

Dear Dr Nieto,

Thank you for your comments. Indeed, there was a problem of coherence in the manuscript, especially concerning the figure numbers and the nomenclature used. We have carefully reviewed the entire manuscript.

To answer your specific comments (*in italic*):

- Table 2 (mentioned in line 326) does not exist. Neither does it table 3 (L 331). They are probably intended to be in the supplementary material in this new version, but I have checked the supplementary material and it is also there the material (S4) presented in Table 1 (or a part of it?)

To clarify this point, Tables in the supplementary material are now labelled Table S1, Table S2 and Table S3. Only Table 1 in part of the draft. A new figure showing μ XANES spectra is now part of the supplementary material (Figure S1).

- In the text, the reference is to Lanari (2012), for example, in line 238, but in table 1 it is to Lanari et al (2014), possibly it is the same geothermometer, but this is confusing for the reader.

It is the same geothermometer, we are now using the per reviewed publication that deals with this model: Lanari et al. (2014a).

- Most of the confusion is in the numbering of the figures. In figure 4f there is a window refereeing to figure 7d, which does not exist. In figure 4d, area 2 refers to fig 6b, but fig. 6b is a magnification of fig 6a.

There were errors on the call of the figures in Figure 4. This has been corrected by modifying Figure 4d and Figure 4f. The legend of the figure has also been corrected.

- I have tried to cheque the validity of the assignation in figure 10 a1 and a2, respectively, to the most reducing or oxidant states, as it is fundamental for the conclusion and something sounds strange to me, but going to the original figures, I have become lost. Therefore, I am not sure if the correspondence of the two textural positions with the Fe²⁺- and Fe³⁺-rich chlorites is correct or if it has been changed; maybe it is correct, but I am not sure.

To facilitate the reader's understanding, an effort has been made to ensure consistency. In the results sections 4.2., 4.3. and 4.4., only Area 1 and Area 2 are mentioned. Then, the chlorites of the core zone are always described in the same way in the discussion, the conclusion and Figure 10, using the terms used for their description in the results section 4.1: “chlorite in interboudin domain” and “chlorite at the edge of a quartz vein” respectively.

The calls to figures between lines 300 and 309 were also not correct and have been changed.