

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

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**Appendix A. Supplementary material**

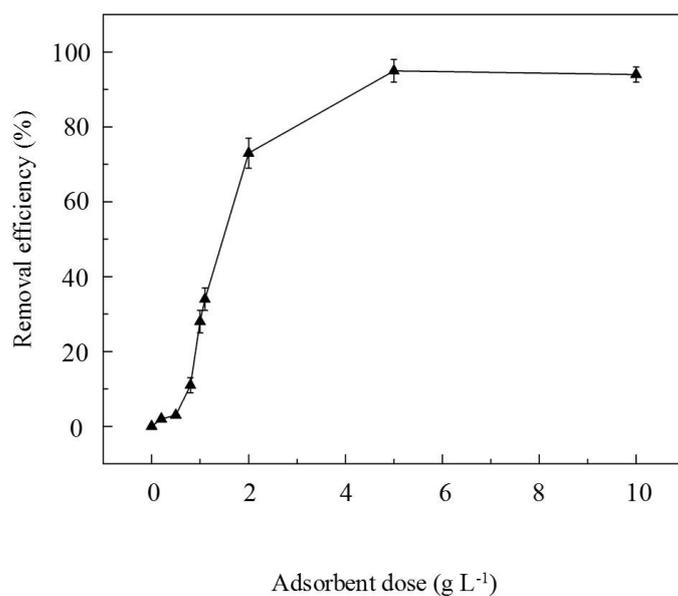
**Table S1** Sequential chemical extraction method for As-load biochar

**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.)

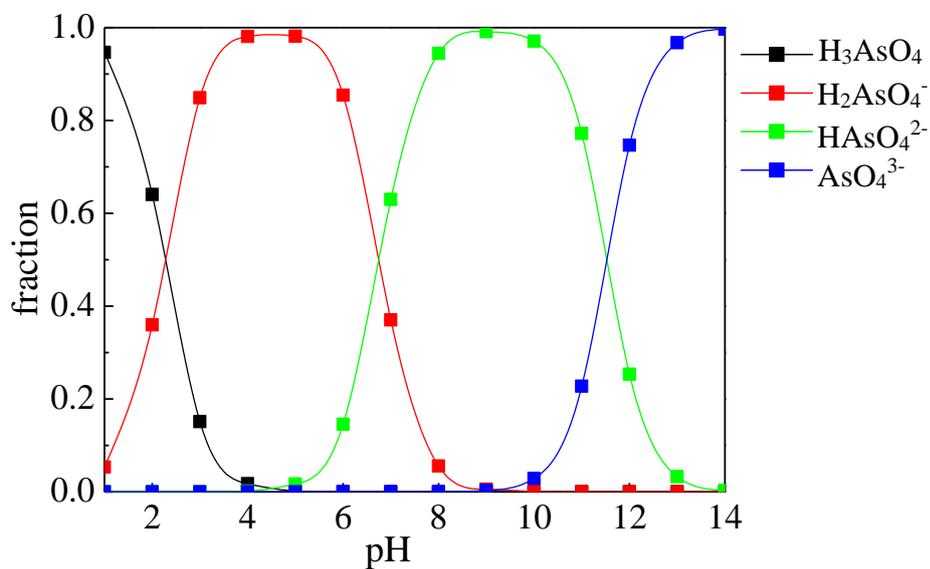
**Figure S2** Diagrams of As (V) species versus pH.

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

fractions	extractants	operation condition	mechanism involved
exchangeable As	0.05 M $(\text{NH}_4)_2\text{SO}_4$ , pH5.4	room temperature, shaken for 4 h, liquid: biochar=100:3	anions exchange $\text{SO}_4 \rightarrow \text{AsO}_4$
specially adsorbed As	0.05 M $(\text{NH}_4)_2\text{HPO}_4$ , pH7.0	room temperature, shaken for 4 h, liquid: biochar=100:3	anions exchange $\text{PO}_4 \rightarrow \text{AsO}_4$
bound to amorphous iron oxides	0.2 M $(\text{NH}_4)_2\text{C}_2\text{O}_4/\text{H}_2\text{C}_2\text{O}_4$ , 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.