

**Supplemental Table 1.** The calculated medians (bold) and interquartile ranges, IQR, (parentheses) for the data parameters measured across all regimes of the Global Ocean Ship-Based Hydrographic Investigations Program (GO-SHIP) P06E transect, leg 2.

Parameter Type	GO-SHIP P06E Transect Data Parameters	Median	(IQR)
Energy	PATP (nM)	<b>2.2</b>	(2.1)
Biomass	PP (nM)	<b>18.12</b>	(12.23)
	total microbial cells ( $10^5$ cells mL $^{-1}$ )	<b>10.100</b>	(5.035)
	total biovolume ( $10^5$ $\mu\text{m}^3$ mL $^{-1}$ )	<b>0.45</b>	(0.32)
Energy to Biomass Ratios	PATP:PP	<b>0.11</b>	(0.10)
	PATP:Cell (amol cell $^{-1}$ )	<b>2.0</b>	(2.3)
	PATP:Biovolume (amol $\mu\text{m}^{-3}$ )	<b>44</b>	(53)
Hydrography	temperature (°C)	<b>0.142</b>	(0.091)
	salinity (PSU)	<b>246.55</b>	(19.43)
	chlorophyll (mg m $^{-3}$ )	<b>34.7117</b>	(0.5232)
	oxygen ( $\mu\text{M}$ )	<b>15.2500</b>	(2.4865)
Nutrients	DIC ( $\mu\text{M}$ )	<b>2110.86</b>	(29.34)
	DOC ( $\mu\text{M}$ )	<b>60.9</b>	(6.8)
	TDP ( $\mu\text{M}$ )	<b>0.428</b>	(0.367)
	DIP ( $\mu\text{M}$ )	<b>0.297</b>	(0.385)
	DOP ( $\mu\text{M}$ )	<b>0.142</b>	(0.055)
	DIN ( $\mu\text{M}$ )	<b>1.98</b>	(4.39)
	nitrate ( $\mu\text{M}$ )	<b>1.79</b>	(4.37)
	nitrite ( $\mu\text{M}$ )	<b>0.02</b>	(0.11)
	silicate ( $\mu\text{M}$ )	<b>0.00</b>	(0.21)
	N:P ratio	<b>5.93</b>	(9.25)
Microbial Community	non-pigmented picoplankton ( $10^5$ cells mL $^{-1}$ )	<b>0.487</b>	(0.724)
	total phytoplankton ( $10^5$ cells mL $^{-1}$ )	<b>0.300</b>	(0.654)
	<i>Prochlorococcus</i> ( $10^5$ cells mL $^{-1}$ )	<b>0.015</b>	(0.031)
	<i>Synechococcus</i> ( $10^5$ cells mL $^{-1}$ )	<b>0.038</b>	(0.041)
	picoeukaryotic phytoplankton ( $10^5$ cells mL $^{-1}$ )	<b>9.390</b>	(4.735)

Acronyms: particulate adenosine triphosphate (PATP); particulate phosphorus (PP); PATP normalized to PP (PATP:PP); PATP normalized to total microbial cells (PATP:Cell); PATP normalized to total biovolume (PATP:Biovolume); dissolved inorganic carbon (DIC); dissolved organic carbon (DOC); total dissolved phosphorus (TDP); dissolved inorganic phosphorus (DIP); dissolved organic phosphorus (DOP); dissolved inorganic nitrogen (DIN); DIN to DIP ratio (N:P ratio).