**Validation of the in Vivo Iodo-nitro-tetrazolium (INT) Salt Reduction Method as a Proxy for Plankton Respiration.**

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**Supplementary Material**

Supplementary Table 1. Mean, standard deviation (SD), median, range (minimum – maximum) and number of data (n) of the ratio between the absorbance at 485 nm measured in the blank and control (non-metabolic) and between the control and the live incubated samples in the different size-fractions (0.2 – 0.8 µm and >0.8 µm).



Supplementary Table 2. Maximum incubation times obtained for the INT reduction rates performed in the different projects for the > 0.8 µm and 0.2-0.8 µm size fractions, and references to the temperature (T, ˚C), chlorophyll-a concentrations (Chl-a, µg L-1), and oxygen consumption rates (µmol O2 L-1 d-1) associated with the samples.



Supplementary Table 3. Parameters derived from the linear regression for each subset of temperature and chlorophyll-a data. Slope, intercept, coefficient of determination (R2), number of data (n). Results of the analysis of the comparison of the significant regression line of each subset with the overall regression line (logCRO2 = 0.72logINTT + 0.44, R2 = 0.69, n = 249,) applying a Clarke test (Clarke 1980): t-value (t), degrees of freedom (df) and significant value (p).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Subset** | **Slope** | **Intercept** | **R2** | **p** | **n** |  | **t** | **df** | **p** |
| Temperature (˚C) | <8 | -0.11 | -1.46 | 0.007 | 0.726 | 20 |   |   |   |   |
|  8 - 18 | 0.75 | 0.53 | 0.74 | <0.001 | 261 |   | 1 | 879 | 0.32 |
| >18 | 0.3 | -0.79 | 0.27 | <0.001 | 95 |   | 9.37 | 149 | <0.001 |
|   |   |   |   |   |   |   |   |   |   |   |
| Chlorophyll-a (µg L-1) | <0.1 | 0 | -1.5 | 0 | 0.992 | 30 |   |   |   |   |
| 0.1 - 0.2 | 0.38 | -0.473 | 0.197 | <0.001 | 69 |   | 5.6 | 96 | <0.001 |
| 0.2 - 0.5 | 0.55 | 0.016 | 0.42 | <0.001 | 62 |   | 2.6 | 120 | 0.01 |
| 0.5 - 1 | 0.81 | 0.63 | 0.83 | <0.001 | 66 |   | 1.89 | 453 | 0.06 |
| >1 | 0.78 | 0.57 | 0.72 | <0.001 | 149 |   | 1.43 | 612 | 0.15 |

Supplementary Figure 1. Relationships between chlorophyll-a concentrations and (A) plankton community respiration (CRO2), (B) INT reduction (INTT). Linear regression analysis are included in the graphs. The colors of the two graphs represent different biogeochemical regions where data were collected (See Table 1 and Figure 2 for more information).

