

***Interactive comment on “The Arctic picoeukaryote
Micromonas pusilla benefits from Ocean
Acidification under constant and dynamic light”
by Emily White et al.***

Anonymous Referee #3

Received and published: 18 October 2019

The manuscript by White et al described the responses of Arctic picoeukaryote *Micromonas pusilla* to ocean acidification under both constant and dynamic light. The experiments were well designed and performed. The manuscript was well-structured with a good logic flow. However, I do have several minor comments for the revisions before the manuscript be accepted for the publication in BG.

Abstract and Introduction: Good Materials & Methods Line 120: What are the frequencies for the measurements of the pH and did you measure the pH everyday or several times per day, in the mid-phase of light period or dark period? Please clarify. Line 133: Since the authors measured the carbonate system parameters of pH, TA, and DIC,

C1

why did you calculate the full carbonate system with pH and TA, but not with pH and DIC? Line 147: When did you perform the sampling for POC and PON, at the end of semi-continuous batch culture or in the middle? And when, the middle of light phase or dark phase? Please clarify. The same for Chla. Line 212: What kind of ANOVA did you perform here for the statistical analysis? And I did not see the details about all the statistical analysis that performed in this study. So I would recommend the authors to add a section of “statistical analysis” in the “Materials & Methods” to clarify this issue. And please also report the degree of the Freedom in a standard way for all the stats. Discussion: good.

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2019-343>, 2019.

C2