

“A new method of nitrozilation of N-β-(4-aminobenzoic acid ethyl ester)-D-xylopyranosylamine and Investigation of the biological activity potential of synthesized substances”

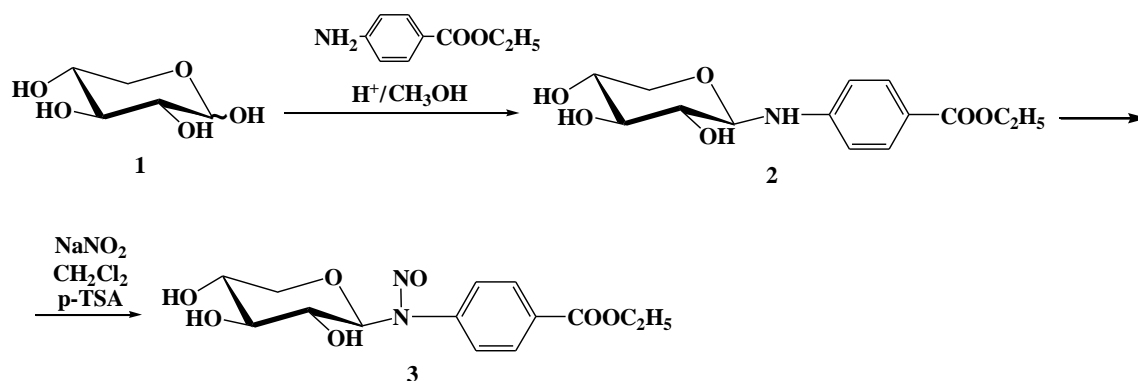
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The synthesis of Nitroso (N = O) group containing carbohydrate derivatives and study of their biological activity is a promising research direction to obtain a new type of biologically and pharmacologically active compounds.

The goal of our present investigation consists in synthesis of nitroso group (N=O) containing N-xylosylamine by a new method and determination of biological activity potential.

The formation of N-β-(*p*-aminobenzoic acid ethyl ester)-D-xylopyranosylamine (2) by condensation of D-xylose (1) with 4-aminobenzoic acid ethyl ester in 50% methanol, in the present of acetic acid was studied at the first stage. By nitrozilation of N-xylosylamine (2) corresponding N-β-N-nitroso-(4-aminobenzoic acid ethyl ester)-D-xylopyranosylamine (3) with high percent of yield has been obtained. The nitrozilation was performed by a new method. The Reactions proceeds according to the following scheme:



With the purpose of theoretical substantiation of the direction of the reactions of synthesis of N-xylosylamine quantum-chemical calculations were carried out using the semi-empirical AM1 method. With the help of computer program PASS Onlainis based on the analysis of structure activity-relationships wide range of possible biological activity and toxic / side effects for synthesized N-xylosylamines (2,3) has been determined.