

**O-24****[1,2,4]Triazino[2,3-c]quinazolines: Synthesis, Transformations and Biological Activity**Voskoboynik O.Yu., Kovalenko S.I.

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The history of investigations, focused on the search of the novel bioactive compounds among heterocyclic compounds lasts for more than a century. It reasoned the fact that, mentioned above class of the compounds is well studied and sufficient quantity of synthetically available heterocyclic systems were previously described at least by single examples. As usually it was enough for evaluation of their structural features and some chemical properties, but not for pharmacological potential. That's why systematic studies, aimed to the expanding the series of previously known heterocyclic compounds and studying of the synthesized compounds bioactivity, are of considerable interest. We are interested in [1,2,4]triazino[c]quinazolines, which were sporadically described, but were not systematically studied. During our investigation original approach for synthesis of [1,2,4]triazino[2,3-c]quinazoline system derivatives was elaborated. Mentioned methods are based on 3-(2-amino-3-R<sub>2</sub>-4-R<sub>3</sub>-5-R<sub>4</sub>-6-R<sub>5</sub>-phenyl)-6-R<sub>1</sub>-1,2,4-triazine-5(2H)-ones modification, which are the products of 3-R<sub>1</sub>-8-R<sub>2</sub>-9-R<sub>3</sub>-10-R<sub>4</sub>-11-R<sub>5</sub>-2H-[1,2,4]triazino[2,3-c]quinazoline-2-ones nucleophilic cleavage. The last ones, as we found may be prepared *via* [4+2]-cyclocondensation processes using substituted 4-hydrazono-3,4-dihydroquinazolines as initial compounds. Carbonyl-containing compounds (aldehydes, ketones, aldehydocarboxylic acids, ketocarboxylic acids), anhydrides of carboxylic acids, acylhalides, carbon disulphide, carbonyldiimidazole, esters of propionic and but-2-ynedioic acids, nitrous acid, organic isocyanates and isothiocyanates were used in reactions with 3-(2-amino-3-R<sub>2</sub>-4-R<sub>3</sub>-5-R<sub>4</sub>-6-R<sub>5</sub>-phenyl)-6-R<sub>1</sub>-1,2,4-triazine-5(2H)-ones. Using mentioned transformations substituted 6,7-dihydro-2H-[1,2,4]triazino[2,3-c]quinazoline-2-ones, [1,2,4]triazino[2,3-c]quinazoline-2-ones, benzo[e][1,2,4]triazino[2,3-c][1,2,3]triazin-2-ones, 3-R<sub>1</sub>-5a-R<sub>2</sub>-6,7-dihydro-2H-pyrrolo[1,2-a][1,2,4]triazino[2,3-c]quinazoline-2,8(5aH)-diones and 2-R-3H-isoindolo[2,1-a][1,2,4]triazino[2,3-c]quinazoline-3,10(14bH)-diones, as well as products of their further modification were obtained.

Conducted assay for synthesized compounds biological activity allowed to found agents with anticancer, analgetic, cerebroprotective, hypoglycemic and hypolipidemic properties.