



*Supplement of*

## **Phototrophic pigment diversity and picophytoplankton abundance in permafrost thaw lakes**

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Table S1. Location (longitude and latitude) and maximum depth (Z) of the subarctic lakes.

Sites	Latitude	Longitude	Z (m)
Thaw lakes on marine clays			
BGR1	56°36.650'N	76°12.900'W	3.5
BGR2	56°36.632'N	76°12.937'W	1.0
NASA	56°55.434'N	76°22.708'W	3.2
NASH	56°55.452'N	76°22.636'W	3.6
Thaw lakes on mineral clays			
KWK1	55°19.890'N	77°30.241'W	2.1
KWK6	55°19.937'N	77°30.117'W	3.2
KWK12	55°19.808'N	77°30.239'W	2.6
KWK23	55°19.947'N	77°30.131'W	3.4
Thaw lakes on peatlands			
SAS1A	55°13.128'N	77°42.477'W	1.9
SAS1B	55°13.143'N	77°42.475'W	1.7
SAS2A	55°13.591'N	77°41.815'W	2.6
SAS2B	55°13.600'N	77°41.806'W	2.0
Shallow rock-basin lakes			
SRB1	55°16.982'N	77°44.187'W	0.4
SRB2	55°16.970'N	77°44.122'W	0.8
SRB3	55°16.958'N	77°44.387'W	1.6
SRB4	55°19.907'N	77°41.959'W	0.7
SRB5	55°22.262'N	77°37.072'W	1.8

Table S2. Principal Component Analysis (PCA) for the environmental variables in the subarctic lakes.

Variables	PC 1	PC 2	PC 3
DOC	0.126	<b>0.285</b>	<b>-0.673</b>
TSS	<b>0.520</b>	0.014	<b>0.282</b>
TP	<b>0.484</b>	-0.220	0.189
TN	<b>0.392</b>	<b>0.479</b>	0.116
Temp	-0.246	<b>-0.253</b>	<b>0.367</b>
Cond	-0.157	<b>0.406</b>	<b>0.424</b>
pH	-0.257	-0.009	0.275
N-NO <sub>3</sub>	-0.047	<b>0.620</b>	0.143
Chl <i>a</i>	<b>0.416</b>	-0.220	0.084

Values in bold are different from 0  
with a significance level of p = 0.05

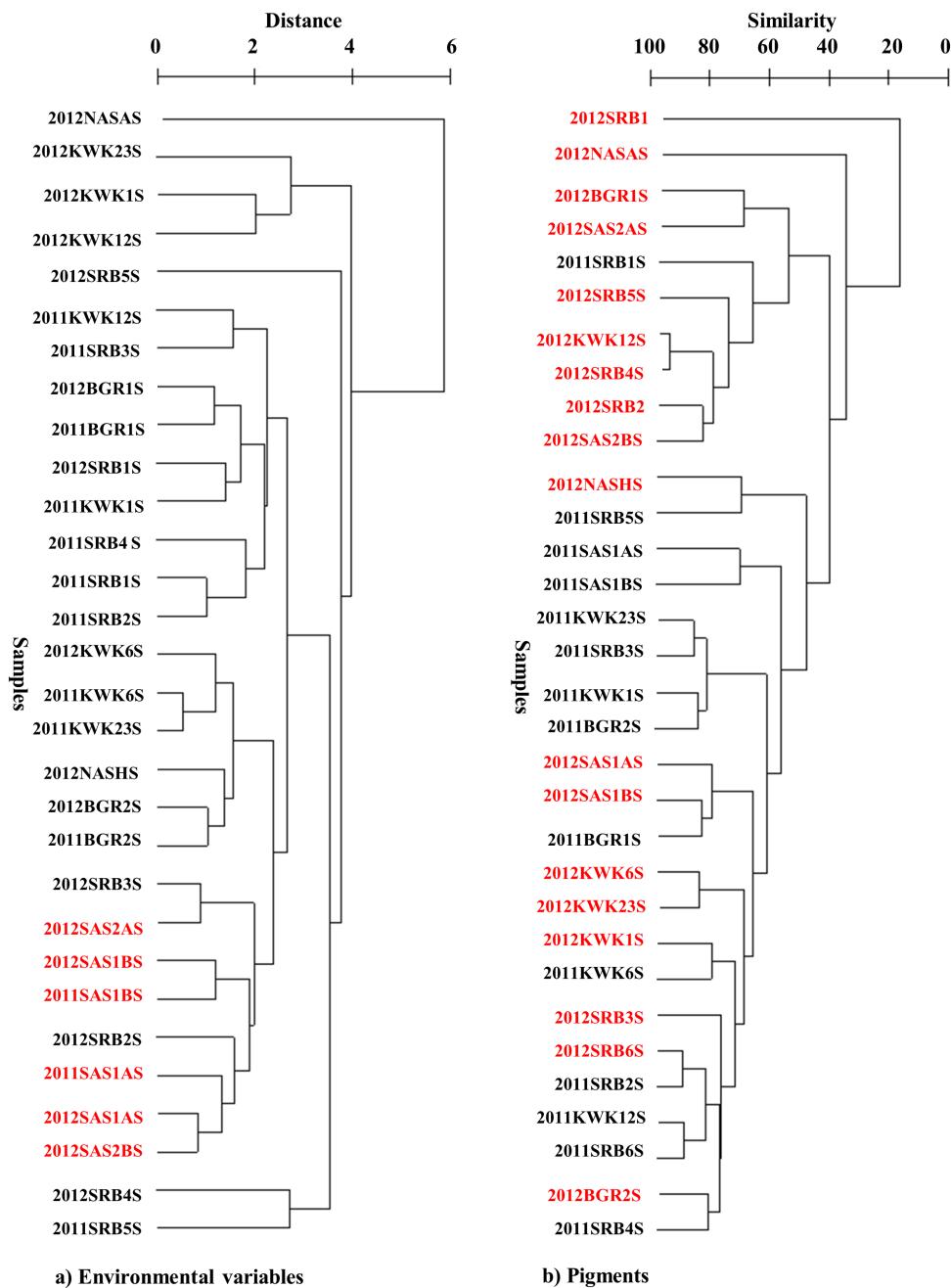


Figure S1. Cluster analyses of the environmental (left) and pigment (right) data.