

Annotation

Ana-Maria Beridze

Synthesis of Nitroso (N=O) Group Containing

N-β-butamben-

2,3,4,6-tetra-O-acetyl-D-glucopyranosylamine

Department of Chemistry, Iv.Javakhishvili Tbilisi State University,

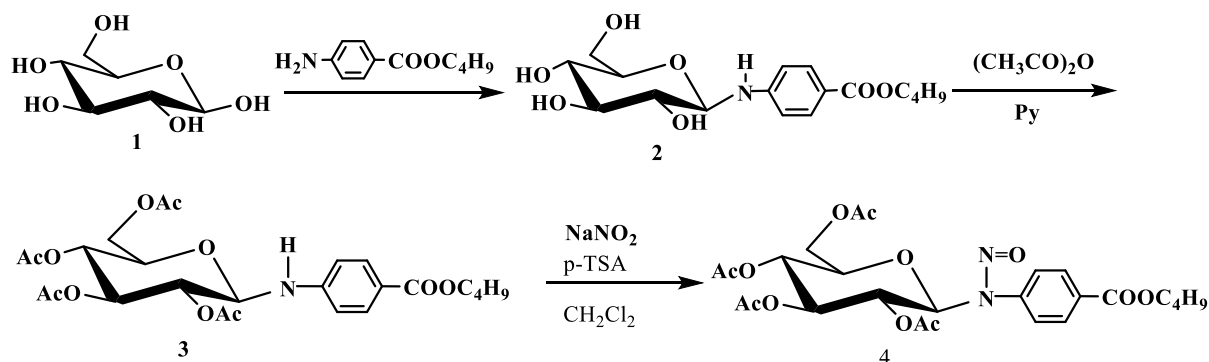
Ilia Chavchavadze Ave. 3

Nitric oxide (NO) is known to play an important role in the regulation of cellular metabolism, in the protection against the onset and progression of cardiovascular disease. NO is also capable of eliminating intracellular pathogens and blocking viral replication. It has also been reported that NO derived from leukocytes showed anti-tumor effect.

The synthesis of carbohydrate derivatives containing the nitroso (N=O) group is a promising research direction in terms of detecting a new type of NO donor compound.

The aim of the presented work was the synthesis of N-β-buteneben-2,3,4,6-tetra-O-acetyl- D-glucopyranosylamine containing a nitroso (N=O) group.

In the first stage, by condensation of D-glucose (1) with butambene, N-β-butambene-D-glucopyranosylamine (2) was synthesized. With subsequent acetylation and nitrosation of the compound 2, the final product N-nitroso-N-β-butambene-2,3,4,6-tetra-O-acetyl-D-glucopyranosylamine (4). The reactions proceeded according to the following scheme:



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