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Synthesis and Biological Evaluation of Some Novel Hydrazones Carrying Benzimidazole and Pyrene/Vanillin Moiety

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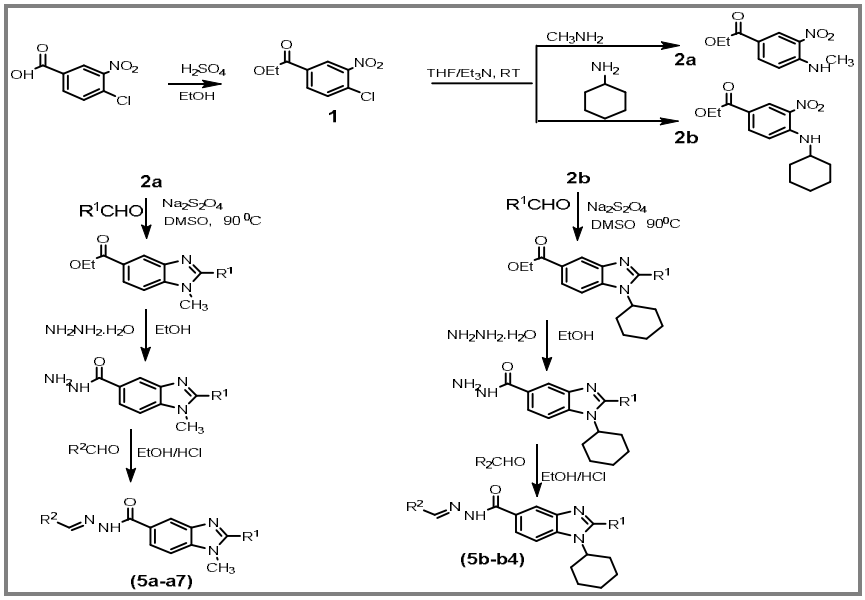
ABSTRACT

Novel series of hydrazones carrying benzimidazole moiety are prepared by the condensation benzimidazole carbohydrazide carrying pyrene/vanillin with appropriate aldehydes. The novel hydrazones so prepared were characterized by Elemental analyses, UV, IR, ^{1}H NMR, and Mass spectral studies. These novel compounds were screened for the antibacterial activity against S. aureus,S. mutans, P. aeruginosa and E. coli, and antifungal activity against A. niger and C. albicans sps. and antioxidant activity by DPPH method. The results revealed that most of the compounds exhibited good antibacterial and antifungal properties at 75 µL mL^{-1}. Besides, they showed good antioxidant activity as compared with standard Butylated hydroxy anisole.

Graphical Abstract



Synthetic route of final compound 5a-a6, 5b-54

Keywords: Benzimidazole, Pyrene, Hydrazones, Antimicrobial agent, Antioxidant property.