The following supplement accompanies the article

Differential responses of bacteria to diatom-derived dissolved organic matter in the Arctic Ocean

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Table S1 Arctic diatom strains characteristics

	RCC 2278 *Chaetoceros neogracilis*	RCC 4289 *Fragilariopsis cylindrus*
Division	Heterokonphyta	Heterokonphyta
Family	Chaetocerotaceae	Bacillariaceae
Ecotype	Clade I	-
Strain name	MALINA FT42.3 PG2	MicroPolar 02_P212_E5
Ocean origin	Arctic Ocean	Arctic Ocean
Region origin	Beaufort Sea	Greenland Sea
Isolation date	August 10, 2009	March 08, 2014
Size	7.0 µm	3-20 µm
Cell shape	cylindrical	pennate

Table S2 Dissolved organic carbon (DOC), nitrate and phosphate concentrations measured at the end of each diatom culture

	DOC (µM)	NO_3^- (µM)	PO_4 (µM)
Chaetoceros neogracilis	859	344	13
Fragilariopsis cylindrus	321	467	29

Table S3 Bacterial Growth efficiency (BGE) calculated from DOC consumption and changes in Bacterial Production (BP) or Bacterial Abundance (BA)

Experiment	Treatment	BGE calculated with BP (%)	BGE calculated with BA (%)
IZ-1	Control	1 ± 0.2	0.7 ± 0.2
	Nutrient	1.5	1.4
	neoDOM	3.8 ± 05	3.2 ± 1.0
IZ-2	Control	6.9 ± 0.9	11 ± 1.0
	Nutrient	8.6 ± 2.0	18 ± 4.5
	neoDOM	9.2 ± 1.2	19 ± 1.5
	iceDOM	8.5 ± 2.2	9.4 ± 1.5
OWZ	Control	11.1 ± 2.0	19 ± 4.3
	Nutrient	12.2	23.3
	neoDOM	9.6 ± 3.8	28.9 ± 14.4
	cylDOM	9.2 ± 1.0	22.9 ± 4.8
	iceDOM	12 + 4.4	15 ± 2.6

