

Author's response (on behalf of all the co-authors) to the review of:

The 3D submicron-scale skeletal reconstruction of *Nannoconus* (Cretaceous calcareous nannofossil) - Insights into biomineralization

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We thank the reviewer, Isaline Demangel for the detailed assessment of the revised manuscript. All major and minor comments have been incorporated and corresponding revisions implemented in the revised manuscript. However, there are two comments where we have decided to retain the original text and Figures. Our rationale behind this decision is explained with the reviewer's comments (in red) our response (in black).

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Line 80: I suggest removing panels a–d and retaining only e and f. The forms illustrated in a–d, are fairly self-explanatory from their names, and I do not believe these illustrations add significant value to the manuscript.

Response: The figures of panel a-d illustrate the general morphology of the *Nannoconus*. Given the manuscript is targeted to broader inter-disciplinary readers, these panels serve the essential and basic understanding of different morphologies of *Nannoconus*. It is also necessary to mention that the panels of e and f cannot be implemented in absence of the details in panels a-d. therefore, we have retained the original panels with slight reorganization.

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Line 427: Suggest introducing the methodology and those results earlier.

Response: This comment corresponds to the figure and table of the reconstructed morphologies of five different species of *Nannoconus*. The reviewer suggests to describe this the part of "Methodology". It is noteworthy, that these morphologies have been reconstructed using the segment model after we have established that the segment model accurately validates the

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microstructural organisation of *Nannoconus* as discussed subsection 5.1. Consequently, the figures and the tables are intentionally placed after the discussion of subsection 5.1. Hence, we have decided to keep them in their current position in the revised manuscript.

Sincerely,

35 Rajkumar Chowdhury