

Table S1. Chemical compositions of feldspars from the basic-intermediate-acidic rocks

Component	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb	Lb
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SiO ₂ , wt. %	49.65	46.87	49.16	51.02	50.21	49.85	49.95	47.64	50.87	52.86	51.33	50.72	51.49	52.01	53.08	51.26
Al ₂ O ₃	29.76	29.32	29.99	30.48	30.61	30.00	30.59	30.36	31.04	28.13	31.32	29.19	29.85	27.45	29.29	29.29
FeO _{tot}	0.68	4.98	1.13	0.63	0.80	0.86	1.54	1.48	1.31	1.97	1.32	0.6	0.89	1.18	1.04	0.87
MgO	b.d.l.	3.90	0.61	b.d.l.	0.28	b.d.l.	0.56	0.32	0.41	1.04	0.42	b.d.l.	b.d.l.	0.27	0.35	0.27
CaO	14.15	11.28	13.61	13.78	13.14	12.87	11.52	10.79	10.23	11.19	10.30	13.7	13.43	13.01	12.31	11.77
BaO	b.d.l.	b.d.l.	0.33	b.d.l.	b.d.l.	b.d.l.	0.71	0.57	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Na ₂ O	3.34	2.83	3.4	3.59	3.37	3.37	2.70	2.60	2.93	4.80	2.95	3.84	3.91	4.69	4.41	3.9
K ₂ O	0.24	0.22	0.41	0.40	0.82	1.28	2.02	2.64	0.14	0.35	2.43	0.23	0.29	0.33	0.33	1.1
Total	97.83	99.40	98.65	99.90	99.23	98.23	99.60	96.4	99.20	100.35	100.07	98.29	99.87	98.94	100.8	98.45
Si ⁴⁺ , a.p.f.u.	2.32	2.20	2.29	2.33	2.32	2.33	2.32	2.29	2.42	2.41	2.34	2.36	2.36	2.41	2.40	2.38
Al ³⁺	1.64	1.62	1.65	1.64	1.66	1.65	1.67	1.72	1.63	1.51	1.69	1.60	1.61	1.50	1.56	1.60
Fe _{tot}	0.03	0.20	0.04	0.02	0.03	0.03	0.06	0.06	0.05	0.08	0.04	0.02	0.03	0.05	0.04	0.03
Mg ²⁺	–	0.27	0.04	–	0.02	–	0.04	0.02	0.03	0.07	0.03	–	–	0.02	0.02	0.02
Ca ²⁺	0.71	0.57	0.68	0.68	0.65	0.64	0.57	0.56	0.51	0.55	0.51	0.68	0.66	0.65	0.60	0.59
Ba ²⁺	–	–	0.01	–	–	–	0.01	0.01	–	–	–	–	–	–	–	–
Na ⁺	0.30	0.26	0.31	0.32	0.30	0.31	0.24	0.24	0.26	0.42	0.26	0.35	0.35	0.42	0.39	0.35
K ⁺	0.01	0.01	0.02	0.02	0.05	0.08	0.12	0.16	0.14	0.02	0.14	0.01	0.02	0.02	0.02	0.07
X An	0.69	0.68	0.67	0.67	0.65	0.62	0.61	0.58	0.56	0.56	0.51	0.65	0.64	0.60	0.59	0.58
X Ab	0.29	0.31	0.31	0.31	0.30	0.30	0.26	0.25	0.29	0.42	0.25	0.34	0.34	0.38	0.39	0.35
X Or	0.01	0.01	0.02	0.02	0.05	0.08	0.13	0.17	0.15	0.02	0.14	0.01	0.02	0.02	0.02	0.07
a.p.f.u. total	5.02	5.13	5.05	5.02	5.03	5.04	5.03	5.06	5.04	5.06	5.01	5.02	5.02	5.06	5.02	5.03

