

## Synthesis of a series of new schiff bases having heterocyclic moiety and their microbial activity

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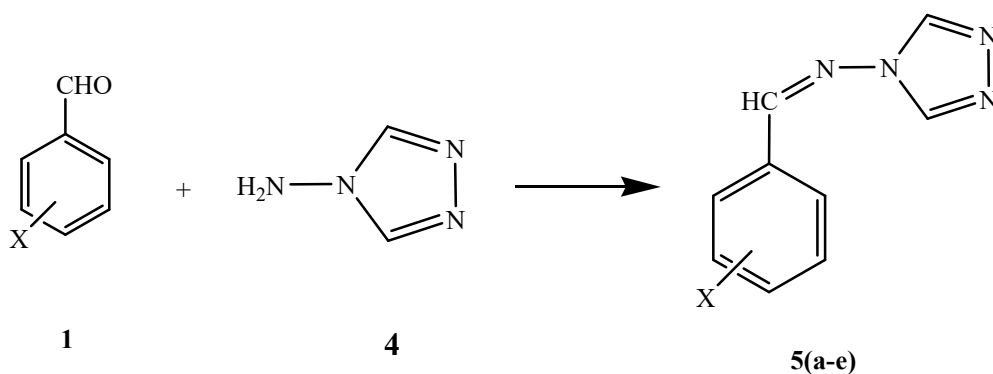
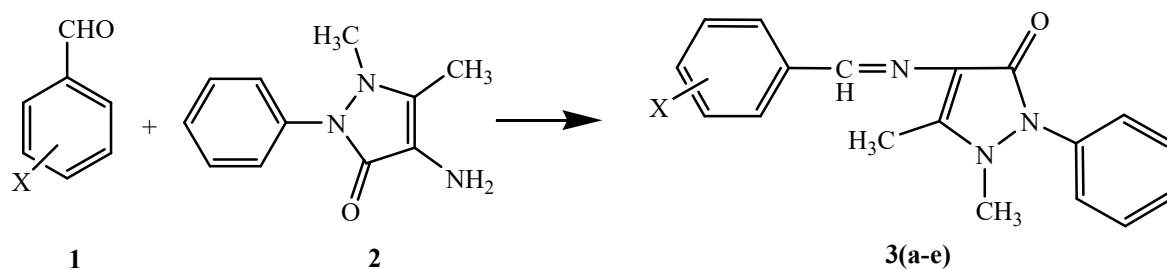
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X = H, 2-Cl, 4-Cl, 2-NO<sub>2</sub>, 3-NO<sub>2</sub>

## Abstract

Heterocyclic compounds were synthesized using water based method. These were synthesized by reacting different aldehydes namely benzaldehyde, 2- chloro benzaldehyde , 4- chloro benzaldehyde, 2-nitro benzaldehyde and 3-nitro benzaldehyde with different heterocyclic amines like 4-amino phenazone and 4-amino1,2,4-trizole. This method constitute an energy-efficient and environmentally benign greener chemistry version of the classical condensation reactions for schiff base formation. These compounds were characterized by IR,  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR spectroscopic techniques. The colored schiff bases (I, III, V, VII and IX) were also characterized by UV spectra. Synthesized anils were screened for their microbial activity against *Mesorhizobium* sp (SB 271), *S.aureus*, *E.coli* and *Pseudomonas* sp. (PGPR 3). Maximum growth was inhibited by compounds (VI) and (VIII) against *Mesorhizobium* sp . Compounds (I), (III), (IV) and (X) showed maximum inhibited growth for *S.aureus*. Maximum *Pseudomonas* sp. growth was inhibited by compounds (II), (IV) and (IX). Maximum *E.coli* growth was inhibited by the compounds (II), (V), and (X). However, these compounds showed less microbial activity as compared to streptomycin except the compound (IX) recorded higher microbial activity than streptomycin against *Pseudomonas* at 5000 ug/ml. All other anils including this (IX) exhibited less activity than streptomycin at all the concentrations.

**Key words:** Anils, Hetrocyclic moiety, water based method, UV, IR,  $^1\text{H}$  NMR ,  $^{13}\text{C}$  NMR and microbial activity.