

Supplementary data for the article:

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Supplementary data

Metal accumulation capacity of Parasol Mushroom (*Macrolepiota procera*) from Rasina region (Serbia)

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Table A. Results of determination of elements in reference material ERM-CD281

Element	ERM-CD281 (rye grass)	
	Certified value \pm uncertainty* (mg/kg)	Found value \pm uncertainty (mg/kg)
Cd	0.120 \pm 0.007	0.12 \pm 0.01
Cr	24.8 \pm 1.3	25.0 \pm 0.2
Cu	10.2 \pm 0.5	10.3 \pm 0.3
Pb	1.67 \pm 0.11	1.78 \pm 0.05
Mn	82 \pm 4	78 \pm 7
Ni	15.2 \pm 0.11	15.3 \pm 0.2
Zn	30.5 \pm 1.1	30.0 \pm 0.7
	Additional material information (g/kg)	Found value (g/kg)
Fe	0.18	0.1811

* Uncertainty for 95 % confidence level (coverage factor k = 2)

Table B. Results of determination of elements in reference material BCR -701 (lake sediment)

Element	BCR [®] - 701 (Lake sediment)	
	Certified value ± uncertainty* (mg/kg)	Found value ± uncertainty (mg/kg)
Step 1		
Cd	7.3 ± 0.4	7.21 ± 0.45
Cr	2.26 ± 0.16	2.15 ± 0.19
Cu	49.3 ± 1.7	48.2 ± 1.9
Ni	15.4 ± 0.9	14.0 ± 1.2
Pb	3.18 ± 0.21	3.20 ± 0.25
Zn	205 ± 6	188 ± 13
Step 2		
Cd	3.77 ± 0.28	3.73 ± 0.31
Cr	45.7 ± 2.0	47.2 ± 2.5
Cu	124 ± 3	130 ± 5
Ni	26.6 ± 1.3	28.2 ± 1.9
Pb	126 ± 3	127 ± 5
Zn	114 ± 5	125 ± 10
Step 3		
Cd	0.27 ± 0.06	0.20 ± 0.09
Cr	143 ± 7	147 ± 9
Cu	55 ± 4	57 ± 6
Ni	15.3 ± 0.9	16.0 ± 1.1
Pb	9.3 ± 2.0	9.2 ± 1.4
Zn	46 ± 4	49 ± 7

*Uncertainty for 95 % confidence level

Table C. Instrument operating conditions for determination

Spectrometar	iCAP 6500 Thermo scientific
Nebulizer	Concentric
Spray chamber	Cyclonic
Radio frequency power (W)	1150
Principal argon flow rate (L/min)	12
Auxiliary argon flow rate (L/min)	0.5
Nebulizer flow rate (L/min)	0.5
Sample flow rate (ml/min)	1.0
Detector	CID86
Selected wavelenghts (nm)	Fe (259.9), Al (167.0), Cr (267), Mn (259.3), Co (228.6), Ni (231.6), Cu (324.7), Zn (213.8), Sr (407.7), Ti (334.9), Cd (226.5), Ba (455.4), Pb (216.9)

Table D. Measured isotopes and instrument operating conditions for determination

Rf power (W)	1548
Gas flows (L/min)	13.9: 1.09; 0.8
Acquisition time	3 x 50 s
Points per peak	3
Dwell time (ns)	10
Detector mode	Pulse
Replicates	3
Measured isotope	²⁷ Al, ⁴⁸ Ti, ⁵² Cr, ⁵⁵ Mn, ⁵⁶ Fe, ⁵⁹ Co, ⁶⁰ Ni, ⁶⁵ Cu, ⁶⁶ Zn, ⁸⁸ Sr, ¹¹¹ Cd, ¹³⁷ Ba, ²⁰⁸ Pb

Table E . Water contents in caps and stipes

Sample serial number	Water content (%)		Sample serial number	Water content (%)	
	Cap	Stipe		Cap	Stipe
1	93.7	94.1	24	68.2	64.8
2	92.4	91.7	25	79.7	80.1
3	93.5	94.2	26	85.4	86.5
4	93.5	92.7	27	87.6	89.6
5	94.7	94.7	28	87.0	86.4
6	80.3	85.9	29	80.9	90.3
7	82.0	90.1	30	83.1	89.3
8	77.0	86.1	31	89.2	87.9
9	87.8	89.1	32	84.3	86.4
10	83.4	81.9	33	91.0	89.0
11	84.4	87.6	34	77.8	86.0
12	83.4	86.0	35	24.8	26.9
13	71.5	85.7	36	33.6	29.0
14	80.5	79.3	37	24.6	39.4
15	73.4	75.1	38	23.7	45.8
16	69.9	83.5	39	80.8	87.1
17	43.7	76.6	40	41.8	47.3
18	49.5	62.6	41	35.5	27.4
19	83.5	81.5			
20	63.9	78.5			
21	60.6	78.1			
22	74.6	89.6			
23	73.5	89.9			

Table F. Kruskal-Wallis test applied on the results of *Macrolepiota procera* from diverse geographical origin. Site S1 (I); S2 (II); S3 (III); S4 (IV) and S5 (V)

	Caps			Stipes		
	Chi square ^a	P	Z-value ^b	Chi square	P	Z-value
Al	15.87	0.0032	I(II,V) II(I,III-V)	10.58	0.0317	I(II,V)
Ba	11.92	0.0179	I(II-V)	8.27	0.0820	-
Cd	23.51	<0.0001	V(I,III,IV)	20.72	0.0004	II(I,III,IV) V(I,III,IV)
Co	20.52	0.0004	II(I) V(I,III,IV)	12.68	0.0129	V(I,III,IV)
Cr	12.78	0.0124	I(II-V)	8.63	0.0710	-
Cu	13.88	0.0077	I(II,IV,V) III(V)	12.92	0.0117	I(II,IV,V)
Fe	15.28	0.00411	I(II-V) II(I,V)	11.60	0.0206	I(II,IV,V)
Mn	9.73	0.0453	I(III,V)	4.99	0.2874	-
Ni	17.40	0.0016	I(II,III,V) II(I,V)	10.53	0.0324	I(III-V)
Pb	18.11	0.0012	I(II-V) III(I,V)	10.60	0.0315	I(II,III,V)
Sr	15.68	0.0035	I(II-V) II(I,V)	9.01	0.0608	-
Ti	12.96	0.0115	I(II-V)	9.61	0.0474	I(II,IV,V)
Zn	22.78	0.0001	I(II-IV) V(II-IV)	21.51	0.0003	I(II-IV) V(II-IV)

