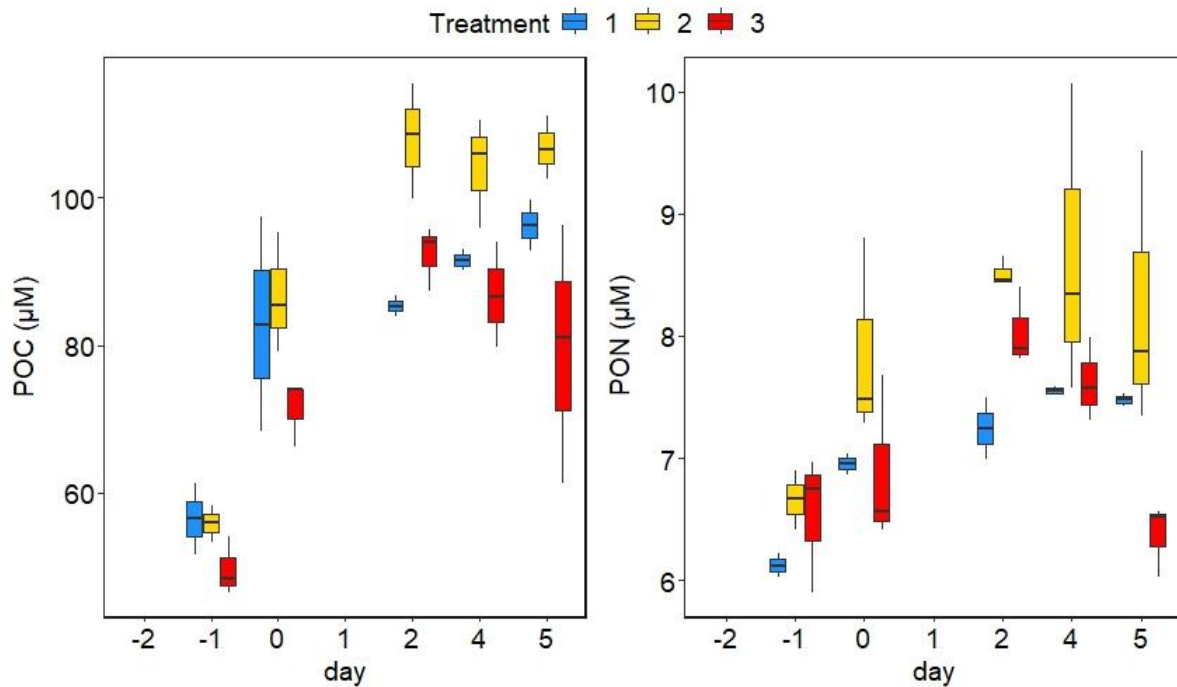


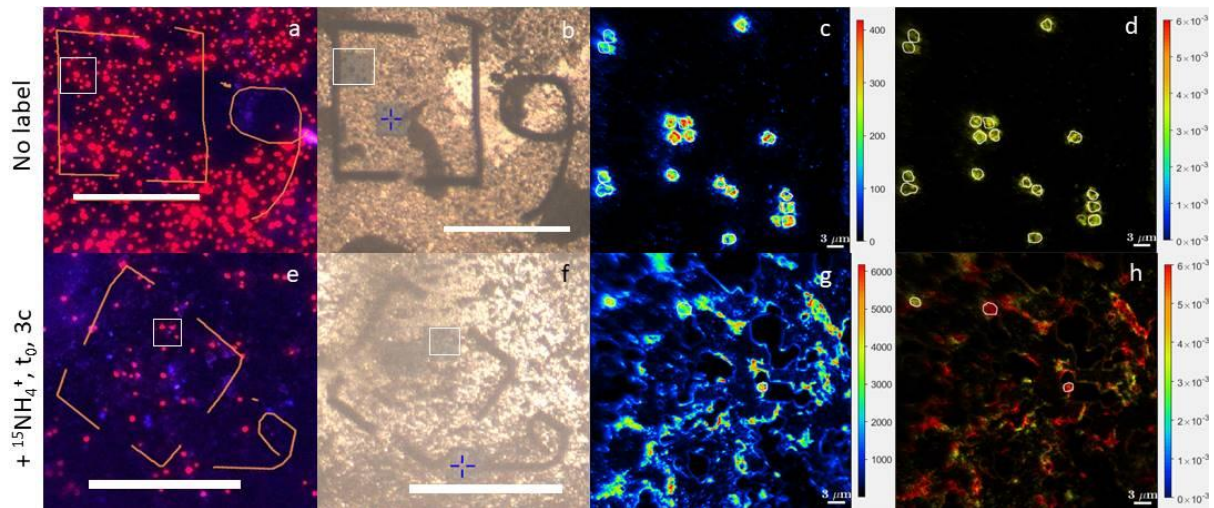
## Supplementary Material

### 1 Supplementary Figures and Tables

#### 1.1 Supplementary Figures



**Supplementary Figure 1.** POC (left) and PON (right) concentrations from the different treatments over the course of the climate change experiment. Note that there are no samples from days -2, 1 and 3.



**Supplementary Figure 2:** *Crocosphaera* cell identification and NanoSIMS results, a) and e) show fluorescence images, b) and f) light microscope images after laser marking and NanoSIMS analysis: c)  $^{31}\text{P}$  counts, d) and h)  $^{12}\text{C}^{15}\text{N}/(^{12}\text{C}^{15}\text{N} + ^{12}\text{C}^{14}\text{N})$  ratio image, g)  $^{12}\text{C}^{14}\text{N}$  counts.

## 2.2 Supplementary Tables

**Supplementary table 1:** p-values obtained from the Mann-Whitney-U pairwise comparison for cell-specific uptake rates determined in the climate change experiment. "n.s." is not significant

<b>day 0</b>			<b>day 0</b>			<b>day 0</b>		
<b>NO<sub>3</sub><sup>-</sup> uptake</b>	treatment 1	treatment 2	<b>NH<sub>4</sub><sup>+</sup> uptake</b>	treatment 1	treatment 2	<b>N<sub>2</sub> fixation</b>	treatment 1	treatment 2
treatment 2	n.s.	/	treatment 2	< 0.001	/	treatment 2	n.s.	/
treatment 3	0.009	0.003	treatment 3	0.003	n.s.	treatment 3	n.s.	n.s.
<b>day 2</b>			<b>day 2</b>			<b>day 2</b>		
<b>NO<sub>3</sub><sup>-</sup> uptake</b>	treatment 1	treatment 2	<b>NH<sub>4</sub><sup>+</sup> uptake</b>	treatment 1	treatment 2	<b>N<sub>2</sub> fixation</b>	treatment 1	treatment 2
Treatment 2	n.s.	n.s.	treatment 2	n.s.	/	treatment 2	0.004	/
Treatment 3	n.s.	n.s.	treatment 3	0.006	n.s.	treatment 3	n.s.	0.005
<b>day 4</b>			<b>day 4</b>			<b>day 4</b>		
<b>NO<sub>3</sub><sup>-</sup> uptake</b>	treatment 1	treatment 2	<b>NH<sub>4</sub><sup>+</sup> uptake</b>	treatment 1	treatment 2	<b>N<sub>2</sub> fixation</b>	treatment 1	treatment 2
treatment 2	< 0.001	/	treatment 2	n.s.	/	treatment 2	< 0.001	
treatment 3	n.s.	< 0.001	treatment 3	n.s.	n.s.	treatment 3	n.s.	< 0.001