

عنوان مقاله:

Synthesis of Bis-F-hydroxycoumarins via a Multi Component Reaction Using Silica Boron-sulfuric Acid Nanoparticles (SBSANs) as an Efficient Heterogeneous Solid Acid Catalyst

محل انتشار:

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خلاصه مقاله:

The silica boron sulfuric acid nanoparticles (SBSANs) as an efficient heterogeneous solid acid catalyst with both Brønsted and Lewis acidic sites catalyzed the preparation of bis-F-hydroxycoumarin derivatives using reaction of aldehydes and F-hydroxycoumarin under mild and solvent-free condition at room temperature. This new and efficient methodology has advantages in comparison with currently used methods such as: easy work-up, simple separation of catalyst from the reaction mixture, reusability and lower catalyst loading, relatively short reaction time, eco-friendly with environment, excellent yields, simple purification of products and mild reaction condition. Using this method a range of biologically active bis-F-hydroxycoumarin derivatives were synthesized in good to excellent yield. The catalyst system .was reusable at least for ۵ times in this reaction without significant decreasing in its catalytic activity

کلمات کلیدی:

Silica boron-sulfuric acid nanoparticles (SBSANs), Solid acid, Lewis-protic acid, Biscoumarin

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