

Accepted Manuscript

Short Communications

Insights into the origin of purely sediment-derived Himalayan leucogranites:
Si–O isotopic constraints

Xiao-Chi Liu, Xian-Hua Li, Yu Liu, Lei Yang, Qiu-Li Li, Fu-Yuan Wu, Hui-
Min Yu, Fang Huang

PII: S2095-9273(18)30414-6
DOI: <https://doi.org/10.1016/j.scib.2018.09.001>
Reference: SCIB 489

To appear in: *Science Bulletin*



Please cite this article as: X-C. Liu, X-H. Li, Y. Liu, L. Yang, Q-L. Li, F-Y. Wu, H-M. Yu, F. Huang, Insights into the origin of purely sediment-derived Himalayan leucogranites: Si–O isotopic constraints, *Science Bulletin* (2018), doi: <https://doi.org/10.1016/j.scib.2018.09.001>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Short Communication

Insights into the origin of purely sediment-derived Himalayan leucogranites: Si–O isotopic constraints

Xiao-Chi Liu^{a*}, Xian-Hua Li^{a, b*}, Yu Liu^{a, b}, Lei Yang^{a, b}, Qiu-Li Li^{a, b}, Fu-Yuan Wu^{a, b},

Hui-Min Yu^c, Fang Huang^c

^a *State Key Laboratory of Lithospheric Evolution, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing 100029, China*

^b *College of Earth and Planetary Sciences, University of Chinese Academy of Sciences, Beijing 100049, China*

^c *CAS Key Laboratory of Crust-Mantle Materials and Environments, School of Earth and Space Sciences, University of Science and Technology of China, Anhui 230026, China*

***E-mail:** liuxiaochi@mail.iggcas.ac.cn; lixh@gig.ac.cn

Granite is the dominant rock type in Earth's continental crust. The origin of granite can be directly or indirectly related to the fractional crystallization of mantle-derived basaltic melt or the reworking of pre-existing continental or oceanic crust, which contribute to the growth of continental crust. Among the various types of granites, the peraluminous leucogranites in the Himalayan orogen, which are high in SiO₂ (>73%) and low in mafic minerals (<5%), are thought to originate from the melting of pure- sediments, as inferred from comprehensive petrological, geochemical, and isotopic studies [1-3]. Formation of the Himalayan leucogranites led to the reworking of the upper continental crust by the transfer of heat and volatile elements, and shaped the highest mountains on Earth (Fig. 1). In addition, Himalayan

Download English Version:

<https://daneshyari.com/en/article/11017642>

Download Persian Version:

<https://daneshyari.com/article/11017642>

[Daneshyari.com](https://daneshyari.com)