

Accepted Manuscript

Alkyl-imidazolium Based Organosilica Supported Fe/Porphyrin Complex: As Novel, Highly Efficient and Reusable Catalyst for the Unsymmetrical Hantzsch Reaction

Dawood Elhamifar, Parvin Badin, Gholamreza Karimipoor

PII: S0021-9797(17)30352-1
DOI: <http://dx.doi.org/10.1016/j.jcis.2017.03.084>
Reference: YJCIS 22181

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

Received Date: 8 February 2017
Revised Date: 16 March 2017
Accepted Date: 20 March 2017

Please cite this article as: D. Elhamifar, P. Badin, G. Karimipoor, Alkyl-imidazolium Based Organosilica Supported Fe/Porphyrin Complex: As Novel, Highly Efficient and Reusable Catalyst for the Unsymmetrical Hantzsch Reaction, *Journal of Colloid and Interface Science* (2017), doi: <http://dx.doi.org/10.1016/j.jcis.2017.03.084>

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.



Alkyl-imidazolium Based Organosilica Supported Fe/Porphyrin Complex: As Novel, Highly Efficient and Reusable Catalyst for the Unsymmetrical Hantzsch Reaction

Dawood Elhamifar,* Parvin Badin and Gholamreza Karimipoor

Department of Chemistry, Yasouj University, Yasouj, 75918-74831, Iran

E-mail: d.elhamifar@yu.ac.ir

Abstract: A noble alkyl-imidazolium ionic liquid based organosilica supported Fe/*meso*-tetrakis(4-sulfonatophenyl)porphyrin complex (ILOS@Fe/TSPP) is prepared, characterized and its catalytic efficiency is studied in the unsymmetrical Hantzsch reaction. The ILOS@Fe/TSPP was prepared by hydrolysis and co-condensation of 1,3-bis(3-trimethoxysilylpropyl)imidazolium chloride under acidic conditions followed by treatment with Fe/*meso*-tetrakis(4-sulfonatophenyl)porphyrin complex at ambient temperature. The material was characterized with TGA, EDX, SEM, TEM, XRD and DRIFT analyses. The ILOS@Fe/TSPP was successfully applied as powerful catalyst in the Hantzsch reaction for the preparation of a set of different derivatives of polyhydroquinolines in high to excellent yields. This catalyst was recovered and reused several times without important decrease in its activity. Furthermore, compared to the classical studies, this study consistently demonstrated the advantages of low catalyst loading, free-solvent media, short reaction times and simple purification of products.

Download English Version:

<https://daneshyari.com/en/article/4984864>

Download Persian Version:

<https://daneshyari.com/article/4984864>

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