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PII: S0024-4937(17)30369-9

DOI: doi:10.1016/j.lithos.2017.10.018

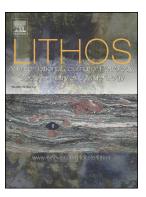
Reference: LITHOS 4455

To appear in:

Received date: 14 July 2017 Accepted date: 24 October 2017

Please cite this article as: Li-Lu Cheng, Yu Wang, Jason S. Herrin, Zhong-Yuan Ren, Zong-Feng Yang, Origin of K-feldspar Megacrysts in Rhyolites from the Emeishan Large Igneous Province, Southwest China. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Lithos(2017), doi:10.1016/j.lithos.2017.10.018

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### ACCEPTED MANUSCRIPT

# 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<sub>2</sub>O: ~14-16 wt%) and

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