Determination of trace and rare-earth elements in Chinese soil and clay reference materials by ICP-MS

LIU Ye, DIWU Chunrong*, ZHAO Yan, LIU Xiaoming, YUAN Honglin, and WANG Jianqi

State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an 710069, China ^{*} Corresponding author, E-mail: diwuchunrong@163.com

Received April 3, 2013; accepted May 28, 2013

© Science Press and Institute of Geochemistry, CAS and Springer-Verlag Berlin Heidelberg 2013

Abstract Inductively coupled plasma mass spectrometry (ICP-MS) has become a powerful tool for providing reliable analytical results in many laboratories around the word. In this study, the mixture of HF and HNO₃ acids in high-temperature and high-pressure closed-vessel digestion technique were used to decompose some Chinese reference materials, and thirty seven elements were determined by ICP-MS. Most of the results for Chinese soil reference materials were found to be in reasonable agreement with the reference values, except Cs, Ta, Li, Ge, Zn, Nd, Tb and Ta whose values need to be revised. Their precisions were typically lower than 5% RSD. However, the Precisions of Chinese clay reference materials, especially for GBW03102 and GBW03102a, were significantly different with reference values, probably reflecting the existence of a coarser-grained fraction (>70 μ m) in samples, and the formation of fluorides in Al-rich samples during sample decomposition by using the mixture of HF and HNO₃ acids. Moreover, thirty-seven trace elements covering the mass range from Li to U in four Chinese clay reference materials were firstly provided with good precision and accuracy in this study.

Key words ICP-MS; Chines soil and clay reference materials; analytical uncertainty

1 Introduction

Since the birth of the first commercial instrument in 1983, ICP-MS has been widely applied in a variety of fields such as geology, environmental science, industry, medical science, and biology, owing to its advantages of high sensitivity, low detection limit, fast analysis, broad dynamic linear range, less spectral interference and simultaneous multi-element detection (Li Bing and Yang Hongxia, 2003; Li Bing and Yin Ming, 1995). In the past decade, along with the development of and the improvement in ICP-MS instrumentation for sensitivity and interference, the ICP-MS analytical method has become a standard method for various researches (Hu Zhaochu et al., 2010; Hu Shenghong et al., 2000; Liu Ye et al., 2007; Liu Ying et al., 1996).

In routine ICP-MS analysis of common geological samples, international reference materials and na-

www.gyig.ac.cn www.springerlink.com

tional reference materials have become indispensable tools for quality control to improve the data quality for trace element determination (Jenner et al., 1990). Nevertheless, some national reference materials, such as clay, only the contents of major elements were reported (Wang Yiming, 2003), and their trace and rare-earth elements were not reported in later literature. The high-temperature and high-pressure digestion bomb (Patent No. ZL03218713.01) used in this study is similar to what was reported by Qi Liang et al. (2000), which can effectively dissolve zircon, spinel, and chromite minerals in geological samples, and have the advantages of less pollution and low detection limits. In addition, the technique of abundance-matched calibration standard solution simulating the natural abundance ratios of geological samples can improve the precision and accuracy of the results (Liu Ye et al., 2007). Consequently, we contributed new data for trace and rare-earth elements in four

🙆 Springer

Chinese clay reference materials. Chinese soil reference materials were also analyzed to verify the reliability of our method.

2 Experimental

2.1 Instrument and reagents

The experiments were made using an Agilent 7500a ICP-MS instrument (Agilent Technologies, Tokyo, Japan). The RF power was fixed at 1350 W. A micro flow nebulizer (100 μ L/min) and a double path spray chamber were used for sample introduction. The ICP-MS operating conditions were optimized to obtain maximum signal intensities for Li, Y, Ce and Tl, while the ratios of oxide ions (CeO⁺/Ce⁺) and doubly charged ions (Ce²⁺/Ce⁺) were routinely maintained at <1.5%. Details of the instrumental operating conditions and measurement parameters are summarized in Table 1.

Table 1 Operation parameters for ICP-MS

Item	Parameter
RF power	1350 W
Plasma gas flow rate	15 L/min
Carrier gas flow rate	0.94 L/min
Make up gas	0.15 L/min
Extract 1	-163.5 V
Extract 2	–93 V
Einzel1,3	-90 V
Einzel 2	7 V
Omega bias	-40 V
Omega (+)	4.4 V
Omega (-)	4.2 V
QP focus	3.9 V
Plate bias	-8 V
Sample uptake rate	100 µL/min
Sample depth	6.0 mm
Dwell time/mass	200 ms
Detector mode	On
Scan type	Peak hopping, three sweeps per read- ing and three readings per replicate
Scan number	3

Ultra-pure water (18 M Ω /cm) was obtained by using a Milli-Q Element Ultrapure Water System (Millipore Corporation, USA). The ultra-pure acids (nitric acid and perchloric acid) were prepared from commercially available reagents by sub-boiling distillation with a commercial available quartz still, while hydrofluoric acid was doubly distilled with a custom-made sub-boiling distillation device. The multi-element stock solution was made by using single element standard stock solutions (National Center for Analysis and Testing of Steel Materials, China). Three multi-element stock solutions were prepared by diluting 1.0 mg·mL⁻¹ single-element standard solutions to span the concentration range from 0.1–500 ng·mL⁻¹ in 3% v/v HNO₃ + 0.1% v/v HF. Data of multi-element mixed working standard solutions are listed in Table 2. Rhodium was used as an internal standard to make corrections for matrix effects and by repeatedly analyzing a calibration solution as a drift monitor over the duration of a run.

The test samples were soil reference materials (GBW07401, GBW07403, GBW07404, GBW07405, GBW07408, GBW07423, GBW07424, GBW07425, GBW07427, and GBW07429) developed by the Institute of Geophysical and Geochemical Exploration (IGGE) of the Chinese Academy of Geological Sciences (CAGS) and clay reference materials GBW03102, (GBW03101, GBW03102a, and GBW03103) were developed by the Institute of Geology, State Administration of Building Materials Industry, China.

2.2 Sample preparation

The procedures used for sample decomposition in our laboratory were described as follows: soil and clay reference materials were dried at 105°C. 50±1 mg of samples were accurately weighed and placed into a polytetrafluoroethylene (PTFE) bomb. 1.50 mL of HNO₃, 1.50 mL of HF, and 0.01 mL of HClO₄ were added and the bomb was heated with an electric hot plate at 140°C until they turned into wet salt, and then 1.50 mL of HNO₃ and 1.50 mL of HF were added. The closed bombs were heated with an electronic oven at 190°C for 48 hours. The cooled bombs were placed onto an electric hot plate to evaporate to dryness, 3.00 mL of HNO₃ was added and the solution was evaporated until it turned into wet salt; then 3.00 mL of 50% HNO₃ was added. The closed bomb was heated in an oven at 150°C for 12 hours. After cooling, the solution was transferred into a clean polyethylene terephthalate (PET) flask, Rh was added as an internal standard with the concentrations of Rh in the solution as 10 ng/mL (ppb); afterwards, the solution was diluted to 80 g with 2% HNO₃ (with the corresponding dilution factor of 1600), and the diluted solution was kept under a sealed condition for ICP-MS measurement.

3 Results and discussion

3.1 Limits of detection and procedural blank

The limits of detection (LODs) of ICP-MS mainly depend upon instrumental sensitivity, spectral interferences, memory effects, cleanliness of digestion

vessels and blank level of analytical reagents, and it is possible to define the lowest concentrations that can be reliably detected and quantified. The LODs are determined for each element calculated as the concentration equivalent of three times the standard deviation of the ion counts obtained from duplicate runs of reagent blank solutions (3% v/v HNO3 including the internal standard spikes). As illustrated in Fig. 1, the LOD values of the 37 analyzed elements in this study are all within the range from 0.1 to 100 pg·g⁻¹, which are far below their lowest concentrations in most of the geological samples. Moreover, in order to evaluate the effect of procedural blank on the determination of 37 analyzed elements, five individual procedural blanks were prepared as the same as sample decomposition, and then measured as unknown. As shown in Fig. 1, total procedural blanks for the analyzed elements are mostly higher than 3-10 times the corresponding LOD, which are mainly caused by the blank level of analytical reagents and the environment for sample preparation.

3.2 Accuracy of the results for soil reference materials

Digestion with HF and HNO₃ acids has been widely used for the decomposition of geological samples. In order to evaluate the accuracy and precision of this conventional method, thirty-seven elements in ten Chinese soil reference materials were determined using ICP-MS and high-pressure HF/HNO₃ digestion technique. The results are presented in Table 3. The precisions of the measurements were shown as the relative standard deviation (RSD) in Fig. 2. The RSD in this study was lower than 10% for most elements and typically lower than 5% for the rare-earth elements (REE). The results exhibited reasonably good precisions for all studied elements.

The accuracy of this study was assessed by comparing our results with the recommended or suggested values (Table 3). The relative deviations (RD) are shown in Fig. 3. It can be seen from Fig.3 that the results obtained in this study for most of the elements are

Table 2 Multi-element	working standard	solutions				
Element	$ ho_{ m B}(m ng\cdot m mL^{-1})$					
Element	STD1	STD2	STD3			
Ba, Sr	500	100	20			
V, Rb, Zr, Ce	250	50	10			
Cr, Cu, Zn, Nd, La	100	20	4			
Co, Ni, Pb, Li	50	10	2			
Sc, Th, Ga, Y, Pr, Sm, Gd, Nb	25	5	1			
Cs, Hf	10	2	0.4			
Dy, Er, Yb, U	5	1	0.2			
Be, Lu, Tb, Ho, Tm, Eu, Ta	2.5	0.5	0.1			





Fig. 2. Relative standard deviations (% RSD) of the determined average values.

in good agreement with the recommended or suggested values and their RDs are lower than 10% for most of the elements. Cs and Ta in GBW07403, Sc in GBW07404, Tb in GBW07405, Li in GBW07408, Y and U in GBW07423, and Ta in GBW07424 are the significant exceptions, which exhibited 10%–20% higher than the recommended or suggested values. However, The average measured values of Cs $(2.62\pm0.05 \ \mu g \cdot g^{-1})$ and Ta $(0.64\pm0.04 \ \mu g \cdot g^{-1})$ in GBW07403, Tb $(0.56\pm0.02 \ \mu g \cdot g^{-1})$ in GBW07405, and Li $(40.5\pm0.9 \ \mu g \cdot g^{-1})$ in GBW07408 obtained in this study agree very well with the reference values given by Qi Liang (2000) (Cs: $2.61\pm0.05 \ \mu g \cdot g^{-1}$, and Li: $40.6\pm1.9 \ \mu g \cdot g^{-1}$).

In addition, our Ta values of five Chinese soil reference materials are higher (11%-16%) than its recommended values. Since Nb and Ta have almost identical ionic radii and have long been regarded as behaving identically during geochemical fractionation processes, the ratios of Nb/Ta are thought to be constant in the same kinds of rocks. For example, the Nb/Ta ratio in the upper crust is 13.4 (Rudnick and Gao Shan, 2003). Soil, shale, mudstone and siltstone are fine-grained members of clastic sediments and sedimentary rocks, which can represent the composition of the upper continental crust. Hence, the Nb/Ta ratio of Chinese soil reference materials should be consistent with that in the upper continental crust. Therefore, we can evaluate the quality of the available data according to the Nb/Ta ratio. As shown in Fig. 4a, the Nb/Ta ratios of Chinese soil reference materials in this study are approximately in good agreement with that of the continental upper crust. However, most recommended values are significantly lower than the Nb/Ta ratio of 13.4 with bias up to 10%.

The above results indicate that the recommended values of Cs, Ta, Li, Ge, Zn, Nd, Tb and Ta in Chinese soil reference materials, which are given by Wang Yimin (2003) and the website of chemical metrology and analytical science division, national institute of metrology (http://www.ncrm.org.cn/English/Home/ Index.aspx), should be revised.

3.4 The results of clay reference materials

As we have noted, the trace elements values for four clay national reference materials (GBW03101, GBW03102, GBW03102a, and GBW03103) are unavailable up to now. Thirty-seven trace elements covering the mass range from Li to U in these reference materials were also determined by ICP-MS with high-pressure HF/HNO₃ digestion in this study. The analytical results are presented in Table 3. The precision of measurements of RSD is shown in Fig. 2. Precision was lower than 10% for most elements and typically lower than 5% for the REE. For GBW03102 and GBW03102a, RSDs were significantly high, Cr, Y, Pr, Ho, Yb, and Lu exhibited RSDs slightly higher than 10%. Such high RSDs mostly reflect low element abundances [such as Ho (0.34 $\mu g \cdot g^{-1}$) and Yb (0.65 $\mu g \cdot g^{-1}$) in GBW03102 and Lu (0.15 $\mu g \cdot g^{-1}$) in GBW03102a] and/or sample heterogeneity. To investigate the relationship between RSD and the particle size, the particle size distribution of these reference materials was determined by using a laser particle-analyser (Malvern and Mastersizer, 2000). It can be seen from Fig. 5 that GBW03102 shows a wide distribution range of particle sizes and the existence of a coarser-grained fraction ($>70 \mu m$), which are thought to be the important sources for analytical uncertainty. GBW03102a shows a relatively narrow distribution range of particle sizes and a fine-grained fraction compared with GBW03102. In addition, the poor precision of measurements may be mainly attributed to the formation of fluorides during sample decomposition by using the mixture of HF and HNO₃ acids. AlF₃ can lead to the restoration of REE, Y, and Th, and a great loss of Nb and Ta (Takei et al., 2001; Zhang Wen et al., 2012). Previous studies revealed that the major elements, specifically Al, were incorporated into insoluble fluoride compounds, such as AlF₃ during sample decomposition (Takei et al., 2001). It was noticed that the concentrations of Al_2O_3 in GBW03102, GBW03102a are 36.74% and 31.32%, respectively, higher than those in GBW03101 and GBW03103. Therefore, AlF₃ was formed in those Al-rich samples

when they were decomposed by a high-pressure digestion; the formation of insoluble residues (e.g. fluorides) makes RSDs of the analytical results become significantly high.

As known to all that REEs refer to lanthanides (La–Lu) in the periodic table; two adjacent REEs have different abundances, and their graph of lanthanide element abundance vs. atomic number shows a saw tooth curve. However, chondrite-normalized REE patterns can eliminate the saw tooth and form a smoothly curved trend from La to Lu, with no significant relative depletions or enrichments, except for

elements Ce and Eu (Rollinson, 1993). Therefore, the accuracy of sample determination can be assessed by chondrite-normalized REE patterns. As shown in Fig.4b, the results of REE data for four Chinese clay national reference materials exhibit smooth chondrite-normalized REE patterns. These results indicate that the recommended values of trace elements and REE in clay reference materials by using the proposed ICP-MS analytical method in this study have excellent precision and accuracy. These results indicate that the analytical results for Chinese clay reference materials in this study have good accuracy and precision.



Fig. 3. Relative deviations of ten Chinese soil reference materials obtained in this study. The used reference values of the reference materials are outlined in Table 3.



Fig. 4. Plots of Ta vs Nb/Ta for Chinese soil reference materials and chondrite-normalized REE patterns for Chinese clay standards samples.



Fig. 5. Particle size distribution of Chinese clay reference materials.

