

عنوان مقاله:

A new nickel complex supported on MCM-41 as an efficient and recyclable catalyst in the organic reactions

محل انتشار:

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

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خلاصه مقاله:

A new complex of nickel was anchored onto mesoporous channels of MCM-41 (Ni-Cytosine@MCM-41). This nanocatalyst has been characterized by N₂ adsorption-desorption isotherms, SEM, EDS, XRD, TGA, FT-IR, and AAS techniques. The BET results indicated that the pore volume and average pore diameter of Ni-Cytosine@MCM-41 are lower than the MCM-41 which is due to the grafting of organic species and Nicomplex onto mesoporous channels of MCM-41. Further, this catalyst was identified using low angle X-ray diffraction patterns. The spectra display hexagonal symmetry with the peaks that relate to 2θ values of 2.850 (1 0 0), 4.750 (1 1 0) and 5.450 (2 0 0), which indicates the functionalization of MCM-41 and successful formation of catalyst (Ni-Cytosine@MCM-41). This catalyst was applied as highly efficient, heterogeneous and recoverable nanocatalyst in the synthesis of tetrazole and pyranopyrazole derivatives. All products were obtained in high TOF and TON values, which reveal the high activity of this catalyst. This catalyst can be reused for several times without significant loss of its catalytic efficiency or nickel leaching [1-4].

کلمات کلیدی:

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