

**ОПТИМІЗАЦІЯ ТЕХНОЛОГІЧНИХ ПРОЦЕСІВ ПОШУКУ
І СТВОРЕННЯ ЛІКАРСЬКИХ ЗАСОБІВ
(СИНТЕЗ БІОЛОГІЧНО АКТИВНИХ СПОЛУК)**

**SYNTHESIS AND BIOLOGICAL STUDY OF SOME DERIVATIVES
OF 3,7-DIHYDRO-1H-PURINE-2,6-DIONE**

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Ring systems in molecules form a keystone of organic chemistry and consequently also the drug discovery effort as a whole. Ring structure give molecules their basic form, determine whether molecules are rigid or flexible, and keep substituents in their appropriate sites.

In numerous biologically active structures, rings are directly involved in interactions with cell receptors, either through heteroatoms forming hydrogen bonds with suitable protein residues or through hydrophobic interactions.

The chemistry of the xanthine derivatives, 1H-purine-2,6-dione has been a subject of permanent attention due to their significance in biology and medicine.

Thus, xanthine derivatives are possessing pharmaceutical implementation in a variety of substances acting on various phases of human metabolism. In addition to being used as diuretics, analgetics, and nootropics.

Very recently, we have finished syntheses of a large series of 7,8-dialkyl-, 7,8-dialkaryl- and 7-hetaryl-purine-2,6-dione derivatives, that also exerted significant diuretic effect.

As a logical extension of our previous studies we investigated nine compounds having purine-2,6-dione core with different pharmacophores. To evaluate diuretic activity of synthesized compounds we used white rats 130-190 g.

LD₅₀ of investigating compounds lies within 400–1200 mg/kg.

Obtained data gives us the possibility to suppose that synthesized compounds have high diuretic activity in comparison with hypothiazide.

Structures of synthesized compounds were confirmed by IR-, NMR-spectroscopy and mass-spectrometry.

**ДОСЛІДЖЕННЯ БІОЛОГІЧНОЇ АКТИВНОСТІ НОВИХ ПОХІДНИХ
4-АМІНО-5-(4-(ТРЕТ-БУТИЛ)ФЕНІЛ)-4Н-1,2,4-ТРИАЗОЛ-3-ТІОЛУ**

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У сучасному суспільстві захворювання, пов'язані з психічними відхиленнями, явище досить поширене. За даними ВООЗ у світі нараховується близько 300 мільйонів людей, які страждають психічними розладами. Дані