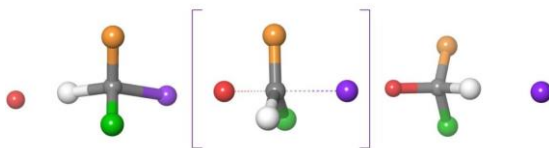




13th Paul Walden Symposium

September 14th-15th, 2023

Program and abstracts



Riga, Latvia

M-3	Mārtiņš Ķaukulis. Bromination of 2,6-methyl groups of <i>bis</i> -1,4-dihydropyridines and bromine nucleophilic substitution.....	30
M-4	Davis Lacis. Synthesis of 1,2-dihydropyridine derivatives and their aromatization.....	31
M-5	Rebeka Ločmele. Hydrosilylation of esters to silyl acetals catalysed by using SilBoRed™ technology.....	32
M-6	Jānis Šadauskis. Synthesis of potential IRE1α inhibitors.....	33
M-7	Emanuels Šūpulnieks. Palladium catalysed [3+2] cycloaddition of trimethylenemethane to sulfur dioxide.....	34
M-8	Artjoms Ubaidullajevs, Rasma Kronkalne. Tandem 1,2-silyl shift – Friedel–Crafts synthetic approach to substituted vinyl chromanes.....	35
M-9	Niklāvs Ūdris. First total synthesis of (+)-Sitsirikine and (+)-Dihydrositsirikine.....	36
D-1	Vladislavs Baškevičs. 3-Heteroaryl 2-aminopyridine modified triplex-forming peptide nucleic acids.....	37
D-2	Rūdolfs Beļauņieks, Mikus Puriņš, Rebeka Anna Līpiņa. 1,3-Difunctionalization of propargyl silanes for the synthesis of allyl functionalized vinyl silanes.....	38
D-3	Laima Bērziņa. Synthesis and antiradical properties of Meldrum's acid decorated dendrimer.....	39
D-4	Aleksejs Burcevs. Synthesis of a cyclen containing purine derivative as a potential photo-catalyst.....	40
D-5	Aleksandrs Cizikovs, Emīls Edgars Basens, Paula Amanda Zagorska. Indole synthesis via C(sp ²)-H bond functionalization of amino acids.....	41
D-6	Madara Dārziņa, Dmitrijs Černobrovkins. Electrochemical cleavage and subsequent oxyfluorination of cyclopropane C-C bond.....	42
D-7	Armands Kazia. Probing of irreversible covalent warheads for plasmodium serine protease SUB1 inhibitors.....	43

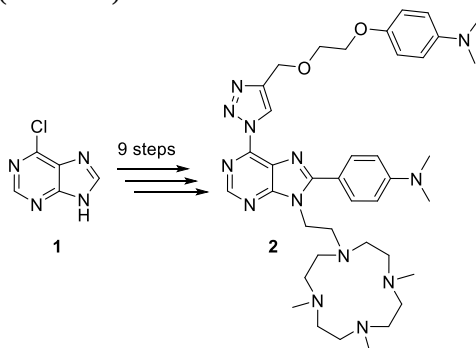
Synthesis of a cyclen containing purine derivative as a potential photo-catalyst

Aleksejs Burcevs

Riga Technical University, Faculty of Materials Science and Applied Chemistry, Latvia
e-mail: aleksejs.burcevs@rtu.lv

Fluorescent purine derivatives can be used in analytics as a metal ion¹ and pH sensors.² They also can be used as photo-catalysts.³

Target purine derivative **2** was designed as a potential system for photo-catalysis. For the synthesis of **2**, derivatization of C(6), C(8) and N(9) positions of 6-chloropurine (**1**) is required. Several synthetic pathways were designed and have been tested. In the end, target compound **2** was obtained in 9 steps, using the combinations of S_NAr, S_N2, CuAAC, C-C metal catalyzed coupling, alkylation and Mitsunobu reactions (Scheme 1).



Scheme 1. Starting material **1** and target compound **2**.

Supervisors: Dr. chem. Irina Novosjolova, Dr. chem. Māris Turks

Acknowledgements: The authors thank MEPS co-project LV-LT-TW/2022/9 for financial support. A.B. thanks the European Social fund within project Nr. 8.2.2.0/20/1/008 and Riga Technical University.

References

1. Jovaisaite, J.; Čirule, D.; Jeminejs, A.; Novosjolova, I.; Turks, M.; Baronas, P.; Komskis, R.; Tumkevicius, S.; Jonusauskas, G.; Jursenas, S. *Phys. Chem. Chem. Phys.* **2020**, *22*, 26502.
2. Sun, K. M.; McLaughlin, C. K.; Lantero, D. R.; Manderville, R. A. *J. Am. Chem. Soc.* **2007**, *129*, 1894.
3. Kumar, A.; Mital, S. *J. Mol. Catal. A Chem.* **2004**, *219*, 65.