

Appendix 4

Chemical composition and calculated crystallisation temperature of the garnet-biotite inclusion present in the dravitic tourmaline from the Ropianka Formation (grain R_t13_rz3; Fig. 7)

Elements	Biotite	Garnet*
SiO ₂ [wt.%]	36.18	37.34
TiO ₂	0.34	0.04
Al ₂ O ₃	20.72	21.09
Cr ₂ O ₃	0.06	–
MgO	8.65	1.90
FeO _{tot}	20.53	33.87
MnO	0.40	5.02
CaO	0.07	1.39
SrO	0.04	–
Na ₂ O	0.15	–
K ₂ O	8.67	–
H ₂ O	3.97	–
Total	99.79	100.63
Cation numbers**		
Si [apfu]	2.731	3.008
Ti	0.019	0.003
Al	1.843	2.003
Cr	0.004	0.000
Mg	0.973	0.228
Fe ²⁺	1.296	2.282
Mn	0.026	0.343
Ca	0.006	0.120
Sr	0.002	–
Na	0.022	–
K	0.835	–
Total	7.755	7.985
Estimated temperature: 511 ± 20°C		

* – garnet end-members [mol%]: Prp_{7.7}Alm_{76.8}Sps_{11.5}Grs_{3.9};

** – number of cations in formulas calculated on the basis of: 11 oxygen atoms for biotite and 12 oxygen atoms for garnet