ABSTRACT

Sulfonamide is the basis of several groups of drugs. The piperazine molecules bearing sulfonamide functionality are very effective to treat a broad spectrum of microbial diseases such as anti-convulsant, anti-microbial, anti-diuretic, anti-fungal and anti-inflammatory. The increasing significance of sulfa drugs is the foremost intention of designing and synthesizing new derivative of **4-(un/substituted-phenyl)-1-(2-furoyl) piperazine**. In this study, 1-Phenylpiperazine (1) was treated with a series of arylsulonyl chlorides(2a-e) under benignant conditions. The synthesized compounds (3a-e) were screened for their antibacterial potential against a few strains of gram positive and gram negative bacteria. The low Minimum Inhibitory Concentration (MIC) values in comparison of Ciprafloxacin demonstrated high antibacterial potential of these compounds. The cytotoxicity of these compounds was elaborated through hemolytic activity potential. The spectral data of IR, EI-MS, ^{1}H-NMR and ^{13}C-NMR well corroborated the synthesized compounds.