

## Accepted Manuscript

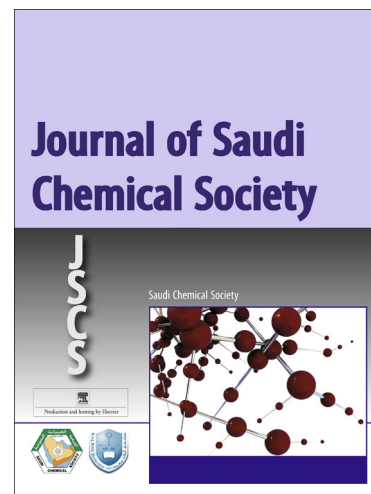
Facile synthesis of indole-pyrimidine hybrids and evaluation of their anticancer and antimicrobial activity

Nikhila Gokhale, Udayakumar Dalimba, Manjunatha Kumsi

PII: S1319-6103(15)00113-1  
DOI: <http://dx.doi.org/10.1016/j.jscs.2015.09.003>  
Reference: JSCS 766

To appear in: *Journal of Saudi Chemical Society*

Received Date: 29 June 2015  
Revised Date: 18 August 2015  
Accepted Date: 6 September 2015



Please cite this article as: N. Gokhale, U. Dalimba, M. Kumsi, Facile synthesis of indole-pyrimidine hybrids and evaluation of their anticancer and antimicrobial activity, *Journal of Saudi Chemical Society* (2015), doi: <http://dx.doi.org/10.1016/j.jscs.2015.09.003>

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.

## Facile synthesis of indole-pyrimidine hybrids and evaluation of their anticancer and antimicrobial activity

Nikhila Gokhale<sup>a</sup>, Udayakumar Dalimba<sup>a\*</sup>, Manjunatha Kumsi<sup>b</sup>

<sup>a</sup>Organic Chemistry Laboratory, Department of Chemistry, National Institute of Technology Karnataka, Surathkal, Srinivasanagar, Mangalore-575025, Karnataka, India.

<sup>b</sup>Department of Chemistry, Nagarjuna College of Engineering and Technology, Devanahalli, Bangalore-562110, Karnataka, India.

\*Corresponding author email: udayaravi80@gmail.com, udayakumar@nitk.ac.in. Phone: +91-824-2473207. Fax: +91-824-2474033

### Abstract

The paper describes the facile synthesis of new *N*-cyclopropyl-1-methyl-1*H*-indole-2-carboxamide derivatives bearing substituted 2-amino pyrimidine moiety at position-3 of the indole ring. All the intermediate and title compounds were characterized adeptly by <sup>1</sup>H NMR, <sup>13</sup>C NMR, ESI-MS and elemental analyses. These compounds were evaluated for their *in vitro* anticancer activity against HeLa, HepG2 and MCF-7 cells. Three among 22 molecules, showed more than 70 % growth inhibition against all three tested cancer cells. The nature of substituent group on the pyrimidine ring (R<sup>2</sup>) affected significantly the anti-proliferative activity of the molecules. The anti-microbial evaluation of the title molecules revealed the significance of fluoro/chloro groups (R<sup>2</sup>) in enhancing their inhibition activity. Eight molecules which contain fluoro/chloro groups showed potent anti-microbial activity. In addition, the active molecules displayed negligible toxicity to benign Vero cells.

**Keywords:** Indole, Pyrimidine, HATU, Claisen-Schmidt condensation, anticancer activity, antimicrobial studies

Download English Version:

<https://daneshyari.com/en/article/6670028>

Download Persian Version:

<https://daneshyari.com/article/6670028>

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