Superior As(III) Removal Performance of Hydrous MnOOH Nanorods from Water

Song Guo[a], Wuzhu Sun[a], Weiyi Yang[a], Qi Li[a,*], and Jian Ku Shang[a, b]

[a]*Environment Functional Materials Division*

Shenyang National Laboratory for Materials Science

Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, China;

[b]*Department of Materials Science and Engineering*

University of Illinois at Urbana-Champaign, Urbana, Illinois 61801, USA.

*Corresponding author: E-mail address: qili@imr.ac.cn (Q. Li)

Phone: +86-24-83978028, Fax: +86-24-23971215.

Postal address: 72 Wenhua Road, Shenyang, Liaoning Province, 110016, P. R. China.

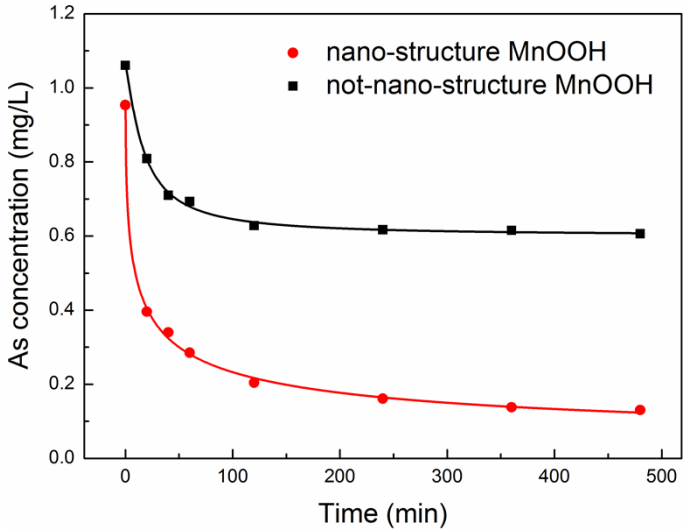

Figure S1. Adsorption kinetics of As(III) on MnOOH nanorods and not-nano-structured MnOOH sample with the intial As(III) concentration ~ 1.0 mg/L and the adsorbent dosage was 0.1 g/L.

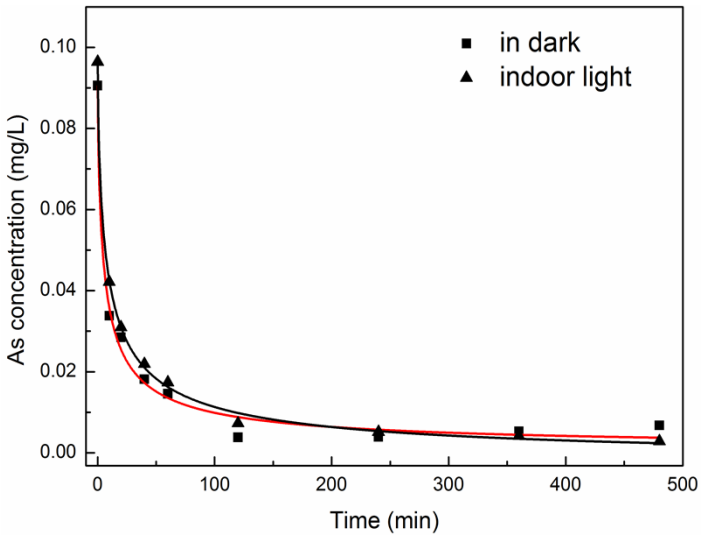

Figure S2. Adsorption kinetics of As(III) on MnOOH nanorods with intial As(III) concentration of ~ 0.1 mg/L in dark and under the indoor light, respectively. No obvious difference was observed between them.

As(III) Oxidation by Manganite:

The As(III) oxidation by MnOOH could be expressed as following:[1]

$$2MnOOH + H_3AsO_3 = 2MnO + H_3AsO_4 + H_2O$$

In the adsorption process, part of released Mn^{2+} could be adsorbed by MnOOH nanorods which could reduce Mn release into water.[2-4]

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