Monitoring the influence of wastewater effluent to a small drinking water system using EEM Fluorescence spectroscopy coupled with PARAFAC and PCA statistical approach

Yuri Park[1,2*], Sean MacIsaac[2], Parminder Kaur[1], Michael Brophy[2] and Graham A. Gagnon[2]

[1]Department of Separation Science, School of Engineering Science, Mikkeli, LUT University

[2]Center of Water Resources Studies, Dalhousie University, Halifax, NS, Canada

[*]Corresponding Author: Yuri Park (yuri.park@lut.fi)

Table S1. Description of CP sites

Site Identification	Site Description
CP1	Lake Thomas run, flowing into Fletchers Lake. Wide channel, fast flows and located around an urban area.
CP2	Site below the lift station that pumps wastewater into the Lockview-MacPherson WWTP
CP3	Bottom of Holland Brook, located in a residential subdivision
CP4	Top of Holland Brook, located in a heavily forested area with little development
CP5	Control area below Lizard Lake, located in a new subdivision that will be further developed in the future
Drinking Water (DWR)	Source water samples were taken at the Collins Park DWTP.
Wastewater (WWT)	Treated wastewater samples were taken at the Lockview-MacPherson WWTP
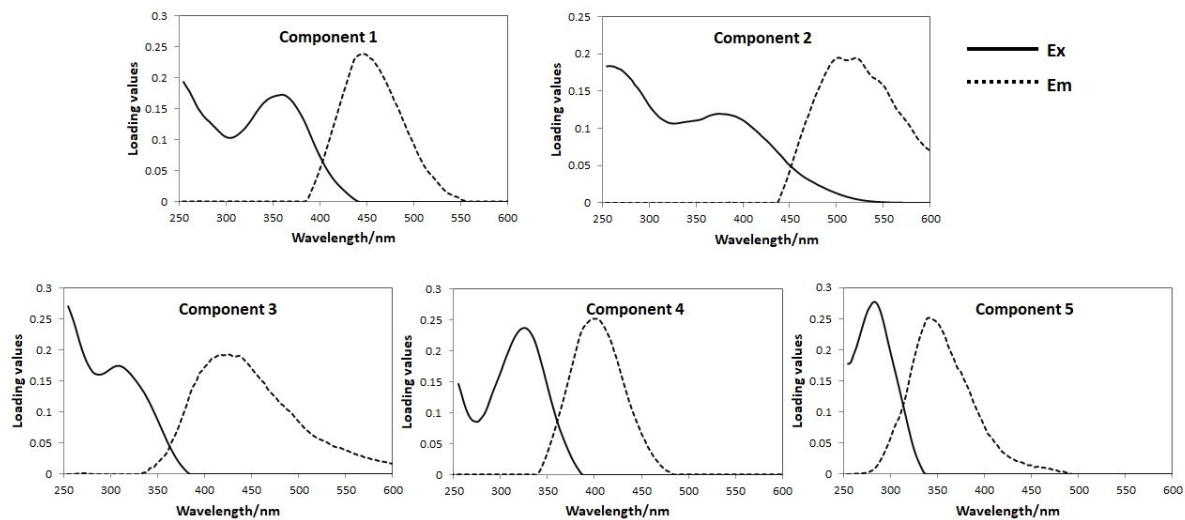
Figure S1. Contour plots of the five components produced from the EEM Fluorescence datasets (the excitation (ex; solid) and emission (em; dotted) loadings for the corresponding component)
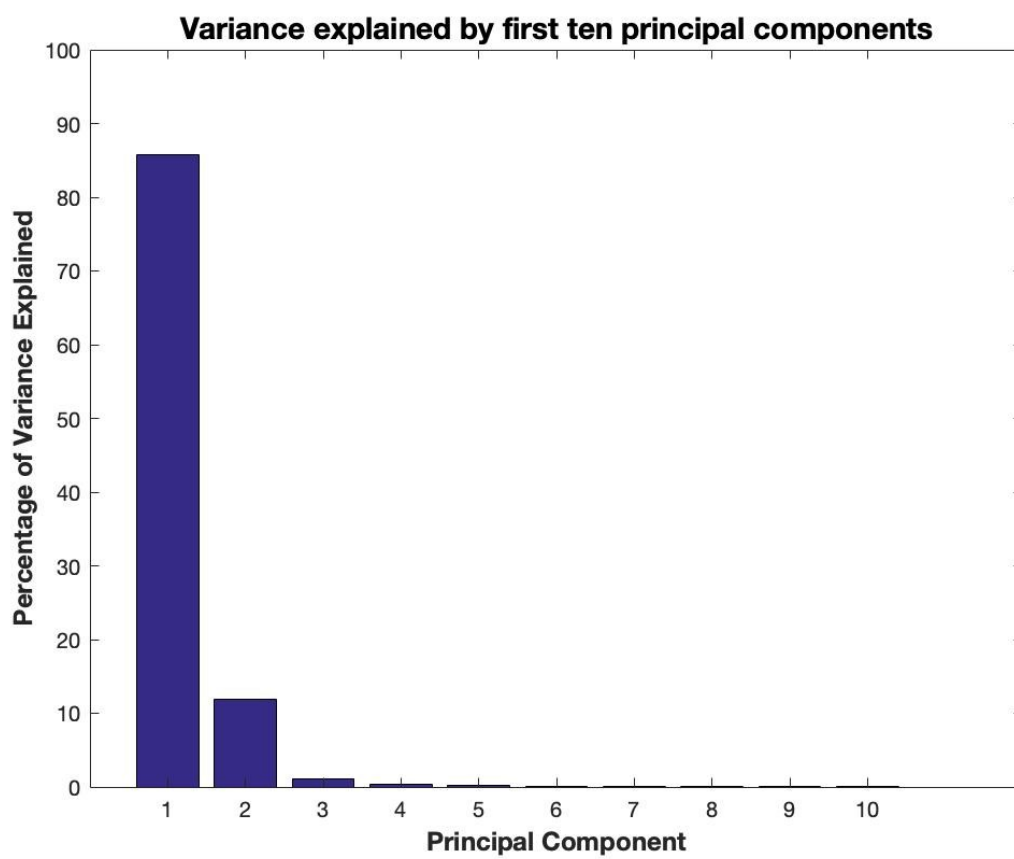
Figure S2. Variance explained by principal components
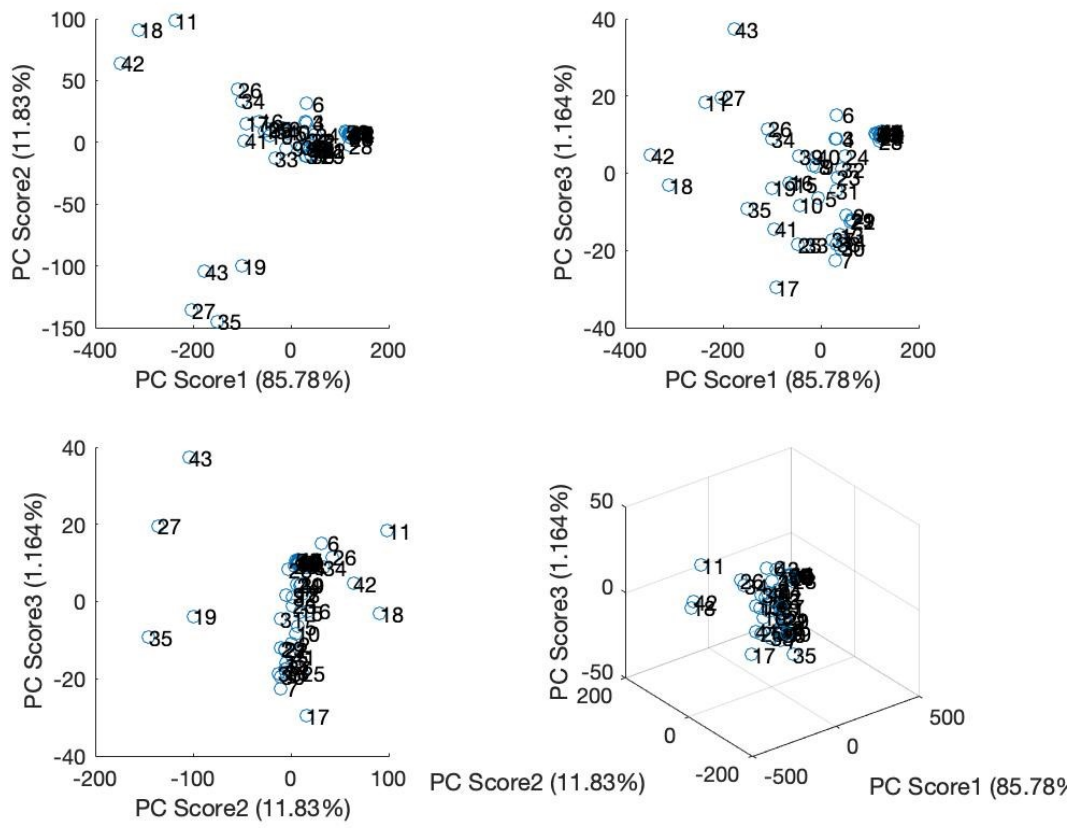
Figure 3. Score plots correlated with different PC components (e.g., PC1 vs. PC2, PC1 vs PC3, PC2 vs PC3, and, PC1 vs PC2 vs PC3)