Book of Abstracts

International Symposium on Synthesis and Catalysis | 2019

Book of Abstracts

UNIVERSIDADE DE ÉVORA

SOCIEDADE PORTUGUESA DE QUÍMICA

Contents

Synthesis of Arylthiopurine Derivatives

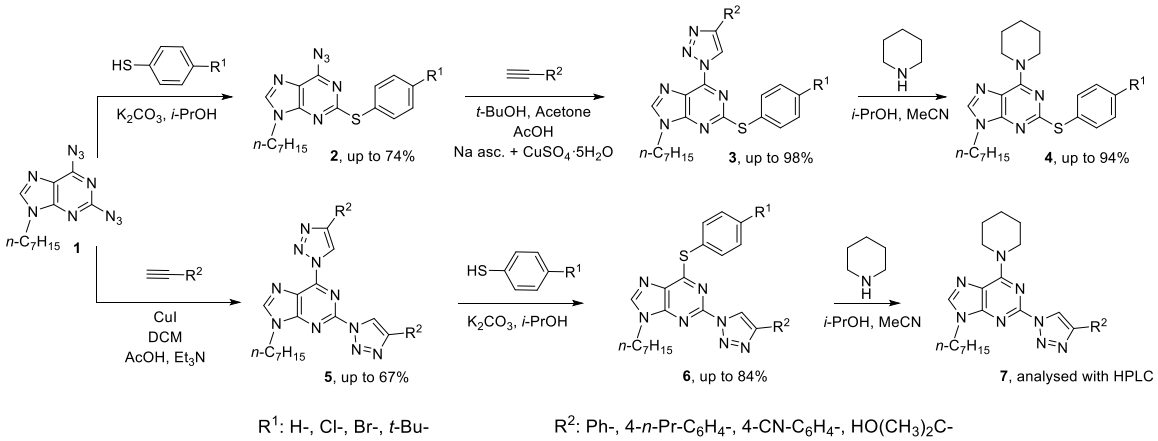
Andris Jeminejs, Ērika Bizdēna, Irina Novosjolova

Faculty of Materials Science and Applied Chemistry, Riga Technical University, P. Valdena str. 3., Riga, LV-1048, Latvia

Email: jeminejs.a@gmail.com

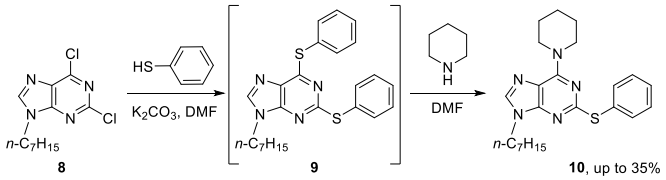
Purine derivatives are widely studied due to their biological activity and extensive potential in medicine. Thiopurine based compounds have already been proven as effective tools in the treatment of cancer and autoimmune disorders.[1]

A new synthetic approach for the synthesis of 6-azido-2-arylthiopurine derivatives **2** was developed. The optimized reaction conditions provided 2-arylthioderivatives **2** with good yields up to 74%.[2] Further CuAAC reaction leaded to 6-triazolylderivatives **3** with excellent yields up to 98%. In addition, by rearranging the sequence of reactions regioisomers **6** were obtained with yields up to 84% (**Scheme 1**).



Scheme 1: Synthesis and S_NAr reaction of arylthiopurine derivatives.

Products **3** and **6** exhibited different NMR and UV absorbance data. Despite the location of triazolyl- and thiogroups following nucleophilic substitution with piperidine was observed regioselectively at C6 position of purine (products **4** and **7**) that leaded to the development of new synthetic approach for the synthesis of compound **10** (**Scheme 2**).



Scheme 2: Synthesis of 2-arylthio-6-piperidinylderivative **10**.

Acknowledgements: This work was supported by the Latvian Council of Science grant No LZP-2018/2-0037.

References:

1. Sahasranaman, S., Howard D., Roy S. *Eur. J. Clin. Pharmacol* **2008,** *64*, 753–767.
2. Zaķis, J., Jeminejs, A., Ozols, K., Bizdēna, Ē., Novosjolova, I., Turks, M. Novel Method for the Synthesis of 6-Azido 2-Sulfonylpurine Derivatives. In: *Balticum Organicum Syntheticum (BOS 2018): Program and Abstracts*, Estonia, Tallinn, 1-4 July, **2018**, pp.144.