

The 11th SPSJ International Polymer Conference (IPC 2016)

Tentative Scientific Program

Plenary Lecture: Main Hall Oral Presentation: Room A-G Poster Presentation: Room P

Main Hall

Tuesday, December 13 (afternoon)

Plenary Lecture

- A. Takahara, presiding*
- 13M01PL Building a New Range of the State of the Art in
15:00 SR(Synchrotron Radiation) Materials Science
Masaki Takata (Japan) 1
A. Usuki, presiding
- 13M02PL Active involvement of the chemical industry in
16:00 implementation of "Strategic Approach to International
Chemicals Management (SAICM)"
Shinoi Sakata (Japan)..... 3
K. Sakurai, presiding
- 13M03PL From Design of Molecular Nano-machines to Bio-inspired
17:00 Polymer Recognition Systems
Seiji Shinkai (Japan) 5

Room A

Wednesday, December 14

S-2 Recent Trends in Physics for Macro- and Supra-molecules

- T. Koga, presiding*
- 14A01 Dehydration and Phase Separation in Aqueous Solutions of
9:00 Poly(N-isopropylacrylamide)
Takahiro Sato, Rintaro Takahashi, Mio Yoshitani, Ken
Terao, Xingping Qiu and Françoise Winnik (Japan) 7
- 14A02 Renovated Understanding of Critical Behaviour of
9:20 poly(N-isopropylacrylamide): Hydration, Solvent
Deuterium Isotope Effects, and Cononsolvency
Takaaki Sato, Keiichi Yanase, Kazuyuki Hasuoka, Mamoru
Fujiki, Kazuya Mayumi and Daisuke Suzuki (Japan) 8
- 14A03 A laser T-jump study on the dynamic phase separation
9:40 behavior in aqueous solutions of poly(N,
N-diethylacrylamide)
Mitsuhiro Matsumoto, Taka-Aki Asoh, Tatsuya Shoji and
Yasuyuki Tsuboi (Japan) 9
- 14A04 Platonic nature of sulfonatocalixarene-based micelles
10:00 Shota Fujii and Kazuo Sakurai (Japan) 10
T. Sato, presiding
- 14A05IL Concepts of Electrostatic Assemblies of Macro- and
10:20 Supra-molecules
Murugappan Muthukumar (U.S.A.) 11
- 14A07 Molecular Conformation and Intermolecular Interactions of
11:00 Rigid Cyclic Polymers in Solution: Cyclic Amylose
Carbamate Derivatives
Ken Terao, Akiyuki Ryoki, Hiromi Ichikawa and Shinichi
Kitamura (Japan) 12
K. Terao, presiding
- 14A08 Thermal denaturation and renaturation behavior of xanthan
11:20 with a wide range of molar mass
Yasuhiro Matsuda, Fumitada Sugiura, Kazuya Okumura
and Shigeru Tasaka (Japan)..... 13
- 14A09 Conformation of the globular protein-surfactant complex in
11:40 aqueous solution
Li Yan and Sato Takahiro (Japan) 14
- 14A10 Critical Concentration and Scaling Exponents of One
12:00 Soluble Polyimide in Solution
Ensong Zhang, Xuemin Dai, Wenke Yang, Zhixing Dong,
Xuepeng Qiu and Xiangling Ji (China)..... 15
- 14A11 Scaling behavior of one soluble polyimide with high
12:20 molecular weight
Ensong Zhang, Xuemin Dai, Quan Chen, Xuepeng Qiu and
Xiangling Ji (China) 16
M. Takenaka, presiding
- 14A12IL Thermodynamic State of Weakly Interacting Block

- 14:00 Copolymer
Hsin-Lung Chen, Yu-Chung Chen and Chang-Cheng Shiu
(Taiwan) 17
- 14A14 Location and influence of added block copolymers on
14:40 oil-in-oil emulsions: the case of single AB and different
AC+BC copolymers
Itaru Asano and Timothy Lodge (Japan)..... 18
- 14A15 Self-assembly of block copolymer blends into inverse
15:00 mesophases with controlled lattices in solution
Kyoung Taek Kim and Ahah Cho (Korea)..... 19
R. Ishige, presiding
- 14A16 SAXS in OBDD-OBDD Transition Studied by Singular
15:20 Value Decomposition - Does an Intermediate Structure
Exist? -
Shigeru Okamoto, Kengo Nomura and Koudai Suzuki
(Japan) 20
- 14A17 Structural Study with Distortion in OBDD and OBDD
15:40 Transition by SCFT simulation and SAXS Analysis Based
on Paracrystal Theory
Koudai Suzuki, Kengo Nomura, Shigeru Okamoto and
Takashi Honda (Japan) 21
- 14A18 Local dynamic viscoelastic analysis in crystalline polymer
16:00 using a dynamic microbeam x-ray diffraction method
Shuhei Nozaki, Ken Kojio, Atsushi Takahara, Kohki
Aoyama and Hiroyasu Masunaga (Japan)..... 22
- 14A19 Crystalline region based polymer complex materials of sPS
16:20 studied by simultaneous SANS/FTIR measuring system
Fumitoshi Kaneko, Shuma Sato, Naoki Seto, Aurel
Radulescu, Maria M Schiavone, Juergen Allgaier and
Koichi Ute (Japan)..... 23
S. Okamoto, presiding
- 14A20 Effect of Molecular Structure on Thermal Volume
16:40 Expansion of Fully Aromatic Polyimides
Ryohei Ishige, Toshiaki Masuda, Yukiko Kozaki and Shinji
Ando (Japan) 24
- 14A21 Effects of Chain-ends Tethering on Polymer Crystallization
17:00 in Nanometer-scale Spaces
Shintaro Nakagawa, Koshun Kawazu, Yuki Yonoguchi,
Shuichi Nojima, Takashi Ishizone, Daiki Arai, Kazuo
Yamaguchi and Seiichi Nakahama (Japan) 25
- 14A22 Structure of Critical Polymer Network Clusters
17:20 Mitsuhiro Shibayama, Xiang Li and Takamasa Sakai
(Japan) 26
- 14A23 Equilibrium shape and size selection in self-assembled
17:40 chiral fibers and bundles
Gregory M. Grason (U.S.A.) 27

Thursday, December 15

S-2 Recent Trends in Physics for Macro- and Supra-molecules

- S. Ida, presiding*
- 15A01IL Effect of Fibrous Skeleton in Polyampholyte Hydrogel on
9:00 Adhesion in Water
Takayuki Kurokawa (Japan) 28
- 15A03 Developing Extremely Tough Hydrogel Composites
9:40 Daniel Rudolf King, Yiwan Huang, Tao Lin Sun, Takoyuki
Kurokawa and Jian Ping Gong (Japan)..... 29
- 15A04 Peculiar Mechanics of Polyrotaxane Glass
10:00 Kazuaki Kato, Hideaki Yokoyama and Kohzo Ito (Japan)
..... 30
T. Kurokawa, presiding
- 15A05IL Characterization of Large Deformation Behavior of
10:20 Elastomers and Gels: Why Biaxial?
Kenji Urayama (Japan)..... 31
- 15A07 Dynamic self-assembly and physical properties of
11:00 polyrotaxane thermoplastic elastomer
Rina Maeda, Shuntaro Uenuma, Koichi Mayumi, Hideaki
Yokoyama and Kohzo Ito (Japan)..... 32
- 15A08 Title: Composite hydrogel of inorganic nanosheet liquid
11:20 crystal with a polymer and their anisotropic properties

	<u>Nobuyoshi Miyamoto</u> , Takumi Inadomi, Yujiao Wu and Kenji Urayama (Japan)..... 33 <i>K. Urayama, presiding</i>	
15A09	Preparation of Interpenetrate Polymer Network Using Amphiphilic N-vinylamides and Thermosensitive Polymers <u>Kai Kan</u> , Mitsuru Akashi and Hiroharu Ajiro (Japan)..... 34	
15A10	Structure Design of Thermoresponsive Gels via Crosslinking of Controlled Triblock Prepolymers Synthesized by RAFT Polymerization <u>Shohei Ida</u> , Hironobu Kitanaka, Satoshi Tanimoto, Shokyoku Kanaoka and Yoshitsugu Hirokawa (Japan) ... 35 <i>T. Sakai, presiding</i>	
15A12IL	Designing Non-Linear Properties of Elastomers with an Internal Network Architecture Pierre Millereau, Etienne Ducrot, Meredith Wiseman and <u>Costantino Creton</u> (France)..... 36	
15A14	Mechanical Properties of Polymer Composite Reinforced with Cellulose Nanofibers <u>Yuji Matsumoto</u> , Atsuomi Shundo, Hisato Hayashi, Nobutomo Tsuruzoe and Keiji Tanaka (Japan)..... 37	
15A15	Mechanical Performance of Elastomers with Bioinspired Multiphase Structure with Rich and Poor Cross-Link Densities <u>Naoko Yoshie</u> , Shoma Yoshida and Hiroataka Ejima (Japan)..... 38 <i>K. Kojio, presiding</i>	
15A16IL	Design and Properties of Functional Soft Materials via Polymer Self-Assembly and Supramolecular Interactions <u>Atsushi Noro</u> (Japan) 39	
15A18	Preparation and aggregation of gel particles inspired by mussel adhesive protein <u>Shinji Abe</u> , Shingo Tamesue, Tetsu Mitsumata, Norio Tsubokawa and Takeshi Yamauchi (Japan) 40 <i>A. Noro, presiding</i>	
15A19	Specific molecular aggregation structure and mechanical properties of novel cycloaliphatic diisocyanate-based polyurethane elastomer <u>Ken Kojio</u> , Shiori Masuda, Shuhei Nozaki, Atsushi Takahara and Satoshi Yamasaki (Japan)..... 41	
15A20	Effect of Hierarchical Heterogeneity on Mechanical Properties for An Epoxy Resin <u>Mika Aoki</u> , Atsuomi Shundo and Keiji Tanaka (Japan) .. 42	
15A21	The Stability and the Static Yield Stress of Magnetorheological Fluids <u>Yongsok Seo</u> , Youngwook Seo and WeiHuan Chuah (Korea)..... 43	

Friday, December 16

S-2 Recent Trends in Physics for Macro- and Supra-molecules

	<i>T. Nakanishi, presiding</i>	
16A01IL	Chain-growth supramolecular polymerization: Its scope and potential 9:00 <u>Daigo Miyajima</u> (Japan) 44	
16A03	Self-Assembly of Cyclic Peptide Amphiphile in Selective Solution 9:40 <u>Isamu Akiba</u> , Eri Tabata, Satoshi Kanazawa and Kazuo Sakurai (Japan) 45 <i>T. Fukushima, presiding</i>	
16A04IL	Stimuli-Responsive Polymer Materials 10:00 <u>Albert Schenning</u> (Netherlands)..... 46	
16A06	Assembly and Characterization of Supramolecular DNA Bottlebrushes 10:40 <u>Harry Bermudez</u> (U.S.A.) 47 <i>D. Miyajima, presiding</i>	
16A07	Alkyl- π ; Functional Molecular Liquids: Study on Local Microenvironment of π -unit 11:00 <u>Takashi Nakanishi</u> , Fengniu Lu, Avijit Ghosh, Bhawani Narayan, Tomohisa Takaya, Izuru Kawamura and Shigehiko Hayashi (Japan) 48	
16A08	Calix[4]arene-Based Supramolecular Gels Formed by Hydrazone Reaction 11:20 <u>Jong Hwa Jung</u> and Ji Ha Lee (Korea)..... 49	
16A09	2D Sheets and 3D Vesicular Assemblies by Combination of Hexagon Pillar[6]arene and Pentagon Pillar[5]arene 11:40 <u>Ryuta Sueto</u> , Kumiko Yoshikoshi, Takahiro Kakuta,	

16A10	Tomoki Ogoshi and Tada-aki Yamagishi (Japan)..... 50 Preparation of polymer nano-cylinders via Polymerization in unimolecular micelles 12:00 <u>Jing-Ting Weng</u> , Tso-Fan Yeh and Chien-Lung Wang (Taiwan) 51 <i>I. Akiba, presiding</i>
16A12	The basic consideration of the mechanism of crystalline supramolecular interaction. 14:00 <u>Shigeru Yao</u> , Yuri Kanazawa, Yuriko Tateishi, Ryoko Nakano and Hiroshi Sekiguchi (Japan)..... 52
16A13	Thermosensitive Silicone PSA Bearing a Side-Chain Crystalline Unit 14:20 <u>Satoshi Yamaguchi</u> , Shin'ichiro Kawahara and Hiroto Murakami (Japan)..... 53
16A14	Self-assembly behaviors and OFET performances of C60-pyrene giant shape amphiphiles 14:40 <u>Yen-Yu Chen</u> , San-Lien Wu and Chien-Lung Wang (Taiwan) 54 <i>S. Yao, presiding</i>
16A15	Morphological and structural characterizations of POSS conjugated giant molecules 15:00 <u>Meng-Hsuan Jao</u> , Shih-Ting Lan, Chou-Ting Hsieh, Chain-Shu Hsu and Chien-Lung Wang (Taiwan)..... 55
16A16	Molecular Dynamics Simulation of Biomolecular Adsorption on Liquid Crystalline Monolayer 15:20 <u>Go Watanabe</u> , Hiroki Eimura, Nicholas L Abbott and Takashi Kato (Japan) 56
16A17	Surface Strain Analysis of Flexible Polymer Films by Means of Surface Labeled Grating Method 15:40 <u>Motoyuki Fukuhara</u> , Norihisa Akamatsu, Shigenori Fujikawa and Atsushi Shishido (Japan) 57
16A18	Two-dimensional Photoalignment Control of Liquid Crystal Polymers by Masked Photopolymerization 16:00 <u>Yosuke Kurata</u> , Kyohei Hisano, Miho Aizawa, Masaki Ishizu and Atsushi Shishido (Japan) 58

Room B

Wednesday, December 14

S-1 Recent Trends in Polymer Synthesis

	<i>M. Kamigaito, presiding</i>	
14B01IL	Polyacrylonitrile - from synthesis to nanocarbons 9:00 <u>Krzysztof Matyjaszewski</u> (U.S.A.) 59	
14B03	Synthesis of Multi-Stimuli-Responsive Polymers Using N-Vinylamides Bearing Substituents at N-Position 9:40 <u>Ryo Kawatani</u> , Kai Kan, Mitsuru Akashi and Hiroharu Ajiro (Japan) 60	
14B04	Controlled Radical Polymerization in Photo-curing: Temporal/Spatial Control on Evolved Gradient Nanostructures 10:00 <u>Takeo Suga</u> , Eigo Ando and Hiroyuki Nishide (Japan) ... 61 <i>K. Matyjaszewski, presiding</i>	
14B05	Controlled/Living Polymerization via Switchable Dual Active Species Using Dormant Covalent Bond 10:20 <u>Kotaro Satoh</u> and Masami Kamigaito (Japan) 62	
14B06	Novel Living Cationic Polymerization via Reversible Chain-Transfer Mechanism 10:40 <u>Mineto Uchiyama</u> , Kotaro Satoh and Masami Kamigaito (Japan) 63	
14B07	Anionic Polymerization of Hydrocarbon Monomers 11:00 <u>Takashi Ishizone</u> (Japan) 64 <i>K. B. Wagener, presiding</i>	
14B08IL	Controlled Polymerizations in Coordination Nanospaces 11:20 <u>Takashi Uemura</u> (Japan) 65	
14B10	A Novel way to prepare polydiacetylene through side chain modification 12:00 Mingming Yin and <u>Liang Luo</u> (China) 66 <i>T. Uemura, presiding</i>	
14B12	Exploring the Continuum between Three-Arm Star and Linear A-B-C Triblock Copolymers 14:00 <u>E. Bryan Coughlin</u> and Rohit Gupta (U.S.A.)..... 67	
14B13	Facile One-Shot Star Polymer Synthesis by Living Cationic Polymerization 14:20 <u>Shokyoku Kanaoka</u> , Arihiro Kanazawa and Sadahito Aoshima (Japan)..... 68	

14B14	Heteroarm Core Cross-linked Star Polymers via RAFT Polymerization Nam Young Ahn, Yunji Jung and Myungeun Seo (Korea)69 <i>T. Ishizone, presiding</i>	14:40
14B15	Precision Self-Assembly and Self-Sorting of Amphiphilic Random Copolymers in Water <u>Takaya Terashima</u> and Mitsuo Sawamoto (Japan) 70	15:00
14B16	Self-Sorting Synthesis of Coordination Star Polymers with a Metal-Organic Polyhedral Core <u>Nobuhiko Hosono</u> and Susumu Kitagawa (Japan) 71	15:20
14B17IL	Raising High Density Polyethylene's Melting Point By 40 C <u>Kenneth B. Wagener</u> and Taylor Gaines (U.S.A.) 72 <i>T. Shiono, presiding</i>	15:40
14B19IL	Efficient Syntheses and Detailed Characterization of Well-defined Functional Isotactic Polypropylene <u>Yuesheng Li</u> , Xiaoyan Wang and Li Pan (China)..... 73	16:20
14B21	Copolymerization of Ethylene and Polar monomers Using Ni/IzQO Catalysts <u>Wenjie Tao</u> , Ryo Nakano, Shingo Ito and Kyoko Nozaki* (Japan) 74 <i>G. G. Qiao, presiding</i>	17:00
14B22IL	Pd-initiated Polymerization of Diazoacetates: New Synthetic Strategy for C-C Main Chain Polymers <u>Eiji Ihara</u> (Japan) 75	17:20

Thursday, December 15

S-1 Recent Trends in Polymer Synthesis

	<i>T. Satoh, presiding</i>	
15B01	Polymerization of Bis(diazoacetyl) Compounds Selectively Affording Well-defined Cyclopolymers with Closely-aligned Cyclic Units <u>Hiroaki Shimomoto</u> , Misaki Kikuchi, Junya Aoyama, Tomomichi Itoh and Eiji Ihara (Japan)..... 76	9:00
15B02	Synthesis and Applications of Well-defined Functionalized Polymer Particles Based on Living Polymerization of Allene Derivatives <u>Akira Yamauchi</u> , Yoshiyuki Oguchi, Takeshi Wakiya, Tadashi Iwamoto, Hiroki Nishiyama, Shinsuke Inagi and Ikuoyoshi Tomita (Japan) 77	9:20
15B03IL	Combating multidrug-resistant Gram-negative bacteria with star-shaped peptide polymers, not antibiotics <u>Greg G. Qiao</u> (Australia)..... 78 <i>E. Ihara, presiding</i>	9:40
15B05	Re-examination of the Polymerization of Amio Acid NCAs. 74. A proposal of answers for some problems in the reaction mechanism. <u>Hitoshi Kanazawa</u> and Aya Inada (Japan) 79	10:20
15B06	Ring-opening polymerization of cyclic esters catalyzed by organic acid salt <u>Tatsuya Saito</u> , Yusuke Aizawa, Takuya Isono, Takuya Yamamoto, Kenji Tajima and Toshifumi Satoh (Japan) .. 80	10:40
15B07	Synthesis of Architecturally Complex Amphiphilic Block Copolymers via Super Base-Catalyzed Ring-Opening Polymerization of Epoxides <u>Takuya Isono</u> , Yusuke Satoh and Toshifumi Satoh (Japan) 81	11:00
15B08	"Cohelical Crossover Polymerization" of 4,6-Acetalized beta-1,3-Glucan Macromonomers <u>Junji Sakamoto</u> and Seiji Shinkai (Japan) 82 <i>I. Manners, presiding</i>	11:20
15B12IL	Alternating Intramolecular and Intermolecular Catalyst-Transfer Condensation Polymerization Masataka Nojima, Kentarou Kosaka, Masaru Kato, Yoshihiro Ohta and <u>Tsutomu Yokozawa</u> (Japan)..... 83	14:00
15B14	Synthesis of A Series of Arylene Bisimide-Based Polymers by Direct Arylation Polycondensation <u>Kazuhiro Nakabayashi</u> , Masaya Yamada, Haruka Fukuzawa and Hideharu Mori (Japan) 84 <i>T. Yokozawa, presiding</i>	14:40
15B15	Rare-Earth-Catalyzed C-H Polyaddition of Dialkoxyarenes to Unconjugated Dienes Xiaochao Shi, <u>Masayoshi Nishiura</u> and Zhaomin Hou (Japan) 85	15:00
15B16	Mixed-Ligand Approach to Highly Selective Direct	

15:20	Arylation Polymerization (DARP) <u>Masayuki Wakioka</u> , Eisuke Iizuka, Rina Takahashi and Fumiyo Ozawa (Japan)..... 86	
15B17	Solvent free polymerization for 3-hexylthiophene in the presence of FeCl3 particles under confined states <u>Tomoyasu Hirai</u> , Yusuke Nag and Atsushi Takahara (Japan) 87	15:40
15B18	The mechanism and effect of the ratio of oxidative agent to polymer yield by chemical oxidative polymerization <u>An Phung Hai Thien</u> and Ryuichi Sugimoto (Japan) 88 <i>I. Tomita, presiding</i>	16:00
15B19	Synthesis and Catalyst-free Click Reaction of Nitrile N-Oxide-functionalized Polymers <u>Hirimitsu Sogawa</u> , Toyokazu Tsutsuba, Shohei Takamatsu and Toshikazu Takata (Japan) 89	16:20
15B20IL	"Living" Crystallization-Driven Self-Assembly: A Versatile, Seeded Growth Approach to Supramolecular Materials <u>Ian Manners</u> (U.K.) 90	16:40

Friday, December 16

S-1 Recent Trends in Polymer Synthesis

	<i>F. Sanda, presiding</i>	
16B01IL	Synthesis of Element Block Polymers Based on T ₈ -caged Silsesquoxanes <u>Kensuke Naka</u> , Takayuki Maegawa, Yasuyuki Irie, Orito Miyashita, Takahiro Yamanaka and Hiroaki Imoto (Japan) 91	9:00
16B03	Syntheses of Group 13 Elements Diiminates and Substituent Effects on Their Solid-State Emissive Properties <u>Shunichiro Ito</u> , Amane Hirose, Madoka Yamaguchi, Misuzu Fukuyama, Kazuo Tanaka and Yoshiki Chujo (Japan).... 92 <i>K. Naka, presiding</i>	9:40
16B04	π -Conjugated Polymers Possessing Group 14-16 Elements-blocks by Precision Polymer Reactions <u>Ikuoyoshi Tomita</u> , Yoshimasa Matsumura, Feng Zheng, Hiroki Nishiyama and Shinsuke Inagi (Japan)..... 93	10:00
16B05	Synthesis and Structure Control of Platinum-Containing Conjugated Polymers <u>Fumio Sanda</u> , Manabu Marumoto and Yu Miyagi (Japan)94	10:20

Room C

Thursday, December 15

S-7 Polymers in Green Chemistry

	<i>T. Nishino, presiding</i>	
15C01IL	Decorating Chitosan via Water-based Chitosan for Biomedical Applications <u>Suwabun Chirachanchai</u> , J. Fangkangwanwong, M. Matsumoto, C. Pitakchatwong and V. Engkakul (Thailand) 95	9:00
15C03	Thermosensitive Hydrogel of Trimethylene Carbonate Derivatives with Oligo(ethylene glycol) Units <u>Nalinthip Chanthaset</u> , Yoshiaki Haramiishi, Kai Kan and Ajiro Hiroharu (Japan) 96	9:40
15C04	Raman spectroscopy screening for active photosynthesis cells with stable isotope-labeling. <u>Yusuke Yonamine</u> , Yuta Suzuki, Takuro Ito, Tomohisa Hasunuma, Yoshiko Miura, Keisuke Goda, Yasuyuki Ozeki and Yu Hoshino (Japan)..... 97 <i>S. A. Miller, presiding</i>	10:00
15C05IL	All-Cellulose Eco- & Nanocomposites <u>Takashi Nishino</u> (Japan) 98	10:20
15C07	The Effect of Aliphatic unit in Sulfonated Polyimide CT Complex Hybrid Films for High Temperature Fuel Cell <u>Liana Christiani</u> , Shiyang Feng, Kazunari Sasaki and Masamichi Nishihara (Japan) 99 <i>S. Chirachanchai, presiding</i>	11:00
15C08	Sustainable network materials utilizing anthracene-based thermo- and photo-reversible bonds <u>Makito Yokoe</u> , Daisuke Yamamoto, Koji Yamauchi and Timothy E. Long (Japan)..... 100	11:20
15C09IL	Programming the Properties and Degradation of	

11:40	Sustainable Polymers <u>Stephen A. Miller</u> (U.S.A.) 101 <i>Z. Guan, presiding</i>
15C12IL 14:00	High-performance Biopolymers Derived from Aromatic Microbial Chemicals <u>Tatsuo Kaneko</u> , Seiji Tateyama and Naoki Takaya (Japan) 102
15C14 14:40	Syntheses of environment-friendly, optically-active biopolyamides from itaconic acid and amino acid. <u>Mohammad Asif Ali</u> , Seiji Tateyama and Tatsuo Kaneko (Japan) 103
15C15 15:00	Development of Rigid Monomer Bearing Diamantane-like Core from Naturally Occurring myo-Inositol <u>Shusuke Okamoto</u> , Tomonori Mizuno and Atsushi Sudo (Japan) 104 <i>T. Kaneko, presiding</i>
15C16 15:20	Spiro Polymers from naturally occurring myo-inositol <u>Atsushi Sudo</u> , Arata Yoshida and Dai Ishida (Japan) 105
15C17IL 15:40	High Performance Polysaccharide Derivatives: From Synthesis to Property Control <u>Tadahisa Iwata</u> (Japan) 106 <i>T. Iwata, presiding</i>
15C19 16:20	Thermally Reprocessable Polymers with Bis(dialkylamino)disulfides as a Dynamic Covalent Linkage <u>Akira Takahashi</u> , Raita Goseki and Hideyuki Otsuka (Japan) 107
15C20IL 16:40	Bioinspired Design of Dynamic and Self-healing Polymers <u>Zhibin Guan</u> (U.S.A.) 108

