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Geochemistry and tectono-magmatic environment of ultramafic-intermediate intrusive bodies in Chahghand Complex (Southern Sanandaj-Sirjan Zone) of Iran

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Chahghand Complex, located to the northeast of Neyriz and southwest of Shahr-Babak, consists of metamorphic and granitoid bodies, as well as ultramafic, mafic and intermediate igneous rocks including pyroxenite, olivine-gabbro and diorite.

Detailed petrographic and geochemical studies carried out on the rocks of this Complex and plotting of multi-element (trace and rare earths) and tectono-magmatic diagrams point towards the alkaline affinities of the rocks formed due to low-degree partial melting of lherzolitic mantle source rocks. Abundance of LREE and LILE along with depletion of HFSE in these rocks matches well with the characteristic patterns of intraplate continental basalts. Thus, an intracontinental rift setting is suggested for the formation of ultramafic-intermediate rocks of Chahghand Complex at Sanandaj-Sirjan Belt during Triassic-Jurassic.