



Synthesis, Characterization and Evaluation of Some Novel 5-(2-aryl-4-oxo-1,3-thiazolidine)-2-(phenoxazinyl methyl)-1,3,4-thiadiazole Derivatives as Antimicrobial and Antitubercular Agents

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ABSTRACT

*In our present study N-(ethyl ethanoate)-phenoxazine compound **1** was prepared from phenoxazine and ethyl chloroacetate. Condensation of compound **1** with equimolar quantity of thiosemicarbazide in methanol afforded N-(acetyl thiosemicarbazido)-phenoxazine compound **2**. Compound **2** on reaction with conc. sulfuric acid yielded 5-amino-2-(phenoxazinyl methyl)-1,3,4-thiadiazoles compound **3**. Compound **3** which on condensation with different aromatic aldehydes yielded respective Schiff bases **4a-h**. The Schiff bases are then cyclised with thioglycolic acid to yield the corresponding phenoxazine bearing 4-thiazolidinone derivatives **5a-h**. The structures of the synthesized compounds have been established based on their analytical and spectral data. The synthesized compounds were evaluated for their antimicrobial and antitubercular activities. Some of compounds exhibited considerable activity but among these one 4-thiazolidinone derivatives having nitro phenyl group at 3rd position **5g** exhibited maximum antimicrobial and antitubercular activities.*

Keywords: Synthesis, phenoxazine derivative, Biological active agents.
