ABSTRACT

A series of *S*-substituted derivatives of 5-(3-nitrophenyl)-1,3,4-oxadiazole-2-thiol (**6a-g**) were synthesized in various steps. Organic acid 3-nitrobenzoic acid (**1**) was successfully converted into ester and consequently into its hydrazide in the presence of hydrazine hydrated and methanol as a solvent. Further, 3-nitrobenzoic acid hydrazide (**3**) yielded 5-(3-nitrophenyl)-1,3,4-oxadiazole-2-thiol, on treatment with carbon disulfide in the presence of base (KOH) and ethanol. Finally the target compounds (**6a-g**) were obtained by stirring 5-(3-nitrophenyl)-1,3,4-oxadiazole-2-thiol with different electrophiles (**5a-g**) in the presence of sodium hydride (NaH) and dimethyl formamide (DMF). All these derivatives along with their parent compounds were characterized by IR, EI-MS and ^{1}H-NMR. All the synthesized compounds were assayed for their enzyme inhibition activity.