

**Worldwide open Proficiency Test  
for nuclear and related analytical  
techniques laboratories**

**PTNATIAEA21**

**Determination of major, minor and  
trace elements in a soil sample with  
elevated mass fractions of elements  
and in a plant sample**



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## FOREWORD

The IAEA assists its Member States laboratories to continuously improve their analytical performance by producing reference materials, by developing standardized analytical methods, and by conducting interlaboratory comparisons and proficiency tests. To ensure a reliable worldwide, rapid and consistent response, the IAEA Nuclear Science and Instrumentation Laboratory in Seibersdorf, Austria, coordinates proficiency tests for Member States laboratories.

This summary report presents the results of the worldwide proficiency test PTNATIAEA21 on the determination of major, minor and trace elements in a soil sample with elevated mass fractions of elements and in a plant sample. Methodologies, statistical analysis, and evaluation of results (for each element and for each laboratory) are also reported. The test was carried out within the IAEA project Nuclear Instrumentation, under the Accelerators and Nuclear Spectrometry Subprogram, Nuclear Science Program. The main objective of the project is to enhance capability of interested Member States in effective utilization of nuclear spectrometry and analytical services in agriculture, monitoring an evaluation of the environment and other disciplines.

This proficiency test was designed to identify potential analytical problems, to support IAEA Member States laboratories to improve the quality of their analytical results, to maintain their accreditation and to provide a regular forum for discussion and technology transfer in this topic.

The coordinator of the proficiency test and responsible for this publication was Mr. A. Migliori of the IAEA Nuclear Science and Instrumentation Laboratory, Department of Nuclear Sciences and Applications. The IAEA acknowledges the valuable contribution of the international expert Mr. P. Bode (Netherlands). Acknowledgments go also to Mr. R. Padilla Alvarez of the IAEA Nuclear Science and Instrumentation Laboratory and to Mr. C. M. Alonso Hernandez of the IAEA Marine Environment Laboratories for their support throughout the implementation of the test and to Mr. R. Fernandez Roque (Cuba) for the maintenance and upgrades to the PT-NSIL website.



## 1. INTRODUCTION

The PTNATIAEA21 proficiency test was aimed at nuclear and related analytical techniques laboratories. The participants were requested to use their established and proven analytical procedures for the determination of major, minor and trace elements in a soil sample with elevated mass fractions of elements and in a plant sample.

Soil samples with elevated mass fractions of elements and plant samples with ascertained homogeneity and well characterized known target values of the mass fractions of measurands (e.g., chemical elements) were distributed to the laboratories that accepted the invitation to the test. The laboratories were requested to analyse the samples using established techniques following their analytical procedures. Based on the results of the proficiency test presented in this report, each participating laboratory should assess its analytical performance by using the specified criteria, to identify potential discrepancies, and to correct relevant analytical procedures.

The proficiency test was announced on 24 May 2023. The soil samples with elevated mass fractions of elements and plant samples were distributed to most of the participating laboratories by August 2023. The deadline for submission of the results was initially set to 1 December 2023; the deadline was then postponed to 26 January 2024 because of the delay in the delivery of the test samples to some of the laboratories. The proficiency test was implemented exploiting a web based platform [1] to facilitate and improve the processes and actions required for the organization and functionality of the test for the participants and the coordinator. Detailed instructions for analysts were also available on the website.

The most recent PTNATIAEA tests were already organized according to the recommendations stated in the ISO/IEC 17043:2010 “Conformity assessment – General requirements for proficiency testing” [2]. For what concerns the statistical methods for data treatment, the procedures applied in this test adhere to the recommendations reported in the ISO 13528:2022 “Statistical methods for use in proficiency testing by interlaboratory comparison” [3].

The submitted results were processed, grouped versus measurands/participants and compared with the measurand’s assigned values, that were based on either the values of the mass fractions certified by the external provider of the proficiency test items or the consensus values of the participants’ results (when no assigned value from the external provider was available and the distribution of results justified considering the consensus value as the assigned one). In some cases the determination of consensus values from participants’ results was not feasible.

The values of  $z$ - or  $z'$ -score as well as *zeta*-scores and *R*-scores were calculated on basis of the assigned values. For the definitions of the  $z$ -,  $z'$ -, *zeta*- and *R*-scores please see Section 3.4.

The obtained results as well as the description of the data evaluation procedures are illustrated in this report. Each laboratory was assigned a code, therefore full anonymity of the presented results is guaranteed. The link between the laboratory code and the laboratory name is known only to the organizers of the proficiency test and to the laboratory itself.

## 2. DESCRIPTION OF THE TEST SAMPLE

The test materials were a soil sample with elevated mass fractions of elements and a plant sample prepared and tested by external providers through an independent interlaboratory survey. The powdered, homogenized, and dried materials were distributed to 126 participants in plastic bottles (PPCO with PP screw cap, very good chemical resistance). Due to the limited amount of test materials, XRF laboratories received around 6.5 g of soil sample with elevated mass fractions of elements and 15 g of plant sample, whereas all other laboratories received around 2.5 g of soil sample with elevated mass fractions of elements and 6 g of plant sample. The participants were asked to conduct the determination of the mass fractions of chemical elements constituting the samples according to their routine analytical procedures. They were also instructed to determine the moisture content of the material by using a separate sample and to report the results on a dry-weight basis. Only one result per element could be submitted and each result should have been accompanied by an estimate of its uncertainty expressed as one standard deviation. No restriction on the number of the reported elements was imposed.

## 3. DETAILS OF THE PROFICIENCY TEST

### 3.1. TERMS AND DEFINITIONS OF PARAMETERS USED IN THE TEST

Terminology and symbols are defined by ISO 13528:2022. The most important are reported below, and are, where appropriate, clarified for the PTNATIAEA test.

**assigned value  $x_{pt}$ :** is the value attributed to a particular property of the PTNATIAEA proficiency test item (in the case of this test, the elemental mass fraction). Assigned values  $x_{pt}$  can be obtained by formulation (i.e., by mixing materials with different known levels of a property in specified proportions, or by adding a specified proportion of a substance to a base material), using a certified reference material, as results from one laboratory, as consensus values from expert laboratories or as consensus values from participant results.

In the case of this test, assigned values were available as the ones certified by the external provider of the proficiency test items through an independent interlaboratory survey organized by the external provider itself. When not available, for some elements they could be determined as consensus values of the results of the participants in the PTNATIAEA test, through the application of robust statistic methods (see Section 3.2 for more details).

**standard deviation of the assigned value  $SD$ :** is the standard deviation of the certified property values, as declared by the external provider of the proficiency test items. When not available, it can be determined as standard deviation of the results of the participants in the PTNATIAEA test, through the application of robust statistic methods ( $s^*$ , see below).

**uncertainty of the assigned value  $u(x_{pt})$ :** is the combined standard uncertainty of the assigned value. It is composed of the following contributions:

$$u(x_{pt}) = \sqrt{u_{char}^2 + u_{hom}^2 + u_{trans}^2 + u_{stab}^2} \quad (1)$$



Where  $u_{char}$  is the uncertainty due to characterization,  $u_{hom}$  is related to the homogeneity between items (covering both the between-bottle and within-bottle inhomogeneity),  $u_{trans}$  is due to instability under transport conditions and  $u_{stab}$  is related to the stability of the material in the period during the test.

Typically, the first one,  $u_{char}$ , is obtained from the external provider of the proficiency test items. The value may sometimes already include estimates of the other contributions to the uncertainty of the assigned value, especially  $u_{hom}$  and  $u_{stab}$ . If the external provider has characterized its material on the basis of its independent interlaboratory study, it is assumed that the standard deviation  $SD$  of the certified property values cover  $u_{hom}$ ,  $u_{trans}$  and  $u_{stab}$ . If the property values have been declared as “certified” by the external provider, obtained through such an independent interlaboratory survey,  $u(x_{pt})$  is determined as the standard deviation of the mean, i.e., the standard deviation of the certified property value  $SD$  divided by the square root of the number  $N$  of participants in that interlaboratory survey that were accounted for in establishing the certified value:  $u(x_{pt}) = SD/\sqrt{N}$ .

When certified values are not available from the external provider of the proficiency test items,  $u(x_{pt})$  can be obtained from the results of the participants of the proficiency test, through the application of robust statistic methods (see Section 3.2 for more details). The value of  $u(x_{pt})$  is determined in this case as:

$$u(x_{pt}) = 1.25 \cdot \frac{s^*}{\sqrt{p}} \quad (2)$$

with  $s^*$  = participant standard deviation (see below) and  $p$  = number of results for that element in this test.

**consensus value  $x^*$ :** is the value derived from a collection of results in the PTNATIAEA interlaboratory comparison. It is obtained from robust statistics of the submitted results (see Section 3.2 for more details). It can be used as assigned value for elements that are not certified by the external provider of the proficiency test items.

**participant standard deviation  $s^*$ :** is the estimate of the participant standard deviation derived from a collection of results in the PTNATIAEA interlaboratory comparison. It is obtained from robust statistics of the submitted results (see Section 3.2 for more details).

**standard deviation for proficiency assessment  $\sigma_{pt}$ :** is a measure of dispersion used in the evaluation of results of the PTNATIAEA proficiency testing. In the data treatment of this test, the standard deviation for proficiency assessment  $\sigma_{pt}$  is determined from the assigned values (either available from the external provider of the proficiency test items or obtained as consensus values from the submitted results) using a modified Horwitz function ( $\sigma_R$ ), which is defined [3,4] as (please note that  $x_{pt}$  and  $\sigma_{pt}$  are considered as mass fractions [g/g]):

$$\sigma_{pt} = \sigma_R = \begin{cases} 0.22x_{pt} & \text{when } x_{pt} < 1.2 \cdot 10^{-7} \\ 0.02(x_{pt})^{0.8495} & \text{when } 1.2 \cdot 10^{-7} \leq x_{pt} \leq 0.138 \\ 0.01\sqrt{x_{pt}} & \text{when } x_{pt} > 0.138 \end{cases} \quad (3)$$

The relative value of the standard deviation for proficiency assessment ( $\frac{\sigma_{pt}}{x_{pt}} \cdot 100$ ) as a function of the assigned mass fraction of the measurand,  $x_{pt}$ , is shown in Figure 1.

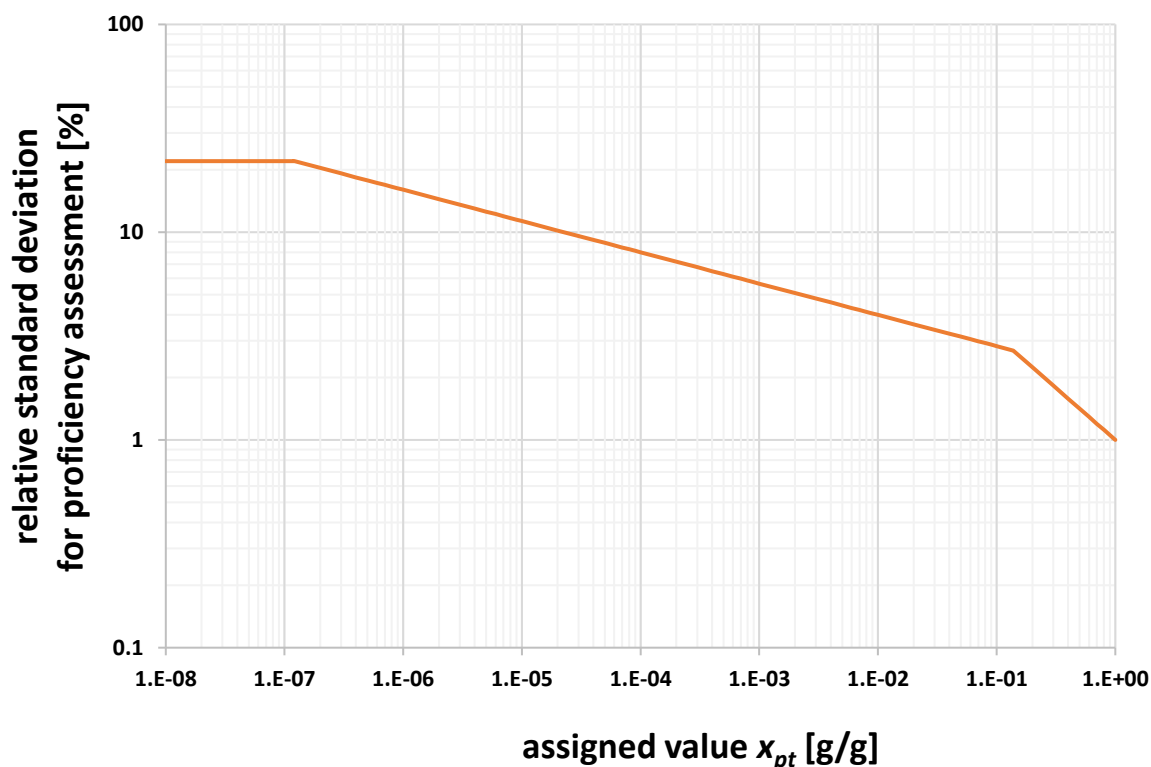


FIG. 1. Relative value of the standard deviation for proficiency assessment, as a function of the assigned mass fraction of the measurand, calculated by using a modified Horwitz function, Eqn. (3).

This approach gives a general model for the reproducibility of analytical methods. The Horwitz model is empirical, based on observations from collaborative trials of many parameters over an extended time period. The  $\sigma_R$  values are the expected upper limits of interlaboratory variability when the collaborative trial had no significant problems. Therefore, a comparison of  $\sigma_R$  with  $s^*$  gives indications about the variability of the results in the test. Furthermore, it is also worth comparing  $\sigma_R$  with the standard deviation of the distributions obtained by the external provider of the proficiency test items from its independent interlaboratory survey. Preferably, this standard deviation of the distribution should be of the same order of magnitude as  $\sigma_R$ .

### 3.2. ROBUST STATISTICS

No limits were set to the number of measurands (chemical element) to be reported. Participants were asked to report only one measurement value for each measurand, also if they have made measurements in replicates.

After receiving the results from the participants, the median of the distribution was determined for every element. Those results that differed more than an order of magnitude from the median were considered as “blunder outliers” (later on, “blunders”) and were not further considered in the application of robust statistics.

For those elements having 5 or more reported valid (i.e., “no-blunder”) results, the consensus values  $x^*$  and the participant standard deviations  $s^*$  were determined using the Algorithm A approach of the ISO 13528:2022, described below.

The results submitted (total number  $p \geq 5$ ) are sorted into increasing order:

$$x_1, x_2, \dots, x_p$$

the initial values of robust average and robust standard deviation of these data are denoted by  $x_I^*$  and  $s_I^*$ , respectively. They are determined from the set of  $p$  values as:

$$x_I^* = \text{median}$$

$$s_I^* = 1.483 \cdot \text{MAD} = \text{MADe}$$

where  $\text{MAD}$  is the median absolute deviation and  $\text{MADe}$  the scaled median absolute deviation. The following quantity is then defined:

$$\delta_I = 1.5 \cdot s_I^* \quad (4)$$

Each  $x_i$  is replaced by  $x'_i$  according to the rules below:

$$x'_i = \begin{cases} x_I^* - \delta_I & \text{when } x_i < x_I^* - \delta_I \\ x_I^* + \delta_I & \text{when } x_i > x_I^* + \delta_I \\ x_i & \text{otherwise} \end{cases} \quad (5)$$

The new values of robust average and robust standard deviation are denoted by  $x_{II}^*$  and  $s_{II}^*$ , respectively, and are determined as:

$$x_{II}^* = \frac{\sum_{i=1}^p x'_i}{p} \quad (6)$$

$$s_{II}^* = 1.134 \sqrt{\frac{\sum_{i=1}^p (x'_i - x_{II}^*)^2}{(p-1)}} \quad (7)$$

The final robust estimates are then derived by an iterative calculation, i.e., by updating the values of  $x^*$  and  $s^*$  several times using equations (4) to (7) until the process converges. Convergence is assumed when there is no change from one iteration to the next in the third significant figures of the robust mean and robust standard deviation. Those two quantities are finally considered as consensus value ( $x^*$ ) and participant standard deviation ( $s^*$ ) of the distribution.

The consensus value  $x^*$  and participant standard deviation  $s^*$  have not been determined if the number of valid submitted results was less than 5. It should be noted that, in case of assigned values based on certified values by the external provider, the  $z$ -,  $z'$ -,  $\zeta$ - and  $R$ -scores were calculated for any number of results.

For elements without an assigned value from the external provider and for which the total number of submitted results – after blunders removal – was equal or above 5, the consensus values from the submitted results was considered as assigned value in case the distribution of results was not too broad. The latter condition was defined by a more objective method to assess such cases: the standard deviation of the distribution  $s^*$  was compared with the value  $0.3 \cdot x^*$  and if  $s^* \geq 0.3 \cdot x^*$ , the consensus value was not considered as assigned value [5]. In such cases the results from the test were considered inconclusive. As stated above in Section 3.3, outliers were not calculated for these elements, whereas blunders were determined.

### 3.3. DETERMINATION OF OUTLIERS

As stated in the previous Section, blunders are those values that differ more than an order of magnitude from the median of the submitted results and are not further considered in the application of robust statistics.

Assigned values are the ones determined by the external provider of the proficiency test items or, when not available, those obtained through robust statistic methods as consensus values of the results of the participants (when the number of valid submitted results is at least 5), as described in Sections 3.1 and 3.2. Outliers are defined as the values that differ more than 4.5 standard deviations from the assigned value. This means that for assigned values determined by the external provider of the proficiency test items, the standard deviation  $SD$  is the one declared by the external provider itself, so  $(x_i)_{outlier-} < x_{pt} - 4.5 \cdot SD$  and  $(x_i)_{outlier+} > x_{pt} + 4.5 \cdot SD$ . For assigned values obtained through robust statistic methods as consensus values of the results of the participants, the value  $s^*$  is considered:  $(x_i)_{outlier-} < x_{pt} - 4.5 \cdot s^*$  and  $(x_i)_{outlier+} > x_{pt} + 4.5 \cdot s^*$ .

Please note that outliers, differently from the blunders, are taken into account for the determination of  $x^*$  and  $s^*$  through robust statistics. Since removal of blunders may still lead to a multi-modal distribution of the remaining results of some elements, also the values of  $x^*$  and  $s^*$  after outlier removal are shown for every element, in order to get indications on how deeply outliers affect the results of robust statistics (see Table 3).

Outliers were not calculated for those elements having at least 5 valid results and for which the assigned values were neither determined by the external provider of the proficiency test items nor calculated from the submitted results (see Section 4). In such cases, only blunders were determined.

### 3.4. PERFORMANCE INDICATORS

All reported mass fractions of measurands (including those identified as blunders and outliers) were compared with the assigned values by using different performance indicators.

In case  $u(x_{pt}) \leq 0.3\sigma_{pt}$ , for every result a z-score was calculated, defined as:

$$z_i = \frac{(x_i - x_{pt})}{\sigma_{pt}} \quad (8)$$

in which the term  $x_i$  denotes the reported mass fraction of the measurand.

If  $u(x_{pt}) > 0.3\sigma_{pt}$ , for every result a  $z'$ -score was calculated, defined as:

$$z'_i = \frac{(x_i - x_{pt})}{\sqrt{\sigma_{pt}^2 + u^2(x_{pt})}} \quad (9)$$

The conventional interpretation of  $z$ - or  $z'$ -scores is as follows (see also ISO/IEC 17043:2010, B.4.1.1):

- $|z, z'| \leq 2$       the result is considered acceptable
- $2 < |z, z'| < 3$     the result is considered to give a warning signal
- $|z, z'| \geq 3$       the result is considered unacceptable (or to give an action signal)

Generally speaking, any  $z$ - or  $z'$ -score for an element outside the range  $|z, z'| \leq 2$  should be examined by the analyst and all steps of the analytical procedure verified to identify the source(s) of the analytical bias.

The reported results were accompanied by the standard uncertainty estimate made by the participant. The values were used to calculate the *zeta*-scores:

$$\zeta_i = \frac{x_i - x_{pt}}{\sqrt{u^2(x_i) + u^2(x_{pt})}} \quad (10)$$

Where  $u(x_i)$  is the participant's own estimate of the standard uncertainty of its result  $x_i$ . Please note that this definition differs from the one of  $u$ -scores, as for *zeta*-scores  $u(x_{pt})$  replaces  $\sigma_{pt}$ . In principle, the same interpretation as described in the above for the  $z$ - and  $z'$ -scores may be applied to *zeta*-scores.

In order to provide a performance indicator having an easier and more intuitive interpretation than  $z$ - and  $z'$ -scores, the values of the ratios  $R_i$  are also reported:

$$R_i = \frac{x_i}{x_{pt}} \quad (11)$$

Although this parameter is not defined and included in the ISO 13528:2022, its values can provide to the participant an additional feedback on the data submitted.

## 4. RESULTS

The invitation to participate to the proficiency test PTNATIAEA21 was accepted by 126 laboratories, out of the which, 98 (from 57 Member States) participated in the test by submitting in total 2259 and 1230 individual results for 69 and 55 chemical elements for the soil sample with elevated mass fractions of elements and the plant sample, respectively. All submitted results have been evaluated. The list of the participating laboratories is presented at the end of this report.

When uploading their results, participants were asked first to select which technique was used for sample preparation and analysis from a list of options. In principle, a participant could submit results obtained with different techniques for different elements. The analytical techniques used by the participants, their codes and abbreviations and corresponding number of results are listed in Table 1.

Figures 2 and 3 show the proportion of results submitted according to the analytical techniques used for the soil sample with elevated mass fractions of elements and the plant sample, respectively. Most of the analyses were carried out either by Neutron Activation Analysis (about 45.6% and 42.8%, reddish shades) or by X-Ray Fluorescence spectrometry (about 35.6% and 35.4%, bluish shades). Particle Induced X-ray Emission (together with Particle Induced Gamma-ray Emission) results account for 4.4% and 4.5% of the total number of results (yellowish shades), Atomic Absorption Spectrometry techniques for 2.4% and 3.2% (greenish shades) and Inductively Coupled Plasma Spectrometry techniques for 11.4% and 13.7% (brownish shades).

TABLE 1. THE CODING, DESCRIPTION AND THE ABBREVIATED NAMES OF THE ANALYTICAL TECHNIQUES USED BY PARTICIPANTS OF THE PROFICIENCY TEST AND THEIR CORRESPONDING NUMBER OF RESULTS.

Code	Description	Abbreviation	Soil sample with elevated mass fractions of elements					Plant sample				
			Results	Blunders	Percent	Outliers	Percent	Results	Blunders	Percent	Outliers	Percent
1.1	EDXRF, radioisotope excitation	EDXRF-ISO	29	-	-	-	-	12	-	-	3	25
1.13	EDXRF, radioisotope excitation, <sup>109</sup> Cd	EDXRFISO-CD	13	-	-	1	7.7	-	-	-	-	-
1.16	EDXRF, radioisotope excitation and sec. targets	EDXRFISO-ST	41	1	2.4	6	14.6	-	-	-	-	-
1.2	EDXRF, X-ray tube excitation	EDXRFTUBE	106	7	6.6	3	2.8	45	2	4.44	10	22.22
1.21	EDXRF, X-ray tube direct excitation	EDXRFTUBE-DIRECT	29	6	20.7	-	-	29	8	27.59	9	31.03
1.22	EDXRF, X-ray tube and filter	EDXRFTUBE-FILTERS	142	18	12.7	6	4.2	73	19	26.03	21	28.77
1.23	EDXRF, X-ray tube and secondary targets	EDXRFTUBE-ST	104	-	-	-	-	68	3	4.41	16	23.53
1.24	Milli-XRF, x-ray tube and pin-hole collimator	m-XRF	22	-	-	1	4.5	9	-	-	3	33.33
1.3	Total reflection X-ray fluorescence	TXRF	24	22	91.7	-	-	54	18	33.33	8	14.81
1.32	TXRF with monochromator	TXRF-MON	32	-	-	-	-	25	1	4	8	32
1.4	EDXR, Synchrotron beam	SXRF	19	-	-	-	-	9	-	-	1	11.11
1.51	Micro-XRF, x-ray tube and focusing lense	uXRF-LNS	15	-	-	-	-	15	2	13.33	4	26.67
2.0	Wavelength dispersive X-ray fluorescence	WDXRF	229	1	0.4	11	4.8	96	12	12.5	24	25
4.1	PIXE, external beam	PIXE-EXT	25	-	-	-	-	12	-	-	2	16.67
4.2	PIXE, vacuum chamber	PIXE-VAC	21	-	-	1	4.8	14	-	-	5	35.71
4.32	Micro-PIXE, vacuum chamber	uPIXE-VAC	52	2	3.8	8	15.4	28	10	35.71	6	21.43
4.4	Particle Induced Gamma Emission	PIGE	2	-	-	-	-	1	-	-	-	-

Code	Description	Abbreviation	Soil sample with elevated mass fractions of elements				Plant sample					
			Results	Blunders	Percent	Outliers	Percent	Results	Blunders	Percent	Outliers	Percent
5.1	K0 Neutron Activation Analysis	K0 NAA	495	1	0.2	2	0.4	217	1	0.46	26	11.98
5.2	NAA using comparators or RMs for calibration	CNAA	527	7	1.3	5	0.9	305	11	3.61	37	12.13
5.4	Prompt Gamma Ray Activation Analysis	PGAA	7	-	-	-	-	4	-	-	1	25
6.1	Flame AAS	FAAS	41	1	2.4	1	2.4	32	4	12.5	13	40.63
6.2	Graphite furnace- AAS	GFAAS	11	-	-	-	-	7	1	14.29	-	-
6.3	Hydride generation AAS	HGAAS	1	-	-	-	-	-	-	-	-	-
6.4	Cold vapor AAS	CVAAS	1	-	-	-	-	-	-	-	-	-
7.1	ICP - optical emission spectrometry	ICP-OES	79	15	19.0	1	1.3	58	18	31.03	11	18.97
7.2	Inductively Coupled Plasma Mass Spectrometry	ICP-MS	178	1	0.6	3	1.7	111	4	3.6	17	15.32
10.0	Other analytical technique	OTHER	14	-	-	-	-	6	1	16.67	-	-



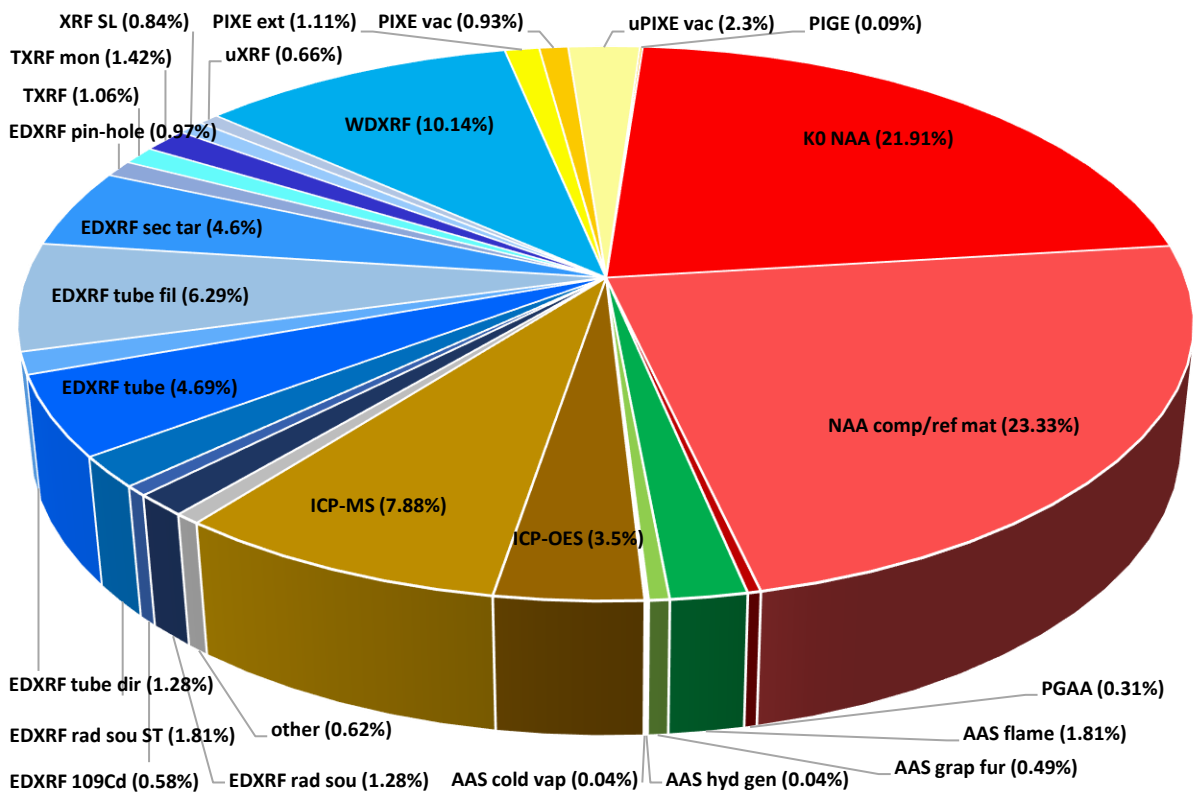


FIG. 2. Utilization of analytical techniques for the soil sample with elevated mass fractions of elements. For each analytical technique the number of submitted results is shown. The percent values relate to the total number of 2259 submitted results.

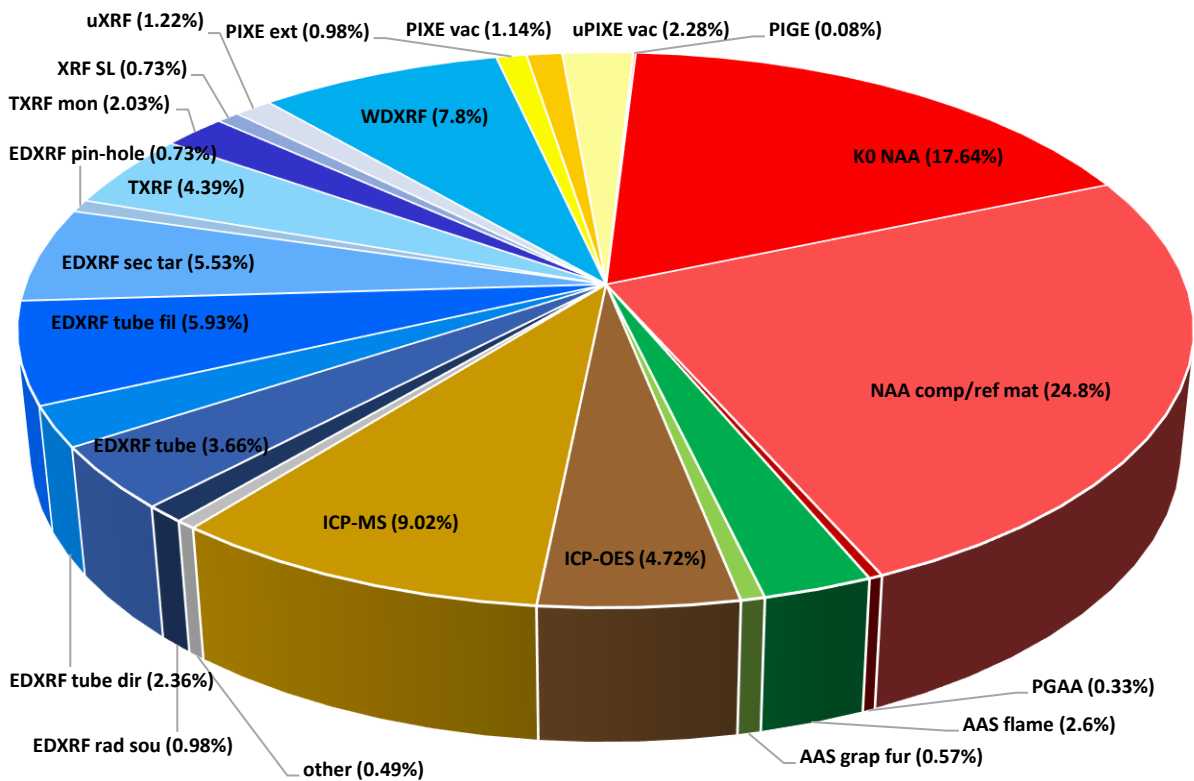


FIG. 3. Utilization of analytical techniques for the plant sample. For each analytical technique the number of submitted results is shown. The percent values relate to the total number of 1230 submitted results.

For the soil sample with elevated mass fractions of elements, the producer of the material provided a certified value of the mass fraction for 22 elements. However, inconsistencies were detected in the certificate of the material, mainly for what concerns the metrological traceability and the methods used for determining the certified values. We could therefore not use these values as assigned values for this proficiency test. Instead, the consensus values based on data submitted from all participants of this exercise, taking into account the statistical criteria as described in Section 3.2 of this report, were considered as assigned values. For 31 elements, out of the 69 reported by the participants, the consensus value was considered as assigned and the relative values are reported in italic type in the tables.

For the plant samples, assigned (“certified”) values by the external provider of the proficiency test items were available for 8 of the 55 elements reported by the participants. In addition, the external provider made available indicative values for 16 elements, which were not considered as assigned values for the test and are reported in brackets in Tables 2b and 3b. For 12 elements, the consensus value could be considered as assigned value. These elements are reported in italic type in the tables.

For both samples, if the distribution of results was too broad, according to the rule mentioned in Section 3.2, the assigned value could not be determined from the consensus value with a sufficient level of confidence. Nevertheless, for all elements having at least 5 valid results, the consensus value of all results as well as the ones obtained separately by all XRF laboratories and all NAA laboratories are shown individually (Tables 3a and 3b), allowing for a self-assessment of performance.

All the data submitted by the participants and those obtained from the external provider of the plant sample are reported with the original number of significant digits. Data calculated by our system ( $x^*$ ,  $s^*$ ,  $u(x_{pt})$ ,  $\sigma_{pt}$ ) were processed keeping significant digits up to the third one after the decimal point, but, for reporting in the tables, were subsequently rounded to the greatest decimal unit (...10, 1, 0.1, 0.01...) which doesn't exceed half of the value of the corresponding uncertainty (for  $x^*$  the value  $1.25 \cdot s^* / \sqrt{p}$  was used) [6]. The values of  $z$ ,  $z'$ ,  $zeta$  were processed keeping significant digits up to the third one after the decimal point, but in the tables are shown up to the first digit after the decimal point. The same approach was used for the  $R$ -scores, but these were finally reported in the tables up to the second digit after the decimal point. The performance indicators could therefore be very slightly affected when calculated using the rounded data reported in the tables.

For every element the following parameters are reported in Tables 2a and 2b for the soil sample with elevated mass fractions of elements and the plant sample, respectively:

- Certified property value from the external provider of the proficiency test items. In this column also the indicative values from the external provider are reported in brackets (only for the plant sample)
- Standard deviation  $SD$  from the external provider (only for the plant sample)
- Consensus value  $x^*$
- Participant standard deviation  $s^*$
- Assigned value  $x_{pt}$ . This is the certified property value from external provider or the consensus values  $x^*$  of the submitted results, when the distribution of data is good enough to

justify the procedure (see Section 3.2). When  $x^*$  was considered as  $x_{pt}$ , the data are reported in italic type

- Uncertainty of the assigned value  $u(x_{pt})$
- Standard deviation for proficiency assessment  $\sigma_{pt}$
- Number of results
- Number of blunders
- Number of outliers

Please note that the values used for the determination of the performance indicator (equations (8), (9) and (10)) are  $x_{pt}$ ,  $\sigma_{pt}$  and  $u(x_{pt})$ .

Tables 3a and 3b (soil sample with elevated mass fractions of elements and plant sample, respectively) show for every element the consensus value  $x^*$  and the participant standard deviation  $s^*$ , as obtained (after removal of blunders) from the whole set of results, after removing the outliers and similarly for XRF results only and for NAA results only. The values of  $x^*$  have been rounded to the correspondent value of uncertainty, determined as  $1.25 \cdot s^* / \sqrt{p}$ .

TABLE 2a. CONSENSUS VALUES, PROFICIENCY TEST PARAMETERS, TOTAL NUMBER OF RESULTS, NUMBER OF BLUNDERS AND NUMBER OF OUTLIERS FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Measurand symbol	Value from external provider	SD from external provider	$x^*$	$s^*$	$x_{pt}$	$u(x_{pt})$	$\sigma_{pt}$	Number of results	Number of blunders	Number of outliers
[%]										
Si	-	-	25.4	8	-	-	-	37	4	0
[mg/kg]										
Ag	-	-	23.4	4	23.4	0.7	2	37	0	1
Al	-	-	86000	20000	86000	4000	2000	64	3	1
As	-	-	277	50	277	8	19	70	1	3
Au	-	-	-	-	-	-	-	1	0	0
B	-	-	-	-	-	-	-	1	0	0
Ba	-	-	860	130	860	20	50	55	2	2
Be	-	-	-	-	-	-	-	3	0	0
Bi	-	-	1.0	1.1	-	-	-	6	1	0
Br	-	-	2.7	1.9	-	-	-	28	1	0
Ca	-	-	7000	2000	-	-	-	69	5	0
Cd	-	-	328	60	328	12	20	48	2	2
Ce	-	-	66	10	66	2	6	41	1	1
Cl	-	-	14400	7000	-	-	-	36	0	0
Co	-	-	290	40	290	7	20	63	1	7
Cr	-	-	257	80	-	-	-	77	1	0
Cs	-	-	2.97	0.4	2.97	0.08	0.4	34	0	2
Cu	-	-	281	80	281	14	19	61	4	1
Dy	-	-	3.94	0.6	3.94	0.18	0.5	17	0	0
Er	-	-	-	-	-	-	-	2	0	0
Fe	-	-	14900	4000	14900	500	600	87	5	2
Ga	-	-	18	9	-	-	-	26	1	0
Gd	-	-	3.7	1.4	-	-	-	8	1	0
Hf	-	-	6.20	0.7	6.20	0.15	0.8	30	0	1
Hg	-	-	12.8	5	-	-	-	24	1	0
I	-	-	-	-	-	-	-	2	0	0
K	-	-	6000	1800	-	-	-	72	4	0
La	-	-	39.4	4	39.4	0.8	4	43	0	5
Li	-	-	-	-	-	-	-	4	0	0
Mg	-	-	4400	2000	-	-	-	49	2	0
Mn	-	-	730	300	-	-	-	74	3	0
Mo	-	-	109	40	-	-	-	37	1	0
N	-	-	-	-	-	-	-	1	0	0

Measurand symbol	Value from external provider	SD from external provider	$x^*$	$s^*$	$x_{pt}$	$u(x_{pt})$	$\sigma_{pt}$	Number of results	Number of bunders	Number of outliers
Na	-	-	2230	500	2230	90	110	53	2	3
Nb	-	-	17	9	-	-	-	15	0	0
Nd	-	-	28.1	5	28.1	1.1	3	31	0	0
Ni	-	-	192	70	-	-	-	52	3	0
P	-	-	640	300	-	-	-	24	3	0
Pb	-	-	127	50	-	-	-	51	3	0
Pr	-	-	-	-	-	-	-	1	0	0
Rb	-	-	16.4	5	-	-	-	45	1	0
S	-	-	340	200	-	-	-	15	1	0
Sb	-	-	104	15	104	3	8	50	1	4
Sc	-	-	10.7	1.1	10.7	0.2	1.2	41	0	3
Se	-	-	63	14	63	3	5	48	3	3
Sm	-	-	5.01	0.5	5.01	0.12	0.6	33	1	2
Sn	-	-	170	70	-	-	-	16	0	0
Sr	-	-	365	90	365	15	20	56	3	0
Te	-	-	-	-	-	-	-	1	0	0
Th	-	-	11.3	2	11.3	0.4	1.3	42	0	0
Ti	-	-	5900	2000	-	-	-	64	3	0
Tl	-	-	89	20	89	8	7	20	5	0
U	-	-	3.54	0.8	3.54	0.17	0.5	35	1	0
V	-	-	185	50	185	8	13	52	1	1
W	-	-	4.6	1.0	4.6	0.3	0.6	18	0	0
Y	-	-	22	9	-	-	-	17	0	0
Yb	-	-	1.92	0.5	1.92	0.12	0.3	32	0	0
Zn	-	-	620	140	620	20	40	84	4	2
Zr	-	-	253	90	-	-	-	39	1	0
					[ug/kg]					
Eu	-	-	1040	180	1040	40	170	37	2	1
Ge	-	-	-	-	-	-	-	4	0	0
Ho	-	-	1000	600	-	-	-	5	0	0
In	-	-	-	-	-	-	-	3	0	0
Lu	-	-	320	90	320	30	60	17	0	0
Pt	-	-	-	-	-	-	-	1	0	0
Re	-	-	-	-	-	-	-	1	0	0
Ta	-	-	1000	170	1000	40	160	26	0	0
Tb	-	-	660	80	660	20	110	20	0	2
Tm	-	-	-	-	-	-	-	3	0	0

TABLE 2b. CERTIFIED (PROVIDER) VALUES OF MEASURANDS, CONSENSUS VALUES, PROFICIENCY TEST PARAMETERS, TOTAL NUMBER OF RESULTS, NUMBER OF BLUNDERS AND NUMBER OF OUTLIERS FOR THE PLANT SAMPLE.

Measurand symbol	Value from external provider	SD from external provider	$x^*$	$s^*$	$x_{pt}$	$u(x_{pt})$	$\sigma_{pt}$	Number of results	Number of blunders	Number of outliers
[%]										
C	(45.2)	-	-	-	-	-	-	1	0	0
Ca	0.64	0.005	0.612	0.10	0.64	0.001	0.03	72	4	49
K	3.38	0.04	3.14	0.4	3.38	0.013	0.11	73	5	44
N	3.72	0.025	-	-	3.72	0.009	0.12	1	0	0
[mg/kg]										
Al	(112)	-	126	60	-	-	-	42	7	0
B	-	-	-	-	-	-	-	3	0	0
Cl	-	-	10100	2000	10100	500	400	44	5	0
Cu	(10)	-	10.9	3	-	-	-	45	6	0
Fe	(114)	-	123	20	123	3	10	74	8	4
I	0.167	0.012	-	-	0.167	0.005	0.04	1	0	0
Mg	1450	20	1610	500	1450	7	80	48	1	35
Mn	(72)	-	76.7	12	76.7	1.7	6	73	5	3
Na	(3490)	-	3560	600	3560	100	170	54	3	4
P	2360	35	2490	500	2360	12	120	29	4	17
S	3160	20	3100	1000	3160	7	150	28	5	21
Si	(2221)	-	2300	900	-	-	-	17	4	0
Zn	32.1	0.85	29.7	5	32.1	0.3	3	73	4	33
Zr	-	-	-	-	-	-	-	2	0	0
[ug/kg]										
Ag	-	-	-	-	-	-	-	2	0	0
As	-	-	380	400	-	-	-	8	1	0
Ba	-	-	11100	2000	11100	500	1200	30	2	2
Bi	-	-	-	-	-	-	-	1	0	0
Br	(10100)	-	115000	15000	115000	3000	9000	58	8	2
Cd	-	-	150	150	-	-	-	9	2	0
Ce	-	-	200	100	-	-	-	14	0	0
Co	(121)	-	99	30	99	6	20	33	4	3
Cr	(2500)	-	2900	1200	-	-	-	45	5	0
Cs	-	-	82	9	82	2	18	25	1	2
Dy	-	-	-	-	-	-	-	1	0	0
Eu	-	-	-	-	-	-	-	5	1	0
Ga	-	-	-	-	-	-	-	3	0	0

Measurand symbol	Value from external provider	SD from external provider	$x^*$	$s^*$	$x_{pt}$	$u(x_{pt})$	$\sigma_{pt}$	Number of results	Number of bunders	Number of outliers
Hf	-	-	-	-	-	-	-	3	0	0
Hg	-	-	46	20	-	-	-	14	1	0
La	-	-	140	80	-	-	-	16	1	0
Li	-	-	-	-	-	-	-	1	0	0
Mo	(1000)	-	1010	500	-	-	-	15	0	0
Nb	-	-	-	-	-	-	-	1	0	0
Nd	-	-	-	-	-	-	-	1	0	0
Ni	-	-	4700	1800	-	-	-	30	4	0
Pb	-	-	2500	2000	-	-	-	16	4	0
Rb	(50000)	-	41900	5000	41900	900	4000	56	3	2
Sb	-	-	40	13	-	-	-	21	2	0
Sc	(17)	-	20.1	4	20.1	1.0	4	31	3	1
Se	(25)	-	-	-	-	-	-	5	1	0
Sm	-	-	11.9	3	11.9	1.8	3	6	1	0
Sn	-	-	-	-	-	-	-	1	0	0
Sr	(22100)	-	22800	3000	22800	600	2000	47	4	3
Ta	-	-	-	-	-	-	-	2	0	0
Th	-	-	25	13	-	-	-	13	2	0
Ti	(3800)	-	15000	13000	-	-	-	15	3	0
Tl	-	-	-	-	-	-	-	2	0	0
U	-	-	-	-	-	-	-	3	0	0
V	-	-	490	400	-	-	-	14	1	0
Y	-	-	-	-	-	-	-	2	0	0
Yb	-	-	-	-	-	-	-	1	0	0

TABLE 3a. CONSENSUS VALUE  $x^*$  AND PARTICIPANT STANDARD DEVIATION  $s^*$  FOR THE WHOLE SET OF RESULTS, AFTER REMOVING THE OUTLIERS AND ONLY FOR XRF RESULTS AND ONLY FOR NAA RESULTS (SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS).

Measurand symbol	Value from external provider	SD from external provider	Total		No outliers		XRF		NAA	
			$x^*$	$s^*$	$x^*$	$s^*$	$x^*$	$s^*$	$x^*$	$s^*$
			[ % ]							
Si	-	-	25.4	8	25.4	8	23.3	8	-	-
[ mg/kg ]										
Ag	-	-	23.4	4	23.2	3	23	9	23.7	2
Al	-	-	86000	20000	85000	20000	104000	30000	76000	6000
As	-	-	277	50	273	50	290	100	273	20
Ba	-	-	860	130	860	120	870	200	860	100
Bi	-	-	1.0	1.1	1.0	1.1	-	-	-	-
Br	-	-	2.7	1.9	2.05	0.8	4.4	3	1.85	0.3
Ca	-	-	7000	2000	6800	2000	7500	2000	5900	1500
Cd	-	-	328	60	328	60	350	80	332	50
Ce	-	-	66	10	67.2	10	57	40	68.2	8
Cl	-	-	14400	7000	13600	6000	19000	10000	11900	1300
Co	-	-	289	50	285	40	300	70	287	20
Cr	-	-	257	80	245	60	300	120	232	30
Cs	-	-	2.97	0.4	2.93	0.3	-	-	2.96	0.3
Cu	-	-	281	80	278	80	291	80	330	100
Dy	-	-	3.94	0.6	3.94	0.6	-	-	3.99	0.6
Fe	-	-	14900	4000	14700	4000	17800	5000	12900	1200
Ga	-	-	18	9	18	9	19	13	16.6	4
Gd	-	-	3.7	1.4	3.7	1.4	-	-	-	-
Hf	-	-	6.20	0.7	6.24	0.6	-	-	6.20	0.6
Hg	-	-	12.8	5	12.2	4	40	50	12.6	2
K	-	-	6000	1800	6000	1700	6800	2000	5430	600
La	-	-	39.4	4	40.1	3	33	20	40.1	3
Mg	-	-	4400	2000	4300	2000	3800	1600	5800	3000
Mn	-	-	730	300	730	300	630	300	910	120
Mo	-	-	109	40	106	30	107	60	108	18
Na	-	-	2230	500	2170	400	3300	1900	2140	300
Nb	-	-	17	9	17	9	17	9	-	-
Nd	-	-	28.1	5	28.1	5	30	13	27.9	4
Ni	-	-	192	70	185	60	200	70	-	-
P	-	-	640	300	610	300	660	300	-	-



Measurand symbol	Value from external provider	SD from external provider	Total		No outliers		XRF		NAA	
			<i>x</i> *	<i>s</i> *	<i>x</i> *	<i>s</i> *	<i>x</i> *	<i>s</i> *	<i>x</i> *	<i>s</i> *
			[ug/kg]							
Pb	-	-	127	50	119	40	142	60	-	-
Rb	-	-	16.4	5	16.0	4	16.8	6	16.6	3
S	-	-	340	200	320	170	3800	200	-	-
Sb	-	-	104	15	104	11	112	50	105.3	7
Sc	-	-	10.7	1.1	10.68	0.9	-	-	10.78	0.8
Se	-	-	63	14	62	11	67	30	60.3	6
Sm	-	-	5.01	0.5	4.95	0.5	-	-	4.99	0.6
Sn	-	-	170	70	170	70	170	80	-	-
Sr	-	-	365	90	365	90	370	90	360	70
Th	-	-	11.3	2	11.3	2	11	5	11.6	1.9
Ti	-	-	5900	2000	5800	1800	6900	2000	4690	400
Tl	-	-	89	20	89	20	91	30	-	-
U	-	-	3.54	0.8	3.54	0.8	-	-	3.65	0.7
V	-	-	185	50	183	40	220	70	173	14
W	-	-	4.6	1.0	4.6	1.0	-	-	4.8	0.9
Y	-	-	22	9	22	9	23	8	-	-
Yb	-	-	1.92	0.6	1.92	0.6	-	-	1.95	0.5
Zn	-	-	624	140	616	130	700	160	565	60.68
Zr	-	-	253	90	253	90	250	90	260	100
[ug/kg]										
Eu	-	-	1040	180	1030	170	-	-	1040	150
Ho	-	-	1000	600	1000	600	-	-	-	-
Lu	-	-	320	90	320	90	-	-	340	70
Ta	-	-	1000	170	1000	170	-	-	990	160
Tb	-	-	660	80	645	70	-	-	660	90

TABLE 3b. CONSENSUS VALUE  $x^*$  AND PARTICIPANT STANDARD DEVIATION  $s^*$  FOR THE WHOLE SET OF RESULTS, AFTER REMOVING THE OUTLIERS AND ONLY FOR XRF RESULTS AND ONLY FOR NAA RESULTS (PLANT SAMPLE).

Measurand symbol	Value from external provider	SD from external provider	Total		No outliers		XRF		NAA	
			$x^*$	$s^*$	$x^*$	$s^*$	$x^*$	$s^*$	$x^*$	$s^*$
			[ ]							
Ca	0.64	0.005	0.612	0.10	0.636	0.016	0.59	0.17	0.620	0.06
K	3.38	0.04	3.14	0.4	3.33	0.09	3.14	0.7	3.19	0.3
N	3.72	0.025	-	-	-	-	-	-	-	-
[mg/kg]										
Al	(112)	-	126	60	116	50	250	200	116	30
Cl	-	-	10100	2000	10100	2000	10800	4000	9800	1200
Cu	(10)	-	10.9	3	10.7	3	12.7	5	-	-
Fe	(114)	-	123	20	121	18	125	30	119	12
I	0.17	0.01	-	-	-	-	-	-	-	-
Mg	1450	20	1610	500	1464	50	2100	1100	1530	300
Mn	(72)	-	76.7	12	76.3	11	78	19	75.7	6
Na	(3490)	-	3560	600	3510	400	5300	4000	3460	300
P	2360	35	2490	500	2360	130	2420	500	-	-
S	3160	20	3100	1000	-	-	3200	1200	-	-
Si	(2221)	-	2300	900	2300	900	2200	1100	-	-
Zn	32.1	0.85	29.7	5	31.1	2	29.8	6	29.1	4
[ug/kg]										
As	-	-	380	400	380	400	-	-	-	-
Ba	-	-	11100	2000	11100	1700	-	-	11300	1300
Br	(10100)	-	115000	15000	114000	13000	115000	20000	115000	10000
Cd	-	-	150	1500	150	150	-	-	-	-
Ce	-	-	200	100	180	70	-	-	260	200
Co	(121)	-	99	30	92	19	-	-	98	20
Cr	(2500)	-	2900	1200	2900	1200	4300	3000	2770	600
Cs	-	-	82	9	82	8	-	-	83	8
Hg	-	-	46	20	46	20	-	-	42	20
La	-	-	140	80	130	60	-	-	130	70
Mo	(1000)	-	1010	500	910	400	1700	2000	980	400
Ni	-	-	4700	1800	4500	1400	5400	3000	-	-
Pb	-	-	2500	2000	2500	2000	2500	2000	-	-
Rb	(50000)	-	41900	5000	41900	5000	41100	7000	42300	4000
Sb	-	-	40	13	40	13	-	-	42	13
Sc	(17)	-	20.1	4	19.8	4	-	-	19.8	4

Measurand symbol	Value from external provider	SD from external provider	Total		No outliers		XRF		NAA	
			$x^*$	$s^*$	$x^*$	$s^*$	$x^*$	$s^*$	$x^*$	$s^*$
			<i>Sm</i>	-	-	<i>11.9</i>	<i>3</i>	<i>11.9</i>	<i>3</i>	-
<i>Sr</i>	(22100)	-	<i>22800</i>	<i>3000</i>	<i>22500</i>	<i>3000</i>	<i>22500</i>	<i>4000</i>	<i>23100</i>	<i>3000</i>
<i>Th</i>	-	-	<i>25</i>	<i>13</i>	<i>25</i>	<i>13</i>	-	-	<i>23</i>	<i>12</i>
<i>Ti</i>	(3800)	-	<i>15000</i>	<i>13000</i>	<i>15000</i>	<i>13000</i>	<i>16000</i>	<i>17000</i>	-	-
<i>V</i>	-	-	<i>490</i>	<i>400</i>	<i>490</i>	<i>400</i>	-	-	<i>360</i>	<i>300</i>

The correlation between the values from the external provider of the proficiency test items and the consensus values  $x^*$  (for those elements with enough results, including outliers, to allow the calculation of the consensus value) is shown in Figure 4 for the plant sample. Figure 5 shows the same correlations as obtained only by XRF laboratories (see Table 3b). Analogously, Figure 6 shows the correlations as obtained only by NAA laboratories. Please note that some elements might not be present in Figures 5 and 6 due to the fact that the total number of valid results is less than 5.

Participants submitted results obtained with different nuclear and related analytical techniques (as shown in Table 1). The most used techniques, even if including a variety of “sub-techniques”, were X-Ray Fluorescence, XRF (codes 1.1, 1.13, 1.16, 1.2, 1.21, 1.22, 1.23, 1.24, 1.3, 1.32, 1.4, 1.51, 2.0) and Neutron Activation Analysis, NAA (codes 5.1, 5.2, 5.4). Most of the graphs, like density distributions, are presented highlighting the data in different colors depending on whether they were obtained by XRF (labelled blue), NAA (labelled red) or other analytical techniques (labelled grey).

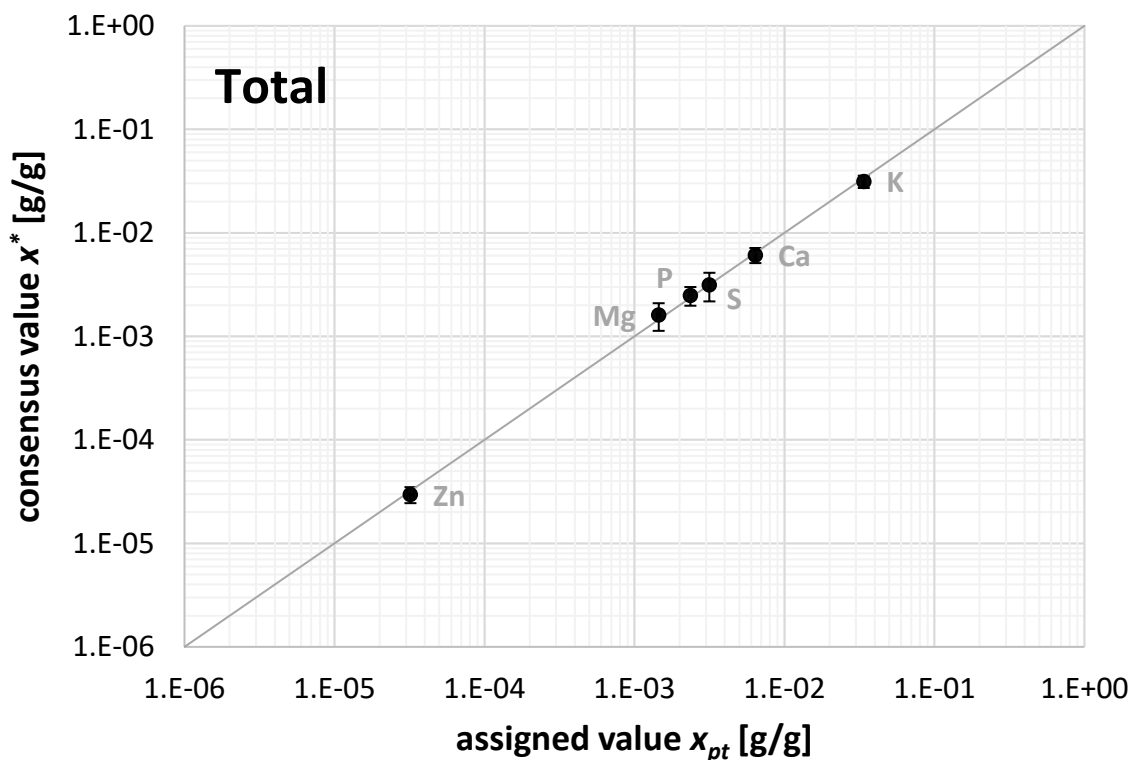


FIG. 4. Correlation between the values from external provider and the consensus values  $x^*$ . The error bars are the standard deviations from the external provider  $SD$  and the participant standard deviations  $s^*$  (plant sample).

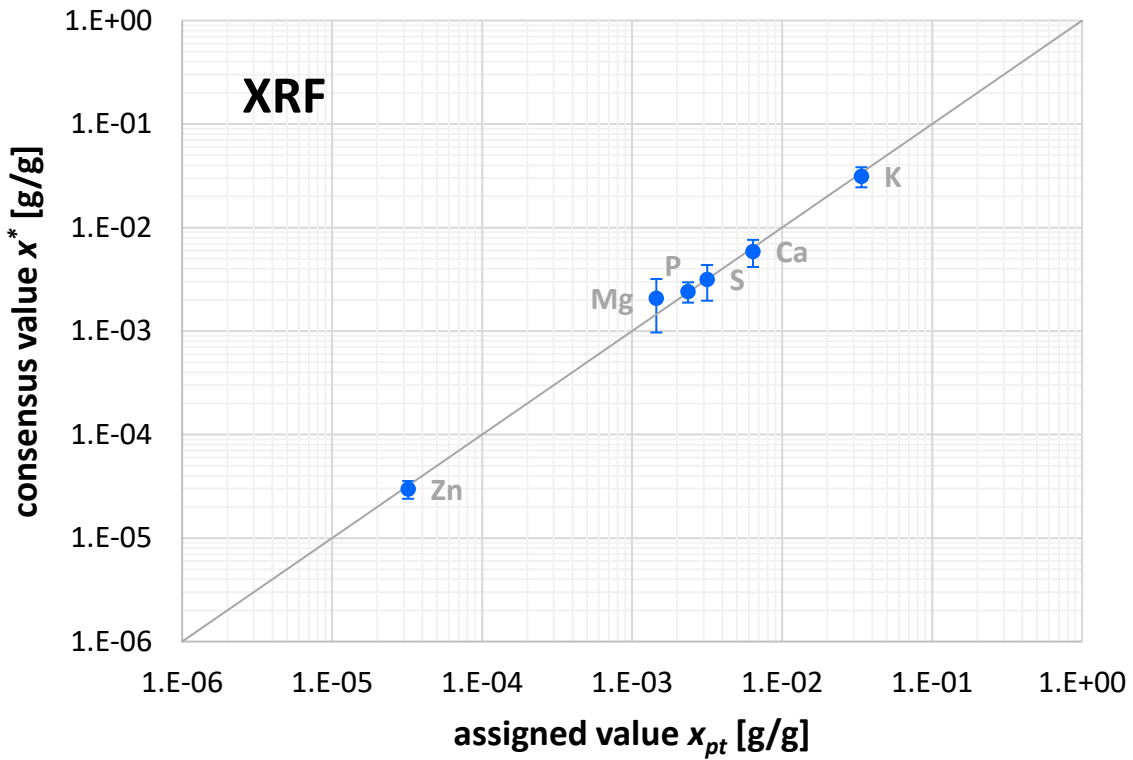


FIG. 5. Correlation between the values from external provider and the consensus values  $x^*$  for the XRF laboratories only. The error bars are the standard deviations from the external provider SD and the participant standard deviations  $s^*$  (plant sample).

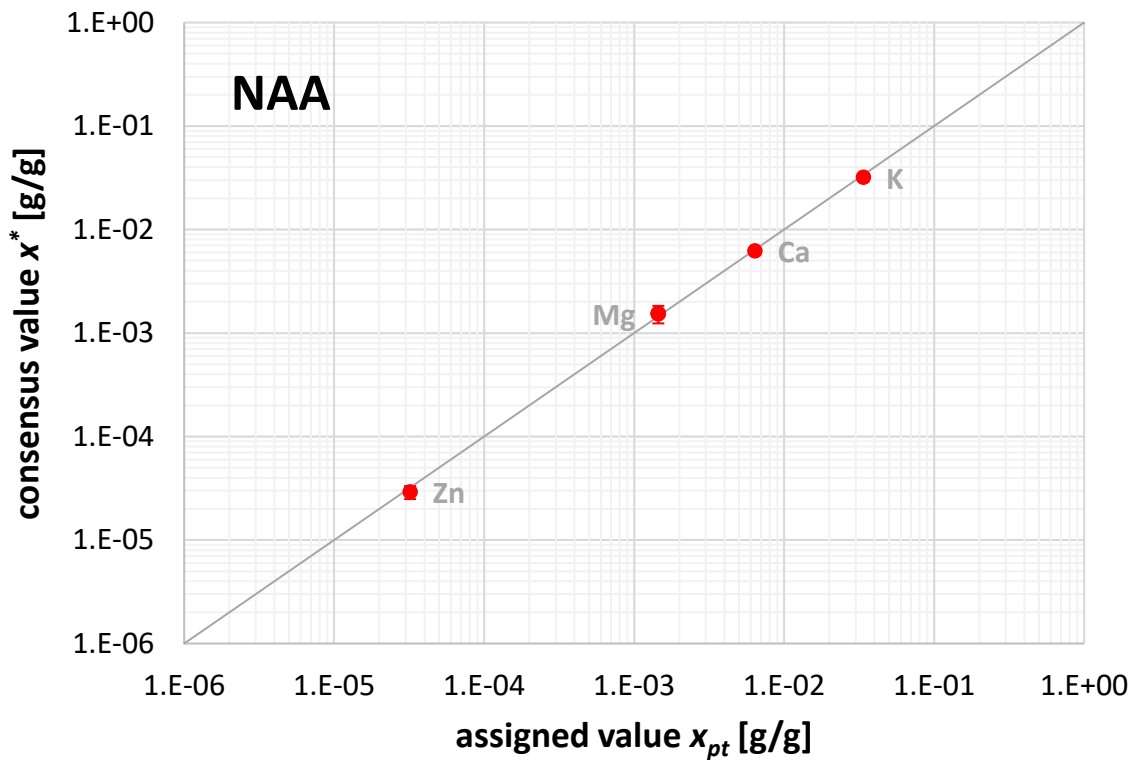


FIG. 6. Correlation between the values from external provider and the consensus values  $x^*$  for the NAA laboratories only. The error bars are the standard deviations from the external provider SD and the participant standard deviation  $s^*$  (plant sample).

Tables 4a and 4b list, for every element, the values submitted by each participants (measurand mass fraction and standard deviation) and their corresponding calculated performance indicators, i.e.,  $z$ - or  $z'$ -scores,  $zeta$ -scores and  $R$ -scores for the soil sample with elevated mass fractions of elements and the plant sample, respectively. In brackets, next to the element symbol, the parameters used to determine the performance indicators are shown: the assigned value of the element mass fraction  $x_{pt}$ , the standard deviation for proficiency assessment  $\sigma_{pt}$  and the uncertainty of the assigned value  $u(x_{pt})$ . The results that were identified as blunder are marked with “\*\*” and the outliers with “\*” in the “Measurand mass fraction” column. Please note that, if the number of valid results was less than 5, the performance indicators could be obtained only if the assigned value was available by the external provider of the proficiency test items. In Tables 4a and 4b the elements are listed in the same order as in Tables 2a and 2b.

Figures 7-112 present the distributions of the proficiency test results for the elements having at least 5 valid (no-blunder) results for the soil sample with elevated mass fractions of elements. Analogously, Figures 113-179 show the distributions for the plant sample. A more detailed explanation of the distribution graphs is given below, where the numbers of the Figures refer to the soil sample with elevated mass fractions of elements; the equivalent numbers of the Figures referring to the plant sample are indicated in brackets.

In Figures 7-37 (113-130 for the plant sample) the individual results are marked with filled circles, in blue for XRF, in red for NAA and in grey for the other analytical techniques. Blunders are not shown in these graphs. The density distribution line for all results (excluding the blunders) is shown by the solid black line. The vertical dotted black lines show the range of non-outlier results. The assigned value  $x_{pt}$  is shown as vertical solid green line. In case  $u(x_{pt}) \leq 0.3\sigma_{pt}$ , the range  $\pm 3\sigma_{pt}$  is also shown by vertical dotted green lines. When  $u(x_{pt}) > 0.3\sigma_{pt}$ , the range shown is calculated with  $\sqrt{\sigma_{pt}^2 + u^2(x_{pt})}$  instead of  $\sigma_{pt}$  (see definition of  $z$ - and  $z'$ -scores in Section 3.4).

Figures 38-59 (131-146 for the plant sample) show the density distributions for those element having more than 5 valid results but for which an assigned value was not available by the external provider and could not be determined as consensus value of the results.

Figures 60-90 (147-163 for the plant sample) show the bar chart distributions of results for the measurands with at least 5 submitted results. The results are sorted in ascending order versus participant/technique code. The bar charts show the distance between the reported and the assigned values of the measurand. The submitted results are accompanied by uncertainty bars.

As for the density distribution graphs, the range of three times  $\sigma_{pt}$  or  $\sqrt{\sigma_{pt}^2 + u^2(x_{pt})}$  is also shown by the horizontal dotted green lines. The codes of the labs are shown in the bottom horizontal axis whereas the techniques codes (including the relative colours employed already in this report, blue for XRF, red for NAA and grey for the other analytical techniques) are shown in the top horizontal axis.

For those element having more than 5 valid results but for which an assigned value was not available and could not be determined, in Figures 91-112 (164-179 for the plant sample) a bar chart is shown reporting the results of the laboratories. The colour of the columns follows again the rules established for previous graphs.

For every participating laboratory its overall performance is presented in Figures 180-355. These plots show the absolute values of *zeta*-scores and *z*- or *z'*-scores calculated for each laboratory. Each result is marked as a circle, the different colour depending on whether *z*- or *z'*-score was considered. Also reported are the lines for  $|zeta| = 3$  and  $|z|$  or  $|z'| = 3$ . They divide the plot area in four quadrants. The well performing laboratories would have more points located in the lower-left quadrant of the plot. If there are many points located in the upper-right quadrant, it suggests that these results do not fall in the defined range of acceptable results and, therefore, action should be taken to improve the performance of the analysis. For each laboratory, the separated plots for the soil sample with elevated mass fractions of elements and the plant sample are reported in the same page at the top and the bottom, respectively. When a laboratory submitted results only for one sample, the corresponding page reports just the related plot. Please note that the plot is not shown if the results for a specific laboratory and sample are all blunders.

Tables 5a and 5b summarizes for every participant the performance indicators for the soil sample with elevated mass fractions of elements and the plant sample, respectively. The number of results for which the absolute values of the performance indicators *z*- or *z'*-scores as well as *zeta*-scores are less than 3 are shown. The number of results for which the same indicators are equal or above 3 are also shown.

Please note that the sum of results derived from these columns can be lower than the total number of results submitted by the participant (second column) since for some elements the assigned value was not available and no performance indicator could be determined.

The overall performance for each participant is shown graphically in Figures 356-363, reporting the box-and-whisker plots (defined below) for the *z*- and *z'*-scores and for the *R*-scores. For the soil sample with elevated mass fractions of elements, the box-and-whisker plots for the *z*- and *z'*-scores are shown in Figures 356 and 357, the latter with the vertical scale reduced to the range  $-5 \div 5$ . The box-and-whisker plots for the *R*-scores are reported in Figures 358 and 359, the latter with the vertical scale reduced to the range  $0 \div 2$ . Analogously, for the plant sample the box-and-whisker plots for the *z*- and *z'*-scores are shown in Figures 360 and 361, the plots for the *R*-scores are reported in Figures 362 and 363. Please note that some data might not been shown in Figures 356-363 since they lie out of the range of the scale reported in the graphs. The code of the participant is reported in the horizontal axis.

Given a set of data, a box-and-whisker plot is generated defining the following parameters:

- Median of the data set  $Q_2$
- First quartile ( $Q_1$ ), the median of the lower half of the data set, including the median
- Third quartile ( $Q_3$ ), the median of the upper half of the data set, including the median

The quantity “interquartile range” (*IQR*) is defined as  $IQR = Q_3 - Q_1$ . A data is considered an outlier (please note that this is a different definition of outlier from the one given in Section 3.3, and it is used only in this context for the box-and-whisker plots) when either it exceeds a distance of 1.5 times the *IQR* below the first quartile ( $Q_1 - 1.5 \cdot IQR$ ) or 1.5 times the *IQR* above the third quartile ( $Q_3 + 1.5 \cdot IQR$ ). In the graphs, the box represents the data in the range between  $Q_1$  and  $Q_3$ , whereas the median is shown as a horizontal line. The whiskers (vertical lines) extend from the ends of the box to the minimum value and maximum value that are not outliers. The single points out of the whiskers represent the outliers of the dataset.

The drawing below summarizes all the different parameters calculated for the creation of a box-and-whisker plot.

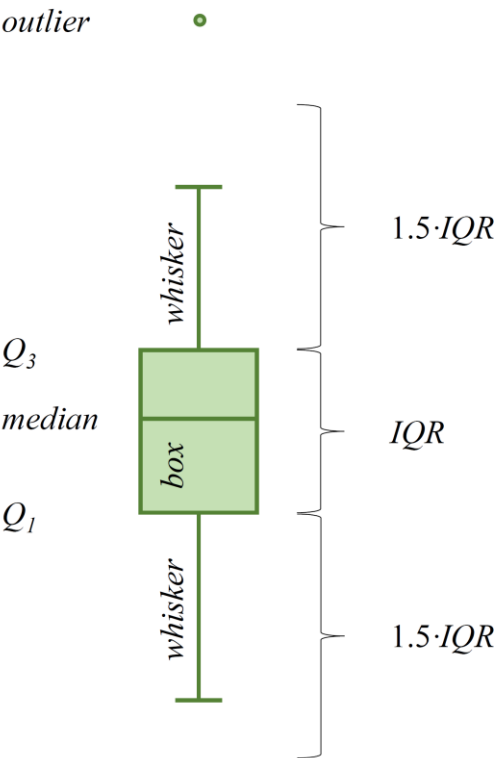




TABLE 4a. SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE *Zeta*-SCORES AND THE *R*-SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	<i>Zeta</i> -score	<i>R</i> -score
Si [%]								
277	7.1	0.109**	0.007	6.42	-	-	-	-
293	1.2	0.4**	0.07	17.50	-	-	-	-
273	7.1	0.58**	0.824	142.07	-	-	-	-
278	1.22	0.997**	0.051	5.12	-	-	-	-
75	1.2	10.5	0.08	0.76	-	-	-	-
116	1.32	13.21	0.94	7.12	-	-	-	-
235	1.22	14.58	1.15	7.89	-	-	-	-
149	1.22	15.9	0.64	4.03	-	-	-	-
65	1.16	16.39	1.11	6.77	-	-	-	-
126	1.23	16.67	333	1997.60	-	-	-	-
206	1.22	19.6	0.033	0.17	-	-	-	-
244	2	19.667	0.721	3.67	-	-	-	-
102	1.23	19.8	0.15	0.76	-	-	-	-
238	1.1	20	2	10.00	-	-	-	-
204	1.2	21.078	0.552	2.62	-	-	-	-
73	1.21	21.548	0.868	4.03	-	-	-	-
77	1.2	22.277	2.373	10.65	-	-	-	-
130	2	23.55	1.93	8.20	-	-	-	-
133	4.1	24.03	2.4	9.99	-	-	-	-
35	1.51	24.9	1.1	4.42	-	-	-	-
113	2	25.6	0.006	0.02	-	-	-	-
252	2	26	0.4	1.54	-	-	-	-
230	1.24	26.07	1.3	4.99	-	-	-	-
249	1.23	27.133	5.157	19.01	-	-	-	-
44	4.2	27.46	1.886	6.87	-	-	-	-
146	4.32	27.7	0.9	3.25	-	-	-	-
53	2	29.5	1.5	5.08	-	-	-	-
234	5.2	30.8	1.1	3.57	-	-	-	-
220	2	31.66	1.583	5.00	-	-	-	-
145	1.22	31.975	3.038	9.50	-	-	-	-
250	2	33.174	0.841	2.54	-	-	-	-
176	5.2	34.1	0.8	2.35	-	-	-	-
183	5.4	34.2	0.5	1.46	-	-	-	-
172	5.2	35.3	1.6	4.53	-	-	-	-
266	2	36.02	0.025	0.07	-	-	-	-
267	2	46.216	0.1	0.22	-	-	-	-
216	4.32	60.51	0.51	0.84	-	-	-	-
<i>Ag</i> ( $x_{pt} = 23.4$ , $\sigma_{pt} = 2$ , $u(x_{pt}) = 0.7$ ) [mg/kg]								
206	1.22	11.73	0.59	5.03	-	-4.8	-12.3	0.50
296	2	13.8	0.001	0.01	-	-3.9	-12.9	0.59
298	6.2	17.5	0.35	2.00	-	-2.4	-7.2	0.75
283	5.1	19.24	1.3	6.76	-	-1.7	-2.8	0.82
263	5.1	19.37	1.2	6.20	-	-1.7	-2.9	0.83
235	1.22	19.67	2.52	12.81	-	-1.5	-1.4	0.84

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
259	7.1	20	0.08	0.40	-	-1.4	-4.6	0.85
194	5.1	20.46	5.58	27.27	-	-1.2	-0.5	0.87
100	7.2	20.789	1.439	6.92	-	-1.1	-1.6	0.89
252	2	20.8	0.4	1.92	-	-1.1	-3.1	0.89
174	7.2	21.376	0.872	4.08	-	-0.8	-1.8	0.91
261	5.1	21.91	0.35	1.60	-	-0.6	-1.8	0.94
257	5.2	22	3	13.64	-	-0.6	-0.5	0.94
40	5.1	22.2	1.3	5.86	-	-0.5	-0.8	0.95
279	5.2	22.6	2.7	11.95	-	-0.3	-0.3	0.97
302	5.1	22.71	0.204	0.90	-	-0.3	-0.9	0.97
85	7.2	23	0.1	0.43	-	-0.2	-0.6	0.98
192	5.2	23.4	1.3	5.56	-	0.0	0.0	1.00
176	5.2	23.5	0.5	2.13	-	0.0	0.1	1.00
215	5.1	23.8	1.5	6.30	-	0.2	0.2	1.02
126	1.23	23.8	2.38	10.00	-	0.2	0.2	1.02
202	5.1	24	1.4	5.83	-	0.2	0.4	1.02
182	5.1	24.48	3.58	14.62	-	0.4	0.3	1.05
220	5.1	24.496	0.883	3.60	-	0.4	0.9	1.05
237	5.1	24.7	0.6	2.43	-	0.5	1.3	1.05
276	7.2	24.8	2	8.06	-	0.6	0.6	1.06
203	5.2	25.2	1.2	4.76	-	0.7	1.3	1.08
61	5.1	25.9	3.6	13.90	-	1.0	0.7	1.11
169	5.1	25.9	0.9	3.47	-	1.0	2.1	1.11
272	5.2	25.915	3.685	14.22	-	1.0	0.7	1.11
151	7.2	26.389	0.319	1.21	-	1.2	3.7	1.13
183	5.1	27.2	0.9	3.31	-	1.5	3.2	1.16
171	5.1	27.5	1.4	5.09	-	1.7	2.6	1.17
238	1.1	32	3	9.38	-	3.5	2.8	1.37
113	2	32	0.83	2.59	-	3.5	7.7	1.37
295	2	32.6	4	12.27	-	3.8	2.3	1.39
146	4.32	60*	11	18.33	-	15.0	3.3	2.56
$Al (x_{pt} = 86000, \sigma_{pt} = 2000, u(x_{pt}) = 4000) [mg/kg]$								
277	7.1	72.97**	0.39	0.53	-	-18.5	-21.9	0.00
296	2	213**	0.002	0.00	-	-18.4	-21.8	0.00
72	1.3	1118**	70	6.26	-	-18.2	-21.6	0.01
273	7.1	20147.731	0.087	0.00	-	-14.2	-16.8	0.23
154	7.1	22709	427	1.88	-	-13.6	-16.0	0.26
276	7.1	26989	2700	10.00	-	-12.7	-12.4	0.31
85	7.2	41500	500	1.20	-	-9.6	-11.2	0.48
151	7.2	52646.256	1011.66	1.92	-	-7.2	-8.2	0.61
75	1.2	61701	908	1.47	-	-5.2	-6.0	0.72
195	5.2	63279	8435	13.33	-	-4.9	-2.4	0.74
263	5.1	67883.94	3498.19	5.15	-	-3.9	-3.4	0.79
194	5.1	68186.67	8886.312	13.03	-	-3.8	-1.8	0.79
220	5.1	69966.777	3263.436	4.66	-	-3.4	-3.1	0.81
259	7.1	70230	200	0.28	-	-3.4	-4.0	0.82
192	5.2	71400	4300	6.02	-	-3.1	-2.5	0.83
283	5.1	71600	2900	4.05	-	-3.1	-2.9	0.83

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
182	5.1	72450	1956	2.70	-	-2.9	-3.1	0.84
203	5.2	73600	1600	2.17	-	-2.7	-2.9	0.86
237	5.1	74000	2000	2.70	-	-2.6	-2.7	0.86
40	5.1	74166	4598	6.20	-	-2.5	-2.0	0.86
282	5.2	74175	446	0.60	-	-2.5	-3.0	0.86
172	5.2	74618	2992	4.01	-	-2.4	-2.3	0.87
193	5.2	75343	400	0.53	-	-2.3	-2.7	0.88
202	5.1	76332	8054	10.55	-	-2.1	-1.1	0.89
250	2	76482.062	1475.606	1.93	-	-2.0	-2.3	0.89
149	1.22	76539	1960	2.56	-	-2.0	-2.2	0.89
281	5.2	77900	389.5	0.50	-	-1.7	-2.0	0.91
279	5.2	77900	1950	2.50	-	-1.7	-1.8	0.91
183	5.4	78000	1300	1.67	-	-1.7	-1.9	0.91
274	5.2	78000	4000	5.13	-	-1.7	-1.4	0.91
102	1.23	79000	200	0.25	-	-1.5	-1.8	0.92
176	5.2	79300	1300	1.64	-	-1.4	-1.6	0.92
257	5.2	79600	2390	3.00	-	-1.4	-1.4	0.93
215	5.1	79690	4741	5.95	-	-1.4	-1.0	0.93
275	7.2	79704.23	13668.98	17.15	-	-1.4	-0.4	0.93
174	7.1	79864	1665	2.08	-	-1.3	-1.4	0.93
234	5.2	80200	3800	4.74	-	-1.2	-1.1	0.93
116	1.32	80344.5	5871.2	7.31	-	-1.2	-0.8	0.93
247	5.2	80773	2126	2.63	-	-1.1	-1.2	0.94
65	1.16	81888.6	7261.29	8.87	-	-0.9	-0.5	0.95
266	2	82500	0.011	0.00	-	-0.8	-0.9	0.96
77	1.2	84773	9813	11.58	-	-0.3	-0.1	0.99
204	1.2	85052.429	3587.987	4.22	-	-0.2	-0.2	0.99
152	5.2	85590	3571	4.17	-	-0.1	-0.1	1.00
235	1.22	87570	3848	4.39	-	0.3	0.3	1.02
199	5.1	90075	2102	2.33	-	0.9	0.9	1.05
261	5.2	92321.735	1206.421	1.31	-	1.4	1.5	1.07
206	1.22	102220	63.2	0.06	-	3.5	4.1	1.19
53	2	103331	5167	5.00	-	3.7	2.7	1.20
295	2	105000	5000	4.76	-	4.1	3.0	1.22
126	1.23	108471	21694	20.00	-	4.8	1.0	1.26
238	1.1	113000	11300	10.00	-	5.8	2.3	1.31
244	2	116000	6210	5.35	-	6.5	4.1	1.35
252	2	116515	979	0.84	-	6.6	7.5	1.35
249	1.23	116571	20300	17.41	-	6.6	1.5	1.36
133	4.4	121000	12000	9.92	-	7.5	2.8	1.41
130	2	124356.87	9973.43	8.02	-	8.2	3.6	1.45
44	4.2	137592.1	10526.9	7.65	-	11.1	4.6	1.60
35	1.51	147400	1900	1.29	-	13.2	14.1	1.71
146	4.32	150100	7000	4.66	-	13.8	8.0	1.75
216	4.32	157600	1418	0.90	-	15.4	17.1	1.83
113	2	167000	43.5	0.03	-	17.4	20.6	1.94
293	1.2	179700	28752	16.00	-	20.1	3.2	2.09
145	1.22	228503.333*	151.504	0.07	-	30.6	36.2	2.66

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
<i>As (<math>x_{pt} = 277</math>, <math>\sigma_{pt} = 19</math>, <math>u(x_{pt}) = 8</math>) [mg/kg]</i>								
72	1.3	8.1**	0.2	2.47	-	-13.0	-32.7	0.03
286	6.3	31.11	0.12	0.39	-	-11.9	-29.9	0.11
193	5.2	54.28	7.96	14.66	-	-10.7	-19.4	0.20
265	1.22	63.93	2.365	3.70	-	-10.3	-24.9	0.23
295	2	99	4.5	4.55	-	-8.6	-19.0	0.36
205	5.2	117.97	23.45	19.88	-	-7.7	-6.4	0.43
130	2	137.1	9.4	6.86	-	-6.7	-11.2	0.50
233	1.23	157	31	19.75	-	-5.8	-3.7	0.57
229	6.2	191	19	9.95	-	-4.1	-4.1	0.69
273	7.1	193.349	5.199	2.69	-	-4.0	-8.6	0.70
283	5.1	213.3	15.1	7.08	-	-3.1	-3.7	0.77
263	5.1	222.25	11.13	5.01	-	-2.6	-3.9	0.80
244	2	228.7	22.63	9.90	-	-2.3	-2.0	0.83
100	7.2	229.048	13.074	5.71	-	-2.3	-3.1	0.83
194	5.1	234.94	152.265	64.81	-	-2.0	-0.3	0.85
85	7.2	241	10	4.15	-	-1.7	-2.8	0.87
204	1.2	247	16.837	6.82	-	-1.4	-1.6	0.89
275	7.2	247.09	13.66	5.53	-	-1.4	-1.9	0.89
238	1.1	255	33	12.94	-	-1.0	-0.6	0.92
206	1.22	255.3	2.8	1.10	-	-1.0	-2.5	0.92
182	5.1	256	32.62	12.74	-	-1.0	-0.6	0.93
202	5.1	256	11	4.30	-	-1.0	-1.5	0.93
279	5.2	256.5	16.7	6.51	-	-1.0	-1.1	0.93
40	5.1	259	15	5.79	-	-0.9	-1.0	0.94
61	5.2	262	13	4.96	-	-0.7	-1.0	0.95
192	5.2	262	14	5.34	-	-0.7	-0.9	0.95
152	5.2	263.559	1.291	0.49	-	-0.6	-1.6	0.95
53	1.32	265	16	6.04	-	-0.6	-0.6	0.96
281	5.2	270	0.015	0.01	-	-0.3	-0.8	0.98
203	5.2	271	10	3.69	-	-0.3	-0.4	0.98
220	5.1	271.481	9.736	3.59	-	-0.3	-0.4	0.98
215	5.1	272	16	5.88	-	-0.2	-0.3	0.98
169	5.1	274	10	3.65	-	-0.1	-0.2	0.99
237	5.1	275	7	2.55	-	-0.1	-0.2	0.99
282	5.2	275	0.6	0.22	-	-0.1	-0.2	0.99
261	5.1	277.85	3.18	1.14	-	0.1	0.1	1.00
137	1.22	278	25	8.99	-	0.1	0.1	1.00
274	5.2	280	20	7.14	-	0.2	0.2	1.01
44	4.2	280.1	53.6	19.14	-	0.2	0.1	1.01
172	5.2	281	11	3.91	-	0.2	0.3	1.02
257	5.2	286	14	4.90	-	0.5	0.6	1.03
296	2	287	0.002	0.00	-	0.5	1.3	1.04
234	5.2	287	14	4.88	-	0.5	0.6	1.04
285	6.2	288.3	11.8	4.09	-	0.6	0.8	1.04
199	5.1	288.75	9.227	3.20	-	0.6	1.0	1.04
247	5.2	289	7.9	2.73	-	0.6	1.1	1.04
302	5.1	289.2	0.29	0.10	-	0.6	1.5	1.05

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
176	5.2	290	8	2.76	-	0.6	1.2	1.05
126	1.23	293	30	10.24	-	0.8	0.5	1.06
252	2	296	27	9.12	-	0.9	0.7	1.07
55	5.2	299.1	15	5.02	-	1.1	1.3	1.08
218	5.2	300.17	7.25	2.42	-	1.1	2.1	1.08
183	5.1	302	6	1.99	-	1.2	2.5	1.09
209	1.4	311	10	3.22	-	1.7	2.7	1.12
171	5.1	314	13	4.14	-	1.8	2.4	1.13
230	1.24	318	63	19.81	-	2.0	0.7	1.15
116	1.32	318.9	4.3	1.35	-	2.0	4.6	1.15
170	5.2	320.43	10.349	3.23	-	2.1	3.3	1.16
78	1.23	324	2	0.62	-	2.3	5.6	1.17
249	1.23	333.634	109.56	32.84	-	2.8	0.5	1.21
151	7.2	338.08	14.935	4.42	-	3.0	3.6	1.22
235	1.22	340	7	2.06	-	3.1	5.9	1.23
266	2	355	0.003	0.00	-	3.8	9.5	1.28
75	1.2	393	17	4.33	-	5.6	6.2	1.42
133	4.1	394	40	10.15	-	5.7	2.9	1.42
113	2	478	1.43	0.30	-	9.7	24.1	1.73
146	4.32	480	70	14.58	-	9.8	2.9	1.73
65	1.16	535.244*	49.063	9.17	-	12.5	5.2	1.93
24	1.13	624.9*	86.4	13.83	-	16.8	4.0	2.26
216	4.32	1200*	550	45.83	-	44.6	1.7	4.34
					Au [mg/kg]			
257	5.2	0.01	0.003	30.00	-	-	-	-
					B [mg/kg]			
183	5.4	161	1.3	0.81	-	-	-	-
					$Ba$ ( $x_{pt} = 860$ , $\sigma_{pt} = 50$ , $u(x_{pt}) = 20$ ) [mg/kg]			
72	1.3	4.3**	0.5	11.63	-	-15.7	-38.0	0.01
154	7.1	75.1**	1.5	2.00	-	-14.4	-34.8	0.09
130	2	227.03*	30	13.21	-	-11.6	-16.8	0.26
205	5.2	297.729	23.56	7.91	-	-10.3	-17.2	0.35
193	5.2	382.486	9.4	2.46	-	-8.7	-19.5	0.45
152	5.2	598.515	10.715	1.79	-	-4.8	-10.4	0.70
206	1.22	628	13	2.07	-	-4.2	-8.9	0.73
295	2	650	50	7.69	-	-3.8	-3.8	0.76
65	1.16	673.49	64.32	9.55	-	-3.4	-2.7	0.78
234	2	705	47	6.67	-	-2.8	-2.9	0.82
203	5.2	729	95	13.03	-	-2.4	-1.3	0.85
261	5.1	730	29.76	4.08	-	-2.4	-3.4	0.85
75	1.2	749	56	7.48	-	-2.0	-1.8	0.87
85	7.2	771	100	12.97	-	-1.6	-0.9	0.90
176	5.2	780	120	15.38	-	-1.4	-0.6	0.91
169	5.1	794	32	4.03	-	-1.2	-1.6	0.93
199	5.1	800.267	59.818	7.47	-	-1.1	-0.9	0.93
302	5.1	808.5	12.13	1.50	-	-0.9	-2.0	0.94

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
238	1.1	811	82	10.11	-	-0.9	-0.6	0.94
257	5.2	814	42	5.16	-	-0.8	-0.9	0.95
252	2	818	59	7.21	-	-0.7	-0.6	0.95
146	4.32	820	300	36.59	-	-0.7	-0.1	0.96
276	7.2	833	67	8.04	-	-0.5	-0.4	0.97
40	5.1	835.5	79	9.46	-	-0.4	-0.3	0.97
233	1.23	844	94	11.14	-	-0.3	-0.1	0.98
61	5.1	850	140	16.47	-	-0.2	-0.1	0.99
215	5.1	854	52	6.09	-	-0.1	-0.1	0.99
183	5.1	865	31	3.58	-	0.1	0.2	1.01
182	5.1	865.9	207	23.91	-	0.1	0.0	1.01
151	7.2	869.193	16.129	1.86	-	0.2	0.4	1.01
237	5.1	870	35	4.02	-	0.2	0.3	1.01
279	5.2	870	113	12.99	-	0.2	0.1	1.01
202	5.1	880	102	11.59	-	0.4	0.2	1.03
100	7.2	886.074	63.705	7.19	-	0.5	0.4	1.03
274	5.2	900	300	33.33	-	0.8	0.1	1.05
204	1.2	904	71.435	7.90	-	0.8	0.6	1.05
273	7.1	912.66	0.078	0.01	-	1.0	2.4	1.06
263	5.1	923.29	67.98	7.36	-	1.2	0.9	1.08
78	1.23	925	28	3.03	-	1.2	1.9	1.08
220	5.1	928.758	87.914	9.47	-	1.3	0.8	1.08
195	5.2	930	153	16.45	-	1.3	0.5	1.08
283	5.1	930.8	95	10.21	-	1.3	0.7	1.08
192	5.2	952	50	5.25	-	1.7	1.7	1.11
55	5.2	955.1	286	29.94	-	1.8	0.3	1.11
247	5.2	957	64	6.69	-	1.8	1.5	1.11
235	1.22	963.67	39.5	4.10	-	1.9	2.3	1.12
174	7.1	966	38.978	4.03	-	2.0	2.4	1.13
244	2	972.1	50.77	5.22	-	2.1	2.0	1.13
296	2	982	0.002	0.00	-	2.3	5.5	1.14
126	1.23	1034	104	10.06	-	3.2	1.7	1.20
282	5.2	1038	34	3.28	-	3.3	4.4	1.21
113	2	1100	13.5	1.23	-	4.4	9.2	1.28
116	1.32	1130.9	102.9	9.10	-	5.0	2.6	1.32
281	5.2	1150	52.9	4.60	-	5.3	5.1	1.34
53	2	2769*	277	10.00	-	35.0	6.9	3.23
Be [mg/kg]								
85	7.2	40	8	20.00	-	-	-	-
296	2	44.3	0.002	0.00	-	-	-	-
174	7.1	54.86	1.796	3.27	-	-	-	-
Bi [mg/kg]								
174	7.2	0.292	0.004	1.37	-	-	-	-
85	7.2	0.3	0.2	66.67	-	-	-	-
100	7.2	0.52	0.27	51.92	-	-	-	-
126	1.23	1.2	0.2	16.67	-	-	-	-
65	1.16	2.625	0.274	10.44	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
235	7.1	1141.62**	14.16	1.24	-	-	-	-
Br [mg/kg]								
72	1.3	0.12**	0.02	16.67	-	-	-	-
278	1.22	0.295	0.03	10.17	-	-	-	-
274	10	1.1	0.2	18.18	-	-	-	-
203	5.2	1.11	0.22	19.82	-	-	-	-
279	5.2	1.39	0.28	20.14	-	-	-	-
302	5.1	1.599	0.054	3.38	-	-	-	-
237	5.1	1.63	0.07	4.29	-	-	-	-
169	5.1	1.71	0.08	4.68	-	-	-	-
152	5.2	1.714	0.045	2.63	-	-	-	-
192	5.2	1.82	0.12	6.59	-	-	-	-
40	5.1	1.84	0.2	10.87	-	-	-	-
261	5.1	1.86	0.14	7.53	-	-	-	-
220	5.1	1.928	0.272	14.11	-	-	-	-
263	5.1	1.93	0.24	12.44	-	-	-	-
176	5.2	1.93	0.1	5.18	-	-	-	-
182	5.1	2.02	0.05	2.48	-	-	-	-
55	5.2	2.25	0.3	13.33	-	-	-	-
282	5.2	2.29	0.16	6.99	-	-	-	-
194	5.1	2.34	0.094	4.02	-	-	-	-
65	1.16	2.53	0.21	8.30	-	-	-	-
126	1.23	2.6	0.6	23.08	-	-	-	-
238	1.1	5	1	20.00	-	-	-	-
252	2	5.21	0.36	6.91	-	-	-	-
206	1.22	5.3	0.78	14.72	-	-	-	-
204	1.2	5.652	1.631	28.86	-	-	-	-
100	7.2	16.589	1.86	11.21	-	-	-	-
146	4.32	18	4	22.22	-	-	-	-
129	1.2	19	10.17	53.53	-	-	-	-
Ca [mg/kg]								
277	7.1	4.618**	0.514	11.13	-	-	-	-
278	1.22	36.96**	16.433	44.46	-	-	-	-
72	1.3	122**	3	2.46	-	-	-	-
154	7.1	413.9**	7.8	1.88	-	-	-	-
270	6.1	498.15**	0.1	0.02	-	-	-	-
254	1.21	1643.15	61.217	3.73	-	-	-	-
73	1.21	2890	150	5.19	-	-	-	-
209	1.4	3330	30	0.90	-	-	-	-
234	5.2	4230	640	15.13	-	-	-	-
276	7.1	4272	427	10.00	-	-	-	-
172	5.2	4418	479	10.84	-	-	-	-
279	5.2	4690	750	15.99	-	-	-	-
237	5.1	4760	185	3.89	-	-	-	-
250	2	4960.018	302.013	6.09	-	-	-	-
169	5.1	4964	515	10.37	-	-	-	-
259	7.1	5082	10	0.20	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
257	5.2	5190	623	12.00	-	-	-	-
176	5.2	5200	300	5.77	-	-	-	-
203	5.2	5250	620	11.81	-	-	-	-
129	1.2	5267.68	2697.5	51.21	-	-	-	-
263	5.1	5363.87	814.44	15.18	-	-	-	-
199	5.1	5401	510	9.44	-	-	-	-
174	7.1	5406	723	13.37	-	-	-	-
220	5.1	5465.466	328	6.00	-	-	-	-
36	6.1	5499	549	9.98	-	-	-	-
295	2	5500	350	6.36	-	-	-	-
85	7.2	5625	1000	17.78	-	-	-	-
194	5.1	5640.33	1347.412	23.89	-	-	-	-
192	5.2	5770	380	6.59	-	-	-	-
215	5.1	5936	455	7.67	-	-	-	-
247	5.2	6001	662	11.03	-	-	-	-
233	1.23	6085	669	10.99	-	-	-	-
235	1.22	6089.33	42.92	0.70	-	-	-	-
151	7.2	6450.186	49.209	0.76	-	-	-	-
53	2	6471	647	10.00	-	-	-	-
230	1.24	7013	701	10.00	-	-	-	-
102	1.23	7100	100	1.41	-	-	-	-
77	1.2	7156	328	4.58	-	-	-	-
266	2	7310	0.002	0.00	-	-	-	-
78	1.23	7443	97	1.30	-	-	-	-
206	1.22	7483	1.65	0.02	-	-	-	-
238	1.1	7490	700	9.35	-	-	-	-
265	1.22	7543	729	9.66	-	-	-	-
116	1.32	7685	157	2.04	-	-	-	-
249	1.23	7688	923	12.01	-	-	-	-
204	1.2	7732	335.524	4.34	-	-	-	-
282	5.2	7757	1272	16.40	-	-	-	-
149	1.22	7848	322	4.10	-	-	-	-
244	2	7967	53.39	0.67	-	-	-	-
182	5.1	7968	621	7.79	-	-	-	-
126	1.23	7984	798	9.99	-	-	-	-
152	5.2	8008	729	9.10	-	-	-	-
75	1.2	8182	305	3.73	-	-	-	-
65	1.16	8219.65	506.852	6.17	-	-	-	-
252	2	8305	220	2.65	-	-	-	-
100	7.2	8476.129	668.454	7.89	-	-	-	-
44	4.2	8703.3	734.6	8.44	-	-	-	-
133	4.1	8740	450	5.15	-	-	-	-
130	2	8856.4	1788.9	20.20	-	-	-	-
261	5.2	9372	545	5.82	-	-	-	-
293	1.2	9692	1551	16.00	-	-	-	-
145	1.22	10191.4	677.806	6.65	-	-	-	-
146	4.32	10240	713	6.96	-	-	-	-
24	1.13	10800	1400	12.96	-	-	-	-
35	1.51	10950	750	6.85	-	-	-	-



TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
113	2	11300	15.1	0.13	-	-	-	-
267	2	22210	200	0.90	-	-	-	-
302	5.1	27640	4118	14.90	-	-	-	-
216	4.32	29200	730	2.50	-	-	-	-
$Cd (x_{pt} = 328, \sigma_{pt} = 20, u(x_{pt}) = 12) [mg/kg]$								
193	5.2	2.9**	1.82	62.76	-	-13.1	-27.6	0.01
205	5.2	13.871**	2.564	18.48	-	-12.7	-26.4	0.04
291	6.1	37.68*	0.045	0.12	-	-11.7	-25.0	0.11
270	6.1	180.94	0.12	0.07	-	-5.9	-12.7	0.55
286	6.1	203.87	0.02	0.01	-	-5.0	-10.7	0.62
274	10	220	10	4.55	-	-4.4	-7.0	0.67
298	6.2	246	2.46	1.00	-	-3.3	-6.9	0.75
283	5.1	247.3	15.1	6.11	-	-3.3	-4.2	0.75
263	5.1	263.58	12.32	4.67	-	-2.6	-3.8	0.80
126	1.23	269	27	10.04	-	-2.4	-2.0	0.82
279	5.2	278.5	27	9.69	-	-2.0	-1.7	0.85
206	1.22	279.1	6.3	2.26	-	-2.0	-3.7	0.85
154	7.1	280.9	5.3	1.89	-	-1.9	-3.7	0.86
174	7.2	290.26	10.117	3.49	-	-1.5	-2.5	0.88
295	2	295	55.5	18.81	-	-1.3	-0.6	0.90
182	5.1	296	36.91	12.47	-	-1.3	-0.8	0.90
85	7.2	309	6	1.94	-	-0.8	-1.5	0.94
215	5.1	311	22	7.07	-	-0.7	-0.7	0.95
296	2	312	0.002	0.00	-	-0.6	-1.4	0.95
275	7.2	314.96	12.33	3.91	-	-0.5	-0.8	0.96
192	5.2	320	17	5.31	-	-0.3	-0.4	0.98
176	5.2	327	16	4.89	-	0.0	-0.1	1.00
172	5.2	328	33	10.06	-	0.0	0.0	1.00
133	4.1	330	33	10.00	-	0.1	0.1	1.01
61	5.1	331	56	16.92	-	0.1	0.1	1.01
169	5.1	332	12	3.61	-	0.2	0.2	1.01
53	2	332	33	9.94	-	0.2	0.1	1.01
237	5.1	333	9	2.70	-	0.2	0.3	1.02
285	6.2	333.3	15.2	4.56	-	0.2	0.3	1.02
266	2	334	0.002	0.00	-	0.2	0.5	1.02
55	5.2	334.1	17	5.09	-	0.2	0.3	1.02
276	7.2	341	27	7.92	-	0.5	0.4	1.04
257	5.2	347	18	5.19	-	0.8	0.9	1.06
235	1.22	350.33	5.77	1.65	-	0.9	1.7	1.07
238	1.1	351	36	10.26	-	0.9	0.6	1.07
272	6.1	357	6.4	1.79	-	1.2	2.2	1.09
273	7.1	359.265	0.089	0.02	-	1.3	2.7	1.10
220	5.1	361.358	17.813	4.93	-	1.3	1.6	1.10
183	5.1	367	8	2.18	-	1.6	2.8	1.12
252	2	372	45	12.10	-	1.8	0.9	1.13
302	5.1	378.3	1.89	0.50	-	2.0	4.3	1.15
151	7.2	413.255	26.356	6.38	-	3.4	3.0	1.26
218	5.2	419.1	17.21	4.11	-	3.7	4.4	1.28

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
130	2	422	68	16.11	-	3.8	1.4	1.29
171	5.1	424	32	7.55	-	3.9	2.8	1.29
146	4.32	483	63	13.04	-	6.2	2.4	1.47
113	2	519	3.2	0.62	-	7.7	15.8	1.58
244	2	1038.5*	108.35	10.43	-	28.6	6.5	3.17
$Ce (x_{pt} = 66, \sigma_{pt} = 6, u(x_{pt}) = 2) [mg/kg]$								
72	1.3	0.3**	0.1	33.33	-	-11.0	-31.9	0.00
65	1.16	14.203*	1.375	9.68	-	-8.7	-21.0	0.21
204	1.2	20.083	4.085	20.34	-	-7.7	-10.1	0.30
195	5.2	30.9	5.4	17.48	-	-5.9	-6.2	0.46
205	5.2	34.256	8.23	24.02	-	-5.4	-3.8	0.52
126	1.23	36.5	4	10.96	-	-5.0	-6.7	0.55
85	7.2	45	15	33.33	-	-3.6	-1.4	0.68
100	7.2	47.233	1.965	4.16	-	-3.2	-6.7	0.71
176	5.2	58.3	0.9	1.54	-	-1.4	-3.6	0.88
261	5.1	58.69	1.23	2.10	-	-1.3	-3.2	0.88
194	5.1	58.8	14.386	24.47	-	-1.3	-0.5	0.88
220	5.1	61.413	6.302	10.26	-	-0.8	-0.8	0.92
199	5.1	61.77	5.1	8.26	-	-0.8	-0.9	0.93
61	5.2	64.5	5.4	8.37	-	-0.3	-0.3	0.97
174	7.2	65.596	0.856	1.30	-	-0.1	-0.4	0.99
172	5.2	66.2	2.7	4.08	-	0.0	-0.1	1.00
283	5.1	66.35	3.1	4.67	-	0.0	0.0	1.00
169	5.1	66.4	2.3	3.46	-	0.0	0.0	1.00
193	5.2	66.943	1.367	2.04	-	0.1	0.2	1.01
202	5.1	67	5	7.46	-	0.1	0.1	1.01
40	5.1	67	4	5.97	-	0.1	0.1	1.01
247	5.2	68	1.8	2.65	-	0.3	0.6	1.02
238	1.1	68	7	10.29	-	0.3	0.2	1.02
192	5.2	68.1	3.6	5.29	-	0.3	0.4	1.02
279	5.2	68.5	4.8	7.01	-	0.3	0.4	1.03
215	5.1	68.8	4.1	5.96	-	0.4	0.5	1.04
170	5.2	70.27	3.35	4.77	-	0.6	1.0	1.06
55	5.2	71	7	9.86	-	0.8	0.6	1.07
237	5.1	71.8	1.9	2.65	-	0.9	1.9	1.08
233	1.23	74	6	8.11	-	1.3	1.2	1.11
302	5.1	74.08	0.74	1.00	-	1.3	3.5	1.11
183	5.1	74.1	1.6	2.16	-	1.3	2.9	1.11
151	7.2	74.968	4.902	6.54	-	1.4	1.6	1.13
206	1.22	75	12	16.00	-	1.4	0.7	1.13
263	5.1	76.65	4.21	5.49	-	1.7	2.2	1.15
171	5.1	77.4	4.6	5.94	-	1.8	2.2	1.16
152	5.2	77.461	0.659	0.85	-	1.8	5.1	1.17
182	5.1	77.72	9.98	12.84	-	1.9	1.1	1.17
272	5.2	77.828	1.752	2.25	-	1.9	4.2	1.17
257	5.2	78	4	5.13	-	1.9	2.6	1.17
252	2	113	23	20.35	-	7.7	2.0	1.70

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
Cl [mg/kg]								
281	5.2	1580	79	5.00	-	-	-	-
274	10	1900	100	5.26	-	-	-	-
129	1.2	5969.52	1590.8	26.65	-	-	-	-
234	5.2	7410	2300	31.04	-	-	-	-
65	1.16	8208.753	453.73	5.53	-	-	-	-
126	1.23	10011	2000	19.98	-	-	-	-
172	5.2	10664	459	4.30	-	-	-	-
279	5.2	10700	1280	11.96	-	-	-	-
263	5.1	10773.44	540.67	5.02	-	-	-	-
283	5.1	10910	490	4.49	-	-	-	-
194	5.1	11115.8	1622.32	14.59	-	-	-	-
257	5.2	11600	406	3.50	-	-	-	-
40	5.1	12081	773	6.40	-	-	-	-
183	5.4	12400	200	1.61	-	-	-	-
220	5.1	12487.752	743.93	5.96	-	-	-	-
176	5.2	12500	300	2.40	-	-	-	-
133	4.1	12600	1900	15.08	-	-	-	-
237	5.1	12600	350	2.78	-	-	-	-
202	5.1	12601	1280	10.16	-	-	-	-
215	5.1	12717	766	6.02	-	-	-	-
199	5.1	12770	640.355	5.01	-	-	-	-
152	5.2	12779	639	5.00	-	-	-	-
182	5.1	13280	464	3.49	-	-	-	-
266	2	14365	0.009	0.00	-	-	-	-
192	5.2	17500	920	5.26	-	-	-	-
244	2	17660	86.6	0.49	-	-	-	-
53	2	17757	888	5.00	-	-	-	-
204	1.2	19529	490	2.51	-	-	-	-
113	2	21000	25.9	0.12	-	-	-	-
35	1.51	21000	2000	9.52	-	-	-	-
146	4.32	23300	4100	17.60	-	-	-	-
77	1.2	23517	1791	7.62	-	-	-	-
44	4.2	25060.8	4573.7	18.25	-	-	-	-
238	1.1	37800	3700	9.79	-	-	-	-
267	2	52340	200	0.38	-	-	-	-
216	4.32	64900	1058	1.63	-	-	-	-
$Co (x_{pt} = 290, \sigma_{pt} = 20, u(x_{pt}) = 7) [mg/kg]$								
72	1.3	6.2**	0.3	4.84	-	-13.5	-39.6	0.02
129	1.2	31.02*	16.05	51.74	-	-12.3	-14.7	0.11
206	1.22	39.67*	1.41	3.55	-	-11.9	-34.3	0.14
205	5.2	139.952	24.8	17.72	-	-7.1	-5.8	0.48
100	7.2	202.109	10.198	5.05	-	-4.2	-7.0	0.70
274	10	220	10	4.55	-	-3.3	-5.6	0.76
154	7.1	225.5	4.2	1.86	-	-3.0	-7.7	0.78
209	1.4	230	5	2.17	-	-2.8	-6.8	0.79
282	5.2	235	1.17	0.50	-	-2.6	-7.5	0.81

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
283	5.1	235.7	10.1	4.29	-	-2.6	-4.3	0.81
259	7.1	245	8	3.27	-	-2.1	-4.1	0.85
263	5.1	245.98	13.29	5.40	-	-2.1	-2.9	0.85
203	5.2	246	8	3.25	-	-2.1	-4.0	0.85
145	1.22	253.733	14.464	5.70	-	-1.7	-2.2	0.88
302	5.1	258.3	0.25	0.10	-	-1.5	-4.3	0.89
276	7.2	260	21	8.08	-	-1.4	-1.3	0.90
40	5.1	265	16	6.04	-	-1.2	-1.4	0.92
85	7.2	266	6	2.26	-	-1.1	-2.5	0.92
116	1.32	271.82	7.8	2.87	-	-0.8	-1.7	0.94
266	2	272	0.001	0.00	-	-0.8	-2.4	0.94
281	5.2	273	1.37	0.50	-	-0.8	-2.2	0.94
235	1.22	274	9.85	3.59	-	-0.7	-1.3	0.95
61	5.2	280	17	6.07	-	-0.4	-0.5	0.97
215	5.1	284	17	5.99	-	-0.3	-0.3	0.98
237	5.1	285	8	2.81	-	-0.2	-0.4	0.98
169	5.1	286	10	3.50	-	-0.2	-0.3	0.99
171	5.1	286	12	4.20	-	-0.2	-0.2	0.99
279	5.2	286	16	5.59	-	-0.2	-0.2	0.99
261	5.1	286.88	1.69	0.59	-	-0.1	-0.3	0.99
126	1.23	288	29	10.07	-	-0.1	0.0	1.00
172	5.2	289	12	4.15	-	0.0	0.0	1.00
220	5.2	289.522	13.381	4.62	-	0.0	0.0	1.00
170	5.2	290.572	6.246	2.15	-	0.1	0.1	1.00
174	7.2	291.186	12.083	4.15	-	0.1	0.1	1.01
195	5.2	292	40	13.70	-	0.1	0.1	1.01
202	5.1	292	3	1.03	-	0.1	0.3	1.01
199	5.1	292.2	4.077	1.40	-	0.1	0.3	1.01
176	5.2	293	8	2.73	-	0.2	0.3	1.01
296	2	294	0.002	0.00	-	0.2	0.7	1.02
192	5.2	295	15	5.08	-	0.3	0.3	1.02
257	5.2	297	16	5.39	-	0.4	0.4	1.03
247	5.2	298	10	3.36	-	0.4	0.7	1.03
182	5.1	299	38.27	12.80	-	0.5	0.2	1.03
55	5.2	300.99	5	1.66	-	0.6	1.3	1.04
183	5.1	303	6	1.98	-	0.7	1.5	1.05
234	5.2	306	11	3.59	-	0.8	1.3	1.06
53	2	307	31	10.10	-	0.8	0.6	1.06
244	2	311.8	22.32	7.16	-	1.1	1.0	1.08
151	7.2	317.339	7.313	2.30	-	1.3	2.7	1.10
272	5.2	320.747	7.571	2.36	-	1.5	3.0	1.11
194	5.1	322.7	49.502	15.34	-	1.6	0.7	1.12
193	5.2	325.55	2.938	0.90	-	1.7	4.7	1.13
252	2	335	45	13.43	-	2.2	1.0	1.16
295	2	340	32	9.41	-	2.4	1.5	1.18
230	1.24	345	51	14.78	-	2.7	1.1	1.19
152	5.2	346.081	6.18	1.79	-	2.7	6.0	1.20
77	1.2	366	40	10.93	-	3.7	1.9	1.26
133	4.1	488	100	20.49	-	9.5	2.0	1.69

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
146	4.32	550*	68	12.36	-	12.4	3.8	1.90
113	2	554*	1.42	0.26	-	12.6	36.3	1.91
44	4.2	779.3*	69.2	8.88	-	23.4	7.0	2.69
216	4.32	2100*	627	29.86	-	86.3	2.9	7.26
65	1.16	2657.385*	37.495	1.41	-	112.9	62.0	9.18
Cr [mg/kg]								
72	1.3	5.8**	0.4	6.90	-	-	-	-
278	1.22	29.162	1.839	6.31	-	-	-	-
205	5.2	45.211	8.56	18.93	-	-	-	-
291	6.1	59.055	0.055	0.09	-	-	-	-
204	1.2	89.367	8.45	9.46	-	-	-	-
254	1.21	94.847	3.842	4.05	-	-	-	-
270	6.1	140.62	0.14	0.10	-	-	-	-
273	7.1	158.178	0.088	0.06	-	-	-	-
234	5.2	166	25	15.06	-	-	-	-
203	5.2	177	5	2.82	-	-	-	-
279	5.2	182	10	5.49	-	-	-	-
275	7.2	188.86	23.31	12.34	-	-	-	-
283	5.1	193.9	10.3	5.31	-	-	-	-
261	5.1	194.94	1.48	0.76	-	-	-	-
154	7.1	203.5	4.2	2.06	-	-	-	-
282	5.2	212	2.57	1.21	-	-	-	-
151	7.2	212.548	1.541	0.73	-	-	-	-
53	1.32	213	13	6.10	-	-	-	-
85	7.2	217	16	7.37	-	-	-	-
263	5.1	217.99	11.89	5.45	-	-	-	-
61	5.2	219	18	8.22	-	-	-	-
259	7.1	220	10	4.55	-	-	-	-
233	1.23	222	33	14.86	-	-	-	-
192	5.2	223	12	5.38	-	-	-	-
276	7.2	223	18	8.07	-	-	-	-
202	5.1	225	7	3.11	-	-	-	-
209	1.4	230	10	4.35	-	-	-	-
199	5.1	230.033	23.146	10.06	-	-	-	-
149	1.22	231	16.4	7.10	-	-	-	-
172	5.2	234	9	3.85	-	-	-	-
215	5.1	234	14	5.98	-	-	-	-
193	5.2	235.05	2.116	0.90	-	-	-	-
176	5.2	237	7	2.95	-	-	-	-
169	5.1	237	8	3.38	-	-	-	-
302	5.1	238.4	0.72	0.30	-	-	-	-
170	5.2	238.404	14.856	6.23	-	-	-	-
257	5.2	239	12	5.02	-	-	-	-
40	5.1	240	15	6.25	-	-	-	-
220	5.2	241.422	9.123	3.78	-	-	-	-
126	1.23	242	25	10.33	-	-	-	-
78	1.23	243	9	3.70	-	-	-	-
237	5.1	244	6.5	2.66	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
194	5.1	245.68	19.252	7.84	-	-	-	-
281	5.2	246	3.94	1.60	-	-	-	-
171	5.1	250.8	9.4	3.75	-	-	-	-
247	5.2	251	10	3.98	-	-	-	-
249	1.23	253.24	65.52	25.87	-	-	-	-
183	5.1	256	5	1.95	-	-	-	-
295	2	256	21	8.20	-	-	-	-
182	5.1	264	31.68	12.00	-	-	-	-
206	1.22	266	5.8	2.18	-	-	-	-
235	1.22	269.33	12.74	4.73	-	-	-	-
272	5.2	269.476	11.569	4.29	-	-	-	-
137	1.22	275	37	13.45	-	-	-	-
174	7.1	276.2	15.225	5.51	-	-	-	-
55	5.2	279.3	15	5.37	-	-	-	-
238	1.1	289	39	13.49	-	-	-	-
252	2	292	31	10.62	-	-	-	-
116	1.32	292.6	2.4	0.82	-	-	-	-
296	2	302	0.002	0.00	-	-	-	-
244	2	307.9	42.7	13.87	-	-	-	-
75	1.2	313	41	13.10	-	-	-	-
152	5.2	320.553	8.603	2.68	-	-	-	-
145	1.22	376.166	10.792	2.87	-	-	-	-
266	2	388	0.004	0.00	-	-	-	-
65	1.16	389.229	29.206	7.50	-	-	-	-
35	1.51	431	43	9.98	-	-	-	-
77	1.2	434	29	6.68	-	-	-	-
146	4.32	440	72	16.36	-	-	-	-
230	1.24	443	67	15.12	-	-	-	-
129	1.2	488.81	250.69	51.29	-	-	-	-
113	2	561	2.92	0.52	-	-	-	-
44	4.2	645.3	232.2	35.98	-	-	-	-
274	10	800	100	12.50	-	-	-	-
130	2	834.3	87	10.43	-	-	-	-
216	4.32	1400	233	16.64	-	-	-	-
100	7.2	1648.104	75.577	4.59	-	-	-	-
$Cs (x_{pt} = 2.97, \sigma_{pt} = 0.4, u(x_{pt}) = 0.08) [mg/kg]$								
195	5.2	1.77	0.27	15.25	-3.0	-	-4.2	0.60
204	1.2	1.985	0.554	27.91	-2.4	-	-1.8	0.67
152	5.2	2.08	0.17	8.17	-2.2	-	-4.7	0.70
192	5.2	2.17	0.12	5.53	-2.0	-	-5.5	0.73
261	5.1	2.64	0.08	3.03	-0.8	-	-2.9	0.89
263	5.1	2.64	0.2	7.58	-0.8	-	-1.5	0.89
85	7.2	2.65	0.6	22.64	-0.8	-	-0.5	0.89
283	5.1	2.73	0.25	9.16	-0.6	-	-0.9	0.92
199	5.1	2.75	0.2	7.27	-0.5	-	-1.0	0.93
194	5.1	2.77	0.94	33.94	-0.5	-	-0.2	0.93
220	5.1	2.775	0.108	3.89	-0.5	-	-1.4	0.93
215	5.1	2.82	0.19	6.74	-0.4	-	-0.7	0.95

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	Zeta-score	$R$ -score
202	5.1	2.82	0.34	12.06	-0.4	-	-0.4	0.95
203	5.2	2.83	0.08	2.83	-0.3	-	-1.2	0.95
257	5.2	2.9	0.2	6.90	-0.2	-	-0.3	0.98
172	5.2	2.97	0.13	4.38	0.0	-	0.0	1.00
302	5.1	2.975	0.045	1.51	0.0	-	0.1	1.00
151	7.2	2.985	0.044	1.47	0.0	-	0.2	1.01
279	5.2	3.01	0.2	6.64	0.1	-	0.2	1.01
61	5.2	3.03	0.42	13.86	0.2	-	0.1	1.02
176	5.2	3.04	0.1	3.29	0.2	-	0.5	1.02
193	5.2	3.07	0.618	20.13	0.3	-	0.2	1.03
237	5.1	3.11	0.08	2.57	0.3	-	1.2	1.05
247	5.2	3.12	0.12	3.85	0.4	-	1.0	1.05
174	7.2	3.132	0.065	2.08	0.4	-	1.6	1.05
169	5.1	3.23	0.12	3.72	0.6	-	1.8	1.09
182	5.1	3.26	0.71	21.78	0.7	-	0.4	1.10
170	5.2	3.349	1.058	31.59	0.9	-	0.4	1.13
183	5.1	3.36	0.17	5.06	1.0	-	2.1	1.13
171	5.1	3.36	0.28	8.33	1.0	-	1.3	1.13
40	5.1	3.4	0.24	7.06	1.1	-	1.7	1.15
233	1.23	4	0.5	12.50	2.6	-	2.0	1.35
282	5.2	4.77*	0.39	8.18	4.5	-	4.5	1.61
206	1.22	12*	0.919	7.66	22.4	-	9.8	4.04
$Cu (x_{pt} = 281, \sigma_{pt} = 19, u(x_{pt}) = 14) [mg/kg]$								
278	1.22	0.532**	0.02	3.76	-	-11.9	-20.5	0.00
277	7.1	0.567**	0.368	64.90	-	-11.9	-20.5	0.00
254	1.21	1.857**	0.168	9.05	-	-11.8	-20.4	0.01
72	1.3	8.1**	0.3	3.70	-	-11.6	-19.9	0.03
204	1.2	27.018	2.155	7.98	-	-10.8	-18.3	0.10
293	1.2	31.4	5	15.92	-	-10.6	-17.1	0.11
129	1.2	69.89	12.52	17.91	-	-8.9	-11.4	0.25
291	6.1	111.095	0.048	0.04	-	-7.2	-12.4	0.39
100	7.2	158.573	10.519	6.63	-	-5.2	-7.1	0.56
270	6.1	181.39	0.04	0.02	-	-4.2	-7.3	0.64
298	6.1	188	3.38	1.80	-	-3.9	-6.6	0.67
233	1.23	199	22	11.06	-	-3.5	-3.2	0.71
229	6.2	205.8	12	5.83	-	-3.2	-4.1	0.73
276	7.2	206	16	7.77	-	-3.2	-3.6	0.73
209	1.4	220	15	6.82	-	-2.6	-3.0	0.78
275	7.2	232.38	13.03	5.61	-	-2.1	-2.6	0.83
172	5.2	236	59	25.00	-	-1.9	-0.7	0.84
174	7.2	238.242	7.735	3.25	-	-1.8	-2.7	0.85
295	2	239	15	6.28	-	-1.8	-2.1	0.85
85	7.2	240	10	4.17	-	-1.7	-2.4	0.85
286	6.1	245.75	2.14	0.87	-	-1.5	-2.6	0.87
53	1.32	250	15	6.00	-	-1.3	-1.5	0.89
296	2	251	0.01	0.00	-	-1.3	-2.2	0.89
145	1.22	254.7	7.407	2.91	-	-1.1	-1.7	0.91
259	7.1	255	10	3.92	-	-1.1	-1.6	0.91

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
36	6.2	256	25	9.77	-	-1.1	-0.9	0.91
272	6.1	259	6.7	2.59	-	-0.9	-1.5	0.92
176	5.2	260	40	15.38	-	-0.9	-0.5	0.92
285	6.2	262	7.3	2.79	-	-0.8	-1.2	0.93
73	1.21	265	14	5.28	-	-0.7	-0.8	0.94
230	1.24	266	40	15.04	-	-0.6	-0.4	0.95
238	1.1	269	34	12.64	-	-0.5	-0.3	0.96
237	5.1	270	20	7.41	-	-0.5	-0.5	0.96
206	1.22	271	3	1.11	-	-0.4	-0.7	0.96
126	1.23	275	28	10.18	-	-0.3	-0.2	0.98
252	2	277	20	7.22	-	-0.2	-0.2	0.98
116	1.32	278.75	10.4	3.73	-	-0.1	-0.2	0.99
78	1.23	282	4	1.42	-	0.0	0.0	1.00
249	1.23	288.413	43.05	14.93	-	0.3	0.2	1.03
151	7.2	291.655	26.193	8.98	-	0.4	0.3	1.04
149	1.22	292	12.3	4.21	-	0.5	0.6	1.04
154	7.1	293.1	5.7	1.94	-	0.5	0.8	1.04
133	4.1	310	30	9.68	-	1.2	0.9	1.10
244	2	311.03	25.88	8.32	-	1.3	1.0	1.11
77	1.2	321	42	13.08	-	1.7	0.9	1.14
75	1.2	322	12	3.73	-	1.7	2.2	1.14
65	1.16	322.825	28.234	8.75	-	1.8	1.3	1.15
235	1.22	329	10.44	3.17	-	2.0	2.8	1.17
266	2	332	0.002	0.00	-	2.1	3.7	1.18
215	5.1	355	101	28.45	-	3.1	0.7	1.26
199	5.1	355.9	25	7.02	-	3.2	2.6	1.26
137	1.22	358	24	6.70	-	3.2	2.8	1.27
130	2	393	47.5	12.09	-	4.7	2.3	1.40
102	1.23	403	14	3.47	-	5.1	6.2	1.43
35	1.51	437	57	13.04	-	6.6	2.7	1.55
146	4.32	460	58	12.61	-	7.6	3.0	1.63
24	1.13	460	31	6.74	-	7.6	5.3	1.63
44	4.2	461	55.2	11.97	-	7.6	3.2	1.64
113	2	494	1.06	0.21	-	9.0	15.5	1.76
302	5.1	508.3	3.05	0.60	-	9.6	16.2	1.81
216	4.32	700*	406	58.00	-	17.7	1.0	2.49
$Dy (x_{pt} = 3.94, \sigma_{pt} = 0.5, u(x_{pt}) = 0.18) [mg/kg]$								
85	7.2	2.6	0.3	11.54	-	-2.5	-3.8	0.66
220	5.1	3.156	0.29	9.19	-	-1.4	-2.3	0.80
257	5.2	3.4	0.5	14.71	-	-1.0	-1.0	0.86
172	5.2	3.51	0.15	4.27	-	-0.8	-1.8	0.89
202	5.1	3.59	0.42	11.70	-	-0.6	-0.8	0.91
176	5.2	3.7	0.5	13.51	-	-0.4	-0.4	0.94
237	5.1	3.77	0.1	2.65	-	-0.3	-0.8	0.96
40	5.1	3.8	0.6	15.79	-	-0.3	-0.2	0.97
282	5.2	3.81	0.18	4.72	-	-0.2	-0.5	0.97
247	5.2	4.05	0.43	10.62	-	0.2	0.2	1.03
174	7.2	4.06	0.022	0.54	-	0.2	0.7	1.03



TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
215	5.1	4.2	0.6	14.29	-	0.5	0.4	1.07
279	5.2	4.34	1	23.04	-	0.7	0.4	1.10
281	5.2	4.46	0.65	14.57	-	1.0	0.8	1.13
182	5.1	4.58	0.46	10.04	-	1.2	1.3	1.16
192	5.2	4.63	0.25	5.40	-	1.3	2.3	1.18
152	5.2	5.118	0.417	8.15	-	2.2	2.6	1.30
Er [mg/kg]								
85	7.2	1.5	0.5	33.33	-	-	-	-
174	7.2	2.302	0.05	2.17	-	-	-	-
$Fe (x_{pt} = 14900, \sigma_{pt} = 600, u(x_{pt}) = 500) [mg/kg]$								
278	1.22	16.049**	1.506	9.38	-	-19.3	-28.1	0.00
277	7.1	27.02**	1.53	5.66	-	-19.3	-28.1	0.00
254	1.21	377.653**	21.34	5.65	-	-18.8	-27.4	0.03
72	1.3	400**	6	1.50	-	-18.8	-27.4	0.03
293	1.2	535**	86	16.07	-	-18.6	-26.8	0.04
291	6.1	4500	0.046	0.00	-	-13.5	-19.7	0.30
205	5.2	7331.561	3251	44.34	-	-9.8	-2.3	0.49
209	1.4	8377	150	1.79	-	-8.5	-11.9	0.56
195	5.2	9194	1796	19.53	-	-7.4	-3.1	0.62
154	7.1	10989	218	1.98	-	-5.1	-6.9	0.74
266	2	10990	0.001	0.00	-	-5.1	-7.4	0.74
283	5.1	11040	350	3.17	-	-5.0	-6.1	0.74
302	5.1	11180	45	0.40	-	-4.9	-7.1	0.75
263	5.1	11259.19	563.95	5.01	-	-4.8	-4.7	0.75
100	7.2	11789.28	711.377	6.03	-	-4.1	-3.5	0.79
85	7.2	11800	1100	9.32	-	-4.1	-2.6	0.79
261	5.1	11858	110	0.93	-	-4.0	-5.7	0.79
234	5.2	11900	800	6.72	-	-3.9	-3.2	0.80
40	5.1	12048	723	6.00	-	-3.7	-3.2	0.81
272	6.1	12189	426	3.49	-	-3.6	-4.0	0.82
282	5.2	12220	162	1.33	-	-3.5	-4.9	0.82
151	7.2	12253.283	182.291	1.49	-	-3.5	-4.8	0.82
279	5.2	12350	580	4.70	-	-3.3	-3.3	0.83
268	6.1	12543.86	752.632	6.00	-	-3.1	-2.6	0.84
215	5.1	12581	744	5.91	-	-3.0	-2.6	0.84
61	5.2	12630	550	4.35	-	-3.0	-3.0	0.85
199	5.1	12703.333	249.144	1.96	-	-2.9	-3.8	0.85
281	5.2	12800	320	2.50	-	-2.8	-3.4	0.86
233	1.23	12820	1154	9.00	-	-2.7	-1.7	0.86
169	5.1	12872	453	3.52	-	-2.7	-3.0	0.86
237	5.1	12900	350	2.71	-	-2.6	-3.2	0.86
171	5.1	12920	380	2.94	-	-2.6	-3.1	0.87
259	7.1	12932	25	0.19	-	-2.6	-3.8	0.87
274	5.2	13000	1000	7.69	-	-2.5	-1.7	0.87
172	5.2	13011	523	4.02	-	-2.5	-2.6	0.87
203	5.2	13100	400	3.05	-	-2.4	-2.8	0.88
192	5.2	13100	700	5.34	-	-2.4	-2.1	0.88

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
220	5.1	13135.697	408.885	3.11	-	-2.3	-2.7	0.88
250	2	13163.329	613.645	4.66	-	-2.3	-2.2	0.88
276	7.1	13269	1326	9.99	-	-2.2	-1.2	0.89
176	5.2	13400	500	3.73	-	-2.0	-2.1	0.90
77	1.2	13403	1288	9.61	-	-2.0	-1.1	0.90
174	7.1	13527	220	1.63	-	-1.8	-2.5	0.91
183	5.1	13535	263	1.94	-	-1.8	-2.4	0.91
202	5.1	13540	407	3.01	-	-1.8	-2.1	0.91
170	5.2	13596	87.9	0.65	-	-1.7	-2.5	0.91
247	5.2	13673	480	3.51	-	-1.6	-1.8	0.92
257	5.2	13800	690	5.00	-	-1.5	-1.3	0.92
55	5.2	14249.3	1250	8.77	-	-0.9	-0.5	0.95
182	5.1	14340	2205	15.38	-	-0.8	-0.3	0.96
36	6.1	14450	1445	10.00	-	-0.6	-0.3	0.97
193	5.2	14640	0.194	0.00	-	-0.4	-0.6	0.98
249	1.23	15275	1976	12.94	-	0.4	0.2	1.02
206	1.22	15312	2.59	0.02	-	0.5	0.7	1.03
230	1.24	15396	1097	7.13	-	0.6	0.4	1.03
238	1.1	15400	1900	12.34	-	0.6	0.2	1.03
194	5.1	15474.29	1440.09	9.31	-	0.7	0.4	1.04
295	2	15500	2255	14.55	-	0.7	0.2	1.04
275	7.2	15513.87	883.53	5.70	-	0.7	0.6	1.04
53	2	15550	777	5.00	-	0.8	0.7	1.04
149	1.22	15553	355	2.28	-	0.8	1.0	1.04
244	2	15656.67	123.42	0.79	-	0.9	1.3	1.05
78	1.23	15841	59	0.37	-	1.2	1.7	1.06
273	7.1	16244.531	0.084	0.00	-	1.7	2.5	1.09
116	1.32	16282	64	0.39	-	1.7	2.5	1.09
235	1.22	16698	392.08	2.35	-	2.3	2.7	1.12
126	1.23	16917	1692	10.00	-	2.6	1.1	1.13
252	2	17997	335	1.86	-	4.0	4.9	1.20
265	1.22	18378	1350	7.35	-	4.5	2.4	1.23
102	1.23	18839	219	1.16	-	5.0	6.8	1.26
145	1.22	18890.333	897.936	4.75	-	5.1	3.8	1.26
133	4.1	19600	1000	5.10	-	6.0	4.1	1.31
204	1.2	19821.251	445.099	2.25	-	6.3	7.1	1.33
75	1.2	20017	146	0.73	-	6.6	9.2	1.34
24	1.13	20029	3540	17.67	-	6.6	1.4	1.34
65	1.16	21871.843	1932.263	8.83	-	9.0	3.5	1.46
44	4.2	22221.2	1397.2	6.29	-	9.4	4.9	1.49
270	6.1	22928.2	0.24	0.00	-	10.3	15.1	1.54
129	1.2	23300	11900	51.07	-	10.8	0.7	1.56
146	4.32	23300	1980	8.50	-	10.8	4.1	1.56
73	1.21	23420	70	0.30	-	11.0	15.8	1.57
130	2	23764.28	2533.2	10.66	-	11.4	3.4	1.59
152	5.2	24981.648	523.144	2.09	-	13.0	13.5	1.67
35	1.51	25300	3400	13.44	-	13.4	3.0	1.69
113	2	26633	12.2	0.05	-	15.1	22.0	1.78
267	2	37430*	600	1.60	-	29.1	28.1	2.51

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
216	4.32	60300*	1103	1.83	-	58.7	37.1	4.04
Ga [mg/kg]								
72	1.3	0.29**	0.08	27.59	-	-	-	-
205	5.2	1.787	0.59	33.02	-	-	-	-
204	1.2	4.108	1.012	24.63	-	-	-	-
254	1.21	6.06	1.823	30.08	-	-	-	-
209	1.4	9	1	11.11	-	-	-	-
133	4.1	10	2	20.00	-	-	-	-
116	1.32	10.6	0.81	7.64	-	-	-	-
152	5.2	11.832	1.043	8.82	-	-	-	-
100	7.2	15.719	0.638	4.06	-	-	-	-
279	5.2	15.9	3.3	20.75	-	-	-	-
215	5.1	16.5	2	12.12	-	-	-	-
151	7.2	16.969	0.853	5.03	-	-	-	-
40	5.1	17	1.7	10.00	-	-	-	-
182	5.1	17.14	3.4	19.84	-	-	-	-
206	1.22	18.54	0.91	4.91	-	-	-	-
302	5.1	18.77	0.41	2.18	-	-	-	-
174	7.2	19.666	0.405	2.06	-	-	-	-
237	5.1	19.8	0.6	3.03	-	-	-	-
252	2	20.1	0.6	2.99	-	-	-	-
172	5.2	21.6	2	9.26	-	-	-	-
126	1.23	22	2.5	11.36	-	-	-	-
249	1.23	24.52	6.832	27.86	-	-	-	-
146	4.32	31	6	19.35	-	-	-	-
113	2	34	0.21	0.62	-	-	-	-
65	1.16	45.427	3.403	7.49	-	-	-	-
235	7.1	54.09	0.19	0.35	-	-	-	-
Gd [mg/kg]								
274	10	0.51	0.04	7.84	-	-	-	-
279	5.2	2.68	0.25	9.33	-	-	-	-
220	5.1	3.421	0.317	9.27	-	-	-	-
192	5.2	4.09	0.23	5.62	-	-	-	-
183	5.4	4.2	0.3	7.14	-	-	-	-
174	7.2	4.492	0.089	1.98	-	-	-	-
85	7.2	5.25	1	19.05	-	-	-	-
263	5.1	44.25**	2.78	6.28	-	-	-	-
$Hf(x_{pt} = 6.20, \sigma_{pt} = 0.8, u(x_{pt}) = 0.15)$ [mg/kg]								
100	7.2	2.959*	0.274	9.26	-4.3	-	-10.3	0.48
261	5.1	4.99	0.07	1.40	-1.6	-	-7.2	0.80
199	5.1	5.126	0.427	8.33	-1.4	-	-2.4	0.83
283	5.1	5.286	0.281	5.32	-1.2	-	-2.9	0.85
247	5.2	5.39	0.97	18.00	-1.1	-	-0.8	0.87
263	5.1	5.64	0.31	5.50	-0.7	-	-1.6	0.91
279	5.2	5.73	0.49	8.55	-0.6	-	-0.9	0.92
202	5.1	5.78	0.4	6.92	-0.6	-	-1.0	0.93

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score	
282	5.2	5.8	0.21	3.62	-0.5	-	-1.5	0.94	
220	5.1	5.863	0.505	8.61	-0.5	-	-0.6	0.95	
170	5.2	5.987	0.938	15.67	-0.3	-	-0.2	0.97	
169	5.1	6.1	0.22	3.61	-0.1	-	-0.4	0.98	
194	5.1	6.14	0.887	14.45	-0.1	-	-0.1	0.99	
152	5.2	6.141	0.01	0.16	-0.1	-	-0.4	0.99	
192	5.2	6.23	0.4	6.42	0.0	-	0.1	1.00	
237	5.1	6.34	0.19	3.00	0.2	-	0.6	1.02	
176	5.2	6.39	0.19	2.97	0.2	-	0.8	1.03	
40	5.1	6.4	0.4	6.25	0.3	-	0.5	1.03	
126	1.23	6.4	2	31.25	0.3	-	0.1	1.03	
172	5.2	6.6	0.27	4.09	0.5	-	1.3	1.06	
257	5.2	6.6	0.3	4.55	0.5	-	1.2	1.06	
272	5.2	6.638	0.236	3.56	0.6	-	1.5	1.07	
215	5.1	6.7	0.41	6.12	0.7	-	1.1	1.08	
171	5.1	6.71	0.95	14.16	0.7	-	0.5	1.08	
302	5.1	6.77	0.054	0.80	0.8	-	3.5	1.09	
195	5.2	6.77	1.14	16.84	0.8	-	0.5	1.09	
61	5.2	6.81	0.8	11.75	0.8	-	0.7	1.10	
183	5.1	6.86	0.2	2.92	0.9	-	2.6	1.11	
182	5.1	7.78	1.05	13.50	2.1	-	1.5	1.25	
65	1.16	8.789	0.652	7.42	3.4	-	3.9	1.42	
					Hg [mg/kg]				
100	7.2	0.129**	0.09	69.77	-	-	-	-	
274	10	5.4	0.9	16.67	-	-	-	-	
286	6.4	5.99	0.01	0.17	-	-	-	-	
238	1.1	6	1	16.67	-	-	-	-	
284	10	8.594	0.086	1.00	-	-	-	-	
261	5.1	9.59	0.5	5.21	-	-	-	-	
302	5.1	9.613	0.077	0.80	-	-	-	-	
283	5.1	9.92	1.1	11.09	-	-	-	-	
298	10	12.3	0.47	3.82	-	-	-	-	
263	5.1	12.59	0.64	5.08	-	-	-	-	
275	7.2	12.69	0.64	5.04	-	-	-	-	
215	5.1	12.7	0.8	6.30	-	-	-	-	
279	5.2	12.7	1.16	9.13	-	-	-	-	
169	5.1	13.2	0.5	3.79	-	-	-	-	
237	5.1	13.6	0.35	2.57	-	-	-	-	
171	5.1	13.7	1.1	8.03	-	-	-	-	
296	2	15	0.002	0.01	-	-	-	-	
172	5.2	15	0.6	4.00	-	-	-	-	
192	5.2	15.4	0.8	5.19	-	-	-	-	
126	1.23	16.8	2	11.90	-	-	-	-	
276	10	17.2	2	11.63	-	-	-	-	
273	7.1	17.317	1.101	6.36	-	-	-	-	
235	1.22	54	3	5.56	-	-	-	-	
252	2	106	9	8.49	-	-	-	-	

