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(57) Abstract :
The present invention relates to the synthesis and antibacterial potential of a novel chalcone derivative, 1-(4-(3-(2-isopropyl-5-methylphenoxy)propylamino)phenyl)-3-(4-methoxyphenyl)prop-2-en-1-one. The compound was synthesized via a multistep reaction starting from thymol and 1-bromo-3-chloropropane, followed by coupling with p-aminoacetophenone and condensation with p-methoxybenzaldehyde. Structural confirmation was achieved using FT-IR and ^1H NMR spectroscopy. The final product exhibited a yield of 72% and a melting point of 225–227?°C. Biological screening demonstrated significant antibacterial activity against E. coli and S. aureus, showing comparable results to standard amoxicillin. This invention presents a promising lead for the development of new antibacterial agents.

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