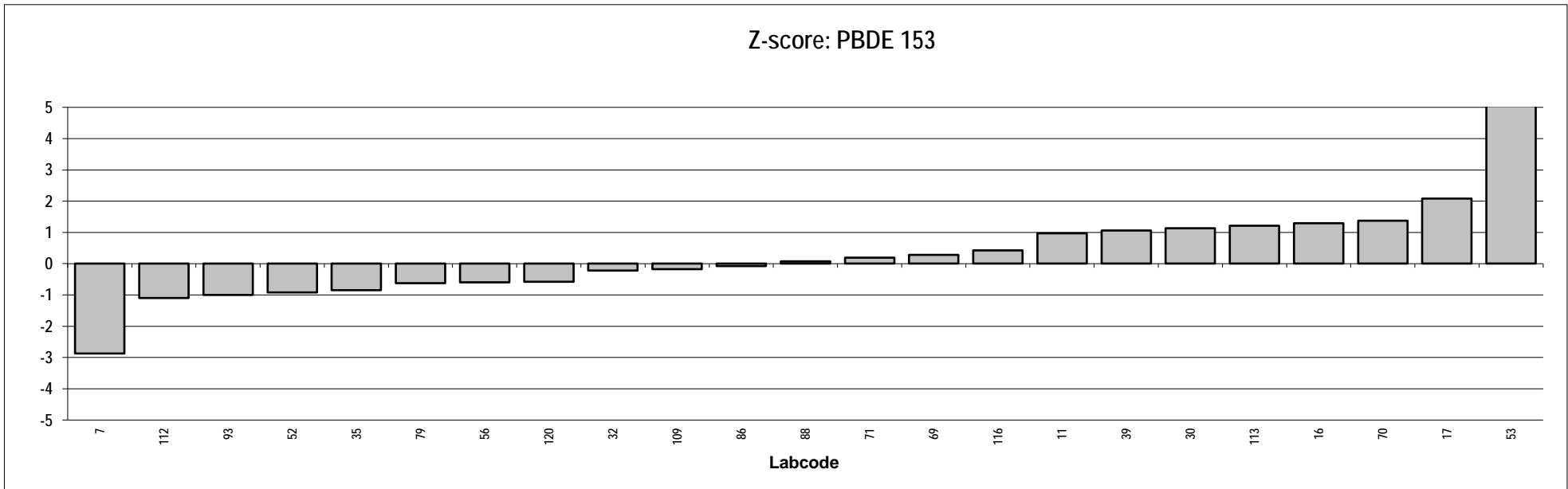
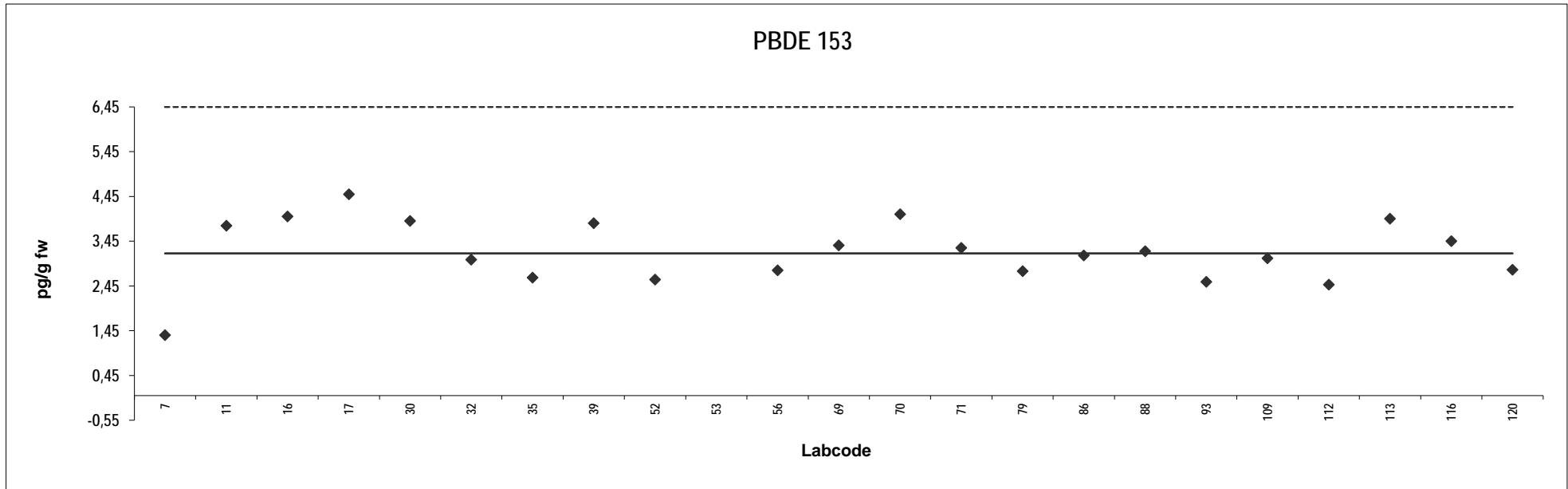


Reindeer
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	1,4	-2,9					
11	3,8	0,97					
16	4,0	1,3					
17	4,5	2,1					
30	3,9	1,1					
32	3,0	-0,22					
35	2,6	-0,85					
39	3,9	1,1					
52	2,6	-0,92					
53	17	22	Outlier				
56	2,8	-0,59					
69	3,4	0,29					
70	4,1	1,4					
71	3,3	0,19					
79	2,8	-0,63					
86	3,1	-0,075					
88	3,2	0,075					
93	2,5	-1,0					
109	3,1	-0,17					
112	2,5	-1,1					
113	4,0	1,2					
116	3,4	0,43					
120	2,8	-0,58					

Consensus statistics

Consensus median, pg/g	3,2
Median all values pg/g	3,2
Consensus mean, pg/g	3,2
Standard deviation, pg/g	0,71
Relative standard deviation, %	22
No. of values reported	23
No. of values removed	1
No. of reported non-detects	0

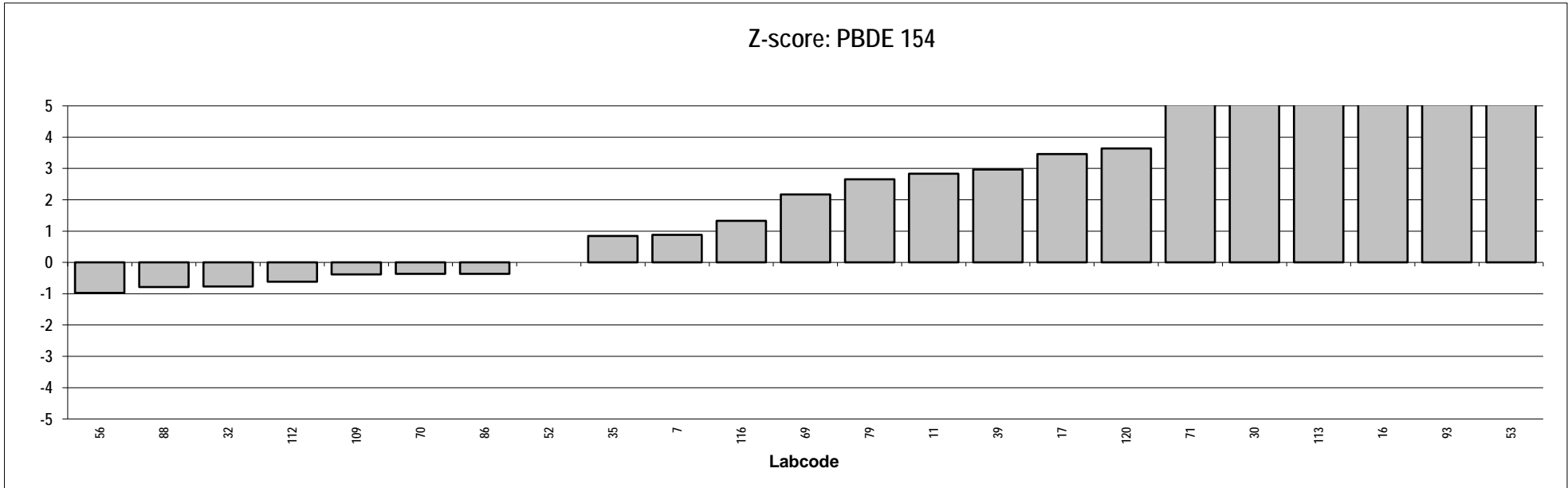
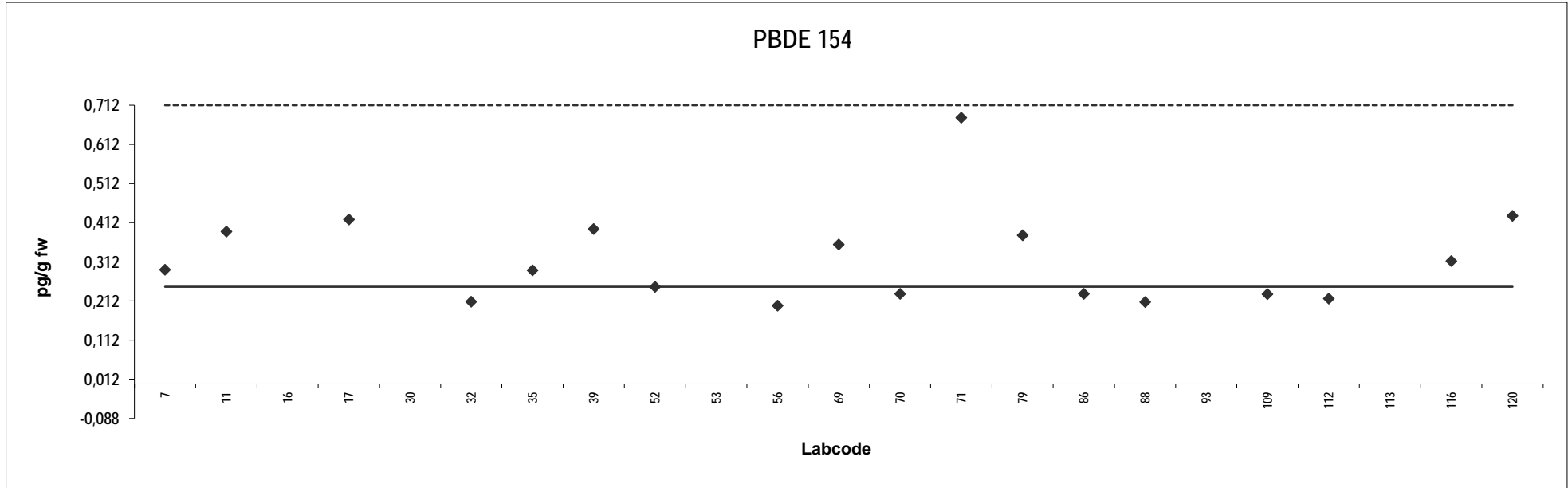


Reindeer
Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,29	0,88	ND				
11	0,39	2,8	ND				
16	2,0	35	Outlier,ND				
17	0,42	3,5					
30	1,0	15	Outlier,ND				
32	0,21	-0,77					
35	0,29	0,85					
39	0,40	3,0					
52	0,25	0,00					
53	9,7	191	Outlier				
56	0,20	-0,97					
69	0,36	2,2					
70	0,23	-0,37					
71	0,68	8,7	ND				
79	0,38	2,7					
86	0,23	-0,37					
88	0,21	-0,79					
93	2,0	35	Outlier,ND				
109	0,23	-0,38					
112	0,22	-0,61					
113	1,0	15	Outlier				
116	0,31	1,3					
120	0,43	3,6					

Consensus statistics

Consensus median, pg/g	0,25
Median all values pg/g	0,36
Consensus mean, pg/g	0,32
Standard deviation, pg/g	0,12
Relative standard deviation, %	38
No. of values reported	23
No. of values removed	5
No. of reported non-detects	6

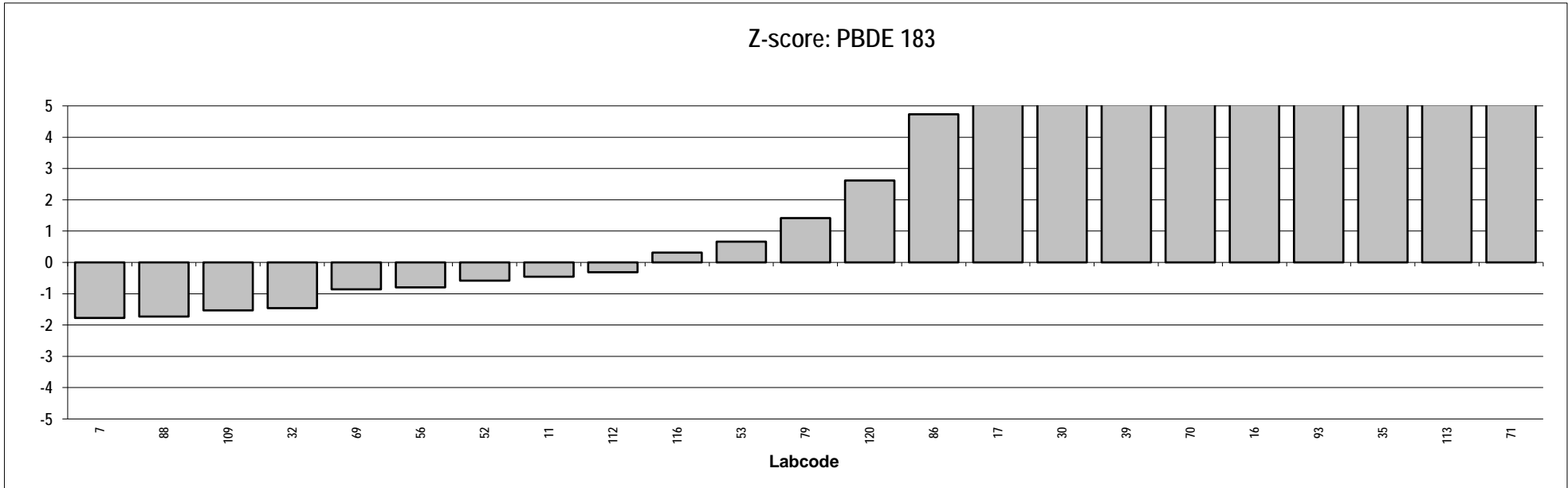
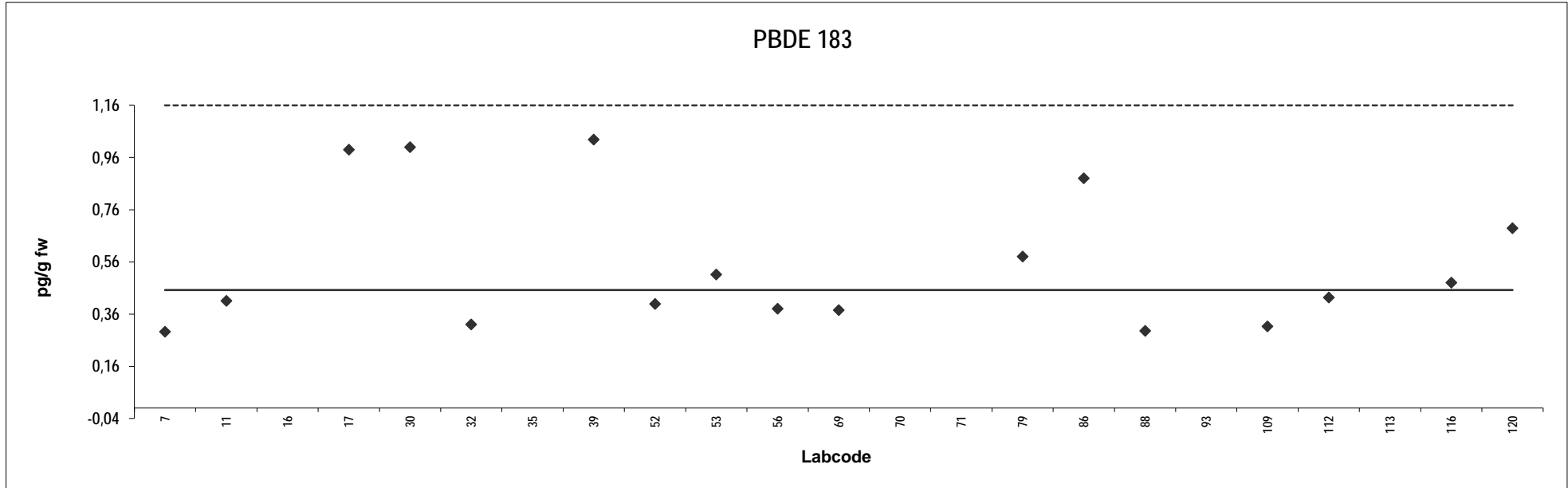


Reindeer
Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,29	-1,8	ND				
11	0,41	-0,45	ND				
16	2,0	17	Outlier,ND				
17	0,99	5,9					
30	1,0	6,1	ND				
32	0,32	-1,5					
35	2,1	19	Outlier,ND				
39	1,0	6,4					
52	0,40	-0,59					
53	0,51	0,66	ND				
56	0,38	-0,80					
69	0,37	-0,86	ND				
70	1,4	11	Outlier				
71	26	283	Outlier,ND				
79	0,58	1,4					
86	0,88	4,7					
88	0,30	-1,7					
93	2,0	17	Outlier,ND				
109	0,31	-1,5					
112	0,42	-0,32					
113	2,8	26	Outlier				
116	0,48	0,32					
120	0,69	2,6					

Consensus statistics

Consensus median, pg/g	0,45
Median all values pg/g	0,58
Consensus mean, pg/g	0,55
Standard deviation, pg/g	0,26
Relative standard deviation, %	48
No. of values reported	23
No. of values removed	6
No. of reported non-detects	9

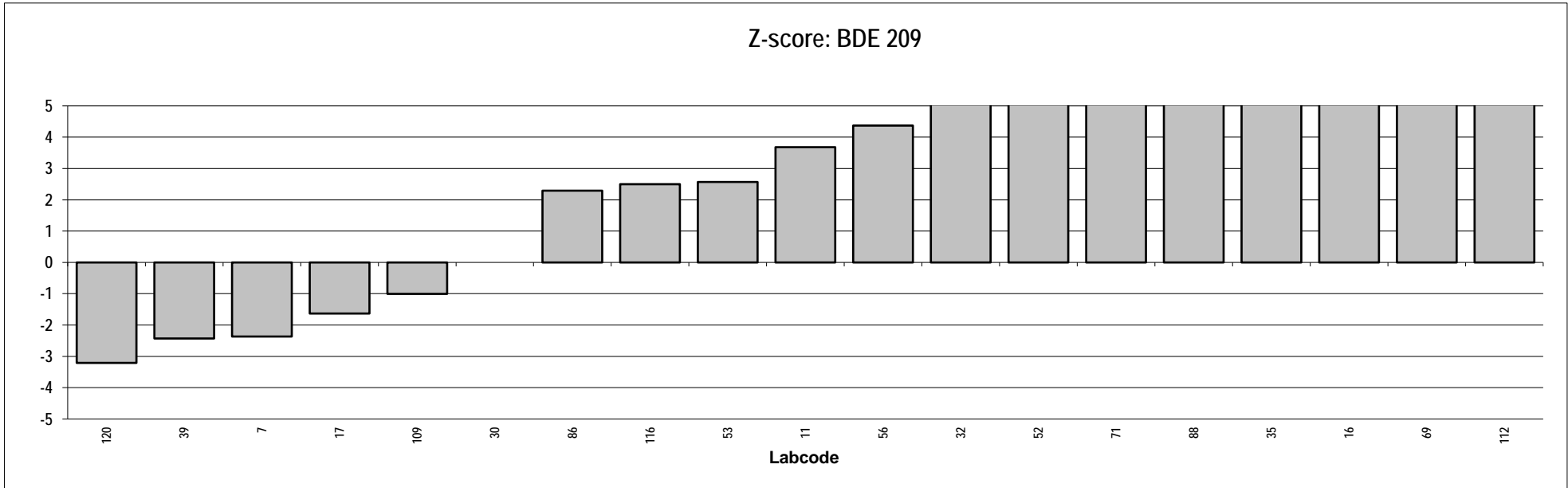
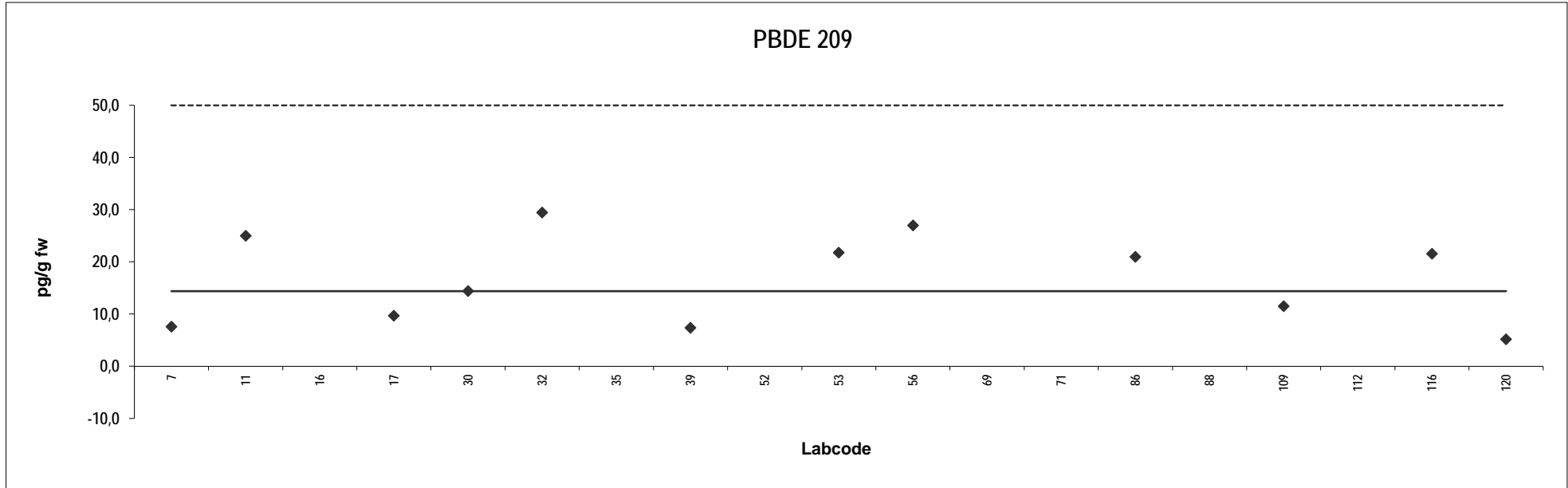


Reindeer
Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	7,6	-2,4					
11	25	3,7					
16	182	58	Outlier,ND				
17	9,7	-1,6					
30	14	0,00					
32	29	5,2					
35	115	35	Outlier				
39	7,4	-2,4					
52	51	13	Outlier				
53	22	2,6	ND				
56	27	4,4					
69	200	64	Outlier,ND				
71	55	14	Outlier,ND				
86	21	2,3					
88	59	15	Outlier				
109	12	-1,0					
112	444	149	Outlier				
116	22	2,5					
120	5,2	-3,2					

Consensus statistics

Consensus median, pg/g	14
Median all values pg/g	25
Consensus mean, pg/g	17
Standard deviation, pg/g	8,5
Relative standard deviation, %	50
No. of values reported	19
No. of values removed	7
No. of reported non-detects	4

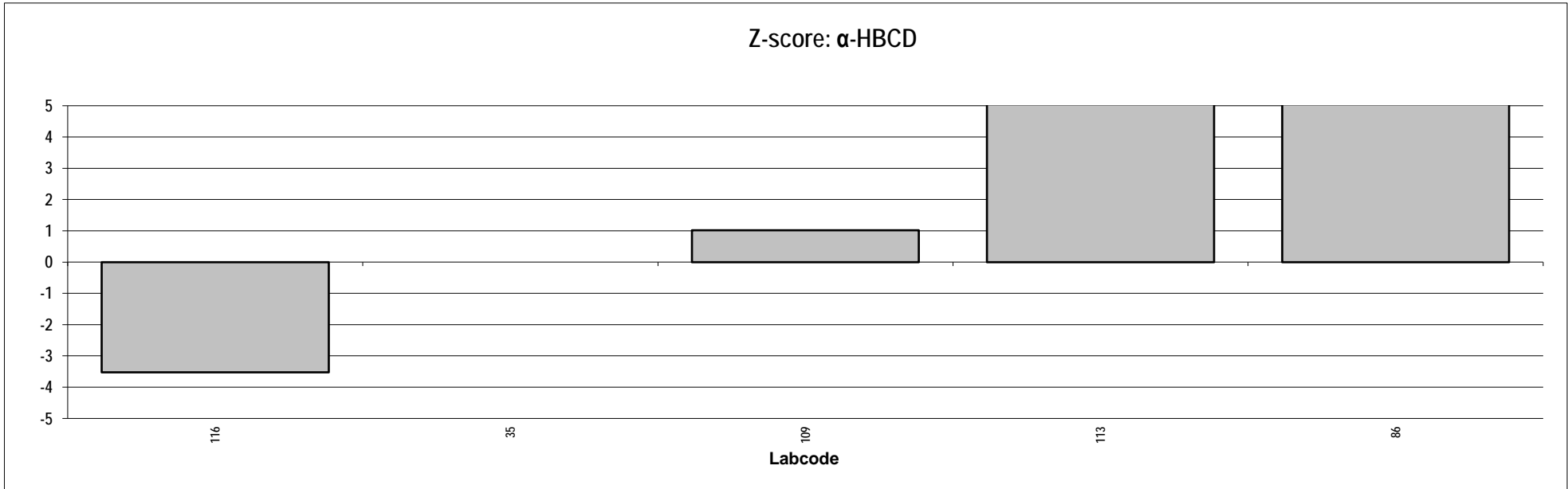
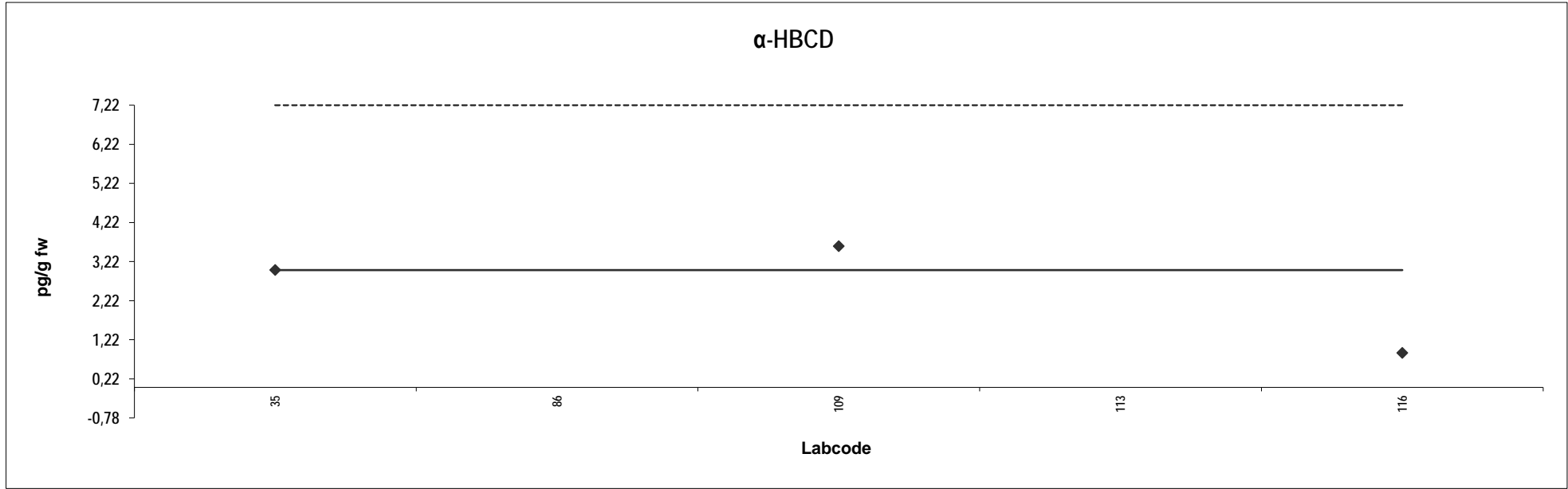


Reindeer
Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
35	3,0	0,00					
86	82	132	Outlier				
109	3,6	1,0					
113	17	23	Outlier				
116	0,88	-3,5					

Consensus statistics

Consensus median, pg/g	3,0
Median all values pg/g	3,6
Consensus mean, pg/g	2,5
Standard deviation, pg/g	1,4
Relative standard deviation, %	57
No. of values reported	5
No. of values removed	2
No. of reported non-detects	0

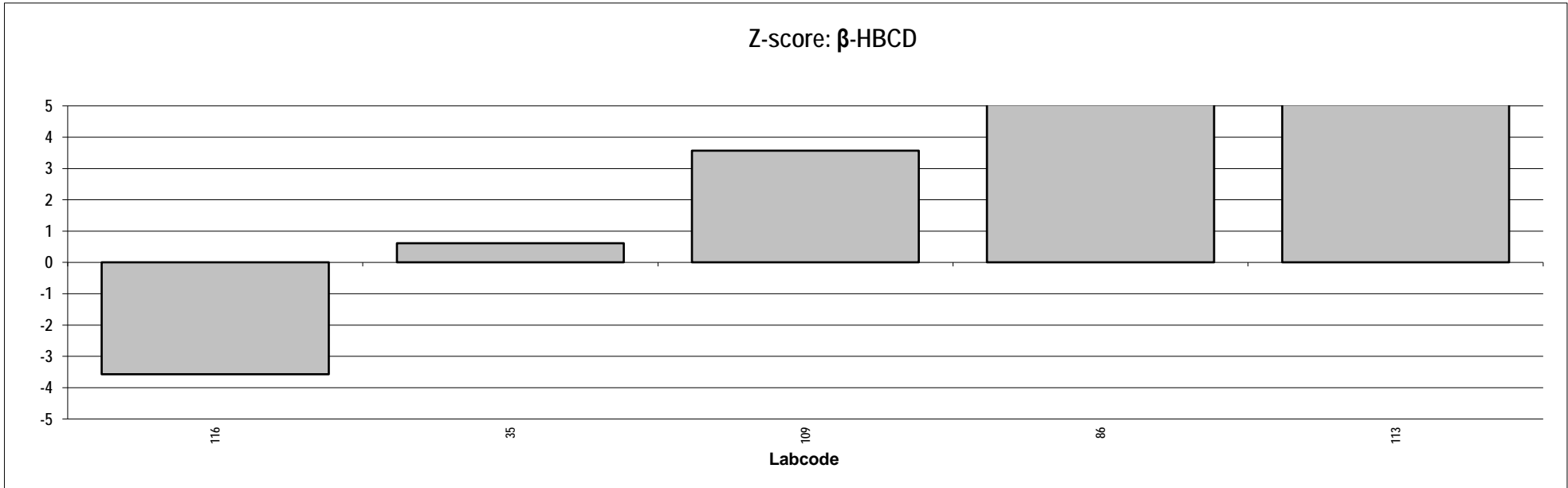
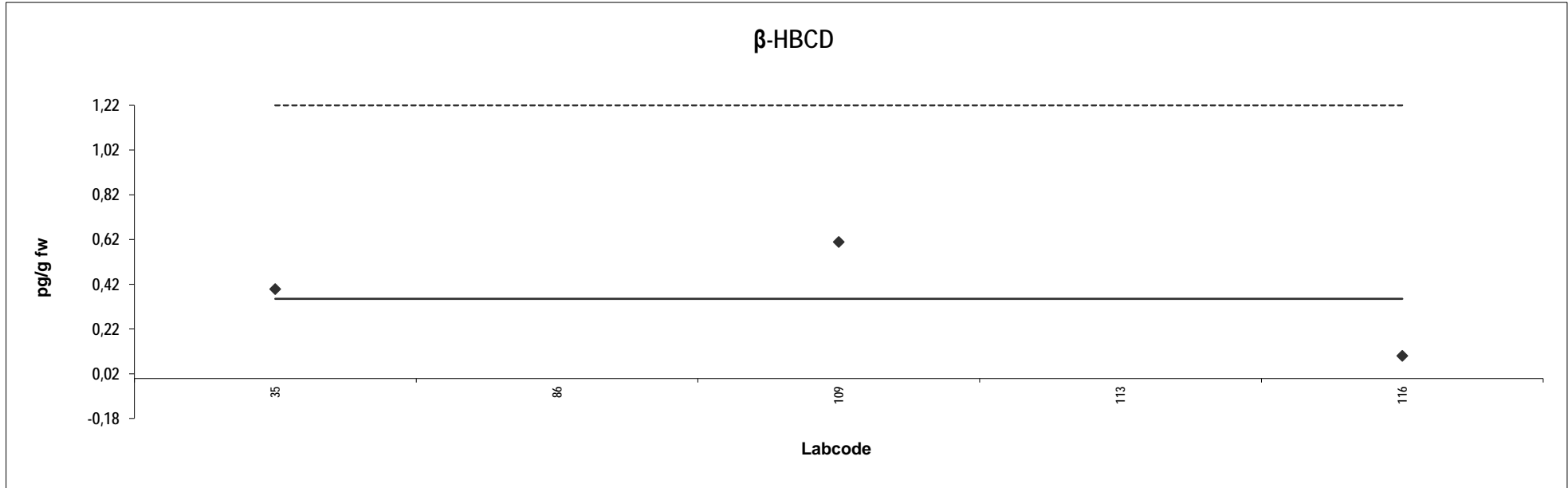


Reindeer
Congener: β -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
35	0,40	0,61	ND				
86	28	388	Outlier				
109	0,61	3,6					
113	50	697	Outlier,ND				
116	0,10	-3,6					

Consensus statistics

Consensus median, pg/g	0,36
Median all values pg/g	0,61
Consensus mean, pg/g	0,37
Standard deviation, pg/g	0,26
Relative standard deviation, %	69
No. of values reported	5
No. of values removed	2
No. of reported non-detects	2

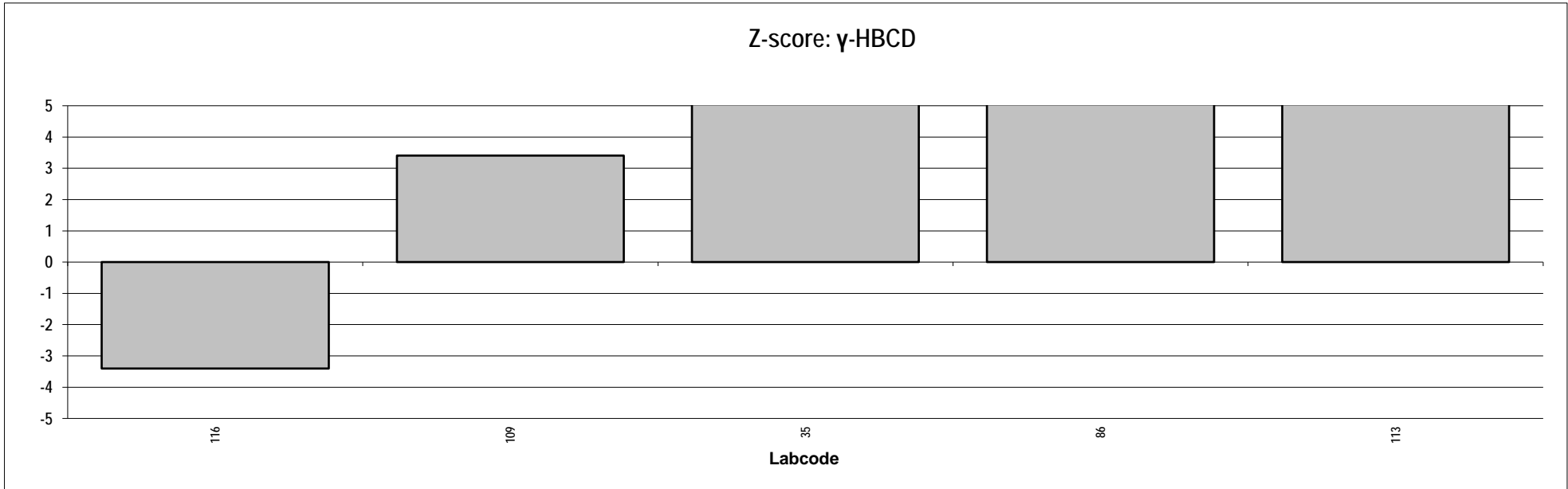
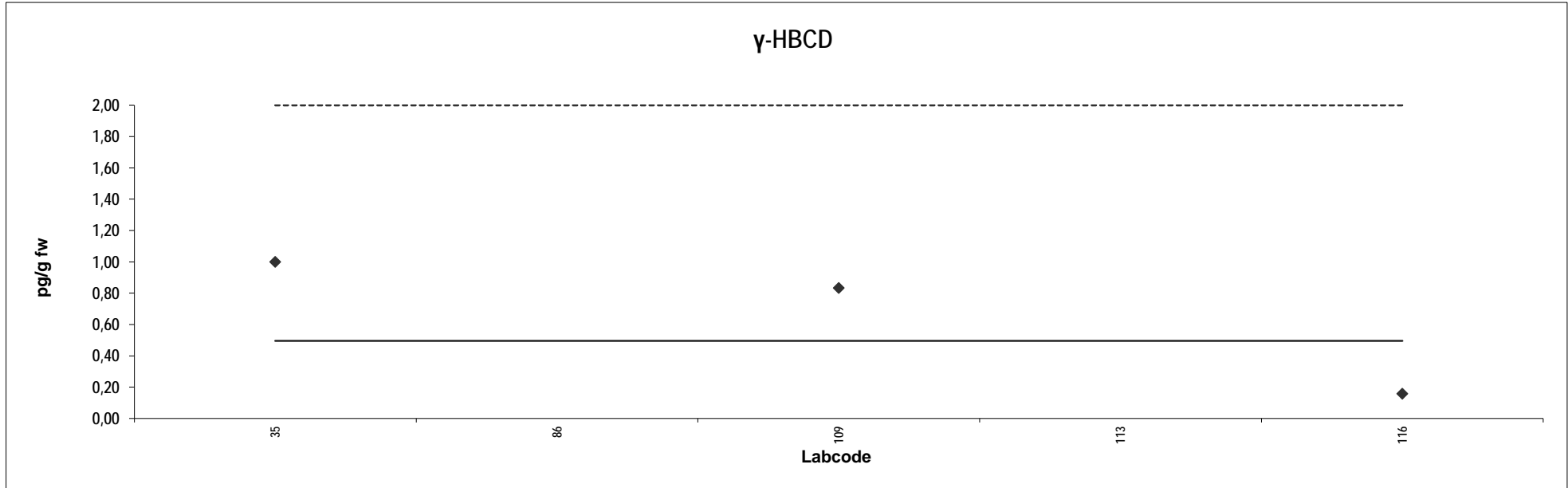


Reindeer
Congener: γ -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
35	1,0	5,1	ND				
86	20	197	Outlier,ND				
109	0,83	3,4					
113	50	499	Outlier,ND				
116	0,16	-3,4					

Consensus statistics

Consensus median, pg/g	0,50
Median all values pg/g	1,0
Consensus mean, pg/g	0,66
Standard deviation, pg/g	0,45
Relative standard deviation, %	67
No. of values reported	5
No. of values removed	2
No. of reported non-detects	3

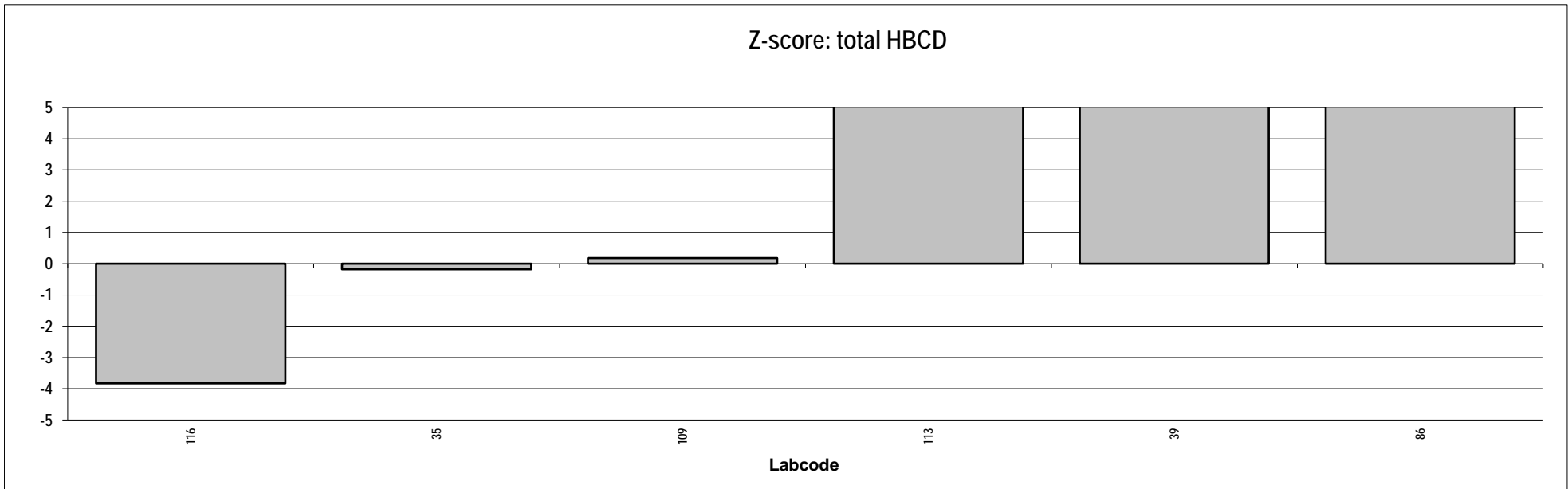
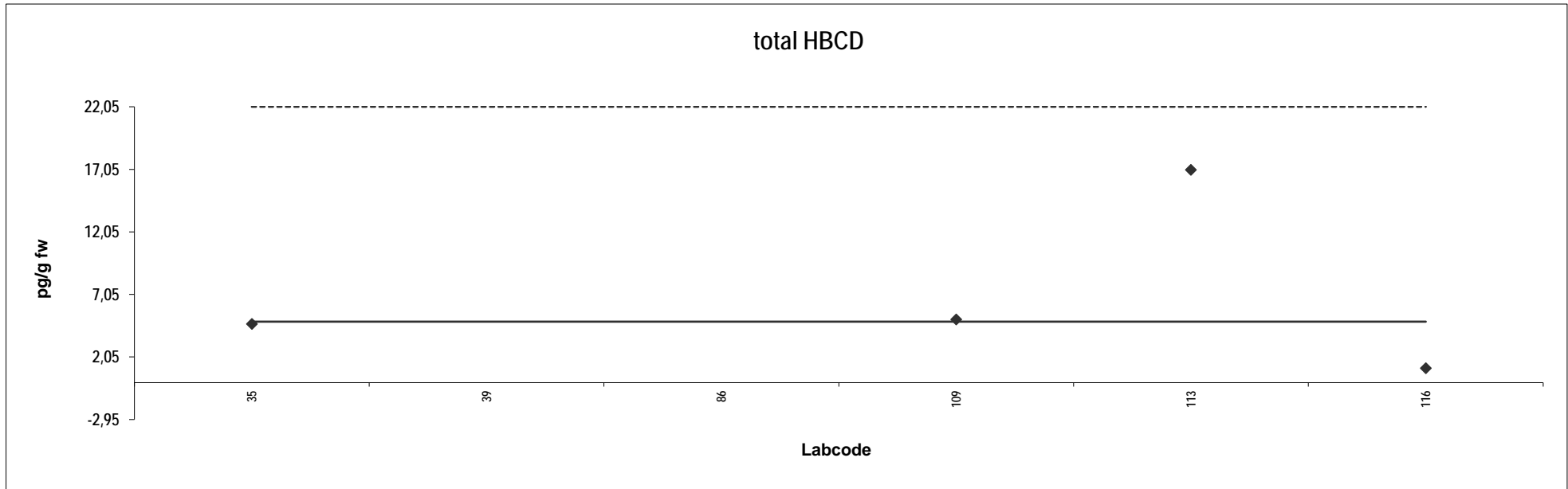


Reindeer
Congener: total HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
35	4,7	-0,18					
39	55	51	Outlier				
86	110	108	Outlier				
109	5,1	0,18					
113	17	12					
116	1,1	-3,8					

Consensus statistics

Consensus median, pg/g	4,9
Median all values pg/g	11
Consensus mean, pg/g	7,0
Standard deviation, pg/g	6,9
Relative standard deviation, %	99
No. of values reported	6
No. of values removed	2
No. of reported non-detects	0



Appendix 3:

Presentation of results
for Salmon-2018

Appendix 3: Presentation of results: Salmon-2018

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:

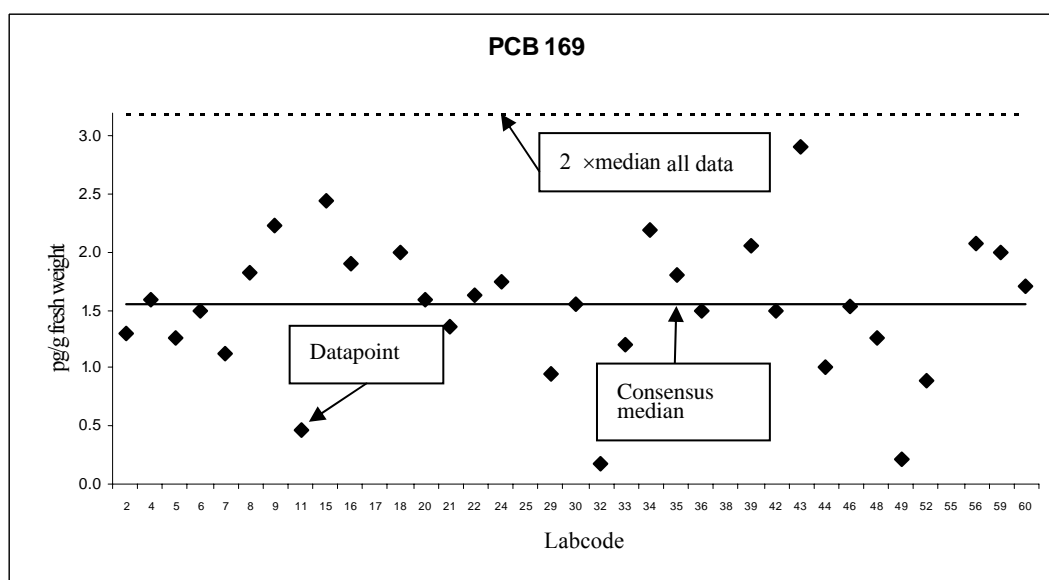
1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners.
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set.
3. Median, mean and standard deviation were re-calculated from the remaining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

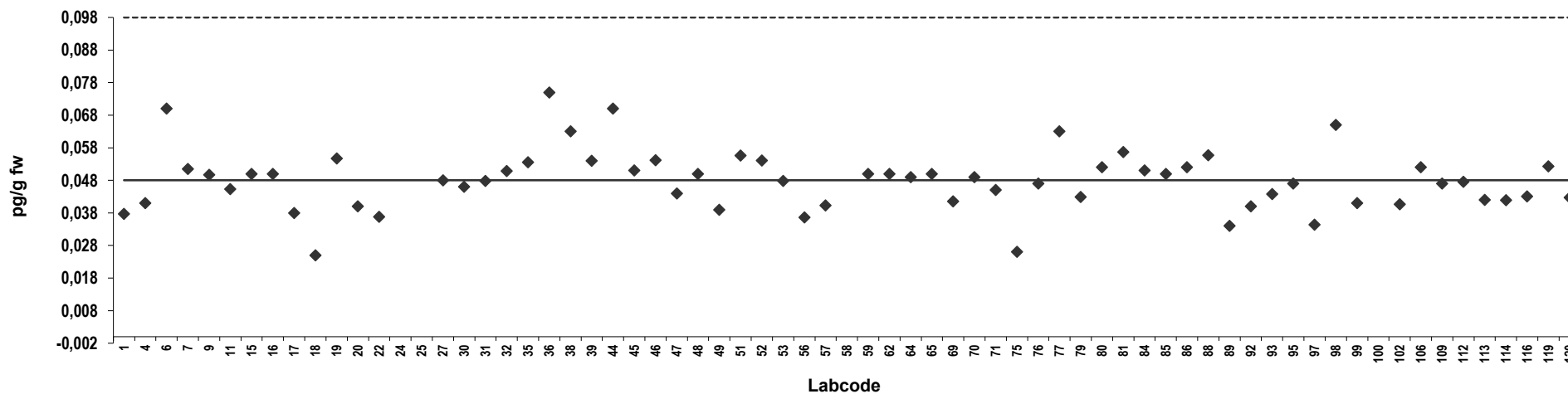
Salmon
Congener: 2,3,7,8 TCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,038	-1,1		79	0,043	-0,53	
4	0,041	-0,73		80	0,052	0,41	
6	0,070	2,3		81	0,057	0,90	
7	0,052	0,36		84	0,051	0,31	
9	0,050	0,17		85	0,050	0,20	
11	0,045	-0,29		86	0,052	0,41	
15	0,050	0,20		88	0,056	0,80	
16	0,050	0,20		89	0,034	-1,5	
17	0,038	-1,0	ND	92	0,040	-0,84	
18	0,025	-2,4	ND	93	0,044	-0,44	
19	0,055	0,69		95	0,047	-0,11	
20	0,040	-0,84		97	0,034	-1,4	
22	0,037	-1,2		98	0,065	1,8	
24	0,10	5,8	Outlier	99	0,041	-0,73	
25	0,20	16	Outlier,ND	100	1,6	160	Outlier
27	0,048	0,00		102	0,041	-0,77	
30	0,046	-0,21		106	0,052	0,42	
31	0,048	-0,025		109	0,047	-0,11	
32	0,051	0,30		112	0,048	-0,055	
35	0,054	0,57		113	0,042	-0,63	
36	0,075	2,8	ND	114	0,042	-0,64	
38	0,063	1,6		116	0,043	-0,52	
39	0,054	0,62		119	0,052	0,44	
44	0,070	2,3		120	0,043	-0,56	
45	0,051	0,31					
46	0,054	0,64					
47	0,044	-0,42					
48	0,050	0,20	ND				
49	0,039	-0,95					
51	0,056	0,79					
52	0,054	0,63					
53	0,048	-0,025					
56	0,037	-1,2					
57	0,040	-0,80					
58	0,39	36	Outlier,ND				
59	0,050	0,20					
62	0,050	0,20					
64	0,049	0,10					
65	0,050	0,20	ND				
69	0,042	-0,68					
70	0,049	0,10					
71	0,045	-0,32					
75	0,026	-2,3					
76	0,047	-0,11					
77	0,063	1,6					

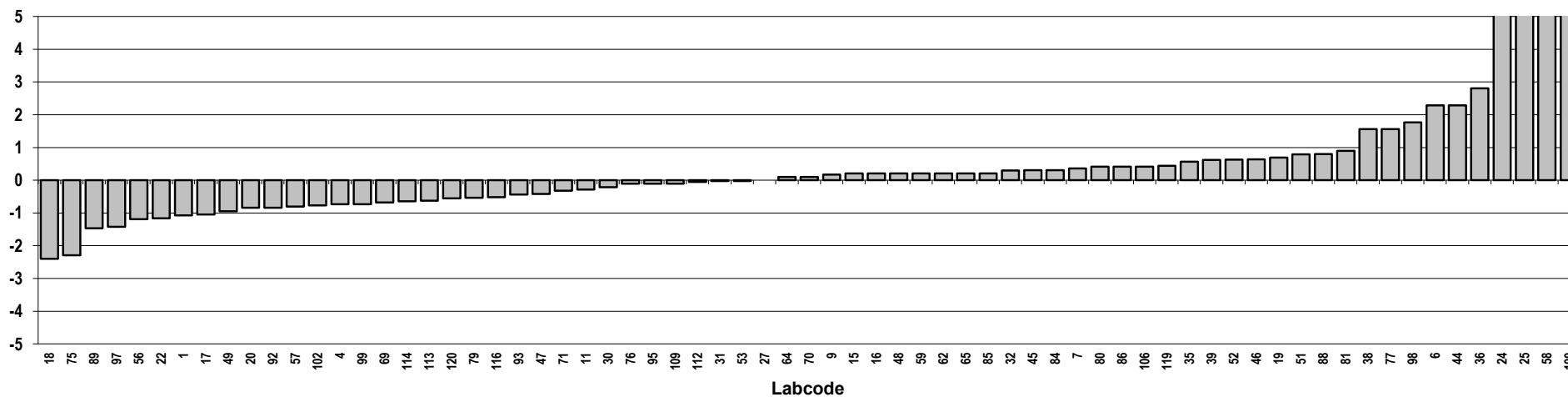
Consensus statistics

Consensus median, pg/g	0,048
Median all values pg/g	0,049
Consensus mean, pg/g	0,048
Standard deviation, pg/g	0,0093
Relative standard deviation, %	19
No. of values reported	69
No. of values removed	4
No. of reported non-detects	7

2,3,7,8 TCDD



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



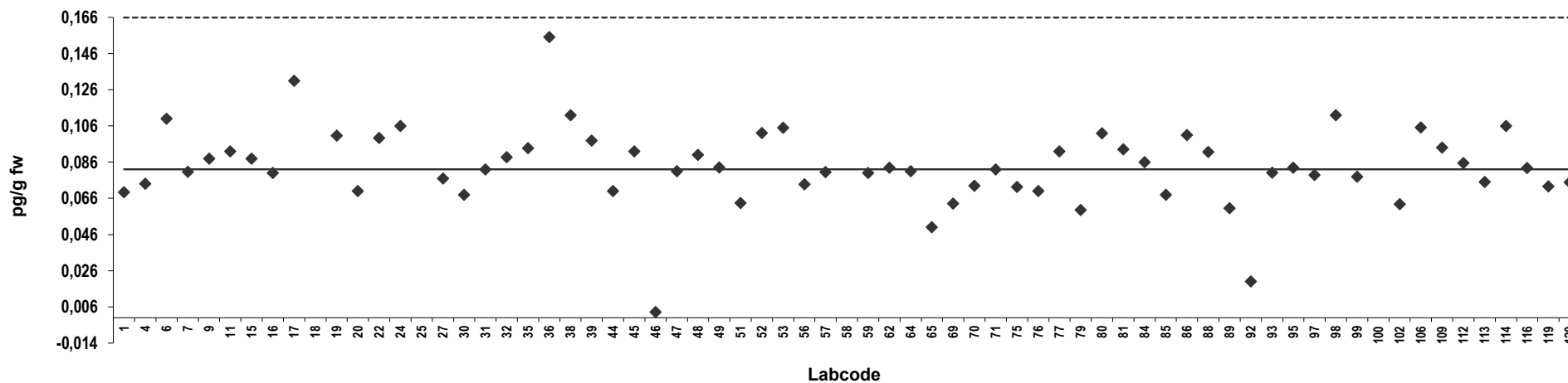
Salmon
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,069	-0,77		79	0,060	-1,4	
4	0,074	-0,49		80	0,10	1,2	
6	0,11	1,7		81	0,093	0,68	
7	0,081	-0,085		84	0,086	0,24	
9	0,088	0,36		85	0,068	-0,85	
11	0,092	0,61		86	0,10	1,2	
15	0,088	0,37		88	0,092	0,59	
16	0,080	-0,12		89	0,060	-1,3	
17	0,13	3,0		92	0,020	-3,8	ND
18	0,19	6,6	Outlier	93	0,080	-0,11	
19	0,10	1,1		95	0,083	0,061	
20	0,070	-0,73		97	0,079	-0,19	
22	0,099	1,1		98	0,11	1,8	
24	0,11	1,5		99	0,078	-0,24	
25	0,20	7,2	Outlier,ND	100	1,3	75	Outlier
27	0,077	-0,31		102	0,063	-1,2	
30	0,068	-0,85		106	0,11	1,4	
31	0,082	0,00		109	0,094	0,73	
32	0,089	0,41		112	0,086	0,21	
35	0,094	0,72		113	0,075	-0,43	
36	0,16	4,5		114	0,11	1,5	
38	0,11	1,83		116	0,083	0,048	
39	0,098	0,98		119	0,073	-0,57	
44	0,070	-0,73		120	0,075	-0,43	
45	0,092	0,6					
46	0,0031	-4,8	ND				
47	0,081	-0,061					
48	0,090	0,49					
49	0,083	0,064					
51	0,064	-1,1					
52	0,10	1,2					
53	0,11	1,4					
56	0,074	-0,50					
57	0,081	-0,089					
58	0,32	14	Outlier,ND				
59	0,080	-0,12					
62	0,083	0,061					
64	0,081	-0,061					
65	0,050	-2,0	ND				
69	0,063	-1,2					
70	0,073	-0,55					
71	0,082	0,00					
75	0,072	-0,59	ND				
76	0,070	-0,73					
77	0,092	0,61					

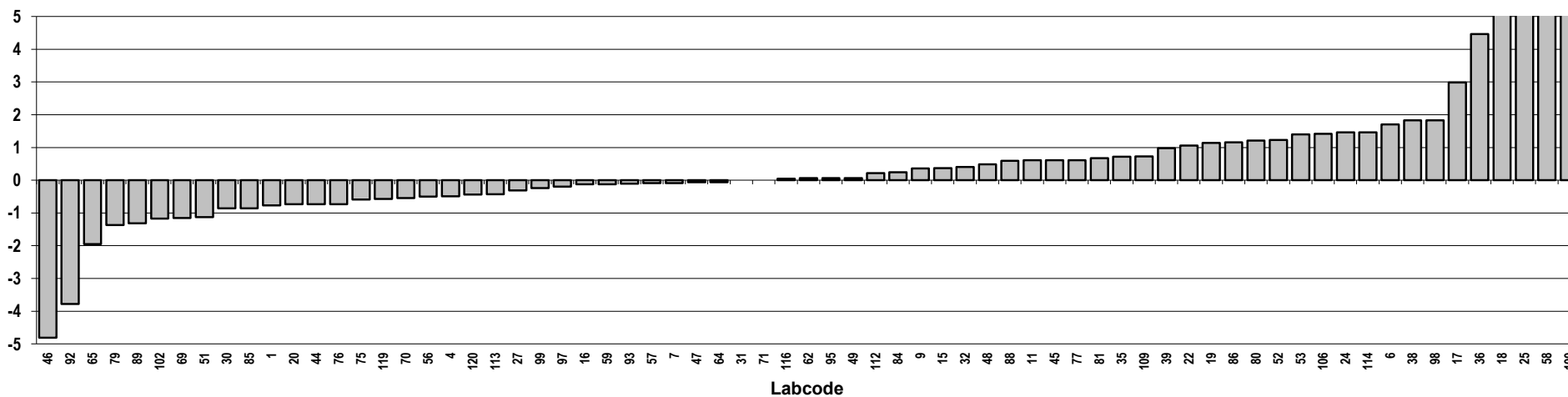
Consensus statistics

Consensus median, pg/g	0,082
Median all values pg/g	0,083
Consensus mean, pg/g	0,083
Standard deviation, pg/g	0,022
Relative standard deviation, %	26
No. of values reported	69
No. of values removed	4
No. of reported non-detects	6

1,2,3,7,8 PeCDD



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



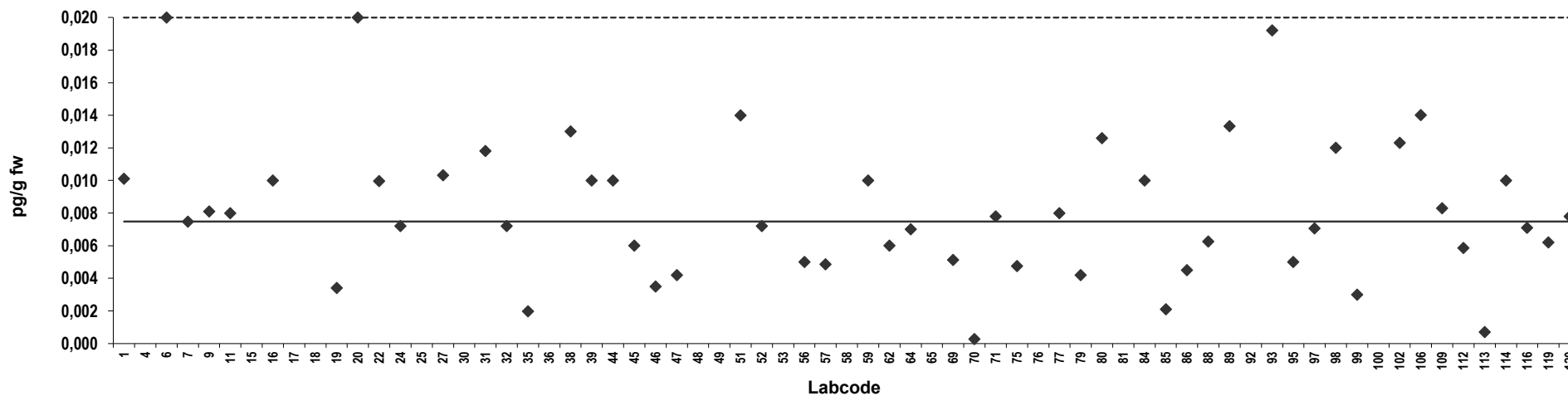
Salmon
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,010	1,8		79	0,0042	-2,2	
4	0,033	17	Outlier	80	0,013	3,4	
6	0,020	8,4		81	0,025	12	Outlier,ND
7	0,0075	0,00		84	0,010	1,7	ND
9	0,0081	0,41		85	0,0021	-3,6	ND
11	0,0080	0,35	ND	86	0,0045	-2,0	
15	0,030	15	Outlier,ND	88	0,0063	-0,82	
16	0,010	1,7	ND	89	0,013	3,9	ND
17	0,063	37	Outlier	92	0,090	55	Outlier
18	0,063	37	Outlier,ND	93	0,019	7,8	ND
19	0,0034	-2,7		95	0,0050	-1,7	
20	0,020	8,4	ND	97	0,0071	-0,28	
22	0,010	1,7	ND	98	0,012	3,0	
24	0,0072	-0,18	ND	99	0,0030	-3,0	ND
25	0,15	95	Outlier,ND	100	0,20	129	Outlier,ND
27	0,010	1,9	ND	102	0,012	3,2	ND
30	0,030	15	Outlier,ND	106	0,014	4,4	
31	0,012	2,9		109	0,0083	0,54	
32	0,0072	-0,19		112	0,0059	-1,1	
35	0,0020	-3,7	ND	113	0,00070	-4,5	ND
36	0,10	62	Outlier,ND	114	0,010	1,7	ND
38	0,013	3,7		116	0,0071	-0,26	
39	0,010	1,7	ND	119	0,0062	-0,86	
44	0,010	1,7		120	0,0078	0,21	
45	0,0060	-0,99	ND				
46	0,0035	-2,7	ND				
47	0,0042	-2,2	ND				
48	0,050	28	Outlier,ND				
49	0,021	9,3	Outlier				
51	0,014	4,4	ND				
52	0,0072	-0,19					
53	0,034	18	Outlier				
56	0,0050	-1,7	ND				
57	0,0049	-1,8					
58	0,26	167	Outlier,ND				
59	0,010	1,7	ND				
62	0,0060	-0,99					
64	0,0070	-0,32					
65	0,050	28	Outlier,ND				
69	0,0051	-1,6	ND				
70	0,00028	-4,8	ND				
71	0,0078	0,21	ND				
75	0,0048	-1,8					
76	0,025	12	Outlier,ND				
77	0,0080	0,35					

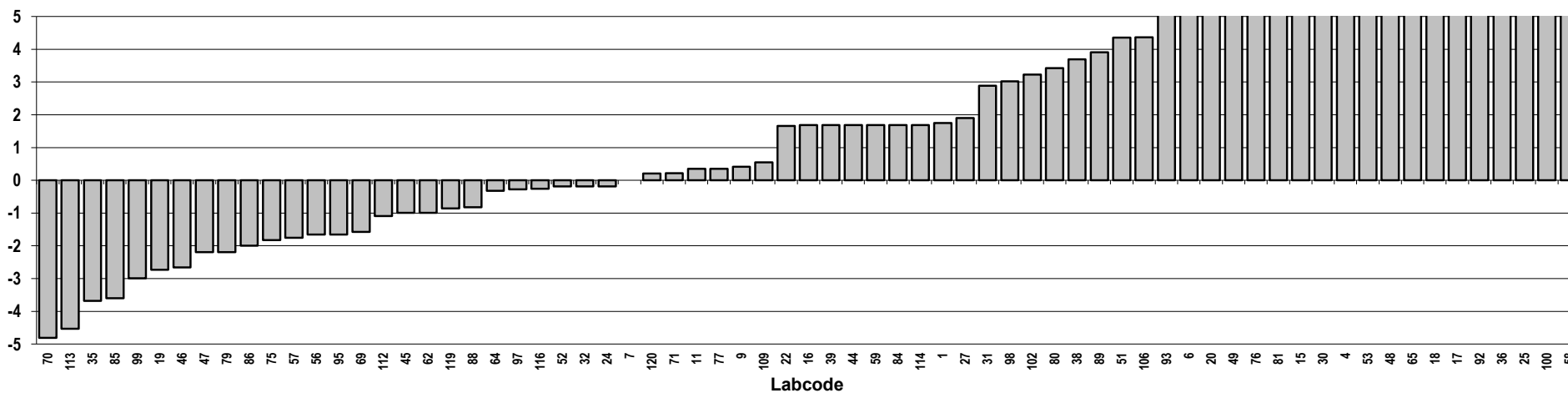
Consensus statistics

Consensus median, pg/g	0,007
Median all values pg/g	0,010
Consensus mean, pg/g	0,008
Standard deviation, pg/g	0,0044
Relative standard deviation, %	54
No. of values reported	69
No. of values removed	16
No. of reported non-detects	36

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



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



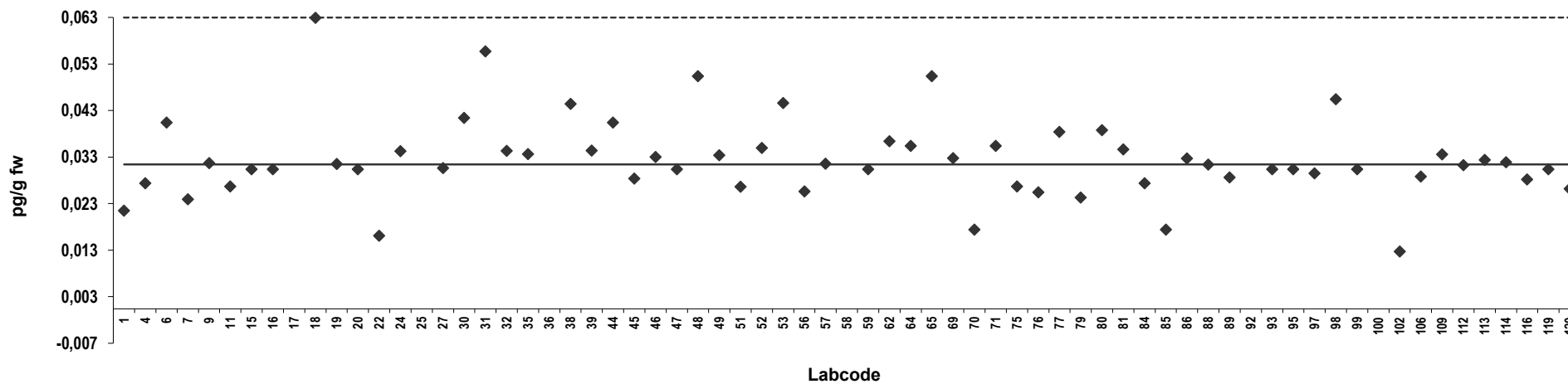
Salmon
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,021	-1,6		79	0,024	-1,1	
4	0,027	-0,64		80	0,038	1,2	
6	0,040	1,5		81	0,034	0,53	ND
7	0,024	-1,2		84	0,027	-0,64	
9	0,031	0,050		85	0,017	-2,3	
11	0,026	-0,76		86	0,032	0,21	
15	0,030	-0,16	ND	88	0,031	0,00	
16	0,030	-0,16		89	0,028	-0,45	
17	0,079	7,7	Outlier	92	0,071	6,5	Outlier
18	0,063	5,1	ND	93	0,030	-0,16	
19	0,031	0,018		95	0,030	-0,16	
20	0,030	-0,16		97	0,029	-0,31	
22	0,016	-2,5	ND	98	0,045	2,3	
24	0,034	0,46		99	0,030	-0,16	
25	0,15	19	Outlier,ND	100	0,20	27	Outlier,ND
27	0,030	-0,13	ND	102	0,012	-3,0	ND
30	0,041	1,6		106	0,028	-0,41	
31	0,055	3,9		109	0,033	0,35	
32	0,034	0,47		112	0,031	-0,020	
35	0,033	0,37		113	0,032	0,16	
36	0,10	11	Outlier,ND	114	0,032	0,082	
38	0,044	2,1		116	0,028	-0,52	
39	0,034	0,49		119	0,030	-0,16	
44	0,040	1,5		120	0,026	-0,84	
45	0,028	-0,48					
46	0,033	0,26					
47	0,030	-0,16					
48	0,050	3,1					
49	0,033	0,33					
51	0,026	-0,77					
52	0,035	0,57					
53	0,044	2,1					
56	0,025	-0,93					
57	0,031	0,032					
58	0,28	41	Outlier,ND				
59	0,030	-0,16					
62	0,036	0,81					
64	0,035	0,65					
65	0,050	3,1	ND				
69	0,032	0,22					
70	0,017	-2,3					
71	0,035	0,65					
75	0,026	-0,76					
76	0,025	-0,97	ND				
77	0,038	1,1					

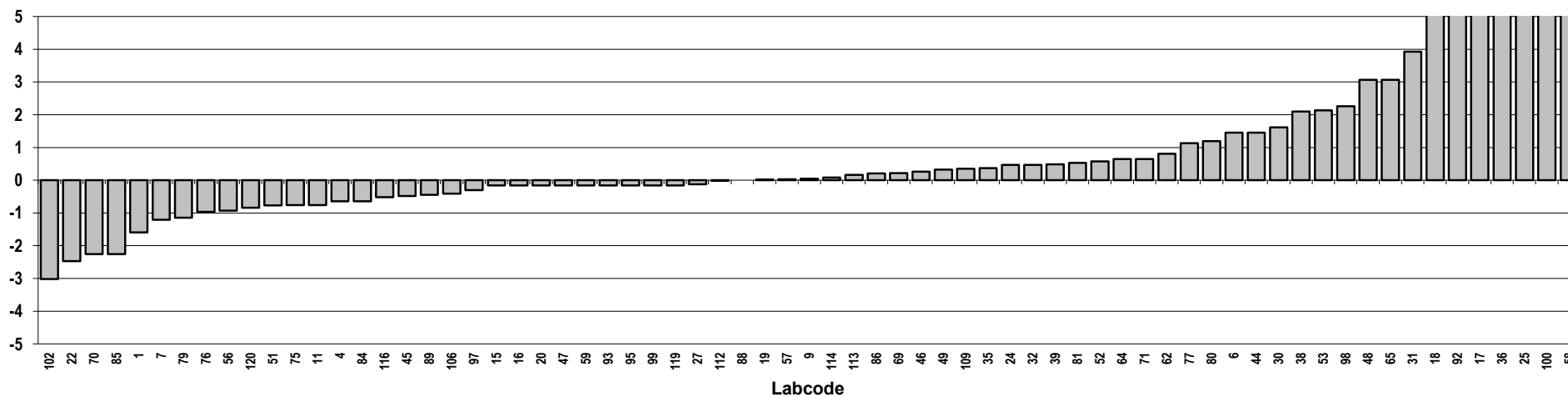
Consensus statistics

Consensus median, pg/g	0,031
Median all values pg/g	0,031
Consensus mean, pg/g	0,032
Standard deviation, pg/g	0,0087
Relative standard deviation, %	27
No. of values reported	69
No. of values removed	6
No. of reported non-detects	12

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



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



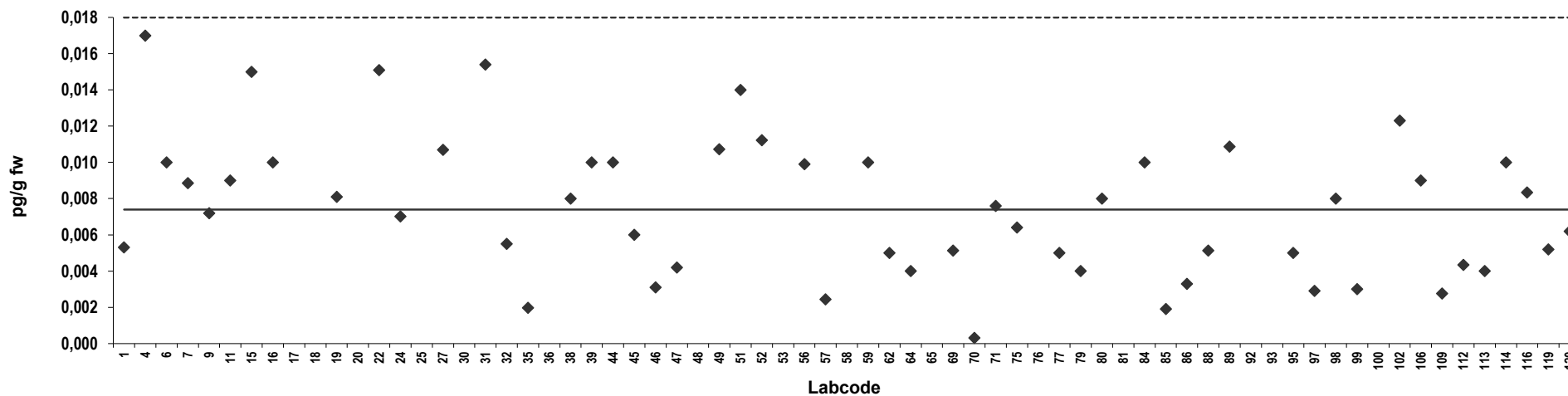
Salmon
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,0053	-1,4		79	0,0040	-2,3	ND
4	0,017	6,5	ND	80	0,0080	0,41	
6	0,010	1,8		81	0,032	17	Outlier,ND
7	0,0089	0,99		84	0,010	1,8	ND
9	0,0072	-0,14		85	0,0019	-3,7	ND
11	0,0090	1,1	ND	86	0,0033	-2,8	
15	0,015	5,1	ND	88	0,0051	-1,5	
16	0,010	1,8	ND	89	0,011	2,3	ND
17	0,068	41	Outlier	92	0,051	29	Outlier
18	0,063	37	Outlier,ND	93	0,019	7,8	Outlier,ND
19	0,0081	0,47		95	0,0050	-1,6	ND
20	0,020	8,5	Outlier,ND	97	0,0029	-3,0	
22	0,015	5,2	ND	98	0,0080	0,41	
24	0,0070	-0,26	ND	99	0,0030	-3,0	ND
25	0,15	96	Outlier,ND	100	0,20	130	Outlier,ND
27	0,011	2,2	ND	102	0,012	3,3	ND
30	0,030	15	Outlier,ND	106	0,0090	1,1	
31	0,015	5,4		109	0,0028	-3,1	
32	0,0055	-1,3		112	0,0043	-2,1	
35	0,0020	-3,7	ND	113	0,0040	-2,3	
36	0,10	63	Outlier,ND	114	0,010	1,8	ND
38	0,0080	0,41		116	0,0083	0,64	
39	0,010	1,8	ND	119	0,0052	-1,5	ND
44	0,010	1,8		120	0,0062	-0,82	
45	0,0060	-0,95	ND				
46	0,0031	-2,9	ND				
47	0,0042	-2,2	ND				
48	0,050	29	Outlier,ND				
49	0,011	2,2					
51	0,014	4,5	ND				
52	0,011	2,6					
53	0,040	22	Outlier				
56	0,0099	1,7					
57	0,0024	-3,4					
58	0,30	194	Outlier,ND				
59	0,010	1,8	ND				
62	0,0050	-1,6	ND				
64	0,0040	-2,3	ND				
65	0,050	29	Outlier,ND				
69	0,0051	-1,5	ND				
70	0,00031	-4,8	ND				
71	0,0076	0,14	ND				
75	0,0064	-0,67					
76	0,025	12	Outlier,ND				
77	0,0050	-1,6					

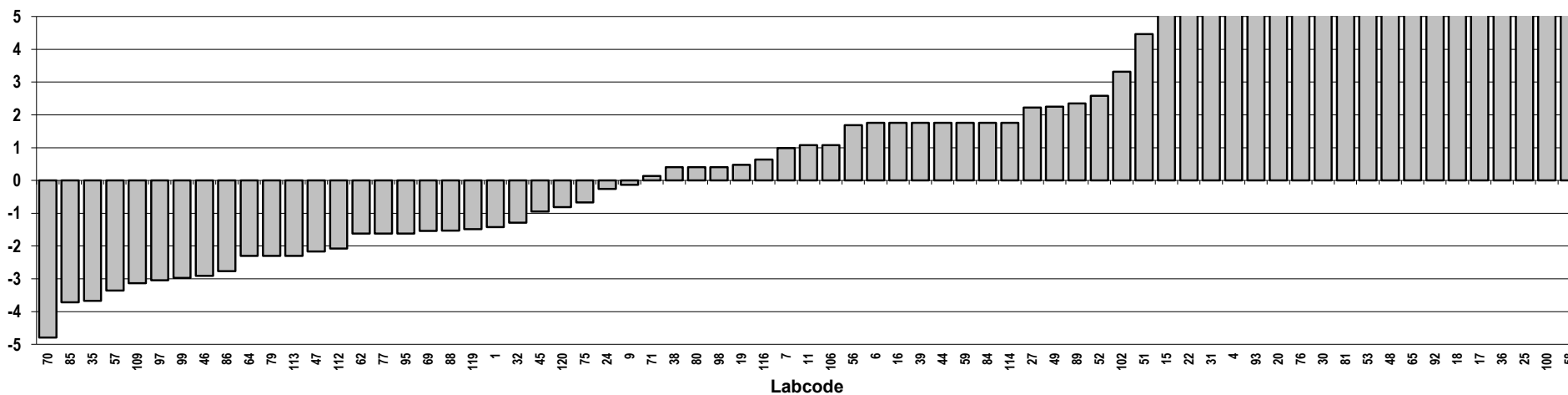
Consensus statistics

Consensus median, pg/g	0,007
Median all values pg/g	0,009
Consensus mean, pg/g	0,007
Standard deviation, pg/g	0,0038
Relative standard deviation, %	51
No. of values reported	69
No. of values removed	15
No. of reported non-detects	40

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



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



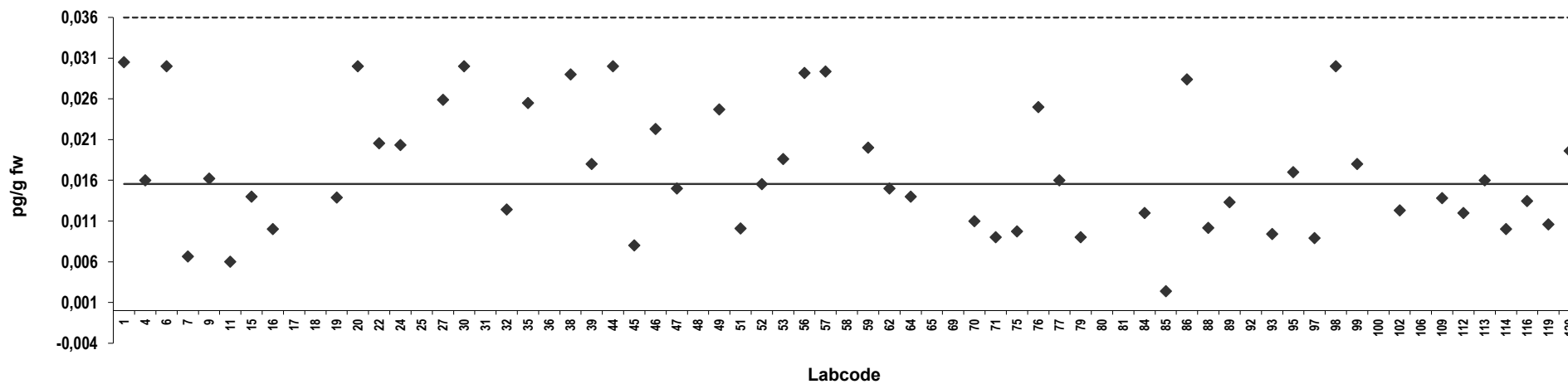
Salmon
Congener: 1,2,3,4,6,7,8 HpCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,031	4,8		79	0,0090	-2,1	
4	0,016	0,15	ND	80	0,050	11	Outlier
6	0,030	4,7		81	0,053	12	Outlier,ND
7	0,0066	-2,9		84	0,012	-1,1	
9	0,016	0,21		85	0,0024	-4,2	ND
11	0,0060	-3,1	ND	86	0,028	4,1	
15	0,014	-0,50		88	0,010	-1,7	
16	0,010	-1,8	ND	89	0,013	-0,71	ND
17	0,20	59	Outlier	92	0,12	32	Outlier
18	0,080	21	Outlier	93	0,0094	-2,0	ND
19	0,014	-0,53		95	0,017	0,47	
20	0,030	4,7	ND	97	0,0089	-2,1	
22	0,021	1,6		98	0,030	4,7	
24	0,020	1,5		99	0,018	0,79	
25	0,18	53	Outlier,ND	100	0,40	124	Outlier,ND
27	0,026	3,3	ND	102	0,012	-1,0	
30	0,030	4,7	ND	106	0,043	8,7	Outlier
31	0,15	43	Outlier	109	0,014	-0,55	
32	0,012	-1,0		112	0,012	-1,1	
35	0,025	3,2		113	0,016	0,15	
36	0,12	35	Outlier	114	0,010	-1,8	
38	0,029	4,3		116	0,013	-0,67	
39	0,018	0,79		119	0,011	-1,6	
44	0,030	4,7		120	0,020	1,3	
45	0,0080	-2,4					
46	0,022	2,2					
47	0,015	-0,17					
48	0,050	11	Outlier,ND				
49	0,025	2,9					
51	0,010	-1,8	ND				
52	0,016	0,00					
53	0,019	0,98					
56	0,029	4,4					
57	0,029	4,4					
58	0,32	97	Outlier,ND				
59	0,020	1,4					
62	0,015	-0,17					
64	0,014	-0,50					
65	0,050	11	Outlier,ND				
69	0,041	8,2	Outlier,ND				
70	0,011	-1,5					
71	0,0090	-2,1	ND				
75	0,0097	-1,9					
76	0,025	3,0	ND				
77	0,016	0,15					

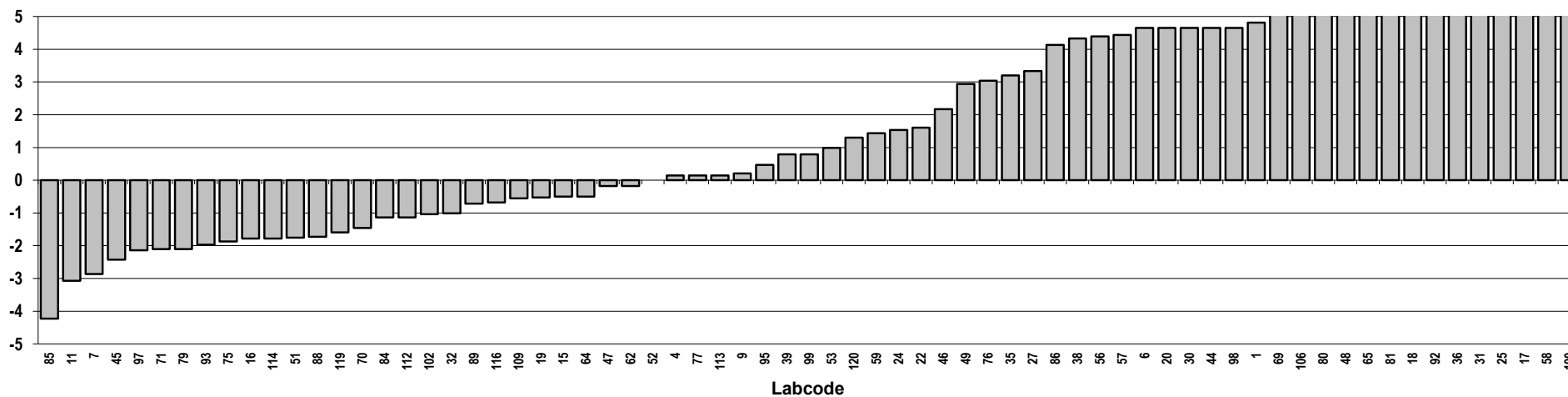
Consensus statistics

Consensus median, pg/g	0,016
Median all values pg/g	0,018
Consensus mean, pg/g	0,017
Standard deviation, pg/g	0,0077
Relative standard deviation, %	45
No. of values reported	69
No. of values removed	14
No. of reported non-detects	19

