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SYNTHESIS, X-RAY STUDIES AND APPLICATIONS OF NITROMETHYL HEXOFURANOSES

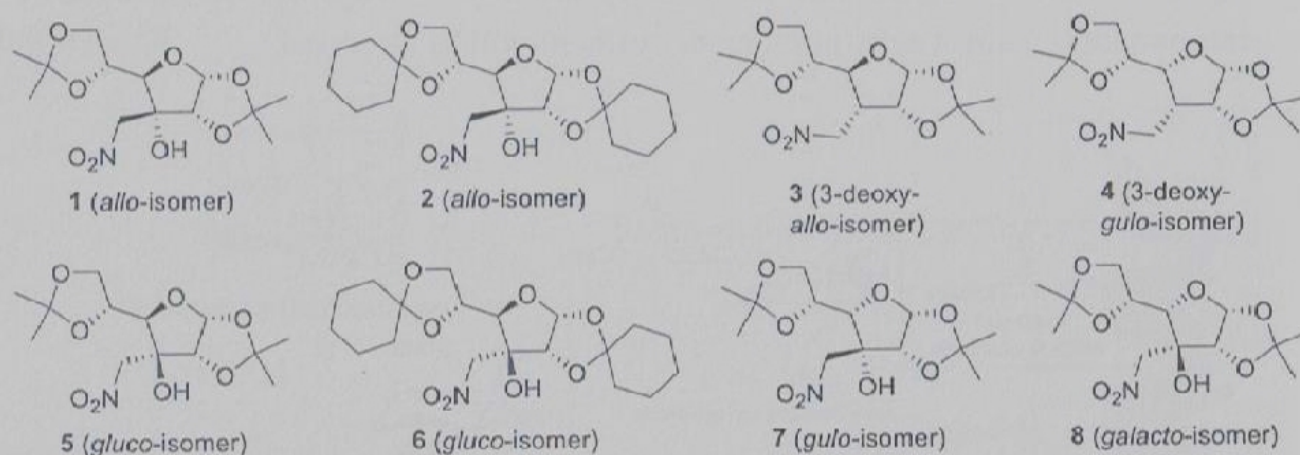
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Sugar-derived nitro alcohols and nitromethyl monosaccharides are versatile intermediates in carbohydrate chemistry, and many are used as starting materials for the synthesis of the corresponding amino and azido alcohols. Amino sugars obtained from the corresponding nitro derivatives are used as branched precursors for the synthesis of aza-sugars.

We report here the preparative scale synthesis of C(3)-branched nitromethyl monosaccharides 1-8, their X-ray studies and their use in the synthesis of further carbohydrate derivatives.¹ Synthesis and applications of corresponding hexofuranoses-based amino alcohols, thioureas, oxazolidinones and carbohydrate-azole conjugates will be discussed.



References:

1. a) Turks, M.; Rodins, V.; Rolava, E.; Ostrovskis, P.; Belyakov, S. *Carbohydr. Res.* **2013**, 375, 5-15; b) Turks, M.; Vēze, K.; Kiseļovs, G.; Mackeviča, J.; Lugiņina, J.; Mishnev, A.; Markovic, D. *Carbohydr. Res.* **2014**, 391, 82-88; c) Lugiņina, J.; Rjabovs, V.; Belyakov, S.; Turks, M. *Tetrahedron Lett.* **2013**, 54, 5328-5331; d) Lugiņina, J.; Rjabovs, V.; Belyakov, S.; Turks, M. *Carbohydr. Res.* **2012**, 350, 86.