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The Research of the Key-Structure Fragments of Arylpiperazine and Arylsulfonamide Derivatives Influences on Selectivity Towards 5-HT_7 *vs* 5-HT_{1A} Receptors.

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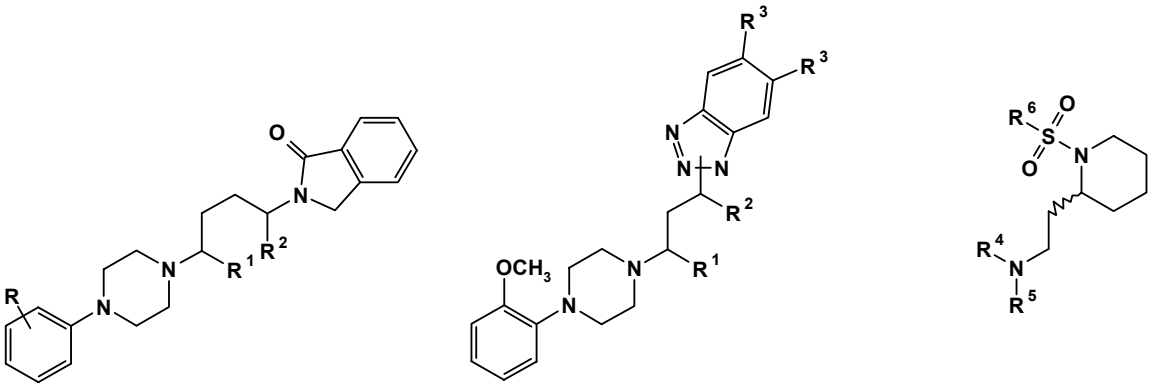
The discovery of 5-HT_7 receptor ligands with mixed 5-HT_{1A}/5-HT_7 receptor profile, especially in the group of LCAPs (*Long Chain ArylPiperazines*), raised a problem of selectivity. Recognition of structural factors influencing affinity towards both receptors can be helpful in process of designing new ligands with improved selectivity profile and – due to their potential application as a valuable pharmacological tools – broaden knowledge about these important drug targets.
One of the main research topics realized in the Department of Medicinal Chemistry, is the discovery of ligands of different types of serotoninergic receptors, among others, within the group of LCAP derivatives. The structure – 5-HT_{1A} receptor activity relationships of this type of derivatives is well–known and described in degree which permits the designing of compounds with desired activity, however, suitable requirements regarding the 5-HT_7 receptor are, until now, considerably less accessible.
In this context, the presented research is concentrated on the synthesis of the new arylpiperazine and arylsulfonamide derivatives and investigations of the structural elements of 5-HT_7 receptor ligands determining the selectivity over 5-HT_{1A} receptors.



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