

عنوان مقاله:

Highly efficient three-component synthesis of 5-substituted-1H-tetrazoles, in the presence of Cu(II) heterogeneous complex catalyst

محل انتشار:

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نویسندگان:

Amin khoshnoud - School of Chemistry, Damghan University, Damghan ۳۶۷۱۵-۳۶۴, Iran

Ali Reza Pourali - School of Chemistry, Damghan University, Damghan ۳۶۷۱۵-۳۶۴, Iran

خلاصه مقاله:

Tetrazoles as one of the most important synthetic heterocyclic compounds exhibit numerous applications in different areas of sciences especially in chemistry, material, and medicinal sciences. Tetrazoles have displayed important pharmacological and biological properties such as anticancer, antiviral, anti-HIV, anti-inflammatory, antifungal, and antibacterial activities. In addition, tetrazolyl moieties are present in the structures of several famous drugs such as candesartan, losartan, valsartan, and zolarsartan [1]. The use of heterogeneous catalysts for organic synthesis is rapidly growing over homogeneous catalytic systems because of their several advantages such as high stability and tolerant to harsh reaction conditions, reusability of the catalyst, environmental friendliness and easy to purify of the products [2]. In this research, we used Cu(II) complex on poly(methyl acrylate) supported on alumina nanoparticles as a substrate for the preparation of a heterogeneous catalyst. Then, a small amount of the catalyst was used to one pot reactions between benzaldehyde (1 mmol), hydroxylamine hydrochloride (1.5 mmol) and sodium azide (1.5 mmol) in the presence of green solvent (water) at room temperature to produce 5-substituted-1H-tetrazoles derivatives, the (related products were obtained with high efficiency in a short time (Scheme 1

کلمات کلیدی:

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