

Table S1. Analytical parameters for method validation in multi-element analysis.

Pine Needles Nist 1575						
Element	LOD ($\mu\text{g/Kg}$)	LOQ ($\mu\text{g/Kg}$)	R^2	Experimental Value (mg/kg)	Linear Range ($\mu\text{g/L}$)	Recovery (%)
Li	0.001	0.003	0.9998	1.95 *	0.5–50.0	97.50
B	0.003	0.010	0.9997	9.1	0.5–50.0	94.79
Na	0.461	1.521	0.9982	60.00	0.5–50.0	95.24
Mg	0.031	0.102	0.9992	0.103	0.5–50.0	97.17
Al	0.021	0.069	0.9996	566	0.5–50.0	97.59
K	0.142	0.469	0.9989	0.380	0.5–50.0	91.13
Cr	0.001	0.003	0.9998	0.38	0.5–50.0	95.00
Mn	0.002	0.007	0.9997	478	0.5–50.0	97.95
Fe	0.021	0.069	0.9996	43.5	0.5–50.0	94.57
Ni	0.001	0.003	0.9998	1.43	0.5–50.0	97.28
Cu	0.014	0.046	0.9993	2.7	0.5–50.0	96.43
Zn	0.027	0.089	0.9992	37.45	0.5–50.0	98.55
As	0.001	0.003	0.9997	0.040	0.5–50.0	102.56
Se	0.042	0.139	0.9991	0.095	0.5–50.0	95.96
Sr	0.003	0.010	0.9997	1.99 *	0.5–50.0	99.50
Ca	0.002	0.007	0.9998	2.00 *	0.5–50.0	100.00
Cd	0.001	0.003	0.9998	0.225	0.5–50.0	96.57
Sb	0.002	0.007	0.9997	1.95 *	0.5–50.0	97.50
Ba	0.004	0.013	0.9997	6.08	0.5–50.0	101.33
Pb	0.002	0.007	0.9998	0.170	0.5–50.0	101.80
Hg	0.001	0.003	0.9998	0.0404	1.0–100	101.25

* Not present in the certified matrix, added later to the matrix.