Friday, December 16

S-7 Polymers in Green Chemistry

	<i>K. Satoh, presiding</i>
16C01 9:00	Hierarchical Cheek-brush Morphology of Titanium Dioxide: Synthesis and its Effect on Tensile Strength of Nanocomposite Poly(N-isopropylacrylamide) Hydrogel <u>Farkun Duriyasar</u> , Hiromu Hamauzu, Masataka Ohtani and Kazuya Kobiros (Japan) 109
16C02 9:20	Improved Microstructure of Green Composites using Polymer Modified Mortar <u>Wei-Ting Lin</u> , An Cheng, Sao-Jeng Chao, Yu-Chen Hsu and Chin-Hung Tseng (Taiwan) 110
16C03 9:40	Mechanical Properties of Ionic Liquid-contained Deoxyribonucleic Acid Films <u>Yuma Morimitsu</u> , Hisao Matsuno, Noboru Ohta, Hiroshi Sekiguchi, Atsushi Takahara and Keiji Tanaka (Japan) 111 <i>H. Otsuka, presiding</i>
16C04 10:00	Synthesis of Cinchona Alkaloid Squaramide Polymers as Bifunctional Chiral Organocatalysts for the Enantioselective Michael Addition of β -Ketoester to Nitroolefin. <u>Mohammad Shahid Ullah</u> , Naoki Haraguchi and Shinichi Itsuno (Japan) 112
16C05 10:20	Controlled/Living Polymerization of Naturally Occurring Terpenes and Related Monomers <u>Kotaro Satoh</u> and Masami Kamigaito (Japan) 113
16C06 10:40	Total conversion of lignocellulosic biomass to functional materials via sustainable and practicable process <u>Kazuhiro Shikinaka</u> , Yuki Kubota, Yuichiro Otsuka, Masaya Nakamura and Yoichi Tominaga (Japan) 114 <i>H. Abe, presiding</i>
16C07 11:00	Structure, chemical modification, and properties of linearly unnatural-type α -1,3-glucan <i>in vitro</i> synthesized by recombinant glucosyltransferase <u>Sakarín Puanglek</u> , Satoshi Kimura, Yukiko Enomoto-Rogers, Taizo Kabe, Makoto Yoshida, Masahisa Wada and Tadahisa Iwata (Japan) 115
16C08 11:20	Distribution of crystals in spherulites of poly(L-lactic acid)/poly(D-lactic acid) blends <u>Go Matsuba</u> and Hiroaki Sato (Japan) 116
16C09 11:40	Preparation of Poly[(R)-3-hydroxybutyrate-co-(R)-3-hydroxyhexanoate] / Poly(vinyl alcohol) Blend Nanofibers. <u>Rina Afiani Rebia</u> and Toshihisa Tanaka (Japan) 117

Room D

Wednesday, December 14

S-6 Polymers in Automobiles and Aircrafts

	<i>T. Nagai, presiding</i>
14D01IL 9:00	Teflon™ Fluoropolymers: Leading-Edge Material to Open up New World of Automotive Performance <u>Osamu Hayakawa</u> (Japan) 118
14D03IL 9:40	“DURABIO™”, New Possibility for Automotive Parts <u>Kenji Miura</u> (Japan) 119 <i>Y. Fujita, presiding</i>
14D05IL 10:20	Introduction of Mitsui Chemicals' Metal/Resin Integrated Technology (POLYMETAC™) <u>Minehiro Mori</u> (Japan) 120
14D07 11:00	High Performance all-Polyimide Nanocomposite using Electrospinning <u>Masato Hongo</u> , Keiko Mizoguchi, Chizuru Hongo and Takashi Nishino (Japan) 121 <i>Y. Kageyama, presiding</i>
14D12IL 14:00	Opportunities and challenges for polymer matrix composites <u>Tia Benson Tolle</u> (U.S.A.) 122
14D14 14:40	Metal-Resin Bonding via Epoxy Monolith Layers <u>Akikazu Matsumoto</u> , Fai Uehara, Yuka Sugimoto, Yukihiro Nishimura and Haruyuki Okamura (Japan) 123
14D15 15:00	Effect of screw geometries on fiber length and fiber dispersion of FRTP in injection molding <u>Akimitsu Iwasaki</u> , Tatsuya Tanaka, Akira Inoue and So Shimokusuzono (Japan) 124
14D16 15:20	Joint efficiency of bolted CFRTP using reinforced collar with sub-micron fibers <u>Yuto Yamada</u> , Kazuya Okubo, Toru Fujii, Akihiro Maeda, Masao Tomioka and Takeshi Ishikawa (Japan) 125 <i>A. Matsumoto, presiding</i>
14D17 15:40	Surface modification of poly(ether ether ketone) via self-initiated surface graft polymerization for aqueous lubrication <u>Patcharida Chouwatat</u> , Tomoyasu Hirai, Yuji Higaki and Atsushi Takahara (Japan) 126
14D18 16:00	Research of mechanical properties of carbon fiber reinforced thermoplastic with carbon non-woven fabric for automotive application <u>Masaya Matsushita</u> , Yoishiro Ogura, Akihiko Imajo, Hiroyuki Inoya and Hiroyuki Hamada (Japan) 127
14D19 16:20	Mechanical Properties of Glass Fiber/ Carbon Fiber Reinforced Polypropylene Hybrid Composites Fabricated by the DFFIM Process <u>Xiaofei Yan</u> , Akihiko Imajo, Akio Kataoka and Hiroyuki Hamada (Japan) 128
14D20IL 16:40	Structure-Physical Properties of Novel Polymer Blends and Composites A. Ishigami, Y. Kodama, T. Konno and <u>Hiroshi Ito</u> (Japan) 129

Thursday, December 15

S-6 Polymers in Automobiles and Aircrafts

	<i>Y. Fujita, presiding</i>
15D01IL 9:00	Overcome the Conflict Between Strength and Toughness in Polymers and Composites <u>Chaobin HE</u> (Singapore) 130
15D03 9:40	Structure and Properties of natural rubber and Guayule rubber <u>Seiichi Kawahara</u> and Kenichiro Kosugi (Japan) 131
15D04 10:00	Development of creep-less composites by using Tg-less epoxy resin <u>Hirofumi Nishida</u> and Kazuhiro Nomura (Japan) 132 <i>Y. Ozeki, presiding</i>
15D05 10:20	Development of in situ-polymerizing thermoplastic composites using linearly polymerizable epoxy resin <u>Kazuhiro Nomura</u> and Hirofumi Nishida (Japan) 133
15D06 10:40	Fabrication of carbon nano fiber by Cotton Candy Method <u>Akihiro Tada</u> , Jitlada Boonlertsamut, Yoshihumi Aoi, Supaphorn Thumsorn, Hiroyuki Inoya, Masayuki Okoshi

15D07IL	and Hiroyuki Hamada (Japan) 134
11:00	(Virtual) Process chain for the manufacturing of structural automotive parts <u>Frank Henning</u> , Luise Kaerger and Philip Rosenfeld (Germany)..... 135
S-3 Frontiers in Surface and Interface in Macromolecular Systems	
	<i>M. Kobayashi, presiding</i>
15D12	Hyperbranched polymers prepared by RAFT-SCVP as surface modifiers to fabricate thermo-responsive cell culture dishes <u>Yu Sudo</u> , Ryuki Kawai, Yuta Naba, Teruaki Hayakawa and Masa-aki Kakimoto (Japan)..... 136
15D13	RAFT-Synthesized Block-Random Copolymer Surfactants to Form Non-Aqueous Dispersion for Inkjet Printing Ink <u>Naofumi Ezaki</u> , Yoshifumi Watanabe, Hiroshi Hayashi, Hiroyuki Ogawa and Hideharu Mori (Japan)..... 137
15D14	Electropolymerization and Patterning of Functionalized Poly(3,4-ethylenedioxythiophene) Jih-Guang Wu and <u>Shyh-Chyang Luo</u> (Taiwan) 138
15D15	Surface modification of agricultural waste through vapor-phase assisted polymerization for biocomposites <u>Kubra Eksiler</u> , Yoshito Ando, Yoshihito Shirai, Kim Donghee and Lee Heesung (Japan)..... 139
15D16	Fabrication of zwitterionic polymer brush surfaces on polystyrene substrate via surface-initiated atom transfer radical polymerization and their functionalization by plasma techniques <u>Yasushi Sasai</u> , Naoki Doi, Yukinori Yamauchi, Masayuki Kuzuya and Shin-ichi Kondo (Japan) 140

Room E

Wednesday, December 14

S-5 Optics, Electronics and Energy

	<i>K. Oyaizu, presiding</i>
14E03	Photon upconversion under low excitation intensity in metal-organic frameworks <u>Rakesh K Gupta</u> , Prasenjit Mahato, Nobuhiro Yanai and Nobuo Kimizuka (Japan) 141
14E04	Controlled chromophore networks in ionic liquids for photon upconversion under low excitation intensity <u>Shota Hisamitsu</u> , Nobuhiro Yanai, Karina Shimizu, Jose N C Lopes and Nobuo Kimizuka (Japan) 142 <i>K. Miyatake, presiding</i>
14E05IL	Synthesis of donor-acceptor conjugated polymer and crosslinkable fullerene derivatives for polymer solar cell application <u>Chain-Shu Hsu</u> and Shih-Hao Peng (Taiwan) 143
14E07	Highly Efficient and Thermally Stable Solar Cells Based on Thiazolothiazole and Naphthobisthiadiazole Copolymers <u>Masahiko Saito</u> , Itaru Osaka, Yasuhiro Suzuki, Kazuo Takimiya, Takashi Okabe, Satoru Ikeda and Tsuyoshi Asano (Japan) 144 <i>N. Kimizuka, presiding</i>
14E08	Synthesis of copolymers from carbazole derivatives for hole transporting materials (HTMs) and application to solar cell <u>Kyusun Kim</u> , Shinji Kanehashi and Kenji Ogino (Japan) 145
14E09	Relationship of Polymerization Number to Optical and Thermal Properties of Fluorene Containing Polycarbonate Oligomers <u>Noriyuki Kato</u> and Hiroshi Ito (Japan)..... 146
14E10	Emission time course of double insulated organic electroluminescence devices composed of polymer semiconductors <u>Katsuhiko Fujita</u> and Takafumi Hatakeda (Japan)..... 147
14E11	Near-Infrared Photoluminescence Modulation of Carbon Nanotubes Based on Molecular Design of Chemical Modification Sites <u>Tomohiro Shiraki</u> , Tomonari Shiraiishi, Hisashi Onitsuka, Gergely Juhász and Naotoshi Nakashima (Japan)..... 148 <i>T. Fujigaya, presiding</i>
14E12IL	Carbon Nanotube and Graphene Nanoribbon Electronics:

14:00	Overcoming Synthesis, Heterogeneity, and Assembly Challenges <u>Michael S. Arnold</u> , Gerald J. Brady, Katherine Jinkins, Padma Gopalan, Robert M. Jacobberger and Austin J. Way (U.S.A.) 149
14E14	Inter-core/cladding boundary light exchange of dye-doped polymer optical fiber <u>So Kamimura</u> and Rei Furukawa (Japan) 150
14E15	Electron-transporting Polyphenylenes Containing Pendant Benzimidazolyl and Diethanolamino Groups: Synthesis, Characterization and Application in PLEDs <u>Sheng-Fong Lin</u> , Chih-Yang Tseng and Yun Chen (Taiwan) 151 <i>M. Watanabe, presiding</i>
14E16	Roles of lateral and end-capping substituents in the solid-state packing and OFET performance of a multi-fused heteroarene <u>Bo-Han Lai</u> , Chou-Ting Hsieh, Chain-Shu Hsu, Chun-Kai Wang, Ken-Tsung Wong and Chien-Lung Wang (Taiwan) 152
14E17IL	The Effect of Strain on the Work Function of Organic Semiconductors <u>C. Daniel Frisbie</u> (U.S.A.) 153 <i>C. D. Frisbie, presiding</i>
14E19	Conjugated Polymeric Chemosensors containing Pendant Azacrown Ether or Carboxylate Groups : Synthesis and Recognition Characteristics to Metal Ions <u>Wen-Shan Chien</u> , Hsiao-Chu Su, Chiao-Pei Chen and Yun Chen (Taiwan) 154
14E20	Hydroxyethyl Cellulose Compositized with M ²⁺ Chelate Complexes as an Effective Electron-injection Layer for Polymer Light-emitting Diodes <u>Chih-Yang Lin</u> , Cheng-Liang Wu and Yun Chen (Taiwan) 155
14E21	Regulation of Electrochemical Properties of Ion Gel Electrolyte Using LCST Thermo-sensitive Block Copolymers <u>Yumi Kobayashi</u> , Yuzo Kitazawa, Kei Hashimoto, Hisashi Kokubo and Masayoshi Watanabe (Japan) 156 <i>K. Oyaizu, presiding</i>
14E22IL	Basics and Applications of Organometal Halide Perovskite Solar Cells <u>Hiroshi Segawa</u> (Japan)..... 157

Thursday, December 15

S-5 Optics, Electronics and Energy

	<i>K. Miyatake, presiding</i>
15E01IL	Systematic Material Design for Polymer Electrolyte Fuel Cells and Solid Alkaline Fuel Cells <u>Takeo Yamaguchi</u> (Japan)..... 158
15E03IL	Ion Conducting Polymer Membranes for Fuel Cells and Batteries: Where Polymer-Chemistry meets Electrochemistry <u>Klaus-Dieter Kreuer</u> (Germany) 159 <i>K. Kreuer, presiding</i>
15E05	Chemically Stable Aromatic Ionomers as Proton Exchange Membranes <u>Kenji Miyatake</u> , Junpei Miyake, Ryunosuke Taki, Ryo Akiyama and Ryo Shimizu (Japan) 160
15E06	Grazing incidence small angle neutron scattering studying model catalyst layer for polymer electrolyte fuel cell <u>Satoshi Koizumi</u> , Satoru Ueda, Akihiro Ohira, Seiichi Kuroda and Henrich Frielinghaus (Japan) 161
15E07IL	Creation of Highly Durable Fuel Cells Based on Double-polymer Coated Nanocarbon <u>Naotoshi Nakashima</u> (Japan)..... 162 <i>T. Yamaguchi, presiding</i>
15E09	Optical limiting by molecular reorientation of polymer networked dye-doped liquid crystals <u>Erika Katayama</u> , Jing Wang and Atsushi Shishido (Japan) 163
15E10	Ferroelectric Coordination Polymers Self-assembled from Liquid Crystalline Zinc(II) Porphyrin and Dipyriddy Ligands <u>Joseph K.-H. Hui</u> , Hiroyuki Kishida, Kenta Takemasu,

15E11	12:20	Keita Ishiba, Masa-aki Morikawa and Nobuo Kimizuka (Japan) 164 Weak surface anchoring of a nematic liquid crystal on a uniquely designed acrylate polymer <u>Rijeesh Kizhakidathazhath</u> , Hiroki Higuchi, Yasushi Okumura and Hirotsugu Kikuchi (Japan) 165 <i>N. Nakashima, presiding</i>
15E12IL	14:00	Advanced Materials for Energy Storage and Conversion Based on Block Copolymer Self-assembly in Ionic Liquids <u>Masayoshi Watanabe</u> (Japan) 166
15E14IL	14:40	High-Conductivity Self-Assembled Polymers Onnuri Kim, Hayoung Jung and <u>Moon Jeong Park</u> (Korea) 167 <i>M. Park, presiding</i>
15E16	15:20	Thermally Activated Delayed Fluorescence Dendrimer Based on Dendritic Carbazoles <u>Ken Albrecht</u> , Kenichi Matsuoka, Katsuhiko Fujita and Kimihisa Yamamoto (Japan) 168
15E17	15:40	Optimization of Thermoelectric Properties of Conducting Polymers for Improvement of Device Performance <u>Qingshuo Wei</u> , Masakazu Mukaida, Kazuhiro Kirihara and Takao Ishida (Japan) 169
15E18	16:00	Conjugated Polymer Spheres for Microresonators and Lasers <u>Yohei Yamamoto</u> (Japan) 170
15E19	16:20	Synthesis and Morphogenesis of Conductive Polymers on the Surface of Organic Oxidant <u>Kosuke Sato</u> , Hirotaka Masaki, Mirei Arayasu, Yuya Oaki and Hiroaki Imai (Japan) 171 <i>Y. Yamamoto, presiding</i>
15E20	16:40	Electrosynthesis of PEDOT Micro-fibers by Means of Bipolar Electrochemistry <u>Shinsuke Inagi</u> , Yuki Koizumi, Masato Ohira, Hiroki Nishiyama and Ikuyoshi Tomita (Japan) 172
15E21	17:00	Flexible and semi-conductive poly (3-substituted thiophene). <u>Jian Shen</u> , Kohei Murakami, Takuya Matsumoto, Chizuru Hongo, Atsunori Mori and Takashi Nishino (Japan) 173

Friday, December 16

S-5 Optics, Electronics and Energy

		<i>T. Fujigaya, presiding</i>
16E01IL	9:00	Highly Conductive Polymers: A Key Material for Organic Electronics <u>Hidenori Okuzaki</u> (Japan) 174
16E03	9:40	Conjugated block copolymers comprising of poly(arylenevinylene)s via ring-opening metathesis polymerization <u>Masaki Horie</u> , Hsin-Yu Chang and Shih-Ting Chiu (Taiwan) 175
16E04	10:00	Influences of conjugated length on OFET performances and thin film structures of DPP derivatives <u>Yi-Fan Huang</u> , Shu-Ting Chang, San-Lien Wu and Chien-Lung Wang (Taiwan) 176 <i>H. Okuzak, presiding</i>
16E05	10:20	Large area graphene nanoribbons by wetting transparency-assisted block copolymer lithography for plasmonic devices <u>Reika Katsumata</u> , Maruthi Nagavalli Yogeesh, Helen Wong, Sunshine X Zhough, Stephen Sirard, Richard D Piner, Zilong Wu, Wei Li, Deji Akinwande and Christopher J Ellison (U.S.A.) 177
16E06	10:40	Doped polymer pn homojunction prepared by spray deposition. <u>Katsuhiko Fujita</u> , Shin Sakiyama and Naoki Mizutani (Japan) 178
16E07	11:00	Emerging optically active poly(fluorene-alt-bithiophene) hetero-aggregate with helical polysilanes <u>Sang, T. Duong</u> , Nor A. A. Rahim and Michiya Fujiki (Japan) 179 <i>I. Tomita, presiding</i>
16E08	11:20	Pentaazaphenylene Based π -Conjugated System <u>Hiroyuki Watanabe</u> , Masataka Hirose, Kazuyoshi Tanaka, Kazuo Tanaka and Yoshiki Chujo (Japan) 180
16E09		Synthesis and Optical Properties of Mechanofluorochromic

11:40	Materials Based on Boron Ketoimines <u>Kazumasa Suenaga</u> , Kazuo Tanaka and Yoshiki Chujo (Japan) 181	
16E10	12:00	Synthesis and Evaluation of Fused Azobenzene-Boron Complexes and Application to Polymer Materials <u>Masayuki Gon</u> , Kazuo Tanaka and Yoshiki Chujo (Japan) 182
16E11	12:20	Copolymer-based polymer optical fiber for multimodal polarization-maintaining <u>Daichi Mizorogi</u> , Eisuke Nihei and Rei Furukawa (Japan) 183

Room F

Wednesday, December 14

S-4 Frontiers in Biomedical Polymers and Nanomedicines

		<i>Y. Ohya, presiding</i>
14F01IL	9:00	Polymeric Nanoparticles for Targeted Drug Delivery <u>Wim E. Hennink</u> , Marina Talelli, Bart Crielgaard and Yang Shi (Netherlands) 184
14F03	9:40	Artificial control of siRNA bioactivity based on the phase transition behavior of the conjugated polymeric molecule. <u>Noor Faizah Che Harun</u> , Hiroyasu Takemoto and Nobuhiro Nishiyama (Japan) 185
14F04	10:00	Photolytic protein aggregates for controlled release of active proteins <u>Satoshi Yamaguchi</u> , Akira Ishiwatari, Kosuke Minamihata, Akimitsu Okamoto and Teruyuki nagamune (Japan) 186 <i>K. Yoshimoto, presiding</i>
14F05IL	10:20	Control of pDNA Packaging as Essential Process in Development of Gene Delivery System <u>Kensuke Osada</u> (Japan) 187
14F07	11:00	2-nitrobenzenesulfonamide groups as a chemical linker with enhanced extracellular stability and redox-sensitive cleavability for siRNA-conjugated polymer system <u>Chih Hao Huang</u> , Hiroyasu Takemoto, Takahiro Nomoto, Keishiro Tomoda, Makoto Matsui and Nobuhiro Nishiyama (Japan) 188 <i>S. Takeoka, presiding</i>
14F08	11:20	Transdermal Protein Delivery by Photothermal Effect of Gold Nanorods Coated on Polysaccharide-based Hydrogel <u>Aung Thu Haine</u> , Yuki Koga, Yuta Hashimoto, Taishi Higashi, Keiichi Motoyama, Hidetoshi Arima and Takuro Niidome (Japan) 189
14F09	11:40	Transformable thermoresponsive polymer particles for regulated cellular interaction <u>Akihiko Kikuchi</u> , Takuma Suzuki, Takuya Matsuyama, Ryo Ishihara and Taka-Aki Asoh (Japan) 190
14F10	12:00	Visible Light-Triggered Cell Detachment System Using Smart Fluoropolymer Coated Surface <u>Masamichi Nakayama</u> , Tomonori Kanno, Akihiko Kikuchi and Teruo Okano (Japan) 191
14F11	12:20	Protecting-group-free Synthesis and Assay of Glycopolymer Ligands for Human and Avian Influenza Viruses <u>Tomonari Tanaka</u> , Yiting Zhou, Chihiro Tamoto, Yuuki Kurebayashi, Tadanobu Takahashi, Takashi Suzuki and Yoshiko Miura (Japan) 192 <i>Y. Iwasaki, presiding</i>
14F12IL	14:00	Drug Screening and Drug Delivery with Novel Polymers <u>Molly S. Shoichet</u> , Stephanie Fisher, Alexander Baker, Roger Tam, Laura Smith and Jennifer Logie (Canada). 193
14F14	14:40	Long-blood bioavailability of nitroxide radical-containing nanoparticles affords effective treatment of ROS-associated skin inflammatory disorders <u>Chitho Feliciano</u> and Yukio Nagasaki (Japan) 194 <i>M. S. Shoichet, presiding</i>
14F15	15:00	EPR Domino: Tumor-selective vasodilation for improving EPR effect by a nitric-oxide-releasing liposome <u>Takuma Yoshikawa</u> , Yu Tahara, Akihiro Kishimura, Takeshi Mori and Yoshiki Katayama (Japan) 195
14F16	15:20	Synthesis of aliphatic polycarbonates with a cyclic ether moiety at the side chain and evaluation of the blood compatibility <u>Shunya Takaoka</u> , Masaru Tanaka and Kazuki Fukushima

	(Japan).....	196
14F17	Hydrotropic graft polymers for controlled release of paclitaxel from solid dispersion	
15:40	<u>Tooru Ooya</u> and Motomi Kimura (Japan).....	197
	<i>Y. Katayama, presiding</i>	
14F18	Metabolic expression of methacryloyl groups on cell surface carbohydrates	
16:00	<u>Yasuhiko Iwasaki</u> , Shunsuke Sugimoto and Takeshi Mori (Japan).....	198
14F19	Redox Injectable Gels for Local Inflammation Treatments	
16:20	<u>Yukio Nagasaki</u> (Japan).....	199
14F20	Ultra-Sensitive Detection System in 19F NMR for Bioactive Compounds Utilizing Fluorinated Cubic "Element-Blocks"	
16:40	<u>Kazuo Tanaka</u> , Takahiro Kakuta and Yoshiki Chujo (Japan).....	200
	<i>Y. Miura, presiding</i>	
14F21	Functional fluorescent nanosheets for bio/environmental imaging	
17:00	<u>Shinji Takeoka</u> (Japan).....	201
14F22IL	Selection of DNA Aptamers Targeting to Cell Surface Proteins	
17:20	<u>Keitaro Yoshimoto</u> (Japan).....	202

Thursday, December 15

S-4 Frontiers in Biomedical Polymers and Nanomedicines

	<i>Y. Nagasaki, presiding</i>	
15F01IL	Injectable Polymer Hydrogels for Drug-Induced Tissue Regeneration	
9:00	Jing Cheng, Ellen Heber-Katz and <u>Phillip B. Messersmith</u> (U.S.A.).....	203
15F03	Effect of non-contacting sublayer of di-block polymer brush on cell behavior	
9:40	<u>Tomoyuki Azuma</u> , Yuji Teramura and Madoka Takai (Japan).....	204
15F04	Analysis of dynamics of mechano-signal input for stem cells cultured on the micro-elastically patterned hydrogels	
10:00	<u>Hiroyuki Ebata</u> , Kousuke Hamano and Satoru Kidoaki (Japan).....	205
	<i>M. Tanaka, presiding</i>	
15F05IL	Design and preclinical POC of xenogeneic small diameter acellular blood vessels	
10:20	<u>Tetsuji Yamaoka</u> (Japan).....	206
15F07	Synthesis of Novel Biodegradable Surface-modifier with Phosphorylcholine and Catechol and Characterization of their Properties	
11:00	<u>Yucheng Zhang</u> , Tomoyasu Hirai, Yuji Higaki, Ken Kojio and Atsushi Takahara (Japan).....	207
15F08	Study on the interfacial fine structure spontaneously formed at the blood-compatible polymer/water interface	
11:20	<u>Daiki Murakami</u> , Yoko Kitahara, Tomoya Ueda, Shingo Kobayashi and Masaru Tanaka (Japan).....	208
	<i>P. B. Messersmith, presiding</i>	
15F09	Thermally Modulated Cell Separation using Thermoresponsive Micro Fibers	
11:40	<u>Kenichi Nagase</u> , Yoichi Sakurada, Masayuki Yamato, Naoya Takeda and Teruo Okano (Japan).....	209
15F10	Immunization with antigenic peptides complexed with beta-glucan induces potent cytotoxic T-lymphocyte activity in combination with CpG-ODNs	
12:00	<u>Shinichi Mochizuki</u> , Hiromi Morishita and Kazuo Sakurai (Japan).....	210
15F11	Effect of Anionic Polysaccharides of Polysaccharide Composite Films on Adhesion and Proliferation of Cells	
12:20	<u>Kazutoshi Iijima</u> , Izumi Kuriki, Yuna Tsuji, Rie Ninomiya, Takuya Iyoda, Fumio Fukai and Mineo Hashizume (Japan).....	211
	<i>K. Sakurai, presiding</i>	
15F12IL	Polymeric Nano-Shielding of Transplanted Pancreatic Islets for the Prevention of Immune Reactions	
14:00	<u>Youngro Byun</u> , M. R. Haque, H. Park and S. J. Kim (Korea).....	212
15F14	Zwitterionic interfaces at polymers for fouling resistance	
14:40	<u>Chun-Jen Huang</u> and Chia-Yu Liu (Taiwan).....	213
	<i>T. Yamaoka, presiding</i>	

