

Annual meeting
of the *Working Committee for Carbohydrates, Nucleic Acids and Antibiotics*
of the *Hungarian Academy of Sciences*
Mátrafüred, May 23– May 25, 2018

Sponsored by Cyclolab Ltd. and GlycOptim Ltd.

Scientific programme

Wednesday, 23/05

14:00 Lunch

Trip to Kozmáry-tower (optional)

16:30 Opening (László Somsák)

16:40-17:00

János József, Tünde Zita Illyés, Katalin E. Kövér, László Juhász, László Somsák

Study of [2+2] type cycloadditions of *exo*-glycal derivatives

Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary

17:00-17:20

Eszter Szennyés, Sándor Kun, Éva Bokor, István Kacsir, Joseph M. Hayes, Daniel T. Barr, László Somsák

New *C*- and *N*-glucopyranosyl azoles as potential inhibitors of glycogen phosphorylase

Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary

17:20-17:40

Fruzsina Demeter, Tímea Balogh, Viktor, Kelemen, Mihály Herczeg, Anikó Borbás

Rapid Synthesis of L-Idosyl Glycosyl Donors from Thioglucosides for the Preparation of Heparin Disaccharides

Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary

17:40-18:00

Mihály Herczeg, Fruzsina Demeter, Fanni Veres, Anikó Borbás

Application of the new idose synthesis: the preparation of Idraparinux

Department of Pharmaceutical Chemistry, University of Debrecen, P.O. Box 78, 4010
Debrecen

Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary

18:30 Dinner

Thursday, 24/05

9:30-9:50

Ádám Hadházi,^{1,2} Linghui Li,^{1,3} Benjamin Bailly,¹ Andrea Maggioni,¹ Gael Martin,¹ Larissa Dirr,¹ Jeffrey C. Dyason,¹ Robin J. Thomson,¹ George Gao,⁴ Anikó Borbás,² Thomas Ve,¹ Mauro Pascolutti¹ and Mark von Itzstein¹

In silico design, synthesis and *in vitro* validation of next-generation neuraminidase inhibitors against influenza virus

¹*Institute for Glycomics, Gold Coast Campus, Griffith University, Queensland, Australia.*

²*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary.*

³*University of Chinese Academy of Sciences, Beijing, China.*

⁴*Savaid Medical School, University of Chinese Academy of Sciences, Beijing, China.*

9:50-10:10

Eszter Boglárka Lőrincz¹, Ilona Bakai-Bereczki¹, Ádám Hadházi¹, Lieve Naesens², Evelien Vanderlinden², Anikó Borbás¹, Pál Herczegh¹

Synthesis of amphiphilic neuraminic acid derivatives against influenza

¹*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

²*Rega Institute for Medical Research, KU Leuven, Leuven, Belgium*

10:10-10:30

Eszter Szennyés, Éva Bokor, Attila Ferenczi, Mahir Hashimov, Dóra Kecskés, László Somsák

Synthesis of C-glycosyl derivatives of some azines

Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary

10:30-10:50

Mariann Kiss, Teréz Barna, László Somsák

Potent inhibition of wild-type human OGA by aldonolactone hydrazone derivatives

Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary

10:50-11:15 Break

11:15-12:15

PLENARY LECTURE

Carlo Unverzagt:

Synthetic N-glycans and glycoproteins: new tools in glycobiology

Bioorganische Chemie, Universität Bayreuth, Bayreuth, Germany

12:30-13:30 Lunch

13:30-14:30 Munkabizottsági ülés (tisztújítás és újjáalakulás) (In Hungarian)

15:00-15:20

Viktória Goldschmidt Gőz^{1,2}, Adrienn Nagy^{2,3}, Viktor Farkas¹, István Pintér³, András Perczel^{1,3}

Puzzle pieces: C-3 and C-4 epimer β -SAAs as new building blocks of foldamers

¹ MTA-ELTE, Protein Modeling Research Group, Institute of Chemistry, Eötvös Loránd University, Budapest, Hungary

² Doctoral School of Chemistry, Institute of Chemistry, Eötvös Loránd University, Budapest, Hungary

³ Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös Loránd University, Budapest, Hungary

15:20-15:40

Ágnes Homolya, Mária Polyák, Attila Mándi, Tünde Zita Illyés, Gyula Batta, László Juhász, László Somsák

