



## Synthesis and *In Vitro* Antimicrobial Activity of Novel Hydrazide-Hydrazone Derivatives of Dodecanoic Acid

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**SUMMARY.** Six new dodecanoic acid hydrazide-hydrazones (compounds **4a-f**), unsubstituted or carrying hydroxy, methoxy, nitro and chloro groups on the benzene ring, were synthesized and tested, *in vitro*, for their antimicrobial activity against two Gram negative bacteria strains (*Escherichia coli* and *Pseudomonas aeruginosa*) and two Gram positive bacteria strains (*Bacillus subtilis* and *Staphylococcus aureus*) and two fungal strains (*Candida albicans* and *Aspergillus niger*). The microbial screening results indicated that compounds having chloro and nitro substituents were the most active ones. These hydrazone derivatives were characterized by CHN analysis, IR, and <sup>1</sup>H NMR spectral data. All newly synthesized compounds exhibited promising results.

**KEY WORDS:** Antibacterial, Antifungal, Characterization, Long chain aliphatic acid hydrazide, Synthesis.

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