^a $\chi^2_{cr(df(4);\alpha=0.05)} = 9.49$

^b Regular test: Medians significantly different if z-value > 1.9600

Table G. Element concentrations in soil substrate (mean ± standard deviation and range)

Element	Soil sample		F1(µg/g)	F2(µg/g)	F3(µg/g)	R(µg/g)	BCR+R (µg/g)	Pseudo-total (µg/g)	R (%)	
Al	Site 1	Mean±SD	57.3±12.2	1058±139	4434±361	3303±581	8852±871	10229±1034	86.6±1.3	
		Range	48.9-78.4	930-1284	3821-4706	2481-3981	7428-9665	8616-11312	85.4-88.9	
	Site 2	Mean±SD	63.8±36.8	901±107	3823±107	2020±830	6807±981	7557±1392	90.6±4.1	
		Range	34.0-115	801-1051	3731-3970	1002-2699	5601-7831	5822-9062	86.4-96.2	
	Site 3	Mean±SD	50.0±6.7	1247±304	3856±648	2165±299	7308±1258	8225±1921	89.5±5.6	
		Range	36.3-45.7	1031-1462	3398-4314	1953-2376	6419-8198	6867-8225	85.5-93.5	
	Site 4	Mean±SD	49.8±10.4	701±162	3773±247	2009±75	6533±277	6697±687	98.6±12.8	
		Range	37.6-67.2	510-903	3546-4117	1917-2137	6093-6872	5856-7709	85.4-115.4	
	Site 5	Mean±SD	40.0±13.0	1114±173	4334±643	3322±766	8810±1245	10074±1257	87.3±1.9	
		Range	11.0-52.8	835-1418	3389-5986	2776-4975	7433-11726	8577-12985	85.0-90.7	
	Ba	Site 1	Mean±SD	17.8±5.9	66.0±11.8	2.15±0.34	18.8±4.5	105±13	104±10	100.2±5.0
			Range	15.1-28.4	57.4-85.4	1.6-2.5	10.9-21.4	95.2-127	92.4-119	93.-106.4
Site 2		Mean±SD	22.1±6.9	120±27	3.5±1.5	6.54±0.47	152±35	142±37	107.1±3.8	
		Range	15.9-32.0	92-152	2.1-5.2	6.0-7.1	116-196	109-191	103-112	
Site 3		Mean±SD	15.2±3.1	92.4±20.2	2.16±0.42	5.8±1.0	115.6±24.7	105.8±13.9	108.7±9.1	
		Range	13.1-17.4	78.1-107	1.9-2.5	5.1-6.5	98.1-133	96.0-116	102.2-115.1	
Site 4		Mean±SD	18.9±3.3	114.4±14.1	3.3±1.6	10.1±3.3	146.7±21.2	131.5±19.5	111.6±2.4	
		Range	15.0-23.7	98.3-135.7	2.1-5.7	4.9-14.4	120-177	107-159	108-114	
Site 5		Mean±SD	22.3±9.5	79.1±17.3	2.05±0.87	8.0±3.6	111.5±29.7	104.1±28.1	107.6±4.9	
		Range	2.7-34.1	43.9-101	0.34-3.2	1.4-13.0	49-150	42-137	98.6-114.4	
Cd		Site 1	Mean±SD	0.108±0.019	0.109±0.015	0.035±0.003	ND	0.263±0.030	0.274±0.036	96.1±4.9
			Range	0.084-0.13	0.087-0.12	0.032-0.040		0.22-0.29	0.23-0.32	91.2-104.0
	Site 2	Mean±SD	0.120±0.019	0.25±0.10	0.030±0.004	ND	0.41±0.11	0.46±0.13	89.7±2.6	
		Range	0.099-0.145	0.16-0.38	0.025-0.034		0.30-0.56	0.34-0.62	87.0-92.8	
	Site 3	Mean±SD	0.105±0.004	0.204±0.007	0.035±0.001	ND	0.354±0.012	0.404±0.015	87.6±0.2	
		Range	0.10-0.11	0.20-0.21	0.034-0.036		0.35-0.36	0.39-0.41	87.4-87.8	
	Site 4	Mean±SD	0.116±0.020	0.33±0.14	0.027±0.008	ND	0.48±0.16	0.50±0.15	95.6±8.1	
		Range	0.090-0.141	0.18-0.49	0.017-0.039		0.31-0.68	0.35-0.70	87.8-109	
	Site 5	Mean±SD	0.108±0.036	0.192±0.051	0.035±0.009	ND	0.345±0.081	0.360±0.094	96.4±8.1	
		Range	0.049-0.15	0.15-0.30	0.022-0.048		0.24-0.49	0.25-0.54	87.7-110.9	
	Co	Site 1	Mean±SD	1.41±0.19	8.2±3.3	1.38±0.13	2.51±0.37	13.5±3.1	14.8±1.9	90.5±8.4
			Range	1.2-1.7	5.9-14.1	1.2-1.5	2.0-3.0	11.1-18.9	13.0-18.0	85.1-105.3
Site 2		Mean±SD	0.63±0.30	5.6±1.6	1.77±0.45	2.17±0.44	10.1±2.6	11.4±3.0	89.5±3.2	
		Range	0.36-1.06	3.6-7.0	1.3-2.2	1.6-2.7	7.0-12.7	7.8-14.7	85.9-93.6	
Site 3		Mean±SD	0.524±0.033	6.70±0.82	1.24±0.11	2.340±0.014	10.8±1.0	11.8±1.5	91.6±3.7	
		Range	0.50-0.55	6.1-7.3	1.2-1.3	2.3-2.4	10.1-11.5	10.7-12.9	89.0-94.2	

