**Table S1.** *Concentrations (and standard deviations) of variables at the end of cylinder chamber incubations with 13C-DIC. CYa, CYb and CYc refer the different cylinder experiments, each without and with (NH4)2SO4 (100M)addition. N,n refers to the number replicates without, with* (*NH4)2SO4 in the different incubation series.*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |   | **CYa** |  |   | **CYb** |  |  | **CYc** |  |
| **variable** |   | after 63 h incubation |   | after 44 h incubation |   | after 38 h incubation |
|   |   | without N | with N |   | without N | with N |   | without N | with N |
|  | n,n |  |  | n,n |  |  | n,n |  |  |
| DIC (M) | 4,8 | 2625 (85) | 2591 (109) |   |  - |  - |   |  - |  - |
| TOC (M) | 4,8 | 185 (79) | 347 (107) | 6,4 | 112 (5) | 139 (23) | 0,2 |  - | 130 (37) |
| DOC (M) | 0,2 |  - | 185 (45) | 6,4 | 124 (29) | 178 (64) | 3,2 | 98 (3) | 116 (27) |
|  |   |  |  |   |  |  |   |  |  |
| PO4 (M) | 4,8 | 0.95 (0.26) | 2.12 (0.73) | 6,4 | 0.91 (0.33) | 1.95 (0.50) | 6,6 | 1.09 (0.22) | 1.02 (0.10) |
| NH3 (M) | 4,8 | 10.91 (3.82) | 140.83 (39.60) | 6,4 | 6.22 (4.29) | 127.91 (14.09) | 6,6 | 5.23 (3.50) | 93.57 (6.51) |
| NOx (M) | 4,8 | 6.63 (0.59) | 2.94 (3.42) | 6,4 | 8.79 (1.26) | 7.097 (1.29) | 6,6 | 10.04 (1.84) | 12.85 (0.79) |
| NO2 (M) | 4,8 | 0.18 (0.01) | 0.17 (0.15) | 6,4 | 0.15 (0.06) | 0.35 (0.13) | 6,6 | 0.18 (0.03) | 0.26 (0.11) |
|  |   |  |  |   |  |  |   |  |  |
| prokaryotes |   |  |  |   |  |  |   |  |  |
| (n\*106.ml-1) | 4,8 | 34.9 (1.4) | 166.7 (134.6) | 6,4 | 15.4 (1.7) | 37.0 (8.9) | 6,5 | 9.5 (3.7) | 9.8 (5.6) |

**Table S2.** *Concentration of variables (with standard variations) during different phases of the pulse-chase experiment. Waste water concentrations (last column) were measured in the overflow of pulse chase aquarium after the throughflow of water supply was turned on again after flushing.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Pulse chase experiment**  |  |  |  |  |
| **variable** |   | concentration just |   | just after addition |   | after 50 h |   | waste water |
|  |   | before addition  |   |  of 13C-DIC and (NH4)2SO4 |   | incubation without  |   | pulse chase  |
|   |   | of 13C-DIC |   |   |   | throughflow |   | aquarium |
|  | n |  | n |  | n |  | n |  |
| DIC (M) | 2 | 2122 (12) | 2 | 4190 (34) | 2 | 4438 (24) |   |  - |
| TOC (M) |   |  - | 2 | 656 (61) | 2 | 650 (14) | 13 | 98 (14) |
| DOC (M) |   |  - |   |  - | 2 | 437 (4) | 10 | 108 (18) |
|  |   |  |   |  |   |  |   |  |
| PO4 (M) | 2 | 0.43 (0.001) | 2 | 0.51 (0.001) | 1 | 3.39 | 16 | 0.50 (0.07) |
| NH4 (M) | 2 | 0.74 (0.01) | 2 | 187.00 (0) | 1 | 290 | 16 | 0.32 (0.17) |
| NOx (M) | 2 | 4.51 (0.01) | 2 | 4.65 (0.01) | 1 | 3.86 | 16 | 5.76 (0.88) |
| NO2 (M) | 2 | 0.09 (0) | 2 | 0.11 (0.01) | 1 | 0.22 | 16 | 0.11 (0.03) |
| **prokaryotes** |   |  |   |  |   |  |   |  |
| (n\*106.ml-1) |   |  - | 2 | 6.8 (0.6) | 2 | 371 (32) | 16 | 4.4 (0.8) |