

Synthetic transformations on the base of dipyrrolonaphtho[1,4]diazepine

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Diazepine ring containing compounds are psychoactive substances that act on the central nervous system. Many preparations that are characterized by hypnotic, anti-anxiety, sedative action, relaxation and anti-crunch effect contains benzodiazepine ring.

A new bis-analogue of the Fischer base containing dipyrrolonaphthodiazepine cycle have been synthesized by us [1]. This work presents the transformation reactions of obtained dimethyldipyrrolonaphtho[1,4]diazepine, which can result in the synthesis of new compounds with potential biological activity.

The nitrosation reaction of dimethyldipyrrolonaphtho[1,4]diazepine by sodium nitrite in the area of acetic acid is implemented. The nitrosation product was transferred to the appropriate saline due to the addition of chlorine acid. It was separated as dipyrrolonaphtho[1,4]diazepine dioxime dipperchlorate. After the work up with alkaline its alcohol-water solution is produced 2,9-di(nitrozomethylidene)dipyrrolonaphtho[1,4]diazepine.

By condensation of dimethyldipyrrolonaphtho[1,4]diazepine with 5-nitrosalicylic aldehyde new bis-spiropyrene - bis(6-nitro-2H-chromene-2-spiro)-1,5,6,9-tetrahydro-1,1,9,9-tetramethyl-4H-dipyrrolo[1,2,3-e,f:3,2,1-n,o]naphtho[2,3-b][1,4]diazepine is obtained.

Spectral analysis (NMR, Mas-spectra) has been conducted to verify the structures of synthesized new substances.

It is also presented NMR and the mass-spectrum data previously synthesized bis-(6-nitro-8-chloro-2H-chromene-2-spiro)-1,5,6,9-tetrahydro-1,1,9,9-tetramethyl-4H-dipyrrolo[1,2,3-e,f:3,2,1-n,o]naphtho[2,3-b][1,4]diazepine. The survey results are shown in table form.

References:

1. M. Trapaidze, N. Esakia, N. Nikoleishvili, S. Kvinikadze and Sh. Samsoniya. Antiviral activity of benzopyrroloindole and indoloindole derivatives, synthesis of new basis compounds. International Mini-Symposium "BIOACTIVE COMPOUNDS, ANTIMICROBIAL AND BIOMEDICAL PRODUCTS & MATERIALS FOR PROTECTION OF HUMAN AND ENVIRONMENT" May 4-5, 2018, Tbilisi, Georgia. BOOK OF ABSTRACTS. 75