Table 3 Analytical results for ten Chinese soil reference materials (*n*=6; Data are in µg·g⁻¹)

			0 111		CDW05402			CDW07404	ice mat	ci iuis (converses.		r55/	00000000000	
Ele-		GBW0/401	BGB		GBW0/403	DOD		GBW0/404	DOD		GBW07405	D GD		GBW0/408	DOD
ment	Ref.	Mean	RSD	Ref.	Mean	RSD	Ref.	Mean	RSD	Ref.	Mean	RSD	Ref.	Mean	RSD
7- 1			(%)			(%)			(%)			(%)			(%)
'Lı	35.0	37.3±2.1	5.59	18.4	19.5±0.2	1.23	55.00	47.9±0.9	1.85	56.0	62.0±1.9	2.99	35.0	40.5±0.9	2.27
Be	2.50	2.58 ± 0.05	1.88	1.40	1.41 ± 0.02	1.09	1.85	1.60 ± 0.03	2.03	2.00	1.85±0.06	3.26	1.90	2.02 ± 0.04	1.99
⁴⁵ Sc	11.2	10.7±0.5	4.69	5.00	4.95±0.05	1.00	20.00	16.6±0.7	4.30	17.0	16.8 ± 0.4	2.37	11.7	12.1±0.2	1.76
⁵¹ V	86.0	82.4±1.2	1.50	36.0	32.8±0.4	1.28	247.00	242±3	1.34	166	161±2.6	1.62	81.0	80.3±1.3	1.67
⁵³ Cr	62.0	62.1±2.3	3.66	32.0	31.5±0.8	2.62	370.00	338±6	1.92	118	117±2.4	2.05	68.0	70.5±1.4	1.99
⁵⁹ Co	14.2	14.2±0.3	2.23	5.50	5.23±0.14	2.69	22.00	22.6±0.5	2.27	12.0	12.2±0.2	1.85	12.7	13.3±0.4	2.67
⁶⁰ Ni	20.4	21.7±0.5	2.11	12.0	12.6±0.4	3.06	64.00	68.4±1.2	1.80	40.0	42.4±1.9	4.39	31.5	34±0.8	2.32
65Cu	21.0	21 9±0 3	1.27	11.4	11.5±0.3	2.21	40.00	44 9±0 4	0.89	144	142 ± 2.4	1.69	24.3	24 9±0 6	2.54
⁶⁶ 7n	680	628+14	2.28	31.0	29.2+0.9	2.95	210.00	204+3	1.25	494	466+8	1 79	68.0	63 4+2 0	3.10
71Ga	10.3	18 9+0 4	2.20	13.7	13 8+0 3	1.86	31.00	287+08	3.08	32.0	32 5±0.4	1.1/	14.8	15 4±0 3	1 72
74C -	19.5	16.9±0.4	2.00	13.7	13.0±0.02	2.70	1.00	20.7±0.0	1.05	2.0	32.3±0.4	2.20	14.0	13.4±0.3	1.72
85p1	1.54	1.30±0.04	2.93	1.17	1.20±0.03	2.19	1.90	2.10±0.02	1.03	2.60	2.82±0.10	3.39	1.27	1.40±0.02	1.58
~Rb	140	138±1	0.75	85.0	83.9±0.8	0.94	/5.00	/2.9±0.6	0.85	117	11/±1	0.84	96.0	97.8±0.8	0.83
°°Sr	155	157±3	1.67	380	383±7	1.70	77.00	76.5±1.4	1.86	42.0	42.6±0.7	1.63	236	242±3	1.09
89Y	25.0	26.1±0.5	1.73	15.0	16.1±0.5	2.84	39.00	41.6±2.0	4.73	21.0	23.4±0.5	2.09	26.0	28.8±0.4	1.34
⁹⁰ Zr	245	255±6	2.38	246	257±8	3.02	500.00	532±17	3.12	272	279±3	1.12	229	243±7	2.83
⁹³ Nb	16.6	15.9±0.2	1.48	9.30	8.73±0.32	3.63	38.00	38.0±0.5	1.29	23.0	22.3±0.5	2.24	15.0	13.4±0.4	2.95
¹³³ Cs	9.00	8.57±0.24	2.80	3.20	2.62±0.05	2.09	21.40	21.5±0.4	1.75	15.0	14.8±0.3	1.73	7.50	7.09±0.15	2.05
135Ba	590	581±6	1.03	1210	1174±10	0.81	213.00	205±3	1.53	296	298±6	2.08	480	487±5	0.97
¹³⁹ La	34.0	31.6±0.6	1.83	21.0	19 6±0 7	3 32	53.00	48 5±0 6	1 30	36.0	33 3±0 7	2.19	36.0	33.6±0.5	1 40
¹⁴⁰ Ce	70.0	68 9±1 4	1.98	39.0	38 9±1 2	2.98	136.00	134±2.5	1.83	91.0	92.6±2.3	2.49	66.0	67 2±0 9	1 35
141Pr	7 50	6 97+0 16	2 29	4 80	4 41+0 13	2.90	8 40	7 57+0 16	2.05	7.00	6 28+0 23	3.63	8 30	7 730 15	1.89
146Nd	28.0	26 1+0.6	2.27	18.4	16 4+0 5	2.00	27.00	24 5±0.6	2.05	24.0	22.0±0.8	3.48	32.0	29.5+0.4	1.05
1476	5 20	4.02+0.00	1.07	2 20	2.11+0.00	2.90	27.00	24.5±0.0	2.50	24.0	22.0±0.0	2.12	5.00	5 78 0.00	1.20
151	5.20	4.95±0.09	1.8/	3.30	3.11±0.09	2.77	4.40	3.9/±0.08	2.09	4.00	5./1±0.08	2.12	5.90	5./8±0.06	1.07
157Gd	1.00	0.97±0.02	1.99	0.72	0.79±0.01	1.1/	0.85	0.79±0.02	3.12	0.82	0.80±0.02	3.09	1.20	1.16±0.01	0.75
15764	4.60	4.72±0.06	1.35	2.90	2.92±0.04	1.36	4.70	5.02±0.21	4.10	3.50	3.68±0.12	3.31	5.40	5.48±0.04	0.68
¹³⁹ Tb	0.75	0.71±0.03	3.59	0.49	0.43 ± 0.01	1.84	0.94	0.86±0.05	5.45	0.70	0.56±0.02	3.94	0.89	0.80 ± 0.01	0.94
¹⁶¹ Dy	4.60	4.31±0.18	4.18	2.60	2.58 ± 0.08	3.26	6.60	6.08±0.32	5.28	3.70	3.59±0.15	4.24	4.80	4.80±0.05	0.95
¹⁶⁵ Ho	0.87	0.87±0.04	4.96	0.53	0.53±0.02	4.52	1.46	1.36±0.06	4.41	0.80	0.77±0.03	4.27	0.97	0.96±0.01	0.89
166Er	2.60	2.56±0.13	4.98	1.50	1.61±0.09	5.34	4.50	4.23±0.19	4.49	2.40	2.37±0.10	4.38	2.80	2.79±0.02	0.87
¹⁶⁹ Tm	0.42	0.39 ± 0.02	5.85	0.28	0.25±0.01	5.47	0.70	0.66±0.03	4.86	0.41	0.37±0.02	4.79	0.46	0.42 ± 0.01	1.24
¹⁷² Yb	2 70	2 59+0 15	5.66	1 70	1 66±0 09	5.67	4 80	4 39+0 17	3 79	2.80	2 53+0 09	3 58	2.80	2 71+0 02	0.77
175L II	0.41	0.39+0.02	5 30	0.29	0.26+0.01	5.50	0.75	0.67+0.03	4.55	0.42	0.38+0.02	4 68	0.43	0.41+0.01	1.73
178LIF	6.80	6.55+0.10	2.00	6.80	6 20+0 14	2.50	14.00	12 0+0 6	4.30	8 10	7 42+0 18	2.42	7.00	6 20+0 12	1.75
181T-	0.80	0.55±0.19	2.90	0.80	0.50±0.14	5.61	2.10	2.84+0.04	4.50	0.10	1.43±0.18	2.45	1.00	0.29±0.12	2.42
208101	1.40	1.20±0.02	1.42	0.76	0.64±0.04	5.01	5.10	2.84±0.04	1.42	1.80	1.04±0.04	2.31	1.03	0.99±0.02	2.42
232ml	98.0	99.5±5.7	5.74	26.0	26.3±1.2	4.55	58.00	57.8±2.4	4.18	552	583±17	2.92	21.0	19.6±0.5	2.70
	11.6	11.1±0.4	3.74	6.00	5.83±0.21	3.63	27.00	26.3±0.8	3.19	23.0	23.1±0.8	3.33	11.8	12.2±0.6	5.05
230	., ., ., .,	2 4410 11		1 . 1 / 1			/ TIN		1 112	6.50	6 00+0 27	3 80	2 70	200 ± 0.01	0.46
0	5.50	3.44±0.11	3.11	1.30	1.31±0.04	2.82	6.70	7.34±0.14	1.95	0.50	0.90±0.27	5.69	2.70	2.98±0.01	0.40
Ele-	3.30	GBW07423	3.11	1.30	1.31±0.04 GBW07424	2.82	6.70	7.34±0.14 GBW07425	1.95	0.50	GBW07427	5.89	2.70	GBW07429	0.40
Ele- ment	S.50 Ref	GBW07423 Mean	3.11 RSD	I.30 Ref	1.31±0.04 GBW07424 Mean	RSD	6.70 Ref	7.34±0.14 GBW07425 Mean	RSD	Ref	GBW07427 Mean	RSD	Ref	GBW07429 Mean	RSD
Ele- ment	Ref.	GBW07423 Mean	3.11 RSD (%)	Ref.	1.31±0.04 GBW07424 Mean	2.82 RSD (%)	6.70 Ref.	7.34±0.14 GBW07425 Mean	RSD (%)	Ref.	GBW07427 Mean	RSD (%)	Ref.	GBW07429 Mean	RSD (%)
Ele- ment	8.30 Ref. 39.0	<u>GBW07423</u> Mean 42.4±1	3.11 RSD (%) 2.34	Ref. 30.6	1.31±0.04 GBW07424 Mean 32.4±0.7	2.82 RSD (%) 2.04	6.70 Ref. 30.0	7.34±0.14 GBW07425 Mean 31.4±1.5	RSD (%) 4.75	Ref. 31.5	GBW07427 Mean 33.1±1.0	RSD (%) 3.03	Ref. 44.0	GBW07429 Mean 47.6±1.6	RSD (%) 3.34
Ele- ment ⁷ Li ⁹ Be	Ref. 39.0 2.10	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05	3.11 RSD (%) 2.34 2.35	Ref. 30.6 2.40	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05	RSD (%) 2.04 1.98	8.70 Ref. 30.0 2.25	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05	RSD (%) 4.75 2.17	Ref. 31.5 1.90	0.30±0.27 GBW07427 Mean 33.1±1.0 1.87±0.04	RSD (%) 3.03 2.31	Ref. 44.0 2.70	2.98±0.01 GBW07429 Mean 47.6±1.6 2.64±0.04	RSD (%) 3.34 1.45
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc	Ref. 39.0 2.10 12.0	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1	3.11 RSD (%) 2.34 2.35 1.05	Ref. 30.6 2.40 10.2	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1	RSD (%) 2.04 1.98 1.37	Ref. 30.0 2.25 10.0	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1	1.95 RSD (%) 4.75 2.17 1.15	Ref. 31.5 1.90 10.5	GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1	RSD (%) 3.03 2.31 1.11	Ref. 44.0 2.70 14.8	2.98±0.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5	RSD (%) 3.34 1.45 3.42
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V	Ref. 39.0 2.10 12.0 90.0	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7	3.11 RSD (%) 2.34 2.35 1.05 0.81	Ref. 30.6 2.40 10.2 74.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6	2.82 RSD (%) 2.04 1.98 1.37 0.83	Ref. 30.0 2.25 10.0 74.0	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9	RSD (%) 4.75 2.17 1.15 1.32	Ref. 31.5 1.90 10.5 74.0	GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4	RSD (%) 3.03 2.31 1.11 0.56	Ref. 44.0 2.70 14.8 119	2.98±0.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1	RSD (%) 3.34 1.45 3.42 0.89
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr	Ref. 39.0 2.10 12.0 90.0 75.0	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8	8.50 (%) 2.34 2.35 1.05 0.81 1.13	Ref. 30.6 2.40 10.2 74.0 58.0	I.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50	Ref. 30.0 2.25 10.0 74.0 59.0	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0	RSD (%) 4.75 2.17 1.15 1.32 1.87	Ref. 31.5 1.90 10.5 74.0 65.0	GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7	RSD (%) 3.03 2.31 1.11 0.56 2.73	Ref. 44.0 2.70 14.8 119 87.0	2.93=0.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2	RSD (%) 3.34 1.45 3.42 0.89 1.37
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co	Ref. 39.0 2.10 12.0 90.0 75.0 14.0	GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58	Ref. 30.6 2.40 10.2 74.0 58.0 11.7	I.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32	Ref. 30.0 2.25 10.0 74.0 59.0 11.6	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75	Ref. 31.5 1.90 10.5 74.0 65.0 11.3	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91	Ref. 44.0 2.70 14.8 119 87.0 17.6	GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0	GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0	I.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72	Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 1.87	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5	GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0	GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22	Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6 21.8±0.5	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0	2.98=0.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9 38±0.8	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4 56 ±1	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57	Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6 21.8±0.5 60.5±1.0	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 16	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0	GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0	2.98=0.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9 38±0.8 88.6±2.1	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.04 2.34
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ga	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4 56.3±1 17.1±0.3	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42	Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6 21.8±0.5 60.5±1.9 16.4±0.2	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 14.5±0.3	S.89 RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20 5	2:3820.01 GBW07429 Mean 47.6±1.6 2:64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9 38±0.8 88.6(±2.1) 20.4±0.5	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.34 2.30
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ga	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.20	3.44±0.11 GBW07423 Mean 4.2,4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4 56.3±1 17.1±0.3 1.4±0.4	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 12.6±0.00	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 5.66	Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6 21.8±0.5 60.5±1.9 16.4±0.2	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 2.35 2.5	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 14.5±0.3 1.37±0.04	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 162	Z:3850.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9 38±0.8 88.6±2.1 20.4±0.5	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.34 2.20 2.86 2.86
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ga ⁷⁴ Ge	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4 56.3±1 17.1±0.3 1.40±0.12	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 1.31 108	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.49	Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6 21.8±0.5 60.5±1.9 16.4±0.2 1.38±0.04 10.9±1.1 10.9±1.	RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.62	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27 01.0	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 14.5±0.3 1.37±0.04 20.1±2	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.61 2.00 1.99 2.61	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63	$\begin{array}{c} 2.3820.01\\ GBW07429\\ \hline \\ Mean\\ 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114.01\\ \hline \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.34 2.20 3.86 1.86
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ga ⁷⁴ Ge ⁸⁸ Cb	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 26±0.4 56.3±1 17.1±0.3 1.40±0.12 102±1 102±1	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 1.31 108 225	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 27.1±0.7	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.62	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110	7.34±0.14 GBW07425 Mean 31.4±1.5 2.17±0.05 10.1±0.1 69.2±0.9 56.5±1.0 11.1±0.2 25.9±0.6 21.8±0.5 60.5±1.9 16.4±0.2 1.38±0.04 108±1 186<2	1.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27 91.0	GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 14.5±0.3 1.37±0.04 90±1.2 200±2	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35	Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116	2.3450.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9 38±0.8 88.6±2.1 20.4±0.5 1.74±0.07 114±1 114±1 114±1	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.04 2.20 3.86 1.04
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cc ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Ca ⁷⁴ Ge ⁸⁵ Rb ⁸⁸ Sc	Ref. 39.0 2.10 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.5	3.44±0.11 GBW07423 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4 56.3±1 17.1±0.3 1.40±0.12 102±1 180±2	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 1.31 108 226	I.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 13.6±0.08 105±1 235±4	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.66	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182	7,34±0,14 GBW07425 Mean 31,4±1,5 2,17±0,05 10,1±0,1 69,2±0,9 56,5±1,0 11,1±0,2 25,9±0,6 21,8±0,5 60,5±1,9 16,4±0,2 1,8±0,04 108±1 186±2 25,4±0,6	1.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 2.32 2.47 3.16 1.325 1.02 1.26	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27 91.0 195	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 14.5±0.3 1.37±0.04 90±1.2 200±3 20:6±0.6	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.35 1.56	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 22.6	Z:3820.01 GBW07429 Mean 47.6±1.6 2.64±0.04 14.7±0.5 116±1 84.0±1.2 17.4±0.4 41.9±0.9 38±0.8 88.6±2.1 20.4±0.5 1.74±0.07 114±1 116±1	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.34 2.04 3.36 1.04 1.25 2.55
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cn ⁷¹ Ga ⁷¹ Ga ⁷¹ Ga ⁷¹ Ga ⁷¹ Ga ⁸⁵ Rb ⁸⁵ Sr ⁸⁵ Y ⁹⁰ -	Ref. 39.0 2.10 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0	3.44±0.11 GBW07423 Mean 42.4±1 2.21±0.05 12.7±0.1 84.7±0.7 72.6±0.8 13.5±0.1 35.5±0.3 26±0.4 56.3±1 17.1±0.3 1.40±0.12 102±1 180±2 29.4±0.5	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 1.62 1.72 1.74 8.67 1.07 1.02 1.79	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 17.0 1.31 108 226 226 226	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 235±4 27.8±0.6	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.72 2.57 1.42 5.66 1.48 1.83 2.17	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6	7,34-0,14 GBW07425 Mean 31,4±1,5 2,17±0,05 10,1±0,1 69,2±0,9 56,5±1,0 11,1±0,2 25,9±0,6 21,8±0,5 60,5±1,9 16,4±0,2 1,38±0,04 108±1 186±2 25,4±1,0 25,4±0,0 25,	I.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.26 3.93	Ref. 31.5 1.90 65.0 11.3 28.5 21.6 65.0 15.0 1.20 1.91.0 195 24.5	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 14.5±0.3 1.37±0.04 90±1.2 200±3 26.6±0.8 26.	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 115 33.0 575	$\begin{array}{c} 2.3420.01\\ \hline GBW07429\\ \hline Mean\\ 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.05\\ 1.74\pm 0.05\\ 1.74\pm 0.05\\ 1.14\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.04 2.34 2.20 3.86 1.04 1.25 2.09
Ele- ment ⁷ Li ⁹ Be ⁴⁵ SC ⁵¹ V ⁵¹ Cr ⁵¹ Co ⁶² Co ⁶⁰ Co ⁶² Co ⁶² Ca ⁶² Ca ⁶³ Ca ⁶⁴ Cu ⁶⁴ Cu ⁶⁵ Ch ⁶⁵ Ch ⁶	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 234	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.3\\ 2.6\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.74 8.67 1.07 1.02 1.79 2.09	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 131 108 226.5 350	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ Mean\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.3\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ \end{array}$	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.71	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 270	$\begin{array}{c} 7.34\pm 0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm 1.5\\ 2.17\pm 0.05\\ 10.1\pm 0.1\\ 69.2\pm 0.9\\ 56.5\pm 1.0\\ 11.1\pm 0.2\\ 25.9\pm 0.6\\ 21.8\pm 0.5\\ 60.5\pm 1.9\\ 16.4\pm 0.2\\ 1.38\pm 0.04\\ 108\pm 1\\ 186\pm 2\\ 25.4\pm 1.0\\ 285\pm 20\\ \end{array}$	1.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 1.27 91.0 195 24.5 257	$\begin{array}{c} 6.966.2 \\ \hline GBW07427 \\ \hline Mean \\ \hline 33.1 \pm 1.0 \\ 1.87 \pm 0.04 \\ 10.7 \pm 0.1 \\ 70.7 \pm 0.4 \\ 63.1 \pm 1.7 \\ 11.3 \pm 0.2 \\ 29.6 \pm 0.6 \\ 22.2 \pm 0.5 \\ 59.9 \pm 1.2 \\ 24.6 \pm 0.6 \\ 22.2 \pm 0.5 \\ 59.9 \pm 1.2 \\ 200 \pm 3 \\ 26.6 \pm 0.8 \\ 262 \pm 11 \\ \hline \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.01 1.99 2.68 1.35 1.56 3.18 4.18 4.18	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.04 2.20 3.86 1.04 1.25 2.09 2.22
