البحث السابع

"An Efficient Access to Pyrimidine-based Polyfunctional Heterocycles with Anticipated Antibacterial Activity"

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Abstract:

6-Amino-2-thioxotetrahydropyrimidine-5-carbonitrile derivative (**2)** was synthesized in a good yield via refluxing a mixture of arylidene **1** and thiourea in a highly basic sodium ethoxide solution. Subsequently, the synthesized pyrimidine-2-thione derivative **(2)** was allowed to interact with diversified nucleophiles and electrophiles under various reaction conditions in order to have a feasible access to further new and assorted fused heterocycles. Finally, the biological activity of the newly synthesized fused pyrimidines was screened *in vitro* against four different Gram-positive and Gram-negative bacterial strains. All the developed heterocycles were adequately characterized utilizing ^{1}H-NMR, ^{13}C-NMR, Fourier transform infrared, elemental analysis and electrospray ionization–mass spectrum and tested for their antibacterial activity.