

SYNTHESIS OF 4-ARYL-1,4-DIHYDROPYRIDINES BY HANTZSCH REACTION BASED ON SO₂-CONTAINING HETEROCYCLES

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Introduction. Hantzsch reaction is used to construct 1,4-dihydropyridine core. It involves three-component interaction of active methylene ketones with aldehydes and ammonia (or its donors). It gives rise to symmetrical 1,4-dihydropyridines. Latter other methods have been discovered allowing to obtain non-symmetrical 1,4-dihydropyridines. Mentioned 1,4-dihydropyridines are particularly well known in pharmacology as calcium channel blockers, used in the treatment of hypertension. Until now 1,2-benzoxathiin-4(3*H*)-one 2,2-dioxide and 2,1-benzothiazin-4(3*H*)-one 2,2-dioxide were not explored in Hantzsch reaction.

Aim. To synthesize 4-aryl-1,4-dihydropyridines based on 1,2-benzoxathiin-4(3*H*)-one 2,2-dioxide and 2,1-benzothiazin-4(3*H*)-one 2,2-dioxide.

Materials and methods. A set of chemicals either synthesized by known procedures or obtained from commercial sources were used. During research standard methods of organic synthesis were also applied.

Results and discussion. Reaction of both 1,2-benzoxathiin-4(3*H*)-one 2,2-dioxide (1a) and 2,1-benzothiazin-4(3*H*)-one 2,2-dioxide (1b) with aromatic aldehydes (2) and ammonium acetate under reflux in acetic acid for 1 hour resulted into symmetrical derivatives 3. It should be mentioned that the interaction proceeded smoothly and with average to high yields irrespective of benzaldehyde used in the reaction.

Aiming to obtain unsymmetrical 1,4-dihydropyridines we examined three-component interaction of both 1,2-benzoxathiin-4(3*H*)-one 2,2-dioxide (1a) and 2,1-benzothiazin-4(3*H*)-one 2,2-dioxide (1b) with aromatic aldehydes (2) and ethyl 3-aminocrotonate (4). The reactions were carried out in acetic acid under reflux for 4 hours and resulted into desirable derivatives 5.

Conclusions. Possibility to obtain both symmetrically and asymmetrically substituted 1,4-dihydropyridines based on 1,2-benzoxathiin-4(3*H*)-one 2,2-dioxide and 2,1-benzothiazin-4(3*H*)-one 2,2-dioxide was confirmed and wide range of these derivatives was synthesized.

SYNTHESIS, PHYSICOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF POTASSIUM AND D-GLUCOSAMINIC SALTS OF 5-BROMO-3-SULFAMOYL-2-R-PHENYLAMINO BENZOIC ACIDS

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Introduction. In recent years in the literature are increasingly began to appear on the synthesis of various heterocyclic structures which contain in their molecule residues of the active molecule-derivatives of 2-aminobenzoic acids, or their cyclic derivatives, which have high antitumor activity. Studies carried out earlier show, that increasing the solubility of substances of derivatives of 2-aminobenzoic acids leads to an increase in the effective concentration of active substances in the body, and to expand the arsenal of dosage forms and routes of administration.

Aim. The aim of our work has been resynthesis, and studied of pharmacological activity of potassium and D-(+)-glucosaminic salts of 5-bromo-3-sulfamoyl-2-R-phenylaminobenzoic acids

Materials and methods. Synthesis of potassium salts of 5-bromo-3-sulfamoyl-2-R-phenylaminobenzoic acid was carried out by the interaction of the corresponding acids with potassium carbonate in ethanol medium under heating (scheme 1).