Table S2. Spearman correlation coefficient for correlations between environmental variables and bacterial abundance, activity, substrate use and extracellular enzymatic activity (EEA) for particle-attached (>3μm (PA) and free-living (<3μm (FL) bacterial communities. NS: not significant. Green background: positive correlation, red background: negative correlation. * p<0.05; ** p<0.01; *** p<0.001

| Environmental variables | Bacterial abundance and activity | Nutritional need | EEA | Transversal composition |
|-------------------------|---------------------------------|-----------------|-----|------------------------|
|                         | Chlo  | T  | tide | DIC | NOS | NAA | PO4 | BSO | COD | BOD | EEA | NOS | NAA | PO4 | BSO | COD | BOD |
|                        |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Amino acids             |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Synech. LAPase (per cell)|       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Synech. APase (per cell)|       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Carbohydrates          |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PO4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NH4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DOC                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Environmental variables |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Carbohydrates          |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PO4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NH4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DOC                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Environmental variables |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Carbohydrates          |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PO4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NH4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DOC                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Environmental variables |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Carbohydrates          |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PO4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NH4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DOC                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Environmental variables |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Carbohydrates          |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PO4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NH4                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DOC                    |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                         |       |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Legend: Symbols
- > 3μm (PA) bacterial communities. NS: not significant. Green background: positive correlation, red background: negative correlation. * p<0.05; ** p<0.01; *** p<0.001