

Supplementary Material (ESI) for Environmental Science: Processes & Impacts  
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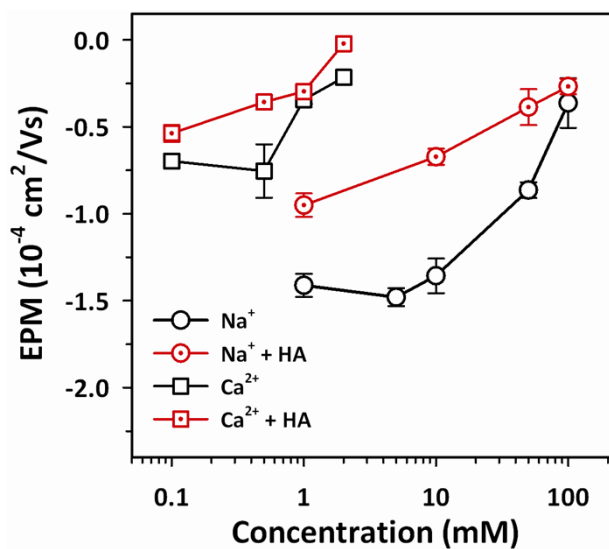
## Electronic Supplementary Information

### **Sorption behavior of heavy metals on poorly-crystalline manganese oxides: Role of water conditions and light**

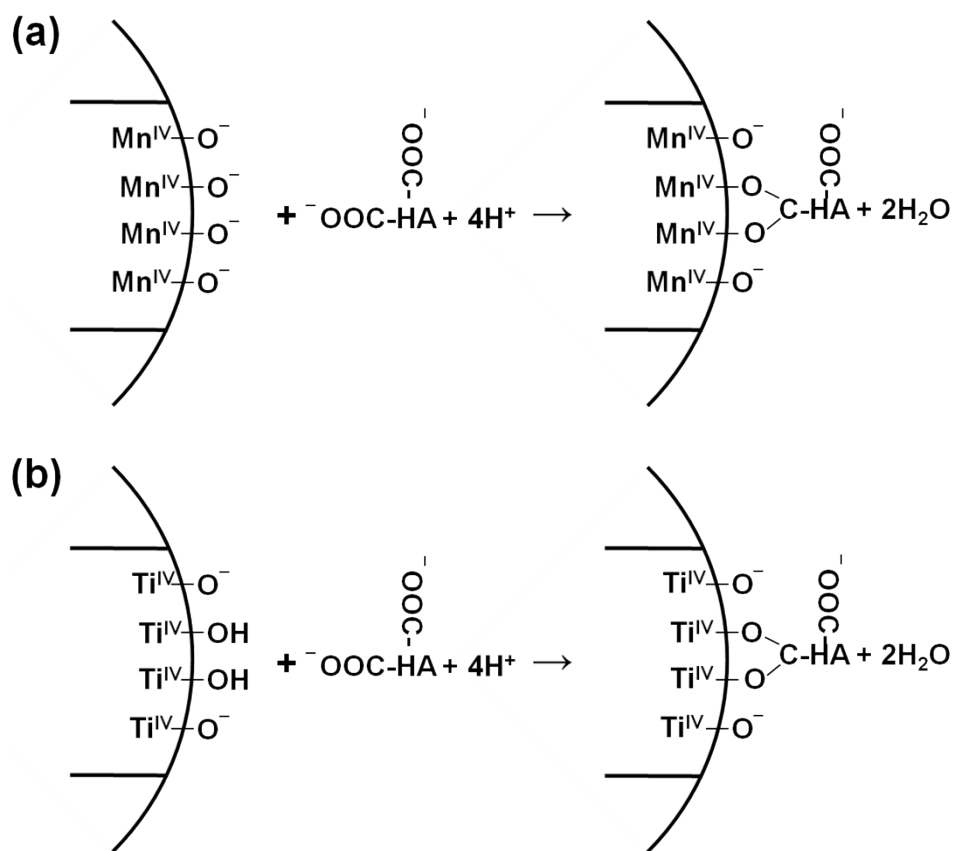
*Eun-Ju Kim<sup>a</sup>, Jungwon Kim<sup>b</sup>, Sung-Chan Choi<sup>b</sup>, and Yoon-Seok Chang<sup>a,\*</sup>*

*<sup>a</sup> School of Environmental Science and Engineering, Pohang University of Science and  
Technology (POSTECH), Korea*

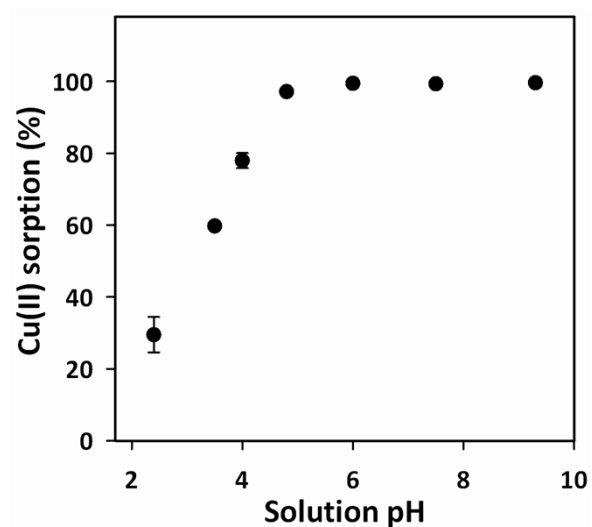
*<sup>b</sup> Department of Environmental Sciences and Biotechnology, Hallym University, Korea*



**Fig. S1** Electrophoretic mobilities (EPMs) of  $\delta$ -MnO<sub>2</sub> as a function of electrolyte concentrations in the absence and presence (b) of HA (1 mg/L DOC) at an unadjusted pH of  $6.2 \pm 0.2$ . For a comparison, the EPM values in DI water and HA solution were  $-1.52 \pm 0.03$  and  $-1.43 \pm 0.02$  ( $\times 10^{-4}$  cm<sup>2</sup>/Vs), respectively.



**Scheme S1** Concept of adsorption of HA onto (a)  $\delta\text{-MnO}_2$  and (b)  $\text{TiO}_2$ .



**Fig. S2** Effect of pH on Cu(II) sorption by  $\delta$ -MnO<sub>2</sub>.