Recent Volumes of Macromolecular Symposia include contributions from recent IUPAC-sponsored conferences.

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Macromolecular Symposia

The 12th Annual UNESCO/IUPAC Workshop and Conference on Macromolecules & Materials which took place 2013 in Stellenbosch, South Africa, focused on the synthesis, advanced characterization and properties of biopolymers, polyolefins, medical applications of polymers and novel materials. Abridged versions of a number of important papers are compiled to create the present volume of Macromolecular Symposia.

http://dx.doi.org/10.1002/masy.201470008

Macromolecular Symposia

http://dx.doi.org/10.1002/masy.201470001
http://dx.doi.org/10.1002/masy.201470005

Polymer-Solvent Complexes and Intercalates POLYSOLVAT–9 Part I & Part II

Macromolecular Symposia Vol. 335 and 336, January and February 2014, edited by Leonid Bulavin and Jean-Michel Guenet

The international conference on Polymer-Solvent Complexes and Intercalates (POLYSOLVAT-9) took place from 11-14 September 2012 at the Taras Shevchenko National University of Kiev. The meeting was jointly organized by the Faculty of Chemistry and the Faculty of Physics of the university.

Since the first conference held in 1996, this one-of-a-kind series of conferences has been sponsored by IUPAC. In 2012, formation mechanisms, morphology, molecular structure, and the properties of compounds involving solvents and/or synthetic polymers, biopolymers, proteins, supramolecular polymers, and systems formed at surfaces/interfaces were discussed. The 21 papers selected for the Macromolecular Symposia volumes provide an overview of the topics discussed during this conference.

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Polymers and Materials

Macromolecular Symposia Vol 337, March 2014, edited by Bert Klumperman, Peter Mallon, Harald Pasch, and Albert van Reenen

The 19th European Symposium on Polymer Spectroscopy (ESOPS19), organized simultaneously as the 77th Prague Meeting on Macromolecules (PMM), took place in Prague on 7-11 July 2013. The symposium was organized by the Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic as an IUPAC-sponsored meeting. Both the ESOPS and PMM series have more than 40 years of tradition behind them. The aim of the ESOPS meetings is to bring together scientists specializing in different spectroscopic techniques to review the latest research, as well as developments in the spectroscopic characterization of polymer systems. 100 active participants from 23 countries took part in ESOPS19.

The scientific program consisted of 9 invited lectures, 28 oral communications, and 60 poster presentations. The symposium highlighted all fields of spectroscopy (infrared, Raman, UV-vis, fluorescence, NMR, EPR, mass, X-ray, dielectric and mechanical spectroscopy), from theoretical and fundamental aspects to recent advances and novel developments in the characterization and analysis of polymers. The invited lectures, each presented by outstanding specialists in the given field, along with oral communications, offered participants a survey of the most up-to-date problems and well-founded new findings and views. Many interesting results were presented in two poster sessions.

The full texts of selected, peer-reviewed contributions are published herein and provide an overview of the topics discussed during the meeting.

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The main organizer of the Symposium was again the Institute of Macromolecular Compounds of the Russian Academy of Sciences (RAS), with the Department of Chemistry and Material Science of RAS as co-organizer. This time the St. Petersburg National Research University of Information Technologies, Mechanics and Optics also performed as co-organizer of the Symposium. The Symposium was supported and sponsored by IUPAC, the Russian Foundation for Basic Research (RFBR), Saint-Petersburg Research Center of RAS, and L’Oréal.

The scope of the Symposium was highly relevant to both fundamental science and technological applications. The plenary lectures were given by outstanding scientists from different countries actively working in this domain of polymer science and making major contribution to its development. The subjects of plenary lectures and the Symposium as a whole characterized the fundamental trends in contemporary physics and chemistry of polymers, showing that the interest of investigators has moved from polymer structure and properties in solutions to the structure and properties of polymer materials. Considerable progress made in investigations of the structure and properties of polymer materials, polymer nanocomposites, polymer membranes is connected with the development of multiscale modeling methods using the power of modern supercomputers. This multiscale approach combines classical simulation techniques with quantum-mechanical ones and uses a hierarchy of molecular and coarse-grained models. Polymer networks (gels) represent another class of actively studied polymer systems. Previous success in investigating and analyzing complex macromolecules with different interactions in solutions has stimulated the creation and study of polymer networks with unique properties. Polymer nanostructures in solutions remain a focus of modern polymer science.

This issue contains only seven papers, but it provides a good picture of the Symposium topics. The content reflects the progress of researchers’ interests towards more complicated systems with nanoscale organization.

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