

Abstract

This thesis describes the synthesis, characterization, antibacterial, antifungal, activities of a range of novel N-alkylated derivatives of sulfonamides. The targeted compounds were prepared by the reaction of Benzyl Amine with 4-chloro benzenesulphonylchloride and 4-fluro benzenesulphonylchloride. Their derivatization reactions were also employed that provided excellent yield.

The final products were extensively screened to investigate their antibacterial and antifungal potentials. All the derivatives were found to be active against *B. subtilis* and *E.coli*. Although, these sulfonamides did not show any significant bioactivity against fungal strains such as *aspergillus niger* and *penicillium notatum*.

The synthesized compounds were characterized using anti oxidant activity anti microbial activity and single crystal X-ray diffraction technique.