

APPENDIX 1

Chemical composition, structural formulae and parameters of the amphiboles used for conventional thermobarometry, calculated according to the procedure after Papike et al. (1974) with modifications of Fe³⁺/Fe²⁺ ratios after Brandelik (2009)

	Analysis	13.2.4	13.2.5	13.4.1	13.4.5	13.4.11	13.4.12	13.7.7	13.7.8	13.3.3	13.3.5	13.7.9	13.7.1
Geochemical data [wt. %]	Phase/As.	Act/IA	Act/IA	Act/IM	Act/IM	Act/IM	Act/IM	Mg-Hbl/IIA	Mg-Hbl/IIA	Mg-Hbl/IIA	Mg-Hbl/IIA	Mg-Hbl/IIA	Mg-Hbl/IIA
	SiO ₂	52.22	51.59	51.14	52.14	52.42	52.79	43.54	43.86	45.64	44.92	45.89	43.67
	TiO ₂	0.19	0.13	0.22	0.42	0.09	0.02	0.44	0.28	0.19	0.42	0.35	0.29
	Al ₂ O ₃	3.81	3.94	3.96	3.65	3.59	3.08	11.31	12.85	11.23	9.78	9.86	10.64
	Cr ₂ O ₃	<0.01	0.16	0.03	<0.01	<0.01	<0.01	0.12	0.28	<0.01	0.03	0.12	0.08
	Fe ₂ O ₃	8.067	7.594	6.044	4.763	6.192	6.59	7.229	7.316	5.576	4.594	6.984	5.279
	FeO	3.911	5.377	5.202	7.144	4.858	4.601	10.995	10.797	8.322	8.626	9.676	12.32
	MnO	0.89	0.64	1.3	0.79	1.16	0.76	0.26	0.13	0.23	0.37	0.26	0.37
	MgO	16.47	15.7	16.21	16.11	16.78	17.38	10.36	9.86	12.9	13.45	11.78	10.65
	CaO	11.19	11.29	11.91	12.15	11.98	12.25	11.29	10.95	11.89	12.3	11.33	12.23
	Na ₂ O	0.77	0.64	0.67	0.55	0.56	0.34	1.8	1.75	1.58	1.53	1.55	1.47
	K ₂ O	0.01	0.09	0.03	0.08	0.04	0.04	0.37	0.56	0.24	0.24	0.28	0.29
	Total	97.528	97.151	96.716	97.797	97.67	97.85	99.735	100.681	97.799	96.26	100.132	99.294
Structural formulae [apfu per 23O]	Si	7.6	7.6	7.67	7.448	7.453	7.74	6.662	6.622	6.622	6.649	6.703	6.529
	Al ^{IV}	0.581	0.599	0.426	0.552	0.547	0.513	1.538	1.578	1.378	1.351	1.297	1.471
	Ti	0.02	0.014	0.024	0.045	0.01	0.021	0.049	0.031	0.021	0.047	0.038	0.033
	Al ^{VI}	0.057	0.067	0.047	0.063	0.054	<0.001	0.44	0.64	0.542	0.356	0.401	0.403
	Cr	<0.001	0.018	0.003	<0.001	<0.001	<0.001	0.014	0.032	<0.001	0.004	0.014	0.009
	Fe ³⁺	0.862	0.82	0.656	0.512	0.662	0.701	0.807	0.806	0.609	0.512	0.768	0.594
	Fe ²⁺	0.465	0.645	0.627	0.853	0.578	0.544	1.365	1.322	1.01	1.068	1.182	1.54
	Mn	0.107	0.078	0.159	0.096	0.14	0.091	0.033	0.016	0.028	0.046	0.032	0.047
	Mg	3.488	3.358	3.484	3.431	3.556	3.664	2.292	2.152	2.79	2.968	2.565	2.374
	Ca	1.703	1.735	1.84	1.86	1.825	1.856	1.795	1.718	1.848	1.951	1.773	1.959
	Na	0.212	0.178	0.187	0.152	0.154	0.093	0.518	0.497	0.444	0.439	0.439	0.426
	K	0.002	0.016	0.006	0.015	0.007	0.007	0.07	0.105	0.044	0.045	0.052	0.055
	□	0.902	0.871	0.871	0.973	1.013	0.769	0.417	0.481	0.663	0.565	0.736	0.56
Total	15.098	15.129	15.129	15.027	14.987	15.231	15.583	15.519	15.337	15.435	15.264	15.44	
param.	XMg	0.859	0.823	0.816	0.783	0.832	0.852	0.621	0.617	0.729	0.727	0.679	0.599
	XTr	0.852	0.868	0.92	0.93	0.912	0.928	0.898	0.859	0.924	0.975	0.887	0.98
	Na ^{M4}	0.376	0.32	0.274	0.264	0.331	0.371	0.027	0.028	0.057	0.049	0.056	0.024
	Al ^{IV} -[Na+K] ^A	0.203	0.262	0.147	0.273	0.209	0.135	1.441	1.445	1.277	1.256	1.189	1.392