

**SYNTHESIS, PHYSICO-CHEMICAL PROPERTIES AND  
PHARMACOLOGICAL ACTIVITY OF BIOLOGICALLY ACTIVE  
SUBSTANCES IN A RANGE OF 7-METHYL-2-HYDROXY-4-OXO-4H-  
PYRIDO [1,2  $\alpha$ ] PYRIMIDINE-3-CARBOXYLIC ACID DERIVATIVES**

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The pharmaceutical discovery in the drug-discovery process, which usually begins by focusing on specific diseases and patient needs. Discovery scientists search for biological targets within the body that play a role in a given disease. Targets can be either part of the body (such as a protein, receptor, or gene) or foreign (such as a virus or bacteria). That is why the scientists of the National University of Pharmacy are in the constant search of the new substances, which can have potential biological activity.

The aim of our research is to elaborate the method of synthesis in the range of 2-hydroxy-4-oxo-4H-pyrido [1,2  $\alpha$ ] pyrimidine-3-carboxylic acid derivatives; to prove the chemical structure of the synthesized compounds and to study their physical-chemical properties; to carry out research in the range of 7-methyl-2-hydroxy-4-oxo-4H-pyrido [1,2  $\alpha$ ] pyrimidine-3-carboxylic acid derivatives on potential biological activity.

For our researches were taken 7-methyl-substituted derivatives of 2-hydroxy-4-oxo-4H-pyrido[1,2  $\alpha$ ] pyrimidine-3-carboxylic acid. As substituents in the amide function we have planned radicals, which allow getting the aimed products in this reaction without especial synthetic complications – alkyl, aryl and heterylalkyl. Melting points for the synthesized compounds were determined by capillary method on ITM (M). Spectra NMR  $^1\text{H}$  has registered on the Varian Mercury-VX-200 (200 MHz).

The forecast of the expected pharmacological activity has shown that almost all the compounds are potential antispasmodics, and have membrane-stabilizing and inhibitors of grows factor activity types.