

Accepted Manuscript

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PII: S1385-8947(18)30693-4
DOI: <https://doi.org/10.1016/j.cej.2018.04.120>
Reference: CEJ 18920

To appear in: *Chemical Engineering Journal*

Received Date: 13 February 2018
Revised Date: 13 April 2018
Accepted Date: 19 April 2018

Please cite this article as: U. Farooq, M. Danish, S. Lu, M. Naqvi, Z. Qiu, Q. Sui, A step forward towards synthesizing a stable and regeneratable nanocomposite for remediation of trichloroethene, *Chemical Engineering Journal* (2018), doi: <https://doi.org/10.1016/j.cej.2018.04.120>

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A step forward towards synthesizing a stable and regeneratable nanocomposite for remediation of trichloroethene

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Abstract

Synthesizing supported heterogeneous catalysts is always considered as a persistent approach for degradation of contaminants. However, the stability of these nanocomposites and improvement of process conditions influencing target pollutants degradation are still limited. Herein, on the basis of self-adhesive nature of polydopamine (PDA) and its strong electrostatic interaction with metallic ions, we synthesized a facile, stable, magnetically separable, and environmentally benign PDA decorated, reduced graphene oxide (rGO) supported Fe nanocatalyst (PDA@Fe/rGO). The effects of process variables (pH, PDA@Fe/rGO, and persulphate (PS) dose) on the degradation performance of trichloroethene (TCE), a model chlorinated organic pollutant

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