

## Response to reviewer 2

We would like to thank reviewer 2 for their time and effort in reviewing our paper. As mentioned in our response to reviewer 1, we tried to keep figures to a minimum to keep the manuscript size manageable. We apologize if we cut back to the point where our paper became unclear.

With regards to their specific numbered comments:

1. This is an excellent idea, and we would be happy to add a flowchart figure showing sample treatment and analytical pathways.
2. We would also be happy to add concordia diagrams. The table of spot-by-spot analytical results is already available in the supplement table 5, as is the complete reflected light imagery, transmitted light imagery, cathodoluminescence imagery, and spot locations in Supplementary figure 2. As the samples were repolished between U-Pb and  $\delta^{18}\text{O}$ , additional imaging of the U/Pb spots is not possible, but we have post-analytical images from the SHRIMP imaging system saved.
3. We can probably plot  $\text{In}/\text{In}$  calibration lines for all four pairs of reference zircons, but possibly not in the same diagram, due to their very different Pb/U ratios. The reviewer is correct that a calibration slope difference only produces a different age for a different UO/U ratio, which is why we state that difference in line 553.
4. We apologise for mislabeling this diagram, and will fix it. The green line is the median value, and can be removed.
5. We can change the line styles in these figures so that close or overlapping lines can more easily be distinguished.
6. The purpose is to show that the common Pb corrects to a reasonable value using the Stacey & Kramers Pb model. We agree that the trendline of figure 11B is not illustrative of anything and can be removed.
7. This is a good point and we can standardize the format of the concordia plots.

Signed,

Charles Magee, on behalf of the team.