



ÚOCHB AV
IOCB PRAGUE

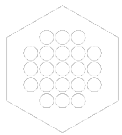
Meeting with Group Leaders

March 31, 2022

Zdenek Hostomsky

Agenda

- Organic solvents disposal
- Most significant publications 2021 contest
- New IAB member



- Miscellanea
 - Financial situation
 - GAČR deadline
 - Up-coming events

Organic solvents disposal



Messr. Rynda & Šimek & Šobíšek

Disposal moving to a new, smaller area, certified by Fire department

IOCB Waste management understaffed

Several options:

- 1) Train a parttime worker (a student) who would help out for a fee
- 2) Request each group to handle it themselves

The waste solvents area

Slide number

The old one



The new one



Most Significant Publications - 2021



PHYS

Physical and Theoretical Chemistry

CHEM

Medicinal and Organic Chemistry

BIO

Biochemistry and Molecular Biology

	2019	2020	2021
• PHYS	11	9	10
• CHEM	8	9	12
• BIO	8	11	10

Kategorie		Beschreibung		Anzahl	
1	1.1	1.1.1	1.1.1.1	1.1.1.1	1.1.1.1
2	2.1	2.1.1	2.1.1.1	2.1.1.1	2.1.1.1
3	3.1	3.1.1	3.1.1.1	3.1.1.1	3.1.1.1
4	4.1	4.1.1	4.1.1.1	4.1.1.1	4.1.1.1
5	5.1	5.1.1	5.1.1.1	5.1.1.1	5.1.1.1
6	6.1	6.1.1	6.1.1.1	6.1.1.1	6.1.1.1
7	7.1	7.1.1	7.1.1.1	7.1.1.1	7.1.1.1
8	8.1	8.1.1	8.1.1.1	8.1.1.1	8.1.1.1
9	9.1	9.1.1	9.1.1.1	9.1.1.1	9.1.1.1
10	10.1	10.1.1	10.1.1.1	10.1.1.1	10.1.1.1
11	11.1	11.1.1	11.1.1.1	11.1.1.1	11.1.1.1
12	12.1	12.1.1	12.1.1.1	12.1.1.1	12.1.1.1
13	13.1	13.1.1	13.1.1.1	13.1.1.1	13.1.1.1
14	14.1	14.1.1	14.1.1.1	14.1.1.1	14.1.1.1
15	15.1	15.1.1	15.1.1.1	15.1.1.1	15.1.1.1
16	16.1	16.1.1	16.1.1.1	16.1.1.1	16.1.1.1
17	17.1	17.1.1	17.1.1.1	17.1.1.1	17.1.1.1
18	18.1	18.1.1	18.1.1.1	18.1.1.1	18.1.1.1
19	19.1	19.1.1	19.1.1.1	19.1.1.1	19.1.1.1
20	20.1	20.1.1	20.1.1.1	20.1.1.1	20.1.1.1
21	21.1	21.1.1	21.1.1.1	21.1.1.1	21.1.1.1
22	22.1	22.1.1	22.1.1.1	22.1.1.1	22.1.1.1
23	23.1	23.1.1	23.1.1.1	23.1.1.1	23.1.1.1
24	24.1	24.1.1	24.1.1.1	24.1.1.1	24.1.1.1
25	25.1	25.1.1	25.1.1.1	25.1.1.1	25.1.1.1
26	26.1	26.1.1	26.1.1.1	26.1.1.1	26.1.1.1
27	27.1	27.1.1	27.1.1.1	27.1.1.1	27.1.1.1
28	28.1	28.1.1	28.1.1.1	28.1.1.1	28.1.1.1
29	29.1	29.1.1	29.1.1.1	29.1.1.1	29.1.1.1
30	30.1	30.1.1	30.1.1.1	30.1.1.1	30.1.1.1
31	31.1	31.1.1	31.1.1.1	31.1.1.1	31.1.1.1
32	32.1	32.1.1	32.1.1.1	32.1.1.1	32.1.1.1
33	33.1	33.1.1	33.1.1.1	33.1.1.1	33.1.1.1
34	34.1	34.1.1	34.1.1.1	34.1.1.1	34.1.1.1
35	35.1	35.1.1	35.1.1.1	35.1.1.1	35.1.1.1
36	36.1	36.1.1	36.1.1.1	36.1.1.1	36.1.1.1
37	37.1	37.1.1	37.1.1.1	37.1.1.1	37.1.1.1
38	38.1	38.1.1	38.1.1.1	38.1.1.1	38.1.1.1
39	39.1	39.1.1	39.1.1.1	39.1.1.1	39.1.1.1
40	40.1	40.1.1	40.1.1.1	40.1.1.1	40.1.1.1
41	41.1	41.1.1	41.1.1.1	41.1.1.1	41.1.1.1
42	42.1	42.1.1	42.1.1.1	42.1.1.1	42.1.1.1
43	43.1	43.1.1	43.1.1.1	43.1.1.1	43.1.1.1
44	44.1	44.1.1	44.1.1.1	44.1.1.1	44.1.1.1
45	45.1	45.1.1	45.1.1.1	45.1.1.1	45.1.1.1
46	46.1	46.1.1	46.1.1.1	46.1.1.1	46.1.1.1
47	47.1	47.1.1	47.1.1.1	47.1.1.1	47.1.1.1
48	48.1	48.1.1	48.1.1.1	48.1.1.1	48.1.1.1
49	49.1	49.1.1	49.1.1.1	49.1.1.1	49.1.1.1
50	50.1	50.1.1	50.1.1.1	50.1.1.1	50.1.1.1
51	51.1	51.1.1	51.1.1.1	51.1.1.1	51.1.1.1
52	52.1	52.1.1	52.1.1.1	52.1.1.1	52



