**Total Numbers May Need a Recount**

Genetics, Particulate Organic Matter (POC, PON, POP, PCOD), svPOCN, HPLC, FCM

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**Genetics**

Genetics samples were collected approximately at 0600, 1200, and 2000 local time from the uncontaminated underway seawater system and pre-filtered (30 μm mesh) (88 stations). Samples were also collected using the CTD at 5m, 100m, 200m, and 1000m (39 stations). If the CTD collection coincided with one of the standard collection times, it would take that slot, otherwise the CTD cast would be a fourth collection period. In total, 285 samples were collected (129 with the underway and 156 with the CTD). Up to 8L of seawater was collected into a plastic cubitainer and filtered immediately after collection. Water was filtered through a Sterivex 0.22μm filter using a peristaltic pump at a low speed. Once all water is pumped through the Sterivex cartridge, one end is sealed with Crito-seal putty. 1620μL of sterile lysis buffer is pipetted into the filter cartridge and the other end is sealed with a luer-lok cap. The filter is placed in a separate Ziplok bag and preserved frozen at -80C until shipment to the Adam Martiny lab at UC Irvine for further analysis. Final filtration volume was recorded for all samples. Gloves were worn during all steps, and were also used by all samplers at the rosette.

Prior to the cruise, all silicone tubing, Omnifit caps and cubitainers were cleaned in soapy water, 10% HCL, and Milli-Q water. Weekly, the tubing and Omnifit caps were soaked in a 10% bleach solution over four hours and rinsed with Milli-Q water. Between sample collections, the tubing and sample container were rinsed 3x with Milli-Q water.

**Particulate Organic Matter**

Particulate organic matter (POM) samples were collected for particulate organic carbon (POC), nitrogen (PON), phosphorous (POP) and particulate chemical oxygen demand (PCOD). POM samples were collected approximately at 0600, 1200, and 2000 local time from the uncontaminated underway seawater system and pre-filtered (30 μm mesh) (88 stations). Samples were also collected using the CTD at 5m (39 stations). In total, 1068 samples were collected (717 with the underway and 351 with the CTD). If the CTD collection coincided with one of the standard collection times, it would take that slot, otherwise the CTD cast would be a fourth collection period. In total, 127 stations were sampled (underway and CTD). Each sample passed through a GF/F filter (nominal pore size 0.7μm). An aspirator pump was used to pull water through the filters at a vacuum setting of -0.06 to -0.08 MPa. Nine carboys were filled with 3-8L of water (volume biomass-dependent) and designated as follows: 3x POP, 3x POC/PON, 3x PCOD. POP filters were rinsed with 5mL of 0.017M Na2SO4 to remove traces of dissolved organic phosphorous at the end of filtration. PCOD filters were rinsed with 5ml of Milli-Q water to remove excess salt at the end of filtration. Filters were folded and stored frozen at -80°C in pre-combusted foil squares.

All carboys were rinsed 3x with sample water before collection. GF/F filters and foil squares were precombusted at 500°C for 4.5 hours. Prior to the cruise, all silicone tubing, filter holders, and carboys were cleaned in soapy water, 10% HCL, and Milli-Q water. All filters will be shipped frozen and analyzed by the Martiny lab at UC Irvine. Gloves were used for all steps mentioned above.

**Small Volume Particulate Organic Carbon/ Nitrogen**

Small volume particulate organic carbon/ nitrogen (POC/N) samples were collected approximately at 0600, 1200, and 2000 local time from the uncontaminated underway seawater system and pre-filtered (30 μm mesh) (16 stations). Samples were also collected using the CTD ranging from 200m to 5m (8 stations). In total, 104 samples were collected (48 with the underway and 56 with the CTD). If the CTD collection coincided with one of the standard collection times, it would take that slot, otherwise the CTD cast would be a fourth collection period. In total, 24 stations were sampled (underway and CTD).

Three samples of 0.5 - 2L of water were collected when using the underway and six samples of approximately 2L with one replicate at a random depth were collected using the CTD during a float deployment. Samples were stored in a HPDE bottle rinsed 3x with DI and sample water before being filtered onto 25mm GF/F filters using a vacuum pump set at 100mmHg. 1L of sampled water is re-filtered onto a new GF/F to create a blank for the underway. For CTD collection a wet blank is created by stacking two filters, filtering 1L of filtered sample water and using the bottom filter as a blank. Filters were folded and stored frozen at -80°C in pre-combusted foil squares. Small volume POC/N were collected to compare to POC/N samples described above in order to compare across methods. Sample bottles and funnels were rinsed with DI 3x after each sample period.

**HPLC Pigments**

HPLC samples were collected approximately at 0600, 1200, and 2000 local time from the uncontaminated underway seawater system and pre-filtered (30 μm mesh) (83 stations). Samples were also collected using the CTD ranging from 200m to 5m (42 stations). In total, 259 samples were collected (101 with the underway and 158 with the CTD). If the CTD collection coincided with one of the standard collection times, it would take that slot, otherwise the CTD cast would be a fourth collection period. In total, 125 stations were sampled (underway and CTD).

One to two samples were collected when using the underway and three to six samples with one replicate at a random depth using the CTD depending if there was a float deployment (three samples with no float deployment). Samples were stored in a HPDE bottle rinsed 3x with DI and sample water before being filtered onto 25mm GF/F filters using a vacuum pump set at 100mmHg. Filters were folded twice and stored frozen at -80°C in 1ml cryovials. Sample bottles and funnels were rinsed with DI 3x after each sample period.

NASA requires 10% of samples to be duplicates, resulting in two sample being taken, rather than one during underway sampling.

**FCM**

HPLC samples were collected approximately at 0600, 1200, and 2000 local time from the uncontaminated underway seawater system and pre-filtered (30 μm mesh) (83 stations). Samples were also collected using the CTD ranging from 1000m to 5m (42 stations). In total, 419 samples were collected (83 with the underway and 336 with the CTD). If the CTD collection coincided with one of the standard collection times, it would take that slot, otherwise the CTD cast would be a fourth collection period. In total, 125 stations were sampled (underway and CTD).

Single samples were collected when using the underway and eight samples at unique depths were collected using the CTD. Samples were collected in a 50ml tinted falcon tube, with 1.8ml being extracted and put into a 2ml cryovial. In a fumehood, 18uL of a preservation mixture (50/50 of 25% Glutaraldehyde and 2% Kolliphor) are added to the sample. The sample is inverted several times and allowed to sit for 10 minutes. After the 10 minutes the samples are flash frozen in liquid nitrogen and finally stored in a -80C freezer.