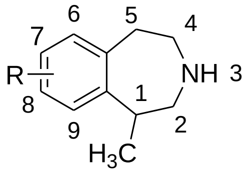
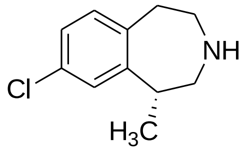
3. AIMS AND OBJECTIVES

3-Benzazepine (**XXVIII**) has been considered as a live scaffold for anti-obesity activity[77] as it is a part of marketed drug lorcaserin (**V**). The proposed work is a genuine effort in the direction to give new dimensions to the novel CNS active agents containing 3-benzazepine scaffolds.



(XXVIII)



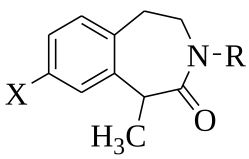
(V)

3-Benzapine scaffold (**XXVIII**) is a prerequisite for any potential drug for the treatment of obesity, Parkinson's,[85] Alzheimer's, blood pressure, central diabetes insipidus, amyotrophic lateral sclerosis[86] and alcohol dependency.

The reported SAR for 5-HT_{2C} selective agonist activity containing scaffold (**XXVIII**) is as follows:

- Substitution with Cl, Br and CF_3 at 8^{th} position and Cl at both 7^{th} and/or 8^{th} position leads to good 5-HT_{2C} potency.
- Substitution of methoxy and fluorine at only 7^{th} and 8^{th} position results into reduced potency.
- 8-Chloro-3-benzapine having methyl group at 1^{st} position shows selectivity towards the 5-HT_{2C} whereas bulkly group reduces the activity.

It is clear from the SAR that 3^{rd} position of 3-benzazapine has not been explored yet. Keeping this point in mind it was planned to design and synthesize a series of compounds having substituents at 3^{rd} position of 3-benazepine **(XXVIII)** and 8-chloro-3-benazepine **(V)** with alkyl, aryl and also polar groups like amide, acid, ester, benzoyl etc. It was also part of the plan to introduce a keto group at 2^{nd} position and to biologically evaluate all such resulting compounds **(Type A).**



X=H, Cl

Type A