Table S1 continued

Component	Lb	Lb	Og	Og	Og	Og	Og	Og	Og	Og	Og	Og	Og	Og	Or	Or	Or
n	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
SiO ₂ , wt. %	53.42	53.57	62.58	62.88	63.28	63.69	64.76	65.27	65.68	61.93	63.73	63.73	64.16	63.95	64.54	63.20	64.20
Al ₂ O ₃	27.7	26.72	22.52	22.52	22.18	21.96	21.22	21.48	21.14	21.86	22.47	22.26	22.47	22.33	18.18	17.78	18.31
FeO _{tot}	0.82	0.71	<0.01	<0.01	<0.01	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MgO	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
CaO	11.36	10.59	4.37	4.13	3.90	3.61	2.66	2.42	2.18	3.74	3.79	3.68	3.65	3.41	b.d.l.	b.d.l.	b.d.l.
BaO	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.38
Na ₂ O	4.81	5.5	9.18	9.31	9.53	9.77	10.00	10.41	10.58	9.42	9.64	9.61	9.71	9.80	0.53	0.40	0.62
K ₂ O	0.34	0.57	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.14	0.35	0.18	0.12	0.22	0.11	16.00	15.80	15.74
Total	98.45	97.65	98.65	98.84	98.89	99.03	98.64	99.58	99.72	97.30	99.81	99.40	100.47	99.60	99.25	97.18	99.25
Si ⁴⁺ , a.p.f.u.	2.46	2.49	2.80	2.81	2.83	2.84	2.89	2.88	2.90	2.82	2.82	2.83	2.82	2.83	3.00	3.00	2.99
Al ³⁺	1.51	1.47	1.19	1.19	1.17	1.15	1.11	1.12	1.10	1.17	1.17	1.17	1.18	1.17	1.00	1.00	1.01
Fe _{tot}	0.03	0.03	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Mg ²⁺	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Ca ²⁺	0.56	0.53	0.21	0.20	0.19	0.17	0.13	0.12	0.10	0.18	0.18	0.18	0.17	0.16	–	–	–
Ba ²⁺	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.01
Na ⁺	0.43	0.50	0.80	0.81	0.83	0.84	0.86	0.89	0.91	0.83	0.83	0.83	0.83	0.84	0.05	0.04	0.06
K ⁺	0.02	0.03	–	–	–	–	–	–	0.01	0.02	0.01	0.01	0.01	0.01	0.95	0.96	0.94
X An	0.55	0.50	0.21	0.20	0.18	0.17	0.13	0.11	0.10	0.18	0.18	0.17	0.17	0.16	0.00	0.00	0.00
X Ab	0.43	0.47	0.79	0.80	0.82	0.83	0.87	0.89	0.89	0.80	0.81	0.82	0.82	0.83	0.05	0.04	0.06
X Or	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.95	0.96	0.94
a.p.f.u. total	5.01	5.05	5.00	5.00	5.00	5.01	4.99	5.01	5.01	5.02	5.01	5.01	5.01	5.01	5.00	5.00	5.00

Note. Crystallochemical formulae of plagioclases were calculated for 8 oxygen atoms. Mineral abbreviations: Lb – labradorite, Og – oligoclase, Or – orthoclase; b.d.l. – here and in tables 2–5 – concentration below detection limit; X An, X Ab, X Or – fractions of the anorthite, albite and orthoclase endmembers respectively. Here and in Tables S3–S5, Fe_{tot} and FeO_{tot} is total content of iron with 2+ and 3+ valence; a.p.f.u. – atoms per formula unit. Analyses 1-11 – picrodolerites (sample YR-16-4), 12-18 – dolerites (sample A09-15), 19-25 – quartz diorites (sample A09-11), 26-33 – leucocratic granites (sample M08-03).

Table S2. Chemical compositions of clinopyroxenes from the basic-intermediate rocks

