

The synthesis of new derivatives of 3-phenyl-4-oxo-3H,5H-pyridazino[4,5-b]indole

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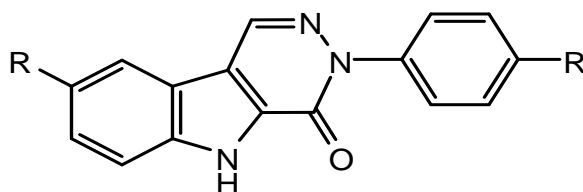
Among the compounds which participate in such natural processes which are considerable for life, nitrogen-containing heterocyclic compounds occupy considerable place, and especially indole-ring containing derivatives. It is proved by their special and various biological activities, which stipulate the vital processes. More than 1000 indolic alkaloids exist in nature.

Many natural, synthetic and semi-synthetic compounds are included in medical practice. Among them are such well known preparations as Mexamine, Rezerpine, Vinkristine, Cavintone, Indometacine, Inkazane, Pirazidole, Physostigmine and etc. Very active antibiotic CC-1065 was isolated from the plant "Streptomyces zebensis" and it has high anti-cancer activity. It contains three pyrroloindolic fragments.

From the point of view of science and practice it is very interesting to unite two or more heterocyclic fragments which gives possibility to create new substances with wide spectrum of physiologic activity.

New indolic systems which contain different structural fragments were synthesized at the chair of organic chemistry. Among them are tricyclic derivatives of pyridazino[4,5-b]indole, bis-tricyclic isomeric bis-4-oxo-3H,5H-pyridazino[4,5-b]indoles and condensed fivecyclic pyridazinopyrrolopyridazinoindole. These compounds carry high potential not only as intermediate products, but are interesting from the point of view of pharmacology. It is known that the derivatives of pyridazino[4,5-b]indole carry activity against: Daun's syndrome, Alzheimer's and Parkinson's diseases.

Some of 2-Ethoxycarbonylindole-3-yl-aldehydes and its arylhydrazones are synthesized to discover new biologically active compounds. By intramolecular cyclocondensation of these arylhydrazones easily are formed 3-aryl derivatives of 8-chlor- and 8-methyl-4-oxo-3H,5H-pyridazino[4,5-b]indoles.



R = Cl, CH₃; R' = Cl; Br; NO₂; CH₃; C₆H₅

Thus 4',8-disubstituted derivatives of 3-phenyl-4-oxo-3H,5H-pyridazino[4,5-b]indole are obtained and general preparative method for obtaining of such type of compounds is developed.