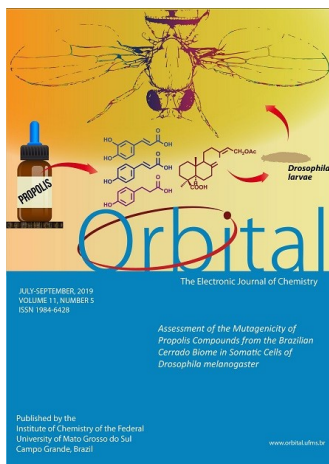


[Register](#) [Login](#)[MENU](#)[Orbital - Vol. 11 No. 5 - July-September 2019](#)

FULL PAPERS

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

PDF

[ID](#) Laxmikant D. Chavan, [ID](#) Surekha N. Deshmukh, [ID](#) Sunil G. Shankarwar[More Info](#)

Published October 4, 2019

Keywords

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

How to Cite

(1)

Chavan, L. D.; Deshmukh, S. N.; Shankarwar, S. G. A Simple and Green Protocol for the Synthesis of 3,4-Dihydropyrimidin-2(1H)-Ones Using 11-Molybdo-1-Vanado Phosphoric Acid As a Catalyst Under Ultrasound Irradiation. *Orbital: Electron. J. Chem.* 2019, 11, 314-320.

[More Citation Formats](#)

Copyright (c) 2019 Orbital: The Electronic Journal of Chemistry



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

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>



[Open Journal Systems](#)

[Information](#)

[For Readers](#)

[For Authors](#)

[For Librarians](#)

[Make a Submission](#)

Keywords



Orbital

Institute of Chemistry - Universidade Federal de Mato Grosso do Sul. Copyright © 2022

Phone: +55 67 3345 3676. Av. Senador Filinto Müller, 1555 – Vila Ipiranga, CEP: 79074-460 – Campo Grande – MS, Brazil

Platform &
workflow by
OJS / PKP