

Meta-data for Reused Growth Medium Experiment Datasets

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In all datasets, 'NA' indicates data are not available.

DataTable1_Growth.csv

Growth-related variables for each experimental replicate culture. Units in parentheses. Letters below represent CSV file columns, in order.

- A. Algae
 - i. Identity of algae used in the experiment.
 - ii. 'C323' = *Staurosira* sp. C323; 'D046' = *Chlorella* sp. D046; 'Navicula' = *Navicula* sp. SFP
- B. Round
 - i. Round of experiment (indicates number of reuses of the medium for the reused medium treatment).
 - ii. Number 0 through 4.
- C. Day
 - i. Day of the experiment round.
 - ii. Number 0 through 5.
- D. Treatment
 - i. Experimental treatment.
 - ii. 'F' indicates fresh medium treatment. 'R' indicates reused medium treatment.
- E. Replicate
 - i. Biological replicate per experimental treatment.
 - ii. Letters A through F.
- F. Chl
 - i. In vivo chlorophyll concentration (arbitrary units).
 - ii. Raw value (not blank-subtracted).
- G. OD750
 - i. Optical density of whole culture measured at 750 nm (arbitrary units).
 - ii. Raw value (not blank-subtracted).
- H. OD750_filt
 - i. Optical density of 0.2- μ m culture filtrate measured at 750 nm (arbitrary units).
 - ii. Raw value (not blank-subtracted).
- I. AlgaeConc
 - i. Algae cell concentration (10^6 cells/mL).
- J. BacteriaConc
 - i. Bacteria cell concentration (10^6 cells/mL).
- K. DOC
 - i. Biologically-derived dissolved organic carbon concentration of 0.2- μ m culture filtrate (μ M C).
- L. TDN
 - i. Total dissolved nitrogen of 0.2- μ m culture filtrate (μ M N).
- M. BulkLipids
 - i. Neutral lipids concentration of whole culture, based on Nile Red staining, in relative fluorescence units (RFU).
- N. ExtLipids
 - i. Neutral lipids concentration of 0.2- μ m culture filtrate, based on Nile Red staining (RFU).

- O. Salinity
 - i. Salinity of 0.2- μ m culture filtrate (parts per thousand).
- P. FvFm
 - i. F_v/F_m , the quantum yield of photochemistry in Photosystem II (unitless).
- Q. PC
 - i. Blank-corrected particulate carbon measured on a GF/F filter (μ moles C).
- R. PN
 - i. Blank-corrected particulate nitrogen measured on a combusted GF/F filter (μ moles N).
- S. Vol
 - i. Volume filtered through the GF/F filter used for measuring PC and PN (mL).
- T. pH
 - i. pH of whole culture (unitless).
- U. PO4
 - i. Orthophosphate concentration in 0.2- μ m culture filtrate (μ M PO₄).
- V. NH4
 - i. Ammonium concentration in 0.2- μ m culture filtrate (μ M NH₄).
- W. Si
 - i. Reactive silica concentration in 0.2- μ m culture filtrate (μ M Si).
 - ii. D046 experiment did not use Si.
- X. DIC
 - i. Inorganic carbon concentration of whole culture (μ M C).
 - ii. For *Navicula* sp. SFP, it is the average of 2 replicate samples. For *Staurosira* sp. C323, only one sample was measured per experiment culture. For *Chlorella* sp. D046, only one sample was measured per experiment culture only on the last day of the experiment (Round 4, Day 5).
- Y. TOC_rate
 - i. Total organic carbon production rate, as calculated from the radiolabeled carbon method and DIC concentration (μ M C/day).
 - ii. For *Chlorella* sp. D046 experiment, this is not the calculated rate but is the raw, blank-corrected, mean DPM (disintegrations per minute) divided by total ¹⁴C DPM added. Therefore, it does not account for DIC concentrations, and absolute values cannot be compared among replicates or treatments.
- Z. POC_rate
 - i. Particulate organic carbon production rate, as calculated from the radiolabeled carbon method and DIC concentration (μ M C/day).
 - ii. For *Chlorella* sp. D046 experiment, this is not the calculated rate but is the raw, blank-corrected, mean DPM (disintegrations per minute) divided by total ¹⁴C DPM added. Therefore, it does not account for DIC concentrations, and absolute values cannot be compared among replicates or treatments.

DataTable2_Daily.csv

Data common to all experimental replicate cultures in an experiment.

Letters below represent CSV file columns, in order.

- A. Algae
 - i. Identity of algae used in the experiment.
 - ii. 'C323' = *Staurosira* sp. C323; 'D046' = *Chlorella* sp. D046; 'Navicula' = *Navicula* sp. SFP
- B. Round
 - i. Round of experiment.
 - ii. Number 0 through 4.
- C. Day
 - i. Day of the experiment round.
 - ii. Number 0 through 5.
- D. Date
 - i. Day of experiment sampling (MM/DD/YYYY).
- E. Tstart
 - i. Time of day (24-hour time) that experimental sampling began (HH:MM).
- F. Tend
 - i. Time of day (24-hour time) that experimental sampling ended (HH:MM).
 - ii. End time does not include the end of the radiolabeled carbon incubation method.
- G. CultureVol
 - i. Approximate volume of the experimental cultures (mL).
- H. AirFlow
 - i. Approximate air flow rate into the experimental cultures (mL/min).
- I. InocBefore
 - i. In vivo chlorophyll concentration of the inoculum culture prior to transferring with growth medium (arbitrary units).
- J. InocAfter
 - i. In vivo chlorophyll concentration of the inoculum culture after transferring with growth medium (arbitrary units).
- K. Chl_medium
 - i. In vivo chlorophyll concentration of the growth medium blank sample (arbitrary units).
- L. OD750_medium
 - i. Optical density at 750 nm of the growth medium blank sample (arbitrary units).

DataTable3_Filtrate.csv

Data from biodegradation experiments in post-experiment culture filtrate.

Letters below represent CSV file columns, in order.

- A. Algae
 - i. Identity of algae used in the experiment.
 - ii. 'C323' = *Staurosira* sp. C323; 'D046' = *Chlorella* sp. D046; 'Navicula' = *Navicula* sp. SFP
- B. Date
 - i. Day of sampling (MM/DD/YYYY).
- C. ElapsedDays
 - i. Days elapsed since the last day of the experiment. The last day of the experiment represents 0 days elapsed.
- D. Treatment
 - i. Experimental Treatment from which the filtrate is derived.
 - ii. 'F' indicates fresh medium treatment. 'R' indicates reused medium treatment.
- E. Replicate
 - i. Biological replicate per experimental treatment, from which the filtrate is derived.
 - ii. Letters A through C.
- F. BacteriaConc
 - i. Bacteria cell concentration (10^6 cells/mL).
- G. DOC
 - i. Biologically-derived dissolved organic carbon concentration of 0.2- μ m filtrate (μ M C).
- H. TDN
 - i. Total dissolved nitrogen of 0.2- μ m filtrate (μ M N).