	Site 4	Mean±SD	0.60±0.22	6.1±1.6	1.64±0.29	0.17±0.22	8.5±1.8	9.8±2.2	87.0±1.5
		Range	0.26-0.85	4.0-8.6	1.4-2.2	0.014-0.57	5.8-10.9	6.7-12.8	85.2-89.4
	Site 5	Mean±SD	0.94±0.24	16.1±5.9	1.49±0.53	2.6±1.5	21.1±7.4	22.4±7.3	93.8±9.9
		Range	0.55-1.4	9.9-25.4	0.74-2.6	0.98-5.5	12.2-30.6	13.3-35.5	85.7-113.9
Cr	Site 1	Mean±SD	0.196±0.065	1.03±0.30	11.3±1.1	30.9±2.2	43.4±1.6	42.9±4.8	102.1±10.1
		Range	0.16-0.31	0.84-1.56	9.4-12.2	27.0-32.2	41.1-44.8	35.6-46.6	91.2-115.3
	Site 2	Mean±SD	0.39±0.09	0.70±0.25	10.1±1.0	8.0±1.5	19.2±2.2	21.6±2.7	89.0±4.2
		Range	0.31-0.51	0.41-0.93	8.9-11.1	6.1-9.5	16.6-22.1	18.8-25.2	85.1-95.0
	Site 3	Mean±SD	0.190±0.001	0.554±0.032	6.28±0.68	6.92±0.42	13.9±1.1	16.2±1.2	86.0±0.7
		Range	0.189-0.191	0.53-0.58	5.8-6.8	6.6-7.2	13.1-14.7	15.4-17.0	85.5-86.5
	Site 4	Mean±SD	0.24±0.05	0.44±0.16	8.0±1.8	8.5±3.1	17.2±3.4	18.2±4.6	95.7±10.4
		Range	0.18-0.30	0.25-0.64	5.8-10.1	4.4-12.3	14.3-23.3	14.1-26.7	87.1-115.0
	Site 5	Mean±SD	0.21±0.18	1.13±0.41	14.8±9.6	54.2±37.5	70.4±46.7	79.2±54.6	90.2±5.4
		Range	0.089-0.76	0.61-1.9	6.3-37.2	19.4-128.2	27.9-168	31.6-192	85.6-103.1
Cu	Site 1	Mean±SD	0.92±0.41	8.54±0.89	2.80±0.26	9.5±1.0	21.7±1.7	21.8±2.7	100.1±6.6
		Range	0.50-1.52	7.2-9.4	2.5-3.1	7.6-10.2	18.8-22.7	17.5-24.7	91.9-107.8
	Site 2	Mean±SD	3.5±1.3	8.7±1.8	1.27±0.72	7.6±1.6	21.1±2.3	23.3±1.2	90.4±6.0
		Range	2.1-5.2	6.9-10.2	0.64-2.3	6.4-10.0	18.4-23.5	22.2-24.9	82.7-96.0
	Site 3	Mean±SD	10.32±0.58	3.6±1.7	1.10±0.03	9.2±0.3	24.2±2.5	23.2±2.2	104.2±1.0
		Range	9.9-10.7	2.4-4.8	1.08-1.12	9.0-9.4	22.4-26.0	21.7-24.8	103.5-104.9
	Site 4	Mean±SD	2.6±0.7	8.1±0.6	0.56±0.33	11.8±2.1	23.2±2.4	22.8±1.0	101.5±7.9
		Range	1.8-3.5	7.5-9.2	0.27-1.1	8.9-14.2	18.7-25.6	20.8-23.6	89.5-111.7
	Site 5	Mean±SD	1.59±0.55	8.55±0.57	3.3±1.2	18.3±6.1	31.7±7.1	33.3±8.0	96.0±8.8
		Range	0.98-2.68	7.5-9.4	1.8-6.3	10.7-27.4	23.1-42.7	24.4-46.9	85.6-109.1
Fe	Site 1	Mean±SD	7.2±1.9	927±292	717±110	14308±934	15959±619	18224±1093	87.7±2.9
		Range	5.3-9.7	703-1406	620-900	12934-15171	15018-16544	16910-19340	85.5-92.7
	Site 2	Mean±SD	9.4±5.7	840±110	1590±532	11859±2677	14298±2428	16094±3063	89.1±2.4
		Range	4.0-17.4	706-937	857-2100	8503-14612	11317-17153	12276-19514	86.6-92.2
	Site 3	Mean±SD	5.5±2.3	838±58	1076±170	13590±2944	15508±3174	17365±3744	89.4±1.0
		Range	3.8-7.1	796-879	956-1196	11508-15671	13264-17753	14717-20012	88.7-90.1
	Site 4	Mean±SD	6.2±1.8	702±185	1333±416	13413±2949	15454±2730	15581±2894	99.6±7.5
		Range	4.3-9.3	477-932	914-1966	9722-17197	12226-19309	11291-19922	91.4-108.3
	Site 5	Mean±SD	3.2±1.4	1330±239	924±224	20562±4681	22819±4985	26043±6063	87.9±3.5
		Range	2.1-6.6	1075-1888	490-1365	17393-31343	19372-34598	19585-40156	85.1-98.9
Mn	Site 1	Mean±SD	210±151	362±76	26.9±4.6	84.5±12.0	683±237	711±267	97.2±9.4
		Range	134-480	303-488	20.5-33.0	68.5-101.6	553-1103	502-1172	87.0-112.1
	Site 2	Mean±SD	578±197	1305±489	41.3±11.4	24.3±4.7	1949±650	1927±570	100.2±6.2
		Range	292-720	843-1990	31.0-54.5	17.8-28.8	1196-2764	1304-2646	91.7-105.2
	Site 3	Mean±SD	326±14	980.9±90.7	31.1±1.3	25.8±0.2	1364±103	1391±124	98.1±1.3

