The following supplement accompanies the article

Effects of sterilization on dissolved organic carbon (DOC) composition and bacterial utilization of DOC from lakes

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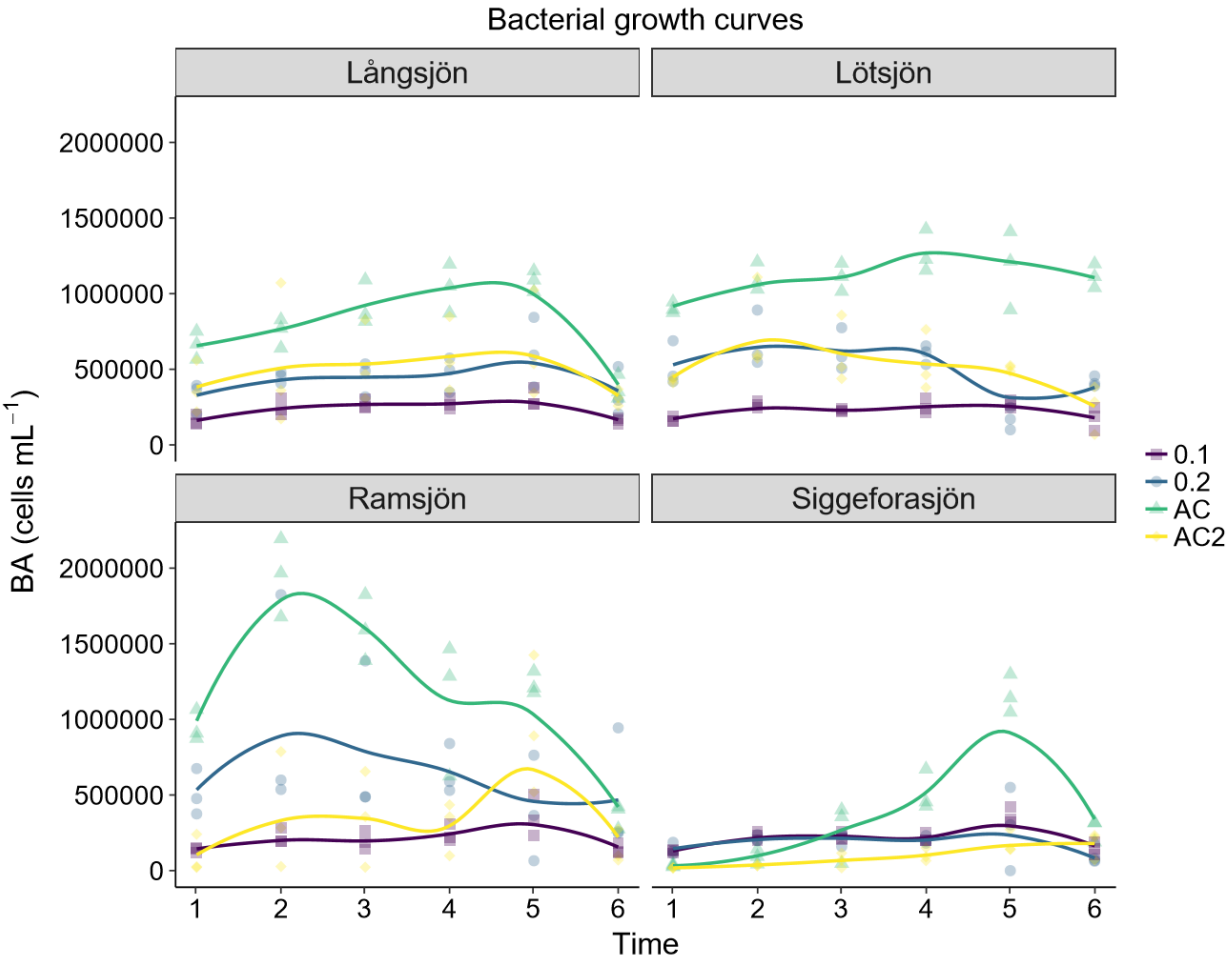

Fig. S1. Bacterial abundance (BA, cells mL-1) over time (days), sample point 1 is 24h after inoculation. Dots are sample values and lines show the trends by a local polynomial regression fitting model (R, package ggplot2).

