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SYNTHESIS AND PHOTOPHYSICAL STUDIES OF N^6-SUBSTITUTED-2-TRIAZOLYL ADENINE DERIVATIVES

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Purine nucleosides are widely used as pharmacologically important substances against cancer and viruses and as agonists and antagonists of adenosine receptors. Thereby modifications of purine moiety are still on broad development. Only few examples of 2- or 6-(1,2,3-triazolyl) purine nucleosides are known to date.[1] In 2013 we developed a synthesis of new N^6-substituted-2-triazolyl adenine derivatives.[2]

The method consists of the synthesis of 2,6-bis-triazolyl purine nucleosides in Cu(I) catalyzed "click" reactions and following nucleophilic aromatic substitution reactions between different *N*-nucleophiles and triazolyl moiety at C(6) position of purine.

In addition, the photophysical properties (emission and absorption spectra) of obtained N^6-substituted-2-triazolyl adenine derivatives were studied in THF, MeCN, DMSO, water and other solvents ($\lambda_{emission}$ = 390-440 nm, quantum yields up to 53%). One example is given in **Fig.1**.

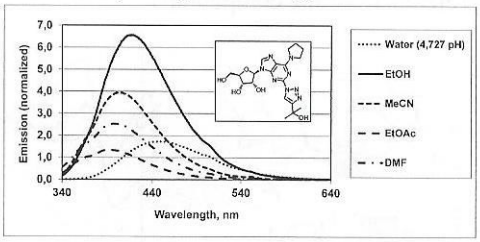

Fig. 1. Emission spectra of 9-(β-D-ribofuranosyl)-2-(4-(2-hydroxypropan-2-yl)-1*H*-1,2,3-triazol-1-yl)-6- (pyrrolidin-1-yl)-9*H*-purine in different solvents (excitation wavelength 276.6 nm; concentration in range of $1.19 \cdot 10^{-5}$ till $1.55 \cdot 10^{-5}$ M)

REFERENCES

1. a) Cosyn, L.; Palaniappan, K. K.; Kim, S-K.; Duong, H. T.; Gao, Z-G.; Jacobson, K. A.; Van Calenbergh, S. *J. Med. Chem.* **2006**, *49*, 7373; b) Lakshman, M. K.; Kumar, A.; Balachandran, R.; Day, B. W.; Andrei. G.; Snoeck, R.; Balzarini, J. *J. Org. Chem.* **2012**, *77*, 14, 5870; c) Lakshman, M. K.; Singh, M. K.; Parrish, D.; Balachandran, R.; Day, B. W. *J. Org. Chem.* **2010**, *75*, 2461.
2. Kovaļovs, A.; Novosjolova, I.; Bizdēna, Ē.; Bižāne, I.; Skardziute, L.; Kazlauskas, K.; Jursenas, S.; Turks, M. *Tetrahedron Lett.* **2013**, *54*, 850.