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Supplementary material

Fluorescence quotient of excitation–emission matrices as a potential indicator of organic matter behavior in membrane bioreactors

Kang Xiao[a,b], Shuai Liang[a,c,*], Aihua Xiao[c], Ting Lei[b], Jihua Tan[a],

Xiaomao Wang[b], Xia Huang[b,**]

[a] College of Resources and Environment, University of Chinese Academy of Sciences, Beijing 100049, China

[b] State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Tsinghua University, Beijing 100084, China

[c] College of Environmental Science and Engineering, Beijing Forestry University, Beijing 100083, China

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*Corresponding author, Tel: (+86-10) 62336675; E-mail: shuai_liang@bjfu.edu.cn

**Corresponding author, Tel: (+86-10) 62772324; E-mail: xhuang@tsinghua.edu.cn

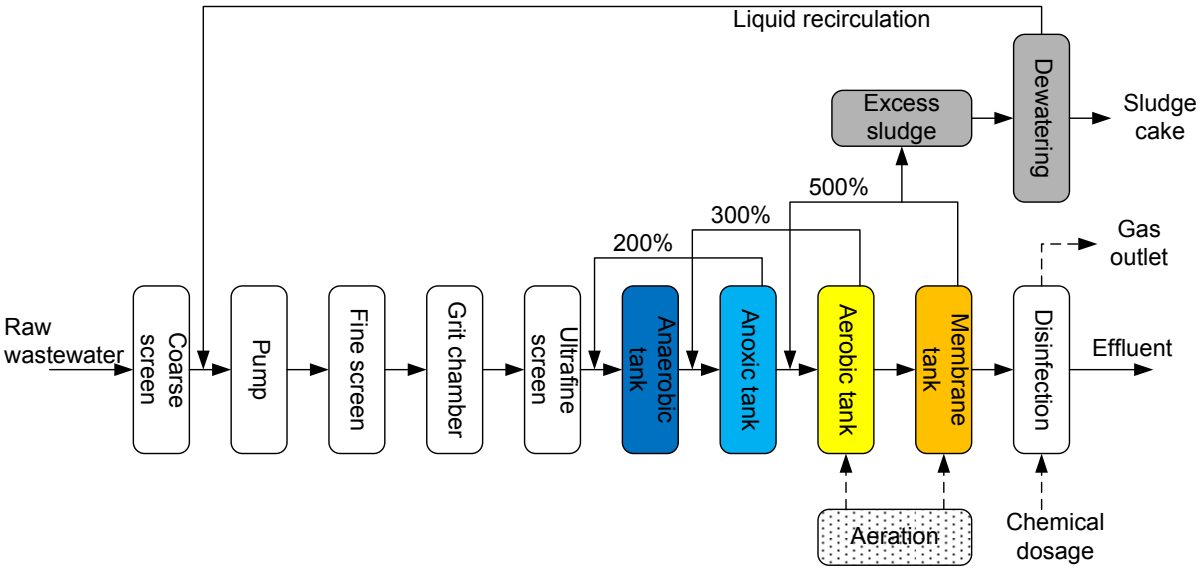

Fig. S1. Process flow of the full-scale MBR plant.

