Abstract

The presently study effort aimed to synthesize and spectral depiction of analogy of sulfonamides having substituted benzene sulfonyl chloride. Recently, synthesized derivatives of sulfonamide containing compounds have better and strong pharmacological as well as biological activities than the older ones. The synthesis was started by caring out reaction between 4-methylbenzene sulfonyl chloride **(1)** and 1,3-benzodioxol-5-ylmethanamine **(2)** in the presence of 10% aqueous Na_2CO_3 to obtained the product of compound **(3)**. Furthermore, the parent compound (3) react with different derivatives named as (5a-b) – (5a-d) in the presence of KOH as well as other reagents like alkyl or an aryl halides, LiH and DMF as activator. The synthesis of mixture was done according to the scheme here. By utilizing the n-hexane as well asethyl acetate, TLC was performing to make sure the cleanliness of the compounds synthesized. The characterization of the compounds is done through the different spectral techniques including the ^{1}H-NMR, ^{13}C-NMR as well as EI-MS. The NMR spectra obtained by utilizing the $CDCl_3$ as a solvent in the spectrophotometer operating at 400MHz. To record the chemical shift values and the reference standard used was TMS. These compounds were assayed for their antibacterial performance by way of screening against Gram positive and Gram negative bacteria. The melting point of our synthesized compound was determined by the Griffin-George melting point apparatus.

Keywords: sulfonamides, antibacterial activity, mechanism of action, synthesis and its applications.