

Synthesis of Biologically Active Substances on the Basis of 5-Bromoalkyl- and 5-Bromophenylpiperidine-4-ones

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5-Bromopiperidine-4-ones are suitable precursors for the synthesis of new biologically active compounds due to presence of such functional groups as carbonyl and amine ones and very mobile bromine atom capable to going into reactions of substitution and elimination.

New N-H(alkyl)-5-alkoxy-(alkylthio-, aminoaryl-, sulpharylamine-)-2,5-dimethylpiperidine-4-ones have been derived through interaction of hydrobromides of N-H(alkyl)-5-brom-2,5-dimethylpiperidine-4-ones with alcoholates, alkylthiols, arylamines, sulpharylamines. Yields of targeted products depend on nucleophilicity of reagents.

Transformations of a carbonyl group of 5-substituted piperidine-4-ones make it possible to obtain their thiosemicarbazones and both simple and complex ethers of piperidine-4-ols, displaying various types of biological activity.

Substances with pharmaceutical properties showing anticancer, bacteriostatic and anti-inflammatory activities have been revealed.

Laboratory and field tests of perspective compounds on agricultures have displayed the wide range of fungicide and growth regulating activity with various vegetables: potatoes, some variety of carrots, beetroots, onion, tomatoes, egg-plants as well as at growing calendulas and asters. The tests have also verified of their effectiveness with variety of wheat.

A certain degree of dependence of growth regulating activity on the structure of piperidine-4-ones has been revealed.