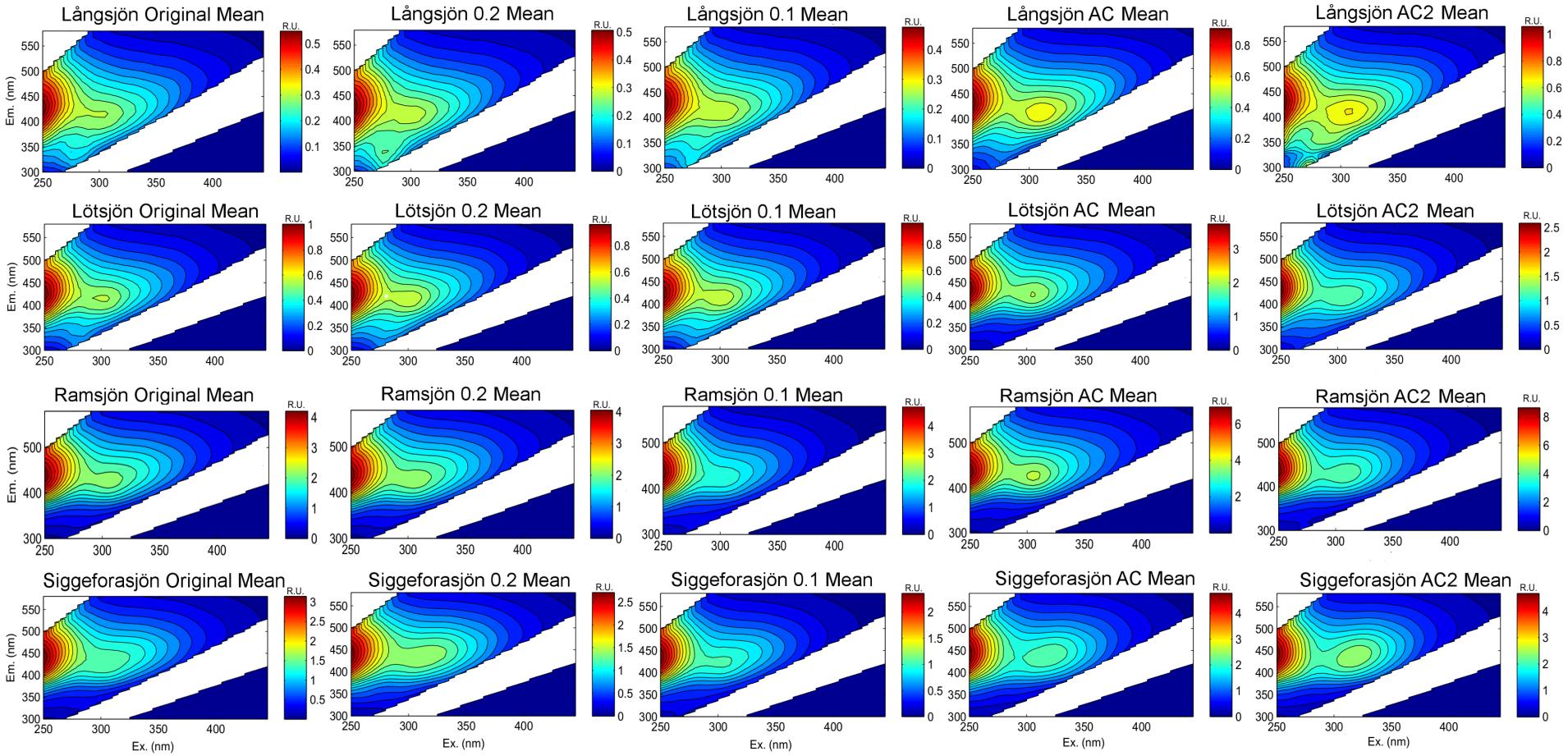

Fig. S2. EEMs showing the original lake waters and the mean change (of triplicates) within the DOM compounds of the treatment. The leftmost graphs show the original mean of the DOM composition of each lake, the following are the mean changes from the original water after each treatment (0.2, 0.1, AC & AC2). The color scale bar is in Raman units (note differences in the color scale for each graph).

