ABSTRACT

The synthesis of *N*-(2,3-dimethylphenyl)benzenesulfonamide **(3)** was conceded by reacting 2,3-dimethylaniline **(1)** and benzenesulfonyl chloride **(2)** in aqueous medium in the presence of Na_2CO_3 solution. The compound **3** was reacted with a range of alkyl/aralkyl halides **(4a-j)** to give up the new compounds **(5a-j)** in a weak basic aprotic polar organic media. The synthesized compounds were characterized by FTIR spectroscopy; ^{1}H-NMR spectroscopy and Electron Ionized Mass Spectrometry (EIMS). Biological evaluation of compounds was carried out by bacterial strains; α-glucosidase enzyme; Acetyl cholinesterase and Butyryl cholinesterase enzymes. The newly synthesized *N*-substituted sulfonamides were executed in Human blood to review the charge of hemolysis in firm cases of forensic toxicology.