Electronic Supplementary Material (ESI) for Environmental Science: Processes & Impacts.

Supporting Information for

The *Rubus fruticosus L.* response to the trace elements accumulation in the highly polluted soils around Copper Mining and Smelting Complex Bor, Serbia

Maja M. Nujkić[a,1], Mile M. Dimitrijević[a], Slađana Č. Alagić[a], Snežana B. Tošić[b], Jelena V. Petrović[c]

[a]*Department of Chemical Technology, Technical Faculty Bor, University of Belgrade, V.J. 12, 19210 Bor, Serbia*

[b]*Department of Chemistry, Faculty of Sciences and Mathematics, University of Niš, Višegradska 33, 18000 Niš, Serbia*

[c]*Mining and Metallurgy Institute, Zeleni Bulevar 35, 19210 Bor, Serbia*

[1] Corresponding autor at: Department of Chemical Technology, Technical Faculty Bor, University of Belgrade, VJ 12, POB 50, 19210 Bor, Serbia. Tel: +381 30 424 555. Fax: +381 30 421 078.
E-mail address: majanujkic@gmail.com

Results and discussion

Table S1 Matrix of Pearson's correlation coefficients between TE in different parts of blackberry and soil, pH, EC, OM and D (N=24)

	CuR	ZnR	PbR	AsR	CdR	NiR	CuS	ZnS	PbS	AsS	CdS	NiS
CuZ	0.754**	0.610**	0.599**	0.469*	0.190	-0.207	0.655**	0.756**	0.818**	0.766**	0.293	-0.082
ZnZ	0.395	0.380	0.194	0.234	0.028	-0.203	0.376	0.339	0.426*	0.284	-0.029	-0.307
PbZ	0.482*	0.397	0.534**	0.512*	0.298	-0.117	0.381	0.420*	0.496*	0.758**	0.256	-0.292
AsZ	0.382	0.365	0.526**	0.609**	0.413*	-0.039	0.366	0.312	0.304	0.783**	0.311	-0.373
CdZ	0.240	0.307	0.474*	0.523**	0.455*	0.144	0.173	0.194	0.247	0.658**	0.319	-0.373
NiZ	-0.456*	-0.323	-0.028	0.086	0.319	0.415*	-0.520**	-0.537**	-0.509*	-0.143	0.095	-0.237
pH	-0.258	-0.347	-0.539**	-0.745**	-0.680**	-0.335	-0.285	-0.056	-0.030	-0.584**	-0.256	0.619**
OM	0.101	0.007	0.136	-0.125	-0.023	0.126	-0.188	0.061	0.337	0.016	-0.075	0.038
D	-0.425*	-0.398	-0.192	-0.192	0.120	0.505*	-0.494*	-0.599**	-0.533**	-0.566**	-0.261	-0.053
EC	0.724**	0.557**	0.439*	0.174	0.077	0.071	0.568**	0.690**	0.808**	0.172	0.099	0.156
	CuL	ZnL	PbL	AsL	CdL	NiL	CuF	ZnF	PbF	AsF	CdF	NiF
CuZ	0.912**	0.879**	0.941**	0.776**	0.877**	0.356	0.924**	0.575**	0.570**	0.669**	0.681**	-0.529**
ZnZ	0.436*	0.426*	0.461*	0.405*	0.415*	-0.085	0.619**	0.603**	0.131	0.497*	0.341	-0.734**
PbZ	0.715**	0.713**	0.869**	0.755**	0.877**	0.214	0.926**	0.329	0.849**	0.844**	0.886**	-0.597**
AsZ	0.574**	0.620**	0.763**	0.797**	0.837**	0.218	0.772**	0.290	0.824**	0.816**	0.901**	-0.468*
CdZ	0.464*	0.470*	0.642**	0.578**	0.710**	0.153	0.743**	0.216	0.759**	0.805**	0.849**	-0.724**
NiZ	-0.373	-0.333	-0.198	-0.198	-0.079	-0.190	-0.003	-0.394	0.296	0.307	0.310	-0.357
pH	-0.315	-0.429*	-0.509*	-0.681**	-0.660**	-0.315	-0.401	-0.235	-0.531**	-0.642**	-0.809**	0.284
OM	0.306	0.180	0.296	-0.135	0.182	0.117	0.383	-0.170	0.340	0.184	0.196	-0.362
D	-0.544**	-0.510*	-0.572**	-0.556**	-0.525**	0.158	-0.808**	-0.649**	-0.343	-0.606**	-0.393	0.796**
EC	0.659**	0.601**	0.484*	0.233	0.345	0.493*	0.321	0.495*	-0.232	-0.007	0.014	-0.111

** Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

XR, XS, XL, XF, XZ represents the levels of Cu, Zn, Pb, As, Cd and Ni in root (R), stem (S), leaves (L), fruit (F) and soil (Z), respectively.

16 **Table S2** Factor loadings for varimax rotated PCA of metal data in soil samples (bold loadings are statistically significant)

	PCA 1	***PCA 2***	***PCA 3***	***PCA 4***	***PCA 5***	***Communality***
Cu soil	0.698	0.653	-0.142	0.175		0.972
Zn soil	0.316	0.232	-0.153	**0.814**	-0.206	0.925
Pb soil	0.316	**0.928**		0.161		0.880
As soil	0.212	**0.917**	0.168			0.996
Cd soil		**0.863**	0.281	0.335		0.974
Ni soil	**-0.730**	0.343	0.456	0.274	-0.106	0.881
Cu root	**0.911**	0.199	0.285			0.953
Zn root	**0.852**		0.399	0.222	-0.115	0.923
Pb root	0.618	0.361	0.671		0.126	0.881
As root	0.492	0.368	**0.728**	0.143		0.973
Cd root	0.256	0.215	**0.939**			0.934
Ni root		-0.148	**0.944**	-0.105		0.957
Cu stem	**0.911**		0.263	0.193		0.978
Zn stem	**0.901**	0.129	0.119	0.165	0.344	0.932
Pb stem	**0.918**	0.178				0.955
As stem	0.625	0.564	0.153	0.143		0.981
Cd stem	0.226	0.213	0.536	0.174	**0.747**	0.946
Ni stem		-0.215	-0.213	-0.132	**0.935**	0.945
Cu leaf	**0.862**	0.447				0.995
Zn leaf	**0.841**	0.469	0.223			0.944
Pb leaf	**0.718**	0.669	0.115			0.754
As leaf	0.666	0.579	0.245	0.168	-0.115	0.989
Cd leaf	0.640	**0.709**	0.271			0.899
Ni leaf	0.649		0.648	-0.304		0.956
Cu fruit	0.414	**0.813**	-0.125	0.320	0.152	0.987
Zn fruit	**0.788**		0.163	**0.533**		0.988
Pb fruit		**0.958**	-0.205	-0.120		0.986
As fruit	0.119	**0.839**	0.169	0.360	0.151	0.938
Cd fruit	0.224	**0.866**	0.379	0.120		0.937

Ni fruit		-0.464		**-0.823**	-0.182	0.991
Eigenvalue	16.563	4.927	3.396	1.794	1.668	
% of variance	55.211	16.423	11.321	5.981	5.561	
Cumulative %	55.211	71.634	82.955	88.936	94.497	

From each extracted component, variables with coefficients ≥ ±0.70 were selected and considered significant.