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



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

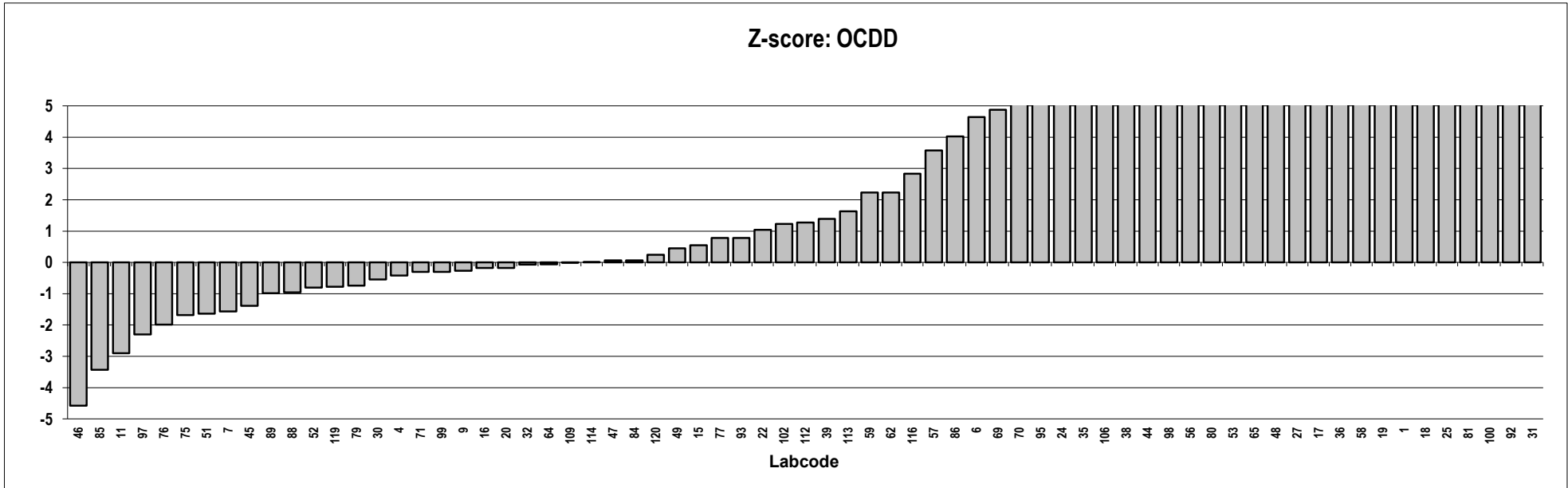
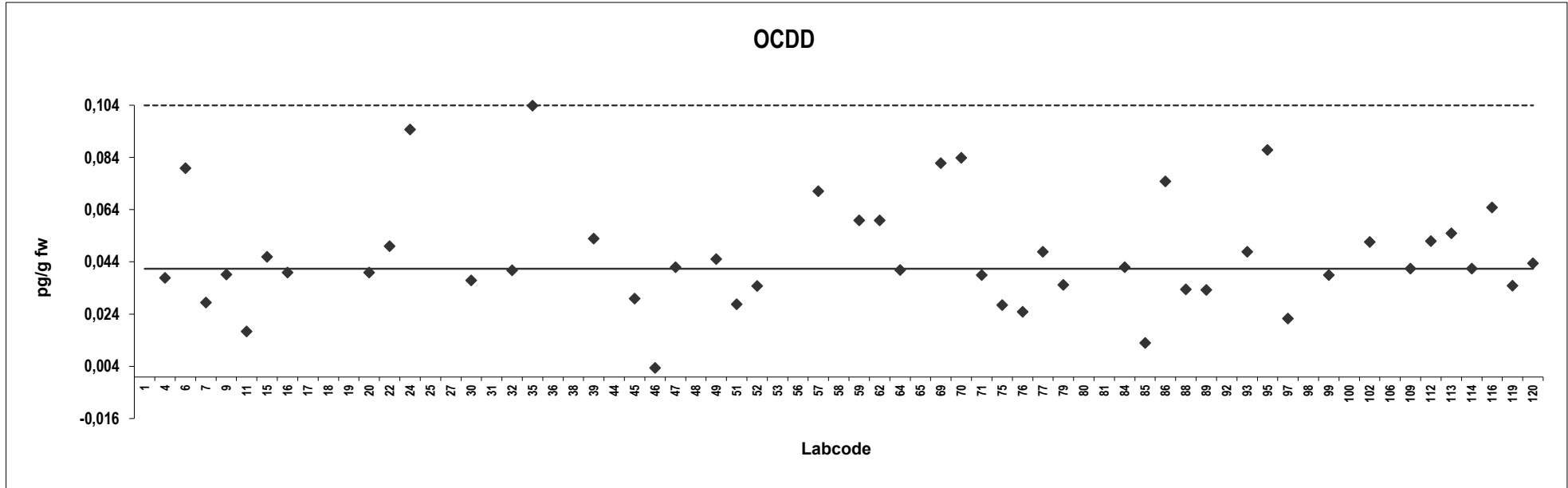


Salmon
Congener: OCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,33	35	Outlier	79	0,035	-0,75	
4	0,038	-0,42		80	0,13	11	Outlier
6	0,080	4,6		81	0,38	41	Outlier,ND
7	0,029	-1,6		84	0,042	0,062	
9	0,039	-0,26		85	0,013	-3,4	
11	0,017	-2,9		86	0,075	4,0	
15	0,046	0,54		88	0,034	-0,96	
16	0,040	-0,18		89	0,033	-0,99	ND
17	0,25	25	Outlier	92	0,60	67	Outlier
18	0,34	36	Outlier	93	0,048	0,79	ND
19	0,31	33	Outlier	95	0,087	5,5	
20	0,040	-0,18		97	0,022	-2,3	
22	0,050	1,0		98	0,12	9,6	Outlier
24	0,095	6,4		99	0,039	-0,30	
25	0,35	37	Outlier,ND	100	0,40	43	Outlier,ND
27	0,21	20	Outlier,ND	102	0,052	1,2	
30	0,037	-0,54		106	0,12	9,2	Outlier
31	0,93	107	Outlier	109	0,041	-0,0017	
32	0,041	-0,071		112	0,052	1,3	
35	0,10	7,5		113	0,055	1,6	
36	0,30	31	Outlier	114	0,042	0,0017	
38	0,12	9,5	Outlier	116	0,065	2,8	
39	0,053	1,4		119	0,035	-0,78	
44	0,12	9,5	Outlier	120	0,044	0,24	
45	0,030	-1,4					
46	0,0035	-4,6	ND				
47	0,042	0,062					
48	0,20	19	Outlier,ND				
49	0,045	0,45					
51	0,028	-1,6					
52	0,035	-0,80					
53	0,14	12	Outlier				
56	0,13	10	Outlier				
57	0,071	3,6					
58	0,30	31	Outlier,ND				
59	0,060	2,2					
62	0,060	2,2					
64	0,041	-0,059					
65	0,18	17	Outlier,ND				
69	0,082	4,9	ND				
70	0,084	5,1					
71	0,039	-0,30	ND				
75	0,028	-1,7					
76	0,025	-2,0	ND				
77	0,048	0,79					

Consensus statistics

Consensus median, pg/g	0,041
Median all values pg/g	0,052
Consensus mean, pg/g	0,047
Standard deviation, pg/g	0,021
Relative standard deviation, %	45
No. of values reported	69
No. of values removed	21
No. of reported non-detects	13



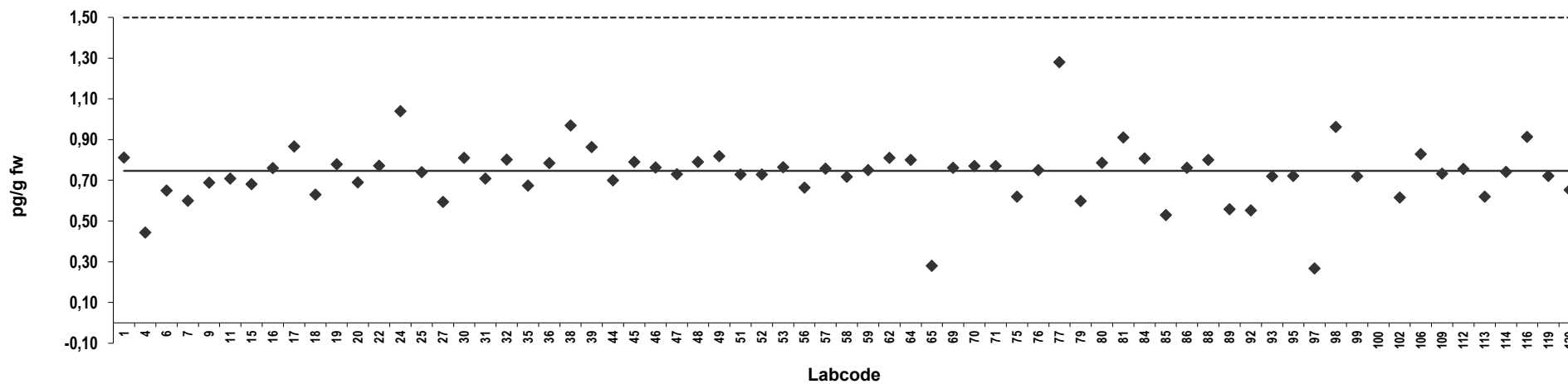
Salmon
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,81	0,44		79	0,60	-0,99	
4	0,44	-2,0		80	0,79	0,26	
6	0,65	-0,64		81	0,91	1,1	
7	0,60	-0,99		84	0,81	0,42	
9	0,69	-0,38		85	0,53	-1,4	
11	0,71	-0,26		86	0,76	0,11	
15	0,68	-0,43		88	0,80	0,36	
16	0,76	0,094		89	0,56	-1,3	
17	0,87	0,80		92	0,55	-1,3	
18	0,63	-0,78		93	0,72	-0,17	
19	0,78	0,22		95	0,72	-0,17	
20	0,69	-0,38		97	0,27	-3,2	
22	0,77	0,17		98	0,96	1,4	
24	1,0	2,0		99	0,72	-0,17	
25	0,74	-0,040		100	2,9	15	Outlier
27	0,59	-1,0		102	0,62	-0,87	
30	0,81	0,43		106	0,83	0,56	
31	0,71	-0,25		109	0,73	-0,089	
32	0,80	0,37		112	0,76	0,063	
35	0,67	-0,48		113	0,62	-0,84	
36	0,78	0,26		114	0,74	-0,027	
38	0,97	1,5		116	0,91	1,1	
39	0,86	0,78		119	0,72	-0,16	
44	0,70	-0,31		120	0,65	-0,62	
45	0,79	0,29					
46	0,76	0,12					
47	0,73	-0,11					
48	0,79	0,29					
49	0,82	0,49					
51	0,73	-0,11					
52	0,73	-0,12					
53	0,76	0,12					
56	0,66	-0,55					
57	0,76	0,074					
58	0,72	-0,19					
59	0,75	0,027					
62	0,81	0,44					
64	0,80	0,36					
65	0,28	-3,1					
69	0,76	0,10					
70	0,77	0,16					
71	0,77	0,16					
75	0,62	-0,85					
76	0,75	0,027					
77	1,3	3,6					

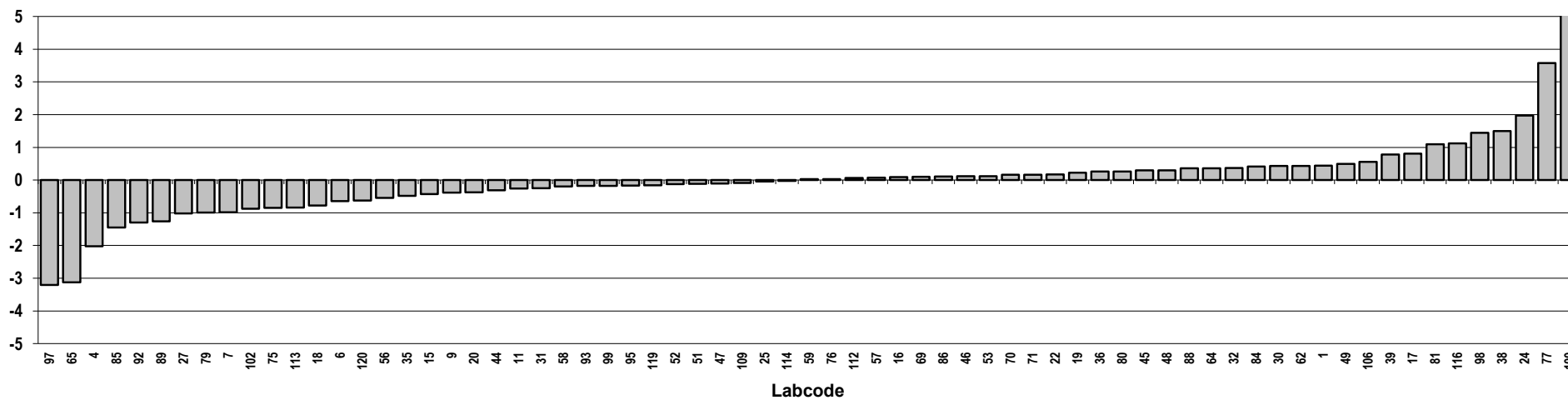
Consensus statistics

Consensus median, pg/g	0,75
Median all values pg/g	0,75
Consensus mean, pg/g	0,73
Standard deviation, pg/g	0,15
Relative standard deviation, %	20
No. of values reported	69
No. of values removed	1
No. of reported non-detects	0

2,3,7,8 TCDF



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

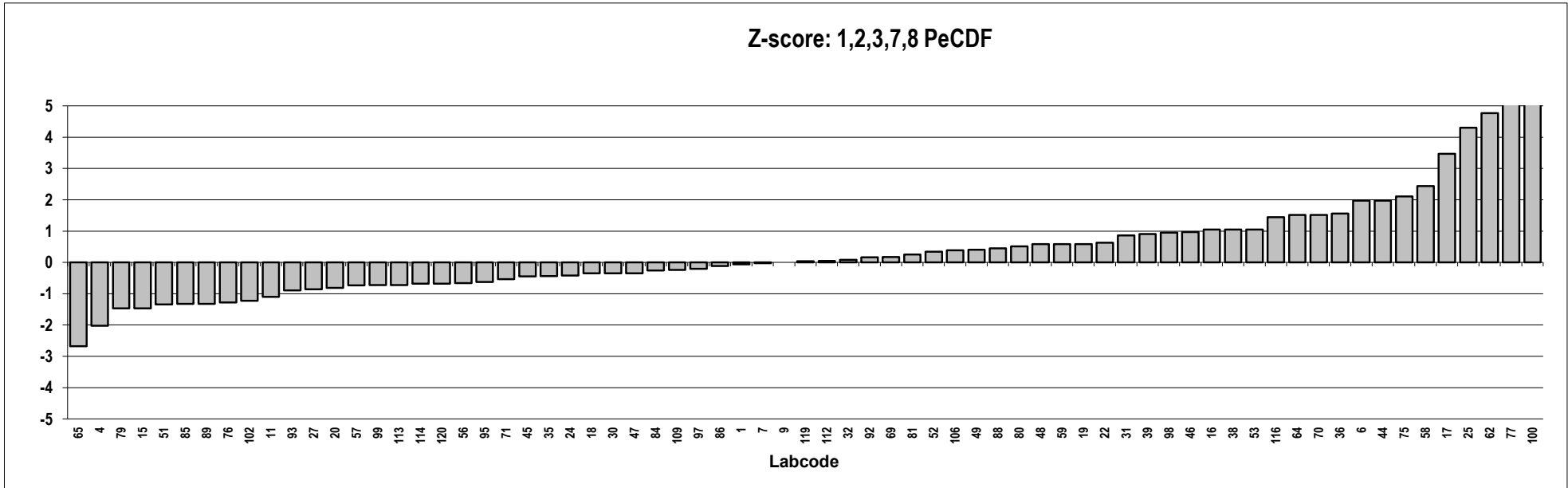
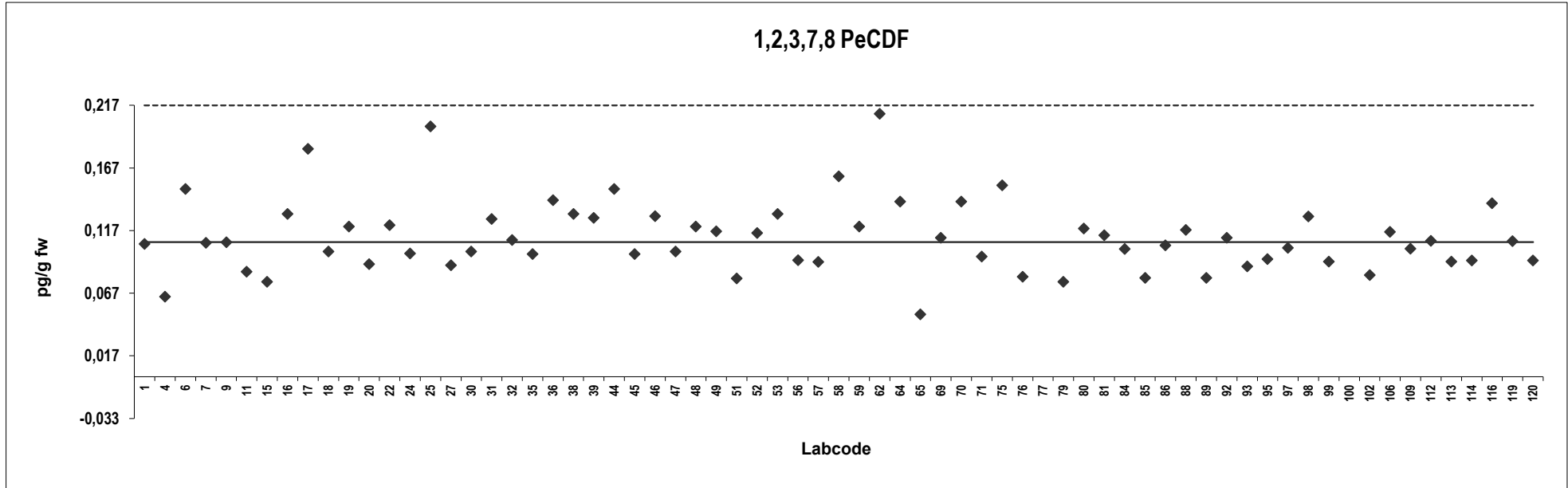


Salmon
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,11	-0,060		79	0,076	-1,5	
4	0,064	-2,0		80	0,12	0,51	
6	0,15	2,0		81	0,11	0,26	
7	0,11	-0,023		84	0,10	-0,26	
9	0,11	0,00		85	0,079	-1,3	
11	0,084	-1,1		86	0,11	-0,12	
15	0,076	-1,5		88	0,12	0,45	
16	0,13	1,0		89	0,079	-1,3	
17	0,18	3,5		92	0,11	0,16	
18	0,10	-0,35		93	0,088	-0,89	
19	0,12	0,59		95	0,094	-0,63	
20	0,090	-0,81		97	0,10	-0,21	
22	0,12	0,63		98	0,13	0,95	
24	0,099	-0,42		99	0,092	-0,72	
25	0,20	4,3	ND	100	3,1	141	Outlier
27	0,089	-0,86		102	0,081	-1,2	
30	0,10	-0,35		106	0,12	0,39	
31	0,13	0,86		109	0,10	-0,24	
32	0,11	0,079		112	0,11	0,048	
35	0,098	-0,43		113	0,092	-0,72	
36	0,14	1,6		114	0,093	-0,68	
38	0,13	1,0		116	0,14	1,4	
39	0,13	0,91		119	0,11	0,042	
44	0,15	2,0		120	0,093	-0,68	
45	0,098	-0,44					
46	0,13	0,97					
47	0,10	-0,35					
48	0,12	0,58					
49	0,12	0,40					
51	0,079	-1,3					
52	0,11	0,34					
53	0,13	1,0					
56	0,093	-0,67					
57	0,092	-0,73					
58	0,16	2,4	ND				
59	0,12	0,58					
62	0,21	4,8					
64	0,14	1,5					
65	0,050	-2,7	ND				
69	0,11	0,17					
70	0,14	1,5					
71	0,096	-0,53					
75	0,15	2,1					
76	0,080	-1,3					
77	0,31	9,4	Outlier				

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	0,029
Relative standard deviation, %	26
No. of values reported	69
No. of values removed	2
No. of reported non-detects	3



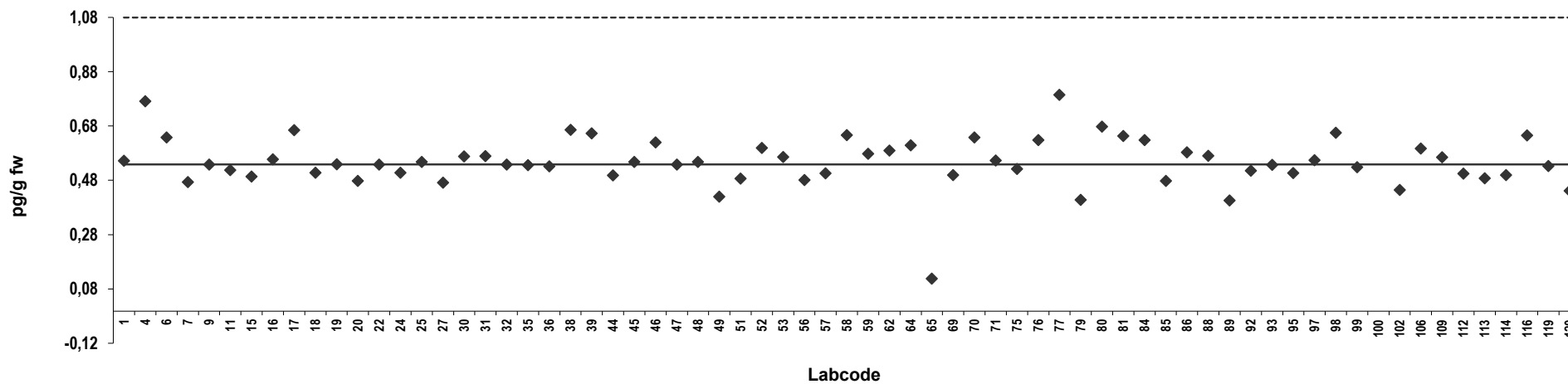
Salmon
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,55	0,12		79	0,41	-1,2	
4	0,77	2,1		80	0,68	1,3	
6	0,64	0,92		81	0,65	0,96	
7	0,48	-0,60		84	0,63	0,83	
9	0,54	-0,0092		85	0,48	-0,56	
11	0,52	-0,19		86	0,59	0,41	
15	0,50	-0,41		88	0,57	0,29	
16	0,56	0,18		89	0,41	-1,2	
17	0,67	1,2		92	0,52	-0,21	
18	0,51	-0,28		93	0,54	-0,017	
19	0,54	0,0028		95	0,51	-0,29	
20	0,48	-0,56		97	0,56	0,14	
22	0,54	-0,0079		98	0,66	1,1	
24	0,51	-0,28		99	0,53	-0,10	
25	0,55	0,085		100	1,7	10	Outlier
27	0,47	-0,62		102	0,45	-0,87	
30	0,57	0,27		106	0,60	0,54	
31	0,57	0,28		109	0,57	0,24	
32	0,54	-0,0028		112	0,51	-0,31	
35	0,54	-0,023		113	0,49	-0,47	
36	0,53	-0,065		114	0,50	-0,37	
38	0,67	1,2		116	0,65	0,99	
39	0,66	1,1		119	0,53	-0,056	
44	0,50	-0,38		120	0,44	-0,89	
45	0,55	0,085					
46	0,62	0,75					
47	0,54	-0,0074					
48	0,55	0,085					
49	0,42	-1,1					
51	0,49	-0,48					
52	0,60	0,56					
53	0,57	0,25					
56	0,48	-0,53					
57	0,51	-0,30					
58	0,65	1,0					
59	0,58	0,36					
62	0,59	0,47					
64	0,61	0,65					
65	0,12	-3,9					
69	0,50	-0,36					
70	0,64	0,92					
71	0,56	0,13					
75	0,52	-0,16					
76	0,63	0,82					
77	0,80	2,4					

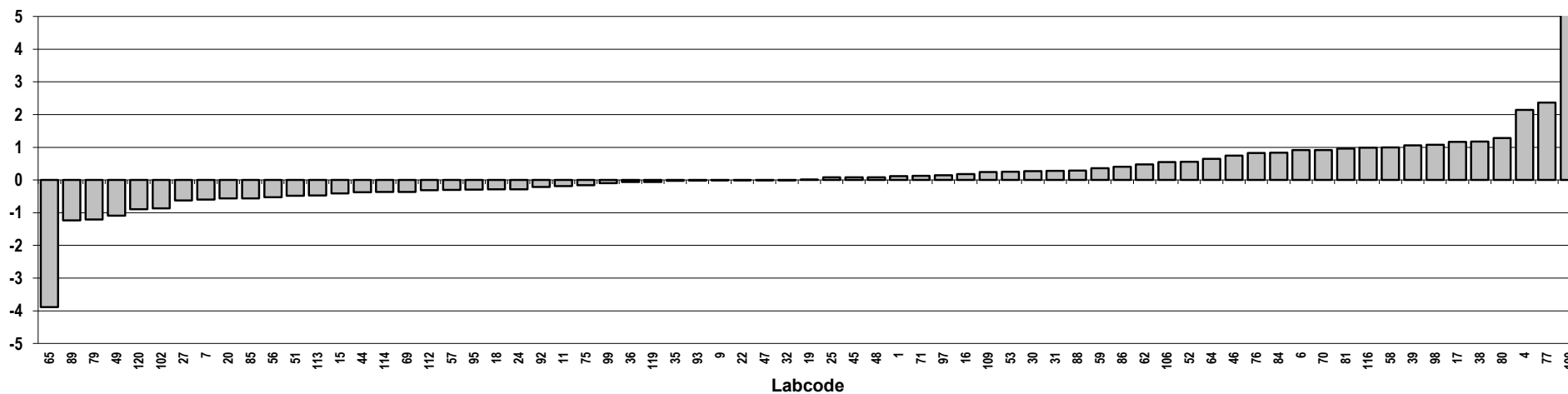
Consensus statistics

Consensus median, pg/g	0,54
Median all values pg/g	0,54
Consensus mean, pg/g	0,55
Standard deviation, pg/g	0,093
Relative standard deviation, %	17
No. of values reported	69
No. of values removed	1
No. of reported non-detects	0

2,3,4,7,8 PeCDF



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

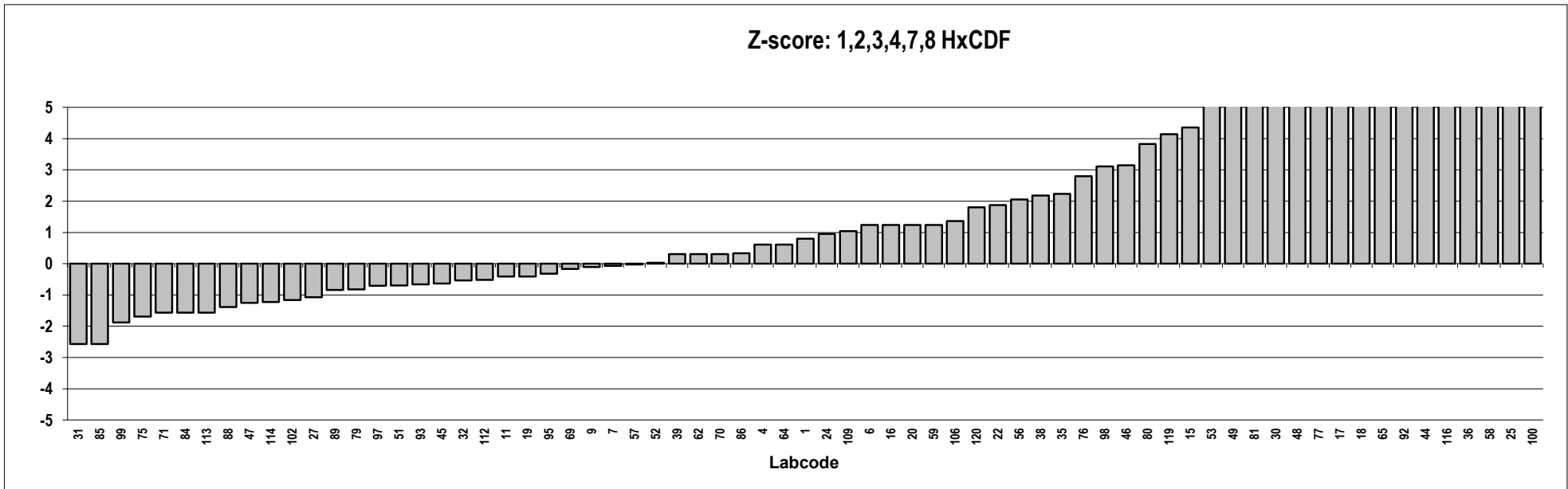
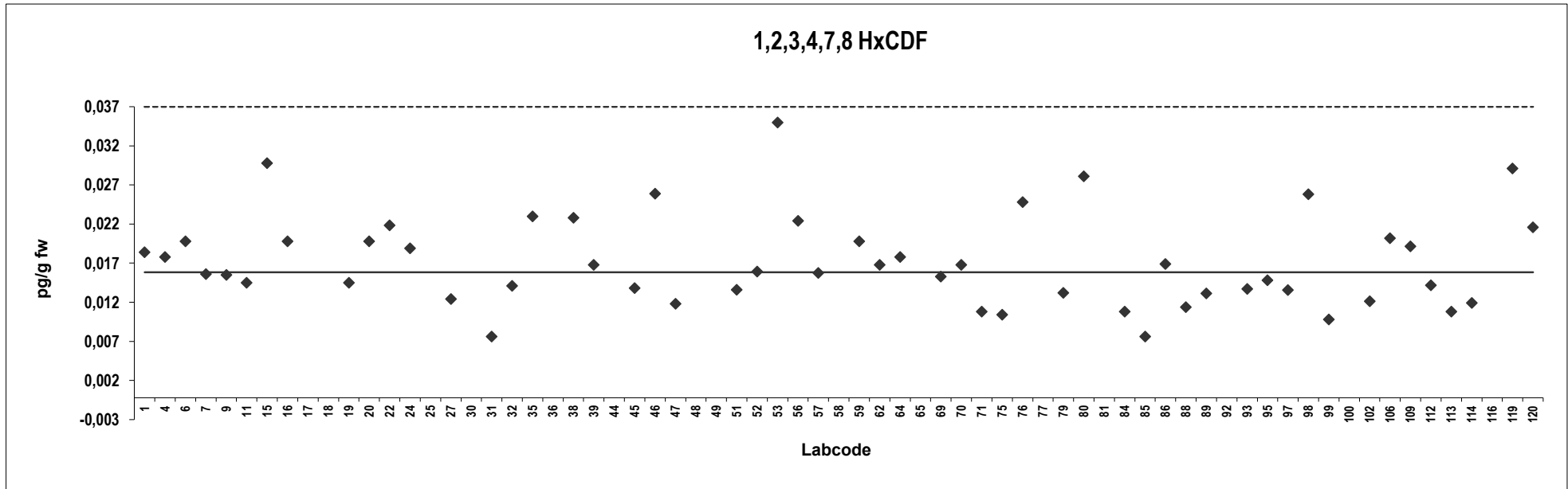


Salmon
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,019	0,80		79	0,013	-0,82	
4	0,018	0,62		80	0,028	3,8	
6	0,020	1,2		81	0,039	7,1	Outlier,ND
7	0,016	-0,071		84	0,011	-1,6	
9	0,016	-0,10		85	0,0078	-2,6	
11	0,015	-0,41		86	0,017	0,33	
15	0,030	4,4	ND	88	0,012	-1,4	
16	0,020	1,2		89	0,013	-0,84	ND
17	0,054	12	Outlier	92	0,081	20	Outlier
18	0,063	14	Outlier,ND	93	0,014	-0,66	
19	0,015	-0,41		95	0,015	-0,32	
20	0,020	1,2	ND	97	0,014	-0,71	
22	0,022	1,9		98	0,026	3,1	
24	0,019	0,96		99	0,010	-1,9	
25	0,24	70	Outlier,ND	100	0,47	142	Outlier
27	0,013	-1,1	ND	102	0,012	-1,2	ND
30	0,040	7,5	Outlier	106	0,020	1,4	
31	0,0078	-2,6	ND	109	0,019	1,0	
32	0,014	-0,54		112	0,014	-0,52	
35	0,023	2,2		113	0,011	-1,6	
36	0,10	26	Outlier,ND	114	0,012	-1,2	
38	0,023	2,2		116	0,093	24	Outlier
39	0,017	0,30		119	0,029	4,1	
44	0,090	23	Outlier	120	0,022	1,8	
45	0,014	-0,63					
46	0,026	3,1					
47	0,012	-1,3					
48	0,050	11	Outlier,ND				
49	0,038	6,8	Outlier				
51	0,014	-0,69					
52	0,016	0,029					
53	0,035	6,0					
56	0,023	2,1					
57	0,016	-0,029					
58	0,17	48	Outlier,ND				
59	0,020	1,2					
62	0,017	0,30					
64	0,018	0,62					
65	0,071	17	Outlier				
69	0,015	-0,17					
70	0,017	0,30					
71	0,011	-1,6					
75	0,011	-1,7	ND				
76	0,025	2,8	ND				
77	0,053	12	Outlier				

Consensus statistics

Consensus median, pg/g	0,016
Median all values pg/g	0,019
Consensus mean, pg/g	0,017
Standard deviation, pg/g	0,0058
Relative standard deviation, %	34
No. of values reported	69
No. of values removed	15
No. of reported non-detects	14



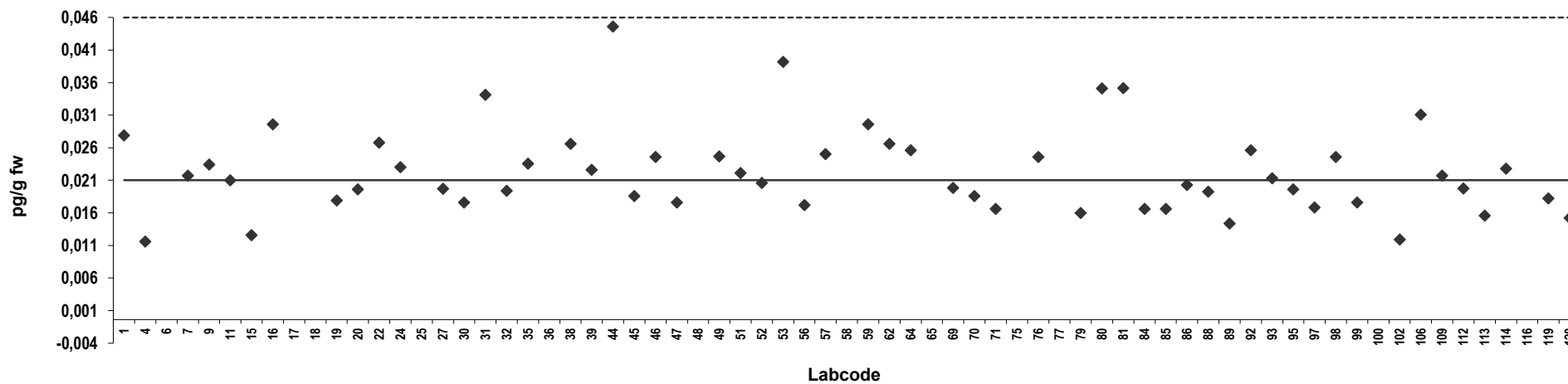
Salmon
Congener: 1,2,3,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,028	1,6		79	0,016	-1,2	
4	0,012	-2,2	ND	80	0,036	3,3	
6	0,070	11	Outlier	81	0,036	3,3	ND
7	0,022	0,16		84	0,017	-1,0	
9	0,024	0,56		85	0,017	-1,0	
11	0,021	0,00		86	0,021	-0,16	
15	0,013	-2,0		88	0,020	-0,4	
16	0,030	2,0		89	0,015	-1,5	
17	0,078	13	Outlier	92	0,026	1,1	
18	0,063	9,6	Outlier,ND	93	0,022	0,070	
19	0,018	-0,72		95	0,020	-0,33	
20	0,020	-0,33	ND	97	0,017	-0,97	
22	0,027	1,4		98	0,025	0,84	
24	0,023	0,47		99	0,018	-0,79	
25	0,15	30	Outlier,ND	100	0,71	160	Outlier
27	0,020	-0,31		102	0,012	-2,1	ND
30	0,018	-0,79		106	0,031	2,4	
31	0,035	3,1		109	0,022	0,17	
32	0,020	-0,37		112	0,020	-0,30	
35	0,024	0,60		113	0,016	-1,3	
36	0,10	18	Outlier,ND	114	0,023	0,42	
38	0,027	1,3		116	0,072	12	Outlier
39	0,023	0,37		119	0,019	-0,65	
44	0,045	5,5		120	0,016	-1,4	
45	0,019	-0,56					
46	0,025	0,84					
47	0,018	-0,79					
48	0,050	6,7	Outlier,ND				
49	0,025	0,86					
51	0,023	0,26					
52	0,021	-0,090					
53	0,040	4,3					
56	0,018	-0,89					
57	0,025	0,94					
58	0,16	33	Outlier,ND				
59	0,030	2,0					
62	0,027	1,3					
64	0,026	1,1					
65	0,050	6,7	Outlier,ND				
69	0,020	-0,27					
70	0,019	-0,56					
71	0,017	-1,0					
75	0,080	14	Outlier				
76	0,025	0,84	ND				
77	0,069	11	Outlier				

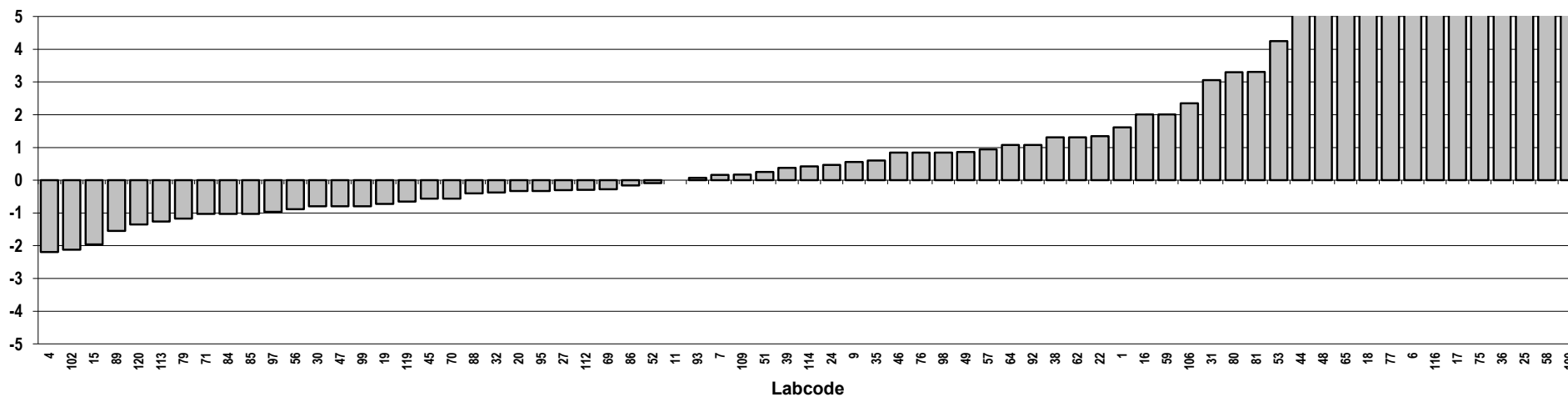
Consensus statistics

Consensus median, pg/g	0,021
Median all values pg/g	0,023
Consensus mean, pg/g	0,023
Standard deviation, pg/g	0,0066
Relative standard deviation, %	29
No. of values reported	69
No. of values removed	12
No. of reported non-detects	11

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



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

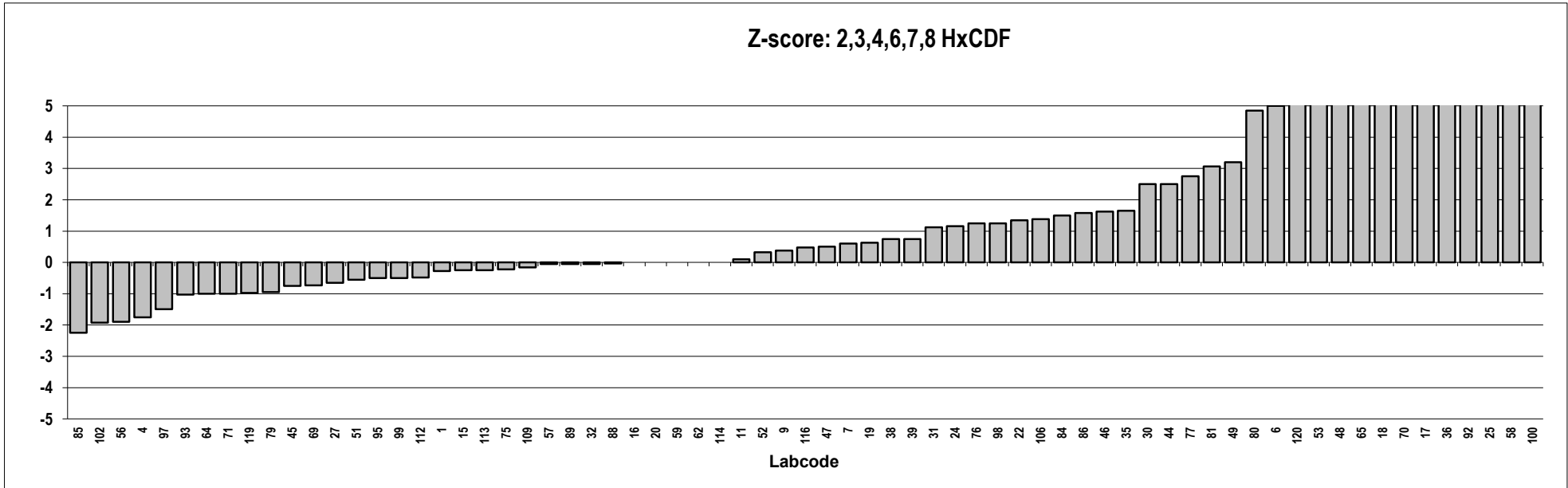
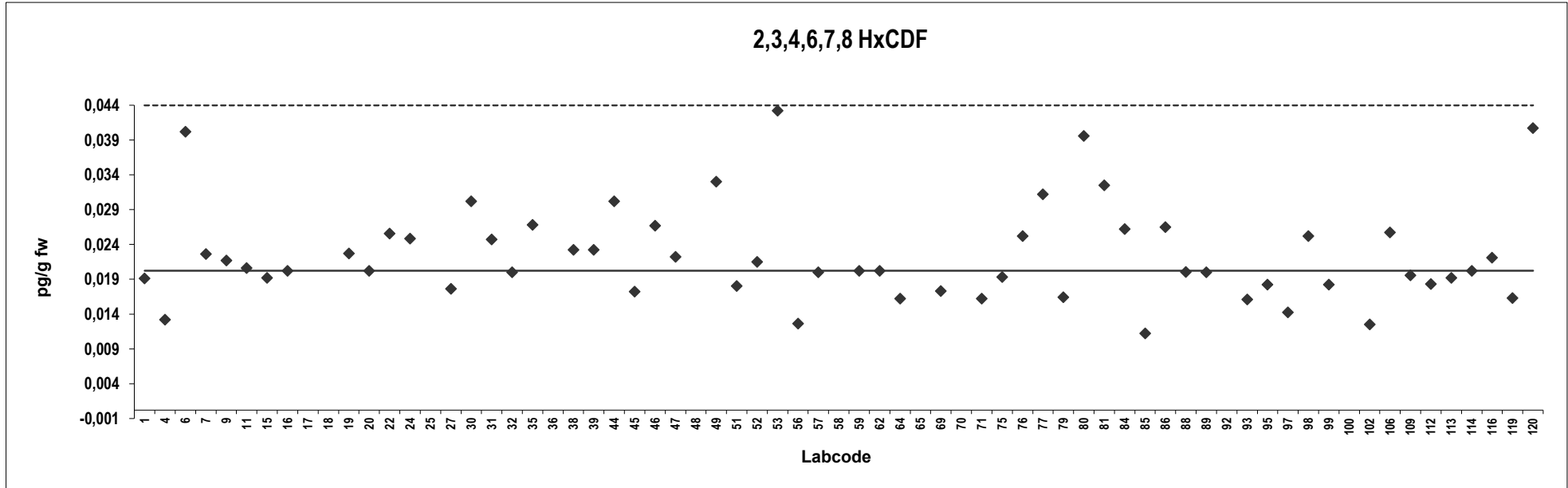


Salmon
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,019	-0,28		79	0,016	-0,95	
4	0,013	-1,8	ND	80	0,039	4,9	
6	0,040	5,0		81	0,032	3,1	ND
7	0,022	0,60		84	0,026	1,5	
9	0,022	0,37		85	0,011	-2,3	
11	0,020	0,10		86	0,026	1,6	
15	0,019	-0,25		88	0,020	-0,038	
16	0,020	0,00		89	0,020	-0,054	
17	0,086	16	Outlier	92	0,13	27	Outlier
18	0,063	11	Outlier,ND	93	0,016	-1,0	
19	0,023	0,63		95	0,018	-0,50	
20	0,020	0,00	ND	97	0,014	-1,5	
22	0,025	1,3		98	0,025	1,3	
24	0,025	1,2		99	0,018	-0,50	
25	0,15	33	Outlier,ND	100	0,20	45	Outlier,ND
27	0,017	-0,65	ND	102	0,012	-1,9	ND
30	0,030	2,5	ND	106	0,026	1,4	
31	0,025	1,1		109	0,019	-0,16	
32	0,020	-0,050		112	0,018	-0,48	
35	0,027	1,6		113	0,019	-0,25	
36	0,10	20	Outlier,ND	114	0,020	0,00	
38	0,023	0,75		116	0,022	0,47	
39	0,023	0,75		119	0,016	-0,98	
44	0,030	2,5		120	0,041	5,1	
45	0,017	-0,75					
46	0,027	1,6					
47	0,022	0,50					
48	0,050	7,5	Outlier,ND				
49	0,033	3,2					
51	0,018	-0,55					
52	0,021	0,33					
53	0,043	5,8					
56	0,012	-1,9					
57	0,020	-0,055					
58	0,16	36	Outlier,ND				
59	0,020	0,00					
62	0,020	0,00					
64	0,016	-1,0					
65	0,050	7,5	Outlier,ND				
69	0,017	-0,73					
70	0,076	14	Outlier				
71	0,016	-1,0					
75	0,019	-0,22					
76	0,025	1,3	ND				
77	0,031	2,8					

Consensus statistics

Consensus median, pg/g	0,020
Median all values pg/g	0,022
Consensus mean, pg/g	0,022
Standard deviation, pg/g	0,0070
Relative standard deviation, %	31
No. of values reported	69
No. of values removed	10
No. of reported non-detects	14



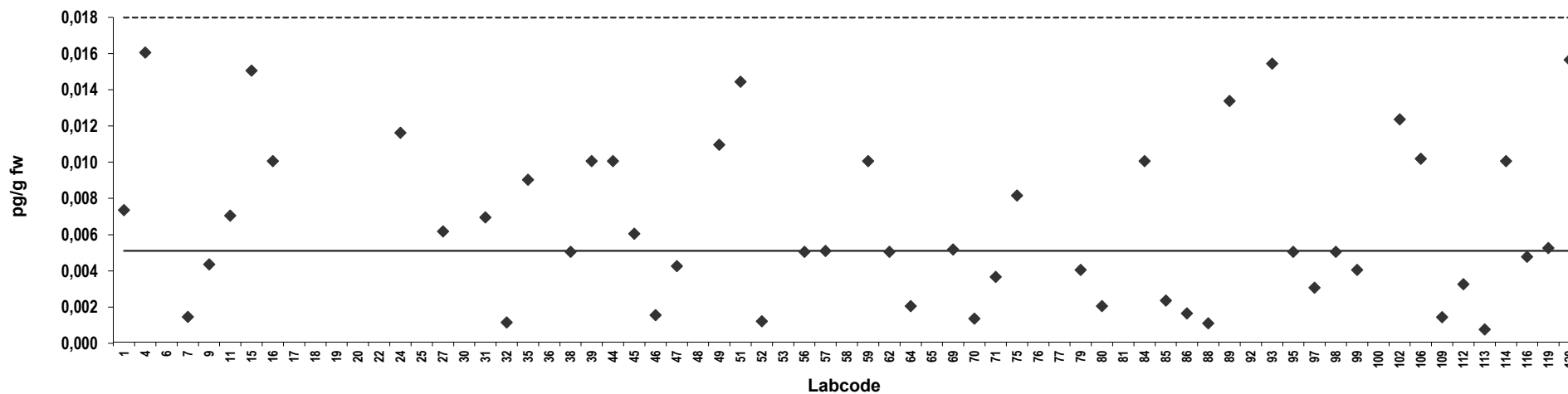
Salmon
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,0073	2,2		79	0,0040	-1,0	ND
4	0,016	11	ND	80	0,0020	-3,0	ND
6	0,030	25	Outlier	81	0,026	21	Outlier,ND
7	0,0014	-3,6	ND	84	0,010	4,9	ND
9	0,0043	-0,74		85	0,0023	-2,7	ND
11	0,0070	1,9	ND	86	0,0016	-3,4	ND
15	0,015	9,9	ND	88	0,0010	-4,0	
16	0,010	4,9	ND	89	0,013	8,2	ND
17	0,099	93	Outlier	92	0,13	125	Outlier
18	0,063	57	Outlier,ND	93	0,015	10	ND
19	0,018	13	Outlier,ND	95	0,0050	-0,050	ND
20	0,020	15	Outlier,ND	97	0,0030	-2,0	
22	0,024	19	Outlier	98	0,0050	-0,050	ND
24	0,012	6,5	ND	99	0,0040	-1,0	ND
25	0,10	94	Outlier,ND	100	0,20	193	Outlier,ND
27	0,0061	1,1	ND	102	0,012	7,2	ND
30	0,030	25	Outlier,ND	106	0,010	5,0	
31	0,0069	1,8	ND	109	0,0014	-3,6	ND
32	0,0011	-3,9		112	0,0032	-1,8	
35	0,0090	3,9		113	0,00070	-4,3	ND
36	0,10	94	Outlier,ND	114	0,010	4,9	ND
38	0,0050	-0,050	ND	116	0,0047	-0,33	ND
39	0,010	4,9	ND	119	0,0052	0,15	ND
44	0,010	4,9		120	0,016	10	
45	0,0060	0,94	ND				
46	0,0015	-3,5	ND				
47	0,0042	-0,84	ND				
48	0,050	45	Outlier,ND				
49	0,011	5,8					
51	0,014	9,3	ND				
52	0,0012	-3,9	ND				
53	0,058	52	Outlier				
56	0,0050	-0,050	ND				
57	0,0051	0,00					
58	0,23	218	Outlier,ND				
59	0,010	4,9	ND				
62	0,0050	-0,050	ND				
64	0,0020	-3,0	ND				
65	0,050	45	Outlier,ND				
69	0,0051	0,072	ND				
70	0,0013	-3,7					
71	0,0036	-1,4	ND				
75	0,0081	3,0	ND				
76	0,025	20	Outlier,ND				
77	0,024	19	Outlier				

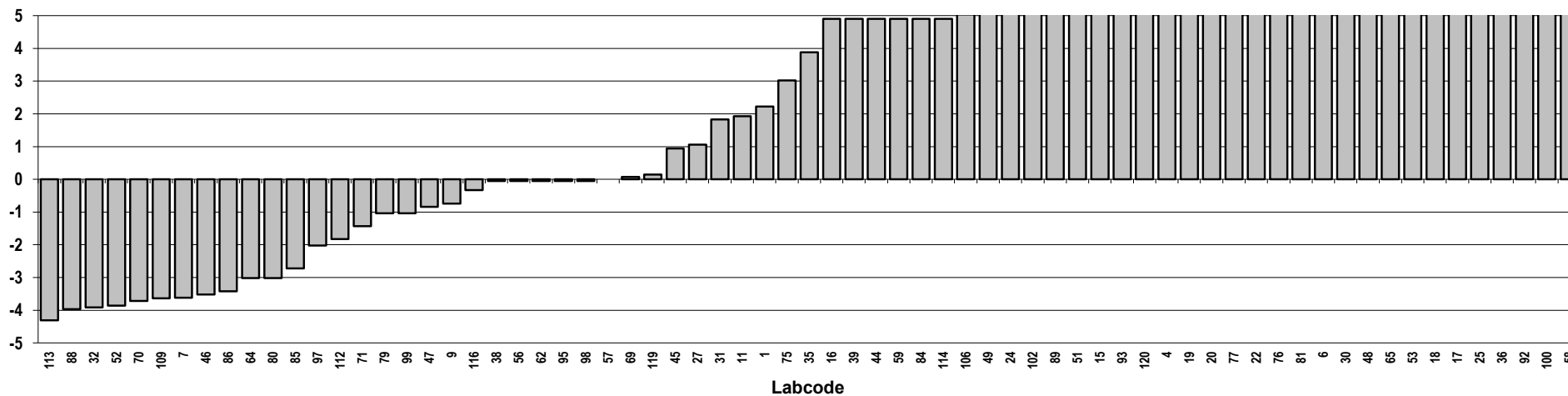
Consensus statistics

Consensus median, pg/g	0,005
Median all values pg/g	0,009
Consensus mean, pg/g	0,007
Standard deviation, pg/g	0,0045
Relative standard deviation, %	68
No. of values reported	69
No. of values removed	18
No. of reported non-detects	50

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



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

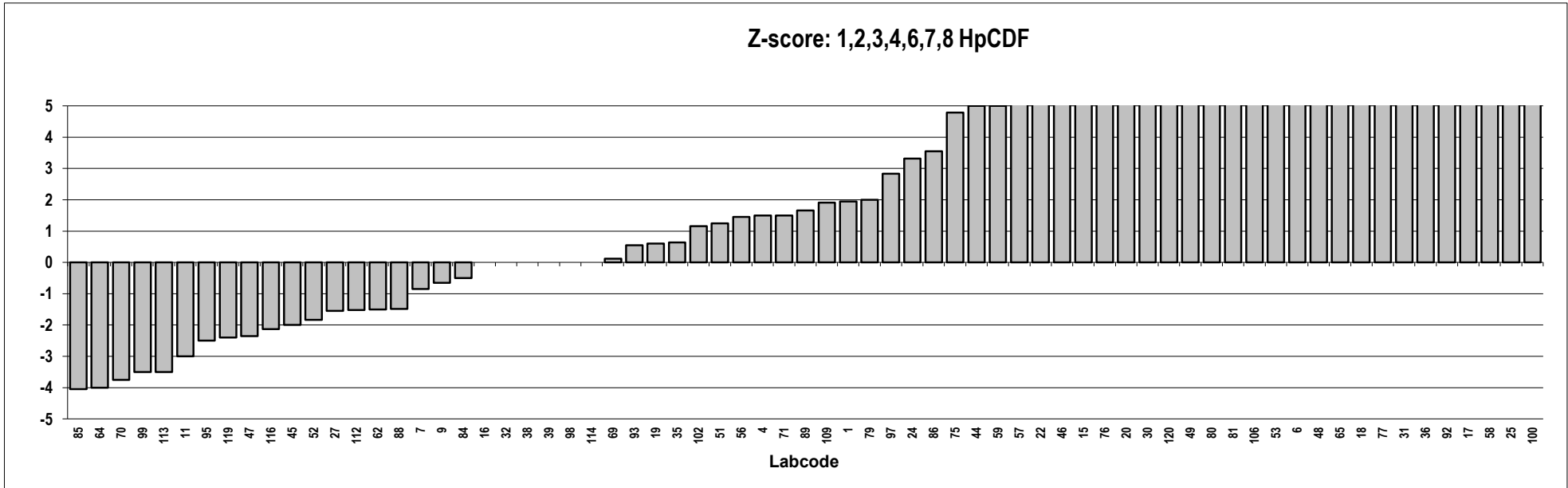
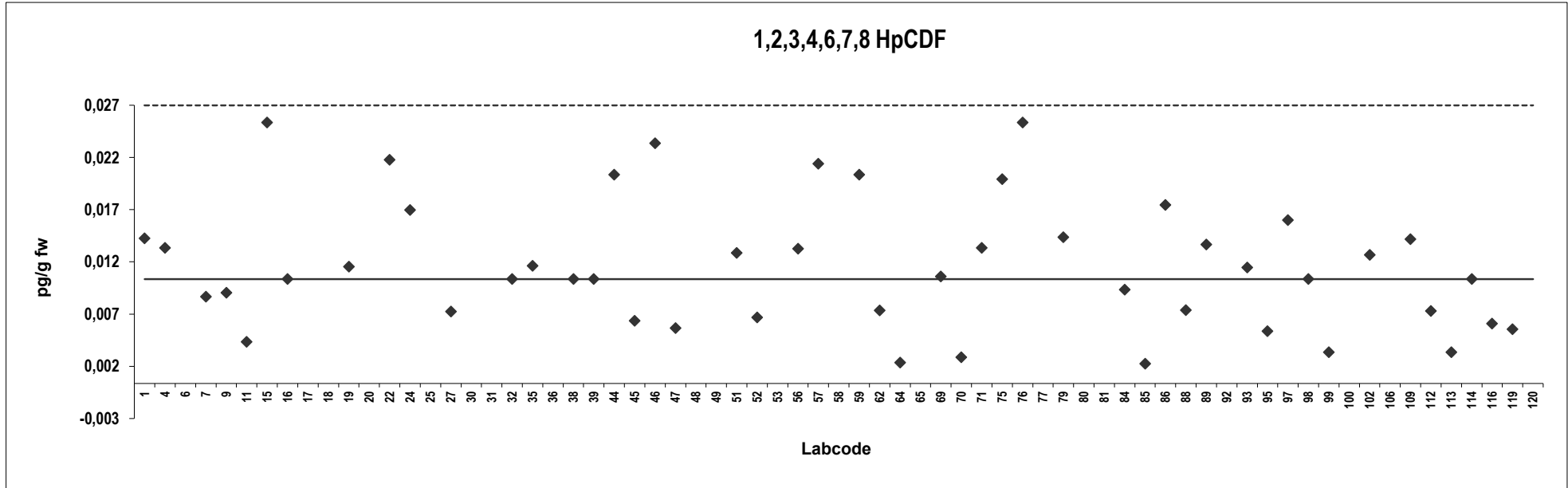


Salmon
Congener: 1,2,3,4,6,7,8 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,014	2,0		79	0,014	2,0	ND
4	0,013	1,5	ND	80	0,036	13	Outlier
6	0,050	20	Outlier	81	0,037	13	Outlier,ND
7	0,0083	-0,85		84	0,0090	-0,50	ND
9	0,0087	-0,65		85	0,0019	-4,1	ND
11	0,0040	-3,0	ND	86	0,017	3,6	
15	0,025	7,5	ND	88	0,0070	-1,5	
16	0,010	0,00	ND	89	0,013	1,7	ND
17	0,11	52	Outlier	92	0,10	47	Outlier
18	0,063	26	Outlier,ND	93	0,011	0,55	ND
19	0,011	0,60		95	0,0050	-2,5	
20	0,030	10	Outlier,ND	97	0,016	2,8	
22	0,021	5,7		98	0,010	0,00	ND
24	0,017	3,3		99	0,0030	-3,5	
25	0,30	145	Outlier,ND	100	0,40	195	Outlier,ND
27	0,0069	-1,6	ND	102	0,012	1,2	ND
30	0,030	10	Outlier,ND	106	0,037	14	Outlier
31	0,077	33	Outlier	109	0,014	1,9	
32	0,010	0,00		112	0,0070	-1,5	
35	0,011	0,64		113	0,0030	-3,5	
36	0,10	45	Outlier,ND	114	0,010	0,00	ND
38	0,010	0,00	ND	116	0,0057	-2,1	ND
39	0,010	0,00		119	0,0052	-2,4	ND
44	0,020	5,0		120	0,030	10	Outlier
45	0,0060	-2,0	ND				
46	0,023	6,5					
47	0,0053	-2,4	ND				
48	0,050	20	Outlier,ND				
49	0,034	12	Outlier				
51	0,013	1,3	ND				
52	0,0063	-1,8					
53	0,044	17	Outlier				
56	0,013	1,5					
57	0,021	5,5					
58	0,14	64	Outlier,ND				
59	0,020	5,0					
62	0,0070	-1,5					
64	0,0020	-4,0	ND				
65	0,050	20	Outlier,ND				
69	0,010	0,12	ND				
70	0,0025	-3,8					
71	0,013	1,5	ND				
75	0,020	4,8					
76	0,025	7,5	ND				
77	0,076	33	Outlier				

Consensus statistics

Consensus median, pg/g	0,010
Median all values pg/g	0,013
Consensus mean, pg/g	0,011
Standard deviation, pg/g	0,0061
Relative standard deviation, %	54
No. of values reported	69
No. of values removed	20
No. of reported non-detects	33



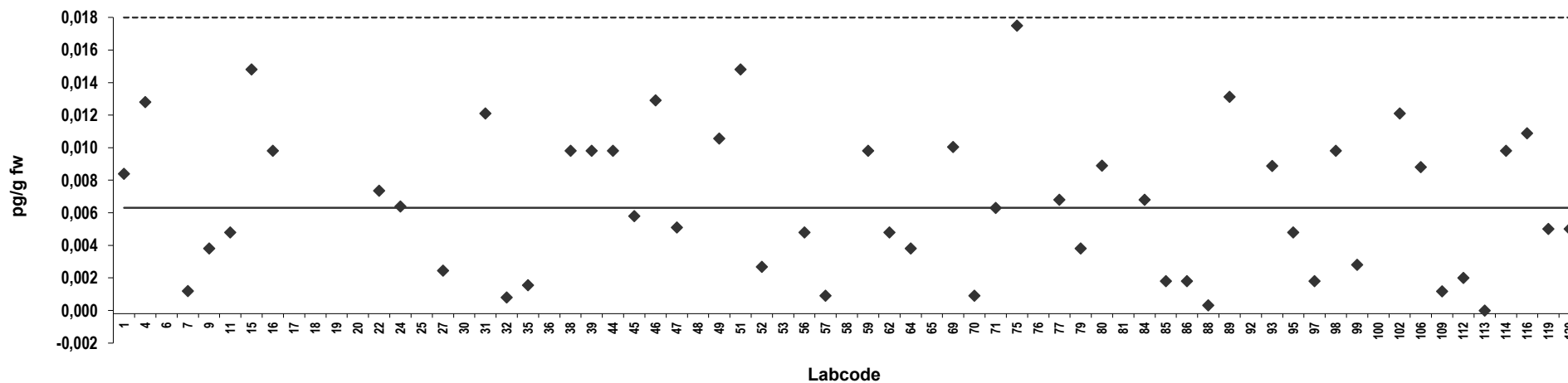
Salmon
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,0086	1,6		79	0,0040	-1,9	ND
4	0,013	5,0	ND	80	0,0091	2,0	
6	0,020	10	Outlier	81	0,026	15	Outlier,ND
7	0,0014	-3,9	ND	84	0,0070	0,38	ND
9	0,0040	-1,9		85	0,0020	-3,5	ND
11	0,0050	-1,2	ND	86	0,0020	-3,5	ND
15	0,015	6,5	ND	88	0,00052	-4,6	
16	0,010	2,7	ND	89	0,013	5,2	ND
17	0,050	34	Outlier	92	0,056	38	Outlier
18	0,063	43	Outlier,ND	93	0,0091	2,0	ND
19	0,022	12	Outlier,ND	95	0,0050	-1,2	ND
20	0,030	18	Outlier,ND	97	0,0020	-3,5	ND
22	0,0075	0,81	ND	98	0,010	2,7	ND
24	0,0066	0,068	ND	99	0,0030	-2,7	ND
25	0,15	110	Outlier,ND	100	0,40	303	Outlier,ND
27	0,0026	-3,0	ND	102	0,012	4,5	ND
30	0,030	18	Outlier,ND	106	0,0090	1,9	
31	0,012	4,5	ND	109	0,0014	-3,9	ND
32	0,0010	-4,2		112	0,0022	-3,3	
35	0,0018	-3,7	ND	113	0,00020	-4,8	ND
36	0,10	72	Outlier,ND	114	0,010	2,7	ND
38	0,010	2,7	ND	116	0,011	3,5	
39	0,010	2,7	ND	119	0,0052	-1,0	ND
44	0,010	2,7		120	0,0052	-1,0	ND
45	0,0060	-0,38	ND				
46	0,013	5,1					
47	0,0053	-0,92	ND				
48	0,050	33	Outlier,ND				
49	0,011	3,3					
51	0,015	6,5	ND				
52	0,0029	-2,8					
53	0,019	9,2	Outlier				
56	0,0050	-1,2	ND				
57	0,0011	-4,2					
58	0,13	97	Outlier,ND				
59	0,010	2,7	ND				
62	0,0050	-1,2	ND				
64	0,0040	-1,9	ND				
65	0,050	33	Outlier,ND				
69	0,010	2,9	ND				
70	0,0011	-4,2	ND				
71	0,0065	0,00	ND				
75	0,018	8,6	ND				
76	0,025	14	Outlier,ND				
77	0,0070	0,38					

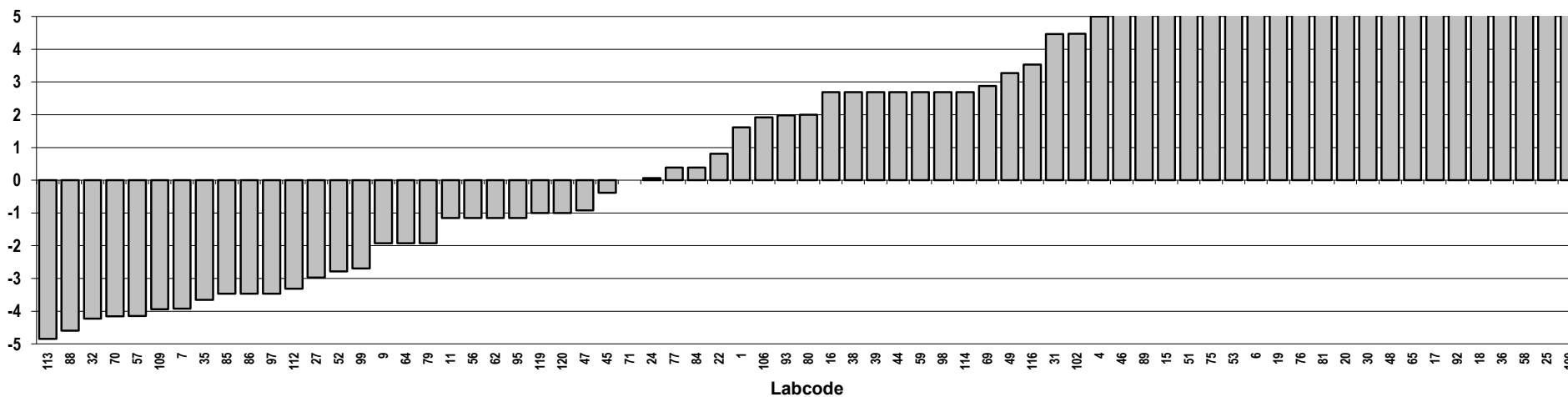
Consensus statistics

Consensus median, pg/g	0,0065
Median all values pg/g	0,0091
Consensus mean, pg/g	0,0069
Standard deviation, pg/g	0,0044
Relative standard deviation, %	65
No. of values reported	69
No. of values removed	16
No. of reported non-detects	51

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



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

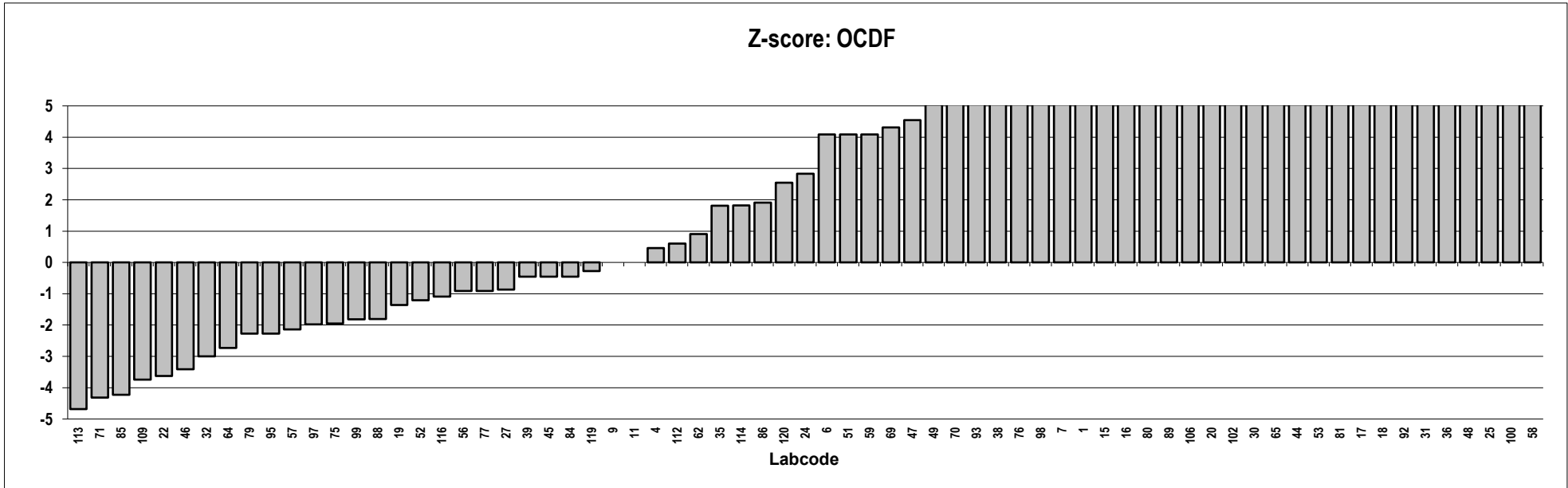
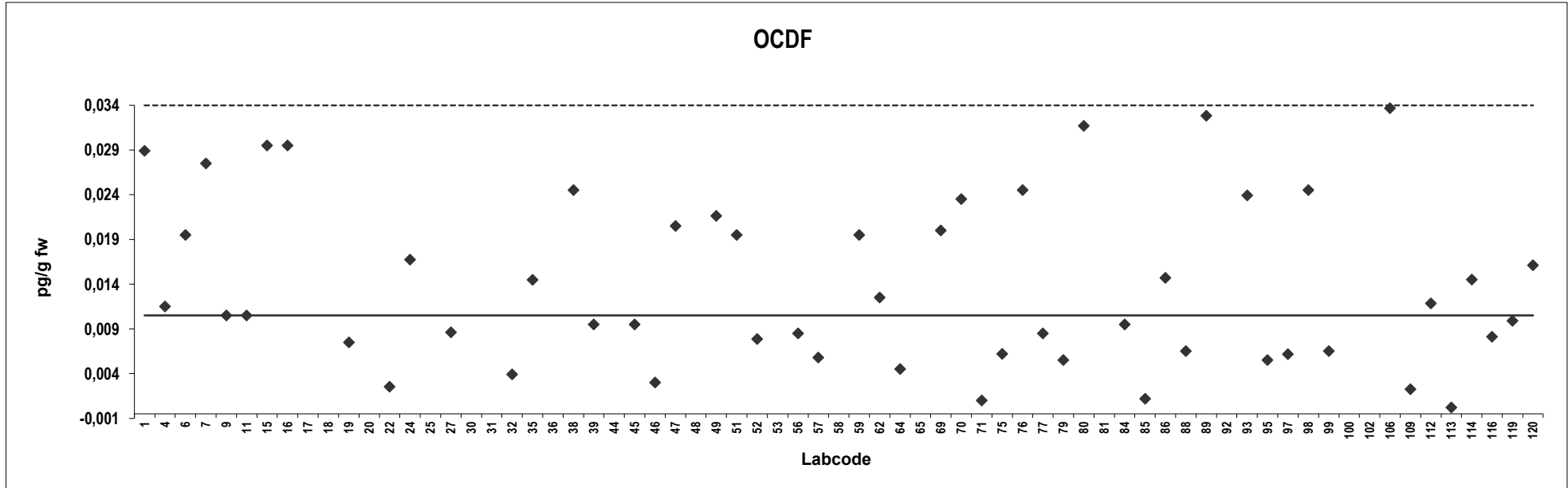


Salmon
Congener: OCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,029	8,4		79	0,0060	-2,3	ND
4	0,012	0,45	ND	80	0,032	9,6	
6	0,020	4,1		81	0,079	31	Outlier,ND
7	0,028	7,7	ND	84	0,010	-0,45	ND
9	0,011	0,00		85	0,0017	-4,2	ND
11	0,011	0,00	ND	86	0,015	1,9	
15	0,030	8,6	ND	88	0,0070	-1,8	
16	0,030	8,6	ND	89	0,033	10	ND
17	0,10	42	Outlier	92	0,18	77	Outlier
18	0,13	52	Outlier,ND	93	0,024	6,1	ND
19	0,0080	-1,4		95	0,0060	-2,3	
20	0,040	13	Outlier,ND	97	0,0067	-2,0	
22	0,0030	-3,6	ND	98	0,025	6,4	ND
24	0,017	2,8		99	0,0070	-1,8	ND
25	0,25	109	Outlier,ND	100	0,40	177	Outlier,ND
27	0,0091	-0,86	ND	102	0,042	14	Outlier
30	0,050	18	Outlier,ND	106	0,034	11	
31	0,20	85	Outlier	109	0,0028	-3,7	
32	0,0044	-3,0		112	0,012	0,60	
35	0,015	1,8	ND	113	0,00070	-4,7	ND
36	0,20	86	Outlier,ND	114	0,015	1,8	ND
38	0,025	6,4	ND	116	0,0086	-1,1	ND
39	0,010	-0,45	ND	119	0,010	-0,27	ND
44	0,060	22	Outlier	120	0,017	2,5	
45	0,010	-0,45	ND				
46	0,0035	-3,4	ND				
47	0,021	4,5	ND				
48	0,20	86	Outlier,ND				
49	0,022	5,0					
51	0,020	4,1	ND				
52	0,0083	-1,2					
53	0,071	27	Outlier				
56	0,0090	-0,91					
57	0,0063	-2,1					
58	0,52	230	Outlier,ND				
59	0,020	4,1					
62	0,013	0,91					
64	0,0050	-2,7	ND				
65	0,050	18	Outlier,ND				
69	0,020	4,3	ND				
70	0,024	5,9					
71	0,0015	-4,3	ND				
75	0,0067	-2,0					
76	0,025	6,4	ND				
77	0,0090	-0,91					

Consensus statistics

Consensus median, pg/g	0,011
Median all values pg/g	0,017
Consensus mean, pg/g	0,014
Standard deviation, pg/g	0,0094
Relative standard deviation, %	65
No. of values reported	69
No. of values removed	16
No. of reported non-detects	39

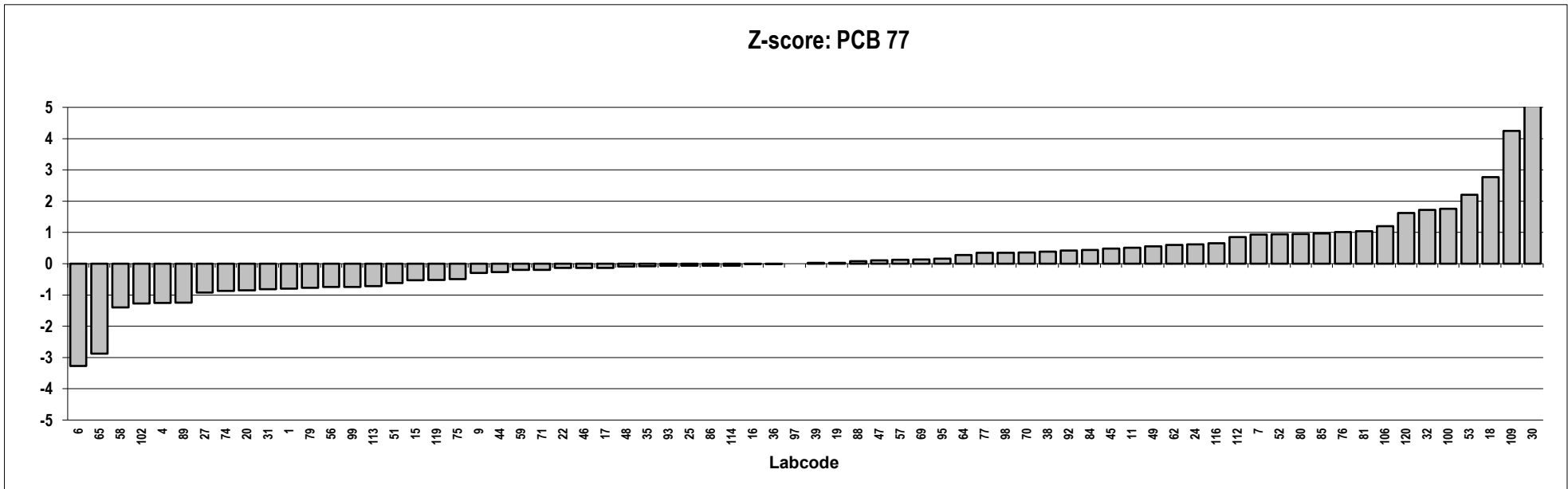
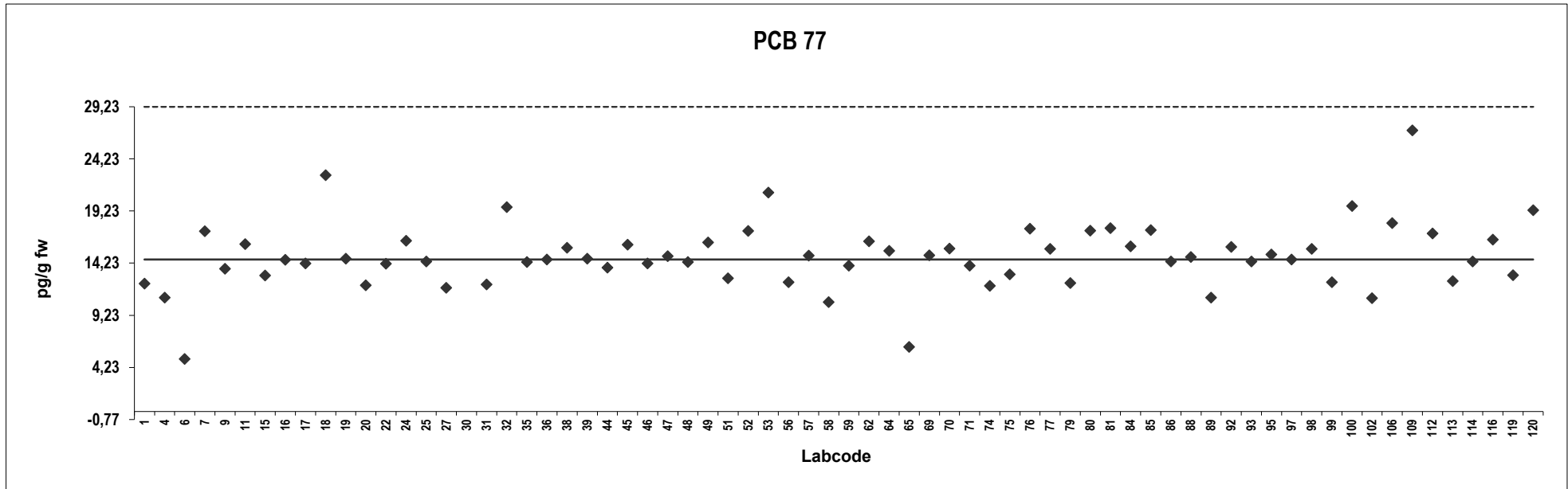


Salmon
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	12	-0,80		77	16	0,35	
4	11	-1,3		79	12	-0,77	
6	5	-3,3		80	17	0,95	
7	17	0,93		81	18	1,0	
9	14	-0,30		84	16	0,44	
11	16	0,51		85	17	0,97	
15	13	-0,53		86	14	-0,062	
16	15	-0,0072		88	15	0,078	
17	14	-0,13		89	11	-1,2	
18	23	2,8		92	16	0,42	
19	15	0,028		93	14	-0,062	
20	12	-0,85		95	15	0,16	
22	14	-0,14		97	15	0,00	
24	16	0,61		98	16	0,35	
25	14	-0,062		99	12	-0,75	
27	12	-0,93		100	20	1,8	
30	37	7,5	Outlier	102	11	-1,3	
31	12	-0,82		106	18	1,2	
32	20	1,7		109	27	4,3	
35	14	-0,084		112	17	0,85	
36	15	-0,0011		113	13	-0,71	
38	16	0,38		114	14	-0,062	
39	15	0,024		116	16	0,65	
44	14	-0,27		119	13	-0,52	
45	16	0,49		120	19	1,6	
46	14	-0,13					
47	15	0,11					
48	14	-0,086					
49	16	0,56					
51	13	-0,62					
52	17	0,94					
53	21	2,2					
56	12	-0,75					
57	15	0,13					
58	11	-1,4					
59	14	-0,20					
62	16	0,60					
64	15	0,28					
65	6,2	-2,9					
69	15	0,13					
70	16	0,36					
71	14	-0,20					
74	12	-0,87					
75	13	-0,49					
76	18	1,0					

Consensus statistics

Consensus median, pg/g	15
Median all values pg/g	15
Consensus mean, pg/g	15
Standard deviation, pg/g	3,2
Relative standard deviation, %	22
No. of values reported	70
No. of values removed	1
No. of reported non-detects	0

