ABSTRACT:

Sulfonamides stand for a large group of antibiotics and in the undertaken research parent sulfonamide was synthesized using 2-ethylaniline and 4-acetamidobenzenesulfonyl chloride. N-(2-ethylphenyl)-4-acetamido benzene sulfonamide thus produced was used to synthesize series of substituted sulfonamides in basic aqueous medium and pH was maintained from 8-9 during the reaction. DMF i.e. N-dimethyl formamide and LiH i.e. lithium hydride were employed as solvent and base respectively. Reactants were stirred overnight, basic pH was maintained in the range of 8-9, and single spot TLC was performed. Work up was done to get the desired end products. Spectroscopic techniques like IR, ^{1}H- NMR and EI-MS were used to establish the structures of the synthesized compounds and antimicrobial activities were checked against both gram positive and gram negative bacteria. The results of antibacterial activity against Gram-bacteria using ciprofloxacin as reference standard showed that all the compounds were strong to moderately active, while some compounds showed no activity against certain bacterial strains. The highest potency of compounds **SOBB** and **SOPB** was against *Salmonella typhi* and *Bacillus subtilis* respectively. The compounds will have decreasing spectrum of activity as **SOBB > SOPB > SOP > SOPPB > SO > SOPEI.**