Indian Journal of Heterocyclic Chemistry
Vol. 32 - Number 01 (Jan-Mar 2022) 51-59
DocID: https://connectjournals.com/01951.2022.32.51

ISSN (Print) : 0971-1627
ISSN (Online) : 2456-4311

One-pot Synthesis of Dihydropyrano[3,2-*c*]chromenes and their Evaluation for Antimicrobial and *in vitro* Anticancer Activity

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ABSTRACT The three-component one-pot synthesis of dihydropyrano[3,2-*c*]chromene derivatives was obtained in good to excellent yields within short reaction time by condensing 4-hydroxycoumarin, aldehydes, and malononitrile or ethyl cyanoacetate with a catalytic amount of (diacetoxyiodo)benzene as hypervalent iodine in aqueous ethanol under reflux condition. Different aromatic aldehyde having electron donating and withdrawing groups and hetero-aromatic aldehyde were used under the same reaction condition to give the product. Newly synthesized compounds showed moderate to excellent activity when they screened for antimicrobial activity. Selected compounds were tested for anticancer activity. Compounds **4k** and **4n** showed good activity against human astrocytoma-glioblastoma cell line (U373MG).

KEYWORDS Anticancer, Antimicrobial, 4-Hydroxycoumarin, Hypervalent Iodine, Multi-Component Reaction, Pyrano[3,2-*c*]chromene.

How to cite this article: Waghmare AS, Murade VD, Kadam KR, Pandit SS. One-pot Synthesis of Dihydropyrano[3,2-*c*]chromenes and their Evaluation for Antimicrobial and *in vitro* Anticancer Activity, *Indian J. Heterocycl. Chem.*, **2022**, *32*, 51–59.*(DocID: https://connectjournals.com/01951.2022.32.51)*