THE PROSPECTS OF USAGE OF RAW MATERIAL OF AN ARACEAE FAMILY REPRESENTATIVE

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Introduction. The search for new sources of medicinal plant material and the creation of new medicinal preparations on its basis is an essential problem nowadays. The drugs from medicinal plant materials are low toxic for long-term use and are characterized by slow development of resistance of microorganisms towards them.

In this plan our attention was attracted to the plant from the Philodendron genus, *Araceae* family.

Aim. To conduct a preliminary pharmacognostic research of *Philodendron* plant material.

Materials and methods: The leaves of *Philodendron* were harvested during the full opening of the leaf plate in May-September 2017.

Results and discussion. Filodendrons are evergreen perennials. They differ from other plants of the *Araceae* family by variety of forms. Among them there are epiphytes and semiepiphytes, or hemiepiphytes, although there aren't many hemiepiphytes among Philodendrons. Mostly, philodendrons are epiphytes or climbers which are attached to the support by means of long air roots-suction cup. Some species can combine several forms of life, identifying them depending on the conditions of growth. The aerial roots can be of different shapes and sizes, in most of the plants are formed in nodes, sometimes in internodes. The stem is fleshy, ligneous at the base. The location of the leaves is alternate. Petioles are with sheaths. Inflorescences, stems, leaves and roots of philodendrons secrete milk juice containing rubber. This feature of philodendrons distinguishes them from other family members. Milk juice may be red, orange, yellow or colourless, while in the air it becomes brown. Philodendron contains up to 0.7% oxalate in the form of crystals of calcium oxalate. A systematic study of series of leaves and shoots of philodendron was conducted. For each type of raw material, numerical indices are determined: weight loss in drying, extractable matter, total ash and ash, insoluble in 10% solution of hydrochloric acid. Limit values of these parameters were established.The study of the features of the morphological structure of philoderndrons was carried out. It was established that from the point of view of macro-diagnostics the value is for philodendron plant material series have: the shape of the leaf blade, its color and nature of the surface.

Conclusions. A morphological and preliminary chemical analysis of the raw material was carried out. Philodendron is a promising source of herbal raw material.

SYNTHESIS, PHYSICAL-CHEMICAL PROPERTIES AND BIOLOGICAL ACTIVITY OF SOME 3,1-BENZOXAZINONES-4

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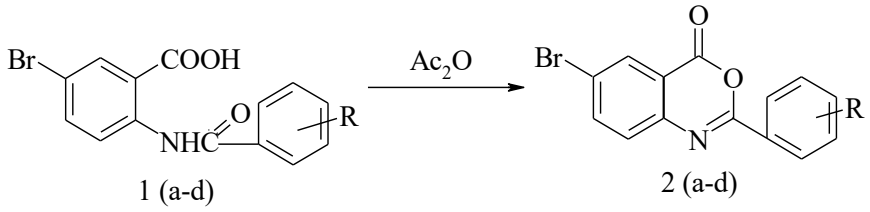
Introduction. Potential opportunities have compound compounds of both natural and synthetic origin, containing heterocyclic systems in their composition. A promising direction for the search for biologically active substances is the synthesis of heterocyclic derivatives, where the starting substances are acylanthranilic acids.

Aim. Therefore, the aim of our work is the purposeful synthesis of 6-bromo-2-(R-phenyl)-3,1-benzoxazinones-4 and the search for pharmacologically active and low-toxic substances as potential medicines among them.

Materials and methods. N-(R-benzoyl)-5-bromoanthranilic acids are synthesized by the acylation of 5-bromoanthranilic acid with chlorohydrides of aromatic acids. 6-bromo-2-(R-phenyl)-3,1-benzoxazinones-4 was synthesized by the reaction of intramolecular cyclodehydration of N-(R-benzoyl)-5-bromoanthranilic acid with acetic anhydride by the scheme 1:

Scheme 1



де: а) R=2,4-Cl; б) R=2-Cl, 5-Br;
в) R=2-Cl, 3-NO_2; г) R=2-Cl,3,5-NO_2;
d) R=2-Cl, 3,5-Br.

the structure of synthesized compounds is confirmed by data of elemental analysis, IR-, PMR-spectroscopy and chromatography in a thin layer of sorbent.

