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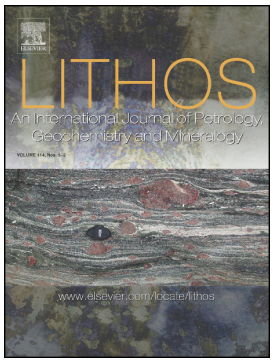

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Origin of K-feldspar Megacrysts in Rhyolites from the Emeishan Large Igneous Province, Southwest China

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Abstract:

Silicic rocks occur in the uppermost units of the longest volcanic succession (~5000 m thick) in the Binchuan area of the Permian Emeishan flood basalt province of SW China. They are predominantly rhyolites and to a lesser extent trachytes, both containing potassium feldspar megacrysts as the dominant phenocryst phase up to approximately 20 mm in size. These megacrysts contain domains of albite arranged in vein-like networks, likely formed by post-magmatic alteration. Crystal size distributions (CSD) suggest that these megacrysts grew in a stable magmatic system, consistent with relatively uniform core-to-rim compositional (K_2O: ~14-16 wt%) and