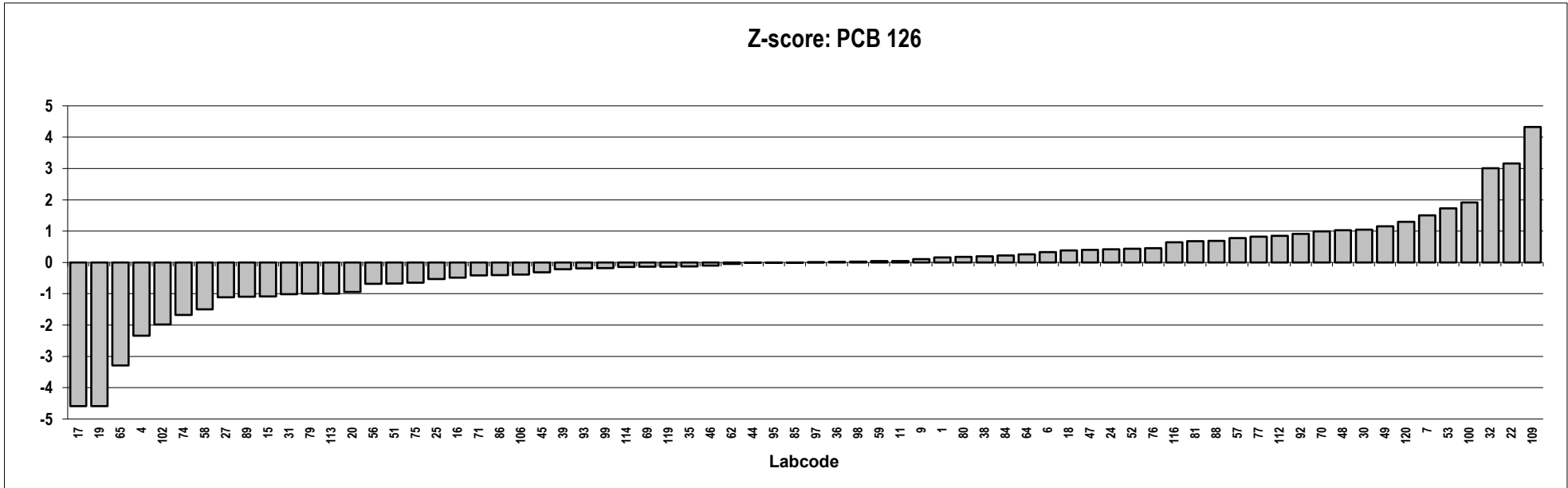
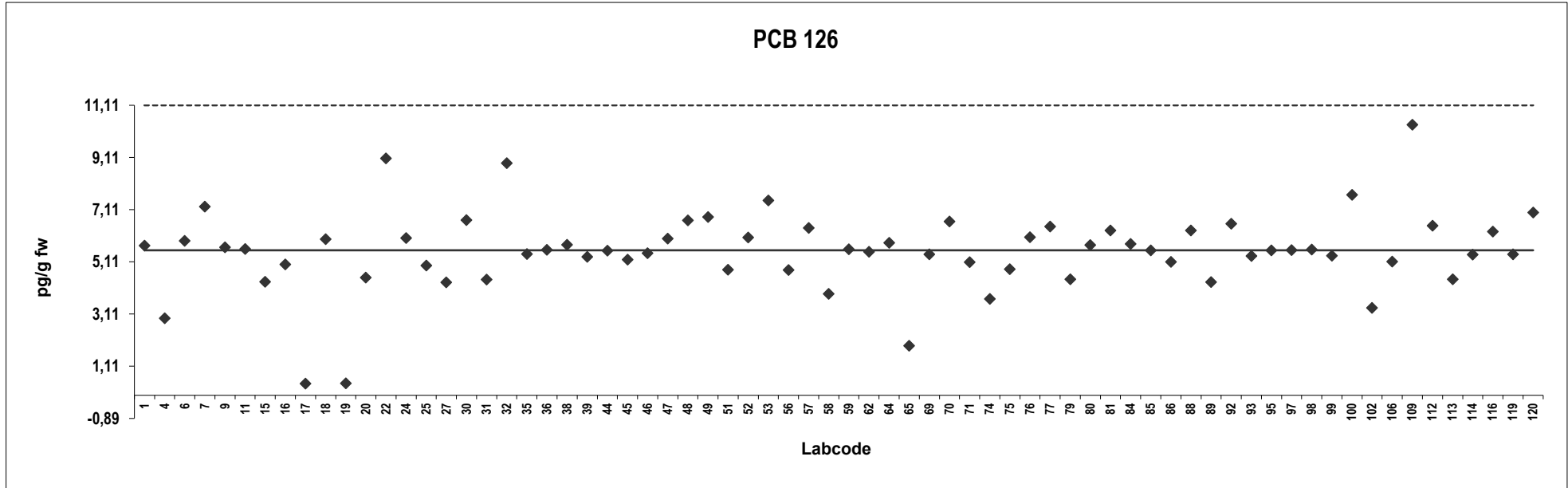


Salmon
Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	5,7	0,16		77	6,5	0,82	
4	3,0	-2,3		79	4,4	-1,0	
6	5,9	0,33		80	5,8	0,18	
7	7,2	1,5		81	6,3	0,68	
9	5,7	0,10		84	5,8	0,22	
11	5,6	0,042		85	5,6	-0,0054	
15	4,3	-1,1		86	5,1	-0,40	
16	5,0	-0,48		88	6,3	0,68	
17	0,45	-4,6		89	4,3	-1,1	
18	6,0	0,38		92	6,6	0,91	
19	0,46	-4,6		93	5,3	-0,19	
20	4,5	-0,94		95	5,5	-0,0081	
22	9,1	3,2		97	5,6	0,0054	
24	6,0	0,42		98	5,6	0,022	
25	5,0	-0,53		99	5,4	-0,19	
27	4,3	-1,1		100	7,7	1,9	
30	6,7	1,0		102	3,3	-2,0	
31	4,4	-1,0		106	5,1	-0,39	
32	8,9	3,0		109	10	4,3	
35	5,4	-0,13		112	6,5	0,85	
36	5,6	0,015		113	4,5	-1,00	
38	5,8	0,19		114	5,4	-0,15	
39	5,3	-0,22		116	6,3	0,65	
44	5,5	-0,014		119	5,4	-0,13	
45	5,2	-0,32		120	7,0	1,3	
46	5,4	-0,10					
47	6,0	0,40					
48	6,7	1,0					
49	6,8	1,1					
51	4,8	-0,67					
52	6,0	0,44					
53	7,5	1,7					
56	4,8	-0,68					
57	6,4	0,77					
58	3,9	-1,5					
59	5,6	0,040					
62	5,5	-0,050					
64	5,8	0,26					
65	1,9	-3,3					
69	5,4	-0,14					
70	6,7	0,99					
71	5,1	-0,41					
74	3,7	-1,7					
75	4,8	-0,65					
76	6,1	0,45					

Consensus statistics

Consensus median, pg/g	5,6
Median all values pg/g	5,6
Consensus mean, pg/g	5,5
Standard deviation, pg/g	1,6
Relative standard deviation, %	28
No. of values reported	70
No. of values removed	0
No. of reported non-detects	0

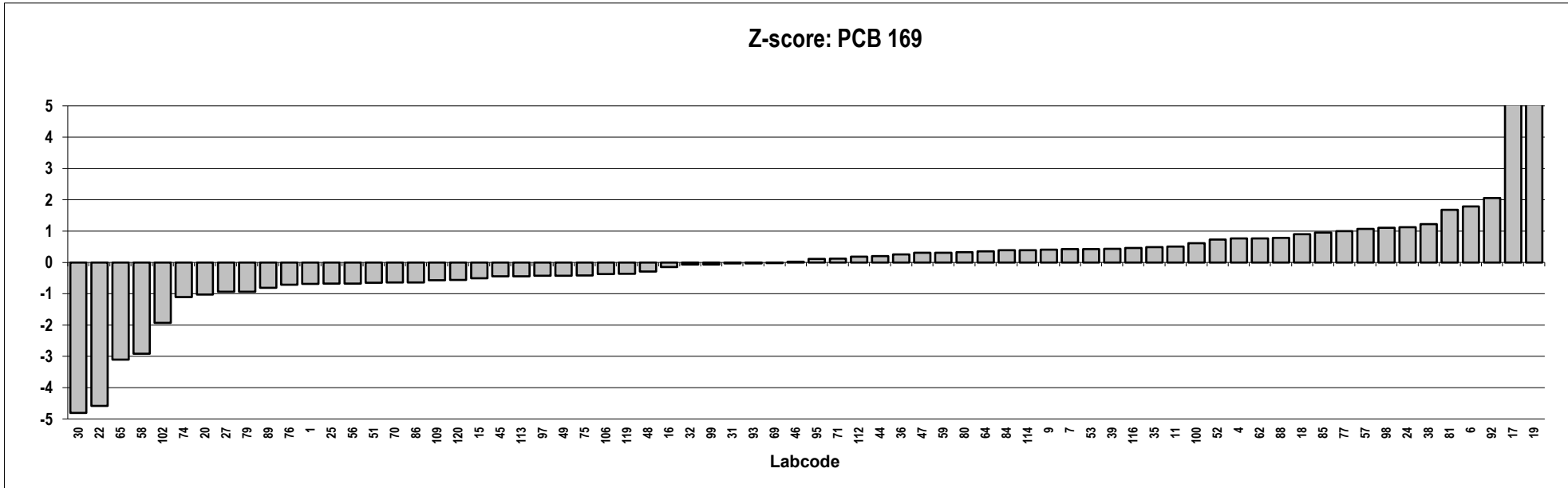
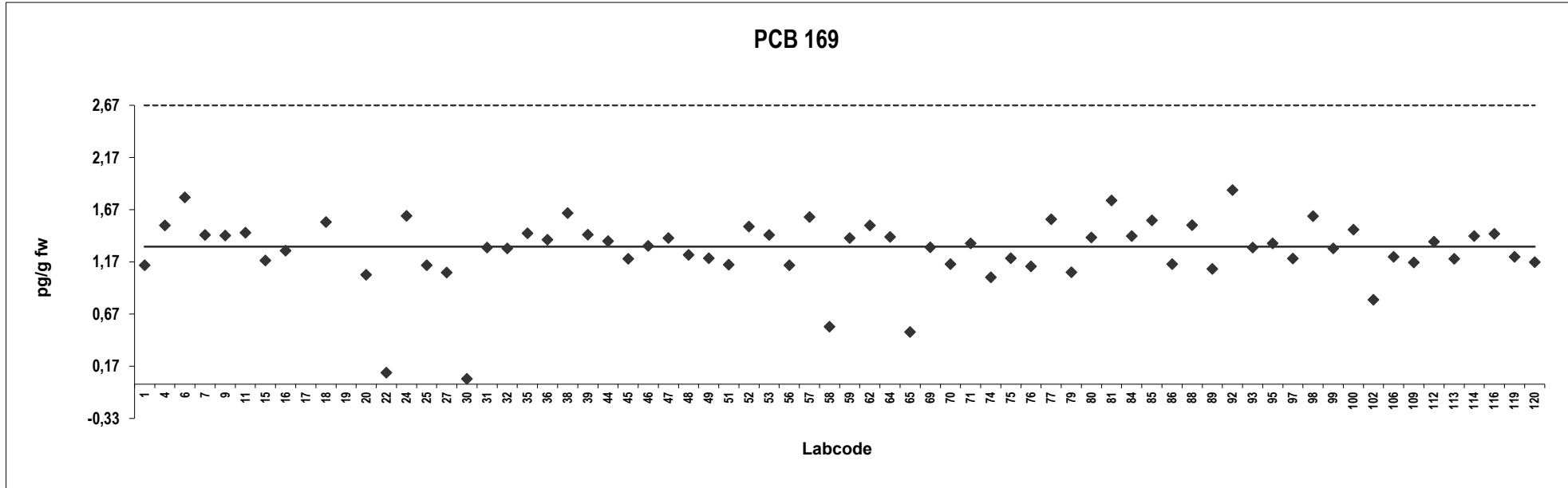


Salmon
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	1,1	-0,68		77	1,6	1,0	
4	1,5	0,77		79	1,1	-0,93	
6	1,8	1,8		80	1,4	0,33	
7	1,4	0,43		81	1,8	1,7	
9	1,4	0,40		84	1,4	0,39	
11	1,5	0,51		85	1,6	0,96	
15	1,2	-0,51		86	1,2	-0,64	
16	1,3	-0,14		88	1,5	0,78	
17	6,6	20	Outlier	89	1,1	-0,81	
18	1,6	0,90		92	1,9	2,1	
19	265	1000	Outlier	93	1,3	-0,029	
20	1,0	-1,0		95	1,3	0,11	
22	0,11	-4,6	ND	97	1,2	-0,43	
24	1,6	1,1		98	1,6	1,1	
25	1,1	-0,67		99	1,3	-0,067	
27	1,1	-0,94		100	1,5	0,62	
30	0,050	-4,8	ND	102	0,81	-1,9	
31	1,3	-0,029		106	1,2	-0,37	
32	1,3	-0,067		109	1,2	-0,57	
35	1,4	0,49		112	1,4	0,18	
36	1,4	0,25		113	1,2	-0,45	
38	1,6	1,2		114	1,4	0,39	
39	1,4	0,44		116	1,4	0,46	
44	1,4	0,20		119	1,2	-0,37	
45	1,2	-0,45		120	1,2	-0,56	
46	1,3	0,023					
47	1,4	0,31					
48	1,2	-0,30					
49	1,2	-0,43					
51	1,1	-0,65					
52	1,5	0,73					
53	1,4	0,43					
56	1,1	-0,67					
57	1,6	1,1					
58	0,55	-2,9	ND				
59	1,4	0,31					
62	1,5	0,77					
64	1,4	0,35					
65	0,50	-3,1	ND				
69	1,3	-0,023					
70	1,2	-0,64					
71	1,4	0,12					
74	1,0	-1,1					
75	1,2	-0,42					
76	1,1	-0,71					

Consensus statistics

Consensus median, pg/g	1,3
Median all values pg/g	1,3
Consensus mean, pg/g	1,3
Standard deviation, pg/g	0,32
Relative standard deviation, %	25
No. of values reported	70
No. of values removed	2
No. of reported non-detects	4

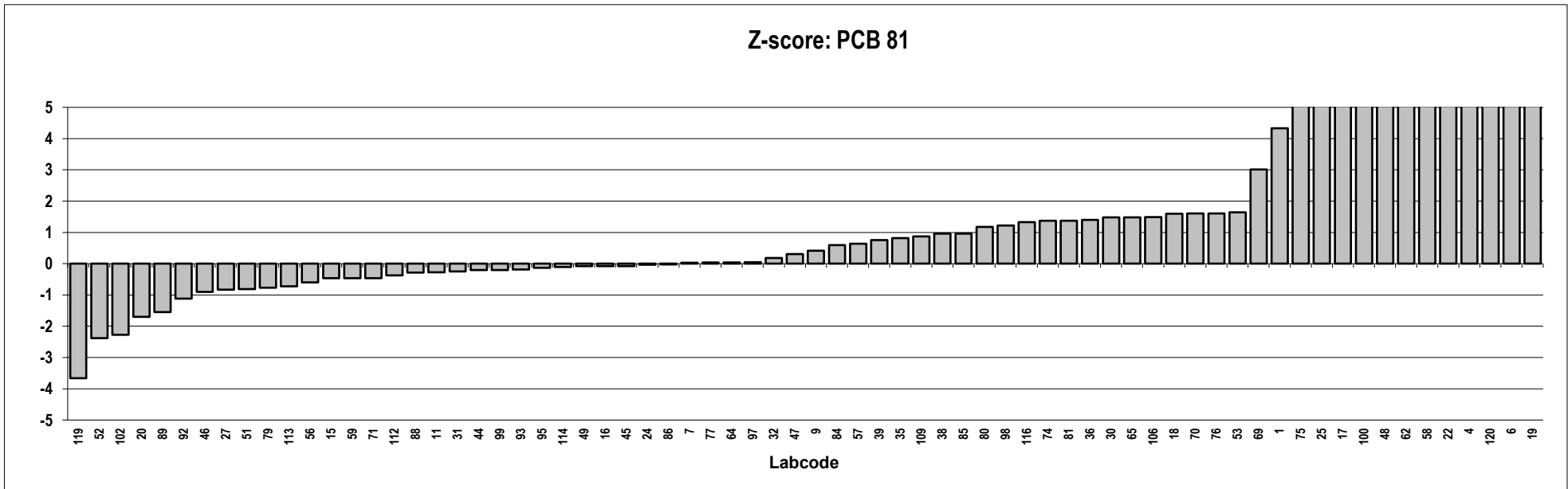
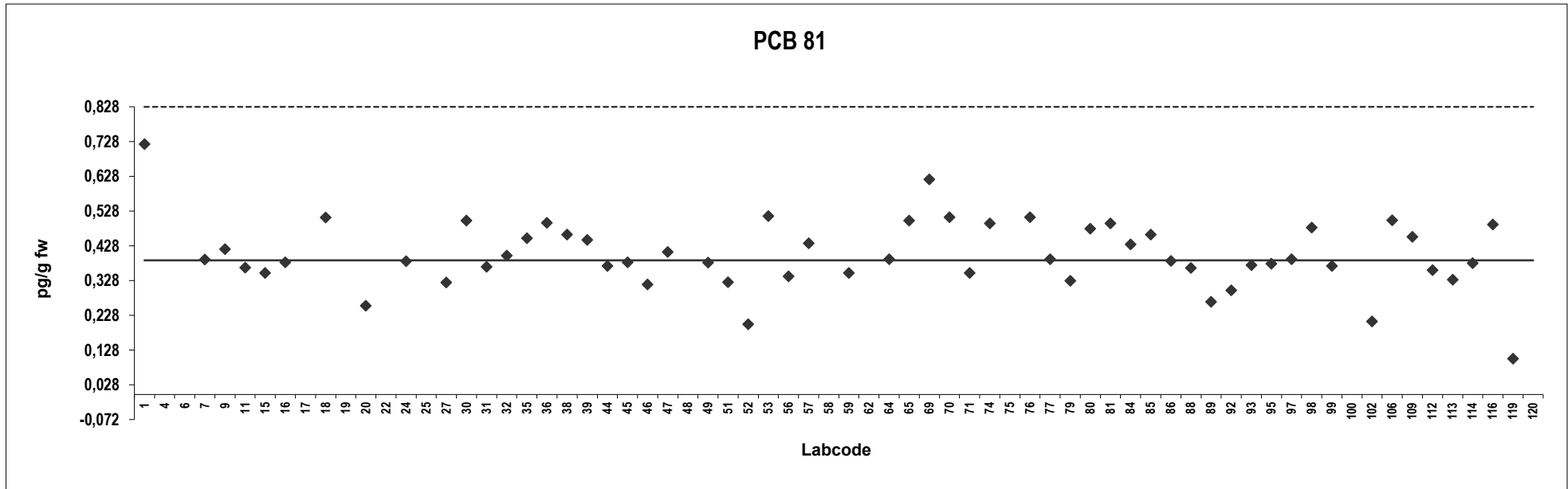


Salmon
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	0,72	4,3		77	0,39	0,038	
4	6,0	73	Outlier	79	0,33	-0,76	
6	14	181	Outlier	80	0,48	1,2	
7	0,39	0,026		81	0,49	1,4	
9	0,42	0,41		84	0,43	0,60	
11	0,37	-0,27		85	0,46	0,96	
15	0,35	-0,47		86	0,38	-0,026	
16	0,38	-0,078		88	0,36	-0,29	
17	1,3	12	Outlier	89	0,27	-1,5	
18	0,51	1,6		92	0,30	-1,1	ND
19	19	237	Outlier	93	0,37	-0,18	
20	0,26	-1,7		95	0,38	-0,13	
22	3,8	44	Outlier	97	0,39	0,044	
24	0,38	-0,031		98	0,48	1,2	
25	1,0	8,0	Outlier,ND	99	0,37	-0,21	
27	0,32	-0,83		100	1,7	17	Outlier
30	0,50	1,5	ND	102	0,21	-2,3	
31	0,37	-0,25		106	0,50	1,5	
32	0,40	0,18		109	0,45	0,87	
35	0,45	0,82		112	0,36	-0,37	
36	0,49	1,4		113	0,33	-0,73	
38	0,46	0,96		114	0,38	-0,10	
39	0,44	0,76		116	0,49	1,3	
44	0,37	-0,21		119	0,10	-3,7	
45	0,38	-0,078		120	7,0	86	Outlier
46	0,32	-0,90					
47	0,41	0,31					
48	2,0	21	Outlier,ND				
49	0,38	-0,080					
51	0,32	-0,82					
52	0,20	-2,4					
53	0,51	1,6					
56	0,34	-0,60					
57	0,44	0,64					
58	2,4	26	Outlier,ND				
59	0,35	-0,47					
62	2,2	23	Outlier				
64	0,39	0,039					
65	0,50	1,5	ND				
69	0,62	3,0					
70	0,51	1,6					
71	0,35	-0,47					
74	0,49	1,4					
75	0,95	7,3	Outlier				
76	0,51	1,6					

Consensus statistics

Consensus median, pg/g	0,39
Median all values pg/g	0,41
Consensus mean, pg/g	0,40
Standard deviation, pg/g	0,099
Relative standard deviation, %	25
No. of values reported	70
No. of values removed	12
No. of reported non-detects	6

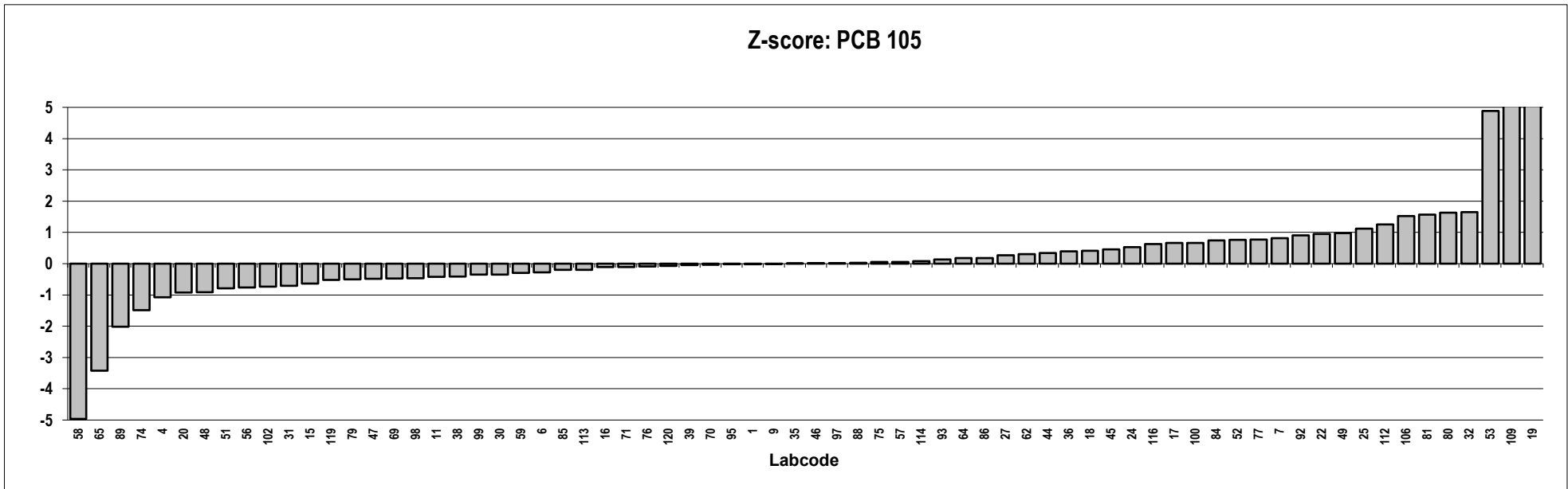
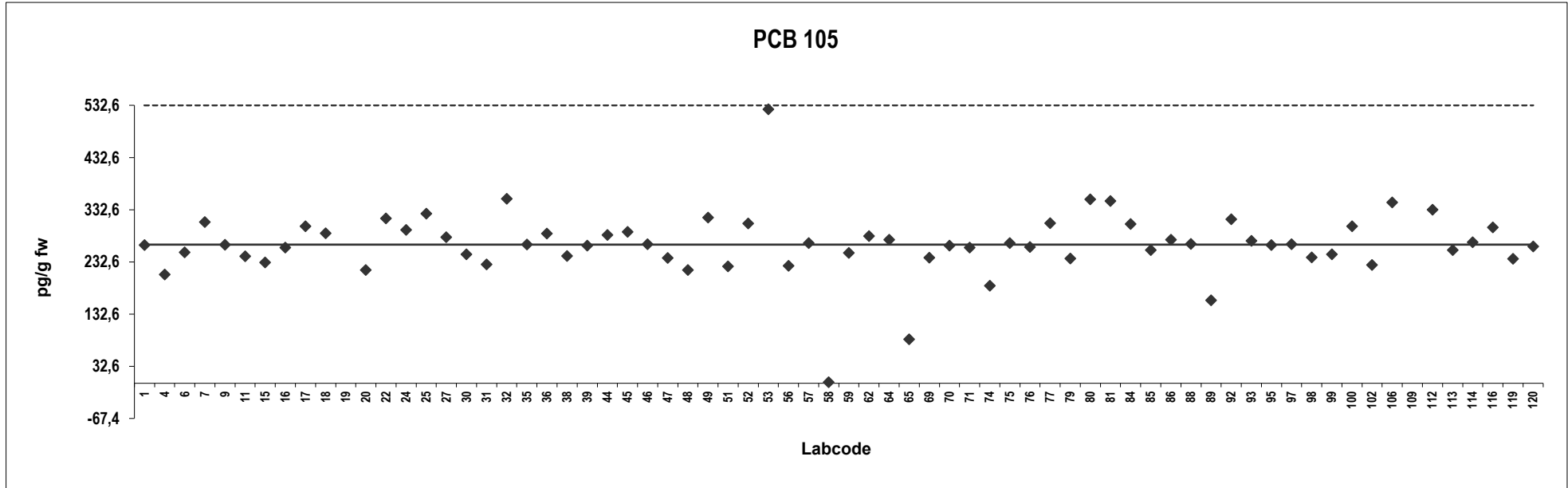


Salmon
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	265	-0,018		77	307	0,77	
4	209	-1,1		79	239	-0,50	
6	251	-0,28		80	352	1,6	
7	309	0,82		81	349	1,6	
9	265	-0,0093		84	305	0,74	
11	243	-0,42		85	255	-0,20	
15	232	-0,64		86	275	0,18	
16	260	-0,11		88	267	0,029	
17	301	0,67		89	159	-2,0	
18	288	0,41		92	314	0,91	
19	844	11	Outlier	93	273	0,14	
20	217	-0,92		95	265	-0,018	
22	316	0,95		97	267	0,018	
24	294	0,53		98	241	-0,46	
25	325	1,1		99	247	-0,35	
27	280	0,27		100	301	0,67	
30	247	-0,35		102	226	-0,74	
31	228	-0,71		106	347	1,5	
32	353	1,7		109	567	5,7	Outlier
35	266	0,0093		112	332	1,3	
36	287	0,40		113	255	-0,20	
38	244	-0,41		114	270	0,082	
39	264	-0,040		116	299	0,62	
44	284	0,35		119	238	-0,51	
45	290	0,46		120	262	-0,069	
46	266	0,015					
47	240	-0,48					
48	217	-0,92					
49	318	0,98					
51	224	-0,78					
52	306	0,76					
53	525	4,9					
56	225	-0,77					
57	269	0,059					
58	1,9	-5,0	ND				
59	250	-0,29					
62	282	0,31					
64	275	0,18					
65	84	-3,4					
69	240	-0,48					
70	264	-0,039					
71	260	-0,11					
74	187	-1,5					
75	269	0,056					
76	261	-0,088					

Consensus statistics

Consensus median, pg/g	266
Median all values pg/g	266
Consensus mean, pg/g	267
Standard deviation, pg/g	63
Relative standard deviation, %	24
No. of values reported	70
No. of values removed	2
No. of reported non-detects	1

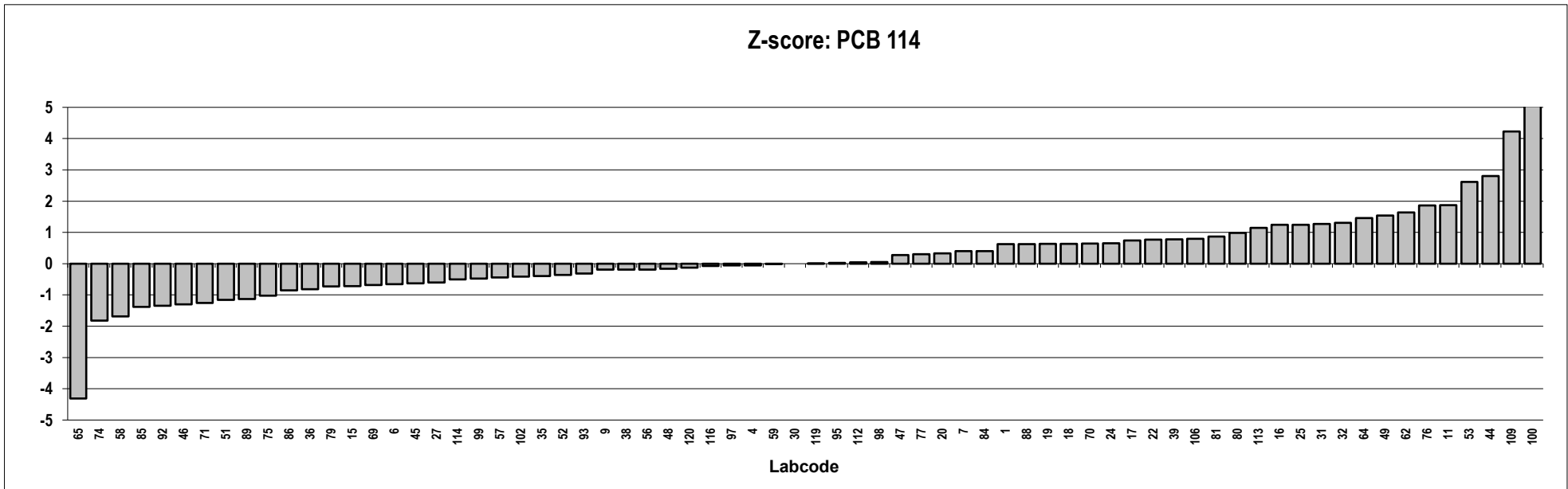
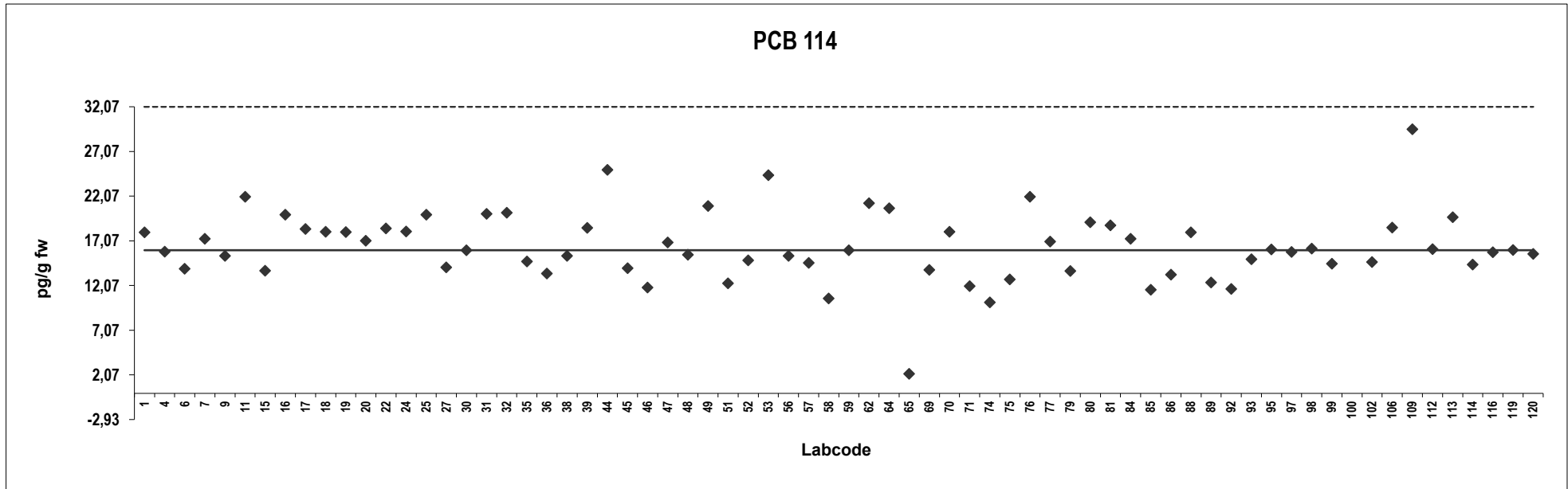


Salmon
Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	18	0,62		77	17	0,30	
4	16	-0,053		79	14	-0,72	
6	14	-0,65		80	19	0,98	
7	17	0,40		81	19	0,87	
9	15	-0,19		84	17	0,40	
11	22	1,9		85	12	-1,4	
15	14	-0,72		86	13	-0,85	
16	20	1,2		88	18	0,62	
17	18	0,74		89	12	-1,1	
18	18	0,64		92	12	-1,3	
19	18	0,64		93	15	-0,32	
20	17	0,33		95	16	0,023	
22	18	0,77		97	16	-0,059	
24	18	0,65		98	16	0,056	
25	20	1,2	ND	99	15	-0,47	
27	14	-0,60		100	33	5,2	Outlier
30	16	0,00		102	15	-0,42	
31	20	1,3		106	19	0,79	
32	20	1,3		109	30	4,2	
35	15	-0,39		112	16	0,042	
36	13	-0,82		113	20	1,1	
38	15	-0,19		114	14	-0,51	
39	19	0,78		116	16	-0,075	
44	25	2,8		119	16	0,011	
45	14	-0,63		120	16	-0,13	
46	12	-1,3					
47	17	0,27					
48	16	-0,16					
49	21	1,5					
51	12	-1,2					
52	15	-0,36					
53	24	2,6					
56	15	-0,19					
57	15	-0,44					
58	11	-1,7					
59	16	-0,0059					
62	21	1,6					
64	21	1,5					
65	2	-4,3	ND				
69	14	-0,68					
70	18	0,65					
71	12	-1,3					
74	10	-1,8					
75	13	-1,0					
76	22	1,9					

Consensus statistics

Consensus median, pg/g	16
Median all values pg/g	16
Consensus mean, pg/g	16
Standard deviation, pg/g	3,9
Relative standard deviation, %	24
No. of values reported	70
No. of values removed	1
No. of reported non-detects	2

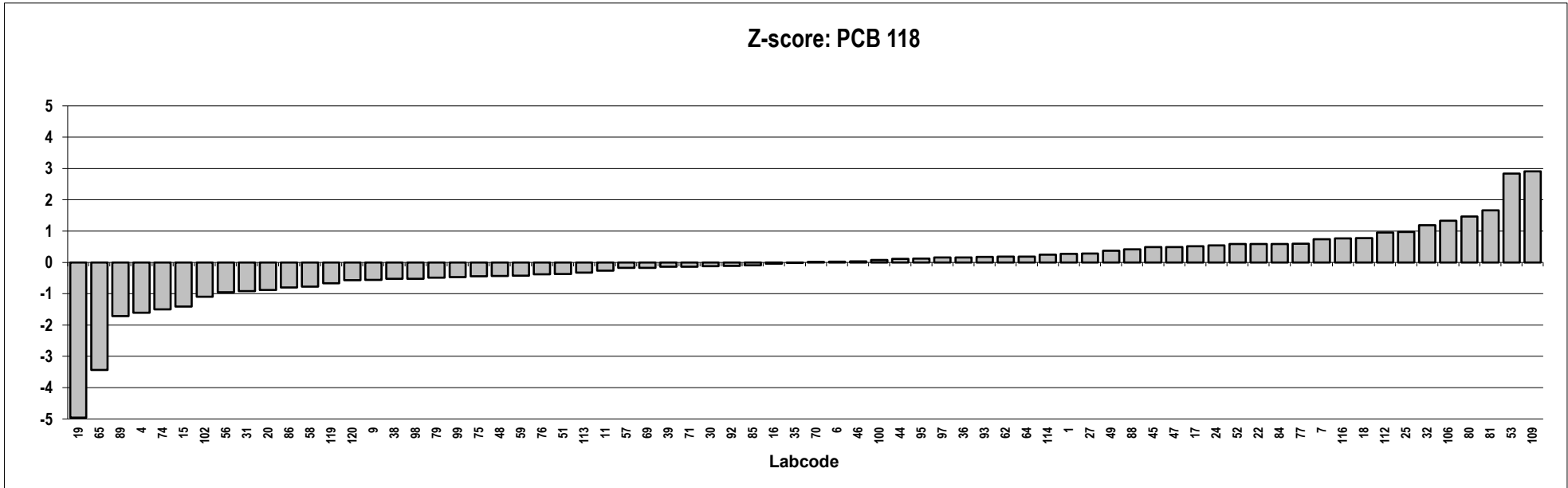
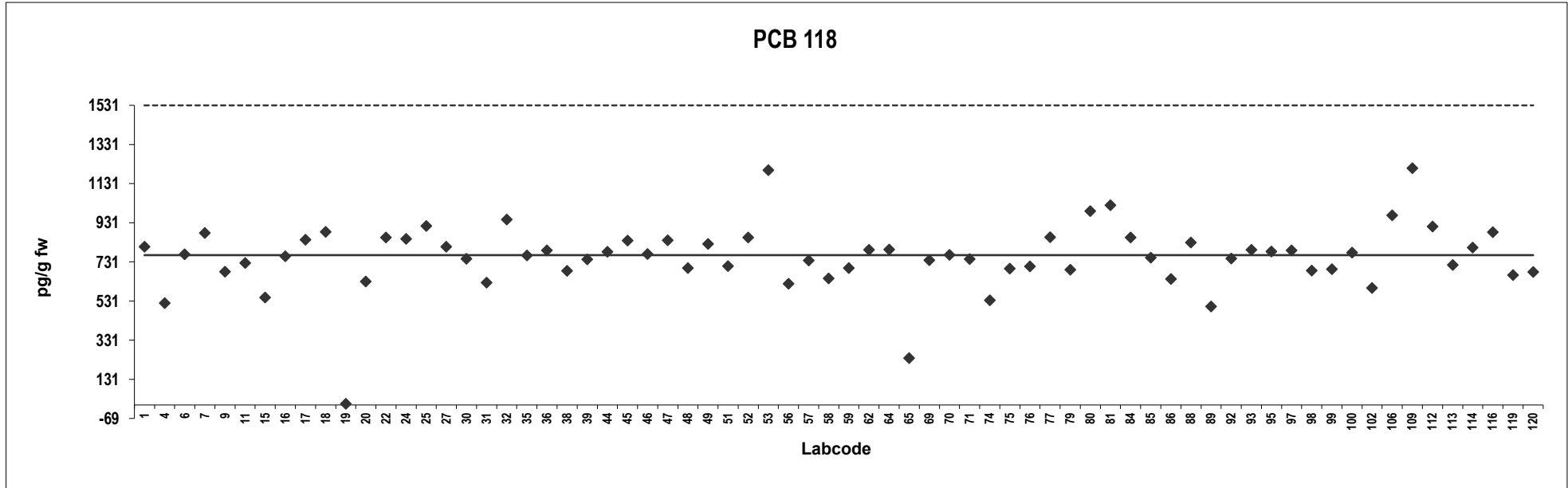


Salmon
Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	808	0,28		77	857	0,60	
4	520	-1,6		79	692	-0,48	
6	769	0,024		80	990	1,5	
7	879	0,74		81	1020	1,7	
9	681	-0,55		84	856	0,59	
11	726	-0,26		85	752	-0,089	
15	550	-1,4		86	643	-0,80	
16	760	-0,036		88	830	0,42	
17	845	0,52		89	503	-1,7	
18	885	0,78		92	748	-0,11	
19	6	-5,0		93	792	0,17	
20	631	-0,88		95	784	0,12	
22	856	0,59		97	790	0,16	
24	849	0,55		98	686	-0,52	
25	915	0,98		99	694	-0,47	
27	809	0,28		100	778	0,081	
30	747	-0,12		102	598	-1,1	
31	625	-0,92		106	969	1,3	
32	947	1,2		109	1210	2,9	
35	764	-0,011		112	912	0,95	
36	790	0,16		113	716	-0,32	
38	685	-0,53		114	804	0,25	
39	744	-0,14		116	883	0,77	
44	783	0,11		119	664	-0,67	
45	840	0,49		120	679	-0,57	
46	771	0,033					
47	841	0,49					
48	699	-0,43					
49	822	0,37					
51	709	-0,37					
52	855	0,59					
53	1200	2,8					
56	620	-0,95					
57	738	-0,18					
58	647	-0,77					
59	700	-0,43					
62	793	0,18					
64	794	0,19					
65	240	-3,4					
69	739	-0,17					
70	767	0,011					
71	745	-0,13					
74	535	-1,5					
75	697	-0,45					
76	708	-0,38					

Consensus statistics

Consensus median, pg/g	766
Median all values pg/g	766
Consensus mean, pg/g	756
Standard deviation, pg/g	170
Relative standard deviation, %	23
No. of values reported	70
No. of values removed	0
No. of reported non-detects	0

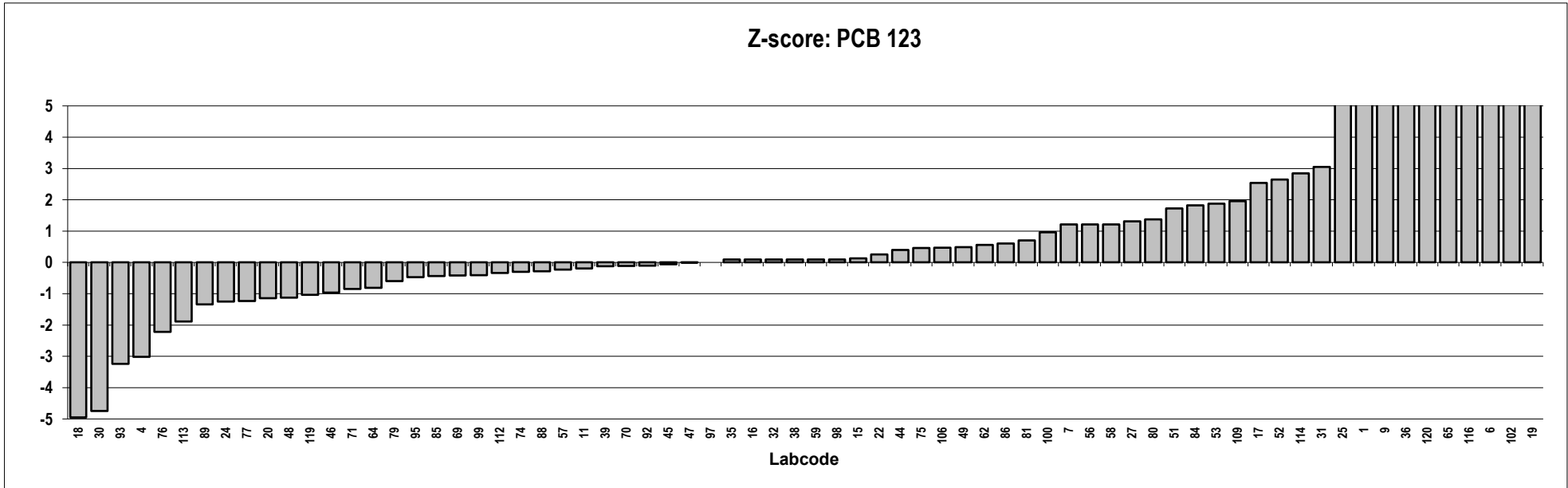
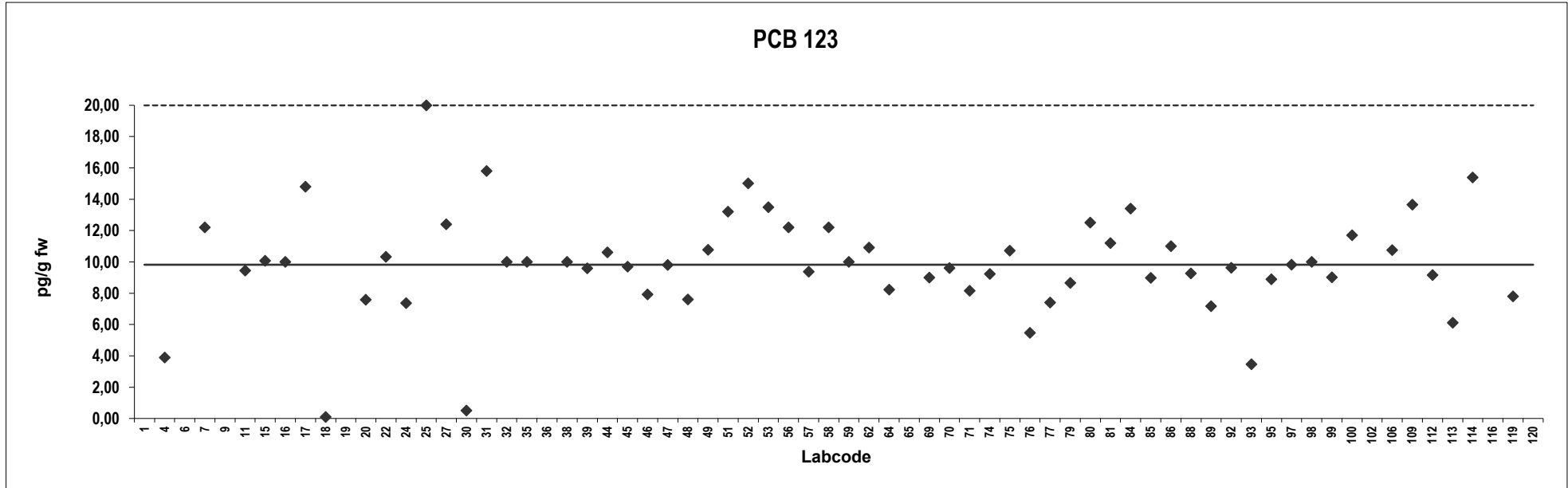


Salmon
Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	21	5,6	Outlier	77	7,4	-1,2	
4	3,9	-3,0		79	8,6	-0,6	
6	79	35	Outlier	80	13	1,4	
7	12	1,2		81	11	0,70	
9	25	7,8	Outlier	84	13	1,8	
11	9,4	-0,19		85	9,0	-0,43	
15	10	0,12		86	11	0,60	
16	10	0,093		88	9,3	-0,28	
17	15	2,5		89	7,2	-1,3	
18	0,10	-4,9	ND	92	9,6	-0,10	
19	115	54	Outlier	93	3,5	-3,2	ND
20	7,6	-1,1		95	8,9	-0,47	
22	10	0,25		97	9,8	0,00	
24	7,4	-1,2		98	10	0,093	
25	20	5,2	ND	99	9,0	-0,41	
27	12	1,3		100	12	0,96	
30	0,50	-4,7	ND	102	100	46	Outlier
31	16	3,0	ND	106	11	0,47	
32	10	0,093		109	14	2,0	
35	10	0,093		112	9,2	-0,34	
36	29	9,7	Outlier	113	6,1	-1,9	
38	10	0,093		114	15	2,8	
39	9,6	-0,12		116	72	32	Outlier
44	11	0,40		119	7,8	-1,0	
45	9,7	-0,060		120	32	11	Outlier
46	7,9	-0,96					
47	9,8	-0,0091					
48	7,6	-1,1					
49	11	0,49					
51	13	1,7					
52	15	2,6					
53	14	1,9					
56	12	1,2					
57	9,4	-0,23					
58	12	1,2					
59	10	0,093					
62	11	0,56					
64	8,2	-0,81					
65	48	19	Outlier,ND				
69	9,0	-0,41					
70	9,6	-0,11					
71	8,2	-0,85					
74	9,2	-0,30					
75	11	0,46					
76	5,5	-2,2					

Consensus statistics

Consensus median, pg/g	9,8
Median all values pg/g	10
Consensus mean, pg/g	9,9
Standard deviation, pg/g	3,3
Relative standard deviation, %	33
No. of values reported	70
No. of values removed	9
No. of reported non-detects	6



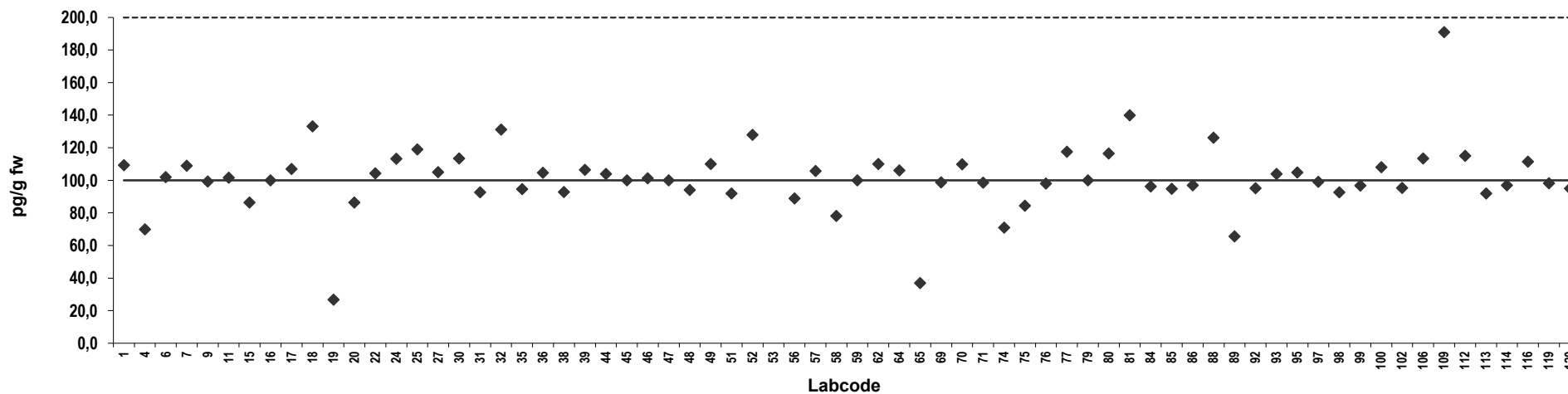
Salmon
Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	109	0,47		77	118	0,88	
4	70	-1,5		79	100	-0,0045	
6	102	0,10		80	117	0,83	
7	109	0,45		81	140	2,0	
9	99	-0,038		84	96	-0,19	
11	102	0,081		85	95	-0,26	
15	86	-0,68		86	97	-0,16	
16	100	0,00		88	126	1,3	
17	107	0,35		89	66	-1,7	
18	133	1,7		92	95	-0,24	
19	27	-3,7		93	104	0,20	
20	86	-0,69		95	105	0,24	
22	104	0,21		97	99	-0,042	
24	113	0,66		98	93	-0,37	
25	119	0,95		99	97	-0,16	
27	105	0,25		100	108	0,40	
30	113	0,67		102	95	-0,23	
31	93	-0,37		106	113	0,67	
32	131	1,6		109	191	4,6	
35	95	-0,27		112	115	0,75	
36	105	0,23		113	92	-0,41	
38	93	-0,36		114	97	-0,15	
39	106	0,32		116	112	0,58	
44	104	0,20		119	98	-0,093	
45	100	0,00		120	95	-0,25	
46	101	0,059					
47	100	0,00					
48	94	-0,30					
49	110	0,50					
51	92	-0,40					
52	128	1,4					
53	230	6,5	Outlier				
56	89	-0,56					
57	106	0,29					
58	78	-1,1					
59	100	0,00					
62	110	0,50					
64	106	0,30					
65	37	-3,2					
69	99	-0,064					
70	110	0,50					
71	99	-0,075					
74	71	-1,5					
75	84	-0,78					
76	98	-0,10					

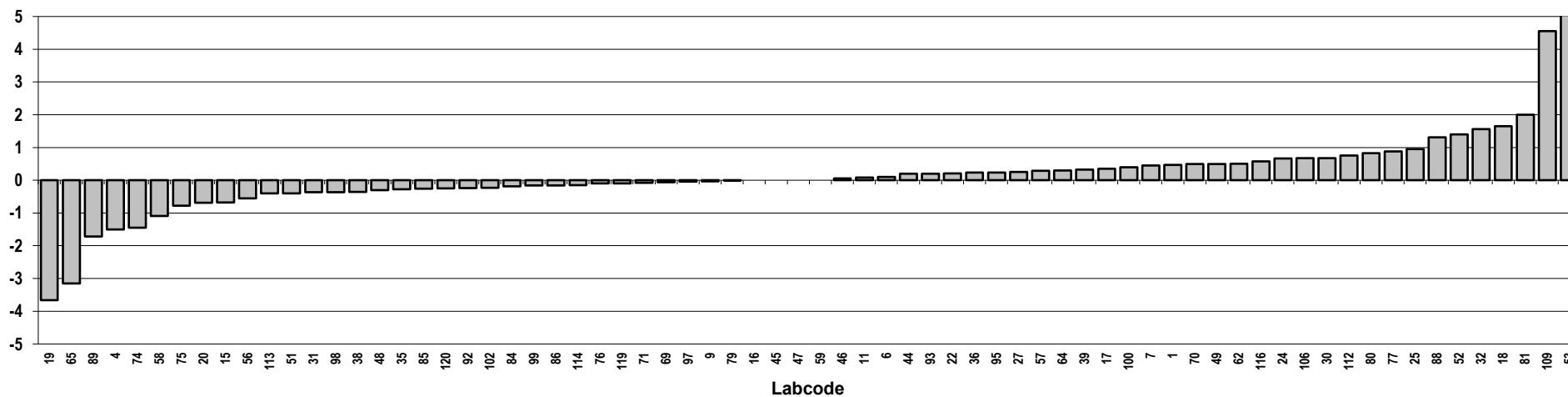
Consensus statistics

Consensus median, pg/g	100
Median all values pg/g	100
Consensus mean, pg/g	101
Standard deviation, pg/g	21
Relative standard deviation, %	21
No. of values reported	70
No. of values removed	1
No. of reported non-detects	0

PCB 156



Z-score: PCB 156

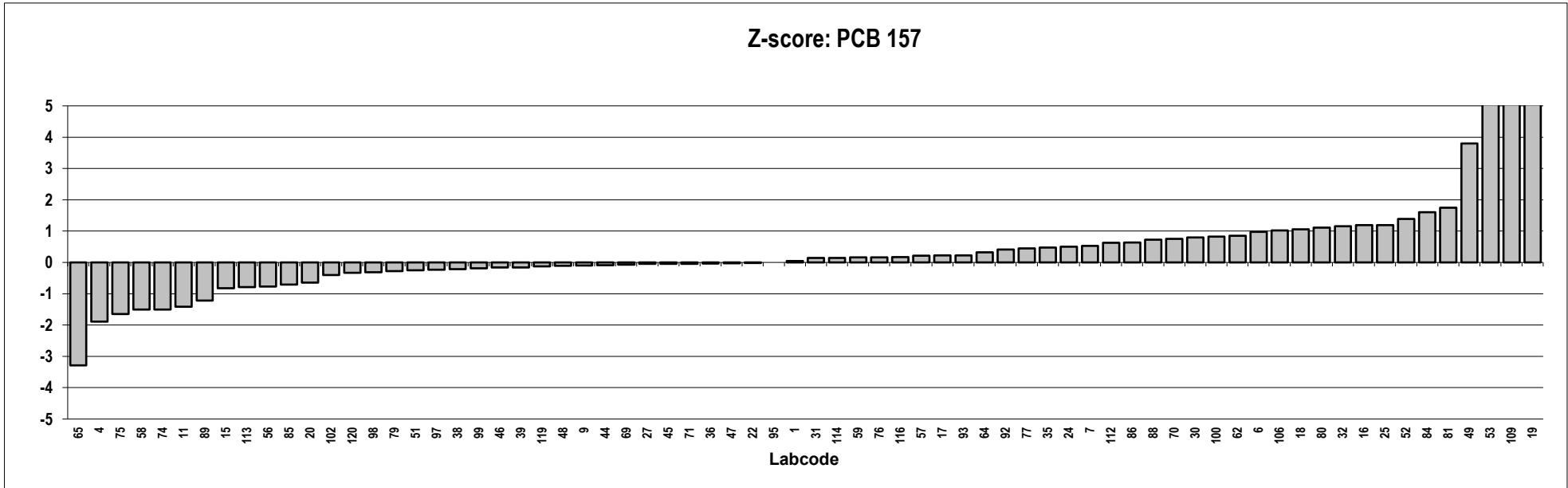
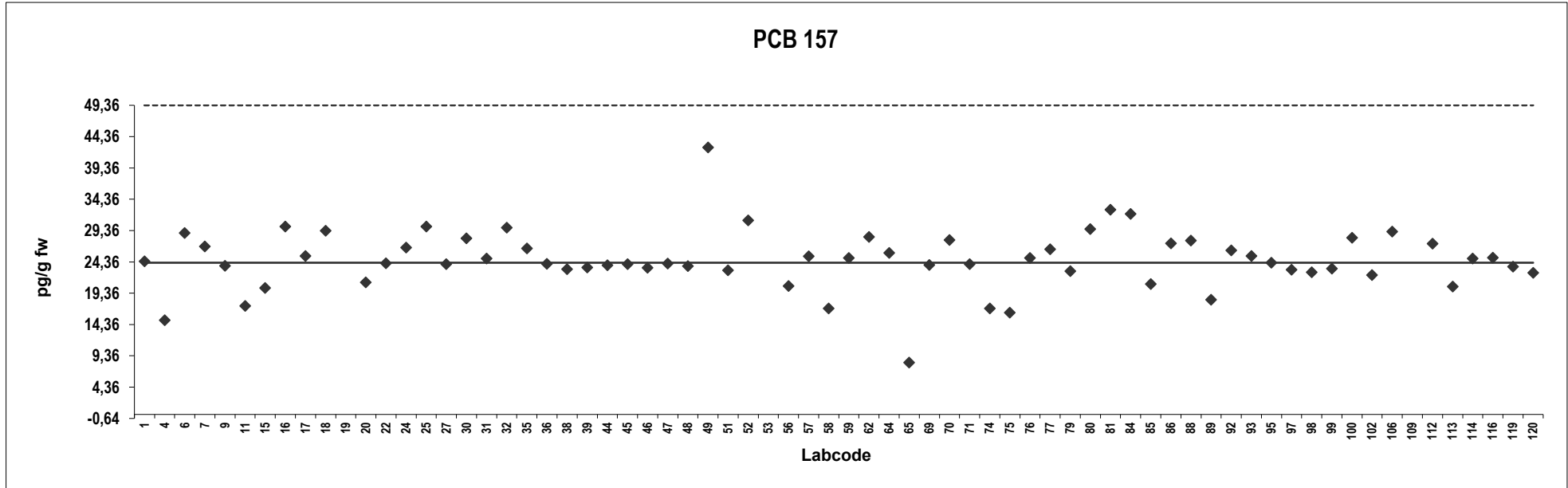


Salmon
Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	24	0,049		77	26	0,45	
4	15	-1,9		79	23	-0,28	
6	29	0,98		80	30	1,1	
7	27	0,53		81	33	1,8	
9	24	-0,099		84	32	1,6	
11	17	-1,4		85	21	-0,71	
15	20	-0,83		86	27	0,64	
16	30	1,2		88	28	0,73	
17	25	0,22		89	18	-1,2	
18	29	1,1		92	26	0,41	
19	62	7,9	Outlier	93	25	0,22	
20	21	-0,64		95	24	0,00	
22	24	-0,017		97	23	-0,23	
24	27	0,50		98	23	-0,31	
25	30	1,2	ND	99	23	-0,19	
27	24	-0,046		100	28	0,82	
30	28	0,80		102	22	-0,41	
31	25	0,14		106	29	1,0	
32	30	1,2		109	57	6,7	Outlier
35	27	0,47		112	27	0,63	
36	24	-0,040		113	20	-0,79	
38	23	-0,21		114	25	0,14	
39	23	-0,16		116	25	0,17	
44	24	-0,087		119	24	-0,13	
45	24	-0,046		120	23	-0,33	
46	23	-0,16					
47	24	-0,025					
48	24	-0,11					
49	43	3,8					
51	23	-0,25					
52	31	1,4					
53	55	6,3	Outlier				
56	21	-0,77					
57	25	0,21					
58	17	-1,5					
59	25	0,16					
62	28	0,85					
64	26	0,33					
65	8	-3,3	ND				
69	24	-0,072					
70	28	0,75					
71	24	-0,046					
74	17	-1,5					
75	16	-1,6					
76	25	0,16					

Consensus statistics

Consensus median, pg/g	24
Median all values pg/g	25
Consensus mean, pg/g	25
Standard deviation, pg/g	4,8
Relative standard deviation, %	19
No. of values reported	70
No. of values removed	3
No. of reported non-detects	2

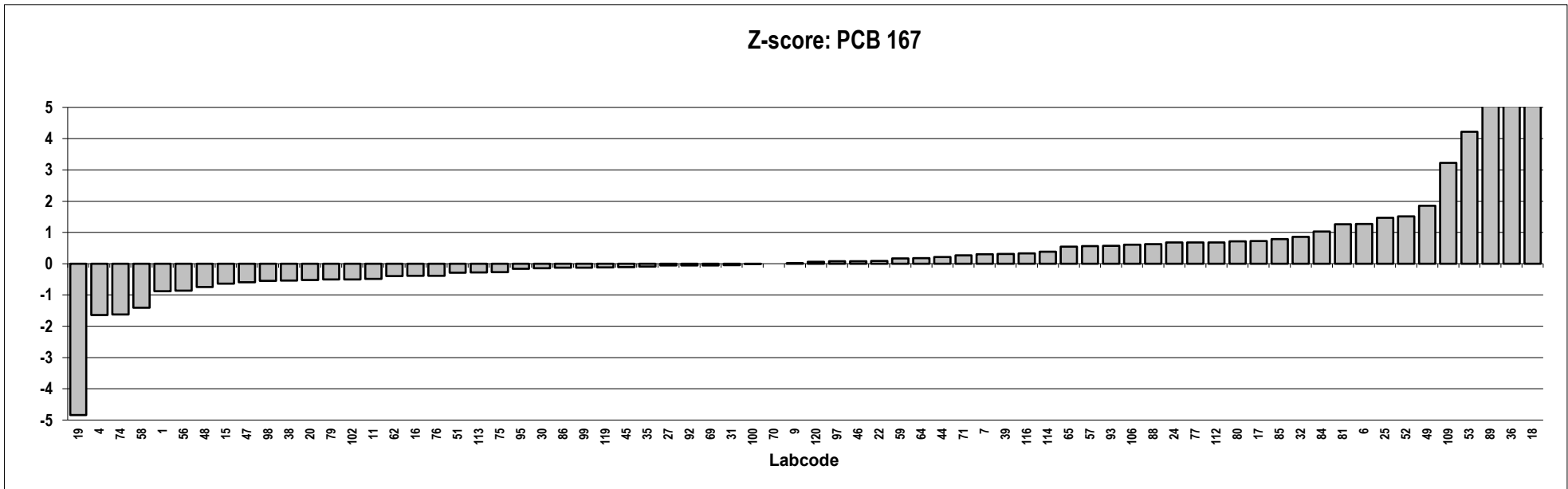
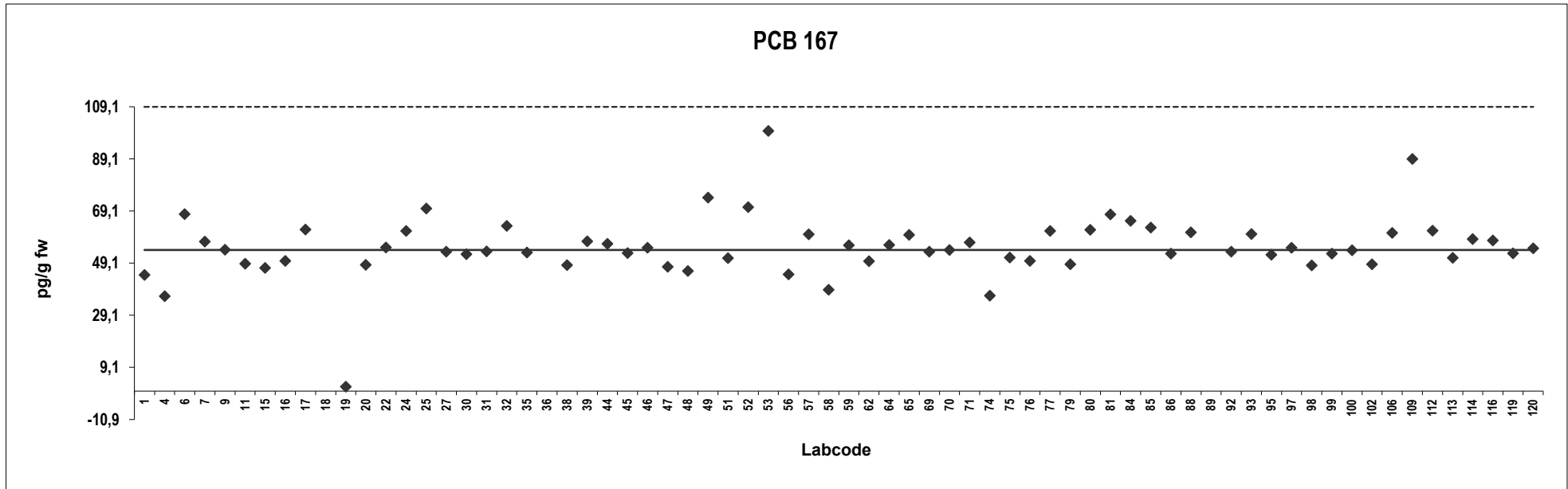


Salmon
Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	45	-0,88		77	61	0,68	
4	36	-1,6		79	49	-0,50	
6	68	1,3		80	62	0,71	
7	57	0,30		81	68	1,3	
9	54	0,014		84	65	1,0	
11	49	-0,49		85	63	0,79	
15	47	-0,63		86	53	-0,12	
16	50	-0,38		88	61	0,62	
17	62	0,72		89	138	7,7	Outlier
18	259	19	Outlier	92	54	-0,060	
19	1,7	-4,8		93	60	0,57	
20	48	-0,52		95	52	-0,17	
22	55	0,085		97	55	0,075	
24	61	0,67		98	48	-0,55	
25	70	1,5		99	53	-0,12	
27	54	-0,060		100	54	-0,014	
30	53	-0,14		102	49	-0,50	
31	54	-0,051		106	61	0,61	
32	63	0,85		109	89	3,2	
35	53	-0,091		112	62	0,68	
36	198	13	Outlier	113	51	-0,28	
38	48	-0,54		114	58	0,38	
39	58	0,31		116	58	0,33	
44	57	0,22		119	53	-0,12	
45	53	-0,11		120	55	0,060	
46	55	0,080					
47	48	-0,60					
48	46	-0,74					
49	74	1,9					
51	51	-0,29					
52	71	1,5					
53	100	4,2					
56	45	-0,86					
57	60	0,56					
58	39	-1,4					
59	56	0,17					
62	50	-0,40					
64	56	0,18					
65	60	0,54	ND				
69	54	-0,056					
70	54	0,00					
71	57	0,26					
74	37	-1,6					
75	51	-0,27					
76	50	-0,38					

Consensus statistics

Consensus median, pg/g	54
Median all values pg/g	55
Consensus mean, pg/g	55
Standard deviation, pg/g	12
Relative standard deviation, %	22
No. of values reported	70
No. of values removed	3
No. of reported non-detects	1

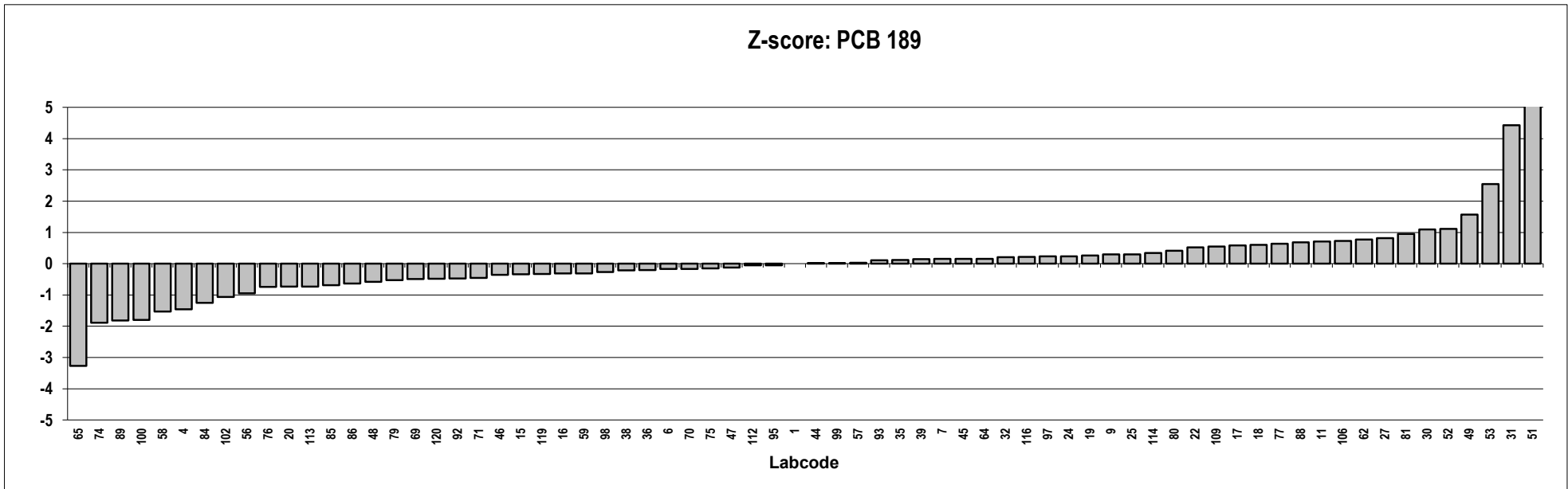
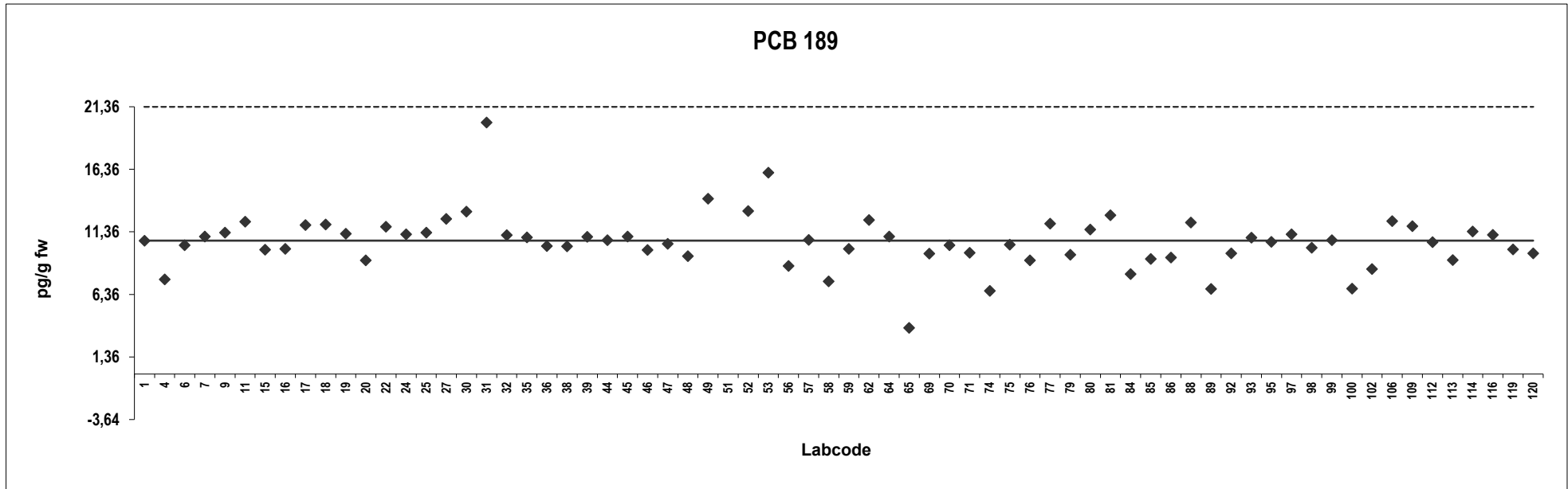


Salmon
Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
1	11	0,00		77	12	0,63	
4	7,6	-1,5		79	9,5	-0,52	
6	10	-0,17		80	12	0,41	
7	11	0,16		81	13	0,96	
9	11	0,30		84	8,0	-1,2	
11	12	0,71		85	9,2	-0,69	
15	9,9	-0,34		86	9,3	-0,63	
16	10	-0,31	ND	88	12	0,68	
17	12	0,58		89	6,8	-1,8	
18	12	0,60		92	9,7	-0,48	
19	11	0,26		93	11	0,11	
20	9,1	-0,73		95	11	-0,047	
22	12	0,52		97	11	0,23	
24	11	0,23		98	10	-0,26	
25	11	0,30		99	11	0,017	
27	12	0,81		100	6,8	-1,8	
30	13	1,1		102	8,4	-1,1	
31	20	4,4	ND	106	12	0,73	
32	11	0,20		109	12	0,54	
35	11	0,12		112	11	-0,053	
36	10	-0,20		113	9,1	-0,73	
38	10	-0,22		114	11	0,35	
39	11	0,14		116	11	0,22	
44	11	0,017		119	10	-0,33	
45	11	0,16		120	9,6	-0,48	
46	9,9	-0,35					
47	10	-0,12					
48	9,4	-0,58					
49	14	1,6					
51	27	7,7	Outlier				
52	13	1,1					
53	16	2,5					
56	8,6	-0,95					
57	11	0,027					
58	7,4	-1,5					
59	10	-0,31					
62	12	0,78					
64	11	0,16					
65	3,7	-3,3	ND				
69	9,6	-0,49					
70	10	-0,17					
71	9,7	-0,45					
74	6,6	-1,9					
75	10	-0,15					
76	9,1	-0,74					

Consensus statistics

Consensus median, pg/g	11
Median all values pg/g	11
Consensus mean, pg/g	11
Standard deviation, pg/g	2,2
Relative standard deviation, %	21
No. of values reported	70
No. of values removed	1
No. of reported non-detects	3

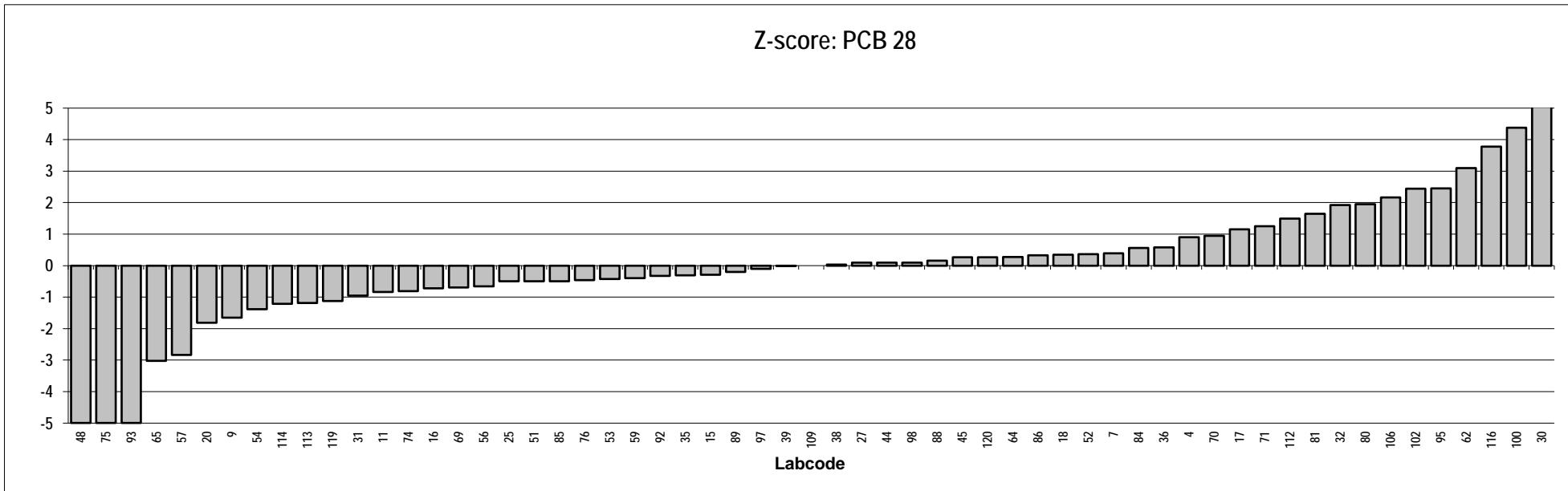
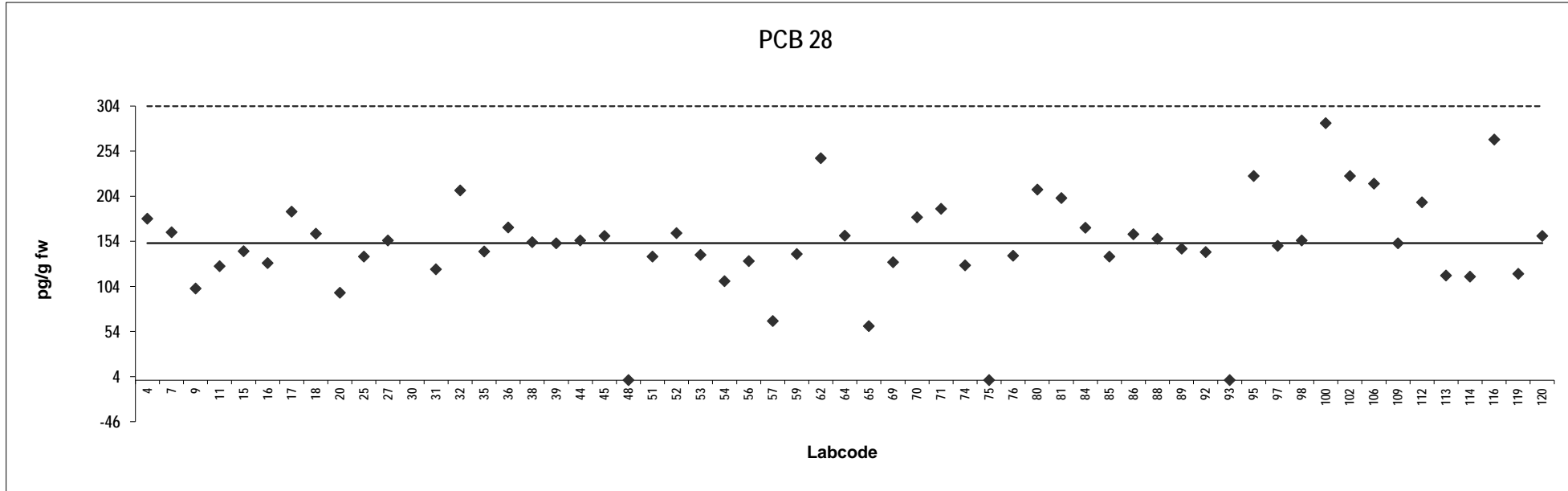


Salmon
Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
4	179	0,90		93	0,19	-5,0	
7	164	0,39		95	226	2,4	
9	102	-1,7		97	149	-0,10	
11	126	-0,84		98	155	0,099	
15	143	-0,29		100	285	4,4	
16	130	-0,72		102	226	2,4	
17	187	1,2		106	218	2,2	
18	162	0,34		109	152	0,00	
20	97	-1,8		112	197	1,5	
25	137	-0,49		113	116	-1,2	
27	155	0,099		114	115	-1,2	
30	373	7,3	Outlier	116	267	3,8	
31	123	-0,95		119	118	-1,1	
32	211	1,9		120	160	0,26	
35	143	-0,31					
36	170	0,58					
38	153	0,033					
39	152	-0,0033					
44	155	0,099					
45	160	0,26					
48	0,10	-5,0	ND				
51	137	-0,49					
52	163	0,36					
53	139	-0,43					
54	110	-1,4					
56	132	-0,66					
57	66	-2,8					
59	140	-0,39					
62	246	3,1					
64	160	0,28					
65	60	-3,0					
69	131	-0,70					
70	181	0,94					
71	190	1,3					
74	127	-0,81					
75	0,13	-5,0					
76	138	-0,46					
80	211	2,0					
81	202	1,6					
84	169	0,56					
85	137	-0,49					
86	162	0,33					
88	157	0,16					
89	146	-0,20					
92	142	-0,33					

Consensus statistics

Consensus median, pg/g	152
Median all values pg/g	152
Consensus mean, pg/g	150
Standard deviation, pg/g	55
Relative standard deviation, %	37
No. of values reported	59
No. of values removed	1
No. of reported non-detects	1

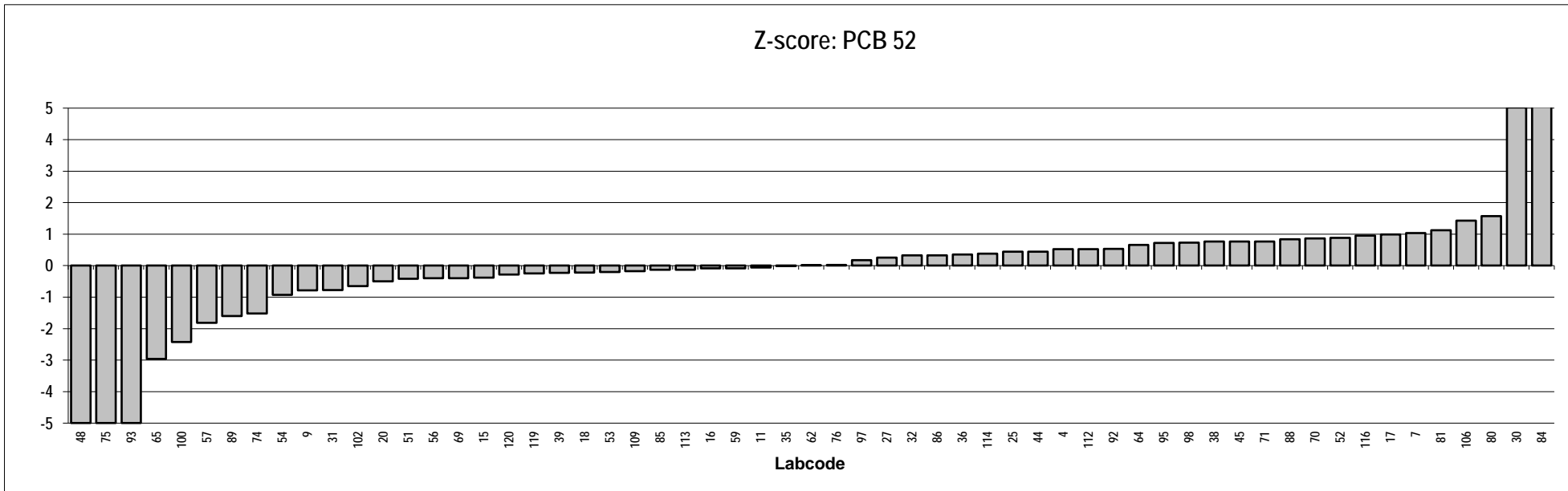
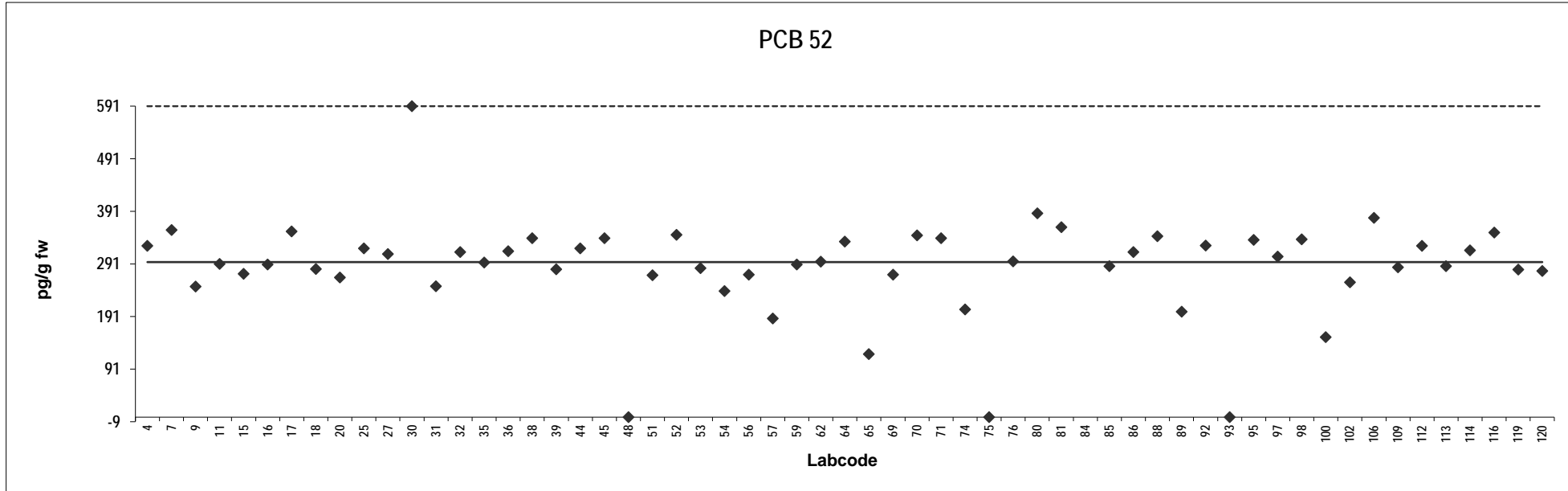


