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Pervasive exsolution within the calcic amphibole series: TEM evidence for a miscibility gap between actinolite and hornblende in natural samples

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For deposit: Table 314

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**Table 3: on deposit.**

**Table 3. Representative EMP analyses from calcic amphiboles.**

amphibole formula: based on normalization to 23 oxygens and 15 eNK.

Sample # Analysis #	62B tr4.8	62B tr4.12	62B tr4.25	62B tr4.24	62B tr4.3	62B tr4.4	62B tr4.1
tetrahedral							
Si	6.263	6.463	7.621	7.520	6.941	6.887	7.083
Al	1.737	1.537	0.379	0.480	1.059	1.113	0.917
Σ T-site	8.000	8.000	8.000	8.000	8.000	8.000	8.000
octahedral M(1,2,3)							
Al	0.828	0.806	0.179	0.165	0.467	0.468	0.435
Ti	0.063	0.046	0.014	0.028	0.075	0.070	0.052
Fe <sup>3+</sup>	0.380	0.279	0.137	0.192	0.142	0.265	0.188
Mg	1.876	1.978	3.235	3.182	2.554	2.544	2.795
Fe <sup>2+</sup>	1.853	1.891	1.435	1.433	1.762	1.653	1.530
Σ M(1,2,3)	5.000	5.000	5.000	5.000	5.000	5.000	5.000
octahedral M(4)							
Ca	1.932	1.916	1.879	1.854	1.805	1.802	1.813
Fe <sup>2+</sup>	0.056	0.046	0.096	0.110	0.161	0.170	0.151
Mn	0.012	0.038	0.025	0.036	0.034	0.028	0.036
Σ M(4)	2.000	2.000	2.000	2.000	2.000	2.000	2.000
A-site							
Na	0.321	0.299	0.024	0.060	0.235	0.160	0.147
K	0.080	0.062	0.011	0.006	0.065	0.079	0.044
Σ A-site	0.401	0.361	0.035	0.066	0.300	0.239	0.191
Fe <sup>2+</sup> /(Fe <sup>2+</sup> + Mg)	0.505	0.495	0.321	0.327	0.430	0.417	0.376

**Table 4: on deposit**

**Table 4. Representative EMP analyses from calcic amphiboles.**

amphibole formula: based on normalization to 23 oxygens and 13 eCNK.

Sample # Analysis #	62B tr4.8	62B tr4.12	62B tr4.25	62B tr4.24	62B tr4.3	62B tr4.4	62B tr4.1
tetrahedral							
Si	6.231	6.421	7.551	7.437	6.838	6.784	7.983
Al	1.769	1.579	0.449	0.563	1.162	1.216	1.017
Σ T-site	8.000	8.000	8.000	8.000	8.000	8.000	8.000
octahedral M(1,2,3)							
Al	0.783	0.750	0.103	0.074	0.342	0.341	0.315
Ti	0.063	0.045	0.014	0.028	0.074	0.069	0.051
Fe <sup>3+</sup>	0.616	0.572	0.561	0.702	0.820	0.950	0.838
Mg	1.865	1.966	3.205	3.146	2.516	2.506	2.756
Fe <sup>2+</sup>	1.662	1.630	1.092	1.014	1.214	1.107	1.005
Mn	0.011	0.037	0.025	0.036	0.034	0.027	0.036
Σ M(1,2,3)	5.000	5.000	5.000	5.000	5.000	5.000	5.000
octahedral							
Ca	1.922	1.904	1.861	1.833	1.778	1.775	1.787
Na	0.078	0.096	0.024	0.059	0.222	0.158	0.145
Σ M(4)	2.000	2.000	1.885	1.892	2.000	1.933	1.932
A-site							
Na	0.242	0.201	0.000	0.000	0.010	0.000	0.000
K	0.080	0.062	0.011	0.006	0.064	0.078	0.043
Σ A-site	0.322	0.263	0.011	0.006	0.074	0.078	0.043
Fe <sup>2+</sup> /(Fe <sup>2+</sup> + Mg)	0.471	0.453	0.254	0.244	0.326	0.306	0.267