		Range	316-336	917-1045	30.1-32.0	25.7-26.0	1291-1437	1303-1478	97.2-99.1
	Site 4	Mean±SD	511±127	1427±377	26.5±4.0	39.1±12.3	2003±493	1840±366	108.1±7.3
		Range	398-675	977-1857	20.4-31.4	25.8-56.2	1442-2590	1367-2304	98.3-117.7
	Site 5	Mean±SD	171±46	1128±541	437±151	146±22	1883±632	1704±542	110.1±4.9
		Range	106-289	535-2266	254-902	109-182	1116-3096	1104-2682	101.1-116.2
Ni	Site 1	Mean±SD	8.32±0.92	11.2±2.0	6.29±0.99	21.7±3.1	47.5±4.7	52.0±8.0	92.1±7.7
		Range	7.3-9.5	8.1-13.3	5.0-7.4	16.9-25.1	42.1-51.6	40.4-59.1	87.3-105.9
	Site 2	Mean±SD	3.05±0.57	3.40±0.60	7.3±2.9	13.3±2.0	27.1±4.5	31.1±5.7	87.4±2.0
		Range	2.2-3.5	2.9-4.2	5.5-11.6	10.7-15.0	21.6-32.7	24.2-37.9	85.1-89.3
	Site 3	Mean±SD	3.13±0.62	3.24±0.74	3.90±0.85	11.1±3.8	21.4±6.0	24.9±7.0	85.9±0.3
		Range	2.7-3.6	2.7-3.8	3.3-4.5	8.5-13.8	17.2-25.6	19.9-29.8	85.7-86.1
	Site 4	Mean±SD	3.00±0.82	2.69±0.92	4.3±1.2	11.3±4.9	21.3±5.1	23.5±6.2	91.0±4.2
		Range	1.9-4.3	1.2-3.9	2.9-5.8	6.4-16.9	17.3-28.5	18.7-31.7	85.8-97.6
	Site 5	Mean±SD	3.6±1.8	8.2±5.7	13.0±5.4	23.6±12.1	48.3±23.7	54.6±28.0	89.5±5.4
		Range	1.6-7.2	2.8-21.3	5.4-22.3	10.9-46.2	24.2-97.0	26-113	85.4-101.9
Pb	Site 1	Mean±SD	0.225±0.054	14.8±5.1	1.7±1.4	6.6±1.6	23.3±6.3	25.7±4.3	89.5±8.5
		Range	0.16-0.29	11.3-23.7	0.85-4.1	5.5-9.4	18.7-34.2	21.9-32.6	85.2-104.6
	Site 2	Mean±SD	0.49±0.11	14.2±1.3	4.8±2.4	6.8±1.6	26.3±2.7	29.6±4.3	89.0±4.4
		Range	0.38-0.65	12.9-15.9	1.9-7.0	5.1-9.1	23.2-29.5	24.4-34.6	85.2-95.3
	Site 3	Mean±SD	0.62±0.09	15.6±0.5	3.23±0.04	5.30±0.35	24.8±0.8	27.3±0.1	90.6±2.6
		Range	0.56-0.69	15.2-16.0	3.21-3.26	5.05-5.54	24.2-25.4	27.2-27.4	88.8-92.4
	Site 4	Mean±SD	0.47±0.19	17.8±2.8	7.2±3.6	11.4±4.4	36.8±8.2	41.4±11.2	90.0±6.5
		Range	0.32-0.76	14.2-21.2	3.8-12.0	5.4-18.4	27.2-47.2	28.4-55.3	85.0-100.0
	Site 5	Mean±SD	0.23±0.11	17.7±5.8	1.03±0.55	8.3±3.8	27.3±9.6	30.4±10.4	90.0±3.6
		Range	0.045-0.48	7.1-29.2	0.045-1.9	0.51-12.5	7.8-42.2	8.1-44.3	85.6-96.5
Sr	Site 1	Mean±SD	5.92±0.51	5.61±0.54	0.190±0.057	0.444±0.050	12.2±1.1	13.15±0.67	92.5±5.8
		Range	5.5-6.7	5.1-6.3	0.11-0.25	0.39-0.52	11.3-13.7	12.3-13.8	85.0-100.6
	Site 2	Mean±SD	10.3±2.8	11.9±4.3	0.47±0.22	1.08±0.05	23.7±7.2	23.5±8.3	101.9±5.2
		Range	8.1-14.0	7.2-17.1	0.20-0.68	1.0-1.1	16.8-32.8	16.4-34.2	95.7-108.3
	Site 3	Mean±SD	10.3±0.2	11.4±0.0	0.32±0.01	0.91±0.05	22.9±0.2	22.2±0.7	103.4±4.2
		Range	10.1-10.4	11.4-11.4	0.31-0.33	0.87-0.94	22.7-23.1	21.7-22.7	100.4-106.4
	Site 4	Mean±SD	12.2±4.2	15.5±5.5	0.46±0.17	0.054±0.016	28.2±9.7	26.3±10.2	108.6±6.3
		Range	7.6-19.3	9.1-22.9	0.26-0.67	0.035-0.081	17.0-42.7	16.2-43.5	98.0-115.0
	Site 5	Mean±SD	7.7±1.8	8.0±5.4	0.192±0.056	0.22±0.29	16.2±6.7	15.9±5.6	99.8±6.4
		Range	4.9-10.7	3.6-21.7	0.13-0.30	0.035-1.0	8.7-31.6	9.2-28.5	89.0-110.8
Ti	Site 1	Mean±SD	0.232±0.048	0.051±0.049	99.7±31.1	274±119	374±140	339±122	109.5±6.2
		Range	0.18-0.31	0.025-0.14	64.2-129	60-333	129-455	122-406	100.4-114.9
	Site 2	Mean±SD	0.33±0.05	0.073±0.076	37.0±16.6	10.4±7.3	47.8±22.3	44.4±20.6	108.7-8.8
		Range	0.26-0.38	0.025-0.19	21.4-60.3	3.5-17.3	25.2-76.7	21.9-67.3	95.9-115.0

