

A n n o t a t i o n

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The condensation reaction of N-(4-carboxyphenyl)-2,3,4,6-tetra-O-acetyl- β -D-glucopyranosylamine with glycyl-glycine ethyl ester hydrochloride

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Modern studies of carbohydrate chemistry find increasing use in the creation of new drugs and diagnostic methods. The introduction of carbohydrate fragments into the molecules of biologically active compounds leads to a change in the direction of their physiological action, in particular, optimization of targeted transport and penetration into the cell, increase of water solubility, reduction of toxicity, extension of the duration of action. Such structural changes cause a complex change in the ability of drugs to act, in some cases even an improvement. Various modified derivatives of carbohydrates and the study of their spectrum of biological activity are a current direction of carbohydrate chemistry.

The goal of our work was to synthesize derivatives of N-(4-carboxyphenyl)- β -D-glucopyranosylamine.

N-(4-carboxyphenyl)-2,3,4,6-tetra-O-acetyl- β -D-glucopyranosylamine has been synthesized from D-glucose and 4-aminobenzoic acid by refluxing in 96% ethanol in the presence of a glacial acetic acid catalyst and by the further acetylation of synthesized N-(4-carboxyphenyl)- β -D-glucopyranosylamine. By condensation of N-(4-carboxyphenyl)-2,3,4,6-tetra-O-acetyl- β -D-glucopyranosylamine with L-glycine ethyl ester hydrochloride in the presence of N,N'-dicyclohexylcarbodiimide and triethylamine at 0°C temperature, the N-[4-N'-(2,3,4,6-tetra-O-acetyl- β -D-glucopyranosyl)]aminobenzoyl-L-glycyl-glycine ethyl ester have been obtained for the first time.

The structures of obtained compounds were established by physical-chemical methods of analysis.