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Genesis of white acidic intrusion in Mawat Ophiolite Complex, Kurdistan Region, NE Iraq

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The igneous mass in Mawat Ophiolite Complex (MOC) is built up by various basic and ultrabasic intrusions that are associated with minor acidic, intermediate and basic intrusion. The present study was examined the minor acidic intrusions (plagiogranite), with associated basic igneous rocks in order to understand the possible origin of these rocks. The plagiogranite in MOC composed mainly of quartz and alkali feldspar with rare Ca-plagioclase. These rocks are metaluminous, low-K calc-alkaline with
mineralogical and geochemical characteristics of oceanic plagiogranite (trondhjemite). They are characterized by high Sr, Ba, Th, concentration and low Ni, and Cr contents. They are also display chondrite . Normalized REE patterns characterized by LREE enrichment, moderate to minor HREE fractionation. Trace element distribution patterns show that these rocks are distinctively enriched in
large ions lithophile element LILE compared to high field strength elements HFSE. This feature is commonly apparent in volcanic arc granite. The origin of plagiogranite in MOC explained as a result of partial melting of hydrated basaltic / gabbroic rocks.