

Curriculum Vitae

Nadiia Velychkivska



Family name: Velychkivska
Given name: Nadiia
Gender: Female
Date of birth: April 4, 1990
Nationality: Ukrainian
Permanent address: Zvoníčkova 1927/5, Room 32A, 16208, Prague, Czech Republic
Work address: Institute of Macromolecular Chemistry, Czech Academy of Sciences,
(Postal address) Heyrovsky Sq. 2
162 06, Prague, Czech Republic
Phone: +420-296-809-382,
E-mail: velychkivska@imc.cas.cz
velnadya@gmail.com

Education and prior international experience:

- 2014 – present: PhD student, Faculty of Science, Charles University, Prague, Czech Republic. Research associate at the Institute of Macromolecular Chemistry of the Czech Academy of Sciences, Prague.
Topic PhD thesis: “Investigation of external stimuli-influenced temperature-sensitive polymers behavior studied by spectroscopic methods” (supervisor: Larysa Starovoytova, Ph.D., consultant: RNDr. Jan Labuta, Ph.D.)
- 2018/02 – 2018/07: Internship student at the National Institute for Materials Science (NIMS), Tsukuba, Japan (supervisor: Jan Labuta, Ph.D.)
- 2016/11 – 2017/01: Internship student in Supermolecules Group, National Institute for Materials Science (NIMS), Tsukuba, Japan (supervisors: Jonathan P. Hill, Ph.D. and Jan Labuta, Ph.D.)
- 2013/10 – 2014/07: Participant of the Postgraduate Course in Polymer Science under the auspices and support of UNESCO/IUPAC at the Institute of Macromolecular Chemistry, Czech Academy of Sciences in Prague (supervisor: Larysa Starovoytova, Ph.D.)
- 2011/09 – 2012/12: Master’s degree (Mgr.), Department of Chemical technology of fuel and carbon materials, Field of Chemical Technology, Institute of Chemistry and Chemical Technology, Lviv Polytechnic National University, Ukraine

2007/09 – 2011/06: Bachelor's degree (BSc.), Department of Chemical technology of fuel and carbon materials, Field of Chemical Technology, Institute of Chemistry and Chemical Technology, Lviv Polytechnic National University, Ukraine

Professional skills:

Spectroscopic techniques:

- *NMR spectroscopy*: determination of the chemical structures and investigation of interactions in macromolecular and supramolecular systems
- *UV/Vis spectroscopy*: measurements of phase-separation and protonation processes, determination of binding constant
- *Fluorescence spectroscopy*: measurements of G/H aggregates formation and co-nonsolvency effect

Thermo-analytic techniques:

- *DSC*: measurement of heat of reactions in supramolecular systems
- *Viscosimetry*: determination of the molecular weight of lubricants
- *Knudsen effusion apparatus*: determination of vapor pressure
- *Bomb calorimetry*: measurement of heat of reactions

Scattering techniques:

- *DLS*: size distribution and zeta potential measurements of polymer and supramolecular systems
- *SAXS*: measurements of structures of supramolecular systems in solution, data procession and interpretation

Optical microscopy: Micrographs of supramolecular of polymer systems during phase separation

Language ability:

English: fluent
Russian: fluent
Czech: fluent
Ukrainian: fluent (mother tongue)

Mgr. Nadiia Velychkivska, (list of publications)

Research Papers (peer-reviewed):

1. U. Kostiv, Z. Farka, M. J. Mickert, H. H. Gorris, N. Velychkivska, O. Pop-Georgievski, M. Pastucha, E. Odstrčilíková, P. Skládal, D. Horák.