15F15	A novel design of biointerface suppressing immune response on the substrate surface	
15:00	<u>Yutaka Ikeda</u> , Tomoki Yoshinari, Kouya Akasaka, Hirotohi Miyoshi and Yukio Nagasaki (Japan).....	214
15F16	Temperature-dependent switching of growth factor binding on heparin-immobilized thermoresponsive surface for long-term stimulation of growth factor and recovery of cell sheets	
15:20	<u>Jun Kobayashi</u> , Yoshikatsu Akiyama, Masayuki Yamato and Teruo Okano (Japan).....	215
15F17	Use of 3D-Arterial Models to Predict the In Vivo Behavior of Nanoparticles for Drug Delivery	
15:40	<u>Michiya Matsusaki</u> , Utako Yokoyama, Yoshihiro Ishikawa and Mitsuru Akashi (Japan).....	216
	<i>T. Ooya, presiding</i>	
15F18	A hidden relationship between determinants of mass spectrometry (MS)-based biopolymer analysis	
16:00	<u>Masayoshi Seike</u> , Satomi Kishimoto and Kana Kawasaki (Japan).....	217
15F19	Nitric Oxide: A key player for novel anti-cancer immunotherapeutics	
16:20	<u>Yukio Nagasaki</u> and Shinpei Kudo (Japan).....	218
15F20IL	Characterizing a polysaccharide/DNA complex and application to targeting delivery of therapeutic oligonucleotides	
16:40	<u>Kazuo Sakurai</u> and Shinichi Mochizuki (Japan).....	219

Friday, December 16

S-4 Frontiers in Biomedical Polymers and Nanomedicines

	<i>K. Osada, presiding</i>	
16F01IL		
9:00	<u>Eva Marie Harth</u> (U.S.A.).....	220
16F03	Layered Sacran Hydrogels with Anisotropic Pore Structures Prepared by Simple Freeze-drying and Their Tissue Engineering Application	
9:40	<u>Saranyoo Sornkamnerd</u> , Kazuaki Matsumura, Kosuke Okeyoshi, Maiko K. Okajima and Tatsuo Kaneko (Japan).....	221
	<i>I. Park, presiding</i>	
16F04	Preparation of Dual Stimuli-Responsive Gel Particles as Smart Carriers for Intracellular Delivery	
10:00	<u>Akifumi Kawamura</u> , Ayaka Harada, Shunsuke Ueno and Takashi Miyata (Japan).....	222
16F05IL	Smart Nanofiber Technology Holds Promise for Future Medicine	
10:20	E. Niiyama, K. Uto and <u>Mitsuhiro Ebara</u> (Japan).....	223
	<i>E. M. Harth, presiding</i>	
16F07	Selective Protein Separation Using Glycopolymers Interface	
11:00	<u>Yoshiko Miura</u> , Hirokazu Seto, Yu Hoshino and Makoto Shibuya (Japan).....	224
16F08	Design of Stimuli-responsive Polymers with Photo-crosslinkable Groups for Cell Culture	
11:20	<u>Takashi Miyata</u> , Takafumi Noguchi, Akana Matsuda, Kohei Okuma and Akifumi Kawamura (Japan).....	225
16F09	Regulation of quorum-sensing-dependent antimicrobial production by self-assembled poloxamer micelles	
11:40	<u>Chigusa Okano</u> , Eri Nasuno, Morohoshi Tomohiro, Ken-ichi Iimura and Norihiro Kato (Japan).....	226
	<i>T. Miyata, presiding</i>	
16F10	Rapid and Sensitive MicroRNA Detection on a Surface-Functionalized Power-Free Microchip Utilizing UV-Induced Graft Polymerization	
12:00	<u>Ryo Ishihara</u> , Kanta Tanabe, Shoko Inomata, Yoshitaka Uchino, Kazuo Hosokawa, Mizuo Maeda and Akihiko Kikuchi (Japan).....	227
16F11	Preparation and Evaluation of Controlled Release Behaviors of Protein-Loaded Polysaccharide Composite Films	
12:20	<u>Tomonori Shibata</u> , Kazutoshi Iijima and Mineo Hashizume (Japan).....	228
	<i>K. Ishihara, presiding</i>	
16F12IL	Biocompatible Polymeric Nanoparticles for Efficient Delivery of Therapeutic Materials	
14:00	<u>In-Kyu Park</u> (Korea).....	229
16F14	Gold-coated Silver Nanoplates for Enhanced Stability and	

14:40	Antibacterial Activity <u>Kaung Kyaw</u> , Hiroaki Ichimaru, Takayuki Kawagoe, Hitomi Kaneko, Ayaka Harada, Katsuhiko Ono, Hiroyasu Tsutsuki, Tomohiro Sawa and Takuro Niidome (Japan) 230 <i>M. Ebara, presiding</i>
16F15 15:00	Design of Synthetic Polymer Nanoparticles with Dynamic Functions as Enzymes <u>Yu Hoshino</u> , Masahiko Nakamoto and Yoshiko Miura (Japan)..... 231
16F16IL 15:20	Biodegradable Injectable Polymer Systems Exhibiting Irreversible Gelation as Biomedical Materials <u>Yuichi Ohya</u> (Japan) 232 <i>M. Matsusaki, presiding</i>
16F18 16:00	Accumulation of dyes into DNA for efficient light-harvesting <u>Hiromu Kashida</u> , Ryoko Maruyama, Hayato Kawai, Yasuyuki Araki, Takehiko Wada and Hiroyuki Asanuma (Japan) 233
16F19 16:20	Peptide-decorated cyto-compatible polymer nanoparticles for transportation in cells <u>Kazuhiko Ishihara</u> , Yuuki Tamagaki and Yuuki Inoue (Japan) 234
16F20 16:40	PNA-conjugated magnetic nanocluster for real DNA pre-concentration <u>Metha Rutnakornpituk</u> , Sudarat Khadsai, Boonjira Rutnakornpituk, Maliwan Nakkuntod and Tirayut Vilaivan (Thailand) 235

Room G

Wednesday, December 14

S-3 Frontiers in Surface and Interface in Macromolecular Systems

	<i>D. A Hoagland, presiding</i>
14G01IL 9:00	Organic Nanoparticles as Structure Directing Agent for Block Copolymer Ordering <u>Joona Bang</u> , H. S. Wang, J. Kim and A. Khan (Korea) . 236
14G03 9:40	Thermodynamic Self-Assembly of 2-D MOF/COF Nanosheets Constructed on Solid Substrates <u>Masashi Kunitake</u> , Gento Matsuo, Yuriko Uchiyama and Satoshi Watanabe (Japan) 237
14G04 10:00	Microgel particles at the oil-water interfaces <u>Zifu Li</u> (China)..... 238 <i>J. Bang, presiding</i>
14G05 10:20	Preparation of Polyion Complex (PIC) Micelles and Vesicles from Mixture of pH-responsive Anionic Unime Micelles and Biocompatible Cationic Diblock Copolymers <u>Shin-ichi Yusa</u> , Sayaka Ohno and Kazuhiko Ishihara (Japan) 239
14G06 10:40	Multi-Armed Amphiphilic Cyclotetrasiloxanes as Versatile Building Blocks for Functional Assemblies <u>Huie Zhu</u> , Buket Akkus, Yida Liu, Yu Gao, Shunsuke Yamamoto, Jun Matsui, Tokuji Miyashita and Masaya Mitsuishi (Japan) 240
14G07 11:00	Three-Dimensional Block Copolymer Nanostructures by the Solvent-Annealing-Induced Wetting in Anodic Aluminum Oxide Templates <u>Jiun-Tai Chen</u> (Taiwan)..... 241 <i>T. Hayakawa, presiding</i>
14G08 11:20	Electrostatic Assembly of Polymer-Nanoparticle Composite Films at Liquid-Liquid Interfaces <u>David A Hoagland</u> , Tao Feng and Thomas P Russell (U.S.A.) 242
14G09IL 11:40	Nano- and Micro-patterning by Photoswitching Surface Energy <u>Christopher J. Ellison</u> , Michael J. Maher, Christopher M. Bates, Gregory Blachut, Matthew C. Carlson, Jeffrey L. Self, Dustin W. Janes, William J. Durand, Austin P. Lane, Talha A. Arshad, Chae Bin Kim, Nathan A. PriscoJoshua M. Katzenstein, Roger T. Bonnecaze and C. Grant Willson (U.S.A.) 243 <i>J. Chen, presiding</i>
14G12IL 14:00	Block Copolymer Nanopatterning on Graphene Based Substrates <u>Sang Ouk Kim</u> (Korea) 244

14G14 14:40	Thermo-responsive Optical Properties of Ionogels Composed of Polyurethane and Hydrophobic Ionic Liquids <u>Tomoya Sato</u> , Chihiro Urata, Matt W England, Liming Wang, Hiroshi Kakiuchida and Atsushi Hozumi (Japan) 245
14G15 15:00	A Self-Oscillating Hydrogel System Driven by Light <u>Shunsuke Nakamura</u> , <u>Takayuki Narita</u> and Yushi Oishi (Japan)..... 246 <i>C. J. Ellison, presiding</i>
14G16 15:20	Enhanced Photocatalytic Properties of Graphene Oxide-Platinum Nanoparticle Complex Crosslinked by Peptides <u>Tsukasa Mizutaru</u> , Galina Marzun, Sebastian Kohsakovski, Stephan Barcikowski and Yohei Yamamoto (Japan)..... 247
14G17 15:40	Water and Its interactions with synthetic hydrophobic materials <u>Thomas J McCarthy</u> , Pei Bian, Liming Wang and Yan Wang (U.S.A.) 248
14G18 16:00	Enzymatic Synthesis and Characterization of Cellulosic Hydrogels with Crystalline Nanoribbon Networks <u>Yuuki Hata</u> , Toshiki Sawada, Takamasa Sakai and Takeshi Serizawa (Japan)..... 249
14G19 16:20	Understanding of nano-ordered interaction force leads to protein adsorption behavior on the polymer brush surfaces <u>Yuuki Inoue</u> , Sho Sakata and Kazuhiko Ishihara (Japan) 250 <i>S. Kim, presiding</i>
14G20 16:40	Surface Modification of Glass Slide Using Inorganic-Organic Hybrid Hyperbranched-Linear Polymer Based on Poly(Siloxysilane) Hyperbranched Macroinitiator and Poly(N-isopropylacrylamide), and their Application to Cell Cultivation <u>Renaud T. Gillet</u> , Yuta Nabae, Teruaki Hayakawa and Masa-aki Kakimoto (Japan)..... 251
14G21 17:00	Supramolecular Asymmetric Photochemistry of Anthracene-2-carboxylete and Anthracene-2,6-dicarboxylete mediated by Human Serum Albumin Sota Toyooka, Mitsuru Okugi, Wijak Yospanya, Masaki Nishijima, Yasuyuki Araki, Seiji Sakamoto, Yoshihisa Inoue and <u>Takehiko Wada</u> (Japan) 252
14G22IL 17:20	Nanostructured Antimicrobial-But-Cyto-compatible, ABC-polymers <u>Kenneth J. Wynne</u> , Sithara Nair, Olga Zolotarskaya, C. J. Ehrhardt, D. E. Ohman, Vamsi Yadavalli and Congzhu Wang (U.S.A.) 253

Thursday, December 15

S-3 Frontiers in Surface and Interface in Macromolecular Systems

	<i>K. Ijiro, presiding</i>
15G01IL 9:00	Azobenzene-modified Poly(N-isopropylacrylamide) Nanogels: Docile Responsive Objects or Active Materials? <u>Xuwei Zhang</u> , Pierre-Louis Alliot and <u>Françoise M.</u> <u>Winnik</u> (Canada) 254
15G03 9:40	Development of Sugar Chain-targeted Molecularly Imprinted Polymer-based Semiconductor Biosensor for Cancer Cell Detection <u>Shoichi Nishitani</u> , Taira Kajisa and Toshiya Sakata (Japan) 255 <i>Z. Yang, presiding</i>
15G04 10:00	DNA Brush-Directed Self-Assembly of Gold Nanorods into Vertically Aligned Arrays <u>Kuniharu Ijiro</u> , Satoshi Nakamura, Hideyuki Mitomo, Yasutaka Matsuo and Kenichi Niikura (Japan) 256
15G05 10:20	Surface modification on PDMS graft copolyimide membrane by using nanosheets composed of poly(ethylene imine) for CO ₂ separation <u>Phiphat Charatsrisakun</u> , Kana Ando, Yosuke Okamura and Yu Nagase (Japan) 257
15G06 10:40	Surface modification of PDMS graft copolyimide membrane with aromatic polymers containing imidazolium group to improve gas separation property <u>Botakoz Suleimenova</u> , Tatsuma Oda, Chihiro Umeda, Yosuke Okamura and Yu Nagase (Japan) 258
15G07	Fabrication of Prussian Blue nanomembranes for gas

11:00	separation <u>Keisuke Kanakogi</u> , Shigenori Fujikawa and Nobuo Kimizuka (Japan)..... 259 <i>Y. Oda, presiding</i>	11:00	Structure of Bulk and Thin Film State <u>Ryohei Ishige</u> , Noboru Ohta, Hiroki Ogawa, Masatoshi Tokita and Atsushi Takahara (Japan) 275 <i>K. Ariga, presiding</i>
15G08 11:20	Preferential CO ₂ permeation of polymeric membranes and the mechanism <u>Ikuo Taniguchi</u> (Japan) 260	16G08 11:20	Characterization of Molecular Aggregation Structure for Novel Polyamide containing POSS and Evaluation of Its Scratch Properties <u>Yusuke Nagae</u> , Tomoyuki Ohishi, Makoto Kido, Tomoyasu Hirai and Atsushi Takahara (Japan) 276
15G09IL 11:40	Janus Composites and Interfacial Engineering <u>Zhenzhong Yang</u> (China) 261 <i>S. Sasaki, presiding</i>	16G09IL 11:40	New Strategies for the Photoalignment of Liquid Crystalline Polymers <u>Takahiro Seki</u> (Japan) 277 <i>M. Takai, presiding</i>
15G12IL 14:00	The Effects of Thin Film Confinement on the Structure, Dynamics, Stresses, and Transport in Thin Ionomer Films Bradley Frieberg, Jacob Tarver, Cheol Jeong, Sangcheol Kim, Joe Dura, Madhusudan Tyagi, Edwin Chan, Christopher Stafford, Tsung-Han Tsai, Wen Xu Zhang, Bryan Coughlin and <u>Christopher Soles</u> (U.S.A.)..... 262	16G12IL 14:00	Hang-Operating Nanotechnology: Interfacial Magic for Molecular Manipulation <u>Katsuhiko Ariga</u> (Japan) 278
15G14 14:40	Formation of higher-order structures in composite membranes of polymer-brush-afforded nanoparticles and ionic liquid <u>Yohei Nakanishi</u> , Ryohei Ishige, Hiroki Ogawa, Kohji Ohno, Takashi Morinaga, Takaya Sato, Toshiji Kanaya and Yoshinobu Tsujii (Japan)..... 263 <i>C. Soles, presiding</i>	16G14 14:40	Effect of different polymer-substrate interactions on the relationship between the glass transition temperature and self-diffusion coefficient of unentangled polymer thin films <u>Reika Katsumata</u> , Austin R Dulaney, Chae Bin Kim and Christopher J Ellison (U.S.A.) 279 <i>H. Matsuno, presiding</i>
15G15 15:00	Development of advanced reverse osmosis membranes Masahiro kimura, Hiroki Minehara, Harutoki Shimura, Jun Okabe, <u>Takafumi Ogawa</u> and Takao Sasaki (Japan)..... 264	16G15 15:00	Durable and Self-healing Anti-adhesive Coatings Prepared From Liquid-Infused Organogels <u>Liming Wang</u> , Chihiro Urata, Tomoya Sato, Matt W England and Atsushi Hozumi (Japan) 280
15G16 15:20	Calculation of the Diffusion Coefficient D and Solubility S in Polymer Films <u>Holger Norenberg</u> (U.K.) 265	16G16 15:20	Functionalization of PI Film Surfaces Utilizing Hot Press Techniques and Hydroxyapatite Coating Thereon <u>Kohei Takada</u> , Kazutoshi Iijima and Mineo Hashizume (Japan) 281
15G17 15:40	Transcrystallization Behavior at the Interface of Carbon Fiber and Poylmer Composites under a Temperature Gradient <u>Yuezheng Bin</u> , Shengnan Zhang, Xiaoyu Yan and Ran Shi (China)..... 266	16G17 15:40	Surface Wettability Controllable Polyimides by UV Light Irradiation <u>Yusuke Tsuda</u> (Japan) 282 <i>R. Ishige, presiding</i>
15G18 16:00	Crystallization kinetics of linear polyesters in spin-coating film-forming processes <u>Sono Sasaki</u> , Shun Miyamoto, Jinkyu Park, Hossain Md. Amran, Mami Goda, Shinichi Sakurai, Hiroyasu Masunaga, Takaaki Hikima and Masaki Takata (Japan)..... 267 <i>K. Ohno, presiding</i>	16G18 16:00	Adhesion of Poly(vinyl pyridine) Brushes by means of Hydrogen Bonding Interaction <u>Hayato Yoshioka</u> , Chiharu Izumi and Motoyasu Kobayashi (Japan) 283
15G19 16:20	Electrostatic Interaction and Chain Conformation of Poly(sulfobetaine methacrylate) Brushes at Brush/Water Interface <u>Yuji Higaki</u> , Yoshihiro Inutsuka, Norifumi L Yamada, Yuka Ikemoto and Atsushi Takahara (Japan)..... 268	16G19 16:20	Surface Modification of Cellulose Nanofiber for Superhydrophobic Surfaces <u>Md Mahbulul Bashar</u> , Huie Zhu, Shunsuke Yamamoto, Tokuji Miyashita and Masaya Mitsuishi (Japan) 284
15G20IL 16:40	Surface and Interfacial Interactions Control Assembly of Anisotropic Nanoparticles in Polymer Nanocomposites <u>Russell J. Composto</u> (U.S.A.) 269	16G20 16:40	Mechanical Properties-based Regulation of Cellular Behaviors on Thin Film Surfaces <u>Hisao Matsuno</u> and Keiji Tanaka (Japan) 285

Friday, December 16

S-3 Frontiers in Surface and Interface in Macromolecular Systems

	<i>T. Seki, presiding</i>
16G01IL 9:00	Photo-Carrier Generation and Molecular Dynamics in Thin Poly (3-alkylthiophene) Films <u>Daisuke Kawaguchi</u> and Keiji Tanaka (Japan)..... 270
16G03 9:40	Crystallization of ambipolar quinoidal quaterthiophene derivatives at air/liquid and liquid/liquid interfaces <u>Satoshi Watanabe</u> , Takahisa Ohta, Tetsuya Aoyama, Jean-Charles Ribierre, Masanobu Uchiyama, Chihaya Adachi and Masashi Kunitake (Japan)..... 271 <i>D. Kawaguchi, presiding</i>
16G04 10:00	Preparation of Polymer Brushes Consisting of Methacrylate Derivatives with Well-Controlled Stereoregularity and Characterization of There Molecular Aggregation State <u>Tomoki Kato</u> , Masanao Sato, Tomoyasu Hirai and Atsushi Takahara (Japan) 272
16G05 10:20	Force Curve Measurement of Polyzwitterion Brushes Containing Inverse Phosphorylcholine Group in Water <u>Motoyasu Kobayashi</u> , Ayano Yamazaki and Yusuke Imamura (Japan) 273
16G06 10:40	All-atom and coarse-grained molecular simulations for perfluorosulfonic acid polymer membranes <u>An-Tsung Kuo</u> , Wataru Shinoda and SuSumu Okazaki (Japan) 274
16G07	Fully Liquid-Crystalline ABA Triblock Copolymer:

Room P

POSTER SESSIONS SCHEDULE

- 9:00 - 12:30 Mounting Posters
 12:30 - 13:15 Obligation time for Group "a"
 13:15 - 14:00 Obligation time for Group "b"
 16:30 - 17:00 Removing Posters

● Notes:

For the assignment to Group "a" or "b", refer to the last letter of the poster ID code.
 (e.g.) 14P-S4-001a: Dec.14, Selected Topic S4, Paper #001, Group "a"

Wednesday, December 14

S-4 Frontiers in Biomedical Polymers and Nanomedicines

14P-S4-001a	Pulsatile drugs release from electrospun poly(ethylene oxide) and sodium alginate blend nanofibres <u>Abdessamad Kaassis</u> , Neil Young, Naoko Sano, Hamid A. Merchant, Deng-Guang Yu, Nicholas P Chatterton and Gareth R Williams (U.K.) 286	14P-S4-014b	Correlation between blood-compatibility and in-plane phase separation phenomenon at the biocompatible polymer/water interface. <u>Yoko Kitahara</u> , Daiki Murakami, Shingo Kobayashi and Masaru Tanaka (Japan) 299
14P-S4-002b	Antioxidant and adsorption properties of bio-inspired phenolic polymers: a comparative study of catechol and gallol groups <u>Hiroataka Ejima</u> , Kan Zhan and Naoko Yoshie (Japan)287	14P-S4-015a	Evaluation of pH-responsive polyion complex micelles of PEG- <i>b</i> -poly(ethylacrylic acid) <u>Yusuke Onuma</u> , Ryo Ishihara, Glen S. Kwon and Akihiko Kikuchi (Japan) 300
14P-S4-003a	Preparation of the Micelles Modified with Polysaccharide for Enhancement of Biological Compatibility <u>Mamiko Ishida</u> , Shinichi Mochizuki and Kazuo Sakurai (Japan) 288	14P-S4-016b	Evaluation of interaction between PEG modified b-glucan and poly dA <u>Daiki Ito</u> , Shinichi Mochizuki and Kazuo Sakurai (Japan)..... 301
14P-S4-004b	Intravital Assessment of Drug Delivery Activation through Hoechst-Loaded Polymeric Micelles <u>Shaoyi Chen</u> , Stelios Florinas, Kazuko Toh, Yu Matsumoto, James Christie, Kazunori Kataoka and Horacio Cabral (Japan) 289	14P-S4-017a	Development of tumor-specific drug delivery system using hyaluronic acid <u>Atsushi Moritaka</u> , Kazuo Sakurai and Shinichi Mochizuki (Japan) 302
14P-S4-005a	Analysis of beta-glucan receptor for the development of antisense DNA delivery system <u>Nobuaki Fujiwara</u> , Hiroto Izumi, Shinichi Mochizuki, Shohei Nagao, Yasuo Morimoto and Kazuo Sakurai (Japan) 290	14P-S4-018b	Preparation of Stimuli-Responsive Gel Capsules via Miniemulsion Periphery RAFT Polymerization and Their Drug Release Behavior <u>Hiroshi Nakaura</u> , Akifumi Kawamura and Takashi Miyata (Japan)..... 303
14P-S4-006b	A glucose-installed sub-50 nm-sized siRNA nanocarrier using unimer polyion complex for targeting cancer stem-like cells <u>Yu Yi</u> , Hyun Jin Kim, Kanjiro Miyata and Kazunori Kataoka (Japan) 291	14P-S4-019a	Design of polyplex micelles with pH- and ATP-responsive cross-linking for efficient gene delivery <u>Naoto Yoshinaga</u> , Mitsuru Naito, Satoshi Uchida, Horacio Cabral, Kensuke Osada and Kazunori Kataoka (Japan)..... 304
14P-S4-007a	Development of biodegradable injectable polymer systems exhibiting irreversible gelation in response to temperature <u>Keisuke Kawahara</u> , Kenta Inamoto, Hiroki Takai, Yasuyuki Yoshida, Kazuyuki Takata, Akinori Kuzuya and Yuichi Ohya (Japan) 292	14P-S4-020b	Design of Biomolecularly Stimuli-responsive Gel Capsules with Carbohydrate-lectin Complex Crosslinks <u>Kota Tanaka</u> , Akifumi Kawamura and Takashi Miyata (Japan) 305
14P-S4-008b	Fabrication of hierarchical biodegradable tubular structures as scaffolds for regenerative blood vessels by electrospinning <u>Kazuki Nishimura</u> , Akinori Kuzuya, Atsushi Mahara, Tetsuji Yamaoka and Yuichi Ohya (Japan) 293	14P-S4-021a	Over-1000 nm Near-infrared Luminescent Polymeric Micelles for in vivo imaging <u>Masao Kamimura</u> and Kohei Soga (Japan)..... 306
14P-S4-009a	Effect of spacer structures on biocompatibility of polyimides containing phosphorylcholine group <u>Haruki Oka</u> , Mari Ogino, Ryo Matsunaga, Yosuke Okamura and Yu Nagase (Japan) 294	14P-S4-022b	Control of Calcium Phosphate Mineralization in Simulated Body Fluids Using Polymer Nanoparticles Presenting Carboxylic Acid Groups <u>Kanae Komaru</u> , Kazutoshi Iijima, Yu Hoshino, Yoshiko Miura and Mineo Hashizume (Japan)..... 307
14P-S4-010b	Preparation of water-soluble complex composed of thermo-responsive and biocompatible diblock copolymer and fullerene <u>Junki Yano</u> , Shin-ichi Yusa and Kazuhiko Ishihara (Japan) 295	14P-S4-023a	Development of phosphatidylserine containing nanoparticle suppression inflammation <u>Kazuki Yuzuriha</u> , Takeo Masafumi, Md Hosain Zahangir, Khadijah , Ayaka Yoshida, Akihiro Kishimura, Takeshi Mori and Yoshiki Katayama (Japan)..... 308
14P-S4-011a	Efficient delivery of nucleic acid medicines using pH responsive DDS carrier <u>Shuto Tokunaga</u> , Shinichi Mochizuki, Noriko Miyamoto and Kazuo Sakurai (Japan) 296	14P-S4-024b	Analysis of dynamic cellular behavior of tumor cells on blood compatible polymers <u>Fumihito Aratsu</u> , Meng-Yu Tsai, Shingo Kobayashi and Masaru Tanaka (Japan) 309
14P-S4-012b	Immunity control by crosslinked-nanogel consist of CpG-ODN and beta-glucan <u>Noriko Miyamoto</u> , Shinichi Mochizuki and Kazuo Sakurai (Japan) 297	14P-S4-025a	Development of antigenic protein delivery system to immune cells using schizophyllan <u>Kouhei Fukumitsu</u> , Kazuo Sakurai and Shinichi Mochizuki (Japan)..... 310
14P-S4-013a	Development of Staurosporine/Epirubicin-loaded Micelles for Cooperative Synergistic Treatment against Cancer Cells and Cancer Stem-like Cells	14P-S4-026b	Loading of Drugs within Polypeptide Hydrogels via Molecular Imprinting and Their Controlled Release <u>Kazuya Matsumoto</u> , Yoshinori Ito, Akifumi Kawamura and Takashi Miyata (Japan) 311
		14P-S4-027a	Enzyme-loaded polyion complex vesicles as intravital reactors functioning in vivo in the circulating blood <u>Daiki Sueyoshi</u> , Yasutaka Anraku and Kazunori Kataoka (Japan) 312
		14P-S4-028b	Structural and biological evaluation of the complexes fabricated by fusion of magnetic liposomes with glutathione-loaded liposomes <u>Mina Sakuragi</u> , Risako Seguchi, Takuya Zushi, Kazuaki Taguchi and Katsuki Kusakabe (Japan) 313
		14P-S4-029a	Development and characterization of polylactic acid thin-films loaded with Iron nanoparticles for magnetic drug targeting <u>Hironobu Murayama</u> , Mina Sakuragi and Katuki Kusakabe (Japan) 314
		14P-S4-030b	Binding affinity of poly(ethylene phosphate) nanoparticles to bone <u>Yuya Hirano</u> , Hiromi Hongou and Yasuhiko Iwasaki

