**Supplementary Information**

**Molecular-level investigation on removal mechanisms of aqueous hexavalent chromium by pine needle biochar**

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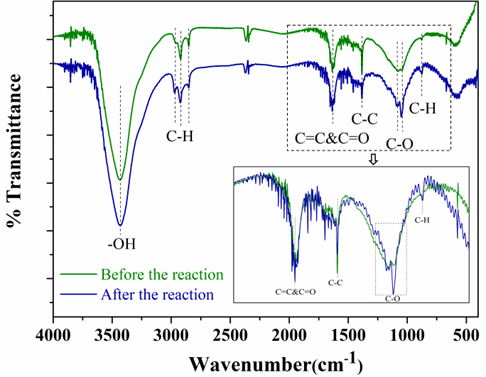


Fig. S1. FTIR spectra of pine needle biochar before and after Cr(VI) removal.

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