

Accepted Manuscript

Original article

Selective synthesis of Ureas and Tetrazoles from amides controlled by experimental conditions using conventional and microwave irradiation

Rajendran Sribalan, Andiappan Lavanya, Maruthan Kirubavathi, VEDIAPPEN PADMINI

PII: S1319-6103(16)30001-1
DOI: <http://dx.doi.org/10.1016/j.jscs.2016.03.004>
Reference: JSCS 807

To appear in: *Journal of Saudi Chemical Society*

Received Date: 10 January 2016
Revised Date: 8 March 2016
Accepted Date: 10 March 2016

Please cite this article as: R. Sribalan, A. Lavanya, M. Kirubavathi, V. PADMINI, Selective synthesis of Ureas and Tetrazoles from amides controlled by experimental conditions using conventional and microwave irradiation, *Journal of Saudi Chemical Society* (2016), doi: <http://dx.doi.org/10.1016/j.jscs.2016.03.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Selective synthesis of Ureas and Tetrazoles from amides controlled by experimental conditions using conventional and microwave irradiation.

Rajendran Sribalan, Andiappan Lavanya, Maruthan Kirubavathi, Vediappen Padmini*

Department of Organic Chemistry, School of Chemistry, Madurai Kamaraj University, Madurai-625021, Tamil Nadu.

Corresponding author e-mail: padimini_tamilenthi@yahoo.co.in

Abstract

An efficient synthetic procedure has been achieved for selective synthesis of 1,5-disubstituted tetrazoles and diaryl urea from secondary amides *in situ* in the presence of NaN_3 and POCl_3 as a solvent, both by conventional and microwave methods. The reaction conditions were optimized to yield selectively either tetrazoles or urea derivatives from reasonable to excellent yields. These conversions have been tested and verified with various secondary amide precursors. The synthesized compounds were characterized by ^1H NMR, ^{13}C NMR and ESI-MS spectroscopic techniques.

Keywords:

Tetrazoles; *in situ* synthesis; substituted urea; microwave synthesis; one pot conversion.

1. Introduction

The selective conversion/synthesis is the very important process in organic synthesis [1]. Especially, the selective conversion from the one starting material to different products [2] by altering the reaction conditions has additional advantages such as using minimum reagents, avoiding alternate route, and minimal by-product formation. In the organic synthesis, there are chances for the formation of unprecedented products [3]. But many researchers are not interested in identifying these unprecedented products and the causes for them. In our case, we found that urea formed as a side product is identified, during the synthesis of tetrazoles from amides in thermal method and microwave irradiation. Further, this conversion is continued to arrive at the selective synthesis of either urea or tetrazole from the same precursor (amide) under conventional method. We also extended this scope to develop the same selectivity under microwave condition also. Because the microwave assisted synthetic method has

Download English Version:

<https://daneshyari.com/en/article/6669897>

Download Persian Version:

<https://daneshyari.com/article/6669897>

[Daneshyari.com](https://daneshyari.com)