Most Significant Publications - 2021



Category	Authors	Laboratory	Article / Publication	Journal
CHEM	Filip Kalčík, Michala Zgarbáková	Z. Janeba	Discovery of Modified Amidate (ProTide) Prodrugs of Tenofovir with Enhanced Antiviral Properties	J. Med. Chem. 2021, 64, 16425–16449
CHEM	Athanasios Markos, a, b	P. Beier	Haloalkenyl Imidoyl Halides as Multifacial Substrates in the Stereoselective Synthesis of N-Alkenyl Compounds	Advanced Synthesis & Catalysis
CHEM	Terezie Páníková, Katarína	J. Jiráček	Insulin Analogues with Altered Insulin Receptor Isoform Binding Specificities and Enhanced Aggregation Stabilities	J. Med. Chem. 2021, 64, 14848–14859
CHEM	Rastislav Dzajak, Juraj Gašpar	M. Vrábel	Structurally Redesigning Bioorthogonal Reagents for Mitochondria-Specific Prodrug Activation	JACS Au 2021, 1, 23–30
CHEM	Denise-Liu' Leone, Mart	M. Hocek	1,3-Diketone-Modified Nucleotides and DNA for Cross-Linking with Arginine-Containing Peptides and Proteins	Angew. Chem. Int. Ed. 2021, 60, 17383–17387
CHEM	David Kodr, + Cansu Pinar	M. Hocek	Carborane- or Metallocarborane-Linked Nucleotides for Redox Labeling. Orthogonal Multipotential Coding of all Four DNA Bases for Electrochemical Analysis and Sequencing	J. Am. Chem. Soc. 2021, 143, 7124–7134
CHEM	Petr Šimon, + [a] Markéta	M. Dračinský	Phosphate-Based Self-Immolative Linkers for Tuneable Double Cargo Release	Chem. Eur. J. 2021, 27, 12763–12775
CHEM	Thi Phuong Le, Igor Ronč	J. Kaleta	Polyhalogenated Bicyclo[1.1.1]pentane-1,3-dicarboxylic Acids	J. Org. Chem. 2021, 86, 10303–10319
CHEM	Tomáš Otava, Michal Šál	R. Nencka	The Structure-Based Design of SARS-CoV-2 nsp14 Methyltransferase Ligands Yields Nanomolar Inhibitors	ACS Infect. Dis. 2021, 7, 2214–2220
CHEM	Markéta Pimková Polida	G. Birkuš	Synthesis and Biological Evaluation of Phosphoester and Phosphorothioate Prodrugs of STING Agonist 3',3'-c-Di(2'F,2'dAMP	J. Med. Chem. 2021, 64, 7596–7616
CHEM	Katerina Svehlova, Ondr	E. Curtis	Supernova: A Deoxyribozymethat Catalyzes a Chemiluminescent Reaction	Angew. Chem. Int. Ed. 2022, 61, e20210934
CHEM	Robin Kryštof, Pavel Šácha, Jana Starková,	J. Konvalinka	Re-emerging Aspartic Protease Targets: Examining Cryptococcus neoformans Major Aspartyl Peptidase 1 as a Target for Antifungal Drug Discovery	J. Med. Chem. 64 (10), 6706–6719

