Interactive comment on “Validation of carbon isotope fractionation in algal lipids as a $PCO_2$ proxy using a natural $CO_2$ seep (Shikine Island, Japan)” by Caitlyn R. Witkowski et al.

Anonymous Referee #2

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I have two comments that warrant further clarification by the authors:

Regarding combustion of filters: The authors should provide literature evidence for their statement that the target compounds would be completely degraded after 3h at 300 °C. I have a hard time believing especially that phytol would combust to completion under these conditions (which are not too different from the GC conditions used by the authors).

Regarding literature pCO2 values: After perusal of Agostini et al. (2015, 2018) and Harvey et al. (2018) it is still not clear to me how the authors derived at the presented pCO2 values. The pCO2 data presented in the former studies show high variability
both temporally and spatially, which should not be disregarded in the present study.