

# JIŘÍ TROUSIL

Citizenship: Czech

Age: 28

<b>Education</b>	2016–today	<b>Faculty of Science, Charles University in Prague</b> Ph.D. study–Analytical Chemistry
	2014–2016	<b>University of Chemistry and Technology, Prague</b> Forensic Chemistry (M.Sc. equivalent)
	2012–2015	<b>University of Chemistry and Technology, Prague</b> Chemistry Teaching (B.Sc. equivalent)
	2011–2014	<b>University of Chemistry and Technology, Prague</b> Forensic Analysis (B.Sc. equivalent)
<b>Work Experience</b>	3/2020–today	<b>Biotechnology and Biomedicine Center in Vestec</b> Volunteer, COVID-19 team, testing of clinical samples
	9/2019	<b>Pharmaceutics Laboratory, Graduate Institute of Natural Products, Chang Gung University, Taiwan</b> Visiting fellow, prof. Jia-You Fang group
	10/2018	<b>Pharmaceutics Laboratory, Graduate Institute of Natural Products, Chang Gung University, Taiwan</b> Visiting fellow, prof. Jia-You Fang group
	5/2017	<b>Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Haifa, Israel</b> Visiting fellow, prof. Alejandro Sosnik group
	2012–today	<b>Institute of Macromolecular Chemistry CAS, Prague</b> Department of Supramolecular Polymer Systems
<b>Grants / Awards</b>	2019	<b>Czech Academy of Sciences Grant</b> (Support for Activity with Leading Research Institutions in Taiwan 2019, project No. VAJVA-19-55)
	2018	<b>Czech Academy of Sciences Grant</b> (Support for Activity with Leading Research Institutions in Taiwan 2018, project No. TWN-18-10)
	2017	<b>Czech Academy of Sciences Grant</b> (Support for Activity with Research Institutions in Israel 2017, project No. ISR-17-21)
	2016	<b>Karel Štulík Award 2016</b> (The best analytical chemistry-focused student project, award, 3rd place)

<b>Skills</b>	Languages	<b>English</b> (B2, FCE, October 2018) <b>Czech</b> (Native speaker)
	Techniques	Polymers synthesis and characterization (GPC, HPLC), nanomedicines preparation and characterization (DLS, SLS), cell culture and microbiology techniques
<b>Workshops</b>	Summer school SPSAS on Colloids (28. 10.–7. 11. 2018, Campinas, Sao Paulo, Brazil)	
	The Wyatt Company AFFFF Workshop (23. 8.-24.8.2018, Dernbach, Germany)	
	COST Action MP1404 Workshop, Simulation and pharmaceutical technologies for advanced patient-tailored inhaled medicines (27. 2.–28. 2. 2018, Belgrade, Serbia)	
<b>Memberships</b>	2011–today	Czech Chemical Society
	2018–2019	COST Action MP1404

### Peer-Reviewed Publications

Świątek M., Skorokhyd N., Černoch P., Finiuk N., Panchuk R., Klyuchivska O., Hrubý M., Molčan M., Berger W., Trousil J., Stoika R., Horák D. Magnetic temperature-sensitive solid-lipid particles for targeting and killing tumor cells. *Frontiers in Chemistry*. 2020, 8, 205.

Yu H.-P., Liu F.-C., Lin C.-Y., Umoro A., Trousil J., Hwang T.-L., Fang J.-Y. Suppression of neutrophilic inflammation can be modulated by the droplet size of anti-inflammatory nanoemulsions. *Nanomedicine (Lond.)*. 2020, 15 (8), 773–791.

Trousil J., Pavliš O., Kubíčková P., Dai Y., Škorič M., Marešová V., Knudsen D. K., Pavlova E., Fang J., Zimmerman M., Dartois V., Hrubý M. *Journal of Controlled Release*. 2020. 321, 312–323.

Urbánek T., Trousil J., Rak D., Gunár K., Konefał R., Šlouf M., Sedlák M., Šebestová J. O., Hrubý M.  $\gamma$ -Butyrolactone copolymerization with the well-documented polymer drug carrier poly(ethylene oxide)-*block*-poly( $\epsilon$ -caprolactone) to fine-tune its biorelevant properties. *Macromolecular Bioscience*. 2020, 1900408.

Halamish H. M., Trousil J., Rak D., Knudsen K. D., Pavlova E., Nyström B., Štěpánek P., Sosnik A. Self-assembly and nanostructure of poly(vinyl alcohol)-*graft*-poly(methyl methacrylate) amphiphilic nanoparticles. *Journal of Colloid and Interface Science*, 2019, 553, 512–523.

Schlachet I., Trousil J., Rak D., Knudsen K. D., Pavlova E., Nyström B., Sosnik A. Chitosan-*graft*-poly(methyl methacrylate) amphiphilic nanoparticles: self-association and physicochemical characterization. *Carbohydrate Polymers*, 2019, 212, 412–420.

Trousil J., Syrová Z., Knudsen D. N., Konefal R., Pavlova E., Matějková J., Cmarko D., Kubíčková P., Pavliš O., Urbánek T., Sedlák M., Fenaroli F., Raška I., Štěpánek P., Hrubý M. Rifampicin nanoformulation enhances treatment of tuberculosis in zebrafish. *Biomacromolecules*, 2019, 20 (4), 1798–1815.

