

Origin and evolution of Eocene felsic and Neogene adakitic volcanism in Kajan (west Nain)²

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Abstract: Felsic volcanic rocks embrace a portion of the volcanic succession in Kajan area of Urumieh-Dokhtar magmatic assemblage. Based on trace elemental abundances and patterns, the felsic rocks might be attributed to two distinct series. In one series, normalized trace and REE patterns are rather flat ($La/Yb < 17$) but display negative Ti, P, Sr and Eu anomalies. This series, which is called normal calc alkaline series, is comparable to the felsic melts evolved by differentiation of mantle-derived basic partial melts in subduction zones. In the second series, which is here called adakitic series, trace and REE patterns are steep ($La/Yb > 28$) and positive Sr anomaly. Origin of the magmas that generated the latter series is likely to be the Neotethyan slab partial melts under high pressure (amphibole eclogite mineralogy).

Keywords: *adakite; crustal contamination; fractional crystallization; felsic; Nain.*

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