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
					I [mg/kg]			
204	1.2	4.265	0.977	22.91	-	-	-	-
206	1.22	37.82	2.67	7.06	-	-	-	-
					K [mg/kg]			
277	7.1	11.02**	1.14	10.34	-	-	-	-
278	1.22	87.766**	2.655	3.03	-	-	-	-
72	1.3	130**	4	3.08	-	-	-	-
270	6.1	1215.22	0.05	0.00	-	-	-	-
149	1.22	1560	864	55.38	-	-	-	-
154	7.1	2768	54	1.95	-	-	-	-
129	1.2	3296.9	1707.92	51.80	-	-	-	-
36	6.1	3400	340	10.00	-	-	-	-
85	7.2	3412	600	17.58	-	-	-	-
100	7.2	3812.934	259.603	6.81	-	-	-	-
254	1.21	4174.41	201.25	4.82	-	-	-	-
302	5.1	4660	56	1.20	-	-	-	-
266	2	4670	0.004	0.00	-	-	-	-
202	5.1	4700	207	4.40	-	-	-	-
235	1.22	4780.33	122.39	2.56	-	-	-	-
194	5.1	4803.666	560.716	11.67	-	-	-	-
263	5.1	4820.93	413.31	8.57	-	-	-	-
40	5.1	4832	300	6.21	-	-	-	-
283	5.1	4927	420	8.52	-	-	-	-
250	2	5014.046	180.31	3.60	-	-	-	-
237	5.1	5020	130	2.59	-	-	-	-
195	5.2	5022	532	10.59	-	-	-	-
172	5.2	5065	531	10.48	-	-	-	-
102	1.23	5100	100	1.96	-	-	-	-
261	5.1	5106.4	64.65	1.27	-	-	-	-
174	7.1	5130	145	2.83	-	-	-	-
215	5.1	5131	377	7.35	-	-	-	-
220	5.1	5246.862	547.22	10.43	-	-	-	-
171	5.1	5250	600	11.43	-	-	-	-
199	5.1	5251.5	488	9.29	-	-	-	-
183	5.1	5268	179	3.40	-	-	-	-
182	5.1	5322	659	12.38	-	-	-	-
152	5.2	5387.073	156.669	2.91	-	-	-	-
279	5.2	5460	500	9.16	-	-	-	-
176	5.2	5500	400	7.27	-	-	-	-
151	7.2	5599.581	596.662	10.66	-	-	-	-
206	1.22	5603	1.7	0.03	-	-	-	-
55	5.2	5658.9	600	10.60	-	-	-	-
126	1.23	5778	866	14.99	-	-	-	-
75	1.2	5796	91	1.57	-	-	-	-
116	1.32	5836	288	4.93	-	-	-	-
257	5.2	5860	490	8.36	-	-	-	-
274	5.2	6000	1000	16.67	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
53	2	6019	602	10.00	-	-	-	-
247	5.2	6104	232	3.80	-	-	-	-
281	5.2	6210	391.23	6.30	-	-	-	-
268	6.1	6325.45	303.62	4.80	-	-	-	-
234	5.2	6340	700	11.04	-	-	-	-
230	1.24	6366	509	8.00	-	-	-	-
233	1.23	6474	826	12.76	-	-	-	-
192	5.2	6620	350	5.29	-	-	-	-
282	5.2	6770	203	3.00	-	-	-	-
244	2	6884	93.21	1.35	-	-	-	-
204	1.2	6932.875	414.46	5.98	-	-	-	-
65	1.16	7163.018	514.755	7.19	-	-	-	-
252	2	7626	43	0.56	-	-	-	-
249	1.23	7788	1341	17.22	-	-	-	-
133	4.1	7790	779	10.00	-	-	-	-
77	1.2	7795	499	6.40	-	-	-	-
238	1.1	7860	800	10.18	-	-	-	-
44	4.2	8137.3	943	11.59	-	-	-	-
145	1.22	8269	393.103	4.75	-	-	-	-
130	2	8944.6	1003	11.21	-	-	-	-
295	2	9160	856	9.34	-	-	-	-
146	4.32	9400	700	7.45	-	-	-	-
35	1.51	9660	600	6.21	-	-	-	-
193	5.2	10163.5	72.8	0.72	-	-	-	-
73	1.21	11280	100	0.89	-	-	-	-
113	2	11600	16.6	0.14	-	-	-	-
267	2	20900	400	1.91	-	-	-	-
216	4.32	26300	720	2.74	-	-	-	-
293	1.2	86945**	13911	16.00	-	-	-	-
$La (x_{pt} = 39.4, \sigma_{pt} = 4, u(x_{pt}) = 0.8) [mg/kg]$								
204	1.2	8.77*	1.883	21.47	-8.5	-	-15.0	0.22
65	1.16	15.176*	1.255	8.27	-6.7	-	-16.4	0.38
206	1.22	18.4*	2.4	13.04	-5.8	-	-8.3	0.47
205	5.2	20.509*	3.17	15.46	-5.2	-	-5.8	0.52
85	7.2	26	6	23.08	-3.7	-	-2.2	0.66
100	7.2	26.366	1.09	4.13	-3.6	-	-9.7	0.67
193	5.2	33.16	4.08	12.30	-1.7	-	-1.5	0.84
283	5.1	34.92	1.6	4.58	-1.2	-	-2.5	0.89
172	5.2	36.1	2	5.54	-0.9	-	-1.5	0.92
263	5.1	36.46	1.86	5.10	-0.8	-	-1.5	0.92
169	5.1	37.3	1.3	3.49	-0.6	-	-1.4	0.95
302	5.1	37.56	0.11	0.29	-0.5	-	-2.4	0.95
261	5.1	37.886	0.349	0.92	-0.4	-	-1.8	0.96
40	5.1	38	2.3	6.05	-0.4	-	-0.6	0.96
237	5.1	38.6	1	2.59	-0.2	-	-0.6	0.98
233	1.23	39	6	15.38	-0.1	-	-0.1	0.99
174	7.2	39.259	0.297	0.76	0.0	-	-0.2	1.00
215	5.1	39.4	2.3	5.84	0.0	-	0.0	1.00

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
202	5.1	39.4	1	2.54	0.0	-	0.0	1.00
238	1.1	39.8	4.1	10.30	0.1	-	0.1	1.01
152	5.2	39.98	0.11	0.28	0.2	-	0.7	1.01
171	5.1	40.2	1.2	2.99	0.2	-	0.5	1.02
257	5.2	40.4	2.1	5.20	0.3	-	0.4	1.02
234	5.2	40.4	2.1	5.20	0.3	-	0.4	1.02
220	5.1	40.703	1.734	4.26	0.4	-	0.7	1.03
199	5.1	40.77	1.564	3.84	0.4	-	0.8	1.03
247	5.2	40.8	1.4	3.43	0.4	-	0.9	1.03
61	5.2	41.3	1	2.42	0.5	-	1.5	1.05
279	5.2	41.4	1.5	3.62	0.5	-	1.2	1.05
55	5.2	41.4	3	7.25	0.5	-	0.6	1.05
183	5.1	41.5	0.8	1.93	0.6	-	1.9	1.05
282	5.2	41.6	0.15	0.36	0.6	-	2.7	1.06
176	5.2	41.6	0.6	1.44	0.6	-	2.2	1.06
203	5.2	41.8	1	2.39	0.7	-	1.9	1.06
192	5.2	42	2.2	5.24	0.7	-	1.1	1.07
170	5.2	42.66	1.237	2.90	0.9	-	2.2	1.08
194	5.1	42.89	5.952	13.88	1.0	-	0.6	1.09
151	7.2	42.904	2.047	4.77	1.0	-	1.6	1.09
182	5.1	43.62	5.9	13.53	1.2	-	0.7	1.11
281	5.2	44.1	3.4	7.71	1.3	-	1.3	1.12
195	5.2	48.1	3	6.24	2.4	-	2.8	1.22
130	2	49.5	18.9	38.18	2.8	-	0.5	1.26
252	2	60.7*	7.6	12.52	5.9	-	2.8	1.54
					Li [mg/kg]			
273	7.1	107.728	0.076	0.07	-	-	-	-
85	7.2	134	13	9.70	-	-	-	-
276	7.2	141	11	7.80	-	-	-	-
174	7.1	160.3	4.915	3.07	-	-	-	-
					Mg [mg/kg]			
277	7.1	1.826**	0.85	46.55	-	-	-	-
154	7.1	619.5	11.6	1.87	-	-	-	-
266	2	1470	0.012	0.00	-	-	-	-
270	6.1	1946.2	0.18	0.01	-	-	-	-
85	7.2	2035	400	19.66	-	-	-	-
100	7.2	2089.427	135.015	6.46	-	-	-	-
220	2	2369.128	364.846	15.40	-	-	-	-
65	1.16	2730.802	162.454	5.95	-	-	-	-
276	7.1	2765	276	9.98	-	-	-	-
295	2	2999	238	7.94	-	-	-	-
126	1.23	3062	612	19.99	-	-	-	-
36	6.1	3076	307	9.98	-	-	-	-
250	2	3087.544	696	22.54	-	-	-	-
252	2	3124	121	3.87	-	-	-	-
235	7.1	3136.32	150.43	4.80	-	-	-	-
53	2	3240	324	10.00	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
268	6.1	3253.57	644.58	19.81	-	-	-	-
174	7.1	3381	143	4.23	-	-	-	-
152	5.2	3429	32	0.93	-	-	-	-
257	5.2	3450	660	19.13	-	-	-	-
192	5.2	3450	240	6.96	-	-	-	-
244	2	3559	74.95	2.11	-	-	-	-
113	2	3620	12	0.33	-	-	-	-
259	7.1	3628	15	0.41	-	-	-	-
35	1.51	3640	320	8.79	-	-	-	-
151	7.2	3764.492	104.543	2.78	-	-	-	-
194	5.1	3778.572	570	15.09	-	-	-	-
237	5.1	3800	200	5.26	-	-	-	-
215	5.1	4038	610	15.11	-	-	-	-
40	5.1	4114	436	10.60	-	-	-	-
204	1.2	4493.167	238.453	5.31	-	-	-	-
146	4.32	4720	340	7.20	-	-	-	-
145	1.22	4806.667	419.592	8.73	-	-	-	-
203	5.2	5130	630	12.28	-	-	-	-
176	5.2	5600	700	12.50	-	-	-	-
133	4.4	6330	1500	23.70	-	-	-	-
130	2	6351.5	451.2	7.10	-	-	-	-
172	5.2	6384	1061	16.62	-	-	-	-
44	4.2	6767.2	884.6	13.07	-	-	-	-
261	5.2	6846.639	559.827	8.18	-	-	-	-
263	5.1	7387.65	1082.66	14.65	-	-	-	-
267	2	7410	300	4.05	-	-	-	-
279	5.2	7710	925	12.00	-	-	-	-
282	5.2	8718	398	4.57	-	-	-	-
206	1.22	9400	4.8	0.05	-	-	-	-
216	4.32	9500	1318	13.87	-	-	-	-
274	5.2	10000	2000	20.00	-	-	-	-
193	5.2	16469.5	155.5	0.94	-	-	-	-
281	5.2	67310**	1231	1.83	-	-	-	-
					Mn [mg/kg]			
278	1.22	11.209**	0.892	7.96	-	-	-	-
72	1.3	19.5**	0.7	3.59	-	-	-	-
254	1.21	46.72**	4.764	10.20	-	-	-	-
146	4.32	88	50	56.82	-	-	-	-
204	1.2	137.88	18.451	13.38	-	-	-	-
154	7.1	173.8	3.5	2.01	-	-	-	-
36	6.1	190	19	10.00	-	-	-	-
293	1.2	206	31	15.05	-	-	-	-
133	4.1	282	28	9.93	-	-	-	-
216	4.32	300	213	71.00	-	-	-	-
77	1.2	304	25	8.22	-	-	-	-
209	1.4	317	12	3.79	-	-	-	-
65	1.16	341.432	28.252	8.27	-	-	-	-
291	6.1	380.1	0.043	0.01	-	-	-	-



TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
233	1.23	381	38	9.97	-	-	-	-
53	1.32	410	41	10.00	-	-	-	-
230	1.24	431	69	16.01	-	-	-	-
73	1.21	468	24	5.13	-	-	-	-
244	2	477.83	26.64	5.58	-	-	-	-
75	1.2	490	35	7.14	-	-	-	-
298	6.1	548	23.6	4.31	-	-	-	-
129	1.2	555.11	284.37	51.23	-	-	-	-
206	1.22	563.6	5.5	0.98	-	-	-	-
252	2	565	43	7.61	-	-	-	-
78	1.23	570	30	5.26	-	-	-	-
249	1.23	575.821	126.06	21.89	-	-	-	-
149	1.22	587	76.1	12.96	-	-	-	-
130	2	606	56	9.24	-	-	-	-
126	1.23	666	67	10.06	-	-	-	-
145	1.22	674.233	25.723	3.82	-	-	-	-
283	5.1	696.5	31.5	4.52	-	-	-	-
263	5.1	701.45	37.07	5.28	-	-	-	-
102	1.23	735	35	4.76	-	-	-	-
234	5.2	766	51	6.66	-	-	-	-
270	6.1	779.34	0.32	0.04	-	-	-	-
193	5.2	791.27	10.33	1.31	-	-	-	-
295	2	797	98	12.30	-	-	-	-
220	5.1	800.333	102.725	12.84	-	-	-	-
85	7.2	806	120	14.89	-	-	-	-
261	5.2	829.2	4.41	0.53	-	-	-	-
194	5.1	836.45	118.754	14.20	-	-	-	-
100	7.2	841.836	50.492	6.00	-	-	-	-
266	2	850	0.001	0.00	-	-	-	-
203	5.2	852	113	13.26	-	-	-	-
237	5.1	860	25	2.91	-	-	-	-
195	5.2	867	81	9.34	-	-	-	-
24	1.13	868	55	6.34	-	-	-	-
199	5.1	873.55	24.14	2.76	-	-	-	-
235	1.22	874	235.66	26.96	-	-	-	-
40	5.1	884	56	6.33	-	-	-	-
276	7.2	888	71	8.00	-	-	-	-
182	5.1	888.3	24.87	2.80	-	-	-	-
172	5.2	889	36	4.05	-	-	-	-
273	7.1	895.126	0.079	0.01	-	-	-	-
174	7.1	895.5	146.991	16.41	-	-	-	-
35	1.51	906	200	22.08	-	-	-	-
281	5.2	909	6.36	0.70	-	-	-	-
176	5.2	920	80	8.70	-	-	-	-
268	6.1	940.98	65.82	6.99	-	-	-	-
296	2	941	0.002	0.00	-	-	-	-
113	2	952	3.01	0.32	-	-	-	-
257	5.2	970	32	3.30	-	-	-	-
215	5.1	974	57	5.85	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
274	5.2	1000	100	10.00	-	-	-	-
238	1.1	1002	122	12.18	-	-	-	-
247	5.2	1004	60	5.98	-	-	-	-
282	5.2	1032	14.6	1.41	-	-	-	-
116	1.32	1041.7	71.5	6.86	-	-	-	-
152	5.2	1043.82	52.903	5.07	-	-	-	-
192	5.2	1050	55	5.24	-	-	-	-
183	5.4	1070	20	1.87	-	-	-	-
279	5.2	1140	57	5.00	-	-	-	-
267	2	1270	100	7.87	-	-	-	-
151	7.2	2203.977	972.668	44.13	-	-	-	-
Mo [mg/kg]								
278	1.22	0.015**	0.001	6.67	-	-	-	-
254	1.21	16.963	1.003	5.91	-	-	-	-
65	1.16	18.349	0.875	4.77	-	-	-	-
204	1.2	34.793	3.571	10.26	-	-	-	-
206	1.22	37.3	0.25	0.67	-	-	-	-
100	7.2	71.046	5.009	7.05	-	-	-	-
174	7.2	77.374	2.282	2.95	-	-	-	-
238	1.1	83.9	9.4	11.20	-	-	-	-
279	5.2	89.7	6.5	7.25	-	-	-	-
182	5.1	92.01	19.32	21.00	-	-	-	-
192	5.2	93.7	5	5.34	-	-	-	-
252	2	94.9	11.4	12.01	-	-	-	-
85	7.2	96	10	10.42	-	-	-	-
235	1.22	98.67	2.08	2.11	-	-	-	-
151	7.2	99.606	1.727	1.73	-	-	-	-
199	5.1	101.3	7.5	7.40	-	-	-	-
215	5.1	102	12	11.76	-	-	-	-
126	1.23	103	10	9.71	-	-	-	-
237	5.1	104	2.5	2.40	-	-	-	-
230	1.24	104	10	9.62	-	-	-	-
203	5.2	105	4	3.81	-	-	-	-
296	2	108	0.002	0.00	-	-	-	-
295	2	108	26	24.07	-	-	-	-
265	1.22	110	0.45	0.41	-	-	-	-
172	5.2	115	27	23.48	-	-	-	-
302	5.1	117.5	2.13	1.81	-	-	-	-
266	2	118	0.003	0.00	-	-	-	-
133	4.1	123	12	9.76	-	-	-	-
263	5.1	135.1	7.72	5.71	-	-	-	-
257	5.2	138	7	5.07	-	-	-	-
146	4.32	160	19	11.88	-	-	-	-
113	2	160	0.21	0.13	-	-	-	-
24	1.13	160.28	21.014	13.11	-	-	-	-
209	1.4	163	13	7.98	-	-	-	-
44	4.2	249	47.5	19.08	-	-	-	-
75	1.2	296	21	7.09	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	Zeta-score	$R$ -score
244	2	337.97	11.79	3.49	-	-	-	-
N [mg/kg]								
113	2	8060	153	1.90	-	-	-	-
$Na (x_{pt} = 2230, \sigma_{pt} = 110, u(x_{pt}) = 90) [mg/kg]$								
277	7.1	2.416**	0.123	5.09	-	-15.5	-24.5	0.00
218	5.2	212.83**	6.63	3.12	-	-14.0	-22.1	0.10
274	5.2	900	100	11.11	-	-9.2	-9.8	0.40
205	5.2	1181.67	123.25	10.43	-	-7.3	-6.8	0.53
65	1.16	1292.113	107.375	8.31	-	-6.5	-6.7	0.58
85	7.2	1500	200	13.33	-	-5.1	-3.3	0.67
154	7.1	1535	29	1.89	-	-4.8	-7.3	0.69
244	2	1609.5	174.66	10.85	-	-4.3	-3.1	0.72
113	2	1670	14.8	0.89	-	-3.9	-6.1	0.75
283	5.1	1684	95	5.64	-	-3.8	-4.1	0.76
263	5.1	1703.88	90.19	5.29	-	-3.6	-4.1	0.76
203	5.2	1880	40	2.13	-	-2.4	-3.5	0.84
195	5.2	1895	380	20.05	-	-2.3	-0.9	0.85
199	5.1	1896	169	8.91	-	-2.3	-1.7	0.85
302	5.1	1910	4	0.21	-	-2.2	-3.5	0.86
261	5.1	1951.29	13.92	0.71	-	-1.9	-3.0	0.88
40	5.1	2004	120	5.99	-	-1.6	-1.5	0.90
174	7.1	2039	25.8	1.27	-	-1.3	-2.0	0.92
202	5.1	2064	68	3.29	-	-1.1	-1.4	0.93
171	5.1	2070	260	12.56	-	-1.1	-0.6	0.93
176	5.2	2080	90	4.33	-	-1.0	-1.2	0.93
282	5.2	2081	4.41	0.21	-	-1.0	-1.6	0.93
172	5.2	2158	135	6.26	-	-0.5	-0.4	0.97
237	5.1	2180	65	2.98	-	-0.3	-0.4	0.98
169	5.1	2199	77	3.50	-	-0.2	-0.2	0.99
170	5.2	2200	0.11	0.01	-	-0.2	-0.3	0.99
152	5.2	2201.445	55.353	2.51	-	-0.2	-0.3	0.99
204	1.2	2207.25	233.518	10.58	-	-0.1	-0.1	0.99
183	5.1	2208	40	1.81	-	-0.1	-0.2	0.99
215	5.1	2223	133	5.98	-	0.0	0.0	1.00
268	6.1	2247.9	991.32	44.10	-	0.1	0.0	1.01
279	5.2	2250	225	10.00	-	0.2	0.1	1.01
194	5.1	2264.666	102.05	4.51	-	0.3	0.3	1.02
252	2	2285	29	1.27	-	0.4	0.6	1.03
220	5.1	2291.577	198.845	8.68	-	0.4	0.3	1.03
55	5.2	2300	115	5.00	-	0.5	0.5	1.03
247	5.2	2303	205	8.90	-	0.5	0.3	1.03
257	5.2	2310	116	5.02	-	0.6	0.6	1.04
192	5.2	2320	130	5.60	-	0.6	0.6	1.04
281	5.2	2450	24.5	1.00	-	1.5	2.4	1.10
182	5.1	2487	69	2.77	-	1.8	2.3	1.12
61	5.1	2510	340	13.55	-	2.0	0.8	1.13
234	5.2	2690	120	4.46	-	3.2	3.1	1.21

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
146	4.32	2700	980	36.30	-	3.3	0.5	1.21
193	5.2	2806	24.58	0.88	-	4.0	6.1	1.26
100	7.2	2880.018	197.488	6.86	-	4.5	3.0	1.29
53	2	3110	311	10.00	-	6.1	2.7	1.40
44	4.2	3371.1	1496.4	44.39	-	7.9	0.8	1.51
126	1.23	3495	1165	33.33	-	8.8	1.1	1.57
206	1.22	4200	16	0.38	-	13.7	21.4	1.88
267	2	5100*	200	3.92	-	20.0	13.1	2.29
266	2	5180*	0.009	0.00	-	20.5	32.5	2.32
130	2	8044.5*	2009	24.97	-	40.4	2.9	3.61
Nb [mg/kg]								
254	1.21	1.897	0.633	33.37	-	-	-	-
24	1.13	8.29	0.31	3.74	-	-	-	-
204	1.2	9.77	2.061	21.10	-	-	-	-
133	4.1	13	5	38.46	-	-	-	-
85	7.2	14	2	14.29	-	-	-	-
252	2	14.3	0.6	4.20	-	-	-	-
174	7.2	15.4	0.305	1.98	-	-	-	-
126	1.23	16	2	12.50	-	-	-	-
206	1.22	16.9	1.64	9.70	-	-	-	-
265	1.22	17.8	1.858	10.44	-	-	-	-
209	1.4	22	4	18.18	-	-	-	-
230	1.24	23	5	21.74	-	-	-	-
113	2	26	0.091	0.35	-	-	-	-
146	4.32	32	9	28.13	-	-	-	-
65	1.16	49.476	4.767	9.63	-	-	-	-
$Nd (x_{pt} = 28.1, \sigma_{pt} = 3, u(x_{pt}) = 1.1) [mg/kg]$								
204	1.2	5.654	0.502	8.88	-	-7.6	-18.2	0.20
152	5.2	13.555	0.625	4.61	-	-4.9	-11.3	0.48
281	5.2	19.1	2.67	13.98	-	-3.1	-3.1	0.68
85	7.2	21	7	33.33	-	-2.4	-1.0	0.75
203	5.2	21.8	2.6	11.93	-	-2.1	-2.2	0.78
261	5.1	23.02	2.11	9.17	-	-1.7	-2.1	0.82
172	5.2	24.7	1.2	4.86	-	-1.2	-2.1	0.88
61	5.1	25.1	5.6	22.31	-	-1.0	-0.5	0.89
65	1.16	25.429	1.248	4.91	-	-0.9	-1.6	0.91
302	5.1	26.44	2.57	9.72	-	-0.6	-0.6	0.94
247	5.2	26.7	3.8	14.23	-	-0.5	-0.4	0.95
193	5.2	27.307	2.215	8.11	-	-0.3	-0.3	0.97
202	5.1	27.5	4.8	17.45	-	-0.2	-0.1	0.98
192	5.2	27.6	1.5	5.43	-	-0.2	-0.3	0.98
206	1.22	28.3	5.8	20.49	-	0.1	0.0	1.01
279	5.2	28.4	4.5	15.85	-	0.1	0.1	1.01
238	1.1	29.1	3.1	10.65	-	0.3	0.3	1.04
176	5.2	29.5	0.9	3.05	-	0.5	1.0	1.05
199	5.1	29.69	2.25	7.58	-	0.5	0.6	1.06
174	7.2	29.708	0.576	1.94	-	0.6	1.3	1.06

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
237	5.1	29.8	0.95	3.19	-	0.6	1.2	1.06
263	5.1	30.11	2.11	7.01	-	0.7	0.8	1.07
282	5.2	30.8	2.2	7.14	-	0.9	1.1	1.10
220	5.1	31.787	7.602	23.92	-	1.3	0.5	1.13
233	1.23	32	8	25.00	-	1.3	0.5	1.14
40	5.1	32	3.3	10.31	-	1.3	1.1	1.14
169	5.1	32.1	1.2	3.74	-	1.4	2.4	1.14
183	5.1	32.9	2.2	6.69	-	1.6	1.9	1.17
215	5.1	35	7	20.00	-	2.3	1.0	1.25
252	2	39.4	8.4	21.32	-	3.8	1.3	1.40
116	1.32	48.1	3.8	7.90	-	6.8	5.1	1.71
Ni [mg/kg]								
254	1.21	0.143**	0.006	4.20	-	-	-	-
278	1.22	0.715**	0.008	1.12	-	-	-	-
72	1.3	5**	0.2	4.00	-	-	-	-
293	1.2	20.3	3	14.78	-	-	-	-
204	1.2	28.38	2.309	8.14	-	-	-	-
291	6.1	68.995	0.053	0.08	-	-	-	-
270	6.1	108.89	0.25	0.23	-	-	-	-
129	1.2	109.14	56.31	51.59	-	-	-	-
206	1.22	115	1.9	1.65	-	-	-	-
257	5.2	115	12	10.43	-	-	-	-
298	6.1	120	3.83	3.19	-	-	-	-
65	1.16	128.611	10.75	8.36	-	-	-	-
259	7.1	140	11	7.86	-	-	-	-
275	7.2	143.18	6.82	4.76	-	-	-	-
154	7.1	144.7	2.9	2.00	-	-	-	-
279	5.2	160	35	21.88	-	-	-	-
149	1.22	160	13.5	8.44	-	-	-	-
273	7.1	160.983	0.069	0.04	-	-	-	-
85	7.2	161	32	19.88	-	-	-	-
35	1.3	166	4	2.41	-	-	-	-
176	5.2	166	7	4.22	-	-	-	-
174	7.2	168.136	5.519	3.28	-	-	-	-
53	1.32	172	10	5.81	-	-	-	-
272	7.1	176	6.86	3.90	-	-	-	-
276	7.2	180	14	7.78	-	-	-	-
230	1.24	181	12	6.63	-	-	-	-
116	1.32	182.15	3.33	1.83	-	-	-	-
137	1.22	185	23	12.43	-	-	-	-
229	6.2	185	12	6.49	-	-	-	-
151	7.2	185.307	4.049	2.19	-	-	-	-
126	1.23	188	19	10.11	-	-	-	-
233	1.23	191	17	8.90	-	-	-	-
295	2	191	15	7.85	-	-	-	-
77	1.2	199	24	12.06	-	-	-	-
296	2	203	0.002	0.00	-	-	-	-
133	4.1	203	20	9.85	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score	
75	1.2	203	12	5.91	-	-	-	-	
209	1.4	209	50	23.92	-	-	-	-	
244	2	211.23	10.29	4.87	-	-	-	-	
266	2	225	0.008	0.00	-	-	-	-	
252	2	248	19	7.66	-	-	-	-	
203	5.2	249	28	11.24	-	-	-	-	
130	2	255	29	11.37	-	-	-	-	
235	1.22	256.33	6.35	2.48	-	-	-	-	
145	1.22	316.933	12.208	3.85	-	-	-	-	
44	4.2	321.9	21.9	6.80	-	-	-	-	
102	1.23	330	13	3.94	-	-	-	-	
146	4.32	342	38	11.11	-	-	-	-	
234	2	348	9	2.59	-	-	-	-	
113	2	354	1.02	0.29	-	-	-	-	
216	4.32	800	349	43.63	-	-	-	-	
100	7.2	944.364	42.307	4.48	-	-	-	-	
					P [mg/kg]				
277	7.1	1.475**	0.18	12.20	-	-	-	-	
129	1.2	40.95**	10.46	25.54	-	-	-	-	
250	2	349.136	187.502	53.70	-	-	-	-	
85	7.2	360	36	10.00	-	-	-	-	
154	7.1	371.5	8.2	2.21	-	-	-	-	
266	2	420	0.001	0.00	-	-	-	-	
296	2	450	0.002	0.00	-	-	-	-	
174	7.1	450.5	8.99	2.00	-	-	-	-	
252	2	471	8	1.70	-	-	-	-	
116	1.32	487	94.5	19.40	-	-	-	-	
130	2	492	54	10.98	-	-	-	-	
75	1.2	502	117	23.31	-	-	-	-	
244	2	552.35	14.78	2.68	-	-	-	-	
65	1.16	590.238	63.761	10.80	-	-	-	-	
126	1.23	606.8	121	19.94	-	-	-	-	
234	2	610	44	7.21	-	-	-	-	
53	2	747	75	10.04	-	-	-	-	
44	4.2	902.2	152.1	16.86	-	-	-	-	
146	4.32	950	390	41.05	-	-	-	-	
113	2	960	2.91	0.30	-	-	-	-	
204	1.2	1464.5	157.371	10.75	-	-	-	-	
267	2	1610	100	6.21	-	-	-	-	
206	1.22	2800	2.7	0.10	-	-	-	-	
216	4.32	9500**	1453	15.29	-	-	-	-	
					Pb [mg/kg]				
72	1.3	2.4**	0.1	4.17	-	-	-	-	
278	1.22	8.08**	6.351	78.60	-	-	-	-	
293	1.2	11.7**	2	17.09	-	-	-	-	
291	6.1	16.915	0.048	0.28	-	-	-	-	
254	1.21	54.737	15.947	29.13	-	-	-	-	

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score	
275	7.2	54.84	2.09	3.81	-	-	-	-	
233	1.23	58	8	13.79	-	-	-	-	
298	6.1	65.3	7.18	11.00	-	-	-	-	
209	1.4	76	10	13.16	-	-	-	-	
154	7.1	76.5	1.6	2.09	-	-	-	-	
270	6.1	80.47	0.21	0.26	-	-	-	-	
100	7.2	82.658	5.876	7.11	-	-	-	-	
230	1.24	83	13	15.66	-	-	-	-	
266	2	85	0.001	0.00	-	-	-	-	
259	7.1	89	10	11.24	-	-	-	-	
204	1.2	95.045	7.204	7.58	-	-	-	-	
53	1.32	97	6	6.19	-	-	-	-	
276	7.2	102	8	7.84	-	-	-	-	
286	6.1	109.92	0.16	0.15	-	-	-	-	
206	1.22	112.3	2.7	2.40	-	-	-	-	
75	1.2	114	16	14.04	-	-	-	-	
252	2	118	8	6.78	-	-	-	-	
229	6.2	121	10	8.26	-	-	-	-	
85	7.2	123	24	19.51	-	-	-	-	
126	1.23	123	13	10.57	-	-	-	-	
174	7.2	123.682	5.589	4.52	-	-	-	-	
151	7.2	124.572	11.475	9.21	-	-	-	-	
235	1.22	126	4.36	3.46	-	-	-	-	
272	7.1	127	4.3	3.39	-	-	-	-	
133	4.1	128	7	5.47	-	-	-	-	
265	1.22	130	3.438	2.64	-	-	-	-	
137	1.22	133	13	9.77	-	-	-	-	
296	2	134	0.002	0.00	-	-	-	-	
249	1.23	135.664	28.35	20.90	-	-	-	-	
65	1.16	137.677	13.302	9.66	-	-	-	-	
295	2	142	14	9.86	-	-	-	-	
35	1.51	145	20	13.79	-	-	-	-	
78	1.23	155	3	1.94	-	-	-	-	
238	1.1	155	26	16.77	-	-	-	-	
273	7.1	155.411	0.085	0.05	-	-	-	-	
116	1.32	159.4	7.8	4.89	-	-	-	-	
285	1.22	167.45	12.24	7.31	-	-	-	-	
102	1.23	169	15	8.88	-	-	-	-	
146	4.32	173	35	20.23	-	-	-	-	
113	2	200	0.58	0.29	-	-	-	-	
24	1.13	288.71	29.83	10.33	-	-	-	-	
244	2	297.83	20.83	6.99	-	-	-	-	
130	2	596	176	29.53	-	-	-	-	
145	1.22	675.7	19.623	2.90	-	-	-	-	
77	1.2	679	230	33.87	-	-	-	-	
44	4.2	710.7	155.7	21.91	-	-	-	-	
					Pr [mg/kg]				
174	7.2	8.275	0.062	0.75	-	-	-	-	

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
Rb [mg/kg]								
72	1.3	0.03**	0.01	33.33	-	-	-	-
100	7.2	8.961	1.071	11.95	-	-	-	-
85	7.2	9	2	22.22	-	-	-	-
233	1.23	10	1.5	15.00	-	-	-	-
230	1.24	10	1.3	13.00	-	-	-	-
77	1.2	10.82	0.84	7.76	-	-	-	-
53	1.32	11	1	9.09	-	-	-	-
206	1.22	11.84	0.58	4.90	-	-	-	-
151	7.2	11.974	0.514	4.29	-	-	-	-
257	5.2	12	2	16.67	-	-	-	-
75	1.2	12	3	25.00	-	-	-	-
302	5.1	12.03	1.48	12.30	-	-	-	-
204	1.2	12.588	1.485	11.80	-	-	-	-
279	5.2	13.4	3.8	28.36	-	-	-	-
40	5.1	13.7	0.8	5.84	-	-	-	-
172	5.2	15.1	1.1	7.28	-	-	-	-
220	5.1	15.383	1.273	8.28	-	-	-	-
215	5.1	15.4	2.9	18.83	-	-	-	-
192	5.2	15.5	1	6.45	-	-	-	-
174	7.2	15.879	0.416	2.62	-	-	-	-
265	1.22	16	3.961	24.76	-	-	-	-
238	1.1	16.4	2	12.20	-	-	-	-
261	5.1	16.43	1.22	7.43	-	-	-	-
252	2	16.7	0.2	1.20	-	-	-	-
24	1.13	16.75	2.15	12.84	-	-	-	-
247	5.2	16.8	0.67	3.99	-	-	-	-
169	5.1	16.8	1.4	8.33	-	-	-	-
199	5.1	16.817	1.252	7.44	-	-	-	-
237	5.1	17.1	0.7	4.09	-	-	-	-
176	5.2	17.6	1.7	9.66	-	-	-	-
126	1.23	18	2	11.11	-	-	-	-
116	1.32	18.1	1.4	7.73	-	-	-	-
65	1.16	18.508	1.91	10.32	-	-	-	-
133	4.1	19	4	21.05	-	-	-	-
249	1.23	19.093	1.691	8.86	-	-	-	-
171	5.1	19.9	6.5	32.66	-	-	-	-
209	1.4	20	4	20.00	-	-	-	-
145	1.22	21.553	0.85	3.94	-	-	-	-
203	5.2	21.6	2.9	13.43	-	-	-	-
182	5.1	23.73	8.72	36.75	-	-	-	-
146	4.32	28	7	25.00	-	-	-	-
113	2	29	0.13	0.45	-	-	-	-
152	5.2	38.026	6.126	16.11	-	-	-	-
102	1.23	56	2	3.57	-	-	-	-
35	1.3	59	8	13.56	-	-	-	-



TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
S [mg/kg]								
85	7.2	140	30	21.43	-	-	-	-
278	1.22	169.419	8.633	5.10	-	-	-	-
174	7.1	169.8	7.404	4.36	-	-	-	-
65	1.16	193.032	17.03	8.82	-	-	-	-
244	2	211.9	14.38	6.79	-	-	-	-
149	1.22	216	31.4	14.54	-	-	-	-
126	1.23	286	57	19.93	-	-	-	-
129	1.2	356.78	106.86	29.95	-	-	-	-
146	4.32	390	200	51.28	-	-	-	-
113	2	399	1.95	0.49	-	-	-	-
266	2	456	0.002	0.00	-	-	-	-
204	1.2	572.833	31.898	5.57	-	-	-	-
53	2	625	63	10.08	-	-	-	-
206	1.22	1277.3	8.4	0.66	-	-	-	-
216	4.32	3600**	680	18.89	-	-	-	-
$Sb (x_{pt} = 104, \sigma_{pt} = 8, u(x_{pt}) = 3) [mg/kg]$								
205	5.2	5.185**	2.23	43.01	-	-11.4	-28.5	0.05
65	1.16	21.414*	1.152	5.38	-	-9.5	-28.5	0.21
151	7.2	28.066*	3.816	13.60	-	-8.7	-16.4	0.27
295	2	52	3	5.77	-	-6.0	-13.0	0.50
275	7.2	72.03	19.5	27.07	-	-3.7	-1.6	0.69
193	5.2	72.307	2.859	3.95	-	-3.7	-8.2	0.69
100	7.2	79.592	5.62	7.06	-	-2.8	-4.0	0.76
283	5.1	80	3	3.75	-	-2.8	-6.0	0.77
263	5.1	89.72	5.43	6.05	-	-1.7	-2.4	0.86
130	2	93	13	13.98	-	-1.3	-0.8	0.89
174	7.2	93.5	1.848	1.98	-	-1.2	-3.3	0.90
261	5.1	96.2	0.76	0.79	-	-0.9	-2.9	0.92
192	5.2	98.1	5	5.10	-	-0.7	-1.1	0.94
235	1.22	98.67	5.86	5.94	-	-0.6	-0.9	0.95
302	5.1	98.79	0.2	0.20	-	-0.6	-2.0	0.95
252	2	99.1	7.9	7.97	-	-0.6	-0.6	0.95
85	7.2	100	10	10.00	-	-0.5	-0.4	0.96
272	5.2	100.798	3.474	3.45	-	-0.4	-0.8	0.97
61	5.2	101	6	5.94	-	-0.4	-0.5	0.97
237	5.1	102	2.5	2.45	-	-0.3	-0.6	0.98
126	1.23	102	10	9.80	-	-0.3	-0.2	0.98
282	5.2	102.3	0.29	0.28	-	-0.2	-0.7	0.98
152	5.2	103.177	0.218	0.21	-	-0.1	-0.4	0.99
220	5.1	103.266	3.317	3.21	-	-0.1	-0.2	0.99
199	5.1	103.52	1.829	1.77	-	-0.1	-0.2	0.99
203	5.2	104	5	4.81	-	0.0	0.0	1.00
215	5.1	104	7	6.73	-	0.0	0.0	1.00
202	5.1	104	1	0.96	-	0.0	-0.1	1.00
182	5.1	105	14.39	13.70	-	0.1	0.1	1.01
40	5.1	106.5	6.8	6.38	-	0.3	0.3	1.02

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
279	5.2	107	8.6	8.04	-	0.3	0.3	1.03
176	5.2	108	3	2.78	-	0.4	0.9	1.04
172	5.2	108	5	4.63	-	0.4	0.7	1.04
169	5.1	108.6	3.8	3.50	-	0.5	0.9	1.04
55	5.2	109.2	11	10.07	-	0.6	0.4	1.05
274	5.2	110	10	9.09	-	0.7	0.6	1.06
234	5.2	111	13	11.71	-	0.8	0.5	1.06
183	5.1	111	2	1.80	-	0.8	2.0	1.06
281	5.2	111	0.44	0.40	-	0.8	2.5	1.06
194	5.1	111.57	10.166	9.11	-	0.8	0.7	1.07
247	5.2	112	7	6.25	-	0.9	1.0	1.07
171	5.1	113.2	4.4	3.89	-	1.0	1.7	1.09
257	5.2	120	6	5.00	-	1.8	2.4	1.15
238	1.1	125.5	12.4	9.88	-	2.4	1.7	1.20
296	2	129	0.002	0.00	-	2.8	9.3	1.24
195	5.2	133	26	19.55	-	3.3	1.1	1.28
206	1.22	147.1	1.23	0.84	-	4.9	14.6	1.41
75	1.2	160	19	11.88	-	6.4	2.9	1.54
113	2	192*	0.42	0.22	-	10.1	32.5	1.84
146	4.32	210*	66	31.43	-	12.1	1.6	2.01
$S_C (x_{pt} = 10.7, \sigma_{pt} = 1.2, u(x_{pt}) = 0.2) [mg/kg]$								
204	1.2	2.946*	0.545	18.50	-6.5	-	-13.2	0.27
100	7.2	6.074	0.911	15.00	-3.9	-	-5.0	0.57
85	7.2	7	2	28.57	-3.1	-	-1.8	0.65
205	5.2	7.235	2.354	32.54	-2.9	-	-1.5	0.68
283	5.1	8.83	0.35	3.96	-1.6	-	-4.6	0.82
263	5.1	9.23	0.49	5.31	-1.2	-	-2.8	0.86
195	5.2	9.33	0.92	9.86	-1.2	-	-1.5	0.87
302	5.1	9.791	0.01	0.10	-0.8	-	-4.2	0.91
40	5.1	10	0.6	6.00	-0.6	-	-1.1	0.93
279	5.2	10.2	0.87	8.53	-0.4	-	-0.6	0.95
176	5.2	10.4	0.3	2.88	-0.3	-	-0.9	0.97
61	5.2	10.43	0.34	3.26	-0.2	-	-0.7	0.97
215	5.1	10.5	0.6	5.71	-0.2	-	-0.3	0.98
237	5.1	10.5	0.3	2.86	-0.2	-	-0.6	0.98
282	5.2	10.5	0.05	0.48	-0.2	-	-1.0	0.98
151	7.2	10.511	1.098	10.45	-0.2	-	-0.2	0.98
220	5.1	10.521	0.306	2.91	-0.2	-	-0.5	0.98
169	5.1	10.6	0.4	3.77	-0.1	-	-0.3	0.99
171	5.1	10.67	0.32	3.00	0.0	-	-0.1	1.00
192	5.2	10.7	0.6	5.61	0.0	-	0.0	1.00
247	5.2	10.7	0.35	3.27	0.0	-	0.0	1.00
203	5.2	10.7	0.2	1.87	0.0	-	-0.1	1.00
170	5.2	10.761	0.111	1.03	0.0	-	0.2	1.00
172	5.2	10.8	0.4	3.70	0.1	-	0.2	1.01
234	5.2	10.8	0.6	5.56	0.1	-	0.1	1.01
174	7.2	10.878	0.039	0.36	0.1	-	0.7	1.02
202	5.1	10.93	0.07	0.64	0.2	-	0.9	1.02

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
274	5.2	11	1	9.09	0.2	-	0.3	1.03
199	5.1	11.05	0.154	1.39	0.3	-	1.2	1.03
55	5.2	11.3	0.09	0.80	0.5	-	2.5	1.05
183	5.1	11.4	0.2	1.75	0.6	-	2.3	1.06
152	5.2	11.4	0.214	1.88	0.6	-	2.2	1.06
182	5.1	11.58	1.68	14.51	0.7	-	0.5	1.08
193	5.2	11.66	0.374	3.21	0.8	-	2.2	1.09
261	5.1	11.73	0.13	1.11	0.8	-	4.0	1.09
281	5.2	11.8	0.08	0.68	0.9	-	4.6	1.10
272	5.2	12.266	0.187	1.52	1.3	-	5.4	1.14
257	5.2	13	0.7	5.38	1.9	-	3.1	1.21
252	2	15.4	0.9	5.84	3.9	-	5.1	1.44
194	5.1	16.31*	3.285	20.14	4.7	-	1.7	1.52
206	1.22	26.28*	0.81	3.08	13.0	-	18.5	2.45
$Se (x_{pt} = 63, \sigma_{pt} = 5, u(x_{pt}) = 3) [mg/kg]$								
278	1.22	0.015**	0.003	20.00	-	-10.6	-25.1	0.00
254	1.21	0.027**	0.046	170.37	-	-10.6	-25.1	0.00
72	1.3	1.09**	0.08	7.34	-	-10.4	-24.6	0.02
204	1.2	30.717	12.149	39.55	-	-5.5	-2.6	0.48
233	1.23	37	8	21.62	-	-4.4	-3.2	0.58
295	2	38	3	7.89	-	-4.2	-6.5	0.60
203	5.2	45.6	1.5	3.29	-	-3.0	-6.1	0.72
283	5.1	49.58	3.2	6.45	-	-2.3	-3.4	0.78
265	1.22	50	0.25	0.50	-	-2.2	-5.3	0.79
85	7.2	51	5	9.80	-	-2.1	-2.2	0.80
100	7.2	54.252	3.153	5.81	-	-1.5	-2.3	0.86
263	5.1	54.95	2.93	5.33	-	-1.4	-2.2	0.87
238	1.1	55.1	6.8	12.34	-	-1.4	-1.1	0.87
202	5.1	55.8	1.6	2.87	-	-1.3	-2.6	0.88
296	2	55.8	0.002	0.00	-	-1.3	-3.0	0.88
192	5.2	56.4	3	5.32	-	-1.2	-1.8	0.89
199	5.1	56.75	2.912	5.13	-	-1.1	-1.7	0.89
261	5.1	57.1	0.93	1.63	-	-1.1	-2.4	0.90
169	5.1	57.8	2	3.46	-	-0.9	-1.7	0.91
237	5.1	57.9	1.5	2.59	-	-0.9	-1.9	0.91
116	1.32	58.6	1.4	2.39	-	-0.8	-1.7	0.92
176	5.2	58.9	1.7	2.89	-	-0.8	-1.5	0.93
215	5.1	59.9	3.8	6.34	-	-0.6	-0.8	0.94
230	1.24	60	4	6.67	-	-0.6	-0.7	0.95
220	5.1	61.766	3.609	5.84	-	-0.3	-0.4	0.97
279	5.2	61.8	10	16.18	-	-0.3	-0.2	0.97
182	5.1	62.46	8.45	13.53	-	-0.2	-0.1	0.98
172	5.2	62.6	3.3	5.27	-	-0.1	-0.2	0.99
266	2	63	0.001	0.00	-	-0.1	-0.2	0.99
209	1.4	63	10	15.87	-	-0.1	0.0	0.99
302	5.1	63.12	0.32	0.51	-	-0.1	-0.1	0.99
40	5.1	63.8	21.7	34.01	-	0.1	0.0	1.01
235	1.22	65.3	0.58	0.89	-	0.3	0.7	1.03

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
183	5.1	66.9	1.5	2.24	-	0.6	1.2	1.05
257	5.2	67	7	10.45	-	0.6	0.5	1.06
133	4.1	71	7	9.86	-	1.3	1.0	1.12
171	5.1	71.6	3.7	5.17	-	1.4	1.8	1.13
126	1.23	73	15	20.55	-	1.6	0.6	1.15
77	1.2	73.03	9.53	13.05	-	1.6	1.0	1.15
252	2	76.1	4.8	6.31	-	2.1	2.3	1.20
151	7.2	78.314	3.468	4.43	-	2.5	3.5	1.23
193	5.2	90.983	12.466	13.70	-	4.6	2.2	1.43
146	4.32	97	31	31.96	-	5.6	1.1	1.53
244	2	98.34	6.3	6.41	-	5.8	5.1	1.55
113	2	100	0.28	0.28	-	6.1	14.4	1.58
65	1.16	132.549*	9.356	7.06	-	11.5	7.1	2.09
206	1.22	139.45*	1.709	1.23	-	12.7	24.9	2.20
273	7.1	170.282*	3.601	2.11	-	17.8	24.3	2.68
<i>Sm (<math>x_{pt} = 5.01</math>, <math>\sigma_{pt} = 0.6</math>, <math>u(x_{pt}) = 0.12</math>) [mg/kg]</i>								
206	1.22	0.41**	0.158	38.54	-7.3	-	-23.2	0.08
194	5.1	3.04	0.335	11.02	-3.1	-	-5.5	0.61
205	5.2	3.215	0.546	16.98	-2.9	-	-3.2	0.64
202	5.1	3.83	0.18	4.70	-1.9	-	-5.5	0.77
40	5.1	4.25	0.3	7.06	-1.2	-	-2.3	0.85
169	5.1	4.53	0.16	3.53	-0.8	-	-2.4	0.90
152	5.2	4.544	0.045	0.99	-0.7	-	-3.6	0.91
176	5.2	4.56	0.1	2.19	-0.7	-	-2.9	0.91
237	5.1	4.6	0.2	4.35	-0.6	-	-1.7	0.92
263	5.1	4.61	0.25	5.42	-0.6	-	-1.4	0.92
61	5.2	4.72	0.49	10.38	-0.5	-	-0.6	0.94
261	5.1	4.849	0.105	2.17	-0.2	-	-1.0	0.97
283	5.1	4.866	0.31	6.37	-0.2	-	-0.4	0.97
220	5.1	4.926	0.522	10.60	-0.1	-	-0.1	0.98
215	5.1	4.93	0.49	9.94	-0.1	-	-0.2	0.98
279	5.2	4.98	0.46	9.24	0.0	-	-0.1	0.99
183	5.1	5.08	0.1	1.97	0.1	-	0.5	1.01
174	7.2	5.086	0.081	1.59	0.1	-	0.6	1.02
282	5.2	5.1	0.011	0.22	0.1	-	0.8	1.02
55	5.2	5.1	0.3	5.88	0.1	-	0.3	1.02
203	5.2	5.15	0.14	2.72	0.2	-	0.8	1.03
172	5.2	5.21	0.6	11.52	0.3	-	0.3	1.04
151	7.2	5.211	0.427	8.19	0.3	-	0.5	1.04
234	5.2	5.22	0.28	5.36	0.3	-	0.7	1.04
195	5.2	5.29	0.43	8.13	0.5	-	0.6	1.06
272	5.2	5.295	0.088	1.66	0.5	-	2.0	1.06
257	5.2	5.4	0.3	5.56	0.6	-	1.2	1.08
192	5.2	5.44	0.29	5.33	0.7	-	1.4	1.09
247	5.2	5.59	0.81	14.49	0.9	-	0.7	1.12
199	5.1	5.661	0.44	7.77	1.0	-	1.4	1.13
182	5.1	5.78	1.03	17.82	1.2	-	0.7	1.15
193	5.2	8.03*	2.2	27.40	4.8	-	1.4	1.60

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	Zeta-score	$R$ -score
302	5.1	8.496*	0.45	5.30	5.6	-	7.5	1.70
Sn [mg/kg]								
65	1.16	26.993	1.543	5.72	-	-	-	-
295	2	54	5	9.26	-	-	-	-
151	7.2	107.65	13.102	12.17	-	-	-	-
206	1.22	148	1.89	1.28	-	-	-	-
192	5.2	155	9	5.81	-	-	-	-
237	5.1	156	13.5	8.65	-	-	-	-
85	7.2	158	8	5.06	-	-	-	-
235	1.22	159.33	3.79	2.38	-	-	-	-
252	2	167	21	12.57	-	-	-	-
238	1.1	180.5	18.4	10.19	-	-	-	-
126	1.23	190	20	10.53	-	-	-	-
133	4.1	200	40	20.00	-	-	-	-
296	2	215	0.002	0.00	-	-	-	-
113	2	238	2.05	0.86	-	-	-	-
75	1.2	274	33	12.04	-	-	-	-
146	4.32	295	56	18.98	-	-	-	-
$Sr (x_{pt} = 365, \sigma_{pt} = 20, u(x_{pt}) = 15) [mg/kg]$								
278	1.22	1.08**	0.088	8.15	-	-12.8	-24.2	0.00
72	1.3	8.1**	0.2	2.47	-	-12.6	-23.7	0.02
154	7.1	32.5**	0.6	1.85	-	-11.7	-22.1	0.09
254	1.21	47.163	1.371	2.91	-	-11.2	-21.0	0.13
233	1.23	192	22	11.46	-	-6.1	-6.5	0.53
100	7.2	228.504	15.835	6.93	-	-4.8	-6.3	0.63
85	7.2	244	26	10.66	-	-4.3	-4.0	0.67
206	1.22	256.6	1.7	0.66	-	-3.8	-7.2	0.70
302	5.1	288.6	29.4	10.19	-	-2.7	-2.3	0.79
295	2	289	25	8.65	-	-2.7	-2.6	0.79
230	1.24	290	58	20.00	-	-2.7	-1.3	0.79
220	5.1	299.196	22.292	7.45	-	-2.3	-2.5	0.82
192	5.2	301	20	6.64	-	-2.3	-2.6	0.82
244	2	301.43	6.83	2.27	-	-2.2	-3.9	0.83
174	7.1	306.7	6.288	2.05	-	-2.1	-3.6	0.84
276	7.2	307	25	8.14	-	-2.1	-2.0	0.84
53	1.32	308	18	5.84	-	-2.0	-2.4	0.84
199	5.1	309.6	35.4	11.43	-	-2.0	-1.4	0.85
237	5.1	315	9	2.86	-	-1.8	-2.9	0.86
169	5.1	316	23	7.28	-	-1.7	-1.8	0.87
238	1.1	316.2	38.7	12.24	-	-1.7	-1.2	0.87
279	5.2	316.5	34.8	11.00	-	-1.7	-1.3	0.87
78	1.23	321	3	0.93	-	-1.6	-2.9	0.88
252	2	323	5	1.55	-	-1.5	-2.7	0.88
235	1.22	328.67	12.9	3.92	-	-1.3	-1.8	0.90
130	2	342	18	5.26	-	-0.8	-1.0	0.94
176	5.2	345	7	2.03	-	-0.7	-1.2	0.94
151	7.2	346.982	9.066	2.61	-	-0.6	-1.0	0.95

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
215	5.1	349	55	15.76	-	-0.6	-0.3	0.96
126	1.23	351	35	9.97	-	-0.5	-0.4	0.96
182	5.1	354	84.96	24.00	-	-0.4	-0.1	0.97
40	5.1	357	23.6	6.61	-	-0.3	-0.3	0.98
55	5.2	372.4	75	20.14	-	0.3	0.1	1.02
209	1.4	376	20	5.32	-	0.4	0.4	1.03
204	1.2	376	9.862	2.62	-	0.4	0.6	1.03
266	2	378	0.002	0.00	-	0.5	0.8	1.04
65	1.16	380.846	35.454	9.31	-	0.6	0.4	1.04
116	1.32	386.4	17.7	4.58	-	0.7	0.9	1.06
129	1.2	391.21	200.97	51.37	-	0.9	0.1	1.07
133	4.1	395	20	5.06	-	1.1	1.2	1.08
249	1.23	416.038	45.54	10.95	-	1.8	1.1	1.14
265	1.22	418	8.084	1.93	-	1.9	3.1	1.14
77	1.2	421	27	6.41	-	2.0	1.8	1.15
24	1.13	430.1	49.36	11.48	-	2.3	1.3	1.18
193	5.2	431.4	13.28	3.08	-	2.3	3.3	1.18
75	1.2	447	11	2.46	-	2.9	4.4	1.22
261	5.1	460.86	22.6	4.90	-	3.4	3.5	1.26
145	1.22	462.9	13.221	2.86	-	3.4	4.9	1.27
73	1.21	466	10	2.15	-	3.6	5.6	1.28
146	4.32	490	50	10.20	-	4.4	2.4	1.34
171	5.1	490	150	30.61	-	4.4	0.8	1.34
44	4.2	517.4	54.9	10.61	-	5.4	2.7	1.42
234	2	538	64	11.90	-	6.1	2.6	1.47
203	5.2	540	89	16.48	-	6.2	1.9	1.48
113	2	552	0.497	0.09	-	6.6	12.4	1.51
35	1.51	575	88	15.30	-	7.4	2.3	1.57
Te [mg/kg]								
174	7.2	0.04	0.003	7.50	-	-	-	-
$Th (x_{pt} = 11.3, \sigma_{pt} = 1.3, u(x_{pt}) = 0.4) [mg/kg]$								
195	5.2	2.03	0.34	16.75	-	-7.0	-16.6	0.18
206	1.22	5.27	1.2	22.77	-	-4.5	-4.7	0.47
205	5.2	5.557	1.235	22.22	-	-4.3	-4.4	0.49
204	1.2	7.41	0.351	4.74	-	-2.9	-6.9	0.66
85	7.2	8	3	37.50	-	-2.5	-1.1	0.71
194	5.1	8.23	1.8	21.87	-	-2.3	-1.6	0.73
283	5.1	8.51	0.45	5.29	-	-2.1	-4.4	0.76
151	7.2	9.371	0.188	2.01	-	-1.4	-4.0	0.83
65	1.16	9.393	0.228	2.43	-	-1.4	-3.8	0.83
152	5.2	9.47	0.25	2.64	-	-1.3	-3.5	0.84
261	5.1	9.824	0.122	1.24	-	-1.1	-3.2	0.87
199	5.1	10.36	0.5	4.83	-	-0.7	-1.3	0.92
202	5.1	10.8	0.12	1.11	-	-0.3	-1.0	0.96
100	7.2	10.806	0.627	5.80	-	-0.3	-0.6	0.96
279	5.2	10.95	0.88	8.04	-	-0.2	-0.3	0.97
176	5.2	11.2	0.25	2.23	-	0.0	-0.1	0.99

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
215	5.1	11.2	0.7	6.25	-	0.0	-0.1	0.99
220	5.1	11.249	0.704	6.26	-	0.0	0.0	1.00
169	5.1	11.3	0.4	3.54	-	0.0	0.1	1.00
172	5.2	11.4	0.5	4.39	-	0.1	0.2	1.01
192	5.2	11.4	0.6	5.26	-	0.1	0.2	1.01
237	5.1	11.5	0.3	2.61	-	0.2	0.5	1.02
61	5.2	11.57	0.54	4.67	-	0.2	0.5	1.03
170	5.2	11.581	1	8.63	-	0.2	0.3	1.03
282	5.2	11.6	0.15	1.29	-	0.3	0.7	1.03
203	5.2	11.7	0.3	2.56	-	0.3	0.8	1.04
302	5.1	11.74	0.07	0.60	-	0.4	1.1	1.04
252	2	11.8	0.6	5.08	-	0.4	0.7	1.05
247	5.2	12	0.45	3.75	-	0.6	1.2	1.07
126	1.23	12.2	2	16.39	-	0.7	0.5	1.08
183	5.1	12.2	0.3	2.46	-	0.7	1.8	1.08
174	7.2	12.211	0.515	4.22	-	0.7	1.4	1.08
193	5.2	12.236	0.573	4.68	-	0.7	1.4	1.09
257	5.2	12.4	0.6	4.84	-	0.9	1.5	1.10
40	5.1	13	0.6	4.62	-	1.3	2.3	1.15
171	5.1	13.19	0.42	3.18	-	1.5	3.2	1.17
55	5.2	13.7	0.7	5.11	-	1.8	3.0	1.22
182	5.1	15.03	3.29	21.89	-	2.8	1.1	1.34
274	5.2	16	1	6.25	-	3.6	4.3	1.42
218	5.2	16.6	1.2	7.23	-	4.0	4.2	1.47
234	5.2	17.7	5.3	29.94	-	4.9	1.2	1.57
235	1.22	21	1	4.76	-	7.4	8.9	1.87
Ti [mg/kg]								
278	1.22	23.252**	2.204	9.48	-	-	-	-
293	1.2	32.7**	5	15.29	-	-	-	-
72	1.3	146**	3	2.05	-	-	-	-
151	7.2	620.457	135.951	21.91	-	-	-	-
254	1.21	1403.84	57.906	4.12	-	-	-	-
152	5.2	3220	48	1.49	-	-	-	-
209	1.4	3558	40	1.12	-	-	-	-
234	5.2	3860	380	9.84	-	-	-	-
283	5.1	4250	410	9.65	-	-	-	-
263	5.1	4275.22	441.93	10.34	-	-	-	-
174	7.1	4309.7	104.686	2.43	-	-	-	-
220	5.1	4329	297	6.86	-	-	-	-
237	5.1	4480	125	2.79	-	-	-	-
192	5.2	4500	250	5.56	-	-	-	-
172	5.2	4552	267	5.87	-	-	-	-
176	5.2	4590	170	3.70	-	-	-	-
182	5.1	4611	276.6	6.00	-	-	-	-
203	5.2	4660	250	5.36	-	-	-	-
257	5.2	4660	233	5.00	-	-	-	-
116	1.32	4687	254.7	5.43	-	-	-	-
202	5.1	4714	584	12.39	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
215	5.1	4732	369	7.80	-	-	-	-
40	5.1	4748	399	8.40	-	-	-	-
183	5.4	4770	120	2.52	-	-	-	-
279	5.2	4780	258	5.40	-	-	-	-
250	2	4849.955	611.92	12.62	-	-	-	-
274	5.2	4900	700	14.29	-	-	-	-
73	1.21	4933	57	1.16	-	-	-	-
85	7.2	4970	250	5.03	-	-	-	-
247	5.2	5013	138	2.75	-	-	-	-
266	2	5030	0.005	0.00	-	-	-	-
193	5.2	5054	79.2	1.57	-	-	-	-
282	5.2	5056	364	7.20	-	-	-	-
199	5.1	5084	550	10.82	-	-	-	-
233	1.23	5191	842	16.22	-	-	-	-
53	2	5498	550	10.00	-	-	-	-
261	5.2	5648.549	319.508	5.66	-	-	-	-
230	1.24	6010	600	9.98	-	-	-	-
206	1.22	6116	3.9	0.06	-	-	-	-
244	2	6277	89.2	1.42	-	-	-	-
77	1.2	6287	274	4.36	-	-	-	-
24	1.13	6441.65	444.51	6.90	-	-	-	-
238	1.1	6528	610	9.34	-	-	-	-
235	1.22	6528	82.35	1.26	-	-	-	-
149	1.22	6693	293	4.38	-	-	-	-
249	1.23	6713	655	9.76	-	-	-	-
252	2	6744	142	2.11	-	-	-	-
204	1.2	7055.286	494.957	7.02	-	-	-	-
126	1.23	7295	729	9.99	-	-	-	-
75	1.2	7344	168	2.29	-	-	-	-
44	4.2	7494.8	462.6	6.17	-	-	-	-
130	2	7624	593	7.78	-	-	-	-
133	4.1	8090	800	9.89	-	-	-	-
281	5.2	8340	1125.9	13.50	-	-	-	-
129	1.2	8342.05	4272.33	51.21	-	-	-	-
65	1.16	8453.374	761.827	9.01	-	-	-	-
102	1.23	8961	200	2.23	-	-	-	-
146	4.32	9100	640	7.03	-	-	-	-
35	1.51	9240	670	7.25	-	-	-	-
113	2	10500	23.1	0.22	-	-	-	-
145	1.22	10730.666	305.873	2.85	-	-	-	-
265	1.22	12133	326	2.69	-	-	-	-
267	2	21160	400	1.89	-	-	-	-
216	4.32	25200	614	2.44	-	-	-	-
$Tl (x_{pl} = 89, \sigma_{pl} = 7, u(x_{pl}) = 8) [mg/kg]$								
278	1.22	0.03**	0.002	6.67	-	-8.2	-11.1	0.00
204	1.2	1.183**	0.314	26.54	-	-8.1	-11.0	0.01
72	1.3	1.8**	0.1	5.56	-	-8.1	-10.9	0.02
206	1.22	3**	0.92	30.67	-	-8.0	-10.7	0.03



TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
65	1.16	7.572**	0.548	7.24	-	-7.5	-10.1	0.08
126	1.23	56.8	6	10.56	-	-3.0	-3.3	0.63
100	7.2	67.675	3.94	5.82	-	-2.0	-2.4	0.76
295	2	68.8	4	5.81	-	-1.9	-2.3	0.77
230	1.24	77	5	6.49	-	-1.1	-1.3	0.86
276	7.2	77.4	6	7.75	-	-1.1	-1.2	0.87
174	7.2	79.645	1.621	2.04	-	-0.9	-1.2	0.89
252	2	82.5	5.6	6.79	-	-0.6	-0.7	0.92
209	1.4	83	9	10.84	-	-0.6	-0.5	0.93
85	7.2	84	16	19.05	-	-0.5	-0.3	0.94
116	1.32	90.7	1.1	1.21	-	0.1	0.2	1.01
296	2	95.9	0.002	0.00	-	0.6	0.8	1.07
133	4.1	98	10	10.20	-	0.8	0.7	1.10
238	1.1	128.5	20.4	15.88	-	3.6	1.8	1.44
146	4.32	160	24	15.00	-	6.5	2.8	1.79
113	2	174	0.682	0.39	-	7.8	10.5	1.95
$U(x_{pt} = 3.54, \sigma_{pt} = 0.5, u(x_{pt}) = 0.17) [mg/kg]$								
206	1.22	0.36**	0.16	44.44	-	-6.4	-13.4	0.10
204	1.2	1.096	0.015	1.37	-	-4.9	-14.0	0.31
252	2	1.62	0.22	13.58	-	-3.8	-6.8	0.46
205	5.2	1.799	0.235	13.06	-	-3.5	-6.0	0.51
152	5.2	1.957	0.085	4.34	-	-3.2	-8.2	0.55
151	7.2	2.417	0.156	6.45	-	-2.3	-4.8	0.68
202	5.1	2.52	0.37	14.68	-	-2.0	-2.5	0.71
220	5.1	2.937	0.344	11.71	-	-1.2	-1.6	0.83
279	5.2	2.98	0.51	17.11	-	-1.1	-1.0	0.84
65	1.16	3.079	0.255	8.28	-	-0.9	-1.5	0.87
100	7.2	3.156	0.341	10.80	-	-0.8	-1.0	0.89
183	5.1	3.29	0.25	7.60	-	-0.5	-0.8	0.93
215	5.1	3.3	1	30.30	-	-0.5	-0.2	0.93
182	5.1	3.37	0.92	27.30	-	-0.3	-0.2	0.95
199	5.1	3.407	0.25	7.34	-	-0.3	-0.4	0.96
176	5.2	3.49	0.1	2.87	-	-0.1	-0.3	0.99
192	5.2	3.52	0.19	5.40	-	0.0	-0.1	0.99
169	5.1	3.61	0.13	3.60	-	0.1	0.3	1.02
203	5.2	3.72	0.25	6.72	-	0.4	0.6	1.05
247	5.2	3.74	0.21	5.61	-	0.4	0.7	1.06
85	7.2	3.8	0.8	21.05	-	0.5	0.3	1.07
194	5.1	3.82	0.972	25.45	-	0.6	0.3	1.08
269	10	3.901	0.156	4.00	-	0.7	1.5	1.10
234	5.2	3.94	0.2	5.08	-	0.8	1.5	1.11
274	5.2	4	0.2	5.00	-	0.9	1.7	1.13
257	5.2	4	0.2	5.00	-	0.9	1.7	1.13
61	5.1	4.01	0.74	18.45	-	0.9	0.6	1.13
237	5.1	4.08	0.13	3.19	-	1.1	2.5	1.15
282	5.2	4.09	0.19	4.65	-	1.1	2.1	1.15
302	5.1	4.183	0.15	3.59	-	1.3	2.8	1.18
174	7.2	4.211	0.168	3.99	-	1.3	2.8	1.19

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
261	5.1	4.448	0.856	19.24	-	1.8	1.0	1.26
126	1.23	4.6	0.9	19.57	-	2.1	1.2	1.30
218	5.2	4.97	0.21	4.23	-	2.9	5.2	1.40
40	5.1	5	0.52	10.40	-	2.9	2.7	1.41
$V(x_{pt} = 185, \sigma_{pt} = 13, u(x_{pt}) = 8) [mg/kg]$								
72	1.3	6.5**	0.5	7.69	-	-11.2	-21.3	0.04
204	1.2	23.308	2.957	12.69	-	-10.2	-18.2	0.13
133	4.1	82	16	19.51	-	-6.5	-5.7	0.44
254	1.21	86.18	7.059	8.19	-	-6.2	-9.0	0.47
206	1.22	107.4	2.3	2.14	-	-4.9	-9.0	0.58
273	7.1	118.212	0.081	0.07	-	-4.2	-8.0	0.64
193	5.2	128.7	0.14	0.11	-	-3.6	-6.7	0.70
194	5.1	130.61	44.008	33.69	-	-3.4	-1.2	0.71
234	5.2	139	8	5.76	-	-2.9	-4.0	0.75
275	7.2	143.6	18.57	12.93	-	-2.6	-2.0	0.78
263	5.1	154.95	8.72	5.63	-	-1.9	-2.5	0.84
151	7.2	155.757	5.504	3.53	-	-1.8	-2.9	0.84
192	5.2	160	9	5.63	-	-1.6	-2.0	0.86
85	7.2	161	16	9.94	-	-1.5	-1.3	0.87
283	5.1	161.5	8.12	5.03	-	-1.5	-2.0	0.87
274	5.2	170	30	17.65	-	-0.9	-0.5	0.92
203	5.2	170	7	4.12	-	-0.9	-1.4	0.92
261	5.2	170.587	4.487	2.63	-	-0.9	-1.5	0.92
279	5.2	171	17	9.94	-	-0.9	-0.7	0.92
220	5.1	172.41	14.357	8.33	-	-0.8	-0.8	0.93
116	1.32	173.1	8.27	4.78	-	-0.8	-1.0	0.94
195	5.2	174	31	17.82	-	-0.7	-0.3	0.94
152	5.2	175	3	1.71	-	-0.6	-1.1	0.95
257	5.2	176	6	3.41	-	-0.6	-0.9	0.95
40	5.1	176.5	11.6	6.57	-	-0.5	-0.6	0.95
182	5.1	177	7.08	4.00	-	-0.5	-0.7	0.96
176	5.2	178	3	1.69	-	-0.4	-0.8	0.96
237	5.1	179	4.5	2.51	-	-0.4	-0.6	0.97
172	5.2	180	8	4.44	-	-0.3	-0.4	0.97
202	5.1	181	20	11.05	-	-0.3	-0.2	0.98
281	5.2	182	8.55	4.70	-	-0.2	-0.3	0.98
215	5.1	187	11	5.88	-	0.1	0.1	1.01
174	7.1	189.3	5.253	2.77	-	0.3	0.4	1.02
282	5.2	190	3.3	1.74	-	0.3	0.5	1.03
247	5.2	194	16	8.25	-	0.6	0.5	1.05
235	1.22	195.33	6.81	3.49	-	0.6	1.0	1.06
199	5.1	201.8	13.438	6.66	-	1.1	1.1	1.09
145	1.22	204.566	6.038	2.95	-	1.2	1.9	1.11
233	1.23	205	30	14.63	-	1.3	0.6	1.11
75	1.2	208	77	37.02	-	1.4	0.3	1.12
249	1.23	216.058	43	19.90	-	2.0	0.7	1.17
149	1.22	230	24.5	10.65	-	2.8	1.7	1.24
65	1.16	231.738	20.359	8.79	-	2.9	2.1	1.25

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
130	2	236	39	16.53	-	3.2	1.3	1.28
252	2	240	21	8.75	-	3.5	2.4	1.30
129	1.2	262	137.13	52.34	-	4.8	0.6	1.42
137	1.22	266	38	14.29	-	5.1	2.1	1.44
126	1.23	266	27	10.15	-	5.1	2.9	1.44
44	4.2	281	18	6.41	-	6.0	4.8	1.52
146	4.32	305	58	19.02	-	7.6	2.0	1.65
113	2	380	2.99	0.79	-	12.3	22.0	2.05
230	1.24	424*	64	15.09	-	15.1	3.7	2.29
$W(x_{pt} = 4.6, \sigma_{pt} = 0.6, u(x_{pt}) = 0.3) [mg/kg]$								
126	1.23	1.5	0.5	33.33	-	-4.7	-5.3	0.33
274	10	2	0.2	10.00	-	-4.0	-7.4	0.44
182	5.1	3.32	1.01	30.42	-	-1.9	-1.2	0.73
206	1.22	4.035	0.192	4.76	-	-0.8	-1.5	0.89
192	5.2	4.07	0.25	6.14	-	-0.8	-1.3	0.89
261	5.1	4.093	0.272	6.65	-	-0.7	-1.2	0.90
257	5.2	4.2	0.4	9.52	-	-0.6	-0.7	0.92
176	5.2	4.57	0.12	2.63	-	0.0	0.0	1.00
302	5.1	4.608	0.078	1.69	-	0.1	0.2	1.01
174	7.2	4.647	0.083	1.79	-	0.1	0.3	1.02
215	5.1	4.88	0.46	9.43	-	0.5	0.6	1.07
237	5.1	4.96	0.14	2.82	-	0.6	1.3	1.09
85	7.2	5	1	20.00	-	0.7	0.4	1.10
40	5.1	5	0.6	12.00	-	0.7	0.7	1.10
279	5.2	5.18	0.41	7.92	-	1.0	1.3	1.14
218	5.2	5.224	0.34	6.51	-	1.0	1.5	1.15
172	5.2	6.11	1.07	17.51	-	2.4	1.4	1.34
61	5.1	7.6	1.8	23.68	-	4.7	1.7	1.67
$Y [mg/kg]$								
254	1.21	2.71	0.469	17.31	-	-	-	-
85	7.2	11	3	27.27	-	-	-	-
233	1.23	15	3	20.00	-	-	-	-
133	4.1	16	5	31.25	-	-	-	-
265	1.22	16.6	0.67	4.04	-	-	-	-
230	1.24	18	3	16.67	-	-	-	-
206	1.22	20.9	1.1	5.26	-	-	-	-
235	1.22	21.33	1.53	7.17	-	-	-	-
204	1.2	22.2	2.778	12.51	-	-	-	-
174	7.2	22.252	0.532	2.39	-	-	-	-
252	2	23.6	0.5	2.12	-	-	-	-
126	1.23	25	3	12.00	-	-	-	-
249	1.23	25.726	3.84	14.93	-	-	-	-
113	2	31	0.1	0.32	-	-	-	-
65	1.16	31.105	1.752	5.63	-	-	-	-
146	4.32	35	6	17.14	-	-	-	-
75	1.2	35	5	14.29	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
<i>Yb (<math>x_{pt} = 1.92</math>, <math>\sigma_{pt} = 0.3</math>, <math>u(x_{pt}) = 0.12</math>) [mg/kg]</i>								
274	10	0.4	0.2	50.00	-	-5.0	-6.5	0.21
257	5.2	0.8	0.06	7.50	-	-3.7	-8.2	0.42
205	5.2	0.989	0.254	25.68	-	-3.1	-3.3	0.52
182	5.1	1.29	0.42	32.56	-	-2.1	-1.4	0.67
152	5.2	1.291	0.024	1.86	-	-2.1	-5.0	0.67
199	5.1	1.421	0.102	7.18	-	-1.6	-3.1	0.74
272	5.2	1.463	0.079	5.40	-	-1.5	-3.1	0.76
203	5.2	1.47	0.04	2.72	-	-1.5	-3.5	0.77
283	5.1	1.499	0.31	20.68	-	-1.4	-1.3	0.78
85	7.2	1.5	0.3	20.00	-	-1.4	-1.3	0.78
261	5.1	1.643	0.036	2.19	-	-0.9	-2.2	0.86
202	5.1	1.67	0.35	20.96	-	-0.8	-0.7	0.87
282	5.2	1.88	0.19	10.11	-	-0.1	-0.2	0.98
100	7.2	1.882	0.704	37.41	-	-0.1	-0.1	0.98
263	5.1	1.92	0.1	5.21	-	0.0	0.0	1.00
169	5.1	1.99	0.07	3.52	-	0.2	0.5	1.04
215	5.1	2.03	0.13	6.40	-	0.4	0.6	1.06
237	5.1	2.12	0.06	2.83	-	0.7	1.5	1.10
176	5.2	2.13	0.08	3.76	-	0.7	1.4	1.11
279	5.2	2.14	0.38	17.76	-	0.7	0.6	1.11
302	5.1	2.18	0.048	2.20	-	0.9	2.0	1.14
40	5.1	2.2	0.16	7.27	-	0.9	1.4	1.15
171	5.1	2.25	0.16	7.11	-	1.1	1.6	1.17
192	5.2	2.25	0.12	5.33	-	1.1	1.9	1.17
281	5.2	2.27	0.22	9.69	-	1.2	1.4	1.18
61	5.1	2.32	0.36	15.52	-	1.3	1.1	1.21
183	5.1	2.37	0.1	4.22	-	1.5	2.8	1.23
174	7.2	2.474	0.063	2.55	-	1.8	4.0	1.29
220	5.1	2.494	0.237	9.50	-	1.9	2.2	1.30
247	5.2	2.52	0.45	17.86	-	2.0	1.3	1.31
193	5.2	2.971	1.379	46.42	-	3.5	0.8	1.55
172	5.2	3.02	0.14	4.64	-	3.6	5.9	1.57
<i>Zn (<math>x_{pt} = 620</math>, <math>\sigma_{pt} = 40</math>, <math>u(x_{pt}) = 20</math>) [mg/kg]</i>								
277	7.1	1.343**	0.16	11.91	-	-14.5	-31.3	0.00
278	1.22	1.388**	0.068	4.90	-	-14.5	-31.3	0.00
72	1.3	18.6**	0.4	2.15	-	-14.1	-30.4	0.03
254	1.21	46.607**	3.587	7.70	-	-13.5	-28.6	0.07
195	5.2	138	11	7.97	-	-11.4	-21.4	0.22
100	7.2	245.716	78.291	31.86	-	-8.8	-4.7	0.39
205	5.2	264.012	45.3	17.16	-	-8.4	-7.3	0.42
129	1.2	410.29	210.17	51.22	-	-5.0	-1.0	0.66
152	5.2	420.171	13.69	3.26	-	-4.8	-8.4	0.67
154	7.1	425.1	8.7	2.05	-	-4.6	-9.2	0.68
270	6.1	434.31	0.12	0.03	-	-4.4	-9.5	0.70
275	7.2	479.53	10.8	2.25	-	-3.4	-6.4	0.77
203	5.2	489	27	5.52	-	-3.2	-4.0	0.78

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
233	1.23	491	70	14.26	-	-3.1	-1.8	0.79
209	1.4	498	10	2.01	-	-2.9	-5.7	0.80
283	5.1	510	30	5.88	-	-2.7	-3.2	0.82
302	5.1	510.1	3.58	0.70	-	-2.7	-5.6	0.82
85	7.2	516	27	5.23	-	-2.5	-3.2	0.83
263	5.1	523.94	27.19	5.19	-	-2.3	-3.0	0.84
77	1.2	524	72	13.74	-	-2.3	-1.3	0.84
279	5.2	524	26	4.96	-	-2.3	-3.1	0.84
261	5.1	529.33	4.61	0.87	-	-2.2	-4.6	0.85
199	5.1	529.333	11.944	2.26	-	-2.2	-4.1	0.85
298	6.1	530	17	3.21	-	-2.2	-3.6	0.85
174	7.1	533.4	23.707	4.44	-	-2.1	-2.9	0.85
40	5.1	538	33	6.13	-	-2.0	-2.2	0.86
206	1.22	541.1	3.8	0.70	-	-1.9	-4.1	0.87
61	5.2	545	53	9.72	-	-1.8	-1.4	0.87
276	7.2	553	44	7.96	-	-1.7	-1.5	0.89
215	5.1	558	33	5.91	-	-1.5	-1.7	0.89
192	5.2	567	30	5.29	-	-1.3	-1.6	0.91
268	6.1	567.98	24.54	4.32	-	-1.3	-1.8	0.91
220	5.2	568.512	24.609	4.33	-	-1.3	-1.8	0.91
176	5.2	569	18	3.16	-	-1.3	-2.1	0.91
169	5.1	573	20	3.49	-	-1.2	-1.8	0.92
171	5.1	577	18	3.12	-	-1.1	-1.8	0.92
182	5.1	579.7	69.74	12.03	-	-1.0	-0.6	0.93
237	5.1	581	15	2.58	-	-1.0	-1.7	0.93
296	2	584	0.002	0.00	-	-0.9	-2.0	0.94
259	7.1	590	12	2.03	-	-0.8	-1.5	0.95
172	5.2	591	24	4.06	-	-0.8	-1.1	0.95
238	1.1	591.6	73.4	12.41	-	-0.8	-0.4	0.95
282	5.2	592	24.8	4.19	-	-0.8	-1.0	0.95
55	5.2	595	40	6.72	-	-0.7	-0.7	0.95
247	5.2	595	19	3.19	-	-0.7	-1.1	0.95
285	6.1	596.7	12.8	2.15	-	-0.6	-1.2	0.96
272	5.2	602.069	67.709	11.25	-	-0.5	-0.3	0.96
295	2	608	52	8.55	-	-0.4	-0.3	0.97
230	1.24	615	37	6.02	-	-0.2	-0.2	0.99
193	5.2	624.158	6.53	1.05	-	0.0	0.0	1.00
281	5.2	630	20.79	3.30	-	0.1	0.2	1.01
183	5.1	631	14	2.22	-	0.2	0.3	1.01
53	1.32	632	63	9.97	-	0.2	0.1	1.01
249	1.23	634.107	151.44	23.88	-	0.2	0.1	1.02
116	1.32	644.8	15.9	2.47	-	0.5	0.8	1.03
126	1.23	655	66	10.08	-	0.7	0.4	1.05
36	6.2	665	66	9.92	-	1.0	0.6	1.07
194	5.1	665.7	8.061	1.21	-	1.0	1.9	1.07
266	2	666	0.003	0.00	-	1.0	2.1	1.07
78	1.23	669	10	1.49	-	1.0	2.0	1.07
252	2	675	12	1.78	-	1.2	2.2	1.08
244	2	676.9	17.48	2.58	-	1.2	2.0	1.08

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
149	1.22	680	48.9	7.19	-	1.3	1.1	1.09
235	1.22	704	21.7	3.08	-	1.9	2.7	1.13
130	2	708	42	5.93	-	2.0	1.8	1.13
73	1.21	717	17	2.37	-	2.2	3.5	1.15
204	1.2	737.615	32.848	4.45	-	2.7	3.0	1.18
151	7.2	770.676	8.705	1.13	-	3.4	6.7	1.23
265	1.22	773	18.215	2.36	-	3.5	5.5	1.24
133	4.1	778	40	5.14	-	3.6	3.4	1.25
75	1.2	787	17	2.16	-	3.8	6.2	1.26
102	1.23	790	34	4.30	-	3.9	4.2	1.27
257	5.2	820	98	11.95	-	4.6	2.0	1.31
65	1.16	844.544	74.059	8.77	-	5.1	2.9	1.35
137	1.22	848	53	6.25	-	5.2	4.0	1.36
274	5.2	850	40	4.71	-	5.3	5.1	1.36
24	1.13	927.2	55.6	6.00	-	7.1	5.1	1.49
146	4.32	950	98	10.32	-	7.6	3.3	1.52
113	2	1000	1.27	0.13	-	8.8	18.8	1.60
145	1.22	1003.533	66.742	6.65	-	8.9	5.4	1.61
44	4.2	1022.7	88.8	8.68	-	9.3	4.4	1.64
35	1.51	1070	170	15.89	-	10.4	2.6	1.71
267	2	2060*	100	4.85	-	33.5	14.1	3.30
216	4.32	2300*	434	18.87	-	39.1	3.9	3.69
Zr [mg/kg]								
278	1.22	1.851**	0.2	10.80	-	-	-	-
254	1.21	30.77	1.437	4.67	-	-	-	-
176	5.2	120	11	9.17	-	-	-	-
233	1.23	141	18	12.77	-	-	-	-
24	1.13	141.8	14.63	10.32	-	-	-	-
85	7.2	144	20	13.89	-	-	-	-
257	5.2	145	31	21.38	-	-	-	-
204	1.2	148.5	5.22	3.52	-	-	-	-
206	1.22	188.6	2.1	1.11	-	-	-	-
234	2	189	9	4.76	-	-	-	-
129	1.2	194.04	101.28	52.20	-	-	-	-
230	1.24	204	20	9.80	-	-	-	-
235	1.22	218.33	15.93	7.30	-	-	-	-
192	5.2	229	13	5.68	-	-	-	-
215	5.1	231	39	16.88	-	-	-	-
238	1.1	235.6	28.6	12.14	-	-	-	-
252	2	237	4	1.69	-	-	-	-
220	5.1	248.333	28.367	11.42	-	-	-	-
279	5.2	253	58	22.92	-	-	-	-
237	5.1	255	7.5	2.94	-	-	-	-
75	1.2	258	10	3.88	-	-	-	-
126	1.23	262	27	10.31	-	-	-	-
266	2	264	0.002	0.00	-	-	-	-
44	4.2	267	52.9	19.81	-	-	-	-
203	5.2	267	23	8.61	-	-	-	-

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	Zeta-score	$R$ -score
133	4.1	274	15	5.47	-	-	-	-
130	2	281	25	8.90	-	-	-	-
265	1.22	284	10.315	3.63	-	-	-	-
146	4.32	290	90	31.03	-	-	-	-
73	1.21	293	7	2.39	-	-	-	-
113	2	318	0.29	0.09	-	-	-	-
65	1.16	319.301	27.914	8.74	-	-	-	-
77	1.2	337	19	5.64	-	-	-	-
193	5.2	343.12	13.054	3.80	-	-	-	-
145	1.22	365.333	10.425	2.85	-	-	-	-
35	1.51	378	79	20.90	-	-	-	-
182	5.1	391.9	82.25	20.99	-	-	-	-
152	5.2	403.635	23.795	5.90	-	-	-	-
209	1.4	435	21	4.83	-	-	-	-
<i>Eu (<math>x_{pt} = 1040</math>, <math>\sigma_{pt} = 170</math>, <math>u(x_{pt}) = 40</math>) [ug/kg]</i>								
195	5.2	1.11**	0.19	17.12	-6.3	-	-27.0	0.00
274	10	240	70	29.17	-4.8	-	-10.0	0.23
278	1.22	625	0.298	0.05	-2.5	-	-10.8	0.60
199	5.1	812.398	80.602	9.92	-1.4	-	-2.6	0.78
257	5.2	820	46	5.61	-1.3	-	-3.7	0.79
40	5.1	830	50	6.02	-1.3	-	-3.4	0.80
237	5.1	890	25	2.81	-0.9	-	-3.3	0.85
261	5.1	928	29	3.13	-0.7	-	-2.4	0.89
263	5.1	935.32	58.18	6.22	-0.6	-	-1.5	0.90
55	5.2	944	230	24.36	-0.6	-	-0.4	0.91
192	5.2	956	50	5.23	-0.5	-	-1.4	0.92
220	5.1	965.609	21.997	2.28	-0.5	-	-1.7	0.93
170	5.2	966.005	21.3	2.20	-0.5	-	-1.7	0.93
176	5.2	969	16	1.65	-0.4	-	-1.8	0.93
171	5.1	975	50	5.13	-0.4	-	-1.1	0.94
247	5.2	980	56	5.71	-0.4	-	-0.9	0.94
202	5.1	994	38	3.82	-0.3	-	-0.9	0.95
279	5.2	1002	70	6.99	-0.2	-	-0.5	0.96
302	5.1	1003	9.03	0.90	-0.2	-	-1.0	0.96
172	5.2	1038	47	4.53	0.0	-	-0.1	1.00
61	5.2	1040	170	16.35	0.0	-	0.0	1.00
174	7.2	1050.447	31.083	2.96	0.0	-	0.2	1.01
215	5.1	1078	66	6.12	0.2	-	0.5	1.03
183	5.1	1078	27	2.50	0.2	-	0.8	1.03
283	5.1	1086	55	5.06	0.3	-	0.6	1.04
152	5.2	1124	4	0.36	0.5	-	2.1	1.08
194	5.1	1130	206	18.23	0.5	-	0.4	1.08
203	5.2	1160	50	4.31	0.7	-	1.9	1.11
272	5.2	1171	102	8.71	0.8	-	1.2	1.12
169	5.1	1187	87	7.33	0.9	-	1.5	1.14
193	5.2	1255	0.572	0.05	1.3	-	5.5	1.20
282	5.2	1340	174	12.99	1.8	-	1.7	1.29
85	7.2	1500	300	20.00	2.8	-	1.5	1.44

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
234	5.2	1560	80	5.13	3.1	-	5.8	1.50
182	5.1	1590	230	14.47	3.3	-	2.3	1.53
151	7.2	1997*	106	5.31	5.8	-	8.5	1.92
205	5.2	20000.509**	4321	21.60	114.4	-	4.4	19.19
Ge [ug/kg]								
65	1.16	4.166	0.21	5.04	-	-	-	-
174	7.2	1054.24	60.674	5.76	-	-	-	-
126	1.23	1700	340	20.00	-	-	-	-
254	1.21	5290	4688.081	88.62	-	-	-	-
Ho [ug/kg]								
85	7.2	500	100	20.00	-	-	-	-
100	7.2	620	249	40.16	-	-	-	-
174	7.2	774.327	15.264	1.97	-	-	-	-
192	5.2	1200	750	62.50	-	-	-	-
302	5.1	1887	138	7.31	-	-	-	-
In [ug/kg]								
235	7.1	54.98	2.64	4.80	-	-	-	-
237	5.1	65	2.5	3.85	-	-	-	-
174	7.2	424.883	15.1	3.55	-	-	-	-
$Lu (x_{pt} = 320, \sigma_{pt} = 60, u(x_{pt}) = 30) [ug/kg]$								
100	7.2	147	84	57.14	-	-2.6	-2.0	0.45
282	5.2	170	18.7	11.00	-	-2.3	-4.7	0.53
85	7.2	220	40	18.18	-	-1.5	-2.2	0.68
199	5.1	268.259	18.169	6.77	-	-0.8	-1.7	0.83
279	5.2	284	40	14.08	-	-0.6	-0.8	0.88
272	5.2	296	40	13.51	-	-0.4	-0.6	0.92
176	5.2	303	15	4.95	-	-0.3	-0.7	0.94
247	5.2	315	23	7.30	-	-0.1	-0.2	0.97
220	5.1	324.689	24.215	7.46	-	0.0	0.0	1.00
215	5.1	334	56	16.77	-	0.2	0.2	1.03
192	5.2	350	19	5.43	-	0.4	0.8	1.08
183	5.1	360	30	8.33	-	0.5	0.9	1.11
203	5.2	380	19	5.00	-	0.8	1.7	1.18
174	7.2	398.134	8.466	2.13	-	1.1	2.7	1.23
257	5.2	410	20	4.88	-	1.3	2.6	1.27
61	5.2	418	71	16.99	-	1.4	1.2	1.29
40	5.1	450	30	6.67	-	1.9	3.2	1.39
Pt [ug/kg]								
53	2	215690	21569	10.00	-	-	-	-
Re [ug/kg]								
279	5.2	854	73	8.55	-	-	-	-



TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	Zeta-score	$R$ -score
<i>Ta (<math>x_{pt} = 1000</math>, <math>\sigma_{pt} = 160</math>, <math>u(x_{pt}) = 40</math>) [ug/kg]</i>								
205	5.2	596.23	82.23	13.79	-2.5	-	-4.4	0.59
152	5.2	705	45	6.38	-1.9	-	-4.9	0.70
283	5.1	806.8	160	19.83	-1.2	-	-1.2	0.80
215	5.1	844	73	8.65	-1.0	-	-1.9	0.84
261	5.1	875	36	4.11	-0.8	-	-2.4	0.87
203	5.2	887	47	5.30	-0.7	-	-1.9	0.88
302	5.1	901	24.3	2.70	-0.6	-	-2.2	0.90
263	5.1	935.66	240.73	25.73	-0.4	-	-0.3	0.93
282	5.2	946	159	16.81	-0.4	-	-0.4	0.94
199	5.1	947.483	88.365	9.33	-0.3	-	-0.6	0.94
40	5.1	950	70	7.37	-0.3	-	-0.7	0.95
220	5.1	960.323	49.766	5.18	-0.3	-	-0.7	0.96
182	5.1	980	170	17.35	-0.1	-	-0.1	0.98
172	5.2	999	50	5.01	0.0	-	-0.1	1.00
192	5.2	1000	60	6.00	0.0	-	0.0	1.00
176	5.2	1020	90	8.82	0.1	-	0.2	1.02
247	5.2	1040	199	19.13	0.2	-	0.2	1.04
237	5.1	1050	25	2.38	0.3	-	1.0	1.05
169	5.1	1060	40	3.77	0.4	-	1.0	1.06
61	5.1	1120	220	19.64	0.7	-	0.5	1.12
279	5.2	1135	72	6.34	0.8	-	1.6	1.13
174	7.2	1168.325	13.141	1.12	1.0	-	3.9	1.16
257	5.2	1200	77	6.42	1.2	-	2.3	1.20
171	5.1	1270	140	11.02	1.7	-	1.8	1.27
194	5.1	1300	250.932	19.30	1.8	-	1.2	1.30
183	5.1	1349	110	8.15	2.2	-	2.9	1.34
<i>Tb (<math>x_{pt} = 660</math>, <math>\sigma_{pt} = 110</math>, <math>u(x_{pt}) = 20</math>) [ug/kg]</i>								
283	5.1	541.8	105	19.38	-1.1	-	-1.1	0.82
263	5.1	549.38	57.7	10.50	-1.0	-	-1.8	0.83
261	5.1	560	32	5.71	-0.9	-	-2.5	0.85
220	5.1	592.481	58.544	9.88	-0.6	-	-1.1	0.90
302	5.1	607	14.57	2.40	-0.5	-	-1.9	0.92
279	5.2	616	33	5.36	-0.4	-	-1.1	0.93
215	5.1	633	47	7.42	-0.2	-	-0.5	0.96
237	5.1	638	16.5	2.59	-0.2	-	-0.8	0.97
40	5.1	640	50	7.81	-0.2	-	-0.4	0.97
192	5.2	658	35	5.32	0.0	-	-0.1	1.00
169	5.1	664	28	4.22	0.0	-	0.1	1.00
176	5.2	666	20	3.00	0.0	-	0.2	1.01
61	5.1	680	140	20.59	0.2	-	0.1	1.03
247	5.2	682	126	18.48	0.2	-	0.2	1.03
203	5.2	692	42	6.07	0.3	-	0.6	1.05
174	7.2	705.04	8.681	1.23	0.4	-	1.8	1.07
171	5.1	733	88	12.01	0.6	-	0.8	1.11
205	5.2	1007.9	125	12.40	3.1	-	2.7	1.52
193	5.2	1300*	0.68	0.05	5.7	-	27.1	1.97

TABLE 4a (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
152	5.2	1937*	370	19.10	11.3	-	3.4	2.93
					Tm [ug/kg]			
192	5.2	364	20	5.49	-	-	-	-
174	7.2	379.518	6.047	1.59	-	-	-	-
172	5.2	490	33	6.73	-	-	-	-

TABLE 4b. SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE *Zeta*-SCORES AND THE *R*-SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	<i>Zeta</i> -score	<i>R</i> -score
C [%]								
183	5.4	44.2	1.4	3.17	-	-	-	-
Ca ( $x_{pt} = 0.64$ , $\sigma_{pt} = 0.03$ , $u(x_{pt}) = 0.001$ ) [%]								
254	1.21	0.021**	0.007	33.33	-22.6	-	-86.7	0.03
72	1.3	0.023**	0.002	8.70	-22.5	-	-253.5	0.04
73	1.21	0.236*	0.013	5.51	-14.8	-	-30.9	0.37
209	1.4	0.33*	0.03	9.09	-11.3	-	-10.3	0.52
75	1.3	0.418*	0.042	10.05	-8.1	-	-5.3	0.65
266	2	0.436*	0.009	2.06	-7.5	-	-22.4	0.68
77	1.21	0.447*	0.054	12.08	-7.0	-	-3.6	0.70
85	7.2	0.45*	0.01	2.22	-6.9	-	-18.8	0.70
230	1.24	0.46*	0.02	4.35	-6.6	-	-9.0	0.72
270	6.1	0.477*	0.12	25.16	-6.0	-	-1.4	0.75
102	1.23	0.48*	0.03	6.25	-5.8	-	-5.3	0.75
233	1.23	0.489*	0.036	7.36	-5.5	-	-4.2	0.76
194	5.1	0.508*	0.041	8.07	-4.8	-	-3.2	0.79
169	5.1	0.525*	0.022	4.19	-4.2	-	-5.2	0.82
129	1.2	0.529*	0.155	29.30	-4.1	-	-0.7	0.83
146	4.32	0.53*	0.035	6.60	-4.0	-	-3.1	0.83
272	5.2	0.542*	0.024	4.43	-3.6	-	-4.1	0.85
247	5.2	0.551*	0.072	13.07	-3.3	-	-1.2	0.86
279	5.2	0.556*	0.057	10.25	-3.1	-	-1.5	0.87
53	1.32	0.56*	0.05	8.93	-2.9	-	-1.6	0.88
283	5.1	0.56*	0.045	8.04	-2.9	-	-1.8	0.88
36	6.1	0.563*	0.056	9.95	-2.8	-	-1.4	0.88
35	1.51	0.57*	0.01	1.75	-2.6	-	-6.9	0.89
204	1.2	0.576*	0.068	11.81	-2.3	-	-0.9	0.90
281	5.2	0.582*	0.02	3.44	-2.1	-	-2.9	0.91
151	7.2	0.589*	0.026	4.41	-1.9	-	-2.0	0.92
65	1.23	0.59*	0.043	7.29	-1.8	-	-1.2	0.92
263	5.1	0.59*	0.03	5.08	-1.8	-	-1.7	0.92
259	7.1	0.59*	3	508.47	-1.8	-	0.0	0.92
170	5.2	0.59*	0.033	5.59	-1.8	-	-1.5	0.92
234	5.2	0.598*	0.084	14.05	-1.5	-	-0.5	0.93
192	5.2	0.607*	0.035	5.77	-1.2	-	-0.9	0.95
265	1.22	0.611*	0.035	5.73	-1.1	-	-0.8	0.95
199	5.1	0.616*	0.058	9.42	-0.9	-	-0.4	0.96
282	5.2	0.617*	0.026	4.21	-0.8	-	-0.9	0.96
238	1.1	0.619	0.062	10.02	-0.8	-	-0.3	0.97
55	5.2	0.62	0.06	9.68	-0.7	-	-0.3	0.97
280	7.1	0.62	0.08	12.90	-0.7	-	-0.2	0.97
206	1.22	0.62	0.001	0.16	-0.7	-	-11.7	0.97
302	5.1	0.622	0.025	4.02	-0.7	-	-0.7	0.97
152	5.2	0.623	0.045	7.22	-0.6	-	-0.4	0.97
237	5.1	0.63	0.02	3.17	-0.4	-	-0.5	0.98
183	5.1	0.632	0.023	3.64	-0.3	-	-0.3	0.99

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
149	1.3	0.632	0.061	9.65	-0.3	-	-0.1	0.99
176	5.2	0.636	0.013	2.04	-0.1	-	-0.3	0.99
257	5.2	0.638	0.027	4.23	-0.1	-	-0.1	1.00
171	5.1	0.638	0.048	7.52	-0.1	-	0.0	1.00
172	5.2	0.639	0.028	4.38	0.0	-	0.0	1.00
44	4.2	0.64	0.045	7.03	0.0	-	0.0	1.00
133	4.1	0.648	0.08	12.35	0.3	-	0.1	1.01
154	7.1	0.655	0.012	1.83	0.5	-	1.2	1.02
116	1.32	0.659	0.032	4.86	0.7	-	0.6	1.03
274	5.2	0.66	0.07	10.61	0.7	-	0.3	1.03
61	5.1	0.66	0.19	28.79	0.7	-	0.1	1.03
220	5.2	0.668*	0.054	8.08	1.0	-	0.5	1.04
261	5.2	0.677*	0.018	2.66	1.4	-	2.0	1.06
215	5.1	0.682*	0.044	6.45	1.5	-	1.0	1.07
203	5.2	0.683*	0.06	8.78	1.6	-	0.7	1.07
252	6.1	0.704*	0.046	6.53	2.3	-	1.4	1.10
113	2	0.712*	0.001	0.14	2.6	-	42.1	1.11
244	2	0.721*	0.014	1.94	3.0	-	5.8	1.13
126	1.23	0.792*	0.079	9.97	5.6	-	1.9	1.24
132	7.1	0.87*	0.009	1.03	8.4	-	25.3	1.36
130	2	0.91*	0.008	0.88	9.9	-	33.3	1.42
100	7.2	0.995*	0.043	4.32	13.0	-	8.3	1.55
235	1.22	1.055*	0.001	0.09	15.2	-	242.7	1.65
202	5.1	1.33*	0.09	6.77	25.2	-	7.7	2.08
193	5.2	1.525*	38.28	2510.16	32.3	-	0.0	2.38
145	1.22	1.884*	0.012	0.64	45.4	-	103.0	2.94
277	7.1	4.958*	0.001	0.02	157.7	-	2525.6	7.75
267	2	11.974**	0.02	0.17	414.0	-	565.3	18.71
216	4.32	18.59**	2.34	12.59	655.7	-	7.7	29.05
$K (x_{pt} = 3.38, \sigma_{pt} = 0.11, u(x_{pt}) = 0.013) [\%]$								
278	1.22	0.017**	0.009	52.94	-29.9	-	-209.1	0.01
72	1.3	0.136**	0.009	6.62	-28.8	-	-201.7	0.04
132	7.1	0.241**	0.002	0.83	-27.9	-	-232.8	0.07
254	1.21	0.759*	0.221	29.12	-23.3	-	-11.8	0.22
270	6.1	2.224*	0.07	3.15	-10.3	-	-16.2	0.66
75	1.3	2.27*	0.104	4.58	-9.9	-	-10.6	0.67
130	2	2.341*	0.016	0.68	-9.2	-	-49.9	0.69
152	5.2	2.361*	0.052	2.20	-9.1	-	-19.0	0.70
129	1.2	2.48*	0.73	29.44	-8.0	-	-1.2	0.73
266	2	2.485*	0.051	2.05	-8.0	-	-17.0	0.74
194	5.1	2.565*	0.378	14.74	-7.2	-	-2.2	0.76
193	5.2	2.575*	82.24	3193.79	-7.2	-	0.0	0.76
154	7.1	2.662*	0.051	1.92	-6.4	-	-13.6	0.79
36	6.1	2.74*	0.274	10.00	-5.7	-	-2.3	0.81
65	1.23	2.742*	0.2	7.29	-5.7	-	-3.2	0.81
233	1.23	2.786*	0.195	7.00	-5.3	-	-3.0	0.82
40	5.1	2.8*	0.4	14.29	-5.2	-	-1.4	0.83
261	5.1	2.81*	0.02	0.71	-5.1	-	-23.7	0.83

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
100	7.2	2.811*	0.163	5.80	-5.1	-	-3.5	0.83
230	1.24	2.83*	0.14	4.95	-4.9	-	-3.9	0.84
281	5.2	2.86*	0.05	1.75	-4.6	-	-10.0	0.85
53	1.32	2.889*	0.23	7.96	-4.4	-	-2.1	0.85
102	1.23	2.91*	0.22	7.56	-4.2	-	-2.1	0.86
283	5.1	2.921*	0.15	5.14	-4.1	-	-3.0	0.86
280	7.1	3*	0.45	15.00	-3.4	-	-0.8	0.89
116	1.32	3*	0.121	4.03	-3.4	-	-3.1	0.89
170	5.2	3.037*	0.034	1.12	-3.0	-	-9.4	0.90
44	4.2	3.046*	0.248	8.14	-3.0	-	-1.3	0.90
268	6.1	3.086*	0.145	4.70	-2.6	-	-2.0	0.91
238	1.1	3.09*	0.39	12.62	-2.6	-	-0.7	0.91
204	1.2	3.097*	0.129	4.17	-2.5	-	-2.2	0.92
302	5.1	3.115*	0.012	0.39	-2.4	-	-14.8	0.92
77	1.21	3.12*	0.161	5.16	-2.3	-	-1.6	0.92
265	1.22	3.125*	0.109	3.49	-2.3	-	-2.3	0.92
279	5.2	3.135*	0.282	9.00	-2.2	-	-0.9	0.93
237	5.1	3.16*	0.08	2.53	-2.0	-	-2.7	0.93
263	5.1	3.17*	0.16	5.05	-1.9	-	-1.3	0.94
202	5.1	3.19*	0.11	3.45	-1.7	-	-1.7	0.94
252	6.1	3.2	0.17	5.31	-1.6	-	-1.1	0.95
61	5.1	3.22	0.47	14.60	-1.4	-	-0.3	0.95
171	5.1	3.227	0.068	2.11	-1.4	-	-2.2	0.95
247	5.2	3.24	0.26	8.02	-1.2	-	-0.5	0.96
151	7.2	3.265	0.221	6.77	-1.0	-	-0.5	0.97
183	5.1	3.27	0.057	1.74	-1.0	-	-1.9	0.97
172	5.2	3.27	0.13	3.98	-1.0	-	-0.8	0.97
215	5.1	3.28	0.2	6.10	-0.9	-	-0.5	0.97
169	5.1	3.284	0.098	2.98	-0.9	-	-1.0	0.97
203	5.2	3.29	0.18	5.47	-0.8	-	-0.5	0.97
220	5.2	3.291	0.169	5.14	-0.8	-	-0.5	0.97
206	1.22	3.3	0.029	0.88	-0.7	-	-2.5	0.98
85	7.2	3.3	0.02	0.61	-0.7	-	-3.3	0.98
274	5.2	3.3	0.1	3.03	-0.7	-	-0.8	0.98
176	5.2	3.32	0.07	2.11	-0.5	-	-0.8	0.98
55	5.2	3.35	0.17	5.07	-0.3	-	-0.2	0.99
146	4.32	3.38	0.23	6.80	0.0	-	0.0	1.00
126	1.23	3.38	0.7	20.71	0.0	-	0.0	1.00
282	5.2	3.4	0.14	4.12	0.2	-	0.1	1.01
199	5.1	3.422	0.082	2.40	0.4	-	0.5	1.01
234	5.2	3.43	0.28	8.16	0.4	-	0.2	1.01
195	5.2	3.47	0.35	10.09	0.8	-	0.3	1.03
35	1.51	3.483	0.056	1.61	0.9	-	1.8	1.03
205	5.2	3.547	0.24	6.77	1.5	-	0.7	1.05
113	2	3.7*	0.002	0.05	2.8	-	23.7	1.09
244	2	3.749*	0.049	1.31	3.3	-	7.3	1.11
149	1.3	3.95*	0.5	12.66	5.1	-	1.1	1.17
192	5.2	3.98*	0.21	5.28	5.3	-	2.9	1.18
73	1.21	4.12*	0.034	0.83	6.6	-	20.3	1.22

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
133	4.1	4.24*	0.3	7.08	7.6	-	2.9	1.25
235	1.22	5.23*	0.04	0.76	16.4	-	43.9	1.55
145	1.22	9.942*	0.471	4.74	58.3	-	13.9	2.94
277	7.1	17.81*	0.545	3.06	128.2	-	26.5	5.27
267	2	35.93**	0.05	0.14	289.2	-	629.0	10.63
216	4.32	49.31**	0.58	1.18	408.1	-	79.2	14.59
N ( $x_{pt} = 3.72$ , $\sigma_{pt} = 0.12$ , $u(x_{pt}) = 0.009$ ) [%]								
113	2	2.24	0.027	1.21	-12.1	-	-51.7	0.60
Al [mg/kg]								
277	7.1	0.18**	0.181	100.56	-	-	-	-
273	7.1	2.112**	0.087	4.12	-	-	-	-
278	1.22	10.964**	5.858	53.43	-	-	-	-
154	7.1	40.3	1.9	4.71	-	-	-	-
85	7.2	57	5	8.77	-	-	-	-
283	5.1	60.1	6.1	10.15	-	-	-	-
263	5.1	60.81	3.05	5.02	-	-	-	-
130	2	66	10	15.15	-	-	-	-
151	7.2	73.62	18.477	25.10	-	-	-	-
276	7.2	83.3	6.7	8.04	-	-	-	-
113	2	85	0.74	0.87	-	-	-	-
281	5.2	93.7	1.78	1.90	-	-	-	-
215	5.1	96	14	14.58	-	-	-	-
295	2	98	6.5	6.63	-	-	-	-
279	5.2	101	15	14.85	-	-	-	-
220	5.2	101.727	9.559	9.40	-	-	-	-
237	5.1	103	2.5	2.43	-	-	-	-
40	5.1	105	11	10.48	-	-	-	-
282	5.2	107	4.2	3.93	-	-	-	-
172	5.2	109	5	4.59	-	-	-	-
176	5.2	110	4	3.64	-	-	-	-
205	5.2	110.68	8.59	7.76	-	-	-	-
257	5.2	117	10	8.55	-	-	-	-
193	5.2	118.402	4.043	3.41	-	-	-	-
152	5.2	127.806	4.296	3.36	-	-	-	-
194	5.1	132.4	9.938	7.51	-	-	-	-
234	2	135	47	34.81	-	-	-	-
261	5.2	138.02	4.94	3.58	-	-	-	-
203	5.2	141	25	17.73	-	-	-	-
195	5.2	154	36	23.38	-	-	-	-
65	1.23	165.567	11.964	7.23	-	-	-	-
199	5.1	253.83	11.33	4.46	-	-	-	-
274	5.2	290	20	6.90	-	-	-	-
204	1.2	323.5	42.5	13.14	-	-	-	-
35	1.51	334	80	23.95	-	-	-	-
259	7.1	360	8	2.22	-	-	-	-
206	1.22	485	65	13.40	-	-	-	-
266	2	954	0.012	0.00	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
145	1.22	1227.866**	105.504	8.59	-	-	-	-
235	1.22	1409.33**	374.45	26.57	-	-	-	-
267	2	5220**	100	1.92	-	-	-	-
216	4.32	25000**	1052	4.21	-	-	-	-
B [mg/kg]								
85	7.2	4	1	25.00	-	-	-	-
183	5.4	5.43	0.14	2.58	-	-	-	-
154	7.1	9.19	0.49	5.33	-	-	-	-
$Cl(x_{pt} = 10100, \sigma_{pt} = 400, u(x_{pt}) = 500)$ [mg/kg]								
72	1.3	14**	1	7.14	-	-16.1	-21.1	0.00
75	1.3	105**	10	9.52	-	-16.0	-20.9	0.01
116	1.32	401**	64	15.96	-	-15.5	-20.1	0.04
274	10	1070	80	7.48	-	-14.4	-18.7	0.11
193	5.2	1955.349	16.41	0.84	-	-13.0	-17.1	0.19
261	5.2	5452	139	2.55	-	-7.4	-9.3	0.54
266	2	6144	0.003	0.00	-	-6.3	-8.3	0.61
65	1.23	7469.811	388.104	5.20	-	-4.2	-4.3	0.74
35	1.51	7570	180	2.38	-	-4.0	-4.9	0.75
281	5.2	8310	58.17	0.70	-	-2.8	-3.7	0.82
279	5.2	8740	1014	11.60	-	-2.2	-1.2	0.87
194	5.1	8790.8	458.112	5.21	-	-2.1	-2.0	0.87
126	1.23	8879	1300	14.64	-	-1.9	-0.9	0.88
206	1.22	9000	2.14	0.02	-	-1.7	-2.3	0.89
283	5.1	9067	600	6.62	-	-1.6	-1.3	0.90
282	5.2	9155	58	0.63	-	-1.5	-1.9	0.91
234	5.2	9170	2840	30.97	-	-1.5	-0.3	0.91
257	5.2	9260	390	4.21	-	-1.3	-1.3	0.92
237	5.1	9700	250	2.58	-	-0.6	-0.7	0.96
263	5.1	9703.42	489.17	5.04	-	-0.6	-0.6	0.96
152	5.2	9704.65	222.318	2.29	-	-0.6	-0.7	0.96
238	1.1	9758	995	10.20	-	-0.5	-0.3	0.97
183	5.4	9800	300	3.06	-	-0.5	-0.5	0.97
44	4.2	10129.5	1279.3	12.63	-	0.1	0.0	1.00
55	5.2	10182	300	2.95	-	0.2	0.2	1.01
202	5.1	10264	487	4.74	-	0.3	0.3	1.02
176	5.2	10420	170	1.63	-	0.5	0.7	1.03
40	5.1	10481	650	6.20	-	0.6	0.5	1.04
247	5.2	10486	294	2.80	-	0.6	0.7	1.04
215	5.1	10511	624	5.94	-	0.7	0.5	1.04
172	5.2	10523	448	4.26	-	0.7	0.7	1.04
113	2	10800	9.4	0.09	-	1.1	1.5	1.07
146	4.32	11320	743	6.56	-	2.0	1.4	1.12
199	5.1	11530	225.213	1.95	-	2.3	2.7	1.14
129	1.2	12200	3600	29.51	-	3.4	0.6	1.21
220	5.2	12598.807	686.001	5.44	-	4.0	3.0	1.25
204	1.2	13410.5	2888.96	21.54	-	5.3	1.1	1.33
192	5.2	13640	750	5.50	-	5.7	4.0	1.35

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
149	1.3	13884	672	4.84	-	6.1	4.6	1.38
244	2	13960	294.62	2.11	-	6.2	6.9	1.38
133	4.1	16000	1600	10.00	-	9.5	3.5	1.59
77	1.21	19860	4070	20.49	-	15.7	2.4	1.97
216	4.32	129400**	1371	1.06	-	191.3	82.2	12.83
267	2	143450**	400	0.28	-	213.8	214.4	14.23
Cu [mg/kg]								
278	1.22	0.096**	0.012	12.50	-	-	-	-
277	7.1	0.362**	0.009	2.49	-	-	-	-
72	1.3	0.52**	0.03	5.77	-	-	-	-
254	1.21	0.637**	0.097	15.23	-	-	-	-
36	6.2	5.9	0.5	8.47	-	-	-	-
270	6.1	6.11	0.14	2.29	-	-	-	-
276	7.2	6.45	0.5	7.75	-	-	-	-
298	6.1	7.07	0.13	1.84	-	-	-	-
75	1.3	8	0.8	10.00	-	-	-	-
129	1.2	8.62	2.55	29.58	-	-	-	-
85	7.2	8.7	0.4	4.60	-	-	-	-
151	7.2	8.929	0.676	7.57	-	-	-	-
193	5.2	8.952	13.6	151.92	-	-	-	-
204	1.2	8.986	0.801	8.91	-	-	-	-
209	1.4	9	1	11.11	-	-	-	-
35	1.51	9.11	0.25	2.74	-	-	-	-
149	1.3	9.46	0.93	9.83	-	-	-	-
116	1.32	9.55	0.83	8.69	-	-	-	-
280	7.2	9.6	1.9	19.79	-	-	-	-
126	1.23	9.6	1	10.42	-	-	-	-
78	1.3	9.634	0.363	3.77	-	-	-	-
154	7.1	9.68	0.19	1.96	-	-	-	-
44	4.2	9.81	1.6	16.31	-	-	-	-
174	7.2	9.837	0.061	0.62	-	-	-	-
206	1.22	9.877	0.42	4.25	-	-	-	-
252	6.1	9.97	0.68	6.82	-	-	-	-
53	1.32	10.7	0.6	5.61	-	-	-	-
102	1.23	11	2	18.18	-	-	-	-
133	4.1	11.2	2	17.86	-	-	-	-
100	7.2	11.649	0.914	7.85	-	-	-	-
146	4.32	12	2	16.67	-	-	-	-
113	2	12	0.082	0.68	-	-	-	-
77	1.21	12.899	3.095	23.99	-	-	-	-
229	6.2	12.9	1.5	11.63	-	-	-	-
259	7.1	14	0.05	0.36	-	-	-	-
65	1.23	14.04	0.936	6.67	-	-	-	-
233	1.23	15	3	20.00	-	-	-	-
230	1.24	18	2	11.11	-	-	-	-
130	2	20	8	40.00	-	-	-	-
244	2	20.03	3.14	15.68	-	-	-	-
296	2	20.4	0.002	0.01	-	-	-	-



TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
145	1.22	24.48	1.104	4.51	-	-	-	-
235	7.1	27.03	0.19	0.70	-	-	-	-
132	7.1	249.6**	3.87	1.55	-	-	-	-
302	5.1	261.1**	1.57	0.60	-	-	-	-
<i>Fe (<math>x_{pt} = 123</math>, <math>\sigma_{pt} = 10</math>, <math>u(x_{pt}) = 3</math>) [mg/kg]</i>								
278	1.22	0.193**	0.063	32.64	-	-12.3	-39.8	0.00
277	7.1	0.464**	0.125	26.94	-	-12.2	-39.6	0.00
72	1.3	5.67**	0.09	1.59	-	-11.7	-38.0	0.05
254	1.21	8.437**	2.268	26.88	-	-11.4	-29.9	0.07
130	2	38	6	15.79	-	-8.5	-12.6	0.31
129	1.2	76.2	22.24	29.19	-	-4.7	-2.1	0.62
126	1.23	89.2	9	10.09	-	-3.4	-3.6	0.73
235	7.1	96.19	18.83	19.58	-	-2.7	-1.4	0.78
40	5.1	98	15	15.31	-	-2.5	-1.6	0.80
279	5.2	100	5.7	5.70	-	-2.3	-3.5	0.81
85	7.2	101	6	5.94	-	-2.2	-3.3	0.82
230	1.24	102	10	9.80	-	-2.1	-2.0	0.83
282	5.2	104	7.51	7.22	-	-1.9	-2.3	0.85
233	1.23	104	12.1	11.63	-	-1.9	-1.5	0.85
281	5.2	105	15.44	14.70	-	-1.8	-1.1	0.85
172	5.2	107	12	11.21	-	-1.6	-1.3	0.87
193	5.2	108.87	5.07	4.66	-	-1.4	-2.4	0.89
102	1.23	109	18	16.51	-	-1.4	-0.8	0.89
154	7.1	109	2.2	2.02	-	-1.4	-3.7	0.89
77	1.21	109	12	11.01	-	-1.4	-1.1	0.89
237	5.1	109	3.5	3.21	-	-1.4	-3.0	0.89
295	2	109.9	6.7	6.10	-	-1.3	-1.8	0.89
280	7.1	110	16	14.55	-	-1.3	-0.8	0.89
192	5.2	110	6	5.45	-	-1.3	-1.9	0.89
169	5.1	111	3	2.70	-	-1.2	-2.8	0.90
78	1.3	111.888	3.261	2.91	-	-1.1	-2.5	0.91
170	5.2	112.1	2.1	1.87	-	-1.1	-2.9	0.91
272	5.2	113.512	19.763	17.41	-	-0.9	-0.5	0.92
171	5.1	114.6	2.8	2.44	-	-0.8	-2.0	0.93
209	1.4	116	7	6.03	-	-0.7	-0.9	0.94
65	1.23	117.263	10.286	8.77	-	-0.6	-0.5	0.95
252	6.1	117.88	3.26	2.77	-	-0.5	-1.1	0.96
176	5.2	118	3	2.54	-	-0.5	-1.2	0.96
116	1.32	118.6	3.01	2.54	-	-0.4	-1.0	0.96
133	4.1	119	6	5.04	-	-0.4	-0.6	0.97
149	1.3	119	36.4	30.59	-	-0.4	-0.1	0.97
183	5.1	119	2	1.68	-	-0.4	-1.1	0.97
302	5.1	120.2	6.49	5.40	-	-0.3	-0.4	0.98
75	1.3	121	4	3.31	-	-0.2	-0.4	0.98
220	5.2	122.749	9.299	7.58	-	0.0	0.0	1.00
215	5.1	125	8	6.40	-	0.2	0.2	1.02
244	2	125.4	1.56	1.24	-	0.2	0.7	1.02
195	5.2	126	25	19.84	-	0.3	0.1	1.02

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
276	7.2	126	10	7.94	-	0.3	0.3	1.02
261	5.1	126.24	2.59	2.05	-	0.3	0.8	1.03
203	5.2	128	10	7.81	-	0.5	0.5	1.04
61	5.1	128	19	14.84	-	0.5	0.3	1.04
199	5.1	128.333	9.409	7.33	-	0.5	0.5	1.04
55	5.2	130	26	20.00	-	0.7	0.3	1.06
257	5.2	130	10	7.69	-	0.7	0.7	1.06
283	5.1	130.8	5.2	3.98	-	0.8	1.3	1.06
35	1.51	132.3	4.9	3.70	-	0.9	1.6	1.08
202	5.1	133	6	4.51	-	1.0	1.5	1.08
263	5.1	133.77	6.95	5.20	-	1.1	1.4	1.09
265	1.22	137	21.85	15.95	-	1.4	0.6	1.11
238	1.1	138	17	12.32	-	1.5	0.9	1.12
206	1.22	140	0.9	0.64	-	1.7	5.3	1.14
259	7.1	144	10	6.94	-	2.1	2.0	1.17
146	4.32	145	47	32.41	-	2.2	0.5	1.18
194	5.1	145.2	10.04	6.91	-	2.2	2.1	1.18
53	1.32	148.8	8.9	5.98	-	2.6	2.7	1.21
44	4.2	149.5	30.6	20.47	-	2.6	0.9	1.22
151	7.2	155.355	18.988	12.22	-	3.2	1.7	1.26
204	1.2	184.278	21.516	11.68	-	6.1	2.8	1.50
234	2	196	25	12.76	-	7.3	2.9	1.59
266	2	208	0.001	0.00	-	8.5	27.5	1.69
100	7.2	249.248*	58.348	23.41	-	12.6	2.2	2.03
145	1.22	312.1*	14.91	4.78	-	18.9	12.4	2.54
268	6.1	460.93*	23	4.99	-	33.7	14.6	3.75
270	6.1	505.4*	0.27	0.05	-	38.2	123.4	4.11
113	2	1270**	4.59	0.36	-	114.4	207.3	10.33
267	2	3330**	100	3.00	-	320.0	32.1	27.08
216	4.32	5100**	1913	37.51	-	496.5	2.6	41.47
132	7.1	10456.05**	67.48	0.65	-	1030.9	153.0	85.02
$I(x_{pt} = 0.167, \sigma_{pt} = 0.04, u(x_{pt}) = 0.005)$ [mg/kg]								
65	1.23	3.058	0.227	7.42	82.7	-	12.7	18.31
$Mg(x_{pt} = 1450, \sigma_{pt} = 80, u(x_{pt}) = 7)$ [mg/kg]								
270	6.1	0.108**	0.22	203.70	-18.7	-	-204.9	0.00
65	1.23	830.435*	62.09	7.48	-8.0	-	-9.9	0.57
259	7.1	900*	15	1.67	-7.1	-	-33.2	0.62
100	7.2	913.233*	59.426	6.51	-6.9	-	-9.0	0.63
283	5.1	1020*	90	8.82	-5.5	-	-4.8	0.70
261	5.2	1158.618*	79.461	6.86	-3.8	-	-3.7	0.80
203	5.2	1190*	130	10.92	-3.4	-	-2.0	0.82
266	2	1241*	0.009	0.00	-2.7	-	-29.6	0.86
234	2	1250*	350	28.00	-2.6	-	-0.6	0.86
279	5.2	1260*	169	13.41	-2.4	-	-1.1	0.87
295	2	1298*	108	8.32	-2.0	-	-1.4	0.90
35	1.51	1302*	30	2.30	-1.9	-	-4.8	0.90
36	6.1	1340*	134	10.00	-1.4	-	-0.8	0.92

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
252	6.1	1344*	104	7.74	-1.4	-	-1.0	0.93
85	7.2	1344*	100	7.44	-1.4	-	-1.1	0.93
281	5.2	1370	54.8	4.00	-1.0	-	-1.4	0.94
40	5.1	1420	210	14.79	-0.4	-	-0.1	0.98
113	2	1420	6.23	0.44	-0.4	-	-3.2	0.98
151	7.2	1433.438	75.749	5.28	-0.2	-	-0.2	0.99
263	5.1	1440.77	146.53	10.17	-0.1	-	-0.1	0.99
280	7.1	1450	170	11.72	0.0	-	0.0	1.00
268	6.1	1482.79	75.87	5.12	0.4	-	0.4	1.02
152	5.2	1487.488	73.032	4.91	0.5	-	0.5	1.03
237	5.1	1490	45	3.02	0.5	-	0.9	1.03
154	7.1	1499	28	1.87	0.6	-	1.7	1.03
282	5.2	1513	48.5	3.21	0.8	-	1.3	1.04
257	5.2	1540	130	8.44	1.2	-	0.7	1.06
276	7.2	1554*	124	7.98	1.3	-	0.8	1.07
44	4.2	1556*	108.8	6.99	1.4	-	1.0	1.07
176	5.2	1560*	90	5.77	1.4	-	1.2	1.08
172	5.2	1608*	98	6.09	2.0	-	1.6	1.11
199	5.1	1671.5*	120.5	7.21	2.9	-	1.8	1.15
130	2	1713*	46	2.69	3.4	-	5.7	1.18
215	5.1	1732*	193	11.14	3.6	-	1.5	1.19
55	5.2	1800*	400	22.22	4.5	-	0.9	1.24
194	5.1	1866.5*	21.92	1.17	5.4	-	18.1	1.29
146	4.32	1870*	120	6.42	5.4	-	3.5	1.29
220	5.2	1974.505*	130.493	6.61	6.8	-	4.0	1.36
204	1.2	2047*	290.598	14.20	7.7	-	2.1	1.41
244	2	2110.67*	24.01	1.14	8.5	-	26.4	1.46
145	1.22	2463.333*	211.569	8.59	13.1	-	4.8	1.70
126	1.23	2470*	800	32.39	13.2	-	1.3	1.70
193	5.2	3373.3*	50	1.48	24.8	-	38.1	2.33
235	1.22	3474.67*	435.22	12.53	26.1	-	4.7	2.40
132	7.1	3664.96*	85.13	2.32	28.6	-	25.9	2.53
267	2	6660*	100	1.50	67.2	-	52.0	4.59
206	1.22	6792.165*	0.38	0.01	68.9	-	754.4	4.68
216	4.32	10900*	1825	16.74	121.8	-	5.2	7.52
$Mn (x_{pt} = 76.7, \sigma_{pt} = 6, u(x_{pt}) = 1.7) [mg/kg]$								
278	1.22	1.392**	0.325	23.35	-11.8	-	-42.3	0.02
273	7.1	1.805**	0.079	4.38	-11.7	-	-42.8	0.02
72	1.3	2.8**	0.1	3.57	-11.6	-	-42.2	0.04
254	1.21	9.1*	3.483	38.27	-10.6	-	-17.3	0.12
152	5.2	52.303	1.115	2.13	-3.8	-	-11.7	0.68
77	1.21	54.51	3.711	6.81	-3.5	-	-5.4	0.71
266	2	57	0.001	0.00	-3.1	-	-11.2	0.74
129	1.2	59.73	17.48	29.27	-2.7	-	-1.0	0.78
204	1.2	60.022	8.508	14.17	-2.6	-	-1.9	0.78
209	1.4	62	7	11.29	-2.3	-	-2.0	0.81
230	1.24	63	6	9.52	-2.1	-	-2.2	0.82
194	5.1	64.27	8.192	12.75	-1.9	-	-1.5	0.84

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
65	1.23	64.807	3.616	5.58	-1.9	-	-3.0	0.85
298	6.1	65	2.8	4.31	-1.8	-	-3.5	0.85
283	5.1	67.79	5.2	7.67	-1.4	-	-1.6	0.88
36	6.1	67.9	6.7	9.87	-1.4	-	-1.3	0.89
279	5.2	68.5	4.13	6.03	-1.3	-	-1.8	0.89
205	5.2	68.774	0.54	0.79	-1.2	-	-4.3	0.90
270	6.1	68.9	0.28	0.41	-1.2	-	-4.4	0.90
233	1.23	69	12	17.39	-1.2	-	-0.6	0.90
202	5.1	70	3	4.29	-1.0	-	-1.9	0.91
280	7.1	70	10	14.29	-1.0	-	-0.7	0.91
78	1.3	70.484	2.887	4.10	-1.0	-	-1.8	0.92
151	7.2	71.086	4.969	6.99	-0.9	-	-1.1	0.93
154	7.1	72.1	1.5	2.08	-0.7	-	-2.0	0.94
102	1.23	73	10	13.70	-0.6	-	-0.4	0.95
44	4.2	73	6.7	9.18	-0.6	-	-0.5	0.95
203	5.2	73.2	2.6	3.55	-0.5	-	-1.1	0.95
282	5.2	73.6	0.35	0.48	-0.5	-	-1.7	0.96
75	1.3	74	3	4.05	-0.4	-	-0.8	0.97
192	5.2	74.2	3.9	5.26	-0.4	-	-0.6	0.97
237	5.1	74.3	1.9	2.56	-0.4	-	-0.9	0.97
281	5.2	74.5	0.52	0.70	-0.3	-	-1.2	0.97
263	5.1	74.55	3.86	5.18	-0.3	-	-0.5	0.97
247	5.2	75.4	3.6	4.77	-0.2	-	-0.3	0.98
244	2	75.74	5.84	7.71	-0.1	-	-0.2	0.99
229	6.2	75.8	6	7.92	-0.1	-	-0.1	0.99
85	7.2	76	5	6.58	-0.1	-	-0.1	0.99
40	5.1	76	5	6.58	-0.1	-	-0.1	0.99
53	1.32	76.2	4.6	6.04	-0.1	-	-0.1	0.99
172	5.2	76.5	3.2	4.18	0.0	-	0.0	1.00
55	5.2	77.3	4	5.17	0.1	-	0.1	1.01
195	5.2	77.8	9.3	11.95	0.2	-	0.1	1.01
215	5.1	77.8	4.6	5.91	0.2	-	0.2	1.01
252	6.1	78.67	3.01	3.83	0.3	-	0.6	1.03
238	1.1	78.8	9.9	12.56	0.3	-	0.2	1.03
257	5.2	79	3	3.80	0.4	-	0.7	1.03
234	5.2	79	5.3	6.71	0.4	-	0.4	1.03
146	4.32	80	9	11.25	0.5	-	0.4	1.04
176	5.2	80.9	1.3	1.61	0.7	-	1.9	1.06
295	2	81	5.9	7.28	0.7	-	0.7	1.06
274	5.2	81	7	8.64	0.7	-	0.6	1.06
193	5.2	81.605	5.74	7.03	0.8	-	0.8	1.06
276	7.2	82.3	6.6	8.02	0.9	-	0.8	1.07
220	5.2	84.473	4.872	5.77	1.2	-	1.5	1.10
116	1.32	85.1	1.4	1.65	1.3	-	3.8	1.11
261	5.2	85.22	0.6	0.70	1.3	-	4.6	1.11
149	1.3	86.4	9.77	11.31	1.5	-	1.0	1.13
199	5.1	87.42	6.337	7.25	1.7	-	1.6	1.14
126	1.23	90	9	10.00	2.1	-	1.5	1.17
35	1.51	90.2	0.7	0.78	2.1	-	7.2	1.18

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
174	7.2	90.42	0.916	1.01	2.2	-	7.0	1.18
206	1.22	91.643	0.89	0.97	2.3	-	7.6	1.20
113	2	93	0.516	0.55	2.6	-	9.0	1.21
268	6.1	96	6.72	7.00	3.0	-	2.8	1.25
296	2	97	0.002	0.00	3.2	-	11.6	1.27
130	2	104	27	25.96	4.3	-	1.0	1.36
133	4.1	109	10	9.17	5.1	-	3.2	1.42
100	7.2	118.668	7.051	5.94	6.6	-	5.8	1.55
235	1.22	154.67*	9.07	5.86	12.2	-	8.4	2.02
145	1.22	208.333*	7.96	3.82	20.6	-	16.2	2.72
132	7.1	964.95**	11.03	1.14	139.2	-	79.5	12.59
216	4.32	10000**	1558	15.58	1554.7	-	6.4	130.43
<i>Na</i> ( $x_{pt} = 3560$ , $\sigma_{pt} = 170$ , $u(x_{pt}) = 100$ ) [mg/kg]								
204	1.2	183**	33.951	18.55	-	-17.4	-32.2	0.05
206	1.22	247.494**	2.564	1.04	-	-17.1	-33.4	0.07
218	5.2	250.93**	7.82	3.12	-	-17.1	-33.3	0.07
268	6.1	537.394*	73.623	13.70	-	-15.6	-24.5	0.15
65	1.23	1375.605	103.632	7.53	-	-11.3	-15.3	0.39
132	7.1	2052.93	26.85	1.31	-	-7.8	-14.7	0.58
261	5.1	2629.172	49.369	1.88	-	-4.8	-8.4	0.74
44	4.2	2755.7	340.9	12.37	-	-4.2	-2.3	0.77
170	5.2	3013	33	1.10	-	-2.8	-5.3	0.85
152	5.2	3029.75	63.366	2.09	-	-2.8	-4.5	0.85
195	5.2	3031	544	17.95	-	-2.7	-1.0	0.85
194	5.1	3072.13	170.383	5.55	-	-2.5	-2.5	0.86
247	5.2	3100	175	5.65	-	-2.4	-2.3	0.87
35	1.51	3130	120	3.83	-	-2.2	-2.8	0.88
40	5.1	3172	479	15.10	-	-2.0	-0.8	0.89
283	5.1	3197	160	5.00	-	-1.9	-1.9	0.90
130	2	3208	28	0.87	-	-1.8	-3.5	0.90
203	5.2	3220	40	1.24	-	-1.8	-3.2	0.90
281	5.2	3230	19.38	0.60	-	-1.7	-3.3	0.91
199	5.1	3329	525.421	15.78	-	-1.2	-0.4	0.93
220	5.2	3356.048	169.886	5.06	-	-1.1	-1.1	0.94
193	5.2	3360.19	68.69	2.04	-	-1.1	-1.7	0.94
234	5.2	3390	150	4.42	-	-0.9	-1.0	0.95
274	5.2	3400	100	2.94	-	-0.8	-1.2	0.95
263	5.1	3403.47	171.17	5.03	-	-0.8	-0.8	0.95
55	5.2	3509	100	2.85	-	-0.3	-0.4	0.98
279	5.2	3520	352	10.00	-	-0.2	-0.1	0.99
176	5.2	3570	50	1.40	-	0.0	0.1	1.00
237	5.1	3590	95	2.65	-	0.1	0.2	1.01
85	7.2	3600	300	8.33	-	0.2	0.1	1.01
202	5.1	3631	122	3.36	-	0.3	0.4	1.02
302	5.1	3650	3.65	0.10	-	0.4	0.9	1.02
169	5.1	3667	108	2.95	-	0.5	0.7	1.03
257	5.2	3690	114	3.09	-	0.7	0.8	1.04
171	5.1	3725	80	2.15	-	0.8	1.3	1.05

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
183	5.1	3740	65	1.74	-	0.9	1.5	1.05
215	5.1	3748	228	6.08	-	0.9	0.7	1.05
113	2	3780	19.73	0.52	-	1.1	2.1	1.06
172	5.2	3783	151	3.99	-	1.1	1.2	1.06
266	2	3803	0.021	0.00	-	1.2	2.4	1.07
205	5.2	3804	550	14.46	-	1.2	0.4	1.07
100	7.2	3863.606	223.507	5.78	-	1.5	1.2	1.08
154	7.1	3874	73	1.88	-	1.6	2.5	1.09
282	5.2	3877	4	0.10	-	1.6	3.2	1.09
252	6.1	3899	147	3.77	-	1.7	1.9	1.09
61	5.2	3920	300	7.65	-	1.8	1.1	1.10
192	5.2	4370	230	5.26	-	4.2	3.2	1.23
146	4.32	4580	276	6.03	-	5.2	3.5	1.29
145	1.22	4967	765.6	15.41	-	7.2	1.8	1.39
244	2	5623.33	173.77	3.09	-	10.6	10.3	1.58
133	4.4	6070	600	9.88	-	12.9	4.1	1.70
126	1.23	10781*	5400	50.09	-	37.2	1.3	3.03
267	2	11620*	100	0.86	-	41.6	57.2	3.26
216	4.32	19800*	7429	37.52	-	83.8	2.2	5.56
$P(x_{pt} = 2360, \sigma_{pt} = 120, u(x_{pt}) = 12)$ [mg/kg]								
277	7.1	16.13**	0.298	1.85	-20.0	-	-189.4	0.01
72	1.3	77**	3	3.90	-19.5	-	-179.3	0.03
75	1.3	431*	31	7.19	-16.4	-	-57.8	0.18
266	2	1659*	0.006	0.00	-6.0	-	-56.6	0.70
65	1.23	1698.755*	106.664	6.28	-5.6	-	-6.2	0.72
238	1.1	2065*	400	19.37	-2.5	-	-0.7	0.88
53	1.32	2135*	170	7.96	-1.9	-	-1.3	0.90
116	1.32	2139*	226	10.57	-1.9	-	-1.0	0.91
130	2	2221	32	1.44	-1.2	-	-4.1	0.94
204	1.2	2243	132.402	5.90	-1.0	-	-0.9	0.95
234	2	2270	330	14.54	-0.8	-	-0.3	0.96
235	1.22	2285.33	71.28	3.12	-0.6	-	-1.0	0.97
77	1.21	2409	1083	44.96	0.4	-	0.0	1.02
129	1.2	2449.06	805.47	32.89	0.8	-	0.1	1.04
126	1.23	2484	500	20.13	1.1	-	0.2	1.05
113	2	2510	2.39	0.10	1.3	-	11.9	1.06
154	7.1	2523*	56	2.22	1.4	-	2.8	1.07
44	4.2	2614.2*	139	5.32	2.2	-	1.8	1.11
35	1.51	2621*	34	1.30	2.2	-	7.2	1.11
296	2	2734*	0.002	0.00	3.2	-	30.2	1.16
206	1.22	2744.793*	9.7	0.35	3.3	-	24.5	1.16
146	4.32	2930*	170	5.80	4.9	-	3.3	1.24
149	1.3	2998*	375	12.51	5.4	-	1.7	1.27
85	7.2	3033*	300	9.89	5.7	-	2.2	1.29
244	2	3095.33*	44.28	1.43	6.3	-	16.0	1.31
102	1.23	3557*	276	7.76	10.2	-	4.3	1.51
145	1.22	7533.33*	572.632	7.60	44.1	-	9.0	3.19
216	4.32	26900**	1044	3.88	209.2	-	23.5	11.40

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $Zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
267	2	60530**	200	0.33	495.9	-	290.3	25.65
$S(x_{pt} = 3160, \sigma_{pt} = 150, u(x_{pt}) = 7)$ [mg/kg]								
278	1.22	53.731**	3.654	6.80	-20.7	-	-390.3	0.02
132	7.1	101.09**	2.39	2.36	-20.3	-	-409.8	0.03
72	1.3	102**	2	1.96	-20.3	-	-416.1	0.03
75	1.3	1145*	40	3.49	-13.4	-	-49.6	0.36
102	1.23	1567*	671	42.82	-10.6	-	-2.4	0.50
266	2	1980*	0.002	0.00	-7.8	-	-166.9	0.63
53	1.32	2264*	181	7.99	-6.0	-	-4.9	0.72
65	1.23	2347.355*	175.947	7.50	-5.4	-	-4.6	0.74
238	1.1	2354*	310	13.17	-5.4	-	-2.6	0.74
85	7.2	2388*	150	6.28	-5.1	-	-5.1	0.76
116	1.32	2885*	165	5.72	-1.8	-	-1.7	0.91
149	1.3	2913*	363	12.46	-1.6	-	-0.7	0.92
183	5.4	3020*	100	3.31	-0.9	-	-1.4	0.96
234	2	3180	260	8.18	0.1	-	0.1	1.01
204	1.2	3234.231	294.397	9.10	0.5	-	0.3	1.02
44	4.2	3300.4*	198	6.00	0.9	-	0.7	1.04
133	4.1	3340*	600	17.96	1.2	-	0.3	1.06
113	2	3470*	2.92	0.08	2.1	-	40.5	1.10
35	1.51	3473*	28	0.81	2.1	-	10.8	1.10
126	1.23	3700*	700	18.92	3.6	-	0.8	1.17
146	4.32	3740*	216	5.78	3.9	-	2.7	1.18
244	2	3990.67*	33.29	0.83	5.5	-	24.4	1.26
206	1.22	4000*	8.4	0.21	5.6	-	76.5	1.27
235	1.22	4191.33*	132.51	3.16	6.9	-	7.8	1.33
77	1.21	6074*	1930	31.77	19.4	-	1.5	1.92
129	1.2	7719.99*	2437.42	31.57	30.3	-	1.9	2.44
216	4.32	39300**	1077	2.74	240.4	-	33.6	12.44
267	2	69540**	200	0.29	441.6	-	331.7	22.01
$Si$ [mg/kg]								
277	7.1	0.214**	0.008	3.74	-	-	-	-
273	7.1	27.402**	0.824	3.01	-	-	-	-
204	1.2	851.167	103.002	12.10	-	-	-	-
126	1.23	1471	300	20.39	-	-	-	-
113	2	1590	3.18	0.20	-	-	-	-
172	5.2	1755	293	16.70	-	-	-	-
44	4.2	1968.8	235.8	11.98	-	-	-	-
35	1.51	2040	210	10.29	-	-	-	-
65	1.23	2126.444	137.479	6.47	-	-	-	-
244	2	2260.67	195.35	8.64	-	-	-	-
266	2	2536	0.023	0.00	-	-	-	-
146	4.32	2580	690	26.74	-	-	-	-
234	5.2	3160	380	12.03	-	-	-	-
235	1.22	3468	191.5	5.52	-	-	-	-
145	1.22	5366.333	509.842	9.50	-	-	-	-
267	2	26610**	100	0.38	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
216	4.32	53700**	1305	2.43	-	-	-	-
Zn ( $x_{pt} = 32.1$ , $\sigma_{pt} = 3$ , $u(x_{pt}) = 0.3$ ) [mg/kg]								
277	7.1	0.137**	0.002	1.46	-10.5	-	-92.1	0.00
278	1.22	0.732**	0.089	12.16	-10.3	-	-87.6	0.02
72	1.3	1.54**	0.03	1.95	-10.0	-	-87.7	0.05
254	1.21	4.43*	0.727	16.41	-9.1	-	-34.3	0.14
77	1.21	16.4*	4.6	28.05	-5.2	-	-3.4	0.51
276	7.2	18.1*	1.4	7.73	-4.6	-	-9.7	0.56
270	6.1	19.31*	0.16	0.83	-4.2	-	-33.5	0.60
283	5.1	19.8*	1.1	5.56	-4.0	-	-10.7	0.62
261	5.1	19.837*	0.646	3.26	-4.0	-	-16.7	0.62
195	5.2	21.9*	4.5	20.55	-3.3	-	-2.3	0.68
266	2	23*	0.001	0.00	-3.0	-	-26.2	0.72
78	1.3	23*	0.98	4.26	-3.0	-	-8.8	0.72
282	5.2	24.5*	1.91	7.80	-2.5	-	-3.9	0.76
204	1.2	24.737*	1.274	5.15	-2.4	-	-5.6	0.77
298	6.1	24.9*	0.8	3.21	-2.4	-	-8.3	0.78
279	5.2	25.1*	1.7	6.77	-2.3	-	-4.0	0.78
170	5.2	25.5*	1.1	4.31	-2.2	-	-5.7	0.79
230	1.24	26*	4	15.38	-2.0	-	-1.5	0.81
203	5.2	26.2*	1	3.82	-1.9	-	-5.6	0.82
129	1.2	26.29*	7.74	29.44	-1.9	-	-0.7	0.82
272	5.2	26.296*	0.959	3.65	-1.9	-	-5.7	0.82
85	7.2	26.3*	1.3	4.94	-1.9	-	-4.3	0.82
65	1.23	26.454*	2.843	10.75	-1.9	-	-2.0	0.82
152	5.2	26.957*	1.289	4.78	-1.7	-	-3.9	0.84
193	5.2	27.517*	1.87	6.80	-1.5	-	-2.4	0.86
281	5.2	28.2*	1.78	6.31	-1.3	-	-2.2	0.88
44	4.2	28.2*	2.2	7.80	-1.3	-	-1.8	0.88
40	5.1	28.3	4.4	15.55	-1.2	-	-0.9	0.88
237	5.1	28.7	0.95	3.31	-1.1	-	-3.4	0.89
247	5.2	28.7	0.56	1.95	-1.1	-	-5.2	0.89
154	7.1	28.8	0.6	2.08	-1.1	-	-4.8	0.90
55	5.2	29.2	3	10.27	-1.0	-	-1.0	0.91
171	5.1	29.36	0.7	2.38	-0.9	-	-3.5	0.91
192	5.2	29.4	1.6	5.44	-0.9	-	-1.6	0.92
220	5.2	29.422	1.488	5.06	-0.9	-	-1.8	0.92
302	5.1	29.49	0.71	2.41	-0.9	-	-3.3	0.92
61	5.2	29.7	2.4	8.08	-0.8	-	-1.0	0.93
126	1.23	29.8	3	10.07	-0.8	-	-0.8	0.93
238	1.1	29.9	3.7	12.37	-0.7	-	-0.6	0.93
280	7.2	30	4.5	15.00	-0.7	-	-0.5	0.93
75	1.3	30	2	6.67	-0.7	-	-1.0	0.93
102	1.23	30	4	13.33	-0.7	-	-0.5	0.93
233	1.23	30	5	16.67	-0.7	-	-0.4	0.93
176	5.2	30.2	0.5	1.66	-0.6	-	-3.1	0.94
174	7.2	30.263	0.523	1.73	-0.6	-	-2.9	0.94
172	5.2	30.3	1.4	4.62	-0.6	-	-1.2	0.94



TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
183	5.1	31	0.6	1.94	-0.4	-	-1.6	0.97
209	1.4	31	1	3.23	-0.4	-	-1.0	0.97
151	7.2	31.55	4.565	14.47	-0.2	-	-0.1	0.98
252	6.1	31.57	2.95	9.34	-0.2	-	-0.2	0.98
206	1.22	31.89	0.55	1.72	-0.1	-	-0.3	0.99
194	5.1	32.27	4.746	14.71	0.1	-	0.0	1.01
149	1.3	32.4	3.16	9.75	0.1	-	0.1	1.01
215	5.1	32.5	2	6.15	0.1	-	0.2	1.01
53	1.32	32.7	2	6.12	0.2	-	0.3	1.02
268	6.1	33.24	4.48	13.48	0.4	-	0.3	1.04
199	5.1	33.327	1.036	3.11	0.4	-	1.1	1.04
35	1.51	33.4	2.2	6.59	0.4	-	0.6	1.04
113	2	34	0.12	0.35	0.6	-	5.2	1.06
133	4.1	34.4	3	8.72	0.8	-	0.8	1.07
244	2	34.99	0.75	2.14	0.9	-	3.5	1.09
36	6.2	35	3.5	10.00	1.0	-	0.8	1.09
146	4.32	35	10	28.57	1.0	-	0.3	1.09
116	1.32	36*	2.81	7.81	1.3	-	1.4	1.12
259	7.1	36*	1	2.78	1.3	-	3.7	1.12
202	5.1	37.7*	1.4	3.71	1.8	-	3.9	1.17
263	5.1	47.34*	2.52	5.32	5.0	-	6.0	1.47
205	5.2	48.258*	17.25	35.75	5.3	-	0.9	1.50
169	5.1	50.4*	1.3	2.58	6.0	-	13.6	1.57
296	2	72.5*	0.002	0.00	13.3	-	116.4	2.26
100	7.2	78.439*	25.036	31.92	15.2	-	1.9	2.44
145	1.22	125*	8.352	6.68	30.5	-	11.1	3.89
132	7.1	505.48**	4.61	0.91	155.4	-	102.4	15.75
Zr [mg/kg]								
145	1.22	1.233	1.101	89.29	-	-	-	-
204	1.2	2.444	0.496	20.29	-	-	-	-
Ag [ug/kg]								
259	7.1	1000	80	8.00	-	-	-	-
296	2	3450	0.002	0.00	-	-	-	-
As [ug/kg]								
174	7.2	49.685	4.059	8.17	-	-	-	-
151	7.2	99.212	67.635	68.17	-	-	-	-
206	1.22	124	0.98	0.79	-	-	-	-
100	7.2	414	57	13.77	-	-	-	-
204	1.2	434.2	48.4	11.15	-	-	-	-
257	5.2	600	90	15.00	-	-	-	-
296	2	1010	0.002	0.00	-	-	-	-
132	7.1	249452.584**	2685.883	1.08	-	-	-	-
$Ba (x_{pt} = 11100, \sigma_{pt} = 1200, u(x_{pt}) = 500) [ug/kg]$								
72	1.3	265**	66	24.91	-	-8.2	-23.1	0.02
273	7.1	2163*	0.078	0.00	-	-6.8	-19.2	0.20

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
206	1.22	3137	2.9	0.09	-	-6.0	-17.1	0.28
65	1.23	4480.7	324.78	7.25	-	-5.0	-11.6	0.40
204	1.2	8517.5	1013.9	11.90	-	-1.9	-2.3	0.77
203	5.2	9610	1050	10.93	-	-1.1	-1.3	0.87
151	7.2	9778.564	2934.565	30.01	-	-1.0	-0.4	0.88
257	5.2	10000	1800	18.00	-	-0.8	-0.6	0.90
205	5.2	10000.25	1548	15.48	-	-0.8	-0.7	0.90
302	5.1	10060	1710	17.00	-	-0.8	-0.6	0.91
169	5.1	10424	700	6.72	-	-0.5	-0.8	0.94
172	5.2	10737	2656	24.74	-	-0.3	-0.1	0.97
220	5.2	10795.677	1076.322	9.97	-	-0.2	-0.2	0.97
85	7.2	10800	400	3.70	-	-0.2	-0.5	0.98
263	5.1	10820	1721.67	15.91	-	-0.2	-0.1	0.98
279	5.2	11100	2660	23.96	-	0.0	0.0	1.00
154	7.1	11133	216	1.94	-	0.0	0.1	1.01
237	5.1	11500	550	4.78	-	0.3	0.6	1.04
199	5.1	11580	862	7.44	-	0.4	0.5	1.05
215	5.1	11600	1296	11.17	-	0.4	0.4	1.05
280	7.2	12000	2400	20.00	-	0.7	0.4	1.08
192	5.2	12100	700	5.79	-	0.8	1.2	1.09
176	5.2	12100	700	5.79	-	0.8	1.2	1.09
40	5.1	12846	2340	18.22	-	1.3	0.7	1.16
183	5.1	13100	2100	16.03	-	1.5	0.9	1.18
174	7.2	13287.854	181.295	1.36	-	1.7	4.4	1.20
238	1.1	13800	1500	10.87	-	2.1	1.7	1.25
261	5.1	16070	212	1.32	-	3.8	9.8	1.45
100	7.2	21145*	2020	9.55	-	7.6	4.9	1.91
296	2	147249**	0.002	0.00	-	103.3	293.5	13.29
Bi [ug/kg]								
126	1.23	1300	260	20.00	-	-	-	-
$Br (x_{pt} = 115000, \sigma_{pt} = 9000, u(x_{pt}) = 3000) [ug/kg]$								
278	1.22	5.666**	0.002	0.04	-12.8	-	-44.6	0.00
195	5.2	118**	11	9.32	-12.8	-	-44.5	0.00
146	4.32	130**	11	8.46	-12.8	-	-44.5	0.00
35	1.51	143.4**	1.8	1.26	-12.8	-	-44.5	0.00
254	1.21	190**	50	26.32	-12.7	-	-44.5	0.00
72	1.3	1977**	32	1.62	-12.5	-	-43.8	0.02
75	1.3	8000**	730	9.13	-11.9	-	-39.9	0.07
274	10	50000	2000	4.00	-7.2	-	-19.9	0.44
129	1.2	58000	17180	29.62	-6.3	-	-3.3	0.50
193	5.2	63263	4.067	0.01	-5.7	-	-20.0	0.55
194	5.1	73680	8393.85	11.39	-4.6	-	-4.7	0.64
266	2	87000	0.001	0.00	-3.1	-	-10.8	0.76
265	1.22	93601	4307	4.60	-2.4	-	-4.2	0.81
272	5.2	98325	2092	2.13	-1.8	-	-5.0	0.86
65	1.23	99131.4	8501.04	8.58	-1.8	-	-1.8	0.86
281	5.2	102000	3060	3.00	-1.4	-	-3.2	0.89

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
263	5.1	103729.71	5349.4	5.16	-1.2	-	-1.9	0.90
283	5.1	103900	5000	4.81	-1.2	-	-2.0	0.90
234	2	104000	300	0.29	-1.2	-	-4.2	0.90
40	5.1	106000	16000	15.09	-1.0	-	-0.6	0.92
257	5.2	106000	4000	3.77	-1.0	-	-1.9	0.92
230	1.24	107300	5360	5.00	-0.8	-	-1.3	0.93
233	1.23	107619	10000	9.29	-0.8	-	-0.7	0.94
170	5.2	110717	3741	3.38	-0.5	-	-0.9	0.96
169	5.1	110969	2782	2.51	-0.4	-	-1.0	0.97
247	5.2	111694	10117	9.06	-0.4	-	-0.3	0.97
61	5.1	112000	16000	14.29	-0.3	-	-0.2	0.97
279	5.2	113100	7010	6.20	-0.2	-	-0.2	0.98
44	4.2	113517.5	7133.9	6.28	-0.2	-	-0.2	0.99
237	5.1	114000	3000	2.63	-0.1	-	-0.2	0.99
202	5.1	114800	4868	4.24	0.0	-	0.0	1.00
55	5.2	114803	200	0.17	0.0	-	0.0	1.00
209	1.4	116000	10000	8.62	0.1	-	0.1	1.01
126	1.23	116000	30000	25.86	0.1	-	0.0	1.01
176	5.2	117400	1800	1.53	0.3	-	0.8	1.02
172	5.2	117544	4771	4.06	0.3	-	0.5	1.02
302	5.1	118100	236	0.20	0.4	-	1.2	1.03
199	5.1	120350	7740	6.43	0.6	-	0.7	1.05
203	5.2	121000	6000	4.96	0.7	-	0.9	1.05
53	1.32	121708	9737	8.00	0.8	-	0.7	1.06
192	5.2	122000	7000	5.74	0.8	-	0.9	1.06
282	5.2	122000	231	0.19	0.8	-	2.7	1.06
220	5.2	122434.124	6224.375	5.08	0.8	-	1.1	1.07
205	5.2	123542	8700	7.04	1.0	-	1.0	1.08
77	1.21	123989	36012	29.04	1.0	-	0.3	1.08
183	5.1	124000	2000	1.61	1.0	-	2.8	1.08
238	1.1	124000	12400	10.00	1.0	-	0.7	1.08
215	5.1	124069	7654	6.17	1.0	-	1.1	1.08
261	5.1	124786.8	3248.2	2.60	1.1	-	2.4	1.09
149	1.3	128063	10021	7.83	1.5	-	1.3	1.11
152	5.2	130547	2936	2.25	1.7	-	4.0	1.14
133	4.1	132000	13200	10.00	1.9	-	1.3	1.15
206	1.22	136690	2.9	0.00	2.4	-	8.4	1.19
171	5.1	139100	3100	2.23	2.7	-	6.0	1.21
244	2	162963	4306	2.64	5.3	-	9.6	1.42
204	1.2	182420*	3968	2.18	7.5	-	14.3	1.59
100	7.2	205438*	8706	4.24	10.1	-	10.0	1.79
113	2	1380000**	1590	0.12	140.5	-	417.6	12.01
Cd [ug/kg]								
270	6.1	10.04	0.12	1.20	-	-	-	-
85	7.2	89	4	4.49	-	-	-	-
151	7.2	95.418	27.129	28.43	-	-	-	-
174	7.2	98.081	0.918	0.94	-	-	-	-
298	6.2	100	1	1.00	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
126	1.23	300	100	33.33	-	-	-	-
296	2	462	0.002	0.00	-	-	-	-
229	6.2	1236**	228	18.45	-	-	-	-
206	1.22	5820**	5.8	0.10	-	-	-	-
Ce [ug/kg]								
72	1.3	86	30	34.88	-	-	-	-
279	5.2	120	33.6	28.00	-	-	-	-
220	5.2	139.533	13.431	9.63	-	-	-	-
272	5.2	140	38	27.14	-	-	-	-
203	5.2	147	31	21.09	-	-	-	-
192	5.2	159	9	5.66	-	-	-	-
151	7.2	168.408	16.547	9.83	-	-	-	-
171	5.1	175	44	25.14	-	-	-	-
199	5.1	191	12	6.28	-	-	-	-
257	5.2	200	46	23.00	-	-	-	-
215	5.1	239	24	10.04	-	-	-	-
302	5.1	523	80.5	15.39	-	-	-	-
205	5.2	548.08	98	17.88	-	-	-	-
193	5.2	729	0.359	0.05	-	-	-	-
Co ( $x_{pt} = 99$ , $\sigma_{pt} = 20$ , $u(x_{pt}) = 6$ ) [ug/kg]								
195	5.2	0.12**	0.02	16.67	-4.5	-	-15.2	0.00
206	1.22	40.21	1.21	3.01	-2.7	-	-8.9	0.41
174	7.2	60.513	5.893	9.74	-1.8	-	-4.4	0.61
85	7.2	74	14	18.92	-1.1	-	-1.6	0.75
302	5.1	75.67	5.52	7.29	-1.1	-	-2.7	0.77
272	5.2	78	4.5	5.77	-1.0	-	-2.6	0.79
171	5.1	80.1	3.8	4.74	-0.9	-	-2.5	0.81
263	5.1	81.43	4.36	5.35	-0.8	-	-2.2	0.83
199	5.1	82	11	13.41	-0.8	-	-1.3	0.83
176	5.2	86	3	3.49	-0.6	-	-1.8	0.87
203	5.2	86.3	6.4	7.42	-0.6	-	-1.4	0.87
220	5.2	86.686	8.893	10.26	-0.6	-	-1.1	0.88
215	5.1	88	6	6.82	-0.5	-	-1.2	0.89
261	5.1	89	5	5.62	-0.4	-	-1.2	0.90
183	5.1	90	2	2.22	-0.4	-	-1.3	0.91
281	5.2	90.1	18	19.98	-0.4	-	-0.4	0.91
192	5.2	92.9	4.8	5.17	-0.3	-	-0.7	0.94
193	5.2	97	0.165	0.17	-0.1	-	-0.3	0.98
151	7.2	97.25	84.048	86.42	-0.1	-	0.0	0.99
279	5.2	97.5	7.8	8.00	-0.1	-	-0.1	0.99
257	5.2	100	23	23.00	0.1	-	0.1	1.01
40	5.1	105	20	19.05	0.3	-	0.3	1.06
202	5.1	114	2	1.75	0.7	-	2.3	1.16
170	5.2	120.4	7.8	6.48	1.0	-	2.1	1.22
55	5.2	130	30	23.08	1.4	-	1.0	1.32
237	5.1	157	5	3.18	2.7	-	7.1	1.59
205	5.2	177.78	37	20.81	3.6	-	2.1	1.80

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
169	5.1	252*	8	3.17	7.1	-	14.9	2.55
100	7.2	294*	73	24.83	9.0	-	2.7	2.98
296	2	324*	0.002	0.00	10.4	-	34.7	3.28
152	5.2	1424**	264	18.54	61.1	-	5.0	14.43
145	1.22	2403.3**	245	10.19	106.2	-	9.4	24.36
129	1.2	9800**	2980	30.41	447.0	-	3.3	99.33
Cr [ug/kg]								
278	1.22	16.3**	0.008	0.05	-	-	-	-
270	6.1	93.31**	0.17	0.18	-	-	-	-
72	1.3	115**	44	38.26	-	-	-	-
193	5.2	643	222	34.53	-	-	-	-
261	5.1	926.8	18.6	2.01	-	-	-	-
154	7.1	1181	25	2.12	-	-	-	-
296	2	1250	0.002	0.00	-	-	-	-
174	7.2	1377.13	32.93	2.39	-	-	-	-
279	5.2	1650	177	10.73	-	-	-	-
254	1.21	2060	340.441	16.53	-	-	-	-
205	5.2	2115.8	657	31.05	-	-	-	-
35	1.3	2312	39	1.69	-	-	-	-
78	1.3	2331	244	10.47	-	-	-	-
55	5.2	2370.9	230	9.70	-	-	-	-
40	5.1	2460	380	15.45	-	-	-	-
192	5.2	2480	130	5.24	-	-	-	-
283	5.1	2693	150	5.57	-	-	-	-
151	7.2	2697.473	246.284	9.13	-	-	-	-
183	5.1	2700	120	4.44	-	-	-	-
257	5.2	2700	173	6.41	-	-	-	-
247	5.2	2719	366	13.46	-	-	-	-
176	5.2	2730	50	1.83	-	-	-	-
170	5.2	2731	58	2.12	-	-	-	-
199	5.1	2803	151	5.39	-	-	-	-
280	7.2	2900	870	30.00	-	-	-	-
61	5.2	2910	350	12.03	-	-	-	-
85	7.2	2960	1000	33.78	-	-	-	-
152	5.2	2975	591	19.87	-	-	-	-
171	5.1	3010	370	12.29	-	-	-	-
263	5.1	3068.02	154.4	5.03	-	-	-	-
169	5.1	3080	90	2.92	-	-	-	-
215	5.1	3086	186	6.03	-	-	-	-
202	5.1	3180	95	2.99	-	-	-	-
206	1.22	3880	6.5	0.17	-	-	-	-
149	1.3	3959	613	15.48	-	-	-	-
53	1.32	4308	388	9.01	-	-	-	-
302	5.1	4480	130	2.90	-	-	-	-
220	5.2	4597.713	1133.946	24.66	-	-	-	-
281	5.2	6140	454.36	7.40	-	-	-	-
204	1.2	6766	571	8.44	-	-	-	-
100	7.2	6978	459	6.58	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
145	1.22	7240	1302.2	17.99	-	-	-	-
129	1.2	10270	3110	30.28	-	-	-	-
132	7.1	158778.648**	5742.05	3.62	-	-	-	-
77	1.21	228953**	704	0.31	-	-	-	-
$Cs (x_{pt} = 82, \sigma_{pt} = 18, u(x_{pt}) = 2) [ug/kg]$								
195	5.2	0.05**	0.01	20.00	-4.5	-	-34.2	0.00
206	1.22	34*	2.17	6.38	-2.7	-	-14.9	0.41
203	5.2	70.3	2.6	3.70	-0.7	-	-3.4	0.85
220	5.2	71.843	4.148	5.77	-0.6	-	-2.2	0.87
151	7.2	75.538	2.885	3.82	-0.4	-	-1.8	0.92
193	5.2	76	0.17	0.22	-0.4	-	-2.7	0.92
261	5.1	76.91	3.33	4.33	-0.3	-	-1.3	0.93
61	5.1	78	14	17.95	-0.2	-	-0.3	0.95
237	5.1	78	3	3.85	-0.2	-	-1.1	0.95
169	5.1	78.3	3	3.83	-0.2	-	-1.1	0.95
279	5.2	78.4	9.8	12.50	-0.2	-	-0.4	0.95
176	5.2	79.6	2.1	2.64	-0.2	-	-0.9	0.97
283	5.1	80.78	9	11.14	-0.1	-	-0.2	0.98
215	5.1	81	5	6.17	-0.1	-	-0.3	0.98
192	5.2	81.4	4.2	5.16	-0.1	-	-0.2	0.99
199	5.1	82	7	8.54	0.0	-	-0.1	0.99
263	5.1	82.01	8.39	10.23	0.0	-	0.0	1.00
171	5.1	86.8	4	4.61	0.2	-	0.9	1.05
55	5.2	87.8	18	20.50	0.3	-	0.3	1.07
183	5.1	90	3	3.33	0.4	-	2.0	1.09
302	5.1	90.47	6.69	7.39	0.4	-	1.1	1.10
40	5.1	95	16	16.84	0.7	-	0.8	1.15
174	7.2	99	1.513	1.53	0.9	-	5.8	1.20
257	5.2	100	15	15.00	1.0	-	1.2	1.21
272	5.2	636*	81	12.74	30.5	-	6.8	7.72
Dy [ug/kg]								
152	5.2	429.599	82.697	19.25	-	-	-	-
Eu [ug/kg]								
195	5.2	0.02**	0.005	25.00	-	-	-	-
215	5.1	3.05	0.43	14.10	-	-	-	-
151	7.2	12.986	3.439	26.48	-	-	-	-
193	5.2	49	0.18	0.37	-	-	-	-
172	5.2	51.6	8.6	16.67	-	-	-	-
Ga [ug/kg]								
151	7.2	35.979	8.572	23.83	-	-	-	-
100	7.2	76	12	15.79	-	-	-	-
204	1.2	766.25	113.872	14.86	-	-	-	-
Hf [ug/kg]								
192	5.2	9.37	0.6	6.40	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
100	7.2	101	68	67.33	-	-	-	-
126	1.23	2200	600	27.27	-	-	-	-
Hg [ug/kg]								
193	5.2	17	0.2	1.18	-	-	-	-
273	7.1	18	1.101	6.12	-	-	-	-
192	5.2	25	3	12.00	-	-	-	-
279	5.2	37.8	8.7	23.02	-	-	-	-
284	10	40.779	0.407	1.00	-	-	-	-
298	10	42.9	0.6	1.40	-	-	-	-
174	7.2	43.408	2.526	5.82	-	-	-	-
40	5.1	45	17	37.78	-	-	-	-
276	10	47	7	14.89	-	-	-	-
215	5.1	50	19	38.00	-	-	-	-
100	7.2	74	25	33.78	-	-	-	-
55	5.2	74.3	4	5.38	-	-	-	-
296	2	100	0.002	0.00	-	-	-	-
126	1.23	1100**	330	30.00	-	-	-	-
La [ug/kg]								
40	5.1	59	15	25.42	-	-	-	-
237	5.1	66	4	6.06	-	-	-	-
169	5.1	77.1	6	7.78	-	-	-	-
151	7.2	84.465	16.843	19.94	-	-	-	-
176	5.2	88	7	7.95	-	-	-	-
61	5.2	97	18	18.56	-	-	-	-
279	5.2	98.3	8.3	8.44	-	-	-	-
192	5.2	102	6	5.88	-	-	-	-
203	5.2	113	16	14.16	-	-	-	-
100	7.2	157	37	23.57	-	-	-	-
261	5.1	169	5	2.96	-	-	-	-
215	5.1	209	44	21.05	-	-	-	-
302	5.1	212	29	13.68	-	-	-	-
205	5.2	401.74	156	38.83	-	-	-	-
206	1.22	541	3.25	0.60	-	-	-	-
193	5.2	1203**	1.28	0.11	-	-	-	-
Li [ug/kg]								
273	7.1	958	0.076	0.01	-	-	-	-
Mo [ug/kg]								
126	1.23	300	100	33.33	-	-	-	-
206	1.22	558	2.2	0.39	-	-	-	-
204	1.2	590	76.18	12.91	-	-	-	-
279	5.2	650.3	92	14.15	-	-	-	-
203	5.2	713	75	10.52	-	-	-	-
192	5.2	830	45	5.42	-	-	-	-
151	7.2	856.99	37.659	4.39	-	-	-	-
174	7.2	907.62	10.126	1.12	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
85	7.2	980	100	10.20	-	-	-	-
237	5.1	1070	95	8.88	-	-	-	-
169	5.1	1075	100	9.30	-	-	-	-
100	7.2	1190	162	13.61	-	-	-	-
257	5.2	2200	330	15.00	-	-	-	-
65	1.23	2221.48	234.15	10.54	-	-	-	-
296	2	4605	0.002	0.00	-	-	-	-
					Nb [ug/kg]			
204	1.2	5940	1251	21.06	-	-	-	-
					Nd [ug/kg]			
204	1.2	410.5	38.891	9.47	-	-	-	-
					Ni [ug/kg]			
270	6.1	1.959**	0.32	16.33	-	-	-	-
278	1.22	15**	0.002	0.01	-	-	-	-
254	1.21	26.667**	5.774	21.65	-	-	-	-
72	1.3	226**	23	10.18	-	-	-	-
259	7.1	875	110	12.57	-	-	-	-
65	1.23	1160.71	105.23	9.07	-	-	-	-
154	7.1	2954	59	2.00	-	-	-	-
229	6.2	3046	240	7.88	-	-	-	-
206	1.22	3590	1.3	0.04	-	-	-	-
151	7.2	3765.03	902.327	23.97	-	-	-	-
174	7.2	3780.91	95.66	2.53	-	-	-	-
133	4.1	3800	800	21.05	-	-	-	-
53	1.32	3805	228	5.99	-	-	-	-
176	5.2	3900	300	7.69	-	-	-	-
75	1.3	4000	730	18.25	-	-	-	-
280	7.2	4300	1100	25.58	-	-	-	-
85	7.2	4490	450	10.02	-	-	-	-
204	1.2	4619.6	567.913	12.29	-	-	-	-
279	5.2	4690	940	20.04	-	-	-	-
35	1.3	4788	190	3.97	-	-	-	-
78	1.3	4857	88	1.81	-	-	-	-
116	1.32	5000	290	5.80	-	-	-	-
233	1.23	5200	607	11.67	-	-	-	-
126	1.23	6000	600	10.00	-	-	-	-
146	4.32	6000	1000	16.67	-	-	-	-
203	5.2	6830	940	13.76	-	-	-	-
296	2	8513	0.002	0.00	-	-	-	-
129	1.2	9810	2940	29.97	-	-	-	-
100	7.2	17610	996	5.66	-	-	-	-
145	1.22	19780	1074.7	5.43	-	-	-	-
					Pb [ug/kg]			
278	1.22	1**	0.001	0.10	-	-	-	-
270	6.1	6.82**	0.28	4.11	-	-	-	-



TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $Zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
151	7.2	317.639	54.756	17.24	-	-	-	-
204	1.2	552.75	97.862	17.70	-	-	-	-
35	1.3	962	31	3.22	-	-	-	-
206	1.22	1180	2.3	0.19	-	-	-	-
174	7.2	1219.02	17.516	1.44	-	-	-	-
85	7.2	1240	100	8.06	-	-	-	-
65	1.23	2377.23	219.85	9.25	-	-	-	-
126	1.23	2700	540	20.00	-	-	-	-
296	2	4141	0.002	0.00	-	-	-	-
100	7.2	4699	728	15.49	-	-	-	-
273	7.1	5263	0.085	0.00	-	-	-	-
254	1.21	6296.67	796.074	12.64	-	-	-	-
145	1.22	20700**	1154	5.57	-	-	-	-
132	7.1	105263.578**	3885.557	3.69	-	-	-	-
$Rb (x_{pt} = 41900, \sigma_{pt} = 4000, u(x_{pt}) = 900) [ug/kg]$								
195	5.2	38.9**	3.6	9.25	-11.0	-	-48.9	0.00
72	1.3	2086**	37	1.77	-10.4	-	-46.5	0.05
193	5.2	2359**	61.55	2.61	-10.3	-	-46.1	0.06
206	1.22	7310*	0.85	0.01	-9.1	-	-40.4	0.17
126	1.23	25800	5000	19.38	-4.2	-	-3.2	0.62
152	5.2	32972	2041	6.19	-2.3	-	-4.0	0.79
266	2	35000	0.001	0.00	-1.8	-	-8.1	0.84
65	1.23	35730.46	2679.68	7.50	-1.6	-	-2.2	0.85
169	5.1	36200	900	2.49	-1.5	-	-4.6	0.86
116	1.32	36700	1030	2.81	-1.4	-	-3.9	0.88
55	5.2	36930	1800	4.87	-1.3	-	-2.5	0.88
230	1.24	37150	1858	5.00	-1.2	-	-2.3	0.89
100	7.2	37156	2186	5.88	-1.2	-	-2.0	0.89
257	5.2	38000	1980	5.21	-1.0	-	-1.8	0.91
283	5.1	38220	2200	5.76	-1.0	-	-1.6	0.91
85	7.2	38245	600	1.57	-1.0	-	-3.5	0.91
170	5.2	38592	2540	6.58	-0.9	-	-1.2	0.92
35	1.3	39000	290	0.74	-0.8	-	-3.2	0.93
204	1.2	39044	1832	4.69	-0.7	-	-1.4	0.93
40	5.1	39520	6000	15.18	-0.6	-	-0.4	0.94
151	7.2	39570.774	2004.569	5.07	-0.6	-	-1.1	0.94
233	1.23	39732	8054	20.27	-0.6	-	-0.3	0.95
302	5.1	39770	716	1.80	-0.6	-	-1.9	0.95
61	5.2	40100	5300	13.22	-0.5	-	-0.3	0.96
53	1.32	40258	2415	6.00	-0.4	-	-0.6	0.96
203	5.2	41100	4000	9.73	-0.2	-	-0.2	0.98
279	5.2	41200	6800	16.50	-0.2	-	-0.1	0.98
263	5.1	41364.52	2070.23	5.00	-0.1	-	-0.2	0.99
237	5.1	41600	1050	2.52	-0.1	-	-0.2	0.99
272	5.2	41721	1299	3.11	0.0	-	-0.1	1.00
209	1.4	42000	4000	9.52	0.0	-	0.0	1.00
78	1.3	42004	1680	4.00	0.0	-	0.1	1.00
220	5.2	42481.959	2173.668	5.12	0.2	-	0.3	1.01

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
238	1.1	42590	5350	12.56	0.2	-	0.1	1.02
192	5.2	42700	2200	5.15	0.2	-	0.3	1.02
247	5.2	42934	2150	5.01	0.3	-	0.5	1.02
280	7.2	43000	6400	14.88	0.3	-	0.2	1.03
77	1.21	43611	7201	16.51	0.5	-	0.2	1.04
172	5.2	44123	1874	4.25	0.6	-	1.1	1.05
176	5.2	44600	700	1.57	0.7	-	2.5	1.06
199	5.1	44670	1980	4.43	0.7	-	1.3	1.07
129	1.2	44730	14340	32.06	0.7	-	0.2	1.07
183	5.1	45000	800	1.78	0.8	-	2.7	1.07
75	1.3	45000	1100	2.44	0.8	-	2.2	1.07
244	2	45003	1665	3.70	0.8	-	1.7	1.07
281	5.2	45600	2006.4	4.40	1.0	-	1.7	1.09
215	5.1	46060	2739	5.95	1.1	-	1.5	1.10
205	5.2	46922	2285	4.87	1.3	-	2.1	1.12
146	4.32	48000	10000	20.83	1.6	-	0.6	1.15
171	5.1	48500	1400	2.89	1.7	-	4.0	1.16
261	5.1	48650	570	1.17	1.8	-	6.6	1.16
202	5.1	49523	67	0.14	2.0	-	8.9	1.18
113	2	50000	196	0.39	2.1	-	9.2	1.19
133	4.1	53400	10000	18.73	3.0	-	1.1	1.27
234	2	54200	3000	5.54	3.2	-	3.9	1.29
145	1.22	158716.7*	6032	3.80	30.6	-	19.2	3.79
Sb [ug/kg]								
193	5.2	15	0.113	0.75	-	-	-	-
85	7.2	24	5	20.83	-	-	-	-
170	5.2	27.2	8.2	30.15	-	-	-	-
279	5.2	29.1	3.6	12.37	-	-	-	-
203	5.2	31.9	3.3	10.34	-	-	-	-
183	5.1	35	3	8.57	-	-	-	-
192	5.2	35.4	2.2	6.21	-	-	-	-
283	5.1	35.9	7.1	19.78	-	-	-	-
176	5.2	36.1	2.4	6.65	-	-	-	-
151	7.2	36.212	9.484	26.19	-	-	-	-
215	5.1	41.5	4.3	10.36	-	-	-	-
171	5.1	43.6	6.4	14.68	-	-	-	-
220	5.2	45.68	10.258	22.46	-	-	-	-
40	5.1	47	10	21.28	-	-	-	-
169	5.1	47.4	3.3	6.96	-	-	-	-
205	5.2	51.261	12.5	24.39	-	-	-	-
261	5.1	55	4	7.27	-	-	-	-
302	5.1	61.55	10.7	17.38	-	-	-	-
257	5.2	70	15	21.43	-	-	-	-
296	2	1480**	0.001	0.00	-	-	-	-
100	7.2	1578**	123	7.79	-	-	-	-
$Sc (x_{pt} = 20.1, \sigma_{pt} = 4, u(x_{pt}) = 1.0) [ug/kg]$								
195	5.2	0.018**	0.005	27.78	-4.5	-	-20.9	0.00

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
40	5.1	15	2.3	15.33	-1.2	-	-2.1	0.75
279	5.2	16	1.1	6.88	-0.9	-	-2.8	0.80
169	5.1	16.6	0.5	3.01	-0.8	-	-3.3	0.82
237	5.1	16.7	0.55	3.29	-0.8	-	-3.1	0.83
170	5.2	16.7	0.8	4.79	-0.8	-	-2.7	0.83
220	5.2	16.831	0.873	5.19	-0.7	-	-2.5	0.84
261	5.1	17	1	5.88	-0.7	-	-2.3	0.84
281	5.2	17	1.96	11.53	-0.7	-	-1.4	0.84
176	5.2	17.1	0.7	4.09	-0.7	-	-2.5	0.85
171	5.1	17.71	0.4	2.26	-0.5	-	-2.3	0.88
193	5.2	18	0.056	0.31	-0.5	-	-2.2	0.89
192	5.2	18.9	1	5.29	-0.3	-	-0.9	0.94
215	5.1	19.2	1.2	6.25	-0.2	-	-0.6	0.95
283	5.1	19.5	1.1	5.64	-0.1	-	-0.4	0.97
172	5.2	19.6	1.6	8.16	-0.1	-	-0.3	0.97
61	5.2	19.7	2.6	13.20	-0.1	-	-0.2	0.98
183	5.1	20	1	5.00	0.0	-	-0.1	0.99
257	5.2	20	1	5.00	0.0	-	-0.1	0.99
199	5.1	20.215	0.873	4.32	0.0	-	0.1	1.00
263	5.1	20.55	1.03	5.01	0.1	-	0.3	1.02
202	5.1	23.1	0.6	2.60	0.7	-	2.6	1.15
272	5.2	23.5	0.7	2.98	0.8	-	2.8	1.17
55	5.2	23.97	2	8.34	0.9	-	1.7	1.19
205	5.2	25.756	4.151	16.12	1.3	-	1.3	1.28
282	5.2	30	1.2	4.00	2.2	-	6.4	1.49
85	7.2	30	6	20.00	2.2	-	1.6	1.49
152	5.2	31	4	12.90	2.5	-	2.6	1.54
302	5.1	131*	1.97	1.50	25.0	-	50.6	6.51
151	7.2	363.525**	70.772	19.47	77.6	-	4.9	18.06
254	1.21	12696.7**	6104.673	48.08	2863.1	-	2.1	630.89
Se [ug/kg]								
85	7.2	20**	4	20.00	-	-	-	-
296	2	322	0.002	0.00	-	-	-	-
126	1.23	600	200	33.33	-	-	-	-
151	7.2	844.224	64.445	7.63	-	-	-	-
206	1.22	875	2.58	0.29	-	-	-	-
$Sm (x_{pt} = 11.9, \sigma_{pt} = 3, u(x_{pt}) = 1.8) [ug/kg]$								
203	5.2	8	2	25.00	-	-1.2	-1.4	0.67
151	7.2	11.485	1.623	14.13	-	-0.1	-0.2	0.97
192	5.2	11.5	0.8	6.96	-	-0.1	-0.2	0.97
279	5.2	12.4	1.6	12.90	-	0.2	0.2	1.04
257	5.2	16	2	12.50	-	1.3	1.5	1.35
193	5.2	218**	0.89	0.41	-	64.9	102.2	18.35
Sn [ug/kg]								
151	7.2	64.003	23.171	36.20	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
$Sr (x_{pt} = 22800, \sigma_{pt} = 2000, u(x_{pt}) = 600) [ug/kg]$								
278	1.22	0.116**	0.015	12.93	-10.0	-	-38.8	0.00
35	1.51	25.4**	0.53	2.09	-10.0	-	-38.8	0.00
254	1.21	850**	326.956	38.47	-9.6	-	-32.7	0.04
72	1.3	1033**	25	2.42	-9.6	-	-37.0	0.05
203	5.2	9580	2290	23.90	-5.8	-	-5.6	0.42
116	1.32	12830	9900	77.16	-4.4	-	-1.0	0.56
126	1.23	14900	4000	26.85	-3.5	-	-2.0	0.65
205	5.2	18165	4351	23.95	-2.0	-	-1.1	0.80
204	1.2	18640	1526	8.19	-1.8	-	-2.6	0.82
65	1.23	19124.27	1500.93	7.85	-1.6	-	-2.3	0.84
265	1.22	19463	3824	19.65	-1.5	-	-0.9	0.85
169	5.1	20028	1286	6.42	-1.2	-	-2.0	0.88
230	1.24	20920	1050	5.02	-0.8	-	-1.6	0.92
85	7.2	20973	1000	4.77	-0.8	-	-1.6	0.92
280	7.2	21000	3500	16.67	-0.8	-	-0.5	0.92
151	7.2	21056.783	998.849	4.74	-0.8	-	-1.5	0.92
78	1.3	21382	707	3.31	-0.6	-	-1.6	0.94
174	7.2	21883.27	205.25	0.94	-0.4	-	-1.5	0.96
220	5.2	22030.362	1202.635	5.46	-0.4	-	-0.6	0.96
279	5.2	22100	3200	14.48	-0.3	-	-0.2	0.97
192	5.2	22100	1200	5.43	-0.3	-	-0.6	0.97
237	5.1	22200	1050	4.73	-0.3	-	-0.5	0.97
154	7.1	22226	440	1.98	-0.3	-	-0.8	0.97
238	1.1	22260	2790	12.53	-0.3	-	-0.2	0.97
261	5.1	22443	1410	6.28	-0.2	-	-0.3	0.98
244	2	22783	627	2.75	0.0	-	-0.1	1.00
209	1.4	23000	4000	17.39	0.1	-	0.0	1.01
233	1.23	23002	5102	22.18	0.1	-	0.0	1.01
53	1.32	23207	1392	6.00	0.2	-	0.2	1.02
40	5.1	23517	4190	17.82	0.3	-	0.2	1.03
206	1.22	23560	0.52	0.00	0.3	-	1.2	1.03
55	5.2	23760	5000	21.04	0.4	-	0.2	1.04
266	2	24000	0.001	0.00	0.5	-	2.0	1.05
75	1.3	24200	1730	7.15	0.6	-	0.7	1.06
176	5.2	24500	600	2.45	0.7	-	2.0	1.07
146	4.32	25000	7000	28.00	0.9	-	0.3	1.09
171	5.1	25000	2200	8.80	0.9	-	0.9	1.09
183	5.1	25000	1300	5.20	0.9	-	1.5	1.09
113	2	25000	58.8	0.24	0.9	-	3.7	1.09
133	4.1	25400	5000	19.69	1.1	-	0.5	1.11
199	5.1	25420	2190	8.62	1.1	-	1.1	1.11
215	5.1	25820	2286	8.85	1.3	-	1.3	1.13
77	1.21	27398	1597	5.83	2.0	-	2.7	1.20
193	5.2	29240	3.95	0.01	2.8	-	10.9	1.28
100	7.2	38207*	2785	7.29	6.7	-	5.4	1.67
129	1.2	49070*	17560	35.79	11.5	-	1.5	2.15
145	1.22	81556.7*	2548.1	3.12	25.7	-	22.5	3.57

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
					Ta [ug/kg]			
126	1.23	1600	400	25.00	-	-	-	-
302	5.1	55300	1548	2.80	-	-	-	-
					Th [ug/kg]			
176	5.2	12.2	1.6	13.11	-	-	-	-
192	5.2	12.7	0.9	7.09	-	-	-	-
279	5.2	14.1	3.53	25.04	-	-	-	-
220	5.2	14.323	3.052	21.31	-	-	-	-
151	7.2	19.632	9.97	50.78	-	-	-	-
171	5.1	20.2	4	19.80	-	-	-	-
218	5.2	26.2	1.9	7.25	-	-	-	-
205	5.2	31.292	2092	6685.41	-	-	-	-
199	5.1	36.058	2.235	6.20	-	-	-	-
215	5.1	40.5	4.8	11.85	-	-	-	-
100	7.2	60	31	51.67	-	-	-	-
126	1.23	1200**	300	25.00	-	-	-	-
274	10	27000**	4000	14.81	-	-	-	-
					Ti [ug/kg]			
278	1.22	6**	0.001	0.02	-	-	-	-
72	1.3	322**	75	23.29	-	-	-	-
204	1.2	1623	388.216	23.92	-	-	-	-
65	1.23	3343.651	368.75	11.03	-	-	-	-
85	7.2	3922	750	19.12	-	-	-	-
113	2	5000	282	5.64	-	-	-	-
75	1.3	6000	1470	24.50	-	-	-	-
129	1.2	8570	1340	15.64	-	-	-	-
146	4.32	16000	7000	43.75	-	-	-	-
44	4.2	19550	2922.7	14.95	-	-	-	-
126	1.23	19800	3000	15.15	-	-	-	-
209	1.4	23000	4000	17.39	-	-	-	-
145	1.22	35570	1470.6	4.13	-	-	-	-
254	1.21	62486.7	12030.67	19.25	-	-	-	-
151	7.2	620457.48**	135951.19	21.91	-	-	-	-
					Tl [ug/kg]			
296	2	221	0.002	0.00	-	-	-	-
126	1.23	900	300	33.33	-	-	-	-
					U [ug/kg]			
151	7.2	8.088	5.279	65.27	-	-	-	-
100	7.2	137	87	63.50	-	-	-	-
152	5.2	517.667	42.959	8.30	-	-	-	-
					V [ug/kg]			
193	5.2	46.89	0.239	0.51	-	-	-	-
206	1.22	150	0.74	0.49	-	-	-	-

TABLE 4b (cont.). SUMMARY OF THE REPORTED RESULTS, THE CALCULATED  $z$ - or  $z'$ -SCORES, THE  $zeta$ -SCORES AND THE  $R$ -SCORES FOR THE PLANT SAMPLE.

Participant code	Technique code	Measurand mass fraction	Standard deviation	Relative std. dev., [%]	$z$ -score	$z'$ -score	$Zeta$ -score	$R$ -score
85	7.2	229	20	8.73	-	-	-	-
237	5.1	230	25	10.87	-	-	-	-
151	7.2	259.932	42.08	16.19	-	-	-	-
174	7.2	352.88	12.506	3.54	-	-	-	-
199	5.1	380.354	30.328	7.97	-	-	-	-
194	5.1	430	120.915	28.12	-	-	-	-
273	7.1	635	0.081	0.01	-	-	-	-
152	5.2	718.504	24.702	3.44	-	-	-	-
254	1.21	916.667	1587.713	173.20	-	-	-	-
204	1.2	930	75.441	8.11	-	-	-	-
296	2	1520	0.002	0.00	-	-	-	-
126	1.23	12100**	2500	20.66	-	-	-	-
					Y [ug/kg]			
206	1.22	2193	1.92	0.09	-	-	-	-
204	1.2	2765	234	8.46	-	-	-	-
					Yb [ug/kg]			
302	5.1	2840	437	15.39	-	-	-	-

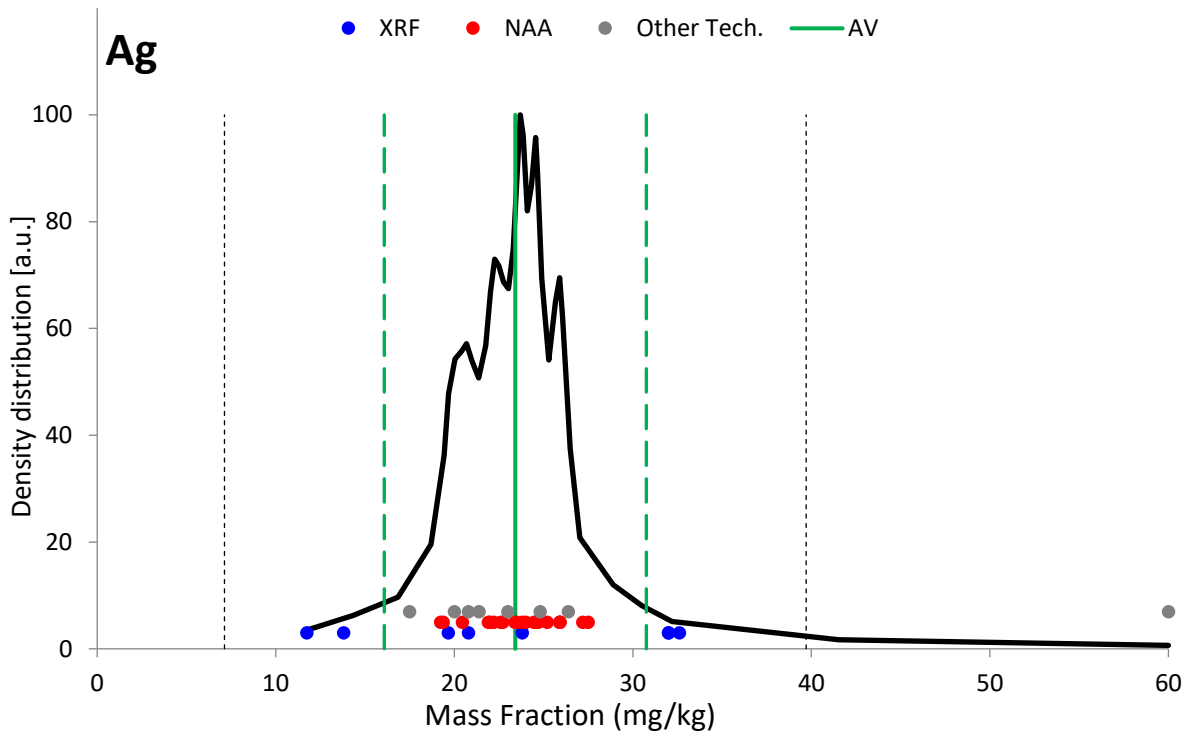


FIG. 7. Density distribution function for the measurand Ag (Soil sample with elevated mass fractions of elements).

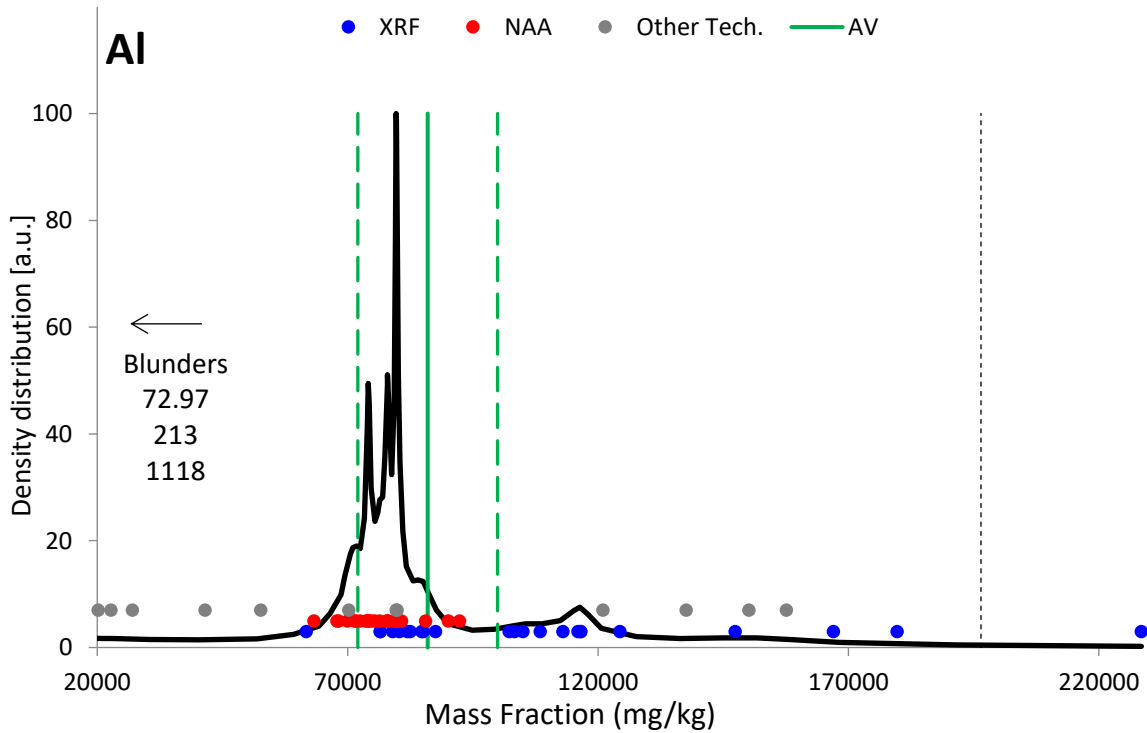


FIG. 8. Density distribution function for the measurand Al (Soil sample with elevated mass fractions of elements).

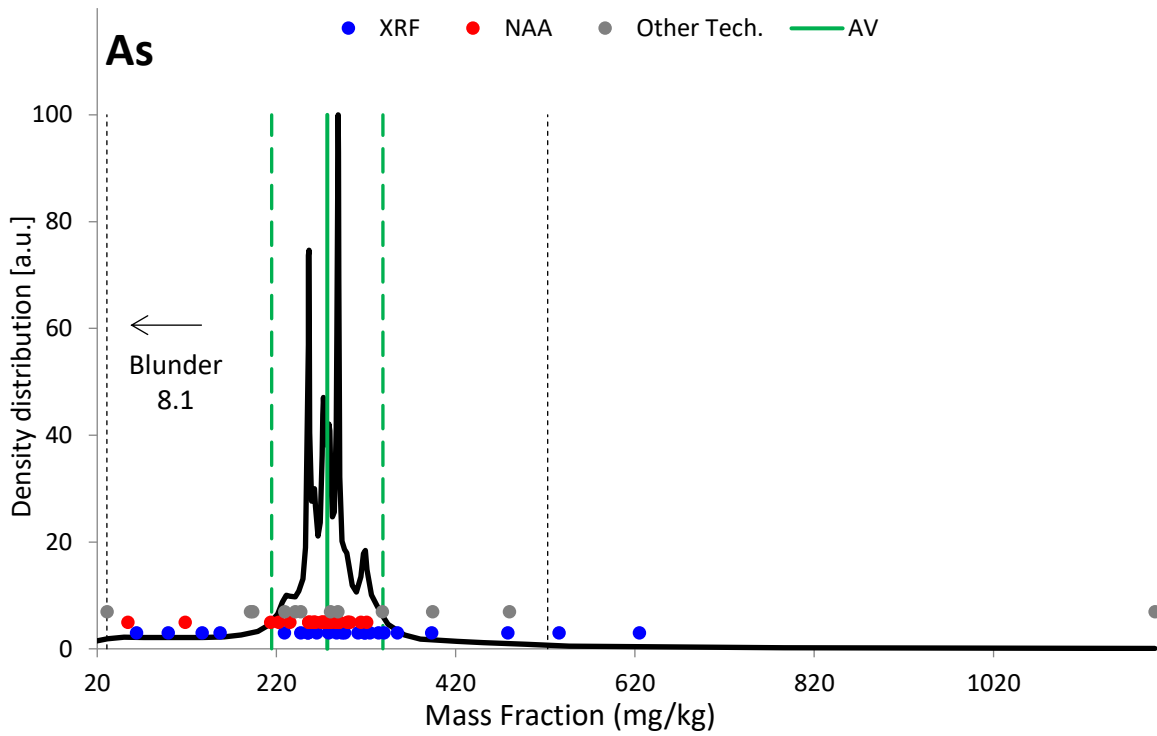


FIG. 9. Density distribution function for the measurand As (Soil sample with elevated mass fractions of elements).

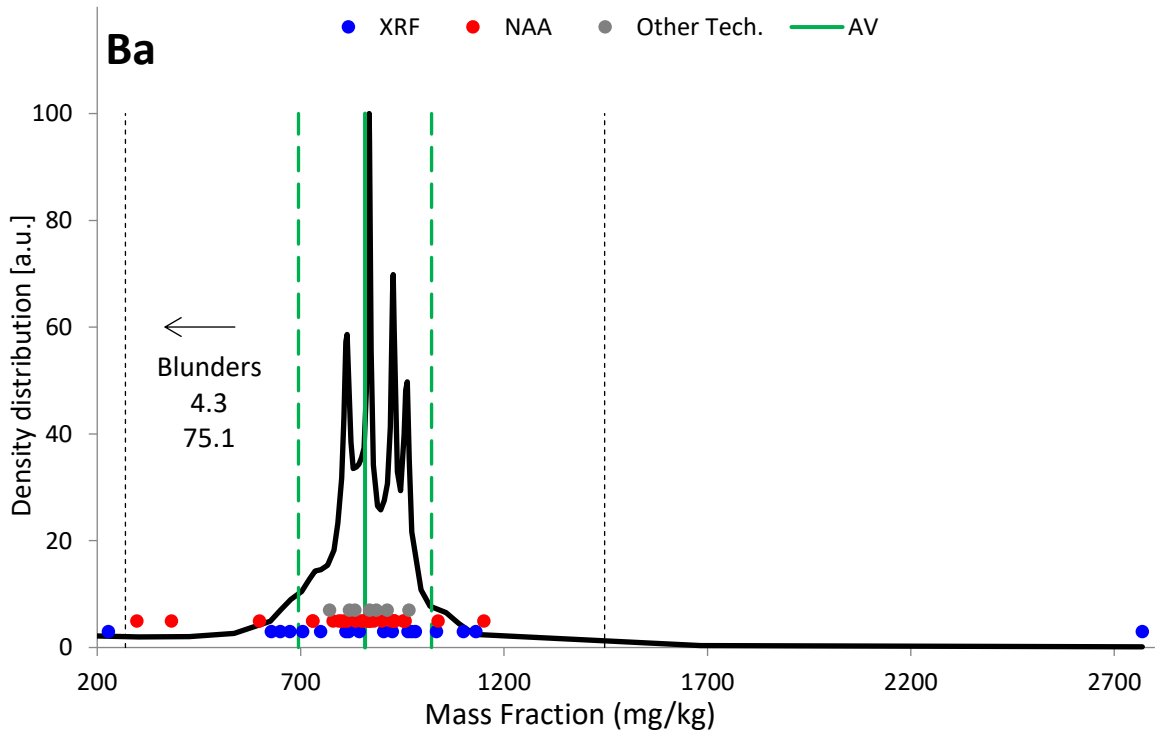


FIG. 10. Density distribution function for the measurand Ba (Soil sample with elevated mass fractions of elements).



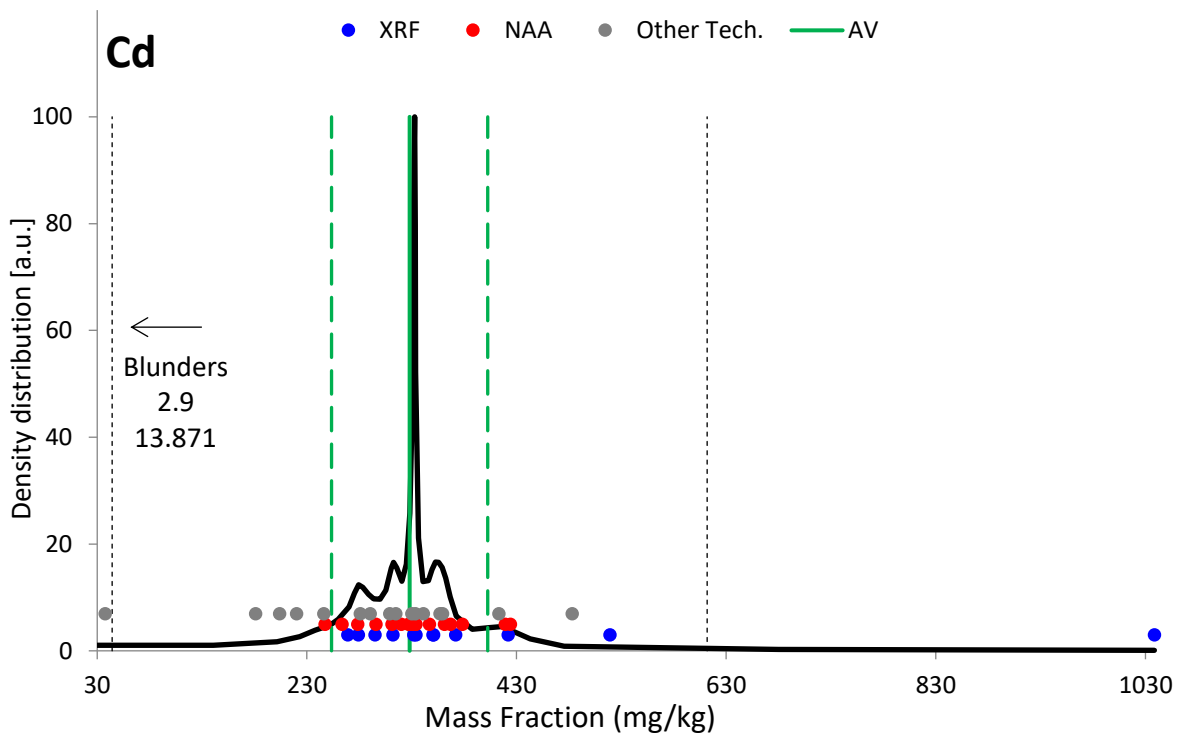


FIG. 11. Density distribution function for the measurand Cd (Soil sample with elevated mass fractions of elements).

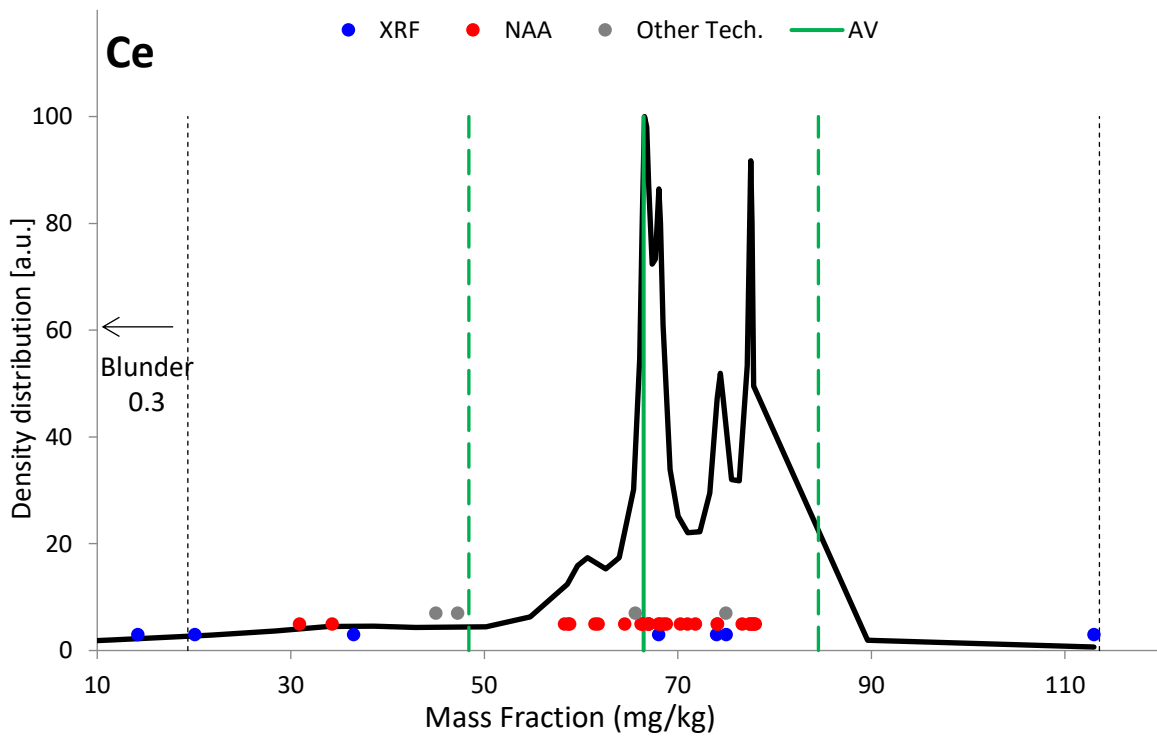


FIG. 12. Density distribution function for the measurand Ce (Soil sample with elevated mass fractions of elements).

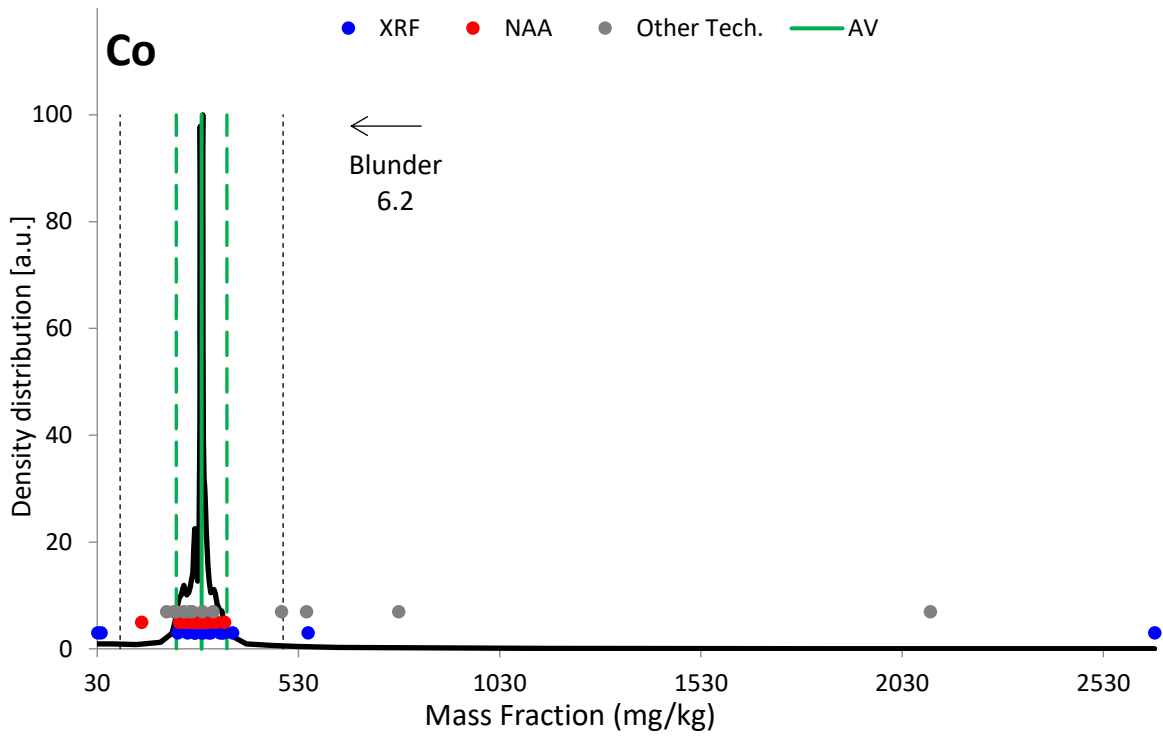


FIG. 13. Density distribution function for the measurand Co (Soil sample with elevated mass fractions of elements).

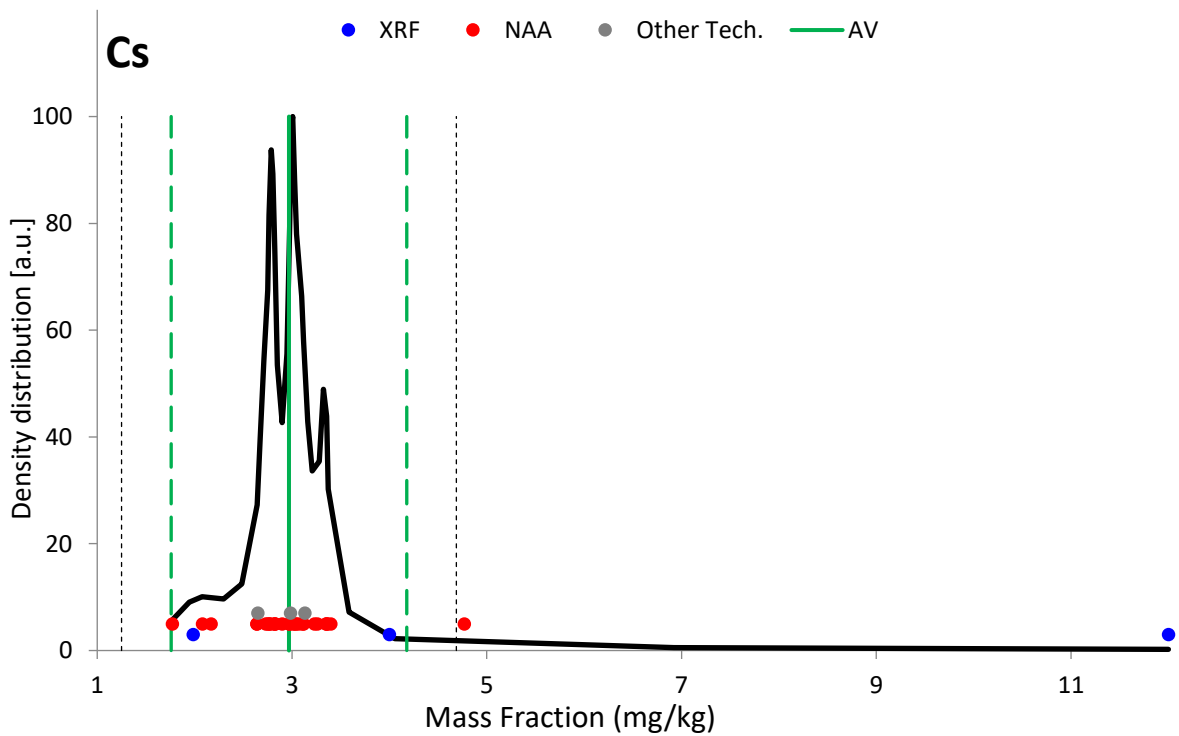


FIG. 14. Density distribution function for the measurand Cs (Soil sample with elevated mass fractions of elements).

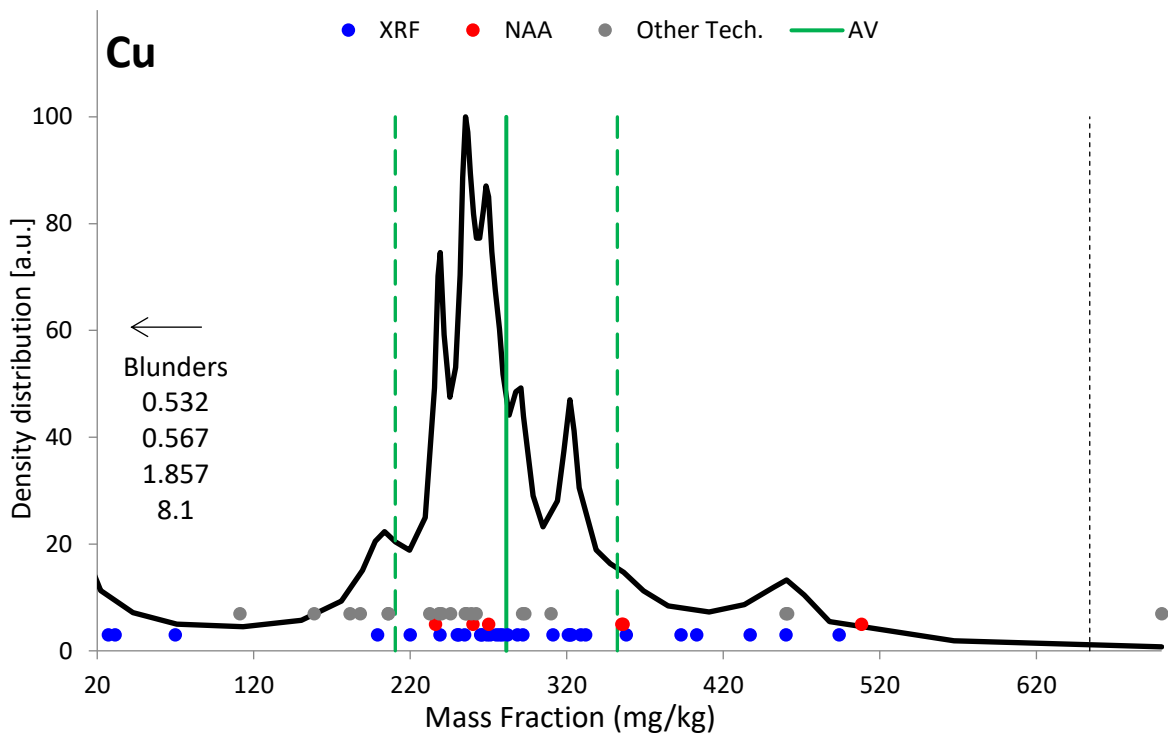


FIG. 15. Density distribution function for the measurand Cu (Soil sample with elevated mass fractions of elements).

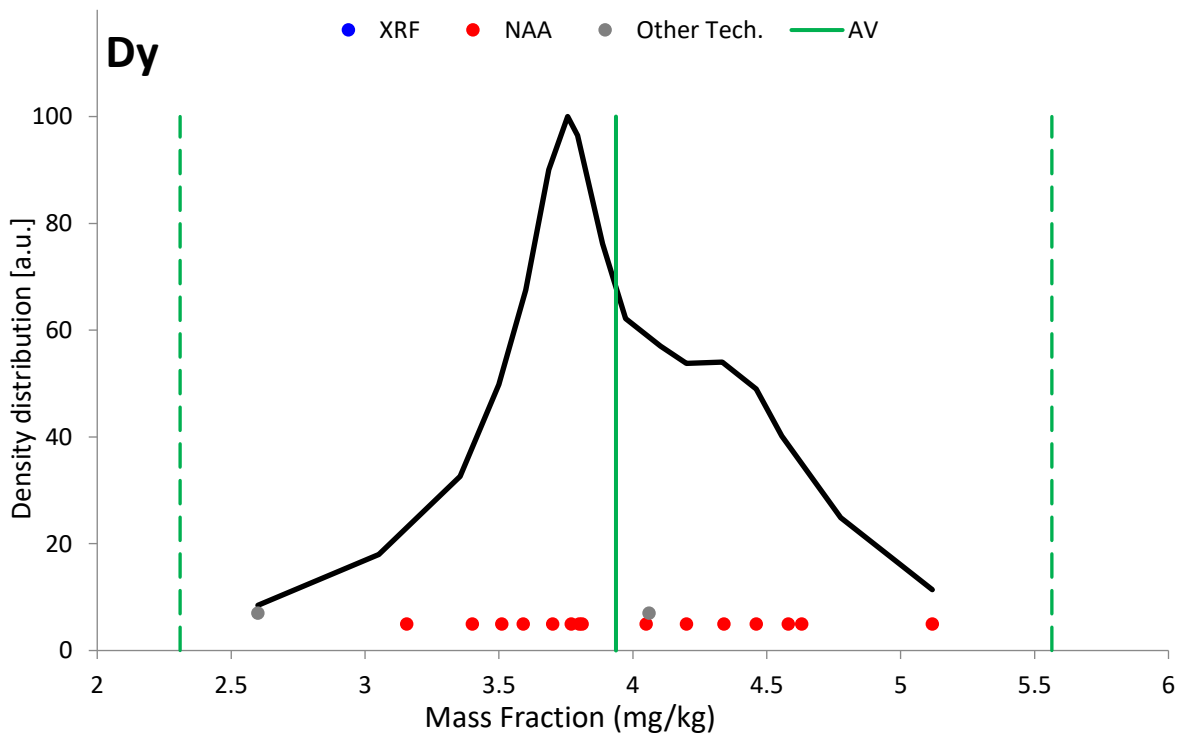


FIG. 16. Density distribution function for the measurand Dy (Soil sample with elevated mass fractions of elements).

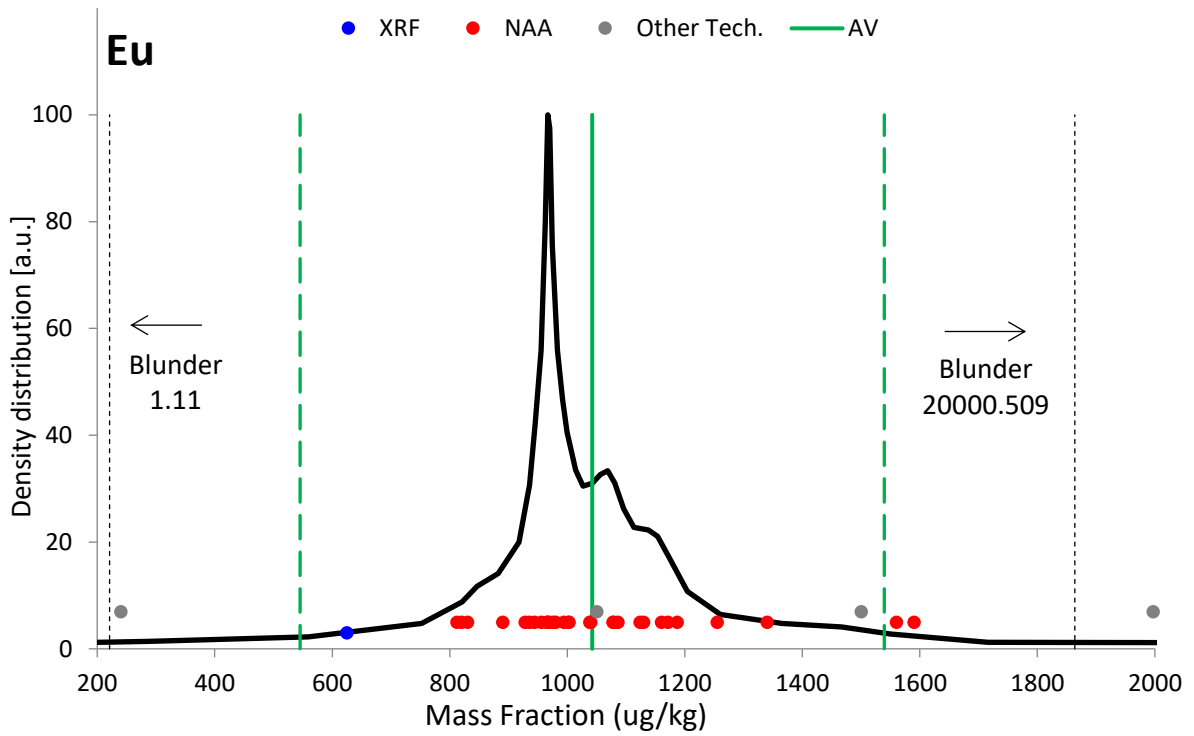


FIG. 17. Density distribution function for the measurand Eu (Soil sample with elevated mass fractions of elements).

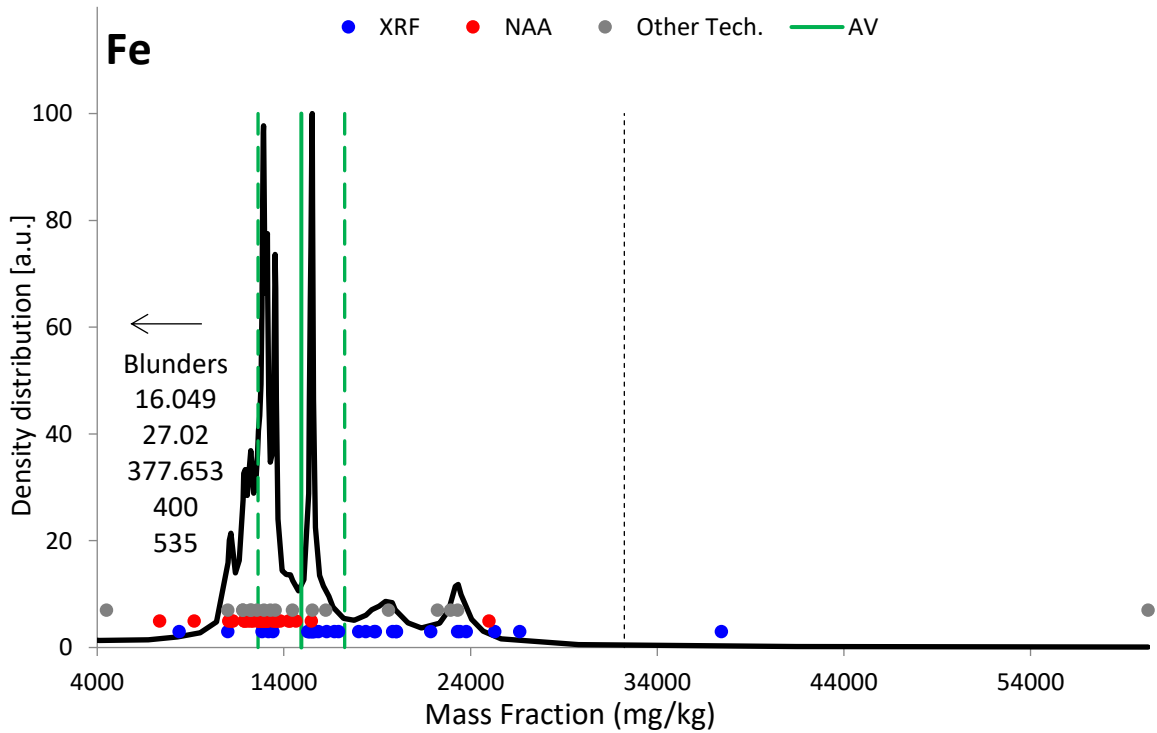


FIG. 18. Density distribution function for the measurand Fe (Soil sample with elevated mass fractions of elements).

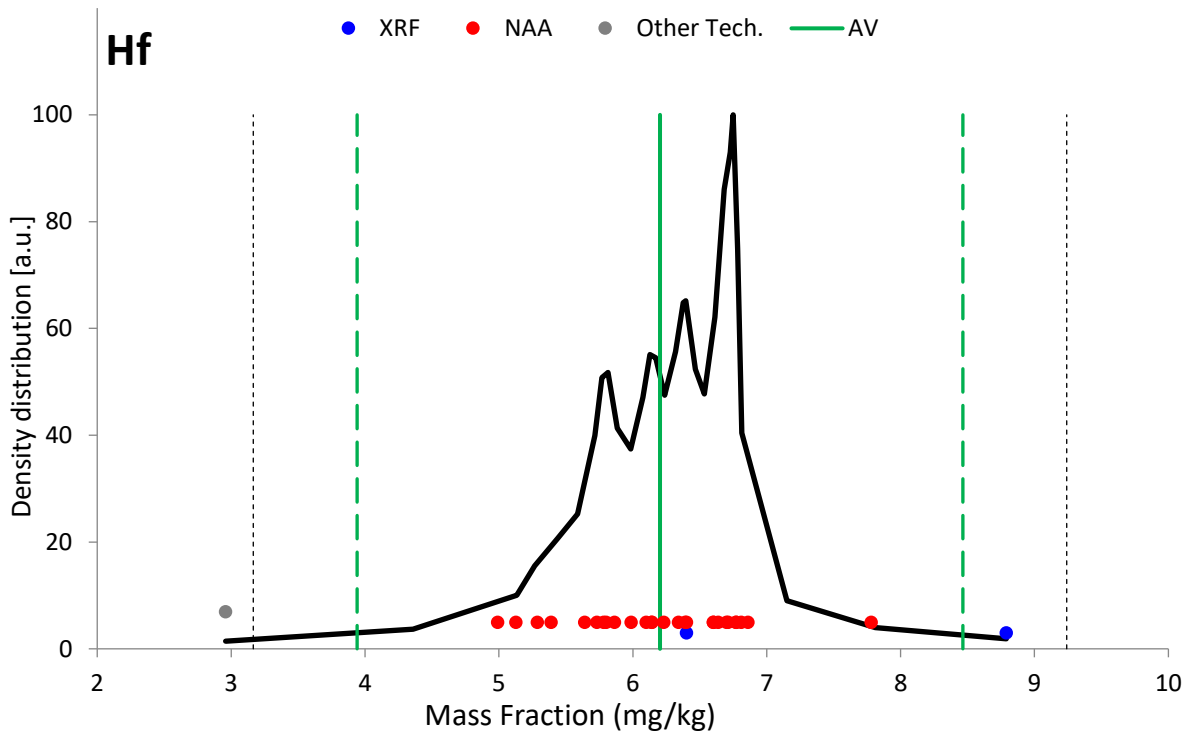


FIG. 19. Density distribution function for the measurand Hf (Soil sample with elevated mass fractions of elements).

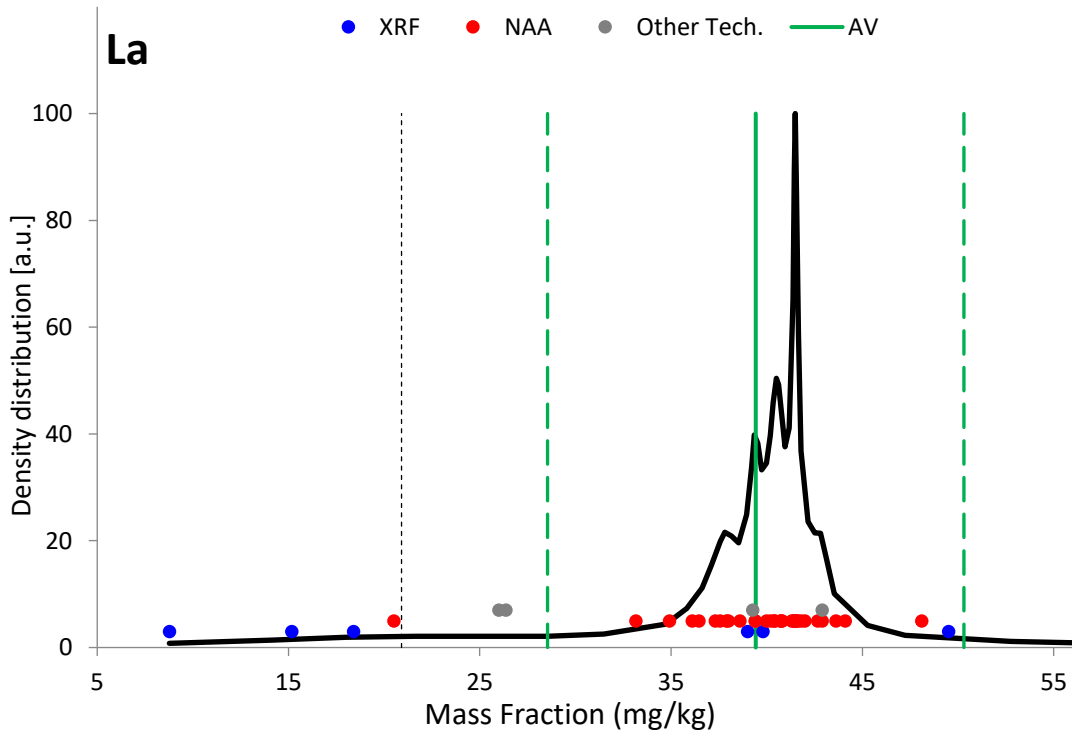


FIG. 20. Density distribution function for the measurand La (Soil sample with elevated mass fractions of elements).

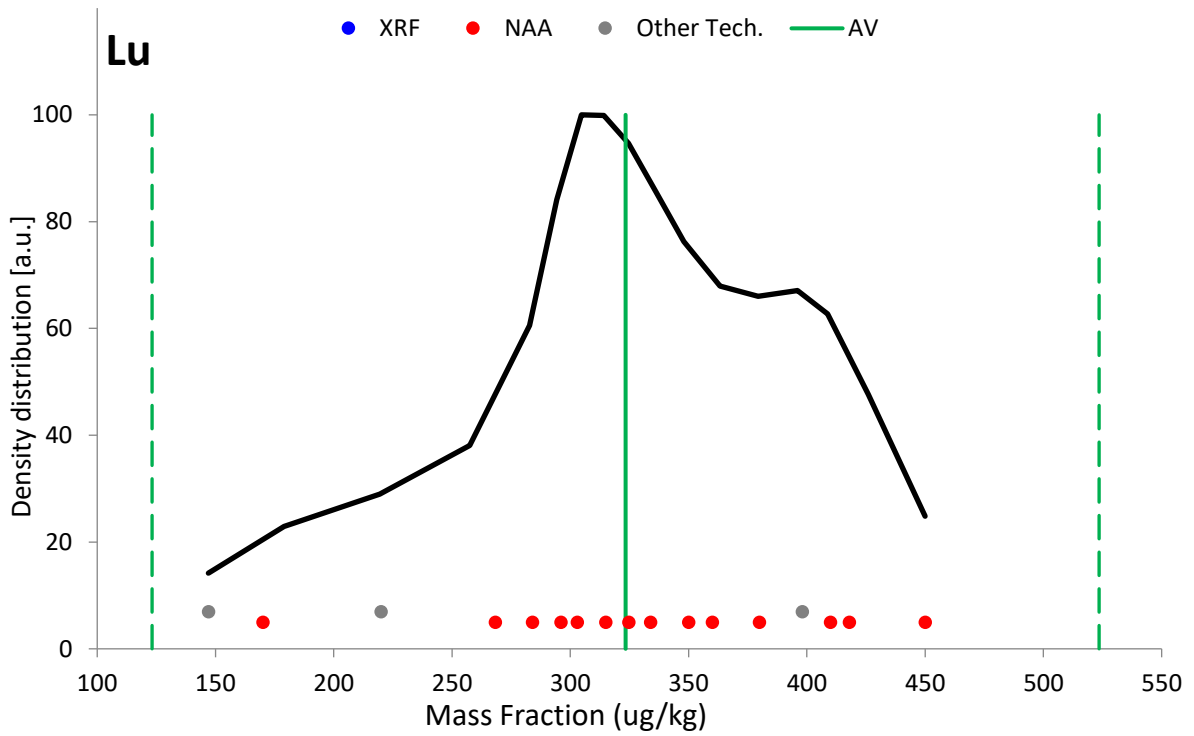


FIG. 21. Density distribution function for the measurand Lu (Soil sample with elevated mass fractions of elements).

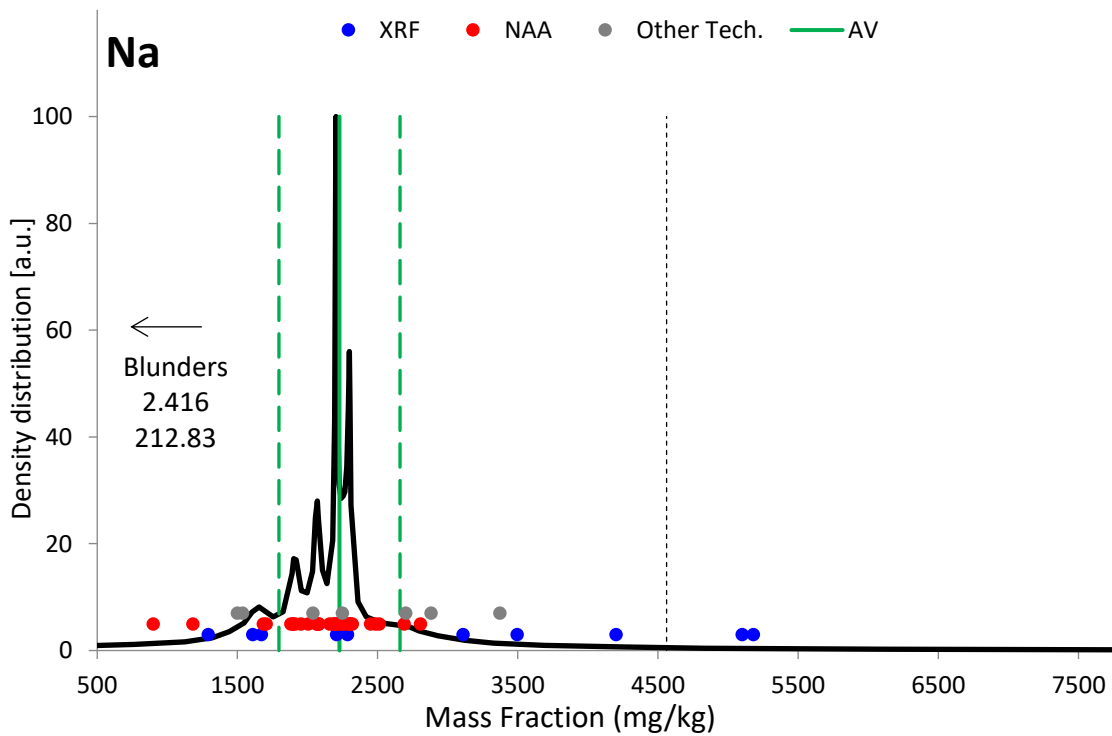


FIG. 22. Density distribution function for the measurand Na (Soil sample with elevated mass fractions of elements).

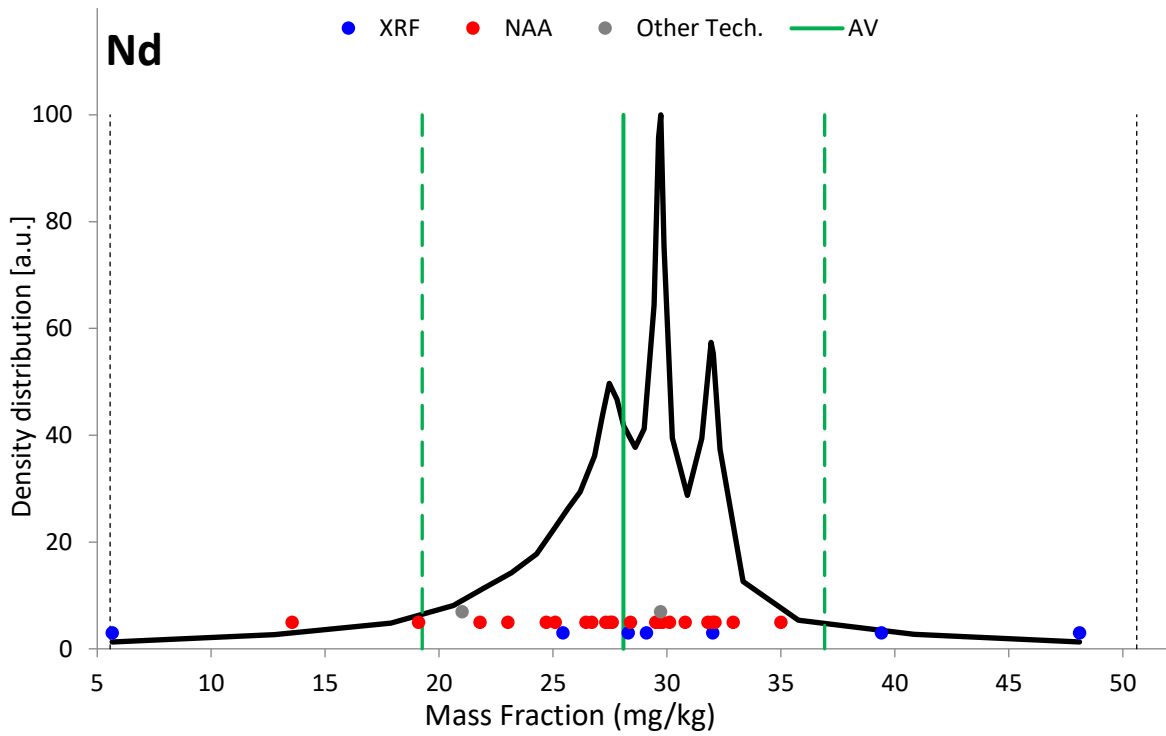


FIG. 23. Density distribution function for the measurand Nd (Soil sample with elevated mass fractions of elements).

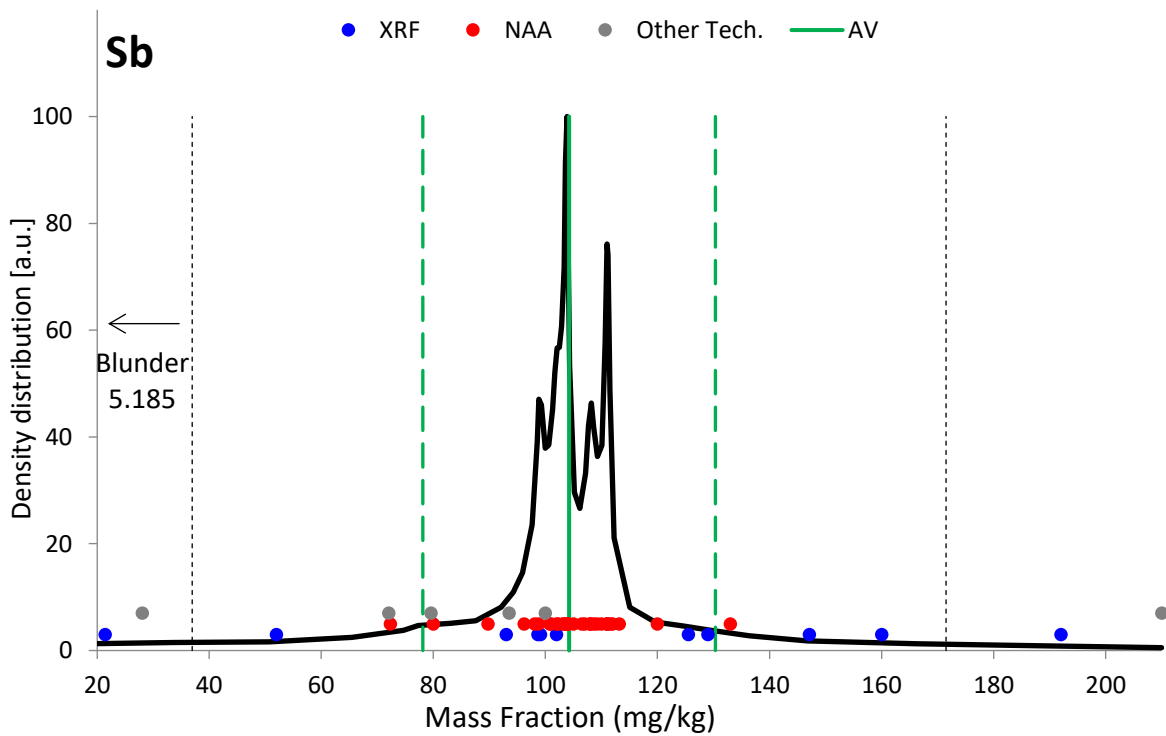


FIG. 24. Density distribution function for the measurand Sb (Soil sample with elevated mass fractions of elements).

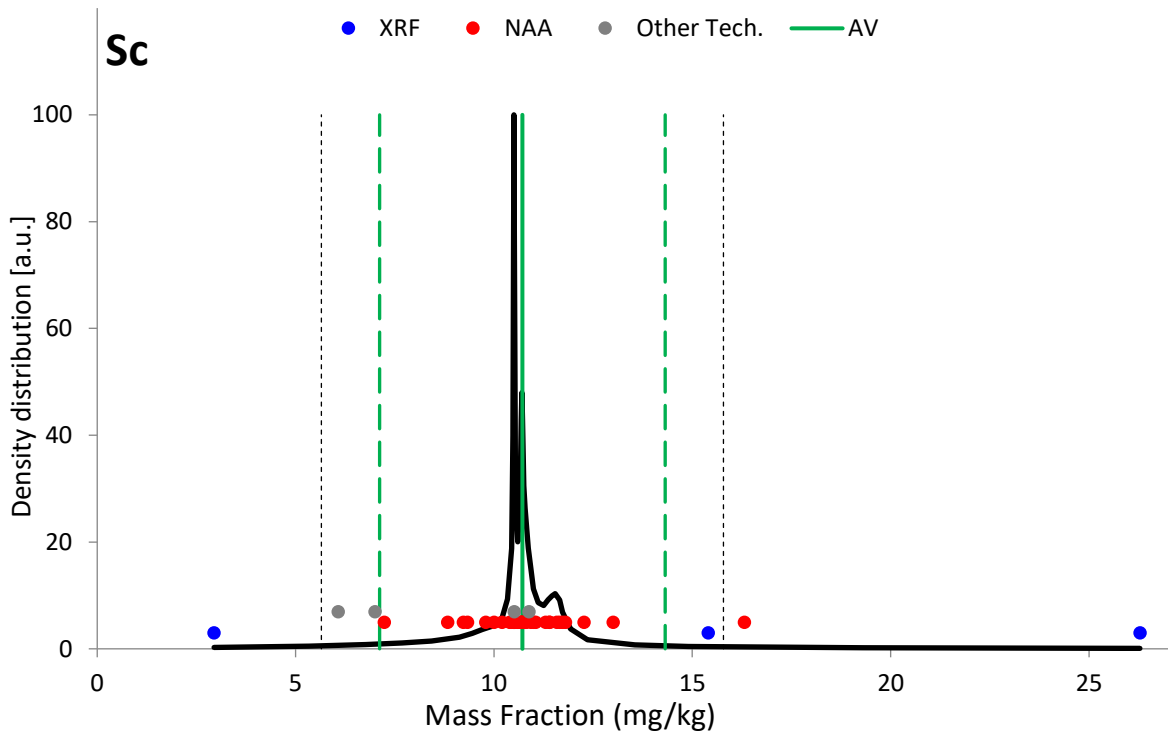


FIG. 25. Density distribution function for the measurand Sc (Soil sample with elevated mass fractions of elements).

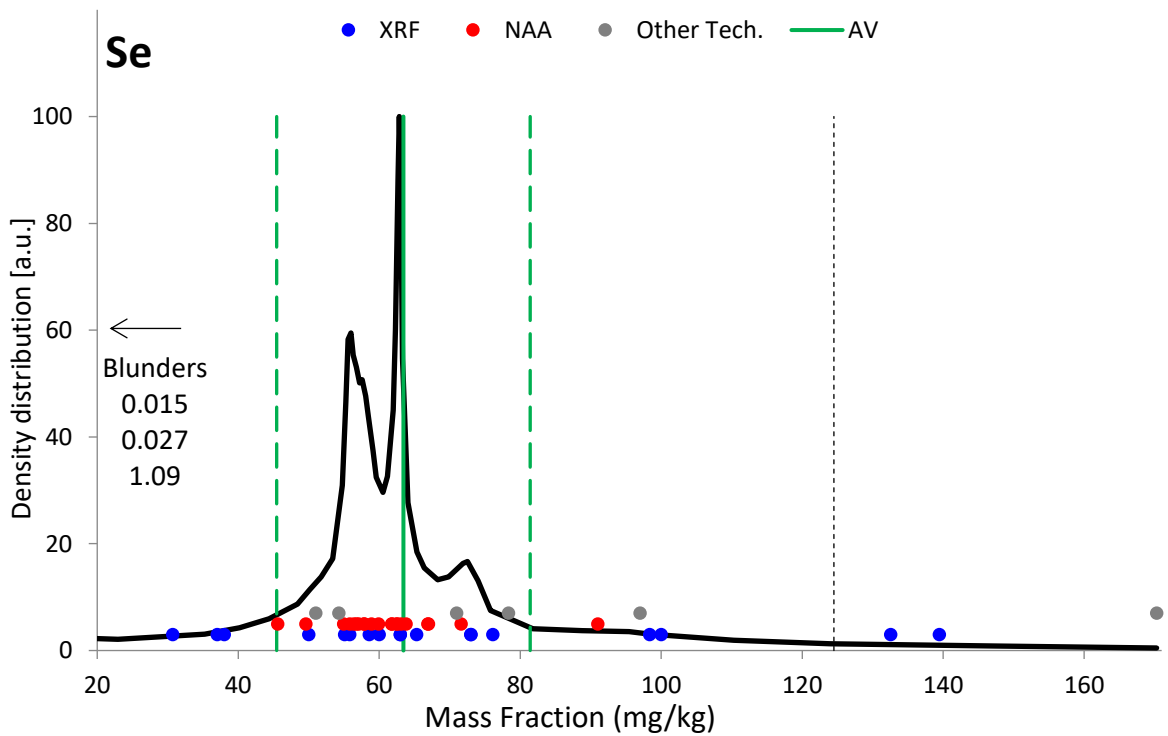


FIG. 26. Density distribution function for the measurand Se (Soil sample with elevated mass fractions of elements).



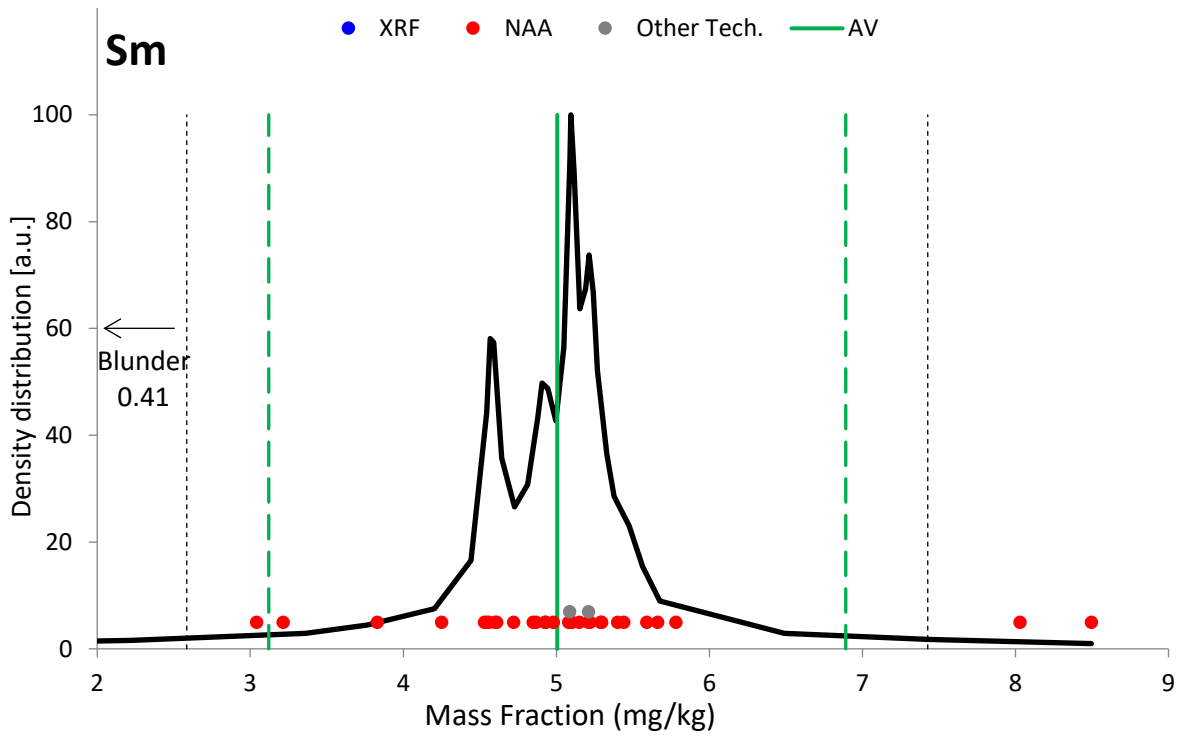


FIG. 27. Density distribution function for the measurand Sm (Soil sample with elevated mass fractions of elements).

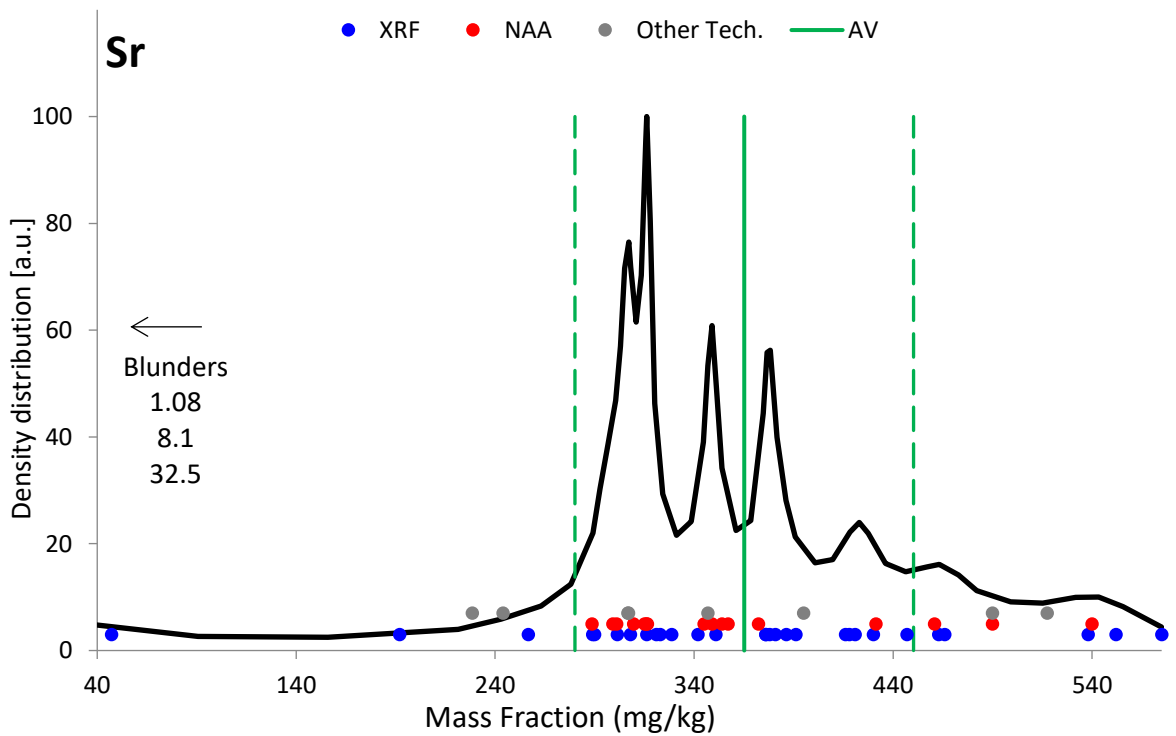


FIG. 28. Density distribution function for the measurand Sr (Soil sample with elevated mass fractions of elements).

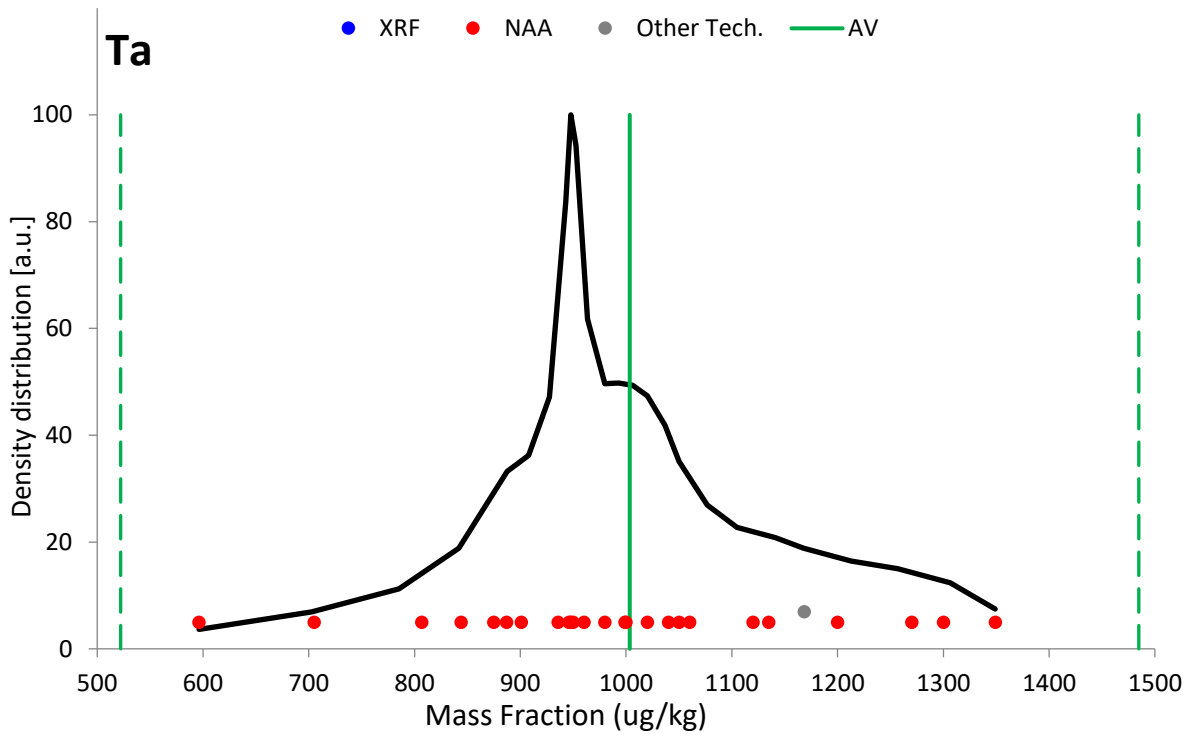


FIG. 29. Density distribution function for the measurand Ta (Soil sample with elevated mass fractions of elements).

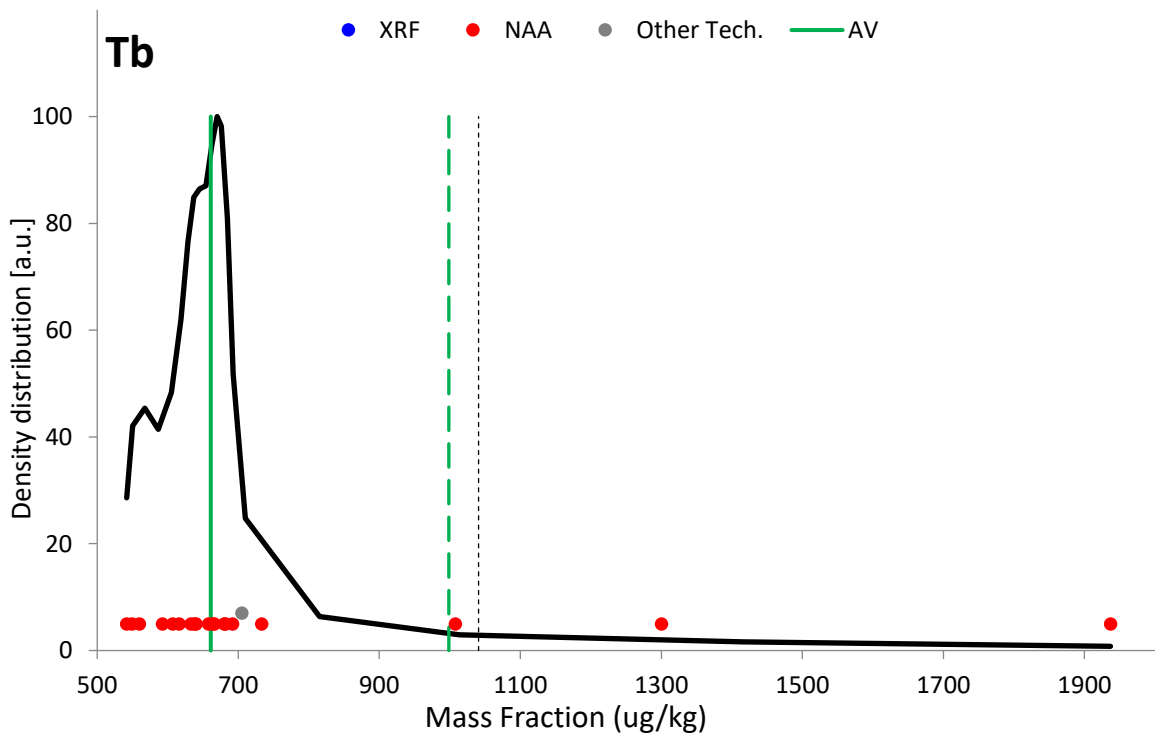


FIG. 30. Density distribution function for the measurand Tb (Soil sample with elevated mass fractions of elements).

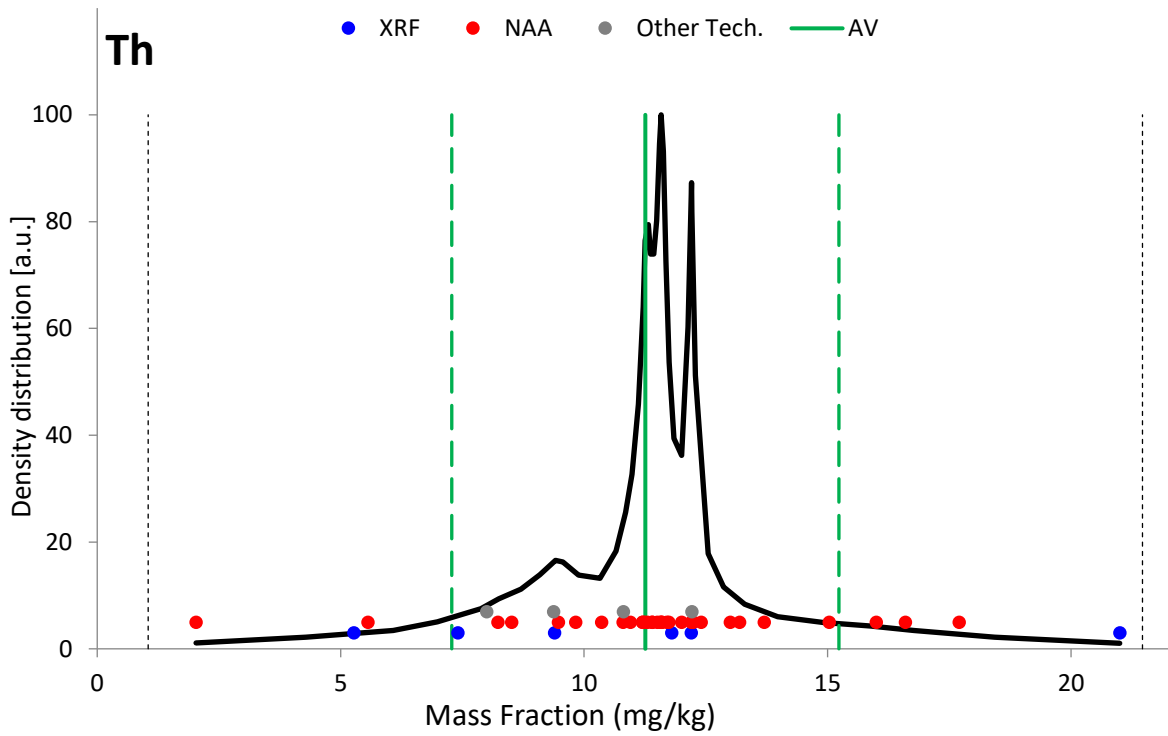


FIG. 31. Density distribution function for the measurand Th (Soil sample with elevated mass fractions of elements).

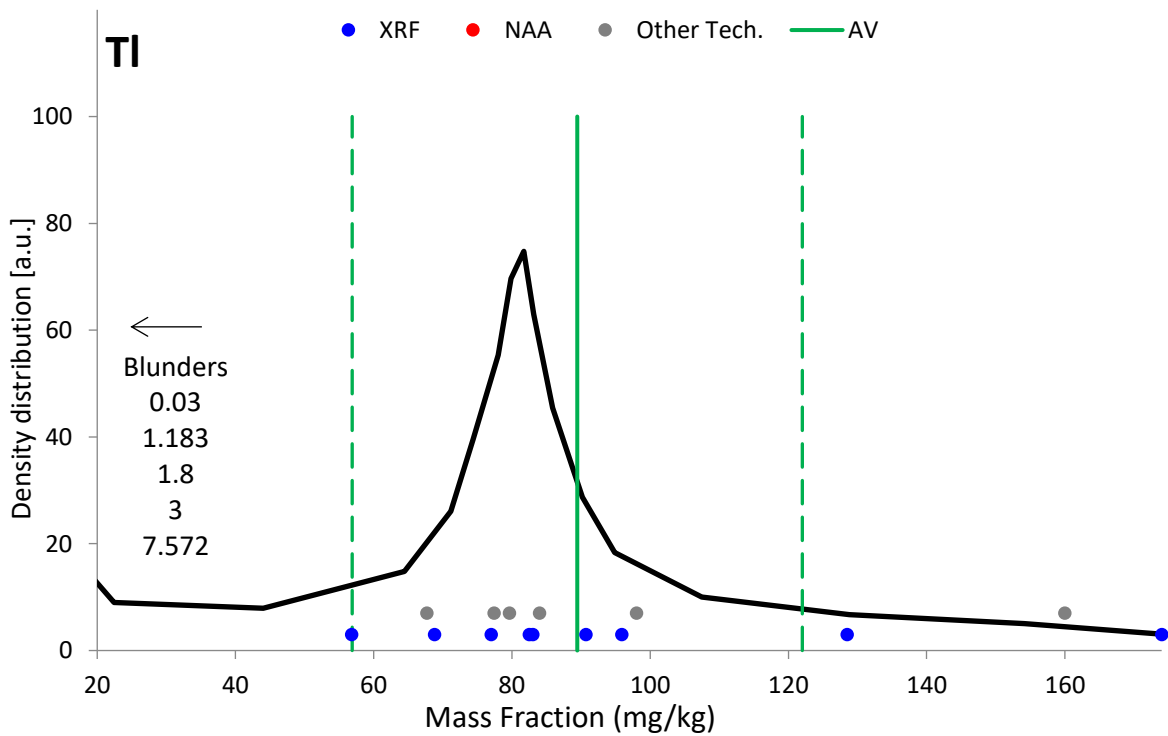


FIG. 32. Density distribution function for the measurand Tl (Soil sample with elevated mass fractions of elements).

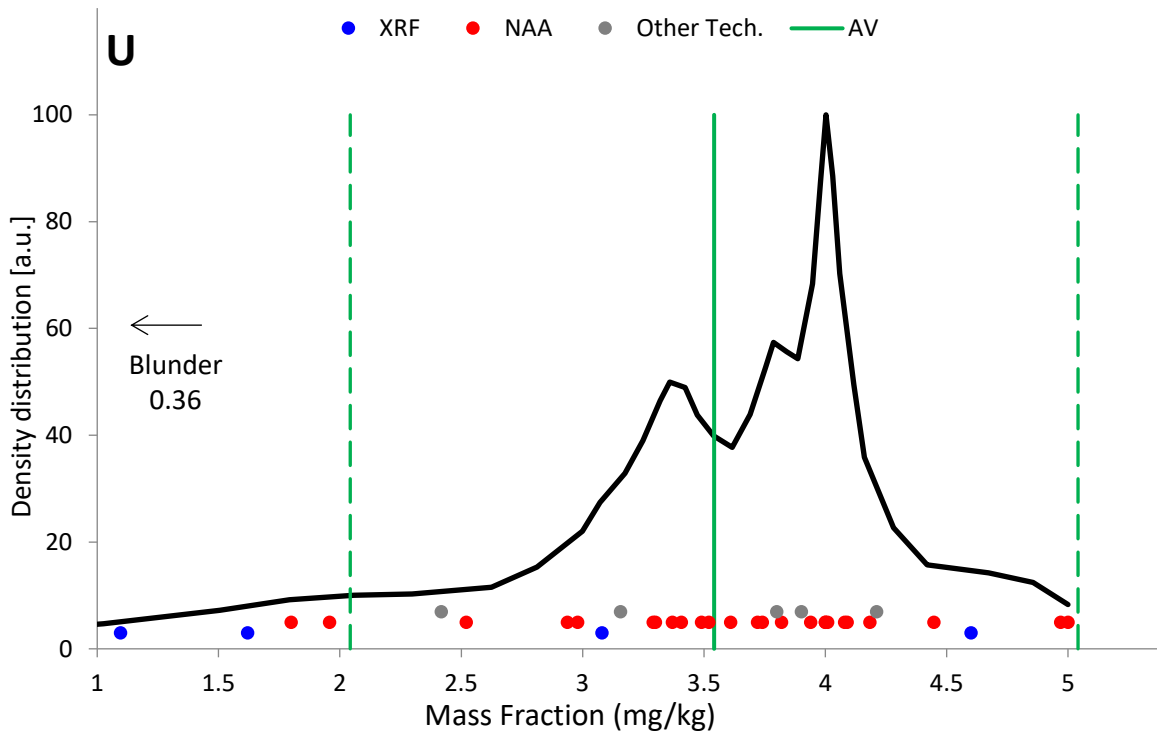


FIG. 33. Density distribution function for the measurand U (Soil sample with elevated mass fractions of elements).

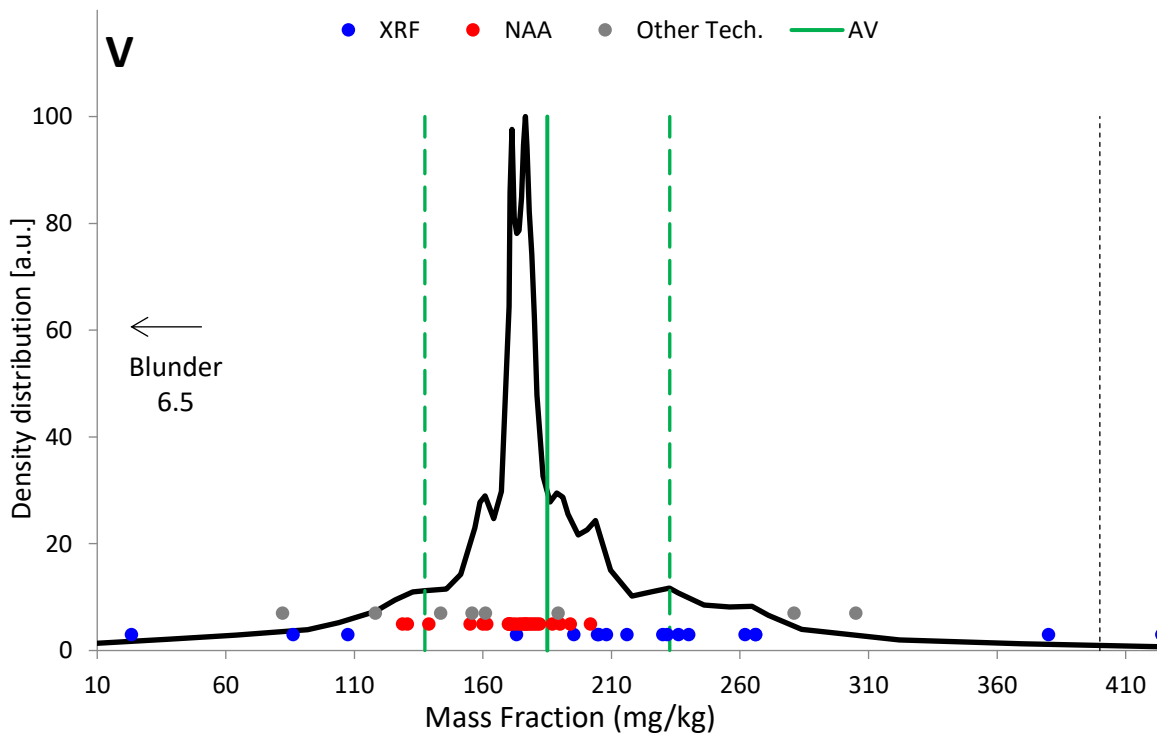


FIG. 34. Density distribution function for the measurand V (Soil sample with elevated mass fractions of elements).

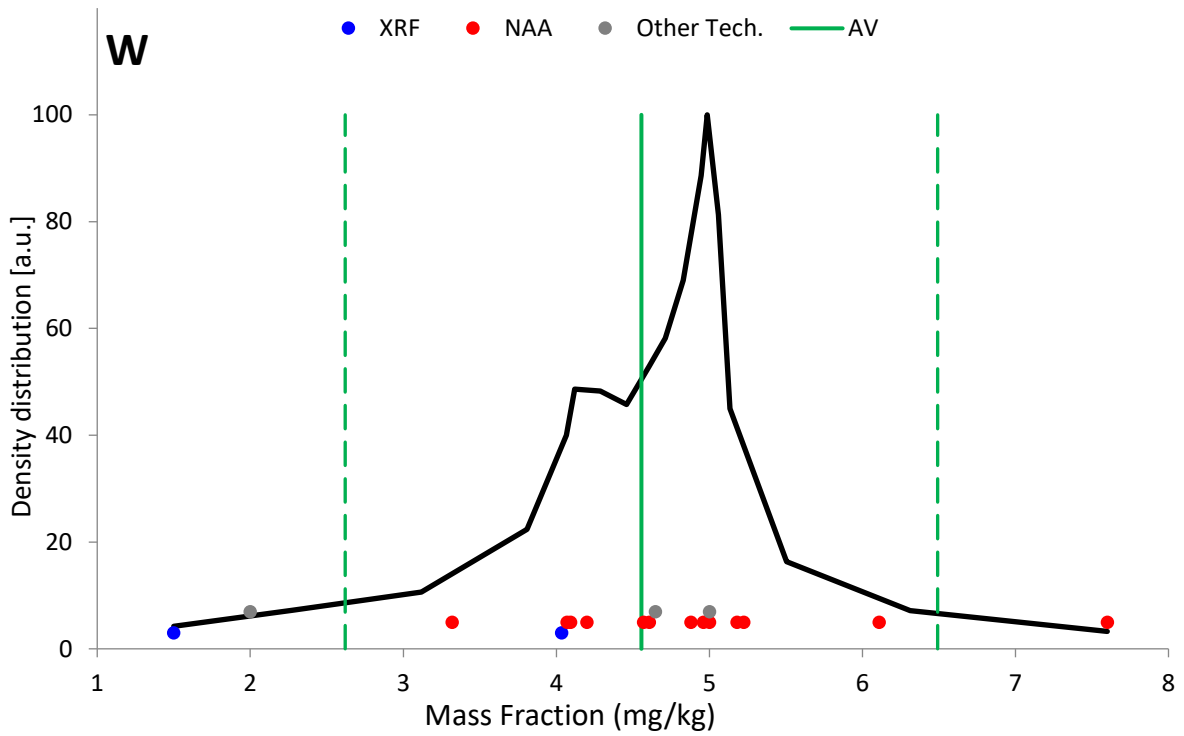


FIG. 35. Density distribution function for the measurand W (Soil sample with elevated mass fractions of elements).

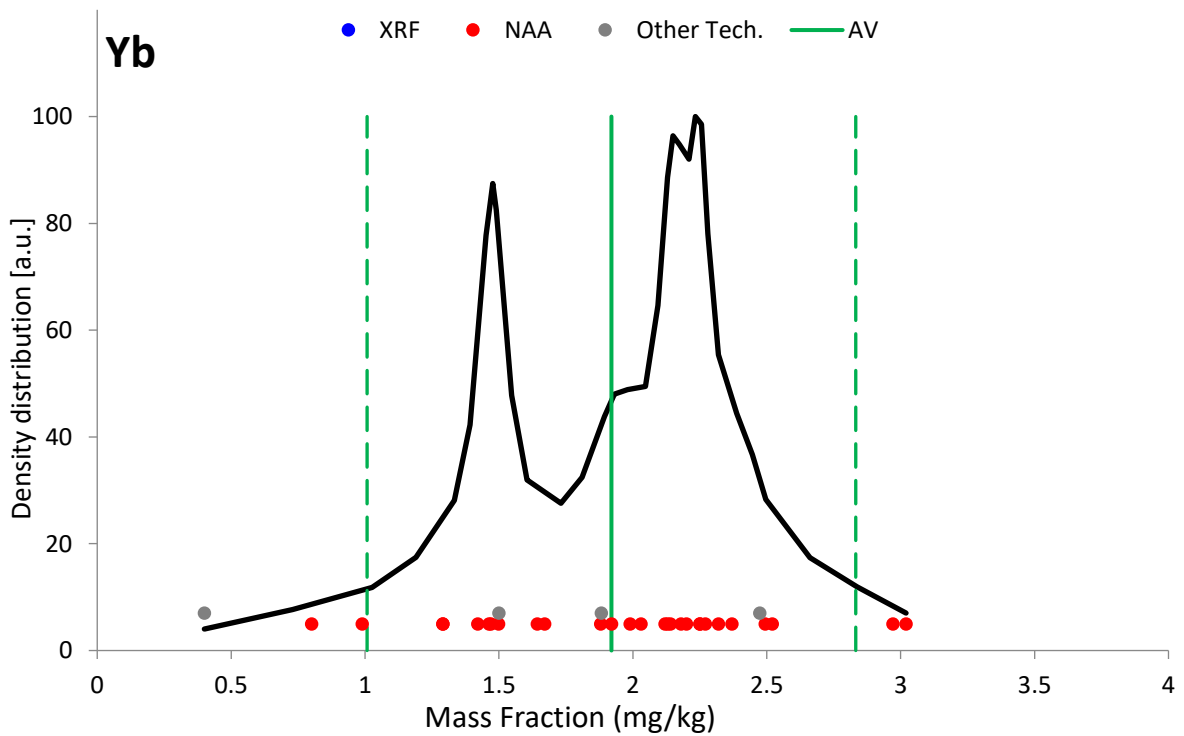


FIG. 36. Density distribution function for the measurand Yb (Soil sample with elevated mass fractions of elements).

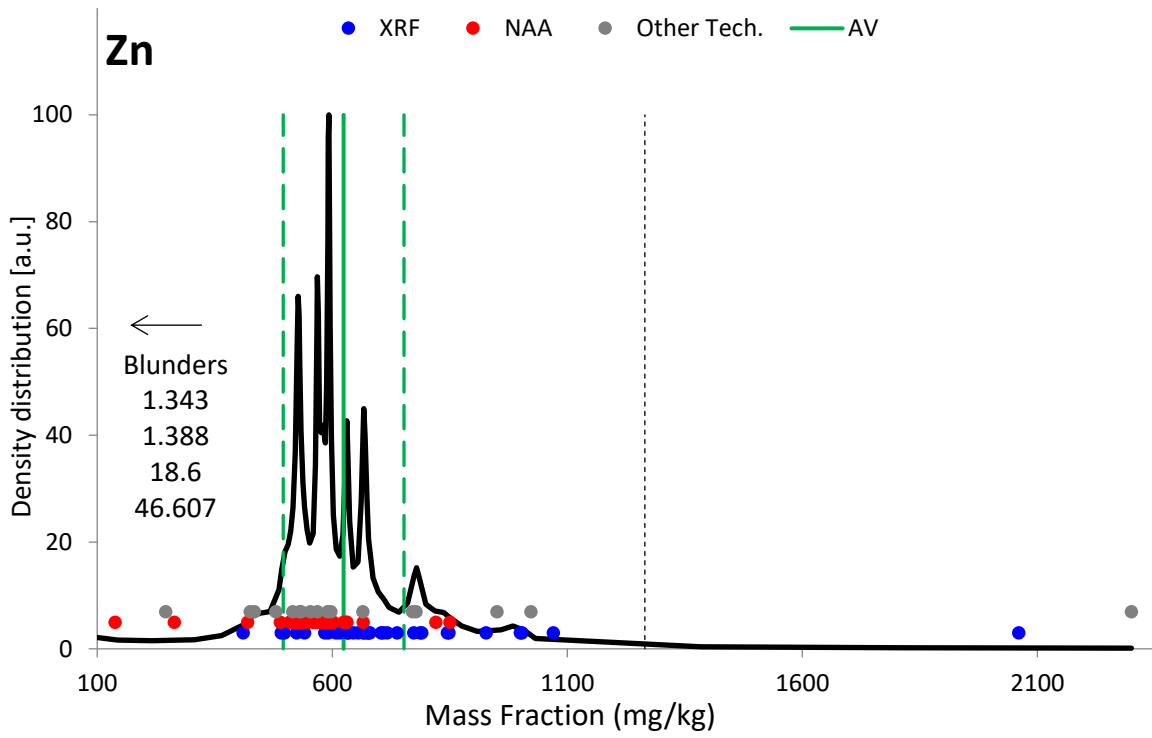


FIG. 37. Density distribution function for the measurand Zn (Soil sample with elevated mass fractions of elements).

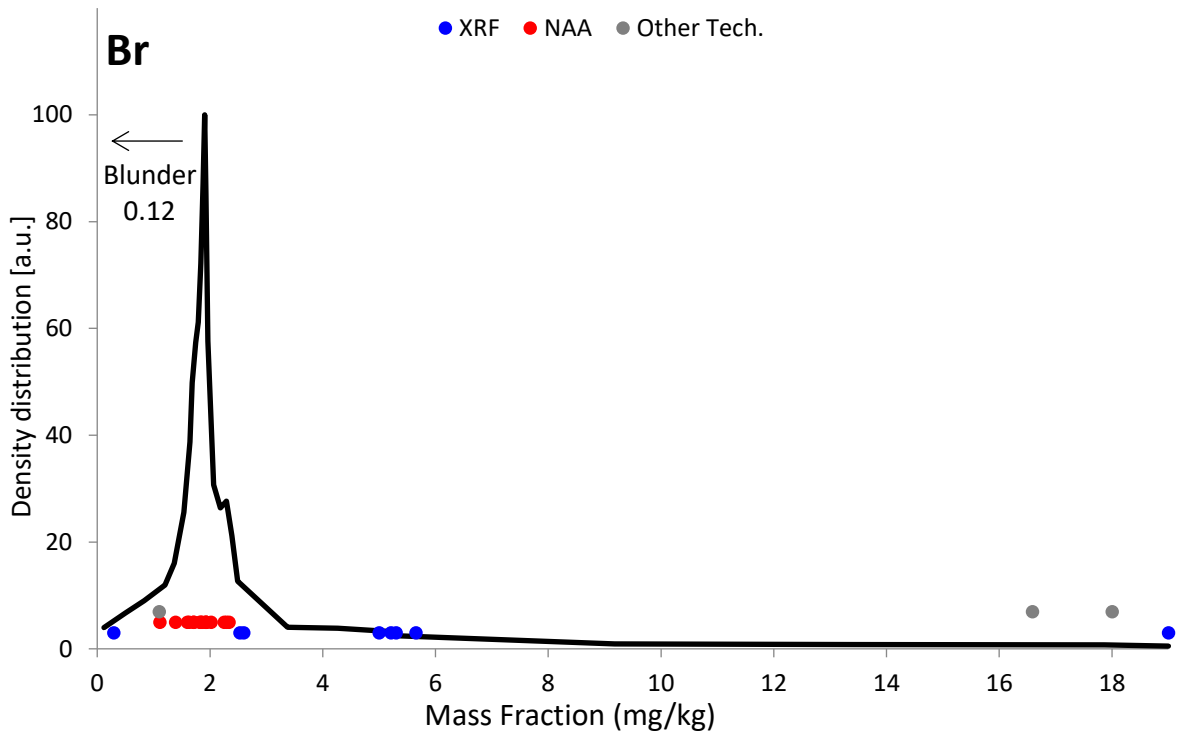


FIG. 38. Density distribution function for the measurand Br (Soil sample with elevated mass fractions of elements).

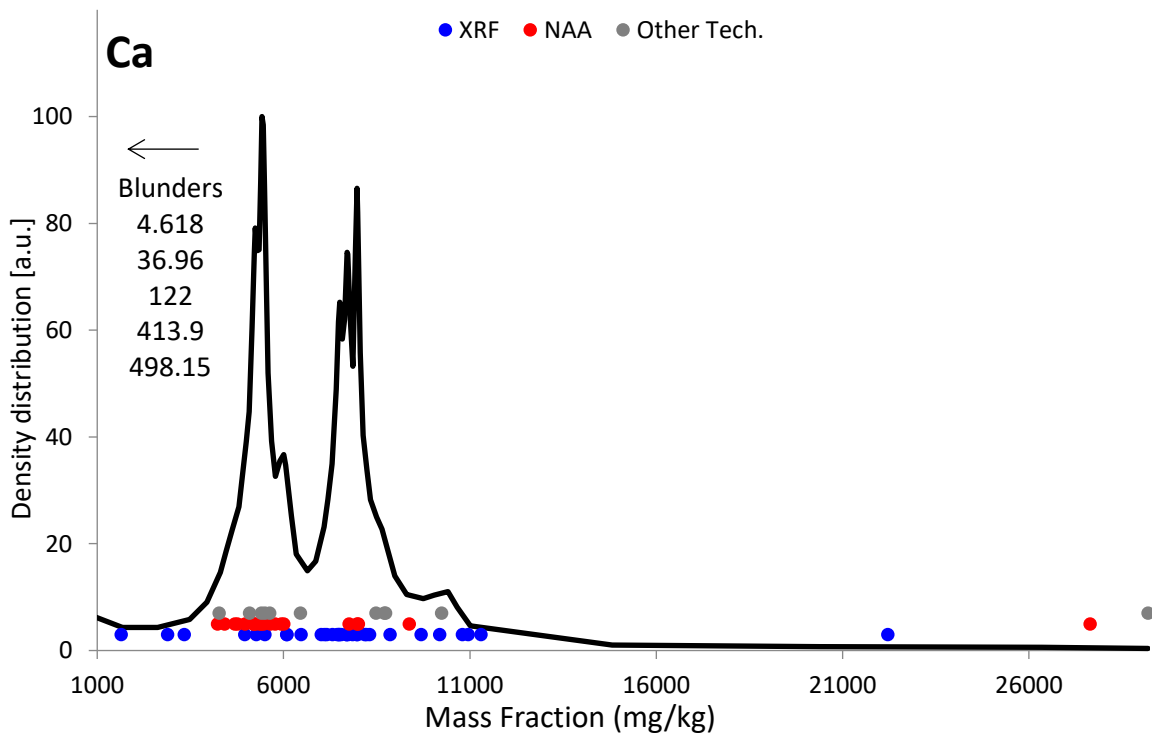


FIG. 39. Density distribution function for the measurand Ca (Soil sample with elevated mass fractions of elements).

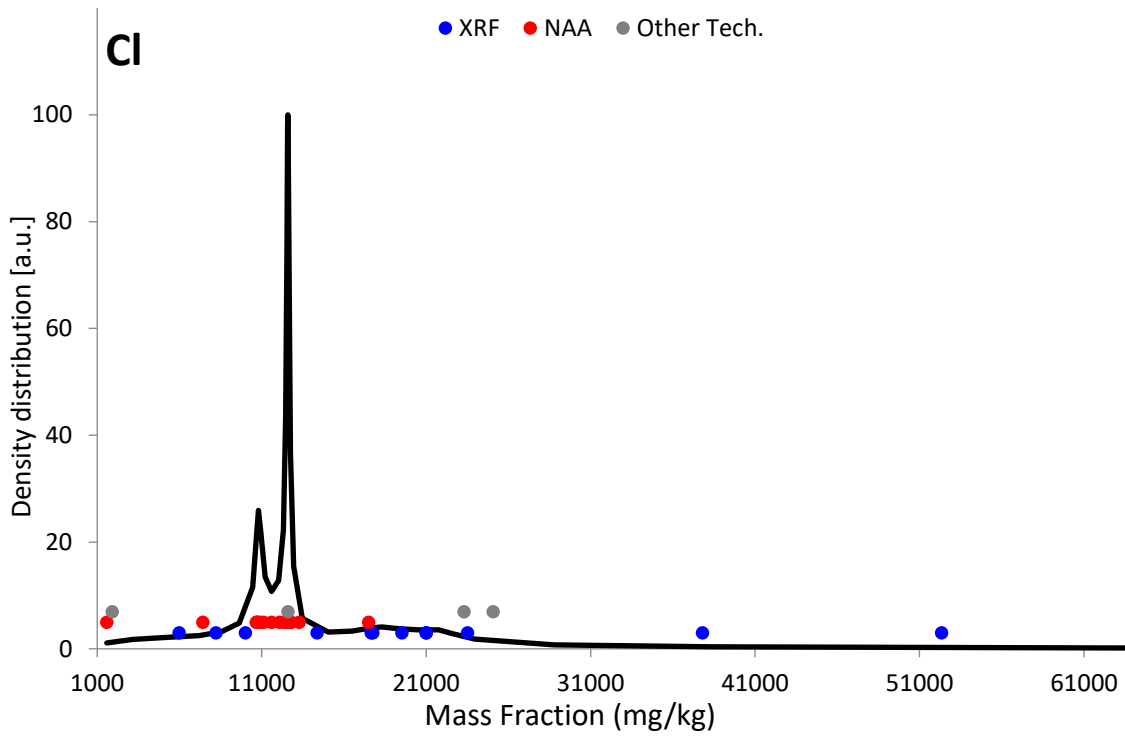


FIG. 40. Density distribution function for the measurand Cl (Soil sample with elevated mass fractions of elements).

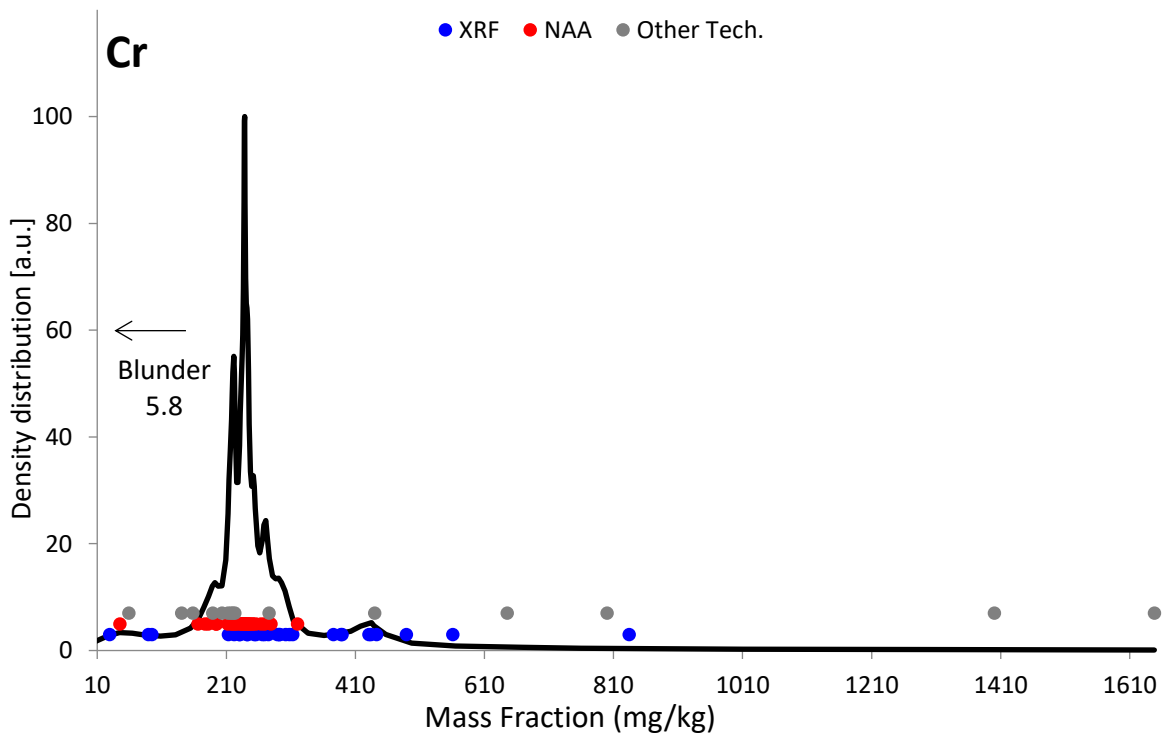


FIG. 41. Density distribution function for the measurand Cr (Soil sample with elevated mass fractions of elements).



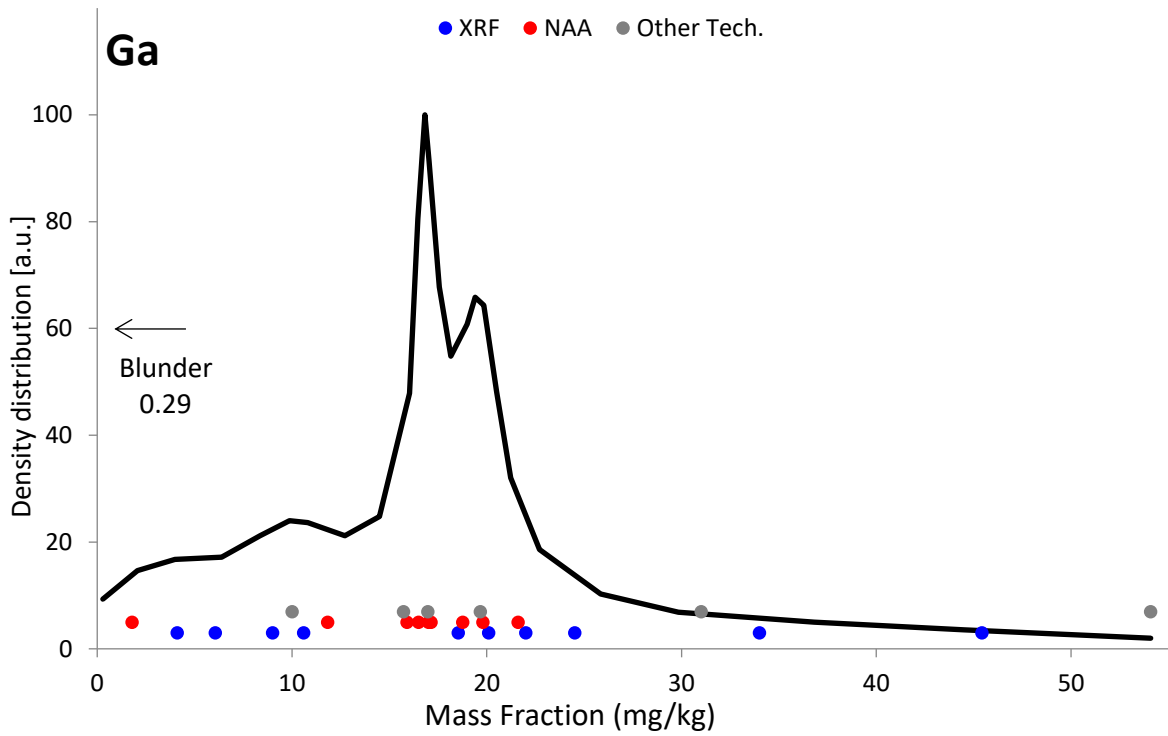


FIG. 42. Density distribution function for the measurand Ga (Soil sample with elevated mass fractions of elements).

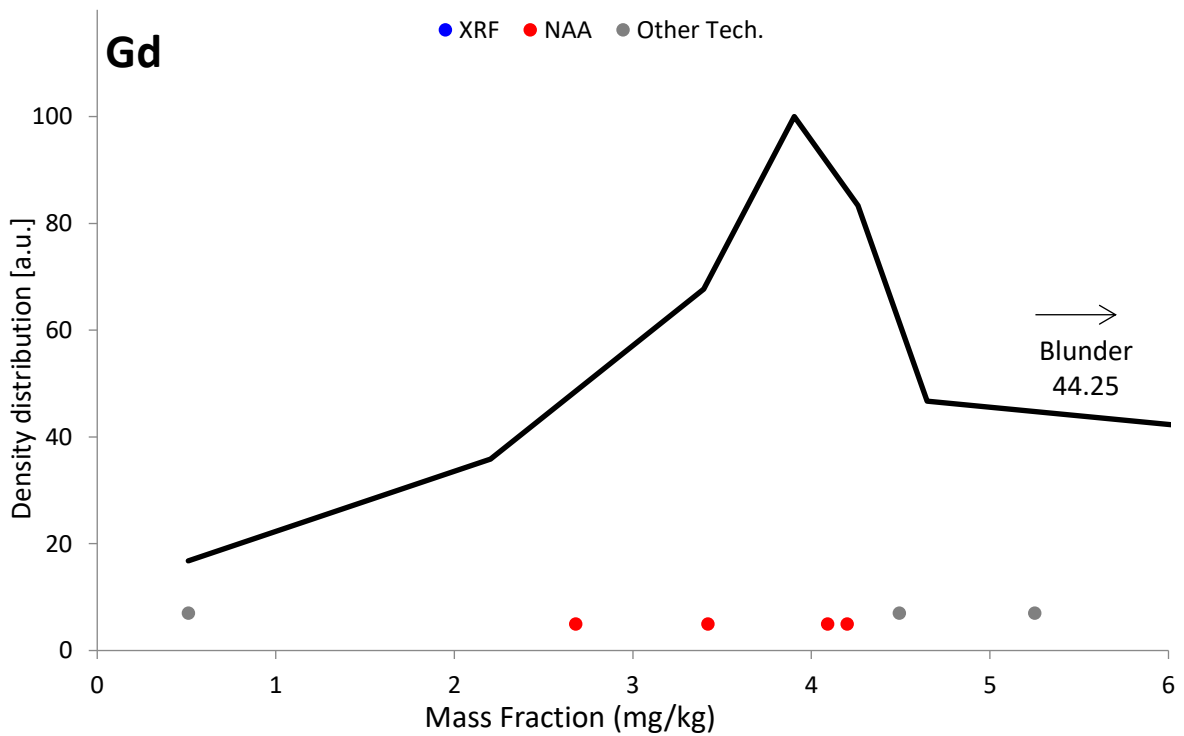


FIG. 43. Density distribution function for the measurand Gd (Soil sample with elevated mass fractions of elements).

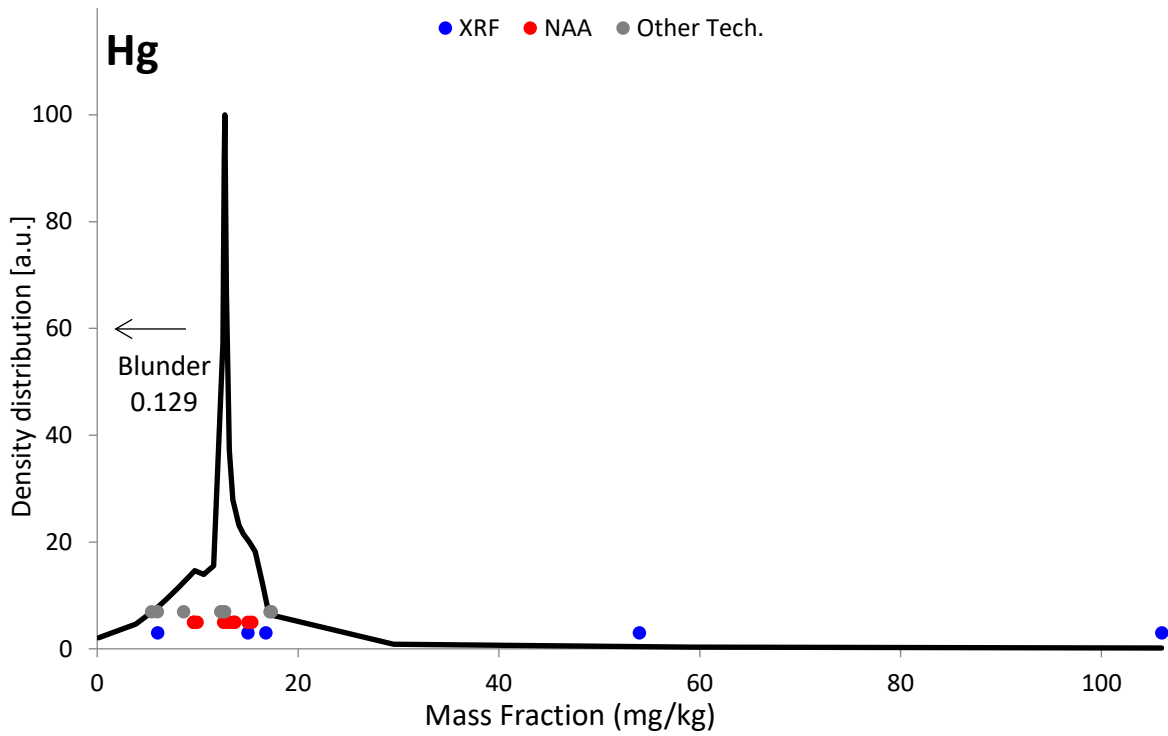


FIG. 44. Density distribution function for the measurand Hg (Soil sample with elevated mass fractions of elements).

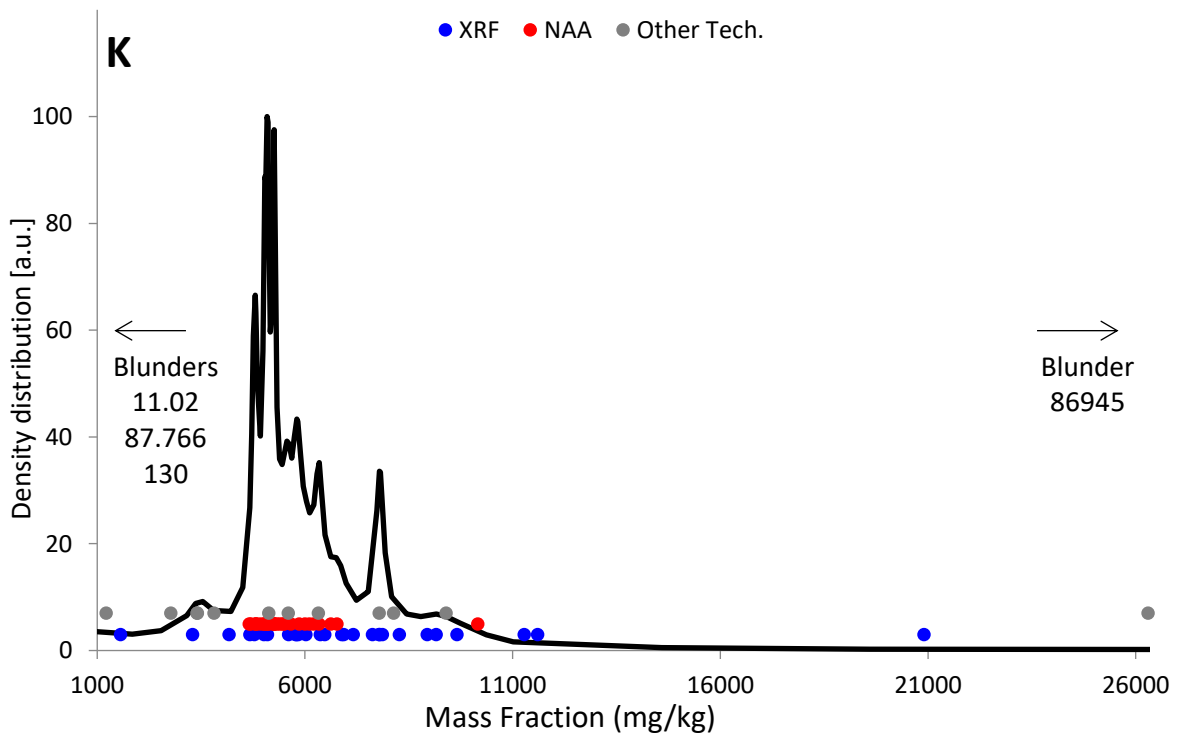


FIG. 45. Density distribution function for the measurand K (Soil sample with elevated mass fractions of elements).

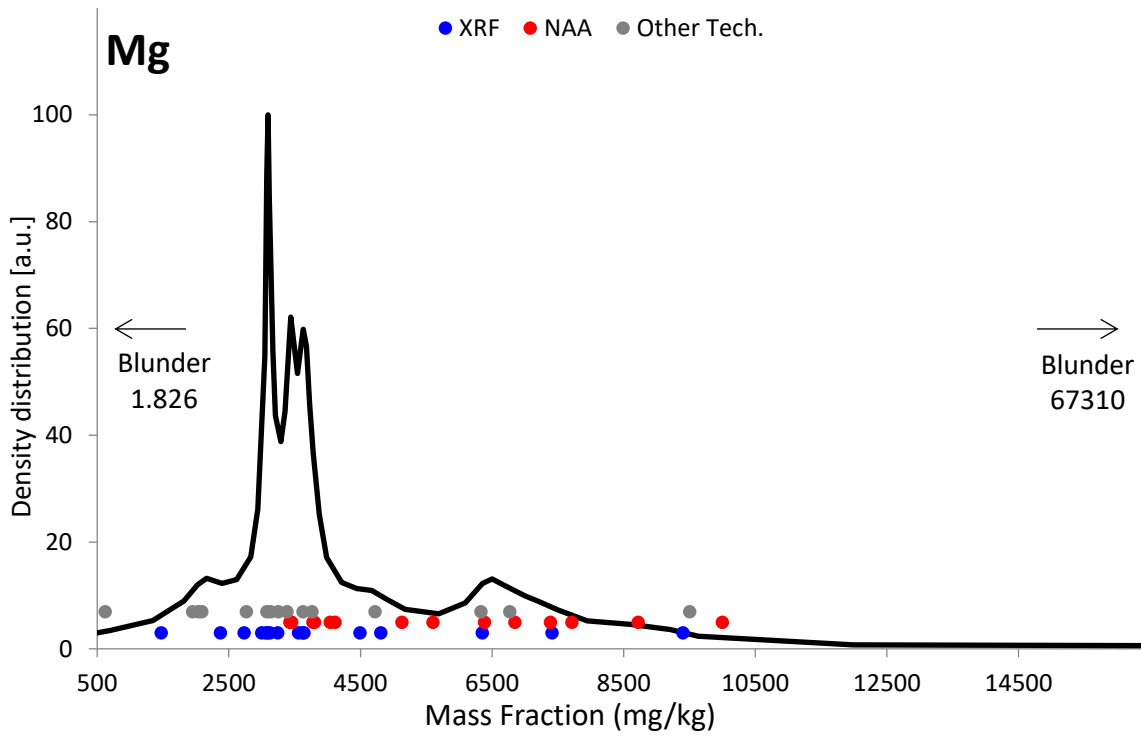


FIG. 46. Density distribution function for the measurand Mg (Soil sample with elevated mass fractions of elements).

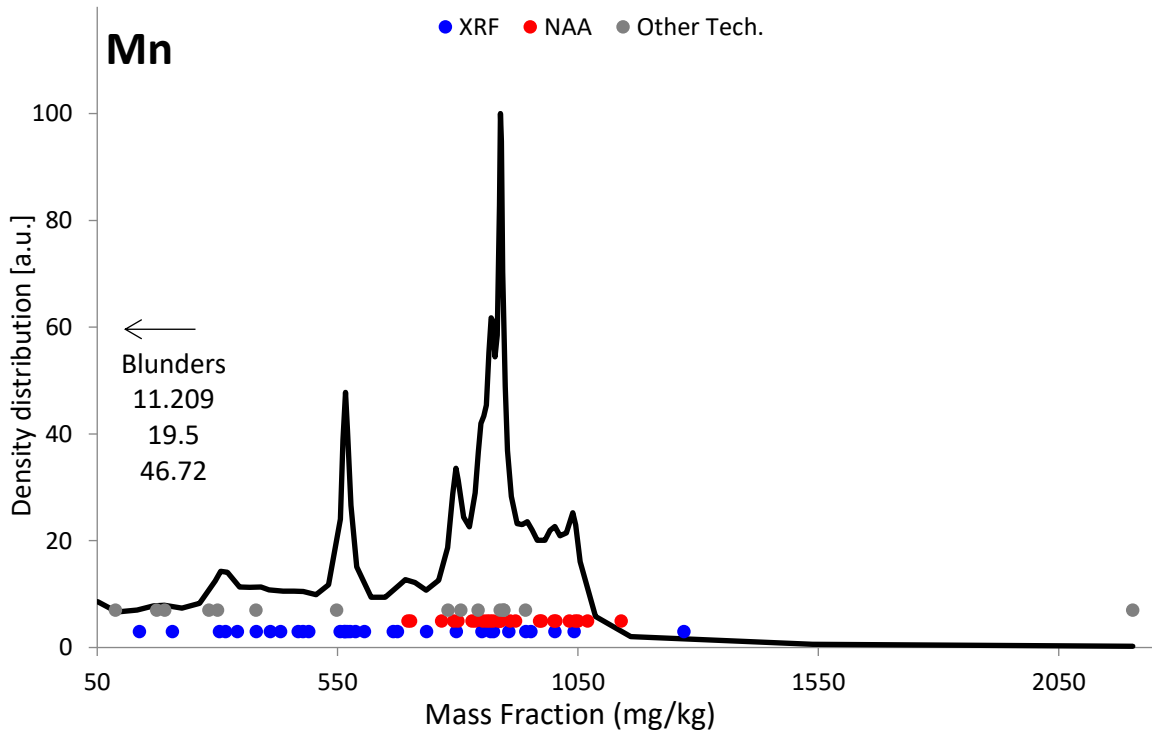


FIG. 47. Density distribution function for the measurand Mn (Soil sample with elevated mass fractions of elements).

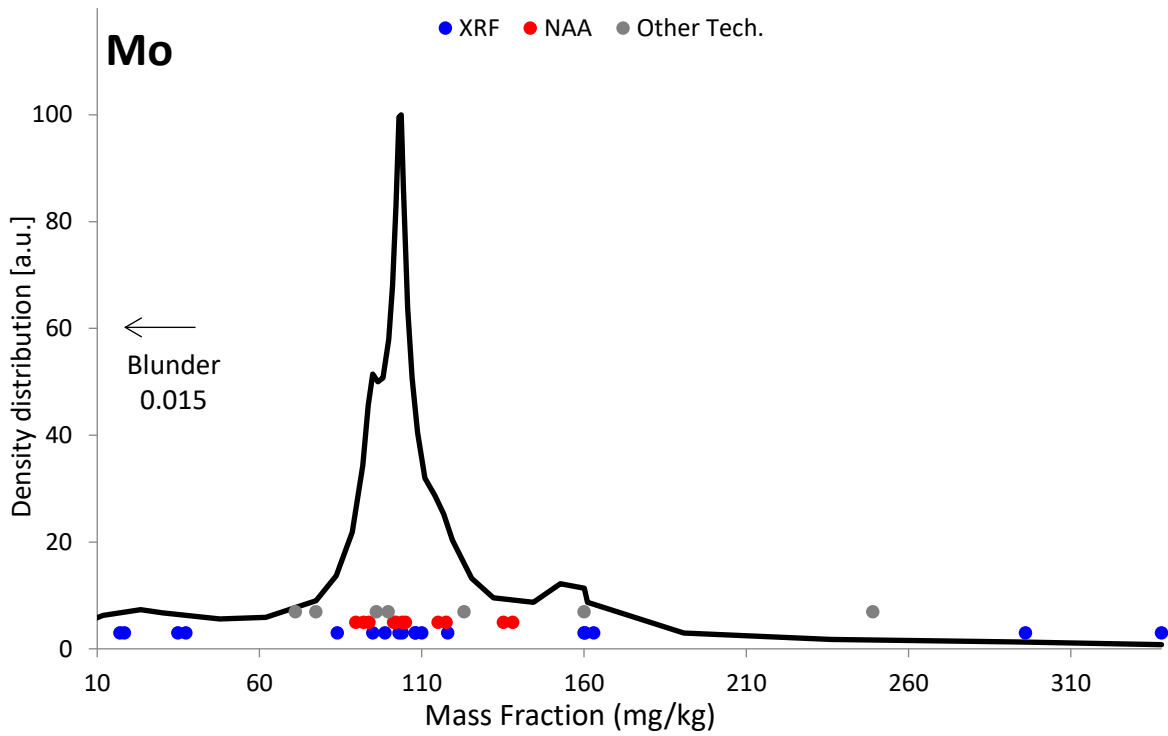


FIG. 48. Density distribution function for the measurand Mo (Soil sample with elevated mass fractions of elements).

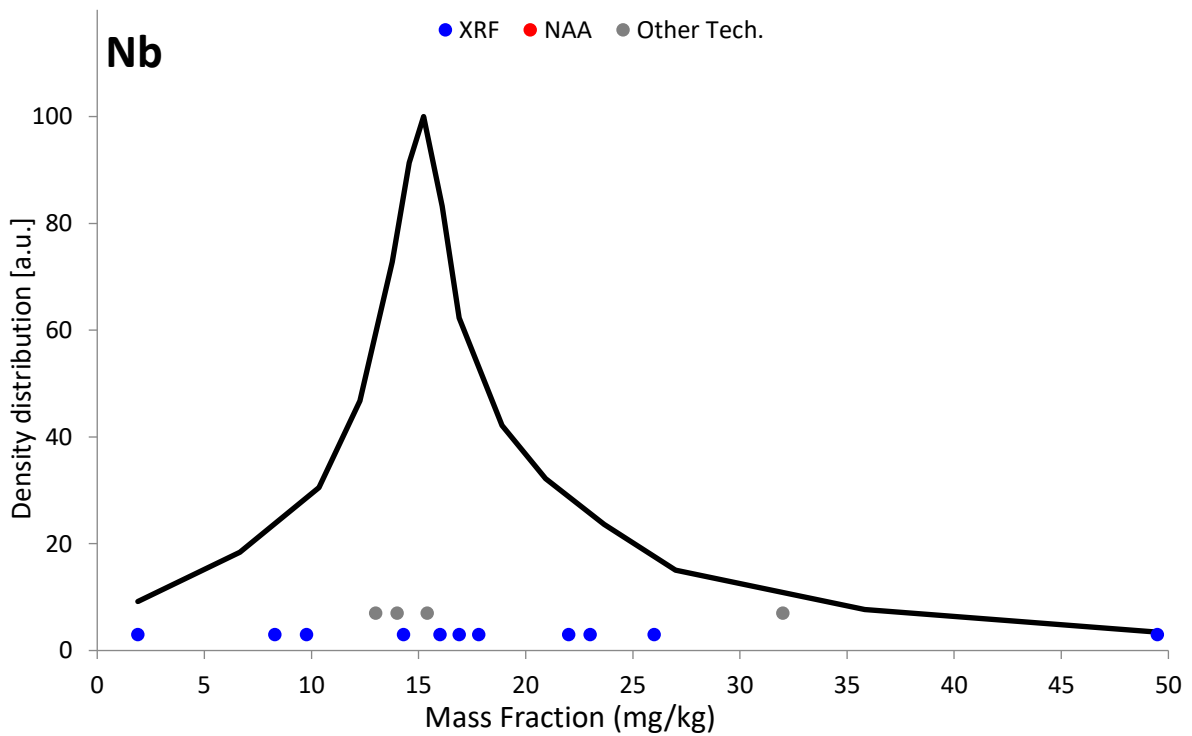


FIG. 49. Density distribution function for the measurand Nb (Soil sample with elevated mass fractions of elements).

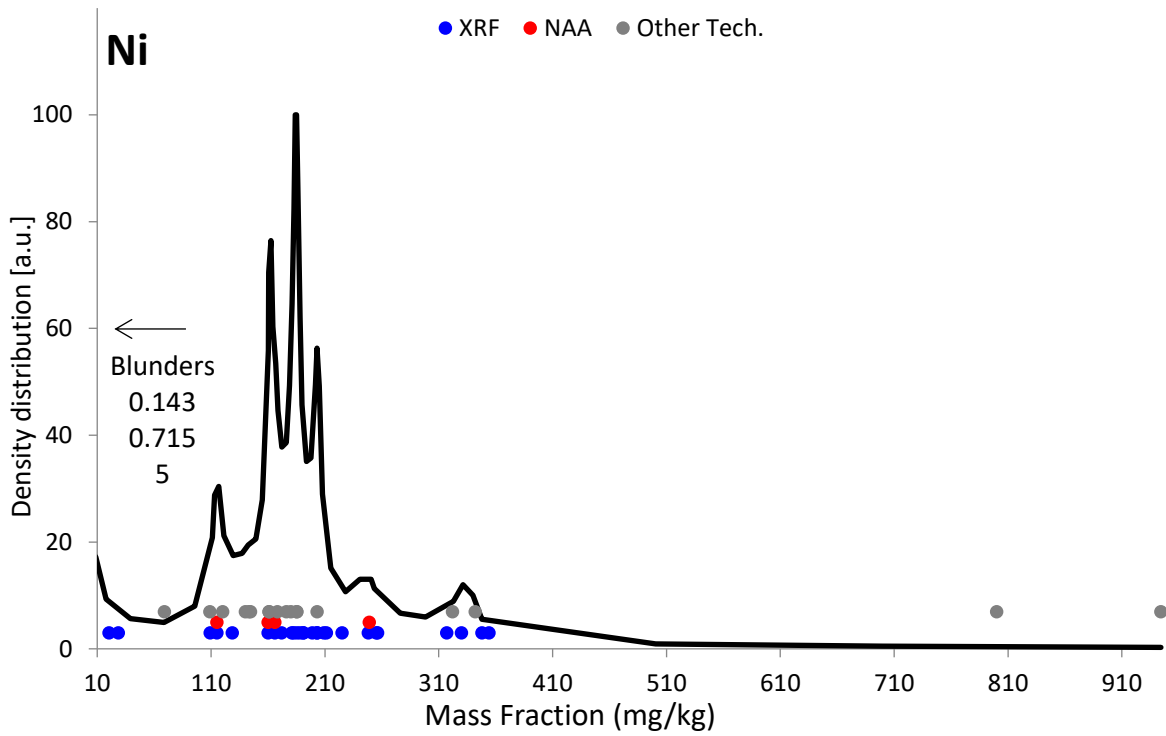


FIG. 50. Density distribution function for the measurand Ni (Soil sample with elevated mass fractions of elements).

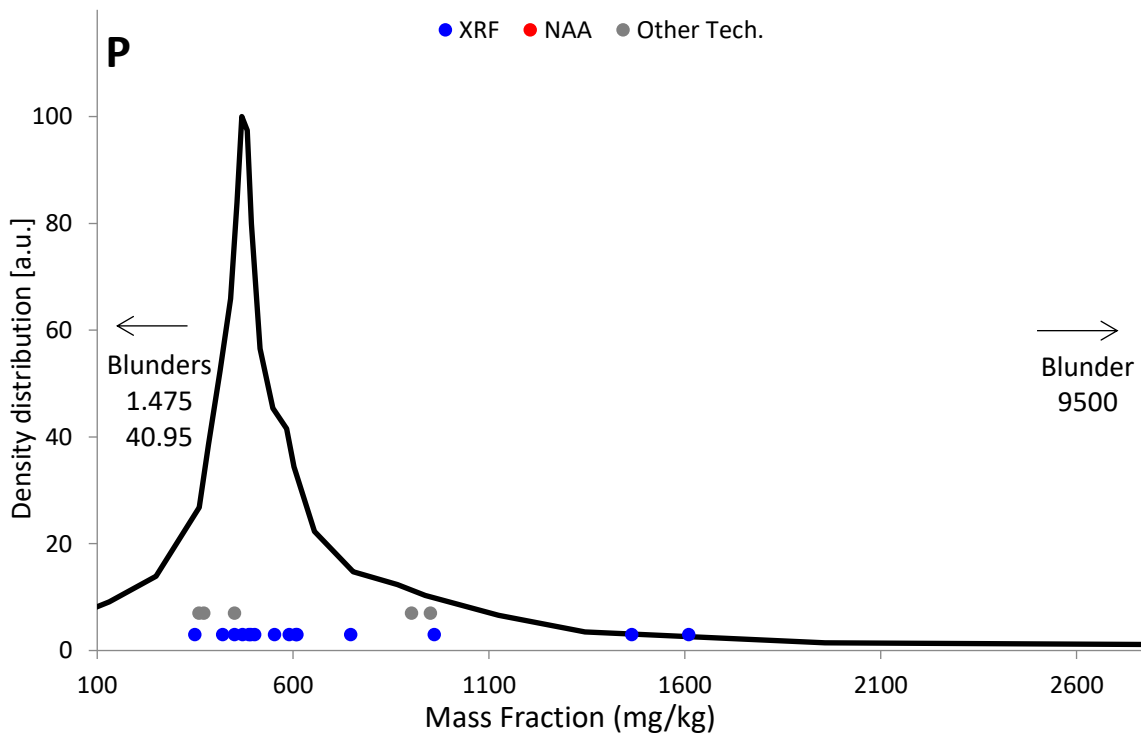


FIG. 51. Density distribution function for the measurand P (Soil sample with elevated mass fractions of elements).

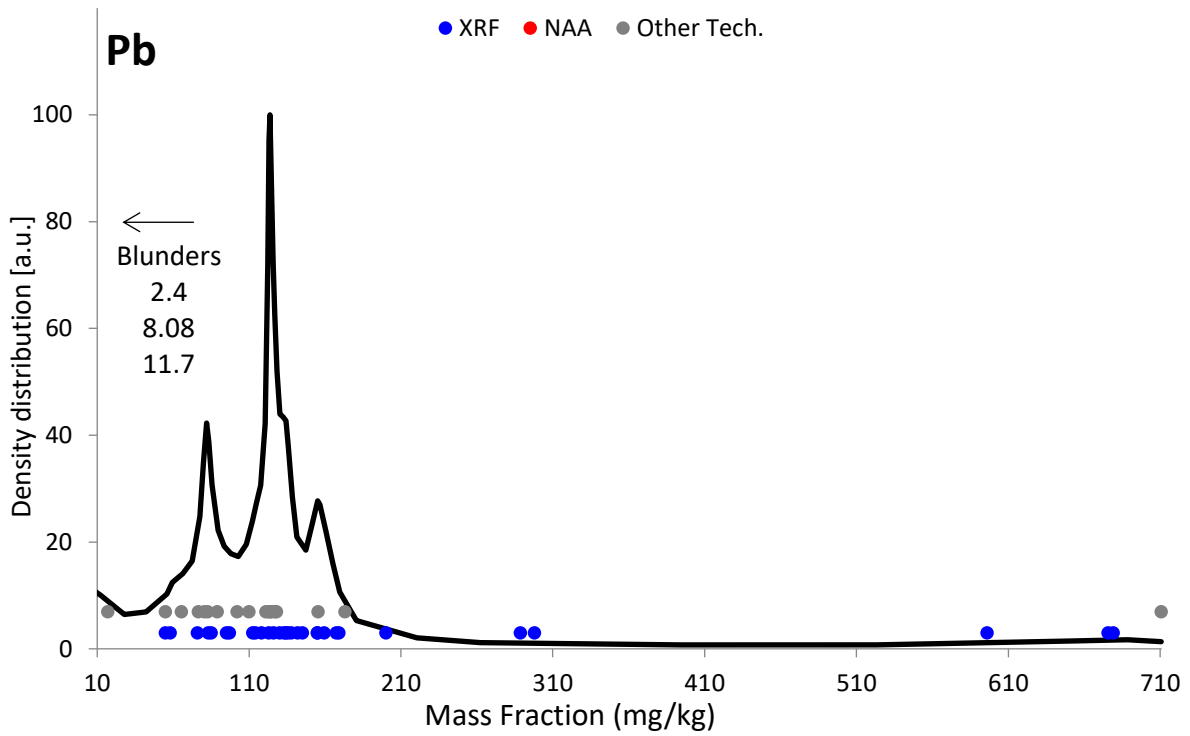


FIG. 52. Density distribution function for the measurand Pb (Soil sample with elevated mass fractions of elements).

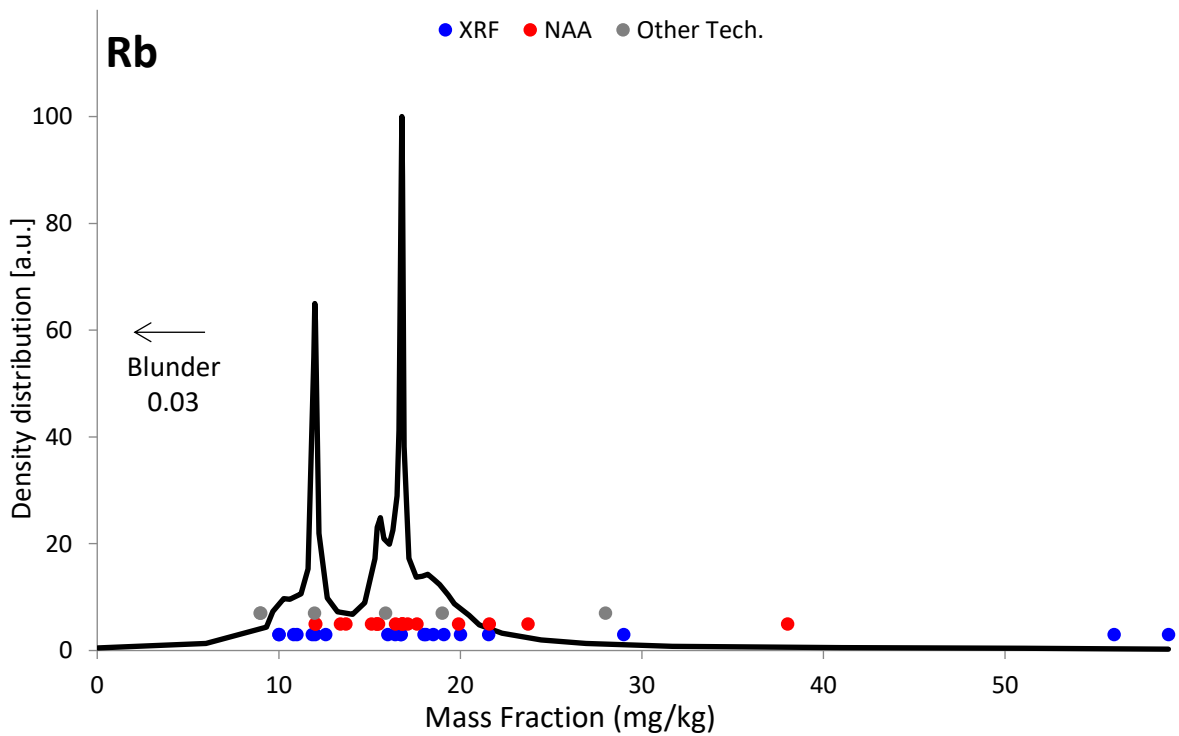


FIG. 53. Density distribution function for the measurand Rb (Soil sample with elevated mass fractions of elements).

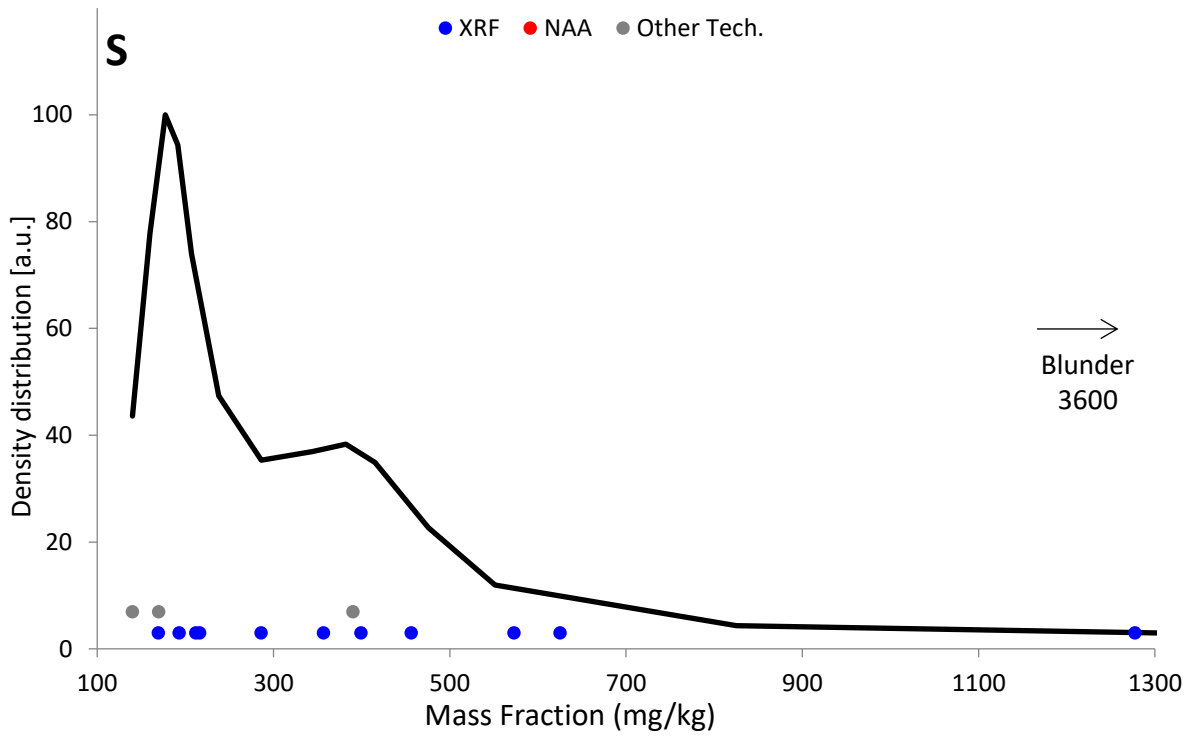


FIG. 54. Density distribution function for the measurand S (Soil sample with elevated mass fractions of elements).

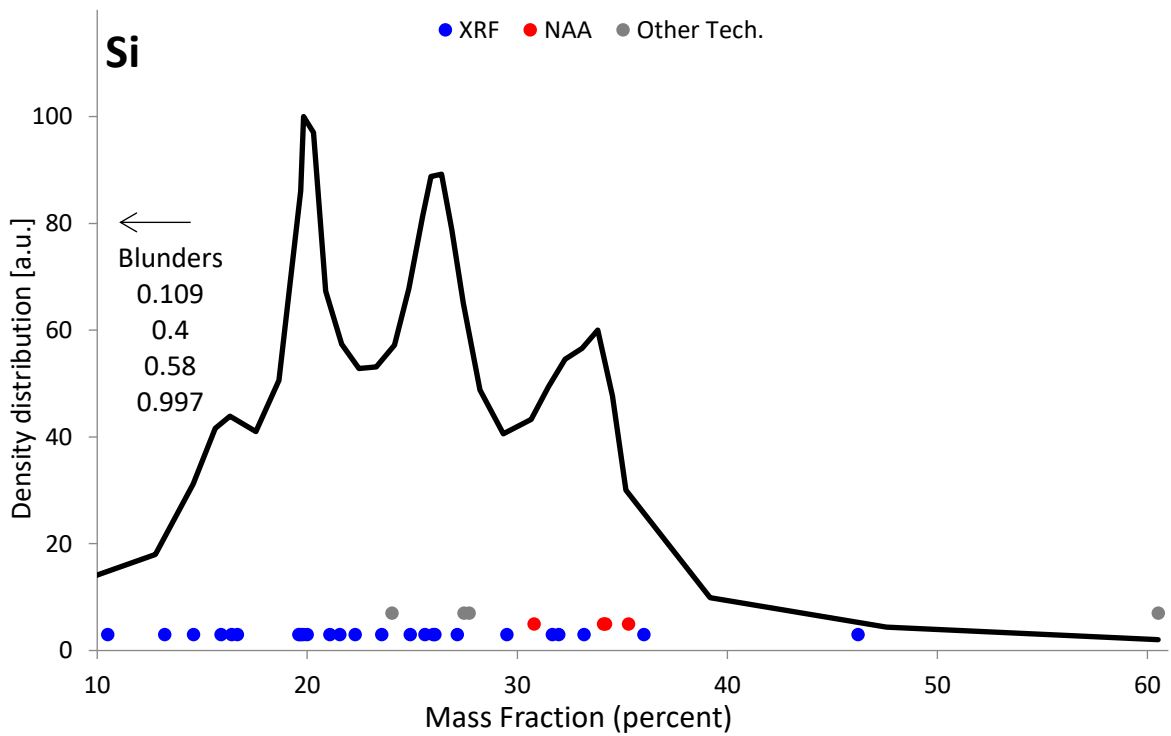


FIG. 55. Density distribution function for the measurand Si (Soil sample with elevated mass fractions of elements).

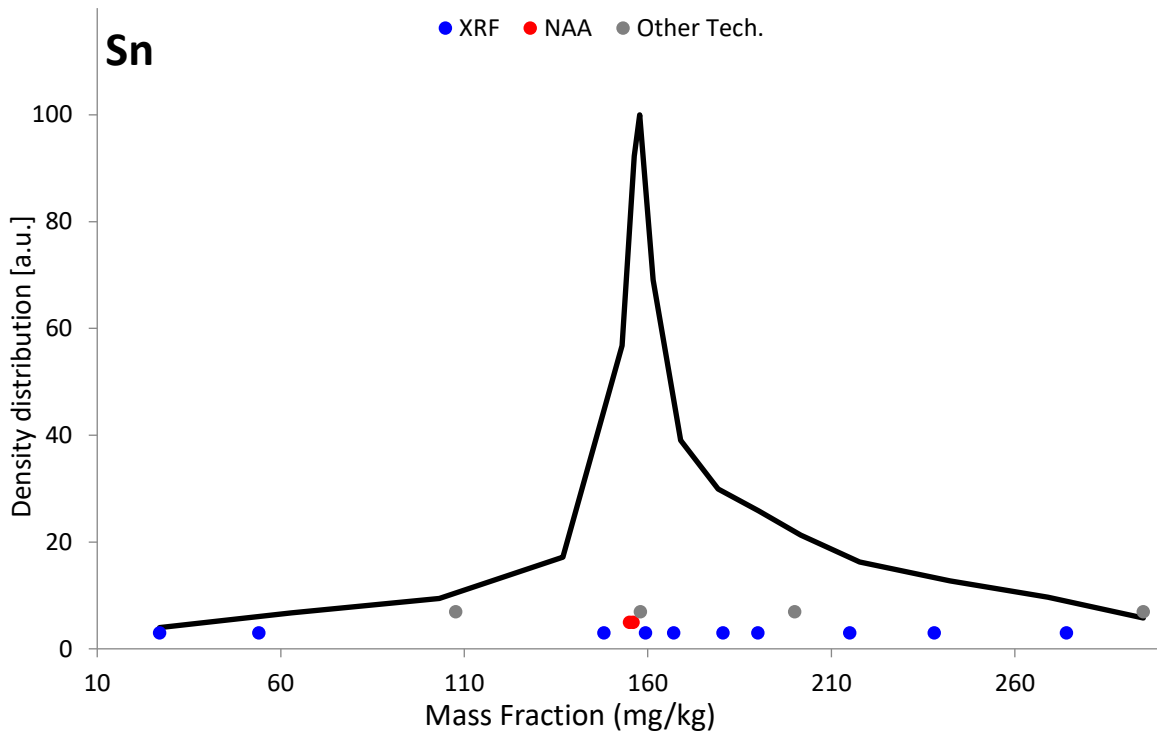


FIG. 56. Density distribution function for the measurand Sn (Soil sample with elevated mass fractions of elements).

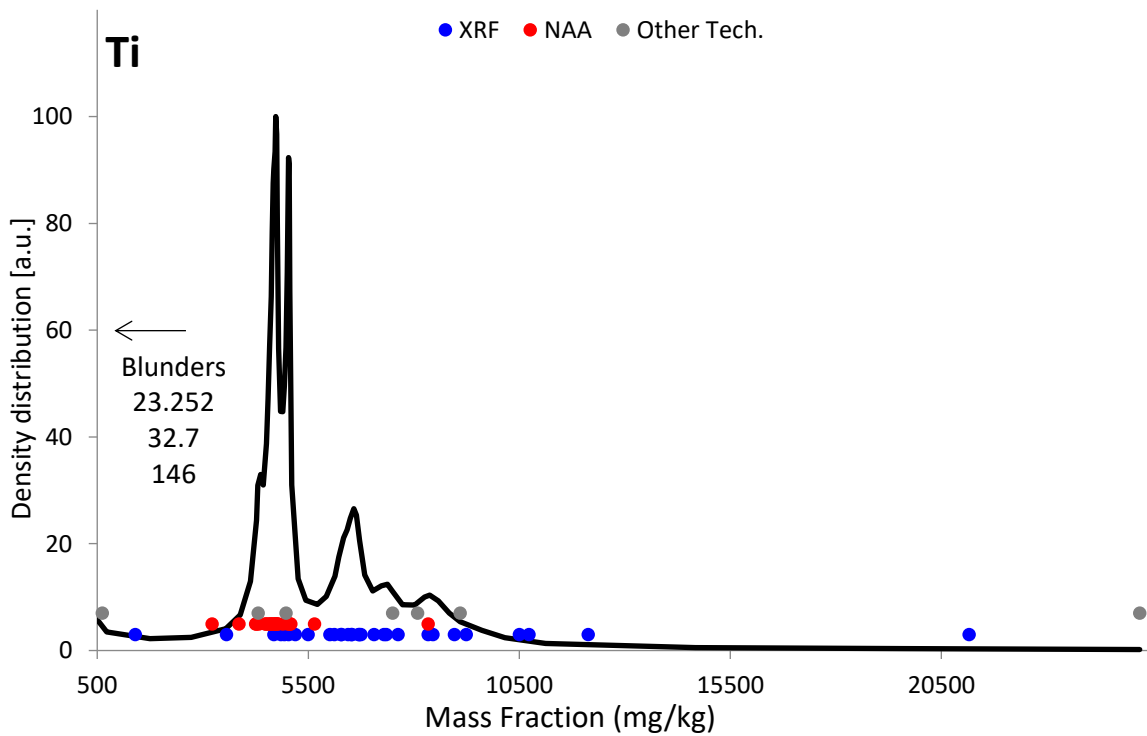


FIG. 57. Density distribution function for the measurand Ti (Soil sample with elevated mass fractions of elements).



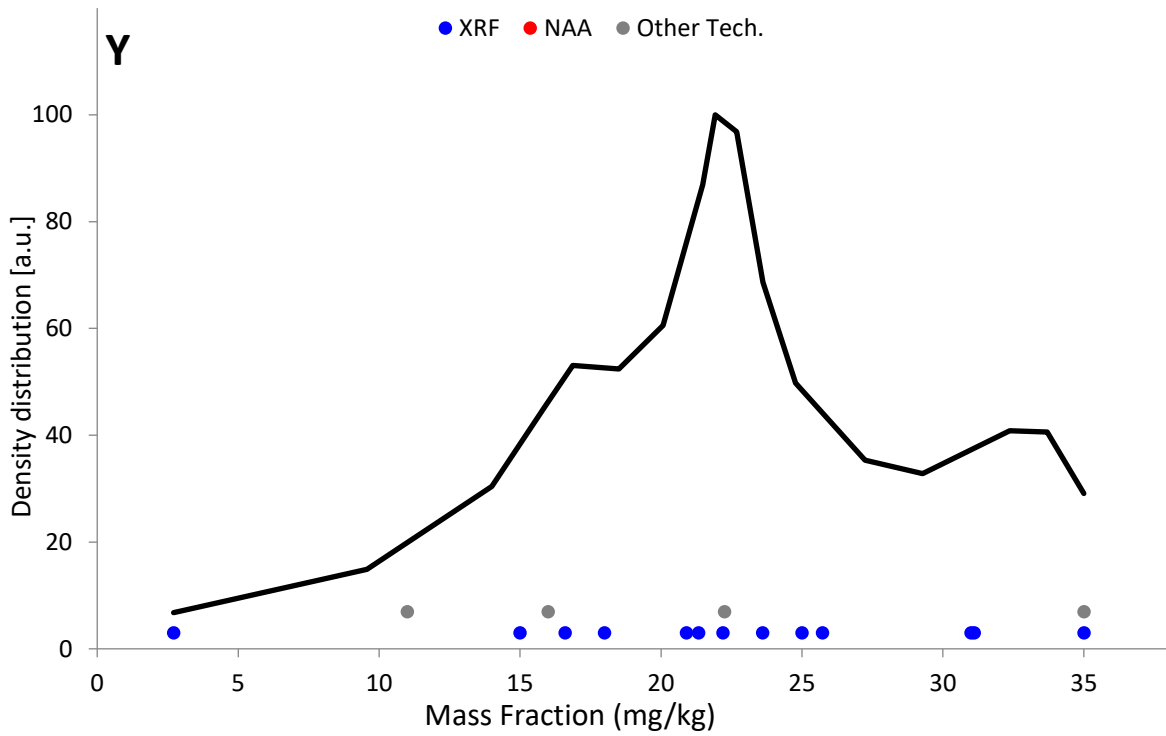


FIG. 58. Density distribution function for the measurand Y (Soil sample with elevated mass fractions of elements).

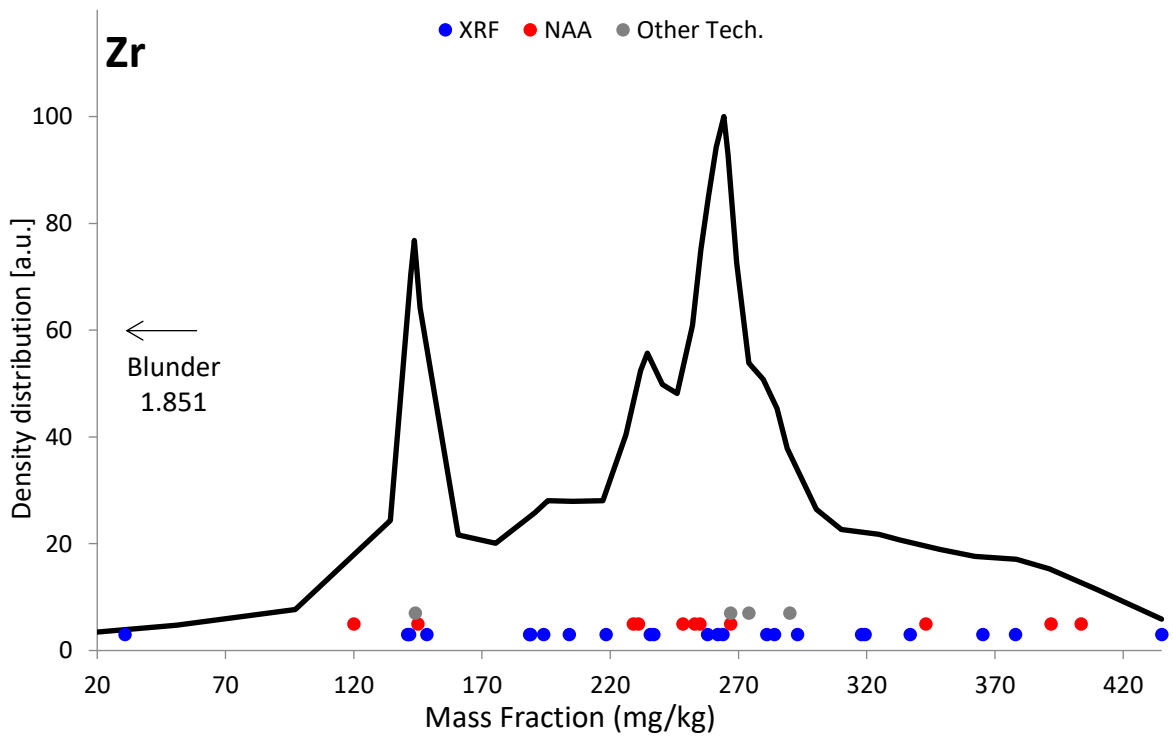


FIG. 59. Density distribution function for the measurand Zr (Soil sample with elevated mass fractions of elements).

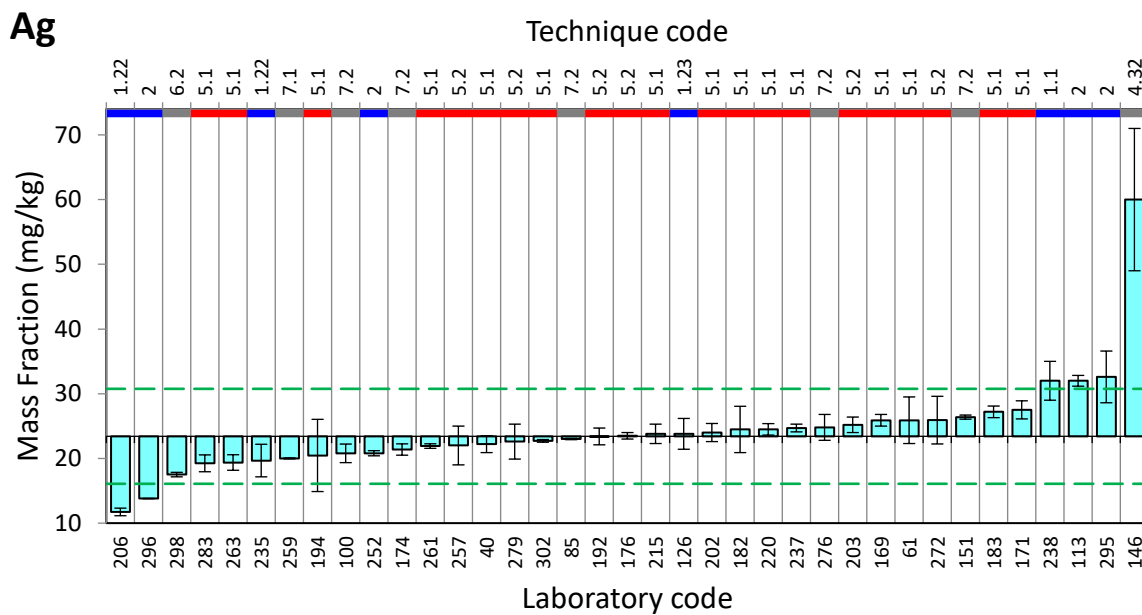


FIG. 60. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

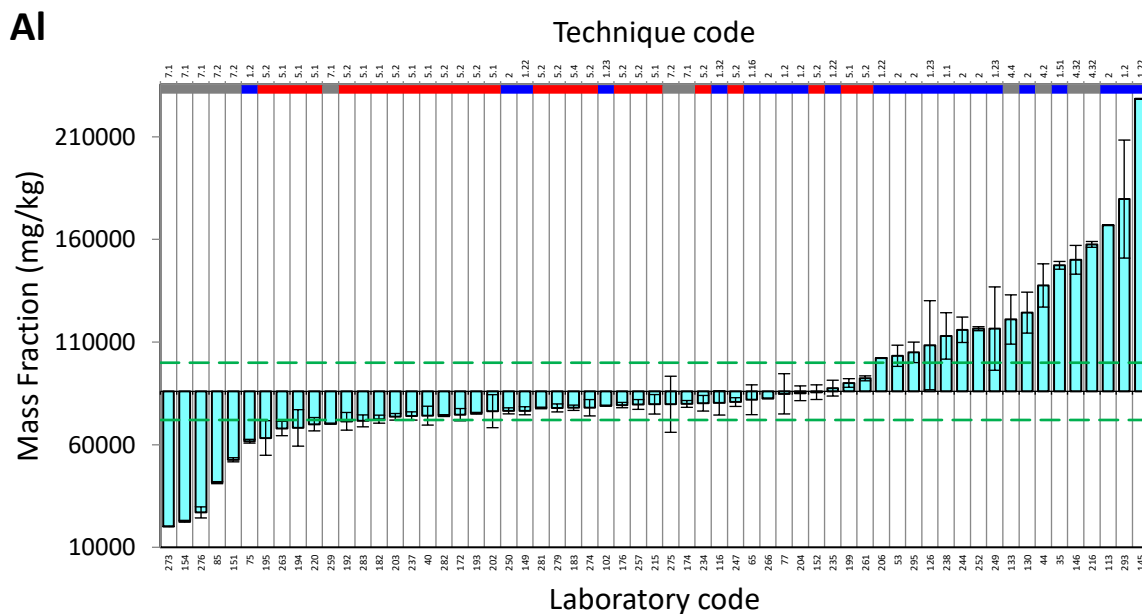


FIG. 61. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

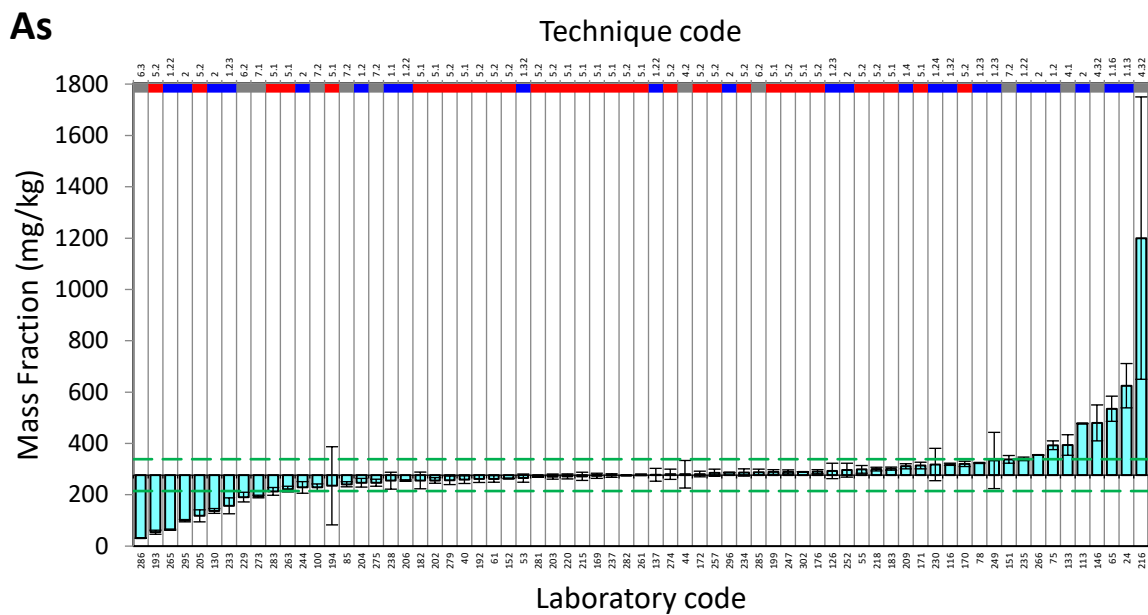


FIG. 62. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

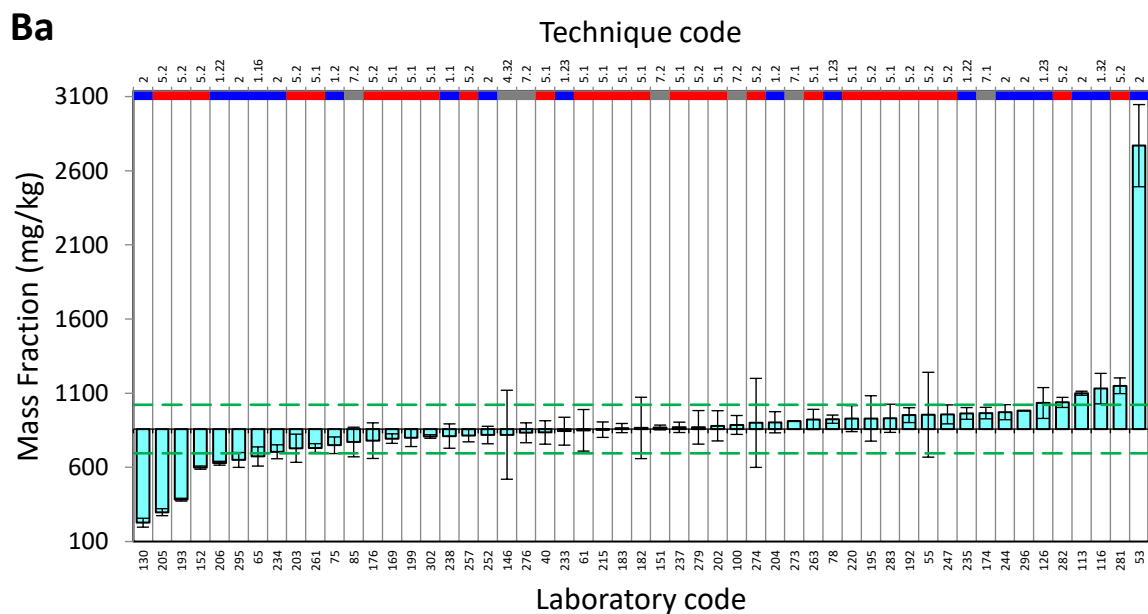


FIG. 63. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

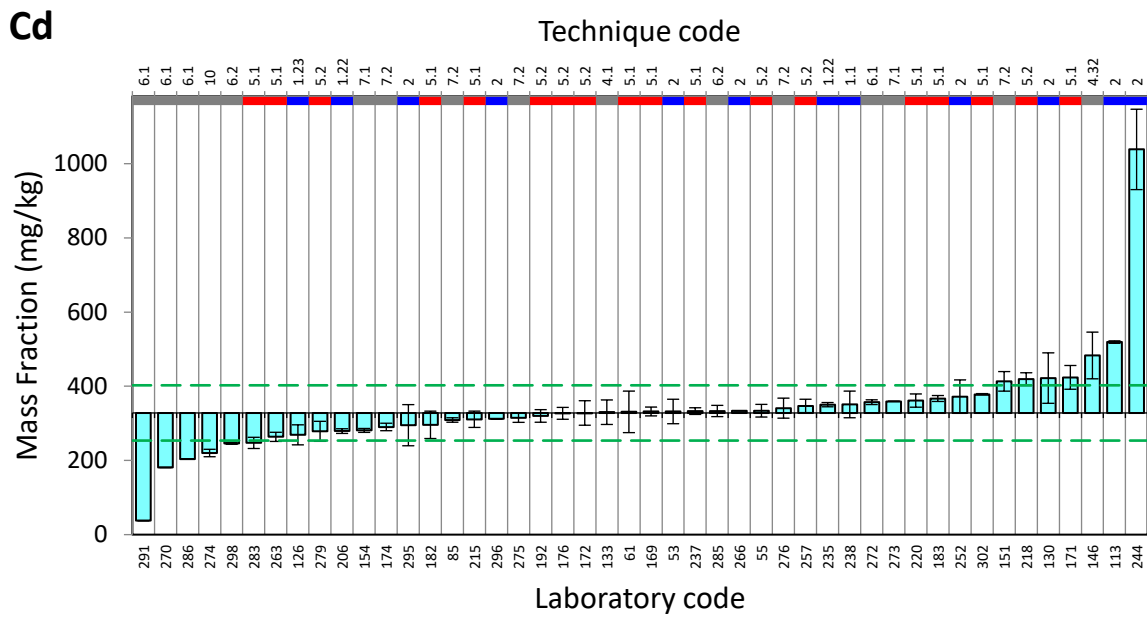


FIG. 64. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

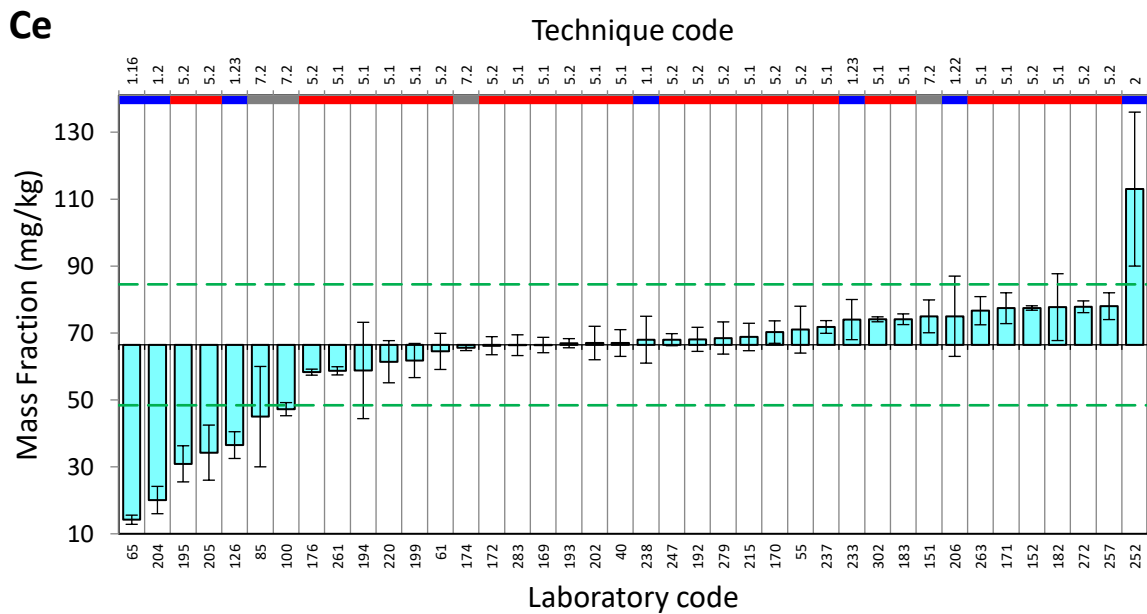


FIG. 65. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

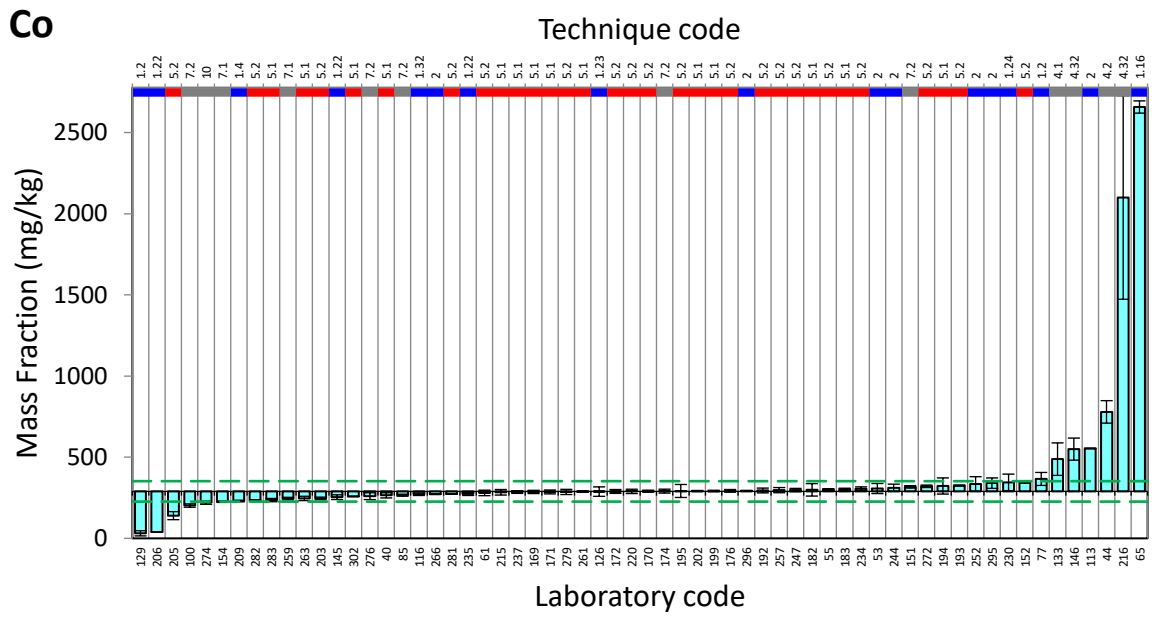


FIG. 66. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

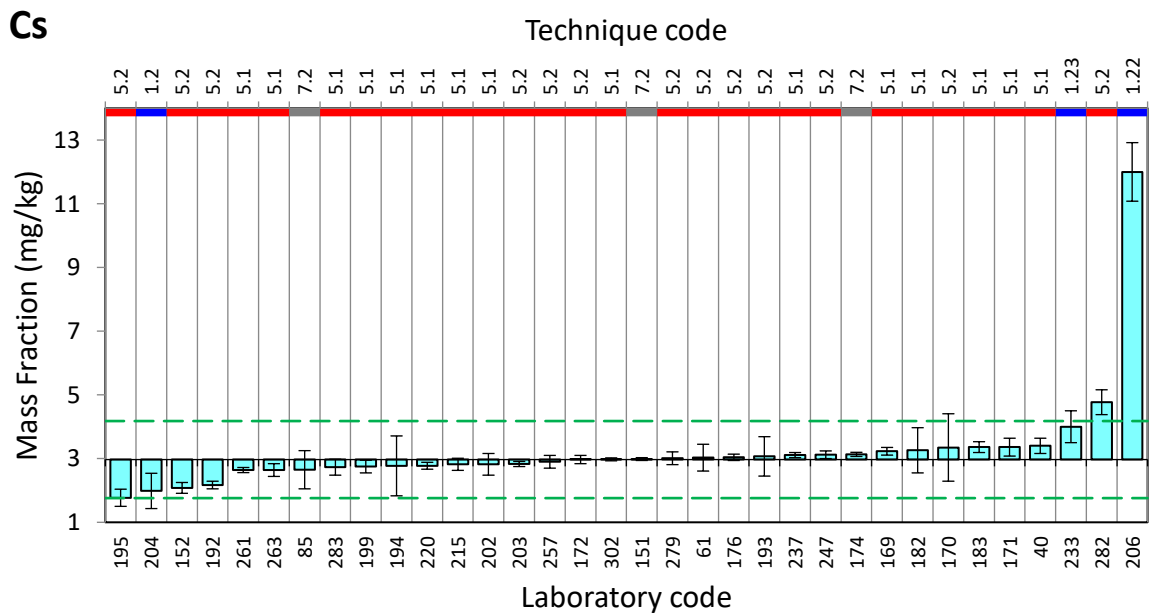


FIG. 67. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

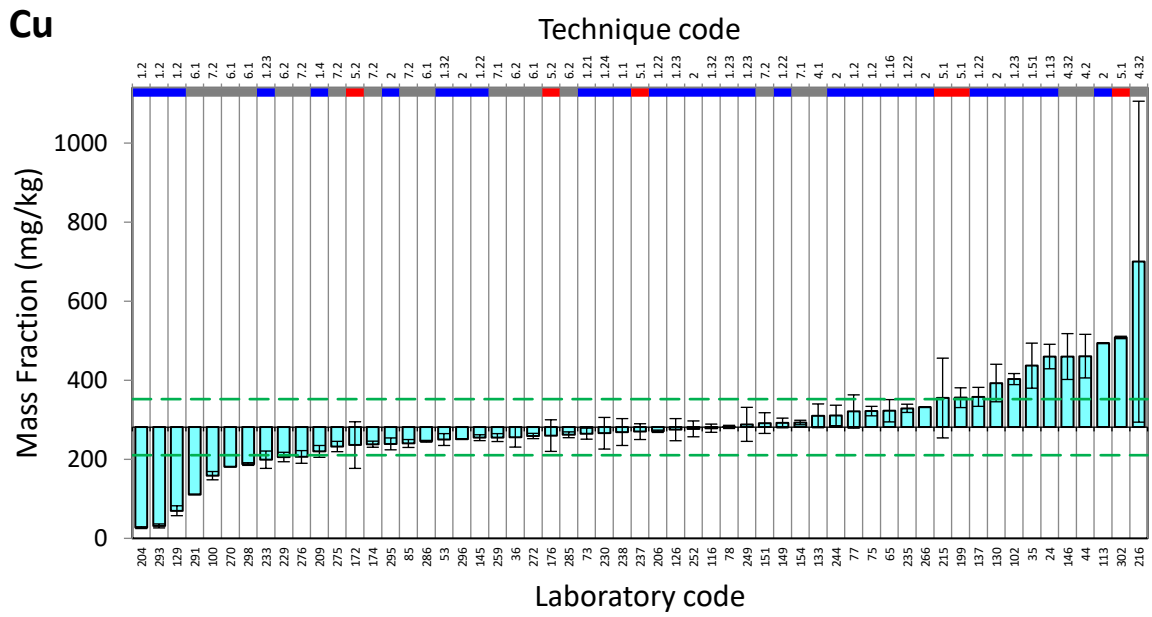


FIG. 68. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

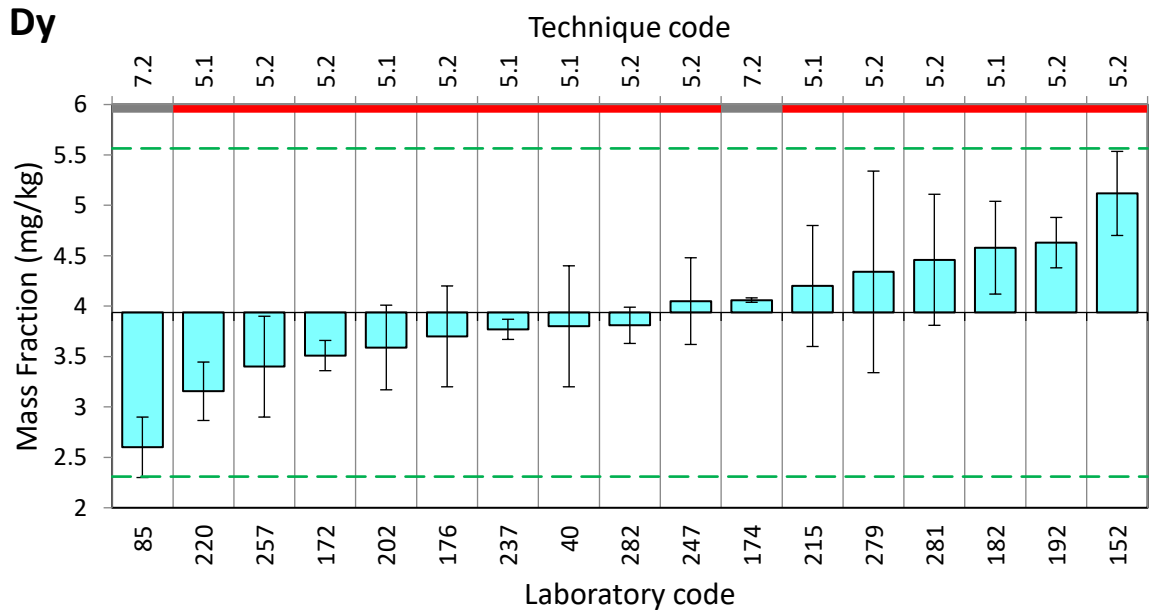


FIG. 69. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

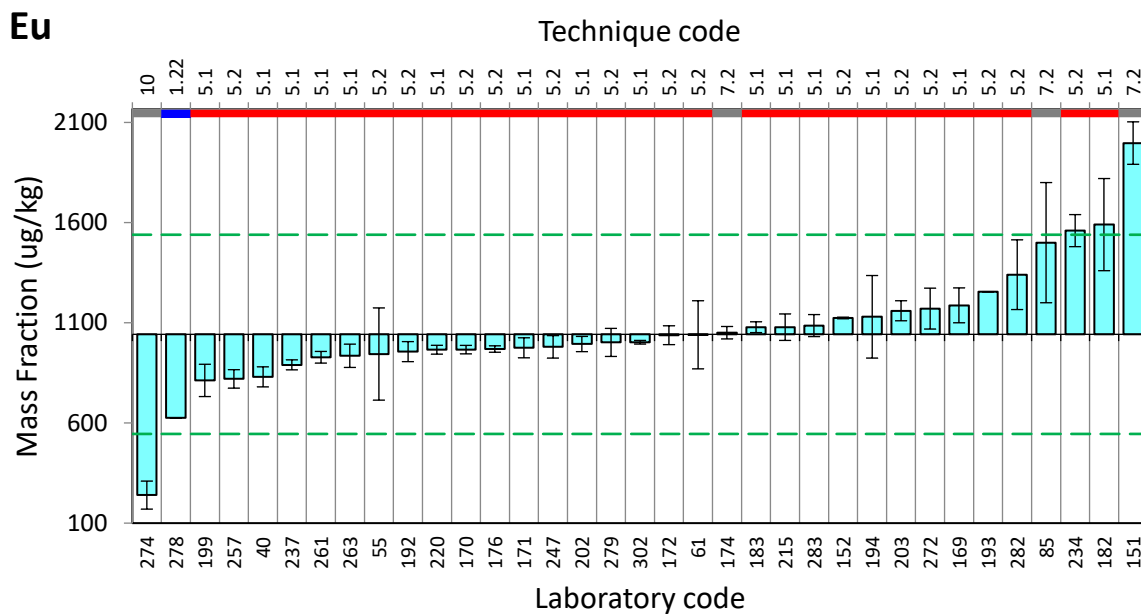


FIG. 70. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

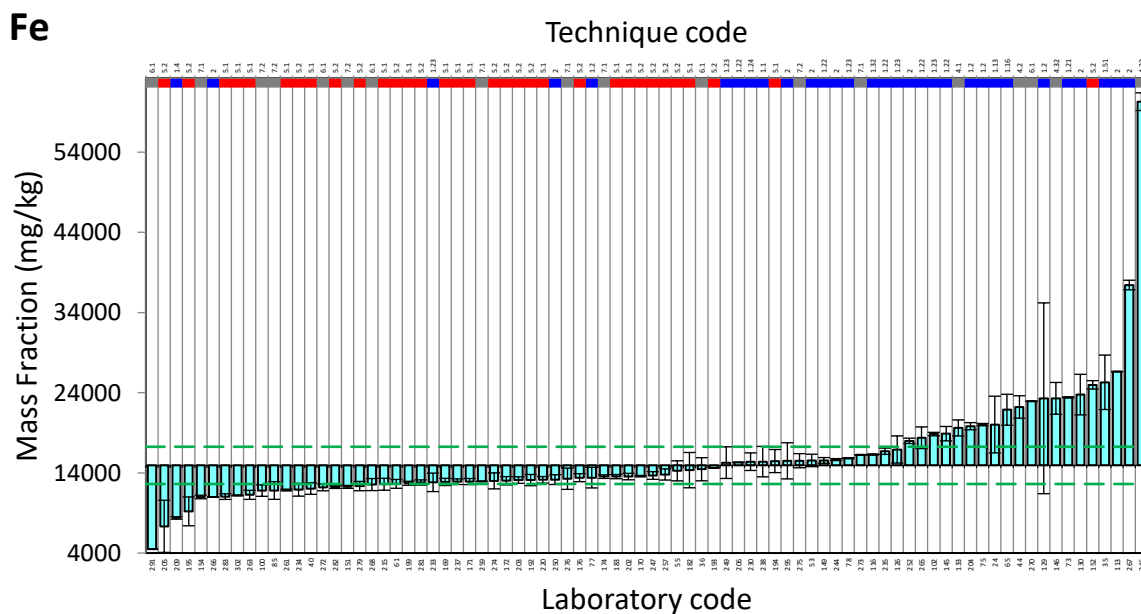


FIG. 71. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

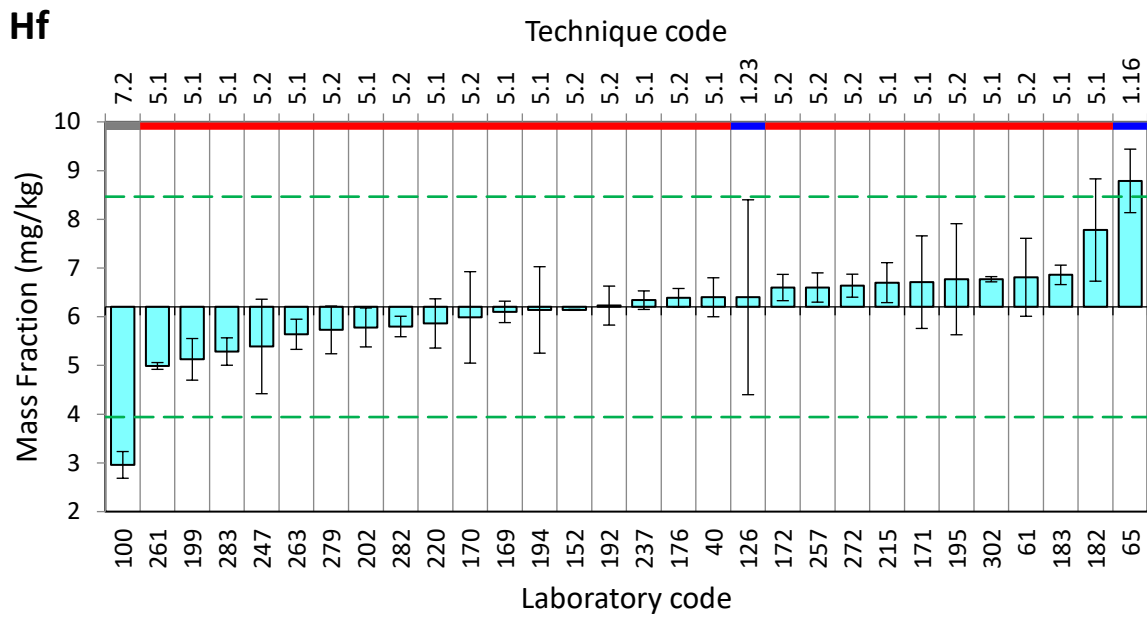


FIG. 72. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

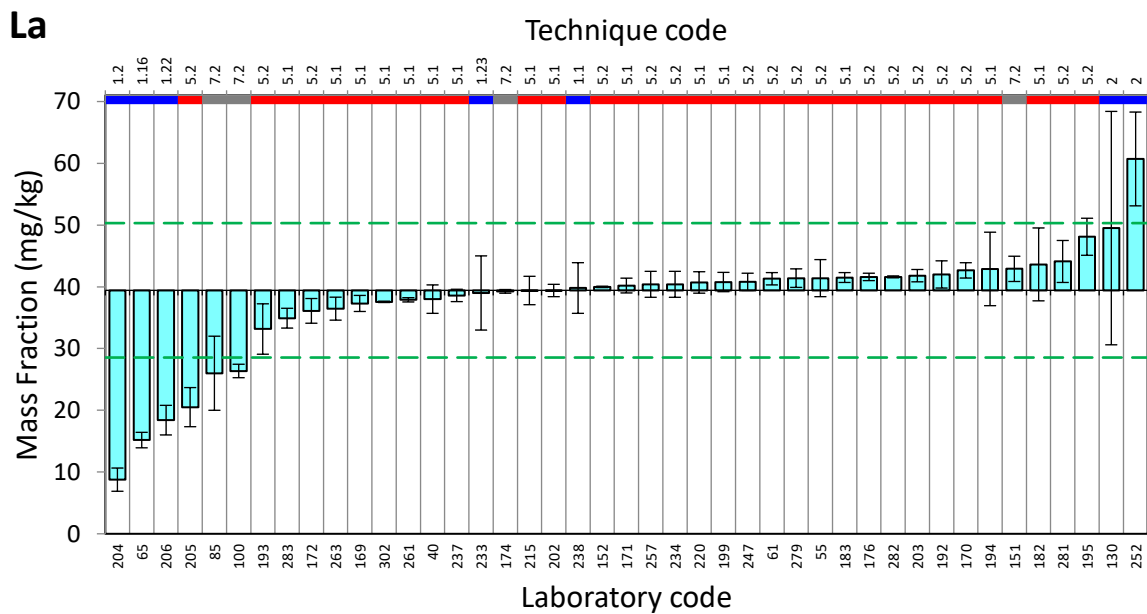


FIG. 73. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).



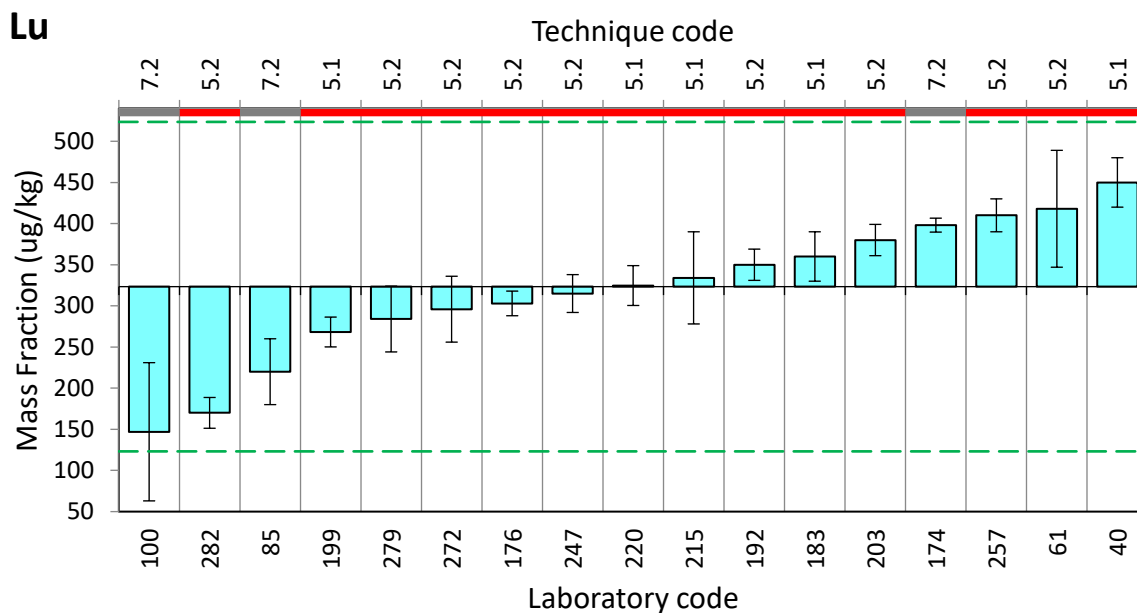


FIG. 74. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

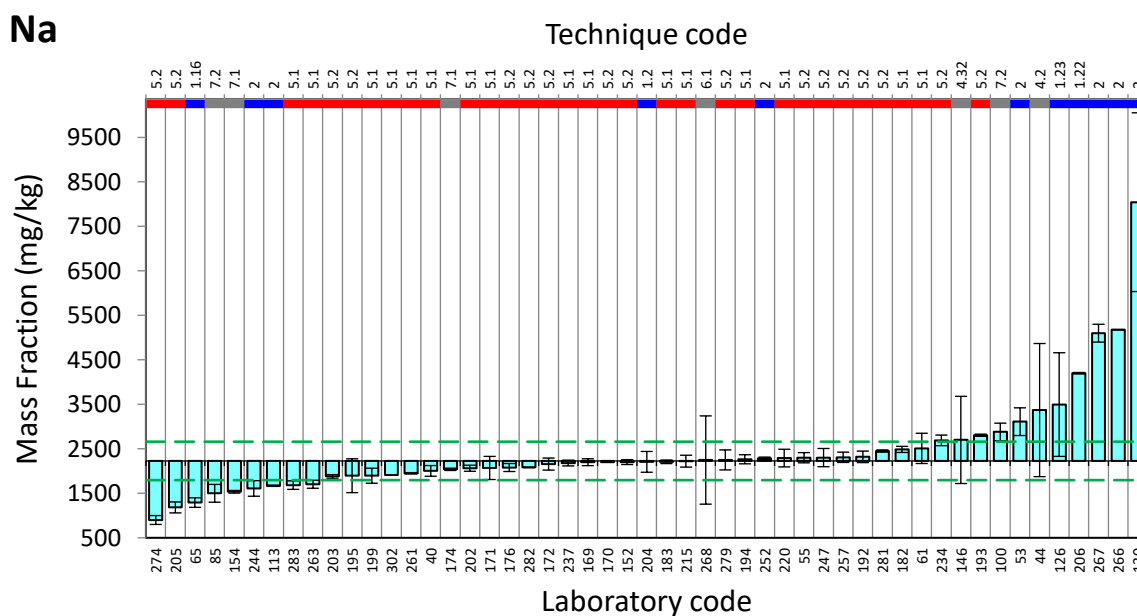


FIG. 75. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

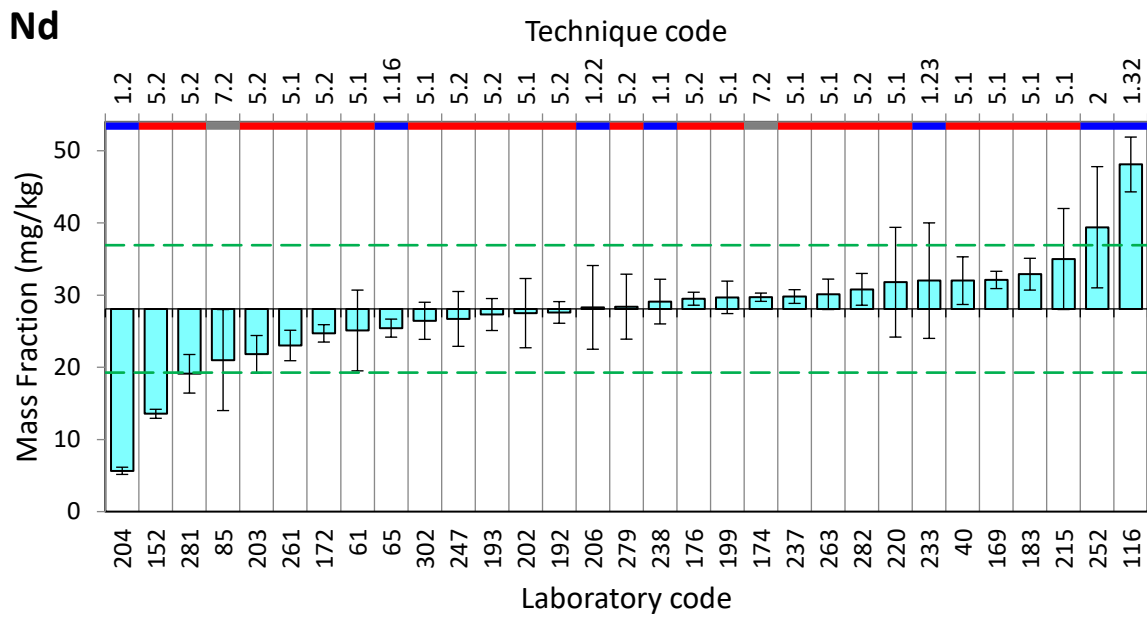


FIG. 76. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

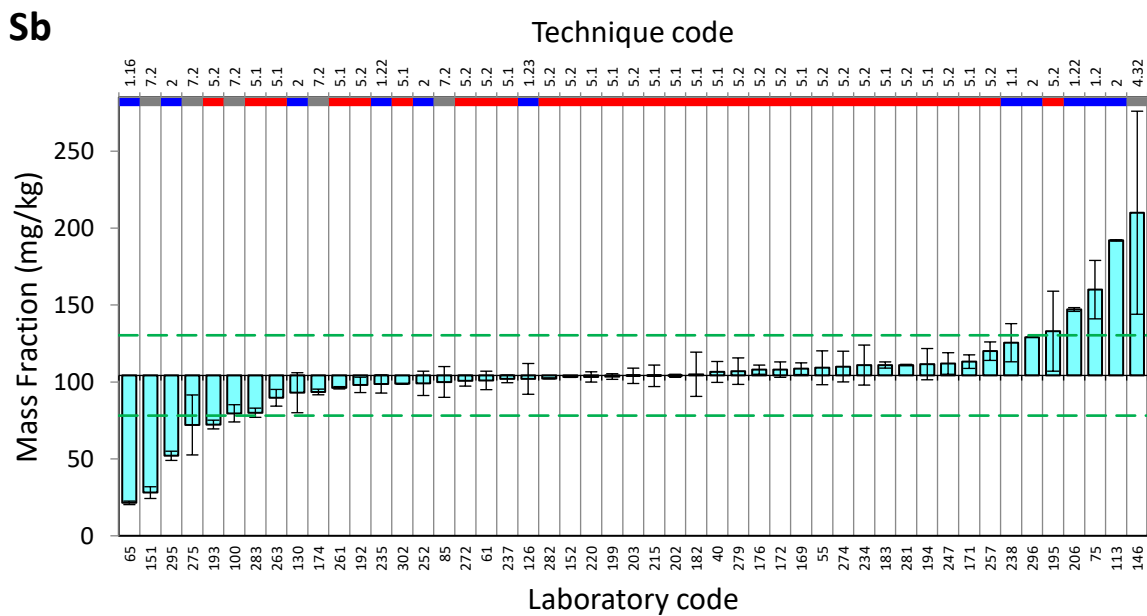


FIG. 77. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

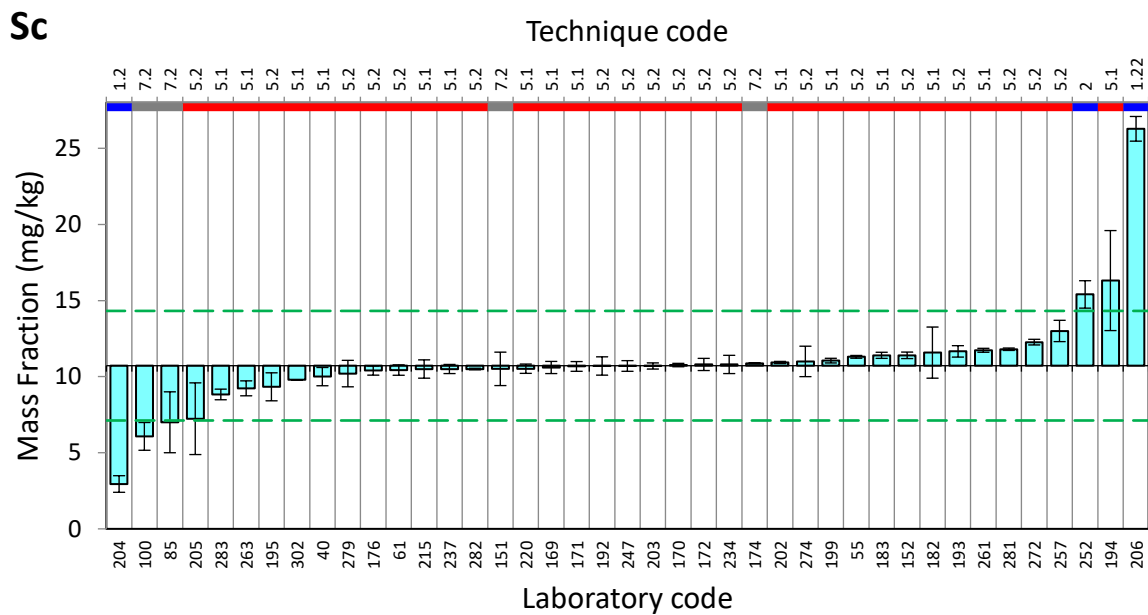


FIG. 78. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

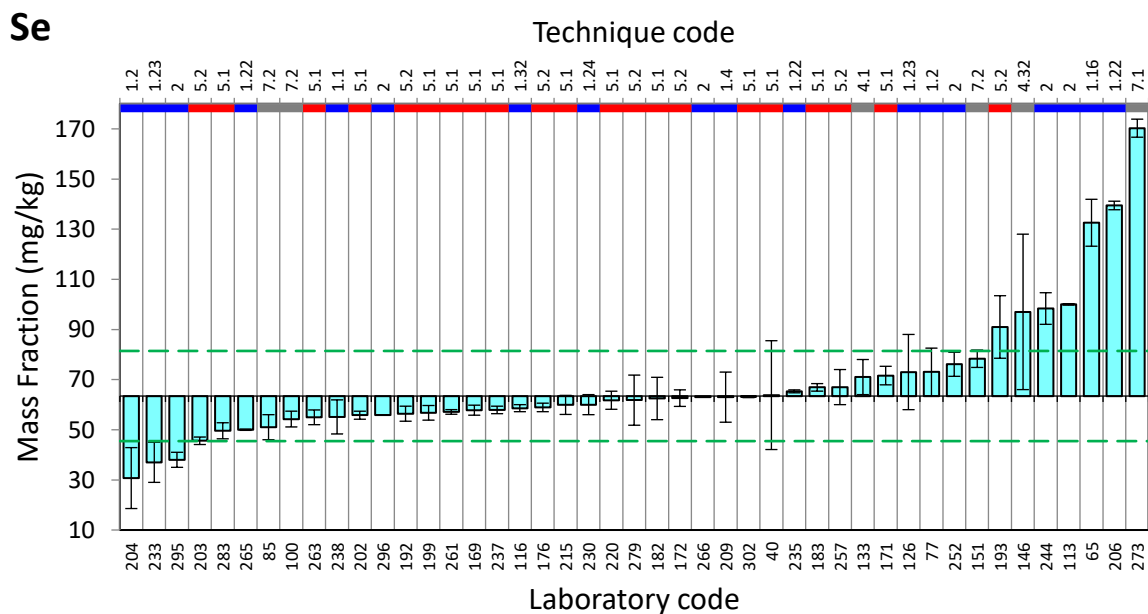


FIG. 79. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

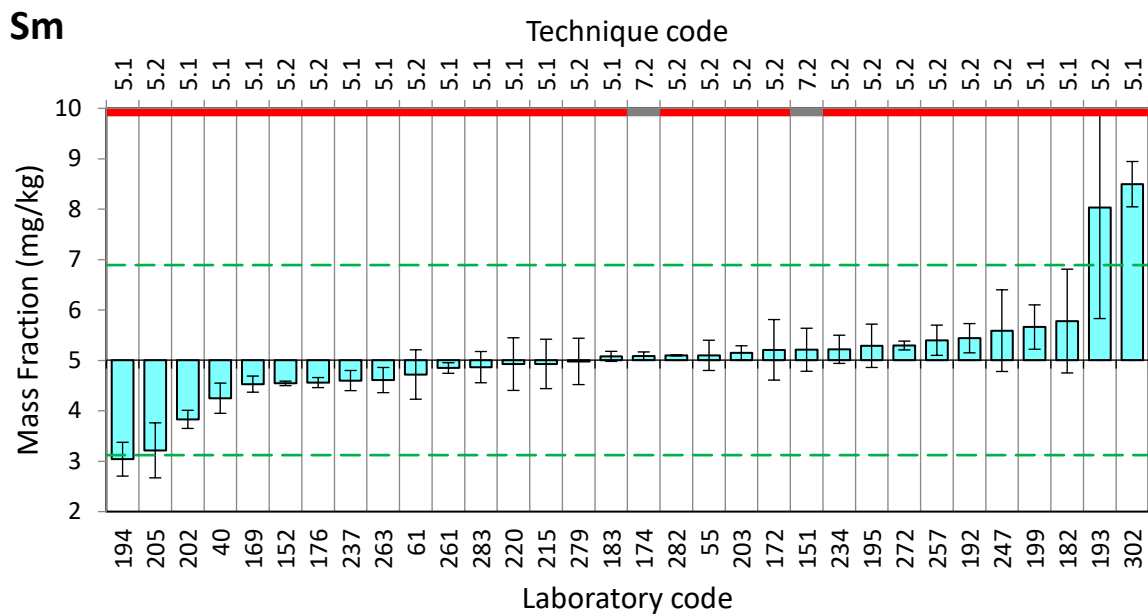


FIG. 80. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

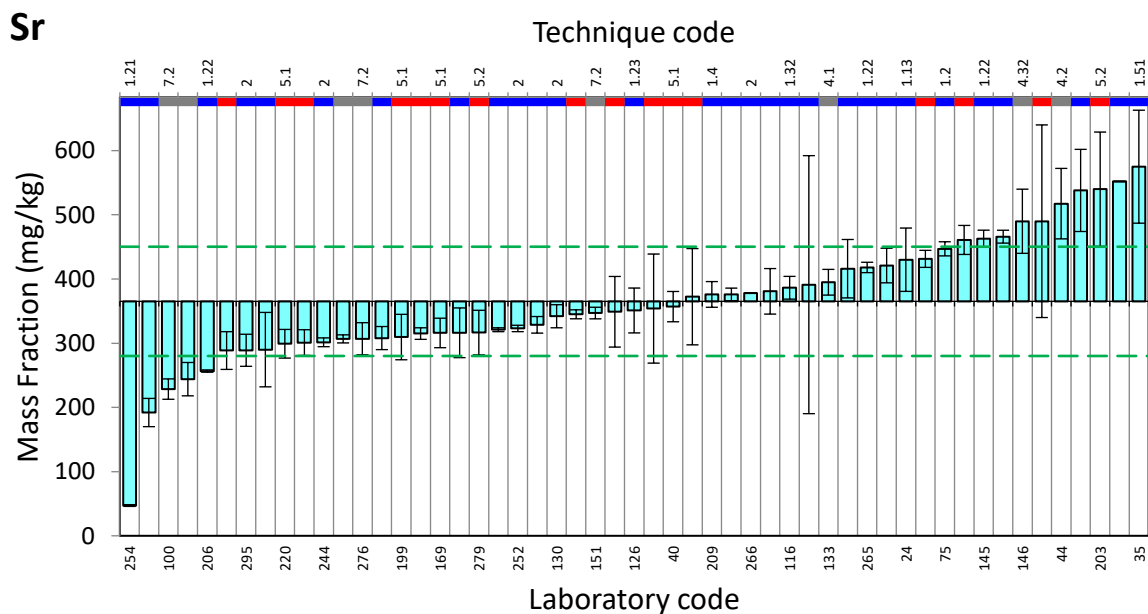


FIG. 81. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

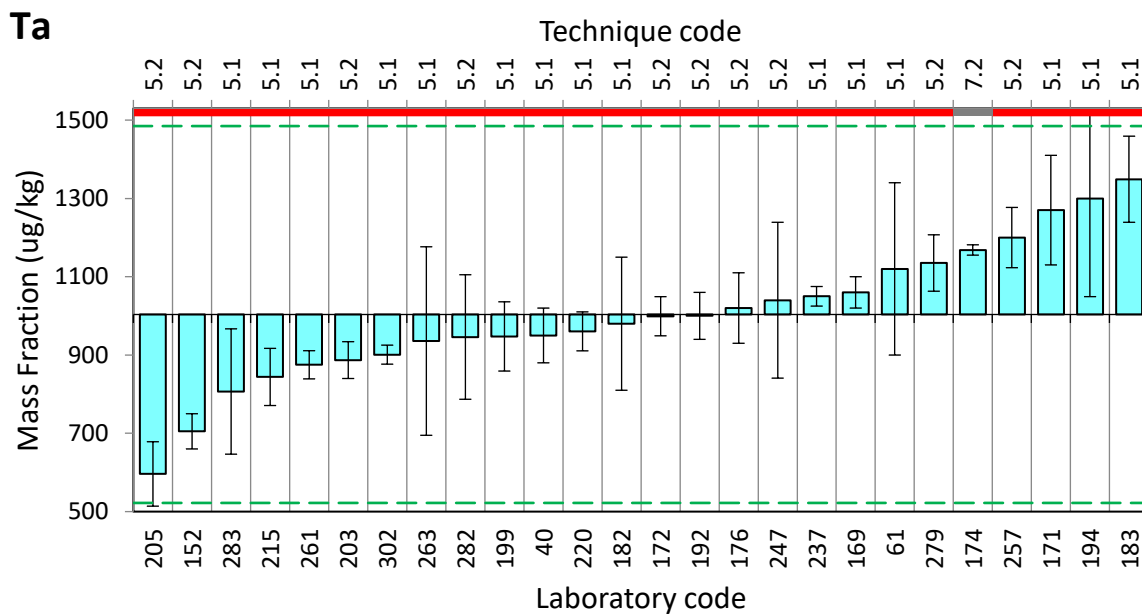


FIG. 82. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

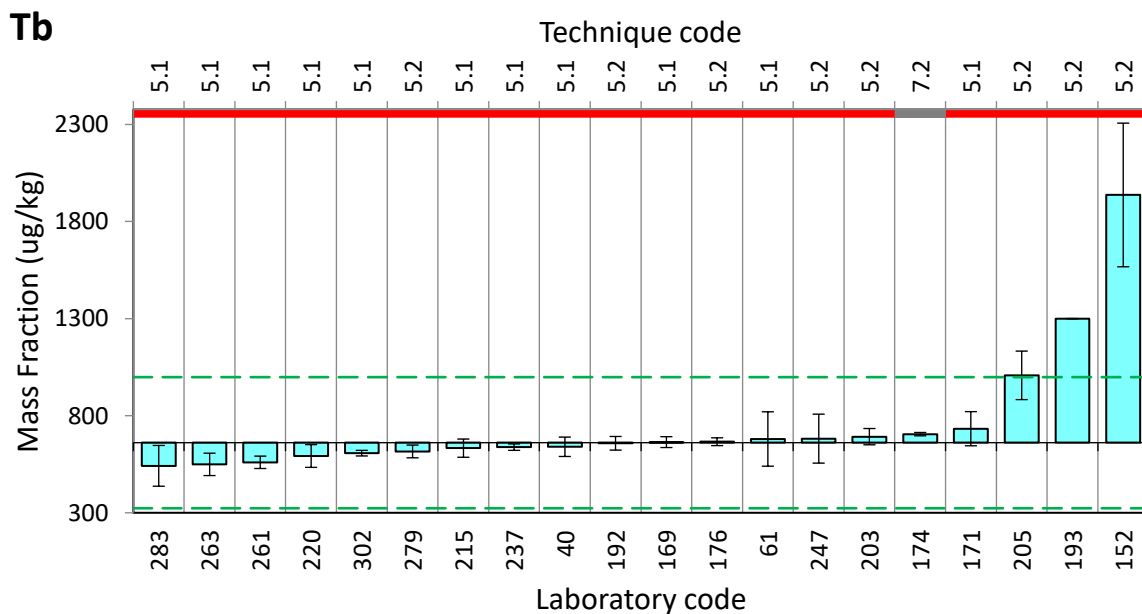


FIG. 83. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

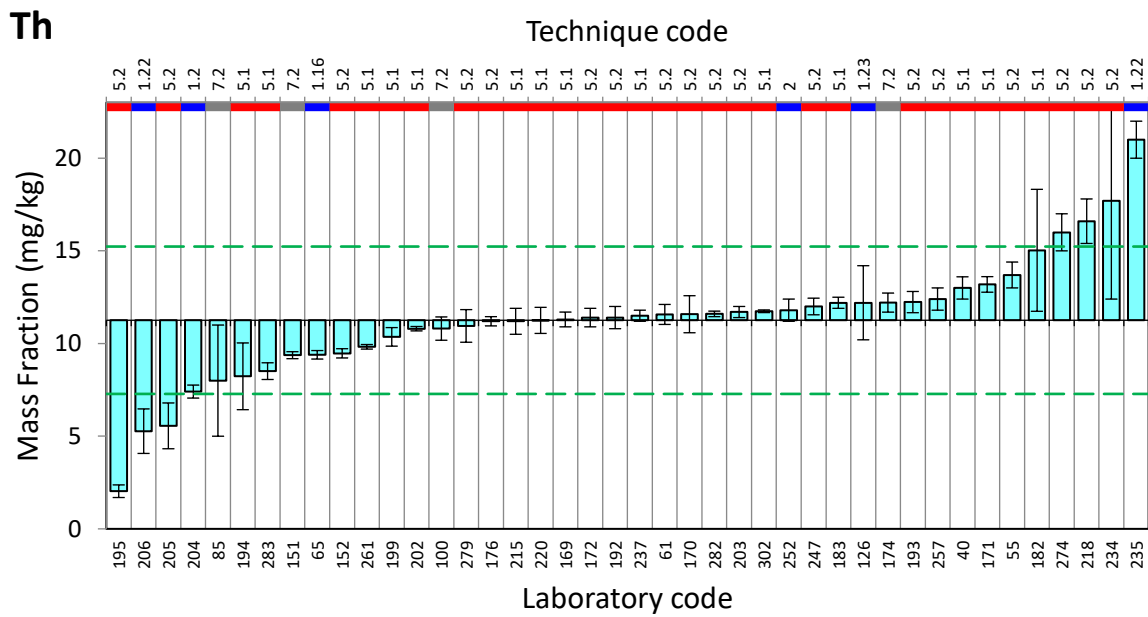


FIG. 84. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

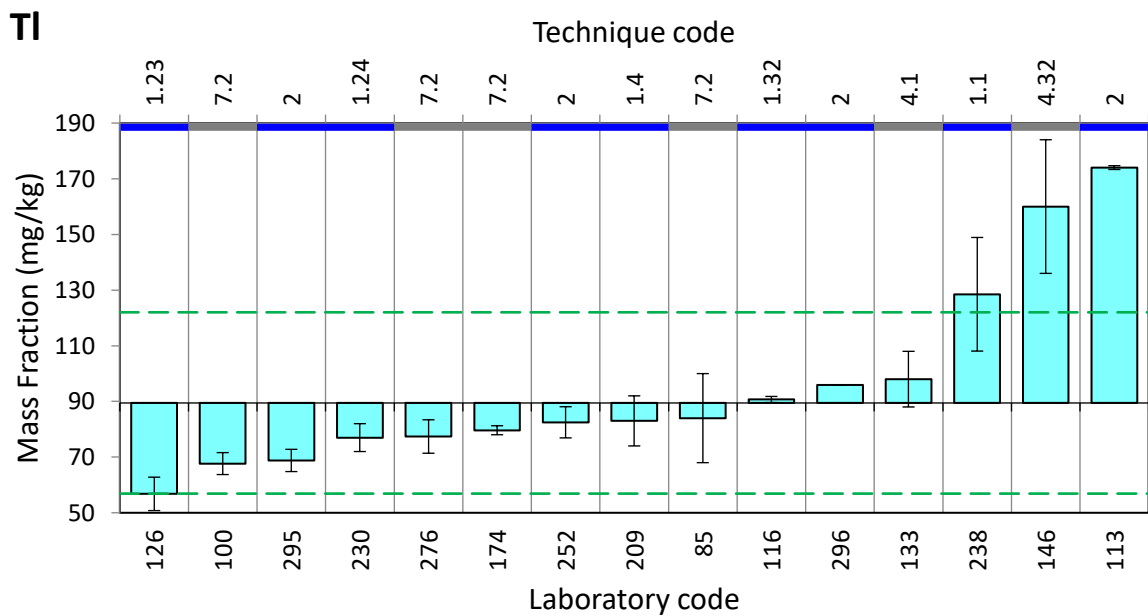


FIG. 85. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

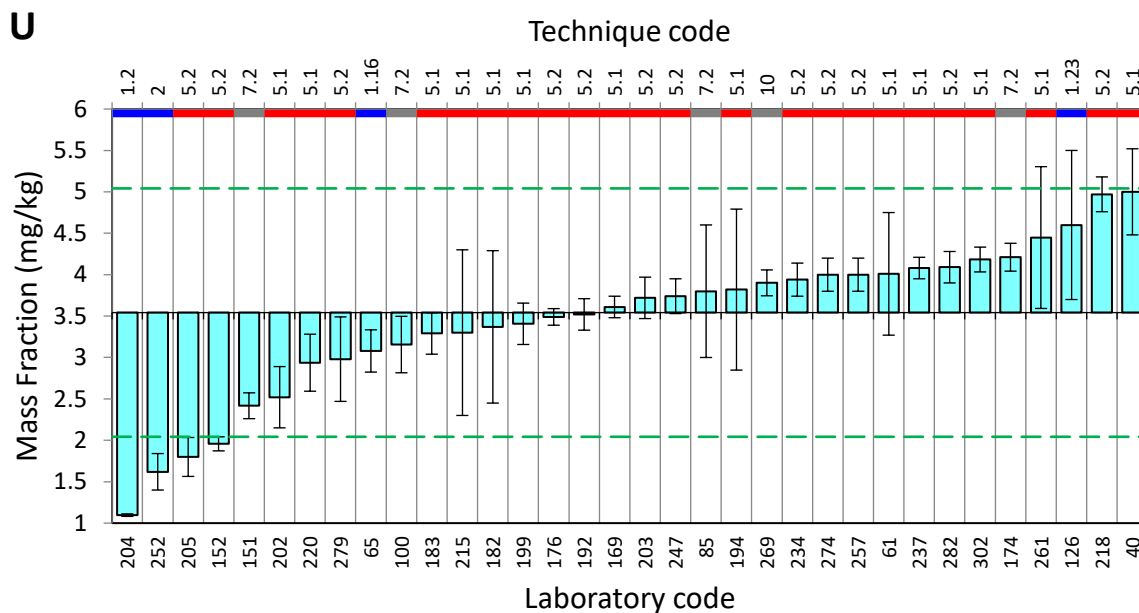


FIG. 86. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

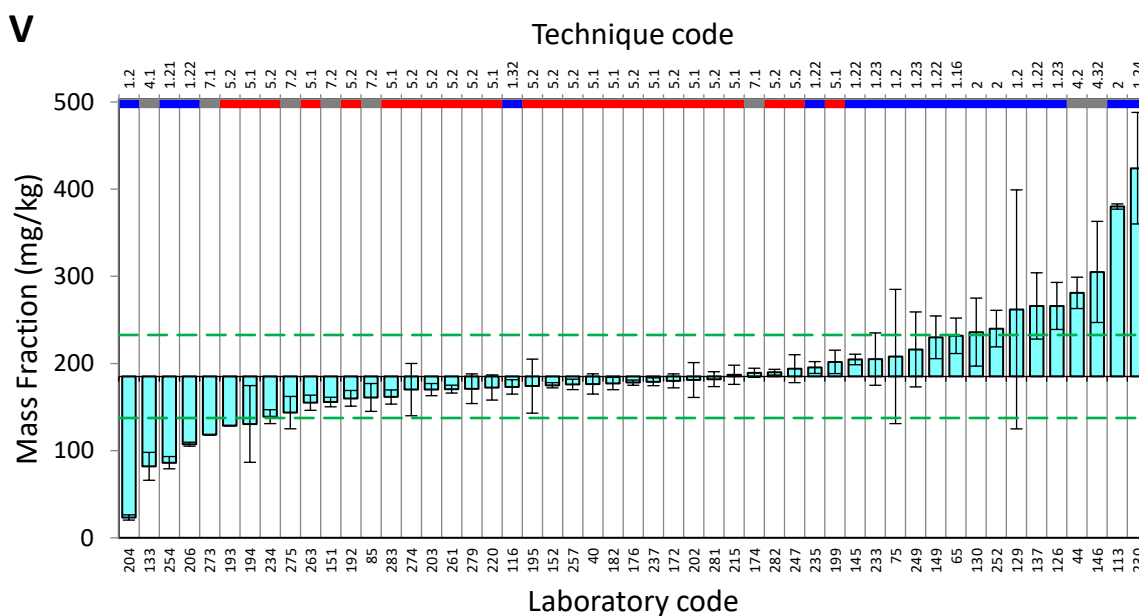


FIG. 87. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

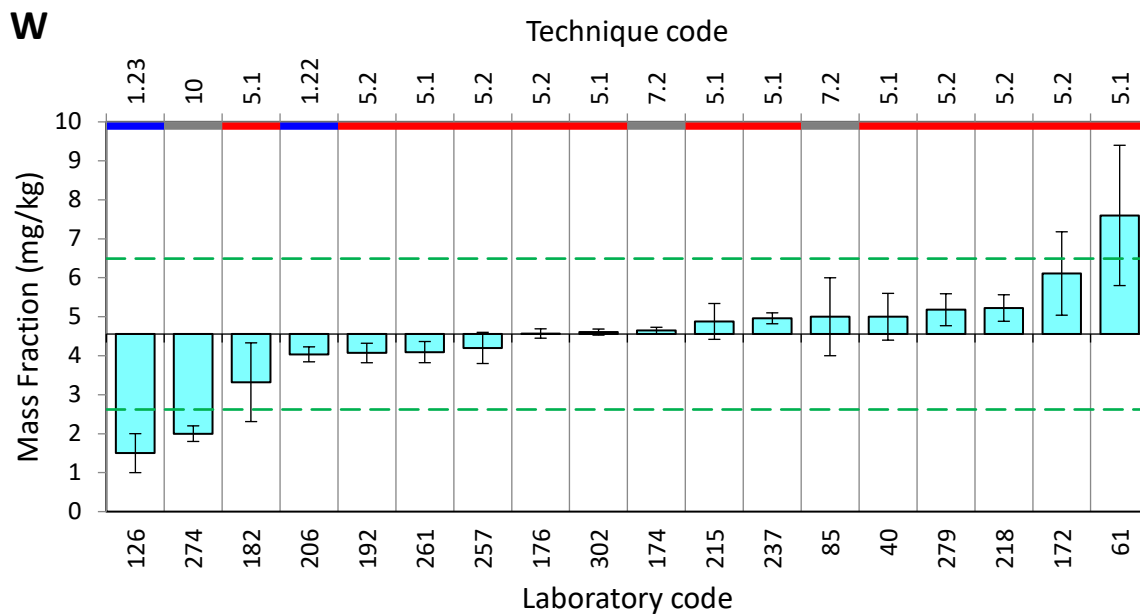


FIG. 88. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

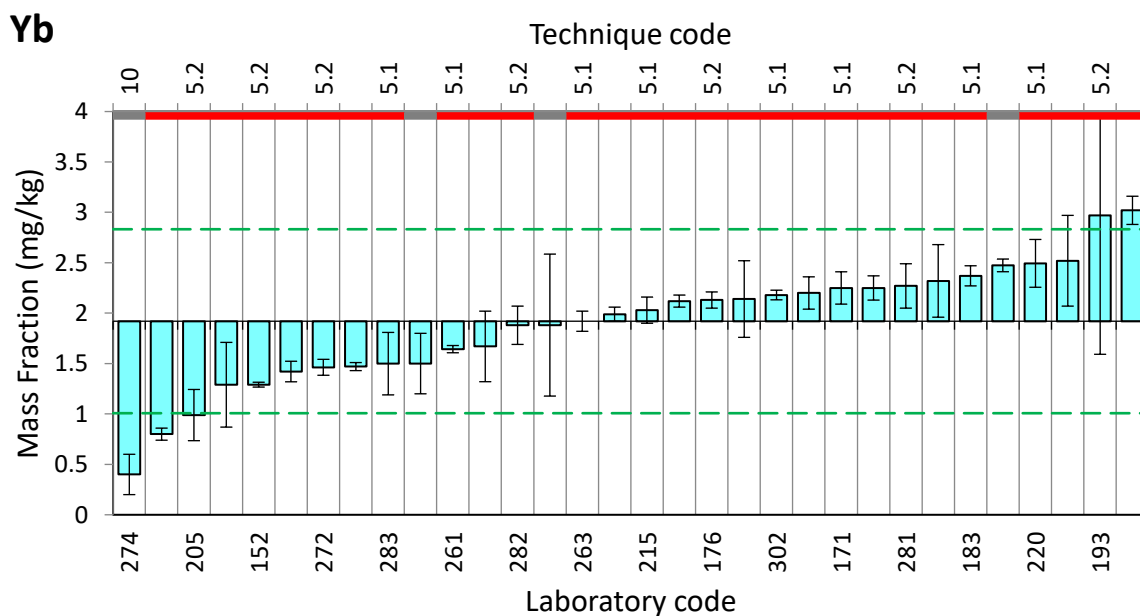


FIG. 89. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).



