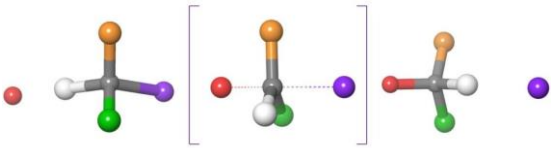
13th Paul Walden Symposium

September 14th-15th, 2023

Program and abstracts



Riga, Latvia

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Poster awards by

Paul Walden 13th Symposium on Organic Chemistry

We have the great pleasure of inviting you to the 13th Paul Walden Symposium on Organic Chemistry, which is hosted by the Latvian Institute of Organic Synthesis (LIOS) and Riga Technical University (RTU).

Paul Walden (Pauls Valdens) was an expert in three different research areas: organic chemistry, electrochemistry, and science history. His first scientific results were obtained in Riga under the supervision of Nobel Prize winner Professor Wilhelm Ostwald. In 1896, he discovered his famous rule, later called the "Walden inversion". Starting from 1987, RTU awards a Paul Walden medal in chemistry and science history, both beloved Walden's scientific disciplines. In 2023, the recipient of the Paul Walden medal is Prof. Olafs Daugulis from the University of Houston, USA. His research interests are synthetic organic and organometallic methodology.

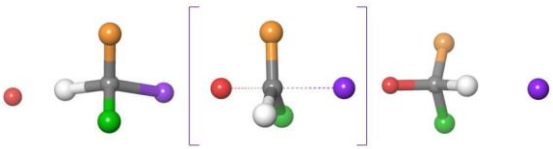
The goal of this Conference is to bring together scientists, scholars, and students from universities, research institutes, and industry across the Baltic States. The traditional format of the Walden Symposium comprises plenary lectures by renowned organic chemists and a poster session, where students communicate their research.

In addition, two oral presentations are offered by the best Latvian PhD students. Furthermore, this year, we will uphold all the long-standing traditions of the Walden Symposium, including the student poster competition that commenced 22 years ago. A panel consisting of invited speakers and local professors will determine the recipients of the best poster prizes in the bachelor, master, and PhD categories. We are pleased to announce that this year's best poster prize is generously sponsored by the Ukrainian company Enamine.

We wish you a successful and inspiring event with many interesting discussions and debates!

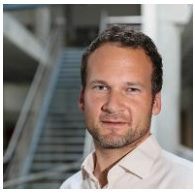
On behalf of the Organizing Committee,
Dr. Peteris Trapencieris
Latvian Institute of Organic Synthesis, Latvia

Program



Program

Thursday, September 14th

9.00		Welcoming remarks Prof. **Edgars Sūna** (Chairman of the Scientific Board, Latvian Institute of Organic Synthesis)
9.10		Presentation of the Paul Walden medal to Prof. Olafs Daugulis (University of Houston, Texas, US) by Prof. **Māris Turks**, Dean of the Faculty of Materials Science and Applied Chemistry (Riga Technical University)
9.30		Prof. **Olafs Daugulis** (University of Houston, US) ***New methods for carbon-hydrogen bond functionalization***
10.20		Prof. **Nicolai Cramer** (Ecole polytechnique fédérale de Lausanne, Switzerland) ***From [ ] to L****
11.10		*Symposium group photo and Coffee break*
11.40		Prof. **Andrew D. Smith** (University of St Andrews, UK) ***Promoting the forbidden: catalytic enantioselective [1,2]-rearrangements***
12.30		Poster pitches (PhD students)
12.45		*Lunch*

14.40 

Prof. **Zoltan Novak** (Eötvös Loránd University, Hungary)
Synthesis of fluoroalkylated derivatives: feedstocks, reagents, catalysis and media

15.30 Poster pitches (PhD students)

15.45 *Coffee break*

16.15 Poster pitches (PhD students)

16.30 

Prof. **Lutz Ackermann** (Georg-August-University Göttingen, Germany)
Metallaelectro-catalyzed bond activation

