

Geochemical Investigations of Granitic Rocks within Iseyin-Oyan Schist Belt, Southwestern Nigeria

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This study presents the geochemical data of granitic rocks in Iseyin-Oyan Schist belt which is part of basement complex of Nigeria. The granites are classified based on field characteristics, mineralogy and textural attributes into coarse porphyritic granite, biotite alkali granite and quartz-diorites. The rocks are composed of quartz, plagioclase (albite to andesine), orthoclase, biotite (phlogopite and annite), Mg and Fe hornblende main minerals and fluoapatite, zircon, hematite, magnetite, and titanite accessory minerals. On the basis of geochemical data, the granitic rocks are I-type, metaluminous and calc-alkaline in compositions. The trace elements and Rare Earth Elements spidergrams are similar for the three rock types, indicating that they are coeval. The granites are enriched in Large Ion Lithophile Elements and incompatible elements. They however revealed less enrichment of heavy rare earth elements and compatible elements. Chondrite normalized Rare Earth Elements patterns are concave-shaped and show negative Eu anomalies. Their overall geochemical features indicate that they were most likely derived from partial melting of upper continental crustal materials in a post-collisional tectonic setting. Therefore, they are parts of the Pan-African Granitoids which were emplaced during the Pan African orogenic event.