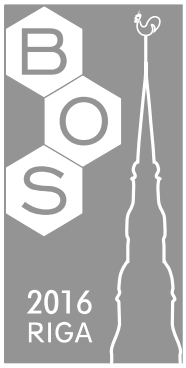


PROGRAM AND ABSTRACT BOOK

Riga, Latvia
3-6 July, 2016

www.boschem.eu

Latvian Institute of Organic Synthesis

InnovaBalt
Strengthening the research and innovative capacities of the Latvian Institute of Organic Synthesis

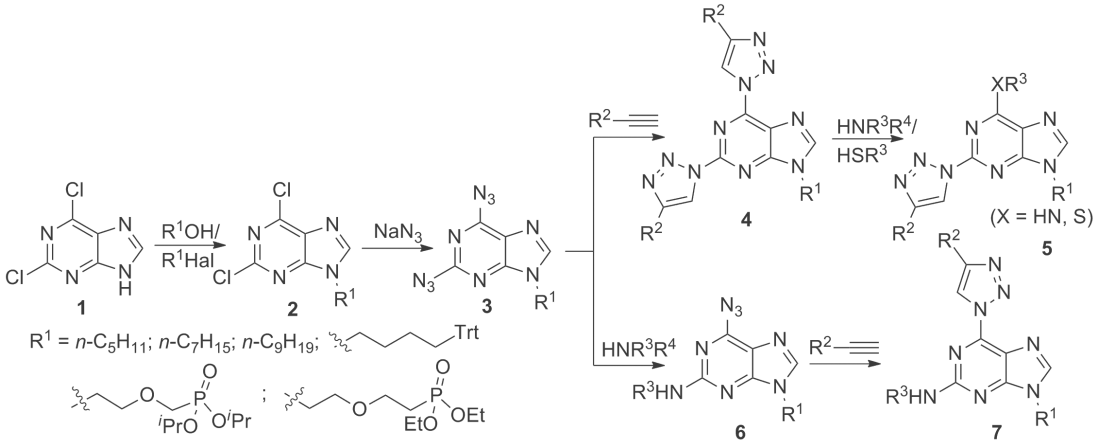
SEVENTH FRAMEWORK PROGRAMME

NEW SYNTHETIC ROUTE TOWARDS N^9-ALKYLATED DONOR-ACCEPTOR PURINE DERIVATIVES

A. Sisulins, Z. Kapilinskis, I. Malina, E. Bizdena, M. Turks
Faculty of Materials Science and Applied Chemistry, Riga Technical University
P. Valdena str. 3, Riga, LV-1048, Latvia
maris_turks@ktf.rtu.lv

In recent years new purine derivatives with improved photophysical properties have been synthesized and investigated. On the other hand, acyclic nucleoside phosphonates represent catabolically stable nucleoside analogs with a variety of antiviral properties.

In this research a new synthetic strategy towards fluorescent purine derivatives was developed. We used commercially available 2,6-dichloropurine (**1**) as the starting material. Alkylation of **1** at *N*(9) with different alkyl halides, alcohols or *C*-phosphonate linkers gave 9-alkylated purines **2**. In reaction of **2** with sodium azide 2,6-diazidopurines **3** were obtained. 2,6-Bistriazolylpurines **4** were prepared in azide-alkyne 1,3-dipolar cycloaddition reaction. Further S_NAr reaction with *N*- or *S*-nucleophiles took place on diazidointermediates **3** or 2,6-bistriazolylcompounds **4** to yield target products **5** and **7**.



In conclusion, novel 2,6-disubstitued acyclic nucleoside phosphonates and fluorescent push-pull 2,6-substituded purine derivatives were obtained. Their fluorescent properties were studied and will be discussed.

Acknowledgements
This work was supported by Latvian-Lithuanian-Taiwanese co-project LV-LT-TW/2015/2.