

Accepted Manuscript

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PII: S1385-8947(18)30928-8
DOI: <https://doi.org/10.1016/j.cej.2018.05.114>
Reference: CEJ 19130

To appear in: *Chemical Engineering Journal*

Received Date: 16 April 2018
Revised Date: 17 May 2018
Accepted Date: 19 May 2018

Please cite this article as: J. Wu, K. Chen, X. Tan, M. Fang, X. Hu, Z. Tang, X. Wang, Core-shell CMNP@PDAP nanocomposites for simultaneous removal of chromium and arsenic, *Chemical Engineering Journal* (2018), doi: <https://doi.org/10.1016/j.cej.2018.05.114>

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Core-shell CMNP@PDAP nanocomposites for simultaneous removal of chromium and arsenic

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ABSTRACT

Novel carboxyl-functionalized magnetic Fe₃O₄ nanoparticles coated by poly 2,3-diaminophenol (CMNP@PDAPs) were prepared by a facile method. The core-shell CMNP@PDAPs can efficiently remove Cr(VI) and As(V)/As(III) from solution, especially in the bi-solute systems. The reduction of Cr(VI) to less toxic Cr(III) by amine are found to be the driving force for Cr(VI) adsorption. For the adsorption of As(III), the inner-sphere surface complexation mechanism dominate the

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