**S2** Table. Number of FA profiles in each of the algal groups in the full meta-analysis data set. Table is organized by FA data type and indicating the six major algal groups that are the focus of analyses. The FA observation (n profiles) in the 'included' category is the number of raw profiles that were used in the PCA (S1 Fig.) or eligible for inclusion in the DISTLM analysis.

| _                 | % FA       | FA % DW    |
|-------------------|------------|------------|
| Algal groups      | n profiles | n profiles |
| Included          |            |            |
| Chlorophyta       | 129        | 16         |
| Cryptophyta       | 87         | 9          |
| Cyanobacteria     | 76         | 14         |
| Diatoms           | 232        | 43         |
| Dinophyta         | 41         | 10         |
| Haptophyta        | 101        | 17         |
| Excluded          |            |            |
| Chrysophyceae     | 6          | 0          |
| Euglenozoa        | 3          | 0          |
| Eustigmatophyceae | 25         | 6          |
| Pinguiophyceae    | 5          | 0          |
| Raphidophyceae    | 28         | 0          |
| Rhodophyta        | 7          | 1          |
| Xanthophyceae     | 2          | 0          |