17.20 Guided tour of the Paul Walden and Wilhelm Ostwald monuments

Friday, September 15th

9.00 

Prof. **Pierangelo Metrangolo** (Politecnico Milano, Italy)
Journey through the World of halogen bonding

9.50 

Prof. **Rebecca Melen** (University of Cardiff, UK)
Group 13 Lewis acids for synthesis and catalysis

10.40 *Coffee break*

11.00 

PhD **Renāte Melngaile** (Latvian Institute of Organic Synthesis, Latvia)
Development of fluoromethylene transfer reagents

11.30 

PhD student **Gļebs Jeršovs** (Latvian Institute of Organic Synthesis, Riga, Latvia)
Sulfur-selective alkylation of sulfinamides

12.00 *Lunch*

13.00 Poster session & *Coffee break*

15.20 

Prof. **Paolo Melchiorre** (University of Bologna, Italy)
Photochemistry & organocatalysis: new radical opportunities

16.10 Poster awards and closing remarks

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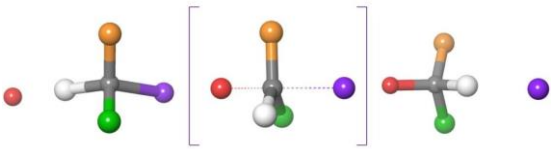

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Tandem 1,2-silyl shift – friedel–crafts synthetic approach to substituted vinyl chromanes

Artjoms Ubaidullajevs, Rasma Kroņkalne

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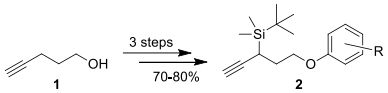
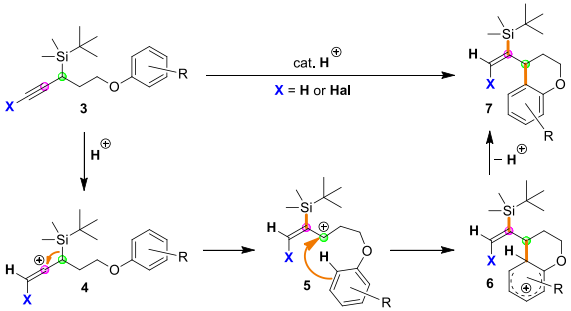
Herein we report a new synthetic route to substituted 4-vinyl chromanes. The key synthetic step involves tandem 1,2-silyl shift – Friedel–Crafts cyclization of propargyl silyl group containing aryl ethers **2**.

Aryl ethers **2** can be obtained from commercially available pent-4-yn-1-ol (**1**) in 3 steps: O-silylation, retro-Brook rearrangement[1] under Schlosser conditions and modified[2] Mitsunobu reaction with corresponding phenols (Scheme 1).



Scheme 1. Synthesis of aryl ethers **2**.

Aryl ethers **3** in the presence of strong Brønsted acids undergo cyclization[3] to yield chrormanes **7** (Scheme 2). In order to increase functionalization of the molecule, terminal alkyne can be easily converted to haloalkyne and employed in same catalytic conditions to yield chromane with *E*-selective alkene side chain.



Scheme 2. Tandem 1,2-silyl shift – Friedel–Crafts cyclization of aryl ethers **3**.

Supervisor: Dr. chem. Māris Turks

References

1. Wang, X.; Gao, Q.; Buevich, A. V.; Yasuda, N.; Zhang, Y.; Yang, R.-S.; Zhang, L.-K.; Martin, G. E.; Williamson, T. R. *J. Org. Chem.* **2019**, *84*, 10024.
2. Hirose, D.; Gazvoda, M.; Košmrlj, J.; Taniguchi, T. *J. Org. Chem.* **2018**, *83*, 4712.
3. Puriņš M.; Mishnev, A.; Turks, M. *J. Org. Chem.* **2019**, 84, 3595.