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**Supplement of**

**Marine isoprene production and consumption in the mixed layer of the surface ocean – a field study over two oceanic regions**

Dennis Booge et al.

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Figure S1: Example for above and in-water radiation. (a) Data points represent hourly radiation measurements (converted from W m⁻² into photosynthetic active radiation (PAR, µmol m⁻² s⁻¹) as described in paragraph 2.6) from the ship (mean values ± standard deviation from all cruises), blue line is the fitted data using a sine function. (b) Underwater mean calculated PAR over the course of a day depending on depth by applying the attenuation coefficient KdPAR and Beer-Lambert’s law. Dashed line represents mean mixed layer depth (MLD) for each cruise.
Figure S2: Example of two $\text{PAR}(\theta')$ depth profile measurements during ASTRA-OMZ. Data points are 1m binned data of station 6 (black) and station 15 (red). The line is calculated from $\text{PAR}(\theta')$ by applying Beer-Lambert’s law using a mean attenuation coefficient $K_\text{PAR}$ obtained from all $E_\text{PAR}(\theta')$ depth profile measurements during OASIS and ASTRA-OMZ.
Figure S3: Single literature laboratory chl-a normalized isoprene production rates $P_{\text{chl}a}$ (µmol isoprene (g chl-a)$^{-1}$ h$^{-1}$) (Table 2) as a log squared function of light intensity $I$ (µmol m$^{-2}$ s$^{-1}$).
Figure S4: Example of calculated $P_{\text{chloro}}$ values ($\mu$mol isoprene (g chl-a)$^{-1}$ day$^{-1}$) for each PFT at station 9 during SPACES depending on the depth in the water column.
Figure S5: Contribution of each of the three most abundant PFTs to the total phytoplankton chl-a concentration at each station during SPACES (upper panel), OASIS (middle panel), and ASTRA-OMZ (bottom panel).