

## Article

# Ice Melt-Induced Variations of Structural and Functional Traits of the Aquatic Microbial Community along an Arctic River (Pasvik River, Norway)

## Supplementary Materials

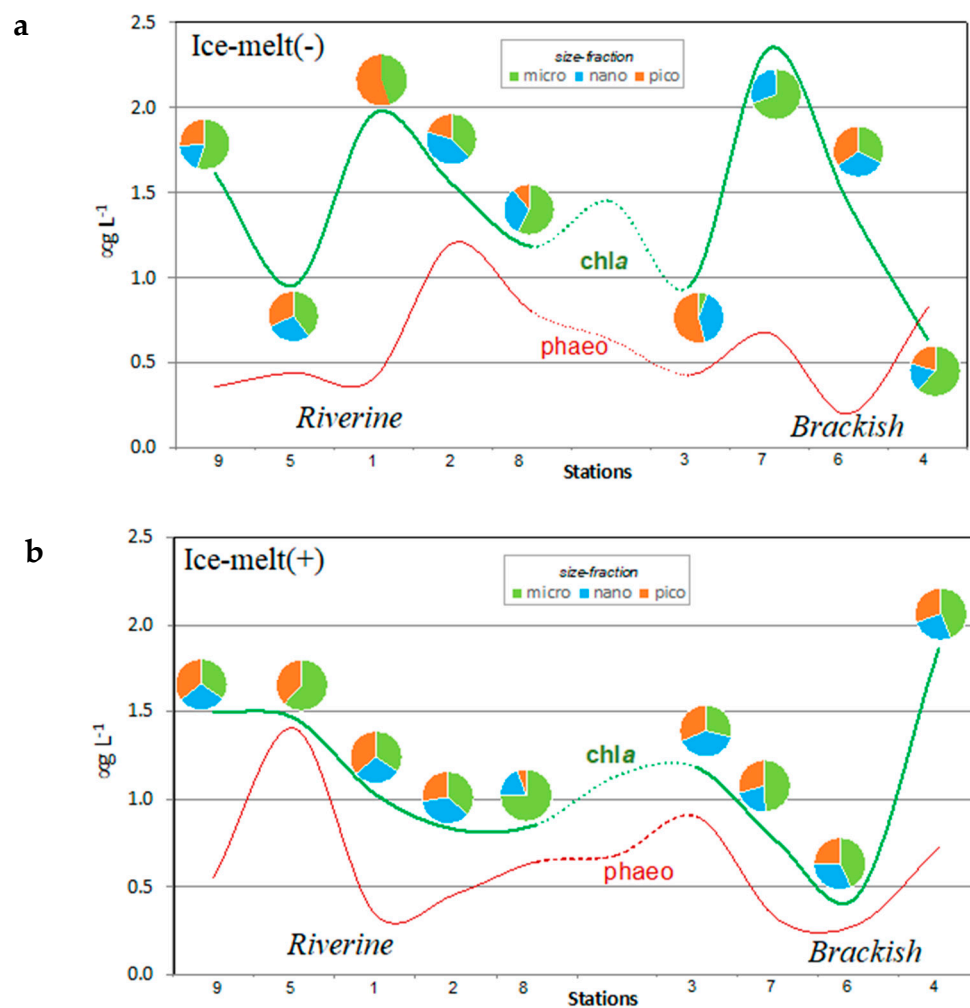
**Figure S1:** Distribution of chlorophyll-a (chl<sub>a</sub>; line in green) and phaeopigments (phaeo; line in red) concentrations, and percentage of size-fractions (micro-, nano- and pico-phytoplankton) at the riverine and brackish stations of the Pasvik River during the two seasonal sampling. May, Ice-melt (–); July, Ice-melt (+);

**Figure S2:** Phylogenetic groups retrieved in May, (Ice-melt(–)), and July, Ice-melt(+), at each sampling site along the Pasvik River;

