Mineral chemistry and Thermobarometry of Middle Jurassic diabasic dikes 
Cutting metamorphic - igneous Shotor-Kuh complex (SE Shahrood)

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Abstract: Late Neoproterozoic metamorphic – igneous rocks of the Shotor Kuh complex is located in the northern edge of the Central Iran structural zone. This complex crosscut by several Middle Jurassic diabasic dikes. Plagioclase, pyroxene and biotite are the essential rock-forming minerals of these dikes. Plagioclases have mostly andesine composition (An31-49). Pyroxenes have following compositions: En31-49Fs29-42Wo25-29. Biotites with XFe = 0.49-0.53 and XMg= 0.46 - 0.5 are mostly Mg rich biotites. Temperatures and pressures obtained from clinopyroxene thermobarometry are in the range of 1200-1100°C and 10-2 kbar respectively. By attention to the results of chemical composition of these minerals, magma forming of these dikes has calc-alkaline nature and during their crystallization oxygen fugacity has been low. The mentioned dikes generated in a tectonic setting accommodate to intracontinental extensional regime such as a back arc basin (subduction of Neo-Tethys oceanic lithosphere beneath the Central Iran zone).

Keywords: Mineral chemistry; thermobarometry; diabasic dikes; back arc basin; Shotor Kuh; Shahrood.

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