

Accepted Manuscript

Research paper

Manganese Porphyrin immobilized on Magnetic MCM-41 nanoparticles as an efficient and reusable catalyst for alkene oxidations with sodium periodate

Robabeh Hajian, Amin Ehsanikhah

PII: S0009-2614(17)31026-6

DOI: <https://doi.org/10.1016/j.cplett.2017.11.009>

Reference: CPLETT 35223

To appear in: *Chemical Physics Letters*

Received Date: 4 September 2017

Accepted Date: 8 November 2017

Please cite this article as: R. Hajian, A. Ehsanikhah, Manganese Porphyrin immobilized on Magnetic MCM-41 nanoparticles as an efficient and reusable catalyst for alkene oxidations with sodium periodate, *Chemical Physics Letters* (2017), doi: <https://doi.org/10.1016/j.cplett.2017.11.009>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Manganese Porphyrin immobilized on Magnetic MCM-41 nanoparticles as an efficient and reusable catalyst for alkene oxidations with sodium periodate

Robabeh Hajian,* Amin Ehsanikhah

Department of Chemistry, Yazd University, Yazd 89195-741, Iran

Abstract

This study describes the immobilization of tetraphenylporphyrinatomanganese(III) chloride, (MnPor), onto imidazole functionalized MCM-41 with magnetite nanoparticle core (Fe_3O_4 @MCM-41-Im). The resultant material (Fe_3O_4 @MCM-41-Im@MnPor) was characterized by X-ray diffractometry (XRD), Fourier transform infra-red (FT-IR), diffuse reflectance UV–Vis spectrophotometry (DR UV-Vis), field emission scanning electron microscopy (FESEM), Inductively coupled plasma (ICP), analyzer transmission electron microscopy (TEM) and Brunauer-Emmett-Teller (BET) surface area. This new heterogenized catalyst was applied as an efficient catalyst for the epoxidation of a variety of cyclic and linear olefins with NaIO_4 under mild conditions. The prepared catalyst can be easily recovered through the application of an external magnet, and reused several times without any significant decrease in activity and magnetic properties.

Keywords

* Corresponding author: Tel: +98-353-31232645; fax: +98-353-8210644; e-mail: rhajian@yazd.ac.ir

Download English Version:

<https://daneshyari.com/en/article/7838540>

Download Persian Version:

<https://daneshyari.com/article/7838540>

[Daneshyari.com](https://daneshyari.com)