	Site 3	Mean±SD	0.26±0.02	0.025±0.000	19.1±0.1	5.6±0.6	25.0±0.8	23.8±0.7	104.9±0.3
		Range	0.25-0.27	0.025-0.025	19.0-19.2	5.1-6.0	24.4-25.5	23.3-24.3	104.7-105.0
	Site 4	Mean±SD	0.29±0.04	0.039±0.031	17.2±2.8	6.6±1.7	24.2±2.8	21.8±2.6	111.1±2.2
		Range	0.23-0.35	0.025-0.10	12.1-20.3	4.6-9.4	20.5-27.4	18.5-24.8	108.0-114.8
	Site 5	Mean±SD	0.20±0.03	0.028±0.012	55.8±31.9	118±131	174±151	160±132	106.7±7.2
		Range	0.17-0.26	0.025-0.069	27.7-148.1	24-492	55-566	55-498	93.8-114.4
Zn	Site 1	Mean±SD	2.47±0.37	3.58±0.79	13.3±1.3	28.9±3.7	48.3±4.0	54.8±5.4	88.4±2.7
		Range	2.0-2.9	2.5-4.8	11.8-15.1	22.3-31.0	41.6-51.7	45.6-59.2	85.2-91.3
	Site 2	Mean±SD	7.75±0.80	17.3±5.3	6.3±2.6	26.4±6.3	57.8±11.5	64.4±11.6	89.7±5.8
		Range	6.6-8.5	10.2-22.0	2.5-8.3	20.6-35.0	46.2-72.7	54.0-81.0	85.5-97.9
	Site 3	Mean±SD	9.3±4.0	15.0±3.4	4.9±1.4	21.3±4.8	50.5±13.6	57.3±15.3	88.1±0.1
		Range	6.5-12.2	12.6-17.5	3.9-5.8	17.9-24.6	40.9-60.1	46.5-68.1	88.0-88.2
	Site 4	Mean±SD	6.9±2.0	14.6±5.6	4.0±1.7	24.5±6.5	50.0±9.6	55.7±9.9	89.6±2.7
		Range	4.2-9.4	9.1-24.2	2.2-6.2	17.5-33.2	41.5-67.6	47.3-74.6	85.4-92.9
	Site 5	Mean±SD	3.19±0.74	5.6±2.6	17.9±10.6	37.2±10.2	63.9±20.4	69.6±16.3	90.8±8.0
		Range	1.6-4.4	3.5-12.2	10.3-51.7	23.9-63.1	43.8-125	47.7-118	85.2-106.3

Table H. Calculated TF and BCF values (mean \pm standard deviation, median values and range)

Element	Matrix		Site 1 n = 5	Site 2 n = 4	Site 3 n = 4	Site 4 n = 6	Site 5 n = 22
Al	TF	Mean \pm SD	1.6 \pm 1.3	0.34 \pm 0.33	0.26 \pm 0.18	0.55 \pm 0.35	0.75 \pm 0.81
		Median	1.6	0.23	0.23	0.47	0.35
		Range	0.14-3.0	0.090-0.82	0.075-0.50	0.099-1.0	0.029-3.1
	BCF _{C-} pseudotot	Mean \pm SD	0.15 \pm 0.11	0.0056 \pm 0.0033	0.021 \pm 0.012	0.057 \pm 0.071	0.027 \pm 0.030
		Median	0.19	0.0046	0.023	0.028	0.011
		Range	0.024-0.258	0.0032-0.0103	0.0069-0.0309	0.012-0.20	0.0032-0.090
	BCF _{S-} pseudotot	Mean \pm SD	0.17 \pm 0.14	0.029 \pm 0.022	0.14 \pm 0.18	0.095 \pm 0.060	0.082 \pm 0.145
		Median	0.12	0.028	0.067	0.093	0.034
		Range	0.048-0.41	0.0043-0.056	0.028-0.41	0.027-0.19	0.0038-0.62
	BCF _{C-} I +II+III	Mean \pm SD	0.29 \pm 0.21	0.0083 \pm 0.0033	0.033 \pm 0.018	0.087 \pm 0.110	0.049 \pm 0.055
		Median	0.36	0.0073	0.036	0.038	0.020
		Range	0.043-0.51	0.0057-0.013	0.011-0.048	0.020-0.30	0.0058-0.17
	BCF _{S-} I +II+III	Mean \pm SD	0.31 \pm 0.26	0.043 \pm 0.030	0.22 \pm 0.28	0.143 \pm 0.093	0.15 \pm 0.27
		Median	0.23	0.046	0.11	0.13	0.060
		Range	0.085-0.75	0.0076-0.071	0.046-0.64	0.034-0.29	0.0073-1.2
Ba	TF	Mean \pm SD	1.3 \pm 1.0	0.29 \pm 0.30	0.28 \pm 0.21	0.29 \pm 0.17	0.76 \pm 1.2
		Median	1.5	0.21	0.25	0.24	0.33
		Range	0.22-2.4	0.065-0.69	0.11-0.52	0.084-0.52	0.046-5.7
	BCF _{C-} pseudotot	Mean \pm SD	0.110 \pm 0.074	0.0050 \pm 0.0034	0.0105 \pm 0.0037	0.014 \pm 0.015	0.019 \pm 0.019
		Median	0.12	0.0048	0.0098	0.0085	0.011
		Range	0.021-0.19	0.0017-0.0086	0.0073-0.0151	0.0036-0.044	0.0018-0.069
	BCF _{S-} pseudotot	Mean \pm SD	0.104 \pm 0.045	0.024 \pm 0.012	0.057 \pm 0.042	0.044 \pm 0.022	0.068 \pm 0.113
		Median	0.082	0.022	0.052	0.037	0.036
		Range	0.076-0.18	0.012-0.040	0.014-0.11	0.022-0.084	0.0035-0.50
	BCF _{C-} I +II+III	Mean \pm SD	0.135 \pm 0.092	0.0048 \pm 0.0032	0.0102 \pm 0.0039	0.013 \pm 0.014	0.019 \pm 0.019
		Median	0.16	0.0048	0.0092	0.0082	0.010
		Range	0.021-0.24	0.0017-0.0081	0.0071-0.016	0.0037-0.041	0.0017-0.071
	BCF _{S-} I +II+III	Mean \pm SD	0.131 \pm 0.069	0.024 \pm 0.012	0.054 \pm 0.037	0.042 \pm 0.020	0.070 \pm 0.118
		Median	0.107	0.022	0.049	0.035	0.038
		Range	0.078-0.25	0.012-0.040	0.014-0.14	0.022-0.078	0.0037-0.52
Cd	TF	Mean \pm SD	2.7 \pm 1.5	5.2 \pm 3.4	2.2 \pm 0.78	2.2 \pm 0.98	2.1 \pm 1.8
		Median	3.3	4.0	2.3	1.8	1.7
		Range	0.47-4.0	2.5-10	1.1-2.9	1.5-4.1	0.66-9.1
	BCF _{C-}	Mean \pm SD	59.6 \pm 56.7	6.5 \pm 6.3	22.0 \pm 11.1	12.3 \pm 2.2	3.5 \pm 1.8

