

**Supplementary table.** Carbon biomass (particulate organic carbon, POC) and Fe uptake rates for pico-nanoplankton. Values are relative to incubations performed on seawater prefiltered on 25 µm mesh (microplankton was excluded).

| Station | PAR level | Carbon biomass (POC)*<br>(µmolC L <sup>-1</sup> ) | Fe uptake rate<br>(pmolFe L <sup>-1</sup> d <sup>-1</sup> ) |
|---------|-----------|---|---|
| E-4E    | 75%       | 11.99   | 14.33   |
|         | 45%       |   | 16.80   |
|         | 25%       |   | 12.83   |
|         | 16%       |   | 14.11   |
|         | 4%        |   | 15.53   |
|         | 1%        |   | 8.80  |
| A3-2    | 75%       | 3.03  | 17.69   |
|         | 45%       |   | 14.33   |
|         | 25%       |   | 13.26   |
|         | 16%       |   | 22.89   |
|         | 4%        |   | 19.26   |
|         | 1%        |   | 21.33   |
| E-5     | 75%       | 2.75  | 5.32  |
|         | 45%       |   | 5.40  |
|         | 25%       |   | 9.93  |
|         | 16%       |   | 9.14  |
|         | 4%        |   | 13.90   |
|         | 1%        |   | 10.67   |
| R-2     | 75%       | 3.05  | 0.40  |
|         | 45%       |   | 0.44  |
|         | 25%       |   | 0.38  |
|         | 16%       |   | 0.35  |
|         | 4%        |   | 0.37  |
|         | 1%        |   | 0.44  |
| E-2     | 75%       | 5.90  | 1.82  |
|         | 45%       |   | 1.80  |
|         | 25%       |   | 2.66  |
|         | 16%       |   | 10.42   |
|         | 4%        |   | 3.06  |
|         | 1%        |   | 0.78  |
| E-3     | 75%       | 7.10  | 15.71   |
|         | 45%       |   | n.d   |
|         | 25%       |   | 17.76   |
|         | 16%       |   | 14.85   |
|         | 4%        |   | 27.17   |
|         | 1%        |   | 26.45   |
| F-L     | 75%       | 9.82  | 50.02   |
|         | 45%       |   | 43.20   |
|         | 25%       |   | 61.33   |
|         | 16%       |   | 61.09   |
|         | 4%        |   | 56.18   |
|         | 1%        |   | 24.71   |
| E-4W    | 75%       | 4.24  | 12.68   |
|         | 45%       |   | 9.40  |
|         | 25%       |   | 19.36   |
|         | 16%       |   | 15.11   |
|         | 4%        |   | 14.88   |
|         | 1%        |   | 17.50   |

\* Carbon biomass for pico-nanoplankton was calculated from particulate organic carbon (POC) concentrations measured on surface seawater. We assumed the sum of the POC concentration on the 1 and 5 µm filters, corresponding to the 1-20 µm size-fraction, to be representative of this community.