14P-S4-031a	(Japan)..... 315 Zwitterion-protected silver nano clusters having antibacterial activity and biocompatibility <u>Arunee Sangsuwan</u> , Hideya Kawasaki, Yoshinobu Matsumura and Yasuhiko Iwasaki (Japan)..... 316	14P-S7-050b	<u>Narita Khundamri</u> and Varoporn Tanrattanakul (Thailand)..... 332 Effect of zinc oxide content on morphology and tensile properties of PLA foam prepared by compression molding
14P-S4-032b	Preparation of stereocomplexed polylactic acid nanocapsules with controlled release properties <u>Yui Sakamoto</u> , Takaichi Watanabe and Tsutomu Ono (Japan)..... 317	14P-S7-051a	<u>Pasuta Sungsee</u> and Varoporn Tanrattanakul (Thailand)..... 333 Synthesis and Characterization of Cyclic Carbonate Telechelic Poly(lactic acid)
14P-S4-033a	Fluorophore labeled polymer conjugates for ratiometric detection of protein kinase activity <u>Takanobu Nobori</u> , Shujiro Shiosaki, Akihiro Kishimura, Takeshi Mori and Yoshiaki Katayama (Japan)..... 318	14P-S7-052b	<u>Ruedee Jaratrotkamjorn</u> , Arnaud Nourry, Pamela Pasetto, Varoporn Tanrattanakul and Jean-Francois Pilard (Thailand)..... 334 Molecular Dynamics Study of Cellulose and Chitin Crystals in Ionic Liquids
14P-S4-034b	Multifunctional tannic acid and lignin films on collagen hydrogel for biomedical applications <u>Daheui Choi</u> , Jiwoong Heo, Jinkee Hong and Michiya Matsusaki (Korea.)..... 319	14P-S7-053a	<u>Takuya Uto</u> , Kazuya Yamamoto and Jun-ichi Kadokawa (Japan)..... 335 Preparation and Gel Formation of Amylose-grafted Chitin Nanofibers
14P-S4-035a	Design of Clickable Thermo-responsive Polymers for the Enrichment of Antigen by Thermal Precipitation <u>Naoto Nomura</u> , Akihiko Kikuchi and Mitsuhiro Ebara (Japan)..... 320	14P-S7-054b	<u>Naomichi Egashira</u> , Kazuya Yamamoto and Jun-ichi Kadokawa (Japan)..... 336 Chemoenzymatic Synthesis of Amylose-grafted Poly(glutamic Acid)
14P-S4-036b	Design of Apoptotic Cell Membrane Mimetic Polymers for Anti-inflammatory Therapy <u>Yasuhiro Nakagawa</u> , Atsuhiko Saitou, Takao Aoyagi and Mitsuhiro Ebara (Japan)..... 321	14P-S7-055a	<u>Takuya Shouji</u> , Kazuya Yamamoto and Jun-ichi Kadokawa (Japan)..... 337 Surface functionalization of cellulose nano-fiber derived from bamboo and thereby one-pot synthesis of functional nano-composite
14P-S4-037a	Fragment Molecular Orbital-based Parameterizing Procedure for Dissipative Particle Dynamics Simulations <u>Koji Okuwaki</u> , Hideo Doi, Yuji Mochizuki, Taku Ozawa and Kenji Yasuoka (Japan)..... 322	14P-S7-056b	<u>Fuma Koga</u> , Takayuki Tsukegi and Haruo Nishida (Japan)..... 338 Preparation and Gel Formation of Poly(2-oxazoline)-grafted Chitin Nanofibers
14P-S4-038b	Dissipative Particle Dynamics Simulations for Lipid Membrane using Fragment molecular orbital-based Effective Parameters <u>Hideo Doi</u> , Koji Okuwaki, Yuji Mochizuki, Taku Ozawa and Kenji Yasuoka (Japan)..... 323	14P-S7-057a	<u>Junpei Yoshida</u> , Kazuya Yamamoto and Jun-ichi Kadokawa (Japan)..... 339 Precision analysis of Biomass Pyrolysis Properties
14P-S4-039a	Synthesis and characterization of biodegradable and thermoresponsive hydrogel having ester groups in the polymer backbone prepared by ring-opening radical polymerization <u>Syuuhei Komatsu</u> , Taka-Aki Asoh, Ryo Ishihara and Akihiko Kikuchi (Japan)..... 324	14P-S7-058b	<u>Yuki Kawasaki</u> and Haruo Nishida (Japan)..... 340 Synthesis and characterization of regioselectively substituted curdlan derivatives
14P-S4-040b	Design of self-assembling peptide nanofibers for antigen delivery carriers. <u>Tomonori Waku</u> , Tadato Shibuya, Takehiro Deromachi, Kiminori Sakuta, Shigeru Kunugi and Naoki Tanaka (Japan)..... 325	14P-S7-059a	<u>Chih-Ying Chien</u> , Yukiko Enomoto-Rogers, Akio Takemura and Tadahisa Iwata (Japan)..... 341 Biomimetic Synthesis of Colloidal Inorganic/Polymer Hybrid Liquid Crystals
	S-7 Polymers in Green Chemistry	14P-S7-060b	<u>Masanari Nakayama</u> , Satoshi Kajiyama, Tatsuya Nishimura, Akihito Kumamoto, Yuichi Ikuhara and Takashi Kato (Japan)..... 342 Plasticization of chitosan with acyl substitution and their properties.
14P-S7-043a	Stereocomplex formation in the copolymer networks composed of 4-armed star-shaped oligomers of L-lactide, D-lactide and ϵ -caprolactone <u>Ayaka Shibita</u> , Shohei Matsuda, Toshiaki Shimasaki, Naozumi Teramoto and Mitsuhiro Shibata (Japan)..... 326	14P-S7-061a	<u>Takahiro Danjo</u> , Yukiko Rogers and Tadahisa Iwata (Japan)..... 343 Synthesis of Catechol-Containing Vinyl Polymers via Living Radical Polymerization of Vinylcatechol Derivatives from Natural Resources
14P-S7-044b	Dynamic Covalent Exchange Reactions of Diaryl Diselenide-Containing Linear and Cross-Linked Polyurethanes <u>Nao Suzuki</u> , Akira Takahashi, Raita Goseki and Hideyuki Otsuka (Japan)..... 327	14P-S7-062b	<u>Hisaaki Takeshima</u> , Kotaro Satoh and Masami Kamigaito (Japan)..... 344 The Structure and CO ₂ Separation Property of Ionic Liquid/Sulfonated Polyimide Composite Membranes
14P-S7-045a	Facile Degradability of Epoxy Resins Prepared from Disulfide-containing Diepoxide Monomer <u>Akira Takahashi</u> , Tomoyuki Ohishi, Raita Goseki and Hideyuki Otsuka (Japan)..... 328	14P-S7-063a	<u>Akika Ito</u> , Teturou Yoshioka, Akihiro Yoshida, Xiang Li, Tomohiro Yasuda, Kazukiyo Nagai, Mitsuhiro Shibayama and Masayoshi Watanabe (Japan)..... 345 Efficient Fabrication of Chitin Nanofiber Composites with Commodity Plastics by Means of Surface Modification
14P-S7-046b	Synthesis and characterization of polyamides derived from D-glucaric acid <u>Wu Yuxin</u> , Enomoto-Rogers Yukiko, Masaki Hisaharu, Takemura Akio and Iwata Tadahisa (Japan)..... 329	14P-S7-064b	<u>Imori Keisho</u> , Yamamoto Kazuya and Kadokawa Jun-ichi (Japan)..... 346 Development of natural phenol-based functional epoxy polymers
14P-S7-047a	Dissolution of cedar soda lignin with ionic liquid/water mixtures under mild condition <u>Takashi Akiba</u> , Mizuki Shimo, Akiko Tsurumaki and Hiroyuki Ohno (Japan)..... 330	14P-S7-065a	<u>Shinji Kanehashi</u> , Kenji Ogino and Tetsuo Miyakoshi (Japan)..... 347 Controlled/Living Radical Polymerization of exo-Methylene Cyclic Carbonate Derived from Glycerol and Carbon Dioxide
14P-S7-048b	Design of functional ionic liquids to show phase-separation with water and to dissolve cellulose <u>Daiki Sato</u> , Mitsuru Abe, Kosuke Kuroda and Hiroyuki Ohno (Japan)..... 331	14P-S7-066b	<u>Teigo Okoshi</u> , Kotaro Satoh and Masami Kamigaito (Japan)..... 348 Cationic Polymerization of Alicyclic Conjugated Dienes with a Reactive exo-Methylene Group Derived from Natural α,β -Unsaturated Cyclic Carbonyl Compounds
14P-S7-049a	Effect of Curing Temperature on the Properties of Flexible Epoxy Foam Derived from Epoxidized Soybean oil		<u>Takenori Nishida</u> , Kotaro Satoh and Masami Kamigaito

14P-S7-067a	(Japan) 349 Development of Diol-type Monomers Bearing Rigid Skeletons from myo-Inositol <u>Arata Yoshida</u> , Kohei Kaiba, Naoki Ishikura, Hidemichi Yoshinaga and Atsushi Sudo (Japan) 350	14P-S7-084b	(Japan) 366 Preparation and Characterization of Bio-based Acrylic Resin from Non-edible Biomass <u>Yasumasa Takenaka</u> and Hideki Abe (Japan) 367
14P-S7-068b	Cyclopolymerization of Dimethacrylate with Adamantane-Like Core Derived from myo-Inositol <u>Takuya Takahashi</u> , kyohei Nishiyama and Atsushi Sudo (Japan) 351	14P-S7-085a	Preparation of 'powder' cellulose nanowhisker for filler applications <u>Toshihiko Arita</u> and Jun Araki (Japan) 368
14P-S7-069a	Accelerated Lipid Accumulation in Microalgae <i>Chlamydomonas debaryana</i> by Spherical Aggregation in Ca ²⁺ -alginate Hydrogel <u>Toru Yoshitomi</u> , Masakazu Toyoshima, Naoki Sato and Keitaro Yoshimoto (Japan) 352	14P-S7-086b	Preparation of cellulose films with thermoplastic property via ionic liquid gelation <u>Akihiko Takada</u> , Yasuhiro Habu, Kazuya Yamamoto and Jun-ichi Kadokawa (Japan) 369
14P-S7-070b	Cationic Polymerization and Radical Copolymerization of Naturally-Occurring Sabinene <u>Tomonari Nagai</u> , Kotaro Satoh and Masami Kamigaito (Japan) 353	14P-S7-087a	Preparation of biodegradable polyester P(3HB) and its copolymer films by stretching after holding at cold crystallization temperature <u>Toshihisa Tanaka</u> , Yumiko Takayama, Motomu Nishijo, Keigo Matsukawa and Tadahisa Iwata (Japan) 370
14P-S7-071a	Random copolymerization of lactones and hydroxyacid bioaromatics using one-pot ring opening polymerization (ROP) polycondensation method <u>Ha T. H. Nguyen</u> , Gabriel Short, Pengxu Qi and Stephen A. Miller (U.S.A.) 354	14P-S7-088b	Development of manufacturing process for bio-mass derived phenol <u>Takanobu Masuda</u> , Hiroyuki Miyuchi, Kazumi Hiraga and Masayuki Inui (Japan) 371
14P-S7-072b	Design and synthesis of cellulose based thermoplastics for application to CFRP <u>Rina Hoshino</u> , Makoto Yamaguchi, Ryo Ito, Ryohei Kakuchi, Kenji Takada, Takatsugu Endo, Tomoyuki Ikai, Kazuaki Ninomiya, Katsuhiko Maeda and Kenji Takahashi (Japan) 355	14P-S7-089a	Enhanced photodegradability of LDPE filled with OTS-modified TiO ₂ <u>Tawan Sooknoi</u> , Preeyaporn Mahawanjam, Surapong Piamsuwansiri, Oranut Pongtanapaisan, Suparat Rukchonlatee and Chonlada Ritvirulh (Thailand) 372
14P-S7-073a	Transesterification Reactions of Cellulose in a Mixture of Ionic Liquid and Dimethyl Sulfoxide <u>Shuhei Nomura</u> , Makoto Yamaguchi, Ryo Ito, Ryohei Kakuchi, Kenji Takada, Tomoyuki Ikai, Kazuaki Ninomiya, Katsuhiko Maeda and Kenji Takahashi (Japan) 356	G-2 Structures and Physical Properties of Polymers	
14P-S7-074b	Phenolization of lignin and its application to epoxy resin <u>Asuka Kawasaki</u> , Kaori Matsumura, Akio Takahashi, Toshiyuki Oyama and Hiroyuki Okuhira (Japan) 357	14P-G2-092b	On-Film Annealing: Fabrication of Asymmetric Polymer Particles with Anisotropic Curvatures <u>Hsiao-Fan Tseng</u> , Ming-Hsiang Cheng, Kai-Sheng Jeng, Jia-Wei Li and Jiun-Tai Chen (Taiwan) 373
14P-S7-075a	Ring opening polymerization of cyclic carbonates over acid-base bifunctional catalyst <u>Masayoshi Honda</u> and Hideki Abe (Japan) 358	14P-G2-093a	Structural diversification of light metal coordination polymers using a 4-(methylsulfonyl) benzoate ligand with a charge-polarized neutral methylsulfonyl moiety <u>Rika Ochi</u> , Shin-ichiro Noro, Kazuya Kubo and Takayoshi Nakamura (Japan) 374
14P-S7-076b	Development of Environmentally Degradable Heterocyclic Itaconic acid based Polyamides and their Composites <u>Mohammad Asif Ali</u> , Seiji Tateyama and Tatsuo Kaneko (Japan) 359	14P-G2-094b	Structures of complexes formed by diblock and triblock copolymers of poly(ethyl oxazoline) and poly(methacrylic acid) <u>Shota Morishima</u> , Yasunori Shiokawa, Yasuhiro Matsuda, Atsushi Takahara and Shigeru Tasaka (Japan) 375
14P-S7-077a	Transformation of lignin-derived aromatics into nonaromatic polymeric substances with fluorescent activities by <i>Pseudomonas</i> sp. ITH-SA-1 <u>Yuki Sakano</u> , Hiroshi Matufuji, Michio Sunairi and Noriyuki Iwabuchi (Japan) 360	14P-G2-095a	Association Behavior of Amphiphilic Cyclic Peptide in Aqueous Solution <u>Eri Tabata</u> , Satoshi Kanazawa and Isamu Akiba (Japan) 376
14P-S7-078b	Cooperative Adsorption for Critical Metals Using Stereo-Regular Poly- γ -Glutamate <u>Yuichi Hakumai</u> , Tomoki Kawamoto and Makoto Ashiuchi (Japan) 361	14P-G2-096b	The influence of crystallinity on the bulging deformation behavior of nylon12 film <u>Chigusa Nagano</u> , Shuhei Nozaki, Aya Fujimoto, Kazutaka Kamitani, Ya-ting Hsieh, Hirohmi Watanabe, Ken Kojio and Atsushi Takahara (Japan) 377
14P-S7-079a	Preparation and Hydrolysis of Water-Stable Amorphous Cellulose <u>Kazuyuki Hattori</u> and Arisa Arai (Japan) 362	14P-G2-097a	Study on Relation between Spatial Distribution and Release Rate of Hydrophobic Compounds Incorporated in Polymer Micelles <u>Shota Sasaki</u> , Ryosuke Nakanishi and Isamu Akiba (Japan) 378
14P-S7-080b	Permeation Properties of Cellulose Acetate Membranes with Potassium-Cyclodextrin based Metal-Organic Framework <u>Hirohito Yamasaki</u> , Hirotaka Kawaguchi, Mika Matsushige, Tomoya Masuda, Syoichi Aida, Izumi Kumakiri, Kazuhiro Tanaka and Hidetoshi Kita (Japan) 363	14P-G2-098b	Performance of carbon dioxide absorption by Dry Ionic Liquid containing polymer <u>Masaya Miyake</u> and Mitsuru Satoh (Japan) 379
14P-S7-081a	Preparation of Chitin Nanofiber/Natural Rubber Composite Material <u>Kazuya Yamamoto</u> , Ryo Endo and Jun-ichi Kadokawa (Japan) 364	14P-G2-099a	Crystal structure and chain dynamics of stereoregular hydrogenated polynorbornenes <u>Yuki Nakama</u> and Shigetaka Hayano (Japan) 380
14P-S7-082b	Removal of heavy metal ions using a polysaccharide-based flocculant Sayaka Fujita, Noya Kaizawa, Riku Sato, Hiroyuki Kono and Nobuo Sakairi (Japan) 365	14P-G2-100b	Monomer Sequence Effect on Swelling Behavior of Thermoresponsive Gels Carrying Ionizable Groups <u>Megumi Sogoh</u> , Shohei Ida, Satoshi Tanimoto, Shokyoku Kanaoka and Yoshitsugu Hirokawa (Japan) 381
14P-S7-083a	Properties of poly(Asp) hydrolase-1 capable of cleaving β -amide bonds and its application to β -peptide synthesis <u>Tomohiro Hiraishi</u> , Hideki Abe and Mizuo Maeda	14P-G2-101a	Phase Behavior of Colistin Methanesulfonate in Aqueous Solution <u>Kosuke Morimoto</u> , Satoshi Kanazawa and Isamu Akiba (Japan) 382
		14P-G2-102b	The effect of stereoregularity on phase-transition behaviors of aqueous polymethacrylamides <u>Pohsun Yin</u> , Junpei Hashimoto, Tadashi Segata, Miyuki Oshimura, Tomohiro Hirano and Koichi Ute (Taiwan) 383

14P-G2-103a	Enthalpy relaxation of amorphous polystyrene and polyisobutylene. <u>Jun Fujimura</u> , Eri Nishiyama, Shotaro Kimura and Itaru Tsukushi (Japan)..... 384	14P-G2-120b	Hysteresis on the phase separation of the aqueous solution of thermo-responsive polymers VII- α , ω -hydroxyl telechelic poly(2-isopropyl-2-oxazoline). <u>Takaaki Bekki</u> , Kento Hamamura, Yusuke Sanada and Yukiteru Katsumoto (Japan)..... 400
14P-G2-104b	Structural Analysis of Cellulose Acetate and Zirconium Alkoxide Hybrid Fibers <u>Hanako Asai</u> , Koji Nakane, Fumihiko Nishimura, Susumu Yonezawa and Hiroaki Nitani (Japan)..... 385	14P-G2-121a	Preparation of tetra-PEG-graphene oxide hydrogels as efficient dye adsorbents <u>Kateryna Khairulina</u> , Takamasa Sakai and Ung-il Chung (Japan)..... 402
14P-G2-105a	Structurally Anisotropic Composite Films Made of Polyion Complexes of Polysaccharides Using Roll Press Techniques <u>Yuichi Nikaido</u> , Kazutoshi Iijima and Mineo Hashizume (Japan)..... 386	14P-G2-122b	Structure analysis of Crystalline Shape-Memorized Gel with synchrotron X-ray scattering measurements. <u>Soken Konno</u> , Jin Gong and Go Matsuba (Japan).... 403
14P-G2-106b	Directional Control of Diffusion and Swelling in LC Polysaccharide Hydrogels with Laminated Structure for Developing Anisotropic Soft Materials <u>Gargi Joshi</u> , Kosuke Okeyoshi, Maiko K. Okajima and Tatsuo Kaneko (Japan)..... 387	14P-G2-123a	Thermoresponsive self-assembling behavior of PEO-PPO block copolymers in aqueous solution <u>Yusuke Sanada</u> , Naoyuki Koga, Tasuku Horiuchi and Yukiteru Katsumoto (Japan)..... 404
14P-G2-107a	High-Pressure-Induced Structural Change in Polyimide Containing Hydrogen-Bonding Amide-Linkage in Main Chain <u>Eisuke Fujiwara</u> , Hiroshi Fukudome, Ryohei Ishige and Shinji Ando (Japan)..... 388	14P-G2-124b	Meso-scale structure of polyrotaxane consisting of triblock copolymer as a main chain <u>Shuntaro Uenuma</u> , Rina Maeda, Shoko Takahashi, Kazuaki Kato, Koichi Mayumi, Hideaki Yokoyama and Kohzo Ito (Japan)..... 405
14P-G2-108b	Fluorescence imaging of director spatial distribution in liquid crystal blue phases using dichroic dyes with confocal laser scanning microscope <u>Takaaki Narita</u> , Yasushi Okumura, Jun-ichi Fukuda, Hiroki Higuchi and Hirotsugu Kikuchi (Japan)..... 389	14P-G2-125a	Thermal properties of water, hyperbranched polyglycerols and polyglycerol dendrimers <u>Yosuke Sugimoto</u> , Masaru Tanaka and Tooru Ooya (Japan)..... 405
14P-G2-109a	Transmission Electron Microscope Observation of Polymer Aggregation Structure in Polymer-Stabilized Blue Phase <u>Shinji Shindo</u> , Yasushi Okumura, Takeshi Higuchi, Hiroshi Jinnai, Hiroki Higuchi and Hirotsugu Kikuchi (Japan)..... 390	14P-G2-126b	Aggregation States and Dynamics of Rotaxaned Surface <u>Hideobu Taneda</u> , Atsuomi Shundo, Hisao Matsuno and Keiji Tanaka (Japan)..... 407
14P-G2-110b	Heat capacity analysis of amorphous polyisobutylene based on molecular vibrations. <u>Marika Yokota</u> , Eri Nishiyama, Jun Fujimura and Itaru Tsukushi (Japan)..... 391	14P-G2-127a	The Mechanism of the Helix-sense Inversion of Polyaspartates in the Solid State as Revealed by the Study of Block Copolymers <u>Hirotsu Inoue</u> , Yuki Suzuki and Hidemine Furuya (Japan)..... 408
14P-G2-111a	Synthesis of random copolymers composed of anionic and cationic monomers <u>Rina Nakahata</u> and Shin-ichi Yusa (Japan)..... 392	14P-G2-128b	Dielectric Relaxation Time of Ice-Ih in Partially Crystallized Polymer Aqueous Mixtures <u>Takahito Yasuda</u> , Yurika Matsui, Kaito Sasaki, Rio Kita, Naoki Shinyashiki and Shin Yagihara (Japan)..... 409
14P-G2-112b	Brill transition of polyurea crystals with synchrotron X-ray scattering measurements <u>Takayuki Kobayashi</u> and Go Matsuba (Japan)..... 393	14P-G2-129a	Glass Transition of Water and Polymer in Poly (vinyl methyl ether)-Water Mixtures <u>Masanobu Takatsuka</u> , Takumi Maeda, Kaito Sasaki, Rio Kita, Naoki Shinyashiki and Shin Yagihara (Japan) . 410
14P-G2-113a	Micellization behaviors of PEO-PPO multi-block copolymer and triblock copolymer in aqueous solution <u>Kazuaki Rikiyama</u> , Naoyuki Koga and Yukiteru Katsumoto (Japan)..... 394	14P-G2-130b	Molecular aggregation behavior and scratch behaviors of polyphenyleneoxide / polystyrene blends <u>Yudai Kiyoshima</u> , Yuji Higaki, Ken Kojio and Atsushi Takahara (Japan)..... 411
14P-G2-114b	Microscopic Structure of Supramolecular Organogel from Amphiphilic Cyclic Peptide Self-Assembly <u>Satoshi Kanazawa</u> , Kosuke Morimoto and Isamu Akiba (Japan)..... 395	14P-G2-131a	Formation of networks using cracking phenomena and their viscoelastic properties <u>Momoko Kitamikado</u> and Daisuke Tatsumi (Japan) . 412
14P-G2-115a	Hysteresis on the phase separation of the aqueous solution of thermo-responsive polymers VIII ~Relation between aggregation and dehydration process of PNiPAm by fluorescence probe method~ <u>Reika Ikemoto</u> , Kento Hamamura, Yusuke Sanada and Yukiteru Katsumoto (Japan)..... 396	14P-G2-132b	Effect of branched point and arm length in the formation of shish of linear and star poly(L-lactic acid) (PLLA) blend <u>Go Hiwasa</u> , Shinichi Yamazaki and Kunio Kimura (Japan)..... 413
14P-G2-116b	Design of nano-structured PICs using all-hydrophilic block copolymers and their site-specific incorporation of functional nanomaterials <u>Yujiro Hamada</u> , Takeshi Mori, Yoshiki Katayama and Akihiro Kishimura (Japan)..... 397	14P-G2-133a	Influence of the headgroup volume of calix[4]arene based-lipids on the micellar structure with similar morphologies to polyhedral <u>Kenta Yoshida</u> , Sakiko Matsumoto, Yusuke Sanada, Shota Fujii and Kazuo Sakurai (Japan)..... 414
14P-G2-117a	Mussel-inspired, ultrasoft surfaces for block copolymer nanopatterning on inert and flexible substrates <u>Joon Hee Cho</u> , <u>Reika Katsumata</u> , Sunshine X Zhou, Chae Bin Kim, Austin R Dulaney, Dustin W Janes and Christopher J Ellison (U.S.A.)..... 398	14P-G2-134b	Small- and Wide-angle X-ray Scattering Study of Cononsolvency: Microscopic Structure and Critical Behavior of Poly(<i>N</i> -isopropylacrylamide) in Monohydric Alcohol/Water Mixtures <u>Mamoru Fujiki</u> , Keiichi Yanase, Daisuke Suzuki and Takaaki Sato (Japan)..... 415
14P-G2-118b	The effect of comonomer on the viscous behavior for the aqueous dispersion of Poly(<i>N</i> , <i>N</i> -dimethylacrylamide) micro hydrogels <u>Takamasa Yoshino</u> and Yukiteru Katsumoto (Japan)..... 399	14P-G2-135a	Nano-Structural Analysis of Aggregates Formed by Homogeneous Polyoxyethylene Type Nonionic Surfactants with Methoxy or Ethoxy Terminal Group <u>Shiho Yada</u> and Tomokazu Yoshimura (Japan)..... 416
14P-G2-119a	Wetting Process in Micron-order Spheres and Viscoelastic Material Systems	14P-G2-136b	The study on the change with the density fluctuation of Polycarbonate under deformation by time-resolved small angle X-ray scattering <u>Yuki Watanabe</u> , Shotaro Nishitsuji, Hiroshi Ito, Masaru Ishikawa, Takashi Inoue and Mikihiro Takenaka (Japan)..... 417
		14P-G2-137a	Formation of Optically Anisotropic Gel by Removing

