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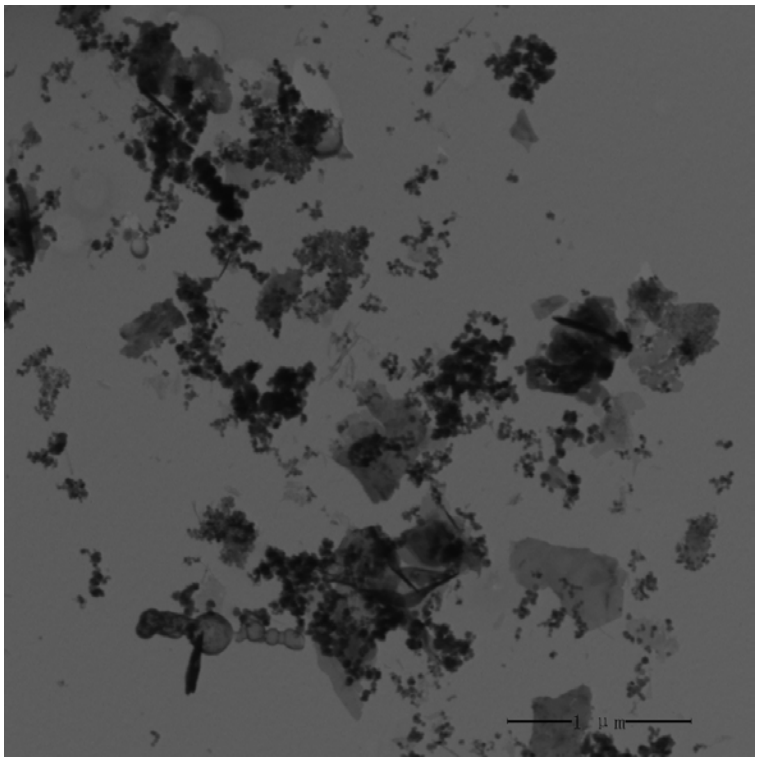
peaks of 576.3 eV and 577.6 eV are assigned to Cr(III) (Cr_2O_3 and $Cr(OH)_3$ respectively), the peak of 578.9 eV are assigned to Cr(VI).



（a）nZVI+100% Cr(III) pH5

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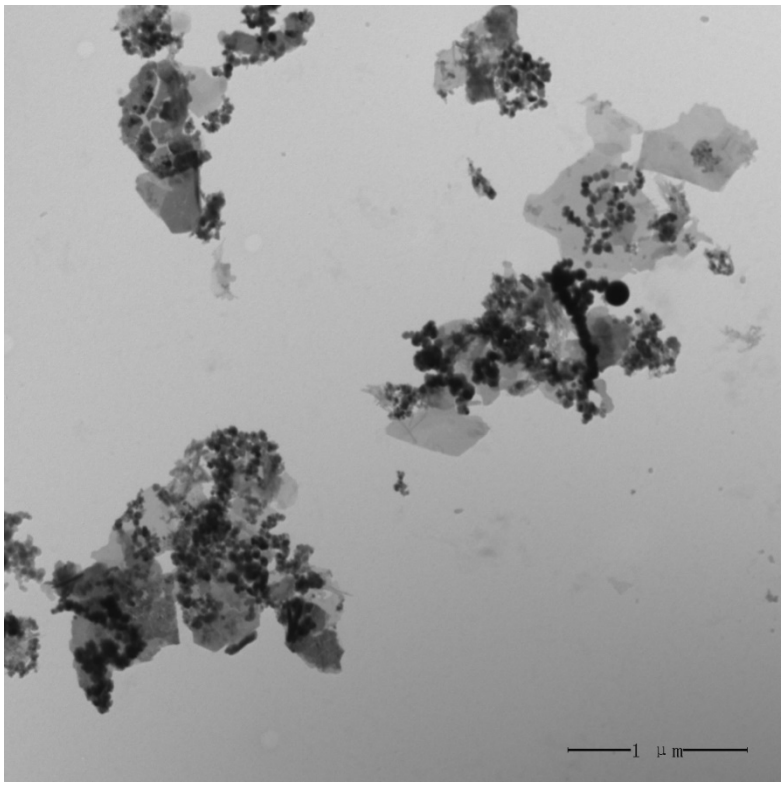

（b）nZVI+100% Cr(III) pH7

Fig. S4. The TEM photographs of nZVI aggregations in the 100% Cr(III) suspensions at pH 5 (a) and pH 7 (b), suggesting the significant influences induced by Cr(III). Graphs for suspensions with other concentrations of Cr(III) were similar with the 100% Cr(III) group.

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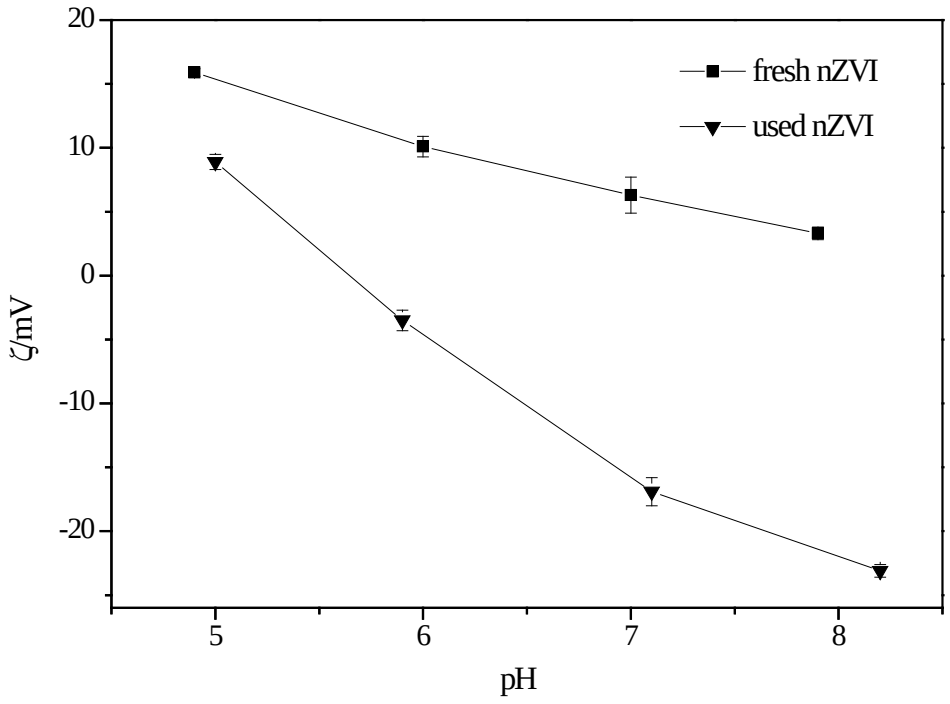

Fig. S5. ζ-potential of the freshly prepared nZVI (fresh nZVI) and the nZVI after reducing Cr(VI) (used nZVI) as the function of pH, suggesting the oxidized nZVI is negatively charged at pH7 and lowly positive at pH5, however, which will be changed to highly positive by Cr(III).