

ABSTRACT

The current research work was started by the reaction of 1,4-benzodioxane-6-amine (1) with 4-nitrobenzenesulfonylchloride (2) in the presence of 10 % Na₂CO₃ under dynamic pH control to yield *N*-(2,3-Dihydrobenzo[1,4]dioxin-6-yl)-4-nitrobenzenesulfonamide (3). This compound was further treated with different alkyl/aralkyl halides (4a-j) in polar aprotic solvent using lithium hydride which acts as a base to achieve *N*-alkyl/aralkyl-*N*-(2,3-Dihydrobenzo[1,4]dioxin-6-yl)-4-nitrobenzenesulfonamides (5a-j). The structures of these synthesized derivatives were elucidated by ¹H-NMR and GC-MS spectra. Also, the synthesized compounds were evaluated for anti-enzymatic potential. Compounds 5d and 5i displayed moderate inhibitory potential against α-glucosidase and urease enzyme respectively, while 5c showed poor activity against trypsin enzyme.