	Cations from Cellulose Sodium Hydroxide Aqueous Solution <u>Yuka Koga</u> and Daisuke Tatsumi (Japan)..... 418		<u>Hajime Nagai</u> and Takahiko Nakaoki (Japan)..... 436
14P-G2-138b	Physical properties and network structures of gellan gum solutions with multivalent cations studied by NMR and ESR <u>Yun Zhou</u> , Qiuhua Zhao and Shingo Matsukawa (Japan) 419	14P-G2-156b	Investigation of Phase Structure for Ultra High Molecular Weight Polyethylene by solid-state 13C NMR <u>Takanari Ikenishi</u> , Takahiko Nakaoki and Hideaki Ishihara (Japan) 437
14P-G2-139a	Orientation behavior and intra- and inter-molecular interaction of miscible polymer blend: poly(methyl methacrylate)/poly(styrene-co-acrylonitrile) <u>Mizuho Takagi</u> , Keiichi Kuboyama and Toshiaki Ougizawa (Japan) 420	14P-G2-157a	Correlation between a micellar structure and a lattice made by those in block copolymer / homopolymer blends <u>Hideaki Takagi</u> and Katsuhiko Yamamoto (Japan).... 438
14P-G2-140b	Fabrication and Wettability of Anisotropic Surface Structures Imitating Hair Cuticle <u>Shingo Ito</u> and Daisuke Ishii (Japan) 421	14P-G2-158b	Structural analysis of O-linked glycans in lacquer glycoproteins, laccase and stellacyanin, by PMP labeling and MALDI TOF mass spectrometry methods <u>Oyunjargal Tumurbaatar</u> and Takashi Yoshida (Japan) 439
14P-G2-141a	Molecular weight dependence on crystallization during shear flow of polypropylene <u>Yo Okawa</u> and Go Matsuba (Japan)..... 422	14P-G2-159a	Melt processing of poly-3-alkylthiophene composite <u>Yurika Takagi</u> and Ryuichi Sugimoto (Japan)..... 440
14P-G2-142b	Viscoelasticity measurement of thixotropic polyurea gel by using a quartz crystal microbalance <u>Kaito Shimizu</u> , Katsunori Inaishi, Ryosuke Matsubara and Atsushi Kubono (Japan) 423	14P-G2-160b	Influence of Nano ZnO on Curing of Natural Rubber and Its Enhanced Mechanical Properties <u>Yong Hwan Lee</u> , Misuk Cho and Youngkwan Lee (Korea.) 441
14P-G2-143a	Photoalignment of Polyazomethine Thin Films Prepared by Vapor Deposition Polymerization <u>Masanori Kamiya</u> , Katsunori Inaishi, Ryosuke Matsubara and Atsushi Kubono (Japan)..... 424	14P-G2-161a	Computational and experimental study for structural analysis of molecular aggregate in aqueous solution <u>Tadashi Okobira</u> , Tomoya Ueda, Koudai Ikesue, Yusuke Sanada, Shota Fujii and Kazuo Sakurai (Japan) 442
14P-G2-144b	The viscous behavior for the aqueous dispersion of poly(<i>N</i> -isopropylacrylamide) micro hydrogels <u>Miho Iwamoto</u> , Takamasa Yoshino and Yukiteru Katsumoto (Japan) 425	14P-G2-162b	Characterization of Syndiotactic Polystyrene Physical Gel in the Mixed Solvent of Chloroform and Toluene <u>Risei Wada</u> , Hidenobu Shimizu and Masaru Okabe (Japan)..... 443
14P-G2-145a	Change of molecular weight of cyclic PLLA via transesterification and its availability as nucleating agents for linear PLLA <u>Saori Yoshida</u> , Noritaka Yuki, Hironori Atarashi, Shinichi Yamazaki and Kunio Kimura (Japan) 426	14P-G2-163a	Preparation of Surface-Functional Particles Undergoing Thermally/Photochemically-Induced Shape Change by Dispersion Polymerization <u>Tomomichi Itoh</u> , Tetsuo Tamamitsu, Katsuaki Kojima, Kento Tsutsui, Hiroaki Shimomoto and Eiji Ihara (Japan) 444
14P-G2-146b	Uniform Nanoribbons by Self-Assembly of Fully Conjugated Block Copolymers Using Balance of Various Crystalline Moieties <u>Inho Choi</u> and Sanghee Yang and Tae-Lim Choi (Korea.) 427	14P-G2-164b	Cavitation in the Static Melt of Polymers <u>Masato Hashimoto</u> , Tomoko Mizuguchi and Susumu Fujiwara (Japan)..... 445
14P-G2-147a	Dendronized Polymer Containing Polyphenylene Dendrons: Synthesis and Conformational Analysis <u>Ki-Taek Bang</u> , Inho Choi and Tae-Lim Choi (Korea.)428	14P-G2-165a	Formation of polymer-polymer crystalline region based polymer complexes <u>Fumitoshi Kaneko</u> , Shuma Sato and Nobutaka Tanigaki (Japan) 446
14P-G2-148b	NMR characterization of sodium carboxymethyl cellulose: Substituent distribution and mole fraction of monomers in the polymer chains <u>Hiroyuki Kono</u> , Sayaka Fujita, Kazuhiro Oshima, Hisaho Hashimoto, Yuuichi Shimizu and Kenji Tajima (Japan) 429	14P-G2-166b	High Refractive Index PVA Films Compositing with 12-Tungstophosphoric Acid <u>Shuichi Matsumoto</u> , Thiraporn Ishii, Matsumi Wada, Shoji Nagaoka, Makoto Takafuji, Yutaka Kuwahara and Hirota Iihara (Japan) 447
14P-G2-149a	Surface modification of bacterial cellulose gel by forming a composite structure <u>Yukari Numata</u> , Minato Tsuji, Hiroyuki Kono and Kenji Tajima (Japan) 430	14P-G2-167a	Phase Transitions and Orientational Behavior of Liquid-Crystalline Systems Base on Polyurethanes <u>Taiki Watanabe</u> , Yuta Shima, Masanori Nata and Seiji Ujiie (Japan) 448
14P-G2-150b	Properties of sodium divinylbenzenesulfonate and its applications <u>Shinji Ozoe</u> and <u>Kazuya Iwanaga</u> (Japan)..... 431	14P-G2-168b	CO ₂ separation membranes over H ₂ <u>Mai Yoshizawa</u> , Kae Kinugasa and Ikuo Taniguchi (Japan)..... 449
14P-G2-151a	Associating Behavior of Binary Surfactant Mixtures Containing of Surfactin Sodium Salt <u>Kazuyuki Ito</u> , Eri Tabata and Isamu Akiba (Japan)... 432	14P-G2-169a	Effect of membrane resistance on CO ₂ capture energy by electro dialysis <u>Takahiro Yamada</u> , Ikuo Taniguchi and Mitsuru Higa (Japan)..... 450
14P-G2-152b	Relation between crystallinity and orientation for surface and inside of injection-molded Poly (butylene terephthalate) <u>Masanori Haga</u> , Misa Onishi, Takahiko Nakaoki, Hideaki Ishihara, Katsuhisa Yamashita and Kenichi Funaki (Japan) 433	14P-G2-170b	Synthesis and properties of aqueous polythiophene gel <u>Azusa Yasuoka</u> and Ryuichi Sugimoto (Japan)..... 451
14P-G2-153a	Improvement of Crystallinity for Poly(vinyl alcohol) Film by Swelling in Water and Drying Processes <u>Masayuki Miyanaga</u> and Takahiko Nakaoki (Japan). 434	14P-G2-171a	Synthesis of amphiphilic diblock copolymers consisting of thermo-responsive polymer and side-chain liquid crystalline polymer, and investigation of the morphologies in film <u>Shingo Hadano</u> , Ryosuke Uchiyama, Chiho Watanabe, Tsukasa Sakai, Yosuke Niko, Yusuke Hibi, Tomokazu Iyoda and Shigeru Watanabe (Japan)..... 452
14P-G2-154b	Transesterification process of Poly(ethylene terephthalate)/Poly(butylene terephthalate) blend film. <u>Masaya Yano</u> , Takahiko Nakaoki, Hideaki Ishihara and Katsuya Itou (Japan)..... 435	14P-G2-172b	Nano-Structural Analysis of Aggregates Formed by Single-Alkyl Chain Containing Nonionic Amphiphilic Oligomers with Multi-Polyoxyethylene Side Chains <u>Maki Nagano</u> , Shiho Yada and <u>Tomokazu Yoshimura</u> (Japan)..... 453
14P-G2-155a	Mesophase of Poly(ethylene terephthalate) and Poly(butylene terephthalate) investigated by Thermal Analysis	14P-G2-173a	Network structures of mixed carrageenan gels studied by NMR <u>Shingo Matsukawa</u> , Bingjie Hu and Yefeng Yao (Japan) 454
		14P-G2-174b	Activation Energy for the Transmission of Water Vapour

	and Gases through Polymer Films <u>Holger Norenberg</u> , (U.K.)..... 455
14P-G2-175a	Physical properties of polypropylene composites with palm oil-treated microcrystalline cellulose <u>Dae Su Kim</u> and Feng Tang (Korea.)..... 456
14P-G2-176b	Effect of self-seeding process on single crystal shape of polyethylene <u>Kouchirou Tatebayashi</u> , Takayuki Narita and Yushi oishi (Japan) 457
14P-G2-177a	Structural Analysis of Metal-Deposited Nylon 6,6 for the Novel Wearable Device <u>Yuma Tahara</u> , Tomoko Hashimoto, Mitsuo Sano, Tso-Fu Mark Chang, Chun-Yi Chen, Masato Sone and Hiromichi Kurosu (Japan) 458
14P-G2-178b	Molecular dynamics study of generation mechanism of stress-birefringence in glassy polystyrene Eito Ariura, Keiichi Kuboyama and <u>Toshiaki Ougizawa</u> (Japan) 459
14P-G2-179a	Selective ethylene permeability of LLDPE/SEBS/Zelite ZSM5 films <u>Chonlada Ritvirulh</u> , Kanokwan Hongthong, Kritsana Makphon, Chanaporn Rungroang, Suparat Rukchonlatee and Tawan Sooknoi (Thailand) 460
14P-G2-180b	Improvement of mechanical and water vapor permeability properties of LDPE/EVA/EVOH films with zeolite A <u>Suparat Rukchonlatee</u> , Tanyawit Sonpoo, Sirithorn Deesamer and Tawan Sooknoi (Thailand) 461
14P-G2-181a	Novel Flame Retardant from Mussel Shell Waste for Wood Plastic Composites (WPCs) <u>Itipol Jangchud</u> , Suthida Chamcheun and Banjong Boonchom (Thailand) 462
14P-G2-182b	Magnetic Properties of π -stacked polymers <u>Young-Wan Kwon</u> , Chang Hoon Lee, Min-Ho Yang, Jung-Il Jin and Tamaki Nakano (Korea) 463
14P-G2-183a	Microphase-Separated Structure and Mechanical Properties of Thiourethane Elastomers <u>Rahmawati</u> , Shuhei Nozaki, Tomoyasu Hirai, Yuji Higaki, Ken Kojio and Atsushi Takahara (Japan) 464
	G-5 High Performance Polymers
14P-G5-186b	Effect of Component Mobility of Macromolecular [2]Rotaxane Cross-Linker on the Property of Rotaxane Cross-Linked Polymers <u>Jun Sawada</u> , Daisuke Aoki and Toshikazu Takata (Japan) 465
14P-G5-187a	Synthesis of porous poly[oligo(ethylene glycol) mono(m)ethyl ether (meth)acrylate] gels and their thermosensitivity <u>Taku Nakata</u> , Syotaro Hara, Syunro Yoshimura, Katsuhiro Nkahara, Takehiko Gotoh and Takashi Iizawa (Japan) 466
14P-G5-188b	Conductive, transparent, flexible films: bio-nanohybrids of amino acid-derived polyimides with ITO <u>Sumant Dwivedi</u> and Tatsuo Kaneko (Japan)..... 467
14P-G5-189a	Transparent Thermally Stable Polyketone Resin <u>Youhei Ishikawa</u> , Hiroshi Matsutani, Masahiro Matsunaga, Nanako Mizuguchi, Hirotaka Minami and Katsuya Maeyama (Japan)..... 468
14P-G5-190b	Synthesis of high-performance polybenzimidazoles from bio-based starting materials and their applications as polymeric ionic liquids (PILs) <u>Aniruddha Nag</u> , Md. Asif Ali, Seiji Tateyama and Tatsuo Kaneko (Japan)..... 469
14P-G5-191a	Ultradrawn Polyethylene Composites with Nanodiamond <u>Shota Okamoto</u> , Takuya Matsumoto, Chizuru Hongo and Takashi Nishino (Japan)..... 470
14P-G5-192b	Application of Macroporous Gel-based Monolith Reactor to Cross-Coupling Reaction <u>Hikaru Matsumoto</u> , Hirokazu Seto, Yu Hoshino and Yoshiko Miura (Japan)..... 471
14P-G5-193a	Preparation of Kapton-type Polyimide Crystals by Phase Separation during polymerization <u>Anna Nozaki</u> , Shinichi Yamazaki and Kunio Kimura (Japan) 472
14P-G5-194b	Particles of Polyimide and Polyamide containing

	Benzobisthiazole Unit prepared by Using Reaction-induced Phase Separation <u>Ikumi Sanda</u> , Shinichi Yamazaki and Kunio Kimura (Japan)..... 473
14P-G5-195a	Stimuli-Responsive Nanofibers from PLA-starch-pyrene <u>Nathapol Chinvirojsatian</u> , Autchara Pangon and Suwabun Chirachanchai (Thailand)..... 474
14P-G5-196b	Synthesis of novel thermosensitive bilayer gels by acylation and their bending behaviour <u>Takashi Iizawa</u> , Syotaro Hara, Katsuhiro Nakahara and Takehiko Gotoh (Japan)..... 475
14P-G5-197a	Development of Acrylic Resin with High Transparency and Impact Strength by Copolymerization with Polyether <u>Akikazu Matsumoto</u> , Saori Matsumoto, Fumi Oono, Hiroshi Niinou, Eiko Okamoto and Tooru Tokimitsu (Japan)..... 476
14P-G5-198b	Nanocomposites of polydimethylsiloxanes with metal oxides for CO ₂ /N ₂ separation <u>Roman Selyanchyn</u> and Shigenori Fujikawa (Japan) 477
14P-G5-199a	Development of TriA-X Polyimide and its Fiber-Reinforced Composite Prepared by <i>in situ</i> Polymerization of Monomer Reactants (PMR) Method <u>Takefumi Furuta</u> , Shohei Kuroda, Masahiko Miyauchi, Yuki Kubota, Yuichi Ishida and Rikio Yokota (Japan)478
14P-G5-200b	Thermal and Mechanical Properties of Thermosetting Polyimide Resin TriA-X <u>Keigo Endo</u> , Takao Aoyagi, Takashi Sawaguchi, Takefumi Furuta, Masahiko Miyauchi, Yuichi Ishida and Rikio Yokota (Japan) 479
14P-G5-201a	The effect of localization of Cloisite30B from different master batch on Mechanical properties of NR/ENR/NBR blends <u>Chanchai Thongpin</u> , Kantinan Thipwong, Pongson Jongsriwarat and Pitsanu Khanchaphat (Thailand) ... 480
14P-G5-202b	The effect of Cloisite30B and peroxide on crystallization and mechanical properties of PLA/PEG blends <u>Chanchai Thongpin</u> , Kwanchai Buaksuntear, Chaiwat Tippuwanan and Theeraphat Tanprasert (Thailand)..... 481
14P-G5-203a	The synergy in thermal conductivity of liquid-crystalline epoxy resin composites with several coverage types of ceramic particles <u>Akinori Okada</u> , Joji Kadota, Hiroshi Hirano, Yasuyuki Agari, Takeshi Fujiwara, Junichi Inagaki, Takafumi Kuninobu and Kazuhiro Takizawa (Japan) 482
14P-G5-204b	Synthesis and characterization of Polyaniline (PAni)/TiO ₂ nanocomposites in hydrazine detection. <u>Sook-Wai Phang</u> , Kavirajaa Pandian Sambasevam and Sharifah Mohamad (Malaysia) 483

Thursday, December 15

S-2 Recent Trends in Physics for Macro- and Supra-molecules

15P-S2-001a	Immobilization of Calix[4]arene-Based Micelles Structure by Cross-Link Formation Using Thiol-ene Reaction. <u>Taisei Miura</u> , Sakiko Matsumoto, Syota Fujii and Kazuo Sakurai (Japan)..... 484
15P-S2-002b	Analyzing a structure of the micelle consisting of a hydrophilic dendron-bearing amphiphilic calix[4]arene lipid <u>Shotaro Miwa</u> , Genki Kubo, Shota Fujii and Kazuo Sakurai (Japan)..... 485
15P-S2-003a	Temperature-responsiveness of Polymer Micelles Consisting of Amphiphilic Block Copolymers Having Dynamic Covalent Bond at Junction Point <u>Daiki Murakami</u> , Aoi Taniguchi and Isamu Akiba (Japan)..... 486
15P-S2-004b	Phase Behavior of Polyion Complex of Cationic-Neutral Block Copolymer with Polyaniion in Aqueous Solution <u>Kengo Tsuboi</u> , Ryo Shigeoka and Isamu Akiba (Japan) 487
15P-S2-005a	Characterization of micelles of trimeric surfactants based on small angle scattering techniques <u>Hiroki Kawauchi</u> , Shota Fujii, Sakiko Matsumoto and Kazuo Sakurai (Japan)..... 488
15P-S2-006b	Aggregation Behavior Sugar-modified Calix[4]arene

	Based Lipids in Aqueous Solution <u>Rika Miyake</u> , Shunsuke Sakamoto, Shota Fujii, Yusuke Sanada and Kazuo Sakurai (Japan)..... 489	15P-S2-024b	Synthesis and self-assembly of amphiphilic block copolymers consisting of hydrophilic and hydrophobic hyperbranched polyamides <u>Yoshihiro Ohta</u> , Yuji Abe, Eisuke Baba and Tsutomu Yokozawa (Japan)..... 507
15P-S2-007a	Quantitative visualization of the counter ions condensation around the cationic micelles using anomalous small-angle X-ray anomalous scattering <u>Sakiko Matsumoto</u> , Shota Fuji, Yusuke Sanada and Kazuo Sakurai (Japan)..... 490	15P-S2-025a	Synthesis and Spectroscopic and Electrochemical Properties of Hydrogen-Bonding Tetrathiafulvalene Derivatives <u>Ryuji Kaneko</u> , Guohua Wu, Kosuke Sugawa and Joe Otsuki (Japan)..... 508
15P-S2-008b	Synthesis of an Acylhydrazone-Linked Foldamer Bearing Optically Active Side-Chains and Its Self-Assembly Behavior <u>Satoshi Kawabata</u> , Naoki Ousaka and Eiji Yashima (Japan)..... 491	15P-S2-026b	Formation of reverse wormlike micelles by poly(oxybutylene)-poly(oxyethylene) block copolymer <u>Misaki Fujii</u> , Kaoru Ohishi and Kenji Aramaki (Japan)..... 509
15P-S2-009a	Investigation of Isomeric Kinetic Mechanism of an Azobenzene Containing Pseudorotaxane Crystal <u>Shao-Chi Cheng</u> and Masaki Horie (Taiwan)..... 492	15P-S2-027a	Fracture of Slide-Ring Materials <u>Koichi Mayumi</u> , Liu Chang, Kazuaki Kato, Hideaki Yokoyama and Kohzo Ito (Japan)..... 510
15P-S2-010b	Optical Property Controls of Octagold Clusters through the Non-bonding Interaction of Surrounding Multiple Aromatics Groups <u>Mitsuhiro Iwasaki</u> , Naoki Kobayashi, Yukatsu Shichibu and Katsuaki Konishi (Japan)..... 493	15P-S2-028b	Viscoelasticity of polyrotaxane glass with different inclusion ratios <u>Akihiro Ohara</u> , Kazuaki Kato, Koichi Mayumi, Hideaki Yokoyama and Kohzo Ito (Japan)..... 511
15P-S2-011a	Evaluation of Polytetrafluoroethylene Modification Function of the Side Chain Crystalline Block Copolymer <u>Yuta Saeki</u> , Hideaki Obuchi, Ryoko Nakano, Hiroshi Sekiguchi and Shigeru Yao (Japan)..... 494	15P-S2-029a	Preparation of hybrid hydrogels composed of self-assembled nanotubular aggregates-crosslinked polymer network <u>Fataha Nur Robel</u> , Makoto Takafuji and Hirota Ibara (Japan)..... 512
15P-S2-012b	Influence of alkyl chain length to the Structure of Micelle Formed from Calix[4]arene lipid <u>Masataka Araki</u> , Shota Fujii and Kazuo Sakurai (Japan)..... 495	15P-S2-030b	Molecular simulation of structure and mechanical properties of gels formed by end-linking of tetra-arm polymers <u>Hiroki Tanaka</u> and Tsuyoshi Koga (Japan)..... 513
15P-S2-013a	A High Dielectric Anisotropy Liquid Crystal with SHG Activity <u>Kazuya Shiroshita</u> , Hiroya Nishikawa, Hiroki Higuchi, Yasushi Okumura and Hirotsugu Kikuchi (Japan)..... 496	15P-S2-031a	Computer Simulation of Dynamics of Phase Ordering of Hydrogen-bonding Supramolecular Block Copolymers <u>Ryo Arimura</u> and Tsuyoshi Koga (Japan)..... 514
15P-S2-014b	UV Patterned Calixarene-Derived Supramolecular Gels and Films with Spatially Resolved Mechanical and Fluorescent Properties <u>Ji Ha Lee</u> , Jong Hwa Jung and Kazuo Sakurai (Japan)..... 497	15P-S2-032b	Photoresponsive Behaviors of Polypeptide Gel Films Containing an Azobenzene Unit with Different Alkyl Chain Length. <u>Tomohisa Aso</u> and Toshihiro Hiejima (Japan)..... 515
15P-S2-015a	Incorporation of Functional Molecules into Microporous Crystals from Carbazole Dendrimers <u>Sae Nakajima</u> , Soh Kushida, Ken Albrecht, Kimihisa Yamamoto, Eiji Nishibori and Yohei Yamamoto (Japan)..... 498	15P-S2-033a	Photoresponsive Behaviors of Liquid Crystalline Poly(L-glutamate) Gel Films Containing a Spiropyran Unit. <u>Hiromasa Imai</u> and Toshihiro Hiejima (Japan)..... 516
15P-S2-016b	Structural Control of Self-Assembled Fibers in an Aligned Liquid-Crystalline Field <u>Daisuke Yamaguchi</u> , Masafumi Yoshio and Takashi Kato (Japan)..... 499	15P-S2-034b	Crystallization Behavior and Structure of PVDF/[C ₆₀ mim][TfSA]/LiTfSA Ternary Systems <u>Yuichi Minematsu</u> and Noboru Osaka (Japan)..... 517
15P-S2-017a	Synthesis of poly(ethyl acrylate)/fluorohectorite nanocomposite elastomer <u>Yujiao Wu</u> and Nobuyoshi Miyamoto (China)..... 500	15P-S2-035a	Liquid Porphyrins as Novel Soft Chromophores Engineered with Branched Alkyl Chains <u>Avijit Ghosh</u> , Izuru Kawamura, Hiroaki Isago and Takashi Nakanishi (Japan)..... 518
15P-S2-018b	Preparation of the thermosensitive Tetric hydrogels and their physical properties <u>Midori Fujiki</u> , Shintaro Yashima and Masahiko Annaka (Japan)..... 501	15P-S2-036b	Optical and Physical Property Tuning of Alkylated- π Molecular Liquids by Arene-Perfluoroarene Interactions <u>Bhawani Narayan</u> and Takashi Nakanishi (Japan)..... 519
15P-S2-019a	Direct observation of the phase-separated structures in colloidal systems of binary inorganic nanosheets <u>Shinya Terada</u> , Syogo Yamaguchi, Morio Shintate, Emiko Mouri, Nobuyoshi Miyamoto and Teruyuki Nakato (Japan)..... 502	15P-S2-037a	Rheology and fluctuations in active bacterial hydrogel <u>Kohei Tanamachi</u> , Shuhei Nara, Takashi Kurihara and Daisuke Mizuno (Japan)..... 520
15P-S2-020b	Alkane Molecular Sensor Using Charge-Transfer Pillar[5]arene Crystals <u>Yasuo Shimada</u> , Takahiro Kakuta, Tomoki Ogoshi and Tada-aki Yamagishi (Japan)..... 503	15P-S2-038b	Enhanced reptation in active polymer network <u>Shuhei Nara</u> , Kohei Tanamachi, Takashi Kurihara and Daisuke Mizuno (Japan)..... 521
15P-S2-021a	Formation of Pillar[5]arene Multi-Layer Films with Micropores Using Layer-by-Layer Assembly <u>Shu Takashima</u> , Takahiro Kakuta, Tomoki Ogoshi and Tada-aki Yamagishi (Japan)..... 504	15P-S2-039a	Mechanical properties of cytoskeletal networks measured by dual-feedback microrheology <u>Natsuki Honda</u> , Kenji Nishizawa, Takayuki Ariga and Daisuke Mizuno (Japan)..... 522
15P-S2-022b	Structural color of the inorganic nanosheet/polymer composite gel <u>Keiichirou Sueyoshi</u> , Shinya Yamamoto and Nobuyoshi Miyamoto (Japan)..... 505	15P-S2-040b	Microrheology of soft hydrogel under external mechanical loading <u>Ryo Ogiwara</u> , Kohei Tanamachi, shuhei Nara, Natsuki Honda and Daisuke Mizuno (Japan)..... 523
15P-S2-023a	Molecular Simulation of Polymers Containing Different Alkyl Chain Lengths in Side Chains <u>Yoshifumi Amamoto</u> , Satoru Matsushima, Atsushi Takano, Yushu Matsushita and Yuichi Masubuchi (Japan)..... 506	15P-S2-041a	Alkylated-Pyrene Liquids with Tailorable Fluorescence - A Novel Fluid Matter <u>Fengniu Lu</u> , Tomohisa Takaya, Izuru Kawamura and Takashi Nakanishi (Japan)..... 524
		15P-S2-042b	Catalyst-free Synthesis of Rotaxane Cross-linked Polymers Using Nitrile N-Oxide-containing Rotaxane Cross-linker <u>Hiromitsu Sogawa</u> , Misako Tani and Toshikazu Takata (Japan)..... 525
		15P-S2-043a	Reversible Photo- and Thermally-Induced Motion of Supramolecular Crystal Actuators