Component	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug	Aug
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SiO ₂ , wt. %	50.36	50.32	51.58	51.67	49.63	47.90	51.82	49.08	49.12	48.69	48.76	49.5	49.08	51.17	51.82
TiO ₂	1.32	1.12	0.82	0.55	1.10	1.95	0.63	1.22	1.22	1.92	1.23	1.12	1.53	0.73	1.20
Al ₂ O ₃	4.12	4.65	2.36	2.25	4.33	3.8	2.17	3.99	4.76	4.08	4.72	3.74	3.84	3.44	3.91
V ₂ O ₃	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.19	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Cr ₂ O ₃	b.d.l.	0.57	b.d.l.	0.31	0.41	b.d.l.	b.d.l.	b.d.l.	0.63	b.d.l.	0.66	0.23	b.d.l.	b.d.l.	b.d.l.
FeO	8.34	7.59	10.50	7.92	7.54	11.86	7.96	8.99	7.96	12.11	7.44	8.01	11.67	7.94	9.69
MnO	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.21	0.31	0.26	0.22	0.30	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.19
MgO	14.39	14.69	14.43	16.35	14.61	11.51	15.54	13.58	14.76	11.61	14.15	15.02	12.95	15.51	14.94
CaO	20.75	20.51	19.74	19.41	20.69	20.75	20.57	21.45	20.15	20.95	21.10	20.58	19.16	20.20	20.72
Na ₂ O	0.32	0.33	0.30	0.49	0.39	0.65	0.35	0.44	0.44	0.74	0.39	b.d.l.	b.d.l.	b.d.l.	0.31
Total	99.60	99.78	99.73	98.95	98.70	98.63	99.35	99.01	99.26	100.59	98.45	98.2	98.23	98.99	102.78
Si ⁴⁺ , a.p.f.u.	1.88	1.87	1.93	1.93	1.87	1.85	1.93	1.86	1.84	1.84	1.84	1.87	1.88	1.91	1.88
Ti ⁴⁺	0.04	0.03	0.02	0.02	0.03	0.06	0.02	0.04	0.03	0.06	0.04	0.03	0.04	0.02	0.03
Al ³⁺	0.18	0.20	0.10	0.10	0.19	0.17	0.10	0.18	0.21	0.18	0.21	0.17	0.17	0.15	0.17
V ³⁺	—	—	—	—	—	—	—	—	—	0.01	—	—	—	—	—
Cr ³⁺	—	0.02	—	0.01	0.01	—	—	—	0.02	—	0.02	0.01	—	—	—
Fe ²⁺	0.26	0.24	0.33	0.25	0.24	0.38	0.25	0.29	0.25	0.38	0.24	0.25	0.37	0.25	0.29
Mn ²⁺	—	—	—	—	—	0.01	0.01	0.01	0.01	0.01	—	—	—	—	0.01
Mg ²⁺	0.80	0.81	0.81	0.91	0.82	0.66	0.86	0.77	0.83	0.66	0.80	0.85	0.74	0.86	0.81
Ca ²⁺	0.83	0.82	0.79	0.78	0.83	0.86	0.82	0.87	0.81	0.85	0.85	0.83	0.79	0.81	0.81
Na ⁺	0.02	0.02	0.02	0.04	0.03	0.05	0.03	0.03	0.03	0.05	0.03	—	—	—	0.02
X Di	0.328	0.335	0.288	0.310	0.337	0.276	0.321	0.321	0.321	0.272	0.344	0.332	0.275	0.327	0.303
X Hed	0.107	0.099	0.117	0.084	0.098	0.160	0.092	0.119	0.097	0.159	0.102	0.099	0.139	0.094	0.110
X Cen	0.419	0.429	0.415	0.462	0.427	0.338	0.439	0.391	0.429	0.336	0.416	0.438	0.390	0.450	0.418
X Cfs	0.136	0.127	0.169	0.126	0.124	0.202	0.135	0.153	0.136	0.206	0.123	0.131	0.197	0.129	0.157
X Jd	0.011	0.008	0.01	0.013	0.012	0.025	0.013	0.017	0.012	0.028	0.011	0.000	0.000	0.000	0.011
X Kos	0.000	0.002	0.000	0.004	0.003	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.000	0.000	0.000
X Nat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000
Mg#	0.75	0.77	0.71	0.78	0.77	0.63	0.77	0.73	0.76	0.63	0.77	0.77	0.67	0.77	0.74
a.p.f.u. total	4.01	4.01	4.00	4.02	4.02	4.04	4.02	4.04	4.03	4.04	4.02	4.01	3.99	4.00	4.02

