

Interactive comment on “Surface complexation modeling of Cd(II) sorption to montmorillonite, bacteria, and their composite” by Ning Wang et al.

Anonymous Referee #1

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By using several techniques including traditional batch method, surface complexation modeling, and modern EXAFS spectroscopic technique, the authors systematically characterized the Cd adsorption behavior and clearly address the binding mechanism on clay/bacteria composite. The novelty of this paper is two-fold: 1) Combining several techniques to address the interfacial chemistry from a macroscopic scale to a molecular scale, and achieve good consistencies, which would help bridge the gap between macroscopic adsorption studies and recently spectroscopic studies. 2) Using clay/bacteria composite as adsorbent, it can better mimic the real environmental and provide insight into Cd mobilization behavior in soils.

Overall, the paper is clearly written and the conclusions convincingly argued. Therefore I recommend that the paper is accepted for publication and that the authors consider making the minor revisions suggested as below. The only suggestion I have is to add a

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schematic cartoon to illustrate Cd binding on clay and bacteria, this would help readers understand the research easily.

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