

Supplementary Material

Table S1. Typical minimum detection limits (mdl) for LA-ICP-MS are summarized in the table below.

Element	mdl (ppm)	Element	mdl (ppm)	Element	mdl (ppm)
Na	2.19	Rb	0.34	Gd	0.15
Mg	0.12	Sr	0.07	Tb	0.02
Al	0.61	Zr	0.09	Dy	0.12
Si	63.81	Nb	0.05	Y	0.08
S	7.23	Mo	0.25	Ho	0.03
K	3.58	Sn	0.29	Er	0.08
Sc	0.17	Cs	0.17	Tm	0.03
Ti	2.43	Ba	0.40	Yb	0.11
V	0.06	Ta	0.02	Lu	0.03
Mn	0.71	W	0.09	²⁰⁴ Pb	3.98
Fe	5.48	La	0.10	²⁰⁶ Pb	0.12
Co	0.06	Ce	0.16	²⁰⁸ Pb	0.06
Ni	0.27	Pr	0.07	Th	0.04
Cu	2.30	Nd	0.37	U	0.02
Zn	0.56	Sm	0.27		
As	1.75	Eu	0.03		

Table S2. Standards, X-ray lines, count times and typical minimum detection limits (mdl) for electron probe microanalysis are summarized in the table below.

CAMECA SX-Five				
Element	Standard	X-ray Line	Count Time (s) Unknown/ background	Average mdl (ppm)
Na	Albite	Na K α	15/7.5	265
K	Sanadine	K K α	15/7.5	141
Ca	Plagioclase	Ca K α	15/7.5	219
Mn	Rhodonite	Mn K α	15/15	465
Mg	Almandine	Mg K α	15/7.5	158
Fe	Almandine	Fe K α	15/7.5	609
Al	Albite	Al K α	15/7.5	132
Si	Albite	Si K α	15/7.5	140
Ti	Rutile	Ti K α	15/7.5	200
F	Synthetic CaF ₂	F K α	15/15	428
Cl	Tugtupite	Cl K α	15/7.5	171
P	Apatite	P K α	15/7.5	153
Sr	Celestite	Sr L α	15/15	523
Y	REE1	Y L α	15/15	552
La	La Glass	La L α	30/15	856
Ce	Ce Glass	Ce L α	30/15	853
Nd	Nd Glass	Nd L β	30/15	827
Cr	Chromite	Cr K α	15/7.5	270
As	Gallium Arsenide	As K α	15/15	282
S	Marcasite	S K α	5-Oct	183