Salmon
Congener: PCB 52

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
4	326	0,52		93	0,33	-5,0	
7	356	1,0		95	337	0,72	
9	249	-0,79		97	305	0,18	
11	291	-0,063		98	338	0,73	
15	272	-0,38		100	152	-2,4	
16	290	-0,082		102	256	-0,65	
17	353	0,99		106	379	1,4	
18	282	-0,22		109	285	-0,17	
20	265	-0,50		112	326	0,53	
25	321	0,44		113	287	-0,13	
27	310	0,26		114	317	0,38	
30	591	5,0		116	351	1,0	
31	249	-0,78		119	280	-0,24	
32	314	0,33		120	278	-0,29	
35	294	-0,015					
36	316	0,35					
38	340	0,77					
39	281	-0,23					
44	321	0,44					
45	340	0,77					
48	0,25	-5,0					
51	270	-0,42					
52	347	0,88					
53	283	-0,20					
54	240	-0,93					
56	271	-0,40					
57	188	-1,8					
59	290	-0,082					
62	296	0,015					
64	334	0,66					
65	120	-3,0					
69	271	-0,40					
70	346	0,86					
71	340	0,77					
74	205	-1,5					
75	0,27	-5,0					
76	296	0,020					
80	387	1,6					
81	361	1,1					
84	778	8,2	Outlier				
85	287	-0,13					
86	314	0,33					
88	344	0,84					
89	201	-1,6					
92	326	0,53					

Consensus statistics

Consensus median, pg/g	295
Median all values pg/g	296
Consensus mean, pg/g	286
Standard deviation, pg/g	93
Relative standard deviation, %	32
No. of values reported	59
No. of values removed	1
No. of reported non-detects	0

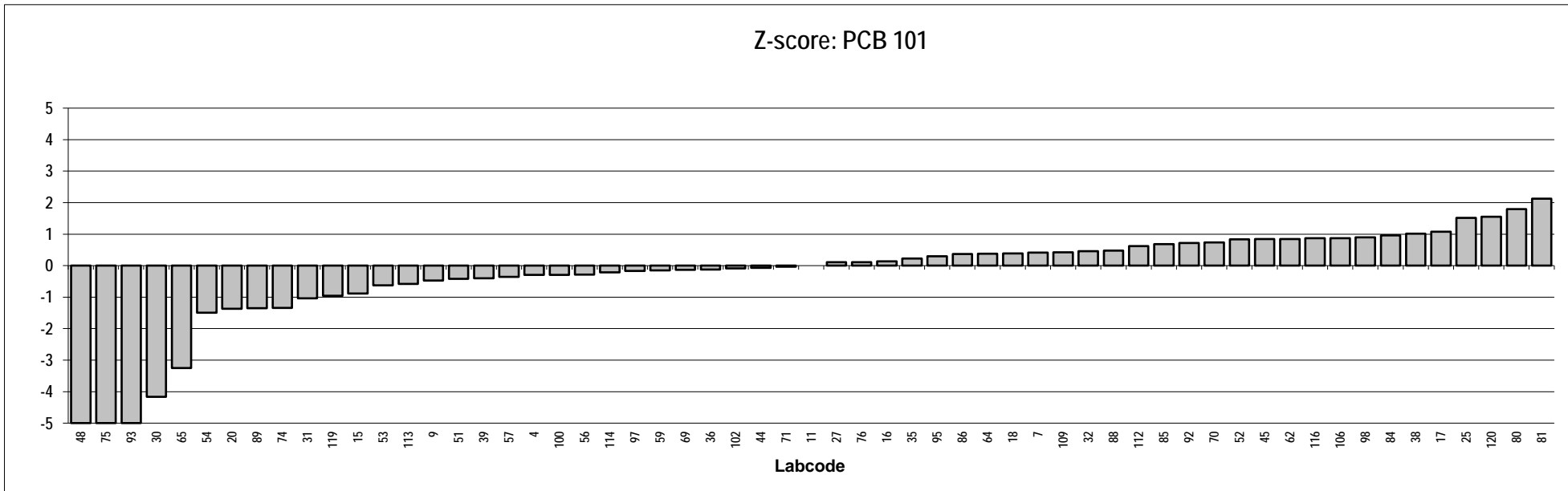
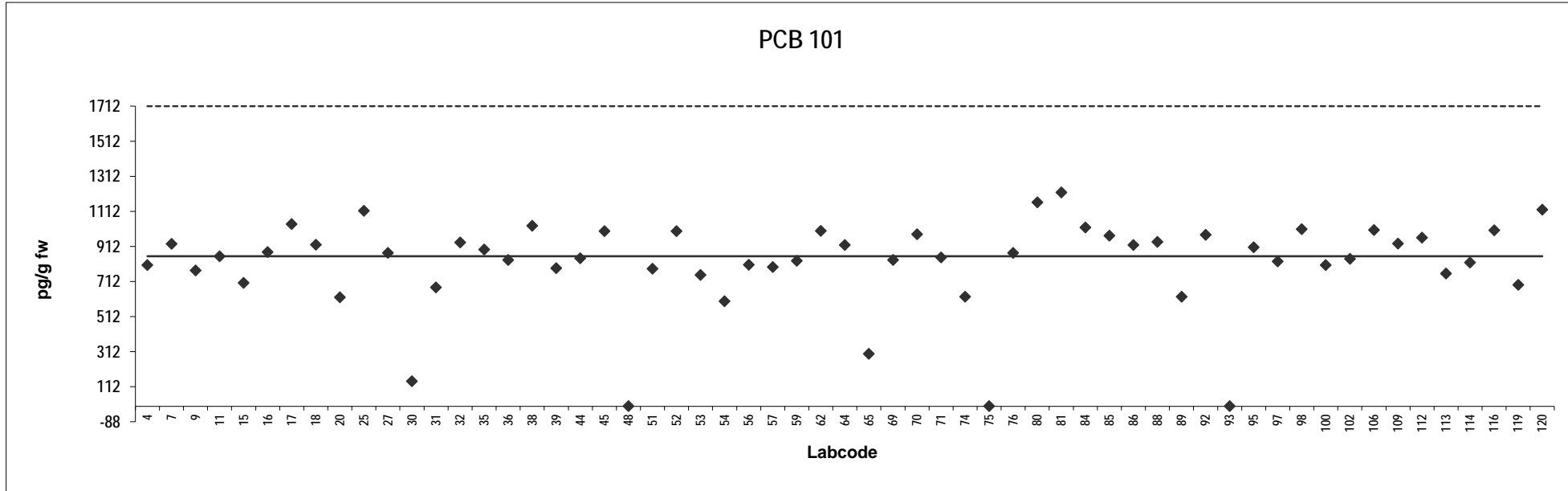


Salmon
Congener: PCB 101

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
4	805	-0,30		93	0,93	-5,0	
7	927	0,41		95	908	0,30	
9	776	-0,47		97	827	-0,17	
11	856	0,00		98	1010	0,90	
15	704	-0,89		100	806	-0,29	
16	880	0,14		102	841	-0,091	
17	1040	1,1		106	1005	0,87	
18	923	0,39		109	929	0,43	
20	622	-1,4		112	963	0,62	
25	1116	1,5		113	757	-0,58	
27	875	0,11		114	820	-0,21	
30	143	-4,2		116	1005	0,87	
31	679	-1,0		119	693	-0,95	
32	935	0,46		120	1122	1,6	
35	895	0,22					
36	836	-0,12					
38	1030	1,0					
39	788	-0,40					
44	845	-0,066					
45	1000	0,84					
48	0,78	-5,0					
51	785	-0,42					
52	999	0,83					
53	749	-0,63					
54	600	-1,5					
56	808	-0,28					
57	795	-0,36					
59	830	-0,15					
62	1001	0,85					
64	921	0,38					
65	300	-3,2					
69	834	-0,13					
70	982	0,73					
71	850	-0,036					
74	626	-1,3					
75	0,82	-5,0					
76	875	0,11					
80	1163	1,8					
81	1220	2,1					
84	1020	0,96					
85	973	0,68					
86	920	0,37					
88	938	0,48					
89	625	-1,3					
92	979	0,72					

Consensus statistics

Consensus median, pg/g	856
Median all values pg/g	856
Consensus mean, pg/g	816
Standard deviation, pg/g	261
Relative standard deviation, %	32
No. of values reported	59
No. of values removed	0
No. of reported non-detects	0

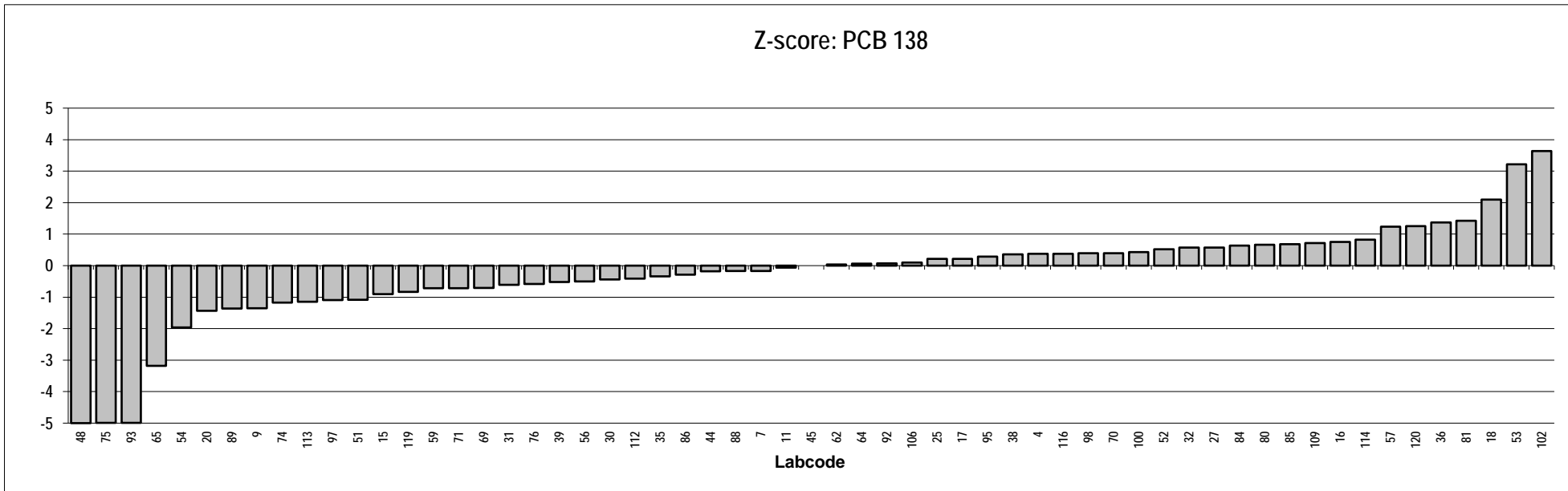
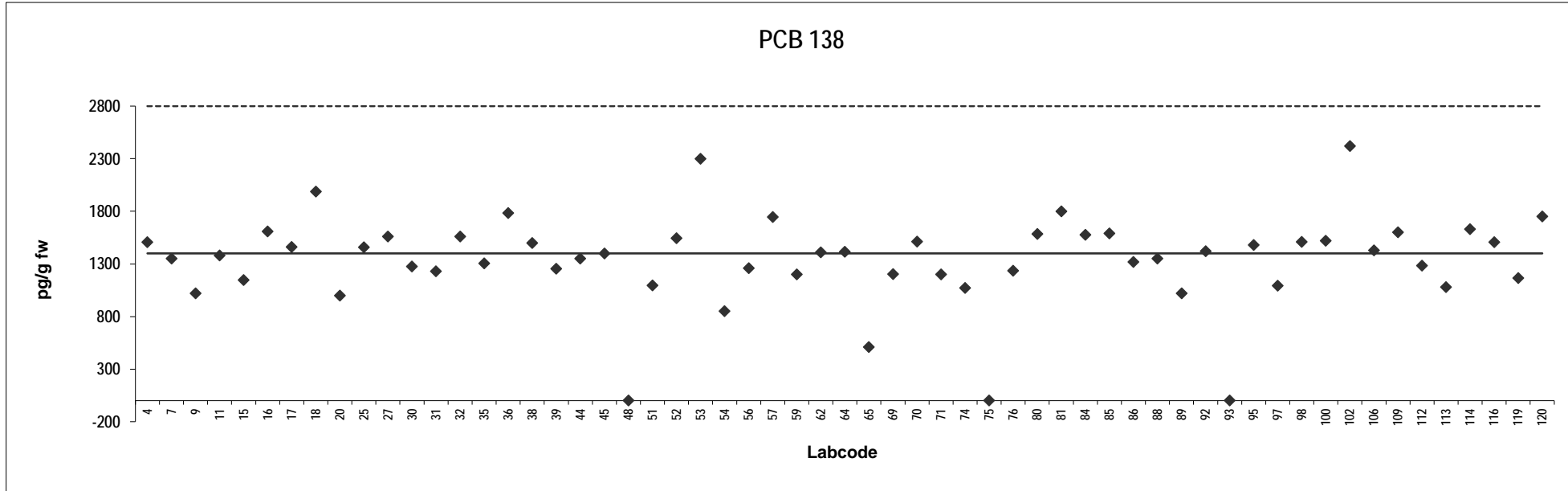


Salmon
Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
4	1506	0,38		93	1	-5,0	
7	1352	-0,17		95	1480	0,29	
9	1021	-1,4		97	1093	-1,1	
11	1382	-0,066		98	1510	0,39	
15	1147	-0,91		100	1520	0,43	
16	1610	0,75		102	2419	3,6	
17	1460	0,21		106	1428	0,10	
18	1986	2,1		109	1600	0,71	
20	999	-1,4		112	1284	-0,42	
25	1459	0,21		113	1080	-1,1	
27	1560	0,57		114	1630	0,82	
30	1277	-0,44		116	1506	0,38	
31	1230	-0,61		119	1166	-0,83	
32	1560	0,57		120	1750	1,3	
35	1306	-0,34					
36	1784	1,4					
38	1500	0,36					
39	1255	-0,52					
44	1350	-0,18					
45	1400	0,00					
48	1,0	-5,0					
51	1096	-1,1					
52	1545	0,52					
53	2300	3,2					
54	850	-2,0					
56	1260	-0,50					
57	1746	1,2					
59	1200	-0,71					
62	1410	0,036					
64	1416	0,059					
65	510	-3,2					
69	1202	-0,71					
70	1511	0,40					
71	1200	-0,71					
74	1072	-1,2					
75	1,3	-5,0					
76	1236	-0,59					
80	1585	0,66					
81	1800	1,4					
84	1578	0,64					
85	1590	0,68					
86	1320	-0,29					
88	1352	-0,17					
89	1020	-1,4					
92	1420	0,071					

Consensus statistics

Consensus median, pg/g	1400
Median all values pg/g	1400
Consensus mean, pg/g	1336
Standard deviation, pg/g	437
Relative standard deviation, %	33
No. of values reported	59
No. of values removed	0
No. of reported non-detects	0

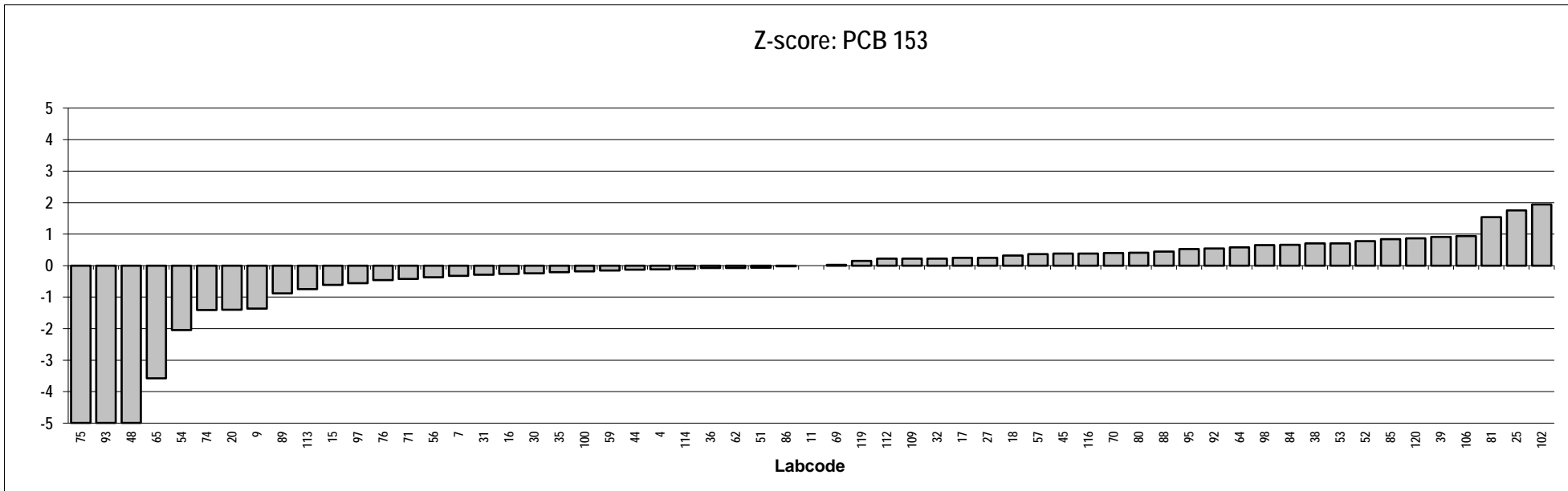
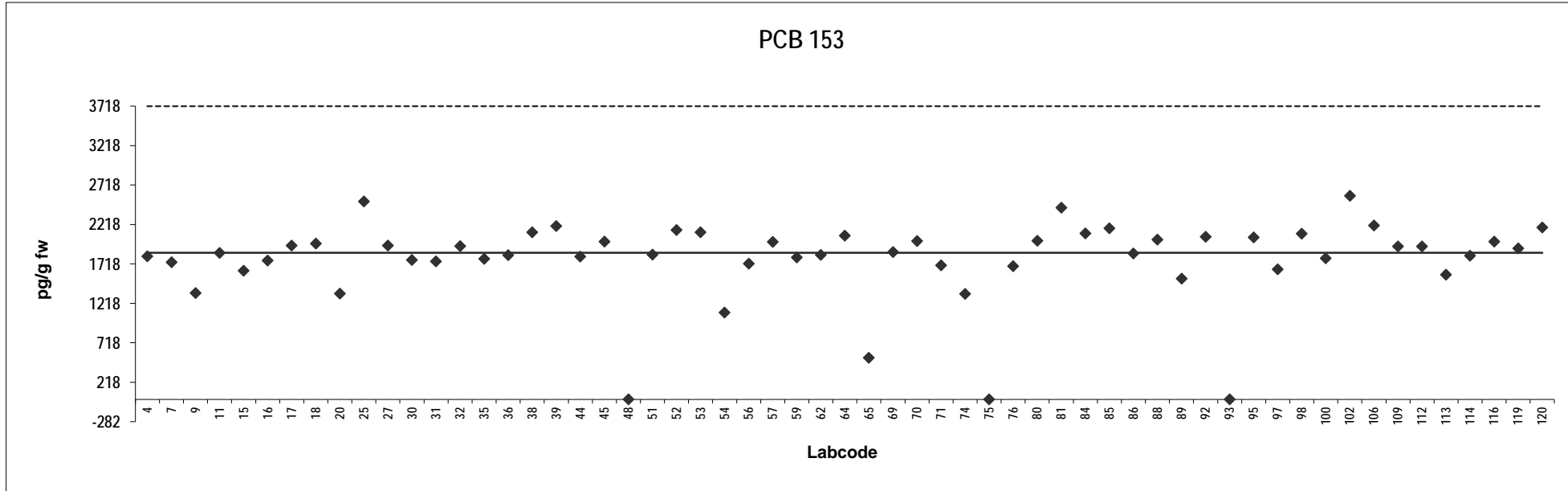


Salmon
Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
4	1814	-0,12		93	1,9	-5,0	
7	1739	-0,32		95	2055	0,53	
9	1350	-1,4		97	1650	-0,56	
11	1859	0,00		98	2100	0,65	
15	1631	-0,61		100	1790	-0,19	
16	1760	-0,27		102	2580	1,9	
17	1950	0,25		106	2206	0,93	
18	1977	0,32		109	1941	0,22	
20	1340	-1,4		112	1940	0,22	
25	2510	1,8		113	1580	-0,75	
27	1950	0,25		114	1820	-0,10	
30	1769	-0,24		116	2002	0,39	
31	1750	-0,29		119	1914	0,15	
32	1942	0,22		120	2180	0,86	
35	1782	-0,21					
36	1830	-0,077					
38	2120	0,70					
39	2197	0,91					
44	1810	-0,13					
45	2000	0,38					
48	2,2	-5,0					
51	1835	-0,064					
52	2148	0,78					
53	2120	0,70					
54	1100	-2,0					
56	1720	-0,37					
57	1995	0,37					
59	1800	-0,16					
62	1831	-0,076					
64	2074	0,58					
65	530	-3,6					
69	1869	0,028					
70	2009	0,40					
71	1700	-0,43					
74	1336	-1,4					
75	1,7	-5,0					
76	1688	-0,46					
80	2011	0,41					
81	2430	1,5					
84	2104	0,66					
85	2170	0,84					
86	1850	-0,024					
88	2026	0,45					
89	1533	-0,88					
92	2060	0,54					

Consensus statistics

Consensus median, pg/g	1859
Median all values pg/g	1859
Consensus mean, pg/g	1776
Standard deviation, pg/g	523
Relative standard deviation, %	29
No. of values reported	59
No. of values removed	0
No. of reported non-detects	0

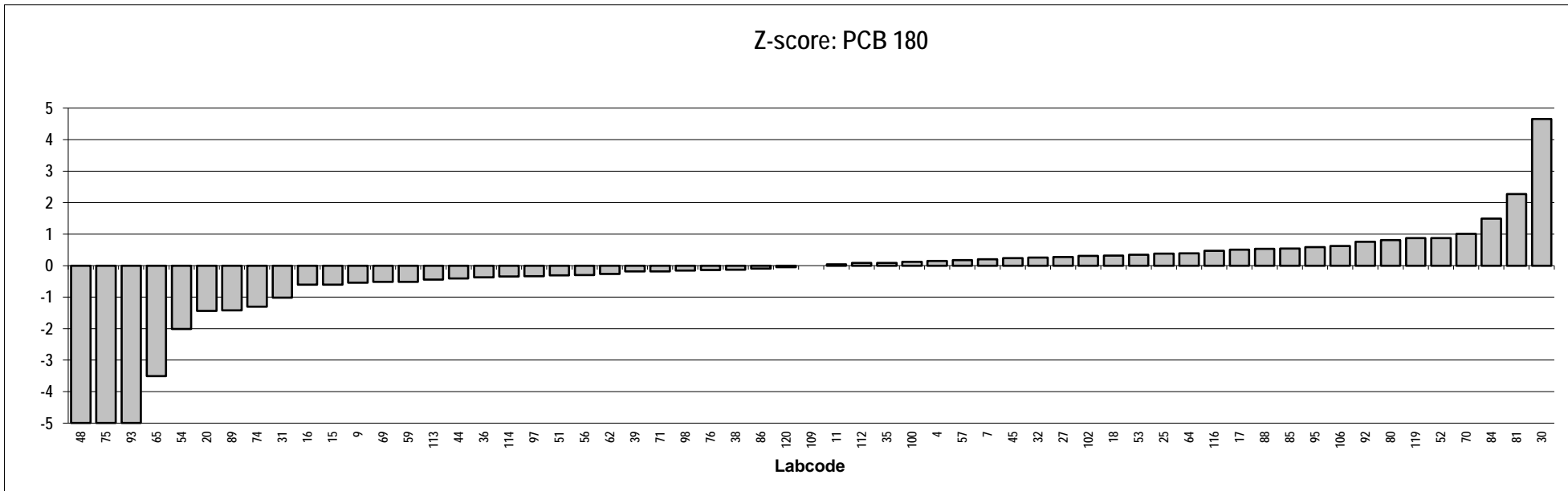
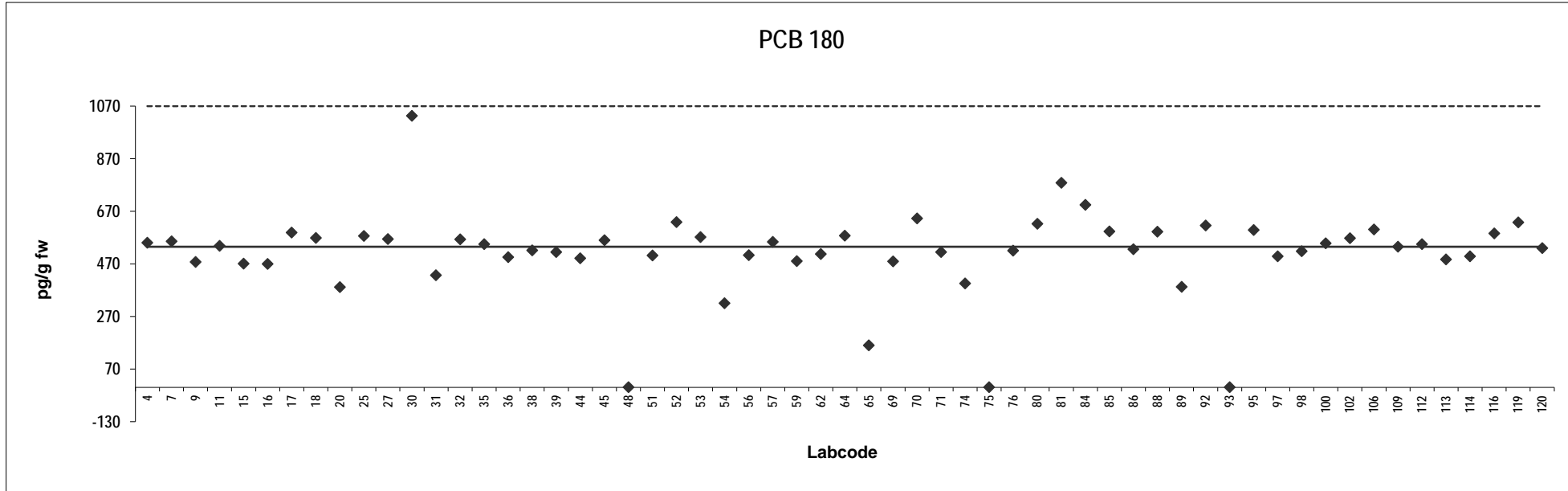


Salmon
Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
4	550	0,15		93	0,57	-5,0	
7	556	0,20		95	598	0,59	
9	477	-0,54		97	499	-0,34	
11	539	0,037		98	518	-0,16	
15	470	-0,60		100	548	0,12	
16	470	-0,61		102	568	0,31	
17	589	0,51		106	601	0,62	
18	569	0,32		109	535	0,00	
20	381	-1,4		112	544	0,089	
25	576	0,39		113	487	-0,45	
27	564	0,27		114	498	-0,34	
30	1033	4,7		116	586	0,47	
31	426	-1,0		119	628	0,87	
32	563	0,26		120	530	-0,044	
35	544	0,089					
36	495	-0,37					
38	521	-0,13					
39	515	-0,18					
44	491	-0,41					
45	560	0,24					
48	0,50	-5,0					
51	502	-0,31					
52	629	0,88					
53	572	0,35					
54	320	-2,0					
56	503	-0,30					
57	553	0,17					
59	480	-0,51					
62	507	-0,26					
64	577	0,39					
65	160	-3,5					
69	479	-0,52					
70	643	1,0					
71	515	-0,18					
74	395	-1,3					
75	0,52	-5,0					
76	520	-0,14					
80	622	0,81					
81	778	2,3					
84	694	1,5					
85	593	0,54					
86	525	-0,091					
88	592	0,53					
89	383	-1,4					
92	616	0,76					

Consensus statistics

Consensus median, pg/g	535
Median all values pg/g	535
Consensus mean, pg/g	512
Standard deviation, pg/g	162
Relative standard deviation, %	32
No. of values reported	59
No. of values removed	0
No. of reported non-detects	0

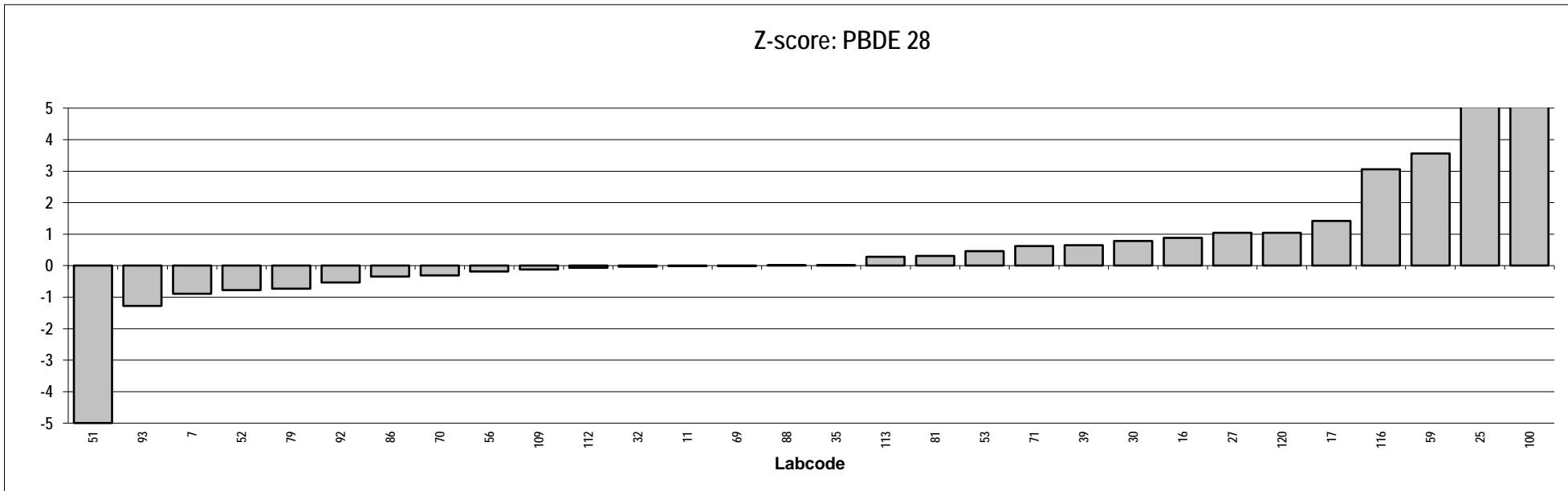
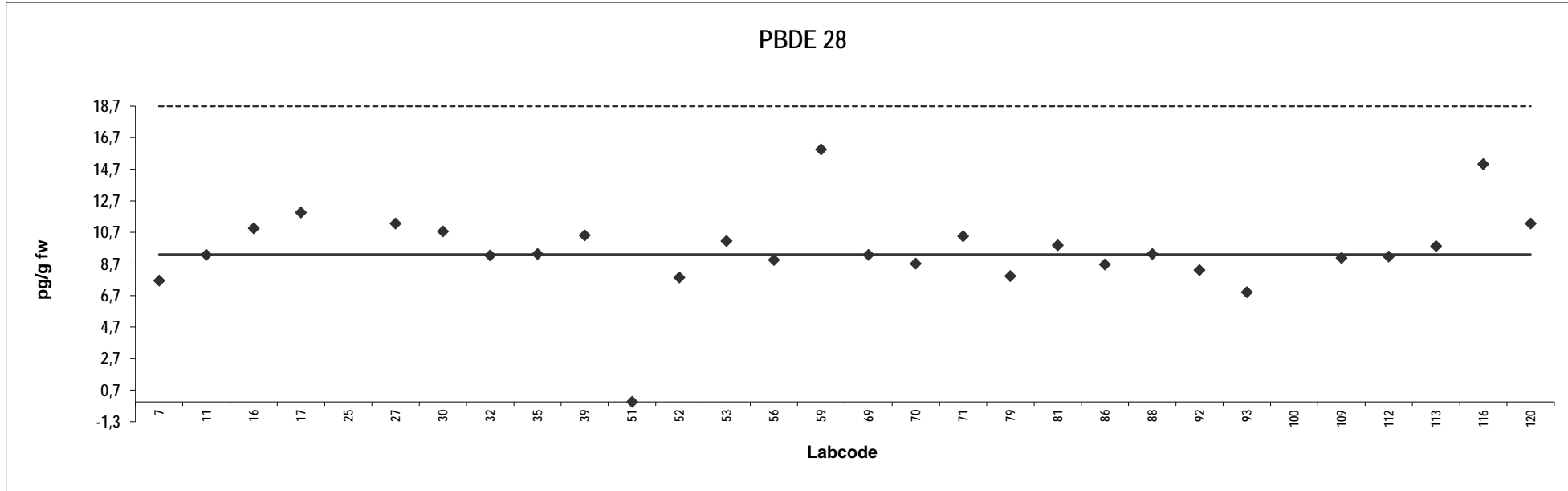


Salmon
Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	7,7	-0,89					
11	9,3	-0,016					
16	11	0,89					
17	12	1,4					
25	20	5,7	Outlier,ND				
27	11	1,0					
30	11	0,78					
32	9,3	-0,035					
35	9,4	0,016					
39	11	0,64					
51	0,0085	-5,0					
52	7,9	-0,78					
53	10	0,46					
56	9,0	-0,18					
59	16	3,6					
69	9,3	-0,013					
70	8,8	-0,31					
71	11	0,62					
79	8,0	-0,74					
81	9,9	0,31					
86	8,7	-0,35					
88	9,4	0,013					
92	8,4	-0,53					
93	7,0	-1,3					
100	22	6,9	Outlier,ND				
109	9,1	-0,12					
112	9,2	-0,069					
113	9,9	0,28					
116	15	3,1					
120	11	1,0					

Consensus statistics

Consensus median, pg/g	9,3
Median all values pg/g	9,4
Consensus mean, pg/g	9,6
Standard deviation, pg/g	2,7
Relative standard deviation, %	28
No. of values reported	30
No. of values removed	2
No. of reported non-detects	2



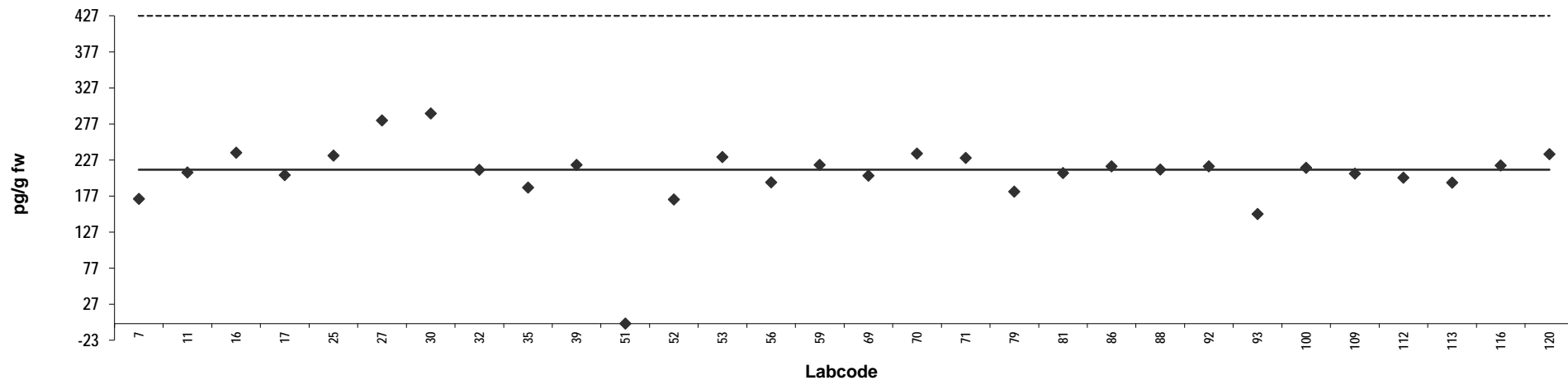
Salmon
Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	173	-0,95					
11	210	-0,088					
16	237	0,55					
17	206	-0,18					
25	233	0,46					
27	282	1,6					
30	292	1,8					
32	213	-0,0076					
35	189	-0,58					
39	220	0,16					
51	0,23	-5,0					
52	172	-0,97					
53	231	0,41					
56	196	-0,41					
59	220	0,15					
69	205	-0,19					
70	236	0,52					
71	230	0,39					
79	183	-0,72					
81	209	-0,11					
86	218	0,10					
88	214	0,0076					
92	218	0,10					
93	152	-1,4					
100	216	0,058					
109	208	-0,13					
112	202	-0,26					
113	196	-0,42					
116	219	0,13					
120	235	0,50					

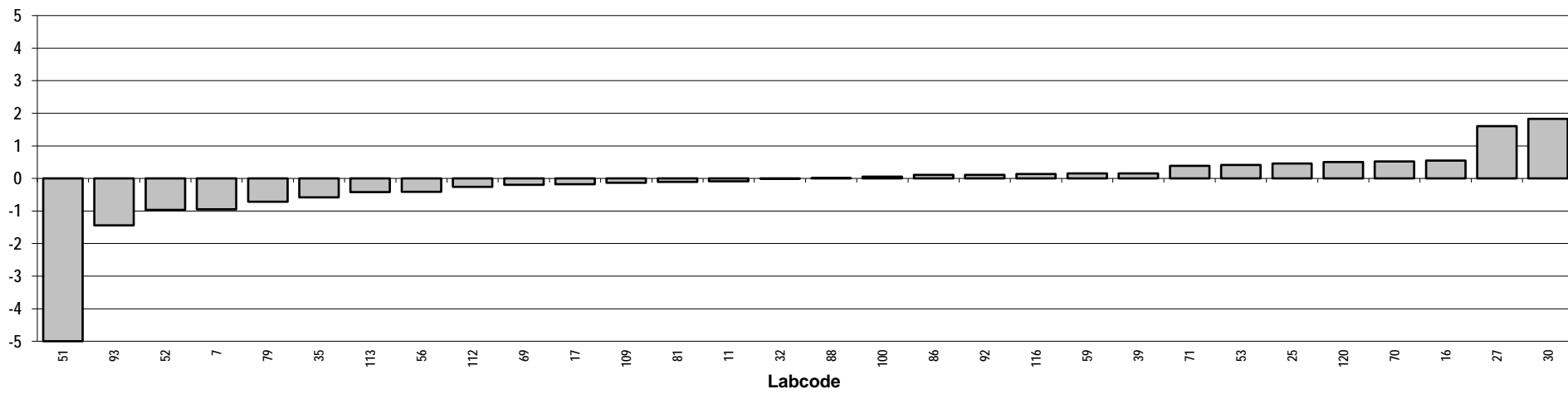
Consensus statistics

Consensus median, pg/g	214
Median all values pg/g	214
Consensus mean, pg/g	207
Standard deviation, pg/g	48
Relative standard deviation, %	23
No. of values reported	30
No. of values removed	0
No. of reported non-detects	0

PBDE 47



Z-score: PBDE 47

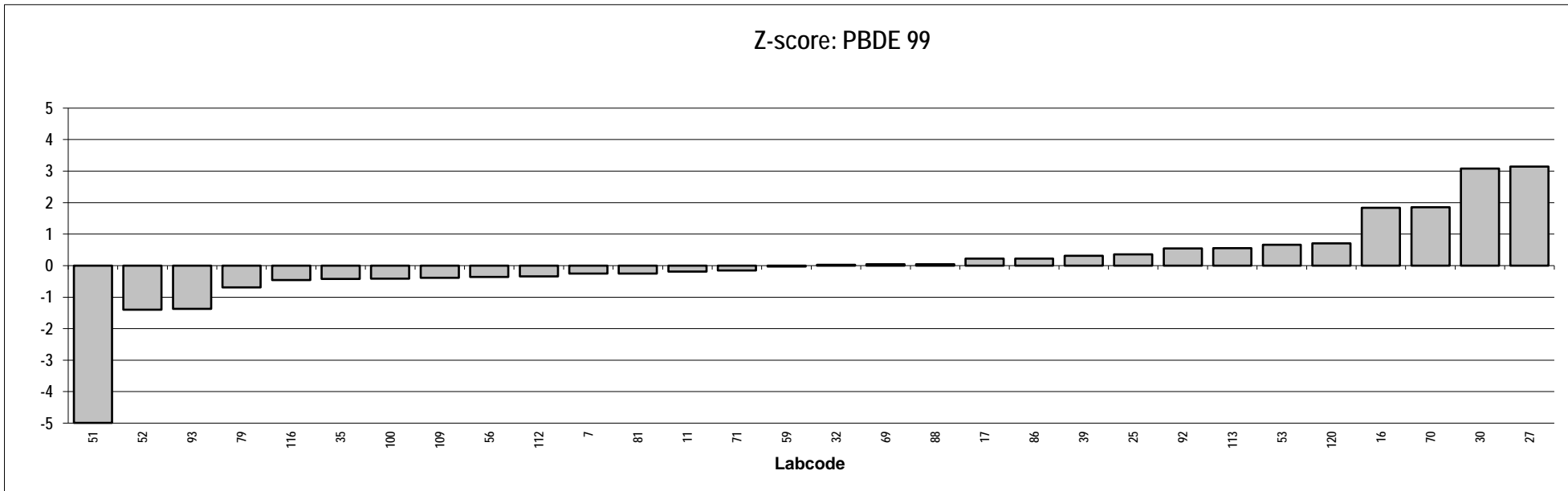
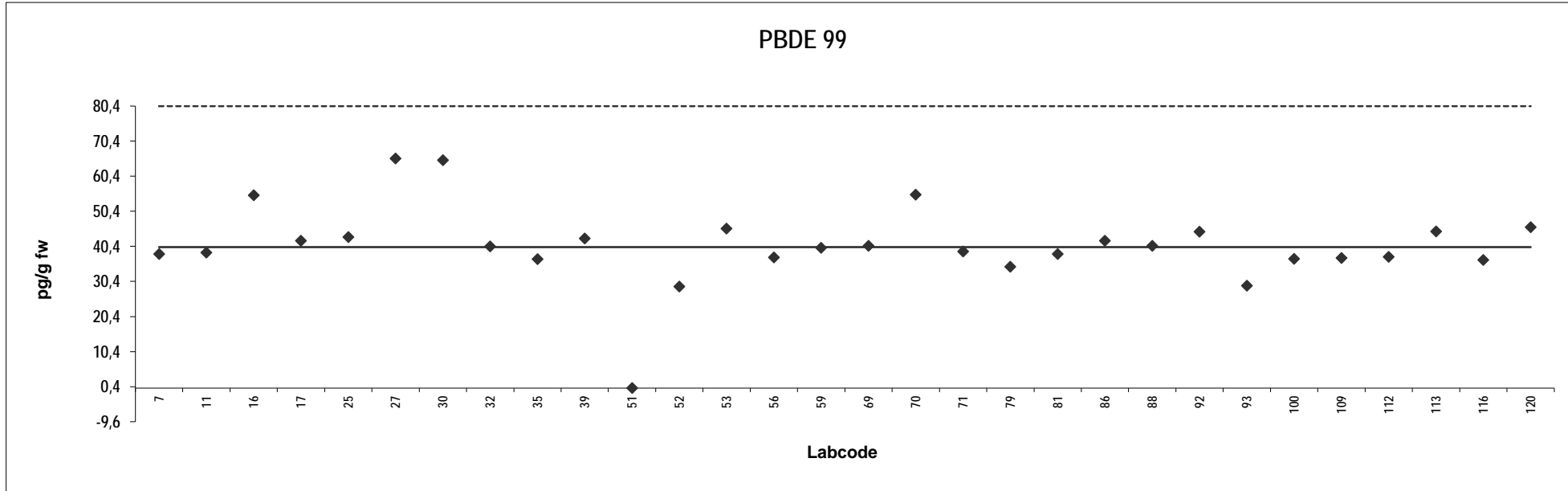


Salmon
Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	38	-0,25					
11	39	-0,19					
16	55	1,8					
17	42	0,22					
25	43	0,36					
27	66	3,1					
30	65	3,1					
32	40	0,026					
35	37	-0,42					
39	43	0,31					
51	0,050	-5,0					
52	29	-1,4					
53	46	0,66					
56	37	-0,36					
59	40	-0,026					
69	41	0,043					
70	55	1,9					
71	39	-0,15					
79	35	-0,70					
81	38	-0,25					
86	42	0,22					
88	41	0,043					
92	45	0,55					
93	29	-1,4					
100	37	-0,41					
109	37	-0,39					
112	37	-0,34					
113	45	0,55					
116	37	-0,46					
120	46	0,71					

Consensus statistics

Consensus median, pg/g	40
Median all values pg/g	40
Consensus mean, pg/g	41
Standard deviation, pg/g	11
Relative standard deviation, %	28
No. of values reported	30
No. of values removed	0
No. of reported non-detects	0

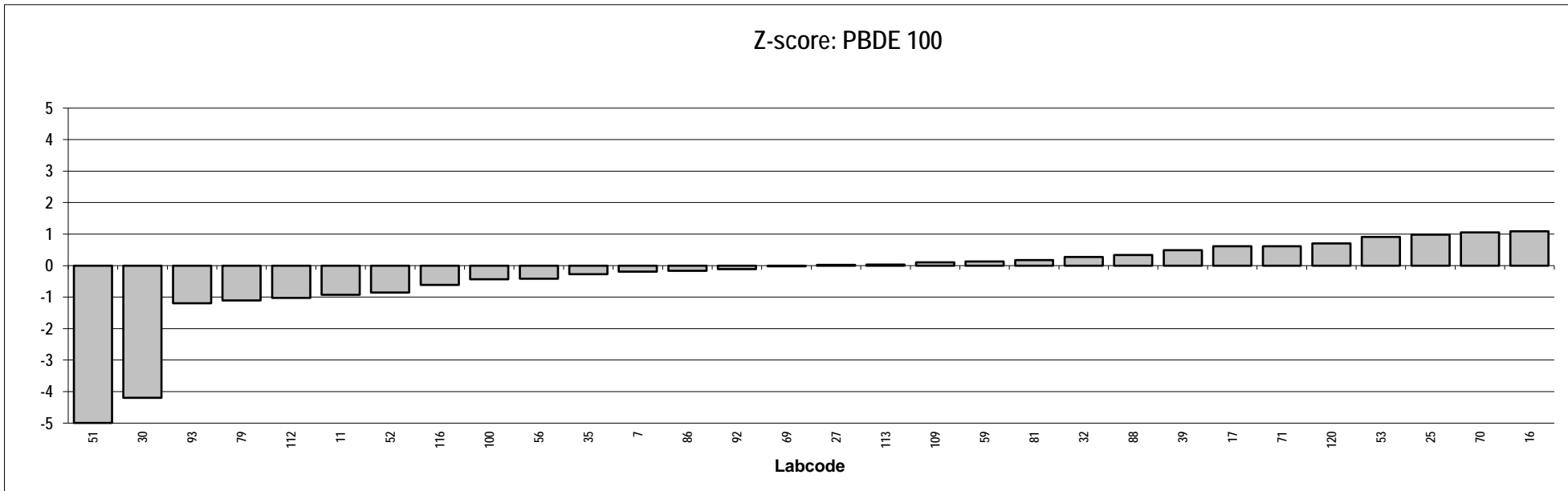
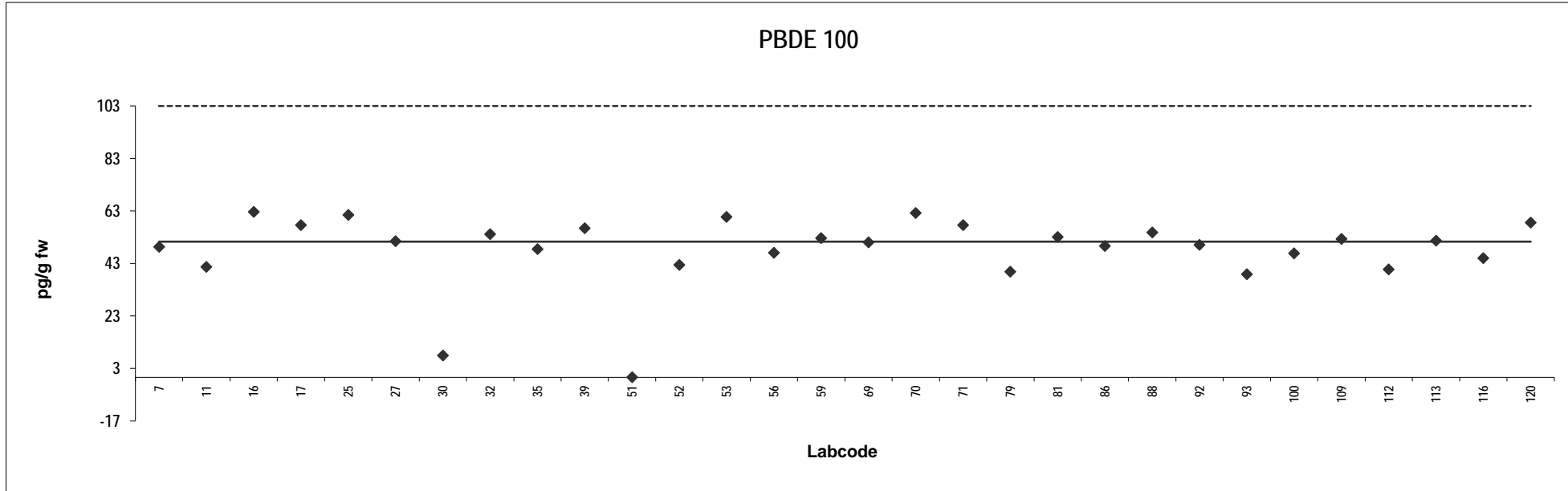


Salmon
Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	50	-0,19					
11	42	-0,93					
16	63	1,1					
17	58	0,61					
25	62	0,98					
27	52	0,021					
30	8	-4,2					
32	54	0,27					
35	49	-0,27					
39	57	0,49					
51	0,050	-5,0					
52	43	-0,86					
53	61	0,91					
56	47	-0,41					
59	53	0,13					
69	51	-0,021					
70	63	1,1					
71	58	0,61					
79	40	-1,1					
81	54	0,18					
86	50	-0,16					
88	55	0,34					
92	51	-0,11					
93	39	-1,2					
100	47	-0,43					
109	53	0,10					
112	41	-1,0					
113	52	0,036					
116	45	-0,61					
120	59	0,71					

Consensus statistics

Consensus median, pg/g	52
Median all values pg/g	52
Consensus mean, pg/g	49
Standard deviation, pg/g	14
Relative standard deviation, %	28
No. of values reported	30
No. of values removed	0
No. of reported non-detects	0

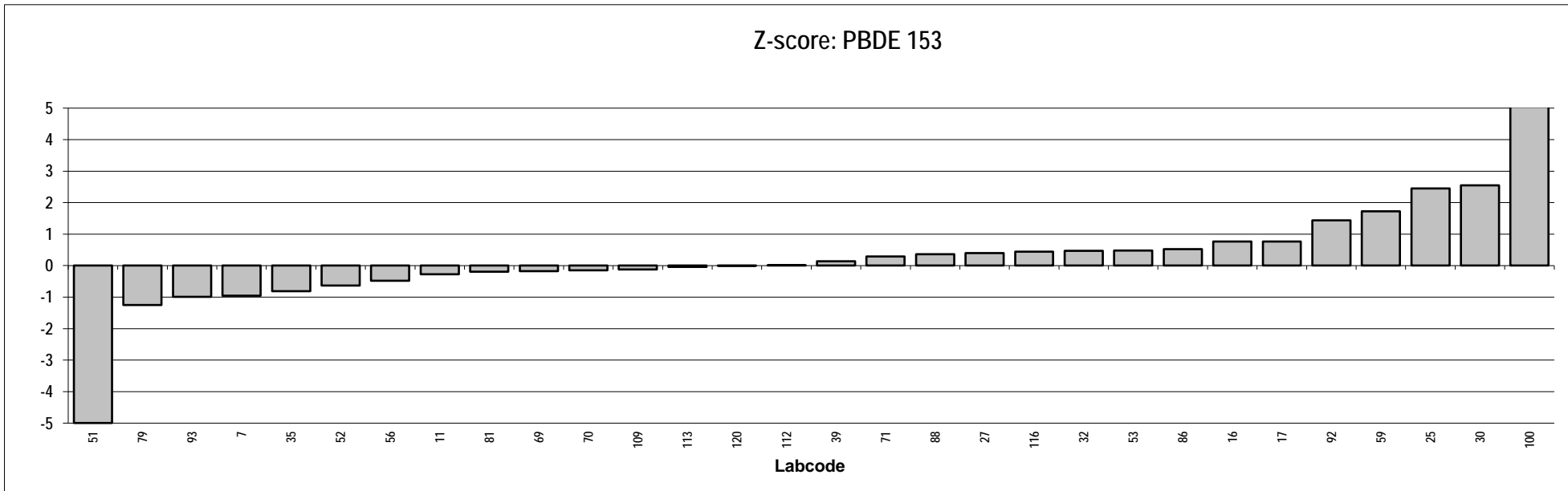
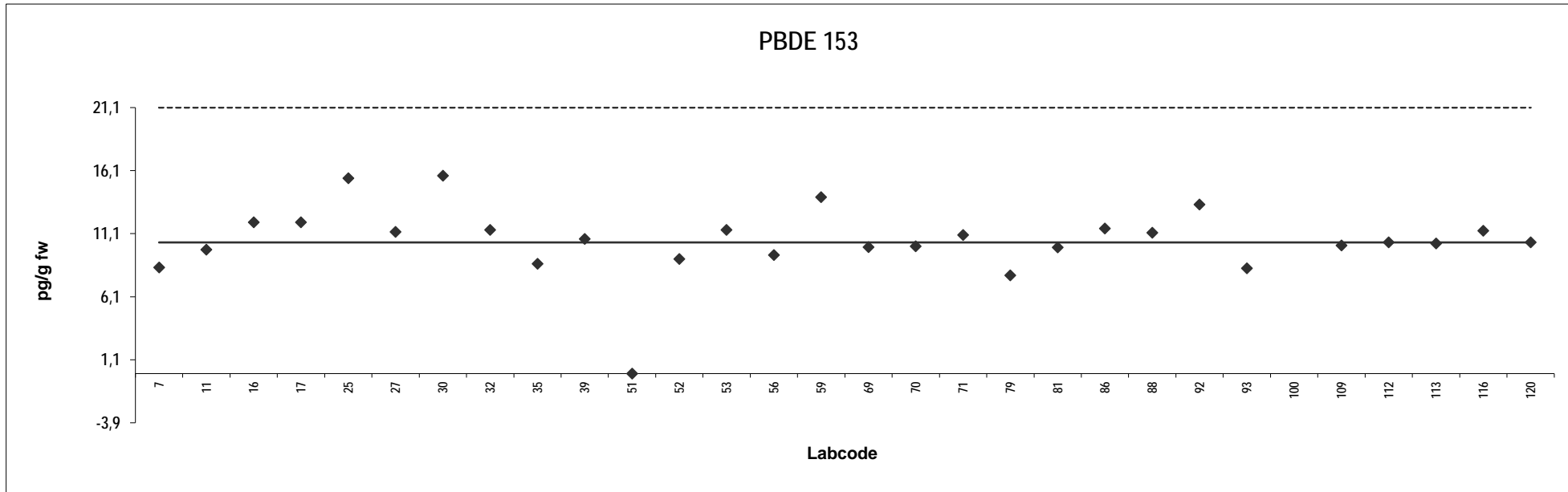


Salmon
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	8,4	-0,96					
11	9,8	-0,27					
16	12	0,77					
17	12	0,77					
25	16	2,4					
27	11	0,40	ND				
30	16	2,5					
32	11	0,47					
35	8,7	-0,81					
39	11	0,14					
51	0,0091	-5,0					
52	9,1	-0,63					
53	11	0,48					
56	9,4	-0,48					
59	14	1,7					
69	10	-0,18					
70	10	-0,15					
71	11	0,29					
79	7,8	-1,3					
81	10	-0,19					
86	12	0,53					
88	11	0,37					
92	13	1,4					
93	8,3	-0,99					
100	44	16	Outlier,ND				
109	10	-0,12					
112	10	0,0019					
113	10	-0,045					
116	11	0,44					
120	10	-0,0019					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	11
Consensus mean, pg/g	11
Standard deviation, pg/g	2,8
Relative standard deviation, %	26
No. of values reported	30
No. of values removed	1
No. of reported non-detects	2

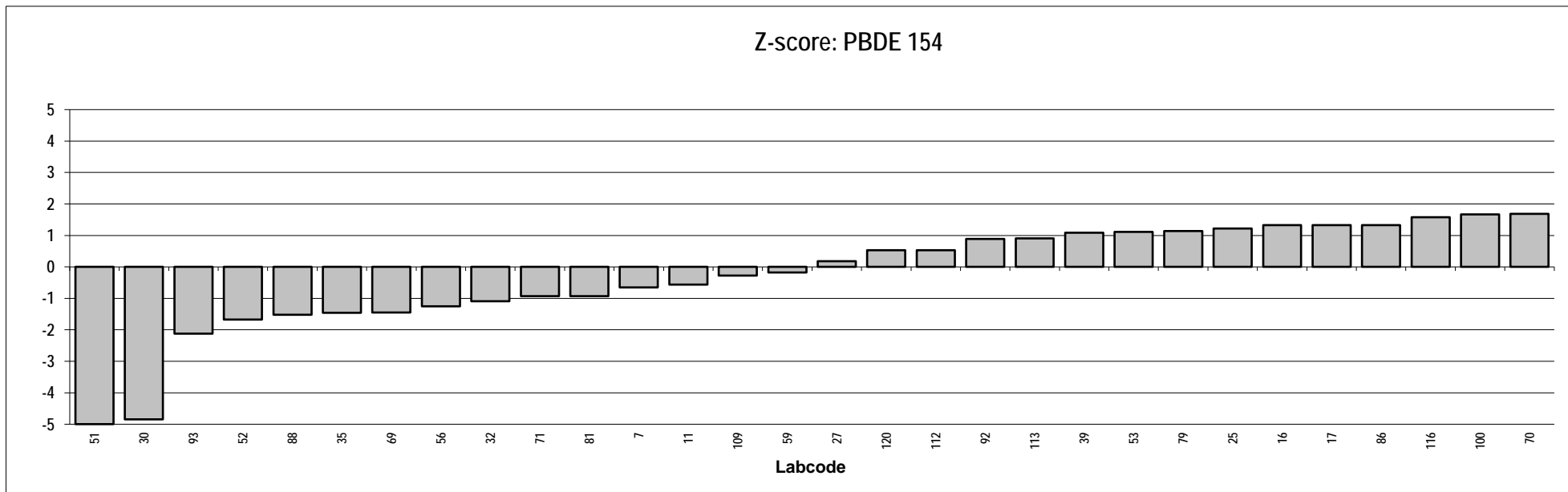
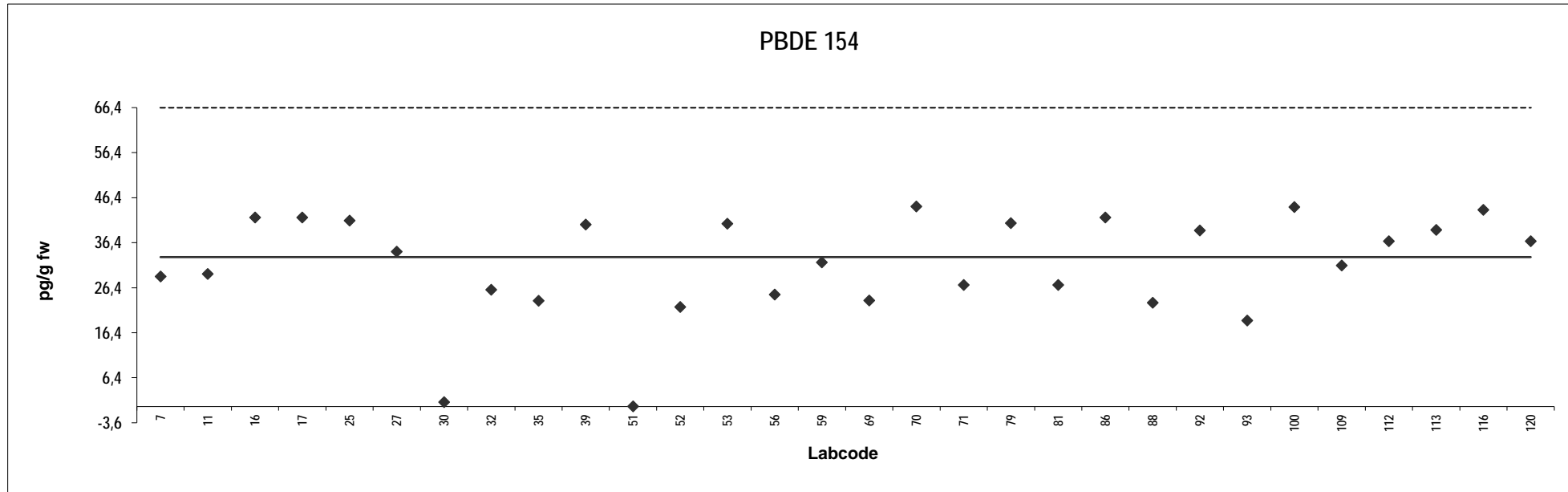


Salmon
Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	29	-0,65					
11	29	-0,57					
16	42	1,3					
17	42	1,3					
25	41	1,2					
27	34	0,18					
30	1,0	-4,8	ND				
32	26	-1,1					
35	24	-1,5					
39	40	1,1					
51	0,033	-5,0					
52	22	-1,7					
53	41	1,1					
56	25	-1,3					
59	32	-0,18					
69	24	-1,5					
70	44	1,7					
71	27	-0,93					
79	41	1,1					
81	27	-0,93					
86	42	1,3					
88	23	-1,5					
92	39	0,89					
93	19	-2,1					
100	44	1,7	ND				
109	31	-0,28					
112	37	0,53					
113	39	0,91					
116	44	1,6					
120	37	0,53					

Consensus statistics

Consensus median, pg/g	33
Median all values pg/g	33
Consensus mean, pg/g	32
Standard deviation, pg/g	11
Relative standard deviation, %	36
No. of values reported	30
No. of values removed	0
No. of reported non-detects	2

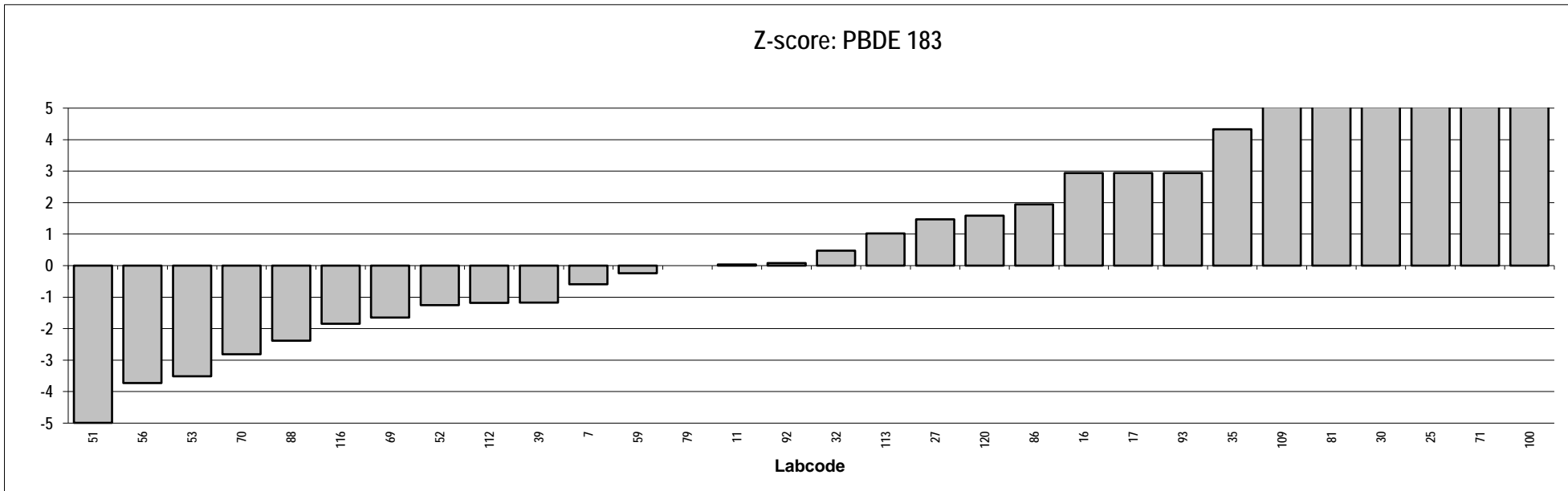
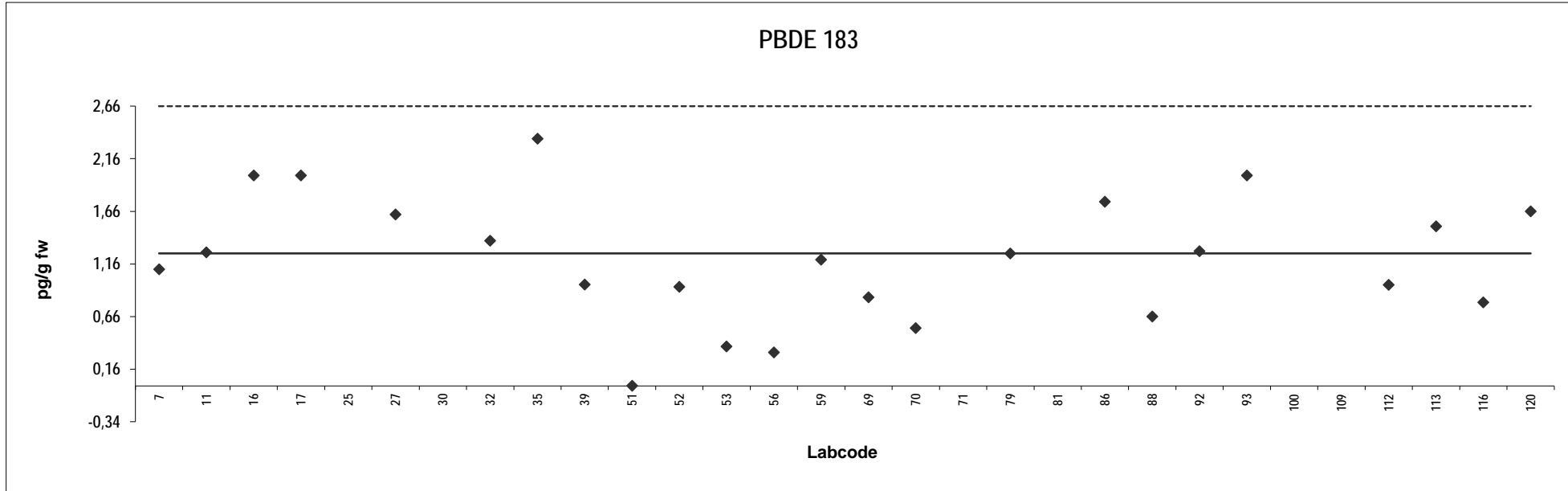


Salmon
Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	1,1	-0,60	ND				
11	1,3	0,036					
16	2,0	2,9					
17	2,0	2,9					
25	20	74	Outlier,ND				
27	1,6	1,5	ND				
30	7,9	26	Outlier				
32	1,4	0,48					
35	2,4	4,3	ND				
39	0,96	-1,2					
51	0,0025	-5,0	ND				
52	0,94	-1,3					
53	0,38	-3,5	ND				
56	0,32	-3,7					
59	1,2	-0,24					
69	0,84	-1,7	ND				
70	0,55	-2,8					
71	22	82	Outlier,ND				
79	1,3	0,00					
81	3,4	8,4	Outlier,ND				
86	1,8	1,9					
88	0,66	-2,4					
92	1,3	0,079					
93	2,0	2,9	ND				
100	44	171	Outlier,ND				
109	3,0	6,8	Outlier				
112	0,96	-1,2					
113	1,5	1,0					
116	0,80	-1,8					
120	1,7	1,6					

Consensus statistics

Consensus median, pg/g	1,3
Median all values pg/g	1,3
Consensus mean, pg/g	1,2
Standard deviation, pg/g	0,60
Relative standard deviation, %	50
No. of values reported	30
No. of values removed	6
No. of reported non-detects	11

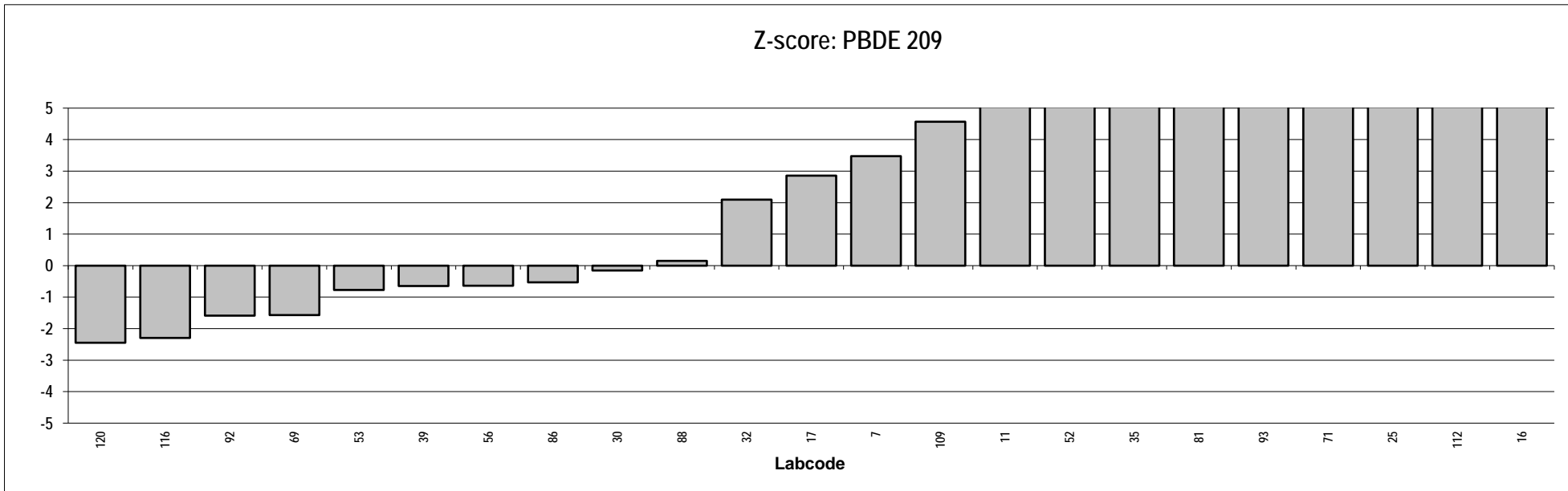
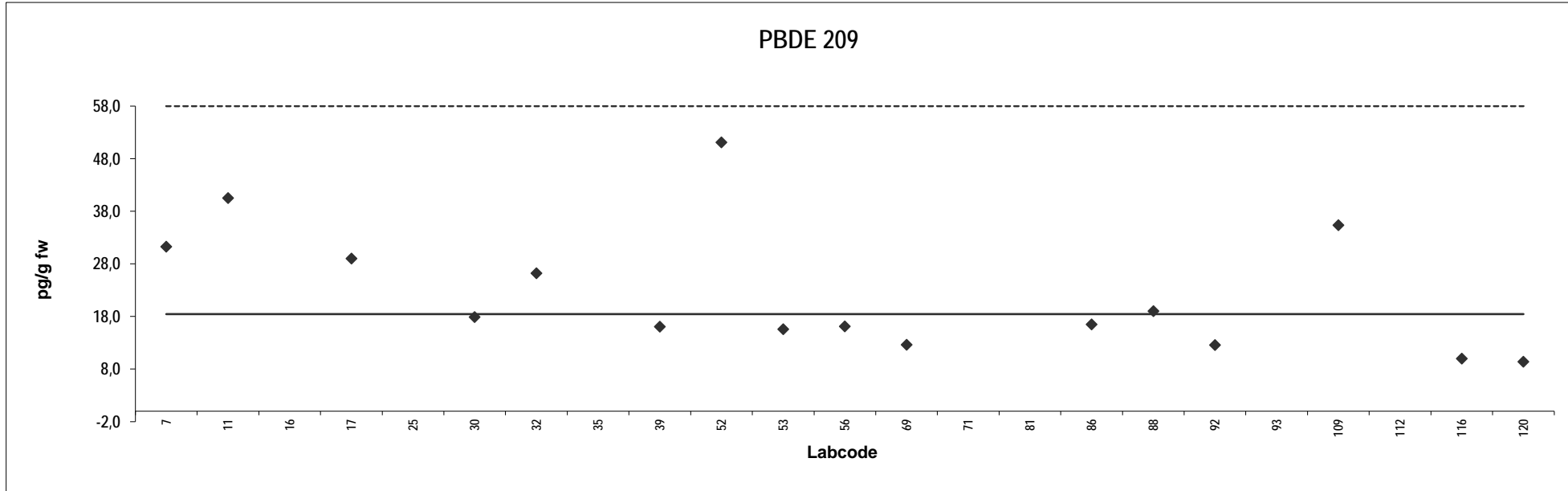


Salmon
Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	31	3,5					
11	41	6,0					
16	193	47	Outlier,ND				
17	29	2,9					
25	100	22	Outlier,ND				
30	18	-0,15					
32	26	2,1					
35	62	12	Outlier				
39	16	-0,64					
52	51	8,9					
53	16	-0,77	ND				
56	16	-0,64					
69	13	-1,6	ND				
71	96	21	Outlier,ND				
81	68	13	Outlier,ND				
86	17	-0,53					
88	19	0,15					
92	13	-1,6					
93	80	17	Outlier,ND				
109	35	4,6					
112	138	32	Outlier				
116	10	-2,3					
120	9,4	-2,4					

Consensus statistics

Consensus median, pg/g	18
Median all values pg/g	29
Consensus mean, pg/g	22
Standard deviation, pg/g	12
Relative standard deviation, %	53
No. of values reported	23
No. of values removed	7
No. of reported non-detects	7

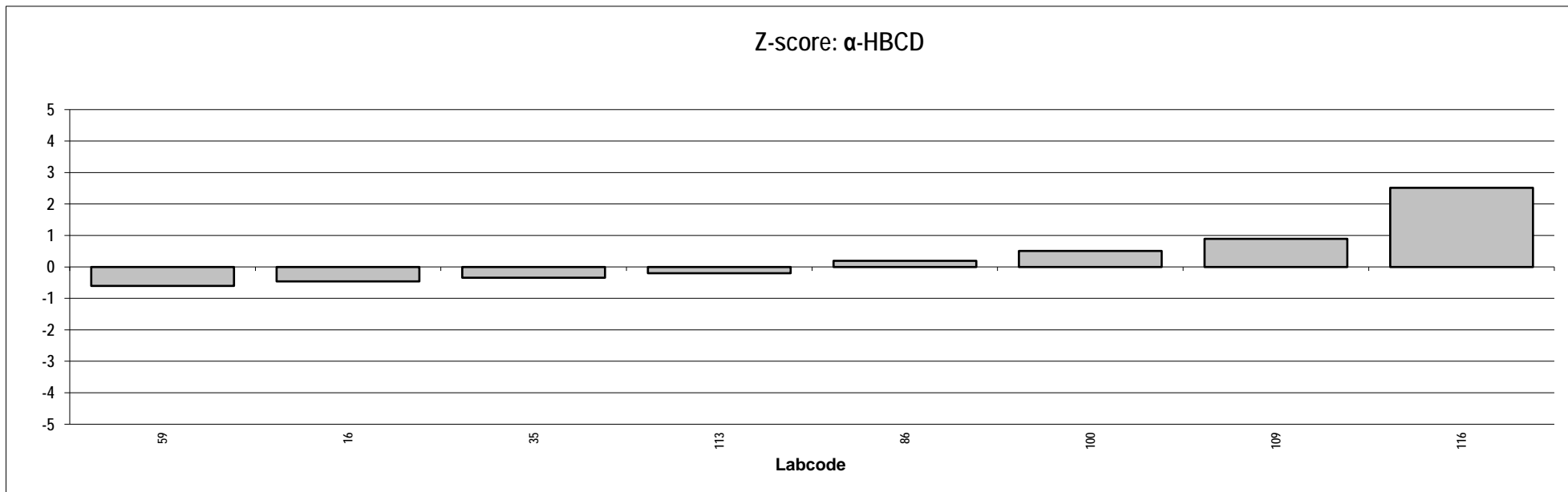
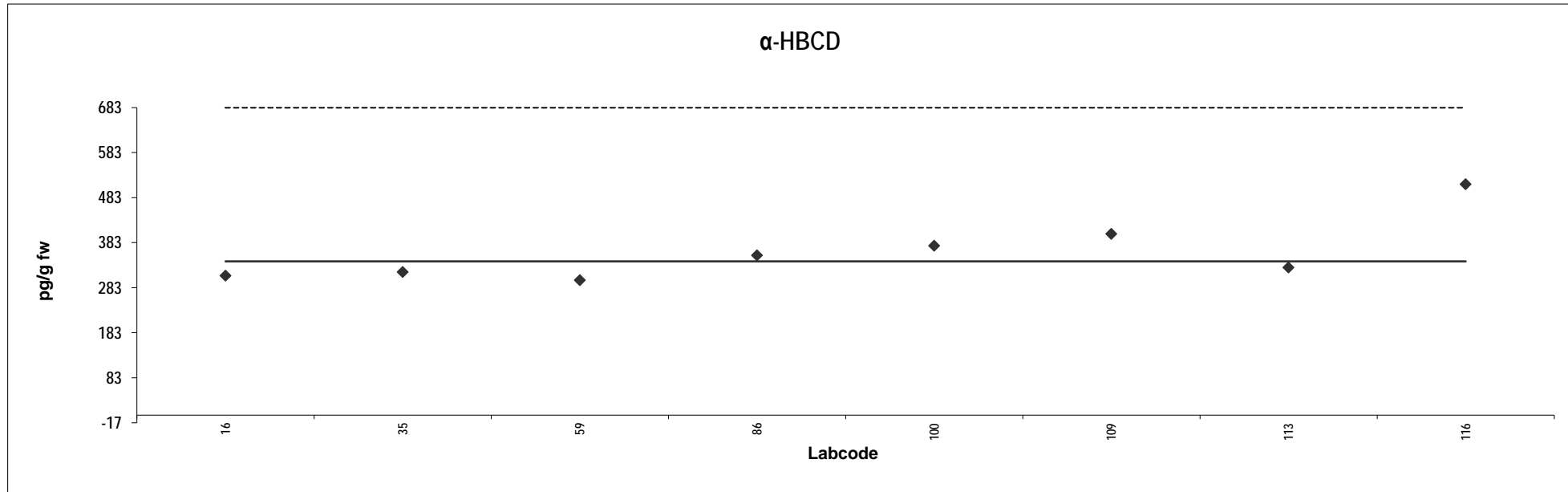


Salmon
Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	310	-0,46					
35	318	-0,34					
59	300	-0,61					
86	355	0,20					
100	376	0,51					
109	403	0,90					
113	328	-0,20					
116	513	2,5					

Consensus statistics

Consensus median, pg/g	342
Median all values pg/g	342
Consensus mean, pg/g	363
Standard deviation, pg/g	70
Relative standard deviation, %	19
No. of values reported	8
No. of values removed	0
No. of reported non-detects	0

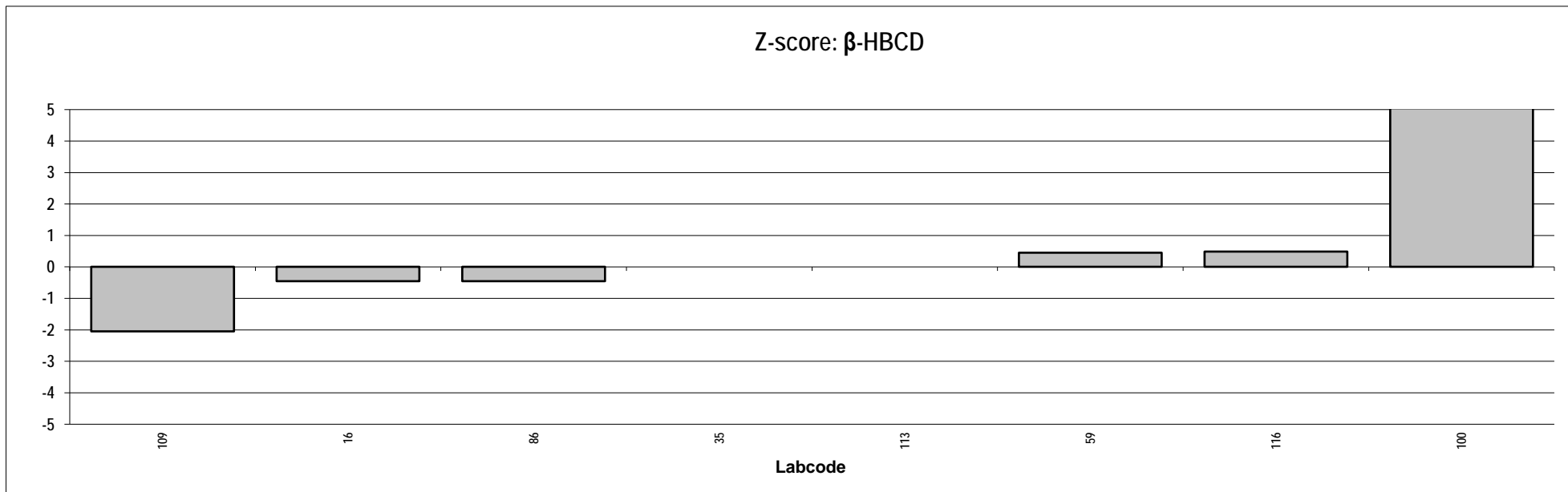
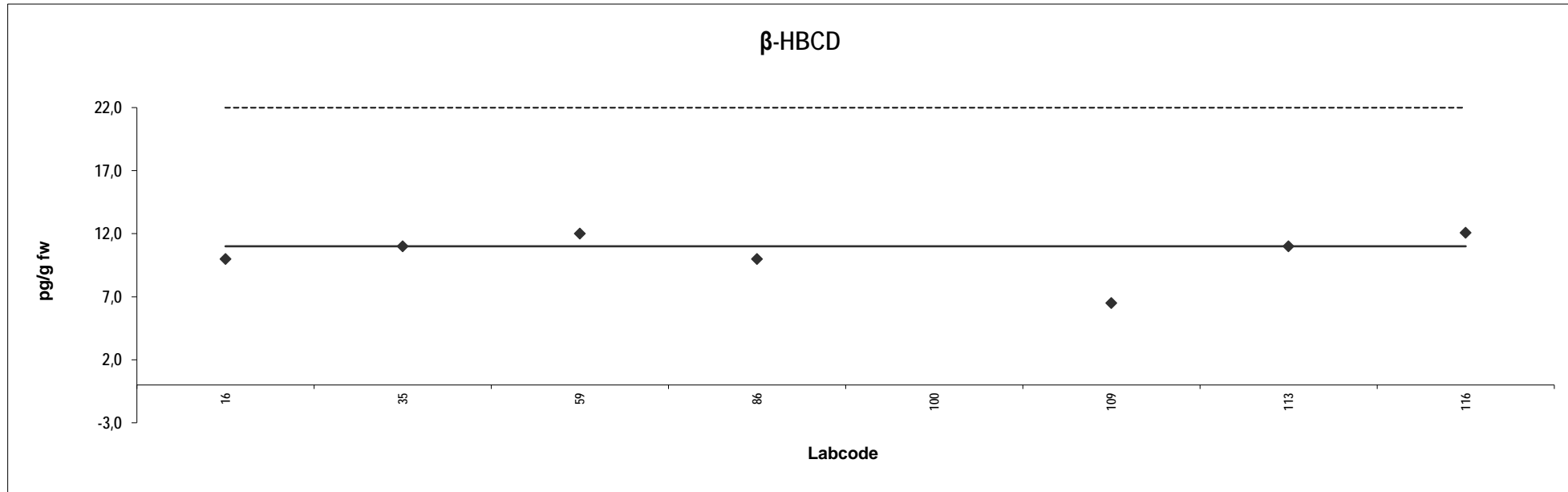


Salmon
Congener: β -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	10	-0,45					
35	11	0,00					
59	12	0,45					
86	10	-0,45	ND				
100	30	8,6	Outlier,ND				
109	6,5	-2,0					
113	11	0,00					
116	12	0,49					

Consensus statistics

Consensus median, pg/g	11
Median all values pg/g	11
Consensus mean, pg/g	10
Standard deviation, pg/g	1,9
Relative standard deviation, %	18
No. of values reported	8
No. of values removed	1
No. of reported non-detects	2

