INSTITUTE OF MACROMOLECULAR CHEMISTRY
CZECH ACADEMY OF SCIENCES

EUROPEAN CHEMICAL SOCIETY

EUROPEAN POLYMER FEDERATION

CZECH CHEMICAL SOCIETY

SELF-ORGANIZING POLYMERS AT THE INTERFACE OF TECHNOLOGY AND NATURE

21–25 June 2026, Prague



87th PRAGUE MEETING ON
macroMOLECULES

Book of Abstracts and Programme



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87th PRAGUE MEETING ON MACROMOLECULES

under the auspices of the
European Chemical Society,
European Polymer Federation and
Czech Chemical Society

Organized by the Institute of Macromolecular Chemistry,
Czech Academy of Sciences

Martin Hrubý & Jiří Pánek
Conference Chairmen

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Christine Papadakis *(Germany)*

Ilja Voets *(Netherlands)*

CONFERENCE PROGRAMME

Sunday, 21 June 2026

16:00 – 19:00 **Registration and welcome buffet**

Monday, 22 June 2026

09:00 – 09:15 **OPENING**
Jiří Brus (Deputy Director of the Institute)
Martin Hrubý, Jiří Pánek (Conference chairmen)
Igor Lacík (Representative of IUPAC)

LECTURE SESSION 1

Chaired by: Christine M. Papadakis (Germany)

9:15 – 10:00 Plenary lecture PL-01
Timothy P. Lodge *(United States of America)*
Kinetics of block copolymer micelle fusion and fragmentation

10:00 – 10:30 Invited lecture IL-01
Fernando Carlos Giacomelli *(Brazil)*
Controlling molecular transport: From leaky polymersomes to functional nanoreactors

10:30 – 10:45 Oral communication O-01
Gabrielle Anjani Ong *(Germany)*
Disorder in polymersomes membrane enhances diffusion of cargo molecules

10:45 – 11:15 *Coffee break*

LIST OF POSTERS

P-01 **B. Amri** *(Algeria)*
A novel thermosetting system based on vanillin-derived benzoxazine and phthalonitrile, characterized by simple synthesis, autocatalytic polymerization, and high thermomechanical performance.

P-02 **E. Dimitrov**, K. Aleksandrov, N. Toncheva-Moncheva, P. Shestakov, A. Forys, B. Trzebicka, S. Rangelov *(Bulgaria)*
Polymer–lipid conjugates: From self-assembly and structural polymorphism to thermosensitive drug delivery systems

P-03 **E. Dimitrov**, K. Aleksandrov, H. Penchev, Ch. Novakov, T. Topouzova-Hristova, S. Rangelov *(Bulgaria)*
Cyclic calix resorcinarene–polymer conjugates: synthesis, structural control, and biological evaluation

P-04 **D. F. Dorado Daza**, A. de los Santos Pereira, B. Leibauer, R. Berger, H.-J. Butt, O. Pop-Georgievski *(Czech Republic)*
Wetting properties of hydrophobic/hydrophilic binary polymer brushes with controlled grafting and chain-length ratios

P-05 **K. Dušková**, A. Kálosi, A. de los Santos Pereira, O. Sedláček, O. Pop-Georgievski *(Czech Republic)*
Tailoring molecular dispersity in polymer brushes synthesized via the grafting-to approach

P-06 **I. Egeolu**, Z. Posel *(Czech Republic)*
The impact of block-dispersity on self-assembly of diblock copolymer melts: Insights from DPD simulations

P-07 B. Godinho, N. Gama, P. Madureira, G. Marques, **A. Ferreira** *(Portugal)*
Influence of catalysts on the acidolysis of industrial flexible polyurethane foam waste

P-08 **G. S. García-Briones**, E. Filová, Y. Wu, L. Kobera, D. Kubies *(Czech Republic)*
Polyelectrolyte nanoparticles with tunable charge for the delivery of growth factors

P-17 **M. Kalina**, B. Nouri, B. Förster, M. Dulle, J. M. Gow, D. Posselt, M. C. Pedersen, J. J. K. Kirkensgaard, K. Almdal *(Denmark)*
Solvent-driven microdomain ordering in PI-PS-PMMA ABC star terpolymers

P-18 **V. Keprta**, P. Košovan *(Czech Republic)*
Uptake of complex solutes into polyelectrolyte complexes

P-19 **S. Khademnematolahi**, M. Fakhermanesh, K. Bauerová, Z. Kroneková *(Slovakia)*
Therapeutic effects of oral hyaluronan as monotherapy and in combination with methotrexate in a rat arthritis model

P-20 **V. Lobaz**, M. Hrubý *(Czech Republic)*
Isothermal titration calorimetry of polymers

P-21 **K. C. Loureiro**, A. Jäger, E. Jäger, M. Hrubý *(Czech Republic)*
Effect of spray drying on physicochemical properties

P-22 **S. Mares Barbosa**, A. Strachota, B. Strachota, E. Pavlova *(Czech Republic)*
Waterborne polyurethane nanocomposites reinforced with an inorganic filler: Titanate nanotubes

P-23 **A. Marková**, A. Minarčíková, Z. Kroneková, J. Kronek *(Slovakia)*
Self-organization and drug release of ibuprofen-functionalized poly(2-isopropenyl-2-oxazoline)

P-24 **P. Matić**, L. Jakobek *(Croatia)*
Stimuli-responsive cellulose–*p*-coumaric acid system for functional supplement design

P-25 **M. Matiyani**, C. Arjona-Ruiz, V. Lobaz, T. Riedel, G. S. García-Briones, O. Pop-Georgievski, D. Kubies *(Czech Republic)*
Self-assembly of polyelectrolyte multilayers via layer-by-layer technique

P-24

STIMULI-RESPONSIVE CELLULOSE–*p*-COUMARIC ACID SYSTEM FOR FUNCTIONAL SUPPLEMENT DESIGN

P. Matić, L. Jakobek

Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology Osijek, Department of Applied Chemistry and Ecology, Franje Kuhača 18, 31000 Osijek, Croatia
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Polymers are widely used in the design and development of drug delivery systems. One of the most abundant naturally occurring insoluble biopolymer is cellulose[1]. Cellulose finds applications in various biomedical fields, including the design of polyphenol-based supplements. Polyphenols like *p*-coumaric acid[2], exhibit numerous health-promoting bioactivities and gained significant attention for pharmaceutical applications[3]. Adsorption processes can be used for study interactions between cellulose and *p*-coumaric acid. The aim of this study was to investigate pH-dependent adsorption between varying concentrations of cellulose and *p*-coumaric acid over time, assessing how pH influences adsorption capacity and binding stability. The results demonstrate that pH acts as an external stimulus, modulating cellulose–*p*-coumaric acid interactions and altering adsorption behavior. These findings contribute to the development of dietary supplements by enabling stimuli-responsive, controlled release of bioactive compounds.

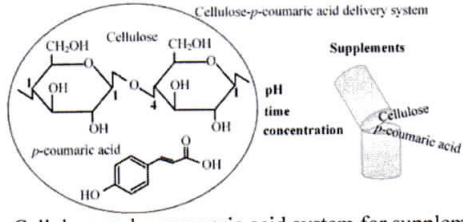

Figure 1. Cellulose and *p*-coumaric acid system for supplement design

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1. Kamel S., Ali N., Jahangir K., Shah S. M., El-Gendy A. A., eXPRESS Polymer Letters 2:758–778, 2008.
2. Pei K., Ou J., Huang J., Ou S., J Sci Food Agric 96: 2952–2962, 2016.
3. Caban M., Lewandowska U., Molecules 28: 4189, 2023.