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# Synthesis and Characterization of Some 3,4-Dihydropyrimidine-2-ones Using Tributylborate as a Catalyst

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**Abstract:**We describe here the synthesis of new series of 3,4-dihydropyrimidin-2-ones derivatives from three components via cyclocondensation of ethylacetoacetate, aldehyde and urea or thiourea in the presence of tributylborate as a catalyst. We used here the boron-based catalyst (tributylborate) under a solvent-free, fast, cost effective conditions which offers several advantages including high yields, environmentally friendly procedure, short reaction times and simple work up procedure. Interestingly, reaction of cyclohexanone with urea and 2.0 equiv. of aldehyde furnished a new analogues of pyrimidines. The synthesized compounds have been characterized by spectroscopic study spectra: FTIR,  $^1\text{H}$ -,  $^{13}\text{C}$  NMR and 2D NMR study.

**Key words:** Biginelli-type reaction; tributylborate ; one-pot; pyrimidinone; solvent-free.

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