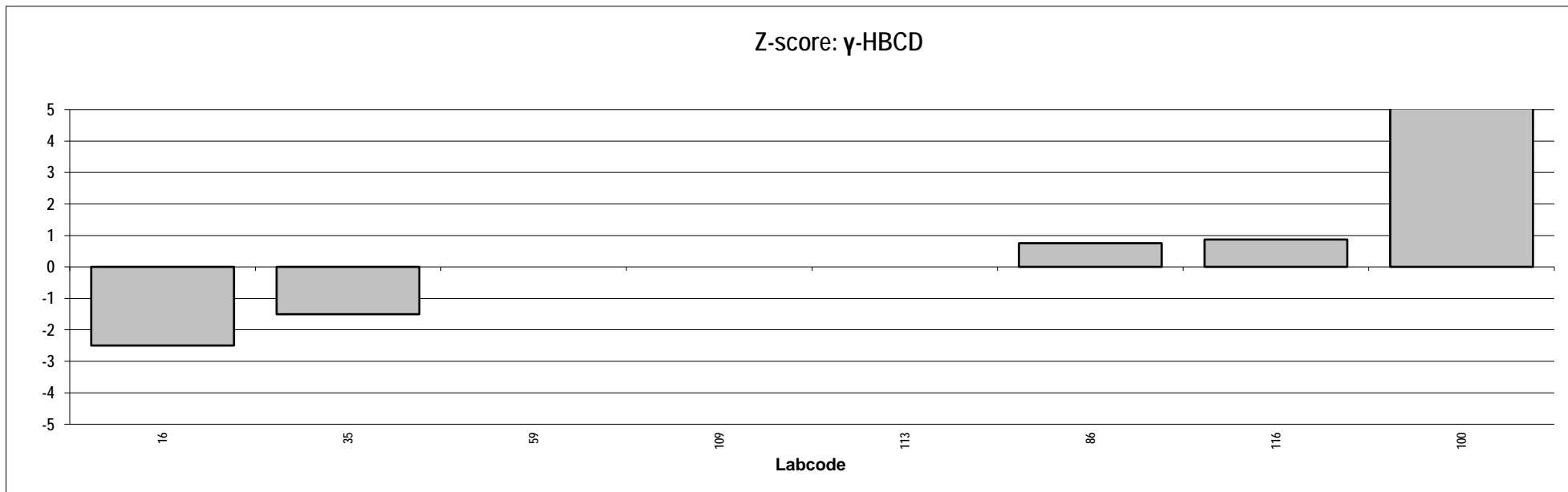
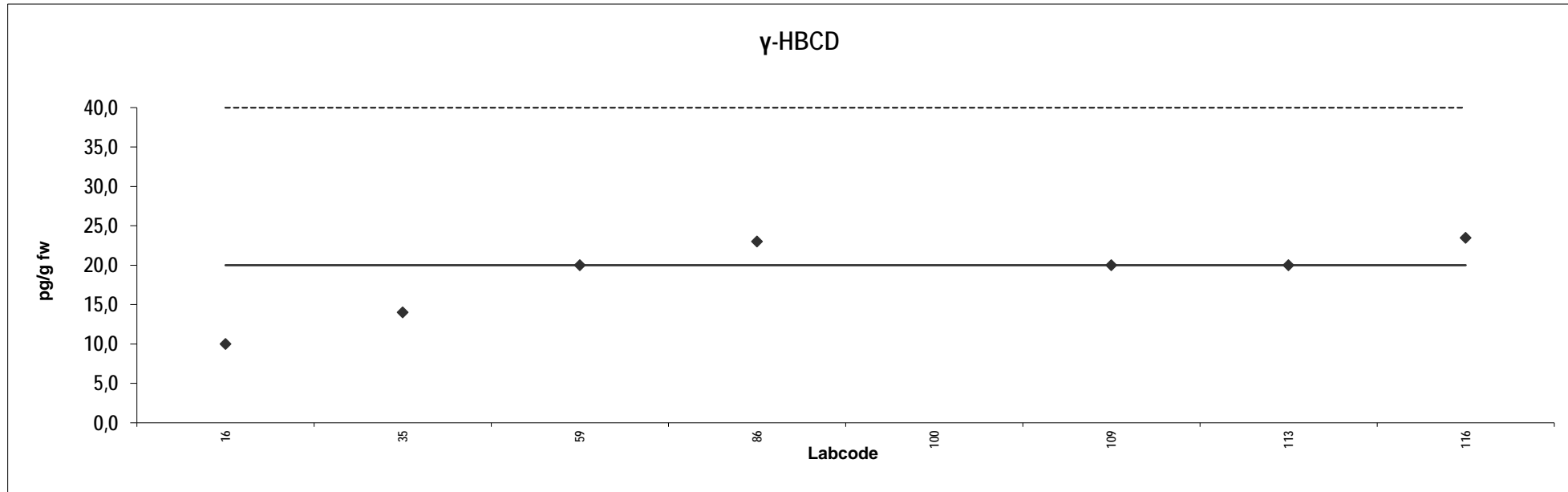


Salmon
Congener: γ -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	10	-2,5					
35	14	-1,5					
59	20	0,00					
86	23	0,75					
100	46	6,4	Outlier				
109	20	0,00					
113	20	0,00					
116	23	0,87					

Consensus statistics

Consensus median, pg/g	20,000
Median all values pg/g	20,000
Consensus mean, pg/g	18,639
Standard deviation, pg/g	4,9009
Relative standard deviation, %	26
No. of values reported	8
No. of values removed	1
No. of reported non-detects	0

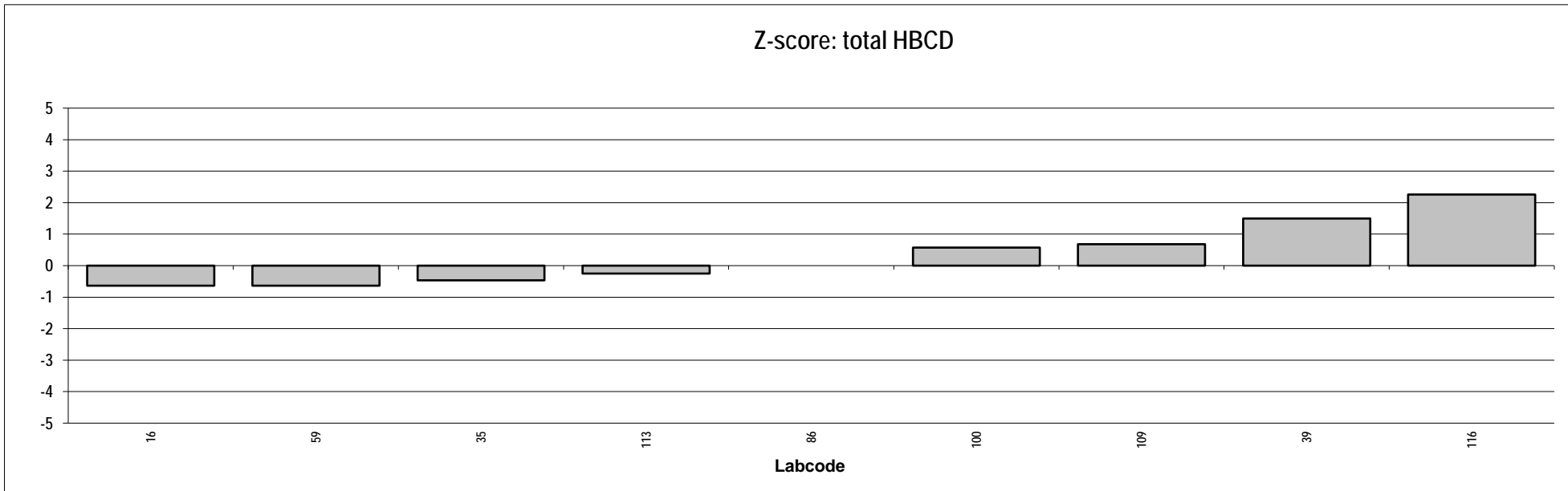
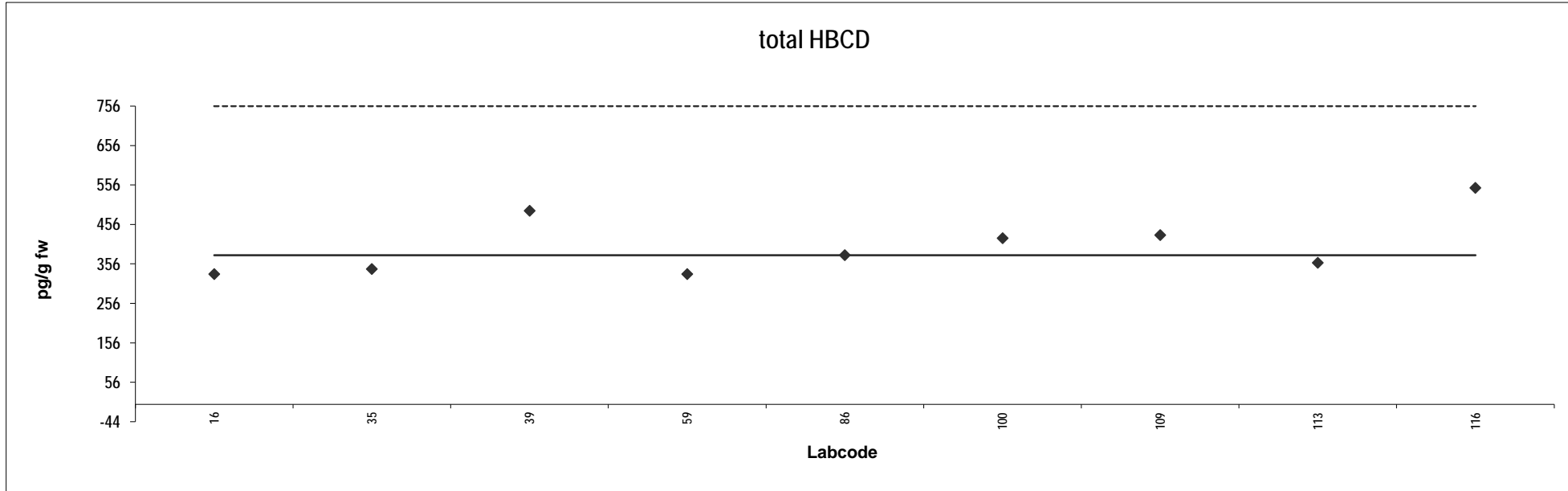


Salmon
Congener: total HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	330	-0,63					
35	343	-0,46					
39	491	1,5					
59	330	-0,63					
86	378	0,00					
100	421	0,57					
109	429	0,68					
113	359	-0,25					
116	549	2,3					

Consensus statistics

Consensus median, pg/g	378
Median all values pg/g	378
Consensus mean, pg/g	403
Standard deviation, pg/g	76
Relative standard deviation, %	19
No. of values reported	9
No. of values removed	0
No. of reported non-detects	0



Appendix 4:

Presentation of results
for Fish oil-2018

Appendix 4: Presentation of results: Fish oil-2018

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:

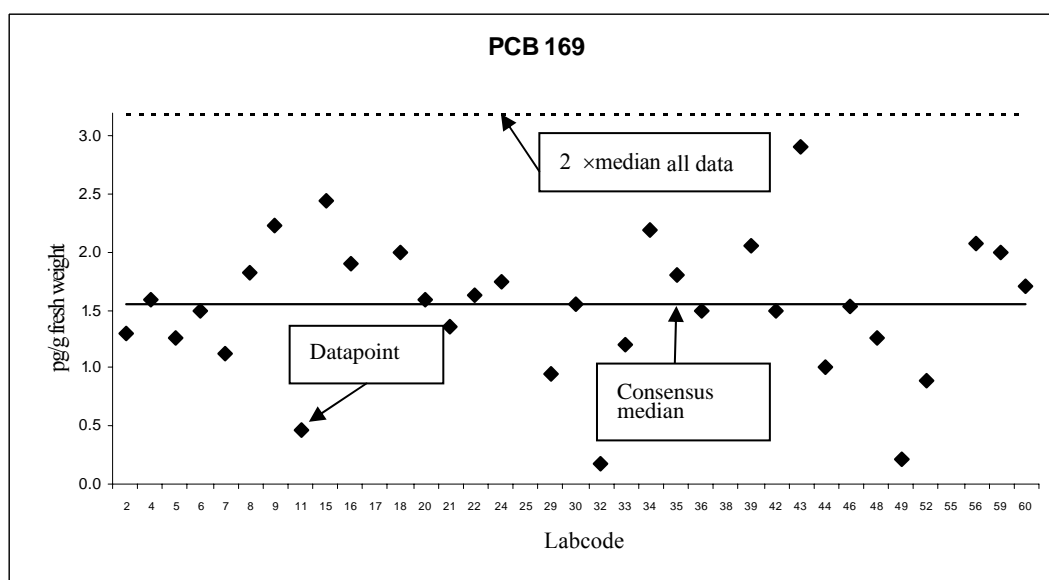
1. The median was calculated from all the reported data, using the detection limit as concentration for non-detected congeners.
2. Values exceeding $2 \times$ this median were defined as outliers and removed from the data set.
3. Median, mean and standard deviation were re-calculated from the remaining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

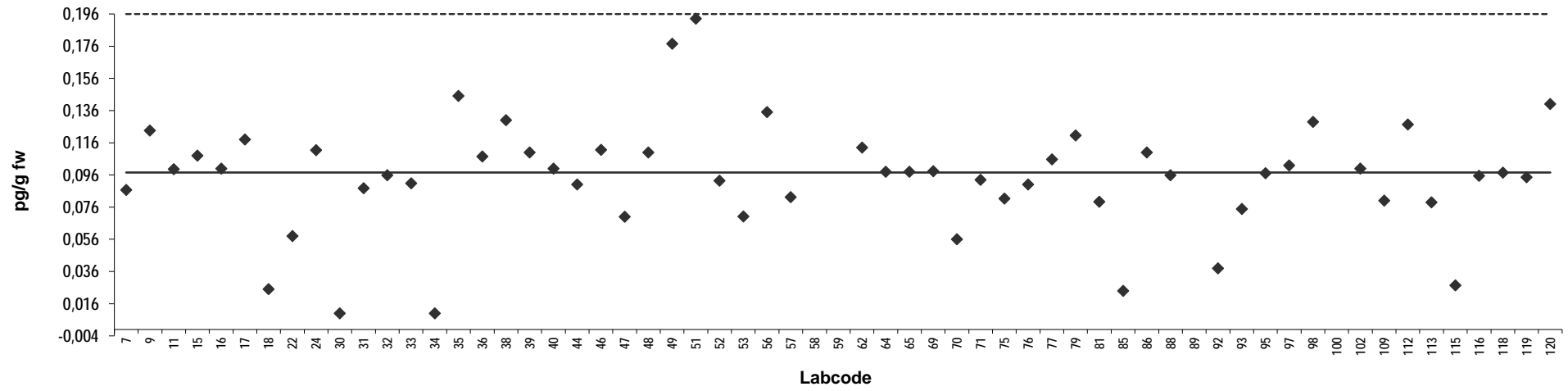
Fish oil
Congener: 2,3,7,8 TCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,087	-0,56		89	0,82	37	Outlier
9	0,12	1,3		92	0,038	-3,1	
11	0,10	0,10		93	0,075	-1,2	
15	0,11	0,54		95	0,097	-0,026	
16	0,10	0,13		97	0,10	0,22	
17	0,12	1,1		98	0,13	1,6	
18	0,025	-3,7	ND	100	5,1	254	Outlier
22	0,058	-2,0		102	0,10	0,13	ND
24	0,11	0,71		109	0,080	-0,90	
30	0,010	-4,5	ND	112	0,13	1,5	
31	0,088	-0,50		113	0,079	-0,95	
32	0,096	-0,088		115	0,027	-3,6	ND
33	0,091	-0,34		116	0,095	-0,11	
34	0,010	-4,5	ND	118	0,098	0,00	
35	0,15	2,4		119	0,095	-0,15	
36	0,11	0,51	ND	120	0,14	2,2	ND
38	0,13	1,67					
39	0,11	0,64					
40	0,10	0,13					
44	0,090	-0,39					
46	0,11	0,72					
47	0,070	-1,4					
48	0,11	0,64					
49	0,18	4,1					
51	0,19	4,9					
52	0,092	-0,26					
53	0,070	-1,4					
56	0,14	1,9					
57	0,082	-0,78					
58	0,67	30	Outlier,ND				
59	0,20	5,3	Outlier,ND				
62	0,11	0,79					
64	0,098	0,025	ND				
65	0,098	0,025					
69	0,098	0,041					
70	0,056	-2,1					
71	0,093	-0,23					
75	0,081	-0,83					
76	0,090	-0,39					
77	0,11	0,42					
79	0,12	1,2					
81	0,079	-0,93					
85	0,024	-3,8					
86	0,11	0,64					
88	0,096	-0,085					

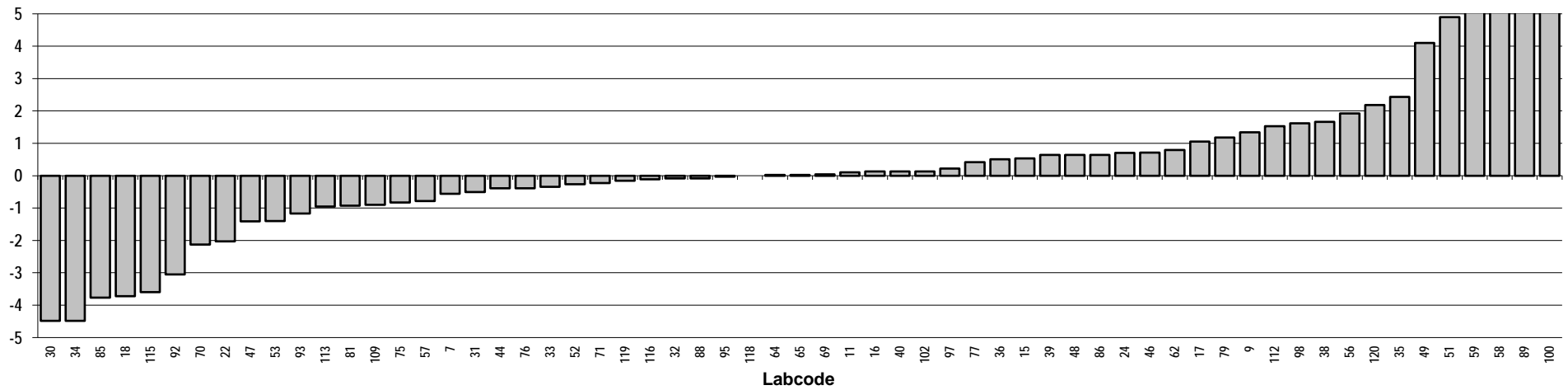
Consensus statistics

Consensus median, pg/g	0,098
Median all values pg/g	0,098
Consensus mean, pg/g	0,095
Standard deviation, pg/g	0,035
Relative standard deviation, %	37
No. of values reported	61
No. of values removed	4
No. of reported non-detects	10

2,3,7,8 TCDD



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

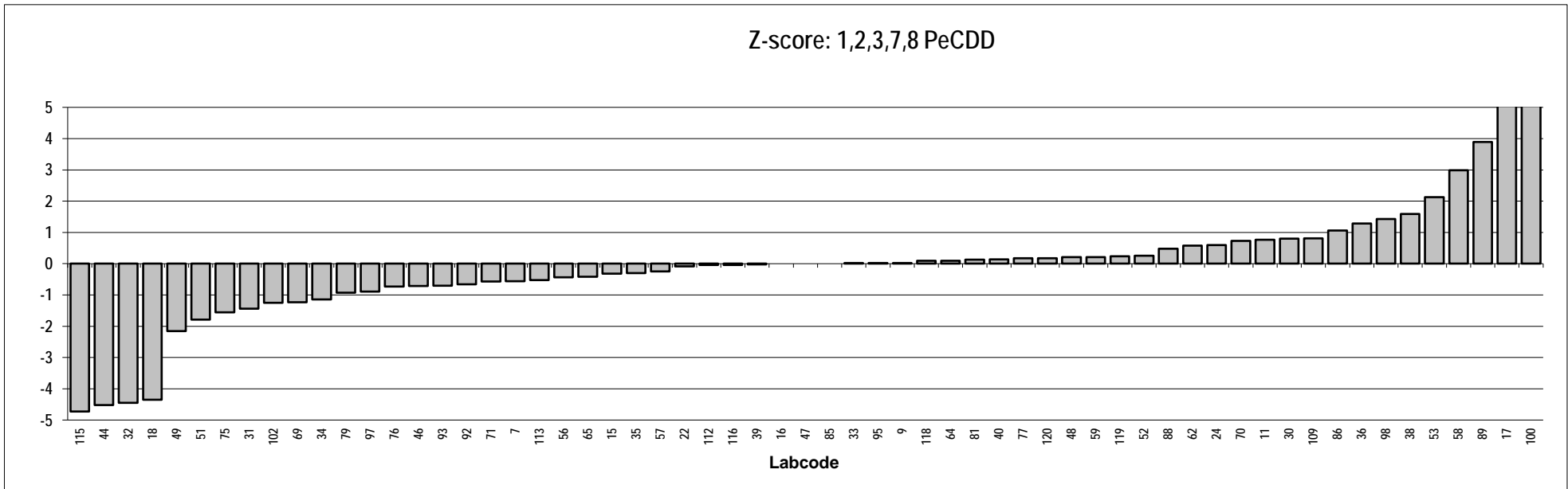
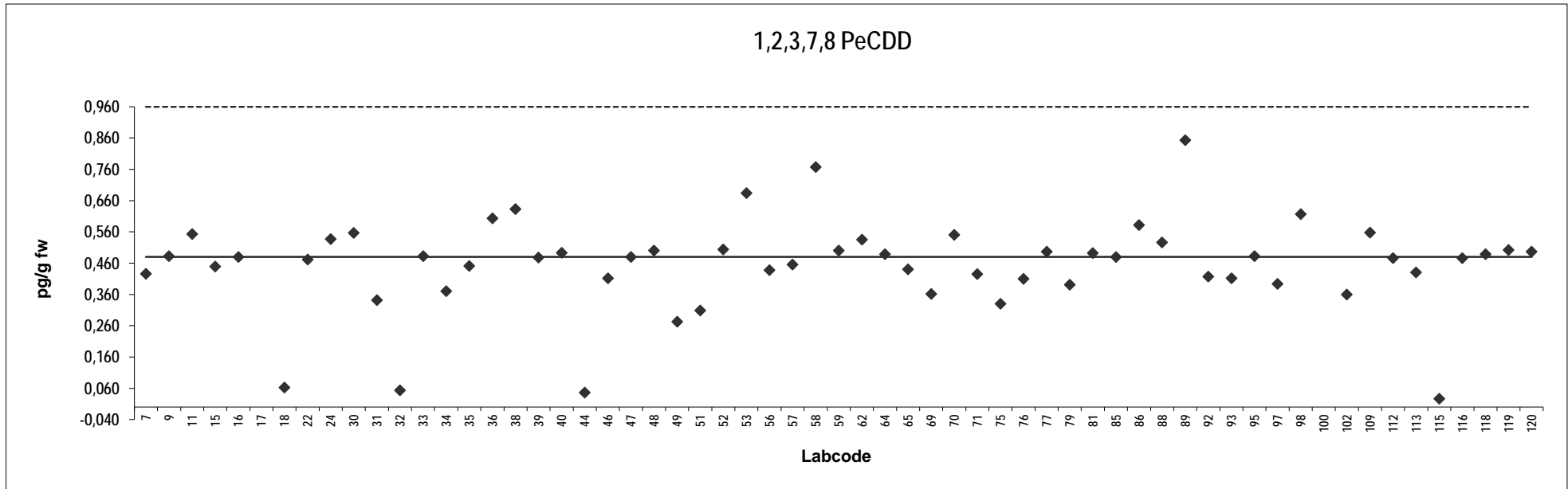


Fish oil
Congener: 1,2,3,7,8 PeCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,43	-0,56		89	0,85	3,9	
9	0,48	0,024		92	0,42	-0,66	
11	0,55	0,76		93	0,41	-0,71	
15	0,45	-0,32		95	0,48	0,021	
16	0,48	0,00		97	0,39	-0,90	
17	0,97	5,1	Outlier	98	0,62	1,4	
18	0,063	-4,3	ND	100	3,4	31	Outlier
22	0,47	-0,083		102	0,36	-1,3	
24	0,54	0,59		109	0,56	0,81	
30	0,56	0,80		112	0,48	-0,045	
31	0,34	-1,4		113	0,43	-0,52	
32	0,053	-4,4		115	0,027	-4,7	ND
33	0,48	0,021		116	0,48	-0,043	
34	0,37	-1,1		118	0,49	0,093	
35	0,45	-0,30		119	0,50	0,23	
36	0,60	1,3		120	0,50	0,18	
38	0,63	1,6					
39	0,48	-0,021					
40	0,49	0,14					
44	0,046	-4,5					
46	0,41	-0,71					
47	0,48	0,00					
48	0,50	0,21					
49	0,27	-2,2					
51	0,31	-1,8					
52	0,50	0,25					
53	0,68	2,1					
56	0,44	-0,44					
57	0,46	-0,25					
58	0,77	3,0	ND				
59	0,50	0,21					
62	0,54	0,57					
64	0,49	0,094					
65	0,44	-0,42					
69	0,36	-1,2					
70	0,55	0,73					
71	0,43	-0,57					
75	0,33	-1,6					
76	0,41	-0,73					
77	0,50	0,17					
79	0,39	-0,93					
81	0,49	0,13					
85	0,48	0,00					
86	0,58	1,1					
88	0,53	0,48					

Consensus statistics

Consensus median, pg/g	0,48
Median all values pg/g	0,48
Consensus mean, pg/g	0,45
Standard deviation, pg/g	0,15
Relative standard deviation, %	33
No. of values reported	61
No. of values removed	2
No. of reported non-detects	3

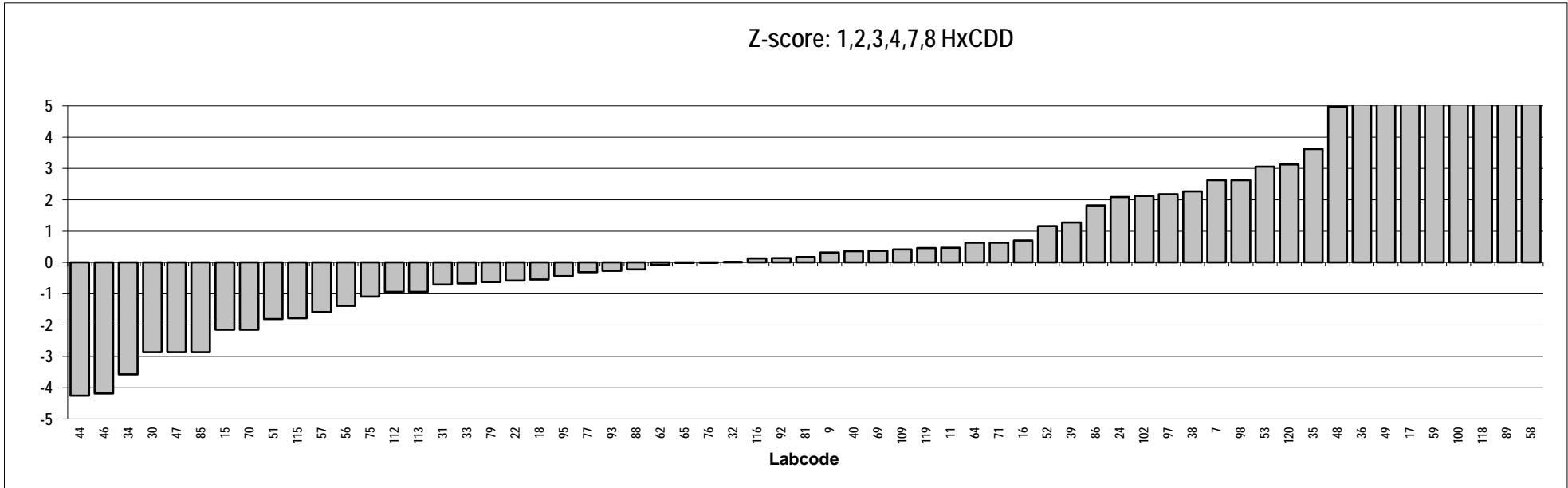
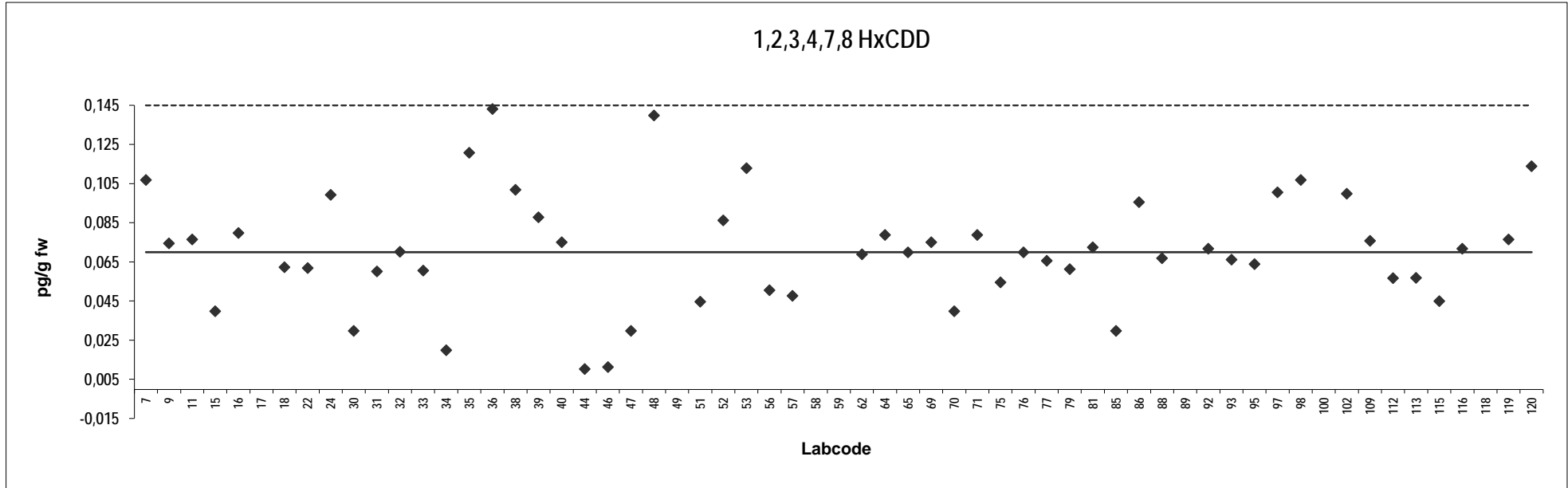


Fish oil
Congener: 1,2,3,4,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,11	2,6		89	0,34	19	Outlier
9	0,075	0,32		92	0,072	0,13	
11	0,077	0,47		93	0,066	-0,27	ND
15	0,040	-2,1		95	0,064	-0,44	
16	0,080	0,70		97	0,10	2,2	
17	0,19	8,8	Outlier	98	0,11	2,6	
18	0,063	-0,55	ND	100	0,20	9,3	Outlier,ND
22	0,062	-0,58		102	0,10	2,1	ND
24	0,099	2,1		109	0,076	0,42	
30	0,030	-2,9	ND	112	0,057	-0,94	
31	0,060	-0,70		113	0,057	-0,94	
32	0,070	0,011		115	0,045	-1,8	ND
33	0,061	-0,67		116	0,072	0,12	
34	0,020	-3,6	ND	118	0,21	9,9	Outlier
35	0,12	3,6		119	0,077	0,46	
36	0,14	5,2	ND	120	0,11	3,1	
38	0,10	2,3					
39	0,088	1,3					
40	0,075	0,36					
44	0,011	-4,3					
46	0,012	-4,2	ND				
47	0,030	-2,9	ND				
48	0,14	5,0					
49	0,18	7,9	Outlier				
51	0,045	-1,8	ND				
52	0,086	1,2					
53	0,11	3,1					
56	0,051	-1,4					
57	0,048	-1,6					
58	0,60	38	Outlier,ND				
59	0,20	9,3	Outlier				
62	0,069	-0,082					
64	0,079	0,63	ND				
65	0,070	-0,011					
69	0,075	0,37					
70	0,040	-2,1					
71	0,079	0,63					
75	0,055	-1,1					
76	0,070	-0,011					
77	0,066	-0,31					
79	0,061	-0,62					
81	0,073	0,17					
85	0,030	-2,9					
86	0,096	1,8					
88	0,067	-0,22					

Consensus statistics

Consensus median, pg/g	0,070
Median all values pg/g	0,073
Consensus mean, pg/g	0,071
Standard deviation, pg/g	0,029
Relative standard deviation, %	40
No. of values reported	61
No. of values removed	7
No. of reported non-detects	13

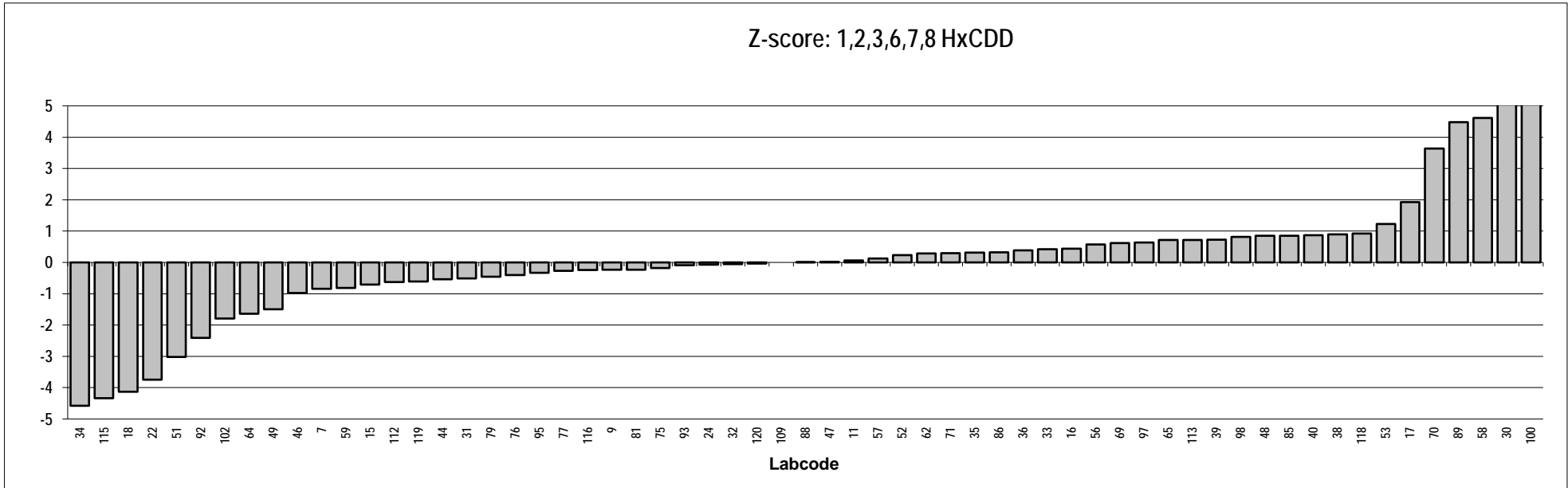
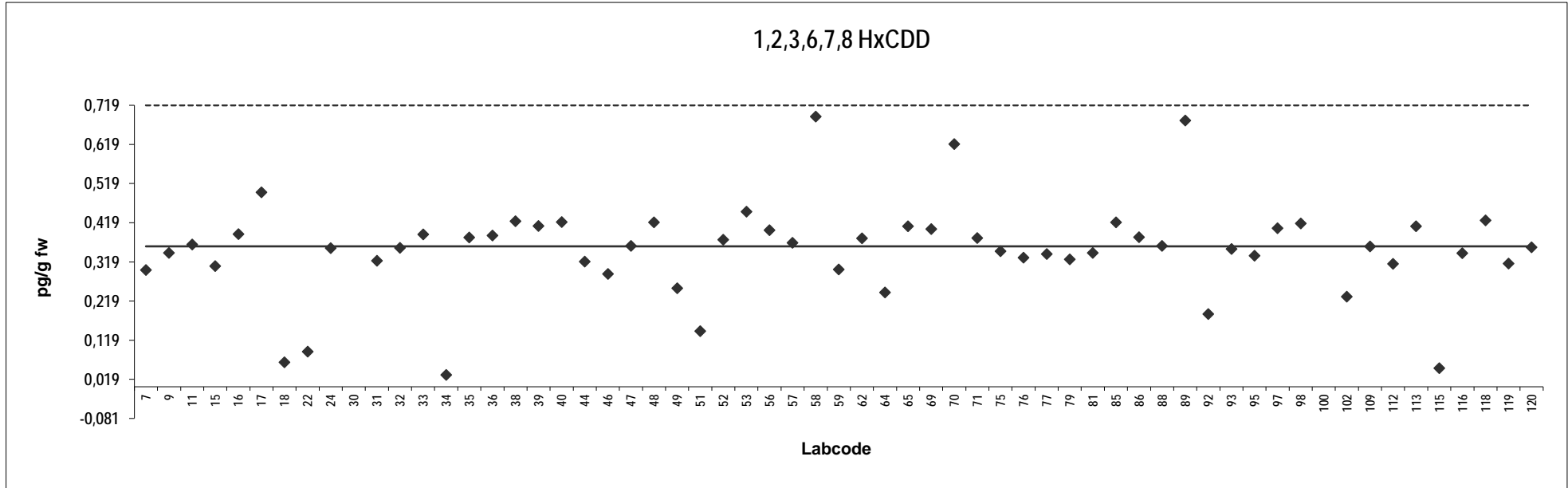


Fish oil
Congener: 1,2,3,6,7,8 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,30	-0,85		89	0,68	4,5	
9	0,34	-0,24		92	0,19	-2,4	
11	0,36	0,065		93	0,35	-0,094	
15	0,31	-0,71		95	0,34	-0,33	
16	0,39	0,44		97	0,40	0,64	
17	0,50	1,9		98	0,42	0,81	
18	0,063	-4,1	ND	100	5,0	65	Outlier
22	0,090	-3,7	ND	102	0,23	-1,8	
24	0,35	-0,067		109	0,36	0,00	
30	0,92	7,9	Outlier	112	0,31	-0,63	
31	0,32	-0,51		113	0,41	0,71	
32	0,35	-0,057		115	0,047	-4,3	ND
33	0,39	0,42		116	0,34	-0,24	
34	0,030	-4,6	ND	118	0,42	0,92	
35	0,38	0,31		119	0,32	-0,61	
36	0,39	0,39		120	0,36	-0,038	
38	0,42	0,90					
39	0,41	0,73					
40	0,42	0,87					
44	0,32	-0,54					
46	0,29	-0,98					
47	0,36	0,018					
48	0,42	0,85					
49	0,25	-1,5					
51	0,14	-3,0					
52	0,38	0,24					
53	0,45	1,2					
56	0,40	0,58					
57	0,37	0,12					
58	0,69	4,6	ND				
59	0,30	-0,82					
62	0,38	0,28					
64	0,24	-1,6					
65	0,41	0,71					
69	0,40	0,62					
70	0,62	3,6					
71	0,38	0,30					
75	0,35	-0,18					
76	0,33	-0,40					
77	0,34	-0,27					
79	0,33	-0,46					
81	0,34	-0,23					
85	0,42	0,85					
86	0,38	0,32					
88	0,36	0,011					

Consensus statistics

Consensus median, pg/g	0,36
Median all values pg/g	0,36
Consensus mean, pg/g	0,35
Standard deviation, pg/g	0,12
Relative standard deviation, %	35
No. of values reported	61
No. of values removed	2
No. of reported non-detects	5



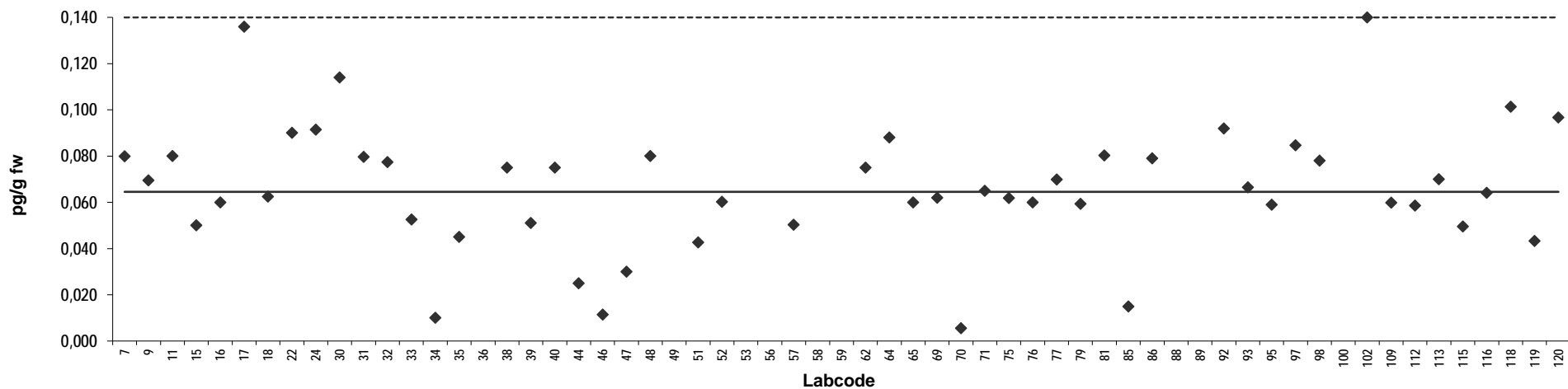
Fish oil
Congener: 1,2,3,7,8,9 HxCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,080	1,2		89	1,1	77	Outlier
9	0,070	0,39		92	0,092	2,1	
11	0,080	1,2	ND	93	0,067	0,15	ND
15	0,050	-1,1	ND	95	0,059	-0,43	
16	0,060	-0,35		97	0,085	1,6	
17	0,14	5,5		98	0,078	1,0	
18	0,063	-0,16	ND	100	0,20	10	Outlier,ND
22	0,090	2,0	ND	102	0,14	5,8	
24	0,091	2,1		109	0,060	-0,37	
30	0,11	3,8		112	0,059	-0,46	
31	0,080	1,2		113	0,070	0,42	
32	0,077	1,0		115	0,050	-1,2	ND
33	0,053	-0,92		116	0,064	-0,036	
34	0,010	-4,2	ND	118	0,10	2,9	
35	0,045	-1,5	ND	119	0,043	-1,6	
36	0,14	6,1	Outlier,ND	120	0,097	2,5	
38	0,075	0,81					
39	0,051	-1,0					
40	0,075	0,81	ND				
44	0,025	-3,1					
46	0,012	-4,1	ND				
47	0,030	-2,7	ND				
48	0,080	1,2					
49	0,16	7,1	Outlier				
51	0,043	-1,7	ND				
52	0,060	-0,33					
53	0,19	9,6	Outlier				
56	0,20	10	Outlier				
57	0,050	-1,1					
58	0,71	50	Outlier,ND				
59	0,20	10	Outlier				
62	0,075	0,81					
64	0,088	1,8	ND				
65	0,060	-0,35	ND				
69	0,062	-0,20					
70	0,0056	-4,6					
71	0,065	0,036	ND				
75	0,062	-0,21					
76	0,060	-0,35					
77	0,070	0,41					
79	0,059	-0,41					
81	0,080	1,2	ND				
85	0,015	-3,8	ND				
86	0,079	1,1					
88	0,20	10	Outlier				

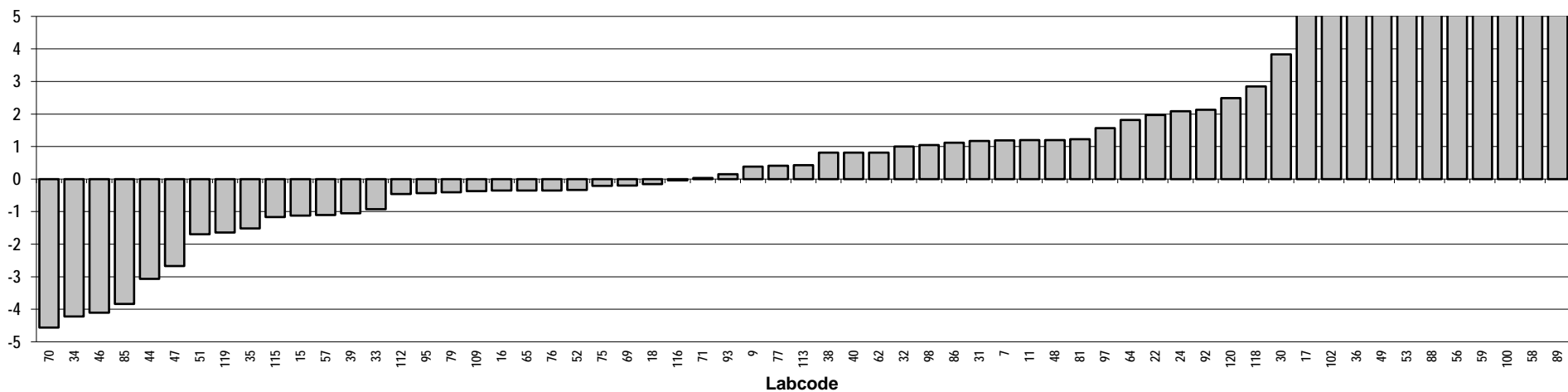
Consensus statistics

Consensus median, pg/g	0,065
Median all values pg/g	0,070
Consensus mean, pg/g	0,066
Standard deviation, pg/g	0,027
Relative standard deviation, %	41
No. of values reported	61
No. of values removed	9
No. of reported non-detects	20

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



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

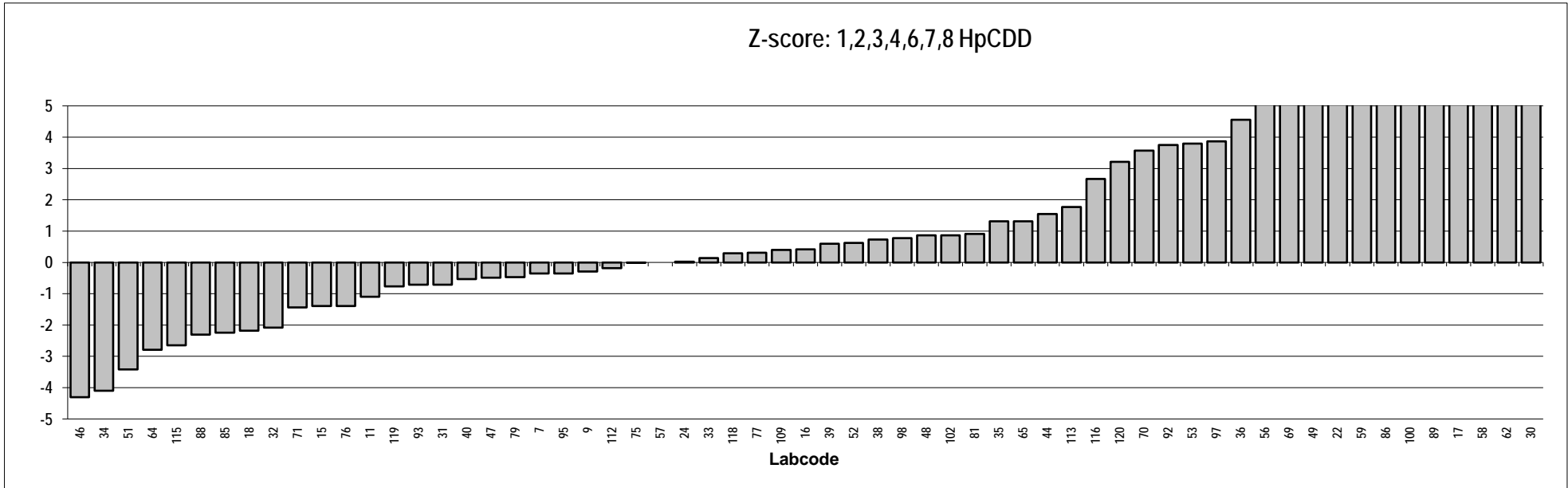
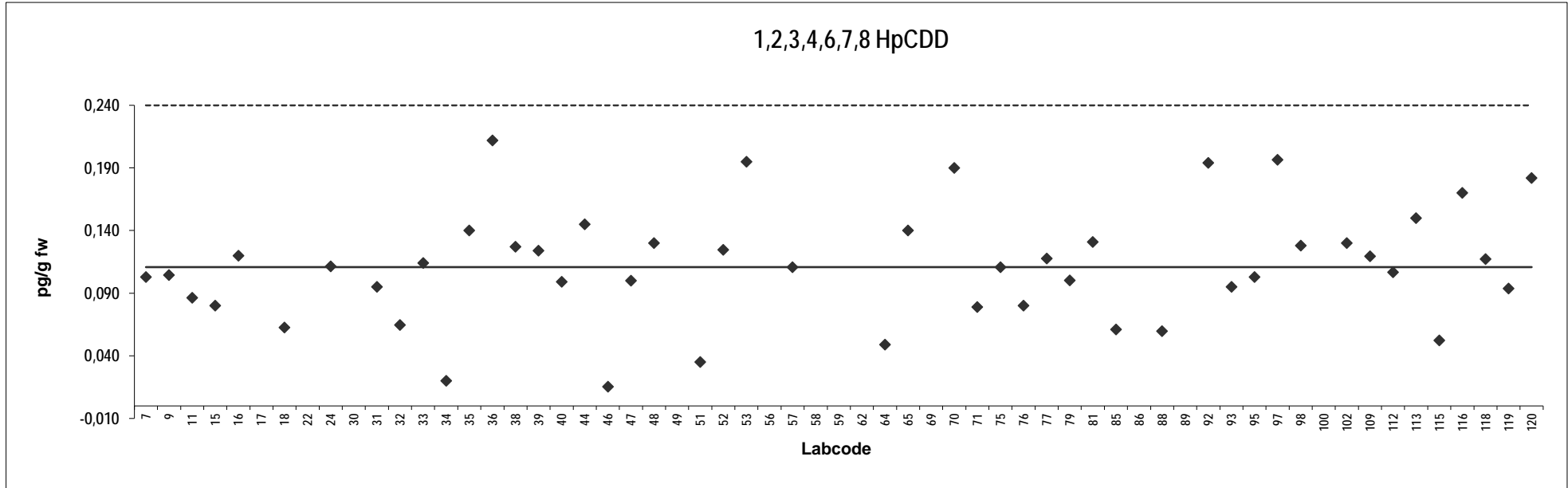


Fish oil
Congener: 1,2,3,4,6,7,8 HpCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,10	-0,35		89	0,41	14	Outlier
9	0,10	-0,29		92	0,19	3,8	
11	0,086	-1,1		93	0,095	-0,71	
15	0,080	-1,4		95	0,10	-0,35	
16	0,12	0,41		97	0,20	3,9	
17	0,72	27	Outlier	98	0,13	0,78	
18	0,063	-2,2	ND	100	0,40	13	Outlier,ND
22	0,29	7,9	Outlier	102	0,13	0,87	
24	0,11	0,023		109	0,12	0,40	
30	3,2	139	Outlier	112	0,11	-0,18	
31	0,095	-0,71		113	0,15	1,8	
32	0,065	-2,1		115	0,052	-2,6	ND
33	0,11	0,14		116	0,17	2,7	
34	0,020	-4,1	ND	118	0,12	0,29	
35	0,14	1,3		119	0,094	-0,77	
36	0,21	4,6		120	0,18	3,2	
38	0,13	0,73					
39	0,12	0,59					
40	0,099	-0,53					
44	0,15	1,5					
46	0,015	-4,3	ND				
47	0,10	-0,49					
48	0,13	0,87					
49	0,25	6,4	Outlier				
51	0,035	-3,4	ND				
52	0,12	0,62					
53	0,20	3,8					
56	0,24	6,0	Outlier				
57	0,11	0,00					
58	0,86	34	Outlier,ND				
59	0,30	8,5	Outlier,ND				
62	1,2	51	Outlier				
64	0,049	-2,8	ND				
65	0,14	1,3					
69	0,25	6,2	Outlier,ND				
70	0,19	3,6					
71	0,079	-1,4	ND				
75	0,11	-0,0052					
76	0,080	-1,4					
77	0,12	0,31					
79	0,10	-0,47					
81	0,13	0,91	ND				
85	0,061	-2,2					
86	0,39	12	Outlier				
88	0,060	-2,3					

Consensus statistics

Consensus median, pg/g	0,11
Median all values pg/g	0,12
Consensus mean, pg/g	0,11
Standard deviation, pg/g	0,045
Relative standard deviation, %	40
No. of values reported	61
No. of values removed	12
No. of reported non-detects	12

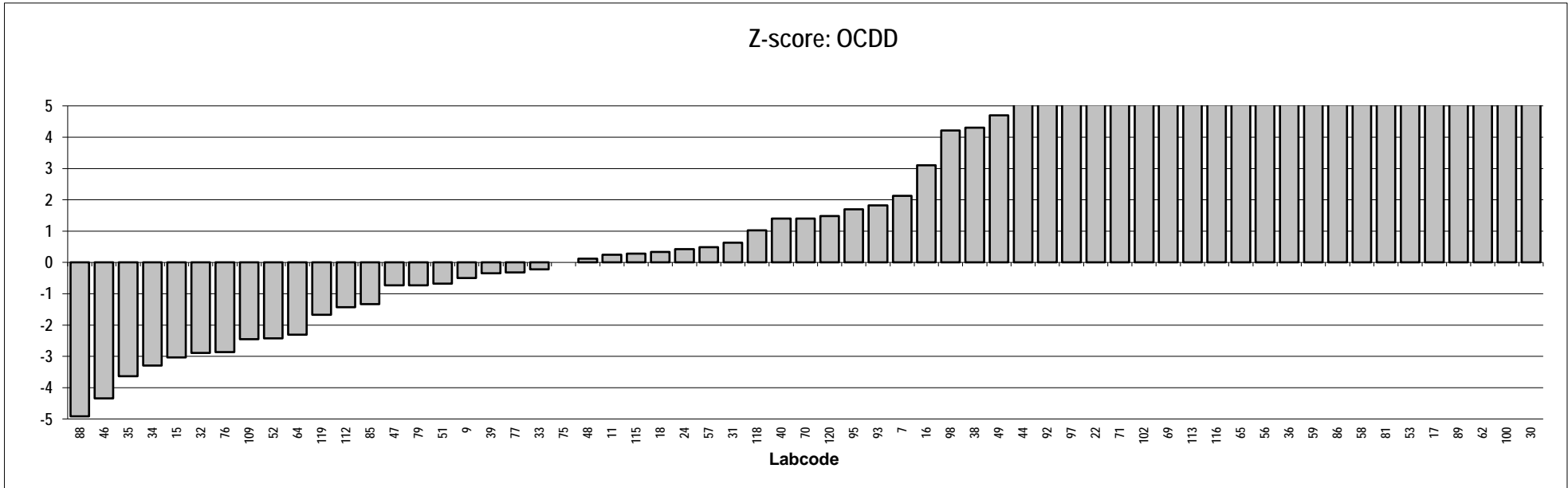
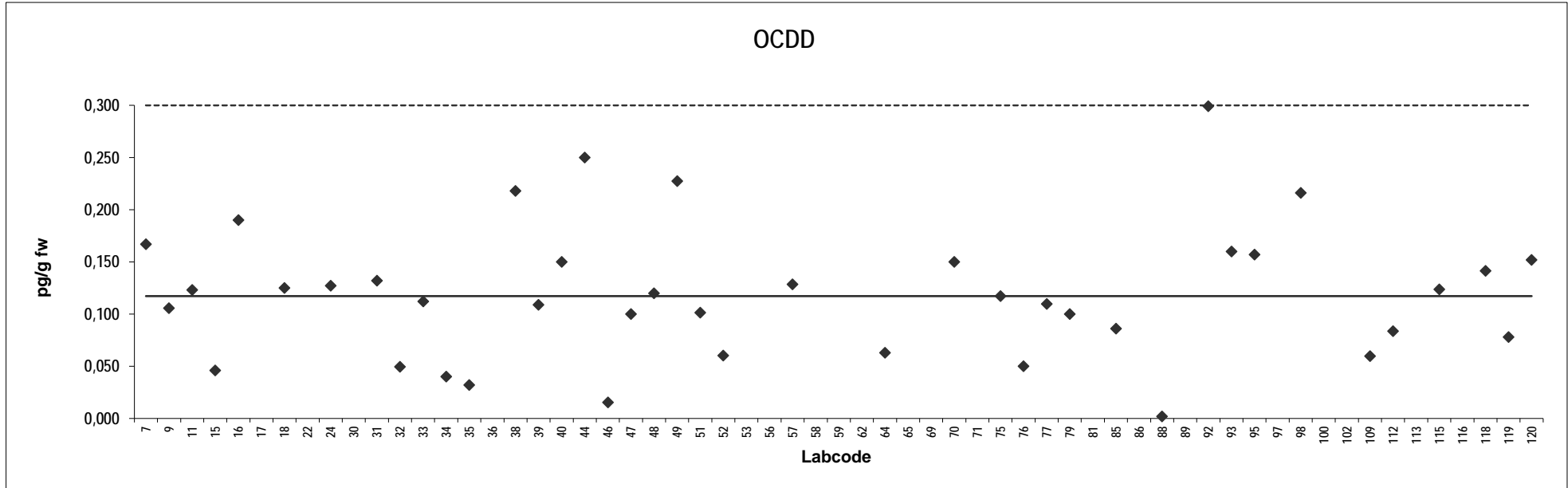


Fish oil
Congener: OCDD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,17	2,1	ND	89	1,5	58	Outlier
9	0,11	-0,49		92	0,30	7,8	
11	0,12	0,25	ND	93	0,16	1,8	ND
15	0,046	-3,0		95	0,16	1,7	
16	0,19	3,1	ND	97	0,31	8,0	Outlier
17	1,2	48	Outlier	98	0,22	4,2	
18	0,13	0,33	ND	100	8,3	348	Outlier
22	0,33	9,0	Outlier	102	0,39	12	Outlier
24	0,13	0,43		109	0,060	-2,4	
30	9,4	396	Outlier	112	0,084	-1,4	
31	0,13	0,63		113	0,50	16	Outlier
32	0,049	-2,9		115	0,12	0,28	ND
33	0,11	-0,22		116	0,51	17	Outlier
34	0,040	-3,3	ND	118	0,14	1,0	
35	0,032	-3,6	ND	119	0,078	-1,7	ND
36	0,60	21	Outlier	120	0,15	1,5	
38	0,22	4,3					
39	0,11	-0,35					
40	0,15	1,4	ND				
44	0,25	5,7					
46	0,015	-4,3	ND				
47	0,10	-0,73	ND				
48	0,12	0,12					
49	0,23	4,7					
51	0,10	-0,67					
52	0,060	-2,4					
53	1,1	40	Outlier				
56	0,60	20	Outlier				
57	0,13	0,49					
58	0,94	35	Outlier,ND				
59	0,60	21	Outlier,ND				
62	6,4	269	Outlier				
64	0,063	-2,3					
65	0,57	19	Outlier				
69	0,49	16	Outlier,ND				
70	0,15	1,4					
71	0,33	9,1	Outlier,ND				
75	0,12	0,00					
76	0,050	-2,9	ND				
77	0,11	-0,32					
79	0,10	-0,73	ND				
81	0,95	36	Outlier,ND				
85	0,086	-1,3					
86	0,79	29	Outlier				
88	0,0019	-4,9					

Consensus statistics

Consensus median, pg/g	0,12
Median all values pg/g	0,15
Consensus mean, pg/g	0,12
Standard deviation, pg/g	0,064
Relative standard deviation, %	54
No. of values reported	61
No. of values removed	20
No. of reported non-detects	19



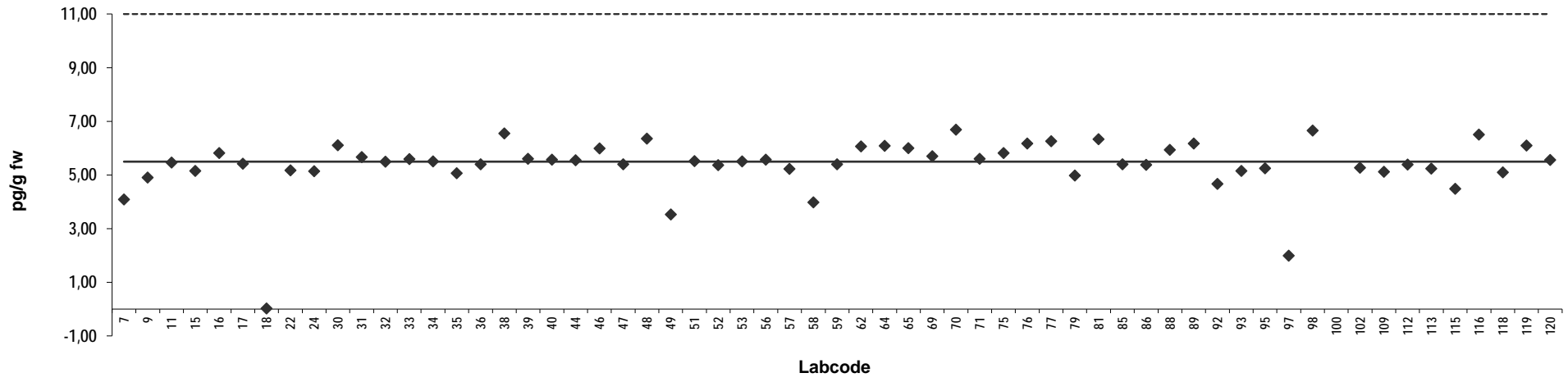
Fish oil
Congener: 2,3,7,8 TCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	4,1	-1,3		89	6,2	0,62	
9	4,9	-0,54		92	4,7	-0,75	
11	5,5	-0,028		93	5,2	-0,31	
15	5,2	-0,31		95	5,2	-0,23	
16	5,8	0,30		97	2,0	-3,2	
17	5,4	-0,069		98	6,7	1,1	
18	0,025	-5,0	ND	100	16	9,3	Outlier
22	5,2	-0,30		102	5,3	-0,21	
24	5,1	-0,33		109	5,1	-0,34	
30	6,1	0,56		112	5,4	-0,098	
31	5,7	0,16		113	5,2	-0,23	
32	5,5	-0,0039		115	4,5	-0,92	
33	5,6	0,086		116	6,5	0,92	
34	5,5	0,0039		118	5,1	-0,37	
35	5,1	-0,39		119	6,1	0,54	
36	5,4	-0,086		120	5,6	0,058	
38	6,6	0,96					
39	5,6	0,093					
40	5,6	0,068					
44	5,6	0,049					
46	6,0	0,45					
47	5,4	-0,087					
48	6,4	0,78					
49	3,5	-1,8					
51	5,5	0,015					
52	5,4	-0,12					
53	5,5	0,013					
56	5,6	0,068					
57	5,2	-0,25					
58	4,0	-1,4					
59	5,4	-0,087					
62	6,1	0,51					
64	6,1	0,53					
65	6,0	0,46					
69	5,7	0,18					
70	6,7	1,1					
71	5,6	0,095					
75	5,8	0,29					
76	6,2	0,61					
77	6,3	0,69					
79	5,0	-0,47					
81	6,3	0,759					
85	5,4	-0,087					
86	5,4	-0,11					
88	5,9	0,40					

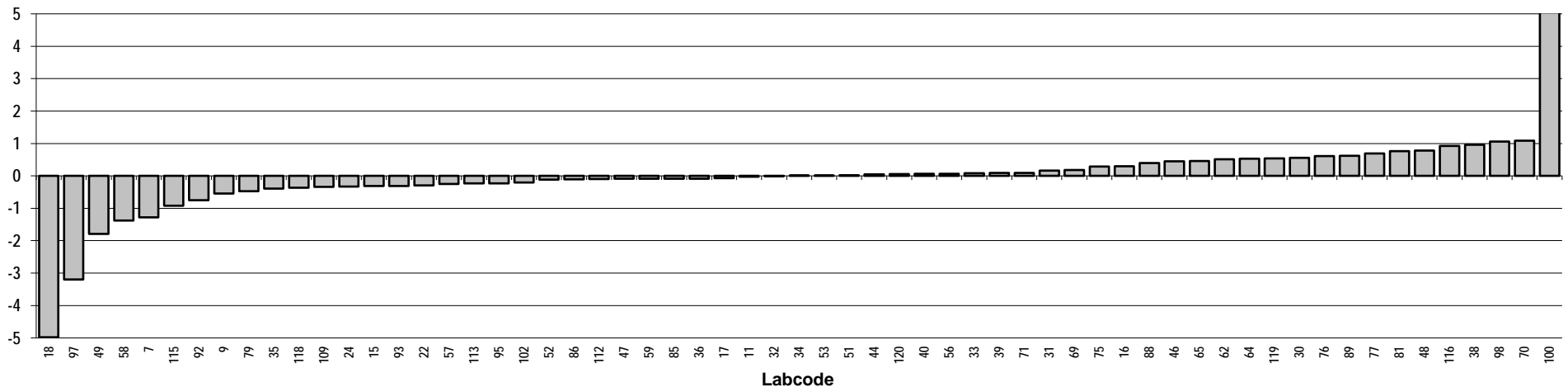
Consensus statistics

Consensus median, pg/g	5,5
Median all values pg/g	5,5
Consensus mean, pg/g	5,4
Standard deviation, pg/g	1,0
Relative standard deviation, %	19
No. of values reported	61
No. of values removed	1
No. of reported non-detects	1

2,3,7,8 TCDF



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

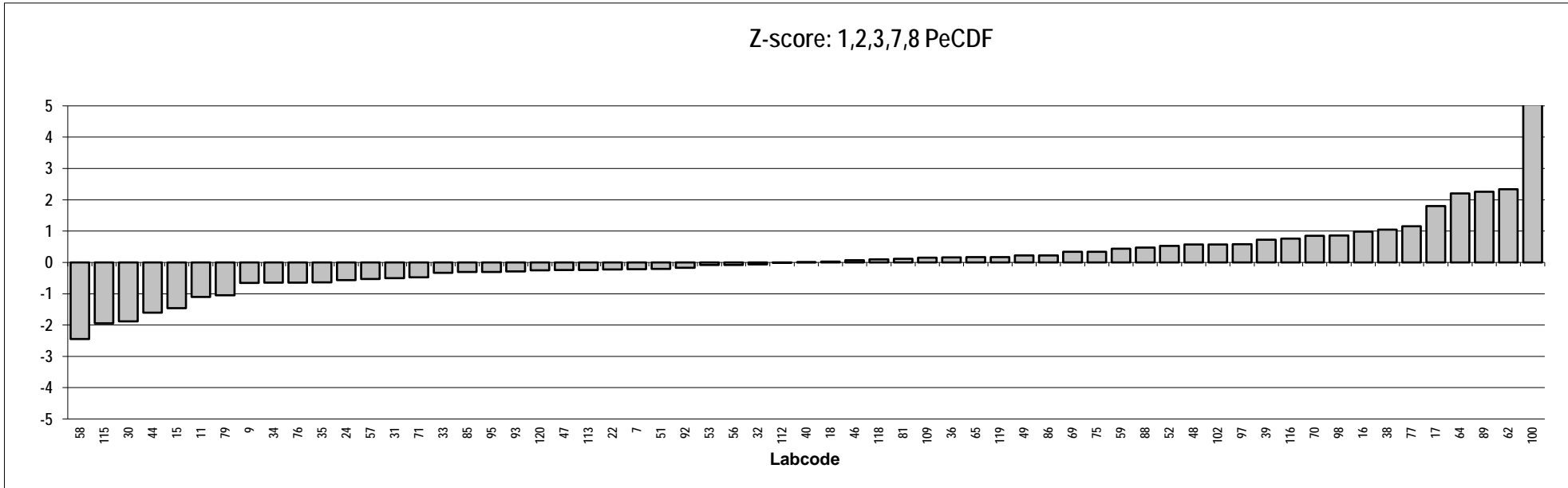
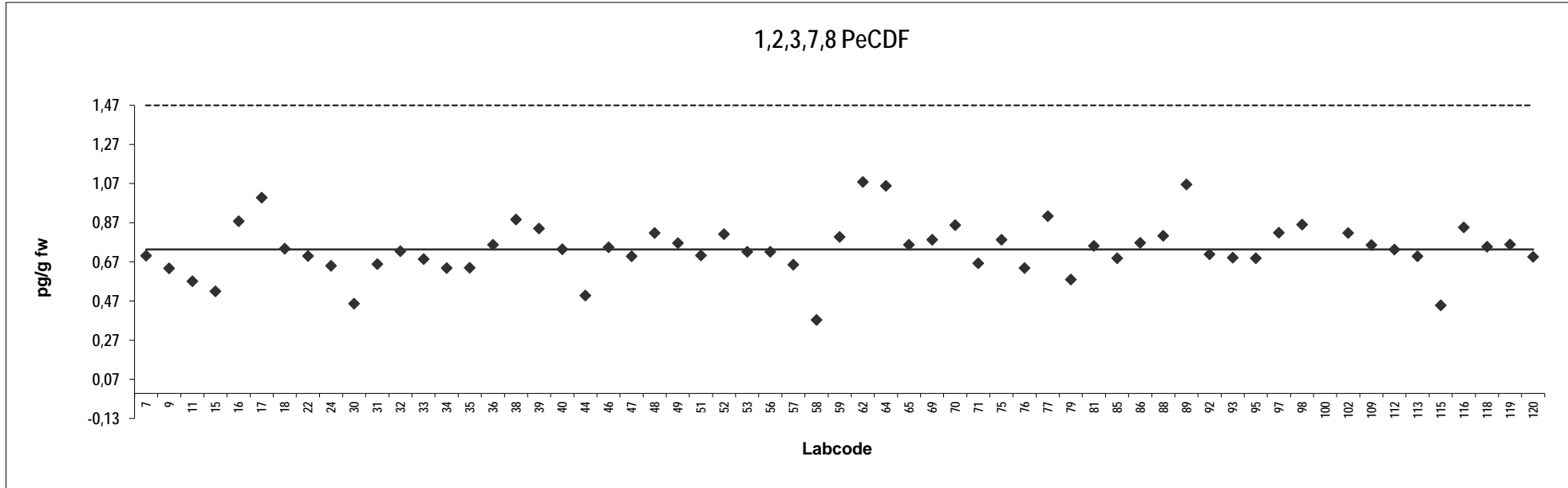


Fish oil
Congener: 1,2,3,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,70	-0,21		89	1,1	2,3	
9	0,64	-0,65		92	0,71	-0,17	
11	0,57	-1,1		93	0,69	-0,29	
15	0,52	-1,5		95	0,69	-0,30	
16	0,88	0,98		97	0,82	0,58	
17	1,0	1,8		98	0,86	0,86	
18	0,74	0,030		100	7,7	48	Outlier
22	0,70	-0,23		102	0,82	0,57	
24	0,65	-0,57		109	0,76	0,15	
30	0,46	-1,9		112	0,74	-0,0031	
31	0,66	-0,51		113	0,70	-0,24	
32	0,73	-0,065		115	0,45	-1,9	
33	0,69	-0,33		116	0,85	0,76	
34	0,64	-0,65		118	0,75	0,094	
35	0,64	-0,64		119	0,76	0,17	
36	0,76	0,16		120	0,70	-0,26	
38	0,89	1,0					
39	0,84	0,72					
40	0,74	0,0031					
44	0,50	-1,6					
46	0,75	0,072					
47	0,70	-0,24					
48	0,82	0,57					
49	0,77	0,22					
51	0,71	-0,20					
52	0,81	0,53					
53	0,72	-0,085					
56	0,72	-0,078					
57	0,66	-0,53					
58	0,38	-2,5	ND				
59	0,80	0,44					
62	1,1	2,3					
64	1,1	2,2					
65	0,76	0,17					
69	0,78	0,34					
70	0,86	0,85					
71	0,67	-0,48					
75	0,79	0,34					
76	0,64	-0,65					
77	0,91	1,2					
79	0,58	-1,0					
81	0,75	0,12					
85	0,69	-0,31					
86	0,77	0,23					
88	0,81	0,48					

Consensus statistics

Consensus median, pg/g	0,74
Median all values pg/g	0,74
Consensus mean, pg/g	0,74
Standard deviation, pg/g	0,14
Relative standard deviation, %	18
No. of values reported	61
No. of values removed	1
No. of reported non-detects	1

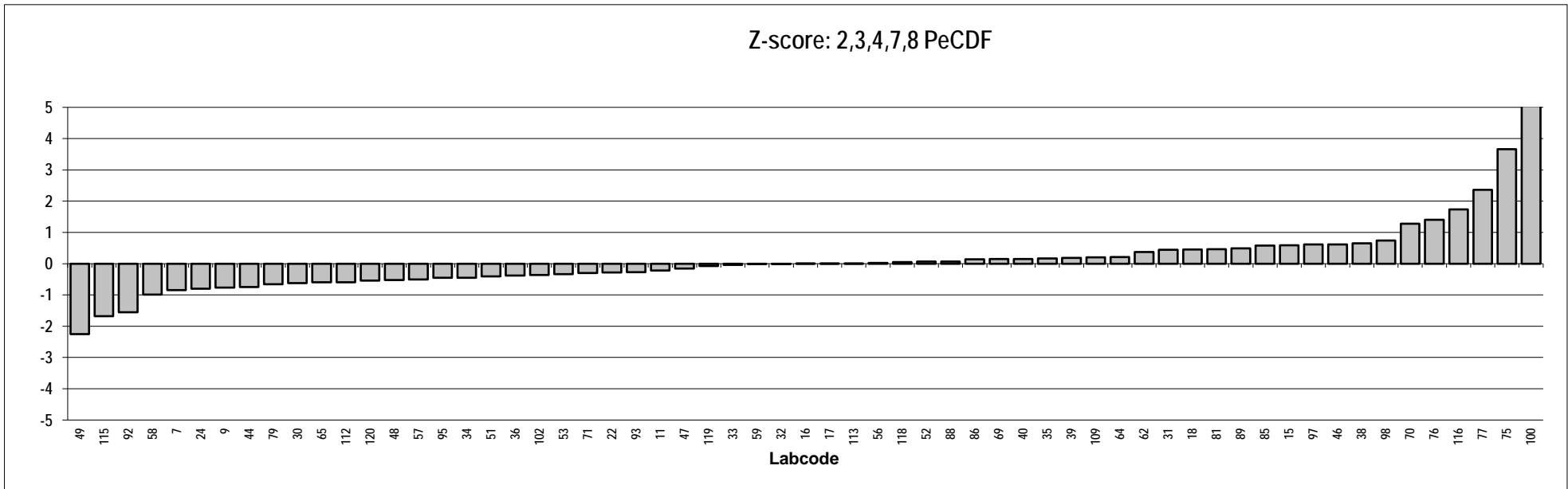
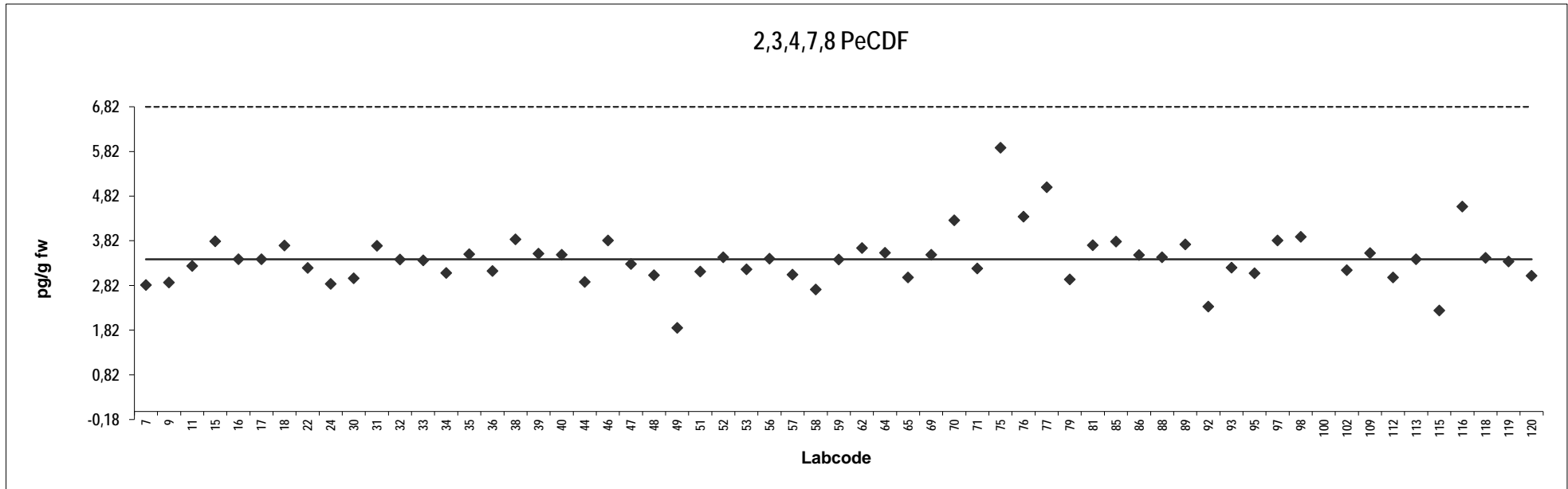


Fish oil
Congener: 2,3,4,7,8 PeCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	2,8	-0,85		89	3,7	0,49	
9	2,9	-0,76		92	2,4	-1,6	
11	3,3	-0,22		93	3,2	-0,27	
15	3,8	0,59		95	3,1	-0,45	
16	3,4	0,0056		97	3,8	0,61	
17	3,4	0,0056		98	3,9	0,74	
18	3,7	0,46		100	7,4	5,8	Outlier
22	3,2	-0,28		102	3,2	-0,36	
24	2,9	-0,80		109	3,5	0,21	
30	3,0	-0,62		112	3,0	-0,59	
31	3,7	0,45		113	3,4	0,0056	
32	3,4	-0,0056		115	2,3	-1,7	
33	3,4	-0,038		116	4,6	1,7	
34	3,1	-0,45		118	3,4	0,049	
35	3,5	0,17		119	3,4	-0,072	
36	3,1	-0,38		120	3,0	-0,54	
38	3,9	0,65					
39	3,5	0,19					
40	3,5	0,15					
44	2,9	-0,74					
46	3,8	0,62					
47	3,3	-0,16					
48	3,1	-0,52					
49	1,9	-2,2					
51	3,1	-0,40					
52	3,5	0,065					
53	3,2	-0,33					
56	3,4	0,020					
57	3,1	-0,50					
58	2,7	-0,99					
59	3,4	-0,0091					
62	3,7	0,37					
64	3,6	0,21					
65	3,0	-0,60					
69	3,5	0,15					
70	4,3	1,3					
71	3,2	-0,30					
75	5,9	3,7					
76	4,4	1,4					
77	5,0	2,4					
79	3,0	-0,66					
81	3,7	0,46					
85	3,8	0,58					
86	3,5	0,14					
88	3,5	0,070					

Consensus statistics

Consensus median, pg/g	3,4
Median all values pg/g	3,4
Consensus mean, pg/g	3,4
Standard deviation, pg/g	0,61
Relative standard deviation, %	18
No. of values reported	61
No. of values removed	1
No. of reported non-detects	0

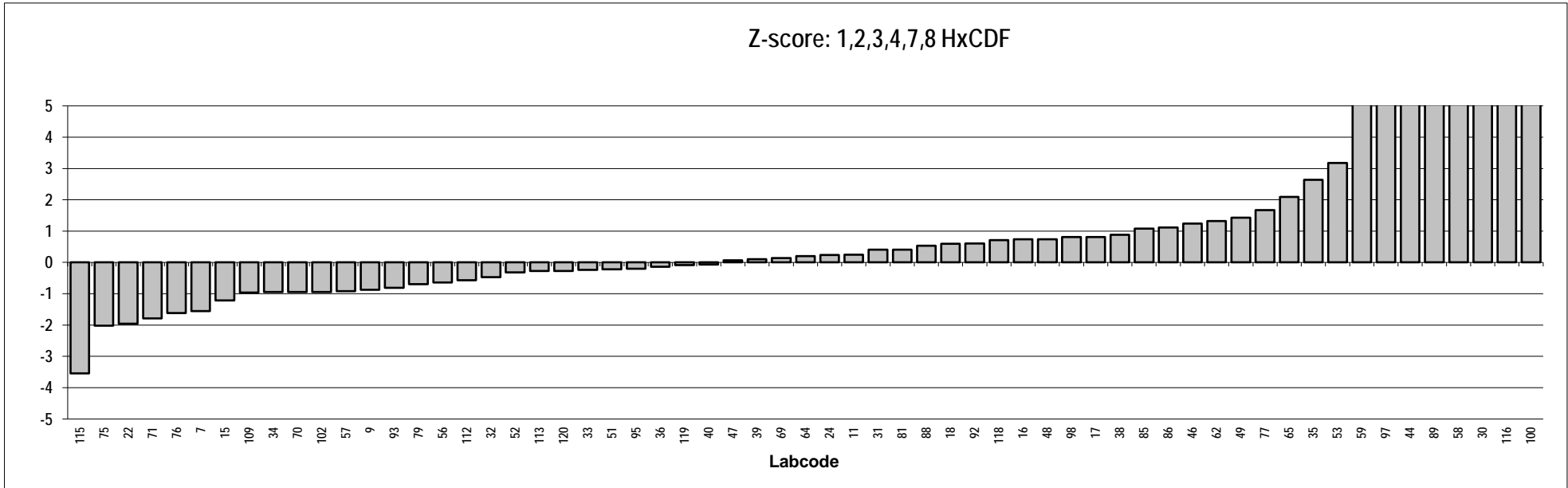
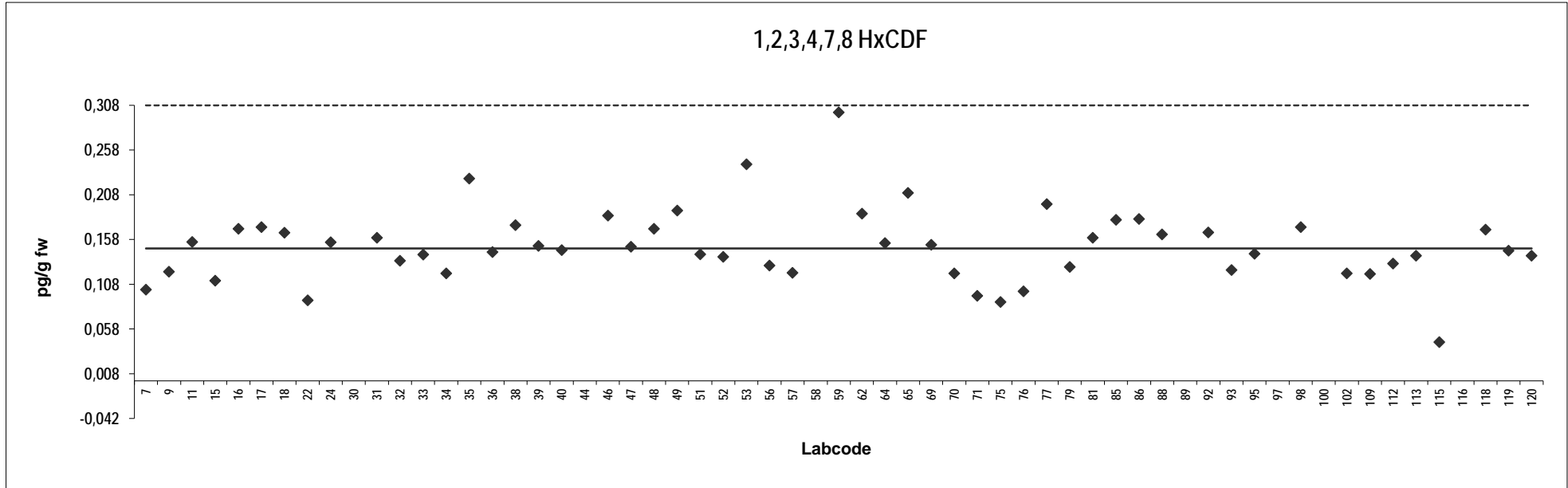


