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New data on the alkaline Nana complex: petrology and associated lava geochemistry (Tikar Plain, Cameroon Line).

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The Nana alkaline complex, one of the anorogenic complexes of the Cameroon Line (CL), reveals the presence of various volcanic rocks. These rocks are made up of basalts, intermediate lavas [basaltic trachyandesites (BAT) and trachyandesites (TA)], and felsic lavas (rhyolites). Basalts and BAT have petrographic and geochemical characteristics of transitional lavas: absence of olivine, pyroxene with $Ca+Na < 0.9$, relatively high content for SiO_2 (48.62 to 52.68%) and Y/Nb ratios (1.03 to 2.90), low contents of alkali (< 2.8% in basalts and 7% in BAT), MgO (5.41 to 6.24%), Ni (11,18–40 ppm), Co (26.43–45 ppm) Cr (60 ppm except in PP23 where Cr = 410 ppm), La_N/Yb_N (6.88 to 6.91) and Ce_N/Yb_N (5.41 to 5.61) ratios. These basalts derived from a lithospheric mantle source. Rhyolites are commendites (Al_2O_3 : 9–12%; FeOt: 0.83–1.71%). They show negative europium anomalies ($0.07 < Eu/Eu^* < 0.32$). In some rhyolites, concentrations of some trace elements such as Zn (870 ppm), Zr (2530 ppm) are very high. The BAT has an age of 49.31 ± 0.5 Ma (Eocene) obtained by the Ar^{39}/Ar^{40} method, it is younger than the rhyolites it cross-cuts.

Keywords: Cameroon Line (LC); Tikar plain (TP); Transitional basalt; Commendites; Ar^{39}/Ar^{40} ages; Lithospheric mantle source.