

عنوان مقاله:

Studying the role of sodium hydrogen sulfate stabilized on nanosilica for preparing some coumarin derivatives in the solution and under solvent-free conditions

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خلاصه مقاله:

Coumarin and its derivatives are the most important components of several bioactive compounds such as anticoagulants, anti-HIVs, anti-tumors, anti-oxidants, anti-anxieties, anti-inflammatories, hypnotics, helminthicides, and insecticides. Derivatives of 2H-Chromen-2-one, or coumarins, are synthesized mainly through pechmann condensation reactions. This condensation involves phenol derivatives and β -ketoesters that occur in the presence of an acidic catalyst under reflux, but the yield of coumarin derivatives obtained in this method is very low and the reaction time is long. Although a lot of modified methods have been proposed, each one of them has some disadvantages, such as hard conditions, low efficiency, long time, expensive reagents, formation of byproducts, and difficulty of recycling and reusing the catalyst. In this research, an efficient method is offered for synthesis of some coumarin derivatives using pechmann condensation reactions in the presence of phenol and ethyl acetoacetate with sodium hydrogen sulfate stabilized on nanosilica as the catalyst. This method has advantages, such as high yields, .short reaction time, simple purification

کلمات کلیدی:

Pechmann condensation, Sodium hydrogen sulfate, Nano silica, Coumarin, Sol-gel

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