

Supplementary Materials:

Table S1. Instrumental conditions for digestion in microwave Ultrawave Milestone.

Time (min)	Temperature (°C)	Power (W)	Pressure (bar)
5	100	1200	70
7	130	1300	100
8	170	1300	120
10	200	1500	120
15	200	1400	120

Table S2. Instrumental conditions for ICP-MS measurements Agilent 7900.

ICP-MS conditions	Values
RF power (W)	1550
Frequency (MHz)	27
Plasma gas flow rate (L min ⁻¹)	15
Auxiliary gas flow rate (L min ⁻¹)	1
Nebulizer gas flow rate (L min ⁻¹)	1
Palma Mode	General Purpose
Omega Bias (V)	-120
Omega lens (V)	9.3
Extract 2 (V)	-245
Deflect Lens (V)	1.0
Energy discrimination (V)	5
Collision Gas flow rate (mL min ⁻¹)	5
Cell Entrance (V)	-40
Cell Exit (V)	-60

Table S3. Quality control results (µg g⁻¹ dry weight) obtained from ICP-MS analysis of “Standard Reference Material 1575a” trace elements in pine needles (*Pinus taeda*).

Elements	Certificated Material Value Mean ± SD			Measured Mean ± SD		
P (%)	0.107	±	0.008	0.105	±	0.004
K (%)	0.417	±	0.007	0.406	±	0.016
Al (mg/kg)	580	±	30	583	±	24
Ba (mg/kg)	6.0	±	0.2	5.90	±	0.13
Cd (mg/kg)	0.233	±	0.004	0.229	±	0.006
Cu (mg/kg)	2.8	±	0.2	2.91	±	0.09
Fe (mg/kg)	46	±	2	45.52	±	1.86
Hg (mg/kg)	0.0399	±	0.0007	0.0436	±	0.0022
Zn (mg/kg)	38	±	2	36.30	±	1.37
Elements	Reference Value Mean ± SD					
Mg (%)	0.106	±	0.017	0.110	±	0.003
As (mg/kg)	0.039	±	0.002	0.038	±	0.000
Co (mg/kg)	0.061	±	0.002	0.061	±	0.001
Pb (mg/kg)	0.167	±	0.015	0.166	±	0.007
Mn (mg/kg)	488	±	12	470	±	9
Ni (mg/kg)	1.47	±	0.10	1.46	±	0.02

Table S4. Quality control results ($\mu\text{g g}^{-1}$ dry weight) obtained from ICP-MS analysis of “Standard Reference Material 2709a” trace elements in San Joaquin soil.

Elements	Certificated Material Value			Measured		
	Mean \pm SD			Mean \pm SD		
Al (%)	7.37	\pm	0.16	7.00	\pm	0.20
Ca (%)	1.91	\pm	0.09	1.98	\pm	0.12
Fe (%)	3.36	\pm	0.07	3.24	\pm	0.10
Mg (%)	1.46	\pm	0.02	1.46	\pm	0.09
K (%)	2.11	\pm	0.06	2.10	\pm	0.10
Na (%)	1.22	\pm	0.003	1.20	\pm	0.022
Ti (%)	0.336	\pm	0.007	0.335	\pm	0.009
Sb (mg/kg)	1.55	\pm	0.06	1.57	\pm	0.07
Ba (mg/kg)	979	\pm	28	981	\pm	0.90
Cr (mg/kg)	130	\pm	9	130	\pm	0.93
Co (mg/kg)	12.8	\pm	0.2	11.9	\pm	0.5
Pb (mg/kg)	17.3	\pm	0.1	17.8	\pm	0.1
Mn (mg/kg)	529	\pm	18	531	\pm	3
Sr (mg/kg)	239	\pm	6	241	\pm	3
V (mg/kg)	110	\pm	11	108	\pm	12
Elements	Reference Value Mean \pm SD					
As (mg/kg)	10.5	\pm	0.3	10.1	\pm	0.16
Cu (mg/kg)	33.9	\pm	0.5	33.8	\pm	0.16
La (mg/kg)	21.7	\pm	0.4	3.36	\pm	0.07
Hg (mg/kg)	0.9	\pm	0.2	1.02	\pm	0.07
Ni (mg/kg)	85	\pm	2	87	\pm	0.9
Zn (mg/kg)	103	\pm	4	100	\pm	6