Abstract:

Azinane ring is known for the pharmacological activities associated with it. In this study, some other pharmacologically active compounds were introduced into the ringed structure of azinane for enhancing the properties associated with it. Sulfonamides and 1,3,4-oxadiazoles were introduced into the ringed structure of azinane by treating them with different solutions and providing different conditions like reflux and stirring for active reaction to occur. The first step was to prepare a carboxylate for which methoxybenzene sulfonyl chloride was reacted to piperidine moiety. The next step was to use this carboxylate for preparing carbohydrate by allowing it to react with monohydrated hydrazine in the presence of methanol. This step needs reflux condition for completion. Third step was to prepare 1.3.4-oxadiazole for which the ring formation is necessary. This needs CS_2 and methanol that will allow the release of water molecule from the hydrazine component and ring formation. Finally in the last step, formation of derivatives took place in the presence of DMF and a strong base. All the results and purities of the product were initially checked by performing thin layer chromatography (TLC) and later by spectral studies using IR, ^{1}H-NMR, and ^{13}C-NMR. The yield of the prepared derivative (**5e**) is 79% which physically appeared as a white amorphous solid. The molecular mass was calculated through a mass spectrometer. When the biological activity of **5e** was checked, it was clearly determined that this is good against α-Glucosidase inhibition against the standard drug Acrobase.