15P-S2-044b	<u>Kai-Jen Chen</u> and Masaki Horie (Taiwan)..... 526 Ultralarge mechanical anisotropy of a hydrogel with magnetically aligned nanosheets		
15P-S2-045a	<u>Koki Sano</u> , Yasuo Ebina, Takayoshi Sasaki, Yasuhiro Ishida and Takuzo Aida (Japan)..... 527 Physical Properties of Polyurethanes crosslinked by Polyrotaxanes	15P-S3-064b	Hideki Yamane, Hiroyasu Masunaga, Takaaki Hikima, Masaki Takada, Tomoyasu Hirai, Atsushi Takahara and Sono Sasaki (Japan)..... 544 Hofmeister Effect on Counterion-specific Hydration States of Poly(ammonium cation)
15P-S2-046b	<u>Naoya Tabata</u> , Yoshimi Tanaka and Hiroto Murakami (Japan)..... 528 Structure analysis and compound of the micelle of an amphiphilic Calix[4]arene be hyperbranched polymer	15P-S3-065a	<u>Yoshihiro Inutsuka</u> , Yuji Higaki, Norifumi L Yamada, Yuka Ikemoto and Atsushi Takahara (Japan)..... 545 Cr(VI) ion adsorption and desorption behavior of polyethylene films photografted with a cationic monomer and their kinetic characterization
15P-S2-047a	<u>Hayata Matsumoto</u> , Shota Fuji and Kazuo Sakurai (Japan)..... 529 Creation of a new functional embolic agent by using the low-stimulus TR fluid.	15P-S3-066b	<u>Yohei Ishiguro</u> , Yuji Kimura, Hiromichi Asamoto, Kazunori Yamada and Hiroaki Minamisawa (Japan)..... 546 Hydrogel Adhesion by Swelling-induced Wrinkling Film
15P-S2-048b	<u>Makoto Takeda</u> , Koki Hirakawa, Yuri Kanazawa, Ryoko Nakano, Hiroshi Sekiguchi and Shigeru Yao (Japan)..... 530 Synthesis and AIE properties of tetraphenylethene functionalized amphiphilic block copolymer	15P-S3-067a	<u>Masatoshi Kato</u> , Yasuyuki Tsuboi and Taka-Aki Asoh (Japan)..... 547 Weak Anchoring between Polymer/Nematic Liquid Crystal Interfaces based on Impurity-Induced Disorder
15P-S2-049a	<u>Shin-ichi Yamamoto</u> , Kento Sugino, Takayuki Fujii and Yuji Kitamoto (Japan)..... 531 High power and large strain polymer fiber actuators driven by electrical resistive heating.	15P-S3-068b	<u>Takahito Kanzaki</u> , Yasushi Okumura, Hiroki Higuchi, Masumi Yamashita, Jun Yamamoto and Hirotsugu Kikuchi (Japan)..... 548 Self-assembly of pH-responsive polymer by electrostatic interaction
15P-S2-050b	Yuriko Kaneko, <u>Maki Hiraoka</u> and Hidekazu Arase (Japan)..... 532 Molecular Recognition-Directed Multicomponent Self-Assembly of Four Nucleotide-Appended Bolaamphiphiles and a Heteropolymeric Template DNA	15P-S3-069a	<u>Yuki Ohara</u> , Keita Nakai, kazuhiko Ishihara and Shin-ichi Yusa (Japan)..... 549 Rectification mechanism of electroosmotic flow pumps with thin porous polymer membranes driven by alternating electric field
15P-S2-051a	<u>Rika Iwaura</u> , Yoshikazu Kanai and Mayumi Ohnishi-Kameyama (Japan)..... 533 Micelle formation of amphiphilic amylose derivatives in saline solution	15P-S3-070b	<u>Yoshihito Matsuzaki</u> , Yasushi Okumura, Hiroki Higuchi and Hirotsugu Kikuchi (Japan)..... 550 Strength and Structure of Adhesive Interface between Isotactic Polypropylene and Olefin-based Hot Melt Adhesives
	<u>Ken Terao</u> , Yuki Kameyama, Shinichi Kitamura and Takahiro Sato (Japan)..... 534	15P-S3-071a	<u>Yosuke Shimizu</u> , Takuya Matsumoto, Chizuru Hongo and Takashi Nishino (Japan)..... 551 Photoresponsive self-assembly of block copolymers triggered by photoisomerization of azobenzene moiety in ionic liquids
S-3 Frontiers in Surface and Interface in Macromolecular Systems			
15P-S3-054b	Electrophoretic mechanism of non-ionic poly(ester-sulfone). <u>Mizuki Yokoyama</u> and Akinori Takasu (Japan)..... 535	15P-S3-072b	<u>Caihong Wang</u> , Manabu Hirasawa, Yuzo Kitazawa, Yumi Kobayashi, Kei Hashimoto, Hisashi Kokubo and Masayoshi Watanabe (Japan)..... 552 Conferment of autohesive properties of polyethylene plates by photografting of methyl methacrylate
15P-S3-055a	Fabrication of hydrophilic surfaces by amphiphilic block polymer coating for antifouling properties on ceramic surfaces <u>Aya Noguchi</u> , Norifumi Isu and Madoka Takai (Japan)..... 536	15P-S3-073a	<u>Yuki Kazama</u> , Yuji Kimura and Kazunori Yamada (Japan)..... 553 Wetting and Modification on Anisotropic Micropatterned Surface Inspired from Crustacea
15P-S3-056b	Electrophoretic deposition of non-ionic unsaturated polyester and UV-curing <u>Isamu Kawarazaki</u> and Akinori Takasu (Japan)..... 537	15P-S3-074b	<u>Koji Muto</u> , Shuto Ito and Daisuke Ishii (Japan)..... 554 Modification of glass surface by biocompatible polymer
15P-S3-057a	Electrophoretic deposition of non-ionic latexes prepared by controlled radical polymerization <u>Daiki Mokude</u> , Masahiro Higuchi and Akinori Takasu (Japan)..... 538	15P-S3-075a	<u>Tomoko Honda</u> , Shin-ichi Yusa, Kazuhiko Ishihara and Yasuhiko Iwasaki (Japan)..... 555 Hydrothermal pulverization of chiral silica into chiral silica sol
15P-S3-058b	Super-Hydrophilized PDMS Microfluidics by Irradiation of Eximer Lamp <u>Koki Kawai</u> , Shuto ITO and Daisuke ISHII (Japan) . 539	15P-S3-076b	<u>Xin-Ling Liu</u> , Tatsuhito Ozawa and Ren-Hua Jin (Japan)..... 556 Enantioselective Discrimination at Dynamic Interface of A Chiral Polymer
15P-S3-059a	Cellulose and cellulose nonwoven fabric surface modification function of side chain crystalline block co-polymer having reactive site in the functional unit. <u>Keishi Ootaguro</u> , Hideaki Obuchi, Ryoko Nakano, Hiroshi Sekiguchi and Shigeru Yao (Japan)..... 540	15P-S3-077a	<u>Shinnosuke Oba</u> , Atsuomi Shundo and Keiji Tanaka (Japan)..... 557 Synthesis and Application of Polymethyloxazoline and Polyethyleneimine Supported by Polystyrene-Type microgel
15P-S3-060b	Synthesis of Poly(biphenylacetylene) Derivatives Bearing Polar Groups and Their Application to Chiral Stationary Phases for HPLC <u>Ryoma Ishidate</u> , Tomoyuki Ikai, Katsuhiko Maeda, Kanoh Shigeyoshi and Eiji Yashima (Japan)..... 541	15P-S3-078b	<u>Daiki Soma</u> , Katsuya Kaikake and Ren-Hua Jin (Japan)..... 558 Chiral Ag/SiO ₂ Materials Templated by Chiral Polymeric Complexes
15P-S3-061a	Intentional induction of bicontinuous cubic liquid crystalline phases by tailor-made ionic liquids <u>Hiroaki Takeuchi</u> , Takahiro Ichikawa, Masafumi Yoshio, Takashi Kato and Hiroyuki Ohno (Japan)..... 542	15P-S3-079a	<u>Seiji Tsunega</u> and Ren-Hua Jin (Japan)..... 559 Complex with phosphobetaine surface formed from mixture of low molecular weight cationic surfactant and anionic diblock copolymer
15P-S3-062b	Exfoliation of organic layered compound through the intercalation of organic molecule <u>Ishijima Yukiko</u> , Oaki Yuya and Imai Hiroaki (Japan)..... 543	15P-S3-080b	<u>Keita Nakai</u> , Shin-ichi Yusa and Kazuhiko Ishihara (Japan)..... 560 An Evaluation of Encapsulation property of Spherical nano carbon in High-Density helical Poly(methyl methacrylate) brush
15P-S3-063a	Preferred Lamellar Orientation in Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) Thin Films Prepared on Si Wafers <u>Mami Goda</u> , Md. Amran Hossain, Shinichi Sakurai,		

15P-S3-081a	<u>Masanao Sato</u> , Tomoyasu Hirai and Atsushi Takahara (Japan) 561 Polymer brush formed by surface segregation process of liquid crystalline block copolymer	15P-S3-098b	Kuraya, Dai Kato, Osamu Niwa, Taisei Nishimi and Masashi Kunitake (Japan) 578 A study of bio-active Janus particles consist of alginate-gelatine matrix.
15P-S3-082b	<u>Koji Mukai</u> , Mitsuo Hara, Shusaku Nagano and Takahiro Seki (Japan) 562 Selective surface modification at photo-irradiated area of polyetherimide film by reaction development patterning	15P-S3-099a	<u>Kiyotaka Fujise</u> , Shota Tokunaga, Yushi Oishi and Takayuki Narita (Japan)..... 579 Fabrication and characterization of Al alloy/polymer composites with anisotropic wettabilities
15P-S3-083a	<u>Hisashi Ogasawara</u> , Yuichiro Tokoro and Toshiyuki Oyama (Japan)..... 563 CPL-generating transparent polymer films enclosing dye-on-template composite system	15P-S3-100b	<u>Yan-Yu Chang</u> , Yu-Wei Lin, Wei-Cheng Zeng, Chih-Feng Wang and Wen-Ning Wang (Taiwan)..... 580 Effect of intermolecular hydrogen bonding on surface free energies of poly(vinylphenol)/ poly(4-vinyl pyridine) composites
15P-S3-084b	<u>Taisei Goto</u> , Yutaka Okazaki, Masahiro Ueki, Yutaka Kuwahara, Makoto Takafuji, Reiko Oda and Hirotake Ihara (Japan) 564 Fabrication of helical silica nanoribbons through chirality-induced polymerization on chirally-oriented assembling system	15P-S3-101a	<u>Wen-Ning Wang</u> , Sheng-Jih Lin, Yan-Yu Chang, Chih-Feng Wang and Wei-Cheng Zeng (Taiwan) 581 Preparation and characterization of multiwall carbon nanotube/polymer composites with robust superhydrophobicity
15P-S3-085a	<u>Yutaka Okazaki</u> , Emilie Pouget, Reiko Oda, Naoya Ryu, Makoto Takafuji and Hirotake Ihara (Japan)..... 565 Hydrophilicity Switching of Diamine Polymer Coatings via CO ₂ Capture Under Water	15P-S3-102b	<u>Wei-Cheng Zeng</u> , Wen-Ning Wang, Yan-Yu Chang and Chih-Feng Wang (Taiwan)..... 582 Surface Potential and Vertical Orientational Structure for Surface-grafted Polyaspartates Thin Films Exhibiting Helix-sense Inversion
15P-S3-086b	<u>Matsutaro Kobayashi</u> , Takeo Suga and Hiroyuki Nishide (Japan) 566 Physical Properties and Functions of Poly(vinyl ether) in Thin Hydrogel Films	15P-S3-103a	<u>Hidemine Furuya</u> , Takuto Matsuzono and Kouki Shibata (Japan)..... 583 Modification of graphene and graphene oxide with poly(dimethylsiloxane)
15P-S3-087a	<u>Nozomi Itagaki</u> , Yukari Oda, Toyoaki Hirata, Hung Kim Nguyen, Daisuke Kawaguchi and Keiji Tanaka (Japan) 567 Chemical structure dependence of flavin derivatives for selective separation of semiconducting single-walled carbon nanotubes	15P-S3-104b	Takuma Ikarashi, Kumi Hashimoto, Kazuhiro Fujiki, Shingo Tamesue, Takeshi Yamauchi and <u>Norio Tsubokawa</u> (Japan) 584 Preparation and Evaluation of New Ionic Liquid-Modified Magnetic Solid-Phase Extraction Materials
15P-S3-088b	<u>Kanako Nishimura</u> , Fumiyuki Toshimitsu and Naotoshi Nakashima (Japan) 568 Investigation of crystallization of alkyl-chain-modified thienoacene derivatives at air/liquid interfaces	15P-S6-106b	<u>Houmei Liu</u> , Hongdeng Qiu, Makoto Takafuji and Hirotake Ihara (Japan)..... 585
15P-S3-089a	<u>Ryota Urata</u> , Satoshi Watanabe, Tetsuya Aoyama, Masanobu Uchiyama and Masashi Kunitake (Japan) 569 Photoinduced mass transfer driven by the surface hetero structure in photoresponsive liquid crystalline polymer films	S-6 Polymers in Automobiles and Aircrafts	
15P-S3-090b	<u>Issei Kitamura</u> , Mitsuo Hara, Shusaku Nagano and Takahiro Seki (Japan) 570 Chain Conformation and Wetting of Poly(sulfobetaine methacrylate) Brushes	15P-S6-107a	Preparation of hybrid materials from phenolic polymers <u>Takafumi Hayashi</u> , Takahiro Kakuta, Tomoki Ogoshi and Tada-aki Yamagishi (Japan)..... 586 Fractural mechanism of long fiber reinforced phenolic molding compound
15P-S3-091a	<u>Tatsunori Sakamaki</u> , Yoshihiro Inutsuka, Yuji Higaki and Atsushi Takahara (Japan)..... 571 Highly Ordered Lamellar Structure Formed by a Liquid Crystalline Azobenzene Random Copolymers with a POSS Side-Chain Unit	15P-S6-108b	<u>Hideaki Inokuchi</u> , Koji Koizumi, Shinji Ogihara, Ryuta Kitamura and Tadaaki Asano (Japan) 587 Fabrication of single-walled carbon nanotubes fibers using a novel microchannel wet-spinning
15P-S3-092b	<u>Miho Nagai</u> , Mitsuo Hara, Shusaku Nagano and Takahiro Seki (Japan) 572 Synthesis and alignment of the microphase separated structures for POSS-b-LC	15P-S6-109a	<u>Takahiro Shimizu</u> , Takaichi Watanabe and Tsutomu Ono (Japan)..... 588 Modification of Chemically Stable Polymeric Materials. 84. Improvement in the adhesion property of polymer composites. for automobiles/aircrafts
15P-S3-093a	<u>Yumi Otsuka</u> , Mitsuo Hara, Shusaku Nagano and Takahiro Seki (Japan) 573 Synthesis of Riboflavin Derivatives and Their Single-walled Carbon Nanotube Chirality Sorting Ability	15P-S6-110b	Hitoshi Kanazawa and <u>Aya Inada</u> (Japan) 589 The Characteristics of PP/PA11 Polymer Alloys and Outlook for the Practical Applications
15P-S3-094b	<u>Wataru Ishimaru</u> , Fumiyuki Toshimitsu and Naotoshi Nakashima (Japan) 574 Mechanism of selective single-walled carbon nanotube solubilization using flavin derivatives	15P-S6-111a	<u>Keisuke Kato</u> , Masayuki Kito and Jumpei Kawada (Japan)..... 590 High thermal stable and high strength carbon nanotube and PEEK composite for automobiles
15P-S3-095a	<u>Keita Ozono</u> , Fumiyuki Toshimitsu and Naotoshi Nakashima (Japan) 575 A Novel pattern of Collagen Gel Through Ionotropic Gelation	15P-S6-112b	<u>Seisuke Ata</u> , Shigeki Tomonoh, Takeo Yamada and Kenji Hata (Japan) 591 Surface modification of biopolyimide films and their metal oxide composites with advanced optical properties
15P-S3-096b	<u>Misaki Kondo</u> , Honami Takajo, Yushi Oishi and Takayuki Narita (Japan)..... 576 Preparation of the chitosan containing capsule with sugar-triggering oscillation	15P-S6-113a	<u>Sumant Dwivedi</u> , Seiji Tateyama, Guey-Sheng Liou and Tatsuo Kaneko (Japan) 592 Molecular Aggregation Structures of Nylon 12 During Crack Propagations in Biaxial Tensile Testing
15P-S3-097a	<u>Yuki Takazaki</u> , Takahiro Honda, Yushi Oishi and Takayuki Narita (Japan)..... 577 Electrochemical Analysis of Lipophilic Species based on Bicontinuous Organo/Hydro Hybrid Gels	15P-S6-114b	<u>Nobuhisa Takayama</u> , Kazutaka Kamitani, Ken Kojio and Atsushi Takahara (Japan)..... 593 Development of a local bio-composite for the automotive industry
	<u>Kyosei Goto</u> , S. M. Nur Alam, Satoshi Watanabe, Eisuke		<u>Takuya Nishimura</u> , (Japan)..... 594
		G-6 Bio-related Polymers	
		15P-G6-117a	Reversible Modification of Polylactide at Chain End by Vanillin Contributes to Nanostructure Control <u>Kai Kan</u> , Mitsuru Akashi and Hiroharu Ajiro (Japan) 595

15P-G6-118b	Biomaterialization-inspired fabrication and structural estimation of chitosan/CaCO ₃ core-shell type composite microparticles <u>Izuka Nishij</u> , Shohei Ida, Shokyoku Kanaoka, Yoshitsugu Hirokawa and Satoshi Tanimoto (Japan) 596	<u>Sho Katakami</u> , Yu Hoshino and Yoshiko Miura (Japan) 613
15P-G6-119a	Control of phase transition temperature of a biosynthesized extracellular matrix protein by introducing poly(2-oxazoline) side chains <u>Saki Morita</u> and Akinori Takasu (Japan)..... 597	15P-G6-136b Evidence for Peptide Recognition of Cholesterol in lipid membrane. <u>Masaru Mukai</u> and Steven L. Regen (Japan) 614
15P-G6-120b	Preparation of Glycopolymers Brush via Amine-coupling Reaction <u>Tomohiro Fukuda</u> , Suguru Yamashita and Sotaro Tsuji (Japan) 598	15P-G6-137a Metal ion-responsive hydrogels consist of PEG-DNA copolymers <u>Kazuki Fukushima</u> , Shizuma Tanaka, Kenta Wakabayashi, Shinsuke Yukami, Akinori Kuzuya and Yuichi Ohya (Japan) 615
15P-G6-121a	Structural analysis of modified DNA by using FRET system <u>Hayato Kawai</u> , Tetsuya Doi, Hiromu Kashida and Hiroyuki Asanuma (Japan) 599	15P-G6-138b Emulsion-like solution property of poly(ethylene glycol)-grafted hyaluronic acid <u>Ryo Adomi</u> and Tooru Ooya (Japan) 616
15P-G6-122b	Synthesis and analyze glycopolymers which self-assembly with response to concanavalin A <u>Takahiro Oh</u> , Yu Hoshino and Yoshiko Miura (Japan)600	15P-G6-139a Hyaluronic acid derivative-modified liposomes as intracellular drug delivery systems to CD44-expressing cells <u>Maiko Miyazaki</u> , Eiji Yuba, Hiroshi Hayashi, Atsushi Harada and Kenji Kono (Japan) 617
15P-G6-123a	SPR screening of protein recognition by glycopolymers synthesized via RAFT polymerization <u>Yuhei Terada</u> , Hirohiko Ise, Yu Hoshino and Yoshiko Miura (Japan)..... 601	15P-G6-140b Synthesis of ssDNA-grafted inorganic nanosheets <u>Shinya Anorak</u> , Yoshiro Kaneko and Nobuyoshi Miyamoto (Japan) 618
15P-G6-124b	Function of cysteine rich proteins in actin filaments <u>Shunpei Takaoka</u> and Takanori Kihara (Japan) 602	15P-G6-141a Preparation and characterization of silk fibroin/poly(ethylene carbonate) blends <u>Shoki Kodama</u> , Aki Yonezawa, Hirokazu Tajiri, Yasumoto Nakazawa and Yoichi Tominaga (Japan) . 619
15P-G6-125a	Synthesis and blood compatibility evaluation of novel PMEA analogs having precisely placed side-chain branches via regio/stereo-selective ring-opening metathesis polymerization. <u>Toshiki Sonoda</u> , Shingo Kobayashi and Masaru Tanaka (Japan) 603	15P-G6-143a Development of Functional Materials Based on Cellulose Derivatives and Amorphous Calcium Carbonate <u>David Kuo</u> , Yuto Suzuki, Tatsuya Nishimura, Kotaro Ito, Dai Nagahara, Chika Hirahara, Tsuguyuki Saito, Akira Isogai and Takashi Kato (Japan)..... 620
15P-G6-126b	Investigation of molecular crowding effect in DNA quadruplex hydrogels. <u>Shinsuke Yukami</u> , Shizuma Tanaka, Kazuki Fukushima, Kenta Wakabayashi, Akinori Kuzuya and Yuichi Ohya (Japan) 604	15P-G6-144b Synthesis and Functions of Multi-block Oligomers with Steroids <u>Maho Kato</u> , Takahiro Muraoka and Kazushi Kinbara (Japan)..... 621
15P-G6-127a	Embryoid body culture of mouse iPS cells using PDMS microwell chip. <u>Kenta Yamaguchi</u> , Daisuke Miyamoto and Kohji Nakazawa (Japan)..... 605	15P-G6-145a Characterization of cellulose-based bundled gels fabricated by dynamic microfluidic gelation system <u>Sayaka Tachizawa</u> , Young-Jin Kim, Haruko Takahashi, Yukiko Matsunaga and Akihiko Kikuchi (Japan) 622
15P-G6-128b	To Reveal the Influence of Electrical Stimuli on C-Reactive Protein / Phosphorylcholine Recognition by Electrochemical Quartz Crystal Microbalance <u>Jhih-Guang</u> Wu and Shyh-Chyang Luo (Taiwan) 606	15P-G6-146b Renovated interpretation of intermolecular interactions and spatial distributions of hen-egg white lysozyme in solution based on the elaborate static structure factor analysis <u>Takuya Sengoku</u> , Koichi Inano, Keiichi Yanase, Ryoichi Arai and Takaaki Sato (Japan)..... 623
15P-G6-129a	A facile optimization of cellulose modifications in ionic liquids (ILs) through an investigation of a catalytic role of imidazolium-based ILs <u>Ryo Ito</u> , Ryohei Kakuchi, Shuhei Nomura, Hadi Abroshan, Kazuaki Ninomiya, Tomoyuki Ikai, Hyung Kim, Kenji Takahashi and Katsuhiko Maeda (Japan) 607	15P-G6-147a Active Proton Transport by Liquid Membrane of Temperature-Response Nanogel Particles <u>Takaaki Miyoshi</u> , Masahiko Nakamoto, Yu Hoshino and Yoshiko Miura (Japan) 624
15P-G6-130b	Liquid crystal phases of inorganic nanosheet / microtubule mixtures and its temperature dependence <u>Riki Kato</u> , Akira Kakugo and Nobuyoshi Miyamoto (Japan) 608	15P-G6-148b Study of Single Chain conformation of gamma-polyglutamic Acid Using Atomic Force Spectroscopy <u>Parbhej Ahamed</u> , Masaru Kawakami and Hidemitsu Furukawa (Japan) 625
15P-G6-131a	Antibody-hybrid nanoparticles prepared by cell-free protein synthesis. <u>Risako Miura</u> , Mitsuru Ando, Shin-ichi Sawada, Yoshihiro Sasaki and Kazunari Akiyoshi (Japan) 609	15P-G6-149a Intracellular protein delivery using magnetic nanogel with chaperone-like activity <u>Riku Kawasaki</u> , Yoshihiro Sasaki, Kiyofumi Katagiri, Shin-ichi Sawada, Sada-atsu Mukai and Kazunari Akiyoshi (Japan) 626
15P-G6-132b	Enzymatic Synthesis of Oligo(ethylene glycol)-Bearing Cellulose Oligomers for the Formation of Hydrogels with Crystalline Nanoribbon Network Structures <u>Takatoshi Nohara</u> , Toshiki Sawada, Hiroshi Tanaka and Takeshi Serizawa (Japan)..... 610	15P-G6-150b Synthesis and Property of Novel Polymers Bearing Ferulic Acid in the Side Chain <u>Hironori Atarashi</u> , Airi Takashima, Hideji Osuga and Hideo Sakamoto (Japan) 627
15P-G6-133a	Development of novel biopolyimides and their derivatives from functionalized aromatic amino acid <u>Manjit S. Grewal</u> , Kazuya Taya, Seiji Tateyama and Tatsuo Kaneko (Japan)..... 611	15P-G6-151a Mineralization of PEEK surface for establishing biointegration <u>Shun Kunomura</u> and Yasuhiko Iwasaki (Japan)..... 628
15P-G6-134b	Construction of spheroids with vascular networks by microchip cultures <u>Hideo Yokoyama</u> , Takashi Morikyo and Kohji Nakazawa (Japan) 612	15P-G6-152b One-pot Synthesis of Polyrotaxanes with DM-CyD through Their Self-association in Water at High Temperature <u>Satoki Egashira</u> , Kentaro Morita, Taishi Higashi, Kazuaki Kato, Kohzo Ito, Keiichi Motoyama and Hidetoshi Arima (Japan)..... 629
15P-G6-135a	Effect of functional groups distribution on the interaction between polymer aptamer and melittin	15P-G6-153a Enhanced Protein Encapsulation by Polyion Complex Vesicle Induction on Protein-Polyion Complex Particle <u>Yiwei Liu</u> , Hengmin Tang, Takeshi Mori, Yoshiki Katayama and Akihiro Kishimura (Japan)..... 630