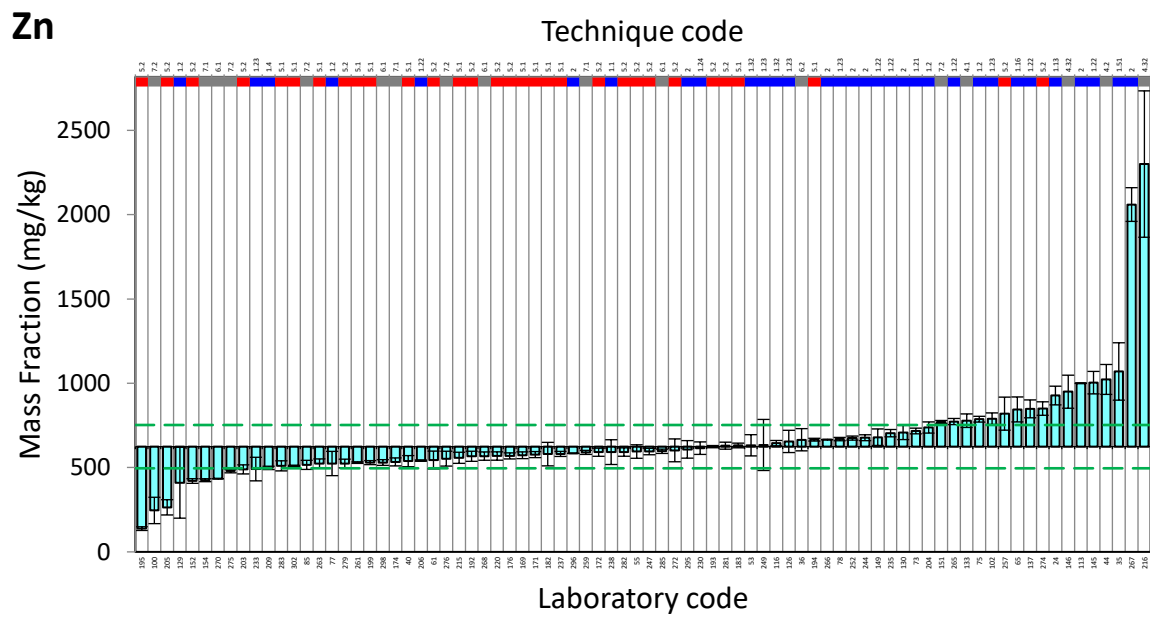


FIG. 90. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

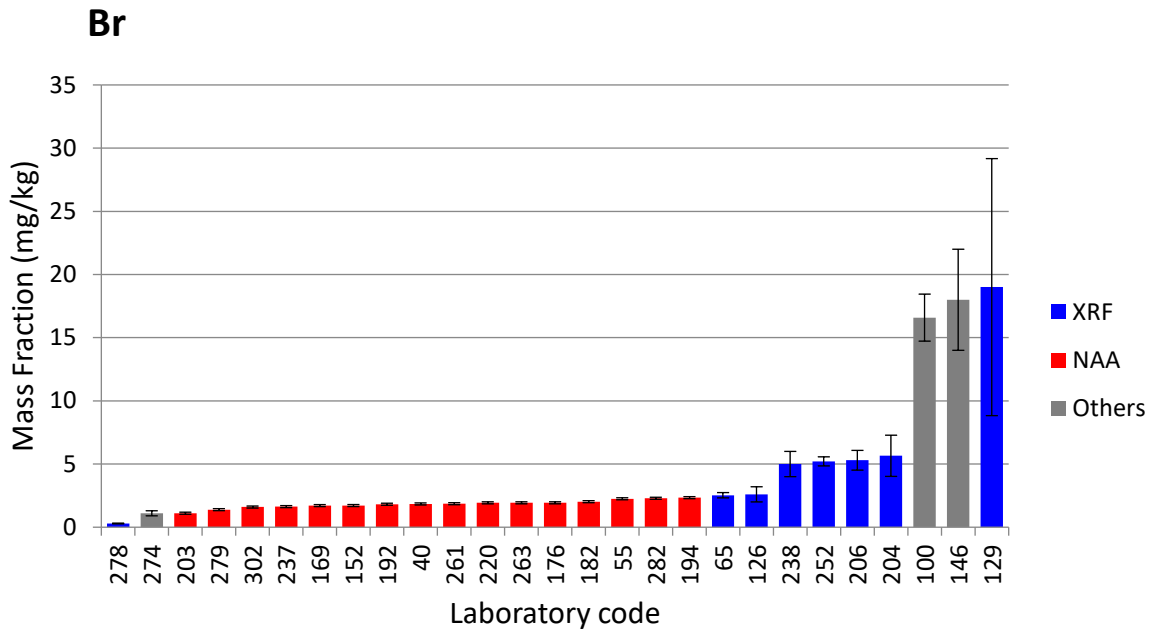


FIG. 91. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

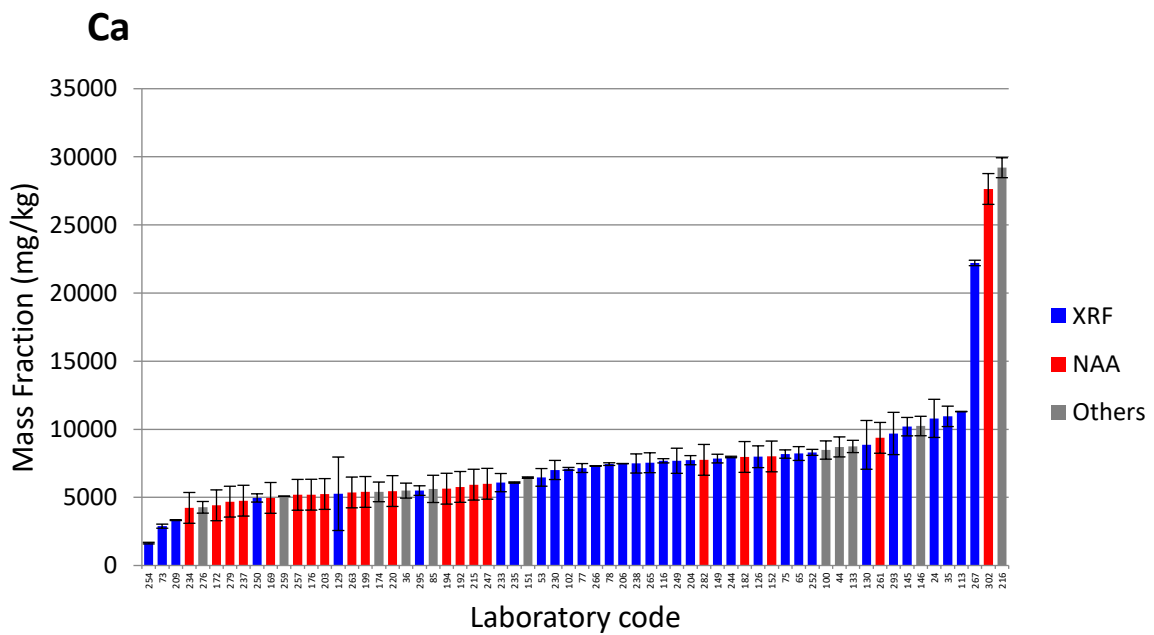


FIG. 92. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

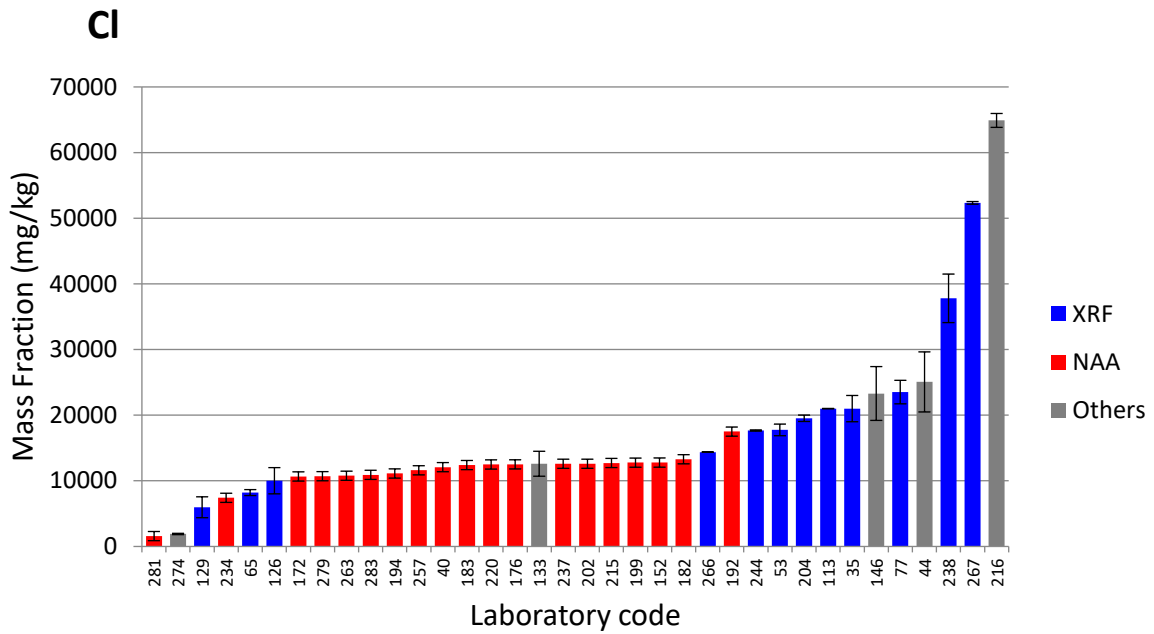


FIG. 93. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

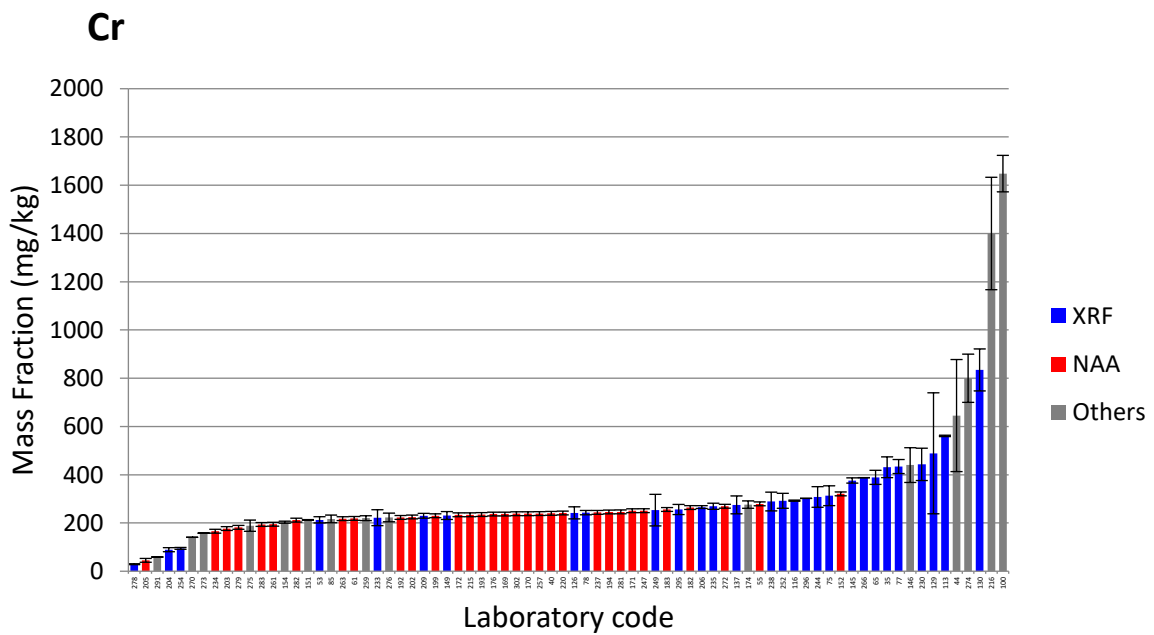


FIG. 94. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

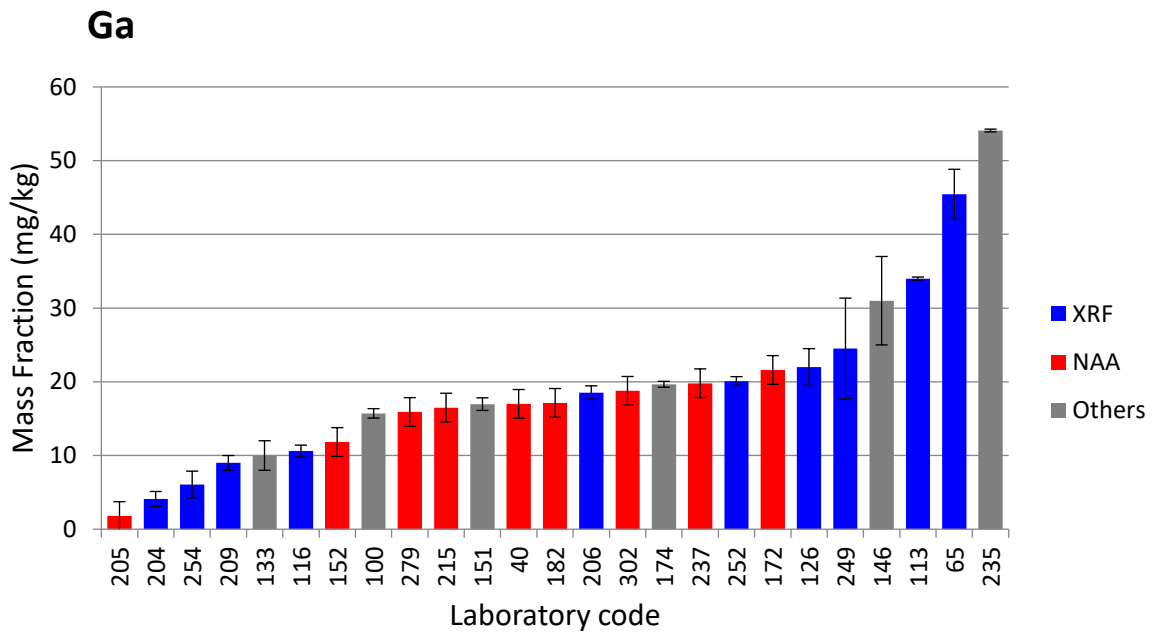


FIG. 95. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

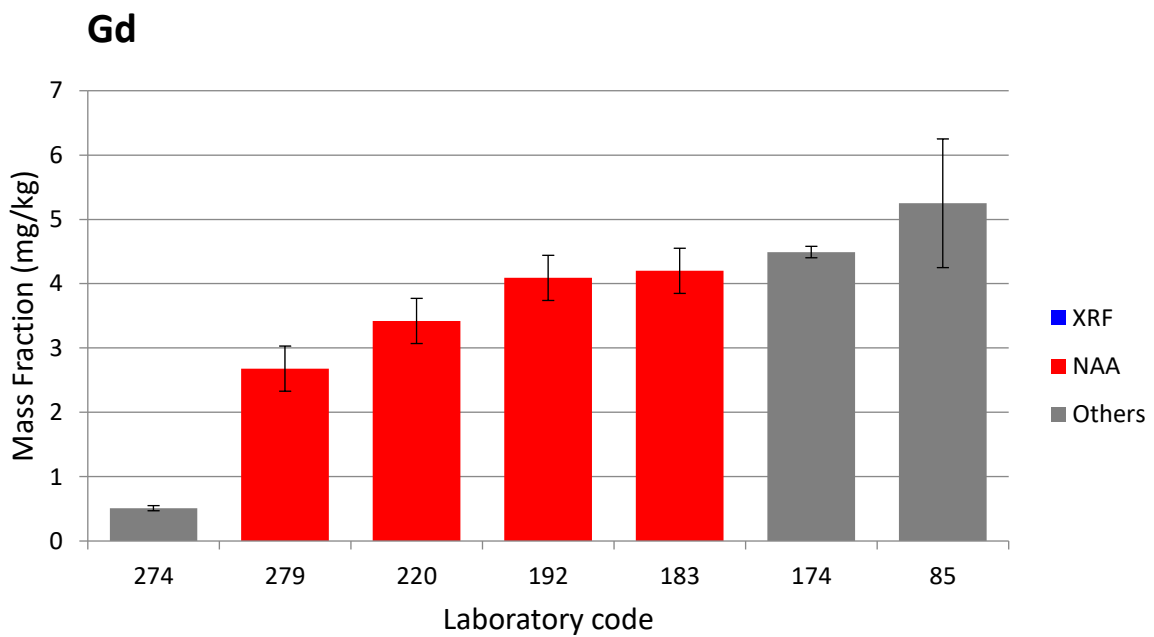


FIG. 96. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

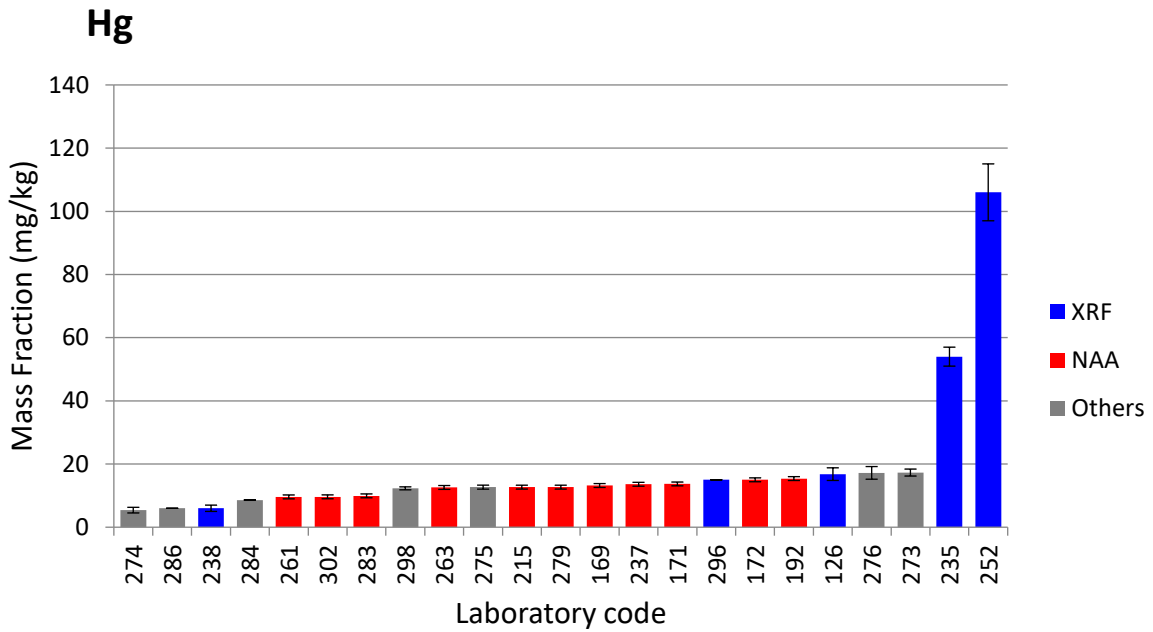


FIG. 97. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

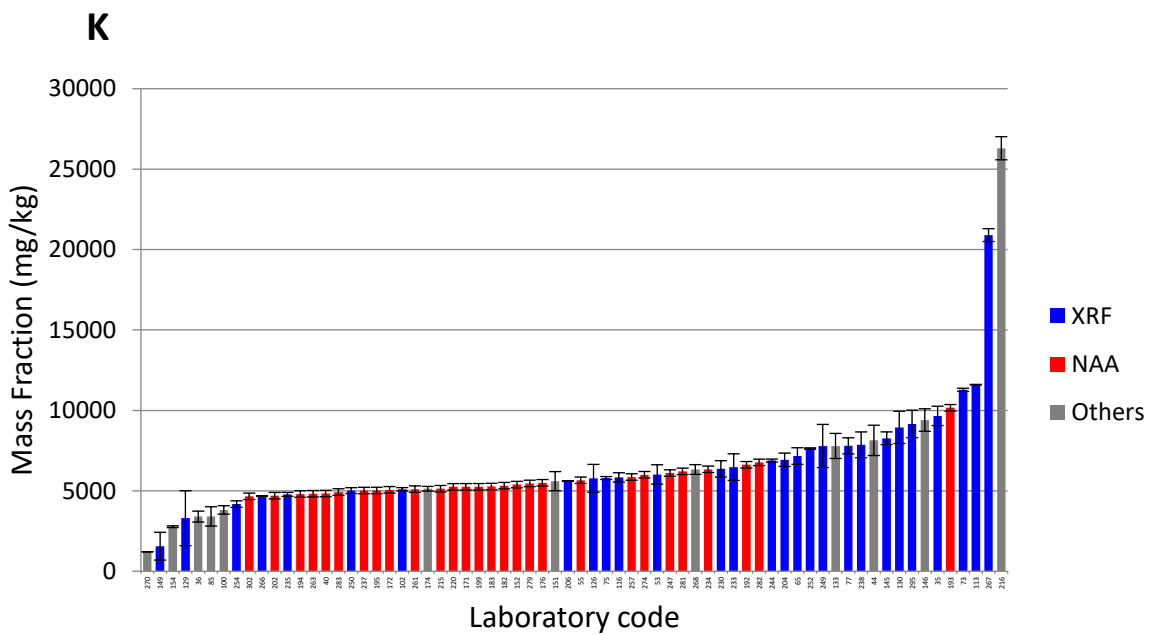


FIG. 98. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

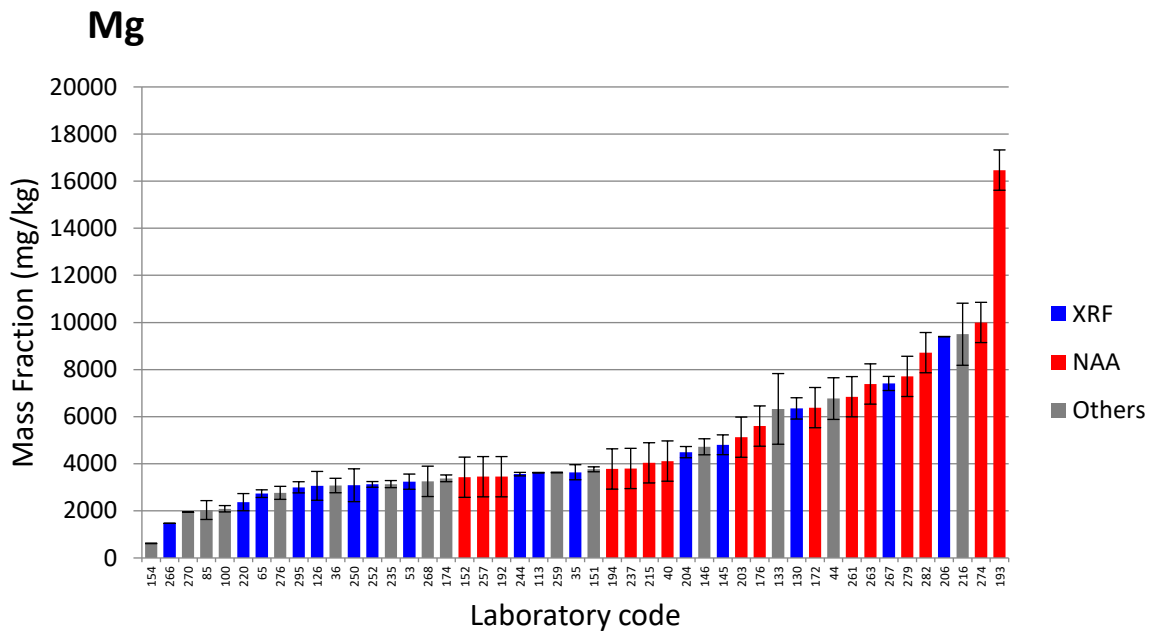


FIG. 99. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

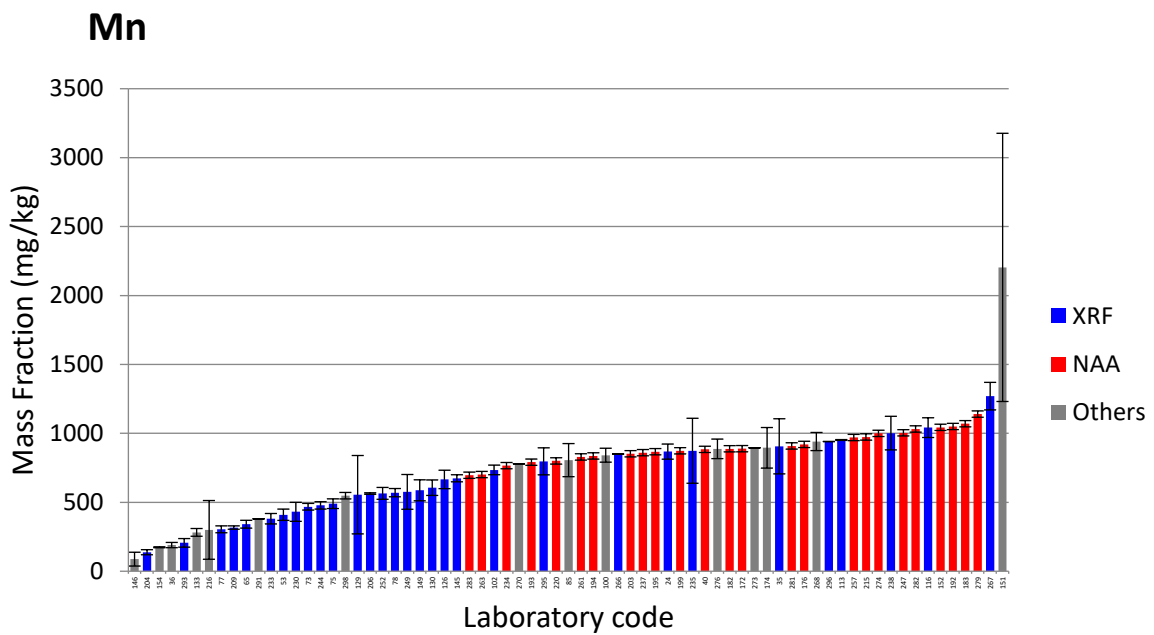


FIG. 100. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

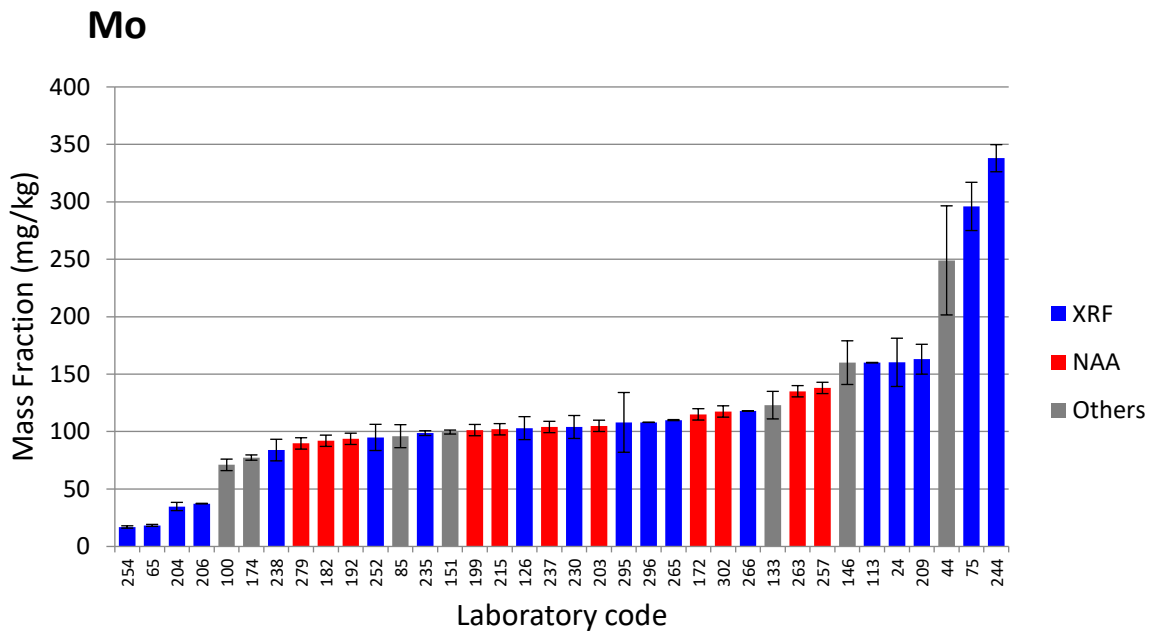


FIG. 101. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

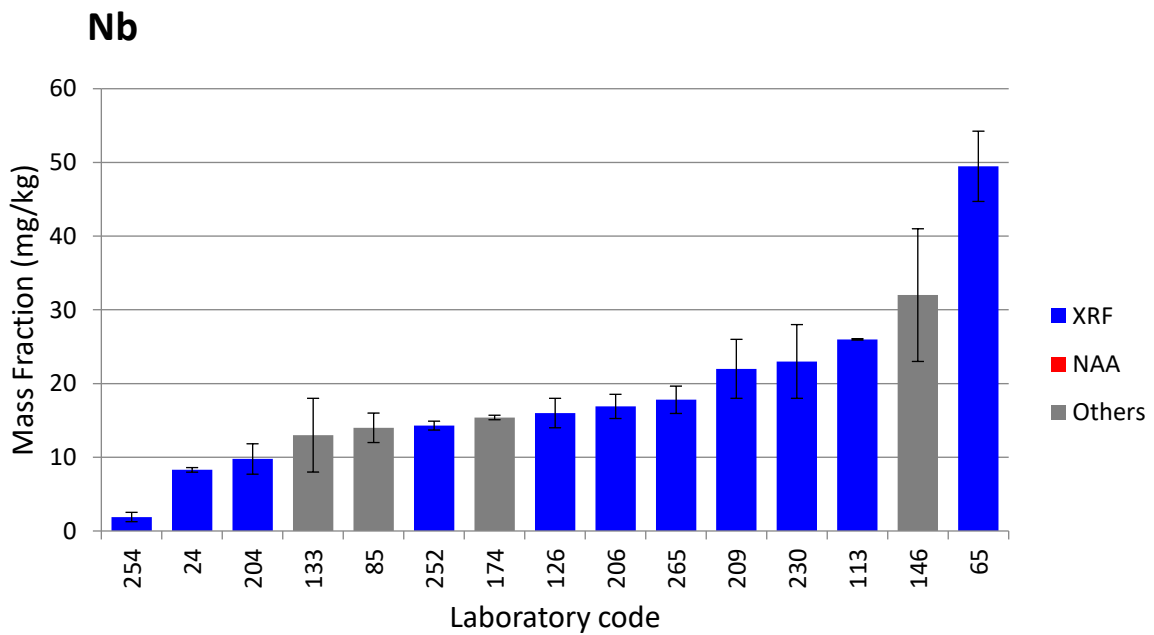


FIG. 102. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

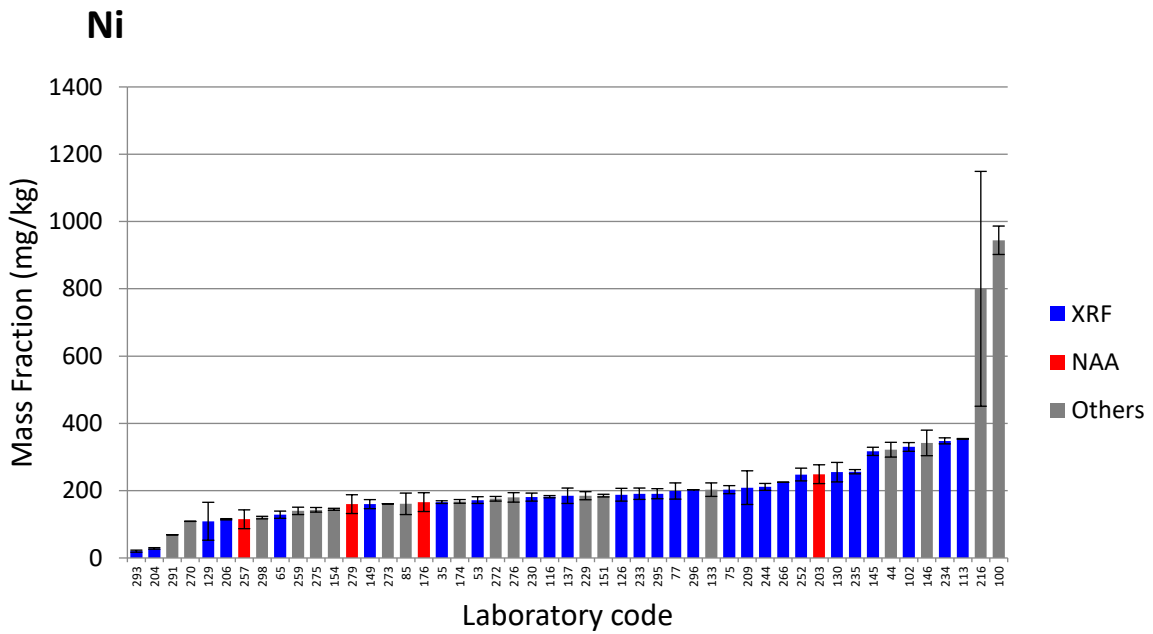


FIG. 103. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

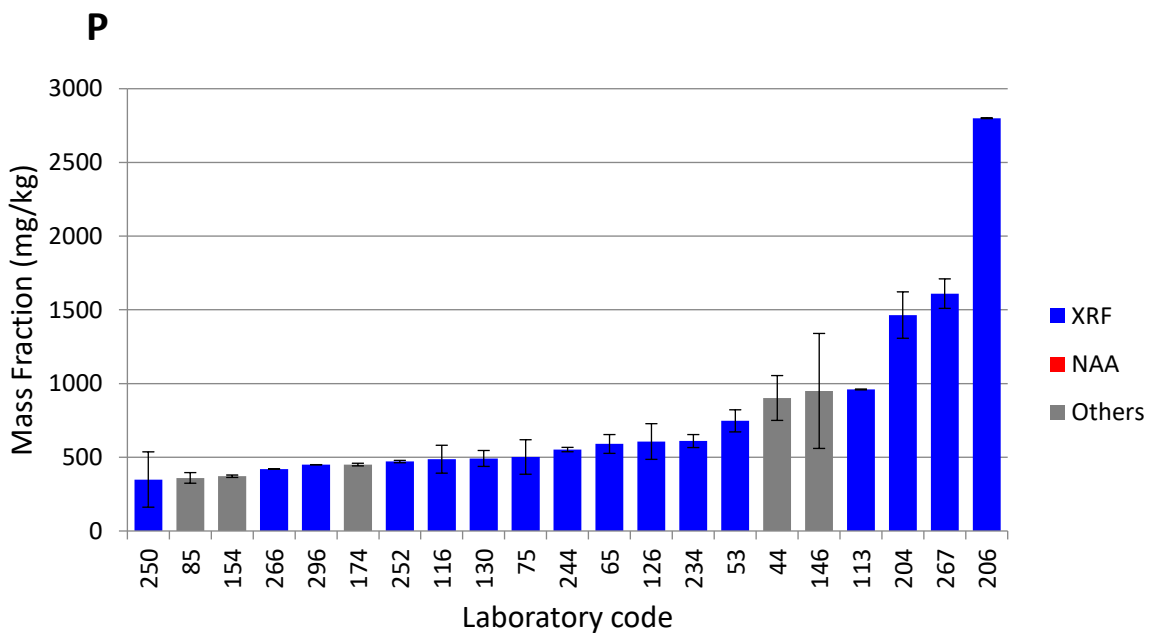


FIG. 104. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).



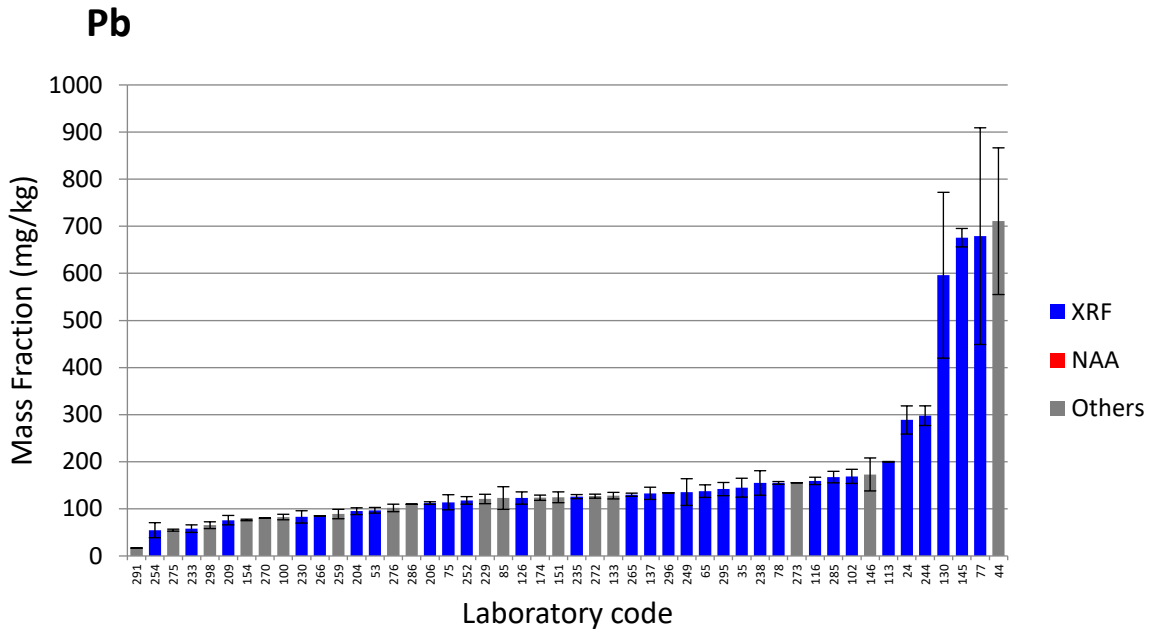


FIG. 105. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

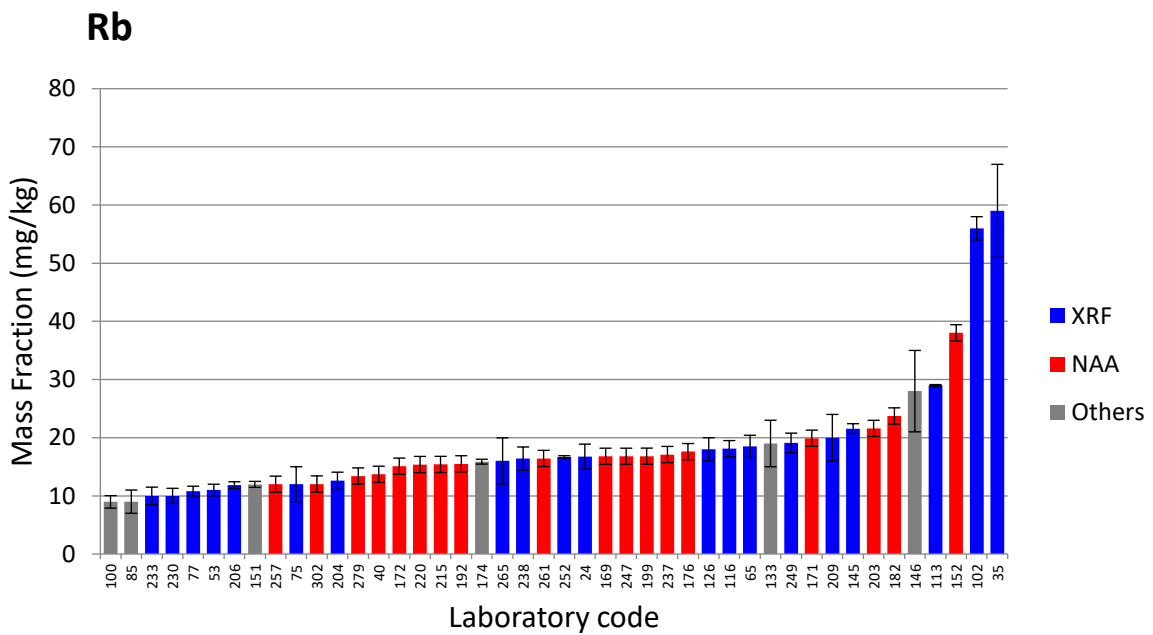


FIG. 106. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

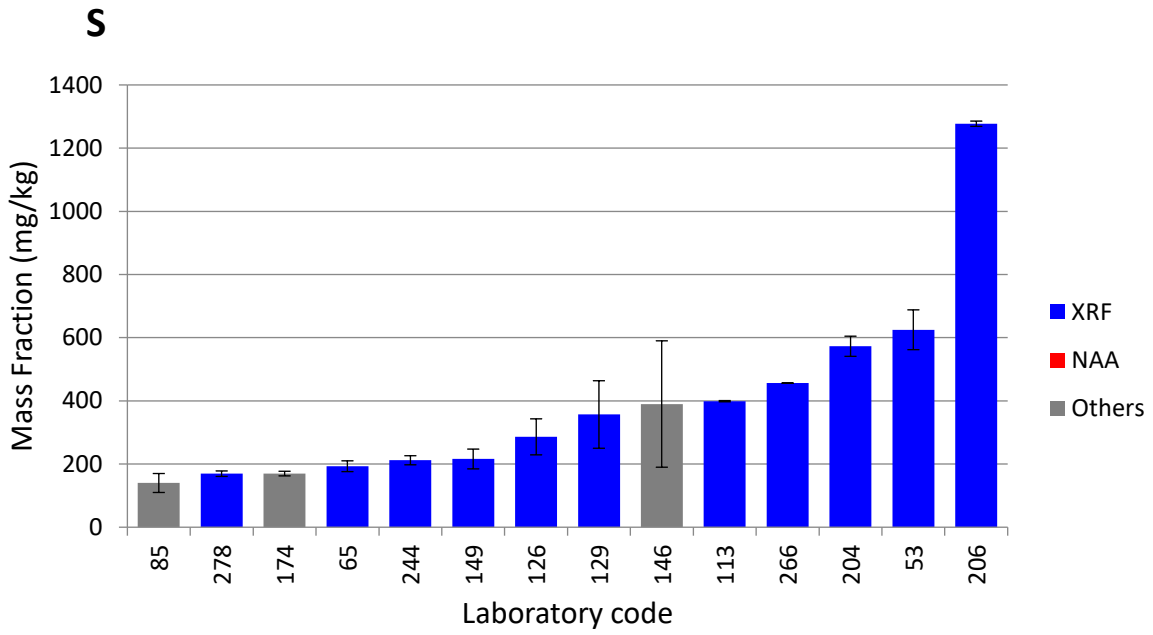


FIG. 107. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

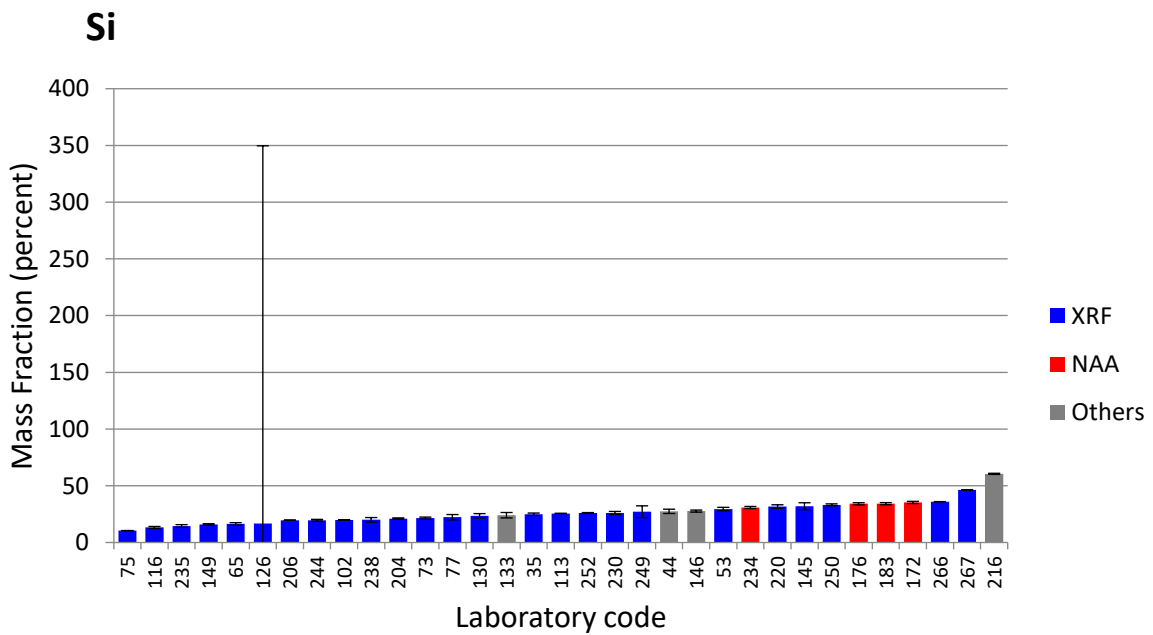


FIG. 108. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

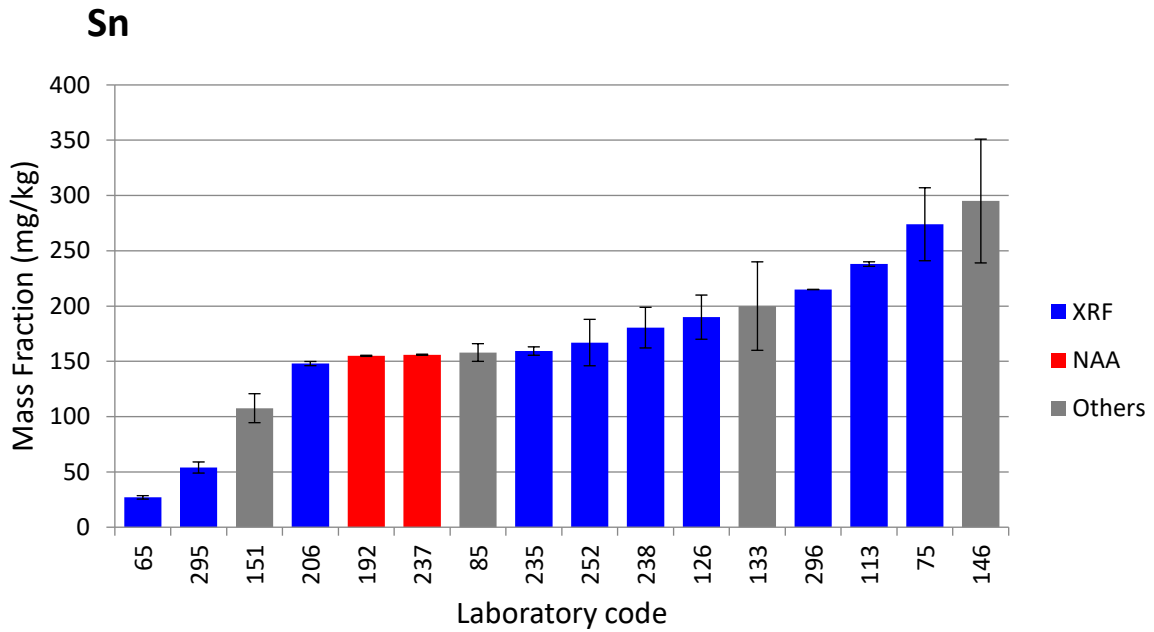


FIG. 109. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

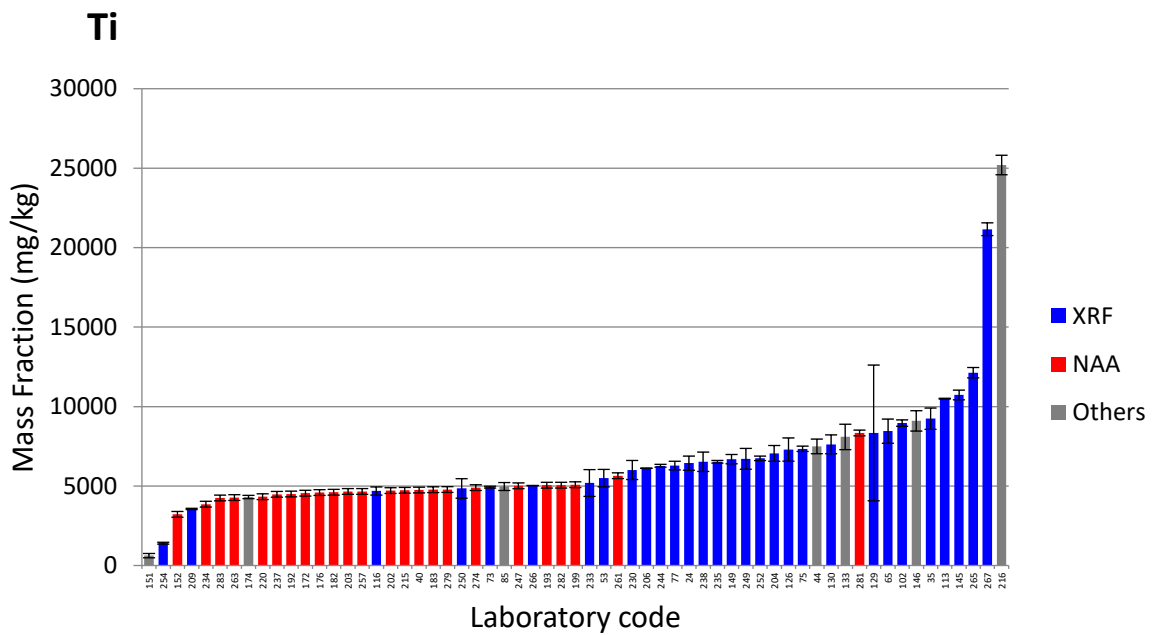


FIG. 110. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

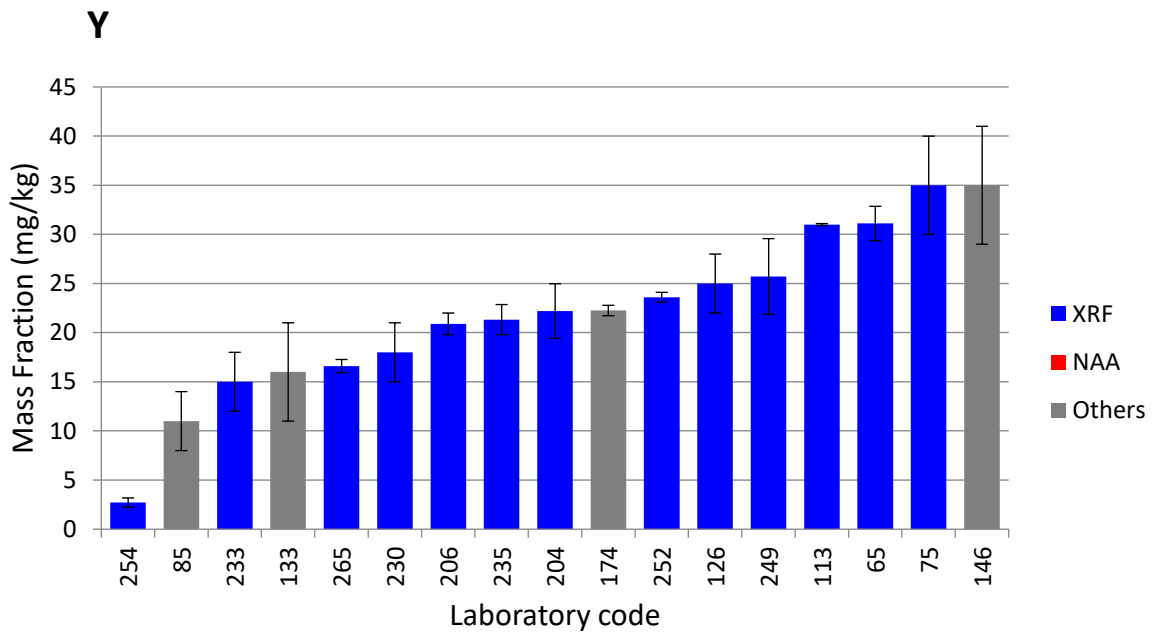


FIG. 111. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

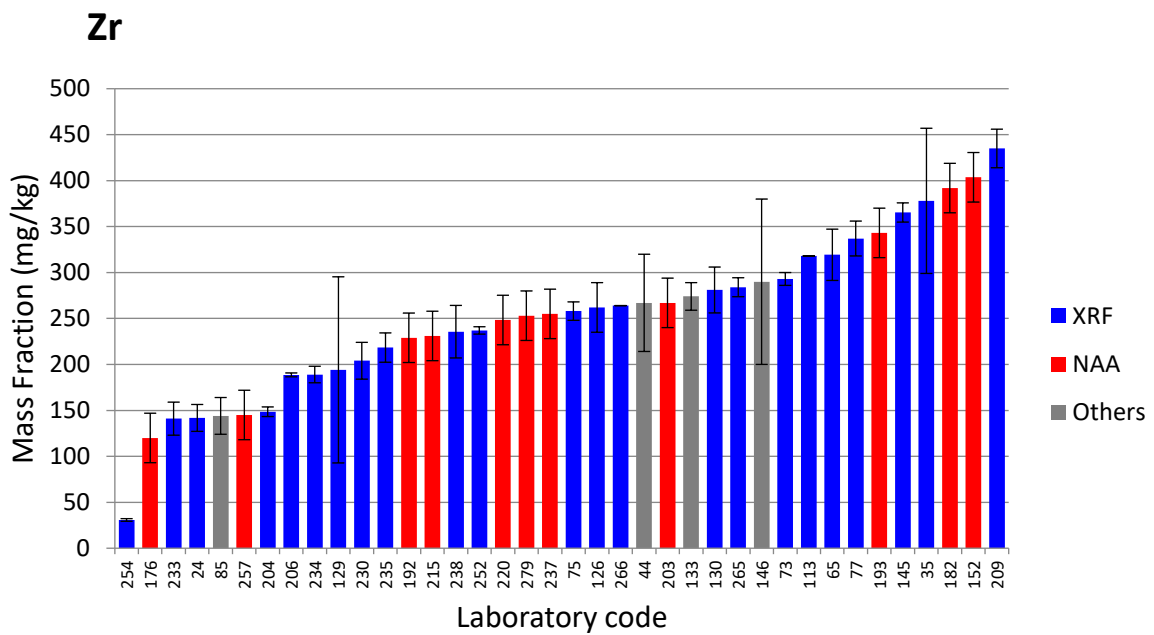


FIG. 112. Bar chart distributions of results for measurand (Soil sample with elevated mass fractions of elements).

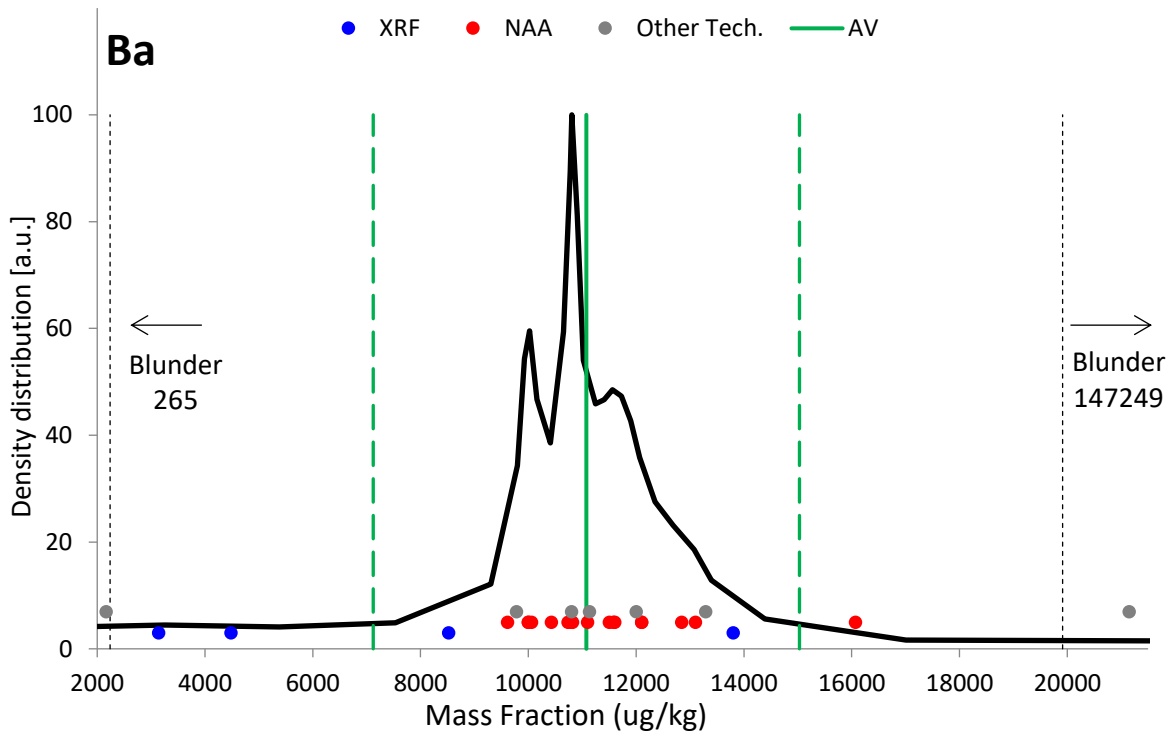


FIG. 113. Density distribution function for the measurand Ba (Plant sample).

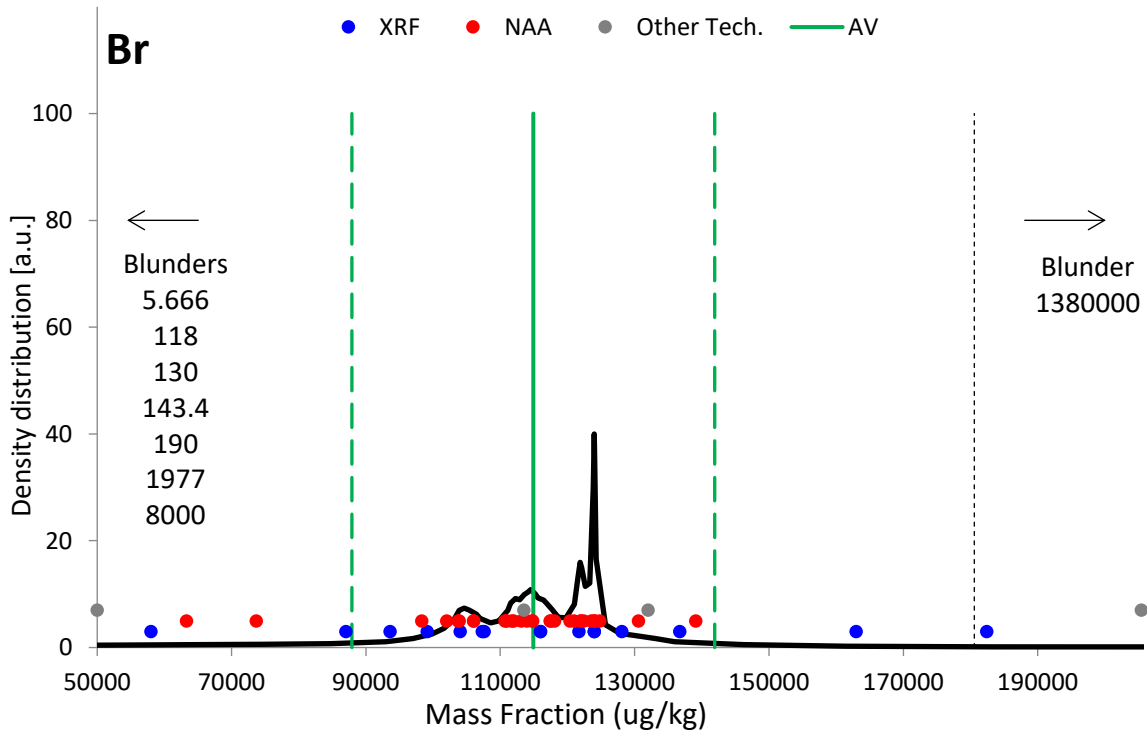


FIG. 114. Density distribution function for the measurand Br (Plant sample).

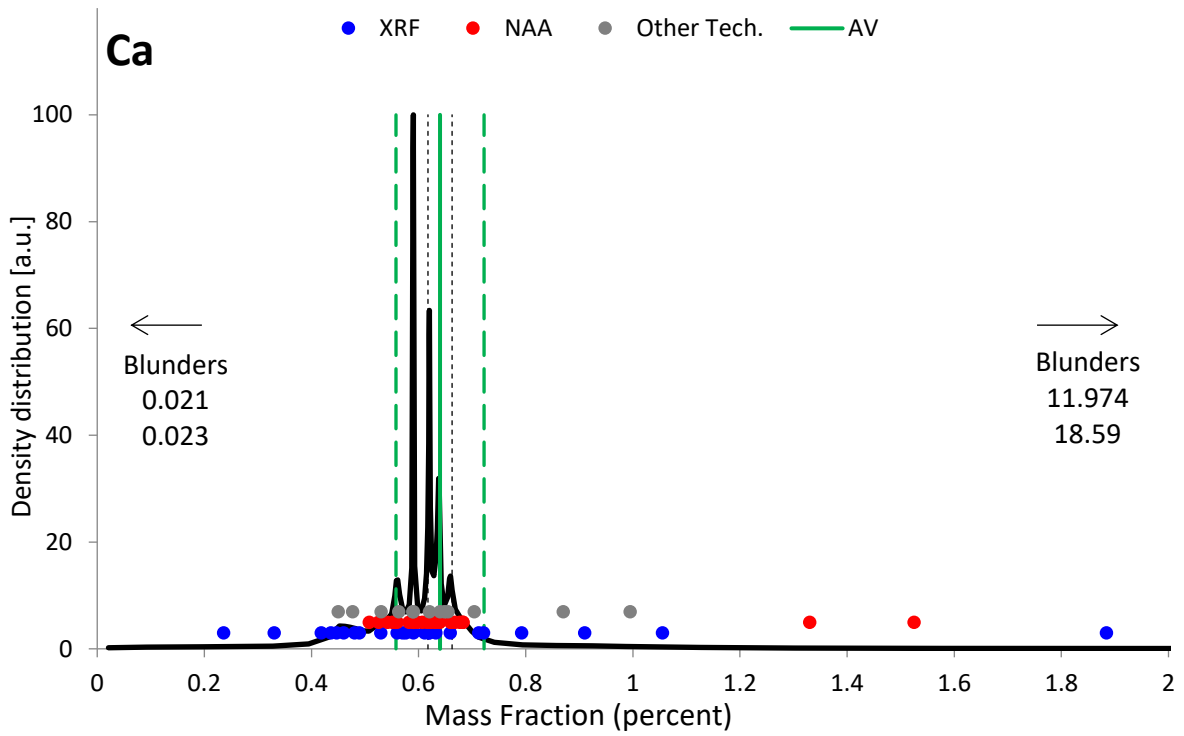


FIG. 115. Density distribution function for the measurand Ca (Plant sample).

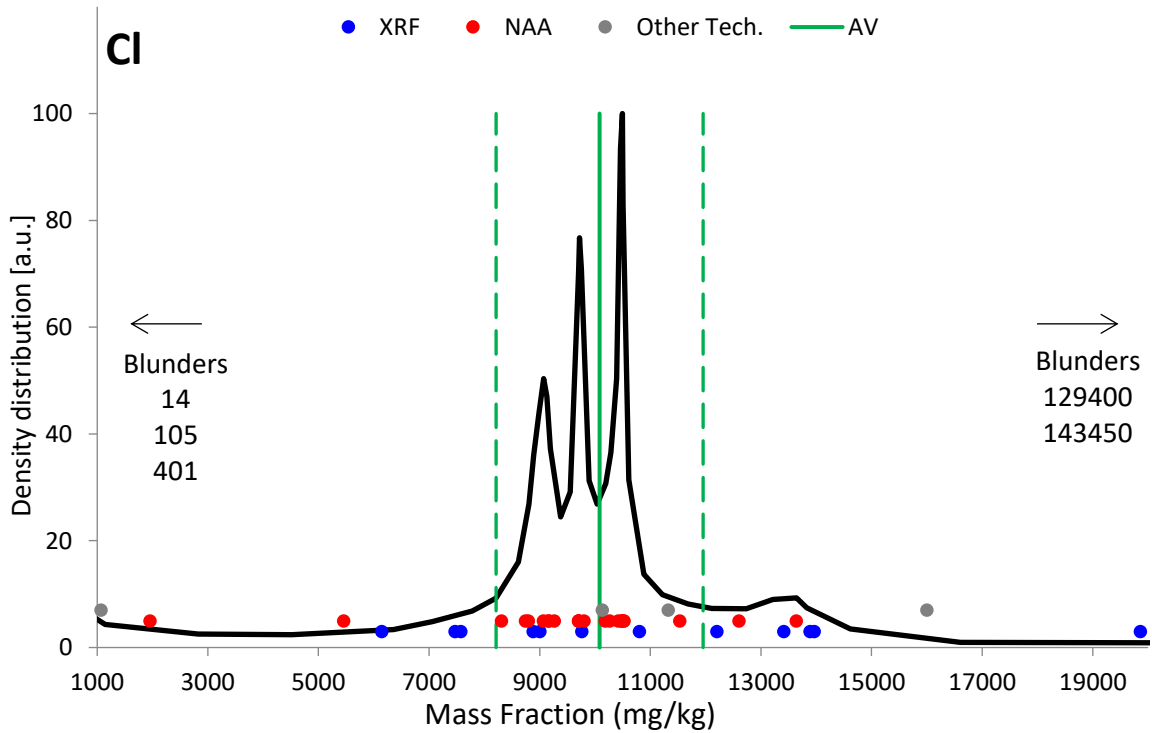


FIG. 116. Density distribution function for the measurand Cl (Plant sample).

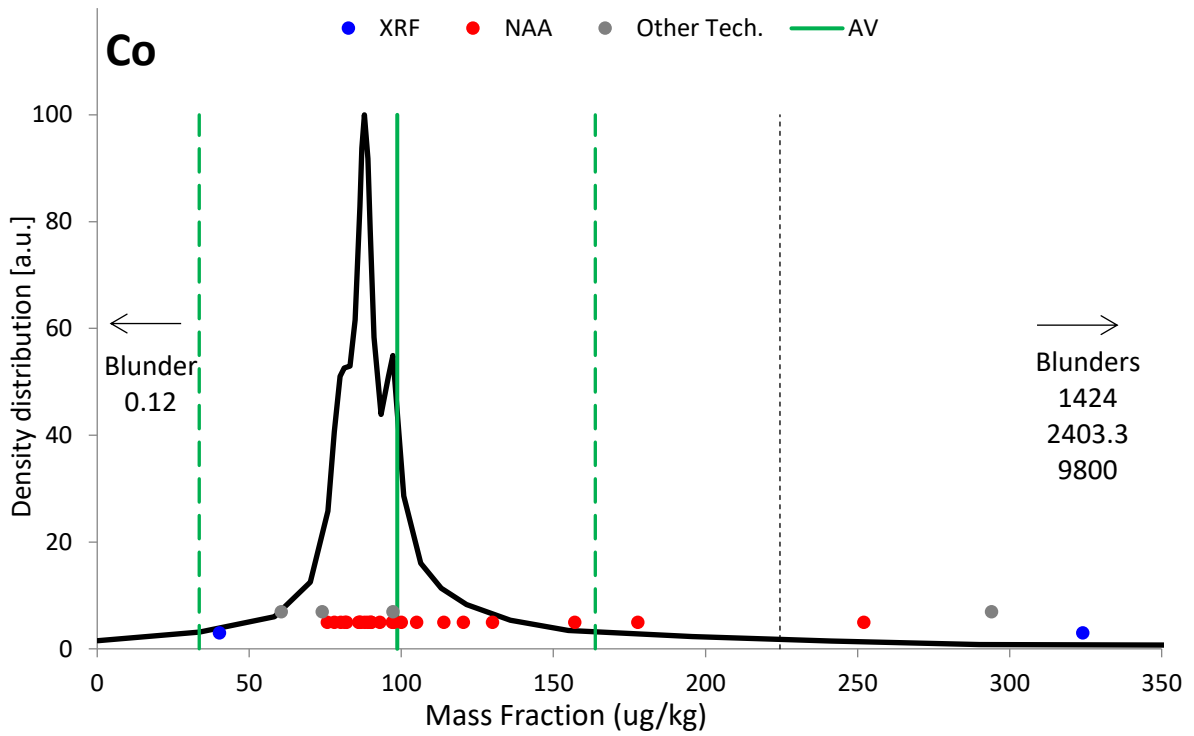


FIG. 117. Density distribution function for the measurand Co (Plant sample).

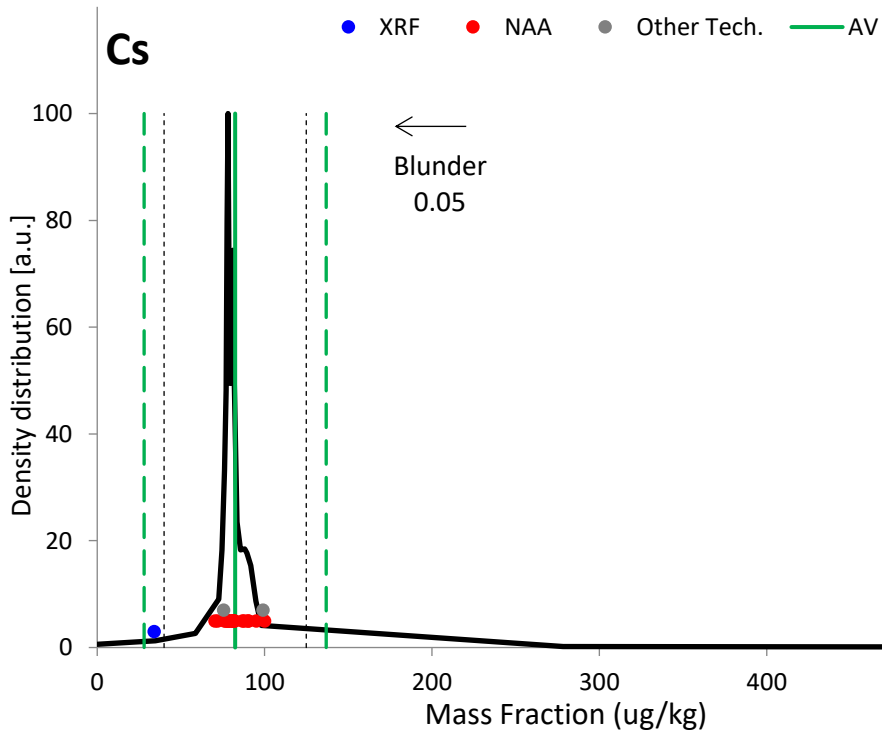


FIG. 118. Density distribution function for the measurand Cs (Plant sample).

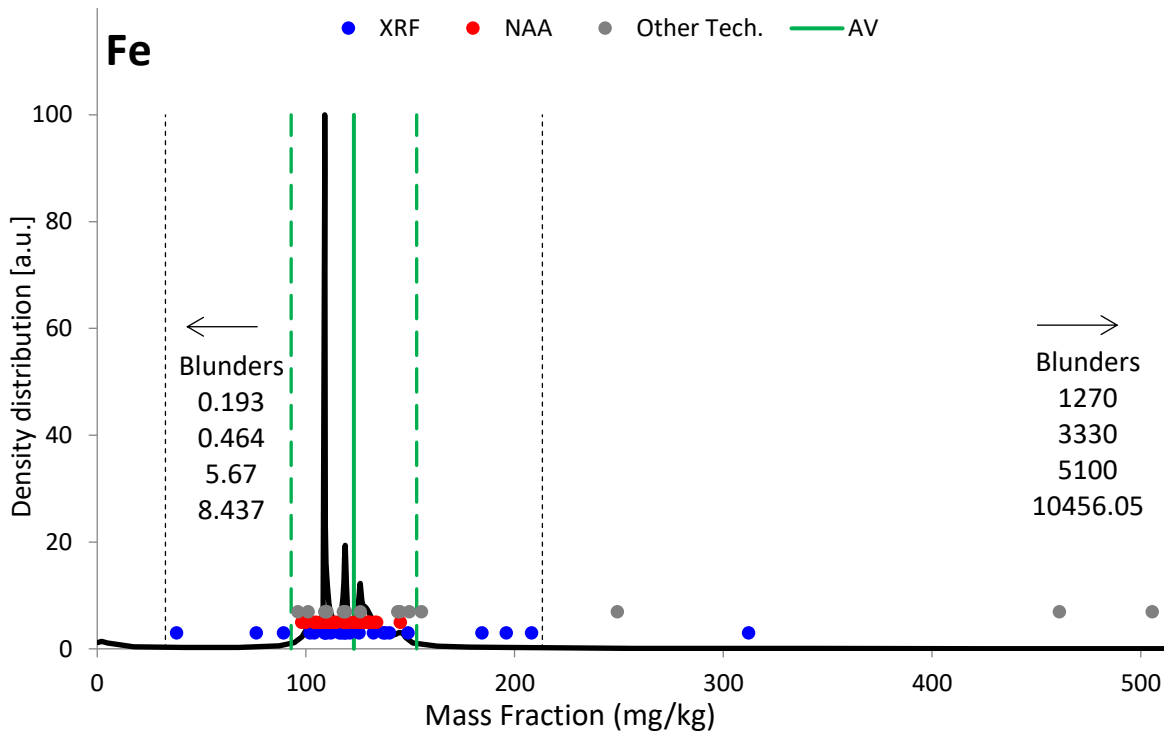


FIG. 119. Density distribution function for the measurand Fe (Plant sample).

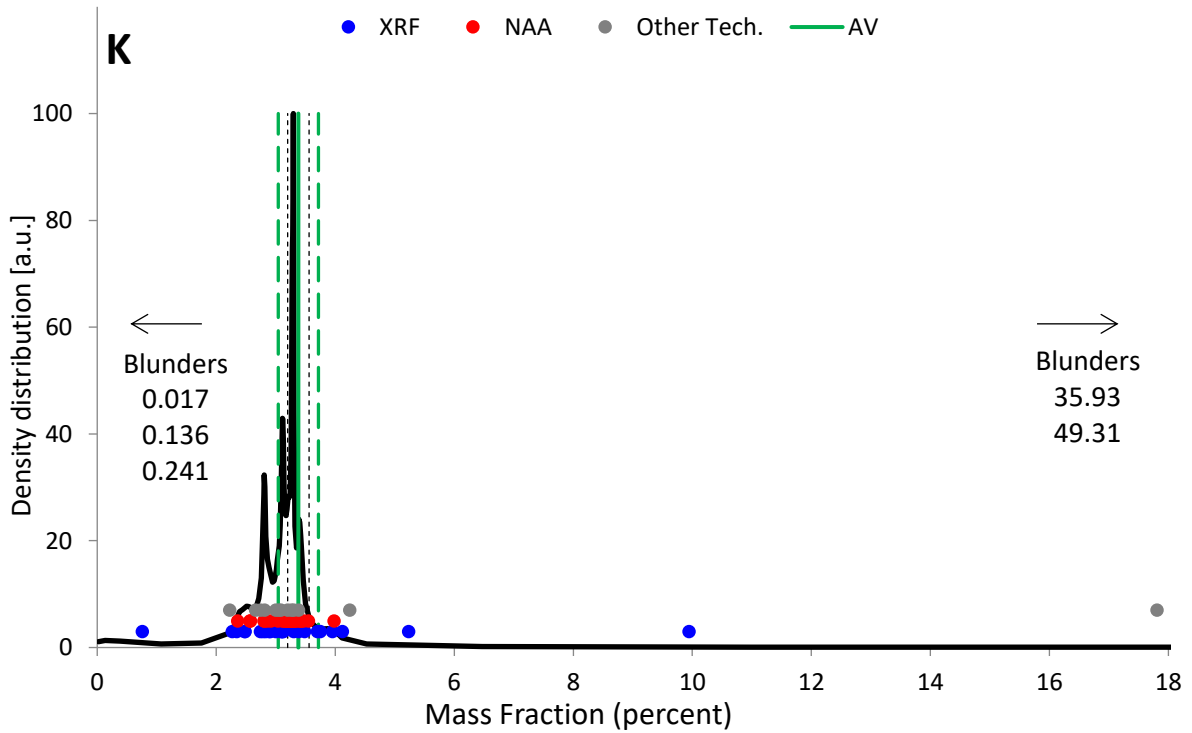


FIG. 120. Density distribution function for the measurand K (Plant sample).



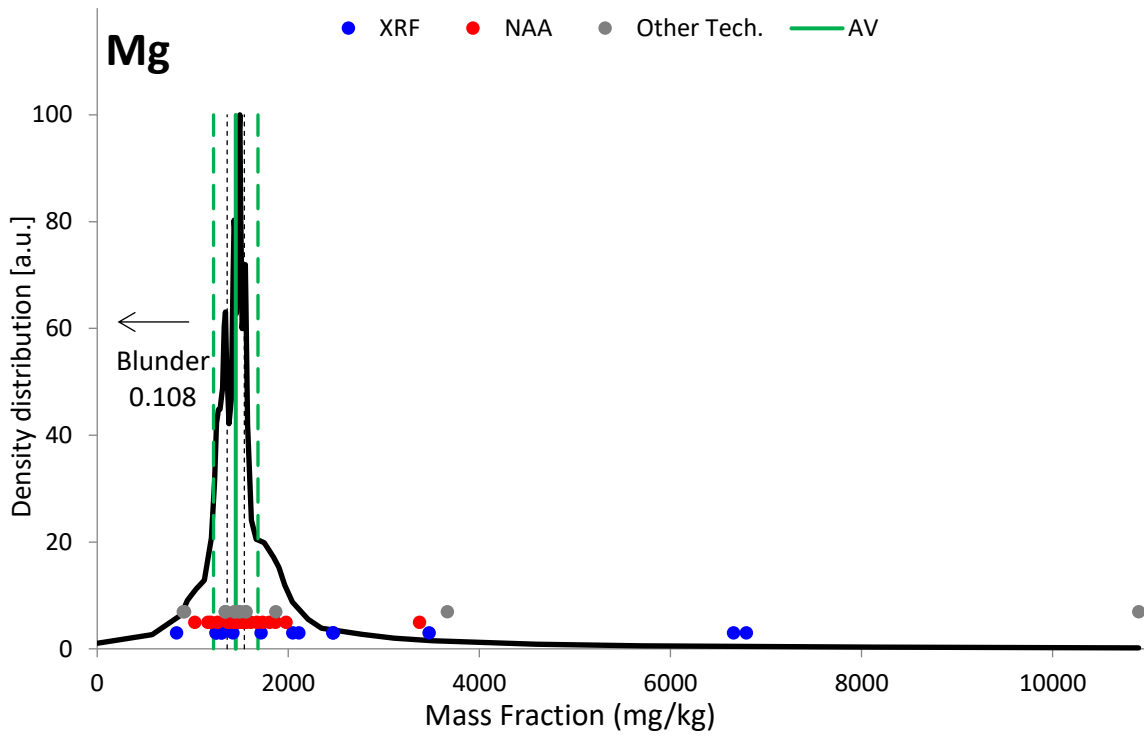


FIG. 121. Density distribution function for the measurand Mg (Plant sample).

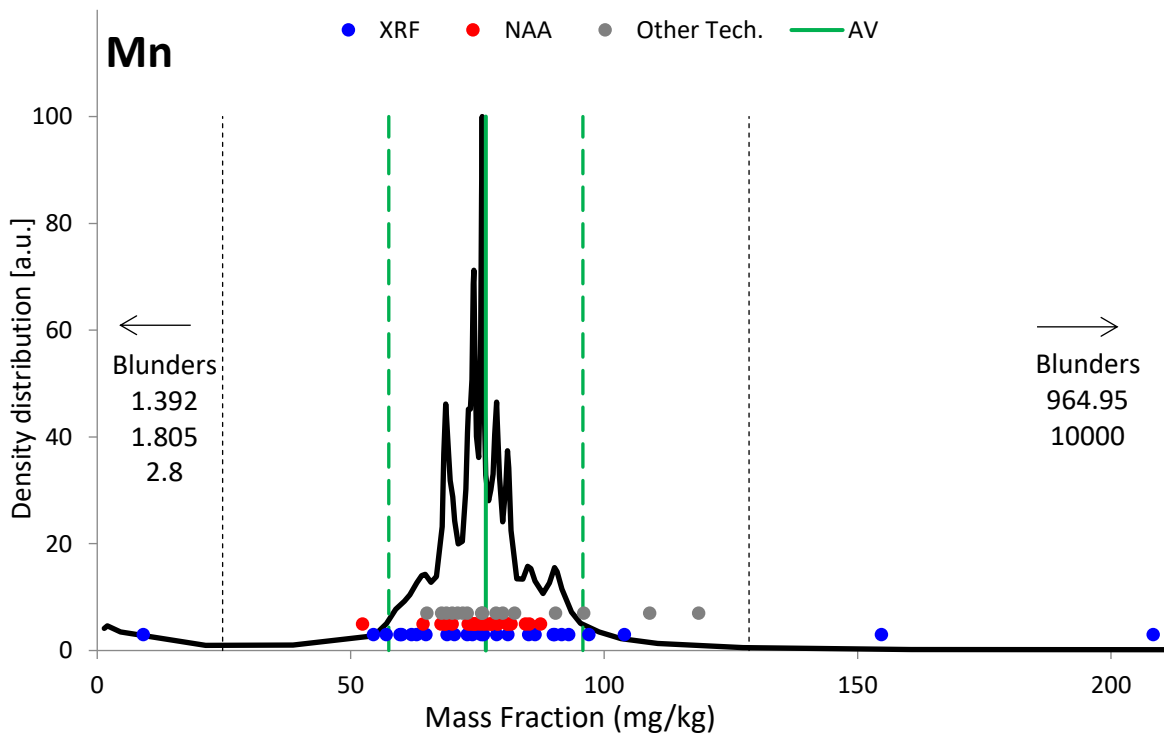


FIG. 122. Density distribution function for the measurand Mn (Plant sample).

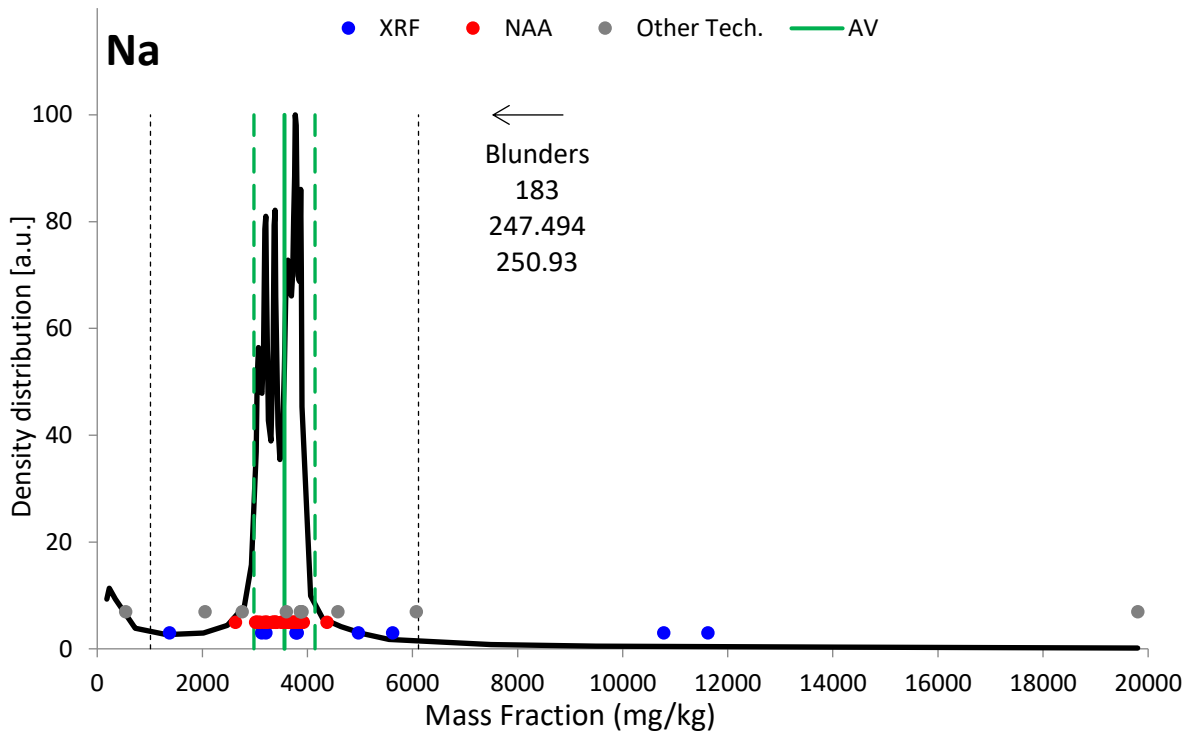


FIG. 123. Density distribution function for the measurand Na (Plant sample).

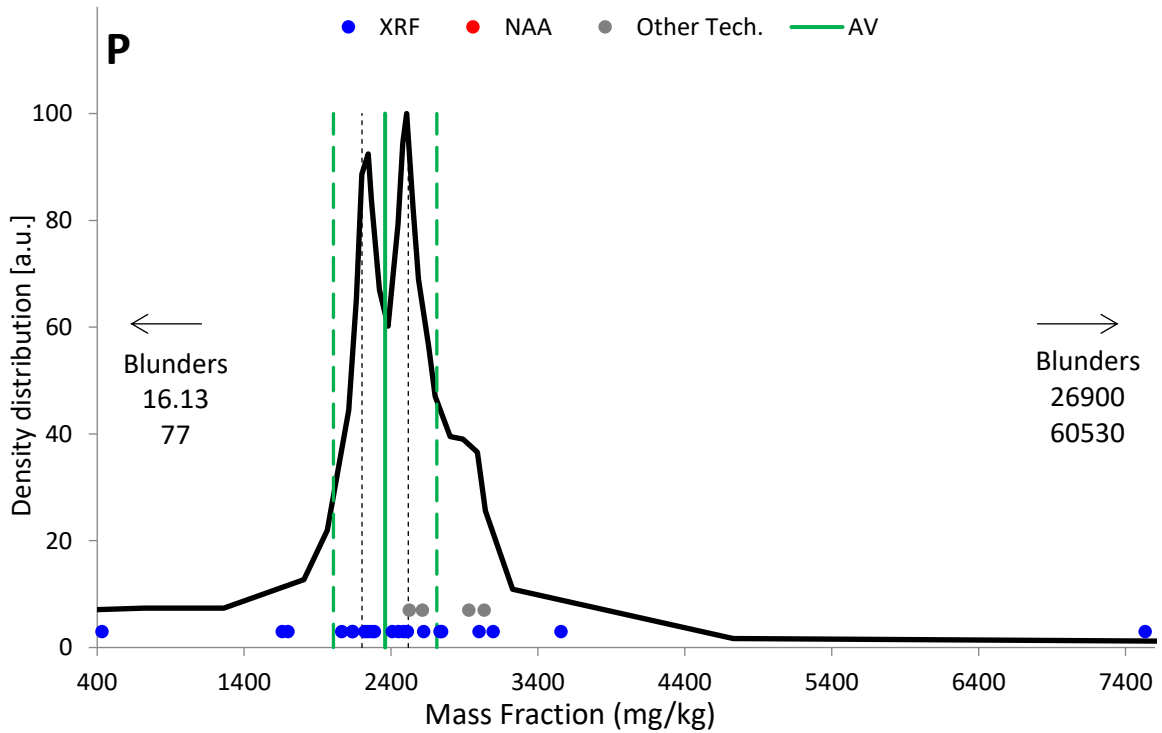


FIG. 124. Density distribution function for the measurand P (Plant sample).

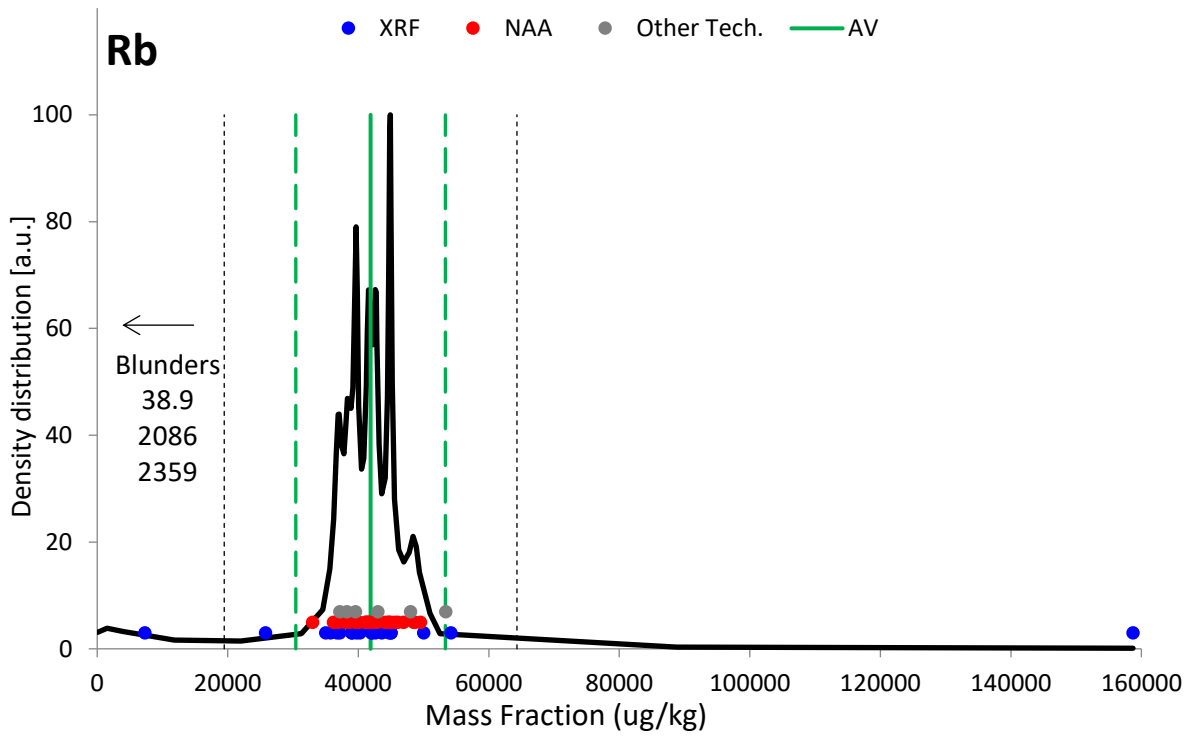


FIG. 125. Density distribution function for the measurand Rb (Plant sample).

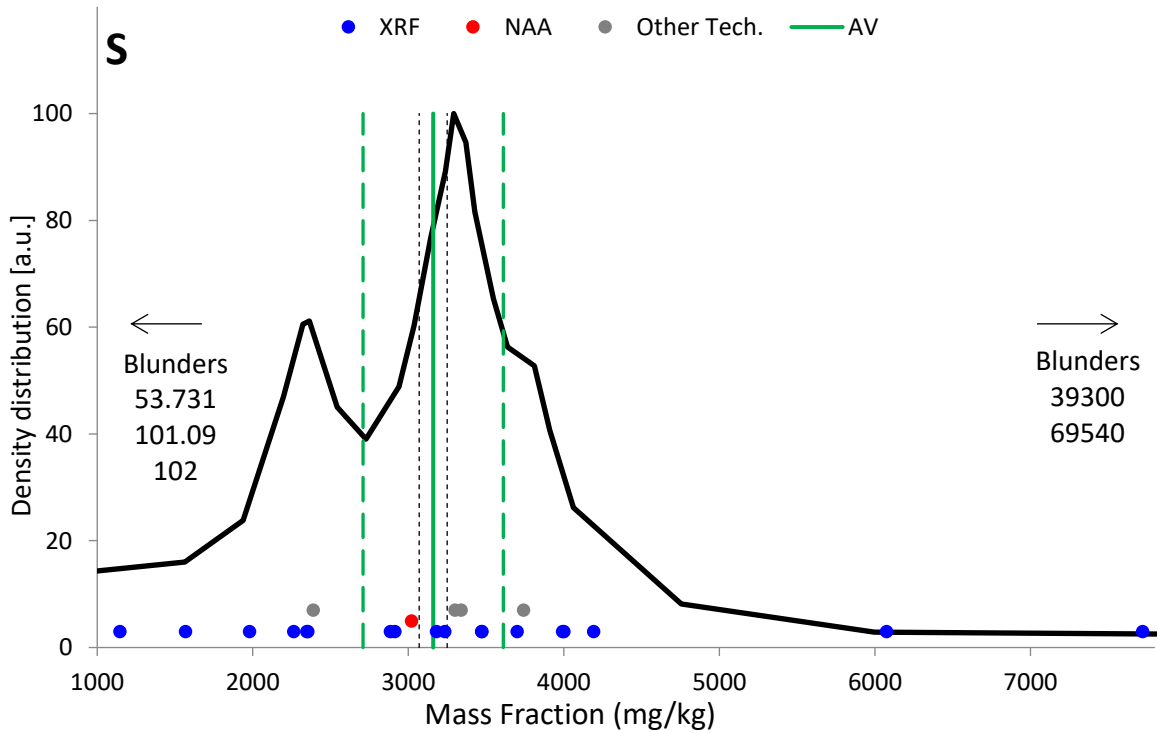


FIG. 126. Density distribution function for the measurand S (Plant sample).

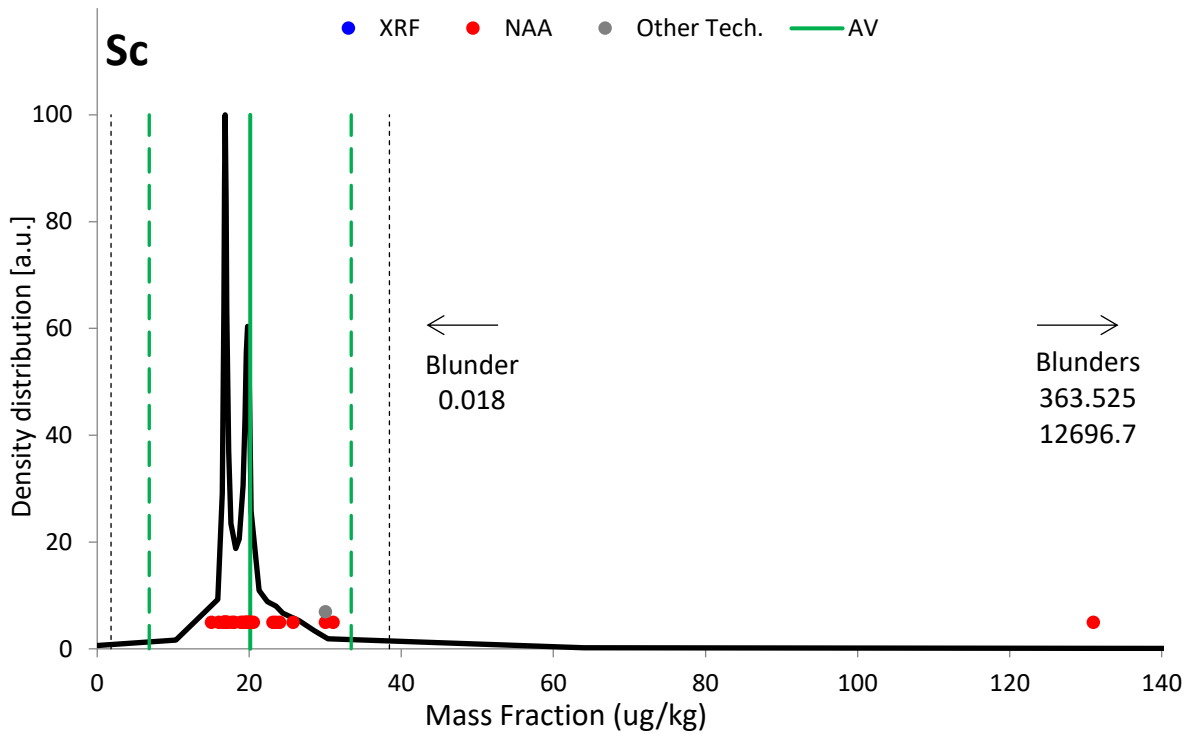


FIG. 127. Density distribution function for the measurand Sc (Plant sample).

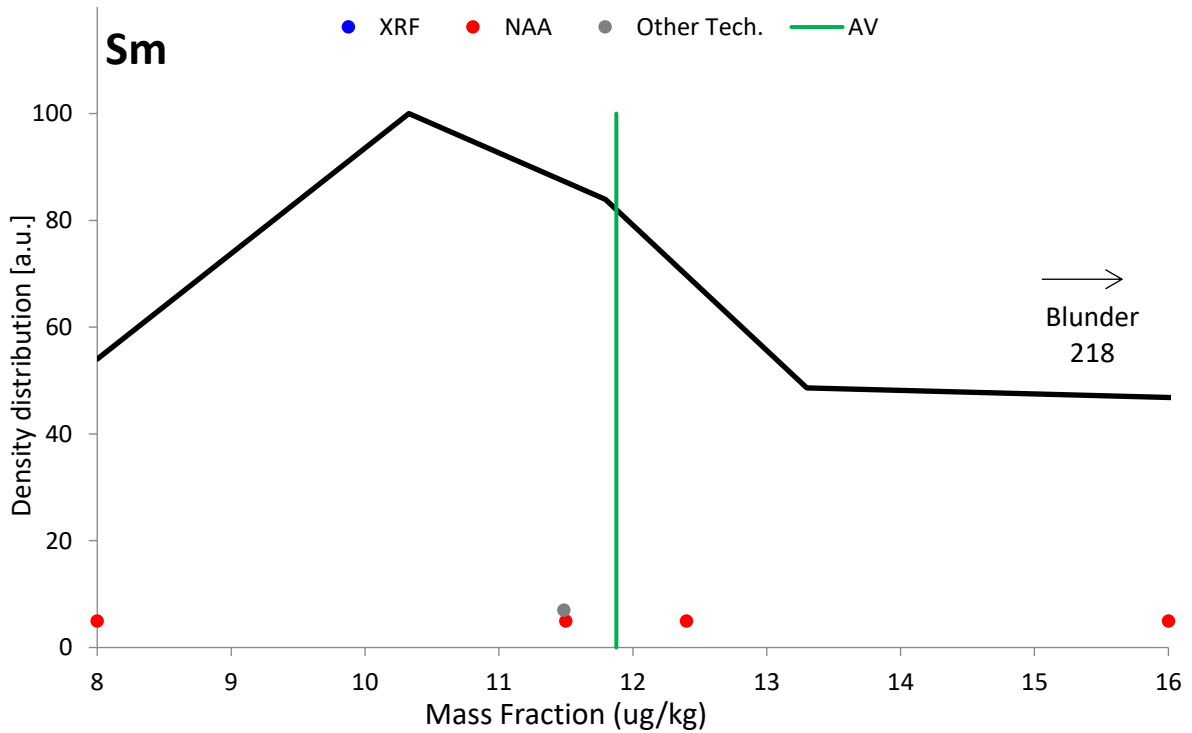


FIG. 128. Density distribution function for the measurand Sm (Plant sample).

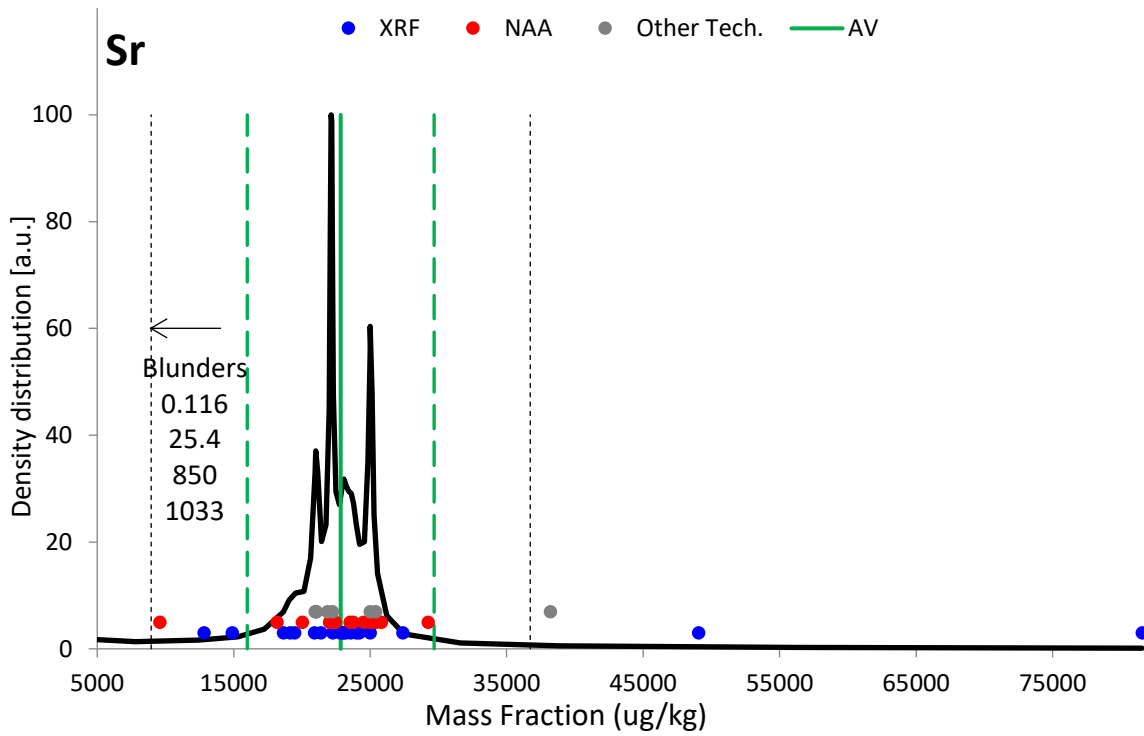


FIG. 129. Density distribution function for the measurand Sr (Plant sample).

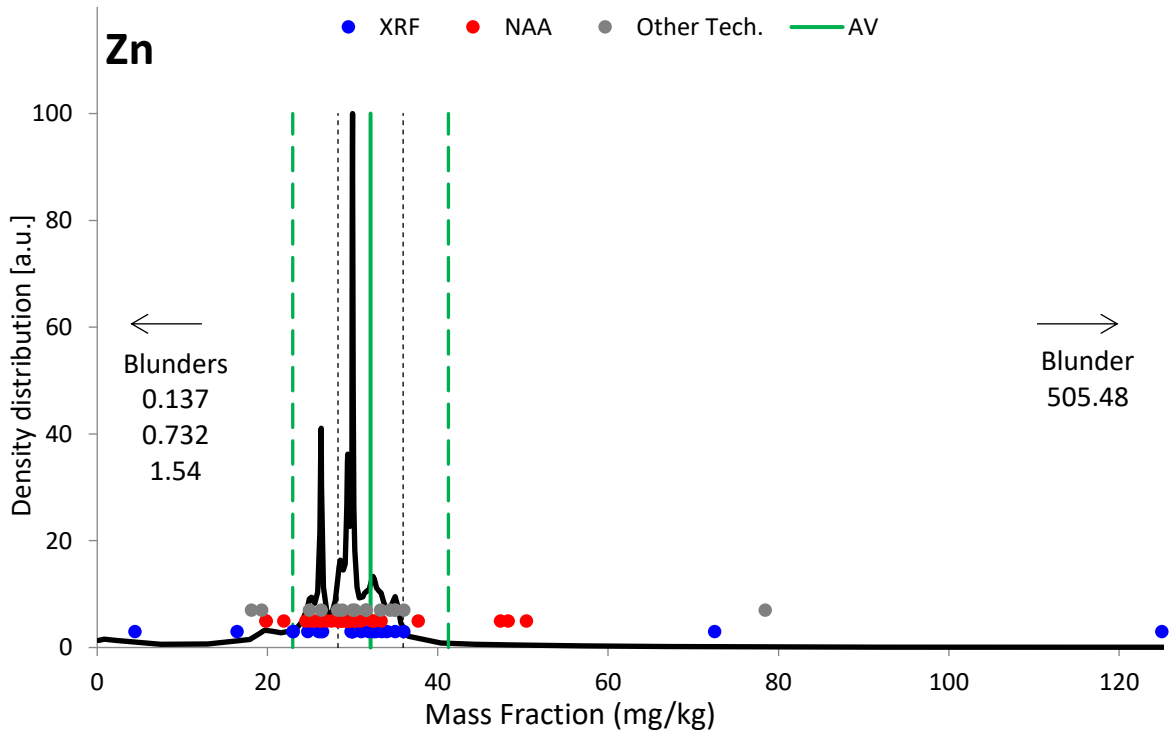


FIG. 130. Density distribution function for the measurand Zn (Plant sample).

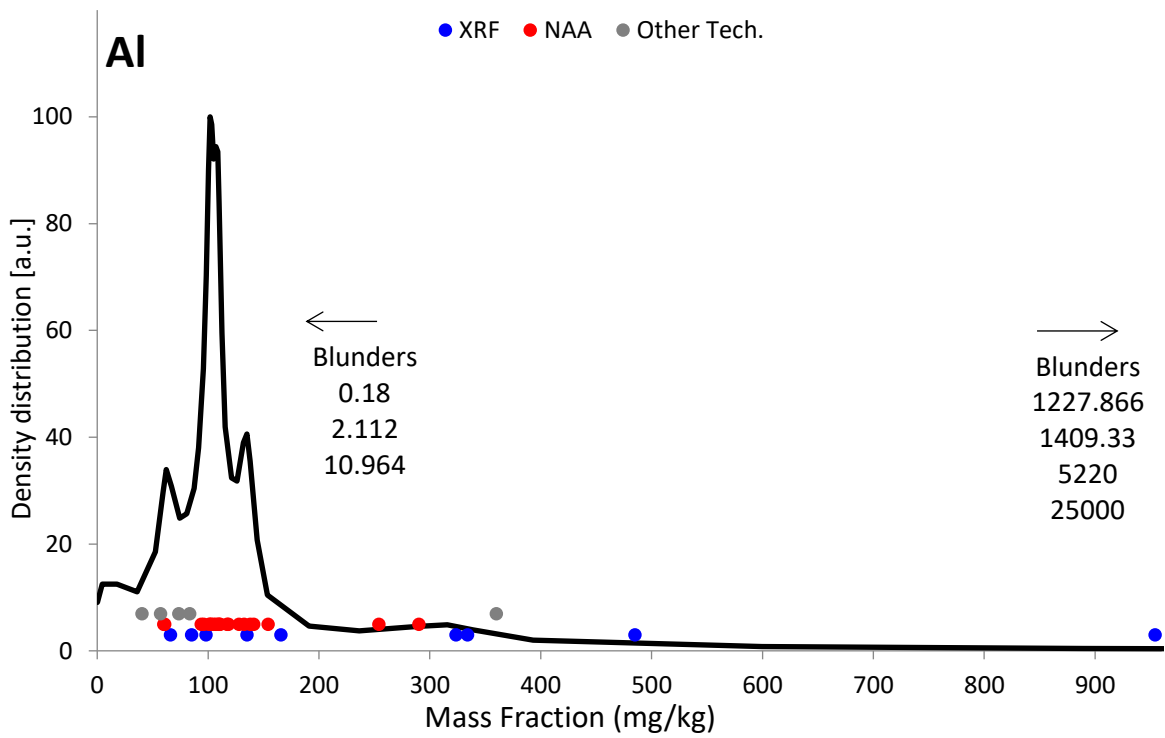


FIG. 131. Density distribution function for the measurand Al (Plant sample).

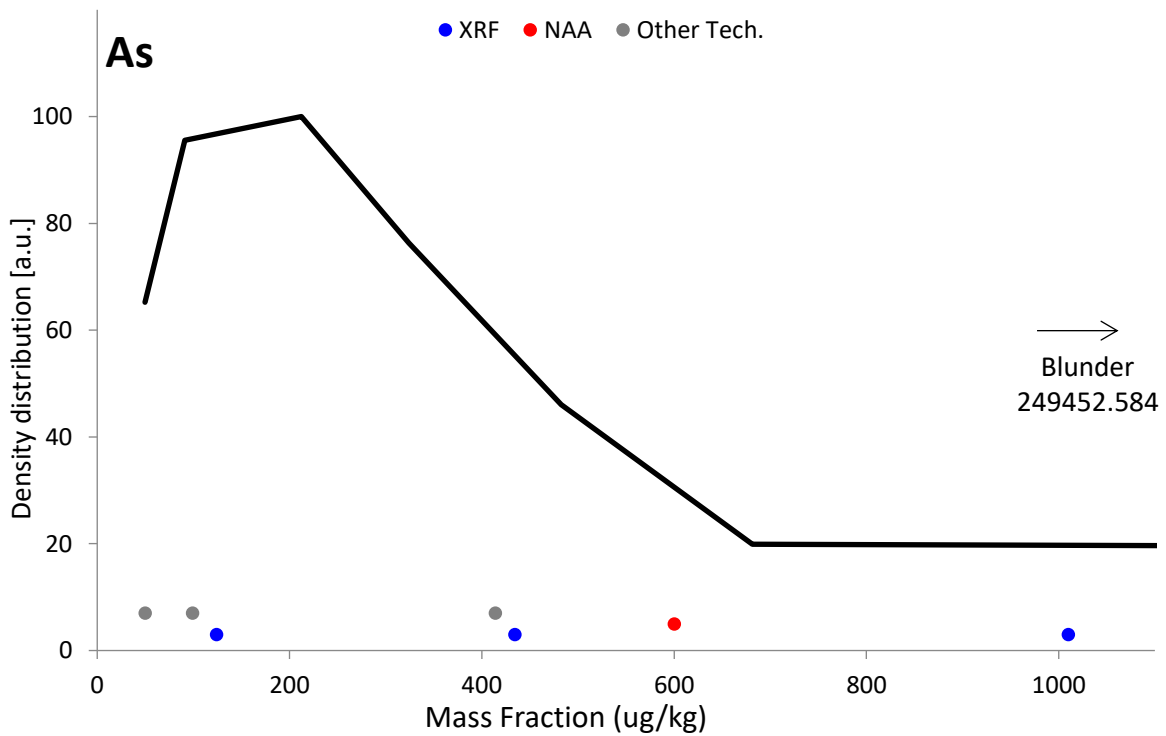


FIG. 132. Density distribution function for the measurand As (Plant sample).

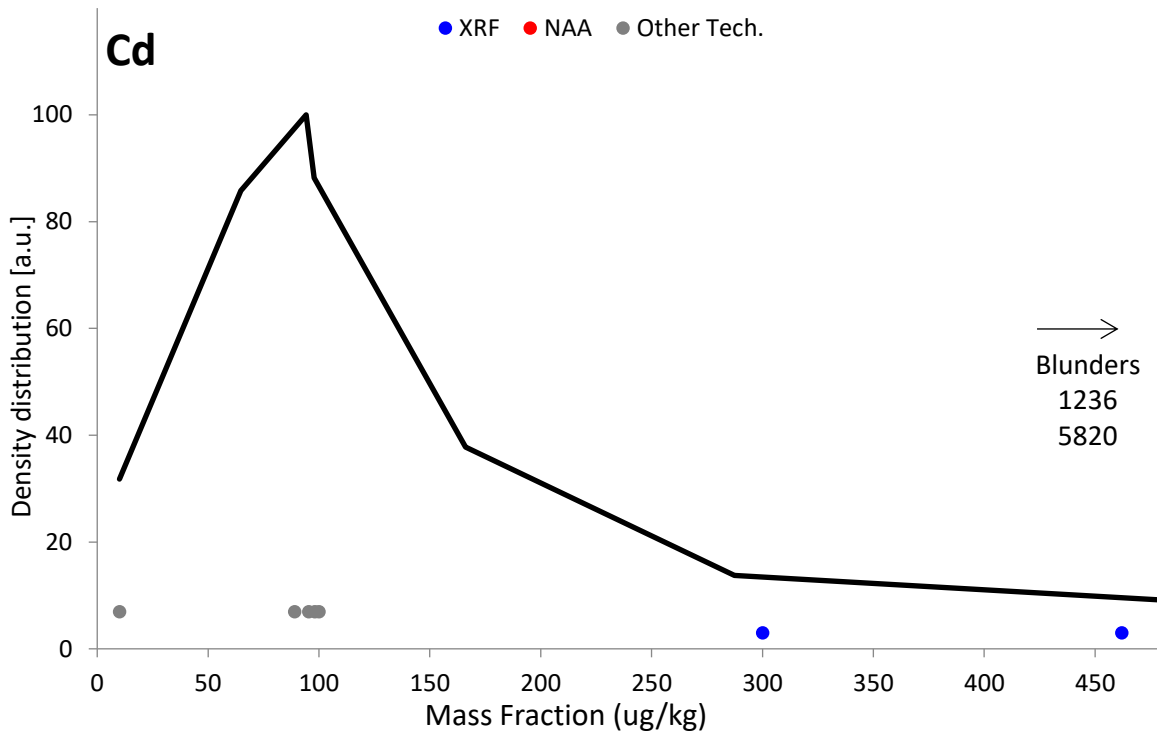


FIG. 133. Density distribution function for the measurand Cd (Plant sample).

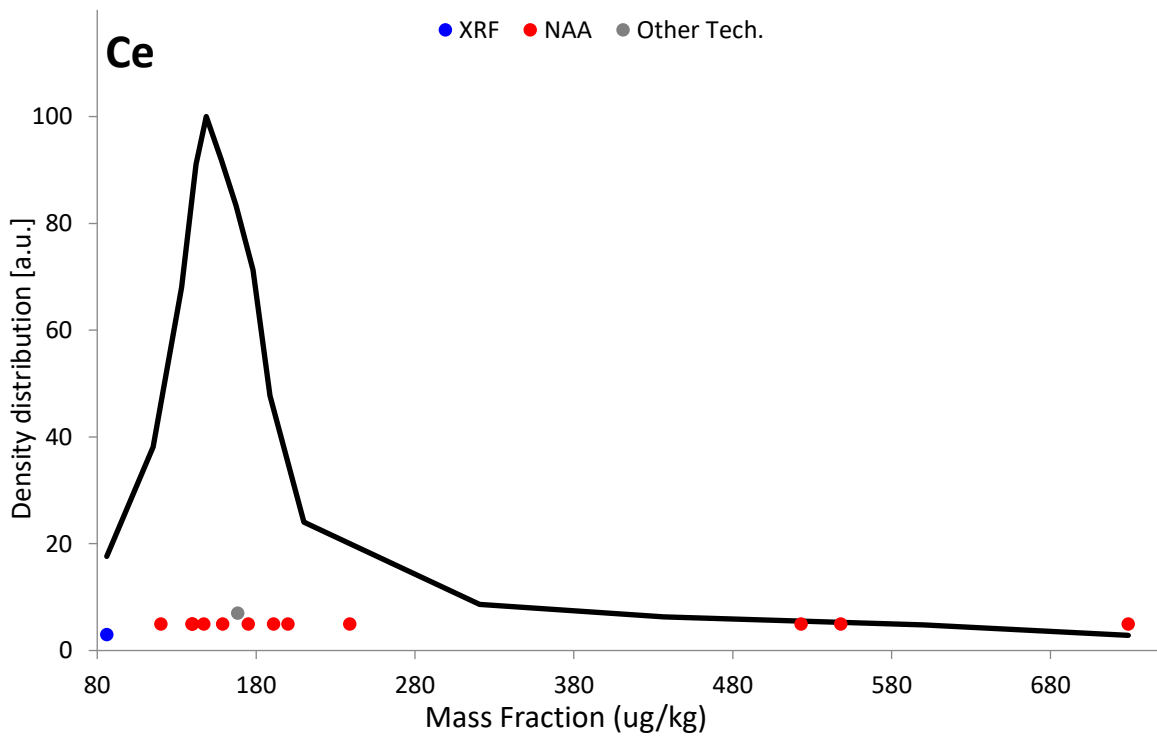


FIG. 134. Density distribution function for the measurand Ce (Plant sample).

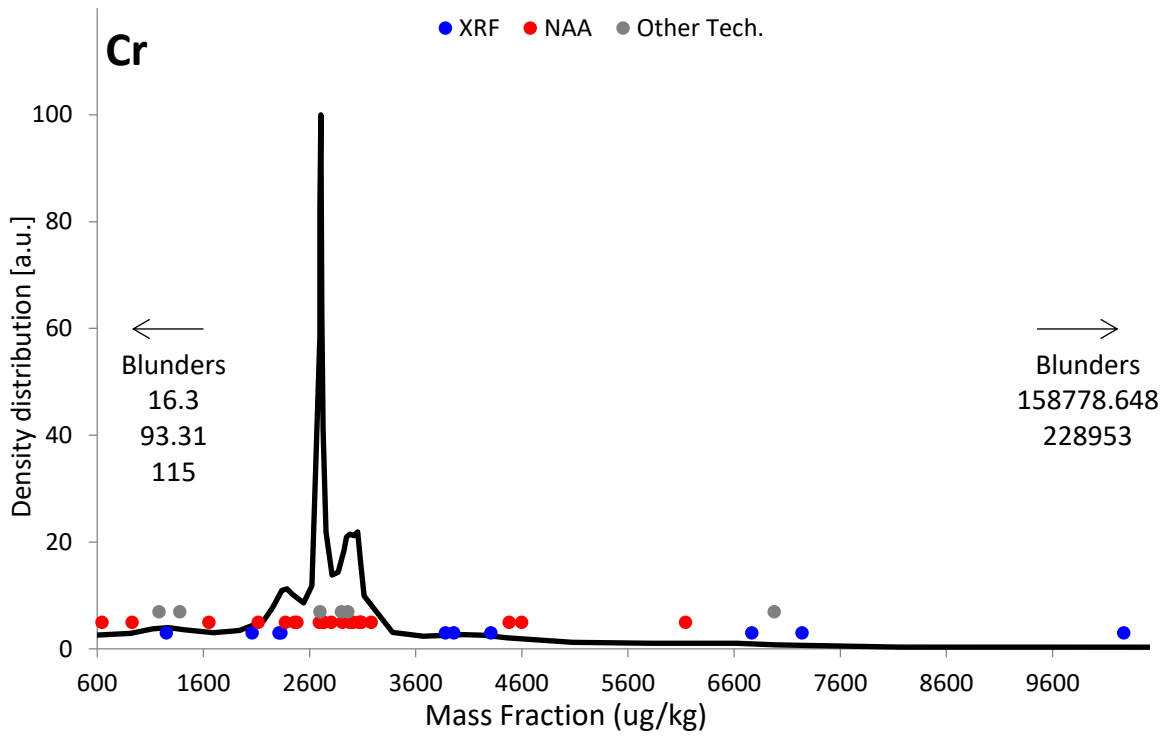


FIG. 135. Density distribution function for the measurand Cr (Plant sample).

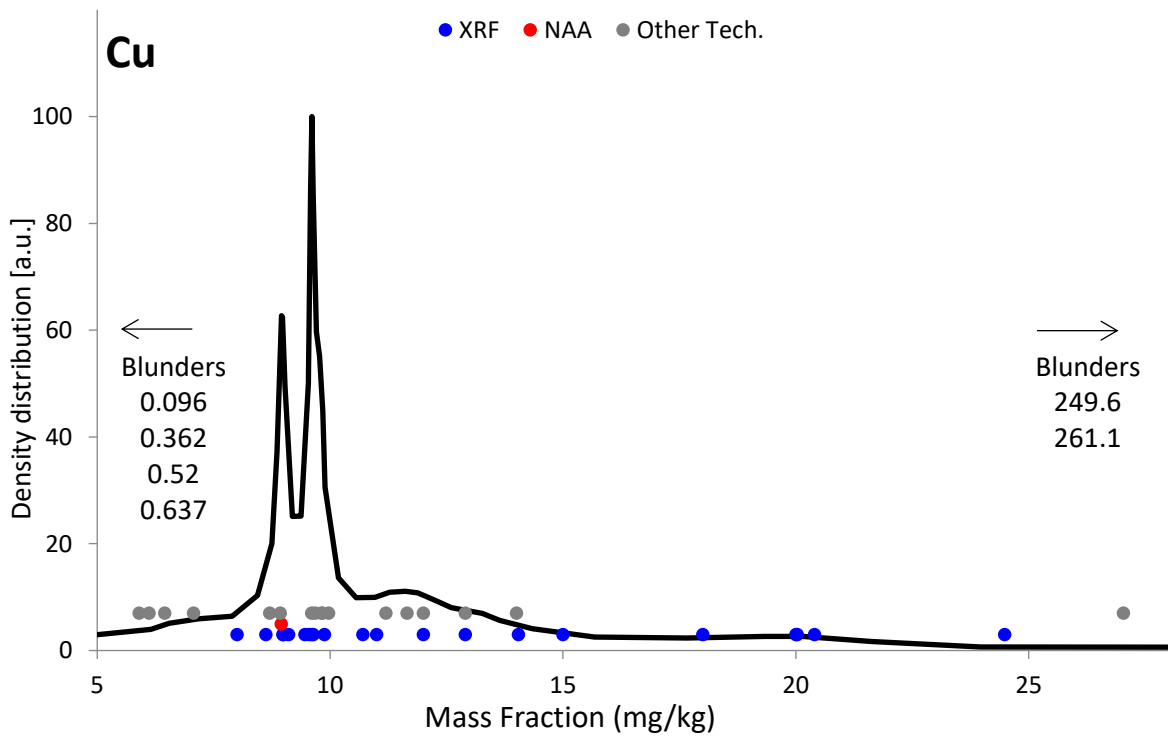


FIG. 136. Density distribution function for the measurand Cu (Plant sample).



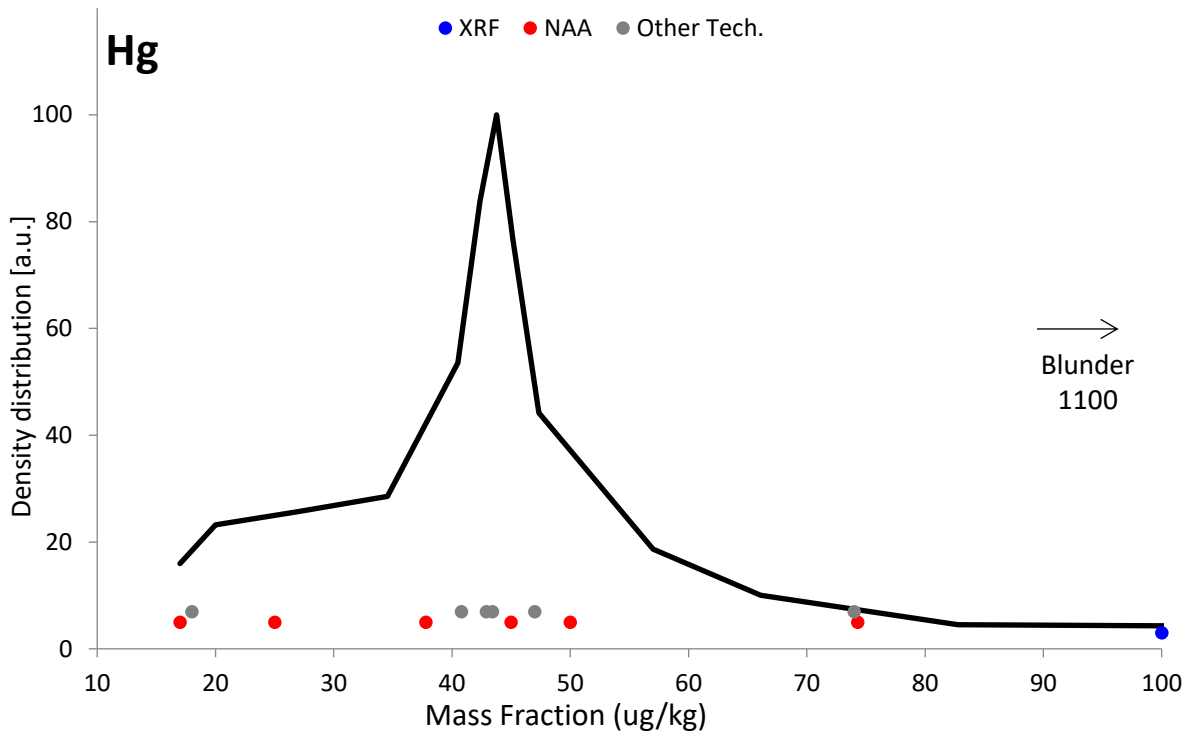


FIG. 137. Density distribution function for the measurand Hg (Plant sample).

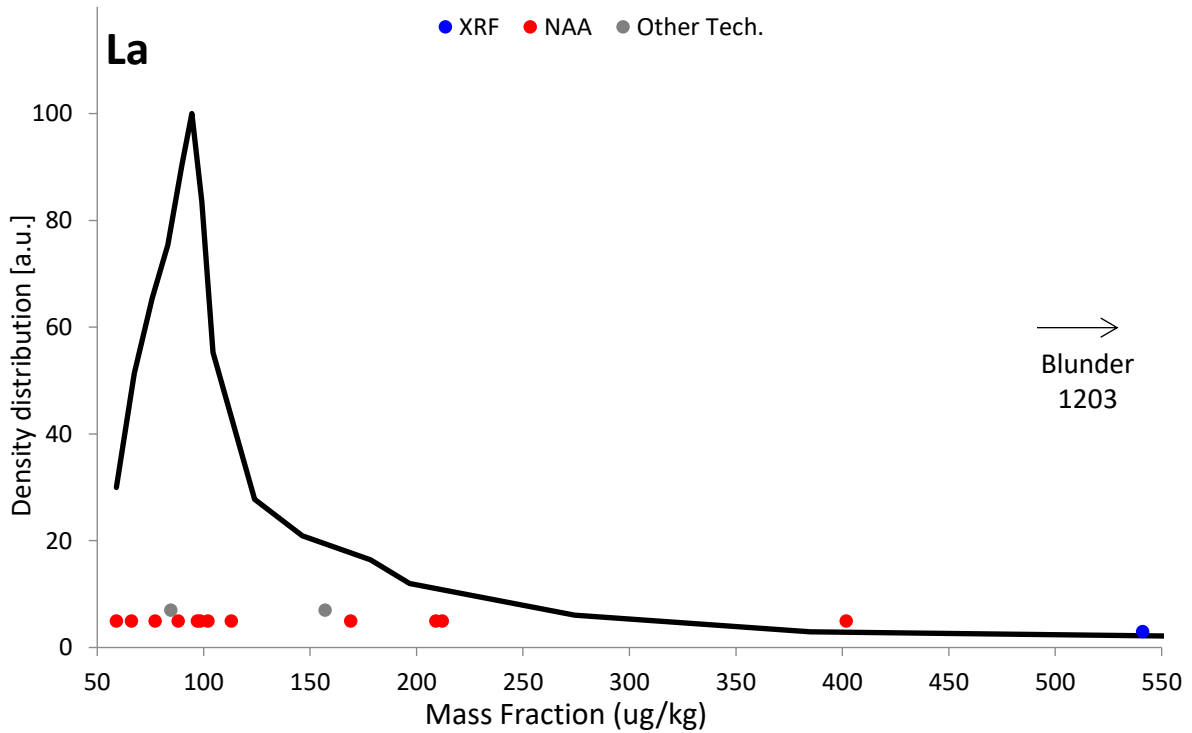


FIG. 138. Density distribution function for the measurand La (Plant sample).

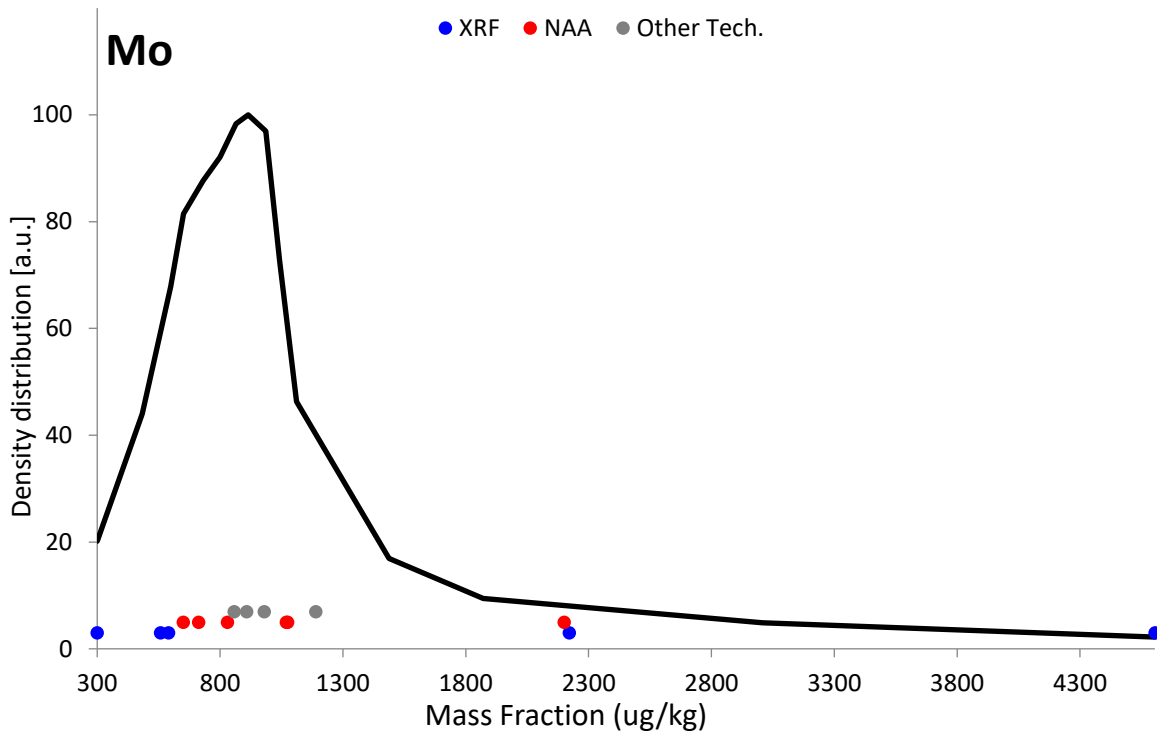


FIG. 139. Density distribution function for the measurand Mo (Plant sample).

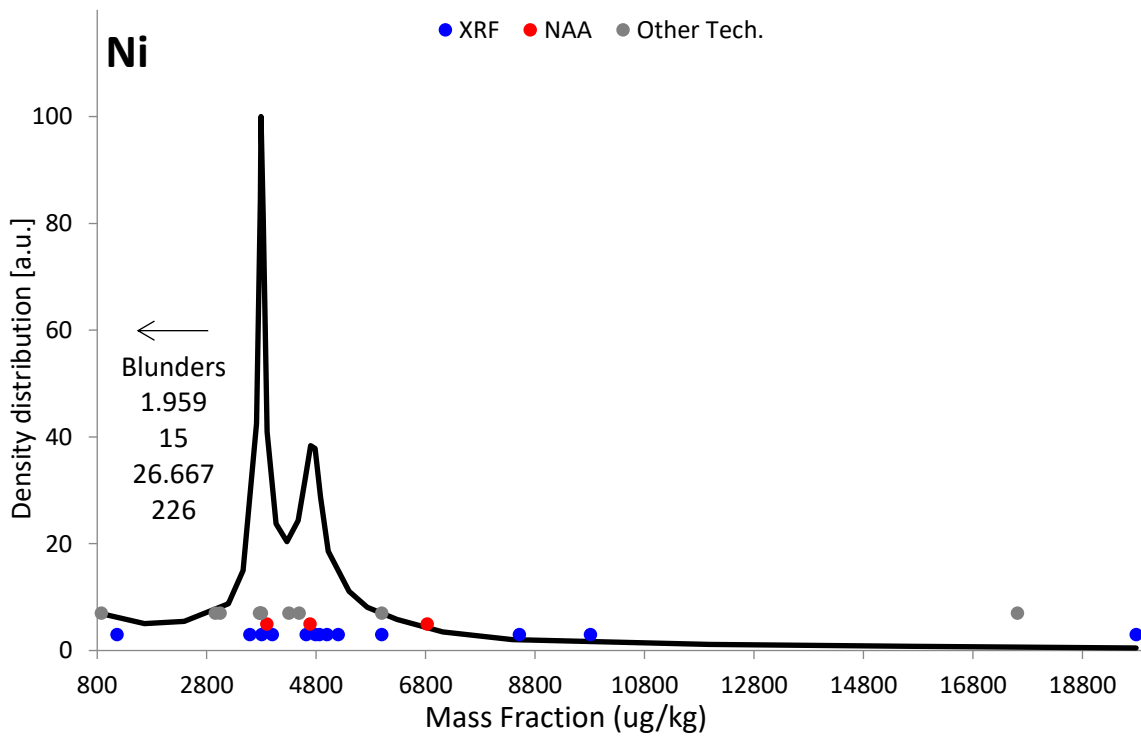


FIG. 140. Density distribution function for the measurand Ni (Plant sample).

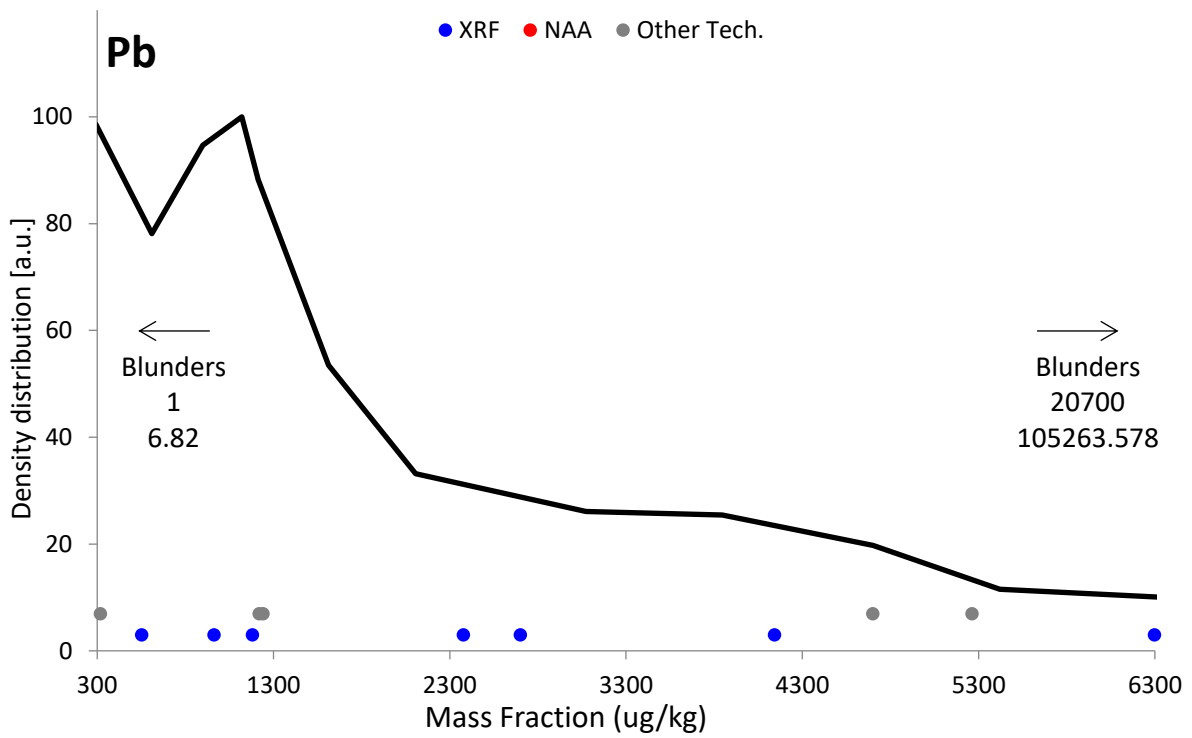


FIG. 141. Density distribution function for the measurand Pb (Plant sample).

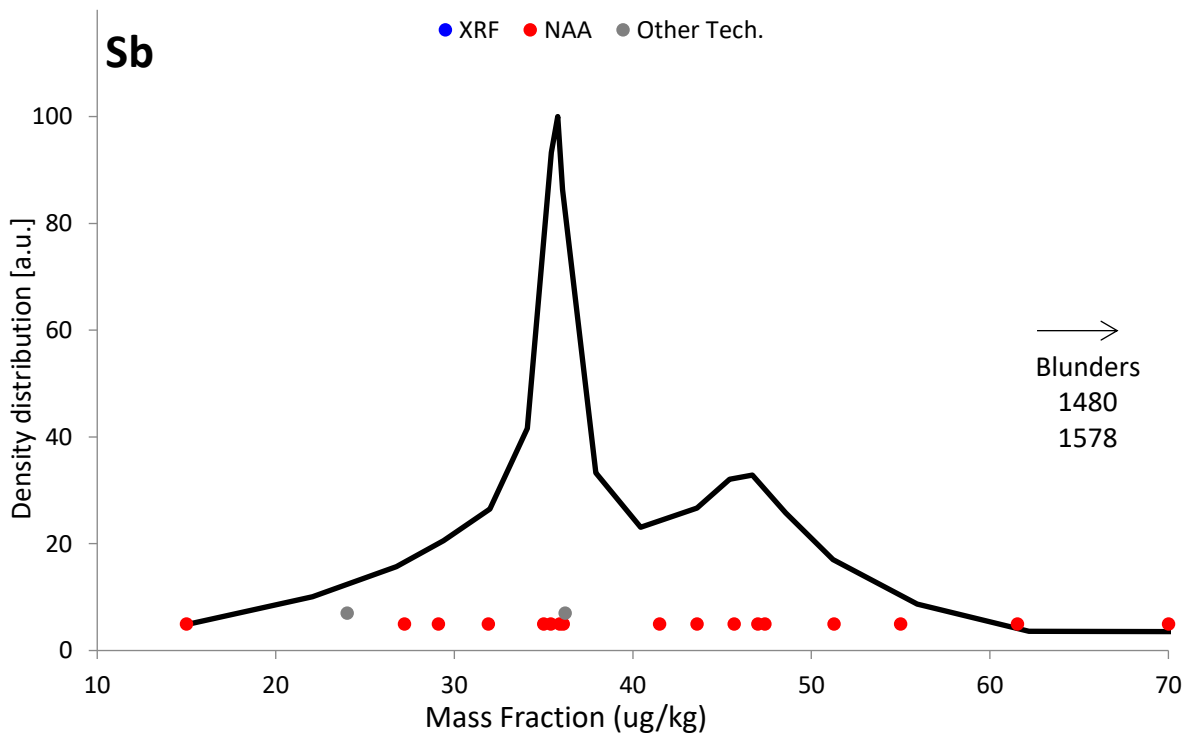


FIG. 142. Density distribution function for the measurand Sb (Plant sample).

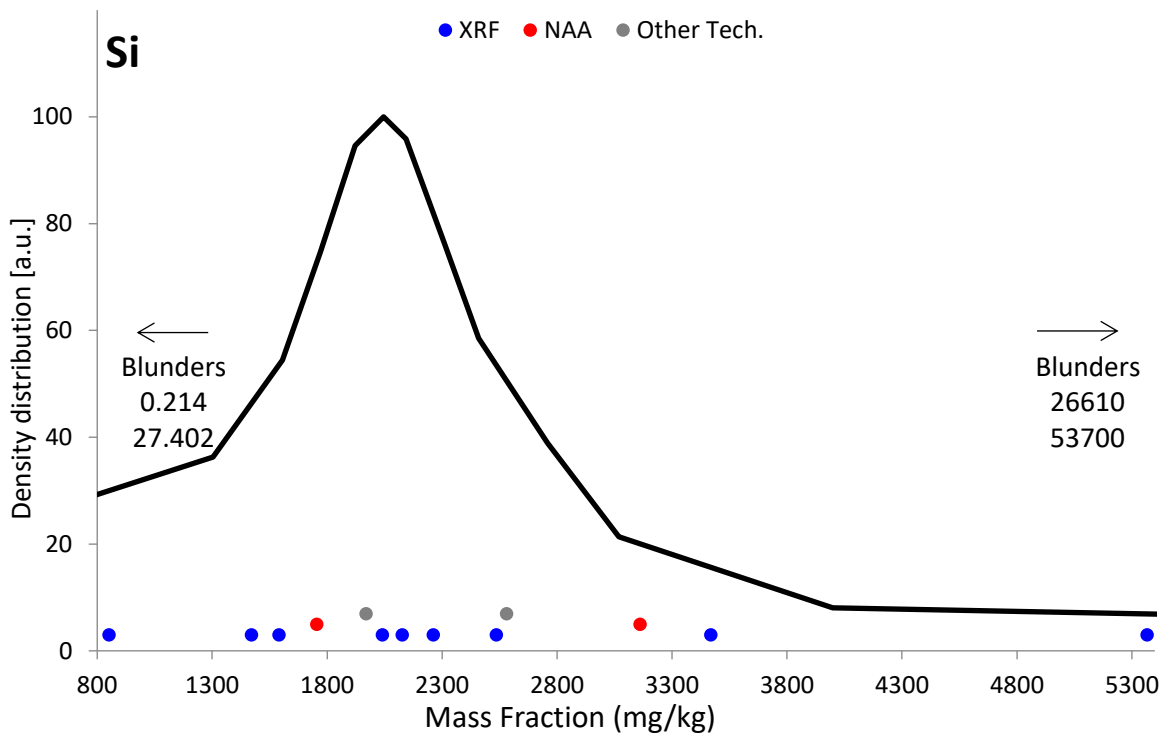


FIG. 143. Density distribution function for the measurand Si (Plant sample).

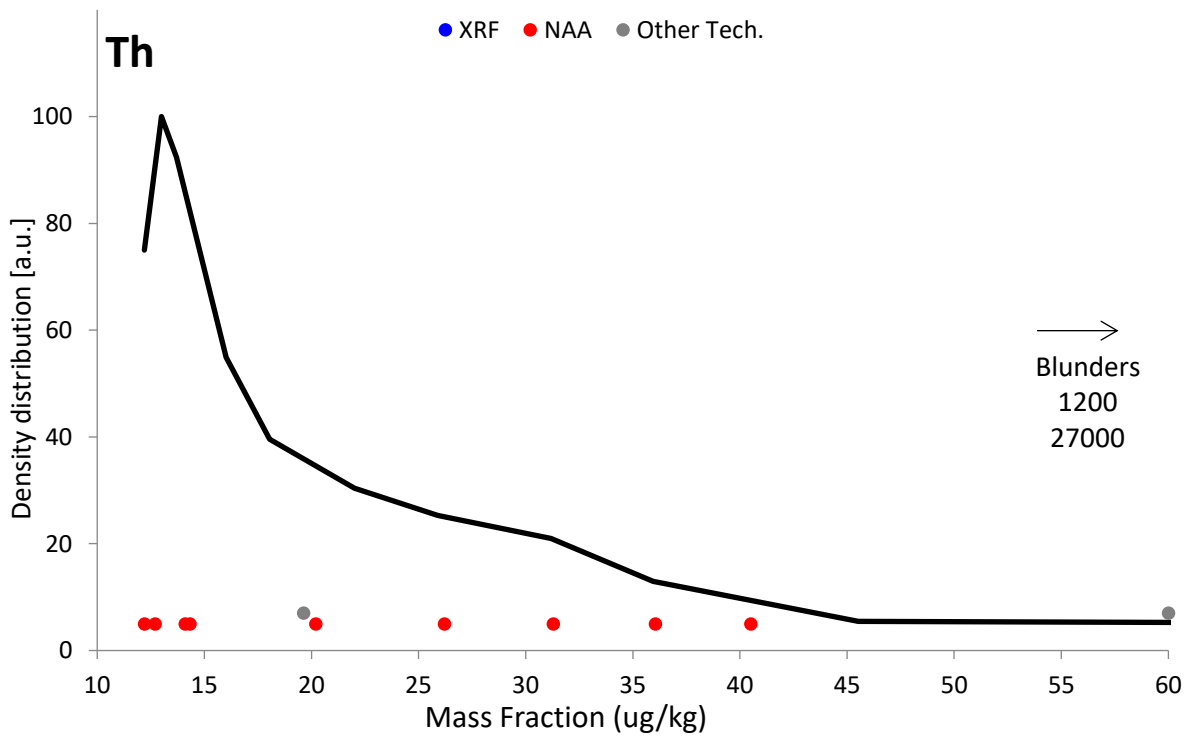


FIG. 144. Density distribution function for the measurand Th (Plant sample).

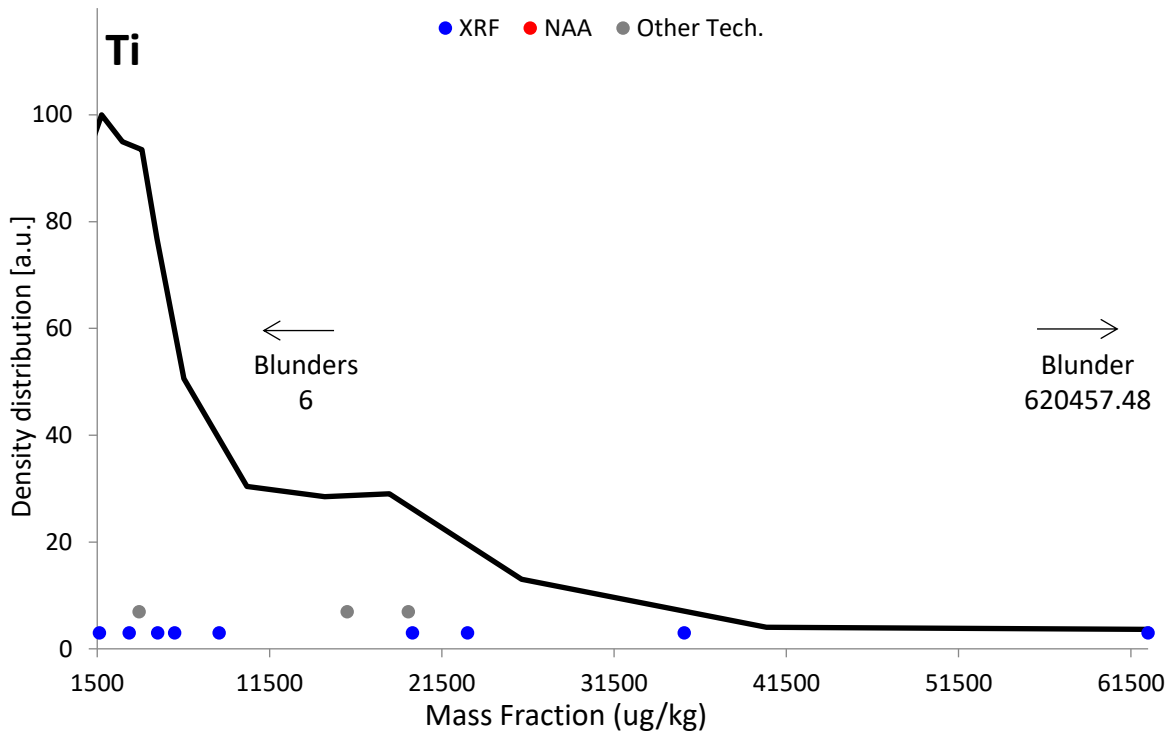


FIG. 145. Density distribution function for the measurand Ti (Plant sample).

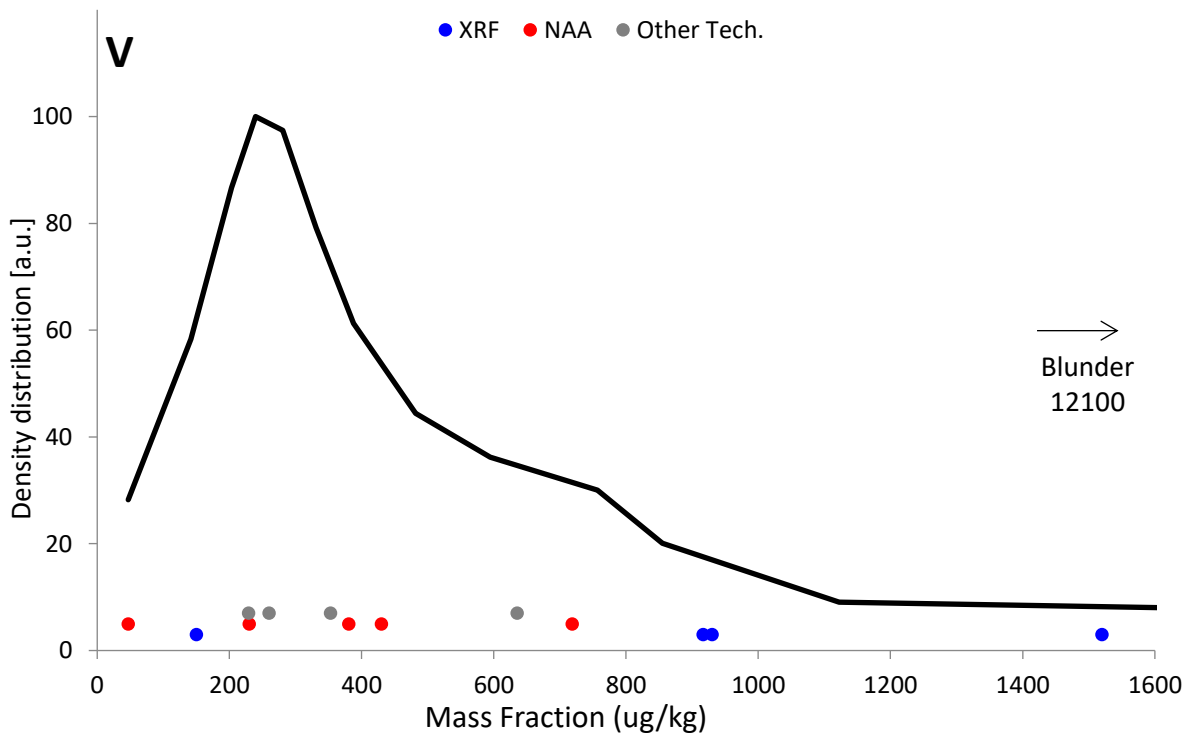


FIG. 146. Density distribution function for the measurand V (Plant sample).

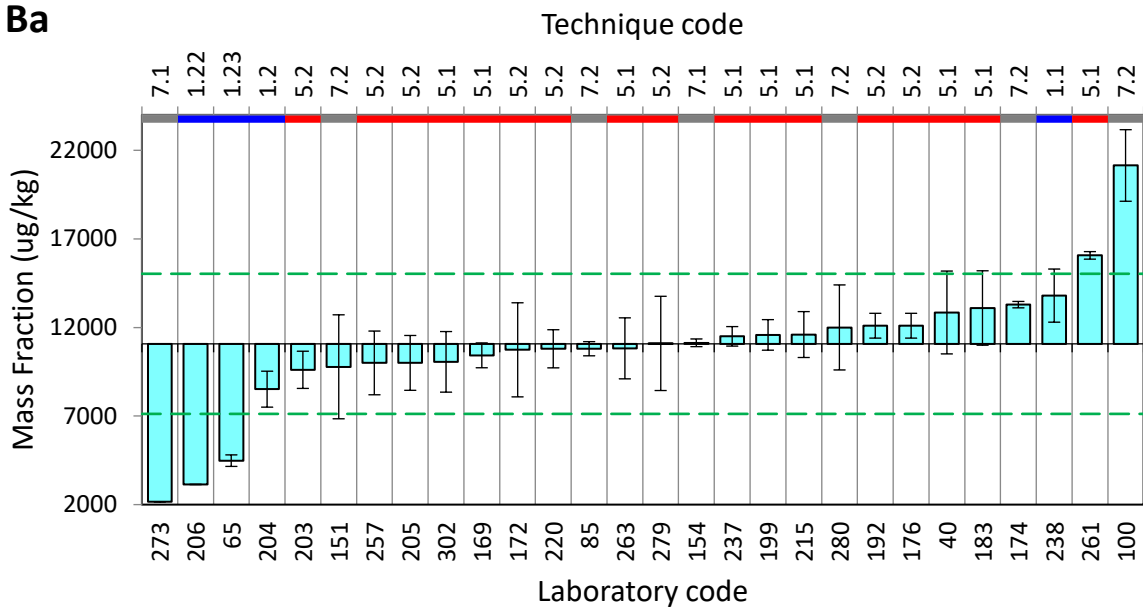


FIG. 147. Bar chart distributions of results for measurand (Plant sample).

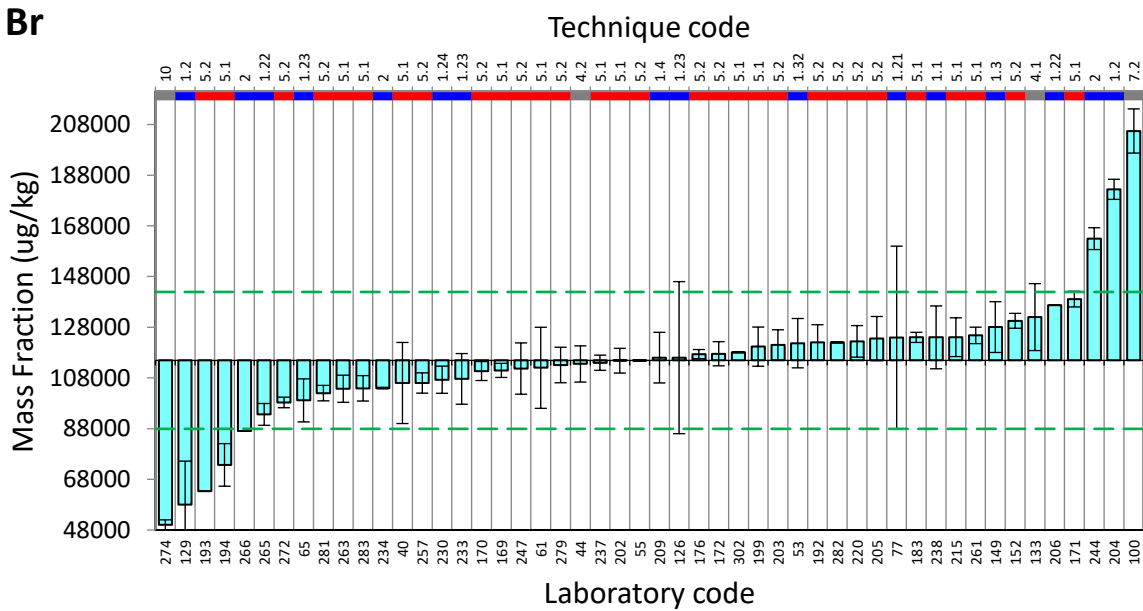


FIG. 148. Bar chart distributions of results for measurand (Plant sample).

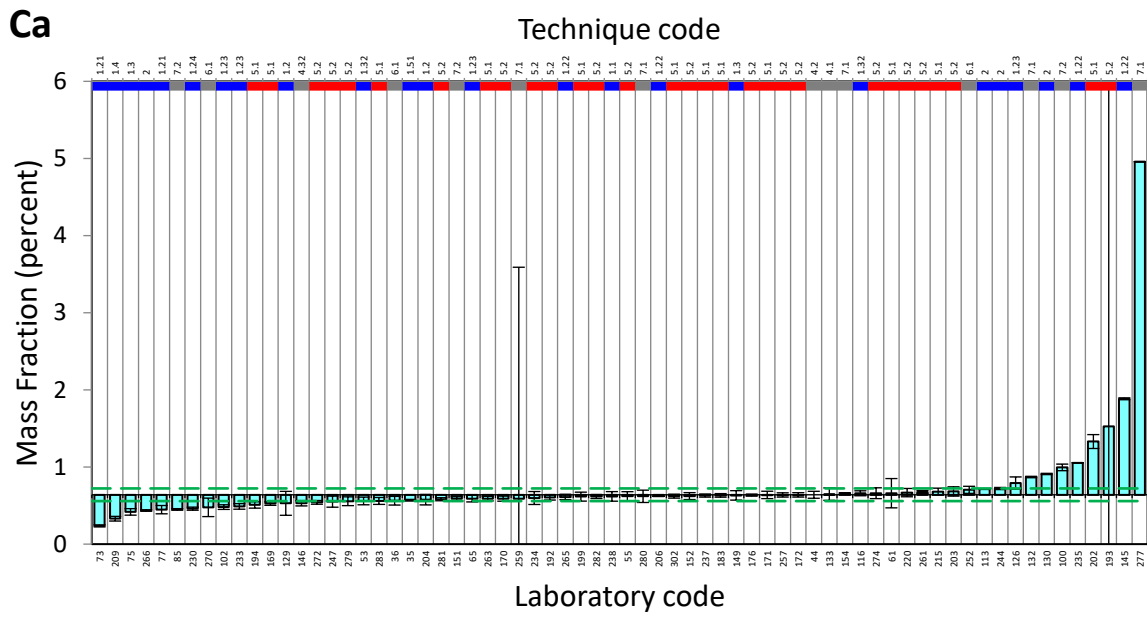


FIG. 149. Bar chart distributions of results for measurand (Plant sample).

