

An itemized response (blue words) to the associate editor's comments and suggestions

We are very thankful to the associate editor for the valuable comments and helpful suggestions to improve this manuscript. We have carefully considered the associate editor's suggestions and conducted the revision seriously.

Technical Corrections:

- Of Fig. 2 only A and B are cited. Please add a citation for 2-C.

Thanks for the associate editor's suggestion. We have added a citation for Fig. 2-C in the revised manuscript.

L253-254 "Similar to DMS, DMSP-consuming bacteria was also delayed in the high $p\text{CO}_2$ mesocosm compared to that in the low $p\text{CO}_2$ mesocosm (Fig. 2-C)."

- Of Fig. 3 only D is cited. Please add a citation for 3-A, 3-B, and 3-C

Thanks for the associate editor's suggestion. We have added a citation for Fig. 3-A, Fig. 3-B, and Fig. 3-C in the revised manuscript.

L262-263 "The temporal development in CHBrCl_2 , CH_3Br , and CH_2Br_2 concentrations is shown in Fig. 3-A, Fig. 3-B, and Fig. 3-C, respectively."

- The sentence "Affected by the filtration procedure, three bromocarbons compounds measured in this study were not correlated with *P. tricornutum* and *T. weissflogii*, and Chl a." (Line 322-323) is not clear to me. What is meant by "Affected by the filtration procedure"? Please provide a broader context.

The filtration procedure led to the loss of main bromocarbon production species, such as *Aphanizomenon flos-aquae*. In addition, the added *P. tricornutum* and *T. weissflogii* did not primarily release these three bromocarbons during the mesocosm experiment. Therefore, three

bromocarbons compounds measured in this study were in low concentrations and not correlated with *P. tricornuntum* and *T. weissflogii*. We have explained this in the section 3.3, L276-284, and reworded this sentence in the revised manuscript.

L271-279 “No clear correlation was observed between the three bromocarbons and any of the measured algal groups (Table 2 and Table 3), indicating that *P. tricornuntum* and *T. weissflogii* did not primarily release these three bromocarbons during the mesocosm experiment. Previous studies reported that large-size cyanobacteria, such as *Aphanizomenon flos-aquae*, produce bromocarbons (Karlsson et al., 2008). Significant correlations between the abundance of cyanobacteria and several bromocarbons have been reported in the Arabian Sea (Roy et al., 2011). However, the filtration procedure led to the loss of cyanobacteria in the mesocosms and finally resulted in low bromocarbon concentrations during the experiment, although *P. tricornuntum* and *T. weissflogii* abundances were high.”

L322-324 “Due to the loss of main bromocarbon-producing species affected by the filtration procedure, three bromocarbons compounds measured in this study were not correlated with *P. tricornuntum* and *T. weissflogii*, and Chl *a*.”