

## NEW BOOKS

### SEARCH FOR PHARMACOLOGICAL AND CHEMOTHERAPEUTIC AGENTS FROM SYNTHETIC PRODUCTS AND NATURAL SUBSTANCES. SCIENTIFIC TRANSACTIONS OF THE PERM STATE PHARMACEUTICAL INSTITUTE\*

Reviewed by M. E. Konshin

This collection is devoted to the search for biologically active substances among synthetic and natural compounds and to the study of their pharmacology. A considerable amount of space is devoted to heterocyclic compounds.

Data on the reactions of diazoalkanes with nitroalkenes and trinitroarenes, which lead to the formation of pyrazolines, pyrazoles, or cyclopropanes, are correlated in a review by A. L. Fridman, et al. The authors discuss the mechanisms of these reactions, the effect of the nature of the substituents in both the diazoalkane and the nitroalkene, and the effect of steric factors on the direction of the reaction.

The results of a study of the ionization constants of 1,1-diaryl-4-piperidinobutanols, a comparison of which with the ionization constants of 1,1-diaryl-2-piperidinoethanols made it possible to conclude that participation of intramolecular hydrogen bonds in the transmission of the effect of substituents on the basicity of the amino group to the diarylmethylol group decreases, are presented in a paper by V. S. Shklyayev and Z. G. Kalugina.

A paper by V. P. Chenokov and M. E. Konshin contains data on the synthesis of 2-arylaminonicotinic acids and their derivatives.

Three communications by Yu. V. Kozhevnikov (one of them co-authored by P. A. Petyunin) from the series "Research in the 4-quinazolone series" are presented in the collection. The synthesis of 2-( $\beta$ -N-aryl-carbamylethyl)-3-phenyl-4-quinazolones and arylidenehydrazides of 4-oxo-3-phenylquinazoline-2-carboxylic acid, and 2-( $\beta$ -phenylhydrazinomethyl)-3-aryl-4-quinazolones is described. Antispasmodic and somnifacient activity is observed in the case of the latter compounds.

The results of a study of the rate of absorption, penetration through the hemato-encephalic barrier, and distribution in the blood, brain, and liver of 3-(o-chlorophenyl)- and 3-(o-bromophenyl)-2-methyl-4-quinazolones and the effect of hydrocortisone on these processes are contained in papers by N. E. Kharchenko, V. M. Grishina, and S. A. Shelenkova.

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V. G. Kharchenko, S. N. Chalaya,  
and T. M. Konovalova

THIOPYRANS AND PYRYLIUM SALTS. HANDBOOK  
FOR STUDENTS OF DAY AND EVENING BRANCHES  
OF CHEMICAL DEPARTMENTS OF UNIVERSITIES\*

Reviewed by E. F. Terent'eva

A selection of the literature in the field of thiopyrans and thiopyrylium salts (the bibliography, containing 144 citations, encompasses the literature thorough 1974) was made in this handbook. It consists of two sections. In the first section the general methods for the preparation of thiopyrans – on the basis of glutaraldehyde and its derivatives by means of nucleophilic substitution reactions of thiopyrylium salts based on 1,5-diketones – are initially enumerated extremely concisely. Specific synthetic methods are subsequently examined. The second section is devoted to the properties of thiopyrans and their derivatives – thiopyran salts, sulfones, and sulfoxides. Several reactions of this heterocycle (for example, with dichlorocarbene) and isomerization and halogenation processes of thiopyrans with a discussion of modern concepts regarding the mechanism of these reactions are also analyzed here.

The chemistry of thiopyrans can be considered to be one of the new branches of the chemistry of heterocyclic compounds, since for a long time these compounds have been classified as extremely unstable systems, and this field received its present development only in the 1960's. In this connection, this handbook will be of interest not only to students but also to scientific researchers who are interested in the theme advanced by the authors. The same problems have been set forth somewhat differently in the reviews of the same authors [see V. G. Kharchenko, S. I. Chalaya, and T. M. Konovalova, "Thiopyrylium salts," *Khim. Geterotsikl. Soedin.*, No. 2, 147 (1975); "Thiopyrans," *Khim. Geterotsikl. Soedin.*, No. 9, 1155 (1974)].

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TRANSACTIONS OF THE D. N. PRYANISHNIKOV PERM  
AGRICULTURAL INSTITUTE, VOLUMES 112 (1975)  
AND 118 (1976). CATALYTIC SYNTHESIS OF ORGANIC  
NITROGEN COMPOUNDS. COLLECTIONS 6 AND 7\*

Review by M. E. Konshin

The collections are devoted primarily to the results of a study of azomethines but also contain several papers on the chemistry of heterocyclic compounds. It is shown in papers by N. L. Ivanov, N. S. Kozlov, Z. D. Pak, and Z. V. Mashevskii that hexahydrotriazine derivatives are formed in the reaction of arylidenealkylamines with phenyl isocyanate and phenyl isothiocyanate. The kinetics of this reaction were investigated, and a correlation was established between its rate constant and the Taft  $\sigma^*$  constants. Papers by Z. V. Mashevskii, V. D. Pak, and others contain data on the use of hydrolytic cleavage of 1,3-diaryl-2,2-dihaloethyleneimines for the synthesis of  $\alpha$ -halo- $\alpha$ -arylacetanilides. M. S. Mashevskaya, P. A. Petyunin, and V. V. Mashevskii describe the synthesis of 3-alkyl-3-phenyloxindoles by acidic cyclization of arylamides of  $\alpha$ -alkyl- $\alpha$ -phenylglycolic acids. The ionization constants of 2-methyl-10-anilido-1,2,3,4-tetrahydrobenzo[b]-1,6-naphthyridines are presented and discussed in a paper by V. A. Khaldeeva and M. E. Konshin. A method for the synthesis of 2,4-dioxo-3-R-1,2,3,4-tetrahydropyrido[2,3-d]pyrimidines by condensation of substituted amides of 2-chloronicotinic acid with urea is proposed in a paper by A. I. Mikhalev, Yu. Z. Kozhevnikov, and M. E. Konshin.

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