

Supplementary material

for

**Permanganate/bisulfite pre-oxidation of natural organic matter
enhances nitrogenous disinfection by-products formation during
subsequent chlorination**

Shu He ^{a,c}, Nanqi Ren ^{a,b*}

^a *School of Environment, Harbin Institute of Technology, Haerbin 150090, China*

^b *State Key Laboratory of Urban Water Resource and Environment, School of Civil and Environmental Engineering, Harbin Institute of Technology (Shenzhen), Shenzhen, 518055, China*

^c *Shenzhen Yuchi Testing Technology Co., LTD, Shenzhen 518055, China*

* Corresponding authors.

E-mail: rnq@hit.edu.cn

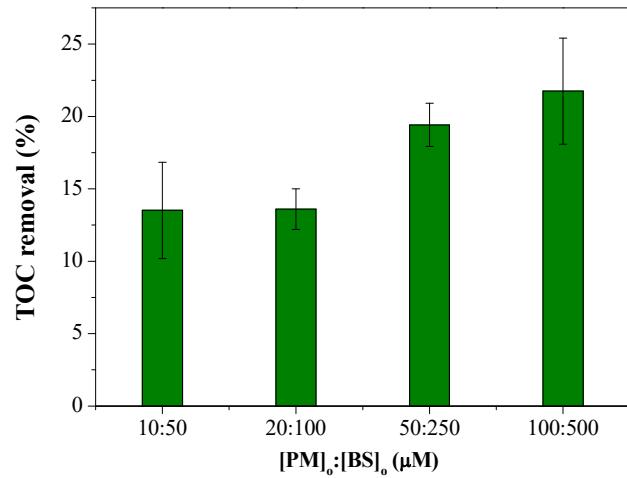


Figure S1. TOC removal obtained from different doses of PM and BS. ($[HA]_o = 3 \text{ mg L}^{-1}$, $t = 30 \text{ min}$, and $[PM]_o:[BS]_o = 10:50\text{--}100:500 \mu\text{M}:\mu\text{M}$).

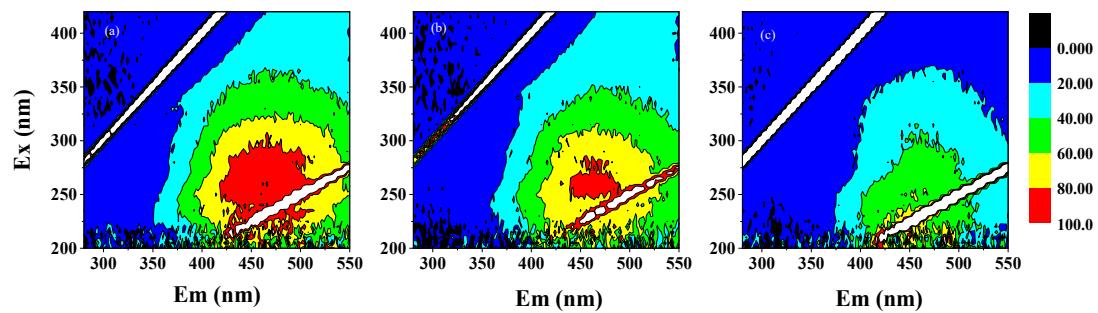


Figure S2. The fluorescence excitation-emission matrices in different systems. (a) HA, (b) HA/PM, (c) HA/PM/BS. ($[HA]_o = 3 \text{ mg L}^{-1}$, $[PM]_o = 50 \mu\text{M}$, $[BS]_o = 250 \mu\text{M}$, and $t = 30 \text{ min}$).

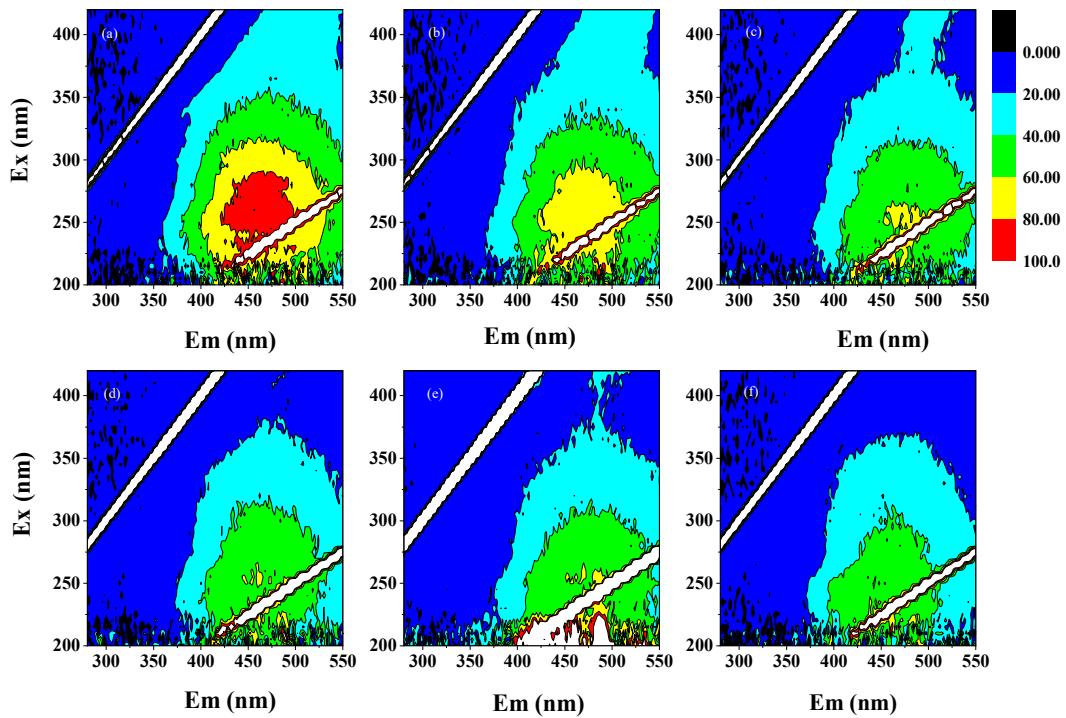


Figure S3. The fluorescence excitation–emission matrices in different molar ratio of PM and BS.

(a) 1:0, (b) 1:1, (c) 1:2, (d) 1:4, (e) 1:5, and (f) 1:10. ($[HA]_o = 3 \text{ mg L}^{-1}$, $[PM]_o:[BS]_o = 1:0\text{--}1:10$).