15P-G6-154b	Tumor Selective and Safety Supplemental Therapy of Tumor Suppressor microRNA Using Folate-PEG-appended Dendrimer (G4) Conjugate with α -cyclodextrin <u>Yuki Otsu</u> , Ayumu Ohyama, Taisi Higashi, Keiichi Motoyama and Hidetoshi Arima (Japan) 631
15P-G6-155a	Fabrication of cellulose monolith containing reactive oxygen species generator <u>Ju-Young Cha</u> , Ji-Hye Lee, Hiroshi Uyama and Young-Jin Kim (Korea.) 632
15P-G6-156b	Chitosan scaffold from a single water based multi-functional carboxylic acid system with the dual functions of protonation and crosslinking <u>Pornchanok Suwattanachai</u> and Suwabun Chirachanchai (Thailand) 633
15P-G6-157a	Monoclonal Antibodies with Chiral Recognition Ability for Binaphthol Derivatives <u>Hiroyasu Yamaguchi</u> and Takuma Adachi (Japan) 634
15P-G6-158b	Thermo-responsive triblock copolymer micelles for systemic delivery of siRNA to ovarian tumor Meng Zheng, <u>Hyun Jin Kim</u> , Kanjiro Miyata and Kazunori Kataoka (Japan) 635
15P-G6-159a	Increment of the Yield of Poly(3-hydroxybutyrate) Biosynthesised from Mixed Substrate of Glycerin and L-leucine by <i>Ralstonia eutropha</i> <u>Ippei Yamauchi</u> and Takahiko Nakaoki (Japan) 636
15P-G6-160b	Biosynthesis of block copolymer for Poly(3-hydroxyalkanoate) with Saturated and Unsaturated side chain by <i>P. putida</i> . <u>Takeru Michishita</u> and Takahiko Nakaoki (Japan) 637
15P-G6-161a	Cell culture study on photocrosslinked trehalose derivatives containing mesogenic groups <u>Shinya Yano</u> , Naozumi Teramoto, Toshiaki Shimasaki and Mitsuhiro Shibata (Japan) 638
15P-G6-162b	Drug delivery system of complex between phosphorylated polysaccharides and cationic surfactants <u>Takumi Okihara</u> , Hiroki Okajima and Shogo Kamenoue (Japan) 639
15P-G6-163a	Synthesis and cell compatibility of photocrosslinked hydroxypropyl cellulose cinnamates <u>Takumi Iwase</u> , Shinya Yano, Naozumi Teramoto, Toshiaki Shimasaki and Mitsuhiro Shibata (Japan)... 640
15P-G6-164b	Preparation and properties of photocrosslinked fish collagen peptide/chitin nanofiber composite hydrogels <u>Kei Yamaguchi</u> , Naozumi Teramoto, Shinsuke Ifuku, Toshiaki Shimasaki and Mitsuhiro Shibata (Japan)... 641
15P-G6-165a	Enhancing vascularization of layered cardiomyocyte sheets using VEGF releasing fiber mats <u>Kenichi Nagase</u> , Yuhei Nagumo, Hye-Jin Chung, Hee-Jung Kim, Hei-Won Kyung, Miri Kim, Hidekazu Sekine, Tatsuya Shimizu, Hideko Kanazawa, Teruo Okano, Seung-Jin Lee and Masayuki Yamato (Japan) 642
15P-G6-166b	Preparation of hydrogel based on starch aldehyde and carboxymethyl cellulose <u>Jongshin Park</u> and Jungmin Lee (Korea.) 643
15P-G6-167a	Synthesis of Urethane Acrylate Including Isosorbide and Their Curing Kinetics <u>Byoung ju Cho</u> , Hyong-jun Kim and Baek-jin Kim (Korea.) 644
15P-G6-168b	Synthesis and properties of superabsorbent hydrogels based on guar gum and glutaric anhydride <u>Toshio Yoshimura</u> , Momoko Nakashima and Rumiko Fujioka (Japan) 645
15P-G6-169a	Artificial Viral Capsid bearing Coiled-coil Structures Self-assembled from β -Annulus Peptides <u>Kazunori Matsuura</u> , Shoya Yamamoto and Seiya Fujita (Japan) 646
15P-G6-170b	Preparation and Properties of Bio-Based Polyurethane Foam Nanocomposites <u>Nantana Jiratumnukul</u> and Tatcha Sonjui (Thailand) 647
15P-G6-171a	Physical properties of castor oil-modified polyurethane nanocomposites with cellulose nanocrystals <u>Dae Su Kim</u> and Kihoon You (Korea.)..... 648
15P-G6-172b	Preparation and physical properties of green epoxy nanocomposites with cellulose nanocrystals

15P-G6-173a	<u>Dae Su Kim</u> and Hyohee Seok (Korea.) 649
	Water resistance properties of films from alginate and xanthan gum crosslinked by Ca ²⁺ and Fe ³⁺ <u>Pathavuth Monvisade</u> , Nutnicha Vimolsutr, Pornchanok Chailert and Plernta Wiriyi (Thailand)..... 650

Friday, December 16

S-1 Recent Trends in Polymer Synthesis	
16P-S1-001a	Palladium-immobilized on Thiol-modified Silica Gel Catalyst for an Effective Direct C-H Arylation Polycondensation: Synthesis of High Pure and Molecular Weight EDOT-based π -Conjugated Polymers <u>Shotaro Hayashi</u> and Toshio Koizumi (Japan) 651
16P-S1-002b	Effect of counteranion in the polymerization of conjugated dienes using cationic neodymium catalyst <u>Ryo Tanaka</u> , Yuto Shinto, Kaede Yuuya, Yuushou Nakayama and Takeshi Shiono (Japan) 652
16P-S1-003a	Synthesis of Stereoregular Cyclic Poly(methyl Methacrylate) via Combining Anionic Polymerization and Click Reaction <u>Naoya Usuki</u> , Kotaro Satoh and Masami Kamigaito (Japan) 653
16P-S1-004b	Cross-coupling polycondensation catalyzed by palladium-tethering macrocycle complex <u>Shunya Mizuno</u> , Daisuke Aoki, Hiromitsu Sogawa and Toshikazu Takata (Japan) 654
16P-S1-005a	RAFT polymerization of <i>N</i> -vinylmaleimide <u>Kazuki Watanabe</u> , Kazuhiro Nakabayashi and Hideharu Mori (Japan) 655
16P-S1-006b	Synthesis of Sequence-Regulated Telechelic Oligomers via Atom Transfer Radical Addition and Their Polymerization Using Metathesis Reactions <u>Masato Miyajima</u> , Kotaro Satoh and Masami Kamigaito (Japan) 656
16P-S1-007a	Living Radical/Cationic Interconvertible Copolymerization of Vinyl Acetate and Cationically Polymerizable Monomers <u>Yuuma Fujiki</u> , Mineto Uchiyama, Kotaro Satoh and Masami Kamigaito (Japan) 657
16P-S1-008b	Synthesis and property of macromolecular [2]rotaxane bearing Pd-containing macrocycle <u>Miya Hiroi</u> , Daisuke Aoki, Hiromitsu Sogawa and Toshikazu Takata (Japan) 658
16P-S1-009a	Cationic and Radical Polyaddition between Dithiol and Divinyl Ether <u>Masahiro Osumi</u> , Mineto Uchiyama, Kotaro Satoh and Masami Kamigaito (Japan) 659
16P-S1-010b	Synthesis and physical properties of polymeric silane coupling agents having a polymerizable group <u>Sakie Yamauchi</u> , Kosuke Kaneko, Kiyomi Fuchigami and Tomonori Hanasaki (Japan) 660
16P-S1-011a	Syntheses of amphiphilic triblock copolymers and preparation of porous membranes <u>Takahiro Yamamoto</u> , Iori Maeda, Kosuke Kaneko, Kiyomi Fuchigami and Tomonori Hanasaki (Japan). 661
16P-S1-012b	Pd-mediated Controlled Polymerization of Diazoacetates Bearing a Dendron Unit <u>Ryo Hohsaki</u> , Hiroaki Shimomoto, Tomomichi Itoh and Eiji Ihara (Japan) 662
16P-S1-013a	Synthesis of Poly(<i>N</i> -alkylcarbamoylmethylene)s via Polymerization of Fluoroaryl Diazoacetates Followed by Postmodification <u>Tomohiko Kudo</u> , Hiroaki Shimomoto, Tomomichi Itoh and Eiji Ihara (Japan) 663
16P-S1-014b	Re-examination of the Polymerization of Amio Acid NCAs. 75. Secondary-amine initiated polymerization of amino acid NCAs. Hitoshi Kanazawa and <u>Aya Inada</u> (Japan) 664
16P-S1-015a	Synthesis of Polycarbonates by Alternating Copolymerization of Carbon Dioxide and Epoxides with High Glass Transition Temperature <u>Rie Arai</u> , Hiroshi Sugimoto and Keitaro Seto (Japan) 665
16P-S1-016b	A Convenient Approach to Polyolefin-based Graft Copolymers <u>ryuichi sugimoto</u> , (Japan) 666

16P-S1-017a	Controlled Ring-Opening Polymerization of Lactide Catalyzed by Bulky Lewis Pairs <u>Yuushou Nakayama</u> , Shunsuke Kosaka, Kentaro Yamaguchi, Gentaro Yamazaki, Ryo Tanaka and Takeshi Shiono (Japan)..... 667	benzothienoisindigo copolymer for organic photovoltaics <u>Marina Ide</u> , Yoshiko Koizumi and Akinori Saeki (Japan) 683
S-5 Optics, Electronics and Energy		
16P-S5-020b	Effect of polymer structure on dielectric relaxation behavior of polycarbonate-based electrolytes <u>Kaori Kobayashi</u> , Hidekazu Kodama, Takeo Furukawa and Yoichi Tominaga (Japan)..... 668	16P-S5-036b Sensitizer-free Photon Upconversion System through S_0-T_1 Absorption <u>Keisuke Okumura</u> , Prasenjit Mahato, Nobuhiro Yanai and Nobuo Kimizuka (Japan) 684
16P-S5-021a	Emergence of a New Near-IR Photoluminescence of Carbon Nanotubes by Adjacent Chemical Modification <u>Tomonari Shiraishi</u> , Tomohiro Shiraki and Naotoshi Nakashima (Japan) 669	16P-S5-037a Lewis acid modification of thiocyanate anion in ionic liquids and sodium salt to fabricate solid ion conductor. <u>Yui Oki</u> and Makoto Moriya (Japan) 685
16P-S5-022b	Versatile Molecular Functionalization for Inhibiting Concentration Quenching of Thermally Activated Delayed Fluorescence <u>Naoya Aizawa</u> , Jiyoung Lee and Takuma Yasuda (Japan) 670	16P-S5-038b Optimization of Electro-optical Properties and Thermodynamic Stability of Polymer-stabilized Liquid Crystal Blue Phases Based on Molecular Design of Bifunctional Monomer <u>Gimpei Machida</u> , Hiroki Higuchi, Yasushi Okumura, Masayuki Kabata, Daisuke Manai, Takeshi Kobayashi, Jun-ichi Matsumoto and Hirotsugu Kikuchi (Japan) 686
16P-S5-023a	Full-Color Tunable Organic Upconversion Light-Emitting Devices <u>Hiroki Tachibana</u> , Naoya Aizawa, Yu Hidaka and Takuma Yasuda (Japan) 671	16P-S5-039a Lattice Orientation Dependence of Electro-optical effect in Polymer-Stabilized Liquid Crystal Blue Phases <u>Takahiro Masuda</u> , Yasushi Okumura, Hiroki Higuchi and Hirotsugu Kikuchi (Japan)..... 687
16P-S5-024b	Solution-Processed Organic Field-Effect Transistors based on Highly Ordered Crystalline Thin Films <u>Tatsuya Mori</u> , Tatsuya Oyama, Yu Seok Yang, Hideaki Komiyama and Takuma Yasuda (Japan) 672	16P-S5-040b Room-temperature phosphorescence by nano-fibrillar of thiophene derivative in dilute dispersion state <u>Kyohei Yoshida</u> , Yutaka Kuwahara, Seiya Nakashima, Koji Miyamoto, Hirokuni Jintoku, Makoto Takafuji and Hirotsugu Ihara (Japan) 688
16P-S5-025a	Synthesis and Properties of Bisphenol B Novolac Resin as a Photo-resist Material <u>Toshiyasu Nishimura</u> and Hirohito Yamasaki (Japan) 673	16P-S5-041a Novel conductivity composite films with nitrogen doped carbon nanotubes supported nano metal particles <u>Ousuke Shigehiro</u> and Toshiyuki Watanabe (Japan) . 689
16P-S5-026b	Synthesis of Low-band gap block-copolymer and evaluation of the performance as a hole-transporting material of organic solar cells <u>Sicong Qian</u> , (Japan)..... 674	16P-S5-042b Charging/Discharging Properties of Radical Hybrid Batteries Employing TEMPO-Substituted Polymers and Lithium Metal Oxides as Cathode <u>Tomomi Masui</u> , Hiroshi Tokue, Kenichi Oyaizu and Hiroyuki Nishide (Japan) 690
16P-S5-027a	Development of novel electrocatalyst for water electrolysis anode based on iridium nanoparticles on carbon nanotubes <u>Yilei Shi</u> , Jun Yang, Tsuyohiko Fujigaya and Naotoshi Nakashima (Japan) 675	16P-S5-043a Synthesis of Lithium Poly(4-styrene sulfamidate) as Electrolyte Membrane for Lithium Sulfur Battery <u>Toshiki Katoku</u> , Tomoyasu Tsuji, Takuma Kawai, Kenichi Oyaizu and Hiroyuki Nishide (Japan) 691
16P-S5-028b	Anion Exchange Membranes Composed of Fluoroalkyl and Ammonium-Functionalized Fluorenyl groups: Effect of the Hydrophilic Component <u>Mizuki Ozawa</u> , Junpei Miyake and Kenji Miyatake (Japan) 676	16P-S5-044b Photoluminescence spectral shift induced by sugar recognition on phenyl boronic acid-modified single-walled carbon nanotubes <u>Hisashi Onitsuka</u> , Tomohiro Shiraki and Naotoshi Nakashima (Japan) 692
16P-S5-029a	Sulfonated aromatic polymers containing phosphine oxide groups as chemically stable proton exchange membranes <u>Ibuki Hosaka</u> , Ryo Akiyama, Junpei Miyake and Kenji Miyatake (Japan) 677	16P-S5-045a Find the best durable carbon nanotube to use as catalyst support in proton exchange membrane fuel cells. <u>Don Terrence Dhammika Weerathunga</u> , Tsuyohiko Fujigaya and Naotoshi Nakashima (Japan)..... 693
16P-S5-030b	Hole Transport Process in Perovskite Crystal / Conjugated Polymer Heterojunction <u>Naoki Ishida</u> , Atsushi Wakamiya and Akinori Saeki (Japan) 678	16P-S5-046b Preparation and Evaluation of Polymer Electrolyte Membrane Based on Sulfoalkylated Polybenzimidazoles <u>Hoon Han</u> , Tsuyohiko Fujigaya and Naotoshi Nakashima (Japan)..... 694
16P-S5-031a	Charge Dynamics at Heterojunction between Face-on/Edge-on PCPDTBT and PCBM Bilayer: Interplay of Donor/Acceptor Distance and Local Charge Carrier Mobility <u>Yoshiki Shimata</u> , Marina Ide, Akinori Saeki, Motomichi Tashiro, Michio Katouda and Yutaka Imamura (Japan) 679	16P-S5-047a Synthesis of CO ₂ /epoxide copolymers having carbonate side chains for solid polymer electrolytes <u>Gouta Kimoto</u> , Takashi Morioka and Yoichi Tominaga (Japan)..... 695
16P-S5-032b	Molecular consideration of aromatic proton conducting copolymers: effect of hydrophilic and hydrophobic components <u>Reika Oida</u> , Ryo Akiyama, Junpei Miyake and Kenji Miyatake (Japan) 680	16P-S5-048b Development of Air-stable n-type Thermoelectric Materials with Benzimidazole-doped Single-walled Carbon Nanotubes <u>Yuki Nakashima</u> , Tsuyohiko Fujigaya and Naotoshi Nakashima (Japan) 696
16P-S5-033a	Emerging persistent red and far-red CPL- and CD-active polymer aggregate by scaffolding photoscissible helical polysilanes <u>Shosei Yoshimoto</u> and Michiya Fujiki (Japan)..... 681	16P-S5-049a Nitrogen-doped carbon materials with high porosity synthesized from covalent organic frameworks <u>Gayoung Kim</u> , Tomohiro Shiraki and Naotoshi Nakashima (Japan) 697
16P-S5-034b	Synthesis, Characterization, and Organic Photovoltaics Applications of Thienoisindigo-Based Molecules <u>Yuhei Tkeuchi</u> , Kazuhiro Nakabayashi and Hideharu Mori (Japan) 682	16P-S5-050b Development of Lithium Air Battery Cathode using Carbon Nanotube wrapped by Polyimide <u>Ryota Kanamori</u> , Tsuyohiko Fujigaya, Il-Chang Jang, Tatsumi Ishihara and Naotoshi Nakashima (Japan) .. 698
16P-S5-035a	Controlling molecular orientation of	16P-S5-051a Application and development of <i>N</i> -methylated polybenzimidazole as an electrolyte in anion exchange membrane fuel cell <u>Ziyi Han</u> , Tsuyohiko Fujigaya and Naotoshi Nakashima (Japan)..... 699
		16P-S5-052b Development of semitransparent organic thin film solar cell using ZnO nanoparticle modified Ag Nanowire film

	<u>Yuki Matsumoto</u> , Yukika Asano and Atsushi Aoki (Japan) 700	Post-Polymerization Conversion <u>Yuki Ishido</u> , Naoya Kanbayashi, Taka-aki Okamura and Kiyotaka Onitsuka (Japan) 717
16P-S5-053a	The relationship between molecular mobility and conductivity of carbonate oligomer-based electrolytes <u>Katsuhiro Kaetsu</u> , Kazutoshi Yokomachi, Ken Kojio and Atsushi Takahara (Japan) 701	16P-G1-072b Control of Mechanical Responsiveness Based on Electronic State Change of Tetraarylsuccinonitrile Units in Mechanochromic Polymers <u>Toshikazu Sumi</u> , Raita Goseki and Hideyuki Otsuka (Japan) 718
16P-S5-054b	Photoluminescence of carbon dots using energy transfer systems <u>Koichiro Uchida</u> , Tomohiro Shiraki and Naotoshi Nakashima (Japan) 702	16P-G1-073a Comprehensive Study of Thermo-Oxidative Degradation in Recombinant Spider Silk <u>Anh T.N. Dao</u> , Koyuru Nakayama, Jun'ichi Shimokata and Toshiaki Taniike (Japan) 719
16P-S5-055a	Ion-Conductive Properties of Mg-based gel polymer electrolytes <u>Maito Koga</u> , Yuki Shoda, Ryoichi Yagisawa, Hideaki Oike and Yoichi Tominaga (Japan) 703	16P-G1-074b Novel Type of Alternating Copolymerization Based on Successive Insertion of Isocyanide and Acetylene into Palladium-Carbon Bond <u>Yuki Kataoka</u> , Naoya Kanbayashi, Taka-aki Okamura and Kiyotaka Onitsuka (Japan) 720
16P-S5-056b	Investigation of platinum utilization efficiency of polybenzimidazole-wrapped carbon black in polymer electrolyte membrane fuel cells <u>Samindi Madhubha Jayawickrama</u> , Tsuyohiko Fujigaya and Naotoshi Nakashima (Japan) 704	16P-G1-075a Effect of Crystallinity on Mechanochromism of Mechano-responsive Polymers Based on Bond Dissociation <u>Shigeki Furukawa</u> , Hironori Oka, Raita Goseki and Hideyuki Otsuka (Japan) 721
16P-S5-057a	Refractive index control with photopolymerization for optical waveguide applications <u>Ryota Shiraishi</u> , Hiroshi Owari and Takeshi Ito (Japan) 705	16P-G1-076b Synthesis and Properties of Novel Polyurethanes Containing Azine Moiety in the Main Chain <u>Yuya Yamagishi</u> and Hiroaki Kouzai (Japan) 722
16P-S5-058b	Synthesis and Characterization of Benzobisthiazole-Naphthobisthiazole Semiconducting Polymers for Solar Cell Applications <u>Eman Rashid Al-Naamani</u> , Marina Ide and Akinori Saeki (Japan) 706	16P-G1-077a Synthesis of Novel UV-curable Resin Using Isosorbide <u>Mioka Osugi</u> and Hiroaki Kouzai (Japan) 723
16P-S5-059a	Reversible mechanofluorochromism of cyanostilbene derivatives with donor-acceptor electronic structures. <u>Kohei Isayama</u> , Jun Yun Kim, Naoya Aizawa and Takuma Yasuda (Japan) 707	16P-G1-078b Synthesis of Block Copolymers of Polyester and Polystyrene via Cross Metathesis of Cyclic Unsaturated Polyesters with Difunctional Olefins. <u>Ryouichi Okabayashi</u> , Yoshihiro Ohta and Tsutomu Yokozawa (Japan) 724
16P-S5-060b	Photochromic Behavior of a Ferrocene-Viologen linked Redox-Active Ionic Liquid <u>Kodai Iwanaga</u> , Hironobu Tahara and Hiroto Murakami (Japan) 708	16P-G1-079a Optimization of synthesis of polypeptides by means of chain-growth condensation polymerization of amino acid monomers immobilized on polynorbornene support <u>Ami Morimitsu</u> , Yoshihiro Ohta and Tsutomu Yokozawa (Japan) 725
16P-S5-061a	Synthesis and Evaluation of Polycarbosilanes Having 5-Membered Cyclic Carbonate Groups as Solid Polymer Electrolytes <u>Kozo Matsumoto</u> , Miho Kakehashi, Hirotaka Ouchi and Takeshi Endo (Japan) 709	16P-G1-080b Catalyst-transfer condensation polymerization of thiophene-fluorene biaryl monomer with AmPhosPd catalyst. <u>Yu Tokita</u> , Kentaro Kosaka, Yoshihiro Ohta and Tsutomu Yokozawa (Japan) 726
16P-S5-062b	Preparation and Characterization of Plastic Dye Sensitized Solar Cells using TiO ₂ Composite Electrode with Inorganic Nanotube. <u>Kazuya Yamamoto</u> , Shin Nishida, Honami Omoto, Rattana Ceesay, Pornchanok Sirjaturaporn, Saranunt Teanmetawong and Supicha Stienkijumapai (Japan) 710	16P-G1-081a Control of molecular weight and end-functional groups by cross metathesis of cyclic unsaturated polycarbonate obtained by A ₂ + B ₂ polycondensation <u>Tsuyoshi Namekawa</u> , Ryouichi Okabayashi, Yoshihiro Ohta and Tsutomu Yokozawa (Japan) 727
16P-S5-063a	Degradation analysis of organic photovoltaics by ESR spectroscopy <u>Satoru Shimomura</u> , Toshihiro Yamanari, Hideo Ohkita, Shinzaburo Ito and Kazuhiro Marumoto (Japan) 711	16P-G1-082b New Approach for Optically Active Polymer: Combination of Asymmetric polymerization and Post-polymerization Conversion <u>Naoya Kanbayashi</u> , Sou Miyamoto, Taka-aki Okamura and Kiyotaka Onitsuka (Japan) 728
16P-S5-064b	Carbon Nanofiber Electrodes for Supercapacitors <u>Kyung-Hye Jung</u> , Ye Ji Son and So Jeong Kim (Korea.) 712	16P-G1-083a Metal nanoparticle induced gel formation of polyurethanes with disulfide bonding <u>Yoko Iki</u> , Yusuke Nagae, Hideyuki Otsuka, Tomoyasu Hirai and Atsushi Takahara (Japan) 729
	G-1 Polymer Synthesis and Reactions	16P-G1-084b Chemoselective radical polymerization of <i>N</i> -allylmethacrylamide in the presence of Li salts <u>Yuta Ogasa</u> , Miyuki Oshimura, Tomohiro Hirano and Koichi Ute (Japan) 730
16P-G1-067a	The effect of Chemical Structure of Poly(N-vinylamide)s for Thermal Crosslinking Reaction <u>Ryo Kawatani</u> , Kai Kan, Mituru Akashi and Hiroharu Ajiro (Japan) 713	16P-G1-085a Induction of change in higher-order structure of a polypeptide by the reaction using dynamic covalent bonds introduced in its side chains <u>Kazutoshi Nakagawa</u> , Yukina Kitahara, Yuki Inoue, Yuichiro Tokoro and Toshiyuki Oyama (Japan) 731
16P-G1-068b	Synthesis of Necklace Shaped Dimethylsiloxane Polymers Bearing a Polyhedral Oligomeric Silsesquioxane Cage <u>Tsubasa Natsuaki</u> , Yusaku Kan, Naohiro Katsuta, Satoshi Watanabe, Kazuya Suwa, Tomoyuki Ooba and Masashi Kunitake (Japan) 714	16P-G1-086b Cationic polymerization of vinyl ethers in the presence of Li salts <u>Nenji Munekane</u> , Miyuki Oshimura, Tomohiro Hirano and Koichi Ute (Japan) 732
16P-G1-069a	Practical synthesis and polymerization of dithienoarsoles <u>Hiroaki Imoto</u> , Takuji Kato and Kensuke Naka (Japan) 715	16P-G1-087a Synthesis and Optoelectronic Functions of Poly(pyridinium salt)s by Three-component Coupling Reaction of Poly(arylene-ethynylene) Derivatives with Ketones and Amines via C-H Activation Process <u>Makoto Sakata</u> , Hiroki Nishiyama, Shinsuke Inagi and Ikuyoshi Tomita (Japan) 733
16P-G1-070b	Precise synthesis of PMMA with well-controlled stereoregularity and characterization of its hierarchical structure. <u>Hitoshi Shimamoto</u> , Tomoki Kato, Masanao Sato, Tomoyasu Hirai and Atsushi Takahara (Japan) 716	16P-G1-088b Synthesis and characterization of conjugated
16P-G1-071a	Novel Synthetic Approach of Helical Non-natural Polypeptide via Asymmetric Polymerization and	

