



**Synthesis of New 5-Substituted –Aminomethylene-Thiazolidine-2,4-dione Derivatives As Potential Antibacterial Agents**

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**ABSTRACT**

*2, 4-Thiazolidinedione moiety is the generic feature of the glitazone, antidiabetic agents and are a class of molecules that normalize elevated blood glucose level. 5-Ethoxymethylene-thiazolidine-2,4-dione (1) was condensed with various secondary amines (2a–2m) in acetonitrile to yield the corresponding thiazolidine-2,4-dione derivatives (3a–3m). The newly synthesized TZD analogues 3a – 3m were characterized by <sup>1</sup>H NMR, <sup>13</sup>C NMR, Mass and HRMS spectral data and evaluated for their in vitro antibacterial activity against Escherichia coli and Pseudomonas aeruginosa representing Gram-negative bacteria and Staphylococcus aureus and Bacillus subtilis representing Gram-positive bacteria by agar well diffusion method. The antibacterial results revealed that, in general, compounds containing pyridine and piperazine substituent showed excellent to good antibacterial activity.*

**Keywords:** Antibacterial activity, 5-Ethoxymethylene-thiazolidine-2,4-dione, Synthesis, Thiazolidine-2,4-dione (TZD), Secondary amines.

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