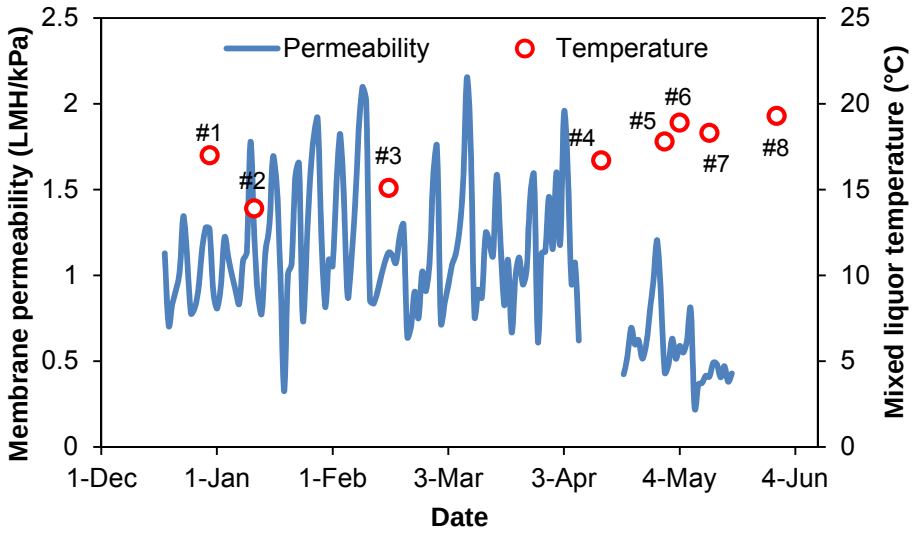

Fig. S2. Variation of membrane permeability (ratio of flux to trans-membrane pressure) and liquid temperature during the sampling period (~6 months). The 8 times of samplings are labelled in order in the figure.

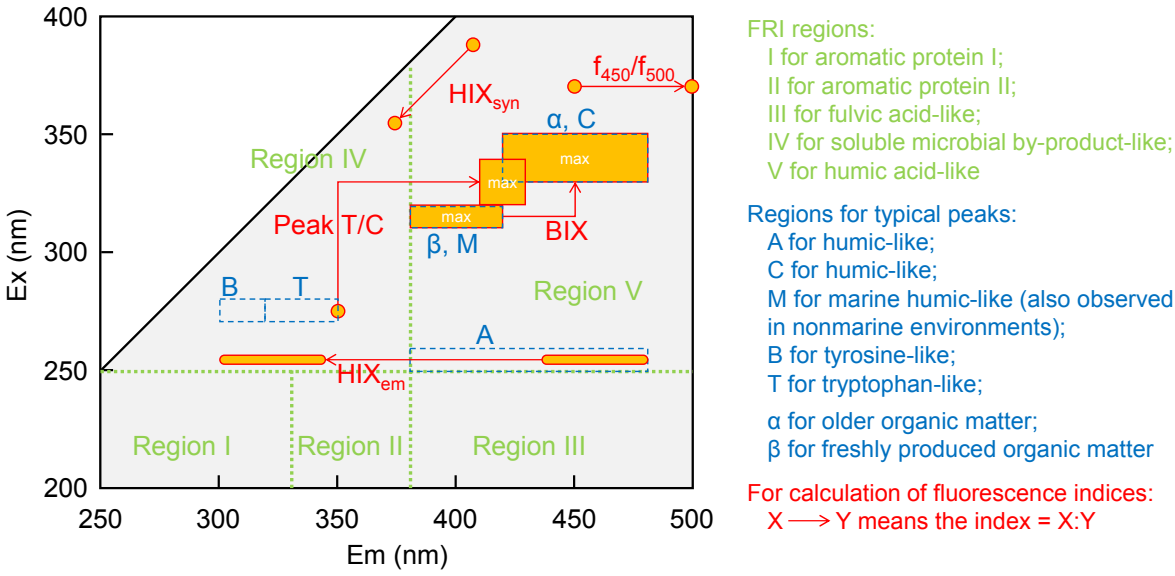

Fig. S3. Typical regions for fluorescence regional integration (FRI), fluorescence peaks and calculation of fluorescence indices, according to the references of: W. Chen, P. Westerhoff, J. A. Leenheer and K. Booksh, *Environ. Sci. Technol.*, 2003, 37, 5701–5710; P. G. Coble, J. Lead, A. Baker, D. M. Reynolds and R. G. M. Spencer, *Aquatic Organic Matter Fluorescence*, Cambridge University Press, New York, 2014.