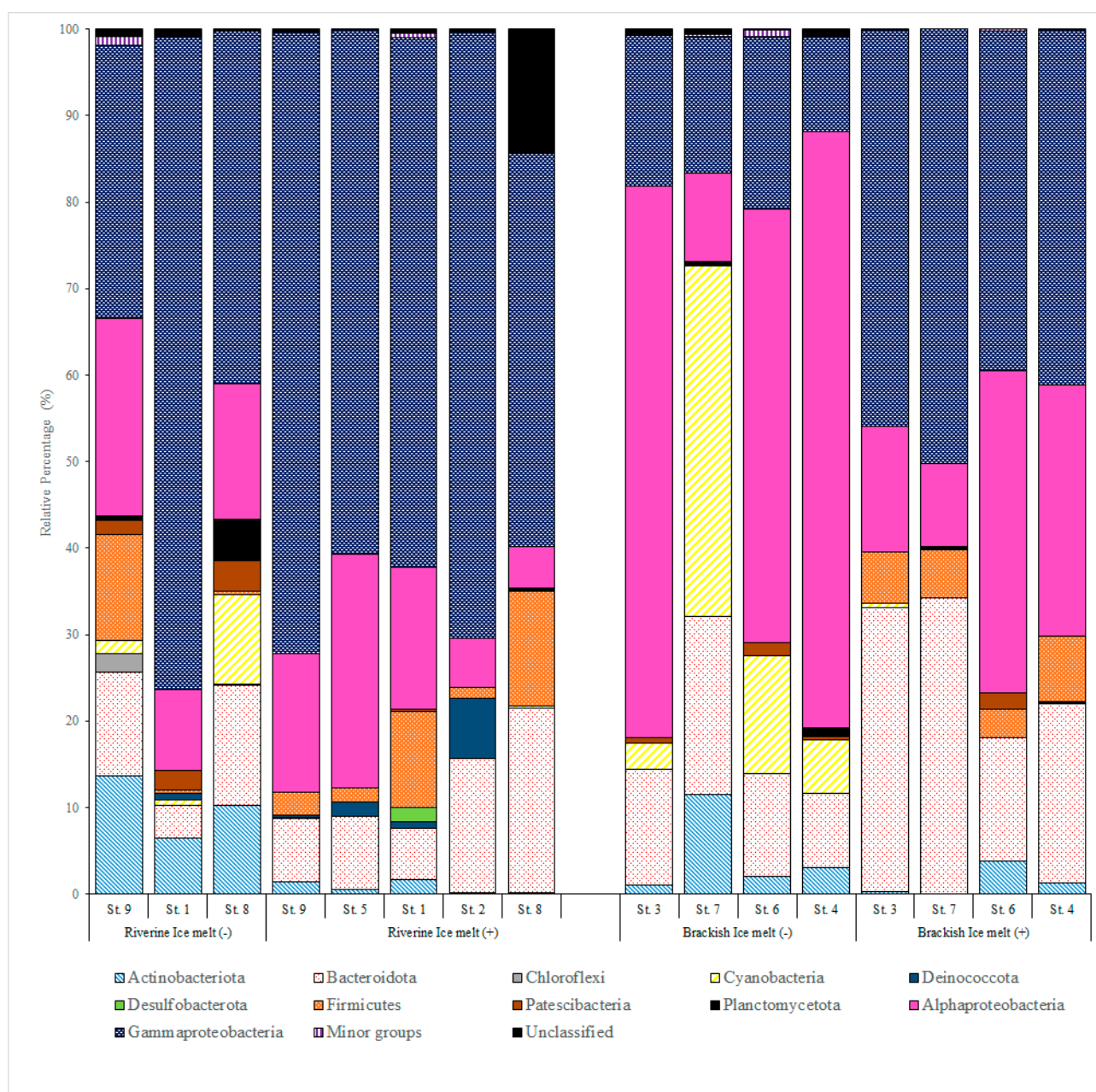
**Figure S3:** Venn diagrams showing the OTU-sharing between Ice-melting(–) and July (Ice-melting(+)) conditions and areas (riverine and brackish): a) riverine and brackish stations in Ice-melt(–); b) riverine and brackish stations in Ice-melt(+); c) riverine stations; d) brackish stations; e) all season/site groups;

**Figure S4:** Venn diagrams representing OTU-sharing between samples: a) riverine stations in May; b) riverine stations in July; c) brackish stations in May; d) brackish stations in July.