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ga ⁷⁴ Ge ⁸⁵ Rb ⁸⁸ Sr ⁸⁰ Zr ⁹⁰ Zr ⁹⁰ Nb	Ref. 39,0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 102 165 23.4 14.4	$\begin{array}{c} 3.44\pm0.11\\ \hline {\rm GBW07423}\\ \hline {\rm Mean}\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 2.6\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ \end{array}$	s.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 2.09 1.00	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 64.0 17.0 1.31 108 226 350 16.5	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 235±4 235±4 15.1±0.2	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 270 13.8	$\begin{array}{c} 7.34{\pm}0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4{\pm}1.5\\ 2.17{\pm}0.05\\ 10.1{\pm}0.1\\ 69.2{\pm}0.9\\ 56.5{\pm}1.0\\ 11.1{\pm}0.2\\ 25.9{\pm}0.6\\ 21.8{\pm}0.5\\ 60.5{\pm}1.9\\ 16.4{\pm}0.2\\ 1.38{\pm}0.04\\ 108{\pm}1\\ 186{\pm}2\\ 25.4{\pm}1.0\\ 285{\pm}20\\ 12.7{\pm}0.2\\ \end{array}$	I.99 RSD (%) RSD (%) 4.75 2.17 1.15 1.32 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 1.30	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 19.0 195 24.5 257 14.0	$\begin{array}{c} 6.926.2.7\\ \hline GBW07427\\ \hline Mean\\ 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 99\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 12.8\pm0.1\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 20.5 1.63 116 115 33.0 272 18.6	$\begin{array}{c} 2.3450.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ 274\pm 6\\ 18.2\pm 0.3\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.20 3.86 1.04 1.25 2.09 2.22 1.51
Ele- ment ⁷ Li ⁹ Be ⁴ Sc ⁵ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁷ Ga ⁷⁴ Ge ⁸⁸ Rb ⁷⁴ Ge ⁸⁸ Sr ⁸⁹ Y ⁹⁹ Nb ¹³ Cs	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 16.3 1.30 102 165 25.0 234 14.4 8.10	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 0.58 0.76 1.62 1.72 1.74 8.67 1.02 1.79 2.09 1.00	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 17.0 1.31 108 226 26.5 350 16.5 6.50	$\begin{array}{c} 1.31\pm0.04\\ \hline \text{GBW07424}\\ \hline \text{Mean}\\ 32.4\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 223\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ \end{array}$	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.272 1.57 1.42 5.66 1.48 1.83 2.17 2.82 1.17 2.17	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00	$\begin{array}{c} 7.34{\pm}0.14\\ \hline GBW07425\\ \hline \\ GBW07425\\ \hline \\ \\ Mean\\ \hline \\ 31.4{\pm}1.5\\ 2.17{\pm}0.05\\ 10.1{\pm}0.1\\ 69.2{\pm}0.9\\ 56.5{\pm}1.0\\ 11.1{\pm}0.2\\ 25.9{\pm}0.6\\ 21.8{\pm}0.5\\ 60.5{\pm}1.9\\ 16.4{\pm}0.2\\ 1.38{\pm}0.04\\ 108{\pm}1\\ 186{\pm}2\\ 25.4{\pm}1.0\\ 285{\pm}20\\ 12.7{\pm}0.2\\ 5.51{\pm}0.11\\ \end{array}$	1.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.06 3.93 6.86 1.30 2.06	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27 91.0 195 24.5 257 14.0 6.00	$\begin{array}{c} 6.926.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm 1.0\\ 1.87\pm 0.04\\ 10.7\pm 0.1\\ 70.7\pm 0.4\\ 63.1\pm 1.7\\ 11.3\pm 0.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 14.5\pm 0.3\\ 1.37\pm 0.04\\ 90\pm 1.2\\ 200\pm 3\\ 26.6\pm 0.8\\ 262\pm 11\\ 12.8\pm 0.1\\ 5.62\pm 0.11\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 37.0 94.0 20.5 1.63 116 33.0 272 18.6 8.90	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ \end{array}$	8.80 (%) 3.34 1.45 3.4 1.45 0.89 1.37 2.04 2.04 2.04 2.04 2.04 2.04 2.09 3.86 1.04 1.25 2.09 2.22 1.51 1.52
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ge ⁸⁵ Rb ⁸⁸ Rb ⁸⁸ SY ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zs ⁹⁰ Zs ⁹¹ St ¹³³ Cs ¹³³ Ba	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 520	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.45	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 120.0 64.0 17.0 64.0 1.31 108 226.5 350 16.5 6.50 613	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ Mean\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ \end{array}$	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.27 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 1.35	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 110 182 2.70 1.3.8 6.00 634	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.04\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.38 1.26 3.93 6.86 1.30 2.06 0.79	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 195 24.5 257 14.0 600 500	$\begin{array}{c} 6.966.2\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 90\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 26.2\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716	$\begin{array}{c} 2.93\pm0.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 3.86 1.04 1.25 2.09 2.22 1.51 1.52 1.42
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷⁴ Ge ⁸⁵ Rb ⁸⁸ Sr ⁹⁹ Nb ¹³⁵ Cs ¹³⁵ Ba ¹³⁵ Ba	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 61.0 165 25.0 234 14.4 8.10 520 38.0	$\begin{array}{c} 3.44\pm0.11\\ \hline {\rm GBW07423}\\ \hline {\rm GBW07423}\\ \hline {\rm Mean}\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ \end{array}$	3.11 (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.07 1.02 1.79 2.09 1.00 2.30 1.43 1.03 1.05 1.07 1.07 1.07 1.00 1.00 1.00 1.07 1.00 1	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 17.0 1.31 108 226 26.5 350 16.5 6.50 613 35.5	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ \mbox{GBW07424}\\ \hline \\ \mbox{Mean}\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 13.6\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 58\pm8\\ 33.3\pm0.6\\ \end{array}$	RSD (%) 2.04 1.98 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.37 1.42 5.66 1.48 1.83 2.17 2.82 1.17 2.18 1.76 1.76	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0	$\begin{array}{c} 7.34{\pm}0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{Mean}\\ 31.4{\pm}1.5\\ 2.17{\pm}0.05\\ 10.1{\pm}0.1\\ 69.2{\pm}0.9\\ 56.5{\pm}1.0\\ 11.1{\pm}0.2\\ 25.9{\pm}0.6\\ 21.8{\pm}0.5\\ 60.5{\pm}1.9\\ 16.4{\pm}0.2\\ 1.38{\pm}0.04\\ 108{\pm}1\\ 186{\pm}2\\ 25.51{\pm}0.1\\ 285{\pm}20\\ 12.7{\pm}0.2\\ 5.51{\pm}0.11\\ 607{\pm}5\\ 31.8{\pm}0.6\\ \end{array}$	I.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 19.0 195 24.57 14.0 600 500 34.0	$\begin{array}{c} 6.926.2.7\\ \hline GBW07427\\ \hline Mean\\ 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 90\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 482\pm7\\ 32.3\pm0.7\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 17.6 41.0 37.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 27.2 18.6 8.90 716 47.0 27.0 1.4 8.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1	$\begin{array}{c} 2.382.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ 274\pm 6\\ 18.2\pm 0.3\\ 8.40\pm 0.13\\ 690\pm 10\\ 44.6\pm 0.6\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.24 2.20 3.86 1.04 1.25 2.09 2.22 1.51 1.52 1.42 1.28
Ele- ment ¹ Li ⁹ Be ⁴ Sc ⁵ V ³ Cr ⁵ Cv ⁶⁰ Ni ⁶⁷ Cu ⁶⁷ Ca ⁶⁷ Ca ⁶⁸ Rb ⁸⁸ Sr ⁸⁹ Y ⁹⁰ Nb ¹³⁰ Cs ¹³⁵ Ba ¹³⁹ La ¹⁴⁰ Ce	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 520 38.0 74.0	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 14.0\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 73.3\pm1.1\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.09 2.09 1.00 1.45 1.30 1.43	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 1.31 108 26.5 350 16.5 350 613 35.5 70.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 68.1±1.2	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.27 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.17 1.35 1.73 1.73	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.0	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.04\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.85 1.85	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27 91.0 195 24.5 257 14.0 6.00 500 34.0	$\begin{array}{c} 6.9.56.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm 1.0\\ 1.87\pm 0.04\\ 10.7\pm 0.1\\ 70.7\pm 0.4\\ 63.1\pm 1.7\\ 11.3\pm 0.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 20.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 20.0\pm 3\\ 26.6\pm 0.8\\ 26.2\pm 1.1\\ 15.62\pm 0.11\\ 482\pm 7\\ 22.3\pm 0.7\\ 64.8\pm 1.8\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16 2.85	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4 \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 0.89 1.37 2.12 2.04 2.04 2.04 2.04 2.04 2.04 2.09 2.22 1.51 1.52 1.42 1.25 1.42
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ge ⁸⁵ Rb ⁸⁸ Sr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹¹ Za ¹³⁵ Ba ¹³⁶ Ba ¹³⁹ La ¹⁴⁰ Pr	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 1234 14.4 8.10 234 14.4 8.10 238.0 74.0 8.50	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mcan\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.05 1.07 1.09 1.09 1.00 1.07 1.07 1.00 1.07 1.00	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.31 108 226.5 350 16.5 6.50 613 35.5 70.0 8.50	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 1.36±0.08 105±1 235±4 27.8±0.6 33.3±0.6 68.1±1.2 7.8±0.18	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.135 1.76 1.73 2.25 1.57	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.7 7.90	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ \hline \\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.64\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 1.22 .47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 2.40 1.83	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 195 24.5 257 14.0 600 34.0 66.0 7.90	$\begin{array}{c} 6.926.2.7\\ \hline GBW07427\\ \hline Mcan\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 26.2\pm1.1\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 2.16 2.149 2.16 2.85	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10 10 10 10 10 10 10 10 10 1	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.09 2.22 1.51 1.52 1.42 1.28 1.55
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ga ⁷⁴ Ga ⁷⁴ Ga ⁷⁴ Ga ⁷⁴ Ga ⁷⁴ Sr ⁸⁵ Sr ⁹⁵ Nb ¹³⁵ SBa ¹³⁵ Ba ¹³⁵ Ba ¹³⁵ Ba	Ref. 39,0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 16.3 1.30 165 25.0 165 25.0 165 25.4 14.4 8.10 523 4 14.4 8.10 520 74.0 8.50 74.0 8.50 73.2 0	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.43 2.14 1.43 2.14 1.75	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 17.0 1.31 108 226 26.5 35.0 16.5 6.50 613 35.5 70.0 8.50 32.0	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 13.6±0.08 105±1 235±4 27.1±0.7 15.1±0.2 6.01±0.13 58±8 33.3±0.6 68.1±1.2 7.8±0.18 29.9±0.6	RSD (%) 2.04 1.98 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.82 1.17 2.15 1.76 1.73 2.22 2.12	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6 6.00 13.8 6.00 6.34 34.0 65.0 7.90 30.0	$\begin{array}{c} 7.34{\pm}0.14\\ GBW07425\\ \hline \\ Mean\\ \hline \\ 31.4{\pm}1.5\\ 2.17{\pm}0.05\\ 10.1{\pm}0.1\\ 69.2{\pm}0.9\\ 56.5{\pm}1.0\\ 11.1{\pm}0.2\\ 25.9{\pm}0.6\\ 21.8{\pm}0.5\\ 60.5{\pm}1.9\\ 16.4{\pm}0.2\\ 1.38{\pm}0.04\\ 108{\pm}1\\ 186{\pm}2\\ 25.4{\pm}1.0\\ 285{\pm}20\\ 12.7{\pm}0.2\\ 5.51{\pm}0.11\\ 607{\pm}5\\ 31.8{\pm}0.6\\ 63.4{\pm}1.2\\ 7.31{\pm}0.17\\ 27.7{\pm}0.4\\ \end{array}$	I.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 2.40	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 19.0 195 24.5 257 14.0 6.00 500 34.0 66.0 7.90 30.0	$\begin{array}{c} 6.926.2.7\\ \hline \text{GBW07427}\\ \hline \text{Mean}\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 99\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 482\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16 2.85 2.95 2.95 3.09	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 17.6 41.0 37.0 17.6 115 33.0 20.5 1.63 116 115 33.0 272 18.6 8.990 716 47.0 93.0 10.0 93.0 10.0 93.0 10.0 93.0 10.0 93.0 10.0 93.0 10.0 93.0 10.0 93.0 10.0 93.0 10.0	$\begin{array}{c} 2.382.01\\ \hline \text{GBW07429}\\ \hline \text{Mean}\\ \hline 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm6.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 2.34 2.20 3.86 1.04 1.25 2.09 2.51 1.52 1.42 1.28 1.55 1.85 2.61
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sv ⁵¹ V ⁵¹ V ⁵¹ Cr ⁵² Co ⁶⁰ Ni ⁶⁷ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ge ⁸⁵ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Y ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹¹ Cc ¹⁴⁰ PG ¹³⁵ Cs ¹³⁵ Cs ¹³⁶ Cs ¹³⁵ Cs ¹³⁶ Cs	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 520 38.0 78.0 8.50 32.0 6.20	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 33.5\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 619\pm0\\ 10\end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.07 1.09 2.09 1.00 2.30 1.45 1.30 1.43 2.11 1.75 1.58	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 1.31 108 226.5 350 16.5 6.50 613 35.5 70.0 8.50 32.0 600	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ Mean\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ 33.3\pm0.6\\ 68.1\pm1.2\\ 7.83\pm0.18\\ 29.9\pm0.6\\ 5.80\pm0.08\\ \end{array}$	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.27 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.17 1.35 1.76 1.73 2.25 2.12 1.46	6.70 Ref. 30.0 2.25 10.0 74.0 75.0 11.6 25.4 25.4 465.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.0 7.90 30.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 11.8\pm0.6\\ 10.8\pm1.2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 9.220, 009\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 1.02 1.47 3.06 1.02 1.02 1.68 1.03 2.93 6.86 1.30 2.06 0.79 1.85 2.40 1.55 1.75	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 127 91.0 195 24.5 257 14.0 6.00 500 34.0 7.90 30.0 560	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 20.6±0.6 22.2±0.5 59.9±1.2 20.0±3 26.6±0.8 262±11 12.8±0.1 5.62±0.11 482±7 32.3±0.7 64.8±1.8 7.44±0.22 28.5±0.9 5.48±0.15	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.65 2.95 3.09	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 91.0 37.0 94.0 27.5 1.63 116 115 116 115 116 115 116 116	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 1.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.05 3.86 1.04 1.25 1.42 1.28 1.85 1.85 2.01
