

T3P® -DMSO Mediated One-Pot Tandem Approach for the Synthesis of 3,4-Dihydropyrimidin-2(1H)-Ones/Thiones from Alcohols

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Abstract : Propylphosphonic anhydride (T3P®)-DMSO is used as an efficient and mild reagent for the one-pot synthesis of 3,4-dihydropyrimidin-2(1H)-ones/thiones from aromatic alcohols. Alcohols are oxidized in situ to aldehydes under mild conditions, which in turn undergo a three-component reaction with β -ketoester and urea/thiourea to afford 3,4-dihydropyrimidin-2(1H)-ones/thiones. The synthesis of 3,4-dihydropyrimidin-2(1H)-ones/thiones directly from alcohols has been reported for the first time best to our knowledge, under mild reaction conditions in good yield. The easy work-up procedure, low cost and less toxicity of the reagent are the main advantages of this protocol.

Keywords : β -ketoester, propylphosphonic anhydride, three-component reaction, pyrimidine

Conference Title : ICC 2018 : International Conference on Chemistry

Conference Location : Singapore, Singapore

Conference Dates : May 03-04, 2018