

**Table S2.** Pearson correlation coefficients computed in the three examined Svalbard areas.  
In bold reported are the significant values at a P<0.05 level.

Northern area (n=6 stations)	LAP	GLU	AP	MA	TSA
LAP	1.000				
GLU	0.675	1.000			
AP	<b>0.986</b>	0.710	1.000		
MA	<b>0.888</b>	0.513	<b>0.848</b>	1.000	
TSA	<b>0.828</b>	0.379	<b>0.868</b>	<b>0.829</b>	1.000
marine/non-marine	-0.411	-0.010	-0.514	-0.268	-0.758
AWCD	-0.127	0.165	-0.205	-0.365	-0.645
Richness	0.398	0.550	0.412	-0.045	-0.005
Shannon-Weaver	0.025	0.386	0.052	-0.404	-0.348
Complex carbon souces	0.524	0.169	0.500	<b>0.843</b>	0.718
Carbohydrates	<b>-0.883</b>	-0.641	-0.801	<b>-0.851</b>	-0.531
Phosphate-carbon sources	0.326	0.162	0.277	-0.057	-0.069
Carboxylic acids	0.620	0.659	0.549	0.368	0.078
Amino acids	<b>0.719</b>	0.356	0.612	<b>0.895</b>	0.516
Amines	-0.340	-0.459	-0.252	-0.087	0.236

  

Central area (n=9 stations)	LAP	GLU	AP	MA	TSA
LAP	1.000				
GLU	<b>0.835</b>	1.000			
AP	<b>0.846</b>	0.426	1.000		
MA	-0.160	-0.373	0.198	1.000	
TSA	-0.068	-0.209	0.203	<b>0.721</b>	1.000
marine/non-marine	-0.284	-0.206	-0.355	-0.277	-0.697
AWCD	0.498	0.465	0.314	-0.270	-0.202
Richness	0.417	0.315	0.270	-0.490	-0.340
Shannon-Weaver	0.386	0.244	0.298	-0.432	-0.231
Complex carbon souces	-0.196	-0.090	-0.089	0.590	0.652
Carbohydrates	0.031	0.231	-0.270	<b>-0.762</b>	-0.644
Phosphate-carbon sources	0.158	-0.227	0.446	0.166	0.299
Carboxylic acids	0.123	-0.016	0.081	-0.456	0.614
Amino acids	0.129	-0.032	0.295	0.474	0.287
Amines	-0.252	-0.164	-0.254	-0.071	0.195

  

Southern area (n=3 stations)	LAP	GLU	AP	MA	TSA
LAP	1.000				
GLU	0.725	1.000			
AP	0.981	0.845	1.000		
MA	-0.436	-0.936	-0.602	1.000	
TSA	-0.901	-0.952	-0.968	0.784	1.000
marine/non-marine	0.849	0.251	0.730	0.106	-0.534
AWCD	0.607	-0.107	0.441	0.451	-0.201
Richness	0.718	0.040	0.569	0.314	-0.343
Shannon-Weaver	0.951	0.478	-0.810	-0.138	-0.723
Complex carbon souces	-0.681	<b>-0.998</b>	-0.810	0.956	0.932
Carbohydrates	<b>-0.997</b>	-0.667	-0.962	0.361	0.862

Phosphate-carbon sources	-0.131	0.587	0.063	-0.835	-0.313
Carboxylic acids	0.993	0.802	<b>0.997</b>	-0.539	-0.946
Amino acids	0.850	0.254	0.732	0.103	-0.537
Amines	0.449	0.941	0.613	1.000	-0.793

Abbreviations: LAP, Leucine AminoPeptidase

GLU, beta-Glucosidase,

AP, Alkaline Phosphatase

MA, Marine heterotrophic bacterial counts on Marine Agar plates

TSA, Non-marine bacterial counts on Tryptic Soy Agar