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A novel magnetic nanocomposite based on alginate/pumice: an efficient heterogeneous nanocatalyst for synthesis of [1,2,4]triazolo[1,5-a] pyrimidines

Amir Seyyedi Saghezchi[a] and Rahman Karimi-Nami*[a]

[a]*Department of Chemistry Faculty of Science, University of Maragheh, Maragheh, Iran*

[*] *E-mail: r.kariminami@gmail.com*

In this study, a facile and efficient method for the synthesis of 5-amino-7-aryl-4,7-dihydro-[1,2,4]triazolo[1,5-a]pyrimidine-6-carbonitrile based on alginate/pumice copper-catalyzed multicomponent reaction of a triazole with aryl aldehyde is reported in the presence of malononitrile in DMF. A new heterogeneous and recyclable nanocatalyst based on copper iodide supported on functionalized pumice has been introduced for this target. The synthetic process of the mentioned nanocatalyst, Cu@Fe_3O_4/alginate/pumice, has been described[1-3]. TEM, SEM, EDS, FTIR, ICP, and XRD afforded the Cu@Fe_3O_4/alginate/pumice characterization. The surface structure of the materials was confirmed using Fourier transform infrared (FTIR) spectroscopy.



Keywords: pumice, Copper Iodide, [1,2,4]triazolo[1,5-a] pyrimidines and nanocatalyst

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