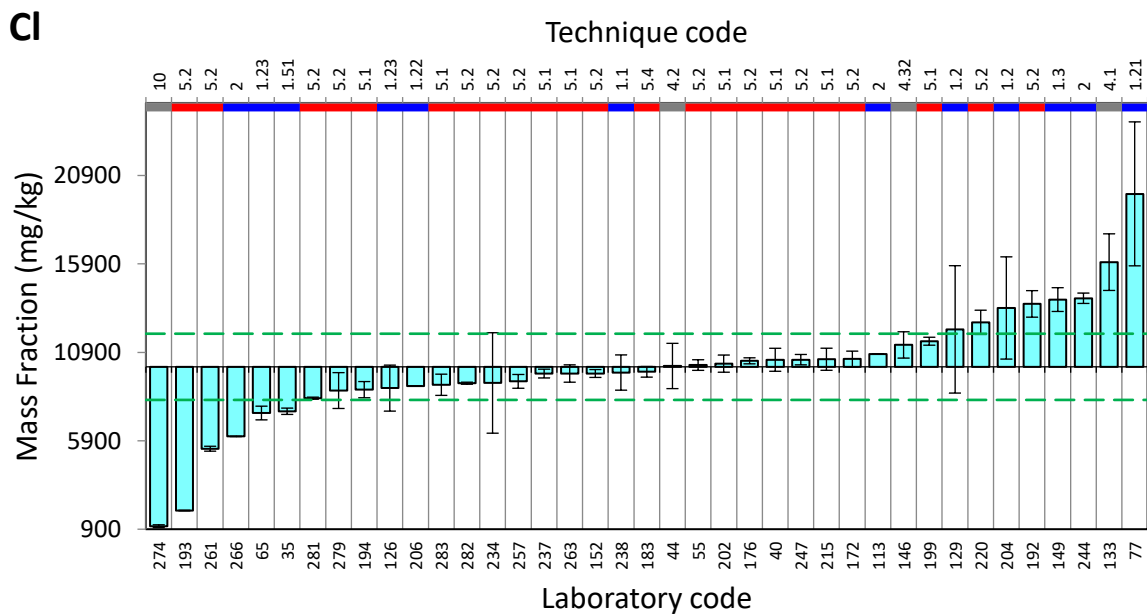


FIG. 150. Bar chart distributions of results for measurand (Plant sample).

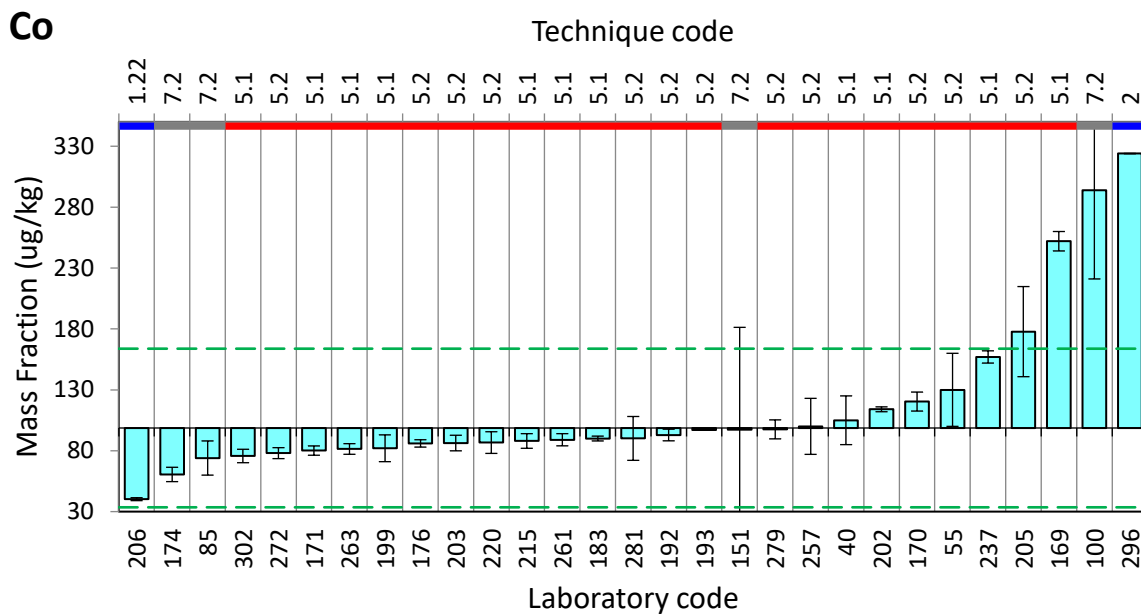


FIG. 151. Bar chart distributions of results for measurand (Plant sample).

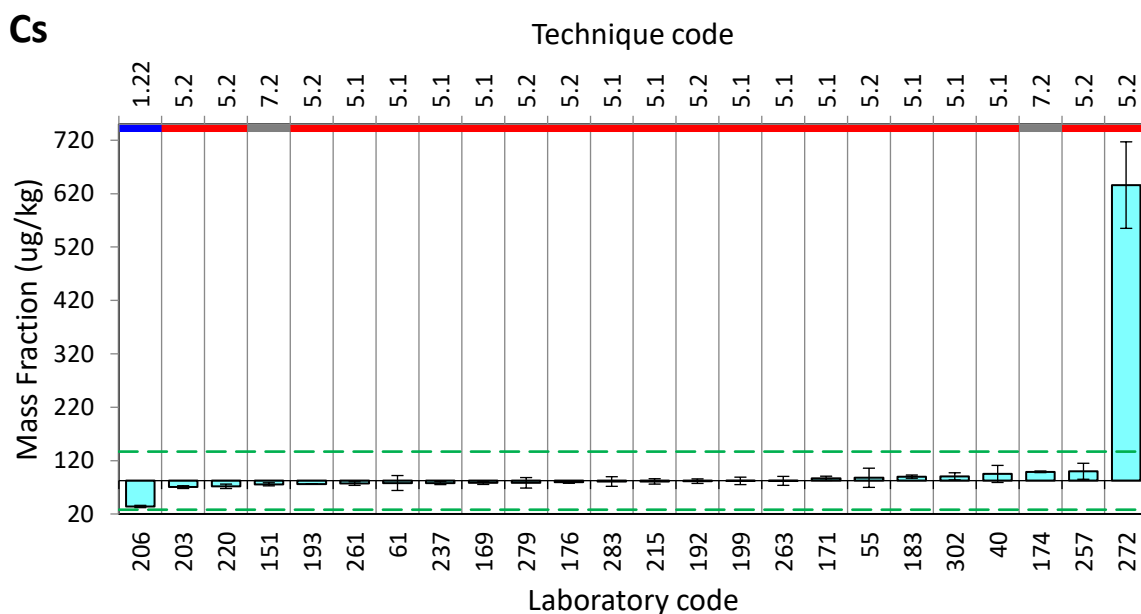


FIG. 152. Bar chart distributions of results for measurand (Plant sample).



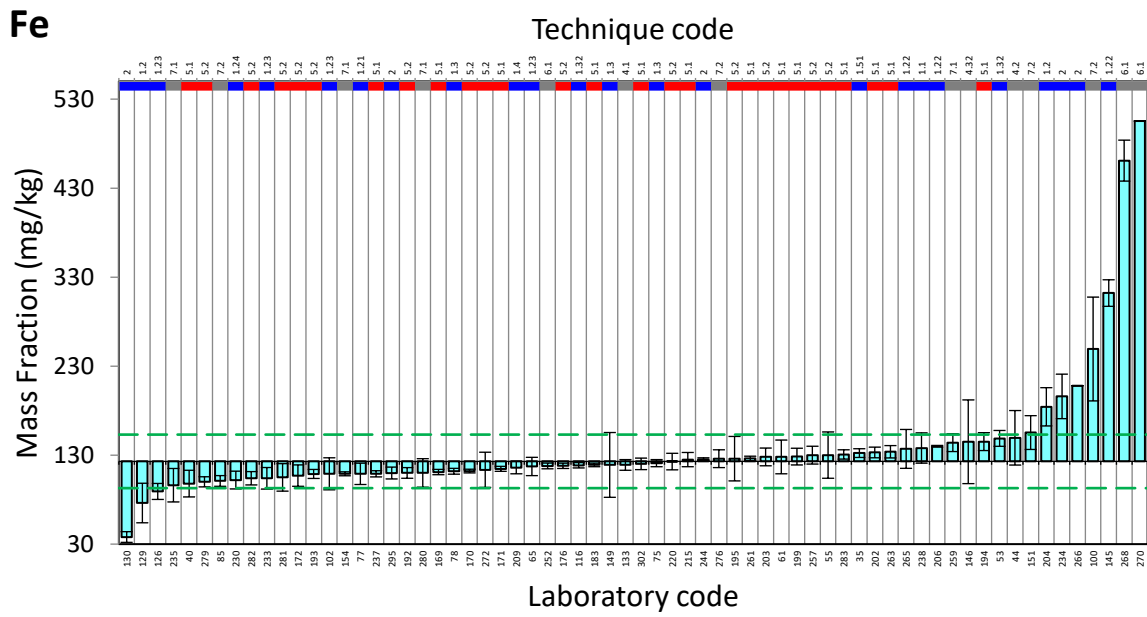


FIG. 153. Bar chart distributions of results for measurand (Plant sample).

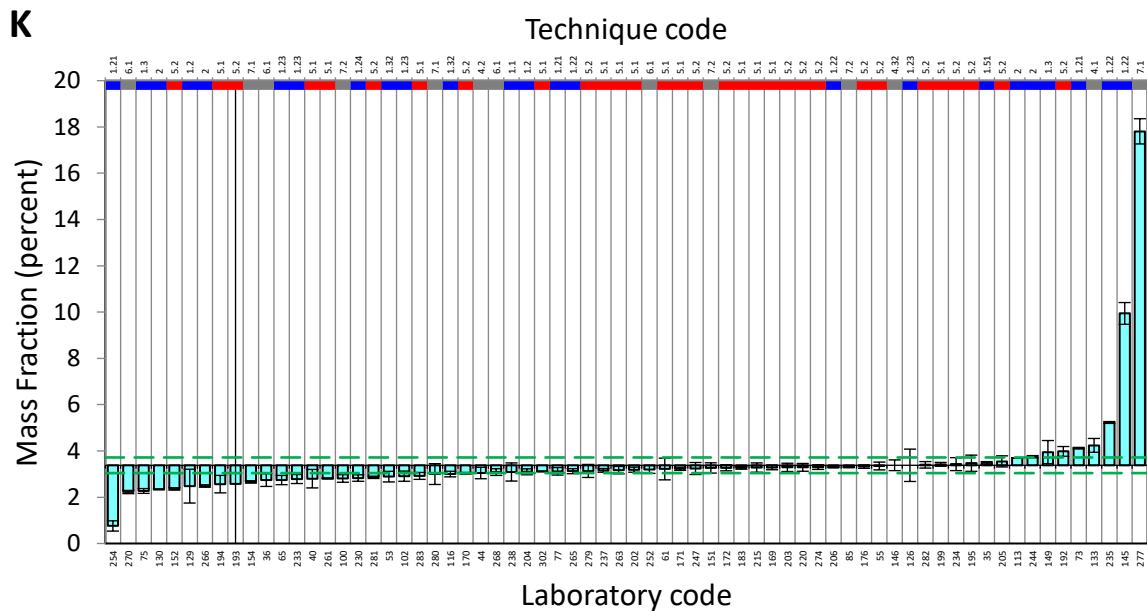


FIG. 154. Bar chart distributions of results for measurand (Plant sample).

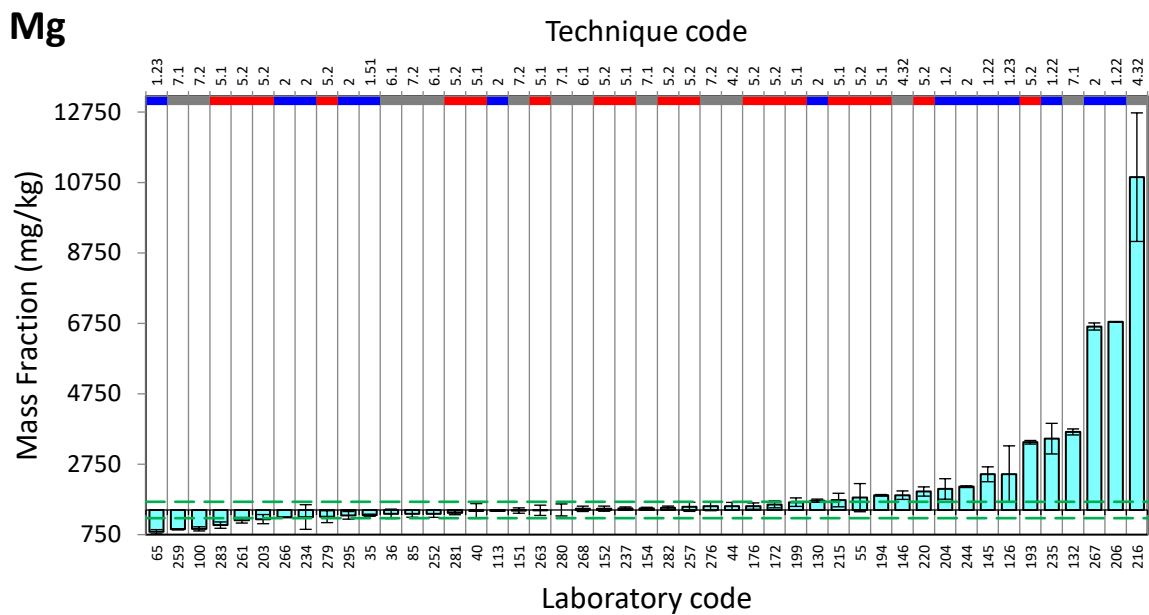


FIG. 155. Bar chart distributions of results for measurand (Plant sample).

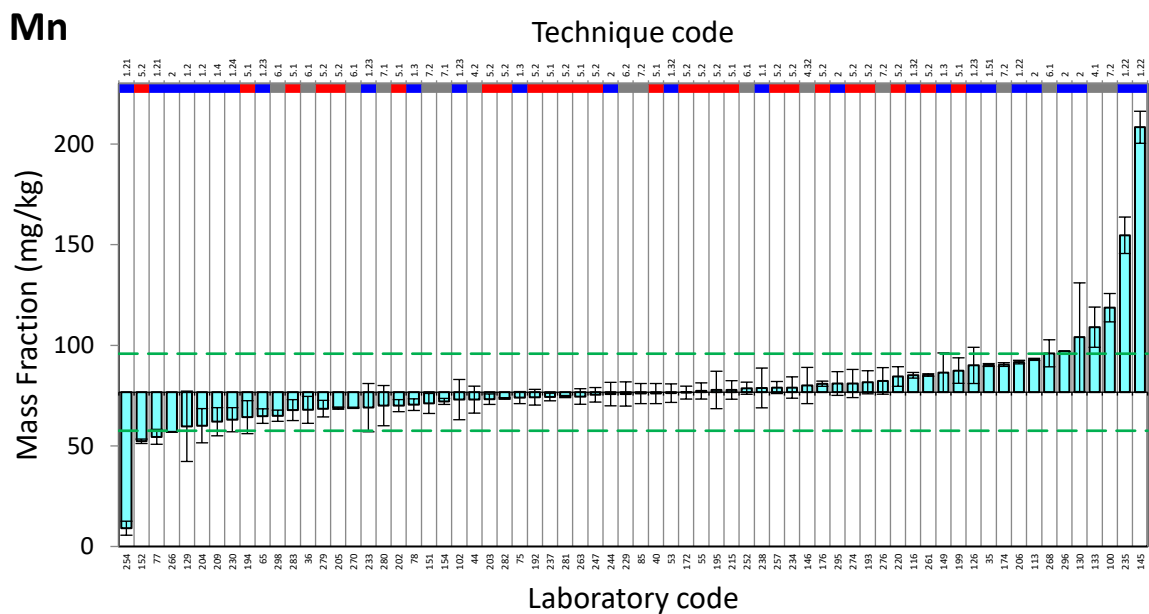


FIG. 156. Bar chart distributions of results for measurand (Plant sample).

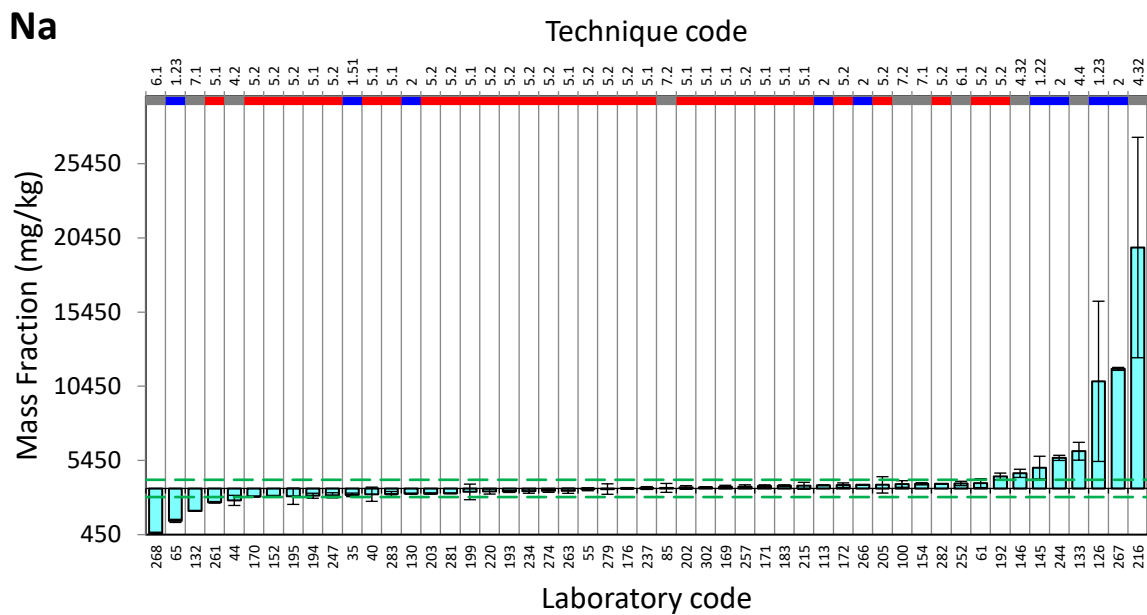


FIG. 157. Bar chart distributions of results for measurand (Plant sample).

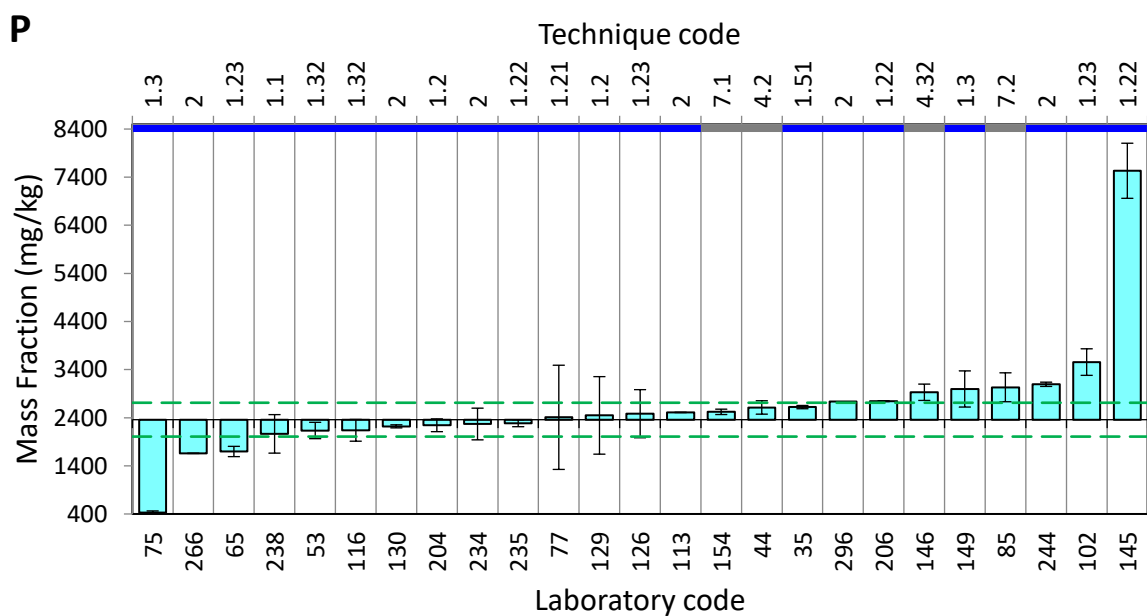


FIG. 158. Bar chart distributions of results for measurand (Plant sample).

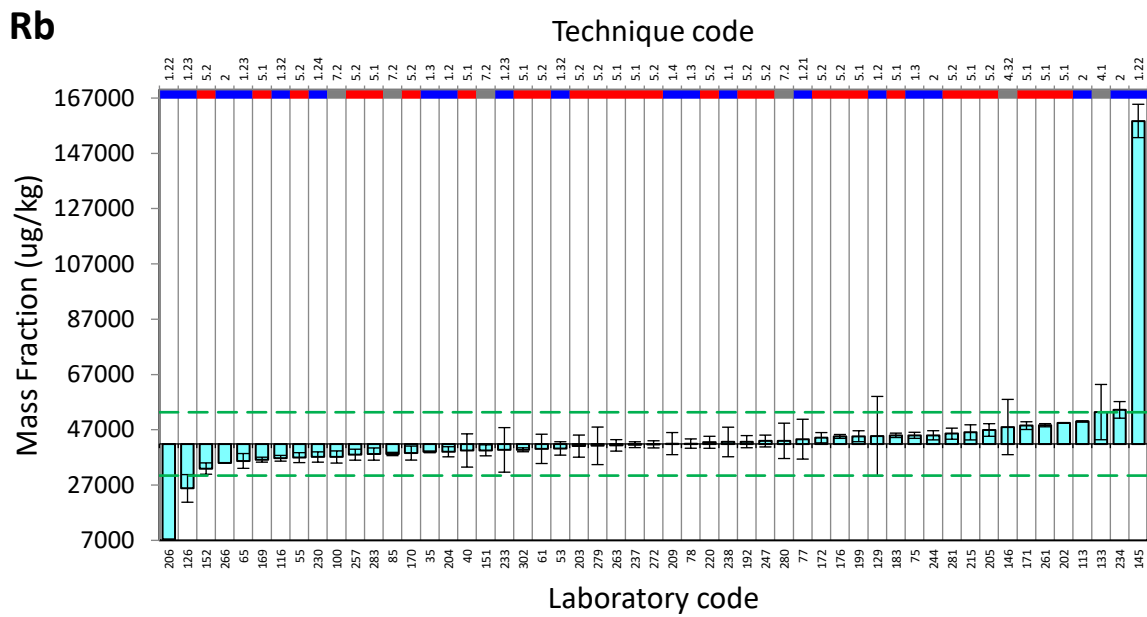


FIG. 159. Bar chart distributions of results for measurand (Plant sample).

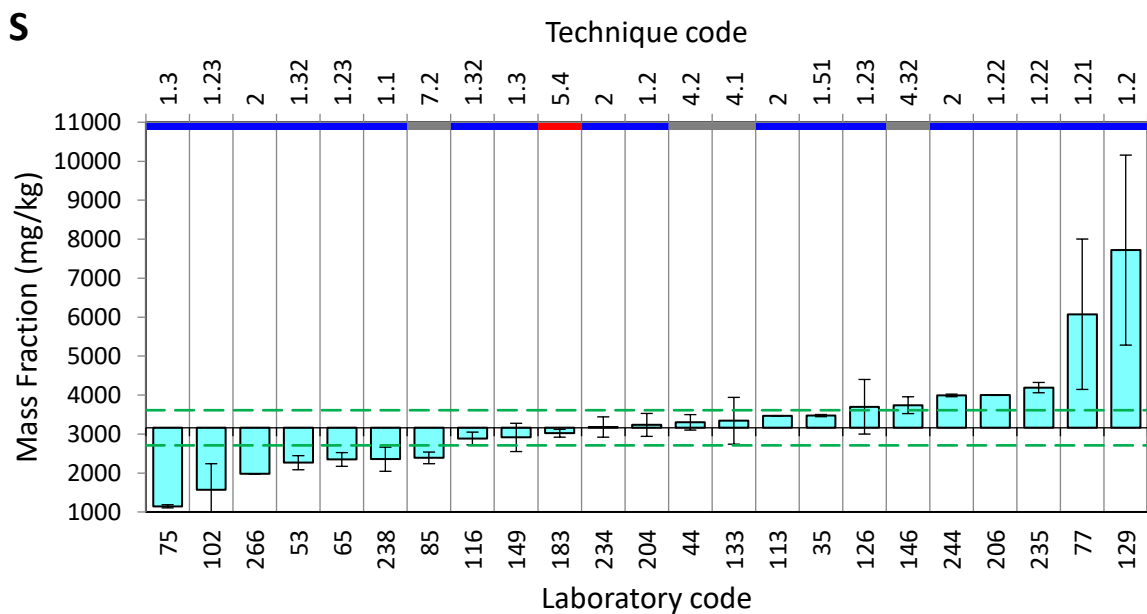


FIG. 160. Bar chart distributions of results for measurand (Plant sample).

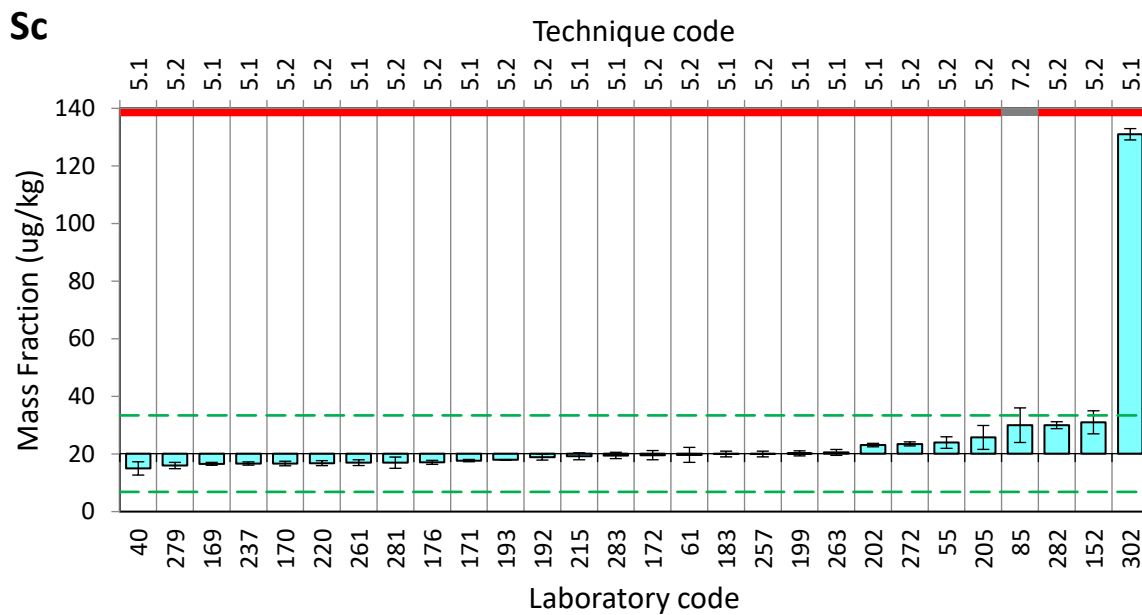


FIG. 161. Bar chart distributions of results for measurand (Plant sample).

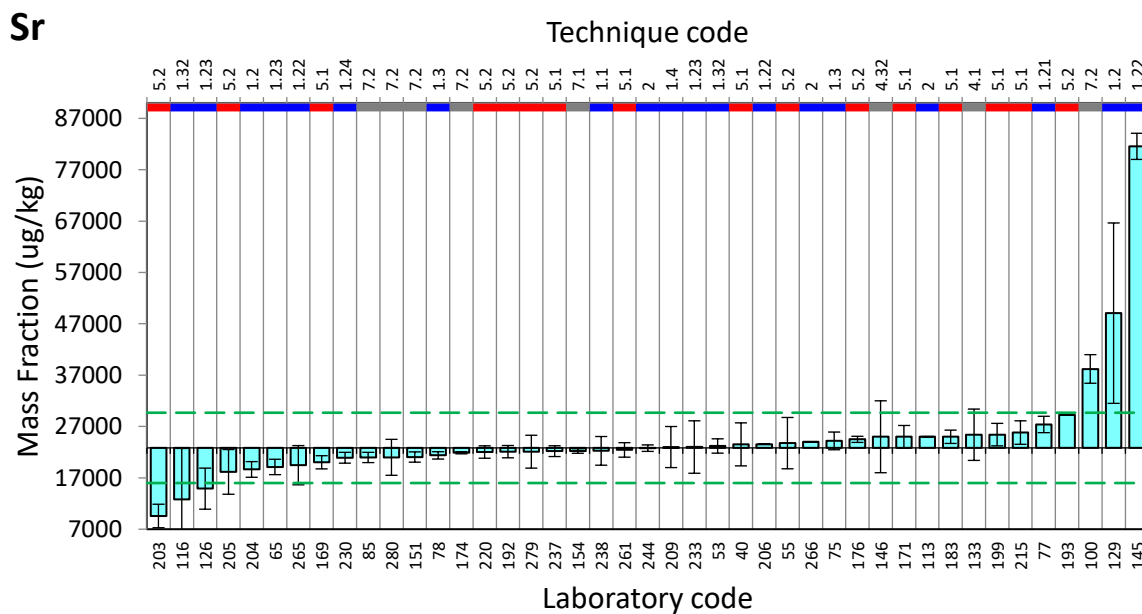


FIG. 162. Bar chart distributions of results for measurand (Plant sample).

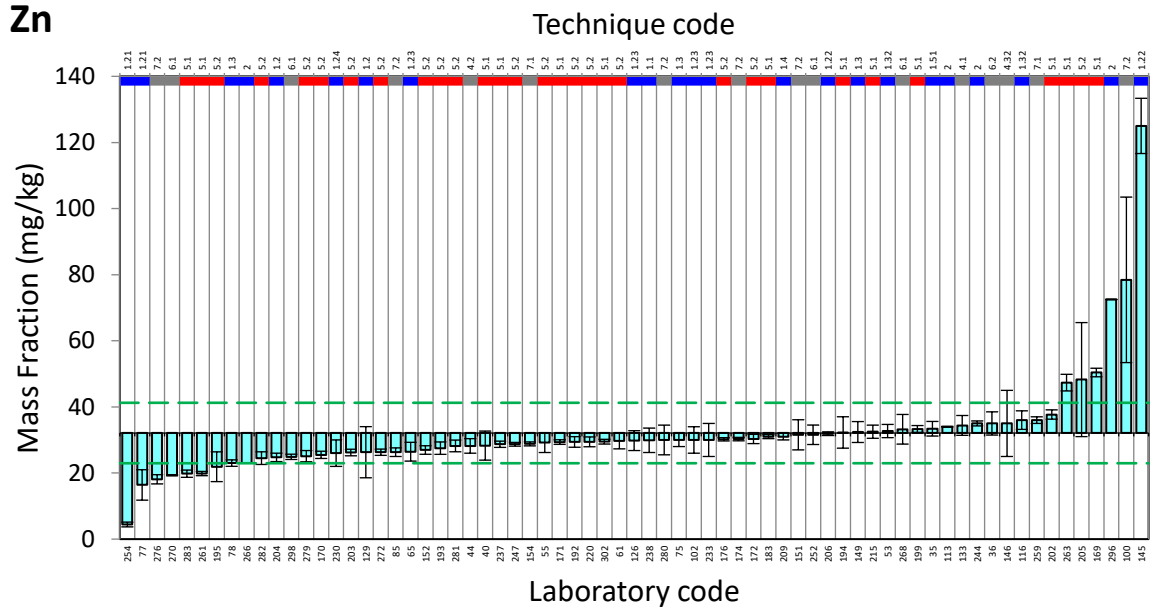


FIG. 163. Bar chart distributions of results for measurand (Plant sample).

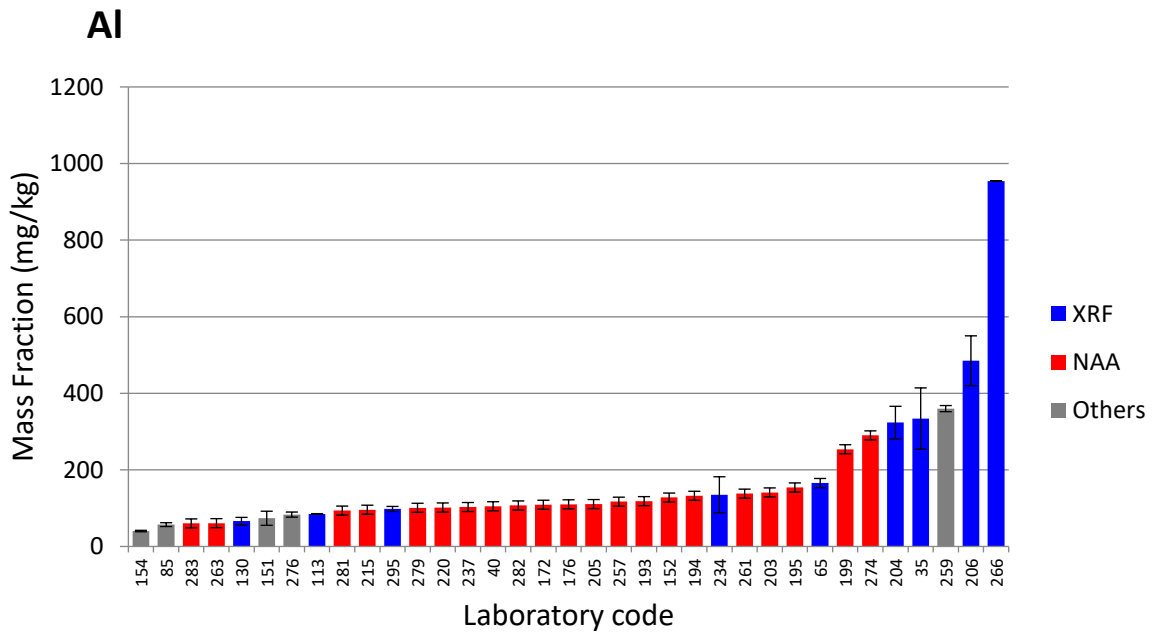


FIG. 164. Bar chart distributions of results for measurand (Plant sample).

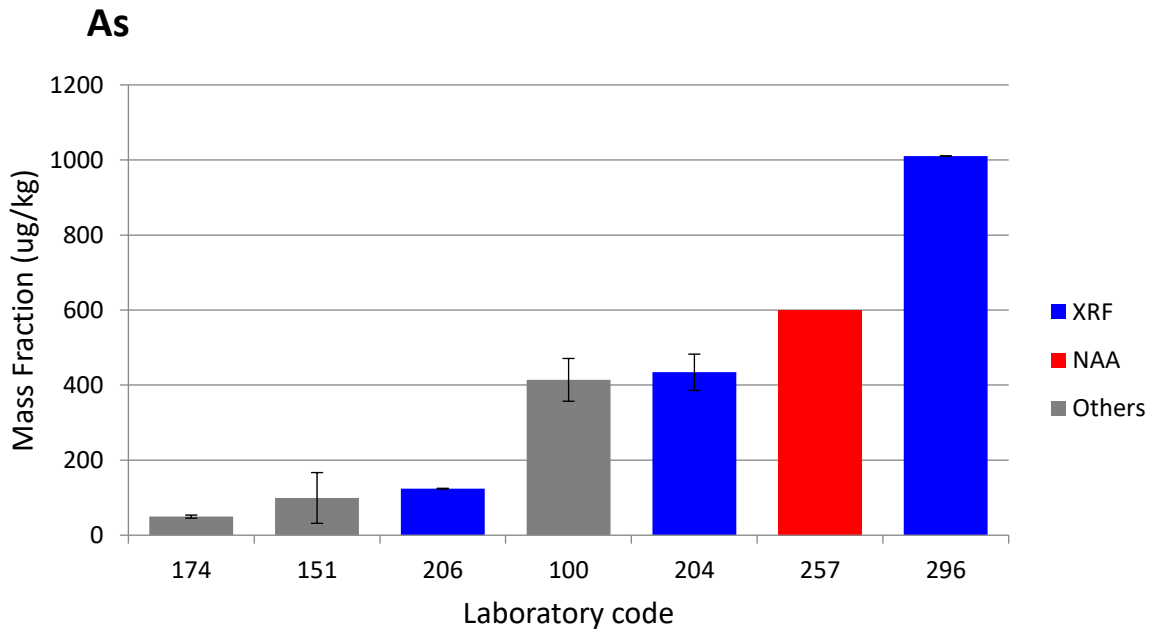


FIG. 165. Bar chart distributions of results for measurand (Plant sample).

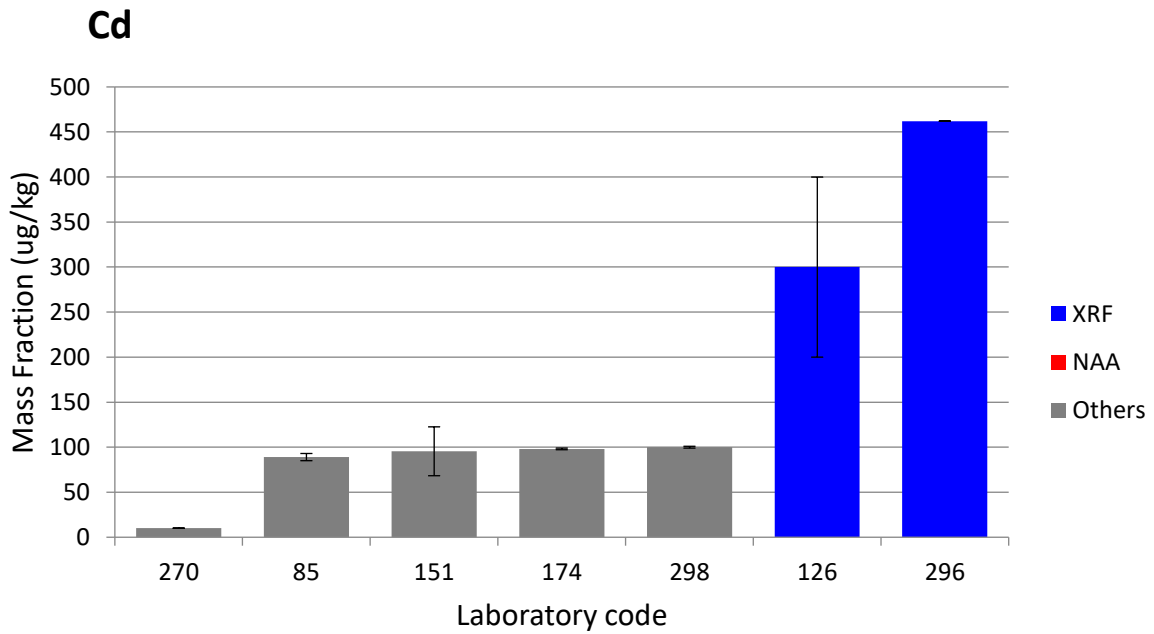


FIG. 166. Bar chart distributions of results for measurand (Plant sample).

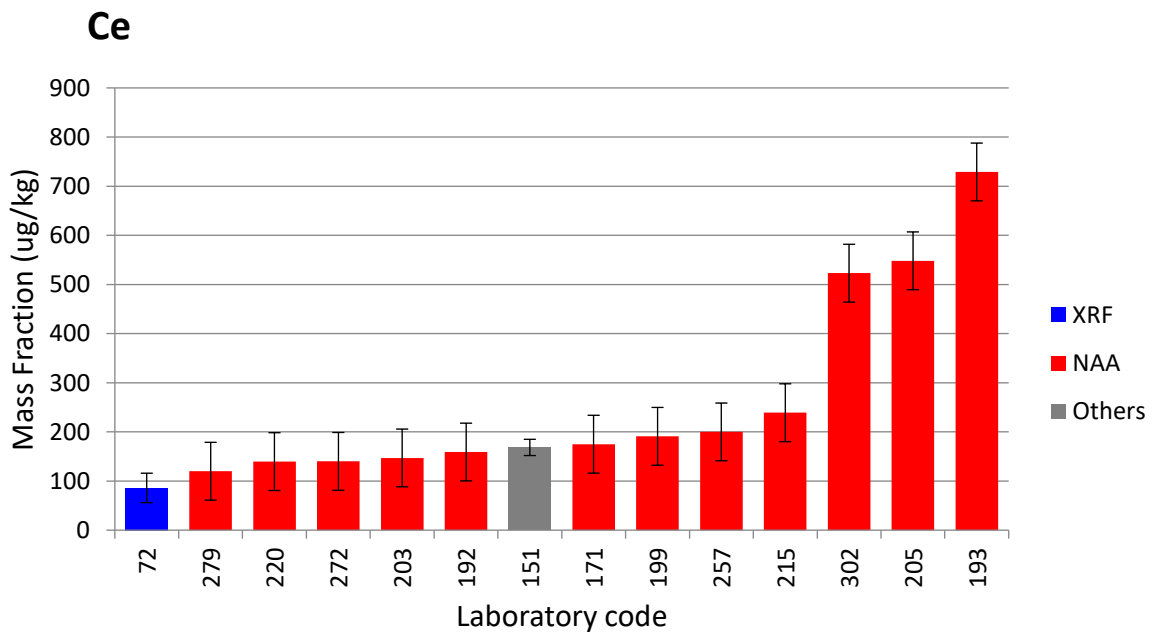


FIG. 167. Bar chart distributions of results for measurand (Plant sample).



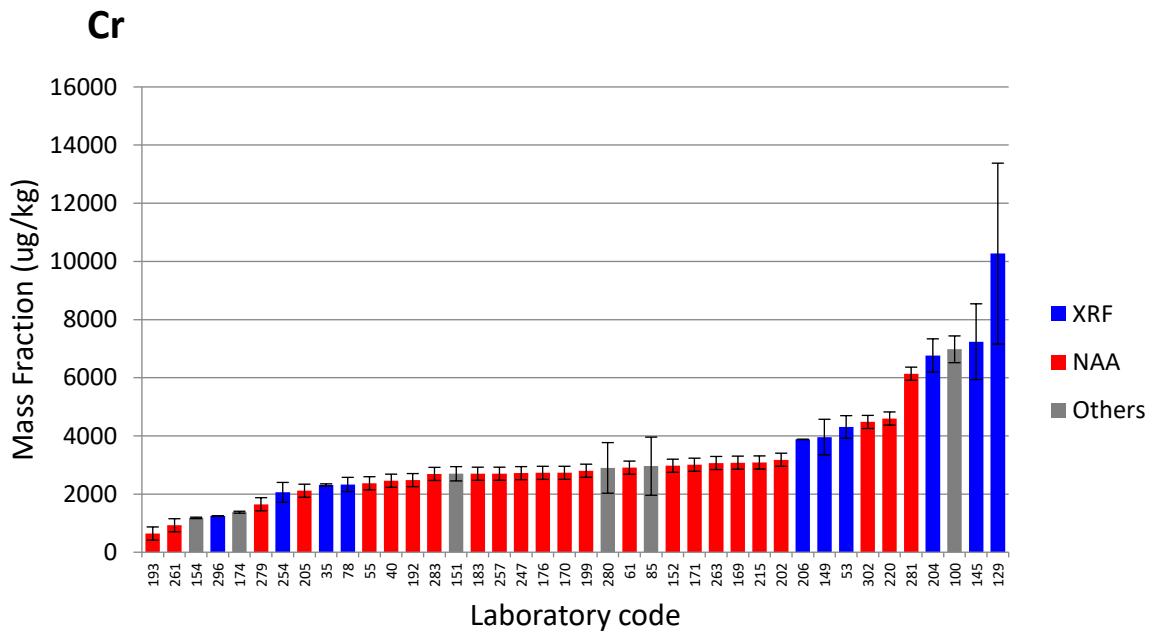


FIG. 168. Bar chart distributions of results for measurand (Plant sample).

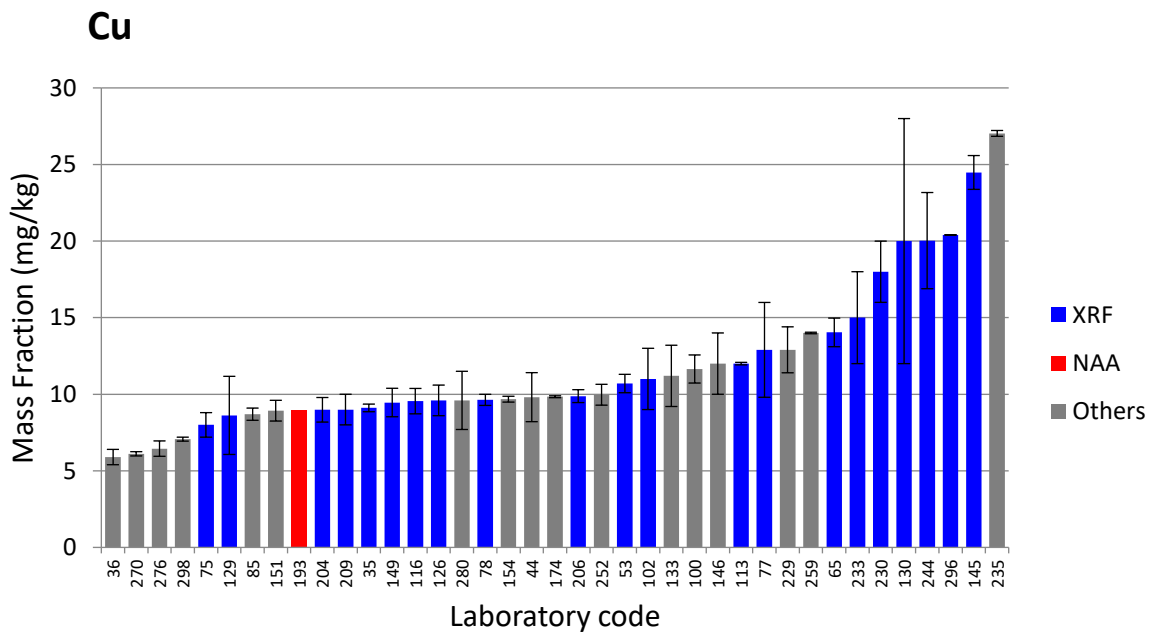


FIG. 169. Bar chart distributions of results for measurand (Plant sample).

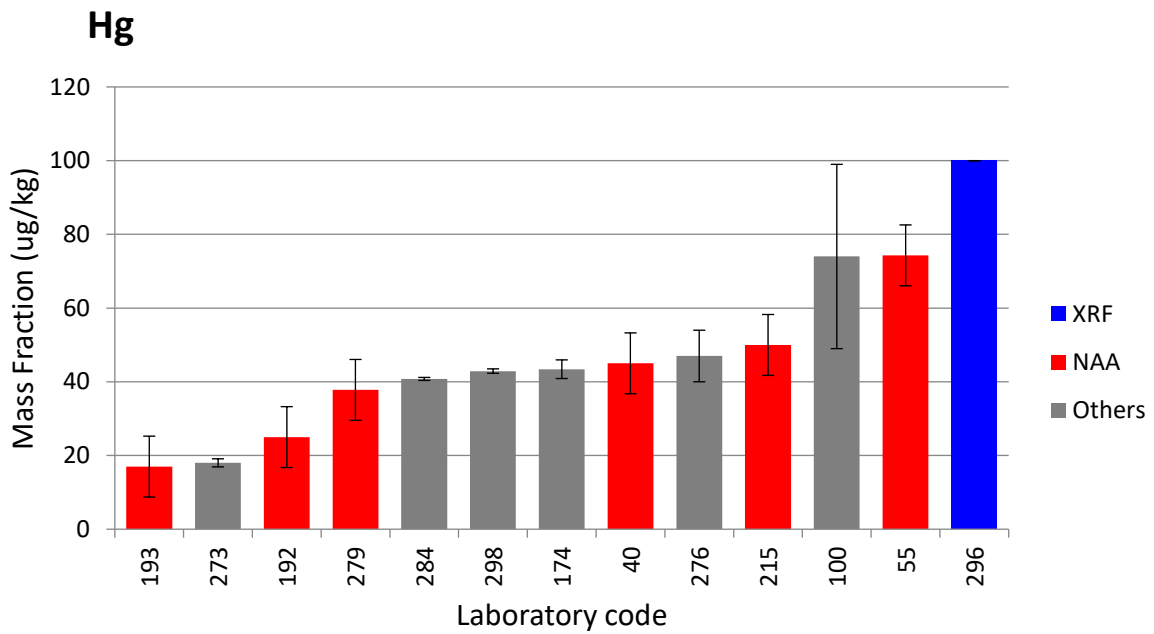


FIG. 170. Bar chart distributions of results for measurand (Plant sample).

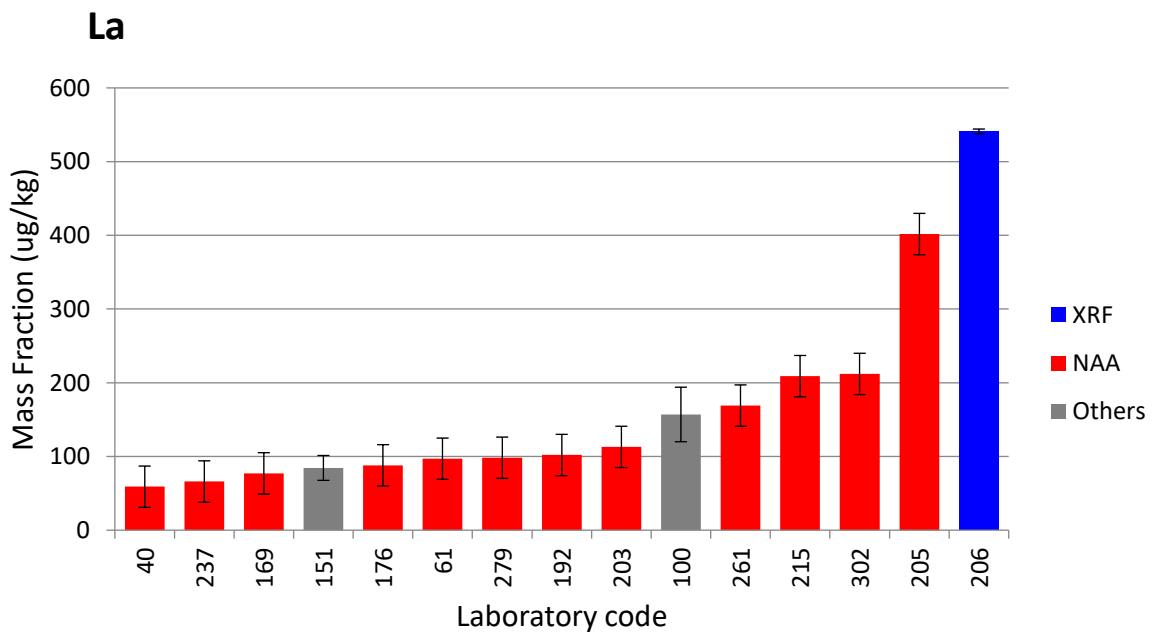


FIG. 171. Bar chart distributions of results for measurand (Plant sample).

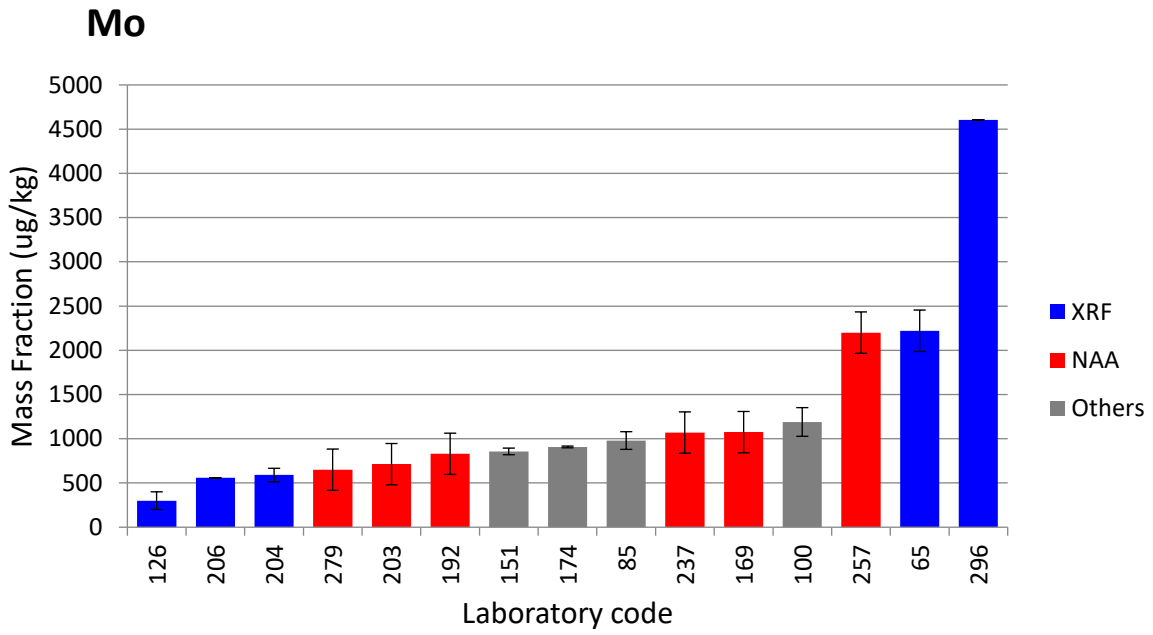


FIG. 172. Bar chart distributions of results for measurand (Plant sample).

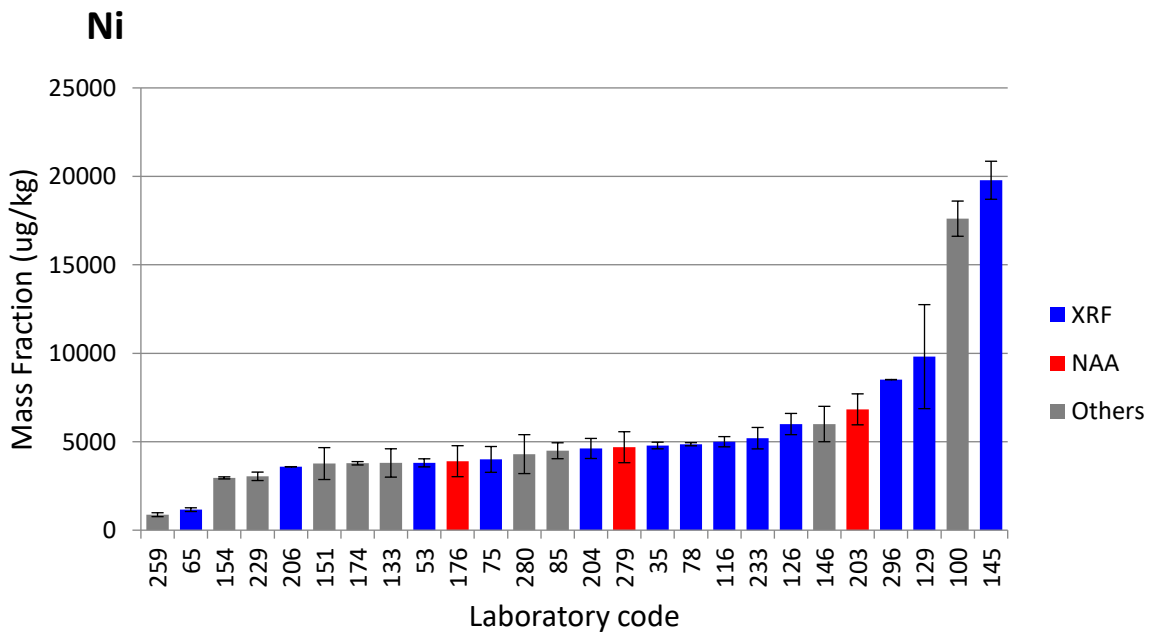


FIG. 173. Bar chart distributions of results for measurand (Plant sample).

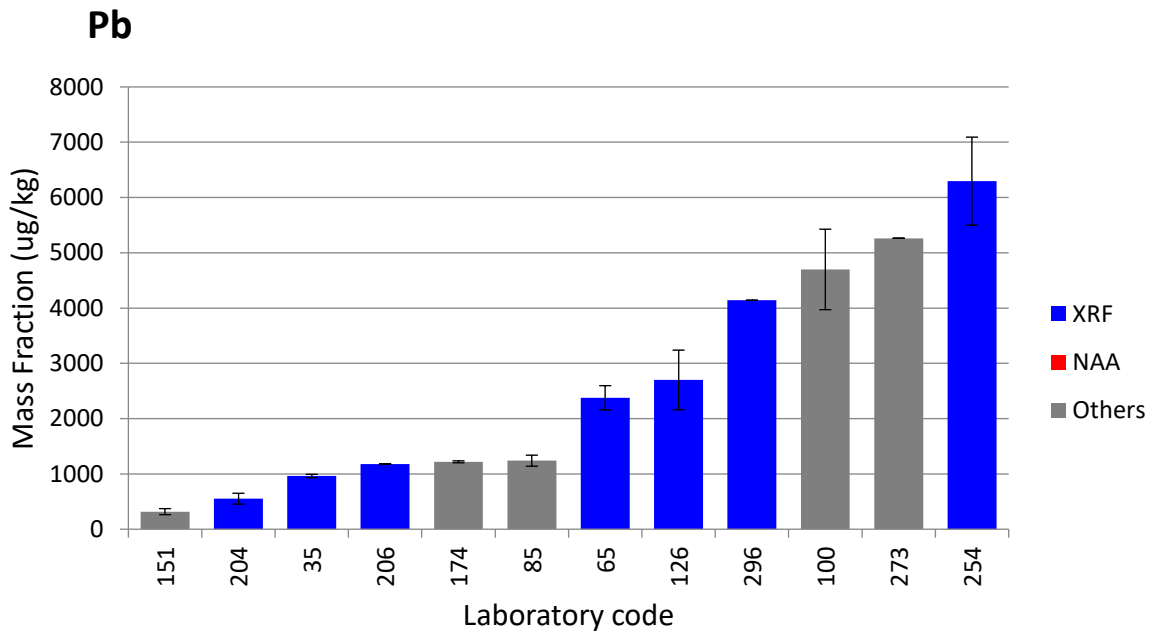


FIG. 174. Bar chart distributions of results for measurand (Plant sample).

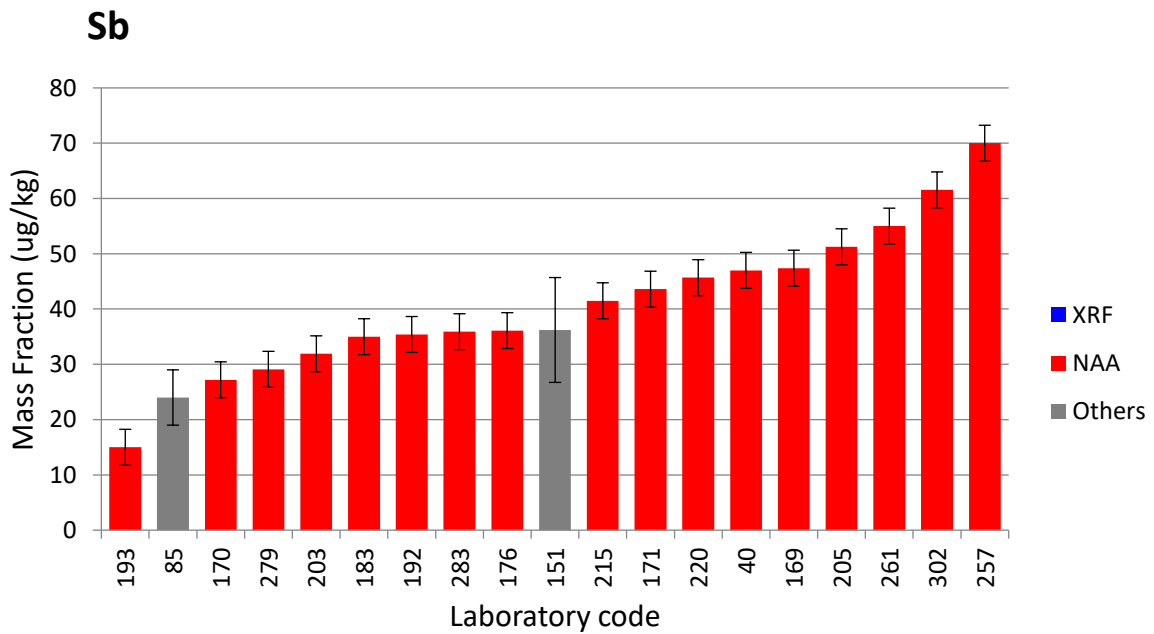


FIG. 175. Bar chart distributions of results for measurand (Plant sample).

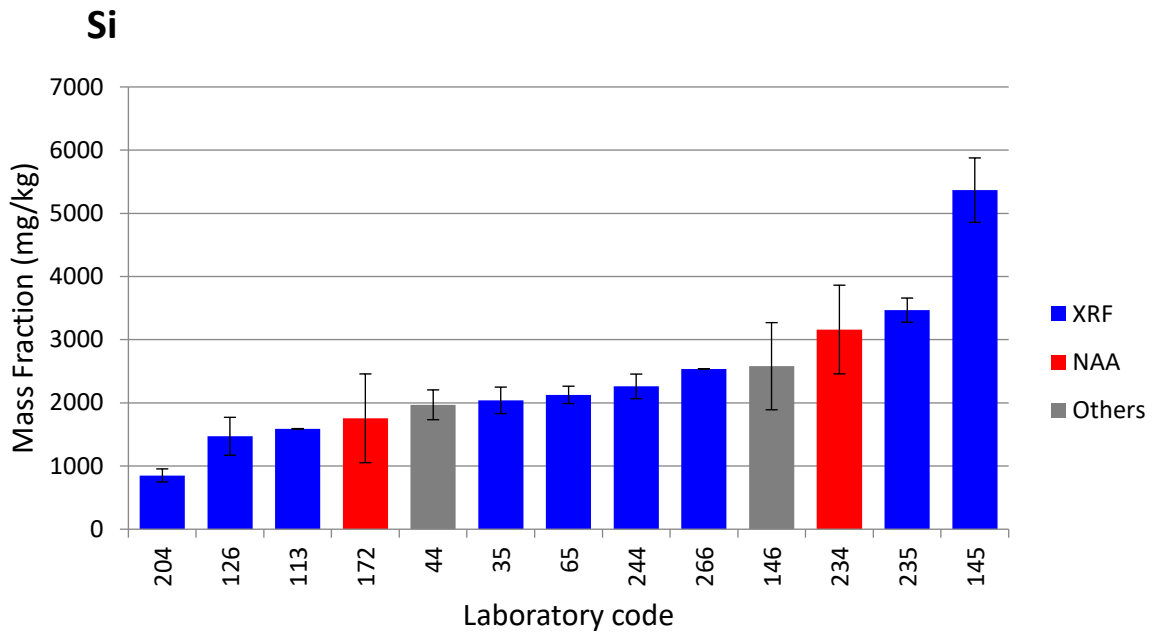


FIG. 176. Bar chart distributions of results for measurand (Plant sample).

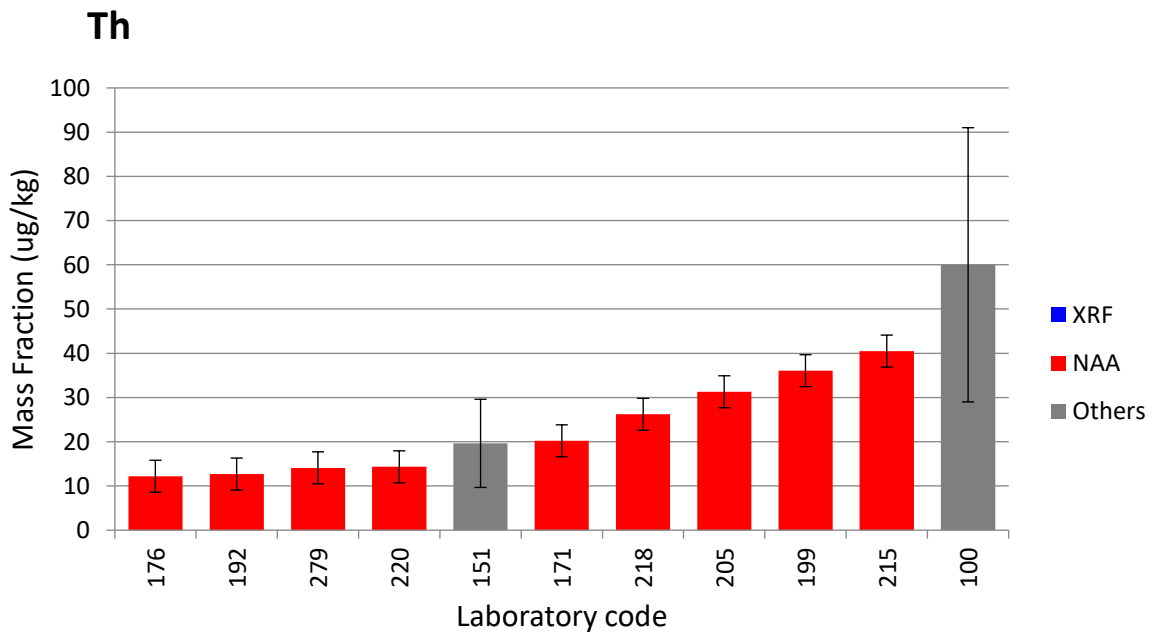


FIG. 177. Bar chart distributions of results for measurand (Plant sample).

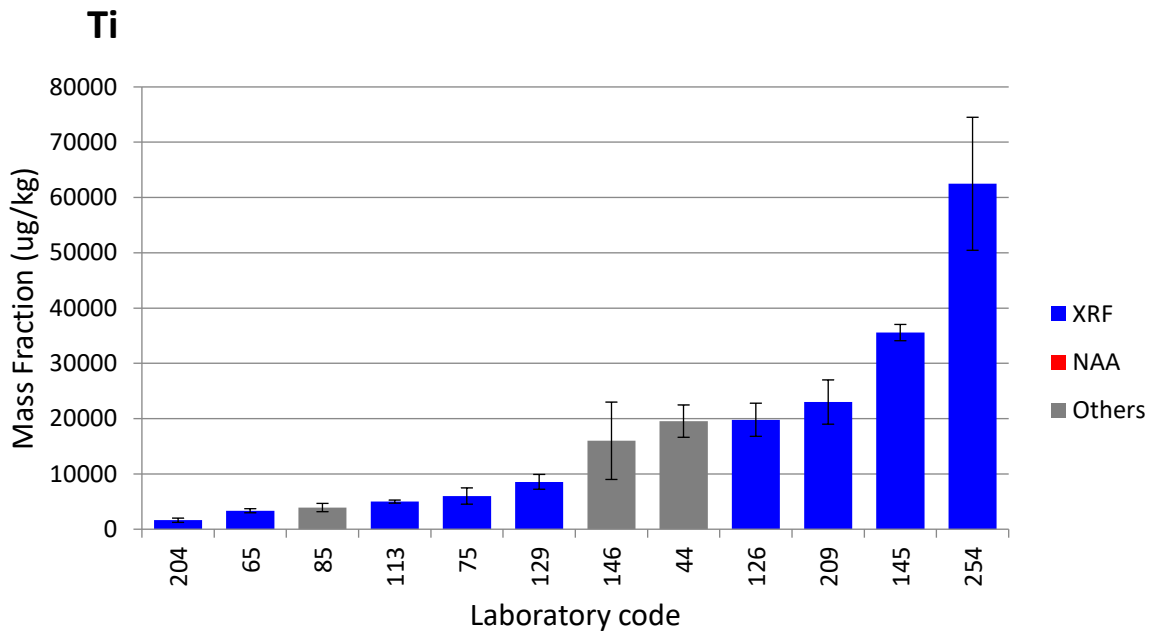


FIG. 178. Bar chart distributions of results for measurand (Plant sample).

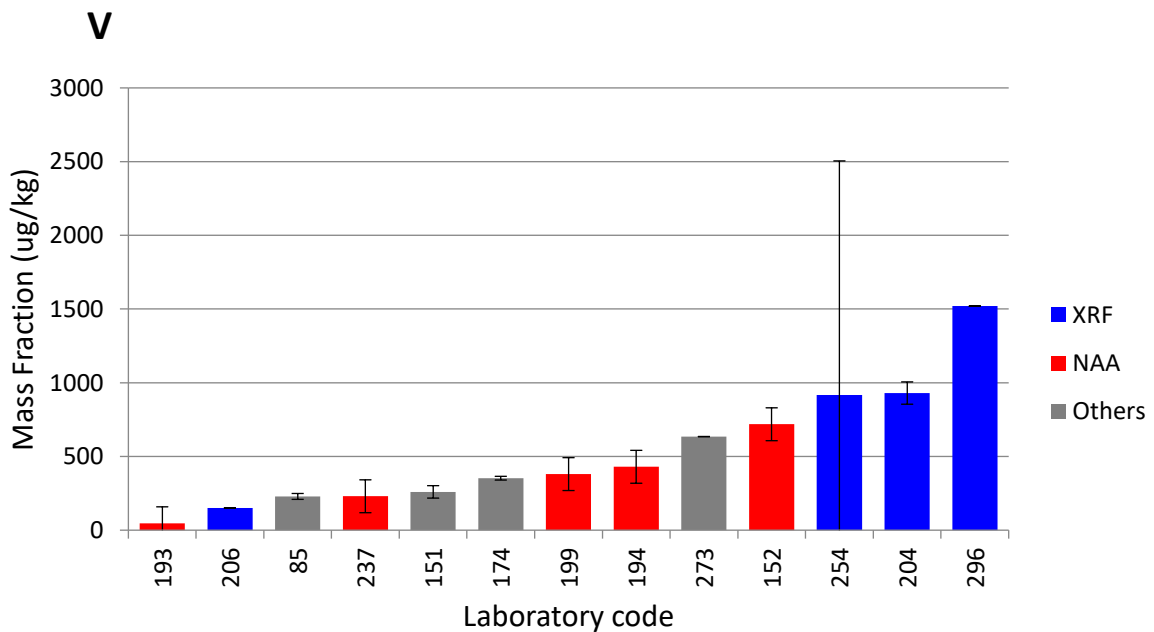
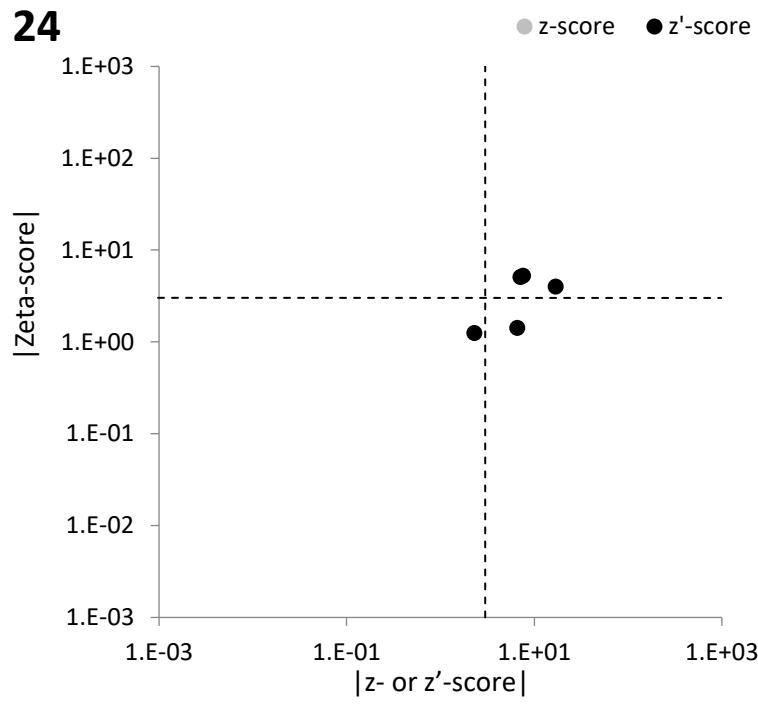


FIG. 179. Bar chart distributions of results for measurand (Plant sample).



*FIG. 180. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 24 (Soil sample with elevated mass fractions of elements).*

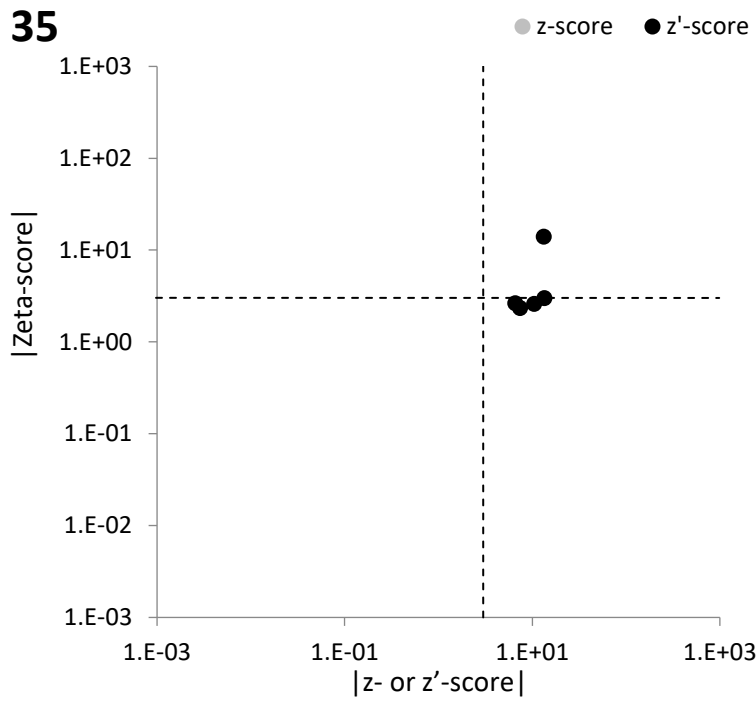


FIG. 181. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 35 (Soil sample with elevated mass fractions of elements).

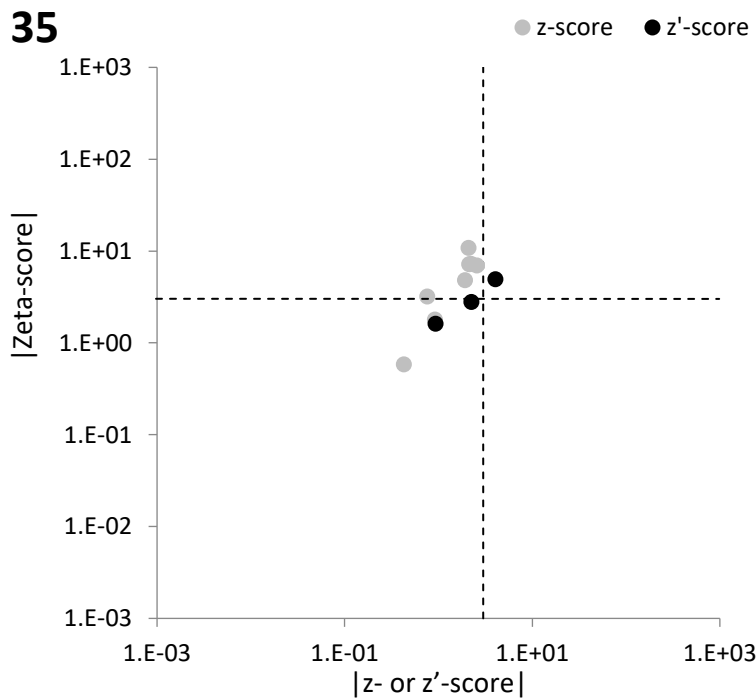


FIG. 182. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 35 (Plant sample).



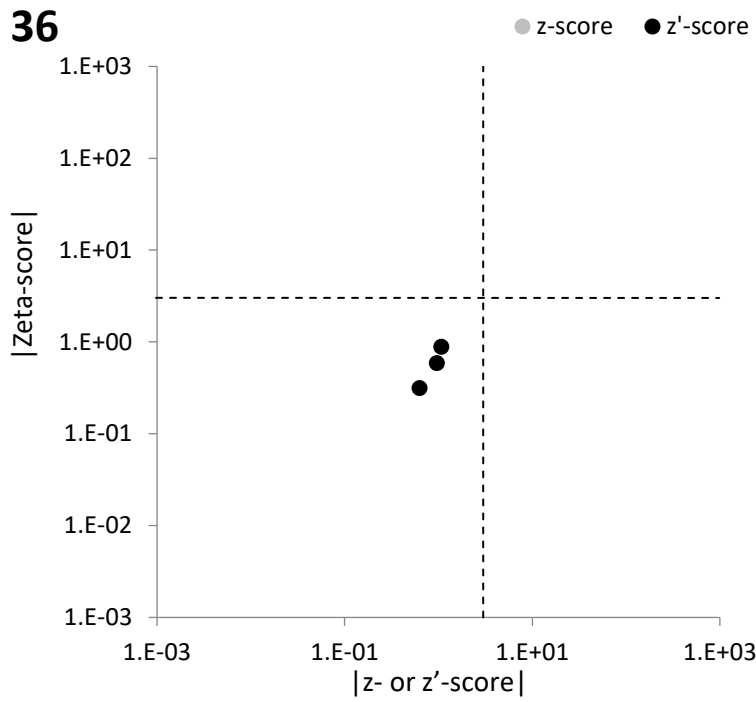


FIG. 183. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 36 (Soil sample with elevated mass fractions of elements).

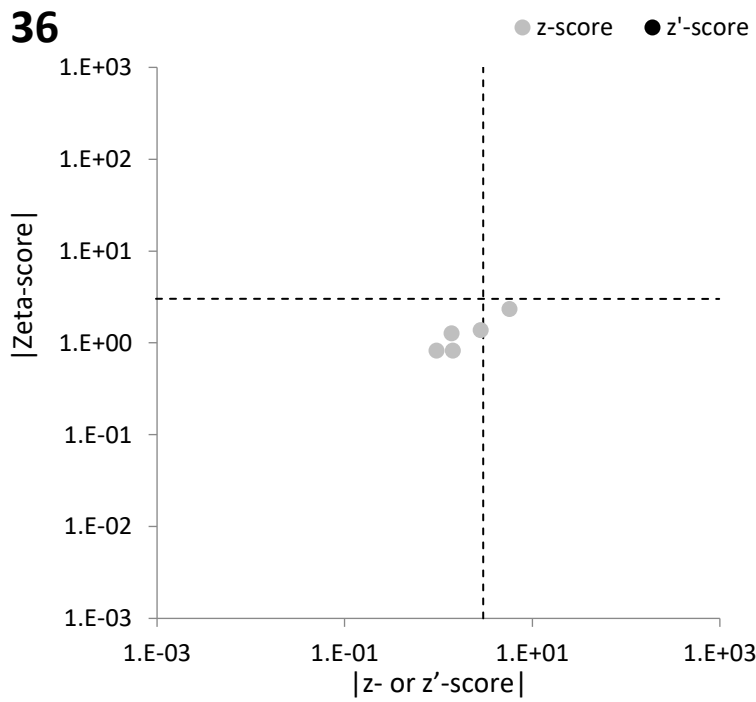


FIG. 184. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 36 (Plant sample).

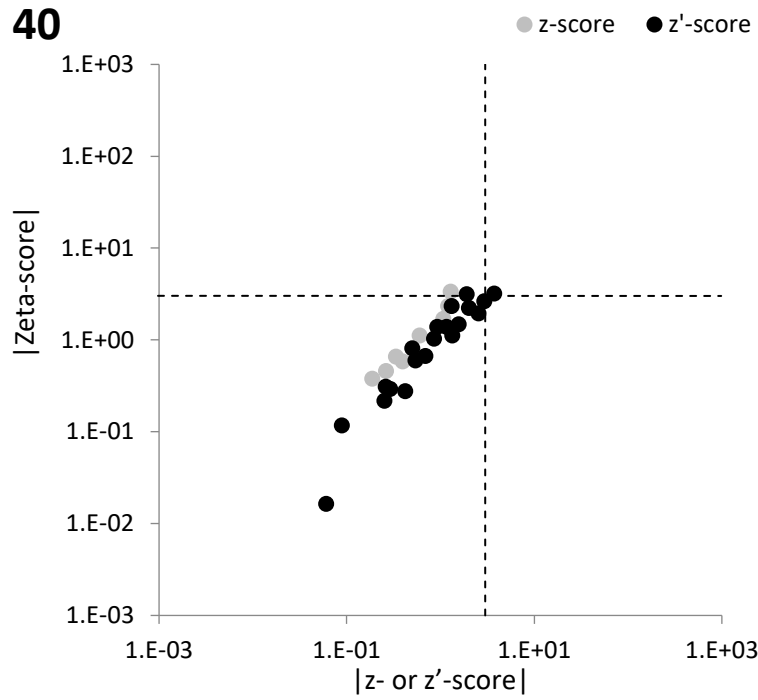


FIG. 185. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 40 (Soil sample with elevated mass fractions of elements).

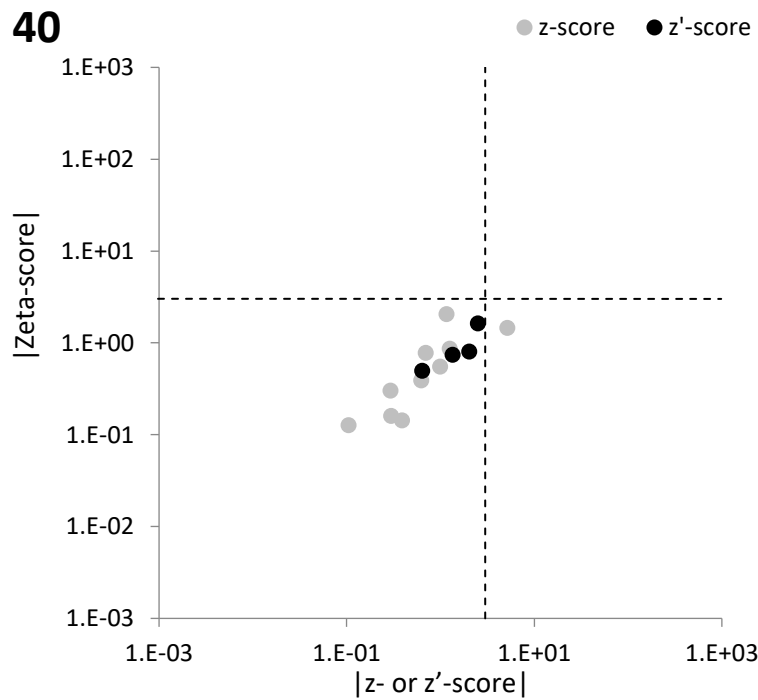


FIG. 186. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 40 (Plant sample).

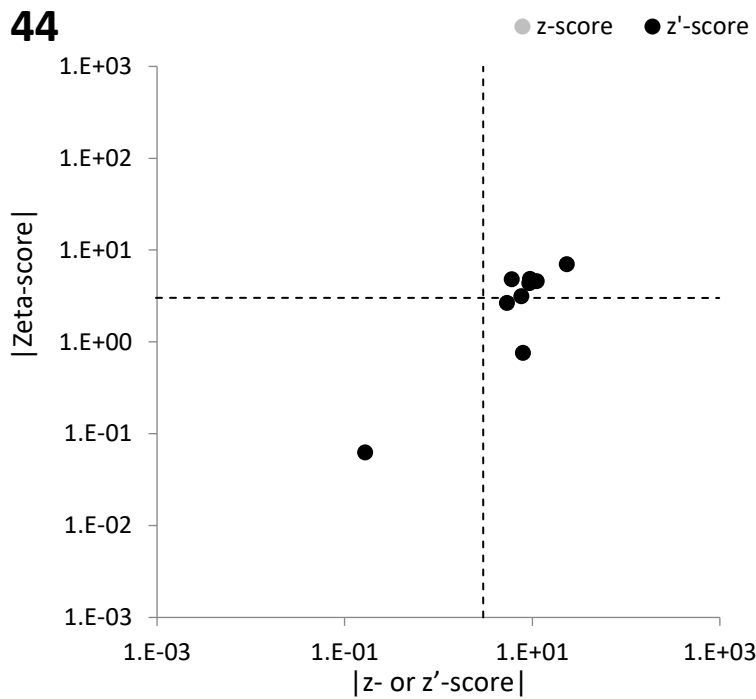


FIG. 187. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 44 (Soil sample with elevated mass fractions of elements).

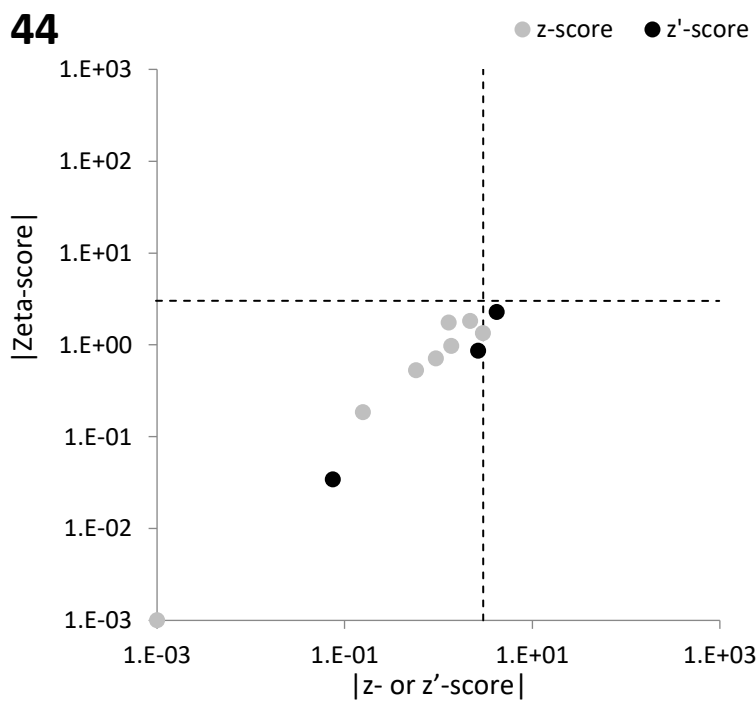


FIG. 188. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 44 (Plant sample).

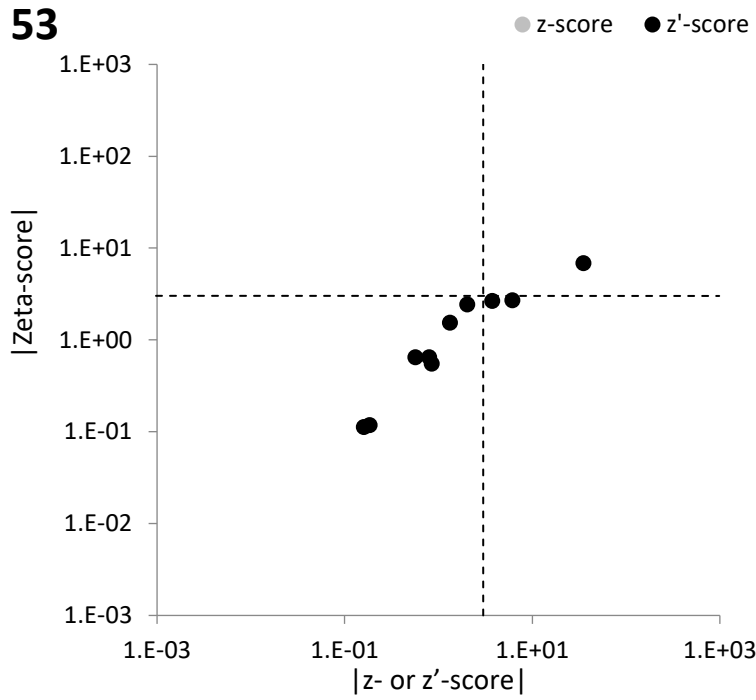


FIG. 189. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 53 (Soil sample with elevated mass fractions of elements).

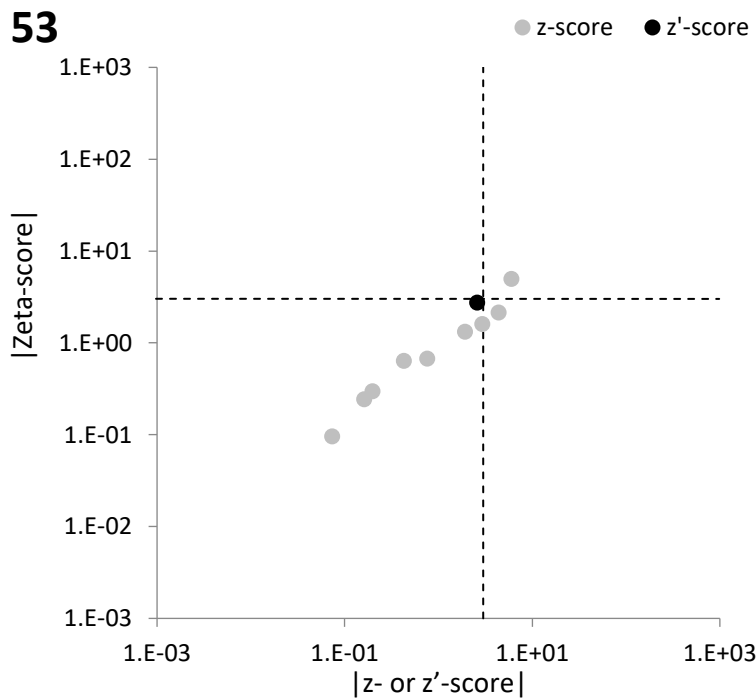


FIG. 190. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 53 (Plant sample).

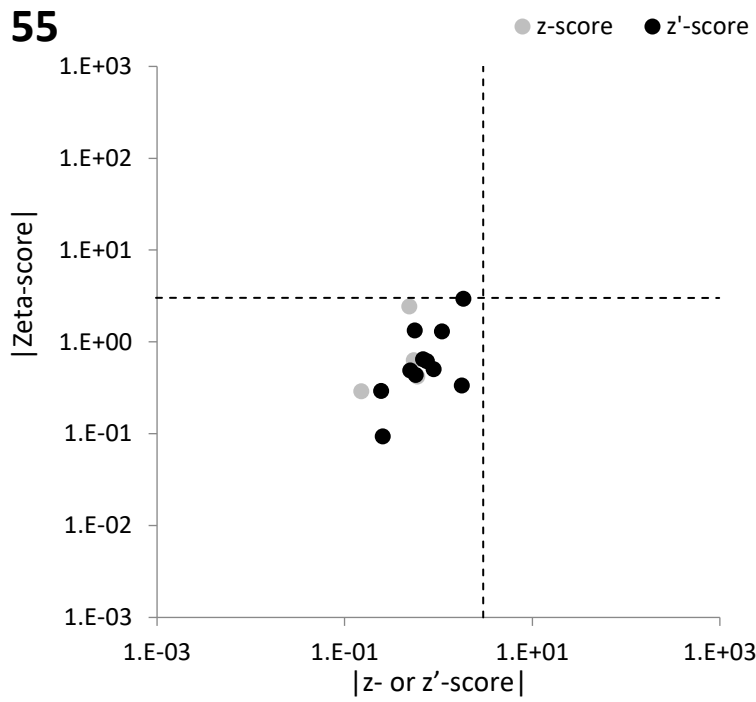


FIG. 191. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 55 (Soil sample with elevated mass fractions of elements).

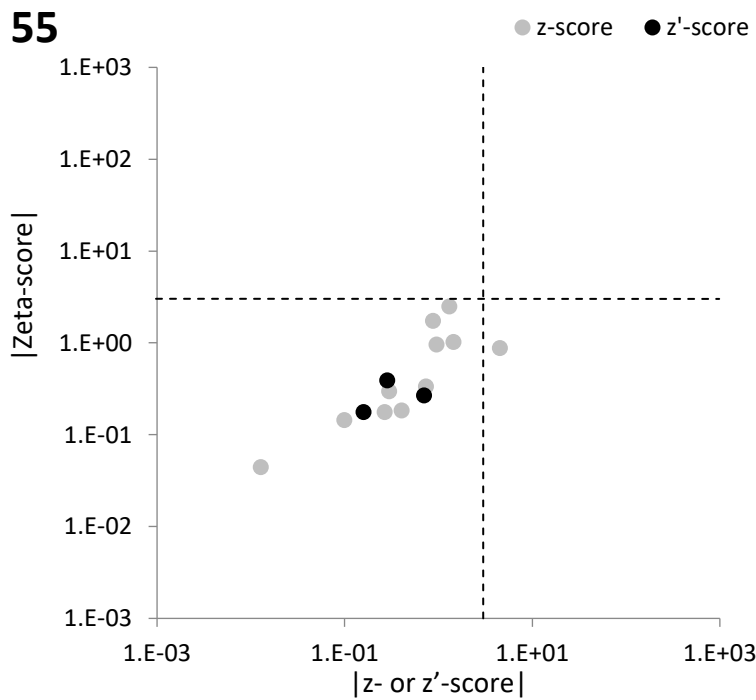


FIG. 192. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 55 (Plant sample).

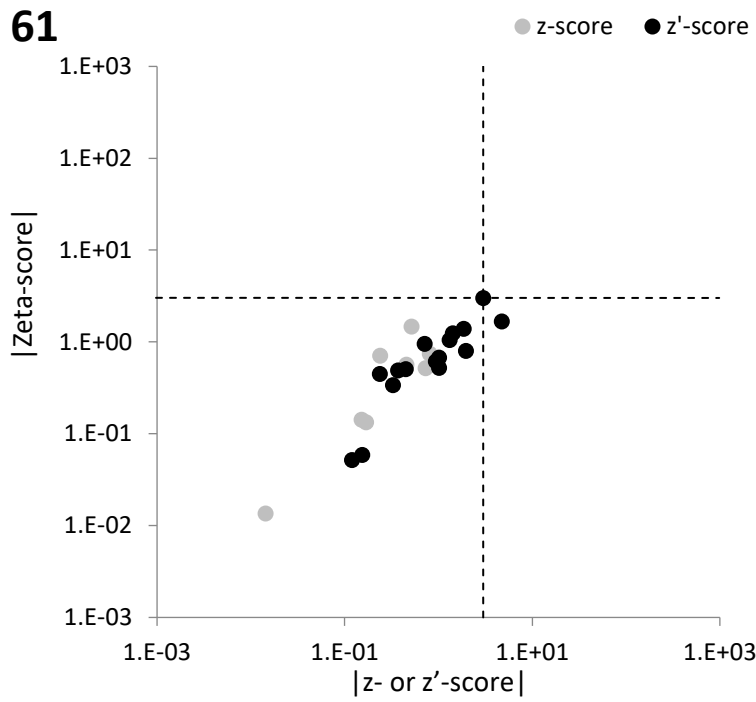


FIG. 193. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 61 (Soil sample with elevated mass fractions of elements).

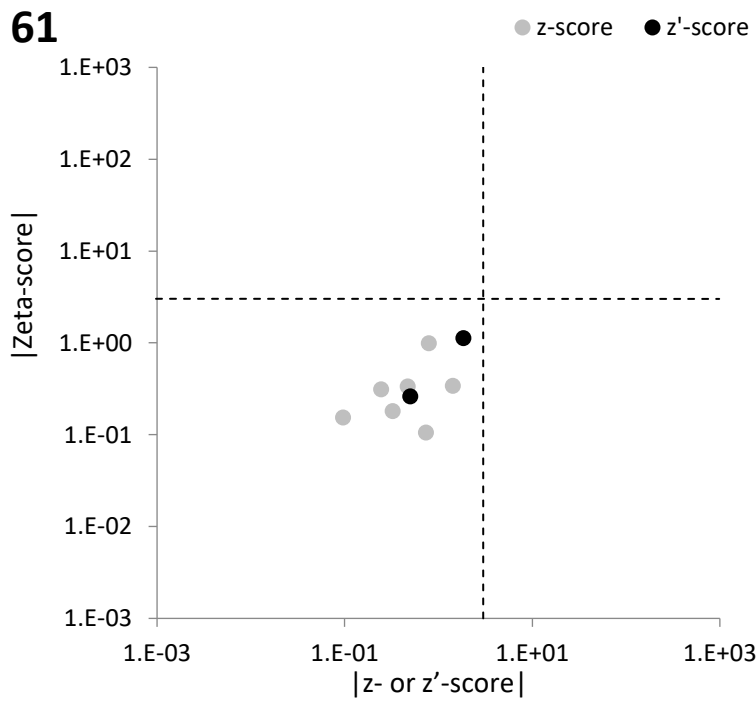


FIG. 194. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 61 (Plant sample).

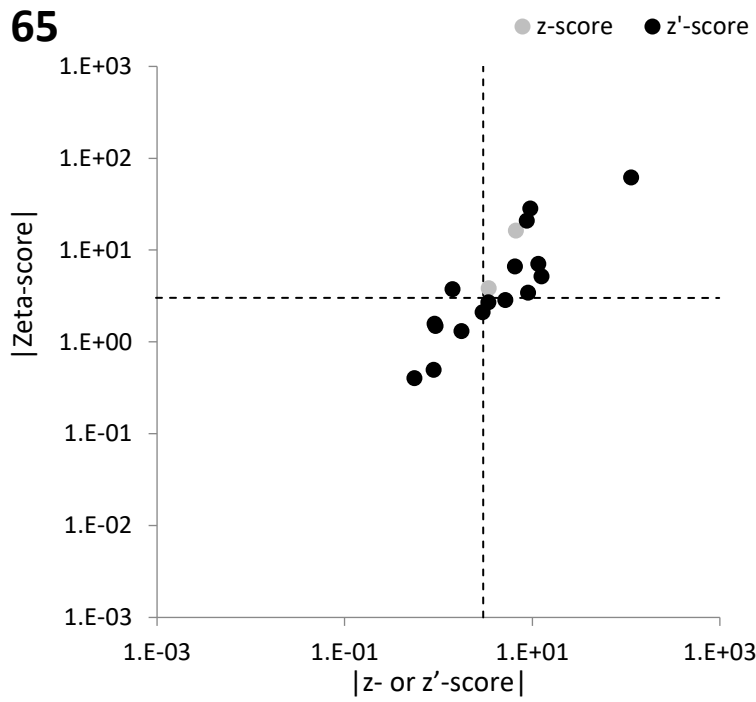


FIG. 195. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 65 (Soil sample with elevated mass fractions of elements).

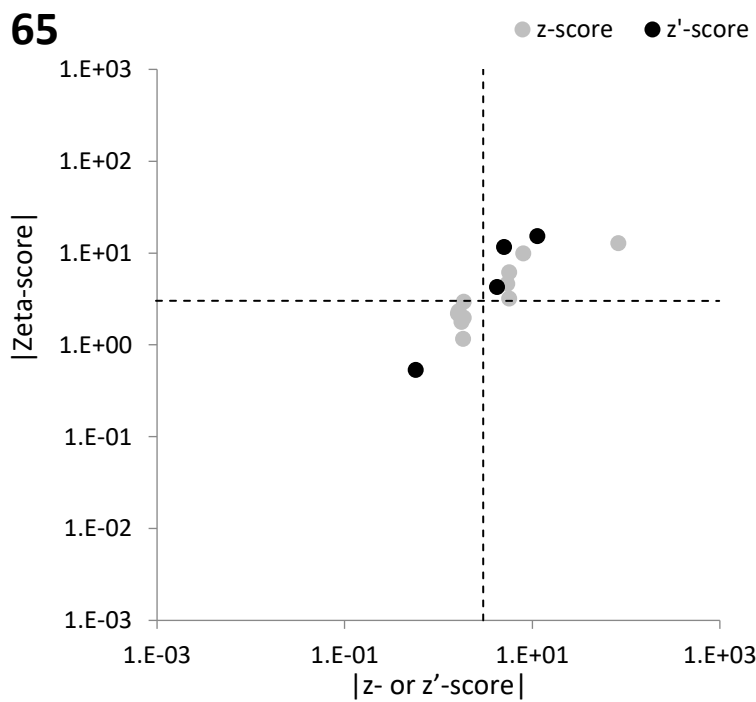


FIG. 196. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 65 (Plant sample).

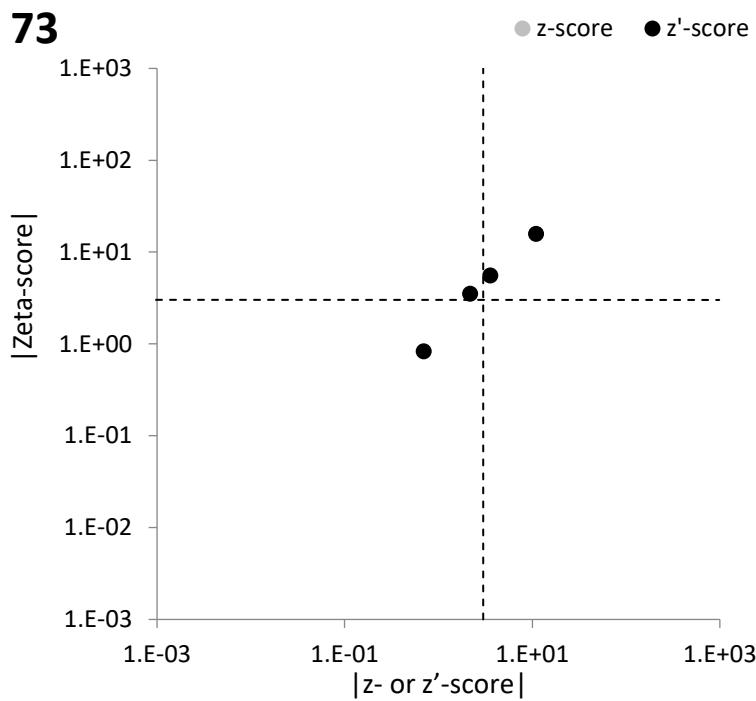


FIG. 197. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 73 (Soil sample with elevated mass fractions of elements).

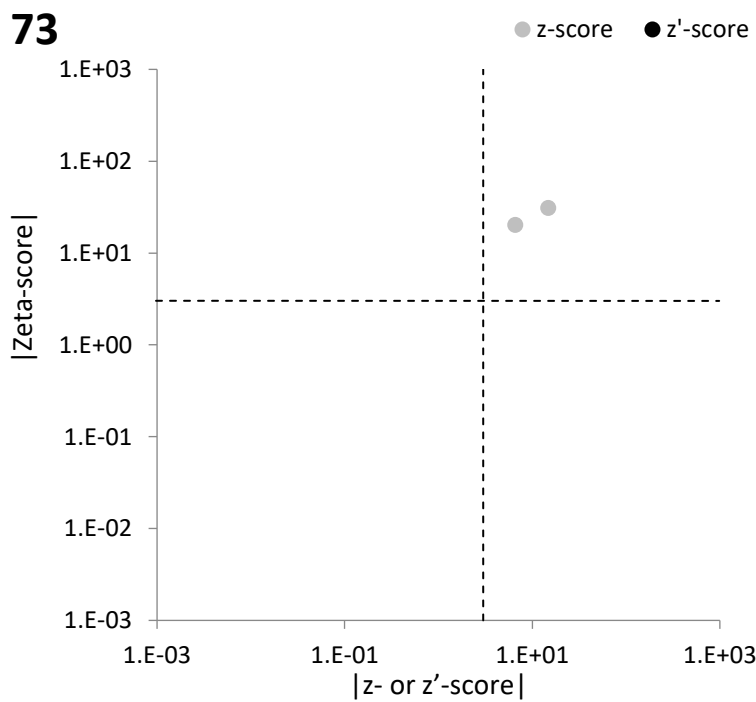


FIG. 198. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 73 (Plant sample).



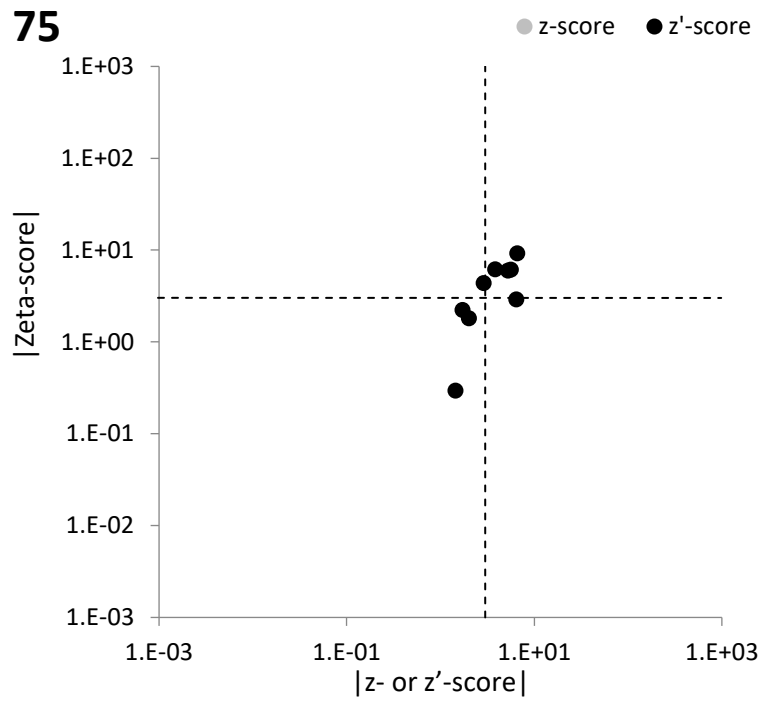


FIG. 199. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 75 (Soil sample with elevated mass fractions of elements).

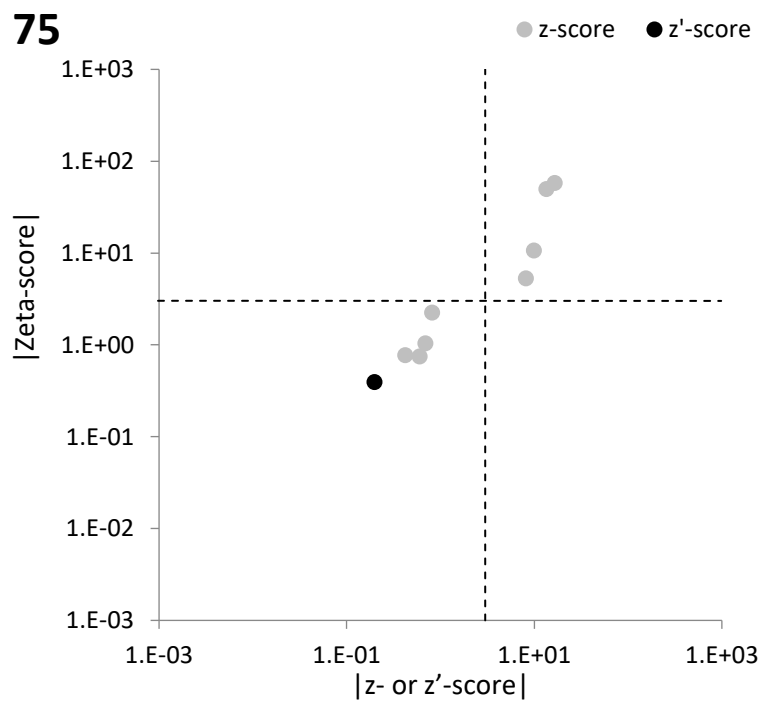


FIG. 200. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 75 (Plant sample).

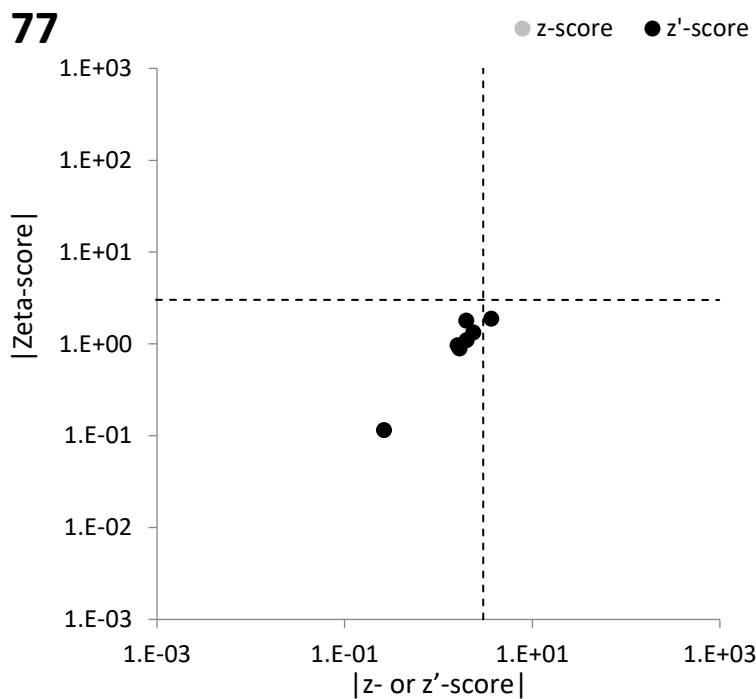


FIG. 201. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 77 (Soil sample with elevated mass fractions of elements).

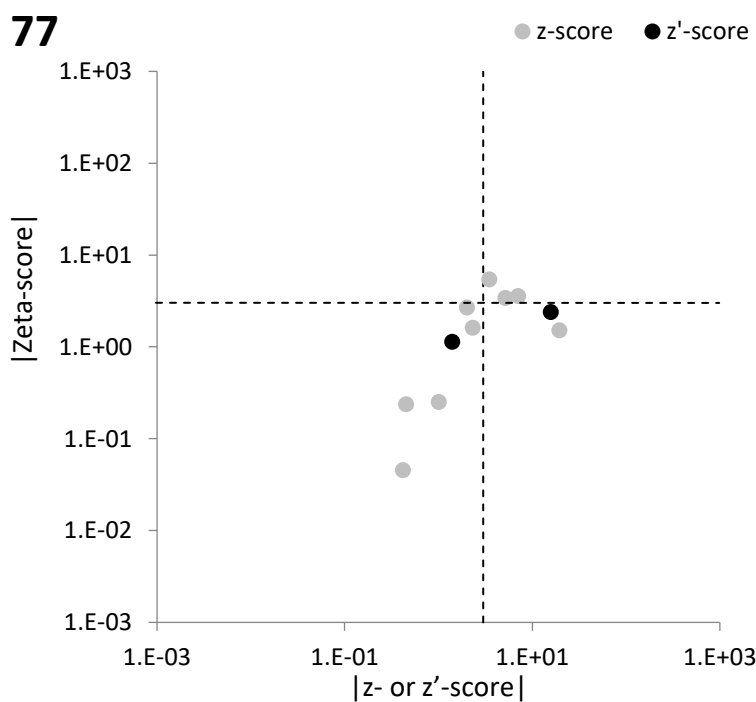


FIG. 202. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 77 (Plant sample).

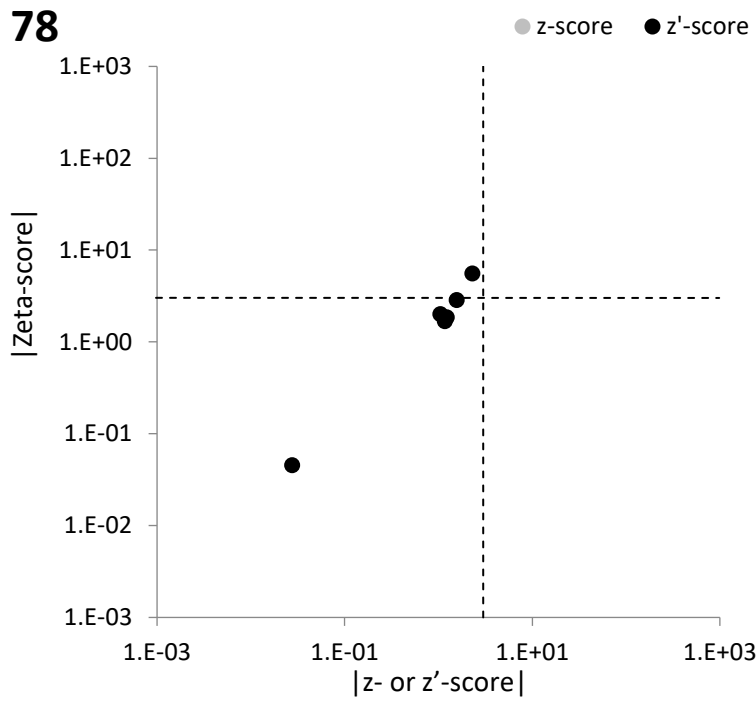


FIG. 203. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 78 (Soil sample with elevated mass fractions of elements).

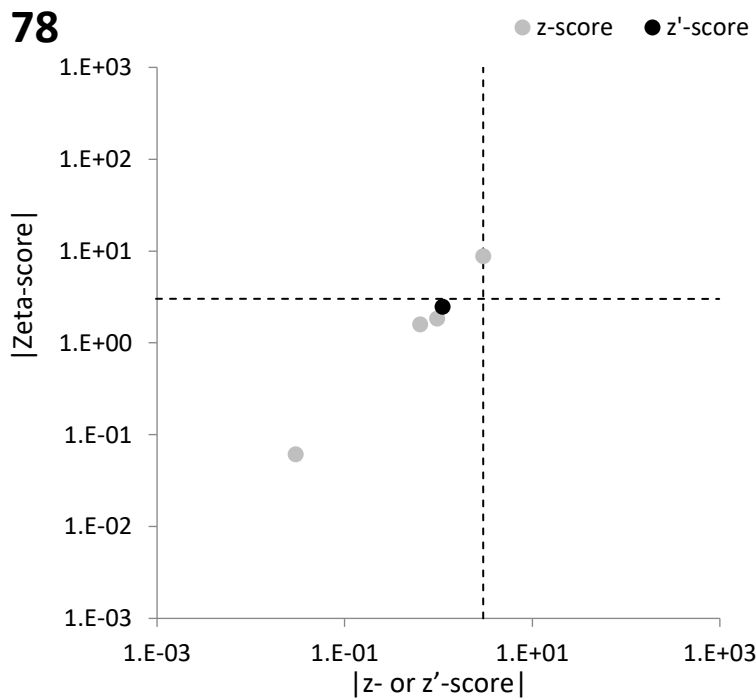


FIG. 204. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 78 (Plant sample).

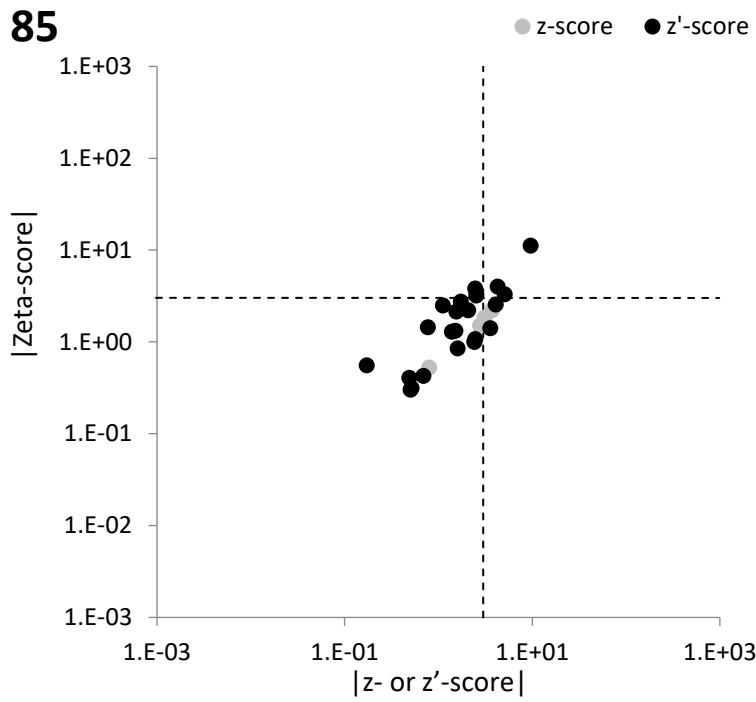


FIG. 205. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 85 (Soil sample with elevated mass fractions of elements).

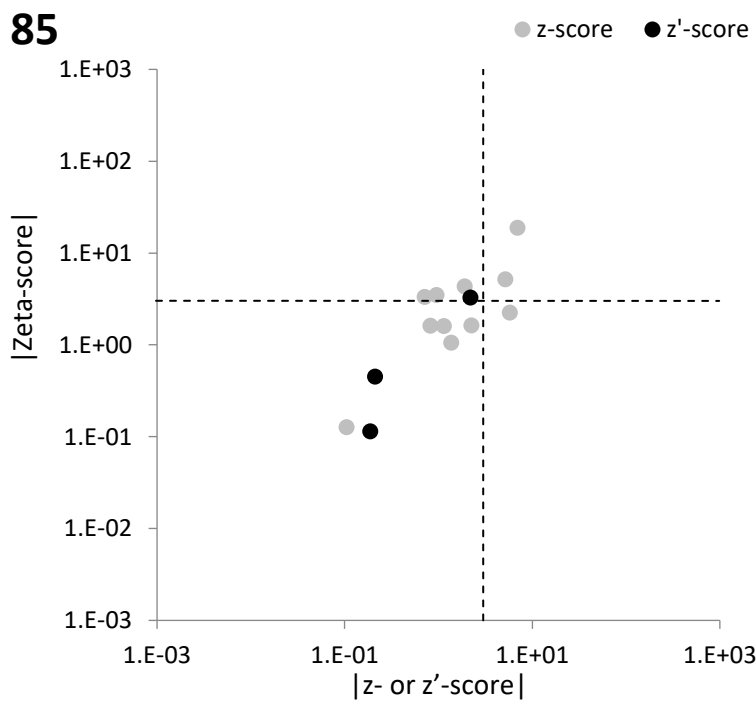


FIG. 206. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 85 (Plant sample).

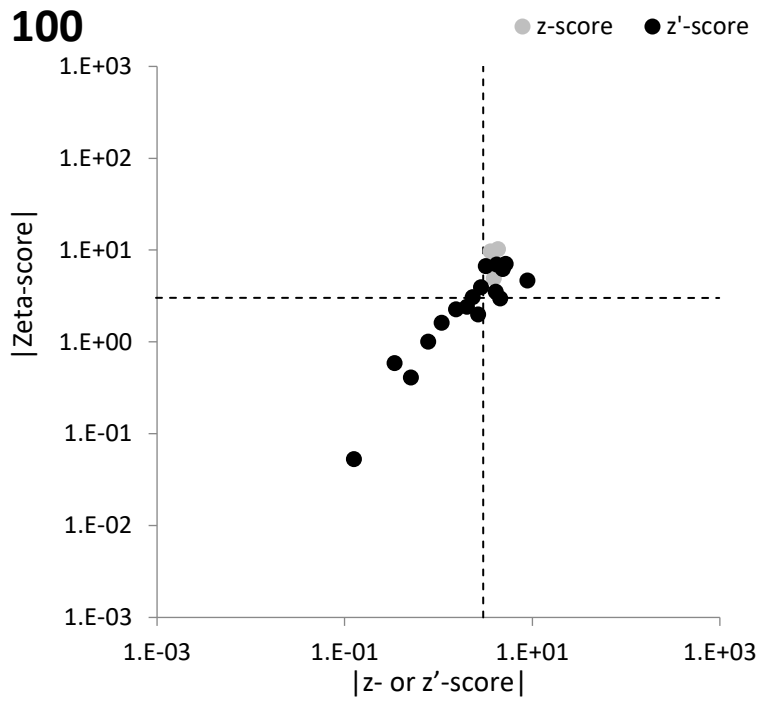


FIG. 207. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 100 (Soil sample with elevated mass fractions of elements).

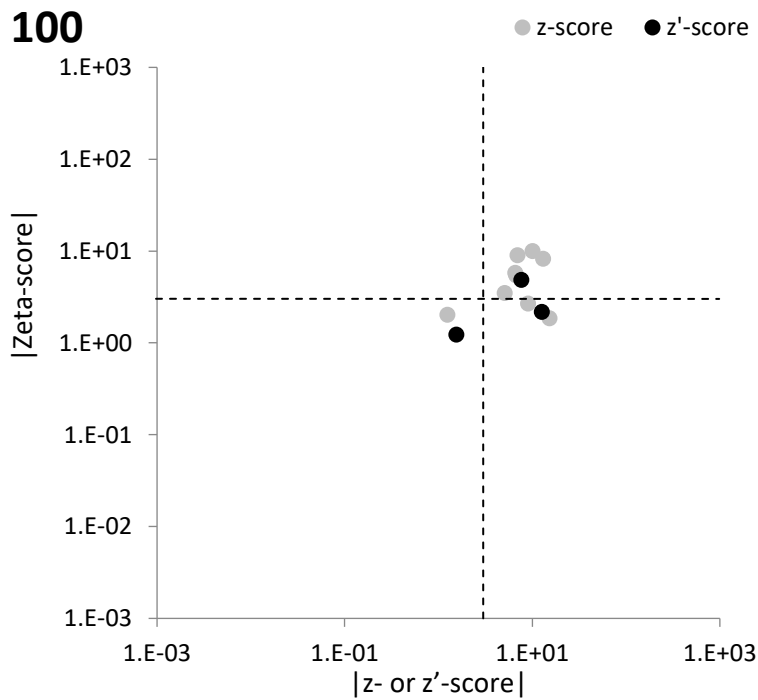


FIG. 208. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 100 (Plant sample).

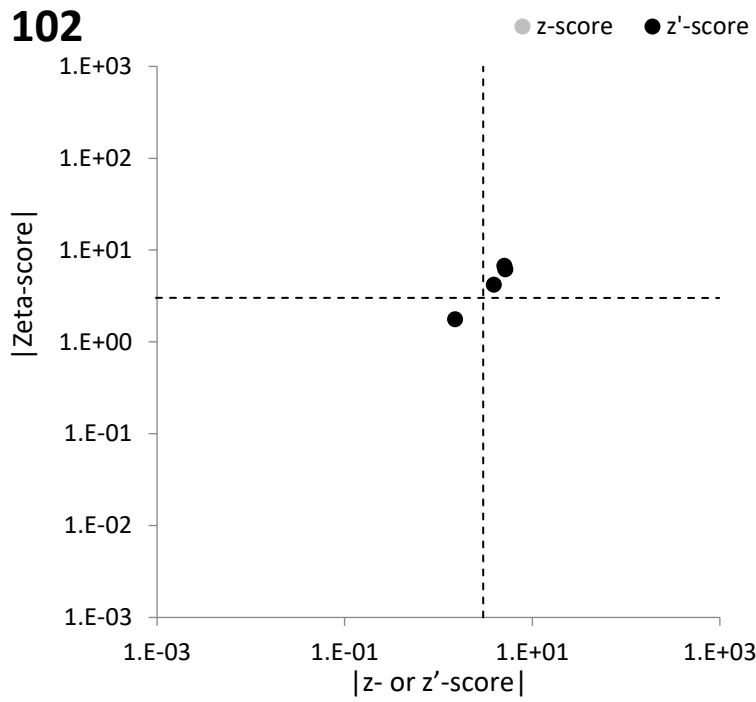


FIG. 209. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 102 (Soil sample with elevated mass fractions of elements).

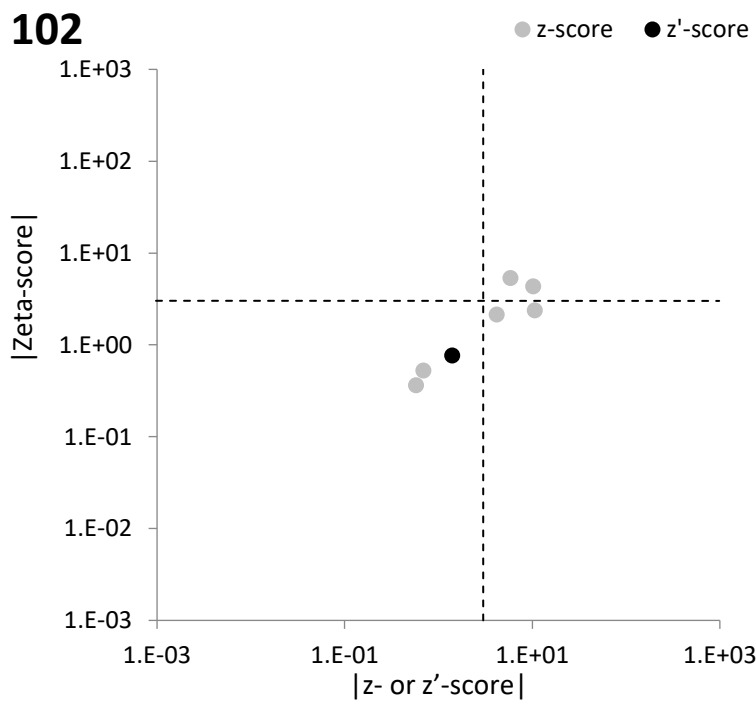


FIG. 210. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 102 (Plant sample).

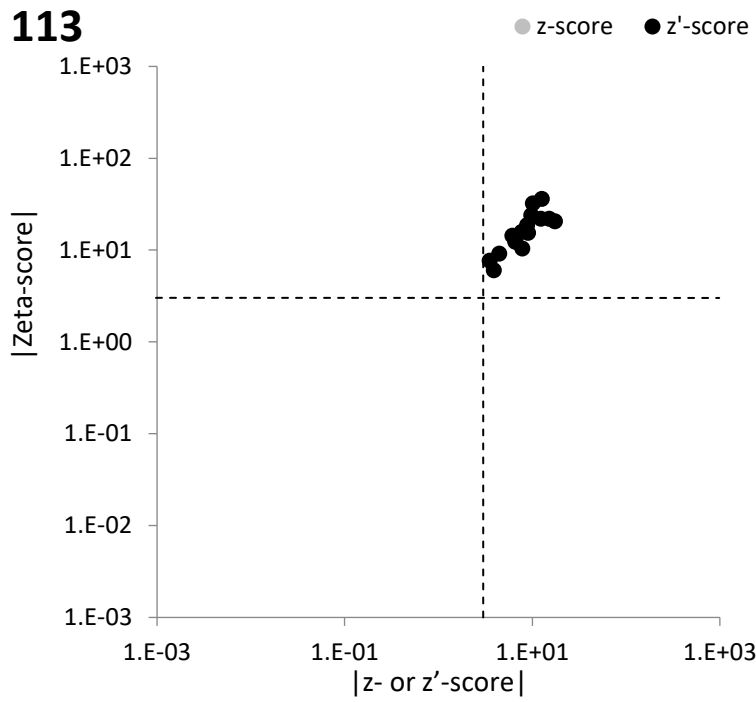


FIG. 211. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 113 (Soil sample with elevated mass fractions of elements).

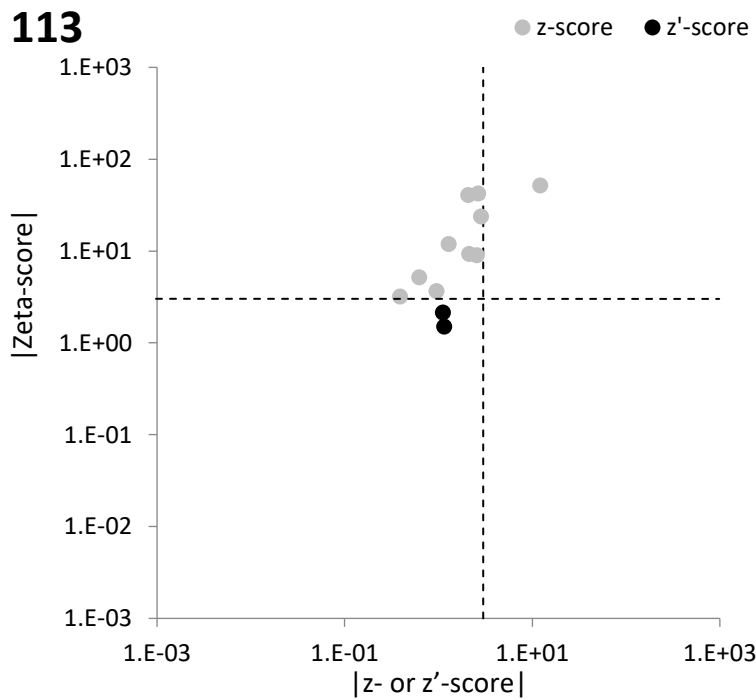


FIG. 212. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 113 (Plant sample).

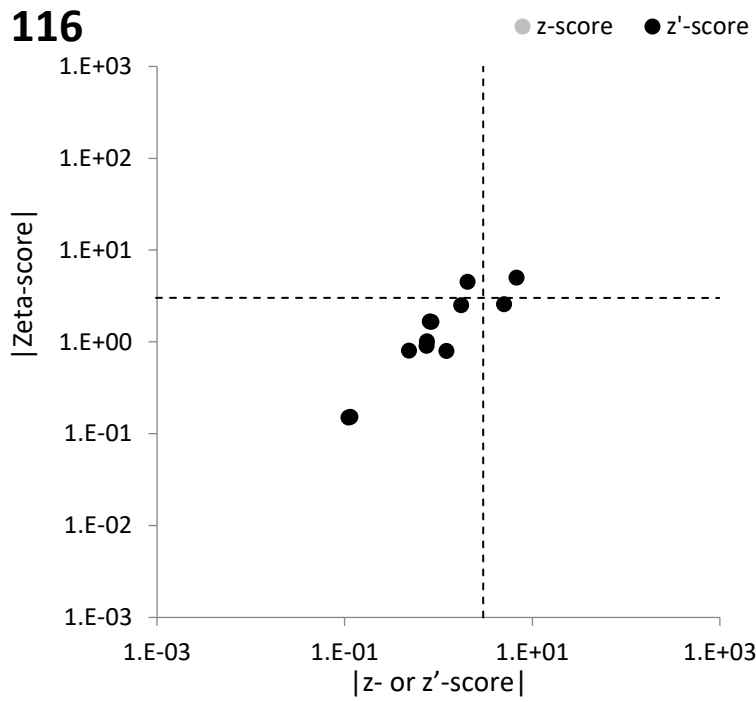


FIG. 213. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 116 (Soil sample with elevated mass fractions of elements).

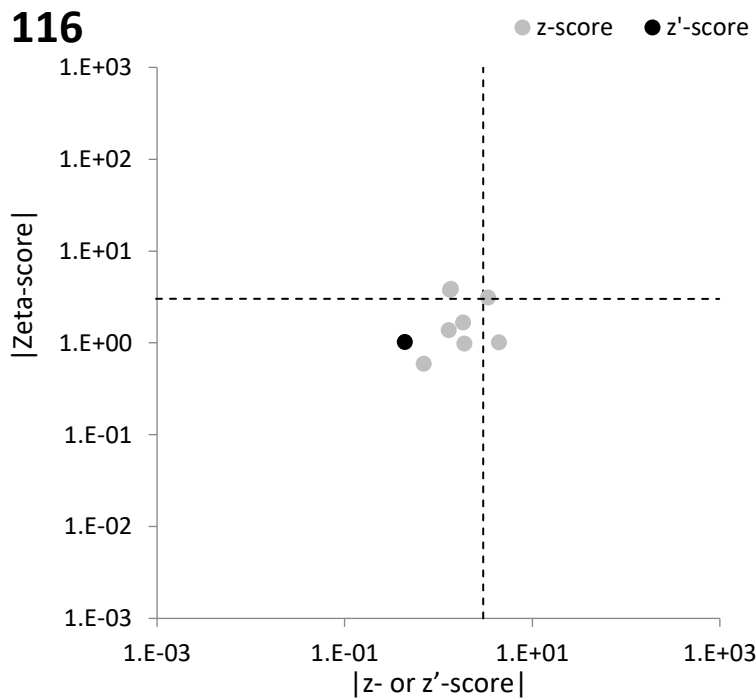


FIG. 214. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 116 (Plant sample).



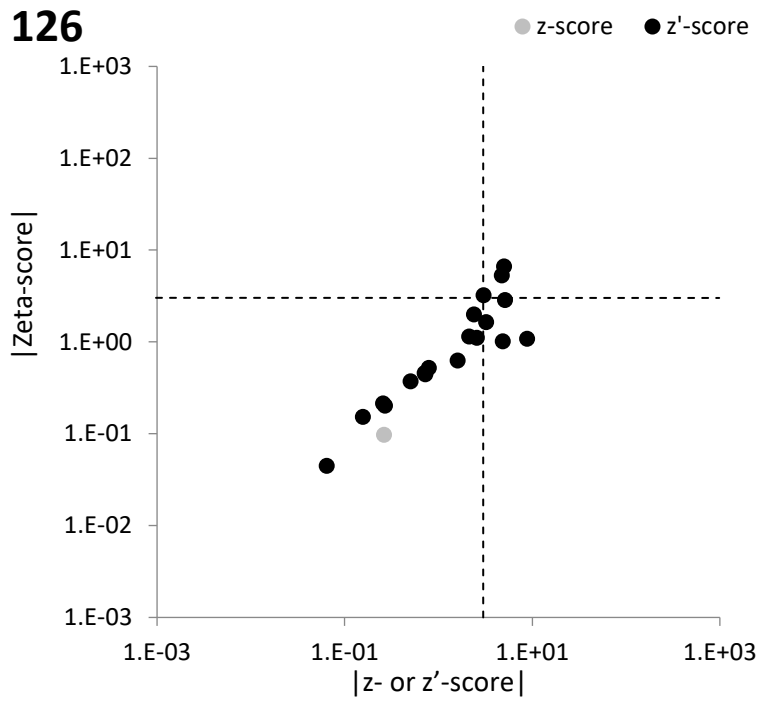


FIG. 215. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 126 (Soil sample with elevated mass fractions of elements).

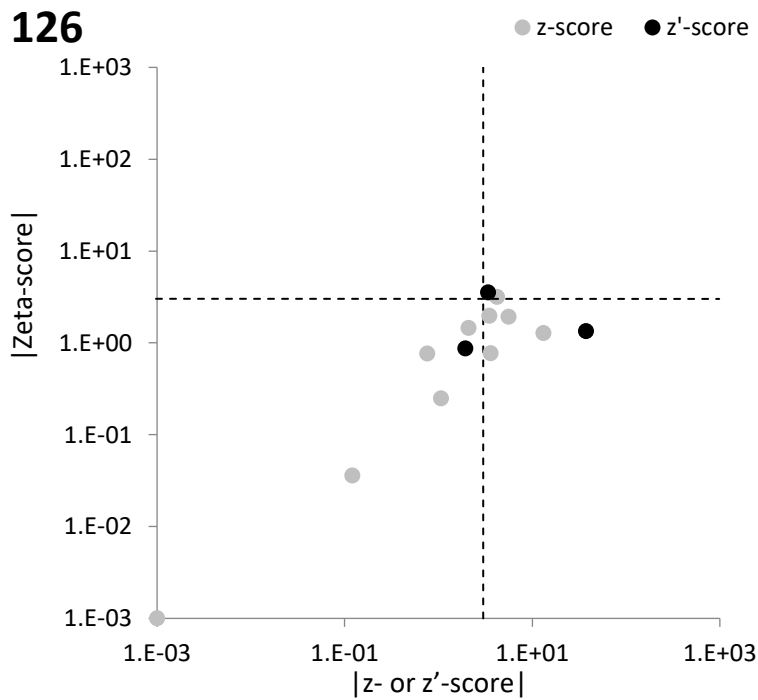


FIG. 216. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 126 (Plant sample).

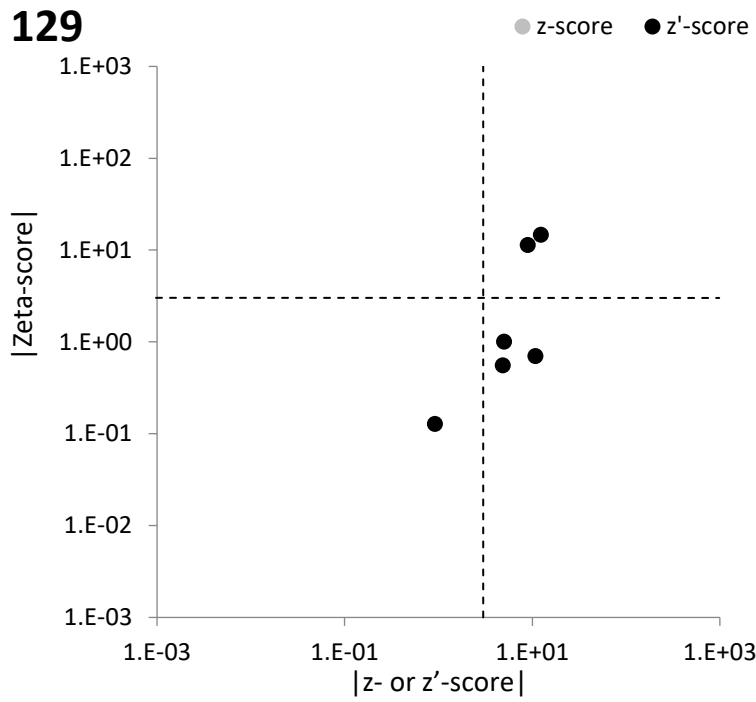


FIG. 217. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 129 (Soil sample with elevated mass fractions of elements).

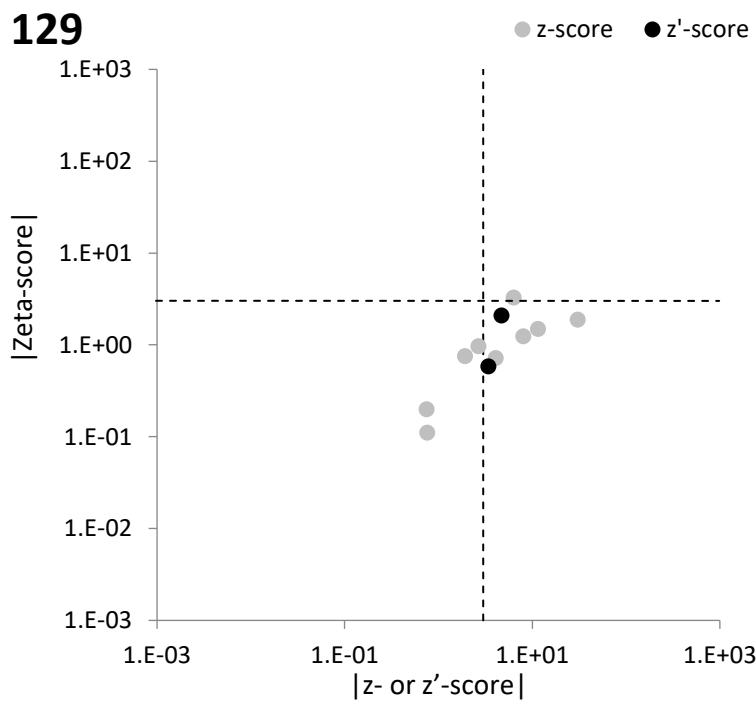


FIG. 218. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 129 (Plant sample).

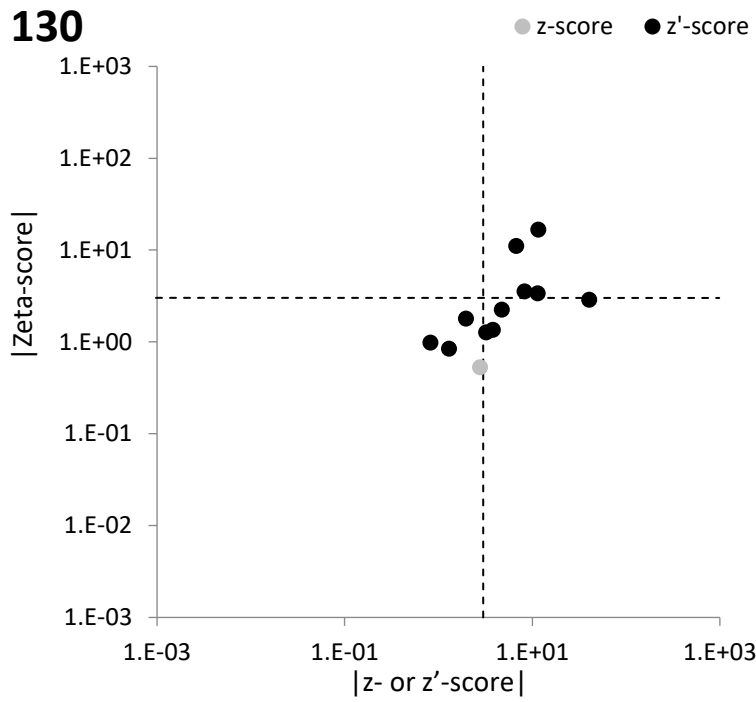


FIG. 219. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 130 (Soil sample with elevated mass fractions of elements).