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Se ⁵¹ V ⁵¹ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ge ⁸⁵ Rb ⁸⁸ Sr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹¹ Za ¹³⁵ Ba ¹³⁹ La ¹⁴⁶ Pr ¹⁴⁶ Nd ¹⁴⁷ Pr ¹⁴⁶ Nd	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 61.0 165 25.0 14.4 8.10 234 14.4 8.10 520 38.0 74.0 32.0 6.20 2.10	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mcan\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 126\pm0.02\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.09 1.00 2.09 1.00 2.09 1.00 2.09 1.00 2.10 1.33 1.14 1.13 1.15 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.07 1.02 1.00 1.00 2.09 1.00 1.30 1.30 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.30 1.45 1.76 1.75 1.75 1.76 1.70 1.75 1.76 1.70 1.75 1.76 1.70 1.75 1.76 1.70 1.70 1.75 1.76 1.70 1.70 1.70 1.75 1.76 1.70 1.70 1.70 1.70 1.70 1.70 1.75 1.76 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.75 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.75 1.70	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 16.5 6.50 613 35.5 70.0 32.0 6.00 1.25	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ \mbox{GBW07424}\\ \hline \\ \mbox{Mean}\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ 33.3\pm0.6\\ 68.1\pm1.2\\ 7.83\pm0.18\\ 29.9\pm0.6\\ 5.80\pm0.08\\ 11.8\pm0.02\\ \end{array}$	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.13 1.35 1.76 1.33 2.25 2.12 1.40	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 6.00 634 34.0 65.0 7.90 30.0 5.50	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{Mean}\\ \hline \\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.04\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 5.22\pm0.09\\ 111\pm0.01\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.75 2.32 1.87 1.75 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 0.300 2.06 0.79 1.83 1.85 2.40 1.55 1.75 1.75 1.75	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 195 24.5 257 14.0 600 34.0 66.0 7.90 30.0 5.60	$\begin{array}{c} 6.9.56.2.7\\ \hline GBW07427\\ \hline Mcan\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.6\pm0.3\\ 1.37\pm0.04\\ 90\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 482\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.48\pm0.15\\ 11\pm0.03\end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 2.16 2.85 3.09 2.72 2.51	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 7.8 41.0 7.6 41.0 2.72 18.6 8.90 7.6 47.0 7.6 47.0 7.6 47.0 7.0 7.6 47.0 7.6 47.0 7.6 47.0 7.0 94.0 2.72 18.6 8.90 7.6 47.0 7.6 47.0 7.6 47.0 7.0 94.0 2.72 18.6 8.90 7.6 47.0 7.6 47.0 7.0 94.0 2.72 18.6 8.90 7.6 47.0 7.6 47.0 7.7 7.6 47.0 7.0 94.0 2.72 18.6 8.90 7.6 47.0 7.6 47.0 7.7 7.6 47.0 7.7 7.6 47.0 7.7 7.7 7.6 47.0 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.7 7.6 7.6	$\begin{array}{c} 2.93\pm0.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.5\pm0.03\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.09 2.22 1.51 1.52 1.42 1.28 1.55 2.61 2.01
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵¹ Cr ⁵² Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁷ Cn ⁷³ Ga ⁷⁴ Ge ⁸⁵ Rb ⁷⁴ Ge ⁷⁴ Ge ⁸⁵ Rb ⁷⁴ Ge ⁷⁴ Ge ⁸⁵ Rb ⁷⁴ Ge ⁷⁴ Ge ⁸⁵ Rb ⁷⁴ Ge ⁷⁴ Ge ⁷⁴ Ge ⁷⁴ Ge ⁷⁴ Ge ⁷⁴ Sb ⁷⁴ Ge ⁷⁴ Sb ⁷⁴ Ge ⁷⁴ Sb ⁷⁴ Sb ⁷⁴ Ge ⁷⁴ Sb ⁷⁴ Sb ⁷⁵ Sb ⁷	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 16.3 1.30 165 25.0 165 25.0 234 14.4 8.10 520 38.0 74.0 8.50 32.0 2.4 2.1 4.4 520 2.3 2.3 2.4 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	$\begin{array}{c} 3.44\pm0.11\\ \hline {\rm GBW07423}\\ \hline {\rm GBW07423}\\ \hline {\rm Mean}\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 57\pm0.11\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.00 2.30 1.43 1.71 1.75 1.58 1.70 1.95	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 17.0 1.31 108 226 26.5 35.0 6.50 613 35.5 70.0 8.50 6.00 1.25 2.0 6.00 1.25	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 13.6±0.08 105±1 235±4 27.8±0.6 33.3±0.6 68.1±1.2 7.8±0.18 29.9±0.6 5.80±0.08 1.8±0.02	RSD (%) 2.04 1.98 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.82 1.17 2.15 1.76 1.73 2.25 2.12 1.46 1.30	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 63.4 34.0 65.0 7.90 30.0 5.50 1.18 4.70	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \mbox{GBW0745}\\ \hline GBW074$	I.95 RSD (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 2.40 1.55 1.75 1.12	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 1.27 91.0 1.27 91.0 24.5 257 14.0 6.00 500 34.0 66.0 7.90 30.0 5.60 1.490	$\begin{array}{c} 6.926.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm 1.0\\ 1.87\pm 0.04\\ 10.7\pm 0.1\\ 70.7\pm 0.4\\ 63.1\pm 1.7\\ 11.3\pm 0.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 20.0\pm 0.5\\ 13.7\pm 0.04\\ 90\pm 1.2\\ 20.0\pm 3\\ 20$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.31 0.056 2.73 1.99 2.68 1.356 3.18 4.18 0.89 1.96 1.49 2.16 2.85 3.09 2.72 2.51	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 37.0 94.0 20.5 1.63 116 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 93.0 10.3 41.0 7.80 1.5 8.90 7.80 1.5 8.90 7.80 1.5 8.90 7.80 1.5 8.90 7.80 7.	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 10.2\pm0.2\\ 10.2$	RSD (%) 3.34 1.45 3.34 1.45 0.89 1.37 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 1.51 1.52 1.42 1.55 1.85 2.61 2.01 1.75 2.35
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Cr ⁵⁷ V ⁵⁷ Co ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Ca ⁶⁷ Ca ⁷⁷ Ge ⁸⁷ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Y ⁹⁰ Nb ¹³⁵ Cs ¹³⁵ Ba ¹³⁵ Ba ¹³⁶ La ¹⁴¹ Pr ¹⁴⁷ Nd ¹⁵⁷ Eu ¹⁵⁷ Ct	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 520 38.0 74.0 8.50 32.0 6.20 6.20 32.0 7.27 5.0 9.0 2.10 12.0 9.0 9.0 2.10 12.0 9.0 9.0 2.10 12.0 9.0 9.0 2.10 12.0 9.0 2.10 12.0 9.0 2.10 12.0 9.0 2.10 12.0 9.0 2.10 14.0 33.0 2.6 0 61.0 10 2.5 0 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.4\pm0.22\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.07 2.09 1.00 2.30 1.45 1.30 1.43 2.11 1.75 1.58 1.70 1.75 1.79 2.09 1.00 1.30 1.45 1.30 1.43 2.11 1.75 1.55 1.75 1.75 1.75 1.75 1.75 1.72 1.72 1.79 1.00 1.79 1.00 1.30 1.79 1.30 1.30 1.79 1.30 1.45 1.30 1.45 1.30 1.72 1.79 1.30 1.45 1.50 1.55	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 131 108 226.5 350 16.5 6.50 613 35.5 70.0 8.50 32.0 6.00 1.25 5.20 0.84	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 68.1±1.2 7.8±0.18 29.9±0.6 5.80±0.08 1.18±0.02 5.80±0.08 1.8±0.02	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 1.17 2.17 2.83 1.17 2.17 1.35 1.76 1.73 2.25 2.12 1.46 1.30 1.73 2.75 2.12	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 11.6 25.4 13.0 11.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.0 7.90 30.0 5.00 1.18 4.70	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.04\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 5.22\pm0.09\\ 1.11\pm0.01\\ 4.85\pm0.09\\ 0.70-2.1\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 1.55 1.75 1.75 1.12 1.93 1.63	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 195 24.5 257 14.0 6.00 500 34.0 6.00 500 34.0 6.00 500 30.0 5.00 1.18 4.90	$\begin{array}{c} 6.905.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ \hline 0.7\pm0.4\\ \hline 0.7\pm0.4\\ \hline 0.7\pm0.4\\ \hline 0.7\pm0.4\\ \hline 0.7\pm0.4\\ \hline 0.8\pm0.4\\ \hline 0.8\pm0$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16 2.85 2.95 3.09 2.72 2.51 3.40	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 7.80 1.56 6.80 1.56	$\begin{array}{c} 2.3820.01\\ \hline GBW07429\\ \hline Mean\\ \hline 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ 274\pm 6\\ 18.2\pm 0.3\\ 8.40\pm 0.13\\ 690\pm 10\\ 44.6\pm 0.6\\ 92.3\pm 1.4\\ 10.2\pm 0.2\\ 38.9\pm 1.0\\ 7.49\pm 0.15\\ 1.54\pm 0.03\\ 7.05\pm 0.16\\ 1.54\pm 0.03\\ 1.55\pm 0.03\\ 7.05\pm 0.16\\ 1.55\pm 0.03\\ 1$	RSD (%) 3.34 1.45 3.34 1.45 3.37 2.12 2.04 2.04 2.04 2.04 2.34 2.09 2.22 1.51 1.52 1.42 1.28 1.55 1.61 2.01 1.74 2.75
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵³ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Zn ⁷⁴ Ge ⁴⁶ Zn ⁷⁴ Ge ⁴⁶ Zn ⁷⁴ Ge ⁸⁵ Rb ⁸⁵ SY ⁹⁰ Zr ⁹⁰ Zr ⁹¹ Nb ¹³⁵ Ea ¹³⁵ Ba ¹³⁹ La ¹⁴⁶ Pr ¹⁴⁶ Nd ¹⁵⁷ Ed ¹⁵⁷ Cf ¹⁵⁷ Cf ¹	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 61.0 163 1.30 102 165 25.0 38.0 74.0 820 32.0 6.20 1.20 5.40 0.86	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.3\pm4\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.78\pm$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.43 2.130 1.45 1.30 1.45 1.58 1.75 1.58 1.75 2.99 2.95 2.29	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 1.30 226 350 16.5 6.50 613 35.5 70.0 8.20 6.00 1.25 5.20 0.84	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 235±4 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 6.8.1±1.2 7.83±0.0.18 29.9±0.6 5.36±0.09 0.78±0.02 4.62.02	RSD (%) 2.04 1.98 1.98 1.37 0.83 4.50 1.32 2.72 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.135 1.76 1.35 1.76 1.35 1.76 1.35 1.76 1.33 2.25 2.12 1.46 1.30 2.05	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 6.00 75.0 6.34 34.0 65.0 7.50 30.0 5.50 1.18 4.70 0.76	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{Interval 1}\\ I$	1.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.75 2.32 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 2.40 1.55 1.75 1.93 1.93 1.93 1.97	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 195 24.5 257 14.0 600 34.0 66.0 7.90 30.0 5.60 1.4.90 0.80	$\begin{array}{c} 6.9.56.2.7\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 90\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 26.2\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.8\pm0.15\\ 1.1\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.8\pm0.15\\ 1.7\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.8\pm0.15\\ 1.8\pm0.15\\ 1.$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 2.85 2.95 3.09 2.72 2.51 3.40 3.99 2.70	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 94.0 20.5 1.63 116 115 33.0 94.0 20.5 1.63 116 115 33.0 94.0 20.5 1.63 116 115 33.0 122 18.6 8.90 10.3 41.0 7.80 1.58 41.0 7.80 1.58 41.0 7.80 1.58 41.0 7.80 1.58 41.0 7.80	$\begin{array}{c} 2.93\pm0.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.05\pm0.16\\ 1.03\pm0.03\\ 61.6\pm0.5\\ 1.6\pm0.5\\ 1.6\pm0.$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.09 2.22 1.51 1.52 1.42 1.28 1.55 1.85 2.61 2.01 1.75 2.61 2.01 2.25 2.79 2.60
Ele- ment ¹ Li ⁹ Be ⁴ Sc ⁵ V ³ Cr ⁹ CNi ⁶ Cu ⁶⁶ Cu ⁶⁷ Cn ⁷⁴ Ge ⁸⁸ Rb ⁷⁴ Ge ⁸⁸ Rb ⁷⁴ Ge ⁸⁸ Sr ⁸⁹ Y ⁹⁰ Zr ⁹² CS ¹⁰ CS	3.30 Ref. 39,0 2,10 12,0 90,0 2,10 12,0 90,0 33,0 61,0 33,0 66,0 16,3 1,30 102 165 25,0 234 14,4 8,10 520 38,0 74,0 8,50 32,0 6,20 1,27 5,40 0,86 4,70	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mean\\ \hline 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 1.40\pm0.12\\ 5.06\pm7\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 0.95\pm0.12\\ 0.95\pm0.1$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.09 2.09 1.00 2.30 1.45 1.30 1.43 2.11 1.75 1.70 2.29 2.26 2.27	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 18.0 11.7 26.0 13.1 108 26.5 350 16.50 613 35.5 6.00 8.50 32.0 6.00 1.25 5.20 0.84 4.70	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 68.1±1.2 7.83±0.08 1.8±0.02 5.80±0.08 1.8±0.02 0.78±0.0.2 4.62±0.07	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.77 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.83 1.17 2.15 1.35 1.76 1.73 2.25 2.146 1.30 1.73 2.05 1.466 1.30 1.73 2.05	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.0 7.90 30.0 25.5 1.18 4.70 7.6 4.20 2.5 1.18 4.70 2.5 1.18 4.70 2.5 1.18 4.70 2.5 1.18 4.70 2.5 1.18 4.70 2.5 1.18 4.70 2.5 1.18 4.70 2.5 1.18 4.70 1.75 1.18 4.70 1.75 1.18 4.70 1.75 1	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.04\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 5.22\pm0.09\\ 1.11\pm0.01\\ 4.85\pm0.09\\ 1.11\pm0.01\\ 4.85\pm0.09\\ 0.70\pm0.01\\ 4.20\pm0.13\\ 4.$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.85 2.40 1.55 1.75 1.12 1.93 1.97 3.07	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 1.27 91.0 195 24.5 257 14.0 6.00 500 30.0 66.0 7.90 30.0 5.60 1.18 4.90 0.80 4.50	$\begin{array}{c} 6.9.56.2.7\\ \hline \text{GBW07427}\\ \hline \text{Mean}\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.6\pm0.5\\ 1.37\pm0.04\\ 90\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 1.37\pm0.04\\ 90\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 1.5.62\pm0.11\\ 482\pm7\\ 7.42\pm0.2\\ 20.5\pm0.9\\ 5.48\pm0.15\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 1.48\pm0.16\\ 1.11\pm0.03\\ 1.32\pm0.17\\ 0.75\pm0.03\\ 1.48\pm0.16\\ 1.11\pm0.03\\ 1.32\pm0.17\\ 0.75\pm0.03\\ 1.48\pm0.16\\ 1.11\pm0.03\\ 1.32\pm0.17\\ 0.75\pm0.03\\ 1.48\pm0.16\\ 1.52\pm0.03\\ $	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.81 2.31 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16 2.95 3.09 2.72 2.51 3.40	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 93.0 10.3 41.0 93.0 10.3 41.5 6.80 1.56 6.80 1.55 1.55	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 1.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.49\pm0.16\\ 1.54\pm0.03\\ 7.55\pm0.16\\ 1.54\pm0.03\\ 7.49\pm0.16\\ 1.55\pm0.03\\ 1.55\pm0.16\\ 1.55\pm0.03\\ 1.55$	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.86 1.04 2.20 3.86 1.04 2.20 3.86 1.04 1.25 2.09 2.22 1.51 1.52 1.42 1.85 2.61 2.79 2.50 2.57
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵¹ Cr ⁵² Co ⁶⁰ Co ⁶⁰ Cu ⁶² Ca ⁶² Ca ⁶² Ca ⁶³ Ca ⁶³ Ca ⁶⁴ Cu ⁶³ Ca ⁶³ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶³ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶³ Ca ⁶³ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶³ Ca ⁶³ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶⁴ Ca ⁶³ Ca ⁶⁴ Ca ⁶	Ref. 39.0 2.10 12.0 90.0 75.0 14.0 33.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 74.0 38.0 74.0 8.50 32.0 6.20 1.27 5.40 0.86 4.70 1.03	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 33.0\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.00\pm0.03\\ \hline \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.09 2.09 1.00 2.30 1.45 1.30 1.45 1.30 1.45 1.70 1.95 2.29 2.26 2.71	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 17.1 108 226.5 350 16.5 6.50 613 35.5 70.0 6.00 1.25 5.20 0.84 4.70 0.97	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ Mean\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ 33.3\pm0.6\\ 68.1\pm1.2\\ 7.8\pm0.018\\ 29.9\pm0.6\\ 5.80\pm0.08\\ 1.18\pm0.02\\ 5.36\pm0.09\\ 0.78\pm0.02\\ 1.8\pm0.02\\ 1$	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.57 1.42 5.66 1.48 1.83 1.17 2.83 1.17 2.17 2.25 2.12 1.35 1.76 1.73 2.25 2.12 1.46 2.37	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 110 182 2.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.10 18 4.70 0.76 0.89	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \mbox{GBW0745}\\ \hline GBW0745$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 1.87 1.75 2.32 1.87 1.75 2.447 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 1.55 1.75 1.12 1.93 1.97 3.95 3.95	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 11.3 28.5 21.6 65.0 15.0 127 91.0 195 24.5 257 14.0 600 34.0 66.0 500 34.0 6.00 1.18 4.90 0.80 4.50 0.92	$\begin{array}{c} 6.926.2.7\\ \hline \text{GBW07427}\\ \hline \text{Mean}\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 26.2\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 32.3\pm0.7\\ 32.3\pm0.7\\ 32.3\pm0.7\\ 1.1\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 0.89\pm0.04\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.92 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 2.95 3.09 2.51 3.40 3.50 4.03	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 20.5 163 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 7.86 6.80 1.56 6.80 1.23	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.4\\ 10.2\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.05\pm0.16\\ 1.03\pm0.03\\ 6.16\pm0.15\\ 1.23\pm0.03\\ \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.24 0.89 1.37 2.12 2.04 2.04 2.04 2.04 2.34 2.09 2.22 1.51 1.52 1.42 1.28 1.55 1.61 2.09 2.22 1.51 1.52 1.42 1.28 1.55 2.61 2.01 1.74 2.25 2.50 2.69
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Se ⁵¹ Cr ⁵⁹ Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ga ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ga ⁶⁷ Ca ⁶⁷ Sn ¹³ Ds ¹³³ Ds ¹³⁴ Ds ¹³⁴ Ds ¹³⁵ D	Ref. 39,0 2.10 12,0 90.0 75.0 14,0 33.0 61.0 16.3 1.02 165 25.0 38.0 74.0 32.0 6.20 1.2.1 5.40 0.86 4.70 2.80	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.02\pm0.03\\ 2.88\pm0.08\\ \hline \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.43 2.145 1.30 1.43 2.15 1.58 1.70 1.95 2.29 2.26 2.71 2.76	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 64.0 17.0 1.31 108 226 350 16.5 6.50 613 35.5 70.0 8.50 6.00 1.20 6.00 1.20 6.00 1.20 0.84 4.70 0.97 2.75	1.31±0.04 GBW07424 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 235±4 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 68.1±1.2 7.8±0.03 23.5±4.018 29.9±0.6 5.80±0.02 5.36±0.02 0.78±0.02 2.3±0.02	RSD (%) 2.04 1.98 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.135 1.76 1.73 2.05 1.46 1.30 2.05 1.46 2.37 2.48 1.37	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 6.00 70 13.8 6.00 7.90 34.0 65.0 7.90 30.0 5.50 1.18 4.70 0.76 4.20 0.89 2.46	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{In} 11.1\pm0.2\\ \mbox{SI} 1.1\pm0.2\\ \mbox{SI} 1.2\pm0.2\\ $	I.95 RSD (%) 4.75 2.17 1.15 1.32 1.75 2.32 2.47 3.16 1.18 3.22 2.47 3.16 1.18 3.26 1.02 1.26 3.93 6.86 1.30 2.060 0.79 1.83 1.85 2.47 3.01 2.02 1.26 3.93 1.30 2.06 1.30 2.06 1.55 1.75 1.93 1.97 3.04	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 15.2 91.0 195 24.5 257 14.0 6.00 70.0 30.0 5.60 1.18 4.90 0.80 4.50 0.92 2.57	$\begin{array}{c} 6.9.56.2.7\\ \hline \text{GBW07427}\\ \hline \text{Mean}\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 90\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 26.2\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 0.89\pm0.04\\ 2.61\pm0.09\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 0.89 1.96 2.68 1.35 1.56 3.18 0.89 1.90 2.61 2.85 3.09 2.72 2.51 3.40 3.99 3.50	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 20.5 1.63 116 115 33.0 222 18.6 8.90 10.3 41.0 7.80 1.56 6.80 1.08 6.23 3.40	$\begin{array}{c} 2.3820.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ 274\pm 6\\ 18.2\pm 0.3\\ 8.40\pm 0.13\\ 8.40\pm 0.13\\ 8.40\pm 0.13\\ 6.90\pm 10\\ 44.6\pm 0.6\\ 92.3\pm 1.4\\ 10.2\pm 0.2\\ 38.9\pm 1.0\\ 7.49\pm 0.15\\ 1.54\pm 0.03\\ 7.05\pm 0.16\\ 1.03\pm 0.03\\ 3.56\pm 0.10\\ \hline \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.05 1.55 1.85 2.61 2.01 1.74 2.25 2.79 2.60 2.67
