NOVEL TRIAZOLYL GLYCOHYBRIDS WITH *ALLO-*, *GALACTO-* AND *GULO-* CONFIGURATION

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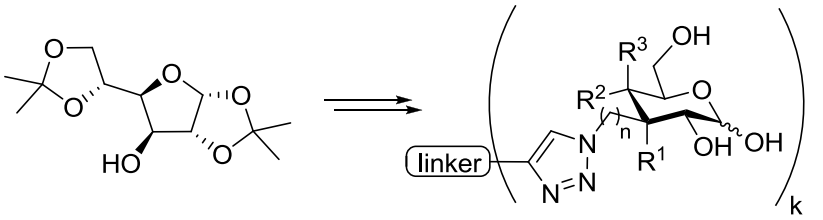
Since discovery of synthetic nucleoside tiazofurin and its analogs ribavirin, eicar and bredin that show antiviral and antitumour activities sugar-heterocycle adducts have drawn substantial synthetic interest in medical chemistry. Among other azoles, 1,2,3-triazole moiety has gained an undivided interest in recent years.

Our studies were focused on glycohybrids with triazole heterocycle at C(3) in hexapyranoses, what is not so broadly described in the literature. There are only few examples dealing with C-3-triazolylglycoconjugates.[1,2,3,4]

We would like to report here the synthesis of novel 1,2,3-triazole-linked disaccharides **2** – **4**, using a well-known copper(I) catalyzed azide – alkyne cycloaddition (CuAAC).



1

2: k=2, n=0, R^1=H, R^2=H, R^3=OH
3: k=2, n=1, R^1=OH, R^2=OH, R^3=H
4: k=2, n=1, R^1=OH, R^2=H, R^3=OH
5: k=3, n=0, R^1=H, R^2=H, R^3=OH

Starting materials are diacetone-D-allose, diacetone-D-galactose and diacetone-D-gulose derived azides that were synthesized from diacetone-D-glucose **1**. Protecting groups are easily removed by aqueous trifluoroacetic acid. In the same way carbohydrate trimer **5** was obtained. Biological properties of deprotected derivatives will be discussed.

1) Salameh, B. A.; Cumpstey, I.; Sundin, A.; Leffler, H.; Nilsson, U. J. *Bioorg. Med. Chem.* **2010**, *18*, 5367.

2) Cosyn, L.; Gao, Z-G.; Rompaey, P. V.; Lu, C.; Jacobson, K. A.; Calenberh, S. V. *Bioorg. Med. Chem.* **2006**, *14*, 1403.

3) Ferreira, S. B.; Sodero, A. C. R.; Cardoso, M. F. C.; Lima, E. S.; Kaiser, C. R.; Silva, F. P.; Ferreira, Jr.; Ferreira, V. F. *J. Med. Chem*. **2010**, *53*, 2364.

4) Rjabova, J.; Rjabovs, V.; Moreno Vargas, A. J.; Moreno Clavijo, E.; Turks, M. *Cent. Eur. J. Chem.* **2012**, *10*, 386.