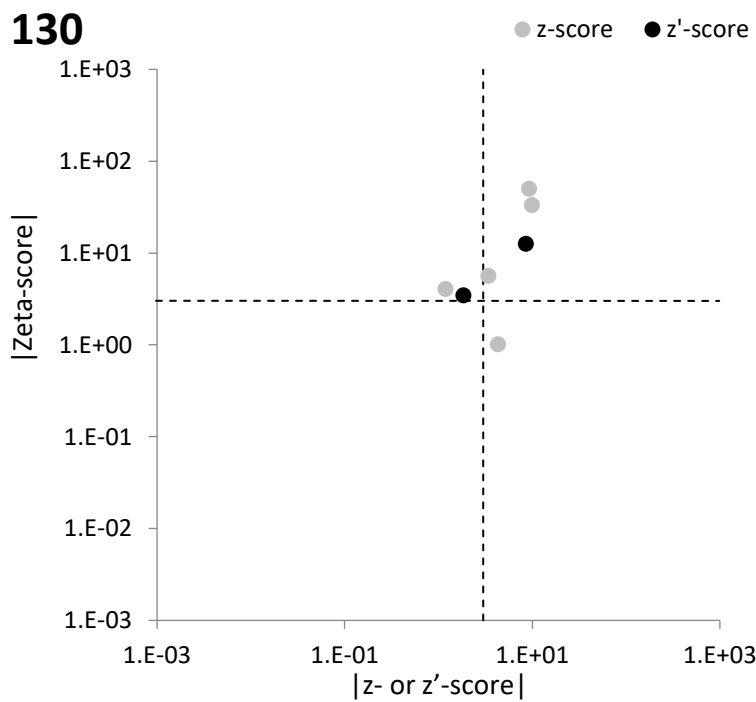


FIG. 220. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 130 (Plant sample).

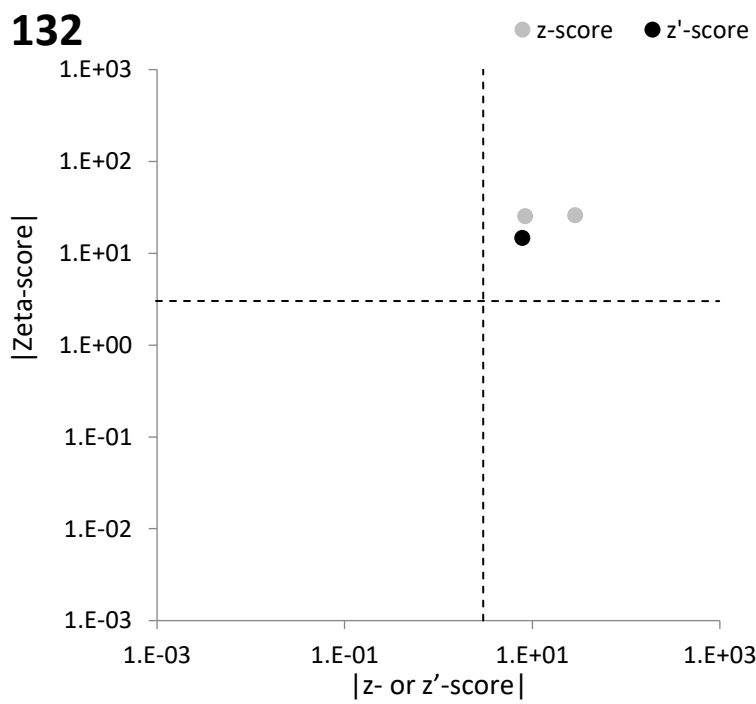


FIG. 221. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 132 (Plant sample).

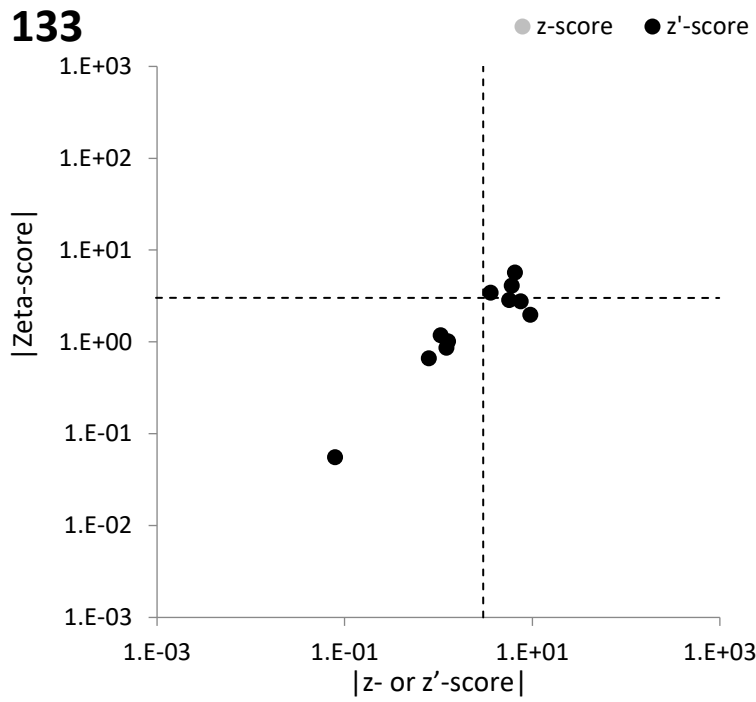


FIG. 222. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 133 (Soil sample with elevated mass fractions of elements).

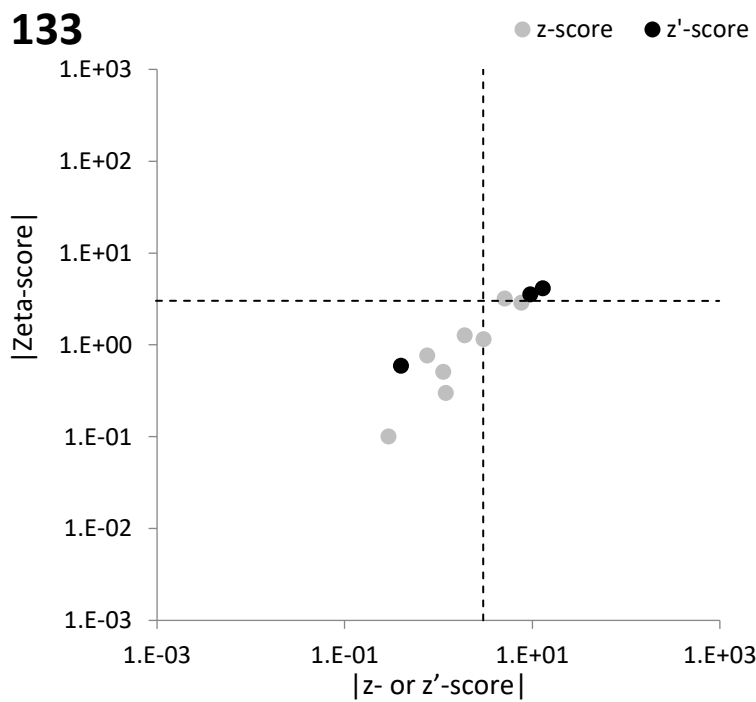


FIG. 223. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 133 (Plant sample).

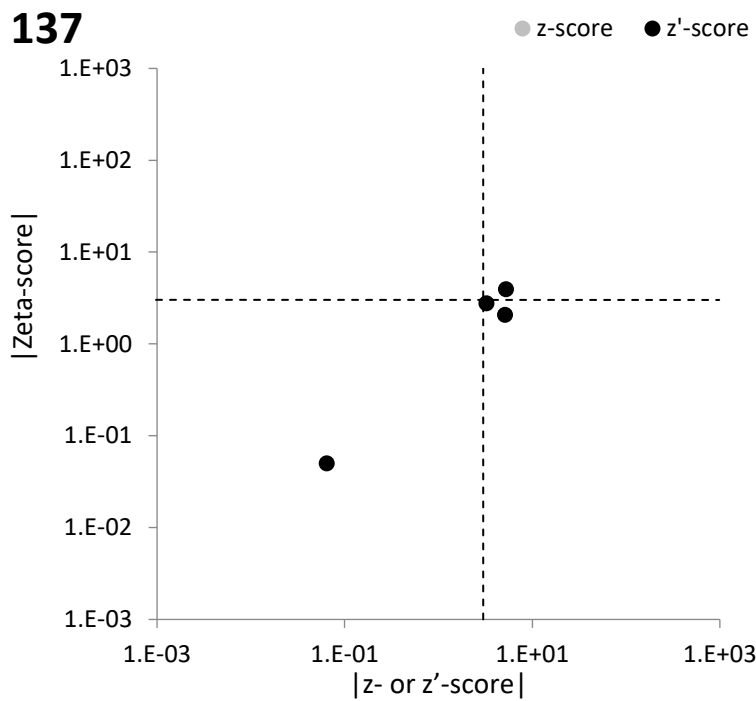


FIG. 224. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 137 (Soil sample with elevated mass fractions of elements).

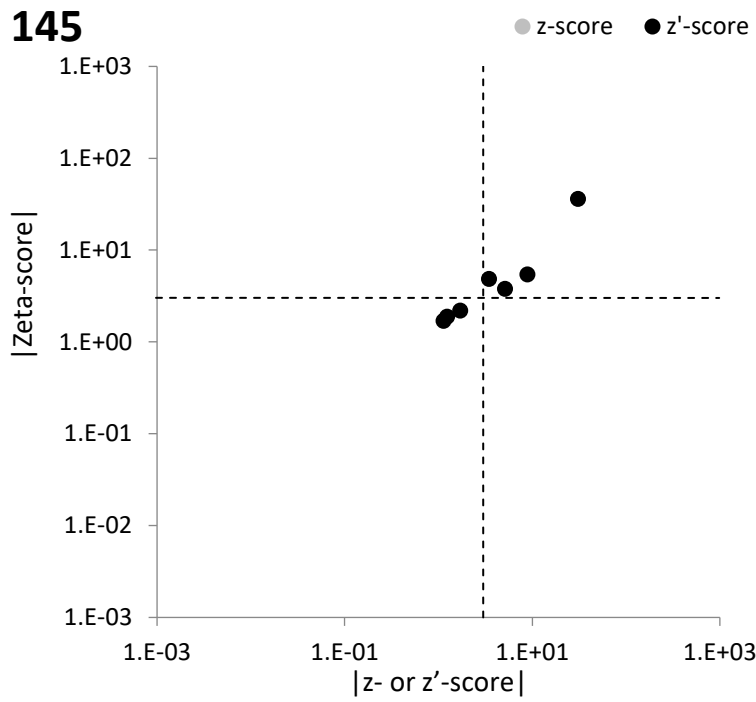


FIG. 225. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 145 (Soil sample with elevated mass fractions of elements).

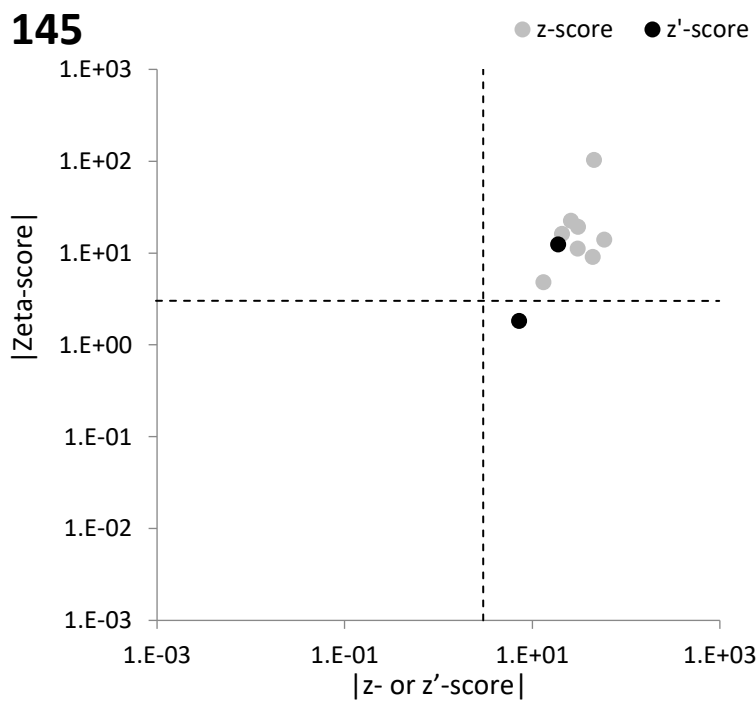


FIG. 226. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 145 (Plant sample).

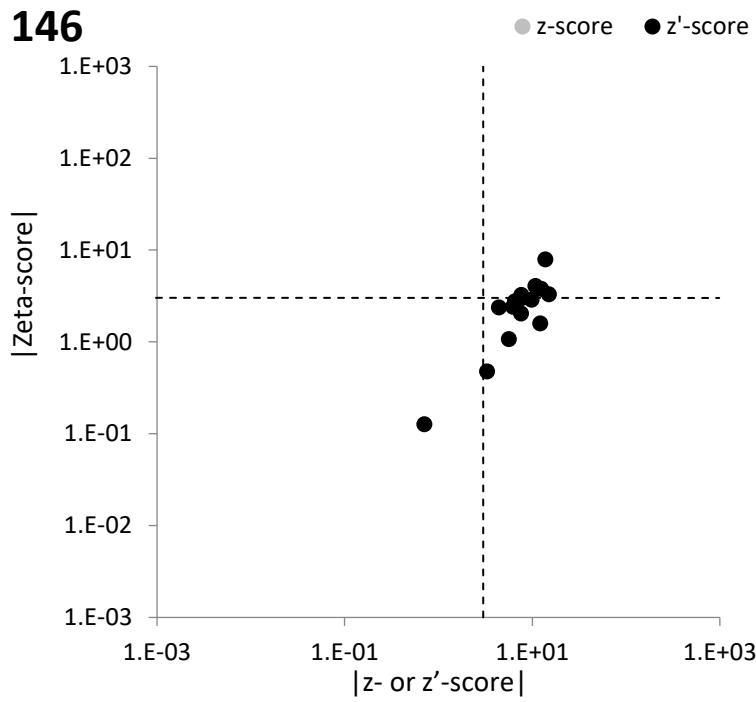


FIG. 227. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 146 (Soil sample with elevated mass fractions of elements).

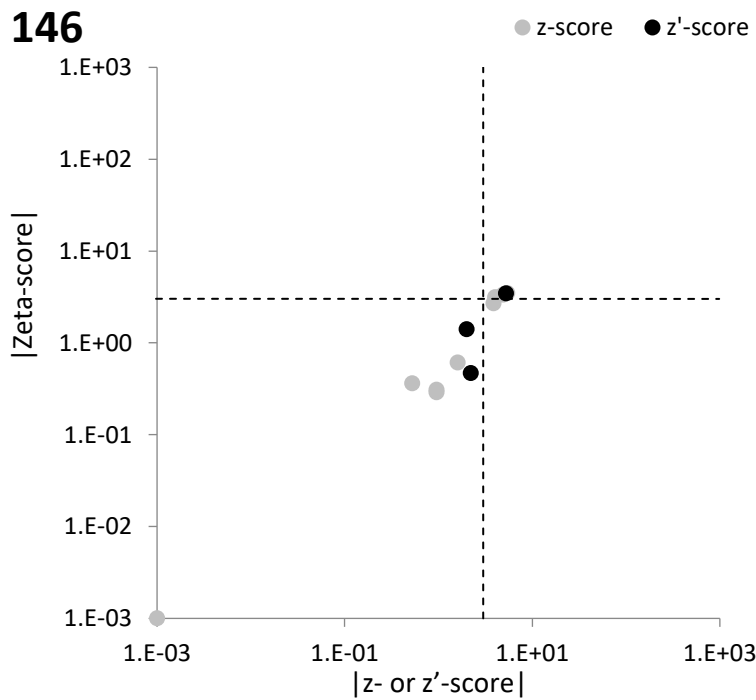


FIG. 228. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 146 (Plant sample).



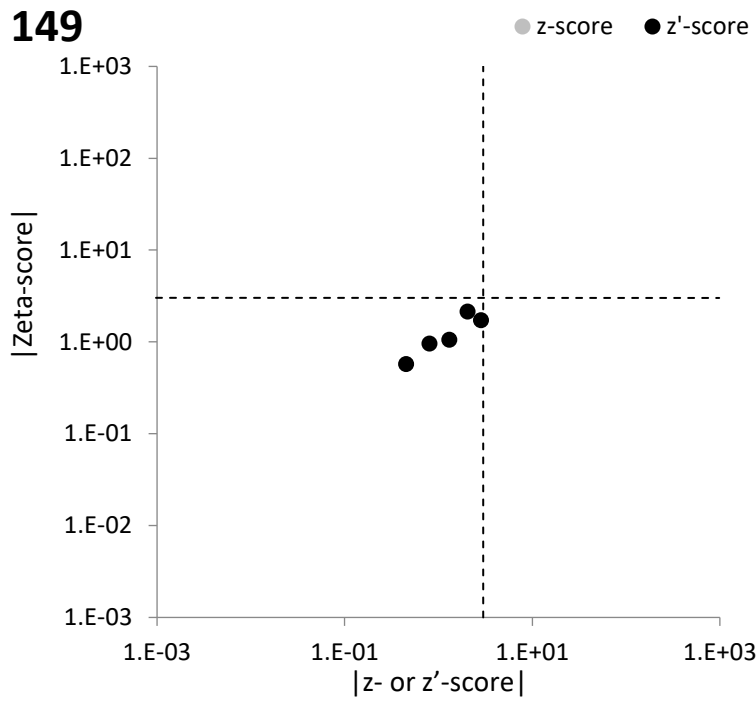


FIG. 229. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 149 (Soil sample with elevated mass fractions of elements).

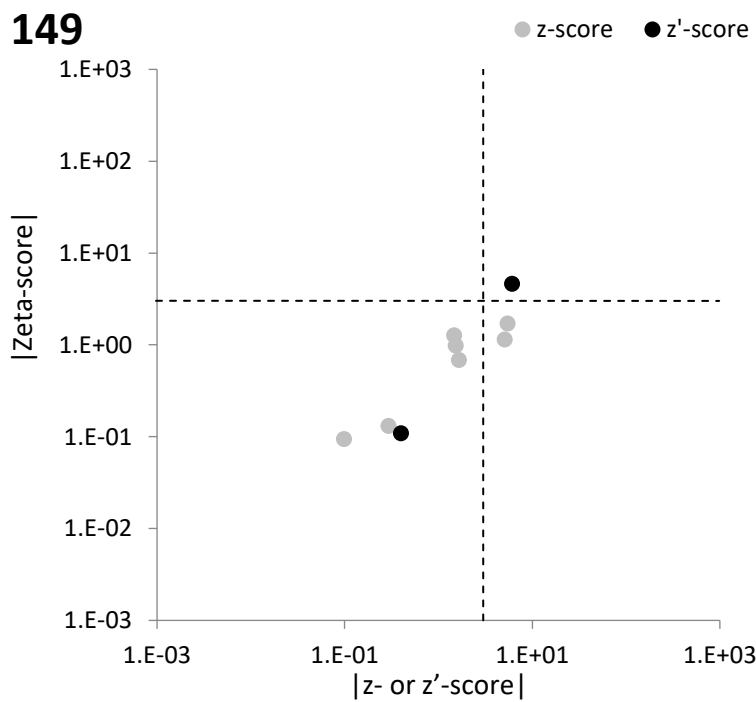


FIG. 230. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 149 (Plant sample).

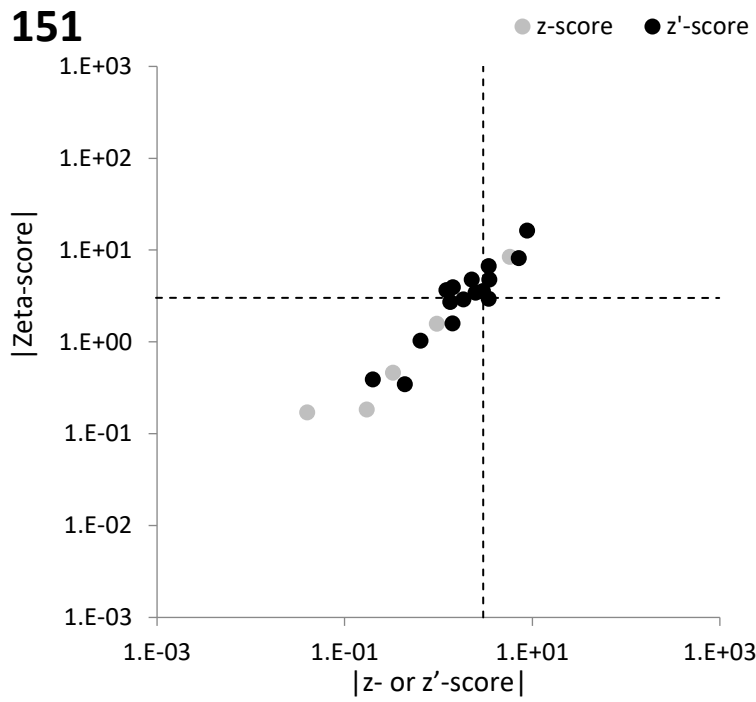


FIG. 231. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 151 (Soil sample with elevated mass fractions of elements).

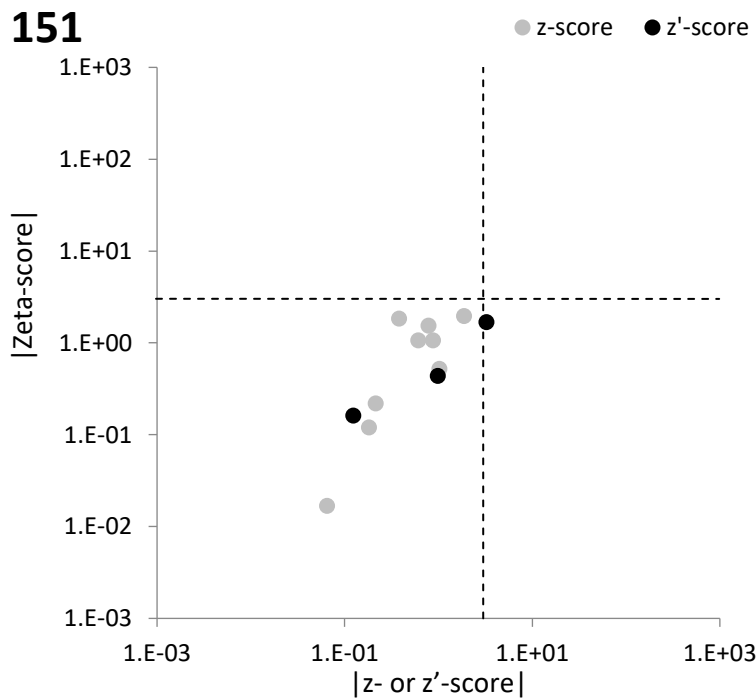


FIG. 232. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 151 (Plant sample).

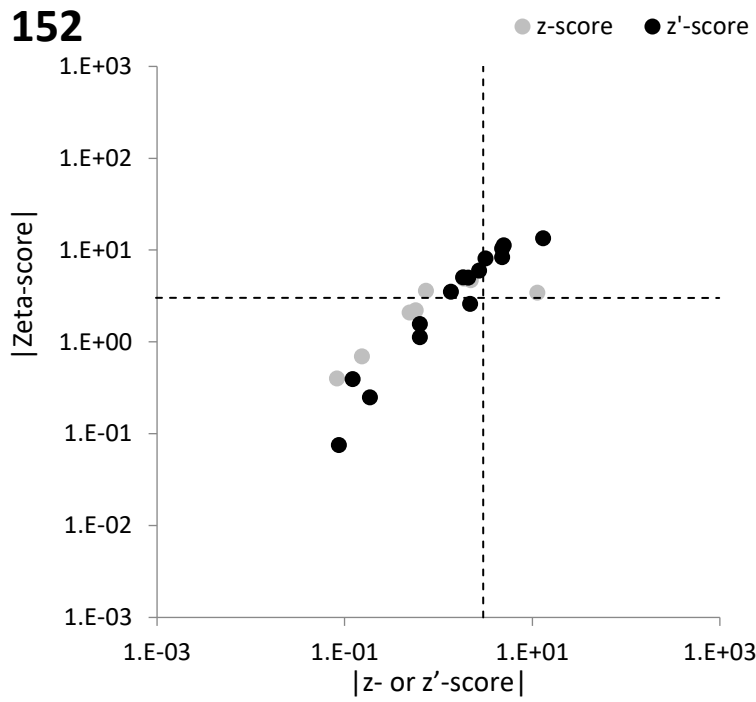


FIG. 233. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 152 (Soil sample with elevated mass fractions of elements).

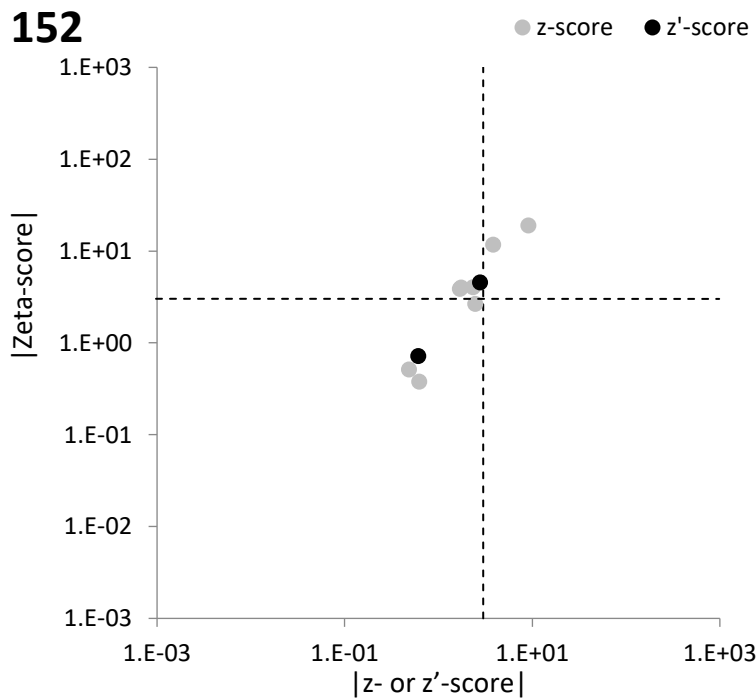


FIG. 234. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 152 (Plant sample).

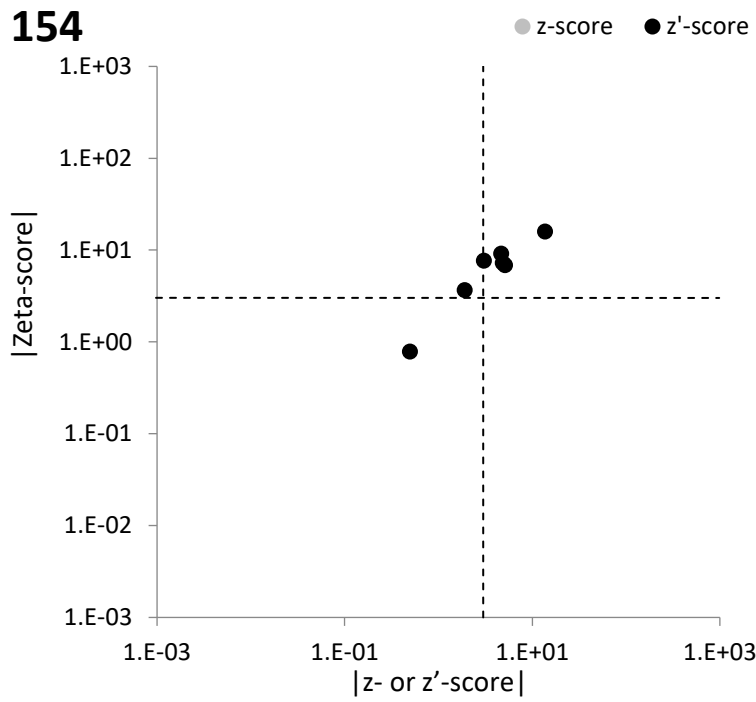


FIG. 235. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 154 (Soil sample with elevated mass fractions of elements).

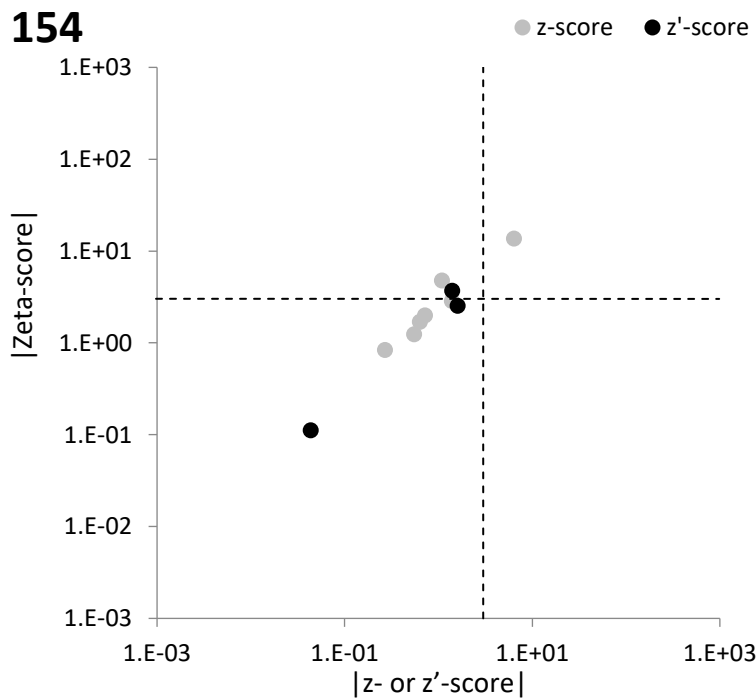


FIG. 236. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 154 (Plant sample).

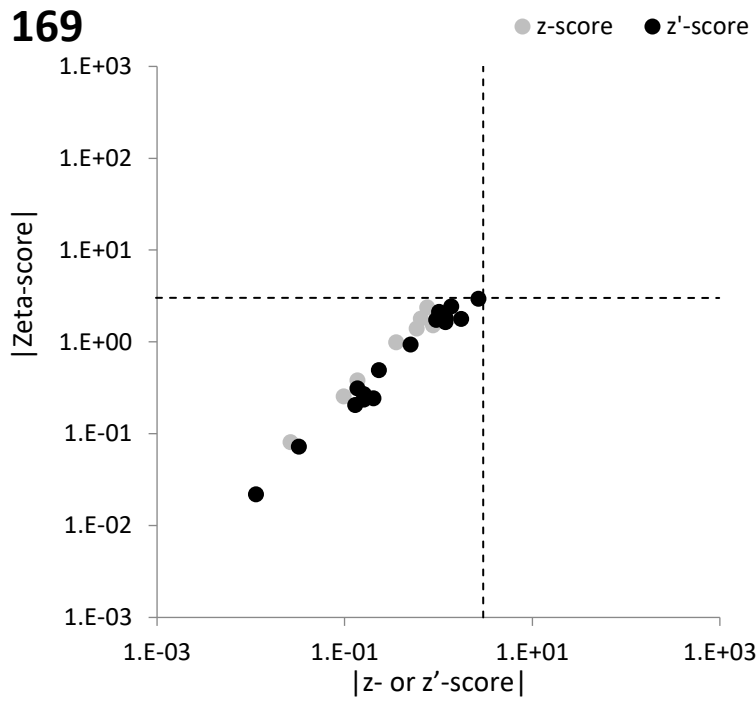


FIG. 237. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 169 (Soil sample with elevated mass fractions of elements).

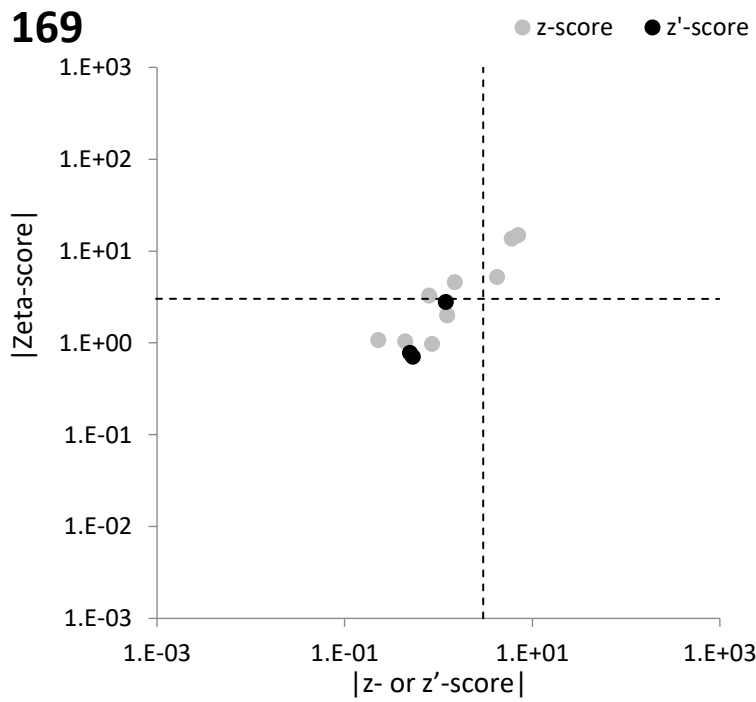


FIG. 238. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 169 (Plant sample).

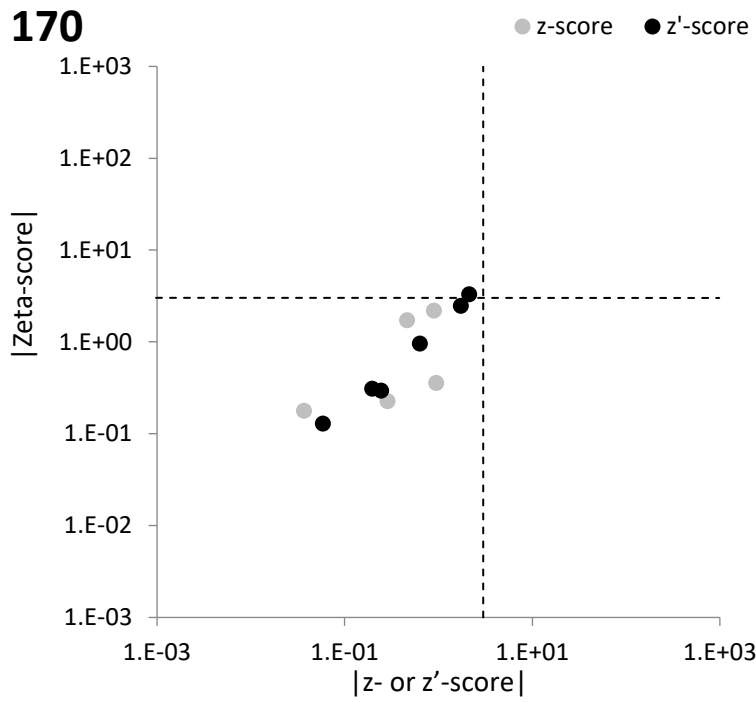


FIG. 239. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 170 (Soil sample with elevated mass fractions of elements).

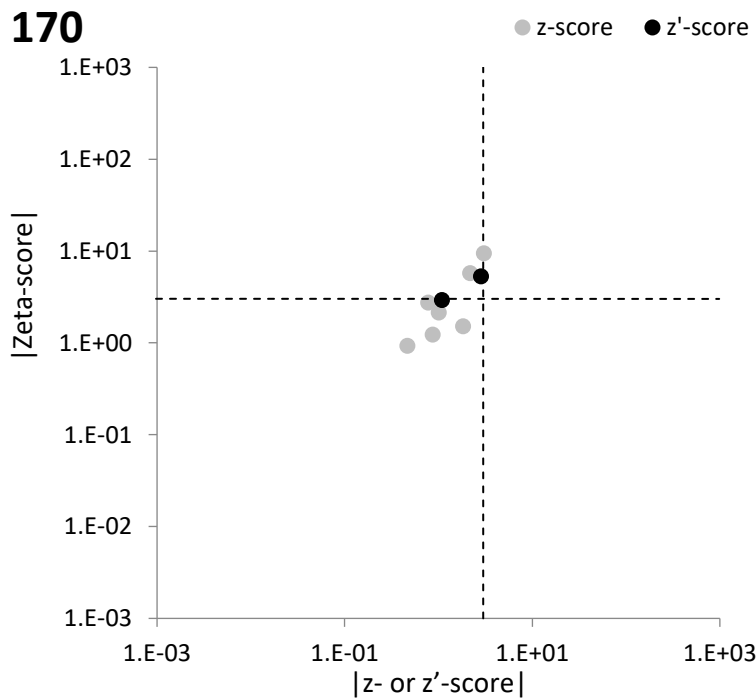


FIG. 240. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 170 (Plant sample).

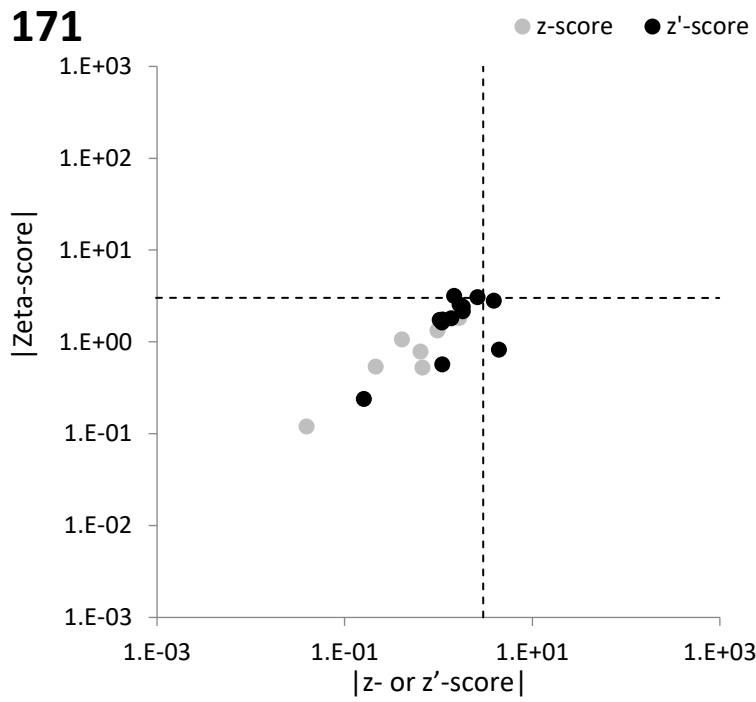


FIG. 241. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 171 (Soil sample with elevated mass fractions of elements).

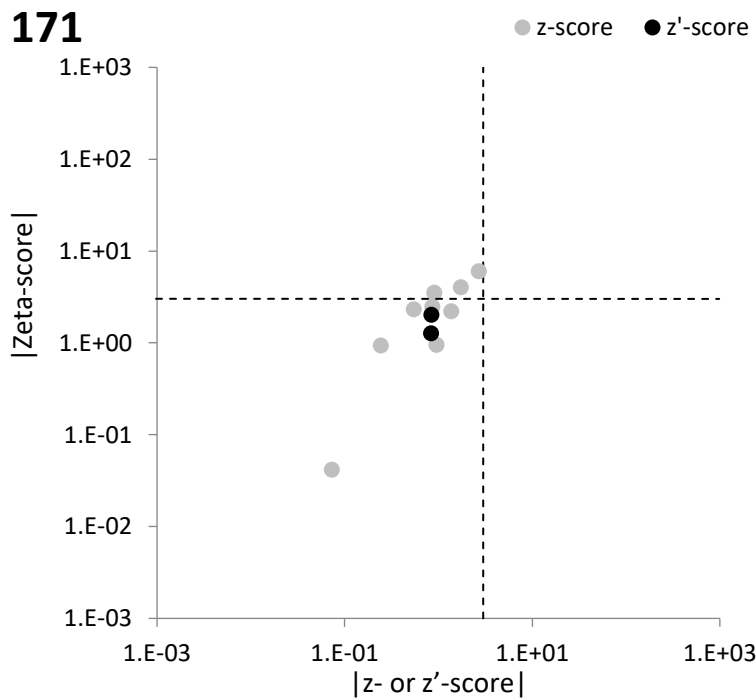


FIG. 242. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 171 (Plant sample).

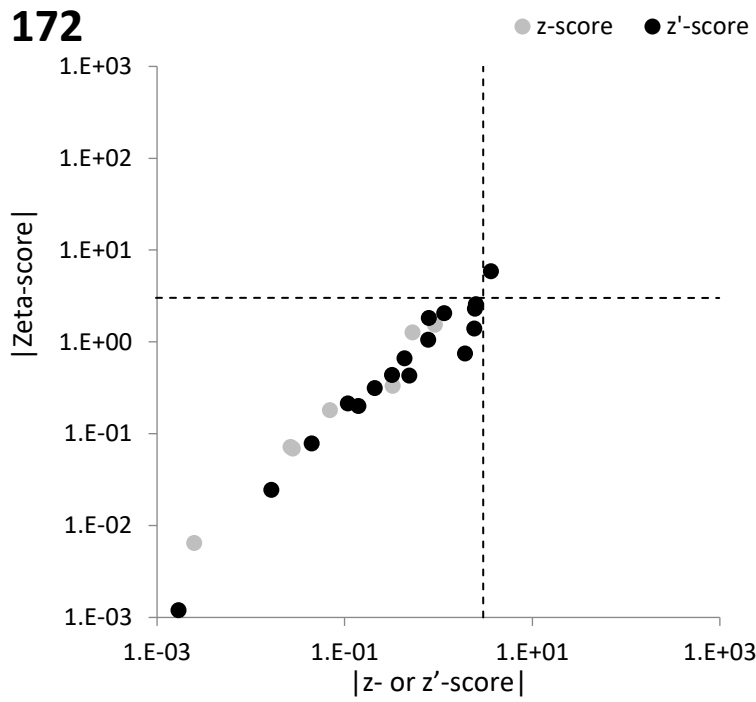


FIG. 243. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 172 (Soil sample with elevated mass fractions of elements).

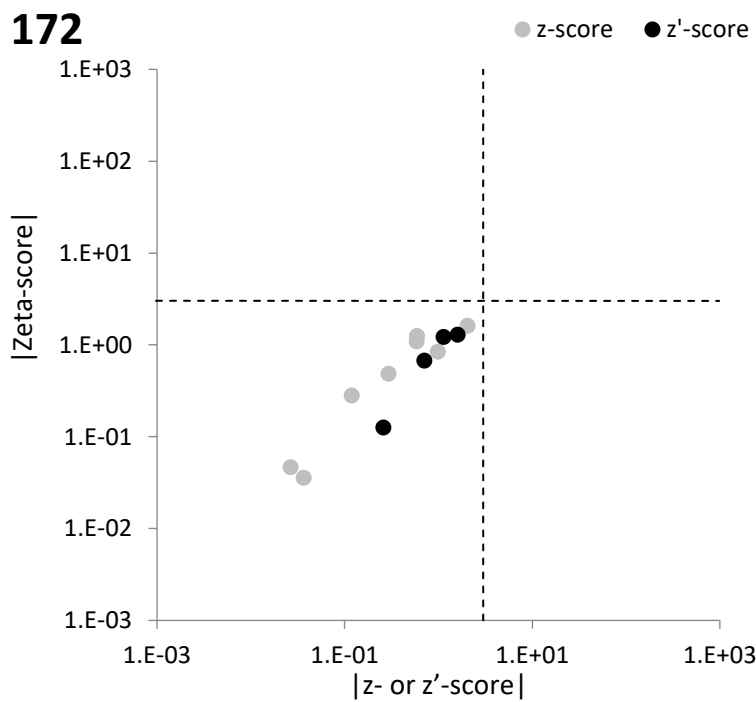


FIG. 244. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 172 (Plant sample).



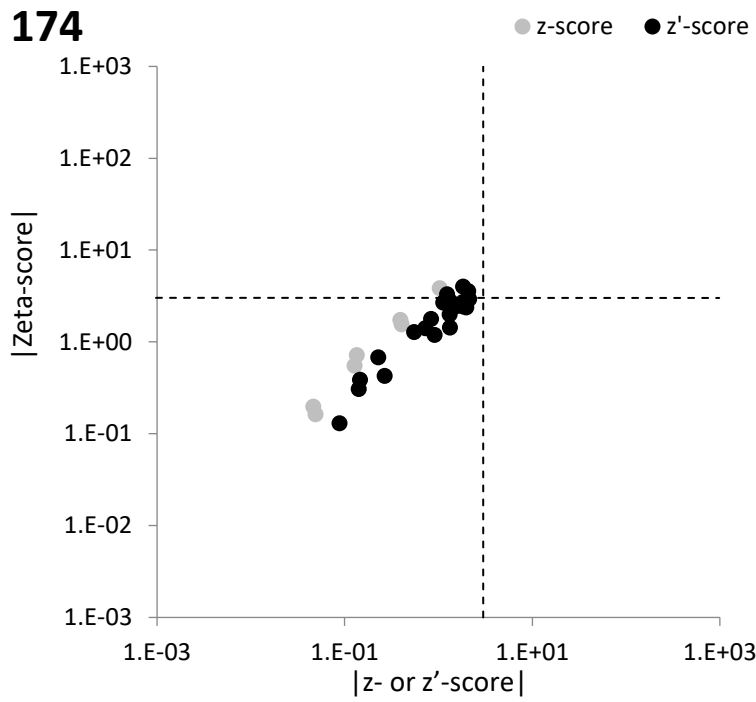


FIG. 245. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 174 (Soil sample with elevated mass fractions of elements).

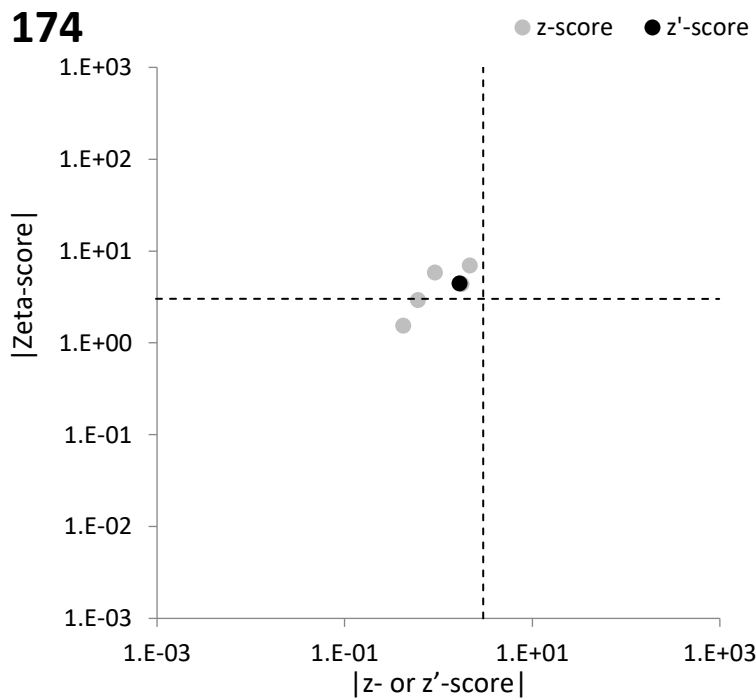


FIG. 246. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 174 (Plant sample).

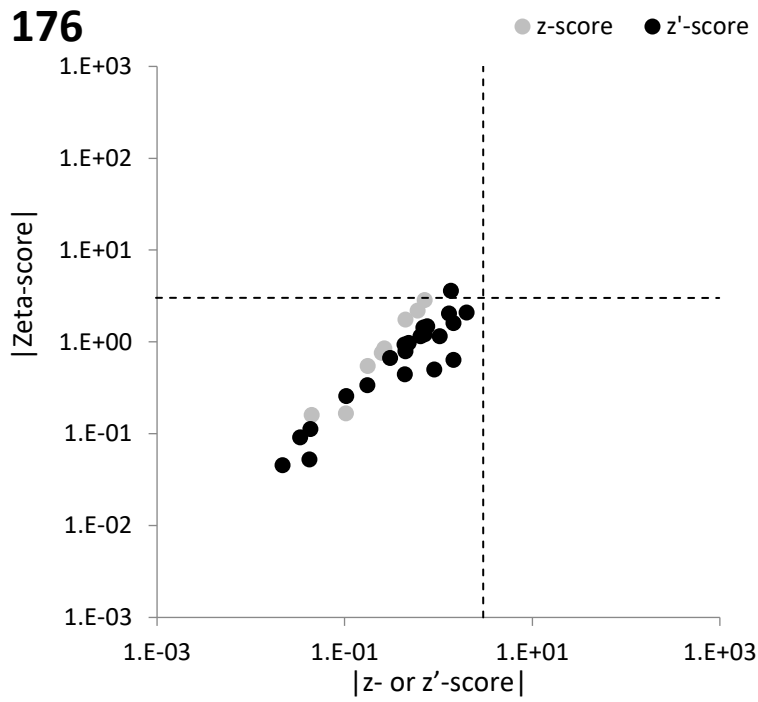


FIG. 247. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 176 (Soil sample with elevated mass fractions of elements).

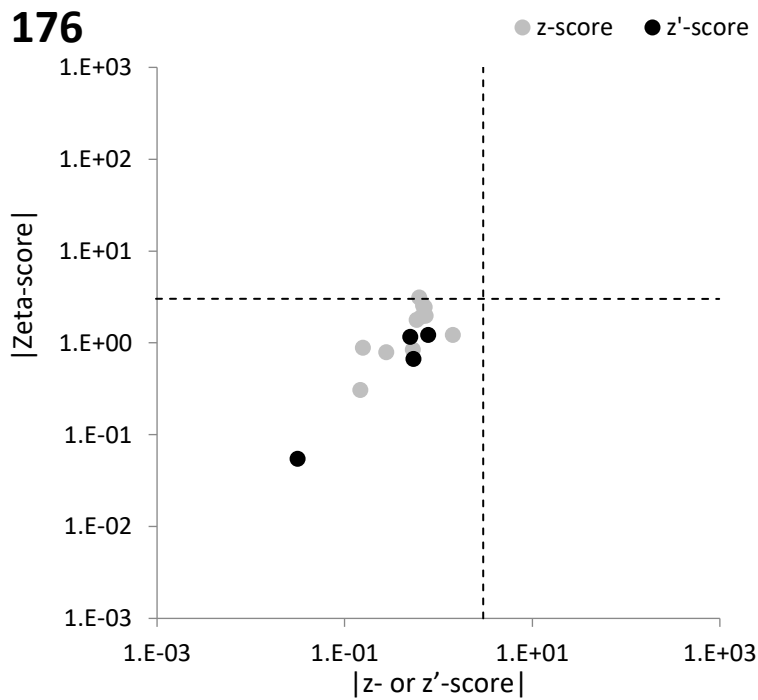
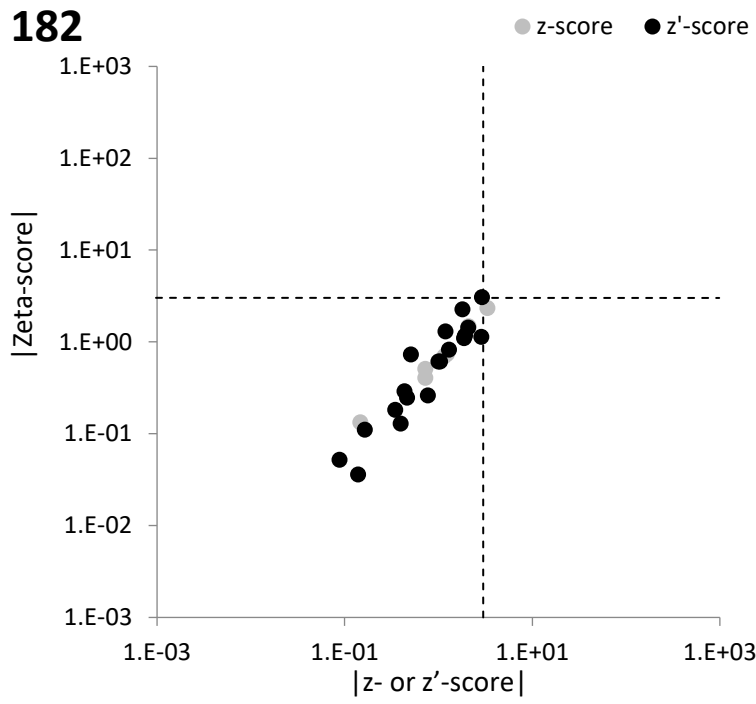


FIG. 248. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 176 (Plant sample).



*FIG. 249. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 182 (Soil sample with elevated mass fractions of elements).*

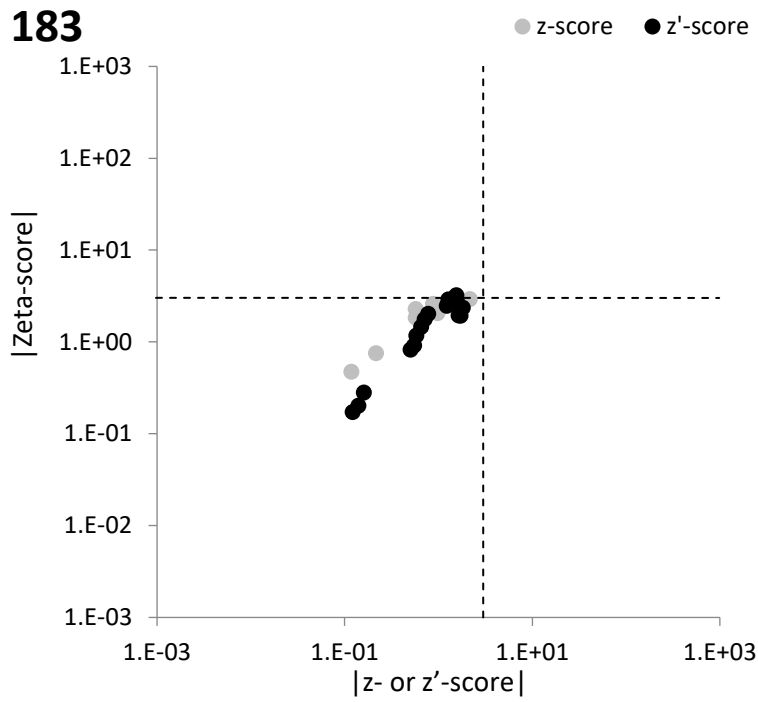


FIG. 250. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 183 (Soil sample with elevated mass fractions of elements).

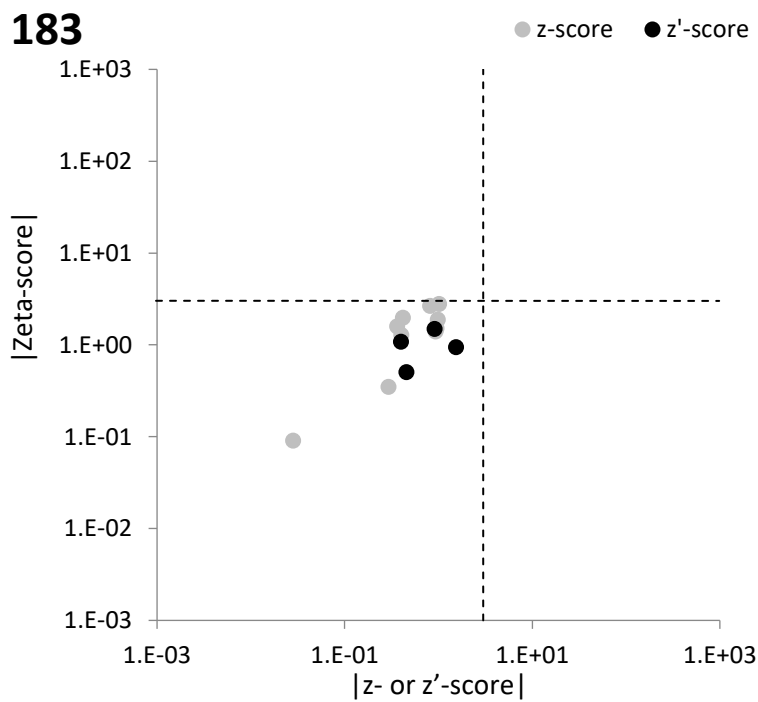


FIG. 251. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 183 (Plant sample).

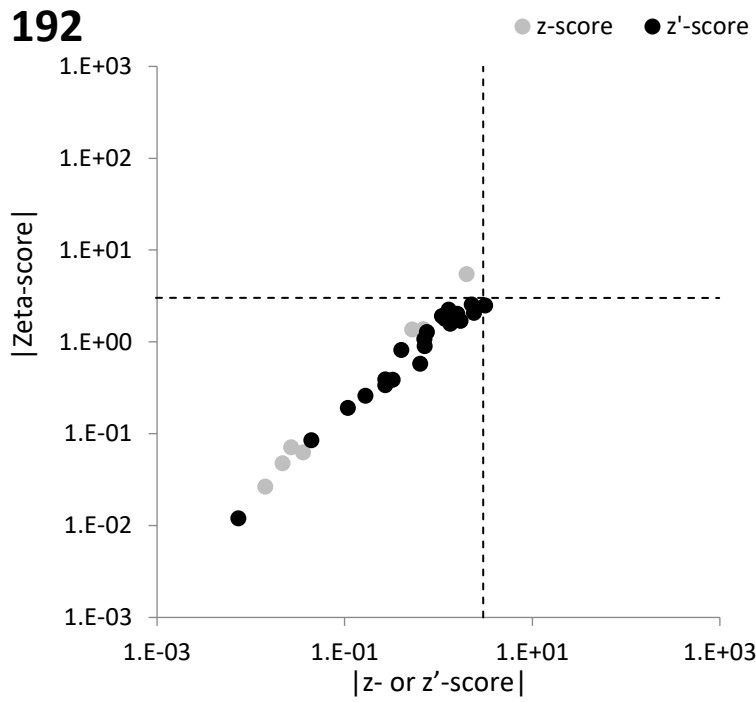


FIG. 252. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 192 (Soil sample with elevated mass fractions of elements).

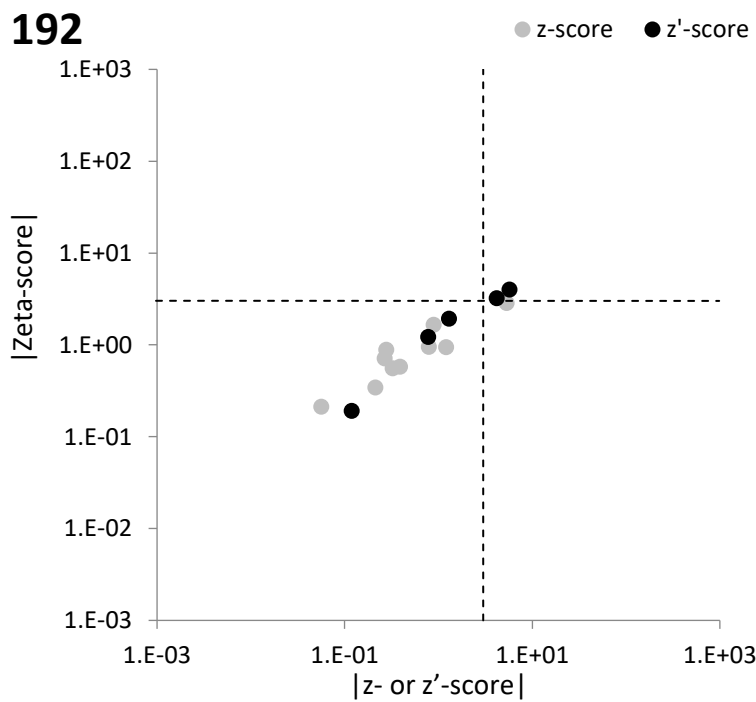


FIG. 253. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 192 (Plant sample).

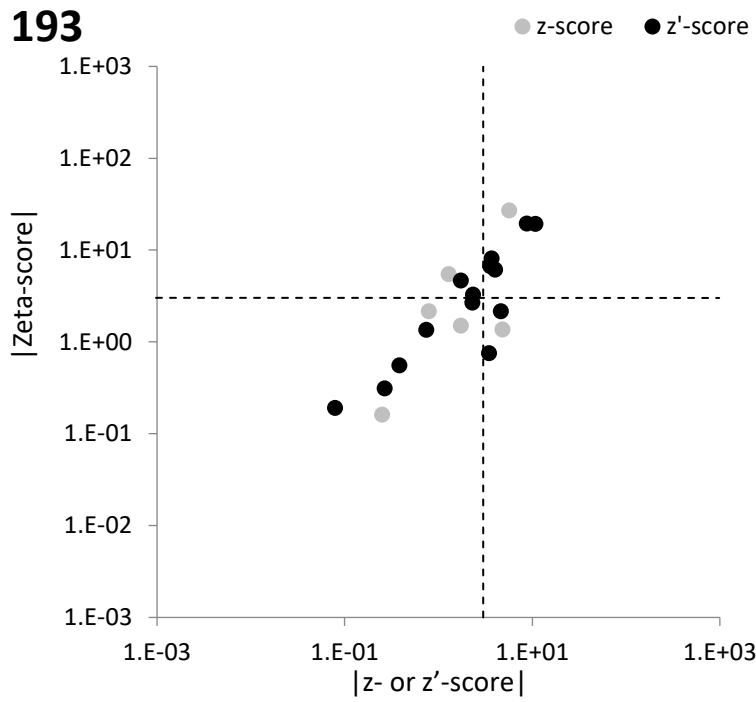


FIG. 254. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 193 (Soil sample with elevated mass fractions of elements).

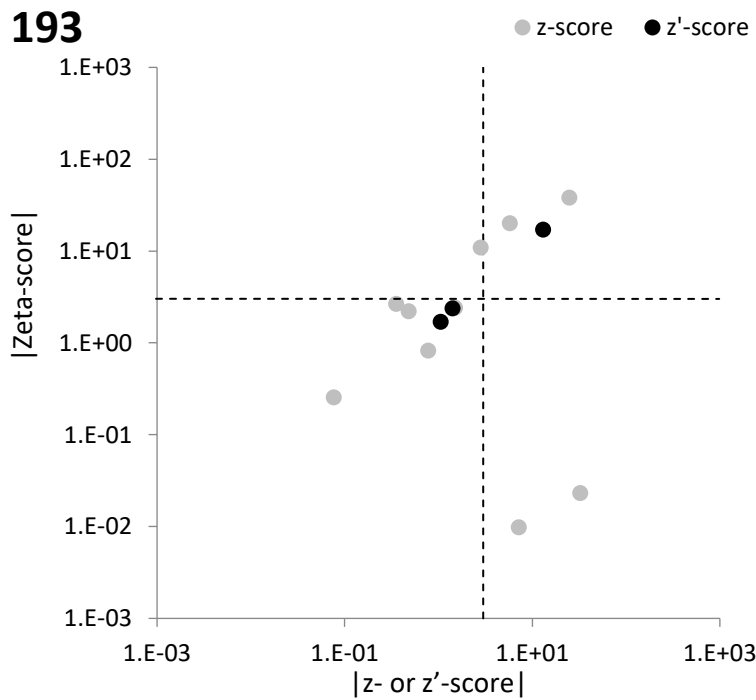


FIG. 255. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 193 (Plant sample).

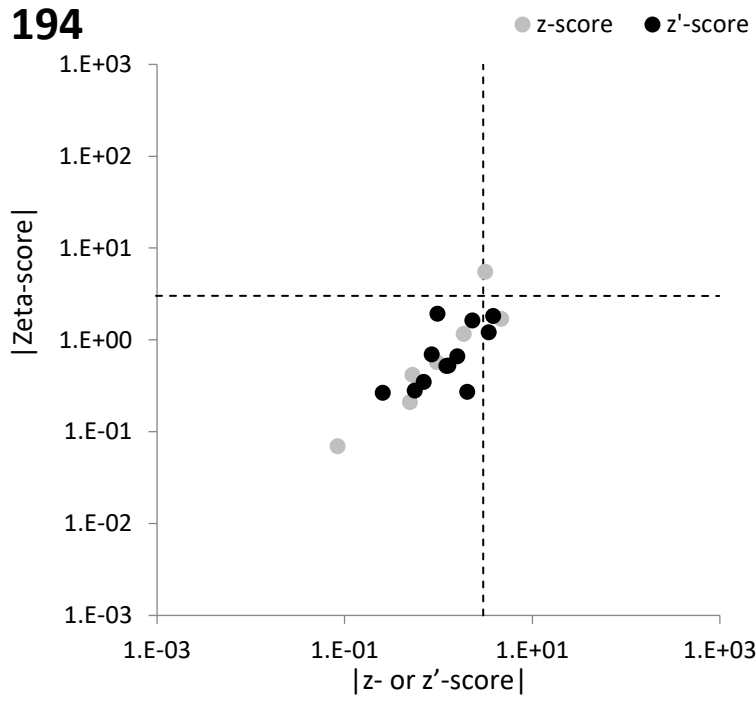


FIG. 256. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 194 (Soil sample with elevated mass fractions of elements).

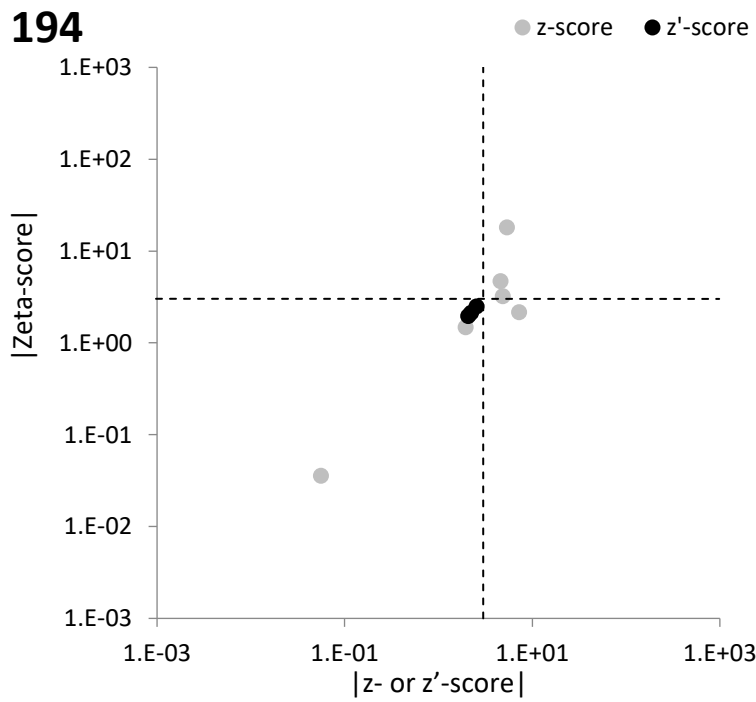


FIG. 257. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 194 (Plant sample).

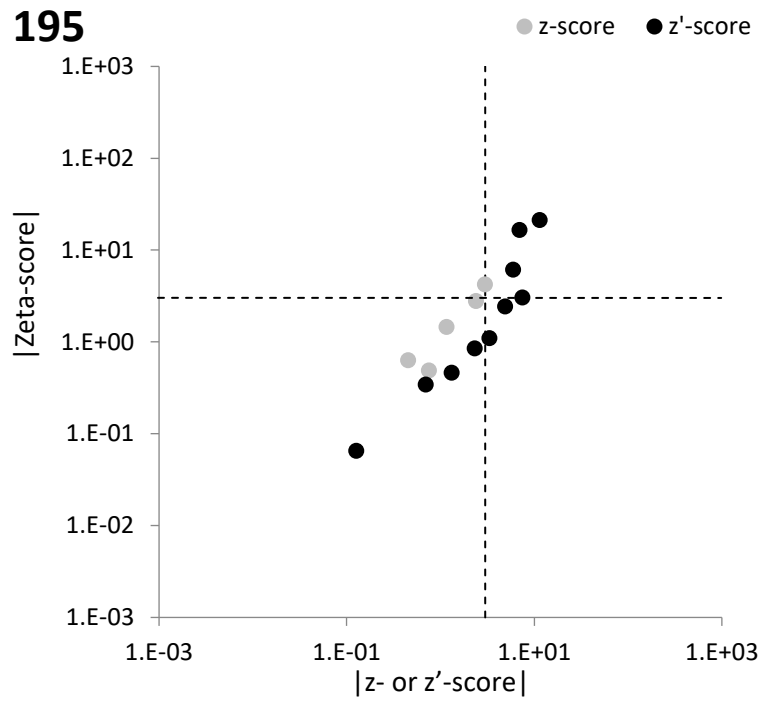


FIG. 258. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 195 (Soil sample with elevated mass fractions of elements).

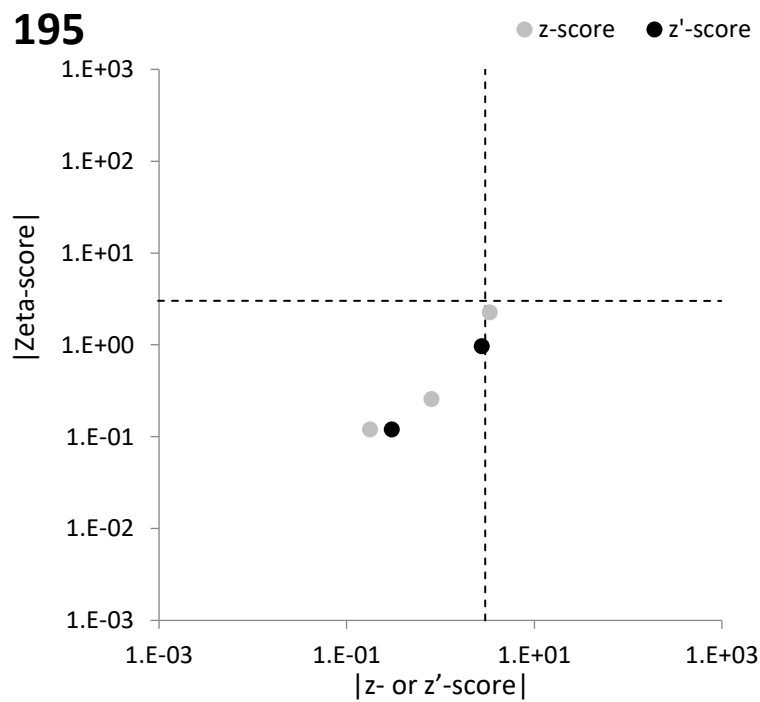


FIG. 259. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 195 (Plant sample).



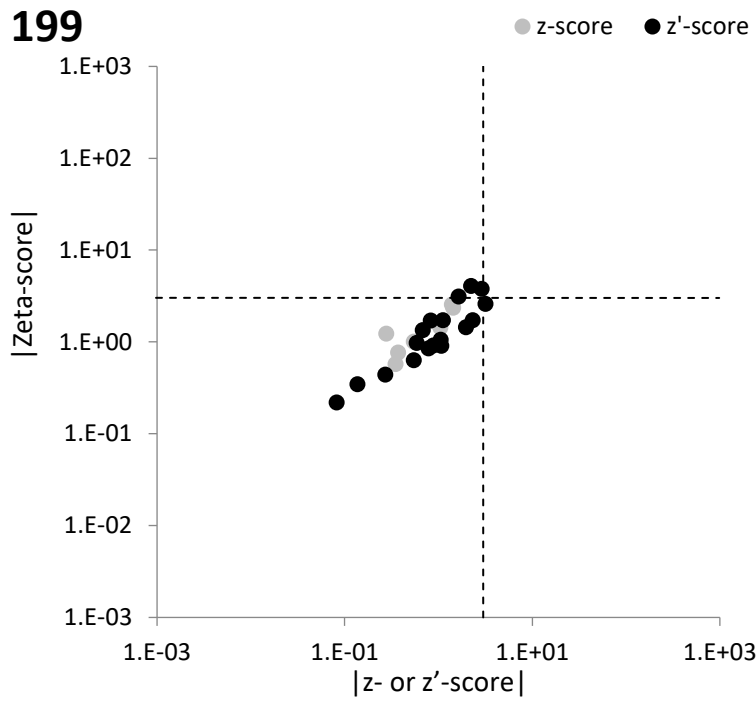


FIG. 260. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 199 (Soil sample with elevated mass fractions of elements).

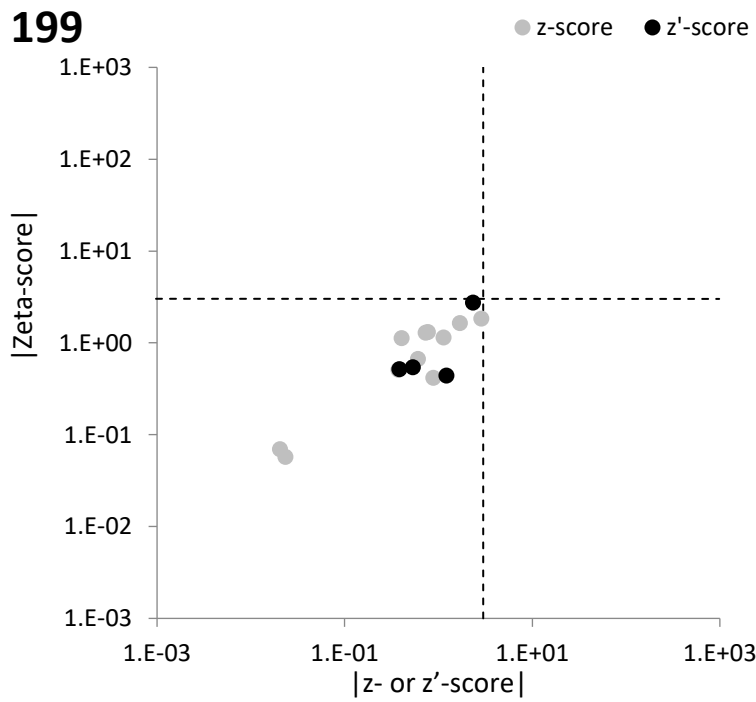


FIG. 261. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 199 (Plant sample).

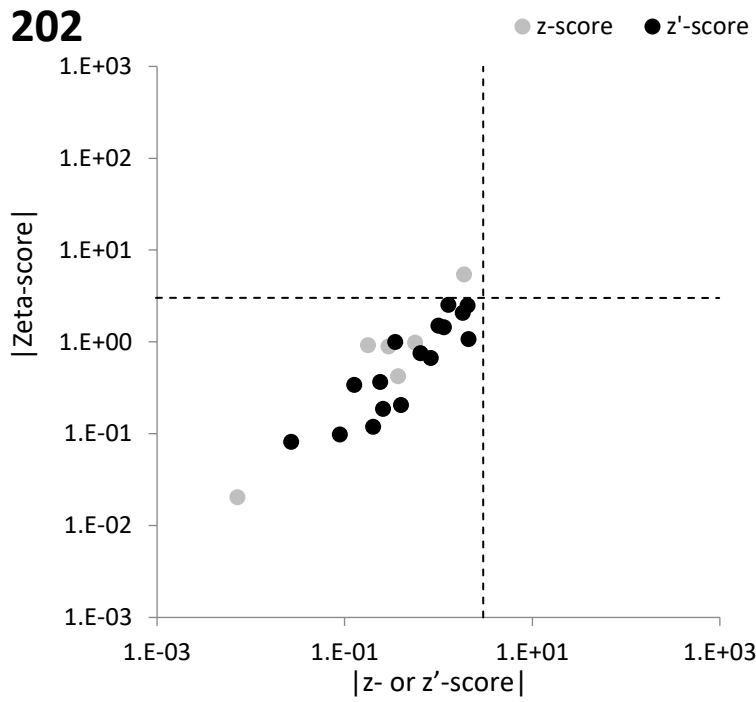


FIG. 262. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 202 (Soil sample with elevated mass fractions of elements).

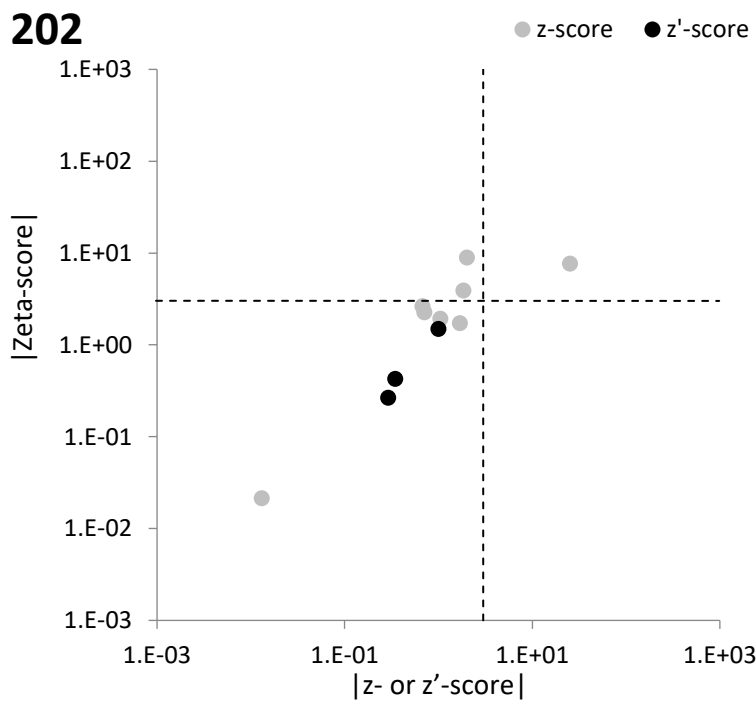


FIG. 263. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 202 (Plant sample).

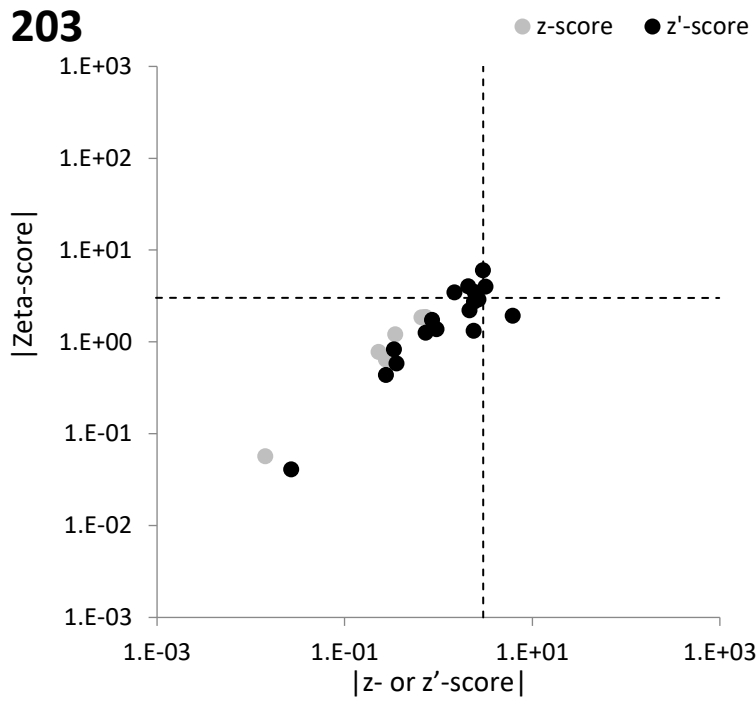


FIG. 264. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 203 (Soil sample with elevated mass fractions of elements).

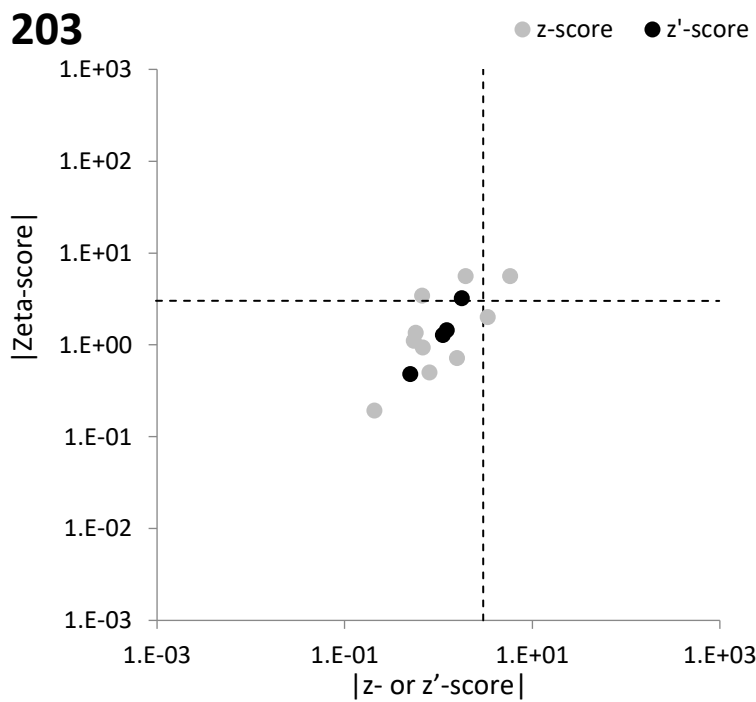


FIG. 265. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 203 (Plant sample).

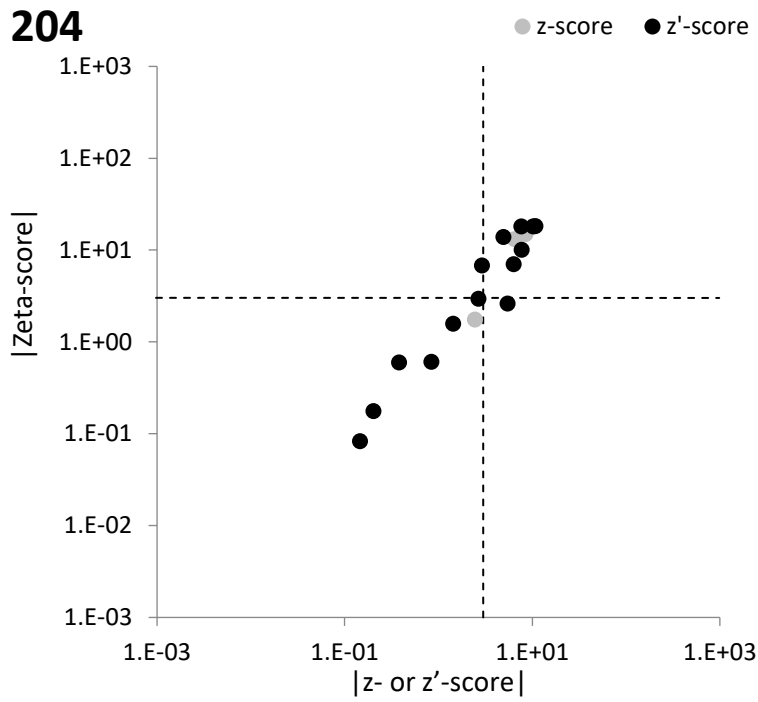


FIG. 266. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 204 (Soil sample with elevated mass fractions of elements).

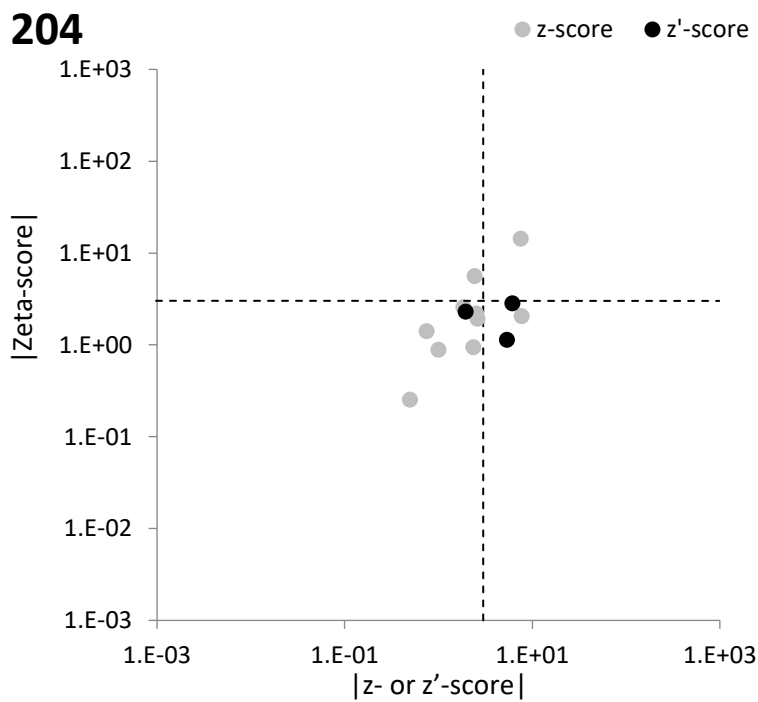


FIG. 267. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 204 (Plant sample).

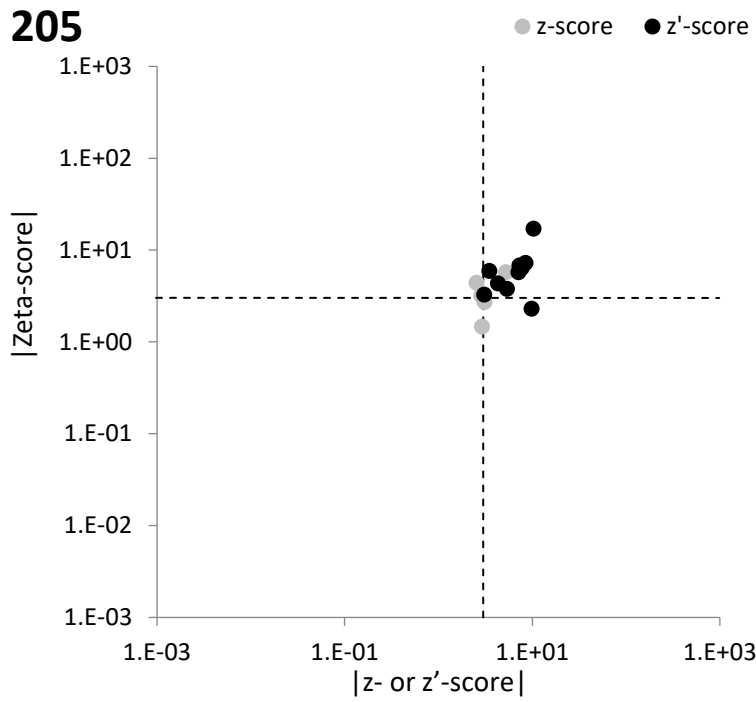


FIG. 268. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 205 (Soil sample with elevated mass fractions of elements).

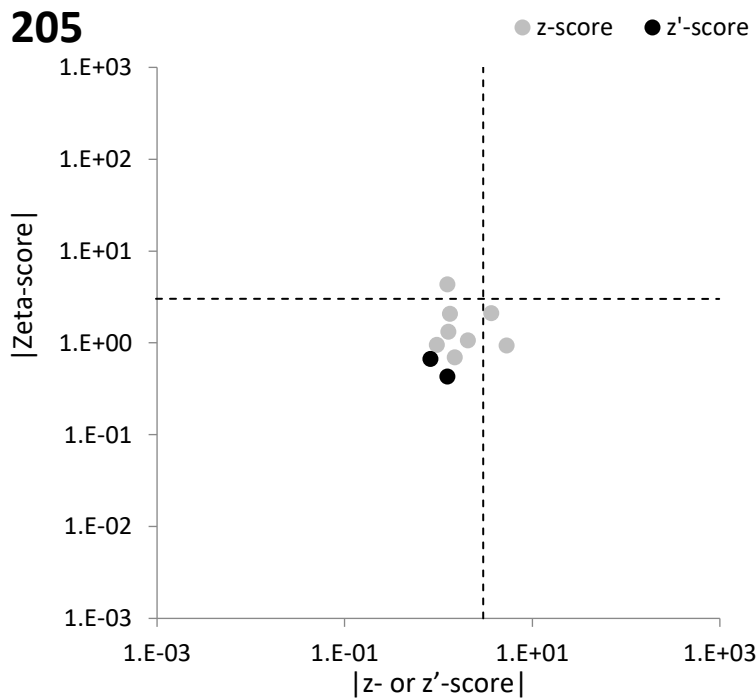


FIG. 269. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 205 (Plant sample).

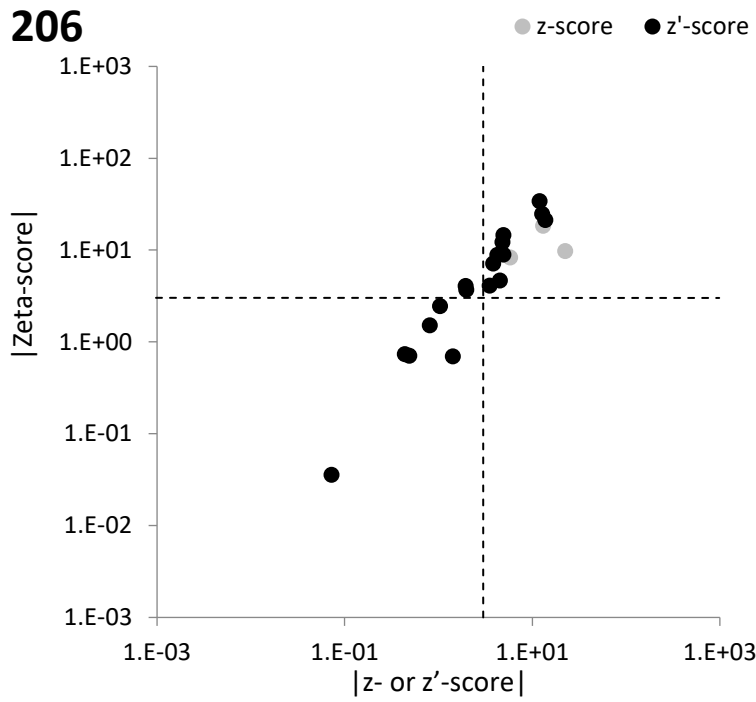


FIG. 270. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 206 (Soil sample with elevated mass fractions of elements).

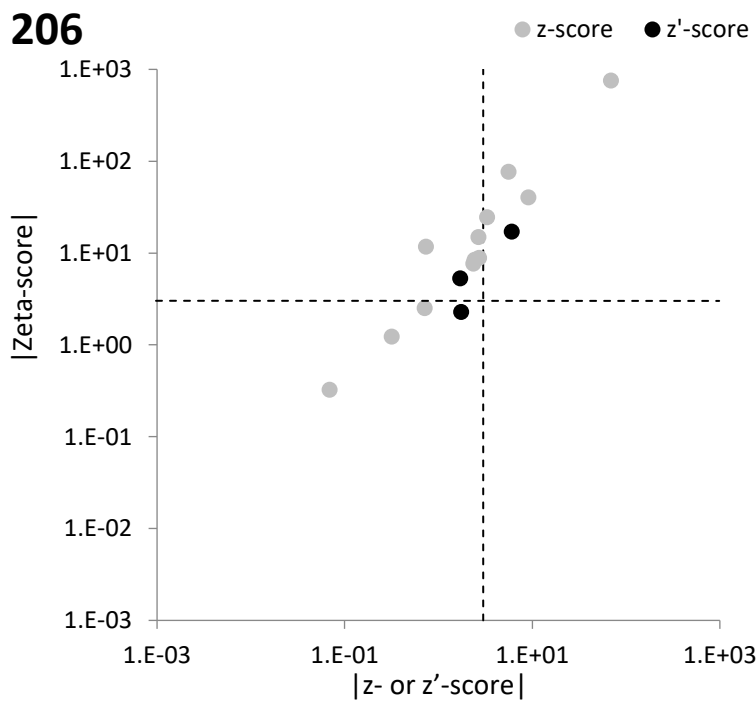


FIG. 271. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 206 (Plant sample).

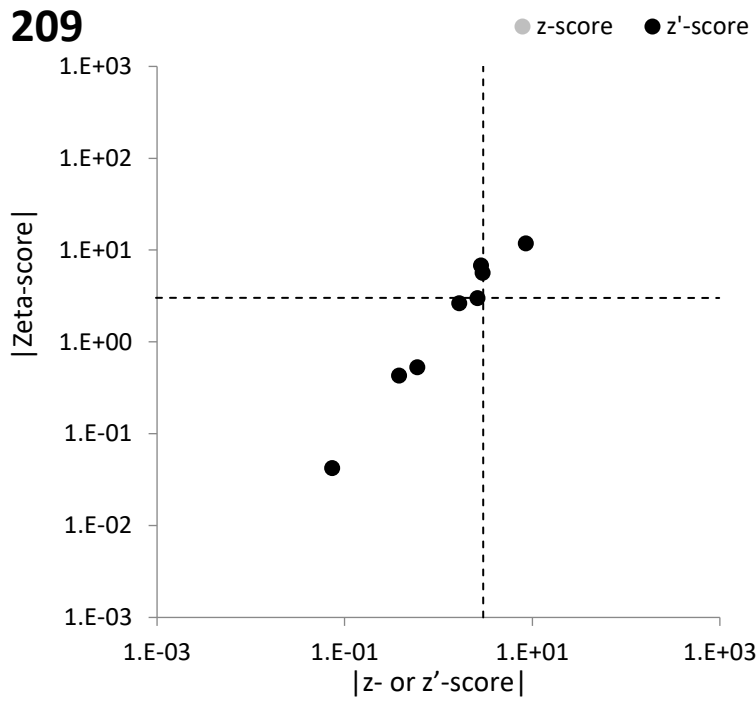


FIG. 272. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 209 (Soil sample with elevated mass fractions of elements).

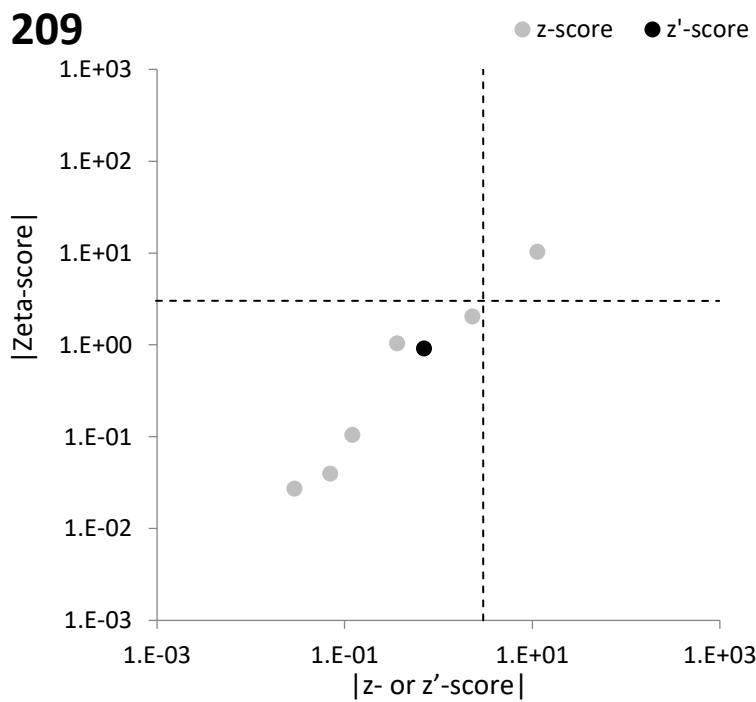


FIG. 273. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 209 (Plant sample).

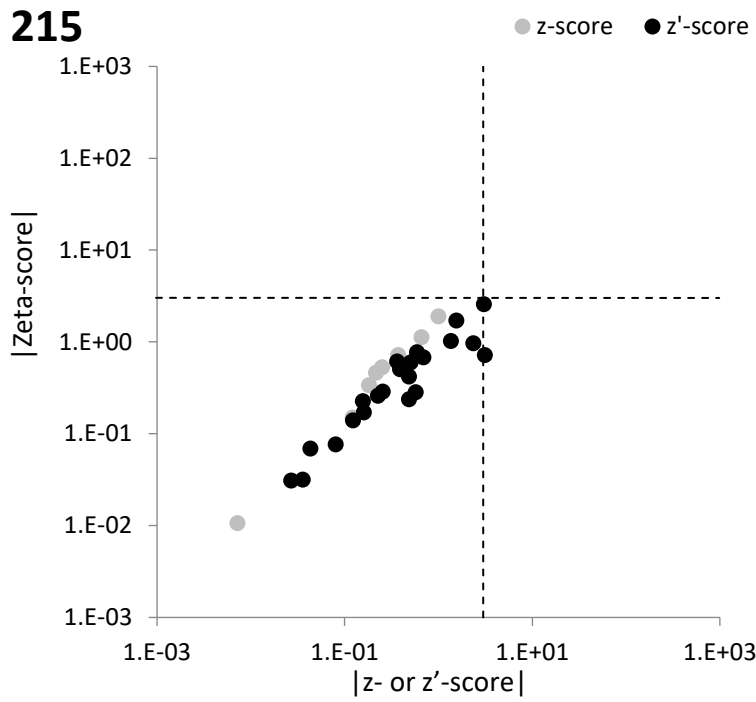


FIG. 274. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 215 (Soil sample with elevated mass fractions of elements).

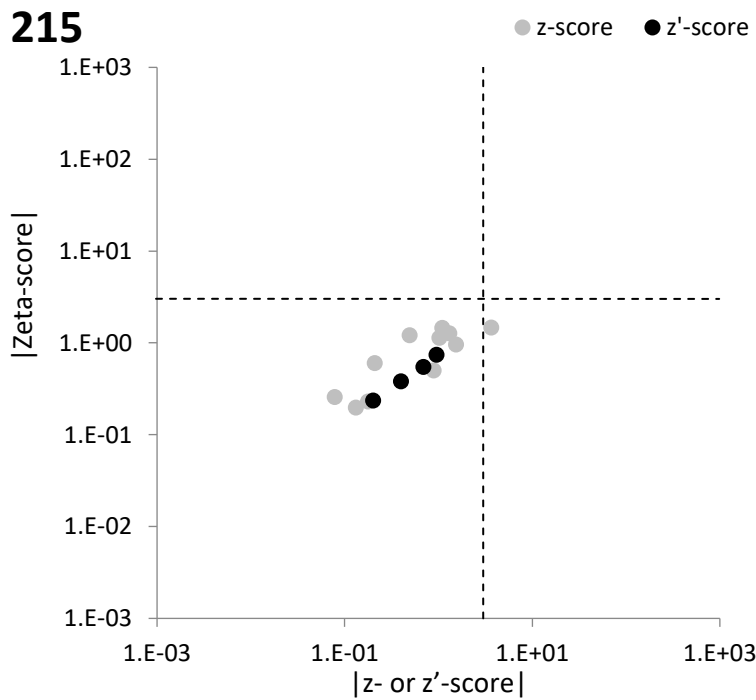


FIG. 275. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 215 (Plant sample).



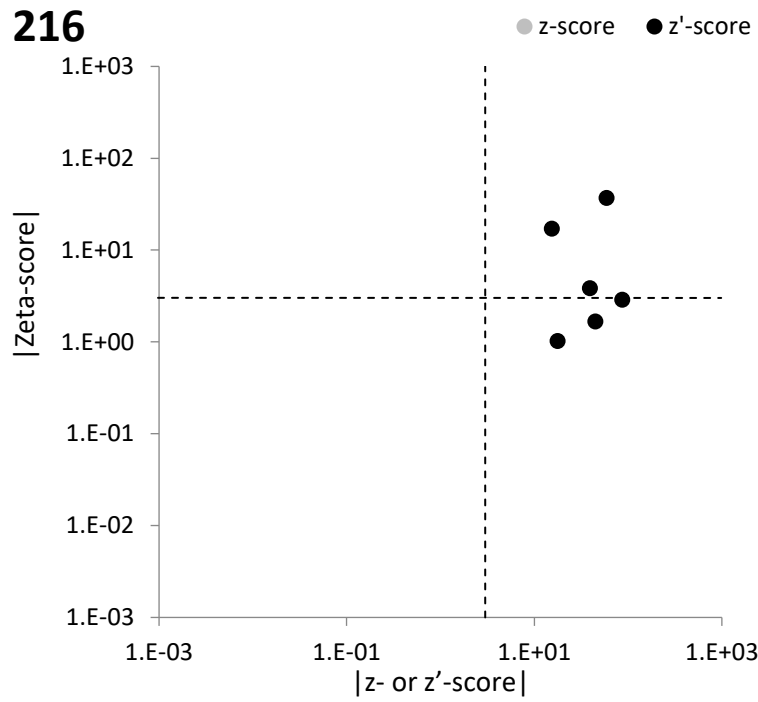


FIG. 276. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 216 (Soil sample with elevated mass fractions of elements).

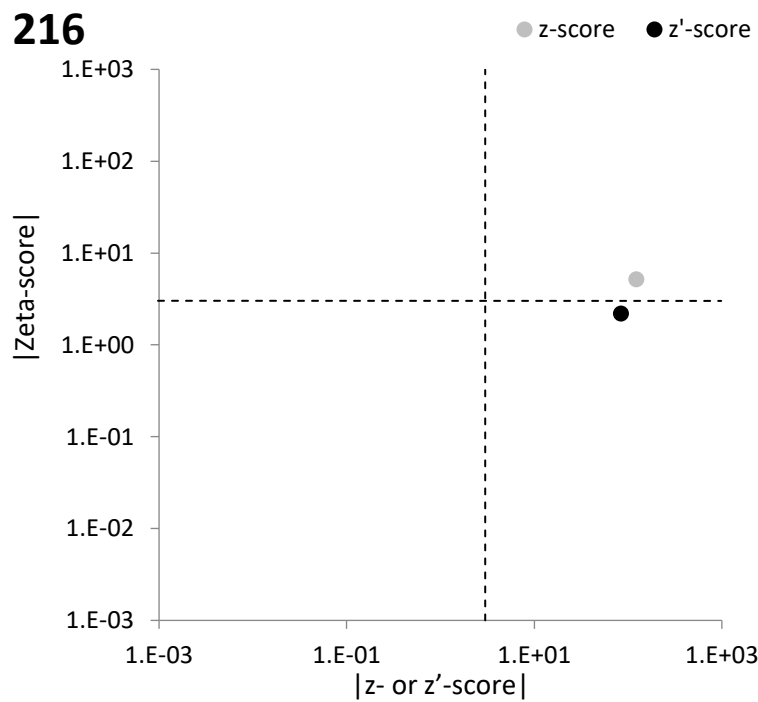


FIG. 277. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 216 (Plant sample).

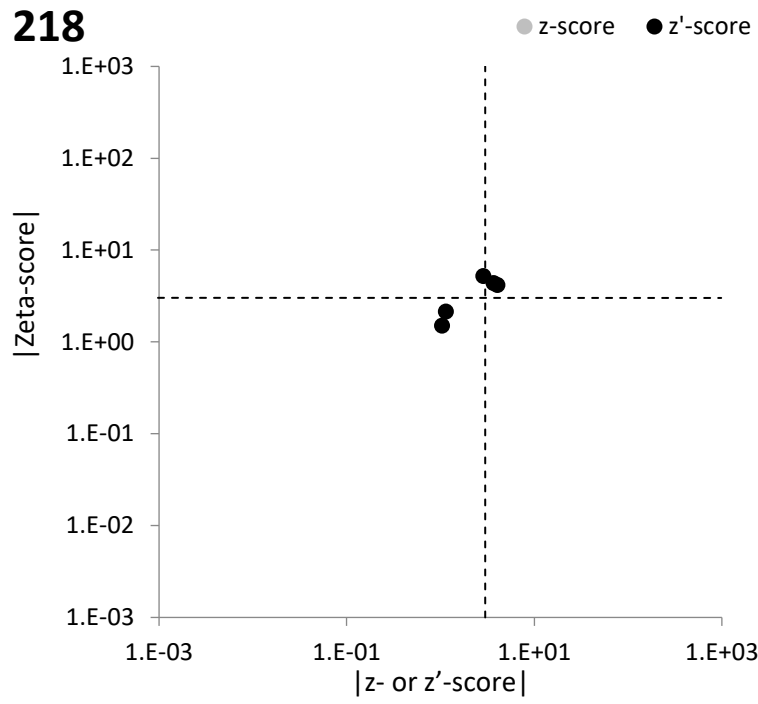


FIG. 278. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 218 (Soil sample with elevated mass fractions of elements).

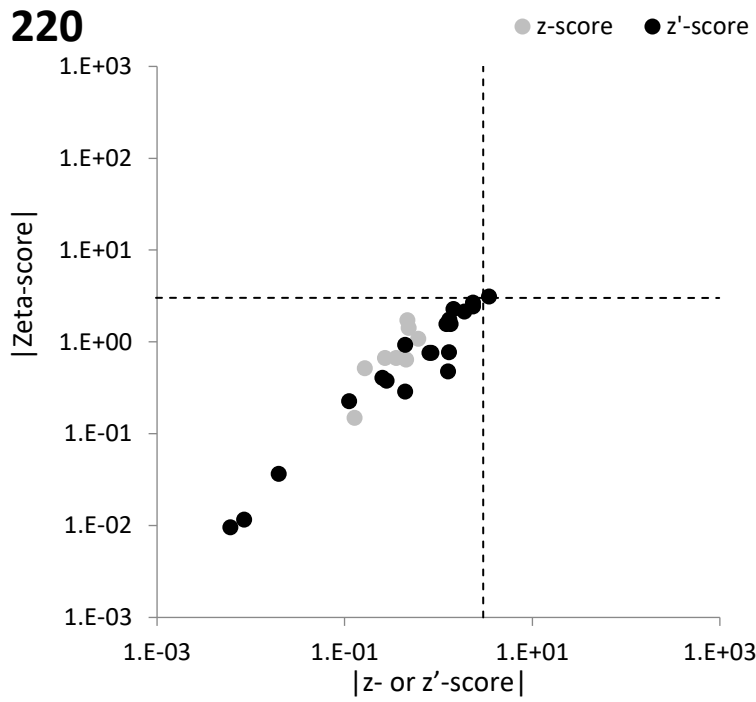


FIG. 279. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 220 (Soil sample with elevated mass fractions of elements).

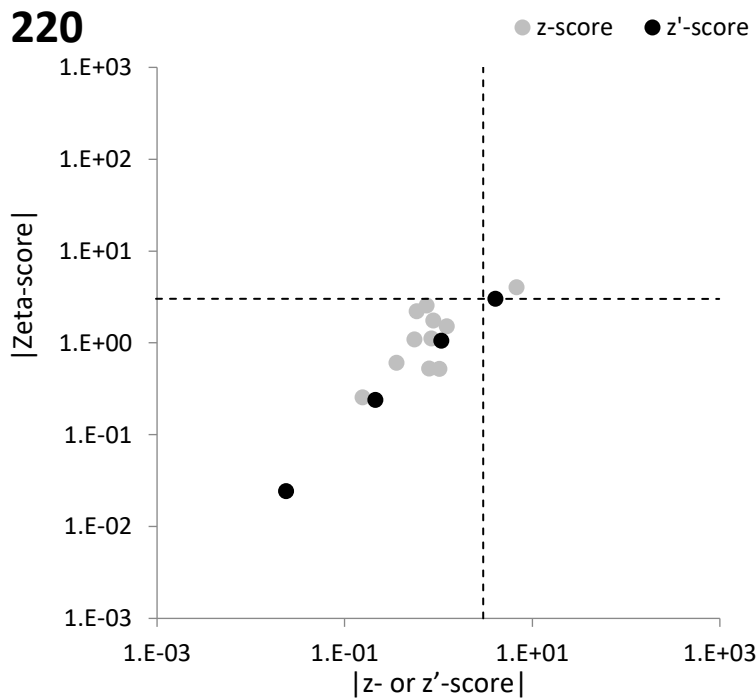


FIG. 280. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 220 (Plant sample).

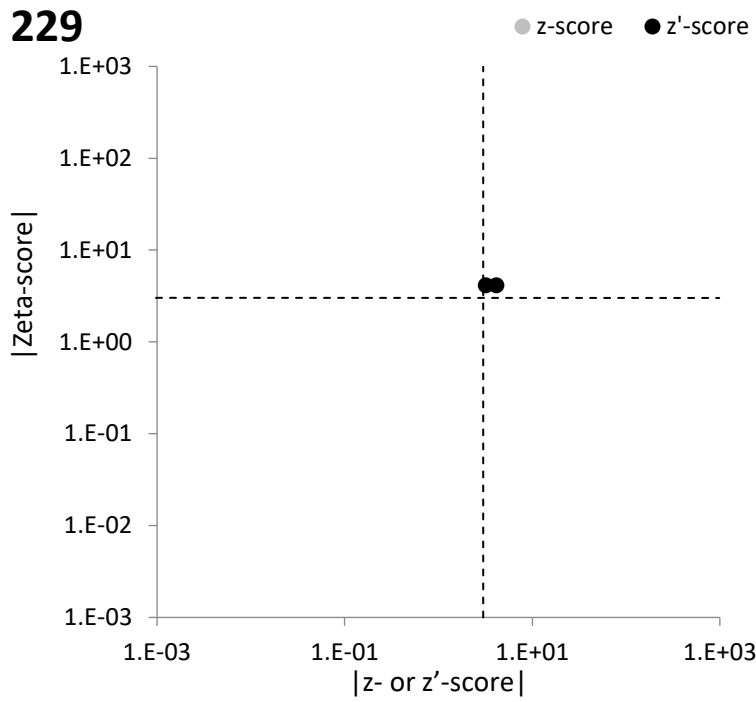


FIG. 281. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 229 (Soil sample with elevated mass fractions of elements).

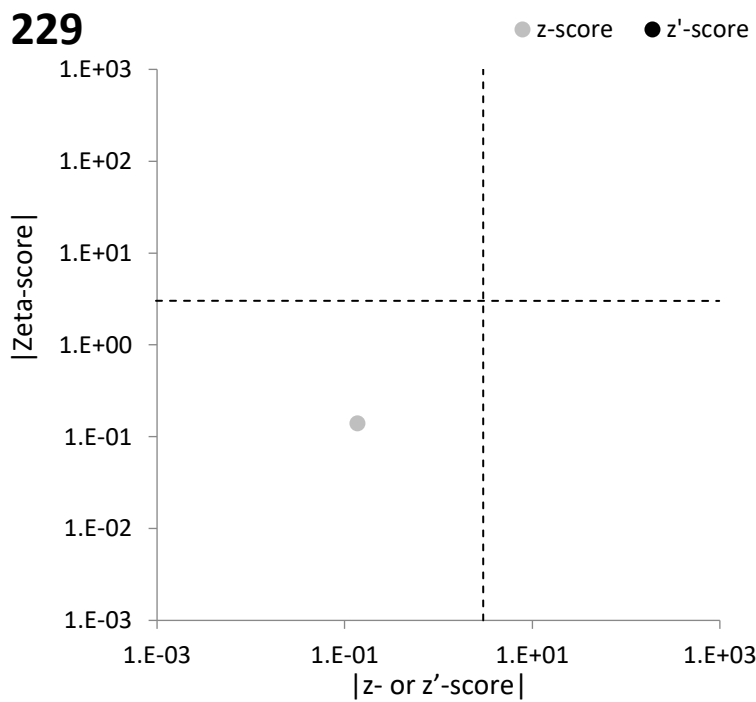


FIG. 282. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 229 (Plant sample).

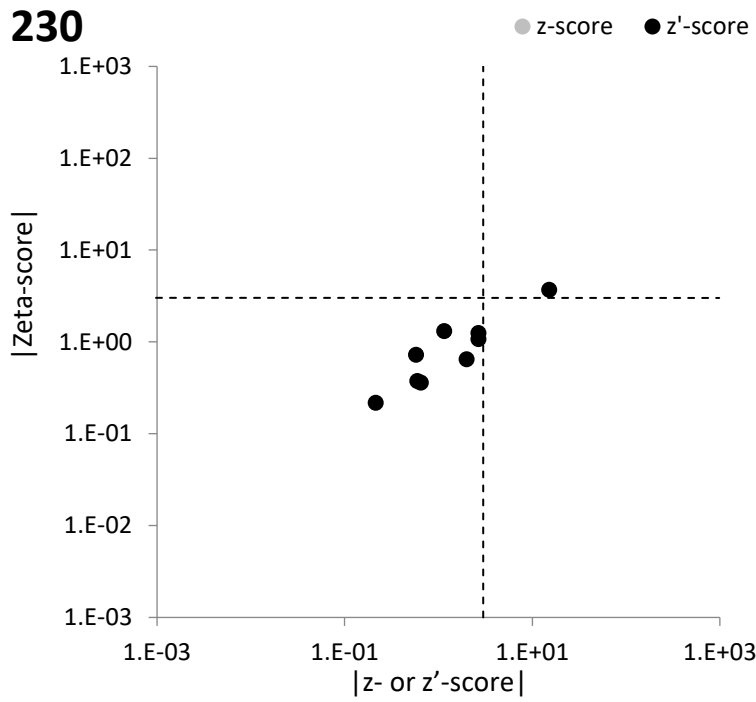


FIG. 283. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 230 (Soil sample with elevated mass fractions of elements).

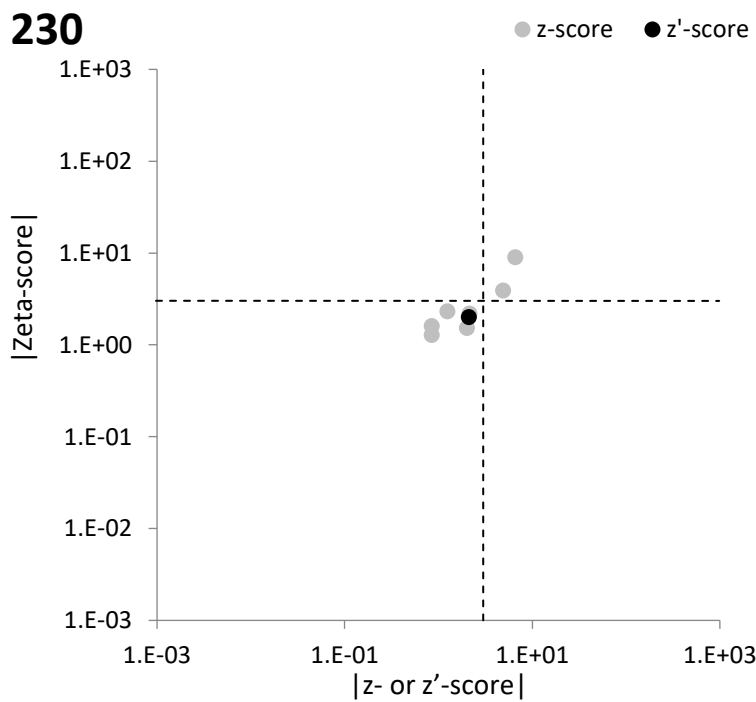


FIG. 284. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 230 (Plant sample).

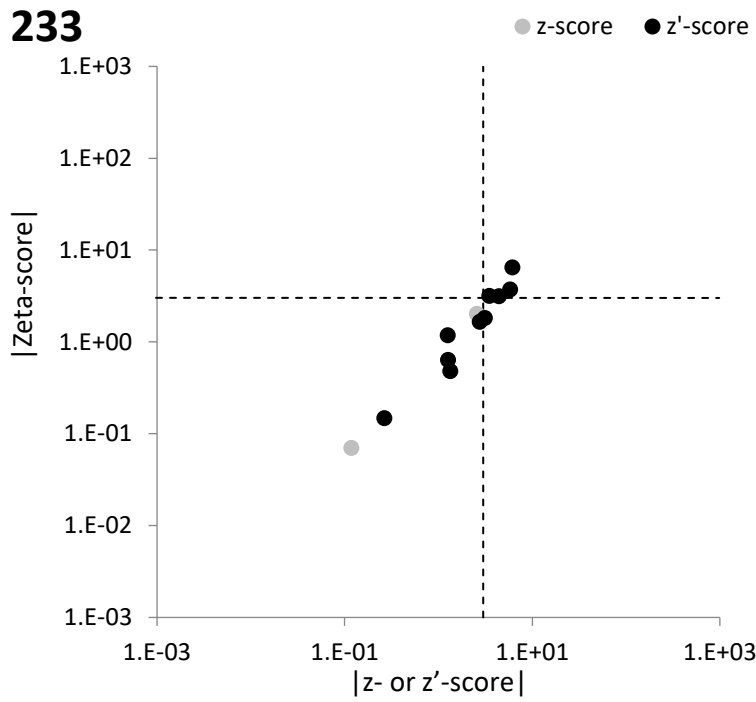


FIG. 285. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 233 (Soil sample with elevated mass fractions of elements).

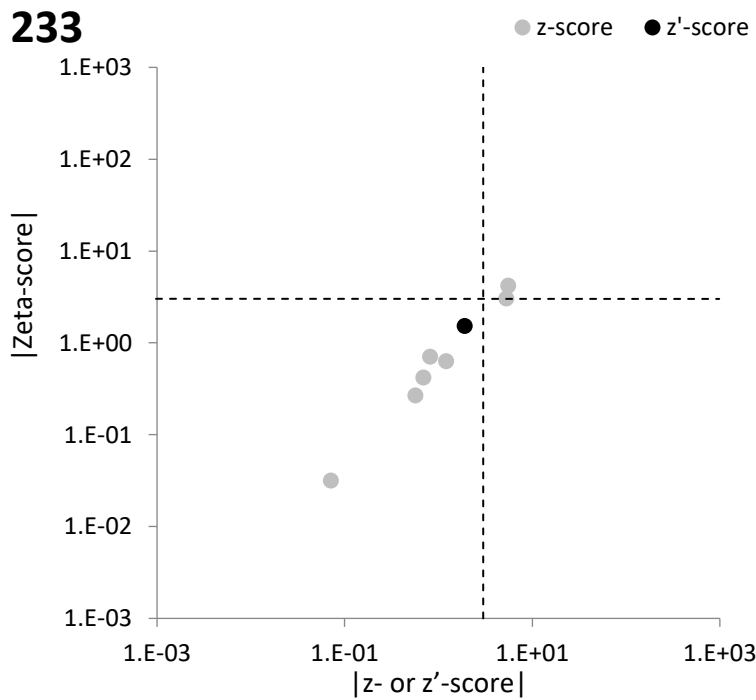


FIG. 286. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 233 (Plant sample).

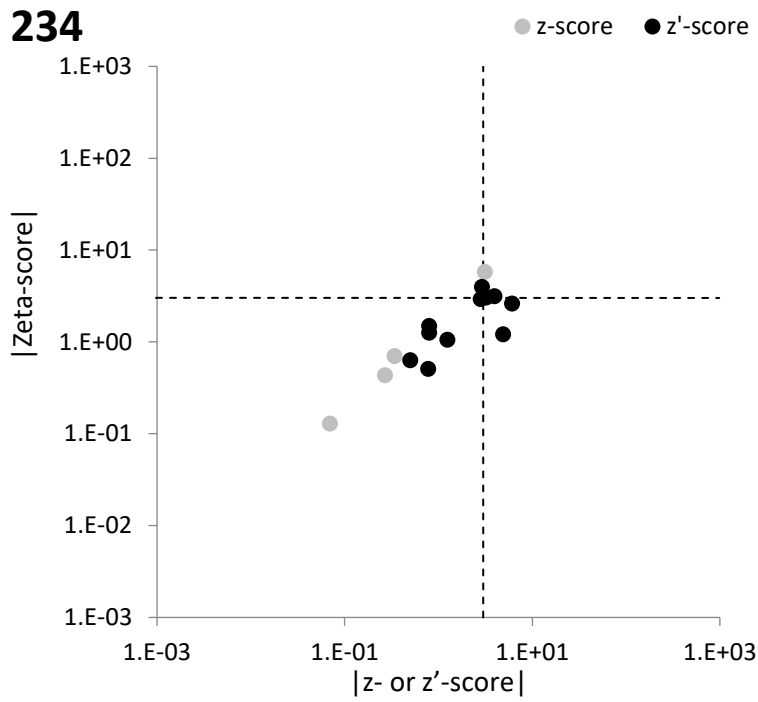


FIG. 287. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 234 (Soil sample with elevated mass fractions of elements).

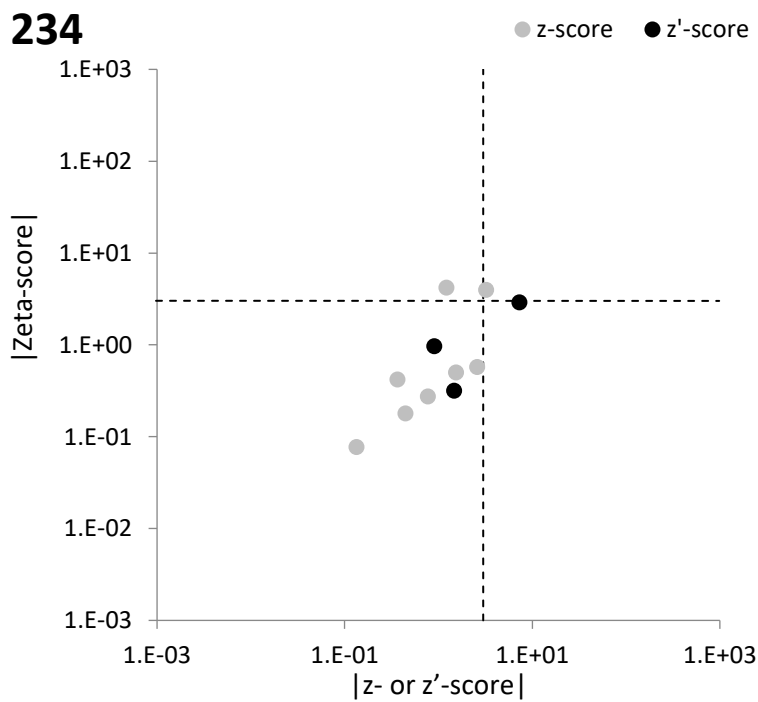


FIG. 288. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 234 (Plant sample).

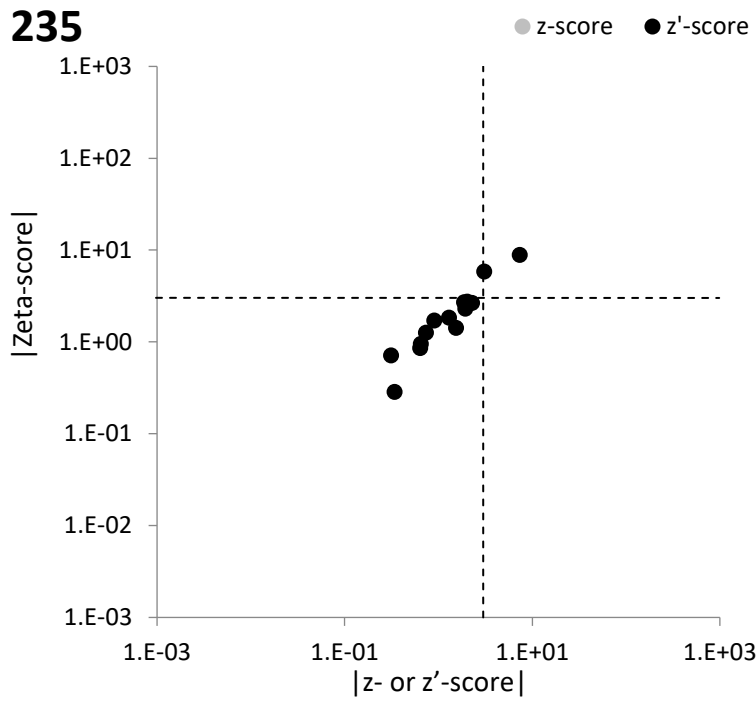


FIG. 289. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 235 (Soil sample with elevated mass fractions of elements).

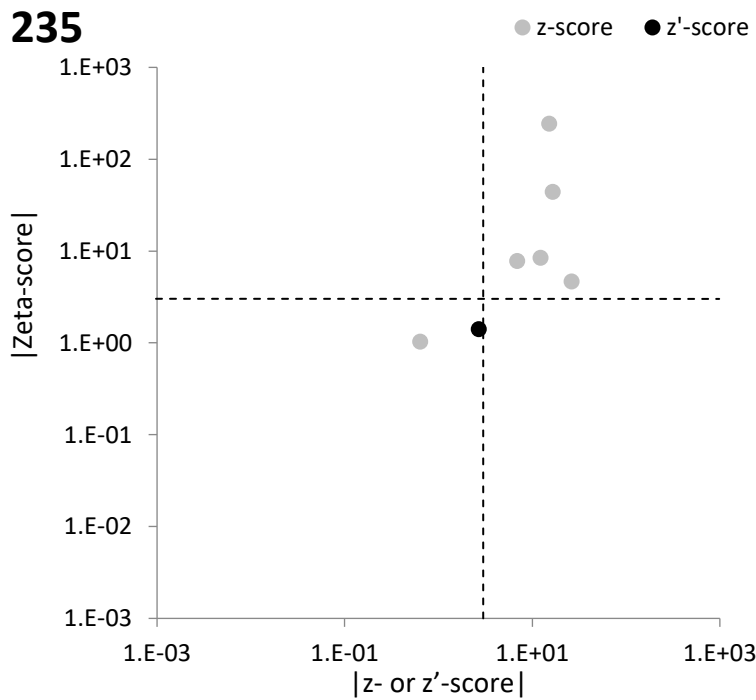


FIG. 290. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 235 (Plant sample).



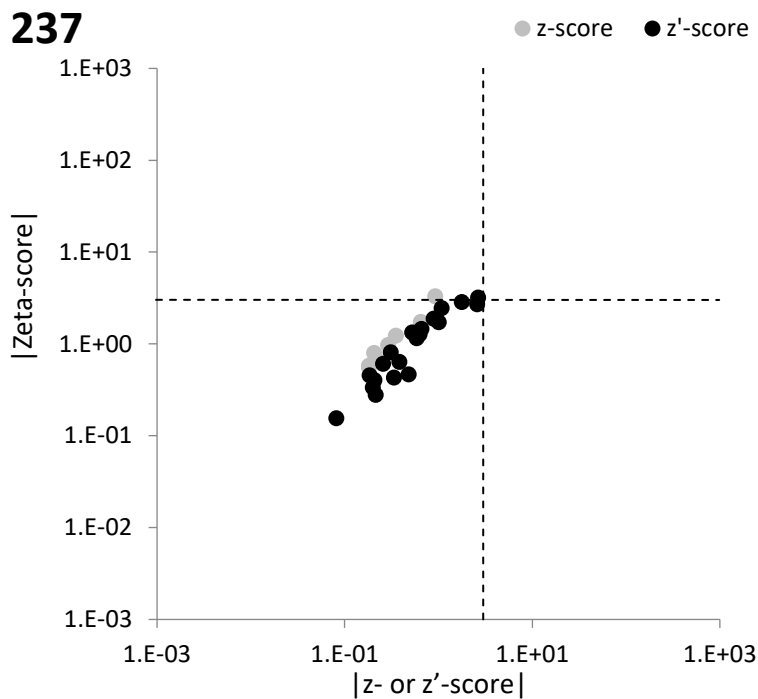


FIG. 291. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 237 (Soil sample with elevated mass fractions of elements).

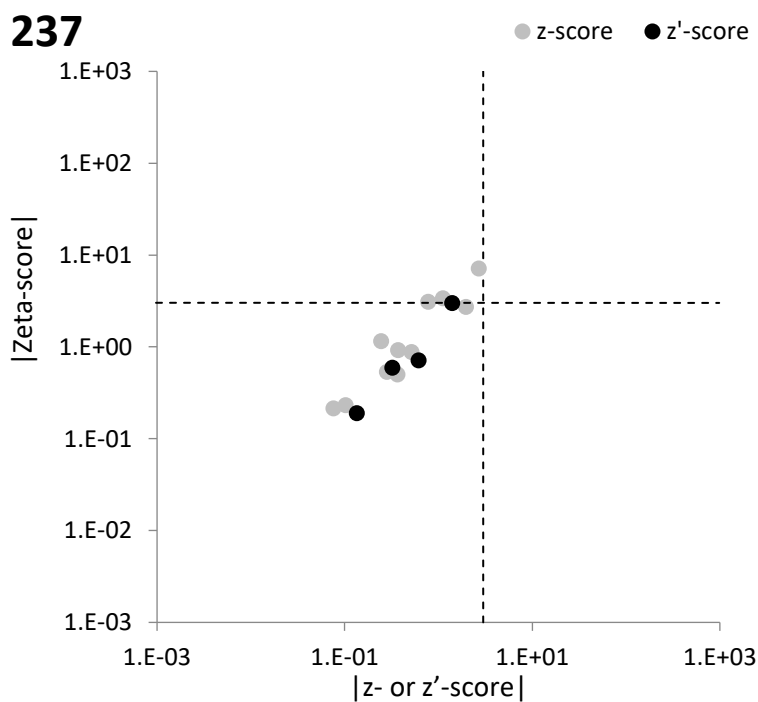


FIG. 292. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 237 (Plant sample).

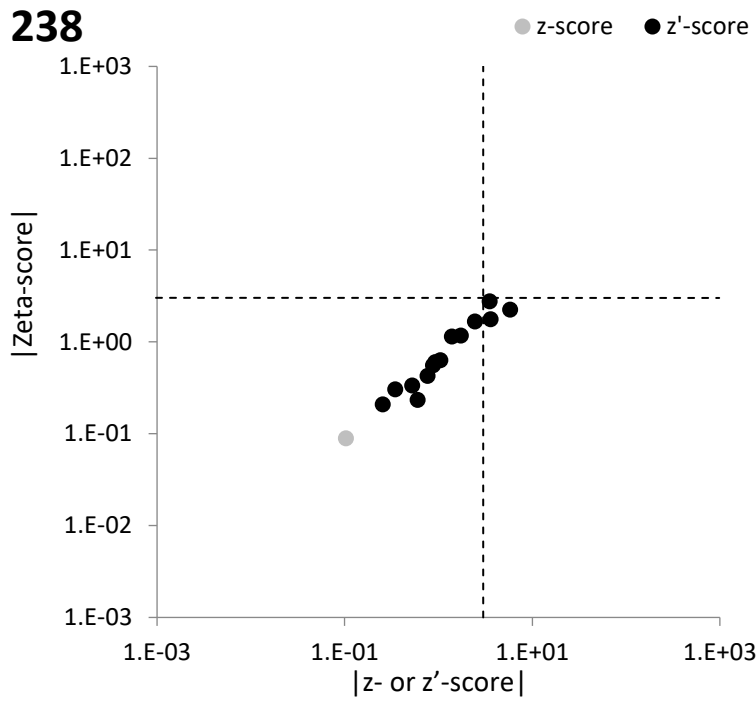


FIG. 293. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 238 (Soil sample with elevated mass fractions of elements).

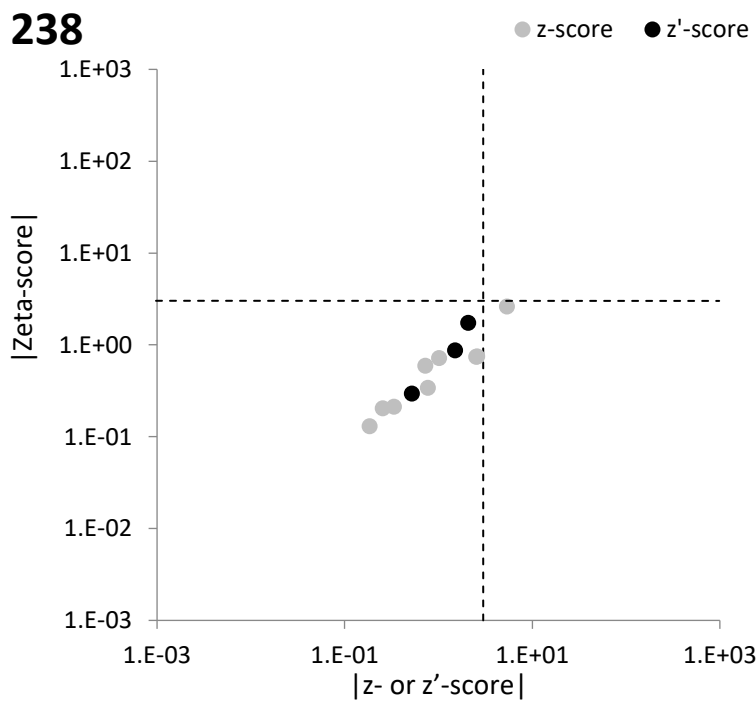


FIG. 294. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 238 (Plant sample).

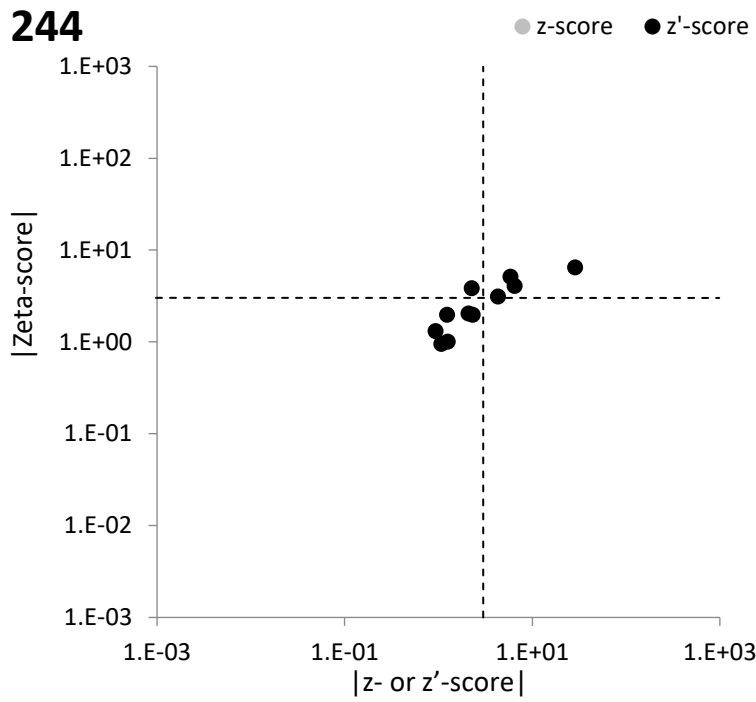


FIG. 295. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 244 (Soil sample with elevated mass fractions of elements).

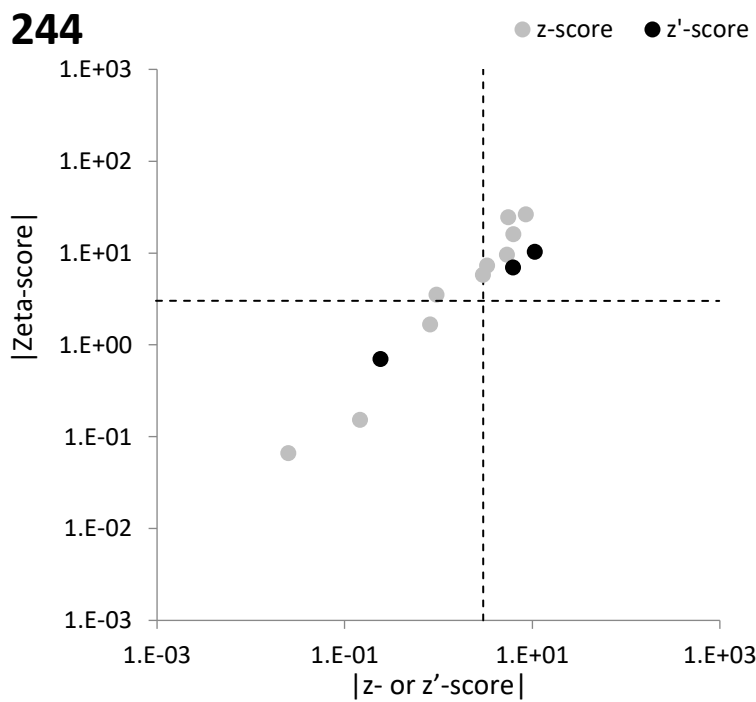


FIG. 296. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 244 (Plant sample).

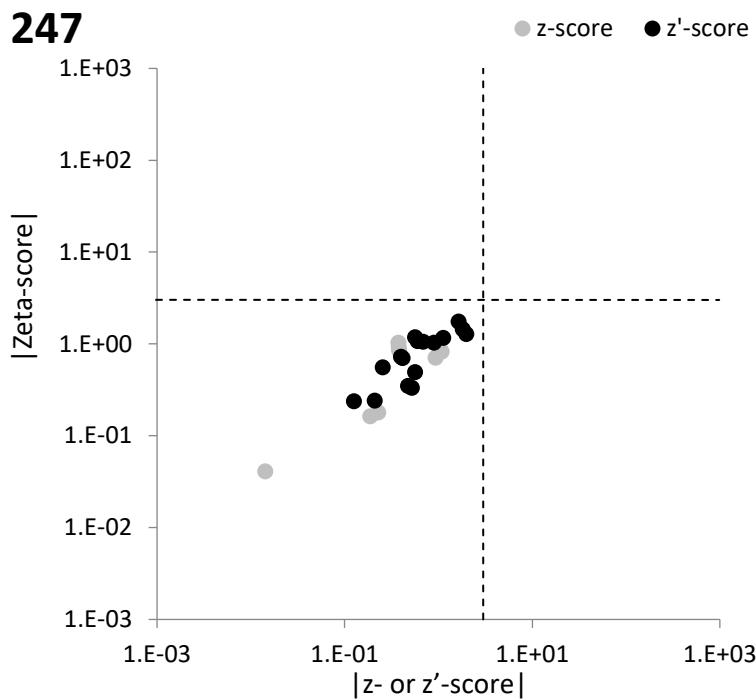


FIG. 297. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 247 (Soil sample with elevated mass fractions of elements).

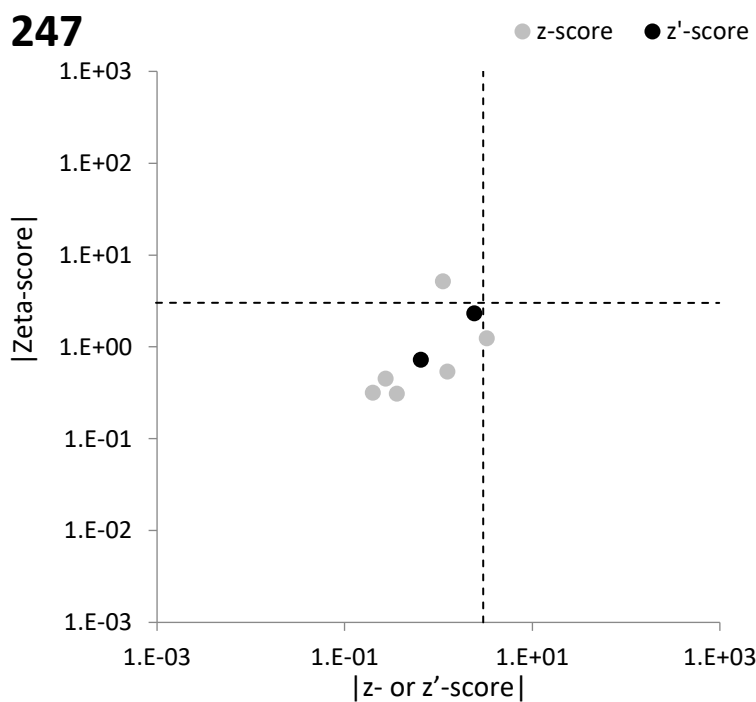


FIG. 298. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 247 (Plant sample).

