

The 10th Pacific Polymer Conference (PPC 10)

**Scientific Program**

**Main Hall**

**Wednesday, December 5 (morning)**

9:00

**Opening Ceremony**

**Plenary Lecture**

*Y. Okamoto, presiding*

9:50 5M01PL Polymer Synthesis Using Olefin Metathesis Catalysts  
Robert H. Grubbs (U.S.A.) ..... 1

*T. Kajiyama, presiding*

10:40 5M02PL Nascent Morphology of In-Reactor Polyolefin Blends and the Influence of Phase Separation and Shear on the Crystallization Morphology  
Charles C. Han (China)..... 2

*H. Nishide, presiding*

11:30 5M03PL Future Automotive Technologies for Sustainable Mobility  
Shigeki Suzuki (Japan)..... 3

**Room A**

**Wednesday, December 5 (afternoon)**

**S-10 Time-Related Characteristics in Polymers**

*Y. Takahashi, presiding*

14:00 5A01IL Rheology and Dynamics of Entangled Polymer Chains: Self-Consistent Coarse-Graining of Length and Time Scales  
Hiroshi Watanabe (Japan) ..... 4

14:40 5A02IL Phase Behavior of Weakly-Interacting Block Copolymers  
Hye Jeong Kim, Dong Hyun Lee and Jin Kon Kim (Korea)..... 5

*T. Kawakatsu, presiding*

15:20 5A03 Annealing and Crystallization Behaviors of Polymer Thin Films on Si Wafers Evaluated by Synchrotron Grazing-Incidence Small-Angle and Wide-Angle X-Ray Scattering Measurements  
Sono Sasaki, Hiroyasu Masunaga, Hiroshi Okuda, Hiroo Tajiri, Katsuaki Inoue, Atsushi Takahara and Masaki Takata (Japan)..... 6

15:40 5A04 Effect of Composition Distribution on Viscoelastic Properties of Microphase-Separated ABA Triblock Copolymers  
Yoshiaki Takahashi, Shinpei Tokuno, Atushi Noro, Atushi Takano and Yushu Matsushita (Japan) ..... 7

16:00 5A05IL Rheology of Ultrathin Polymer Films  
Gregory B. McKenna, Paul A. O'Connell and Shanhong Xu (U.S.A.) ..... 8

*J. K. Kim, presiding*

16:40 5A06IL Simulation Studies of Soft Matter: Generic Statistical Properties and Chemical Details  
Kurt Kremer (Germany) ..... 9

**S-1 Frontier in Polymer Synthesis and Catalysis**

*K. Nozaki, presiding*

17:20 5A07IL New Initiating and Catalytic Systems for Atom Transfer Radical Polymerization  
Krzysztof Matyjaszewski (U.S.A.) ..... 10

18:00 5A08 ESR Observation of Dynamics, Reactivity, Penultimate Unit Effects, and Structures of Propagating Radicals in Combination with Controlled Radical Polymerization Methods  
Atsushi Kajiwara (Japan)..... 11

## Thursday, December 6 (morning)

*A. Kajiwara, presiding*

- 9:00 6A01 Polymerization of Methyl Methacrylate, Styrene and Vinyl Acetate Mediated by Ruthenium(II) Complexes with Labile Ligands  
Alexandrova Larissa, Olvera-Mancilla Jessica, Diaz-Camacho Francisco, Vazquez-Lopez Gabriel and Le Lagadec Ronan (Mexico) ..... 12
- 9:20 6A02 Ligand Effect on Fe-Mediated ATRP  
Han Hong, Rudhramyna Gnaneshwar, Kai Shuang Lim and Christina Chai (Singapore) ..... 13
- 9:40 6A03 Novel Poly-Dentated Ligands for Cu-Mediated ATRP  
Yeap Hung Ng, Han Hong and Christina Chai (Singapore) ..... 14