Table S2 continued

Component	Aug	Aug	Aug	Aug	Aug	Aug	Aug
n	16	17	18	19	20	21	22
SiO ₂ , wt. %	50.87	51.37	49.83	47.88	51.92	51.97	52.18
TiO ₂	0.92	0.88	1.27	0.62	b.d.l.	b.d.l.	0.20
Al ₂ O ₃	3.67	4.08	3.95	1.98	3.36	3.12	3.31
Cr ₂ O ₃	0.31	0.20	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
V ₂ O ₃	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
FeO	7.41	8.19	9.60	8.09	11.91	11.45	11.81
MnO	b.d.l.	0.25	0.28	b.d.l.	0.30	0.27	0.31
MgO	15.59	15.34	13.91	15.77	15.44	15.69	15.70
CaO	20.81	20.95	20.51	22.99	12.49	12.42	12.52
Na ₂ O	0.30	b.d.l.	0.38	b.d.l.	0.50	b.d.l.	0.58
Total	99.88	101.26	99.73	97.33	96.11	95.12	96.74
Si ⁴⁺ , a.p.f.u.	1.88	1.88	1.87	1.85	1.98	2.00	1.98
Ti ⁴⁺	0.03	0.02	0.04	0.02	–	–	0.01
Al ³⁺	0.16	0.18	0.18	0.09	0.15	0.14	0.15
Cr ³⁺	0.01	0.01	–	–	–	–	–
V ³⁺	–	–	–	–	–	–	–
Fe ²⁺	0.23	0.25	0.30	0.26	0.38	0.37	0.38
Mn ²⁺	–	0.01	0.01	–	0.01	0.01	0.01
Mg ²⁺	0.86	0.84	0.78	0.91	0.88	0.90	0.89
Ca ²⁺	0.83	0.82	0.83	0.95	0.51	0.51	0.51
Na ⁺	0.02	–	0.03	–	0.04	–	0.04
X Di	0.336	0.327	0.304	0.348	0.195	0.202	0.195
X Hed	0.090	0.098	0.118	0.100	0.084	0.083	0.082
X Cen	0.444	0.436	0.401	0.428	0.484	0.503	0.487
X Cfs	0.119	0.138	0.163	0.123	0.217	0.213	0.213
X Jd	0.009	0.000	0.014	0.000	0.020	0.000	0.024
X Kos	0.002	0.000	0.000	0.000	0.000	0.000	0.000
X Nat	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mg#	0.79	0.77	0.72	0.78	0.70	0.71	0.70
a.p.f.u. total	4.02	4.00	4.02	4.08	3.96	3.94	3.97

Note. Crystallochemical formulae of pyroxenes were calculated for 6 oxygen atoms. Mineral and mineral names abbreviations: Aug – augite; X Di, X Hed, X Cen, X Cfs, X Jd, X Kos, X Nat – fractions of the diopside, hedenbergite, clinoenstatite, clinoferrrosillite, jadeite, cosmochlorite, and natlyite endmembers respectively. Here and in Tables S3, S4 and S5, Mg# = $\text{Mg}^{2+}/(\text{Mg}^{2+} + \text{Fe}^{2+})$. Analyses 1-11 – picrodolerites (sample YR-16-4), 12-19 – dolerites (sample A09-15), 20-22 – quartz diorites (sample A09-11).

Table S3. Chemical compositions of *biotite* group minerals from the basic-intermediate-acidic rocks

