

*Supplementary Material*

**Ocean Acidification Experiments in Large-Scale Mesocosms Reveal  
Similar Dynamics of Dissolved Organic Matter Production and  
Biotransformation**

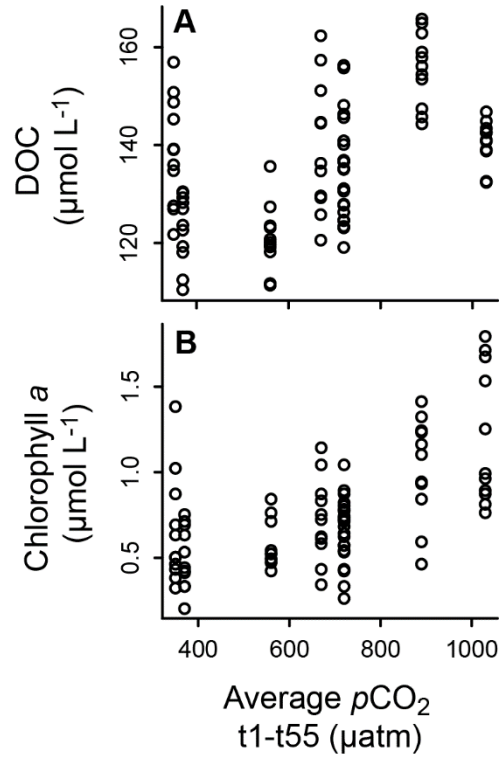
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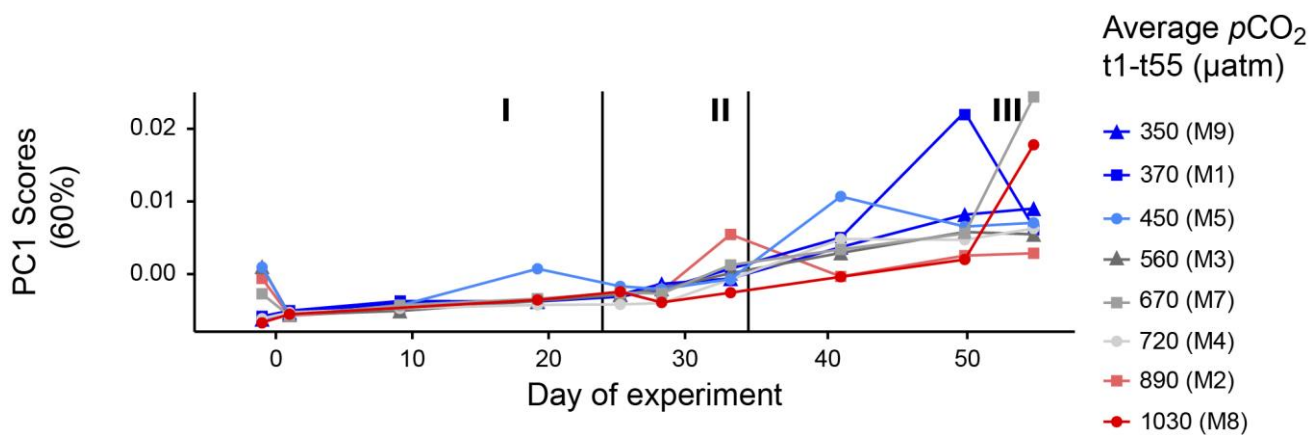
*Supplementary Figure 1*

*Supplementary Figure 2*

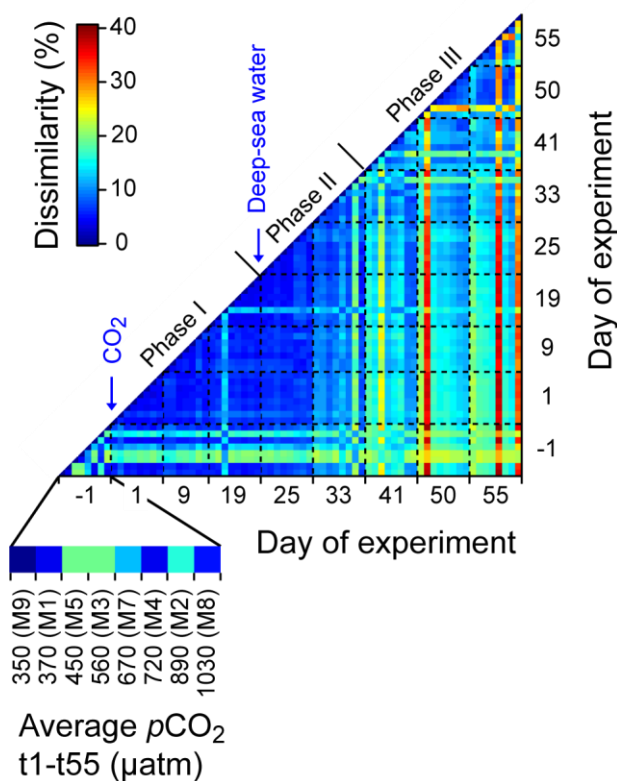
*Supplementary Figure 3*



**Supplementary Figure 1.** Carbon dioxide concentrations as driver for trends in bulk data during phase III. (A) DOC and (B) chlorophyll *a* plotted for increasing average  $p\text{CO}_2$  values of experiment days 35-55 (post-bloom).



**Supplementary Figure 2.** Time series of molecular DOM composition inside the mesocosms. Results from the PCA (PC1) of 7212 molecular formulae and their MS signal intensities.



**Supplementary Figure 3.** Molecular dissimilarity between mesocosms. For dissimilarity analysis, the 5,205 most intense molecular formulae from each sample were considered. The dissimilarity on a Bray-Cutis level may reach values between 0 (the two mesocosms share all molecular formulae in similar abundances) and 1 (the mesocosms share no molecular formulae), which were transferred to percentages (from 0 to 100% dissimilarity). The color scale was cut at 40% dissimilarity level as no mesocosms showed higher dissimilarity in DOM composition. Samples were first ordered by average  $p\text{CO}_2$  values from day 1 to day 55 and second by the respective day of the experiment.