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SYNTHESIS AND PHOTOPHYSICAL PROPERTIES OF TRIAZOLYL PURINES

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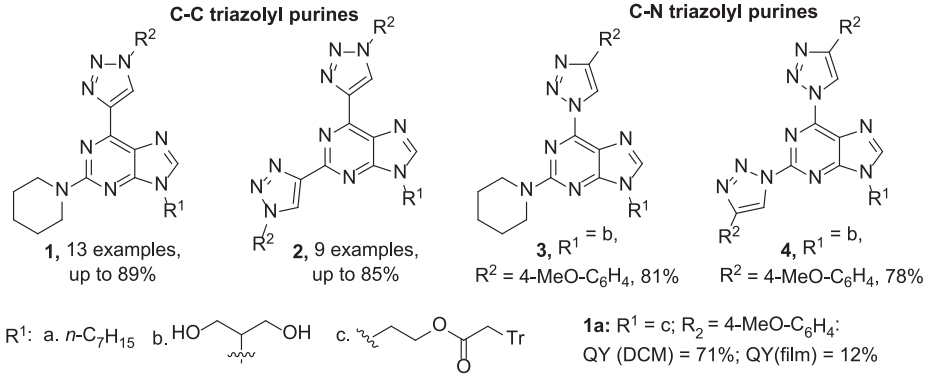
Purine-triazole conjugates belong to the push-pull systems and possess fluorescent properties which can be potentially used in OLED technology and in cell imaging [1, 2]. Recently, we found that our 2,6-bis-triazolyl purine derivatives can be used as ratiometric chemical sensors [3].

In this study, we synthesized 6- or 2,6-bis(1*H*-1,2,3-triazol-4-yl)-9*H*-purine and 6- or 2,6-bis(1*H*-1,2,3-triazol-1-yl)-9*H*-purine derivatives **1-4**, using the sequence of Mitsunobu, Sonogashira, azide-alkyne cycloaddition and S_NAr reactions in different order. In addition, analogues **1** and **2** possess enhanced stability due to C-C bond connection of 1,2,3-triazole to the purine ring, thus this triazole cannot act as a leaving group. Further, photophysical properties of obtained compounds have been studied. Quantum yields reach up to 81% in DCM.



Supervisors: *Dr. chem. M. Turks, Dr. chem. I. Novosjolova*

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