

# IN VITRO ANTIMICROBIAL ACTIVITY OF NOVEL FUNCTIONALIZED CHALCONES

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**Abstract:** Two series of novel chalcones (4a-4g, 5a-5g) have been synthesized by solution phase Claisen-Schmidt condensation. All the new final products have been purified by silica gel column chromatography and characterized on the basis of their infrared (IR) and proton nuclear magnetic resonance (<sup>1</sup>H NMR) spectroscopic data, and elemental analysis. All the final compounds (4-5) were exploited for their antimicrobial activity by the cup-plate method. From the antibacterial screening it was observed that the compounds, 4 (a, d, f and g), 5 (b, c, d, e and f), shows good antibacterial activity against *Staphylococcus aureus* (zone of inhibition, 10-16 mm) as compared to standard streptomycin (zone of inhibition, 18 mm) whereas compounds 4 (a and b), 5 (b, c and d), showed good antibacterial activity against *Escherichia coli* (zone of inhibition, 10-18 mm) as compared to streptomycin (zone of inhibition, 22 mm). Fungicidal screening data also revealed that compounds 4 (b and d), 5 (a and e), imparted maximum activity against *Aspergillus niger* (zone of inhibition, 10-15 mm) as compared to standard griesofulvin (zone of inhibition, 17 mm), whereas compounds 4 (b, c, f and g), 5b, showed good activity against *Candida albicans* (zone of inhibition, 10-16 mm) as compared to griesofulvin (zone of inhibition, 20 mm).

**Keywords:** Chalcones, Condensation, Antimicrobial activity

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