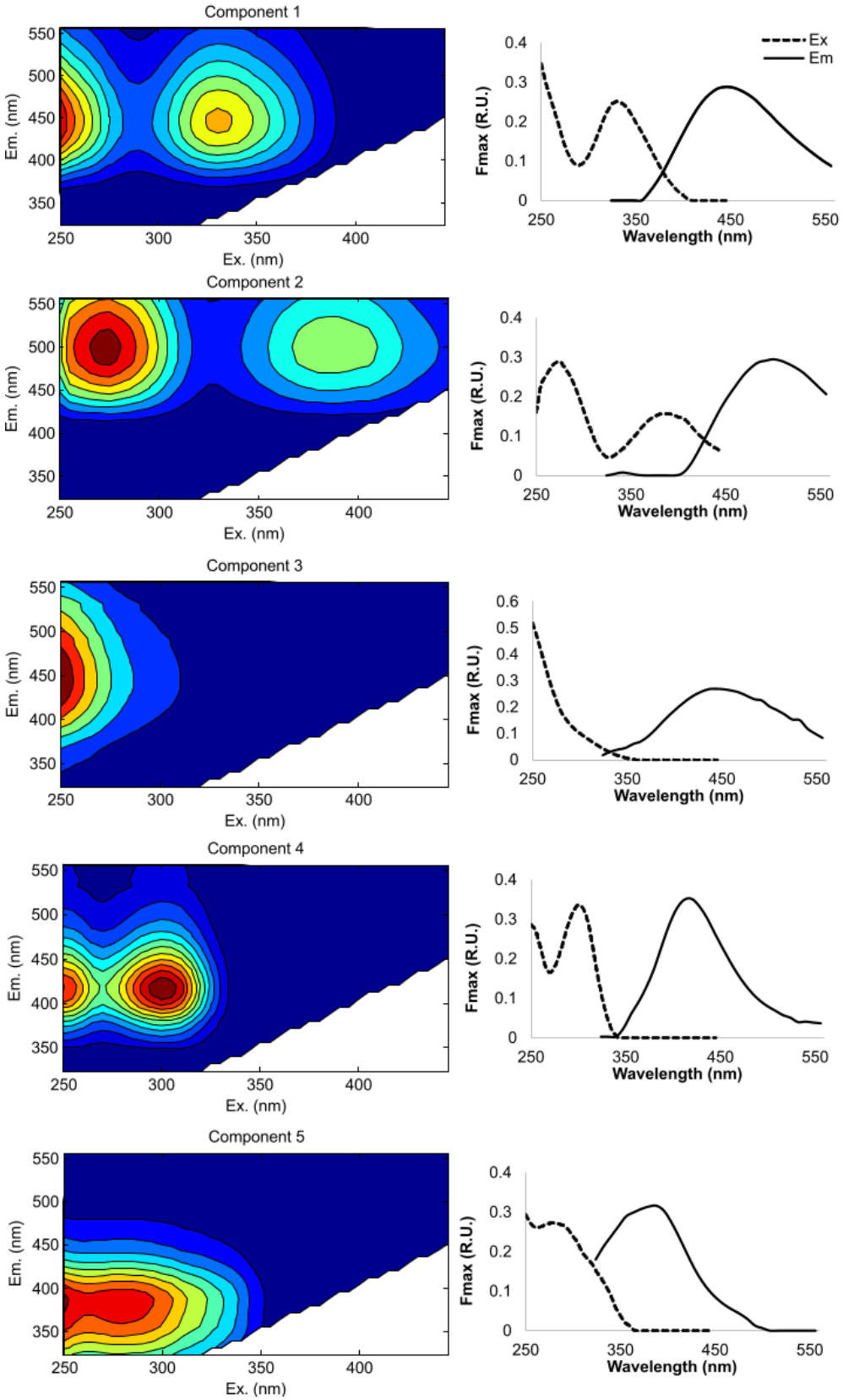

Fig. S3. Excitation–emission plots (left) of the fluorescence components identified from the PARAFAC model. Line plots (right) represent the split-half validations of the model, showing the excitation (dotted line) and emission (solid line) loadings for each component.

