ABSTRACT

Heterocyclic compounds having nitrogen were very important class of interest. This group of heterocyclic compounds present numerous applications in pharmaceutical and biological activities. By using this application of heterocyclic compounds 5-{1-[(4-methoxyphenyl)sulfonyl]-4-piperidinyl}-4-methyl-4H-1,2,4-triazole-3-thiol was manufactured. This reaction is completed in four steps. During first step ethyl piperidine-4-carboxylate reacted with 4-methoxybenzene-1-sulfonyl chloride to form ethyl 1-((4-methoxyphenyl)sulfonyl)piperidine-4-carboxylate. Which is further reacted with hydrazine during second step to form 1-((4-methoxyphenyl)sulfonyl)piperidine-4-carbohydrazide. During third step, 2-({1-[(4-methoxyphenyl)sulfonyl]-4-piperidinyl}carbonyl)-N-methyl-1-hydrazinecarbothioamide was manufactured by reacting methyl isothiocyanate with 1-((4-methoxyphenyl)sulfonyl)piperidine-4-carbohydrazide. In the last step, 10% KOH was used for the cyclization of 2-({1-[(4-methoxyphenyl)sulfonyl]-4-piperidinyl}carbonyl)-N-methyl-1-hydrazinecarbothioamide and 5-{1-[(4-methoxyphenyl)sulfonyl]-4-piperidinyl}-4-methyl-4H-1,2,4-triazole-3-thiol was formed. Using aralkyl substituents different derivatives were formed by reacting with dimethyl formamide and lithium hydride. This reaction yielded 80-90% product. All the compounds checked by ^{13}C-NMR, ^{1}H-NMR and IR spectroscopy. All the compounds have moderate ability towards acetyl cholinesterase, BSA and lipoxygenase.