Jurassic granitoids in the northwestern Sanandaj–Sirjan zone: Evolving magmatism in response to the development of a neo-Tethyan slab window

Hongrui Zhang, Jianlin Chen, Tiannan Yang, Zengqian Hou, Mehraj Aghazadeh

PII: S1342-937X(18)30041-8
DOI: doi:10.1016/j.gr.2018.01.012
Reference: GR 1917

To appear in:

Received date: 17 August 2017
Revised date: 5 January 2018
Accepted date: 8 January 2018

Please cite this article as: Hongrui Zhang, Jianlin Chen, Tiannan Yang, Zengqian Hou, Mehraj Aghazadeh , Jurassic granitoids in the northwestern Sanandaj–Sirjan zone: Evolving magmatism in response to the development of a neo-Tethyan slab window. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Gr(2018), doi:10.1016/j.gr.2018.01.012

Jurassic granitoids in the northwestern Sanandaj–Sirjan Zone: evolving magmatism in response to the development of a Neo-Tethyan slab window

Hongrui Zhang [a, *], Jianlin Chen [b, c], Tiannan Yang [a], Zengqian Hou [a], Mehraj Aghazadeh [d]

[a] *Institute of Geology, Chinese Academy of Geological Sciences, Beijing 100037, China*

[b] *State Key Laboratory of Isotope Geochemistry, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou 510640, China*

[c] *CAS Center for Excellence in Tibetan Plateau Earth Sciences, China*

[d] *Department of Geology, Payame Noor University, Iran*

[*]Corresponding author. *E-mail address:* zhanghr@yeah.net

ABSTRACT

Voluminous Jurassic granitoids within the Sanandaj–Sirjan Zone (SSZ) provide insight into the magmatic arc formed in the active margin of Eurasia. Here, we present new in situ zircon U–Pb, whole-rock major and trace element, and Sr–Nd isotopic data for the Gorveh Plutonic Complex (GPC) of the northwestern SSZ in Iran. Six samples from the plutons within the GPC yielded zircon U–Pb ages that range from 151 to 146 Ma. These plutons can be subdivided into two groups based on their geochemistry. Group 1 rocks (the Mobarak Abad diorites and the Gorveh gabbros and diorites) contain relatively high concentrations of the high field strength elements (HFSE; Nb, Ta, Zr, and Ti) and have low Th/Nb (0.20–0.56) and moderate Sm/Yb ratios (1.51–2.32), low ($^{87}Sr/^{86}Sr)_i$ values (0.70354–0.70622), and high $\varepsilon_{Nd}(t)$ values (2.3–5.4). These features