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DEVELOPMENT OF METHODS FOR IDENTIFICATION OF
A NEW 2-PHENYLIMINOTHIAZOLE DERIVATIVE

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Introduction. Heterocyclic compounds are very widely distributed in nature and are essential to life in various ways. The six and five membered heterocyclic compounds containing sulphur and nitrogen have maximum attention, as they have many biological and industrial applications. During recent years there was intense investigation of different classes of thiazole compounds, many of which were found to be pharmacologically active like analgesic, anti-inflammatory, antifungal, antibacterial, diuretic, antiviral, anti-tubercular activities.

Nowadays, scientists synthesize a large number of new substances that are derivatives of 1,3-thiazole. Research in this direction is also carried out by scientist of the National University of Pharmacy. Some of the synthesized compounds in *in vivo* tests demonstrate the potential properties of an active drug substance. It should be noted that the standardization of active substances is one of the most important stages of the quality of a new drug under development. A significant component of the standardization process is the development of quality control methods, in particular, methods for identifying a new biologically active substance.

The **purpose** of our work at the current stage was to develop a method for identifying the substance of a new 2-phenyliminothiazole derivative with a fragment of 5H-[1,2,4]triazolo[4,3-a]azepine.

The object of the study was the substance of hydrobromide 3-ethyl-4-phenyl-N-[4-(6,7,8,9-tetrahydro-5H-[1,2,4]triazolo[4,3-a]azepin-3-yl)phenyl]-1,3-thiazol-2(3H)-imine (Fig.), which showed high analgesic activity in previous pharmacological studies.

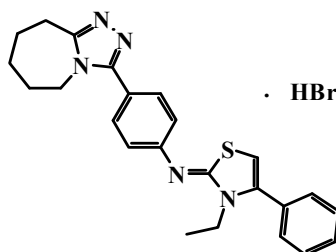


Fig.

Methodology. To perform the experiment, a chromatographically pure sample of the compound was used (impurity content 0.5%). The identification of compounds was performed using physico-chemical and chemical methods.

The main results. The investigated substance should be identified by ^1H NMR-spectroscopy; UV-spectrophotometry according to the maximum absorption and the value of the specific absorption index; reactions to bromides; with general alkaloid reagents.

Conclusions. For identification of the hydrobromide 3-ethyl-4-phenyl-N-[4-(6,7,8,9-tetrahydro-5H-[1,2,4]triazolo[4,3-a]azepin-3-yl)phenyl]-1,3-thiazol-2(3H)-imine the spectral (UV, ^1H NMR) and chemical methods we recommended.