عنوان مقاله:

Cytosine complex of copper on MCM-41 nanoparticles as a highly efficient and reusable nanocatalyst for organic reactions

محل انتشار:

بیست و یکمین سمینار شیمی معدنی انجمن شیمی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Shahab Gholami, - *Department of Chemistry, Faculty of Science, Ilam University, Ilam, Iran*

Mohsen Nikoorazm - *Department of Chemistry, Faculty of Science, Ilam University, Ilam, Iran*

Nikoorazm Tahmasbi - *Department of Chemistry, Faculty of Science, Ilam University, Ilam, Iran*

خلاصه مقاله:

MCM-41 nanoparticles have a large specific surface area (> 1200 m2g-1) and can be prepared using an inexpensive procedure in water. In this work, we present an economical, simple, and environmentally friendly route for the preparation of a complex of copper on MCM-41 nanoparticles (Cu-Cytosine@MCM-41) as heterogeneous catalyst. This catalyst has been characterized by several techniques such as N2 adsorption– desorption isotherms, SEM, EDS, XRD, TGA, Ft-IR, and AAS techniques. Based on SEM images of Cu-Cytosine@MCM-41, the particles size of this catalyst were obtained in 80-120 nm of diameters. Cu-Cytosine@MCM-41 was applied as highly efficient and reusable nanocatalyst in multicomponent reactions such as synthesis of 5-substituted tetrazoles and pyranopyrazole derivatives. Tetrazoles and pyranopyrazoles have a wide range of biological activities such as antibacterial, antifungal, anticancer agents, antiinfammatory and insecticidal properties. This catalyst was reused for several times without loss of its catalytic activity. Heterogeneity and stability of Cu-Cytosine@MCM- 41 were studied by hot filtration .test and AAS analysis

کلمات کلیدی: