

LINKING GEMOLOGY AND SPECTRAL GEOLOGY: A CASE STUDY OF ELBAITES FROM THE SERIDÓ PEGMATITE PROVINCE, NORTHEASTERN BRAZIL

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Table A.4. Averaged EPMA data of red and purple elbaite samples (Barreto 1999).

Oxides (wt. %)	(i) Red elbaite samples							(ii) Purple elbaite sample
	B11R	B14R	C12R	S13R	S14R	S15R	Average of the red group	S27L
SiO ₂	38.917	38.087	36.175	36.957	36.654	37.792	37.430	36.655
TiO ₂	0.003	bdl	bdl	0.023	0.004	0.013	0.007	bdl
B ₂ O ₃	15.506	14.917	12.242	13.404	13.241	14.977	14.048	14.454
Al ₂ O ₃	41.350	42.484	41.476	39.518	40.745	36.268	40.307	40.374
Bi ₂ O ₃	bdl	bdl	0.004	0.068	0.007	0.082	0.016	0.440
MgO	bdl	bdl	bdl	0.001	bdl	bdl	bdl	bdl
CaO	0.105	0.158	0.331	0.222	0.341	0.358	0.253	0.816
MnO	0.092	0.108	2.206	3.677	2.441	4.248	2.129	0.943
FeO	0.009	bdl	0.012	0.399	0.307	0.143	0.145	bdl
CuO	0.001	bdl	bdl	0.003	0.009	bdl	0.002	0.665
ZnO	0.002	bdl	bdl	0.005	0.069	bdl	0.013	0.020
Na ₂ O	1.261	1.741	1.823	2.264	1.829	2.239	1.860	1.740
H ₂ O	3.554	3.625	3.479	3.271	3.269	3.105	3.384	3.350
F	0.379	bdl	0.159	0.850	0.911	1.289	0.598	1.053
O=F	0.380	bdl	0.067	0.379	0.384	0.543	0.292	0.443
SUM	100.799	101.120	97.840	100.283	99.443	99.971	99.909	100.067
No. analyses	15	4	5	15	6	5	-	9
Si	5.834	5.789	5.797	5.785	5.741	5.881		5.686
Ti	0.001	0	0	0.003	0	0.001		0
B	4.029	3.912	3.382	3.621	3.578	4.021		3.810
Al	7.428	7.613	7.835	7.293	7.523	6.653		7.362
Bi	0	0	0	0.003	0	0.003		0.018
Mg	0	0	0	0	0	0		0
Ca	0.017	0.026	0.057	0.037	0.057	0.060		0.135
Mn	0.011	0.014	0.299	0.488	0.324	0.560		0.124
Fe	0.001	0	0.002	0.052	0.040	0.019		0
Cu	0	0	0	0	0.001	0		0.042
Zn	0	0	0	0.001	0.008	0		0.002
Na	0.371	0.513	0.566	0.687	0.556	0.676		0.522
OH	3.644	3.675	3.718	3.416	3.416	3.223		3.457
F	0.109	0	0.080	0.419	0.449	0.631		0.508

bdl: below detection limit.

* The analyses were carried out for 28 oxygens. The values of H₂O were quantified by the loss of water obtained from the TGA-DTA method, considering standard samples of structural chemical formulas. Li values were obtained by ICP-MS, and B values by stoichiometric calculus. The F was analyzed by EPMA (Barreto 1999).