Synthesis and neurotropic activity of new amino derivatives of pyrano[3,4-c]pyridines on the basis of rearrangement of pyridine ring.

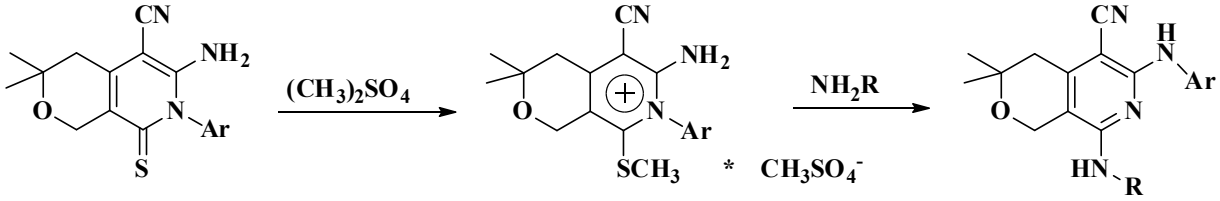
E. G. Paronikyan, Sh. Sh. Dashyan, R. G. Paronikyan

Mndzhoyan Institute of Fine Organic Chemistry, Scientific Technological Center of Organic and Pharmaceutical Chemistry, National Academy of Sciences of Armenia, pr. Azatutyan 26, Yerevan, 0014 Armenia

E-mail: ervand.paronikyan@mail.ru

The derivatives of condensed pyridines are of interest as biologically active substances and widely used in medicine. Thus, alkaloids of the pyrano[3,4-c]pyridine series extracted from plants, such as gentianine and gentianadine exert a universal effect: hypotensive, anticonvulsant, antipsychotic, antiinflammatory, and hypothermic [1-4]. In the present work we carried out the synthesis of new pyrano[3,4-c]pyridine derivatives and studied their neurotropic properties.

6-Aminopyrano[3,4-c]pyridines were used as the starting compounds in the synthesis of diamino derivatives of pyrano[3,4-c]pyridines. To increase the electrophilicity of the C8 atom of the pyridine ring, we obtained pyridinium salts in the reaction of thiones with dimethyl sulfate. The interaction of pyridinium salts with primary amines is accompanied by rearrangement that affords diamino derivatives.



The studying neurotropic properties of diamino derivatives of pyrano[3,4-c]pyridines it was found that some of them possess anticorazole and central myorelaxant effects that were not previously described. However, in contrast to the tranquilizer diazepam that possesses anxiolytic and behavior activating effects in the open field test, the sedative effect was observed in some compounds studied.

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