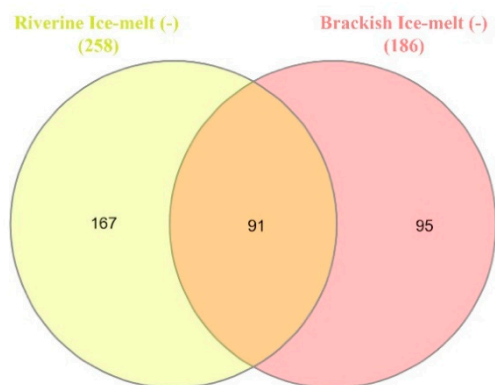
**Table S1:** Total number of sequence reads, good quality reads, observed numbers of OTUs, Shannon diversity, Evenness and Chao 1 indices per sample of the bacterial 16S rRNA gene data sets.



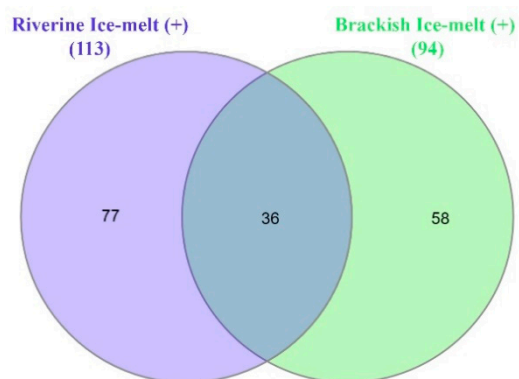
**Supplementary Figure S1.** Distribution of chlorophyll-a (chl-a; line in green) and phaeopigments (phaeo; line in red) concentrations, and percentage of size-fractions (micro-, nano- and pico-phytoplankton) at the riverine and brackish stations of the Pasvik River during the two seasonal sampling. May, Ice-melt (-); July, Ice-melt (+).



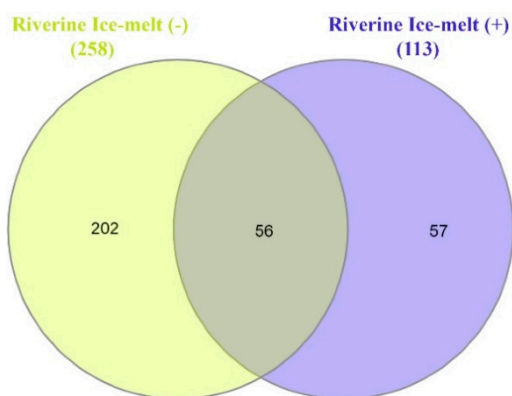
**Supplementary Figure S2.** Phylogenetic groups retrieved in Ice-melt (-) and Ice-melt (+) seasons at each sampling site along the Pasvik River.



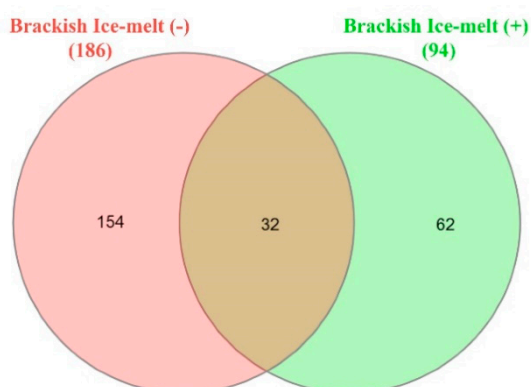
(a)



