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## Novel Mannich-bases as Potential Anticonvulsants: Syntheses, Characterization and Biological Evaluation

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## Abstract

**Background:** Mannich bases are known to be an important pharmacophore or bioactive leads in the synthesis of various potential agents that have a variety of therapeutic activities like anticancer, antipsychotic, anticonvulsant, antimalarial, anti-inflammatory, antibacterial and so forth. Thus, in the present research, conjugation of moieties like 1,5-benzoxazepines and 1,5-benzothiazepines with secondary amines like piperazine, methyl piperazine and morpholine was carried out in a Mannich base with an anticipation of good anticonvulsant activity.

**Objective:** Synthesis, characterization, structure activity relationship and anticonvulsant activity of the Mannich bases of 1,5-benzothiazepine and 1,5-benzoxazepine derivatives.

**Methods:** All the derivatives were synthesized in three steps. In the first step, substituted 4-hydroxy chalconylbenzene was synthesized by the reaction of 4-hydroxyacetophenone and substituted benzaldehyde, in the presence of potassium hydroxide. In the second step, 2,3-dihydro-1,5-benzothiazepines and 2,3-dihydro-1,5-benzoxazepines were synthesized by the reaction of 2-thio/aminophenol with chalcones in the presence of glacial acetic acid. In the third step, these compounds finally underwent Mannich reaction with different secondary amines to the respective title