

POSTER PRESENTATIONS

SYNTHESIS OF NAPHTHYL- AND ALKALOID-CONTAINING THIOUREAS

O.A. Nurkenov, S.D. Fazylov, A.Zh. Mendibayeva

*Institute of organic synthesis and coal chemistry of the Republic of Kazakhstan,
Kazakhstan, Karaganda, Alikhanov str. 1*

Previously, we investigated the reactions of various isothiocyanates with cytosine, anabasine and ephedrine alkaloids [1]. In continuation of our research on the study of thiourea derivatives of alkaloids, we synthesized N-naphthylthiocarbamide derivatives based on the alkaloids piperidine (2), anabasine (3), cytosine (4), l-ephedrine (5), d-pseudoephedrine (6) and salsolin (7), which were obtained by the interaction of alkaloids with naphthylisothiocyanate (1) in an ethanol (Figure 1). The composition and structure of the synthesized naphthyl-containing thioureas are confirmed by data from elemental analysis, IR, NMR ^1H , ^{13}C spectroscopy, and X-ray structural analysis.

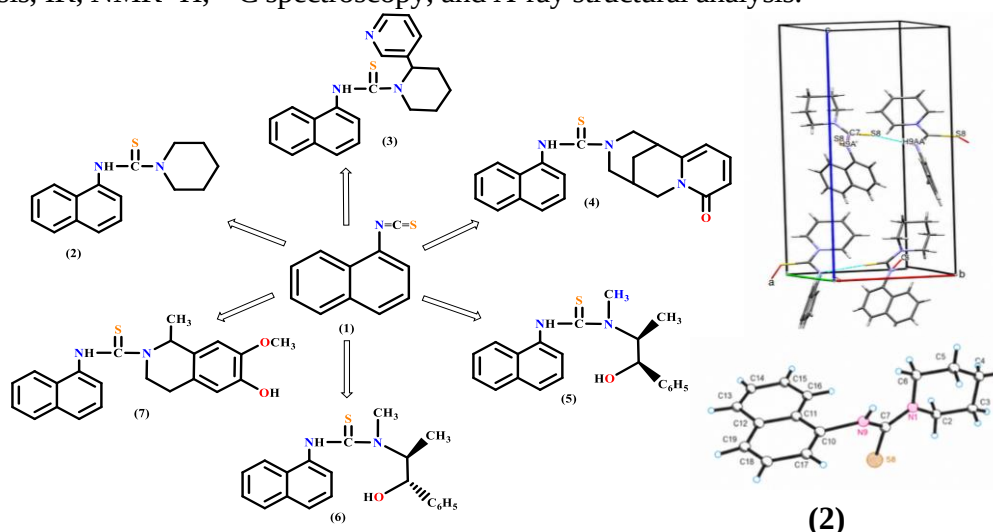


Figure 1 - New N-naphthylthiocarbamide derivatives of alkaloids

Various studies of the bioactivity of the obtained compounds have been conducted, including an assessment of their hemorheological and antiviral properties. As a result of screening, it was found that compound (3) exhibits a pronounced ability to reduce blood viscosity and high virus-inhibiting activity (the reference standard is remantadine and tamiflu), which indicates the prospects for further study of it as a potential active agent.

Acknowledgements. The research was carried out with the financial support of the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan (BR24992921).

References:

1. Nurkenov O.A., Satpayeva Zh.B., Fazylov S.D., Seilkhanov T.M., Turdybekov K.M., Turdybekov D.M., Akhmetova S.B., Makhmutova A.S., Gazaliyev A.M. Synthesis of thiourea derivatives of the alkaloids anabasine, cytosine, and d-pseudoephedrine. Crystal structure of n-ethyl-n-anabasinecarbothioamide // *Chemistry of Natural Compounds*, - 2016. - 52(2). - 243-245.