

**Publish subject to minor revisions (review by editor; comments below):**

There are some minor corrections that I think you need to correct (see below), and please ensure to re-proof read your work prior to sending the final publications.

I am happy to accept this contribution for publications to Biogeosciences. Congratulations and best wishes in your future endeavors.

Voary

Author comments are noted in blue.

We would like to thank this editor for guidance and patience during the submission and review processes for this manuscript. We note that we were able to analyze an additional coral sample (as per the suggestions of previous reviews) for mineralogical analysis during review - the previous samples run for detailed mineralogical analysis were not the same specimens analyzed for stable carbon and oxygen isotopes. We now have detailed mineralogical data that support these corals analyzed here are nearly 100% calcite with an infinitesimal contribution of aragonite (<5%), rather than mixed calcite and aragonite. This does not change our interpretations of the stable isotopic data but supports our original growth/calcification hypothesis rather than a mineralogical forcing as the whole skeleton is the same mineralogy. This means that we have removed one of the tables in the manuscript (Table 3) along with mentions of mixed mineralogy and changed the supplemental Figure S3 to illustrate this. We wanted to make sure you were aware of these additions because they went above the editorial suggestions at this stage in the review process, and these additions could certainly be construed as having impact on the thrust of the manuscript. However, given that the new results confirm our original hypothesis and satisfy previous reviewers' desire to include XRD data, we felt that you would generally be pleased with these additions.

The comments below have all been addressed and the updated manuscript has been submitted.

---

L 49: remove of which (after latter))

Done

L50: records, such as oxygen and carbon...

Done

L214: The XRD diffraction patterns were obtained

Done

L289: remove in the supplement (the S in Table S1 is already an indication of supplementary)--I see this instance repeated in the manuscript, please correct accordingly

Done

L317: may be extra word "up-coral", delete?

Changed the wording to "along the growth axis"

L559: in E fissurata ("in" is missing)

Done

L664: crystal instead of crustals

We could not find the instance of "crustals" in the text.

L672: there is an extra punctuation after Internal, please delete

Done

Figure formatting, Please put the figures in line with the text and not that the manuscript will surround the figures. There was some text overlap for example in Figure 10, and it is not easy to read the thin column.

Done

Note: Refer to the line numbers in the track changed version.