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Cr ⁵⁷ V ⁵³ Cr ⁵⁷ Co ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cn ⁶⁷ Cn ⁷⁴ Ge ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁹ Y ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹¹ Cc ¹⁴⁰ Ce ¹⁴¹ Pr ¹⁴⁰ Ce ¹⁴¹ Pr ¹⁴¹ Cc ¹⁵¹ Eu ¹⁵¹ E	Ref. 39.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 12.0 90.0 14.0 33.0 102 165 25.0 234 14.4 8.10 520 38.0 74.0 8.50 32.0 6.20 1.27 5.40 0.86 4.70 1.03 2.80 0.42	$\begin{array}{c} 3.44\pm0.11\\ \hline GBW07423\\ \hline Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.00\pm0.03\\ 2.88\pm0.08\\ 0.43\pm0.01\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.00 2.09 1.00 2.30 1.45 1.38 1.75 1.58 1.70 2.95 2.26 2.71 2.76 2.71 2.66	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.7 26.0 131 108 226.5 350 16.5 6.50 613 35.5 70.0 8.50 32.0 0.850 32.0 0.820	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ Mean\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.3\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ 33.3\pm0.6\\ 68.1\pm1.2\\ 7.83\pm0.18\\ 29.9\pm0.6\\ 5.80\pm0.08\\ 1.18\pm0.02\\ 5.36\pm0.09\\ 0.78\pm0.02\\ 2.6\pm0.07\\ 0.92\pm0.02\\ 2.72\pm0.07\\ 0.41\pm0.01\\ \end{array}$	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.27 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.83 1.17 2.135 1.76 1.35 1.76 1.30 1.73 2.05 1.46 2.37 2.48 2.37 2.43	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 13.0 17.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.0 7.90 30.0 5.50 1.18 4.70 0.89 2.46 0.38	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 11.8\pm0.6\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 11.8\pm0.6\\ 10.8\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 5.22\pm0.09\\ 1.11\pm0.01\\ 4.85\pm0.09\\ 0.70\pm0.01\\ 30.84\pm0.03\\ 2.46\pm0.08\\ 0.37\pm0.01\\ \end{array}$	I.95 RSD (%) (%) 4.75 2.32 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.13 3.25 1.02 1.26 1.02 1.26 1.02 1.26 1.03 3.93 6.86 1.30 1.385 2.400 1.55 1.75 1.12 1.93 1.97 3.07 3.95 3.44 2.28 2.8	8.50 Ref. 31.5 1.90 10.5 28.5 21.6 65.0 11.3 28.5 21.6 65.0 15.0 1.27 91.0 1.27 91.0 24.5 257 14.0 6.00 500 30.0 5.60 1.18 4.90 0.80 6.52 0.92 2.57 0.40	$\begin{array}{c} 6.9.56.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.9\pm1.2\\ 20.9$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.83 2.31 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16 2.95 3.09 2.72 2.51 3.40 3.50 4.03 3.55	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 1.56 6.80 1.23 3.40 0.53	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 1.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.05\pm0.16\\ 1.03\pm0.03\\ 5.6\pm0.10\\ 0.53\pm0.02\\ \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.37 2.12 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.05 2.09 2.22 1.51 1.52 1.42 1.85 2.61 1.74 2.25 2.60 2.67 3.47
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵¹ Cr ⁵⁹ Co ⁶⁰ Ni ⁶² Cu ⁶² Cn ⁷⁴ Ge ⁸⁵ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ St ⁹⁰ Zr ⁹⁰ N5 ⁸⁶ Y ⁹⁰ Zr ⁹⁰ Zr ⁹⁰ Zr ⁹¹ Co ¹⁰¹ Ca ¹⁰² La ¹⁰⁴ La ¹⁰⁵	Ref. 39.0 2.10 12.0 90.0 2.10 12.0 90.0 14.0 33.0 26.0 61.0 16.5 25.0 234 14.4 8.10 74.0 38.0 74.0 8.50 32.0 6.20 1.27 5.40 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70 0.86 4.70	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.00\pm0.03\\ 2.88\pm0.08\\ 0.43\pm0.01\\ 2.79\pm0.07\\ \hline \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.13 0.58 0.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.79 2.29 2.26 2.71 2.76 2.68	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 12.1 108 226 350 16.5 6.50 613 35.5 70.0 8.50 32.0 6.00 0.850 2.25 5.20 0.84 4.70 0.97 2.75 0.42	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ \mbox{GBW07424}\\ \hline \\ \mbox{Mean}\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ 33.3\pm0.6\\ 68.1\pm1.2\\ 7.8\pm0.18\\ 29.9\pm0.6\\ 5.80\pm0.08\\ 1.18\pm0.02\\ 5.36\pm0.09\\ 0.78\pm0.02\\ 4.62\pm0.07\\ 0.92\pm0.02\\ 2.72\pm0.07\\ 0.41\pm0.01\\ 2.75\pm0.06\\ \hline \end{array}$	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.135 1.76 2.73 2.12 1.46 1.30 1.73 2.65 1.46 2.37 2.48 2.73 2.19	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 11.6 25.4 1.32 1.38 6.00 634 34.0 654 34.0 6.10 5.50 1.18 2.70 1.3.8 6.00 6.34 34.0 6.51 1.18 2.70 3.8 6.00 6.34 34.0 6.51 1.18 4.70 0.76 0.89 2.46 0.38 2.54	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \mbox{GBW0745}\\ \hline GBW0745$	1.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.75 2.32 2.87 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.079 1.83 1.55 1.75 1.12 1.93 1.97 3.07 3.95 3.44 2.50 2.50	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.3 21.6 65.0 11.3 28.5 21.6 65.0 12.7 91.0 195 24.5 257 14.0 6.00 34.0 66.0 1.18 4.90 0.80 4.50 2.57 0.40 4.50 2.57 0.40 4.50 0.92 2.57 0.40 2.90	$\begin{array}{c} 6.926.2.7\\ \hline GBW07427\\ \hline Mcan\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.0\pm3\\ 22.0\pm0.5\\ 59.9\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 26.2\pm1.1\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.48\pm0.15\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 0.89\pm0.04\\ 2.61\pm0.09\\ 0.39\pm0.01\\ 2.59\pm0.06\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.92 2.31 2.00 1.92 2.31 2.01 2.31 2.02 3.18 4.18 0.89 1.96 2.95 3.09 2.51 3.40 3.90 3.50 4.03 3.35 3.55 2.26	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 1.56 6.80 1.56 6.80 1.23 3.40 0.53 3.50	$\begin{array}{c} 2.3\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 1.14\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 10.3\pm0.03\\ 5.5\pm0.02\\ 3.43\pm0.11\\ \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.09 2.22 1.51 1.52 1.42 1.28 1.55 1.85 2.61 2.01 2.69 2.67 3.06
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵¹ Cr ⁵² Co ⁶⁰ Ni ⁶⁵ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁷ Ch ⁷³ Ga ⁷⁴ Ge ⁸⁵ Rb ⁷⁴ Ge ⁸⁵ Rb ⁷³ Ga ⁷⁴ Ge ⁸⁵ Rb ⁷³ Ga ⁷⁴ Ge ⁸⁵ Rb ⁷³ Cs ⁷⁴ Ge ⁸⁵ Rb ⁷³ Cs ⁷⁴ Ge ⁸⁵ Rb ⁷³ Cs ⁷⁴ Ge ⁷⁴ Ge ⁸⁵ Rb ⁷⁴ Ge ⁸⁵ Rb ⁸⁵ Rb ⁷⁴ Ge ⁸⁵ Rb ¹³⁰ Cs ¹³⁵ Ba ¹⁴⁰ Ce ¹⁴¹ Pr ¹⁴⁶ Rb ¹⁴⁵ Sm ¹⁵⁵ Cb ¹⁵⁵ Cb ¹	Ref. 39,0 2.10 12,0 90.0 75,0 14,0 33,0 61,0 16,3 102 165 25,0 14,4 8,10 38,0 74,0 38,0 74,0 32,0 6,20 1,27 5,40 0,86 4,70 2,80 0,42 2,60 0,41	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 2.6\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 2.6\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.00\pm0.03\\ 2.88\pm0.08\\ 0.43\pm0.01\\ 2.79\pm0.07\\ 0.42\pm0.01\\ \hline \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.43 2.15 1.58 1.75 1.58 1.75 2.29 2.26 2.71 2.76 2.66 2.19	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 64.0 17.0 1.30 226 26.5 350 16.5 6.13 35.5 70.0 8.50 6.20 0.84 4.70 9.75 0.42 2.81 0.46	1.31±0.04 GBW07424 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 235±4 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 68.1±1.2 7.8±0.09 0.78±0.02 5.36±0.09 0.78±0.02 2.72±0.07 0.41±0.01 2.72±0.07 0.41±0.01	2.82 RSD (%) 2.04 1.98 1.37 1.88 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.48 1.83 2.17 1.35 1.76 1.73 2.52 1.46 1.30 2.12 1.46 1.30 2.05 1.46 2.37 2.48 2.73 2.19 1.58 1.58	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 65.0 17.2 1.30 110 182 23.6 6.00 73.8 6.00 73.8 6.00 7.90 33.4 6.00 7.90 30.0 5.50 1.18 4.70 0.76 4.20 0.38 2.54 0.41	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{Gamma}\\ \mbox{Gamma}\\ \mbox{Sigma}\\ \mbox$	1.95 RSD (%) 4.75 2.17 1.15 1.32 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 2.40 1.55 1.75 1.93 1.97 3.07 3.944 2.28 2.50	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 1.27 91.0 5.257 14.0 6.00 500 34.0 66.0 7.90 30.0 5.60 1.18 4.90 0.80 4.50 0.80 4.50 0.92 2.57 0.40 2.90 0.41	$\begin{array}{c} 6.926.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm 1.0\\ 1.87\pm 0.04\\ 10.7\pm 0.1\\ 70.7\pm 0.4\\ 63.1\pm 1.7\\ 11.3\pm 0.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 20.0\pm 3\\ 22.6\pm 0.3\\ 1.37\pm 0.04\\ 90\pm 1.2\\ 20.0\pm 3\\ 20.0\pm 3\\$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.99 2.31 2.01 89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.49 2.16 2.85 2.95 3.09 3.50 4.03 3.355 2.58	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 37.0 94.0 20.5 1.63 116 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 7.80 1.56 6.80 1.08 6.20 1.23 3.40 0.53 3.50	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.65\pm0.16\\ 1.03\pm0.03\\ 6.16\pm0.15\\ 1.23\pm0.03\\ 3.56\pm0.10\\ 0.53\pm0.02\\ 3.43\pm0.11\\ 0.51\pm0.02\\ \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 0.89 1.37 2.12 0.44 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.09 2.22 1.51 1.52 1.42 1.55 1.85 2.61 2.01 1.74 2.50 2.67 3.47 3.06
Ele- ment ⁷ Li ⁸ Be ⁴⁵ SV ⁵¹ V ⁵¹ Cr ⁵² Co ⁵² Co ⁶² Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Zn ⁷¹ Ge ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁹ Y ⁹⁰ Dz ⁸⁹ Y ⁹⁰ Dz ¹³⁵ Ba ¹³⁵ Ba ¹³⁵ Ba ¹³⁶ Cc ¹⁴¹ Pr ¹⁴⁶ Nd ¹⁵¹ Eu ¹⁵¹ Cf ¹⁵¹ Cf ¹⁵¹ Cf ¹⁵² Cf ¹⁵² Cf ¹⁵³ Cf ¹⁵³ Cf ¹⁵³ Cf ¹⁵³ Cf ¹⁵⁴ Cf ¹⁵⁴ Cf ¹⁵⁴ Cf ¹⁵⁵	Ref. 39.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 12.0 90.0 14.0 33.0 61.0 165 25.0 234 14.4 8.10 520 38.0 75.40 0.850 32.0 1.27 5.40 0.820 1.03 2.60 0.42 2.60 0.41	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.04\pm0.02\\ 5.01\pm0.11\\ 1.00\pm0.03\\ 2.8\pm0.08\\ 0.43\pm0.01\\ 2.79\pm0.07\\ 0.42\pm0.01\\ 6.13\pm0.14\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.09 2.09 1.00 2.30 1.45 1.30 2.30 1.45 1.30 2.11 1.75 1.58 2.70 2.26 2.71 2.66 2.68 2.19	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.7 26.0 131 108 226.5 350 16.5 6.50 613 35.5 70.0 8.50 32.0 0.850 32.0 0.850 32.0 0.850 32.0 0.44 4.70 0.97 2.75 5.20 0.44 2.81 0.42 2.81 0.45	$\begin{array}{c} 1.31\pm0.04\\ GBW07424\\ \hline \\ Mean\\ 32.4\pm0.7\\ 2.41\pm0.05\\ 10.5\pm0.1\\ 71.4\pm0.6\\ 56.6\pm2.6\\ 11.6\pm0.2\\ 27.1\pm0.7\\ 19.7\pm0.4\\ 55.9\pm0.9\\ 17.5\pm0.3\\ 1.36\pm0.08\\ 105\pm1\\ 235\pm4\\ 27.8\pm0.6\\ 362\pm10\\ 15.1\pm0.2\\ 6.01\pm0.13\\ 588\pm8\\ 33.3\pm0.6\\ 68.1\pm1.2\\ 7.83\pm0.18\\ 29.9\pm0.6\\ 5.80\pm0.08\\ 1.18\pm0.02\\ 5.36\pm0.09\\ 0.78\pm0.02\\ 4.62\pm0.07\\ 0.92\pm0.02\\ 2.72\pm0.07\\ 0.41\pm0.01\\ 2.75\pm0.06\\ 0.42\pm0.01\\ 8.80\pm0.26\\ \end{array}$	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.27 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.17 1.35 1.76 1.73 2.25 2.12 1.46 1.30 1.73 2.05 1.46 2.37 2.19 1.58 2.95 1.58	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 110 182 23.6 270 13.30 110 182 2.600 634 34.0 5.50 7.90 30.0 5.50 1.18 4.70 0.89 2.54 0.38 2.54 0.41	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ Mean\\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 69.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 11.8\pm0.6\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 11.8\pm0.6\\ 10.8\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 15.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 5.22\pm0.09\\ 1.11\pm0.01\\ 4.85\pm0.09\\ 0.70\pm0.01\\ 4.20\pm0.13\\ 0.84\pm0.03\\ 2.46\pm0.08\\ 0.37\pm0.01\\ 2.44\pm0.06\\ 0.37\pm0.01\\ 0.44\pm0.06\\ 0.45\pm0.00\\ 0.45\pm0.00\\ 0.45\pm0.00\\ 0.45\pm0.00\\ 0.45\pm0.00\\ 0.45$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.85 2.40 1.55 1.75 1.12 1.93 1.97 3.97 3.95 3.44 2.28 2.50 1.94 2.28 2.50 1.94	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 11.3 28.5 21.6 65.0 15.0 127 91.0 195 24.5 257 14.0 6.00 500 34.0 500 34.0 500 3.00 5.00 1.18 4.90 0.82 2.57 0.40 2.90 0.41 7.00	GBW07427 GBW07427 Mean 33.1±1.0 1.87±0.04 10.7±0.1 70.7±0.4 63.1±1.7 11.3±0.2 29.6±0.6 22.2±0.5 59.9±1.2 29.6±0.6 22.2±0.5 59.9±1.2 20.0±3 26.6±0.8 262±11 12.8±0.1 5.62±0.11 482±7 32.3±0.7 64.8±1.8 7.44±0.22 28.5±0.9 5.48±0.15 1.11±0.03 5.13±0.17 0.75±0.03 4.48±0.16 0.89±0.01 2.59±0.01	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 2.95 3.09 2.72 2.51 3.40 3.50 4.03 3.55 2.26 2.58 5.65	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 94.0 20.5 1.63 116 115 133.0 272 18.6 8.90 716 47.0 10.3 41.0 10.3 41.0 10.5 6.80 1.03 41.0 1.56 6.80 1.56 6.80 1.55 6.80 1.55 3.50 0.53 3.50 0.55 0.53 3.50 0.55 0.53 0.55 0.5	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 1.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 10.6\pm0.8\\ 2.74\pm6\\ 18.2\pm0.3\\ 2.74\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 6.90\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.05\pm0.16\\ 1.03\pm0.03\\ 3.56\pm0.10\\ 0.53\pm0.01\\ 3.56\pm0.10\\ 0.53\pm0.02\\ 3.43\pm0.11\\ 0.51\pm0.02\\ 7.09\pm0.19\\ \end{array}$	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.05 2.09 2.20 1.52 1.42 1.85 2.61 1.74 2.25 2.67 3.47 3.06 3.06 3.06
