Comment on bg-2021-143
Anonymous Referee #2

Referee comment on "Impact of dust addition on the microbial food web under present and future conditions of pH and temperature" by Julie Dinasquet et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-143-RC2, 2021

General comments

The manuscript "Impact of dust addition on the microbial food web under present and future conditions of pH and temperature" by Dinasquet et al. investigated atmospheric wet dust deposition impacted on the microbial food web under warming and acidification environmental conditions in 300 L climate reactors. The authors found that the effect of dust deposition on the microbial loop is dependent on the initial microbial assemblage and metabolic state of the tested water, and that predicted warming, and acidification will intensify these responses, affecting food web processes and biogeochemical cycles. This manuscript addresses interesting scientific issues and was generally well written with meaningful results. Some minor issues are listed below for further improvements for publication.

Specific comments

L97, how did the authors maintain the constant pH in the incubations, did you measure it over the time?

L116, both top-down and bottom-up contribute the bacterial mortality. Shouldn't nutrient-depleted in late incubations play more important roles?

L191-196, please give more details about the result instead of general description (e.g., the highest growth rates, a similar trend)

L323-324, top-down control on the bacterioplankton would be strengthen under future conditions in the Mediterranean Sea? Too speculated.

L345-351, shorten this contents and added related citations.

L481-482, Erythrobacter sp. and OM60 group are potential AAP, the authors may test pufM gene or bacteriochlorophyll using fluorescent microscopy to back this description.