Fish oil
Congener: 1,2,3,4,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,10	-1,6		89	0,42	9,1	Outlier
9	0,12	-0,88		92	0,17	0,61	
11	0,16	0,25		93	0,12	-0,81	
15	0,11	-1,2		95	0,14	-0,20	
16	0,17	0,74		97	0,34	6,5	Outlier
17	0,17	0,81		98	0,17	0,81	
18	0,17	0,59		100	1,3	39	Outlier
22	0,090	-2,0	ND	102	0,12	-0,95	
24	0,16	0,24		109	0,12	-0,96	
30	0,48	11	Outlier	112	0,13	-0,57	
31	0,16	0,41		113	0,14	-0,27	
32	0,13	-0,47		115	0,043	-3,5	ND
33	0,14	-0,24		116	1,1	31	Outlier
34	0,12	-0,95		118	0,17	0,71	
35	0,23	2,6		119	0,15	-0,081	
36	0,14	-0,14		120	0,14	-0,27	ND
38	0,17	0,88					
39	0,15	0,10					
40	0,15	-0,068					
44	0,36	7,2	Outlier				
46	0,18	1,2					
47	0,15	0,068					
48	0,17	0,74					
49	0,19	1,4					
51	0,14	-0,22					
52	0,14	-0,32					
53	0,24	3,2					
56	0,13	-0,64					
57	0,12	-0,92					
58	0,43	9,4	Outlier,ND				
59	0,30	5,1					
62	0,19	1,3					
64	0,15	0,20					
65	0,21	2,1					
69	0,15	0,14					
70	0,12	-0,95					
71	0,095	-1,8					
75	0,088	-2,0	ND				
76	0,10	-1,6					
77	0,20	1,7					
79	0,13	-0,70					
81	0,16	0,41					
85	0,18	1,1					
86	0,18	1,1					
88	0,16	0,54					

Consensus statistics

Consensus median, pg/g	0,15
Median all values pg/g	0,15
Consensus mean, pg/g	0,15
Standard deviation, pg/g	0,041
Relative standard deviation, %	27
No. of values reported	61
No. of values removed	7
No. of reported non-detects	5

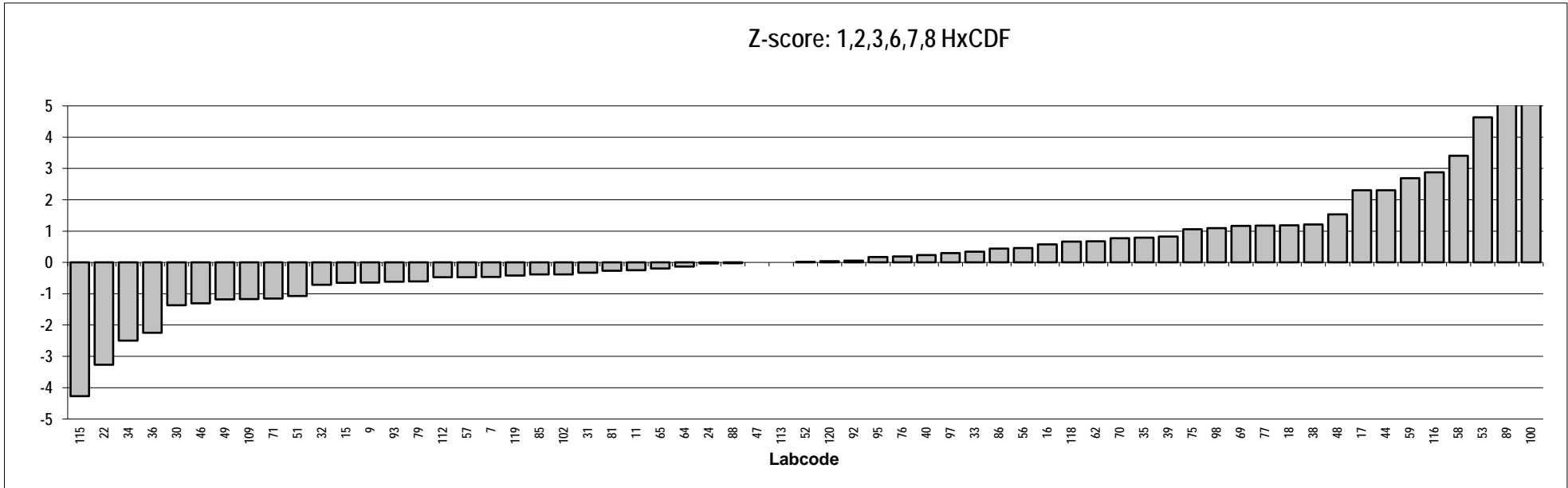
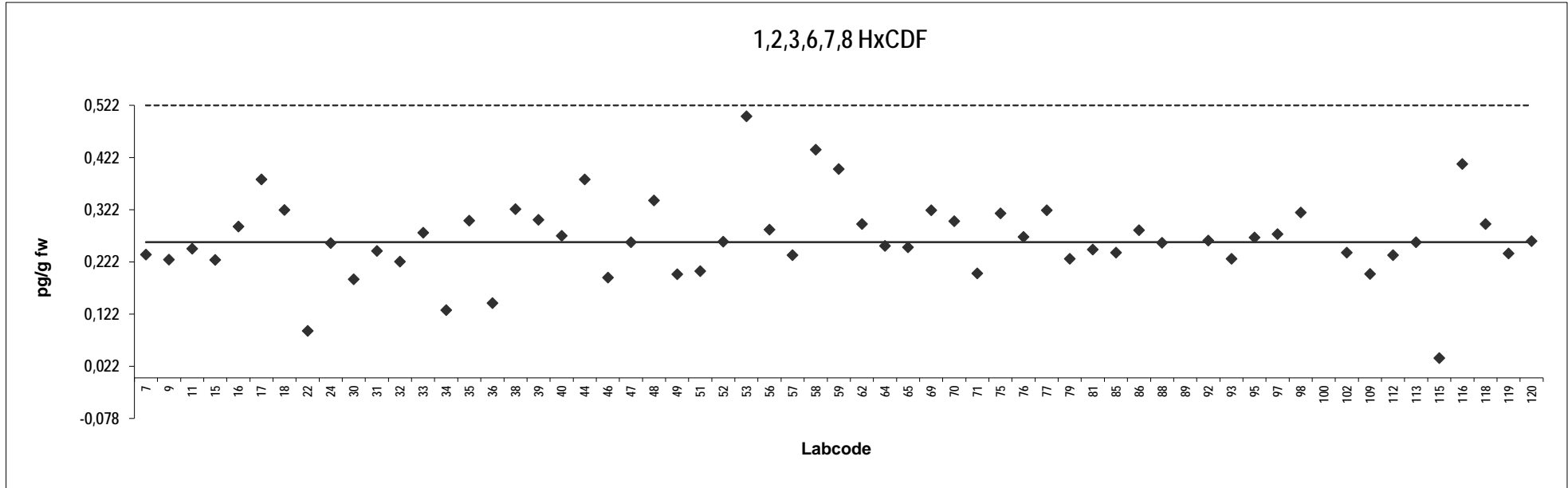


Fish oil
Congener: 1,2,3,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,24	-0,46		89	0,58	6,2	Outlier
9	0,23	-0,64		92	0,26	0,058	
11	0,25	-0,25		93	0,23	-0,62	
15	0,23	-0,65		95	0,27	0,17	
16	0,29	0,58		97	0,28	0,30	
17	0,38	2,3		98	0,32	1,1	
18	0,32	1,2		100	1,9	31	Outlier
22	0,090	-3,3		102	0,24	-0,38	
24	0,26	-0,030		109	0,20	-1,2	
30	0,19	-1,4		112	0,24	-0,48	
31	0,24	-0,33		113	0,26	0,00	
32	0,22	-0,71		115	0,038	-4,3	ND
33	0,28	0,35		116	0,41	2,9	
34	0,13	-2,5		118	0,29	0,66	
35	0,30	0,79		119	0,24	-0,42	
36	0,14	-2,2	ND	120	0,26	0,038	
38	0,32	1,2					
39	0,30	0,83					
40	0,27	0,23					
44	0,38	2,3					
46	0,19	-1,3					
47	0,26	0,00					
48	0,34	1,5					
49	0,20	-1,2					
51	0,20	-1,1					
52	0,26	0,021					
53	0,50	4,6					
56	0,28	0,46					
57	0,24	-0,47					
58	0,44	3,4	ND				
59	0,40	2,7					
62	0,30	0,67					
64	0,25	-0,13					
65	0,25	-0,19					
69	0,32	1,2					
70	0,30	0,77					
71	0,20	-1,2					
75	0,32	1,1					
76	0,27	0,19					
77	0,32	1,2					
79	0,23	-0,61					
81	0,25	-0,27					
85	0,24	-0,38					
86	0,28	0,44					
88	0,26	-0,022					

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	0,076
Relative standard deviation, %	29
No. of values reported	61
No. of values removed	2
No. of reported non-detects	3



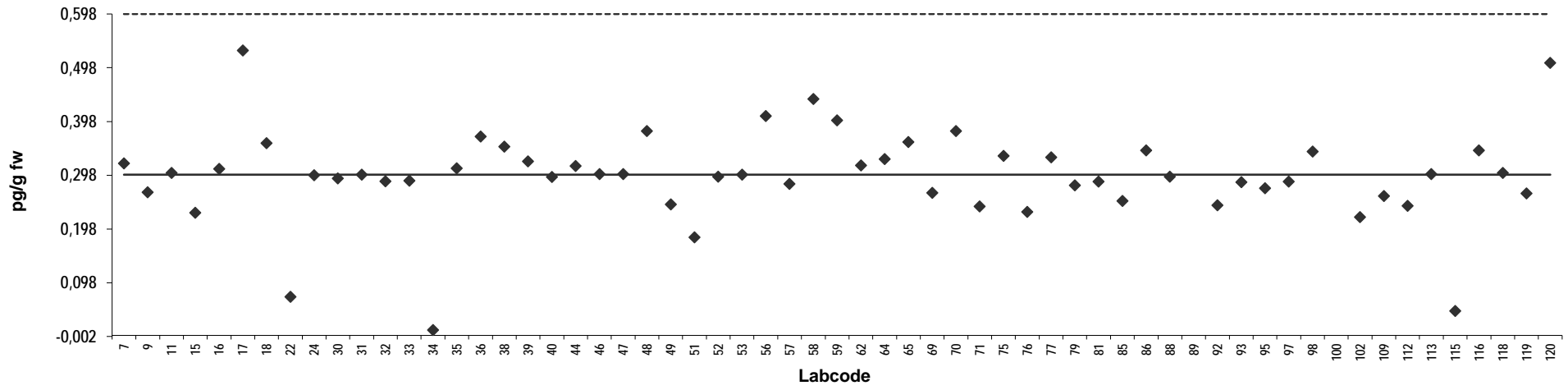
Fish oil
Congener: 2,3,4,6,7,8 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,32	0,35		89	0,79	8,2	Outlier
9	0,27	-0,55		92	0,24	-0,95	
11	0,30	0,059		93	0,29	-0,23	
15	0,23	-1,2		95	0,27	-0,42	
16	0,31	0,18		97	0,29	-0,21	
17	0,53	3,9		98	0,34	0,72	
18	0,36	0,98		100	1,2	15	Outlier
22	0,072	-3,8		102	0,22	-1,3	
24	0,30	-0,013		109	0,26	-0,67	
30	0,29	-0,12		112	0,24	-0,97	
31	0,30	0,00		113	0,30	0,017	
32	0,29	-0,21		115	0,045	-4,2	ND
33	0,29	-0,18		116	0,34	0,76	
34	0,010	-4,8	ND	118	0,30	0,053	
35	0,31	0,20		119	0,26	-0,58	
36	0,37	1,2		120	0,51	3,5	
38	0,35	0,87					
39	0,32	0,42					
40	0,30	-0,067					
44	0,32	0,27					
46	0,30	0,017					
47	0,30	0,017					
48	0,38	1,4					
49	0,24	-0,92					
51	0,18	-2,0					
52	0,30	-0,063					
53	0,30	0,00					
56	0,41	1,8					
57	0,28	-0,29					
58	0,44	2,4	ND				
59	0,40	1,7					
62	0,32	0,28					
64	0,33	0,48					
65	0,36	1,0					
69	0,27	-0,56					
70	0,38	1,4					
71	0,24	-0,99					
75	0,33	0,59					
76	0,23	-1,2					
77	0,33	0,54					
79	0,28	-0,33					
81	0,29	-0,22					
85	0,25	-0,82					
86	0,34	0,75					
88	0,30	-0,063					

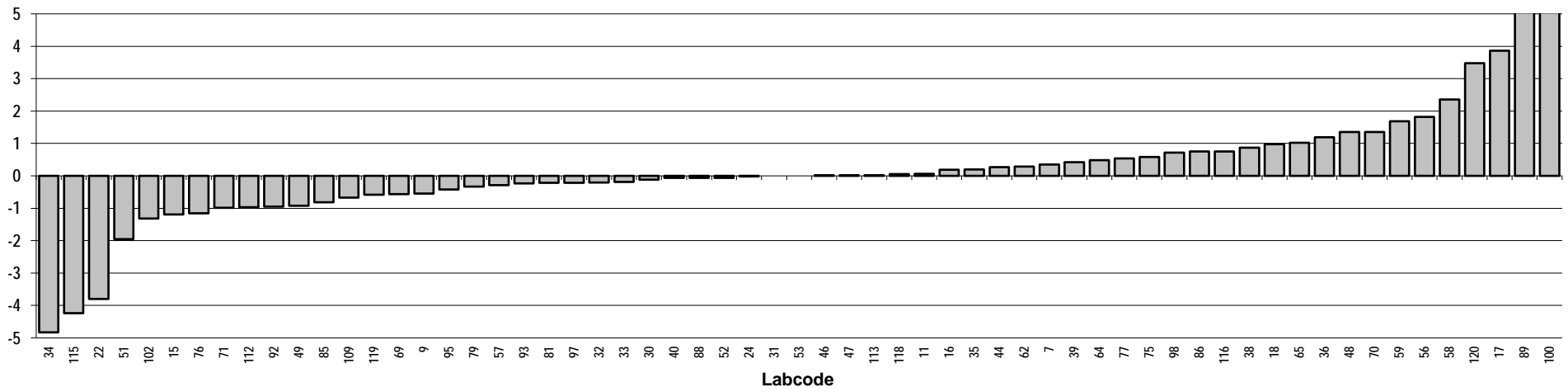
Consensus statistics

Consensus median, pg/g	0,30
Median all values pg/g	0,30
Consensus mean, pg/g	0,30
Standard deviation, pg/g	0,086
Relative standard deviation, %	29
No. of values reported	61
No. of values removed	2
No. of reported non-detects	3

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



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



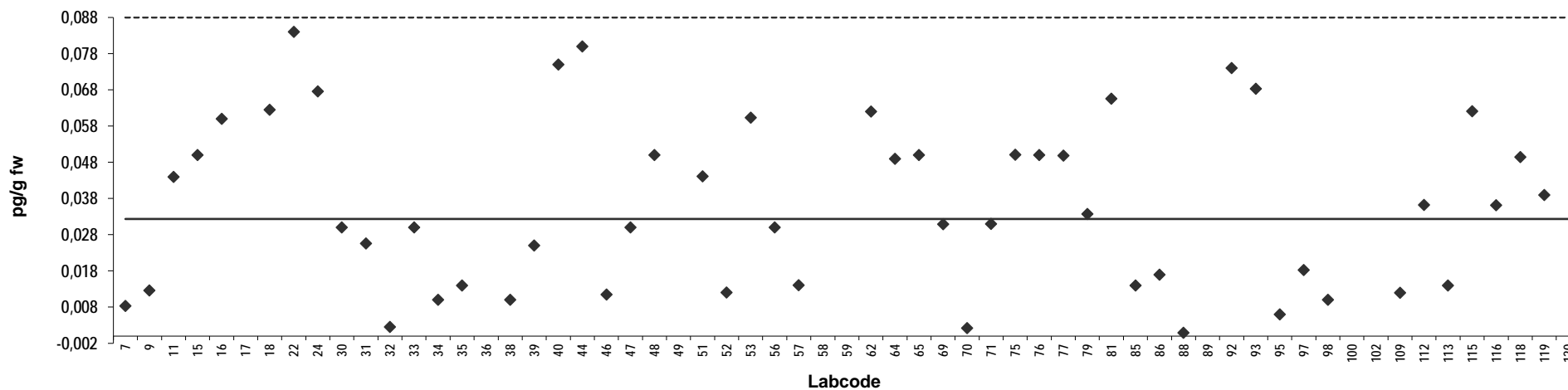
Fish oil
Congener: 1,2,3,7,8,9 HxCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,0083	-3,7	ND	89	1,5	225	Outlier
9	0,013	-3,1		92	0,074	6,4	
11	0,044	1,8	ND	93	0,068	5,6	ND
15	0,050	2,7	ND	95	0,0060	-4,1	ND
16	0,060	4,3	ND	97	0,018	-2,2	
17	0,35	49	Outlier	98	0,010	-3,5	ND
18	0,063	4,7	ND	100	1,1	165	Outlier
22	0,084	8,0		102	0,10	10	Outlier
24	0,068	5,4	ND	109	0,012	-3,2	ND
30	0,030	-0,36	ND	112	0,036	0,60	
31	0,026	-1,0	ND	113	0,014	-2,8	
32	0,0025	-4,6		115	0,062	4,6	ND
33	0,030	-0,36	ND	116	0,036	0,58	ND
34	0,010	-3,5	ND	118	0,049	2,6	ND
35	0,014	-2,8	ND	119	0,039	1,0	ND
36	0,14	17	Outlier,ND	120	0,19	24	Outlier,ND
38	0,010	-3,5	ND				
39	0,025	-1,1	ND				
40	0,075	6,6	ND				
44	0,080	7,4					
46	0,012	-3,2	ND				
47	0,030	-0,36	ND				
48	0,050	2,7	ND				
49	0,23	30	Outlier				
51	0,044	1,8	ND				
52	0,012	-3,1					
53	0,060	4,3					
56	0,030	-0,36	ND				
57	0,014	-2,8					
58	0,54	79	Outlier,ND				
59	0,20	26	Outlier,ND				
62	0,062	4,6	ND				
64	0,049	2,6	ND				
65	0,050	2,7	ND				
69	0,031	-0,22	ND				
70	0,0022	-4,7	ND				
71	0,031	-0,21	ND				
75	0,050	2,7	ND				
76	0,050	2,7	ND				
77	0,050	2,7					
79	0,034	0,2					
81	0,066	5,1	ND				
85	0,014	-2,8	ND				
86	0,017	-2,4	ND				
88	0,00092	-4,9					

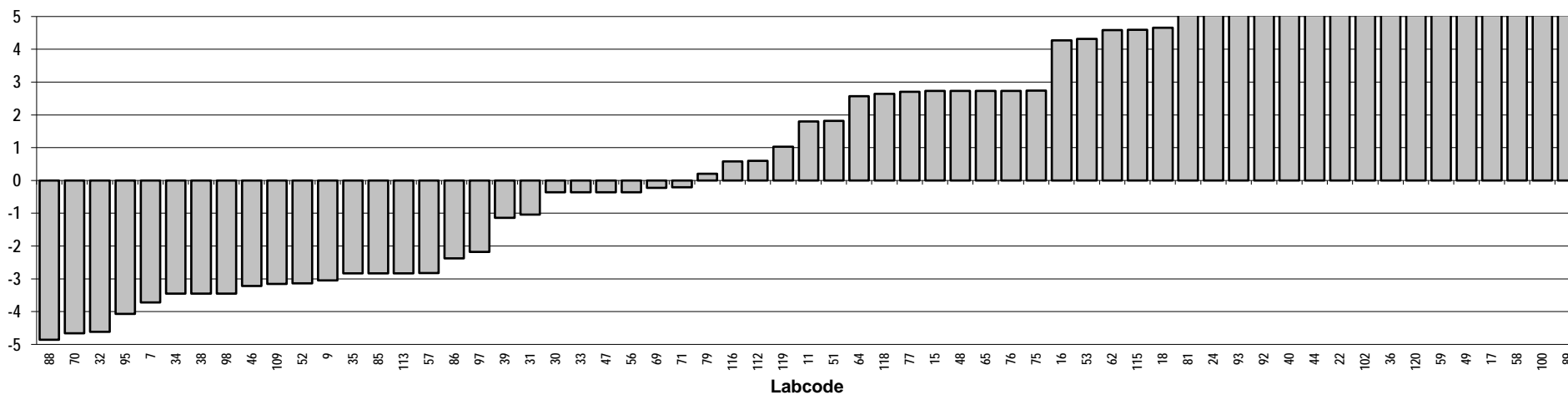
Consensus statistics

Consensus median, pg/g	0,032
Median all values pg/g	0,044
Consensus mean, pg/g	0,036
Standard deviation, pg/g	0,023
Relative standard deviation, %	64
No. of values reported	61
No. of values removed	9
No. of reported non-detects	42

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



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

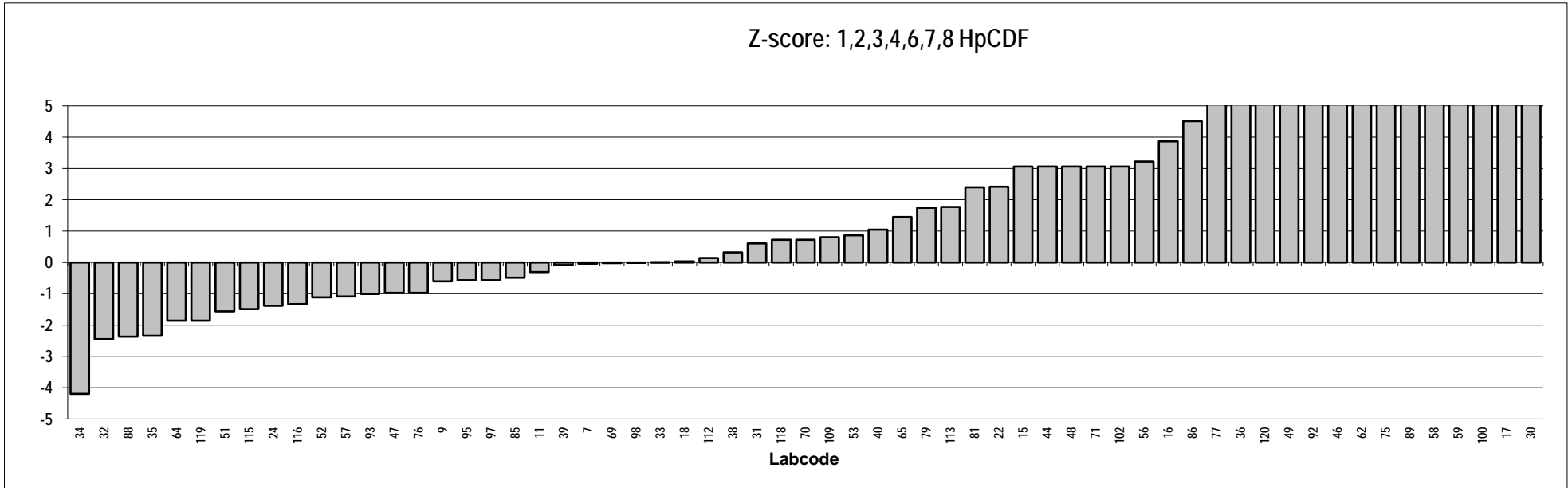
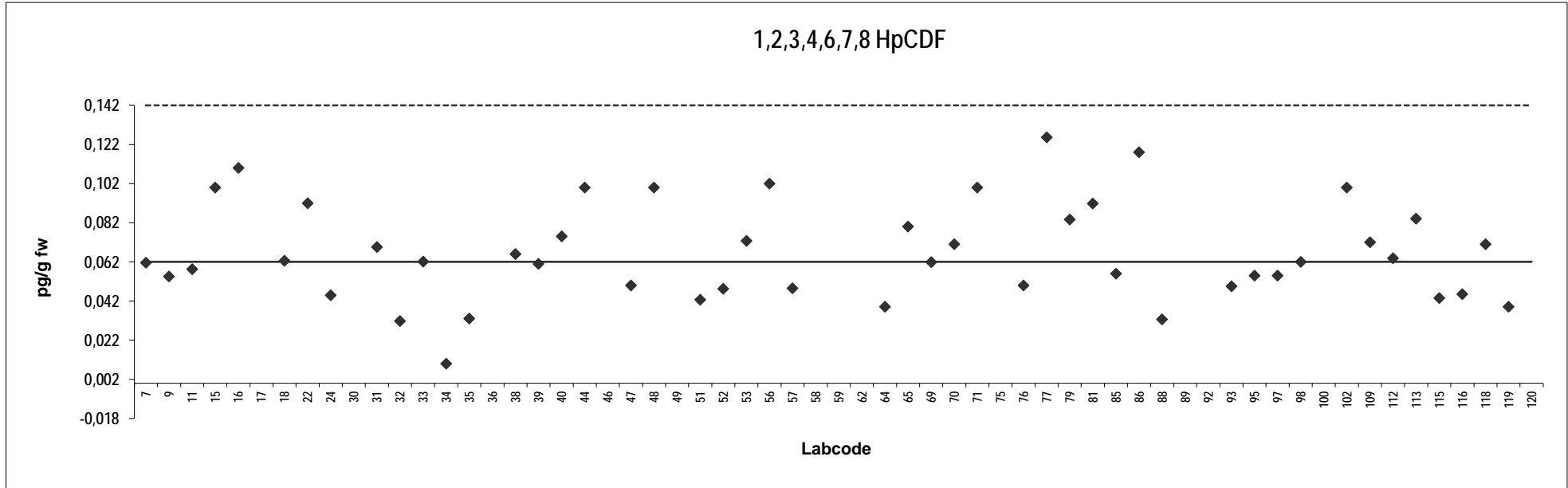


Fish oil
Congener: 1,2,3,4,6,7,8 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,062	-0,036		89	0,25	15	Outlier
9	0,055	-0,60		92	0,16	7,5	Outlier
11	0,058	-0,31		93	0,050	-1,0	
15	0,10	3,1	ND	95	0,055	-0,57	
16	0,11	3,9	ND	97	0,055	-0,56	
17	0,51	36	Outlier	98	0,062	-0,0040	
18	0,063	0,036	ND	100	0,40	27	Outlier,ND
22	0,092	2,4		102	0,10	3,1	ND
24	0,045	-1,4	ND	109	0,072	0,80	
30	0,94	70	Outlier	112	0,064	0,14	
31	0,070	0,61		113	0,084	1,8	
32	0,032	-2,4		115	0,044	-1,5	ND
33	0,062	0,0040		116	0,046	-1,3	ND
34	0,010	-4,2	ND	118	0,071	0,72	
35	0,033	-2,3	ND	119	0,039	-1,9	ND
36	0,14	6,5	Outlier,ND	120	0,15	6,8	Outlier
38	0,066	0,32					
39	0,061	-0,085					
40	0,075	1,0	ND				
44	0,10	3,1					
46	0,17	8,3	Outlier				
47	0,050	-1,0					
48	0,10	3,1					
49	0,15	7,2	Outlier				
51	0,043	-1,6	ND				
52	0,048	-1,1					
53	0,073	0,87					
56	0,10	3,2					
57	0,049	-1,1					
58	0,27	17	Outlier,ND				
59	0,30	19	Outlier,ND				
62	0,17	8,6	Outlier				
64	0,039	-1,9	ND				
65	0,080	1,4	ND				
69	0,062	-0,020	ND				
70	0,071	0,72					
71	0,10	3,1	ND				
75	0,21	12	Outlier				
76	0,050	-1,0	ND				
77	0,13	5,1					
79	0,084	1,7					
81	0,092	2,4	ND				
85	0,056	-0,49					
86	0,12	4,5					
88	0,033	-2,4					

Consensus statistics

Consensus median, pg/g	0,062
Median all values pg/g	0,071
Consensus mean, pg/g	0,067
Standard deviation, pg/g	0,025
Relative standard deviation, %	38
No. of values reported	61
No. of values removed	13
No. of reported non-detects	22



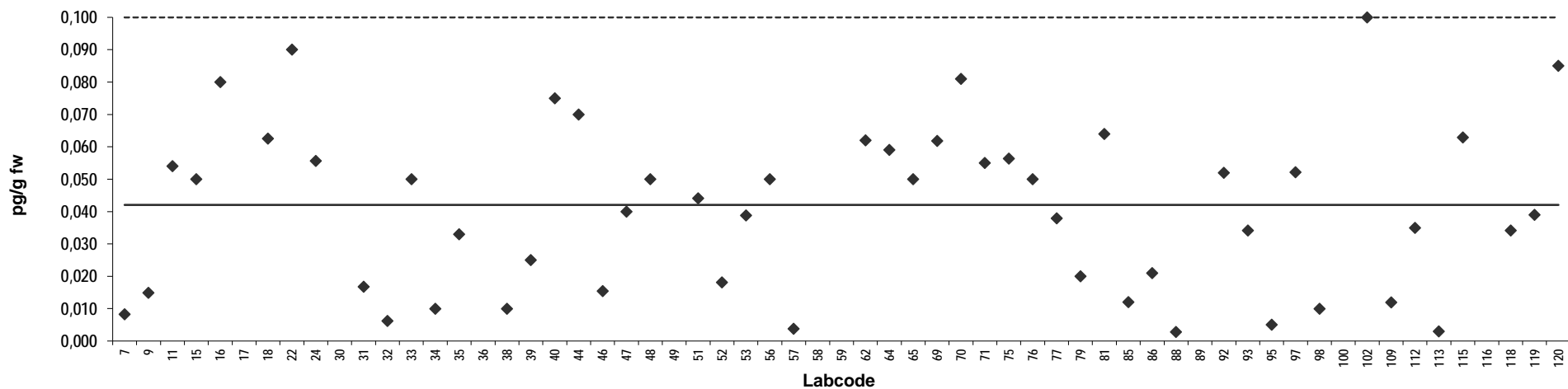
Fish oil
Congener: 1,2,3,4,7,8,9 HpCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,0083	-4,0	ND	89	0,37	39	Outlier
9	0,015	-3,2		92	0,052	1,2	
11	0,054	1,4	ND	93	0,034	-0,95	ND
15	0,050	0,95	ND	95	0,0050	-4,4	ND
16	0,080	4,5	ND	97	0,052	1,2	
17	0,11	7,6	Outlier	98	0,010	-3,8	ND
18	0,063	2,4	ND	100	0,40	43	Outlier,ND
22	0,090	5,7	ND	102	0,10	6,9	
24	0,056	1,6	ND	109	0,012	-3,6	ND
30	0,12	9,5	Outlier	112	0,035	-0,84	
31	0,017	-3,0	ND	113	0,0030	-4,6	ND
32	0,0062	-4,3		115	0,063	2,5	ND
33	0,050	0,95	ND	116	0,13	10	Outlier
34	0,010	-3,8	ND	118	0,034	-0,94	ND
35	0,033	-1,1	ND	119	0,039	-0,36	ND
36	0,14	12	Outlier,ND	120	0,085	5,1	ND
38	0,010	-3,8	ND				
39	0,025	-2,0	ND				
40	0,075	3,9	ND				
44	0,070	3,3					
46	0,015	-3,17	ND				
47	0,040	-0,24	ND				
48	0,050	0,95	ND				
49	0,17	15	Outlier				
51	0,044	0,24	ND				
52	0,018	-2,9					
53	0,039	-0,39	ND				
56	0,050	0,95	ND				
57	0,0038	-4,6					
58	0,24	24	Outlier,ND				
59	0,30	31	Outlier,ND				
62	0,062	2,4	ND				
64	0,059	2,0	ND				
65	0,050	0,95	ND				
69	0,062	2,3	ND				
70	0,081	4,6					
71	0,055	1,5	ND				
75	0,056	1,7	ND				
76	0,050	0,95	ND				
77	0,038	-0,49					
79	0,020	-2,6	ND				
81	0,064	2,6	ND				
85	0,012	-3,6	ND				
86	0,021	-2,5	ND				
88	0,0028	-4,7					

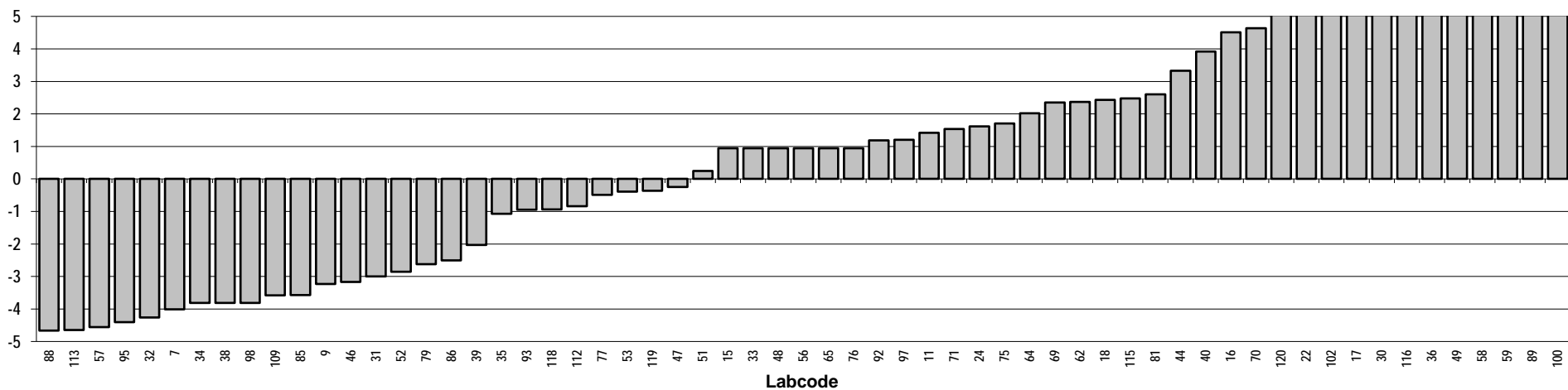
Consensus statistics

Consensus median, pg/g	0,042
Median all values pg/g	0,050
Consensus mean, pg/g	0,041
Standard deviation, pg/g	0,026
Relative standard deviation, %	62
No. of values reported	61
No. of values removed	9
No. of reported non-detects	44

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



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

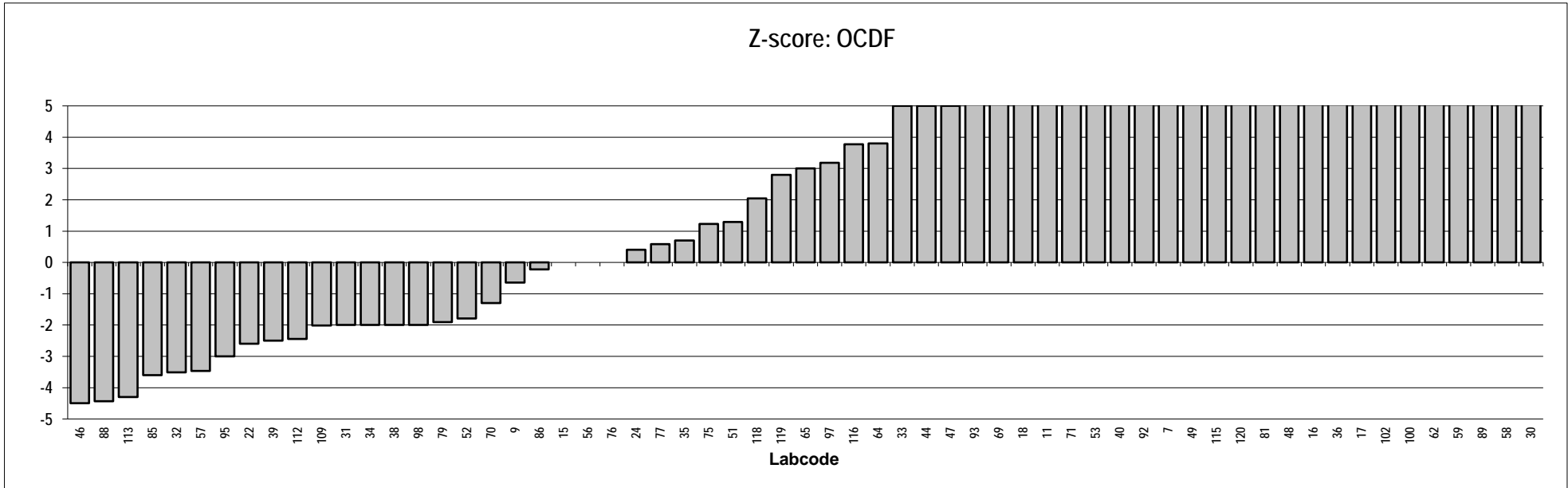
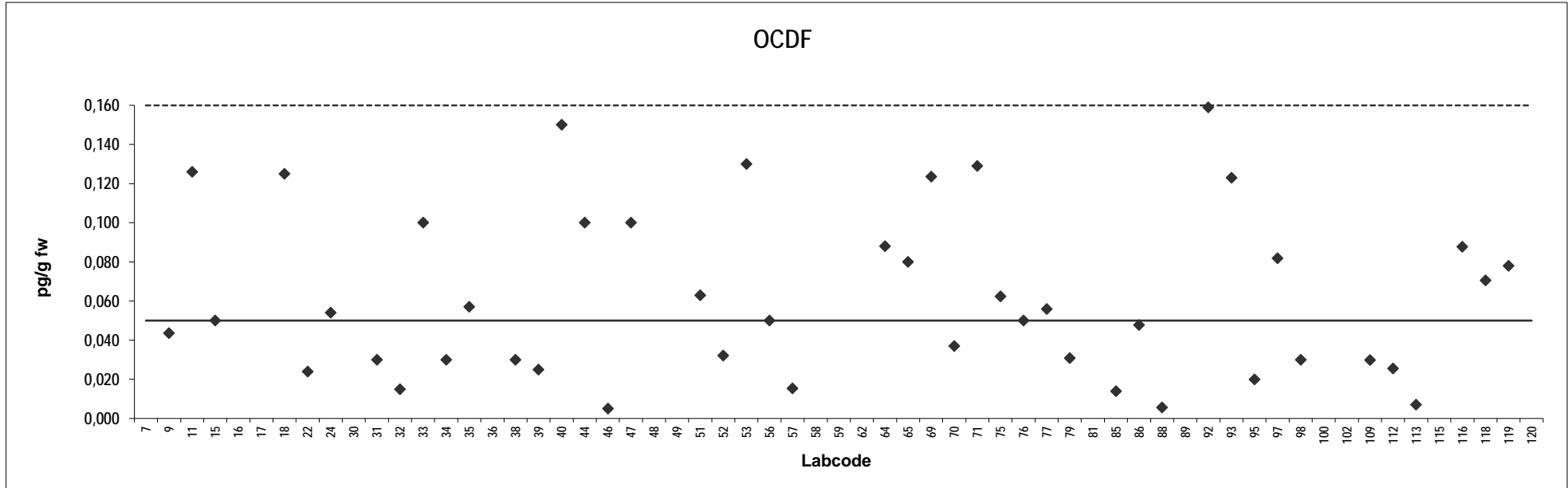


Fish oil
Congener: OCDF

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	0,17	12	Outlier,ND	89	1,0	100	Outlier
9	0,044	-0,64		92	0,16	11	
11	0,13	7,6	ND	93	0,12	7,3	ND
15	0,050	0,00	ND	95	0,020	-3,0	
16	0,27	22	Outlier,ND	97	0,082	3,2	
17	0,33	28	Outlier	98	0,030	-2,0	ND
18	0,13	7,5	ND	100	0,40	35	Outlier,ND
22	0,024	-2,6	ND	102	0,38	33	Outlier
24	0,054	0,41	ND	109	0,030	-2,0	ND
30	5,4	531	Outlier	112	0,026	-2,4	
31	0,030	-2,0		113	0,0070	-4,3	ND
32	0,015	-3,5		115	0,19	14	Outlier,ND
33	0,10	5,0	ND	116	0,088	3,8	ND
34	0,030	-2,0	ND	118	0,070	2,0	ND
35	0,057	0,70	ND	119	0,078	2,8	ND
36	0,29	24	Outlier,ND	120	0,19	14	Outlier,ND
38	0,030	-2,0	ND				
39	0,025	-2,5	ND				
40	0,15	10	ND				
44	0,10	5,0					
46	0,0050	-4,5	ND				
47	0,10	5,0	ND				
48	0,20	15	Outlier,ND				
49	0,18	13	Outlier				
51	0,063	1,3	ND				
52	0,032	-1,8					
53	0,13	8,0					
56	0,050	0,00	ND				
57	0,015	-3,5					
58	1,3	128	Outlier,ND				
59	0,60	55	Outlier,ND				
62	0,59	54	Outlier				
64	0,088	3,8	ND				
65	0,080	3,0	ND				
69	0,12	7,4	ND				
70	0,037	-1,3					
71	0,13	7,9	ND				
75	0,062	1,2	ND				
76	0,050	0,00	ND				
77	0,056	0,59					
79	0,031	-1,9					
81	0,20	15	Outlier,ND				
85	0,014	-3,6					
86	0,048	-0,22					
88	0,0056	-4,4					

Consensus statistics

Consensus median, pg/g	0,050
Median all values pg/g	0,080
Consensus mean, pg/g	0,062
Standard deviation, pg/g	0,042
Relative standard deviation, %	68
No. of values reported	61
No. of values removed	16
No. of reported non-detects	38



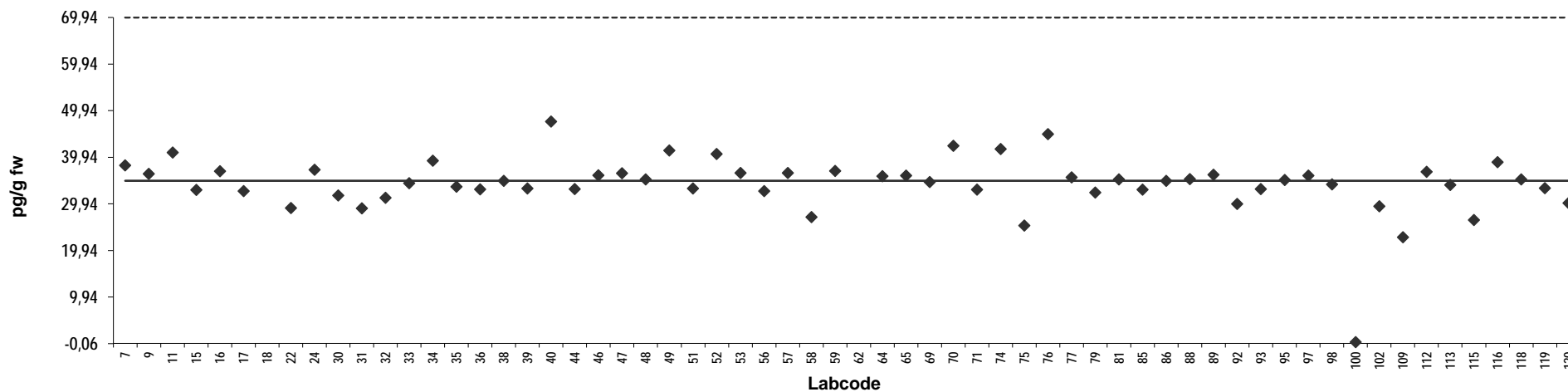
Fish oil
Congener: PCB 77

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	38	0,47		88	35	0,052	
9	36	0,21		89	36	0,18	
11	41	0,87		92	30	-0,72	
15	33	-0,28		93	33	-0,26	
16	37	0,29		95	35	0,021	
17	33	-0,32		97	36	0,15	
18	70	5,0	Outlier	98	34	-0,11	
22	29	-0,84		100	0,28	-5,0	ND
24	37	0,34		102	29	-0,79	
30	32	-0,46		109	23	-1,7	
31	29	-0,85		112	37	0,27	
32	31	-0,53		113	34	-0,13	
33	34	-0,072		115	26	-1,2	
34	39	0,62		116	39	0,57	
35	34	-0,18		118	35	0,04	
36	33	-0,26		119	33	-0,23	
38	35	0,00		120	30	-0,69	
39	33	-0,2					
40	48	1,8					
44	33	-0,26					
46	36	0,16					
47	37	0,23					
48	35	0,044					
49	41	0,93					
51	33	-0,24					
52	41	0,82					
53	37	0,24					
56	33	-0,32					
57	37	0,2					
58	27	-1,1					
59	37	0,30					
62	70	5,1	Outlier				
64	36	0,14					
65	36	0,16					
69	35	-0,042					
70	42	1,1					
71	33	-0,27					
74	42	1,0					
75	25	-1,4					
76	45	1,4					
77	36	0,11					
79	32	-0,36					
81	35	0,043					
85	33	-0,27					
86	35	0,00					

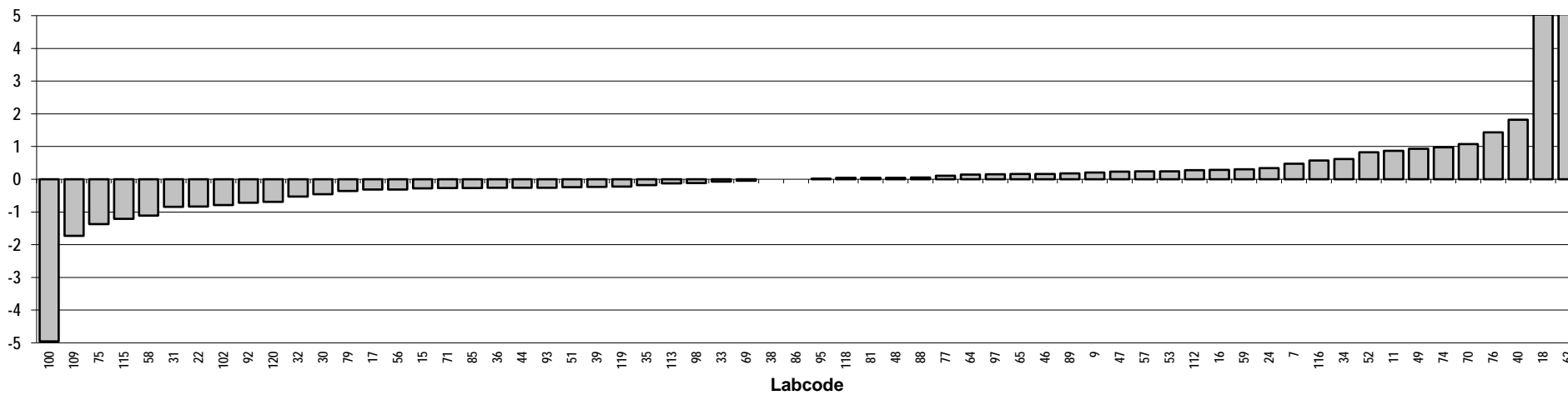
Consensus statistics

Consensus median, pg/g	35
Median all values pg/g	35
Consensus mean, pg/g	34
Standard deviation, pg/g	6,3
Relative standard deviation, %	18
No. of values reported	62
No. of values removed	2
No. of reported non-detects	1

PCB 77



Z-score: PCB 77

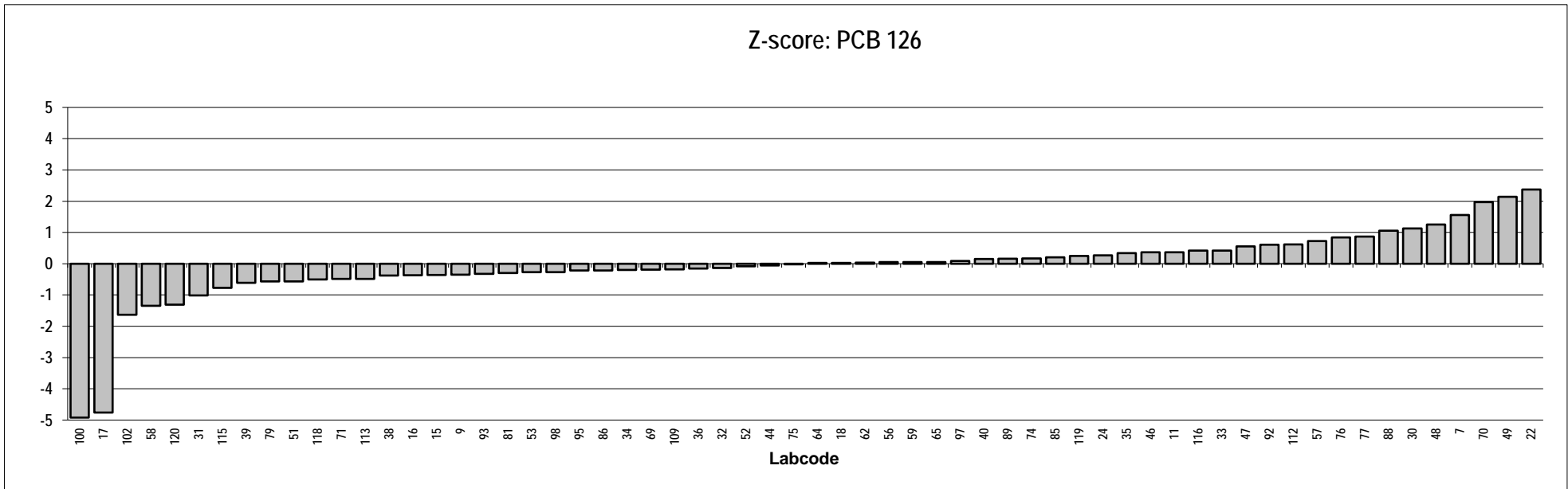
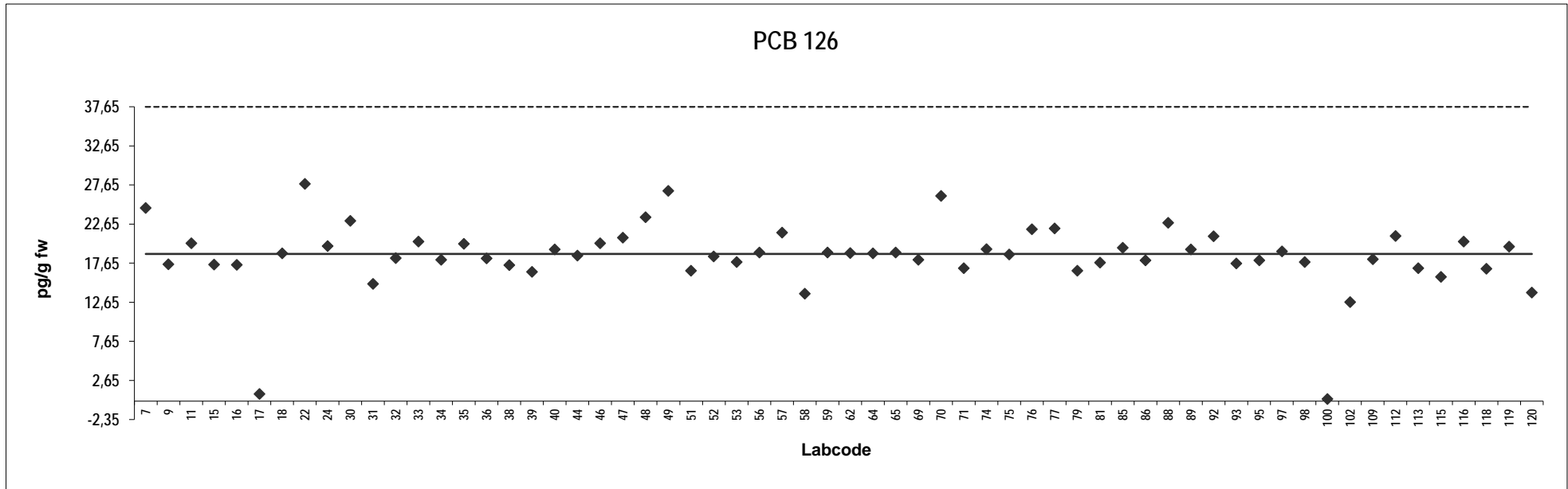


Fish oil
Congener: PCB 126

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	25	1,6		88	23	1,1	
9	18	-0,35		89	19	0,16	
11	20	0,36		92	21	0,60	
15	17	-0,36		93	18	-0,32	
16	17	-0,37		95	18	-0,22	
17	0,90	-4,8		97	19	0,091	
18	19	0,025		98	18	-0,27	
22	28	2,4		100	0,28	-4,9	ND
24	20	0,26		102	13	-1,6	
30	23	1,1		109	18	-0,18	
31	15	-1,0		112	21	0,61	
32	18	-0,14		113	17	-0,48	
33	20	0,42		115	16	-0,78	
34	18	-0,20		116	20	0,42	
35	20	0,34		118	17	-0,50	
36	18	-0,15		119	20	0,25	
38	17	-0,38		120	14	-1,3	
39	17	-0,61					
40	19	0,15					
44	19	-0,059					
46	20	0,36					
47	21	0,55					
48	24	1,3					
49	27	2,1					
51	17	-0,57					
52	18	-0,087					
53	18	-0,27					
56	19	0,047					
57	22	0,72					
58	14	-1,3					
59	19	0,047					
62	19	0,031					
64	19	0,020					
65	19	0,047					
69	18	-0,19					
70	26	2,0					
71	17	-0,48					
74	19	0,17					
75	19	-0,020					
76	22	0,84					
77	22	0,86					
79	17	-0,57					
81	18	-0,30					
85	20	0,21					
86	18	-0,22					

Consensus statistics

Consensus median, pg/g	19
Median all values pg/g	19
Consensus mean, pg/g	19
Standard deviation, pg/g	4,4
Relative standard deviation, %	23
No. of values reported	62
No. of values removed	0
No. of reported non-detects	1

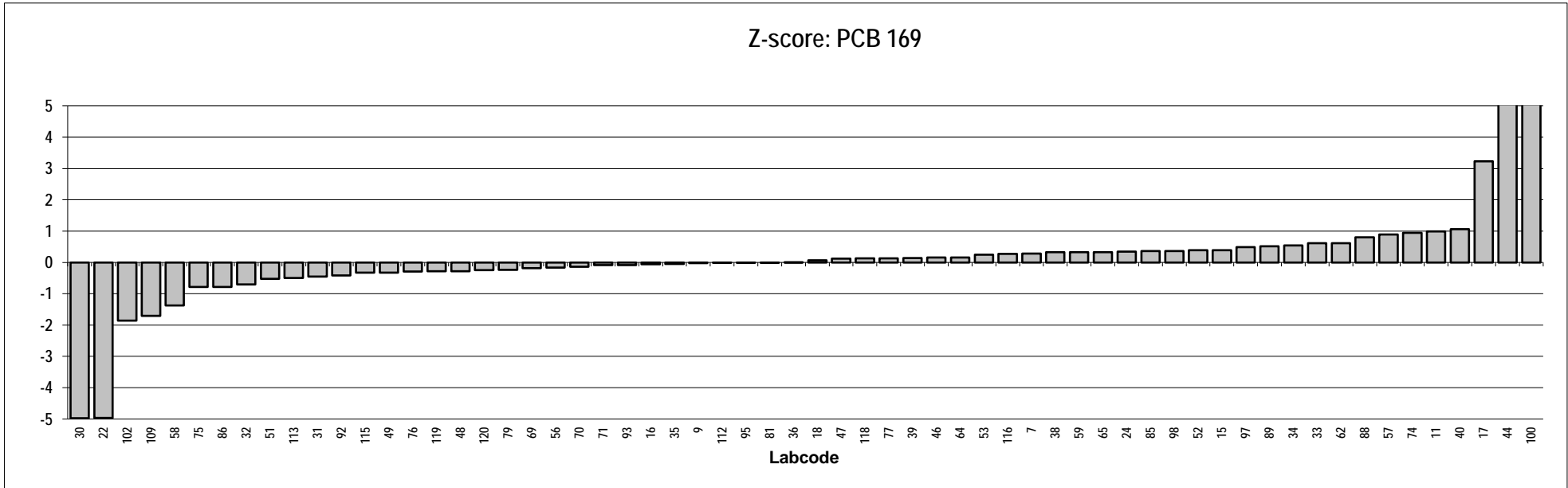
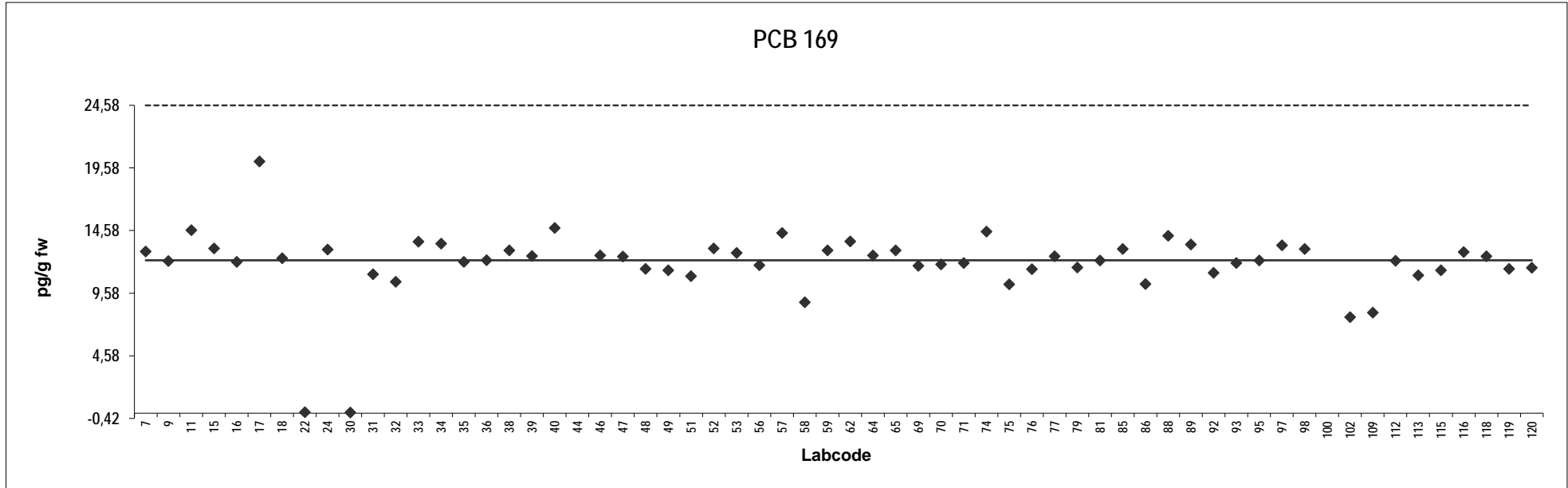


Fish oil
Congener: PCB 169

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	13	0,28		88	14	0,80	
9	12	-0,025		89	13	0,51	
11	15	0,99		92	11	-0,41	
15	13	0,39		93	12	-0,084	
16	12	-0,056		95	12	-0,010	
17	20	3,2		97	13	0,49	
18	12	0,066		98	13	0,37	
22	0,078	-5,0	ND	100	131	49	Outlier
24	13	0,35		102	7,7	-1,9	
30	0,050	-5,0	ND	109	8,0	-1,7	
31	11	-0,45		112	12	-0,015	
32	11	-0,70		113	11	-0,49	
33	14	0,61		115	11	-0,33	
34	14	0,54		116	13	0,27	
35	12	-0,051		118	13	0,13	
36	12	0,0026		119	12	-0,28	
38	13	0,33		120	12	-0,25	
39	13	0,14					
40	15	1,1					
44	119	44	Outlier				
46	13	0,16					
47	13	0,12					
48	12	-0,28					
49	11	-0,33					
51	11	-0,52					
52	13	0,39					
53	13	0,24					
56	12	-0,17					
57	14	0,89					
58	9	-1,4					
59	13	0,33					
62	14	0,62					
64	13	0,16					
65	13	0,33					
69	12	-0,18					
70	12	-0,14					
71	12	-0,084					
74	15	0,94					
75	10	-0,78					
76	11	-0,29					
77	13	0,13					
79	12	-0,24					
81	12	-0,0026					
85	13	0,37					
86	10	-0,78					

Consensus statistics

Consensus median, pg/g	12
Median all values pg/g	12
Consensus mean, pg/g	12
Standard deviation, pg/g	2,8
Relative standard deviation, %	24
No. of values reported	62
No. of values removed	2
No. of reported non-detects	2

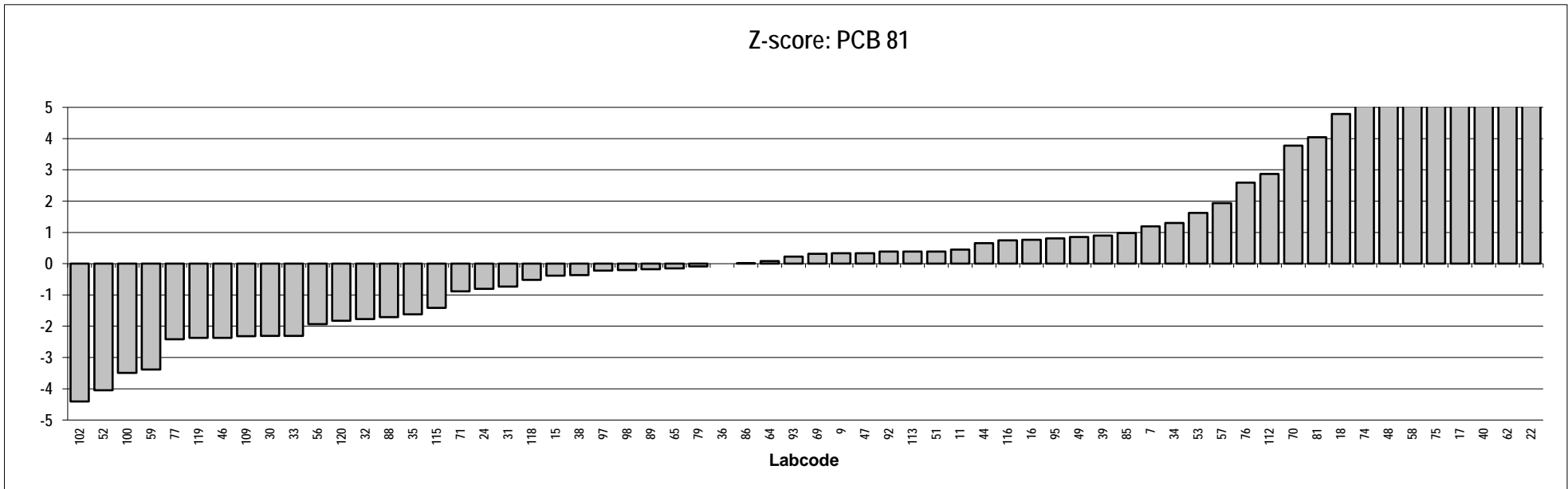
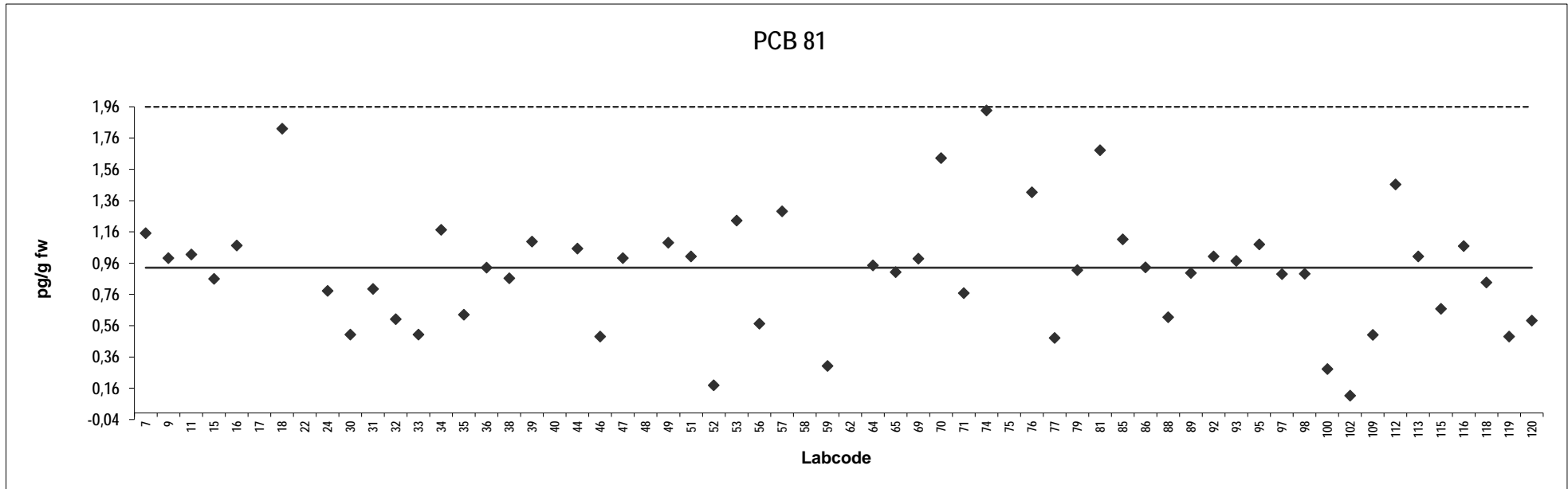


Fish oil
Congener: PCB 81

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	1,2	1,2		88	0,61	-1,7	
9	0,99	0,33		89	0,90	-0,18	
11	1,0	0,45		92	1,0	0,39	ND
15	0,86	-0,38		93	0,97	0,23	
16	1,1	0,76		95	1,1	0,81	
17	12	60	Outlier	97	0,89	0	
18	1,8	4,8		98	0,89	-0,2	
22	28	146	Outlier	100	0,28	-3	ND
24	0,78	-0,80		102	0,11	-4,41	
30	0,50	-2,3	ND	109	0,50	-2,3	
31	0,79	-0,73		112	1,5	2,87	
32	0,60	-1,8		113	1,0	0,4	
33	0,50	-2,3	ND	115	0,67	-1,4	ND
34	1,2	1,3		116	1,1	0,7	
35	0,63	-1,6		118	0,83	-0,5	
36	0,93	0,00		119	0,49	-2,3756	ND
38	0,86	-0,37		120	0,59	-1,82	ND
39	1,1	0,90					
40	13	64	Outlier				
44	1,1	0,65					
46	0,49	-2,4					
47	0,99	0,33					
48	2,0	5,8	Outlier,ND				
49	1,1	0,86					
51	1,0	0,39					
52	0,18	-4,0	ND				
53	1,2	1,6					
56	0,57	-1,9					
57	1,3	1,9					
58	3,5	14	Outlier,ND				
59	0,30	-3,4	ND				
62	16	83	Outlier				
64	0,94	0,084					
65	0,90	-0,15					
69	0,99	0,31					
70	1,6	3,8					
71	0,77	-0,88					
74	1,9	5,4					
75	11	55	Outlier				
76	1,4	2,6					
77	0,48	-2,4					
79	0,91	-0,083					
81	1,7	4,0					
85	1,1	0,98					
86	0,93	0,0086					

Consensus statistics

Consensus median, pg/g	0,93
Median all values pg/g	0,98
Consensus mean, pg/g	0,91
Standard deviation, pg/g	0,38
Relative standard deviation, %	42
No. of values reported	62
No. of values removed	7
No. of reported non-detects	11

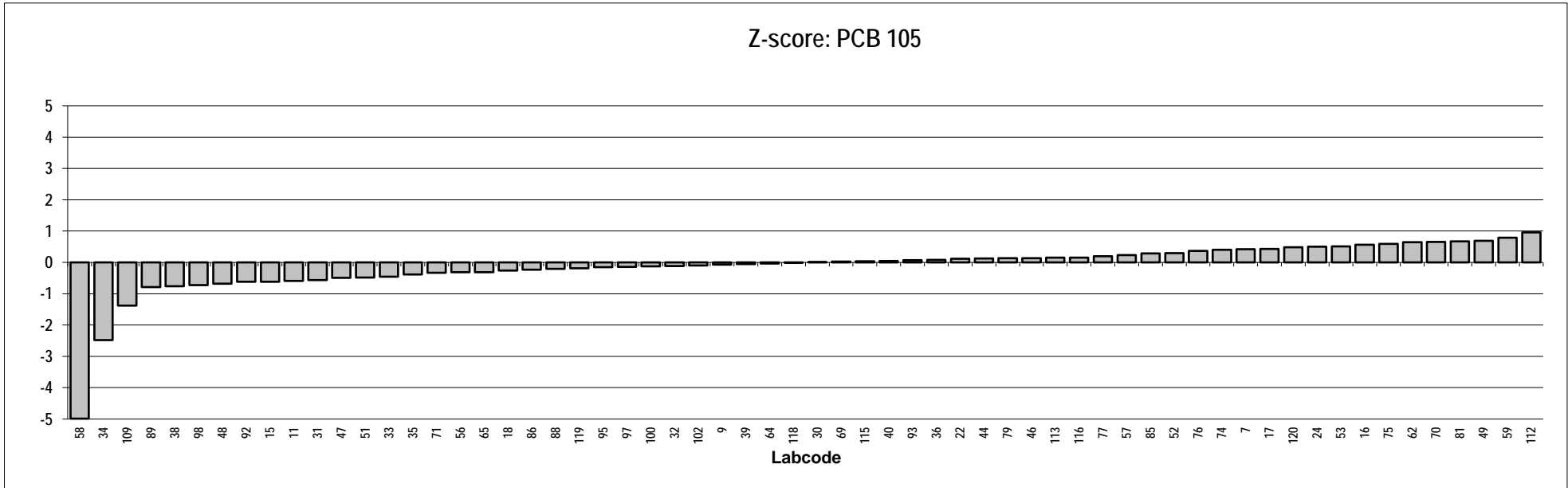
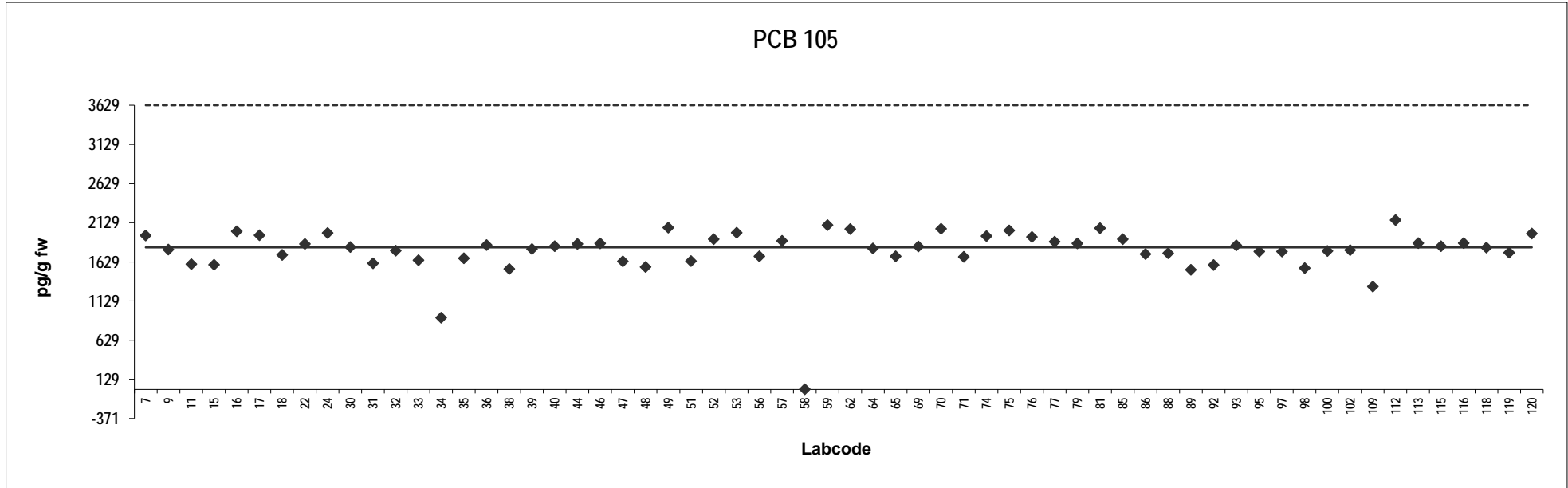


Fish oil
Congener: PCB 105

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	1967	0,42		88	1739	-0,21	
9	1788	-0,074		89	1527	-0,79	
11	1600	-0,59		92	1590	-0,62	
15	1592	-0,61		93	1840	0,070	
16	2020	0,57		95	1761	-0,15	
17	1970	0,43		97	1763	-0,14	
18	1719	-0,26		98	1550	-0,73	
22	1857	0,12		100	1770	-0,12	
24	1998	0,51		102	1778	-0,10	
30	1819	0,01		109	1315	-1,4	
31	1610	-0,56		112	2162	0,96	
32	1771	-0,12		113	1870	0,15	
33	1650	-0,45		115	1829	0,040	
34	915	-2,5		116	1871	0,15	
35	1675	-0,39		118	1811	-0,011	
36	1843	0,079		119	1746	-0,19	
38	1540	-0,757		120	1990	0,48	
39	1795	-0,054					
40	1830	0,04					
44	1860	0,13					
46	1865	0,14					
47	1637	-0,49					
48	1566	-0,68					
49	2066	0,69					
51	1639	-0,48					
52	1921	0,29					
53	2000	0,51					
56	1700	-0,32					
57	1899	0,23					
58	3,3	-5,0	ND				
59	2100	0,79					
62	2049	0,65					
64	1802	-0,035					
65	1700	-0,32					
69	1825	0,029					
70	2053	0,66					
71	1695	-0,33					
74	1960	0,40					
75	2029	0,59					
76	1949	0,37					
77	1886	0,20					
79	1865	0,14					
81	2060	0,68					
85	1920	0,29					
86	1730	-0,23					

Consensus statistics

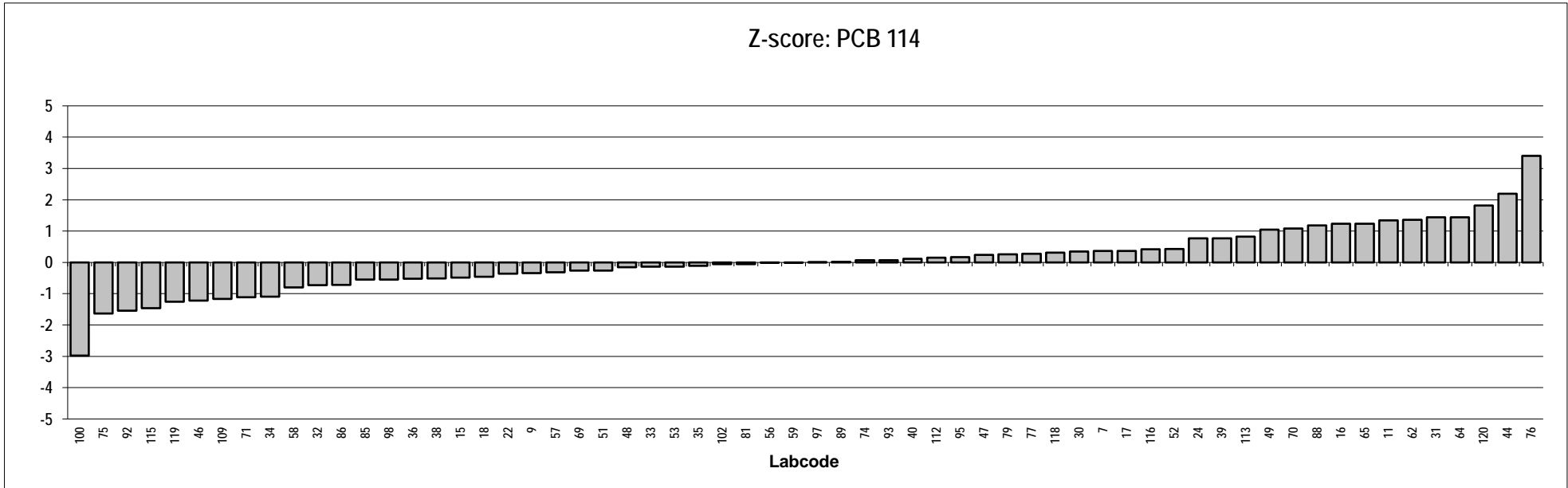
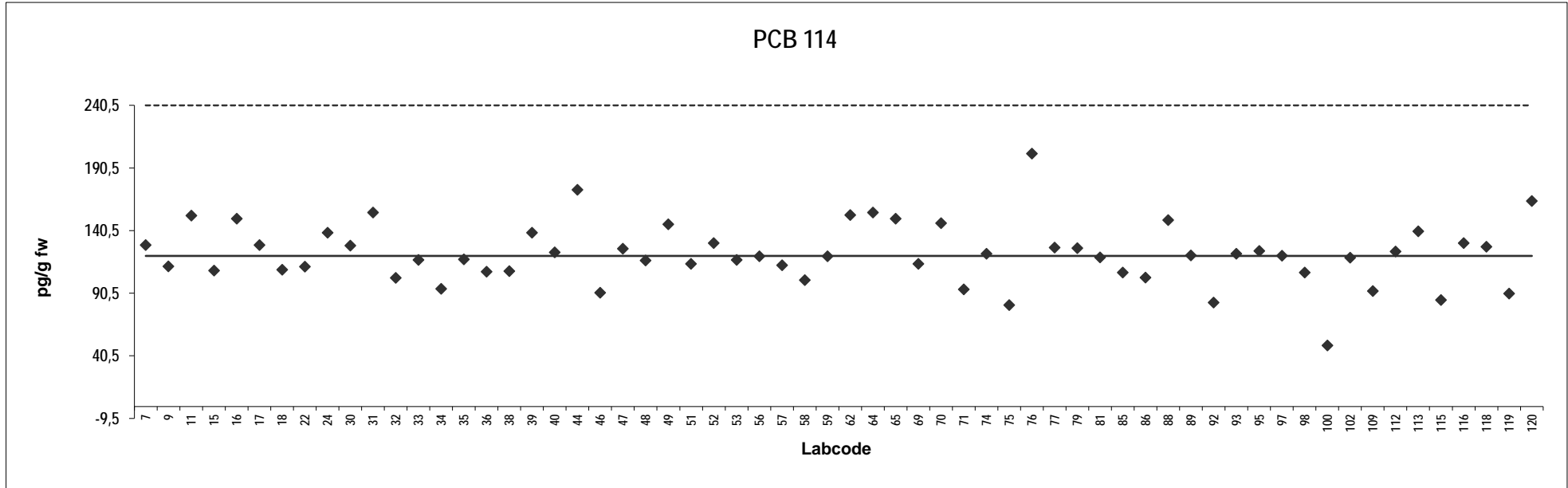
Consensus median, pg/g	1815
Median all values pg/g	1815
Consensus mean, pg/g	1769
Standard deviation, pg/g	304
Relative standard deviation, %	17
No. of values reported	62
No. of values removed	0
No. of reported non-detects	1



Fish oil
Congener: PCB 114

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	129	0,36		88	149	1,2	
9	112	-0,34		89	121	0,019	
11	153	1,3		92	83	-1,5	
15	109	-0,49		93	122	0,073	
16	150	1,2		95	124	0,17	
17	129	0,36		97	120	0,010	
18	109	-0,46		98	107	-0,55	
22	112	-0,36		100	49	-3,0	
24	139	0,77		102	119	-0,056	
30	129	0,35		109	92	-1,2	
31	155	1,4		112	124	0,15	
32	103	-0,73		113	140	0,82	
33	117	-0,14		115	85	-1,5	
34	94	-1,1		116	130	0,42	
35	118	-0,11		118	128	0,31	
36	108	-0,52		119	90	-1,3	
38	108	-0,51		120	164	1,8	
39	139	0,77					
40	123	0,11					
44	173	2,2					
46	91	-1,2					
47	126	0,24					
48	117	-0,16					
49	145	1,0					
51	114	-0,26					
52	131	0,43					
53	117	-0,14					
56	120	-0,010					
57	113	-0,31					
58	101	-0,80					
59	120	-0,010					
62	153	1,4					
64	155	1,4					
65	150	1,2	ND				
69	114	-0,26					
70	146	1,1					
71	94	-1,1					
74	122	0,072					
75	81	-1,6					
76	202	3,4					
77	127	0,28					
79	126	0,26					
81	119	-0,052					
85	107	-0,55					
86	103	-0,72					

Consensus statistics	
Consensus median, pg/g	120
Median all values pg/g	120
Consensus mean, pg/g	122
Standard deviation, pg/g	25
Relative standard deviation, %	20
No. of values reported	62
No. of values removed	0
No. of reported non-detects	1

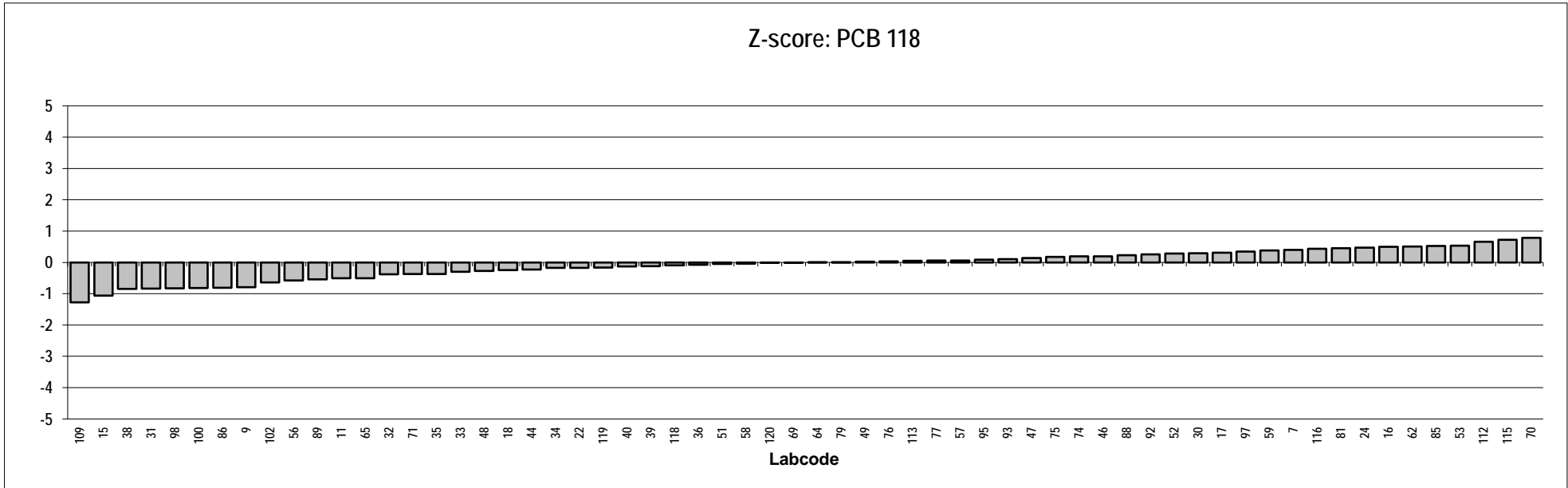
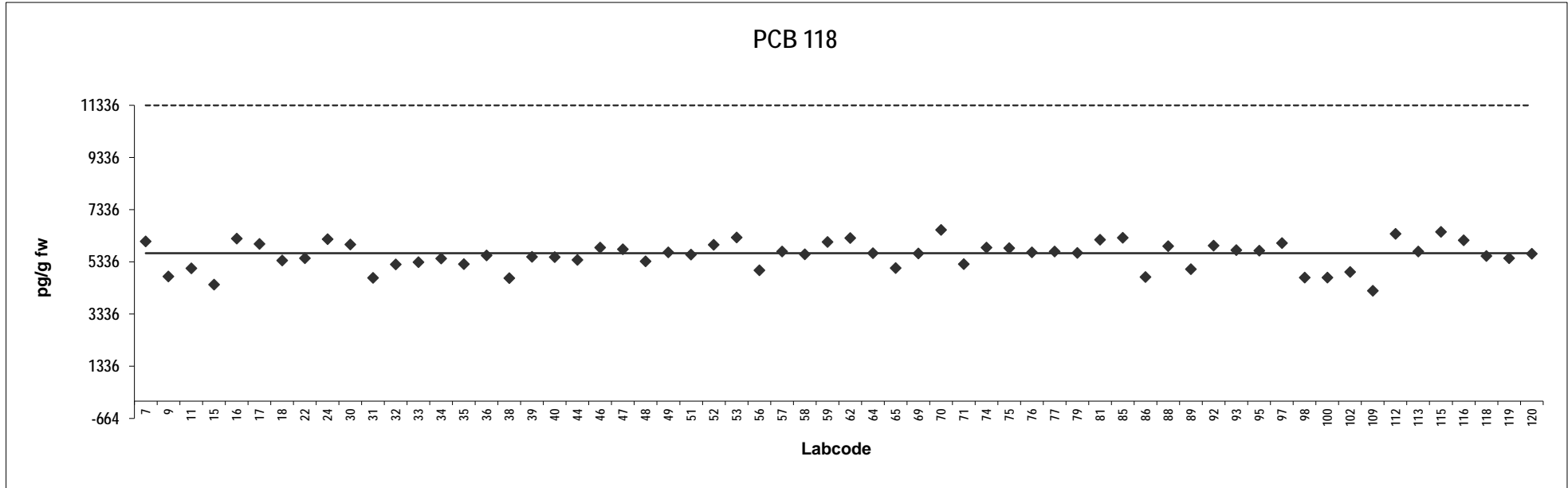


