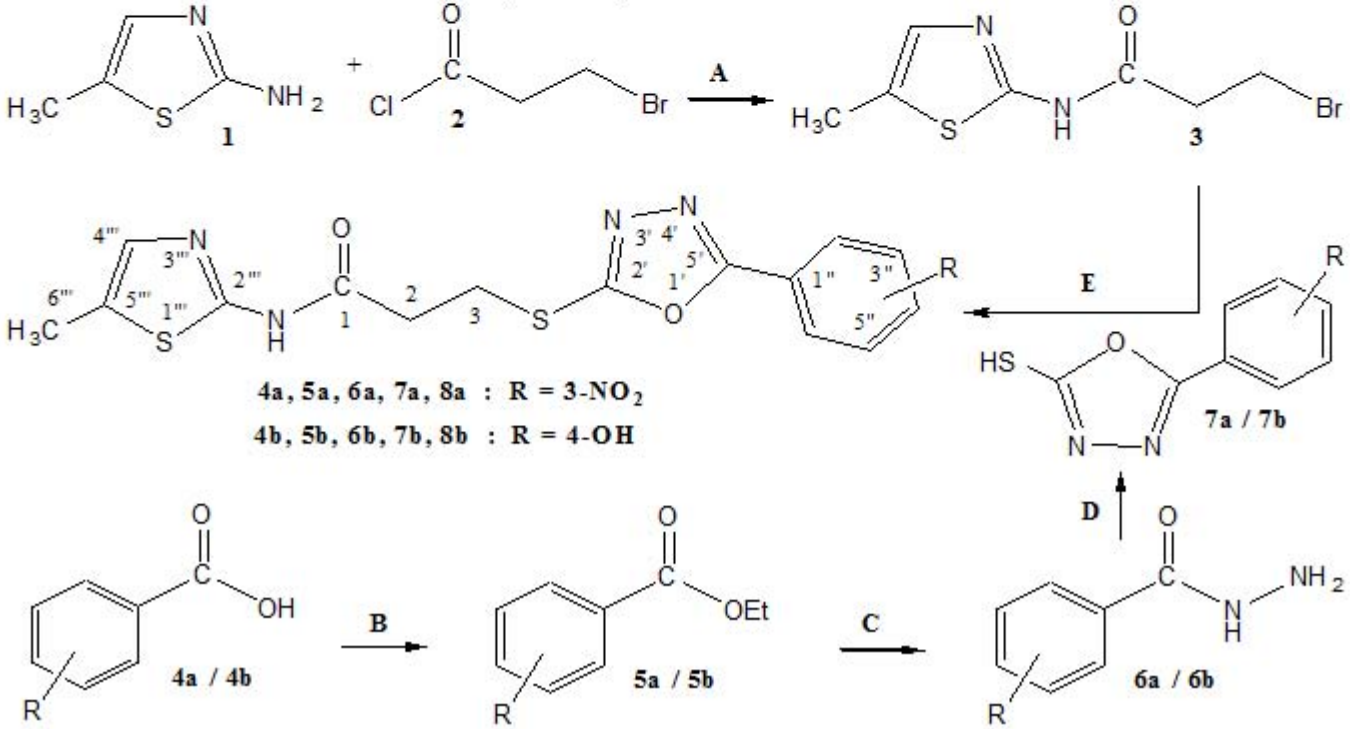
Abstract

The purpose of this research work was to prepare compounds 3-[(5-Aryl-1,3,4-oxadiazol-2-yl)sulfanyl]-*N*-(5-methyl-1,3-thiazol-2-yl)propanamides (**8a** and **8b).** The synthesis of compounds (**8a** and **8b)** was done in multiple steps. In the first step 3-Bromo-*N*-(5-methyl-1,3-thiazol-2-yl)propanamide **(3)** was prepared by the reaction of 2-Amino-5-methylthiazole and 3-bromopropanoyl chloride. In next step compounds **4a**/**4b** were refluxed with EtOH to prepare phenyl acetate. In the next step these compounds were converted to **6a**/**6b** by refluxing with hydrazine for 5-6 hours. The compounds **6a**/**6b** were then converted into **7a**/**7b** by refluxing with CS_2 for 8-9 hours. The last step was coupling of 3-Bromo-*N*-(5-methyl-1,3-thiazol-2-yl)propanamide **(3)** with prepared **7a**/**7b** to get the desired compounds **8a** and **8b** by stirring in the presence of LiH and DMF for 14-16 hours. Structures of these compounds were confirmed by ^{1}H-NMR and ^{13}C-NMR The alkaline phosphatase inhibition and hemolytic activity of freshly prepared compounds were also determined by using standards KH_2SO_4 and Triton X respectively.



Scheme-1: Protocol for the synthesis of 3-[(5-Aryl-1,3,4-oxadiazol-2-yl)sulfanyl]-*N*-(5-methyl-1,3-thiazol-2-yl)propanamides. Reagents & Conditions: (A) aq. 5% Na_2CO_3 soln./vigorous shaking for 1 hour. (B) EtOH/H_2SO_4/refluxing for 3-4 hours. (C) MeOH/$N_2H_4 \cdot H_2O$/refluxing for 5-6 hours. (D) EtOH/CS_2/KOH/refluxing for 8-9 hours. (E) DMF/LiH/stirring for 14-16 hours.