Geochemistry and source determination of tourmalines in Mollataleb Area (North of Aligoudarz- Iran)

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Abstract: Mollataleb area is located in the north of Aligudarz city, in the Sanandaj-Sirjan metamorphic zone. The regional metamorphic rocks with Upper Triassic-Jurassic age and various granitoid units are the most important geological event that occurred in the area. The development of granitoid masses in Aligudarz area aged Middle Jurassic that intruded into schists. Microprobe analyses of tourmalines in pegmatites, aplite-pegmatites tourline vein, tourmaline nodules and quartz tourmaline veins show that these tourmalines are schorl-foitite type with dominance of schorl type. Different tourmaline occurrences in the granite units, euhedral forms and eminent chemical zoning, high Fe/Fe+Mg, deficiency in X sites and high Al contents are recognizable in most tourmalines and display their magmatic origin. Therefore, the tourmalines in Mollataleb area depended on granite environment and were formed by hydrothermal source of magma.

Keywords: Tourmaline; granite; schorl; foitite; Mollataleb; Aligoudarz; Sanadaj-Sirjn zone.

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