Fish oil
Congener: PCB 118

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	6119	0,40		88	5932	0,23	
9	4774	-0,79		89	5054	-0,54	
11	5094	-0,51		92	5960	0,26	
15	4463	-1,1		93	5790	0,11	
16	6230	0,50		95	5762	0,083	
17	6020	0,31		97	6057	0,34	
18	5390	-0,25		98	4730	-0,83	
22	5475	-0,17		100	4735	-0,82	
24	6205	0,47		102	4948	-0,64	
30	5998	0,29		109	4225	-1,3	
31	4720	-0,84		112	6411	0,66	
32	5242	-0,38		113	5730	0,055	
33	5330	-0,30		115	6487	0,72	
34	5470	-0,17		116	6161	0,43	
35	5250	-0,37		118	5565	-0,091	
36	5579	-0,078		119	5481	-0,17	
38	4710	-0,85		120	5650	-0,016	
39	5534	-0,12					
40	5520	-0,13					
44	5410	-0,23					
46	5886	0,19					
47	5823	0,14					
48	5362	-0,27					
49	5699	0,028					
51	5614	-0,048					
52	5991	0,28					
53	6270	0,53					
56	5010	-0,58					
57	5739	0,062					
58	5625	-0,038					
59	6100	0,38					
62	6247	0,51					
64	5673	0,0044					
65	5100	-0,50					
69	5663	-0,0044					
70	6562	0,79					
71	5250	-0,37					
74	5884	0,19					
75	5863	0,17					
76	5705	0,033					
77	5732	0,056					
79	5674	0,0056					
81	6180	0,45					
85	6260	0,52					
86	4754	-0,81					

Consensus statistics

Consensus median, pg/g	5668
Median all values pg/g	5668
Consensus mean, pg/g	5595
Standard deviation, pg/g	526
Relative standard deviation, %	9,4
No. of values reported	62
No. of values removed	0
No. of reported non-detects	0

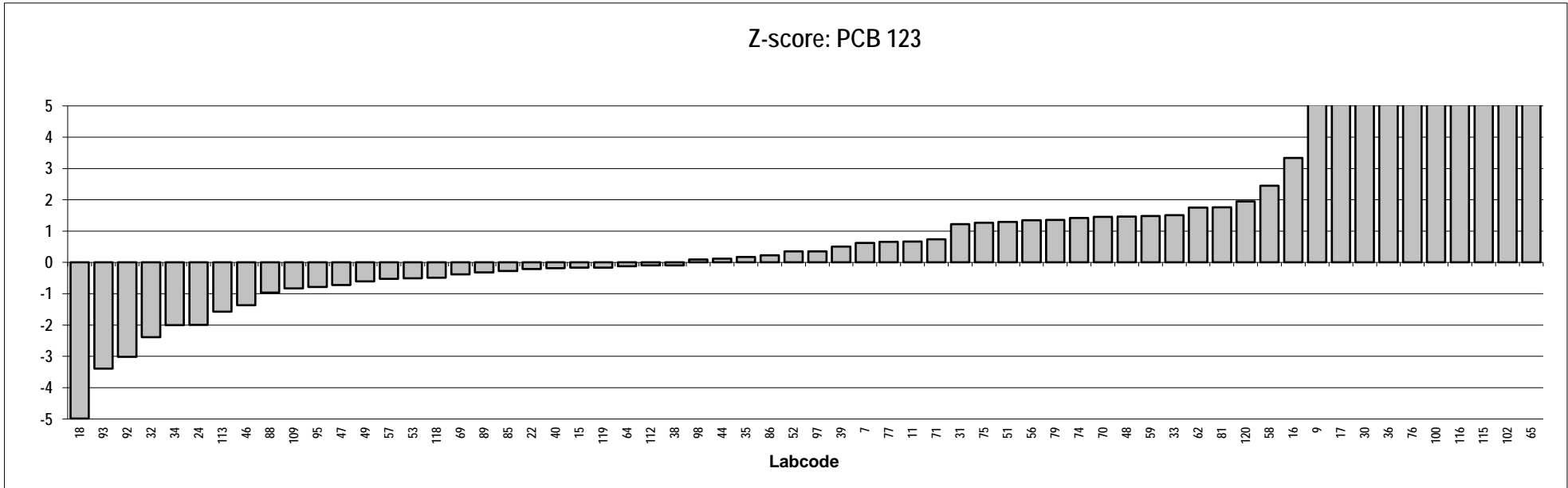
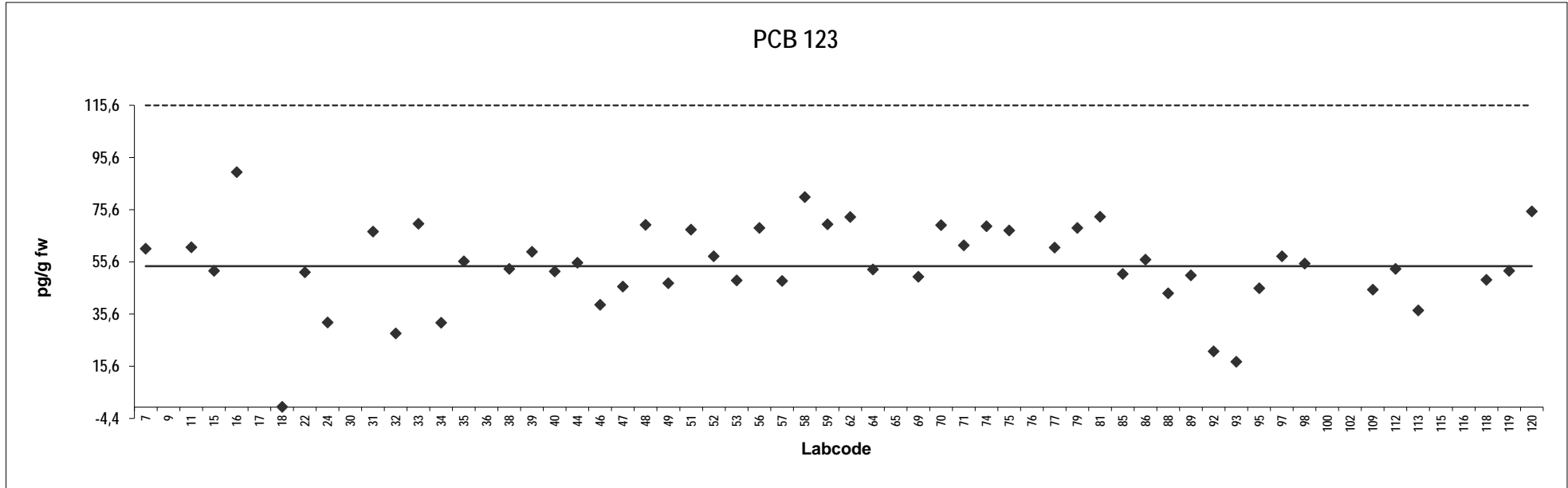


Fish oil
Congener: PCB 123

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	61	0,62		88	44	-0,96	
9	124	6,5	Outlier	89	51	-0,32	
11	61	0,67		92	21	-3,0	
15	52	-0,16		93	17	-3,4	ND
16	90	3,3		95	46	-0,78	
17	129	6,9	Outlier	97	58	0,36	
18	0,10	-5,0	ND	98	55	0,093	
22	52	-0,21		100	268	20	Outlier
24	32	-2,0		102	889	77	Outlier
30	143	8,3	Outlier	109	45	-0,83	
31	67	1,2		112	53	-0,093	
32	28	-2,4		113	37	-1,6	
33	70	1,5		115	692	59	Outlier
34	32	-2,0		116	523	43	Outlier
35	56	0,17		118	49	-0,49	
36	167	10	Outlier	119	52	-0,16	
38	53	-0,093		120	75	1,9	
39	59	0,51					
40	52	-0,19					
44	55	0,12					
46	39	-1,4					
47	46	-0,72					
48	70	1,5					
49	47	-0,61					
51	68	1,3					
52	58	0,35					
53	49	-0,51					
56	69	1,4					
57	48	-0,52					
58	81	2,5					
59	70	1,5					
62	73	1,7					
64	53	-0,12					
65	1200	106	Outlier,ND				
69	50	-0,38					
70	70	1,5					
71	62	0,74					
74	69	1,4					
75	68	1,3					
76	267	20	Outlier				
77	61	0,66					
79	69	1,4					
81	73	1,8					
85	51	-0,28					
86	57	0,23					

Consensus statistics

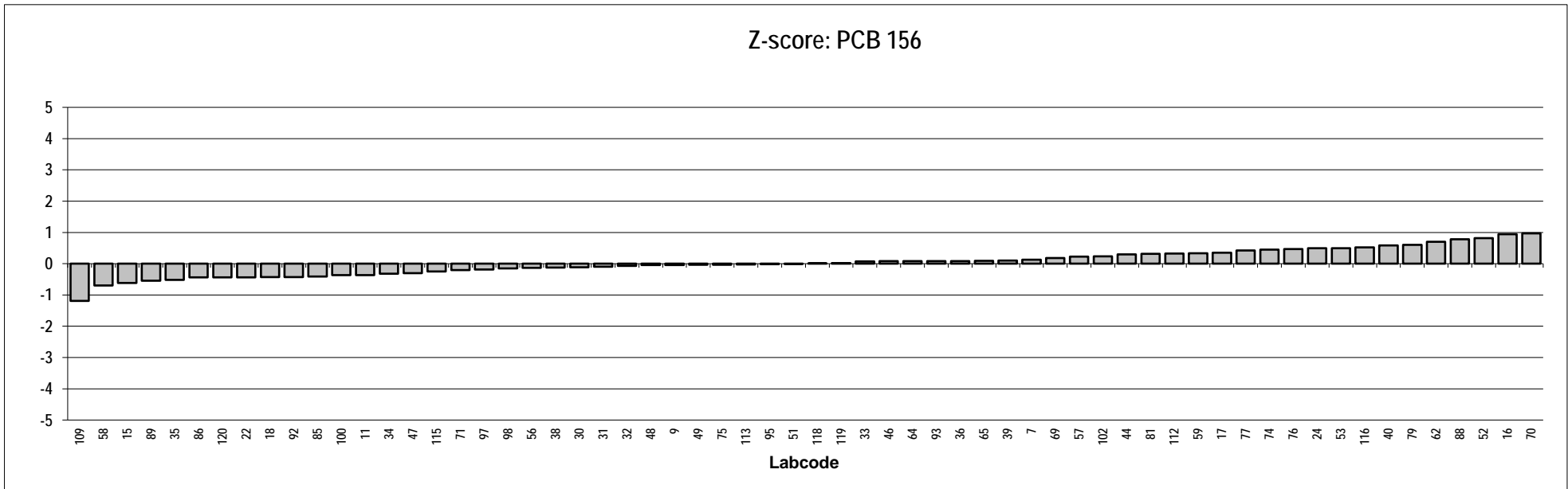
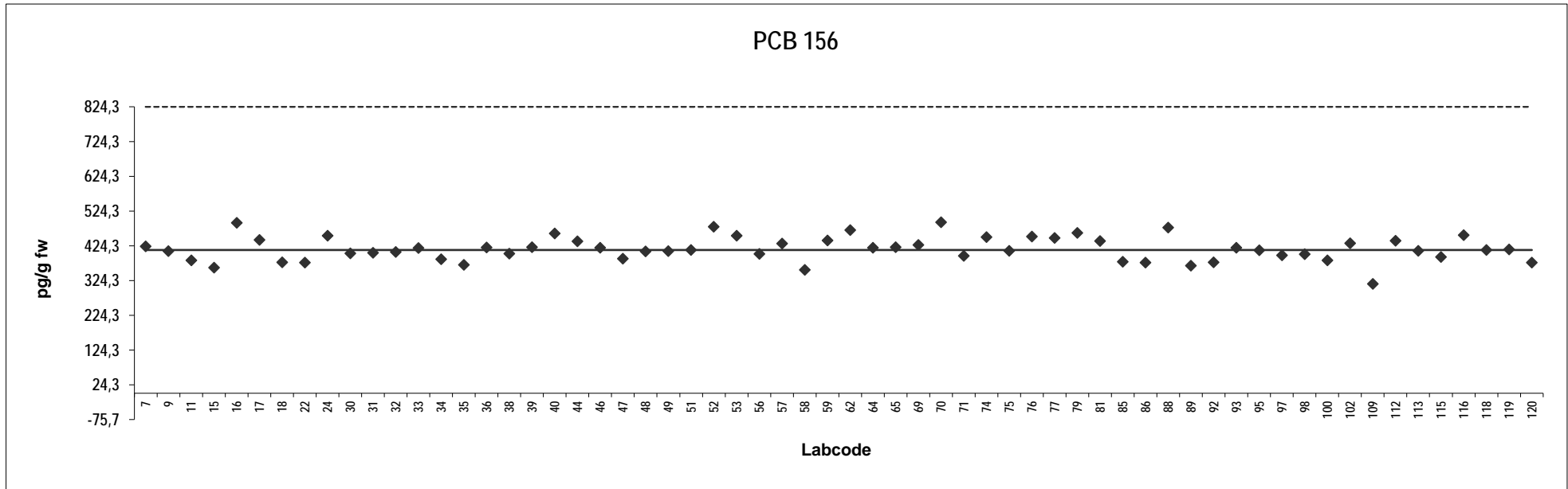
Consensus median, pg/g	54
Median all values pg/g	58
Consensus mean, pg/g	54
Standard deviation, pg/g	16
Relative standard deviation, %	30
No. of values reported	62
No. of values removed	10
No. of reported non-detects	3



Fish oil
Congener: PCB 156

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	423	0,13		88	477	0,79	
9	409	-0,041		89	367	-0,55	
11	382	-0,36		92	377	-0,43	
15	361	-0,61		93	419	0,083	
16	490	0,94		95	411	-0,014	
17	441	0,35		97	397	-0,19	
18	377	-0,43		98	400	-0,15	
22	376	-0,44		100	382	-0,37	
24	453	0,49		102	431	0,23	
30	403	-0,11		109	314	-1,2	
31	404	-0,10		112	439	0,32	
32	406	-0,070		113	410	-0,026	
33	418	0,071		115	392	-0,24	
34	386	-0,32		116	455	0,52	
35	369	-0,52		118	412	0,0020	
36	419	0,086		119	414	0,020	
38	402	-0,12		120	376	-0,44	
39	420	0,099					
40	460	0,58					
44	437	0,30					
46	419	0,081					
47	387	-0,31					
48	409	-0,044					
49	409	-0,035					
51	412	-0,0020					
52	479	0,81					
53	453	0,50					
56	401	-0,14					
57	431	0,22					
58	355	-0,69					
59	440	0,34					
62	470	0,70					
64	419	0,083					
65	420	0,095					
69	427	0,18					
70	492	0,97					
71	395	-0,21					
74	449	0,45					
75	410	-0,032					
76	451	0,47					
77	447	0,42					
79	462	0,60					
81	438	0,31					
85	378	-0,41					
86	376	-0,44					

Consensus statistics	
Consensus median, pg/g	412
Median all values pg/g	412
Consensus mean, pg/g	415
Standard deviation, pg/g	35
Relative standard deviation, %	8,4
No. of values reported	62
No. of values removed	0
No. of reported non-detects	0

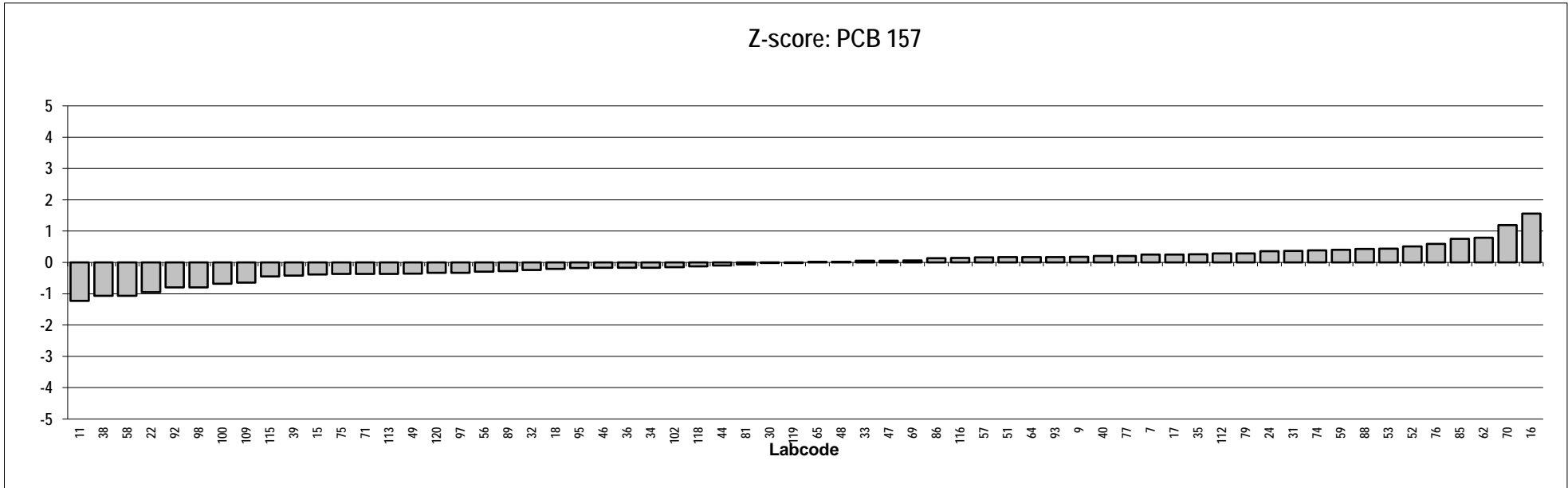
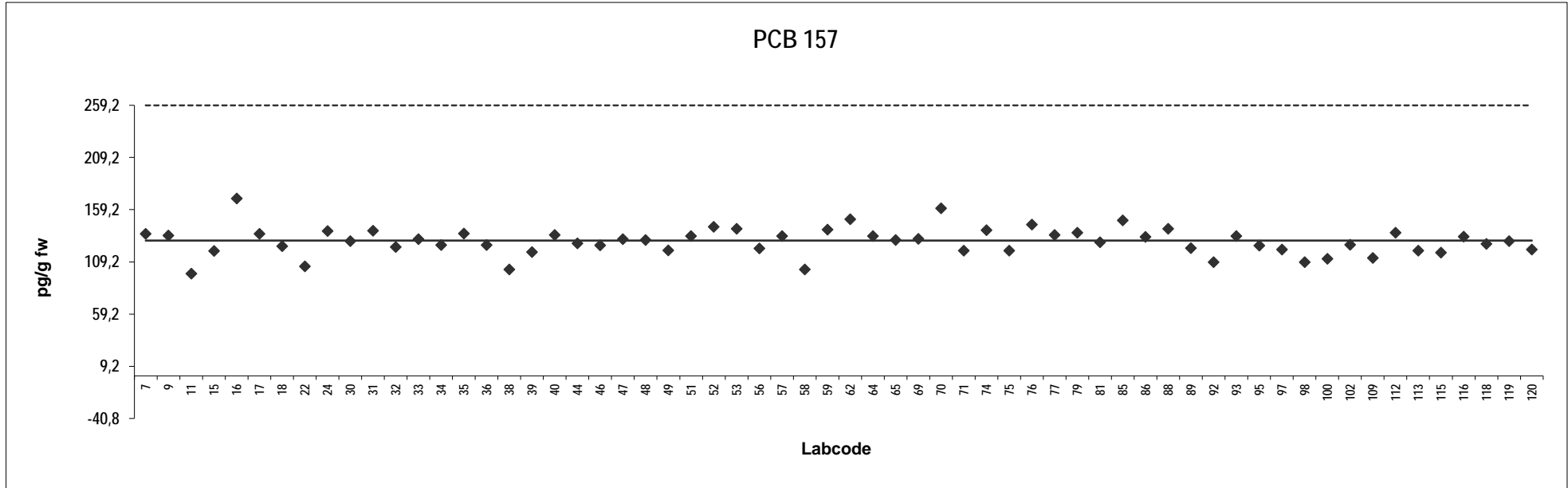


Fish oil
Congener: PCB 157

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	136	0,25		88	141	0,43	
9	134	0,18		89	122	-0,28	
11	98	-1,2		92	109	-0,79	
15	120	-0,39		93	134	0,17	
16	170	1,6		95	125	-0,18	
17	136	0,25		97	121	-0,33	
18	124	-0,20		98	109	-0,79	
22	105	-0,95		100	112	-0,68	
24	139	0,36		102	126	-0,16	
30	129	-0,020		109	113	-0,65	
31	139	0,36		112	137	0,29	
32	123	-0,24		113	120	-0,37	
33	131	0,054		115	118	-0,45	
34	125	-0,17		116	133	0,15	
35	136	0,26		118	126	-0,13	
36	125	-0,17		119	129	-0,016	
38	102	-1,1		120	121	-0,33	
39	119	-0,42					
40	135	0,21					
44	127	-0,10					
46	125	-0,17					
47	131	0,054					
48	130	0,020					
49	120	-0,36					
51	134	0,17					
52	143	0,51					
53	141	0,44					
56	122	-0,29					
57	134	0,16					
58	102	-1,1					
59	140	0,40					
62	150	0,79					
64	134	0,17					
65	130	0,016					
69	131	0,065					
70	160	1,2					
71	120	-0,37					
74	140	0,39					
75	120	-0,37					
76	145	0,59					
77	135	0,21					
79	137	0,29					
81	128	-0,061					
85	149	0,75					
86	133	0,13					

Consensus statistics

Consensus median, pg/g	130
Median all values pg/g	130
Consensus mean, pg/g	129
Standard deviation, pg/g	13
Relative standard deviation, %	10
No. of values reported	62
No. of values removed	0
No. of reported non-detects	0

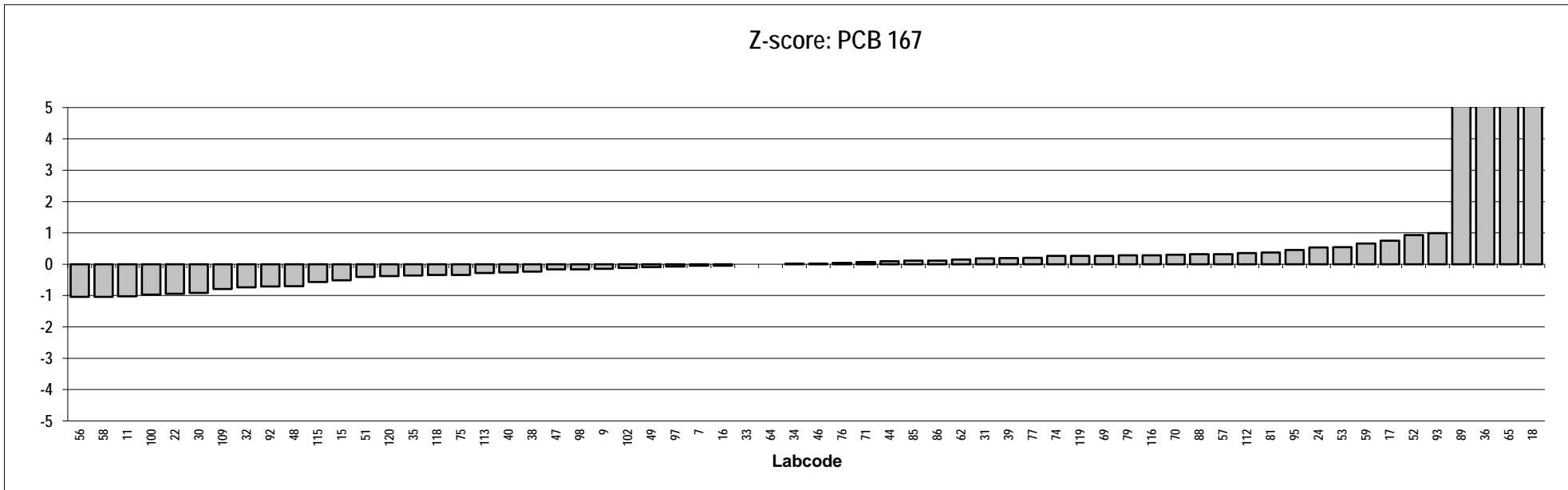
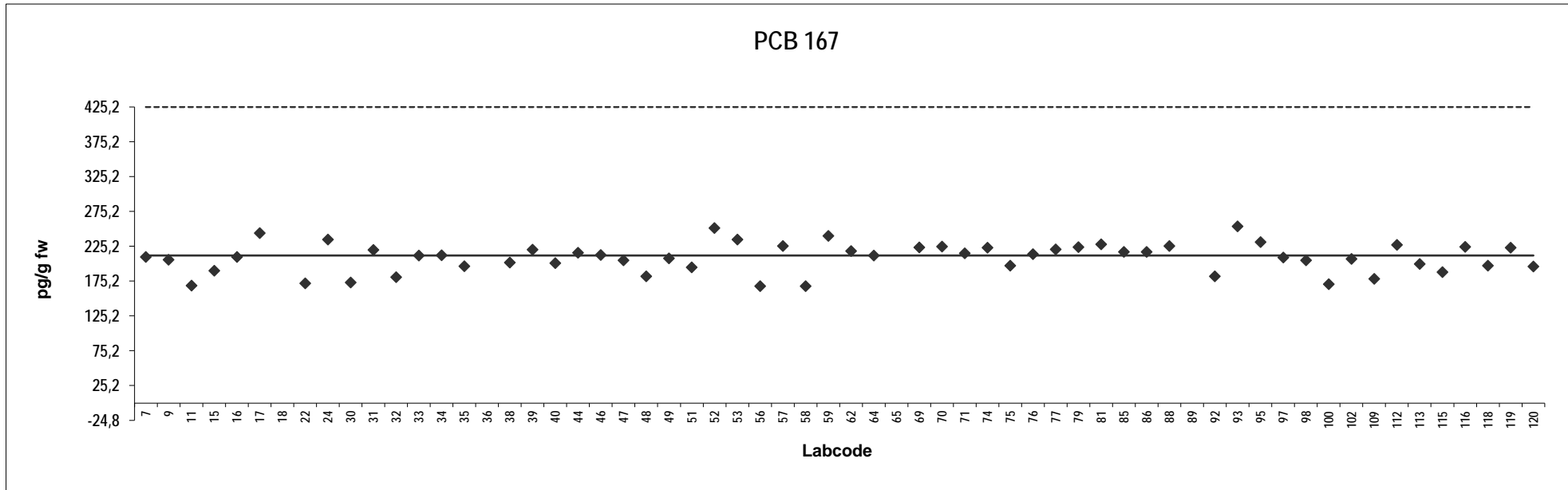


Fish oil
Congener: PCB 167

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	210	-0,047		88	225	0,32	
9	206	-0,15		89	923	17	Outlier
11	169	-1,0		92	182	-0,71	
15	190	-0,52		93	254	0,99	
16	210	-0,047		95	231	0,46	
17	244	0,75		97	209	-0,071	
18	1010	19	Outlier	98	205	-0,17	
22	172	-0,94		100	171	-0,97	
24	235	0,54		102	207	-0,12	
30	173	-0,92		109	178	-0,79	
31	220	0,19		112	227	0,35	
32	181	-0,74		113	200	-0,28	
33	212	0,00		115	188	-0,57	
34	213	0,012		116	224	0,29	
35	197	-0,36		118	197	-0,34	
36	969	18	Outlier	119	223	0,27	
38	202	-0,24		120	196	-0,38	
39	220	0,19					
40	201	-0,26					
44	216	0,094					
46	213	0,018					
47	205	-0,17					
48	182	-0,70					
49	208	-0,094					
51	195	-0,40					
52	251	0,93					
53	235	0,54					
56	168	-1,0					
57	226	0,32					
58	168	-1,0					
59	240	0,66					
62	219	0,15					
64	212	0,00					
65	980	18	Outlier				
69	223	0,27					
70	225	0,30					
71	215	0,071					
74	223	0,26					
75	197	-0,34					
76	214	0,047					
77	221	0,20					
79	224	0,28					
81	228	0,38					
85	217	0,12					
86	217	0,12					

Consensus statistics

Consensus median, pg/g	212
Median all values pg/g	213
Consensus mean, pg/g	209
Standard deviation, pg/g	21
Relative standard deviation, %	10
No. of values reported	62
No. of values removed	4
No. of reported non-detects	0

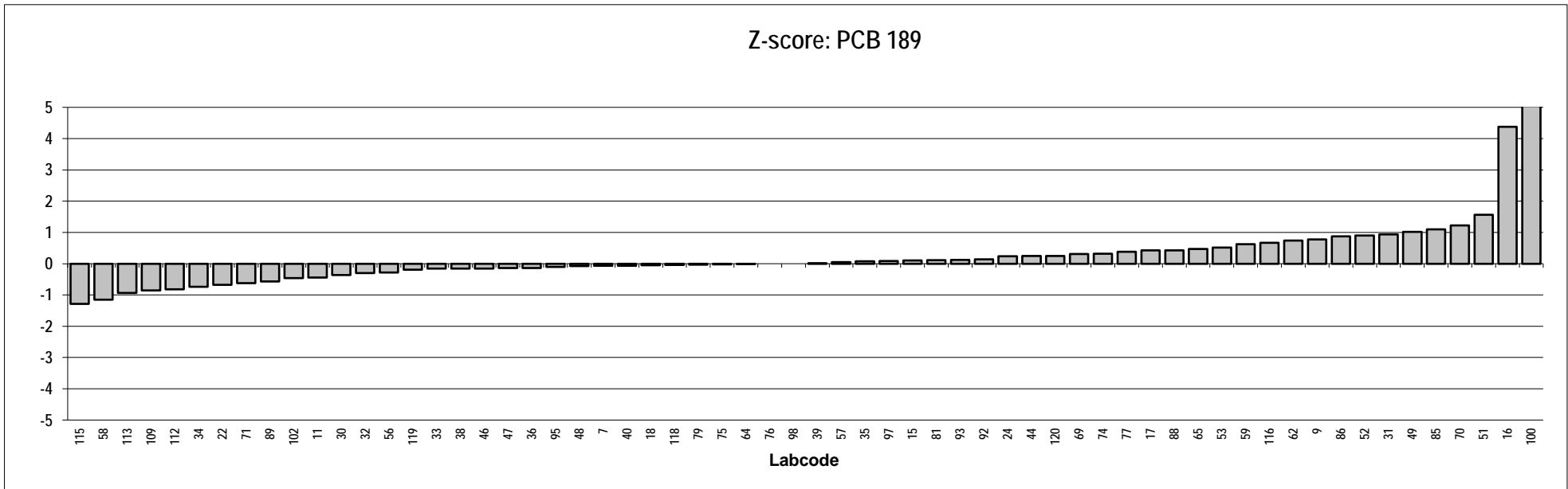
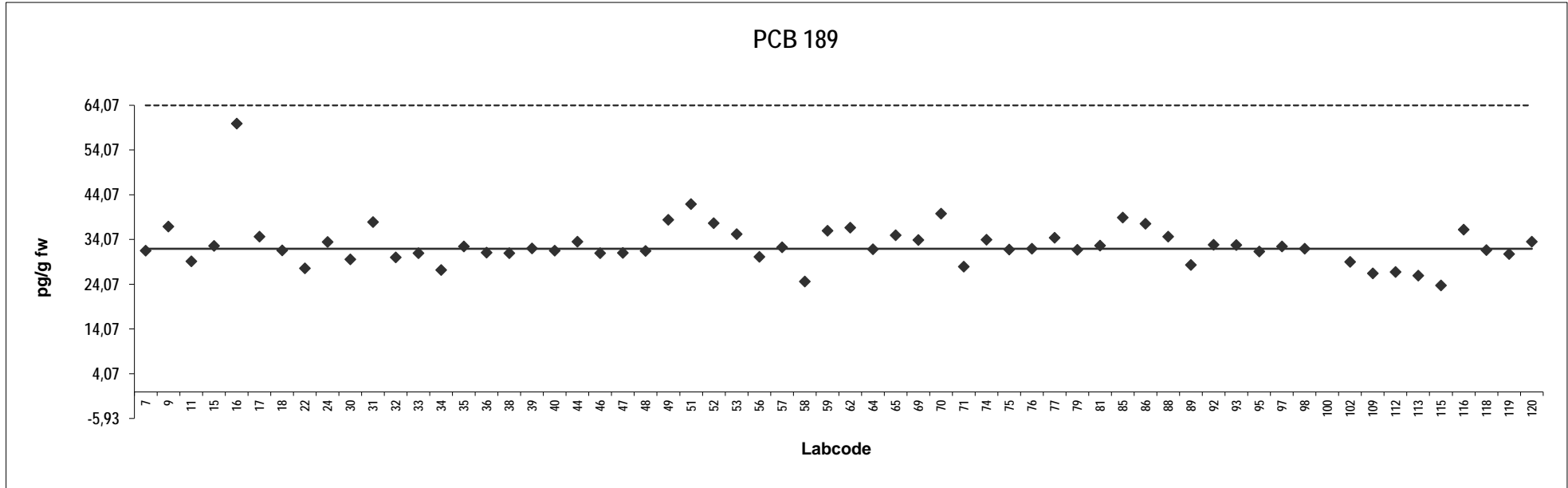


Fish oil
Congener: PCB 189

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	32	-0,062		88	35	0,42	
9	37	0,78		89	28	-0,57	
11	29	-0,44		92	33	0,14	
15	33	0,10		93	33	0,13	
16	60	4,4	ND	95	31	-0,098	
17	35	0,42		97	33	0,085	
18	32	-0,052		98	32	0,00	
22	28	-0,68		100	235	32	Outlier
24	33	0,23		102	29	-0,46	
30	30	-0,37		109	27	-0,86	
31	38	0,94		112	27	-0,82	
32	30	-0,30		113	26	-0,94	
33	31	-0,16		115	24	-1,3	
34	27	-0,74		116	36	0,67	
35	33	0,080		118	32	-0,043	
36	31	-0,14		119	31	-0,19	
38	31	-0,16		120	34	0,25	
39	32	0,011					
40	32	-0,062					
44	34	0,25					
46	31	-0,16					
47	31	-0,14					
48	32	-0,078					
49	38	1,0					
51	42	1,6					
52	38	0,90					
53	35	0,52					
56	30	-0,28					
57	32	0,053					
58	25	-1,1					
59	36	0,63					
62	37	0,74					
64	32	-0,016					
65	35	0,47	ND				
69	34	0,31					
70	40	1,2					
71	28	-0,63					
74	34	0,32					
75	32	-0,025					
76	32	0,00					
77	34	0,38					
79	32	-0,034					
81	33	0,11					
85	39	1,1					
86	38	0,88					

Consensus statistics

Consensus median, pg/g	32
Median all values pg/g	32
Consensus mean, pg/g	33
Standard deviation, pg/g	5,1
Relative standard deviation, %	15
No. of values reported	62
No. of values removed	1
No. of reported non-detects	2

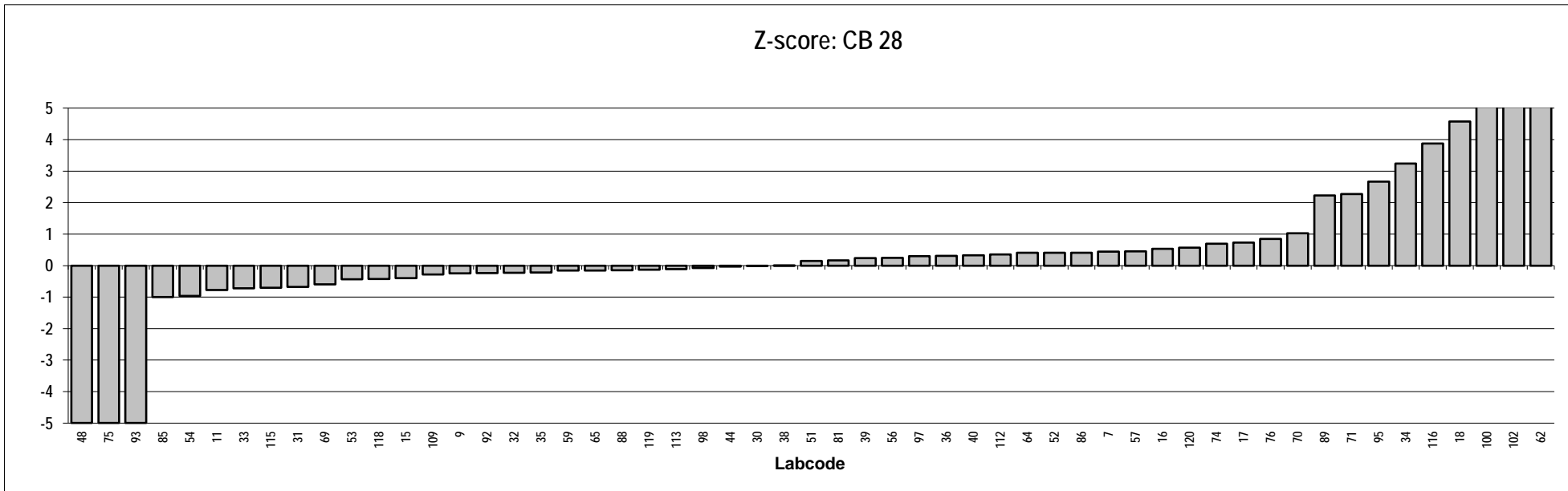
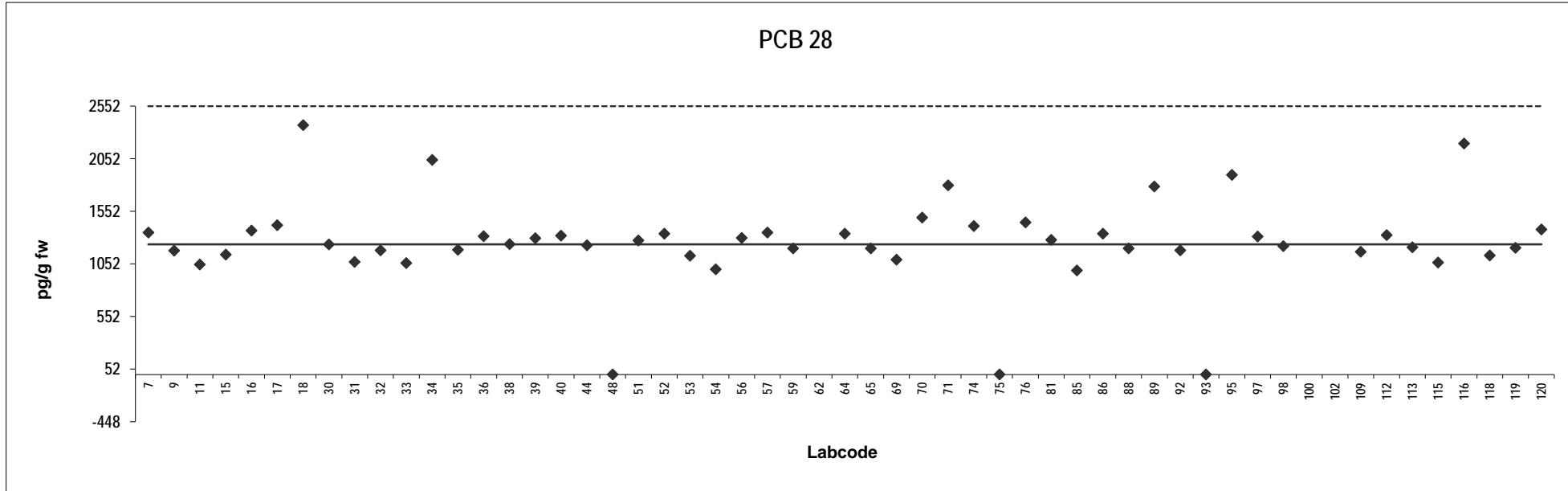


Fish oil
Congener: PCB 28

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	1349	0,45		100	2960	7,0	Outlier
9	1178	-0,24		102	3812	10	Outlier
11	1046	-0,78		109	1168	-0,28	
15	1140	-0,40		112	1327	0,36	
16	1370	0,53		113	1210	-0,11	
17	1420	0,74		115	1065	-0,70	
18	2371	4,6		116	2197	3,9	
30	1236	-0,0081		118	1133	-0,42	
31	1070	-0,68		119	1206	-0,13	
32	1182	-0,23		120	1380	0,57	
33	1060	-0,72					
34	2041	3,2					
35	1185	-0,21					
36	1315	0,31					
38	1240	0,0081					
39	1297	0,24					
40	1320	0,33					
44	1230	-0,032					
48	0,72	-5,0					
51	1276	0,15					
52	1339	0,41					
53	1130	-0,44					
54	1000	-0,96					
56	1300	0,25					
57	1351	0,46					
59	1200	-0,15					
62	3949	11	Outlier				
64	1338	0,40					
65	1200	-0,15					
69	1092	-0,59					
70	1493	1,0					
71	1800	2,3					
74	1411	0,70					
75	1,2	-5,0					
76	1447	0,84					
81	1280	0,17					
85	990	-1,0					
86	1340	0,41					
88	1201	-0,15					
89	1789	2,2					
92	1180	-0,23					
93	1,5	-5,0					
95	1898	2,7					
97	1313	0,30					
98	1220	-0,073					

Consensus statistics

Consensus median, pg/g	1238
Median all values pg/g	1276
Consensus mean, pg/g	1256
Standard deviation, pg/g	422
Relative standard deviation, %	34
No. of values reported	55
No. of values removed	3
No. of reported non-detects	0

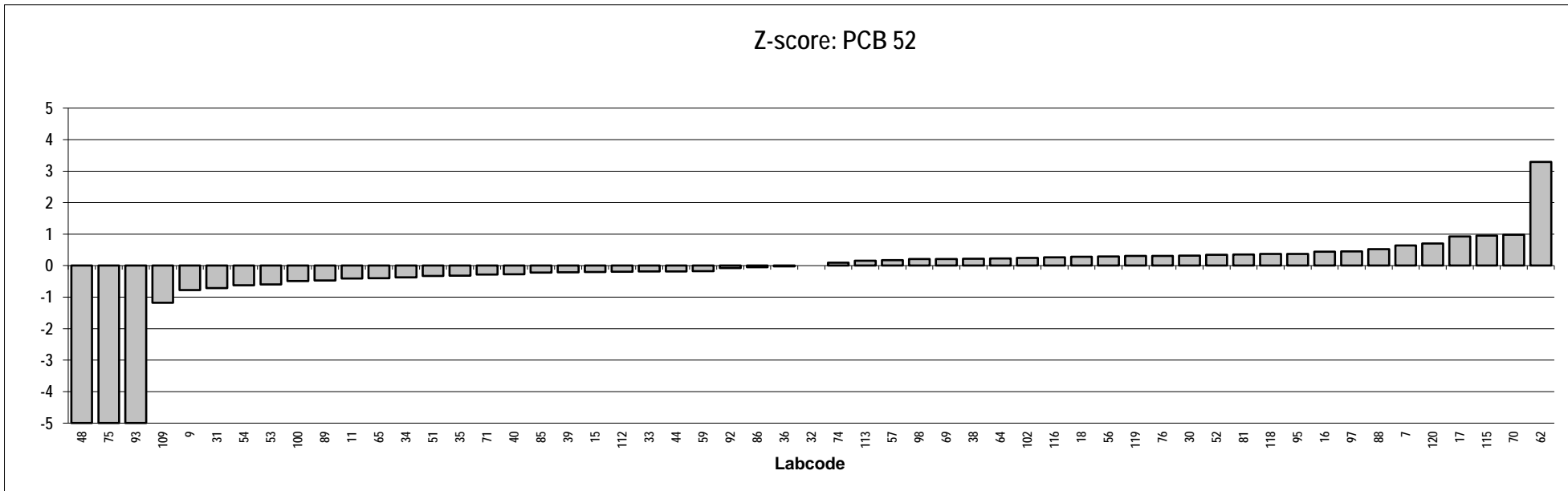
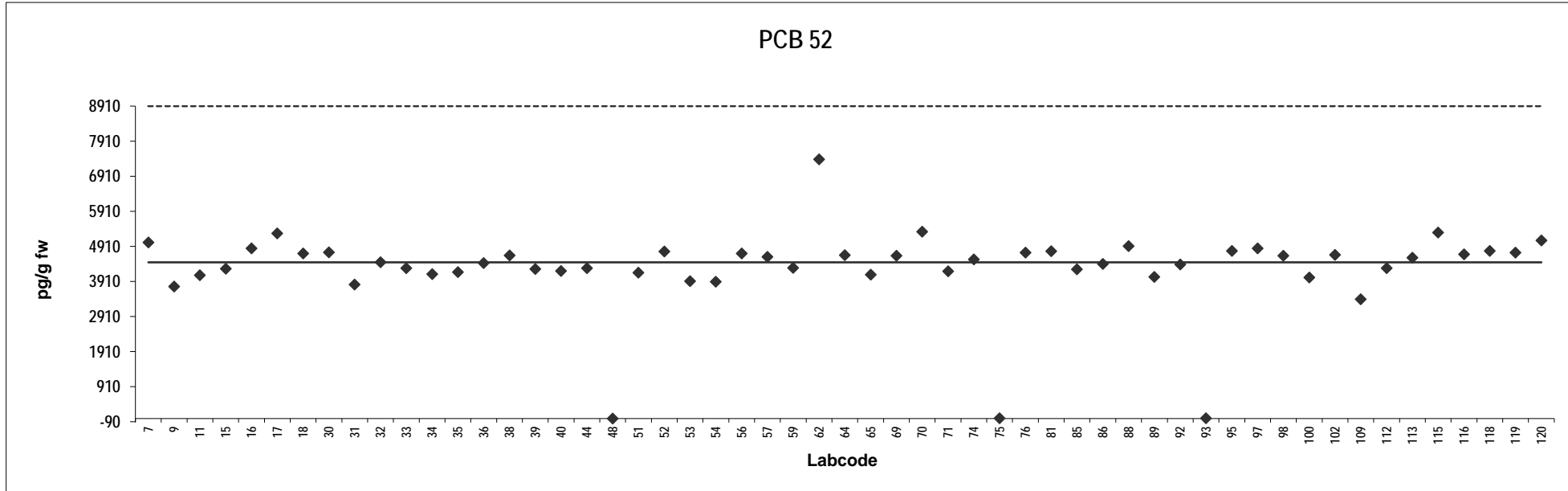


Fish oil
Congener: PCB 52

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	5024	0,64		100	4020	-0,49	
9	3766	-0,77		102	4671	0,24	
11	4089	-0,41		109	3402	-1,2	
15	4274	-0,20		112	4286	-0,19	
16	4850	0,44		113	4590	0,15	
17	5280	0,93		115	5307	0,96	
18	4706	0,28		116	4686	0,26	
30	4737	0,32		118	4784	0,37	
31	3820	-0,71		119	4729	0,31	
32	4455	0,00		120	5080	0,70	
33	4290	-0,18					
34	4120	-0,38					
35	4173	-0,32					
36	4433	-0,025					
38	4650	0,22					
39	4263	-0,22					
40	4210	-0,27					
44	4290	-0,18					
48	3,8	-5,0					
51	4163	-0,33					
52	4761	0,34					
53	3920	-0,60					
54	3900	-0,62					
56	4710	0,29					
57	4614	0,18					
59	4300	-0,17					
62	7392	3,3					
64	4659	0,23					
65	4100	-0,40					
69	4645	0,21					
70	5331	0,98					
71	4200	-0,29					
74	4538	0,093					
75	4,3	-5,0					
76	4732	0,31					
81	4770	0,35					
85	4260	-0,22					
86	4410	-0,050					
88	4919	0,52					
89	4038	-0,47					
92	4390	-0,073					
93	4,7	-5,0					
95	4784	0,37					
97	4856	0,45					
98	4640	0,21					

Consensus statistics

Consensus median, pg/g	4455
Median all values pg/g	4455
Consensus mean, pg/g	4291
Standard deviation, pg/g	1178
Relative standard deviation, %	27
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

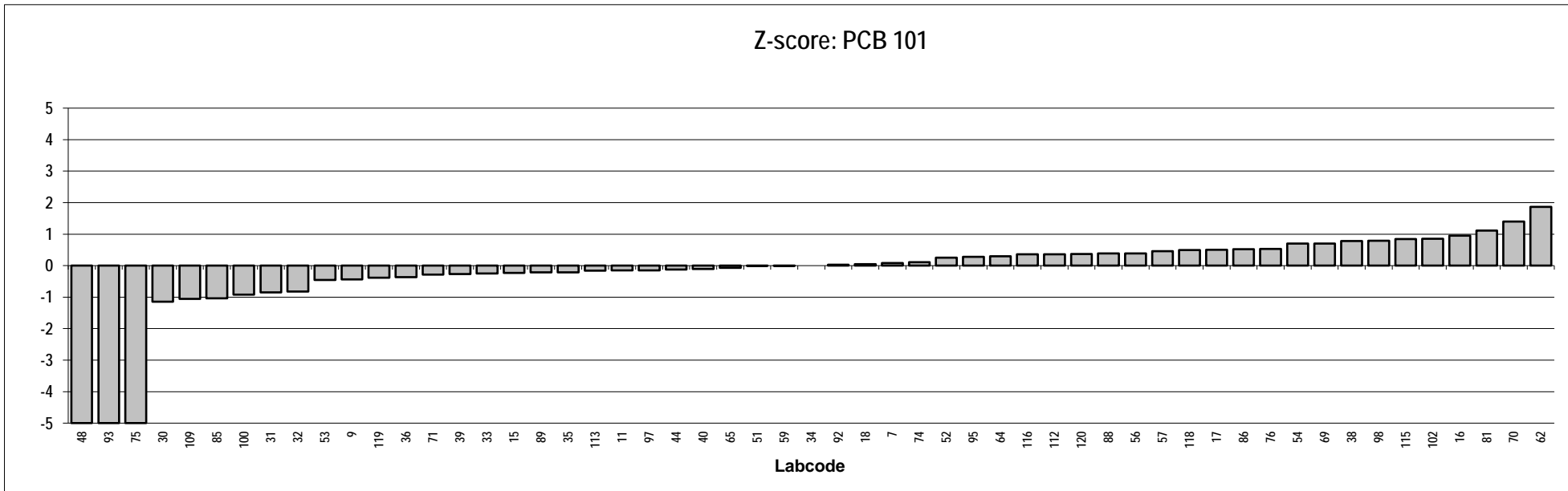
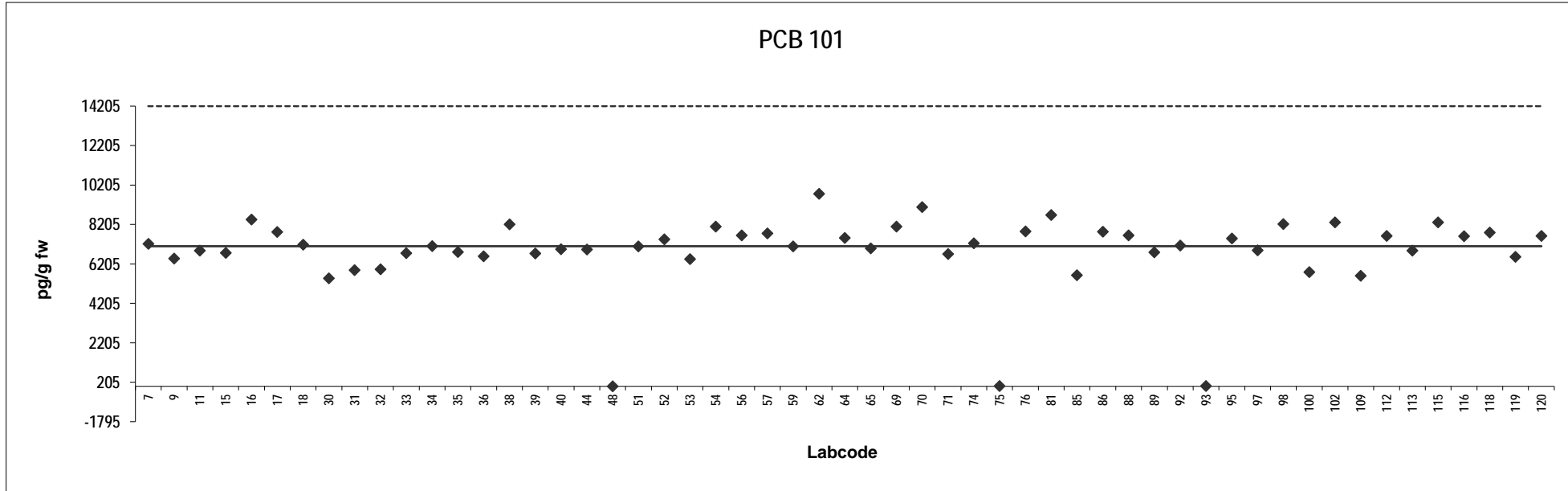


Fish oil
Congener: PCB 101

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	7224	0,085		100	5790	-0,92	
9	6478	-0,44		102	8309	0,85	
11	6885	-0,15		109	5606	-1,1	
15	6769	-0,23		112	7617	0,36	
16	8450	0,95		113	6880	-0,16	
17	7820	0,51		115	8305	0,85	
18	7172	0,049		116	7612	0,36	
30	5474	-1,1		118	7802	0,49	
31	5890	-0,85		119	6558	-0,38	
32	5936	-0,82		120	7630	0,37	
33	6750	-0,25					
34	7103	0,00					
35	6804	-0,21					
36	6586	-0,36					
38	8210	0,78					
39	6728	-0,26					
40	6950	-0,11					
44	6930	-0,12					
48	6,1	-5,0					
51	7092	-0,0075					
52	7456	0,25					
53	6450	-0,46					
54	8100	0,70					
56	7650	0,39					
57	7754	0,46					
59	7100	-0,0018					
62	9756	1,9					
64	7528	0,30					
65	7000	-0,072					
69	8101	0,70					
70	9090	1,4					
71	6700	-0,28					
74	7257	0,11					
75	7,7	-5,0					
76	7855	0,53					
81	8680	1,1					
85	5630	-1,0					
86	7840	0,52					
88	7646	0,38					
89	6797	-0,22					
92	7140	0,026					
93	7,4	-5,0					
95	7496	0,28					
97	6888	-0,15					
98	8230	0,79					

Consensus statistics

Consensus median, pg/g	7103
Median all values pg/g	7103
Consensus mean, pg/g	6864
Standard deviation, pg/g	1871
Relative standard deviation, %	27
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

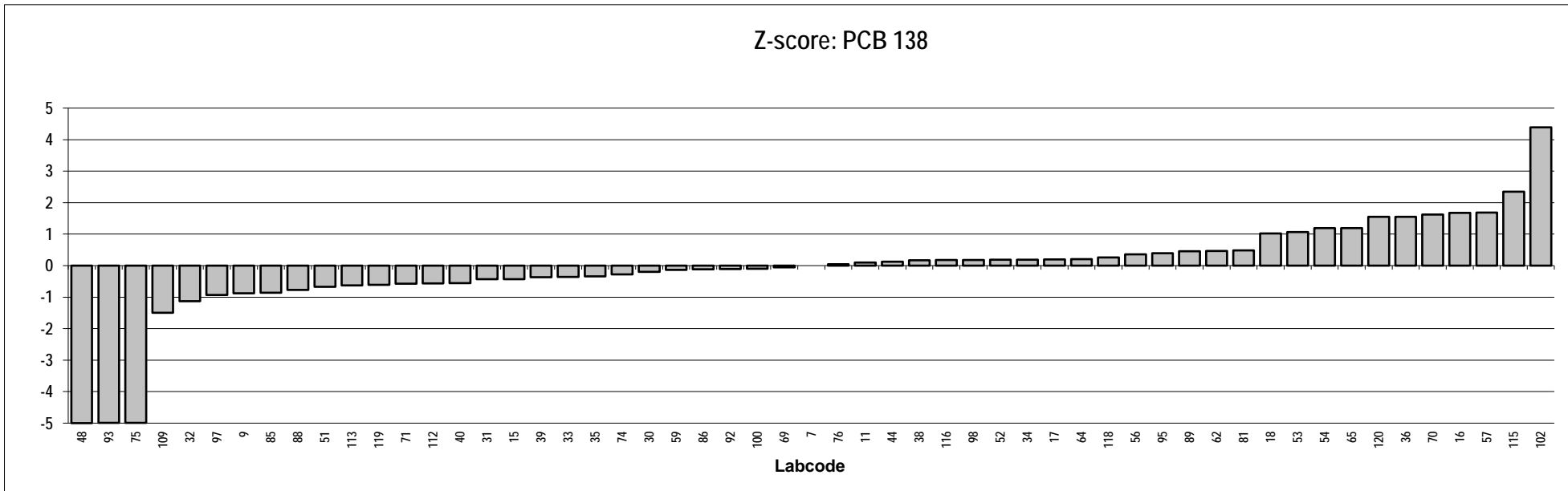
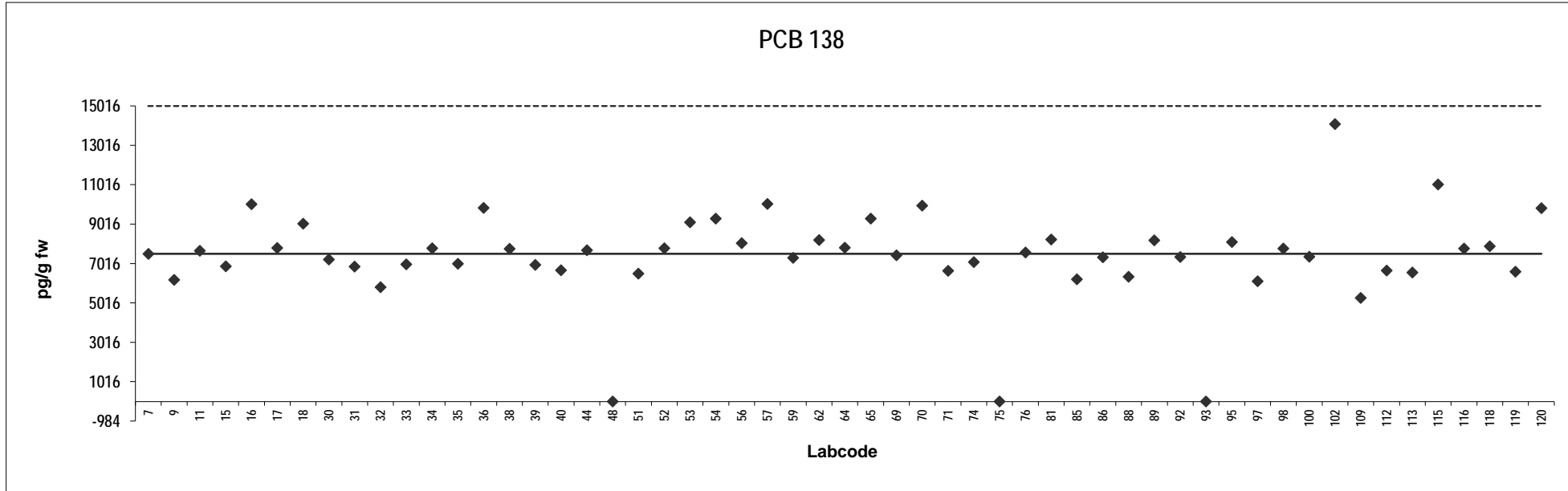


Fish oil
Congener: PCB 138

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	7508	0,00		100	7360	-0,099	
9	6186	-0,88		102	14094	4,4	
11	7659	0,10		109	5265	-1,5	
15	6866	-0,43		112	6655	-0,57	
16	10030	1,7		113	6560	-0,63	
17	7810	0,20		115	11031	2,3	
18	9039	1,0		116	7774	0,18	
30	7216	-0,19		118	7894	0,26	
31	6860	-0,43		119	6596	-0,61	
32	5819	-1,1		120	9830	1,5	
33	6970	-0,36					
34	7796	0,19					
35	6999	-0,34					
36	9836	1,6					
38	7760	0,17					
39	6951	-0,37					
40	6670	-0,56					
44	7690	0,12					
48	6,3	-5,0					
51	6501	-0,67					
52	7792	0,19					
53	9110	1,1					
54	9300	1,2					
56	8050	0,36					
57	10033	1,7					
59	7300	-0,14					
62	8207	0,47					
64	7819	0,21					
65	9300	1,2					
69	7431	-0,051					
70	9947	1,6					
71	6650	-0,57					
74	7090	-0,28					
75	7,5	-5,0					
76	7578	0,047					
81	8240	0,49					
85	6210	-0,86					
86	7330	-0,12					
88	6348	-0,77					
89	8191	0,45					
92	7340	-0,11					
93	7,4	-5,0					
95	8099	0,39					
97	6111	-0,93					
98	7780	0,18					

Consensus statistics

Consensus median, pg/g	7508
Median all values pg/g	7508
Consensus mean, pg/g	7391
Standard deviation, pg/g	2314
Relative standard deviation, %	31
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

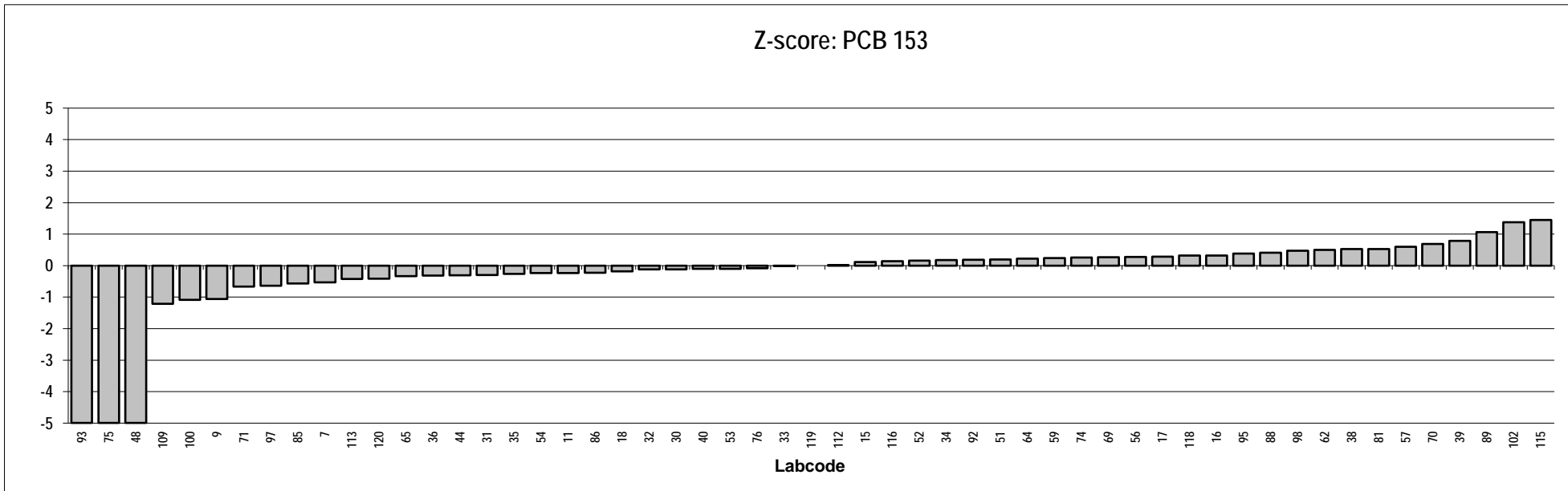
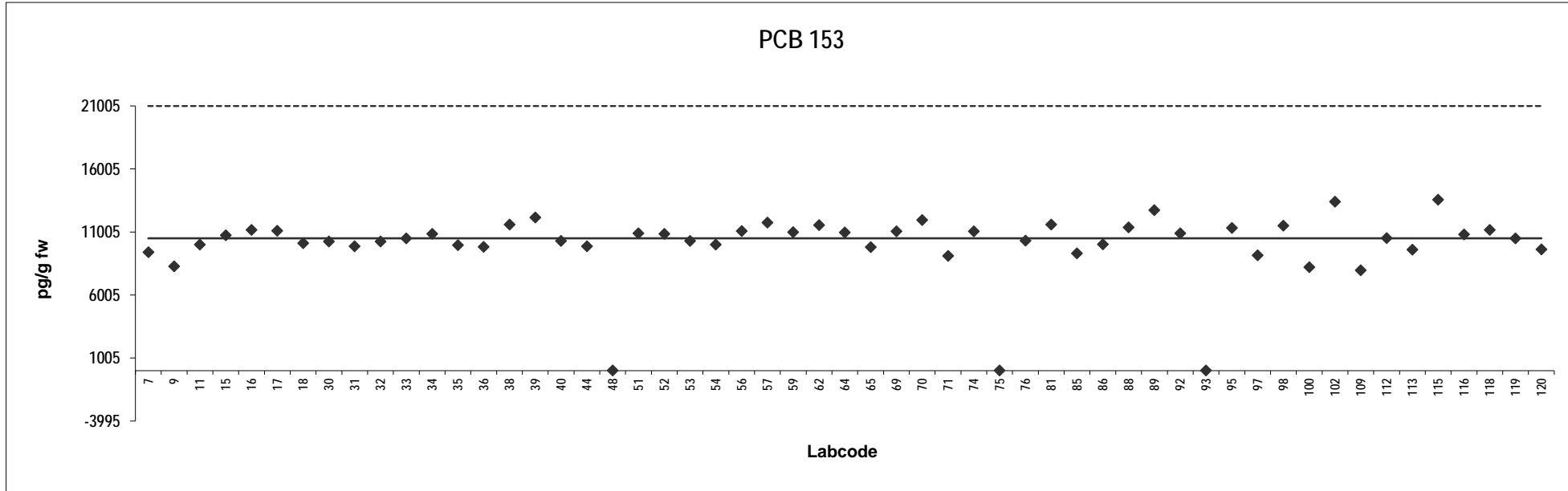


Fish oil
Congener: PCB 153

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	9391	-0,53		100	8220	-1,1	
9	8282	-1,1		102	13400	1,4	
11	10003	-0,24		109	7963	-1,2	
15	10747	0,12		112	10529	0,013	
16	11180	0,32		113	9610	-0,42	
17	11100	0,28		115	13555	1,5	
18	10120	-0,18		116	10808	0,15	
30	10249	-0,12		118	11175	0,32	
31	9869	-0,30		119	10503	0,00	
32	10247	-0,12		120	9630	-0,42	
33	10500	-0,0012					
34	10865	0,17					
35	9949	-0,26					
36	9835	-0,32					
38	11600	0,52					
39	12150	0,78					
40	10300	-0,096					
44	9860	-0,31					
48	13	-5,0					
51	10903	0,19					
52	10846	0,16					
53	10300	-0,096					
54	10000	-0,24					
56	11080	0,27					
57	11754	0,60					
59	11000	0,24					
62	11553	0,50					
64	10972	0,22					
65	9800	-0,33					
69	11061	0,27					
70	11947	0,69					
71	9100	-0,67					
74	11053	0,26					
75	11	-5,0					
76	10322	-0,086					
81	11600	0,52					
85	9310	-0,57					
86	10030	-0,22					
88	11367	0,41					
89	12734	1,1					
92	10900	0,19					
93	11	-5,0					
95	11316	0,39					
97	9158	-0,64					
98	11500	0,47					

Consensus statistics

Consensus median, pg/g	10503
Median all values pg/g	10503
Consensus mean, pg/g	10023
Standard deviation, pg/g	2666
Relative standard deviation, %	27
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

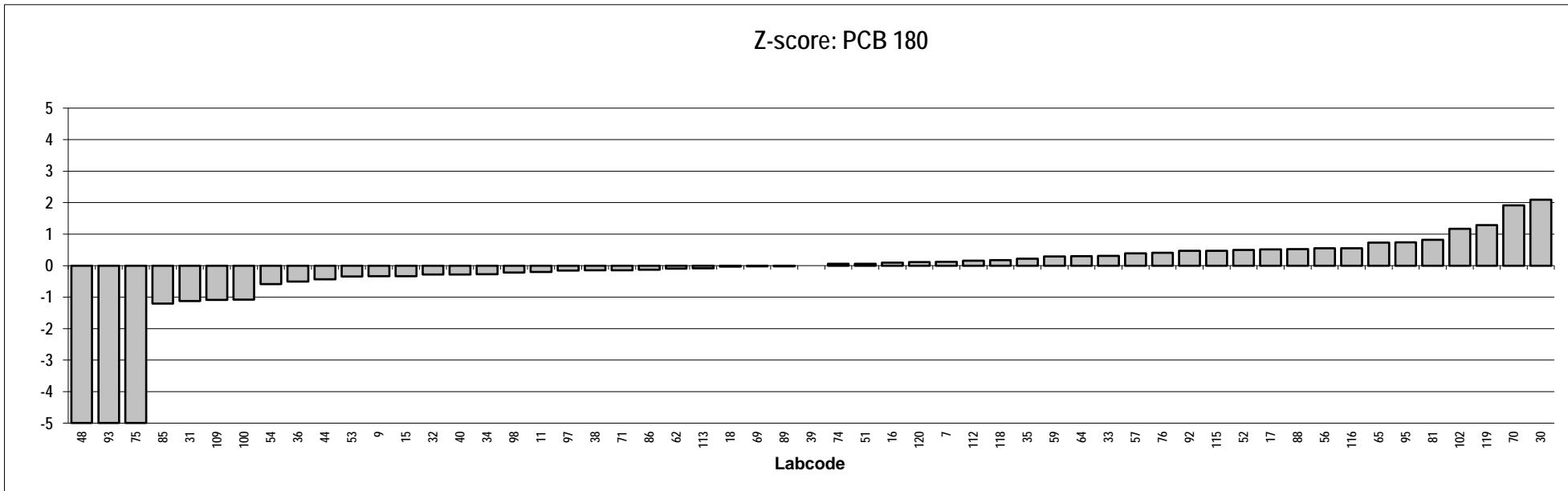
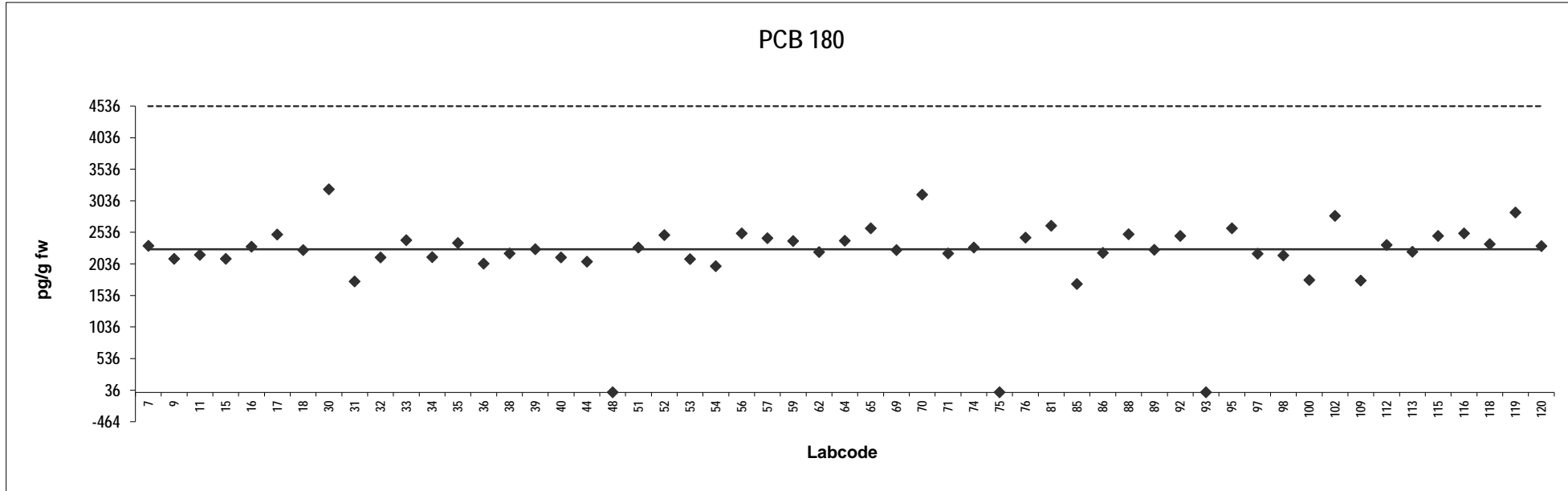


Fish oil
Congener: PCB 180

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	2322	0,12		100	1780	-1,1	
9	2115	-0,34		102	2798	1,2	
11	2177	-0,20		109	1773	-1,1	
15	2117	-0,33		112	2338	0,15	
16	2310	0,093		113	2230	-0,084	
17	2500	0,51		115	2480	0,47	
18	2254	-0,031		116	2520	0,56	
30	3216	2,1		118	2348	0,18	
31	1760	-1,1		119	2850	1,3	
32	2139	-0,29		120	2320	0,11	
33	2410	0,31					
34	2143	-0,28					
35	2368	0,22					
36	2040	-0,50					
38	2200	-0,15					
39	2268	0,00					
40	2140	-0,28					
44	2070	-0,44					
48	2,4	-5,0					
51	2295	0,060					
52	2492	0,49					
53	2110	-0,35					
54	2000	-0,59					
56	2520	0,56					
57	2444	0,39					
59	2400	0,29					
62	2224	-0,098					
64	2404	0,30					
65	2600	0,73					
69	2257	-0,025					
70	3135	1,9					
71	2200	-0,15					
74	2294	0,057					
75	2,5	-5,0					
76	2454	0,41					
81	2640	0,82					
85	1720	-1,2					
86	2210	-0,13					
88	2504	0,52					
89	2259	-0,019					
92	2480	0,47					
93	2,5	-5,0					
95	2602	0,74					
97	2197	-0,16					
98	2170	-0,22					

Consensus statistics

Consensus median, pg/g	2268
Median all values pg/g	2268
Consensus mean, pg/g	2193
Standard deviation, pg/g	603
Relative standard deviation, %	27
No. of values reported	55
No. of values removed	0
No. of reported non-detects	0

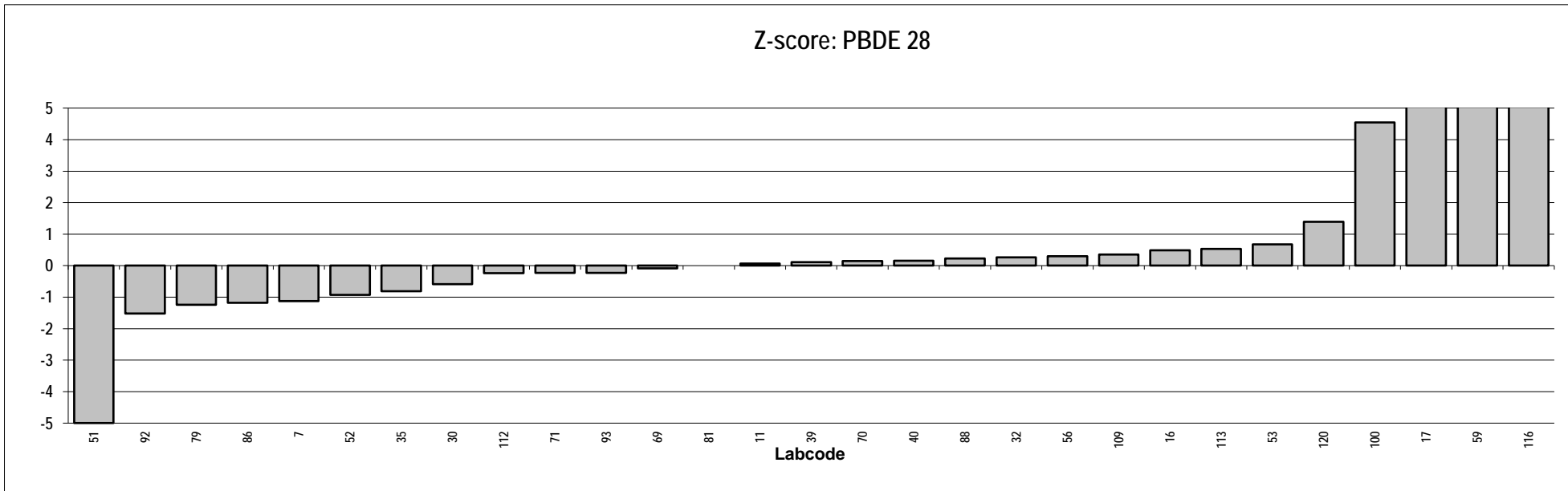
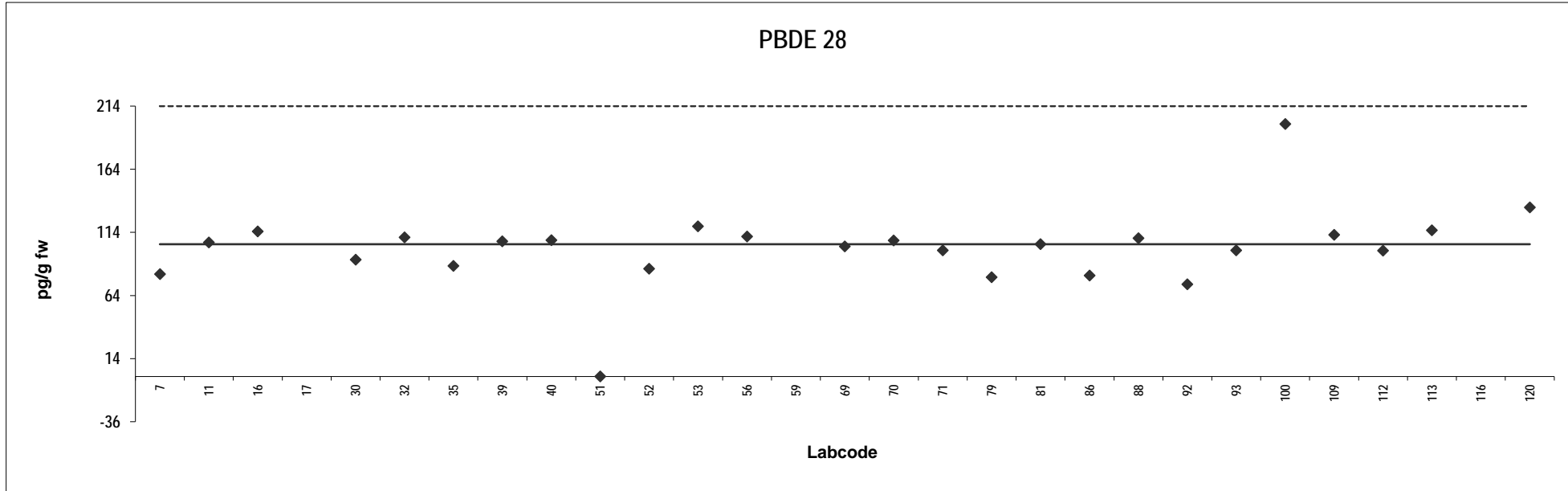


Fish oil
Congener: PBDE 28

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	81	-1,1					
11	106	0,064					
16	115	0,49					
17	229	5,9	Outlier				
30	93	-0,59					
32	110	0,26					
35	88	-0,81					
39	107	0,11					
40	108	0,15					
51	0,11	-5,0					
52	85	-0,93					
53	119	0,68					
56	111	0,30					
59	280	8,4	Outlier				
69	103	-0,084					
70	108	0,15					
71	100	-0,23					
79	79	-1,2					
81	105	0,00					
86	80	-1,2					
88	110	0,23					
92	73	-1,5					
93	100	-0,23					
100	200	4,5	ND				
109	112	0,36					
112	100	-0,24					
113	116	0,53					
116	310	9,8	Outlier				
120	134	1,4					

Consensus statistics

Consensus median, pg/g	105
Median all values pg/g	107
Consensus mean, pg/g	102
Standard deviation, pg/g	32
Relative standard deviation, %	31
No. of values reported	29
No. of values removed	3
No. of reported non-detects	1

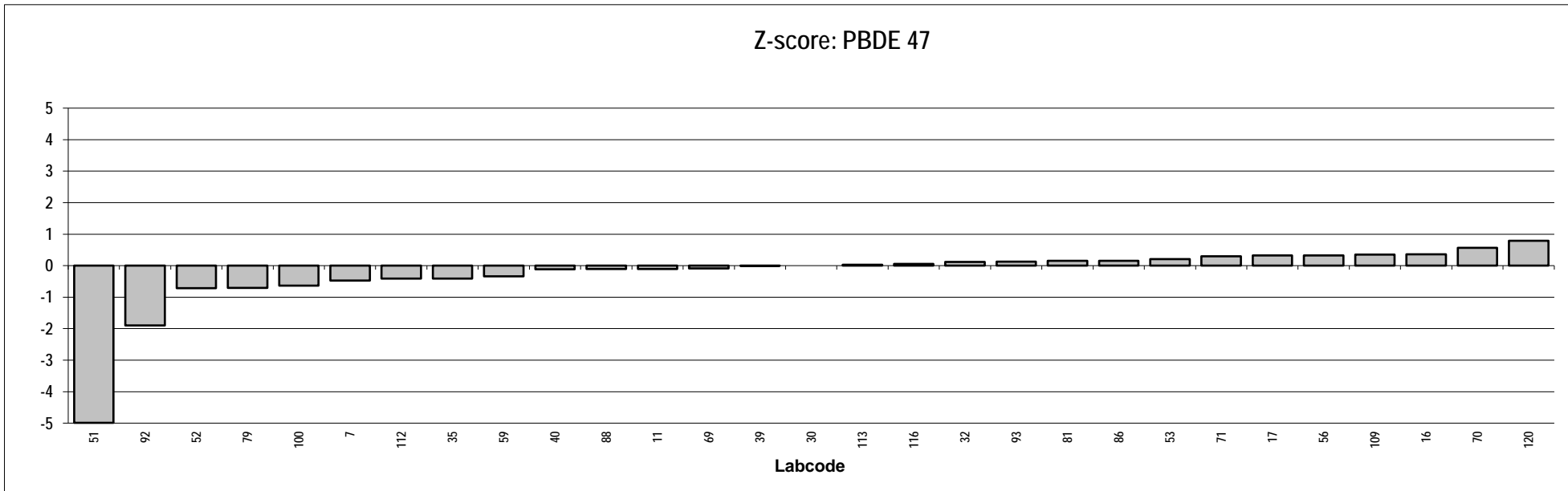
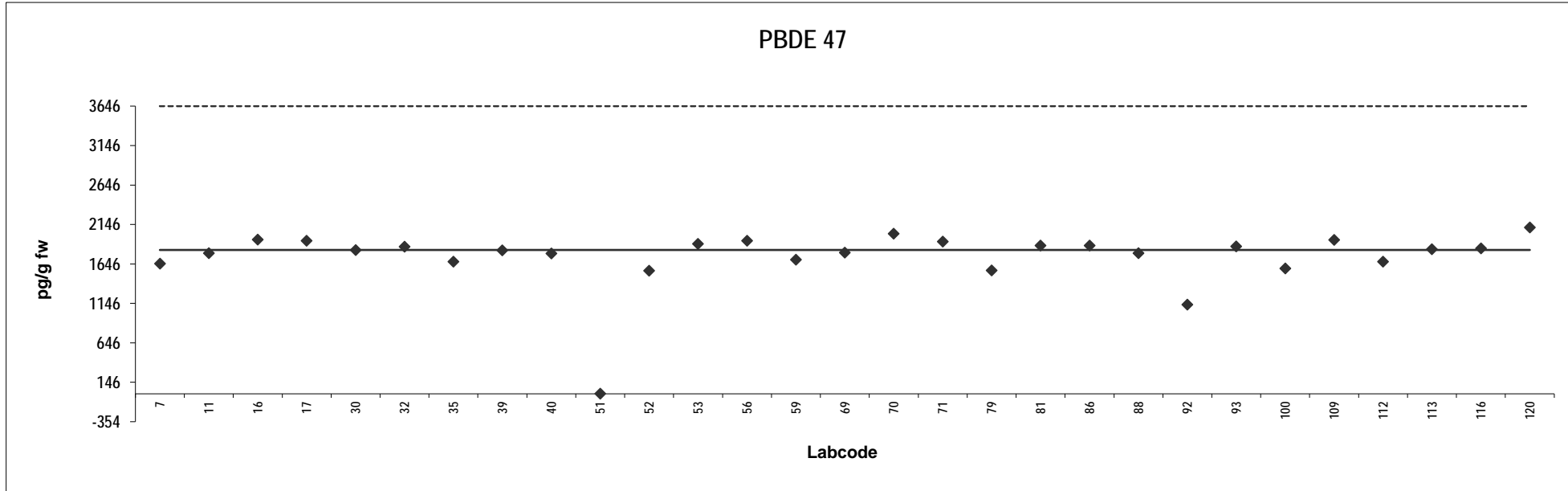


