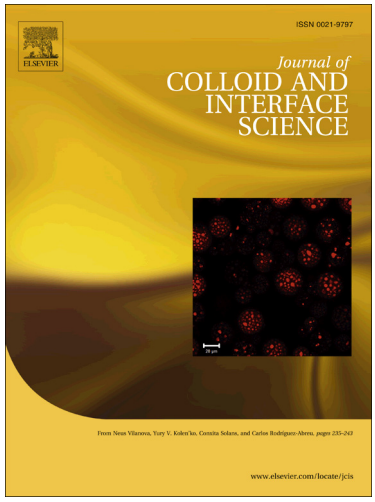

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M. Khatamian, N. Khodakarampoor, M. Saket Oskoui

PII: S0021-9797(17)30303-X
DOI: http://dx.doi.org/10.1016/j.jcis.2017.03.052
Reference: YJCIS 22149

To appear in: *Journal of Colloid and Interface Science*

Received Date: 8 December 2016
Revised Date: 5 March 2017
Accepted Date: 12 March 2017

Please cite this article as: M. Khatamian, N. Khodakarampoor, M.S. Oskoui, Efficient Removal of Arsenic Using Graphene-Zeolite based Composites, *Journal of Colloid and Interface Science* (2017), doi: http://dx.doi.org/10.1016/j.jcis.2017.03.052

Efficient Removal of Arsenic Using Graphene-Zeolite based Composites

M. Khatamian[a1], N. Khodakarampoor[a], M. Saket Oskoui[a]

a. *Physical Inorganic Chemistry Research Laboratory, Department of Inorganic Chemistry, Faculty of Chemistry, Tabriz, Iran*

ABSTRACT

Removing heavy metals from water can be considered an important problem of global magnitude due to their toxic and carcinogenic properties. The main aim of this presentation was to synthesize different composites of graphene (graphene oxide(GO) or reduced graphene oxide (RGO is referred to reduced graphene oxide, which was obtained using solvothermal method)) with Cu-exchanged zeolite A(Cu-ZEA) and nanoparticles of magnetite (Fe_3O_4) (including Fe_3O_4/RGO/, GO/Cu-ZEA, Fe_3O_4/RGO/Cu-ZEA and Fe_3O_4/GO/Cu-ZEA) for improving the properties of the individual components of mentioned composite and eventually investigate the composites' efficiency in arsenic adsorption. Among prepared composites, Fe_3O_4/RGO/Cu-ZEAcomposite had the highest efficiency in removing arsenic according to atomic absorption spectroscopy (AAS) results due to the high specific surface area, which was provided by the

[1]Corresponding author:
Email: khatamianm@yahoo.com, Tel: +98-411-3393129, Fax: +98-411-3340191.
Postal address: Physical Inorganic Chemistry Research Laboratory, Department of Inorganic Chemistry, Faculty of Chemistry, Tabriz, Iran.