Room-temperature fabrication of magnetite-boehmite sol-gel composites for heavy metal ions removal

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**Electronic Supplementary Information**

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Figure 1S. Zeta potential of the ferria (a) and alumina (b) as a function of the pH. The isoelectric point of the hydrosols is shifted to a pH 8 and 10 respectively.



Figure 2S. Raman spectra of sol-gel materials. The spectra of 1:1 ferria-alumina composite contains peaks characteristic for both alumina and ferria matrix while absence of any additional signals is observed.

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Figure 3S. Zeta potential of ferria-alumina composites as a function of alumina mass fraction.

Table 1S. Comparison of Langmuir adsorption capacities for Cr6+ remediation on ferria-alumina composites versus other adsorbents.

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| Ferria3:1 Feria-alumina1:1 Feria-alumina1:3 Feria-aluminaAlumina | 23.533.443.652.962.4 | This study |
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| Carbon nanotube supportedceria nanoparticles | 26.8 | Di, Ze-Chao, et al. "Chromium adsorption by aligned carbon nanotubes supported ceria nanoparticles." *Chemosphere* 62.5 (2006): 861-865. |
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