Fish oil
Congener: PBDE 47

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	1650	-0,47					
11	1783	-0,11					
16	1955	0,36					
17	1940	0,32					
30	1823	0,00					
32	1865	0,12					
35	1675	-0,41					
39	1819	-0,012					
40	1780	-0,12					
51	2,1	-5,0					
52	1562	-0,72					
53	1900	0,21					
56	1940	0,32					
59	1700	-0,34					
69	1790	-0,090					
70	2031	0,57					
71	1930	0,29					
79	1566	-0,71					
81	1880	0,16					
86	1880	0,16					
88	1783	-0,11					
92	1130	-1,9					
93	1870	0,13					
100	1590	-0,64					
109	1952	0,35					
112	1673	-0,41					
113	1833	0,027					
116	1842	0,052					
120	2110	0,79					

Consensus statistics

Consensus median, pg/g	1823
Median all values pg/g	1823
Consensus mean, pg/g	1733
Standard deviation, pg/g	381
Relative standard deviation, %	22
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0

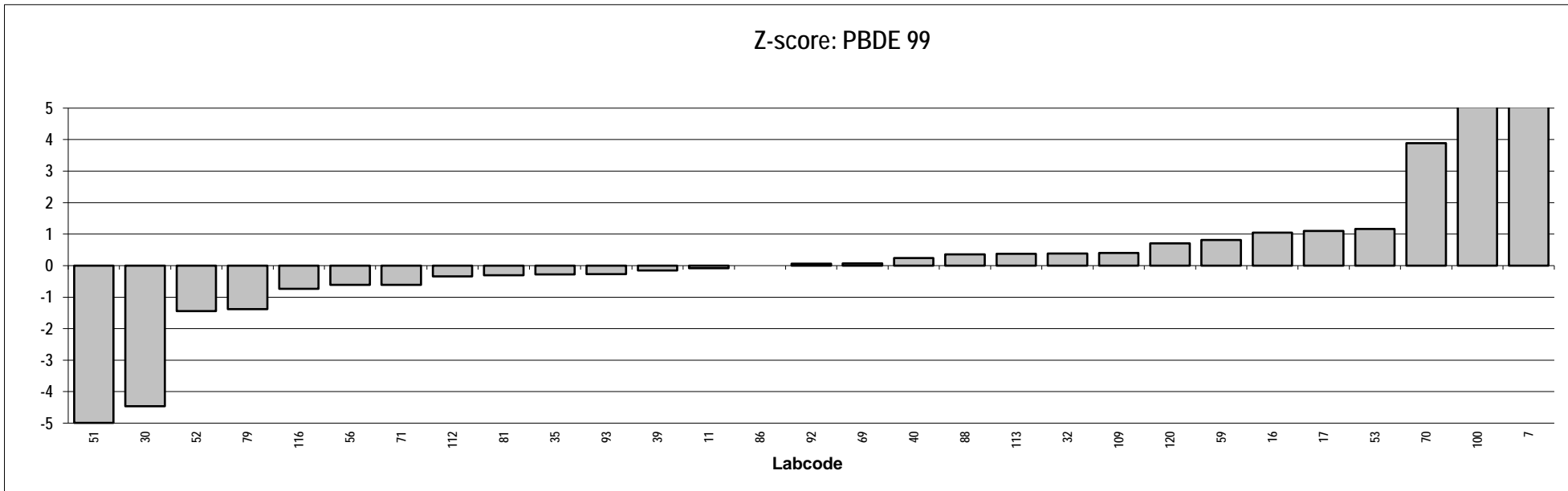
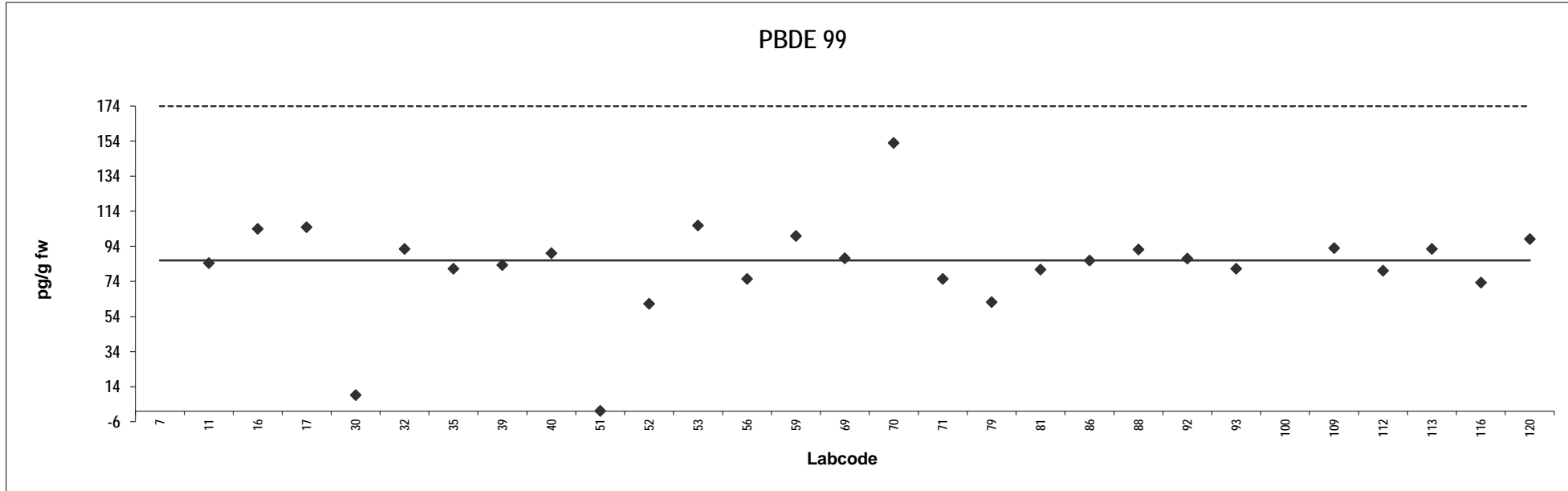


Fish oil
Congener: PBDE 99

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	299	12	Outlier				
11	85	-0,085					
16	104	1,0					
17	105	1,1					
30	9,2	-4,5					
32	93	0,38					
35	81	-0,27					
39	83	-0,15					
40	90	0,24					
51	0,14	-5,0					
52	61	-1,4					
53	106	1,2					
56	76	-0,61					
59	100	0,81					
69	87	0,070					
70	153	3,9					
71	76	-0,61					
79	62	-1,4					
81	81	-0,30					
86	86	0,00					
88	92	0,36					
92	87	0,06					
93	81	-0,27					
100	200	6,6	Outlier,ND				
109	93	0,40					
112	80	-0,35					
113	93	0,38					
116	73	-0,74					
120	98	0,71					

Consensus statistics

Consensus median, pg/g	86
Median all values pg/g	87
Consensus mean, pg/g	83
Standard deviation, pg/g	28
Relative standard deviation, %	34
No. of values reported	29
No. of values removed	2
No. of reported non-detects	1

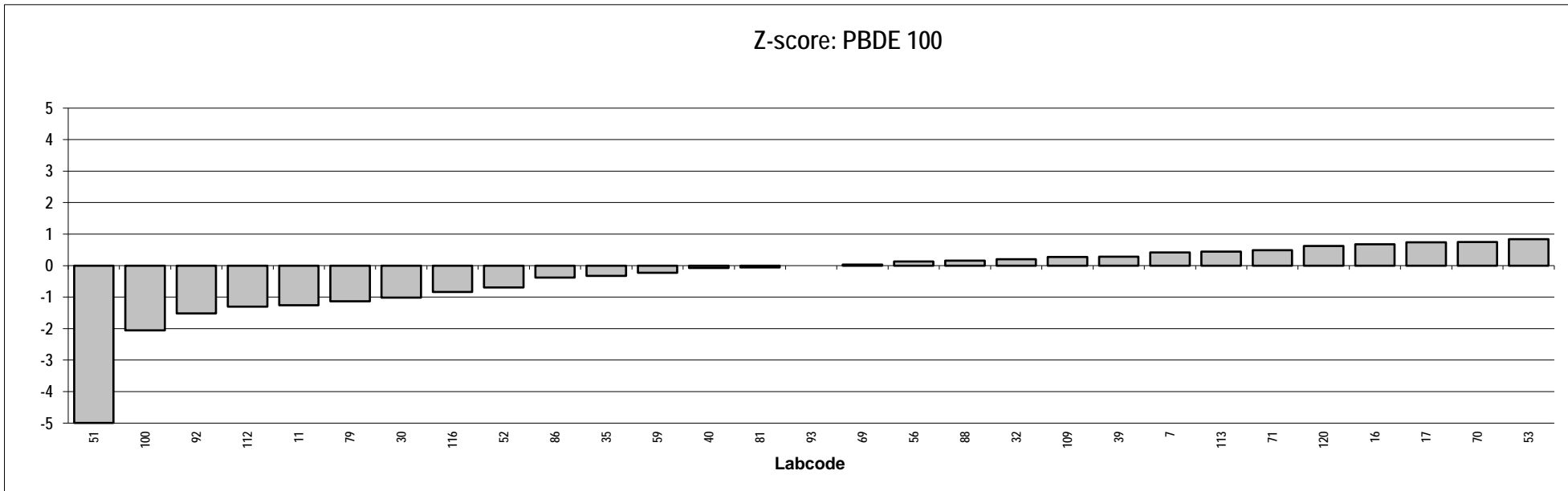
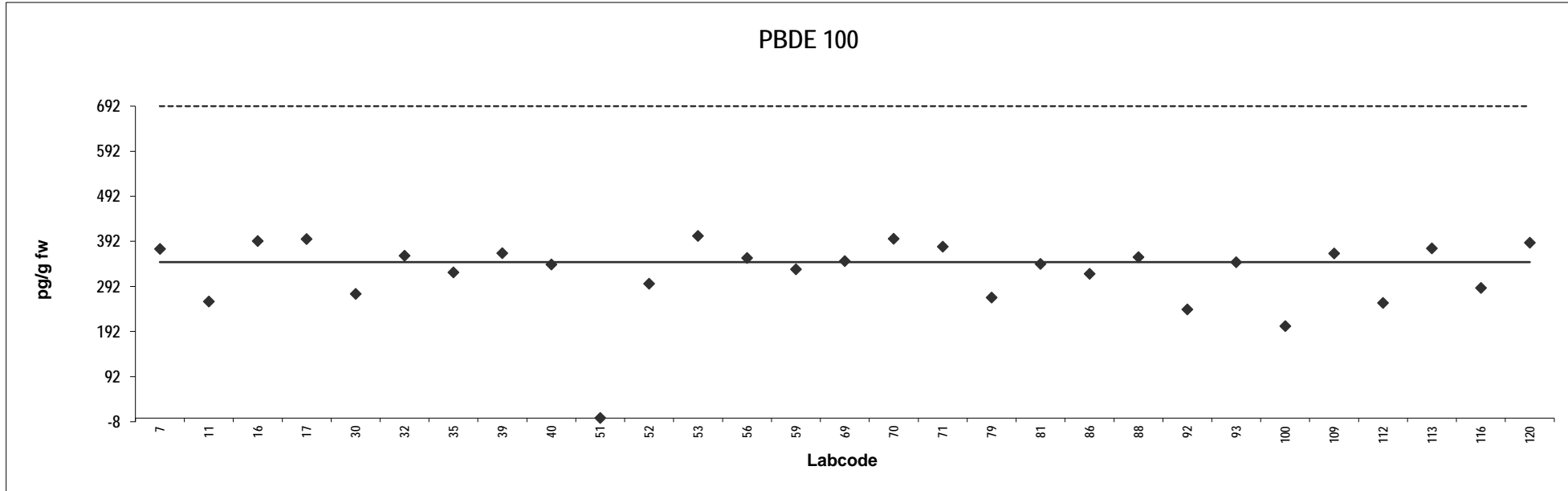


Fish oil
Congener: PBDE 100

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	375	0,42					
11	259	-1,3					
16	393	0,68					
17	397	0,74					
30	276	-1,0					
32	360	0,21					
35	323	-0,33					
39	366	0,29					
40	341	-0,072					
51	0,36	-5,0					
52	298	-0,69					
53	404	0,84					
56	355	0,13					
59	330	-0,23					
69	348	0,034					
70	398	0,75					
71	380	0,49					
79	267	-1,1					
81	342	-0,058					
86	320	-0,38					
88	357	0,16					
92	241	-1,5					
93	346	0,00					
100	204	-2,1					
109	365	0,3					
112	256	-1,3					
113	377	0,44					
116	288	-0,83					
120	389	0,62					

Consensus statistics

Consensus median, pg/g	346
Median all values pg/g	346
Consensus mean, pg/g	323
Standard deviation, pg/g	81
Relative standard deviation, %	25
No. of values reported	29
No. of values removed	0
No. of reported non-detects	0

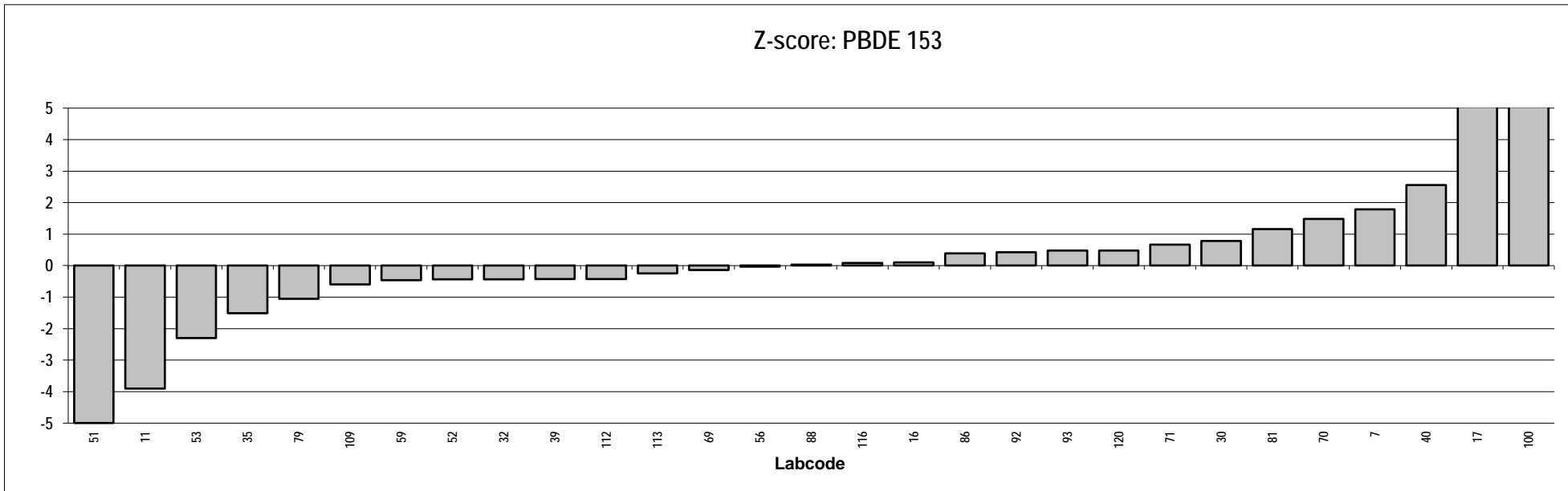
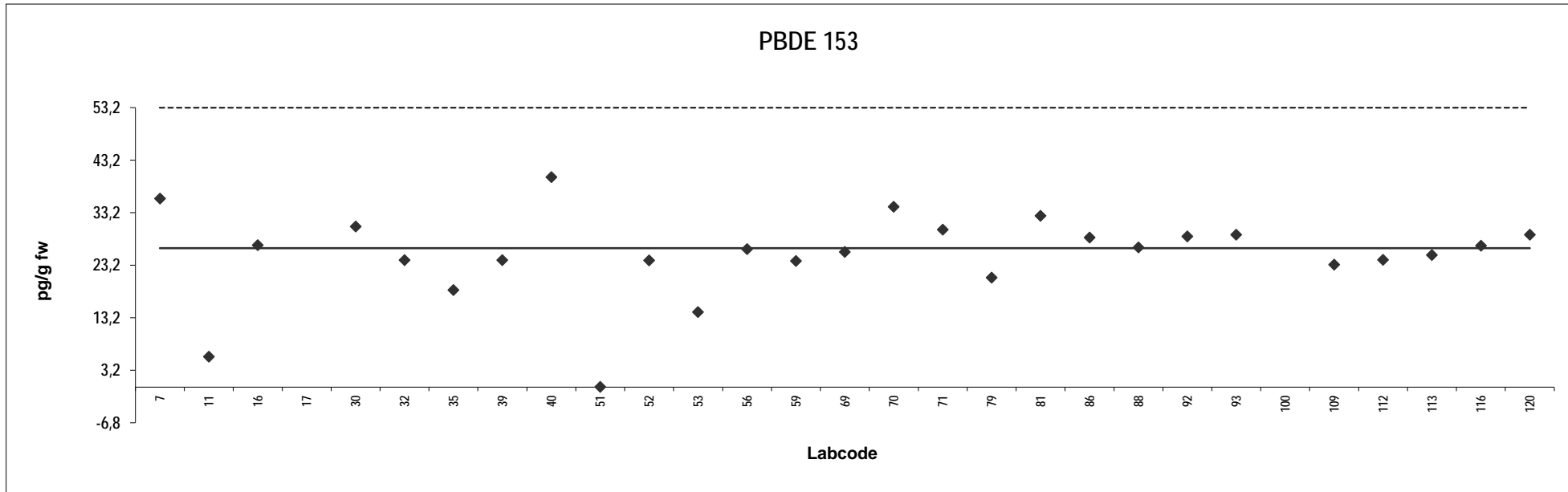


Fish oil
Congener: PBDE 153

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	36	1,8					
11	5,8	-3,9	ND				
16	27	0,10					
17	155	24	Outlier				
30	31	0,78					
32	24	-0,43					
35	18	-1,5					
39	24	-0,43					
40	40	2,6	ND				
51	0,025	-5,0					
52	24	-0,44					
53	14	-2,3	ND				
56	26	-0,029					
59	24	-0,46					
69	26	-0,14					
70	34	1,5					
71	30	0,67					
79	21	-1,1					
81	33	1,2					
86	29	0,39					
88	27	0,029					
92	29	0,42					
93	29	0,48					
100	401	71	Outlier,ND				
109	23	-0,59					
112	24	-0,42					
113	25	-0,247					
116	27	0,088					
120	29	0,48					

Consensus statistics

Consensus median, pg/g	26
Median all values pg/g	27
Consensus mean, pg/g	25
Standard deviation, pg/g	8,3
Relative standard deviation, %	33
No. of values reported	29
No. of values removed	2
No. of reported non-detects	4

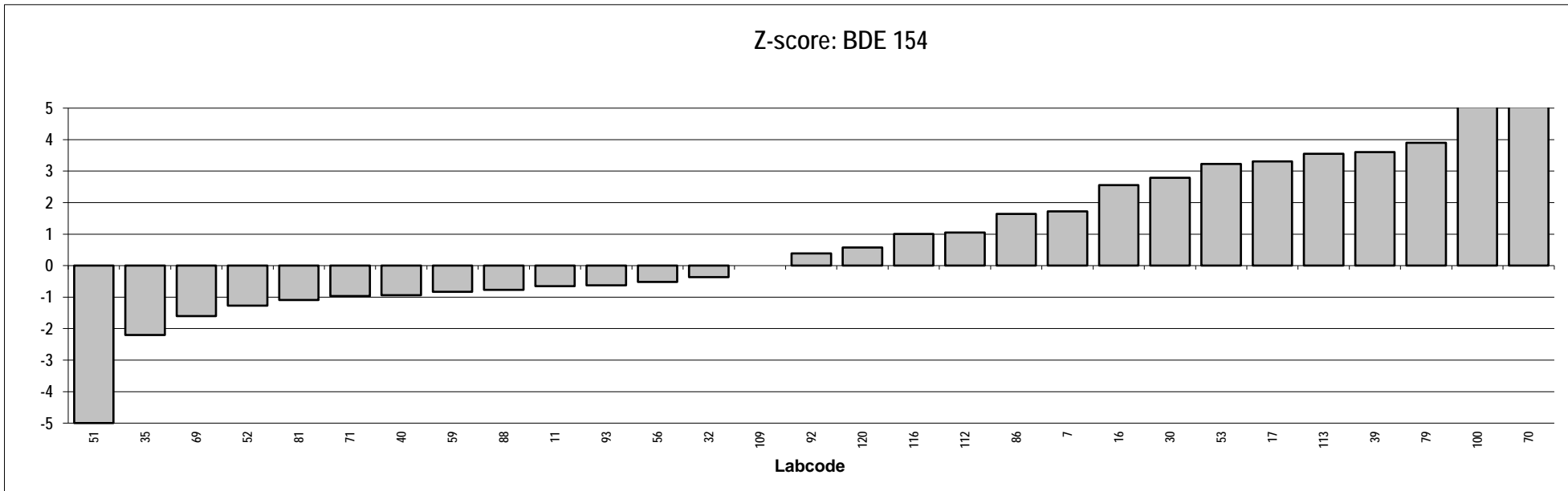
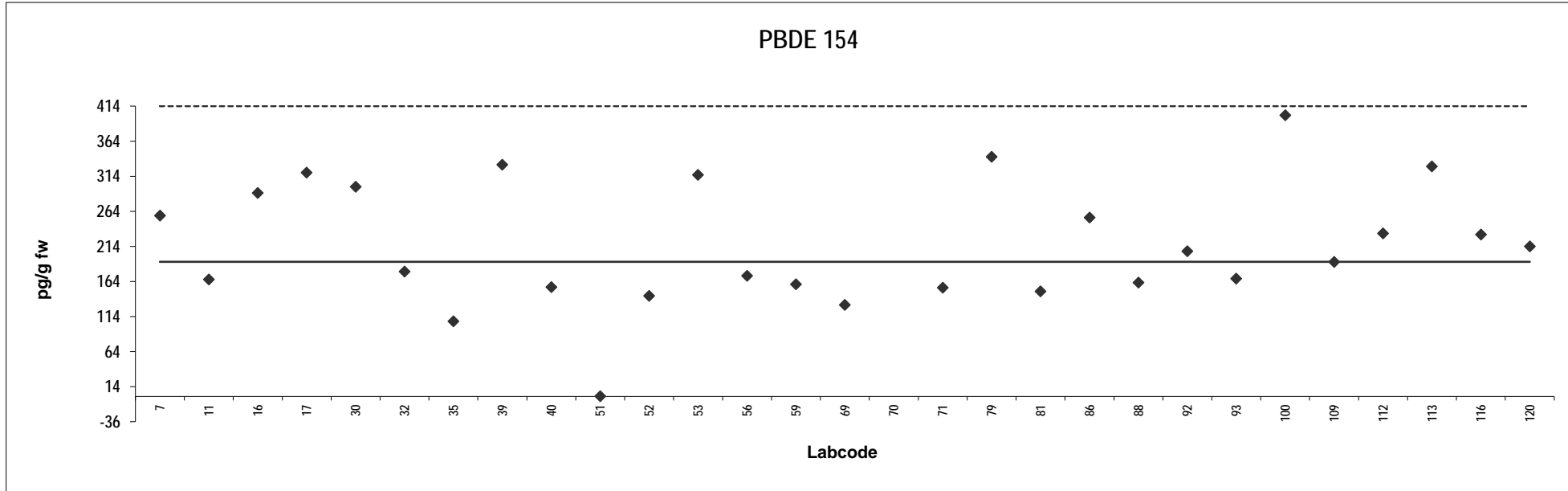


Fish oil
Congener: PBDE 154

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	258	1,7					
11	167	-0,65					
16	290	2,6					
17	319	3,3					
30	299	2,8					
32	178	-0,36					
35	107	-2,2					
39	330	3,6					
40	156	-0,94					
51	0,22	-5,0					
52	143	-1,3					
53	316	3,2					
56	172	-0,52					
59	160	-0,83					
69	130	-1,6					
70	447	6,6	Outlier				
71	155	-0,96					
79	342	3,9					
81	150	-1,1					
86	255	1,6					
88	163	-0,77					
92	207	0,39					
93	168	-0,63					
100	401	5,4	ND				
109	192	0,00					
112	232	1,1					
113	328	3,5					
116	231	1,0					
120	214	0,57					

Consensus statistics

Consensus median, pg/g	192
Median all values pg/g	207
Consensus mean, pg/g	217
Standard deviation, pg/g	88
Relative standard deviation, %	41
No. of values reported	29
No. of values removed	1
No. of reported non-detects	1

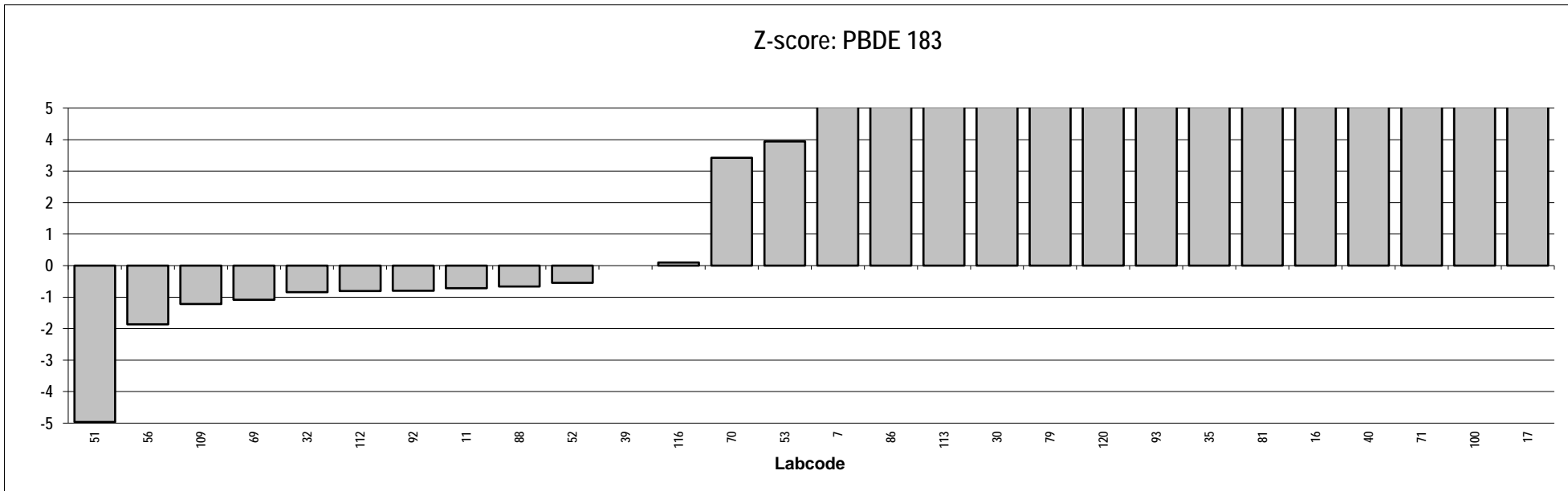
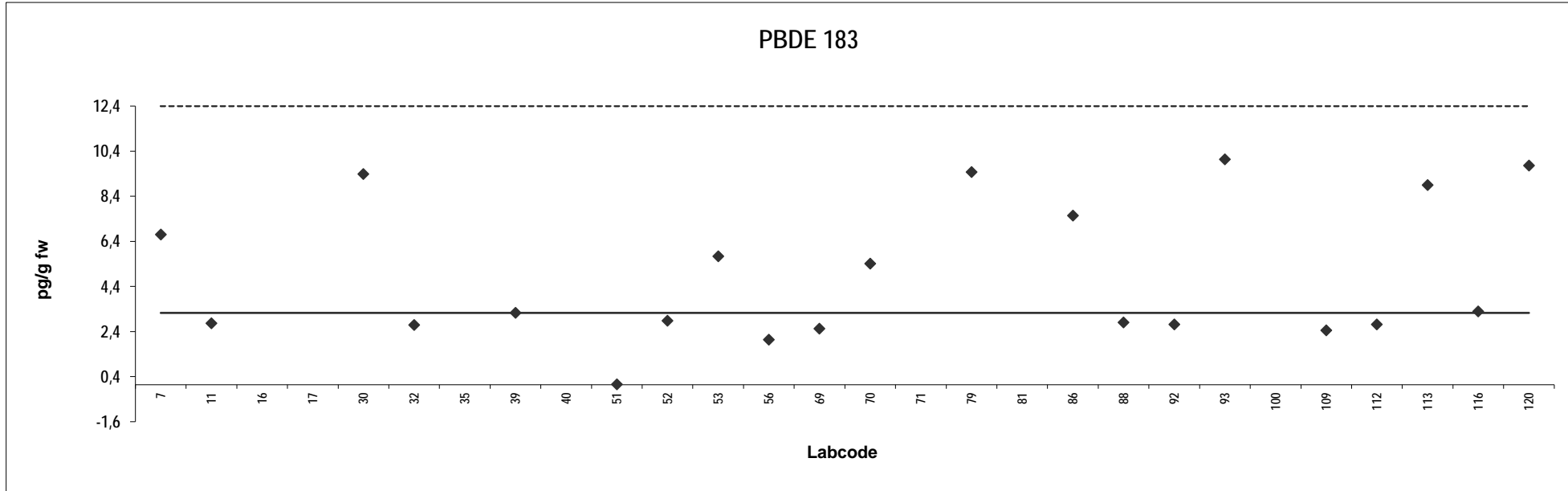


Fish oil
Congener: PBDE 183

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	6,7	5,4	ND				
11	2,7	-0,72	ND				
16	50	73	Outlier				
17	640	999	Outlier				
30	9,4	9,7					
32	2,7	-0,84					
35	35	50	Outlier,ND				
39	3,2	0,00					
40	80	121	Outlier,ND				
51	0,024	-5,0	ND				
52	2,8	-0,55					
53	5,7	3,9	ND				
56	2,0	-1,9					
69	2,5	-1,1	ND				
70	5,4	3,4					
71	227	351	Outlier,ND				
79	9,4	9,8					
81	44	64	Outlier,ND				
86	7,5	6,8					
88	2,8	-0,67					
92	2,7	-0,80					
93	10	11	ND				
100	401	624	Outlier,ND				
109	2,4	-1,2					
112	2,7	-0,80					
113	8,9	8,9					
116	3,3	0,10					
120	9,7	10					

Consensus statistics

Consensus median, pg/g	3,2
Median all values pg/g	6,2
Consensus mean, pg/g	4,9
Standard deviation, pg/g	3,1
Relative standard deviation, %	64
No. of values reported	28
No. of values removed	7
No. of reported non-detects	11

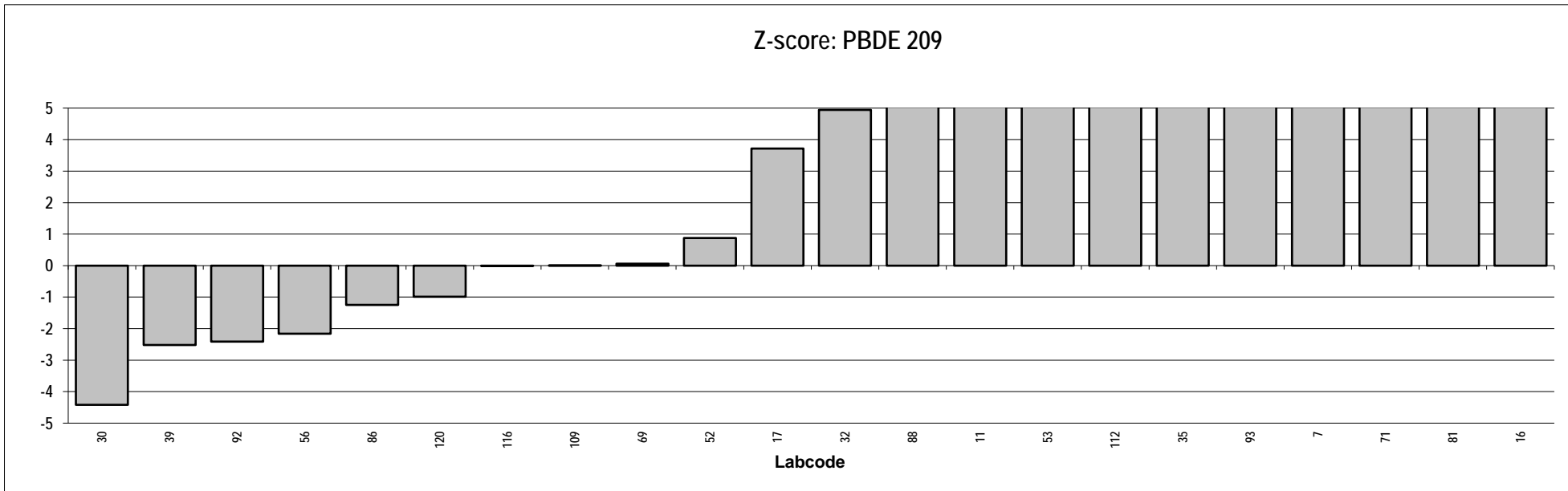
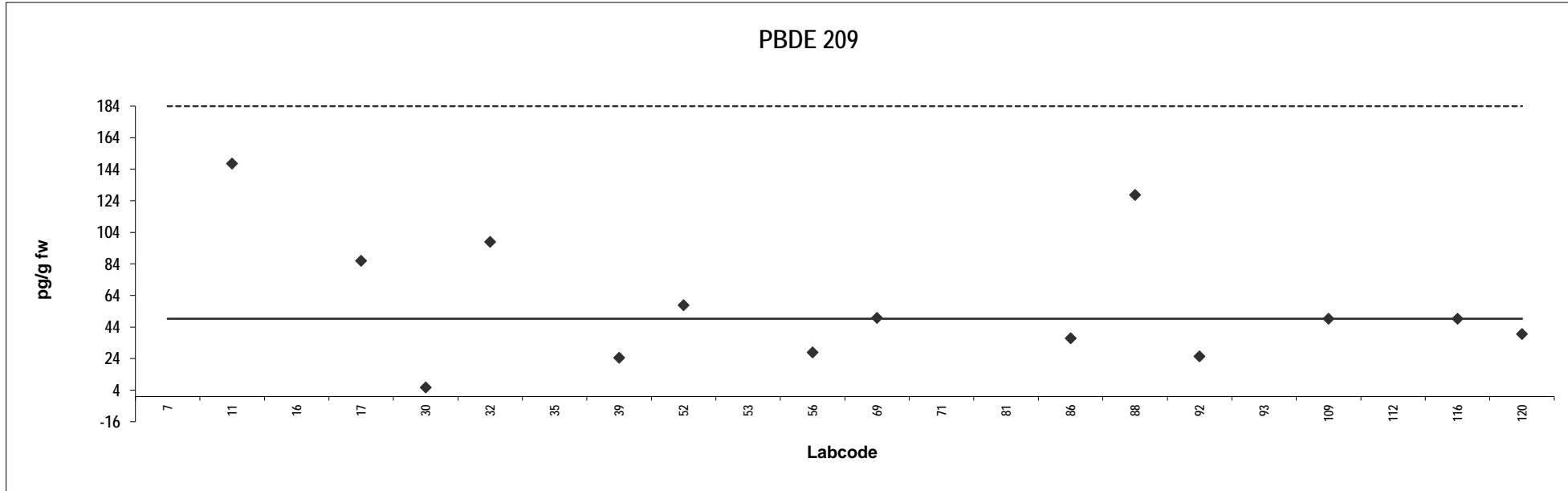


Fish oil
Congener: PBDE 209

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
7	429	38	Outlier				
11	148	10					
16	1910	189	Outlier,ND				
17	86	3,7					
30	5,7	-4,4					
32	98	4,9					
35	357	31	Outlier				
39	25	-2,5					
52	58	0,88					
53	225	18	Outlier,ND				
56	28	-2,2					
69	50	0,057	ND				
71	820	78	Outlier,ND				
81	885	85	Outlier,ND				
86	37	-1,2	ND				
88	128	8,0					
92	26	-2,4					
93	400	36	Outlier,ND				
109	49	0,0027					
112	338	29	Outlier				
116	49	-0,0027					
120	40	-0,99					

Consensus statistics

Consensus median, pg/g	49
Median all values pg/g	92
Consensus mean, pg/g	59
Standard deviation, pg/g	41
Relative standard deviation, %	70
No. of values reported	22
No. of values removed	8
No. of reported non-detects	7

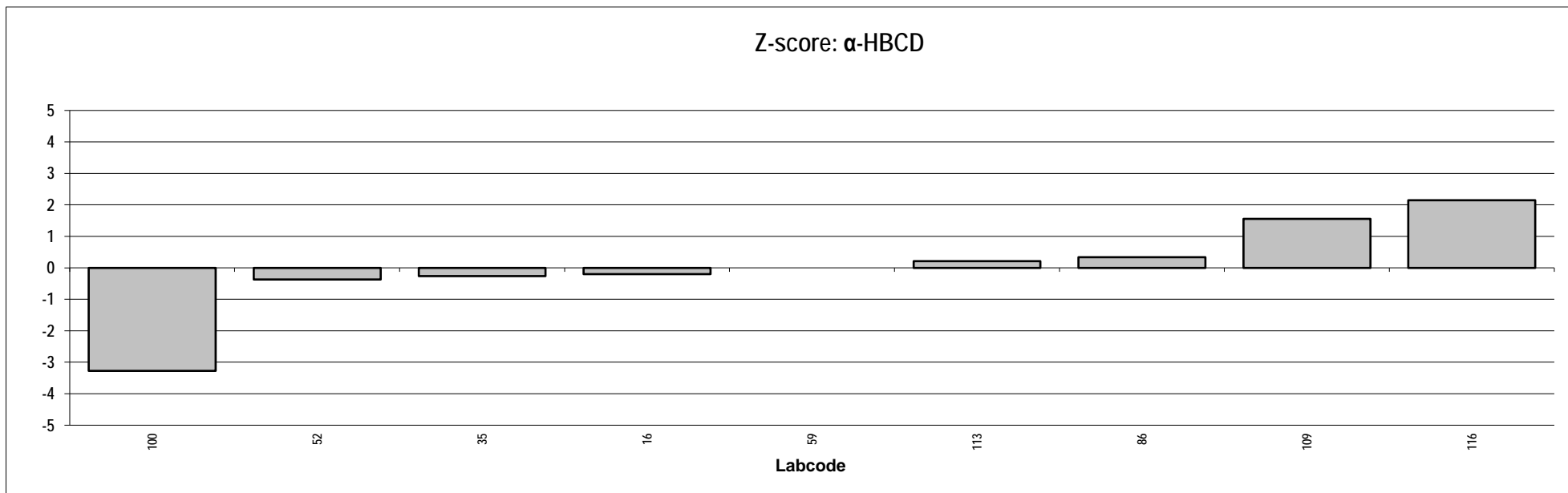
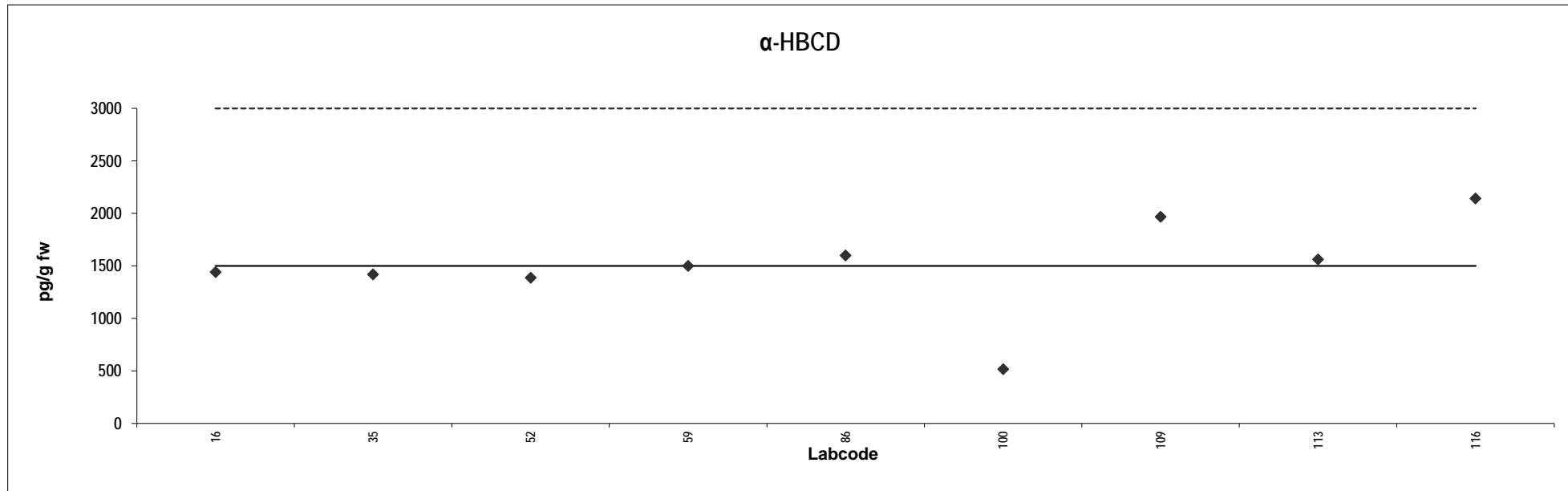


Fish oil
Congener: α -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	1440	-0,20					
35	1420	-0,27					
52	1388	-0,37					
59	1500	0,00					
86	1600	0,33					
100	517	-3,3					
109	1967	1,6					
113	1563	0,21					
116	2143	2,1					

Consensus statistics

Consensus median, pg/g	1500
Median all values pg/g	1500
Consensus mean, pg/g	1504
Standard deviation, pg/g	452
Relative standard deviation, %	30
No. of values reported	9
No. of values removed	0
No. of reported non-detects	0

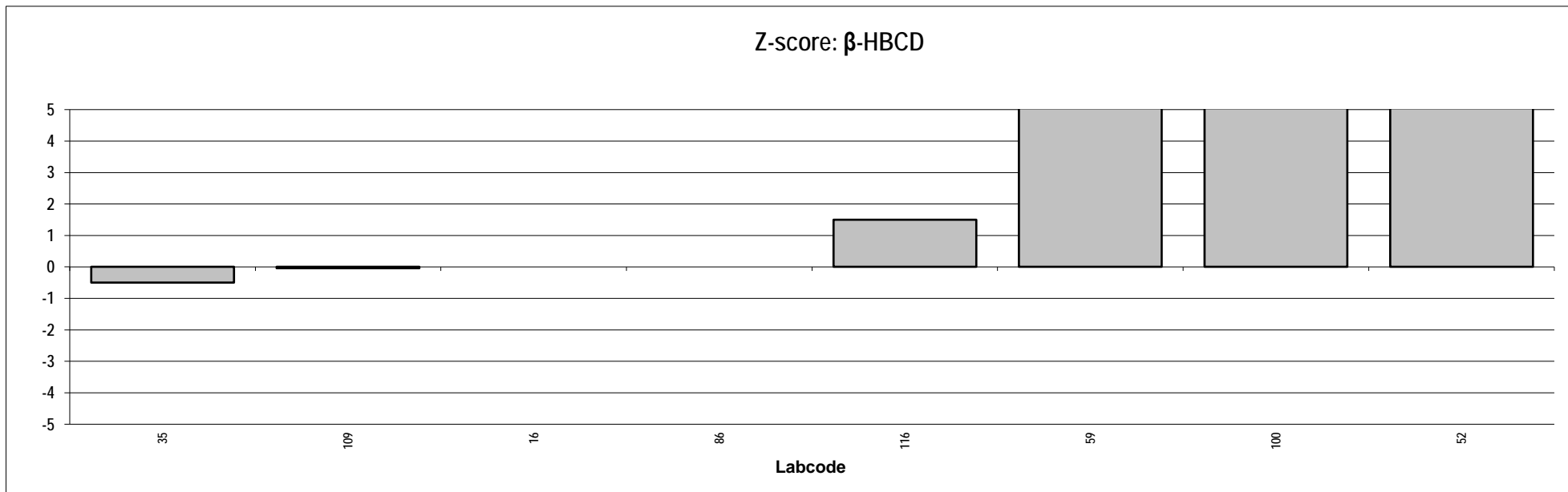
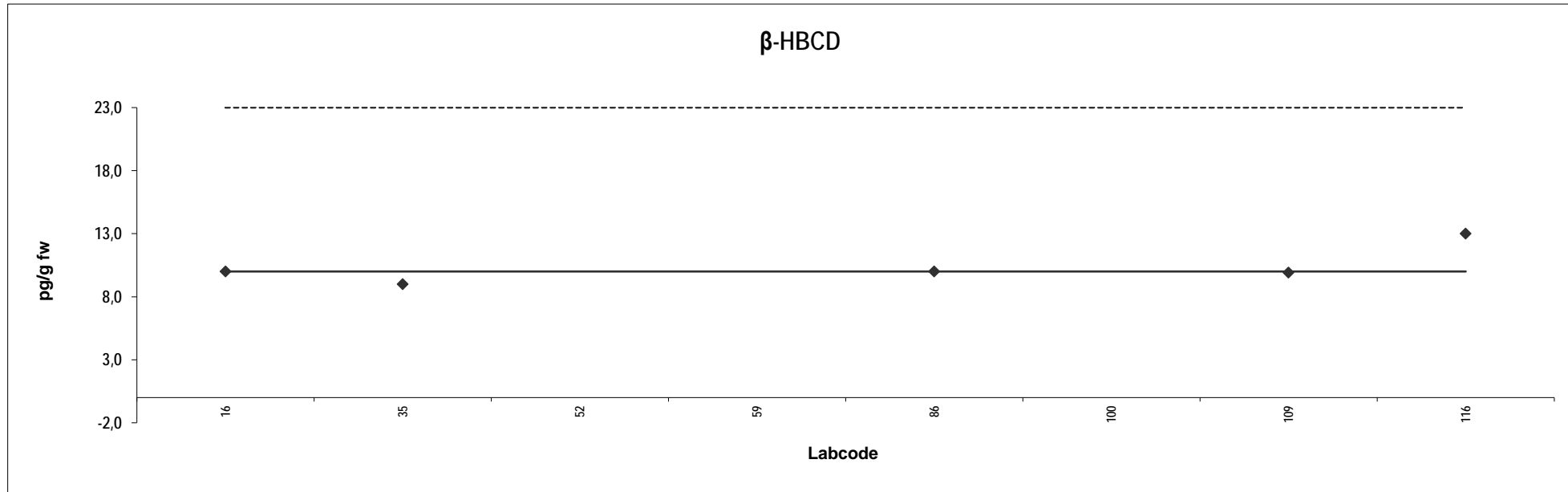


Fish oil
Congener: β -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	10	0,00				-0,65	
35	9,0	-0,50	ND			-1,1	
52	44	17	Outlier			14	
59	30	10	Outlier,ND			8,0	
86	10	0,00	ND			-0,65	
100	30	10	Outlier,ND			8,0	
109	9,9	-0,04				0,65	
116	13	1,5					

Consensus statistics

Consensus median, pg/g	10
Median all values pg/g	11
Consensus mean, pg/g	10
Standard deviation, pg/g	1,5
Relative standard deviation, %	15
No. of values reported	8
No. of values removed	3
No. of reported non-detects	4

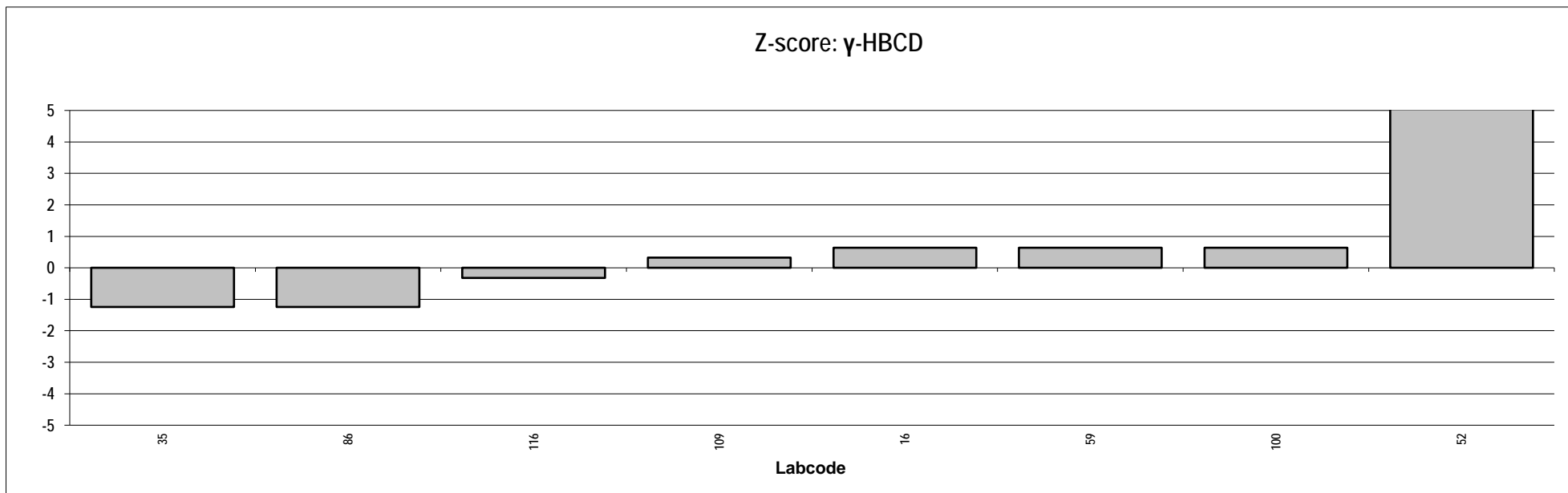
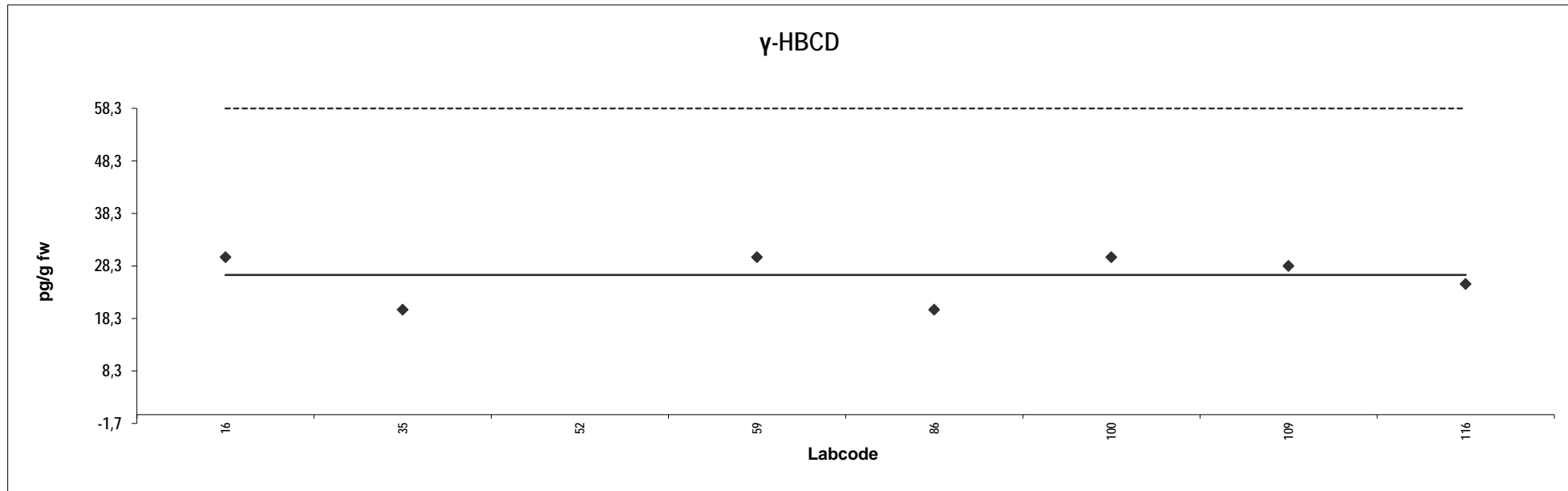


Fish oil
Congener: γ -HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	30	0,64					
35	20	-1,2					
52	87	11	Outlier				
59	30	0,64	ND				
86	20	-1,2	ND				
100	30	0,64	ND				
109	28	0,32					
116	25	-0,32					

Consensus statistics

Consensus median, pg/g	27
Median all values pg/g	29
Consensus mean, pg/g	26
Standard deviation, pg/g	4,6
Relative standard deviation, %	18
No. of values reported	8
No. of values removed	1
No. of reported non-detects	3

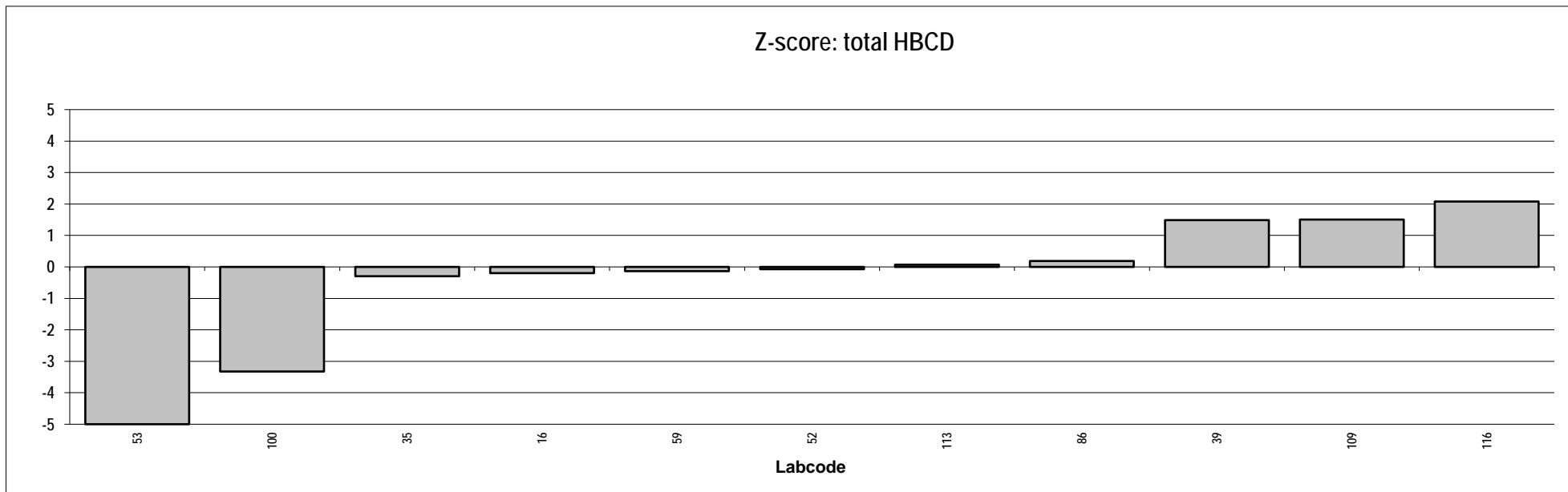
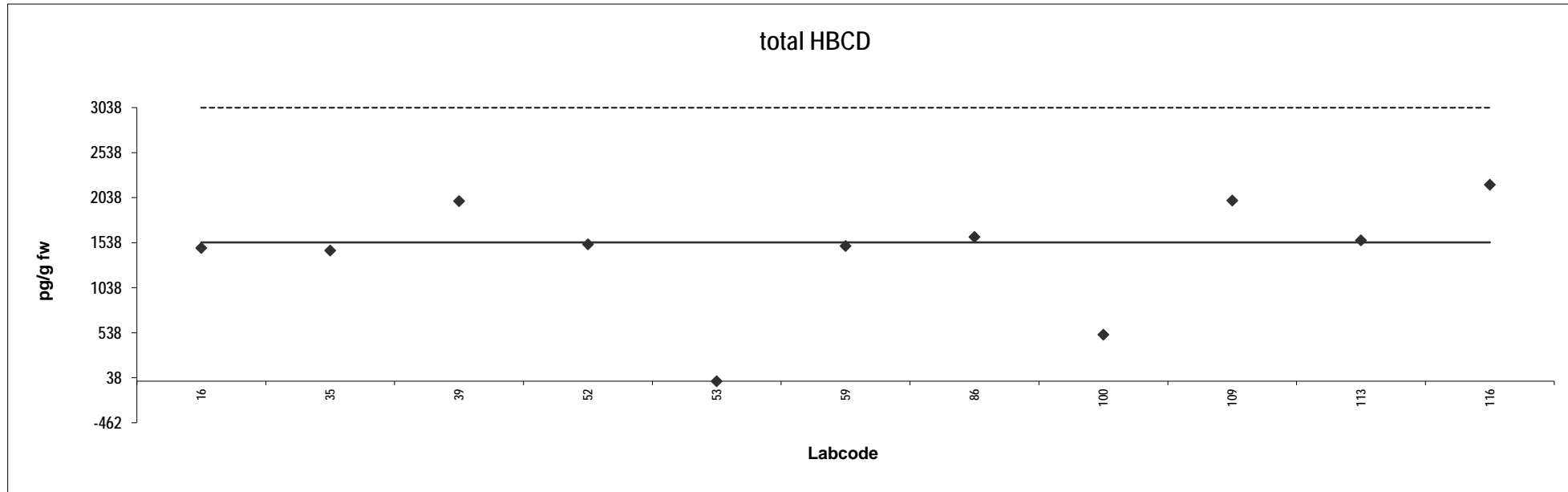


Fish oil
Congener: total HBCD

Lab code	Conc. pg/g fw.	Z-scores	Notes	Lab code	Conc. pg/g fw.	Z-scores	Notes
16	1480	-0,20					
35	1450	-0,30					
39	2000	1,5					
52	1519	-0,071					
53	0,00	-5,0	ND				
59	1500	-0,13					
86	1600	0,19					
100	517	-3,3					
109	2006	1,5					
113	1563	0,071					
116	2181	2,1					

Consensus statistics

Consensus median, pg/g	1541
Median all values pg/g	1519
Consensus mean, pg/g	1438
Standard deviation, pg/g	645
Relative standard deviation, %	45
No. of values reported	11
No. of values removed	0
No. of reported non-detects	1



Appendix 5:

Presentation of results
for lipid determination

Lipid determination for Reindeer

Lab code	% lipid	Notes	Lab code	% lipid	Notes	Lab code	% lipid	Notes
1	37	outlier	109	13				
3	13		112	14				
4	9,6		113	13				
7	12		116	13				
9	14		119	14				
11	14		120	13				
15	14							
16	14							
17	14							
19	19							
22	15							
24	14							
30	13							
31	13							
32	13							
35	14							
38	12							
39	13							
44	13							
47	14							
48	13							
52	14							
53	12							
54	8,3							
56	14							
57	12							
58	4,5	outlier						
62	11							
64	14							
65	24	outlier						
69	13							
70	13							
71	13							
74	14							
75	13							
76	13							
77	12							
79	13							
81	12							
85	15							
86	17							
88	13							
89	15							
93	13							
98	12							
102	16							

Mean	Standard deviation	Relative standard deviation	Median
13	1,6	12	13

Lipid determination for Salmon

Lab code	% lipid	Notes	Lab code	% lipid	Notes	Lab code	% lipid	Notes
1	32	outlier	85	11				
4	8,1		86	11				
6	11		88	10				
7	11		89	7,7				
9	11		92	13				
11	10		93	11				
15	11		95	10				
16	10		98	9,9				
17	10		99	9,2				
18	16		100	11				
19	17		102	12				
20	9,2		106	8,3				
22	11		109	9,7				
24	11		112	10				
25	9,7		113	9,5				
27	10		114	9,6				
30	10		116	10				
31	10		119	10				
32	9,6		120	11				
35	11							
38	9,9							
39	10							
45	10							
46	9,7							
47	11							
48	9,8							
52	11							
53	7,9							
54	8,6							
56	9,6							
57	11							
58	9,0							
59	11							
62	11							
64	11							
69	10							
70	9,3							
71	11							
74	6,5							
75	9,3							
76	8,1							
77	17							
79	7,2							
80	9,1							
81	14							
84	9,5							

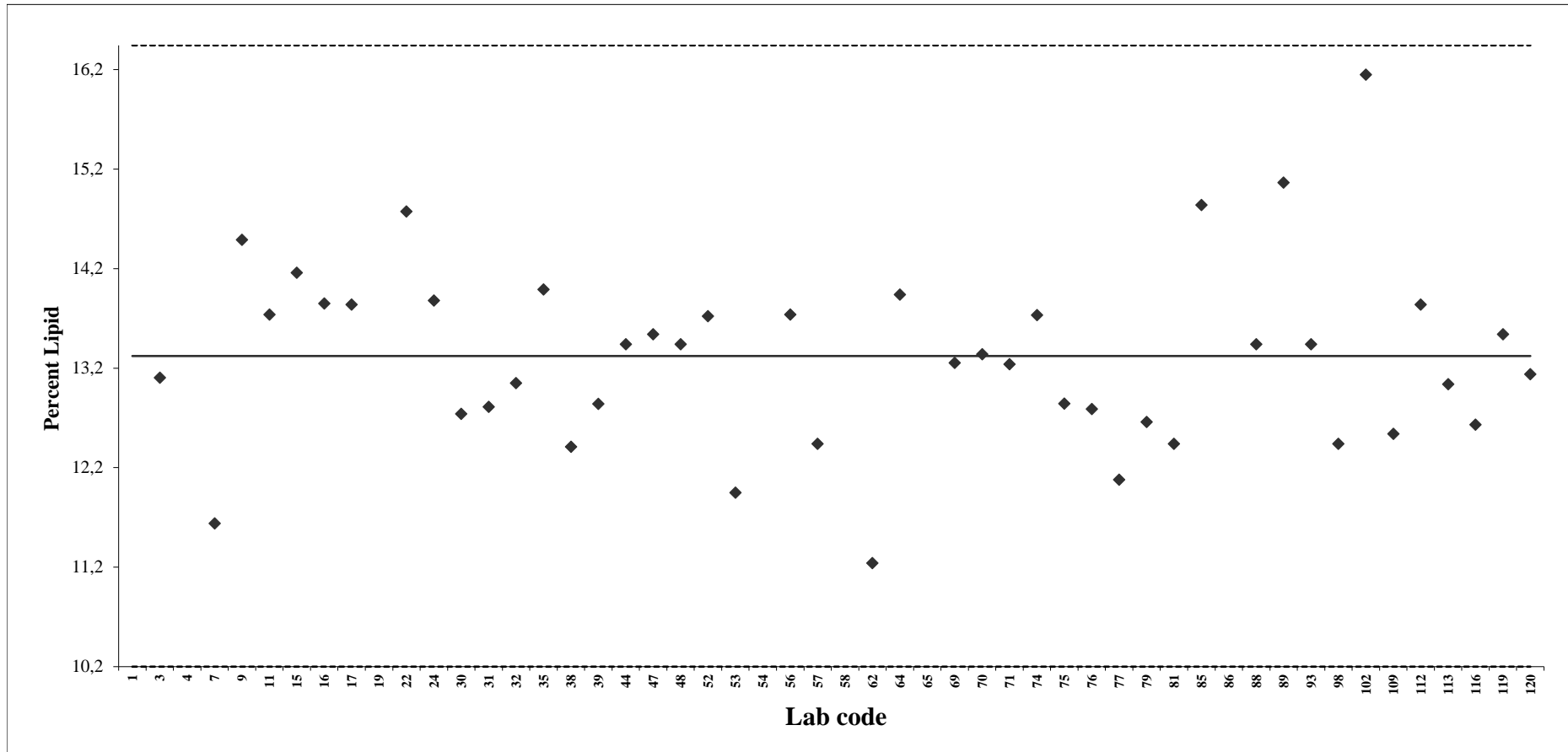
Mean	Standard deviation	Relative standard deviation	Median
10	1,7	16	10

Lipid determination for Fish oil

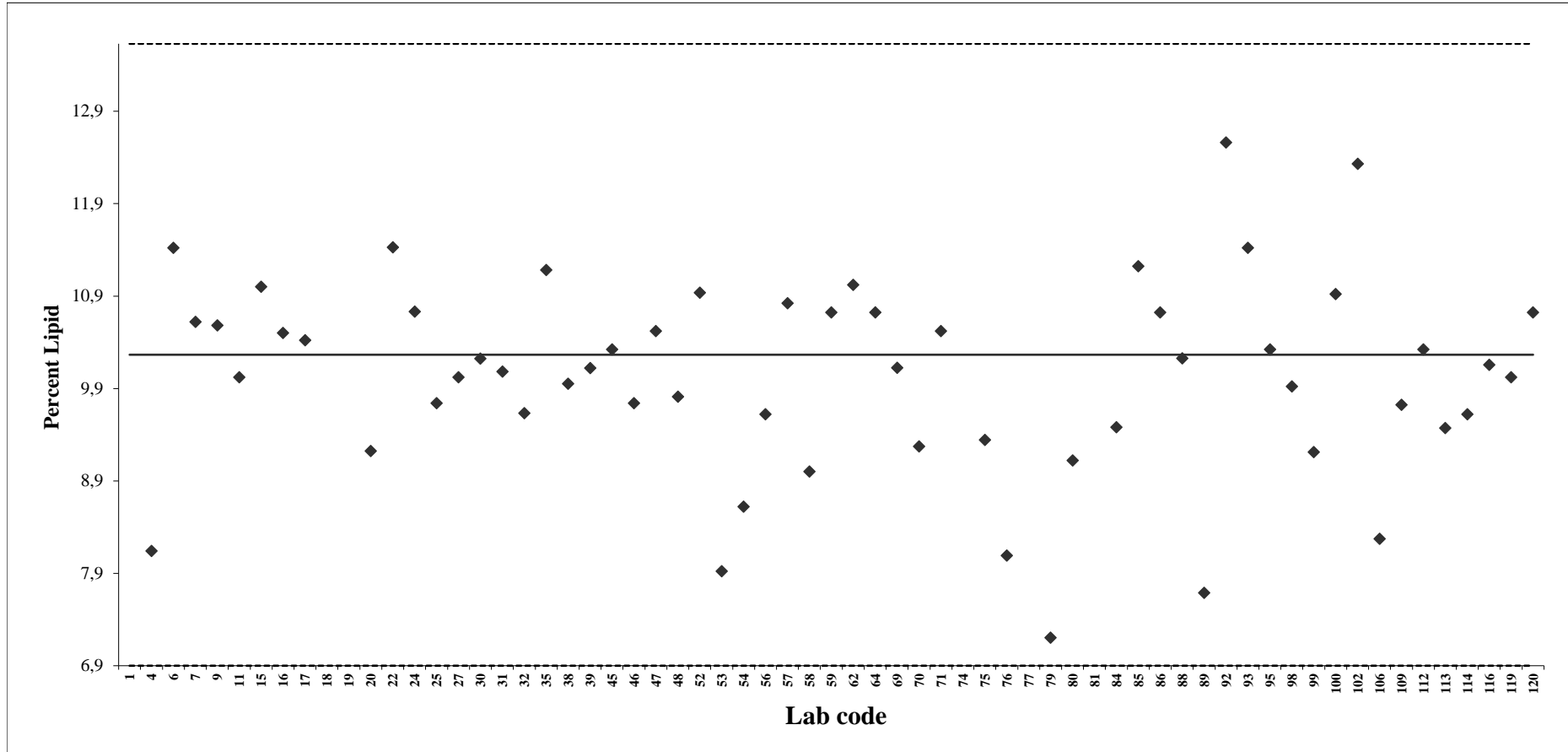
Lab code	% lipid	Notes	Lab code	% lipid	Notes	Lab code	% lipid	Notes
7	100		98	100				
9	100		100	99				
11	100		102	100				
15	100		109	100				
16	97	outlier	112	100				
17	100		113	100				
18	100		115	100				
22	97	outlier	116	99				
24	100		118	100				
30	100		119	100				
31	100		120	100				
32	100							
33	96	outlier						
34	100							
35	100							
38	100							
40	100							
44	100							
46	100							
47	100							
48	100							
52	100							
53	100							
54	100							
56	100							
57	97	outlier						
58	97	outlier						
59	99							
62	100							
64	100							
69	100							
70	100							
71	100							
74	100							
75	99							
76	98							
77	99							
79	100							
81	100							
85	100							
86	100							
88	100							
89	100							
92	100							
95	100							
97	100							

Mean	Standard deviation	Relative standard deviation	Median
100	0,43	0,43	100

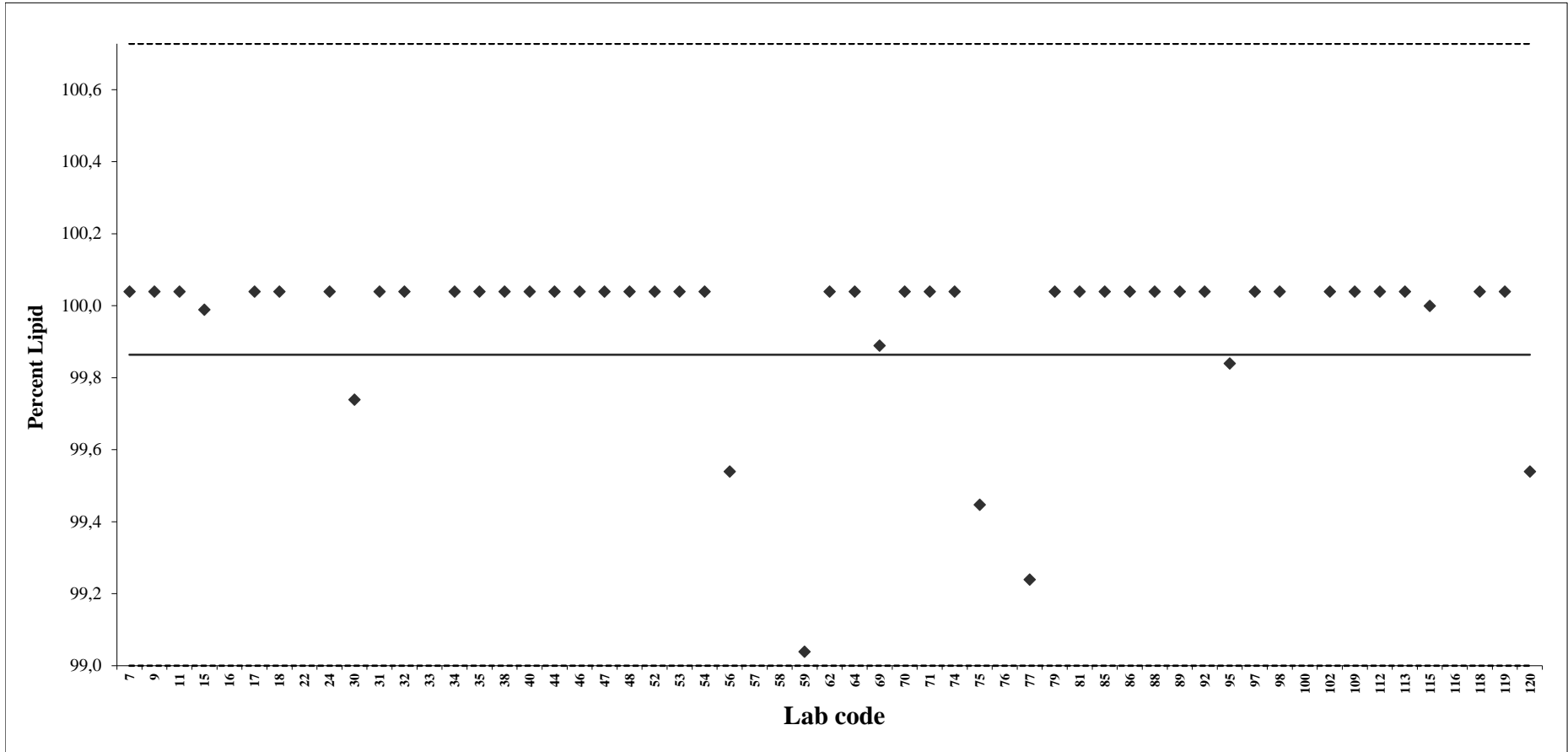
Lipid determination; Reindeer



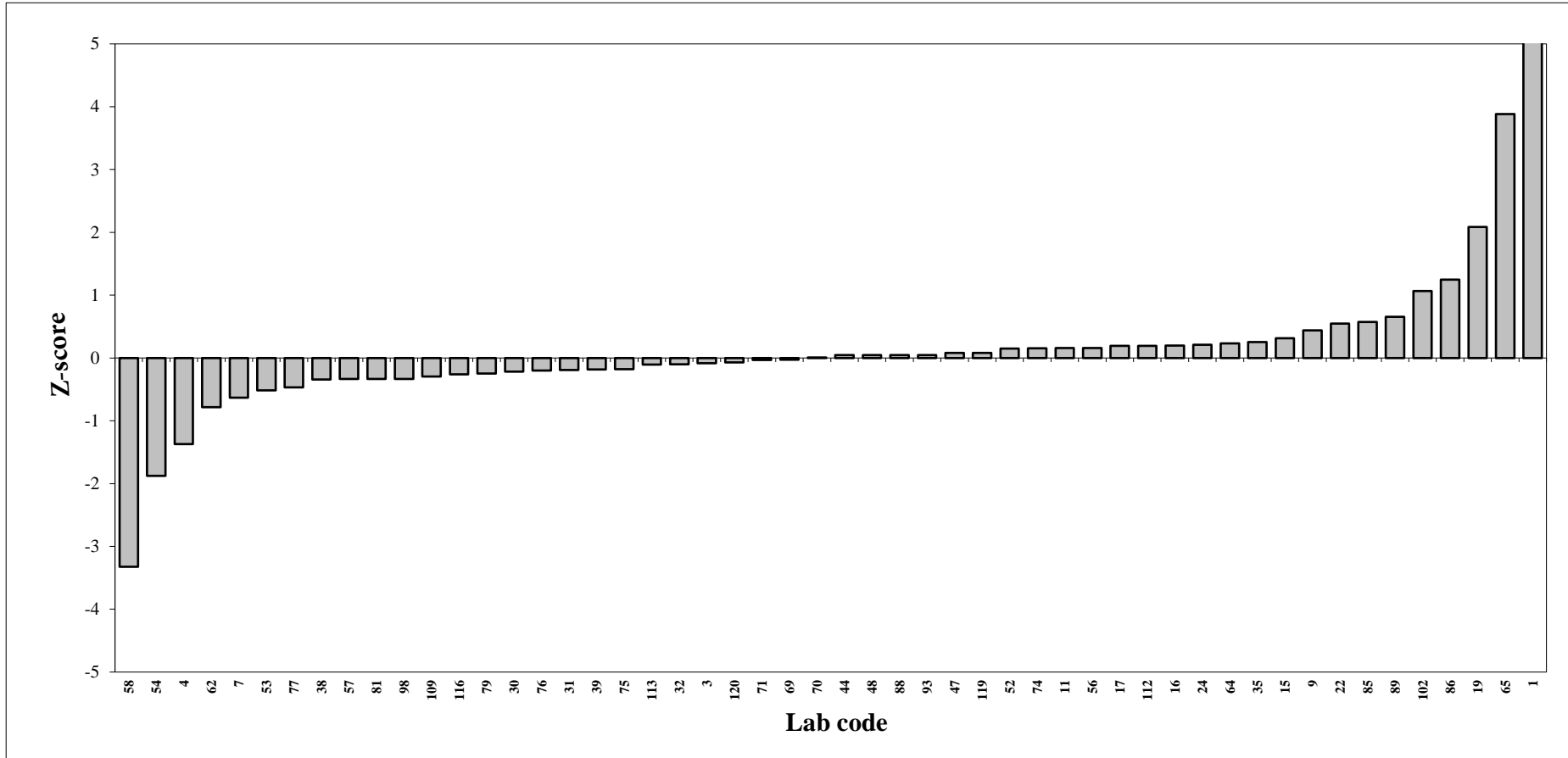
Lipid determination; Salmon



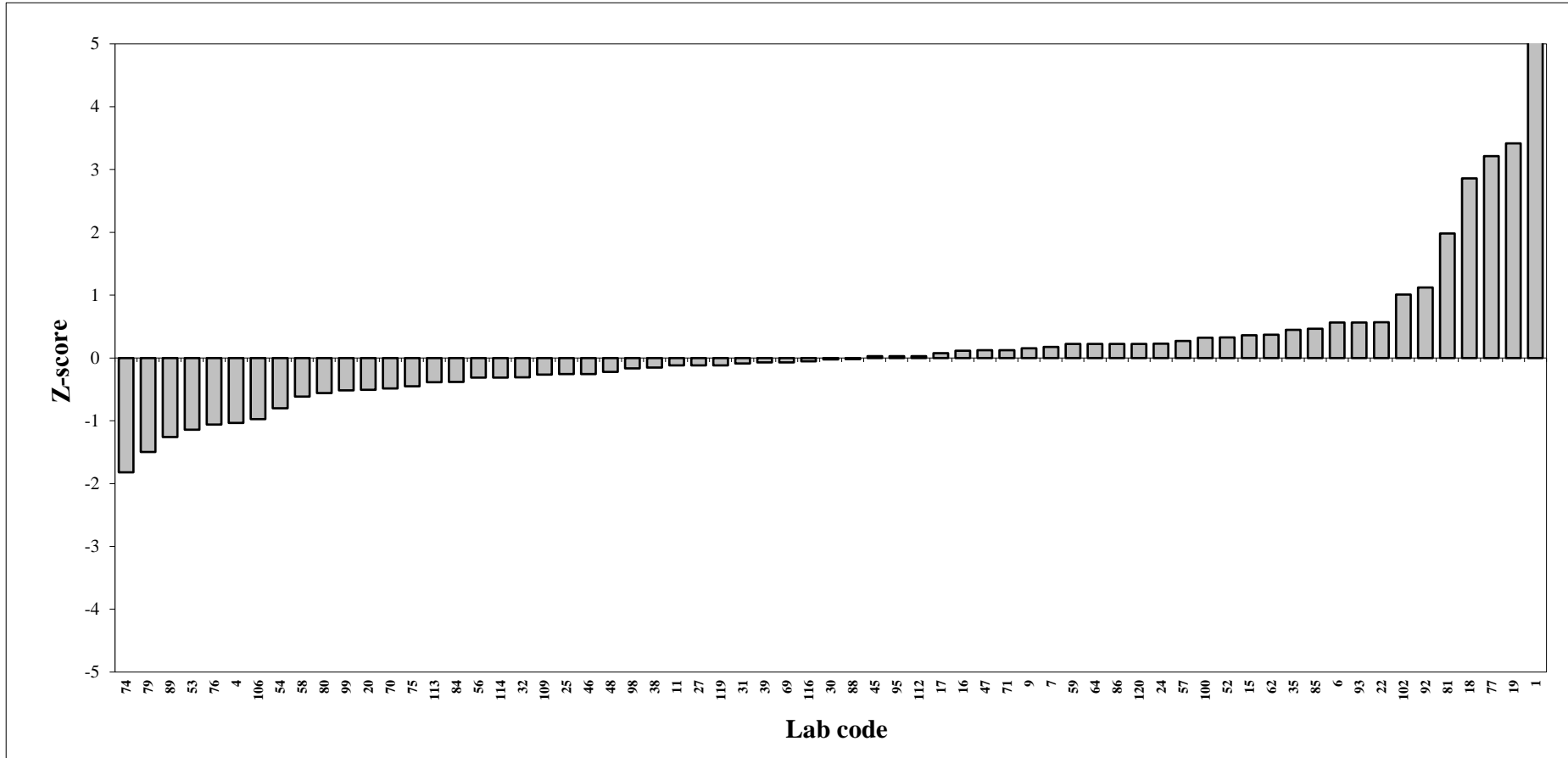
Lipid determination; Fish oil



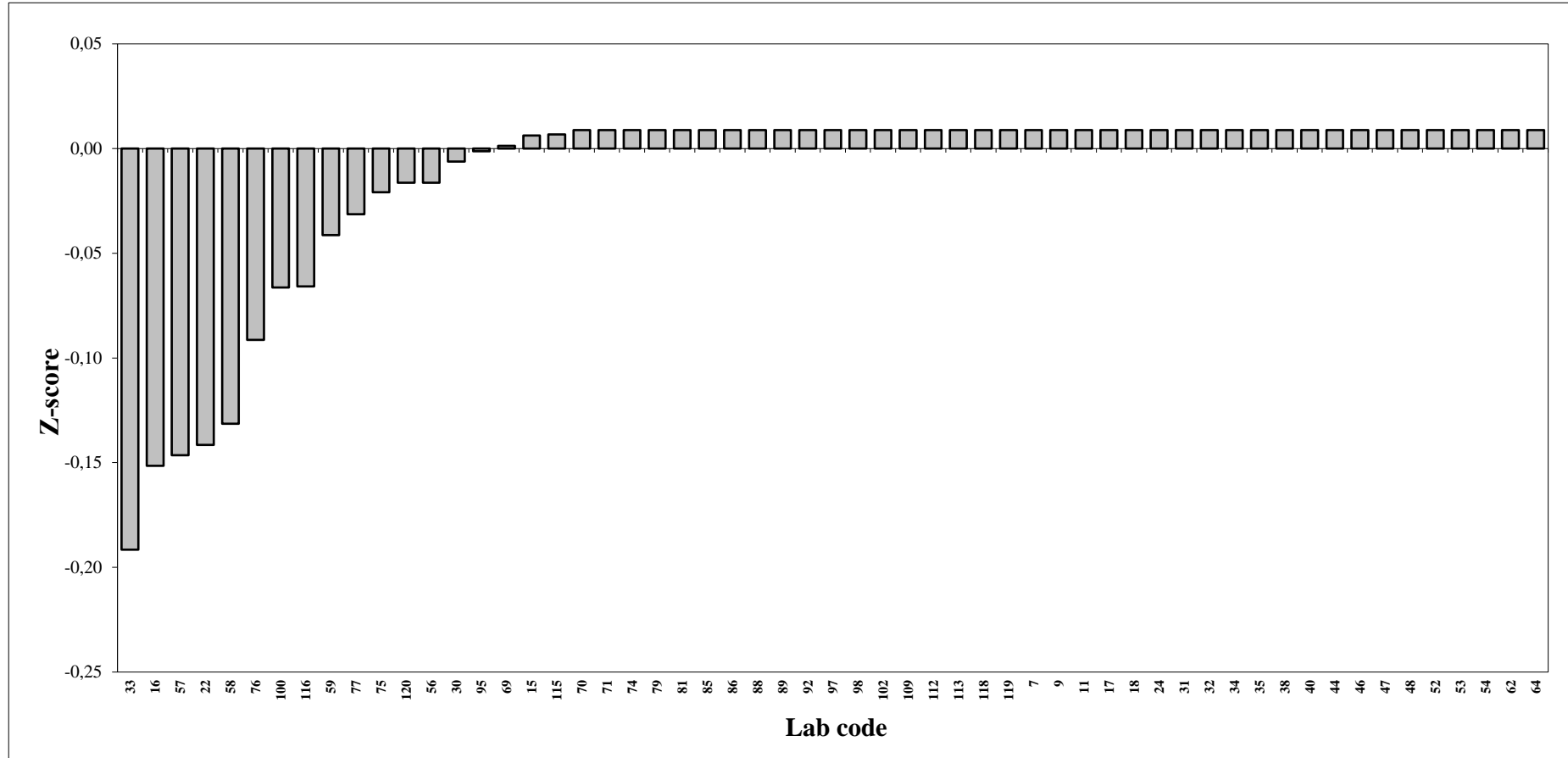
Z-score lipid determination; Reindeer



Z-score lipid determination; Salmon



Z-score lipid determination; Fish oil



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