Component	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann	Phl-Ann
n	1	2	3	4	5	6	7	8	9	10	11	12
SiO ₂ , wt. %	38.83	37.82	37.97	38.38	37.95	37.52	38.91	37.87	36.90	38.02	37.91	37.01
TiO ₂	4.25	5.00	6.19	5.09	6.47	4.27	4.40	6.86	4.27	3.45	1.00	2.74
Al ₂ O ₃	11.96	12.26	12.26	11.28	11.83	12.19	11.53	13.15	12.53	13.87	15.27	15.34
V ₂ O ₃	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
FeO _{tot}	17.75	18.27	21.79	22.55	24.47	20.16	21.79	20.10	26.03	20.35	17.48	17.44
MnO	b.d.l.	b.d.l.	0.21	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.22	0.26	0.44
MgO	13.95	12.79	9.57	9.65	7.88	10.45	10.70	9.90	7.06	11.46	13.50	11.01
CaO	1.06	0.15	b.d.l.	b.d.l.	b.d.l.	0.28	b.d.l.	b.d.l.	0.21	0.97	b.d.l.	b.d.l.
Na ₂ O	b.d.l.	b.d.l.	0.43	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
K ₂ O	6.99	8.11	8.91	8.87	8.84	8.29	8.84	7.34	8.82	6.71	9.76	9.40
Cl	0.18	b.d.l.	0.29	0.21	0.17	b.d.l.	0.35	b.d.l.	b.d.l.	0.12	b.d.l.	0.36
Total minus Cl	94.79	94.40	97.63	96.03	97.61	93.16	96.17	95.22	95.82	95.17	95.18	93.74
Si ⁴⁺ , a.p.f.u.	5.82	5.76	5.73	5.89	5.78	5.86	5.94	5.72	5.78	5.75	5.73	5.71
Ti ⁴⁺	0.48	0.58	0.70	0.59	0.74	0.50	0.50	0.78	0.50	0.39	0.11	0.32
Al tot.	2.10	2.20	2.18	2.04	2.12	2.24	2.08	2.34	2.32	2.47	2.72	2.79
Al ^{IV}	2.10	2.20	2.18	2.04	2.12	2.14	2.06	2.28	2.22	2.24	2.27	2.29
Al ^{VI}	–	–	–	–	–	0.10	0.02	0.06	0.10	0.23	0.45	0.50
V ³⁺	–	–	–	–	–	–	–	–	–	–	–	–
Fe _{tot}	2.58	2.64	2.75	2.89	3.11	2.60	2.74	2.50	3.36	2.58	2.21	2.25
Mn ²⁺	–	–	0.03	–	–	–	–	–	–	0.03	0.03	0.06
Mg ²⁺	3.12	2.90	2.15	2.21	1.79	2.44	2.44	2.24	1.64	2.59	3.04	2.53
Ca ²⁺	0.18	0.02	–	–	–	0.04	–	–	0.04	0.16	–	–
Na ⁺	b.d.l.	b.d.l.	0.13	–	–	–	–	–	–	–	–	–
K ⁺	1.34	1.58	1.72	1.74	1.72	1.64	1.58	1.42	1.76	1.30	1.88	1.85
Cl [–]	0.04	–	0.07	0.05	0.04	–	0.10	–	–	0.02	–	0.02
Total cations, a.p.f.u.	15.62	15.68	15.39	15.37	15.27	15.32	15.28	15.00	15.40	15.26	15.73	15.50
Mg#	0.56	0.53	0.45	0.44	0.37	0.48	0.47	0.47	0.33	0.50	0.58	0.53

Note. Crystallochemical formulae of micas were calculated for 22 oxygen atoms excluding chlorine concentrations. Mineral abbreviations: Phl-Ann – phlogopite-annite; Analyses: 1-9 – picrodolerites (sample YR-16-4), 10 – dolerites (sample A09-15), 11 – quartz diorite (sample A09-11), 12 – leucocratic granite (sample M08-03).

Table S4. Chemical compositions of amphiboles from quartz diorite (sample A09-11)

Component	Pgs	Pgs	Pgs	Pgs	Mhb	Mhb
n	1	2	3	4	5	6
SiO ₂ , wt.%	42.46	42.27	41.12	40.61	44.46	44.41
TiO ₂	0.50	0.52	0.67	0.57	0.43	0.40
Al ₂ O ₃	12.00	11.73	12.30	12.72	10.30	10.43
FeO _{tot}	18.46	18.42	17.96	18.49	16.12	17.19
MnO	0.28	0.31	0.45	b.d.l.	0.30	b.d.l.
MgO	9.32	9.55	9.17	8.94	11.31	10.71
CaO	11.97	11.77	11.24	11.61	11.61	11.92
Na ₂ O	1.91	1.89	1.91	1.87	1.58	1.51
K ₂ O	0.63	0.53	0.81	1.28	0.34	0.35
Cl	0.18	0.10	0.16	0.12	0.24	0.11
Total minus Cl	97.52	96.99	95.63	96.09	96.45	96.92
Si ⁴⁺ , a.p.f.u.	6.36	6.41	6.33	6.26	6.65	6.65
Ti ⁴⁺	0.06	0.06	0.08	0.07	0.05	0.05
Al tot.	2.25	2.10	2.19	2.31	1.82	1.84
Al ^{IV}	1.64	1.60	1.64	1.74	1.35	1.35
Al ^{VI}	0.61	0.50	0.55	0.57	0.47	0.49
Fe ³⁺	0.30	0.32	0.34	0.25	0.34	0.28
Fe ²⁺	2.01	2.01	1.97	2.13	1.68	1.86
Mn ²⁺	0.02	0.04	0.06	–	0.04	–
Mg ²⁺	2.08	2.16	2.10	2.05	2.52	2.39
Ca ²⁺	1.89	1.91	1.85	1.92	1.86	1.91
Na ⁺	0.57	0.56	0.57	0.56	0.46	0.44
K ⁺	0.12	0.10	0.16	0.25	0.07	0.07
Cl ⁻	0.05	0.03	0.04	0.03	0.06	0.03
Total cations, a.p.f.u.	15.65	15.65	15.65	15.80	15.48	15.50
Mg#	0.51	0.52	0.52	0.49	0.60	0.56

