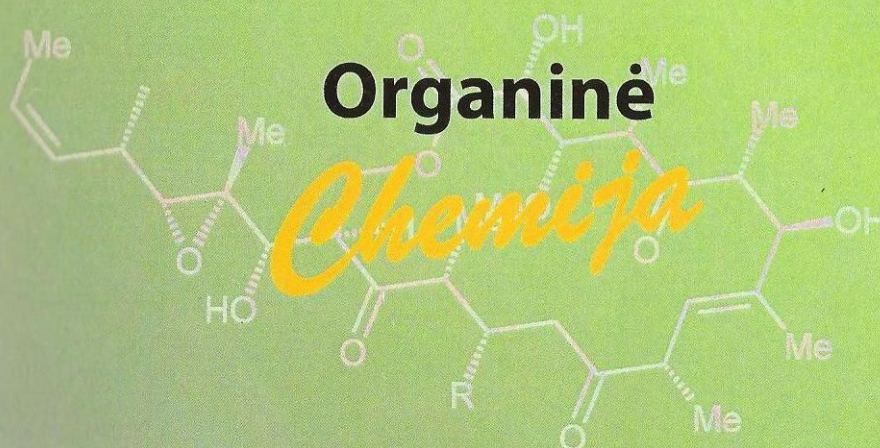


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TURINYS

I. Novosjolova, Ē. Bizdēna, M. Turks 2,6-Bis-(1,2,3-triazolyl)-purine nucleosides and their reactivity towards different nucleophiles	7
E. Rolava, V. Rodins, S. Belyakov, M. Turks Synthetic pathway for carbohydrate-based spiro-oxazolidinone derivatives	12
I. Novosjolova, Ē. Bizdēna, M. Turks Synthesis and photophysical studies of N^6 -substituted-2-triazolyl adenine derivatives	17
V. Rjabovs, D. Zeļencova, E. Liepinsh, M. Turks Insight into possible secondary structures of glucose-derived carbopeptoids by NMR and CD spectroscopies.....	18
J. Lugiņina, M. Turks Construction of novel sugar derivatives via Michael/1,3-dipolar addition sequence	19
D. Posevins, V. Rjabovs, M. Turks Synthesis of linear homooligomers from novel furanoid sugar amino acids.....	20
K. Ozols, Ē. Bizdēna Synthesis and reactions of 2,6-diazidopurine deoxynucleoside.....	21
V. Pozņaks, M. Turks Stereoselective synthesis of GABA derivatives from diacetone-D-glucose.....	22
K. Vēze, D. Vasiļjevs, J. Lugiņina, M. Turks Synthesis and applications of 3- <i>C</i> -nitromethyl derivatives of hexafuranoses	23
E. Rolava, U. Peipiņš, M. Turks Synthesis and applications of (-)-(<i>S</i>)-3-aminoquinuclidine derivatives.....	24
V. Zvarych, R. Musyanovych, O. Stanko, M. Stasevych, V. Novikov, V. Mickevičius, K. Anusevičius Synthesis of new 3,3'-[(4- <i>R</i> -phenyl)azanediy]- bis(<i>N</i> -(9,10-dioxo-9,10-dihydroanthracen-1-yl)propanamide).....	25
R. Jančienė, G. Mikulskienė, A. Vektarienė 1-(2-Nitrobenzoi)-1,5-benzdiazepin-2-ono ir 6,7-dihidrochinazolino- [3,2- <i>a</i>][1,5]benzdiazepino darinių struktūros ypatybių tyrimas.....	27
T. Javorskis, D. Podėnienė, S. Palaikienė, R. Asakavičiūtė, Z. Maknickienė 1,5-Pakeistų 1,3,4,5-tetrahidro-2 <i>H</i> -1,5-benzdiazepin-2-ono darinių poveikis siauralapių lubinų (<i>Lupinus angustifolius</i> L.) augimui	30

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

I. Novosjolova, Ē. Bizdēna, M. Turks

Faculty of Material Science and Applied Chemistry, Riga Technical University, 14/24 Āzenes Str., Riga, LV – 1007, Latvia;

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 ($\lambda_{\text{emission}} = 390\text{-}440$ nm, quantum yields up to 53%). One example is given in Fig. 1.

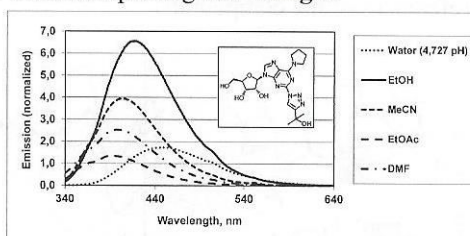


Fig. 1. Emission spectra of 9-(β -D-ribofuranosyl)-2-(4-(2-hydroxypropan-2-yl)-1H-1,2,3-triazol-1-yl)-6-(pyrrolidin-1-yl)-9H-purine in different solvents (excitation wavelength 276.6 nm; concentration in range of $1.19 \cdot 10^{-5}$ till $1.55 \cdot 10^{-5}$ M)

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