Abstract

Sulfonamides belong to an important class of drugs that have distinctive pharmacological activities; these are act as antibacterials, antimaliral agents, antitumor agents, and carbonic anhydrase inhibitors. Sulfonylurea is a class of antidiabetic drugs that is used in the treatment of diabetes mellitus type II. In the present study, a series of different *N*-alkyl substituted sulfonamides were synthesized. The reaction between benzenesulfonylchloride and 2-Phenylethylamine have yielded *N*-(2-Phenylethyl)benzenesulfonamide, which on treatment with alkyl halides (methyl, ethyl, isopropyl, butyl, pentyl, allyl, benzoyl, acetyl and 4-ethylchloroacetoacetate) and sodium hydride gave *N*-alkyl substituted compounds. These compounds were characterized by ^{1}H-NMR, IR and EI-MS analysis. These synthesized compounds were screened against different enzymes including acetyl cholinestearase (AChE), butyryl cholinesterase (BChE) and lipoxygenase (LOX) to analyze their biological activities. These derivatives of sulfonamide showed good inhibition against butyryl cholinesterase (BChE).