

**Paleoproterozoic granitic
magmatism in the northern São
Francisco Craton: new perspectives
from geochemistry, U-Pb
geochronology and Hf isotopes.**

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The northern São Francisco Craton has been studied by diverse authors but they did not emphasize the petrogenesis of the granitoid rocks that occur in the area. A set of eight fine-to-medium grained granitic plutons intrude the CMS. Two mineral assemblages were identified: i) qz+kfs+pl+bt as main phases and ms+zrn+ap+chl+ser+ilm+mag as accessories and ii) qz+kfs+pl+bt+ms as main phases and zr+ap+chl+ser+ilm as accessories. Thus, it was possible to divide them between biotite-monzogranites and two-mica granites. The results reveal that these granitoid are sodic and potassic peraluminous, leucocratic, calc-alkalic to alkali-calcic and are enriched in LREE in relation to the HREE. The biotite-monzogranites have slightly negative Eu anomalies whereas the two-mica granites portray pronounced negative Eu anomalies. Both biotite-monzogranites and two-mica granites have Zr/Hf ratios between 21.90 and 35.59 which allowed their classification as moderately-to-highly fractionated granites. U-Pb geochronological analysis indicated that the biotite-monzogranites have an U-Pb Concordia age of 2003±10 Ma whereas the two-mica granites portray an U-Pb Concordia age of 2056.7±14 Ma, suggesting that both are Paleoproterozoic. Lu-Hf isotopic analysis in zircon showed that both granites have ϵ_{Hf} values indicating their crustal origin and both have TDM ages between 2.99 and 3.64 Ga suggesting their derivation from Archean source rocks.