Geochemistry of Cenozoic Basaltic Rocks from Jiangsu Province, Eastern **China: Petrogenesis and Mantle Source**

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Cenozoic basalts found in Jiangsu province of eastern China include tholeiites and alkali basalts. The present paper analyzed the major, trace elements, rare earth elements of these Cenozoic basalts and combined with Sr-Nd isotopic compositions proposed by Chen et al. (1990) in the literatures to discuss the petrogenesis of these basalts and the geochemical characteristics of the source mantle. Based on major, trace elements and fractional crystallization model established by Brooks and Nielsen (1982) we suggest that the basaltic magma has experienced olivine + clinopyroxene fractionation during its evolution. The chemical compositions of basaltic rocks from Jiangsu province indicate that these basalts may belong to the same magmatic system. Spidergrams reveal that Cenozoic basalts from Jiangsu province have geochemical characteristics similar to those of ocean island basalts(OIB). The slight positive Nb and Ti anomalies found in basaltic rocks of this study suggest the presence of Ti-bearing minerals in the mantle source and these Tibearing minerals had contributed to basaltic magma during partial melting, indicating a metasomatic event might have occurred before the partial melting. Based on the Sr vs. Nd isotopic ratio plots, we suggest that Jiangsu basalts may be derived from partial melting of mantle source which may represent two-end members mixing of DMM and EM-I. Some Jiangsu basaltic magma may be derived from partial melting of EM-I heated by the upwelling asthenospheric mantle or asthenospheric diapirism. KEY WORDS: Geochemistry; Jiangsu Province; Cenozoic basalts; Fractional crystallization

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