



Synthesis, Characterization, Antibacterial and Docking Study of Sulfonamide Derivatives

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ABSTRACT

In this study we synthesized new sulfonamide derivatives by condensing p-toluene sulfonyl chloride with five different amines. All the synthesized sulfonamides were characterized by IR, ¹H-NMR, ¹³C- NMR spectral analysis and were evaluated for their antibacterial activity against two bacterial strains Gram positive Staphylococcus aureus and Gram negative Escherichia coli using Disc diffusion method. Three compounds exhibited significant antibacterial activity. The theoretical binding mode of the target molecules was evaluated by molecular modeling studies, which revealed a new scaffold for enhancing the antibacterial activity of the synthesized compounds.

Keywords: Dehydrosqualene, *Staphylococcus aureus*, *Escheria coli*, Molecular modeling.