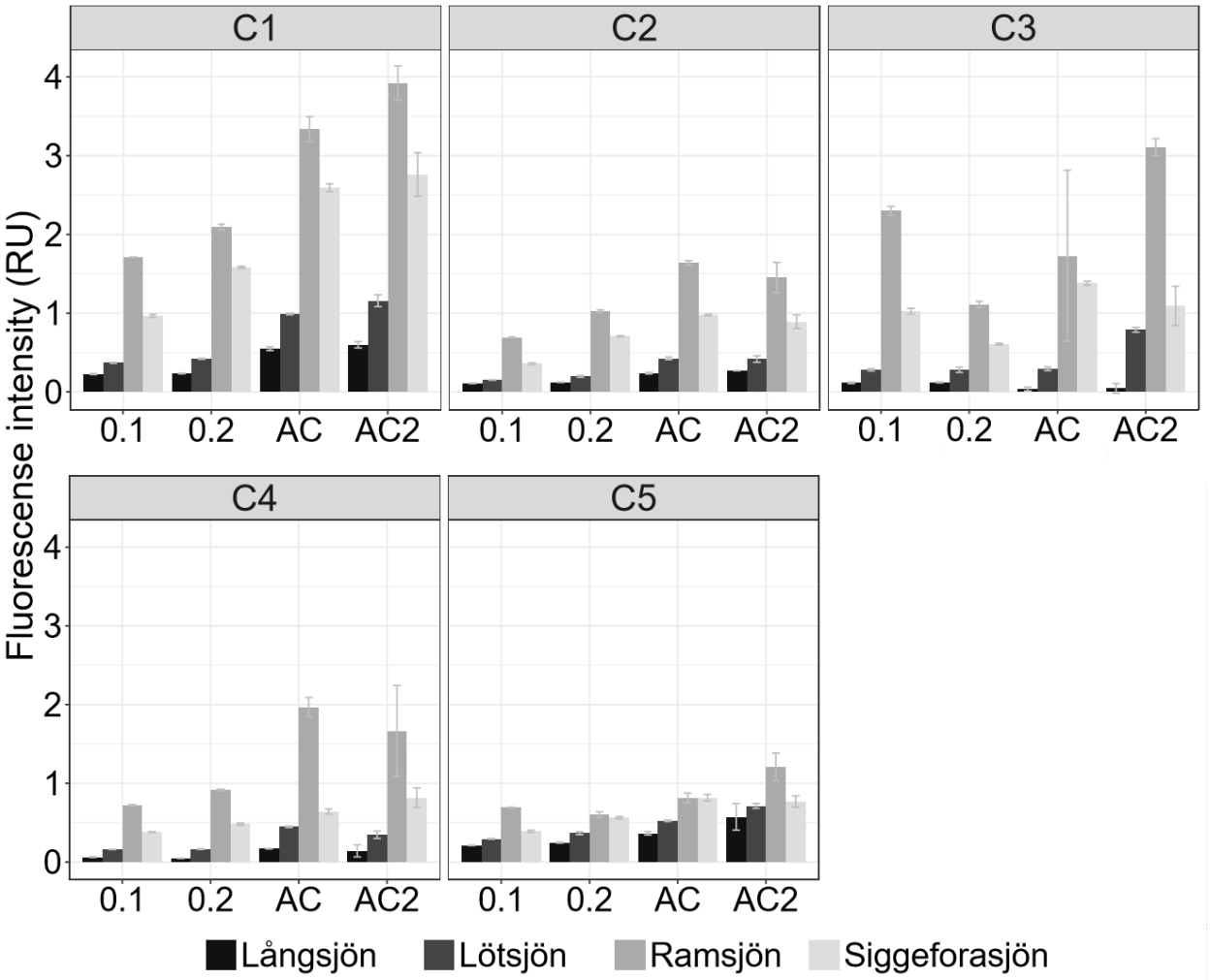

Fig. S4. Average fluorescence intensity (R.U.) of the five components (C1-C5). X-axis represents sterilization and color the lakes. Error bars are standard deviation of triplicates.

