

SYNTHESIS, SPECTRAL STUDIES AND ANTIMICROBIAL ACTIVITIES OF SOME NEW HETEROCYCLIC COMPOUNDS

ABSTRACT

In this research work, we had tried to synthesize some new heterocyclic compounds. 1-(2'-n-butylbenzofuran-3'-yl) ethanone was condensed with aromatic aldehydes in the presence of aqueous sodium hydroxide to obtain chalcones. The chalcones were condensed with hydrazine hydrate, hydrazine in glacial acetic acid and phenyl hydrazine to produce pyrazolines derivatives. The chalcones were reacted with hydroxy amine to obtain isoxazoles. The chalcones were condensed with urea, thiourea, guanidine hydrochloride to yield pyrimidines derivatives. The chalcones were condensed with malononitrile and pyridine to obtain cyanopyridines derivatives. The cyanopyrans derivatives were obtained by the reaction of chalcones and malononitrile, ammonium acetate, sodium methoxide. Quinoxalines, barbitones and thiosemicarboximide derivatives were obtained by the condensation of chalcones with orthophylenediamine, barbituric acid, thiosemicarbazide. The Mannich bases were synthesized by the condensation of substituted piperazine compounds with cyclohexanone and aromatic aldehydes in the presence of hydrochloric acid. The synthesized compounds were assigned with ^1H NMR, IR, Mass spectroscopy, TLC and elemental analysis. All the synthesized compounds were tested for their antimicrobial activity by cup-plate method against the Gram +ve, Gram -ve Bacteria and fungi. The antimicrobial activity was compared with known standard drugs viz. ampicillin, chloramphenicol, norfloxacin and fluconazole.

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