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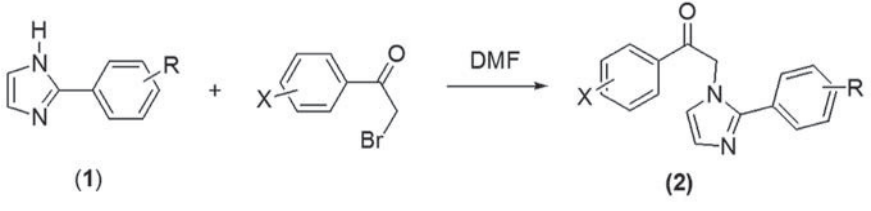
Synthesis, Antimicrobial Activity and Binding Mode Analysis of Some New Diaryl Imidazole Derivatives

Swastika Ganguly*, Priya Shaw

Department of Pharmaceutical Sciences and Technology, Birla Institute of Technology and Sciences, Mesra, Ranchi, India

ABSTRACT A novel series of ten diaryl imidazolyl ethanones **2a-j** was synthesized by reacting corresponding 2-(aryl)-1*H*-imidazoles **1** with substituted phenacyl bromides. The compounds were characterized on the basis of elemental analysis and spectral data. All the compounds were evaluated for their antibacterial and antifungal activities. Among the synthesized compounds, 1-(4-bromophenyl)-2(2-(3-chlorophenyl)-*1H*-imidazol-1-yl)ethanone **2b** exhibited the highest antibacterial and antifungal activity. Binding mode analysis of the highly active compound was carried out in the active site of glucosamine-6-phosphate synthase (2VF5).



(1) (2)

KEY WORDS Imidazoles, Synthesis, Antibacterial and antifungal activities, Docking.