German-Polish-Baltic Conference on Organic Chemistry

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	Natural Product Chemistry II Chair: Slawomir Jarosz, Warsaw
14:00-14:30	**Roderich Süßmuth**, Berlin, Keynote Lecture: *Ribosomal and Non-ribosomal Peptides from Bacteria and Fungi – Structural and Biosynthetic Aspects*
14:30-14:40	**Daniel Lücke** et al., Hannover: *Total Synthesis of Pericoannosin A*
14:40-14:50	**Jan Rinkel** et al., Bonn: *Labelling Studies on CYP-catalysed Terpene Oxidations*
14:50-15:00	**Janina Meyer** et al., Hannover: *Syntheses of Carolactone Derivatives as Highly Potent Biofilm Inhibitors*
15:00-15:20	**Katarzyna Duda**, Borstel, Invited Lecture: *Lipids from Pollen: what are the Structures Behind Neglected Players in the Allergic Airway Inflammation*
15:20-15:30	**Grete Hoffmann** et al., Münster: *Short and Protecting Group free Approach to t(-)-Δ8-THC-Motif: Synthesis of THC-Analogues, (-)-Machaeriol B and D*
15:30-15:40	**Kinga Kuczynska** et al., Warsaw: *The Transformation of Betulin Core*
15:40-16:10	**Sabine Laschat**, Stuttgart, Invited Lecture: *Adventures and Detours in the Synthesis of Macrolides and Cembranoids*
16:10-16:40	Coffee break
	Various Topics in Organic Chemistry Chair: Thomas Hackl, Hamburg
16:40-17:10	**Maris Turks**, Riga, Keynote Lecture: *Fluorescent Triazolyl Purines and their Nucleoside Congeners*
17:10-17:20	**Axel T. Neffe** et al., Hamburg and Teltow: *Fe-Catalyzed Access to Oligodepsipeptides and their Application in Biomedicine*
17:20-17:30	**Lukasz G. Lukasiewicz** et al., Warsaw: *Symmetry Breaking in Pyrrolo[3,2-b]pyrroles: Synthesis, Solvatofluorochromism and Two-photon Absorption*
17:30-17:40	**Mykhaylo A. Potopnyk** et al., Warsaw: *N,O p-Conjugated (Benzo/Naphtho)Thiazole BF_2 Complexes*
17:40-17:50	**Anke Bollen** et al., Hamburg: *SMART Metabolite ID: A Novel Strategy for the Identification of Unknown Metabolites from Complex Extracts*
17:50-18:00	**René Bachmann** et al., Hamburg: *Metabolic Change of Hazelnuts by Harming Processes and Quality Control by ^{1}H-NMR-Spectroscopy*
18:00-18:10	**Tomasz Madry** et al., Poznań: *Diarylmethane based new chromophoric probes for stereochemical assignments*
18:10-18:40	**Gregorz Litwinienko**, Warsaw, Keynote Lecture: *Solvent Effects in Free Radical Chemistry - from Homogeneous Solutions to Dispersed, Biologically Relevant Systems*
19:00	Dinner

Fluorescent Triazolyl Purines and their Nucleoside Congeners

Māris Turks, Ērika Bizdēna, Dace Cīrule, Zigfrīds Kapilinskis, Irina Novosjolova, Kristers Ozols, Armands Sebris, Andrejs Šišuļins and Jānis M. Zaķis

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Keywords: purines, azoles, S_NAr reactions

Azolylpurines and azolylpurine nucleosides have important medicinal and biological applications.[1] We have developed a novel approach for the synthesis of C(2) and C(6) modified purines and purine nucleoside analogues of type **3** containing 1,2,3-triazolyl substituents.[2,3] The method uses 2,6-diazidopurine derivatives **1** as the key starting materials. The latter can be transformed into novel structural entities – 2,6-bis(1,2,3-triazol-1-yl)purine derivatives **2** – including nucleoside analogs. It was found that 1,2,3-triazolyl substituent acts as excellent leaving group and permits nucleophilic aromatic substitution (**2**→**3**) (Fig. 1). Thus, regioselective S_NAr reactions with various nucleophiles like amines,[2,4] thiols,[3] amino acids and peptides,[5] hydrazines, anilines, alcohols and deprotonated C-H acids are possible for compounds **2** at C(6).

Further investigations lead to the use of diazide **1** as a substrate for S_NAr reactions. Depending on the nature of *N*(9) substituent (Q), the incoming nucleophile and the experimental conditions, selectivity towards differently substituted compounds **4** and **5** can be achieved. This is mainly determined by azide-tetrazole tautomerism **1-A** ↔ **1-T**. We have found that 2-(1,2,3-triazolyl)adenine/adenosine analogs **3** (Nu = NY_2) and their regioisomers **6** possess excellent fluorescent properties. Compounds **3** and **6** can be applied both for fluorescent oligonucleotide synthesis[4] and for OLED technologies. Moreover, the developed chemistry permits synthesis of novel purine conjugates containing 5-membered heterocycles at C(2) (compounds of type **7**).

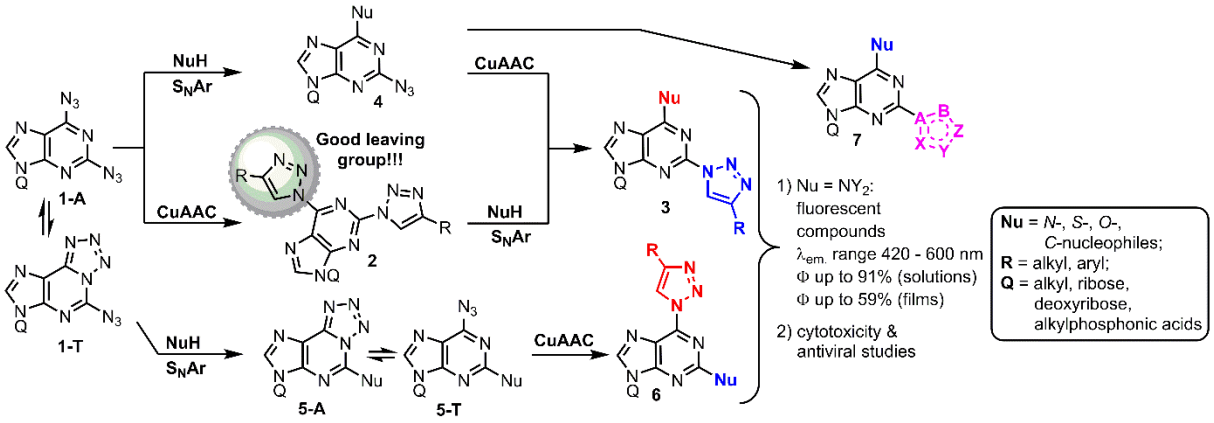

Fig. 1. Azidopurines and (1,2,3-triazol-1-yl)purines as substrates in S_NAr reactions.

References

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