



## Synthesis and Antimicrobial Activity of Novel Hydrazone Derivatives of 4-(4-chlorophenyl)cyclohexanecarboxylic acid

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### ABSTRACT

Hydrazones are of considerable importance because of their diverse biological applications such as antihelmintic, antidiabetic, and trypanocidal activities etc. The present paper describes the synthesis and antibacterial activity of novel hydrazone derivatives **4a-4k** derived from commercially available 4-(4-chlorophenyl)cyclohexanecarboxylic acid **1**. All the newly synthesized 4-(4-chlorophenyl) cyclo hexane carbohydrazide derivatives **4a-4k** were evaluated for their in vitro antibacterial activity against *Staphylococcus aureus* and *Bacillus subtilis* (Gram-positive bacteria) and *Escherichia coli* and *Pseudomonas aeruginosa* (Gram-negative bacteria). On the basis of zone of inhibition, it is observed that compounds **4a-4e** exhibited good antibacterial activity and compounds **4f-4h** displayed equipotent activity when compared to the standard drug ciprofloxacin.

**Keywords:** Antibacterial Activity, Atovaquone , Gram-positive bacteria, Hydrazones, Synthesis.

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