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵¹ Cr ⁵⁹ Co ⁶⁰ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁷ Ca ⁸⁷ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Ry ⁹⁰ Zr ⁹⁰ Nc ⁸⁸ Rb ⁸⁸ SY ⁹⁰ Zr ⁹⁰ Zr ¹⁰⁵ Ea ¹¹⁵ Eu ¹¹⁵ Eu ¹¹⁵ Eu ¹¹⁶ ET ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁷ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁶ Zr ¹¹⁷ ZLa ¹¹⁷ ZLa ¹¹⁷ ZLa ¹¹⁸ Zr ¹¹⁸ Z	Ref. 39.0 2.10 12.0 90.0 2.10 12.0 90.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 74.0 8.50 32.0 6.20 1.27 5.40 0.86 4.70 1.03 2.80 0.41 6.60 1.10	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.0\pm0.03\\ 2.88\pm0.08\\ 0.43\pm0.01\\ 2.79\pm0.07\\ 0.42\pm0.01\\ 6.13\pm0.14\\ 1.04\pm0.02\\ \hline \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.05 1.72 1.74 8.67 1.07 1.02 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.45 1.58 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.72 1.74 1.79 2.09 1.00 2.30 1.45 1.30 1.45 1.58 1.70 1.95 2.29 2.26 2.71 2.76 2.68 2.19 2.37 1.71 2.76 2.68 2.19 2.37 1.71 2.76 2.68 2.19 2.71 2.76 2.68 2.19 2.71 2.76 2.68 2.19 2.71 2.76 2.68 2.19 2.71 2.76 2.68 2.19 2.71 2.76 2.68 2.19 2.37 1.71 2.76 2.68 2.17 1.71 2.76 2.68 2.17 1.71 2.71 2.71 2.76 2.68 2.17 1.71 2.71 2.71 2.76 2.68 2.17 1.71 2.71 2.71 2.71 2.71 2.71 2.76 2.68 2.17 2.71 2.75 2.75 2.71 2.71 2.71 2.71 2.75 2.75 2.71 2.71 2.71 2.75 2.71 2.71 2.71 2.71 2.71 2.71 2.75 2.71 2.71 2.71 2.71 2.71 2.71 2.71 2.71 2.71 2.	Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 17.0 64.0 17.0 64.0 17.0 64.0 17.1 108 226 350 16.5 6.50 613 35.5 70.0 8.50 32.0 6.00 1.25 5.20 0.870 0.97 2.75 0.42 9.50 1.30	$\begin{array}{c} 1.3 \pm 0.04 \\ GBW07424 \\ \hline \\ \mbox{GBW07424} \\ \hline \\ \mbox{GBW07424} \\ \hline \\ \mbox{GBW07424} \\ \hline \\ \mbox{GBW07424} \\ \hline \\ \mbox{GBW0742} \\ \hline \\ \mbox{GBW0742} \\ \mbox{GBW0742} \\ \hline \\ \mbox{GBW0742} \\ GBW07$	RSD (%) 2.04 1.98 1.98 1.37 0.83 4.50 1.32 2.72 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.17 2.35 1.76 2.73 1.35 1.76 1.33 2.17 1.35 1.76 1.73 2.05 2.12 1.46 2.37 2.48 2.19 1.58 2.19 1.58 2.10 1.00	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 11.6 25.4 1.32 1.38 6.00 634 34.0 65.0 1.38 6.00 634 34.0 6.50 1.18 2.70 1.38 6.00 6.34 34.0 6.50 1.18 4.70 0.76 0.89 2.46 0.38 2.54 0.41 7.70	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{Gamma}\\ \mbox{Gamma}\\ \mbox{31.4}\pm1.5\\ \mbox{2.17}\pm0.05\\ \mbox{10.1}\pm0.1\\ \mbox{62.1}\pm0.05\\ \mbox{10.1}\pm0.1\\ \mbox{62.2}\pm0.9\\ \mbox{65.5}\pm1.0\\ \mbox{11.1}\pm0.2\\ \mbox{25.5}\pm0.6\\ \mbox{21.8}\pm0.6\\ \mbox{20.5}\pm1.9\\ \mbox{10.8}\pm1\\ \mbox{18}\pm0.6\\ \mbox{10.8}\pm1\\ \mbox{18}\pm0.6\\ \mbox{10.8}\pm1\\ \mbox{18}\pm2.2\\ \mbox{5.1}\pm0.11\\ \mbox{60.7}\pm2.0\\ \mbox{11.1}\pm0.01\\ \mbox{27.7}\pm0.4\\ \mbox{5.2}\pm0.09\\ \mbox{0.7}\pm0.01\\ \mbox{2.4}\pm0.03\\ \mbox{2.4}\pm0.06\\ \mbox{0.37}\pm0.01\\ \mbox{2.4}\pm0.06\\ \mbox{2.4}$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.75 2.32 1.87 1.75 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 2.93 6.86 1.55 1.75 1.12 1.93 1.97 3.07 3.95 3.44 2.50 1.94 6.03 1.61	Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 11.3 28.5 21.6 65.0 15.0 127 91.0 195 24.5 257 14.0 6.00 34.0 660 7.90 30.0 5.60 1.18 4.90 0.80 4.50 2.57 0.40 7.90 0.41 7.02	$\begin{array}{c} 6.926.2.7\\ \hline GBW07427\\ \hline Mcan\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 26.2\pm1.1\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.48\pm0.15\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 0.89\pm0.04\\ 2.61\pm0.09\\ 0.39\pm0.01\\ 2.59\pm0.06\\ 0.38\pm0.01\\ 6.74\pm0.38\\ 0.95\pm0.02\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.92 2.31 2.00 1.92 2.31 2.01 2.31 2.02 3.18 4.18 0.89 1.49 2.16 2.85 3.09 2.71 3.40 3.90 2.51 3.40 3.35 3.50 4.03 3.35 2.26 2.58 5.65	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 7.80 1.53 41.0 7.80 1.53 3.50 0.54 7.60 1.52	$\begin{array}{r} 2.3820.01\\ \hline \\ GBW07429\\ \hline \\ Mean\\ \hline \\ 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ 274\pm 6\\ 18.2\pm 0.3\\ 8.40\pm 0.13\\ 690\pm 10\\ 44.6\pm 0.6\\ 92.3\pm 1.4\\ 10.2\pm 0.2\\ 38.9\pm 1.0\\ 7.49\pm 0.15\\ 1.54\pm 0.03\\ 7.05\pm 0.16\\ 1.03\pm 0.03\\ 3.56\pm 0.10\\ 0.53\pm 0.02\\ 3.43\pm 0.11\\ 0.51\pm 0.02\\ 7.09\pm 0.19\\ 1.32\pm 0.02\\ \end{array}$	RSD (%) 3.34 1.45 3.24 1.45 3.24 1.45 3.24 1.45 3.24 1.45 3.24 1.45 3.24 2.04 2.22 1.51 1.52 1.42 2.50 2.69 2.67 3.06 3.00 2.75 </td
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sc ⁵¹ V ⁵² Cr ⁵⁹ CoNi ⁶² Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁷ Cn ⁷⁴ Ge ⁸⁶ Rb ⁷⁴ Ge ⁸⁶ Rb ⁷⁴ Ge ⁸⁶ Rb ⁷⁴ Ge ⁸⁷ Rb ¹³⁰ Cs ¹³⁰ Ba ¹³⁰ Ls ¹³¹ Ba ¹³¹ Ls ¹³² Cs ¹³⁴ Ba ¹³⁵ Ls ¹³⁵ Eu ¹³⁵ Cf ¹⁴⁶ Nf ¹⁴⁶ Nf ¹⁴⁶ Nf ¹⁴⁶ Nf ¹⁴⁶ Nf ¹⁴⁶ Nf ¹⁴⁶ Nf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁶ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁶ Sf ¹⁴⁷ Sf ¹⁴⁸ Sf ¹⁴⁸ Sf ¹⁴⁸ Sf ¹⁴⁸ Sf ¹⁴⁸ Sf	3.30 Ref. 39,0 2.10 12,0 90,0 2.10 12,0 92,10 12,0 93,0 2.10 12,0 93,0 2.10 13,0 102 165 25,0 234 14,4 8,10 520 38,0 74,0 8,50 32,0 6,20 1,27 5,40 0,86 4,70 1,03 2,80 0,41 6,60 1,10 25,0	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline Mean\\ \hline 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.08\pm0.03\\ 2.88\pm0.08\\ 0.43\pm0.01\\ 2.79\pm0.07\\ 0.42\pm0.01\\ 6.13\pm0.14\\ 1.04\pm0.02\\ 23.8\pm1.2\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.43 2.15 1.58 1.75 1.58 1.70 2.29 2.26 2.71 2.76 2.66 2.19 2.35 1.71	1.30 Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 131 108 26.5 350 16.50 613 35.5 70.0 8.50 32.0 6.00 1.25 5.20 0.84 4.70 0.97 0.42 2.81 0.46 9.50 1.30	1.31±0.04 GBW07424 Mean 32.4±0.7 2.41±0.05 10.5±0.1 71.4±0.6 56.6±2.6 11.6±0.2 27.1±0.7 19.7±0.4 55.9±0.9 17.5±0.3 1.36±0.08 105±1 235±4 27.8±0.6 362±10 15.1±0.2 6.01±0.13 588±8 33.3±0.6 68.1±1.2 7.8±0.09 0.78±0.02 5.36±0.09 0.78±0.02 2.72±0.07 0.4±0.01 2.7±0.07 0.4±0.01 2.7±0.06 0.42±0.01 8.80±0.28 1.9±0.01	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.77 2.22 1.57 1.42 5.66 1.48 1.83 2.17 1.35 1.71 1.35 1.73 2.25 2.146 1.30 1.73 2.05 1.46 2.37 2.48 2.73 2.95 1.10 2.67 1.58	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 21.4 65.0 17.2 1.30 110 182 23.6 270 13.8 6.00 634 34.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 65.0 7.90 30.0 7.90 7.90 30.0 7.90 7.90 30.0 7.90 7.70 7.90 7.70	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{In} 11.1\pm0.2\\ \mbox{SI-10}.1\pm0.1\\ \mbox{SI-10}.1\pm0.2\\ \mbox{SI-10}.1\pm0.2\\ \mbox{SI-10}.1\\ SI-10$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.066 0.79 1.83 1.85 2.40 1.55 1.75 1.12 1.93 1.85 2.40 1.55 1.75 1.12 1.93 3.07 3.07 3.95 1.42 2.88 2.50 1.94 6.03 1.61	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 127 91.0 195 24.5 257 14.0 66.0 7.90 30.0 66.0 7.90 30.0 5.60 1.18 4.90 0.80 4.50 0.257 0.40 2.57 0.40 2.57 0.41 7.00 1.02 21.6	$\begin{array}{c} 6.926.2.1\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm 1.0\\ 1.87\pm 0.04\\ 10.7\pm 0.1\\ 70.7\pm 0.4\\ 63.1\pm 1.7\\ 11.3\pm 0.2\\ 29.6\pm 0.6\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 29.6\pm 0.5\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 29.6\pm 0.5\\ 22.2\pm 0.5\\ 59.9\pm 1.2\\ 20.0\pm 0.5\\ 22.2\pm 0.5\\ 59.9\pm 0.1\\ 20.0\pm 0.5\\ 1.1\pm 0.03\\ 5.13\pm 0.17\\ 0.75\pm 0.03\\ 4.48\pm 0.16\\ 0.89\pm 0.04\\ 2.61\pm 0.09\\ 0.39\pm 0.01\\ 2.59\pm 0.06\\ 0.38\pm 0.01\\ 6.74\pm 0.38\\ 0.95\pm 0.02\\ 21.6\pm 0.9\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 2.31 2.00 1.89 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.96 1.49 2.16 2.95 3.09 3.50 4.03 3.35 3.55 2.68 5.65 1.59	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 37.0 94.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 93.0 10.3 41.0 93.0 10.3 41.0 1.56 6.80 1.56 6.20 1.58 3.40 0.53 3.40 0.53 3.50 0.54 7.60 1.53 3.80 1.53 3.00 1.56 1.63 1.55 1.63 1.63 1.55 1.63 1.63 1.55 1.63 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.55 1.63 1.56 1.56 1.08 6.20 1.56 1.08 6.20 1.55 3.40 0.53 3.50 1.54 7.60 1.53 3.40 0.53 3.50 1.55 3.30 1.68 3.40 1.55 1.68 3.40 1.55 1.68 3.40 1.55 1.55 3.40 1.55 1.63 1.55 1.55 1.55 1.55 1.55 1.63 1.55 1.55 1.55 1.55 1.55 1.63 1.55 1.55 1.63 1.56 1.08 1.08 1.56 1.08 1.08 1.55	$\begin{array}{c} 2.93\pm0.01\\ \hline\\ GBW07429\\ \hline\\ Mean\\ \hline\\ 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 120.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 16\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.05\pm0.16\\ 1.03\pm0.02\\ 3.56\pm0.10\\ 0.53\pm0.02\\ 3.43\pm0.11\\ 0.51\pm0.02\\ 7.09\pm0.19\\ 1.32\pm0.02\\ 38.7\pm1.6\\ \end{array}$	8.50 (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.05 1.52 1.42 1.55 1.85 2.60 2.60 2.60 2.60 2.67 3.47 3.00 2.75 1.41
Ele- ment ⁷ Li ⁹ Be ⁴⁵ Sv ⁵⁵ V ⁵⁵ Cr ⁵⁹ Co ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁶ Cu ⁶⁷ Ca ⁷¹ Ge ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Rb ⁸⁸ Sr ⁹⁰ Ds ¹³⁵ Ea ¹³⁵ Ba ¹³⁵ Ba ¹³⁵ Ba ¹³⁵ Ba ¹³⁵ Cs ¹³⁵ Ba ¹³⁶ Cs ¹³⁵ Cs ¹³⁶ Cs ¹³⁶ Cs ¹³⁶ Cs ¹³⁶ Cs ¹³⁶ Cs ¹³⁶ Cs ¹³⁶ Cs ¹³⁷ Cs ¹³⁶ Cs	Ref. 39.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 12.0 90.0 2.10 14.0 33.0 61.0 165 520 38.0 74.4 8.10 520 38.0 75.40 0.850 32.0 1.27 5.40 0.850 32.0 1.27 5.40 0.820 0.42 2.60 0.41 6.60 1.10 22.8	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.01\pm0.11\\ 1.00\pm0.03\\ 2.88\pm0.08\\ 0.43\pm0.01\\ 2.79\pm0.07\\ 0.42\pm0.01\\ 6.13\pm0.14\\ 1.04\pm0.02\\ 23.8\pm1.2\\ 12.8\pm0.4\\ \end{array}$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.07 1.07 2.09 1.00 2.30 1.45 1.30 1.43 2.11 1.75 1.58 1.70 1.95 2.29 2.26 2.71 2.76 2.66 2.68 2.171 4.93 3.09	1.30 Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 17.1 108 226.5 350 16.5 6.50 613 35.5 32.0 6.00 1.25 5.20 0.850 32.0 1.25 5.20 0.84 4.70 0.97 2.75 5.20 0.44 2.81 0.42 2.81 0.42 1.30 22.0	$\begin{array}{c} 1.3 \pm 0.04 \\ GBW07424 \\ \hline \\ Mean \\ 32.4\pm0.7 \\ 2.41\pm0.05 \\ 10.5\pm0.1 \\ 71.4\pm0.6 \\ 56.6\pm2.6 \\ 11.6\pm0.2 \\ 71.1\pm0.7 \\ 19.7\pm0.4 \\ 55.9\pm0.9 \\ 17.5\pm0.3 \\ 1.3\pm0.08 \\ 105\pm1 \\ 235\pm4 \\ 27.8\pm0.6 \\ 362\pm10 \\ 15.1\pm0.2 \\ 6.01\pm0.13 \\ 588\pm8 \\ 33.3\pm0.6 \\ 68.1\pm1.2 \\ 7.83\pm0.18 \\ 29.9\pm0.6 \\ 5.80\pm0.08 \\ 1.18\pm0.02 \\ 5.36\pm0.09 \\ 0.78\pm0.02 \\ 1.8\pm0.02 \\ 1.8\pm0.01 \\ 2.75\pm0.06 \\ 0.4\pm0.01 \\ 2.75\pm0.06 \\ 0.4\pm0.01 \\ 2.8\pm0.6 \\ 1.09\pm0.01 \\ 22.8\pm0.6 \\ 1.09\pm0.01 \\ 22.8\pm0.01 \\ 1.09\pm0.01 \\ 1.09\pm0.01 \\ 1.09\pm0.$	RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 2.22 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.17 1.35 1.76 1.73 2.25 2.12 1.46 2.37 2.46 2.19 1.58 1.66 1.73 2.05 1.10 2.57 2.19 1.58 2.595 1.10 2.67 3.69	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 110 182 23.6 270 13.8 600 634 34.0 5.00 1.18 4.70 0.790 30.0 5.50 1.18 4.70 0.89 2.54 0.41 7.70 1.05 24.7 10.8	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{Mean}\\ \hline \\ 31.4\pm1.5\\ 2.17\pm0.05\\ 10.1\pm0.1\\ 62.2\pm0.9\\ 56.5\pm1.0\\ 11.1\pm0.2\\ 25.9\pm0.6\\ 21.8\pm0.5\\ 60.5\pm1.9\\ 16.4\pm0.2\\ 1.38\pm0.64\\ 108\pm1\\ 186\pm2\\ 25.4\pm1.0\\ 285\pm20\\ 12.7\pm0.2\\ 5.51\pm0.11\\ 607\pm5\\ 31.8\pm0.6\\ 63.4\pm1.2\\ 7.31\pm0.17\\ 27.7\pm0.4\\ 5.22\pm0.09\\ 1.11\pm0.017\\ 4.52\pm0.09\\ 0.70\pm0.01\\ 4.20\pm0.13\\ 0.84\pm0.03\\ 2.46\pm0.08\\ 0.37\pm0.01\\ 2.44\pm0.06\\ 0.37\pm0.01\\ 2.53\pm1.0\\ 0.93\pm0.02\\ 25.3\pm1.0\\ 0.95\pm0.02\\ 2.5\pm0.02\\ 2.5\pm0.02\\ 2.5\pm0.01\\ 2.4\pm0.06\\ 0.07\pm0.01\\ 0.09\pm0.02\\ 2.5\pm0.01\\ 0.09\pm0.02\\ 0.09$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.87 1.75 2.32 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.85 2.40 1.55 1.75 1.75 1.22 1.93 1.85 2.40 1.55 1.75 3.07 3.95 3.44 2.28 2.50 1.61 3.90 1.61 3.94	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 11.3 28.5 21.6 65.0 11.3 28.5 21.6 65.0 12.7 91.0 195 24.5 257 14.0 6.00 500 34.0 6.00 500 34.0 6.00 500 30.0 5.00 0.80 2.91 0.40 2.90 0.41 7.00 1.02 21.6	$\begin{array}{c} 6.926.2.\\ \hline GBW07427\\ \hline GBW07427\\ \hline Mean\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ \hline 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 14.5\pm0.3\\ 1.37\pm0.04\\ 90\pm1.2\\ 200\pm3\\ 26.6\pm0.8\\ 262\pm11\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 482\pm7\\ 72.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.48\pm0.15\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 0.89\pm0.04\\ 2.61\pm0.09\\ 0.39\pm0.01\\ 2.59\pm0.06\\ 0.38\pm0.01\\ 6.74\pm0.38\\ 0.95\pm0.02\\ 21.6\pm0.9\\ 0.7\pm0.02\\ 10.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.7\pm0.02\\ 0.9\pm0.01\\ 0.59\pm0.00\\ 0.39\pm0.01\\ 0.59\pm0.00\\ 0.39\pm0.01\\ 0.7\pm0.38\\ 0.95\pm0.02\\ 21.6\pm0.9\\ 0.95\pm0.02\\ 0.9$	RSD (%) 3.03 2.31 1.11 0.56 2.73 1.91 1.89 2.31 2.00 1.92 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 2.68 3.18 4.18 0.89 2.95 3.09 2.72 2.51 3.40 3.50 4.03 3.55 2.26 1.59 4.15	2.70 Ref. 44.0 2.70 14.8 87.0 17.6 41.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 10.3 41.0 7.80 7.86 6.80 1.03 41.0 7.66 6.80 1.55 3.50 0.54 3.50 1.52 3.80 1.52 3.80 1.45 3.45 3.45 3.45 3.45 3.45 3.45 3.45 3.55	$\begin{array}{c} 2.3820.01\\ \hline \text{GBW07429}\\ \hline \text{Mean}\\ \hline 47.6\pm1.6\\ 2.64\pm0.04\\ 14.7\pm0.5\\ 116\pm1\\ 84.0\pm1.2\\ 17.4\pm0.4\\ 41.9\pm0.9\\ 38\pm0.8\\ 88.6\pm2.1\\ 20.4\pm0.5\\ 1.74\pm0.07\\ 114\pm1\\ 116\pm1\\ 36.2\pm0.8\\ 274\pm6\\ 18.2\pm0.3\\ 8.40\pm0.13\\ 690\pm10\\ 44.6\pm0.6\\ 92.3\pm1.4\\ 10.2\pm0.2\\ 38.9\pm1.0\\ 7.49\pm0.15\\ 1.54\pm0.03\\ 7.05\pm0.16\\ 1.03\pm0.03\\ 3.56\pm0.10\\ 0.53\pm0.02\\ 3.43\pm0.11\\ 0.51\pm0.02\\ $	RSD (%) 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.34 1.45 3.80 1.37 2.12 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.04 2.05 2.60 2.67 2.69 2.67 2.69 2.67 3.06 3.06 3.06 3.06 3.06 3.06 3.06 </td
Ele- ment ⁷ Li ⁹ Be ⁴⁵ ScV ⁵³ Cr ⁵⁹ Co ⁶⁰ Cu ⁶⁵ Cu ⁶⁶ Zn ⁷¹ Ga ⁸⁵ Rb ⁸⁸ Sr ⁹⁰ Zr ⁹⁰ Ro ⁸⁵ Rb ⁸⁸ Sr ⁹⁰ Zr ⁹⁰ Zr ¹⁰⁵ Ea ¹¹⁵ Ea ¹¹⁵ Eu ¹¹⁵ Eu ¹¹⁵ Eu ¹¹⁵ Eu ¹¹⁷ Zu ¹¹⁶ Zr ¹¹⁶ Zn ¹¹⁶ Zn ¹¹⁶ Zn ¹¹⁷ Zn ¹¹⁶ Zn ¹¹⁷ Zn ¹¹	Ref. 39.0 2.10 12.0 90.0 2.10 12.0 90.0 14.0 33.0 26.0 61.0 16.3 1.30 102 165 25.0 234 14.4 8.10 72.0 38.0 74.0 8.50 32.0 6.20 1.27 5.40 0.86 4.70 2.80 0.42 2.60 0.41 6.60 2.50 2.81	$\begin{array}{c} 3.44\pm0.11\\ GBW07423\\ \hline \\ GBW07423\\ \hline \\ Mean\\ 42.4\pm1\\ 2.21\pm0.05\\ 12.7\pm0.1\\ 84.7\pm0.7\\ 72.6\pm0.8\\ 13.5\pm0.1\\ 35.5\pm0.3\\ 26\pm0.4\\ 56.3\pm1\\ 17.1\pm0.3\\ 1.40\pm0.12\\ 102\pm1\\ 180\pm2\\ 29.4\pm0.5\\ 242\pm5\\ 14.1\pm0.1\\ 7.61\pm0.18\\ 506\pm7\\ 36.0\pm0.5\\ 73.3\pm1.1\\ 8.34\pm0.18\\ 31.7\pm0.6\\ 6.19\pm0.10\\ 1.26\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.78\pm0.11\\ 0.84\pm0.02\\ 5.78\pm0.11\\ 0.42\pm0.01\\ 2.79\pm0.07\\ 0.42\pm0.01\\ 6.13\pm0.14\\ 1.04\pm0.02\\ 23.8\pm1.2\\ 12.8\pm0.4\\ 0.5\pm0.01\\ 1.5\pm0.01\\ 0.5\pm0.01\\ 0.$	3.11 RSD (%) 2.34 2.35 1.05 0.81 1.13 0.58 0.76 1.62 1.72 1.74 8.67 1.07 1.02 1.79 2.09 1.00 2.30 1.45 1.30 1.45 1.30 1.45 1.30 1.45 1.58 1.70 2.29 2.26 2.71 2.76 2.68 2.19 2.35 1.71 4.93 3.09 1.30	1.30 Ref. 30.6 2.40 10.2 74.0 58.0 11.7 26.0 19.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 17.0 64.0 16.5 6.50 613 35.5 70.0 8.20 6.00 1.25 5.20 0.84 4.70 0.97 2.75 0.42 9.50 2.20 11.3 2.25	$\begin{array}{c} 1.31\pm 0.04\\ GBW07424\\ \hline \\ \mbox{GBW07424}\\ \hline \\ \mbox{GBW0744}\\ \hline G$	2.82 RSD (%) 2.04 1.98 1.37 0.83 4.50 1.32 2.72 1.57 1.42 5.66 1.48 1.83 2.17 2.83 1.17 2.17 2.135 1.76 2.25 2.12 1.46 1.30 1.73 2.05 1.446 2.37 2.48 2.77 1.58 2.19 1.58 2.67 3.69 1.10 2.67 3.61 1.61	6.70 Ref. 30.0 2.25 10.0 74.0 59.0 11.6 25.4 1.30 1.16 25.4 1.10 182 2.3 6.00 1.3.8 6.00 6.34 34.0 6.5.0 1.3.8 6.00 5.50 1.18 4.70 0.76 4.20 0.89 2.46 0.38 2.54 0.41 7.70 2.47 10.8 2.20	$\begin{array}{c} 7.34\pm0.14\\ GBW07425\\ \hline \\ \mbox{GBW07425}\\ \hline \\ \mbox{Gamma}\\ \mbox{Gamma}\\ \mbox{S11,4\pm1,5}\\ \mbox{S2,17\pm0.05}\\ \mbox{10,1\pm0,1}\\ \mbox{S2,17\pm0.05}\\ \mbox{10,1\pm0,1}\\ \mbox{S2,12\pm0,15}\\ \mbox{S2,12\pm0,15}\\ \mbox{S2,12\pm0,15}\\ \mbox{S2,12\pm0,16}\\ \mbox{S2,12\pm0,17}\\ S2,12\pm0$	I.95 RSD (%) (%) 4.75 2.17 1.15 1.32 1.75 2.32 1.87 1.75 2.47 3.16 1.18 3.25 1.02 1.26 3.93 6.86 1.30 2.06 0.79 1.83 1.85 1.75 1.12 1.93 1.97 3.07 3.055 3.44 2.80 1.94 6.61 3.90 1.61 3.90 4.81 1.61 3.90 4.81	8.50 Ref. 31.5 1.90 10.5 74.0 65.0 11.3 28.5 21.6 65.0 15.0 12.7 91.0 195 24.5 257 14.0 600 34.0 660 1.18 4.90 0.80 4.50 2.57 0.40 7.90 0.92 2.57 0.41 7.02 21.6 11.0	$\begin{array}{c} 6.926.2.7\\ \hline GBW07427\\ \hline Mcan\\ \hline 33.1\pm1.0\\ 1.87\pm0.04\\ 10.7\pm0.1\\ 70.7\pm0.4\\ 63.1\pm1.7\\ 11.3\pm0.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 29.6\pm0.6\\ 22.2\pm0.5\\ 59.9\pm1.2\\ 20.0\pm3\\ 26.6\pm0.8\\ 26.2\pm1.1\\ 12.8\pm0.1\\ 5.62\pm0.11\\ 48.2\pm7\\ 32.3\pm0.7\\ 64.8\pm1.8\\ 7.44\pm0.22\\ 28.5\pm0.9\\ 5.48\pm0.15\\ 1.11\pm0.03\\ 5.13\pm0.17\\ 0.75\pm0.03\\ 4.48\pm0.16\\ 0.89\pm0.04\\ 2.61\pm0.09\\ 0.39\pm0.01\\ 2.59\pm0.06\\ 0.38\pm0.01\\ 6.74\pm0.38\\ 0.95\pm0.02\\ 21.6\pm0.9\\ 10.7\pm0.4\\ 38\pm0.07\\ \end{array}$	RSD (%) 3.03 2.31 1.11 0.56 2.31 1.91 1.89 2.31 2.00 1.92 2.31 2.00 1.99 2.31 2.00 1.99 2.68 1.35 1.56 3.18 4.18 0.89 1.49 2.16 2.85 3.09 2.72 2.51 3.40 3.35 3.55 2.26 2.58 5.65 1.59 4.21 4.15 2.90	2.70 Ref. 44.0 2.70 14.8 119 87.0 17.6 41.0 37.0 94.0 20.5 1.63 116 115 33.0 272 18.6 8.90 716 47.0 93.0 1.63 116 115 33.0 272 18.6 8.90 10.3 41.0 7.80 1.63 41.0 7.80 1.63 41.0 7.80 1.63 3.10 91.0 1.63 1.52 3.80 1.52 3.00 1.52 1.	$\begin{array}{r} 2.3450.01\\ \hline GBW07429\\ \hline Mean\\ \hline 47.6\pm 1.6\\ 2.64\pm 0.04\\ 14.7\pm 0.5\\ 116\pm 1\\ 84.0\pm 1.2\\ 17.4\pm 0.4\\ 41.9\pm 0.9\\ 38\pm 0.8\\ 88.6\pm 2.1\\ 20.4\pm 0.5\\ 1.74\pm 0.07\\ 114\pm 1\\ 116\pm 1\\ 36.2\pm 0.8\\ 274\pm 6\\ 18.2\pm 0.3\\ 8.40\pm 0.13\\ 690\pm 10\\ 44.6\pm 0.6\\ 92.3\pm 1.4\\ 10.2\pm 0.2\\ 38.9\pm 1.0\\ 7.05\pm 0.16\\ 1.03\pm 0.03\\ 6.16\pm 0.15\\ 1.23\pm 0.03\\ 3.56\pm 0.10\\ 0.53\pm 0.02\\ 3.43\pm 0.11\\ 0.51\pm 0.02\\ 7.09\pm 0.19\\ 1.32\pm 0.02\\ 38.7\pm 1.6\\ 15.3\pm 0.03\\ 3.32\pm 0.05\\ \end{array}$	RSD (%) 3.34 1.45 3.42 0.89 1.37 2.12 2.04 2.04 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.04 2.34 2.05 2.61 2.09 2.61 2.09 2.61 2.09 2.61 2.01 1.74 2.25 2.50 2.69 2.67 3.06 3.00 2.73 4.19 1.73 4.19 1.73