	pseudotot	Median	57.7	5.6	20.2	12.2	3.3
		Range	5.2-136.8	1.1-13.8	11.7-35.9	9.0-14.6	1.2-8.4
	BCF _S - pseudotot	Mean±SD	21.1±15.7	1.80±1.85	10.3±3.1	6.5±2.5	2.1±1.1
		Median	24.2	1.57	11.4	6.6	2.0
		Range	1.2-42.3	0.14-3.9	5.7-12.5	2.7-9.1	0.15-4.8
	BCF _C - I +II+III	Mean±SD	66.7±64.4	7.6±7.5	25.8±13.1	13.2±2.6	3.7±1.9
		Median	63.6	6.5	23.7	13.3	3.4
		Range	5.6-155	1.2-16.2	13.7-42.2	10.2-16.8	1.3-9.3
	BCF _S - I +II+III	Mean±SD	23.5±17.9	2.1±2.2	12.1±3.7	6.9±2.7	2.2±1.1
		Median	27.0	1.8	13.4	7.5	2.2
		Range	1.2-48.1	0.15-4.6	6.7-14.6	3.1-9.3	0.18-4.5
Co	TF	Mean±SD	1.3±0.85	0.50±0.41	0.60±0.22	0.78±0.27	0.50±0.29
		Median	1.0	0.50	0.55	0.83	0.43
		Range	0.35-2.3	0.012-0.56	0.43-0.88	0.46-1.1	0.067-1.3
	BCF _C - pseudotot	Mean±SD	0.22±0.20	0.25±0.16	0.129±0.050	0.20±0.19	0.013±0.011
		Median	0.15	0.25	0.13	0.091	0.0090
		Range	0.061-0.57	ND-0.36	0.073-0.18	0.077-0.50	0.0031-0.039
	BCF _S - pseudotot	Mean±SD	0.25±0.22	0.36±0.41	0.23±0.12	0.25±0.21	0.036±0.044
		Median	0.16	0.24	0.18	0.18	0.024
		Range	0.026-0.50	ND-0.82	0.16-0.42	0.077-0.63	0.0051-0.19
	BCF _C - I +II+III	Mean±SD	0.30±0.28	0.35±0.25	0.180±0.069	0.23±0.21	0.015±0.010
		Median	0.24	0.35	0.19	0.11	0.012
		Range	0.090-0.80	ND-0.53	0.10-0.25	0.077-0.57	0.0029-0.039
	BCF _S - I +II+III	Mean±SD	0.34±0.33	0.52±0.61	0.32±0.17	0.29±0.23	0.041±0.045
		Median	0.17	0.32	0.25	0.21	0.028
		Range	0.039-0.70	ND-1.2	0.22-0.57	0.095-0.70	0.0067-0.18
Cr	TF	Mean±SD	1.5±1.1	0.32±0.078	0.41±0.25	0.62±0.26	0.55±0.43
		Median	1.6	0.32	0.46	0.64	0.49
		Range	0.28-2.7	0.22-0.40	0.070-0.63	0.17-0.91	0.049-1.6
	BCF _C - pseudotot	Mean±SD	0.16±0.11	0.0171±0.0075	0.0382±0.0057	0.045±0.036	0.019±0.020
		Median	0.15	0.016	0.038	0.039	0.011
		Range	0.040-0.30	0.0096-0.027	0.033-0.044	0.011-0.11	0.0026-0.076
	BCF _S - pseudotot	Mean±SD	0.129±0.066	0.055±0.018	0.21±0.28	0.070±0.036	0.053±0.071
		Median	0.10	0.062	0.078	0.061	0.029
		Range	0.076-0.24	0.028-0.067	0.060-0.63	0.039-0.14	0.0032-0.34
	BCF _C - I +II+III	Mean±SD	0.55±0.35	0.032±0.012	0.088±0.014	0.098±0.084	0.093±0.102
		Median	0.57	0.030	0.086	0.081	0.044
		Range	0.10-0.92	0.021-0.048	0.077-0.10	0.027-0.25	0.011-0.34
	BCF _S - I	Mean±SD	0.47±0.34	0.103±0.029	0.50±0.66	0.151±0.088	0.24±0.29

