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« Neuroprotective Activity of *Garcinia pedunculata* Roxb ex Buch Ham Fruit Extract Against Aluminium Chloride Induced Neurotoxicity in Mice. up Synthesis, Evaluation and Molecular Docking Study of Some New Acetic Acid Derivatives. »

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## Synthesis, Characterization, Molecular Docking Studies and Antimicrobial Evaluation of N-Benzimidazol-1-yl-Methyl-Benzamide Derivatives

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### Abstract:

N-benzimidazol-1-yl-methyl-benzamide derivatives (3a-3x) were synthesized by Mannich reaction and evaluated for *in vitro* antimicrobial activity against *Escherichia coli*, *Pseudomonas aeruginosa*, *Bacillus subtilis*, *Staphylococcus aureus*, *Candida albicans* and *Aspergillus niger*. The structures of novel target compounds were elucidated by spectral and analytical techniques. Among the synthesized derivatives, **3o** N-[2-(2-chloro-phenyl)-benzimidazol-1-ylmethyl]-benzamide, **3q** N-[2-(4-chloro-phenyl)-benzimidazol-1-ylmethyl]-benzamide and **3r** N-[2-(2-bromo-phenyl)-benzimidazol-1-ylmethyl]-benzamide were found to be most effective antimicrobial compounds. Clotrimazole and ciprofloxacin were used as reference antimicrobial agents. Further, *in silico* studies were carried out to define the interaction of the title compounds with microbial protein.

**Key words:** Mannich bases, Benzimidazole, Antibacterial activity, Antifungal activity, Docking study.

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