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Supplement of

Phytoplankton calcification as an effective mechanism to alleviate cellular calcium poisoning

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Table S1: Seawater chemistry of the first experiment. TA = Total Alkalinity. DIC = Dissolved Inorganic Carbon. Omega = Calcium carbonate saturation state.

Species	Ca (mmol/L)	TA ($\mu\text{mol/kg}$)	DIC ($\mu\text{mol/kg}$)	pH (total scale)	$p\text{CO}_2$ (μatm)	Omega (calcite)
Chaetoceros sp.	1	2387 \pm 9	2042 \pm 1	8.18 \pm 0.01	300 \pm 7	1.0 \pm 0.1
Chaetoceros sp.	9	2376 \pm 4	2050 \pm 45	8.15 \pm 0.07	322 \pm 49	4.7 \pm 2.2
Chaetoceros sp.	19	2404 \pm 1	2074 \pm 20	8.16 \pm 0.03	319 \pm 20	6.4 \pm 1.0
Chaetoceros sp.	26	2391 \pm 3	2074 \pm 27	8.13 \pm 0.05	343 \pm 32	6.8 \pm 1.3
Chaetoceros sp.	34	2377 \pm 3	2061 \pm 8	8.12 \pm 0.02	385 \pm 8	7.2 \pm 0.4
Chaetoceros sp.	42	2397 \pm 7	2061 \pm 12	8.16 \pm 0.01	318 \pm 6	8.3 \pm 0.6

Species	Ca (mmol/L)	TA ($\mu\text{mol/kg}$)	DIC ($\mu\text{mol/kg}$)	pH (total scale)	$p\text{CO}_2$ (μatm)	Omega (calcite)
H. akashiwo	1	2379 \pm 1	2083 \pm 34	8.10 \pm 0.06	365 \pm 43	0.9 \pm 1.6
H. akashiwo	9	2345 \pm 5	2021 \pm 21	8.14 \pm 0.04	355 \pm 19	4.5 \pm 1.0
H. akashiwo	19	2415 \pm 2	2116 \pm 9	8.09 \pm 0.02	409 \pm 11	5.6 \pm 0.5
H. akashiwo	26	2427 \pm 0	2113 \pm 11	8.13 \pm 0.02	343 \pm 14	6.9 \pm 0.5
H. akashiwo	34	2369 \pm 1	2129 \pm 4	7.99 \pm 0.01	481 \pm 10	5.6 \pm 0.2
H. akashiwo	42	2377 \pm 2	2156 \pm 4	7.94 \pm 0.04	576 \pm 34	5.5 \pm 0.2

Species	Ca (mmol/L)	TA ($\mu\text{mol/kg}$)	DIC ($\mu\text{mol/kg}$)	pH (total scale)	$p\text{CO}_2$ (μatm)	Omega (calcite)
Cylindrotheca sp.	10	2061 \pm 5	1724 \pm 8	8.13 \pm 0.02	279 \pm 14	3.8 \pm 0.5
Cylindrotheca sp.	22	2089 \pm 11	1742 \pm 7	8.14 \pm 0	272 \pm 2	5.1 \pm 0.4
Cylindrotheca sp.	34	2098 \pm 10	1806 \pm 7	8.04 \pm 0.01	363 \pm 12	4.9 \pm 0.4
Cylindrotheca sp.	45	2131 \pm 3	1853 \pm 5	8.01 \pm 0.01	406 \pm 14	5.1 \pm 0.3
Cylindrotheca sp.	52	2133 \pm 0	1816 \pm 0	8.09 \pm 0	324 \pm 0	6.4 \pm 0

Species	Ca (mmol/L)	TA ($\mu\text{mol/kg}$)	DIC ($\mu\text{mol/kg}$)	pH (total scale)	$p\text{CO}_2$ (μatm)	Omega (calcite)
E. huxleyi (naked)	1	2490 \pm 3	2112 \pm 2	8.23 \pm 0.01	274 \pm 4	1.1 \pm 0.1
E. huxleyi (naked)	9	2497 \pm 6	2100 \pm 8	8.25 \pm 0.01	256 \pm 3	5.9 \pm 0.4
E. huxleyi (naked)	19	2516 \pm 7	2165 \pm 5	8.19 \pm 0.02	300 \pm 11	7.1 \pm 0.3
E. huxleyi (naked)	26	2492 \pm 5	2062 \pm 4	8.30 \pm 0	227 \pm 2	9.6 \pm 0.2

E. huxleyi (naked)	34	2520±3	2133±8	8.23±0.01	286±6	9.3±0.4
E. huxleyi (naked)	42	2533±5	2100±4	8.30±0.01	227±3	11.2±0.2

Species	Ca (mmol/L)	TA (μmol/kg)	DIC (μmol/kg)	pH (total scale)	pCO2 (μatm)	Omega (calcite)
E. huxleyi (calcified)	1	2359±2	2114±13	8.01±0.02	454±24	0.7±0.6
E. huxleyi (calcified)	9	2322±2	2051±2	8.07±0	386±4	3.9±0.1
E. huxleyi (calcified)	21	2412±4	2141±2	8.06±0	415±2	5.3±0.1
E. huxleyi (calcified)	25	2421±8	2066±15	8.21±0.03	272±22	8.0±0.7
E. huxleyi (calcified)	40	2351±3	2105±5	8.02±0.02	447±15	5.9±0.2
E. huxleyi (calcified)	52	2350±10	2089±13	8.05±0.04	416±35	6.7±0.6

Species	Ca (mmol/L)	TA (μmol/kg)	DIC (μmol/kg)	pH (total scale)	pCO2 (μatm)	Omega (calcite)
G. oceanica	1	2479±3	2126±3	8.19±0	291±3	1.0±0.2
G. oceanica	9	2445±29	2109±5	8.17±0.05	304±37	5.0±0.3
G. oceanica	21	2444±6	2096±10	8.19±0.01	288±10	6.8±0.5
G. oceanica	25	2444±2	2081±9	8.22±0.01	270±9	8.2±0.4
G. oceanica	40	2452±2	2140±13	8.13±0.02	345±15	7.6±0.6
G. oceanica	52	2467±10	2091±3	8.23±0.01	259±5	9.7±0.2