	+II+III	Median	0.35	0.12	0.18	0.13	0.12
		Range	0.24-1.1	0.060-0.12	0.14-1.5	0.062-0.31	0.023-1.3
Cu	TF	Mean±SD	1.1±0.34	0.89±0.35	1.6±0.76	0.99±0.35	0.97±0.68
		Median	1.0	0.88	1.7	0.88	0.68
		Range	0.61-1.6	0.58-1.2	0.67-2.4	0.68-1.6	0.33-3.3
	BCF _{C-} pseudotot	Mean±SD	11.6±6.4	3.37±0.87	7.0±3.5	3.78±0.90	2.9±1.8
		Median	10.6	3.50	5.8	3.7	2.4
		Range	5.9-21.9	2.2-4.2	4.4-12	2.5-5.3	1.2-8.0
	BCF _{S-} pseudotot	Mean±SD	10.9±3.3	4.0±0.9	4.8±1.9	4.1±1.4	3.7±1.6
		Median	11.0	3.7	5.1	4.1	3.9
		Range	5.5-13.7	3.1-5.3	2.2-6.7	2.3-5.8	0.65-6.1
	BCF _{C-} -I +II+III	Mean±SD	20.1±9.4	5.9±1.6	10.8±5.1	7.6±1.6	7.2±4.4
		Median	20.8	5.8	9.0	7.6	6.1
		Range	11.4-34.1	4.5-7.3	7.3-18.0	4.9-9.9	3.2-19.1
BCF _{S-} -I +II+III	Mean±SD	19.1±4.9	6.86±0.98	7.4±3.0	8.4±2.9	8.6±2.9	
	Median	21.4	6.9	7.6	8.5	8.3	
	Range	10.7-23.1	5.8-7.7	3.5-10.8	4.6-12.5	2.1-13.5	
Fe	TF	Mean±SD	1.7±1.5	1.1±1.3	0.35±0.18	0.64±0.36	0.92±0.93
		Median	1.7	0.46	0.37	0.67	0.61
		Range	0.14-3.5	0.29-3.0	0.12-0.54	0.18-1.2	0.044-3.1
	BCF _{C-} pseudotot	Mean±SD	0.068±0.058	0.0046±0.0016	0.0083±0.0031	0.014±0.015	0.011±0.011
		Median	0.066	0.0047	0.0088	0.0085	0.0061
		Range	0.012-0.156	0.0027-0.0064	0.0043-0.0113	0.0044-0.045	0.0027-0.038
	BCF _{S-} pseudotot	Mean±SD	0.062±0.044	0.0086±0.0055	0.038±0.039	0.021±0.010	0.027±0.043
		Median	0.046	0.0088	0.024	0.021	0.013
		Range	0.030-0.14	0.0017±0.015	0.0079-0.096	0.010-0.038	0.0021-0.16
	BCF _{C-} -I +II+III	Mean±SD	0.83±0.82	0.031±0.016	0.073±0.023	0.11±0.11	0.13±0.13
		Median	0.75	0.025	0.079	0.051	0.075
		Range	0.097-2.2	0.021-0.055	0.041-0.095	0.042-0.31	0.036-0.46
BCF _{S-} -I +II+III	Mean±SD	0.76±0.67	0.050±0.024	0.33±0.32	0.167±0.083	0.34±0.57	
	Median	0.47	0.056	0.22	0.18	0.14	
	Range	0.27-1.9	0.018-0.071	0.076-0.80	0.055-0.27	0.026-2.2	
Mn	TF	Mean±SD	1.3±1.0	0.55±0.17	0.49±0.24	0.53±0.31	0.77±0.52
		Median	1.1	0.55	0.44	0.45	0.65
		Range	0.20-2.5	0.35-0.76	0.27-0.81	0.22-1.0	0.079-1.9
	BCF _{C-} pseudotot	Mean±SD	0.084±0.055	0.0096±0.0023	0.0092±0.0019	0.012±0.007	0.013±0.009
		Median	0.070	0.0098	0.0091	0.0086	0.0092
		Range	0.033-0.147	0.0072-0.0118	0.0072-0.012	0.0062-0.025	0.0041-0.039
BCF _{S-} -	Mean±SD	0.082±0.046	0.018±0.005	0.023±0.011	0.024±0.010	0.031±0.051	

	pseudotot	Median	0.068	0.018	0.025	0.025	0.016
		Range	0.045-0.16	0.013-0.024	0.0088-0.032	0.013-0.034	0.0050-0.023
	BCF _{C- I}	Mean±SD	0.099±0.065	0.0099-0.0029	0.0096±0.0020	0.011±0.007	0.013±0.008
	+II+III	Median	0.073	0.0097	0.0094	0.0076	0.010
		Range	0.039-0.17	0.0070-0.013	0.0074-0.012	0.0062-0.025	0.0041-0.037
	BCF _{S- I}	Mean±SD	0.102±0.069	0.018±0.004	0.024±0.012	0.022±0.009	0.031±0.048
	+II+III	Median	0.078	0.019	0.026	0.022	0.015
		Range	0.053-0.22	0.013-0.023	0.0091-0.034	0.013-0.033	0.0046-0.022
Ni	TF	Mean±SD	1.4±1.0	0.16±0.093	0.23±0.12	0.69±0.30	0.48±0.34
		Median	1.8	0.16	0.25	0.63	0.39
		Range	0.20-2.6	0.063-0.27	0.081-0.37	0.39-1.3	0.067-1.4
	BCF _{C-}	Mean±SD	0.13±0.08	0.0094±0.0061	0.014±0.009	0.044±0.026	0.020±0.024
	pseudotot	Median	0.11	0.0095	0.012	0.030	0.0058
		Range	0.034-0.226	0.0039-0.0147	0.0071-0.027	0.025-0.082	0.0022-0.081
	BCF _{S-}	Mean±SD	0.118±0.046	0.057±0.018	0.11±0.15	0.064±0.025	0.051±0.071
	pseudotot	Median	0.10	0.062	0.049	0.058	0.027
		Range	0.060-0.17	0.034-0.072	0.019-0.33	0.045-0.11	0.0058-0.29
	BCF _{C- I}	Mean±SD	0.26±0.19	0.021±0.013	0.034±0.019	0.097±0.041	0.042±0.053
	+II+III	Median	0.21	0.021	0.028	0.083	0.014
		Range	0.075-0.42	0.0097-0.032	0.018-0.061	0.053-0.15	0.0035-0.19
	BCF _{S- I}	Mean±SD	0.238±0.095	0.128±0.034	0.26±0.33	0.147±0.048	0.11±0.16
	+II+III	Median	0.22	0.136	0.12	0.14	0.054
		Range	0.12-0.38	0.084-0.15	0.049-0.76	0.080-0.22	0.013-0.66
Pb	TF	Mean±SD	1.6±0.5	1.5±0.81	1.3±1.8	0.75±0.51	2.4±2.2
		Median	1.4	1.5	0.60	0.87	1.5
		Range	1.1-2.3	0.51-2.5	0.056-4.0	0.070-1.3	0.27-8.0
	BCF _{C-}	Mean±SD	0.35±0.19	0.024±0.019	0.011±0.005	0.019±0.014	0.035±0.022
	pseudotot	Median	0.33	0.021	0.012	0.016	0.033
		Range	0.15-0.55	0.0046-0.050	0.0053-0.016	0.0065-0.046	0.0069-0.073
	BCF _{S-}	Mean±SD	0.214±0.077	0.016±0.012	0.17±0.16	0.043±0.043	0.044±0.059
	pseudotot	Median	0.24	0.010	0.17	0.027	0.022
		Range	0.13-0.29	0.0090-0.035	ND-0.28	0.010-0.12	0.0040-0.22
	BCF _{C- I}	Mean±SD	0.57±0.33	0.035±0.028	0.015±0.007	0.029±0.020	0.056±0.035
	+II+III	Median	0.51	0.030	0.016	0.025	0.047
		Range	0.19-0.94	0.0078-0.074	0.0075-0.022	0.011-0.064	0.012-0.13
	BCF _{S- I}	Mean±SD	0.34±0.14	0.024±0.019	0.24±0.23	0.069±0.068	0.069±0.091
	+II+III	Median	0.39	0.017	0.24	0.049	0.038
		Range	0.18-0.50	0.012-0.052	ND-0.40	0.015-0.20	ND-0.32
Sr	TF	Mean±SD	0.80±0.49	0.25±0.29	0.23±0.090	0.22±0.12	0.51±0.57