Kolouchová., Sedláček O., Jiráček D., Babuka D., Blahut J., Kotek J., Vít M., Trousil J., Konefal R., Janoušková O., Podhorská B., Šlouf M., Hrubý M. Self-assembled thermoresponsive polymeric nanogels for 19F MR imaging. *Biomacromolecules*, 2018, 19 (8), 3515–3524.

Trousil J., Ulmann V., Hrubý M. Fluorescence and bioluminescence in the quest for imaging, probing and analysis of mycobacterial infections. *Future Microbiology*, 2018, 13 (8), 933–951.

Trousil J., Hrubý M. Novel nanoparticle delivery systems for rifampicin: an effective strategy against tuberculosis? *Nanomedicine (Lond.)*, 2017, 12 (12), 1359–1361.

Trousil J., Filippov K. S., Hrubý M., Mazel T., Syrová Z., Cmarko D., Svidenská S., Matějková J., Kováčik L., Porsch B., Konefal R., Lund R., Nyström B., Raška I., Štěpánek P. System with embedded drug release and nanoparticle degradation sensor showing efficient rifampicin delivery into macrophages. *Nanomedicine: Nanotechnology, Biology and Medicine*, 2017, 13 (1), 307–315.

Brezániová I., Trousil J., Černochová Z., Šlouf M., Hrubý M., Štěpánek P., Král V. Self-assembled chitosan-alginate polyplex nanoparticles containing temoporfin. *Colloid and Polymer Science*, 2016, 295 (8), 1259–1270.

Trousil J. Didactic Typography in Teaching and Creating Textbooks. *Paidagogos*, 2015, 2, 4–59.

Trousil J., Hrubý M., Šlouf M., Štěpánek P. Preparation and Characterization of Drug Forms of Bee Propolis. *Chemické listy*, 2015, 109, 784–787.

Trousil J., Pánek J., Hrubý M., Matějková J., Kučka J., Štěpánek P. Self-association of bee propolis: effects on pharmaceutical applications. *Journal of Pharmaceutical Investigation*, 2014, 44, 15–22.

### **Chosen Poster and Oral Contributions**

Trousil J., Hrubý M. *Self-association of amphiphilic copolymers: an effective strategy against intracellular parasites?* Poster. In Workshop SPSAS on Colloids, Campinas, Brazil. 28. 10. – 7. 11. 2018.

Trousil J., Štěpánek P., Hrubý M. *Improving tuberculosis treatment through polymeric nanoformulations.* Lecture. In Highly virulent agents and their vectors, Komorní Hrádek, Czech Republic. 15. 5 – 17. 5. 2018.

Trousil J., Fenaroli F., Syrová Z., Pavliš O., Štěpánek P., Hrubý M. *Polyester-based nanoparticles as tools to improve efficacy of tuberculosis treatment.* Lecture. In World Polymer Congress Macro 2018, Cairns, Australia. 1. 7. – 5. 7. 2018

Trousil J., Matějková J., Syrová Z., Pavliš O., Štěpánek P., Hrubý M. *Eradikace intracelulárně perzistujících bakterií pomocí nanočástic.* Lecture. In 69. Zjazd Chemiků, Vysoké Tatry, Slovakia. 11. 9. – 15. 9. 2017.

Urbánek T., Trousil J., Černocho P., Hermanová S., Hrubý M. *Částice poly( $\epsilon$ -kaprolaktonco- $\gamma$ -butyrolakton)u pro medicínské použití.* Lecture. In 69. Zjazd Chemiků, Vysoké Tatry, Slovakia. 11. 9. – 15. 9. 2017

Trousil J., Syrová Z., Mazel T., Matějková J., Filippov S., Kováčik L., Cmarko D., Hrubý M., Raška I., Štěpánek P. *Polyester-based nanoparticles as a potential drug delivery system for tuberculosis treatment.* Lecture. In Annual World Congress of Smart Materials-2017, Bangkok, Thailand. 16. 3. – 18. 3. 2017.

Trousil J., Matějková J., Filippov S. K., Syrová Z., Mazel T., Svidenská S., Kováčik L., Cmarko D., Hrubý M., Lund R., Nyström B., Raška I., Štěpánek P. *Antitubercotic rifampicin drug*

*delivery system based on polyester nanoparticles*. Poster. In Self-assembly in the World of Polymers, 80th Prague Meeting on Macromolecules, Prague, Czech Republic. 10. 7. – 14. 7. 2016.

Trousil J., Filippov S., Hrubý M., Porsch B., Štěpánek, P. *Nanoformulace rifampicinu v léčbě multirezistentní tuberkulózy: příprava a charakterizace*. Lecture. In 67. Zjazd Chemikov, Vysoké Tatry, Slovakia. 7. 9. – 11. 9. 2015.

Trousil J., Szcapaniak L., Černoš P., Hrubý M., Štěpánek, P. *Příprava a charakterizace nanočásticových lékových forem přírodních imunostimulans*. Poster. In 67. Zjazd Chemikov, Vysoké Tatry, Slovakia. 7. 9. – 11. 9. 2015.

Trousil J., Pánek J., Hrubý M., Matějková J., Kučka J., Štěpánek P. *Charakterizace nanoformulací včelího propolisu*. Poster. In 65. Zjazd Chemikov, Vysoké Tatry, Slovakia. 9. 9. – 13. 9. 2013.