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Interactive comment on “Skeletal mineralogy of coral recruits under high temperature and $p\text{CO}_2$ ” by T. Foster and P. L. Clode

Anonymous Referee #1

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General comments. This study presents a good overview of the CaCO_3 polymorph precipitation in corals skeletal formation, investigating the ability of corals to switch from aragonite to calcite precipitation, especially in their early developmental stages in response to changing seawater chemistry. Mg/Ca ratio, temperature and $p\text{CO}_2$ has been already recognized as the most important factor affecting skeletal mineralogy on adults, but less is known about the mineralogy of corals in the early post-recruitment phases. I think this is a well described article with a lot of appropriate references, through which the authors abundantly explain and clearly summarize all the knowledge and the state of arts about skeletal mineralogy. However, the paper lacks general flow, appearing poorly written in some sections (e.g. the introduction is redundant). It's an innovative study focusing on the CaCO_3 precipitation in new coral recruits.

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Specific comments. Very little results are presented, but they are unequivocal and well explained by precise charts. Because of the simplicity of the analyses, it would be interesting the addition of other treatments and not only of the range ecologically relevant used. Extreme values of temperature and pCO₂ could consolidate the conclusions that neither temperature nor pCO₂ affected mineralogy on coral recruits. In the discussion not much debate is posed about ecologically implication for coral recruits survival: how these organisms without the production of calcitic skeletons can face out to future scenarios of “calcite sea” conditions?

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