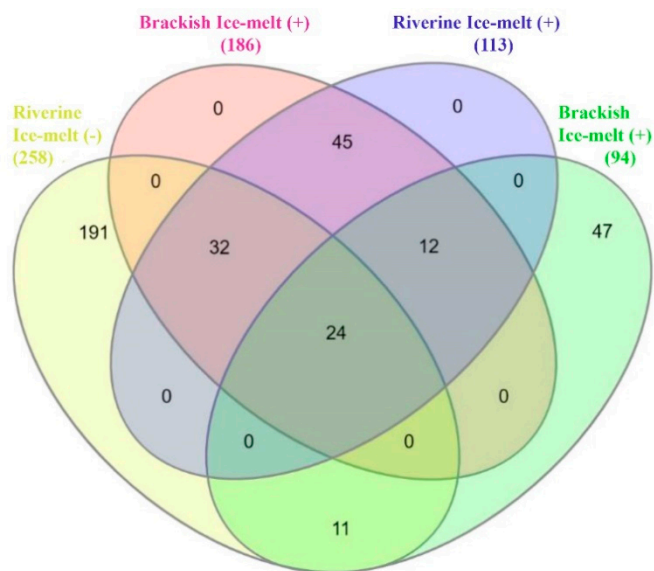
(b)



(c)

