

## Accepted Manuscript

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PII: S0167-7322(18)32130-5  
DOI: doi:[10.1016/j.molliq.2018.08.136](https://doi.org/10.1016/j.molliq.2018.08.136)  
Reference: MOLLIQ 9581  
To appear in: *Journal of Molecular Liquids*  
Received date: 22 April 2018  
Revised date: 23 August 2018  
Accepted date: 24 August 2018

Please cite this article as: Ageetha Vanamudan, Mohini Sadhu, Padmaja Sudhakar , Chitosan-Guar gum blend silver nanoparticle bionanocomposite with potential for catalytic degradation of dyes and catalytic reduction of nitrophenol. Molliq (2018), doi:[10.1016/j.molliq.2018.08.136](https://doi.org/10.1016/j.molliq.2018.08.136)

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**Chitosan-Guar gum blend Silver Nanoparticle bionanocomposite with potential for Catalytic Degradation of Dyes and Catalytic Reduction of Nitrophenol**

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**Abstract:**

Chitosan-Guar gum blend Silver Nanoparticle bionanocomposite (CGS) was synthesised by incorporating palm shell extract capped nano silver particles during the formation of blend. The nanocomposite was characterised with IR, TEM, XRD and Raman spectroscopic techniques. The catalyst was further investigated for degradation of single and binary mixture of dyes as well as for reduction of nitrophenol. Further the prepared catalytic composite CG could be conveniently separated from the aqueous solution after the reaction and could be reused upto three cycles without loss in activity.

Keywords: Chitosan Guar gum blend, silver nanoparticles, bionanocomposite, catalyst, dyes, nitrophenol

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