	cyclophane-trienes comprising cyclopentadithiophenes and their ring-opening metathesis polymerization <u>Shih-Ting Chiu</u> , Hsin-Yu Chang and Masaki Horie (Taiwan)..... 734				<u>Yuki Maeda</u> , Akihiko Nemoto and Hiroshi Ito (Japan) 750
16P-G1-089a	Fabrication of Organic/Inorganic Nanohybrid Materials by Use of Polymer Nanostructures Obtained by Living Coordination Block Copolymerization of Allene Derivatives. <u>Miho Yamamoto</u> , Yoshiyuki Oguchi, Takeshi Wakiya, Tadashi Iwamoto, Hiroki Nishiyama, Shinsuke Inagi and Ikuyoshi Tomita (Japan) 735	16P-G3-107a	Characterization of mesoporous polymer monolith prepared by hydrolysis degradation of poly(lactic acid) blends. <u>Tomoko Shirahase</u> , Shuichi Akasaka and Shigeo Asai (Japan)..... 751		
16P-G1-090b	Practical synthetic method of organoarsenic compounds by arsenic nucleophiles generated from cyclooligoarsines. <u>Susumu Tanaka</u> , Hiroaki Imoto and Kensuke Naka (Japan) 736	16P-G3-108b	Polymer Film Sealing by Using Laser Advanced Welding of Plastics <u>Kazushi Yamada</u> , (Japan)..... 752		
16P-G1-091a	Synthesis and Characterization of New Functional Materials Based on Phenolic Compounds <u>Takahiro Kakuta</u> , Tomoki Ogoshi and Tada-aki Yamagishi (Japan)..... 737	16P-G3-109a	Co-operative Structures and Functionality Constructed by Hydrophilic Polymers and Polyiodide Ions. (1): Hierarchic Structure as "Pseudo Solvent" for Multiple Diffusion. <u>Akio Kawaguchi</u> , (Japan)..... 753		
16P-G1-092b	Synthesis of alternating copolymers consisting of perfluoroalkyl and oligoethyleneglycol units by photoinduced radical polyaddition. Tadashi Kanbara, Kana Sasahara, Saki Nakamura and <u>Tomoko Yajima</u> (Japan) 738	16P-G3-110b	Co-operative Structures and Functionality Constructed by Hydrophilic Polymers and Polyiodide Ions. (2): "Dynamic Amphiphilicity" Hypothesized by Experimental Results and What It Suggests as the Next. <u>Akio Kawaguchi</u> , (Japan)..... 754		
16P-G1-093a	Synthesis of Polymer Particles Having Specific Microphase-separated Structures Based on Living Coordination Dispersion Block Copolymerization of Allene Derivatives <u>Shiho Tanaka</u> , Yoshiyuki Oguchi, Takeshi Wakiya, Tadashi Iwamoto, Hiroki Nishiyama, Shinnsuke Inagi and Ikuyoshi Tomita (Japan)..... 739	16P-G3-111a	The effect of VA content and MFI of EVA on Morphology, Mechanical and Thermal properties of PLA/EVA blends <u>Chanchai Thongpin</u> and Suwijak Kranmool (Thailand) 755		
16P-G1-094b	Synthesis of Phenolic Resin with Ladder Shaped Network <u>Hiroataka Shouji</u> , Takahiro Kakuta, Tomoki Ogoshi and Tada-aki Yamagishi (Japan)..... 740	16P-G3-112b	Evaluation of Physical and Surface Replication Properties of Liquid Silicone Rubbers Obtained by Injection Molding <u>Taisuke Satoh</u> , Hiroshi Ito, Akihiko Nemoto and Akira Ishigami (Japan) 756		
16P-G1-095a	Expanded Tandem RO/RCM polymerization & Multiple Olefin Metathesis Polymerization : New Approach for Successful Polymerization of Expanded monomers and their mechanistic studies Ho-keun Lee and Tae-Lim Choi (Korea.) 741	16P-G3-113a	Surface Replication and Hydrophobicity of Polymer Films Obtained by Thermal Imprinting <u>Hiroto Shishido</u> , Akihiko Nemoto, Hiroshi Ito, Junpei Fujiwara and Masatoshi Kawata (Japan) 757		
16P-G1-096b	The First Successful Cyclopolymerization of 1,6-Heptadiynes by Grubbs 1st generation catalyst <u>Cheol Kang</u> , Eun-Hye Kang and Tae-Lim Choi (Korea.) 742	G-4 Functional Polymers			
16P-G1-097a	Tributylborane and oxygen as the initiator for Styrene polymerization <u>Yusuke Naruoka</u> and Ryuichi Sugimoto (Japan)..... 743	16P-G4-116b	Self-assembled polymer capsules with molecular permeable membrane for intercellular bionanoreactor. <u>Tomoki Nishimura</u> , Sada-atsu Mukai, Shinichi Sawada, Yoshihiro Sasaki and Kazunari Akiyoshi (Japan) 758		
16P-G1-098b	Oxidative Coupling Copolymerization of Various Phenol Derivatives <u>Yuki Takamushi</u> , Shigeyuki Iwai, Ryosuke Ito and Shigeki Habaue (Japan) 744	16P-G4-117a	Aminated cellulose nano-fibers for removal of endotoxin from viscous polymer solution <u>Towako Sakamoto</u> , Risa Harada, Daisuke Nakamura, Yuki Maeda and Masayo Sakata (Japan) 759		
16P-G1-099a	Graft polymerization of vinyl compounds onto polyolefin film <u>Hirotsugu Matsukuma</u> and Ryuichi Sugimoto (Japan) 745	16P-G4-118b	Palmitoylated amino acids as supramolecular gelators for ionic liquids <u>Witta Kartika Restu</u> , Yuki Nishida and Tatsuo Maruyama (Japan)..... 760		
16P-G1-100b	Synthesis and Cyclopolymerization of N-Aryl Substituted Diallylamines <u>Yoko Aoyama</u> , Fumika Muramatsu and Boualiong Chia Xia Lee (Japan)..... 746	16P-G4-119a	Hydrogel composed of DNA-gold nanoparticle prepared by polymerase chain reaction <u>Yuka Eguchi</u> , Tomoharu Kato, Tsutomu Tanaka and Tatsuo Maruyama (Japan) 761		
16P-G1-101a	High stereoregular polymerization of butadiene by Nd complex catalyst. <u>Katsuhiro Iwase</u> , Kimio Imaizumi and Yuji Kosugi (Japan) 747	16P-G4-120b	Preparation of gel emulsion by in-situ synthesis of peptide-based supramolecular gelators <u>Yuki Nishida</u> , Akiko Tanaka and Tatsuo Maruyama (Japan)..... 762		
16P-G1-102b	Cyclopolymerization of 1,6-Heptadiynes Using Grubbs Z-selective Catalyst toward Unprecedented β -selectivity for Ru-based Catalysts <u>Kijung Jung</u> and Tae-Lim Choi (Korea.)..... 748	16P-G4-121a	Dispersion of graphene in an organic solvent using poly(3-hexylthiophene) <u>Hiroki Iguchi</u> , Chisato Higashi, Yuichi Funasaki, Keisuke Fujita, Atsunori Mori, Akira Nakasuga and Tatsuo Maruyama (Japan) 763		
G-3 Polymer Processing		16P-G4-122b	Surface modification of metal nanoparticles using a polymerizable surfactant <u>Chisato Higashi</u> , Yuichi Funasaki and Tatsuo Maruyama (Japan)..... 764		
16P-G3-105a	Suitable outer/inner viscosity ratio of polymer solutions for coaxial electrospinning of core-shell fibers <u>Navaporn Kaerkiticha</u> , Surawut Chuangchote, Kan Hachiya and Takashi Sagawa (Japan) 749	16P-G4-123a	Introduction of carboxy groups to plastic surfaces by segregation of fluorine-containing polymers <u>Keisuke Nishimori</u> , Shigeru Kitahata, Ayane Shimomura, Takashi Nishino and Tatsuo Maruyama (Japan) 765		
16P-G3-106b	Surface Replication of Microneedle Array Structure using Hot Roll Imprinting	16P-G4-124b	Phase behavior of polyampholytes derived from ionic liquids showing LCST-type phase change in water <u>Akiyoshi Okafuji</u> , Yuki Kohno and Hiroyuki Ohno (Japan)..... 766		
		16P-G4-125a	Preparation of cyclic oligosiloxane indicating protic ionic liquid nature <u>Tomotada Hirohara</u> , Takashi Kai, Joji Ohshita and		

16P-G4-126b	Yoshiro Kaneko (Japan)..... 767 Preparation and properties of imidazolium-salt-type room temperature ionic liquids containing POSS structures <u>Daisuke Maeda</u> and Yoshiro Kaneko (Japan)..... 768	polymer <u>Hiroki Arazoe</u> , Daigo Miyajima and Takuzo Aida (Japan) 785
16P-G4-127a	Preparation of a single-structured carboxylate-group-containing cyclotetrasiloxane, formation of its two-dimensional layered aggregate, and application to hybrid hydrogels <u>Makoto Yanagie</u> , Nobuyoshi Miyamoto and Yoshiro Kaneko (Japan)..... 769	16P-G4-144b High Refractive Epoxy/ZrO ₂ Nano-hybrid Optical Materials Prepared by Surface Modifier-free Hybridization Method <u>Kazushi Enomoto</u> , Moriya Kikuchi, Atsushi Narumi and Seigou Kawaguchi (Japan) 786
16P-G4-128b	Preferential preparation of cage-like decasilsesquioxane containing ammonium side-chain groups <u>Kenta Imai</u> and Yoshiro Kaneko (Japan)..... 770	16P-G4-145a Development and application of cationic oligoether with ionic liquid moieties <u>Yohei Tateishi</u> , Keisuke Ohta and Shigetaka Hayano (Japan)..... 787
16P-G4-129a	A Facile Method to Prepare Cylindrical Polystyrene Particles <u>Wei Li</u> , Toyoko Suzuki and Hideto Minami (Japan). 771	16P-G4-146b Preparation of Soluble Silsesquioxane Containing Two Carboxyl Groups in One Repeating Unit <u>Jiahao Liu</u> and Yoshiro Kaneko (Japan) 788
16P-G4-130b	Helical Twisting Behavior of Biphenanthrene-type Chiral Dopants in Liquid Crystal Phase <u>Daisuke Yoshizawa</u> , Hiroki Higuchi, Yasushi Okumura and Hirotsugu Kikuchi (Japan) 772	16P-G4-147a Preparation and Characteristics of Soluble Rod-like Polysilsesquioxane Containing Phosphonate Side-chain Groups <u>Akiyuki Harada</u> , Kazuhiro Shikinaka, Joji Ohshita and Yoshiro Kaneko (Japan) 789
16P-G4-131a	Synthesis of cyclopentadithiophene-benzoic acid based conjugated polymers for use as polymer binder in Si based lithium ion batteries <u>Wang KuoLung</u> and Masaki Horie (Taiwan) 773	16P-G4-148b Chromatographic separation of DNA from bio-product solution by density-controlled cationic polymer <u>Toshiaki Marugame</u> , Eri Ikegami, Kazuya Matsumoto and Masayo Sakata (Japan) 790
16P-G4-132b	Syntheses of optically-active <i>delta</i> -truxinic acid derivatives and its polymerization to prepare aromatic bio-based polyamides <u>Jun-ya Okuda</u> , Seiji Tateyama and Tatsuo Kaneko (Japan) 774	16P-G4-149a Preparation of Copolymer Using Thermosensitive Poly(Trimethylene Carbonate) Derivatives with Oligo(ethylene glycol) Units and Polylactides <u>Yoshiaki Haramiishi</u> , Nalinthip Chantaset, Kai Kan and Hiroharu Ajiro (Japan)..... 791
16P-G4-133a	Mechanism of Emulsion Polymerization with Bio-Surfactant <u>Aya Kurozuka</u> , Shohei Onishi, Takuto Nagano, Katsumi Yamaguchi, Toyoko Suzuki and Hideto Minami (Japan) 775	16P-G4-150b Cyclodextrin-immobilized cellulose nanofibers for selective removal of endotoxin from protein solution <u>Sho Kinoshita</u> , Taku Matsuo, Yui Shimazu, Daisuke Nakamura, Yuki Maeda and Masayo Sakata (Japan) 792
16P-G4-134b	Preparation of Silicone Particles via Ring-opening Polymerization of Cyclic Siloxane in Aqueous Medium <u>Hiroki Mitsui</u> , Satoshi Ikubo, Toyoko Suzuki and Hideto Minami (Japan)..... 776	16P-G4-151a Amphiphilic Monomer to Fabricate High Functional Hydrogel <u>Md Anamul Haque</u> , Mito Kei, Takayuki Kurokawa, Tasuku Nakajima, Takayuki Nonoyama and Jian Ping Gong (Japan) 793
16P-G4-135a	Synthesis of Helical Polyisocyanides Derived from Amino Acids and Their Application to Chiral Stationary Phases <u>Yuya Wada</u> , Yugaku Takagi, Tomoyuki Ikai, Katsuhiro Maeda and Kanoh Shigeyoshi (Japan)..... 777	16P-G4-152b Double thermo-responsive diblock copolymer composed of thermo-responsive ionic liquid polymer <u>Kohei Itsuki</u> , Shin-ichi Yusa and Pratap Bahadur (Japan) 794
16P-G4-136b	Development of Amylose- and Cyclodextrin-Based Chiral Fluorescent Sensors Bearing Terthienyl Pendants <u>Changsik Yun</u> , Daisuke Suzuki, Yutaka Kojima, Tomoyuki Ikai, Katsuhiro Maeda and Shigeyoshi Kanoh (Japan) 778	16P-G4-153a Supramolecular Polymer and Carbon Nanotube Composite for Personal Monitoring of Chemical Warfare Agent <u>Shinsuke Ishihara</u> , Joseph M. Azzarelli, Markrete Krikorian and Timothy M. Swager (Japan) 795
16P-G4-137a	Synthesis of Polymer Particles Containing Reduced Graphene Oxide Utilizing Poly(ionic liquid) as Stabilizer <u>Mitsuyoshi Yamane</u> , Masayoshi Tokuda, Stuart C Thickett, Per B Zetterlund and Hideto Minami (Japan) 779	16P-G4-154b Title:Synthesis of nanosheet LC/Polyimide Composites <u>Natsuki Hirata</u> , Yutaka Ohsedo and Nobuyoshi Miyamoto (Japan) 796
16P-G4-138b	Synthesis, Characterization, and Self-assembly of Polyphenylenes with Oligothiophene Side Chains <u>Karin Fujita</u> , Kazuhiro Nakabayashi and Hideharu Mori (Japan) 780	16P-G4-155a Peroxidase-like catalytic activity based on branched oligo (glycerol)-vanadium element blocks <u>Yudai Kozono</u> and Tooru Ooya (Japan) 797
16P-G4-139a	Synthesis and Chiroptical Properties of π -Conjugated Polymers Containing Glucose-Linked Biphenyl Units in the Main Chain <u>Syo Shimizu</u> , Tomoya kudo, Tomoyuki Ikai, Katsuhiro Maeda and Shigeyoshi Kanoh (Japan)..... 781	16P-G4-156b Synthesis of Cellulose Derivatives Bearing Benzodithiophene-based π -Conjugated Pendants for Use as Chiral Fluorescent Sensors <u>Daisuke Suzuki</u> , Yutaka Kojima, Changsik Yun, Tomoyuki Ikai, Katsuhiro Maeda and Shigeyoshi Kanoh (Japan)..... 798
16P-G4-140b	Synthesis and thermal property analysis of stereo-block copolymer having a 2,4-diamino-s-triazinyl group <u>Kohei Osaki</u> and Toshiyuki Watanabe (Japan)..... 782	16P-G4-157a Synthesis of Temperature-responsive Poly(N-isopropylacrylamide)-block-poly(acrylic acid) Exhibiting LCST at Wide pH Range by Oragano Tellurium Mediated Living Radical Polymerization <u>Chisa Norioka</u> , Akifumi Kawamura and Takashi Miyata (Japan)..... 799
16P-G4-141a	Synthesis of a Helical Polyisocyanide Bearing Benzo[1,2- <i>b</i> :4,5- <i>b'</i>]dithiophene-Based π -Conjugated Pendants and Its Application to Circularly Polarized Luminescence Materials <u>Mitsuhiro Okubo</u> , Yuya Wada, Yugaku Takagi, Tomoyuki Ikai, Katsuhiro Maeda and Shigeyoshi Kanoh (Japan)783	16P-G4-158b Synthesis and Properties of High Refractive Index Polymers by Oxidative Polymerization of Alkyl-Substituted Diphenyl Disulfides <u>Yoko Tanaka</u> , Minato Aoki, Naoto Takasu, Kenichi Oyaizu and Hiroyuki Nishide (Japan)..... 800
16P-G4-142b	Network structure and photoresponsivity in end crosslinked polymer gel using novel crosslinker <u>Mizuki Kujirai</u> and Toshiyuki Watanabe (Japan) 784	16P-G4-159a Colorimetric Chiral Recognition of Chiral Amines by Macromolecular Reaction with a Poly(diphenylacetylene) Derivative with Macromolecular Helicity Memory <u>Kentaro Yamanaka</u> , Katsuhiro Maeda, Tomoyuki Ikai and Shigeyoshi Kanoh (Japan) 801
16P-G4-143a	Ultra-high speed film actuator based on carbon nitride	

16P-G4-160b	Preparation of hollow silica particles with bumpy surface using polymer microspheres with silica nanoparticles-layered shell as template <u>Nanami Hano</u> , Alam A Md., Makoto Takafuji and Hirotaka Ihara (Japan)..... 802	<u>Thanphisit Thongsima</u> and Suwabun Chirachanchai (Thailand)..... 819
16P-G4-161a	Photofomation of Surface Relief Gratings on Diacetylene Derivative Film <u>Youta Iwamoto</u> and Takashi Ubukata (Japan)..... 803	16P-G4-178b Preparation of Polymer Based Au-Fe ₃ O ₄ Nanoparticles and Catalytic Application for Reduction of 4-nitrophenol <u>Soohee Kim</u> , Hyemin Kwon, Eunji Kim, Buhyun Youn, Sungkyun Park and Kang Hyun Park (Korea.)..... 820
16P-G4-162b	Bridged polysilsesquioxane membrane containing 1,2,3-triazole moieties for water desalination <u>Kazuki Yamamoto</u> , Joji Ohshita and Toshinori Tsuru (Japan)..... 804	16P-G4-179a Drug-Releasing Supramolecular Gel Based on L-Lysine Hydrogelators <u>Masahiro Suzuki</u> , Ryosuke Suzuki and Kenji Hanabusa (Japan)..... 821
16P-G4-163a	Creation of Helical Rods Composed of α -Cyclodextrin <u>Sayaka Sonoda</u> , Ayumi Teragaki and Toshiyuki Kida (Japan)..... 805	16P-G4-180b Control of Supramolecular Hydrogelation time of L-Lysine Hydrogelators <u>Masahiro Suzuki</u> , Yuki Tomita and Kenji Hanabusa (Japan)..... 822
16P-G4-164b	Polymerization of bis(triethoxysilyl)biphenyl on chiral supramolecular template for fabrication of chiral organic-inorganic hybrid materials <u>Naoya Ryu</u> , Yutaka Okazaki, Tsutomu Kawaguchi, Shoji Nagaoka, Makoto Takafuji, Reiko Oda and Hirotaka Ihara (Japan)..... 806	16P-G4-181a Delamination of two-dimensional nanofillers by wet-type jet milling: Effect of medium viscosity <u>Yusuke Imai</u> and Yuji Hotta (Japan)..... 823
16P-G4-165a	Poly-Ionic liquid Nano Composite Film for Gel Polymer Actuator <u>Kumkum Ahmed</u> , Ajit Khosla, Masaru Kawakami and Hidemitsu Furukawa (Japan)..... 807	16P-G4-182b Flexible Transparent Electrodes Using PEDOT:PSS for Touch Panel Application <u>Tkeo Mochizuki</u> , Yuki Takigami, Takahiro Kondo and Hidenori Okuzaki (Japan)..... 824
16P-G4-166b	Formation of dimple surface on polymer microspheres by embossing with silica nanoparticles <u>Yoshimi Takeda</u> , Hiroto Yamamoto, Makoto Takafuji and Hirotaka Ihara (Japan)..... 808	16P-G4-183a Moisture-retaining Carboxylated Cellulose Microbeads Prepared by TEMPO Oxidation <u>Tomohiro Shirotsaki</u> , Hiroshi Yanagita, Kentaro Hiraki, Maki Horikawa, Naoya Ryu, Shoji Nagaoka and Hirotaka Ihara (Japan)..... 825
16P-G4-167a	Chiral Stationary Phases Consisting of π -Conjugated Polymers Bearing Glucose-Linked Biphenyl Units: Reversible Switching of Resolution Abilities Based on Helix-Random Coil Transition <u>Tomoyuki Ikai</u> , Seiya Awata, Syo Shimizu, Katsuhiko Maeda and Shigeyoshi Kanoh (Japan)..... 809	16P-G4-184b PVAL Meniscus Personalized by Rapid Prototype <u>Celio H Wataya</u> and Gustavo Paschoal (Brazil)..... 826
16P-G4-168b	Dielectric property of dendritic Zn porphyrins axially coordinated with ditopic dipolar ligands <u>Shinya Uchino</u> , Keita Ishiba, Hui Joseph Ka Ho, Masa-aki Morikawa and Nobuo Kimizuka (Japan)..... 810	16P-G4-185a Photo-precipitation of Single Wall Carbon Nanotubes from the complex of photo reactive dispersant in film <u>Ke Yuting</u> and Takahara Shigeru (Japan)..... 827
16P-G4-169a	Preparation of Pd-supported polymer nanogel with high catalytic activity and long lifetime <u>Takanori Akiyoshi</u> , Hirokazu Seto, Yu Hoshino and Yoshiko Miura (Japan)..... 811	16P-G4-186b A fluorescent polymeric thermometer for the ratiometric sensing of intracellular temperature <u>Seiichi Uchiyama</u> , Toshikazu Tsuji, Kumiko Ikado, Kyoko Kawamoto, Teruyuki Hayashi and Noriko Inada (Japan)..... 828
16P-G4-170b	Application of polyzwitterion-grafted porous silica to hydrophilic interaction liquid chromatography <u>Kazufusa Sasahara</u> , Mohammad Shahrzaman, Makoto Takafuji and Hirotaka Ihara (Japan)..... 812	16P-G4-187a Preparation of Fine Particles Capable of Adsorbing Carbon Dioxide via Inverse emulsion Method <u>KiSeob Hwang</u> and Jun-Young Lee (Korea.)..... 829
16P-G4-171a	Preparation of electrocatalytic nano-fibrils modified with Re complexes <u>Aiki Kamo</u> , Yutaka Kuwahara, Yuya Yamaguchi, Makoto Takafuji and Hirotaka Ihara (Japan)..... 813	16P-G4-188b Immobilization of glucoamylase on cellulose nanofibers by covalent binding for increased saccharification stability <u>Masayo Sakata</u> , Towako Sakamoto, Bido Nagahama and Masataka Tamiya (Japan)..... 830
16P-G4-172b	Soft and Flexible Sensors Based on Piezoionic Effect <u>Masaki Sato</u> , Takahiro Kondo, Takuya Yamagiwa and Hidenori Okuzaki (Japan)..... 814	16P-G4-189a Preparation of Room Temperature Ionic Liquid Containing Cage-like Oligosilsesquioxane with Two Types of Side-chain Groups <u>Yoshiro Kaneko</u> , Akiyuki Harada, Sayako Koge and Joji Ohshita (Japan)..... 831
16P-G4-173a	Size Selective Synthesis of Tin Oxide Clusters by Dendrimer Template Method and The Size Dependency for CO Oxidation Reaction <u>Yusuke Inomata</u> , Ken Albrecht and Kimihisa Yamamoto (Japan)..... 815	16P-G4-190b microwave-assisted phosphorylation of polymeric material and high performance of phosphorylated polymers. <u>Takumi Okihara</u> , Masato Yuasa, Hiroki Okajima and Ryota Kume (Japan)..... 832
16P-G4-174b	Influence of exposing light wavelength on the photoinduced reorientation of polymeric films with cinnamate mesogenic side groups <u>Hiromi Ikoma</u> , Mizuho Kondo and Nobuhiro Kawatsuki (Japan)..... 816	16P-G4-191a Chiral Recognition Property of Poly(phenylacetylene) with Chiral Receptors <u>Ryosuke Sakai</u> , Yoshinobu Mato, Satoshi Umeda, Katsuyuki Tsuda, Toshifumi Satoh and Toyoji Kakuchi (Japan)..... 833
16P-G4-175a	Facile fabrication of photoalignment film of non-photoreactive liquid crystalline polymer by top-coating of photoreactive monomer via H-bonds <u>Ryosuke Fujii</u> , Yu Fujioka, Satoshi Minami, Mizuho Kondo and Nobuhiro Kawatsuki (Japan)..... 817	16P-G4-192b Synthesis of chelate resin bound with amidinothio urea to porous polystyrene <u>Satomi Tanaka</u> , (Japan)..... 834
16P-G4-176b	Nematic-to-Columnar Geometrical Transformation of Liquid Crystalline Assembly by Supramolecular Polymerization of Discotic Dopant <u>Keiichi Yano</u> , Yoshimitsu Itoh, Fumito Araoka and Takuzo Aida (Japan)..... 818	16P-G4-193a One-pot multiple postmodification of π -conjugated polymer by direct chemical modification <u>Shunya Okayama</u> , Junji Watanabe and Atsushi Kimoto (Japan)..... 835
16P-G4-177a	Multi-branched polylactide ionomers for fine-tuning the microstructure of PLA	16P-G4-194b Functional membrane to capture influenza virus prepared by radiation-induced graft polymerization <u>Kazuya Uezu</u> , Tokiya Watanabe and Keisuke Onitsuka (Japan)..... 836
		16P-G4-195a Molecular design of functional membrane to capture porcine epidemic diarrhea virus <u>Tokiya Watanabe</u> and Kazuya Uezu (Japan)..... 837
		16P-G4-196b Effect of Bamboo Powder in Polypropylene on the Sound Insulation <u>Semi Han</u> , Dong Wook Kim, Youngkwan Lee and

	Baek-Jin Kim (Korea.).....	838
16P-G4-197a	High conductivation of PEDOT thin film using sulfated cellulose nanofiber as a dopant <u>Maki Horikawa</u> , Ryota Sumi, Tomohiro Shiroasaki, Naoya Ryu, Shoji Nagaoka and Hirotaka Ihara (Japan)	839
16P-G4-198b	Thermal and Photo-curing Behaviors of Dual-curable Acrylate Adhesives <u>Jae Hyun Jung</u> , Hyuck Sik Wang, Seok Hyeon Kim and Kigook Song (Korea.).....	840
16P-G4-199a	Enhancement of the Electrical Conductivity of PEDOT:PSS Thin Films Using Secondary Dopant <u>Seok Hyeon Kim</u> , Hyuck Sik Wang, Jae Hyun Jung and Kigook Song (Korea.).....	841
16P-G4-200b	High conductivation of PEDOT-PSS/polymer composite thin film by curing with acryloyl monomer. <u>Shoji Nagaoka</u> , Maki Horikawa, Kazunari Sunata, Tomohiro Shiroasaki, Naoya Ryu and Hirotaka Ihara (Japan)	842
16P-G4-201a	Facial control for polybutadiene/inorganic materials particles composite microsphere based on ene-thiol reaction <u>Shoji Nagaoka</u> , Kang Yangwon, Tomohiro Shiroasaki, Maki Horikawa, Naoya Ryu, Makoto Takafuji and Hirotaka Ihara (Japan)	843