



**Synthesis and antibacterial activity of novel 4-(5-phenylthiophen-2-yl)methyleneamino)-2-(phenylamino)methyl)-5-ethyl-2H-1,2,4-triazole-3(4H)-thione derivatives**

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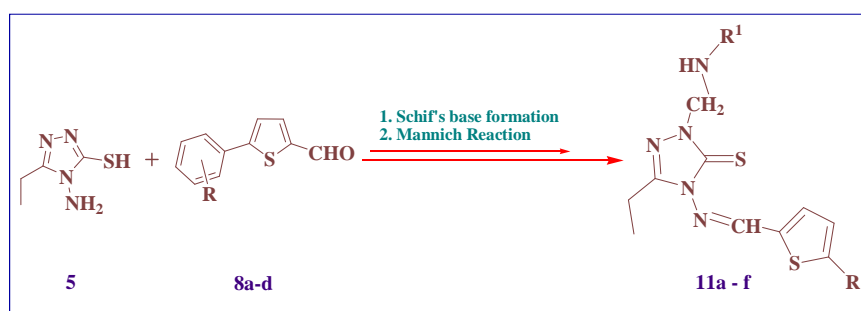
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**ABSTRACT**

A series of 4-(5-phenylthiophen-2-yl)methyleneamino)-2-(phenylamino)methyl)-5-ethyl-2H-1,2,4-triazole-3(4H)-thionederivatives were prepared and screened for their antimicrobial activity. As per the obtained results, the compounds containing fluorine at para position have showed a significant action against *B.Subtilis* and *K.Aerogenes*. The structure of the newly synthesized compounds was established by means of spectral data. In IR band, the C=N stretching has observed at 1710 cm<sup>-1</sup> and NH stretching at 1589 cm<sup>-1</sup>. Whereas in <sup>1</sup>H NMR spectra the chiral carbons have appeared as doublets.

**Graphical Abstract**



A series of 4-(5-phenylthiophen-2-yl)methyleneamino)-2-(phenylamino)methyl)-5-ethyl-2H-1,2,4-triazole-3(4H)-thione derivatives (11a-f) were prepared through Mannich reaction and screened for their antimicrobial activity.

**Keywords:** Triazole, Diazotisation, Schiff's base, Mannich reaction, Antibacterial activity.