Most Significant Publications - 2021



Category	Authors	Laboratory	Article / Publication	Journal
BIO	Miroslava Kacířová ¹ , Bla	Lenka Maletínská	Aging and high-fat diet feeding lead to peripheral insulin resistance and sex- dependent changes in brain of mouse model of tau pathology THY-Tau22	Journal of Neuroinflammation
BIO	Jílková, A., Horn, M., Fan	L. Marešová	Azanitrile inhibitors of the SmCB1 protease target are lethal to Schistosoma mansoni: structural and mechanistic insights into chemotype reactivity.	ACS Infectious Diseases, 7, 189-201.
BIO	Natalie Ben Abu ^{1,2,5} , Philip E. Mason ^{3,5} .	P. Jungwirth	Sweet taste of heavy water	COMMUNICATIONS BIOLOGY
BIO	Pavel Dostalík, a Petra Kr	E. Bouřa	Structural Analysis of the OC43 Coronavirus 29-O-RNA Methyltransferase	Journal of Virology / jvi.asm.org
BIO	Cermakova K, Demeuler	P. Řezáčová	A ubiquitous disordered protein interaction module orchestrates transcription elongation	Science. 2021 Nov 26;374(6571)
BIO	Eva Dolejší a, Nikolai Ch	E. Kudová	Neuroactive steroids, WIN-compounds and cholesterol share a common binding site on muscarinic acetylcholine receptors	Biochemical Pharmacology 192 (2021) 114699
BIO	Eva Dolejší a, Eszter Szá	E. Kudová	Neurosteroids and steroid hormones are allosteric modulators of muscarinic receptors	Neuropharmacology 199 (2021) 108798
BIO	Tereza Streckerová ^{1,2} , Jaroslav Kurfíř ^{1,3}	E. Curtis	Single-round deoxyribozyme discovery	Nucleic Acids Research, 2021, Vol. 49, No. 12 6971–6981
BIO	Kristyna Blazková ^{1,2} , Jana Beranová ^{1,3} ,	J. Konvalinka	The development of a high-affinity conformation-sensitive antibody mimetic using a biocompatible copolymer carrier (iBody)	J. Biol. Chem. 297, 101342
BIO	Zuzana Hejdankova, Václav Vanek,	P. Cígler	Lipid Nanoparticles for Broad-Spectrum Nucleic Acid Delivery	Adv. Funct. Mater. 2021, 2101391

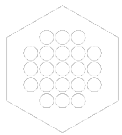
Most Significant Publications - 2021



Category	Authors	Laboratory	Article / Publication	Journal
PHYS	Philip E. Mason ^{1,12} , H. C.	P. Jungwirth	Spectroscopic evidence for a gold-coloured metallic water solution	Nature
PHYS	Miroslav Smola ⁺ , Ondrej	L. Rulíšek	Ligand Strain and Its Conformational Complexity Is a Major Factor in the Binding of Cyclic Dinucleotides to STING Protein	Angew.Chem. Int. Ed. 2021, 60, 10172–10178
PHYS	Das, M.; Gangopadhyay,	P. Bouř	Chiral detection by induced surface-enhanced Raman optical activity	Chem. Commun. 2021, 57, 6388–6391
PHYS	Kurochka, A.; Průša, J.; K	P. Bouř	α -Synuclein conformations followed by vibrational optical activity. Simulation and understanding of the spectra	Phys. Chem. Chem. Phys. 2021, 23, 16635–16645
PHYS	J. Chalupský, M. Srnec	Z. Havlas	Beyond the Classical Contributions to Exchange Coupling in Binuclear Transition Metal Complexes.	Journal of Physical Chemistry A. Roč. 125, č. 11 (2021), s. 2276–2283
PHYS	J. Chalupský, M. Srnec, T	Z. Havlas	Interpretation of Exchange Interaction through Orbital Entanglement.	Journal of Physical Chemistry Letters. Roč. 12, č. 4 (2021), s. 1268–1274
PHYS	Martin Dračinský, Carina Santos Hurtado,	J. Kaleta	Stuffed pumpkins - Mechanochemical synthesis of host–guest complexes with cucurbit uril	Chem. Commun., 2021, 57, 2132
PHYS	Rabindranath Lo, Deba	P. Hobza	Addition Reaction between Piperidine and C ₆₀ to Form 1,4- Disubstituted C ₆₀ Proceeds through van der Waals and Dative Bond Complexes-Theoretical and Experimental Study	J. Am. Chem. Soc. 2021, 143, 10930–10939
PHYS	B. Mallada ^{1,2,3†} , A. Gall	P. Hobza	Real-space imaging of anisotropic charge of s-hole by means of Kelvin probe force microscopy	Science 374, 863–867 (2021)
PHYS	Benjamin Mallada, [†] Bru	D. Nachtigallová	On-Surface Strain-Driven Synthesis of Nonalternant Non-Benzenoid Aromatic Compounds Containing Four- to Eight-Membered Rings	J. Am. Chem. Soc. 2021, 143, 14694–14702

