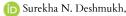
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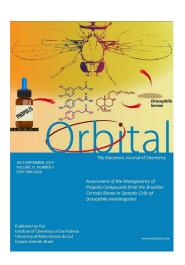
A Simple and Green Protocol for the Synthesis of 3,4dihydropyrimidin-2(1H)-ones Using 11-Molybdo-1-vanado phosphoric Acid as a Catalyst Under Ultrasound Irradiation







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Keywords

3,4-dihydropyrimidin-2(1H)-ones, heteropoly acids, 11-molybdo-1-vanadophosphoric acid, ultrasound irradiation

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Abstract

A one-pot three-component reaction of ethyl acetoacetate, aldehydes and urea has efficiently been carried out in the presence of 11-molybdo-1-vanadophosphoric acid in ethanol at room temperature under ultrasound irradiation to form the corresponding 3,4-dihydropyrimidin 2(1H)-ones in high yields. The 11-molybdo-1-vanadophosphoric acid ($H_4PMo_{11}V_1O_{40}$) was prepared and characterized by FT-IR spectroscopy, TG-DTA analysis and XRD analysis techniques. The presence of Keggin structure and incorporation of vanadium into the Keggin structure of synthesized $H_4PMo_{11}V_1O_{40}$ catalyst was confirmed by FT-IR and powder XRD analysis techniques. TG-DTA analysis results indicated that $H_4PMo_{11}V_1O_{40}$ catalyst was thermally stable up to the temperature 434 °C. The present catalytic system is recyclable and can be reused without greater loss of reactivity.

DOI: http://dx.doi.org/10.17807/orbital.v11i5.1423

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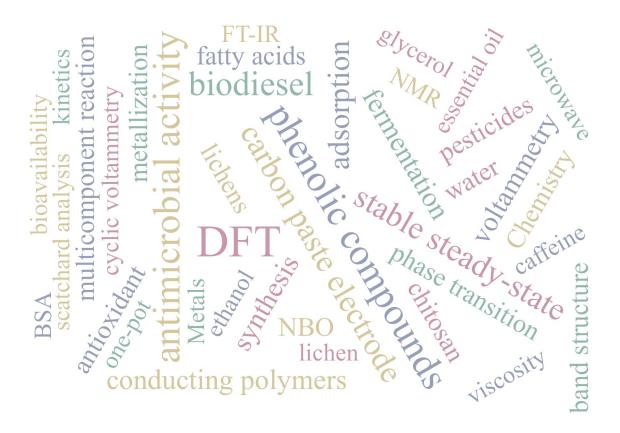
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