

ABSTRACTS
of the
52nd International Scientific Conference
of Riga Technical University

Section:
Material Science and Applied Chemistry
October 13–15, 2011, Riga, Latvia

Synthesis of Triazole-Linked Oligosaccharides

Vitalijs Rjabovs, Maris Turks, *Riga Technical University*

Recently, 1,2,3-triazoles attracted great interest due to their possible biological activity and structural features. Triazoles were successfully studied as an amide bond isosters¹ and as a nucleoside mimetics.²

Thus, we present a synthesis of octameric carbohydrate-triazole conjugate **1** containing seven 1,2,3-triazole rings (Fig.1). Synthesis was started from diacetone-D-glucose and in several steps intermediate azide **2** and alkyne **3** were synthesized. Afterwards, in several iterative steps intermediate tetramer was synthesized and converted to azide and

alkyne. Copper(I) catalyzed azide alkyne cycloaddition gave the title compound.

1. (a) Angell, Y.; Chen, D.; Brahimi, F.; Saragovi, H. U.; Burgess, K. *J. Am. Chem. Soc.* **2008**, *130*, 556. (b) Chaudhary, P. M.; Chavan, S. R.; Shirazi, F.; Razdan, M.; Nimkar, P.; Maybhate, S. P.; Likhite, A. P.; Hazara, B. G.; Deshpande, M. V.; Deshpande, S. R. *Bioorg. Med. Chem.* **2009**, *17*, 2433.
2. Isobe, H.; Fujino, T.; Yamazaki, N.; Guillot-Nieckowski, M.; Nakamura, E. *Org. Lett.* **2008**, *10*, 3729.
3. Strakova, I.; Kumpina, I.; Rjabovs, V.; Luginina, J.; Belyakov, S.; Turks, M. *Tetrahedron: Asymmetry* **2011**, *In Press*.

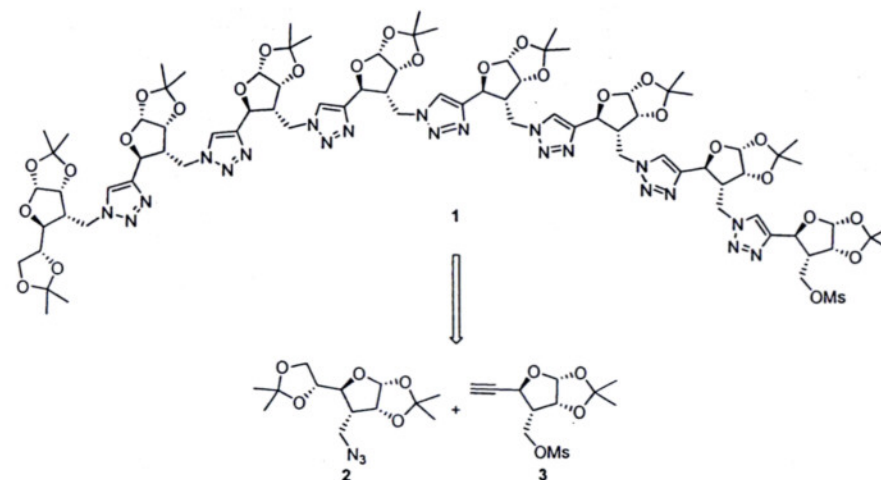


Fig.1 Synthesis of seven triazole moieties containing octasaccharide **1**