**Table S3**. Seawater carbonate chemistry in each of the incubation vessels as recorded in the alkalinity experiment. TA and pH were measured while all other parameters were calculated using the CO2SYS program (Lewis et al. 1998).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pHT treatment | Time  [h] | Replicate number | TA | Final pHT | DIC | *p*CO2 | CO2(aq) | HCO3- | CO32- | Ωarg |
| [µeq kg-1] | [µmol kg-1] | [µatm] | [µmol kg-1] | [µmol kg-1] | [µmol kg-1] |
| 8.1 | Control | 1 | 2507 | 8.09 | 2133 | 391 | 10.8 | 1859 | 263 | 4.01 |
|  | 2 | 1 | 2380 | 8.23 | 1920 | 244 | 6.7 | 1601 | 313 | 4.76 |
|  |  | 2 | 2463 | 8.26 | 1968 | 231 | 6.4 | 1622 | 339 | 5.17 |
|  |  | 3 | 2391 | 8.25 | 1914 | 230 | 6.4 | 1584 | 324 | 4.93 |
|  |  | 4 | 2377 | 8.29 | 1871 | 202 | 5.6 | 1524 | 342 | 5.20 |
|  |  | 5 | 2423 | 8.30 | 1901 | 200 | 5.5 | 1542 | 354 | 5.39 |
|  |  | 6 | 2367 | 8.20 | 1931 | 266 | 7.3 | 1627 | 297 | 4.52 |
|  | 4 | 1 | 2404 | 8.48 | 1734 | 110 | 3.0 | 1285 | 446 | 6.80 |
|  |  | 2 | 2402 | 8.50 | 1716 | 103 | 2.8 | 1256 | 457 | 6.96 |
|  |  | 3 | 2288 | 8.55 | 1584 | 82 | 2.3 | 1123 | 458 | 6.98 |
|  |  | 4 | 2363 | 8.54 | 1651 | 88 | 2.4 | 1178 | 470 | 7.16 |
|  |  | 5 | 2305 | 8.40 | 1723 | 137 | 3.8 | 1334 | 385 | 5.87 |
|  |  | 6 | 2361 | 8.55 | 1640 | 85 | 2.3 | 1163 | 475 | 7.23 |
|  | 6 | 1 | 2344 | 8.56 | 1619 | 81 | 2.2 | 1141 | 476 | 7.25 |
|  |  | 2 | 2337 | 8.71 | 1486 | 47 | 1.3 | 934 | 551 | 8.39 |
|  |  | 3 | 2303 | 8.58 | 1570 | 74 | 2.0 | 1091 | 477 | 7.27 |
|  |  | 4 | 2267 | 8.57 | 1551 | 76 | 2.1 | 1085 | 464 | 7.06 |
|  |  | 5 | 2280 | 8.50 | 1620 | 97 | 2.7 | 1186 | 431 | 6.57 |
|  |  | 6 | 2315 | 8.40 | 1730 | 138 | 3.8 | 1340 | 387 | 5.89 |
| 7.5 | Control | 1 | 2510 | 7.41 | 2475 | 2356 | 65.0 | 2341 | 69 | 1.05 |
|  | 2 | 1 | 2358 | 7.70 | 2211 | 1065 | 29.4 | 2063 | 119 | 1.81 |
|  |  | 2 | 2399 | 7.48 | 2338 | 1892 | 52.2 | 2209 | 77 | 1.17 |
|  |  | 3 | 2365 | 7.76 | 2191 | 913 | 25.2 | 2032 | 135 | 2.05 |
|  |  | 4 | 2343 | 7.73 | 2184 | 978 | 27.0 | 2031 | 126 | 1.91 |
|  |  | 5 | 2312 | 7.76 | 2141 | 892 | 24.6 | 1985 | 131 | 2.00 |
|  |  | 6 | 2296 | 7.77 | 2121 | 863 | 23.8 | 1964 | 133 | 2.03 |
|  | 4 | 1 | 2317 | 8.02 | 2008 | 440 | 12.1 | 1781 | 215 | 3.27 |
|  |  | 2 | 2235 | 7.90 | 2000 | 592 | 16.3 | 1818 | 166 | 2.53 |
|  |  | 3 | 2111 | 8.15 | 1741 | 273 | 7.5 | 1492 | 242 | 3.69 |
|  |  | 4 | 2239 | 8.03 | 1931 | 413 | 11.4 | 1709 | 211 | 3.21 |
|  |  | 5 | 2014 | 7.95 | 1770 | 463 | 12.8 | 1594 | 163 | 2.49 |
|  |  | 6 | 2283 | 7.96 | 2012 | 513 | 14.1 | 1808 | 190 | 2.89 |
|  | 6 | 1 | 2050 | 8.29 | 1593 | 172 | 4.7 | 1298 | 291 | 4.43 |
|  |  | 2 | 2188 | 8.34 | 1673 | 158 | 4.3 | 1333 | 336 | 5.11 |
|  |  | 3 | 2306 | 8.31 | 1795 | 184 | 5.1 | 1450 | 340 | 5.19 |
|  |  | 4 | 2054 | 8.37 | 1539 | 133 | 3.7 | 1209 | 326 | 4.97 |
|  |  | 5 | 2208 | 8.30 | 1720 | 181 | 5.0 | 1395 | 320 | 4.88 |
|  |  | 6 | 2180 | 8.18 | 1782 | 258 | 7.1 | 1512 | 263 | 4.01 |