

**ACADEMY OF SCIENCES
OF THE REPUBLIC OF UZBEKISTAN**

**S.Yu. Yunusov Institute of the
Chemistry of Plant Substances**



Journal of Chemistry of Natural Compounds

Society of Chemists of Uzbekistan

**"ACTUAL PROBLEMS OF THE CHEMISTRY OF
NATURAL COMPOUNDS»**

SCIENTIFIC CONFERENCE OF YOUNG SCIENTISTS

Dedicated to the memory
of Academician Sabir Yunusovich Yunusov

March 17, 2022

TASHKENT

17 March

- 8.00–9.00 **Registration of the participants of the Conference**
(Acad. S.Yu. Yunusov Institute of the Chemistry of Plant Substances,
Tashkent, M. Ulugbek st., 77)
- 9.00–9.10 **OPENING CEREMONY**
**Welcome speech of director of the Institute of the Chemistry of
Plant Substances**
Prof. Sh. Sh. Sagdullaev
- 9.10–10:00 **MEMORIES OF THE LIFE AND SCIENTIFIC ACTIVITY
OF ACADEMICIAN S.YU. YUNUSOV**
Doc. S.Z. Nishanbaev

ORAL PRESENTATIONS

Chairmen: Prof. Batirov E.Kh.

Secretary: Turaeva S.M.

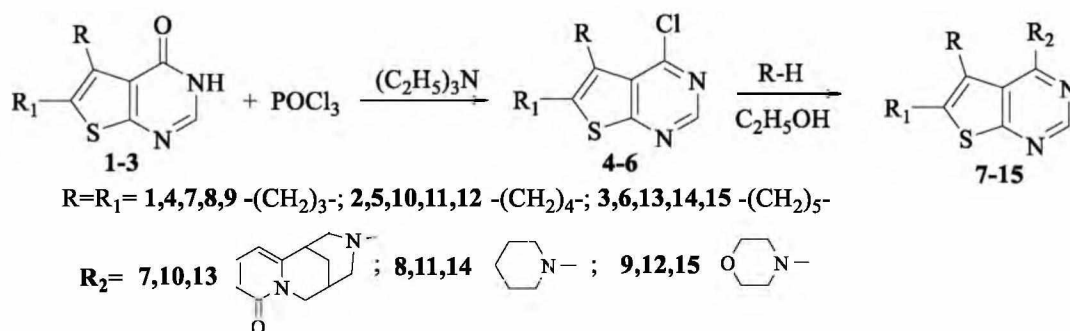
- 10.00–10.15 **B.S. Okhundedaev** Flavonoids of plants of the genus *Artemisia*.
Flavones and sesquiterpene lactone from *Artemisia juncea*.
- 10.15–10.30 **A.U. Ubaydullaev.** Electrophilic exchange reactions of the
quinoline alkaloid haplopyhilidine
- 10.30–10.45 **U.B. Khamidova.** 5-amino-1,3,4-thiadiazolthion derivatives as
potential anti-cancer agents
- 10.45–11.00 **N.K.Usmanova.** Chemical components of the medical plant
Melilotus officinalis
- 11.00–11.15 **L. Kozinskaya.** Mechanism of the formation of indolcrown ethers
by the bartoli-grignard reaction
- 11.15–11.30 **D.Z. Azizov.** Structure and biological activity of
arabimogalactans of *Ferula kuhistamica* and *Ferula tenuisecta*
- 11.30–11.45 **A.U.Berdiev.** Synthesis of 4-substituted-5,6-polymethylenethieno
[2,3- d]pyrimidines
- 12.00–12.15 **Z.F.Nuriddinov.** Study of Separation Conditions and Biological
Evaluation of Natural Compounds from *Echis carinatus* Snake
Venom
- 12.15–12.30 **Sh.Sh. Khusenova.** Determination of the quantity of the total
flavonoids in dry diabderm extract.
- 12.30-12.45 **Q.G. Khajibayev.** The study of the amount of organic elements in
the cyst of Artemia of the Aral Sea
- 12.45-13.00 **M.E. Ziyadullaev.** N-(4-oxo-3,4-dihydroquinazolin-6-yl) acetamide
synthesis and biological activity
- 13.00–14.00 **Break and POSTER PRESENTATIONS**

Synthesis of 4-substituted-5,6-polymethylenethieno[2,3-d]pyrimidines

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Institute of the Chemistry of Plant Substances.

The chemistry of thieno[2,3-d]pyrimidines is of great importance from both theoretical and practical points of view. Among them, substances with biologically active properties have been found and are widely used in medicine [1–2]. In particular, the determination of the structure of substances formed by nucleophilic and electrophilic reagents with 5,6-polymethylenethieno[2,3-d]pyrimidin-4-ones and their derivatives substituted by chlorine in the position 4, the targeted synthesis of promising substances, and creation of biologically active drugs is of particular importance. Within the framework of this study, were implemented an improved synthesis of 5,6-polymethylenethieno[2,3-d]pyrimidin-4-one (1-3) and 5,6-polymethylene-4-chlorothieno[2,3-d]pyrimidine (4-6). In the following experiments, nucleophilic substitution reactions of the obtained 4-chlorothienopyrimidines with some cyclic secondary amines were carried out. Cytisine, piperidine, and morpholines were used as secondary amines. As a result, new derivatives of 4-aminothieno[2,3-d]pyrimidine (7-15) were obtained.



The structures of the synthesized compounds were confirmed by IR and ^1H NMR spectroscopy. The studies carried out are important for determining the optimal conditions for the synthesis of thienopyrimidin-4-ones, their new derivatives, establishing their structure, determining the features of their reactivity, in targeted scientific and practical studies for the creation of biologically active substances with pharmacophore groups and fragments.

References:

1. Mohamed Abdel-Megid, Kamliya M.Elmahdy, Azza M. Elkazak, Magdy H.Seada and Osama F. Mohamed // *J. Pharm. Appl. Chem.*, 2016, № 3, P. 103-127
2. K. Naresh et al. // *World Journal of Pharmacy and Pharmaceutical Sciences*. 2014, Vol. 3, Issue 3, P. 1981-1988.