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Synthesis, Anticancer and antibacterial Activities of Triazolothiadiazines Containing 2,4-dichloro-5-fluorophenyl Moiety

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ABSTRACT

*A new series of [1,2,4]-triazolo-[3,4-b][1,3,4]-thiadiazines (**3a-h**) possessing arylfurfuryl, 2,4-dichloro-5-fluorophenyl and aryloxymethyl/anilinomethyl moieties was prepared by the reaction of various 4-amino-5-((aryloxy/arylamino)methyl)-4H-[1,2,4]-triazole-3-thiols **(1a-h)** with 1-(2,4-dichloro-5-fluorophenyl)-3-arylfuryl-2-bromo-2-propen-1-ones **(2)** in the presence of potassium hydroxide. All the synthesized compounds were evaluated in vitro for their antibacterial activity and compound **3c** and **3h** showed excellent activity. Compound **3d** and **3h** were evaluated for anticancer screening study and showed promising activity against some of the cell lines. The newly synthesized compounds were confirmed by IR, ^{1}H NMR, and mass spectral analysis.*

Keywords: [1, 2, 4]-Triazoles; [1, 3, 4]-thiadiazines; 2,4-dichloro-5-fluorophenyl; antibacterial activity; anticancer activity.