

1 **SI Table 1:** concentration of hydroxocobalamin (OHB12) and cyanocobalamin (CNB12)
 2 in seawater samples corresponding to the initial time of the experiments. Abbreviations:
 3 Not detected (nd) and lower concentration of the quantification limit (<LOQ).

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Samples	Month	Station	OH_B12 sw pM	CN_B12 sw pM
1602_st6_d1_p1	February	ocean	0.31	nd
1602_st6_d1_p2	February	ocean	0.21	0.77
1604_st6_d1_p1	April	ocean	0.13	nd
1604_st6_d1_p2	April	ocean	<LOQ	nd
1608_st6_d1_p1	August	ocean	0.20	nd
1608_st6_d1_p2	August	ocean	<LOQ	nd
1602_st3_d5_p1	February	coast	0.26	nd
1602_st3_d5_p2	February	coast	0.34	nd
1604_st3_d5_p1	April	coast	0.23	nd
1604_st3_d5_p2	April	coast	0.19	nd
1608_st3_d5_p1	August	coast	0.19	nd
1608_st3_d5_p2	August	coast	0.39	nd
1602_d0	February	coast	nd	nd
1604_d0	April	coast	nd	nd
1608_d0	August	coast	0.18	nd
1602_st6_d3_p1	February	ocean	0.10	nd
1602_st6_d3_p2	February	ocean	<LOQ	
1604_st6_d3_p1	April	ocean	0.07	nd
1604_st6_d3_p2	April	ocean	0.07	nd
1604_st6_d6_p1	April	ocean	<LOQ	nd
1604_st6_d6_p2	April	ocean	<LOQ	nd
1608_st6_d3_p1	August	ocean	0.09	nd
1608_st6_d3_p2	August	ocean	0.09	nd
1608_st6_d6_p1	August	ocean	0.14	nd
1608_st6_d6_p2	August	ocean	0.16	nd

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7 **SI Figure 1:** Response ratio (RR) to inorganic nutrient addition (averaged biomass at the
8 end of the experiments by the averaged value in the control) of total phytoplankton
9 community (smooth bars) and of bacterial biomass (striped bars) at (a) coastal and (b)
10 oceanic station. Each bar corresponds to one of the 3 experiments (a, b or c) performed
11 in each depth and station during February, April and August. Colours represent samples
12 from (light grey) surface and (dark grey) SCM. Horizontal line represents a response
13 equal to 1, that means no change relative to control. Asterisks indicate phytoplankton
14 significant response relative to control (t-test; * $p < 0.05$) and circle indicate bacterial
15 significant response relative to the control (t-test; ⁰ $p < 0.05$). Note that different scales
16 were used.

17 **SI Figure 2:** A multidimensional scaling (MDS) showing the distance according to
18 similarity in the microbial plankton composition at the beginning of each experiment
19 (each symbol). Filled and open symbols represent samples from coastal and oceanic
20 station, respectively, numbers correspond to the sampling station, triangles and circles
21 represent samples from surface and SCM, respectively, and colours correspond to the
22 months: (green) February, (blue) April and (pink) August.

