Petrology and geochemistry of Baghche-Maryam granitoid and intermediate rocks (south Ghorveh, Kurdistan Province)

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Abstract: Baghche-Maryam granitoid (in south of Ghorveh Area) is a part of the intrusive bodies of the Sanandaj-Sirjan zone with NW-SE trending. Based on field observations and mineralogical studies, the intrusion complex of Baghche-Maryam including of two acidic and intermediate units: diorite, monzodiorite, granite, syenite, and aplite. Geochemical studies show the rocks of this complex are metaluminous type (A/CNK= 0.81-0.46) and calc-alkaline. Petrological, mineralogical, and geochemical studies together with field observations indicate that these rocks are generated by various magmatic processes and are related to the active continental margin geodynamic environment (e.g. LREE enrichments and HREE depletions) and have I-type magmatic characteristics. According to thermobarometry studies, the average temperature in the studied samples is about 700 °C and the average depth is about 7-10 kilometers.

Keywords: Sanandaj-Sirjan; granitoid; Baghche-Maryam; geochemical.

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