*M. A. Hillmyer, presiding*

- 10:00 6A04 Synthesis and Characterization of Photosensitized Star Polymers by Controlled Radical Polymerization  
Kyung-Youl Baek, Adila Rani and Seung Sang Hwang (Korea) ..... 15
- 10:20 6A05 New Architectural Polymers by Controlled Radical Polymerization  
Zi-Chen Li (China) ..... 16
- 10:40 6A06 Mechanism and Applications of Z-RAFT Star Polymerization  
Philipp Vana, Daniel Boschmann, Martin Maenz, Marco Drache, Markus Froehlich and Gerhard Zifferer (Germany) ..... 17

*M. Okubo, presiding*

- 11:00 6A07 An Efficient Route to Cyclic Polymers by ATRP-RCM Process  
Kaoru Adachi and Yasuyuki Tezuka (Japan) ..... 18
- 11:20 6A08 Facile Synthesis and Application of Polythiourethane-Graft-Poly(methacrylate)  
Bungo Ochiai and Takeshi Endo (Japan) ..... 19
- 11:40 6A09IL Organic Dispersions of Block Copolymer Micelles Generated *in situ* via RAFT-Mediated Polymerization in a Selective Solvent  
Bernadette Charleux, Lisa Houillot, Chuong Bui, Maud Save, Céline Farcet, Claudine Moire, Jacques-Antoine Raust and Ivan Rodriguez (France) ..... 20

## Thursday, December 6 (afternoon)

*T. Kitayama, presiding*

- 14:00 6A10 Compartmentalization, Partitioning and Interface Effects in Nitroxide-Mediated Polymerization in Dispersed Systems  
Per B. Zetterlund, Tadashi Nakamura, Md. Nur Alam, Junpei Wakamatsu and Masayoshi Okubo (Japan) ..... 21
- 14:20 6A11 Kinetic Features of ATRP in Miniemulsion: Confined Space Effect and Segregation Effect  
Yasuyuki Kagawa, Per B. Zetterlund and Masayoshi Okubo (Japan) ..... 22
- 14:40 6A12IL Functional Self-Assembled Block Copolymers through Precision Polymer Synthesis  
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*B. Charleux, presiding*

- 15:20 6A13 Isotactic-Specific Anionic Polymerization of Methacrylates with Ultimate Stereoregulation  
Takehiro Kitaura and Tatsuki Kitayama (Japan) ..... 24
- 15:40 6A14IL Base-Stabilized Living Cationic Polymerization: Heterogeneous Living Polymerization with Iron Oxides and Selective Synthesis of Star-Shaped Polymers  
Sadahito Aoshima and Shokyoku Kanaoka (Japan) ..... 25
- 16:20 6A15 Controlled/Living Cationic Polymerization of Naturally-Occurring Monomers  
Kotaro Satoh, Hiroko Sugiyama, Shoichi Saitoh and Masami Kamigaito (Japan) 26

*J. C. Stevens, presiding*

- 16:40 6A16 Precise Synthesis of Cycloolefin Copolymers Using ansa-Fluorenylamidodimethyltitanium-based Catalysts  
Zhengguo Cai, Ryotaro Harada, Yuushou Nakayama and Takeshi Shiono (Japan) ..... 27
- 17:00 6A17 Synthesis of Highly Thermostable Polymers from Commodity Vinyl Monomers with Ti-Based Catalysts  
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*T. Shiono, presiding*

- 17:20 6A18 Unprecedented Copolymerization of  $\alpha$ -Olefins and Cyclic Olefins Catalyzed by Well-Defined Scandium Alkyl Complexes  
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**Friday, December 7 (morning)**

*K. Kimura, presiding*

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11:40	7A08	Synthesis and Characterization of Hyperbranched Poly( $\beta$ -cyclodextrin) Wei Tian, <u>Xiao-Dong Fan</u> , Min Jiang, Wen-Xiu Ding and Hao Wang (China).....	38

