SUPPLEMENTARY MATERIALS

Table 1. Significance (p) of the differences observed in the pigments contribution (Student's *t*-test) between the shelf and the basin (column 2) and between the surface and SCM over the shelf (column 3) and over the basin (column 4). The *t*-test is processed with pigments concentration normalized at a Chl*a* concentration equal 1 mg $mg^{-3}$ in order to focus the comparison on the pigments contribution independently to the biomass variability.

| Chl*a* normalized | **p** Shelf/Basin | **p** Surface/SCM (shelf) | **p** Surface/SCM (basin) |
|---|---|---|---|
| Chlc3 | ns | ns | ns |
| Chlc2 | (+)*** | ns | ns |
| Peri | (+)*** | ns | ns |
| 19BF | (-)** | ns | (-)*** |
| Fuco | (+)*** | ns | ns |
| Neo | (-)** | ns | (-)*** |
| Pras | (-)** | ns | (-)*** |
| Viola | ns | ns | ns |
| 19HF | (-)*** | ns | (-)** |
| Diadino | ns | ns | (+)*** |
| Allo | (+)*** | ns | ns |
| Diato | (+)*** | ns | ns |
| Zea | (+)** | ns | ns |
| Lut | ns | ns | ns |
| Chlb | (-)*** | ns | ns |
| DVchla | ns | ns | ns |
| Caro | (+)** | (+)* | ns |

(+): Pigment contribution is significantly higher over the shelf than basin in column 2 and significantly higher in surface than SCM in column 3 and 4

(-): Pigment contribution is significantly lower over the shelf than basin in column 2 and significantly lower in surface than SCM in column 3 and 4

Significance (p) of the Student's *t*-test at a 95% confidence level: *p < 0.05; **p < 0.01; ***p < 0.001; ns: not significant

Table 2. Pearson's correlation coefficient (r) between the Chl*a* concentrations (mg chl*a* $m^{-3}$) and the total pigments biomass (mg $m^{-3}$) determined by HPLC (column 2), the abundance (cell $ml^{-1}$) and carbon biomass (mg $m^{-3}$) determined by light microscopy (column 3 and 4). Correlations are evaluated for all stations and four subgroups: shelf, basin, surface and SCM samples (column 1). Significance correlations at 95% confidence level ($p < 0.05$) are underlined. N represents the number of observations used for the correlation evaluation.

| **Sample considered** | **Pigments Biomass (mg $m^{-3}$)** | **Abundance (cell $ml^{-1}$)** | **Carbon Biomass (mg $m^{-3}$)** |
|---|---|---|---|
| **All stations (N = 30)** | 0.93 | 0.58 | 0.83 |
| **Shelf (N = 9)** | 0.89 | 0.30 | 0.72 |
| **Basin (N = 21)** | 0.89 | 0.36 | 0.23 |
| **Surface (N = 15)** | 0.99 | 0.30 | 0.72 |
| **SCM (N = 15)** | 0.91 | 0.93 | 0.88 |

Figure 1. Contribution to pigments biomass (mg $m^{-3}$) of six groups calculated by CHEMTAX against cell number (cell $l^{-1}$) in the corresponding phytoplankton groups identified by light microscopy. (a) Diatoms (b) Cryptophytes (c) picoplankton (d) Dinoflagellates (e) Prasinophytes and (f) nanoplankton.