

عنوان مقاله:

Novel Three-Component Synthesis Of Pyrano[2,3-c]Pyrazole Derivatives Catalyzed by ZnO Nanoparticles

محل انتشار:

دومین همایش ملی تکنولوژی های نوین در شیمی و پتروشیمی (سال: 1394)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:

One of efficient and convenient procedures for the synthesis of ethyl-6-amino-4-aryl-3-methyl-1-phenyl-1,4-dihydropyrano[2,3-c]pyrazole-5-carboxylate derivatives based on three component reaction involving ethylcyanoacetate, pyrazolone and various aromatic aldehyde in the presence of ZnO nanoparticles as heterogeneous catalysts and using dry ethanol as a solvent. The ZnO nanoparticles exhibited excellent catalytic activity and the proposed methodology is capable of providing the desired products in good yield (90-95%) and short time reaction

کلمات کلیدی:

pyrano[2,3-c]pyrazol, ethyl cyanoacetate, ZnO nanoparticles, heterogeneous catalysts

لینک ثابت مقاله در پایگاه سیویلیکا:

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