

Supplemental Table 1: Pearson correlation coefficients among study variables. Significant correlations are denoted with asterisks at significance level $*p < 0.05$ and $**p < 0.01$ in bold numbers. $n=12$, Abbreviations are Chloro.a- chlorophyll a, N_2 fix- N_2 fixation, Cfix- C fixation

	Abundance	Chloro. a	N_2 fix* POC ⁻¹	Cfix* POC ⁻¹	NO ₃	PO ₄ ³⁻	pCO ₂	pH	C _T	POC	PON	POP	POC:PON	POC:POP	PON:POP	DOC	DON	DOP	DOC:DON	DOC:DOP	DON:DOP
Abundance	-																				
Chloro. a	0.741**	-																			
N_2 fix* POC ⁻¹	-0.340	0.000	-																		
Cfix* POC ⁻¹	-0.654**	-0.673**	0.116	-																	
NO ₃	-0.14	-0.177	-0.010	0.065	-																
PO ₄ ³⁻	-0.567**	-0.686**	-0.176	0.858**	0.055	-															
pCO ₂	-0.284	-0.362*	0.382*	0.747**	-0.46	0.587**	-														
pH	0.245	0.33	-0.379*	-0.712**	0.044	-0.564**	-0.994**	-													
C _T	-0.319	-0.354*	0.436**	0.757**	-0.057	0.6**	0.962**	-0.963**	-												
POC	0.178	0.053	-0.279	-0.706**	0.012	-0.002	-0.046	0.053	-0.062	-											
PON	-0.189	-0.293	-0.354*	-0.707**	-0.132	0.599**	0.622**	-0.619**	0.603**	-0.062	-										
POP	-0.493**	-0.340*	-0.464**	-0.744**	0.036	0.359*	0.235	-0.22	0.296	-0.231	0.166	-									
POC:PON	0.751**	0.823**	-0.354*	-0.708**	-0.102	-0.633**	-0.552**	0.529**	-0.589**	0.976**	0.973**	0.760**	-								
POC:POP	0.795**	0.883**	-0.278	-0.732**	-0.011	-0.653**	-0.653**	-0.556**	0.531**	0.997**	0.986**	0.758**	0.969**	-							
PON:POP	0.798**	0.829**	-0.361*	-0.711**	0.003	-0.634**	-0.634**	-0.529**	0.501**	0.986**	0.993**	0.806**	0.986**	0.986**	-						
DOC	0.180	0.53	-0.326	0.107	0.012	-0.002	-0.046	0.053	-0.062	0.29	-0.306	-0.495*	0.194	-0.316	-0.376*	-					
DON	-0.209	-0.293	-0.002	0.557**	-0.136	0.599**	0.622**	-0.619**	0.603**	0.356*	-0.351*	-0.574**	0.072	-0.315	-0.348*	0.062	-				
DOP	-0.493**	-0.340*	0.206	0.393*	0.036	0.359*	0.235	-0.22	0.296	0.344	-0.333*	-0.844**	0.181	-0.281	-0.395*	0.231	0.166	-			
DOC:DON	0.178	0.053	-0.257	-0.285**	0.069	-0.633**	-0.454**	0.46**	-0.452**	0.29	-0.306	-0.495*	0.333	0.464**	0.405*	0.762**	-0.684**	-0.225	-		
DOC:DOP	-0.189	-0.293	-0.295	-0.429**	-0.152	-0.653**	-0.279	0.259	-0.339*	0.356*	-0.351*	-0.574**	0.244	0.394*	0.37*	0.460**	-0.235	-0.885**	-0.885**	-	
DON:DOP	-0.493**	-0.340*	-0.207	-0.440**	-0.279	-0.634**	-0.17	0.14	-0.215	0.344	-0.333*	-0.844**	0.295	0.465**	0.42*	0.165	0.04	-0.925**	-0.925**	0.097	-

Supplemental Table 2: Effect of CO₂ treatment on a biological or chemical variable was tested by the analyses of variance data (ANOVA). Statistical significance was accepted for $p \leq 0.05$. Abbreviations are N₂fix- N₂ fixation, Cfix- C fixation, Chloro.a- chlorophyll n= 12

Abundance	N ₂ fix per POC	Cfix per POC	Chloro.a	Growth rate	NO ₃	PO ₄ ³⁻	pH	C _T	pCO ₂	DOC
<i>F= 2.496</i>	<i>F= 11.02</i>	<i>F= 11.384</i>	<i>F= 2.137</i>	<i>F=5.72</i>	<i>F= 0.239</i>	<i>F=0.001</i>	<i>F= 10.820</i>	<i>F= 8.156</i>	<i>F= 10.203</i>	<i>F= 0.368</i>
<i>p=0.098</i>	<i>p= 0.0373</i>	<i>p≤0.001</i>	<i>p=0.135</i>	<i>p=0.05</i>	<i>p=0.788</i>	<i>p=0.999</i>	<i>p=0.000</i>	<i>p=0.001</i>	<i>p≤0.001</i>	<i>p=0.695</i>

DON	DOP	DOC:DON	DOC:DOP	DON:DOP	POC	PON	POP	POC:PON	POC:POP	PON:POP
<i>F= 2.792</i>	<i>F= 0.343</i>	<i>F= 0.562</i>	<i>F= 0.603</i>	<i>F= 0.663</i>	<i>F= 0.819</i>	<i>F= 0.755</i>	<i>F=0.041</i>	<i>F= 0.880</i>	<i>F= 0.457</i>	<i>F= 0.872</i>
<i>p=0.076</i>	<i>p=0.712</i>	<i>p=0.576</i>	<i>p=0.553</i>	<i>p=0.522</i>	<i>p=0.449</i>	<i>p= 0.478</i>	<i>p=0.960</i>	<i>p=0.425</i>	<i>p=0.637</i>	<i>p=0.429</i>