Abstract

In this study according to many biological and pharmaceutical properties of Imidazolidine- and Tetrahidropirimidine-۲-Thiones,the synthesis of these compounds have been evaluated under the new green conditions. Reaction of various ۱،۲- or ۱،۳-diaminoalkans with carbon di sulfide was studied under different conditions. The optimum conditions including the use of conditions. Finally, ۸ derivatives were synthesized under this conditions while some derivatives were new and their structure was determined by spectral data of FT-IR, $^{۱}$H NMR and $^{۱۳}$C NMR. advantage of this procedure include reaction at room temperature, easy recycling process of nanocatalyst, convenient workup, good yields and no emissions of harmful hydrogen sulfide in the environment.

**Key words: Imidazolidine-۲-thione, Tetrahydropyrimidine-۲-thione, Magnesium oxide Nanoparticles.**

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# Synthsis of imidazolidine derivatives and tetrahydro-pyrimidine-۲-thione using magnesium oxide nanoparticles as a catalyst

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