

# ***Interactive comment on “Comparative geochemical study on Furongian (Toledanian) and Ordovician (Sardic) felsic magmatic events in south-western Europe” by J. Javier Álvaro et al.***

**J. Javier Álvaro et al.**

jj.alvaro@csic.es

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REVIEWER – LAURA GAGGERO

Thanks for your revision and constructive remarks. Regarding your comments:

I suggest inserting in your comparison or quoting in the discussion also the bulk and isotopic data of Gaggero et al. (2012) for the lower Ordovician felsic rocks, correctly cited in the text. The emphasis on the lower Ordovician magmatism from in Sardinia, which we ascribed to a magmatic starved incipient passive margin, can otherwise open to a link with the Toledanian phase in the Iberian Massif. In your model, Sardinia could

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represent a distal expression of the crustal melting after thermal doming.

Thanks for sending us (JMC) the dataset. We have studied it in detail and found some inconveniences for including these geochemical values. Many of the Furongian-Lower Ordovician samples of Gaggero et al. (2012) display alkaline to subalkaline affinities. Alkaline ORD19 is a probable Furongian sample; and alkaline ORD45 and 47 samples come from the Li Trumbetti Unit (Inner Zone), and these allochthonous zones are not considered in our paper. In addition, subalkaline ORD25 and 34 samples are andesites-to-basaltic andesites, so basic rocks, and the topic of the paper is the geochemical comparison of felsic/acidic rock samples. In addition, ORD34 was also sampled from the Vanaglia Unit, in the allochthonous Inner Zone, so beyond the study area. However, we have included in the second version the isotopes of sample OD31, which fulfil the requirements of the paper, including felsic samples from the Furongian-Ordovician of the Outer Zones of Sardinia.

I also bring to your attention the mid Ordovician andalusite thermal aureole around the Filau metagranites (Costamagna et al 2016, Lithos) that constrains the emplacement level of the felsic rocks. Finally : monacite at line 300.

We have added the metamorphic conditions of the Filau metagranites and properly written “monacite”. Thanks again.

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