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(57) Abstract :

A novel compound, 2-(2-(3-(4-chlorophenyl)acryloyl)phenoxy)-N,N-diphenylacetamide, has been synthesized to evaluate its antimicrobial potential. The synthesis involves the reaction of diphenylamine with chloroacetylchloride in toluene, followed by further modification with chalcone. The resultant compound was characterized using melting point determination, FT-IR, and ¹H-NMR spectroscopy, confirming its molecular structure. Antimicrobial activity was assessed via the cup diffusion method, showing effective inhibition zones against Bacillus subtilis (20 mm), Escherichia coli (20 mm), and Candida albicans (20 mm), comparable to reference standards ampicillin and clotrimazole. This compound demonstrates promise as an antimicrobial agent, with significant applications in pharmaceutical formulations aimed at combating microbial infections

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