Supplementary Information

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

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Figure S1. Adsorption kinetics of As(III) on MnOOH nanorods and not-nano-structured MnOOH sample with the initial 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 initial 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:\textsuperscript{1}

$$2\text{MnOOH} + \text{H}_3\text{AsO}_3 = 2\text{MnO} + \text{H}_3\text{AsO}_4 + \text{H}_2\text{O}$$

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

References:


