

## ANNOTATIONS OF DISSERTATION RESEARCH IN THE CHEMISTRY OF HETEROCYCLIC COMPOUNDS

To inform the scientific community of the doctoral and master's dissertations completed in the Soviet Union dealing with the synthesis and study of heterocyclic compounds, the journal henceforth intends to publish periodically brief annotations of dissertations approved by the Higher Certifying Commission affiliated with the Council of Ministers of the USSR. It must be assumed that the publication of the annotations will promote coordination in the USSR of research in the chemistry of heterocyclic compounds and the search for new physiologically active substances based on them and will help avoid duplication. The editorial board turned to specialized councils for the defense of annotations of dissertations approved by the Higher Certifying Commission that deal with the chemistry of heterocyclic compounds and are drawn up in conformity with the samples presented below be sent to the journal. The editorial board hopes that this undertaking will be supported by the scientific collectives engaged in research in this field and that the list of annotations will be sufficiently complete and representative.

### SEARCH FOR NEUROLEPTICS AMONG N-ARYLPIPERAZINO DERIVATIVES OF THE INDAN SERIES

I. A. Berzin'

The dissertation is devoted to the directed synthesis of new psychotropically active substance among piperazino ketones of indan and to the study of the interrelationship between the structure and activity in this series of compounds. Methods for the synthesis of N-arylpiperazinoalkyl derivatives of diketoindans were developed, and methods for the selective reduction of the carbonyl groups of the indan ring, on the basis of which a number of N-arylpiperazino derivatives with different degrees of reduction of the keto groups were obtained, were investigated systematically. New methods for the synthesis of derivatives of aminophthalazones and  $\omega$ -aminophthalidylalkanes were developed on the basis of the peculiar isomerization reaction of 2-piperazino diketones, and the direct conversion of 2-piperazino diketones to aminophthalidylalkanes was realized for the first time. A method for the synthesis of the previously unknown 2,2-disubstituted aminoindans was found. N-Arylpiperazino ketones of the indan series have a pronounced depressant effect on the central nervous system. A cybernetic analysis of the results of a pharmacological study of the synthesized compounds was made with a computer, the fundamental relationships between the activity and chemical structures of the substances were found, and the prospects for the search for new physiologically active agents were demonstrated.

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### 2-OXODIHYDROPYRIDINES AND 2-OXOTETRAHYDROPYRIDINES

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This research was devoted to the synthesis and study of the chemical properties of 2-oxodihydropyridines and 2-oxotetrahydropyridines, as well as related condensed systems obtained by condensation of  $\alpha$ ,  $\beta$ -unsaturated mono- and dicarbonyl compounds with malonic acid diamide, N,N<sub>1</sub>-disubstituted malonic acid diamides, and cyanoacetamide. The effect of the reaction medium and the substituents on the formation of 2-oxo-1,2,3,4-tetrahydro- and 2-oxo-2,3,4,5-tetrahydropyridines is shown. It was established by a kinetic study of the proton-donor properties of 2-oxo-tetrahydropyridines that the anions of these compounds are oxidized considerably

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