

# **Enhanced As (V) removal from aqueous solution by biochar prepared from iron-impregnated corn straw**

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## **Appendix A. Supplementary material**

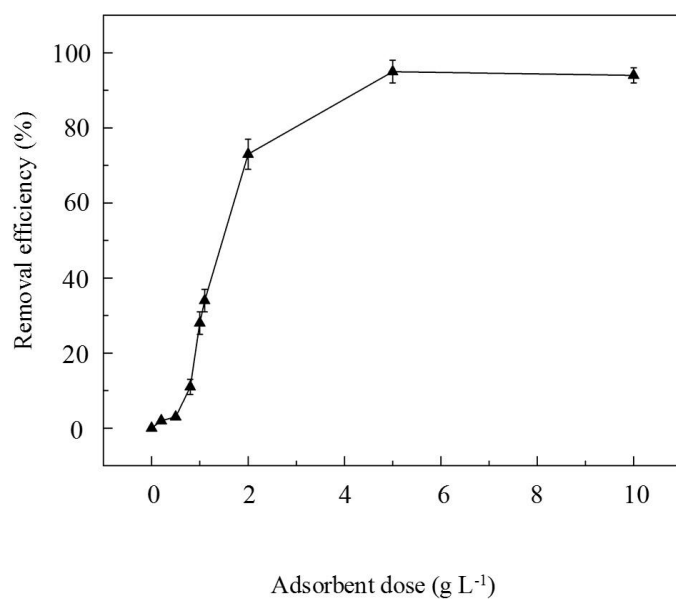
**Table S1** Sequential chemical extraction method for As-load biochar

**Figure S1** Effect of CS-Fe dose on the adsorption of As(V) (Experiment condition: the initial concentration of As(V) was 40 mg L<sup>-1</sup>. The solid-to-liquid ratio was 5.0 g L<sup>-1</sup> and stirred with 200 r min<sup>-1</sup> at 30°C for 6 h.)

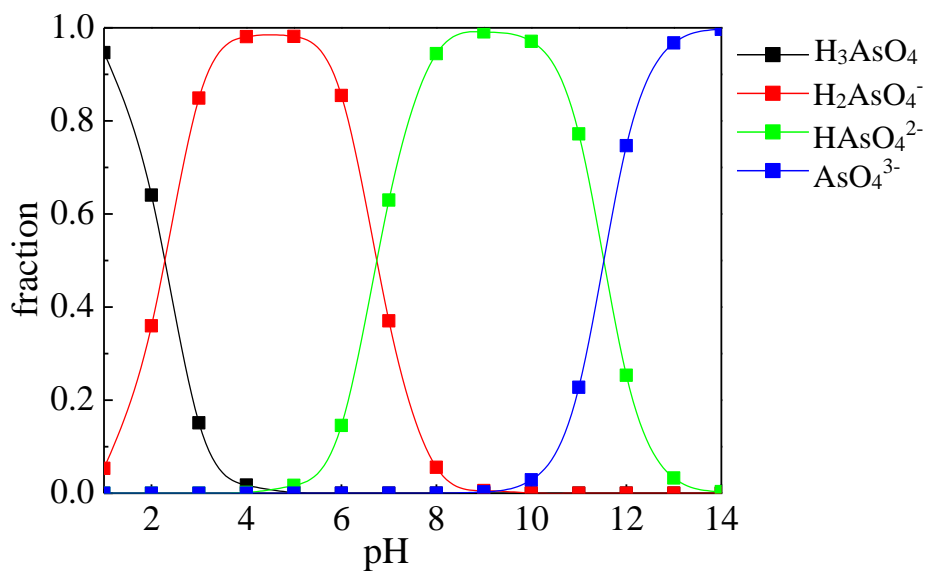
**Figure S2** Diagrams of As (V) species versus pH.

**Table S1** Sequential chemical extraction method for As-load biochar [20].

fractions	extractants	operation condition	mechanism involved
exchangeable As	0.05 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> , pH5.4	room temperature, shaken for 4 h, liquid: biochar=100:3	anions exchange SO <sub>4</sub> →AsO <sub>4</sub>
specialy adsorbed As	0.05 M (NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub> , pH7.0	room temperature, shaken for 4 h, liquid: biochar=100:3	anions exchange PO <sub>4</sub> →AsO <sub>4</sub>
bound to amorphous iron oxides	0.2 M (NH <sub>4</sub> ) <sub>2</sub> C <sub>2</sub> O <sub>4</sub> /H <sub>2</sub> C <sub>2</sub> O <sub>4</sub> , pH3.0	room temperature, shaken for 4 h in the dark, liquid: biochar=100:3	dissolution



**Figure S1** Effect of CS-Fe dose on the adsorption of As(V) (Experiment condition: the initial concentration of As(V) was 40 mg L<sup>-1</sup>. The solid-to-liquid ratio was 5.0 g L<sup>-1</sup> and stirred with 200 r m



**Figure S2** Diagrams of As (V) species versus pH.