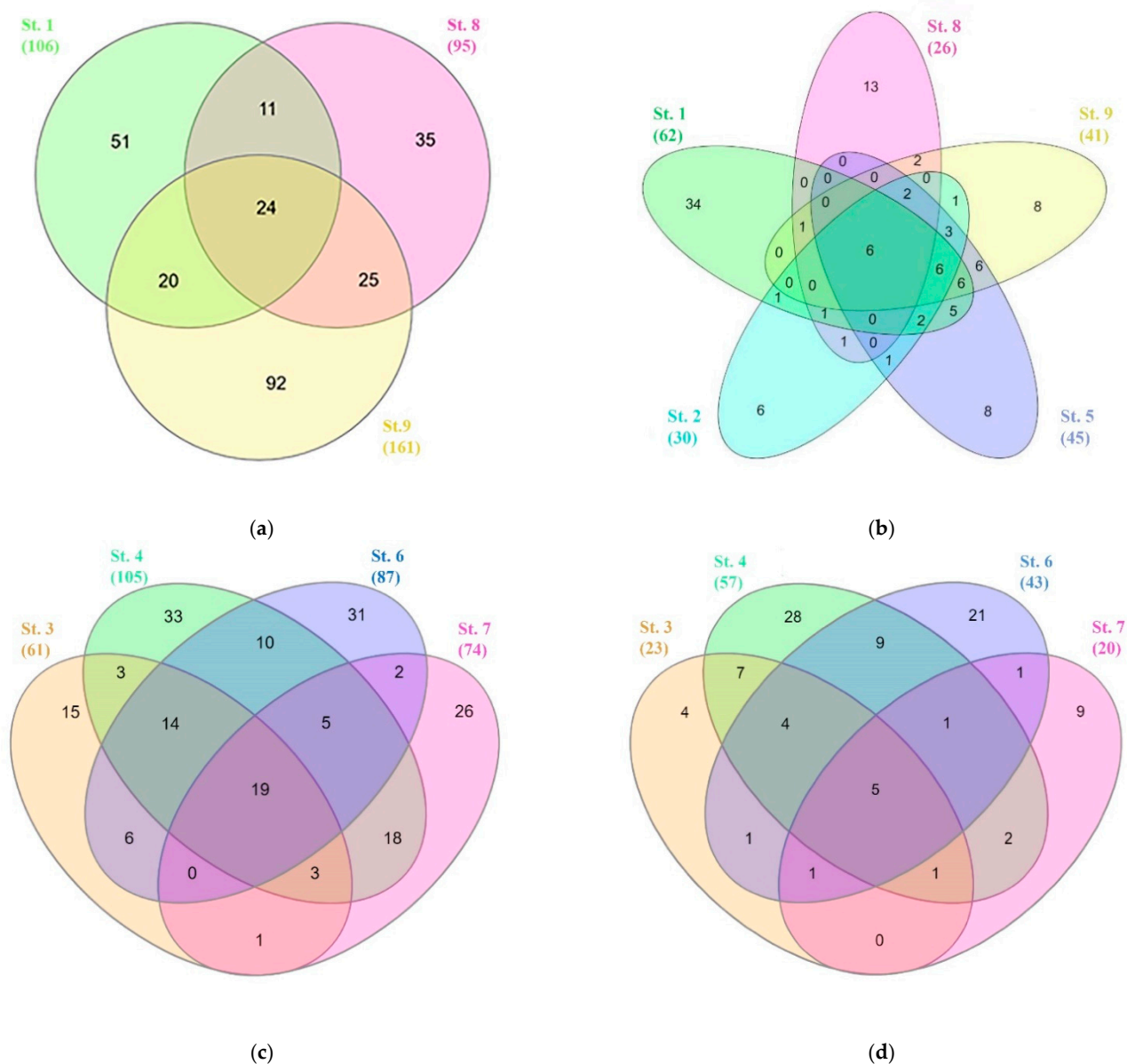


(d)



(e)

**Supplementary Figure S3.** Venn diagrams showing the OTU-sharing between sampling seasons (May and July) and areas (riverine and brackish): a) Riverine and brackish stations in Ice-melt(-) (SP1); b) Riverine and brackish stations in Ice-melt(+) (SP2); c) riverine stations in Ice-melt(-) (SP1) and Ice-melt(+) (SP2); d) brackish stations in Ice-melt(-) (SP1) and Ice-melt(+) (SP2); e) all season/site groups.



**Supplementary Figure S4.** Venn diagrams representing OUT-sharing between samples: a) riverine stations in Ice-melt(-) (SP1); b) riverine stations in Ice-melt(+) (SP2); c) brackish stations in Ice-melt(-) (SP1); d) brackish stations in Ice-melt(+) (SP2).

**Supplementary Table S1.** Total number of sequence reads, good quality reads, observed numbers of OTUs, Shannon diversity, Evenness and Chao 1 indices *per* sample of the bacterial 16S rRNA gene data sets.

Morphometric Traits		Riverine Stations				Brackish Stations				
		St.9	St.5	St.1	St.2	St.8	St.3	St.7	St.6	St.4
Total Reads	Ice-melt(−)	48548	nd	45035	nd	45074	42473	45521	40981	41367
	Ice-melt(+)	50318	47010	51683	57026	48050	43496	46409	45338	46411
GC (%)	Ice-melt(−)	55	nd	55	nd	54	52	52	53	53
	Ice-melt(+)	55	55	55	54	54	52	54	55	53
Good Quality Reads (%)	Ice-melt(−)	75.17	nd	78.1	nd	75.79	80.63	80.62	68.67	80.93
	Ice-melt(+)	81.3	81.94	78.99	80.31	80.48	78.07	78.07	77.7	80.91
OTUs	Ice-melt(−)	161	nd	106	nd	95	61	74	87	105
	Ice-melt(+)	41	45	62	30	26	23	20	43	57
Shannon	Ice-melt(−)	3.844401	nd	3.128962	nd	3.629881	2.620525	2.896335	3.029794	2.799768
	Ice-melt(+)	2.388927	2.403478	2.40409	1.771481	2.103197	1.742175	1.663928	2.657487	2.519864
Inv simpson	Ice-melt(−)	25.41222	nd	13.828827	nd	25.625789	7.713027	8.672733	9.44797	6.360254
	Ice-melt(+)	5.270804	6.180173	5.749307	2.99516	5.793135	4.325539	3.360967	8.550629	7.636652
Evenness	Ice-melt(−)	0.75656261	nd	0.67095585	nd	0.79709687	0.6374618	0.6729301	0.6784274	0.60158821
	Ice-melt(+)	0.64329619	0.63138733	0.58250823	0.52084034	0.6455294	0.55562998	0.55543265	0.70655284	0.62325795