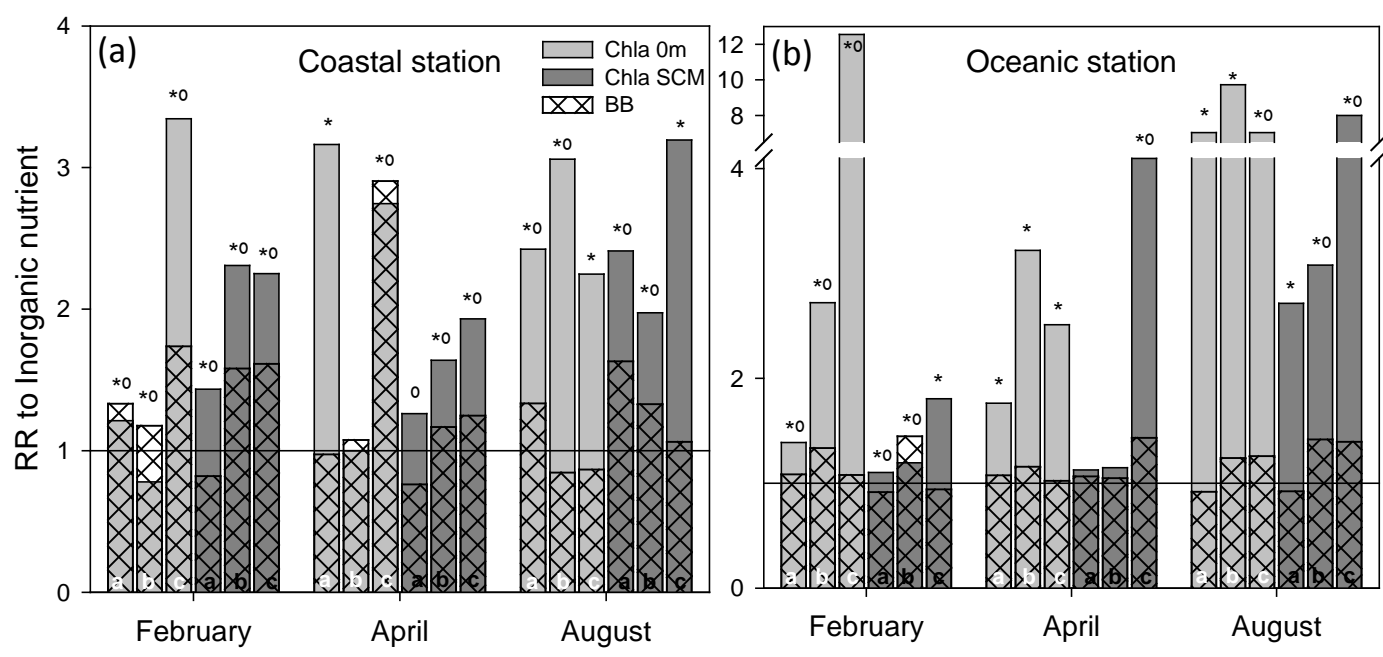


Figure 1

Transform: Square root
Resemblance: S17 Bray Curtis similarity

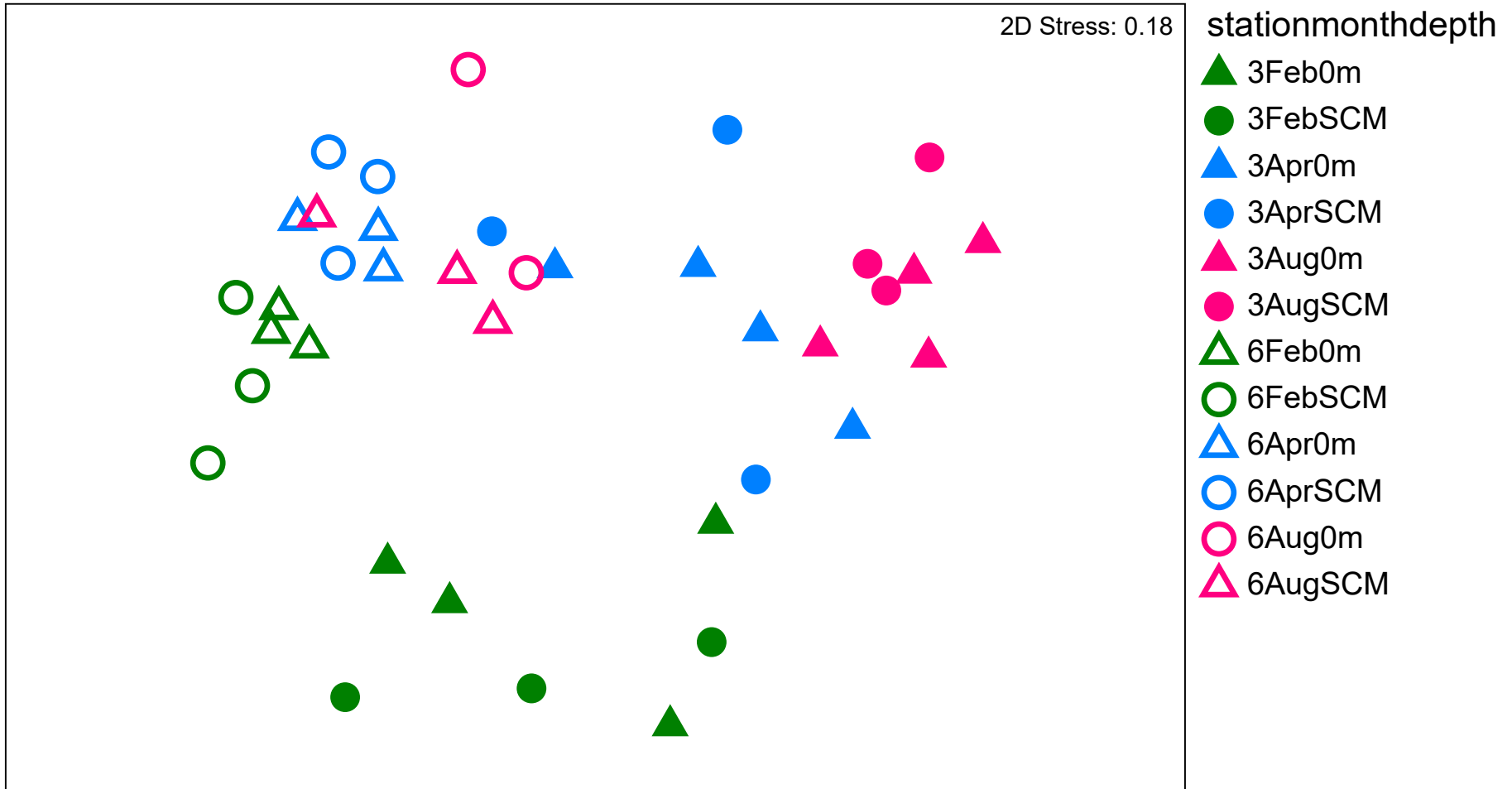


Figure 2