

## **Abstract**

To synthesize and characterize novel N-benzyl-N-4-chloro benzene sulfonamide, N-benzyl-4-chlorobenzenesulfonamide, N-benzyl-4-chloro ethylbenzenesulfonamide, N-benzyl-4-chloro-N-(propan-2-yl) benzenesulfonamide, N-benzyl-N-butyl-4-chlorobenzenesulfonamide, N-benzyl-4-chloro-N-pentylbenzenesulfonamide, N-benzyl-N-(2-bromoethyl)-4-chloro benzenesulfonamide, N-benzyl-4-chloro-N-(2-phenylethyl) benzene sulfonamide and their screening against pathogenic bacteria and fungi.

N-benzyl-N-4-chloro benzenesulfonamide ( $F_1G_1U$ ) and a series of N-substituted alkyl derivatives ( $F_2G_2U$ - $F_8G_8U$ ) were synthesized by reacting 4-chloro benzenesulfonyl chloride and benzyl amine then using alkyl halides for derivitization. The newly synthesized compounds were confirmed by infrared and proton nuclear magnetic resonance spectral data. They were also screened for in vitro antibacterial and antifungal activities. Chloramphenicol and miconazole were used as reference standards for antibacterial and antifungal activities respectively

Compound  $F_7G_7U$  with 2-bromo ethyl group and compound  $F_8G_8U$  with 2-ethyl phenyl group exhibited good antimicrobial activity. We report the successful synthesis, spectral characterization, as well as in vitro antimicrobial evaluation of above mentioned compounds. This study shows the emergence of new antimicrobial compounds.