Note. Crystallochemical formulae of amphiboles were calculated for 23 oxygen atoms excluding chlorine concentrations. Mineral abbreviations: Pgs – pargasite; Mhb – magnesio-hornblende. Amphiboles compositions were calculated for cations positions according to the model in [49].

Table S5. Chemical compositions of muscovite group minerals from leucocratic granites (sample M08-03)

Component	Ms-Phn	Ms-Phn	Ms-Phn	Ms-Phn	Ms-Phn	Ms-Phn	Ms-Phn	Ms-Phn	Ms-Phn
	1	2	3	4	5	6	7	8	9
SiO ₂ , wt. %	45.20	45.27	46.70	47.92	45.08	45.31	45.08	45.42	46.27
TiO ₂	0.50	0.42	b.d.l.	b.d.l.	b.d.l.	0.48	0.53	0.38	b.d.l.
Al ₂ O ₃	30.02	30.16	28.57	28.83	28.30	30.25	30.61	30.67	31.54
FeO _{tot}	5.03	4.64	4.04	3.32	4.82	4.81	4.89	4.86	4.95
MgO	1.06	1.08	1.72	1.72	1.51	1.09	1.01	1.16	0.95
Na ₂ O	0.31	0.49	b.d.l.	0.40	b.d.l.	0.50	0.61	b.d.l.	0.42
K ₂ O	10.60	10.68	10.75	9.83	10.60	10.71	10.62	10.79	10.83
Cl	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.10	b.d.l.	b.d.l.
Tota minus Cl	92.73	92.73	91.78	92.09	90.31	93.16	93.45	93.29	95.51
Si ⁴⁺ , a.p.f.u.	6.33	6.35	6.56	6.66	6.47	6.32	6.29	6.33	6.34
Ti ⁴⁺	0.05	0.04	–	–	–	0.06	0.06	0.04	–
Al tot.	4.96	4.98	4.69	4.72	4.78	4.97	5.04	5.01	5.09
Al ^{IV}	1.67	1.65	1.44	1.36	1.52	1.68	1.71	1.67	1.67
Al ^{VI}	3.29	3.33	3.25	3.36	3.26	3.29	3.33	3.34	3.42
Fe _{tot}	0.60	0.54	0.47	0.34	0.58	0.56	0.52	0.51	0.51
Mg ²⁺	0.22	0.23	0.36	0.36	0.32	0.23	0.22	0.24	0.19
Na ⁺	0.08	0.12	–	0.11	–	0.14	0.17	–	0.11
K ⁺	1.89	1.91	1.92	1.74	1.94	1.91	1.89	1.92	1.89
Cl ⁻	–	–	–	–	–	–	0.02	–	–
Total cations, a.p.f.u.	14.13	14.17	14.00	13.93	14.09	14.19	14.19	14.05	14.13
Mg#	0.27	0.30	0.43	0.51	0.36	0.29	0.30	0.32	0.27
Si/Al ^{IV}	3.79	3.85	4.56	4.90	4.26	3.76	3.68	3.79	3.80

Note. Crystallochemical formulae of micas were calculated for 22 oxygen atoms excluding chlorine concentrations. Mineral abbreviations: Ms-Phn – muscovite-phengite.