Transformations of 1-C substituted glycal derivatives

Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary

15:40-16:00

Lajos Szente

Cyclodextrins as Active Pharmaceuticals and Diagnostic Agents. Recent developments

CycloLab Cyclodextrin Research and Development Laboratory Ltd., Budapest, Hungary

16:00-16:20

Zoltán Fülöp

Cyclodextrin Aggregates for Ophthalmic Drug Delivery

CycloLab Cyclodextrin Research and Development Laboratory Ltd., Budapest, Hungary

16:20-16:40 Break

16:40-17:00

Csaba Balázs, Zoltán Kupihár, Zoltán Szabó, Zoltán Kele, Györgyi Ferenc, Lajos Kovács

Quadruplex forming of oligonucleotides containing 2'-deoxy-5-hydroxyuridine

Department of Medicinal Chemistry, University of Szeged and Biological Research Centre, Hungarian Academy of Sciences, Szeged

17:00-17:20

Györgyi Ferenc¹, Zoltán Kupihár², Bettina Nagy¹, Zoltán Zombori¹, Ayşegül Öktem¹, Elfrieda Fodor³, István Nagy⁴, Dénes Dudits¹, Ferhan Ayaydin^{1,5}

Chemically modified template ssDNAs and gRNAs for increasing the efficiency of plant gene editing

¹Institute of Plant Biology, ³Institute of Biochemistry, ⁵Cellular Imaging Laboratory of Hungarian Academy of Sciences, Biological Research Centre, Szeged

²Department of Medicinal Chemistry, University of Szeged

⁴SeqOmics Biotechnology Ltd., Mórahalom

17:20-17:40

Zsolt Szűcs¹, Erzsébet Róth¹, Pál Herczegh¹, Eszter Ostorházi², Gyula Batta³, Anikó Borbás¹

Synthesis and antibacterial evaluation of variously functionalized glycopeptide antibiotics

¹*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

²*Microbiology Laboratory, Department of Dermatology, Venerology and Dermatooncology, Semmelweis University, Budapest, Hungary*

³*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

17:40-18:00

Viktor Kelemen, Dániel Eszenyi, Miklós Bege, Magdolna Csávás, Pál Herczegh, Anikó Borbás

Thiol-ene addition to glycals and 2,3-unsaturated glycosides

Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary

18:30 Dinner

Friday, 25/05

9:00-9:45 (in Hungarian)

Könnyű reggeli tudomány

Kovács Lajos: Az utak Mexikóba vezetnek - Rosenkranz György és Russell Marker nyomában

9:45-10:00 Break

10:00-10:20

Gita Jančaříková^{1,2}, Lenka Malinovská^{1,2}, Mihály Herczeg,³ Eva Fujdiarová,² Josef Houser^{1,2}, Katalin E. Kövér,⁴ Anikó Borbás,³ Michaela Wimmerová^{1,2,5} and Magdolna Csávás³

Synthesis of fucoside-, galactoside- and mannoside-presenting glycoclusters and investigation of their interaction with bactericidal lectins

¹*Central European Institute of Technology, Masaryk University, Brno, Czech Republic*

²*National Centre for Biomolecular Research, Faculty of Science, Masaryk University, Brno, Czech Republic*

³*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

⁴*Department of Inorganic and Analytical Chemistry, University of Debrecen, Debrecen, Hungary*

⁵*Department of Biochemistry, Faculty of Science, Masaryk University, Brno, Czech Republic*

10:20-10:40

Lenka Malinovska¹, Josef Houser¹, Michaela Wimmerová¹, Anikó Borbás², Magdolna Csávás²

Evaluation of multivalent inhibitors of *Pseudomonas aeruginosa* lectin A

¹*Central European Institute of Technology, Kamenice 5, 625 00 Brno, Czech Republic*

²*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

10:40-11:00

Sándor Kun, Nándor Kánya, Nóra Magos, László Somsák

Studies towards the synthesis of new bis-C,C-glycosylic compounds

Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary

11:00-11:20

Le Thai Son¹, Gyula Batta², Anikó Borbás¹, Magdolna Csávás¹

Synthesis of an α -L-fucosides presenting chimeric glycocluster

¹*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

²*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

11:30 Closing remarks (László Somsák)

12:00 Lunch