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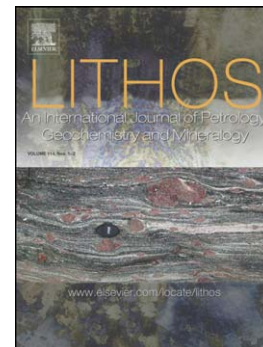
Petrogenesis of Migmatites and Leucogranites from Sierra de Molinos, Salta, Northwest Argentina: A petrologic and geochemical study

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**Title: “Petrogenesis of Migmatites and Leucogranites from Sierra de Molinos, Salta, Northwest Argentina: a petrologic and geochemical study”**

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## **ABSTRACT**

*In Sierra de Molinos, Eastern Cordillera, NW Argentina the relationship between different components of an anatectic system developed in high temperature and low pressure conditions (<800°C and 4-6 kbar) can be observed. This allows the direct insight on the origin of migmatites and granites by anatexis of psammo-pelitic metasedimentary rocks. Four principal rock types have been recognized in Sierra de Molinos 1) metasedimentary rocks, assigned to the Puncoviscana Formation, 2) metatexite migmatites, 3) diatexite migmatites and 4) anatectic granitoids including: leucogranites, trondhjemitites and pegmatite/aplitic dykes. The metamorphic grade increases from phyllites and schists at sub-greenschist and greenschist facies in the west, to upper amphibolite facies migmatites in the east. The mineral assemblages indicate a progressive increase in temperature without a significant change in pressure. The ages obtained for granitoids and migmatites are identical within analytical errors and indicate that the metamorphic peak and anatectic granite generation occurred at ca. 470 Ma.*

*We use petrological and geochemical variations to investigate the formation of granite magma from migmatites that derived from metasedimentary protoliths. This provides*

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