

Abstract

Pyrimidine derivatives have taken part in many beneficial medicinal agents and great numbers of biological, therapeutic and medicinal effects have been reported about them. So, the study toward finding novel and more efficient synthetic methodologies for their synthesis has been emerged with much importance. In the present study, starting from chalcone derivatives, we tried to report a novel eco-friendly protocol for the facile synthesis of some new trisubstituted pyrimidines. Two nanocatalysts based on MCM-41 porous material have been designed and used to catalyze the reaction of chalcones with amidine derivatives in order to prepare pyrimidine derivatives. The optimized reaction conditions were studied to reach to the best results of yields and reaction times. Various advantages can be noticed for the present methodology such as relatively short reaction times, simple work-up, and good to excellent yields of the products.

Keywords: Nanocatalysts, Chalcone derivatives, Trisubstituted pyrimidine derivatives, Green chemistry.



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Design and synthesis of two nanocatalysts supported MCM-41 and their application as a novel green method in pyrimidine synthesis using various chalcone derivatives as starting materials

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