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*Supplement of*

## **Effects of elevated CO<sub>2</sub> and phytoplankton-derived organic matter on the metabolism of bacterial communities from coastal waters**

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## Supplement 1:

### *SI Primary production*

Incubations were performed at noon and lasted 3 to 3.5 hours. Fifteen mL samples of each microcosm were inoculated with  $\text{H}^{14}\text{CO}_3^-$  (approximately  $1 \mu\text{Ci mL}^{-1}$  final concentration) and incubated in UVR  
5 transparent Teflon-FEP bottles under full solar radiation exposures in a refrigerated tank contiguous to the experimental microcosms. The teflon bottles were tied on top of a UVR transparent acrylic tray, keeping all bottles under flat and constant position. The tray was wrapped with 2 layers of neutral density screen to obtain saturating but non-photoinhibitory solar exposures. For analysis of the fraction of the fixed carbon incorporated into particulate (POC) and dissolved (DOCp) organic carbon, 5 mL samples  
10 were filtered through  $0.2 \mu\text{m}$  PC filters (25 mm diameter) under low pressure (50 mm Hg) after the light incubation period, using 2 manifolds simultaneously (10 positions per manifold). POC was retained on the filter while the filtrate was directly collected in scintillation vials to assess  $^{14}\text{C}$  activity in the dissolved fraction (DOCp). Simultaneously, the total amount of organic carbon incorporated in the cells (TOC) was measured independently of the DOCp-POC filtration by processing 5 mL of the incubated samples. Non-  
15 assimilated  $^{14}\text{C}$  was released by exposing the filters (POC) to acid fumes (50% HCl) or by adding 200  $\mu\text{l}$  of 10% HCl to the liquid samples (DOCp & TOC, respectively) and shaking overnight. The radioactivity of each sample was measured using a Wallac WinSpectral 1414 scintillation counter (EG&G Company, Finland). Data analysis determined that both, TOC and POC+DOCp results, were significantly correlated ( $y = 1.05x (\pm 0.07) + 0.05 (\pm 0.03)$ ,  $R^2 = 0.85$ , ANOVA,  $p = 0.637$ ,  $n = 34$ ).

Figure S1. Primary production rates measured as the incorporation of  $^{14}\text{C}$  into organic compounds during the first incubation period aimed to obtain the organic matter inocula under current and future  $\text{CO}_2$  conditions A) Total organic carbon fixation rates obtained from a different sample than the sample used for the determination of POC and DOCp fixation rates (TOC) B) Particulate organic carbon fixation rates (POC) C) Rates of dissolved organic carbon production from phytoplankton origin (DOCp). Mean  $\pm$  SD (n=3).