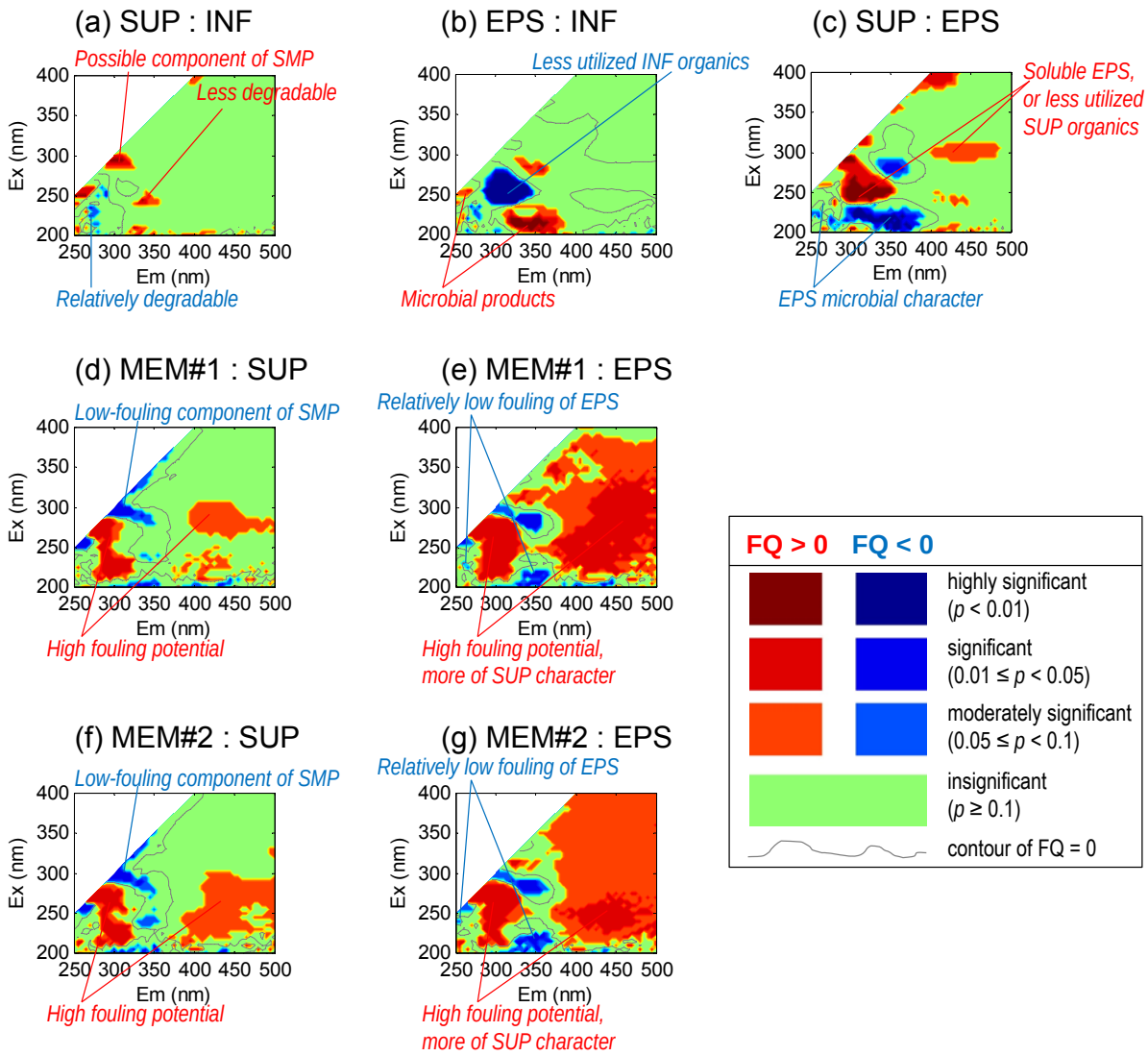

Fig. S4. Statistically significant regions for positive and negative FQs between different kinds of organic matter from another full-scale MBR plant, according to Wilcoxon signed rank test. The plant had a capacity of 35000 m^3/d treating municipal wastewater in Beijing. Its process was also anaerobic/anoxic/aerobic-MBR, which was equipped with two types of 0.1-μm PVDF hollow fiber membrane modules. The plant had been stably operated for over two years with a total HRT of ~40–41 h and an SRT of ~25–30 d.