		Median	0.73	0.15	0.26	0.18	0.24
		Range	0.19-1.3	0.036-0.66	0.096-0.30	0.089-0.39	0.057-2.4
	BCF _{C-} pseudotot	Mean±SD	0.19±0.11	0.010±0.008	0.017±0.008	0.023±0.017	0.051±0.042
		Median	0.18	0.0072	0.017	0.015	0.039
		Range	0.083-0.33	0.0047-0.022	0.0096-0.024	0.010-0.054	0.010-0.16
	BCF _{S-} pseudotot	Mean±SD	0.293±0.082	0.071±0.047	0.082±0.034	0.106±0.042	0.30±0.68
		Median	0.25	0.059	0.093	0.098	0.14
		Range	0.23-0.43	0.033-0.13	0.032-0.11	0.051-0.16	0.015-3.3
	BCF _{C-} I +II+III	Mean±SD	0.21±0.12	0.011±0.008	0.017±0.008	0.021±0.015	0.053±0.046
		Median	0.18	0.0076	0.017	0.013	0.039
		Range	0.096-0.37	0.0046-0.023	0.010-0.025	0.010-0.047	0.010-0.17
	BCF _{S-} I +II+III	Mean±SD	0.330±0.099	0.072±0.045	0.083±0.033	0.097±0.037	0.32±0.72
		Median	0.29	0.062	0.094	0.089	0.15
		Range	0.26-0.50	0.035-0.13	0.033-0.11	0.052-0.14	0.013-3.5
Ti	TF	Mean±SD	1.6±0.65	1.3±1.1	0.38±0.24	0.64±0.39	0.70±0.69
		Median	1.8	1.1	0.34	0.72	0.54
		Range	0.78-2.3	0.23-2.7	0.19-0.68	0.14-1.2	0.021-3.1
	BCF _{C-} pseudotot	Mean±SD	0.23±0.12	0.115±0.035	0.176±0.058	0.23±0.16	0.071±0.082
		Median	0.22	0.11	0.17	0.20	0.032
		Range	0.082-0.40	0.080-0.16	0.11-0.25	0.076-0.51	0.0096-0.33
	BCF _{S-} pseudotot	Mean±SD	0.173±0.096	0.18±0.17	0.70±0.54	0.46±0.30	0.22±0.31
		Median	0.23	0.14	0.66	0.48	0.087
		Range	0.036-0.26	0.029-0.20	0.16-1.3	0.097-0.74	0.0054-1.3
	BCF _{C-} I +II+III	Mean±SD	0.91±0.88	0.140±0.071	0.216±0.069	0.28±0.18	0.17±0.18
		Median	0.69	0.12	0.21	0.28	0.078
		Range	0.28-2.4	0.089-0.24	0.14-0.30	0.091-0.58	0.026-0.60
	BCF _{S-} I +II+III	Mean±SD	0.61±0.50	0.21±0.18	0.85±0.66	0.58±0.39	0.49±0.77
		Median	0.41	0.20	0.81	0.59	0.18
		Range	0.35-1.4	0.033-0.41	0.20-1.6	0.12-1.1	0.036-3.5

Zn	TF	Mean±SD	2.2±1.6	1.26±0.31	1.50±0.50	1.42±0.50	1.5±1.0
		Median	2.2	1.3	1.5	1.3	1.2
		Range	0.73-4.7	0.87-1.6	0.93-2.0	0.83-2.2	0.56-5.7
	BCF _{C-} pseudotot	Mean±SD	3.9±3.0	1.11±0.61	1.20±0.21	1.17±0.32	1.97±0.87
		Median	2.7	1.1	1.3	1.1	1.9
		Range	2.0-9.2	0.46-1.84	0.89-1.4	0.84-1.7	0.70-3.7
	BCF _{S-} pseudotot	Mean±SD	1.91±0.64	0.88±0.43	0.90±0.41	0.90±0.33	1.55±0.74
		Median	1.8	0.82	0.88	0.92	1.4
		Range	1.2-3.0	0.49-1.4	0.48-1.4	0.54-1.3	0.47-3.3
	BCF _{C-} I +II+III	Mean±SD	10.8±8.0	2.3±1.3	2.38±0.46	2.68±0.86	5.3±2.4
		Median	7.5	2.3	2.5	2.8	5.2
		Range	6.0-24.9	0.99-3.8	1.7-2.8	1.5-3.9	1.3-10.6
	BCF _{S-} I +II+III	Mean±SD	5.5±2.5	1.9±1.0	1.79±0.85	2.05±0.96	4.1±2.0
		Median	4.5	1.7	1.8	1.9	3.8
		Range	3.5-9.8	0.96-3.1	0.93-2.8	1.2-3.8	1.0-8.0