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## Evolution of Neogene- Quaternary calc-alkaline to alkaline volcanism in the NW of Tabriz, NW of Iran.

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Widespread volcanism developed in NW of Iran during the Neogene and Quaternary in the context of Neo-thetyan oceanic lithosphere subduction and collision of Arabian plate with micro plate of Iran and Eurasia. In late Miocene volcanism activity identify with emplacement of sub volcanic dacitic domes which characterize by sodic calk-alkaline affinity and high Na2O/K2O, high content of Sr and low Y. Petrographic and geochemical characters of felsic rocks demonstrate similarity with adakitic rocks. Felsic volcanism subsequently followed by alkaline mafic volcanism. Mafic volcanic rocks comprise of phonolithic tephrite, leucite-tephrite hawaiite, Mugearite and trachy-andesite and associated pyroclastic rocks. Intrusive lamprophyric dikes with composition of minette are last volcanic activity in this area.

Mafic rock suites display high ratio of K2O/Na2O with high potassic to shoshonitic characters. Studies of trace elements display enrichment of LILE, LREE and relatively less content of HFSE. Enrichment of incompatible element documented to metasomatism of mantle either by silicate melts produced from melting of subducted oceanic lithosphere/or upward migration of fluids like H2O and CO2 released from subducted slab. Meanwhile rather less concentration of compatible elements such as Ni and Cr, suggests for some degree of olivine and pyroxene fractionation. The extension and strike-slip events along the Tabriz and north-Misho faults have served for ascent of magma in WNW-ESE direction.