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Mineralogy and determination of tectonomagmatic setting of subplutonic rocks in North of Shahrekord by using Clinopyroxene mineral chemistry

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Abstract: Subplutonic rocks of North Shahrekord at south-west of Iran as a part of Sanandaj - Sirjan tectonical zone have exposed as basic dykes. These rocks are dolerites with specific textures such as intergranular, intersertal, ophitic and poikilitic. The main constituteud minerals of the dolerites are plagioclase and clinopyroxene. The secondary minerals include sericite, calcite, chlorite, epidote, clinozoisite, sphene and incidental minerals are apatite, magnetite, titanomagnetite and ilmenite. Clinopyroxenes are frequently augite and diopside as individual phases or as compositional zoning in one mineral. Geochemical and mineralogical evidence implicated toleiitic and alkaline nature. Based on geotectonic discrimination diagrams foundated clinopyroxenes mineral chemistry, studied subplutonic rocks probably have been formed in a tensional post subduction tectonical environment. Neverthless, these magmatism contributed to middle- upper kimmerian orogenic phase in late Jurassic to early cretaceous.

Keywords: *Tectonomagmatic; Sanandaj-Sirjan zone; Shahrekord; Subplutonic; Clinopyroxene.*

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