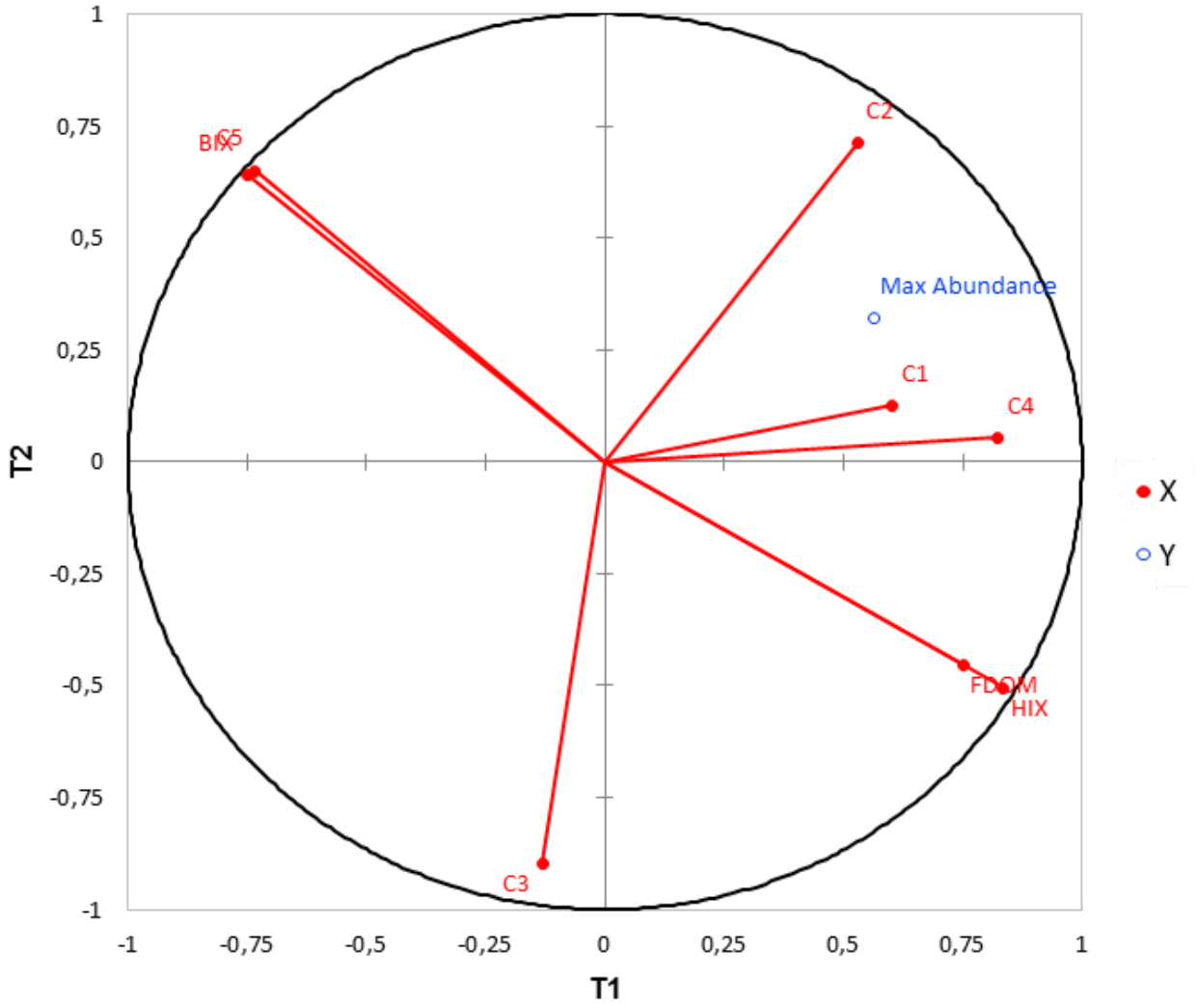

Fig. S5. Plot of the partial least square (PLS) analysis. The first two axes axis explained 42.2% of the observed variation in maximum bacterial abundance (Full model: R^2X:0.791, R^2Y: 0.422, Q^2: 0.318). The C2, C4 and FDOM variables had significant VIP (variable of importance) values, C2 showing the strongest correlation and FDOM the weakest (PLS, XLSTAT), see also Table S7.

Table S1. Brief description of lakes included in this study. Coordinates are in WGS84

Lake	Type	Nutrients	DOC mg C L^{-1}	Coordinate N	Coordinate E
Långsjön	Clear	Mesotrophic	5.2	60°3'28.97	17°34'23.25
Lötsjön	Clear	Eutrophic	9.8	59°51'47.5	17°56'36.84
Ramsjön	Humic	Mesotrophic	22.8	59°50'9.93	17°12'53.62
Siggeforasjön	Humic	Oligotrophic	18.4	59°58'35.2	17°91'30.23

Table S2. VIP (variable of importance) values from the PLS analysis of maximum bacterial abundance. Highly influencing variables were considered those having VIP > 1, while variables with moderate influence were 0.8 < VIP <1 (Eriksson et al. 2006)

Variable	VIP	Standard deviation	Lower bound (95%)	Upper bound (95%)
C4	1.436	0.22	0.992	1.879
C2	1.212	0.33	0.542	1.882
FDOM	0.986	0.27	0.441	1.531
HIX	0.930	0.18	0.566	1.294
C3	0.876	0.34	0.094	1.659
BIX	0.870	0.16	0.545	1.195
C5	0.817	0.16	0.505	1.128
C1	0.66	0.14	0.384	0.943