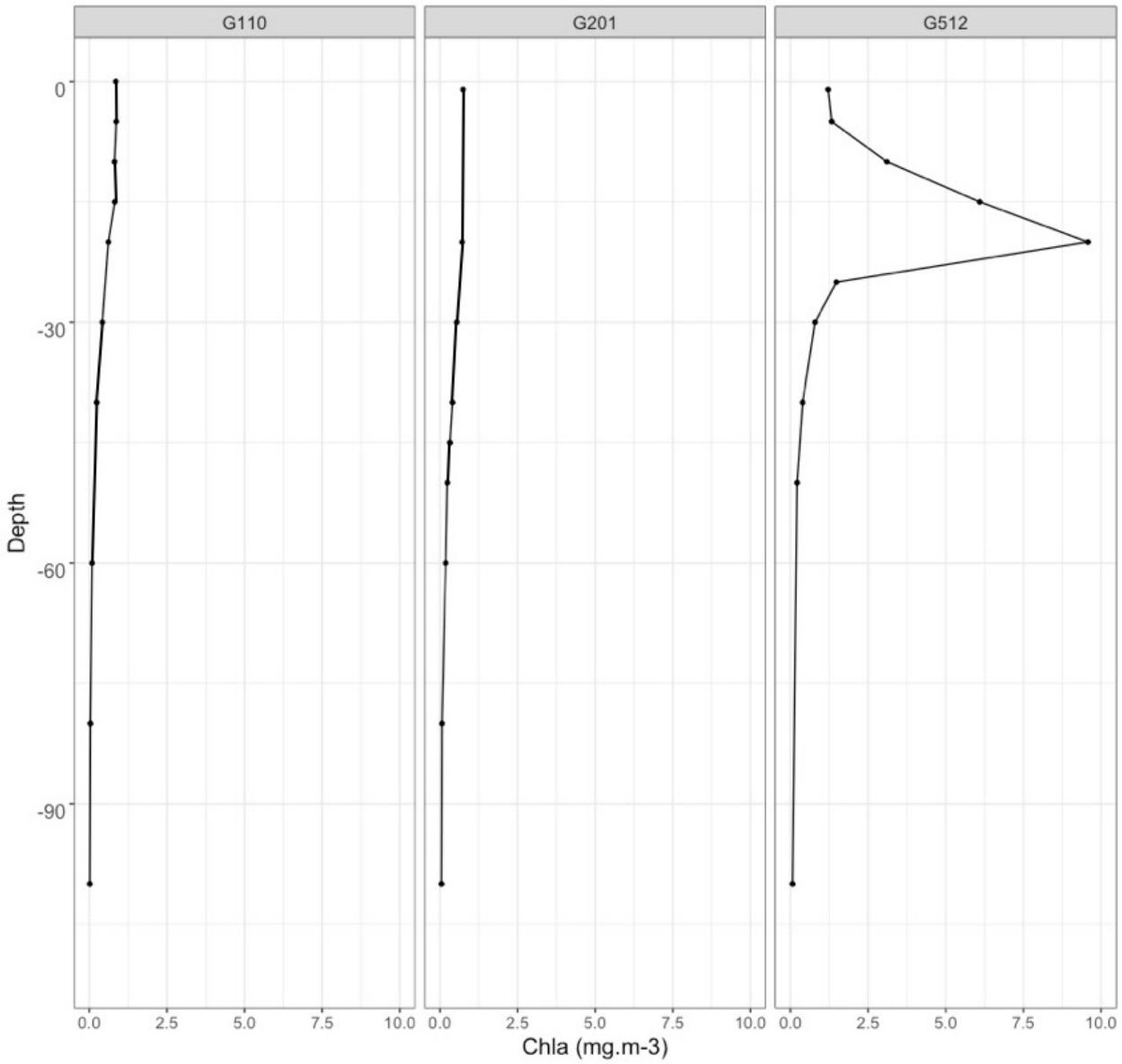

Fig. S1 Ch*a* profile for the ice zone station (G110 & G201) and the open water zone station (G512)

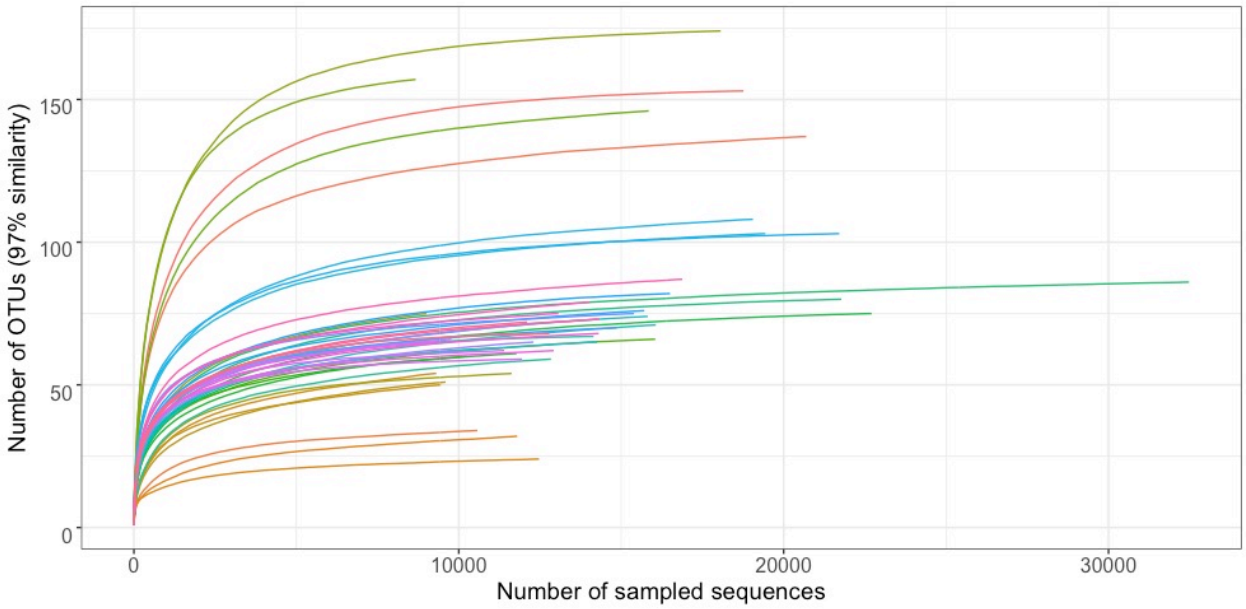

Fig. S2 Rarefaction curves within samples. Each color represents one sample