



Mineralogy, geochemistry and isotope geology of Jurassic volcanic rocks of the Eastern Pontides

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Geotectonic setting of Jurassic volcanic rocks in the Eastern Karadeniz Region is controversial. Hence, volcanic and related pyroclastic rocks of those rock investigated in detail in terms of mineralogically, geochemically and isotopically.

The investigated volcanic rocks from a transitional series between tholeiitic and calc-alkaline and its dominated by basalts, basaltic andesite and andesite. Geochemically, they are enriched in LILE and LREE contents and depleted in HFSE [(La/Lu)_n=1.8-10.5; (Nb/La)_n= 0.1-0.8] compared to mid-ocean ridge basalts. They have radiogenic ratios of $^{143}\text{Nd}/^{144}\text{Nd}=0.512447(12)-0.512491(12)$; $^{87}\text{Sr}/^{86}\text{Sr}=0.704618(11)-0.707947(13)$; $^{206}\text{Pb}/^{204}\text{Pb}=18.488(0.001)-18.913(0.002)$; $^{207}\text{Pb}/^{204}\text{Pb}=15.590(0.001)-15.630(0.001)$; $^{208}\text{Pb}/^{204}\text{Pb}=38.141(0.001)-38.868(0.002)$.

Mineralogical and geochemical evolutions indicate that these volcanic rocks were derived the mantle that was metasomatised by subduction related fluids and further underwent a degree of fractional crystallization in magma chambers before being extruded at the surface.