



J. Indian Chem. Soc.,

Vol. 96, August 2019, pp. 1075-1084

Design, ultrasound assisted synthesis and anticancer screening of 4-[5-(aryl)-4,5-dihydro-1-phenyl-pyrazol-3-yl]-3-(substitutedphenyl)sydnones

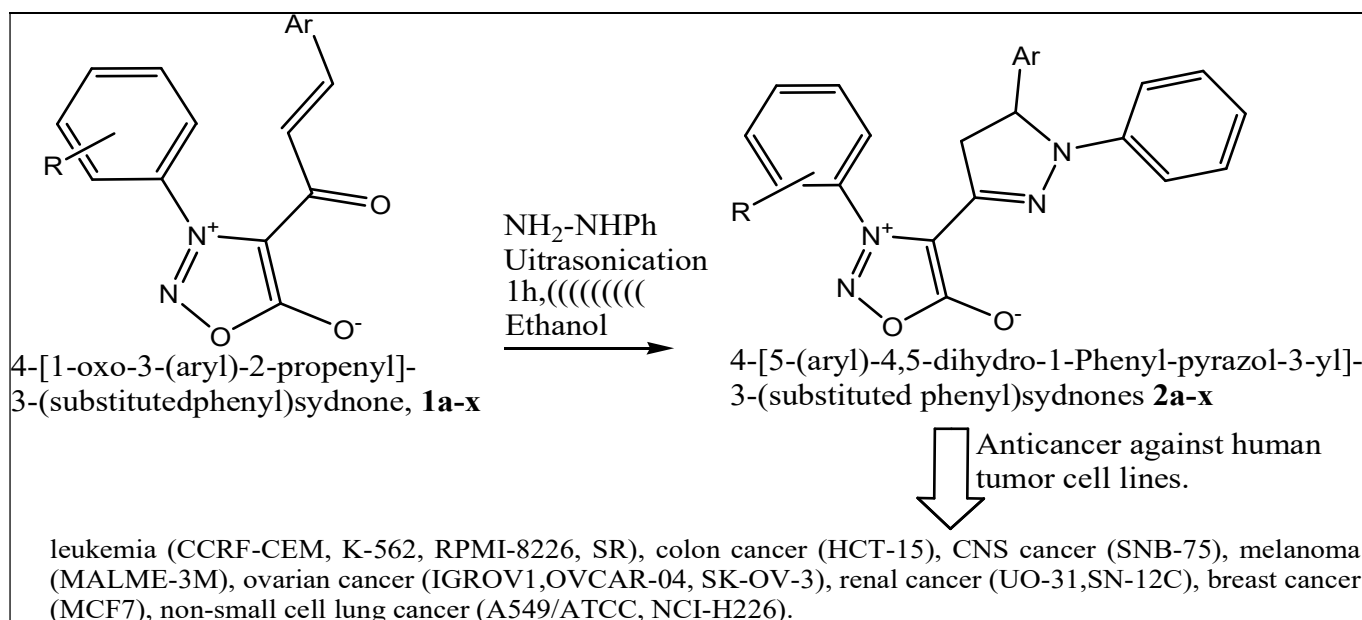
Sachin K. Bhosale^{a*}, Shreenivas R. Deshpande^b and Nirmala V. Shinde^a

^aDepartment of Pharmaceutical Chemistry, S. M. B. T. College of Pharmacy, Nandihills, Dhamangaon, Tah: Igatpuri, Dist: Nashik-422 403, Maharashtra, India

E-mail: sachiniper@rediffmail.com

^bDepartment of Medicinal and Pharmaceutical Chemistry, H. S. K. College of Pharmacy, BVVS Campus, , Bagalkote-587 101, Karnataka, India

Manuscript received online 25 May 2019, revised and accepted 17 June 2019



Present research works focused on “Green synthesis of novel mesoionic compounds containing sydnone moiety and their anticancer screening”. Compounds synthesized by ultrasound assisted. Synthesis of 4-[5-(aryl)-4,5-dihydro-1-phenyl-pyrazol-3-yl]-3-(substitutedphenyl)sydnones (**2a-x**) by cyclization of sydnonyl-substituted α,β -unsaturated ketones (**1a-x**) with phenyl hydrazine. All compounds were characterized by spectral study. Molecules **2g**, **2i**, **2j**, **2k**, **2l**, **2m** were evaluated against 60 human cancer cell lines for *in vitro* anticancer activity. Most prominent compounds are **2i** [SR (Leukemia), %GI = 61.87] and **2k** [CCRF-CEM (Leukemia), %GI = 41.57] are found to have greater anticancer activity than standard vincristine sulphate against some specific cell lines. Further structural modification of the active mesoionic sydnones might lead to development of potent anticancer, antimicrobial and antioxidant molecules.

Keywords: 1,2,3-Oxadiazol-5-olate, anticancer sydnones, 1-phenyl-pyrazole sydnones.