**Room B**

**Wednesday, December 5 (afternoon)**

S-8 Polymers for Energy and Environment

*S. Hayase, presiding*

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*S. Yanagida, presiding*

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		<i>J. -K. Park, presiding</i>	
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		<i>M. Watanabe, presiding</i>	
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S-7 Polymers for Advanced Information and Electronics
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		<i>Y. Koike, presiding</i>	
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12:00	6B08	Novel Photoelectrochromic Polymers for Information Processing <u>Toshihiko Nagamura</u> , Takayasu Nagai, Yasuhiro Sota and Ryuji Matsumoto (Japan) .....	55

#### Thursday, December 6 (afternoon)

		<i>L. R. Dalton, presiding</i>	
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17:00	6B16	The Development of Novel EB- and EUV-Resist Materials Based on Molecular Water-Wheel (noria). <u>Hiroto Kudo</u> and Tadatomi Nishikubo (Japan).....	63
		<i>K. -S. Lee, presiding</i>	
17:20	6B17	Rational Design and Performance of High Refractive Index Polymers for Photolithography <u>Andrew Whittaker</u> (Australia).....	64
17:40	6B18	Spray Beam Analysis and Polymer Device Fabrication of Vacuum Spray Method <u>Xiaoliang Mo</u> , Toshiko Mizokuro, Nobutaka Tanigaki, Takashi Hiraga, Noboru Umehara, Kazuyoshi Takagi and Sumio Yamamoto (Japan).....	65
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### Friday, December 7 (morning)

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9:00	7B01IL	Status of Photonics Polymer for Broadband Society <u>Yasuhiro Koike</u> (Japan).....	67
9:40	7B02	Fabrication and Characterization of the rHigh Performance Gradient Refractive Index Plastic Rods with Surfmer Cluster Stabilized Nanoparticles <u>Jui-Hsiang Liu</u> , Po-Chih Yang and Yi-Hong Cjiu (Taiwan).....	68
		<i>A. Tagaya, presiding</i>	
10:00	7B03	Optical Propagation Properties of Electro-Optic Polymers <u>Takanobu Murofushi</u> , Kyoji Komatsu, Okihiro Sugihara and Toshikuni Kaino (Japan).....	69
10:20	7B04	Admicellar Polymerization of Doped Polypyrrole on Natural Rubber <u>Adisorn Chirasakulkarun</u> and Rathanawan Magaraphan (Thailand).....	70
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11:20	7B07	Effects of Beam Shaping on Two-Photon Initiated Polymerization <u>Toshiyuki Watanabe</u> (Japan).....	73

## Room C

### Wednesday, December 5 (afternoon)

#### S-5 Polymers for Bio-Medical-Technologies

		<i>K. Kataoka, presiding</i>	
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14:40	5C02	The Development of Acrylic Hydrogels for the Therapeutic Delivery of Protein Complexes <u>David Wang</u> , Firas Rasoul, Andrew Whittaker and David Hill (Australia).....	75
15:00	5C04	Poly(ethylene glycol)-Peptide Nucleic Acid Block Copolymers for Affinity Capillary Electrophoretic Separation of Single-Stranded DNA with a Single-Base Difference <u>Lal Mohan Kundu</u> , Tohru Takarada, Naoki Kanayama, Ayumi Kimura and Mizuo Maeda (Japan).....	76
		<i>A. S. Hoffman, presiding</i>	
15:20	5C05IL	New Concept for Gene Therapy Using Intracellular Signal-Responsive Gene Regulation System <u>Yoshiki Katayama</u> , J-H. Kang, Y. Sato, J. Oishi, D. Asai, R. Toita, M. Ijuin, K. Mori and T. Niidome (Japan).....	77
16:00	5C06	Amphiphilic Biocompatible and Bioeliminable Copolymers of Various Architectures for Drug Delivery Purposes <u>Jutta Rieger</u> , Rachel Auzely, Robert Jerome and Christine Jerome (Belgium).....	78

