Tourmaline nodules of two mica granite from Aderba area (North of Golpayegan, Iran)

AKRAMOSADAT MIRLOHI * AND MAHMOUD KHALILI

Department of Geology, University of Isfahan, Isfahan, Iran
*akrammirlohi@Sci.ui.ac.ir

The Aderba two mica granites (S-type granite) exposed in a complicated structural zone named Sanandaj- Sirjan (a part of Alpine-Himalayan orogeny) [1]. Tourmaline is one of the most important mineral found here as nodules in the granitic rocks. Nodular tourmaline (consist of a core of tourmaline + quartz + microcline) is surrounded by a leucocratic (biotite-free rim) halo. The nodules are observed in different sizes from 0.5 mm with a thin Q-halo to 10 cm with a Q+F halo. The major mineral assemblage of the host granite is quartz, plagioclase (albite to oligoclase), biotite, muscovite and K-feldspar. Biotite grains define a weak foliation parallel to nodules elongation. Leucocratic biotite-free rim has generally the same textural features as in the host granite. Based on petrography and mineralogy, probably, biotite breakdown to form tourmaline + microcline (reaction products [2]), have been occurred. Larger nodular tourmaline, surrounded by Q+F halo, is bleached by Fe and Mg mass transport toward the core to form tourmaline (Al-rich ferromagnesian mineral). They are typical schorl-dravite composition which is shifted toward dravite rich rim as are visible under the microscope by their yellowish pleochroism [3].

[1] Agard *et al* (2011) *Geol. Mag* 1-34 [2] Barbey (2007) *Cont Min Pet* **155** (6) 707-716 [3] Deer *et al* (1991) *Long Sci Tec* **7**th UK 528