ABSTRACTS FROM THE
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tion for the development of novel aminoglycoside-based small molecules that selectively target mammalian cells; this progress may offer promise for the treatment of many genetic diseases.

Figure 1

### Table (P305): Anticonvulsant activities of the synthesized compounds

<table>
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<tr>
<th>Compound number</th>
<th>MES 1/2 hour mg/kg</th>
<th>MES 4 hour mg/kg</th>
<th>ScMet 1/2 hour mg/kg</th>
<th>ScMet 4 hour mg/kg</th>
<th>Toxicity 1/2 hour mg/kg</th>
<th>Toxicity 4 hour mg/kg</th>
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**Other/Anticonvulsants**

P305

**Evaluation of Anticonvulsant Activities of Some Bis Mannich Bases and Corresponding Piperidinois Synthesized Using Ethylamine Hydrochloride and Different Arylmethylketones**

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Bis-Mannich bases, bis(3-aryl-3-oxo-propyl)ethylamine hydrochlorides 1-4 (I), and their corresponding structural and non-classical isomers, 4-aryl-3-arylcarbonyl-l-ethyl-4-piperidinol hydrochlorides 5-8 (II), were synthesized [1].

Chemical structures of the compounds were confirmed by 1H-NMR, 13C-NMR, UV, IR and elemental analyses. Anticonvulsant activities of the compounds were evaluated by MES and scMet tests in the dose range of 30-300 mg/kg according to the procedure in literature [2,3]. Alterations in biological activity depending
Non modifications in chemical structure were also followed. Anticonvulsant activities of the compounds were shown as below.

\[
\text{Ar: C}_6\text{H}_5 - \text{(Compounds 1,5)}, \text{p-CH}_3\text{-C}_6\text{H}_4 - \text{(Compounds 2,6)}, \text{p-CI-C}_6\text{H}_4 - \text{(Compounds 3,7)}, \text{2-C}_4\text{H}_3\text{S- (Compounds 4,8).}
\]

Synthesized compounds of Bis Mannich bases and corresponding piperidinols.

Compounds 1-4, 6, and 8 were toxic and caused death of the animals 20 minutes after the injection. Compounds 2, 3, and 6 were also neurotoxic at 100 mg/kg dose level. While only the compound 7 had activity in scMet test at 300 mg/kg in 4 hours, all compounds showed activity in MES test at different dose levels and time periods. In conclusion, compounds 5 and 7, which were not toxic and did not show neurotoxicity, seemed to be candidate compounds to develop new anticonvulsant drugs.


P306

Studies on the new derivatives of nafimidone and their anticonvulsant activities

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Although a large number of antiepileptic drugs have been marketed, medication toxicity and uncontrolled seizures are still the main problems of antiepileptic drug treatment. Nafimidone [1-(2-naphthyl)-2-(imidazol-1-yl)ethanone] is one of the two representatives of (arylalkyl)imidazole anticonvulsants [1]. Nafimidone alcohol is a major and active metabolite of nafimidone. In this project we prepared two new nafimidone derivatives with a hydroxyl group on the naphthalene ring to have a better Protective index. The compounds (I-II) have been synthesized starting from 1-hydroxy-2-acetynaphthalene as given below:

Their anticonvulsant activities were determined by maximal electroshock (MES) and subcutaneous metrazole (ScMet) tests in mice in National Institute of Neurological Disorders and Stroke (NINDS) Laboratories according to Anticonvulsant Screening Programme (ASP) of National Institute of Health (NIH).

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P307

Synthesis and anticonvulsant activity of 5-chloro-2(3H)-benzoxazolinone-3-acetyl-2-(o/p-substituted benzo)hydrazone derivatives

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Epilepsy afflicts 1-2% of the population and often goes untreated; nearly 70% of those with a form of epilepsy fail to receive proper treatment [1]. Therefore, there is a great demand for the design of novel effective anticonvulsant to treat of epilepsy in its numerous forms. Also antiepileptic drugs may cause burdening adverse effects such as drowsiness, ataxia, gastrointestinal disturbances, hepatotoxicity, gingival hyperplasia, hirsutism and megaloblastic anemia[2].

A number of hydrazone derivatives are known to be responsible for anticonvulsant effect[3-5]. Therefore, it was thought that hydrazones of 5-chloro-2(3H)-benzoxazolinone would also exhibit significant anticonvulsant activity. It is reported in the literature that 2(3H)-benzoxazolone can exhibit diverse activities. Particularly analgesic and anti-inflammatory activities have been scrutinized intensively [6-8]. Also anticonvulsant activity of 2(3H)-benzoxazolone derivatives have been reported [9-11].

These data encouraged us to synthesize new 5 chloro-2(3H)-benzoxazolinone-3-acetyl-2-(o/p-substituted benzal)hydrazones 4 and test their anticonvulsant activity. In this study, fourteen new hydrazones or 5-