Note: Recommended values by Wang Yimin (2003) and the website of chemical metrology and analytcial science division, National Institute of Metrology (http://www.ncrm.org.cn/English/Home/Index.aspx).

	GBW03	101	GBW03	102	GBW03	102a	GBW03103	
Element	Mean±S	RSD (%)	Mean±S	RSD (%)	Mean±S	RSD (%)	Mean±S	RSD (%)
⁷ Li	25.8±2.3	8.95	101±4	4.39	131±4	3.31	36.5±0.6	1.55
⁹ Be	3.46±0.07	2.12	4.90±0.21	4.38	10.6±0.3	2.85	2.12±0.04	1.94
⁴⁵ Sc	16.2±1.1	6.52	0.51±0.04	7.71	0.56±0.02	4.19	11.7±0.2	1.78
⁵¹ V	154±1	0.84	1.19±0.05	4.43	2.45±0.07	2.78	78.3±0.8	0.95
⁵³ Cr	69.4±2.1	3.09	14.3±0.94	6.59	3.06±0.47	15.42	62.3±0.7	1.16
⁵⁹ Co	15.3±0.8	5.24	0.96±0.04	4.60	0.90±0.06	6.29	13.0±0.3	2.25
⁶⁰ Ni	42.0±1.0	2.27	1.59±0.09	5.94	8.71±0.63	7.23	31.6±0.7	2.04
⁶⁵ Cu	249±4	1.69	4.67±0.27	5.88	2.10±0.06	2.76	25.6±0.8	3.08
⁶⁶ Zn	528±8	1.59	10.8±0.26	2.44	10.7±0.2	2.26	64.3±1.8	2.77
⁷¹ Ga	31.7±1.4	4.32	21.6±1.66	7.69	18.1±0.5	2.87	16.6±0.3	1.96
⁷⁴ Ge	2.15±0.08	3.62	3.07±0.20	6.47	2.64±0.12	4.39	1.50±0.05	3.34
⁸⁵ Rb	87.2±1.8	2.03	2.24±0.78	4.00	55.8±1.0	1.83	98.0±1.3	1.36
⁸⁸ Sr	79.5±2.0	2.47	14.6±0.78	5.32	119±2	1.72	167±2	1.28
⁸⁹ Y	22.6±0.9	3.96	11.0±1.27	11.58	17.51.6±	8.95	26.2±0.6	2.12
⁹⁰ Zr	155±2	1.53	13.9±1.21	8.65	32.6±1.7	5.14	227±7	3.15
⁹³ Nb	16.1±0.2	1.43	2.2±0.08	3.68	2.80±0.16	5.61	13.0±0.3	2.13
¹³³ Cs	11.3±0.3	2.17	32.4±0.73	2.26	39.6±0.6	1.42	6.55±0.13	2.04
¹³⁵ Ba	206±7	3.40	252±11.3	4.47	211±6	2.87	512±8	1.60
¹³⁹ La	57.1±1.1	1.93	13.0±1.30	10.01	15.2±0.7	4.24	33.5±0.8	2.25
¹⁴⁰ Ce	114±8	7.12	20.4±1.57	7.71	30.4±1.2	3.83	66.5±1.2	1.80
¹⁴¹ Pr	11.1±0.3	2.89	2.41±0.26	10.95	3.03±0.13	4.35	7.62±0.15	1.91
¹⁴⁶ Nd	39.2±1.3	3.18	8.06±0.78	9.70	10.2±0.6	6.08	29.1±1.0	3.32
¹⁴⁷ Sm	6.49±0.20	3.10	1.72±0.09	5.26	2.32±0.13	5.64	5.58±0.15	2.77
¹⁵¹ Eu	1.36±0.04	2.82	0.96±0.07	7.73	1.69±0.11	6.29	1.17±0.03	2.36
¹⁵⁷ Gd	5.44±0.20	3.67	2.34±0.18	7.52	2.86±0.20	7.11	5.15±0.13	2.45
¹⁵⁹ Tb	0.75±0.03	4.33	0.42±0.04	9.77	0.51±0.03	6.74	0.75±0.02	2.76
¹⁶¹ Dy	4.25±0.17	3.90	1.92±0.20	10.51	3.23±0.26	8.06	4.45±0.09	2.09
¹⁶⁵ Ho	0.81±0.03	3.90	0.34±0.04	11.75	0.60±0.05	8.55	0.88±0.02	2.56
¹⁶⁶ Er	2.32±0.07	3.19	0.89±0.08	8.82	1.53±0.14	8.80	2.57±0.07	2.59
¹⁶⁹ Tm	$0.34{\pm}0.02$	4.60	0.12±0.01	8.43	0.20±0.02	8.87	0.39±0.01	2.63
¹⁷² Yb	2.20±0.10	4.49	0.65±0.07	11.40	1.05 ± 0.08	7.82	2.51±0.06	2.54
¹⁷⁵ Lu	0.32±0.01	4.52	0.09±0.01	7.68	0.15±0.02	10.41	0.38±0.01	3.98
¹⁷⁸ Hf	4.33±0.08	1.96	0.45±0.03	7.42	0.96±0.07	7.22	5.73±0.21	3.67
¹⁸¹ Ta	1.10±0.03	2.42	0.75±0.04	5.24	0.82±0.06	7.94	0.95±0.03	3.39
²⁰⁸ Pb	994±12	1.23	113±3	2.28	101±3	3.23	22.9±0.7	3.16
²³² Th	17.1±0.4	2.39	4.71±0.36	7.57	6.45±0.48	7.37	11.3±0.1	1.24
²³⁸ U	5.38±0.14	2.60	4.47±0.23	5.09	3.54±0.16	4.55	2.09±0.06	2.98

