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 glycine ethyl ester hydrochloride

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Reactions between carbohydrates and amino compounds play an important role in the body, although this role is not fully understood. According to the researchers, the study of N-glycosylamines and their new derivatives will help to understand the chemical and biological properties of these compounds and the mechanisms of their action in life processes.

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

N-(4-carboxyphenyl)-2,3,4,6-tetra-O-acetyl-β-D-mannopyranosylamine 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 acetilation of synthesized N-(4-carboxyphenyl)-β-D-mannopyranosylamine. By condensation of N-(4-carboxyphenyl)-2,3,4,6-tetra-O-acetyl-β-D-mannopyranosylamine 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-mannopyranosyl)]aminobenzoyl-L-glycine ethyl ester heve been obtained for the first time.

The structures of obtained compounds were established byphysical-chemical methods of analysis. 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 compounds (2,3) were determined.