“Versatile bioconjugation strategies of PEG-modified upconversion nanoparticles for bioanalytical applications”,

***Biomacromolecules*, 2020**

2. L. Janisova, A. Gruzinov, O. V. Zaborova, N. Velychkivska, O. Vaněk, P. Chytil, T. Etrych, O. Janoušková, X. Zhang, C. Blanchet, C. M. Papadakis, D. I. Svergun, S. K. Filippov,

“Molecular mechanisms of the interactions of N-(2-hydroxypropyl)methacrylamide copolymers designed for cancer therapy with blood plasma proteins”,

***Pharmaceutics*, 12, 106, pp. 1-9, January, 2020.**

3. M. K. Chahal, N. Velychkivska, W. A. Webre, J. Labuta, S. Ishihara, K. Ariga, F. D'Souza, J. P. Hill,

“Increasing the complexity of oxoporphyrinogen colorimetric sensing chromophores: N-alkylation and beta-substitution”,

***J. Porphyr. Phthalocyanines*, 23, 11/12, pp. 1184-1194, September, 2019.**

4. V. Dibrivnyi, A. Marshalek, I. Sobechko, Y. Horak, M. Obushak, N. Velychkivska, L. Goshko,

“Thermodynamic properties of some isomeric 5-(nitrophenyl)-furyl-2 derivatives”,

***BMC Chemistry*, 13,105, pp. 1-11, August, 2019.**

5. N. Velychkivska, L. Starovoytova, V. Březina, L. Hanyková, J. P. Hill, J. Labuta,
“Improving the colloidal stability of temperature sensitive poly(N-isopropylacrylamide) solutions using low molecular weight hydrophobic dopants”,
ACS Omega, 3, 9, pp. 11865-11873, September, **2018**.
6. N. Velychkivska, A. Bogomolova, S. K. Filippov, L. Starovoytova, J. Labuta,
“Thermodynamic and kinetic analysis of phase separation of temperature-sensitive poly(vinyl methyl ether) in the presence of hydrophobic tert-butyl alcohol”,
Colloid Polym. Sci., 295, 8, pp. 1419-1428, April, **2017**.
7. I. Sobechko, Y. Chetverzhuk, Y. Horak, V. Serheyev, V. Kochubei, N. Velychkivska,
“Thermodynamic properties of 2-cyano-3-[5-(phenyl)-2-furyl]-2-propenamide and 2-cyano-3-[5-(4-methylphenyl)-2-furyl]-2-propenamide solutions in organic solvents”,
Chemistry and Chemical Technology, 11, 2, pp. 131-137, February, **2017**.
8. I. Sobechko, V. Dibrivnyi, Y. Horak, N. Velychkivska, V. Kochubei, M. Obushak,
“Thermodynamic properties of solubility of 2-methyl-5-arylfuran-3-carboxylic acids in organic solvents”,
Chemistry and Chemical Technology, 11, 4, pp. 397-404, January, **2017**.
9. S. K. Filippov, A. Bogomolova, L. Kaberov, N. Velychkivska, L. Starovoytova, Z. Cernochova, S. E. Rogers, W. M. Lau, V. V. Khutoryanskiy, M. T. Cook,
“Internal nanoparticle structure of temperature responsive self-assembled PNIPAM-b-PEG-b-PNIPAM triblock copolymers in aqueous solutions: NMR, SANS and Light Scattering studies”,
Langmuir, 32, 21, pp. 5314–5323, May, **2016**.

10. L. Starovoytova, J. Šťastná, A. Šturcová, R. Konefal, J. Dybal, N. Velychkivska, M. Radecki, L. Hanyková,
“Additive Effects on Phase Transition and Interactions in Poly(vinyl methyl ether) Solutions”,
Polymers, 7, 12, pp. 2572-2583, December, **2015**.
11. V. Dibrivnyi, I. Sobechko, M. Puniak, Y. Horak, M. Obushak, Y. Van-Chin-Syan, A. Marshalek, N. Velychkivska,
“Thermodynamic properties of 5(nitrophenyl) furan-2-carbaldehyde isomers”,
Chemistry and Chemical Technology, 9, 67, pp. 1-7, December, **2015**.
12. I. B. Sobechko, Y. Y. Van-Chin-Syan, V. V. Kochubei, R. T. Prokop, N. I. Velychkivska, Y. I. Gorak, V. N. Dibrivnyi, M. D. Obushak,
“Thermodynamic Properties of Furan-2-carboxylic and 3-(2-Furyl)-2-propenoic Acids”,
Russian Journal of Physical Chemistry A, 88, 12, pp. 2046-2053, January, **2014**.