Table 4 Analytical results for four Chinese clay reference materials (*n*=6; Data are in µg·g⁻¹)

4 Conclusions

Our results show that analytical uncertainty probably reflects the existence of a coarser-grained fraction (>70 μ m) in samples, but also is mainly due to the formation of fluorides in Al-rich samples during sample decomposition by using the mixture of HF and HNO₃ acids.

The results for Chinese soil reference materials determined in this study are in good agreement with the recommended or suggested values, except the values for Cs, Ta, Li, Ge, Zn, Nd, Tb and Ta which need to be revised. Moreover, thirty-seven trace elements covering the mass range from Li to U in four Chinese clay reference materials were firstly provided with good precision and accuracy. Acknowledgements This research work was financially supported by the National Natural Science Foundation of China (41272004) and the MOST Special Funds from the State Key Laboratory of Continental Dynamics. The authors are grateful to Prof. Qi Liang for his constructive review.

References

- Hu Zhaochu, Gao Shan, LiuYongsheng, Hu Shenghong, Zhao Laishi, Li Yanxiang, and Wang Qi (2010) NH4F assisted high pressure digestion of geological samples for multi-element analysis by ICP-MS [J]. *Journal of Analytical Atomic Spectrometry*. 25, 408–413.
- Hu Shenghong, Chen Aifang, and Lin Shoulin (2000) ICP-MS analitical research into 40 trace and ultra-trafic elements in geological samples
 [J]. *Earth Science—Journal of China University of Geosciences*.
 25,186–190 (in Chinese with English abstract).
- Jenner G.A., Longerich H.P., Jackson S.E., and Fryer B.J. (1990) ICP-MS A powerful tool for high-precision trace-element analysis in Earth sciences: Evidence from analysis of selected U.S.G.S. reference samples [J]. *Chemical Geology*. 83,133–148.
- Li Bing and Yang Hongxia (2003) Applications of ctively coupled plasma mass spectrometry in earth science [J]. *Earth Science Frontier*. **10**, 367–378 (in Chinese with English abstract).
- Li Bing and Yi Ming (1995) Advances in inductively coupled plasma-mass spectrometry [J]. *Rock and Mineral Analysis*. **4**, 254–273 (in Chinese

with English abstract).

- Liu Ye, Liu Xiaoming, Hu Zhaochu, Diwu Chunrong, Yuan Honglin, and Gao Shan (2007) Evaluation of accuracy and long-term stability of determination of 37 trace elements in geological samples by ICP-MS
 [J]. Acta Petrologica Sinica. 5, 1203–1210 (in Chinese with English abstract).
- Liu Ying, Liu Haichen, and Li Xianhua (1996) Simultaneous and precise determination of 40 trace elements in rock samples using ICP-MS [J]. *Geochimica*. 25, 552–558 (in Chinese with English abstract).
- Qi Liang, Hu Jing, and Gregoire D.C. (2000) Determination of trace elements in granites by inductively coupled plasma mass spectrometry [J]. *Talanta*. 51, 507–513.
- Rollinson H. (1993) Using Geochemical Data: Evaluation, Presention, Interpretation [M]. Longman Scientific & Technical, London.
- Rudnick R.L. and Gao Shan (2003) Composition of the continental crust [M]. In *Treatise on Geochemistry* (eds. Heinrich D.H. and Karl K.T.). pp.1–64. Pergamon, Oxford,
- Takei H., Yokoyama T., Makishima A., and Nakamura E. (2001) Formation and suppression of AIF3 during HF digestion of rock samples in Teflon bomb for precise trace element analyses by ICP-MS and ID-TIMS [J]. Proceedings of the Japan Academy (Series B), 77B, 13–17.
- Wang Yimin (2003) Practical Handbook of Reference Materials for Geoanalysis [M]. Geological Publishing House, Beijing (in Chinese).
- Zhang Wen, Hu Zhaochu, Liu Yongsheng, Chen Haihong, Gao Shan, and Richard M. Gaschnig (2012) Total rock dissolution using ammonium bifluoride (NH₄HF₂) in screw-top teflon vials: A new development in open-vessel digestion [J]. *Analytical Chemistry*. 84, 10686–10693.