16:20	5C07	Programmed Folding in Plasmid DNA Condensation Induced by PEG-PLL Block Copolymer <u>Kensuke Osada</u> , Motoyoshi Doi, Tomonori Shiotani, Daigo Kobayashi, Hiroki Oshima, Yuishi Yamasaki and Kazunori Kataoka (Japan)..... 79	79
		<i>M. Akashi, presiding</i>	
16:40	5C08IL	Hydrophilic Polymer Systems for Targeted Delivery of Biologically Active Molecules <u>Karel Ulbrich</u> , T. Etrych, P. Chytil, M. Hruby, T. Mrkvan, M. Sirova, O. Hovorka and B. Rihova (Czech Republic) ..... 80	80
17:20	5C09	Cell Pattern Formation by Using Photo-Responsive Culture Substrate <u>Toshiyuki Kanamori</u> , Kyoko Kikuchi, Yuki Ooshima, Jun-Ichi Eda, Toshiyuki Takagi and Kimio Sumaru (Japan)..... 81	81
17:40	5C10	Adhesion and Viability of Two Enterococcal Strains on Chitosan/k-Carrageenan Multilayers <u>Svetlana Bratskaya</u> , Dmitry Marinin, Frank Simon, Alla Synytska, Henk Busscher, Debby Jager and Henny Van Der Mei (Russia)..... 82	82

#### Thursday, December 6 (morning)

		<i>M. Maeda, presiding</i>	
9:00	6C01IL	Nanostructure Processing of Advanced Biomaterials and Biosystems <u>Jackie Yi-Ru Ying</u> (Singapore) ..... 83	83
9:40	6C02	Construction of Polymeric Nanosheets (Nano-Adhesive Plasters) and Their Medical Application <u>Shinji Takeoka</u> , Toshinori Fujie and Yosuke Okamura (Japan) ..... 84	84
10:00	6C03	Incorporation and Modified Release of Antioxidant Curcumin Using Cellulose Acetate Based Electrospun Nanofiber <u>Orawan Suwantong</u> , Uracha Ruktanonchai and Pitt Supaphol (Thailand) ..... 85	85
10:20	6C04	SNPs Recognition Behavior of DNA-Responsive Hydrogels Prepared by Biomolecular Imprinting <u>Takashi Miyata</u> , Yukiko Hishida, Kaori Okawa, Tadashi Uragami, Tatsuro Ouchi and Yuichi Ohya (Japan) ..... 86	86
10:40	6C05	Uronic Acid from Viscose Rayon Fabric for Biomedical Applications Mona Asghari, <u>Hajir Bahrami</u> and Sohaila Kordestani (Iran) ..... 87	87

S-9 Surface and Interface of Polymers
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		<i>H. Matsuoka, presiding</i>	
11:00	6C06	Photocontrol of Morphology and Orientation of Liquid Crystalline Polymer Thin Films <u>Takahiro Seki</u> , Takayuki Uekusa, Yuichi Morikawa and Shusaku Nagano (Japan) ..... 88	88
11:20	6C07IL	From Computer Harddisks to DNA-Chips: Tailor-Made Surfaces for Microsystems Engineering <u>Jurgen Ruhe</u> (Germany) ..... 89	89
12:00	6C08	Spontaneous Micrometer-Scale Pattern Formation on a Polymer Thin Film in Corona Poling <u>Takashi Isoshima</u> , Gustavo Gomez Sosa, Takeshi Ogawa and Masahiko Hara (Japan) ..... 90	90

#### Thursday, December 6 (afternoon)

		<i>A. Takahara, presiding</i>	
14:00	6C09IL	Conformation Transition of Single Polyelectrolyte Chain in Solution and at Interfaces <u>Jiang Zhao</u> and Shengqin Wang (China)..... 91	91
14:40	6C10	Relationship between Conformation and Photophysics of Single Chains of Conjugated Polymers <u>Martin Vacha</u> (Japan) ..... 92	92
		<i>J. Ruhe, presiding</i>	
15:00	6C11	Spin-Label Study on Dynamics of PEO Intercalated in Layered Silicates <u>Yohei Miwa</u> and Shulamith Schlick (Japan)..... 93	93
15:20	6C12	Characterization of Natural Rubber-Polystyrene Core-Shell Structure via Admicellar Polymerization <u>Rathanawan Magaraphan</u> and Nattapong Prechasup (Thailand) ..... 94	94
15:40	6C13	Surface Characterization of Poly(methyl methacrylate-co-N-vinyl formamide) Submicron Particles Prepared by Surfactant-Free Emulsion Polymerization Chang-Hsin Kao and <u>Sheng-Shu Hou</u> (Taiwan) ..... 95	95

