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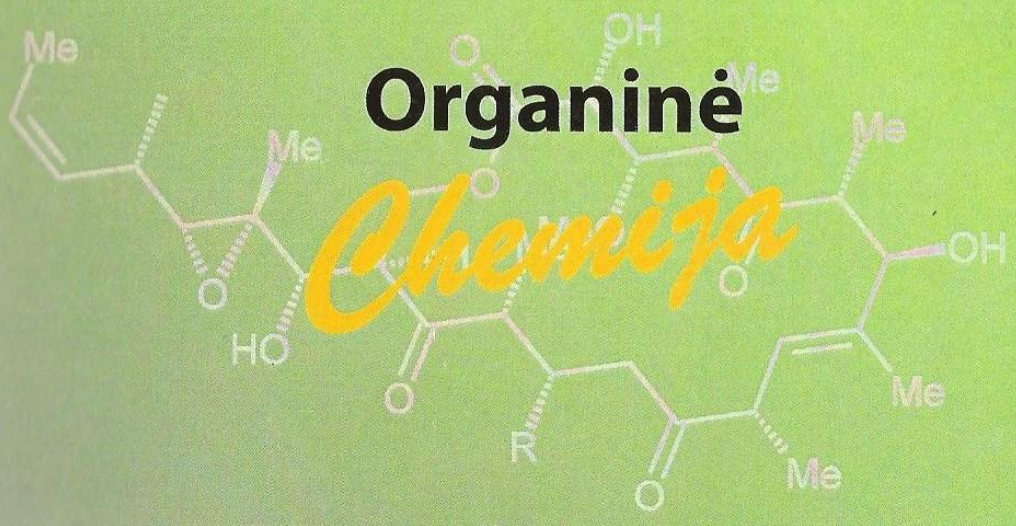

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TURINYS

CONSTRUCTION OF NOVEL SUGAR DERIVATIVES VIA MICHAEL/1,3-DIPOLAR ADDITION SEQUENCE

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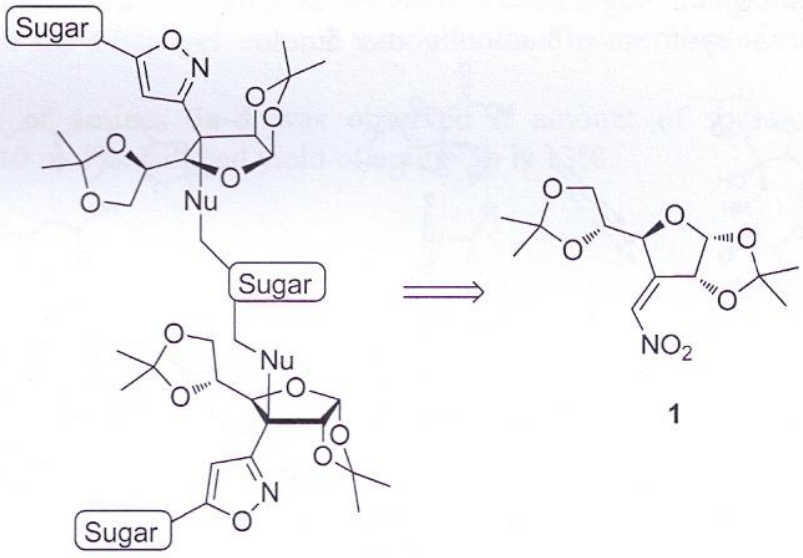
Modification of C(3) position in glucose leads to discovery of novel conjugates. Here we report an approach for synthesis of carbohydrate derivatives which is based on Michael addition reaction/1,3-dipolar cycloaddition sequence.

We have identified glucose-derived nitroalkene **1** as a suitable structural motif which is capable to accept a molecule possessing nucleophilic center and a molecule possessing terminal alkyne [1].



1

Michael addition of nucleophiles to corresponding acceptor leads to the formation of novel sugar derivatives. Various *O*-, *S*- and *N*-adducts are possible, including addition of natural amino acid esters, thiol moiety containing sugars, monoamino or diaminosugars. The resulting nitromethyl group can be transformed into nitrile oxides and then coupled with suitable terminal alkynes.

REFERENCE

1. Luginina, J.; Rjabovs, V.; Belyakov, S.; Turks, M. *Carbohydr. Res.* **2012**, *350*, 86.