Investigation of antimicrobial activity was performed by two-fold serial dilutions in vitro.

Results and discussion. The resulting compounds (2 (a-d) have a crystalline structure, high dispersion, insoluble in water, alkaline solutions (as opposed to starting acids), in hexanes, soluble in most organic solvents.

Synthesized compounds (2 a-d) were studied for the presence of bacteriostatic, fungistatic activity. The results of microbiological screening indicate that 6-bromo-2-(R-phenyl)-3,1-benzoxazinone-4 exhibit bacteriostatic activity against gram-positive and gram-negative microorganisms at a concentration of 15.6-250 mg/ml. The fungistatic action of synthesized compounds to Candida albicans, Candida triandis, Candida tropicalis is between 31.2-250 mg/ml.

Conclusions. Synthesis of 6-bromo-2-(R-phenyl)-3,1-benzoxazinones-4 was carried out. Were detected compounds with bacteriostatic and fungistatic activity according to the results of pharmacological studies.

SYNTHESIS AND ALKYLATION OF 3-(2-HYDROXY-2,2-DIPHENYLACETYLAMINO)-4-OXO-2-THIOXO-1,2,3,4-TETRAHYDROQUINAZOLINES

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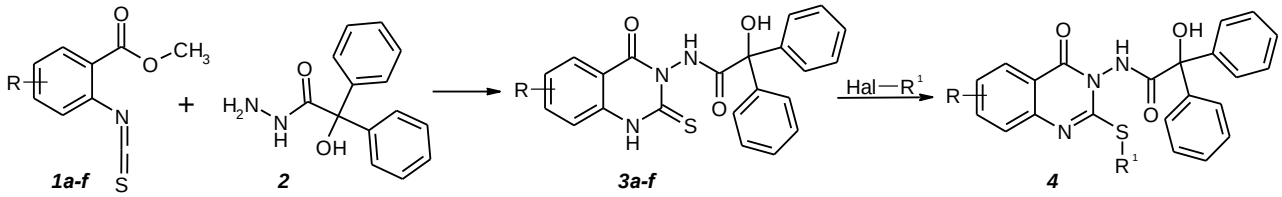
Introduction. Recently creation of new bioactive molecules containing in their structure two pharmacophore units with the same or close bioactivity has become actual direction of medicinal chemistry. This is due to higher affinity of such type molecules to biotargets. Benzylic acid derivatives turned out to be highly active substances with neurotropic activity. At the same time 2-thioxo-2,3-dihydro-1*H*-quinazolin-4-one core is also prospective pharmacophore for searching of drugs with the same activity.

Aim. The purpose of the research was to combine the benzylic acid residue and the fragment of quinazolin-2-one into the same molecule and to study alkylation for the latter.

Materials and methods. 2-Carbmethoxyphenylisothiocyanates and benzylic acid hydrazide were used as starting compounds. The standard methods of synthetic organic chemistry were applied. ^{1}H NMR, IR spectroscopy as well as liquid chromatography – mass spectrometry were used to prove the products structure.

Results and discussion. Interaction of substituted 2-carbmethoxyphenylisothiocyanates 1a-f with benzylic acid hydrazide (2) in ethanol under reflux led to 2-hydroxy-N-(4-oxo-2-thioxo-1,4-dihydro-2*H*-quinazolin-3-yl)-2,2-diphenylacetamides 3a-f.



R=H (a); 4-F(b); 5-Cl (c); 4,5-di-OCH_3 (d); 4,5-O-CH_2-O (e); 4-$COOCH_3$ (f)
R^1=Alk; Bn; $CH_2CONHAlk$; $CH_2CONHAr$