Judging the IOCB contribution

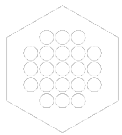
Eligible papers should have an IOCB scientist as a first or corresponding author



- Many high quality papers are collaborative. When the IOCB contribution adds a significant value which, together with an external collaborator, creates an exceptional quality, the IOCB credit goes to the entire paper.
- Attempt to eliminate papers where IOCB contribution is marginal and most of the important stuff has been done elsewhere (e.g. a significant part of the paper has been done by a current employee before he joined IOCB)

Neighborhood complaint

Offensive odor in Bechyňova street when our waste water is pumped to the city sewage (there are some other minor complaints – noise, light, etc).



A neighborhood association formed headed up by a lawyer

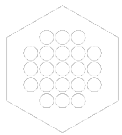
After first official meeting we promised to find a solution

A prime suspect: Dimethyl Sulfide
(a strong objectionable odor that can cause nausea)

Neighborhood complaint cont.

An **Open Call** to find a solution:

- 1) Causation – how it happens
- 2) Practical remedy



Prize money

100 K personal award, 100 K for the group

Public recognition (Pochvala před nastoupenou jednotkou)

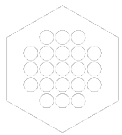
Richard Feynman –Challenger disaster 1986
O rings

New member of the IAB

Angela Russell

Professor of Medicinal Chemistry

Oxford University
Dept. of Pharmacology



Miscellanea

IOCB Royalty Income from TAF

2018	2019	2020	2021	2022	2023	2024	2025
\$ 13,599 K	\$ 18,875 K	\$ 30,493 K	\$ 29,378 K				
\$ 14,844 K	\$ 19,857 K	\$ 27,643 K	\$ 33,151 K				
\$ 16,550 K	\$ 22,805 K	\$ 31,965 K	\$ 35,386 K				
\$ 19,112 K	\$ 25,492 K	\$ 34,048 K	\$ 36,008 K				
\$ 64,105 K (1,473 M Kč)	\$ 87,029 K (2,050 M Kč)	\$ 124,149 K (2,661 M Kč)	\$ 133,923 K (3,013 M Kč)	3 mld	3 mld	3 mld	3 mld Kč

**Kind reminder:
final deadline for GAČR is nearly here!
Thu 7 April 2022**

Please send **pre-final drafts of GAČR proposals**
(full draft including part C1) as soon as possible, and no later
than **Monday 4th April 8am** [to projectoffice@uochb.caz.cz](mailto:projectoffice@uochb.caz.cz)

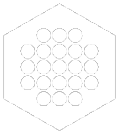
Priority is given to those who adhere to the interim deadlines.
A thorough formal check of late drafts may not be guaranteed.

Blanket salary increase as of April 1, 2022

- Applicable to all employees (excluding contractual salaries)
- Effective **April 1, 2022**
- Pay raise = CZK 2,800 (gross)
- **Full compensation to „VEJ“ but only for 2022 (CZK 2,800 * FTE * 9/12)**
- Will be processed by HR dpt., no further confirmation / action from the PI needed

Upcoming events

- All-hands meeting at NTK **April 22, 2022** 10:00 am
- Off-site meeting at Valeč **May 23-26, 2022**
- IAB in Prague **June 24-25, 2022**



Mtgs w GLs - 2022 Schedule



- January 28
- February 18
- March 31
- April 29
- May 20
- June 17
- September 16
- October 21
- November 18
- December 16

Always on Fridays at 10:00 am in the Director's Boardroom A4.01 (and/or via ZOOM)