

Table S5. Representative chemical analyses of the cordierite-sekaninaite (wt. %).

Massif	Khibiny						Lovozero
Sample	E-97-5	E-97-6	E-97-11	E-97-12	E-97-37	E-97-38	LV-01-45
SiO ₂	47.79	45.91	46.55	47.24	46.00	46.96	47.43
Al ₂ O ₃	32.55	32.08	31.17	32.34	32.16	32.67	32.14
FeO	15.14	19.61	18.39	12.97	17.32	14.44	9.04
MgO	0.93	0.50	0.53	3.72	1.70	3.31	6.69
MnO	3.24	1.01	0.99	1.21	1.57	1.37	1.94
CaO	b.d.l.	b.d.l.	b.d.l.	0.02	b.d.l.	b.d.l.	0.08
Na ₂ O	0.20	0.04	0.34	0.27	b.d.l.	0.56	0.10
K ₂ O	b.d.l.	0.08	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.05
Sum	99.55	99.23	97.97	97.77	98.75	99.29	97.50
Formula based on 11 cations and 18 oxygens, <i>apfu</i>							
Si	5.04	4.96	5.06	5.02	4.95	4.96	4.99
Al	4.07	4.08	3.99	4.13	4.08	4.07	3.98
Fe ²⁺	1.34	1.77	1.67	1.15	1.56	1.28	0.80
Mg	0.15	0.08	0.09	0.59	0.27	0.52	1.05
Mn	0.29	0.09	0.09	0.11	0.14	0.12	0.17
Na	0.04	0.01	0.07	0.06	—	0.11	0.02
K	—	0.01	—	—	—	—	0.01
Sum	10.93	11.00	10.97	11.06	11.00	11.06	11.02

b.d.l. – below detection limit.