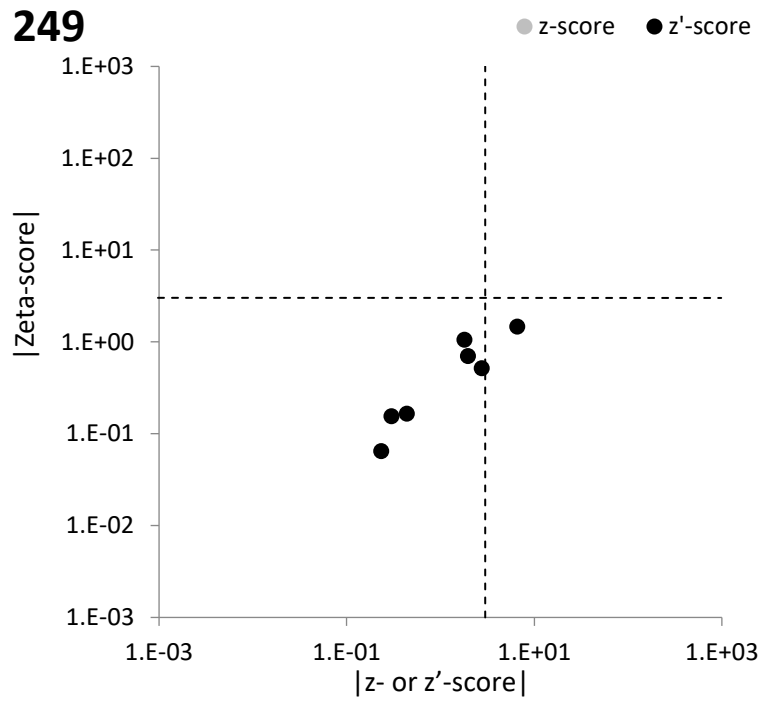
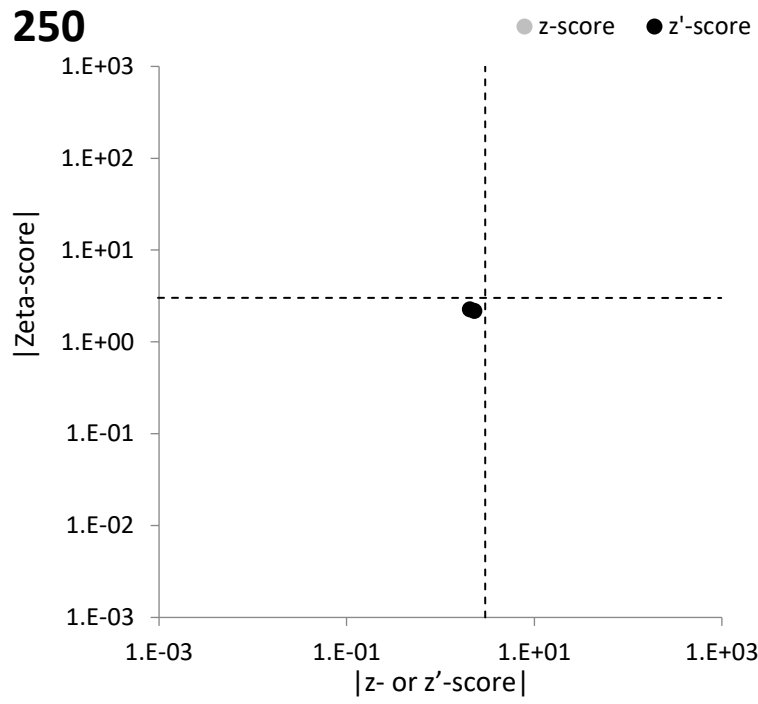


FIG. 299. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 249 (Soil sample with elevated mass fractions of elements).



*FIG. 300. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 250 (Soil sample with elevated mass fractions of elements).*

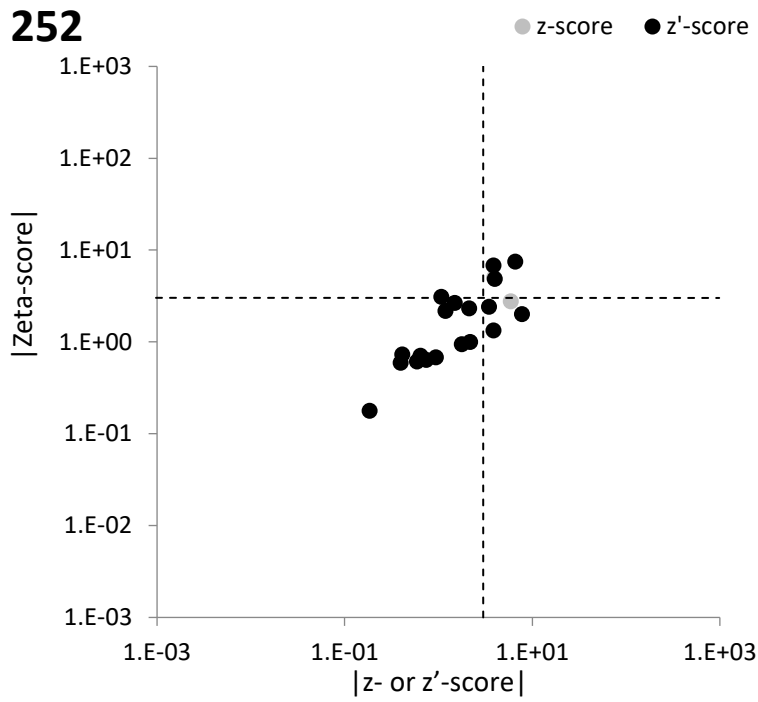


FIG. 301. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 252 (Soil sample with elevated mass fractions of elements).

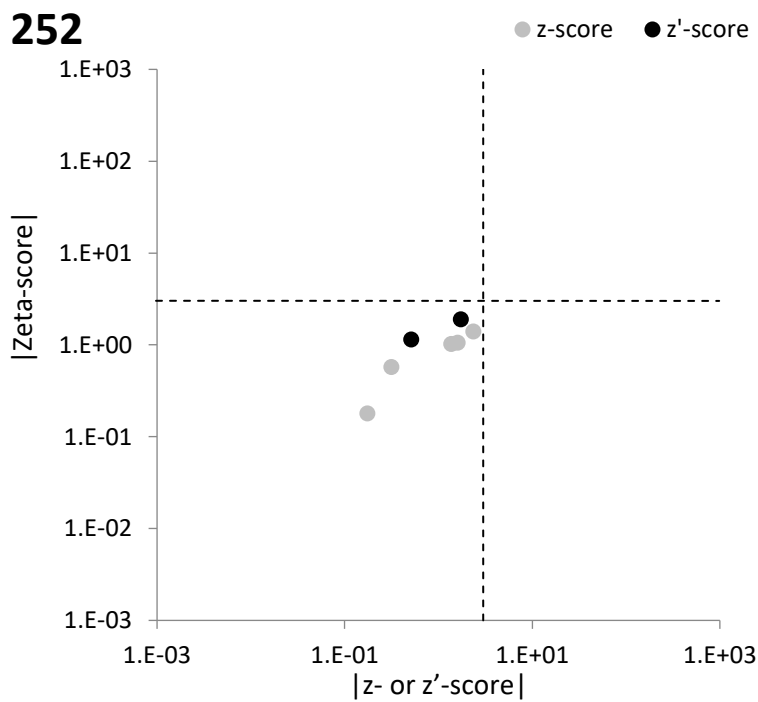


FIG. 302. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 252 (Plant sample).

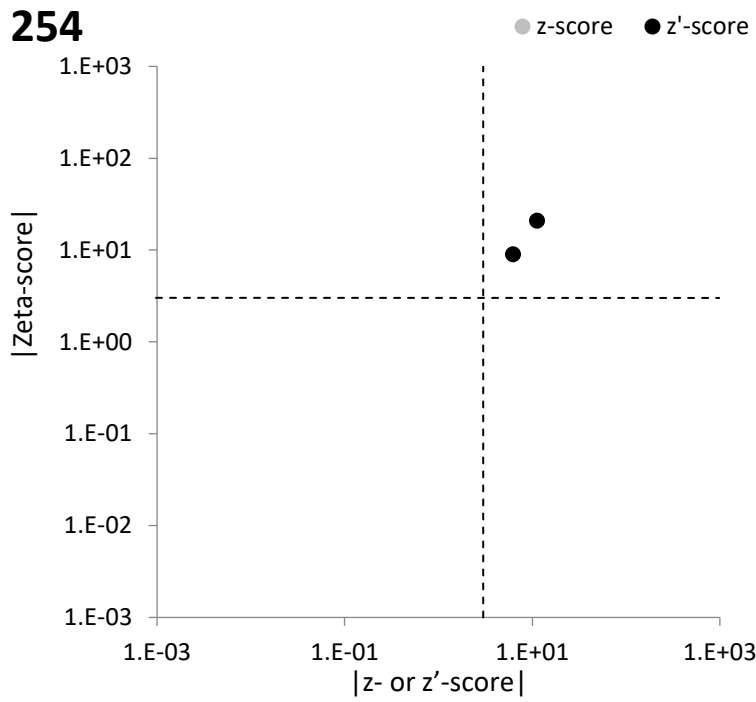


FIG. 303. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 254 (Soil sample with elevated mass fractions of elements).

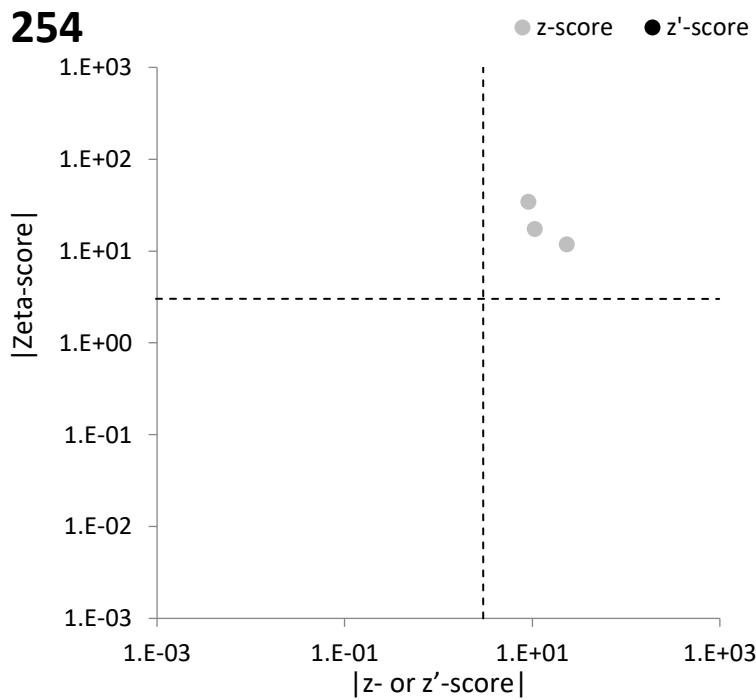


FIG. 304. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 254 (Plant sample).



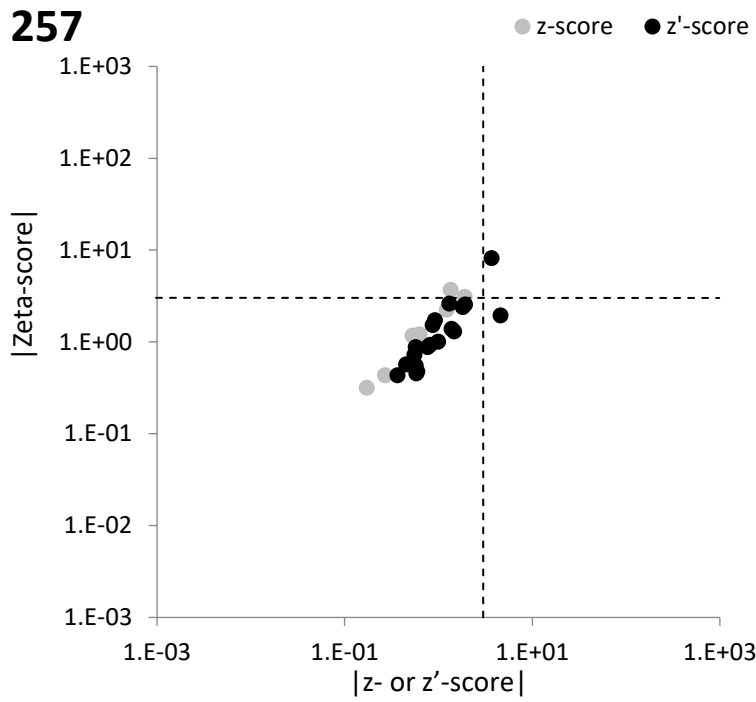


FIG. 305. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 257 (Soil sample with elevated mass fractions of elements).

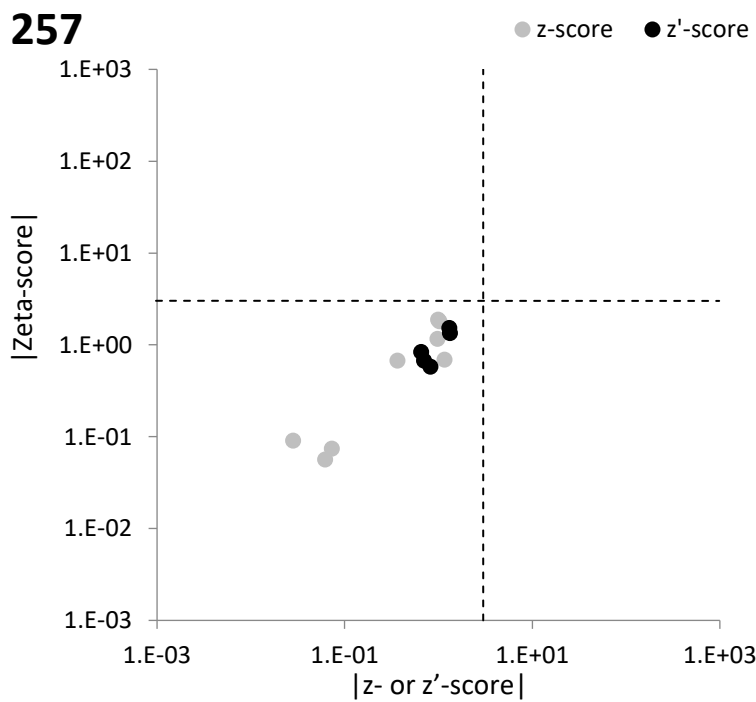


FIG. 306. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 257 (Plant sample).

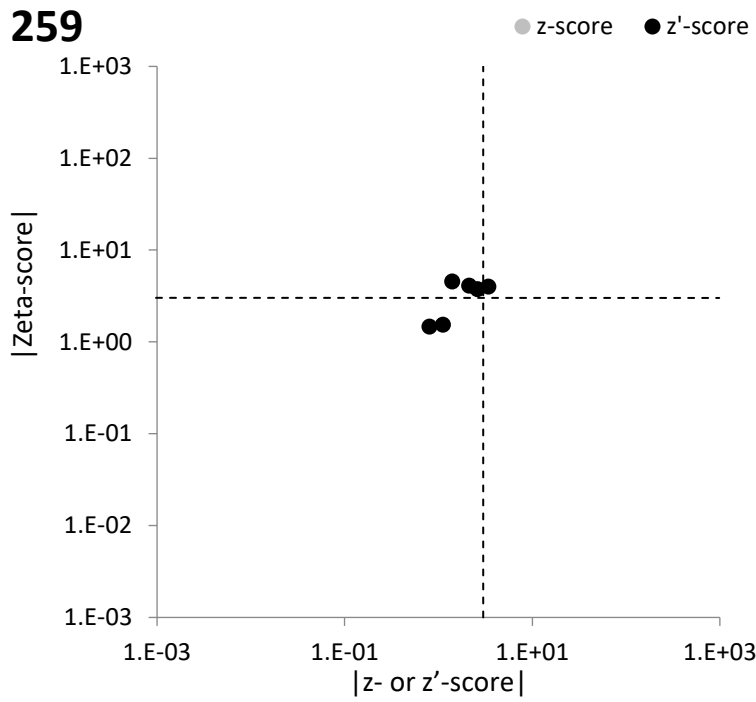


FIG. 307. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 259 (Soil sample with elevated mass fractions of elements).

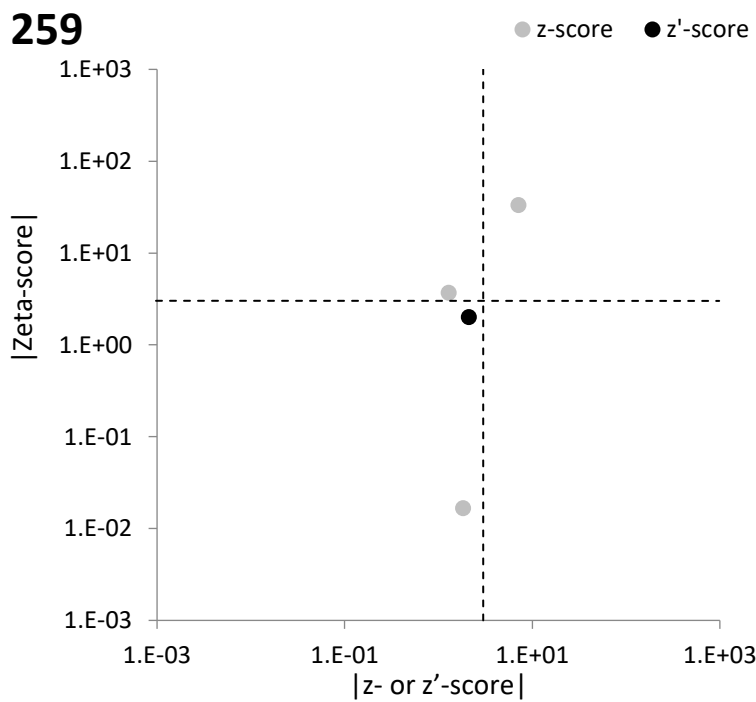


FIG. 308. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 259 (Plant sample).

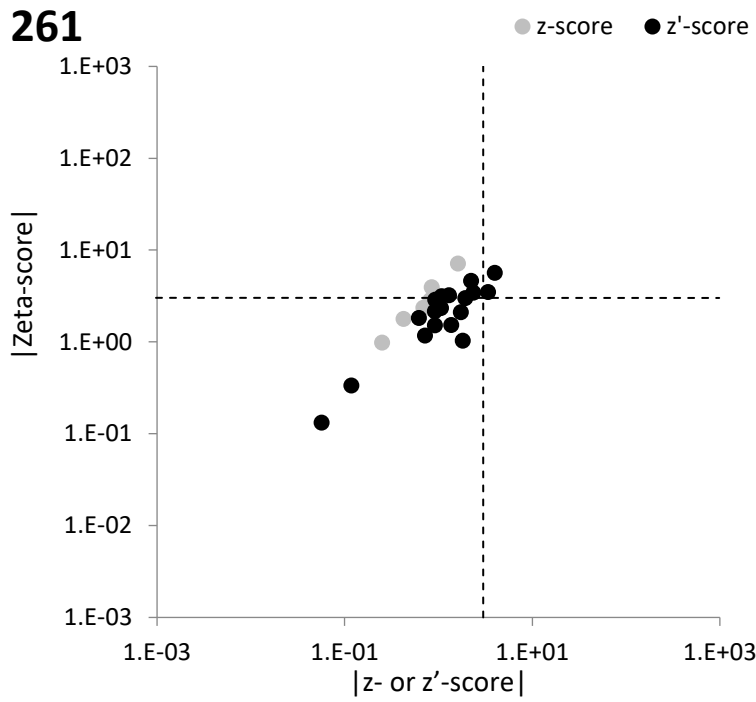


FIG. 309. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 261 (Soil sample with elevated mass fractions of elements).

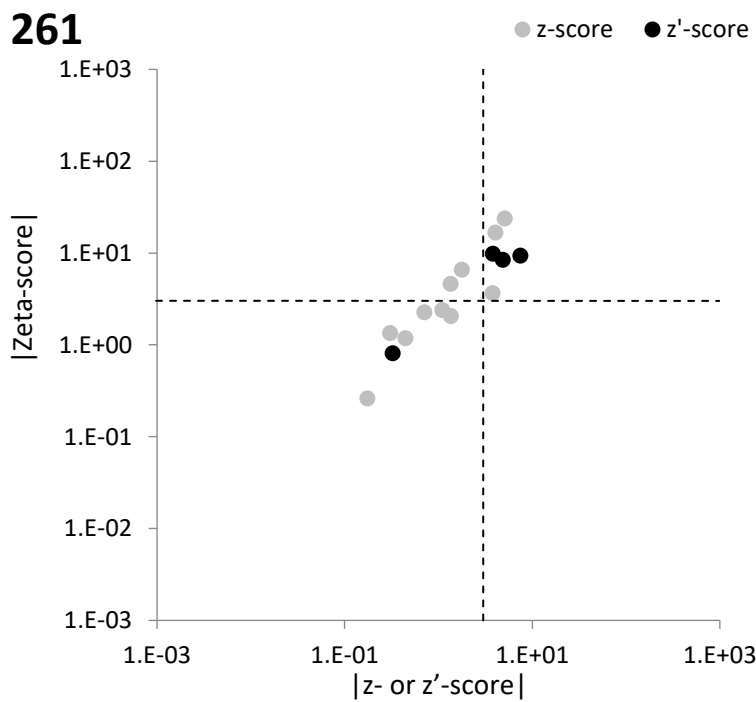


FIG. 310. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 261 (Plant sample).

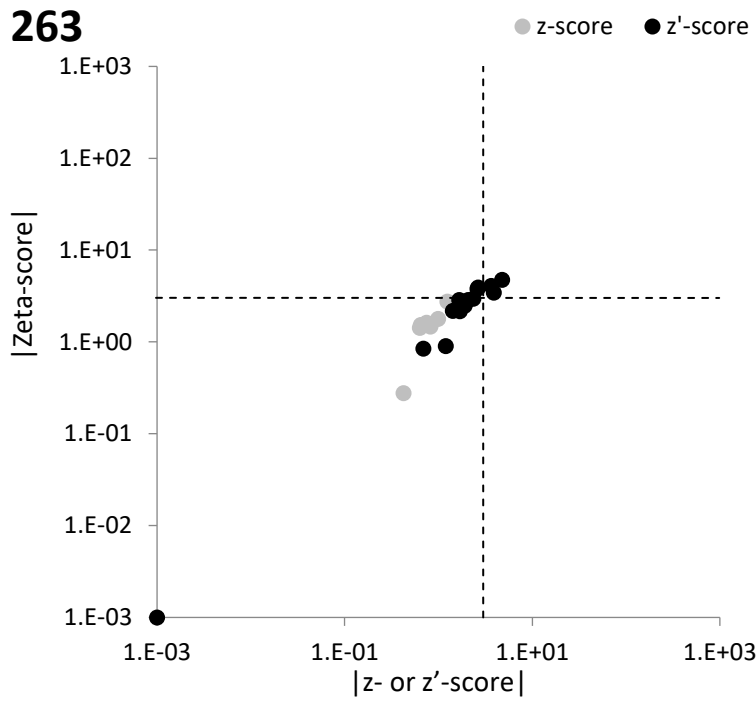


FIG. 311. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 263 (Soil sample with elevated mass fractions of elements).

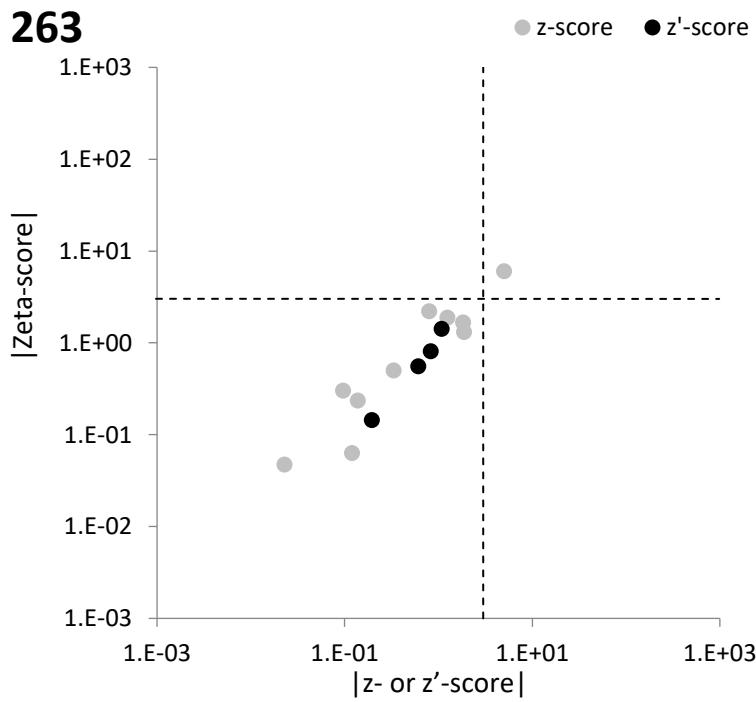


FIG. 312. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 263 (Plant sample).

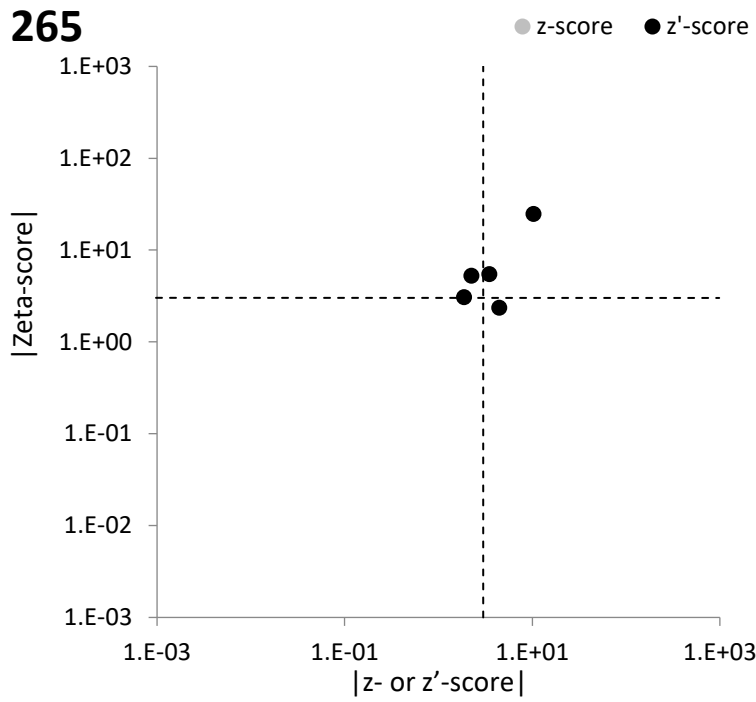


FIG. 313. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 265 (Soil sample with elevated mass fractions of elements).

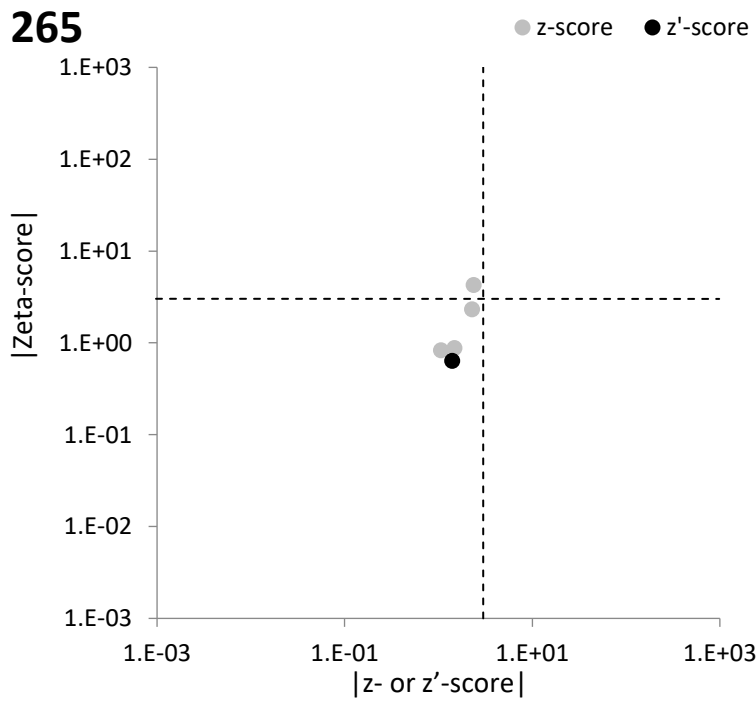


FIG. 314. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 265 (Plant sample).

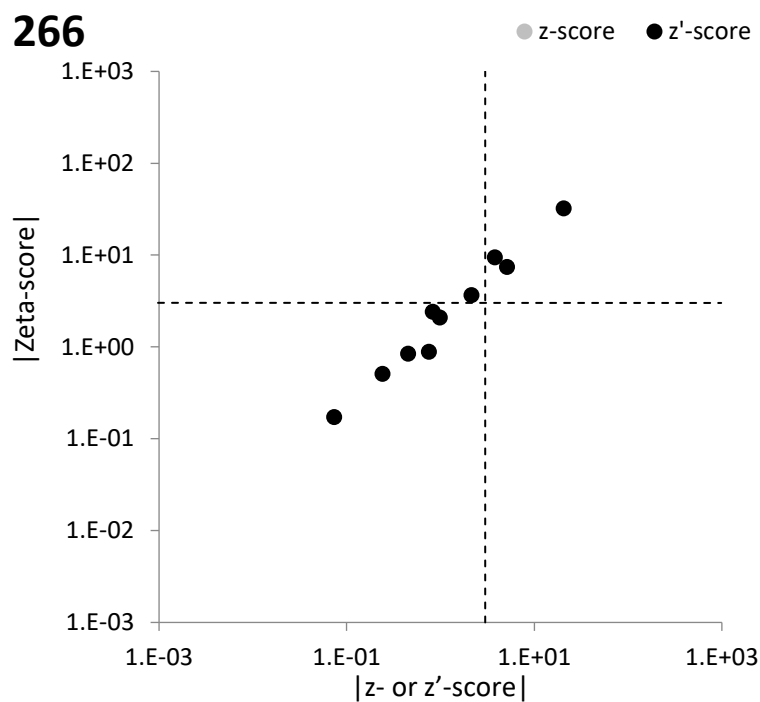


FIG. 315. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 266 (Soil sample with elevated mass fractions of elements).

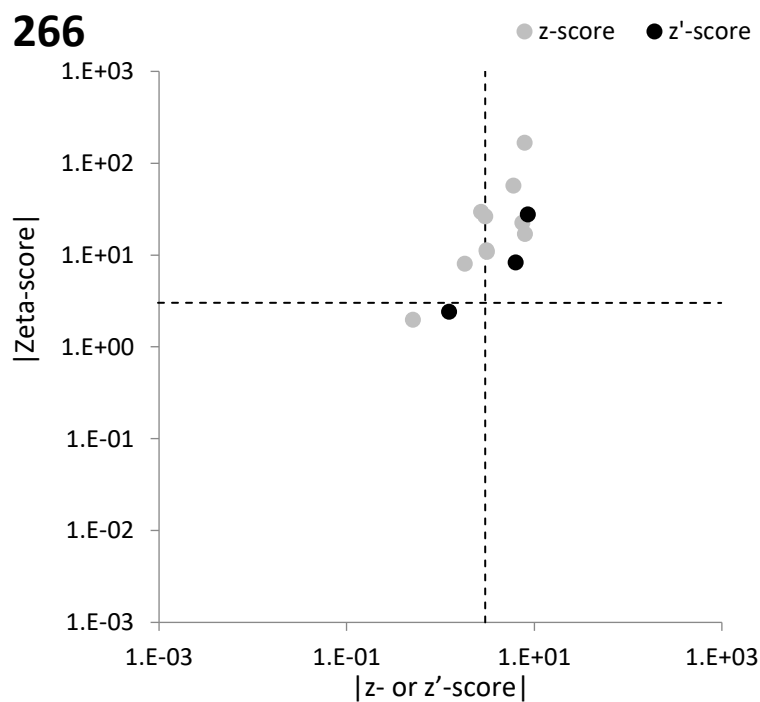


FIG. 316. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 266 (Plant sample).

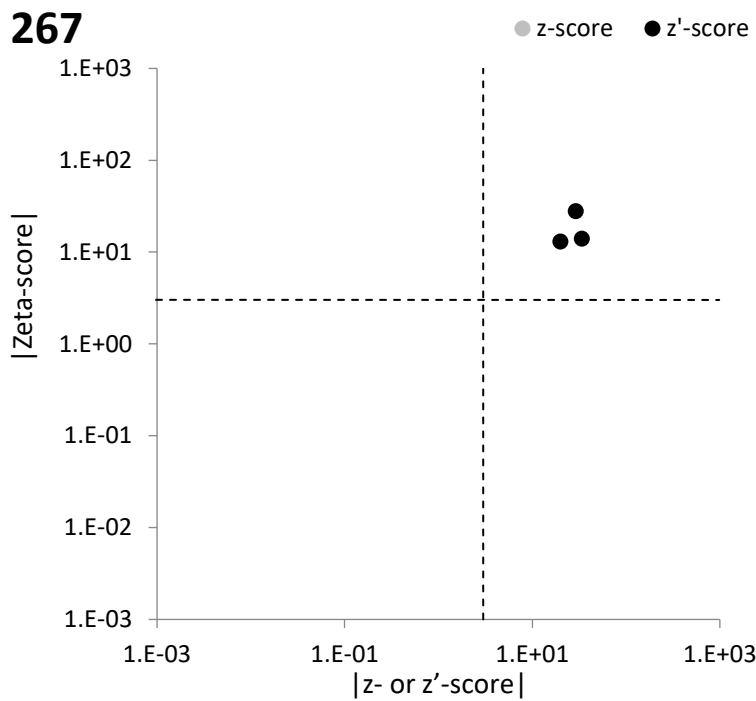


FIG. 317. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 267 (Soil sample with elevated mass fractions of elements).

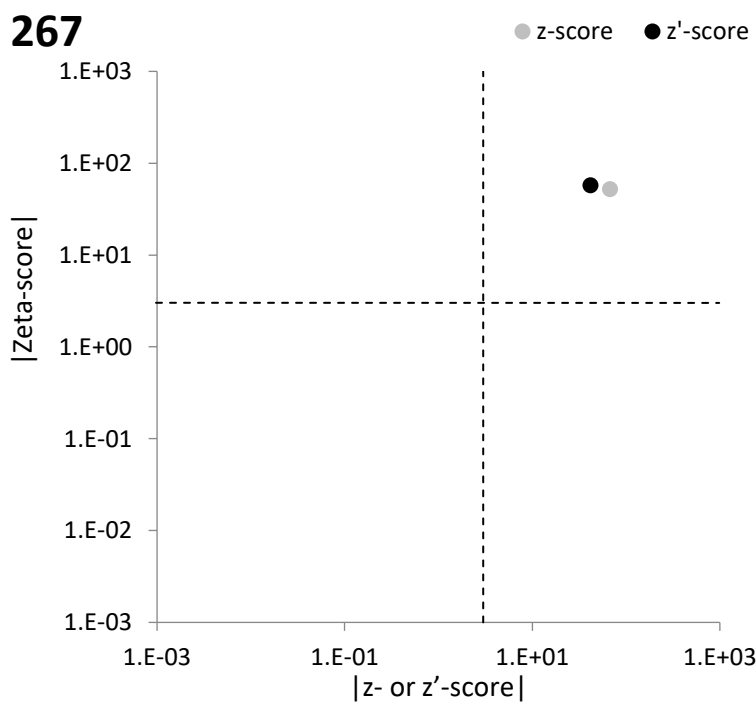


FIG. 318. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 267 (Plant sample).

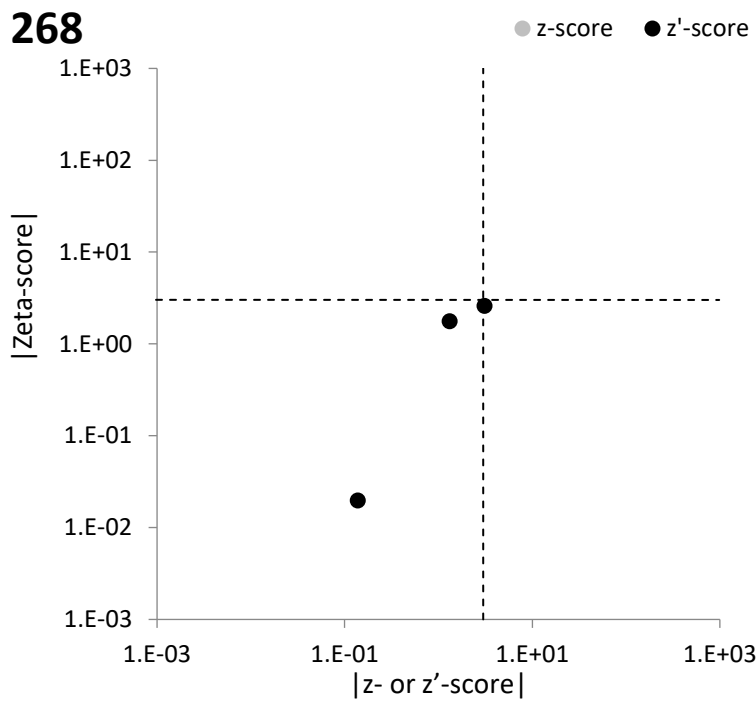


FIG. 319. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 268 (Soil sample with elevated mass fractions of elements).

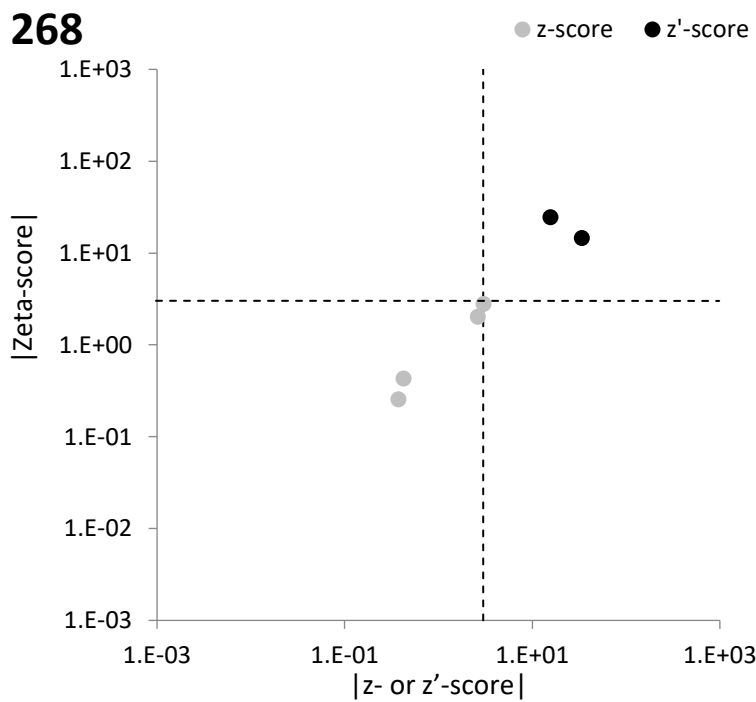


FIG. 320. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 268 (Plant sample).



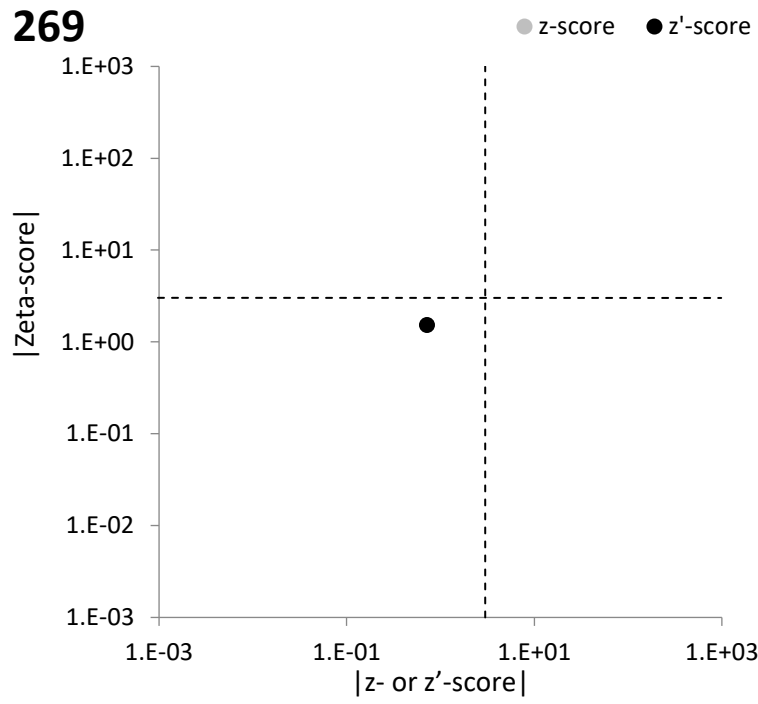


FIG. 321. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 269 (Soil sample with elevated mass fractions of elements).

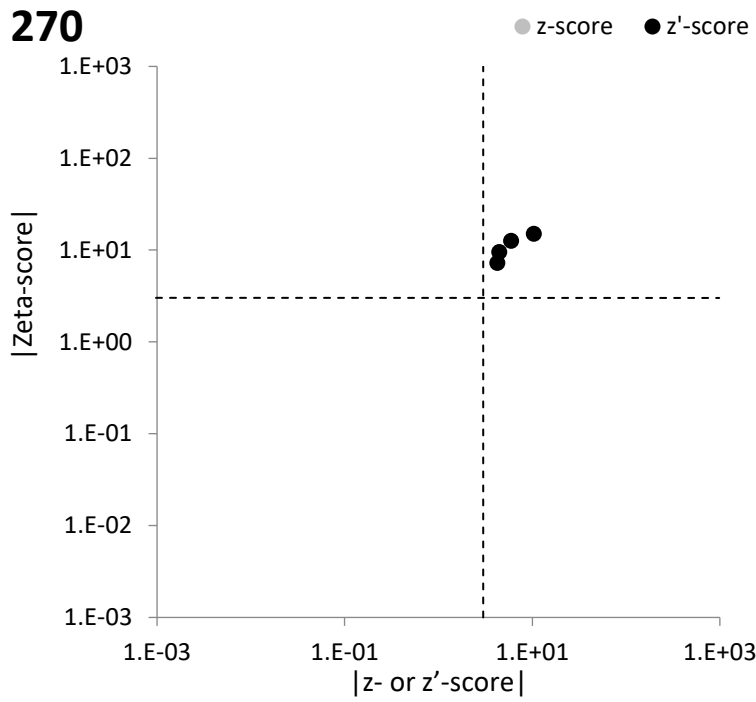


FIG. 322. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 270 (Soil sample with elevated mass fractions of elements).

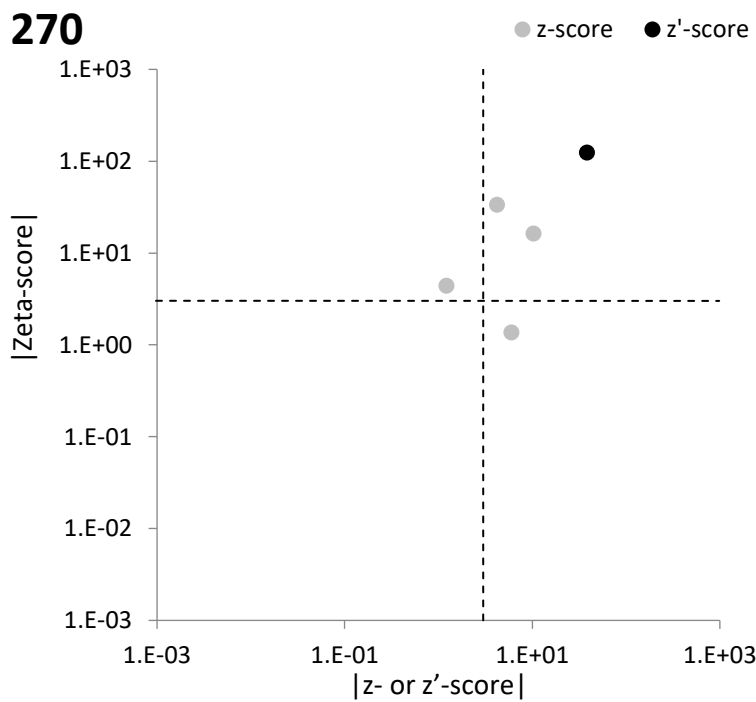


FIG. 323. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 270 (Plant sample).

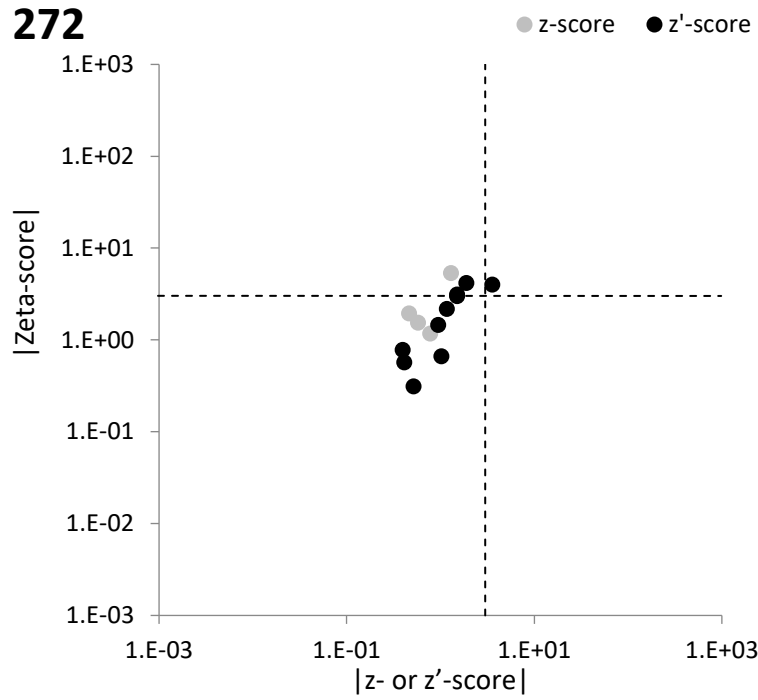


FIG. 324. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 272 (Soil sample with elevated mass fractions of elements).

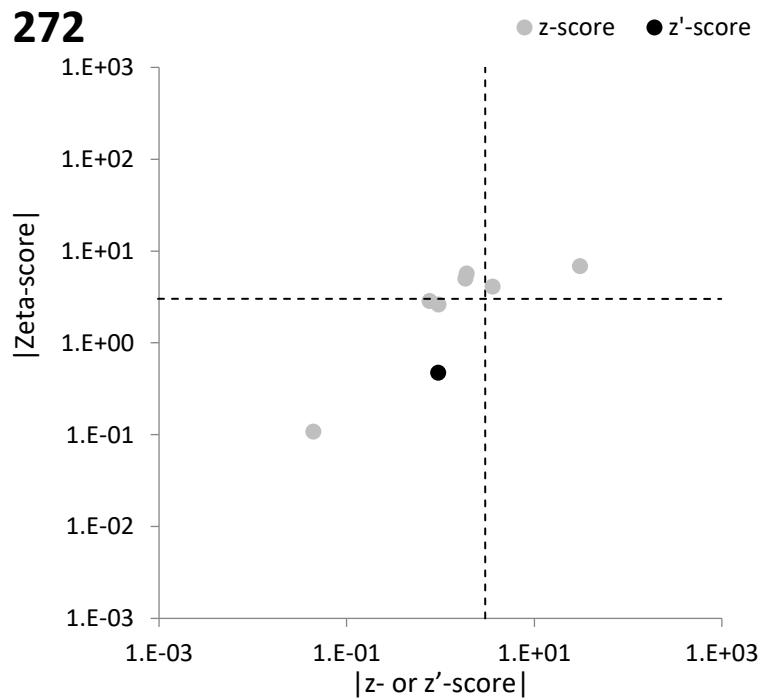


FIG. 325. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 272 (Plant sample).

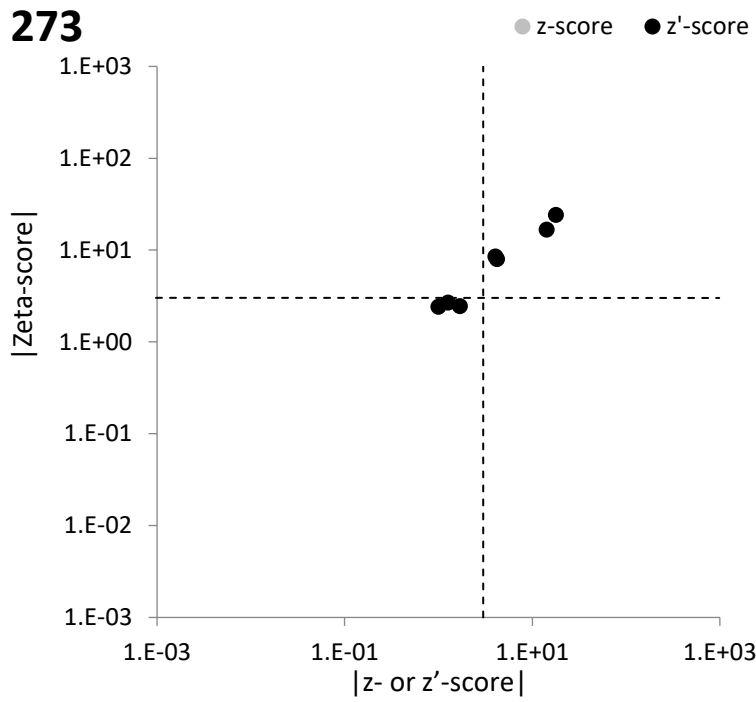


FIG. 326. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 273 (Soil sample with elevated mass fractions of elements).

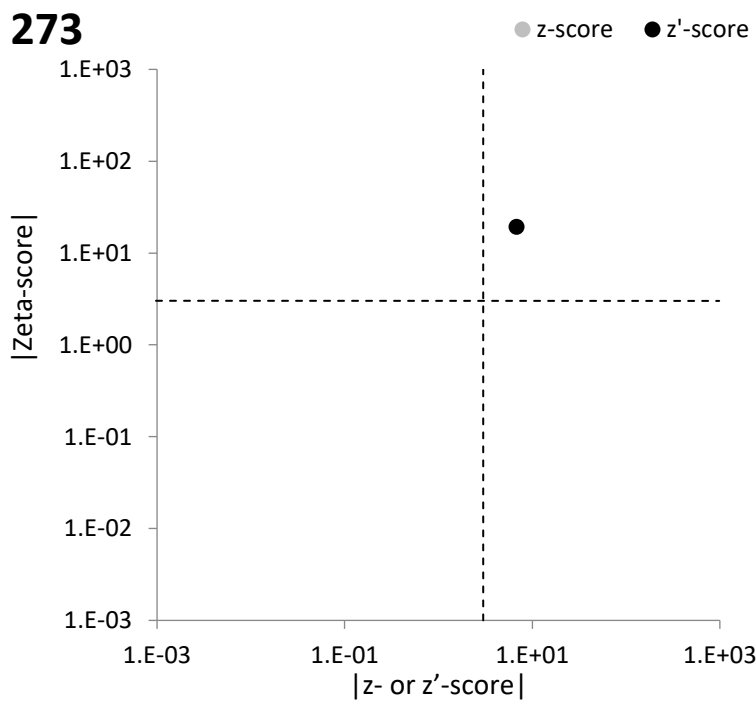


FIG. 327. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 273 (Plant sample).

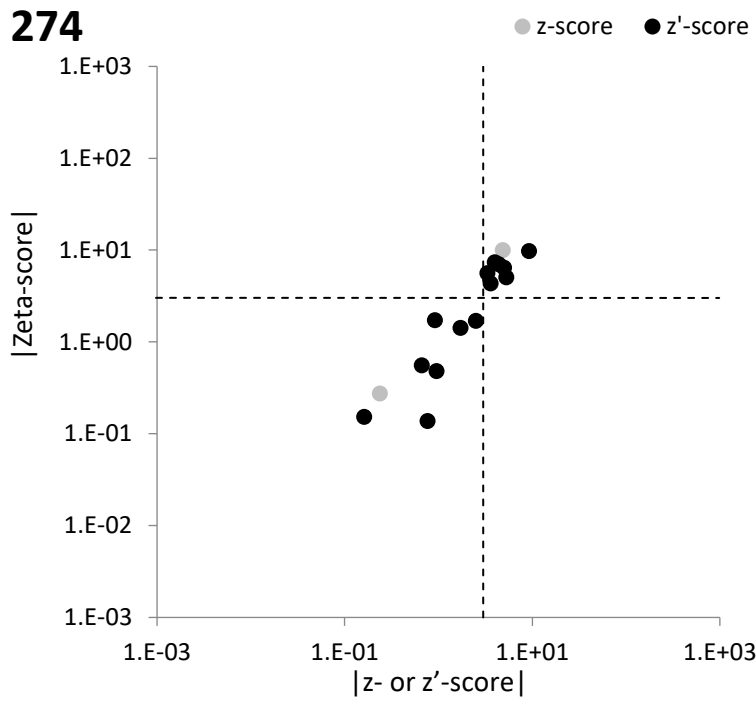


FIG. 328. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 274 (Soil sample with elevated mass fractions of elements).

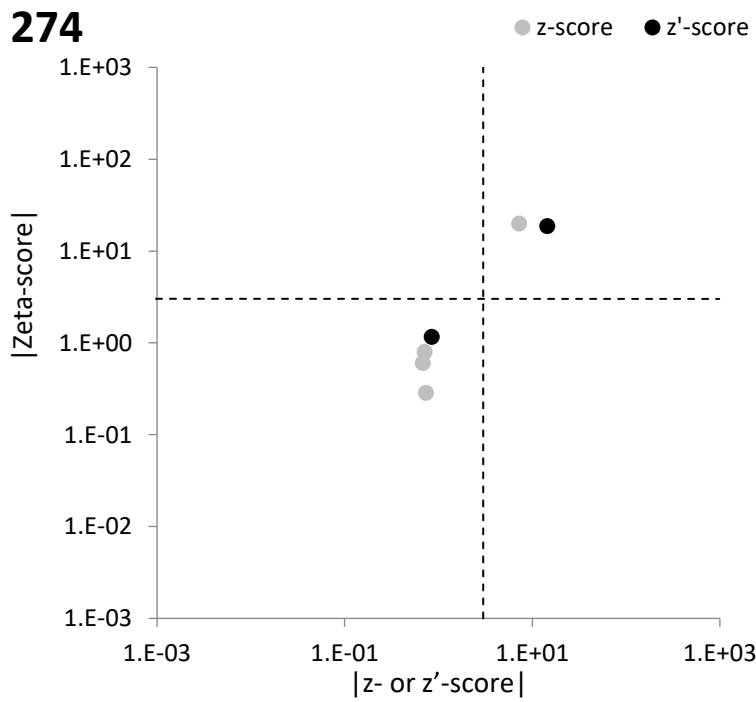


FIG. 329. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 274 (Plant sample).

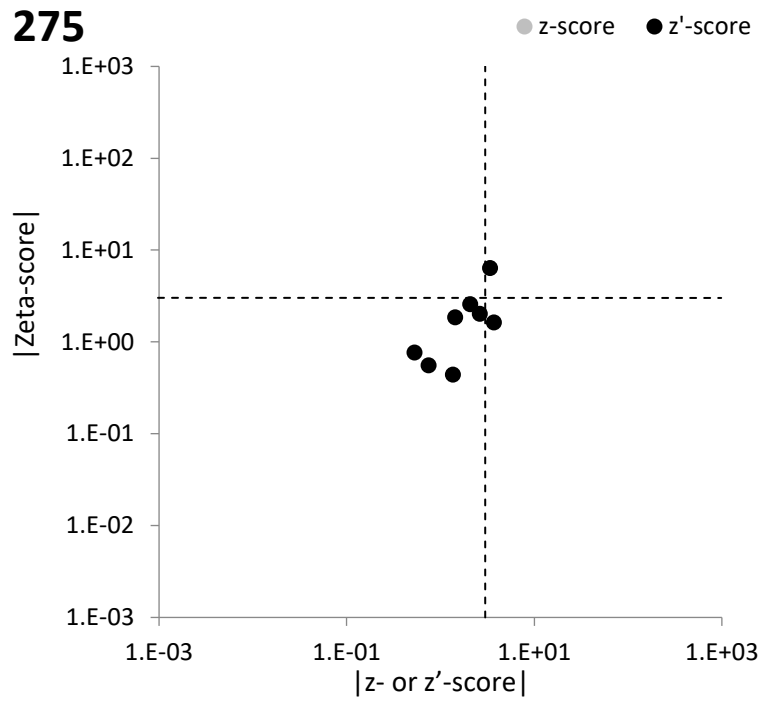


FIG. 330. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 275 (Soil sample with elevated mass fractions of elements).

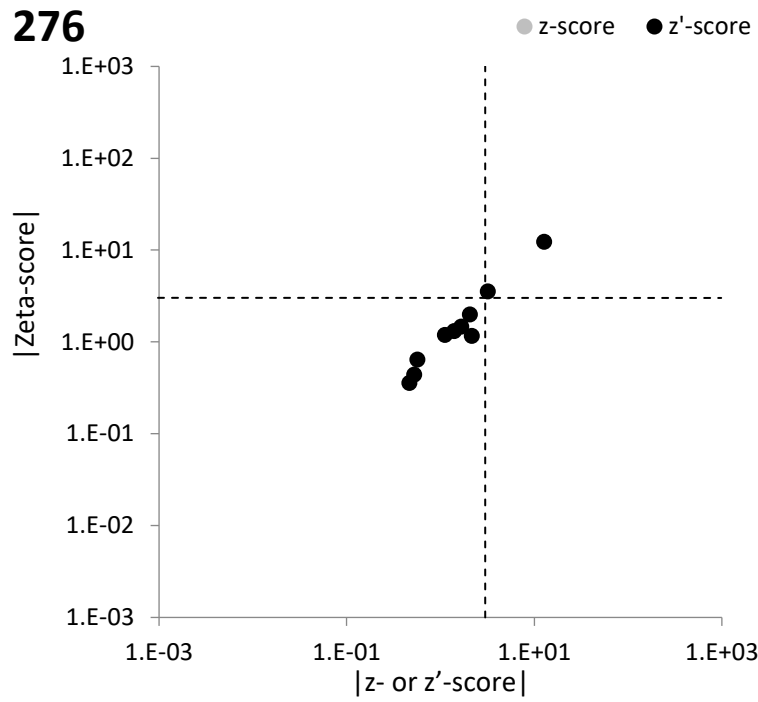


FIG. 331. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 276 (Soil sample with elevated mass fractions of elements).

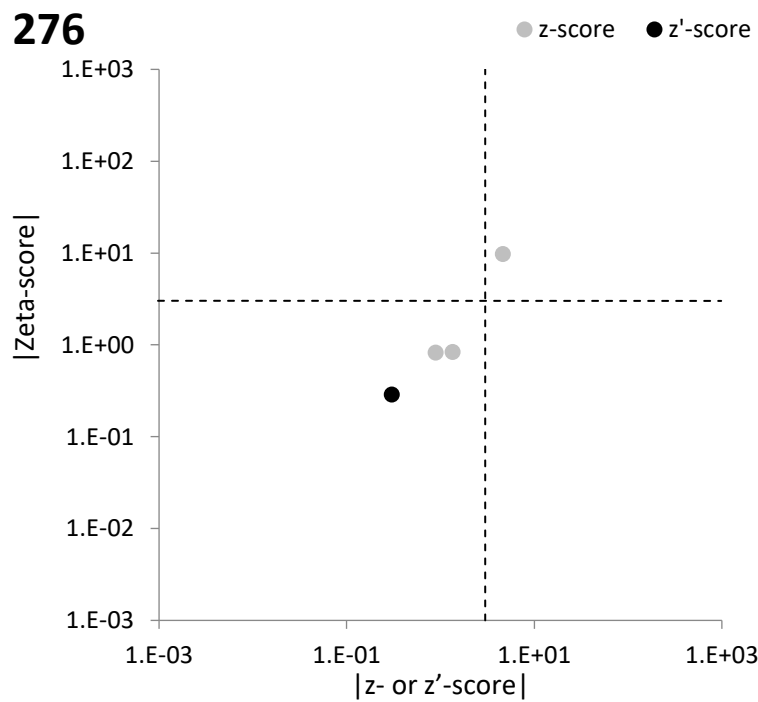


FIG. 332. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 276 (Plant sample).

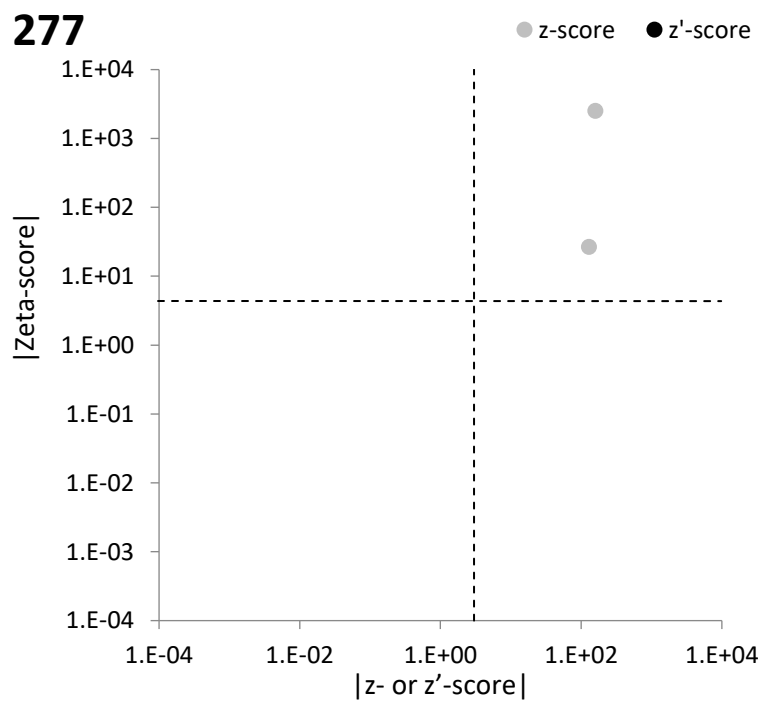


FIG. 333. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 277 (Plant sample).



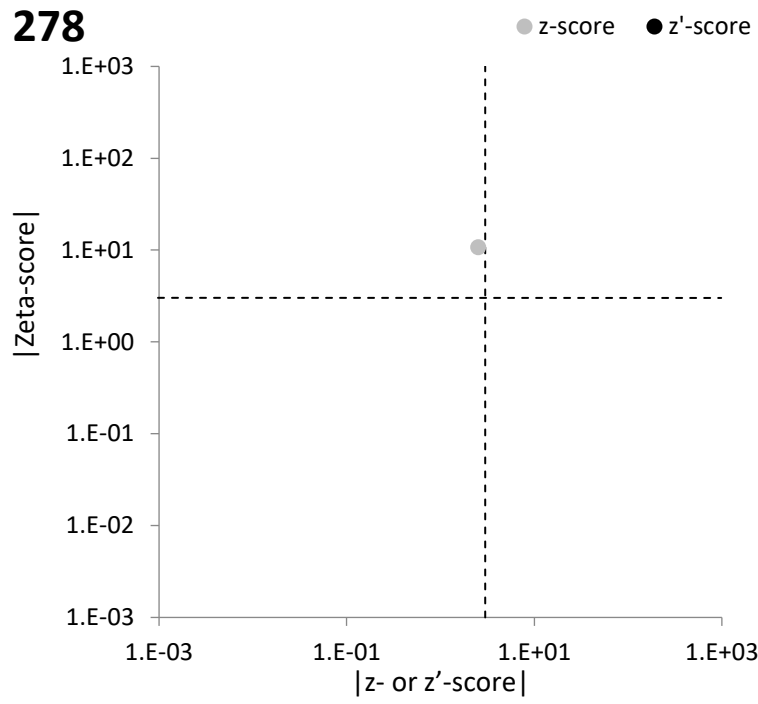


FIG. 334. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 278 (Soil sample with elevated mass fractions of elements).

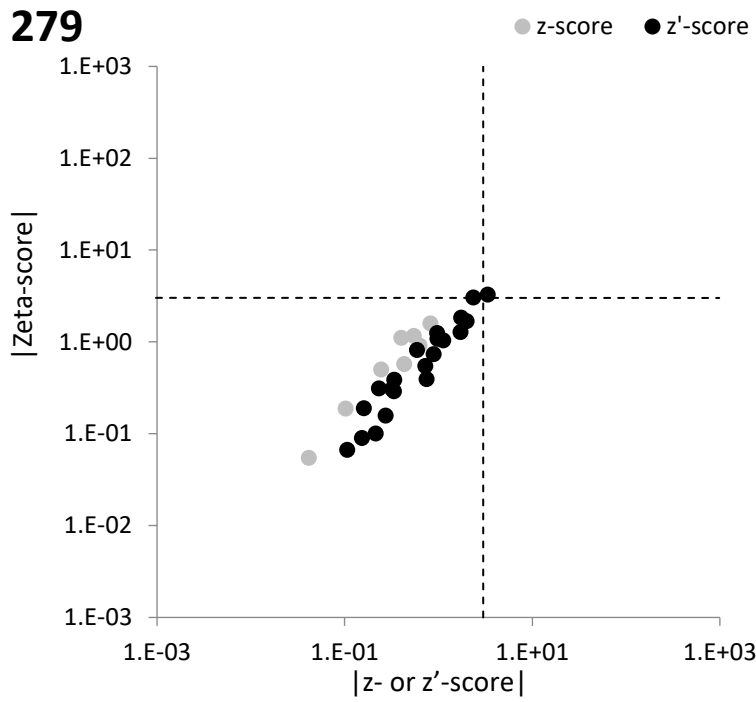


FIG. 335. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 279 (Soil sample with elevated mass fractions of elements).

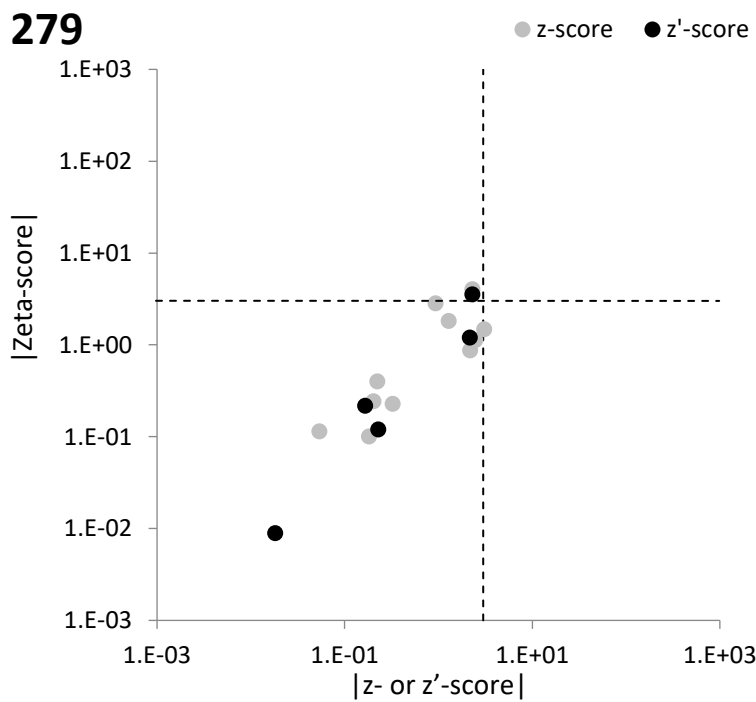


FIG. 336. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 279 (Plant sample).

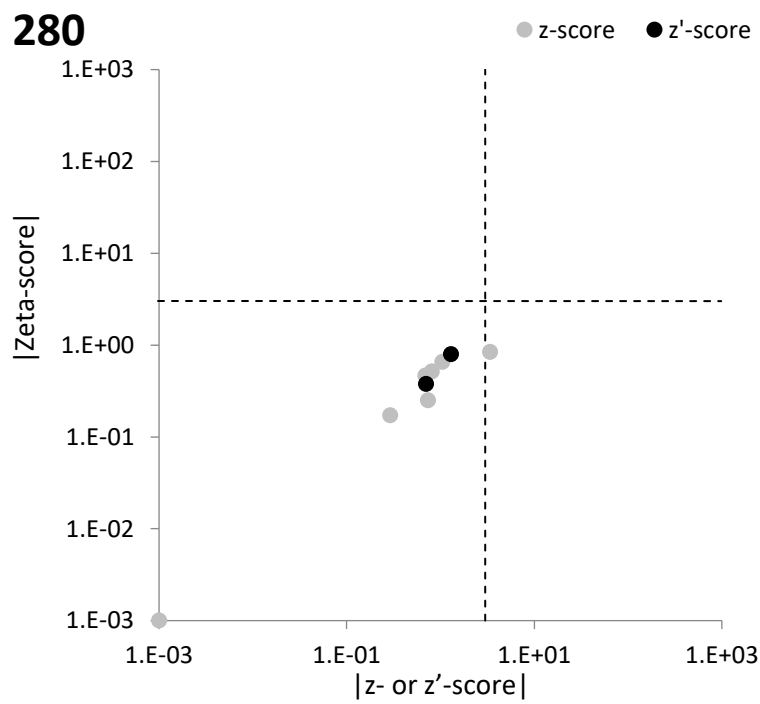


FIG. 337. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 280 (Plant sample).

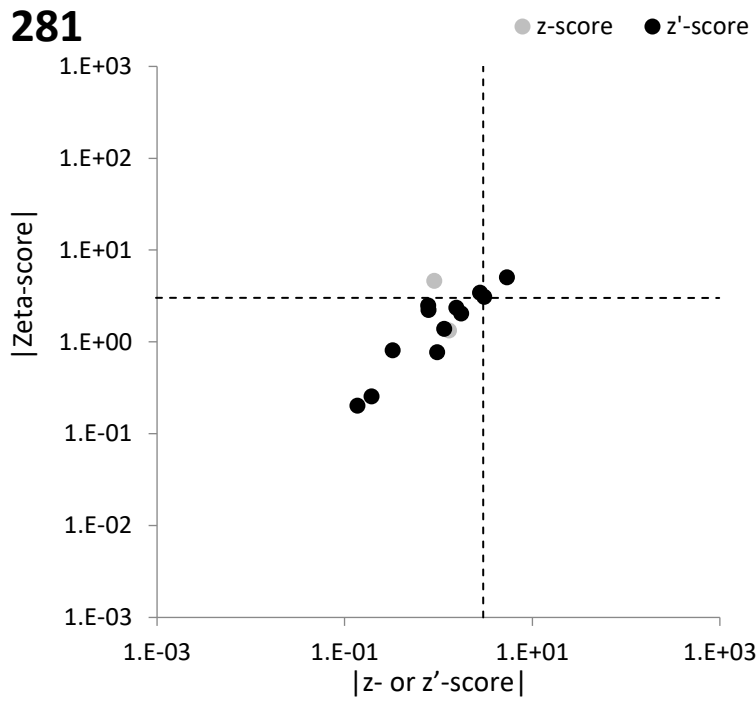


FIG. 338. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 281 (Soil sample with elevated mass fractions of elements).

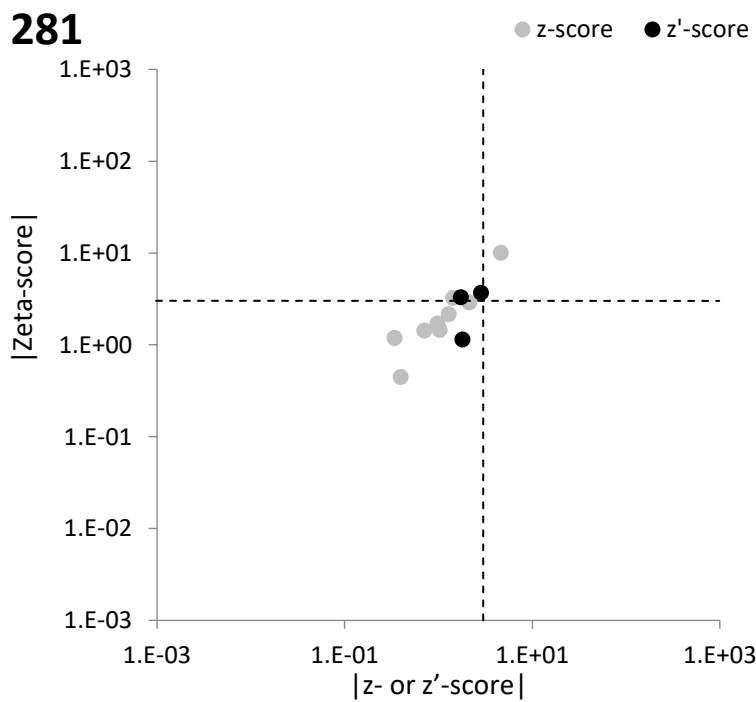


FIG. 339. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 281 (Plant sample).

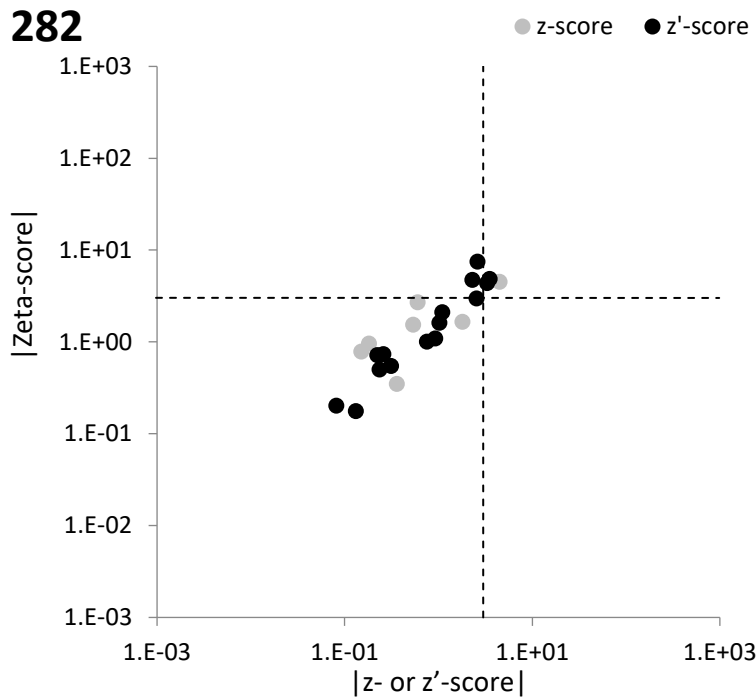


FIG. 340. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 282 (Soil sample with elevated mass fractions of elements).

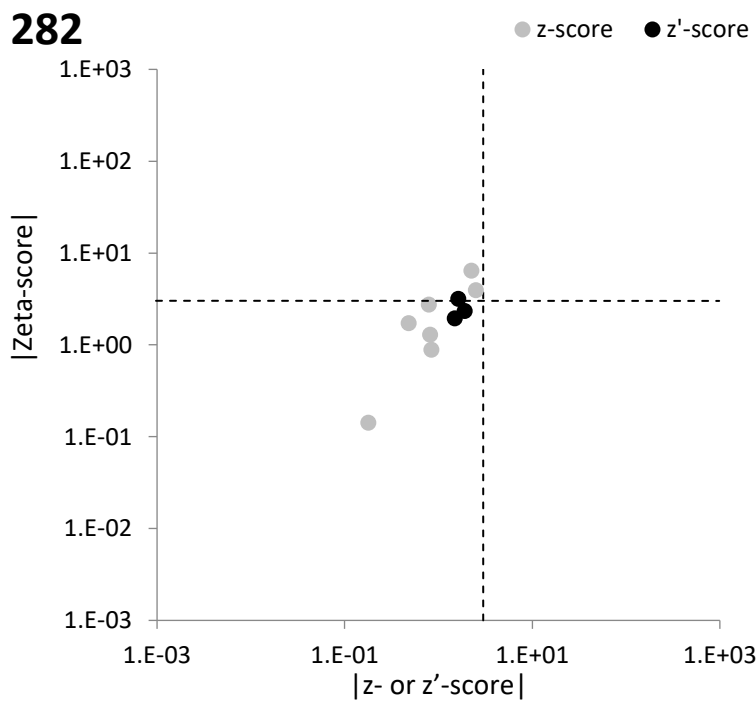


FIG. 341. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 282 (Plant sample).

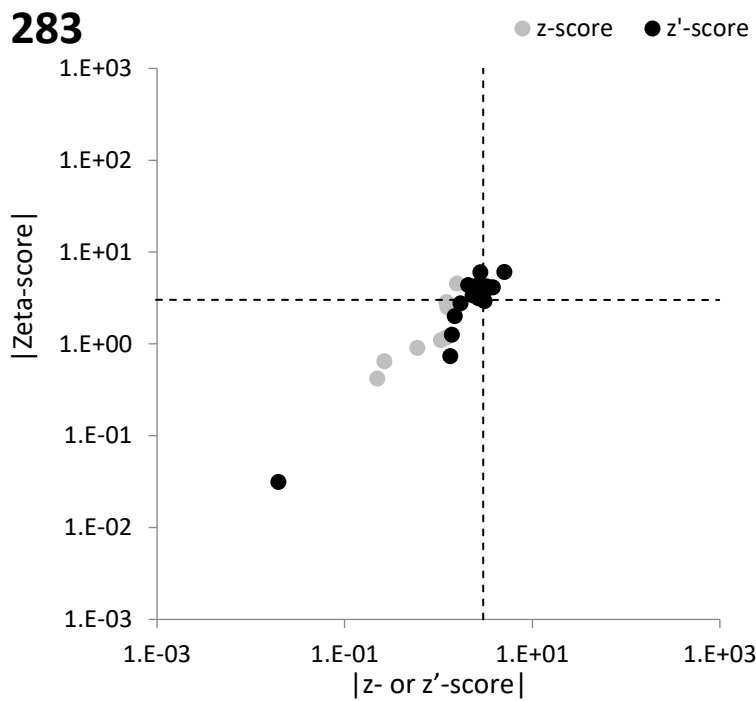


FIG. 342. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 283 (Soil sample with elevated mass fractions of elements).

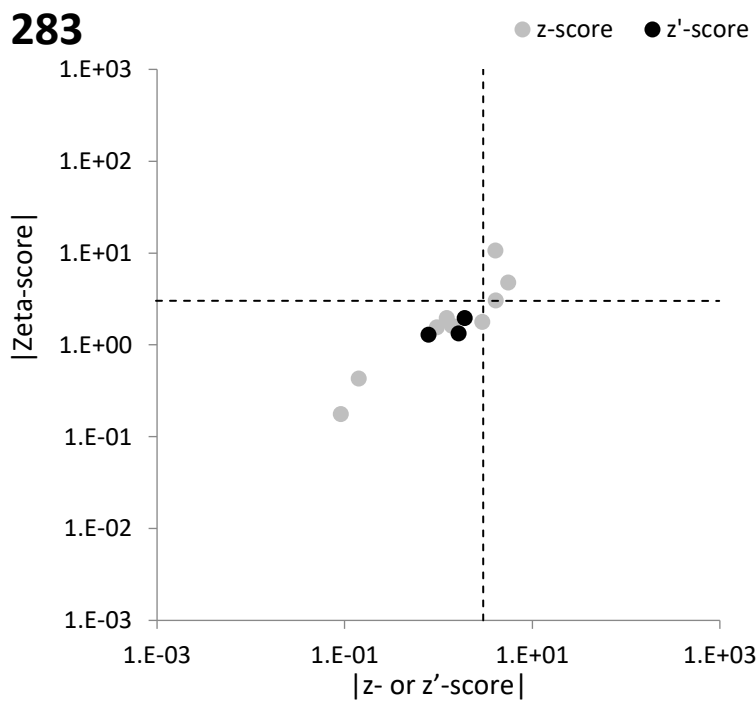


FIG. 343. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 283 (Plant sample).

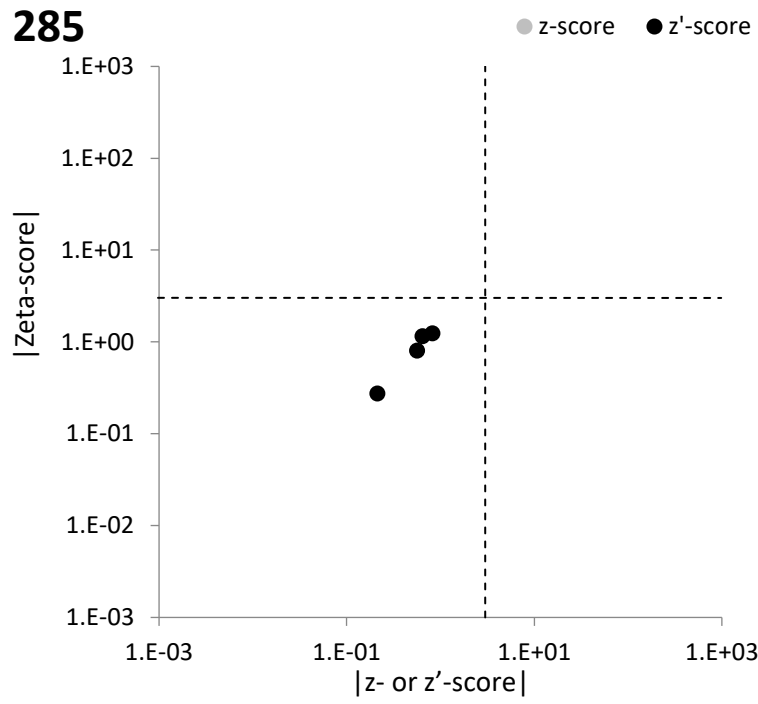


FIG. 344. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 285 (Soil sample with elevated mass fractions of elements).

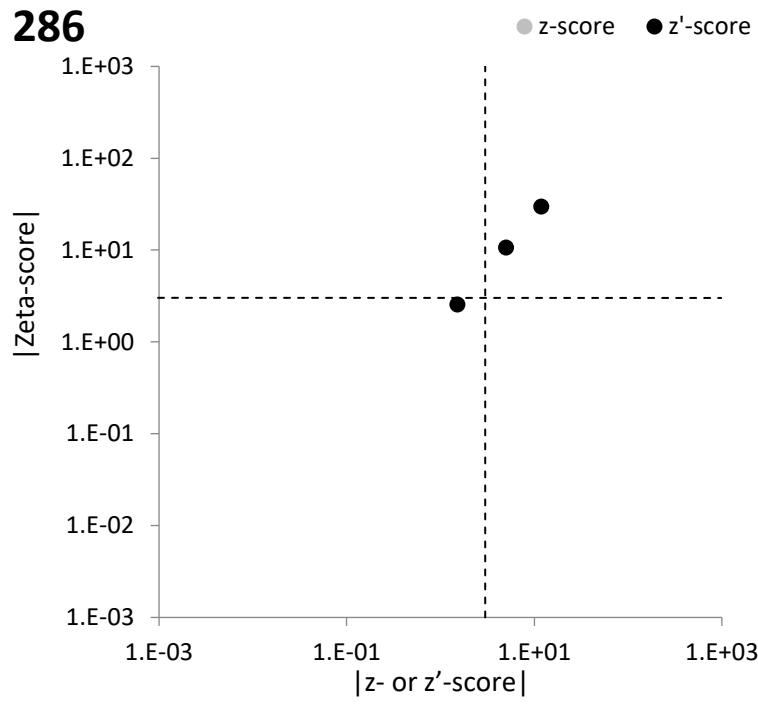


FIG. 345. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 286 (Soil sample with elevated mass fractions of elements).



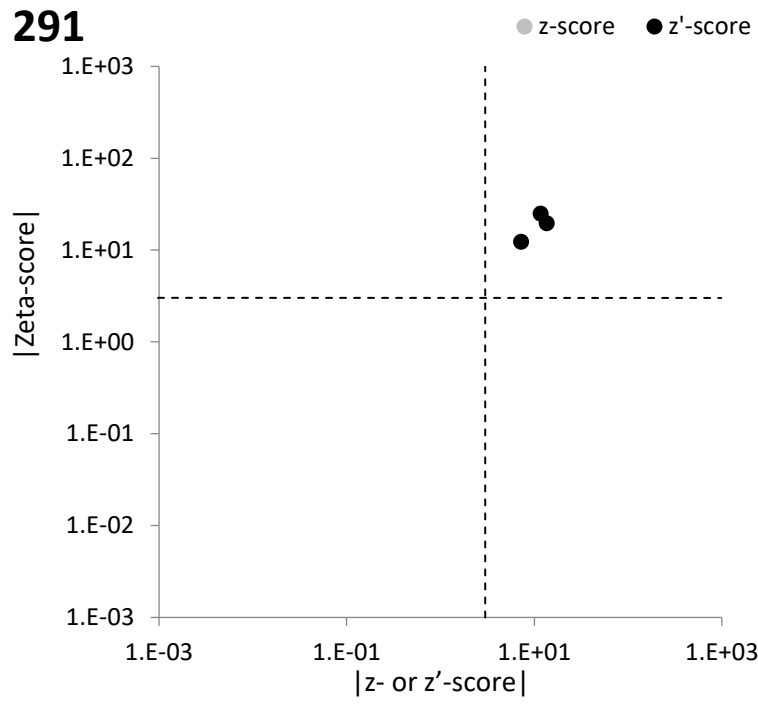


FIG. 346. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 291 (Soil sample with elevated mass fractions of elements).

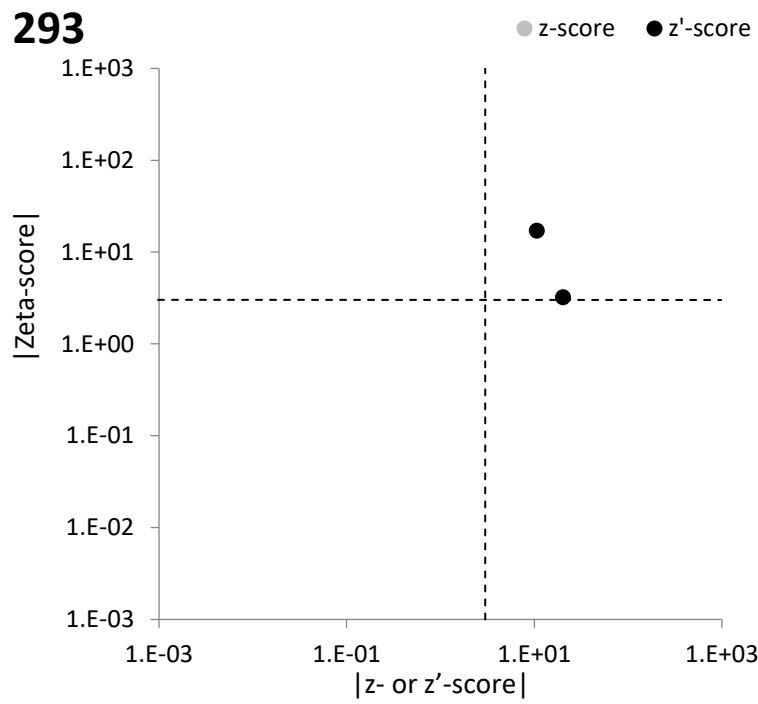


FIG. 347. Combined plots of z- or z'-scores and Zeta-scores for the laboratory with code 293 (Soil sample with elevated mass fractions of elements).

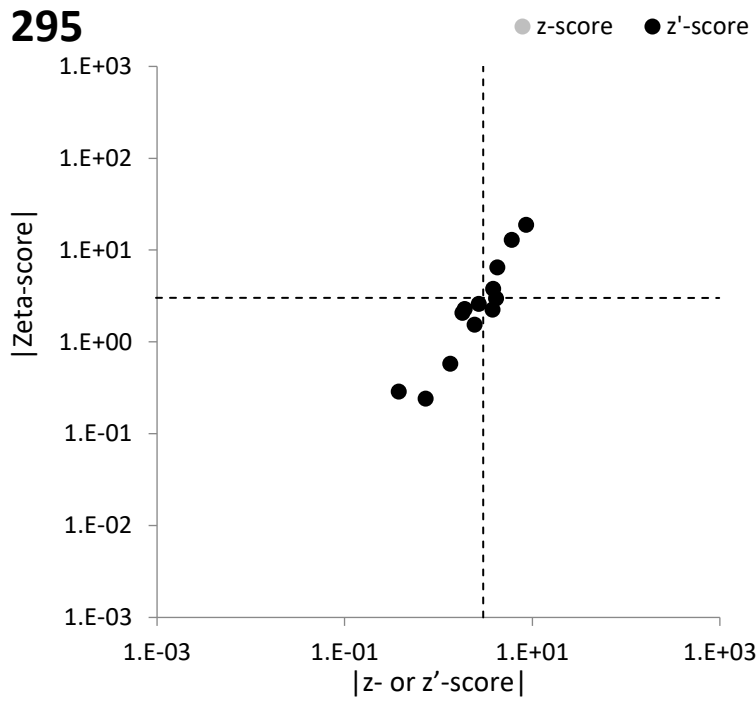


FIG. 348. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 295 (Soil sample with elevated mass fractions of elements).

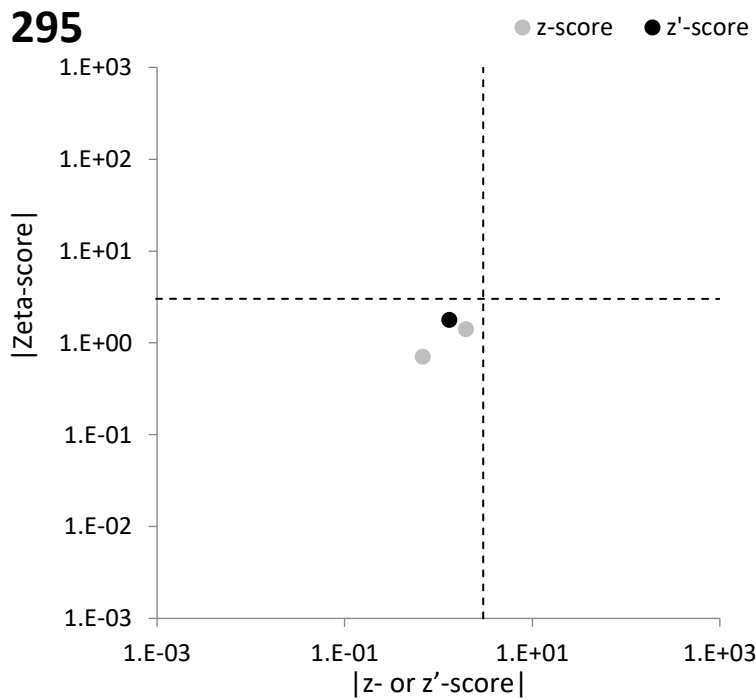


FIG. 349. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 295 (Plant sample).

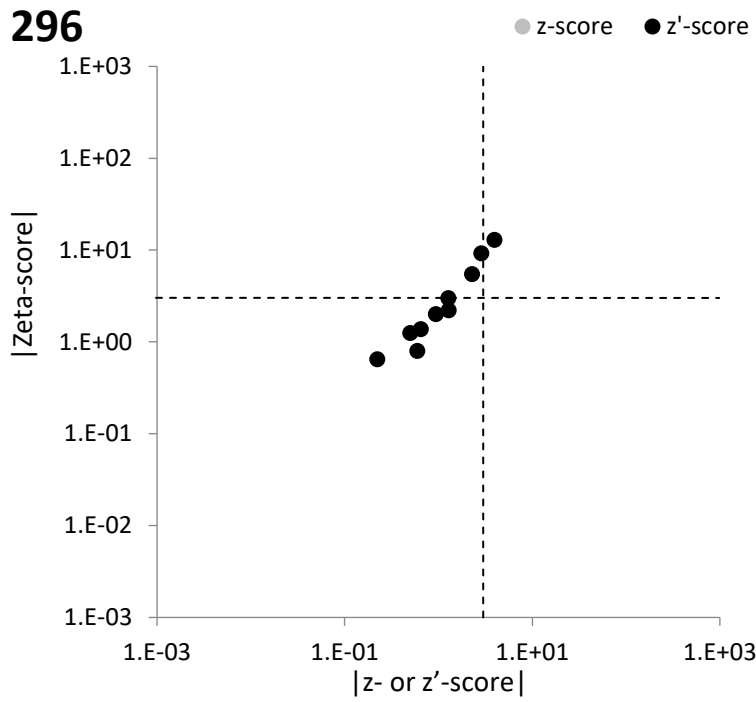


FIG. 350. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 296 (Soil sample with elevated mass fractions of elements).

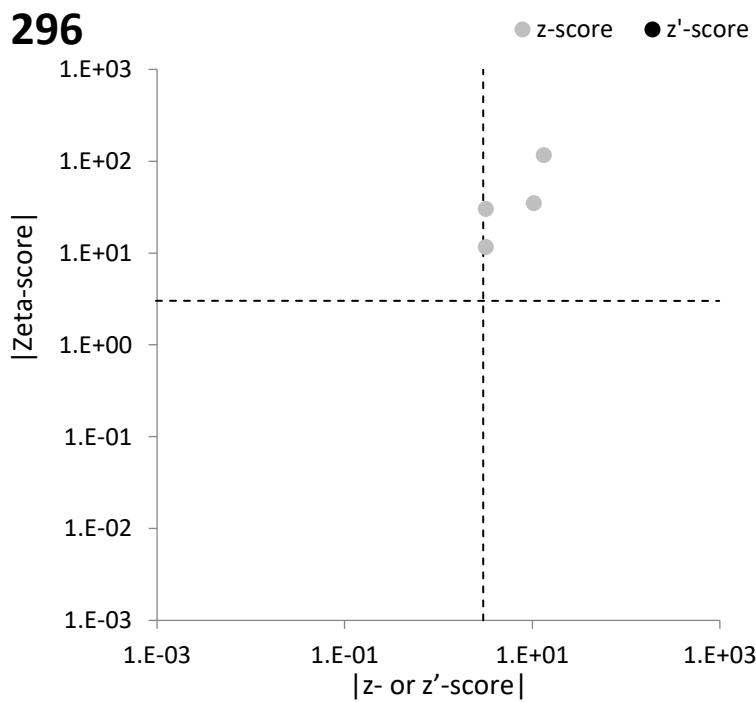


FIG. 351. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 296 (Plant sample).

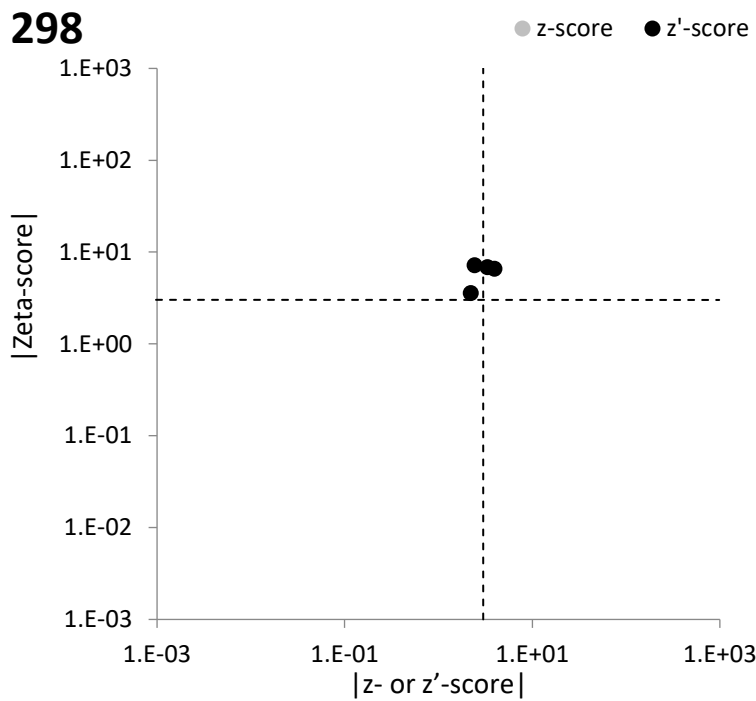


FIG. 352. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 298 (Soil sample with elevated mass fractions of elements).

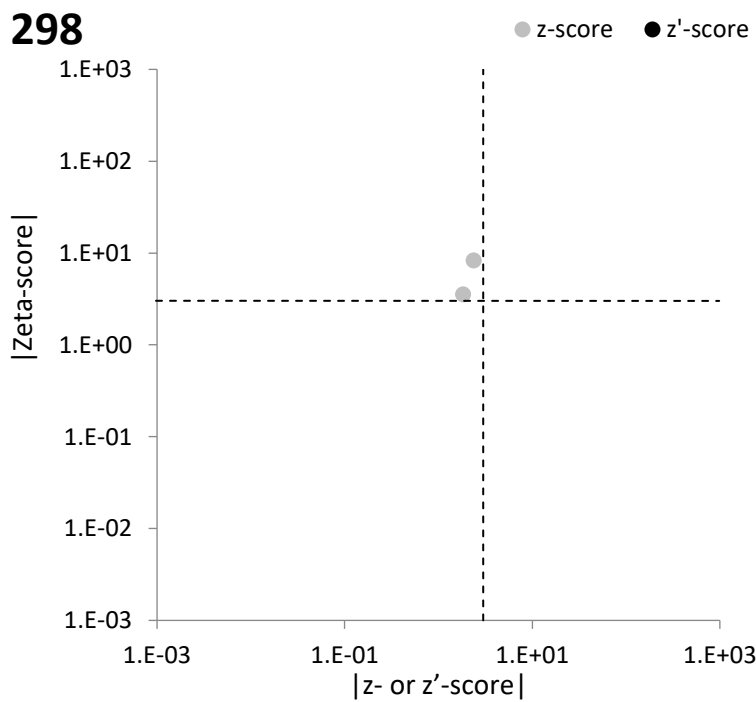


FIG. 353. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 298 (Plant sample).

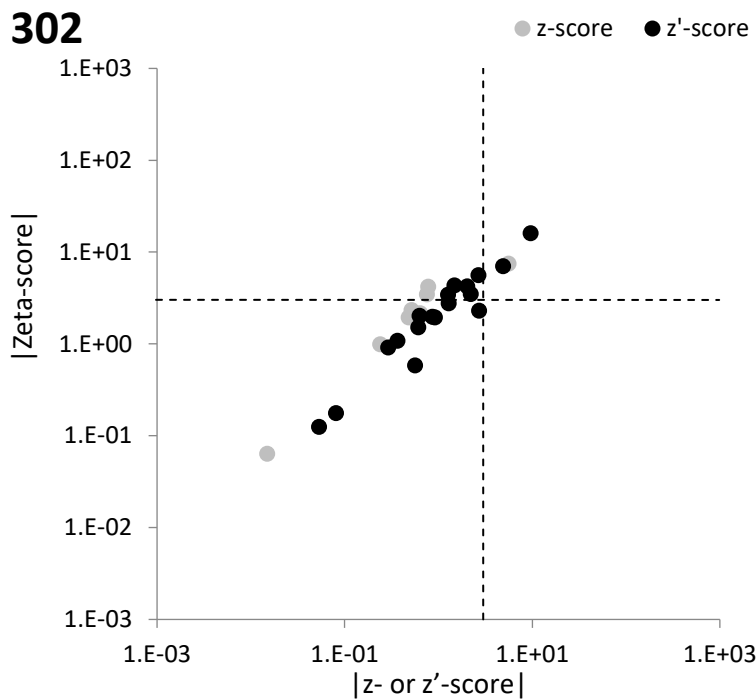


FIG. 354. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 302 (Soil sample with elevated mass fractions of elements).

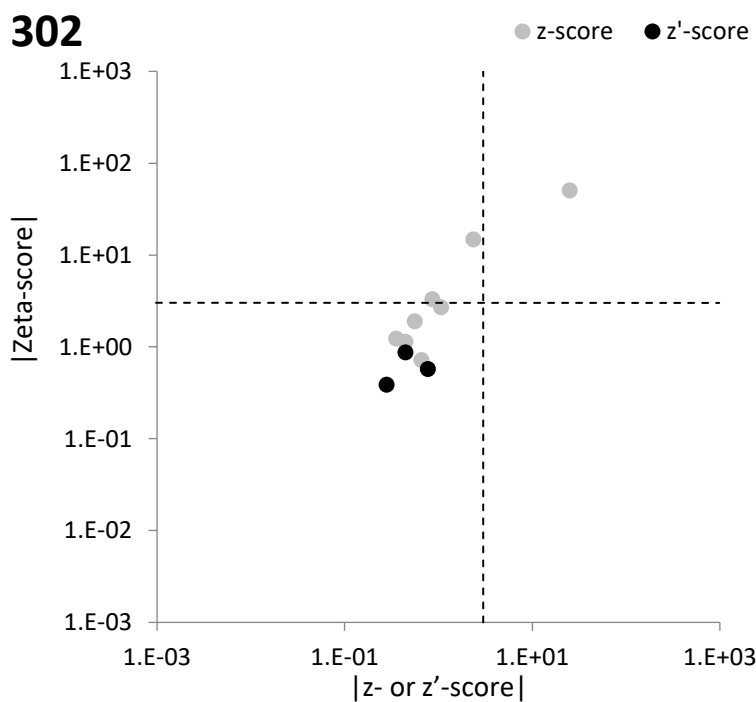


FIG. 355. Combined plots of  $z$ - or  $z'$ -scores and Zeta-scores for the laboratory with code 302 (Plant sample).

TABLE 5a. SUMMARY OF THE PERFORMANCE INDICATORS FOR EACH PARTICIPANT (SOIL SAMPLE WITH ELEVATED MASS FRACTIONS OF ELEMENTS).

Part. Code	Number of results	Number of values < 3			Number of values ≥ 3		
		<i>z</i>	<i>z'</i>	<i>Zeta</i>	<i>z</i>	<i>z'</i>	<i>Zeta</i>
24	13	0	1	2	0	4	3
35	17	0	0	3	0	5	2
36	7	0	3	3	0	0	0
40	37	8	19	25	0	1	3
44	21	0	1	3	0	8	6
53	24	0	7	9	0	3	1
55	18	4	11	15	0	0	0
61	25	8	15	23	0	1	1
65	41	0	7	8	2	10	11
72	22	0	0	0	0	12	12
73	10	0	2	1	0	2	3
75	23	0	4	4	0	5	5
77	18	0	6	7	0	1	0
78	10	0	6	5	0	0	1
85	49	2	18	22	2	5	5
100	34	0	10	9	3	7	11
102	12	0	1	1	0	3	3
113	35	0	0	0	0	15	15
116	23	0	10	10	0	2	2
126	43	1	12	17	0	7	3
129	17	0	1	4	0	5	2
130	23	1	3	8	0	8	4
133	27	0	5	8	0	6	3
137	7	0	1	3	0	3	1
145	18	0	3	3	0	4	4
146	35	0	1	10	0	14	5
149	13	0	5	5	0	0	0
151	33	4	11	11	1	5	10
152	34	7	10	10	1	5	13
154	17	0	2	1	0	7	8
169	29	8	16	24	0	0	0
170	12	5	6	10	0	0	1
171	24	7	11	18	0	2	2
172	37	7	16	23	0	1	1
174	54	7	21	24	0	0	4
176	42	8	22	29	0	0	1
182	37	6	19	25	1	0	1
183	32	7	17	23	0	0	1
192	45	8	20	28	0	1	1
193	28	4	8	12	2	8	10
194	26	5	10	18	2	2	1

Part. Code	Number of results	Number of values < 3			Number of values ≥ 3		
		<i>z</i>	<i>z'</i>	<i>Zeta</i>	<i>z</i>	<i>z'</i>	<i>Zeta</i>
195	18	5	4	10	1	6	6
199	33	7	17	22	0	1	3
202	26	6	16	21	0	0	1
203	34	7	15	19	0	2	5
204	38	1	7	8	2	8	10
205	20	3	0	3	3	12	15
206	44	0	8	6	4	12	18
209	19	0	7	4	0	1	4
215	42	8	20	30	0	2	0
216	17	0	0	3	0	6	3
218	6	0	3	2	0	3	4
220	40	8	19	27	0	1	1
229	4	0	0	0	0	2	2
230	22	0	8	8	0	1	1
233	22	2	5	8	0	5	4
234	25	3	7	11	1	4	4
235	31	0	12	12	0	2	2
237	44	8	21	27	0	0	2
238	29	1	11	15	0	3	0
244	24	0	7	6	0	4	5
247	30	8	16	24	0	0	0
249	17	0	6	7	0	1	0
250	8	0	2	2	0	0	0
252	40	0	13	16	2	6	5
254	19	0	0	0	0	6	6
257	38	7	17	23	0	2	3
259	11	0	5	2	0	1	4
261	35	8	16	17	0	2	9
263	34	8	12	18	0	3	5
265	13	0	2	1	0	3	4
266	24	0	7	6	0	3	4
267	11	0	0	0	0	3	3
268	6	0	2	3	0	1	0
269	1	0	1	1	0	0	0
270	11	0	0	0	0	4	4
272	17	4	9	9	0	1	5
273	14	0	3	3	0	4	4
274	25	1	7	8	1	7	8
275	12	0	6	7	0	2	1
276	18	0	8	8	0	2	2
277	10	0	0	0	0	5	5
278	19	1	0	0	0	6	7
279	45	8	20	27	0	1	2



Part. Code	Number of results	Number of values < 3			Number of values ≥ 3		
		<i>z</i>	<i>z'</i>	<i>Zeta</i>	<i>z</i>	<i>z'</i>	<i>Zeta</i>
281	20	2	10	10	0	2	4
282	29	6	13	17	1	2	5
283	29	8	10	13	0	5	10
284	1	0	0	0	0	0	0
285	5	0	4	4	0	0	0
286	5	0	1	1	0	2	2
291	7	0	0	0	0	3	3
293	10	0	0	0	0	3	3
295	22	0	7	9	0	6	4
296	20	0	9	6	0	2	5
298	8	0	2	0	0	2	4
302	35	7	16	16	1	2	10

TABLE 5b. SUMMARY OF THE PERFORMANCE INDICATORS FOR EACH PARTICIPANT (PLANT SAMPLE).

Part. Code	Number of results	Number of values < 3			Number of values ≥ 3		
		<i>z</i>	<i>z'</i>	<i>Zeta</i>	<i>z</i>	<i>z'</i>	<i>Zeta</i>
35	19	8	2	4	2	1	9
36	6	4	0	5	1	0	0
40	19	9	4	14	1	0	0
44	14	8	2	11	0	1	0
53	13	7	1	9	2	0	1
55	16	10	3	14	1	0	0
61	11	7	2	9	0	0	0
65	22	6	1	7	5	3	8
72	17	0	0	0	9	3	12
73	2	0	0	0	2	0	2
75	14	4	1	5	5	1	6
77	13	5	1	8	4	1	3
78	8	4	1	4	0	0	1
85	26	8	3	8	3	0	6
100	25	1	1	5	8	2	7
102	8	2	1	5	4	0	2
113	18	9	2	2	2	1	12
116	12	6	1	6	2	1	4
126	28	5	1	11	5	2	2
129	16	4	0	10	6	2	2
130	9	1	1	1	4	1	6
132	12	0	0	0	6	2	8
133	13	5	1	8	3	2	3
145	19	0	0	1	9	2	10
146	17	5	2	8	5	1	5
149	11	5	1	8	2	1	1
151	32	9	2	12	1	1	1
152	16	6	2	4	3	0	7
154	15	6	3	7	1	0	3
169	16	6	3	7	3	0	5
170	11	6	2	6	1	0	3
171	15	9	2	8	0	0	3
172	15	8	4	12	0	0	0
174	15	5	1	2	0	0	4
176	21	11	4	14	0	0	1
183	18	10	4	14	0	0	0
192	23	9	3	13	1	2	2
193	24	6	2	9	5	2	6
194	11	2	3	6	4	0	3
195	12	2	2	5	6	0	5
199	20	11	4	15	0	0	0

Part. Code	Number of results	Number of values < 3			Number of values ≥ 3		
		<i>z</i>	<i>z'</i>	<i>Zeta</i>	<i>z</i>	<i>z'</i>	<i>Zeta</i>
202	12	7	3	8	1	0	3
203	20	8	4	10	2	0	4
204	29	8	1	11	2	3	3
205	16	6	2	9	2	0	1
206	28	8	2	4	4	2	12
209	9	5	1	6	1	0	1
215	23	10	4	15	1	0	0
216	11	0	0	2	6	3	7
218	2	0	0	0	0	1	1
220	20	10	3	13	1	1	2
229	4	1	0	1	0	0	0
230	9	5	1	6	2	0	2
233	10	5	1	6	2	0	2
234	13	7	2	9	1	1	2
235	10	1	1	2	5	0	5
237	19	11	4	12	0	0	3
238	12	8	3	12	1	0	0
244	15	5	1	4	5	2	9
247	9	5	2	7	1	0	1
252	8	5	2	7	0	0	0
254	14	0	0	1	7	1	7
257	19	8	5	13	0	0	0
259	8	2	1	2	1	0	2
261	19	8	1	7	3	3	8
263	16	9	4	13	1	0	1
265	5	4	1	4	0	0	1
266	15	4	1	2	6	2	11
267	10	0	0	0	5	3	8
268	6	3	0	4	1	2	2
270	11	1	0	1	4	1	5
272	9	5	1	4	2	0	4
273	8	0	0	0	1	1	2
274	8	3	1	4	1	1	2
276	7	2	1	3	1	0	1
277	8	0	0	0	4	1	5
278	13	0	0	0	6	1	7
279	25	10	5	14	1	0	2
280	12	6	2	9	1	0	0
281	14	8	3	8	1	0	4
282	11	7	3	7	0	0	3
283	15	6	3	9	3	0	3
284	1	0	0	0	0	0	0
295	4	2	1	3	0	0	0

Part. Code	Number of results	Number of values < 3			Number of values $\geq 3$		
		<i>z</i>	<i>z'</i>	<i>Zeta</i>	<i>z</i>	<i>z'</i>	<i>Zeta</i>
296	18	0	0	0	4	1	5
298	5	2	0	0	0	0	2
302	18	7	3	8	1	0	3

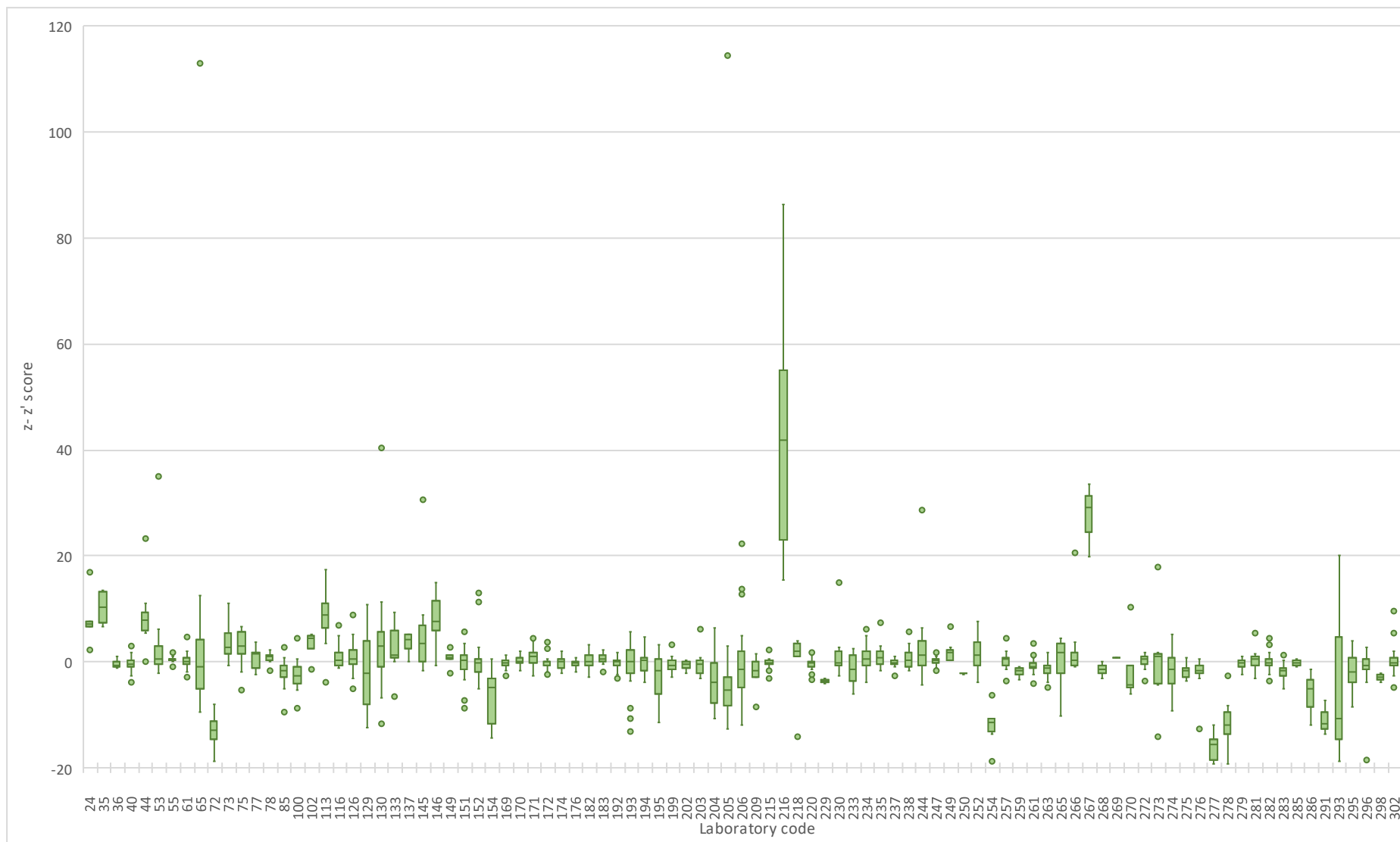


FIG. 356. Box-and-whisker plot of the  $z$ - and  $z'$ -scores for each participant (soil sample with elevated mass fractions of elements).

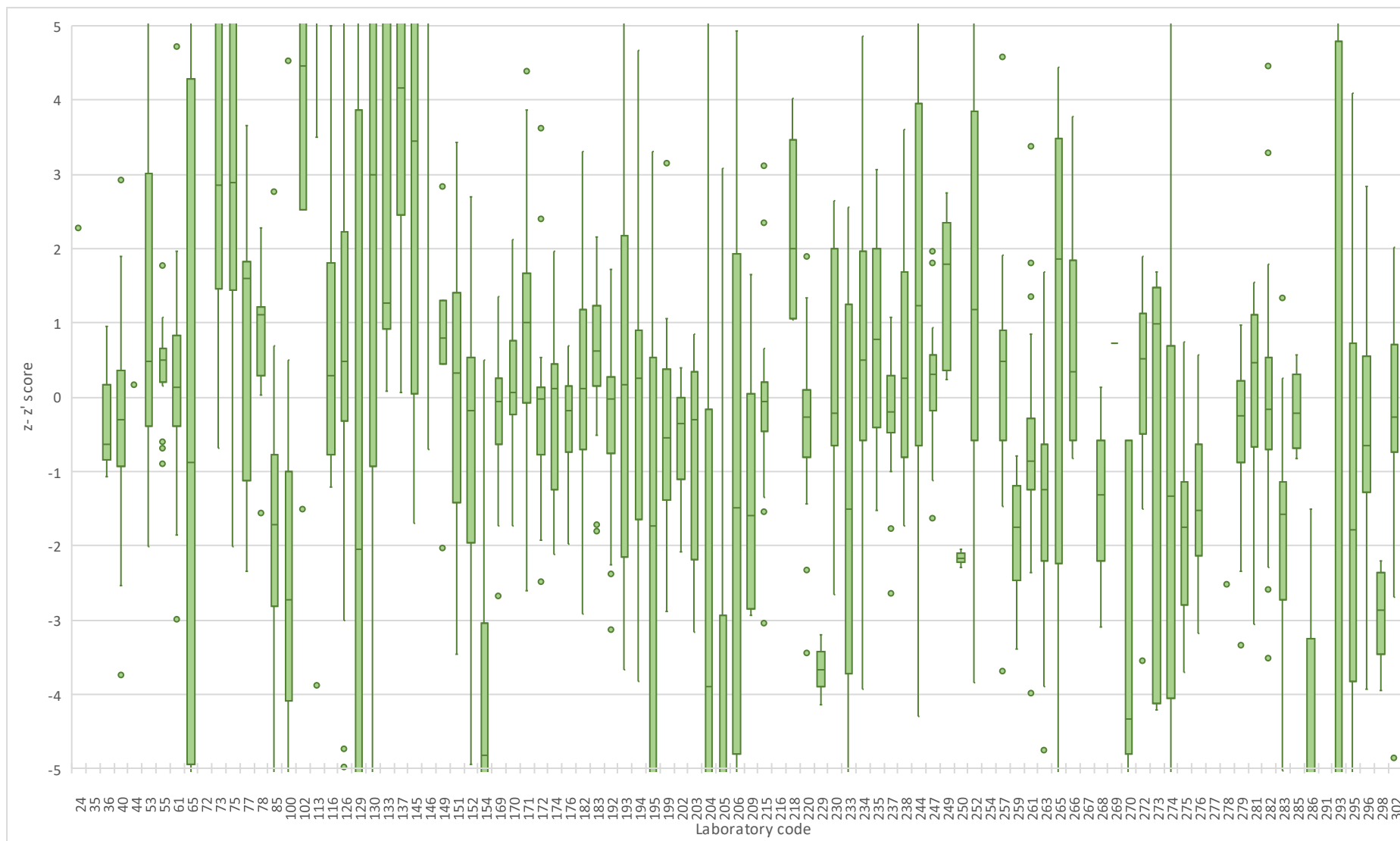


FIG. 357. Box-and-whisker plot of the  $z$ - and  $z'$ -scores for each participant with the vertical scale reduced to the range  $-5 \div 5$  (soil sample with elevated mass fractions of elements).

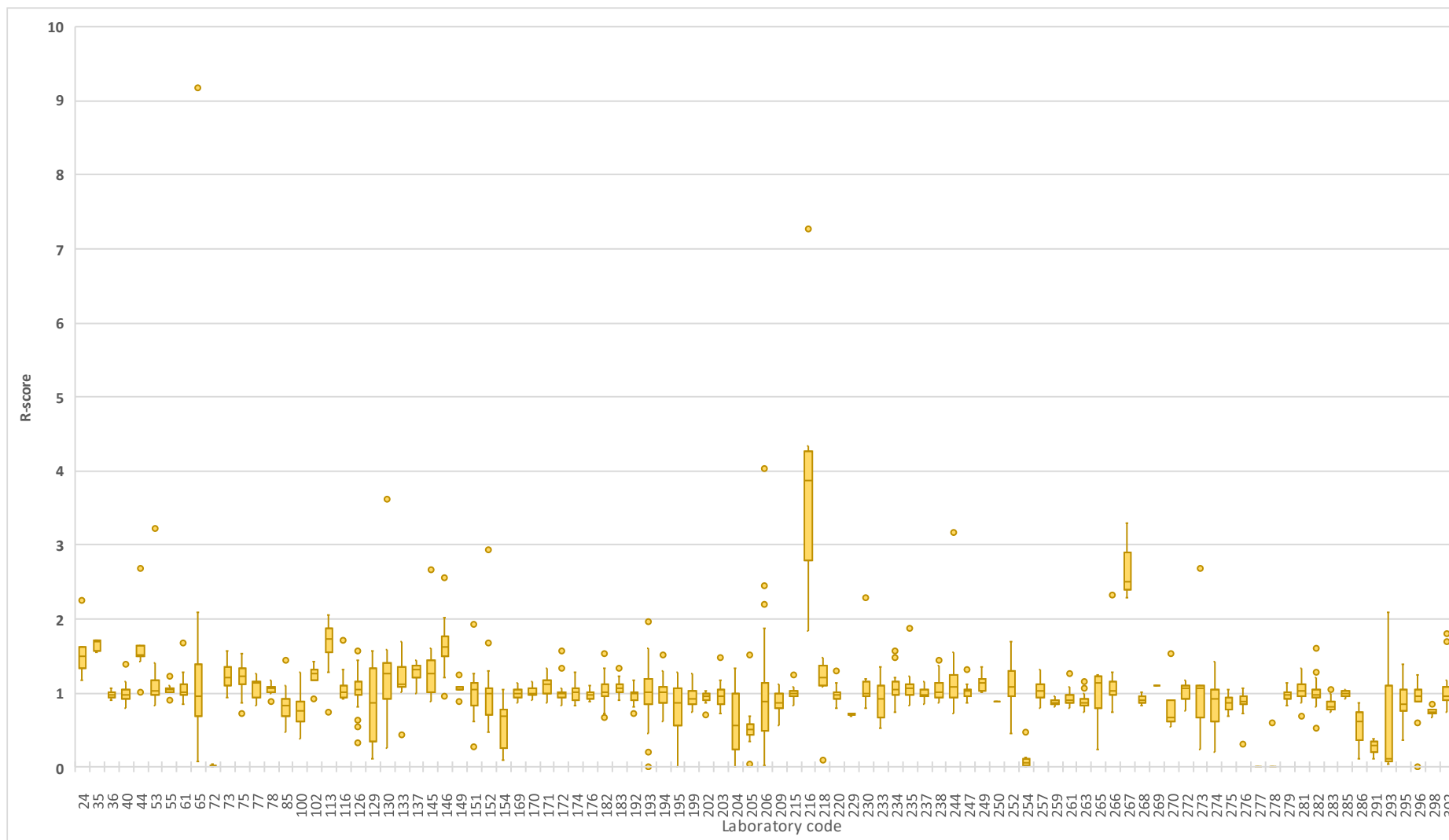


FIG. 358. Box-and-whisker plot of the R-scores for each participant (soil sample with elevated mass fractions of elements).

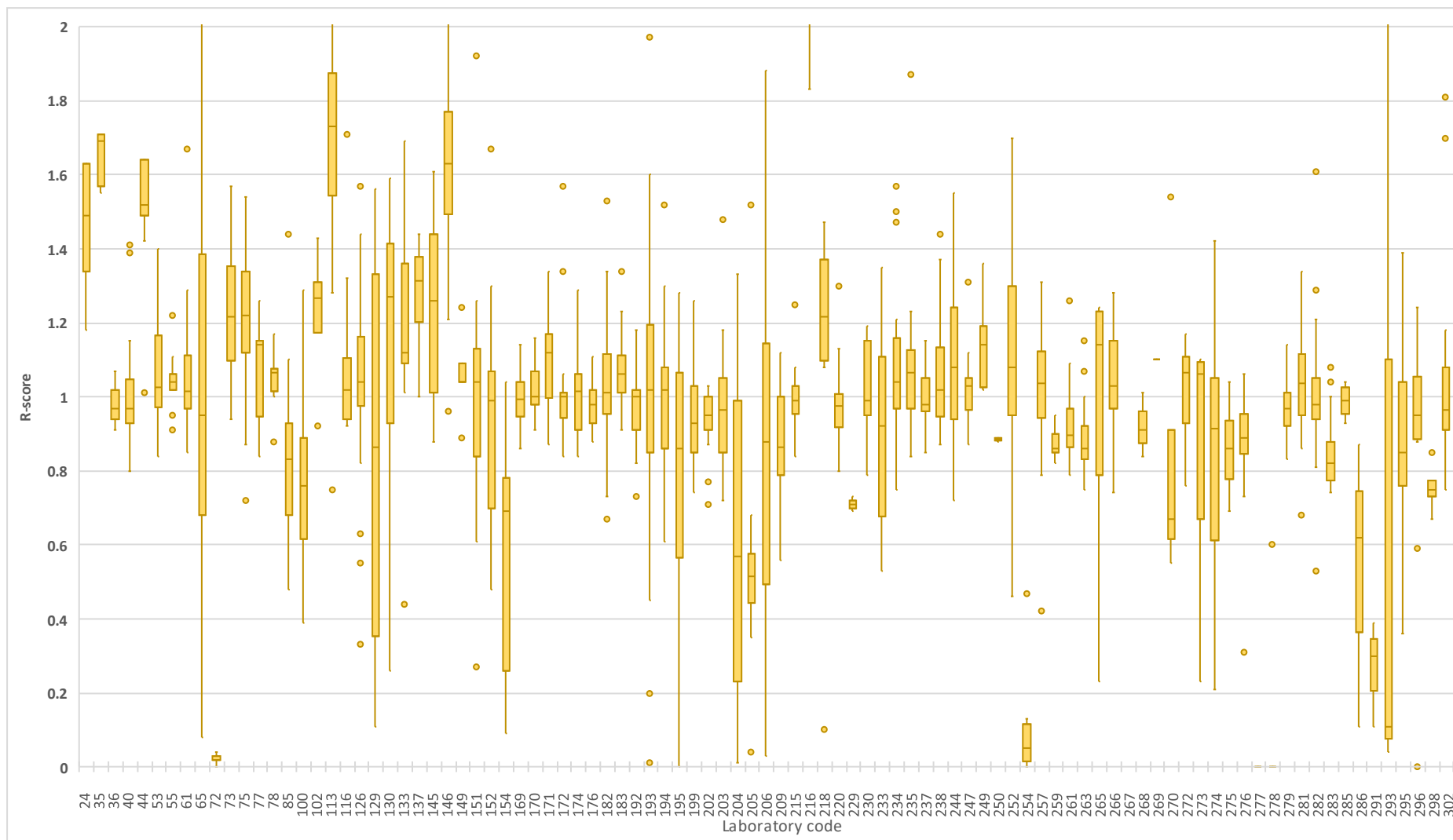


FIG. 359. Box-and-whisker plot of the R-scores for each participant with vertical scale reduced to the range 0÷2 (soil sample with elevated mass fractions of elements).



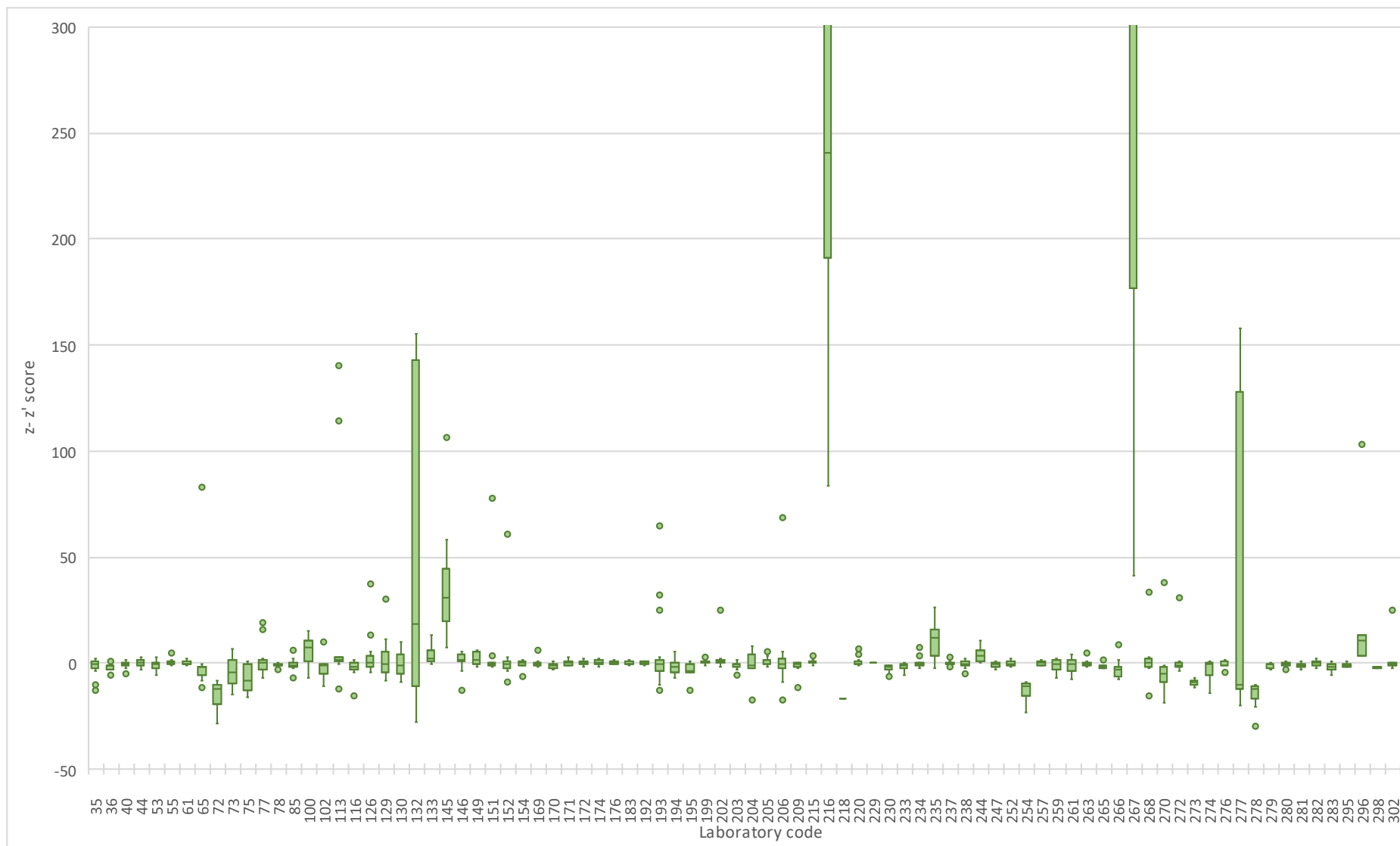


FIG. 360. Box-and-whisker plot of the z- and z'-scores for each participant (plant sample).

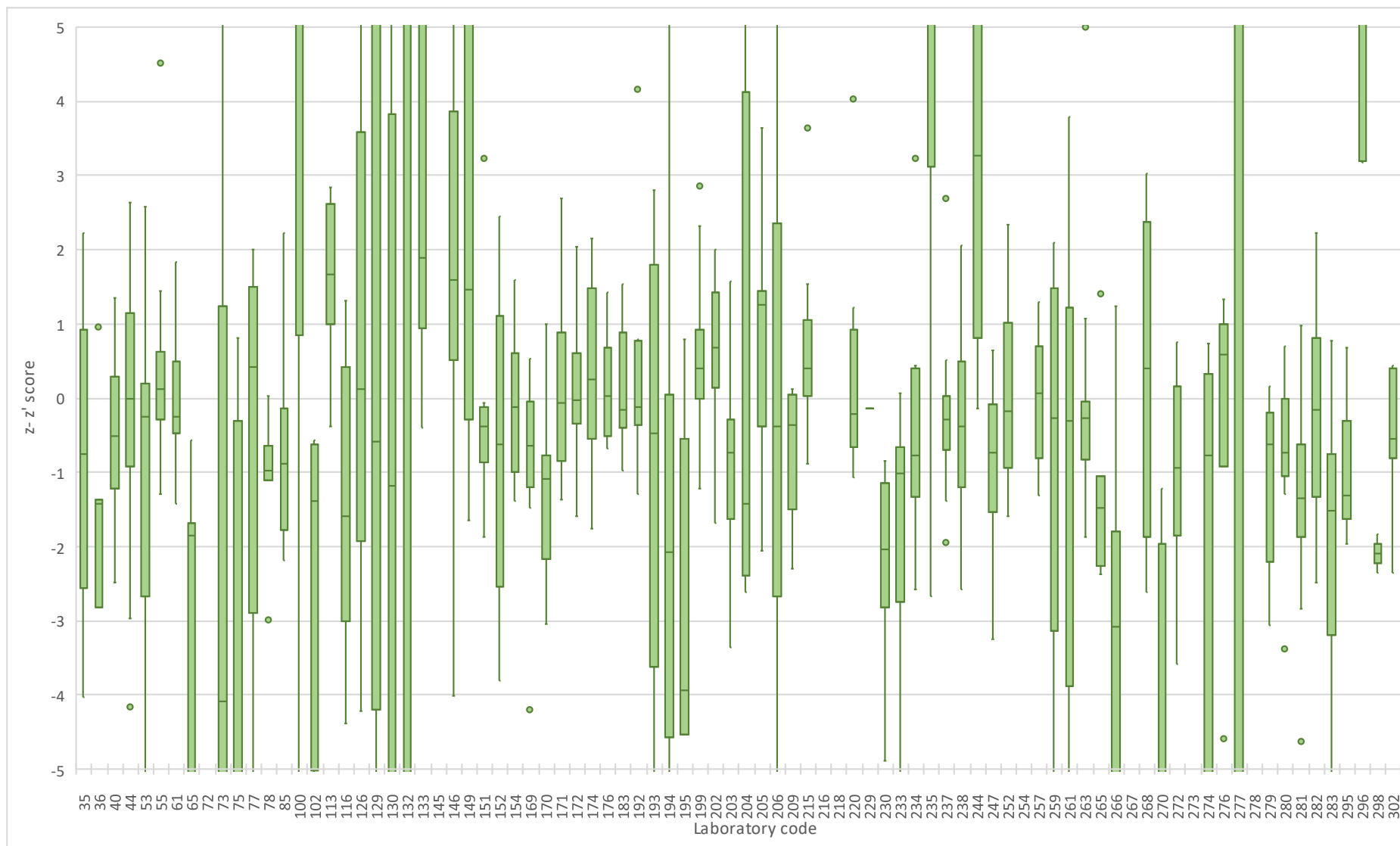


FIG. 361. Box-and-whisker plot of the z- and z'-scores for each participant with the vertical scale reduced to the range  $-5 \div 5$  (plant sample).

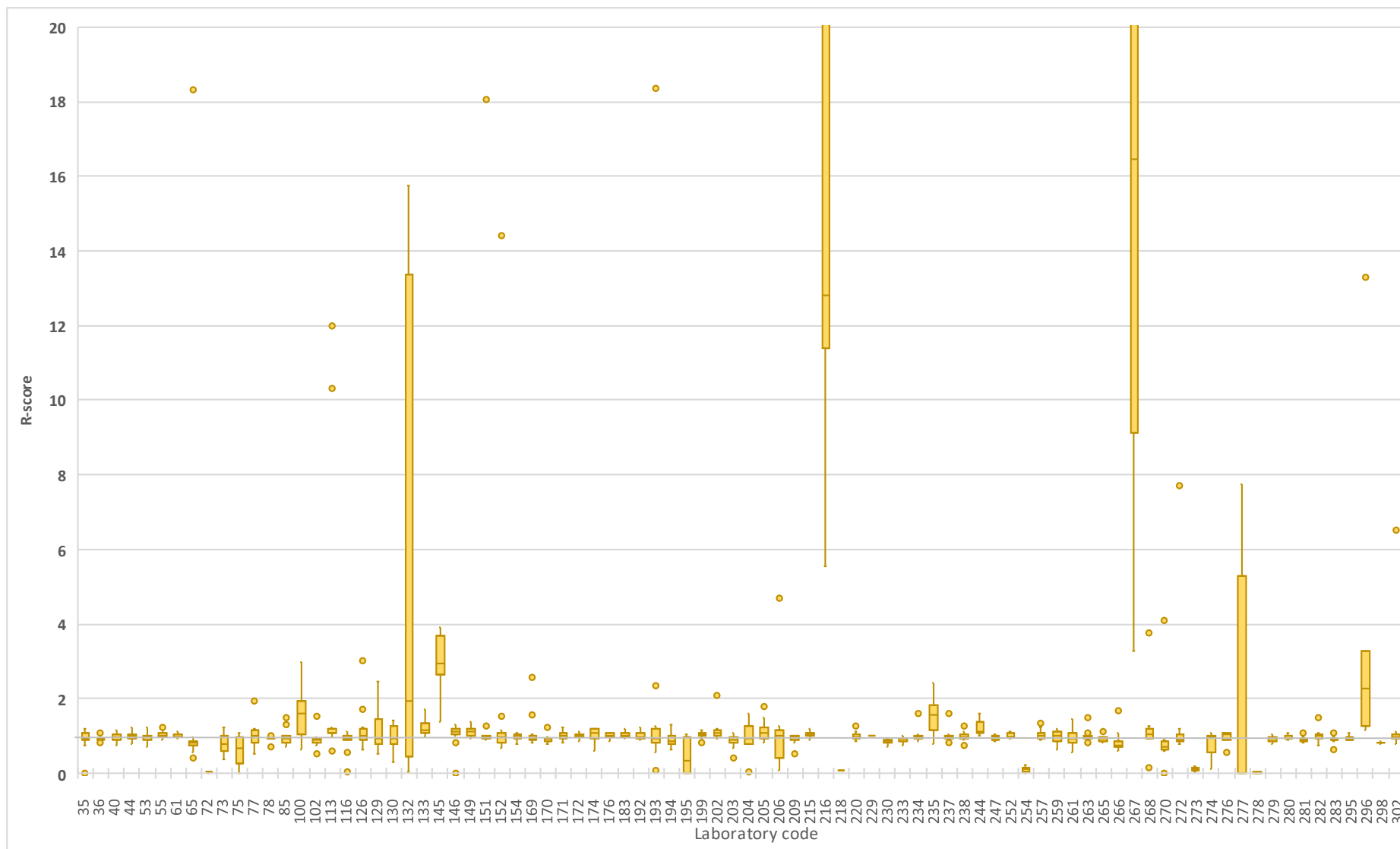


FIG. 362. Box-and-whisker plot of the R-scores for each participant (plant sample).

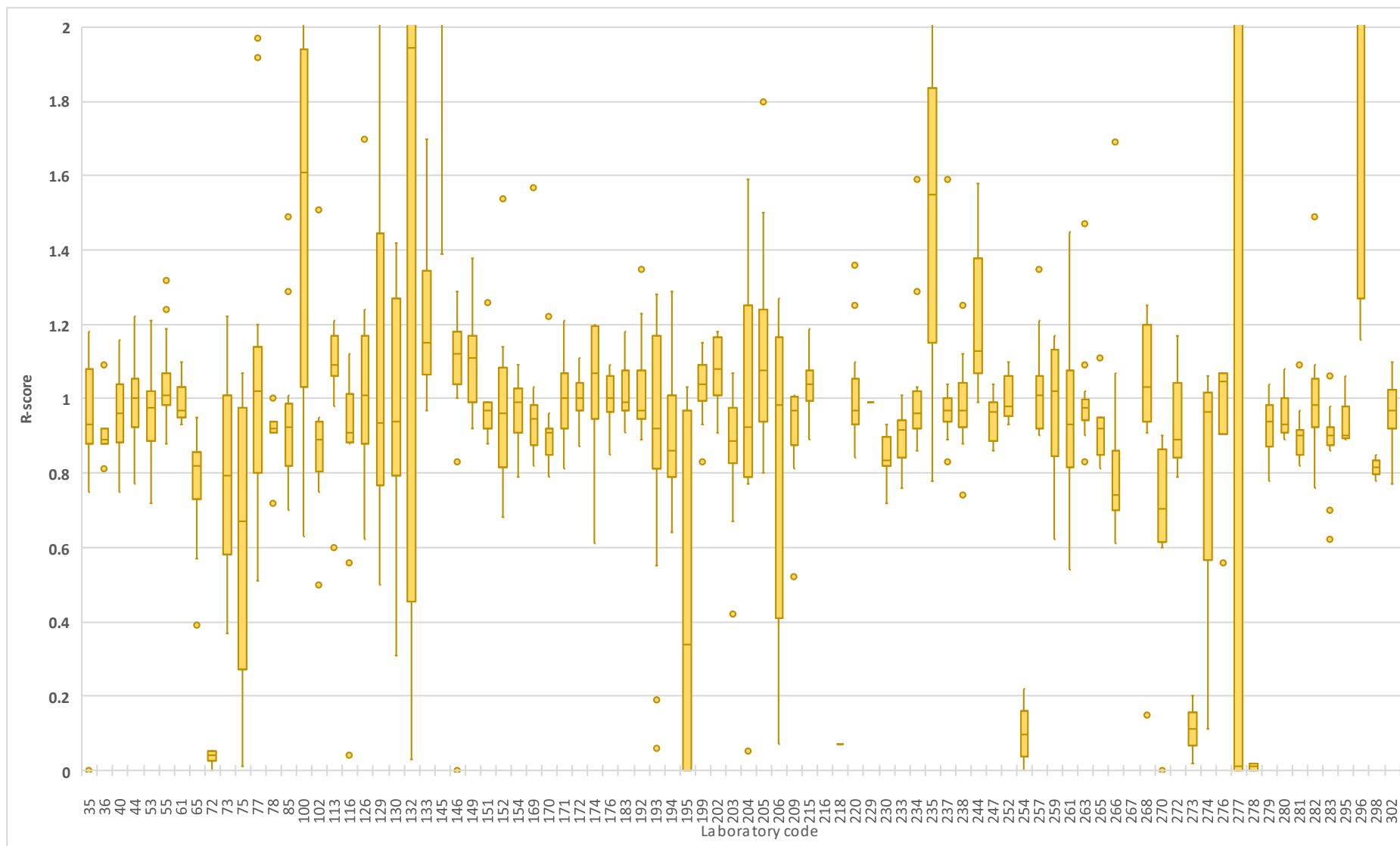


FIG. 363. Box-and-whisker plot of the R-scores for each participant with vertical scale reduced to the range 0÷2 (plant sample).

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