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Synthesis, Characterization, Anti-Microbiological and Methicillin-Resistance *Staphylococeus Aureus,*Evaluation of N-Acyl Ciprofloxacin Derivatives

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Abstract: *We report here a novel amide-piperazine based multiple ligand approach ciprofloxacin derivatives were synthesized and fully characterized by HR-MS, ^{1}H-NMR, ^{13}C-NMR, and FT-IR. All the synthesized compounds were exhibited high antibacterial activity tested against drug-sensitive bacteria Gram positive Staphylococcus Aureus and Bacilus Subtilis and Gram negative bacteria Escherichia Coli and Pseudomonas Aeruginosa. We found that all the compounds are promising candidates as antibacterial agents, along with compound* ***5c****amide-piperazine based ciprofloxacin derivative demonstrated outstanding antibacterial activity against MRSA in the in vitro antibacterial studies. The results of the studies show the synthesized* ***5c*** *derivative can be used for the development of anti-MRSA drugs.*

Keywords: Amide, Piperazine, Ciprofloxacin, Antibacterial, Antifungal and MRSA

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