		<i>T. Seki, presiding</i>	
16:00	6C14	Surface Science of Fluorous Polyoxetanes and Polyurethanes with Co-Polyoxetane Soft Blocks: From Contact Antimicrobials to Unusual Wetting Behavior <u>Kenneth J. Wynne</u> , Pinar Kurt, Kennard Brunson, Umit Makal, Lynn Wood and Dennis Ohman (U.S.A.) .....	96
16:20	6C15IL	Wettability and Tribology of Hydrophilic Polymer Brushes at Liquid Interfaces <u>Atsushi Takahara</u> , Yuki Terayama, Yasuhiro Matsuda, Zhe Wang and Motoyasu Kobayashi (Japan) .....	97
		<i>K. Kurihara, presiding</i>	
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18:00	6C18	Enhancement of Wear Resistance in Hydrophilic Cross-Linked Polyelectrolyte Brushes under a Wet Condition <u>Motoyasu Kobayashi</u> , Yasuhiro Matsuda, Masataka Kaido, Atsushi Suzuki, Kazuhiko Ishihara and Atsushi Takahara (Japan) .....	100

### Friday, December 7 (morning)

		<i>J. Zhao, presiding</i>	
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9:20	7C02	Precise Evaluation of Polymer Degradation with Atomic Force Microscopy and Indentation <u>Akihiro Koike</u> (Japan) .....	102
9:40	7C03	Effect of Process Parameters on the Morphology of Electrospun Polymeric Nanofibers <u>Erkan Biber</u> , Gungor Gunduz, Uner Colak and Bora Mavis (Turkey) .....	103
		<i>K. Tanaka, presiding</i>	
10:00	7C04	Analysis of Anisotropic Structure in a Dip-Coated Film of Linear Poly(ethylene imine) by Infrared Multiple-Angle Incidence Resolution Spectrometry <u>Hiroyuki Kakuda</u> , Tetsuo Okada and Takeshi Hasegawa (Japan) .....	104
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		<i>E. Kumacheva, presiding</i>	
10:40	7C07	Synthesis and Characterization of Poly(styrene-co-acrylonitrile) Brushes on Silica Nanoparticles through Surface-Initiated Polymerization <u>Shanmugaraj Andikkadu Masilamani</u> , Motokoba Kobayashi and Atsushi Takahara (Japan) .....	106
11:00	7C08	Swelling of Poly(methyl methacrylate) at the Interface with Non-Solvents <u>Keiji Tanaka</u> , Yoshihisa Fujii, Masahiro Hino and Toshihiko Nagamura (Japan) .....	107
11:20	7C09	Nanorheology of Dioctyl Phthalate Confined between Surfaces Coated with Long Hydrocarbon Chains <u>Yoshisada Kayano</u> , Hiroshi Sakuma and Kazue Kurihara (Japan) .....	108
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## Room D

### Wednesday, December 5 (afternoon)

#### S-2 Organic/Inorganic Polymer Hybrids

		<i>Y. Chujo, presiding</i>	
14:00	5D01IL	Perfect and Nearly Perfect Silsesquioxane for Polyfunctional Nanoparticles and Nanocomposites, and Janus Cubes <u>Richard M. Laine</u> , M. Roll, M. Asuncion, S. Sulaimann, C. Brick, K. Takahashi, D. Bartz, D.J. Krug and V. Popova (U.S.A.) .....	110

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### ● Notes:

- 1) There are TWO Poster Session Rooms: This is the program for Room P1.
- 2) For the assignment to Group "a" or "b", refer to the last letter of the poster ID code.  
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1) There are TWO Poster Session Rooms: This is the program for Room P2.

2) For the assignment to Group "a" or "b", refer to the last letter of the poster ID code.

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